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OFFICIAL GAZETTE UNITED STATES PATENT OFFICE

VOL. 126

JAN. - FEB.

1907

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OFFICIAL GAZETTE

OF THE

UNITED STATES PATENT OFFICE.

VOLUME CXXVI.

JANUARY 1 TO FEBRUARY 26, INCLUSIVE,

1907.

WASHINGTON:

GOVERNMENT PRINTING OFFICE.

1907.

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ERRATA.

839,986, page 101, in heading, name of patentee, for "Edward E. Bullock" read *Edwin E. Bullock.*

840,211, page 234, in heading, assignment, name of assignee, for the word "Appliance" read *Appliances.*

840,600, pages 465–466, fifth claim, line 10, for the word "internal" read *inturned.*

840,751, page 537, in heading, name of second-mentioned patentee, for "Hilliman H. Harvey" read *Hillman H. Harvey.*

840,915, page 618, in heading, assignment, before the name of the first-mentioned assignee, for the words "of one-half" read *of one-fourth.*

841,068, page 695, in heading, after residence of patentee, insert *assignor of one-half to George S. Leatherbury, Mobile, Ala.*

841,371, page 900, in heading, assignment, name of assignee, for the word "Sandoy" read *Sandoz.*

841,882, page 1193, in heading, assignment, name of assignee, for "Thomas J. Heuby" read *Thomas J. Hruby.*

841,933, page 1214, first claim, line 9, for the word "wheel" read *wheels.*

842,398, page 1501, sixty-fifth claim, line 4, after the word "member" strike out the word "in."

842,435, page 1526, in heading, assignment, name of assignee, for the word "Parker" read *Parks.*

842,593, page 1607, in heading, assignment, name of assignee, for the word "Columbia" read *Columbian.*

842,632, page 1627, in heading, assignment, name of assignee, for the word "Establissements" read *Etablissements.*

842,662, page 1639, second claim, lines 10–11, for the word "adjusting" read *connecting*, and page 1640, twentieth claim, line 13, for the word "scales" read *scale*, and same line, for the word "element" read *elements.*

843,013, page 1877, in heading, residence of patentee, strike out the word "India."

843,015, page 1881, strike out all after number—heading, drawing, and claims—and insert the word WITHDRAWN.

843,883, page 2342, in heading, assignment, name of assignee, for "Jarvis Adams Company" read *S. Jarvis Adams Company.*

844,282 and **844,283,** pages 2537 and 2538, in headings, assignments, name of assignee, for the word "Scales" read *Sales.*

844,411, page 2644, first claim, line 2, for the word "corrugated" read *corrugating.*

844,828, page 2910, second claim, line 4, after the word "outlet" strike out the word "and."

845,106. page 3089, fifth claim, lines 6–8, strike out the words "a steering-post supported on the body and universally-jointed connections between the steering-post and said supplementary axles" and insert after the word "body" line 10.

12,602, (Reissue,) pages 1740–1741, claims 1–18, wherever occurring, for the word "presser" read *pressor*, and for the word "pressers" read *pressors.*

59,805, (Trade-Mark,) page 1060, strike out all after number and insert the word CANCELED.

60,053, (Trade-Mark,) page 1353, in heading, residence of registrant, for "Summit, Ohio" read *Akron, Ohio.*

60,296 and **60,297,** (Trade-Marks,) page 2182, strike out all after numbers and insert the word CANCELED.

60,345, (Trade-Mark,) page 2183, in heading, place of business of registrant, for "Morristown, N. J." read *New York, N. Y.*

60,979, (Trade-Mark,) page 3418, strike out all after number and insert the word CANCELED.

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OFFICIAL GAZETTE

OF THE

UNITED STATES PATENT OFFICE.

JANUARY—FEBRUARY, 1907.

Patents Nos. 839,799 to 840,460.

THE OFFICIAL GAZETTE

OF THE

United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

VOL. 126—No. 1. TUESDAY, JANUARY 1, 1907. PRICE—$5 per year.

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Reissues	None.	
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TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	2	.....	Nevada	.....	.....
Alaska, District of	.....	.....	New Hampshire	1	1
Arizona Territory	.....	.....	New Jersey	32	20
Arkansas	4	.....	New Mexico Ter't'y	.....	.....
California	22	5	New York	92	74
Colorado	5	.....	North Carolina	2	2
Connecticut	11	8	North Dakota	4	1
Delaware	.....	.....	Ohio	44	19
District of Columbia	5	1	Oklahoma Territ'y	1	.....
Florida	1	1	Oregon	5	.....
Georgia	7	2	Pennsylvania	63	16
Hawaii Territory	.....	2	Philippine Islands	.....	.....
Idaho	.....	.....	Rhode Island	5	3
Illinois	83	17	South Carolina	.....	.....
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Indiana	24	2	Tennessee	7	3
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Kansas	10	1	Utah	1	.....
Kentucky	5	.....	Vermont	3	4
Louisiana	4	1	Virginia	5	7
Maine	.....	8	Washington	12	3
Maryland	9	4	West Virginia	2	4
Massachusetts	31	28	Wisconsin	12	2
Michigan	.....	6	Wyoming	1	.....
Minnesota	8	8	U. S. Army	.....	.....
Mississippi	1	1	U. S. Navy	.....	.....
Missouri	22	10			
Montana	2	.....	Total to citizens of the United States	604	273
Nebraska	5	1			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Natal	.....	.....
Austria-Hungary	4	2	Netherlands	1	1
Belgium	1	1	Newfoundland	.....	.....
Brazil	.....	.....	New South Wales	.....	.....
British West Indies	.....	.....	New Zealand	.....	.....
Canada	6	.....	Norway	1	.....
Cape Colony	.....	.....	Persia	.....	.....
Chile	.....	.....	Queensland	.....	.....
China	.....	.....	Roumania	1	.....
Costa Rica	.....	.....	Russia	1	.....
Cuba	.....	.....	Scotland	3	1
Denmark	.....	.....	South Australia	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	16	4	Sweden	.....	.....
France	4	6	Switzerland	2	2
Germany	22	8	Transvaal, South Africa	1	.....
Haiti	.....	.....	Victoria	1	.....
Ireland	.....	.....	Western Australia	.....	.....
Italy	2	.....			
Japan	.....	.....			
Java	.....	.....	Total to citizens of foreign countries	66	25
Mexico	.....	.....			

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 8, 1906.

Gustave Bossange, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the American Cement Company, of Philadelphia, Pa., for registration of a trade-mark and a trade-mark registered to Gustave Bossange, of New York, N. Y., whose known address is No. 54 Worth Street, in said city. The notice of declaration of said interference and also subsequent communications mailed by the Patent Office in the usual manner to the said Gustave Bossange have been returned by the Post-Office Department with the statement that he cannot be found.

Notice is therefore hereby given to the said Gustave Bossange, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 23, 1906.

Fritz C. Lucke d'Aix, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for patent filed by David Petrie Palmedo, of Hoboken, N. J., and an application for patent filed by Fritz C. Lucke d'Aix, of New York, N. Y. It appears from the record of the case that the said Fritz C. Lucke d'Aix has removed from his known address, No. 11 Broadway, New York, N. Y., and his present whereabouts is unknown. Notice is therefore hereby given to the said Fritz C. Lucke d'Aix, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business December 24, 1906.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Dec. 14	Dec. 17	63
308	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Dec. 14	Dec. 1	99
221	I. Tillage, etc., Fences, and Railway Draft Appliances.	Dec. 12	Dec. 1	145
109	XVI. Telegraphy and Telephony..	Dec. 12	Nov. 26	122
327	XVIII. Steam-Engineering, etc ...	Dec. 12	Nov. 26	173
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Dec. 10	Nov. 26	176
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Dec. 10	Nov. 26	183
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid-Coating Compositions, Oils, Fats, and Glue, Water Purification.	Dec. 10	Nov. 26	144
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	Dec. 10	Nov. 26	175
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	Dec. 8	Dec. 3	163
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating; Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Dec. 8	Nov. 21	177
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Dec. 7	Dec. 3	104
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Dec. 5	Dec. 1	193
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Dec. 4	Nov. 26	185
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Dec. 3	Dec. 3	210
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Dec. 3	Dec. 3	257
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Dec. 3	Nov. 24	172
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Dec. 1	Nov. 27	260
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Dec. 1	Nov. 26	304
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Nov. 30	Nov. 26	407
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Nov. 28	Nov. 26	224
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	Nov. 27	Dec. 4	172
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Nov. 27	Nov. 26	330
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Nov. 26	Nov. 27	313

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action.		No. of applications awaiting action.
		Amended	New.	
167	V. Bookbinding, Harvesters, Jewelry, and Music.	Nov. 26	Nov. 26	331
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Nov. 26	Nov. 15	173
329	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Nov. 23	Dec. 1	293
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Nov. 22	Nov. 14	291
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154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Nov. 15	Nov. 10	357
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Signals, Time Controlling Mechanism.	Nov. 13	Oct. 29	278
122	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Nov. 12	Nov. 22	311
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Nov. 12	Nov. 10	447
382	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	Nov. 11	Nov. 1	393
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Nov. 5	Nov. 5	750
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Total number of applications awaiting action 10,674

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
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	Designs	Dec. 20	Dec. 14	25
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Interference Notice.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 21, 1906.

William T. Barnard, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of Enos J. Hughes, of Chicago, Ill., for registration of a trade-mark and a trade-mark registered to William T. Barnard, of Baltimore, Md. The notice of declaration mailed by the Patent Office in the usual manner to the said Barnard has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said William T. Barnard, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

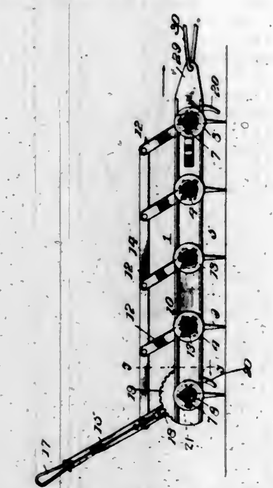
This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

PATENTS

GRANTED JANUARY 1, 1907.

839,799. HARROW. FRANCIS ADIX, Boone, Iowa. Filed July 3, 1906. Serial No. 324,691.



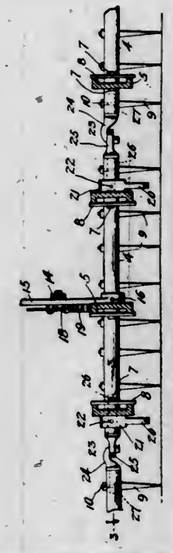
Claim.—1. A harrow comprising a frame, cylindrical tooth-carrying bars rotatable therein, runners having cylindrical portions formed with transverse openings to fit certain of said cylindrical tooth-carrying bars, said runners also having cam-shaped arms formed integral with said cylindrical portion and projecting laterally therefrom, cross-pins passed through the cylindrical portions of said runners and said bars for retaining the former upon the latter, and means for operating said bars to simultaneously elevate the teeth thereon and lower the runners, the latter having their cam-shaped arms disposed longitudinally with respect to the direction of movement of the harrow, substantially as shown and described.

2. A harrow comprising longitudinal channel-metal connecting-bars, braces connecting said bars, transverse bars rotatable in said channel-bars, teeth upon said transverse bars, cross-pins in said transverse bars on opposite sides of said channel-bars, washers on said transverse bars between said cross-pins and the channel-faces of said channel-bars, and means for adjusting said transverse bars in said channel-bars.

3. A harrow comprising longitudinal channel-metal connecting-bars, diagonal braces connecting said bars, transverse tubular bars rotatable in said channel-bars, teeth upon said tubular bars, split pins in said tubular bars on opposite sides of said channel-bars, washers on said tubular bars between said pins and the channel-faces of said channel-bars, arms upon said tubular bars, a rod connecting said arms, a hand-lever for operating said rod, a pawl and rack for locking said lever, and a draft connection at the front ends of said channel-bars.

839,800. FOLDING HARROW. FRANCIS ADIX, Boone, Iowa. Filed Sept. 13, 1906. Serial No. 334,446.

Claim.—1. A harrow comprising intermediate and end sections, each consisting of a frame, tubular transverse bars therein, and teeth extending through said bars, runners upon certain of the bars of said intermediate section, cross-pins for securing said runners on said bars, and hinge members secured in the ends of certain of said bars by said pins and said teeth.



2. A harrow comprising intermediate and end sections, each consisting of a frame, tubular transverse bars therein, and teeth extending through said bars, runners upon certain of the bars of said intermediate section, cross-pins for securing said runners on said bars, hook-and-eye hinge members secured in the ends of certain of said bars by said pins and said teeth; a foldable draft connection for said sections, and means for adjusting said bars.

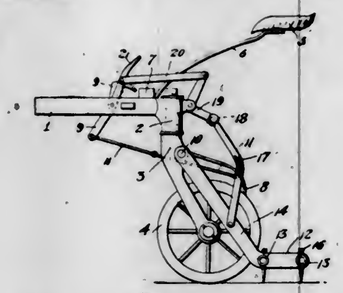
3. A harrow comprising intermediate and end sections, each consisting of a frame, tubular transverse bars rotatable therein, and teeth having reduced shanks extending through alining apertures in said bars, coacting hinge members having their shanks projecting into the opposing ends of certain of the tubular transverse bars of said sections, said shanks of the hinge members being apertured to receive the reduced ends of certain of said teeth whereby said members are retained in said bars, substantially as shown and described.

839,801. RIDER ATTACHMENT FOR HARROWS. FRANCIS ADIX, Boone, Iowa. Filed Sept. 13, 1906. Serial No. 334,447.

Claim.—1. A riding attachment for harrows comprising a frame, a wheel-supported element pivotally mounted upon the same for lateral swinging movement in a horizontal plane, and a harrow-section mounted upon said element to swing laterally with the same and to travel in rear of its supporting-wheel.

2. A riding attachment for harrows comprising a frame, a wheel-supported element pivotally mounted upon the same for lateral swinging movement in a horizontal plane, a harrow-section pivoted upon said element for vertical swinging movement, said harrow-section being adapted to travel after the supporting-wheel of said element and to

swing laterally with said element, and means connecting said harrow-section and said frame for raising and lowering the former.



3. A riding attachment for harrows comprising a frame, a wheel-supported element pivotally mounted upon the same for lateral swinging movement in a horizontal plane, a harrow-section pivoted upon said element for vertical swinging movement, said harrow-section being adapted to travel after the supporting-wheel of said element and to swing laterally with said element, a lever pivotally mounted upon said frame, a link pivotally connected to said harrow-section, and a universal joint between said link and said lever.

4. A riding attachment for harrows, comprising a frame having a vertical bearing, a head having a forked lower end and a journal at its upper end mounted for rotation in said vertical bearing, said head being also formed with apertured ears, a wheel journaled in the forked end of said head, a pivot-rod projecting through said apertured ears, and a harrow-section to travel after said wheel, said harrow-section having side bars formed with angularly and upwardly projecting forward ends pivotally engaged with said pivot-rod.

5. A riding attachment for harrows, comprising a frame having a vertical bearing, a head having a forked lower end and a journal at its upper end mounted for rotation in said vertical bearing, said head being also formed with apertured ears, a wheel journaled in the forked end of said head, a pivot-rod projecting through said apertured ears, a harrow-section having angular side bars pivoted at their upper ends upon said pivot-rod, a lever pivoted upon said frame, a link having a bifurcated lower end pivoted upon the side bars of said harrow-section, and a universal joint connecting said link and lever.

6. A riding attachment for harrows, comprising a frame having a vertical bearing, a head having a forked lower end and a journal at its upper end mounted for rotation in said vertical bearing, said head being also formed with apertured ears, a pivot-rod mounted in said apertured ears, a harrow-section pivotally suspended from the projecting ends of said pivot-rod and adapted to travel after said wheel, a scraper for said wheel pivotally mounted upon the central portion of said rod intermediate said apertured ears, a lever pivotally mounted upon said frame and links connecting said lever and said scraper, substantially as described and for the purpose set forth.

839,802. STAPLE-PULLER. THOMAS J. ALSOP, Brooklyn, Wis. Filed Aug. 20, 1906. Serial No. 331,356.

Claim.—1. In a staple-puller, a pair of pivotally-united operating-handles one of which is provided with laterally-extending lugs, gripping-jaws pivotally mounted on the lugs, a projection carried by the adjacent handle and movable between the gripping-jaws for moving the jaws to operative position, means for limiting the closing movement of the handle, and a spring interposed between the jaws for moving the latter to inoperative position.

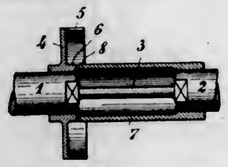
2. In a staple-puller, a pair of pivotally-united operating-handles provided with longitudinally-disposed strengthening-flanges, one of said handles being provided with a curved bearing-surface and having laterally-extending lugs, gripping-jaws pivotally mounted on the lugs, and a projection formed on the adjacent handle and provided with inclined side walls and guide-flanges for the reception of the gripping-jaws, said projection being movable between the jaws for actuating the latter.



3. In a staple-puller, relatively stationary and movable operating-handles one of which is provided with a curved bearing-surface and formed with laterally-extending lugs, gripping-jaws pivotally mounted on the lugs, a spring interposed between the jaws, and a projection carried by the movable handle for moving the jaws to operative position.

4. In a staple-puller, relatively stationary and movable handles one of which is provided with a curved bearing-surface formed with laterally-extending lugs, gripping-jaws pivotally mounted on the lugs, a plate connecting the gripping-jaws, fastening devices carried by the plate and piercing the jaws and lugs, respectively, and forming the pivotal axis of the jaws, a lug extending from the stationary handle, a spring provided with an intermediate coil encircling the lug and having its opposite ends bent to form angular arms adapted to bear against the gripping-jaws, and a projection carried by the movable handle and provided with inclined side walls and laterally-extending flanges adapted to engage the gripping-jaws, said jaws being movable to operative position when the movable handle is depressed.

839,803. MEANS FOR INDICATING RELATIVE MOVEMENT OF PARTS OF ROTATING SHAFTS. ALFRED AMSLER, Schaffhausen, Switzerland. Filed Mar. 23, 1906. Serial No. 307,659.



Claim.—1. In means for observing the relative movement of simultaneously-moving adjacent parts, the combination with one part having a scale thereon; of an adjacent part having a mark thereon and means governed by the movement of the parts controlling the visibility of the mark and scale.

2. In means for observing the relative movement of simultaneously-moving adjacent parts, the combination with one part having a scale thereon; of an adjacent part having a graduated mark thereon and means governed by the movement of the parts controlling the visibility of the mark and scale.

3. Means for observing the relative movement of similarly and simultaneously moving parts, comprising a mark carried by one of the parts, a scale adjacent the mark carried by the other part, and a screen carried by one of the parts having a view-aperture opposite the scale and mark, substantially as described.

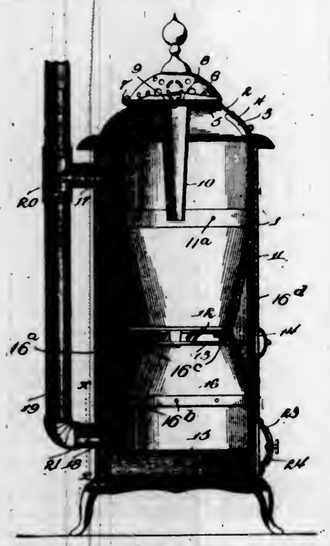
4. Means for observing the relative movement of similarly and simultaneously moving parts comprising a mark carried by one of the parts and a scale adjacent the mark carried by the other part, a screen comprising a flanged disk having a view-opening in its flange opposite the scale and mark, substantially as described.

5. The combination with the adjacent ends of two shafts, of a connection between the ends capable of torsion, a mark carried by one shaft end and a peripheral scale adjacent the mark carried by the other shaft end, and a screen comprising a flanged disk having a view-aperture in its flange opposite the scale and mark, substantially as described.

6. The combination with the adjacent ends of two shafts, of a connection between said ends capable of simultaneous torsion and alteration of length, a graduated mark carried by one of the shaft ends and a peripheral scale adjacent the mark carried by the other shaft end, and a screen secured to one of the shaft ends comprising a flanged disk having a view-aperture opposite the mark and scale whereby both relative angular and axial displacements are indicated, substantially as described.

7. The combination with the adjacent ends of two shafts, of a torsion-spring connecting them, a flanged disk secured to one of the shaft ends having a slot in its periphery parallel with its axis and a graduated mark on its hub, and a sleeve secured to the other shaft end extending over the mark and provided with a peripheral scale at its free edge, said slot opposite the mark and disk, whereby both the relative axial and peripheral displacements of the shaft ends may be viewed through the slot during their rotation, substantially as described.

839,804. STOVE. CHARLES AYRES, Van Buren, Ark. Filed May 16, 1905. Serial No. 260,700.



Claim.—1. In a stove, the combination with a casing, of a cup-shaped fire-pot within said casing, the walls of which are tapered, means to secure said fire-pot to the casing, a cone-shaped member below said fire-pot, the lower end thereof being secured to the casing, a plurality of lips at the upper end of said member, a grate seated upon said lips, said fire-pot and cone-shaped member forming a chamber within the casing, means for controlling the admission of air to the chamber, an air-inlet tube extending into the casing above the grate, outlets within the casing above and below the grate, a smoke-pipe extending from the outlets and means within the outlets for directing air from the tube either directly to the smoke-pipe or through the grate to said pipe.

2. In a stove, the combination with a casing, of a tapered fire-pot, means to secure the upper end of the fire-pot to the casing, a cone-shaped member below the fire-pot and adapted to abut thereagainst, means to secure the lower end of said cone-shaped member to the casing, whereby a chamber will be formed around the fire-pot and cone-shaped member and separated from the remainder of the stove, inwardly-directed lips at the upper end of said cone-shaped member, a grate disposed on said lips and means to control the admission of air into the chamber surrounding the fire-pot and cone-shaped member.

839,805. STERILIZER. HARRY P. BACON, Milaca, Minn. Filed Dec. 4, 1905. Serial No. 290,284.



Claim.—1. A sterilizer comprising a portable covered vessel the bottom of which has at the center an imperforate cylinder extending upwardly into the body of the vessel, said cylinder being open at the bottom and having a flat closed top adapted to form a support for a dish, and forming an annular water-space extending around between said cylinder and the side wall of the vessel, and a spout extending through the wall of the vessel and into said space, with its lower end below the level of said top.

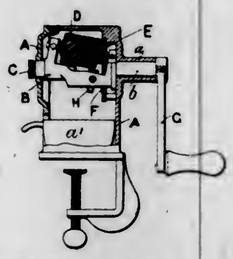
2. A sterilizing apparatus comprising a covered vessel having in the bottom thereof a central raised portion forming an annular water-space, and a plurality of nesting receptacles within said vessel and having in the bottoms thereof raised portions adapted to fit upon the top of said central raised portion.

3. A sterilizing apparatus comprising a vessel for water, a container which is covered at the top and open at the bottom and fits at its lower end within said vessel, a plurality of nesting receptacles all of which may be packed within the container and any one of which may be used to hold articles to be sterilized therein, and means in the vessel to support the receptacles above the water therein.

839,806. PENCIL-SHARPENING MACHINE. FREDERICK E. V. BAINES, Greenwich, England. Filed Feb. 10, 1906. Serial No. 300,386.

Claim.—1. In a pencil-sharpening machine, a cutter cylindrical in form and provided with helically-arranged cutting edges, a frame adapted to carry said cutter, a guide for the pencil in the axis of said frame, means to rotate the said cutter and give it a planetary motion, and means for adjusting the position of the cutter both

radially and angularly with respect to the axis of the frame carrying it.



2. In a pencil-sharpening machine a cutter cylindrical in form and provided with helically-arranged cutting edges, a frame adapted to carry said cutter, a guide for the pencil in the axis of said frame, a stop for limiting the longitudinal movement of the pencil mounted in the said frame so as to be adjustable both radially and longitudinally and means to rotate the said cutter and give it a planetary motion.

3. In a pencil-sharpening machine a cutter cylindrical in form and provided with helically-arranged cutting edges, a frame adapted to carry said cutter, means to rotate the said cutter and give it a planetary motion a guide for the pencil in the axis of said frame, an adjustable stop carried by said frame to limit the longitudinal movement of the pencil, and means for adjusting the position of the cutter radially with respect to the axis of the frame carrying it.

4. In a pencil-sharpening machine a cutter cylindrical in form and provided with helically-arranged cutting edges, means to rotate said cutter so that the said helically-arranged cutting edges cut from the body part of the pencil toward the point thereof, means to impart a planetary motion to said cutter, a stepped guide for the pencil in the axis of the frame carrying said cutter, and means for adjusting the cutter radially with respect to the axis of the frame carrying it.

5. In a pencil-sharpening machine a cutter cylindrical in form and provided with helically-arranged cutting edges, means to rotate said cutter so that the said helically-arranged cutting edges cut from the body part of the pencil toward the point thereof, means to impart a planetary motion to said cutter, a stepped guide for the pencil in the axis of the frame carrying the cutter, and an adjustable stop carried by the frame to limit the longitudinal movement of the pencil.

6. In a pencil-sharpening machine a cutter cylindrical in form and provided with helically-arranged cutting edges, means to rotate said cutter so that the said helically-arranged cutting edges cut from the body part of the pencil toward the point thereof, means to impart a planetary motion to said cutter, a stepped guide for the pencil in the axis of the frame carrying the cutter, an adjustable stop carried by the frame to limit the longitudinal movement of the pencil, and means for adjusting the cutter radially with respect to the axis of the frame carrying it.

7. In a pencil-sharpening machine a cutter cylindrical in form and having helically-arranged cutting edges, a frame mounted to rotate in a stand or casing and carrying the cutter at an angle with the axis about which said frame rotates, a guide for the pencil in the axis of said frame, means to rotate the said cutter and give it a planetary motion, and means to adjust the cutter with respect to the axis of the frame carrying it.

8. In a pencil-sharpening machine a cutter cylindrical in form and having helically-arranged cutting edges, a frame mounted to rotate in a stand or casing and carrying the cutter at an angle with the axis about which said frame rotates, a guide for the pencil in the axis of said frame, an adjustable stop in the frame to limit the longitudinal movement of the pencil, and means to rotate the said cutter and give it a planetary motion.

9. In a pencil-sharpening machine a cutter cylindrical in form and having helically-arranged cutting edges, a frame mounted to rotate in a stand or casing and carrying the cutter at an angle with the axis about which said frame rotates, a guide for the pencil in the axis of said frame, an adjustable stop in the frame to limit the longitudinal movement of the pencil, means to rotate the said cutter and give it a planetary motion, and means to adjust the cutter radially with respect to the axis of the frame carrying it.

10. In a pencil-sharpening machine the combination of a rotary device provided with helically-arranged cutting edges, means for imparting both a rotary and a planetary motion thereto, and of an adjustable stop carried by the frame to limit the longitudinal movement of the pencil.

11. In a pencil-sharpening machine the combination of a rotary device provided with helically-arranged cutting edges, means for imparting both a rotary and planetary motion thereto, and of an adjustable stop carried by the of the cutter, and of an adjustable stop to limit the longitudinal movement of the pencil.

12. A pencil-sharpening machine having means for holding the pencil comprising a detachable bush mounted in the axis of the frame carrying the cutter, the diameter of the inner end of said bush being less than that of the outer end.

13. In a pencil-sharpening machine the combination of a single cylindrical cutter having helically-arranged cutting edges, means for imparting both a rotary and a planetary motion to said cutter, a stepped guide for holding the pencil, an adjustable stop to limit the longitudinal motion of the pencil, and means for varying the position of the axis of the cutter with respect to the axis about which planetary motion takes place.

14. In a pencil-sharpening machine, a stand or casing provided with a rotating frame, a cylindrical cutter with helically-arranged cutting edges mounted to rotate in said frame at an angle with the axis of said frame, means for rotating the cutter in the frame, and for giving a planetary motion to said frame, a stepped guide for the pencil in the axis of said frame, and means for adjusting the position of the axis of the cutter with respect to the axis of the frame carrying it.

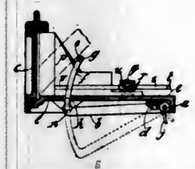
15. In a pencil-sharpening machine a stand or casing provided with a rotating frame, a cylindrical cutter with helically-arranged cutting edges mounted to rotate in said frame at an angle with the axis of said frame, means for rotating the cutter in the frame, and for giving a planetary motion to said frame, a stepped guide for the pencil in the axis of said frame, and an adjustable stop carried by said frame for limiting the longitudinal movement of the pencil.

16. In a pencil-sharpening machine a stand or casing provided with a rotating frame, a cylindrical cutter with helically-arranged cutting edges mounted to rotate in said frame at an angle with the axis of said frame, means for rotating the cutter in the frame, and for giving a planetary motion to said frame, a stepped guide for the pencil in the axis of the frame, an adjustable stop in said frame for limiting the longitudinal movement of the pencil, and means for adjusting the position of the cutter with respect to the axis of the frame carrying it.

17. In a pencil-sharpening machine, the stand or casing A, the internal gear-wheel F fixed therein, the revoluble frame B mounted in bearings in said stand or casing, the cylindrical cutter D carried in said revoluble frame at an angle with the axis thereof, means for varying the angle of the cutter with respect to the axis of said frame, the pinion E carried by said cutter meshing with the stationary gear-wheel F, the axially-arranged pencil-guide in the revoluble frame, the adjustable stop H mounted in the frame B, and means for imparting rotary motion to said cutter and planetary motion to said frame, as set forth.

839,807. MITERING-MACHINE. WILLIAM BATTENSBY, Gateshead, England. Filed Mar. 28, 1906. Serial No. 308,593.

Claim.—1. In a wood trimmer or mitering machine having a frame and a cutter-path in said frame, the combination of a table on said frame, a gage arranged parallel to the cutter-path, a slot in said table, said gage being adapted to be raised and lowered through said slot, and means for adjusting and for locking said gage in the required position.

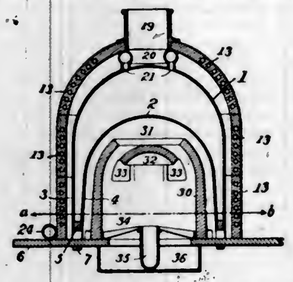


2. In a wood trimmer or mitering machine having a frame and a cutter-path in said frame, the combination of a table on said frame, arms pivoted to said frame and adapted to be rocked, a gage mounted on said arms and arranged parallel to the cutter-path, a slot in said table, said gage being adapted to be raised and lowered through said slot, and means for adjusting and for locking said gage in the required position.

3. In a wood trimmer or mitering machine having a frame and a cutter-path in said frame, the combination of a table on said frame, arms pivoted to said frame and adapted to be rocked, a gage comprising a sliding rest-bar mounted on said arms and arranged parallel to the cutter-path, a slot in said table, said gage being adapted to be raised and lowered through said slot, and means for adjusting and for locking said gage in the required position.

4. In a wood trimmer or mitering machine having a frame and a cutter-path in said frame, the combination of a table on said frame, arms pivoted to said frame and adapted to be rocked, a gage mounted on said arms and arranged parallel to the cutter-path, a slot in said table, said gage being adapted to be raised and lowered through said slot, means for adjusting and for locking said gage in the required position, lateral gages disposed on said table, recesses in said lateral gages, rods disposed in said recesses, projections on said rods, and means for clamping said rods.

839,808. SUPERHEATING-BOILER. FRANZ BURGER and HENRY M. WILLIAMS, Fort Wayne, Ind.; said Burger assignor of one-half of his right to said Williams. Filed June 5, 1905. Serial No. 263,854.



Claim.—1. A semispherical superheater comprising a plurality of segmental sections of cast metal with wrought-metal tubes embedded therein, substantially as described.

2. A semispherical superheater comprising a plurality of segmental sections of cast metal with curved tubes and headers embedded therein, and having inlet and outlet connections with the headers, substantially as described.

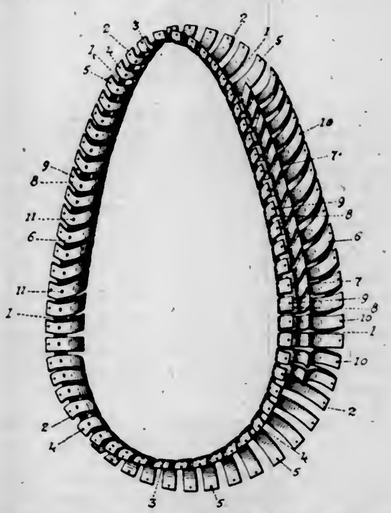
3. The combination with a dome-shaped boiler having an internal fire-box, of a superheater embracing the boiler and providing a passage for the products of combustion from the fire-box between the outside of the boiler and the inside of the superheater.

4. The combination with a dome-shaped boiler having an internal fire-box, of a dome-shaped furnace within the fire-box and a dome-shaped superheater surrounding the boiler, whereby the products of combustion from the furnace pass through passages between the furnace and inner wall of the boiler and thence between the outer wall of the boiler and inner wall of the superheater, substantially as described.

5. The combination with a semispherical-shaped boiler having a mud-ring provided with openings, of a furnace within the boiler, a semispherical-shaped superheater surrounding the boiler, and a collector above the boiler within the superheater, substantially as described.

6. The combination with a semispherical-shaped boiler having a similar fire-box, of a semispherical-shaped furnace within the fire-box, a semispherical-shaped superheater comprising sections containing tubes, a steam-collector above the boiler within the superheater, pipes connecting said collector with the pipes in the superheater, and means for collecting the superheated steam from said pipes in the superheater, substantially as described.

839,809. HORSE-COLLAR. RALPH E. CADY, Auburn, N. Y. Filed June 5, 1905. Serial No. 263,796.

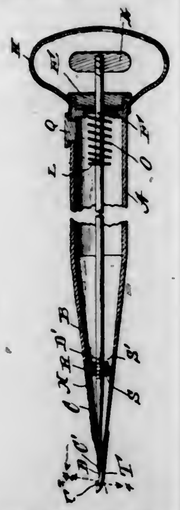


Claim.—1. In a horse-collar a strip or strips of resilient metal or other material turned upwardly at one end and adapted to form a hame-stop and bent midwise or near the opposite end over itself and thence turned into an upwardly-projecting resilient loop adapted to form a hame-rest and secured to a collar-band practically in the manner and for the purpose herein described and shown.

2. In a horse-collar a strip or strips of resilient metal or other material with one end adapted to form a hame-stop provided with a hole and upwardly bent at the outer end and midwise on itself and thence turned in an upward loop adapted to form a hame-rest provided with a hole at said outer end and secured to a collar-band substantially in the manner and for the purpose herein described and shown.

3. In a horse-collar a strip or strips of resilient metal or other material having one end upwardly turned and adapted to form a hame-stop and provided with a hole, and upwardly bent and turned midwise on itself and provided with a hole and thence continued and bent into an upward loop adapted to form a hame-rest combined with a collar-band and a strip or strips of resilient metal or other material having one end or ends upwardly turned and provided with a hole and the other end or ends upwardly curved and provided with a hole substantially secured on said collar-band in the manner and for the purpose herein shown and described.

839,810. WEED-EXTERMINATOR. EDWARD F. CAMERON, Helena, Mont. Filed July 19, 1906. Serial No. 326,905.



Claim.—1. A device for destroying noxious weeds and exterminating parasites, comprising a tube having a nozzle, a movable rod mounted within said tube and provided with a needle-valve extending through said nozzle, an apertured knife fixed to said nozzle, and a guard for deflecting the liquid dispensed from the nozzle, causing the same to pass through the aperture of said knife, as set forth.

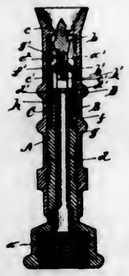
2. A device for destroying noxious weeds and exterminating parasites, comprising a tube having a nozzle, a movable rod mounted within said tube and provided with a needle-valve extending through said nozzle, an angled knife fixed to said nozzle and projecting beyond the end thereof, the upper surface of said knife being troughed and apertured adjacent to its end, the under marginal edge of the aperture being countersunken, and a guard rising from the upper face of the knife adjacent to said aperture, as set forth.

3. An apparatus for exterminating weeds, comprising a tube having a nozzle, a rod mounted within said tube and having a needle-point extending through the nozzle, a valve-seat within the tapering portion of the tube, a valve mounted upon said rod and adapted to contact with said seat, a disk fixed to said rod, a threaded plug at the end of the tube and through which said rod passes, a spring interposed between said disk and plug, a knife fixed to the nozzle, and a guard rising adjacent to the marginal edge of an opening in said knife, as set forth.

4. An apparatus for exterminating weeds, comprising a tube having a nozzle, a rod mounted within said tube and having a needle-point extending through the nozzle, a valve-seat within the tapering portion of the tube, a valve mounted upon said rod and adapted to contact with said seat, a disk fixed to said rod, a threaded plug at the end of the tube through which said rod passes, a spring interposed between said disk and plug, a knob having threaded connection with the end of said rod, a handhold upon the tube, an angled knife fixed to said nozzle and projecting beyond the end thereof and provided with an aperture, the under marginal edge of which is countersunken, a curved guard rising from the knife adjacent to the marginal edge of said aperture, as set forth.

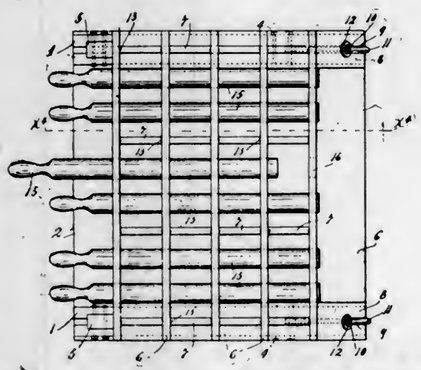
839,811. HOSE-NOZZLE. FRANK J. CHRISTMAN, Syracuse, N. Y., assignor to John R. Clancy, Syracuse, N. Y. Filed Aug. 19, 1905. Serial No. 274,835.

Claim.—In a hose-nozzle of the class described, the combination with a discharge-tube formed with a circumferentially-reduced outer end portion and with a pair of stems extending forwardly from said reduced portion, said stems terminating in a conical valve provided in its rear end



with a recess disposed in range with the passage of the tube, and a longitudinally-movable sleeve inclosing the tube and provided with a discharge-aperture receiving the conical valve, of an elastic tubular packing embracing the reduced portion of the tube and shouldered thereon, a ring movable longitudinally on said reduced portion and abutting against the outer end of the packing to expand the latter, a follower disposed between the valve-stems and locked to the expanding-ring and provided with a screw-threaded aperture in range with the passage and aforesaid recess and a screw working in said aperture and bearing in said recess and operative for moving the follower to cause the said follower to force the ring against the packing as and for the purpose set forth.

839,812. CONCRETE-BLOCK MACHINE. FRED W. COOLEY, Minneapolis, Minn., assignor of two-thirds to George T. Honstain, Minneapolis, Minn. Filed Mar. 27, 1906. Serial No. 308,302.



Claim.—1. A device for use in molding concrete blocks or bricks, comprising a plurality of flask-sections adapted to be put together to form a molding-flask and to be separated and used as palette-boards, substantially as described.

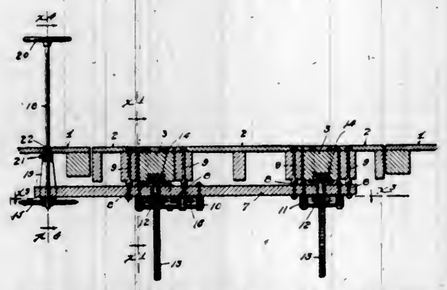
2. In a device of the kind described, the combination with a supporting-frame and clamping means, of a plurality of flask-sections adapted to be clamped and held thereby to form a molding-flask, and to be separated and used as palette-boards, substantially as described.

3. In a device of the kind described, the combination with a supporting-frame and clamping means, of a plurality of separable flask-sections which are approximately L-shaped in cross-section, and a plurality of end and intermediate plates coöperating with said flask-sections to form a molding-flask with a plurality of molds, substantially as described.

4. In a device of the kind described, the combination with a supporting-frame and clamping means, of a plurality of separable flask-sections that are approximately L-shaped in cross-section and are adapted to be held together on said frame by said clamping means to form a molding-flask, end and intermediate plates coöperating with said flask-sections to form a molding-flask having a plurality of molds, and a plurality of endwise-removable cores working through seats or perforations in the vertical flanges of said flask-sections, substantially as described.

5. The combination with a supporting-frame comprising the divided supporting-bars 1 having vertical clamping-lugs 5, of a plurality of separable flask-sections 6 that are approximately L-shaped in cross-section, one of the outer members thereof having a slotted block 8, clamping-rods 10 pivoted to said supporting-bars 1 and working in the slots of said blocks 8, nuts working on threaded ends of said clamping-bolts and coöperating with said bolts to clamp the flask-sections together, the plurality of end and intermediate bolts 7 removably fitting between the upright flanges of said flask-section, and the plurality of endwise-removable cores 15 working through seats in the vertical flanges of said flask-sections 6, substantially as described.

839,813. DUMPING-PLATFORM. FRED W. COOLEY, Minneapolis, Minn., assignor of two-thirds to George T. Honstain, Minneapolis, Minn. Filed Sept. 1, 1906. Serial No. 332,976.



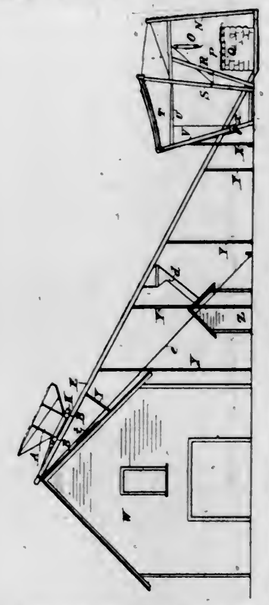
Claim.—1. The combination with a dumping-platform, of means for imparting pivotal movements thereto, comprising an oscillatory support, a screw-rod connected to said dumping-platform at one end, a nut member swiveled on and carried by said oscillatory support and working on the said screw-rod, and means for transmitting rotary motion to said nut member from a distant point, substantially as described.

2. The combination with a dumping-platform comprising a pair of pivoted beams, of an oscillatory support mounted below one end of said dumping-platform, a pair of screw-rods attached at their upper ends to said dumping-platform, a pair of nut members swiveled on and carried by said oscillatory support and working on each of said screw-rods, and power-transmission mechanism extending from a distant point to the said two nut members and operative to simultaneously rotate the same, substantially as described.

3. The combination with a scale-platform, of a dumping-platform applied thereto and comprising a pair of pivoted beams, a transverse support connected to one end portion of said scale-platform and supported thereby for oscillatory movements, a pair of screw-rods attached at their upper ends to said dumping-platform and depending through said transverse oscillatory support, a pair of nut members swiveled on said oscillatory support and working one on each of said screw-rods, of an upright operating-rod mounted in bearings carried by said oscillatory support, and connections between said operating-rod and the said nut members for simultaneously rotating the latter, substantially as described.

4. The combination with a fixed platform 1 and scale-platform 2, of a dumping-platform comprising a pair of beams 3 pivotally connected to said scale-platform, of a plank or support 7 extending transversely below one end portion of said scale-platform, interlocked eyebolts 9 loosely suspending said plank or support 7 from said scale-platform, screw-rods 13 pivotally connected to said platform-beams 3 and working loosely through said plank or support 7, sprocket-wheels 12 journaled in bearings on said plank or support 7 and working as nuts on said screw-bolts, an idle sprocket 16 also journaled on said plank or support 7 and working through an opening in said platform 1, a wheel or handpiece 20 on the upper end of said supporting-rod, a sprocket-wheel 15 on the lower end of said operating-rod 18, and a sprocket-chain 17 running over said sprockets 12, 15 and 16, substantially as described.

839,814. GRAIN AND EAR-CORN ELEVATOR, BERNARD CUNNINGHAM, Shannon township, Pottawatomie county, Kans. Filed Mar. 8, 1906. Serial No. 304,917.



Claim.—1. In apparatus of the kind set forth, the combination with an inclined track and a car and means for operating the car on the track, of a trap-door hinged at its rear to the bottom of the car, a spring-pressed latch, means located at the rearward end of the trap-door for operating the latch, a trip-board between the rails of the track extending into the path of the latch-operating means, a bumper-spring, and rollers for returning the trap-door as the car passes back downwardly over said trip-board.

2. In apparatus of the kind set forth, the combination with an inclined track and a car and means for pulling the car up the track, of a trap-door hinged at its rear end to the bottom of the car, a spring-pressed latch for locking the door closed, means located at the rearward end of the trap-door for operating the latch, a trip-board between the rails of the track provided with a tripping-pin in the path of the latch-operating means, door-closing rollers, and a spring-bumper, whereby said door will be adapted to fall against the upper side of the trip-board and the weight of the discharging grain against said trap-door will hold the car against backward movement down the incline.

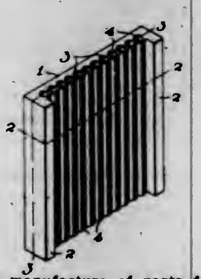
3. In apparatus of the kind described, the combination with the inclined track and a car and a rope and pulleys for hauling the car up the track, of a trap-door hinged at its rear to the bottom of the car and having a spring-pressed latch at its forward end for locking the door closed, said latch having an outwardly-bent rear end lo-

cated near the hinges, a trip-board between the rails of the track extended into the path of said outwardly-turned latch end, whereby the trap-door may be automatically released and whereby it will fall in front of the trip-board, and rollers whereby the backward travel of the car will automatically close the trap-door.

4. In apparatus of the kind set forth, the combination with the inclined track and a car and means for hauling the car up the track, of a trap-door for the bottom of the car hinged thereto at its rear, a spring-pressed latch at the front end of the trap-door with operating means at its rearward end, a trip-board between the rails of the track extending in the path of the latch-operating means, whereby the trap-door will be released and fall against the front side of said trip-board, a spring-bumper secured to the trip-board, a warning-bell operated thereby, inclines o', o', projections k, k, and rollers F, F, for starting the car and closing the door, as set forth.

5. In apparatus of the kind set forth, the combination with a track and a car and means for hauling the car up the track, a trap-door for the car-bottom hinged thereto at its rearward end, a spring-pressed latch at its forward end and operating means at its rearward end, a trip-board between the rails of the track having a tripping-pin extended into the path of the latch-operating means, whereby the trap-door will be released and rest against the front side of the trip-board, rollers secured to the trip-board for closing the trap-door, and inclines o', o' arranged on the bottom of the trap-door for permitting the car to gain initial headway on its return by the force of gravity.

839,815. MANUFACTURE OF ELEMENTS FOR BATTERIES OR ELECTROLYTIC APPARATUS. FRANK A. DECKER, Philadelphia, Pa., assignor, by mesne assignments, to Decker Electrical Manufacturing Company, Wilmington, Del. Filed May 9, 1904. Serial No. 206,981.



Claim.—1. The manufacture of parts for batteries or electrolytic apparatus which consists in forming and baking a hollow body having holes therein lying in parallel planes, and then splitting said body on the line of one or more of said planes, substantially as specified.

2. The manufacture of parts for batteries or electrolytic apparatus which consists in forming and baking a body having parallel holes therethrough, and then splitting said body through said holes, substantially as specified.

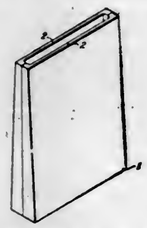
3. The manufacture of parts for batteries and electrolytic apparatus which consists in forming and baking a body having holes therein, and then separating therefrom a portion of said body so as to produce a furrowed plate or plates.

4. The manufacture of parts for batteries and electrolytic apparatus which consists in forming and baking a body with holes therein, then separating therefrom a portion so as to produce a reinforced furrowed plate.

839,816. ELECTROCHEMICAL APPARATUS. FRANK A. DECKER, Philadelphia, Pa., assignor, by mesne assignments, to Decker Electrical Manufacturing Company, Wilmington, Del. Filed Mar. 9, 1905. Serial No. 249,222.

Claim.—1. In electrochemical apparatus, a fluid-container comprising a porous structure, said container having increasing cross-sectional areas at increasing depths.

2. In electrochemical apparatus, a fluid-container comprising a porous diaphragm, said container having sides diverging downwardly.



3. In electrochemical apparatus, an envelop, and a diaphragm disposed in said envelop to provide an electrochemical fluid-container having a cross-sectional area varying directly with the pressure of the fluid at different depths in said container.

4. In electrochemical apparatus, an envelop, and a plurality of diaphragms disposed in said envelop to form fluid-containing means increasing downwadly in cross-sectional area.

5. In electrochemical apparatus, a wedge-shaped container comprising a porous diaphragm.

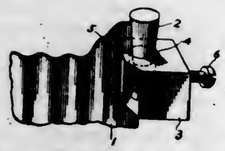
6. In electrochemical apparatus, a container comprising porous diaphragms having tapering flanges sealed together.

7. In electrochemical apparatus, a container comprising porous diaphragms having bottom flanges and tapering side flanges sealed together.

8. In electrochemical apparatus, a diaphragm having an edge with a tapering flange adjacent to and extending along said edge, said flange being disposed transversely to the body of said diaphragm.

9. In electrochemical apparatus, a diaphragm having a bottom flange and tapering side flanges thereon, said flanges being disposed transversely to the body of said diaphragm.

839,817. COUPLING FOR BATTERY ELEMENTS. FRANK A. DECKER, Philadelphia, Pa., assignor, by mesne assignments, to Decker Electrical Manufacturing Company, Wilmington, Del. Filed Jan. 22, 1906. Serial No. 297,140.



Claim.—1. A coupling for battery parts comprising, in combination with a plate, a device fixed to said plate and a second device for engaging and holding said first device, said devices being forced one within the other and held in close relation by the weight of the plate.

2. A coupling comprising a tapered socket and a tapered plug, in combination with a plate secured to one of said parts, and an envelop and conductor secured to the other of said parts, the axes of said socket and plug being disposed vertically in their assembled relation.

3. A battery-electrode holder having a tapered socket and a slit therein, an envelop and a conductor to which said holder is engaged, and an electrode having an ear thereon which fits said socket and has its connection with said electrode disposed in said slot.

839,818. COLLAPSIBLE CORE FOR PLASTIC BUILDING-WALLS. WILLIAM E. DE LHORBE, Chicago, Ill. Filed May 17, 1906. Serial No. 317,334.

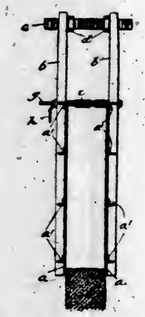
Claim.—1. A sheet-metal core for building-walls having its longitudinal edges overlapping; links pivoted to the inside of said core near one edge, and a member longitudinally slidable but laterally fixed with reference to the opposite edge of said core and pivoted to the remaining ends of said links substantially as described.



2. A sheet-metal core for building-walls having its longitudinal edges overlapping; links pivoted to said core on one side of the overlap; a controlling-rod also pivoted to said links; and guides for said controlling-rod mounted on said core on the other side of said overlap.

3. A sheet-metal core for building-walls having its longitudinal edges overlapping; links pivoted to said core on one side of the overlap; a controlling-rod also pivoted to said links; guides for said controlling-rod mounted on said core on the other side of said overlap, said guides being extended across said overlap; and keepers for said guide extensions which keepers are fastened to the core on the same side of the overlap with the link-pivots.

839,819. FORM FOR PLASTIC BUILDING-WALLS. WILLIAM E. DE LHORBE, Chicago, Ill. Filed May 18, 1906. Serial No. 317,461.



Claim.—1. Apparatus for forming plastic building-walls consisting of plates adapted to form the surfaces of the walls mechanism for adjusting position of one plate with reference to an opposite one and telescoping cylinders between the plates covering one or more portions of the adjusting mechanism for protecting the same.

2. Apparatus for forming plastic building-walls consisting of plates adapted to form the surfaces of the walls mechanism for adjusting position of one plate with reference to an opposite one and telescoping cover members between the plates covering one or more portions of the adjusting mechanism for protecting the same.

3. Apparatus for forming plastic building-walls consisting of plates adapted to form the surfaces of the wall; uprights rigidly fastened to said plates and extending above the upper edge thereof; adjustable spreading-bars at the upper ends of said uprights; a threaded rod located below said spreading-bars; telescoping cylinders on the outside of said rod for protecting the same; and nuts screwing on said rod and contacting the outsides of the apparatus for governing the distance between the lower portion of said plates.

839,820. MAGNESIA-CEMENT COMPOSITION. WILLIAM L. DUDLEY, Nashville, Tenn. Filed Aug. 17, 1906. Serial No. 331,058.

Claim.—1. A magnesia-cement composition containing an initially-waterproofed absorbent substance.

2. A magnesia-cement composition containing initially-waterproofed cellulose fiber.

3. A magnesia-cement composition containing an absorbent substance treated with paraffin.

4. A magnesia-cement composition containing an absorbent substance saturated with a solution of dissolved paraffin and subsequently freed from the paraffin solvent.

5. A magnesia-cement composition containing an absorbent substance saturated with a solution of paraffin dissolved in petroleum naphtha and subsequently freed from the naphtha.

6. A magnesia-cement composition containing cellulose fiber saturated with a solution of dissolved paraffin and subsequently freed from the paraffin solvent.

7. A magnesia-cement composition containing cellulose fiber saturated with a solution of paraffin dissolved in petroleum naphtha and subsequently freed from the naphtha.

8. A magnesia-cement composition containing cellulose fiber treated with paraffin.

9. A magnesia-cement composition containing an absorbent substance initially treated to render it impervious to a solution of magnesium chlorid.

10. A magnesia-cement composition containing cellulose fiber initially treated to render it impervious to a solution of magnesium chlorid.

11. A magnesia-cement composition containing an inert substance, magnesium oxid, and an initially-waterproofed absorbent substance.

12. A magnesia-cement composition containing an inert substance, magnesium oxid, an initially-waterproofed absorbent substance, and asbestos.

13. A magnesia-cement composition containing an inert substance, magnesium oxid, and initially-waterproofed cellulose fiber.

14. A magnesia-cement composition containing an inert substance, magnesium oxid, initially-waterproofed cellulose fiber, and asbestos.

15. A magnesia-cement composition containing an inert substance, magnesium oxid, and an absorbent substance initially treated to render it impervious to magnesium chlorid.

16. A magnesia-cement composition containing an inert substance, magnesium oxid, an absorbent substance initially treated to render it impervious to magnesium chlorid, and asbestos.

17. A magnesia-cement composition containing an inert substance, magnesium oxid, and cellulose fiber treated with paraffin.

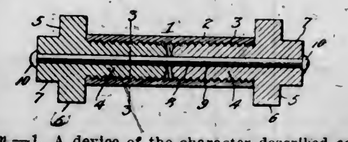
18. A magnesia-cement composition containing an inert substance, magnesium oxid, cellulose fiber treated with paraffin, and asbestos.

19. A composition of matter composed of an inert substance, magnesium oxid, initially-waterproofed cellulose fiber, and magnesium chlorid.

20. A composition of matter composed of an inert substance, magnesium oxid, initially-waterproofed cellulose fiber, asbestos and magnesium chlorid.

21. A magnesia-cement composition containing magnesium chlorid, magnesium oxid, and an absorbent substance which prior to incorporation with the magnesium chlorid has been treated with a substance impervious to the latter.

839,821. LOCK-BOLT. ALBERT DUMONT, Detroit, Mich. Filed Mar. 1, 1906. Serial No. 303,694.



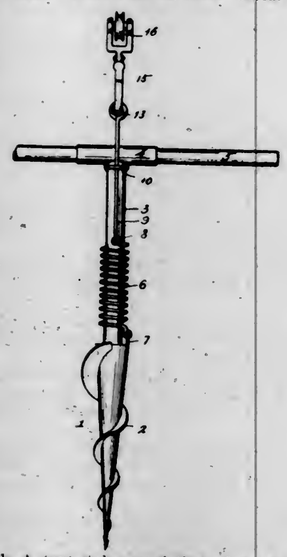
Claim.—1. A device of the character described comprising a tubular body, nuts screwed to the ends thereof and each having a longitudinal bore, and a locking-bar extending through said body and the bores of the nuts and engaged with the latter to prevent rotation thereof.

2. A device of the character described comprising a tubular body, nuts screwed upon the ends thereof and having longitudinal bores or openings, and a locking-bar passed through said body and said bores or openings,

and having its ends engaged with the nuts to lock said parts together.

3. A device of the character described comprising a tubular internally-screw-threaded body, nuts having enlarged heads, externally-screw-threaded stems to enter the ends of said body, polygonal-shaped outer portions and longitudinal bores or openings, and a locking-bar passed through said body and the bores of said nuts and having its ends upset to lock the nuts in said body, substantially as described.

839,822. TENT-STAKE. NATHAN S. DUNNINGTON, Leavenworth, Kans. Filed June 14, 1906. Serial No. 321,623.



Claim.—1. A tent-stake consisting of an auger, means for turning the same, and resilient means for connecting said stake to a cable.

2. A tent-stake consisting of an auger, a handle for turning the same, and resilient means for connecting said stake to a cable.

3. A tent-stake consisting of an auger, a stem extending upwardly therefrom, means for turning the same, and resilient means for connecting the stake to a cable or other object.

4. The combination of a tent-stake, a coil-spring embracing the same and attached thereto, rods secured to said spring, guides on the stake through which said rods extend, and a hook engaging the upper ends of the rods.

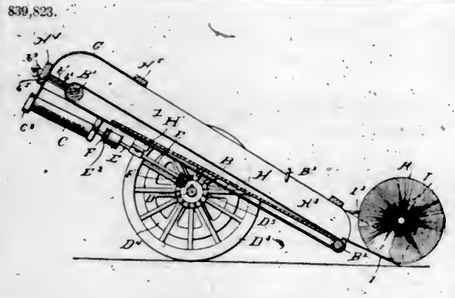
5. The combination of a stake, means carried thereby for forcing it into the ground, and resilient means for connecting said stake to any desired object.

6. The combination of a pointed stake adapted to be forced into the ground, and resilient means connected to said stake, for the purpose described.

839,823. STREET-CLEANING MACHINE. FREDRICK EBNER, La Crosse, Wis. Filed Oct. 18, 1905. Serial No. 283,333.

Claim.—In a street-sweeping machine, a rotary brush in combination with the main transporting-wheels and their axle, a bevel gear-wheel sliding on said axle, a spring pressing on said gear-wheel, a lantern-wheel meshing with said bevel gear-wheel, a shaft turning with said lantern-wheel, an endless conveyer driven by said shaft, another endless conveyer, gearing from the shaft of said brush to drive the same and a pawl and ratchet operating with this gearing to prevent backward motion substantially as set forth.

839,823.



839,824. DRILL. GEORGE E. EATON, Corning, N. Y. Filed May 23, 1906. Serial No. 318,427.



Claim.—1. A drill comprising a stepped head, a drill-point fixed to the latter, said head having an annular recess, the ends of which are undercut, a series of stepped drill-shoes mounted within said recess, and means for holding the same in place, as set forth.

2. A drill comprising a stepped head, a drill-point fixed to the latter, said head having an annular recess, the ends of which are undercut, a series of stepped drill-shoes mounted within said recess, and detachable plates designed to hold said stepped drill-shoes upon the head, as set forth.

3. A drill comprising a stepped head with grooves formed transversely across the steps of the latter, a drill-point fixed to said head, the latter having an annular recess formed therein, the ends of which are undercut, a series of stepped drill-shoes mounted within said recess, and detachable plates countersunken in said grooves and adapted to hold said drill-shoes in place, as set forth.

4. A drill comprising a stepped head having a drill-point, said head having an annular recess with undercut end walls, with the bottom of the recess provided with a shoulder, a series of stepped drill-shoes, the under surfaces of which are recessed and adapted to fit over said shoulder, said drill-shoes having inclined ends designed to engage the undercut end walls of said recess for holding the drill-shoes in place, as set forth.

5. A drill comprising a stepped head with grooves formed transversely across the stepped portions thereof and provided with an annular recess with a shoulder in the bottom of said recess, the end walls of said recess being undercut, a drill-point, a series of stepped drill-shoes, the undercut surfaces of which are recessed and adapted to fit over said shoulder, said drill-shoes having inclined ends engaging the undercut end walls of said recess, and detachable plates countersunken in said grooves in the head and designed to hold the drill-shoes in place, as set forth.

6. In combination with a stepped drill-head provided with longitudinal grooves at positions diametrically opposite and an annular recess with undercut end walls, a drill-point, a series of drill-shoes seated in said recess and held by said undercut end walls of the recess, said drill-shoes having series of cutting-points in concentric circles, and means engaging said grooves for holding said stepped shoes against lateral movements, as set forth.

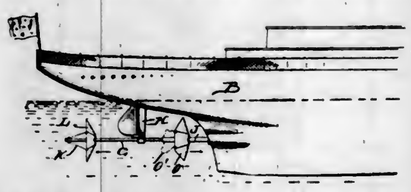
839,825. MANUFACTURING CELLULOSE PRODUCTS. EDUARD ECK, Gross-Anheim, and ERNST BECHTEL, Hanau, Germany, assignors to Hanauer Kunstseidefabrik, Hanau, Germany, a Corporation of Germany. Filed June 7, 1906. Serial No. 320,645.

Claim.—1. The process of manufacturing cellulose products, which consists in passing a solution of cellulose with ammoniureted cupric oxid through an opening of a cross-section a little larger than that of the product, conducting the issuing rope or mass through a warm solution of caustic soda to form a film on the rope or mass, leaving the rope or mass alone for a time to allow the cellulose to congulate and to consolidate, and finally treating the product in a bath of caustic soda to complete its consolidation.

2. The process of manufacturing cellulose products, which consists in passing a solution of cellulose with ammoniureted cupric oxid through an opening of a cross-section a little larger than that of the product, conducting the issuing rope or mass through a warm solution of caustic soda to form a film on the rope or mass, leaving the rope or mass alone for a time to allow the cellulose to coagulate and to consolidate, treating the rope or mass in a bath of caustic soda to complete its consolidation, and finally subjecting the product to the action of acidulated water to decolorize it.

3. The process of manufacturing cellulose products, which consists in passing a solution of cellulose with ammoniureted cupric oxid through an opening of a cross-section a little larger than that of a finished block, conducting the issuing block through a warm solution of caustic soda to form a film on the block, leaving the block alone for a time to allow the cellulose to coagulate and to consolidate, treating the block in a bath of caustic soda to complete its consolidation, subjecting the block to the action of acidulated water to decolorize it, and finally cutting the block up into thinner products (rods, strips or plates).

839,826. BOAT-PROPELLER. SAMUEL N. EDGAR, Greenville, Tex. Filed Jan. 16, 1906. Serial No. 296,340.



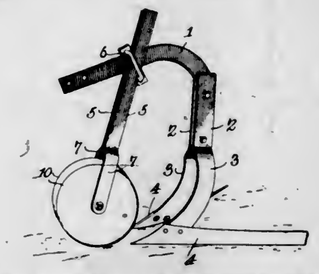
Claim.—1. In a boat-propeller, the combination with a pair of cylinders provided with piston-rods, of a shaft provided with a propeller at its end connected to one of said piston-rods, a sleeve arranged on said shaft provided with a propeller at its end connected to the other piston-rod, and a bar connecting said piston-rods for the purpose described.

2. In a boat-propeller, the combination with a pair of cylinders provided with piston-rods, of a shaft provided with a folding propeller adjacent one end, slidably mounted in a bracket, a link connecting the other end of said shaft to one of the piston-rods, a sleeve arranged on said shaft provided with a folding propeller, adjacent one end, a link connecting the other end of said sleeve to the other piston-rod, and a bar pivoted on a stud-post connecting said piston-rods, for the purpose described.

3. In a boat-propeller, the combination with a pair of cylinders provided with piston-rods, of a shaft slidably mounted in a bracket and connected to one of said piston-rods, a sleeve slidably mounted on said shaft connected to the other piston-rod, wings hinged to the shaft and sleeve, chains connecting said wings to the shaft and sleeve, and a bar connecting said piston-rods, for the purpose described.

4. In a boat-propeller, the combination with a pair of cylinders provided with piston-rods, of a shaft slidably mounted in the bracket carrying the rudder, a link connecting the end of the shaft, to one of the piston-rods, a sleeve mounted on said shaft connected to the other rod, wings hinged to the shaft and sleeve, triangular sections hinged together and to the upper and lower edges of the wings, pins extending inwardly from said wings and chains connecting said wings to the shaft and sleeve, for the purpose described.

839,827. COTTON-THINNING PLOW. WILLIAM A. EDGIN, Graford, Tex. Filed July 13, 1906. Serial No. 326,113.



Claim.—1. A cotton-thinning plow consisting of a beam, standards attached to said beam and having their lower ends spaced apart, cutting-blades attached to said standards, colter-standards attached to the beam in advance of the blade-standards, a bolt connecting said colter-standards together, a sleeve journaled upon said bolt, and colter-wheels fixed to said sleeve.

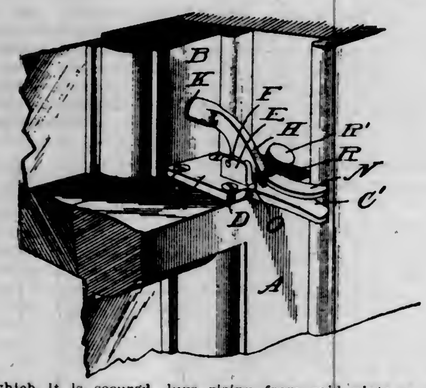
2. A cotton-thinning plow consisting of a beam, standards attached to said beams and having their lower ends spaced apart, cutting-blades attached to said standards, colter-standards attached to the beam in advance of the blade-standards, a bolt connecting said colter-standards together, a sleeve journaled upon said bolt and bearing at its ends against the colter-standards and colter-wheels fixed to said sleeve.

3. A cotton-thinning plow consisting of a beam, standards attached to said beam and having their lower ends spaced apart, cutting-blades attached to said standards, colter-standards attached to the beam in advance of the blade-standards, a bolt connecting said colter-standards together, a sleeve journaled upon said bolt and being retained against longitudinal movement thereon and colter-wheels located upon the sleeve and being capable of lateral adjustment thereon.

839,828. LOCK FOR WINDOW-SASH. SIGURD W. EKROOS, Brooklyn, N. Y. Filed Feb. 20, 1906. Serial No. 302,118.

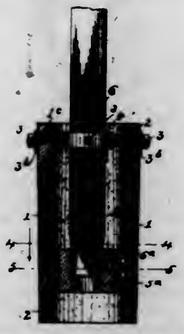
Claim.—In combination with the upper and lower sash of a window, a plate secured to the top of the lower sash

and provided with a handle which is slightly downwardly curved and extending beyond one face of the sash to



which it is secured, lugs rising from said plate, a pin mounted in apertures in said lugs, a lever pivotally mounted upon said pin and having one end thereof recessed, a buffer seated in said recess, a spring interposed between the lever and the bottom of the plate intermediate said lugs, an adjusting-screw passing through a threaded aperture in said lever and adapted to bear against the plate, the outer end of said lever forming a handle which is slightly concaved and adapted to be gripped with the handle of said plate when it is desired to release the lever from contact with a window and raise the latter, as set forth.

839,829. FENCE-POST BASE. HENRY L. FELL, Battle Creek, Mich. Filed June 8, 1906. Serial No. 320,801.



Claim.—1. A post-base comprising a shell, a conically-bored foot-block in the lower part of the shell adapted to retain the lower end of the post, and means above the foot-block connecting the post to the shell and centering it in the shell, substantially as described.

2. A post-base comprising a shell, a conically-bored foot-block in the lower part of the shell—adapted to retain the lower end of the post—and a clamp-ring and bolts adapted to fasten the post above the foot-block.

3. A post-base comprising a shell, a removable conically-bored foot-block in the lower part of the shell adapted to retain the lower end of the post, a clamping-ring in the upper part of the shell adapted to engage the upper part of the post, and bolts for centering the clamp-ring in the shell and tightening it upon the post, substantially as described.

4. In a post-base, a shell, post-securing bolts transfixing the shell, and reinforcing-loops embedded in the shell, substantially as described.

5. A post-base comprising a shell, a foot-block in the lower part of the shell, a clamping-ring above the foot-block, bolts engaging the ring and transfixing the shell, and reinforcing-loops embedded in the shell, substantially as described.

6. In a post-base, the combination of a shell, a foot-block having a conical bore in the lower part of the shell; a clamping-ring above the foot-block, bolts transfixing the shell and said ring, and nuts on said bolts, substantially as described.

7. In a post, the combination of a shell, a foot-block having a conical bore in the lower part of the shell; a clamp-ring above the foot-block, bolts transfixing the shell and said ring, nuts on the inner threaded ends of the bolts, a post inserted through said rim and having its lower end wedged in the bore of the foot-block, substantially as described.

8. In a post, the combination of a shell, bolt-holes in the upper ends of said sections, wire-loops inclosing said holes and embedded in the shell, a foot-block in the shell having a conical bore, a clamping-ring above the foot-block, bolts engaging the openings in the shell and ring, nuts on the inner ends of said bolts, and a post inserted through the ring, and having its lower end wedged in the conical bore of the foot-block.

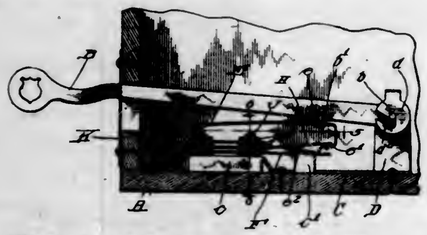
9. A post-base comprising a shell composed of longitudinally-separable sections, a foot-block in the lower part of the shell adapted to retain the lower end of the post, and clamping devices uniting the upper ends of the sections and adapted to engage the post above the foot-block.

10. In a post, the combination of a shell made in longitudinally-separable sections, a foot-block having a conical bore in the lower part of the shell; a clamping-ring above the foot-block, bolts transfixing the shell-sections and said ring, and nuts on said bolts, and a post passing through said ring and having its lower end wedged in the foot-block, substantially as described.

11. In a post, the combination of a shell made in longitudinally-separable sections, a foot-block having a conical bore in the lower part of the shell; a clamp-ring above the foot-block, bolts transfixing the shell-sections and said ring, nuts on the inner threaded ends of the bolts, a post inserted through said ring and having its lower end wedged in the bore of the foot-block, said post being surrounded by air-spaces in the base, substantially as described.

12. In a post, the combination of a shell made in longitudinally-separable sections, bolt-holes in the upper ends of said sections, wire-loops inclosing said holes and embedded in the shell-sections; a removable foot-block in the shell having a conical bore, a clamping-ring above the foot-block, bolts engaging the openings in the shell and ring, nuts on the inner ends of said bolts, and a post inserted through the ring, and having its lower end wedged in the conical bore of the foot-block so as to leave air-spaces between the post and shell.

839,830. TELEPHONE HOOK-SWITCH. GEORGE D. FOSTER, Chicago, Ill., assignor to American Electric Telephone Company, Chicago, Ill., a Corporation. Filed July 26, 1904. Serial No. 218,301.



Claim.—1. A subscriber's telephone apparatus comprising an inclosed hook-switch having a hook which is readily removable independently of all other portions of the apparatus, said hook having its outer end adapted to receive and support a telephone-receiver, and said hook being removable endwise in the direction of its outer end without entering the inclosure.

2. A subscriber's telephone set comprising a support, a switch-hook removably pivoted upon said support, spring means for operating said hook, and means for inclosing all except the free outer end of said hook, said hook having its outer end adapted to receive and support a telephone-receiver, and said hook being removable endwise in the direction of its outer end without entering the inclosure.

3. A hook-switch comprising a slotted bearing portion, a lever provided with a pivot-pin adapted to be inserted in said slots, spring means for operating said lever-arm, means for inclosing all except the free outer end portion of said lever-arm, and an escutcheon secured to said inclosure and formed with both vertical and horizontal slots through which the lever-arm and its pivot may pass when said arm is withdrawn.

4. A hook-switch comprising a support, an inclosure, a lever-arm removably pivoted thereon, a lifting-spring engaging the lever-arm, a stop adapted to engage and limit the upward movement of said spring, switch-springs engaged and operated by said lifting-spring, and a slot through which the lever is removable without entering the inclosure.

5. A telephone set comprising a switch-hook provided at its inner end with a rigid pivot-pin, said hook and its pin being readily removable independently of all other parts, and a casing inclosing all but the outer end of said switch-hook, said switch-hook removable and replaceable without entering the casing.

6. A telephone set comprising a switch-hook provided at its inner end with a rigid pivot-pin, a spring-switch operated by said switch-hook, and a bracket-plate adapted to receive said pivot-pin, whereby the hook and its pin are removable as a unit independently of all other parts, and a casing inclosing all but the outer end of said switch-hook, said switch-hook removable and replaceable without entering the casing.

7. A telephone hook-switch comprising an operating-spring, switching-springs, and rigid insulating means for engaging the operating spring and thereby holding the same and the switching-springs in operative position when the switch-hook is removed from the structure, said insulating means adapted to engage the end of the operating-spring.

8. In a telephone hook-switch, the combination with a closed casing, of a base mounted therein and an operating-lever so pivoted on said base that it may be removed without entering the casing.

9. In a telephone hook-switch, the combination with a closed casing, of a base therein, a circuit-changing device mounted on the base and a lever for operating said circuit-changing device and so pivoted on said base that it may be removed from engagement with the base and the circuit-changing device without entering the casing.

10. In a telephone hook-switch, the combination with a closed casing, of a base mounted therein and an operating-lever so pivoted on said base that it may be removed without entering the casing, the base being provided with oblique slots, and the said lever having a pivot adapted to engage said slots.

11. In a telephone hook-switch, the combination with a closed casing, of a base therein, a circuit-changing device mounted on the base and a lever for operating said circuit-changing device and so pivoted on said base that it may be removed from engagement with the base and the circuit-changing device without entering the casing, and an escutcheon secured to the outside of said casing and provided with a vertical slot for the lever, and with a horizontal slot to permit the lever-pivot to pass through the escutcheon.

12. In a telephone hook-switch, the combination of a hook, a base, a pivot on one of said elements, the other element having a pivoting and releasing notch engaged by said pivot, switch-contacts mounted on the base and operated by said hook, and a lifting-spring engaging the hook to keep the pivot properly seated in the said notch, whereby the hook is easily released from and inserted in said base.

839,831. GUARD FOR EYEGLASSES. EDGAR J. GEORGE, Chicago, Ill. Filed Jan. 22, 1906. Serial No. 297,847.



Claim.—1. A guard for eyeglasses having main arms or bearing portions, and upwardly and inwardly extending spring-arms connected therewith by bends approximately parallel with said main arms.

2. A guard for eyeglasses formed of resilient metal and comprising main bearing-arms, and upwardly and inwardly extending supplemental spring-arms connected therewith by bends approximately parallel with said main arms.

3. A guard for eyeglasses having resilient main arms, and upwardly and rearwardly extending resilient arms connected therewith by outward bends approximately parallel with said main arms.

4. A guard for eyeglasses formed of resilient material and comprising main arms, and upwardly and rearwardly extending supplemental arms connected with said main arms by outward bends which are approximately parallel with said main arms, said supplemental arms terminating in bearing-surfaces.

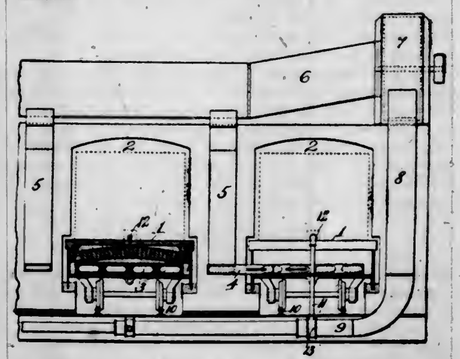
5. A guard formed of a single piece of metal and comprising main arms and supplemental arms proceeding from the front edges of the lower ends of the main arms and extending upwardly and rearwardly.

6. A guard for eyeglasses comprising main arms and supplemental arms proceeding from the front edges of the lower ends of the main arms and formed of resilient material, and arranged to be bent and thereby adjusted forwardly or rearwardly with respect to the main arms.

7. A guard for eyeglasses formed from a single piece of resilient material and comprising main arms and supplemental arms proceeding from the front edges of the main arms on vertical bends and extending upwardly and rearwardly of the main arms, said supplemental arms being capable of being bent and adjusted to different positions forwardly and rearwardly with respect to the main arms.

8. A guard for eyeglasses formed from a single piece of resilient material and comprising main arms and supplemental arms connected with the front edges of the main arms by loop-shaped bends, said supplemental arms extending upwardly and rearwardly with respect to the main arms.

839,832. MANUFACTURING BRICKS, &c. ALBERT A. GERY, Reading, Pa. Filed Jan. 24, 1905. Serial No. 242,500.



Claim.—1. The improvement in continuously drying burning and cooling brick and the like in a single tunnel-kiln which consists in producing a current of air beneath the brick-supporting floor-surface from the exit end thereto to the entrance end, and utilizing said current to suc-

cessively abstract heat from the outgoing floor-sections and to indirectly and directly heat the incoming brick.

2. The improvement in continuously drying burning and cooling brick and the like in a single tunnel-kiln which consists in abstracting heat from the outgoing piled brick through the brick-supporting-floor sections and heating the incoming-brick-supporting-floor sections by means of such abstracted heat to dry the lower courses of incoming brick.

3. The combination with a tunnel-kiln of a movable brick-carrying floor therefor made up of abutting sections having imperforate brick-supporting beds and longitudinal subsurface air-passages arranged in communication with each other.

4. The combination with a tunnel-kiln of a movable brick-carrying floor therefor made up of abutting sections having imperforate brick-supporting beds and longitudinal subsurface air-passages arranged in communication with each other and means for creating an air-current through said communicating hollow floor-sections in reverse direction to the floor movement.

5. The combination with a tunnel-kiln and a movable brick-carrying floor therefor made up of hollow sections forming a continuous longitudinal subsurface air-passage, of means for creating an air-current through said passage in reverse direction to the floor movement, and means for delivering said air into the entrance portion of the tunnel.

6. The combination with a tunnel-kiln and a movable brick-carrying floor therefor made up of hollow sections forming a continuous longitudinal subsurface air-passage, of fixed air-conduits at the entering end of the tunnel, a connecting-conduit to the last-entered floor-section, a delivery-conduit extending into the tunnel, and means for maintaining an air-current through said passage and conduits substantially as set forth.

7. The combination with a tunnel-kiln and a movable brick-carrying floor therefor made up of hollow sections forming a continuous longitudinal subsurface air-passage, of means for creating an air-current through said passage in reverse direction to the floor-movement, and means for delivering said air into the entrance portion of the tunnel comprising a delivery-conduit extending into the tunnel and a movable connection between said delivery-conduit and a fixed conduit, substantially as set forth.

8. The improvement in continuously drying burning and cooling brick and the like in a single tunnel-kiln which consists in utilizing heat imparted by the burned brick to the outgoing floor-sections by abstracting the same from said floor-sections by means of a reverse air-current and imparting it from said air-current to the incoming brick.

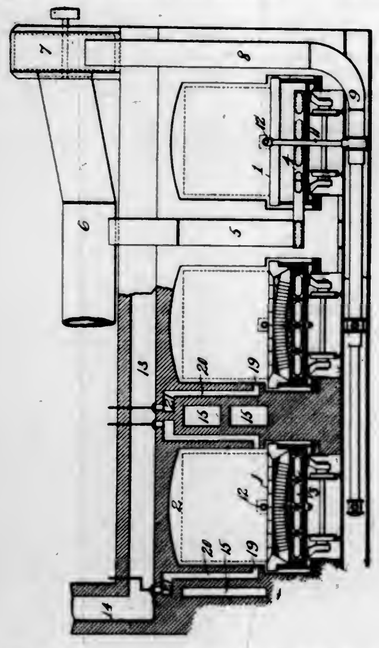
9. The improvement in continuously drying burning and cooling brick and the like in a single tunnel-kiln which consists in utilizing heat imparted by the burned brick to the outgoing floor-sections by abstracting the same from said floor-sections by means of a reverse air-current and imparting it from said air-current to the incoming floor-sections to indirectly heat the brick thereon.

10. The improvement in continuously drying burning and cooling brick and the like in a single tunnel-kiln which consists in utilizing heat imparted by the burned brick to the outgoing floor-sections by abstracting the same from said floor-sections by means of a reverse air-current and imparting it from said air-current first to the incoming floor-sections to indirectly heat the brick thereon, and thereafter directly to the incoming brick.

839,833. MANUFACTURING BRICK. ALBERT A. GERY, Reading, Pa. Filed May 19, 1905. Serial No. 261,104.

Claim.—1. The improvement in manufacturing brick or the like which consists in subjecting the same while loosely piled in a drying-chamber to the action of in-forced air which is temporarily stored in said chamber under compression while circulating therethrough.

2. The improvement in manufacturing brick or the like which consists in subjecting the same while loosely piled in a drying-chamber to the action of in-forced heated air which is temporarily stored in said chamber under compression while circulating therethrough.



3. The improvement in manufacturing brick or the like which consists in subjecting the same while loosely piled in a drying-chamber to the action of in-forced air which is temporarily stored in said chamber under compression, and indirectly heated therein while circulating therethrough.

4. A tunnel-kiln having an end section thereof separated from the main kiln by a movable partition, and provided with an end closure to form a cut-off chamber, a periodically-progressing brick-carrying floor made up of abutting floor-sections, means for admitting heated air under pressure to the lower portion of said chamber midway of its width, and restricted low-down outlets therefor through each side wall of said chamber, whereby a central upward flow of the incoming air and lateral downward flow of stored air is maintained in said chamber, substantially as set forth.

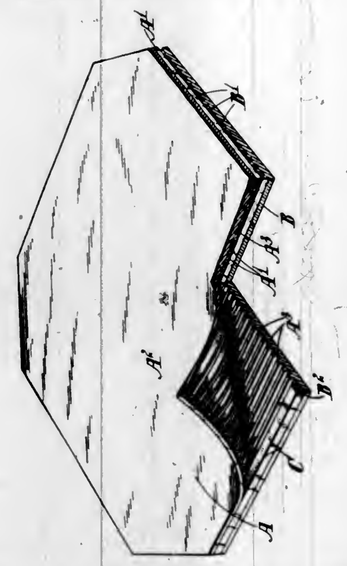
5. A tunnel-kiln having an end section thereof separated from the main kiln by a movable partition, and provided with an end closure to form a cut-off chamber, a periodically-progressing brick-carrying floor made up of abutting floor-sections, means for forcing air into said chamber to compress the same therein, and adjustable means for discharging the air therefrom whereby a desired degree of compression of the passing air is maintained in said chamber substantially as set forth.

6. A tunnel-kiln having an end section thereof separated from the main kiln by a movable partition, and provided with an end closure to form a cut-off chamber, a periodically-progressing brick-carrying floor made up of abutting floor-sections, means for forcing heated air into said chamber to compress the same therein, and adjustable means for discharging the air from the lower portion of said chamber whereby a downward circulation of compressed air is maintained in said chamber substantially as set forth.

7. A tunnel-kiln having an end section thereof separated from the main kiln by a movable partition, and provided with an end closure to form a cut-off chamber, a periodically-progressing brick-carrying floor made up of abutting floor-sections, means for forcing heated air into said chamber, and restricted side outlets for air from the lower portion of said chamber whereby a downward circulation of temporarily-stored air is maintained in said chamber substantially as set forth.

8. A tunnel-kiln having an end section thereof separated from the main kiln by a movable partition, and provided with an end closure to form a cut-off chamber, a periodically-progressing brick-carrying floor made up of abutting floor-sections, flues in the side walls of said chamber arranged in communication with the main tunnel, separate outlets for air in said side walls arranged in communication with the lower portion of said chamber, and means for maintaining a circulation of air through the latter to said air-outlets substantially as set forth.

839,834. RUBBER MAT. ROBERT K. GRAY, London, England. Filed Feb. 12, 1906. Serial No. 300,750.



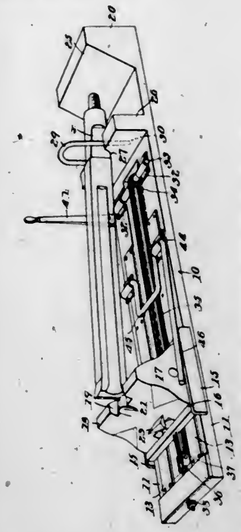
Claim.—1. A rubber mat comprising two sheets, each ribbed on one side only, placed one on the other with the ribs on the upper sheet crossing those on the lower sheet so as to form communicating air-channels throughout the space inclosed between the two sheets.

2. A rubber mat comprising two sheets, each ribbed on one side only, placed one on the other with the ribs on the upper sheet crossing those on the lower sheet so as to form communicating air-channels throughout the space inclosed between the two sheets which are united at their edges by an air-tight joint.

839,835. DRILL-SHAPING MACHINE. JOSEPHUS H. GREEN, Marietta, Ohio. Filed May 22, 1905. Serial No. 261,598.

Claim.—1. In apparatus of the class described, the combination with a base having at one end a heel, of a carriage mounted on said base and having side flanges arranged to engage the sides of the base, an anvil mounted on said carriage, means for adjusting said carriage longitudinally of the base, and a pillow-block carried by the base at a point between the heel and carriage.

2. In apparatus of the class described, the combination with a base having at one end a fixed heel provided with an inclined face, of a carriage slidably mounted on the base and having side flanges guided by the edges of said base, a pair of sprocket-wheels having supporting devices carried by the base, a link belt extending over the sprocket-wheels and connected at its opposite ends to the carriage, means for turning one of said sprocket-wheels to effect adjustment of the carriage, an anvil supported by the carriage, and a pillow-block arranged on the base between the heel and carriage.

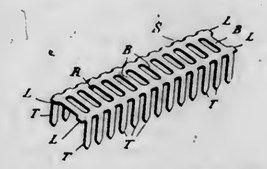


3. In apparatus of the class described, a base, a carriage slidably mounted thereon and provided with parallel cross-bars, the adjacent faces of which are arranged at an angle with relation to each other, and an adjustable anvil having angular faces arranged to rest against the angular faces of the cross-bars, the latter affording continuous supports for the whole width or length of the anvil, said anvil having die-cavities at its different corners or edges, the cavities corresponding in shape to and being adapted to receive the ends of the drills.

4. In apparatus of the class described, the combination with a base, of a pillow-block having a recessed work-support, a detachable yoke or staple carried by the work-support to prevent independent turning movement or twisting of the work, and an anvil adjacent to said pillow-block.

5. In apparatus of the class described, the combination with a base, of a work-support, an anvil having die-cavities at its different corners or edges, and a pivotally-mounted work-elevating member carried by the base at a point between the anvil and the support and arranged to elevate the front end of the work above the anvil.

839,836. STAPLE BLANK OR STRIP. EDWIN T. GREENFIELD, Monticello, N. Y., assignor to Greenfield Automatic Fastener Company, New York, N. Y., a Corporation of New York. Filed Nov. 25, 1905. Serial No. 289,023.



Claim.—1. As an article of manufacture a staple blank or strip embracing a series of staples interconnected only at the lateral or side edges of the back of such blank or strip.

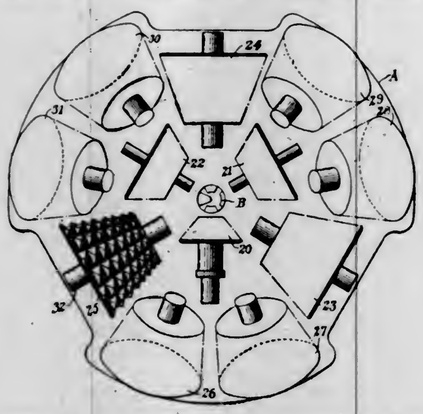
2. As an article of manufacture a staple blank or strip embracing a series of staples united together only at the

angular portions between the legs and the backs thereof and separated from each other by oblong openings.

3. As an article of manufacture a staple blank or strip embracing completed staples integrally connected only at the angles between the legs and backs thereof.

4. As an article of manufacture a staple blank or strip embracing a series of staples separated from each other by spaces between the legs and oblong openings between the backs extending to points relatively near the lateral edges of the strip.

839,837. DRILL-BIT FOR WELLS. CHARLES W. GUTTZEIT, High Bridge, N. J., assignor to Taylor Iron & Steel Company, High Bridge, N. J., a Corporation of New Jersey. Filed Apr. 2, 1906. Serial No. 309,244.



Claim.—1. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head and organized to engage the ground as the drill is advanced, the rolling members having conical working surfaces whose vertices lie in the axis of the head.

2. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head and disposed to engage the ground in adjacent zones, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head.

3. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head and organized to engage the ground as the drill is advanced, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, the head being provided with an axially-extending boring-bit at the central portion.

4. In a well-drill, the combination of a head, a plurality of rolling members rotatably supported in the head, and organized to engage the ground in adjacent zones, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, the head being provided with an axially-extending boring-bit at the central portion.

5. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground in adjacent zones, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, the rollers being provided with projections on their engaging faces, and the head being provided with an axially-extending boring-bit at the central portion.

6. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head and organized to engage the ground as the drill is advanced, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, the rollers being provided with projections on their engaging surfaces.

7. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head and organized to engage the ground as the drill is advanced, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, some of the rollers having their axes inclined to the drill-axis.

8. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground in adjacent zones, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, some of the rollers having their axes inclined to the drill-axis and converging forward.

9. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground as the drill is advanced, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, some of the rollers having their axes extending perpendicular to the axes of the head, and the other rollers having their axis inclined to the drill-axis.

10. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground as the drill is advanced, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, some of the rollers having their axes extending perpendicular to the axis of the head, and rollers having their axis inclined to the drill-axis and converging forward.

11. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground as the drill is advanced, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, some of the rollers having their axes extending perpendicular to the axis of the head, and some of the rollers having their axis inclined to the drill-axis, and an axial boring-bit at the center of the head.

12. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground in adjacent zones, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, some of the rollers having their axes extending perpendicular to the axis of the head, and some of the rollers having their axis inclined to the drill-axis.

13. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground in adjacent zones, the rolling members having conical engaging surfaces whose elements converge at the axis of the head, some of the rollers having their axes extending perpendicular to the axis of the head, and some of the rollers having their axis inclined to the drill-axis and converging forward.

14. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground in adjacent zones, the rolling members having conical engaging surfaces whose elements converge at the axis of the head, some of the rollers having their axes extending perpendicular to the axis of the head, and some of the rollers having their axis inclined to the drill-axis and converging forward.

15. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground as the drill is advanced, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, the outer rollers having their axis inclined forward.

16. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground as the drill is advanced, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, the outer rollers having their axes inclined forward, and some of the other rollers having their axes extending perpendicular to the axis of the head.

17. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground in adjacent zones, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, the outer rollers having their axes inclined, and other rollers having their axes extending perpendicular to the axis of the head.

18. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground in adjacent zones, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, the outer rollers having their axes inclined, and other rollers having their axes extending perpendicular to the axis of the head, and an axial boring-bit at the center of the head.

19. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head and organized to engage the ground as the drill is advanced, the rolling members having conical working surfaces whose vertices lie in the axis of the head, one of the rolling members extending to the axis of the drill.

20. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head and disposed to engage the ground in adjacent zones, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, one of the rolling members extending to the axis of the drill.

21 In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head and organized to engage the ground as the drill is advanced, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, the rollers being provided with projections on their engaging surfaces, one of the rollers extending to the axis of the drill.

22. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head and organized to engage the ground as the drill is advanced, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, the outer rollers having their axis inclined forward, and the inner roller extending to the axis of the drill.

23. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground as the drill is advanced, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, some of the rollers having their axes extending perpendicular to the axis of the head, and other rollers having their axes inclined to the drill-axis and converging forward, one of the rollers extending to the axis of the drill.

24. In a well-drill, the combination of a head, and a plurality of rolling members rotatably supported in the head, and organized to engage the ground in adjacent zones, the rolling members having conical engaging surfaces whose vertices lie in the axis of the head, some of the rollers having their axes extending perpendicular to the axis of the head, and other rolls having their axis inclined to the drill-axis and converging forward, one of the rollers extending to the axis of the drill.

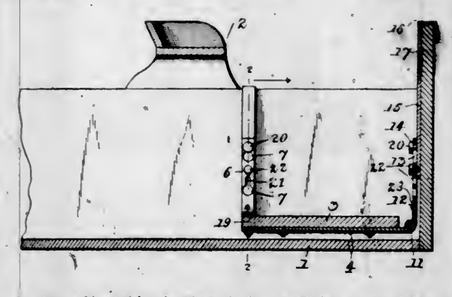
839,838. ADJUSTABLE FOOTBOARD FOR VEHICLES. JOHN HAGE, Plankinton, S. D. Filed Jan. 16, 1906. Serial No. 296,341.

Claim.—1. A footboard for vehicles comprising an adjustably and removably mounted frame, and a footboard held in a suspended position thereby.

2. A footboard for vehicles comprising an adjustably and removably mounted depending frame, and a footboard held in a suspended position thereby.

3. A footboard for vehicles comprising an adjustable frame having supporting-hooks formed integral therewith and affording means for holding the frame in suspended position, and a footboard carried by the frame.

4. A footboard for vehicles comprising a board, a frame supporting the board, one end of said frame being arranged vertically and having openings therein, a strap hinged or pivotally mounted on the other end of the frame and having openings therein, and supporting-straps having their upper ends bent to form hooks, and having lugs adapted to engage the openings whereby the frame is adjusted and held in adjusted position.



5. An adjustable footboard for vehicles comprising a board, frames adapted to support the board, one end of each frame being arranged vertically and having openings therein, a strap hinged or pivotally mounted on the other end of each frame and having openings therein, and straps having hooks at their upper ends and lugs or studs adapted to engage the openings whereby the frames are adjusted and held in adjusted position.

6. An adjustable footboard for vehicles comprising a board, frames adapted to support the board, one end of each frame being arranged vertically and having openings therein, a strap hinged or pivotally mounted on the other end of each frame and having openings therein, straps having hooks at their upper ends and lugs or studs adapted to engage the openings whereby the frames are adjustably and removably connected, and keys or thumb-screws passing through openings in the frames whereby said straps and frames are held against displacement.

7. An adjustable footboard for vehicles comprising a board, frames adapted to support the board, one end of each frame being arranged vertically and having openings therein, a strap hinged or pivotally mounted on the other end of each frame and having openings therein, straps having hooks at their upper ends and lugs or studs adapted to engage the openings whereby the frames are adjustably and removably connected, and keys or set-screws passing through openings in the frames and straps and affording auxiliary means for removably connecting the same.

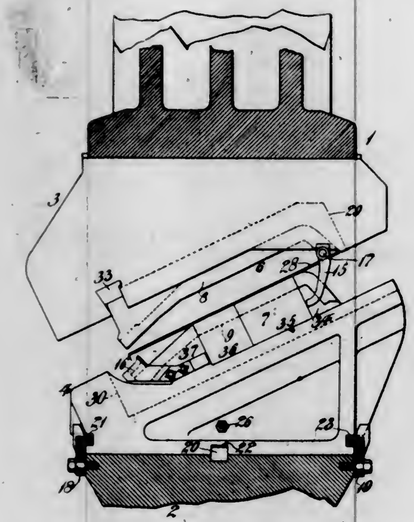
839,839. APPARATUS FOR FORMING SHEET-METAL HANGER-LEGS. HOWARD T. HALLOWELL, Hallowell, Pa. Filed Apr. 25, 1904. Serial No. 204,733.

Claim.—1. A forming device comprising a plurality of die-holding portions, gages on the adjacent faces thereof, means for moving one of said portions toward the other, a plurality of dissimilar dies in one of said portions, a die in the other of said portions and means for moving one of said portions transversely of the line of movement of one of said portions toward the other, whereby one of said dies and the blank supported thereon is successively engaged with the dies in the other of said portions.

2. A forming device comprising a die-block, a plurality of dissimilar dies in said block, a second die-block, a bed on which said second block is movable transversely of the line of movement of one of said blocks toward the other, gages on the adjacent faces of said blocks, a die in said second block adapted to support a blank and means for moving said second block so as to bring its die and the blank supported thereon successively in engagement with the dies in said first-named block.

3. A forming device comprising an upper die-block, a plurality of dissimilar dies in said block, a lower die-block, a bed on which said lower block is supported, means common to said lower block and said bed for guiding said block in transverse movement on said bed, a die in said lower block adapted to support a blank and means for moving said lower block to bring said die successively beneath the dies in said upper block, gages on the adja-

cent faces of said blocks, one of which gages is pivotally mounted.



4. A forming device comprising an upper die-block, a plurality of dissimilar dies in said block, a lower die-block, said die-blocks being arranged with their adjacent faces inclined from the horizontal, a bed on which said lower block is supported, means common to said lower block and said bed for guiding said block in transverse movement on said bed, a die in said lower block adapted to support a blank, a cylinder mounted adjacent said bed, a piston in said cylinder connected with said lower block and means for the application of a force whereby said lower block may be moved on said bed to bring said die and the blank supported thereon successively in engagement with the dies in said upper block.

5. In a forming device, a die-block and a die having coacting dentated flanges and detachable means engaging said block and one end of said die for preventing the relative movement of said block and said die, whereby they are retained in operative relation to each other.

6. In a forming device, an upper die-block having its lower face inclined with the horizontal and a die detachably engaged in said block, said die and said block having common flanges and shoulders longitudinally interrupted so as to permit their engagement and disengagement by their relative motion and a detachable key for preventing such relative motion.

7. In a forming device, a die-block having its outer face inclined to the horizontal, a die composed of a plurality of sections thereon, the upper and lower of said sections having their working face inclined to the horizontal, a coacting die-block, and means on said die-blocks for taking the end thrust of the dies.

8. In a forming device, a die-block having its outer face inclined to the horizontal, a die composed of a plurality of sections thereon, the upper and lower of said sections having their working face inclined to the horizontal, a coacting die-block, means on said die-blocks for taking the end thrust of the dies, and a gage carried by said lower section.

9. In a forming device, a die-block, a die thereon composed of a plurality of sections having their working face inclined to the horizontal, said sections being held in operative relation to each other by gravity, and a gage carried by one of said sections.

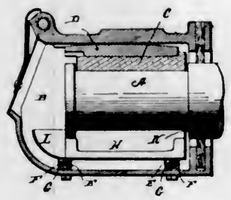
10. In a forming device, a sectional die having interrupted flanges and a die-holder having a reverse interrupted flanges whereby said flanges may be interlocked.

11. In a forming device, a sectional die having interrupted flanges, and a die-holder having reverse interrupted flanges, whereby said flanges may be interlocked, the interrupted flanges of the die being seated on the interrupted flanges of the die-holder when in assembled position.

12. In a forming device, a die-block, a sectional die carried thereby and having its working faces inclined to the horizontal and means for preventing relative movement of said die and die-block.

13. In a forming device, upper and lower die-blocks, dies carried by said blocks, the lower end of said dies being substantially wedge-shaped and having their working faces inclined to the horizontal.

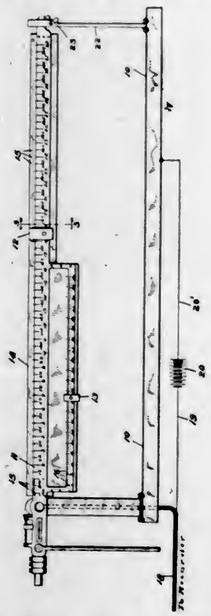
839,840. LUBRICATING DEVICE FOR CAR-AXLE JOURNALS. FRANK B. HARRISON and LACEY Y. WILLIAMS, Toledo, Ohio. Filed Sept. 19, 1904. Serial No. 225,039.



Claim.—1. The combination with a journal-box having recesses in its sides open to the inside of the box and springs within the recesses, of a pan and said pan supported by the springs.

2. The combination with a journal-box having recesses in its sides and springs and posts within the recesses, of a pan supported by the springs and posts.

839,841. SCALE-RECORDER. FRANKLIN B. HAYS, Indianapolis, Ind. Filed July 30, 1906. Serial No. 328,373.



Claim.—1. The combination, with a scale-beam and a counterpoise movable along the same, of a plurality of contact-points adapted to be successively engaged by the counterpoise, a recording instrument comprising a plurality of series of electromagnets in circuit with corresponding ones of said series of contact-points, and a plurality of series of recording mechanisms each operated by one of said electromagnets.

2. The combination, with a scale-beam and a counterpoise movable along the same, of a plurality of contact-points adapted to be successively engaged by the counterpoise, a recording instrument comprising a plurality of series of electromagnets in circuit with corresponding ones of said series of contact-points, a plurality of series of recording mechanisms each operated by one of said electromagnets, a storage-roll, a record-strip carried by said storage-roll and passed into position to be operated upon by said recording mechanisms, a feeding-motor engaging said record-strip, means for normally restraining said motor, and an electromagnet for controlling said restraining means.

3. The combination, with a scale-beam, of a recording instrument comprising a plurality of series of independent electromagnetic recording devices, a plurality of contact members one for each desired division of the scale-beam, a plurality of circuits containing said contact-points and corresponding electromagnetic recording devices of the several series, and means for controlling said circuits.

4. The combination, with a scale-beam, of a recording instrument comprising a plurality of series of independent electromagnetic recording devices, a plurality of contact members one for each desired division of the scale-beam, a plurality of circuits containing said contact-points and corresponding electromagnetic recording devices of the several series, and means controlled by the weight-indicating devices of the scale-beam for controlling said circuits.

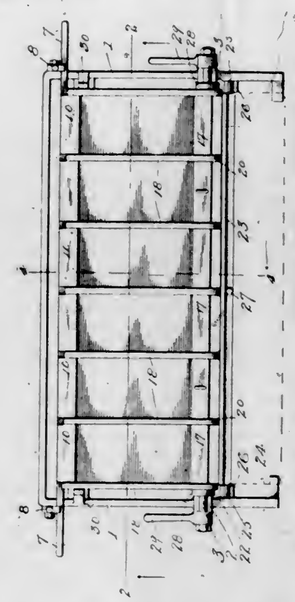
5. The combination, with a scale-beam, of a recording instrument comprising a plurality of series of independent electromagnetic recording devices, a plurality of contact members one for each desired division of the scale-beam, a plurality of circuits containing said contact members and corresponding electromagnetic recording devices of the several series, means for controlling said circuits, a recording-strip, feeding means therefor, a spring-motor for actuating said feeding means, and an electrically-controlled detent for intermittently permitting the operation of said feeding means.

6. The combination, with a scale-beam, of a recording instrument comprising a plurality of series of independent electromagnetic recording devices, a plurality of contact members one for each desired division of the scale-beam, a plurality of circuits containing said contact members and corresponding electromagnetic recording devices of the several series, means controlled by the weight-indicating devices of the scale-beam for controlling said circuits, a recording-strip, feeding means therefor, a spring-motor for actuating said feeding means, and an electrically-controlled detent for intermittently permitting the operation of said feeding means.

7. The combination, with a scale-beam, of a recording instrument comprising a plurality of series of independent electromagnetic recording devices, a plurality of contact members one for each desired division of the scale-beam, a plurality of circuits containing said contact members and corresponding electromagnetic recording devices of the several series, means for controlling said circuit, a record-strip, feeding means therefor, a spring-motor for actuating said feeding means, an electrically-controlled detent for intermittently permitting the operation of said feeding means, and means controlled by said detent for correspondingly intermittently clamping and releasing the record-strip.

8. The combination, with a scale-beam, of a recording instrument comprising a plurality of series of independent electromagnetic recording devices, a plurality of contact members one for each desired division of the scale-beam, a plurality of circuits containing said contact members and corresponding electromagnetic recording devices of the several series, means controlled by the weight-indicating devices of the scale-beam for controlling said circuits, a recording-strip, feeding means therefor, a spring-motor for actuating said feeding means, an electrically-controlled detent for intermittently permitting the operation of said feeding means, and means controlled by said detent for correspondingly intermittently clamping and releasing the record-strip.

839,842. CONCRETE-BLOCK MOLD. JOHN P. HECKMAN, Creston, Ohio. Filed Oct. 11, 1906. Serial No. 338,382.

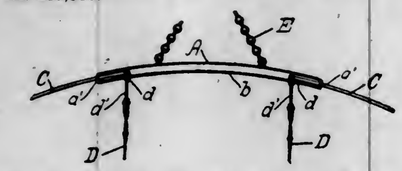


Claim.—1. A molding apparatus comprising a supporting-frame, rear mold-walls supported therefrom in spaced relation, a horizontal shaft mounted in said frame longitudinally thereof, said rear walls being formed with abruptly-enlarged lower ends, front walls fixed to said shaft in spaced relation, bottom walls severally fixed in spaced relation to the respective front walls and having their rear portions resting upon the enlarged lower ends of said rear walls and side walls interposed in the spaces between said rear, front, and bottom walls.

2. A molding apparatus comprising a supporting-frame, a rod mounted rearwardly and longitudinally thereof, rear mold-walls having their lower ends sleeved to surround said rod, said rear walls being arranged in spaced relation, a shaft mounted forwardly and longitudinally of said frame, front walls fixed to said shaft in spaced relation, bottom walls fixed severally to said front walls in spaced relation, said bottom walls having their rear ends supported upon said sleeved ends of said rear walls and side walls interposed in the spaces between said rear, front and bottom walls; said side walls having loose connection at their respective adjacent ends with said rod and said shaft as supports.

3. A molding apparatus comprising a supporting-frame, rear walls carried thereby and adapted to have a restricted movement upon their lower ends as pivotal axes, stationarily-supported side walls, a shaft mounted forwardly and longitudinally of said frame, front walls fixed to said shaft, bottom walls fixed to said front walls and designed for movement therewith upon the rotation of said shaft, said bottom walls in their movement being designed to displace said rear walls upon their pivoted lower ends and means for holding said rear walls against displacement on their pivots.

839,843. HANGER. JOHN H. HERBENER, Providence, R. I., assignor to The J. H. Herbener Company, a Corporation of Rhode Island. Filed Nov. 29, 1905. Serial No. 289,580.



Claim.—1. In a device of the character described the combination with a bar, of slides mounted in the bar, and suspension toggle means attached to the slides pivotally to automatically drop into a vertical position as the slides are pulled out.

2. In a device of the character described, the combination with a bar, of slides mounted in the bar, and tongs attached to the slides pivotally to automatically drop into a vertical position as the slides are pulled out.

3. In a device of the character described, the combination with a bar, of longitudinal guides upon the bar, slides mounted in the guides, a housing upon the bar adapted to receive the inner ends of the slides, and suspension means attached to the inner ends of the slides.

4. In a device of the character described, the combination with a bar, of longitudinal guides upon the bar, slides mounted in the guides, a housing upon the bar adapted to receive the inner ends of the slides and tongs attached to the inner ends of the slides.

5. In a device of the character described, the combination with a bar having inturned marginal flanges at the sides and ends, of slides frictionally guided by the side flanges and limited in their endwise movements and prevented from endwise displacement by said end flanges, and suspension devices supported from said slides.

6. In a device of the character described, the combination with a bar having inturned marginal flanges at the sides and ends, of slides guided by the side flanges and limited in their endwise movements by the end flanges, and gripping devices carried by the slides and foldable therewith within the bar.

7. In a device of the character described, the combination with a bar having inturned marginal flanges at the sides and ends, of slides guided by the side flanges and limited in their endwise movements by the end flanges, and gripping-tongs pivotally connected with said slides and foldable between the side flanges of said bar.

8. A device of the character described, comprising a supporting-bar, and slidably-mounted pivoted gripping devices suspended from and foldable beneath and parallel with said bar.

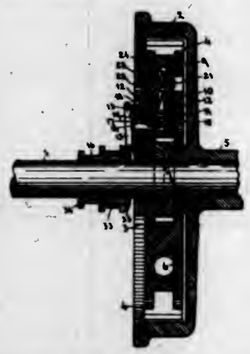
9. A device of the character described comprising a bar, means slidably supported thereby, and tongs suspended from the inner ends of, and foldable parallel with the slidable means.

10. A device of the character described comprising a bar, means slidably supported thereby and normally concealed therewithin, and tongs suspended from the inner ends of, and automatically foldable parallel with the slidable means.

839,844. CLUTCH. WILLIAM J. HILLIARD, Buffalo, N. Y., assignor to The Hilliard Clutch & Machinery Company, Elmira, N. Y. Filed Jan. 16, 1906. Serial No. 296,344.

Claim.—1. A clutch comprising driving and driven members, one of which members is provided with a clutch-shoe to engage the other member, an adjusting-screw adapted to actuate said shoe, a divided nut having its parts pivotally mounted at opposite sides of said screw, and means for moving the parts of said nut into and out of engagement with the screw.

2. A clutch comprising driving and driven members, one of which members is provided with a clutch-shoe to engage the other member, an adjusting-screw adapted to actuate said shoe, a divided nut having its parts pivotally mounted at opposite sides of said screw, and means for moving the members of said nut into and out of engagement with the screw, the driving and driven members being provided with coöperating devices whereby the adjusting-screw will be automatically rotated by the rotation of one member with respect to the other.



3. A clutch comprising driving and driven members, one of which members is provided with a clutch-shoe to engage the other member, an adjusting-screw adapted to actuate said shoe, a divided nut having its parts pivotally mounted at each side of said screw, a cam-lever engaging one of said parts, a pin passing through a cam-slot in said lever, links coupling said pin to the other part of the nut, and means for actuating said lever to move the nut into and out of engagement with the screw, the driving and driven members being provided with coöperating devices whereby the adjusting-screw will be automatically rotated by the rotation of one member with respect to the other.

4. A clutch comprising driving and driven members, one of which members is provided with a clutch-shoe to engage the other member, an adjusting-screw adapted to actuate said shoe and a divided nut having manually-operated means for moving its parts into and out of engagement with the screw, coöperating devices upon the two members whereby the adjusting-screw will be automatically rotated by the rotation of one member with respect to the other, and means coupled to the nut-adjusting means for moving one of said coöperating devices into and out of operative position.

5. A clutch comprising driving and driven members, one of which members is provided with a clutch-shoe to engage the other member, an adjusting-screw adapted to actuate said shoe and a divided nut having manually-operated means for moving its parts into and out of engagement with the screw, coöperating devices upon the two members whereby the adjusting-screw will be automatically rotated by the rotation of one member with respect to the other, means for moving one of said devices into operative position when the nut is thrown into engagement with the screw, and means for moving said device out of operative position without releasing the nut.

6. A clutch comprising driving and driven members, a clutch-shoe on one of said members to engage the other member, adjusting mechanism for moving said shoe into clutching contact with the latter member, coöperating devices upon the two members whereby motion is imparted to the adjusting mechanism automatically by the rotation of one member with respect to the other, means for throwing the adjusting mechanism into and out of gear with said coöperating devices, means for retracting the clutch-shoe when the adjusting mechanism is out of gear, and means for moving one of said coöperating devices into and out of operative position.

7. A clutch comprising driving and driven members, a clutch-shoe carried by one of said members, an adjusting-screw adapted to move said shoe into engagement with the other member, a ratchet-wheel adapted to rotate said screw, a reciprocating bar on the shoe-carrying member, a pawl actuated thereby to turn the ratchet-wheel, a lever pivoted on said member with one arm coupled to the reciprocating bar and the other arm engaged by a cam-surface on the other member, a divided nut mounted on the shoe-carrying member, means for moving the parts of said nut into and out of engagement with the adjusting-screw, said screw being adapted to slide through the ratchet-wheel to actuate the clutch-shoe, and means for retracting the shoe and adjusting-screw when the latter is disengaged from the nut.

8. A clutch comprising driving and driven members, a clutch-shoe carried by one of said members, an adjusting-screw adapted to move said shoe into engagement with the other member, a pawl-and-ratchet gear through which said screw slides and by which it is adapted to be rotated, a lever mounted upon a sliding pivot-block on the shoe-carrying member, one arm of said lever being operably connected with the ratchet-gear and the other arm being adapted to engage a cam-surface on the other member, a shifting sleeve coupled to the pivot-block to throw said lever into and out of engagement with said cam-surface, a divided nut mounted on the shoe-carrying member, means also actuated by said shifting sleeve for moving the parts of said nut into and out of engagement with the adjusting-screw, and means for retracting the clutch-shoe and adjusting-screw when the latter is released by the nut.

9. A clutch comprising driving and driven members, a clutch-shoe carried by one of said members, an adjusting-screw adapted to move said shoe into engagement with the other member, a pawl-and-ratchet gear through which said screw slides and by which it is adapted to be rotated, a lever mounted upon a sliding pivot-block on the shoe-carrying member, one arm of said lever being operably connected with the ratchet-gear and the other arm being adapted to engage a cam-surface on the other member, a divided nut mounted on the shoe-carrying member, a shifting sleeve, means coupled to said sleeve for moving the parts of said nut into and out of engagement with the adjusting-screw, a second sleeve mounted to slide to a limited extent on the first sleeve, and means whereby said second sleeve will actuate the pivot-block.

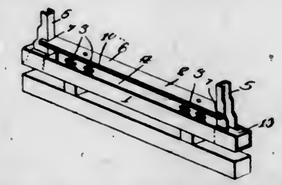
10. A clutch comprising driving and driven members, segmental clutch-shoes carried by one of said members and adapted to be thrown into engagement with the other member, means for imparting motion to said shoes at one end, and pivotal cross-arms, each having one end in engagement with one of said shoes adjacent one end thereof and the other end in engagement with the opposite shoe adjacent its other end, whereby motion at one end of the shoes is transmitted to the other end thereof.

11. A clutch comprising driving and driven members, a cross-bar mounted on one of said members, a pair of oppositely-disposed segmental clutch-shoes adapted to engage the other member and having their ends guided in grooves at the ends of the cross-bar, a spring extending between shoes at one end to retract them, cross-arms pivoted in the cross-bar and having their opposite ends in engagement with opposite shoes adjacent the opposite ends thereof, whereby motion at one end of the shoes is transmitted to the opposite end thereof, and means for expanding the shoes applied to the ends thereof opposite the spring.

12. A clutch comprising driving and driven members, a cross-bar mounted on one of said members, a pair of oppositely-disposed segmental clutch-shoes having their ends guided in grooves at the ends of the cross-bar, a spring extending between the shoes at one end to retract them, cross-arms pivoted in the cross-bar and having their opposite ends in engagement with opposite shoes adjacent the opposite ends thereof whereby motion at one end of the shoes is transmitted to the other end, a wedge-block positioned between the ends of the shoes opposite the spring, a device for actuating the wedge-block to expand the shoes, and means for releasing said actuating device to permit the shoes to contract.

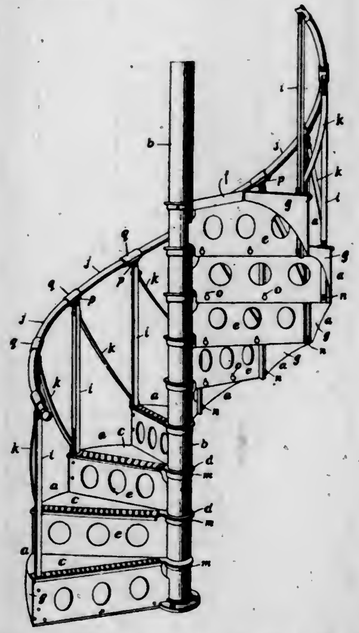
839,845. SUPPORT FOR VEHICLE-BODIES. EDWIN G. HINES, Drums, Pa. Filed Mar. 2, 1906. Serial No. 303,886.

Claim.—1. A support for vehicle-bodies comprising a transverse bar having a longitudinal depression extending along its upper face, standards projecting upwardly from the transverse bar and located upon opposite sides of the vehicle-body, a supporting-bar having its ends formed with notches which engage with the standards, the longitudinal edges of the supporting-bar being rabbeted so as to fit over the longitudinal depression in the transverse bar, and springs interposed between the transverse bar and the supporting-bar and housed within the beforementioned depression.



2. A support for vehicle-bodies comprising a transversely-disposed bar of channel-iron, standards projecting upwardly from the bar or channel-iron upon opposite sides of the vehicle-body and having their lower ends secured between the flanges of the channel-iron, a supporting-bar having its ends formed with notches which engage with the standards, the longitudinal edges of the supporting-bar being rabbeted so as to fit over the flanges of the channel-iron, and spring members interposed between the channel-iron and the supporting-bar and housed within the former.

839,846. SPIRAL STAIRWAY. GEORGE HOLDEN, Merchantville, N. J., assignor to Merritt and Company, a Corporation of Pennsylvania. Filed May 7, 1906. Serial No. 315,626.



Claim.—1. A spiral stairway, consisting of a central post, a series of independent metal steps having a horizontal triangular tread and a vertical front, said triangular tread terminating at its inner end or apex in a supporting-ring, collars adjustably secured to said post to support said rings with the steps arranged one above the other, and means to unite the back of the triangular

tread of the lower steps with the lower edge of the vertical front of the next steps above.

2. A spiral stairway, consisting of a central post, a series of independent steps formed of stamped sheet metal having a horizontal triangular tread with a short depending flange at the back and a long depending front, means to secure said steps to the central post at the inner end or apex one above the other, and means connecting the short back flange of the lower steps with the lower edge of the depending front of the next steps above.

3. A spiral stairway, consisting of a central post, a series of independent steps formed of stamped sheet metal having a horizontal triangular tread terminating at the inner end or apex in an integral supporting-ring adapted to engage the post, and provided at the back of said tread with a short depending flange and at the front with a long depending front portion, means to support said steps by their supporting-rings one above the other on said central post, and means to unite the short back flange of the lower steps with the lower edge of the depending front of the next steps above.

4. A spiral stairway consisting of a central post, a series of independent triangular metal steps, each supported at its inner end or apex by said post, and arranged one above the other, means uniting the back of each lower step with the front of the next step above, uprights carried by the outer ends of said steps, braces between the uprights of successive steps, and a hand-rail carried by said uprights.

5. A unit for a spiral stairway, consisting of stamped sheet-metal frame having a horizontal triangular tread, a narrow depending flange *f* at the back of said tread and a deep depending front *e* and a separate end piece secured to the outer end of said stamped frame between the tread and the flange *f* and front *e*.

6. A unit for a spiral stairway, consisting of stamped sheet-metal frame having a horizontal triangular tread, a narrow depending flange *f* at the back of said tread and a deep depending front *e* and a separate end piece *g* having a flange *h* secured to the outer end of said sheet-metal frame.

7. A unit for a spiral stairway, consisting of a triangular metal step adapted to be supported at its inner end, an upright carried by the outer end of said step, and a hand-rail section carried by the end of said upright.

8. A unit for a spiral stairway, consisting of a triangular metal step adapted to be supported at its inner end, an upright carried by the outer end of said step, and a hand-rail section carried by the end of said upright with provision for angular adjustment.

9. A unit for a spiral stairway, consisting of a triangular metal step adapted to be supported at its inner end, an upright carried by the outer end of said step, a coupling-sleeve carried by said upright and a hand-rail section carried by said sleeve.

10. A unit for a spiral stairway, consisting of a triangular metal step adapted to be supported at its inner end, an upright carried by the outer end of said step, and a hand-rail section carried by the end of said upright with provision for longitudinal adjustment.

11. A unit for a spiral stairway, consisting of a triangular metal step adapted to be supported at its inner end, an upright carried by the outer end of said step, a shoe pivotally connected with the upper end of said upright with provision for angular adjustment in a vertical plane, and a hand-rail section carried by said shoe.

12. A unit for a spiral stairway, consisting of a triangular metal step adapted to be supported at its inner end, an upright carried by the outer end of said step, a shoe pivotally connected with the upper end of said upright with provision for angular adjustment in a vertical plane and a coupling-sleeve carried by said shoe.

13. A unit for a spiral stairway, consisting of a triangular metal step adapted to be supported at its inner end, an upright carried by the outer end of said step, a shoe pivotally connected with the upper end of said upright with provision for angular adjustment in a vertical plane and a coupling-sleeve carried by said shoe and adjustable longitudinally thereon.

14. A spiral stairway, composed of a series of units each consisting of a triangular step portion having an upright at its outer end and a rail-section carried by said upright, a central post supporting said units one above the other at their inner ends, means connecting the back of the lower steps with the front of the steps above, and couplings uniting the rail-sections of successive steps.

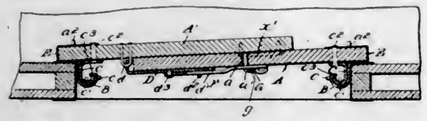
15. A spiral stairway, composed of a series of units each consisting of a triangular step portion having an upright at its outer end and a rail-section carried by said upright, a central post supporting said units one above the other at their inner ends, means connecting the back of the lower steps with the front of the steps above, couplings uniting the rail-section of successive steps, and braces connecting the uprights of adjacent sections.

839,847. HINGE. GEORGE HOLDEN, Merchantville, N. J., assignor to Merritt and Company, a Corporation of Pennsylvania. Filed June 25, 1906. Serial No. 323,205.



Claim.—A leaf-hinge composed of two leaves provided with tubular portions forming a knuckle and a hinge-pin extending through the knuckle formed by said tubular portions and hinging said leaves together, one of said leaves being provided with an opening, and the other with a lateral projection extending into said opening and moving therein when said leaves are moved with reference to one another on the hinge-pin, said projection being of such length as to become disengaged from said opening after a given extent of movement, whereby said projection will prevent the disconnection of said leaves when the hinge-pin is removed until said projection is disengaged from said opening.

839,848. GRAIN-CAR DOOR. CHARLES I. HOLMES and JAMES A. BOATRIGHT, Thomas, Okla. Filed Mar. 26, 1906. Serial No. 308,056.



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Claim.—1. In combination, a car structure provided with a door-opening, a pair of doors, a two-part hinge connecting each of the doors to the car structure, one member of the hinge being secured to the outer face of the door at a point back from its inner edge, so that said inner edge shall overlap upon the adjacent inner wall of the car when the door is closed, and the other member of the hinge being attached to the face of the adjacent door-post, the axis of the hinge being vertical and adjacent to and in front of the door-post and the door, whereby when the doors are closed their inner edges will be caused to bear throughout their length against the inner wall of the car, and means for securing the free ends of the doors.

2. In combination with a car structure, a pair of doors, a two-part hinge connecting each of them to the car structure, one member of the hinge being rigidly secured to the outer face of the door at a point back from its inner edge so that said inner edge shall overlap upon the adjacent inner wall of the car, and the other member of the hinge being rigidly attached to the face of the adjacent door-post, the axis of the hinge being thereby brought adjacent to and in front of the door-post, whereby when the doors are closed their said inner edges will be caused to bear throughout their length against the inner wall of the car, and means for securing together the free ends of the doors.

3. In combination with a car structure, a pair of doors, a two-part hinge connecting each of the doors to the car structure, one member of the hinge being rigidly secured to the outer face of the door at a point back from its inner edge and extending outwardly therefrom, and the other member of the hinge being rigidly attached to the face of the adjacent door-post, the axis of the hinge being thereby brought in front of the face of the door-post, the last-named member of the hinge being slightly elastic and provided with a stop-flange at its free edge, and means for securing the free ends of the doors together, for the purposes herein set forth.

4. In combination with a car structure, a pair of doors each hinged at its outer edge to the door-opening, means for fastening together the free ends of the doors, each of said hinges being constructed of a pair of vertical plates one of which is attached to the door and projects outwardly from the outer face thereof and has its free vertical edge curved, the other plate being attached to the door-post at one edge and having its other edge curved to embrace the curved portion of the other plate, and means for holding the curved portions of these plates in engagement and at the same time allow them a free hinge action, whereby when the doors are open these hinges entirely close the gap between the doors and the adjacent door-post.

5. In combination with a car provided with a door-opening, a hinge member projecting from the face of each door-post and curving inwardly to a substantial semicircle, the free vertical edge of this plate being provided with a stop-flange, a pair of doors each having projecting from its face a vertical plate whose free edge is curved to fit and work within the curved portion of the hinge member carried by the post, and means for holding said hinge-plate members in engagement, said hinge members serving to close the gap between each door and the adjacent post when the door is open.

6. In combination with a car having a door-opening in its side wall, of a pair of doors adapted to overlap when closed, means for clamping the overlapped ends together, and means for hinging the other ends of the doors to the car structure, said means comprising each a pair of interfitting curved leaves or members, one member being attached to the face of the door at a point back from its hinged end so that this end of the door shall overlap upon the inner wall of the car, and the other member being attached to the adjacent door-post, said members consisting of a pair of imperforate plates extending the full height of the door and being adapted to overlap and close the gap between the door and the adjacent post when the door is open.

7. In combination with a car having a door-opening in its side wall, of a pair of outwardly-swinging doors hinged at their inner ends to the structure, means for securing together the free ends of the doors, and means embodied in the hinges for causing the doors to bind against the floor of the car when they are swung to a closed position.

8. In combination, with a car having a door-opening in its side wall, of a pair of outwardly-swinging doors hinged at their inner ends to the structure, means for securing together the free ends of the doors, and means for causing the doors to bind against the floor of the car when they are swung to a closed position, said means consisting of a pin or lug carried by one member of each hinge and a cam carried by the other member of the hinge.

9. In combination, a car structure provided with a door-opening, a pair of doors, a two-part hinge connecting each of the doors to the car structure, one member of the hinge being secured to the outer face of the door at a point back from its inner edge, so that said inner edge shall overlap upon the adjacent inner wall of the car when the door is closed, and the other member of the hinge being attached to the face of the adjacent door-post, the axis of the hinge being vertical and adjacent to and in front of the door-post and the door, whereby when the doors are closed their inner edges will be caused to bear throughout their length against the inner wall of the car, each door and its attached hinge member being capable of vertical movement with respect to the stationary hinge member, and a guide and stop-pin fastened in the floor of the car structure, for the purpose set forth, and means for securing the free ends of the doors.

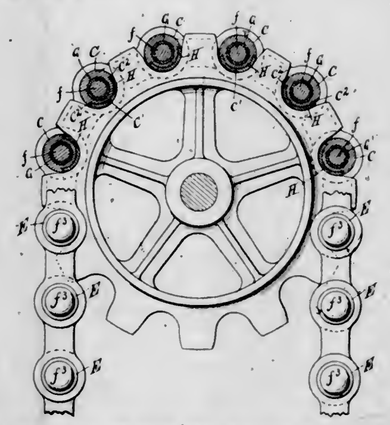
10. In combination with a car structure, of a pair of outwardly-swinging doors adapted to overlap when closed, a lever-like frame pivoted to the outer face of the inner door at a point beyond the free edge of the outer door and adapted to swing over upon the face of the outer door, a latching device carried by this frame, and a hook or keeper carried by the inner door and extending through an opening in the inner door and adapted to be engaged by said latch device.

11. In combination with a supporting structure having a door-opening, a pair of doors hinged thereto and adapted to overlap, a frame pivoted to the inner door and adapted to swing over upon the outer door and carrying a latch member, means for locking this latch member, and a floor-engaging locking-bolt engaging with and operated by said latch member.

12. In combination with a car, of a door detachably hinged thereto, a hook depending from the roof of the car, and a pair of links pivotally connected at their upper ends to the upper part of the wall of the car and pivotally and loosely connected at their lower ends to the inner face of the door, the loose connection between the links and the door permitting the door to be swung upward and over upon the links, for the purpose set forth.

13. In combination with a car and a door-post, of two overlapping sections and means for detachably connecting the overlapped portion of the sections and means for detachably hinging each section to one of the door-posts, of a pair of independent links or rods pivotally connected at their upper ends to the car structure and having a loose pivotal and sliding connection at their lower ends with the door, whereby the locked door-sections may be swung upward and over upon the links or rods, and means for suspending the doors and rods from the ceiling of the car.

839,849. SPROCKET-CHAIN. GEORGE C. HORST, Columbus, Ohio, assignor to Joseph A. Jeffrey, Columbus, Ohio. Filed Jan. 4, 1902. Serial No. 88,374.



Claim.—1. A chain-link having a cross-bar with an axial aperture and a recess in its periphery, two side bars having apertures arranged to register with the recess in said cross-bar and a wearing-plate seated in said recess and having its ends extending into the apertures in the side bars.

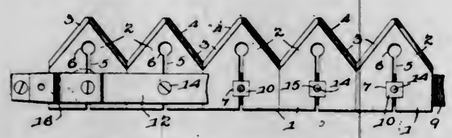
2. A chain-link having two side bars and a cross-bar, the two side bars having perforations adjacent to the outer surface of the cross-bar, a steel wearing-body inserted in said apertures and arranged adjacent to and adapted to bear inwardly against the said cross-bar, substantially as set forth.

3. A chain-link formed of two side bars and an end bar

all integral, said end bar having an axial aperture, a wearing-piece, concavo-convex shape in cross-section, having its ends detachably secured in said side bars and its concave surface adjacent to the periphery of the end bar, and a bushing loosely mounted in said end bar.

4. A chain comprising a series of counterpart links, each link being formed with two side bars and an integral cross-bar, the cross-bar having an axial passage-way therethrough and the side bars having at their free ends passage-ways therethrough adapted to register with the axial aperture in the end bar of the adjacent link, the said side bars having curvilinear slots therethrough adjacent to the periphery of the cross-bar, the concavo-convex wearing-plate having its ends inserted in said slots and its inner surface adapted to bear against the adjacent cross-bar, the cylindrical bushing loosely mounted in said axial passage-way in the cross-bar, and the pintle extending through the said bushing and adapted to connect the said cross-bar to the side bars of the adjacent link.

839,850. CUTTING APPARATUS FOR HARVESTERS. CHARLES L. HUMMEL, Flatrock, Ohio. Filed Mar. 29, 1906. Serial No. 308,806.



Claim.—1. In cutting apparatus for harvesters a cutting member having a slot with parallel edges extending through the body into the blade portion, and a securing means located in said slot.

2. In cutting apparatus for harvesters, a cutting member having a slot extending through the body into the blade portion and terminating in an enlargement or aperture.

3. A cutting member having a slot extending through the body into the blade portion and provided with lateral notches having beveled walls.

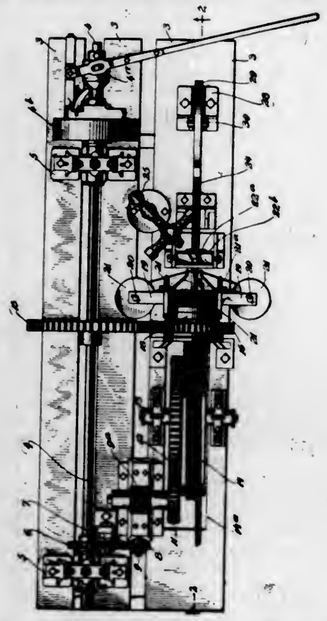
4. A sickle-bar having beveled bosses, in combination with cutting members having slots provided with terminal enlargements and lateral beveled notches, a clamping-bar, and connecting and tightening means.

5. A sickle-bar having beveled bosses provided with threaded recesses, in combination with cutting members having slots provided with terminal enlargements and lateral beveled notches, a clamping-bar having apertures, and connecting-screws extending through the apertures and engaging the threaded recesses in the bosses upon the sickle-bar.

839,851. MACHINE FOR MANUFACTURING HOSE OR TUBES. COURTNEY HYDE, New York, N. Y., assignor to Alphaduct Manufacturing Company, Jersey City, N. J., a Corporation of New York. Filed Oct. 30, 1906. Serial No. 341,232.

Claim.—1. The combination in a machine of the kind described of a mandrel, means for drawing a tube over said mandrel and through the machine, a former for shaping said tube, a smear-pot containing a waterproof coating substance for coating said tube, said former extending into the smear-pot to within a short distance of the rear wall, means for keeping said coating substance in a fluid condition, a winding device for reinforcing said tube with cords, said winding device being placed in such close proximity to the smear-pot that the winding-cords are embedded in the waterproof coating while warm, and a driving mechanism for operating said machine, substantially as described.

2. The combination in a machine of the kind described of a mandrel, means for drawing a tube over said mandrel and through the machine, a former for shaping said tube, a smear-pot containing a waterproof coating substance for coating said tube, said former extending into the smear-pot to within a short distance of the rear wall, means for keeping said coating substance in a fluid condition, a winding device for reinforcing said tube with cords, said winding device being placed in such close proximity to the smear-pot that the winding-cords are embedded in the waterproof coating while warm, and said winding device having guides as shown through the ends of which the reinforcing-cords pass so as to pull against the backs of the said guides, and a driving mechanism for operating said machine, substantially as described.



3. The combination in a machine of the kind described of a mandrel, means for drawing a tube over said mandrel and through the machine, a former for shaping said tube, a smear-pot containing a waterproof coating substance for coating said tube, said former extending into the smear-pot to within a short distance of the rear wall, means for keeping said coating substance in a fluid condition, a winding device for reinforcing said tube with cords, said winding device being placed in such close proximity to the smear-pot that the winding-cords are embedded in the waterproof coating while warm, and said winding device having guides as shown provided with guiding-slots through which the reinforcing-cords pass so as to pull against the backs of the said guides, and a driving mechanism for operating said machine, substantially as described.

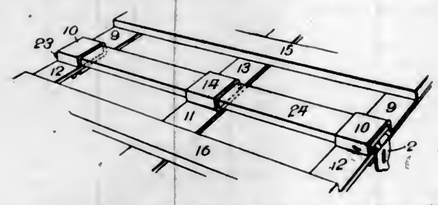
4. The combination in a machine of the kind described of a mandrel, means for drawing a tube over said mandrel and through the machine, means for coating the interior of said tube with a non-frictional substance, a former for shaping said tube, a smear-pot containing a waterproof coating substance for coating said tube, said former extending into the smear-pot to within a short distance of the rear wall, means for keeping said coating substance in a fluid condition, a winding device for reinforcing said tube with cords, said winding device being placed in such close proximity to the smear-pot that the winding-cords are embedded in the waterproof coating while warm, and a driving mechanism for operating said machine, substantially as described.

5. The combination in a machine of the kind described of a mandrel, means for drawing a tube over said mandrel and through the machine, means for coating the interior of said tube with a non-frictional substance, a former for

shaping said tube, a smear-pot containing a waterproof coating substance for coating said tube, said former extending into the smear-pot to within a short distance of the rear wall, means for keeping said coating substance in a fluid condition, a winding device for reinforcing said tube with cords, said winding device being placed in such close proximity to the smear-pot that the winding-cords are embedded in the waterproof coating while warm, and said winding device having guides as shown through the ends of which the reinforcing-cords pass so as to pull against the backs of the said guides, and a driving mechanism for operating said machine, substantially as described.

6. The combination in a machine of the kind described of a mandrel, means for drawing a tube over said mandrel and through the machine, means for coating the interior of said tube with a non-frictional substance, a former for shaping said tube, a smear-pot containing a waterproof coating substance for coating said tube, said former extending into the smear-pot to within a short distance of the rear wall, means for keeping said coating substance in a fluid condition, a winding device for reinforcing said tube with cords, said winding device being placed in such close proximity to the smear-pot that the winding-cords are embedded in the waterproof coating while warm, and said winding device having guides as shown provided with guiding-slots through which the reinforcing-cords pass so as to pull against the backs of the said guides, and a driving mechanism for operating said machine, substantially as described.

839,852. COLLAPSIBLE CRATE. HENRY H. IDE, Cornell, Ill. Filed Feb. 6, 1906. Serial No. 299,814.



Claim.—1. In a collapsible crate, the combination with a bottom having side and end walls connected thereto and adapted to fold thereon; of tongues upon the end walls, cover-sections hinged to the side walls and adapted to be engaged by the tongues, loops formed with the cover-sections and adapted to aline, the middle loop being provided upon one of the cover-sections, while the end loops are provided upon the opposite cover-sections, and a locking-strip extending through the loops.

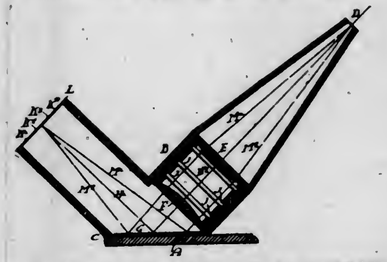
2. In a collapsible crate, the combination with a base having side and end walls connected thereto and adapted to fold thereon; of straps hinged to the side walls and adapted to overlap at their meeting ends, said straps terminating in loops adapted to aline, the loop of the middle strap being opposed to the loops of the end straps, a locking-strip seated within said loops, and means for securing said strip within one of the loops when the crate is either set up or collapsed.

3. In a collapsible crate, the combination with a base having straps secured thereto and terminating in brackets; of side straps hinged to the brackets, top straps hinged to the side straps and adapted to overlap at their meeting ends, said straps terminating in loops adapted to aline, the loop of the middle strap being opposed to the loops of the end straps, slats secured to the straps and brackets and constituting the side walls and cover-sections of the crate, end walls hinged to the base, and means for engaging the loops to lock the cover-sections upon the end walls.

4. In a collapsible crate, the combination with a base having straps secured thereto and terminating in brackets; of side straps hinged to the brackets, top straps hinged to the side straps and adapted to overlap at their meeting ends, said straps terminating in loops adapted to aline, the loop of the middle strap being opposed to the loops of the end straps, slats secured to the straps and brackets and constituting the side walls and cover-sections of the crate, end walls hinged to the base, tongues upon the end walls adapted to engage the top straps, and a securing-strip adapted to be seated within the loops to lock the cover-sections upon the end walls.

5. In a collapsible crate, the combination with a base having straps secured thereto and terminating in brackets; of side straps hinged to the brackets, top straps hinged to the side straps and adapted to overlap at their meeting ends, said straps terminating in loops adapted to aline, the loop of the middle strap being opposed to the loops of the end straps, slats secured to the straps and brackets and constituting the side walls and cover-sections of the crate, end walls hinged to the base, tongues upon the end walls adapted to engage the top straps, a securing-strip adapted to be seated within the loops to lock the cover-sections upon the end walls, and means for securing the locking-strip to the end walls.

839,853. EXHIBITING DIFFRACTION-PHOTOGRAPHS. FREDERIC E. IVES, Woodcliffe-on-Hudson, N. J. Filed Oct. 30, 1905. Serial No. 285,162.

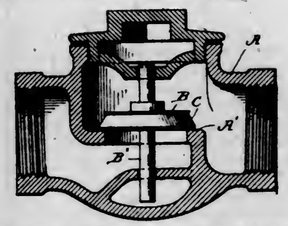


Claim.—1. The mode herein described of exhibiting a diffraction-color photograph, said mode consisting in superposing two or more of the triple spectra at the view-point.

2. The mode herein described of exhibiting a diffraction-color photograph, said mode consisting in superposing right and left side spectra at the view-point.

3. The mode herein described of exhibiting a diffraction-color photograph, said mode consisting in superposing spectra of two or more orders at the view-point.

839,854. VALVE. HARRY JONES, Washington, D. C. Filed Nov. 21, 1905. Serial No. 288,454.



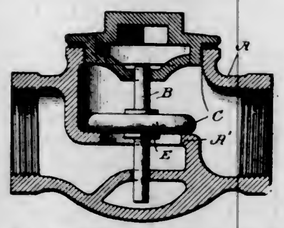
Claim.—1. The combination with a valve-casing provided with a port surrounded by a valve-seat, of a valve-body provided with a surface of greater diameter than said port opposed to said seat and in position to engage it and having a groove in its periphery adjacent to said surface but more remote from said seat, and an elastic ring seated in said groove and projecting beyond both of its walls.

2. The combination with a valve-casing provided with a port surrounded by a valve-seat, of a valve-body provided with a surface of greater diameter than said port opposed to said seat and in position to engage it and having a groove in its periphery adjacent to said surface

but more remote from said seat, and an elastic ring seated in said groove and projecting beyond both of its walls and normally extending beyond said body in the direction of said seat.

3. A reciprocating valve comprising an integral rigid body having a seating-surface transverse to its direction of movement, and a groove in its periphery adjacent to said surface, and a flexible and elastic ring lying in said groove and projecting radially beyond its walls.

839,855. VALVE. HARRY JONES, Washington, D. C. Filed Dec. 8, 1905. Serial No. 290,979.



Claim.—In a reciprocatory valve the combination with a rigid body having a packing-receiving surface with a stem projecting therefrom, of a flexible gasket surrounding said stem and resting on and projecting radially beyond said surface, a clamping-plate of less diameter than said gasket surrounding said stem and bearing against the gasket and having a seating-surface upon its outer side transverse to the line of movement of the valve, and a fastening device engaging said stem and bearing against said clamping-plate.

839,856. TUNNEL AND METHOD OF CONSTRUCTING THE SAME. REGINALD H. KEAYS, New York, N. Y. Filed Oct. 28, 1905. Serial No. 284,825.



Claim.—1. A step in the method of constructing a tunnel which consists in securing an outer shell member to a shield and positioning the same by advancing the shield.

2. The method of constructing a tunnel which consists in attaching an outer shell member to a shield; advancing the shield and thereby drawing said member into place; detaching said member from the shield; attaching another outer shell member thereto; and advancing the shield and thereby drawing the said other member into place.

3. The method of constructing a tunnel which consists in attaching a series of lagging to a shield; advancing the shield and thereby drawing said lagging into place; detaching said lagging from the shield; attaching a new series of lagging to said shield; advancing said shield and thereby drawing said new series of lagging into place beneath the first-named series of lagging; and supporting said lagging by suitable bracing.

4. The method of constructing a tunnel which consists in attaching an outer shell member to a shield and positioning the same by advancing the shield; detaching said member from the shield and attaching another outer shell member thereto within the first-named member; again advancing the shield to position said other member within the first-named member; and maintaining the front end of said first-named member at substantially the diameter of the tunnel during the movement of said other member.

5. The method of constructing a tunnel which consists in attaching an outer shell member to a shield and positioning the same by advancing the shield; detaching said member from the shield and attaching another outer shell member thereto within the first-named member; again advancing the shield to position said other member within the first-named member; and wedging the front end of said first-named member out during the movement of said other member.

6. The method of constructing a tunnel which consists in attaching an outer shell member to a shield and positioning the same by advancing the shield; detaching said member from the shield and attaching another outer shell member thereto within the first-named member; again advancing the shield to position said other member within the first-named member; and suitably supporting said members during the movement of the shield.

7. The method of constructing a tunnel which consists in attaching an outer shell member to a shield; advancing the shield to position said member; and suitably bracing said member when so positioned.

8. A tunnel made up of successive series of lagging; the lagging being interlocked along their longitudinal edges and the rear end of one series projecting rearwardly within the front end of the series next in rear; said front end resting directly on said rear end; and suitable braces for said ends.

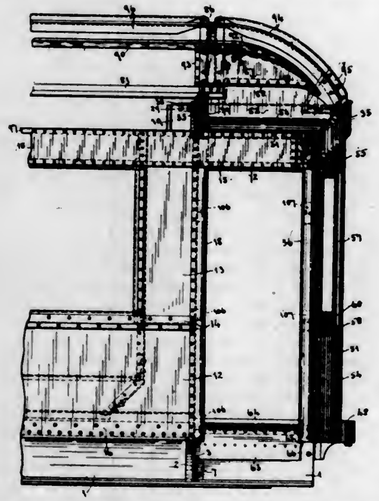
9. A tunnel made up of successive rings of overlapping lagging, said rings permanently positioned and secured together; and suitable braces for said lagging.

10. A tunnel made up of successive rings permanently positioned to form outer shell members, successive rings overlapping each other and being secured together; and suitable braces for said rings.

11. A tunnel made up of successive rings of permanently-positioned outer shell members interlocking along their longitudinal edges and having their front ends resting directly upon the rear ends of the ring next in front.

12. A tunnel made up of successive rings of permanently-positioned outer shell members having their front ends resting directly upon the rear ends of the ring next in front and secured thereto.

839,857. RAILWAY-CAR FRAME. WILLIAM F. KIESEL, Jr., Altoona, Pa. Filed Feb. 28, 1906. Serial No. 303,405.



Claim.—1. A car-body end sill comprising end sheathing-plates extended below the floor-line, bottom chords riveted to said plates, and a center sill from the sides of which said chords are projected.

2. A car-body end sill comprising end sheathing-plates extended below the floor-line, bottom chords riveted to said plates, a center sill from the base of which said chords spring upward into line with the bottom of said plates, and gusset-plates riveted to the sides of the center sill and to said chords in the spaces between the sheathing-plates and center sill.

3. A car-body end sill comprising end sheathing-plates extended below the floor-line, bottom chords riveted to said plates, a center sill from the sides of which said chords project, and an upper chord passing across above the center sill and riveted to the sheathing-plates.

4. The combination with an underframe having side sills and a center sill, of a car-body end sill comprising end sheathing-plates extended downward at each side of the center sill into line with the side sills, bottom chords projecting from the sides of the center sill and riveted to the bottom of said plates, and brace-plates joining the outer ends of said chords to the ends of the side sills.

5. The combination with an underframe having angle-bar side sills and a center sill, of a car-body end sill comprising end sheathing-plates extended downward at each side of the center sill into line with the side sills, angle-bar bottom chords projecting from the sides of the center sill and riveted to the bottom of said plates, said chords and side sills having their horizontal limbs in the same plane where they meet, and triangular brace-plates riveted to said limbs in the meeting angles.

6. The combination, with a box-girder center sill having outwardly-flanged side members, of a car-body end sill comprising end sheathing-plates extended downward at each side of the center sill, angle-bar bottom chords bent upward from the bottom flanges of said side members and riveted to the bottom ends of said plates, platform floor-plates riveted to the center sill at each side, gusset-plates riveted in the angles between the sides of the center sill, floor-plates and bottom chords, and an angle-bar passing transversely across the end of the car above the center sill, the horizontal limb of said bar being riveted to the top cover-plate of the center sill and to the floor-plates and cut away beyond the floor-plates, and the vertical limb being riveted to the sheathing-plates.

7. A center sill projecting beyond the end of a car-body, in combination with platform floor-plates projecting from each side thereof, said plates being supported from the center sill by transverse supports projecting therefrom, inward extensions on the floor-plates, and door-posts for the car-entrance supported thereby.

8. A center sill projecting beyond the end of a car-body, in combination with platform floor-plates projecting from each side thereof, and a platform end-sill cover-plate passing across the end of the center sill and riveted to the ends of the floor-plates.

9. A vestibule-platform comprising a center sill projecting beyond the end of a car-body, platform floor-plates fastened at each side thereof at the top, a platform end-sill cover-plate passing across the end of the center sill and riveted to the ends of the floor-plates, and top-step riser-plates riveted to the floor-plates and bent outward along the end-sill cover-plate, to which they are also riveted.

10. A vestibule-platform comprising a center sill projecting beyond the end of a car-body, platform floor-plates fastened at each side thereof at the top, a platform end-sill cover-plate passing across the end of the center sill and riveted to the ends of the floor-plates, an end casting projecting from the ends of the center sill, to which the cover-plate is also riveted, said end casting having formed thereon a threshold for the central door, posts rising from each side of said threshold and secured to the end casting, corner-posts rising from the ends of the cover-plate, sheathing-plates between the door-posts and corner-posts having their lower ends riveted to the cover-plate, transverse plates riveted to the cover-plate at the inside between the floor-plates and corner-posts, and brace-plates riveted in between said transverse plates and the sheathing-plates below the cover-plate.

11. In a vestibule-platform, a center sill projecting beyond the end of a car-body, an end casting projecting from the end thereof and having formed thereon a threshold for the central door, a platform end-sill cover-plate passing across the end casting and fitted around the threshold, upwardly-projecting lugs on the end casting at each side of the threshold, upturned flanges on the cover-plate opposite said lugs, and door-posts secured between said lugs and flanges.

12. The platform end-sill cover-plate 36 cut in at the center to fit the central door-threshold, flanged downwardly along its outer and inner edges at 39 and upwardly at the sides of the threshold-opening at 40, and adapted to overlap the platform floor-plates at 37.

13. The end casting 42 adapted to be fastened to the end of a center sill and having laterally-projecting arms bearing a central door-threshold, and attaching-lugs for the door-posts projecting upward from the sides of the threshold.

14. The platform cover-plates 9 depressed at one side where they are attached to the center sill, downwardly flanged at the opposite side to receive the top-step riser-plates, depressed at the outer end where the end-sill cover-plate passes across, and having the inward-flanged extensions 20 to support the entrance-door posts.

15. The gusset-plate 3 flanged on two sides and cut on the third side to fit the bend in the bottom chord 2.

16. The combination, with the center sill and platform floor-plates, of bulb-angle door-posts rising from the floor-plates at each side of the center sill, pressed-steel door-jambs riveted to the webs of said angles and bent around to overlap their flanges, and end sheathing-plates riveted in between said flanges and jambs.

17. The combination, with the center sill and platform floor-plates, of rolled-bar door-posts rising from the floor-plates at each side of the center sill, a platform ceiling-sheet having an inward projection to which said posts are riveted at their upper ends, pressed-steel door-jambs riveted to said door-posts and rising to the ceiling-sheet, and a pressed-steel lintel riveted to the ceiling-sheet between the jambs, said jambs and lintel being bent to form the rabbets for the entrance-door.

18. A car end comprising end sheathing-plates flanged along their outer edges, side sheathing-plates riveted to said flanges, and pressed-steel corner-posts riveted in with the end and side plates and bent around against the end plates to which they are again riveted.

19. A car end comprising entrance-door posts of rolled bars flanged at the outer side, pressed-steel door-jambs riveted to the webs of the posts and bent outward to overlap the flanges, end sheathing-plates riveted in between the jambs and post-flanges and provided with flanges on their outside edges, pressed-steel corner-posts riveted to the face of said plates and bent around to overlap their flanges, and side sheathing-plates riveted in between the end-plate flanges and corner-posts.

20. A car-vestibule comprising a platform and platform end sill, top side plates projecting from the car-body, a top end plate spliced to the side plates, a ceiling-sheet flanged around its edges and riveted to said side and end plates, pressed-steel corner-posts at the corners of the car-body, pressed-steel posts rising from the ends of the platform end sill to the corners of the ceiling-sheet and riveted to the top end plate, and pressed-steel lintels riveted to the top side plates between the posts, said posts and lintels being bent to form rabbets for the side doors.

21. A car-vestibule comprising a platform and platform end sill supported upon a projecting center sill, top side plates projecting from the car-body, an arched top end plate spliced to the ends of said side plates, an arched ceiling-sheet flanged around its edges and riveted to said side and end plates, entrance-door posts rising from the platform at each side of the center sill and fastened at the top to an inward projection from the ceiling-sheet, an arched angle passing across said projection and riveted to flanges on the ceiling-sheet at each side thereof, sheathing-plates having their upper edges riveted in between said angle and ceiling-sheet flanges, pressed-steel door-jambs and corner-posts overlapping the inner and outer edges of said sheathing-plates, pressed-steel posts rising from the ends of the platform end sill to the corners of the ceiling-sheet, central vestibule-door posts rising from the end sill to the ceiling-sheet, pressed-steel jamb-plates riveted to said posts, and vestibule sheathing-plates and sash-frames riveted in between said jamb-plates and the platform corner-posts.

22. The central vestibule-door frame comprising channel-bar posts and pressed-steel jamb-plates, said plates being brought together at the outside of the frame to receive between them the inner edges of the vestibule-sheathing, and being flanged toward one another at the inside of the frame to form with the channel-bars side pockets for the purpose set forth.

23. The platform end-sill corner-posts pressed from a single plate of steel and comprising two limbs bent back upon one another to receive between them the outer edges of the vestibule-sheathing, the outside limb being bent to form the vestibule-corners and the inside limb being bent to form a rabbet for the vestibule side door.

24. The entrance-door-jamb plates flanged at the inside and pressed out to form the rabbets for the door, the outside being bent around to lap the outside sheathing.

25. The entrance-door jambs formed from pressed-steel plates having their outside bends cut and pressed outward at the bottom to overlap a transverse frame member.

26. The entrance-door frame comprising pressed-steel jamb-plates riveted to rolled-bar door-posts, a pressed-steel lintel carried upward at the outside and riveted to the platform ceiling-sheet, said jambs and lintel being bent to form rabbets for the door.

27. The entrance-door frame comprising bulb-angle door-posts set with their flanged sides outward, pressed-steel jamb-plates flanged at the inside and riveted to the webs of said posts, said plates being bent around at the outside to overlap the post-flanges, and a pressed-steel lintel joining the jamb-plates at the top.

28. In an entrance-door frame comprising pressed-steel rabbeted jamb-plates, the combination therewith of a channel-bar passing across between the rabbets at the foot of the jambs, and a threshold-plate fitted to said jambs at the sides and resting on said channel, the outer edge of said threshold-plate being turned down to overlap a transverse frame member.

29. The central-vestibule-door-jamb casing-plates 51 and 52 substantially as herein described.

30. The combination, with the central-vestibule-door-jamb casing-plates 51, of a pressed-steel lintel 53 adapted to be riveted to the upper ends of said plates and inside the vestibule-top end plate.

31. The combination, with a box-girder center sill projecting beyond a car-body and having outwardly-flanged side members, of platform floor-plates riveted to the under side of the top flanges of said members and pressed inward into alinement with the top cover-plate of the center sill.

32. The combination, with a center sill projecting beyond a car-body, of platform floor-plates attached to each side thereof, and top-step riser-plates riveted to flanges at the sides of said plates.

33. The combination, with a center sill projecting beyond a car-body, of platform floor-plates attached to each side thereof, a platform end-sill cover-plate passing across the ends of said sill and floor-plates and riveted thereto, and top-step riser-plates riveted to the sides of the floor-plates and bent outward along the inner sides of the cover-plate to which they are also riveted.

34. The combination, with the platform floor-plates, of top-step riser-plates riveted to the sides thereof, said plates being carried above the floor-plates and pressed outward to form nosings for the platform-landings.

35. The top-step riser-plates pressed outward at the top to form nosings and bent outward at the outer ends to form the inside members of a platform end sill.

36. The top-step riser-plates bent outward at the outer ends to form part of the platform end sill and provided with downward extensions, or hangers, to support the sides of the platform-steps.

37. The vestibule sash-frame comprising angled jamb members embracing the sides of the window-sash, said members being outwardly flanged to register with the vestibule-sheathing, a similarly-angled sill member having a downturned flange adapted to overlap the sheathing on the outside, and a similarly-angled lintel member upwardly flanged to fit the sheathing on the inside.

38. The vestibule sash-frame comprising metal jamb, sill and lintel members bolted to the inside of the sash, pressed outward to embrace the rim of the sash and then outwardly flanged for attachment to the vestibule-sheathing, said members being united by miter-joints, and corner-pieces covering said joints.

39. A car-vestibule comprising a center sill projecting from the car-body, platform floor-plates and a platform end sill carried by the center sill, rolled-steel entrance-door posts supported by the floor-plates, rolled-steel central-vestibule-door posts supported by the end sill, longitudinal channel-plates extending between said posts at the top, a curved ceiling-sheet passing over said longitudinal channels, top side plates projecting from the car-body and an end top plate riveted around the sides and end of said ceiling-sheet, an inward extension from said sheet to which the upper ends of the entrance-door posts are attached, and a curved angle-bar passing across said extension and riveted to flanges on the ceiling-sheet at each side thereof.

40. A vestibule roof-frame comprising transverse lower-deck-end supports rising from the car end at each side, longitudinal deck-end supports extending outward from the inward ends of the transverse supports and supported by the underframe, and longitudinal deck-angles extending from the junction of said supports through the length of the car to similar supports at the other end thereof.

41. A vestibule roof-frame comprising a ceiling-sheet supported from below, transverse lower-deck-end-supporting plates rising from said sheet at each side and having depressed flanged portions at their inward ends, longitudinal deck-angles extending through the car-body and having the ends of their longitudinal limbs secured to said depressed flanges, and longitudinal deck-end-supporting plates joined to the inward ends of said transverse plates and having the vertical limbs of the deck-angles secured thereto, said longitudinal plates resting upon the ceiling-sheet.

42. A vestibule roof-frame comprising a ceiling-sheet supported from below, transverse and longitudinal deck-end-supporting plates resting thereon at each side, longitudinal deck-angles having their ends secured to said plates at their points of intersection, and an upper-deck carline having its ends riveted in with the ends of said angles.

43. A vestibule roof-frame comprising transverse and longitudinal deck-end-supporting plates at each side joined together at their inward ends, and longitudinal deck-angles and an upper-deck carline having their ends attached thereto at the points of juncture.

44. A vestibule roof-frame comprising transverse and longitudinal deck-end-supporting plates at each side joined together at their inward ends, longitudinal deck-angles and an upper-deck carline having their ends attached thereto at the points of juncture, deck-end side plates rising from the longitudinal supporting-plates, and longitudinal upper-deck angles having their ends attached to said side plates.

45. A vestibule roof-frame comprising an arched ceiling-sheet supported from below, transverse deck-end-supporting plates riveted to transverse flanges at each side of said sheet at the inward end, longitudinal deck-end-supporting plates flanged at the inward and bottom sides and riveted to said sheet and to the inward ends of the transverse plates, longitudinal deck-angles and an upper-deck carline having their ends riveted to the transverse and longitudinal plates at their points of juncture, deck-end side plates rising from the longitudinal plates, and intermediate deck-end-supporting angle-bars attached at one end to the carline and at the other end to supporting-plates rising from the ceiling-sheet.

46. The transverse deck-end-supporting plates having their upper edges curved and flanged, the inward upper ends being cut down and flanged for the purpose set forth.

47. The longitudinal deck-end-supporting plates 82 cut and flanged substantially as herein shown and described.

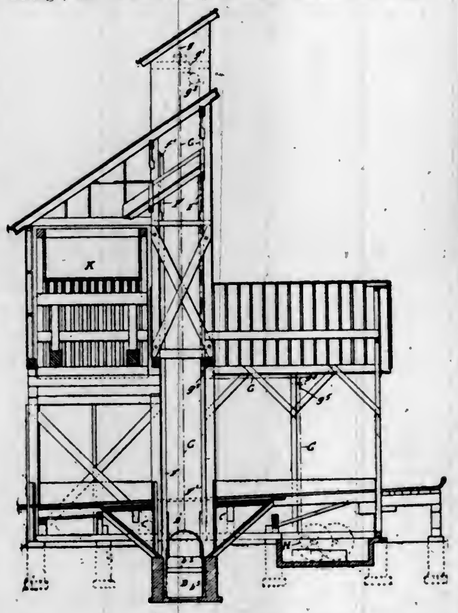
48. The deck-end side plates curved and pressed outward at the top, then inward to form a top flange, said flange being cut away at the inward end of the plate, an outturned flange along the bottom edge of the plate uniting with the upper flange at the outward end, and the inward end of the plate being pressed in to form a vertical side having a flanged projection.

49. The combination, with the side and end top plates, of an eave-molding riveted in with said plates at the top, and overlapping the edge of the lower-deck roofing.

50. The combination, with a deck-roofing, of a metal eave-molding secured to the framework below the roofing and projecting above the roof, said projecting portion being bent inward to overlap the roof along its outer edge for the purpose set forth.

51. In a car-frame, the combination, with hollow posts for doorways and corners formed from light steel plates pressed into the shapes required and riveted to the frame members substantially as herein described, of spacing-castings fitting the inside contour of the posts and inserted therein at intervals to reinforce the posts where hand-rails, hinges and other fittings are to be attached.

839,858. AUTOMATIC DUMPING AND RIGHTING HOISTING-BUCKET. WALTER T. KRAUSCH, La Grange, Ill. Filed Feb. 26, 1906. Serial No. 302,618.

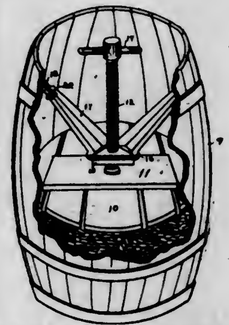


Claim.—1. The combination with an elevator-bucket, of upright guides therefor, a bail pivoted to the bucket below and to one side of the center of gravity, a drum, cable and pulleys for operating the bucket, upright guides for the bail of the bucket, rollers on the bucket engaging the front upright guides for the bucket, and a stop on the bucket engaging the bucket-bail guide to limit the dumping, tilting movement of the bucket, substantially as specified.

2. The combination with an elevator-bucket, of upright guides therefor, a bail pivoted to the bucket below and to one side of the center of gravity, a drum, cable and pulleys for operating the bucket, upright guides for the bail of the bucket, rollers on the bucket engaging the front upright guides for the bucket, stops on the bucket engaging the bucket-bail guides to limit the dumping tilting movement of the bucket, and stops on the bucket engaging the bucket-bail to limit the righting tilting movement of the bucket, substantially as specified.

839,859. FOLLOWER FOR BARRELS. CHARLES KUHEIM, Kansas City, Mo. Filed Dec. 26, 1905. Serial No. 293,202.

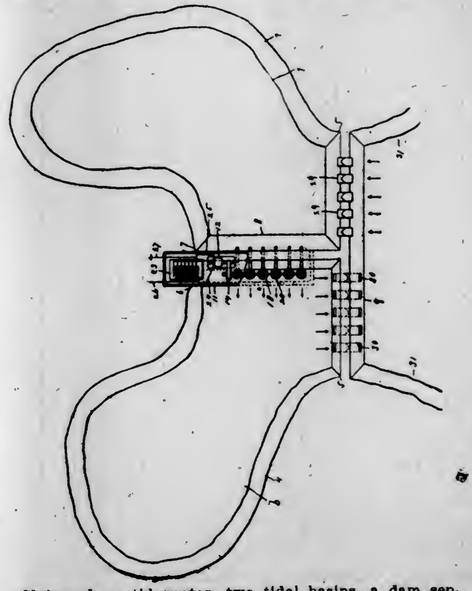
Claim.—1. In a device of the class described, the combination with a barrel, of a movable head, a base seated on said head, a suitable block and a screw extending through and having a threaded connection with said block, and having its lower end seated on said base, stationary hinge members secured to the vertical edges of said block, and arms carried by the movable hinge members and adapted to engage the inner surface of the barrel, substantially as set forth.



2. In a device of the class described, the combination of a barrel, of a suitable base, of a hinge-block having a central threaded perforation, flanges projecting laterally from said block, and having perforations extending longitudinally therethrough, arms adapted to engage the inner surface of the barrel at their outer ends, and having perforated flanges at their inner ends adapted to coöperate with the block-flanges to form a hinge connection between the arms and block, and a screw extending through said block into engagement with said base, substantially as and for the purpose set forth.

3. In a device of the class described, the combination with a barrel, of a screw-block, base, and screw, of an arm carried by the block, and having a longitudinal recess in its outer end, a rod fitting within said recess and having a rack edge, and a transverse perforation, a pin extending through said perforation and having ribs adapted to engage the rack on said rod, and means for turning said pin, all substantially as and for the purpose set forth.

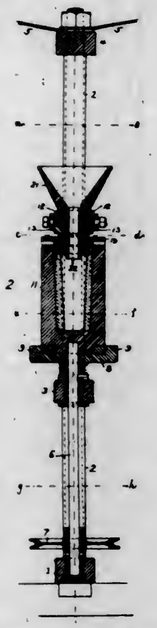
839,860. TIDE-MOTOR. JOSEPH E. LEMYRE, Manchester, N. H. Filed Dec. 27, 1905. Serial No. 293,438.



Claim.—In a tide-motor, two tidal basins, a dam separating the two, automatic inlet-gates to one basin near

the line of high-tide level, automatic outlet-gates to the other basin near the low-tide level, a turbine-chamber adjacent to the dam in the low tidal basin, a power-house above said chamber, containing mechanism for the generation and storage of electrical energy, a series of turbines with vertical shafts in said chamber, and a series of separate conduits through the dam at points near high-tide level, leading in said chamber to the respective turbines at points near low-tide level, said turbine-shafts being adapted to engage with the generation and storage mechanism in the power-house, substantially as specified.

839,861. INGOT-CASTING MACHINE. NILS H. O. LILIENBERG, Philadelphia, Pa., assignor of one-half to Bradley Stoughton, New Haven, Conn. Filed Mar. 14, 1904. Serial No. 198,038.



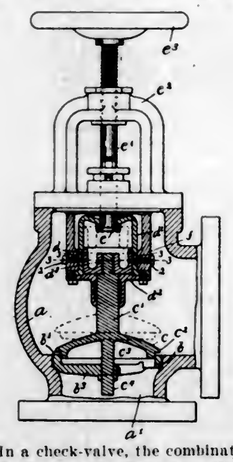
Claim.—1. The combination in ingot-casting apparatus, of a coreless upright mold having a detachable cap in engagement with it but free from vertical confinement thereto, said cap having a central opening and means independent of the mold for confining it in position, with means for rotating said mold, substantially as specified.

2. The combination, in ingot-casting apparatus, of a fixed frame having upright posts or columns, a rotatable vertical shaft having a mold detachably mounted thereon, a cross-head vertically guided on said posts or columns, a hopper mounted upon said cross-head and having a mold-filling spout, and means for raising and lowering the said cross-head on its guides, substantially as specified.

3. The combination, in ingot-casting apparatus, of a fixed frame, having upright posts or columns, a rotatable vertical shaft, a mold detachably mounted thereon, a cross-head vertically guided on said posts or columns, a hopper carried by said cross-head, and having a depending mold-filling spout, and a lever engaging said cross-head, and having a vertically-adjustable pivot or fulcrum, substantially as specified.

4. The combination, in ingot-casting apparatus, of a fixed frame, having vertical posts or columns, a rotatable vertical shaft, a mold detachably mounted thereon, a cross-head guided on said posts or columns, a hopper mounted upon said cross-head, and having a depending mold-filling spout, a lever engaging said cross-head, and a pair of bars vertically adjustable one upon the other, one of said bars depending from the fixed structure and the other carrying the fulcrum of the lever, substantially as specified.

839,862. CHECK-VALVE. NATHANIEL C. LOCKE, Salem, Mass. Filed Oct. 30, 1905. Serial No. 284,989.



Claim.—1. In a check-valve, the combination of a valve-case having a fluid-passage and a surrounding valve-seat, a valve-plate adapted to engage said seat having an annular projection adapted to enter and close said fluid-passage, a stop for preventing said valve-plate from engaging its seat yet permitting the annular projection thereon to close the fluid-passage, and means for moving said stop permitting the valve-plate to engage its seat, substantially as described.

2. In a check-valve, the combination of a valve-case having a fluid-passage and a surrounding valve-seat, a valve-plate adapted to engage said seat having an annular projection adapted to enter and close said fluid-passage, a stop for preventing said valve-plate from engaging its seat yet permitting the annular projection thereon to close the fluid-passage, and means for moving said stop and for moving said plate into engagement with its seat, substantially as described.

3. In a check-valve, the combination of a valve-case having a fluid-passage and a surrounding valve-seat, a valve-plate adapted to engage said seat having an annular projection adapted to enter and close said fluid-passage, means for retarding the movement of said valve-plate, a stop for preventing said valve-plate from engaging its seat yet permitting the annular projection thereon to close the fluid-passage, and means for moving said stop permitting the valve-plate to engage its seat, substantially as described.

4. In a check-valve, the combination of a valve-case having a fluid-passage and a surrounding valve-seat, a valve-plate adapted to engage said seat having an annular projection adapted to enter and close said fluid-passage, a cylinder and piston movable one with relation to the other, the movable member being connected with said valve-plate, a stop for preventing said valve-plate from engaging its seat yet permitting the annular projection thereon to close the fluid-passage, and means for moving said stop permitting the valve-plate to engage its seat, substantially as described.

5. In a check-valve, the combination of a valve-case having a fluid-passage and surrounding valve-seat, a valve-plate adapted to engage said seat having an annular projection adapted to enter and close said fluid-passage, a piston connected with said valve-plate, a cylinder containing it having a stop for the piston which prevents the valve-plate from engaging its seat yet permits the annular projection thereon to close the fluid-passage, and means for moving said cylinder permitting the valve-plate to engage its seat, substantially as described.

6. In a check-valve, the combination of a valve-case having a fluid-passage and surrounding valve-seat, a valve-plate adapted to engage said seat having an annular projection adapted to enter and close said fluid-passage, a piston connected with said valve-plate, a cylinder containing it having a stop for the piston which prevents the valve-plate from engaging its seat yet permits the annular projection thereon to close the fluid-passage, and means for moving said cylinder and piston to cause the valve-plate to engage its seat, substantially as described.

7. In a check-valve, the combination of a valve-plate having an annular projection on its under side, a ring adapted to receive said projection having a seat for said plate, a stop for preventing said valve-plate from engaging its seat yet permitting the annular projection thereon to enter the ring and close the fluid-passage, and means for moving said stop permitting said plate to engage its seat, substantially as described.

8. In a check-valve, the combination of a movable valve-plate having a circumferential flange and also having an annular projection on its under side, a ring adapted to receive said annular projection having a seat for said flange, a stem bearing said plate, a stop which prevents the flange of the plate from engaging its seat yet permits the annular projection to enter the ring and close the fluid-passage, and means for moving said stop permitting said flange to engage its seat, substantially as described.

9. In a check-valve, the combination of a movable valve-plate having a circumferential flange and also having an annular projection on its under side, a ring adapted to receive said annular projection having a seat for said flange, a stem bearing said plate, a stop which prevents the flange of the plate from engaging its seat yet permits the annular projection to enter the ring and close the fluid-passage, and means for moving said stop and for also moving said plate to cause its flange to engage its seat, substantially as described.

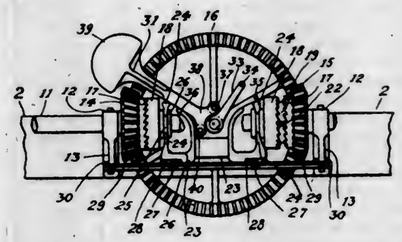
10. In a check-valve, a movable valve-plate having a circumferential flange and also having an annular projection on its under side, a ring adapted to receive said annular projection having a seat for said flange, a stem bearing said plate, a controlling device for said plate which is adapted to regulate its movement, a stop for limiting the movement of said plate which prevents the flange thereon from engaging its seat, yet permits the annular projection thereon to enter the ring and close the fluid-passage, and means for moving said stop permitting the valve-plate to engage its seat, substantially as described.

11. In a check-valve, the combination of a valve-case having a fluid-passage and surrounding valve-seat, a valve-plate adapted to engage said seat having an annular projection adapted to enter and close said fluid-passage, a piston connected with said valve-plate, a cylinder containing it having a stop for the piston which prevents the valve-plate from engaging its seat yet permits the annular projection thereon to close the fluid-passage, a threaded stem bearing a hand-wheel and having a flanged end supporting said cylinder, movement of which permits the cylinder to fall and the valve-plate to engage its seat, substantially as described.

12. In a check-valve, the combination of a valve-case having a fluid-passage and a surrounding valve-seat, a valve-plate adapted to engage said seat having an annular projection adapted to enter and close said fluid-passage, a piston connected with said valve-plate, a cylinder containing it having a stop for the piston, which prevents the valve-plate from engaging its seat yet permits the annular projection thereon to close the fluid-passage, a threaded stem bearing a hand-wheel and having a flanged end supporting said cylinder which is adapted to be moved into engagement with the piston to force the valve-plate into engagement with its seat, substantially as described.

839,863. ALTERNATING ROTARY GEARING. SYVER LOE, Minneapolis, Minn., assignor of one-half to Fosston Manufacturing Company, a Corporation of Minnesota. Filed Feb. 23, 1906. Serial No. 302,417.

Claim.—1. An alternating gearing mechanism, comprising gearing and a driving and a driven shaft and a pair of clutches on the former shaft, in combination with a reciprocating carriage for the loose clutch members, an oscillatory lever for engaging the carriage to reciprocate it, a screw on the driven shaft for moving the lever forth and back transversely to the carriage, and devices operating at the limits of such movements to throw the lever in opposite directions to reciprocate the carriage and reverse the direction of rotation of the driven shaft, substantially as set forth.



2. An alternating rotary gearing, comprising a driven shaft, a bevel gear-wheel thereon, a driving-shaft, a pair of loose bevel-pinions thereon meshing with the gear-wheel at opposite points, clutch members carried by the pinions, corresponding loose clutch members, an intermediate reciprocating carriage for the latter, an oscillatory lever fulcrumed on a threaded portion of the driven shaft for periodically reciprocating the carriage, and devices operating at the limits of the forth and back movements of the lever to throw it in opposite directions to move the carriage and alternate the clutch-contacts, substantially as set forth.

3. An alternating rotary gearing, comprising a driven shaft, a bevel gear-wheel thereon, a driving-shaft, a pair of loose bevel-pinions thereon meshing with the gear-wheel at opposite points, clutch members carried by the pinions, corresponding loose clutch members, an intermediate reciprocating carriage for the latter, an oscillatory lever fulcrumed on a threaded portion of the driven shaft, and projections on the gear-wheel and driven shaft for engaging the lever at the limits of its travel on the shaft to throw it alternately in opposite directions to alternate the clutch-contacts, substantially as set forth.

4. An alternating rotary gearing, comprising a driven shaft, a bevel gear-wheel thereon, a driving-shaft, a pair of loose bevel-pinions thereon meshing with the gear-wheel at opposite points, clutch members carried by the pinions, corresponding loose clutch members provided with horizontal pins, a collar fixed on the shaft and having grooves in which said pins slide, an intermediate reciprocating carriage for the loose clutch members, and an automatically-operating shifter for periodically reciprocating the carriage to alternate the engagement of the clutches and reverse the direction of revolution of the gear-wheel, substantially as set forth.

5. An alternating rotary gearing, comprising a driven shaft, a bevel gear-wheel thereon, a driving-shaft, a pair of loose bevel-pinions thereon meshing with the gear-wheel at opposite points, clutch members carried by the pinions, corresponding loose clutch members provided with horizontal pins, a collar fixed on the shaft and having grooves in which said pins slide, an intermediate reciprocating carriage for the loose clutch members, an oscillatory lever fulcrumed on a threaded portion of the driven shaft, and projections on the gear-wheel and driven shaft for engaging the lever at the limits of its travel on the shaft to throw it alternately in opposite directions to alternate the clutch-contacts, substantially as set forth.

6. In combination, a pair of clutches, an intermediate reciprocating clutch-carriage having opposite upwardly-inclined surfaces, an oscillatory shifter-lever fulcrumed intermediate said inclines and having rollers arranged to alternately engage them to reciprocate the carriage, and means for automatically oscillating the lever at intervals, substantially as set forth.

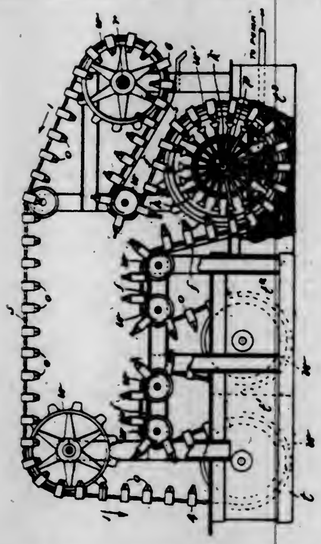
7. In combination, a pair of clutches, an intermediate reciprocating clutch-carriage having opposite upwardly-inclined surfaces, a weighted shifter-lever fulcrumed inter-

mediate said inclines and having rollers arranged to alternately engage them to reciprocate the carriage, and means for automatically oscillating the lever past the perpendicular at intervals, substantially as set forth.

8. An alternating rotary gearing, comprising a driven shaft, a bevel gear-wheel thereon, a driving-shaft, a pair of loose bevel-pinions thereon meshing with the gear-wheel at opposite points, clutch members carried by the pinions, corresponding loose clutch members, an intermediate reciprocating carriage for the latter, a shifter for periodically reciprocating the carriage to alternate the engagement of the clutches, means provided on the gear-wheel for throwing the shifter in one direction, and means provided on the driven shaft for throwing it in the opposite direction, substantially as set forth.

9. In combination, a pair of clutches, an intermediate reciprocating clutch-carriage having opposite upwardly-inclined surfaces, an oscillatory shifter-lever fulcrumed intermediate said inclines and having rollers arranged at opposite sides near its fulcrum for alternately engaging said surfaces to reciprocate the carriage and for locking the carriage in place at the extremes of its movements, and means for automatically oscillating the lever at intervals, substantially as set forth.

839,864. MECHANISM FOR RINSING, SPRAYING, AND BRUSHING BOTTLES. CHARLES H. LOEW, Cleveland, Ohio. Filed Apr. 17, 1903. Serial No. 153,058.



Claim.—1. A bottle-cleaning means, comprising a movable bottle-carrier, movable cleaning devices, and means controlled by the pressure of the cleansing fluid for moving said cleaning devices rotatively relatively to the bottles at predetermined places in the travel of the carrier.

2. A bottle-cleaning means, comprising a movable bottle-carrier, movable cleaning devices, having a fluid-discharge stem, and means controlled by the pressure of the cleaning fluid for causing said stem to move rotatively relatively to the bottle at predetermined places in the travel of the carrier.

3. A traveling bottle-cleaning means, comprising fluid-discharge stems, bottle-brushing devices, and means controlled by the pressure of the cleaning fluid for causing said stems and brushes to move relatively to the bottles at predetermined places in the travel of the parts.

4. A bottle-cleaning means, comprising means for carrying the bottles, movable cleaning devices, and means controlled by the pressure of the cleaning fluid for advancing and retracting said cleaning devices rotatively relatively to the bottles at predetermined places in the travel of the parts.

5. A bottle-cleaning mechanism comprising, in combination, a bottle-holding means, a means for the supply of cleaning fluid, and a means for the discharge of said fluid, said discharge means having intermittent communication with the supply means and provided with a reciprocatory and rotatable discharge-stem and means whereby said stem is reciprocated and rotated under the control of said fluid.

6. A bottle-cleaning means, comprising movable means for carrying the bottles, movable cleaning devices, having a discharge-stem and a brush carried thereby, and means controlled by the pressure of the cleaning fluid for advancing and retracting said stem and brush rotatively at predetermined places in the travel of the carrier.

7. A bottle-cleaning means, comprising a traveling means for carrying the bottles, a fluid-discharge stem movable therewith, a pipe having a fluid-discharge opening with which said stem has intermittent communication, said stem having means for causing it to advance toward the bottle when it is in communication with said discharge-opening, means for causing said stem to rotate during its said movement, and means for causing it to return when its communication with said discharge-opening is cut off.

8. A bottle-cleaning means, comprising a traveling means for carrying the bottles, a brush movable therewith, carrying means for said brush, a pipe having a fluid-discharge opening with which said brush-carrying means has intermittent communication, said carrying means having means whereby it is advanced toward the bottle when it is in communication with said discharge-opening, means for causing said carrying means to rotate during its said movement, and means for causing it to return when its communication with said discharge-opening is cut off.

9. A bottle-cleaning means, comprising a traveling means for carrying the bottles, a hollow fluid-discharge stem movable therewith, a brush carried by said stem, a pipe having a fluid-discharge opening with which the interior of said stem has intermittent communication, said stem having means for causing it and said brush to advance toward the bottle when the stem is in communication with said discharge-opening, means for causing the same to rotate during their said movement, and means for causing the same to be retracted when the communication of the stem with the discharge-opening is cut off.

10. A bottle-cleaning means, comprising a traveling series of bottle-engaging cups; cylinders carrying the same; a pipe having a discharge-opening with which the interiors of said cylinders successively communicate; longitudinally-movable hollow stems mounted in said cylinders and provided with pistons which are exposed to the pressure of fluid from said discharge-opening when said cylinders are in communication with the latter, said pistons having openings from which said stems project; and means whereby the longitudinal movements of said stems also cause the same to rotate.

11. A bottle-cleaning means, comprising a traveling series of bottle-engaging cups, cylinders carrying said cups and provided interiorly with longitudinally-movable and rotative hollow stems, said stems having pistons and means whereby they are rotated while being moved longitudinally, and said pistons having openings from which said stems project, brushes carried by said stems, and a pipe having a discharge-opening with which the interiors of said cylinders successively communicate.

12. A bottle-cleaning apparatus, comprising a traveling conveyer and a cleaning means having a traveling series of cups to engage the necks of adjacent bottles in said conveyer, said cleaning means also having cleaning devices for acting on the bottles engaged with said cups and means for moving said devices relatively to the cups at predetermined places in the movement of the parts.

13. A bottle-cleaning means, comprising a traveling conveyer adapted to convey the bottles through a soaking liquid, and a traveling means for cleaning the bottles after they have been soaked, comprising a series of cups which travel with said conveyer and engage the necks of adjacent bottles in said conveyer, brushes which move with said cups, and means having connection with said brushes for causing the same to move relatively to the cups and bottles.

14. A bottle-cleaning means, comprising a traveling conveyer adapted to convey the bottles through a soaking liquid, and a traveling means for cleaning the bottles after they have been soaked, comprising a series of cups which travel with said conveyer and engage the necks of adjacent bottles in said conveyer, fluid-discharge stems and brushes which move with said cups, and devices for causing said stems and brushes to move relatively to the cups and bottles during the travel of the same.

15. A bottle-cleaning apparatus, comprising the following elements, namely: a fluid-discharge stem which is movable relatively to the bottle and is provided with flexible brushes, said stem and brushes being adapted to be inserted into the bottle; a device for conveying movement to said stem relatively to said bottle; a traveling bottle-engaging means which holds the bottle while it is being acted upon by said brushes and the fluid; and means through which said stem is supplied with the fluid.

16. A bottle-cleaning means, comprising a traveling bottle-conveyer, a series of cups which travel with said conveyer and engage the necks of adjacent bottles in the same, cylinders carrying said cups, a pipe having a discharge-aperture with which the open inner ends of said cylinders successively communicate, and cleaning devices movably mounted in said cylinders and having pistons whereby they are pressed forward by the fluid issuing from said discharge-aperture, and means by which said cleaning devices are moved rearward.

17. A bottle-cleaning means, comprising a traveling series of bottle-engaging cups, cylinders carrying the same, a pipe having a discharge-aperture with which the open inner ends of said cylinders successively communicate, cleaning devices in said cylinders comprising fluid-discharge stems having pistons pressed forward by the pressure of the liquid issuing from said aperture, brushes carried by said stems, retracting means for said stems, pistons and brushes, and means for causing said pistons, brushes and stems to rotate while being advanced and retracted, and a bottle-carrier, which conveys the bottles to said cups and holds the same until after they have been acted upon in said cups by said cleaning devices.

18. In a bottle-cleaning apparatus, the combination of a cylinder, a piston arranged within said cylinder and provided with a fluid-discharge stem which is hollow and interiorly communicates with the interior of the cylinder, said stem having a spiral groove and said cylinder having a projection to engage said groove, and means through which liquid under pressure is supplied to the interior of said cylinder.

19. In a bottle-cleaning apparatus, the combination of a hub or wheel having a series of radiating cylinders the outer ends of which are adapted to receive the necks of the bottles, longitudinally-movable pistons mounted within said cylinders and having hollow fluid-discharge stems the interiors of which have communication with the interiors of said cylinders, brushes carried by said stems, means through which liquid under pressure is supplied to said cylinders and means for revolving said stems and brushes during their longitudinal movements.

20. A bottle-washing apparatus comprising a bottle-conveyer; cleaning means acting on the bottles while they are in said conveyer, said cleaning means comprising a plurality of cleaning devices and a rotatively-mounted carrier for said devices; and means for rotating said conveyer and carrier.

21. A bottle soaking and rinsing apparatus, comprising a soaking-tank, a traveling conveyer for carrying the bottles through said tank, a movable rinsing means arranged contiguous to a portion of said conveyer and acting upon the bottles while they are in said conveyer and after they have been soaked, and mechanism for moving said conveyer and rinsing means.

22. A bottle-washing apparatus comprising a bottle-conveyer, a rinsing-wheel provided with means for discharging rinsing fluid against the bottles in said conveyer, and means for rotating said rinsing-wheel and conveyer.

23. A bottle-washing apparatus, comprising a soaking-tank, a bottle-conveyer which travels through said soaking-tank, a rinsing-wheel arranged contiguous to a portion of said conveyer and provided with means by which it discharges jets of rinsing fluid against the previously-soaked bottles in said conveyer, and means for rotating said rinsing-wheel and conveyer in unison with each other.

24. A bottle-washing apparatus comprising a conveyer and a rotating rinsing means around which said conveyer extends, said rinsing means being adapted to discharge rinsing fluid against the bottles in said conveyer.

25. A bottle-washing apparatus comprising a conveyer and a rotating rinsing means around which said conveyer extends, said rinsing means being adapted to discharge rinsing fluid against the bottles in said conveyer, and comprising a wheel having cylinders provided with means through which the fluid is discharged against the bottles in said conveyer, and fluid-supply means with which said cylinders are successively brought into and out of communication at predetermined places in the travel of the wheel.

26. A bottle-washing apparatus comprising a conveyer and a rotating rinsing means around which said conveyer extends, said rinsing means being adapted to discharge rinsing fluid against the bottles in said conveyer and comprising a wheel having a hub and cups to engage the necks of the adjacent bottles in said conveyer, a supply-pipe around which said wheel rotates and means by which the bottles engaged with said cups are automatically supplied with rinsing fluid from said supply-pipe at predetermined place in the travel of the wheel.

27. A bottle-washing apparatus comprising a rotating rinsing-wheel, a bottle-conveyer passing around said wheel and off from the latter, said wheel having means to engage the necks of contiguous bottles in the conveyer and comprising means by which under the control of its rotation it communicates with a source of rinsing-fluid supply under pressure, and permits said fluid to issue against the bottles, and said conveyer having bottle-cages from which the bottles are automatically discharged after leaving said wheel.

28. A bottle-washing apparatus comprising a rotating rinsing-wheel, a bottle-conveyer extending around said wheel and off from the latter to a place of discharge of the bottles and having open cages adapted to discharge the bottles automatically, said wheel having cups to engage the necks of contiguous bottles in the conveyer and comprising an apertured hub, and a supply-pipe upon which said hub is mounted, said supply-pipe having a discharge-aperture with which the aperture in the hub is successively brought into and out of communication in the rotation of the wheel.

29. A bottle-washing apparatus comprising a rotatably-mounted bottle-rinsing means having a plurality of fluid-discharge devices which travel therewith, and a conveyer which travels with said rinsing means and carries the bottles to and around the same and conveys said bottles therefrom and discharges them after they have been rinsed.

30. A bottle-washing apparatus comprising a rotatably-mounted bottle-rinsing means having a plurality of fluid-discharge devices which by the rotation of said rinsing means are intermittently brought into communication with their source of supply, and a conveyer which travels with said rinsing means and extends to and around the same and is adapted to cause the bottles to be engaged with the rinsing means while they are being rinsed and then to carry said bottles out of engagement with the rinsing means and to conduct them away from the same in inverted position and finally to automatically discharge them.

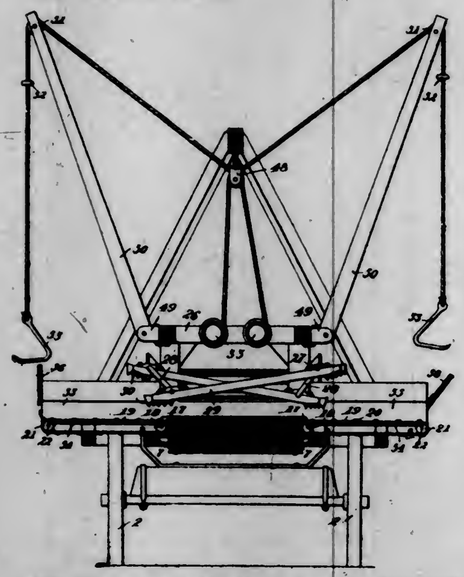
31. A bottle-washing apparatus having means for soaking the bottles and means for cleaning them after they have been soaked, said means for soaking the bottles comprising a traveling conveyer for the bottles and said means for cleaning the bottles after they have been soaked comprising a rinsing-wheel arranged contiguous to a portion of said conveyer and provided with devices for discharging

rinsing fluid against the bottles while the same are in said conveyer and a fluid-supply pipe upon which said wheel rotates, said pipe having a discharge-aperture with which the fluid-discharging devices are each successively brought into and out of communication in the rotation of said wheel; and means for rotating said conveyer and wheel.

32. A bottle-washing apparatus, comprising means for soaking the bottles and mechanism for cleaning them after they have been soaked, said soaking means comprising a traveling conveyer for the bottles and said cleaning mechanism being rotatively mounted and having means for the supply of rinsing fluid thereto under the control of its rotation and provided with fluid-discharge stems which are moved to and from the bottles in said conveyer under the control of said fluid.

33. A bottle-washing apparatus comprising means for soaking the bottles and mechanism for cleaning them after they have been soaked, said soaking means comprising a traveling conveyer for the bottles, and said cleaning mechanism comprising a rotatively-mounted means having means for the supply of rinsing fluid thereto under the control of its rotation and provided with fluid-discharge stems and brushes which are moved rotatively to and from the bottles in said conveyer by the pressure of said fluid.

839,865. FEEDER FOR THRESHING-MACHINES. CHARLES D. MARKEY, Ellinwood, Kans. Filed Apr. 28, 1906. Serial No. 314,268.

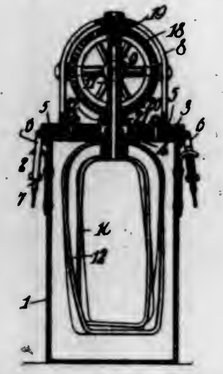


Claim.—1. In a feeding device for threshing-machines the combination with a portable frame having longitudinal and side carriers: of rocking and reciprocating bars supported above the carriers, means for actuating the bars for shifting material from the side carriers to the longitudinal carriers, and hoisting mechanism at the sides of the frame for conveying material to and depositing it upon the side carriers.

2. A feed attachment for threshing-machines comprising a portable frame, longitudinal and side carriers mounted thereon, reciprocating rocking bars for directing material from the side carriers to the longitudinal carriers, a drive-shaft, means for transmitting continuous motion therefrom to the bars and carriers, hoisting mechanism extending above and beyond the sides of the frame, and means operated by the drive-shaft for raising or lowering the hoisting mechanism during the actuation of the carriers and bars.

3. A feed attachment for threshing-machines comprising a portable frame, a longitudinal endless carrier mounted thereon, laterally-extending endless carriers adjacent to the longitudinal carrier, crank-shafts extending transversely of the lateral carriers, toothed bars carried by the cranks and adapted to be reciprocated and rocked thereby, said bars extending transversely of the longitudinal carrier and above the lateral carriers, a drive-shaft, means for transmitting rotary motion from said shaft direct to each crank-shaft, oppositely-disposed hoisting mechanism, and means for transmitting rotary motion from the drive-shaft independently of the movement of the crank-shafts for actuating said mechanism to raise or lower material.

839,866. CHURN. HENRY M. MERIDETH, Gladstone, Ark., administrator of John L. Merideth, deceased. Filed Oct. 11, 1906. Serial No. 338,489.



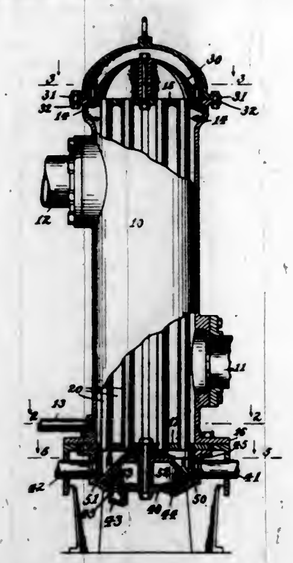
Claim.—A churn comprising a body, a cover for the same, plates pivotally mounted upon the cover and being pivotally connected together and having registering recesses, means for retaining said plates in fixed relative position, a dasher-shaft located within a dasher-sleeve, said sleeve and shaft passing through the registering recesses of said plate, gear-wheels attached to said dasher-shaft and dasher-sleeve, a shaft journaled for rotation and extending transversely with relation to the said dasher shaft and sleeve, a gear-wheel mounted upon said shaft and meshing with the gear-wheels of the dasher shaft and sleeve.

839,867. FEED-WATER HEATER. HENRY G. MILLER, Cleveland, Ohio, assignor to The Loew Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Jan. 18, 1906. Serial No. 296,646.

Claim.—1. An apparatus of the kind described, comprising a casing, means for admitting steam into the space within, water-tubes arranged in groups of tubes about the center of the casing, means for admitting water into one of said groups, means for conducting water from groups of said series respectively to the groups on the opposite sides of said casing, and means for discharging the water from the group on the opposite side of the casing from the group into which it enters.

2. An apparatus of the kind described, comprising a casing and means for admitting the steam to the space within the same, water-tubes arranged in successive groups of segmental form about the center of the casing, and means for causing water to flow consecutively through the tubes of the first, second, sixth, fifth, third and fourth groups of the series.

3. An apparatus of the kind described, comprising a casing and means for admitting steam to the space within the same, water-tubes arranged in successive groups of segmental form about the center of the casing and means for causing water to flow consecutively through the tubes of the first, second, sixth, fifth, third and fourth groups of the series, comprising water-mixing chambers arranged intermediate the successive groups and alternately at the top and bottom of the casing.



4. An apparatus of the kind described, comprising a casing forming a steam-chamber, water-tubes within said casing arranged in groups of segmental form about the center of the casing, a water-inlet chamber communicating with the lower ends of the tubes of the first groups, a water-mixing chamber communicating with the upper ends of the tubes of groups one and two, a water-mixing chamber communicating with the lower ends of group two and group three on the opposite side of the casing, and water-mixing chambers communicating successively with the upper and lower ends of the succeeding groups.

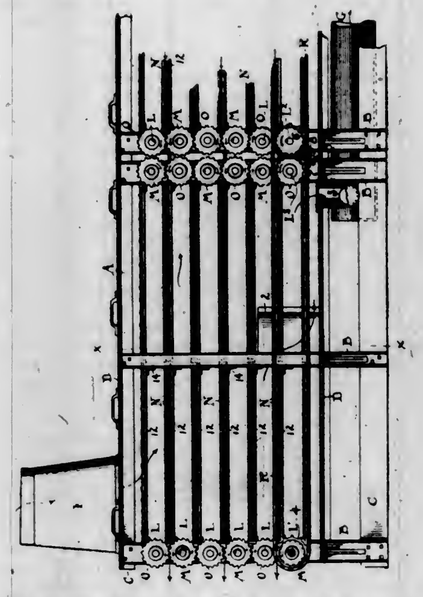
5. An apparatus of the kind described, comprising a casing forming a steam-chamber, water-tubes within said casing arranged in groups of segmental form about the center of the casing, a water-inlet chamber communicating with the lower ends of the tubes of the first group, a water-mixing chamber communicating with the upper ends of the tubes of groups one and two, a water-mixing chamber communicating with the lower ends of group two and group three on the opposite side of the casing, a water-mixing chamber communicating with the upper ends of said group three and group four adjacent thereto, a water-mixing chamber communicating with the lower ends of group four and group five on the opposite side of the casing, a water-mixing chamber communicating with the upper ends of said group five and group six adjacent thereto, and a water-outlet chamber communicating with the lower ends of said group six.

839,868. MACHINE FOR DRYING AND STRAIGHTENING VENEER. FRANK N. MOREY, Painesville, Ohio. Filed Mar. 23, 1906. Serial No. 307,621.

Claim.—1. A drying-chamber provided with opposite air distributing and exhaust spaces along its sides open their entire length and depth to the inside of the machine, and a series of endless carriers between said spaces, and an inlet for air to one space and an exhaust for the air open to the other space, whereby the drying-air is moved across the carriers from side to side.

2. A drying-chamber having endless drying-carriers adapted to travel lengthwise therein and provided with opposite air distributing and exhaust spaces, respectively, along its sides outside of said carriers, said spaces open to said carriers from top to bottom, and deflectors of varying elevation in the said air-distributing space.

3. A drying-chamber having a space along one side thereof and open from top to bottom on its inside for the distribution of drying-air to said chamber, and a full-depth space on its opposite side open from top to bottom to exhaust the air from said chamber, an inlet to said distributing-space and means in said space to deflect the air inward, and exhaust-flues at the bottom of said exhaust-space, whereby the drying-air is caused to travel transversely of said chamber.



4. A drying-chamber provided with a hot-air-distributing space along one side and an air-exhaust space along the other side and exhaust-flues opening into said exhaust-space to draw off the moisture-laden air, in combination with carriers exposed along their edges to both said spaces.

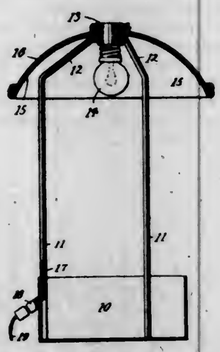
5. A veneer-drying chamber, in combination with sets of endless veneer-carriers arranged successively one to another and each set of carriers provided with its own carrying mechanism, said carriers in the same horizontal plane being arranged to travel in the same direction and means to bridge over from one carrier to the other, whereby veneer fed in at the head of the machine traverses a series of successive carriers to the tail of the machine.

6. A veneer-drying chamber having a succession of endless carriers one following the other in the same horizontal plane, said carriers comprising sprocket-chains and cross-slats at intervals thereon and sprocket-wheels carrying said chains, bridges for the veneer between the sprocket-wheels and carriers in adjacent sets and horizontal supports for said chains between the ends thereof.

7. In a veneer-drying machine, a series of endless carriers in a succession of sets following one another from one end to the other in the machine, and actuating and supporting mechanism for said carriers comprising a positively-engaged gear-wheel at one end and a loosely-mounted gear-wheel at the other end, and said positive and loose gears alternating in each series.

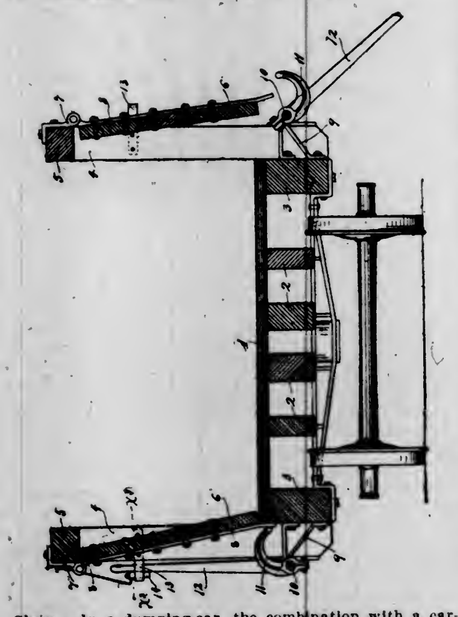
8. In a veneer-drier, a drying-chamber, in combination with a succession of separate sets of carriers arranged end to end and adapted to receive the veneer from set to set, bridges between carriers in the same plane and said carriers comprising endless chains and cross-slats, shafts and sprocket-wheels fixed thereon carrying said chains and alternate loose and fixed gears on said shafts from bottom to top in each set of carriers.

839,869. ELECTRIC LAMP. FREDERICK MUSCHENHEIM, New York, N. Y. Filed Sept. 8, 1906. Serial No. 333,752.



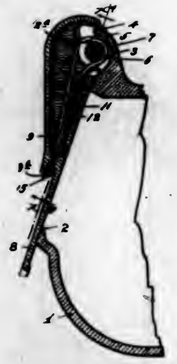
Claim.—An electric lamp composed of a cup-shaped base which is closed at the bottom and open at the top, a hollow post projecting upwardly therefrom and having an inwardly-bent upper end, an electric-lamp socket secured thereto, a reflector surrounding the socket, and electric-light wires within the post, substantially as specified.

839,870. DUMPING-CAR. ALVIN C. MCCORD, Chicago, Ill. Filed Sept. 1, 1904. Serial No. 222,912.



Claim.—In a dumping-car, the combination with a car-frame and a top-hinged door suspended therefrom, of a door-closing crank-shaft located below said door and outward of the doorway, said crank-shaft having at least one crank-arm that lies in a plane that intersects the axis of said crank-shaft at a right angle, and which crank-arm is so crooked that in all possible positions its intermediate portion will clear the lower edge of the door when the door hangs open under the influence of gravity, and the free end thereof will engage only with the outer surface of the depending free edge of said door, whereby when said crank-arm is moved against the door it will exert only a pressure tending to close the same, substantially as described.

839,871. CAR-AXLE-BOX LID. ALVIN C. MCCORD, Chicago, Ill. Filed July 5, 1906. Serial No. 324,738.



Claim.—1. The combination with a box and a lid hinged thereto, of opposing springs reacting against the central or intermediate portion of the lid and serving to cause the lid to swing into a closed position and to press said lid against the entire mouth or lid-seat of the box, substantially as described.

2. The combination with a box and a lid hinged thereto, of opposing springs loosely connected to the central or intermediate portion of the lid and arranged to swing with said lid, one of said springs being arranged to react against a base of reaction on the box and to move pivotally, and the other of said springs being arranged to react against another base of reaction on the box and to slide thereon, the said springs coöperating to impart a closing movement to the lid and to seat the lid against the entire mouth or lid-seat of the box, substantially as described.

3. The combination with a box having a hinge-lug and a hinge bolt or shaft, of a lid hinged to said box, and opposing leaf-springs reacting, the one against said hinge-bolt and the other against a thrust-surface on said thrust-lug, and which springs serve to impart closing movement to said lid, and to seat the same against the box, substantially as described.

4. The combination with a box having a hinge-lug and a hinge-bolt, of a lid hinged to said box, and opposing springs applied to the central portion of said lid, one of which springs reacts against said hinge-bolt and is pivoted thereon, and the other of which springs reacts against a thrust-surface on said thrust-lug, and which springs impart pivotal closing movement to said lid, and seat the same against the box, both at its upper and lower portions, substantially as described.

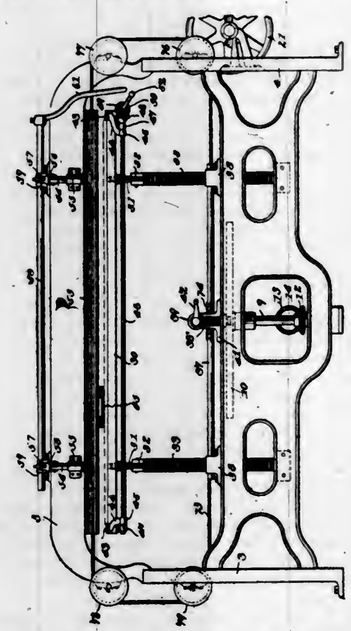
5. The combination with a box having a hinge-lug and a hinge-bolt, said lug having upper and lower thrust-surfaces, of a lid hinged to said box, and opposing leaf-springs applied to the central portion of said lid, one of which springs reacts against said hinge-bolt and is pivoted thereon, and the other of which springs is engageable with the upper of the thrust-surfaces of said hinge-lug to hold the lid in an open position, and is engageable with the lower of the thrust-surfaces of said lug, to impart pivotal closing movement to said lid, the said springs serving to seat the lid against the box, both at its upper and lower portions, substantially as described.

6. The combination with a car-axle box having laterally-spaced hinge-lugs and a hinge-bolt, of a lid having sleeve portions that surround the end portions of said hinge-bolt with clearance, and opposing leaf-springs applied to the central portion of said lid, certain of said springs having a curved end that engages the intermediate portion of said hinge-bolt, and certain other of said springs reacting against a thrust-surface of said hinge-lug, the said springs serving to impart pivotal closing movement to said lid and acting to seat said lid against the box, both at its upper and lower portions, substantially as described.

7. The combination with a box 1 having laterally-spaced hinge-lugs 3 formed with thrust-surfaces 4 and 5, of a hinge-bolt 6 projecting through said lugs, a lid 8 having sleeve portions 10 surrounding the projecting ends of said hinge-bolt with clearance, and an intermediate spring 12 and laterally-spaced springs 11 applied to the central portion of said lid, said spring 12 having a curved end 12^a that engages said hinge-bolt, and the said springs 11 pressing against said hinge-lugs and engageable with the thrust-surfaces 4 and 5 thereof, substantially as described.

8. The combination with an axle-box 1 having laterally-spaced hinge-lugs 3, said lugs having flattened thrust-surfaces 4 and 5, of a hinge-bolt 6 projected through said hinge-lugs, the lid 8 having the pocket 9 inclosing said hinge-lugs and having the sleeve portions 10 surrounding the end portions of said bolt with clearance, and the intermediate spring 12 and laterally-spaced springs 11, located within said pocket and applied to the central portion of said lid, said spring 12 having a curved end 12^a that engages said thrust-bolt, and said springs 11 reacting against said hinge-lugs and engageable with the thrust-surfaces 4 thereof to hold the lid open and engageable with the thrust-surfaces 5 thereof to impart pivotal closing movement to the lid, substantially as described.

839,872. SANDPAPERING AND POLISHING MACHINE. DAVID MCDOUGALL, Fall River, Mass. Filed Oct. 24, 1905. Serial No. 284,178.



Claim.—1. In a machine of the class described, the combination of a work-table, a guide, a reciprocatory rubbing element working upon the guide, a tension device capable of moving the guide away from the work-table, a hand-lever for moving the guide toward the work-table against the action of the tension device, and yielding means disposed between the hand-lever and the reciprocatory rubbing element so that the latter will be pressed yieldingly against the work-table.

2. In a machine of the class described, the combination of a work-table, a guide, a rubbing element working upon the guide, a tension device consisting of a counterbalance-weight capable of moving the guide away from the table, means for moving the guide toward the table against the action of the tension device, and yielding means disposed between the first-mentioned means and the rubbing element, said yielding means consisting of a spring mounted between the rubbing element and the guide.

3. In a machine of the class described, the combination with a frame, of a work-table, a rock-bar supported above the work-table in substantial parallelism therewith, crank-arms carried by the rock-bar, links hung from the crank-arms, an inverted substantially semitubular guide having an open bottom, stems rising from the guide and hung from the links, a guide upon the frame and engaging the stems, a tension device acting upon the rock-bar to hold the semitubular guide elevated, means for rocking the bar to raise and lower the semitubular guide, and a reciprocatory rubbing element working in the semitubular guide and exposed through the open bottom thereof to the work-table.

4. In a machine of the class described, the combination of a work-table, an inverted substantially semitubular guide having internal guideways, a slide working in the guideways, a stem slidably piercing the slide, a shoe carried by the stem, and a spring interposed between the shoe and the slide to yieldably project the latter through the open bottom of the guide.

5. In a machine of the class described, a substantially semitubular guide having an internal guideway, a reciprocating drive element working within the guide, a slide working in the guideway and connected to the drive element, and a rubbing-shoe carried by the slide and projected through the open side of the guide.

6. In a machine of the class described, a substantially semitubular guide having an internal guideway, a drive element working in the guide, a slide working in the guideway, a hooked bolt carried by the slide and embracing the drive element, and a rubbing-shoe carried by the slide and projecting through the open side of the guide.

7. In a machine of the class described, the combination with a reciprocatory rubbing element, of means for driving the same comprising a reciprocatory actuator carrying a pulley, and a cable having its ends fixed, the middle portion of the cable being connected to the rubbing element, and the portions of the cable between the rubbing element and its fixed ends embracing the pulley in opposite directions.

8. In a machine of the class described, the combination with a frame and a reciprocatory rubbing element, of a reciprocatory actuator having a pulley, guides upon the frame at opposite sides of the actuator, and a cable having its ends fixed to the frame, the middle portion of the cable being secured to the rubbing element, one portion of the cable extending away from the rubbing element to one of the guides and thence around the pulley to its point of connection with the frame, the other portion of the cable extending in the opposite direction from the rubbing element through the other guide and thence around the pulley in the opposite direction to its point of connection with the frame.

9. In a machine of the class described, the combination with a frame, of a reciprocatory rubbing element, a reciprocating actuator mounted below the rubbing element, guides upon opposite ends of the frame, a guide upon the actuator, and a cable having one end fixed to the frame from which it passes around the guide on the actuator to one of the guides on the frame and thence to the rubbing element, the other end of the cable being fixed to the other end of the frame from which is passes around the guide of the actuator in the opposite direction to the other guide on the frame and thence to the rubbing element.

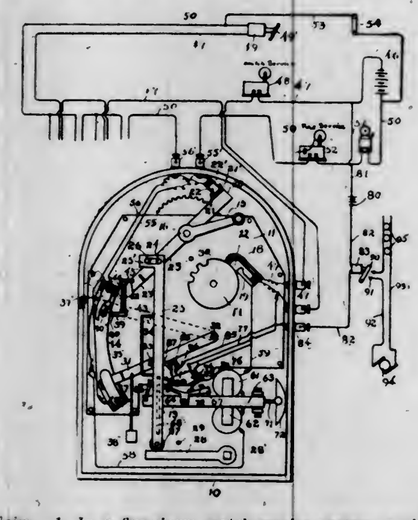
10. In a machine of the class described, the combination with a reciprocatory rubbing element, of a rotary drive element having a radial guideway, a reciprocatory actuator having a guideway transverse to its path of movement, a connecting element slidable in the two guideways, and a drive connection between the actuator and the rubbing element.

11. In a machine of the class described, the combination with a frame, of a reciprocatory rubbing element, a rotary drive element having a radial guideway, a pair of spaced guide-bars, a reciprocatory actuator having bearings slidably engaging the bars and also provided with a guideway transverse to the path of movement of the actuator, a con-

necting element slidable in the two guideways, and a connection between the actuator and the rubbing element.

12. In a machine of the class described, the combination with a frame and a reciprocatory rubbing element, of a rotary drive element having a radial guideway, a reciprocatory actuator provided with a guideway transverse to its path of movement, a connecting element slidable in the two guideways, a pulley mounted upon the actuator, guides at opposite ends of the frame, and a cable having one end fixed to one end of the frame from which it passes around the pulley back to said end of the frame and around the adjacent guide to the rubbing element, the other end of the cable being fixed to the other end of the frame from which it passes around the pulley in the opposite direction back to said other end of the frame and around the adjacent guide to the rubbing element.

839,873. FIRE-ALARM AND WATCH-SERVICE SYSTEM. JUDSON MCFELL, Chicago, Ill. Filed Dec. 12, 1905. Serial No. 291,479.



Claim.—1. In a fire-alarm watch-service system, a plurality of signal-receiving instruments, a transmitter adapted and arranged to transmit a watch-signal and to transmit a different signal for fire-alarms, and means for automatically connecting said transmitter with one signal-receiving instrument when transmitting a watch-signal, and with another signal-receiving instrument when transmitting a fire-signal.

2. In a fire-alarm and watch-service system, a plurality of signal-receiving instruments, a transmitter adapted and arranged for actuation to transmit a watch-signal and to transmit a different signal for fire-alarms, connections for establishing a circuit including the transmitter and certain of the signal-receiving instruments and excluding other signal-receiving instruments for watch-signaling purposes, and means for automatically varying the connections to include said excluded receiving instrument in a signaling-circuit with the transmitter when the transmitter is actuated to transmit a fire-alarm signal.

3. In a fire-alarm watch-service system, a plurality of signal-receiving instruments, a transmitter adapted to be actuated to transmit a watch-signal or a different fire-alarm signal, connection for establishing a normal circuit including said transmitter and excluding certain signal-receiving instruments, and means controlled by the transmitter for automatically varying the circuit connections to include said excluded signal-receiving instrument in a signal-circuit with the transmitter.

4. In a fire-alarm and watch-service system, a transmitter, signal-receiving instruments, a switch, and connections normally established by said switch including receiving instruments in signaling relation to the transmitter, open connections controlled by said switch, for connecting certain other signal-receiving instruments in signaling relation to the transmitter, means controlled by the transmitter for operating said switch.

5. In a fire-alarm and watch-service system, a signal-transmitter, a double-throw switch connected therewith for actuation thereby, a signal-receiving instrument arranged and adapted for connection in signaling-circuit relation with the transmitter when the switch is in normal position, and another signal-receiving instrument arranged and adapted for connection in signaling-circuit with the transmitter when the switch is thrown to opposite position by the actuation of the transmitter.

6. In a fire-alarm and watch-service system, a transmitter involving a motor, signaling devices, means for conditioning the motor for a certain amount of movement to transmit a short watch-signal, signaling devices for conditioning the motor for a greater amount of movement to transmit a long fire-alarm signal, a two-throw switch arranged to be functionally unaffected by the shorter movement of the motor, and to be functionally operated by the longer movement of the motor, two signal-receiving instruments, one normally having connection through the switch for signaling relation with the transmitter, and the other being arranged for signaling connection with the transmitter when the switch is actuated by the longer movement of the motor.

7. In a fire-alarm and watch-service system, a transmitter involving a motor, a means for conditioning the transmitter to transmit a watch-signal; another means for conditioning the transmitter to transmit a fire-alarm signal, two signal-receiving instruments, a switch for normally establishing signaling-circuit connections between the transmitter and one signal-receiving device, operable to establish circuit connections including the excluded signal-receiving device in signaling relation to the transmitter, and switch-controlling means operably associated with the means for conditioning the transmitter to transmit a fire-alarm signal, arranged to be functionally unaffected by the operation of the means for conditioning the transmitter to transmit a watch-signal.

8. In a fire-alarm and watch-service system, a signal-transmitter involving a motor, a switch-lever having lost-motion connection with the transmitter-motor, two signal-receiving devices one having normal circuit connections with the switch, when the switch is in normal position, for connection in a signaling-circuit with the transmitter, and the other having circuit connections with the normally open contacts of said switch, adapted to be closed by movement of said switch to establish a signaling-circuit including the last said signal-receiving instrument and the transmitter, means for conditioning the transmitter to transmit one signal without moving the motor and switch connection beyond the limits of the lost motion permitted therein, and means for conditioning the box to transmit another signal arranged to move the switch-lever to functionally operate the switch to vary the circuit connections.

9. In a fire-alarm and watch-service system, a central source of current-supply, line-wires extending from opposite sides thereof, a signal-transmitter providing means for automatically breaking one side of the line when active, said transmitter involving also a coacting pen and anvil, one connected with the unbroken side of the line, and the other adapted and arranged for connection through a suitable switch with the broken side of the line on either side of the break made in the transmitter, the switch, a signal-receiving instrument in the side of the line to be broken by the transmitter-switch, connections for shunting the break and said signaling-receiving instrument, whereby when the transmitter-switch is thrown to connect its signaling pen or anvil with the side of the broken line remote from the source of current-supply, a circuit may be established through the unbroken line the transmitter pen and contact, the switch and said shunt connection, to the exclusion of the said signal-receiving instrument, and a second signal-responsive instrument included in the signaling-circuit last described.

10. In a system of the character described, a source of current-supply, line-wires 47, 50, a circuit-breaking switch, a signal-transmitter controlling said switch, said transmitter comprising a motor, make-and-break devices, connection between one side of the make-and-break devices and the wire 47, connection between the other part of the make devices and the pole of a double-throw switch, said switch, operating connections between the arm of said switch and the transmitter-motor, connection between the opposite contacts of the said switch and opposite terminals of the line-breaking switch, a signal-receiving instrument in the side of the line adapted to be broken by the line-breaking switch, a shunt around the line-breaking switch and the signal-receiving instrument, and a second signal-receiving instrument, in a suitable part of the circuit established through said shunt.

11. In a system of the character described, a transmitter involving a motor, a double-throw switch 14, and lost-motion connections between a suitable part of the motor mechanism and the switch-lever, substantially as described.

12. In a system of the character described, a transmitter involving a motor, a double-throw switch comprising a switch-arm arranged to be moved by a motor part from normal to abnormal position, means for latching the switch-lever in said abnormal position, and means, controlled by the motor, for releasing said latching means.

13. In a system of the character described, a transmitter comprising a motor, a lever 23 associated with the motor part, a double-throw switch 14 comprising a switch-lever 31, lost-motion connection between the switch-lever 31 and lever 23, a latch 39 for latching the switch-lever in abnormal position, said latch being associated with one of the systems of parts movable with the lever 23, to automatically release the switch-lever 31 when lever 23 stands in normal position.

14. In a signaling system, a transmitter comprising circuit-interrupting devices and a motor therefor, a signaling-circuit, an electroresponsive device in the signaling-circuit, motor-stopping means for stopping and maintaining the motor against movement when otherwise conditioned for operation, said means being definitely timed in relation to the operation of the circuit-interrupting device, and movable to operative or inoperative position, and said means being controlled by the electroresponsive device.

15. In a signaling system a transmitter comprising circuit-interrupting devices, and a motor therefor, a signaling-circuit, means for maintaining the motor against movement when otherwise conditioned for operation, timed in relation to the circuit-interrupting devices to operate and stop the motor after a definite movement of the motor part, and an electroresponsive device, in the signaling-circuit controlling said motor-stopping means.

16. In a signaling system, a transmitter having a make-and-break device and a motor therefor, a signaling-circuit, electroresponsive means in said signaling-circuit, means associated with said electroresponsive device for preventing the running of the motor, said means being arranged to operate to prevent movement of the motor only after the maintenance of certain conditions in the electromagnet for a predetermined interval timed in relation to the operation of the motor.

17. In a signal system, a transmitter comprising a motor and circuit-interrupting devices, a signaling-circuit, an electromagnet in said circuit, a pawl carried by said electromagnet arranged when the armature is in one position for engagement with a part movable with the motor, said pawl being arranged for a limited degree of movement with the coacting moving member before stopping the motor.

18. In a system of the character described, a transmitter comprising a motor, circuit-interrupting devices, a signaling-circuit, an electromagnet in said circuit, a pawl associated with said armature for bodily movement thereby, arranged for limited movement in another plane, and a rack-rod arranged to be moved by the motor disposed for coaction with the pawl when the latter is bodily moved to one position by the armature of the electromagnet.

19. In a signal-transmitter a motor, a number-wheel driven thereby, make-and-break devices comprising an anvil, and a pen, said pen being composed of two leaves electrically continuous, and a normally charged circuit including the leaves of said pen in series therewith.

20. In a system of the character described, a primary circuit, signal-transmitters therein, a normally closed circuit including a high-resistance magnet, a switch controlled by the transmitter for opening said normally closed circuit, and a normally open annunciator-circuit controlled by the armature of said high-resistance magnet.

839,874. RAILWAY-TIE. NORMAN J. MCLEAN and ERNEST SWANSON, Bay City, Mich. Filed Apr. 30, 1906. Serial No. 314,445.



Claim.—1. A tie comprising a trough-shaped body portion, cushioning-blocks received in the trough, means for preventing movement of the blocks in one direction, removable plates for preventing movement of the blocks in the opposite direction, flanges on the plates and fastening means passing through the flanges and the walls of the trough for maintaining the plates in position.

2. A tie comprising a trough-shaped body portion, the bottom of which is arched, cushioning means received in the trough, means for preventing movement of the cushioning means toward each other, removable plates for preventing movement of the cushioning means away from each other, the lower edges of the plates being cut away to conform to the shape of the bottom of the trough and fastening means passing through the plates and the walls of the trough for retaining the plates in position.

3. A tie comprising a trough, the walls of which are inclined toward each other, cushioning-blocks received endwise in the trough between the walls, the blocks being in the shape of a truncated pyramid, stationary inclined plates secured within the trough against which the inner ends of the blocks bear, removable plates located at the outer ends of the blocks, and fastening means passing through the removable plates and the sides of the trough respectively to retain the plates in position.

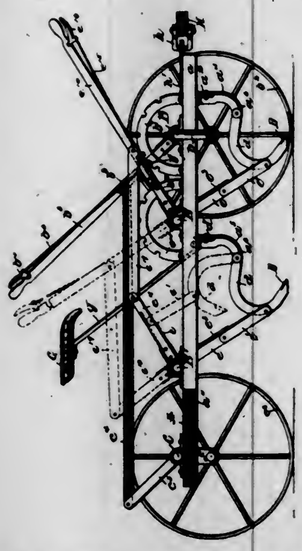
4. A tie comprising a metallic trough, cushioning-blocks received in the trough near the opposite ends thereof, removable plates for retaining the blocks against movement in one direction, the plates each provided with a tongue passing through an aperture in the trough, and fastening means passing through the plates and the sides of the trough respectively for retaining the plates in position.

5. A tie comprising a metallic trough, cushioning-blocks located near the opposite ends of the trough, removable plates for preventing movement of the blocks in one direction, apertured flanges on the plates, apertured lugs projecting from the walls of the trough, slotted fastening means passing through the plates and lugs, and wedge-shaped keys received in the slots, the keys engaging the lugs to hold the fastening means tightly in place.

6. A tie comprising a metallic trough, cushioning-blocks received therein, removable apertured plates for retaining the blocks in place, apertured downwardly-inclined lugs projecting from the walls of the trough and fastening means passing through the plates and lugs.

7. A tie comprising a metallic trough, cushioning-blocks received therein, removable apertured plates for retaining the blocks in place, apertured lugs projecting from the walls of the trough and fastening means passing through the plates and lugs.

839,875. WEEDER. ALEXANDER MCRAE, Pendleton, Oreg. Filed Apr. 21, 1906. Serial No. 313,077.



Claim.—1. A weeder, comprising a frame, a shaft, having cranked ends journaled transversely of the frame at the front thereof, wheels on the ends of the shaft, a lever secured to the shaft and projecting upwardly therefrom, means for retaining the shaft in its adjusted position, spaced cross-bars at the center of the frame and projecting rearwardly therefrom, a shaft having spaced crank-arms journaled on said projecting ends, a wheel journaled in the crank-arms, an upwardly-projecting arm secured to the shaft, a link connecting said arm with the lever, a plurality of spaced series of brackets having rearwardly-bent ends depending from the frame, rearwardly-arched arms pivoted by one end to the ends of the brackets, a blade connecting the arms on each series of brackets, and means for manipulating the arms to raise and lower the blades, comprising shafts journaled on the frame at the rear of each series of brackets, a plurality of downwardly-projecting arms secured to each of the shafts, links connecting the arms to the arched arm adjacent thereto, a plurality of levers on the forward shaft, one of said levers being fixed thereto and the other journaled thereupon, means for retaining the levers in their adjusted position, an arm fixed to the rear shaft, and a link connecting said arm with said last-named lever.

2. A weeder comprising a frame, wheels for supporting said frame, means for adjusting the frame with respect to the wheels, a plurality of spaced series of brackets having rearwardly-bent free ends depending from the frame, rearwardly-arched arms pivoted to the brackets, blades connecting the free ends of the arched arms of each series, shafts having depending arms secured thereto journaled on the frame at the rear of each series of brackets, links connecting the depending arms with the rearwardly-arched arms, means for independently rotating said shafts whereby to adjust the blades, and means for retaining the blades in their adjusted position.

3. A weeder comprising a frame, wheels for supporting the frame, means for adjusting the frame with respect to the wheels, a plurality of spaced series of brackets having rearwardly-bent free ends depending from the frame, rearwardly-arched arms pivoted to the free ends of the brackets, blades connecting the free ends of the arched arms of each series, means for independently adjusting the blades, and means for retaining said blades in their adjusted position.

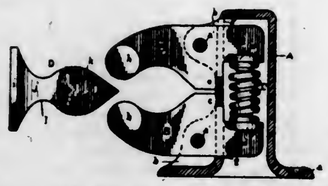
4. A weeder comprising a frame, means for supporting the frame, means for adjusting the frame with respect to the supporting means, a plurality of spaced series of brackets depending from the frame, rearwardly-arched arms pivoted to the brackets, a blade connecting the free ends of the arms of each series, and means for independently adjusting the blades.

5. A weeder comprising a frame, means for supporting the frame, means for adjusting the frame with respect to the supporting means, a plurality of spaced transverse series of brackets depending from the frame, blades arranged transversely of the frame and supported by the brackets, and means for independently swinging said blades on said brackets.

6. A weeder comprising a frame, means for supporting the frame, means for adjusting the frame with respect to the cutting means, a plurality of cutting-blades supported below the frame and extending the full width thereof, and means for independently adjusting the blades into and out of cutting position.

7. A weeder comprising a frame, means for supporting the frame, a plurality of cutting-blades, supported below the frame, and extending the full width thereof, and means for independently swinging said blades into and out of cutting position.

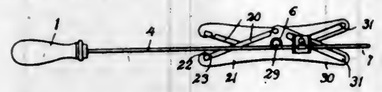
839,876. DOOR-HOLDER FIXTURE. JOHN S. NAERY, La Fayette, Ind. Filed Oct. 14, 1905. Serial No. 282,828.



Claim.—1. In a door-holder fixture, a holder comprising a base-plate; a hollow cylindrical body connected therewith; a plurality of ears or extensions projecting from the vertical wall of said body and arranged in pairs at or near each end thereof, a pair of reciprocating arms pivoted to said ears or extensions; one of said arms being mounted between each pair thereof, a coiled spring located within the said hollow body between the inner ends of said reciprocating arms and operating to force the outer ends thereof toward each other, in combination with a retaining device consisting of a base-plate and an arm projecting therefrom having an enlarged head and contracted neck adapted to receive the outer ends of said arms, substantially as and for the purpose set forth.

2. In a door-holder fixture; in combination, a hollow cylindrical body, a plurality of ears or extensions projecting from the vertical wall of said body and arranged in pairs at or near the ends thereof, a pair of reciprocating arms pivoted to said ears or extensions; one of said arms being mounted between each pair thereof and each arm being provided with a stop adapted to engage said body to limit the inward movement of the arm; and a horizontal extension which projects into the hollow of said body, a coiled spring located within said body between said horizontal extensions and which exerts pressure thereagainst and forces the outer ends of said arms toward each other, means for securing said hollow body to a suitable support, and a retaining device adapted to be secured to a support and to engage said inner ends of said reciprocating arms, substantially as and for the purpose set forth.

839,877. KNIFE-SHARPENER. BENJAMIN NICHOLS, Seattle, Wash. Filed June 3, 1905. Serial No. 263,512.

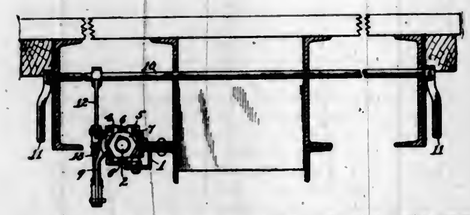


Claim.—1. The combination with a longitudinally-extended handle designed to be grasped in one hand and to be held in a direction pointing away from the user's body, of a pair of sharpener-blades pivoted together to the outer portion of the handle extension; the intersection of said blades being substantially coincident with the upper side of said extended handle; whereby a knife held in the other hand of the user and drawn along said extended handle is brought into engagement with said blades and correctly sharpened thereby.

2. The combination with a holding member including a longitudinally-extended stem, a pair of sharpener-holders pivoted to said stem, each having an oblique slot, a pin entering both said slots, and a spring-clip holding said pin and loosely penetrated by said stem; said clip being disposed to grip said stem when free to separate.

3. The combination of the handle, a wire stem projecting therefrom and having an eye, a pintle held by said eye, a pair of sharpener-holders pivoted upon said pintle, each having an oblique slot in its tail end, sharpener-blades carried by said holders and disposed to cross each other at an acute angle, a pin entering both said slots, and a spring-clip supporting said pin and penetrated by said stem.

839,878. DEVICE FOR OPERATING TRAIN-PIPE COCKS. NICHOLAS F. NIEDERLANDER, St. Louis, Mo., assignor to Westinghouse Automatic Air & Steam Coupler Company, East St. Louis, Ill., a Corporation of Illinois. Filed Apr. 6, 1904. Serial No. 201,814.



Claim.—1. A device for operating train-pipe cocks, comprising a bracket secured to the car-frame, a clamp supported upon said bracket and holding the cock-casing, a cock-lever movable in a vertical plane, and means extending from the side of the car for operating said lever.

2. A device for operating train-pipe cocks, comprising a bracket secured to the car-frame, a clamp supported upon said bracket and holding the cock-casing, a cock-lever movable in a vertical plane, a rock-shaft extending from the side of the car, and connections from said shaft to said cock-lever.

3. A device for operating train-pipe cocks, comprising a bracket secured to the car-frame, a clamp supported upon said bracket and holding the cock-casing, a cock-lever movable in a vertical plane, a rock-shaft extending from the side of the car, an arm mounted on said shaft in substantially the same plane with the cock-lever, and a rod connecting said arm with the cock-lever.

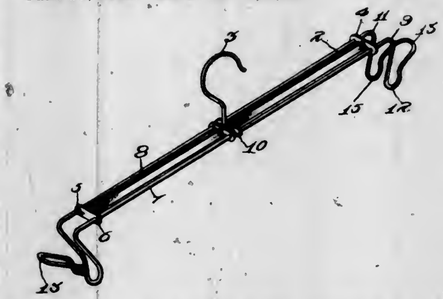
4. A device for operating train-pipe cocks, comprising a horizontally-located stop-cock with a vertically-movable lever, and means extending from the side of the car for operating said lever to open and close the cock.

5. A device for operating train-pipe cocks, comprising a horizontally-located stop-cock with a vertically-movable lever, and a transverse rock-shaft having an arm positively connected to said lever.

6. The combination with a train-pipe and a cock located therein, of a transverse rock-shaft extending from the side of the car, and means operated by said rock-shaft for opening said cock.

7. The combination with a train-pipe and a cock located therein, of a transverse rock-shaft extending from the side of the car, and a positive mechanical connection between said rock-shaft and the cock-lever for opening and closing said cock.

839,879. GARMENT-HANGER. TIMOTHY F. O'CONNELL, Chicago, Ill., assignor to Tilden-Thurber Company, Providence, R. I., a Corporation of Rhode Island. Filed June 19, 1905. Serial No. 265,882.



Claim.—1. In a garment-hanger, a suspensive attachment in fixed relation to a central member; independently-movable, non-detachable members slidable upon said central member, each of said independently-movable members comprising two leg members; two respective ends thereof, having no relative movement; the opposite ends thereof having limited relative movement proportionate to the sliding movement of the member.

2. In a garment-hanger, a central member, with suspensive attachment in fixed relation thereto, a pair of members slidable thereon and protected against removal therefrom, each of said members having two leg portions secured against relative lateral movement at one end, and flexibly connected at the other end.

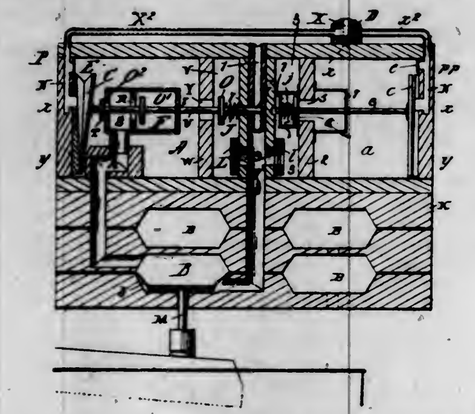
839,880. AUTOMATIC MECHANISM FOR PLAYING MUSICAL INSTRUMENTS. ALLAN E. OLNEY, Pittsfield, Mass. Filed July 28, 1900. Renewed Feb. 7, 1905. Serial No. 244,556.

Claim.—1. In a pneumatic action for automatic musical instruments, the combination of a series of air-ducts individual to respectively corresponding notes, each duct having a plurality of terminal orifices, and a valve which is adapted to vary the area of one of the terminal orifices of each said duct, and means actuated through the instrumentality of each said duct to produce a musical note.

2. In a pneumatic action for automatic musical instruments, the combination of a series of air-ducts, individual to respectively corresponding notes, each duct having a plurality of terminal orifices, and separate valves which are adapted to vary the areas of the terminal orifices of each said duct, and means actuated through the instrumentalities of each said duct to produce a musical note.

3. In a pneumatic action for automatic instruments the combination with two series of air channels or chambers V and 3 pairs of which are individual to respectively cor-

responding notes, and a passage N' in common to both said channels of a pair, and means whereby said passage N' may have variably free communication with the different ones of said channels V and 3, of means actuated through the instrumentality of said passage to produce a musical note, and automatic means for establishing pneumatic actions in said channels V and for also, concurrently therewith, establishing pneumatic actions in the channels 3.



4. In an automatic mechanism for playing a musical instrument, two suction-chambers in common to two sets of individual valve-operating mechanism, a tracker-board, provided with paired or grouped sets of openings each group corresponding to one note in the scale, a pneumatic in each suction-chamber, individual to each note, in communication with a respective tracker-board opening and having by a restricted opening a communication with its suction-chamber, an individual diaphragm-chamber corresponding to a given note and diaphragm, an individual duct adapted to have through valved openings communications from both of said suction-chambers with the diaphragm-chamber, individual valves, controlling communication between both suction-chambers and said individual duct, which valves are in relation to their corresponding pneumatics to be operated thereby, to open such valves, means for varying the freedom of communication between the suction-chambers and said ducts, a thrust member, operated by the diaphragm, and means for effecting the recovery of the diaphragm.

5. In a mechanism for automatically playing a musical instrument, a series of note-sounding thrust members, and diaphragms in chambers therefor, controlling said members a duct leading to each diaphragm-chamber, pneumatic apparatus comprising a chamber, with valved passages communicating with said ducts, a secondary chamber having also communication with said ducts, and automatic means for opening communication between the primary chamber and said ducts, and concurrently therewith, as required, communication between the secondary chamber and said ducts, for the purpose set forth.

6. In an automatic mechanism for playing a musical instrument, a common suction-chamber, a tracker-board provided with an opening corresponding to each note in the scale, and a pneumatic individual to each note in communication with a respective tracker-board opening and having by a restricted opening a communication with the suction-chamber, an individual diaphragm-chamber and diaphragm, an individual duct having by a valved opening a communication from the suction-chamber to the diaphragm-chamber, an individual valve, controlling communication between the suction-chamber and said duct, which valve is in relation to its corresponding pneumatic to be operated thereby, to open such valve, means for closing the valve, a thrust member, operated by the diaphragm, an individual channel or way leading to the diaphragm-chamber at the opposite side of the diaphragm from the entrance of said duct, and having ports which communicate both with the suction-chamber and the outer air and valves concurrently operated by the corresponding individual pneumatic for closing communication between said way and the suction-chamber, opening it to the air, and for reversing said relations, for the purpose set forth.

7. In an automatic mechanism for playing a musical instrument, a common suction-chamber, a tracker-board provided with a series of paired openings each pair corresponding to a note in the scale, and a pneumatic individual to each note in communication with a respective tracker-board opening and having by a restricted opening a communication with the suction-chamber, an individual diaphragm-chamber corresponding to each note, and diaphragm therein, an individual duct having by a valved opening a communication with the suction and diaphragm chambers, an individual valve, controlling communication between the suction-chamber and said duct, which valve is in relation to its corresponding pneumatic to be operated thereby, to open such valve, means for closing the valve, a thrust member, operated by the diaphragm, and a secondary common suction-chamber having respective communications with the above ducts, valves for opening and closing such communications, pneumatics, controlling said valves operated, from the tracker-board, and means for regulating the degree of freedom of communication between said ducts and said suction-chambers.

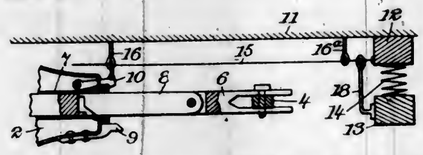
8. In a pneumatic mechanism for playing a musical instrument the combination with a tracker-board having individual note-apertures, a common suction-chamber A, a common air-chamber F inclosed within the suction-chamber a series of individual diaphragm-chambers B corresponding to individual notes, a series of pneumatics in said suction-chamber which have connections with the tracker-board openings, and restrictedly with the suction-chamber, the series of individual channels V having ports Y opening to the suction-chamber, and communicating with a diaphragm-chamber under the diaphragm therein, the serial individual channels or chambers S, communicating with the diaphragm-chambers above their diaphragms, a valve-stem U for each note operated by a respective one of said pneumatics and having the valves O, O' and O^2, for simultaneously opening port Y, and closing chamber S from the suction-chamber, and opening it to the air-chamber F, and self-retracting means for the valve-stem.

9. In an automatic mechanism for playing a musical instrument, the combination with an apertured tracker-board, a common suction-chamber, a series of diaphragm-chambers B with diaphragms therein, a series of individual ducts leading to the chambers B below the diaphragms therein, and connecting-channels V having ports opening to the suction-chamber, a common air-chamber F, individual chambers S with ports opening to both the common suction and air chambers, passages *h* leading from the chambers S to the chambers B above the diaphragms, a series of pneumatics in communication with the tracker-board apertures and restrictedly with the suction-chamber, a valve-stem actuated by the pneumatics having the valves O O' and O^2, operative on the expansion of their corresponding pneumatic to open a channel V to the suction-chamber and a chamber S to the air-chamber closing the latter from the suction-chamber and a series of passages *l* communicating from the outer air to below the diaphragm, and a valve operated by the pneumatic to close said air-passage when the lower portion of chamber B is in communication with the suction-chamber.

10. In a device of the character described, the combination of mechanism for striking the theme-notes and the accompaniment-notes distinctly as such, independently of the relative position of said notes in the musical scale, and means, controllable at will, while the device is in action, for gradually changing the expression of said theme-notes as a whole independently of said accompaniment-notes, so as to give the operator complete control at all times over the volume of sound of said theme-notes independently of their relative position in the musical scale.

11. In a device of the character described, the combination of means for selectively striking the accented notes and the unaccented notes distinctively as such, independently of the relative positions of said notes in the musical scale, and separate mechanisms, controllable at will during the operation of the device, for gradually changing the expression of said accented notes as a whole and of said unaccented notes as a whole, independently of said relative positions of said notes in said musical scale.

839,881. AUTOMATIC AIR-BRAKE. AUGUSTUS PARKER-SMITH, New York, N. Y., assignor, by mesne assignments, to Sauvage Safety Brake Company, a Corporation of New Jersey. Filed Apr. 23, 1906. Serial No. 313,116.



Claim.—1. In a fluid-pressure brake system for railroad-cars, the combination with the brake-rigging, the main cylinder and piston, of a second cylinder and piston and mechanism by which the thrust of said second piston may be transmitted to the brake-rigging, means for positively withholding the second piston from movement, and mechanism by which said means may be thrown into or out of action.

2. In a fluid-pressure brake system for railroad-cars, the combination with the brake-rigging, the main cylinder and piston, of a second cylinder and piston and mechanism by which the thrust of said second piston may be transmitted to the brake-rigging, means for positively withholding the second piston from movement, and mechanism by which said means may be thrown into or out of action, together with connections through which said mechanism is operated by the load on the car.

3. In a fluid-pressure brake system for railroad-cars, the combination with the brake-rigging, the main cylinder and piston, of a second cylinder and piston and mechanism by which the thrust of said second piston may be transmitted to the brake-rigging, a locking device for positively withholding the second piston from movement, and mechanism by which said locking device may be thrown into or out of action.

4. In a fluid-pressure brake system for railroad-cars, the combination with the brake-rigging, the main cylinder and piston, of a second cylinder and piston and mechanism by which the thrust of said second piston may be transmitted to the brake-rigging, a locking device for positively withholding the second piston from movement, and mechanism by which said locking device may be thrown into or out of action, together with connections from said locking device to the car-springs by which the locking device is thrown out of action when the springs are depressed, and into action when the springs are expanded.

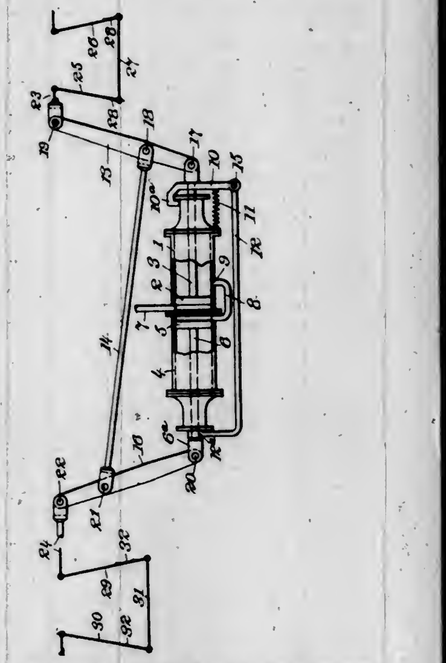
5. In a fluid-pressure brake system for railway-cars, the combination with the brake-rigging, the main cylinder and piston, of a second cylinder, and piston and telescoping piston-rod by which the thrust of said second piston may be transmitted to the brake-rigging in aid of the first piston, but the first piston may move independently of the second piston, a locking-hook pivoted on the second cylinder and adapted to normally engage the second piston, and means operated by the load on the car to lift said hook out of such engagement and free the piston.

6. In a fluid-pressure brake system for railway-cars, the combination with the brake-rigging, the main cylinder and piston, of a second cylinder, and piston and telescoping piston-rod by which the thrust of said second piston may be transmitted to the brake-rigging in aid of the first piston, but the first piston may move independently of the second piston, a locking-hook pivoted on the second cylinder and adapted to normally engage the second piston, and means operated by the load on the car to lift said hook out of such engagement and free the piston, said means comprising conecting mechanism attached to the car-body and extending to the car-truck.

7. In a fluid-pressure brake system for railway-cars, the combination with the brake-rigging, the main cylinder and piston, of a second cylinder, and piston and telescoping piston-rod by which the thrust of said second piston may be transmitted to the brake-rigging in aid of the first piston, but the first piston may move independently of the second piston, a locking-hook provided with a series of projections of different lengths adapted to engage and limit the travel of the second piston, and means operated by the load on the car to lift said hook to varying gears of disengagement with said second piston.

8. In a fluid-pressure brake system for railroad-cars, the combination with the brake-rigging, the main cylinder and piston, of a second cylinder and piston and mechanism by which the thrust of said second piston may be transmitted to the brake-rigging, and means for positively graduating the movement of the second piston.

839,882. FLUID-PRESSURE BRAKE. AUGUSTUS PARKER-SMITH, New York, N. Y., assignor, by mesne assignments, to Sauvage Safety Brake Company, a Corporation of New Jersey. Filed July 16, 1906. Serial No. 326,383.



Claim.—1. In a fluid-pressure brake apparatus, the combination of two cylinders, pistons and piston-rods, means for causing said pistons to move successively, in opposite directions, two brake-levers of equal length having their inner ends pivoted to the respective piston-rods, a tie-rod pivoted to the brake-levers, the connection to the brake-lever pivoted to the piston-rod first given motion being nearer to the piston-rod pivot than the connection to the other brake-lever is to its piston-rod pivot, and a system of levers and rods extending from the outer ends of the brake-levers to the brake-shoes.

2. In a fluid-pressure brake apparatus, the combination with a connected system of levers and rods, of two cylinders, pistons and piston-rods, means for causing said pistons to move successively in opposite directions, two brake-levers having their inner ends pivoted to the respective piston-rods, and a tie-rod connecting said brake-levers at points dividing them into oppositely-disposed unequal lever-arms.

3. In a fluid-pressure brake apparatus, the combination with a system of connected levers and rods, of two cylinders, pistons and piston-rods, means for causing said piston-rods to move successively in opposite directions, two portions of the brake system and a tie-rod connecting the brake-levers at points which form two unequal leverage systems, the lever producing the greater multiplication of piston thrust being connected to the piston-rod which last begins to move.

4. In a fluid-pressure brake apparatus, the combination with a system of connected levers and rods, of two cylinders, pistons and piston-rods, means for causing said piston-rods to move successively in opposite directions, two brake-levers connecting said piston-rods with the other portions of the brake system and a tie-rod connecting the brake-levers at points which form two unequal leverage systems, the lever producing the greater multiplication of piston thrust being connected to the piston-rod which last begins to move, together with means for equalizing the brake-shoe pressures.

5. In a fluid-pressure brake apparatus, the combination with a system of connected levers and rods, of two cylinders, pistons and piston-rods, means for causing said piston-rods to move successively in opposite directions, two brake-levers connecting said piston-rods with the other portions of the brake system and a tie-rod connecting the brake-levers at points which form two unequal leverage systems, the lever producing the greater multiplication of piston thrust being connected to the piston-rod which last begins to move, together with means for equalizing the brake-shoe pressures, said last-mentioned means comprising a subsidiary lever inserted in the top rod on the side producing the lesser multiplication of piston thrust.

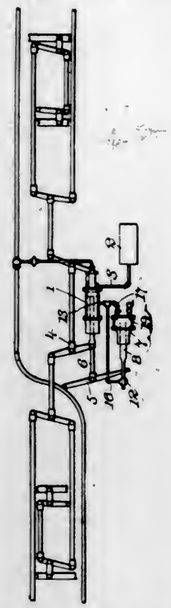
6. In a fluid-pressure brake apparatus, the combination of two cylinders of the same diameter placed back to back and provided with pistons and piston-rods, means for causing movement of the second piston only after movement of the first piston has begun, two brake-levers of equal length having their inner ends pivoted respectively to the two piston-rods, and a tie-rod pivoted to the brake-lever connected to the first piston at a point near the inner end, and pivoted to the other brake-lever at a point nearer its outer end.

7. In a fluid-pressure brake apparatus, the combination of two cylinders of the same diameter placed back to back and provided with pistons and piston-rods, means for causing movement of the first piston has begun, two brake-levers of equal length having their inner ends pivoted respectively to the two piston-rods, and a tie-rod pivoted to the brake-lever connected to the first piston at a point near the inner end, and pivoted to the other brake-lever at a point nearer its outer end, together with a system of connected levers and rods extending from the outer ends of the brake-levers to the brake-shoes, and means for equalizing the brake-shoe pressures.

8. In a fluid-pressure brake apparatus, the combination of two cylinders of the same diameter placed back to back and provided with pistons and piston-rods, means for causing movement of the second piston only after movement of the first piston has begun, two brake-levers of equal length having their inner ends pivoted respectively to the two piston-rods, and a tie-rod pivoted to the brake-lever connected to the first piston at a point near the inner end, and pivoted to the other brake-lever at a point near its outer end, together with a system of connected levers and rods extending from the outer ends of the brake-levers to the brake-shoes, and means for equalizing the brake-shoe pressures, said means comprising a multiplying-lever system inserted in the top rod on the side of the first cylinder.

9. In a fluid-pressure brake apparatus, the combination of two cylinders of the same diameter placed back to back and provided with pistons and piston-rods, means for causing movement of the second piston only after movement of the first piston has begun, two brake-levers having their inner ends pivoted respectively to the two piston-rods, a tie-rod connected to the lever on the side of the first cylinder at a point one-third of the distance from the inner to the outer end of that lever, and to the other lever at a point two-thirds of the distance from its inner to its outer end, a system of connected levers and rods extending from the outer ends of the brake-levers to the brake-shoes, a chain connected at one end to the outer end of the brake-lever on the side of the first cylinder and at the other end to the car-body, and a pulley inserted in the bight of said chain and having its journals connected to the live lever on the truck at that end of the car.

839,883. FLUID-PRESSURE BRAKE. AUGUSTUS PARKER-SMITH, New York, N. Y., assignor, by mesne assignments, to Sauvage Safety Brake Company, a Corporation of New Jersey. Filed July 16, 1906. Serial No. 326,384.



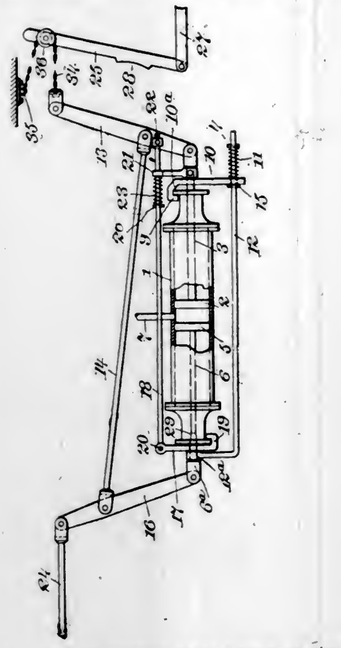
Claim.—1. In a fluid-pressure brake system employing two cylinders, the second piston of which is brought into action after the movement of the first piston has begun, the combination of a member moving with the first piston adapted to engage with or be disengaged from the second piston, fluid-pressure apparatus for effecting such engagement and disengagement, and means for introducing fluid under pressure into said apparatus simultaneously with its introduction into the second cylinder.

2. In a fluid-pressure brake system employing two cylinders, the second piston of which is brought into action after the movement of the first piston has begun, the combination of a lever having a fixed pivot, connected to the first piston-rod and extending across the path of the second piston-rod, means whereby the second piston-rod may engage the lever, a fluid-pressure device for effecting said engagement, and a pipe extending from the same to the source of supply of fluid to the second cylinder.

3. In a fluid-pressure brake system employing two cylinders, the second piston of which is brought into action after the movement of the first piston has begun, the combination of a lever having a fixed pivot, connected to the first piston-rod and extending across the path of the second piston-rod, a projection on said second piston-rod adapted to engage the lever when it is bent down upon it, a small cylinder and piston arranged to bend the second piston-rod, and a pipe leading from said small cylinder to the supply-pipe for the second cylinder.

4. In a fluid-pressure brake system employing two cylinders, the second piston of which is brought into action after the movement of the first piston has begun, the combination of means for connecting and disconnecting the second piston with the brake-rigging, a pneumatic cylinder and piston for actuating said means, and connections from said pneumatic cylinder to the second brake-cylinder.

839,884. FLUID-PRESSURE BRAKE. AUGUSTUS PARKER-SMITH, New York, N. Y., assignor, by mesne assignments, to Sauvage Safety Brake Company, a Corporation of New Jersey. Filed July 16, 1906. Serial No. 326,385.



Claim.—1. In a fluid-pressure brake apparatus, the combination of a cylinder open at both ends, an inlet-opening in the side thereof, two pistons located one on each side of the inlet, two piston-rods, brake-levers pivoted thereto and adapted to multiply the force of the second piston more than that of the first piston, a gripping device engaging the first piston-rod and permitting it to move outwardly but normally preventing it from moving inwardly, connections by which said gripping device is tripped when the second piston is in its inmost position, a second gripping device engaging the second piston-rod permitting the same to move inwardly but normally preventing it from moving outwardly, and connections by which the second gripping device is tripped when the first piston reaches a predetermined limit of outward travel.

2. In a fluid-pressure brake apparatus, the combination of a cylinder open at both ends, an inlet-opening in the side thereof, two pistons located one on each side of the inlet, two piston-rods, brake-levers pivoted thereto and adapted to multiply the force of the second piston more than that of the first piston, a gripping device engaging the first piston-rod and permitting it to move outwardly but normally preventing it from moving inwardly, connections by which said gripping device is tripped when the second piston is in its inmost position, a second gripping device engaging the second piston-rod permitting the same to move inwardly but normally preventing it from moving outwardly, and connections by which the second gripping device is tripped when the first piston reaches a predetermined limit of outward travel, said gripping devices comprising clutch-dogs pivoted on the cylinder-heads, the dog engaging the first piston-rod having its free end connected to a tappet-rod whose other end is yoked over the second piston-rod, and the dog engaging the second piston-rod having its free end connected to a second tappet-rod whose other end has a lost-motion connection with the first piston-rod.

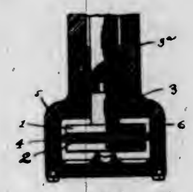
3. In a fluid-pressure brake apparatus, the combination of a cylinder open at both ends, an inlet-opening in the side thereof, two pistons located one at each side of the inlet, two piston-rods, brake-levers pivoted thereto and adapted to multiply the force of the second piston more than that of the first piston, a gripping device engaging the first piston-rod and permitting it to move outwardly but normally preventing it from moving inwardly, connections by which said gripping device is tripped when the second piston is in its inmost position, a second gripping device engaging the second piston-rod permitting the same to move inwardly but normally preventing it from moving outwardly, and connections by which the second gripping device is tripped when the first piston reaches a predetermined limit of outward travel, the second piston-rod having that portion within the gripping device after the piston has started on its outward stroke of such form as to pass freely through said gripping device.

4. In a fluid-pressure brake apparatus, the combination of a cylinder open at both ends, an inlet-opening in the side thereof, two pistons located one on each side of the inlet, two piston-rods, brake-levers pivoted thereto and adapted to multiply the force of the second piston more than that of the first piston and means for permitting motion of the second piston only after the motion of the first piston is completed.

5. In a fluid-pressure brake apparatus, the combination of the cylinder, piston and piston-rod, a friction-clutch grasping said piston-rod when the piston is near its inmost position, means for tripping said clutch, and means preventing it from gripping the piston-rod after the piston has traveled a short distance on its outstroke.

6. In a fluid-pressure brake apparatus, the combination of the cylinder, piston and piston-rod, a friction-clutch grasping said piston-rod when the piston is near its inmost position, a means for tripping said clutch, the piston being partly cut away inside of the point at which the clutch grips it when the piston is at its inmost position.

839,885. THRUST-BEARING. THOMAS S. PATTERSON, Philadelphia, Pa., assignor, by mesne assignments, to The Oil and Waste Saving Machine Company, a Corporation of Pennsylvania. Filed May 4, 1905. Serial No. 258,851.



Claim.—1. In a thrust-bearing, the combination with two bearing-plates, spaced apart, of two retaining-plates disposed between the bearing-plates, securing devices connecting the retaining-plates and maintaining them spaced apart, said retaining-plates having alined openings, and balls located between the retaining-plates, said balls projecting slightly through the openings in the retaining-plates and engaging the bearing-plates.

2. In a thrust-bearing, the combination with two bearing-plates spaced apart, of two retaining-plates located between the bearing-plates, said retaining-plates spaced apart, fastening devices passing from one retaining-plate to the other and holding them fixed relatively to each other, each of said retaining-plates having a number of irregularly-arranged openings and the openings of one retaining-plate disposed in line with the openings of the other retaining-plate, and balls located between the retaining-plates, said balls projecting slightly through the open-

ings of the retaining-plates and engaging the bearing-plates, each ball having a circular path against the bearing-plates out of line with and independent of the circular paths of the other balls.

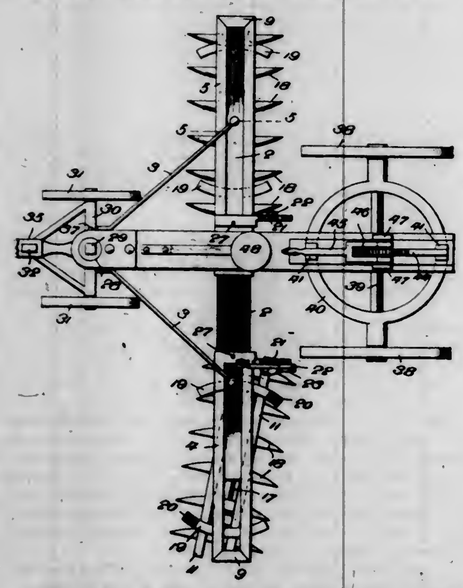
3. In a thrust-bearing, the combination with a casing and bearing-plates therein, of retaining-plates disposed between the bearing-plates, said retaining-plates being greater in diameter than the bearing-plates and having slight contact at their peripheral edges with the annular wall of the casing, and rolling bodies carried by said retaining-plates and engaging the bearing-plates.

839,886. SAFETY RUBBER HEEL. ELBERT G. PERKINS, Vallejo, Cal., assignor of one-half to A. R. Polsky, Vallejo, Cal. Filed July 10, 1906. Serial No. 325,450.



Claim.—A shoe-bottom provided with a plurality of rigid studs suitably arranged therein, their lower ends extending downward to terminate in substantially the same plane as the lowermost surface of the shoe and being sufficiently small to prevent slipping by their engagement with the surface upon which the shoe rests, and the lowermost surface of the shoe having shallow concavities around the lower ends of the respective studs, substantially as described.

839,887. HARROW. EUGENE H. PETERS, Benton Harbor, Mich. Filed May 29, 1906. Serial No. 319,374.



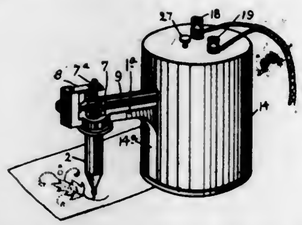
Claim.—1. A harrow of the class described comprising a frame or body portion, a transverse bar rigid with said body portion, channeled frames telescopically mounted on said bar, auxiliary frames below said channeled frames, plates on said channeled and auxiliary frames having registering bores, bolts disposed through said bores to rotatably secure said auxiliary frames to said channeled frames, a plurality of disks carried by said auxiliary frames and means carried by the channeled frames to vary the path of said disks.

2. In a harrow of the class described, the combination with a frame having a plurality of cutting-disks secured thereto; of supporting means for the rear end of said frame comprising an axle, wheels secured to said axle, a circular frame on said axle, upwardly-extending bars carried by said circular frame and extending through said first-mentioned frame, a cross-head connecting the upper ends of said bars, a rack-bar on said cross-head, a bifurcated lever pivoted to said cross-head and having means to coöperate with said rack-bar, right-angled extensions rigid with said bifurcated ends, a substantially U-shaped link disposed between the first-mentioned frame and said right-angled extension to raise and lower said frame.

3. A harrow of the class described comprising a frame, a bar secured to said frame, telescoping frames carried by said bar, auxiliary frames carried by said telescoping frames, slides between said auxiliary frames and telescoping frames, cutting-disks carried by said auxiliary frames, means to vary the path of said disks, and additional means to raise or lower said disks.

4. In a harrow of the class described, the combination with a frame having a plurality of cutting-disks secured thereto; of supporting means for the rear end of said frame comprising an axle, wheels secured to said axle, a circular frame on said axle, upwardly-extending bars carried by said circular frame and extending through said first-mentioned frame, a cross-head connecting the upper ends of said bars, a rack-bar on said cross-head and means interposed between said cross-head and the first-mentioned frame to raise or lower the same.

839,888. STENCIL-PERFORATING DEVICE. SAMUEL PRYOR, Utica, N. Y. Filed Feb. 15, 1905. Serial No. 245,675.



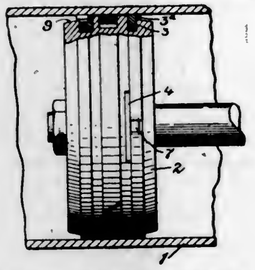
Claim.—1. A perforating device consisting of an electric motor mounted on a manually-movable base, an arm projecting from the base, a dependent tracing-point supported by the arm with its point substantially in the plane of the bottom of the base, a perforating needle adapted to be projected from and withdrawn within the point, a shaft extending along the arm and connecting with the motor at the base end and provided with a crank connected with the needle at the other end, substantially as set forth.

2. A perforating device consisting of a manually-movable base and casing mounted thereon, a motor on the base within the casing, an arm projecting from the base and casing, a depending tracing-point supported by the arm with its point substantially in the plane of the bottom of the base, a perforating needle arranged in the tracing point and adapted to be projected from and withdrawn within the point, a shaft extending along the arm and connected with the motor and provided with a crank connected with the needle, a brake for the motor and means for operating the brake extending to the exterior of the casing, substantially as set forth.

839,889. PROCESS FOR THE PRODUCTION OF MEAL FROM WHEAT AND OTHER FARINACEOUS PRODUCTS OF POOR BAKING QUALITY. LUDWIG RAPPEPORT, Vienna, Austria-Hungary. Filed Aug. 31, 1905. Serial No. 276,639.

Claim.—Process for producing meal of good baking quality from wheat or other farinaceous cereals of poor baking quality, or for improving the baking quality of meal, consisting in adding to the wheat or other cereal malt of considerable diastatic energy, derived from wheat or other suitable products rich in proteids, said malt being used in a quantity restricted to a maximum of one per cent. and being ground with said wheat or other cereal, so as to uniformly distribute the active enzyms of the malt in the meal during the production of the latter, without affecting taste and appearance.

839,890. PISTON-PACKING. JOHN J. REDNER, New York, N. Y. Filed July 3, 1906. Serial No. 324,601.



Claim.—1. A piston-packing comprising a piece of resilient material in the general form of an incomplete circle, the two ends thereof nearly meeting, having an independent offset portion at the side thereof overlapping both ends and admitting of independent movement of either end relatively thereto, and a stop-shoulder or abutment carried by and at the side of the independent offset portion intermediate to its ends and arranged to receive the thrust of the ends of the circular member, the two ends being cut away or recessed to receive said stop-shoulder.

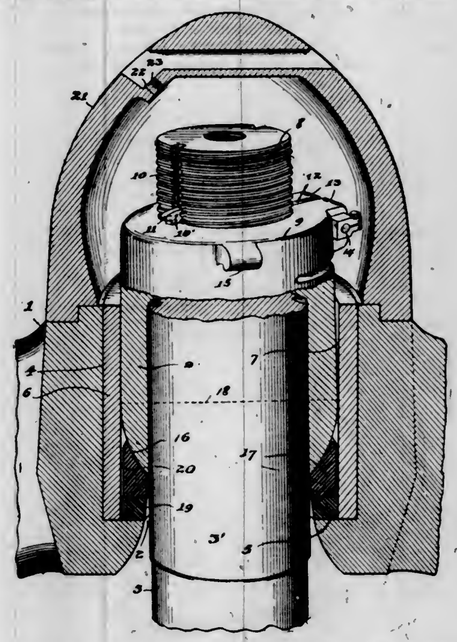
2. A piston-packing comprising a piece of resilient material in the general form of an incomplete circle, the two ends thereof nearly meeting, having an independent offset portion at the side thereof overlapping both ends and admitting of independent movement of either end relatively thereto, a stop-shoulder or abutment carried by the independent offset portion and arranged to receive the thrust of the ends of the circular member, and retaining-pins in one of said members and slots in the other member for receiving said pins to allow of the independent movement of the ends of said ring-like member but limiting the extent of said movement.

839,891. GYRATORY CRUSHER. JAY B. RHODES, Chicago, Ill., assignor to Austin Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 11, 1905. Serial No. 249,652.

Claim.—1. In a gyratory crusher, the combination of a spider-head bored to accommodate the upper end portion of the main gyratory shaft, a supporting ledge or shoulder upon the interior of said spider-head, a main gyratory shaft, a wearing-sleeve mounted upon the upper end portion of said main shaft and extending both above and below the center of gyration of said shaft, the lower end of said sleeve being formed with a convex upper surface projected from a center substantially coincident with the center of gyration and supported by the said ledge or shoulder of the spider-head.

2. In a gyratory crusher, the combination of a spider-head bored to accommodate the upper end portion of the main gyratory shaft, a supporting ledge or shoulder upon the interior of said spider-head, a main gyratory shaft, a wearing-sleeve mounted upon the upper end portion of said main shaft and extending both above and below the center of gyration of said shaft, the lower end of said sleeve being formed with a convex bearing-surface projected from a center substantially coincident with the center of gyration, and a bearing member interposed between said wearing-sleeve and supporting ledge or shoulder.

3. In a gyratory crusher, the combination of a spider-head bored to accommodate the upper end portion of the main gyratory shaft, a supporting ledge or shoulder upon the interior of said spider-head, a main gyratory shaft, a wearing-sleeve adjustably mounted upon the upper end portion of said main shaft and extending above and below the center of gyration of said shaft, the lower end of said sleeve being formed with a convex bearing-surface projected from a center substantially coincident with the center of gyration, and a bearing member interposed between said wearing-sleeve and said supporting ledge or shoulder.



4. In a gyratory crusher, the combination with a main frame-support bored to accommodate the upper end portion of a gyratory shaft, a supporting ledge or shoulder upon the interior of said frame, a main gyratory shaft, a bearing-sleeve adjustably mounted upon the upper end portion of said main shaft and extending both above and below the center of gyration of the shaft, the lower end of said sleeve being formed with a convex bearing-surface projected from a center substantially coincident with the center or gyration, and a bearing-ring provided with a concave upper surface conformed to the lower end surface of the wearing-sleeve interposed between said wearing-sleeve and said supporting ledge or shoulder and free to move laterally.

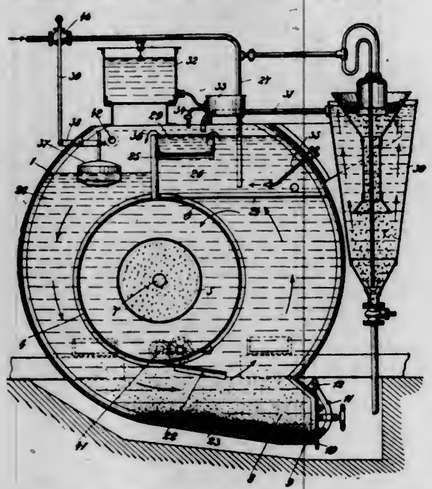
5. In a gyratory crusher, the combination of a spider-head bored to accommodate the upper end portion of a main gyratory shaft, a supporting ledge or shoulder upon the interior of said spider-head, a main gyratory shaft, a conical wearing-sleeve adjustably mounted upon the upper end portion of said main shaft and extending both above and below the center of gyration of said shaft, the said sleeve being provided with a downwardly-convex bearing-surface projected from a center substantially coincident with the center of gyration and formed upon a radius from the said center to a point on the bearing-surface of the sleeve in the transverse plane of its maximum diameter, and a bearing-ring interposed between the convex surface of said wearing-sleeve and said supporting ledge or shoulder.

6. In a gyratory crusher, the combination of a spider-head bored to accommodate the upper end portion of a main gyratory shaft, a supporting ledge or shoulder upon the interior of said spider-head, a bearing member carried

upon the upper end portion of said main shaft having an external approximately cylindric but slightly conical upper portion and a parti-spherical downwardly-convex lower portion, and a bearing-ring interposed between said parti-spherical portion and the supporting ledge or shoulder carried by the spider.

7. In a gyratory crusher, the combination of a spider-head bored to accommodate the upper end portion of a main gyratory shaft, a supporting ledge or shoulder upon the interior of said spider-head and located below the center of gyration of the main shaft, and ball-and-socket-like fittings between said supporting ledge and the main shaft whereby the unoccupied space between the main shaft and interior of the spider above said fittings constitutes a well substantially sealed against the escape of oil by gravity flow.

839,892. APPARATUS FOR THE MECHANICAL CLARIFICATION OF FLUIDS. WALTER ROTTMANN, Berlin, Germany. Filed Apr. 2, 1906. Serial No. 309,538.



Claim.—1. In an apparatus for the mechanical clarification of fluids, the combination of a horizontally-arranged outer reservoir of a cylindrical or similar cross-section, of an inner reservoir arranged horizontally in this outer reservoir, of reservoirs arranged horizontally in the upper part of the outer reservoir, of an opening for letting in the fluid in the upper part of the inner reservoir and of a filtering device in the inner reservoir substantially as set forth.

2. In an apparatus for the mechanical clarification of fluids, the combination of a horizontally-arranged outer reservoir of a cylindrical or similar cross-section, of an inner reservoir arranged eccentrically and horizontally in the outer reservoir, of reservoirs arranged horizontally in the upper part of the outer reservoir, of an opening for letting in the fluid in the upper part of the inner reservoir, and of a filtering device in the inner reservoir, substantially as set forth.

3. In an apparatus for the mechanical clarification of fluids the combination of a horizontally-arranged outer reservoir of a cylindrical or similar cross-section, of inner reservoirs arranged horizontally in the outer reservoir, of reservoirs arranged horizontally in the upper part of the outer reservoir, of openings for letting in the fluid in the upper part of the inner reservoirs and of a filtering device in the central reservoir, substantially as set forth.

4. In an apparatus for the mechanical clarification of fluids the combination of a horizontally-arranged outer reservoir of a cylindrical or similar cross-section, of inner reservoirs arranged eccentrically and horizontally in the outer reservoir, of reservoirs arranged horizontally in the upper part of the outer reservoir, of openings for letting in the fluid in the upper part of the inner reservoirs and of a filtering device in the central reservoir, substantially as set forth.

5. In an apparatus for the mechanical clarification of fluids the combination of several reservoirs arranged horizontally one inside of the other, outlets for the mud in said inner reservoirs, a filtering device in the central reservoir, of a collecting-basin with a slanting bottom for the eliminated substances in the outer reservoir, of a closable outlet for the mud in this collecting-basin and devices for conveying the eliminated substances to this outlet, substantially as set forth.

6. In an apparatus for the mechanical clarification of fluids the combination of several reservoirs arranged horizontally one inside of the other, a filtering device in the central reservoir, and walls in the outer reservoir for forming one or several chambers and for separating the opening through which the fluid enters from the opening through which it leaves, substantially as set forth.

7. In an apparatus for the mechanical clarification of fluids the combination of several reservoirs arranged horizontally one inside of the other, a filtering device in the central reservoir, outlets for the mud in the walls of the said reservoirs devices for automatically regulating the quantity of fluid entering into these reservoirs, and devices for automatically regulating the inflow of chemical solutions, substantially as set forth.

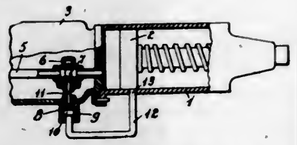
8. In an apparatus for the mechanical clarification of fluids the combination of a horizontally-arranged outer reservoir of a cylindrical or similar cross-section, of inner reservoirs inclosing filtering devices, the cylindrical walls of which reservoirs are fastened to the front walls of the outer reservoir, and of a removable lid on the front wall of the outer reservoir, which carries on the inside the said filtering device, substantially as set forth.

9. In an apparatus for the mechanical clarification of fluids the combination of a horizontally-arranged outer reservoir of a cylindrical or similar cross-section, of an inner cylinder lying eccentrically in the said outer cylinder, whose cylindrical wall is riveted to the front walls of the outer cylinder, of a chamber over the inner cylinder which separates the opening through which the fluid enters from the opening through which it leaves, of a mixing-reservoir in the said chamber, devices for preparing chemical admixtures for the fluid, a float for the automatic regulation of the admission of these admixtures to the said mixing-reservoir and for the automatic regulation of the admission of the fluid to be clarified, a collecting-basin for the eliminated particles of mud at the bottom of the outer reservoir, a closable outlet for the mud in the said collecting-basin, an opening in the upper part of the inner cylinder, a filtering device in the inner cylinder, fastened to a removable lid on the front wall of the outer cylinder, an outlet for the mud in the inner cylinder, an outlet-pipe for the purified fluid, and devices for reversing the direction in which the fluid streams through the apparatus, substantially as set forth.

10. In an apparatus for the mechanical clarification of fluids the combination of a horizontally-arranged outer reservoir of a cylindrical or similar cross-section, of two inner cylinders lying separated in the said outer cylinder, whose mantles are suitably arranged in relation to the mantle of the outer cylinder and are riveted to the front walls of the outer cylinder, a chamber lying above the inner cylinder which separates the opening through which the fluid enters from the opening through which it leaves, devices for preparing chemical admixtures for the fluid, a float for the automatic regulation of the admission of the fluid to be clarified, a collecting-basin for the eliminated particles of mud at the bottom of the outer reservoir, a closable outlet for the mud in the said collecting-basin, an opening in the upper part of each inner cylinder, a filtering device in each inner cylinder fastened to a removable lid on the front wall of the outer cylinder, an outlet for the mud in each inner cylinder, an outlet-pipe for the purified fluid and devices for reversing the direction in which the fluid streams through the apparatus, substantially as set forth.

11. In an apparatus for the mechanical clarification of fluids the combination of several horizontal reservoirs of a cylindrical or similar cross-section arranged suitably one inside of the other, whose cylindrical walls are riveted to the front walls of the outer cylinder, a chamber above the inner cylinder, which separates the opening through which the fluid enters from the opening through which it passes out, a mixing-reservoir in the said chamber, devices for preparing chemical admixtures for the fluid, a float for the automatic regulation of the admission of these admixtures to the said chambers and for the automatic regulation of the admission of the fluid to be clarified, a collecting-basin for the eliminated particles of mud at the bottom of the outer reservoir, a closable outlet for the mud in the said collecting-basin, an opening in the upper part of each inner cylinder, a filtering device in the inner cylinder fastened to a removable lid on the front wall of the outer cylinder, an outlet for the mud in each inner cylinder, an outlet-pipe for the purified fluid and devices for reversing the direction in which the fluid streams through the apparatus, substantially as and for the purpose set forth.

839,893. FLUID-PRESSURE BRAKE. WILLIAM H. SAUVAGE, New York, N. Y. Filed Dec. 1, 1905. Serial No. 289,908.



Claim.—1. In a fluid-pressure brake system, the combination with the brake-cylinder, auxiliary reservoir and triple valve, of a connection between the triple valve and brake-cylinder provided with a passage-way of more restricted cross-section than the supply-passages through the triple valve, during a portion of the period of brake application and release.

2. In a fluid-pressure brake system, the combination with the brake-cylinder, auxiliary reservoir and triple valve, of a connection between the triple valve and brake-cylinder provided with apparatus arranged to produce a passage-way of more restricted cross-section than the supply-passages through the triple valve, together with means for so reducing the effective cross-section of said passage-way when the piston of the brake-cylinder is near the end of its outstroke and maintaining such reduction during the initial portion of the return stroke.

3. In a fluid-pressure brake system, the combination with the brake-cylinder, auxiliary reservoir and triple valve, of a connection between the triple valve and brake-cylinder provided with a passage-way of more restricted cross-section than the supply-passages through the triple valve, together with means for reducing the effective cross-section of said passage-way when the piston of the brake-cylinder is near the end of its outstroke, said means comprising a pressure-operated valve and means for transmitting to it the pressure within the brake-cylinder.

4. In a fluid-pressure brake system, the combination with the brake-cylinder, auxiliary reservoir and triple valve, of a connection between the triple valve and brake-cylinder provided with a passage-way of more restricted cross-section than the supply-passages through the triple valve, together with means for reducing the effective cross-section of said passage-way when a pressure of predetermined amount has been attained in the brake-cylinder.

5. In a fluid-pressure brake system, the combination with the brake-cylinder, auxiliary reservoir and triple valve, of a connection between the triple valve and brake-cylinder provided with a passage-way of more restricted cross-section than the supply-passages through the triple valve, together with means for reducing the effective cross-section of said passage-way when a pressure of predetermined amount has been attained in the brake-cylinder, said means comprising a pneumatically-operated valve.

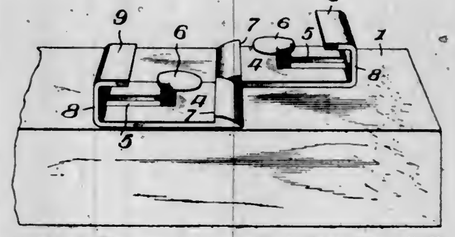
6. In a fluid-pressure brake system, the combination with the brake-cylinder, auxiliary reservoir and triple valve, of a connection between the triple valve and brake-cylinder provided with a passage-way of more restricted cross-section than the supply-passages through the triple valve, together with means for reducing the effective cross-section of said passage-way when a pressure of predetermined amount has been attained in the brake-cylinder, said means comprising a pneumatically-operated valve located in the connection from triple valve to brake-cylinder, and adapted to partially close itself automatically when such predetermined pressure of the air passing through the valve is attained.

7. The combination with the brake-cylinder, auxiliary reservoir and triple valve of means for choking down the flow of air to and from the brake-cylinder in an emergency application of the brake and release thereof.

8. The combination with the brake-cylinder, auxiliary reservoir and triple valve, of means for choking down the flow of air to the brake-cylinder before the maximum pressure is attained therein.

9. The combination with the brake-cylinder, auxiliary reservoir and triple valve, of means for choking down the flow of air to the brake-cylinder before the maximum pressure is attained therein, and choking down the flow of air from the brake-cylinder until a predetermined reduction of brake-cylinder pressure is attained.

839,894. SECURING DEVICE FOR TRACK-RAILS. WARREN SCOTT, Collison, Ill. Filed Sept. 19, 1906. Serial No. 335,302.



Claim.—1. The combination with a tie and a rail disposed thereon, of means to secure said rail to said tie, comprising retaining members having slots therein, a shoulder at one end of each of said retaining members, an extension at the opposite end of said retaining members, spikes adapted to be directed through said slots and into said tie and means on said extensions to overlap and engage the heads of said spikes.

2. The herein-described means for securing rails to ties, comprising the combination with a spike, of a retaining member having a slot therein to receive said spike, means at one end of said retaining member to engage the rail and additional means at the opposite end of said retaining member to extend over and engage the head of said spike.

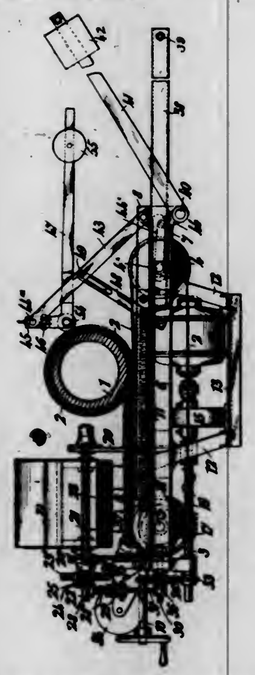
3. The herein-described means for securing rails to ties, comprising the combination with a spike, of a retaining member having a slot to receive said spike, a shoulder near one end of said retaining member, an extension at the opposite end of said retaining member, a lip on said extension, adapted to extend over and engage the head of said spike whereby said spike will be held rigidly in engagement with the tie and rail.

4. In a rail-securing device of the class described, a retaining member having an elongated slot therein, a shoulder near one end of said retaining member, said retaining member being tapered from the shoulder to the outer end thereof, an extension at the opposite end of said retaining member and an inwardly-directed lip at the upper end of said extension.

5. In a rail-securing device, the combination with a rail

and a supporting-tie therefor, of a retaining member having a beveled end, a shoulder on the upper surface of said retaining member, an extension at right angles to said retaining member, a spike disposed through the slot in said retaining member and in engagement with the rail and a lip at the upper end of said extension adapted to extend over and engage the head of said spike.

839,895. PROCESS AND APPARATUS FOR MANUFACTURING HOLLOW MASTS, PIPES, HOLLOW PILES, &c. HANS SIEGWART, Lucerne, Switzerland. Filed July 12, 1906. Serial No. 325,889.



Claim.—1. The process for manufacturing hollow tubular articles such as masts, pipes, piles, and the like from concrete in which the plastic mass of concrete is placed under a high pressure, in the shape of a strip, helically round a core subsequently removed, so that the strip is formed into a casing constituting one piece, that is to say, the complete body to be manufactured.

2. A process for manufacturing hollow tubular articles from armored concrete, in which the mass is helically placed under high pressure in the shape of a strip round a core subsequently removed, so that the strip forms a casing forming one piece and in which, simultaneously with the winding of the strip, are also applied strengthening-strips, for instance, iron bands or wire-works.

3. A process for manufacturing hollow tubular articles from concrete and armored concrete, in which the mass is wound under high pressure in the shape of a helical strip about a core subsequently removed, so that the strip forms a casing constituting one piece and the helical winding of the mass is effected by a tightly-stretched band moving in the longitudinal direction the band being wound about the core in a helical line, and onto which is discharged the concrete mass being fed onto the band in order to be conveyed by the band to the core and pressed around the latter.

4. A process for manufacturing hollow tubular articles from concrete and armored concrete, in which the mass is placed under high pressure, in the shape of a helical strip, round a core subsequently removed, so that the strip combines into a casing forming one piece, and the helical application of the mass is effected by means of a tightly-stretched band moving in its longitudinal direction, which is partly guided round the core and onto which the concrete is discharged from a charging device, in order to be conveyed by the band to the core and to be pressed on the latter by the tightness of the said band.

5. A process for manufacturing hollow tubular articles such as masts, pipes, piles, &c., from concrete and armored concrete, in which the plastic concrete mass is applied under high pressure, in the shape of a helical strip and in layers, about a core subsequently removed, so that the strip is formed into a casing, all in one piece, which constitutes the finished hollow body to be manufactured.

6. A process for manufacturing hollow tubular articles, such as masts, pipes, piles, &c., from armored concrete, in which the plastic concrete mass is applied under high pressure, in the shape of a helical strip and in layers, round a core subsequently removed, so that the strip combines into one casing, forming one piece and constituting the finished hollow body to be produced, applying a first layer containing a band-shaped strengthening device extending in the direction of the strip.

7. A process for manufacturing hollow tubular articles such as masts, pipes, piles, &c., from armored concrete, in which the plastic concrete mass is placed under high pressure, in the shape of a helical strip and in layers, round a core subsequently removed, so that the strip is combined into a casing forming one piece and constituting the finished hollow body to be produced, applying to the core a first layer containing a band-shaped strengthening device, extending in the direction of the strip, and applying between this first layer and the second layer a strengthening device extending in the longitudinal direction of the structure.

8. In a machine for the manufacture of hollow tubular articles such as masts, pipes, piles, &c., from concrete and armored concrete, a carriage with two pulleys over which is guided an endless band which is partly wound in a helical line round a core to effect the application of the concrete on the core, said carriage guiding the band along the stationary core.

9. In a machine for the manufacture of hollow tubular articles, such as masts, pipes, piles, &c., from concrete, and armored concrete, a carriage with two pulleys mounted on it, over which is guided an endless band which is partly wound in a helical line round a core, and effects the application of the concrete on the core, one of the two pulleys being movable in the direction of the band.

10. In a machine for the manufacture of hollow tubular articles such as masts, pipes, piles, &c., from concrete and armored concrete, a carriage with two pulleys mounted on the same over which is guided an endless band which is partly wound in a helical line round a core and effects the application of concrete on the core, one of the said two pulleys being movable in the direction of the band, and for its movement levers and weights being provided.

11. In a machine for the manufacture of hollow tubular articles, such as masts, pipes, piles, &c., from concrete and armored concrete, a carriage having the shape of a rotating disk with two pulleys mounted on it, over which is guided an endless band which is partly wound in a helical line round a core, and effects the application of the concrete on the core, and of which one pulley is movable in the direction of the band.

12. In a machine for the manufacture of hollow tubular articles such as masts, pipes, piles, &c., from concrete and armored concrete, a carriage with two pulleys mounted on it, over which is guided an endless band, partly wound in a helical line round a core, and effecting the application of the concrete on the core, and with pressure-rollers, one of which rests against a portion of the band wound round the core, and the other pressing the band against the pulley from which it is guided through the core.

13. In a machine of the class described, the combination of a core and means to distribute a plastic material progressively along the same, said means imparting rotation to the core.

14. In a machine of the class described, the combination of an endless carrier and a core, said carrier passing around the core at one portion of its travel and said core making an angle other than a right angle with the running-on and running-off portions of the carrier.

15. In a machine of the class described, the combination with a rotatable core, of an endless carrier passing around the core at one portion of its travel, the running-on and running-off portions thereof making an angle other than a right angle with the core, and means for depositing a plastic material onto the running-on portion of the carrier.

16. In a machine of the class described, the combination of a core, and means traveling along the core to distribute a plastic material thereon.

17. In a machine of the class described, the combination with a rotatable core, of a frame, a carrier mounted thereon traveling around the core and adapted to impart a relative movement to the frame and core.

18. In a machine of the class described, the combination with stationary supports and a core pivotally mounted therein, of a frame, an endless carrier passing around the core, rotary supports for the carrier, and means to operate the rotary supports whereby the carrier is moved along the core.

19. In a machine of the class described, the combination with a rotatable core, of an endless carrier passing around the core at one portion of its travel, means for automatically maintaining the carrier taut, and means for depositing a plastic material onto the carrier.

20. In a machine of the class described, the combination with a rotatable core, of an endless carrier passing around the core at one portion of its travel, the running-on and running-off portions thereof making an angle other than a right angle with the longitudinal axis of the core, a feed-roller and an idle roller supporting the carrier, and means to automatically move the idle roller in the direction of travel of the carrier.

21. In a machine of the class described, the combination with a rotatable core, of an endless carrier passing around the core at one portion of its travel, a feed-roller and an idle roller supporting the carrier, means to automatically maintain a portion of the carrier taut, and means to cause a portion thereof to sag.

22. In a machine of the class described, the combination with a rotatable core, of an endless carrier passing around the core at one portion of its travel, a feed-roller and an idle roller supporting the carrier, means to sag the carrier between the feed-roller and core, and means to hold the carrier taut between the core and idle roller.

23. In a machine of the class described, the combination with a rotatable core, of an endless carrier passing around the core at one portion of its travel, a feed-roller and an idle roller supporting the carrier, means to feed a plastic material onto the carrier between the feed-roller and core, a pressure device adapted to sag a portion of the carrier, and means to maintain the carrier taut between the pressure device and the idle roller.

24. In a machine of the class described, the combination with a rotatable core, a feed-roller, an idle roller, an endless band wound around the core and passing over the rollers, means to feed a plastic material onto the band between the core and feed-roller, a gravity-operated member engaging the band between the core and the idle roller and means to automatically move the latter away from the core for the purpose specified.

25. In a machine of the class described, the combination with a rotatable core, a frame, a feed-roller and an idle roller journaled in the frame, means to rotate the feed-roller and an endless band wound around the core passing over the rollers, of a support for the idle roller comprising slotted bearing-plates, a spindle carrying the idle roller mounted therein, weighted lever-arms pivoted in the bearing-plates, and means connecting the lever-arms and spindle.

26. In a machine of the class described, the combination with the main frame of a supplemental frame mounted in the main frame, slotted bearing-plates carried by the supplemental frame, an idle roller, a spindle carrying the latter mounted in the bearing-plates, a supporting-spindle journaled in the latter, weighted levers carried by the supporting-spindle, arms connected to the latter at an angle to the weighted levers, links connecting the arms with the roller-spindle, a feed-roller mounted in the main frame, and an endless carrier connecting the feed and idle rollers.

27. In a machine of the class described, the combination with the main frame, of a supplemental frame adjustably mounted in the main frame, slotted bearing-plates carried by the supplemental frame, an idle roller, a spindle therefor mounted in the slots of the supplemental frame, a supporting-spindle journaled in the bearing-plates, levers fixed on the latter spindle, a weight mounted on the free ends of the levers, arms fixed on the supporting-spindle at an angle to the levers, links connecting the arms with the spindle, a feed-roller mounted in the main frame, a rotatable core mounted between the feed and idle rollers, and an endless band wound around the core passing over the rollers.

28. In a machine of the class described, the combination with a framing, of a feed-roller and an idle roller supported thereby, a rotatable core mounted between the rollers, an endless band wound around the core passing over the rollers, upwardly-extending arms pivoted on the framing, a pressure-roll supported by said arms and means to press the roller against the endless band.

29. In a machine of the class described, the combination with the main frame, of a feed-roller journaled therein, a supplemental frame adjustably mounted in the main frame, an idle roller journaled in the supplemental frame, a rotatable core mounted between the rollers, an endless band wound around the core passing over the rollers, arms pivoted on the supplemental frame inclined toward the core, a rod connecting the free ends of the arms, a supporting member carried by the rod, a roller journaled in the supporting member, and means connected with the supporting member to press the roller against the endless band.

30. The combination with the endless carrier, the supporting-rollers, the rotatable core, a hopper mounted above the carrier in front of the core, a rotatable bottom in the hopper, of a ratchet-wheel connected with the bottom, a pawl in engagement with the ratchet-wheel, a link 29, means for adjustably connecting the link and pawl, a rotatable member, and a pitman connecting the latter and link.

839,896. SHOE-SOLE TRIMMING AND CHANNELING MACHINE. WILLIAM E. SMALL and ROBERT CAMPBELL, Brooklyn, N. Y., assignors of one-third to John Rushforth Garside, New York, N. Y. Filed Nov. 9, 1905. Serial No. 286,546.

Claim.—1. In a machine of the kind described, the combination with a frame having an adjustable presser-foot and an adjustable trimming-knife, of a head slidably carried by the frame and having a feeding device movable therewith, and a trimming-knife and presser-roller carried by the head and adapted for independent adjustment irrespective of the movement of the head, and independent means for operating the head, channeling-knife and presser-roller, and also means for operating the presser-foot.

2. In a machine of the kind described, the combination with a frame, of a sliding head mounted therein, a shaft carrying a feed-wheel journaled in the head, a presser-foot adjustably mounted in the frame and projecting over the feed-wheel, a trimming-knife adjustably supported by the frame, a channeling-knife adjustably carried by the said head, a presser-roller arranged adjacent the channeling-knife and operable therewith, means for operating the presser-foot, and common means for lowering the channeling-knife and presser-roller, for the purpose specified.

3. In a machine of the kind described, the combination with a frame, of a head slidably mounted therein, a shaft journaled in the frame and having a feed-wheel secured thereto, a presser-foot adjustably mounted in the frame, a trimming-knife adjustably connected to the frame, a bracket-arm adjustably connected to the said head, a spring-actuated bar carried by the bracket-arm, a channeling-knife connected to the said bar, a presser-roller also carried by the said bar, independent means for controlling the movement of the presser-foot and bracket-arm, and

also means for limiting the movement of the said presser-foot and bracket-arm.



4. In a machine of the kind described, the combination with a frame, of a head slidably mounted therein, means for controlling the position of the head, a shaft journaled in the head and having a feed-wheel secured thereto, an adjustable presser-foot carried by the frame and extending over the feed-wheel, a trimming-knife adjustably carried by the frame, a bracket-arm carried by the head, a channeling-knife and presser-roller adjustably connected with the arm, and independent means for operating the presser-foot and bracket-arm.

5. In a machine of the kind described, the combination with a frame, of a head slidably connected thereto, a spring carried by the frame and engaging the head, means for moving the head against the tension of the spring, a shaft carrying a feed-wheel journaled in the head, a presser-foot carried by the frame, a trimming-knife connected with the frame, said knife being disposed adjacent the feed-wheel and presser-foot, a channeling-knife adjustably carried by the head, a presser-roller arranged adjacent the channeling-knife, and common means for adjusting the channeling-knife and roller independent of the means for moving the head.

6. In a machine of the kind described the combination with a frame, of a head slidably mounted therein, a feeding device carried by the head, a trimming-knife supported by the frame, a channeling-knife supported by the head and held adjacent the trimming-knife, a presser-foot carried by the frame and extending above and transversely to the feed-wheel and a presser-roller carried by the head and in a plane below the presser-foot.

7. A device of the kind described comprising a frame, a vertical movable head therein, a shaft journaled in the said head, a feed-wheel at one end of the shaft, a recessed presser-foot carried by the frame and parallel with the shaft and extending above and beyond the wheel, a trimming-knife carried by the frame in advance of the wheel and extending into the said recess of the presser-foot, and a curved channeling-knife arranged in advance of the trimming-knife and supported from the head.

8. A machine of the kind described comprising a frame having a head slidably mounted therein, a shaft carried by the head and having a feed-wheel mounted thereon, a presser-foot adjustably mounted in the frame, a bracket-arm adjustably carried by the head, said bracket-arm supporting a channeling-knife and presser-roller, a trimming-knife adjustably carried by the frame, and independent means for operating the bracket-arm and presser-foot, and also means for operating the said head.

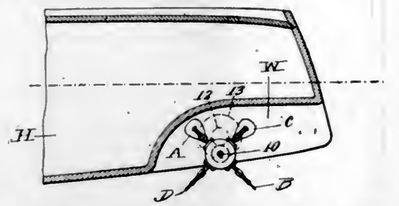
9. A machine of the kind described, comprising a frame consisting of a base and a face-plate, said face-plate having guideways, a head operating in the guideways, a shaft journaled in the head and extending through the face-plate, and having a feed-wheel at one end and a gear at its opposite end, a block mounted upon the upper end of the face-plate, said block having a channel in its upper surface, a bar operating in the channel-way, one end of the bar terminating in a downwardly and forwardly extending portion, the extreme end of which terminates in a horizontal foot portion, a roller journaled in the under side of the foot portion, a bracket-arm adjustably carried by the frame, a block adjustably connected to the arm, a knife-carrying arm supported by the block and adjustable therein, a bar slidably carried by the said head and having a vertical disposed bracket-arm connected thereto, a bar yieldingly held by the bracket-arm and having a plate adjustably connected thereto, to which is connected a channeling-knife, a presser-roller adjustably connected to the said bar, independent means for operating the bar having the presser-foot and the bar carrying the bracket-arm, and also means for operating the head.

10. A machine of the kind described comprising a frame, consisting of a base and a face-plate, guide-plates secured to the face-plate, a sliding head held in position upon the face-plate by the said guide-plates, a spring carried by the frame and engaging the head to hold the latter at the upper end of the face-plate, a block mounted upon the face-plate and having a channel in its upper surface, a toothed bar slidably retained in the channel and having one end terminating in a presser-foot, a pinion engaging the teeth of the bar, the shaft of the pinion having a lever connected thereto, to which is connected a rod or chain whose opposite end is connected with a treadle, a shaft journaled in the head and having a feed-wheel mounted thereon, a bar adjustably carried by the head, said bar having one end terminating in a bracket-arm in which is yieldingly supported a bar, a channel-knife adjustably connected to the bar, a plate hingedly connected to the opposite end of the bar, a crank-arm connected to the plate, a treadle-rod connected to the crank-arm, a spring connected to the arm and adapted to hold the said arm in its normal position, an adjustable bracket-arm carried by the frame and having an elongated block adjustably held at its free end, a plate adjustably held to the block, said plate having an arm extending outwardly therefrom to the upper end of which is connected a trimming-knife blade, and a bolt connected to the said head and extending through the frame and having its lower or free end connected with a rod or chain whose opposite end is connected to a treadle, all for the purpose set forth.

11. In a machine for trimming and channeling the soles of boots and shoes, the combination of a frame having an adjustable trimming-knife and an adjustable presser guide-foot, a movable head mounted upon the frame and having an adjustable channeling-knife and a yielding presser-roller connected thereto and coacting with the presser-foot and trimming-knife, a feeding device carried by the head and adapted for feeding the sole against the knives, said feeding device engaging the sole slightly in advance of the trimming-knife and that portion which is afterward severed by the knife, and means for adjusting the presser guide-foot for the purpose of regulating the trimming of the edge of the sole, substantially as specified.

12. A machine for trimming and channeling the soles of boots and shoes, comprising a frame that consists of a base and face-plate, a head movably mounted upon the face-plate, a presser-foot adjustably mounted upon the frame adapted for feeding the sole against the knives, and feeding device carried by the said head and operating under the presser guide-foot, a trimming-knife carried by the frame and adjustably held in front of and immediately adjacent the feeding device, a channeling-knife and presser-roller yieldingly mounted in a bracket that is adjustably carried by the head, said channeling-knife being also capable of independent adjustment, and independent means for operating the presser-foot, movable head and the channeling and trimming knife for the purpose specified.

839,897. MARINE PROPELLER. OZRO P. SMITH, South Framingham, Mass., assignor to himself and John L. Young, South Framingham, Mass. Filed Dec. 19, 1904. Serial No. 237,390.



Claim.—1. In a propelling apparatus for a vessel, the combination of blades revolving completely around an axis transverse to the length of the vessel, and means for feathering or turning the blades so that each blade will be parallel to the axis and transverse to the center line of the vessel during the operative part of its stroke, and in a plane at right angles to the axis and parallel with said center line during the idle or return part of its stroke, and for successively throwing each blade out from the axis, increasing its distance therefrom during the operative part of its stroke, and for successively drawing in each blade, decreasing its distance from the axis during the idle or return part of its stroke.

2. In an apparatus for propelling a vessel, the combination of the hub, radially-movable blade-carrying arms mounted in the hub, a cam for alternately extending and retracting the arms, and spirals or screw-threads for feathering or turning the arms.

3. In a propelling apparatus for a vessel, the combination of a hub, blade-carrying arms radially movable in the hub, a cam for alternately extending and retracting said arms, and spirals or screw-threads for feathering or turning the blades, a portion of said spirals being of right-hand pitch, while the remainder of said spirals or screw-threads are of left-hand pitch.

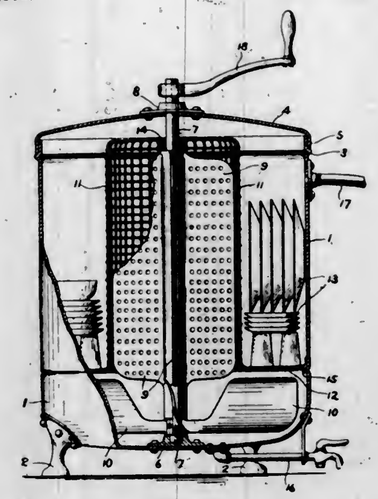
4. In an apparatus for propelling a vessel, the combination of a hub having radial guideways therein, a movable piece in each of said guideways, a blade-carrying arm pivoted in each of the movable pieces and having a spiral or screw-thread engaged by a guide-piece or nut, a track-cam, and a friction-roller journaled on each of the movable pieces and engaging the arms, whereby the propelling-blades will be alternately extended and retracted and will be feathered or turned to present the edges of the blades during their idle or return stroke, and the wide faces of their blades during their operative or working stroke.

5. In an apparatus of the class described, the combination of the hull of a vessel, a submerged well therein, a shaft arranged transversely in said well, bevel-gearing for turning said shaft, a hub on the shaft, blades movably mounted in said hub, and means for radially extending and retracting said blades, and for feathering and turning said blades so that they will present their edges during their idle or return travel, and their wide faces during the operative part of their travel.

6. A propelling apparatus having a rotatable wheel provided with movably-mounted blades, means for moving said blades outwardly and inwardly, and means for swinging said blades on axes transverse to the axis of rotation of the wheel.

7. A propelling apparatus comprising a rotatable wheel provided with movably-mounted blades, means for moving said blades radially, and means for swinging said blades on radial axes.

839,898. DISH-WASHING APPARATUS. ROBERT R. SMITH, Philadelphia, Pa., assignor to General Specialty Manufacturing Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 7, 1906. Serial No. 299,861.



Claim.—1. A dish-washing apparatus comprising a shell and a shaft therein with two sets of blades thereon for driving water in transverse directions.

2. A dish-washing apparatus comprising a shell having a vertically-disposed shaft journaled therein with an upper set of blades for dashing outwardly and a lower set of blades for dashing upwardly.

3. A dish-washing apparatus comprising a shell with a step-bearing in the bottom and a sleeve-bearing in the top thereof, a shaft journaled in said bearings with blades thereon, and a rack with a shelf exterior to said blades.

4. A dish-washing apparatus comprising a shell, a shaft journaled therein, a rack having a body portion and a shelf projecting therefrom, a set of blades fixed on said shaft so as to act within said body portion and a second set of blades fixed on said shaft so as to act beneath said shelf.

5. A dish-washing apparatus comprising a shell having a body with a step-bearing in the bottom thereof and a detachable top with a sleeve-bearing thereon, a shaft journaled in said bearings, blades on said shaft and a rack having a bearing sleeved on said shelf.

6. A dish-washing apparatus comprising a shell, a shaft journaled in said shell, blades fixed on said shaft and extending through the greater part of the interior of the shell, and a rack with a cylindrical body surrounding said blades and a shelf exterior to said blades.

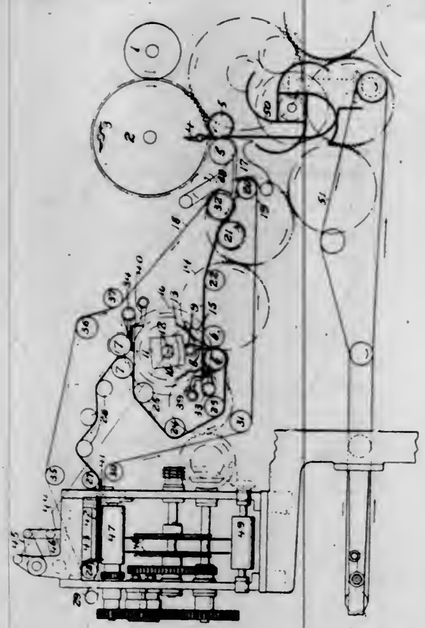
7. A dish-washing apparatus comprising a shell, a shaft journaled in said shell, blades fixed on said shaft, and a rack having a cylindrical body with a bearing sleeved on said shaft and a shelf supported by said shell-body.

8. A dish-washing apparatus comprising a shell, a shaft journaled in said shell, an upper set of blades for dashing outwardly and a lower set of blades for dashing upwardly fixed on said shaft, and a rack having a cylindrical portion surrounding said first set of blades and a shelf above said second set of blades.

839,899. FOLDING-MACHINE. WILLIAM SPALCKHAVER, New York, N. Y., assignor to Robert Hoe, New York, N. Y. Filed July 1, 1905. Serial No. 267,947.

Claim.—1. In a delivery for folding newspapers for mailing, the combination with a rotary folder for giving a sheet a central fold, of a sheet-forwarding mechanism operating to forward the sheet in a path at right angles to its folded edge, means for giving the sheet a fold at une-

qual distances from its front and rear edges, and means for giving the sheet thus folded another fold parallel to the preceding fold.



2. In a delivery for folding newspapers for mailing, the combination with a rotary folder for giving a sheet a central fold, of a sheet-forwarding mechanism operating to forward the sheet in a path at right angles to its folded edge, means for giving the sheet a fold at unequal distances from its front and rear edges, means for giving the sheet thus folded another fold parallel to the preceding fold, and means for giving the sheet thus folded a fold at right angles to said folds.

3. In a delivery for folding newspapers for mailing, the combination with a tape-pathway, of means located in said pathway for giving the sheet two parallel folds, the first of which is at unequal distances from the front and rear edges of the sheet, and means for giving the sheet thus folded another fold at right angles to said folds.

4. In a delivery for folding newspapers for mailing, the combination with a tape-pathway, of a blade, coöperating folding devices, means for operating the blade to give the sheet passing along the pathway two parallel folds, the first of which is at unequal distances from the front and rear edges of the sheet, and means for giving the sheet thus folded another fold at right angles to said folds.

5. In a delivery for folding newspapers for mailing, the combination with two pairs of folding-rolls, of a folding-blade arranged to coöperate at one time with one pair and at another time with the other pair, of means for presenting a sheet to the blade and rolls, so that it will be given two parallel folds, the first of which will be at unequal distances from the front and rear edges of the sheet, and means for giving the sheet thus folded another fold at right angles to the preceding fold.

6. In a delivery for folding newspapers for mailing, the combination with two pairs of folding-rolls, of a rotating folding-blade arranged to coöperate at one time with one pair of rolls and at another time with the other pair of rolls, and a tape-pathway arranged to present a sheet to the first pair of rolls, so that the sheets will receive a fold at unequal distances from their front and rear edges and to the second pair of rolls so that they will receive a fold centrally of the folded sheet.

7. In a delivery for folding newspapers for mailing, the combination with two pairs of folding-rolls, of a rotating folding-blade arranged to coöperate at one time with one pair of rolls and at another time with the other pair of rolls, a tape-pathway arranged to present a sheet to the first pair of rolls, so that the sheets will receive a fold at unequal distances from their front and rear edges and to the second pair of rolls so that they will receive a fold centrally of the folded sheet, a second folding-blade and co-operating folding devices, and means for presenting the sheet thereto so that it will receive a fold at right angles to the preceding folds.

8. In a delivery for folding newspapers for mailing, the combination with means for giving a sheet a central fold, of a blade, two pairs of folding-rolls with which the blade coöperates, and means for forwarding the sheet in a path at right angles to its folded edge and for presenting the sheet to the blade and rolls so that it will receive two parallel folds, the first of which is at unequal distances from its front and rear edges.

9. In a delivery for folding newspapers for mailing, the combination with means for giving a sheet a central fold, of a blade, two pairs of folding-rolls with which the blade coöperates, means for forwarding the sheet in a path at right angles to its folded edge and for presenting the sheet to the blade and rolls so that it will receive two parallel folds, the first of which is at unequal distances from its front and rear edges, and means for giving the sheet a fold at right angles to the preceding folds.

10. In a delivery for folding newspapers for mailing, the combination with means for giving a sheet a central fold, of a blade, two pairs of folding-rolls with which the blade coöperates, means for forwarding the sheet in a path at right angles to its folded edge and for presenting the sheet to the blade and rolls so that it will receive two parallel folds, the first of which is at unequal distances from its front and rear edges, and a folding-blade and coöperating devices for giving the sheet a fold at right angles to the preceding folds.

11. In a delivery for folding newspapers for mailing, the combination with means for giving the sheet a central fold, of a delivery for the sheets thus folded, means operating to forward the sheet in a path at right angles to its folded edge, means for giving the sheet two parallel folds, the first of which is at unequal distances from the folded edge, means for giving the sheet a fold at right angles to the preceding fold, and means for sending the sheet either to the delivery or the folding mechanism.

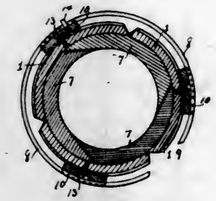
12. In a delivery for folding newspapers for mailing, the combination with means for giving the sheet two parallel folds, of means including suitable stops for presenting the sheet to the folding devices so that the first fold will be at unequal distances from the front and rear edges of the sheet, and means for giving the sheet a fold at right angles to the preceding folds.

13. In a delivery for folding newspapers for mailing, the combination with means for giving the sheet a central fold, of two pairs of folding-rolls, a rotating folding-blade co-operating with both pairs of rolls, and means including a tape-pathway and suitable stops for forwarding the folded sheet and presenting it to the blade and pairs of rolls so that it will receive two parallel folds, the first of which is at unequal distances from the front and rear edges of the sheet.

14. In a delivery for folding newspapers for mailing, the combination with means for giving the sheet a central fold, of two pairs of folding-rolls, a rotating folding-blade co-operating with both pairs of rolls, means including a tape-pathway and suitable stops for forwarding the folded sheet and presenting it to the blade and pairs of rolls so that it will receive two parallel folds, the first of which is at unequal distances from the front and rear edges of the sheet, and a blade and suitable folding-rollers for giving the sheet an additional fold at right angles to the preceding folds.

839,900. PACKING-RING. ARTHUR E. SPARROW, Chicago, Ill. Filed June 14, 1906. Serial No. 321,722.

Claim.—1. A rod-packing comprising an annulus formed of a plurality of separable sections, severally provided with antifrictional bearing-surfaces, spacing-blocks positively carried upon the outer faces of said sections and a split ring surrounding said sections in concentric relation and engaging the surfaces of said spacing-blocks.



2. The combination with a casing formed with a recess in its inner peripheral face, of a packing within said casing and comprising an annulus formed of a plurality of separable sections provided with antifrictional bearing-surfaces, a split ring concentrically surrounding said sections, spacing-blocks carried by said sections and having connection with said ring and a stop-pin carried by one of said sections and projecting through said ring to engage said recess in said casing.

839,901. GYRATORY CRUSHER. WILLIAM A. SPRING, Harvey, Ill., assignor to Austin Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 11, 1905. Serial No. 249,651.

Claim.—1. In a gyratory crusher, the combination of a spider-head bored axially to accommodate a main gyratory shaft, a supporting-sleeve having screw-threaded engagement with said spider-head and provided with an internal annular supporting-shoulder, and a main shaft provided at its upper end portion with an overhanging annular shoulder supported by the annular shoulder of the supporting-sleeve.

2. In a gyratory crusher, the combination of a spider-head bored to accommodate the upper end of a main gyratory shaft, a supporting-sleeve externally screw-threaded vertically adjustable in said spider-head, an inwardly-projecting, upwardly-facing annular supporting-shoulder upon said sleeve, a main shaft provided with an annular overhanging supporting-shoulder adapted to coöperate with the supporting-shoulder of the sleeve, and an independent bearing-ring interposed between said shoulders.

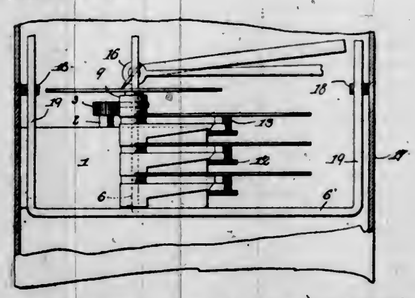
3. In a gyratory crusher, the combination of a spider-head bored to accommodate the upper end of a main gyratory shaft, a supporting-sleeve vertically adjustable in said spider-head, means for locking said sleeve in adjusted position, an inwardly-projecting, upwardly-facing annular supporting-shoulder upon said sleeve, a main gyratory shaft provided with an annular overhanging supporting-shoulder adapted to coöperate with the shoulder of the sleeve, and a washer member interposed between said shouldered parts, one face of said washer member being formed with a surface concentric with the center of gyration of said main shaft, and a contacting member which engages said surface provided with a corresponding surface.

4. In a gyratory crusher, the combination of a spider-head bored axially to accommodate a main gyratory shaft, a supporting-sleeve vertically adjustable in said spider-head and provided with an internal annular supporting-shoulder, a main shaft provided with an annular overhanging supporting-shoulder arranged in overlapped relation to the supporting-shoulder of the sleeve, and a pair of bearing-rings interposed between said shoulders in superposed relation, the meeting surfaces of said bearing-rings being formed substantially concentric with the center of gyration of the main shaft.

5. In a gyratory crusher, the combination of a spider-head bored axially to accommodate a main gyratory shaft, a supporting-sleeve vertically adjustable in said spider-head and provided with an annular inwardly-projecting supporting-shoulder, a main shaft provided at its upper end with a detachable cap member, the peripheral portions of which project beyond the sides of the main shaft and form an overhanging supporting-shoulder, and one or more bearing-rings interposed between the shoulder of said cap member and the annular shoulder of the supporting-sleeve.

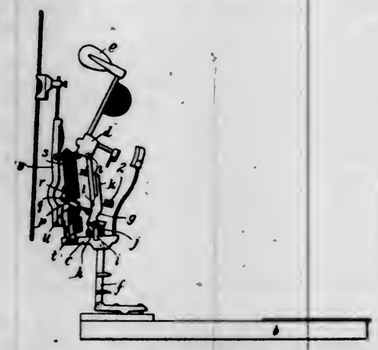
6. In a gyratory crusher, the combination of a spider-head bored to accommodate the upper end of a main shaft and counterboard above the bearing for said main shaft, a fixed bushing seated in said counterbore and internally threaded, a supporting-sleeve externally threaded and fitting within said bushing, said supporting-sleeve being provided with an inwardly-projecting annular supporting-shoulder, and a main shaft provided with an annular overhanging shoulder overlapping the shoulder of the supporting-sleeve and supported by the latter, substantially as described.

839,902. PHONOGRAPH AND DISK-HOLDER. WALTER C. SPURGEON, Milroy, Ind. Filed June 26, 1906. Serial No. 323,506.



Claim.—The combination with a motor, a vertically-adjustable shaft located in the vicinity thereof, a plurality of disk-supporting arms journaled on said shaft, a vertically-movable frame supporting said shaft and snug-fitting guides receiving said frame.

839,903. PIANO-ACTION. ROLAND M. SQUIRE, Montreal, Quebec, Canada. Filed Mar. 23, 1905. Serial No. 251,637.



Claim.—1. In a piano the combination with a rail, a key, a hammer, the butt of the hammer, a part movable with the key and means including a member effecting a direct and temporarily-rigid connection between the said part movable with the key and the hammer, such means being permanently pivotally connected to both the butt and the said part movable with the key, of movable means carried by the rail and the path of movement whereof intersects the said first-mentioned means, and the said movable means being constructed and arranged to be impinged upon and moved by the first-mentioned means and the said rigid connection broken.

2. In a piano the combination with a rail, a hammer, a key, and a jointed jack the members whereof coact to retain each other against movement in one direction upon their joint, of a movable member carried by the stationary part of the piano and disconnected from the jointed jack and adapted to be impinged upon by the jointed jack to cause the members of the latter to turn on their joint, for the purpose set forth.

3. In a piano-action the combination with a hammer, a key, a rail and a jointed jack, of an arm pivoted to the rail adjacent to and disconnected from the jointed jack and adapted to be impinged upon by the jointed jack to cause the members of the latter to turn on their joint, for the purpose set forth.

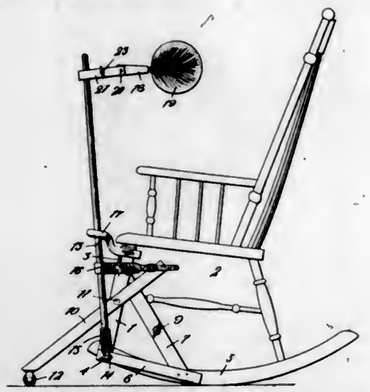
4. In a piano the combination with a rail, a hammer, a key, and a jointed jack the members whereof overlap each other to prevent movement in one direction upon their joint; of a movable yielding member carried by the stationary part of the piano and disconnected from the jointed jack and adapted to be impinged upon by the jointed jack to cause the members of the latter to turn on their joint, for the purpose set forth.

5. In a piano-action the combination with a hammer, a key, a rail and a jointed jack, of an arm pivoted to the rail and disconnected from the jointed jack, a member secured to the free end thereof by a screw adjustable into and out of such end, such member being adapted to be impigned upon by the jointed jack to cause the parts of the latter to turn on their joint, for the purpose set forth.

6. In a piano-action the combination with a hammer, a key, and a jointed jack, of a duplex rail, an arm extending between the parts of the rail means pivotally connecting the rear end of the arm to the rear side of the upper part of the rail, the forward end of such arm being in position to be impinged upon by the jointed jack for the purpose set forth.

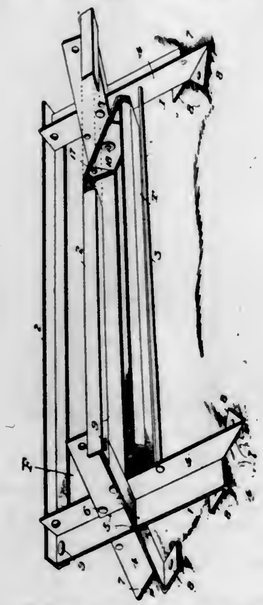
7. In a piano-action the combination with a hammer, a key, and a jointed jack, of a duplex rail, an arm extending between the parts of the rail, means pivotally connecting the rear end of the arm to the rear side of the upper part of the rail, the forward end of such arm being in position to be impinged upon by the jointed jack, and a damper-lever having a portion thereof curved to accommodate the rear end of the pivoted arm, for the purpose set forth.

839,904. FAN-ATTACHMENT FOR ROCKING-CHAIRS. SAMUEL J. TAYLOR, Grants Pass, Oreg. Filed June 14, 1906. Serial No. 321,707.



Claim.—A fan attachment for rocking-chairs consisting of a frame having an upright adapted to be located along the leg of the chair, a horizontal piece attached to said upright and adapted to extend along the side of the rocker of the chair, shoulders located at the upper and lower ends of said upright and adapted to prevent the same from moving laterally or longitudinally, a brace connecting said upright with said horizontal piece, a clamping-bar located in juxtaposition with relation to said brace and being connected with the same by a clamping-bolt, a fan-shaft rotatably mounted upon said frame, a lever fulcrumed to the frame and being operatively connected with said fan-shaft.

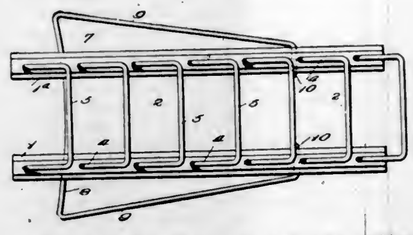
839,905. METALLIC FEED-BOX. HARRY M. THAYER, Woodhull, Ill. Filed June 27, 1906. Serial No. 323,576.



Claim.—1. In a metallic feed-box, a holding-frame comprising oppositely-arranged X-shaped end leg-stands, consisting of angle-bar leg members arranged in crossing-relation the one provided with an L-shaped slot to receive the other, said leg members being rigidly secured together and provided with rest-feet at their lower ends, angle-bar guard-rails connecting the upper ends of the leg members of the opposite stands, and longitudinal rest-bars also connecting the leg members in a plane below the guard-rails, and a tilting metallic trough pivotally hung within the holding-frame in a plane between said rest-bars.

2. In a metallic feed-box, a metallic holding-frame, a tilting feeding-trough consisting of a single blank of sheet metal struck up to form a trough-body, and provided at its end with an upstanding end wall-flap having an outturned locking-flange at its upper edge, corner-flaps bent from the sides of the trough-body, arranged in overlapping relation at one side of the end wall-flap and beneath the locking-flange thereof, and rim extension-strips extended from the rim portions of the trough-body and arranged in overlapping relation to the corner-flaps, and pivot-trunnions fitted to said frame and extending through the several overlapping elements at the ends of the trough-body.

839,906. DISPLAY DISH-RACK. JOHN B. TIMBERLAKE, Jackson, Mich. Filed June 16, 1904. Serial No. 212,873.



Claim.—1. A dish-holding rack having in combination two side supporting-bars, a series of cross-connecting dish-engaging rods pivotally connected to the said supports and adapted to permit them to fold against each other, and means for holding the said side supports and cross-connecting rods as a series in an inclined position, substantially as set forth.

2. A dish-holding rack having in combination a series of uniformly-spaced rearwardly-inclined dish-supports, a rearwardly-inclined support at the top of said series adapted to support a relatively larger dish than those supported by the said first-mentioned supports, and a standard for said dish-holding element, substantially as set forth.

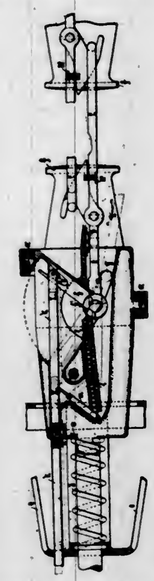
3. A dish-holding rack comprising two side bars, a series of cross-connecting dish-engaging rods pivotally connecting the bars and arranged to permit them to fold close to each other when the rack is not in use, and means for holding the side bars apart and for supporting them in an inclined position, substantially as set forth.

839,907. COUPLING FOR RAILWAY-VEHICLES. ERNST ULBRICH, Munich, Germany. Filed Aug. 13, 1906. Serial No. 330,291.

Claim.—1. In a coupling for railway-vehicles, a coupling-casing, a laterally-movable coupling member pivoted therein, an arm fulcrumed to the pivots of the said member for locking it in position when coupled and a spiral spring connected with the said pivoted end for coupling the member previous to being locked in position and uncoupling it after having been released by the said arm, all combined substantially as and for the purpose set forth.

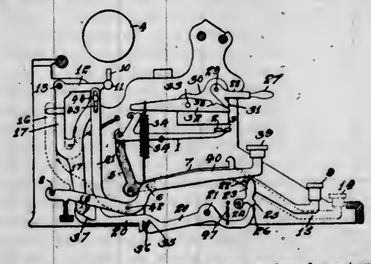
2. In a coupling for railway-vehicles, a coupling-casing having in its wall bearings and laterally-inclined slots communicating therewith, a turnable bush in each of the said bearings having an opening in its periphery and a coupling member having pivots engaging in the said bushes, the said slots receiving the said pivots when the said bush-openings coincide with the respective slot ends, all combined substantially as and for the purpose set forth.

3. In a coupling for railway-vehicles, a coupling-casing having in its wall bearings and laterally-inclined slots communicating therewith, a turnable bush in each of the said bearings open at the periphery, a coupling member having pivots engaging in the said bushes, a spiral spring having one end secured to the pivoted end of the said member and means in connection with the other end of the said spring for tensioning or compressing the spring to slide the said pivot into and out of the said bushes, all combined substantially as and for the purpose set forth.



4. In a coupling for railway-vehicles, a coupling-casing having in its wall bearings and laterally-inclined slots communicating therewith, a turnable bush in the said bearings open at the periphery, a coupling member having pivots engaging in an arm secured to the said bushes, a slidable rod in the said casing having two recesses and its front end engaging the said arm, a spiral spring one end of which is secured to the pivoted end of the said member, a lever inside the said casing to one end of which is secured the other end of the said spring and the other end adapted to engage in the said recesses and means operated from the side of the vehicle for moving the said rod backward and forward, all combined substantially as and for the purpose set forth.

839,908. TYPE-WRITING MACHINE. HERMAN L. WAGNER, Mount Vernon, N. Y., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed June 7, 1906. Serial No. 320,582.



Claim.—1. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a projection upon said frame, a lever having locks to engage

said projection to lock said frame in either of its shift positions, a key at the keyboard having means to release the locks and throw said shifting frame, a normally idle spring connected to said lever, a handle provided with means for tensioning said spring, so that it vibrates said locking-lever, the latter having a cam to engage said projection and throw said shifting frame during the action of said spring, and means being provided for mechanically latching said handle to maintain said spring in a tensioned position.

2. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a projection upon said frame, a lever having locks to engage said projection to lock said frame in either of its shift positions, a key at the keyboard having means to release the locks and throw said shifting frame, a normally idle spring connected to said lever, a handle provided with means for tensioning said spring, so that it vibrates said locking-lever, the latter having a cam to engage said projection and throw said shifting frame during the action of said spring, means being provided for mechanically latching said handle to maintain said spring in a tensioned position, and a second shift-key at the keyboard provided with means whereby it may return said shifting frame to initial position against the tension of said spring.

3. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a projection upon said frame, a lever having locks to engage said projection to lock said frame in either of its shift positions, a key at the keyboard having means to release the locks and throw said shifting frame, a normally idle spring connected to said lever, a handle provided with means for tensioning said spring, so that it vibrates said locking-lever, the latter having a cam to engage said projection and throw said shifting frame during the action of said spring, means being provided for mechanically latching said handle to maintain said spring in a tensioned position, and a second shift-key at the keyboard provided with means whereby it may return said shifting frame to initial position against the tension of said spring; said frame being shiftable by said spring while the first-mentioned key remains stationary; and the frame being also shiftable by the first-mentioned key while the second key remains stationary.

4. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a key at the keyboard provided with means for shifting said frame, a normally idle and relaxed spring connected to said frame, and a handle at the keyboard for tensioning said spring and causing it to throw said shifting frame.

5. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a key at the keyboard provided with means for shifting said frame, a normally idle spring connected to said frame, a handle at the keyboard for causing said spring to throw said shifting frame, and a key at the keyboard, which is normally silenced, but which is provided with means for returning said shifting frame to normal position against the tension of said spring.

6. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a key at the keyboard having means to shift said frame, a handle at the keyboard having means to shift said frame independently of said key, means mechanically detaining said handle in working position, and a second key at the keyboard having means for returning said shifting frame to initial position, while said handle remains in working position.

7. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a projection upon said frame, a lever having locks to engage said projection to lock said frame in either of its shift positions, a key at the keyboard having means to vibrate said lever to release the locks, and also having means to throw said shifting frame, a normally idle spring connected to said lever, a lever for tensioning said spring, a handle at the keyboard having a projection to engage said tensioning-lever for vibrating the same to tension said spring, said tensioning-lever having a notch to engage the projection on said handle for detaining it in working position, a second key at the keyboard mounted upon a lever, and a link extending from the last-mentioned lever to said shifting frame for returning the same to normal position against the tension of said spring; said link having a loose connection to said shifting frame to enable the latter to be thrown independently of the link.

8. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a key for shifting said frame, a spring which is normally silenced, means for causing said spring to shift said frame in the same manner in which the frame is shiftable by said key, and a second key having means for returning the frame to initial position against the tension of said spring.

9. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a key for shifting said frame, a spring which is normally silenced, means for causing said spring to shift said frame in the same manner in which the frame is shiftable by said key, and a second key having means for returning the frame to initial position against the tension of said spring; the latter being effective upon the release of said second key from pressure to return said frame to its shifted position.

10. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a key for shifting said frame, a spring connected to said frame, but normally ineffective to shift the latter, a finger-piece having means for rendering said spring effective to shift said frame, a latch for holding said spring in effective condition, and a second key having means for returning the frame to initial position against the tension of said spring.

11. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a spring normally silenced during the shifting of said frame, a finger-piece having means to put said spring under tension, and means being provided for enabling the spring to detain the finger-piece in its depressed position, means for enabling the spring when tensioned by said finger-piece to shift said shifting frame, and a key for returning said shifting frame to initial position against the tension of said spring.

12. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a spring normally silenced during the shifting of said frame, a finger-piece having means to put said spring under tension, and means being provided for enabling the spring to detain the finger-piece in its depressed position, means for enabling the spring when tensioned by said finger-piece to shift said shifting frame, and a key-lever having a link which has a connection to said shifting frame to enable the lever to return the latter to initial position.

13. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a key-operated lever having means to shift said frame, a spring connected to said frame but normally silenced and relaxed during the operations of said lever, and a finger-piece having means to put said spring under tension, and cause the spring to operate said lever to shift said frame.

14. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a key-operated lever having means to shift said frame, a spring connected to said frame but normally silenced during the operations of said lever, a finger-piece having means to put said spring under tension, and thereby cause the spring to operate said lever to shift said frame, and a second key having means to shift said frame against the tension of said spring.

15. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a key-operated lever having means to shift said frame, a finger-piece, a second lever controlled by said finger-piece, a spring extending from one of said levers to the other and extensible by means of the operation of said finger-piece, so as to shift said frame.

16. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a key-operated lever having means to shift said frame, a finger-piece, a second lever controlled by said finger-piece, a spring extending from one of said levers to the other and extensible by means of the operation of said finger-piece, so as to shift said frame, and a second key having means to shift said frame against the tension of said spring.

17. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a key-operated lever having means to shift said frame, a finger-piece, a second lever controlled by said finger-piece, a spring extending from one of said levers to the other and extensible by means of the operation of said finger-piece, so as to shift said frame against the tension of said spring; means being controlled by said finger-piece for mechanically maintaining said spring in a tensioned condition.

18. In a case-shifting mechanism for a type-writing machine, the combination with a frame to be shifted, a lever having means for locking said frame against accidental shifting, a key for operating said lever to release the locking means, means independent of said lever and operated by said key for shifting said frame, a normally silenced spring loosely connected to said lever, a finger-piece having means to put said spring under tension, and a cam upon said lever for enabling said spring to shift said frame.

19. In a case-shifting mechanism for a type-writing machine, the combination with a frame to be shifted, a lever having means for locking said frame against accidental shifting, a key for operating said lever to release the locking means, means independent of said lever and operated by said key for shifting said frame, a normally silenced spring loosely connected to said lever, a finger-piece having means to put said spring under tension, a cam upon said lever for enabling said spring to shift said frame, and a second key having means for returning said shifting frame against the tension of said spring.

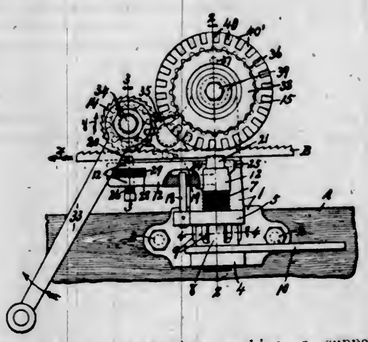
20. In a case-shifting mechanism for a type-writing machine, the combination of a frame to be shifted, a lever formed with locking-notches and also with a cam, said frame having an arm provided with a projection for co-operating with said notches and said cam, a key having means to operate said lever to release the frame from one of said locking-notches, and also having means independent of said lever for shifting said frame, a spring connected to said frame but normally silenced, a finger-piece having means for putting said spring under tension and causing the same to operate said lever to shift said frame by means of said cam, means operated by said finger-piece for mechanically maintaining said spring in a tensioned condition, and a second key having means for returning said frame to normal position, and causing it to cam said lever against the tension of said spring.

21. In a case-shifting mechanism for a type-writing machine, the combination with a frame to be shifted, of a key, means operated thereby for shifting said frame from lower-case to capital position and holding the frame in its shifted position, a separate finger-piece, means controlled by said finger-piece for setting said frame to capital position and mechanically detaining it there, a second key normally silenced, and means rendered effective by the frame-setting operation of said finger-piece, for enabling the second key to return the frame to normal position.

22. In a case-shifting mechanism for a type-writing machine, the combination of a finger-piece, means operated thereby for shifting said frame to capital position, means rendered effective by the operation of said finger-piece for mechanically detaining the frame in capital position, a normally silenced key, and means rendered effective by the frame-shifting movement of said finger-piece, for enabling said key to return said frame to normal position.

23. In a case-shifting mechanism for a type-writing machine, the combination with a frame to be shifted, of a finger-piece, means for enabling said finger-piece to shift said frame to capital position, means rendered effective by the frame-shifting operation of said finger-piece for mechanically detaining the frame in capital position, a normally silenced key, and means also rendered effective by the frame-shifting movement of said finger-piece, for enabling said key to return said frame to normal position.

839,909. SAW-SETTING MACHINE. HARRY WATKINS and DANIEL C. DYE, Utica, N. Y. Filed Dec. 5, 1905. Serial No. 290,395.



Claim.—1. In a saw-setting machine, a supporting-frame, a rotary disk having saw-setting teeth radiating inside of the tooth-setting wheel, means to rotate the feeding-wheel, means for transmitting motion from the feeding-wheel to the saw-setting wheel, a vertically-adjustable saw-support directly under the saw-setting wheel, and an additional vertically-adjustable saw-support directly under the feeding-wheel.

2. In a saw-setting machine, a supporting-frame, a saw-setting wheel and a saw-feeding wheel both mounted upon the supporting-frame and connected for synchronous rotation, a vertically-adjustable screw mounted on the frame, an arm mounted upon the upper end of the screw and extending under the lower faces of the saw-setting wheel and the saw-feeding wheel, a grooved saw-guide rigid on the arm directly under the saw-setting wheel, an additional grooved saw-guide mounted on the arm directly under the feeding-wheel, means for adjusting said arm vertically and separate means for adjusting the additional grooved saw-guide vertically.

839,910. TELEPHONE SYSTEM. HARRY G. WEBSTER, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 12, 1902. Serial No. 134,897.

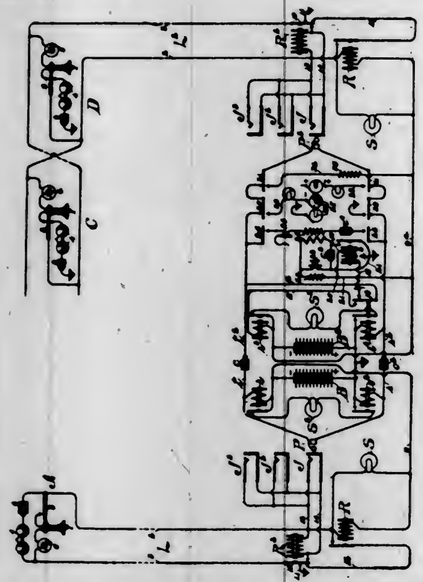
Claim.—1. In a telephone system, the combination with a telephone-line, of a line-relay and a source of current connected therewith, a cut-off relay adapted when operated to connect one side of the line with one contact of the jack, a cord-circuit to establish connections with the line, and a supervisory relay associated with the cord-circuit and adapted to be connected in shunt with said line-relay during the time when a connection is established, said cut-off relay being also operated when a connection is made, substantially as described.

2. In a telephone system, the combination with a telephone-line, of a line-signaling device and a source of current normally connected with the line, a cut-off relay adapted to be bridged across the line during conversation, and a supervisory relay associated with the cord-circuit and adapted to shunt said line-signaling device during the time when a connection is established with the line, substantially as described.

3. In a telephone system, the combination with a telephone-line, of a line-relay and a source of current normally connected therewith, a cut-off relay for the line, a pair of supervisory relays one upon each side of said source, and means for including one of said relays in a local circuit with said source and the cut-off relay whereby they are operated during the time that the connection is established, the other supervisory relay being arranged to shunt the line-relay whereby the latter is rendered inoperative, substantially as described.

4. In a telephone system, the combination with a telephone-line, of a line-relay, and a source of current for the

line, a cut-off relay, a pair of supervisory relays for the line, means for including the said source, one of the supervisory relays and the said cut-off relay in a local circuit, said local circuit including parallel branches, the line-relay being located in one of said branches, and the other supervisory relay in the other of said branches, substantially as described.



5. In a telephone system, the combination with a telephone-line, of a high-resistance cut-off relay therefor, a cord-circuit, a supervisory relay associated therewith, said supervisory relay being of low resistance and having a current flowing through its coil whenever the cord is connected with a line, and being adjusted to respond to current in the line during the time the subscriber's instrument is in use, but to be irresponsive to the current through its coil when the line-circuit is open, substantially as described.

6. In a telephone system, the combination with a telephone-line, of a plurality of spring-jacks or connection-terminals therefor, the contacts of said jacks upon one side of the circuit being permanently connected with the line conductor, and the contacts upon the other side of the circuit being normally disconnected from the corresponding conductor, and a cut-off relay for the line independently bridged thereacross and adapted when operated to connect said disconnected terminals with the line conductor, substantially as described.

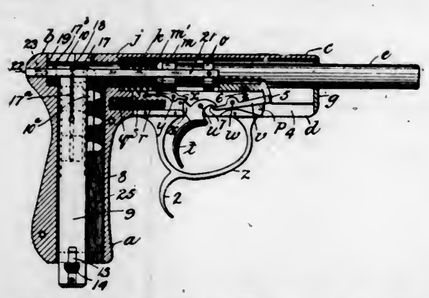
7. The combination with a telephone-line, of a high-resistance line-signaling device, a cut-off relay for the line adapted to be bridged across the talking-circuit during conversation, a supervisory signal adapted to be connected in shunt of the line-signaling device during the time when a connection is established, said cut-off relay being operated at the same time to render the line-signal inoperative, substantially as described.

8. In a telephone system, the combination with a plurality of telephone-lines, a line-relay for each of said lines, a cord-circuit to connect said lines together for conversation, two supervisory relays for said cord-circuit, one adapted to be connected in series, and the other in parallel with said line-relay while the cord-circuit is connected with the line, substantially as described.

9. In a telephone system, the combination with a telephone-line, of a line and a cut-off relay for said line, and means whereby current will pass through said line and cut-off relays in series during connection with said line, substantially as described.

10. In a telephone system, the combination with a plurality of telephone-lines, of a cord-circuit to connect said lines together for conversation, two supervisory relays for said cord-circuit, a cut-off relay for said line adapted to be actuated in series with said supervisory relays and in parallel with one of said lines, substantially as described.

839,911. MAGAZINE-PISTOL. JOSEPH H. WESSON, Springfield, Mass. Filed Mar. 1, 1905. Serial No. 247,912.



Claim.—1. In a firearm of the character described, a suitable frame and a recoil-plate thereon, a barrel slidable toward and from said plate, a magazine across the delivery end of which the barrel moves to pick up a cartridge, a firing mechanism comprising a hammer, an actuating-spring therefor, and a trigger, a locking device for the barrel, and means operatively disposed relative to the trigger to effect the locking of the barrel in advance of the release of the hammer, said means comprising a pivoted stop-lever one end of which is engaged by a portion of the trigger, and the opposite end of which is adapted to enter an upwardly-extending slot in the forward lower portion of the frame.

2. In a firearm of the character described, a suitable frame and a recoil-plate thereon, a barrel slidable toward and from the recoil-plate, and means independent of the trigger to slide the barrel toward the recoil-plate, a device to lock the barrel to the frame in firing position, a trigger movable with the barrel, a firing mechanism comprising a hammer, a mainspring, and a firing-pin; means to cock the hammer by the movement of the barrel toward the recoil-plate, and means to actuate the barrel-locking device by the movement of the trigger, in advance of the release of the hammer.

3. In a firearm of the character described, a suitable frame and a recoil-plate thereon, a barrel slidable toward and from the recoil-plate, a device to lock the barrel to the frame in firing position, a trigger movable with the barrel, a firing mechanism comprising a hammer, a mainspring, and a firing-pin; means to cock the hammer by the movement of the barrel toward the recoil-plate, and means to actuate the barrel-locking device by the movement of the trigger in advance of the release of the hammer, in combination with a magazine and suitable feeding devices in the latter to locate a cartridge in the path of the movement of the barrel toward the recoil-plate, said locking means comprising a pivoted stop-lever one end of which is engaged by a portion of the trigger, and the opposite end of which is adapted to enter an upwardly-extending slot in the forward lower portion of the frame.

4. In a firearm of the character described, a suitable frame and a recoil-plate thereon, a barrel slidable in the frame toward the recoil-plate, and a spring to move the barrel in the opposite direction; a trigger, a sear, and a barrel-locking lever mounted on a lug on the barrel, and means to actuate the locking-lever, by the movement of the trigger, in advance of the actuation of the sear; a hammer operatively located relative to the sear to be moved to cocked position by the movement of the barrel toward the recoil-plate, and a suitable firing-pin operatively disposed for actuation by the hammer upon the release of the latter.

5. In a firearm of the character described, a suitable frame and a recoil-plate thereon, a barrel slidable in the frame toward the recoil-plate, and a spring to move the barrel in the opposite direction; a trigger, a sear, and a barrel-locking lever mounted on a lug on the barrel, and means to actuate the locking-lever by the movement of the trigger, in advance of the actuation of the sear; a hammer operatively located relative to the sear to be moved to cocked position by the movement of the barrel toward the recoil-plate, and a suitable firing-pin operatively disposed for actuation by the hammer upon the release of the latter, in combination with a magazine, and suitable feeding devices in the latter to locate a cartridge in the path of the movement of the barrel toward the recoil-plate.

6. In a firearm of the character described, a suitable frame and a recoil-plate thereon, a barrel slidable in the frame toward and from said plate, a firing mechanism comprising a mainspring, a hammer, and a trigger, the latter being movable with the barrel; means, independent of the trigger to slide the barrel toward the recoil-plate, and a spring to return the same to normal position, the hammer being disposed relative to the barrel to be moved to cocked position by the movement of the barrel toward the recoil-plate, the trigger being operatively located relative to the hammer to release the latter at the proper time.

7. In a firearm of the character described, a frame and a recoil-plate thereon, a barrel slidable in the frame toward and from said plate, a member loose in the frame, movable in one direction with the barrel and constituting a hammer, a second member loosely mounted on the barrel and against which the first-mentioned member strikes when released, straps connected with the firing-pin, a spring to move said member in the opposite direction, a firing-pin operatively disposed relative to said members, together with a sear and a trigger movable with the barrel, said sear to engage the hammer member and said trigger to effect the release of the sear, and means to slide the barrel whereby when the sear releases the hammer member the second-mentioned member is engaged thereby and the blow is transferred to the firing-pin by the second member as described.

8. In a firearm of the character described, a frame, and a recoil-plate thereon, a member loose in the frame and slidable therein with the barrel toward the recoil-plate and constituting a hammer, a second member loosely mounted on the barrel and against which the first-mentioned member strikes when released, straps connected with the firing-pin, a firing-pin operatively disposed relative to said hammer, a spring to move the latter in the opposite direction, and means, comprising a trigger and a sear for releasing the hammer at the proper time, in combination with a magazine and feeding devices therein to locate a cartridge in the path of the movement of the barrel toward the recoil-plate, and a spring to move the barrel away from the recoil-plate, whereby when the sear releases the hammer member the second-mentioned member is engaged thereby and the blow is transferred to the firing-pin by the second member, as described.

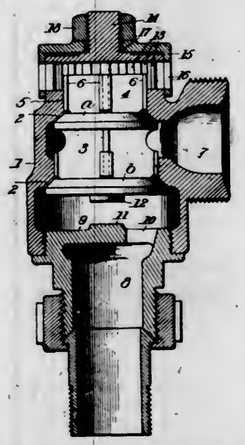
9. In a firearm of the character described, a suitable frame, and a recoil-plate thereon, a barrel slidable toward and from the plate and means independent of the trigger to slide the barrel, a device movable with the barrel to lock the latter in firing position, a trigger to actuate said device in advance of the release of the hammer, interfering means to block the movement of the trigger before the barrel reaches a firing position, a suitable hammer, and means to move the latter to cocked position by the movement of the barrel toward the recoil-plate, and a sear operatively disposed relative to the hammer and trigger.

10. In a firearm of the character described, a suitable frame and a recoil-plate thereon, a barrel slidable in said frame toward and from said plate, there being a chamber in the frame through which the barrel extends, separate members slidable on the barrel in said chamber, one of which members constitutes a hammer; a rigid connection extending from the other of said members lengthwise of the barrel, a firing-pin loosely mounted in the frame behind the recoil-plate and extending through the latter, with which pin said rigid member is connected; a mainspring between the hammer and the frame, and means to move the hammer to cocked position by the movement of the barrel toward the recoil-plate, and suitable mechanism to lock the barrel in firing position, and a trigger to effect the release of the hammer.

11. In a firearm of the character described, a suitable frame and a recoil-plate thereon, a barrel slidable in the frame toward and from the recoil-plate, means independent of the trigger to slide the barrel, a magazine in the handle below and in front of an ejector-opening in the top of the frame, means to limit the upward movement of the shells in axial alinement with the barrel and in front of the opening whereby when the barrel is moved toward the rear to firing position the topmost shell is pushed against the recoil-plate, and whereby after the barrel is advanced the empty shell is ejected.

12. In a magazine-pistol, a frame, a barrel slidable therein by means independent of the trigger, and across an opening in the frame, springs arranged on the magazine and adapted to engage a crease in the uppermost cartridge when held in axial alinement with the barrel, whereby, when the cartridge is engaged by the barrel the same will be disengaged from the springs and carried back against the recoil-plate.

839,912. COMPRESSION AND VACUUM RELIEF-VALVE. EUGENE B. WHELAN, St. Louis, Mo. Filed Mar. 1, 1905. Serial No. 247,883.



Claim.—1. A combined compression and vacuum relief-valve, comprising a casing, a valve movable therein having spaced seats, a communication between the casing intermediately of said seats and the steam-chest, a communication between the casing at one end of the valve and the cylinder, and a communication between the casing at the opposite end of the valve and the atmosphere.

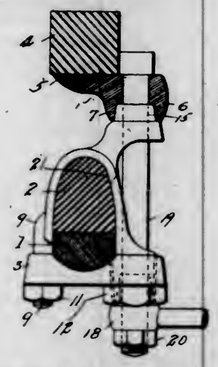
2. A combination compression and vacuum relief-valve comprising a casing, air-inlets formed therein, communications between the casing and the steam-chest and cylinder of an engine, a valve controlling communication between said communications and the inlet of air thereto, and a cap adjustable on said casing for varying the size of or entirely closing said air-inlets.

3. A combined compression and vacuum relief-valve comprising a casing having air-inlet ports at one end, a valve movable therein having spaced seats, a communication between the casing intermediately of said seats and the steam-chests, a communication between the casing at one end of the valve and the cylinder, and means for varying the size of or entirely closing, the air-inlet ports.

839,913. VEHICLE-GEAR. FRANK E. WILCOX, Mechanicsburg, Pa. Filed Sept. 29, 1906. Serial No. 336,705.

Claim.—1. A king-bolt clip having a front threaded prong or bolt end, a rear prong, and a head fashioned and

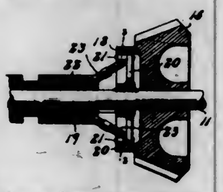
cut from the rear prong and turned upwardly and fashioned with a projection 15, the said head and projection being perforated.



2. A king-bolt clip having a front prong or bolt end, a rear prong, and a head cut from the rear prong and turned upwardly, said head being reinforced by a foot 17, in substance as set forth.

3. The combination with an axle, axle-cap, and head-block plate having a perforated lug, of a clip, axle-yoke, brace-head, and king-bolt, said clip having a perforated head adapted to interlock with the lug of the head-block plate and a foot 17 bearing against the surface of the axle-cap, for the purpose set forth.

839,914. DRIVING MECHANISM FOR TRACTION-ENGINES. MATTHEW WILSON, Dysart, Iowa. Filed Feb. 19, 1906. Serial No. 301,862.

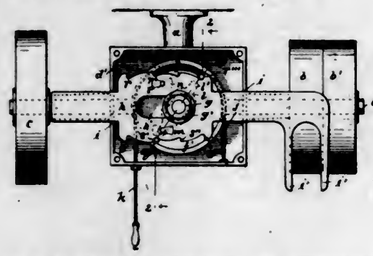


Claim.—In driving and reversing mechanisms for traction-engines and other vehicles, a driven shaft, a pair of bevel-gears mounted loosely on the shaft and facing in opposite directions, respectively, a pair of clutches for locking the bevel-pinions to the shaft, a sleeve carried by the shaft and forming an operating member for both clutching devices, a sleeve-actuating lever, an axle, a bevel-gear thereon, a counter-shaft disposed at an angle to both the driving-shaft and the axle, and a bevel-gear and a bevel-pinion carried by the counter-shaft, the gear intermeshing with the pair of loose bevel-pinions, and the pinion intermeshing with the bevel-gear of the axle, whereby movement may be transmitted from the driving-shaft to the axle in either direction, and the vehicle may be stopped without stopping the movement of the driving-shaft.

839,915. BELT-SHIFTING APPARATUS. NILS H. ANDERSON, Bridgeport, Conn., assignor to Builders' Iron Foundry, Providence, R. I., a Corporation of Rhode Island. Filed June 4, 1906. Serial No. 320,006.

Claim.—1. In a belt-shifting apparatus, the combination of a stud and pulley mounted thereon, a spring for holding the pulley in its normal position, a belt-slide and a pawl on the pulley and adapted to engage the slide to alternately shift it in opposite directions with the successive manipulations of the wheel.

2. In a belt-shifting apparatus, the combination of a stud, a pulley mounted thereon a spring to hold it in a normal position, a cord to rock the pulley, a belt-slide adjoining the pulley, a pawl carried by the pulley bearing fingers to engage the slide, and a spring to normally hold the pawl into engagement with the slide.



3. In a belt-shifting apparatus, the combination of a hanger bearing a stud, a casing inclosing the stud, a rocker-pulley mounted upon the stud, a spring to hold the pulley in its normal position, a cord to rock the same against the action of the spring, a slide having notches, and a spring-actuated pawl carried by the pulley with fingers to engage the notches of the slide.

4. In a belt-shifting apparatus, the combination of a shouldered stud, a rocker-pulley mounted against said shoulder and bearing a sleeve, a belt-slide mounted upon the sleeve of the pulley, a pawl having a pair of fingers passing through openings of the pulley to engage the slide, a sleeve upon the stud to engage the pawl and a spring adapted to hold the pawl against the slide.

5. In a belt-shifting apparatus, the combination of a belt-slide having notches in its side, a rocker-pulley adjoining the slide, means for imparting a rocker movement to said pulley, a double-pointed pawl carried by the pulley adapted to alternately engage the notches of the slide in a way to move the slide first in one direction and then the other by the movement of the pulley.

6. In a belt-shifting apparatus of the class described, the combination with a stud, of a rocker-pulley mounted thereon having holes therethrough, a spring-actuated pawl with fingers passing through the holes of the pulley, a spring to normally hold said pawl in such position, and a belt-slide adjacent to the pawl having notches for the engagement of the fingers of the pawl and whereby said slide is operated in opposite directions with the successive operations of the pulley.

7. In a belt-pulley-shifting apparatus, the combination of a pulley and means for imparting thereto a rocker movement, a belt-slide adjoining the pulley, a pawl carried by the pulley having fingers to engage notches on the slide, and a spring to hold said fingers in such engagement, and a casing to inclose said mechanism.

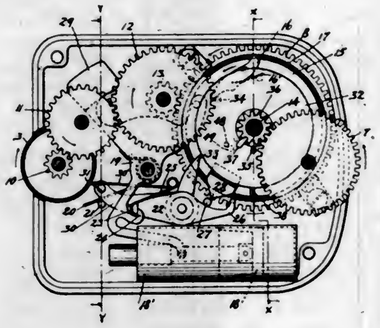
8. In a belt-pulley-shifting apparatus, the combination of a belt-slide having a series of pockets in its opposite edges, a rocker-pulley adjoining the slide having pins to engage the pockets of said slide to retain the same in its respective positions, and means carried by the rocker-pulley for shifting said slide in opposite directions.

9. In a belt-shifting apparatus, the combination of a pulley-slide bearing a series of pockets in its edges, a rocker-pulley adjacent to the slide, a pawl carried by the pulley to engage the slide and shift the same in opposite directions with each manipulation of the pulley, and pins upon the pulley to engage the pockets of the slide to hold the same against lateral movement.

10. In a belt-shifting apparatus, the combination with a slide having pockets in its edges and notches in its sides, of a rocker-wheel having pins to engage the pockets to lock the slide, a pawl carried by the pulley adapted to engage the notches of the slide, and means for imparting to the pulley a rocker movement.

839,916. TACHOMETER. FRED M. CARROLL, New Haven, Conn. Filed Dec. 6, 1905. Serial No. 290,617.

Claim.—1. In a mechanism for determining velocity, a wheel adapted to be driven, a dial, a driving connection from said driven wheel to said dial, timing mechanism, means for setting the timing mechanism into operation a short interval after the dial begins to move, and means for disconnecting the dial from the driving mechanism after a definite period of time.



2. In a mechanism for determining velocity, a wheel adapted to be driven, a dial, a driving connection from said driven wheel to said dial, timing mechanism, means for setting the timing mechanism into operation a short interval after the dial begins to move, means for disconnecting the dial from the driving mechanism after a definite period of time, and means for resetting the dial and timing mechanism.

3. In a mechanism for determining velocity, a driving-train, a dial, means of connection between said train and dial, timing mechanism, a dog for locking said timing mechanism, and means for engaging said dog for releasing said dogging mechanism when the zero-point of the dial is opposite the base-point for readings.

4. In a mechanism for determining velocity, a dial, means for rotating said dial, a timing-piston, a balanced frame connected to said piston, means moving with the dial for releasing said piston, and means controlled by said frame for stopping said dial.

5. In an instrument for determining velocity, a driving-train including an annular member having ratchet-teeth on the interior, a dial, a plate rotatable with said dial, a pawl carried by said plate and engaging said ratchet, and means for automatically disengaging said pawl.

6. In an instrument for determining velocity, a driving-train, a pawl, timing mechanism, a plate movable with said pawl, and means carried by said plate for releasing said timing mechanism.

7. In an instrument for determining velocity, a driving-train, a pawl, means of connection between said dial and with said pawl but having limited rotative movement relative thereto, and a dog controlled by said timing mechanism for engaging said ratchet.

8. In a mechanism for determining velocity, a dial, a driving-train, timing mechanism including a frame, a locking-dog engaging said frame, means for releasing said dog, and a second dog adapted to be operated by said train for stopping said dial.

9. In an instrument for determining velocity, timing mechanism including a pivoted spring-pressed frame and means for resetting said frame including a wheel, a projection carried thereby and a lever engaged by said projection and adapted to engage said frame.

10. In an instrument for determining velocity, timing mechanism including a pivoted spring-pressed frame and means for resetting said frame including a wheel, a projection carried thereby, a lever engaged by said projection and adapted to engage said frame, and means for limiting the rotation of said wheel.

11. In an instrument for determining velocity, a dial, a driving-train including an annular member, a plate movable with said dial, means for connecting said plate to said annular member, a ratchet, said annular member, plate and ratchet being mounted concentric with said dial, and stops carried by said plate and ratchet adapted to cooperate with each other for limiting relative movements.

12. In an instrument for determining velocity, a dial, a driving-train, means for connecting said train to said dial, a pinion mounted concentric with said dial, a wheel resettingly engaging said pinion, and means controlled by said pinion for resetting the dial.

13. In an instrument for determining velocity, a driving-train including an annular member, a plate, a spring-pressed pawl carried by said plate, a ratchet-wheel projection carried thereby adapted to engage said pawl, and means for automatically stopping said ratchet-wheel.

14. In an instrument for determining velocity, a driving-train, timing mechanism, and means for automatically releasing the timing mechanism upon the operation of the train.

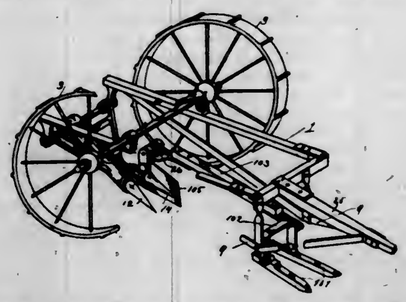
839,917. TROLLING ARTIFICIAL BAIT. WILLIAM D. CHAPMAN, Theresa, N. Y., assignor to Fred J. Sharp and Charles J. Smith, both of Watertown, N. Y. Filed Sept. 29, 1906. Serial No. 336,699.



Claim.—1. A trolling device, comprising a central rod or shaft having integral loops formed on each end thereof, a left-hand spinning member operatively mounted near the forward end of said rod or shaft, a sleeve or stop secured to said rod or shaft adapted to limit the longitudinal movement of said spinning member, a right-hand spinning member mounted on said rod or shaft adapted to spin or whirl around said first-named member, and a swivel attached to said rod or shaft, substantially as described.

2. A trolling artificial bait, comprising a central rod or shaft, a pair of spinning members concentrically arranged upon said rod or shaft adapted to rotate or spin in opposite directions when the device is drawn through water, and stops to limit the rearward movement of both of said spinning members, substantially as described.

839,918. GUIDE FOR ROOT HARVESTING AND CULTIVATING MACHINES. GEORGE F. CONNER, Port Huron, Mich. Filed Mar. 27, 1906. Serial No. 308,374.



Claim.—1. A guide for a root-working machine, comprising a directing member and a controlling member determining the angular position of the directing member in the machine.

2. A guide for a root-working machine comprising an earth-penetrating member whose angular position in the machine is determined by a row-following pilot.

3. A guide for a root-working machine having a universal-joint connection with the machine-frame, comprising a directing member and a row-following controlling member.

4. A guide for a root-working machine comprising a directing member and a leaf gathering and compressing member determining the angular position of the directing member in the machine.

5. A guide for a root-working machine, comprising an upright fin and a row-following member determining the angular position of the fin in the machine.

6. A guide for a root-working machine comprising an upright fin vertically pivoted in the machine, and a row-following member determining the angular position of the fin in the machine.

7. A guide for a root-working machine comprising an earth-cleaving, upright fin pivoted in the machine, and a row-following, controlling member determining the angular position of the fin in the machine.

8. A guide for a root-working machine, comprising a directing member and a pilot whose lateral position is controlled by the row along which it advances, determining the angular relation of the directing member in the machine.

9. A guide for a root-working machine comprising a directing member vertically pivoted in the machine-frame, and a row-following pilot, rigidly connected to the directing member.

10. A guide for a root-working machine comprising an earth-penetrating directing member vertically pivoted in the machine-frame, a row-following pilot, and a pilot-arm rigidly secured to the pilot and horizontally pivoted to the earth-penetrating directing member.

11. A guide for a root-working machine comprising a directing member and a row-following pilot determining the angular relation of the directing member to the machine, consisting of a pair of spaced runners adapted to bear against opposite sides of a beet row.

12. A guide for a root-working machine comprising a directing member and a row-following pilot consisting of a pair of runners spaced at an interval, bearing on the row in advance of the directing member, and secured to the forward end of an arm which is horizontally pivoted to the directing member.

13. A guide for a root-working machine comprising a directing member vertically pivoted in the machine, and a row-following pilot comprising a pair of runners yoked together and secured to the forward end of an arm horizontally pivoted to the directing member.

14. A guide for a root-working machine comprising an earth-penetrating member vertically pivoted in the machine, a pilot consisting of a downturned yoke and runners secured to the yoke ends, and a pilot-arm whose forward end is rigidly secured to the yoke and whose rear end is horizontally pivoted to the earth-penetrating member.

15. A guide for a root-working machine comprising an upright fin vertically pivoted in the machine, a pilot consisting of a downturned yoke and runners secured to the ends of the yoke, and a pilot-arm whose forward end is rigidly secured to the yoke and whose rear end is horizontally pivoted to the fin.

16. The combination with a beet-harvester of a guide comprising an earth-penetrating, directing member, and a row-following pilot determining the angular relation of the directing member to the harvester-frame.

17. The combination with a beet-harvester having a main frame and pulling members secured thereto, of, a guide comprising an earth-penetrating, directing member pivotally secured near the pulling members, and a row-following pilot in advance of the pulling members, determining the angular relation of the directing member and the main frame.

18. The combination with a beet-harvester having a main frame and pulling members secured thereto, of a guide comprising an earth-penetrating, directing member pivotally secured near the pulling members, and a row-following pilot determining the angular relation of the directing member to the main frame, secured to the directing member independently of the main frame.

19. The combination with the main frame of a beet-harvester, of a guide secured thereto by a universal-joint connection, said guide comprising an earth-penetrating, directing member and a row-following pilot determining the angular relation of the main frame and directing member.

20. The combination with the main frame of a beet-harvester of a guide secured thereto by a universal-joint connection only, said guide comprising an earth-penetrating, directing member and a row-following pilot, determining the angular relation of the frame and directing member.

21. The combination with the main frame of a bearing-wheel-supported beet-harvester, of a guide penetrating the earth and secured to the frame by a universal-joint connection only, whose angular relation to the main frame is determined by a row-following pilot.

22. The combination with a beet-harvester having a main frame and beet-pulling members secured thereon, of a guide comprising an upright fin vertically pivoted near the pulling members and a row-following pilot in advance of and in alinement with the pulling members, secured to the forward end of a pilot-arm whose rear end is horizontally pivoted to the fin.

23. The combination with the main frame, pulling members and topper of a beet-harvester, of a guide comprising an earth-penetrating, directing member pivotally secured near the pulling members, and a row-following pilot in advance of and in alinement with the pulling members and topper, determining the angular relation of the directing member and the main frame.

24. The combination with the main frame of a beet-harvester of an upright fin penetrating the earth, angularly movable in relation to the main frame, and a pilot secured to the fin in advance thereof, by an arm horizontally pivoted to the fin at its rear end and rigidly secured to the pilot at its forward end.

25. In a beet-harvester having pulling members, and a topper in advance thereof, a guide comprising an earth-penetrating, directing member secured near the pulling members, and a leaf-gathering and top-compressing pilot following the row in advance of the topper, and determining the relative angular position of the directing member and the harvester-frame.

26. In a beet-harvester having pulling members and a topper in advance thereof, a guide comprising an earth-penetrating directing member and a row-following pilot in advance of and in alinement with the topper and pulling members, determining the angular relation of the directing member to the machine-frame, adapted to raise and compress beet-tops within the range of action of the topper.

27. In a beet-harvester having pulling members and a topper, a guide comprising an earth-penetrating directing member secured near the pulling members, and a leaf-lifting and top-compressing pilot, having the range of action of the topper and in advance thereof, secured to the directing member by an arm whose rear end is horizontally pivoted to the directing member.

28. The combination with the main frame of a beet-harvester supported by a pair of bearing-wheels, of a guide secured to the frame by a universal joint near the center of oscillation of the frame, comprising an earth-penetrating, directing member and a row-following pilot determining the lateral, angular relation of the directing member and the frame.

29. The combination with the main frame of a beet-harvester supported by a pair of bearing-wheels, of a guide comprising an earth-penetrating, directing member vertically pivoted to the main frame near the center of oscillation of the frame, and a row-following pilot independent of the frame, having laterally-rigid and vertically-movable connection with the directing member.

30. The combination with the main frame of a beet-harvester supported by a pair of bearing-wheels, of an earth-penetrating, upright fin vertically hinged to the main frame near its center of oscillation, a pilot-arm whose rear end is horizontally pivoted to the fin, and a row-following pilot, rigidly secured to the forward end of the pilot-arm.

31. The combination with the pulling members of a beet-harvester, of an upright fin penetrating the earth, articulated to one of the pulling members, and a row-following pilot in advance of the pulling members, rigidly secured to the forward end of an arm whose rear end is horizontally pivoted to the fin.

32. The combination with the pulling members of a beet-harvester, of a directing member articulated thereto, cleaving the earth beyond the range of action of the pulling members, and a row-following pilot in advance of the pulling members, maintaining the directing member in parallel relation to the row of beets over which the machine advances.

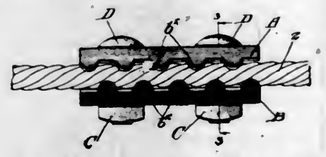
33. The combination with the pulling members of a beet-harvester of an upright fin articulated thereto, cleaving the earth beyond the range of action of the beet-pullers, and a row-following pilot in advance of the pulling members, having vertically-movable and laterally-rigid parallel connections with the fin.

34. The combination with the pulling members of a beet-harvester of an upright fin articulated thereto, cleaving the earth beyond the range of action of the pulling members, and a pilot consisting of a pair of spaced runners bearing on opposite sides of a beet row, and a connecting member maintaining pilot and fin in laterally-parallel relation.

35. In a beet-harvester, a guide comprising an earth-penetrating directing member and an automatic, row-following pilot secured to the said member in advance thereof.

36. In a beet-harvester, a guide comprising an earth-penetrating member, and an automatic, row-following pilot secured thereto.

839,919. CABLE-CLAMP. FRANK B. COOK, Chicago, Ill. Filed Oct. 10, 1903. Serial No. 176,457.

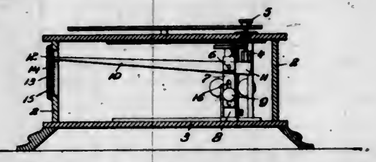


Claim.—1. A cable-clamp comprising a pair of jaws, parallel rows of teeth on each jaw arranged to form parallel V-shaped channels thereon extending lengthwise of the clamp and adapted to receive the cables, the teeth at one side of each channel alternating with the teeth at the other side thereof, and bolts or the like extending through the jaws between and in a line parallel with the said channels, to clamp the cables in the said channels.

2. A cable-clamp or the like, comprising a pair of jaws A and B, inner rows of teeth b' b' and outer rows of teeth b^2 b^2 on each jaw, all of the rows of teeth being parallel and extending lengthwise of the clamp, each inner row of teeth b' and its corresponding outer row of teeth b^2 forming a V-shaped groove or channel adapted to receive a cable or the like, the inner teeth b' for each channel alternating with the outer teeth b^2, and the teeth of each channel on one jaw alternating with the corresponding teeth on the other jaw, when the jaws are placed together, projections b^3 b^3 on the inner surfaces of the teeth b' b^2 adapted to embed themselves in the cables, and bolts D D, or the like, extending through the jaws A and B midway between and in a line parallel with the said channels, to clamp the cables in the said channels.

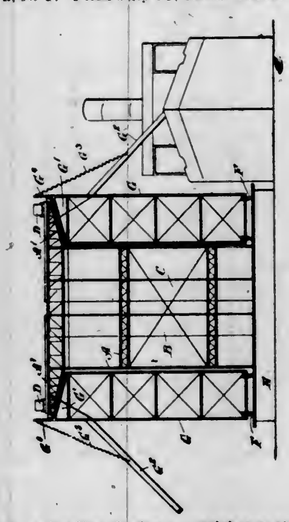
839,920. GRAMOPHONE SPEED-INDICATOR. CLEMENT A. CORNWALL, Ashcroft, British Columbia, Canada. Filed Aug. 9, 1906. Serial No. 329,857.

Claim.—1. The combination with the pivotally-mounted brake-lever of a gramophone and an adjusting-screw therefor, of a pivotally-mounted pointer, a support to which said pointer is pivotally mounted, said support comprising a fixed base member having a slideway, a supplemental member connected to said fixed base member and held in said slideway, said supplemental member having a slot portion, a set-screw passing through said slot portion into the fixed member, and a graduated scale coöperating with the free end of said pointer, substantially as shown and described.



2. In a device of the class described, the combination with the brake-lever, of a pivotally-mounted pointer coöperating therewith, a support to which said pointer is pivotally mounted, said support comprising a fixed adjustment and a member vertically adjustable in said fixed adjustment, said pointer being pivotally mounted to said vertically-adjustable member, a casing for the whole, said casing having a slot through which the end of the pointer projects, a graduated scale secured to the casing adjacent the slot, and a glass covering for the slot and the scale substantially as shown.

839,921. LOADING DEVICE. BENJAMIN S. CROCKER, New York, N. Y. Filed July 11, 1906. Serial No. 325,562.



Claim.—1. A loading device comprising a structure having an overhanging upper portion with an elevated track, a lower track running lengthwise of said elevated track, and a traveler arranged to run on the lower track and under the said overhanging portion, said traveler being provided with devices for carrying away articles or goods discharged from cars on the upper track.

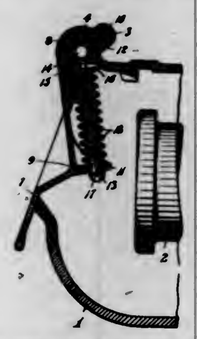
2. A loading device comprising a structure having an overhanging upper portion with an elevated track, a lower track running lengthwise of said elevated track, and a traveler arranged to run on the lower track and under the said overhanging portion, said traveler being provided with a hopper for receiving articles or goods discharged from cars on the upper track, and a chute for directing the goods from the hopper to their storage or receiving place.

3. A loading device comprising a structure having an overhanging upper portion with an elevated track, a lower

track running lengthwise of said elevated track, and a traveler arranged to run on the lower track and under the said overhanging portion, said traveler being provided with a hopper for receiving articles or goods discharged from cars on the upper track, a chute for directing the goods from the hopper to the place where they are to be deposited, and means for adjusting said chute.

4. A loading device comprising a structure having an elevated track, a lower track running lengthwise of said elevated track, and a traveler arranged to run on the lower track, said traveler being provided with a hopper arranged to receive articles or goods discharged from cars on the upper track, a chute for directing the goods from the hopper to the place where they are to be deposited, and an adjustable suspending device for the chute.

839,922. CAR-AXLE-BOX LID. WILLIAM G. DUNHAM, Chicago, Ill. Filed Oct. 30, 1905. Serial No. 285,016.



Claim.—1. The combination with an axle-box, of a lid hinged thereto, by means of a separable hinge permitting the lid to be lifted from the box, and a spring thrust device obliquely intersecting the mouth of the box, when the lid is closed, said spring thrust device reacting against the lid and a fixed base of resistance on the box, said spring thrust device having an angular movement both in respect to the lid and the box, and exerting a strain tending to maintain engagement between the hinge members, substantially as described.

2. The combination with an axle-box, of a lid hinged thereto, by means of a separable hinge permitting the lid to be lifted from the box, and a spring thrust device obliquely intersecting the mouth of the box, when the lid is closed, said spring thrust device reacting against an inwardly-projected intermediate portion of the lid and a fixed base of resistance on the box, said spring thrust device having an angular movement both in respect to the lid and the box, and exerting a strain tending to maintain engagement between the hinge members, substantially as described.

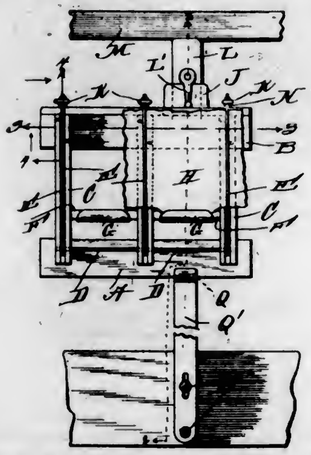
3. The combination with an axle-box having a fulcrum-rib above its mouth-opening, of a lid having at its upper edge a seat that engages said fulcrum-rib, to form the lid-hinge, a spring thrust device obliquely intersecting the mouth of the box, when the lid is closed, and resting against an intermediate inwardly-projecting portion of the lid and against a base of resistance on the box, said spring thrust device having an angular movement both in respect to the lid and the box, when said lid is moved, substantially as described.

4. The combination with an axle-box having a fulcrum-rib above its mouth-opening, of a lid having an open seat loosely engaging said fulcrum-rib, a bolt pivoted to lugs on the box and working loosely through an inwardly-projecting lug on the intermediate portion of the lid, a spring on said bolt reacting against said bolt and against the lug on said lid, said bolt and spring having angular movement both in respect to the box and to the lid, said spring tending to maintain engagement between said fulcrum-rib and seat, substantially as described.

5. The combination with an axle-box and a lid connected thereto by a separable hinge, said box having outwardly-projecting perforated bearing-lugs, one of which is slotted, and said lid having an inwardly-projecting perforated lug, of a T-bolt having a shaft-like head seated in the perforated bearing-lugs of said box, and having a flattened neck adapted to pass through said slotted lug under a lateral movement of said T-bolt, said T-bolt being passed through the lug of said lid, and a coiled spring on said bolt compressed between a collar thereon and the lug of said lid, substantially as described.

6. The combination with an axle-box and a lid hinged thereto, said box having perforated bearing-lugs, and said lid having an inwardly-projecting perforated bearing-lug, of a T-bolt having its head pivoted in the lugs of said box and having its free end passed through the lug of said lid, a spring on said bolt pressing against the lug of said lid, the thrust device made up of said bolt and spring being movable from one side to the other of a dead-center under movements of said lid, and a stop at the outer end of said bolt, for limiting the opening movement of the box, substantially as described.

839,923. FABRIC-HOLDING RACK FOR EMBROIDERY-MACHINES. CONRAD EUGSTER, Passaic, N. J. Filed June 21, 1906. Serial No. 322,755.

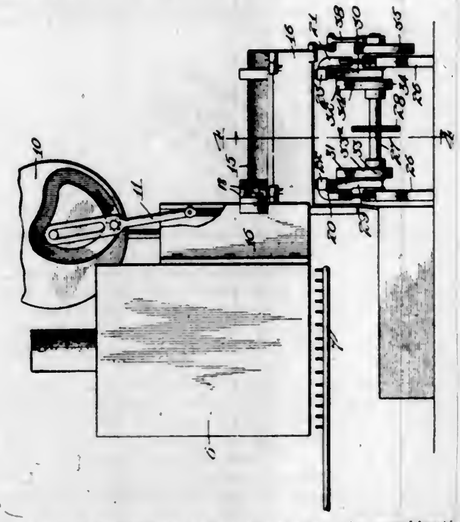


Claim.—1. In combination with the frame having trough-shaped strips, pivotal bars adapted to hold portions of the fabric therein, a fixed bar having an L-shaped recess upon the side thereof, a bar secured to said frame and adapted to engage said recess, a pivotal crank-arm adapted to hold the upper portion of the embroidery-frame, as set forth.

2. In combination with an embroidery-frame, a fabric-holding frame, means for holding a fabric thereon, a slotted bar mounted upon the embroidery-frame and adapted to receive the lower end of the fabric-holding frame, an angle-plate fixed to the embroidery-frame, a pivotal crank-arm mounted thereon, and a plate fixed to the fabric-holding frame and adapted to be engaged by said crank-arm, as set forth.

839,924. CASTING-BOX FOR STEREOTYPE APPARATUS. JOSEPH L. FIRM, Chicago, Ill., assignor to The Goss Printing Press Company, Chicago, Ill. Filed Aug. 10, 1905. Serial No. 273,634.

Claim.—1. In a stereotype-casting apparatus, the combination with a matrix-holding cope composed of a fixed central portion and a plurality of side portions hinged thereto, of a drag movable toward and away from said cope, mechanism for moving said drag, and mechanism adapted to swing said side portions away from said drag before said drag begins to move from said cope and to close the same again upon said drag when it is lifted into casting position, substantially as described.



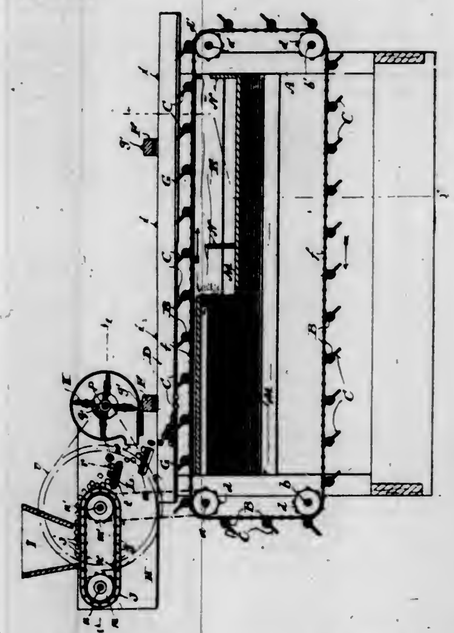
2. In a stereotype-casting apparatus, the combination with a matrix-holding cope composed of a fixed central portion and two side portions hinged thereto, of a drag movable toward and away from said cope into and out of casting position, mechanism for automatically holding said drag temporarily against said cope in casting position and then moving said drag away from said cope and then back into casting position, and mechanism adapted to swing said side portions away from said drag before it moves from said cope and to close the same again upon said drag when lifted into casting position, substantially as described.

3. In a stereotype-casting apparatus, the combination with a matrix-holding cope composed of a fixed central portion and two side portions hinged thereto, a base, guides on said base, supports longitudinally movable on said guides, and a drag carried by said supports, of cam mechanism adapted to reciprocate said supports on their guides to move said drag away from said cope and then into and temporarily retain the same in casting position with reference to said cope, and cam mechanism connected with said side portions of said cope and adapted to swing the same outward away from said drag before said drag is moved out of casting position and to close the same upon said drag when it is moved into position, substantially as described.

839,925. CLEANING AND GRADING APPARATUS. JAMES GAYNOR, Grand Rapids, Wis. Filed Feb. 26, 1906. Serial No. 302,999.

Claim.—1. In a grading apparatus, a plurality of longitudinally-parallel grading-bars, the said bars being conical in cross-section and composed of an upper member having an angled-faced bottom, and a lower member having a V-shaped face adapted to rest in the angle-faced bottom of the first-named member, longitudinal adjustable strips interposed between the aforesaid members, whereby the spaces between the bars are varied, and clamping-bolts arranged to pass through the aforesaid grading-bar members, whereby the latter, together with the strips are held in assemblage.

2. In a grading apparatus, a plurality of longitudinally-parallel grading-bars, the said bars being conical in cross-section, and composed of an upper member having an angled-faced bottom, and a lower member having a V-shaped face adapted to rest in the angle-faced bottom of the first-named member, longitudinal adjustable sectional strips interposed between the aforesaid members, whereby the spaces between the bars are varied, and clamping-bolts arranged to pass through the aforesaid grading-bar members, whereby the latter, together with the strips are held in assemblage.



3. A conical grading-bar composed of an upper member having an angled-faced bottom, and a lower member having a V-shaped face adapted to rest in the angled-faced bottom of the first-named member in combination with strips adjustably secured between the said faces of the bar members, and bolts for clamping said members and strips together.

4. In a grading apparatus, comprising a plurality of parallel grading-bars, the said bars being formed in upper and lower separate sections and set apart to form series of fixed spaces, adjustable strips interposed between the upper and lower sections of the bars, whereby the width between said bars is varied, cross-girders connecting the aforesaid bars, traveling carriers arranged to project into the spaces between the bars, and means in connection with the cross-girders for vertical adjustment of the grading-bars with relation to the carriers.

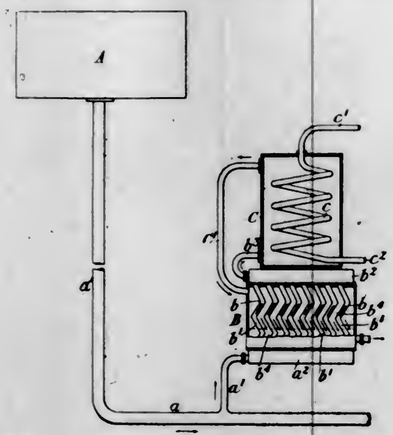
5. In a grading apparatus, comprising a plurality of parallel grading-bars, the said bars being formed in upper and lower separate sections and set apart to form series of fixed spaces, adjustable strips interposed between the upper and lower sections of the bars, whereby the width between the said bars is varied, cross-girders connecting the aforesaid bars, traveling carriers arranged to project into the spaces between the bars, means in connection with the cross-girders for vertical adjustment of the grading-bars with relation to the carriers, a feed-belt located above the grading-bars adjacent to one end thereof, and an air-blast nozzle between the belt and said grading-bars.

6. In a grading apparatus, comprising a plurality of parallel grading-bars, the said bars being formed in upper and lower separate sections and set apart to form series of fixed spaces, adjustable strips interposed between the upper and lower sections of the bars, whereby the width between said bars is varied, cross-girders connecting the aforesaid bars, traveling carriers arranged to project into the spaces between the bars, means in connection with

the cross-girders for vertical adjustment of the grading-bars with relation to the carriers, a feed-belt located above the bars and adjacent to one end thereof, a hopper above the same, a vibratory spreader at the discharge end of the belt, and a blast-fan located between the spreader and said bars, whereby the material to be graded is cleaned previous to its delivery to the grading apparatus.

7. A grading apparatus, comprising a plurality of parallel longitudinal grading-bars, said bars being made in two pieces one above the other, adjustable sectional strips interposed between the two pieces constituting the bars, clamping-bolts for the strips and bars, a pair of endless traveling chains below said strips, lags connecting the chains, fingers carried by the lags inclined rearward from a direction of their travel and arranged to project above the aforesaid strips, and grading-chutes located beneath the grading apparatus.

839,926. METHOD OF EFFECTING THE DESTRUCTION OF PATHOGENIC ORGANISMS IN WATER OR OTHER LIQUIDS. PATRICK G. GRIFFITH, London, England. Filed June 3, 1905. Serial No. 263,570.



Claim.—1. The herein-described method of purifying water or other liquids, consisting in raising the water or other liquid to a temperature of 65° centigrade to 85° centigrade for a period not exceeding twenty-five seconds, for the purpose specified.

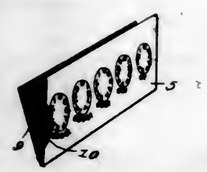
2. The herein-described method of uninterruptedly purifying water or other liquids, consisting in raising the water or other liquid to a temperature of 65° centigrade to 85° centigrade for a period not exceeding twenty-five seconds and in causing the treated or outgoing water or other liquid to impart heat to the untreated or ingoing water or other liquid, substantially as described.

3. The herein-described method of purifying water or other liquid consisting in maintaining the water or other liquid at a temperature below a sterilizing temperature for a period of substantially twenty-five seconds, for the purpose specified.

4. The herein-described method of uninterruptedly purifying water or other liquids, consisting in raising the liquid to a temperature of between 65° centigrade and 85° centigrade for a period approximating twenty-five seconds, and maintaining a continuous flow of the liquid into and out from the heating zone, substantialy as described.

839,927. RECORD-SLIP FOR METERS. GEORGE E. HAWKINS, Columbus, Ohio. Filed May 4, 1906. Serial No. 315,187.

Claim.—1. A record-slip for meters formed in three sections adapted to be folded upon one another, the central section bearing upon one side dials upon which the figures are arranged backward and upon the other side dials upon which the figures are arranged in the usual order, the upper section bearing upon one side dials which are upside down and having its other side carboned, and the lower section being blank upon one side and having its other side carboned.



2. A record-slip for meters which is perforated to divide said sheets into three sections, the upper and lower of said sections being carboned upon one side thereof, and the intermediate section of the sheet upon the same side bearing facsimilies of meter-dials upon which the figures are arranged in the usual order, the opposite side of the upper section of the sheet having dials arranged thereon upside down.

3. A record-slip for meters divided into three sections, said sheet having a plurality of dial facsimiles arranged thereon in such manner that when the sections of the sheet are folded upon each other, said dial facsimiles will register with each other, and said sheet having portions of its surface carboned in such manner that a carbon surface will lie adjacent to said dial facsimiles when the sheet is folded.

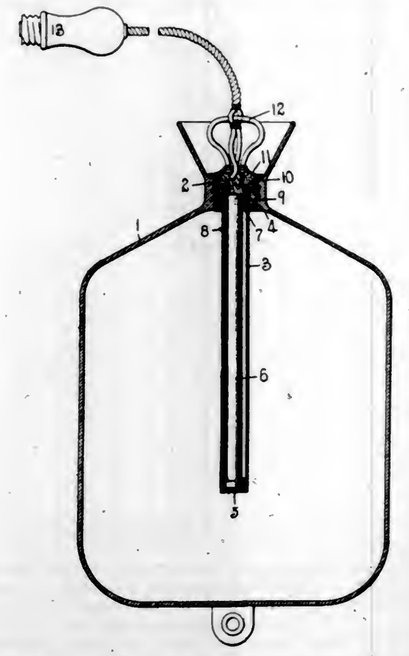
4. A record-slip for meters of the character set forth divided into three sections, one side 7 of the lower section being blank, one side 5 of the intermediate section having dials inscribed thereon upon which the figures are arranged backward, and one side 6 of the upper section having dials inscribed thereon which are arranged upside down, the opposite side 10 of said upper section being carboned, the opposite side 8 of the intermediate section having dials inscribed thereon upon which the figures are arranged in the usual order, and the opposite side 9 of the lower section being carboned, the various sections of the sheet being separated by perforated lines.

839,928. ELECTRIC HEATING ATTACHMENT FOR HOT-WATER BAGS. CHARLES VAN DYKE HILL, St. Louis, Mo. Filed Feb. 23, 1906. Serial No. 302,536.

Claim.—1. In an electric heating attachment for hot-water bags, the combination with a stopper-shell, of a tube secured in position in said shell, said tube being closed at its lower end and open at its upper end, a resistance-bar in said tube, means for holding said resistance-bar in position in the tube, and wires connected to the opposite ends of said resistance-bar; substantially as described.

2. In an electric heating attachment for hot-water bags, the combination with a hollow stopper, of a tube secured in position therein, said tube being closed at its lower end and open at its upper end, a resistance-bar arranged in said tube, means for insulating said bar from said tube and supporting the bar in position in the tube, electric conductors connected to the opposite ends of the tube, and a cap-piece closing the hollow stopper and through openings in which said electric conductors pass; substantially as described.

3. In an electric heating attachment for hot-water bags, the combination with a hollow stopper, of a tube secured in position therein, said tube being closed at its lower end and open at its upper end, a resistance-bar arranged in said tube, means for insulating said bar from said tube and supporting the bar in position in the tube, electric conductors connected to the opposite ends of the tube, a cap-piece closing the hollow stopper and through openings in which said electric conductors pass, and a handle on said tube in the form of a loop to the outer conecting-piece of which the said electric conductors are bound so as to have limited movement and relieve the points of connection of said conductors from strain; substantially as described.



4. In an electric heating attachment for hot-water bags, the combination with a hollow stopper-shell and its tube, of electrical resistance arranged in said tube, granulated insulation material in said hollow stopper for holding said resistance in position, electric conductors leading to and from said resistance through said granulated insulation material, and a cap-piece closing said hollow stopper, said cap-piece being provided with openings for the passage of said electric conductors; substantially as described.

5. In an electric heating attachment for hot-water bags, the combination with a hollow stopper-shell and its tube, a resistance-bar arranged in said tube, an insulation-washer engaging the upper end of the resistance-bar for holding the same in position, a cap-piece for closing the stopper-shell, and insulation material interposed between the washer and said cap-piece; substantially as described.

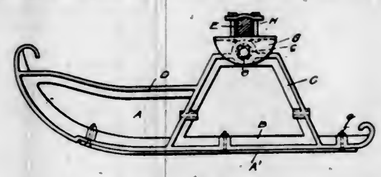
6. In an electric heating attachment for hot-water bags, the combination with a hollow stopper-shell and its tube, a resistance-bar arranged in said tube, an insulation-washer engaging the upper end of the resistance-bar for holding the same in position, a cap-piece for closing the stopper-shell, and insulation material interposed between the washer and said cap-piece, said insulation material being in granulated form; substantially as described.

7. In an electric heating attachment for hot-water bags, the combination with a hollow stopper-shell and its tube, a resistance-bar arranged in said tube, an insulation-washer engaging the upper end of the resistance-bar for holding the same in position, a cap-piece for closing the stopper-shell, and insulation material in the form of a hollow sleeve engaging the washer and cap-piece; substantially as described.

8. In an electric heating attachment for hot-water bags, the combination with a stopper-shell and its tube, of a resistance-bar arranged in the tube, a cap-piece for the shell-stopper, and a post bearing against said resistance-bar and cap-piece for holding the former in position; substantially as described.

9. In an electric heating attachment for hot-water bags, the combination with a stopper-shell and its tube, of a spool-shaped insulation-piece arranged in the tube and provided with a longitudinally-disposed groove, a resistance-wire coiled on said spool and having the return portion of the wire located in said groove, and an insulation-piece arranged in the shell-stopper and bearing against the head of said spool for holding the same in position; substantially as described.

839,929. RUNNER FOR VEHICLES. WILLIAM M. HOAG and MICHAEL H. KRIEGER, Lansing, Mich., assignors to Hoag Krieger & Company, Lansing, Mich., a Copartnership. Filed October 30, 1905. Serial No. 285,086.



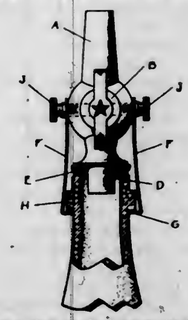
Claim.—1. The combination with a clamp adapted to be rigidly attached to the vehicle-axle, of a support depending from and adjustable longitudinally of the axle in angular relation to the clamp, the runner connected to said support, an axle-box, and a brace pivoted to the runner and having adjustable connections with the box.

2. The combination with a clamp adapted to be rigidly secured to the axle, of a saddle member rigidly attached to the clamp and adjustable longitudinally of the axle in angular relation thereto, the runner extending within the saddle and pivoted thereto for vertical rocking movement, the axle-box, and brace-bars pivoted to the runner and having adjustable connection with the box.

3 The combination with an axle-clamp, of a saddle member constituting the runner-support depending therefrom, the runner having a transverse opening formed in its upper portion and the apertured section engaging within the saddle, a tubular spacing member within the runner-opening registering with apertures formed in the saddle sides, a bolt extending through the saddle and spacer, the axle-box, and brace-bars intermediate said box and the runner-body.

4. The combination with the axle-clamp, of the runner having pivotal connections therewith, the axle-box carrying depending sections provided with horizontal series of apertures, a pair of brace-bars pivoted at their lower ends to the runner-body and having their upper ends apertured, in contact and engaging between the depending sections of the axle-box in registration with one of the pairs of apertures therein, and a bolt extending through the axle-box sections and braces.

839,930. BOTTLE-TAP. WILLIAM H. HOMMEL, Sandusky, Ohio. Filed Jan. 16, 1906. Serial No. 296,394.



Claim.—1. A tap for necked receptacles consisting of a valve-controlled tubular conduit adapted to be fitted to the neck, and locking means on the conduit for engaging the neck.

2. A tap for necked receptacles consisting of a valve-controlled tubular conduit adapted to be fitted within the receptacle-neck, and adjustble means for locking the conduit directly to the neck.

3. A bottle-tap comprising a valve-controlled tubular conduit, and locking-arms upon the conduit adapted to engage the flange of the bottle-neck.

4. In combination with a bottle having a neck-flange, a tubular conduit fitting within the bottle-neck, and spring-arms detachably engaging the neck-flange, and having adjustable connections with the conduit.

5. A tap for necked receptacles comprising a valve-controlled tubular casing and spring-arms engaging the neck and having a longitudinal sliding engagement with the casing.

839,931. HOOP-SKIRT. MARY J. HOSAC, Chicago, Ill., assignor to Warren Featherbone Company, Three Oaks, Mich. Filed Mar. 12, 1906. Serial No. 305,639.



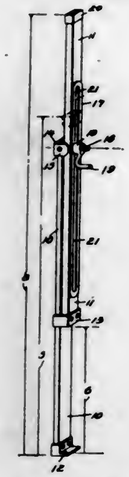
Claim.—1. In a hoop-skirt, the combination of a waistband; hoops arranged to incline downwardly toward the front; a pair of front supporting-tapes secured to said waistband at the front and arranged to extend downwardly and forwardly; a pair of side supporting-tapes secured to said waistband at the rear, arranged to pass downwardly and forwardly over the hips of the wearer; and a central rear supporting-tape connected to said waistband at the rear, for the purpose specified.

2. In a hoop-skirt, the combination of a waistband; hoops arranged to incline downwardly toward the front; and supporting-tapes for said hoops, the side supporting-tapes being secured to said waistband at the rear and arranged to pass downwardly and forwardly over the hips of the wearer, for the purpose specified.

839,932. SKID-SETTING GAGE. FELIX HUGHES, Vancouver, British Columbia, Canada. Filed June 27, 1906. Serial No. 323,727.

Claim.—1. In a device of the class described, two members endwise slidable one on the other, a foot-base removably secured to the lower end of one of said members and having a projecting portion, a band removably secured to the adjacent end of the other member and encircling the first member, said second member having an elongated slot, a metal face secured to said second member and having a slot to coöperate with the slot in said second member, a screw secured to the upper end of the first member and projecting through the elongated slot in the second member, and a nut on said screw by which the two members may be secured in any position of endwise extension.

2. In a device of the class described, two members endwise slidable one on the other, one of said members having a foot portion secured thereto, a band secured to the other member at one end adjacent the foot portion and encircling the first member, said second member having an elongated slot, a mounting held on the upper end of the first member and surrounding the same, said mounting having lateral projections for engaging the sides of the other slidable member, and means projecting through said mounting, said first member and the elongated slot in said second member, for securing the first and second members together in any position of endwise extension.



3. In a device of the class described, two members endwise slidable in relation to one another, an outward projection at the lower end of one of said members forming a foot, the second member having an elongated slot, means carried by the second member and embracing the first member for holding it in position, a mounting carried by the first member and surrounding the same and having projecting portions to engage each side of the second member, said second member having an elongated slot, a screw-bolt passing through said mounting, said first member and the elongated slot in said second member, a nut for securing said screw-bolt to said mounting and to said first member, and a turn-nut secured to said screw-bolt for holding said slidable members together in any position of endwise extension.

4. In a device of the class described; the member 10 having the projection 12 at the lower end and the screw 16 secured in and projecting from the other end, the member 11 slidable on the face of 10 and having the elongated slot 21 through which the screw 16 projects, the band 13 secured to the lower end of 11 and encircling the member 10, and the crank-handle 19 the eye 18 of which is threaded onto the screw 16.

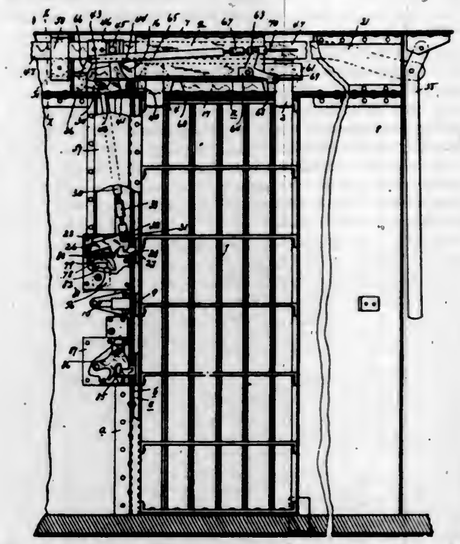
839,933. LOCKING MECHANISM FOR JAILS. WILLIAM R. KALES, Detroit, Mich. Original application filed Sept. 26, 1905, Serial No. 213,489. Divided and this application filed Jan. 16, 1906. Serial No. 296,396.

Claim.—1. The combination of a door, having latch-engaging means thereon, a latch therefor, a supplemental lock and a pair of independently-operable means each operating both the supplemental lock and the latch, for the purpose described.

2. The combination with a door and a latch for locking the door of a member carried by said door and means operated thereby for holding said latch in unlocked position when said door is open and permitting said latch to fall into its locked position when said door is closed.

3. The combination with a door and a frame, of a member carried by said door and means pivoted on said frame comprising an antifriction-roller for engaging said member when said door is open, and a projection for interlocking with said member when the door is closed.

4. In a jail mechanism, the combination of the door, the locking projection thereon, the locking-latch therefor, the connecting-rod 30, having a slotted or lost-motion connection with the latch, and an operating device for reciprocating the connecting-rod; as and for the purpose described.



5. The combination of a cell-door, a flange thereon having the aperture 62, the bell-crank lever 63, above the flange, having a lug 68 adapted to engage the aperture and means for rocking said bell-crank lever.

6. The combination with a door, of a latch therefor, means for unlocking said latch, a supplemental lock at the top of said door and connections between said supplemental lock and said unlocking means, substantially as described.

7. The combination with a door, of a latch and a supplemental lock acting upon different parts of said door and a common means for actuating said latch and said supplemental lock for the purpose described.

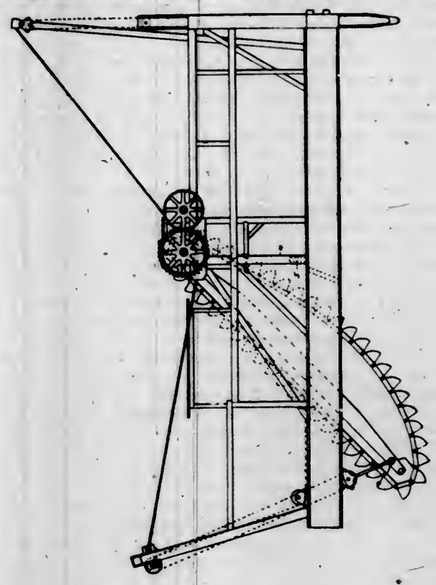
8. The combination with a door, of a latch and a supplemental lock for said door, a common means for actuating said latch and said supplemental lock, independently-adjustable connections between said means and said latch and lock, for the purpose described.

9. The combination with a door, of a latch and a supplemental lock for said door, connections between said latch and lock, means for engaging said connections to operate both latch and lock, and means arranged to engage with said latch to operate the same and to operate said lock through said connections.

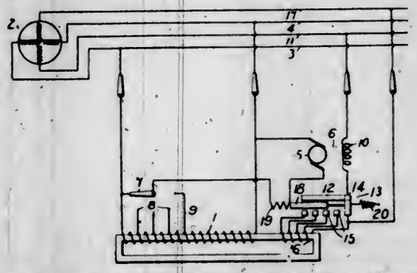
839,934. DREDGE. GEORGE W. KING, Marion, Ohio, assignor to The Marion Steam Shovel Company, Marion, Ohio, a Corporation of Ohio. Filed June 2, 1906. Serial No. 319,951.

Claim.—1. In a dredge of the character described, a hull provided with a crotch or well-hole, in combination with a gauntree-frame comprising upright members located at the inner end of said well-hole, upright timbers filling the transverse space between said upright members and extending above the hull-deck, and transverse bolts passing through said upright members and timbers, substantially as described.

2. In a dredge of the character described, a hull comprising transverse top and bottom members and vertical struts connecting the same, diagonal cross-braces connected to said top and bottom members and to each other between the struts, transverse tension-bolts connecting the vertical hull members, and vertical tension-bolts connecting the top and bottom members, said hull being provided with a crotch or well-hole and having a gauntree-frame at the inner end of said well-hole, the space between the upright members of which is filled by upright timbers through-bolted thereto, substantially as described.



839,935. PHASE-ADJUSTING MEANS FOR ALTERNATING-CURRENT MOTORS. BENJAMIN G. LAMME, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 6, 1905. Serial No. 244,475.



Claim.—1. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing approximately ninety degrees in phase respectively to said windings, of automatically-adjusted means for altering the phase relations of said electromotive forces.

2. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying to the respective windings single-phase electromotive forces that differ approximately ninety degrees in phase, of means exterior to the motor for bringing the currents in the armature and field-magnet windings approximately into phase with each other.

3. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying to the respective windings single-phase electromotive forces that differ approximately ninety degrees in phase, of means for altering the phase relations of said electromotive forces in order to bring the currents in the armature and field-magnet windings approximately into phase with each other.

4. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing approximately

ninety degrees in phase respectively to said windings, of means for varying the phase relations of the said electromotive forces approximately in proportion to the variations in the amount of current traversing the armature-circuit.

5. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing approximately ninety degrees in phase respectively to said windings, of means for varying the phase relations of the said electromotive forces substantially in accordance with variations in the torque exerted by the motor.

6. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing approximately ninety degrees in phase respectively to said windings, of means for varying the phase relations of the said electromotive forces approximately in proportion to the amount of current traversing the armature-circuit, comprising a controlling device responsive to variations in the amount of current in the armature-circuit.

7. The combination with an alternating-current motor having an armature-winding of low self-induction and a field-magnet winding of high self-induction, and means for supplying electromotive forces differing approximately ninety degrees in phase respectively to said windings, of means for varying the phase relations of the said electromotive forces approximately in proportion to the amount of current traversing the armature-circuit.

8. The combination with a source of three-phase alternating-current energy and an electric motor having armature and field-magnet windings, of an autotransformer-winding having its terminals connected between two of the supply-conductors from the source, means for connecting the armature-winding between any two points in said autotransformer-winding, and means for varying the connection of one terminal of the field-magnet winding with points near the middle of the autotransformer-winding, the other terminal of the field-magnet winding being connected to the third supply-conductor.

9. The combination with a source of three-phase alternating-current energy and an electric motor having armature and field-magnet windings, of an autotransformer-winding having its terminals connected between two of the conductors from the source, means for connecting the armature-winding between any two points in said autotransformer-winding, and means for automatically varying the connection of one terminal of the field-magnet winding with points located near the middle of the autotransformer-winding approximately in proportion to the variations in the amount of current traversing the armature-circuit, the remaining terminal of the field-magnet winding being connected to the third supply-conductor.

10. The combination with a source of three-phase alternating-current energy, of a transformer-winding connected between two of the supply-conductors from said source, and an electric motor having its armature-terminals connected to points in the transformer-winding and having its field-magnet winding connected between the third supply-conductor and approximately the middle point of the transformer-winding.

11. The combination with a source of three-phase alternating-current energy and an electric motor having armature and field-magnet windings, of a transformer-winding which derives energy from one phase of said source, means for connecting the armature-winding to said transformer-winding, and means for connecting one terminal of the field-magnet winding with the transformer-winding, the other terminal being connected to a supply-conductor.

12. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively to said windings, of automatically-adjusted means for altering the phase relations of said electromotive forces.

13. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying to the respective windings single-phase electromotive forces that differ in phase, of means exterior to the motor for bringing the currents in the armature and field-magnet windings approximately into phase with each other.

14. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying to the respective windings single-phase electromotive forces that differ in phase, of means for altering the phase relations of said electromotive forces in order to bring the currents in the armature and field-magnet windings approximately into phase with each other.

15. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively to said windings, of means for varying the phase relations of the said electromotive forces approximately in proportion to the variations in the amount of current traversing the armature-circuit.

16. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively to said windings, of means for varying the phase relations of the said electromotive forces substantially in accordance with variations in the torque exerted by the motor.

17. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively to said windings, of means for varying the phase relations of the said electromotive forces approximately in proportion to the amount of current traversing the armature-circuit, comprising a controlling device responsive to variations in the amount of current in the armature-circuit.

18. The combination with an alternating-current motor having an armature-circuit of low self-induction and a field-magnet circuit of high self-induction, and means for supplying electromotive forces differing in phase respectively to said windings, of means for varying the phase relations of the said electromotive forces approximately in proportion to the amount of current traversing the armature-circuit.

19. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively to said windings, of automatically-adjusted means for obtaining predetermined phase relations of the currents in the armature and field-magnet windings.

20. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively to said windings, of automatically-adjusted means for altering the phase relations of said electromotive forces in order to obtain predetermined phase relations of the currents in the armature and field-magnet windings.

21. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying to the respective windings single-phase electromotive forces that differ in phase, of means external to the motor for producing closer phase coincidence of the currents in the armature and field-magnet windings than is normally due to difference in the power factors of said windings.

22. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying to the respective windings single-phase electromotive forces that differ in phase respectively to said windings, of means external to the motor for producing closer phase coincidence of the armature and field magnetisms than is normally due to difference in the power factors of the armature and field-magnet windings.

23. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively to said windings, of automatically-adjusted means exterior to the motor for adjusting the phase relations of the armature and field magnetisms.

24. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively to said windings, of means exterior to the motor for adjusting the phase relations of the armature and field magnetisms in accordance with the variations in the amount of current traversing the armature-circuit.

25. The combination with a source of three-phase alternating-current energy and an electric motor having armature and field-magnet windings, of a transformer-winding connected between two supply-conductors from said source, the terminals of one of the motor-windings being connected to said transformer-winding and the other motor-winding being connected between an intermediate point in the transformer-winding and the third supply-conductor.

26. The combination with a source of three-phase alternating-current energy and an electric motor having armature and field-magnet windings one of which is supplied with energy from one phase of said source, of a transformer-winding that is connected to two of the supply-conductors from said source, the other motor-winding being connected between an intermediate point in said transformer-winding and the third supply-conductor.

27. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively thereto, of means for varying the phase of the electromotive forces applied to one circuit with respect to that applied to the other circuit in accordance with variations of the phase relations of the current and electromotive force of the other circuit.

28. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively thereto, of means for varying the phase of the electromotive force applied to one circuit in accordance with the amount of current traversing the other circuit.

29. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively thereto, of means for varying the phase of the electromotive force applied to one circuit in accordance with the amount of current traversing the armature-circuit.

30. The combination with an alternating-current motor having armature and field-magnet windings, and means for supplying electromotive forces differing in phase respectively thereto, of means for varying the phase relations of the electromotive forces in accordance with variations in the phase difference between the electromotive force and current supplied to one of the windings.

31. The combination with an alternating-current motor having armature and field-magnet windings, and means for supplying electromotive forces differing in phase respectively thereto, of means for varying the phase relations of the electromotive forces in accordance with variations in the phase differences between the electromotive force and current supplied to the armature-winding.

32. The combination with a dynamo-electric machine having armature and field-magnet windings, of means external to the machine for producing closer phase coincidence of the currents in the armature and field-magnet windings than normally results from the difference in power factors of the windings.

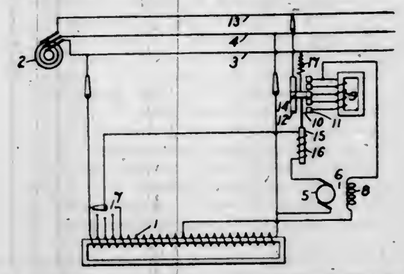
33. The combination with a source of polyphase alternating current and a dynamo-electric machine having armature and field-magnet windings connected to the respective phases thereof, of means for varying the phase of the electromotive force applied to one of the windings substantially in accordance with variations of the current that traverses the other winding.

34. The combination with a source of polyphase alternating current and a dynamo-electric machine having armature and field-magnet windings connected to the respective phases thereof, of means for varying the phase of the electromotive force applied to the field-magnet winding substantially in accordance with variations of the current that traverses the armature-winding.

35. The combination with a source of polyphase alternating current and a dynamo-electric machine having armature and field-magnet windings connected to the respective phases thereof, of means for varying the phase of the electromotive force applied to one of the windings substantially in accordance with variations of the phase difference between the current and electromotive force of the other winding.

36. The combination with a source of polyphase alternating current and a dynamo-electric machine having armature and field-magnet windings connected to the respective phases thereof, of means for varying the phase of the electromotive force applied to the field-magnet winding substantially in accordance with variations of the phase difference between the current and electromotive force of the armature-winding.

839,936. PHASE-ADJUSTING APPARATUS. BENJAMIN G. LAMME, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 6, 1905. Serial No. 244,476.



Claim.—1. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively thereto, of means for varying the phase difference between the current in the field-magnet circuit and the electromotive force applied thereto approximately in proportion to the amount of current traversing the armature-circuit.

2. The combination with a source of three-phase alternating-current energy and an electric motor having armature and field-magnet windings, of an autotransformer-winding having its terminals connected between two of the conductors from the source of energy and its middle point connected to one terminal of the field-magnet winding, means for connecting the armature-winding between any two points of said autotransformer-winding, an impedance device located in the field-circuit, and means for varying the amount of the impedance.

3. The combination with a source of three-phase alternating-current energy and an electric motor having armature and field-magnet windings, of an autotransformer-winding having its terminals connected between two of the conductors from the source of energy and its middle point connected to one terminal of the field-magnet winding, means for connecting the armature-winding between two points of said autotransformer-winding, an impedance device located in the field-circuit, and means for varying the amount of the impedance approximately in proportion to the amount of current traversing the armature-circuit.

4. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively thereto, of means for bringing the currents in the armature and field-magnet windings approximately into phase with each other, by varying the amount of impedance in the field-circuit.

5. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively thereto, of means for maintaining approximately constant phase relations between the currents in the armature and field-magnet windings by varying the amount of impedance located in the field-circuit approximately in proportion to the variations in the amount of current in the armature-circuit.

6. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respec-

tively thereto, of means for maintaining approximately constant phase relations between the currents in the armature and field-magnet windings by varying the amount of impedance located in the field-circuit substantially in accordance with variations in torque exerted by the motor.

7. The combination with an alternating-current motor having an armature-winding of low self-induction and a field-magnet winding of high self-induction, of an impedance in the field-circuit and means exterior to the motor for automatically varying the amount of the impedance.

8. The combination with an alternating-current motor having an armature-winding of low self-induction and a field-magnet winding of high self-induction, of an impedance device in the field-circuit and means for varying the amount of the impedance approximately as the amount of current traversing the armature-circuit varies.

9. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively thereto, of an impedance device in the field-circuit and means for varying the amount of the impedance that is in circuit approximately as the amount of current traversing the armature-circuit varies.

10. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively thereto, of an impedance device in the field-circuit having a lower power factor than the field-magnet winding and means for varying the amount of impedance included in said circuit.

11. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively thereto, of an impedance device in the field-circuit having a lower power factor than that of the field-magnet winding and means for varying the amount of impedance that is in circuit approximately as the amount of current traversing the armature-circuit varies.

12. The combination with a source of three-phase alternating-current energy and a motor having armature and field-magnet windings one of which is supplied with energy from one phase of said source, of a transformer-winding that is connected to two of the supply-conductors from said source, the other motor-winding being connected between an intermediate point in said transformer-winding and the third supply-conductor, and an impedance device located in one of the motor-circuits.

13. The combination with a source of three-phase alternating-current energy and a motor having armature and field-magnet windings one of which is supplied with energy from one phase of said source, of a transformer-winding that is connected to two of the supply-conductors from said source, the other motor-winding being connected between an intermediate point in the said transformer-winding and the third supply-conductor, an impedance device located in one of the motor-circuits, and means for varying the amount of the impedance.

14. The combination with a source of three-phase alternating-current energy and a motor having armature and field-magnet windings one of which is supplied with energy from one phase of said source, of a transformer-winding that is connected to two of the supply-conductors from said source, the other motor-winding being connected between an intermediate point in the said transformer-winding and the third supply-conductor, an impedance device located in one of the motor-circuits, and means for varying the amount of the impedance in accordance with the amount of current traversing the armature-circuit.

15. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively thereto, of an impedance located in field-magnet circuit, and means for bringing the currents in the armature and field-magnet windings approximately into phase with each other by varying the amount of said impedance.

16. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively thereto, of an impedance located in the field-magnet circuit, and means for obtaining predetermined phase relations of the currents in the armature and field-magnet windings by varying the amount of said impedance.

17. The combination with an alternating-current motor having armature and field-magnet windings and means for supplying electromotive forces differing in phase respectively thereto, of an impedance located in one of the motor-circuits, and means for maintaining predetermined phase relations between the currents in the armature and field-magnet windings by varying the amount of the impedance in accordance with variations in the amount of current traversing the armature-circuit.

18. The combination with an alternating-current motor having armature and field circuits and means for supplying electromotive forces differing in phase respectively thereto, of means for varying the phase relations of the current and electromotive force of one circuit in accordance with variations of the corresponding phase relations in the other circuit.

19. The combination with an alternating-current motor having an armature-circuit possessing low self-induction, and a field-circuit possessing high self-induction, of an impedance located in the field-circuit, and means for varying the amount of impedance.

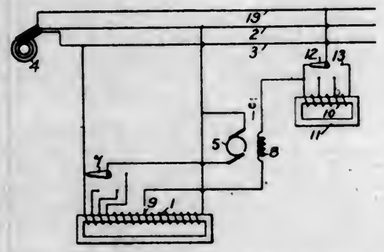
20. The combination with an alternating-current motor having an armature-circuit possessing low self-induction, and a field-circuit possessing high self-induction, of an impedance located in the field-circuit, and means for varying the amount of the impedance in accordance with variations in the amount of current traversing the armature-circuit.

21. The combination with an electrical circuit of low self-induction and a circuit of high self-induction, of an impedance in the circuit of high self-induction, and means for varying the amount of the impedance in accordance with variations in the amount of current traversing the other circuit.

22. The combination with an alternating-current motor having armature and field-magnet windings, and means for supplying electromotive forces differing in phase respectively thereto, of an impedance device in the field-circuit having a different power factor from that of the field-magnet winding, and means for varying the amount of the impedance included in said circuit.

23. The combination with an alternating-current motor having armature and field-magnet windings, and means for supplying electromotive forces differing in phase respectively thereto, of an impedance device in the field-circuit having a different power factor from that of the field-magnet winding and means for varying the amount of the impedance that is in circuit in accordance with variations in the amount of current traversing the armature-circuit.

839,937. METHOD OF REGULATING THE SPEED OF ELECTRIC MOTORS. BENJAMIN G. LAMME, Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 6, 1905. Serial No. 244,477.



Claim.—1. The method of regulating the speed of an alternating-current motor having armature and field-magnet windings upon which electromotive forces differing in phase are impressed respectively, which consists in varying the electromotive force applied to the terminals of the field-magnet winding by varying the impedance of the field-circuit.

2. The method of regulating the speed of an alternating-current motor having armature and field-magnet windings upon which electromotive forces differing in phase are impressed respectively, which consists in varying the amount of impedance of the circuit of the field-magnet winding.

3. The method of regulating the speed of an alternating-current motor having armature and field-magnet windings upon which electromotive forces differing in phase are impressed respectively, which consists in varying the amount of impedance in circuit with the field-magnet winding, the impedance having a power factor that is approximately constant and equal to that of the field-magnet winding.

4. The method of regulating the speed of an alternating-current motor having armature and field-magnet windings upon which electromotive forces differing in phase are impressed respectively, which consists in varying the amount of impedance in circuit with the field-magnet winding, the electromotive forces and currents in the impedance always being approximately in phase with those in the field-magnet winding.

5. The method of regulating the speed of an alternating-current motor having armature and field-magnet windings upon which electromotive forces differing in phase are impressed respectively, which consists in varying the amount of impedance in circuit with the field-magnet winding without varying in a substantial degree the phase relations of the current in the circuit to the electromotive force applied thereto.

6. The method of regulating the speed of an alternating-current motor having armature and field-magnet windings upon which electromotive forces differing in phase are impressed respectively, which consists in varying the amount of impedance in one of the motor-circuits, the impedance having a power factor that remains approximately constant and equal to that of the motor-winding that is in the same circuit.

7. The method of regulating the speed of an alternating-current motor having armature and field-magnet windings upon which electromotive forces differing in phase are impressed respectively, which consists in varying the amount of impedance in one of the motor-circuits, the electromotive forces and currents of the impedance always remaining approximately in phase with those of the motor-winding that is in the same circuit.

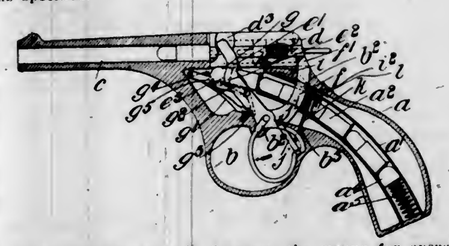
8. The method of regulating the speed of an alternating-current motor having armature and field-magnet windings upon which electromotive forces differing in phase are impressed respectively, which consists in varying the amount of impedance in one of the motor-circuits without varying in a substantial degree the phase relations of the current in the circuit to the electromotive force applied thereto.

9. The method of regulating the operation of a dynamo-electric machine having field-magnet and armature windings which consists in varying the amount of impedance in circuit with one of the windings, the impedance having a power factor that remains substantially constant and equal to that of the winding in circuit with which it is connected.

10. The method of regulating the operation of a dynamo-electric machine having field-magnet and armature windings which consists in varying the amount of impedance in circuit with the field-magnet winding, the impedance having a power factor that remains substantially constant and equal to that of the winding in circuit with which it is connected.

839,938. FIREARM. PERCY LISTER, Nottingham, England. Filed Jan. 23, 1906. Serial No. 297,426.

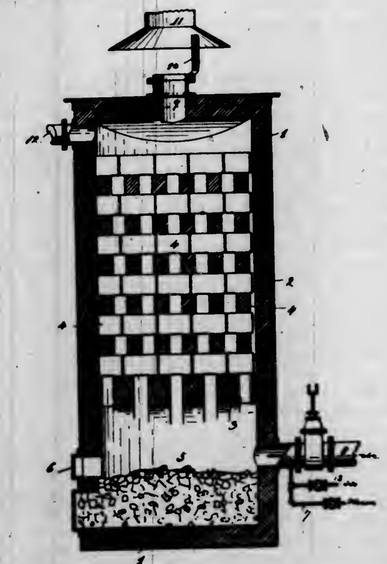
Claim.—1. In improvements in firearms, the means for automatically introducing the cartridges into the breech, said means consisting of the combination with a hollow stock, of a tubular cartridge-magazine within said stock, a spring-operated follower within said magazine for projecting the cartridges, a pivoted bifurcated member, a depending end on said pivoted bifurcated member, a cartridge-platform pivoted to said bifurcated member, a spring operating to raise the said bifurcated pivoted member, a pivoted lever carried by the pivoted bifurcated member, one end of which is arranged to contact with the pistol-body to elevate the other end which lies beneath one end of the pivoted cartridge-platform, substantially as specified.



2. In improvements in firearms, the means for operating the breech-bolt consisting of the combination with a sliding breech-bolt of recesses on either side of said breech-bolt, of a bifurcated finger-operating lever, the furcations of which operate in said recesses in said breech-bolt; the pin on which said finger-operating lever is pivoted, the slot in the body of the firearm in which said pin operates; of breech-locking bolts hinged on said pin, of slots in the pistol-body through which said breech-locking bolts operate and of recesses in the end of said breech-bolt in which the upper ends of the locking-bolts engage, substantially as specified.

3. In improvements in firearms, the means for firing consisting of the combination with a breech-bolt finger-operating lever, of a trigger pivoted to said finger-lever; a transmitting-rod operating through a slot in the firearm-body; a sear adapted to be operated by said transmitting-rod, a catch on said sear normally engaged with a catch depending from the body of the firing-pin and arranged to be released when the trigger aforesaid is operated, substantially as specified.

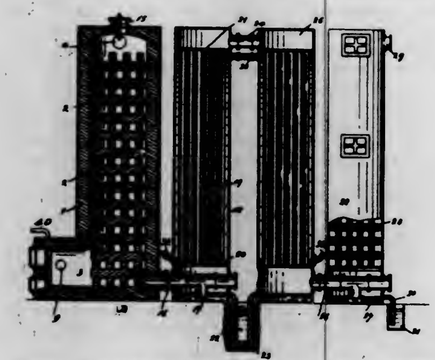
839,939. APPARATUS FOR MAKING GAS AND COKING. LEON P. LOWE, San Francisco, Cal. Filed May 3, 1904. Serial No. 206,246.



Claim.—An apparatus of the character described, comprising a casing having therein an open roof and un-

obstructed from said roof to the bottom to form a coking and combustion chamber, and loosely-piled refractory material upon said roof, a discharge-door at the bottom of said coking-chamber to remove coke therefrom, a feed-door at a higher level than the discharge-door for feeding coal or tarry residues into said coking-chamber, an oil-burner discharging directly into said coking-chamber not lower than the level of the feed-door, a flue at the other end of the apparatus through which pass the products of combustion after passing through the open roof and loosely-piled refractory material to heat the same, means for shutting off the air-supply to said oil-burner, means for supplying oil and steam and passing them through the loosely-piled refractory material to generate gas, and an independent conduit for leading off the gas so formed, substantially as described.

839,940. APPARATUS FOR RECOVERING FROM OIL ITS TARRY OR ASPHALTIC CONSTITUENTS, WITH GAS AS A BY-PRODUCT. LEON P. LOWE, San Francisco, Cal. Filed July 6, 1904. Serial No. 215,546.

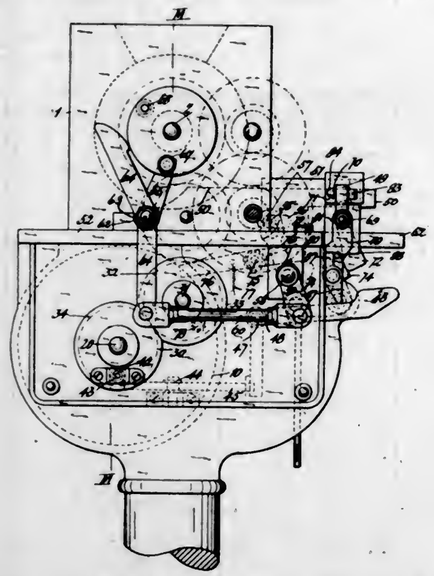


Claim.—1. In an apparatus of the character described, the combination of a distilling-chamber, loosely-piled refractory material therein, means for passing products of combustion in one direction through said loosely-piled refractory material, a closure for said passage, means for passing oil in the opposite direction through said loosely-piled refractory material, means for condensing the condensible portion of the gases so distilled in said distilling-chamber, means for collecting said condensible portion, and means for separately collecting the uncondensible gases, substantially as described.

2. In an apparatus of the character described, the combination of a distilling-chamber having loosely-piled refractory material therein, means for passing products of combustion through said loosely-piled refractory material to heat the same, means for storing the residual heat of combustion, a closure for said passage, means for passing oil through said loosely-piled refractory material to distill the same, means for condensing the condensible portion of the vapor and collecting the liquids so condensed, means for separately collecting the uncondensed gases, and means for utilizing the stored heat to reheat the refractory material, substantially as described.

3. In an apparatus of the character described, the combination of a distilling-chamber having loosely-piled refractory material therein, means for passing products of combustion in one direction through said loosely-piled refractory material to heat the same, means for storing the residual heat of combustion, a closure for said passage, means for passing oil through said loosely-piled refractory material in the opposite direction to distill the same, means for condensing the condensible portion of the vapor and collecting the liquids so condensed, means for separately collecting the uncondensed gases, and means for utilizing the stored heat to reheat the refractory material, substantially as described.

839,941. MACHINE FOR MOLDING PLASTIC MATERIALS. ALFRED LUTZE, Halle-on-the-Saale, Germany. Filed Jan. 13, 1906. Serial No. 295,939.



Claim.—1. In a machine for molding plastic materials the combination of a feed-chamber having a discharge-aperture means for compressing the material in said chamber and forcing same toward the discharge-aperture, a mold in communication with said discharge-aperture, a rotatable drum carrying said mold and having an outlet, a reciprocating plunger in said mold forming the bottom thereof, mechanism for reciprocating said plunger and means for putting said plunger-reciprocating mechanism into and out of action for the purpose set forth.

2. In a machine for molding plastic materials, the combination of a feed-chamber having a discharge-aperture, means for compressing the material in said chamber and forcing same toward the discharge-aperture, a mold in communication with said discharge-aperture, a rotatable drum carrying said mold and having an outlet, a reciprocating plunger in the mold forming the bottom thereof, a reciprocatable block controlled by a weight and extending into the feed-chamber, mechanism for periodically rotating the drum, mechanism for reciprocating the plunger and means in connection with the block aforesaid for putting said plunger-reciprocating mechanism into and out of action for the purpose set forth.

3. In a machine for molding plastic materials the combination of a feed-chamber having a discharge-aperture, means for compressing the material in said chamber and forcing same toward the discharge-aperture, a mold in communication with said discharge-aperture, a rotatable drum carrying said mold and having an outlet, a reciprocating plunger in the molds forming the bottom thereof, a reciprocatable block controlled by a weight and extending into the feed-chamber, mechanism for periodically rotating the drum mechanisms for reciprocating the plunger, means in connection with the block aforesaid for putting said plunger-reciprocating mechanism into and out of action and means for locking said block at intervals substantially as described.

4. In a machine for molding plastic materials the combination of a feed-chamber having a discharge-aperture, means for compressing the material in said chamber and forcing same toward the discharge-aperture, a mold in communication with said discharge-aperture, a rotatable drum carrying said mold and having an outlet, a reciprocating plunger in said mold forming the bottom thereof, a reciprocatable block controlled by a weight and extending into said feed-chamber, mechanism for periodically rotating the mold-drum, mechanism for reciprocating the plunger, means in connection with the block aforesaid for putting said plunger-reciprocating mechanism into and out of action, means for locking said block at intervals and means for removing superfluous material from the mold substantially as described.

5. In a machine for molding plastic material the combination of a feed-chamber a bipartite reciprocatable weight-controlled block extending thereinto, a mold in communication with said feed-chamber a rotatable drum carrying said mold, means for periodically rotating said drum, a plunger within the mold and forming the hollow thereof, a crank-disk for reciprocating said plunger a shaft carrying said crank-disk and mechanism operated by the movement of the block for coupling and uncoupling said shaft for the purpose set forth.

6. In a machine for molding plastic material the combination of a feed-chamber a reciprocatable weight-controlled block extending thereinto, a mold in communication with said feed-chamber, a rotatable drum carrying said mold, means for periodically rotating said drum, a plunger within the mold and forming the bottom thereof, a crank-disk for reciprocating said plunger a shaft carrying said crank-disk and having a recess in its periphery, a spring-catch for engaging said recess, a crescent-shaped slide adapted to be interposed between said recess and catch to disconnect the latter, lever mechanism operated by the movement of the block for actuating said slide and a resilient pin and coacting abutment on the two parts of the block respectively for engaging said lever mechanism substantially as described.

7. In a machine for molding plastic material the combination with a feed-chamber a rotatable disk within the latter, rollers carried by said disk, a weight-controlled block extending into said chamber, a pin-and-slot connection between the two parts of said block, a plurality of cams acted upon by the rollers on the aforesaid disk and shaft and lever mechanism between the cams and block whereby the latter is reciprocated substantially as described.

8. In a machine for molding plastic material the combination of a block having a recess in its lower surface, a double-armed spring-pressed locking-lever adapted to engage said recess, a rotatable disk a roller on the latter adapted to actuate said lever against the action of the spring and an inclined plane on the block and coacting projection on the lever for releasing the latter on rearward movement of the block substantially as described.

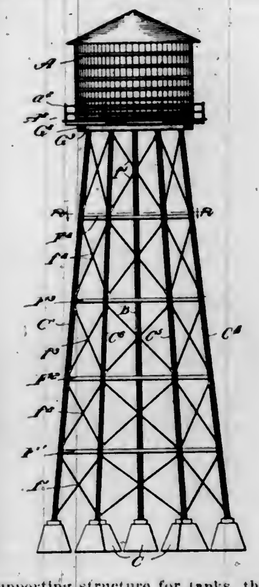
9. In a machine for molding plastic material the combination of an intermittently-rotatable drum, a mold carried thereby and reciprocatable plunger within said mold, a cam-surface on the periphery of the drum a knife adapted to be moved across the mouth of the mold and a lever acted upon by said cam-surface on rotation of the drum to so move said knife substantially as described.

839,942. SUPPORTING STRUCTURE FOR TANKS. ALBERT K. MANSFIELD, Batavia, Ill. Filed July 25, 1906. Serial No. 327,621.

Claim.—1. In a supporting structure for tanks, the combination with a central column, of a plurality of columns surrounding said central column, means connecting said central column with each of the surrounding columns, means for uniting the adjacent surrounding columns, and means for supporting a tank upon the upper ends of said columns.

2. In a supporting structure for tanks, the combination with a central column, of a plurality of columns surrounding said central column, means connecting said central column with each of the surrounding columns, means for uniting the adjacent surrounding columns, a horizontal beam supported upon said central column, and the two alining surrounding columns, parallel horizontal beams at each side of said central beam, and each supported upon two of said surrounding columns, and means for supporting a tank upon said beams.

3. In a supporting structure for tanks, the combination with a central column, of a plurality of columns surrounding said central column, means connecting said central column with each of the surrounding columns, means for uniting the adjacent surrounding columns, a horizontal beam supported upon said central column, and the two alining surrounding columns, parallel horizontal beams at each side of said central beams and each supported at its ends upon two of said surrounding columns, parallel I-beams supported transversely upon said horizontal beams and arranged sufficiently close together to form an extended support for the bottom of a tank.



4. In a supporting structure for tanks, the combination with a central column, of six columns surrounding and spaced equal distances from said central column, means connecting said central column to each of said surrounding columns, means connecting adjacent surrounding columns, and means for supporting a tank upon the upper ends of said column.

5. In a supporting structure for tanks, the combination with a central column, of six columns surrounding and spaced equal distances from said central column, means connecting said central column to each of said surrounding columns, means connecting adjacent surrounding columns, a horizontal beam supported upon said central column and the two alining surrounding columns, parallel horizontal beams of the same cross-section but shorter than said central beam located on each side of said central beam and each supported upon two of said surrounding columns, and means for supporting a tank upon said beams.

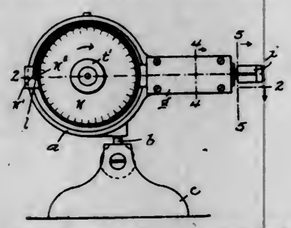
6. In a supporting structure for tanks, the combination with a central column composed of two angle-irons rigidly united with their flanges extending in opposite directions, of a plurality of columns surrounding said central column, tie-rods connecting each of said surrounding columns with one of the flanges of the angle-irons composing said central column, means for uniting the adjacent surrounding columns, and means for supporting a tank upon the upper ends of said column.

7. In a supporting structure for tanks, the combination with a central column of a plurality of columns surrounding said central column each composed of two angle-irons united at such an angle that the flanges on adjacent columns aline, means connecting said central column with each of the said surrounding columns, means rigidly uniting the alined flanges of adjacent surrounding columns, and means for supporting a tank upon the upper ends of said columns.

8. In a supporting structure for tanks the combination with a central column, of a plurality of columns surrounding said central column each composed of two angle-irons united at such an angle that the flanges on adjacent columns aline, a radial tie-rod extending between the angle-irons of each of the surrounding columns to said central column, a block interposed between the outer flanges of each of said surrounding columns engaged by the radial tie-rod, means for uniting the alined flanges of the adjacent surrounding columns, and means for supporting a tank upon the ends of said columns.

9. In a supporting structure for tanks, the combination with a central column composed of two angle-irons rigidly united with their flanges extending in opposite directions of a plurality of columns surrounding said central columns each composed of two angle-irons rigidly united at such an angle that the flanges on adjacent columns aline, radial tie-rods connected at their inner ends to the flanges of the angle-irons forming said central column and secured at their outer ends between the angle-irons forming the several surrounding columns, means for uniting the alining flanges on adjacent columns, and means for supporting the tank upon the upper ends of said columns.

839,943. MICROMETER-GAGE. EDWARD A. MARSH, Newton, Mass. Filed July 7, 1906. Serial No. 325,143.



Claim.—1. A micrometric measuring instrument comprising relatively fixed and movable jaws, and a graduated disk having an eccentric cam-shaped perimeter engaged with the movable jaw.

2. A micrometric measuring instrument comprising relatively fixed and movable jaws, and a graduated disk having a cam-shaped perimeter engaged with the movable jaw, said cam-portion being of constantly varying eccentricity proportional to the graduations of the disk.

3. A micrometric measuring instrument comprising relatively fixed and movable jaws, and a graduated disk having a spiral cam portion in one plane engaged with the movable jaw.

4. A micrometric measuring instrument comprising a relatively fixed abutment, a jaw movable toward and from said abutment, and a graduated flat disk having its periphery formed as a cam engaged with the jaw, the abutment being adjustable to vary its distance from the jaw.

5. In a micrometric measuring instrument, a spiral cam having a plurality of portions of regularly-changing eccentricity, the rates of variation in the eccentricities of the several portions being different, and the cam having reference graduations on each of the different portions, which represent different units proportional to the various changes of eccentricity.

6. In a micrometric measuring instrument, a spiral cam having a plurality of portions of regularly-changing eccentricity, the rates of variation in the eccentricities of the several portions being different, and the cam having separate sets of graduations reading in terms of the various differences in eccentricity.

7. A micrometric measuring instrument comprising a graduated disk having its periphery formed as a spiral or snail, a fixed abutment, a member movable in a straight line toward and from said abutment, and engaged with the periphery of said disk, and a spring tending to hold said movable member against the disk.

8. A micrometric measuring instrument comprising a graduated disk having its periphery formed as a spiral or snail, a fixed abutment, a member movable in a straight line toward and from said abutment, and engaged with the periphery of said disk, and a spring tending to hold said movable member against the disk, the abutment being adjustable in the line of movement of the member.

9. In a micrometric measuring instrument, a rotary disk having graduations and formed with its periphery gradually approaching the pivot from the most extended point, in an involute curve, and a caliper-jaw or gage member rectilinearly operable by said disk; one portion of the disk periphery being of less abrupt curvature than the rest, whereby a corresponding angular movement of this portion of the disk will produce less motion of the gage member.

10. In a micrometric measuring instrument, a stationary abutment, a gage member movable toward and from said abutment, a cam-disk for moving said member and having a scale for indicating the distance thereof from the abutment, and a finger-piece for moving said disk, having a frictional engagement therewith and adapted to slip when a resistance is encountered of greater force than the friction.

11. In a micrometric measuring instrument, a stationary abutment, a gage member movable toward and from said abutment, a cam-disk for moving said member and having a scale for indicating the distance thereof from the abutment, a coaxial projection on said disk at the pivot thereof, and an operating member frictionally engaged with said projection for turning the disk, adapted to slip when a resistance of greater force than the friction is encountered and prevent injury to the parts and to insure uniform and safe pressure.

12. In a micrometric measuring instrument, a stationary abutment, a gage member movable toward and from said abutment, a cam-disk for moving said member and having a scale for indicating the distance thereof from the abutment, a hub on the disk, and a sleeve mounted on said hub with a frictional engagement, adapted to be grasped and turned manually for revolving the disk, and to slip when the movable member is arrested.

13. A micrometric measuring instrument comprising a support or body, a normally stationary abutment, a movable gage member, a rotary cam-disk engaged with said gage member for moving it relatively to said abutment and having graduations for measuring the amount of such movement, and a graduated dial connected to said disk and movable therewith.

14. A micrometric measuring instrument comprising a support or body, a normally stationary abutment, a movable gage member, a rotary cam-disk on one side of the body engaged with said gage member for moving it relatively to said abutment and having graduations for measuring the amount of such movement, and a graduated dial connected to said disk on the opposite side of the body from the disk and movable therewith.

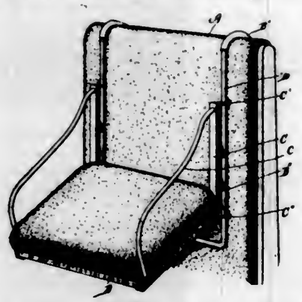
15. A micrometric measuring instrument comprising a support or body, a normally stationary adjustable abutment, a movable gage member, a rotary cam-disk engaged with said gage member for moving it relatively to said abutment and having graduations for measuring the amount of such movement, and a stop, against which said abutment is adapted to bear, displaceable to permit shifting of said abutment.

16. A micrometric measuring instrument comprising a support or body, a normally stationary adjustable abutment, a movable gage member, a rotary cam-disk engaged with said gage member for moving it relatively to said abutment and having graduations for measuring the amount of such movement, a plurality of stops displaceable to permit each to engage separately with the abutment and adapted to sustain the abutment in different positions, and means tending to hold the abutment in engagement with the nearest stop.

17. A micrometric measuring instrument comprising a support or body, a normally stationary adjustable abutment, a movable gage member, a rotary cam-disk engaged with said gage member for moving it relatively to said abutment and having graduations for measuring the amount of such movement, a pivoted member having a plurality of stop-arms of different lengths movable to bring any single arm adjacent the abutment, and yielding means tending to hold the abutment against the nearest stop-arm.

18. A micrometric measuring instrument comprising a movable jaw, a normally stationary jaw or abutment adjustable toward and from said movable jaw, a cam engaging said movable jaw for moving it toward the abutment, a stop for limiting the movement of the abutment away from the movable jaw, and a spring tending to hold the jaws separated, with the abutment in contact with said stop and the movable jaw in engagement with the disk.

839,944. CHAIR ATTACHMENT. WILLIAM C. MARTIN, Coldwater, Mich. Filed Apr. 5, 1906. Serial No. 310,083.



Claim.—1. The combination of a U-shaped hanger formed of a metal rod having parallel arms with rearwardly-turned hooks at their upper ends, adapted to be engaged over a chair-back, said arms having notches in their front sides, the notches of the two arms being arranged to correspond; a seat; L-shaped brackets formed of flat metal strips upon which the said seat is mounted, having rearwardly-projecting perforated ears through which the arms of said hangers are arranged; said ears being adapted to engage said notches in said hanger-arms for retaining said seat in its adjusted position; and braces for said brackets, formed of metal rods, arranged to serve as arms for the said seat, for the purpose specified.

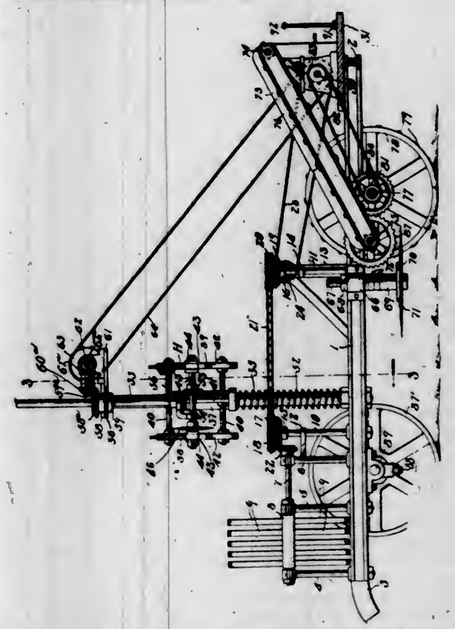
2. The combination of a hanger having parallel arms with rearwardly-turned hooks at their upper ends, adapted to be engaged over a chair-back, said arms having notches in their front sides, the notches of the two arms being arranged to correspond; a seat; brackets upon which the said seat is mounted, having rearwardly-projecting perforated ears through which the arms of said hangers are arranged; said ears being adapted to engage said notches in said hanger-arms for retaining said seat in its adjusted position, and braces for said brackets, arranged to serve as arms for the said seat, for the purpose specified.

3. The combination of a U-shaped hanger formed of a metal rod having parallel arms with rearwardly-turned hooks at their upper ends, adapted to be engaged over a chair-back, said arms having notches in their front sides, the notches of the two arms being arranged to correspond; a seat; L-shaped brackets formed of flat metal strips upon which the said seat is mounted, having rearwardly-projecting perforated ears through which the arms of said hangers are arranged, said ears being adapted to engage said notches in said hanger-arms for retaining said seat in its adjusted position, for the purpose specified.

4. The combination of a hanger having parallel arms with rearwardly-turned hooks at their upper ends, adapted to be engaged over a chair-back, said arms having notches in their front sides, the notches of the two arms being arranged to correspond; a seat; and supporting-brackets for said seat having pairs of rearwardly-projecting perforated ears, the lower ear of each pair being arranged below the seat and the upper ears of each pair being arranged above the seat, the said lower ears being adapted to engage said notches in said hanger-arms for retaining said seat in its adjusted position, for the purpose specified.

5. The combination of a hanger having parallel arms with rearwardly-turned hooks at their upper ends adapted to be engaged over a chair-back; a seat and L-shaped brackets formed of flat metal strips upon which said seat is mounted, said brackets having their upper ends turned rearwardly into ears which are perforated to receive said hanger-arms; and rearwardly-projecting perforated ears secured to the bottom of said brackets through which said hanger-arms are arranged, for the purpose specified.

839,945. CANE-HARVESTER. JOSEPH A. MELANCON and WARWICK C. MAYOR, McCall, La. Filed Nov. 15, 1905. Serial No. 287,472.



Claim.—1. In a cane-harvester, a U-shaped frame of channel-iron having side members spaced apart at their front ends and curved downwardly and outwardly.

2. In a cane-harvester, a frame having side members spaced apart at their front ends, uprights supported upon said side members, longitudinal approximately horizontal shafts supported for rotation by said uprights, and flat resilient leaf-stripping members extending radially from said shafts.

3. In a cane-harvester, a frame having side members spaced apart at their front ends, uprights supported upon the side members, longitudinal parallel shafts supported for rotation by the uprights, and hubs upon said shafts having radially-extending resilient stripping-arms.

4. In a cane-harvester, stalk-cutting apparatus and rotating top-severing cutters operating transversely across the row of plants in advance of the stalk-cutting apparatus, and horizontal shafts supporting said top-severing cutters and extending longitudinally of the harvester.

5. In a cane-harvester, a vertically-movable frame automatically adjustable by contact with the plants, and top-severing cutters operating in said frame to an approximately vertical plane.

6. In a cane-harvester, a vertically-movable frame automatically adjustable by contact with the plants, and a top-severing cutter supported for operation in said frame in an approximately vertical plane.

7. In a cane-harvester, a frame supported for free vertical movement and automatically adjustable by contact with the plants, and a top-severing cutter supported for rotation in said frame in an approximately vertical plane.

8. In a cane-harvester, a frame disposed across the row of plants engaged by the machine and supported for free vertical movement, said frame being automatically adjustable by contact with the plants, and a top-severing cutter supported for operation in said frame in an approximately vertical plane.

9. In a cane-harvester, cane-cutting apparatus, and top-severing cutters operating in an approximately vertical plane transversely across the row of plants in advance of the cane-cutting apparatus.

10. In a cane-harvester, cane-cutting apparatus, a vertically-movable frame disposed in advance of the cane-cutting apparatus and automatically adjustable by contact with the plants, and a top-severing cutter carried by said frame.

11. In a cane-harvester, cane-cutting apparatus, a vertically-movable frame disposed in advance of the cane-cutting apparatus and automatically adjustable by contact with the plants, and a top-severing cutter operating in said frame in an approximately vertical plane.

12. In a cane-harvester, cane-cutting apparatus, a frame supported for free vertical movement in advance of the cane-cutting apparatus and automatically adjustable by contact with the plants, and a top-severing cutter supported for rotation in said frame in an approximately vertical plane.

13. In a cane-harvester, cane-cutting apparatus, a frame supported for free vertical movement in advance of the cutting apparatus, said frame being disposed transversely across the row of plants engaged by the machine, means for counterbalancing the frame to enable it to be adjusted automatically by contact with the plants, and a top-severing cutter supported for operation in said frame in an approximately vertical plane.

14. In a cane-harvester, cane-cutting apparatus, a vertically-movable frame disposed across the row of plants engaged by the machine in advance of the cane-cutting apparatus, a top-severing cutter supported for operation in said frame in an approximately vertical plane, and cushion-springs for resiliently supporting said frame.

15. In a cane-harvester, a vertically-movable frame disposed across the row of plants engaged by the machine and automatically adjustable by contact with the plants, a top-severing cutter operating in said frame in an approximately vertical plane, and means for bending the stalks or plants beneath said frame.

16. In a cane-harvester, a vertically-movable frame disposed across the row of plants engaged by the machine and automatically adjustable by contact with the plants, a top-severing cutter operating in said frame in an approximately vertical plane, and endless chains having plant-engaging arms for bending the plants in the direction of the vertically-movable frame.

17. In a cane-harvester, tubular uprights, a frame supported for vertical movement upon said uprights, a top-severing cutter in said frame, weights within the uprights, and suitably-guided flexible elements connecting the weights with the frame.

18. In a cane-harvester, a pair of uprights, a vertically-movable frame guided upon said uprights, a stalk-severing cutter supported for operation in the frame, and springs coiled about the uprights to support the frame.

19. In a cane-harvester, tubular uprights, a vertically-movable frame guided upon said uprights, a top-severing cutter supported for operation in the frame, supporting-springs coiled about the uprights, counterweights within the uprights, and suitably-guided flexible elements connecting the weights with the frame.

20. In a cane-harvester, a pair of uprights, sleeves movable upon said uprights, connecting-rods carried by the sleeves, front and rear plates supported by the rods, boxes connected adjustably with said plates, shafts supported for rotation in the boxes, and cutters upon the shafts.

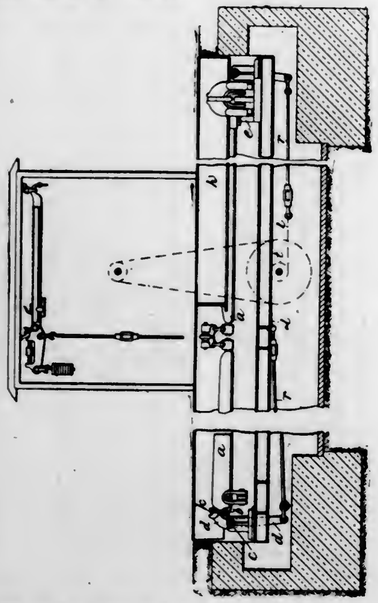
21. In a cane-harvester, a vertically-movable frame disposed across the row of plants engaged by the machine and automatically adjustable by contact with the plants, a plurality of horizontal shafts supported for rotation in said frame, circular cutters upon said shafts disposed to operate in an approximately vertical plane, and means for continuously rotating the shafts in the various positions occupied by the frame.

22. In a cane-harvester, a pair of uprights, a vertically-movable frame guided upon said uprights, shafts supported by the frame and provided with bevel-pinions, cutters upon said shafts, a cross member connecting the uprights, hubs supported by the cross member and mounted therein for rotation, longitudinally-grooved shafts extending through the hubs and having pinions meshing with the bevel-pinions upon the cutter-carrying shafts, splines connecting the hubs in the cross member with the longitudinally-grooved shafts extending therethrough, a driven shaft supported for rotation by the cross member, and means for transmitting motion from said shaft to the hubs.

23. In a cane-harvester, a pair of uprights, a vertically-movable frame guided upon said uprights and extending across the row of plants operated upon by the machine, a top-severing cutter supported for operation in said frame in an approximately vertical plane, stalk-cutting apparatus arranged in rear of the uprights supporting the vertically-movable cutter-carrying frame, and endless chains surrounding said uprights and having outwardly-extending plant-engaging arms.

24. In a cane-harvester, a pair of longitudinally-supported shafts, strippers connected with said shafts, a pair of endless chains having outwardly-extending cane-engaging arms, a vertically-movable frame extending across the row of plants engaged by the machine, and adapted to be automatically adjusted by contact with the plants, stalk-severing means, an endless conveyer, a motor, running-gear, and means for transmitting motion from the motor to the running-gear and to the operative parts of the machine.

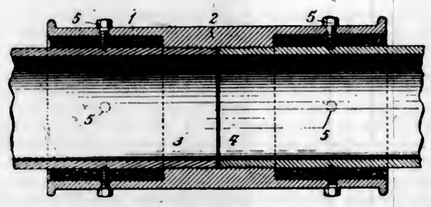
839,946. RAILWAY WEIGH-BRIDGE. EDMUND VON MIKLÓS, Budapest, Austria-Hungary. Filed May 3, 1902. Serial No. 105,836.



Claim.—1. In a device of the character described, means for entirely and instantaneously putting the balance out of action, the same comprising two-armed levers each having a bent piece, levers each having its fulcrum movably connected with one of said bent pieces, a platform, sustaining-points at the corners of the platform, and means for operating the said two-armed levers whereby the platform is lifted from said points, substantially as described.

2. In a device of the character described, the combination with the weighing devices comprising the levers *a*, two-armed levers each having a bent portion, the first-mentioned levers each having its fulcrum movably connected with one of said bent portions, a platform, and means for operating the said two-armed levers to effect the raising and lowering of the platform comprising a chain-drum, chains and rods connecting the drum with one arm of the said two-armed levers in the manner described whereby the platform is lowered by the slackening of the chains and raised when the latter are tightened, and means for turning the drum.

839,947. TENSION-JOINT FOR PIPES. FRANK MCCLUSKEY, New York, N. Y. Filed Dec. 9, 1905. Serial No. 291,019.

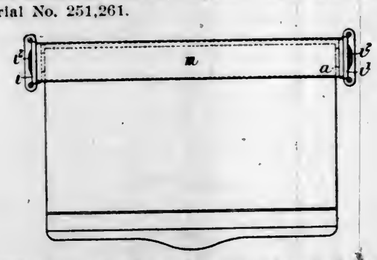


Claim.—1. A tension-joint for pipes comprising a sleeve having a middle portion threaded onto the abutting ends of two pipe-sections and also having two end portions of large diameter, integral lead cushions molded into the end portions of said sleeves and bolts for retaining said cushions passing through the ends of said sleeves and into said cushions, substantially as described.

2. A tension-joint for pipes comprising a sleeve having a middle portion threaded onto the abutting ends of two pipe-sections and also having two end portions of large diameter, bolts passing through said end portions into said pipe-sections for aiding the threads to support tensional strain and lead cushions molded into said sleeve ends and around said bolts so as to be retained thereby, substantially as described.

3. A tension-joint for pipes comprising a sleeve having substantially uniform exterior diameter and thickened at the middle where it is threaded onto the abutting ends of two pipe-sections, bolts passing through its end portions into said pipe-sections for aiding the threads to support tensional strain and lead cushions molded into the sleeve ends and around said bolts so as to be retained thereby, substantially as described.

839,948. SPRING-ROLLER-BLIND APPARATUS. WILLIAM MCLAREN, London, England. Filed Mar. 21, 1905. Serial No. 251,261.

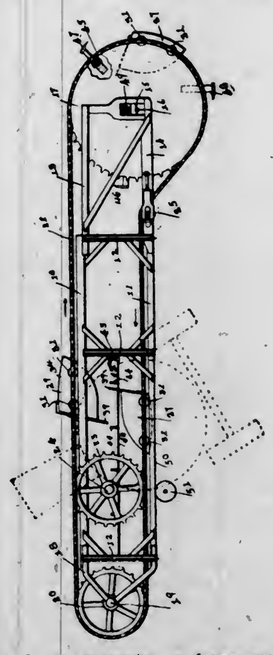


Claim.—1. In a device of the kind described, the combination with brackets provided with recesses and shoulder portions, of a roller provided with pintles extending through orifices in said brackets and projecting into said recesses, a coiled spring connecting said roller to one of said pintles, said pintle being provided at its end with flattened portions, means for locking said pintle against rotation in one direction, removable caps for said recesses one of said caps being provided with an orifice through which the flattened end of said pintle is adapted to project and a casing constructed to fit around said roller and retained in position by the shoulders on said brackets, substantially as described.

2. In a device of the kind described, the combination with brackets provided with recesses and shoulder portions, of a roller provided with pintles extending through orifices in said brackets and projecting into said recesses, the spring-winding pintle being provided at its end with flattened portions, removable caps for said recesses one of said caps being provided with a depressed portion provided with an orifice through which the flattened end of said spring-winding pintle is adapted to project, and a casing constructed to fit around said roller and retained in position by the shoulders on said brackets, substantially as described.

3. In a device of the kind described, the combination with brackets provided with recesses and shoulder portions, of a roller provided with pintles extending through orifices in said brackets and projecting into said recesses, connections between the winding-spring and one of said pintles, a brake and connections between the said brake and the other of said pintles, means located in one recess for preventing the spindle connected to the brake from turning in but one direction, means located in the other recess for locking said spring-winding pintle against rotation in one direction, said latter pintle being provided at its end with flattened portions, removable caps for said recesses, said caps being provided with key-engaging portions to facilitate their removal, one of said caps being provided with an opening through which said flattened portion of said spindle is adapted to project, a casing constructed to fit around said roller and be retained in position by said shoulder portions of said brackets, substantially as described.

839,949. EXCAVATING-MACHINE. SIVERT OLSON, Petersburg, N. D. Filed Apr. 3, 1906. Serial No. 309,676.



Claim.—1. In an excavator, a frame arranged to extend transversely of the line of travel and inclined to a vertical, an endless conveyer operating upon said frame, a drum at the lower end of said frame arranged to carry

the conveyer, and diggers carried by the drum and in position for engagement with the ground.

2. In an excavator, a frame arranged to be disposed in an inclined position, a drum at the lower end of said frame, an endless conveyer passing about said drum and moving upon the frame, means at the upper end of said frame for carrying the conveyer, a bucket mounted upon and moved by said conveyer, and diggers spaced about the drum and in position for contact with and loosening the earth.

3. In an excavator, a frame arranged to be disposed in an inclined position, and provided with track-pieces, a drum mounted to rotate at the lower end of said frame-pieces, an endless conveyer provided with buckets mounted to move about said drum and frame-pieces, means at the upper end of said frame-pieces for carrying the conveyer, and means carried by the conveyer adjacent the buckets for engagement with and operation upon the track-pieces.

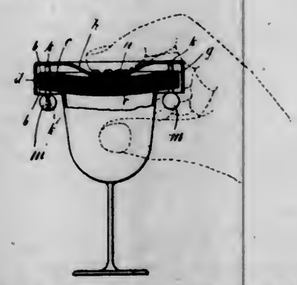
4. In an excavator, a frame arranged to be disposed in an inclined position, an endless conveyer including a bucket having a hinged bottom operating about the frame, means at the opposite ends of said frame for carrying the conveyer, means carried by the bucket for holding the bottom in a closed position, and means carried by the frame for releasing the bottom-holding means, at a desired point of its movement.

5. In an excavator, a frame arranged to extend transversely of the line of travel and in an inclined position, a conveyer operating about said frame and a digger at the lower end of said frame arranged and positioned for contact with the earth.

6. In an excavator, a frame arranged to be disposed in an inclined position, means carried by said frame for connection with a source of power, an endless conveyer passed about and upon said frame and arranged for engagement with the power-exerting means and embodying buckets arranged to move about the frame, and a digger rotatably mounted at the lower end of said frame.

7. In an excavator, a frame arranged to be disposed in an inclined position, a drum mounted at the lower end, an endless conveyer extending about the frame and the drum embodying a bucket, means at the upper end of the frame for carrying the conveyer, means for connecting the conveyer with the source of power, means carried by said conveyer and arranged for engagement with and movement upon the frame, bottoms hinged to the buckets, means for holding the bottoms in closed position, means carried by the frame for releasing the bottom-holding means at a desired point in its movement, and diggers carried by the frame and positioned for engagement with the earth.

839,950. VESSEL-COVER AND LIQUID-SHAKER. HUGH PATON, Montreal, Quebec, Canada. Filed Jan. 5, 1906. Serial No. 294,787.



Claim.—1. A cover for shaking purposes adapted to be held upon the rim of a vessel by the pressure of the index-finger while the vessel is held in the hand and consisting of a flexible disk, a carrier containing such disk and constructed to, when borne upon by the finger, force the central portion of the said disk into the vessel while the disk rests upon the rim.

2. A cover adapted to rest upon the rim of a vessel and consisting of a carrier having a convexed interior and a flexible disk supported in such carrier, for the purpose set forth.

3. A cover adapted to rest upon the rim of a vessel and comprising a carrier of circular box-like form with one end open, the closed end of such carrier having the central portion of its interior convexed, an elastic disk within the carrier, a series of legs secured to the interior of the perimetrical wall of the carrier, and a series of feet upon such legs for the purpose set forth.

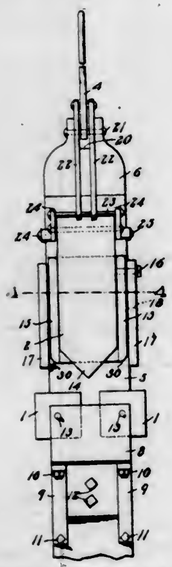
4. A disk for the purpose set forth consisting of two layers of cork each faced on one side with an aseptic waterproof fabric and an adhesive film attaching the said faced layers together.

5. A cover adapted to rest upon the rim of a vessel and consisting of a carrier having a convexed interior and a flexible disk supported in such carrier and consisting of two layers of cork with an aseptic film of adhesive substance between them, for the purpose set forth.

6. A cover adapted to rest upon the rim of a vessel and consisting of a carrier having a convexed interior and a flexible disk supported in such carrier, and consisting of two layers of cork each faced on one side with an aseptic waterproof fabric and an adhesive film attaching the said faced layers together, for the purpose set forth.

7. A cover adapted to rest upon the rim of a vessel and comprising a carrier of circular box-like form with one end open, the closed end of such carrier having the central portion of its interior convexed, an elastic disk within the carrier, a series of legs secured to the interior of the perimetrical wall of the carrier, and a series of feet upon such legs one of such feet being secured to its leg by a screw-threaded connection, for the purpose set forth.

839,951. METAL-BENDING MACHINE. RANSOM D. PATTERSON, Fort Smith, Ark. Filed May 29, 1906. Serial No. 319,338.



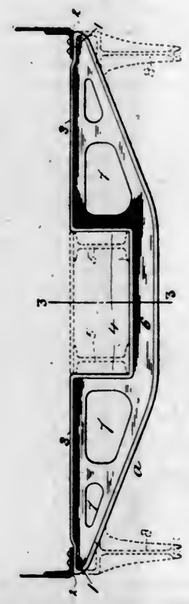
Claim.—1. A machine for bending metal comprising a reciprocatory plunger, a gage adjustable relatively to the plunger, and a plurality of rotatable formers polygonal in cross-section, mounted in the path of movement of the plunger and gage.

2. A machine for bending metal comprising a reciprocatory plunger, a gage adjustably combined therewith and having rounded lower contact-points and a pair of rotatable formers polygonal in cross-section disposed beneath the plunger and arranged in the path of movement of the plunger and gage.

3. A machine for bending metal comprising a reciprocatory plunger having a pointed operative end, an adjustable gage combined therewith, and a pair of rotatable formers, polygonal in cross-section disposed beneath the plunger and arranged in the path of movement of the plunger and gage.

4. A machine for bending metal comprising a reciprocatory plunger, a gage coacting therewith, and a pair of rotatable formers, polygonal in cross-section and having their operative faces provided with semicircular grooves or seats, said formers being arranged in the path of movement of the plunger and gage.

839,952. NEEDLE-BEAM FOR RAILROAD-CARS. HARRY M. PFLAGER, St. Louis, Mo., assignor to Cast Steel Needle Beam Company, St. Louis, Mo., a Corporation of Delaware. Filed Aug. 30, 1906. Serial No. 332,647.

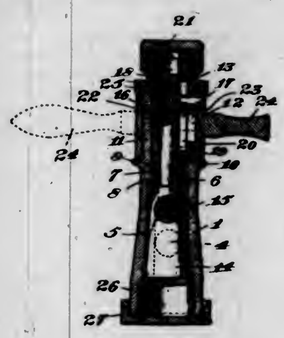


Claim.—A needle-beam for a car underframe, consisting of an integral casting fixed at its ends to the side trusses of the car, and having its adjacent portions adapted to support the underframe thereat, the said beams having a depressed middle portion extending beneath and adapted to support the lower middle longitudinal sills of the said frame, and queen-posts for the truss-rods dependent from and integral with said beam, substantially as described.

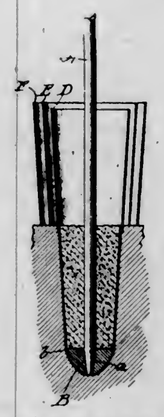
839,953. GATE-VALVE. NICHOLAS W. RACE, Waldron, Mich., assignor of one-half to Orville S. Westerman, Adrian, Mich. Filed Feb. 8, 1904. Serial No. 192,721.

Claim.—In a valve, the combination with a valve-casing having a valve-seat and provided with a slot, of a valve for said valve-seat, a packing tube or sleeve surrounding the solid valve-stem and provided with a slot registering with the aforesaid slot in the casing, means for holding the packing-tube stationary, a pin secured to the solid valve-stem and extending through the slots aforesaid, and a rotary valve-operating collar on the valve-casing, said collar having a cam-slot which receives the pin aforesaid.

839,953.



839,954. PILE AND METHOD OF FORMING THE SAME. ALFRED A. RAYMOND, Chicago, Ill., assignor to Raymond Concrete Pile Company, Jersey City, N. J., a Corporation of New Jersey. Filed Sept. 3, 1902. Serial No. 121,935.



Claim.—1. The method of forming a pile consisting in sinking a shell and filling such shell with concrete or the like during the sinking operation; substantially as described.

2. The method of forming a pile consisting in sinking a tapering shell into the ground by means of a fluid-jet and filling such shell with concrete or the like during the sinking operation; substantially as described.

3. The method of forming a pile consisting in sinking a body or tip on which is arranged a tapering shell, filling such shell with concrete or the like, continuing said sinking, and attaching a second shell to the first shell and filling it also with concrete and adding shells and continuing sinking until the desired length of pile is obtained; substantially as described.

4. The method of forming a pile consisting in arranging around a body or tip to be sunk a series of sections of tapering shell, which sections engage each other to form a continuous shell or tube, sinking said tip and shells and filling said shell or tube with a suitable filler; substantially as described.

5. The method of forming a pile consisting in arranging around a body or tip to be sunk into the ground a series of tapering sections adapted to telescope into each other and to form a tapering shell or tube, sinking said tip and thereby extending the telescoped sections into a completed tube, and filling said sections during the sinking operation; substantially as described.

6. The herein-described pile consisting of a temporary shell or covering, a suitable filler therein, a tip arranged at the lower end of such shell and a pipe connected to

such tip and extending longitudinally through the filler; substantially as described.

7. The herein-described pile consisting of a temporary and tapering shell or covering, a suitable filler therein, a tip arranged at the lower end of such shell and having a tapering jet-opening forming a nozzle, and a fluid-jet pipe connected to such tip and communicating with the jet-opening thereof, said pipe extending longitudinally through the filler; substantially as described.

8. The method of forming a pile consisting in sinking a body or tip on which is arranged a shell, and filling such shell with a suitable filler simultaneously with the sinking operation; substantially as described.

9. The method of forming a pile consisting in sinking by means of water-jetting a body or tip on which is arranged a shell, attaching another shell or shells to the first shell according to the length of pile required, and filling said shells with a suitable filler during the operation of sinking the tip and shells; substantially as described.

10. The method of forming a pile consisting in arranging around a body or tip to be sunk a series of sections of a shell, which sections are arranged to engage each other to form a continuous shell or tube, sinking said tip and shell-sections by fluid-jetting, and filling said shell or tube with a suitable filler; substantially as described.

11. The method of forming a pile consisting in sinking a series of shells and filling the same shell by shell during the sinking operation; substantially as described.

12. The method of forming a pile consisting in sinking a series of shells and filling the same shell by shell and simultaneously with the sinking operation; substantially as described.

13. The method of forming a pile consisting in sinking a series of interlocking shell-sections and filling them with a suitable filler during the sinking operation.

14. The method of forming a pile consisting in sinking a sectioned shell, section by section, and filling said shell with a suitable filler.

15. The method of forming a pile consisting in assembling a series of tapering shell-sections adapted to form a tapering shell, sinking the innermost one of said sections and thereby extending the sections into a complete shell, and filling said sections with a suitable filler.

16. The method of forming a pile consisting in sinking, by fluid-jetting, a series of shell-sections, section by section, and filling the same with a suitable filler.

17. A pile consisting of a shell and a suitable filler therein having a conveying-passage extending longitudinally thereof.

18. A pile consisting of a shell composed of a series of longitudinally-distributed sections, and a suitable filler therein having a conveying-passage extending longitudinally thereof.

19. A pile consisting of a shell, a suitable filler therein, and a conveying-pipe in mechanical engagement with the lower end of said shell, whereby the soil beneath said shell may be removed.

20. A pile consisting of a shell or covering composed of a plurality of nested sections adapted for longitudinal distribution and interlocking engagement when so distributed, and a suitable filler within such shell.

21. A shell for piles comprising a plurality of nested shell-sections arranged for interlocking engagement when longitudinally distributed, in combination with means for effecting the removal of soil to permit longitudinal distribution of the sections in the earth.

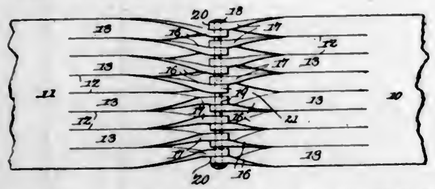
22. A shell for piles comprising a plurality of nested shell-sections arranged for interlocking engagement when longitudinally distributed, in combination with a conveying-pipe in mechanical engagement with the innermost section whereby soil beneath said section may be removed to effect longitudinal distribution of said shell-sections.

23. A shell for piles comprising a plurality of nested shell-sections arranged for interlocking engagement when longitudinally distributed, in combination with a tip connected to the innermost shell-section.

24. A shell for piles comprising a plurality of nested shell-sections arranged for interlocking engagement when longitudinally distributed, in combination with a tip connected to the innermost shell-section, and means of fluid-jetting.

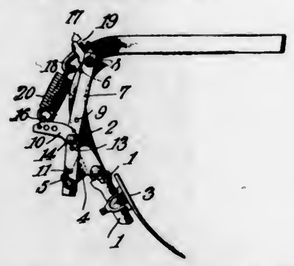
25. A shell for piles comprising a plurality of nested shell-sections arranged for interlocking engagement when longitudinally distributed, in combination with a tip connected to the innermost section, and a jet-pipe connected to and supplying a jet through the tip.

839,955. BELT-FASTENER. CLYDE C. REED and WILLIAM DUECKER, Memphis, Tenn. Filed Aug. 17, 1905. Serial No. 274,586.



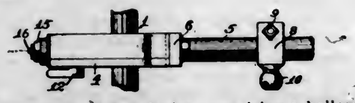
Claim.—A belt-fastener comprising the belt ends each formed with an even number of tongues of equal width and with parallel sides with the tongues at opposite sides of the center reversely twisted at right angles to the faces of the belt so that the adjacent faces of the central pair of tongues of one belt end are disposed in close proximity and the adjacent faces of the central pair of tongues of the other belt end disposed against the outer faces of the first-mentioned central tongues, whereby a uniform open space is left centrally of the belt and the belt thereby rendered slightly more flexible centrally of the joint.

839,956. SPRING-TRIP FOR CULTIVATORS. LEWIS REEVES and GEORGE K. GILCHRIST, Vinton, Iowa. Filed Sept. 24, 1906. Serial No. 335,928.



Claim.—A spring-trip for cultivators comprising a shovel-support pivoted to the cultivator-standard, and having a rearwardly-extending shank, two sets of toggle-levers fulcrumed together and located one set upon each side of the cultivator-standard, the upper toggle-levers being straight and pivoted to the standards and the lower toggle-levers being angular and pivoted to said shank, the fulcrum-bolt of said levers extending transversely across the standard and normally engaging the rear edge thereof and a spring connected at its ends to the upper and lower toggle-levers and extending across the fulcrum of the levers.

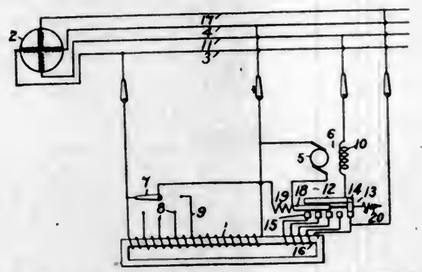
839,957. FEED RATCHET DEVICE. GEORGE T. REISS, Hamilton, Ohio, assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Oct. 25, 1906. Serial No. 340,493.



Claim.—A feed ratchet device comprising a hollow case, a ratchet-wheel and a pawl pivoted therein, a flanged stem

bolted to the case and projecting therefrom at right angles to the axis of the ratchet-wheel, a wrist carried by the stem, a bushing adjustably secured in the wall of the case at right angles to the axis of the pawl, and a spring-plunger mounted in the bushing and coöperating with the pawl, combined substantially as set forth.

839,958. REGULATOR FOR ALTERNATING-CURRENT MOTORS. CLARENCE RENSHAW, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 6, 1905. Serial No. 244,481.



Claim.—1. The combination with a source of two-phase alternating-current energy, a transformer connected to one phase of said source, an electric motor the armature of which is supplied by said transformer, means for connecting the field-magnet winding to the other phase of said source, and a winding connected in series with the field-magnet winding and located in the magnetic circuit of the transformer.

2. The combination of a source of two-phase alternating-current energy, a transformer connected to one phase of said source, an electric motor the armature of which is supplied by said transformer, means for connecting the field-magnet winding to the other phase of said source, a winding connected in series with the field-magnet winding and located in the magnetic circuit of the transformer, and means for varying the active length of said winding.

3. The combination of a source of two-phase alternating-current energy, a transformer connected to one phase of said source, an electric motor the armature of which is supplied by said transformer, means for connecting the field-magnet winding to the other phase of said source, a winding connected in series with the field-magnet winding and located in the magnetic circuit of the transformer, and means for varying the active length of said winding substantially in accordance with variations in the current traversing the armature-circuit.

4. The combination of a source of two-phase alternating-current energy, a transformer connected to one phase of said source, an electric motor the armature of which is supplied by the transformer, means for connecting the field-magnet winding to the other phase of said source, a winding connected in series with the field-magnet winding and located in the magnetic circuit of the transformer, and means for varying the active length of said winding comprising a controlling device responsive in its operation to variations in the current traversing the armature-circuit.

5. The combination of a source of two-phase alternating-current energy, a transformer-winding supplied from one phase of said source, an electric motor having armature and field-magnet windings, means for connecting the armature-winding to points in the transformer-winding, means for connecting the field-magnet winding to the other phase of said source, and a transformer-winding that is connected in series with the field-magnet winding and upon which is impressed an electromotive force of a different phase from that impressed upon the field-magnet winding.

6. The combination of a source of two-phase alternating-current energy, a transformer-winding supplied from one phase of said source, an electric motor having armature and field-magnet windings, means for connecting the armature-winding to points in the transformer-winding, means for connecting the field-magnet winding to the other phase of said source, a transformer-winding that is connected in series with the field-magnet winding and upon which is impressed an electromotive force of a different phase from that impressed upon the field-magnet winding, and means for varying the active length of said winding.

7. The combination with a source of two-phase alternating-current energy, a transformer-winding supplied from one phase of said source, an electric motor having armature and field-magnet windings, means for connecting the armature-winding to points in the transformer-winding, means for connecting the field-magnet winding to the other phase of said source, a transformer-winding that is connected in series with the field-magnet winding and upon which is impressed an electromotive force of a different phase from that impressed upon the field-magnet winding, and means for varying the active length of said winding substantially in accordance with variations in the amount of current traversing the armature-circuit.

8. The combination of a source of two-phase alternating-current energy, a transformer-winding supplied from one phase of said source, an electric motor having armature and field-magnet windings, means for connecting the terminals of the armature-winding to points in the transformer-winding, means for connecting the field-magnet winding to the other phase of said source, a transformer-winding that is connected in series with the field-magnet winding and upon which is impressed an electromotive force of different phase from that impressed upon the field-magnet winding, and means for varying the active length of said winding comprising a controlling device responsive in its operation to variations in the amount of current traversing the armature-circuit.

9. The combination with a source of two-phase alternating-current energy and a transformer supplied from one phase of said source, of an electric motor the armature-terminals of which are connected to said transformer, means for changing the said connections to vary the voltage applied to the armature-windings, means for connecting the field-magnet winding to the other phase of said source, and a transformer-winding that is connected in series with the field-magnet winding and upon which is impressed an electromotive force of a different phase from that impressed upon the field-magnet winding.

10. The combination with a source of two-phase alternating-current energy and a transformer supplied from one phase of said source, of an electric motor the armature-terminals of which are connected to said transformer, means for changing the said connections to vary the voltage applied to the armature-windings, means for connecting the field-magnet winding to the other phase of said source, a transformer-winding that is connected in series with the field-magnet winding and upon which is impressed an electromotive force of a different phase from that impressed upon the field-magnet winding, and means for varying the active length of said winding.

11. The combination with a source of alternating-current energy and a transformer supplied from one phase of said source, of an electric motor the armature-terminals of which are connected to said transformer, means for applying an electromotive force of another phase to the field-magnet winding, and a transformer-winding that is connected in series with the field-magnet winding and is located in inductive relation to the main transformer-windings.

12. The combination with a source of alternating-current energy and a transformer supplied from one phase of said source, of an electric motor the armature-terminals of which are connected to said transformer, means for applying an electromotive force of another phase to the field-magnet winding, and a transformer-winding that is connected in series with the field-magnet winding and is located upon the same magnetizable core as the main transformer-windings.

13. The combination with a source of alternating-cur-

rent energy and a transformer supplied from one phase of said source, of an electric motor the armature-terminals of which are connected to said transformer, means for applying an electromotive force of another phase to the field-magnet winding, a transformer-winding that is connected in series with the field-magnet winding and is located in inductive relation to the main transformer-windings, and means for varying the active length of said winding.

14. The combination with a source of alternating-current energy and a transformer supplied from one phase of said source, of an electric motor the armature-terminals of which are connected to said transformer, means for applying an electromotive force of another phase to the field-magnet winding, a transformer-winding that is connected in series with the field-magnet winding and is located in inductive relation to the main transformer-windings, and means for varying the electromotive force impressed upon the field-circuit by the said winding.

15. The combination with a source of alternating-current energy and a transformer supplied from one phase of said source, of an electric motor the armature-terminals of which are connected to said transformer, means for applying an electromotive force of another phase to the field-magnet winding, a transformer-winding that is connected in series with the field-magnet winding and is located in inductive relation to the main transformer-windings, and means for varying the electromotive force impressed upon the field-circuit by said winding substantially in accordance with variations in the amount of current traversing the armature-circuit.

16. The combination with a source of alternating-current energy and a motor the armature and field circuits of which are supplied with electromotive forces differing in phase, of a transformer-winding that is located in one of the motor-circuits and upon which is impressed an electromotive force of a different phase from the main electromotive force impressed upon that circuit, and means for varying the active length of said winding substantially in accordance with the variations in the amount of current traversing the armature-circuit.

17. The combination with a source of alternating-current energy, a transformer supplied from one phase of said source and a motor having armature and field-magnet windings, of means for connecting one of the motor-windings to the transformer-winding and the other motor-winding to another phase of said source, and a transformer-winding that is connected in series with one of the motor-windings and upon which is impressed an electromotive force of a different phase from the main electromotive force impressed upon that winding, and means for varying the active length of said winding substantially in accordance with the variations in the amount of current traversing the armature-circuit.

839,959. SUPPORTING-BRACKET FOR CURTAIN-RODS. THOMAS C. RICHARDS, Winsted, Conn. Filed May 9, 1906. Serial No. 316,014.



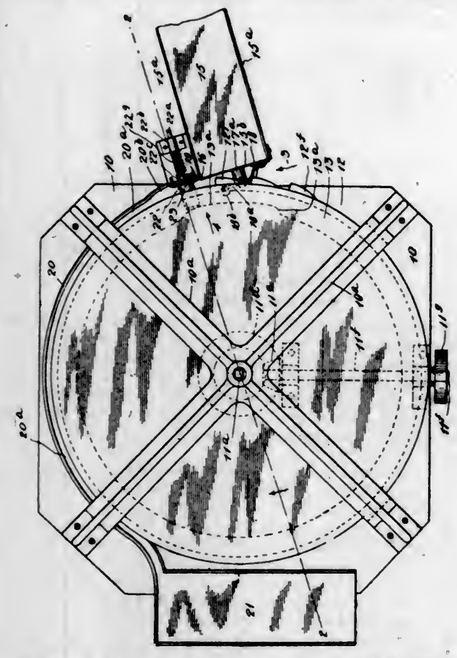
Claim.—1. A rod-supporting bracket, comprising a sheet-metal body, outwardly-projecting sheet-metal arms rigid with said sheet-metal body and integral tongues on said arms and disposed side by side to form a split pin.

2. A rod-supporting bracket, comprising a sheet-metal body and outwardly-projecting arms rigid with said sheet-metal body, and provided with integral dished tongues coöperating to form a cylindrical split pin, said tongues having enlarged heads at their free ends.

3. A rod-supporting bracket, comprising a single sheet of metal having outwardly-projecting arms and tongues integral with the arms, said tongues coöperating to form a split pin.

4. A rod-supporting bracket, comprising a single sheet of metal having a flat body portion perforated to receive supporting devices, integral outwardly-projecting arms, and tongues integral with the outer ends of the arms at right angles thereto and parallel with the body portion, said tongues stamped into semicylindrical form with enlarged ends to form a split pin with an enlarged head.

839,960. ENVELOP-OPENER. ALEXANDER D. ROSS, Chicago, Ill. Filed May 18, 1906. Serial No. 317,464.



Claim.—1. In an envelop-opener, in combination, a guideway, a rotary knife therein disposed in a plane parallel to the length of the guideway, so as to slit the edges of envelops therein, and means to feed envelops along the guideway across the knife.

2. In an envelop-opener, in combination, a guideway, a projecting finger therein, arranged to enter the flap of an envelop, a rotary knife beside the finger, arranged to cut the edge of the flap, and means to feed envelops along the guideway.

3. In an envelop-opener, in combination, a rotary drum, a curved wall extending partially around the same and forming a guideway therebetween, and a rotary knife in the bottom of said guideway, adapted to slit the edges of envelops carried through the guideway by the drum.

4. In an envelop-opener, in combination, a rotary drum, a wall extending partially around the same forming a guideway therebetween, a knife in the guideway arranged to slit the flap of an envelop, a feeding-box at the beginning of the guideway, and means actuated by the drum to feed envelops successively from the box into the guideway, said drum having projections arranged to engage and carry an envelop through the guideway.

5. In an envelop-opener, in combination, a rotary drum, having a groove in its face and a cam in the groove, a wall extending partially around the drum and forming a guideway therebetween, a rotary knife located in the guideway and having its spindle projecting into the groove, said spindle being longitudinally movable, to move the knife toward or from the said wall, and means to feed letters along said wall, in the guideway, with their flaps presented toward the drum, the cam in the groove being arranged to strike the end of the spindle and force the knife outwardly against the flaps of the envelops as they are carried along said wall.

6. In an envelop-opener, in combination, a drum having a groove therein, a wall extending partly around said drum and forming a guideway therebetween, a rotary knife in the guideway, on a spindle arranged radially with respect to the drum, said spindle extending into the groove in contact with one of the sides thereof, whereby the rotation of the drum drives the knife, and means actuated by the drum to feed letters into the guideway and across the knife.

7. In an envelop-opener, the combination with means to slit the edge of envelops, of means to feed the envelops to said slitting means, comprising a box having a slot in one corner thereof, a block movable across the end of the box, to and from said slot, and constructed to engage an envelop and force the same out of the slot, and means to reciprocate said block.

8. In an envelop-opener, in combination, a rotary drum, a wall extending partly around the same and forming a guideway therebetween, a feed-box at the mouth of the guideway, having a slot which opens into said guideway, a rotary knife in the guideway, arranged to cut the envelops at the lower edge thereof, and means actuated by the drum to feed letters successively from the box through said slot.

9. In an envelop-opener, in combination, a rotary drum having a guideway around the same, a knife in the guideway, a feeding-box having a vertical slot in one corner at the entrance to the guideway and a horizontal slot in the end of the box adjacent said slot, a lever having at one end a block projecting through said horizontal slot and adapted to engage an envelop and force the same through the vertical slot, and a cam on the drum arranged to intermittently strike and operate the lever, to feed the envelops successively from the box.

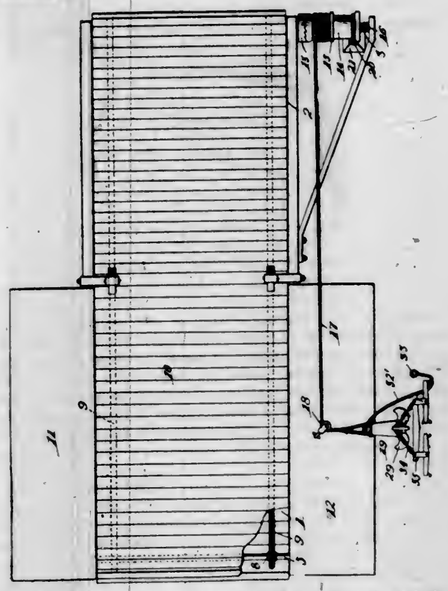
10. In an envelop-opener, in combination, a rotary drum, having a projection arranged to engage and carry a letter, a wall extending partly around the drum and forming a guideway therebetween, through which the envelop is carried by the projection, a yielding stop extending across the guideway near the entrance thereof, a rotary knife located in said guideway adjacent said stop and having a spindle which is yieldingly movable lengthwise to move the knife toward or from the wall of the guideway, a plate located beside the knife and having a finger projecting in advance thereof and arranged to enter the flap of the envelop, said plate and finger being movable with the spindle to and from the wall of the guideway, means actuated by the drum to feed an envelop between the knife and finger and the wall of the guideway, against said stop, means to release said stop and advance the envelop, and means to immediately press the finger and knife against the envelop, whereby the finger will enter within the flap and the knife will slit the edge thereof as the envelop is advanced along the guideway.

11. In an envelop-opening machine, the combination with a rotary drum, the wall extending partly around the same and forming a guideway, and means to feed envelops into the guideway, of the stop 19 working through and opening in the wall and into the guideway, the rotary knife 24 below said stop, the finger 25^a above the knife, the finger being adapted to enter the flap of an envelop and the knife being adapted to slit the same, and means to actuate the stop, the knife and the finger.

839,961. WAGON-LOADER. EDWARD E. ROTHACHER, Wisner, Nebr. Filed May 7, 1906. Serial No. 315,636.

Claim.—1. A wagon-loader consisting of a horizontal platform and an inclined portion, an endless conveyer adapted to travel about said portions, a working shaft located at the upper end of said inclined portion, a clutch attached to said shaft, a sliding drum located upon said shaft and adapted to engage said clutch, ropes oppositely wound upon said drum, one rope being weighted and the other rope adapted to be drawn for rotating the shaft.

2. A wagon-loader consisting of a horizontal platform and an inclined portion, an endless conveyer adapted to travel about said platform and portion, a working shaft journaled at the upper end of said inclined portion, a clutch fixed to said shaft, a drum slidably mounted upon said shaft and adapted to engage said clutch, ropes wound in opposite directions upon said drum, one said rope being weighted, the other rope being provided with a chain-catching device.



3. A wagon-loader, consisting of horizontal and inclined portions, an endless conveyer adapted to travel about said portions, a working shaft located at the upper end of said inclined portion, a clutch fixed to said shaft, a sliding drum located upon said shaft and adapted to engage said clutch, ropes oppositely wound upon said drum, one of said ropes being weighted, the other rope being provided with a chain-catching device consisting of a shell having flukes.

4. A wagon-loader consisting of horizontal and inclined portions, an endless conveyer adapted to pass about said portions, a working shaft journaled at the upper end of said inclined portion, a clutch fixed to said shaft, a sliding drum located upon said shaft, and adapted to engage said clutch, ropes oppositely wound upon said drum, one rope being weighted, a chain-catching device attached to the other rope and consisting of a shell having pivoted flukes, and a means for holding said flukes in stationary position.

5. A wagon-loader consisting of horizontal and inclined portions, an endless conveyer adapted to travel about said portions, a working shaft journaled at the upper end of said inclined portion, a clutch fixed to said shaft, a drum located upon said shaft and adapted to engage said clutch, ropes oppositely wound upon said drum, one of said ropes being weighted, and a chain-catching device attached to the other rope.

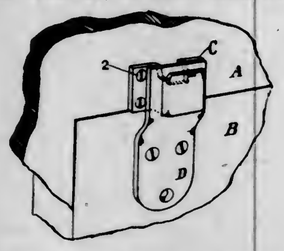
839,962. BRICK-MOLD. HIRAM ROUTT, Dallas Center, Iowa. Filed July 2, 1906. Serial No. 324,327.



Claim.—In a brick-mold the combination of a skeleton frame having a plurality of plates extending upwardly

from support-shafts; a base portion having one longitudinal side rigidly secured to a base; a plurality of transverse slots in said base designed to engage the plates on the skeleton portion; orifices in said base; a second longitudinal side loosely secured to said slotted base by means of lugs engaging the orifices in the said slotted base; screw-threaded crank-shafts connecting said longitudinal sides all arranged and combined substantially as and for the purposes stated.

839,963. HINGED HANGER. ANTON SCHROEDER, St. Paul, Minn. Filed May 12, 1906. Serial No. 316,492.



Claim.—1. An improved article of manufacture for storm-sash consisting of hook and pintle members, the hook member being secured to the outer face of the frame and being provided with an outwardly-bent hook portion, and the pintle member being secured to the adjacent edge of the sash, said pintle member being formed with an opening to receive said hook portion and with a lug positioned to extend downwardly behind said hook portion for the purpose set forth.

2. As an improved article of manufacture, a hinge-hanger for window-sash consisting of hook and pintle members, the hook member being secured to the outer face of the window-frame and having an outwardly-bent and vertically-hollowed hook portion, said hook portion being formed with notches in the upper edges of its side walls, the pintle member being secured to the adjacent edge of the sash, said pintle member being formed with an opening to receive said hook portion, and with a lug positioned to extend downwardly into said hook portion.

3. As an improved article of manufacture, a hinge-hanger for window-sash consisting of hook and pintle members, the hook member being secured to the outer face of the upper rail of the window-frame, and being provided with a forwardly-extending substantially U-shaped hook portion having the upper edges of its sides formed with notches, the pintle member being secured to the adjacent edge of the sash and formed with an opening to receive said hook portion, the cross-bar of said pintle member formed by said opening fitting into the notches of said hook portion and provided with a lug extending downwardly into said hook portion.

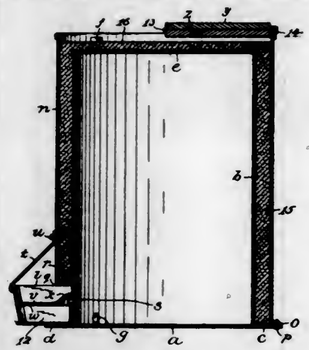
839,964. DRINKING-FOUNT FOR LIVE STOCK. HARVEY M. SMITH, Monroe township, Morgan county, Ind. Filed June 20, 1906. Serial No. 322,525.

Claim.—1. A drinking-fount including a reservoir, a casing extending about the reservoir, and a filling-tube attached to the reservoir and extending within the casing to be protected thereby.

2. A drinking-fount including a reservoir with an outlet-opening therein, a drinking-trough at the opening, a filling-tube attached to the reservoir, and a covering for the reservoir and the filling-tube extending over a portion of the trough.

3. A drinking-fount including a reservoir with an outlet-opening therein, a drinking-trough at the opening, an apertured false bottom in the trough and having an arched rear part extending above the outlet-opening, a filling-tube attached to the reservoir, and a vent device for the reservoir.

4. A drinking-fount including a reservoir having a filling-tube and also a vent device, a drinking-trough attached to the reservoir, a false bottom in the trough, a casing on the reservoir, filling between the reservoir and the casing, and a brace attached to the casing and the trough.

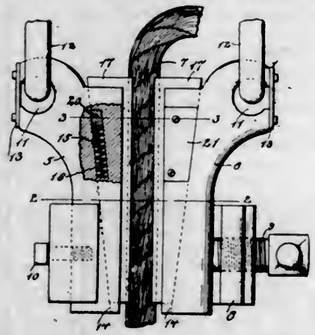


5. A drinking-fount comprising a reservoir having an imperforate filling-tube attached to the bottom part thereof and extending exteriorly to the top thereof, a drinking-trough attached to the reservoir with an opening from the reservoir to the trough, a casing surrounding the reservoir and filling-tube and having a flange extending over part of the trough, and filling material forming covering about the reservoir and filling-tube within the casing and upon the flange thereof.

6. A drinking-fount comprising a reservoir having a water-box attached to the top part thereof, a vent-tube connected to the reservoir and extending into the water-box but not to the top thereof, a stopper for the vent-tube, a filling-tube connected to the reservoir adjacent to the bottom thereof, a casing extending about the reservoir and detachably connected to the bottom thereof, a covering extending about and over the reservoir in the casing, a drinking-trough attached to the reservoir and extending through the covering and the casing, and a brace attached to the trough and also detachably connected to the casing.

7. A drinking-fount comprising a reservoir having a bottom provided with an annular flange, a casing having a lateral flange detachably secured to the flange of the reservoir-bottom, a drinking-trough attached to the reservoir and extending through the casing, a flange extending over part of the trough, a channel between the reservoir and the trough, a filling-tube attached to the lower part of the reservoir and extending exteriorly thereof within the casing, a covering for the reservoir between it and the casing and extending about the filling-tube, a vent-tube attached to the top of the reservoir, and a lid on the casing.

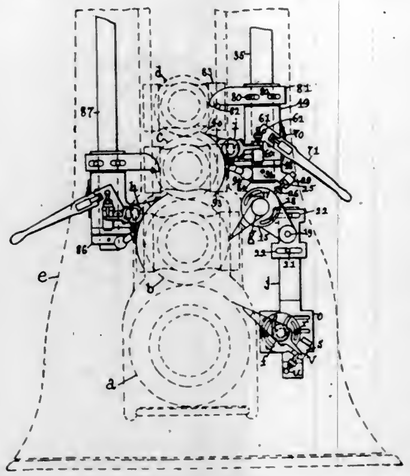
839,965. ROPE-CLAMP. MATTHEW F. SMITH, Sigel, Pa. Filed Mar. 30, 1906. Serial No. 308,912.



Claim.—1. A clamp comprising a pair of oppositely-disposed blocks having longitudinal grooves in their inner faces, and transverse slots extending from said grooves, springs in the slots, and sliding wedges in the grooves, said wedges having projections extending into the slots and bearing on the springs.

2. A clamp comprising a pair of oppositely-disposed blocks having longitudinal grooves on their inner faces, and transverse slots extending from said grooves, springs in the slots, sliding wedges in the grooves, and transverse keys carried by the wedges and extending from opposite sides thereof into the slots, and bearing on the springs.

839,966. FEED MECHANISM FOR CALENDER-ROLLS OF PAPER-MAKING MACHINES. RICHARD SMITH, Bellows Falls, Vt., assignor to Smith Paper Machinery Company, Portland, Me. Filed May 9, 1906. Serial No. 315,864.



Claim.—1. In combination, a calender-roll, a doctor co-operating therewith and provided with journals, bearings in which said journals are mounted slidable toward and from said roll substantially at right angles thereto, supports on which said journal-bearings rest and slide, and means carried by said bearings and coöperating with said doctor for turning said journals in their bearings, and means for moving said bearings on their supports, substantially as described.

2. In combination, a calender-roll, a doctor coöperating therewith and provided with journals, slidable bearings in which said journals are mounted, supports on which said journal-bearings slide, means carried by said bearings and coöperating with said doctor for turning said journals in their bearings, and levers connected with said journal-bearings for sliding them on their supports.

3. In combination, a calender-roll, a doctor coöperating therewith, and a support for the doctor connected with the said roll to move therewith and maintain said doctor in contact with said roll, substantially as described.

4. In combination, a calender-roll, a doctor coöperating therewith, and means to connect said doctor with said roll to move therewith and to permit movement of the doctor with relation to said roll, substantially as described.

5. In combination, a doctor, bearings in which said doctor is journaled, supports for said bearings provided with flanges having slots, and means on said bearings extended into the said slots to secure said bearings in sliding engagement with said flanges, substantially as described.

6. In combination, a doctor, bearings in which said doctor is journaled, supports for said bearings provided with flanges having slots, means depending from said bearings in said slots to secure said bearings in sliding engagement with said flanges, levers pivoted to said supports, and in said slots to secure said bearings in sliding engagement means to connect said levers with said bearings to effect a sliding movement of said bearings by rotary movement of said levers, substantially as described.

7. In combination, a doctor, bearings in which said doctor is journaled, supports for said bearings provided gagement with said flanges, levers pivoted to said supports, means to connect said levers with said bearings, handles pivoted to said lever to move in a direction substantially at right angles to the direction in which the levers are moved, and latches coöperating with said handles, substantially as described.

8. In combination, a calender-roll mounted in journal-boxes, a doctor coöperating with said roll, journal-bearings for said doctor, and supports for said journal-bearings suspended from said journal-boxes, substantially as described.

9. In combination, a calender-roll, a doctor coöperating therewith, and a guide for the paper pivotally supported from said doctor, and a weight attached to said guide, substantially as described.

10. In combination, a calender-roll, a doctor coöperating therewith, pivoted arms to which said doctor is adjustably secured, and yielding means coöperating with said arms to hold the doctor in engagement with its roll, substantially as described.

11. In combination, a plurality of vertically-arranged calender-rolls, a framework in which said rolls are supported, doctors coöperating with said rolls, vertical cheek-pieces or bars secured to said framework out of line with each other, plates adjustably secured to the lower of said cheek-pieces, arms pivoted to said plates, means to secure one of said doctors to said arms, spring-boxes secured to the other of said cheek-pieces, and spring-actuated devices carried by said spring-boxes and engaging said pivoted arms, substantially as described.

12. In combination, a calender-roll, a doctor coöperating therewith, journal-boxes for said doctor slidable toward and from said roll, supports having substantially horizontal flanges upon which said journal-boxes rest, and means to slide said boxes on said flanges, substantially as described.

13. In combination, a calender-roll, a doctor coöperating therewith, journal-boxes for said doctor slidable toward and from said roll, supports having substantially horizontal flanges upon which said journal-boxes rest, and slotted levers connected with said journal-boxes to slide the same on their supporting-flanges, substantially as described.

14. In combination, a calender-roll, a doctor coöperating therewith, journal-boxes for said doctor open at their upper ends and slidable toward and from said roll, supports for said boxes having substantially horizontal flanges, and means for sliding said boxes on their supporting-flanges, substantially as described.

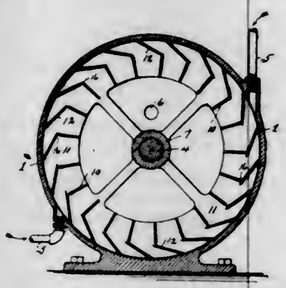
15. In combination, a calender-roll, a doctor coöperating therewith and provided with lugs or projections, journal-boxes for said doctor, spring-actuated devices carried by said journal-boxes and engaging the lugs or projections on said doctor to turn the same in their boxes, and means to move said journal-boxes on their supports, substantially as described.

16. In combination, a calender-roll, a doctor coöperating therewith and provided with journals, boxes in which said journals are mounted to turn therein, slidable toward and from said roll, substantially at right angles thereto, and means to turn said doctor and its journals without moving said boxes, substantially as described.

17. In combination, a calender-roll, a doctor coöperating therewith and provided with journals, boxes in which said journals are mounted to turn, slidable toward and from said roll, supports on which said boxes slide, a lug on said doctor, and a spring-actuated device carried by a journal-box and coöperating with said lug to turn the doctor in its journal-boxes.

18. In combination, a calender-roll, a doctor coöperating therewith, and a support for the doctor connected with said roll to move therewith yet capable of being bodily moved with relation to said roll, substantially as described.

839,967. ROTARY ENGINE. WILLIAM SNEE, West Elizabeth, Pa., assignor to John A. Snee, West Elizabeth, Pa. Filed Apr. 3, 1906. Renewed Dec. 3, 1906. Serial No. 346,164.

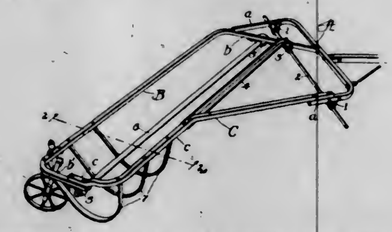


Claim.—1. A rotary engine, comprising an annular shell with inlet and outlet ports, a rotatable piston mounted within said shell, said piston being provided with two sets of propeller-blades, the inner set being arranged in radial lines and the outer set in lines tangent to an inscribed circle.

2. A rotary engine, comprising an annular shell with inlet and outlet ports, a rotatable piston mounted therein, said piston being provided with a plurality of series of propeller-blades arranged in radial and lines tangent to an inscribed circle, whereby each pair of blades form an obtuse angle, the one with the other, as described.

3. A rotary engine, comprising an annular shell with inlet and outlet ports, a rotatable piston mounted therein, said piston being provided with two sets of propellers, the inner set being arranged in radial lines and the outer set in lines tangent to an inscribed circle, said propeller-blades forming obtuse angular lines, the one with the other, leaving an intervening space between each pair of blades, as described.

839,968. FRAME CONSTRUCTION FOR SIDE-DELIVERY RAKES. HERBERT B. SPERRY, Springfield, Ohio, assignor to International Harvester Company, a Corporation of New Jersey. Filed Oct. 10, 1906. Serial No. 338,237.



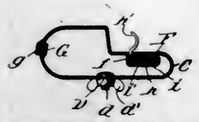
Claim.—1. A frame for side-delivery rakes, comprising a forward-extended U-shaped bar, a rearwardly and diagonally disposed extended U-shaped bar attached at two points to said forward bar, and a bent bar connecting the ends of the forward bar and the diagonally-disposed bar.

2. A frame for side-delivery rakes, comprising a forward-extended U-shaped bar, a rearwardly and diagonally disposed extended U-shaped bar attached at two points to said forward bar, a bent bar connecting the ends of the forward bar and the diagonally-disposed bar, and a brace connecting the bent bar at a point intermediate of its length with the forward part of the frame.

3. A frame for side-delivery rakes, comprising a forward-extended U-shaped bar, a rearwardly and diagonally disposed extended U-shaped bar attached at two points to said forward bar, a bent bar connecting the ends of the forward bar and the diagonally-disposed bar, the said bent bar having a portion of its length arranged parallel with the main portion of the said diagonally-disposed bar, and a brace connecting the bent bar at a point intermediate of its length with the forward part of the frame.

4. A frame for side-delivery rakes, comprising a forward-extended U-shaped bar, a main wheel-axle supported thereby, a rearwardly and diagonally disposed extended U-shaped bar attached at two points to said forward bar, a rake-head shaft mounted thereon, a bent bar connecting the ends of the forward bar and the diagonally-disposed bar, the said bent bar having a portion of its length arranged parallel with the main portion of the said diagonally-disposed bar, all of said bars being constructed of square tubular steel, and a brace connecting the bent bar at a point intermediate of its length with the forward limb of the diagonally-disposed bar.

839,969. CURTAIN-STRETCHER. FRANK S. STANFIELD, Cleveland, Ohio. Filed Dec. 12, 1905. Serial No. 291,495.



Claim.—1. A curtain-stretcher pin having a base, and a foot bent to extend above and below the base.

2. A curtain-stretcher pin having a base, an upwardly-extending curtain-engaging portion, and a foot within the base at the bottom of said upwardly-extending portion, said foot being bent to extend above and below the base.

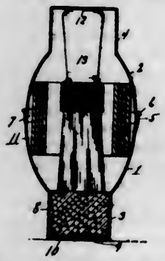
3. The combination of a curtain-stretcher bar having a pin-groove, a pin having a base movable in said groove, and a foot on said base bent to engage the top and bottom walls of the groove.

4. The combination of a curtain-stretcher having a pin-groove, a pin having a base movable in said groove, an upwardly-extending curtain-engaging portion, and a foot within the base at the bottom of said upwardly-extending portion, said foot being bent to engage the top and bottom walls of the groove.

5. A curtain-stretcher frame consisting of two hollow sheet-metal side bars, said side bars being each made in two sections, a hinge connecting the adjacent ends of said sections and located at the inner edge of the bar so that the sections will fold with their inner edges together, two hollow sheet-metal end bars, each of said end bars being composed of two end sections and a middle section constructed to telescope in the end sections, guides on the ends of the end bars shaped to receive the side bars, and means for securing the side bars in adjusted position in said guides.

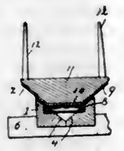
6. A curtain-stretcher frame composed of two side bars and two end bars, each of said end bars consisting of two hollow end sections and a hollow middle section telescopic in the end sections, said sections being made of sheet metal and seamed, the seam on the middle section being located within said section and the seam on each end section being located on the outside of said section.

839,970. SHAVING-CUP. CHARLES W. TAYLOR, New York, N. Y. Filed Sept. 5, 1905. Serial No. 276,940.



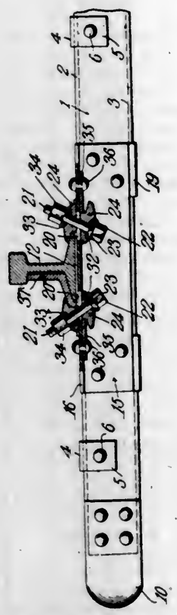
Claim.—A shaving-cup, comprising a globular body consisting of two shell-like parts having engageable margins which retain the cup closed, said parts forming when united the walls of the cup, and adapted to fit one into the other, one part having a reduced annular receptacle to receive the soap, and the other part having an annular housing for the handle of the brush, the reduced soap-receptacle fitting within the annular housing for the brush-handle when the parts are nested.

839,971. LOG-TRANSFER. SEYMOUR L. VANCE, Kinzua, Pa., assignor of one-half to William G. Tate, Kinzua, Pa. Filed Apr. 30, 1906. Serial No. 314,589.



Claim.—A log-transfer embodying an inclined runway formed with counterpart sections severally provided with inclinded upper surfaces which mutually converge in the parallel relation of said sections, rollers journaled transversely of said runway and between said sections, and a car or boat slidable in said runway and formed with a flat bottom designed to ride upon said rollers and with inclined sides overlying for a short distance the inclined sides of said sections.

839,972. RAIL TIE AND FASTENER. WILLIS F. WALKER, York, Pa. Filed Sept. 26, 1906. Serial No. 336,282.



Claim.—1. A rail-tie comprising oppositely-disposed channel-irons having inturned flanges, tie-straps connecting and secured upon the outer faces of the channel-irons, end strips connecting the ends of the channel-irons, said strips being concavo-convex in cross-section, and a plastic filling between the channel-irons and end strips.

2. A tie comprising oppositely-disposed similar channel-irons having inturned flanges, tie-straps connecting said irons, a rail-plate upon said straddling the channel-irons, angle-irons extending over the end portions of the rail-plate, and fastening means connecting the angle-irons and channel-irons at opposite sides of the rail-plate.

3. A tie comprising oppositely-disposed similar channel-irons having inturned flanges, tie-straps connecting said irons, a rail-plate upon and straddling the channel-irons, said plate having outturned flanges at its ends, angle-irons extending over the end portions of the rail-plate and bearing upon the flanges on said plate, and fastening means extending through the angle-irons and channel-irons at opposite sides of the rail-plate.

4. In a tie the combination with oppositely-disposed channel-irons having inturned flanges, and rigid connections between the irons; of angle-irons secured to the outer faces of the channel-irons and having slots in their outturned portions, and rail-engaging fasteners secured within said slots.

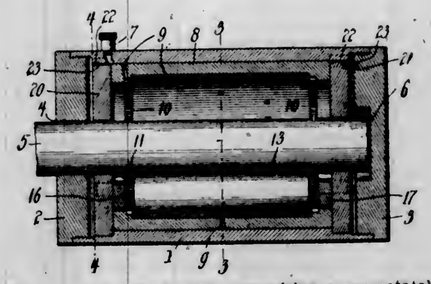
5. In a tie the combination with oppositely-disposed channel-irons having inturned flanges, and rigid connections betwen the irons; of angle-irons secured to the outer faces of the channel-irons and having slots in their outturned portions, fasteners upon opposite faces of the angle-irons, each fastener having a rail-engaging nose and a socket, bolts extending through the fasteners and slots, said bolts having rounded heads, cup-like washers seated upon the rounded heads and within the adjoining sockets, washers upon the bolts and within the other sockets, and means upon the bolts for clamping the fasteners and the parts therein together.

6. The combination with a tie having an angle-iron secured thereto and provided with an outwardly-extending slotted portion; of a fastener comprising oppositely-disposed members, each consisting of a body and a nose, said members being disposed upon opposite faces of the projecting portion of the angle-irons and having sockets and openings therein, a bolt extending through the openings and through the slot in the angle-iron, a cup-like washer seated within one of the sockets, a washer having a convex face and seated in the other socket, and means upon the bolt for clamping the washers within the sockets.

7. The combination with a tie having an angle-iron secured thereto and provided with an outturned slotted portion; of oppositely-disposed rail-engaging devices upon said slotted portion, and fastening means engaging said devices and the slotted portion and adapted when tightened to impart movement to said devices in horizontal and vertical directions.

8. A rail-tie comprising oppositely-disposed channel-irons, means for rigidly connecting the channel-irons at points between their ends, end strips connecting the ends of the channel-irons, and a plastic filling between and embraced by the channel-irons and end strips.

839,973. ROLLER-BEARING. LYMAN P. WALTER, Mount Carroll, Ill. Filed Apr. 12, 1906. Serial No. 311,347.



Claim.—1. A roller-bearing comprising a non-rotatable casing, a sleeve or hub rotatable within said casing, an axle or shaft rotatable within the sleeve or hub, and a pair of separated rollers in contact with the shaft and sleeve or hub.

2. A roller-bearing comprising a non-rotatable casing, a sleeve or hub rotatable within said casing, an axle or shaft

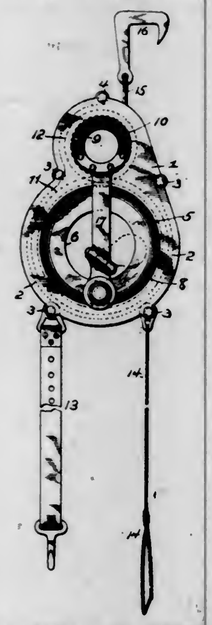
rotatable within the sleeve or hub, a pair of separated rollers in contact with the shaft and sleeve or hub, there being oil-passages extending through the latter and casing.

3. A roller-bearing comprising a non-rotatable casing, a sleeve or hub rotatable within said casing, an axle or shaft rotatable within the sleeve or hub, non-rotatable disks in the ends of the casing, and a pair of rollers in contact with the shaft and sleeve or hub and having end bearings in said disks.

4. A roller-bearing comprising a non-rotatable casing, a sleeve or hub rotatable within said casing, an axle or shaft rotatable within the sleeve or hub, non-rotatable disks in the ends of the casing, and a pair of rollers in contact with the shaft and sleeve or hub and having end bearings in said disks and heads at the end of said casing.

5. A roller-bearing comprising a non-rotatable casing having lubricant-inlets, a sleeve or hub rotatable within said casing and having lubricant-passages, an axle or shaft rotatable in said sleeve or hub, a pair of shaft-supporting rolls, and stationary links having bearing-openings receiving the ends of said rolls.

839,974. FIRE-ESCAPE. REUBEN D. WARFIELD, Gaithersburg, Md. Filed Apr. 18, 1906. Serial No. 312,410.



Claim.—1. In a device of the character described, the combination with a frame to descend with the user, of two drums mounted in said frame, a cable tending to unwind from one drum and wind on the other when the weight of the user is applied to the frame, and means for causing motion of one drum to effect opposite motion of the other, whereby said drums and frame will be maintained at rest, and means for positively and manually rotating said drums to cause the device and the user to descend.

2. A device of the character described, comprising a frame, two drums therein geared together, whereby the motion of one drum effects opposite motion of the other and a cable secured to and wound on one of said drums, and then passing around the other drum in a direction opposite to the direction of rotation of said last-mentioned drum, and means within reach of the user for manually rotating said drums to cause the descent of the device and the user.

3. A device of the character described, comprising a frame to descend with the user, two drums mounted in said frame, one of said drums larger than the other, gearing connecting said drums, whereby the motion of one drum effects opposite motion of the other, a cable secured to and wound on the larger drum, and then passing about the smaller drum in a direction opposite to the direction of rotation of said smaller drum, and means within reach of the user for manually rotating said drums and causing descent of the device and the user.

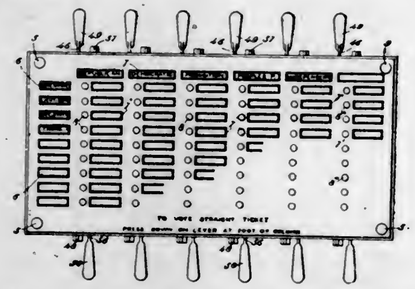
4. A device of the character described, comprising a frame to descend with the user, two drums mounted therein, one of said drums being larger than the other, a gear-wheel carried by the larger drum, a pinion carried by the smaller drum and meshing with said gear-wheel, means attached to the smaller drum and within reach of the user for rotating said drum to cause descent of the device, a cable secured to and wound on the larger drum and then passed about the smaller drum in a direction opposite to the direction of rotation of said smaller drum, and the free end of the cable adapted for attachment to a part from which the device can be suspended.

5. A device of the character described, comprising a frame, means for attaching said frame to the body of the user, two drums mounted in said frame and geared together, whereby the motion of one drum effects opposite motion of the other, a cable secured to and wound on one of said drums and then passing about the other drum in a direction opposite to the direction of rotation of said last-mentioned drum, an attaching device secured to the free end of said cable, and means within reach of the user for manually rotating said drums to cause descent of the device and the user.

6. A device of the character described, comprising a frame, two drums mounted therein, gearing connecting said drums, a cable on said drums, the engagement of the cable with the two drums causing said cable to tend to impart to the two drums, a motion which is opposed by said gearing, means for manually rotating said drums to cause the device to descend, and means for attaching the free end of the device to a support.

7. A device of the character described, comprising a frame having two openings in each of its sides, two drums, each having annular shoulders at its ends forming journals mounted in the openings in the frame, gearing connecting said drums, a cable secured to and wound on one drum and having frictional engagement with the other drum, the engagement of the cable with the two drums causing the cable to tend to impart to the two drums, a motion which is opposed by the gearing, means for manually operating said drums to cause the device to descend, and means for attaching the free end of the cable to a support.

839,975. VOTING-MACHINE. CLARENCE M. WARNER, Cambridge, Ill. Filed Aug. 12, 1905. Serial No. 273,927.



Claim.—1. A voting-machine comprising a cabinet having a bottom which is capable of being opened, recording mechanisms within the cabinet, individual voting-keys piercing the top of the cabinet and associated with the respective recording mechanisms, and posts upon the top of the cabinet and rising above the voting-keys, the cabinet

capable of being inverted and supported upon the posts to permit opening of the bottom of the cabinet, and the recording mechanisms being located for access to enable reading thereof when the bottom is open.

2. A voting-machine having a voting-key associated therewith, a locking-slide for the voting-key, resetting means common to the key and the locking-slide and including a swinging member having an element associated with the voting-key and another element associated with the locking-slide, and means to actuate the swinging member to reset the key and the locking-slide.

3. A voting-machine having a voting-key, a locking-slide therefor, a resetting means connected to the key and the slide and including a bell-crank having one arm associated with the voting-key and its other arm associated with the locking-slide, and means to swing the bell-crank for simultaneously resetting the key and locking-slide.

4. In a voting-machine, the combination of an endwise-movable voting-key, a locking-slide associated directly with the key and working at substantially right angles thereto, and resetting means common to the key and the slide and including a pivotal member having elements disposed at substantially right angles to one another and associated respectively with the key and the slide to simultaneously reset the same.

5. In a voting-machine the combination of a voting-key, a locking-slide therefor, resetting mechanism including a swinging member associated with the key and provided with an arm associated with the slide, and a controlling-lever mounted to simultaneously move the swinging member and its arm to reset the key and the locking-slide.

6. In a voting-machine, the combination of an endwise-movable voting-key, a locking-slide therefor, resetting mechanism including a swinging member associated with the key and provided with an arm associated with the slide, and a controlling-lever mounted to simultaneously move the swinging member and its arm to reset the key and the locking-slide.

7. In a voting-machine, the combination of a voting-key having a lateral projection, a locking-slide therefor provided with a lateral projection, resetting mechanism including a swinging member associated with the projection of the key and provided with an arm associated with the projection of the slide, and a controlling-lever mounted for engagement with one of these members to move the swinging member and the arm into engagement with the respective projections and reset the key and the slide.

8. In a voting-machine, the combination of a voting-key provided at opposite sides with projections, a voting-lever located in rear of the path of movement of one of the projections and capable of being moved into engagement with the projection to actuate the key, a resetting-lever located at the opposite side of the key in the path of the adjacent projection and capable of being moved against the latter to reset the key, and a locking-slide adapted to be engaged and moved by the resetting-lever.

9. In a voting-machine, the combination with a series of voting-keys provided at opposite sides with projections, a straight-ticket lever located in rear of the paths of one set of projections and capable of being moved into engagement with the same to simultaneously actuate all of the keys, a resetting-lever located at the opposite side of the series of keys in the paths of movement of the adjacent projections and capable of being moved against the latter to simultaneously reset one or more of the keys, and locking-slides adapted to be engaged and moved by the resetting-lever.

10. In a voting-machine, the combination with a series of voting-keys, of locking-slides for the keys, a straight-ticket lever associated with the keys, and a resetting-lever adapted to engage and move the keys and the locking-slides therefor.

11. In a voting-machine, the combination of a voting-key, a locking-slide cooperating with the key intermediate of its ends, recording mechanism located at one side of the slide and associated with the voting-key, and resetting mechanism adapted to engage and move the key and the slide at the opposite side of the latter.

12. In a voting-machine, the combination of a voting-key, a locking-slide associated with the key intermediate of the ends thereof, recording mechanism associated with the key at one side of the locking-slide, resetting mechanism adapted to engage and move the key and the slide at the opposite side of the latter, and a voting-lever associated with the opposite side of the key.

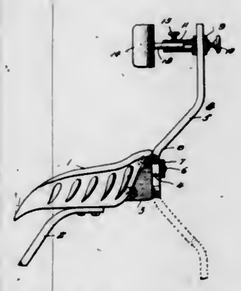
13. In a voting-machine, the combination of a series of voting-keys, locking-slides associated with the keys intermediate of their ends, recording mechanisms associated with the respective keys at one side of the slides, resetting mechanism adapted to engage and move the keys and the slides at the opposite side of the latter, and a straight-voting lever associated with the opposite side of the keys from the resetting mechanism.

14. In a voting-machine, the combination with a voting-key and tally mechanism including a ratchet-wheel, of a slidable dog coöperating with the ratchet-wheel and working in substantial parellelism with the key, and a lever fulcrumed independently of the key and the dog and engaged with the key and the dog.

15. In a voting-machine, the combination with a slidable key and tally mechanism including a ratchet-wheel, of a slidable dog working in substantial parellelism with the key and coöperating with the ratchet-wheel, the key and the dog being provided with seats, and a lever fulcrumed independently of the dog and engaging the seats of said members.

16. In a voting-machine, the combination with a voting-key and tally mechanism including a ratchet-wheel, of a slidable dog working in substantial parallelism with the key and coöperating with the ratchet-wheel, and a lever terminally fulcrumed independently of the key and the dog and engaging said members to move the dog in the same direction with the key.

839,976. SEAT-BACK FOR DRIVERS' SEATS. RODNEY H. YALE, Beatrice, Nebr. Filed Aug. 30, 1906. Serial No. 332,639.



Claim.—1. A seat-back for drivers' seats comprising a bearing on the rear of the seat, a lug or pin on said bearing, a standard mounted on said lug, and a back-pad on the upper portion of said standard, the lower portion of said standard having an opening to receive said lug, said opening having an enlarged portion permitting the standard to rotate when the lug is central therein, and said opening and lug having corresponding projections and recesses, which engage each other when the standard is in vertical position, either above or below the seat, and hold it rigidly in such position.

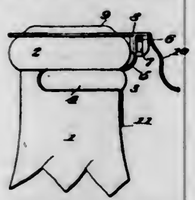
2. A seat-back for drivers' seats comprising a bearing on the seat, a lug or pin carried by said bearing, a standard mounted on said lug or pin, and a back-pad on the upper portion of said standard, the lower portion of said standard being provided with an opening or slot, which engages said lug or pin, said opening having an enlarged portion permitting the standard, when the lug is within such portion, to rotate on the lug as a pivot, and a narrower portion or portions adapted to engage the lug rigidly and hold the standard in substantially vertical position.

3. A seat-back for drivers' seats comprising a bearing-block on the rear of the seat, a lug or pin carried by said block and having flattened sides, a standard mounted on

said lug or pin, a back-pad on the upper portion of said standard, the lower portion of said standard having an opening or slot to engage said lug or pin, said opening having an enlarged portion permitting the standard to rotate on the lug, and a narrower portion adapted to engage the lug rigidly and hold the standard in vertical position, and means for securing the standard on the lug.

4. A seat-back for drivers' seats comprising a bearing on the seat, a lug on said bearing, a standard mounted on said lug, and a back-pad on the upper part of said standard, the lower portion of said standard having an opening to engage said lug, said opening having an enlarged portion permitting the standard to rotate on the lug, and narrower portions leading out of such enlarged portion, adapted to engage the edges of the lug, to hold the standard in vertical position, either above or below the seat.

839,977. BOTTLE-CLOSURE. JOHN W. ZIMMERMAN, Chicago, Ill. Filed Apr. 25, 1906. Serial No. 313,685.



Claim.—1. A closure for milk-bottles and the like comprising two members, one of which is a cover adapted to close the mouth of the bottle and the other of which is a device adapted to be detachably secured upon the bottle, one of said members being provided with slots and the other member being provided with pivot projections engaged for movement lengthwise of the slots to hold the members in hinged relation while permitting vertical adjustment of one member relatively to the other.

2. A closure for milk-bottles and the like comprising an attaching member having elastic arms to embrace a bottle-neck for detachable connection therewith, and provided with a central rearwardly and upwardly directed projecting portion the opposite sides of which have pivot projections and a lid or cover adapted to fit over the mouth of the bottle and having downwardly-directed lugs provided with vertical slotted openings wherein the pivot projections of said first-named member are adjustably engaged and having a rearwardly-directed actuating-tongue extended from it between said lugs.

3. A closure for milk-bottles and the like comprising an attaching member having oppositely-arranged elastic arms to embrace a bottle-neck for detachable connection therewith and provided with a central downwardly-directed pointed tongue midway between said arms and adapted to extend down along and bear upon the bottle-neck when said member is in place thereon and also adapted to penetrate a paper bottle-cap when the member is detached from the bottle and a lid or cover hinged on said member.

839,978. REVOLVER ATTACHMENT FOR GUNS. JOHN ADRIANSON, Chicago, Ill. Filed Feb. 10, 1906. Serial No. 300,487.

Claim.—1. The combination with a gun, of an attachment for automatically locking and removably holding a revolver adjacent to the barrel thereof.

2. The combination with a gun, of a removable attachment for automatically locking and removably holding a revolver adjacent to the barrel thereof.

3. The combination with a gun, of an attachment for automatically locking and removably holding a revolver adjacent to the barrel thereof and is adjustable both vertically and laterally.

4. The combination with a gun, of an attachment for automatically locking and removably holding a revolver adjacent to the barrel thereof and is adjustable vertically.

5. The combination with a gun, of a removable attachment for automatically locking and removably holding a revolver adjacent to the barrel thereof and is adjustable both vertically and laterally.



6. The combination with a gun, of a removable attachment for automatically locking and removably holding a revolver adjacent to the barrel thereof and is adjustable vertically.

7. The combination with a gun, of an attachment comprising a plate removably secured to said gun, and means projecting from said plate for automatically locking and removably holding a revolver.

8. The combination with a gun, of an attachment comprising a plate one end of which is pivotally secured to said gun and the other end adjustably held thereto in the arc of its pivot, and means projecting from said plate for automatically locking and removably holding a revolver.

9. The combination with a gun, of an attachment comprising a plate one end of which is pivotally secured to said gun, and the other end provided with a longitudinally-extending arm having its end serrated, means projecting from said plate for removably holding and aiming a revolver, and a plate secured to said gun having a guarded series of serrations engaged by the serrated end of said arm.

10. The combination with a gun, of an attachment comprising a plate removably secured to said gun, means projecting from said plate having an opening therein for the reception of the barrel of a revolver, and devices for automatically engaging and preventing the involuntary removal of said revolver-barrel from said opening.

11. The combination with a gun, of an attachment comprising a plate removably secured to said gun, means projecting from said plate having an opening therein for the reception of the barrel of a revolver, and devices carried by said means for automatically engaging and preventing the involuntary removal of said revolver-barrel from said opening.

12. The combination with a gun, of an attachment comprising a plate removably secured to said gun and adjustable vertically independently of the same, means projecting from said plate having an opening therein for the reception of the barrel of a revolver, and devices engaging and preventing the involuntary removal of said revolver-barrel from said opening.

13. The combination with a gun, of an attachment comprising a plate removably secured to said gun and adjustable vertically independently of the same, means projecting from said plate having an opening therein for the reception of the barrel of a revolver, and devices carried by said means engaging and preventing the involuntary removal of said revolver-barrel from said opening.

14. The combination with a gun, of an attachment comprising a plate, wings hinged thereto and adapted to be moved at right angles thereto having openings in their ends that have lateral offsets, and devices connected with the front wing for preventing the involuntary withdrawal of the revolver-barrel when inserted through said openings.

15. The combination with a gun of an attachment comprising a plate, wings hinged thereto and adapted to be moved at right angles thereto having openings in their rear ends that have lateral offsets; the rear wing having its opening in a plate constituting the end of said wing and adjustable lengthwise to the body portion of said wing.

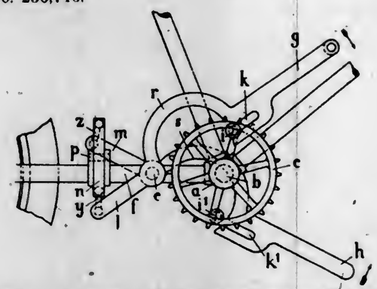
16. The combination with a gun of an attachment comprising a plate, wings hinged thereto and adapted to be moved at right angles thereto having openings in their ends that have lateral offsets; the rear wing having its opening in a plate constituting the end of said wing and adjustable lengthwise to the body portion of said wing and a device connected with the front wing for preventing the involuntary withdrawal of the revolver-barrel when inserted through the opening of said front wing.

17. The combination with a gun, of an attachment comprising a plate adjustable vertically independently of said gun, wings hinged thereto and adapted to be moved at right angles thereto having openings in their ends that have lateral offsets, and devices connected with the front wing for preventing the involuntary withdrawal of the revolver-barrel when inserted through said openings.

18. The combination with a gun of an attachment comprising a plate adjustable vertically independently of said gun, wings hinged thereto and adapted to be moved at right angles thereto having openings in their ends that have lateral offsets; the rear wing having its opening in a plate constituting the end of said wing and adjustable lengthwise to the body portion of said wing.

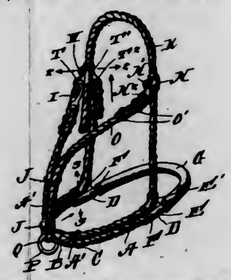
19. The combination with a gun of an attachment comprising a plate adjustable vertically independently of said gun, wings hinged thereto and adapted to be moved at right angles thereto having openings in their ends that have lateral offsets; the rear wing having its opening in a plate constituting the end of said wing and adjustable lengthwise to the body portion of said wing and device connected with the front wing for preventing the involuntary withdrawal of the revolver-barrel when inserted through the opening of said front wing.

839,979. DRIVING-GEAR FOR CYCLES. WILHELM BOOS, Erlangen, Germany. Filed Apr. 21, 1905. Serial No. 256,746.



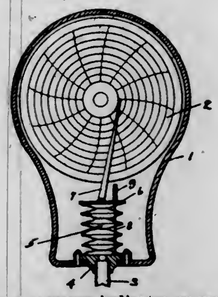
Claim.—A driving-gear for cycles, comprising in combination, a shaft mounted in the frame, a sprocket-wheel and a driving-wheel rigidly mounted at the ends thereof, a pin projecting laterally from each of the said wheels, the two pins being located at an angle of one hundred and eighty degrees to each other, an axis mounted in the frame, double-armed pedal-drivers mounted thereon, and a yoke pivoted to the frame and linked to the tail ends of each of the pedal-levers, the other arms of the levers having open guide-slots adapted to receive the crank-pins of the said wheels, in such manner that when one lever engages one pin, the other lever releases the other pin, substantially as described.

839,980. HALTER. HENRY BRAMER, Beaver Dam, Wis. Filed Feb. 28, 1906. Serial No. 303,535.



Claim.—A rope halter having portions thereof bent upon themselves forming loops, a crown-band and a nose-band formed out of the said rope, a link connecting said loops, complemental shell-plates each having a curved and a straight groove therein, one section of each pair of shell-plates having a flange at its end, a slight shoulder at the end of one shell-section against which the other section is adapted to bear, means for holding the shell-sections together whereby portions of the rope forming the crown-band may be held at right angles to the nose-band, a fabric covering for the nose-band intermediate said shell-sections, a hollow cylindrical shell mounted upon the crown-piece, and having an aperture therein, the wall of which is threaded, a screw mounted in said aperture and adapted to engage the rope, a second rope bent upon itself forming a loop, rings for holding the latter, a ring engaging the loop formed by said second rope being bent upon itself and connected to said link, a second cylindrical shell mounted upon the crown-band, and connections between said second rope and cylindrical shell, as set forth.

839,981. PRESSURE INDICATOR AND RECORDER. WILLIAM H. BRISTOL, New York, N. Y. Filed Mar. 18, 1905. Serial No. 250,744.



Claim.—1. In a pressure indicator or recorder; the combination with an expansible chamber, of two flexible restraining-springs placed edgewise with respect to said chamber and rigidly secured only at the top and bottom of said chamber and otherwise free and clear thereof, and adapted to convert the expansion of the said chamber into a deflection, said springs having the planes of their side faces in common planes at right angles to the plane of deflection of the axis of said expansible chamber.

2. In a pressure indicator or recorder; the combination with an expansible chamber, an indicating-arm attached to said chamber, of two flexible restraining-springs placed edgewise with respect to said chamber and rigidly secured only at the top and bottom of said chamber and otherwise

free and clear thereof, and adapted to convert the expansion of the said chamber into a deflection, said springs having the planes of their side faces in common planes at right angles to the plane of deflection of the axis of said expansible chamber.

3. In a pressure indicator or recorder; the combination with an expansible chamber, of two flexible restraining-springs of variable cross-section rigidly secured to the top and bottom of said chamber, but otherwise free and clear thereof, and adapted to convert the expansion of said chamber into a deflection, said springs having the planes of their side faces in common planes at right angles to the plane of deflection of the axis of said chamber.

4. In a pressure indicator or recorder; the combination with an expansible chamber, an indicating-arm attached to said chamber, of two flexible restraining-springs of variable cross-section rigidly secured to the top and bottom of said chamber, but otherwise free and clear thereof, and adapted to convert the expansion of said chamber into a deflection, said springs having the planes of their side faces in common planes at right angles to the plane of deflection of the axis of said chamber.

5. In a pressure indicator or recorder; the combination with an expansible chamber composed of a series of perforated disks, of two flexible restraining-springs placed edgewise with respect to said chamber and rigidly secured only at the top and bottom of said chamber and otherwise free and clear thereof, and adapted to convert the expansion of said chamber into a deflection, said springs having the planes of their side faces in common planes at right angles to the plane of deflection of the axis of said expansible chamber.

6. In a pressure indicator or recorder; the combination with an expansible chamber, composed of a series of perforated disks, and two flexible restraining-springs of variable cross-section placed edgewise with respect to said chamber and rigidly secured only at the top and bottom of said chamber and otherwise free and clear thereof and adapted to convert the expansion of said chamber into a deflection, said springs having the planes of their side faces in common planes at right angles to the plane of deflection of the axis of said expansible chamber.

7. In a pressure indicator or recorder; the combination with an expansible chamber, of two flexible flat restraining-springs placed edgewise with respect to said chamber and rigidly secured to the top and bottom of said chamber but otherwise free and clear thereof, and adapted to convert the expansion of the said chamber into a deflection, said springs having the planes of their side faces in common planes at right angles to the plane of deflection of the axis of said expansible chamber.

8. In a pressure indicator or recorder; the combination with an expansible chamber, an indicating-arm attached to said chamber, of two flexible flat restraining-springs placed edgewise with respect to said chamber and rigidly secured to the top and bottom of said chamber but otherwise free and clear thereof and adapted to convert the expansion of the said chamber into a deflection, said springs having the planes of their side faces in common planes at right angles to the plane of deflection of the axis of said expansible chamber.

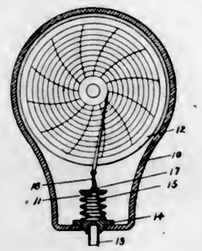
9. In a pressure indicator or recorder; the combination with an expansible chamber, of two flexible flat restraining-springs of variable cross-section rigidly secured to the top and bottom of said chamber, but otherwise free and clear thereof, and adapted to convert the expansion of said chamber into a deflection, said springs having the planes of their side faces in common planes at right angles to the plane of deflection of the axis of said chamber.

10. In a pressure indicator or recorder; the combination with an expansible chamber, an indicating-arm attached to said chamber, of two flexible flat restraining-springs of variable cross-section rigidly secured to the top and bottom of said chamber, but otherwise free and clear thereof, and adapted to convert the expansion of said chamber into a deflection, said springs having the planes of their side faces in common planes at right angles to the plane of deflection of the axis of said chamber.

11. In a pressure indicator or recorder; the combination with an expansible chamber composed of a series of perforated disks, of two flexible flat restraining-springs placed edgewise with respect to said chamber and rigidly secured to the top and bottom of said chamber, but otherwise free and clear thereof and adapted to convert the expansion of said chamber into a deflection, said springs having the planes of their side faces in common planes at right angles to the plane of deflection of the axis of said expansible chamber.

12. In a pressure indicator or recorder; the combination with an expansible chamber, composed of a series of perforated disks, and two flexible flat restraining-springs of variable cross-section rigidly secured to the top and bottom of said chamber but otherwise free and clear thereof and adapted to convert the expansion of said chamber into a deflection, said springs having the planes of their side faces in common planes at right angles to the plane of deflection of the axis of said expansible chamber.

839,982. PRESSURE-GAGE. WILLIAM H. BRISTOL, New York, N. Y. Filed Apr. 23, 1906. Serial No. 313,238.



Claim.—1. In a pressure indicating or recording device: an expansible chamber; an indicating or recording arm attached thereto; and means attached to said arm and to a fixed support below said latter point of attachment adapted to cause angular motion of the said arm upon the expansion of the expansible chamber.

2. In a pressure indicating or recording device: an expansible chamber; an indicating or recording arm pivotally attached thereto; and means attached to said arm and to a fixed support below said latter point of attachment adapted to cause angular motion of the said arm upon the expansion of the expansible chamber.

3. In a pressure indicating or recording device: an expansible chamber; an indicating or recording arm, one end of which is directly acted upon by said expansible chamber; and flexible means directly connected to said arm and independent of said chamber adapted to cause angular motion of the said arm upon the expansion of the expansible chamber.

4. In a pressure indicating or recording device: an expansible chamber; an indicating or recording arm attached thereto; and flexible means directly connected to said arm and independent of said chamber adapted to cause angular motion of the said arm upon the expansion of the expansible chamber.

5. In a pressure indicating or recording device: an expansible chamber; an indicating or recording arm pivotally attached thereto; and flexible means directly connected to said arm and independent of said chamber adapted to cause angular motion of the said arm upon the expansion of the expansible chamber.

6. In a pressure indicating or recording device: an expansible chamber; a rigid indicating or recording arm, one end of which is directly acted upon by said expansible chamber; and flexible means directly connected to said arm and independent of said chamber adapted to cause angular motion of the said arm upon the expansion of the expansible chamber.

7. In a pressure indicating or recording device: an expansible chamber comprising one or more flexible diaphragms; an indicating or recording arm, one end of which is directly acted upon by said expansible chamber; and flexible means directly connected to said arm and independent of said chamber adapted to cause angular motion of the said arm upon the expansion of the expansible chamber.

8. In a pressure indicating or recording device: an expansible chamber; an indicating or recording arm, one end of which is directly acted upon by said expansible chamber; and flexible means directly connected to said arm and independent of said chamber to restrain the vertical tendency of said arm and thereby cause angular motion thereof upon the expansion of the expansible chamber.

9. In a pressure indicating or recording device; the combination with an expansible chamber, of an indicating or recording arm directly acted upon by said expansible chamber; and a flexible restraining-piece attached to said arm and to a fixed support, said piece being adapted to cause angular motion of said arm upon the expansion of the expansible chamber.

10. In a pressure indicating or recording device: the combination with an expansible chamber, of a rigid indicating or recording arm pivotally attached thereto: and a flexible restraining-piece attached to said arm and to a fixed support, said piece being adapted to cause angular motion of said arm upon the expansion of the expansible chamber.

11. In a pressure indicating or recording device: the combination with an expansible chamber, of a rigid indicating or recording arm pivotally attached thereto; and a flexible restraining-piece pivotally attached to said arm and attached to a fixed support, said piece being adapted to cause angular motion of said arm upon the expansion of the expansible chamber.

12. In a pressure indicating or recording device: the combination with an expansible chamber, of an indicating or recording arm with U-shaped end directly acted upon by said expansible chamber; and two restraining-pieces attached to said arm and to a fixed support, said pieces being adapted to cause angular motion of said arm upon the expansion of the expansible chamber.

13. In a pressure indicating or recording device the combination with an expansible chamber, of an indicating or recording arm with U-shaped end pivotally attached thereto; and two restraining-pieces attached to said arm and to a fixed support, said pieces being adapted to cause angular motion of said arm upon the expansion of the expansible chamber.

14. In a pressure indicating or recording device: the combination with an expansible chamber of an indicating or recording arm with U-shaped end directly acted upon by said expansible chamber; two flexible restraining-pieces attached to said arm and to a fixed support, said pieces being adapted to cause angular motion of said arm upon the expansion of the expansible chamber.

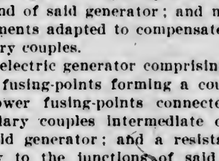
15. In a pressure indicating or recording device: the combination with an expansible chamber, of an indicating or recording arm with U-shaped end pivotally attached thereto; and two flexible restraining-pieces attached to said arm and to a fixed support, said pieces being adapted to cause angular motion of said arm upon the expansion of the expansible chamber.

16. In a pressure indicating or recording device: the combination with an expansible chamber, of an indicating or recording arm with U-shaped end directly acted upon by said expansible chamber; and two flexible restraining-pieces pivotally attached to said arm and attached to a fixed support, said pieces being adapted to cause angular motion of said arm upon the expansion of the expansible chamber.

839,983. ELECTRIC FURNACE. WILLIAM H. BRISTOL, New York, N. Y. Filed Aug. 6, 1906. Serial No. 329,334.

Claim.—1. An electric furnace comprising: a fused-quartz receptacle forming a heating-chamber; an electric heating-coil surrounding the same; and a refractory, non-conducting material incasing said coil and chamber.

2. An electric furnace comprising: a fused-quartz receptacle forming a heating-chamber; a platinum electric heating-coil surrounding the same; and a refractory, non-conducting covering surrounding said coil and chamber.



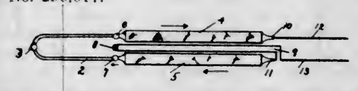
5. An electric furnace comprising: a fused-quartz receptacle forming a heating-chamber; a platinum electric heating-coil wound upon the same having its successive turns separated from each other by an asbestos cord; and a refractory, non-conducting covering surrounding said coil and chamber.

4. An electric furnace comprising: a fused-quartz receptacle forming a heating-chamber; a coil of flatened wire placed edgewise with respect to the quartz receptacle and surrounding the same; and a refractory, non-conducting covering surrounding said coil and chamber.

5. An electric furnace comprising: a fused-quartz receptacle forming a heating-chamber; an electric heating-coil surrounding the same; an asbestos covering about said receptacle and coil; and a refractory, non-conducting material incasing the same.

6. An electric furnace comprising: a fused-quartz receptacle forming a heating-chamber; an electric heating-coil surrounding the same, having its successive turns separated from each other by asbestos; an asbestos covering about said receptacle and coil; and a refractory, non-conducting material incasing the same.

839,984. THERMO-ELECTRIC GENERATOR. WILLIAM H. BRISTOL, New York, N. Y. Filed Dec. 2, 1905. Serial No. 290,017.



Claim.—1. A thermo-electric generator comprising: primary elements of high fusing-points forming a couple; secondary elements of lower fusing-points connected thereto and forming secondary couples intermediate of the hot and cold ends of said generator; and means independent of said elements adapted to compensate for the effects of said secondary couples.

2. A thermo-electric generator comprising: primary elements of platinum and an alloy of platinum with ten per cent. of rhodium, forming a couple; secondary elements of nickel-steel alloy and of iron, respectively connected thereto and forming secondary couples intermediate of the hot and cold end of said generator; and means independent of said elements adapted to compensate for the effects of said secondary couples.

3. A thermo-electric generator comprising: primary elements of high fusing-points forming a couple; secondary elements of lower fusing-points connected thereto and forming secondary couples intermediate of the hot and cold end of said generator; and a resistance located in close proximity to the junctions of said secondary elements with the said primary elements, and adapted to compensate for the effects of said secondary couples.

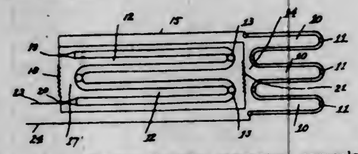
4. A thermo-electric generator comprising: primary elements of platinum and an alloy of platinum with ten per cent. rhodium, forming a couple; secondary elements of nickel-steel alloy and of iron, respectively connected thereto and forming secondary couples intermediate of the hot and cold end of said generator; and a resistance located in close proximity to the junctions of said secondary elements with the said primary elements, and adapted to compensate for the effects of the said primary couples.

5. A thermo-electric generator comprising: elements of high fusing-points forming a couple; secondary elements of lower fusing-points connected thereto and forming secondary couples intermediate of the hot and cold end of said generator; and a resistance located in series with said generator and in close proximity to the junctions of said

secondary elements with said primary elements, and adapted to compensate for the effects of said secondary couples.

6. A thermo-electric generator comprising: primary elements of platinum and an alloy of platinum with ten per cent. rhodium, forming a couple; secondary elements of nickel-steel alloy and of iron, respectively connected thereto and forming secondary couples intermediate of the hot and cold end of said generator; and a resistance located in series with said generator and in close proximity to the junctions of said secondary elements with said primary elements, and adapted to compensate for the effects of said secondary couples.

839,985. THERMO-ELECTRIC GENERATOR. WILLIAM H. BRISTOL, New York, N. Y. Filed Dec. 26, 1905. Serial No. 293,251.



Claim.—1. A thermo-electric generator comprising: a primary couple and a supplementary couple separate and distinct from said primary couple and in series therewith, the hot end of one couple being located in close proximity to the cold end of the other.

2. A thermo-electric generator comprising: a primary couple having elements of high fusing-points; a supplementary couple separate and distinct from said primary couple having elements of lower fusing-points than said primary couple, said supplementary couple being in series therewith and having its hot end located in close proximity to the cold end of said primary couple.

3. A thermo-electric generator comprising: a primary couple of platinum and platinum with ten per cent. rhodium, as elements; and a supplementary couple separate and distinct from said primary couple and in series therewith having elements of iron and nickel alloy, and having its hot end located in close proximity to the cold end of said primary couple.

4. A thermo-electric generator comprising: a series of primary couples; a supplementary couple in series therewith, separate and distinct from said series of primary couples and having its hot end located in close proximity to the cold end of said series of primary couples.

5. A thermo-electric generator comprising: a primary couple; and a number of supplementary couples in series therewith, said series of supplementary couples being separate and distinct from said primary couple and having its hot ends located in close proximity to the cold end of said primary couple.

6. A thermo-electric generator comprising: a primary couple and a supplementary couple separate and distinct from said primary couple and in series therewith, the hot end of one couple being located in close proximity to the cold end of the other; and means in connection with one of said couples to compensate for the overbalancing effect of the other.

7. A thermo-electric generator comprising: a primary couple; a supplementary couple in series therewith and of different elements from said primary couple, the hot end of one couple being located in close proximity to the cold end of the other; and a resistance-shunt across one of said couples.

8. A thermo-electric generator comprising: a primary couple; a supplementary couple in series therewith of different elements from said primary couple and having its hot end located in close proximity to the cold end of said primary couple; and a resistance-shunt across said supplementary couple.

9. A thermo-electric generator comprising: a primary couple having elements of high fusing-points; a supplementary couple having elements of lower fusing-points than said primary couple, and in series therewith and having its hot end located in close proximity to the cold end of said primary couple; and a resistance-shunt across said supplementary couple.

10. A thermo-electric generator comprising: a primary couple of platinum and platinum with ten per cent. rhodium as elements; a supplementary couple in series therewith of iron and nickel alloy as elements, and having its hot end located in close proximity to the cold end of said primary couple; and a resistance-shunt across said supplementary couple.

11. A thermo-electric generator comprising: a series of primary couples; a supplementary couple in series therewith of different elements from said primary couples and having its hot end located in close proximity to the cold end of said series of primary couples; and a resistance-shunt across said supplementary couple.

12. A thermo-electric generator comprising: a primary couple; a number of supplementary couples in series therewith and composed of elements different from those of said primary couple, said series having its hot ends located in close proximity to the cold end of said primary couple; and a resistance-shunt across said series of supplementary couples.

13. A thermo-electric generator comprising: a primary couple; a supplementary couple in series therewith of different elements from said primary couple, having its hot end located in close proximity to the cold end of said primary couple; and a resistance-shunt across said supplementary couple located in close proximity to the cold end of said primary couple.

14. A thermo-electric generator comprising: a primary couple having elements of high fusing-points; a supplementary couple having elements of lower fusing-points than said primary couple and in series therewith, and having its hot end located in close proximity to the cold end of said primary couple; and a resistance-shunt across said supplementary couple located in close proximity to the cold end of said primary couple.

15. A thermo-electric generator comprising: a primary couple of platinum and platinum with ten per cent. rhodium as elements; a second couple in series therewith of iron and nickel alloy as elements, and having its hot end located in close proximity to the cold end of said primary couple; and a resistance-shunt across said supplementary couple having a portion thereof located in close proximity to the cold end of said primary couple.

16. A thermo-electric generator comprising: a series of primary couples; a supplementary couple in series therewith of different elements from said primary couples and having its hot end located in close proximity to the cold end of said series of primary couples; and a resistance-shunt across said supplementary couple located in close proximity to the cold end of said series of primary couples.

17. A thermo-electric generator comprising: a primary couple; a number of supplementary couples in series therewith composed of elements different from those of said primary couple, said series having its hot ends located in close proximity to the cold end of said primary couple; and a resistance-shunt across said series of supplementary couples located in close proximity to the cold end of said primary couple.

18. A thermo-electric generator comprising: a primary couple; a supplementary couple in series therewith of different elements from said primary couple and having its hot end located in close proximity to the cold end of said primary couple; a resistance-shunt across said supplementary couple; and a second resistance-shunt across said supplementary couple, having a portion thereof located in close proximity to the cold end of said primary couple.

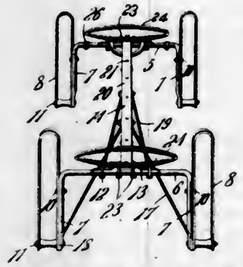
19. A thermo-electric generator comprising: a primary couple having elements of high fusing-points; a supplementary couple having elements of lower fusing-points than said primary couple and in series therewith, and having its hot end located in close proximity to the cold end of said primary couple; a resistance-shunt across said supplementary couple, and a second resistance-shunt across said supplementary couple, having a portion thereof located in close proximity to the cold end of said primary couple.

20. A thermo-electric generator comprising: a primary couple of platinum and platinum with ten per cent. rhodium as elements; a supplementary couple in series therewith of iron and nickel alloy as elements and having its hot end located in close proximity to the cold end of said primary couple; a shunt of suitable resistance across said supplementary couple, and a second resistance-shunt across said supplementary couple having a portion thereof located in close proximity to the cold end of said primary couple.

21. A thermo-electric generator comprising: a series of primary couples; a supplementary couple in series therewith of different elements from said primary couples and having its hot end located in close proximity to the cold end of said series of primary couples; a resistance-shunt across said supplementary couple; and a second resistance-shunt across said supplementary couple having a portion thereof located in close proximity to the cold end of said primary couple.

22. A thermo-electric generator comprising: a primary couple; a number of supplementary couples in series therewith, composed of elements different from those of said primary couple, said series having its hot ends located in close proximity to the cold end of said primary couple; a resistance-shunt across said series of supplementary couples; and a second resistance-shunt across said series of supplementary couples having a portion thereof located in close proximity to the cold end of said primary couple.

839,986. BOULEVARD AND SPEED WAGON. EDWARD E. BULLOCK, Lisbon, N. D. Filed Aug. 21, 1905. Serial No. 275,139.



Claim.—1. In a vehicle, front and rear axles having their opposite ends bent downwardly to form depending arms, a reach connecting the axles, forks detachably secured to the arms and forming guards for the vehicle-wheels, lateral braces connecting the arms of the rear axles and reach, respectively, and bolts connecting the arms and adjacent forks, one of the connecting-bolts of each rear fork being passed through the brace and extended laterally to form the spindle of the adjacent vehicle-wheel.

2. In a vehicle, front and rear axles each formed from a single piece of metal the opposite ends of which are bent downwardly to form depending arms, a reach connecting said axles, forks detachably secured to the arms and extending vertically above the axles, lateral braces connecting the arms of the rear axles and reach, respectively, and bolts connecting the forks to the arms, one of the connecting-bolts of each rear fork being passed through the brace and extended laterally to form the spindle of the adjacent vehicle-wheel.

3. In a vehicle, front and rear axles having their opposite ends bent downwardly to form depending arms, a reach connecting said axles, forks detachably secured to the arms and extending vertically above the axles to form guards for the vehicle-wheels, springs mounted on the axles, a wagon-body yieldably supported on the springs and having its bed arranged below the top plane of the vehicle-wheels, lateral braces connecting the arms of the rear axles and reach, respectively, and auxiliary braces extending between the reach and rear axles and intersecting the lateral braces.

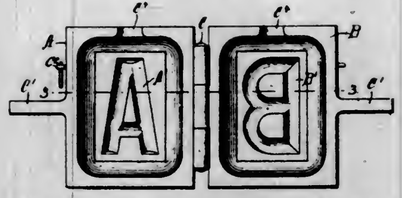
4. In a vehicle, front and rear axles having their opposite ends bent downwardly to form depending arms, a reach connecting said axles, forks detachably secured to the arms and extended vertically above the axles to form guards for the vehicle-wheels, lateral braces connecting the free ends of the rear arms and the reach, and auxiliary braces connecting the rear axle and reach respectively, and intersecting the lateral braces.

5. In a vehicle, front and rear axles having their opposite ends bent downwardly to form depending arms, a reach connecting said axles, substantially U-shaped forks detachably secured to the arms and having their closed ends extended vertically above the axles, lateral braces connecting the free ends of the rear arms and the reach, respectively, bolts piercing the forks and arms, one of said connecting-bolts being threaded through the end of the adjacent brace and extended laterally across the open end of the fork to form a spindle for the adjacent vehicle-wheel.

6. In a vehicle, front and rear axles having their opposite ends bent downwardly to form depending arms, a reach connecting said axles, substantially U-shaped forks extending vertically above the axles and each having one leg thereof arranged parallel with the adjacent arm and detachably secured thereto, braces extending between the free ends of the rear arms and the intermediate portion of the reach, bolts connecting the forks with the arms, one of the connecting-bolts of the rear forks being secured to the end of the adjacent brace and extended laterally across the open end of the fork to form a spindle for the adjacent vehicle-wheel, and auxiliary braces secured to the rear axle and having their opposite ends fastened to the reach in advance of the lateral braces, said reach being inclosed in a metallic casing.

7. In a vehicle, front and rear axles having their opposite ends bent downwardly to form depending arms, a reach connecting said axles, substantially U-shaped forks detachably secured to the arms and having their closed ends extended vertically above the axles, lateral braces connecting the free ends of the rear arms and reach, respectively, bolts piercing the forks and arms, one of the connecting-bolts of each rear arm being threaded through the end of the brace and extended laterally across the open end of the adjacent fork to form a spindle for the wheel, auxiliary braces secured to the reach and connected with the rear axle, and a brace connecting the reach and front axle.

839,987. MOLD FOR BLOWN-GLASS PLATES. SAMUEL I. BUTTERS, Clarksburg, W. Va. Filed Jan. 28, 1905. Serial No. 243,119.



Claim.—A mold for the production of glass-sign letter-plates comprising an unobstructed flat molding-face of larger area than the character to be produced therein, a die disposed beyond the plane of said molding-face and within the margin thereof, and continuously-curved marginal portions extending entirely about and merging into all the edges of said flat molding-face, whereby an obstructed flow and even thickness of molten glass upon said molding-face is secured and the character thereon disposed within the flat margin portion of the finished plate.

839,988. SHUTTLE-BOX-OPERATING MECHANISM. HUGH CANE, Providence, R. I. Filed Apr. 10, 1906. Serial No. 310,971.

Claim.—1. In a loom box-motion mechanism, a stationary guide-rod, a movable box-rod, coiled springs mounted on said rods, a sleeve slidably mounted on the lower end of the box-rod, laterally-extending lugs carried by the opposite ends of said sleeve, one of said lugs adapted to receive an operating connection, the other lug adapted to slidably engage said stationary guide-rod.

2. In a shuttle-box-operating mechanism, the combination with the box-rod and the guide-rod, and coiled springs

mounted on said rods, of a sleeve slidably mounted on the



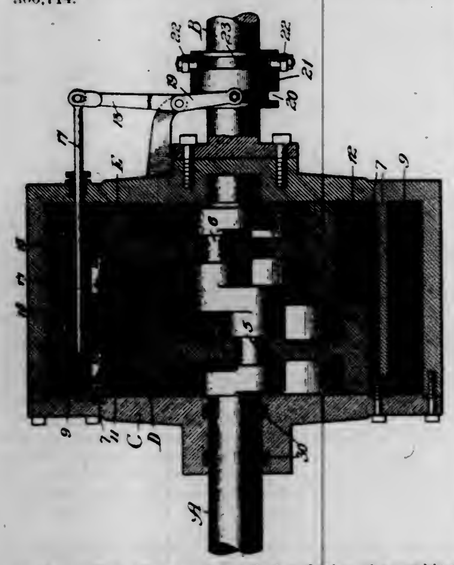
lower end of the box-rod provided with laterally-extending lugs upon its opposite ends, one of said lugs adapted to receive an operating connection and the other lug slidably embracing the guide-rod.

3. In a loom, the combination with the picker-stick bracket, the box-rod and stationary guide-rod, of coiled springs mounted on said rods, a sleeve slidably mounted on the lower end of the box-rod and working within a guide on the picker-stick bracket, a stop carried by the box-rod adapted to engage said sleeve, laterally-extending arms carried by the opposite ends of the sleeve, one of said arms having a sliding connection with the guide-rod and means for operating the box-rod connected to the other of said arms.

4. In a loom box-motion mechanism, the combination with the box-rod, a guide-rod and coil-springs mounted on said rods, of a sleeve slidably mounted on the box-rod and connected to the operating mechanism of the loom, and a lug carried by the sleeve and slidably engaging the guide-rod.

5. In a loom box-motion mechanism, the combination with the box-rod, a guide-rod and coil-springs mounted on said rods, of an attachment slidable on the box-rod and connected to the loom-operating mechanism, and slidably engaging the guide-rod.

839,989. POWER-TRANSMISSION DEVICE. FRANK DE COLIGNY, Chicago, Ill. Filed Feb. 12, 1906. Serial No. 300,714.



Claim.—1. In a power-transmission device, the combination with the driving and driven parts, of a cylinder on one of said parts having inner annular bearing-surfaces each surrounding an oil-compartment provided with inlet and outlet ports, and an oil-circulating conduit communicating with the ports, a wheel in each compartment, the wheels being eccentrically mounted on the other of said parts to extend at different angles, with relation to its center of rotation and have independent rotation thereon in rolling contact with the respective surrounding surface, a movable abutment between the said inlet and outlet ports of each compartment bearing against the respective wheel, a valve in said conduit, and operating means for the valve.

2. In a power-transmission device, the combination with the driving and driven parts, of a cylinder on one of said parts having inner annular bearing-surfaces each surrounding an oil-compartment provided with inlet and outlet ports, and an oil-circulating conduit communicating with the ports, a wheel in each compartment, the wheels being eccentrically mounted on the other of said parts to extend at different angles with relation to its center of rotation and have independent rotation thereon in rolling contact with the respective surrounding surface, a movable abutment between the inlet and outlet ports of each compartment bearing against the respective wheel, and a valve at each outlet-port with operating means therefor.

3. In a power-transmission device, the combination with the driving and driven parts, of a cylinder on one of said parts having an inner chamber surrounded by annular oil-compartments separated by an annular partition and each surrounded by an annular bearing-surface having inlet and outlet ports, and an oil-circulating conduit communicating with the ports, a wheel in each compartment, the wheels being eccentrically mounted on the other of said parts to extend at different angles with relation to its center of rotation and have independent rotation thereon in rolling contact with the respective surrounding surface, a movable abutment between the inlet and outlet ports of each compartment bearing against the respective wheel, a valve in said conduit, and operating means for the valve.

4. In a power-transmission device, the combination with the driving and driven parts, of a cylinder on one of said parts having an inner bearing-surface surrounding an oil-chamber provided with inlet and outlet ports, and an oil-circulating conduit communicating with the ports, a wheel eccentrically mounted on the other of said parts to have independent rotation thereon in rolling contact with the said surface in the said chamber, a swinging perforated abutment mounted in said inlet-port and bearing against the said wheel, a valve in said conduit, and operating means for the valve.

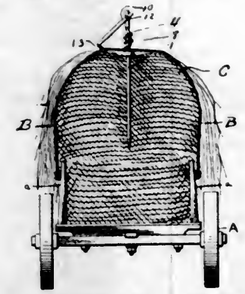
5. In a power-transmission device of the character described, the combination with an annular wall, a chamber inclosed by said wall, and an eccentric wheel in said chamber in rolling contact with the wall, of a conduit communicating at one end with an outlet-port in said wall and at its opposite end with an inlet-port, said inlet-port having a segmental face at one side, and a perforated abutment pivotally mounted in said opening to swing in contact with said segmental face and bearing against the periphery of said wheel, substantially as set forth.

839,990. LOAD-BINDER. ALVIN L. COX, Madison, Mo. Filed Apr. 24, 1906. Serial No. 313,391.



Claim.—A load-holding device comprising a pointed stake and a plurality of upwardly-extending offset tines carried thereby and arranged in spaced parallel relation thereto.

839,991. LOAD-BINDER. ALVIN L. COX, Madison, Mo. Filed July 11, 1906. Serial No. 325,714.

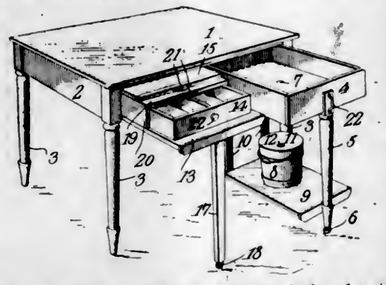


Claim.—1. A load-holding device comprising a pointed stake and offset tine carried thereby and arranged in spaced parallel relation thereto, said tine being formed with an inturned extremity extending toward said stake, whereby a constricted space is afforded between said tine and said stake.

2. A load-holding device comprising a pointed stake of equal diameter throughout its length, rope-engaging elements carried thereby and an enlarged button rigidly held upon said stake beneath said rope-engaging elements.

3. A load-holding device comprising a pointed stake, rope-engaging elements carried thereby, a handle horizontally pivoted to the upper end of said stake and terminating in a hooked extremity, said hooked extremity comprising a rearwardly-extending portion bent and inturned upon itself.

839,992. KITCHEN-CABINET. AMANDA FRANKE, Jeffersonville, Ind. Filed July 9, 1906. Serial No. 325,372.



Claim.—1. The combination with the body of a table, and a top therefor, with a sink-drawer slidably mounted on the body to move forwardly and located under the said top, a secondary sliding table on the body mounted to move forwardly and located under the top at one side of the sink-drawer, supporting-legs on the outer ends of the drawer and secondary table, a drawer slidably resting on the secondary table, a frame movable back and forth on the secondary table, and disposed over the last-mentioned drawer, and a pie-board supported on the top of said frame.

2. The combination with a body of a table, and a top therefor, of a secondary sliding table movable in the body from a position under to a position beyond the top, a supporting-leg for the outer end of the sliding table, a drawer slidable on the secondary table, a slidable frame on the secondary table, and a pie-board slidable on and removable from the said frame.

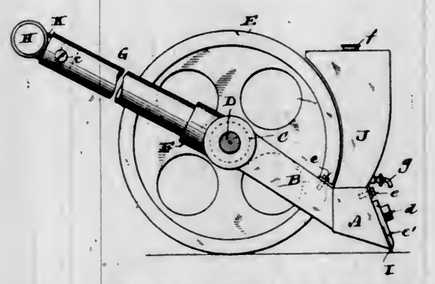
839,993. PLIERS. CHARLES A. FRITZ, Minot, N. D. Filed Apr. 24, 1906. Serial No. 313,398.

Claim.—1. Pliers having crosed handles with blocks at their front ends and longitudinal bores through the blocks, jaws having pivot-shanks fitting in said bores, on which the jaws may be turned to present either their faces or their edges toward each other, and means engaging the shanks behind the blocks to hold the jaws in either position.



2. Pliers having crossed handles with blocks at their front ends and bores lengthwise through said blocks, jaws having pivot-shanks extending through said bores, pins projecting laterally from said shanks behind the blocks, and spring-pieces on the rear side of the blocks having notches in which the pins engage.

839,994. FLOOR-SCRAPER. FRANK F. HASE, Milwaukee, Wis. Filed Aug. 24, 1906. Serial No. 331,839.



Claim.—1. A floor-scraper comprising a blade-head having a rearward neck, supporting-wheels mounted upon the neck at either side thereof, a stem projecting from said neck, and a handle swiveled in the stem.

2. A floor-scraper comprising a blade-head having a rearward neck, supporting-wheels mounted upon the neck at either side thereof, a stem projecting from said neck, and a tank secured to the blade-head, whereby water or other shifting weighty material is retained.

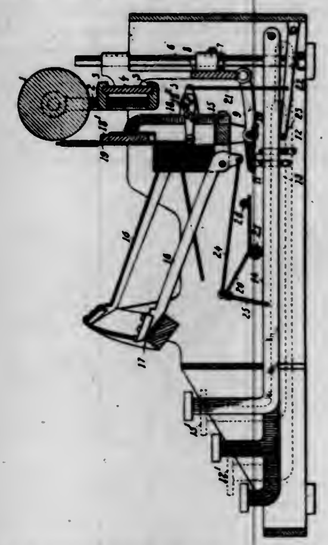
3. A floor-scraper comprising a weighted blade-head having a rearward neck, supporting-wheels mounted upon the neck at either side thereof, a stem projecting from said neck rearward of the axial line of the wheels, and a handle connected to the stem.

839,995. WRITING-MACHINE. EDWARD B. HESS, New York, N. Y., assignor, by mesne assignments, to Royal Typewriter Company, Hoboken, N. J., a Corporation of New Jersey. Filed Aug. 28, 1901. Renewed Feb. 20, 1905. Serial No. 246,493.

Claim.—1. In a writing-machine, the combination of a platen, a pivoted type-bar, a flexing connection composed of two members united at their front ends by a universal joint and extending rearwardly, one directly to a type-bar and the other to a fixed point arranged below and in front of the type-bar pivot and means applied to the connection in front of the fixed point for depressing the universal joint and thereby throwing the type-bar to the printing-point.

2. In a writing-machine, the combination of a platen, a segmental type-bar support arranged below the plane of the platen, a type-bar pivoted at or near the end of the segment, a flexing connection composed of two members united at their front ends by a universal joint, and extending rearwardly, the upper one in a direct line from the universal joint to the heel of the type-bar and the other in a direct line rearwardly and downwardly to a fixed point or axis and means applied to the connection in front of the fixed point to depress the universal joint and throw the type-bar to the printing-point.

3. In a writing-machine, the combination of a platen, a segmental type-bar support arranged below the plane of the platen, a type-bar pivoted at or near the end of the segment, a flexing connection composed of two members united at their front ends by a universal joint, and extending rearwardly, the upper one in a direct line from the universal joint to the heel of the type-bar and the other in a direct line rearwardly and downwardly to a fixed point or axis, a pivoted key-lever arranged below the flexing connection and a link interposed between the key-lever and connection for the purpose set forth.



4. In a writing-machine, the combination of a platen, a segmental type-bar support arranged below the plane of the platen, a type-bar pivoted at or near the end of the segment, a flexing connection composed of two members united at their front ends by a universal joint, and extending rearwardly, the upper one in a direct line from the universal joint to the heel of the type-bar and the other in a direct line rearwardly and downwardly to a fixed point or axis, a pivoted key-lever arranged below the flexing connection and a link interposed directly between the key-lever and the universal joint for the purpose set forth.

5. In a writing-machine, the combination of a pivoted type-bar, a flexing connection composed of two members flexibly united at their front ends and extending rearwardly, one to the type-bar and the other to a fixed point, and means acting with a pull applied to the flexibly-connected ends of the two members for flexing them.

6. In a writing-machine, the combination of a platen, a pivoted type-bar, a flexing connection composed of two members flexibly united at their front ends and extending rearwardly, one to the type-bar and the other to a fixed point, means acting with a pull applied to the flexibly-connected ends of the two members for flexing them, and means for changing the relation of the type-bar pivot and platen.

7. In a writing-machine, the combination of a platen, a pivoted type-bar, a flexing conection composed of two members flexibly united at their front ends and extending rearwardly, one to the type-bar and the other to a fixed point, means acting with a pull applied to the flexibly-connected ends of the two members for flexing them, and means for shifting the platen.

8. In a writing-machine, the combination of a platen, a pivoted type-bar, a type-bar-actuating connection comprising two members respectively connected at their rear ends to the type-bar and to a fixed point and at their front ends to a link, a finger-piece, and a part actuated thereby to which said link is pivoted to actuate the type-bar by a pull.

9. In a writing-machine, the combination of a platen, pivoted type-bars normally extending toward the front of the machine and adapted to strike against the front face of the platen, flexing connections composed of two members flexibly united at their front ends and extending rearwardly, one to the type-bar and the other to a fixed point, and means applied to the flexibly-connected ends of the two members for flexing them.

10. In a writing-machine, the combination of a pivoted type-bar, a finger-piece, a spring mounted upon a fixed support and extending toward the front of the machine, and connections extending respectively from the type-bar and from a part actuated by the finger-piece to the free end of the spring, the operation being substantially as described.

11. In a writing-machine, the combination of a pivoted type-bar, a flexing connection composed of two members flexibly united at their front ends and extending rearwardly, one to the type-bar and the other to a fixed point, the latter being a spring adapted to yield laterally, and means for flexing the connection applied thereto in front of the fixed point.

12. In a writing-machine, the combination of a pivoted type-bar, a flexing connection composed of two members flexibly united at their front ends and extending rearwardly, one to the type-bar and the other to a fixed point, the latter being a spring adapted to yield laterally, and means applied to the flexibly-connected ends of the two members for flexing them.

13. In a writing-machine, the combination of a platen, a pivoted type-bar, a flexing connection composed of two members flexibly united at their front ends and extending rearwardly, one to the type-bar and the other to a fixed point, the latter being a spring adapted to yield laterally, means for flexing the connection applied thereto in front of the fixed point, and means for changing the relation of the type-bar pivot and platen.

14. In a writing-machine, the combination of a platen, a pivoted type-bar, a type-bar-actuating connection comprising two members respectively connected at their rear ends to the type-bar and to a fixed point and at their front ends to a link, the latter of said two members being a spring adapted to yield laterally, a finger-piece, and a part actuated thereby to which said link is pivoted.

15. In a writing-machine, the combination of a platen, pivoted type-bars normally extending toward the front of the machine and adapted to strike against the front face of the platen, flexing connections composed of two members flexibly united at their front ends and extending rearwardly, one to the type-bar and the other to a fixed point, the latter being a spring adapted to yield laterally, and means for flexing the connection applied thereto in front of the fixed point.

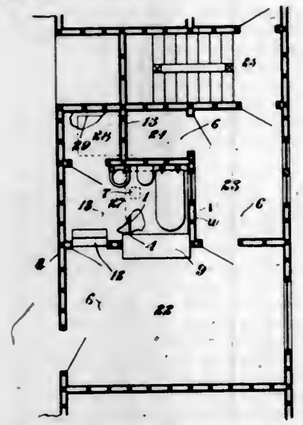
16. In a writing-machine, the combination of a platen, a pivoted type-bar, a flexing connection composed of two members flexibly united at their front ends and extending rearwardly, one to the type-bar and the other to a fixed point, and means applied to the connection in front of the fixed point and acting to flex it in a direction away from the platen to pull the type-bar to the printing-point.

17. In a writing-machine, the combination of a pivoted type-bar, a flexing connection composed of two links of unequal length flexibly united at their front ends and extending rearwardly, the longer one to the type-bar and the shorter one to a fixed point, and means applied to the flexibly-connected ends of the two members for flexing them.

839,996. APARTMENT-HOUSE WITH DISAPPEARING BED. LAWRENCE HOLMES, Los Angeles, Cal. Filed Aug. 30, 1905. Serial No. 276,343.

Claim.—1. A building provided with three adjoining rooms having a common floor at one level and a space between two of said rooms, and a floor at a higher level in said space, said space being thus formed into another room with a recess below the same, an opening being provided into said recess from one of said rooms.

2. A building provided with two rooms of unequal length spaced apart, a third room adjoining said two rooms, floors for said rooms; an L-shaped secondary floor arranged above the level of the first-named floors, a bath-room and clothes-closet above said secondary floor; a bed under the bath-room floor arranged to be drawn out into one of the first-mentioned rooms, and a drawer under the clothes-closet and arranged to be drawn out into another of said rooms.



3. A building provided with adjoining rooms and a recess extending above the level of the floor of one of the rooms and below the floor of the other rooms, and a bed adapted to normally chamber in said recess.

4. A building provided with adjoining rooms, and a recess opening from one room and extending below the floor of the other room, and a bed provided with rollers and adapted to roll into said recess.

5. A building provided with a room and a recess at one side of the room; a bed provided with rollers and adapted to chamber in the recess, and means for raising and lowering said bed relative to the rollers for the purpose of adapting the bed for use at a level higher than the recess.

6. A building provided with a room and a recess opening into the room at the floor thereof, and a bed adapted to chamber in the recess and to fit into the recess, said bed being provided with a footboard which forms a closure for the mouth of said recess.

7. A building provided with a primary and a secondary floor, a recess being between said floors, and a bed adapted to roll into and close said recess.

8. An apartment-house comprising a room arranged above the level of a general apartment-floor, a recess being between the general floor and the floor of said room, and a bed adapted to fit into said recess.

9. An apartment provided with a secondary floor, a china-closet or the like arranged above said secondary floor, a recess being below said secondary floor, and a bed adapted to roll into and out of said recess; the china-closet or the like being above the mouth of said recess.

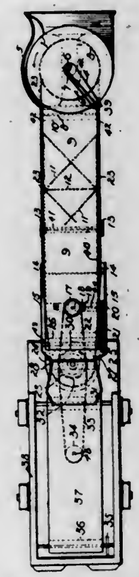
10. A building comprising a room, a primary and a secondary floor arranged one above the other, stairs connecting the two floors, a room or rooms arranged above said secondary floor, a recess being between said floors communicating with the first-mentioned room, a bed adapted to fit into and close said recess, and ventilating means for said recess.

11. A building provided with three adjoining rooms having a common floor at one level and a space between two of said rooms and a floor at a higher level in said space, said space being thus formed into another room with a recess below the same, an opening being provided into said recess from one of said rooms, and a bed adapted to chamber in said recess and close the mouth thereof.

12. A room provided with a recess in a wall, and a horizontal bed in said recess adapted to be moved into said room and having an end board forming a part thereof which closes and conceals the mouth of the recess and forms a base-board for the wall of the room when the bed is in the recess.

13. An apartment-house having a main and a secondary floor, a recess between said floors, a ventilating-opening into the recess, and a vent from the recess, and a bed in said recess closing the mouth thereof.

839,997. LOADING-MACHINE. FRANCIS K. HOLMESTED, Claremont, W. Va. Filed Feb. 21, 1905. Serial No. 246,768.



Claim.—1. In a loading-machine, a frame adapted to receive loose material, a revoluble plate mounted on said frame, and adapted to receive the loose material upon its face, a vertically-disposed endless belt located above said revoluble plate, said belt traveling rearwardly whereby the material on the revoluble plate will be carried to the rear, and conveyers extending from the rear of said frame.

2. In a loading-machine, a frame having a flaring side and adapted to receive loose material, a revoluble wheel or plate mounted on said frame at a slight inclination from the horizontal plane, and conveyers extending from the rear of revoluble wheel or plate.

3. In a loading-machine, a frame having side walls and adapted to receive loose material, a revoluble wheel or plate mounted on said frame and a belt conveyer disposed below the rear edge of said revoluble plate, and extending rearwardly therefrom.

4. In a loading-machine, a frame having side walls and adapted to receive loose material, a revoluble wheel or plate mounted on said frame at an inclination, an endless belt vertically disposed and mounted to run rearwardly above said revoluble wheel, and a belt conveyer located beneath the revoluble plate and extending rearwardly therefrom.

5. A loading-machine, consisting of a main frame having a vertical and horizontal movement on a receptacle, said frame carrying at its front end a scraper-frame, a revoluble wheel mounted in said scraper-frame and revolving in an inclined plane, an endless belt vertically disposed above the upper surface of the revoluble wheel, and extending from the center to the circumference of said revoluble wheel, and a belt conveyer extending from beneath the revoluble wheel, rearwardly to discharge into the vehicle carrying the main frame.

6. In a loading-machine, the combination with a car or vehicle and a platform projecting forwardly from the front end thereof, of a frame pivotally mounted on said forwardly-projecting platform, a pocket projecting from the front of the car, an endless conveyer mounted in the pivotally-mounted frame, a horizontally-revolving wheel or plate mounted at the front portion of the pivoted frame, and a vertically-disposed endless belt mounted in said frame and extending from the center to the circumference of the revolving wheel to carry material dropped on the wheel to the rear and deposit the same upon the endless conveyer to be carried to the pocket on the car.

7. In a loading-machine, the combination with a scraper-frame having one side wall flared and the other side wall turned inwardly, a horizontally-revolving wheel or plate mounted on said scraper-frame at an angle to a horizontal plane on a shaft extending through the inturned end of the side wall and the scraper-frame, an endless belt vertically disposed and running from the inturned end of the side wall rearwardly to the circumference of the revolving wheel or plate, means for revolving the wheel and the endless belt, an endless conveyer located beneath the rear portion of the wheel and extending upwardly therefrom, a frame carrying said endless conveyer and pulleys for the same, a car or receptacle at the rear of said conveyer, said conveyer-frame being pivotally mounted on the front of said car to swing vertically and horizontally, and means for driving the endless conveyer, and a conveyer within said car.

8. In a loading device, a frame or base adapted to receive loose material, a plate or disk revolubly mounted on said frame at an inclination and adapted to receive the loose material upon its upper face, and a deflector disposed over the upper face of the revoluble plate or disk from its axis to its outer edge.

9. In a loading device, a frame adapted to receive loose material, a plate or disk revolubly mounted at an inclination on said frame, and adapted to receive loose material on its upper face and a moving deflector disposed across the upper face of the plate or disk, said deflector adapted to retard and force the loose material rearwardly.

10. In a loading device, a frame adapted to receive loose material and having a flaring side wall, a revoluble plate or disk mounted at an inclination in said frame adapted to receive the loose material on its upper face, and a vertically-disposed conveyer located above said revoluble plate or disk.

11. In a loading device, a solid revoluble plate or disk adapted to receive loose material on its upper face, said plate or disk disposed at a slight inclination rearwardly from a horizontal plane, and a deflector disposed across the upper face of said plate or disk adapted to retard and force the loose material on the upper face of the plate or disk rearwardly.

12. In a loading device, a frame or base, a plate or disk revolubly mounted on said base and adapted to receive the loose material upon its upper face, and a deflector disposed over the upper face of said plate or disk from its axis to its outer edge.

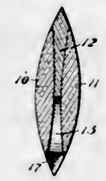
13. In a loading device, a frame or base, a solid plate or disk revolubly mounted on said frame and adapted to receive the loose material upon its upper face, and a vertically-disposed endless belt superimposed on said plate or disk and extending from its axis to its outer edge.

14. In a loading device, a frame or base, a solid plate or disk revolubly mounted on said base at an angle to the vertical, and a deflector superimposed on said plate or disk, said deflector extending from the axis of said plate or disk to its outer edge.

15. In a loading device, a frame or base having a forwardly-extending shovel-nose adapted to enter and receive loose material thereon, a plate or disk revolubly mounted on said base at an angle, and a deflector superimposed on said plate or disk, said deflector extending from the axis of said plate or disk to its outer edge.

16. In a loading device, a frame or base having a beveled forwardly-extending nose adapted to enter and receive loose material thereon, a plate or disk revolubly mounted thereon and adapted to receive the loose material on its upper face, and a vertically-disposed endless belt superimposed on said plate or disk, and mounted at one end on the axis of the plate or disk, and extending at its opposite end to the outer edge of said plate or disk.

839,998. BIFOCAL LENS. HENRY C. JOERDEN, Marling, Mo. Filed Mar. 13, 1906. Serial No. 305,836.



Claim.—1. A compound bifocal lens including an incomplete member, the incomplete portion being protected by another member of the lens.

2. A compound bifocal lens including an incomplete concave member, the incomplete portion being protected by another member of the lens.

3. A bifocal lens comprising a plurality of lens members, one of which is provided with an opening or recess, the opening being covered by another member of the lens.

4. A compound bifocal lens comprising an intermediate incomplete concaved member and outer convex members.

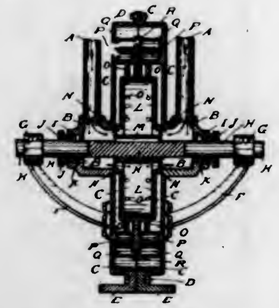
5. A compound bifocal lens comprising outer convex members, and an intermediate concave member, a portion of which is cut away to decrease the focal distance of the lens for near vision.

6. A compound lens comprising outer members one of which is convex, and a central concaved member, the latter being provided with an opening at its lower central portion.

7. A compound lens including a central member having an opening forming a vacuum-chamber.

8. A compound lens including a central member having an opening, there being a slit extending from the opening to the edge of the lens to permit exhausting the air from the opening when the lens members are assembled.

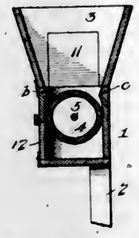
839,999. MOTIVE-POWER ENGINE. LEWIS M. KELLOGG, Los Angeles, Cal. Filed Aug. 20, 1906. Serial No. 331,369.



Claim.—1. The motive-power engine consisting of a hollow rotator carried upon a driving-shaft at the center of a fixed casing, the admission-ports at each side of the center of the cylindrical casing and at each side of the center of the rotator, for admitting the elastic fluid at both sides of the engine into the casing and into the rotator, the fixed curved nozzle of the rotator, the curved vanes at the outer part of the annulus of the rotator, the fixed vanes in the casing forming a ring of curved impact-surfaces between the nozzles and curved vanes of the rotator, the vanes fixed in the casing being curved toward the discharge-orifices of the nozzles and the vanes on the annulus of the rotator being curved oppositely to the curvature of the fixed vanes, the exhaust-passage, the whole constituting my improved motive-power engine, and operating substantially as described.

2. The combination consisting of the circular stationary casing, the admission-ports at the center of said casing, the stuffing-boxes and glands at the outer parts of the chambers constituting the admission-ports of the casing, the driving-shaft rotating in said stuffing-boxes, the rotator having admission-ports at the center of the circular chamber, the circular chamber, the curved nozzles in the circular chamber, the annulus at the exterior of the circular chamber, the curved vanes carried by said annulus, the fixed curved vanes carried by the casing, the exhaust or discharge port; the whole constituting my new or improved motive-power engine, and operating substantially as set forth.

840,000. VEGETABLE-PEELER. JUDSON KERR and FRANK KERR, Philadelphia, Pa. Filed Oct. 13, 1905. Serial No. 282,607.



Claim.—1. In a device of the character described, the combination with a suitable casing, of a peeling-drum, elliptical in cross-section, revolubly mounted in said casing and having portions of its curved surface serrated or roughened.

2. In a device of the character described, the combination with a suitable casing, and projecting edges or shoulders on the side walls near the top thereof, of a peeling-drum, elliptical in cross-section, revolubly mounted in said casing below said projecting edges or shoulders, and having portions of its curved surface serrated or roughened.

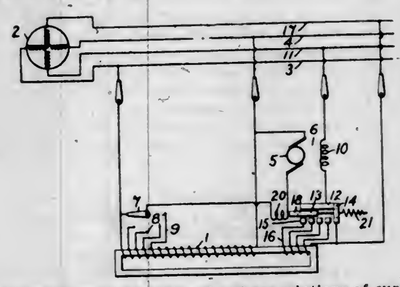
3. In a device of the character described, the combination with a suitable casing having the upper portion of its side walls beveled upwardly and outwardly, and projecting edges or shoulders at the bottoms or lower ends of said beveled portions, of a peeling-drum, elliptical in cross-section, revolubly mounted in said casing below said projecting edges or shoulders, and having portions of its curved surface serrated or roughened.

840,001. METHOD OF REGULATING ALTERNATING-CURRENT MOTORS. BENJAMIN G. LAMME, Pittsburg, and CLARENCE RENSHAW, Wilkinsburg, Pa., assignors to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Feb. 6, 1905. Serial No. 244,482.

Claim.—1. The method of maintaining approximately constant phase relations between the currents in two circuits, which consists in varying the phase relations of the applied electromotive forces approximately in accordance with the variations in the amount of current traversing one of the circuits.

2. The method of maintaining approximately constant phase relations between the currents in two circuits, which consists in combining with the electromotive force applied to one of the circuits an out-of-phase electromotive force and in varying the amount of said electromotive force approximately in accordance with the variations in the amount of current traversing one of the circuits.

3. The method of varying the phase relations of currents in different circuits, which consists in varying the phase relations of the electromotive forces applied to those circuits, substantially in accordance with variations in the phase difference between the current and electromotive force of the circuits.



4. The method of varying the phase relations of currents in different circuits, which consists in varying the phase relations of the electromotive forces applied to those circuits by combining with one of the electromotive forces an additional electromotive force of a different phase, and in varying the same substantially in accordance with variations in the phase difference between the current and electromotive force of the other circuit.

5. The method of varying the phase relations of currents in different circuits which consists in varying the phase relations of the electromotive forces applied to those circuits by combining with one of the electromotive forces an additional electromotive force derived from the other circuit, and in varying the same substantially in accordance with variations in the phase difference between the current and electromotive force of the circuit from which it is derived.

6. The method of adjusting the phase difference between the currents in the armature and field-magnet windings of a dynamo-electric machine which consists in applying a plurality of out-of-phase electromotive forces to the circuit of one of the windings and in varying one of the electromotive forces substantially in accordance with variations in the amount of current that traverses the other winding.

7. The method of adjusting the phase difference between the currents in the armature and field-magnet windings of a dynamo-electric machine which consists in applying a plurality of out-of-phase electromotive forces to the circuit of the field-magnet winding and in varying one of the electromotive forces substantially in accordance with variations in the amount of current that traverses the armature-winding.

8. The method of adjusting the phase difference between the currents in the armature and field-magnet windings of a dynamo-electric machine which consists in applying a plurality of out-of-phase electromotive forces to the circuit of one of the windings and in varying one of the electromotive forces substantially in accordance with variations in the phase difference between the current and electromotive force of the other winding.

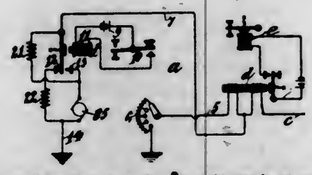
9. The method of adjusting the phase difference between the currents in the armature and field-magnet windings of a dynamo-electric machine which consists in varying the phase relations of the electromotive forces applied to those windings, substantially in accordance with variations in the amount of current that traverses the armature-winding.

10. The method of adjusting the phase difference between the currents in the armature and field-magnet windings of a dynamo-electric machine which consists in varying the phase relations of the electromotive forces applied to those windings, substantially in accordance with variations in the phase difference between the current and electromotive force of one of the windings.

840,002. DUPLEX TELEGRAPH. JOSEPH W. LARISH, New York, N. Y., assignor of one-half to Postal Telegraph-Cable Company, New York, N. Y., a Corporation of New York. Filed Aug. 29, 1906. Serial No. 332,417.

Claim.—1. The combination in a multiple telegraph at one station of a main line, a branch line, an adjustable

resistance in said branch line, a suitable receiving instrument having two coils, one in said main line the other in said branch line, a suitable transmitter having contacts connected to the junction of the main and branch lines and to two sources of electricity of the same polarity and of respectively different potential; and at a second station, a receiving instrument having two coils wound on a core of magnetic metal in the same direction, one coil having a greater resistance and a greater number of turns than the other, an artificial line, a transmitter connected to the junction of said coils and a ground-contact for said transmitter.



2. The combination in a duplex telegraph at one station of a receiving instrument having two equal coils and a transmitter having contacts connected to sources of electricity of the same polarity and respectively different potential; and at a second station, an artificial line, a receiving instrument having two coils wound in the same direction, of unequal resistance, a transmitter connected to the junction of said coils and a ground-contact for said transmitter.

3. In a duplex telegraph, at one station, the combination with the main line of an artificial line, a differential relay having a coil in each line, a transmitter branch, a transmitter having two contacts, means for supplying said contacts with electric currents of respectively different potential; and at a second station, an artificial line, a relay having two coils of unequal resistance, a grounded branch line connected to the junction of said coils and a make-and-break transmitter in said grounded branch.

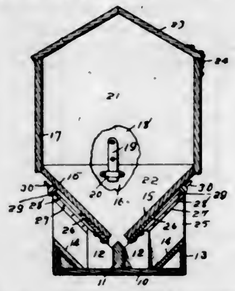
4. In a duplex telegraph, the combination with a main line, at one station, of means for throwing upon the line current impulses of two different potentials and one polarity; and at a second station a two-coil receiving instrument, an artificial line, a grounded branch connected to the junction of said two coils, a make-and-break transmitter in said grounded branch, the coils of said receiving instrument being arranged and proportioned so that the ampere-turns in series are substantially equal to the ampere-turns of the smaller coil when the other coil and the artificial line are short-circuited.

5. In a duplex telegraph, at one station, a suitable source of electricity, a suitable transmitter and means for throwing upon the line current impulses of uniform polarity and two different potentials; and at a second station an artificial line, a relay having two coils of different resistance, the smaller coil being located in the main line and the larger coil being located in the artificial line, and means for including the main and artificial lines in series with said coils and for short-circuiting the artificial line and its coil.

840,003. FEEDING-TROUGH. HENRY W. LINEWEAVER, South English, Iowa. Filed Mar. 12, 1906. Serial No. 305,610.

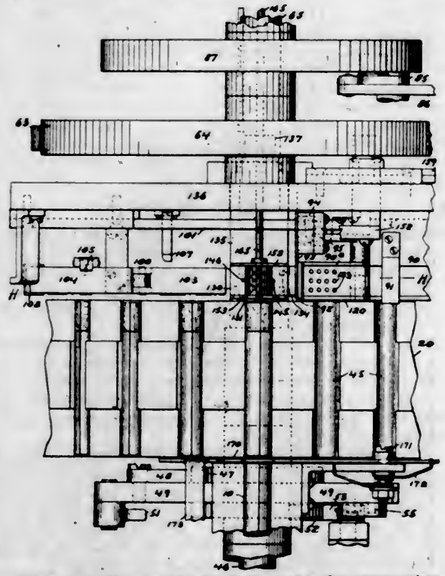
Claim.—1. A feeding-trough comprising a bottom, trough sides, an upright longitudinal division-board, transverse partitions engaging the division-board and the bottom, a hopper with an opening adjacent to the division-board and a number of slides capable of independent adjustment arranged beneath the hopper to control the flow of feed from the hopper to the trough.

2. In a feeding-trough, the combination of a base, trough sides secured to the base, guards at the top of the sides inclined downwardly toward the base, a longitudinal central division-board, a number of transverse partitions fixed to the base and to the sides of the central division-board, upright end pieces and a central support, a hopper on said end pieces and central support having the sides of its bottom inclined downwardly and inwardly to a point a short distance from the central division-board, guides on the central division-board and ends, a number of slides supported in said guides resting upon the transverse partitions, rods fixed to the slides, loops secured to the hopper-bottom having said rods passed through them and nuts on said rods for adjusting the slides.



3. A feeding-trough comprising a bottom, trough sides, an upright longitudinal divisional board, transverse partitions engaging the division-board and the bottom, hopper sides inclined downwardly with their lower edges spaced apart from the longitudinal divisional board, a number of slides capable of independent adjustment beneath the hopper-bottom to control the flow of feed through the openings between the bottom pieces and division-board, a central partition extending across the hopper-bottom, a hopper-top comprising ends to rest upon the ends of the trough, a central partition to rest upon the said partition-piece, hopper sides to project downwardly beyond the edges of the hopper-bottom pieces, a hinged cover, bars fixed to the hopper ends and loops fixed to the ends of the trough to receive said bars.

840,004. MACHINE FOR APPLYING MOUTHPIECES TO CIGARETTES. FRANK X. MALOCSAY, New York, N. Y., assignor to The American Tobacco Company, New York, N. Y., a Corporation of New Jersey. Filed Jan. 29, 1904. Serial No. 191,096.



Claim.—1. The combination of means for supporting a cigarette, means for applying mouthpiece material about one end of the cigarette while the cigarette is stationarily

supported, and means for delivering the cigarette after the mouthpiece material has been applied thereto, substantially as described.

2. The combination of means for supporting a cigarette, means for folding a strip of mouthpiece material about one end of the cigarette while the cigarette is stationarily supported, and means for delivering the cigarette after the mouthpiece material has been applied thereto, substantially as described.

3. The combination of means for supporting a cigarette, means for applying mouthpiece material to one end of the cigarette while the cigarette is stationarily supported, said means including means for applying an intermediate portion of a strip of mouthpiece material to one end of the cigarette and means for folding the extending ends of the strip of mouthpiece material about the cigarette, and means for delivering the cigarette after the mouthpiece material has been applied thereto, substantially as described.

4. The combination of means for supporting a cigarette, means for applying an intermediate portion of a strip of mouthpiece material to one end of the cigarette, means for folding the extending ends of the strip of mouthpiece material about the cigarette while the cigarette is stationarily supported, and means for delivering the cigarette sidewise after the mouthpiece material has been applied thereto, substantially as described.

5. The combination of means for supporting a cigarette, means for folding a strip of mouthpiece material about one end of the cigarette while the cigarette is stationarily supported, and means for delivering the cigarette sidewise after the mouthpiece material has been applied thereto, substantially as described.

6. The combination of means for feeding cigarettes endwise into position to have mouthpiece material applied to one end thereof, means for supporting the cigarettes while the mouthpiece material is applied thereto, means for folding a strip of mouthpiece material about one end of the cigarettes while the cigarettes are stationarily supported, and means for delivering the cigarettes sidewise after the mouthpiece material has been applied thereto, substantially as described.

7. The combination of means for applying mouthpiece material about one end of a cigarette while the cigarette is stationarily supported, means for feeding cigarettes endwise to the applying means, and means for delivering the cigarettes sidewise from the applying means, substantially as described.

8. The combination of means for applying mouthpiece material about one end of a cigarette, means for feeding cigarettes endwise to the applying means, means for delivering the cigarettes sidewise from the applying means, and means for pressing the mouthpiece material against the cigarette during such sidewise movement, substantially as described.

9. The combination of means for supporting a cigarette, means for applying mouthpiece material about one end of the cigarette while the cigarette is stationarily supported, and means for delivering the cigarettes sidewise after the mouthpiece material has been applied thereto, substantially as described.

10. The combination of means for supporting a cigarette, means for applying mouthpiece material about one end of the cigarette, means for delivering the cigarettes sidewise after the mouthpiece material has been applied thereto, and means for pressing the mouthpiece material against the cigarette after the cigarette is delivered from the applying means, substantially as described.

11. The combination of means for supporting a cigarette, means for applying mouthpiece material about one end of the cigarette while the cigarette is stationarily supported, and means for pressing the mouthpiece material against the cigarette after the cigarette is delivered from the applying means, substantially as described.

12. The combination of means for presenting cigarettes successively in position to have mouthpiece material applied to the ends thereof, means for applying mouthpiece material about the ends of the successively-presented cigarettes, means for delivering the cigarettes from the applying means, and means for pressing the mouthpiece material against a cigarette while the applying means is acting to apply mouthpiece material to a succeeding cigarette, substantially as described.

13. The combination of means for supporting a cigarette with one end projecting beyond the supporting means, means for applying mouthpiece material about the projecting end of the cigarette, pressing means for pressing the mouthpiece material against the cigarette, and means for delivering the cigarette from the applying means to the pressing means, substantially as described.

14. The combination of means for supporting a cigarette, means for applying mouthpiece material comprising means for applying an intermediate portion of a strip of mouthpiece material to one end of the cigarette and means for folding the extending ends of the strip of mouthpiece material about the cigarette with the ends overlapping, and means for pressing such overlapping ends against the cigarette after the cigarette is delivered from the applying means, substantially as described.

15. The combination of means for folding a strip of cigarette after the cigarette is delivered from the applying ends overlapping, means for delivering the cigarettes sidewise without rolling after the mouthpiece material has been applied thereto, and a pressing device extending in the direction of such delivery movement of the cigarette in position to engage such overlapping ends of the mouthpiece material to press them against the cigarette as the cigarette is moved sidewise, substantially as described.

16. The combination of means for folding a strip of mouthpiece material about the end of a cigarette with the ends overlapping, means for delivering the cigarettes sidewise without rolling after the mouthpiece material has been applied thereto, and an endless belt adapted to move in engagement with such overlapping ends of the mouthpiece material as the cigarette is moved sidewise, substantially as described.

17. The combination of a support, means for applying mouthpiece material about the end of a cigarette carried by said support, said means including means for applying an intermediate portion of a strip of mouthpiece material to the cigarette and means for folding the extending ends of the strip about the cigarette, and means for causing a relative movement between said support and the applying means for delivering the cigarette from the applying means, substantially as described.

18. The combination of a support, means for applying mouthpiece material about the end of a cigarette carried by said support, said means including means for applying an intermediate portion of a strip of mouthpiece material to the cigarette and means for folding the extending ends of the strip about the cigarette, and means for causing a relative movement between said support and the applying means transversely of the cigarette for delivering the cigarette from the applying means, substantially as described.

19. The combination of a support, means for applying mouthpiece material about one end of a cigarette carried by said support, said means including means for applying an intermediate portion of a strip of mouthpiece material to the cigarette and means for folding the extending ends of the strip about the cigarette, and means for moving the support to carry the cigarette from the applying means, substantially as described.

20. The combination of a support, means for applying mouthpiece material about the end of a cigarette carried by said support, said means including means for applying an intermediate portion of a strip of mouthpiece material to the cigarette and means for folding the extending ends of the strip about the cigarette, and means for moving the support to carry the cigarette from the applying means, means, substantially as described.

21. The combination of a support, means for applying mouthpiece material about the end of a cigarette carried by the support, means for moving the support to carry the cigarette from the applying means, and means for pressing the mouthpiece material against the cigarette after the cigarette has been moved from the applying means and while carried by the support, substantially as described.

22. The combination of a support, means for position-

ing a cigarette on the support with the end of the cigarette extending beyond the support, means for applying mouthpiece material about the end of the cigarette, means for moving the cigarette endwise after the mouthpiece material has been applied thereto to bring said end of the cigarette on the support, and means for moving the support to carry the cigarette sidewise from the applying means, substantially as described.

23. The combination of a support, means for positioning a cigarette on the support with the end of the cigarette extending beyond the support, means for applying mouthpiece material about the end of the cigarette, means for moving the cigarette endwise after the mouthpiece material has been applied thereto to bring said end of the cigarette on the support, means for moving the support to carry the cigarette sidewise from the applying means, and means for pressing the mouthpiece material against the cigaratte after the cigarette has been moved from the applying means and while carried by the support, substantially as described.

24. The combination of a support, means for positioning a cigarette on the support with the end of the cigarette extending beyond the support, and means for applying an intermediate portion of a strip of mouthpiece material to the projecting end of the cigarette and for folding the extending ends of the strip about the cigarette, substantially as described.

25. The combination of a carrier for holding a plurality of cigarettes, means for applying mouthpiece material about one end of the cigarettes while the cigarettes are supported by the carrier, and means for pressing the mouthpiece material against the cigarettes after they have been carried beyond the applying means and while still supported by the carrier, substantially as described.

26. The combination of an intermittently-moving carrier for holding a plurality of cigarettes, means for feeding cigarettes to the carrier in position to have mouthpiece material applied to one end of the cigarettes, means for applying mouthpiece material about one end of the cigarettes while supported by the carrier, and means for pressing the mouthpiece material against the cigarettes after they have been carried beyond the applying means, substantially as described.

27. The combination of an intermittently-moving carrier for holding a plurality of cigarettes, means for feeding cigarettes to the carrier in position to have mouthpiece material applied to one end of the cigarettes, and means for applying mouthpiece material about one end of the cigarettes while stationarily supported by the carrier, substantially as described.

28. The combination of an intermittently-rotating carrier for moving a plurality of cigarettes sidewise, means for applying a strip of mouthpiece material about one end of the cigarettes while supported by the carrier, and means for pressing the mouthpiece material against the cigarettes after they have been carried beyond the applying means, substantially as described.

29. The combination of means for moving a succession of cigarettes sidewise intermittently, means for applying mouthpiece material about one end of each cigarette, and means for pressing the mouthpiece material against the cigarettes after they have been moved beyond the applying means, substantially as described.

30. The combination of means for moving a succession of cigarettes sidewise intermittently, means for applying mouthpiece material about one end of each cigarette, and means moving with the cigarettes for pressing the mouthpiece material against the cigarettes after they have been moved beyond the applying means, substantially as described.

31. The combination with means for applying mouthpiece material about one end of a cigarette, an intermittently-moving carrier by which the cigarettes are moved sidewise after having the mouthpiece material applied thereto, and means for pressing the mouthpiece material against the cigarette while the cigarette is being advanced by said carrier, substantially as described.

32. The combination of a feedway, a carrier adapted to move transversely to the feedway and having a plurality of pockets for receiving cigarettes from the feedway, means for moving the carrier intermittently to bring the pockets successively into position to receive cigarettes from the feedway, means for advancing cigarettes endwise from the feedway to the pockets of the carrier, and means for applying mouthpiece material about the ends of the cigarettes while supported by the carrier, substantially as described.

33. The combination of the feedway 10, feed-board 11, reciprocating feeding-finger 12, means for retracting the feeding-finger during its return movement, and feeding means for advancing through the feedway the cigarettes fed by the finger 12, substantially as described.

34. The combination of a feedway, a carrier adapted to move transversely to the feedway and having a plurality of pockets for receiving cigarettes from the feedway, means for moving the carrier intermittently to bring the pockets successively into position to receive cigarettes from the feedway, means for feeding cigarettes endwise from the feedway to the carrier and into position with the end of the cigarette extending beyond the carrier, means for applying mouthpiece material about the end of the cigarette, means for moving the cigarette endwise after the mouthpiece material has been applied thereto to bring said end of the cigarette on the carrier, a stop between the carrier and the feedway for limiting such endwise movement of the cigarette, and means for moving said stop out of the path of the cigarettes during the feeding of the cigarettes to the carrier, substantially as described.

35. The combination of a feedway, a support, means for advancing a cigarette endwise from the feedway onto the support, means for applying mouthpiece material about the end of the cigarette, means for moving the cigarette endwise in the reverse direction after the mouthpiece material has been applied thereto, a stop between the feedway and the support for limiting such reverse movement of the cigarette, and means for moving said stop to permit cigarettes to be fed from the feedway to the support, substantially as described.

36. The combination of an intermittently-moving carrier having a plurality of open pockets for holding cigarettes, means for applying mouthpiece material about the ends of cigarettes supported by the carrier, and a holding device for coacting with the pockets successively to hold the cigarettes therein when in position to have mouthpiece material applied thereto, substantially as described.

37. The combination of an intermittently-moving carrier having a plurality of open pockets for holding cigarettes, means for applying mouthpiece material about the ends of cigarettes supported by the carrier, and a reciprocating holding-plunger 60 for coacting with the pockets successively to hold the cigarettes therein when in position to have mouthpiece material applied thereto, substantially as described.

38. The combination of an intermittently-moving carrier having a plurality of open pockets for holding cigarettes, means for applying mouthpiece material about the ends of cigarettes supported by the carrier, and a holding device for coacting with the pockets successively to hold the cigarettes therein when in position to have mouthpiece material applied thereto, the carrier and the holding device being provided with parts formed to secure the exact positioning of the pockets with relation to the applying means and the holding device, substantially as described.

39. The combination of an intermittently-moving carrier having a plurality of open pockets for holding cigarettes, means for applying mouthpiece material about the ends of cigarettes supported by the carrier, and a holding device for coacting with the pockets successively to hold the cigarettes therein when in position to have mouthpiece material applied thereto, the holding device being formed to engage the side walls of the pockets, substantially as described.

40. The combination of means for presenting cigarettes successively in position to have mouthpiece material applied to the ends thereof, means for feeding a strip of mouthpiece material intermittently, means for severing pieces therefrom, means for applying an intermediate portion of such pieces of mouthpiece material to the cigarettes while the cigarettes are stationarily supported, and means for folding the extending ends of the piece of mouthpiece material about the cigarette, substantially as described.

41. The combination of means for supporting a cigarette, a support, means for positioning a piece of mouthpiece material on the support, means for causing a relative movement between the cigarette-supporting means and said support to bring an intermediate portion of the piece of mouthpiece material against the cigarette, and means for folding the extending ends of the piece of mouthpiece material about the cigarete, substantially as described.

42. The combination of means for supporting a cigarette, a support, means for positioning a piece of mouthpiece material on the support, means for raising the support to carry an intermediate portion of the piece of mouthpiece material against the cigarette, and means for folding the extending ends of the mouthpiece material about the cigarette, substantially as described.

43. The combination of means for supporting a cigarette, a support having its supporting-face recessed to correspond with the form of one side of the cigarette, means for positioning a piece of mouthpiece material on the support, means for causing a relative movement between the cigarette-supporting means and said support to bring an intermediate portion of the piece of mouthpiece material against the cigarette, and means for folding the extending ends of the piece of mouthpiece material about the cigarette, substantially as described.

44. The combination of means for supporting a cigarette, a support having its supporting-face recessed to correspond with the form of one side of the cigarette, means for positioning a piece of mouthpiece material on the support, means for causing a relative movement between the cigarette-supporting means and said support to bring an intermediate portion of the piece of mouthpiece material against the cigarette, means for folding the extending ends of the piece of mouthpiece material about the cigarette, and suction means connected with perforations in the recessed face of said support whereby the mouthpiece material is drawn into said recess, substantially as described.

45. The combination of means for supporting a cigarette, a support having its supporting-face recessed to correspond with the form of one side of the cigarette, means for positioning a piece of mouthpiece material on the support, means for raising the support to carry an intermediate portion of the piece of mouthpiece material against the cigarette, means for folding the extending ends of the piece of mouthpiece material about the cigarette, and suction means connected with perforations in the recessed face of the support whereby the mouthpiece material is drawn into the recess and held in position on the support during its upward movement, substantially as described.

46. The combination of means for supporting a cigarette, a support, means for positioning a piece of mouthpiece material on the support, means for raising the support to carry an intermediate portion of the piece of mouthpiece material against the cigarette, folders carried by the support for folding the extending ends of the piece of mouthpiece material upward, and means for folding such upturned ends down on the cigarette, substantially as described.

47. The combination of means for supporting a cigarette, a support, means for positioning a piece of mouthpiece material on the support, means for raising the support to carry an intermediate portion of the piece of mouthpiece material against the cigarette, folders carried by the support for folding the extending ends of the piece of mouthpiece material upward, means for operating said folders successively, and means for folding such upturned ends down on the cigarette, substantially as described.

48. The combination of means for supporting a cigarette, a support, means for positioning a piece of mouthpiece material on the support, means for raising the support to carry an intermediate portion of the piece of mouthpiece material against the cigarette, folding-rods mounted to reciprocate through the face of the support, means for operating said rods to fold the extending ends of the piece of mouthpiece material upward successively, and means for folding such upturned ends down on the cigarette, substantially as described.

49. The combination of means for supporting a cigarette, means for applying an intermediate portion of a piece of mouthpiece material to the cigarette while the cigarette is supported by said means, folders for folding the extending ends of the piece of mouthpiece material upward, and other means for folding such upturned ends down on the cigarette, substantially as described.

50. The combination of means for supporting a cigarette, means for applying an intermediate portion of a piece of mouthpiece material to the cigarette while the cigarette is supported by said means, folders for folding the extending ends of the piece of mouthpiece material upward successively, and other means for folding the upturned ends of the piece of mouthpiece material down on the cigarette, substantially as described.

51. The combination of means for supporting a cigarette, means for applying an intermediate portion of a piece of mouthpiece material to the cigarette, folders for folding the extending ends of the piece of mouthpiece material upward successively, and a reciprocating folder for folding the upturned ends of the piece of mouthpiece material down on the cigarette, said folder acting to fold one of such upturned ends down as it moves in one direction and the other as it moves in the other direction, substantially as described.

52. The combination of means for supporting a cigarette, means for applying an intermediate portion of a piece of mouthpiece material to the cigarette, folders for folding the extending ends of the piece of mouthpiece material upward successively, and an oscillating folder for folding the upturned ends of the piece of mouthpiece material down on the cigarette, said folder acting to fold one of such upturned ends down as it moves in one direction and the other as it moves in the other direction, substantially as described.

53. The combination of means for supporting a cigarette, means for applying an intermediate portion of a piece of mouthpiece material to the cigarette, folders for folding the extending ends of the piece of mouthpiece material upward successively, and a reciprocating brush for folding the upturned ends of the piece of mouthpiece material down on the cigarette, said brush acting to fold one of such upturned ends down as it moves in one direction and the other as it moves in the other direction, substantially as described.

54. The combination of means for supporting a cigarette, means for applying an intermediate portion of a piece of mouthpiece material to the cigarette, folders for folding the extending ends of the piece of mouthpiece material upward successively, and an oscillating segmental brush for folding the upturned ends of the piece of mouthpiece material down on the cigarette, said brush acting to fold one of such upturned ends down as it moves in one direction and the other as it moves in the other direction, substantially as described.

55. The combination of means for supporting a cigarette, means for applying an intermediate portion of a piece of mouthpiece material to the cigarette, folders for folding the extending ends of the piece of mouthpiece material upward, a reciprocating folder for folding the upturned ends of the piece of mouthpiece material down on the cigarette, means for actuating said folders for folding the ends of the piece of mouthpiece material upward whereby one of said folders is moved to fold its end of the piece of mouthpiece material upward before the reciprocating folder moves in one direction and is then retracted out of the path of the reciprocating folder and the other of said folders is moved to fold its end of the piece of mouthpiece material upward before the reciprocating folder moves in the other direction and is then retracted out of the path of the reciprocating folder, substantially as described.

56. The combination of means for supporting a cigarette, the support 130, folding-rods 145 and 146 mounted in said support, means for actuating said folding-rods substantially as described, and a reciprocating folder for fold-

ing the upturned ends of the piece of mouthpiece material down on the cigarette, substantially as described.

57. The combination with means for supporting a cigarette, and means for applying mouthpiece material about the end of the cigarette, of means for feeding a strip of mouthpiece material intermittently, a support over which the strip of mouthpiece material is fed, a reciprocating gripper for drawing the end of the strip from the support and into position to be taken by the applying means, severing means beyond the support, and means for raising the support to present the end of the strip in position to be grasped by the gripper, substantially as described.

58. The combination with means for supporting a cigarette, and means for applying mouthpiece material about the end of the cigarette, of means for feeding a strip of mouthpiece material intermittently, a support over which the strip of mouthpiece material is fed, a reciprocating gripper for drawing the end of the strip from the support and into position to be taken by the applying means, severing means beyond the support, and suction means connected with perforations in the face of the support, substantially as described.

59. The combination of means for feeding a strip of material, a support over which the strip of material is fed, a reciprocating gripper for drawing the end of the strip from the support, severing means beyond the support, and means for raising the support to present the end of the strip in position to be grasped by the gripper, substantially as described.

60. The combination of means for feeding a strip of material, a support over which the strip of material is fed, a reciprocating gripper for drawing the end of the strip from the support, severing means beyond the support, and suction means connected with perforations in the face of the support, substantially as described.

61. The combination of means for feeding a strip of material, a support over which the strip of material is fed, a reciprocating gripper for drawing the end of the strip from the support, severing means beyond the support, suction means connected with perforations in the face of the support, and means for raising the support to present the end of the strip in position to be grasped by the gripper, substantially as described.

62. The combination of a support for the end of a strip of material, a reciprocating gripper for drawing the end of the strip from the support, a lower stationary cutting-blade beyond the end of the support, an upper coacting reciprocating cutting-blade, and means for raising the support to present the end of the strip in position to be grasped by the gripper, substantially as described.

63. The combination of a support for the end of a strip of material, a gripper for drawing the end of the strip from the support, suction means connected with perforations in the face of the support, means for applying adhesive to the strip as it is advanced to the support, and a severing device beyond the support, substantially as described.

64. The combination of the pivoted support 130 having its supporting-face provided with suction-perforations, a suction-chamber, movable severing-blade 93, coacting severing member, reciprocating gripper 100, and means for raising the support 120 as the gripper moves into position to grasp the end of a strip of material extending from the support, substantially as described.

65. The combination of an endless carrier adapted to support a plurality of cigarettes arranged transversely of the carrier, means for folding a strip of mouthpiece material about cigarettes supported by the carrier, means for holding the cigarettes on the carrier after being carried beyond the folding means, and means for receiving the cigarettes from the carrier, substantially as described.

66. The combination of means for feeding cigarettes successively into position to have mouthpiece material applied about the ends thereof, means for folding a strip of mouthpiece material about the ends of the cigarettes, an endless carrier adapted to support a plurality of cigarettes arranged transversely of the carrier and by which the cigarettes are delivered from the folding means, means for holding the cigarettes on the carrier, and means for receiving the cigarettes from the carrier, substantially as described.

67. The combination of a rotary carrier having a plurality of peripheral pockets arranged transversely to the direction in which they are moved by the rotation of the carrier, means for applying mouthpiece material about the ends of cigarettes supported in said pockets, a guard extending about the carrier beyond the applying means in the direction of the movement of the carrier for holding the cigarettes in the pockets, and means for receiving the cigarettes from the carrier when they have been carried beyond the said guard, substantially as described.

68. The combination of a rotary carrier having a plurality of peripheral pockets arranged transversely to the direction in which they are moved by the rotation of the carrier, means for applying mouthpiece material about the ends of cigarettes supported in said pockets, and a pressing device extending about the carrier beyond the applying means to bear against the mouthpieces as the cigarettes are advanced by the carrier from the applying means, substantially as described.

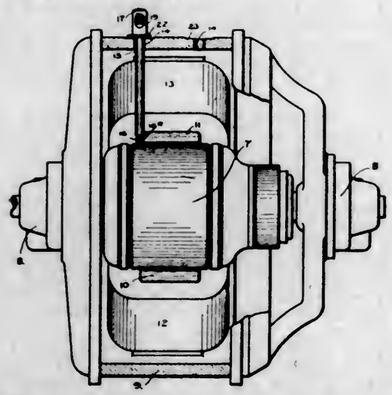
69. The combination of a rotary carrier having a plurality of peripheral pockets arranged transversely to the direction in which they are moved by the rotation of the carrier, means for folding a strip of mouthpiece material about the ends of cigarettes supported in said pockets, means for holding the cigarettes in the pockets of the carrier after they have been carried beyond the folding means, and a delivery-belt 190 onto which the cigarettes drop from the carrier, substantially as described.

70. The combination of the rotary carrier 20 having peripheral recesses 45 forming pockets for holding cigarettes, means for applying mouthpiece material about the ends of cigarettes in said pockets, and a guard 185 and pressing-belt 180 extending about the carrier beyond the applying means, substantially as described.

71. The combination of the carrier 20 having peripheral recesses 45 forming pockets for holding cigarettes, means for applying mouthpiece material about the ends of cigarettes in said pockets, a guard 185 and pressing-belt 180 extending about the carrier beyond the applying means, and a delivery-belt 190, substantially as described.

72. The combination of the carrier 20 having peripheral recesses 45 forming pockets for holding cigarettes, means for applying mouthpiece material about the ends of cigarettes in said pockets, and a pressing-belt 180 and guard 185 extending about the carrier beyond the applying means, the walls of the recesses 45 being extended radially of the carrier between the pressing-belt and the guard, substantially as described.

840,005. TESTING DEVICE. ASA M. MATTICE, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed Jan. 11, 1906. Serial No. 295,541.



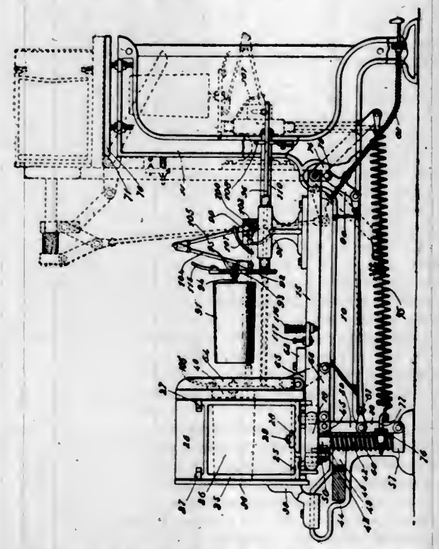
Claim.—1. As a means for testing the relative position of motor-armature and the pole-faces below same, a portable contact device adapted to engage the armature when the latter is in its proper position, in combination with a source of current-supply, and a signal device in circuit with said contact device and said source of supply, and means for preventing said contact device from engaging the armature when the latter has moved into dangerous proximity to the lower poles of the motor.

2. As a means for testing the extent of wear of the journals of a motor by inserting an indicating device through an opening in the motor-casing, a tube provided with electrical contacts at one end, a signal device at the other end, a source of current-supply within the tube, and a collar for limiting the movement of the tube through the opening in the motor-casing.

3. As a means for determining the position of a motor-armature relative to its pole-faces by inserting an indicating device through an opening in the motor-casing, a pair of contacts, portable means upon which said contacts are mounted adapted to pass through the opening in the motor-casing, a source of current-supply connected to said contacts, and a signaling device connected in circuit with said contacts and said source of current-supply.

4. In combination, a motor having an opening in the upper part of its casing, and means for indicating the position of the rotatable member relative to the poles of said motor, comprising a portable contact device adapted to engage the rotatable member when the latter is in its proper position, a source of current-supply and an indicating device in circuit with said contact device, and means for preventing said contact device from engaging the rotatable member when the latter is not in its proper position or when the journals have worn beyond a predetermined amount.

840,006. MACHINE FOR MAKING CONCRETE BUILDING-BLOCKS. JOHN MILLER, ARTHUR M. HAIGHT, and WALTER T. SMITH, Jackson, Mich., assignors, by mesne assignments, to Perry B. Miles, Jackson, Mich. Filed Sept. 11, 1905. Serial No. 277,943.



Claim.—1. In a block-molding machine, a mold-block including a removable pallet forming one of the side walls of the mold during the molding operation, means for moving the mold bodily to turn the pallet to a horizontal position, and mold-opening means placed under stress during movement of the mold from molding to discharging position and arranged to automatically open the mold at the completion of the movement toward discharging position.

2. In a machine of the class described, the combination with a mold-box having movable end members, of means for turning the mold bodily to a discharging position, and means placed under stress during the movement to discharging position for automatically opening said end members.

3. In a machine of the class described, a mold-box, having a perforated side wall, said mold-box being movable between a molding position and a point of discharge, and a movable core insertible in horizontal direction into the box while the latter is in horizontal position; and removable in a vertical direction from the box while the latter is in discharging position.

4. In a machine for forming hollow blocks of plastic material, a mold-box, a core member for forming a horizontal passage in the block, and means for turning the block until the core assumes a vertical position prior to its removal from said block.

5. In a machine for forming hollow blocks from plastic material, a mold-box, a core for forming a horizontal air-chamber in the block, a pallet forming one of the side walls of the mold-box during a molding operation, and means for turning the mold-box and block until the pallet assumes a horizontal position with the block resting thereon and the core assumes a vertical position prior to its removal from the block.

6. In a block-forming machine, a mold including a removable pallet arranged to form one of the side walls of the mold during the molding operation, means for holding the pallet in mold-box-forming position, a support onto which the pallet is delivered, means for turning the mold-box until the pallet assumes a horizontal position resting on said support, and means for releasing the pallet-holding means.

7. In a block-forming machine, a mold-box including a pallet arranged to form one of the side walls of the box during the molding operation, means for holding the pallet in mold-box-forming position, the mold-box being movable with the molded block until the pallet assumes a position at an angle to the molding position, a support for receiving the pallet, and means for moving the pallet-holding means to release position.

8. In a block-forming machine, a mold-box including a removable pallet forming one of the side walls of the box during the molding operation, means for holding the pallet in mold-box-forming position, a rigid back plate, a bottom plate, and movable end plates, said mold-box being bodily movable with the block until the pallet assumes an approximately horizontal position with the block resting thereon, a support for receiving the pallet, and means for releasing the pallet and moving the end plates to permit the return of the mold-box to initial position in advance of the removal of the pallet and block from the support.

9. In a block-forming machine, a mold-box including a removable pallet arranged to form one of the side walls of the box during the molding operation, means for holding the pallet in mold-box-forming position, said mold-box being bodily movable with the finished block until the pallet assumes a horizontal position, a support for receiving the pallet, and means for opening the mold-box to permit the return of the same to molding position in advance of the removal of the pallet from the support.

10. In a block-forming machine, a mold-box including a movable pallet forming one of the side walls of the box during a molding operation, means for holding the pallet in mold-box-forming position, a pallet-support, over which the mold-box is swung bodily during the block-discharging movement, and mechanism for swinging the pallet-holding means downward to free the pallet and permit the return of the box to molding position.

11. In a block-molding machine, a pivoted carrying-frame, a slotted plate forming part of said frame, a bottom plate adjustably secured to said slotted plate, a pair of brackets adjustably secured to the slotted plate, frames pivoted on said brackets, detachable end plates carried by the frame, a pallet constituting one of the side walls of the mold, means pivoted to the frame for holding the pallet in mold-box-forming position, a rigid back plate, a stem carried by the slotted plate, a slidable block on said stem, and means connecting said slidable block to the pal-

let-holding means, and to the end-plate-supporting frames, movement of the block on the stem serving to open and close the mold.

12. In apparatus of the class described, a movable frame, a slotted plate forming parts of said frame, a bottom plate having projecting lugs, detachable brackets secured to the slotted plate and having recessed lugs for the reception of the lug of the bottom plate, a pair of brackets secured to the ends of the slotted plate, end plates pivoted on said brackets, a side plate, a stem carried by the slotted plate, a block slidably mounted on the stem, and means for connecting said sliding block to the end plates and the side member.

13. In apparatus of the class described, a movable frame, a mold supported thereby and including a plurality of movable members, an operating-block common to all of said members, and a fixed stop with which said block engages as the box is moved to molding position to thereby move the members of the box to closed position.

14. In a block-forming machine, a movable frame, a mold-box carried thereby and including a plurality of movable members, a stem carried by said frame, a movable block on said stem, means for connecting said block to the movable members of the box, a fixed block or pallet on the stem, toggle-links connecting the fixed and movable blocks, and means for breaking the toggle to open the mold-box.

15. In mechanism of the class described, a movable frame, a mold-box carried thereby and including a plurality of movable members, a stem carried by the frame, a movable block, and a fixed block carried by the stem, links forming connections between the movable block and the movable members of the box, toggle-links connecting the fixed ends of the blocks, means for breaking the toggle to move said members to open position, and a fixed stop with which the movable block engages to force the members of the blocks to closed position.

16. In mechanism of the class described, a pivotally-mounted frame, a mold-box supported thereby and including a plurality of movable sections, a stem carried by the frame, fixed and movable blocks mounted upon the stem, means for connecting the movable block to the movable sections of the mold-box, a spring surrounding the stem and tending to move the sections of the box to molding position, toggle-links connecting the fixed and movable blocks, a rod connected to said links, a lever pivoted to the frame and connected to the rod, and means for operating said lever and breaking the toggle-joint to force the movable members to open position.

17. In a block-forming machine, a pivoted frame, a mold-box carried thereby and including a removable pallet-board forming one of the side walls of the box when the latter is in molding position, said pallet-board having a core-receiving opening, a core supported by the frame and movable through said opening into the box, means for moving the frame until the pallet-board has assumed a substantially horizontal position, and the core a substantially vertical position, and means for removing the core from the mold-box.

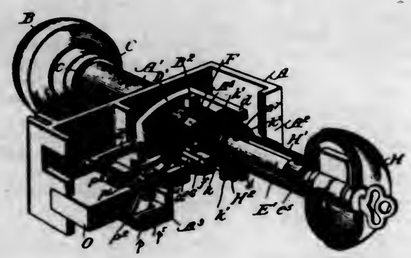
18. In a machine of the class described, a mold-box, a vertically-movable core, a spring tending to withdraw the same from the box, toggle-levers supporting the core in molding position, and means for breaking the toggle-joint to permit the spring to withdraw the core.

19. In a block-forming machine, the combination with a pivotally-mounted frame, of a mold-box supported thereby, a movable core, a core-carrying plate to which said core is adjustably secured, a pair of guide-bars connected to the plate, brackets supporting said guide-bars, a toggle-lever for holding the core in molding position, and means for automatically breaking the toggle and withdrawing the core.

20. The combination with a mold-box, of a core, a core-carrier, a pair of guide-rods connected to the core-carrier, a toggle-lever supporting the core-carrier, means for breaking the toggle, and a dash-pot for retarding movement of the core.

21. The combination with a pivoted frame, of a mold-box supported thereby, a movable core, a core-carrier, a toggle for the support of the core-carrier, a cam-arm projecting from the toggle, and a stationary stud disposed in the path of movement of the arm and serving to break the toggle.

840,007. COMBINED LOCK AND LATCH. LEVIN H. MULLIKIN, Trappe, Md. Filed Oct. 12, 1906. Serial No. 338,574.



Claim.—1. A lock comprising, a frame or case, a latch mounted therein, independent knob-actuated mechanisms for retracting the latch, a locking device independent of said knob-actuated mechanisms for locking the outside-knob shank, means for actuating said locking device from the inside-knob shank, a key-actuated mechanism in the outside-knob shank, and an independent latch-retracting device actuated by the key mechanism.

2. A lock comprising, a frame, a latch and its independent knob-actuated retracting devices, a locking device to lock only the outside-knob mechanism, a rotary cam for actuating the said locking device, a rod or spindle extending from the inside-knob shank to said cam, means at the said inside-knob shank for turning the said rod or spindle, whereby the latch may be retracted at all times by turning the inside knob.

3. A lock comprising, a frame, a latch mounted therein, independent knob-actuated retracting devices for the latch, a locking device to lock only the outside-knob mechanism, a rotary cam for actuating the locking device, a rod or spindle extending from the inside-knob shank to said cam, means at the inside-knob shank for turning the spindle, an independent latch-retracting device, and a key-actuated mechanism therefor in the outer-knob shank.

4. The combination with a latch and its knob-actuated retracting devices, of a locking device for the outside knob, a rod or spindle extending from the inside-knob shank and provided at its inner end with means to actuate said locking device, and a ring concentric with the inside-knob spindle and connected to said rod to rotate it and actuate the locking device for said outside knob.

5. A lock comprising, a frame, a latch mounted therein, inner and outer knobs having shanks provided at their inner ends with independent fixed roll-backs or rockers to actuate the latch, a locking device within the case to lock the outside-knob shank against rotation, an actuating means for the locking device at the inside-knob shank, a key-actuated rod or spindle in the outer-knob shank and an independent roll-back at the inner end of the key-actuated rod or spindle to retract the latch when the outer-knob shank is locked.

6. A lock, comprising a frame or casing having tubular extensions, tubular knob-spindles therein and having independent roll-backs or rockers at their inner ends, a latch actuated by said roll-backs or rockers, a key-actuated spindle or rod in the outer-knob shank, an independent third roll-back at the inner end of said spindle or rod, and engaging the latch to retract it, a rod or spindle turning in the inner-knob shank, a ring turning on the inner frame extension and operatively connected to said rod or spindle to turn it, a cam on the inner end of said last-named rod or spindle, a pivoted locking-lever engaged at one end by said cam and at its opposite end adapted to engage the inner end of the outer-knob shank.

7. The combination with a latch and its knob-actuated retracting devices, of a locking-lever for the outside-knob shank, a rod extending from the inside-knob shank and provided at its inner end with a flange having a cam-slot receiving one end of said locking-lever, an actuating-ring concentric with the inside-knob shank for rotating said rod, and a key-actuated means in the outside knob having a roll-back at its inner end, for retracting the latch independently of its knob-actuated devices.

8. The combination with a frame having a tubular extension provided at its outer end with a transverse curved or cam-shaped slot, a latch, an inside knob having a tubular shank turning in said extension and provided with a transverse slot, a longitudinally-slotted sleeve within the said shank, a spring-pressed plunger in the sleeve having a pin extending out through all three slots, a ring turning on the extension and having a transverse groove engaging the outer end of the pin, an outer-knob mechanism having means for retracting the latch, a locking device for the outer-knob shank, a rod mounted in said sleeve and having a pin entering said slot therein, and operative connections between the inner end of the rod and the said locking device for the outer-knob shank.

9. The combination with a casing having a tubular extension provided with a transverse curved or cam-shaped slot having an outward extension at one end, a latch, an inside knob having a tubular shank turning in said extension and provided with a transverse slot, a spring-pressed sliding and turning plunger having a pin extending through said slots and insertible and removable through said outward extension of the curved or cam-shaped slot, a ring turning on the said tubular extension and having a recess engaging said pin, an outside-knob mechanism for actuating the latch, means for locking the same, and operative connections between said locking means and the said ring-rotated plunger.

10. The combination with a latch and its inner and outer operating knob mechanisms, of a locking means independent of the knob mechanisms for the outside knob, an operating mechanism therefor at the inside knob, a key-actuated roll-back independent of the knob mechanisms for retracting the latch when the outside knob is locked, a bolt having an operating button or finger-piece at the inner side of the base, a key-actuated mechanism in the outside knob operatively connected with the bolt to project and retract it and also connected to said key-actuated roll-back.

11. The combination with the latch and its operating knob mechanisms, of a locking mechanism for the outside-knob shank, an actuating device therefor at the inner side of the lock, a key-actuated mechanism in the outside-knob shank including a rotary rod, a roll-back having an arm engaging the latch and connected to said rod for operation thereby, a collar having a lost-motion operating-hub also engaged by said rod, a bolt provided with means for actuating it from the inner side of the lock and also having an operative connection with said collar, whereby it may be operated by said key-actuated rod from the outside.

12. A combined lock and latch comprising a casing having tubular extensions at its opposite sides, tubular knob-shanks mounted therein and provided at their inner ends with latch-engaging roll-backs, a longitudinally-slotted sleeve in the inside-knob shank; said inside-knob shank and the tubular extension having registering slots, a spring-pressed plunger in said sleeve provided with a pin projecting out through said three slots, a ring on the said extension engaging the pin to rotate the plunger and sleeve together, a central bracket in the case, two collars mounted in said bracket, a rod having a pin engaging said slot in the sleeve and at its inner end engaging the inner one of said collars, a locking device for the outside-knob shank actuated from said inside collar, a bolt actuated from the outside collar, a lost-motion actuating-hub in the outside collar, a key-actuated rod in the outside-knob shank and engaging at its inner end said lost-motion hub to operate the bolt, a latch-operating rocker having a cut-away hub, a pin on the said key-actuated rod engaging said hub to actuate the key-actuated roll-back.

13. A combined lock and latch comprising a frame or case, outer and inner knob shanks or spindles, a latch, a bolt, said latch being operated independently of the bolt, a means for locking the outer-knob shank from the inner side of the frame or casing, a key mechanism having lost-motion actuating connections with the said bolt and with the said latch to permit successive actuations thereof by a partial rotation of the key.

14. A combined lock and latch comprising a frame or case, a bolt, an inside finger-piece therefor, outer and inner knob shanks or spindles, a latch actuated independently therefrom, a locking device for the outside-knob shank, actuating means therefor at the inner knob; a collar operatively connected to the bolt, a lost-motion actuating device for the collar, a latch-actuating key-operated spindle or rod in the outer-knob shank engaging at its inner end said lost-motion actuating device, and having a pin near its inner end and a roll-back engaging the latch and having a shoulder or projection in the path of said pin.

15. A combined lock and latch comprising, a frame or case, a bolt, an inside finger-piece therefor, outer and inner knob shanks or spindles, a latch actuated independently therefrom, a locking device for the outside-knob shank, actuating means therefor at the inner knob, a slotted collar journaled in the frame and operatively connected to the bolt, a hub in the collar and having a pin projecting into the slot to engage its end walls and turn the collar, a third roll-back engaging the latch and having a hub turning in the inner end of the outer-knob shank and provided with a shoulder, and a key-actuated rod in said outer-knob shank engaging with its inner end the collar-actuating hub and having a pin to engage the shoulder on the roll-back hub.

16. A combined lock and latch comprising a frame, or case, a bolt, an inside finger-piece therefor, outer and inner knob shanks or spindles, a latch actuated independently therefrom, a locking device for the outside-knob shank, actuating means therefor at the inner knob, a collar operatively connected to the bolt, a lost-motion actuating device for said collar, a third roll-back for the latch, a rod or spindle in the outside-knob shank connected at its inner end to the said lost-motion device and having a pin to engage said third roll-back, a key-actuated barrel in the outer knob and lugs or projections on the adjacent ends of said key-actuated barrel and rod.

17. The combination with the locking-bolt and its actuating mechanism including a connecting-rod, of a detent to engage the bolt when thrown and overlying a portion of said connecting-rod to be moved thereby out of engagement with the bolt.

18. The combination with the locking-bolt, a rock-shaft, a finger-piece at one side connected to said rock-shaft, an outside key-actuated mechanism having a rod pivotally connected to said rock-shaft, a detent to engage the bolt when thrown and overlying a portion of said connecting-rod to be moved thereby out of engagement with the bolt.

19. The combination, in a lock of the character described, with the locking-bolt and a finger-piece for operating it from the inside, of a key-actuated rod or spindle in the outer knob, means for operating the bolt from said rod or spindle including a connecting-rod, a detent for locking the bolt in its projected position and engaged by the said connecting-rod for retraction thereby.

20. The combination with the locking-bolt having a finger-piece for actuating it from the inside, a key-actuated mechanism for actuating it from the outside and including a connecting-rod, and a vertically-swinging detent to hold the bolt projected and overlying a portion of the connecting-rod to be lifted thereby from the bolt.

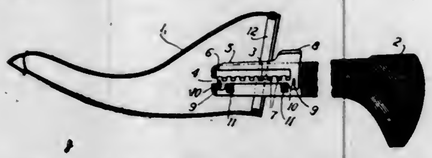
21. The combination with the locking-bolt and a rock-shaft having two arms one of which is operatively connected to the bolt, a finger-piece for operating the rock-shaft from the inside, of a key-operated rod extending inwardly from the outside-knob shank, means including a connecting-rod connecting the inner end of the key-operated rod with the other of said rock-shaft arms, and provided with an offset, a detent for locking the bolt when projected and overlying said offset to be lifted thereby away from the bolt.

22. In a lock, a frame, an outer and an inner knob shank or spindle, a bolt, a finger-piece independent of the

knob mechanisms for operating the bolt from the inside, said latch being operated independently of said locking-bolt, a detent to lock the bolt projected, and key mechanism having a connection through said outer spindle with operating means including a connecting-rod connected to the bolt and its detent to release the detent at the first movement of the said operating means.

23. The combination in a lock of the character described, of the bolt having a forked shank, a rock-shaft having an inside finger-piece, and provided with two arms one of which extends up into the fork of the shank, a link pivoted at its rear end in the said fork and at its front end pivoted to the upper end of the rock-shaft arm therein, a key mechanism in the outside-knob shank, a collar at the inner end thereof, a rod connecting said collar with the other one of said rock-shaft arms, and a detent to lock the bolt and in turn engaged by said connecting-rod at the beginning of its rearward movement to move it away from the bolt.

840,008. SHOE-TREE. WALTER L. C. NILES, Lynn, Mass. Filed Jan. 5, 1906. Serial No. 294,690.



Claim.—1. A shoe-tree, having, in combination, a fore part, a heel part, and means for adjustably connecting said parts, comprising a transverse pin fixed to one part and a manually-movable locking-plate connected with the other part and provided with a plurality of recesses for engaging said pin, substantially as described.

2. A shoe-tree, having, in combination, a fore part and a heel part, one of said members being provided with a transverse pin and the other with a horizontal slot engaging said pin, and a manually-movable locking-plate provided with a plurality of recesses for engaging and retaining the pin, substantially as described.

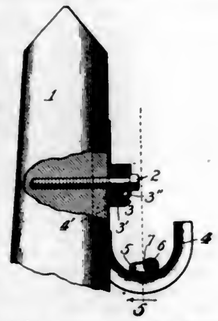
3. A shoe-tree, having, in combination, a fore part provided with a transverse pivot-pin, a heel part having a horizontal slot engaging the pivot-pin, a serrated locking-plate movably mounted in a vertical slot in the heel part, pins engaging vertical slots in the ends of the locking-plate to limit its movements, and a spring acting normally to press the locking-plate into engagement with the pivot-pin, the locking-plate being manually movable to release the pin, substantially as described.

4. A shoe-tree, having, in combination, a hollow fore part of sheet material open at the rear, a frame comprising two parallel vertical bars fixed at top and bottom in the open rear end of the fore part, a horizontal pivot-pin fixed to and between the vetrical bars, and a heel part pivoted on the pivot-pin, substantially as described.

840,009. APPARATUS FOR ERECTING AERIAL CABLES. RALPH S. PEIRCE, Chicago, Ill. Filed Feb. 27, 1905. Serial No. 247,491.

Claim.—1. In a device for supporting aerial cables during the process of erection, a plate having a curved surface for engaging the supporting-pole, said plate having an opening by which it may be placed upon the pole over and surrounding a messenger-wire support and having a recess in the upper edge of said opening of such dimension as to receive the shank of the lag-screw sustaining the messenger-wire support and adapted to be retained upon the lag-screw by engagement with its sustained messenger-wire support, a hook portion integral with said plate upon which the cable may rest, and friction-reducing means associated with said hook portion of said plate over which the cable may be drawn without abrasion, substantially as described.

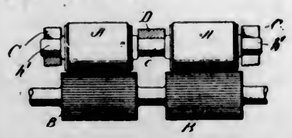
2. In a device for supporting aerial cables during the process of erection, a plate having a member curved to embrace the supporting-pole, a hole in said member for passing over a messenger-wire clamp supported on said pole, a slot extending from said hole for embracing a bolt, securing said messenger-wire clamp to said pole, and a curved hook member having a smooth surface through which said cable may be drawn without abrasion, substantially as described.



3. In combination with a pole for supporting electrical wires, a messenger-clamp, a bolt for securing said clamp to said pole, a cable-runway for temporarily supporting a cable, a perforated shank for said runway, curved to conform to the surface of said pole, and adapted to be held in place by said messenger-wire clamp, and a curved hook member for said runway having a smooth surface through which said cable may be drawn without abrasion, substantially as described.

4. In a device for supporting aerial cables during the process of erection, a plate having a curved portion for engaging directly the supporting-pole, a hole in said curved portion for passing over the shank of a bolt projecting from said pole, and a curved hook member having a smooth surface through which said cable may be drawn without abrasion, substantially as described.

840,010. TOP ROLL FOR SPINNING-MACHINES. WILLIAM G. RAGSDALE, Jamestown, N. C. Filed May 2, 1906. Serial No. 314,822.



Claim.—1. A top roll, comprising an arbor having a threaded spindle at one end and formed with a tapered shoulder at the inner end of the spindle, a nut screwing onto the spindle and having a tapered inner end, a shell formed with an annular groove on its inner side intermediate its ends and balls interposed directly between the shoulder and the tapered end of the nut and entering the groove of the shell.

2. A top roll, comprising an arbor having a spindle of reduced diameter on one end, a tapered shoulder between the spindle and the central portion of the arbor, a nut having a tapered inner end arranged on the spindle, balls interposed directly between the end of the nut and the shoulder of the arbor, and a roller-shell having an annular groove arranged midway between its ends and receiving the balls and which fits the arbor and nut loosely so as to provide a slight rocking movement on the balls.

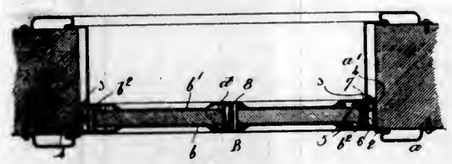
3. A top roll, comprising an arbor having a threaded spindle at one end, and formed with a tapered shoulder at the inner end of the spindle, a nut screwing onto the spindle and having a tapered inner end, a locking-screw entering the nut and engaging the outer end of the spindle, a shell formed with an annular groove intermediate its ends and balls in the groove interposed directly between the shoulder and the tapered end of the nut.

4. A top roll, comprising an arbor having a central portion formed to receive a saddle and having threaded spindles at opposite ends, a tapered shoulder at the inner end of each spindle, a nut screwing onto each spindle and having a tapered inner end, a screw locking each spindle to its nut, and a shell at each end of the arbor formed with an annular groove intermediate its ends and balls in the groove interposed directly between the shoulders and the tapered ends of the nuts.

5. A top roll comprising a shell having an annular groove midway between its ends on the inside, an arbor or support for the shell having a groove coinciding with the groove in the shell and balls arranged in the groove of the arbor and the shell for preventing endwise movement of the shell and allowing a slight rocking movement thereof while permitting the shell to revolve about the arbor with a minimum amount of friction.

6. A top roll, comprising an arbor formed with threaded spindles at opposite ends, and with shoulders at the inner ends of the spindles, nuts screwing onto the spindles and having tapered inner ends and outer ends formed to provide journals for the roll, roller-shells formed with ball-receiving grooves intermediate their ends, and balls in the grooves interposed directly between the inner ends of the nuts and the tapered shoulders.

840,011. FIREPROOF STRUCTURE. JOHN D. RIPSON, Pepperell, Mass. Filed Sept. 30, 1904. Serial No. 226,609.



Claim.—1. A door comprising metallic faces, metallic edging-pieces of substantially U shape in cross-section inserted between said faces at the edges of the door, tubular distance-pieces between the sides of the U-shaped edging-pieces, rivets extending through the faces, sides of the edging-pieces and tubular distance-pieces, a brace or distance-piece extending from the top to the bottom of the door along its median line between the faces, another brace or distance-piece extending from one side edge to the other side edge of the door, and rivets adjacent said braces connecting the faces.

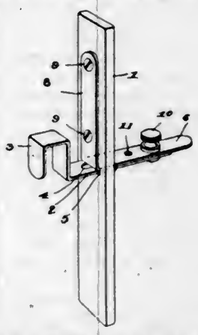
2. A door-casing composed of two metallic pieces to overlie the sides of the wall of the building, each piece having a groove or pocket, and a third metallic piece provided with a jamb and having its edges received within said pockets.

840,012. THILL OR TONGUE SUPPORT. LAFAYETTE L. ROARK, Denton, Tex. Filed May 26, 1906. Serial No. 318,958.

Claim.—1. In a device of the class described, the combination of a supporting member provided with a central transverse slot, a guide-arm arranged adjacent to said slot and extending at right angles to the member and from one side thereof, and an adjustable hook disposed on the side of the member opposite from the arm and having its shank guided through the slot and bearing on and secured to the said arm.

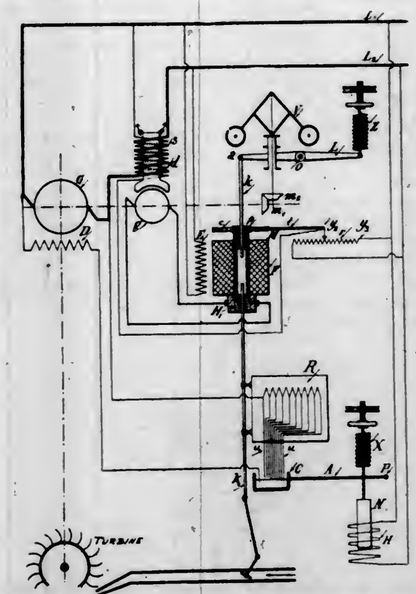
2. In a device of the class described, the combination of a supporting-bar having a transverse slot, a hook provided with a shank portion extending through said slot, an arm extending rearwardly from the side of the bar opposite from the hook, and means between the arm and shank for adjustably securing the hook on the bar.

3. In a device of the class described, the combination of a supporting-bar having a transverse slot, a hook provided with a slotted shank that extends through the slot, a member having a portion extending along the bar at one side of the latter and a portion extending through the slot and



at right angles to the bar to form a supporting-arm for the hook, and a clamping device carried by the arm that engages the slot of the shank for permitting the hook to be adjusted on the support.

840,013. CONTROLLING ELECTRIC-POWER-DISTRIBUTING SYSTEMS. JOSEPH L. ROUTIN, Lyon, France. Filed Sept. 2, 1904. Serial No. 223,159.



Claim.—1. In means for regulating the speed and tension of an electric generating system, the combination with the main generator speed-governor and tension-regulator, of an auxiliary generator comprising an inductor carrying two oppositely-active windings, one of which is in series with the principal current, a tension-regulator for the other winding and a motor connected to be operated by the auxiliary generator and to operate the speed-governor and the two said tension-regulators.

2. In means for regulating the speed and tension in an electric generating system, the combination with a main generator, a rheostat in circuit with the field-coil thereof, an auxiliary generator having two mutually counteractive field-coils, one in circuit with the mains, the other in parallel therewith, a rheostat in said parallel circuit, and a

motor electrically connected with said auxiliary generator and adapted to operate the two rheostats.

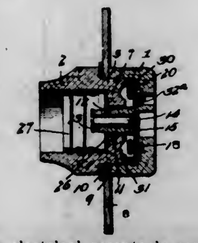
3. In means for regulating the speed and tension in an electric generating system, the combination with a main generator, a rheostat in circuit with the field-coil thereof, an auxiliary generator having two mutually counteractive field-coils, one in circuit with the mains, the other in parallel therewith, a rheostat in said parallel circuit, a motor electrically connected with said auxiliary generator and adapted to operate the two rheostats and means connecting the regulator of the prime mover to the motor.

4. In means for regulating the speed and tension in an electric generating system, the combination with a main generator, a rheostat in circuit with the field-coil thereof, an auxiliary generator having two mutually counteractive field-coils, one in circuit with the mains, the other in parallel therewith, a rheostat in said parallel circuit, a motor electrically connected with said auxiliary generator and adapted to operate the two rheostats, and a solenoid having its coil in parallel with the mains adapted to coöperate in the regulation of the main generator-rheostat.

5. In means for regulating the speed and tension in an electric generating system, the combination with a main generator, a rheostat in circuit with the field-coil thereof, an auxiliary generator having two mutually counteractive field-coils, one in circuit with the mains, the other in parallel therewith, a rheostat in said parallel circuit, a motor electrically connected with said auxiliary generator and adapted to operate the two rheostats, a solenoid having its coil in parallel with the mains adapted to coöperate in the regulation of the main generator-rheostat and a tachometrical governor connected to be regulated by said motor.

6. In means for regulating the speed and tension in an electric generating system, the combination with a main generator, a rheostat in circuit with the field-coil thereof, an auxiliary generator having two mutually counteractive field-coils, one in circuit with the mains, the other in parallel therewith, a rheostat in said parallel circuit, a motor electrically connected with said auxiliary generator and adapted to operate the two rheostats, a solenoid having its coil in parallel with the mains adapted to coöperate in the regulation of the main generator-rheostat, a tachometrical governor connected to be regulated by said motor and means connecting the regulator of the prime mover to the motor.

840,014. ELECTRICAL PLUG-RECEPTACLE. FRANK J. RUSSELL, New York, N. Y. Filed Feb. 13, 1906. Serial No. 300,923.



Claim.—1. An electrical receptacle comprising separate base and cap sections one of which is provided with the plug-receiving opening, each of said sections carrying a single plug-contact element exposed within the plug-receiving opening, and one of said sections also carrying the wire terminals.

2. An electrical receptacle comprising a base-section, a cap-section having an insulating bottom portion arranged to form a housing for the base-section, said base and cap sections respectively carrying only one of the plug-contact elements exposed within the cap, and the base-section also carrying both wire terminals.

3. An electrical receptacle comprising separate base and cap sections, the cap-section having a bottom portion covering the base, and the latter having a contact-supporting member projecting through said bottom portion and into the cap-section, a plug-contact arranged on said supporting member within the cap-section, a plug-contact arranged in and fitted to the cap-section, and wire-terminal connections fitted to the base-section, and each having a connection with one of the plug-contacts.

4. An electrical receptacle comprising separate base and cap sections, the latter having an insulating bottom portion acting as a cover for the base-section, and the latter having a central insulating supporting-post projecting through said bottom portion into the cap-section, a central plug-contact arranged on said post, a single contact element fitted within the cap-section on the bottom thereof, wire-terminal fittings carried by the base-section and each having a metallic connection with one of the plug-contacts, and common means for connecting the base and cap sections and for holding in place the plug-contact carried by said cap-section.

5. An electrical receptacle comprising a base-section having a central offstanding supporting-post, a cap-section having a bottom portion covering the base-section and provided with a clearance-opening through which said post projects, a central plug-contact arranged on said post, a side plug-contact fitted in the cap-section on the bottom portion thereof, two wire-terminal connections for the separate contacts carried by said base-section, and adjustable connecting means for the base and cap sections.

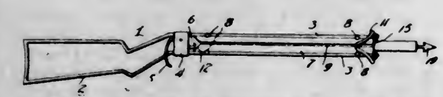
6. An electrical receptacle comprising a base-section and a cap-section separably connected, a single plug-contact carried by the base-section and located within the cap-section, a single plug-contact carried by the cap-section, a terminal plate fitted to the base-section and having a screw connection with the contact carried thereby, a forked terminal plate also carried by the base-section, and assembling-screws engaging the contact of the cap-section and the separate members of the forked terminal plate.

7. An electrical receptacle comprising a hollow base-section having a transverse insulating-bridge and a central supporting-post, a cap-section fitting said base and having a bottom portion through which said post projects, a plug-contact arranged on said post within the cap-section, a plug-contact shell fitted within the cap-section on the bottom portion thereof, a single terminal plate seated in the bottom section beneath the bridge and having a screw connection with the contact on the supporting-post, a forked terminal plate also seated on the base-section and having its separate parts arranged beneath said bridge, and assembling-screws passed through the contact-shell, the bottom portion of the cap-section, and adjustably engaging the separate arms of said forked plate.

8. An electrical receptacle comprising a base-section and a cap-section having a telescopic non-rotative engagement, the cap-section also having an insulating bottom portion covering the base-section, and assembling connections for said sections.

9. In combination with a supporting member, an electrical receptacle comprising separate adjustably-connected and telescoping base and cap sections, one of which extends through an opening in said supporting member, said base and cap sections respectively carrying separate contact elements.

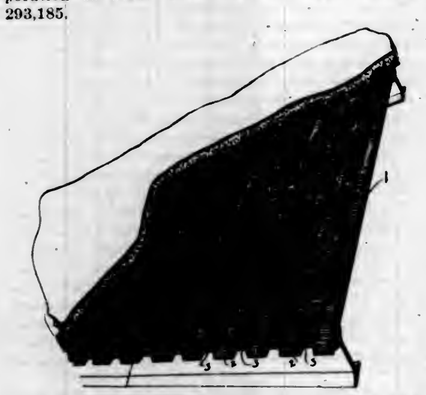
840,015. TOY CROSSBOW. ORVILL H. SAWDY, Iola, Kans. Filed July 2, 1906. Serial No. 324,422.



Claim.—1. A crossbow comprising a frame having a pair of forwardly-extending arms, a bow having a plate secured to the front ends of said arms and provided with an opening, and a pair of barrel members secured to the inner sides of the said arms and forming bow-string slots between the inner edges, the outer end of the barrel formed by said members being coincident with the opening in the bow-plate, substantially as described.

2. A crossbow comprising a stock-frame made from a wire bent to form the stock portion and a pair of outwardly-extending, parallel arms, a bow having a plate secured to the outer ends of said arms, a pair of barrel members secured to the inner sides of said arms and forming bow-string slots between their oppositely-disposed edges, a band connecting the said arms at the point where they are united to the stock portion, and a trigger pivotally mounted in said band and having a hook to catch and release the bow-string, substantially as described.

840,016. BINDING-SHEET FOR CONCRETE-WORK. JULIUS H. SCHLAFLY, Canton, Ohio, assignor to The Berger Manufacturing Company, Canton, Ohio, a Corporation of Ohio. Filed Dec. 26, 1905. Serial No. 293,185.

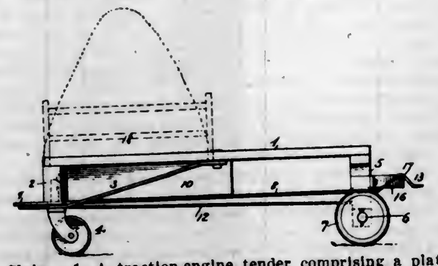


Claim.—1. A binding-sheet for concrete-work provided with alternating dovetailed grooves and ridges and corrugations located transverse to the alternating grooves and ridges, substantially as and for the purpose specified.

2. A binding-sheet for concrete-work, provided with alternating ridges and grooves, the tops, bottoms, and side wall-faces of said alternating ridges and grooves provided with roughened surfaces, and the sheet provided with roughened surfaces, intermediate the ridges and grooves, said ridges and grooves located transverse to the roughened intermediate surfaces, substantially as and for the purpose specified.

3. As an improved article of manufacture, a binding-sheet provided with dovetailed grooves and ridges and the sheet corrugated transverse to the dovetailed grooves and ridges and the corrugations extended throughout the walls of the dovetailed ridges and grooves, substantially as and for the purpose specified.

840,017. TRACTION-ENGINE TENDER. GEORGE L. SCHMIDT, Chandler, S. D. Filed July 5, 1906. Serial No. 324,857.



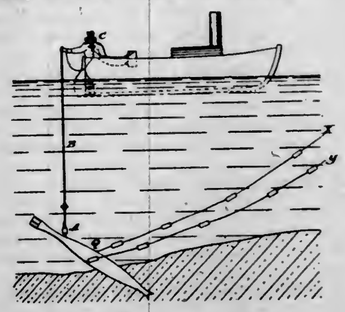
Claim.—1. A traction-engine tender comprising a platform having front and rear bolsters, caster-wheels journaled in said front bolster, a steering-axle journaled on said rear bolster, steering-wheels journaled on said axle, a water-tank arranged on the under side of the platform, and means whereby the tender may be coupled with a separator or other machine without being in direct line with the same, substantially as described.

2. A traction-engine tender comprising a platform having front and rear bolsters, caster-wheels journaled in sockets in said front bolster, a steering-axle pivotally mounted on the rear bolster, rear supporting and steering wheels journaled on said axle, means connected to the latter, whereby said tender is automatically steered from the steering mechanism of the engine, a water-tank arranged beneath said platform, and means whereby the tender may be coupled with a separator or other machine without being in direct line with the same, substantially as described.

3. A traction-engine tender comprising a platform having front and rear bolsters, caster-wheels journaled in sockets in said front bolster, a steering-axle pivotally mounted on the rear bolster, rear supporting and steering wheels journaled on said axle, means connected to the latter, whereby said tender is automatically steered from the steering mechanism of the engine, a water-tank arranged beneath said platform, a draw-bar pivotally connected to the rear bolster of the tender, a locking and supporting bracket for said draw-bar, said bracket having formed therein a centrally-disposed locking-recess to receive said draw-bar and to hold the same against radial movement, substantially as described.

4. A traction-engine tender comprising a platform having front and rear bolsters, brace-bars connected with said front bolster, a reach connecting said front and rear bolsters and having in its forward end a coupling-eye, caster-wheels journaled in socket-bearings in said front bolster, a steering-axle pivotally mounted on said rear bolster, steering-wheels journaled on said axle, steering-chains connected to the latter and adapted to be connected to the steering mechanism of the engine, a water-tank arranged beneath said platform, a draw-bar pivotally mounted on the pivot-bolt of said steering-axle, and a locking-bracket having a locking-recess to receive said draw-bar and hold the same in a central position, substantially as described.

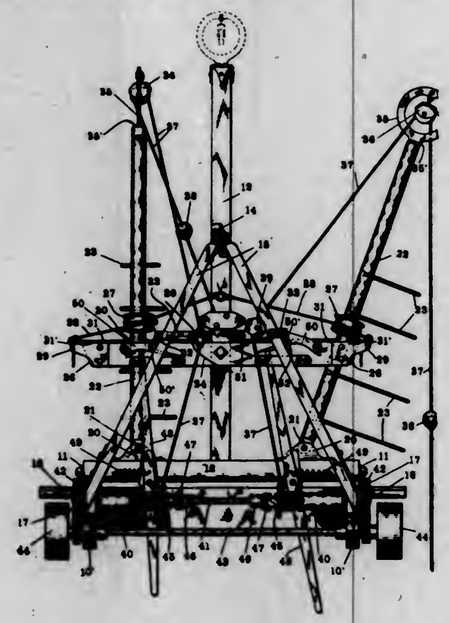
840,018. APPARATUS FOR SEARCHING OF SUNKEN BODIES. MAX VON SCHOULTZ, St. Petersburg, Russia. Filed May 18, 1899. Serial No. 717,371.



Claim.—1. An apparatus for searching for submerged bodies, the magnetic permeability of which is different from that of the surrounding element, consisting of a magneto-electric finder comprising a magnet attached to a cable, and signaling connections including a coil in the field of said magnet, in combination with a harrow also secured upon said cable in advance of the magneto-electric finder.

2. An apparatus for searching for submerged bodies, the magnetic permeability of which is different from that of the surrounding element, consisting of a plurality of magneto-electric finders secured to a cable common to all, and floats secured to said cable.

840,019. SHOCK-HANDLING ATTACHMENT FOR CROP-TREATING MACHINES. JAMES B. SCHUMAN, Indianapolis, Ind., assignor to James B. Schuman and Joseph K. Sharpe, Jr., Indianapolis, Ind., and Theophilus King, Quincy, Mass., a Copartnership. Filed Apr. 17, 1905. Serial No. 256,082.



Claim.—1. A lifting mechanism consisting of, a mast, a pivotal support therefor permitting both swing of the mast in a substantially vertical plane and rotation thereof about its axis, a pulley-block supported at the upper free end of said mast, a lifting-cable passing through said block, an enlargement carried by the outer end of said cable and adapted to engage the pulley-block whereby further lifting pull upon the cable will swing the mast, means for positively rotating the mast on its axis and means for limiting the vertical swing of the mast.

2. In a lifting mechanism, the combination with a suitable support, of a mast pivotally and rotatably mounted thereon, gathering-arms carried by said mast, means for limiting the swing of the mast upon its pivotal support, means for rotating the mast, and lifting mechanism carried by said mast.

3. In a lifting mechanism, the combination with a suitable support, of a mast pivotally and rotatably mounted thereon, gathering-arms carried by said mast, means for limiting the swing of the mast upon its pivotal support, means for rotating the mast as it swings, and lifting mechanism carried by said mast.

4. In a lifting mechanism, the combination with a suitable support, of a mast pivotally and rotatably mounted thereon, gathering-arms carried by said mast, a pulley-block carried at the upper end of said mast, means for limiting the swing of the mast upon its pivotal support, means for rotating the mast as it swings, a lifting-cable passing through said pulley-block and provided at a point in its outer end with an enlargement too large to pass through the pulley-block.

5. In a lifting mechanism, the combination with a suitable support, of a mast pivotally and rotatably mounted thereon, gathering-arms carried by said mast, a pulley-block carried at the upper end of said mast, means for limiting the swing of the mast upon its pivotal support, means for rotating the mast, a lifting-cable passing through said pulley-block and provided at a point in its outer end with an enlargement too large to pass through the pulley-block.

6. In a lifting mechanism, the combination with a suitable support, of a mast pivotally and rotatably mounted thereon, gathering-arms carried by said mast, means for limiting the swing of said mast upon its pivot, a cord having its ends secured to the support and its middle wrapped about the mast, and lifting mechanism carried by the mast.

7. In a lifting mechanism, the combination with a suitable support, of a mast pivotally and rotatably mounted thereon, gathering-arms carried by said mast, means for limiting the swing of said mast upon its pivot, a cord having its ends secured to the support and its middle wrapped about the mast, a pulley-block carried at the upper free end of said mast, a lifting-cable passed through said pulley-block, and a button too large to pass through the pulley-block carried by the outer end of the cable.

8. In a lifting mechanism, the combination with a suitable support, of a mast pivotally and rotatably mounted thereon, gathering-arms carried by said mast, means for limiting the swing of said mast upon its pivot, means for rotating said mast, a pulley-block carried at the upper free end of said mast, a lifting-cable passed through said pulley-block, and a button too large to pass through the pulley-block carried by the outer end of the cable.

9. In a lifting mechanism, the combination with a suitable support, of a mast pivotally and rotatably mounted thereon, gathering-arms carried by said mast, means for limiting the swing of said mast upon its pivot, a cord having its ends secured to the support and its middle wrapped about the mast, lifting mechanism carried by the mast, a winding-drum to operate said lifting mechanism, driving means for said drum consisting in part of a separable clutch, and means controlled by the movement of the mast to automatically separate said clutch mechanism.

10. In a lifting mechanism, the combination with a suitable support, of a mast pivotally and rotatably mounted thereon, gathering-arms carried by said mast, means for limiting the swing of said mast upon its pivot, means for rotating said mast, lifting mechanism carried by the mast, a winding-drum to operate said lifting mechanism, driving means for said drum consisting in part of a separable clutch, and means controlled by the movement of the mast to automatically separate said clutch mechanism.

11. In a lifting mechanism, the combination with a suitable support, of a mast pivotally and rotatably mounted thereon, gathering-arms carried by said mast, means for limiting the swing of said mast upon its pivot, a cord having its ends secured to the support and its middle wrapped about the mast, a pulley-block carried at the upper free end of said mast, a lifting-cable passed through said pulley-block, a button too large to pass through the pulley-block carried by the outer end of the cable, a winding-drum adapted to receive said lifting-cable, driving means for said drum consisting in part of a separable clutch, and means controlled by the movement of the mast for automatically separating said clutch.

12. In a lifting machanism, the combination with a suitable support, of a mast pivotally and rotatably mounted thereon, gathering-arms carried by said mast, means for limiting the swing of said mast upon its pivot, means for rotating said mast, a pulley-block carried at the upper free end of said mast, a lifting-cable passed through said pulley-block, a button too large to pass through the pulley-block carried at the outer end of the cable, a winding-drum adapted to receive said lifting-cable, driving means for said drum consisting in part of a separable clutch, and means controlled by the movement of the mast for automatically separating said clutch.

13. In a lifting mechanism, the combination with a suitable support, of a mast pivotally and rotatably mounted thereon, gathering-arms carried by said mast, means for limiting the swing of said mast upon its pivot, a cord having its ends secured to the support and its middle wrapped about the mast, a pulley-block carried at the upper free end of said mast, a lifting-cable passed through said pulley-block, a button too large to pass through the pulley-block carried by the outer end of the cable, a winding-drum adapted to receive said lifting-cable, driving means for said drum consisting in part of a separable clutch, and means controlled by the movement of the mast for automatically separating said clutch, a lever for shifting said clutch, a latch for holding said lever in opposition to the automatic separating means, a catch adapted to engage the mast and hold it against swing, and a latch-operating member controlled by said catch, all substantially as and for the purpose set forth.

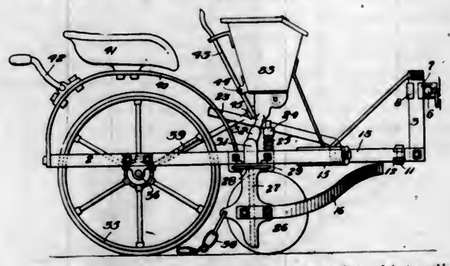
14. In a lifting mechanism, the combination with a suitable support, of a pair of masts each pivotally and rotatably mounted thereon, gathering-arms carried by each of said masts, means for limiting the swing of each mast upon its pivotal support, means for rotating each mast independently as it swings, and lifting mechanism carried by each mast.

15. In a lifting mechanism, the combination with a suitable support, of a pair of masts each pivotally and rotatably mounted thereon, gathering-arms carried by each of said masts, means for limiting the swing of each mast upon its pivotal support, means for rotating each mast independently, lifting mechanism carried by each mast, and a mast higher than the movable masts arranged between said movable masts and adapted to support lifting mechanism, for the purpose set forth.

16. A lifting mechanism consisting of, a mast, a pivotal support therefor permitting such a swing of the mast that its outer end will rise as it approaches discharging position and the mast will rotate on its axis, a pulley-block supported at the upper free end of said mast, a lifting-cable passing through said block, an enlargement carried by the outer end of said cable and adapted to engage the pulley-block whereby further lifting pull upon the cable will swing the mast, means for positively rotating the mast on its axis, and means for limiting the swing of the mast.

17. A lifting mechanism consisting of, a rotatable mast, a pivotal support therefor permitting such a swing of the mast that its outer end will rise as it approaches discharging position, a pulley-block supported at the upper free end of said mast, a lifting-cable supported at the upper free end of said mast, an enlargement carried by the outer end of said cable and adapted to engage the pulley-block whereby further lifting pull upon the cable will swing the mast, means for limiting the further swing of the mast, means for rotating the mast as it swings, and gathering-arms carried by said mast.

840,020. GRAIN-DRILL. DUNY A. SCHUTT, Peru, Ind. Filed Feb. 15, 1904. Serial No. 193,557.



Claim.—1. A grain-drill comprising a series of laterally-arranged seeding-disks, and a main frame tiltingly mounted on said disks and provided with a rear traction-wheel and a driver's seat located over said traction-wheel, substantially as set forth.

2. A grain-drill comprising a series of laterally-arranged seeding-disks, a main frame tiltingly mounted on said disks and provided with a rear traction-wheel, and a seat-support arching over said traction-wheel and provided with a driver's seat and guiding-handles, substantially as set forth.

3. A grain-drill comprising a series of laterally-arranged seeding-disks, a main frame tiltingly mounted on said disks and provided with a rear traction-wheel, and a driver's seat and guiding-handles connected with the frame and located above the traction-wheel, substantially as set forth.

4. A grain-drill comprising a series of laterally-arranged seeding-disks, a main frame tiltingly mounted on said disks and provided with a rear traction-wheel, a grain-box, means for feeding the grain therefrom to the seeding-disks, and a driver's seat located above the traction-wheel, substantially as set forth.

5. A grain-drill comprising a series of laterally-arranged seeding-disks, a main frame tiltingly mounted on said disks and provided with a rear traction-wheel, a seedbox, grain-feeding conduits leading therefrom to the seeding-disks, feeding mechanism actuated by the traction-wheel, and a driver's seat located above the traction-wheel, substantially as set forth.

6. In a grain-drill the combination of a plurality of laterally-arranged seeding-disks, a main frame tiltingly mounted upon said disks, a rear traction-wheel mounted in the frame, a seedbox, feeding-tubes leading therefrom to the seeding-disks, seed-feeding mechanism and gearing therefor connected with the traction-wheel, a driver's seat located above the traction-wheel, and guiding-handles connected with the main frame, substantially as set forth.

7. In a grain-drill, the combination of a series of laterally-arranged seeding-disks extending across the machine underneath and providing a rolling support therefor, a supporting-frame mounted on said disks arranged to tilt forwardly or backwardly on said disks as a fulcrum, a grain-box, grain-feeding mechanism leading therefrom to the disks, a rear traction-wheel, and gearing adapted to transmit motion therefrom to the grain-feeding mechanism, substantially as set forth.

8. In a grain-drill, the combination of a main frame, a hitch-post at the front thereof, a series of laterally-arranged seeding-disks providing a tilting bearing for the frame, a grain-box, grain-feeding mechanism, a rear traction-wheel, and gearing adapted to transmit motion therefrom to the grain-feeding mechanism, with means for varying the pressure of the rear traction-wheel, substantially as set forth.

9. In a grain-drill, the combination of a main frame, a hitching-post at the front thereof, a series of laterally-arranged seeding-disks, a grain-box, grain-feeding mechanism, a rear traction-wheel, gearing adapted to transmit motion therefrom to the grain-feeding mechanism, a rear frame secured to the main frame and arching over the traction-wheel, with guiding-handles and a seat secured upon said rear frame, substantially as set forth.

10. In a grain-drill, the combination of a main frame, a hitch-post at the front thereof, means providing for hitching thereto at varying heights, seed-disks mounted under the main frame and providing a tilting bearing therefor, laterally-adjustable supplemental frames provided with seed-disks, and a rear traction-wheel, substantially as set forth.

11. A grain-drill having a series of laterally-arranged supporting and feeding disks, a main frame tiltingly mounted thereon, a vertically-adjustable center disk, and a rear traction-wheel, substantially as set forth.

12. A grain-drill provided with a series of seed-disks arranged laterally across and adapted to support the machine, and a rear traction-wheel adapted to be raised out of contact by tipping the machine forward on said seed-disks, substantially as set forth.

13. In a grain-drill, the combination of a main frame, a plurality of independently laterally adjustable feeding-disks on each side thereof constituting supports for the main frame and upon which it is tiltingly mounted, an independently-adjustable center disk, and a rear traction-wheel adapted to be raised out of contact by tipping the machine forward on the supporting-disks, substantially as set forth.

14. In a grain-drill, the combination of a main frame, a plurality of independently laterally adjustable pivoted disk-frames at each side of the main frame, adjustable feeding-disks carried in said frame, and forwardly and upwardly extending fenders incorporated with the outer disk-frames, substantially as set forth.

15. In a grain-drill, the combination of a main frame, a plurality of independently laterally adjustable pivoted disk-frames at each side of the main frame, adjustable feeding-disks carried in said frame, and forwardly and upwardly extending fenders incorporated with the outer disk-frames, with means for adjusting the disk-frames outwardly and holding them in such adjusted positions, substantially as set forth.

16. In a grain-drill, the combination of a main frame, a plurality of independently laterally adjustable pivoted disk-frames at each side of the main frame, adjustable feeding-disks carried in said frame, and forwardly and upwardly extending fenders incorporated with the outer disk-frames, with means for adjusting the disk-frames outwardly and holding them in such adjusted positions, and for limiting their outward travel, substantially as set forth.

17. In a grain-drill, the combination of a main frame, an adjustable center disk mounted thereon, a rear traction-wheel, disks on each side of said center disk, pivoted disk-frames at each outer side of the main frame, outer disks adjustably mounted therein, means for exerting outward pressure against said disk-frames and for limiting their outward travel, and forwardly and upwardly extending fenders incorporated with the outer disk-frames, substantially as set forth.

18. A grain-drill provided with disk-hangers and disks, and fenders secured to the disk, hangers at each side extending forwardly, upwardly and inwardly, for the purpose described.

19. A grain-drill provided with a centrally-arranged disk, laterally-arranged frames on each side of the central disk, cross-bars connecting said frames, laterally-adjustable disk-hangers arranged at each side of the central disk and slidingly mounted on said cross-bars, disks carried by said hangers, rack-bars connected to the hangers and slidingly mounted on said cross-bars, and an actuating-pinion engaging said rack-bars and provided with an operating-rod, substantially as set forth.

20. The combination with the tiltingly-mounted frame of a seed-drill provided with a series of laterally-arranged seeding-disks and a rear traction-wheel, of a vertically-slotted hitch-post secured upon the front of the frame, a swingletree, and a bolt adapted to secure the swingletree to the post at varying heights, substantially as set forth.

21. In a grain-drill, the combination with a main frame provided with a seedbox, a rear traction-wheel, means for lifting and depressing said wheel, and a series of disks upon which the frame is tiltingly mounted; of vertically-movable drag-bars pivoted to the frame, a disk-hanger provided with disks, a flexible connection between the seedbox and the disk-hanger, and means actuated by the traction-wheel for feeding the grain to the disks, substantially as set forth.

22. In a grain-drill, the combination with a main frame provided with a seedbox, a rear traction-wheel, means for lifting and depressing said wheel, and a series of disks upon which the frame is tiltingly mounted; of vertically-movable drag-bars pivoted to the frame, a disk-hanger provided with disks, a flexible connection between the seedbox and the disk-hanger, and means actuated by the traction-wheel for feeding the grain to the disks, with a pivoted depressing-lever and an interposed spring adapted to exert pressure downwardly upon the disk-hanger and disks, substantially as set forth.

23. In a grain-drill, the combination of a main frame provided with a series of laterally-disposed disks, means for adjusting some of the disks outwardly, means for adjusting the center disk vertically, a seedbox provided with connections to the disks adapted to compensate for variations in the position of the disks, seed-feeding mechanism, a rear traction-wheel, means providing for pressure upon said rear traction-wheel, and gearing arranged to transmit motion from the rear traction-wheel to the said feeding mechanism, substantially as set forth.

24. In a grain-drill, the combination of a main frame provided with a series of laterally-arranged adjustable disk-hangers, means for adjusting the outermost disk-hangers laterally, means for adjusting a central disk-hanger vertically, a rear traction-wheel, a seedbox, gearing arranged to transmit movement from the rear traction-wheel to seed-feeding mechanism, and a driver's seat arranged above the rear traction-wheel, substantially as set forth.

25. In a grain-drill, the combination of a main frame provided with a series of laterally-arranged adjustable disk-hangers, means for adjusting the outermost disk-hangers laterally, means for adjusting a central disk-hanger vertically, a rear traction-wheel, a seedbox, gearing arranged to transmit movement from the rear traction-wheel to seed-feeding mechanism, and a driver's seat arranged above the rear traction-wheel with a supporting-frame therefor, provided with backwardly-extending handles, substantially as set forth.

26. In a grain-drill, the combination with the main frame, of an independently-adjustable laterally-arranged disk-hanger provided with a seeding-disk and a forwardly and upwardly extending fender, substantially as set forth.

27. In a grain-drill, the combination with an adjustable disk-hanger, of a forwardly-extending fender secured to the disk-hanger and free at its forward end, substantially as set forth.

28. A grain-drill provided with a laterally-arranged adjustable disk-hanger having secured to it a forwardly-extending fender having a free forward terminal, substantially as set forth.

29. A grain-drill having a laterally-adjustable frame provided with a disk-hanger, and a forwardly-extending fender secured to the disk-hanger and having a free forward terminal, substantially as set forth.

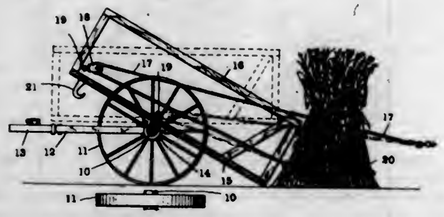
30. A grain-drill having laterally-adjustable frames at each side provided with disk-hangers, and forwardly-extending fenders secured to the disk-hangers and having free forward terminals, substantially as set forth.

31. A grain-drill having laterally-adjustable frames at each side provided with independently-adjustable disk-hangers, and forwardly-extending fenders secured to the disk-hangers and free at their forward terminals, substantially as set forth.

32. In a grain-drill, the combination with the main frame, of an outer laterally-adjustable disk-frame provided with a disk-hanger, a disk carried thereby, and a forwardly and upwardly extending fender incorporated with the disk-hanger, substantially as set forth.

33. In a grain-drill, the combination with the main frame, of an outer laterally-adjustable disk-frame provided with a disk-hanger, a disk carried thereby, and a forwardly and upwardly extending fender incorporated with the disk-hanger, said fender being free at its outer terminal, substantially as set forth.

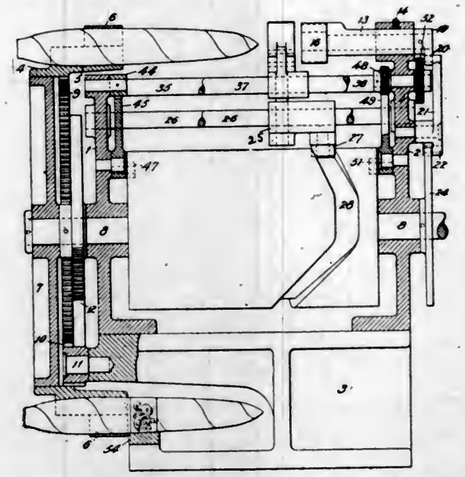
840,021. SHOCK-LOADER. JOSEPH K. SHARPE, Jr., Indianapolis, Ind., assignor to James B. Schuman and Joseph K. Sharpe, Jr., Indianapolis, Ind., and Theophilus King, Quincy, Mass., a Copartnership. Filed Apr. 20, 1905. Serial No. 256,529.



Claim.—1. A shock-loader comprising a suitable running-gear, a shock-receiving platform pivotally mounted thereon so as to swing vertically, a medial partition arranged above said platform substantially at right angles to the axis thereof, and lifting mechanism carried by the platform.

2. A shock-loader comprising a suitable running-gear, a shock-receiving platform pivotally mounted thereon so as to swing vertically, a draft device, and a plurality of means for attachment of the draft device arranged at various points in the length of said platform, substantially as and for the purpose set forth.

840,022. BANDING-MACHINE. ALFRED SHEDLOCK, Jersey City, N. J., assignor, by mesne assignments, to The American Tobacco Company, New York, N. Y., a Corporation of New Jersey. Filed Sept. 10, 1902. Serial No. 122,779.



Claim.—1. In a cigar-banding machine, the combination with cigar-supporting means, of means for applying bands singly to successive cigars, substantially as described.

2. In a cigar-banding machine, the combination with a holder constructed to support a plurality of cigars spaced from each other, of means for applying a band to each of said cigars, substantially as described.

3. In a cigar-banding machine, the combination with a holder constructed to support a plurality of cigars, of band-applying means operating to supply a band for each cigar and means for producing proper relative movements between the holder and the band-applying means to apply bands to successive cigars, substantially as described.

4. In a cigar-banding machine, the combination with a holder for cigars, of means for applying a formed band to a cigar supported in said holder, substantially as described.

5. In a cigar-banding machine, the combination with a holder constructed to support a plurality of cigars, of means for applying a formed band to each cigar, and means for operating the holder, substantially as described.

6. In a cigar-banding machine, the combination with a former, of a holder for cigars, and means for transferring a band from the former to the cigar, substantially as described.

7. In a cigar-banding machine, the combination with a former, of a cigar-holder, a band-carrier, and means for moving the carrier from the former to the cigar in the holder, substantially as described.

8. The combination with a former, of an article-holder, a band-carrier, means for operating the carrier to cause it to grasp a band on the former, and means for operating the carrier to position the band on the article, substantially as described.

9. The combination with an article-holder, of a band-carrier, means for operating the carrier to position the band with respect to the article, and means for operating the carrier to apply the band to the article, substantially as described.

10. The combination with an article-holder, of means for reducing the diameter of a loosely-fitting formed band on an article in the holder, whereby the band is caused to snugly fit the article, substantially as described.

11. The combination with an article-holder of a band-applying device including movable straining and creasing jaws, and means for operating said jaws, substantially as described.

12. The combination with an article-holder, of a former, a band-carrier having movable jaws, means for causing the carrier to remove a band from the former, and means for thereafter operating the carrier to apply a band to an article, substantially as described.

13. The combination with an article-holder, of a former, a band-carrier having movable creasing and straining jaws, means for operating the carrier to cause it to remove a band from the former, and means for thereafter operating the carrier to strain and crease a band about an article, substantially as described.

14. The combination with an article-holder, of a former, a band-carrier having movable creasing and straining jaws, means for operating the carrier to cause it to remove a band from the former, means for thereafter operating the carrier to strain and crease a band about an article, and means for turning down the projecting portion of the band, substantially as described.

15. The combination with a collapsible former, of a band-carrier, and means for causing the band-carrier to remove the band from the former, substantially as described.

16. The combination with an article-holder, of a collapsible former, and means for transferring a band from the collapsed former to an article in the holder, substantially as described.

17. The combination with an article-holder, of a collapsible former, a band-carrier having movable applying-jaws, means for causing the carrier to remove a band from the former and means for thereafter operating the applying-jaws to cause them to strain a band about an article in the holder, substantially as described.

18. The combination with an article-holder, of a collapsible former, a band-carrier having movable straining and creasing jaws, means for causing said carrier to remove a band from the former and position it on an article in the holder, and means for operating the jaws to strain the band about the article and crease the same, substantially as described.

19. The combination with an article-holder, of a collapsible former, a band-carrier having movable straining and creasing jaws, means for causing said carrier to remove a band from the former and position it on an article in the holder, means for operating the jaws to strain the band about the article and crease the band, and means for turning down the projecting portion of the band, substantially as described.

20. The combination with a former, of an article-holder, a carriage, band-applying jaws mounted on said carriage, means for reciprocating the carriage between the former and the holder, and means for operating the applying-jaws, substantially as described.

21. The combination with an article-holder, of a former, a carriage, means for reciprocating the carriage between the former and the holder, straining and creasing jaws mounted on the carriage, and means for operating the jaws to strain and crease a band about an article in the holder, substantially as described.

22. The combination with an article-holder, of a former, a carriage, means for reciprocating the carriage between the former and the holder, straining and creasing jaws mounted on the carriage, means for operating the jaws to strain and crease a band about an article in the holder, and means for turning down the projecting portion of the band, substantially as described.

23. The combination with a movable article-holder, of means for applying a band to an article in the holder, said applying means producing a creased projecting portion, and means alongside the path of movement of the support for turning down said projecting portion, substantially as described.

24. The combination with a rotary article-holder constructed to carry a plurality of articles, of means for applying a band to each article in the holder, said applying means producing a creased projecting portion, and means

alongside the path of movement of the support for turning down said projecting portion, substantially as described.

25. The combination with a former, of an article-holder, a carriage, a band-applying device mounted on the carriage said device including movable jaws, means for operating the jaws to cause them to grip a band on the former, means for reciprocating the carriage whereby the band is positioned on an article, means for giving the applying device a movement toward the center of the article, and means for moving the jaws toward each other, substantially as described.

26. The combination with an article-holder, of a collapsible former, a carriage, a band-applying device mounted thereon said device including movable straining and creasing jaws, means for operating the jaws to grip a band on the former, means for reciprocating the carriage to cause the applying device to position a band on the article, means for moving the applying device toward the center of the article, means for operating the jaws to strain and crease the band, and means for thereafter turning down the creased projecting portion of the band, substantially as described.

27. The combination with a rotary article-holder constructed to carry a plurality of articles, of a collapsible former, a carriage, a band-applying device mounted thereon said device including movable straining and creasing jaws, means for operating the jaws to grip a band on the former, means for reciprocating the carriage to cause the applying device to position a band on the article, means for moving the applying device toward the center of the article, means for operating the jaws to strain and crease the band, and means alongside the path of movement of the holder for turning down the creased projecting portion of the band, substantially as described.

28. The combination with an article-holder, of a carriage, a head loosely mounted therein, an eccentric for operating the head, a pair of jaws pivoted thereto, and eccentrics for operating the jaws, substantially as described.

29. The combination with an article-holder, of a former, a carriage, means for reciprocating the carriage between the support and the former, a sliding head loosely mounted in the carriage, an eccentric-rod for operating the head, a pair of jaws pivoted to the head, and a pair of eccentric-rods for operating the jaws, substantially as described.

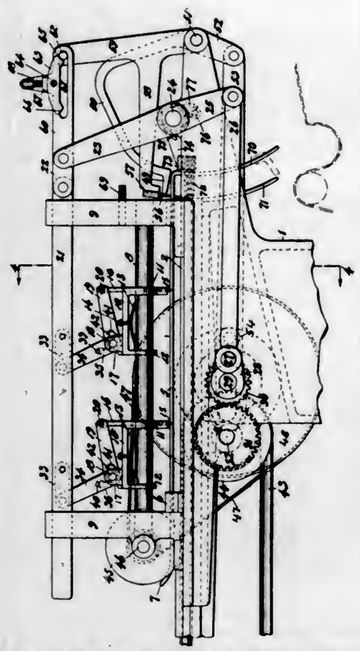
30. The combination with an article-holder having a plurality of pockets therein, means for giving the holder an intermittent movement, a collapsible former, a carriage, a reciprocating head mounted in the carriage, a pair of jaws pivoted to the head, eccentric-rods for operating the head and jaws, and means for operating the rods, substantially as described.

31. The combination with an article-holder having a series of pockets, of gearing for giving the same an intermittent rotation, a carriage, supports therefor, a cam for sliding the carriage on the supports, a collapsible former, a band-carrying head loosely mounted in the carriage, an eccentric-rod for moving the head, a pair of straining and creasing jaws mounted in the head, eccentric-rods for operating the jaws, gearing for operating the eccentric-rods, and a presser-plate located alongside the path of movement of the holder, substantially as described.

840,023. FEEDING MECHANISM. ALFRED SHEDLOCK, Jersey City, N. J., assignor, by mesne assignments, to International Cigar Machinery Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 19, 1903. Serial No. 148,489.

Claim.—1. In an apparatus for feeding tobacco and analogous material, the combination with a feeding-channel, of a plurality of feeding devices arranged tandem, operating means, a yielding connection between said feeding devices and the operating means, and means for separating a charge of tobacco from the mass fed forward, substantially as described.

2. In an apparatus for feeding tobacco and analogous material, the combination with a feeding-channel, of a plurality of feeding devices arranged tandem, operating means, a yielding connection between said feeding devices and the operating means, and means for breaking a charge of tobacco from the mass fed forward, substantially as described.



3. In an apparatus for feeding tobacco and analogous material, the combination with a feeding-channel, of a plurality of feeding devices arranged tandem, operating means, a yielding connection between said feeding devices and the operating means, holding devices for the mass, and means for breaking a charge of tobacco from the mass, substantially as described.

4. In an apparatus for feeding tobacco and analogous material, the combination with a feeding-channel, of a plurality of sets of feeding-fingers working therethrough, said fingers being arranged tandem, operating means for the fingers, a yielding connection between each set of fingers and the operating means, and means for separating a charge of tobacco from the mass fed forward, substantially as described.

5. In an apparatus for feeding tobacco or analogous material, the combination with a feeding-channel, of a plurality of sets of feeding-fingers working therethrough, said fingers being arranged tandem, operating means for the fingers, a yielding connection between each set of fingers and the operating means, said yielding connections increasing in resistance toward the discharge end of the channel, whereby the compacting action of the sets of fingers is progressive, and means for separating a charge of tobacco from the mass fed forward, substantially as described.

6. In an apparatus for feeding tobacco or analogous material, the combination with a feeding-channel, of a plurality of sets of feeding-fingers working therethrough, said fingers being arranged tandem, operating means for the fingers, a spring between each set of fingers and the operating means, the springs increasing in resistance toward the discharge end of of the channel, whereby the compacting action of the fingers is progressive, and means for separating a charge of tobacco from the mass fed forward.

7. In an apparatus for feeding tobacco and analogous material, the combination with a feeding-channel, of a plurality of sets of feeding-fingers working therethrough, said fingers being arranged tandem, operating means for the fingers, a yielding connection between each set of fingers and the operating means, a breaker for separating a charge from the mass, and means for operating the breaker, substantially as described.

8. In an apparatus for feeding tobacco and analogous material, the combination with a feeding-channel, of a plurality of sets of feeding-fingers working therethrough, said fingers being arranged tandem, operating means for the fingers, a yielding connection between each set of fingers and the operating means, a set of holding-fingers for the mass, a breaker for separating a charge from the mass, and means for operating said breaker and holding-fingers, substantially as described.

9. In an apparatus for feeding tobacco and analogous material, the combination with a feeding-channel, of a plurality of sets of feeding-fingers working therethrough, said fingers being arranged tandem, operating means for the fingers, a yielding connection between each set of fingers and the operating means, cutting mechanism coöperating with the channel, and means for separting a charge of tobacco from the mass fed forward, substantially as described.

10. In an apparatus for feeding tobacco and analogous material, the combination with a feeding-channel, of a plurality of sets of feeding-fingers working therethrough, said fingers being arranged tandem, operating means for the fingers, a yielding connection between each set of fingers and the operating means, cutting mechanism coöperating with the channel, a set of holding-fingers for the mass, a breaker for separating a charge from the mass, and means for operating said breaker and holding-fingers, substantially as described.

11. In an apparatus for feeding tobacco and analogous material, the combination with a channel, of a plurality of sets of feeding-fingers working therethrough, an operating-slide, a yielding connection between the slide and each set of fingers, means for operating the slide, a set of holding-fingers, a breaker for separating charges from the mass, and means for operating said fingers and breaker, substantially as described.

12. In a feeding apparatus for tobacco and analogous material, the combination with a feeding-channel, of a plurality of carriages, set of feeding-fingers mounted to reciprocate on each carriage, operating means for reciprocating the carriages, a yielding connection between said carriages and the operating means, and means for separating a charge of tobacco from the mass fed forward, substantially as described.

13. In a feeding apparatus for tobacco and analogous material, in combination with a feeding-channel, of a plurality of carriages, a set of feeding-fingers mounted to reciprocate on each carriage, operating means for reciprocating the carriages, a yielding connection between said carriages and the operating means, a set of holding-fingers, a breaker, and means for operating the holding-fingers and breaker, substantially as described.

14. In a feeding apparatus for tobacco and analogous material, the combination with a feeding-channel, of a plurality of carriages arranged tandem, a guideway for the carriages, a friction device intermediate the carriages and the guideway, sets of reciprocating feeding-fingers, one for each carriage, means for reciprocating the carriages, a yielding connection between each carriage and the operating means for reciprocating said carriages, and means for separating a charge of tobacco from the mass fed forward, substantially as described.

15. In a feeding apparatus, for tobacco and analogous material, the combination with a feeding-channel, of a plurality of carriages arranged tandem, a guideway for the carriages, a friction device intermediate the carriages and the guideway, sets of reciprocating feeding-fingers, one for each carriage, operating means for reciprocating the carriages, a yielding connection between each carriage and the operating means, a set of holding-fingers, means for moving said fingers into and out of the forwarded mass, a breaker, means for operating the breaker, and a delivery-channel into which the breaker delivers, substantially as described.

16. In a feeding apparatus for tobacco and analogous material, the combination with a feeding-channel, of a plurality of carriages, a guideway for the carriages, a friction device intermediate each carriage and the guideway, sets of reciprocating fingers, one for each carriage, shafts mounted in the carriages, arms between the fingers and the shafts for operating the fingers, an operating-slide for the carriages, a yielding connection between the carriages and the operating-slide, and means for separating a charge of tobacco from the mass fed forward, substantially as described.

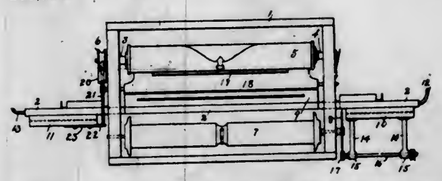
17. In a feeding apparatus for tobacco and analogous material, the combination with a feeding-channel, of a plurality of carriages, a guideway for the carriages, a friction device intermediate each carriage and the guideway, sets of reciprocating fingers, one set for each carriage, shafts mounted in the carriages, arms between the fingers and the shafts for operating the fingers, an operating-slide for the carriages, a yielding connection between the carriages and the operating-slide, holding-fingers for the mass, a breaker, operating means for the holding-fingers and breaker, and a delivery-channel into which the breaker delivers, substantially as described.

18. In a feeding apparatus for tobacco and analogous material, the combination with a feeding-channel, of a plurality of carriages arranged tandem, a plurality of sets of reciprocating feeding-fingers, one for each carriage, an operating-slide, yielding connections between the carriages and the operating-slide, a set of holding-fingers, means whereby the operating-slide operates the holding-fingers, a breaker, means for operating said breaker, and a delivery-channel, substantially as described.

19. In a feeding apparatus for tobacco and analogous material, the combination with a feeding-channel, of a plurality of carriages arranged tandem, a plurality of sets of reciprocating feeding-fingers, one for each carriage, an operating-slide, yielding connections between the carriages and the operating-slide, a set of holding-fingers, means whereby the operating-slide operates the holding-fingers, a breaker, means for operating said breaker, cutting mechanism coöperating with said feeding-channel, and a delivery-channel, substantially as described.

20. In a feeding apparatus for tobacco and analogous material, the combination with a feeding-channel, of a plurality of carriages arranged tandem, sets of reciprocating feeding-fingers, one for each carriage, a guideway, shafts mounted in the carriages, operating connections between the shafts and the feeding-fingers, an operating-slide, yielding connections between the slide and the shafts, a pivoted arm carrying holding-fingers, operating connections between the operating-slide and said arm, a pivoted breaker, and means for operating said breaker, substantially as described.

840,024. SHEET-WINDING MECHANISM FOR PIANO-PLAYERS. FRANK P. SMITH, Hanover, Pa., assignor of one-half to Smith Lyraphone Company, a Corporation of West Virginia. Filed Aug. 28, 1905. Serial No. 276,124.



Claim.—1. The combination of the frame, the music-roll journaled in the frame, the take-up roller, and a brake arranged parallel with the music-roll and having its ends journaled in the opposite sides of the said frame and adapted to be thrown in and out of contact with the music-sheet on the music-roll.

2. The combination of the frame, the music-roll journaled in the frame, the take-up roller, means for automatically connecting the take-up roller with its source of

propulsion, a brake arranged parallel with the music-roll and having its ends journaled in the opposite sides of the said frame, and means to throw the said brake into contact with the music-roll at the same time the take-up roller is connected with its source of propulsion.

3. The combination with the frame, the music-roll journaled in the frame, a brake arranged parallel with the music-roll and having its ends journaled in the opposite sides of the said frame, a pneumatic having connection with a suitable source of air-exhaust and adapted to operate the said brake to throw it into contact with the music-sheet on the music-roll.

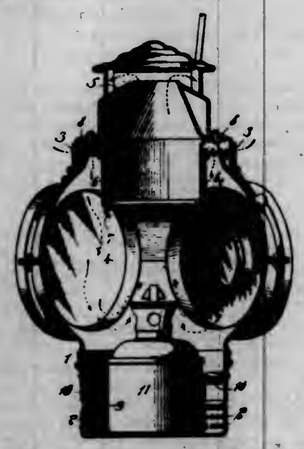
4. The combination of the frame, a music-roll journaled in the frame, a brake arranged parallel with the music-roll and having its ends journaled in the opposite sides of the said frame, a pneumatic connected with a suitable source of air-exhaust, a post connected to the said pneumatic, and a lever connecting the said post and brake, whereby when the air is exhausted from the pneumatic the brake will be thrown into contact with the music-sheet on the music-roll.

5. The combination of the frame, the music-roll journaled in the frame, and a brake arranged parallel with the music-roll and having its ends journaled in the opposite sides of said frame and adapted to be thrown in and out of contact with the music-sheet on the music-roll.

6. The combination of the music-roll, the take-up roller having a gear-wheel on one end, a pneumatic having connection with a suitable source of air-exhaust, and a shaft suspended from said pneumatic and having a gear-wheel on one end whereby when the air in the pneumatic is exhausted the gear-wheel on said shaft will be thrown into mesh with the gear-wheel on the take-up roller to drive the latter.

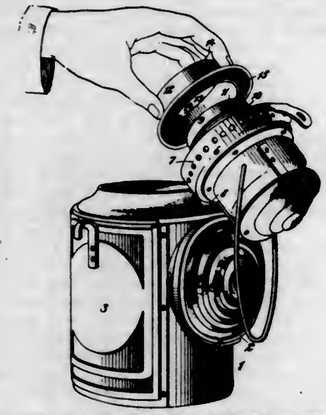
7. The combination of the music-roll, the take-up roller having a gear-wheel on one end, a pneumatic, a shaft suspended from said pneumatic and having a gear-wheel on one end, a brake adapted to be thrown into contact with the music-roll, and a pneumatic having means connected therewith to automatically operate the brake and throw the latter into contact with the music-roll at the same time the take-up roller is connected to its source of propulsion.

840,025. SIGNAL-LAMP. FURMAN D. SPEAR, Brooklyn, N. Y., assignor to Armspear Manufacturing Company, New York, N. Y. Filed Apr. 8, 1904. Renewed Nov. 26, 1906. Serial No. 345,176.



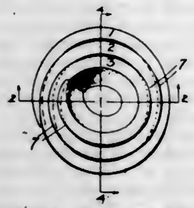
Claim.—The combination with a lamp-body provided with air-passages in proximity to the top and bottom thereof, of a casing mounted in the top of the lamp-body having its flange perforated, and a corresponding casing in the bottom of the lamp-body provided with an imperforate flange, said casings being interchangeable.

840,026. SIGNAL-LAMP. FURMAN D. SPEAR, Brooklyn, N. Y., assignor to Armspear Manufacturing Company, New York, N. Y. Filed Apr. 9, 1906. Serial No. 310,653.



Claim.—The combination with a hinge-top lamp or lantern, of a horizontally-disposed perforated plate removably held in place in the hinged top, carried thereby, and arranged to move therewith, substantially as shown and described.

840,027. VOLUTE SPRING. ARNOLD STUCKI, Allegheny, Pa. Filed May 17, 1906. Serial No. 317,271.



Claim.—1. A volute spring comprising a single coil formed of metal of other than round cross-sections to provide broad contact-faces, alternate ones of the turns of said coil being elliptic and the remainder being circular.

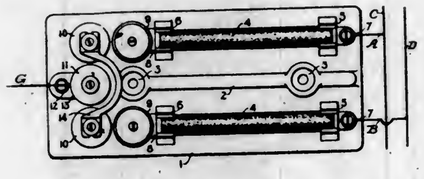
2. A volute spring comprising a single coil formed of metal other than round cross-section and having the turns provided with broad contacting faces at an angle to the axis of the coil, alternate ones of the turns of said coil being elliptic and the remainder being circular.

3. A volute spring comprising a single coil formed of metal rectangular in cross-section and having the broad faces set at an angle to the axis of the coil, and arranged to contact under compression, alternate ones of the turns being elliptic and the remainder being circular.

4. A volute spring comprising a single coil formed of metal other than round cross-section to provide broad contacting faces at an angle to the axis of the coil, adjacent turns being of different curvatures and arranged to contact at points only, the metal of said turns being thickened at points of contact.

5. A volute spring comprising a single coil formed of metal other than round cross-section and provided with broad contacting faces at an angle to the axis of the coil, alternate ones of the turns of the coil being elliptic and the remainder being circular, and the metal of said turns being thickened at the points of contact.

840,028. LIGHTNING-ARRESTER. MATTHEW O. TROY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 30, 1903. Serial No. 150,136.



Claim.—1. The means for protecting line conductors of an electric circuit, consisting of devices for providing a series of spark-gaps between the respective line conductors and ground and a shunt connection between said devices whereby a path is provided between line and line of less resistance than the resistance of two devices.

2. The combination with a plurality of lightning-arresters for protecting line conductors of an electric circuit each comprising a series of conductor parts separated by spark-gaps and adapted to provide a resistance path between a line conductor and ground, of means for conductively connecting a conductor part of one resistance path with a conductor part of another resistance path whereby the number of spark-gaps in the path of the reactive discharge is less than the sum of spark-gaps in two arresters.

3. The combination with a plurality of lightning-arresters for protecting line conductors of an electric circuit each comprising a series of conductor parts separated by spark-gaps and adapted to provide a resistance path between a line conductor and ground, of means for conductively connecting an intermediate conductor part of one resistance path with an intermediate part of another resistance path whereby the number of spark-gaps in the path of the reactive discharge is equal to the number of spark-gaps in either of said lightning-arresters.

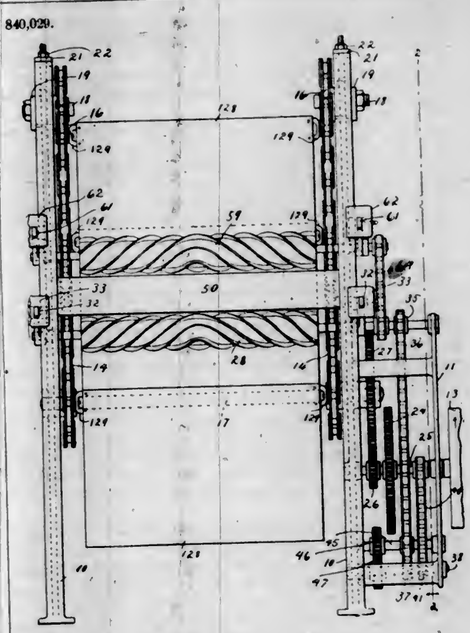
4. The combination of a base, two lightning-arresters mounted on said base, each comprising a series of independent metallic parts separated by spark-gaps, and a metallic connection between an intermediate metallic part of one arrester and a corresponding metallic part of the other arrester.

5. The combination of a base, two lightning-arresters mounted on said base, each comprising a non-inductive resistance and a plurality of metallic cylinders arranged in series and separated by spark-gaps, and a metallic connection between an intermediate cylinder of one arrester and a corresponding cylinder of the other arrester.

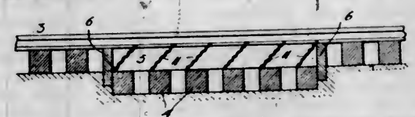
840,029. LEATHER-TREATING MACHINE. WILLIAM B. TURNER, Melrose, Mass., assignor, by mesne assignments, to The Turner Tanning Machinery Company, Boston, Mass., a Corporation of Maine. Filed Aug. 24, 1900. Serial No. 27,932.

Claim.—A machine of the character referred to comprising an endless carrier, a substantially flat table or work-support carried thereby, a pair of oppositely-disposed bladed rolls to act on the hide or skin on both faces of said support for the purpose of removing wrinkles laterally and longitudinally therefrom, means for rotating said rolls so that their peripheral portions next the table will move in a direction opposite to the direction of movement of said table, and working members each having blades arranged in a plane parallel to the path of movement of the table or support, said working members being arranged to work upon the skin after it has left the said rolls.

840,029.

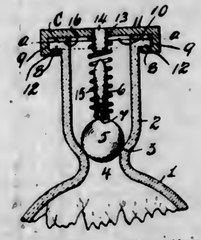


840,030. RAILWAY STOCK-GUARD. WALTER E. WAHLIN, Salt Lake City, Utah. Filed June 4, 1906. Serial No. 320,176.



Claim.—A railway stock-guard comprising cross-ties, longitudinal track-supporting stringers secured upon said ties and formed in their side faces with inclined grooves, transverse beams connecting the ends of said stringers, longitudinal beams connecting the ends of said transverse beams and formed in their inner faces with inclined grooves, and corrugated metal plates slidably engaged with the grooves in said longitudinal beams and stringers and supported upon the tops of said cross-ties, substantially as shown and described.

840,031. SAFETY-BOTTLE. WILHELM WIEGAND and ALFRED BRAUNERSREUTHER, New York, N. Y. Filed Oct. 5 1906. Serial No. 337,548.



Claim.—1. In combination with a liquid-receptacle provided with an outlet, said outlet being provided with a

valve-seat, a valve having an elongated stem and adapted to impinge upon said valve-seat, a coiled spring encircling said stem and adapted to press said valve against said seat, a cap for said outlet having an opening, a tube communicating with said opening and adapted to retain the spring in position.

2. In combination with a liquid-receptacle provided with an outlet, said outlet being provided with a valve-seat, a valve having a stem and adapted to impinge upon said valve-seat, a coiled spring encircling said stem and adapted to press said valve against said seat, a self-sealing cap for said outlet, said cap having an opening, and a nipple communicating with said opening.

3. A bottle having upon the neck thereof outwardly-extending flanges oppositely disposed, a perforated cap for said neck provided with inwardly-extending flanges adapted to engage the under side of said flanges whereby said cap is retained in place, a valve-seat in said neck, a valve in said neck adapted to impinge upon said valve-seat, and a spring retained by said cap adapted to force said valve against its seat.

4. A bottle having a neck provided with a plurality of projections, combined with a cap provided with means adapted to engage said projections whereby said cap is retained in place, a valve-seat in said neck, a valve in said neck adapted to impinge upon said seat, and resilient means carried by said cap adapted to force said valve against said seat.

5. A bottle having upon the neck thereof outwardly-extending flanges oppositely disposed, a perforated cap for said neck provided with inwardly-extending flanges adapted to engage the under side of said flanges whereby said cap is retained in place, a valve-seat in said neck, a valve in said neck adapted to impinge upon said valve-seat, said valve being provided with an elongated stem, a coiled spring adapted to fit over said stem and force said valve against its seat, and an adjustable nipple carried by said cap adapted to retain said spring and adjust the tension thereof.

6. A safety device adapted for receptacles containing gaseous liquids, comprising a valve adapted to normally close the outlet of said receptacles, said valve being provided with a stem, said stem having an annular groove in the periphery thereof, a coiled spring adapted to surround said stem and engage said groove, a cap for said outlet, said cap having said spring attached thereto, whereby said valve can be removed simultaneously with said cap, and an outlet above said valve for the escape of the generated gases.

7. A bottle having a neck, a valve-seat therein, a valve adapted to impinge against said seat, a cap removably fitted upon said neck, a coiled spring secured at one end to said valve and at the other end to the cap, and means for regulating the tension of said spring.

8. A bottle having a neck, a valve-seat therein, a valve provided with a stem fitting in said seat, a cap removably fitted upon said neck, the cap provided with an opening, a threaded nipple fitted in said opening, and a coiled spring secured to the stem of said valve and to said nipple.

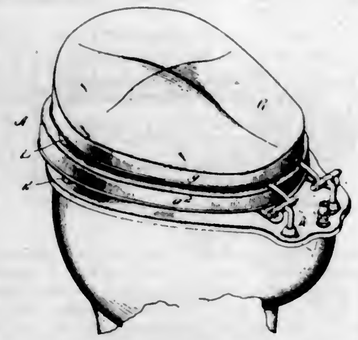
840,032. WATER-CLOSET SEAT. CHARLES WILLMS, Baltimore, Md. Filed Aug. 30, 1905. Serial No. 276,369.

Claim.—1. A water-closet seat constructed of sheet metal, comprising an upper member and a lower member with their edges securely joined, and enameled, substantially as specified.

2. A water-closet seat constructed of sheet metal, comprising an upper member and a lower member with their edges around the outside and around the hole securely joined, and enameled, substantially as specified.

3. A water-closet seat constructed of sheet metal, comprising an upper member and a lower member with their edges around the outside and around the hole interlocked and compressed, and enameled, substantially as specified.

4. A water-closet seat, comprising an upper member formed of thin sheet metal, and a lower member of thicker metal joined to the upper member, and enameled, substantially as specified.



5. A water-closet seat constructed of sheet metal, comprising an upper member and a lower member with their edges securely joined and a reinforcing-plate attached to the lower member to receive the hinge-attaching screws.

6. A water-closet seat constructed of sheet metal, comprising an upper member and a lower member with their edges securely joined, and reinforcing-plates secured to the lower member to receive the screws which attach the buffers.

7. A water-closet seat constructed of sheet metal, comprising an upper member of relatively thin metal having a downwardly-inclined wall around the hole and a downwardly-projecting flange around its edge, and a lower member of relatively thick metal joined to the edges of the downwardly-inclined wall, and the downwardly-projecting flange.

8. A lid for a water-closet constructed of sheet metal, comprising an upper and a lower member joined at their edges and enameled, substantially as specified.

9. A lid for a water-closet constructed of sheet metal, comprising an upper member formed with a downwardly-projecting flange around its edge, and a lower member joined at its edge to the downwardly-projecting flange of the upper member and enameled, substantially as specified.

10. A lid for a water-closet constructed of sheet metal, comprising a concavo-convex upper member, and a flat lower member joined at its edge to the upper member and enameled substantially as specified.

11. A lid for a water-closet, comprising an upper member formed with a downwardly-projecting flange around its edge and a lower member of relatively thick metal joined at its edge to the upper member and enameled, substantially as specified.

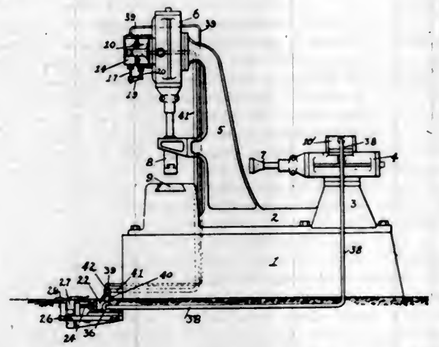
12. A lid for a water-closet formed of sheet metal, comprising a flanged upper member, a lower member joined at its edge to said flange and a reinforcing-plate applied to the lower member to receive the hinge-attaching screws.

840,033. HAMMER-CONTROLLING MEANS. WILLIAM W. WORD, San Francisco, Cal. Filed Oct. 4, 1906. Serial No. 337,258.

Claim.—1. In a machine having a plurality of independent fluid-engines, the combination of a lever, an initial valve operated by the lever for controlling fluid-pressure, and means operated by said pressure for separately controlling said fluid-engines.

2. In a machine having a plurality of independent fluid-engines, the combination of a lever, a valve operated by the lever for controlling fluid-pressure, and means operated by said pressure for separately controlling said fluid-engines, said means including a fluid-controlled valve for admitting and cutting off the pressure to the engine valve-chamber.

3. In a machine having a plurality of independent fluid-engines, the combination of a lever, a valve operated by the lever for controlling fluid-pressure, and means operated by said pressure for separately controlling said fluid-engines, said means including a fluid-controlled valve for admitting and cutting off the pressure to the engine-valve chamber, and contact devices between said control-valve and the engine-valve to arrest and to release said engine-valve.



4. In a machine having a plurality of independent fluid-engines, the combination of a lever, a valve operated by the lever for controlling fluid-pressure, and means operated by said pressure for separately controlling said fluid-engines, said means including a fluid-controlled valve for admitting and cutting off the pressure to the engine-valve chamber, said control-valve having a small port through it to admit pressure to one end of the engine-cylinder to hold its piston retracted when the engine is at rest, and contact devices between said control-valve and the engine-valve to arrest and to release said engine-valve.

5. The combination with a plurality of independent hammer-driving fluid-engines, of fluid-operated means, including an initial pressure-controlling valve, for separately controlling each engine, and a lever for operating said initial valve.

6. In a machine having a plurality of independent fluid-engines, a fluid-operated means for separately controlling each engine, said means involving a fluid-control valve which admits and cuts off the pressure to and from the engine-valve, and contact devices between said control-valve and the engine-valve for throwing the latter into and out of operation.

7. In a machine having a plurality of independent fluid-engines, a fluid-operated means for separately controlling each engine, said means involving a fluid-control valve which admits and cuts off the pressure to and from the engine-valve, and contact devices between said control-valve and the engine-valve for throwing the latter into and out of operation, said contact devices consisting of a projecting stem of the control-valve, a contact-arm of said stem, and a slidable holding-pin impinging against said arm and engine-valve.

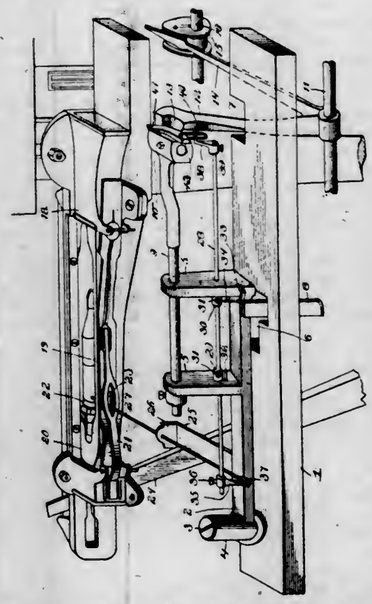
8. In a machine having plural independent fluid-engines, one engine being set vertically and the other horizontally, the combination of a control-chamber for the vertically-disposed engine communicating with the valve-chamber thereof, a valve in said control-chamber controlling said communication, contact devices by which said control-valve throws the engine-valve into and out of action, a rocking lever, and fluid-operated means operated by the lever to actuate the control-valve of the vertical engine and to independently operate the horizontal engine.

9. In a machine having plural independent fluid-engines, one engine being set vertically and the other horizontally, the combination of a control-chamber for the vertical engine communicating with the valve-chamber thereof, a valve in said chamber controlling said communication, contact devices by which said control-valve throws the engine-valve into and out of operation, a rocking lever and fluid-operated means operated by the lever to actuate the control-valve of the vertical engine and to independently operate the horizontal engine, said means comprising fluid-passages to the engines, and an initial pressure-controlling valve operated by the lever and controlling said passages.

10. In a machine having plural independent fluid-engines, one engine being vertically and the other horizontally disposed, the combination of a fluid-control chamber for the vertical engine communicating with the valve-chamber thereof, a valve in the said control-chamber controlling said communication, means by which the movement of said valve throws into and out of action the engine-valve, an initial casing with fluid-passages therefrom to each engine to separately operate them, a valve in said initial casing controlling said passages, and a lever for operating said valve.

11. In a machine having a plurality of independent fluid-engines, fluid-operated means for separately controlling each engine, said means including an initial valve-casing, passages therefrom to the engines, a valve in said casing controlling said passages, a rocking lever for operating said valve, and fluid communications from said initial casing controlled by said valve, for holding said lever in neutral position.

840,034. DEVICE FOR AUTOMATICALLY STOPPING LOOMS. CARL ADAMS, Easton, Pa. Filed July 13, 1905. Serial No. 269,521.



Claim.—1. In a loom, the combination with a support, a movable member provided with standards carried by said support, of a revoluble member journaled upon said standards, means carried by said revoluble and movable members for limiting movement of said revoluble member, a bracket carried by said movable member, a feeler carried by said bracket and above said movable member, means connecting said feeler and revoluble member, a pawl, means for supporting said pawl upon the upper portions of said brackets, a looped extension secured to said pawl, means connecting said extension and revoluble member, a weft-hammer coöperating with said pawl for moving said movable member, and a shipper-handle positioned contiguous to and adapted to be operated by said movable member when movement is imparted thereto.

2. In a loom, the combination with a support, a movable member carried by said support, standards carried by said member, of a revoluble rod carried by said standards, coil-

lars positioned upon said rod between said standards, means for fixedly securing said collars to said rod, a projection carried by one of said standards, means carried by said rod and adapted to engage said projection for limiting movement of said rod, a spring connected to said rod and said movable member, a bracket provided with a vertical, apertured extension, said bracket secured to said movable member, a movable feeler positioned within the apertured portion of said bracket, means connecting said feeler to said rod, a pawl, means supporting said pawl upon said standards, a substantially U-shaped member extending from said pawl, means connecting said last-mentioned member and rod, a weft-hammer adapted to coöperate with said pawl for moving said movable member, and a shipper-handle positioned contiguous to said movable member and adapted to be actuated by the same for stopping the loom.

3. In a loom, the combination with a support, a bobbin, a weft-hammer and a shipper-handle, of a swinging member carried by said support and positioned contiguous to said shipper-handle, standards carried by said swinging member, a stationary shaft positioned upon the upper portions of said standards, a revoluble rod journaled in said standards between said stationary shaft and said swinging member, a feeler normally engaging said bobbin and supported upon said swinging member, means connecting said feeler to said rod, and means mounted upon the shaft and connected to said rod and adapted to be moved into the path of movement of said weft-hammer by the exhaustion of the filling means upon the bobbin, whereby the weft-hammer will move said swinging member and thereby actuate the shipper-handle for disconnecting the power and stop the loom.

4. In a loom, the combination with a support, a shipper-handle, a weft-hammer, and a bobbin, a movable member provided with standards, carried by said support, of a bracket provided with a vertical, apertured extension, carried by said movable member, a rod-like feeler positioned within the apertured portion of said bracket, a revoluble rod journaled in said standards, means connecting said feeler and revoluble rod, a pawl, means connecting said pawl to the upper portions of said standards, said pawl provided with a depending extension, means movably connecting said extension to said revoluble rod, said pawl adapted to be engaged by the weft-hammer for swinging said movable member and thereby actuating said shipper-handle.

5. In a loom, the combination with a support, a bobbin, a shipper-arm and a movable member fulcrumed upon the support, of a crank-like weft-hammer, said hammer provided with an upper, notched portion, a standard secured to said movable member, a pawl, means connecting said pawl to the upper end of said standard, said pawl adapted to engage said notched portion of the weft-hammer, a feeler, means connecting said feeler and pawl, whereby movement of said feler will actuate said pawl for causing the same to be engaged by said weft-hammer and thereby move said movable member for actuating said shipper-handle.

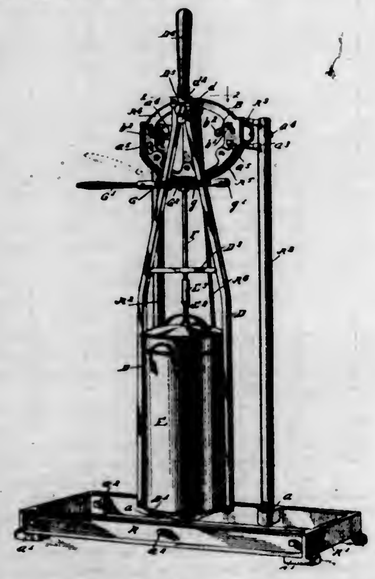
6. In a loom, the combination with a support, a bobbin, a shipper-arm, and a weft-hammer, of a movable member positioned upon said support, parallel standards carried by said movable member, a revoluble rod journaled in said standards, means positioned between said standards for preventing longitudinal movement of said revoluble rod, a feeler, means connecting said feeler to said rod, a flexible member connected to said rod and secured to said movable member for normally holding said feeler against said bobbin, and means carried entirely by said standards and movably connected to said rod and coöperating with said weft-hammer for permitting the said hammer to swing said movable member upon said support for actuating said shipper-handle.

7. In a loom, the combination with a support, a shipper-handle, a bobbin, and a movable member carried by said support, of a weft-hammer provided with a horizontal and a vertical extension, a cam engaging the horizontal extension of said weft-hammer, said vertical extension provided with a notched or cut-out portion, a pawl adapted to engage the notched portion of said weft-hammer, means connecting said pawl to said movable member, and means carried by said movable member and engaging said bobbin and pawl for swinging said pawl into the path of movement of said weft-hammer, when the filling of said bobbin is exhausted, whereby said weft-hammer swings said movable member upon said support for actuating said shipper-handle.

8. In a loom, the combination with a support, a shipper-handle, a bobbin, a weft-hammer, and a movable member carried by said support, of a parallel, stationary shaft and rotatable rod carried by said movable member, a feeler carried by said movable member and normally engaging said bobbin, means connecting said feeler and rod, a pawl carried by said stationary shaft and adapted to engage said weft-hammer, and means connecting said pawl and said revoluble rod, said weft-hammer adapted to move said movable member for actuating said shipper-handle, when said pawl is placed in the path of movement of said weft-hammer.

9. In a loom, the combination with a bobbin, a movable member, a shipper-handle, and a weft-hammer, of a standard carried by said movable member, a rotatable rod journaled in said standard, means carried by said rod for preventing longitudinal movement of said rod upon said standard, a weft-hammer-engaging member carried by the upper portion of said standard and coöperating with said weft-hammer, means connecting said hammer to said rod, a feeler carried by said movable member and normally engaging said bobbin, and means connecting said feeler to said rod, said weft-hammer when in engagement with said hammer-engaging member, adapted to move said movable member for actuating said shipper-handle.

840,035. CHURN. EUGENE L. ALLEN, Springfield, Ill. Filed Aug. 1, 1906. Serial No. 328,701.



Claim.—1. A churn-frame comprising side pieces, end pieces having heavy feet, and vertical frame members secured on one of the side pieces; in combination with an oscillative cradle mounted on said vertical frame members.

2. The combination of side pieces, weighted end pieces secured to said side pieces, vertical standards, a segment-plate secured on said standards, a cradle mounted to oscillate on the segment-plate, a vertical shaft mounted on the cradle and having a longitudinal channel, a pinion secured to said shaft and meshing with the segment-plate, a churn-body supported on the cradle, a revoluble dasher-shaft having a longitudinal channel and a flange, and a sleeve fitting around both shafts and having a feather fitting in the channels of both shafts.

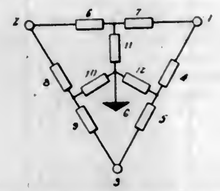
3. The combination of a main structure, standards on the main structure, corner-plates secured to said standards, a segment-plate secured to said corner-plates, a pivotal bolt extending through the segment-plate, a cradle oscillative on the pivotal bolt, and a brace-rod connecting the pivotal bolt with the main structure.

4. The combination of a main frame, standards secured thereon, brackets secured to said standards, a segment-plate, an oscillative cradle mounted on the segment-plate, and turnable rods having threaded parts extending through and connecting the segment-plate and the brackets and having cushions limiting the oscillations of the cradle.

5. The combination of a main frame, an oscillative cradle supported on the main frame, a slotted bar provided with sockets and connected with the cradle and a handle adapted to fit in the sockets of said bar.

6. The combination of a main frame, a cradle oscillative on the main frame, and bumpers adjustable to change the scope of the oscillations of the cradle.

840,036. LIGHTNING-ARRESTER CONNECTION. EDWARD A. BALDWIN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Aug. 8, 1904. Serial No. 219,858.



Claim.—1. The combination with a polyphase transmission-line of means for protecting the line conductors consisting of resistance devices connected across each phase, and means connected with each of said devices for providing a resistance-path to ground.

2. Means for protecting line conductors of electric circuits, consisting of a resistance device connected between each two conductors of said line, said device including a spark-gap, and means connected with the center of each resistance device for providing a resistance-path to ground.

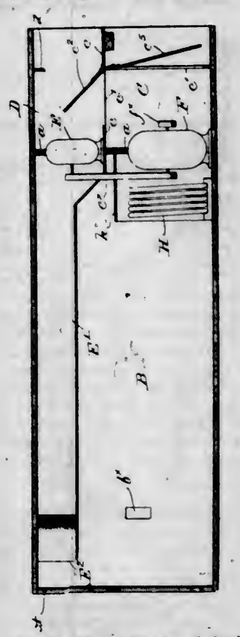
3. The combination with a transmission-line comprising three conductors, of three resistance devices arranged in delta between the three conductors, connections from the center of each side of the delta to other resistance devices, and means for connecting said last-named resistance devices to ground.

4. The combination with a polyphase transmission-line of means for protecting the line conductors, consisting of resistance devices connected across each phase, and means connected with the center of each resistance device for providing a resistance-path to ground, said means having substantially one-half the resistance of one of said resistance devices.

5. The combination with the conductors of an alternating-current-transmission line, of means for providing two permanent resistance-paths between each conductor and ground, said means providing a plurality of resistance-paths between conductors.

840,037. DRYING APPARATUS. JAMES E. BARNEY, Boston, Mass. Filed Apr. 20, 1906. Serial No. 312,758.

Claim.—1. In drying apparatus, a drying-chamber, a heater therein to raise the temperature of the air, a force-fan to force air into the chamber, an exhaust-duct leading from the opposite end of the said chamber, an exhaust-fan in the duct, of less volumetric capacity than the force-fan, and means to direct the discharge from the exhaust-fan to the intake of the force-fan, to cause a circulation of heated air under pressure through the drying-chamber.



2. In drying apparatus, an elongated drying-chamber, a heater therein, a force-fan in one end of the chamber to force air through into the chamber and in contact with the heater, an exhaust-duct at the top of the chamber and opening thereinto at the end opposite the fan, an exhaust-fan in the duct, of less volumetric capacity than the force-fan, and means to direct the discharge from the exhaust-fan to the outside air or to the intake of the force-fan, the latter by reason of its greater capacity causing the air to forcibly impinge upon all objects in the drying-chamber.

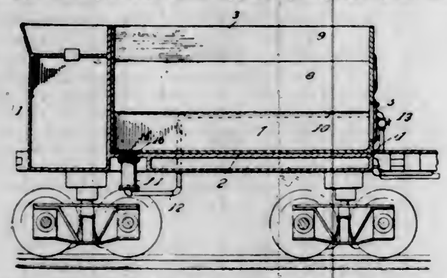
3. In drying apparatus, a drying-chamber, a heater therein at one end, a force-fan to force air through the heater into the chamber, an exhaust-duct leading from the opposite end of the said chamber, an exhaust-fan in the duct, an air-chamber leading to the intake of the force-fan, an adjustable inlet for said chamber, an outlet-chamber into which the exhaust-fan discharges, said compartment having an exit-opening and an opening into the air-chamber, and a device to close one opening and open the other, and vice versa, whereby the exhaust can be discharged directly to the external air or diverted to the intake of the force-fan.

4. In drying apparatus, an elongated drying-chamber, a heater therein at one end, a force-fan in said end of the chamber to force air through the heater into the chamber, an exhaust-duct at the top of the latter having an enlarged or flared inlet-opening into the drying-chamber at the end opposite the force-fan, an exhaust-fan in the duct, of less volumetric capacity than the force-fan, means to direct the discharge from the exhaust-fan to the outside air or to the intake of the force-fan, and means to control the supply of external air to said force-fan.

840,038. LOCOMOTIVE-TENDER. WILLIAM L. BASKINS, Alliance, Nebr. Filed Mar. 15, 1906. Serial No. 306,275.

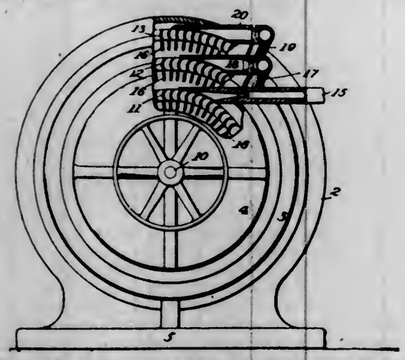
Claim.—1. The combination of a tender provided with a coal-bin, a movable bottom for the coal-bin, a rod bearing against one end of the movable bottom so as to tilt the same and form an inclined plane, the said rod having a slidable connection with the movable bottom, and means for operating the rod.

2. The combination of a tender, the opposite sides of which are beveled, a movable coal-bin fitting within the tender and provided with oppositely-disposed sides, the



lower portions of which are approximately vertical, while the upper portions are flared outwardly and adapted to rest upon the beveled edges of the sides of the tender, extensions projecting inwardly from the flared portions of the sides and extending somewhat beyond the lower vertical portions of the sides, the said extensions forming inclined planes for throwing the coal away from the sides of the bin and toward the center thereof, and means for tilting the bin to form an inclined plane for the delivery of the coal toward the lower end thereof.

840,039. COMPOUND STEAM-TURBINE. FRANZ BURGER, Fort Wayne, Ind., assignor of three-fourths to Henry M. Williams, Fort Wayne, Ind. Filed Jan. 20, 1903. Serial No. 139,780.

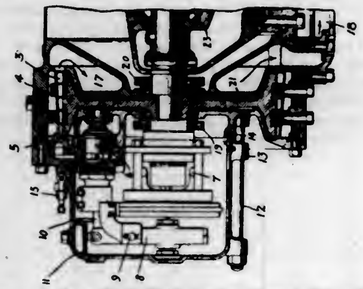


Claim.—1. In a compound turbine, the combination with the separate steam-tight compartments, of a series of bucket-wheels mounted in said compartments provided with buckets closed at each side and open at their outer and inner peripheries and a series of vanes mounted on the casings and projecting into the compartments within the inner peripheries of the buckets, and a series of nozzles of varying sizes arranged to deliver the motive fluid in succession to the various wheels.

2. The combination, with a compound turbine having a series of compartments of different sizes each containing a bucket-wheel, nozzles arranged to deliver the motive fluid to the periphery of each bucket-wheel, and means for supplying superheated water to the first nozzle, such means including a superheated coil, substantially as described.

3. The combination, with a compound turbine having a series of compartments of different sizes each containing a bucket-wheel, nozzles arranged to deliver the motive fluid to the periphery of each bucket-wheel, means for supplying superheated water to the first nozzle, such means comprising a boiler, a water-supply pipe attached to the boiler below the water-level, a superheating-coil in said pipe, and a by-pass between the superheating-coil and the nozzle connected to the boiler below the water-line, substantially as described.

840,040. TURBO-GENERATOR. JOHN G. CALLAN, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed May 25, 1905. Serial No. 262,287.



Claim—1. An elastic-fluid motor comprising relatively movable elements and a governor therefor in combination with a casing which incloses the governor, and a support for the casing along which it is movable to give access to the governor.

2. An elastic-fluid motor comprising relatively movable elements and a governor therefor, in combination with a casing which incloses the governor, a support for the casing along which it is movable to give access to the governor, and a means for securing the casing in a position to inclose the governor.

3. An elastic-fluid motor comprising relatively movable elements and a governor therefor, in combination with a casing which incloses the governor, a support for the casing along which it is movable to give access to the governor, a means for securing the casing in a position to inclose the governor, and a packing located between the casing for the governor and that for the relatively movable elements.

4. An elastic-fluid motor comprising a wheel, a casing therefor, and means for discharging fluid to the wheel, in combination with a governor for regulating the speed of the wheel, a casing for the governor, and supports on which the governor-casing is freely movable to expose the governor, one of said supports acting as a pivot for the casing.

5. In combination, a generator, a motor united therewith for driving it, a governor driven by the shaft of the motor and located on the side of the motor remote from the generator, and a pump for supplying lubricant to the bearings, which is also driven by the motor-shaft and is located on the side of the generator remote from the motor.

6. A turbine in combination with a saddle-piece which is detachably secured to the turbine and contains an exhaust-conduit.

7. A turbine, in combination with a detachable saddle-piece, an exhaust-conduit attached thereto, and means for securing the saddle-piece to the turbine in such manner that the conduit can extend in one direction or the other with respect to the turbine.

8. In combination, a turbine, a generator driven thereby, and an exhaust-conduit which is attached to the turbine and extends longitudinally under the generator.

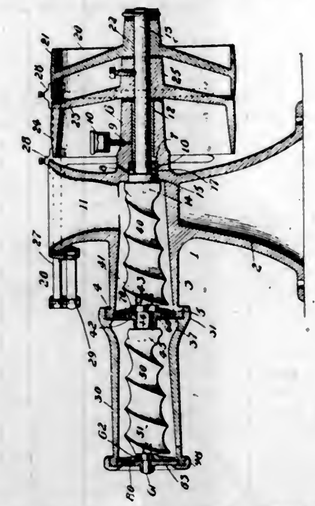
9. In combination, a bucket-wheel, a casing therefor, an exhaust-chamber formed in the casing which surrounds the wheel-shaft, and a conduit detachably secured to the wheel-casing which communicates with the exhaust-chamber and extends longitudinally of the machine.

10. In combination, a bucket-wheel, a casing therefor, a shaft for supporting the wheel carried by a suitable bearing, a pump geared to the shaft, a conduit leading from the high-pressure side of the pump to the bearing, a casing inclosing the pump and in which the latter is submerged, and a return-pipe which receives lubricant after it has passed through the bearing and returns it to the pump-inclosing casing.

11. In combination, a driving and a driven element, bearings for the driving-shaft, a pump driven by the shaft, conduits leading from the pump to the bearings, a casing which incloses the pump and in which it is submerged, the said casing also acting as a reservoir for the lubricant flowing out of one of the bearings, and a conduit which returns fluid from another bearing and discharges it into the casing.

12. In combination, a driving and a driven element, bearings for the driving-shaft, a pump for supplying lubricant under pressure to the bearings, a casing which incloses each of the bearings and forms a reservoir, and a device moving with the shaft and dipping into the lubricant in the casing which serves as an auxiliary lubricator.

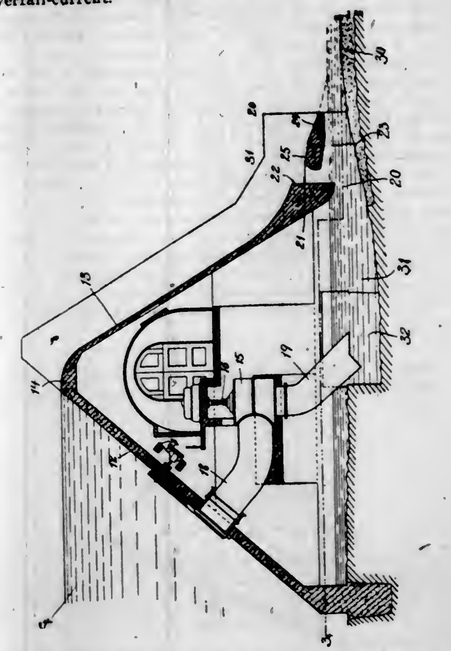
840,041. MEAT-CUTTING MACHINE. FRANK A. CAPENER, LUCIUS BUMP, EMIL GUST, and JOHN SHIELDS, Baraboo, Wis. Filed Mar. 3, 1906. Serial No. 304,148.



Claim.—A meat-cutting machine comprising a main frame having a cylinder exteriorly threaded at its outer end, a funnel or outer cylinder having an interiorly-threaded inner end turned on the outer end of the first-mentioned cylinder and also having beveled teeth on said inner end, a dog arranged to engage said teeth, a body carrying said dog and fulcrumed on the side of the first-mentioned cylinder and arranged to swing in the direction of the length thereof, a finger-piece pivoted to the opposite end of said body, with reference to the dog, and arranged to swing at a right angle to the direction in which the body is movable, whereby it may be moved into and out of engagement with the teeth on the end of the funnel or outer cylinder, conveyers arranged in the cylinders, an auxiliary shaft connected to one conveyer and having an angular end arranged in an angular socket of the other conveyer, primary and secondary foraminated disks and knives, a shaft-bearing in the main frame and connected to the inner conveyer, a bearing-ring surrounding the shaft and opposed to an abutment in the main frame, a second bearing-ring mounted on the shaft at the inner end of the inner conveyer, and antifriction devices interposed between the bearing-rings.

840,042. DAM. WILLIAM L. CHURCH, Newton, Mass. Filed Mar. 28, 1906. Serial No. 308,426.

Claim.—1. A power-space-inclosing dam having a conduit extending downwardly from the upstream side of the dam and discharging in the lower portion of said space, means at the downstream side of the dam for causing a forcible downstream flow of the overfall, and means for connecting the tail-water within the dam with the overfall-current flowing from the dam, whereby an outflow of tail-water from the interior of the dam is induced by the said overfall-current.



2. A power-space-inclosing dam having a conduit extending downwardly from the upstream side of the dam and discharging in the lower portion of said space, a plurality of tail-water outlets in the downstream side of the dam, said outlets being under the path of the overfall and means for conducting tail-water from the interior of the dam to said outlets.

3. A power-space-inclosing dam having a conduit extending downwardly from the upstream side of the dam, and discharging in the lower portion of said space, and a tail-water outlet in the downstream side of the dam, said outlet being under the path of the overfall, whereby the overfall is caused to induce an outward flow of tail-water through said outlet.

4. A power-space-inclosing dam having a conduit extending downwardly from the upstream side of the dam, and discharging in the lower portion of said space, and a tail-water outlet in the downstream side of the dam, said outlet being under the path of the overfall, and normally sealed by the escaping tail-water against the outward passage of air from said space above the tail-water.

5. A power-space-inclosing dam having an apron or spillway, a conduit extending downwardly from the upstream side of the dam and discharging in the lower portion of the inclosed space, and a tail-water outlet under the lower portion of the apron, the top of said outlet being connected with the path of the overfall by an air-draft passage, which is covered by the sheet of overfall.

6. A power-space-inclosing dam having an apron or spillway, a conduit extending downwardly from the upstream side of the dam and discharging in the lower portion of the inclosed space, and a tail-water outlet under the lower portion of the apron, the said portion being provided with an air-draft passage between the outlet and the path of the overfall.

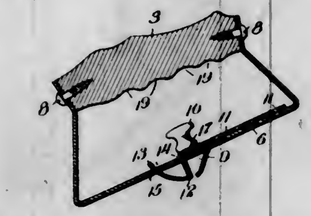
7. A power-space-inclosing dam having an apron or spillway, a conduit extending downwardly from the upstream side of the dam and discharging in the lower portion of the inclosed space, and a tail-water outlet under the lower portion of the apron, the said portion having a

recess located above and communicating with the tail-water outlet, and forming an air-draft flue, the said recess having a bridge, the outer portion of which forms a continuation of the overfall-guiding surface of the apron, while the inner portion forms an extension of the said flue.

8. A power-space-inclosing dam having a conduit extending downwardly from the upstream side of the dam and discharging in the lower portion of said space, a hearth at the downstream side of the dam arranged to deflect the overfall entirely and forcibly downstream as it leaves the dam, and means for connecting the tail-water within the dam with the overfall-current on said hearth.

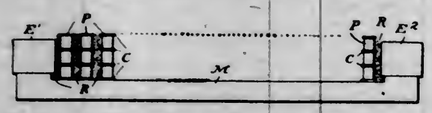
9. A power-space-inclosing dam having a conduit extending downwardly from the upstream side of the dam and discharging in the lower portion of said space, a plurality of tail-water outlets in the downstream side of the dam, said outlets being under the path of the overfall, a continuous well elongated in the direction of the axis of the dam, and arranged to receive the tail-water from said conduit, and connections between the well and the said outlets.

840,043. SAD-IRON HANDLE. JAMES R. COCHRAN, Silverstar, Mont. Filed Oct. 16, 1905. Serial No. 282,997.



Claim.—A sad-iron handle comprising a metallic plate having an intermediate portion and upturned end portions, said intermediate portion having an opening, a transverse slot near the inner end of said opening and having a downturned integral hook near said slot and on the side thereof opposite said opening, a hand-grip connecting the upturned ends of said plate, and a spring-plate on the intermediate portion of the first-mentioned plate having one end secured thereto and having its opposite end bent downwardly through the slot and curved upwardly and outwardly through said opening, substantially as described.

840,044. METHOD OF ELECTRICALLY HEATING MATERIALS. CLARENCE L. COLLINS, 2d., Niagara Falls, N. Y. Filed Dec. 1, 1905. Serial No. 289,864.



Claim.—1. The process of electric heating, which consists in providing a resister comprising granular portions relatively extended transversely to the path of the current and of high electrical resistance, and intermediate portions of lower resistance, material to be heated being placed between the high-resistance portions of said resister, and passing an electric current through said resister.

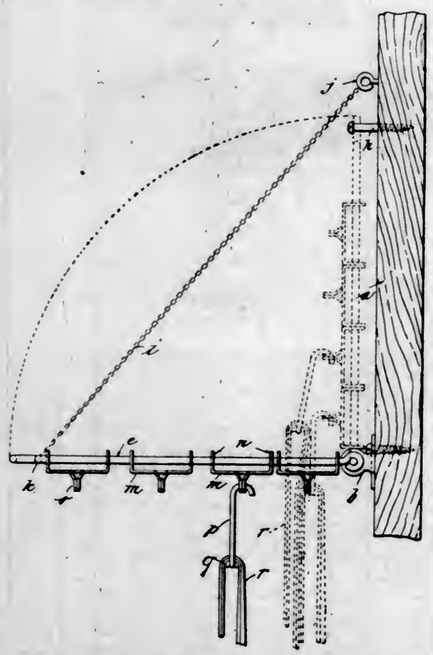
2. The process of electric heating, which consists in providing a resister comprising granular portions relatively extended transversely to the path of the current and of high electrical resistance, and intermediate integral portions of lower resistance, material to be heated being placed between the high-resistance portions of said resister, and passing an electric current through said resister.

3. The process of electric heating, which consists in providing a resister comprising granular portions relatively extended transversely to the path of the current and of high electrical resistance, and intermediate portions of lower resistance, material to be heated being placed between the high-resistance portions and in proximity to the lower-resistance portions of said resister, and passing an electric current through said resister.

4. The process of heating materials which are relatively poor conductors of electricity, which consists in providing a resister comprising granular portions of high electrical resistance, and intermediate portions of lower resistance, material to be heated being placed between the high-resistance portions of the resister, and passing an electric current through said resister.

5. The process of electric heating, which consists in providing a resister comprising granular portions relatively extended transversely to the path of the current and intermediate integral, solid connecting portions, the material to be heated being placed between the granular portions, and passing an electric current through said resister.

840,045. GARMENT-HANGER. GEORGE W. COOK, Springfield, Mass. Filed Apr. 3, 1906. Serial No. 309,613.

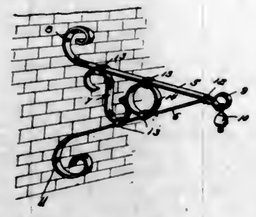


Claim.—1. In a garment-hanger, an arm, a bracket adapted for vertical adjustment for securing the same to a fixed support, a slot or constricted portion in the outer end of the supporting-arm, one end of the slot being narrower than the other, and means for engaging the slot or constricted portion in the outer end of the supporting-arm in a vertical position.

2. In a garment-hanger, a supporting member pivotally and vertically adjustably secured to a fixed support, and having a constricted opening in the end thereof, a retaining device also secured to the fixed support, a series of carriers longitudinally adjustable on the supporting member, said carrier devices having portions struck out from the body portion thereof and forming earpieces whereby hooks or garment-holding devices may be attached thereto, and means secured to the wall for engaging the constricted opening in the end of the supporting member whereby the supporting member may be retained in a vertical position against the wall, and means for holding the supporting member in a horizontal position, as described.

3. In a garment-hanger, an arm pivotally and adjustably secured to a fixed support and having a slot in the outer end thereof, a series of carriers mounted on the arm and having struck-out portions in the base thereof for affording means for attaching a garment-hook, means secured to the wall above the pivotal securing means for the arm for engaging the slot in the outer end of the arm whereby when the arm is swung and elevated the same is retained in vertical position against the wall or fixed support, and whereby the series of carriers will permit the garments to overlie each other in a vertical position, and means whereby the arm may be supported in a horizontal position.

840,046. ADJUSTABLE BRACKET. GEORGE CUTTER, South Bend, Ind. Filed May 29, 1906. Serial No. 319,380.



Claim.—1. A bracket comprising a supporting-bar, a brace-bar secured at its outer end to the outer end of the supporting-bar, said bars being adapted to be brought together or spread apart at their inner ends, and a strut member adjustably mounted between the supporting and brace bars.

2. A bracket comprising an upper supporting-bar and a lower brace connected at its outer end to the outer end of the supporting-bar and arranged at an angle thereto, a strut member adjustably connected at its ends with the supporting and brace bars, and clamping members for connecting the ends of the strut member with the supporting and brace bars.

3. A bracket comprising two bars connected together at their outer ends and disconnected at their inner ends, a strut member, loops slidably mounted upon said bars and connected with the strut member, and wedges for clamping the strut member, the loop and the bars together.

4. A bracket comprising a supporting-bar, a brace-bar, said bars being connected together at their outer ends and adapted to be brought together or spread apart at their inner ends, and a pair of strut members adjustably mounted between the supporting and brace bars.

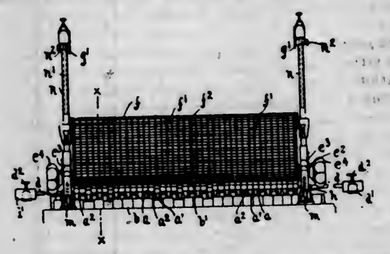
840,047. MEASURE FOR FABRICS. GEORGE W. DAVIS, Baltimore, Md. Filed June 26, 1905. Serial No. 267,059.

Claim.—A measuring-strip divided into units of measure and into fractional divisions of said units, the strip being provided with numbers in rows parallel to a longitudinal edge of the strip, one number of each row being adjacent each division-mark and the numbers of the same row being arranged successively in regular series from zero to a common maximum, the zeros of each row being different distances from the end of the strip from those of the other rows, and the numbers of each row having a common index character differing from those of the other rows.

840,047.



840,048. INSTRUMENT FOR PLAYING ORGANS OR HARMONIUMS. JAMES H. DAWE, Seacombe, England, assignor of one-half to Panels Limited, Liverpool, England. Filed Dec. 30, 1903. Serial No. 187,214.



Claim.—1. In apparatus for playing organs, harmoniums and the like, the combination of a series of strikers having hammers at the front and in the middle respectively according as they fall on the white keys or the black, and having a horizontal perforation h' through each striker and a rod h passing through all these perforations and confining the stroke of the striker to an amount limited by the perforation h'.

2. In a mechanism for playing organs, harmoniums and the like, the combination of a series of strikers having hammers at the front, and in the middle respectively according as they have to fall on the white keys or the black, and a device adapted to confine the stroke of all the strikers to the required limited amount, and to prevent them falling when removed from the keyboard.

3. In mechanism for playing organs, harmoniums and the like, the combination of two frames, playing mechanism carried by those frames, a device for rigidly holding the frames at a uniform distance apart adjustable feet on the frames resting on the front ledge of the instrument and other feet slidably adjustable on the side frames, both set of feet having screw adjustments as regards height.

4. In mechanism for playing organs, harmoniums and the like, the combination of the side frames, a lower roller in bearings therein, standard-rods fixed to the side frames having adjustable telescopic extensions adjustable bearings sliding on the standard-rods, and capable of being

fixed in any position thereon, and bearings on the ends of the extension-rods, and a second roller capable of fitting either pair of bearings, with a tune-sheet, substantially as described.

5. In an apparatus for playing organs, harmoniums and the like, the roller-carrying device consisting of a hollow standard *n*, a bearing for the roller sliding thereon, a ratchet and pawl for holding the bearing at any position and height, a telescopic rod *n'*, a collar and set-screw for clamping the telescopic rod at any given height, and a second bearing *g'* on the top of this rod whereby when a short tune-sheet is to be played, the bearings sliding on the lower rods can be used, and when a long tune-sheet, the upper bearings are used.

6. In mechanism for playing organs, harmoniums and the like, the combination of a revolving musical device and strikers actuated by that revolving musical device, two side members and a spacing-tube forming a combined frame and capable of holding three octaves of strikers, two sliding rods fitting into the spacing-tube, sliding with an easy fit therein, and having adjustable feet on their ends bearing on the side pieces of the keyboard, substantially as described.

7. In mechanism for playing organs, harmoniums and the like, the combination of a lower roller, a pair of side frames carrying the same with a pair of rods carrying the upper roller in adjustable bearings, hinges connecting the rods so that they can either stand upright or be laid down horizontally toward each other, and means for locking the hinged rods in position whereby when the rollers are removed, the rods can be laid down laterally over the machine for packing and be erected in a moment for use.

8. In mechanism for playing organs, harmoniums and the like, the combination of a series of strikers *a*, a tube *c* to which said strikers are hinged, a frame A for the instrument, having bearings for said tube, rods *d* sliding in said tube, and adjustable feet *d'* carried by said rods.

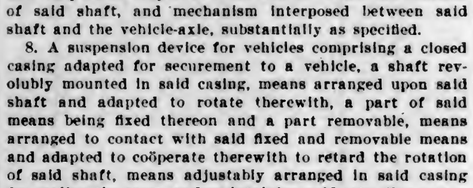
9. In mechanism for playing organs, harmoniums and the like, the combination of strikers resting upon the forward ends of the keys of the said harmonium, each of the said strikers having near its forward end a horizontal perforation, a rod of smaller diameter than the perforations passing through all of the perforations, for limiting the stroke of the strikers, and a revolving music device for pressing upon the forward ends of the said strikers.

10. In mechanism for playing organs, harmoniums and the like, the combination of strikers, a revolving music device for pressing upon the said strikers, the said strikers each having upon its lower side a hammer which rests upon the forward end of the corresponding key of the harmonium, the said hammer being located near the middle or at the forward end of the striker according as it rests upon a black or a white key of the harmonium, each of the said strikers having a blunt-edged projection at the very forward end of the top of the striker farthest from its pivot and immediately below the revolving device, means for vertically adjusting those hammers which are at the middle of the strikers and which rest upon the black notes, each of the said strikers having a horizontal perforation near its forward end, and a rod of smaller diameter than the perforation passing through all of the perforations, for limiting the stroke of the strikers.

840,049. SUSPENSION DEVICE FOR VEHICLES. GUSTAV DIEZEMANN, West Hoboken, N. J. Filed Apr. 3, 1905. Serial No. 253,426.

Claim.—1. A suspension device for vehicles comprising a closed casing adapted for securement to a vehicle, a shaft revolubly supported in said casing, a head arranged within said casing, packings arranged at right angles to said shaft and contacting with said head for retarding the rotation of said shaft, and mechanism interposed between said shaft and the vehicle-axle, substantially as specified.

2. A suspension device for vehicles, comprising a closed casing adapted for securement to a vehicle, a shaft revolubly mounted in said casing, heads arranged upon said shaft and revoluble therewith, means adapted to coöperate with said heads to retard the rotation of said shaft, and mechanism interposed between said shaft and the vehicle-axle, substantially as specified.



3. A suspension device for vehicles comprising a closed casing adapted for securement to a vehicle, a shaft revolubly mounted in said casing, heads arranged upon said shaft and revoluble therewith, means adapted to coöperate with said heads to retard the rotation of said shaft, means for maintaining the retarding means in operative relation, and mechanism interposed between said shaft and the vehicle-axle, substantially as specified.

4. A suspension device for vehicles comprising a closed casing adapted for securement to a vehicle, a shaft revolubly mounted in said casing, heads arranged upon said shaft and revoluble therewith, friction material arranged in contact with said heads and adapted to coöperate therewith to retard the rotation of said shaft, and mechanism interposed between said shaft and the vehicle-axle, substantially as specified.

5. A suspension device for vehicles, comprising a closed casing adapted for securement to a vehicle, a shaft revolubly mounted in said casing, heads arranged upon said shaft and revoluble therewith, friction material interposed between said heads and the ends of the casing and adapted to coöperate with said heads to retard the rotation of said shaft, and mechanism interposed between said shaft and the vehicle-axle, substantially as described.

6. A suspension device for vehicles comprising a closed casing adapted for securement to a vehicle, a shaft revolubly mounted in said casing, heads arranged upon said shaft and revoluble therewith, packings arranged independently of said shaft intermediate said heads and the ends of said casing adapted to coöperate with the heads upon the shaft to retard the rotation of said shaft, means for maintaining the adjusted relation of said retarding means, and mechanism interposed between said shaft and the vehicle-axle, substantially as specified.

7. A suspension device for vehicles, comprising a closed casing adapted for securement to a vehicle, a shaft revolubly mounted in said casing, means arranged upon said shaft and adapted to rotate therewith, a part of said means being fixed thereon and a part removable, means arranged in contact with said fixed and removable means, and adapted to coöperate therewith to retard the rotation of said shaft, and mechanism interposed between said shaft and the vehicle-axle, substantially as specified.

8. A suspension device for vehicles comprising a closed casing adapted for securement to a vehicle, a shaft revolubly mounted in said casing, means arranged upon said shaft and adapted to rotate therewith, a part of said means being fixed thereon and a part removable, means arranged to contact with said fixed and removable means and adapted to coöperate therewith to retard the rotation of said shaft, means adjustably arranged in said casing for sealing the same, and maintaining said retarding means in operative relation, and mechanism interposed between said shaft and the vehicle-axle, substantially as specified.

9. A suspension device for vehicles comprising a closed casing adapted for securement to a vehicle, a shaft revolubly mounted in said casing and arranged partly within and partly without the same, means therefor arranged upon said shaft and adapted to rotate therewith, retarding means in frictional engagement with the means arranged upon said shaft and coöperating therewith to impede the free movement of said shaft, and mechanism interposed between the portion of the shaft without said casing and the vehicle-axle, substantially as specified.

10. A suspension device for vehicles comprising a closed casing adapted for securement to a vehicle, a shaft revolubly mounted in said casing and arranged partly within and partly without said casing, a plurality of heads arranged upon said shaft and adapted to rotate therewith, retarding means in frictional engagement with said heads to impede the free movement of said shaft, means for regulating the engagement of said retarding means with said heads, and mechanism interposed between the outer portion of said shaft and the axle of the vehicle, substantially as specified.

11. A suspension device for vehicles comprising a casing adapted for securement to a vehicle, a shaft revolubly mounted in said casing and arranged partly within and partly without the same, a plurality of heads arranged upon said shaft and adapted to rotate therewith, packings disposed in said casing in contact with said heads, means for maintaining said packings in contact with and bearing against said heads to impede the free movement of said shaft, and mechanism interposed between the outer portion of said shaft and the vehicle-axle, substantially as specified.

12. A suspension device for vehicles comprising a casing, means for securing the same to a vehicle, a shaft arranged partly within and partly without said casing, a plurality of heads arranged upon said shaft and adapted to rotate therewith a part of said heads being fixed thereon and a part thereof removable, packings disposed in said casing in contact with said heads, means for closing said casing and maintaining said packings in contact with and bearing against said heads to impede the free movement of said shaft, and mechanism interposed between the outer portion of said shaft and the vehicle-axle, substantially as specified.

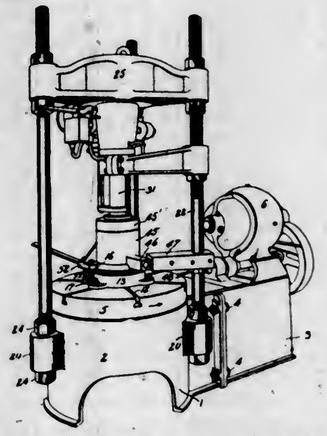
13. A suspension device for vehicles comprising a casing, a support therefor, adapted for securement to a vehicle, a shaft arranged partly within and partly without said casing, heads arranged within said casing upon said shaft, packings disposed within said casing in contact with said heads, means for holding said packings against rotary movement, means for closing said casing and maintaining said packings in contact with and bearing against said heads, an arm secured at one end to the outer portion of said shaft, and a link connected to the other end of said arm, and the vehicle-axle, substantially as specified.

14. A suspension device for vehicles comprising a casing consisting of two separated cylindrical barrels united by a support adapted for securement to a vehicle, a shaft supported at its ends in said cylindrical barrels, heads arranged upon the ends of said shaft located within said cylindrical barrels, packings disposed within said cylindrical barrels in contact with said heads, caps for closing the ends of said cylindrical barrels adapted to maintain said packings in contact with and bearing against said heads, mechanism interposed between the exposed portion of said shaft and the vehicle-axle, substantially as specified.

15. A suspension device for vehicles comprising a casing consisting of two separated cylindrical barrels united by a support adapted for securement to a vehicle, a shaft supported at its ends within said casing having a fixed head at one end located in one of said cylindrical barrels, and a removable head at its other end located in the other of said cylindrical barrels, means arranged upon the end of said shaft adapted to engage and hold said removable head, annular packings disposed upon said shaft intermediate the heads thereon and the ends of said cylindrical barrels, disk packings disposed upon the outer surfaces of said heads, screw-caps for closing the open ends of said cylindrical barrels adapted to bear against said disk packings, an arm having one end keyed to said shaft intermediate the cylindrical barrels, a bearing secured to the vehicle-spring adjacent to the vehicle-axle, and a link pivotally connected to said bearing and the outer end of the arm aforesaid, substantially as specified.

840,050. HELIX-FORMING MACHINE. THOMAS E. DUGHAN, Madison, Wis., assignor to Northern Electrical Manufacturing Company, a Corporation of Wisconsin. Filed Aug. 1, 1904. Serial No. 219,013.

Claim.—1. In a coil-forming machine, a rotating head or table, an arbor carried thereby, an abutment, and a pressure-applying device movable into and out of the position in which it is in line with said arbor and engages said abutment.



2. In a bending-machine, a former about which an object may be bent, a follower, an abutment, a device for applying pressure to the object being bent about said former, and supporting means for the device which permit said device to be moved into and out of the position in which it engages said follower and said abutment.

3. In a bending-machine, a rotating arbor, a pressure-applying device, a follower mounted on said arbor and positioned independently of said device, and means for moving said device into and out of the position in which it engages said follower.

4. In a bending-machine, a support, a rotating arbor mounted thereon, a follower, a cross-head carried by the support, and a pressure-applying device pivoted to the support and movable into and out of position in which it engages said follower and said cross-head.

5. In a bending-machine, an arbor, a follower sliding thereon, said follower and said arbor being rotatable with respect to each other, and a pressure-exerting device for engaging said follower mounted to swing into and out of line therewith.

6. In combination, a support, a rotating head mounted thereon, an abutment also carried by the support, an arbor about which a helix is wound with one end engaging said head, and a yielding pressure-exerting device extending between said abutment and the end of the helix remote from said head.

7. In a machine for forming coils out of bars, a mandrel upon which the bar is bent into a coil, and means for applying a constant pressure to the ends of the coil as its length increases, said means comprising a fluid-pressure device provided with a pressure-relief device.

8. In a bending-machine, a support, a table pivotally mounted thereon, an arbor carried thereby, a follower cooperating with the arbor, a cross-head extending parallel to the table and connected to the support by bolts or posts, an arm pivotally connected to one of said posts, and a fluid-pressure device carried thereby and adapted to be swung into and out of the position in which one end engages the cross-head and the other end engages the follower.

9. In a coil-forming machine, an arbor about which a helix is formed, a follower engaging one end of the helix during the process of its formation and being moved in one direction as the length of the helix increases, and a fluid-pressure device engaging said follower and opposing the movement of the follower.

10. In a coil-forming machine, an arbor about which a helix is formed, a follower engaging one end of the helix during the process of its formation and being moved in one direction as the length of the helix increases, and a fluid-pressure device engaging said follower, said fluid-pressure device comprising a piston, a work-chamber and a

pressure-relief valve for controlling the pressure of the working fluid in said chamber.

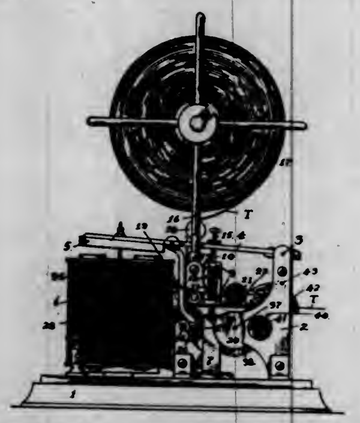
11. In a coil-forming machine, a rotating mandrel about which the coil is formed, and a fluid-pressure device for engaging the end of the coil formed mounted to be swung into and out of line with said mandrel.

12. In combination, a rotating head, an abutment in line with the axis of rotation of said head, and a yielding pressure-exerting device engaging said abutment and extending toward said head, whereby the turns of a helix formed by the rotation of said head are compressed between said head and said pressure device.

13. In a bending-machine, a continuously-rotating head supporting an object to be shaped, an abutment in line with the axis of rotation of said head, and a yielding pressure-exerting device movable into and out of the position in which it engages said abutment and extends toward said head to engage said object.

14. In a coil-bending machine, a support, a rotating head mounted thereon, an abutment carried by the support, an arbor about which a helix may be formed with one end engaging said head, and a yielding pressure-exerting device pivoted to said support and movable into and out of the position in which it engages said abutment and the end of said helix remote from said head.

840,051. TAPE-PUNCHING REGISTER. JOHN L. DU FRANS, Oakland, Cal. Filed Apr. 12, 1906. Serial No. 311,239.



Claim.—1. In a tape-punching register, the combination of a tape-feed mechanism, a magnet, an armature-bar pivotally supported at one end and having an armature-plate at its opposite end in operative relation to the magnet, a spring, and a lever pivoted directly to said bar intermediate its ends and operatively associated with said spring to put the same under tension, and connections between the spring and tape-feeding mechanism to operate the tape-feeding mechanism.

2. In a tape-punching register, the combination of a tape-feed mechanism, an electrically-operated armature-bar, a punch for perforating the tape under the pressure of the armature-bar, a spring, means for putting the same under operative tension including a pivoted segment and a lever operatively associated at its respective ends with the segment and the armature-bar, and connections from the spring to operate the tape-feed mechanism.

3. In a tape-punching register, the combination of a tape-feed mechanism, an electrically-operated armature-bar, a punch for perforating the tape under the pressure of the armature-bar, a spring, connections from said bar to put the spring under operative tension by the same movement of the bar which effects the punching, and connections from the spring to operate the tape-feed mechanism.

4. In a tape-punching register, the combination of a tape-feed mechanism, a spring, an electrically-operated armature-bar, connections from said bar to put the spring under operative tension consisting of a rock-shaft, a crank thereon to which the spring is connected, a second crank on said shaft and a connecting-rod between said second crank and the armature-bar, and connections from the rock-shaft to operate the tape-feed mechanism.

5. In a tape-punching register, the combination of a tape-feed mechanism, a spring, an electrically-operated armature-bar, connections from said bar to put the spring under operative tension consisting of a rock-shaft, a crank thereon to which the spring is connected, a second crank on said shaft and a connecting-rod between said second crank and the armature-bar, and connections from the rock-shaft to operate the tape-feed mechanism consisting of a pawl and ratchet and a gear-train to said mechanism.

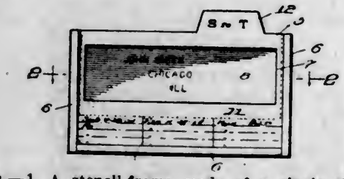
6. In a tape-punching register, the combination with a tape-feed mechanism, including a rotatable roller, a depressible bar pivoted at one end and free at its opposite end, electrical operating means for said free end, a punch arranged below the bar for engagement thereby, a spring, connections from said bar intermediate its ends to put the spring under operative tension by depressing said bar, and connections from the spring to operate the tape-feed mechanism.

7. In a tape-punching register, the combination of a tape-feed-mechanism, an electrically-operated armature-bar, a punch for perforating the tape under the pressure of the armature-bar, a spring, connections from the armature-bar to put the spring under operative tension consisting of a rock-shaft, a crank thereon to which the spring is connected, a second crank on said shaft and a connecting-rod between said second crank and the armature-bar, and connections from the rock-shaft to operate the tape-feed mechanism.

8. In a tape-punching register, the combination of a tape-feed mechanism, an electrically-operated armature-bar, a punch for perforating the tape under the pressure of the armature-bar, a spring, connections from the armature-bar to put the spring under operative tension consisting of a rock-shaft, a crank thereon to which the spring is connected, a second crank on said shaft and a connecting-rod between said second crank and the armature-bar, and connections from the rock-shaft to operate the tape-feed mechanism consisting of a pawl and ratchet and a gear-train to said mechanism.

9. In a tape-punching register, the combination with a tape-feed mechanism, including a rotatable roller, of a punch for perforating the tape, a bar for depressing said punch, means for operating said tape-feed mechanism, said means including a spring, and connections between the spring and said bar and tape-feed mechanism whereby the depressing of the bar operates to place the spring under operative tension and the raising of the bar causes said spring to advance the tape, said connections including a rock-shaft, a crank thereon to which the spring is attached, an operative connection between the shaft and bar.

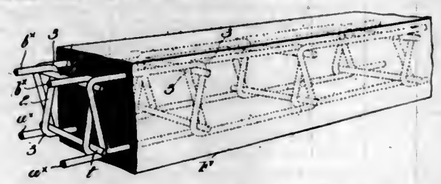
840,052. STENCIL-FRAME. JOSEPH S. DUNCAN, Chicago, Ill., assignor to Addressograph Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 2, 1904. Serial No. 223,097.



Claim.—1. A stencil-frame made of a single sheet of pasteboard and having an opening adjacent to its upper edge, a stencil permanently fastened to the frame over said opening, a record-space below the opening, and an index-tab at the upper edge of the frame and integral therewith.

2. A stencil-frame made of a single sheet of material and having an opening in its upper part and a record-space below the opening, a stencil arranged over the opening, metal binding-strips on the end edges of the frame and overlapping and holding the ends of the stencil, and a metal binding-strip on the bottom edge of the frame.

840,053. METALLIC STRUCTURAL ELEMENT FOR BUILDINGS. HERBERT L. DUNN, Hopedale, Mass. Filed July 31, 1905. Serial No. 272,029.



Claim.—1. A reversible structural element for building purposes, consisting of a metallic rod or bar deformed or bent to present two alternating series of convolutions having straight base portions and inwardly-convergent sides, the centers of curvature of corresponding apex bends of two adjacent convolutions lying in a line perpendicular to the base portions and intersecting the common side of said convolutions at its center, said bends being adapted to receive tie-rods, pairs of the latter being thereby located one above the other in lines perpendicular to the base portions.

2. A structural element for building purposes consisting of a metallic rod or bar deformed or bent to present substantially trapezoidal convolutions lying in the same plane, the diagonal side common to adjacent convolutions being joined to their bases by circular bends the centers whereof are in a line intersecting the side at its center, the circular bends being adapted to receive cylindrical tie-rods of substantially the same curvature.

3. In building construction, a plurality of elements located in parallel planes and each consisting of a metallic rod or bar bent to present substantially trapezoidal convolutions having inwardly-converging sides, the convolutions of adjacent elements being reversed to cause the bends at the ends of their bases to overlap, and a filling in which the said elements are embedded, the elements reinforcing and bonding the filling.

4. A skeleton frame for composite structures, comprising a plurality of elements each consisting of a metallic rod or bar bent to present two alternating series of convolutions having straight base portions and sides joining the bases by circularly-curved bends, the convolutions of coupled elements being reversely positioned to cause the bends at the ends of their bases to overlap, and cylindrical tie-rods passed through the pairs of overlapped bends and being seated therein, to unite the elements into a rigid frame.

5. A skeleton frame for composite structures, comprising a plurality of elements each consisting of a metallic rod or bar bent to present substantially trapezoidal convolutions having inwardly-converging sides, the convolutions of coupled elements being reversely positioned to cause the bends at the ends of their bases to overlap, and tie-rods passed through the pairs of overlapped bends to unite the elements into a rigid truss-like frame.

6. A skeleton frame for composite structures, comprising a plurality of elements each consisting of a metallic rod or bar bent to present substantially trapezoidal convolutions having inwardly-converging sides, the convolutions of coupled elements being reversely positioned to cause the bends at the ends of their bases to overlap, and tie-rods passed through the pairs of overlapped bends to unite the elements into a rigid frame, combined with stiffening-binders bent to present elongated trapezoidal convolutions equal to two or more convolutions of one of said elements and coöperating with predetermined tie-rods.

7. A skeleton frame comprising a plurality of metallic rods or bars each bent to present substantially trapezoidal convolutions having inwardly-converging sides, the convolutions of coupled elements being reversely positioned to cause the bends at the ends of their bases to overlap, and tie-rods passed through the overlapped bends transversely of the elements, to unite the same into a rigid structure, and a filling of plastic or cementitious material.

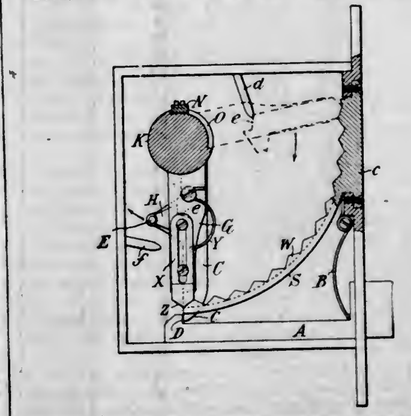
8. In building construction, a composite structure comprising a skeleton frame consisting of coupled elements, each element consisting of a metallic rod or bar bent to present substantially trapezoidal convolutions having inwardly-converging sides and their bases forming upper and lower chords, the two elements constituting a couple being reversely positioned to cause the bends at the ends of the bases of the convolutions to overlap, and tie-rods passed through the pairs of overlapped bends in both chords of the elements forming a couple, to thereby form a rigid frame, and a filling.

9. A skeleton frame comprising a plurality of metallic bars or rods each bent to present substantially trapezoidal convolutions having straight base portions constituting upper and lower chords, and inwardly-converging sides connecting them, the convolutions of adjacent elements being reversed to cause the bends at the ends of their bases to overlap, and tie-rods passed through the overlapped bends, to tie or bind the elements into a rigid structure, and a filling in which the said elements and tie-rods are embedded.

10. A self-sustaining skeleton framework for composite structures, comprising a plurality of elements located in different planes and each consisting of a metallic rod or bar bent to present substantially trapezoidal convolutions having straight bases and inwardly-converging sides, the bases in one chord of the element being alined and in parallelism with the bases in the other chord, adjacent elements being reversely positioned to cause the bends at the ends of the bases of alternating convolutions to overlap, and tie-rods extended through the overlapped bends, to unite the elements into a rigid, unitary truss-like frame.

11. A self-sustaining skeleton framework for composite structures, comprising a plurality of elements located in different planes and each consisting of a metallic rod or bar bent to present substantially trapezoidal convolutions having straight bases and inwardly-converging sides, the bases in one chord of the element being alined and in parallelism with the bases in the other chord, adjacent elements being reversely positioned to cause the bends at the ends of the bases of alternating convolutions to overlay, and two sets of tie-rods, the tie-rods of each set passing through the overlapped bends in one of the chords, to thereby unite the elements at both chords and resist flexure transverse to the depth of the elements.

840,054. KEYLESS LOCK. OLIVER M. FARRAND, New York, N. Y. Filed Aug. 22, 1905. Serial No. 275,201.



Claim.—1. A keyless lock having a knob, means for operating the lock by successive rotary movements of the

knob all in the same direction, with axial movements between the successive rotary movements, and means for indicating the intervals of the movements by the sense of touch alone.

2. A keyless lock having a knob, means for operating the lock by successive rotary movements of the knob all in the same direction, with axial movements between the successive rotary movements, a toothed plate, and a member operated by the knob traveling over said plate and indicating the intervals by its passage over said teeth.

3. A keyless lock having a knob, means for operating the lock by successive rotary movements of the knob all in the same direction, with axial movements between the successive rotary movements, a toothed plate, an arm operated by said knob, and a yielding detent carried by said arm and moving over said plate and indicating successive intervals by its passage over the successive teeth.

4. A keyless lock including in combination a pivoted and axially-movable arm, means controlled by giving said arm successive rotary movements all in the same direction and shifting it axially between the successive rotary movements for operating the lock, and means indicating to the sense of touch the successive intervals passed over by said arm.

5. A keyless lock including in combination an arm adapted to receive successive rotary movements, all in the same direction, with axial movements between the successive rotary movements, to unlock the lock, operating means for turning said arm in said direction, and means for rendering the operating means inoperative at the end of the unlocking movement.

6. A keyless lock including in combination an arm adapted to receive successive rotary movements, all in the same direction, with axial movements between the successive rotary movements, to unlock the lock, operating means for turning said arm in said direction, means for rendering the operating means inoperative if it is not turned in a determined manner, and means for rendering the operative means operative again upon the return of said arm to its starting position.

7. A keyless lock including in combination fixed teeth and movable stops, a device constructed to engage said fixed teeth to indicate successive intervals by its passage over said teeth, and an operating device controlled by said movable stops.

8. A combination-lock including in combination a casing having an opening in one edge and means for determining the combination and which is removable through said opening for the purpose of changing the combination.

9. A combination-lock including a plate provided with means for determining the combination, said plate being entirely disconnected from any mechanism within the lock, a casing having an opening in one edge through which said plate may be passed, and means for fastening said plate in position in the edge of the casing.

10. A keyless lock including in combination a shaft K adapted to be successively moved in the same direction, an arm G carried by said shaft, detents X and F on said arm, a toothed member over which the detent X travels to indicate the intervals, and a member R provided with stops U in the path of said detent F and which can only be avoided by the shifting of said shaft K in an axial direction at certain intervals during its rotation.

11. A keyless lock including in combination a shaft K adapted to be successively moved in the same direction, an arm G carried by said shaft, detents X and F on said arm, a toothed member over which the detent X travels to indicate the intervals, a member R provided with stops U in the path of said detent F and which can only be avoided by the shifting of said shaft K in an axial direction at certain intervals during its rotation, and a spring N, said shaft K having grooves O and P into which said spring N projects to hold the shaft impositively in either one of two positions to which it may be shifted axially.

12. A keyless lock including in combination a shaft K adapted to be successively moved in the same direction, an arm G carried by said shaft, detents X and F on said arm, a toothed member over which the detent X travels to indicate the intervals, a member R provided with stops U in the path of said detent F and which can only be avoided by the shifting of said shaft K in axial direction at certain intervals during its rotation, and a pin *d*, said detent F having a beveled edge *e* in position to be engaged by said pin *d* upon the return of the arm to its original position, whereby the detent is thrown to its operative position.

13. A keyless lock including in combination a shaft K adapted to be successively moved in the same direction, an arm G carried by said shaft, detents X and F on said arm, a toothed member over which the detent X travels to indicate the intervals, a member R provided with stops U in the path of said detent F and which can only be avoided by the shifting of said shaft K in an axial direction at certain intervals during its rotation, and a pin *f*, said detent F having a beveled edge *g* in position to be engaged by said pin when the arm is moved slightly beyond the position necessary to withdraw the bolt, whereby the detent is thrown to its inoperative position.

14. A keyless lock including in combination a shaft K adapted to be successively moved in the same direction, an arm G carried by said shaft, detents X and F on said arm, a toothed member over which the detent X travels to indicate the intervals, a member R provided with stops U in the path of said detent F and which can only be avoided by the shifting of said shaft K in an axial direction at certain intervals during its rotation, an arm C normally in engagement with the bolt and having a pin E adapted to be engaged by the detent F when the latter is in its operative position so as to draw the bolt.

15. A keyless lock including in combination a shaft, operating means for turning said shaft, means for unlocking the lock upon the turning of the shaft and means for rendering the operating means inoperative upon releasing the shaft at the end of the unlocking movement.

16. A keyless lock including in combination a shaft, operating means for turning said shaft, means for unlocking the lock upon the turning of the shaft and means for rendering the operating means inoperative upon quickly releasing the shaft at the end of an unlocking movement, but not upon a gradual release of said shaft.

17. A keyless lock including in combination an arm carried upon a pivotal shaft, a detent carried by said arm, a pivoted member carried by said detent and adapted to be swung on its pivot by a backward movement of said arm, teeth over which said detent rides and by which it is swung backward and means for rendering the mechanism for unlocking the lock inoperative upon the swinging of said pivoted member.

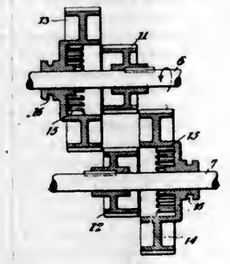
18. A keyless lock including in combination an arm G carried upon a pivotal shaft, a yieldingly-sildable detent X carried by said arm, a pivoted member X′ constituting the end of said detent and adapted to swing in a backward direction only, a series of teeth over which the end of said detent travels as the arm is moved, thereby effecting a sliding movement of said detent when the arm is turned in the forward direction, and a swinging movement of said pivoted member when the arm is swung in the backward direction, and means operated by the swinging movement of said pivoted member for rendering the mechanism for unlocking the lock inoperative.

840,055. CHANGE-SPEED GEAR. FRANK A. FERGUSON, Belleville, Kans. Filed Mar. 17, 1906. Serial No. 306,661.

Claim.—1. A change-speed gear including parallel shafts, gears secured to the shafts, and permanently separated from each other, and a member carried by one of the shafts and adjustable in the direction of the length of said shafts, said member being arranged to engage both gears and transmit movement from one to the other.

2. A change-speed gear including parallel driving and driven shafts, a fixed gear on each shaft, the gears being arranged in the same transverse plane and permanently separated from each other, and a combined clutch and gear member carried by one of the shafts and movable into clutching engagement with the gear of the same shaft and into mesh with the gear of the other shaft.

3. A change-speed gear comprising parallel driving and driven shafts, gears keyed thereto and permanently separated from each other, a combined clutch and gear member on each shaft which when one is in mesh with the gears drives the driven shaft at high speed and when the other is in mesh drives the said shaft at a lower speed.



4. A change-speed gear, comprising parallel driving and driven shafts, gears keyed thereto and arranged in the same transverse plane, a combined clutch and gear member rotatable with and longitudinally movable on each shaft, and separate means for actuating said members.

5. A change-speed gear, comprising parallel driving and driven shafts, gears mounted thereon which are permanently separated from each other, a combined clutch and gear member movably mounted on one of the shafts and rotatable therewith which is adapted to connect the gears in operative relation for forward rotation, and an idler-gear adapted to connect the driving and driven gear in operative relation for reverse rotation.

6. A change-speed gear, comprising parallel driving and driven shafts, gears mounted thereon which are permanently separated, and a set of combined clutch and gear members on each shaft which are adapted to be connected as a unit with the said gears for driving the driven shaft at different speeds.

7. A change-speed gear, comprising parallel driving and driven shafts, gears mounted thereon which are permanently separated, a set of combined clutch and gear members on each shaft which are each adapted to be connected as a unit with the said gears for driving the driven shaft at different speeds, and an idler-gear mounted to mesh with the gears on the driving and driven shafts for rotating the latter in reverse direction.

8. A change-speed gear including a pair of shafts gear and clutching members, the latter being provided with internal teeth of such length as to insure disengagement of one member before a second member can be moved to operative position.

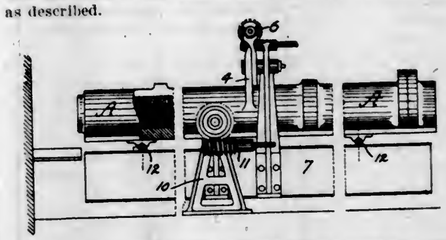
9. In a change-speed gear, parallel shafts, gears permanently secured thereto, combined clutch and gear members carried by the shafts and movable into mesh with one of the gears and into clutching engagement with the other gear.

10. A change-speed gear including parallel shafts, gears permanently secured to the shafts, and combined clutch and gear members loose on the shafts, and each provided with internal clutching-teeth, said members being disposed, respectively, on opposite sides of the permanent gears and having their clutching-teeth arranged to prevent simultaneous engagement with the gears.

840,056. APPARATUS FOR MANUFACTURING HOLLOW GLASSWARE. FRIEDRICH A. GROSSE, Bischofswerda, Germany. Filed Nov. 16, 1905. Serial No. 287,629.

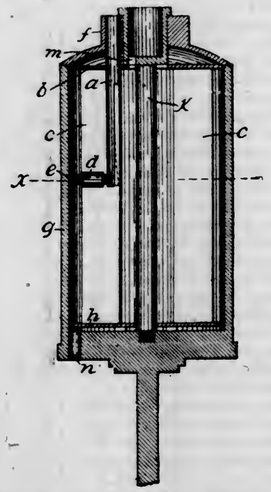
Claim.—1. Apparatus for manufacturing glassware, comprising in combination a girder, a frame supported thereon, tongs mounted on said frame, a mold consisting of separable parts engaged by said tongs, means for actuating said tongs to open and close the same, and a core reciprocable in the mold, substantially as described.

2. Apparatus for manufacturing hollow glassware, comprising in combination, a composite mold, rollers on the bottom part of said mold whereby it may be moved to and fro, tongs normally holding the mold parts together, a frame and actuating means for said tongs, a girder supporting said frame and presenting a track for the rollers on the mold-bottom, supporting means extending from said girder, bearings in which said supporting means turn, a core, means for reciprocating said core within said mold, and means for bringing the said mold from the vertical into the horizontal position and vice versa, substantially as described.



3. Apparatus for manufacturing hollow glassware, comprising in combination, a composite mold, rollers on the bottom part of said mold whereby it may be moved to and fro, tongs normally holding the mold parts together, a frame and actuating means for said tongs, a girder supporting said frame and presenting a track for the rollers on the mold-bottom, supporting means extending from said girder, bearings in which said supporting means turn, a core, means for reciprocating said core within said mold, means for bringing the said mold from the vertical into the horizontal position and vice versa, sets of tilting rollers on said mold-truck, means for simultaneously actuating said tilting rollers for the purpose of lowering or raising said mold-truck, an annealing-oven, means for guiding said truck within the annealing-oven, and means for supporting the cast article within the oven when the truck has been lowered and withdrawn, substantially as described.

840,057. CENTRIFUGAL LIQUID-SEPARATOR. CHARLES H. HACKETT, Waterloo, Iowa, assignor to Wilbur W. Marsh, Waterloo, Iowa. Filed Oct. 30, 1905. Serial No. 285,091.

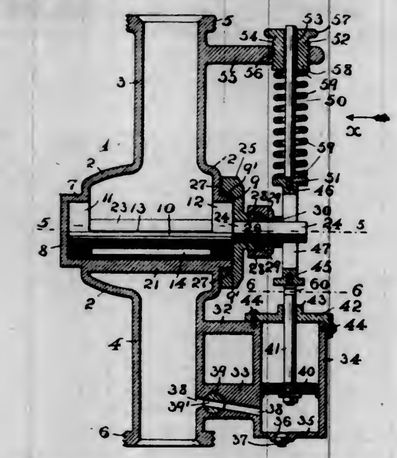


Claim.—1. In a centrifugal liquid-separator bowl, an exit-tube for the lighter separated constituent of the liquid whose upper end is in a fixed position relative to the axis of the bowl, and whose lower end is adjustable toward

and from said axis, and means for adjusting the lower end of said tube toward and away from said axis.

2. In a centrifugal liquid-separator bowl, an exit-tube for the lighter separated constituent of the liquid whose upper end is in a fixed position relative to the axis of the bowl, the lower end of said tube being opened into the shape of a trough on the side nearest said axis and adjustable relatively toward and from said axis, a liner within said bowl, a lug having an interiorly-threaded bearing affixed to said liner, a screw in said bearing adapted to contact with the lower end of said exit-tube and adjust it to a greater or less distance from the axis of said bowl.

840,058. VALVE. ADAM HARKNESS, East Newark, N. J. Filed July 18, 1906. Serial No. 326,673.



Claim.—1. A valve comprising a main chambered body, a ported rotary valve in said chamber, a cylinder upon the outside of said chambered body, a means of communication between said cylinder and the chambered body for conducting the fluid from said chamber to said cylinder, a regulating device in said means of communication, a piston in said cylinder adapted to be actuated by the pressure of the fluid which passes through the rotary valve, a piston-rod, and means connecting said piston-rod with the rotary valve for operating the latter, substantially as and for the purposes set forth.

2. A valve comprising a main chambered body, a ported rotary valve in said chamber, a cylinder upon the outside of said chambered body, a means of communication between said cylinder and the chambered body for conducting the fluid from said chamber to said cylinder, a regulating device in said means of communication, a piston in said cylinder adapted to be actuated by the pressure of the fluid which passes through the rotary valve, a piston-rod, and means connecting said piston-rod with the rotary valve for operating the latter, consisting of a stem extending from said rotary valve, a crank on said stem, said crank being provided with an elongated hole, a slide connected with said piston-rod, and a stud on said slide extending into and being in operative engagement with the elongated hole of the crank, substantially as and for the purposes set forth.

3. A valve comprising a main chambered body, a ported rotary valve in said chamber, means upon the outside of said chamber connected with said rotary valve and adapted to be actuated by the pressure of the fluid which passes through said rotary valve, and a pressure-counteracting spring, and means for adjusting the tension of said spring, substantially as and for the purposes set forth.

4. A valve comprising a main chambered body, a ported rotary valve in said chamber, a cylinder upon the outside of said chambered body, a means of communication between said cylinder and the chambered body for conducting the fluid from said chamber to said cylinder, a regulating device in said means of communication, a piston in said cylinder adapted to be actuated by the pressure of the fluid which passes through the rotary valve, a piston-rod, means connecting said piston-rod with the rotary valve for operating the latter when the pressure of the fluid which passes through the rotary valve is exerted against the piston, and a pressure-counteracting spring, substantially as and for the purposes set forth.

5. A valve comprising a main chambered body, a ported rotary valve in said chamber, a cylinder upon the outside of said chambered body, a means of communication between said cylinder and the chambered body for conducting the fluid from said chamber to said cylinder, a regulating device in said means of communication, a piston in said cylinder adapted to be actuated by the pressure of the fluid which passes through the rotary valve, a piston-rod, means connecting said piston-rod with the rotary valve for operating the latter when the pressure of the fluid which passes through the rotary valve is exerted against the piston, and a pressure-counteracting spring, and means for locking the rotary valve in its closed position, substantially as and for the purposes set forth.

6. A valve comprising a main chambered body, a ported rotary valve in said chamber, a cylinder upon the outside of said chambered body, a means of communication between said cylinder and the chambered body for conducting the fluid from said chamber to said cylinder, a regulating device in said means of communication, a piston in said cylinder adapted to be actuated by the pressure of the fluid which passes through the rotary valve, a piston-rod, means connecting said piston-rod with the rotary valve for operating the latter when the pressure of the fluid which passes through the rotary valve is exerted against the piston, and a pressure-counteracting spring, and means for locking the rotary valve in its closed position, consisting of a depression formed in the piston-rod, and a spring-controlled pin adapted to be forced into said depression when located opposite said pin, substantially as and for the purposes set forth.

7. A valve comprising a main chambered body, a ported rotary valve in said chamber, a stem on said valve, said stem projecting from said chamber, a cylinder upon the outside of said chambered body, a means of communication between said cylinder and the chambered body for conducting the fluid from said chamber to said cylinder, a regulating device in said means of communication, a piston in said cylinder adapted to be actuated by the pressure of the fluid which passes through the rotary valve, a piston-rod, a slide on said piston-rod, said slide being provided with an extension, a stud on said extension, a crank on said valve-stem, said crank being provided with an elongated hole into which said stud extends and is in operative engagement therewith, and a pressure-counteracting spring exerting its pressure upon said slide, substantially as and for the purposes set forth.

8. A valve comprising a main chambered body, a ported rotary valve in said chamber, a stem on said valve, said stem projecting from said chamber, a cylinder upon the outside of said chambered body, a means of communication between said cylinder and the chambered body for conducting the fluid from said chamber to said cylinder, a regulating device in said means of communication, a piston in said cylinder adapted to be actuated by the pressure of the fluid which passes through the rotary valve, a piston-rod, a slide on said piston-rod, said slide being provided with an extension, a stud on said extension, a crank on said valve-stem, said crank being provided with an elongated hole into which said stud extends and is in operative engagement therewith, and a pressure-counteracting spring exerting its pressure upon said slide, and means for locking the rotary valve in its closed position, substantially as and for the purposes set forth.

9. A valve comprising a main chambered body, a ported rotary valve in said chamber, a stem on said valve, said stem projecting from said chamber, a cylinder upon the outside of said chambered body, a means of communication between said cylinder and the chambered body for conducting the fluid from said chamber to said cylinder, a regulating device in said means of communication, a piston in said cylinder adapted to be actuated by the pressure of the fluid which passes through the rotary valve, a piston-rod, a slide on said piston-rod, said slide being provided with with an extension, a stud on said extension, a crank on said valve-stem, said crank being provided with an elongated hole into which said stud extends and is in operative engagement therewith, and a pressure-counteracting spring exerting its pressure upon said slide, and means for locking the rotary valve in its closed position, consisting of a depression formed with the piston-rod, and a spring-controlled pin adapted to be forced into said depression when located opposite said pin, substantially as and for the purposes set forth.

10. A valve comprising a main chambered body, a ported rotary valve in said chamber, a stem on said valve, said stem projecting from said chamber, a cylinder upon the outside of said chambered body, a means of communication between said cylinder and the chambered body, a piston in said cylinder adapted to be actuated by the pressure of the fluid which passes through the rotary valve, a piston-rod, a slide connected with the upper end of said piston-rod, said slide being provided with an extension, a crank on said valve-stem, said crank being provided with an elongated hole into which said stud extends and is in operative engagement therewith, an arm extending from the upper portion of said main valve-body, said arm having a screw-threaded hole, a tubular tension-adjusting device in said hole, a rod connected with the upper portion of said slide, said rod having its upper end portion extending into and movably arranged in the tubular portion of said adjusting device, and a pressure-counteracting spring encircling said rod and having its respective ends in engagement with said adjusting device and the upper portion of the slide, substantially as and for the purposes set forth.

11. A valve comprising a main chambered body, a ported rotary valve in said chamber, a stem on said valve, said stem projecting from said chamber, a cylinder upon the outside of said chambered body, a means of communication between said cylinder and the chambered body, a piston in said cylinder adapted to be actuated by the pressure of the fluid which passes through the rotary valve, a piston-rod, a slide connected with the upper end of said piston-rod, said slide being provided with an extension, a crank on said valve-stem, said crank being provided with an elongated hole into which said stud extends and is in operative engagement therewith, an arm extending from the upper portion of said main valve-body, said arm having a screw-threaded hole, a tubular tension-adjusting device in said hole, a rod connected with the upper portion of said slide, said rod having its upper end portion extending into and movably arranged in the tubular portion of said adjusting device, and a pressure-counteracting spring encircling said rod and having its respective ends in engagement with said adjusting device and the upper portion of the slide, and means for locking the rotary valve in its closed position, substantially as and for the purposes set forth.

12. A valve comprising a main chambered body, a ported rotary valve in said chamber, a stem on said valve, said stem projecting from said chamber, a cylinder upon the outside of said chambered body, a means of communication between said cylinder and the chambered body, a piston in said cylinder adapted to be actuated by the pressure of the fluid which passes through the rotary valve, a piston-rod, a slide connected with the upper end of said piston-rod, said slide being provided with an extension, a crank on said valve-stem, said crank being provided with an elongated hole into which said stud extends and is in operative engagement therewith, an arm extending from the upper portion of said main valve-body, said arm having a screw-threaded hole, a tubular tension-adjusting device in said hole, a rod connected with the upper portion of said slide, said rod having its upper end portion extending into and movably arranged in the tubular portion of said adjusting device, and a pressure-counteracting spring encircling said rod and having its respective ends in engagement with said adjusting device and the upper portion of the slide, and means for locking the rotary valve in its closed position, consisting of a depression formed in the piston-rod, and a spring-controlled pin adapted to be forced into said depression when located opposite said pin, substantially as and for the purposes set forth.

13. A valve comprising a main chambered body, an inlet member and an outlet member, said chambered body having a closed cylindrical projection at one end and an open-ended cylindrical projection at its other end, said projections forming cylindrical bearings or seats in the opposite sides of the chamber, a rotary valve-plug in said body, comprising a double-ported semicylindrical body formed at its ends with a pair of cylindrical members, each cylindrical member being rotatably arranged in a cylindrical bearing or seat, and a stem extending from one of the cylindrical members of said valve-plug through said open-ended cylindrical projection, substantially as and for the purposes set forth.

14. A valve comprising a main chambered body, an inlet member and an outlet member, said chambered body having a closed cylindrical projection at one end and an open-ended cylindrical projection at its other end, said projections forming cylindrical bearings or seats in the opposite sides of the chamber, a rotary valve-plug in said body, comprising a double-ported semicylindrical body formed at its ends with a pair of cylindrical members, each cylindrical member being rotatably arranged in a cylindrical bearing or seat, and a stem extending from one of the cylindrical members of said valve-plug through said open-ended cylindrical projection, and means connected with said stem for producing a rotary motion of the valve-plug, substantially as and for the purposes set forth.

15. The combination, with a rotary valve and its casing of a valve-controlling means, consisting of a cylinder and its piston located outside of the valve-casing, means for exerting pressure upon one side of the piston, means for operatively coupling said piston with the rotary valve, for controlling and regulating said valve, and means for disconnecting said valve-controlling means from the control of said rotary valve, substantially as and for the purposes set forth.

16. The combination, with a rotary valve and its casing, of a valve-controlling means, consisting of a cylinder and its piston located outside of the valve-casing, means for exerting pressure upon one side of the piston, means for operatively coupling said piston with the rotary valve, for controlling and regulating said valve, and means for disconnecting said valve-controlling means from the control of said rotary valve, and a counteracting spring for opposing the pressure exerted by said piston, substantially as and for the purposes set forth.

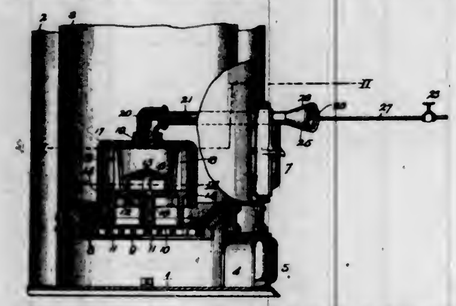
17. The combination, with a chambered body of a valve-casing, said body being provided with oppositely-located cylindrical bearings or seats, and a laterally-extending member 21 forming with the sides of said body, ports 19 and 20, of a valve-plug in said chambered body comprising a double-ported main semicylindrical portion, and cylindrical members, each cylindrical member being rotatably arranged in a cylindrical bearing or seat, said valve-plug comprising two members 16 and 17 formed with upper flat faces, and an intermediate angular member 18, all arranged to form ports 14 and 15, substantially as and for the purposes set forth.

840,059. CRUDE-OIL BURNER. JOHN HARLEMAN, Kansas City, Mo., assignor of one-half, by mesne asignments, to Frederick Griffith, Kansas City, Mo. Filed Sept. 11, 1905. Serial No. 277,819.

Claim.—1. A crude-oil burner comprising a casing, an imperforate pan therein, a vaporizing-plate supported by said pan at a distance above the same; a hood extending over said plate and having its lower edge below the same but above the pan, means for discharging air into said hood through the top of the same, and means for discharging oil upon said plate.

2. A crude-oil burner, comprising a casing, a pan therein, a vaporizing-plate supported by and above said pan, a hood suspended over and extending below said plate and terminating short of the pan, an air-supply tube extending through the casing and adapted to receive air at its outer end and discharge it from its inner end into said hood and

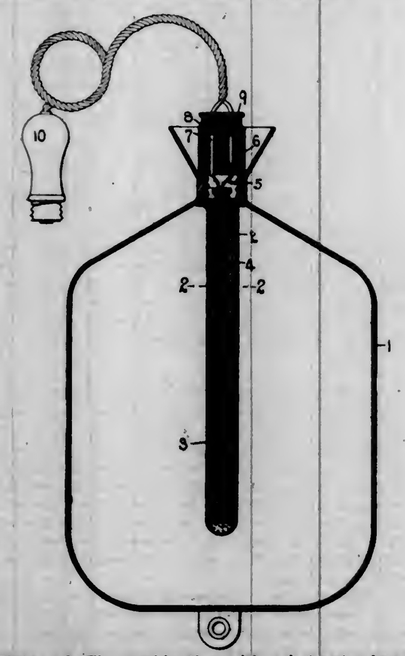
upon said plate, and oil-supply pipe extending through the air-supply tube and terminating at its inner end above the center of the vaporizing-plate.



3. A crude-oil burner, comprising a casing, a vaporizing-plate therein provided with a central opening, a hood suspended over and extending below said plate, a conical plate within the hood supported by and above the vaporizing-plate and of smaller diameter than the latter, means to discharge oil down upon the apex of the conical plate, and means to discharge air down upon said conical plate.

4. A crude-oil burner, comprising a casing, an imperforate pan therein, a vaporizing-plate supported by and above and of smaller diameter than said pan and provided with a central hole and with peripheral lugs, a conical plate supported by and above the vaporizing-plate and of greater diameter than said central hole, a hood suspended over said plates and fitting against the outer ends of said lugs and terminating a short distance below the same, means for discharging oil upon the apex of the conical plate, and means for discharging air down into the hood and upon said plates.

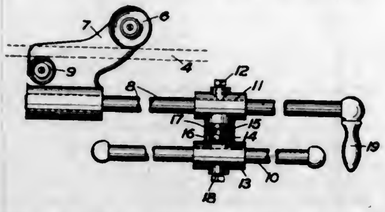
840,060. HEATING ATTACHMENT FOR HOT-WATER BAGS. CHARLES VAN DYKE HILL, St. Louis, Mo. Filed Nov. 15, 1905. Serial No. 287,470.



Claim.—1. The combination with a hot-water bag having a single opening for the introduction and discharge of water to be heated, of a stopper for closing said opening, an electric heating-coil extending inwardly from said stopper into the bag, an insulating-block mounted in an enlarged portion of said stopper and carrying the terminals of the heating-coil which project upwardly from said block, and a removable insulating-block provided with terminal sockets which coöperate with the terminals of the heating-coil; substantially as described.

2. An electric heating attachment for hot-water bags, the same comprising a perforated guard-tube having a threaded portion and an enlarged portion forming a shoulder, an inner closed-ended tube arranged in said guard-tube, a resistance-coil in said inner tube, an insulation-block mounted in the enlarged portion of said guard-tube, and through which the terminals of said resistance-coil pass, and an insulation-block having terminal sockets for coöperating with the first-mentioned terminals; substantially as described.

840,061. MOVABLE SUPPORTING MEANS FOR DOORS, DISPLAY-FRAMES, &c. JOHN HOFMAN, Rochester, N. Y. Filed Aug. 16, 1904. Serial No. 220,980.



Claim.—1. In an apparatus of the class described, the combination of a track, a support having rollers traveling on the upper and lower sides of the track, with the upper roller in advance of the lower roller and the said support being spaced at its upper side away from the track to allow it to rock vertically and move said lower roller from contact with the track, a bar carried by the support and spaced away from the track, and a horizontally-swinging member carried by the said bar.

2. The combination with a track, of a vertically-rocking support having an upper and a lower roller; the latter being in rear of the former, a bar extending from the support, and otherwise unsupported, and spaced from the lower side of the track to allow its free end to be elevated to throw the weight on the upper roller, a carrier having unobstructed sliding movement from one end of the bar to the other, and a horizontally-swinging device depending from said carrier.

3. The combination with a track, of a vertically-rocking support having an upper and a lower roller; the latter being in rear of the former, a bar extending from the support longitudinally along and spaced away from the lower side of the track and otherwise unsupported to allow its free end to be raised and throw the weight on the upper roller, a carrier having unobstructed sliding movement along the said bar from one end to the other, a horizontally-swinging device depending from the carrier, and a second bar carried by said horizontally-swinging device.

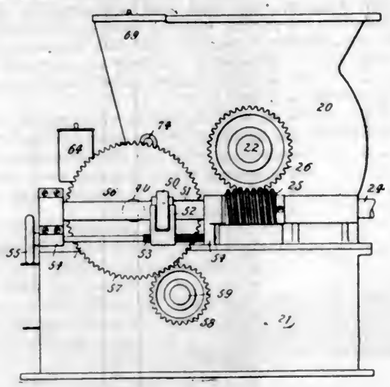
4. The combination with a track and a vertically-rocking, sliding bar supported at its rear end only from the track, of a carrier adapted to slide along the bar, a horizontally-turning member depending from said carrier, and a bar carried by said horizontally-turning member.

5. The combination with a track, of a vertically-swinging bar spaced throughout its length from the track and provided at its rear end with an upper forward roller and a lower rear roller engaging opposite sides of the track, a carrier sliding along the bar and having a depending portion, a rotary device carried by said carrier, and a bar carried by said rotary device.

6. The combination with the track, of a bar or rod provided at its rear end with an upper forward roller and a lower rear roller; the said bar being otherwise unsupported and spaced throughout its length from the track to

permit its free end to be raised and throw the weight on the upper forward roller.

840,062. DOUGH-DIVIDING MACHINE. HERMAN F. W. HUBE, New York, N. Y. Filed May 24, 1906. Serial No. 318,461.



Claim.—1. In a dough-dividing machine, a feed-chamber having an inwardly-deflected scraper portion combined with an eccentric drum engaged by the scraper portion and slidable plungers carried by the drum, substantially as shown and described.

2. In a dough-dividing machine, a cylindrical feed-chamber having an inwardly-deflected section to constitute a scraper, combined with an eccentric drum engaged by the scraper, and slidable plungers carried by the drum, substantially as specified.

3. In a dough-dividing machine, a cylindrical feed-chamber and an eccentric shaft, combined with a slotted drum fast on the shaft, side plates secured to the drum, and slidable plungers carried by the drum, substantially as specified.

4. A dough-dividing machine provided with a cylindrical feed-chamber, an inclosed eccentric drum to form an intervening curved and narrowing passage, means for feeding the dough along said passage, an exit-duct communicating with the contracted part of the passage, a cutter opposite the exit-duct, and adjustable means for imparting intermittent rotary movement to the cutter, substantially as specified.

5. A dough-dividing machine provided with a power-shaft, a friction-roller longitudinally movable thereon, means for setting said roller, a friction-disk engaged by the roller, a cutter-shaft, an intervening Geneva movement, and blades carried by the cutter-shaft, substantially as specified.

6. A dough-dividing machine provided with a cutter-shaft having right and left threads, a pair of flanged disks engaging the same, and cutting-blades secured to diagonally opposite disk-flanges, substantially as specified.

7. In a dough-dividing machine, means for feeding the dough and means for cutting the dough, combined with an intermediate partition having concave sides and a beaked front, substantially as specified.

8. A dough-dividing machine provided with a rotating cutter-shaft, a cutting-blade carried thereby, a moistening-pad engaging the blade, and a clamp-plate engaging the pad, substantially as specified.

9. A dough-dividing machine provided with a rotating cutter-shaft, a cutting-blade carried thereby, an upper dusting-receptacle, and a screen at the lower open end of said receptacle, substantially as specified.

10. A dough-dividing machine provided with a rotating cutter-shaft, a cutting-blade carried thereby, an upper dusting-receptacle, a screen at the lower open end of said receptacle, a brush engaging the screen, and means for imparting intermittent reciprocating movement to the brush, substantially as specified.

11. In a dough-dividing machine, a feed-chamber and a drum eccentrically journaled therein and slidable plungers carried by the drum, said cylindrical feed-chamber having an elongated exit-duct in communication therewith, combined with means for cutting the dough arranged at the outlet of the exit-duct, means for dusting the cutting means and means for moistening the cutting means, substantially as shown and described.

12. In a dough-dividing machine, a casing having an internal cylindrical chamber, an eccentric drum journaled therein, slidable plungers carried by said drum, said casing having an elongated exit-duct communicating with said chamber, a rotatable cutter having pockets, arranged to coöperate with the outlet of the exit-duct, means for rotating the drum and means for intermittently rotating the cutting means, substantially as shown and described.

13. In a dough-dividing machine, a casing having an internal cylindrical chamber, an eccentric drum journaled therein, slidable plungers carried by said drum, said casing having an elongated exit-duct communicating with said chamber, a rotatable cutter having pockets, arranged to coöperate with the outlet of the exit-duct, means for rotating the drum and means for intermittently rotating the cutting means, and means for dusting the cutter, substantially as shown and described.

14. In a dough-dividing machine, a casing having an internal cylindrical chamber, an eccentric drum journaled therein, slidable plungers carried by said drum, said casing having an elongated exit-duct communicating with said chamber, a rotatable cutter having pockets, arranged to coöperate with the outlet of the exit-duct, means for rotating the drum and means for intermittently rotating the cutting means, and means for dusting the cutter, and means for moistening the cutter, substantially as shown and described.

15. In a dough-dividing machine, a casing having a cylindrical feed-chamber provided with a hopper-like mouth, said casing having an elongated exit-duct communicating with the feed-chamber, an eccentric drum journaled in the feed-chamber, slidable plungers carried by the drum, said casing having a projecting scraper portion for coöperating with the drum, a rotary cutter coöperating with the outlet of the exit-duct, a cutter-dusting mechanism coöperating with said cutter and a cutter-moistening mechanism also coöperating with said cutter, and means for imparting motion to said drum and said cutter, substantially as shown and described.

16. In a dough-dividing machine, a casing having a cylindrical feed-chamber provided with a hopper-like mouth, said casing having an elongated exit-duct communicating with the feed-chamber, an eccentric drum journaled in the feed-chamber, slidable plungers carried by the drum, said casing having a projecting scraper portion for coöperating with the drum, a rotary cutter coöperating with the outlet of the exit-duct, a cutter-dusting mechanism coöperating with said cutter and a cutter-moistening mechanism also coöperating with said cutter, and means for imparting motion to said drum and said cutter, and a partition member, removably held within said duct, substantially as shown and described.

17. In a dough-dividing machine, means for cutting the dough, and means for feeding it to the cutting means, said feeding means including a conveying-duct, combined with a partition in said duct, substantially as specified.

18. In a dough-dividing machine, means for feeding the dough combined with means for cutting the dough, and means for conveying the cut dough away from the cutting means, together with means for dusting the cutting means, substantially as shown and described.

19. In a dough-dividing machine, means for feeding the dough combined with means for cutting the dough, and means for conveying the cut dough away from the cutting means, together with means for dusting the cutting means, and means for moistening the cutting means, substantially as shown and described.

840,063. BUCKLE. MONTROSE E. HUTCHISON, Klamath, Falls, Oreg., assignor of one-half to Joseph G. Pierce, Klamath Falls, Oreg. Filed Aug. 12, 1905. Serial No. 273,956.



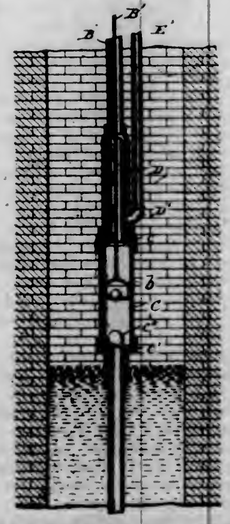
Claim.—1. A buckle comprising a frame having a back plate and a front plate, a clamping-lever arranged between said plates and having an inner eccentric clamping-arm which extends forwardly from the pivot-line and presses the strap against the back plate, and an outer releasing-arm which extends rearwardly from the pivot-line and beyond the front plate, substantially as set forth.

2. A buckle comprising a frame having a back plate and a front plate, a clamping-lever arranged between said plates and having an inner clamping-arm which presses the strap against the back plate and an outer releasing-arm, an attaching device arranged at the front end of said frame, and a strap-guide arranged on said frame between said attaching device and said lever, substantially as set forth.

3. A buckle comprising a frame having a back plate, side pieces and a front plate, a clamping-lever arranged between said front and back plates, an attaching device arranged at the front end of said frame, a strap-guide arranged between said attaching device and said lever, and a strap-guide arranged at the rear end of said frame, substantially as set forth.

4. A buckle comprising a frame having a front plate and a rear plate, a clamping-lever pivoted between said plates and having its clamping-arm movable toward and from said back plate, and a transversely-arranged wire spring attached with one end to said lever and bearing with its opposite end against said front plate and operating to press the clamping-arm of said lever toward said back plate, substantially as set forth.

840,064. PUMP. HARRY JONES, Washington, D. C. Filed Nov. 21, 1905. Serial No. 288,453.



Claim.—1. The combination with a pump having a discharge-pipe of an air-chamber communicating with said discharge-pipe at or near its connection with the pump through a passage substantially parallel with said discharge-pipe, which passage terminates at the end remote from the pump-body in an annular opening which surrounds the bore of the discharge-pipe.

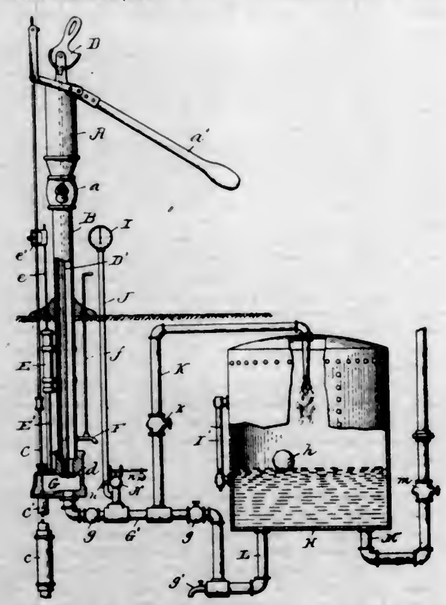
2. The combination with a pump having a vertical discharge-pipe of an air-chamber communicating with said discharge-pipe at or near its lower end through a vertical passage which terminates at its upper end in an annular opening which surrounds the bore of the discharge-pipe.

3. The combination with a pump provided with a reciprocating piston, and having a discharge-pipe and an air-chamber communicating with said discharge-pipe at a point near its connection with the pump-body through a passage substantially parallel with said discharge-pipe, which passage terminates at the end remote from the pump-body in an annular opening which surrounds the bore of the discharge-pipe.

4. The combination with a pump provided with a reciprocating piston, and having a vertical discharge-pipe of an air-chamber communicating with said discharge-pipe at or near its lower end through a vertical passage which terminates at its upper end in an annular opening which surrounds the bore of the discharge-pipe.

5. The combination with a pump provided with a conical head having an air-chamber therein, and a concentric discharge-pipe of an air-chamber communicating with said discharge-pipe at a point near its connection with the pump-body through a passage substantially parallel with said discharge-pipe, which passage terminates at the end remote from the pump-body in an annular opening which surrounds the bore of the discharge-pipe.

840,065. HYDRAULIC AND PNEUMATIC APPARATUS. HARRY JONES, Washington, D. C. Filed Nov. 27, 1905. Serial No. 289,341.



Claim.—1. In a machine for pumping and distributing water, the combination with a water-pump and an air-pump, each having a delivery-pipe, and means for operating them simultaneously, of a water and air tank having a supply-pipe for air and water and means for delivering water therefrom under air-pressure, a stand-pipe for delivering water independent of said tank, a valve governing the flow through said stand-pipe, and a hollow distributing cross-head to which the delivery-pipe from the water-pump, the delivery-pipe from the air-pump, the supply-pipe to the water and air tank, and the stand-pipe are all connected, substantially as described.

2. In a machine for pumping and distributing water, the combination with a water-pump and an air-compressor connected to the pump-rod thereof, each having a delivery-pipe and means for operating them simultaneously, of a water and air tank having a supply-pipe for air and water and means for delivering water therefrom under air-pressure, a relief-valve N, a stand-pipe for delivering water independently of said tank, a valve governing the flow through said stand-pipe and a hollow distributing cross-head to which the delivery-pipe from the water-pump, the delivery-pipe from the air-compressor, the supply-pipe to the water and air tank, and the stand-pipe are all connected, and a flushing-pipe K connected to the connecting-pipe G' and tank H, substantially as described.

3. In a machine for pumping and distributing water under pressure, the combination with the water-tank H, of a free floating valve *h*, a discharge-pipe L, and discharge-pipe M, substantially as described.

840,066. CONDUIT. LOUIS A. JONES, Cambridge, Mass., assignor to American Circular Loom Co., Chelsea, Mass., a Corporation of Maine. Filed Oct. 17, 1904. Serial No. 228,675.



Claim.—1. A flexible conduit for electric wires consisting of two series of flat strips of resilient material, each strip of one series forming a right-hand helix, and each strip of the other series forming a left-hand helix, the individual strips of one series being interlaced with the individual strips of the other series, all of the strips being approximately at an angle of forty-five degrees to the longitudinal dimension of the space within the conduit.

2. A flexible conduit for electric wires consisting of two series of flat strips of resilient and insulating material, each strip of one series forming a right-hand helix, and each strip of the other series forming a left-hand helix, the individual strips of one series being interlaced with the individual strips of the other series, all of the strips being approximately at an angle of forty-five degrees to the longitudinal dimension of the space within the conduit.

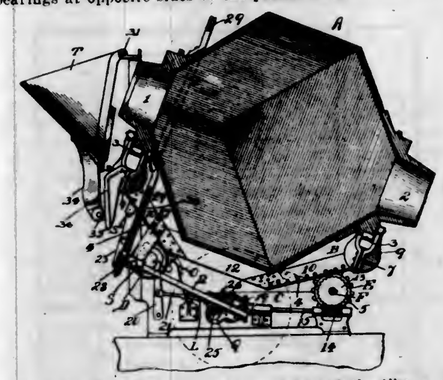
3. A flexible conduit for electric wires consisting of two series of flat strips of resilient material, each strip of one series forming a right-hand helix, and each strip of the other series forming a left-hand helix, the individual strips of one series being interlaced with the individual strips of the other series, combined with an element rendering the conduit as a whole non-extensible, all of the strips being approximately at an angle of forty-five degrees to the longitudinal dimension of the space within the conduit.

840,067. MACHINE FOR MIXING CONCRETE AND THE LIKE. WILLIAM J. JUDD, New York, N. Y., assignor to Frederick C. Austin, Chicago, Ill. Filed Sept. 15, 1902. Serial No. 123,467.

Claim.—1. In a machine for mixing concrete and the like, a rotary mixing-receptacle; a rocker-support for the rotary mixing-receptacle arranged to oscillate about an axis transverse to the axis of revolution of the mixing-receptacle; and bearings for the rocker-support at points forward and rearward of the middle part of the latter; the rocker-support being constructed with a plane or straight bearing portion inclined as to the axis of revolution of the rotary mixing-receptacle and arranged to traverse one of said bearings.

2. In a machine for mixing concrete and the like, a rotary mixing-receptacle; a rocker-support for the rotary mixing-receptacle arranged to oscillate about an axis transverse to the axis of revolution of the mixing-receptacle and having bearing portions formed along downwardly-converging planes; and bearings which are engaged and traversed by said bearing portions of the rocker-frame.

3. In a machine for mixing concrete and the like, a rotary mixing-receptacle; a rocker-support for the rotary mixing-receptacle arranged to oscillate about an axis transverse to the axis about which the mixing-receptacle revolves; a pinion for operating the rocker-support, and annular bearings at opposite sides of the teeth of the pinion; the rocker-support being constructed with a rack engaged by the teeth of said pinion, and having bearing-faces at opposite sides of the rack and engaging upon the annular bearings at opposite sides of the pinion-teeth.



4. In a machine for mixing concrete and the like, a rotary mixing-receptacle; a rocker-support for the rotary mixing-receptacle arranged to oscillate about an axis transverse to the axis about which the mixing-receptacle revolves; a pinion for operating the rocker-support, and annular bearings at opposite sides of the teeth of the pinion; the rocker-support being constructed with a rack engaged by the teeth of the pinion, and a pair of bars between which the rack is secured, and said bars being provided with straight bearing-faces arranged to engage upon the annular bearings at opposite sides of the pinion-teeth.

5. In a machine for mixing concrete, and the like, a rotary mixing-receptacle having a hollow journal forming an opening therefor; a swinging hopper supported independently of the mixing-receptacle and having its discharge opening through a neck adapted to couple with the said hollow journal when the mixing-receptacle is in position to receive from the hopper; an arm projecting downwardly from the hopper, a projection on the oscillatory hopper-support, and an antifriction-roll interposed between the said arm and projection and supported upon one of them.

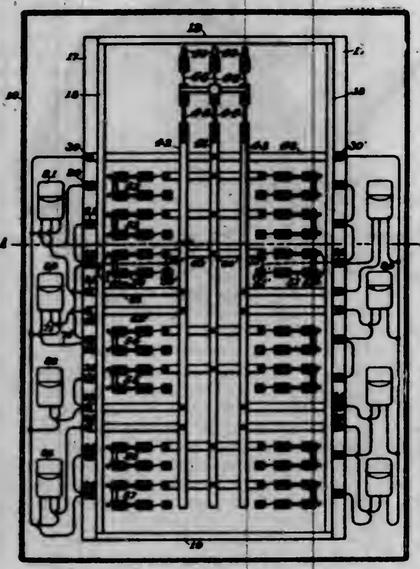
6. In a mixing-machine for concrete and the like, a rotary mixing-receptacle and a tilting support therefor; mechanism for actuating the tilting support for the rotary mixing-receptacle; a clutch device for applying driving power to the mechanism for actuating the said tilting support; a clutch-shifting device for operating the clutch device; and stops or projections secured to the frame of the tilting support for the rotary mixing-receptacle, said stops or projections being arranged for alternately engaging and operating the clutch-shifting device for the purpose set forth.

840,068. PANEL-BOARD FOR ELECTRICAL DISTRIBUTION. EDWARD N. LAKE, Chicago, Ill. Filed July 24, 1905. Serial No. 270,960.

Claim.—1. In a panel-board for electric distribution, the combination of a mounting-slab for switches and fuses, terminals for load-circuits upon said slab, and terminals for meters upon said slab and interspersed with said terminals for load-circuits, substantially as described.

2. In a panel-board for electrical distribution, the combination of a mounting-slab for switches and fuses, terminals for load-circuits upon said slab, each load-circuit terminal being associated with a switch, and terminals for meter-circuits upon said slab, said load-circuit terminals and said meter-circuit terminals being interspersed, substantially as described.

3. In a panel-board for electrical distribution, the combination of a mounting-slab for switches and fuses; bus-bars on said slab; terminals on said slab; circuit branches extending from one of said bus-bars through switches and fuses to load-terminals on said slab, other circuit branches extending from one of said bus-bars directly to terminals on said slab; said direct circuit-branch terminals being interspersed with said circuit-branch terminals with associated switches, substantially as described.



4. In a panel-board for electrical distribution, the combination of a mounting-slab; bus-bars on said slab; switches on said slab; a plurality of terminals on said slab and located in groups at or near the edges of said slab; branch circuits from one of said bus-bars through said switches to some of said terminals; and branch circuits from each of said bus-bars directly to others of said terminals, substantially as described.

5. In a panel-board for electrical distribution, the combination of a mounting-slab; bus-bars on said slab; switches on said slab; a plurality of terminals on said slab and located in groups at or near the edges of said slab; branch circuits from one of said bus-bars through said switches to some of said terminals; branch circuits from each of said bus-bars directly to others of said terminals; meters located adjacent to said terminals; and conductors connecting each of said meters with terminals of both classes, substantially as described.

840,069. TELEPHONE-TRANSMITTER. ALFRED LARSSON, Buffalo, N. Y. Filed Jan. 23, 1906. Serial No. 297,425.



Claim.—1. In a telephone-transmitter, the combination of a transmitter-diaphragm and means for retaining the same in position comprising a ring having an enlarged periphery adapted to rest upon the diaphragm.

2. In a telephone-transmitter, the combination of a transmitter-diaphragm and means for retaining the same in position comprising a resilient ring having an enlarged periphery adapted to rest upon the diaphragm.

3. In a telephone-transmitter, the combination of a transmitter-diaphragm, and means for retaining the same in position comprising a resilient ring having a depending periphery of enlarged diameter adapted to rest upon and exert uniform pressure upon the peripheral portion of the diaphragm.

4. In a telephone-transmitter, the combination of a transmitter-diaphragm, and means for retaining the same in position comprising a circular element having an open portion therein and having a periphery of enlarged diameter adapted to rest upon the diaphragm.

5. In a telephone-transmitter, the combination of a transmitter-diaphragm, and means for retaining the same in position comprising a resilient ring having an open portion therein and having an enlarged periphery, each end adjacent said open portion being undercut.

6. In a telephone-transmitter, the combination of a frame provided with an interior groove, a transmitter-diaphragm adapted to rest therein, and means for retaining the diaphragm in position comprising a resilient ring having an enlarged periphery adapted to rest upon the diaphragm.

7. In a telephone-transmitter, the combination of a frame, a groove therein having a plane lower surface and an overhanging beveled flange, a transmitter-diaphragm designed to rest upon the plane surface in said groove, and means for retaining the diaphragm in position comprising a resilient ring having an open portion therein and having a peripheral part of enlarged diameter.

8. In a telephone-transmitter, the combination of a frame, a groove therein, a diaphragm adapted to rest in said groove and means for retaining the diaphragm in position comprising a resilient ring having an open portion therein and having a peripheral part of enlarged diameter, each end of said ring adjacent the open portion being undercut.

9. In a telephone-transmitter, the combination of a frame, and inner groove therein, a diaphragm adapted to rest in said groove, means for retaining said diaphragm in position, comprising a ring having an enlarged periphery adapted to rest upon the diaphragm, a dust and moisture excluding metal diaphragm arranged above said retaining means, and a transmitter-cap adapted to hold said dust and moisture excluding diaphragm in position.

10. In a telephone-transmitter, a diaphragm and a resilient ring for retaining same in position, said ring presenting at its periphery, a substantially ogee shape in cross-section.

11. In a telephone-transmitter, a diaphragm and a resilient ring, for retaining the same in position, said ring presenting at its periphery, a substantially ogee shape in cross-section, and having an open portion, the ends adjacent said open portion being undercut.

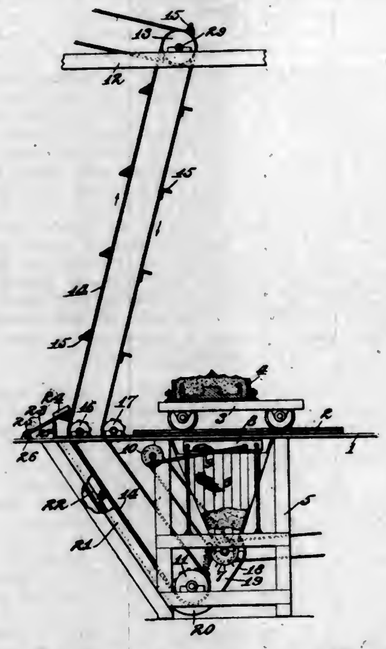
12. In a telephone-transmitter the combination of a transmitter-diaphragm, means for retaining the same in position comprising a resilient ring having an enlarged periphery adapted to rest upon the diaphragm, and means for excluding moisture from said diaphragm comprising a second diaphragm of metal superimposed upon said retaining means.

13. In a telephone-transmitter, the combination of a transmitter-diaphragm, means for retaining the same in position comprising a resilient ring having an open portion therein and an enlarged periphery adapted to rest upon the diaphragm, and means for excluding moisture from said diaphragm comprising a second diaphragm of tin-foil superimposed upon said retaining means.

14. In a telephone-transmitter, a frame, a diaphragm within the frame, a carbon block below the diaphragm, a screw associated with said carbon block and a pin inserted longitudinally into said screw, said pin being retained within said screw by first being inserted therein and thereafter having the edges of the bore, wherein said pin is contained, turned in.

15. In a telephone-transmitter, a frame, a transmitter-diaphragm within the frame, a carbon block below the diaphragm, a screw held to said carbon block, a pin inserted into said screw and a spiral spring surrounding a part of said pin, said pin being retained within said screw by first being inserted therein and thereafter having the edges of the bore, wherein said pin is contained, turned in.

840,070. METHOD OF PACKING FLASKS. HENRY W. LENGFELDER, Belleville, Ill., assignor to Mitchell-Parks Manufacturing Co., St. Louis, Mo., a Corporation of Missouri. Filed June 28, 1906. Serial No. 323,947.



Claim.—1. In the art of molding, the method which consists in discharging into a flask a series of compact bodies of sand from a sufficient height above the flask to cause the sand to pack therein by impact therewith due to its fall.

2. In the art of molding, the method which consists in discharging into a flask a series of compressed bodies of sand from a sufficient height above the flask to cause the sand to pack therein by impact therewith due to its fall.

3. In the art of molding, the method which consists in compressing a series of bodies of sand and discharging the same at a sufficient height above the flask to cause the sand to pack therein by impact therewith due to its fall.

4. In the art of molding, the method which consists in successively discharging separate bodies of sand in compact form into a flask from a sufficient height above the flask to cause the sand to pack therein by impact therewith due to its fall.

5. In the art of molding, the method which consists in compressing the sand into separate wads, and intermittently discharging said wads at a sufficient height above a flask to cause the sand to pack therein by impact therewith and with preceding bodies of sand.

6. In the art of molding, the method which consists in discharging into a flask a series of compact bodies of sand, whose length is approximately equal to the width of the flask to be packed, from a sufficient height above the flask to cause the sand to pack therein by impact therewith due to its fall.

840,071. WALL BRACE OR TIE. ABRAM T. LEWIS, Rock Rapids, Iowa. Filed Sept. 9, 1905. Serial No. 277,740.



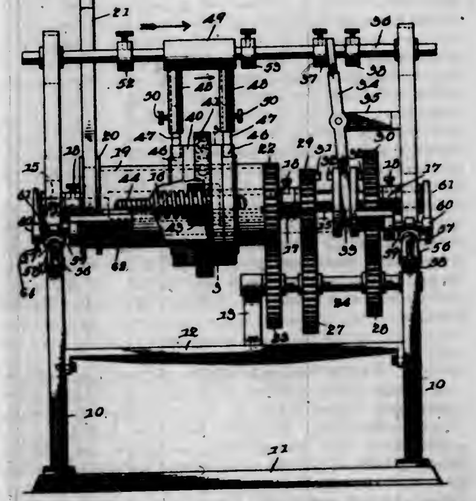
Claim.—1. The combination with blocks having air-passages therein, of a tubular tie having its end portions secured in the blocks and in communication with said air-passages, the ends of the tie being spaced from the inner sides of said passages.

2. The combination with building-blocks having dovetailed recesses and air-passages leading thereto, of a tubular tie having its end portions adapted to fit said recesses, as and for the purpose set forth.

3. And as new construction in the art, an artificial stone having an air-passage therein, a tubular tie having one end embedded in said block and in communication with the air-passage, and a block having a groove formed in one face thereof and adapted to receive the free end of the tie.

4. The combination with parallel courses of building-blocks having air-spaces formed in their opposing faces, of a tubular tie adapted to connect said courses, said tie being opened at each end, the end portions of the tie resting in said air-spaces.

840,072. CALENDER-ROLL AND KNIFE-GRINDING MACHINE. JOSEPH LINTON, Manchester, Va. Filed May 25, 1906. Serial No. 318,689.



Claim.—1. In a grinding-machine, the combination with a revoluble grinding member, of a nut connected to and rotating therewith, a threaded shaft with which the nut engages, means for alternately revolving the shaft at high and low speeds and in the same direction to thereby effect reciprocatory movement of said nut and grinding member.

2. In a grinding-machine, a revoluble grinding member, a nut carried thereby, a supporting-drum on which the grinding member is free for rotative, and reciprocatory movement, a threaded shaft with which the nut engages,

and means for alternately rotating the shaft at high and low speed, and in the same direction, to thereby effect reciprocatory movement of the nut and grinding member.

3. In a grinding-machine, a revoluble grinding member, a nut carried thereby, a threaded shaft with which the nut engages, a shaft-revolving means, and means for automatically changing the speed of said shaft to revolve the same first at the slower speed than the nut, and then at a higher speed than the nut.

4. In a grinding-machine, a revoluble grinding member, a drum on which the grinding member is free for reciprocatory movement, means for revolving the drum and grinding member, a nut carried by said grinding member, a threaded shaft extending through the drum and with which said nut engages, means for revolving the shaft, and means for automatically changing the speed of said shaft as the grinding member nears the limit of its reciprocatory movement in both directions.

5. In a grinding-machine, a revoluble grinding member, a drum on which said member is mounted, means for revolving the drum, a counter-shaft having a geared connection with the drum, a gear and pinion on the counter-shaft, a nut carried by the grinding member, a threaded shaft with which said nut engages, a pinion and a gear mounted loosely on the threaded shaft and intermeshing respectively with the gear and the pinion on the counter-shaft, a double-clutch sleeve feathered to the threaded shaft, and means for automatically moving said sleeve to alternately engage the gear and the pinion of said threaded shaft.

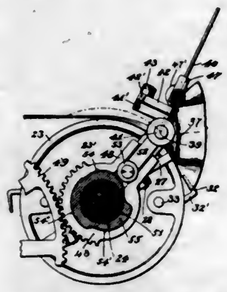
6. In a grinding-machine, a shaft having a threaded portion, a drum mounted on an unthreaded portion of the shaft and arranged to rotate independently thereof, said drum being provided with diametrically-opposed longitudinal slots, means for revolving the drum, a collar slidably mounted on the drum, a grinding member carried by the collar, a nut engaging the threaded portion of the shaft and having arms extending through the slotted portion of the drum and engaging the collar, a counter-shaft having a gearing connection with the drum, a gear and pinion on the counter-shaft, a pinion and a gear mounted loosely on the threaded shaft and intermeshing, respectively, with the gear and pinion of the counter-shaft, a double-clutch sleeve fitted to the threaded shaft, a clutch-operating lever, a slidable clutch-operating rod, adjustable collars mounted thereon, and arranged to engage the clutch-operating lever, a sleeve carried by the rod, a pair of collars with which said sleeve engages, arms depending from said sleeve, a pair of rings encircling the grinder-carrying collar, pins extending from said rings and engaging said arms, and means for supporting the article to be ground.

7. In apparatus of the class described, the combination with a revoluble grinding member, of a pair of brackets, screws extending therethrough, nuts mounted on said screws, a work-supporting bar having end pintles supported by the screws, means for turning said work-supporting bar, and means for locking said bar in adjusted position.

840,073. PAPER-BAG MACHINE. WILLIAM A. LORENZ, Hartford, Conn., assignor to Union Paper Bag Machine Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Aug. 23, 1900. Serial No. 27,864.

Claim.—1. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks, having in combination a rotary folding-bed, carriers oscillating about a center situated within the rotary path of the bed, turning-back means moved by said carriers through an oscillatory path above the rotary path of the bed and means for operating said turning-back means on said carriers to engage and turn back the upper ply of a blank as the blank travels with the bed.

2. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks, having in combination a rotary folding-bed, a carrier oscillating about a center situated within the rotary path of the bed, turning-back means engaged by said carrier and moved through an oscillatory path above the rotary path of the bed, and means for operating said turning-back means to engage and turn back the upper ply of a blank as the blank travels with the bed.



3. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks, having in combination a rotary folding-bed, oscillating arms pivoted within the rotary path of the bed, turning-back means moved by said arms through an oscillatory path above the rotary path of the bed and means for operating said turning-back means on the arms to engage and turn back the upper ply of a blank as the blank travels with the bed.

4. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks, having in combination a shaft, a rotary folding-bed supported thereby, arms one at each side of the folding-bed each journaled around said shaft, means for continuously rotating said folding-bed, means for oscillating said arms about the shaft, means for causing a blank to advance with the bed, and means carried by the arms for engaging and turning back the upper ply of said blank.

5. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks including in combination, a continuously-rotating shaft, a rotary folding-bed secured thereto, an arm at each end of the bed having a portion surrounding the shaft, a second shaft geared to the first shaft, a cam member actuated by said second shaft, connections between the said cam member and said arms for oscillating the latter about the first-mentioned shaft, and means carried by said arms for engaging and turning back the upper ply of a blank advanced by the folding-bed.

6. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks, including in combination, a rotating shaft, a blank-support mounted on said shaft and turning with it, said support having a series of folding-beds arranged at intervals about the shaft, an arm at each end of the support having a portion surrounding the shaft, means carried by the arms for engaging and turning back the upper ply of a bag-blank and means for turning the arms about the shaft with the support while said turning means operate upon a blank carried by one of said beds and then turning the arms in the opposite direction to bring the turning means carried by them into operative relation with the blank carried by a succeeding bed.

7. In a bag-machine, means for forming diamond folds on bellows-sided blanks, having in combination a rotary folding-bed, oscillating arms pivoted concentrically with the bed, mechanism moved by said arms through an oscillatory path above the rotary path of the bed, and means for operating said mechanism on said arms, to engage and open the blank during its movement with the bed.

8. In a bag-machine, mechanism for forming diamond folds on bellows-folded blanks, having in combination a rotary folding-bed, oscillating arms pivoted within the rotary path of the bed, folding mechanism pivotally supported on said arms and means for oscillating said folding mechanism relative to said arms.

9. In a bag-machine, mechanism for forming diamond folds on bellows-folded blanks, having in combination a rotary folding-bed, oscillating carrier-arms moving on a center of oscillation situated within the rotary path of the bed, devices mounted for oscillation upon the said arms, and means for operating said devices on the arms to engage and open the blank during their movement with the bed.

10. In a bag-machine, mechanism for forming diamond folds on bellows-folded blanks, having in combination a rotary folding-bed, oscillating carrier-arms moving on a center of oscillation situated within the rotary path of the bed, devices mounted for oscillation on the said carriers, said devices including means for engaging the upper ply of the blank, means for swinging the carrier-arms forward in the direction of travel of the blank, and means for turning the said devices backwardly to fold the diamond as the carrier-arms are thus moved forward.

11. In a bag-machine, mechanism for forming diamond folds on bellows-folded blanks, having in combination a rotary folding-bed, oscillating carrier-arms supported for oscillation upon an axis situated within the rotary path of the bed, holders coöperating with the said bed, to hold the lower ply of the blank thereon, and folding devices mounted for oscillation upon the said carrier-arms, including holders for engaging the upper ply of the blank, means for moving the carrier-arms forward in the direction of travel of the folding-bed, and means for turning the said folding devices backwardly to form the diamond.

12. In a bag-machine, mechanism for forming diamond folds on bellows-folded blanks, having in combination a rotary folding-bed, oscillating arms moved about a center of oscillation located within the rotary path of the bed, folding mechanism moved by said arms through an oscillating path above the rotary path of the bed, and yielding side grippers having a capacity for lateral movement to engage and disengage the blanks, cam mechanism operating on said side grippers to engage and disengage the blanks, as they oscillate over the rotary folding-bed, and means for actuating the folding mechanism to open the blank.

13. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks including in combination, a rotary folding-bed, a carrier mounted for oscillation about a center situated within the rotary path of the bed, a member pivoted to said carrier and having a fold-defining edge, means for holding the upper ply of the blank against said edge, means for oscillating said carrier and means for oscillating said member relative to said carrier.

14. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks, including a folding-bed, turning-back mechanism including a transverse-fold-defining member mounted for oscillation upon an axial support, said axial support, means for causing a continuous advancement of the folding-bed, and means for reciprocating the said axial support back and forth lengthwise of the path of travel of the bed.

15. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks, including a folding-bed, a transverse-fold-defining member mounted for oscillation upon an axial support substantially in alinement with the fold-defining portion of said member, said axial support, means for holding the upper ply of the blank against said edge, means for causing a continuous advancement of the folding-bed, and means for reciprocating the said axial support back and forth lengthwise of the path of travel of the bed.

16. In a bag-machine, mechanism for forming diamond-folded blanks from bellows-sided tubes, having in combination a rotating folding-bed provided with means for holding the lower bellows folds of a tube, oscillating arms pivoted within the path of the rotating bed, means carried by the oscillating arms, for defining the cross-fold of the diamond, holders also carried by the said arms for engaging the upper bellows folds of a tube, means for oscillating said holders and fold-defining means on an axis carried by said arms, and means for moving said axis and the parts supported thereby toward and away from the folding-bed.

17. In a bag-machine, mechanism for forming diamond folds on bellows-sided bag-blanks, including a movable blank-support having a folding-bed upon which the diamond is flattened, means for securing the lower ply of the bag-blank thereto, turning-back mechanism including a member having a cross-fold-defining edge, and means for moving said member so that said edge travels, during the diamond-folding operation, at substantially the same speed as that of the surface of the blank-support and through a predetermined path which is substantially similar to the path traveled by the portion of the blank secured to said support, said paths being separated by a substantial distance during the time of defining the outer margins of the inner triangular folds.

18. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks, including a movable blank-support having a folding-bed, means for securing the lower ply of the bag-blank thereto, turning-back mechanism including a blank-folding member having a cross-fold-defining edge, means for moving said member so that said edge travels, during the diamond-folding operation, at substantially the same speed as that of the surface of the blank-support, and through a predetermined path which is substantially parallel to the path traveled by the portion of the blank secured to said support, said paths being separated by a substantial distance during the time of defining the outer margins of the inner triangular folds, and for turning said member relative to said edge at an axis while the edge is traveling along said predetermined path.

19. The combination, with a traveling blank-support having a folding-bed and tuck-holders, of a blank-folding member having a defining edge and box-holders, and mounted for oscillation on a movable axis which is substantially in alinement with said defining edge, means for swinging said member upon said axis during the diamond-folding operation, and means for moving the said defining edge and axis toward and away from a position, which at the time of defining the outer margins of the inside triangular folds is at a substantial distance from the blank-supportiug surface of the blank-support.

20. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks, having in combination a movable blank-support, turning-back mechanism including a movable blank-folding member having a defining edge and mounted for oscillation upon a movable axis, means for oscillating the blank-folding member upon its axis, and means for moving the said axis through different paths so that the defining edge is carried generally with the blank-support during the folding operation, but at different distances therefrom during the formation of the inside triangular folds.

21. In a bag-machine, mechanism for forming diamond folds on bellows-folded blanks, having in combination a rotary folding-bed, oscillating arms pivoted within the rotary path of the bed, folding mechanism pivotally supported on said arms to turn relatively thereto about an axis above the rotary path of the bed, and means for oscillating said folding mechanism relative to said arms.

22. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks, having in combination a folding-bed, means for securing the lower ply of a bag-blank thereto, movable means for engaging the end of the upper ply of the blank to turn it back about its primary transverse crease-line, and operating means therefor, arranged to move the engaging means relative to the folding-bed through such a path concave toward the folding-bed, that the portion of the upper ply in which the crease-line is formed is lifted from the lower ply at the time of defining the margins of the inside triangular folds.

23. The combination, with a movable blank-support having tuck-holders, of a movable blank-folding plate having a defining edge, box-holders, a guide mounted for oscillation around a fixed axis and provided with guiding-ways for the folding-plate, and means extraneous to the blank-support for moving the defining edge in a path which is a substantial distance away from the surface of the support during the formation of the inside triangular folds.

24. The combination with a blank-support having tuck-holders, of a blank-folding plate having a defining edge, box-holders, a movable plate-carrier supporting the plate substantially in alinement with the defining edge, means for moving said edge in a path which is away from the surface of the blank-support during the formation of the inner triangular folds, and means for guiding the outer end of said plate.

25. In a bag-machine, mechanism for forming diamond

folds on bellows-sided blanks, having in combination a rotary folding-bed, oscillating arms pivoted within the rotary path of the bed, turning-back means moved by said arms through an oscillatory path above the rotary path of the bed, means for moving said turning-back means toward and away from the bed, and means for operating said turning-back means on said arms to engage and turn back the upper ply of a blank as the blank moves with the bed.

26. In a bag-machine, mechanism for forming diamond folds on bellows-folded blanks, having in combination a rotary folding-bed, oscillating arms pivoted within the rotary path of the bed, pivotal supports for folding mechanism carried on said arms, means for reciprocating said pivotal supports so that they approach and recede from the path of the bed, folding mechanism connected to said pivotal supports so as to oscillate thereon in forming the diamond, and means for oscillating said folding mechanism relative to said arms.

27. In a bag-machine, mechanism for forming diamond folds on bellows-folded blanks, having in combination a rotary folding-bed, oscillating arms pivoted within the path of the rotary bed, trunnion-supports mounted on the oscillating arms and movable thereon toward and away from their center of oscillation, trunnions mounted on said supports, means secured to said trunnions for defining the cross-fold and turning back the upper ply of a blank, and means for oscillating the arms, reciprocating the trunnion-supports, and oscillating the trunnions, whereby the cross-fold defining and turning-back means is operated in coaction with the bed.

28. In a bag-machine, mechanism for forming diamond folds on bellows-folded blanks, having in combination a rotary folding-bed, oscillating arms pivoted within the path of the rotary bed, slides carried by the oscillating arms and movable thereon toward and away from the center of oscillation, trunnions mounted on said slides, means secured to said trunnions for defining the cross-fold and turning back the upper ply of a blank, and means for oscillating the arms, reciprocating the slides and oscillating the trunnions, whereby the cross-fold defining and turning-back means is operated in coaction with the bed.

29. The combination with a blank-support having tuck-holders and mounted for continuous rotation, of a blank-folding plate having a defining edge, box-holders, a carrier on which the folding-plate is mounted for oscillation, and means for reciprocating the said plate-carrier back and forth in the general direction of travel of the blank-support, and also toward and from the surface of the blank-support.

30. The combination with a rotary blank-support having tuck-holders, of a blank-folding plate having a defining edge, box-holders, arms mounted for oscillation upon an axis substantially in alinement with the axis of the blank-support, plate-carriers mounted on said arms for radial movement toward and from the said axis, and having the said blank-folding plate mounted for oscillation thereon, means independent of the blank-support for oscillating the said arms, and means for moving the said plate-carriers radially.

31. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks including in combination a folding-bed, blank-folding mechanism including a transverse-fold-defining member mounted for oscillation upon an axis substantially in alinement with the fold-defining portion of said member, means for causing a continuous advancement of the folding-bed, means for reciprocating the said axis back and forth lengthwise of the path of travel of the bed, and means for moving the said axis toward and from the folding-bed as said axis is reciprocated, and means for oscillating said member as said axis is reciprocated.

32. The combination with a movable blank-carrier and means for securing a blank thereto, of a blank-folding member and box-holders, supporting means on which said member and holders are mounted for oscillation, said supporting means being mounted for movement toward and from and also in the direction of travel of the blank-carrier, and means independent of the blank-carrier for oscillating the blank-folding member and box-holders during the blank-folding operation.

33. The combination with a movable blank-carrier and means for securing a blank thereto, of supports mounted for movement in the general direction of travel of the blank-carrier and also transversely to that direction, a blank-folding member and box-holders mounted for swinging movement upon the supports, said folding member having a defining edge, means for moving the supports to carry said defining edge toward and from the surface of the blank-carrier, means for advancing the said supports in the direction of travel of the blank-carrier during the blank-folding operation and means for oscillating the blank-folding member and box-holders on said supports during the blank-folding operation.

34. The combination with a movable blank-carrier having tuck-holders, and with a blank-folding member having box-holders, of supporting means by which said member is pivotally supported, and movable transversely of, and also with the blank-carrier throughout the diamond-folding operation.

35. In a bag-machine, mechanism for forming diamond-folded blanks from bellows-folded tubes, having in combination a rotating folding-bed provided with devices for holding a rotating folding-bed provided with devices for holding the lower ply of the blank, oscillating arms pivoted within the rotary path of the bed, folding means carried by said arms, means for oscillating the arms, and means for imparting the necessary movements to the folding means carried by said arms.

36. In a bag-machine, mechanism for forming diamond-folded blanks from bellows-folded tubes, having in combination a rotating folding-bed provided with devices for holding the lower ply of the blank, oscillating arms pivoted within the path of the rotating bed, folding means carried by said arms and moving therewith at times in the direction of movement of the bed and at times in the opposite direction, means for causing the folding means to move also toward and away from the path of the bed, and means for oscillating the said folding means on an axis carried by the arms.

37. In a bag-machine, mechanism for forming diamond-folded blanks from bellows-sided tubes, having in combination a rotating folding-bed provided with means for holding the lower bellows-folds of the tube, oscillating arms pivoted within the path of the rotating bed, means carried by the oscillating arms for defining the cross-fold of the diamond, holders also carried by the said arms for engaging the upper bellows-folds of a tube, means for oscillating said holders and fold-defining means on an axis carried by said arms, and means for moving said axis and the parts supported thereby toward and away from the folding-bed.

38. The combination, with a rotary blank-support having tuck-holders, of a movable blank-folding plate having a defining edge, box-holders, means for slidably guiding the outer end of said plate, and means extraneous to the blank-support for moving said defining edge in unison with the support during a portion of its folding movement.

39. The combination, with a rotary blank-support having tuck-holders, of a movable blank-folding plate having a defining edge, box-holders, means for supporting the said plate for oscillation upon an axis substantially in alinement with the defining edge, means extraneous to the blank-support for moving the said edges in unison with the support during a portion of its folding movement, and means for slidably guiding the outer end of said plate.

40. The combination with a rotary blank-support having tuck-holders, of a blank-folding plate having a defining edge, box-holders, a movable plate-carrier supporting the plate substantially in alinement with the defining edge, a guide for the outer end of the plate, and means operable independently of the blank-support for moving the said plate-carrier approximately in unison with the blank-support during the formation of the inner triangular folds.

41. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks, including in combination a framework, a rotating blank-support mounted in said framework, a carrier oscillating about a center situated within the rotary path of the blank-support, means for engaging and turning back the upper ply of a blank as the blank travels with the support, said means being pivotally connected to said framework above said path and to said carrier.

42. In a bag-machine, mechanism for forming diamond folds on bellows-sided blanks including in combination a framework, a rotary blank-support mounted in said framework, a carrier oscillating about a center situated within the rotary path of the blank-support, means for engaging and turning back the upper ply of a blank as the blank travels with the support, said means being pivotally connected to said carrier, and means sliding and pivotally connecting the engaging and turning-back means to said framework.

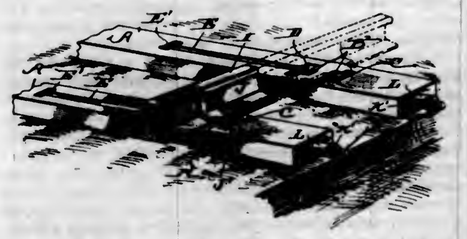
43. In a bag-machine, mechanism for forming diamond folds on bellows-folded blanks, having in combination a rotary folding-bed having a front diamond-holder adapted to hold the lower ply of the blank at a position elevated above the bed during the formation of the diamond, oscillating arms pivoted within the rotary path of the bed, folding means moved by said arms through an oscillatory path above the rotary path of the bed, and means for operating said folding means to engage and open the blank during their movement with the bed.

44. The combination with a rotatable blank-support, of means for turning back the upper ply of a bag-blank to form diamond folds, and a diamond-holder carried by the blank-support, and having its blank-engaging portion at a substantial distance from the surface of the blank-support while engaging the blank.

45. In a bag-machine, the combination with a blank-support pivoted to carry the blank in a curved path, of means for holding and transporting a bag-blank thereon, including a device moving in conjunction with the support for engaging the end of the lower ply of the blank at a position above the surface of the blank-support, and means for engaging and turning back the upper ply of said blank.

46. In a paper-bag machine, mechanism for forming diamond folds on bellows-sided bag-blanks, having in combination a folding-bed, means for turning back the upper ply of the blank to form the diamond folds, and a holder for engaging the flap end of the bag-blank to control its position relative to the bed, said holder having its blank-engaging portion at a substantial distance above the surface of the blank-support during the folding operation.

840,074. SPLICE-BAR. WILLIAM J. MATTERN, Lewistown, Pa. Filed Mar. 2, 1906. Serial No. 303,843.



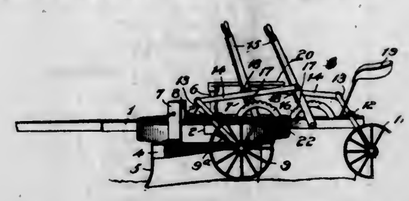
Claim.—1. The combination with a hollow tie provided with openings, of fish-plates arranged in said openings and a bolt passing through said plates in said tie provided with a sleeve having a flanged end, for the purpose described.

2. The combination with a hollow tie provided with a solid portion adjacent each end having a horizontal opening, of fish-plates arranged in openings at each side of said portion provided with horizontal openings and a bolt adapted to pass through said opening provided with a sleeve on its outer end, for the purpose described.

3. The combination with hollow ties provided with solid apertured portions adjacent each end having vertical openings at each side, of fish-plates provided with downwardly-projecting apertured members arranged in said openings, a bolt passing through said portion and members, and a sleeve arranged on the outer end of said bolt, for the purpose described.

4. The combination with a pair of hollow ties provided with vertical openings, of a notched plate arranged on said ties, fish-plates provided with apertured members adjacent each end arranged in said openings, a bolt passing through said members projecting out through the end of the tie, a sleeve mounted on said bolt, and a nut carried by said bolt adapted to engage said sleeve, for the purpose described.

840,075. ROAD-GRADER. LUTHER MATTHEWS, Paris, Tenn. Filed July 31, 1906. Serial No. 328,550.



Claim.—1. In a road-grader, a frame having a circular member, a grading-beam having a post by which it is mounted in the frame centrally of its circular member, guide-hangers rising from the ends of the beam, bearing-rolls mounted in the hangers and supported on said circular frame member, and means on the frame for locking the beam when set.

2. In a road-grader, a frame having a circular member, a grading-beam having a post by which it is mounted in the frame centrally of its circular member, guide-hangers rising from the ends of the beam, bearing-rolls mounted in the hangers and supported on said circular frame member, a circular toothed plate fixed on the center post at the top of the frame, and a pawl pivoted on the frame for engaging and locking the grading-beam when set.

3. In a road-grader and in combination with the oblique grading-beam, a pair of side supporting-wheels one of which is mounted on an adjustable crank-axle, a supporting-wheel mounted on a crank-axle at the rear of the frame and means connecting and adjusting said crank-axles for raising and lowering the frame and the grading-beam.

4. In a road-grader, a frame having a circular member, supporting-wheels for said frame, a grading-beam, hangers for suspending it upon the circular frame member, means for obliquely adjusting it upon said circular frame member, and means for fixing said grader-beam in its adjusted position.

840,076. APPARATUS FOR HYDRATING LIME. MAX MAURAN, Niagara Falls, N. Y., assignor to Castner Electrolytic Alkali Company, a Corporation of Virginia. Filed July 21, 1906. Serial No. 327,137.

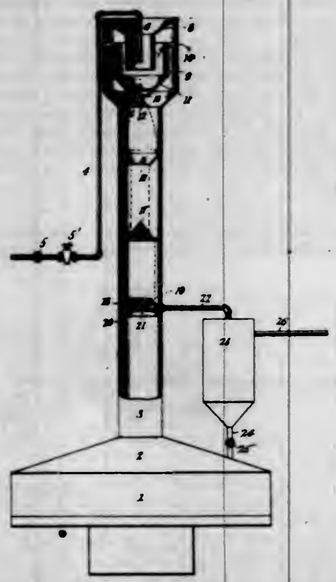
Claim.—1. In the process of hydrating lime, the method consisting in adding water to the lime and conducting the lime-laden vapors through a shower of water and then utilizing the water collected from said shower to hydrate fresh bodies of lime.

2. The method of hydrating lime which consists in heating the water by initially bringing it in contact with the vapors from a body of slaking lime and adding this water to subsequent bodies of lime.

3. The method of slaking or hydrating lime which consists in removing the finely-divided lime from the vapors of slaking lime and incorporating the same with the unslaked lime.

4. In an apparatus for hydrating lime, a stack into which the lime-vapors pass, a nozzle for spraying water into said stack, baffle-plates for deflecting the spray through the lime-vapor, a receptacle for collecting the resultant liquor, and means for conducting such liquor into

contact with a fresh body of lime for subsequent hydrations.

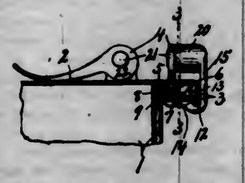


5. In an apparatus for hydrating lime, a pan in which the lime is hydrated, a stack extending upward from said pan, baffle-plates within said stack by which the lime-vapors are deflected, means for injecting water into the stack to produce a shower through which the vapors pass, means for collecting the water after it has passed through the lime-vapors to cleanse the same, and means for admitting this liquor into the pan for subsequent hydrations.

6. In an apparatus for hydrating lime, a pan in which the lime is hydrated, a stack extending upwardly therefrom, baffle-plates within said stack for deflecting the vapors out of a perpendicular path, means for injecting a shower of water into the stack through which the vapors pass, a trough within the stack for collecting the water after it has passed through the vapors, a receptacle below the level of said trough, a pipe connecting said receptacle and trough whereby the liquor flows from the trough to the receptacle, and means for conducting the liquor from the receptacle to the pan for subsequent hydrations.

7. In an apparatus for hydrating lime, a pan in which the lime is hydrated, a stack extending upwardly therefrom, baffle-plates within the stack for deflecting the vapors a plurality of times out of a perpendicular path, and means for injecting a hower of water into the stack so as to pass through the vapors a number of times, whereby the vapors are cleansed of lime particles before they issue into the atmosphere.

840,077. BURIAL-CASKET. JOHN MAXWELL, Oneida, N. Y. Filed July 17, 1906. Serial No. 326,624.



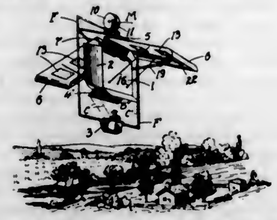
Claim.—1. In a sheet-metal burial-casket, a sheet-metal box having a marginal flange near its upper edge, a lid having a downturned flange surrounding the marginal flange of the box, a bracket pivoted to the flange on the box and having a lengthwise groove alined with the flange on the lid, and means on the bracket for drawing the lid and box-flange toward each other to force the lid-flange into the groove of the bracket.

2. In a burial-casket, a box and a lid therefor, one of the parts having a marginal flange, a horizontally-swinging bracket pivoted to one of said parts and provided with a groove movable into and out of registration with said flange, and means on the bracket to clamp the lid to the box and to cause said flange to enter the groove to prevent horizontal swinging of the bracket when the lid is clamped in place.

3. A burial-casket comprising a sheet-metal box having the upper edges of its sides and ends turned outwardly and downwardly and laterally and then returned toward the body and upturned between said body and downturned portion forming horizontal ledges and vertical flanges at the inner longitudinal ledges of the edges.

4. In a burial-casket, a sheet-metal box having a horizontal outturned flange near its upper edge, a sheet-metal lid having a depending flange fitting around the outer edge of said ledge, a horizontally-swinging bracket pivoted to said ledge and extending upwardly at the outer side of and above the flange of the lid and a cam-lever pivoted to said bracket and overhanging the adjacent portion of the lid to draw the lid and ledge toward each other, said bracket having a groove receiving the lower edge of the flange of the lid when the latter is clamped upon the box.

840,078. AIR-SHIP. JOHN MEDEN, St. Louis, Mo. Filed Jan. 10, 1906. Serial No. 295,406.

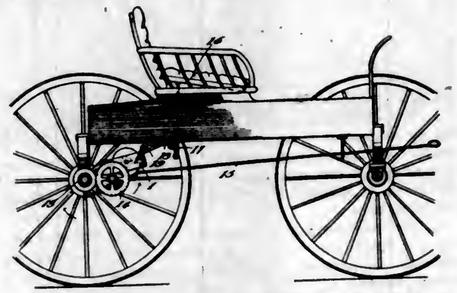


Claim.—1. In an air-ship, a suitable frame, a motor carried thereby, wings hinged to the frame on either side thereof and oscillating in a vertical plane, a suitable centrally-disposed body, links connecting the adjacent inner portions of the wings to said body, intermediate connections between said motor and body for imparting to the latter a vertically-reciprocating movement, whereby the wings will oscillate in unison therewith but in contrary direction thereto, substantially as set forth.

2. In an air-ship, a suitable frame, a motor carried thereby, wings hinged to the frame on either side thereof and oscillating in a vertical plane, a centrally-disposed body suspended from the inner edges of the wings within the frame, suitable driving-gear interposed between the motor and body for imparting to the latter a vertically-reciprocating movement whereby the wings are correspondingly oscillated therewith but in a direction contrary to such reciprocations, a pair of spring-controlled arms pivotally mounted in the rear of the body portion, pinions for meshing the pivotal ends of the arms, the spring tending to normally force the arms to a closing position, means forming a part of the wings for engaging the free ends of the arm, whereby the tension of the springs retards the wings in their upward movement, the arms assisting the downward stroke or oscillation of the wings, substantially as set forth.

3. In an air-ship, a frame, a pair of main driving-wings hinged thereto and disposed on either side thereof, a body or ship suspended centrally from the inner adjacent edges of the wings, and supplemental wings disposed along the bottom at the sides of the body portion, substantially as set forth.

840,079. HORSE-CONTROLLING DEVICE. JOHN G. MICHAELI, Denver, Colo. Filed Apr. 28, 1905. Serial No. 257,936.

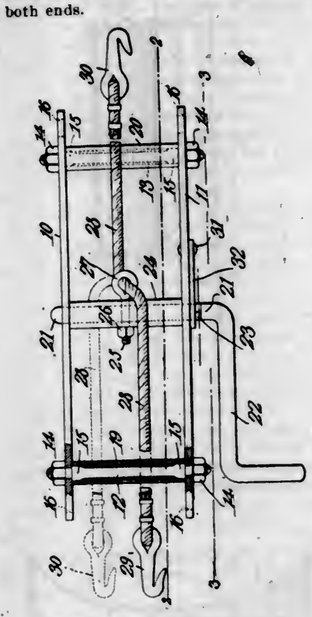


Claim.—In a device of the character described, the combination with a vehicle, of a bracket secured upon the rear axle of the vehicle and having forwardly-projecting, horizontal arms, a pivot-rod extending transversely through said arms, a vertically-swinging U-shaped frame extending forwardly from said bracket and having its ends mounted upon the projecting ends of said pivot-rod, a drum-shaft rotatably journaled in said swinging frame, a drum carried by said drum-shaft, a pawl-and-ratchet connection between said drum and its shaft whereby the drum is locked against rotation when a backward movement of the vehicle occurs, a transverse shaft rotatably journaled in the projecting arms of said bracket and having an extended end, a gear fixed upon said transverse shaft between said arms, a pinion fixed upon said drum-shaft and adapted to mesh with said gear, a coil-spring connecting said axle and the front end of said swinging frame for swinging the latter downwardly to move said pinion into mesh with said gear, a gear fixed upon the extended end of said transverse shaft, a gear fixed upon one of the wheels on said axle and in mesh with the last-mentioned gear, a pivotally-mounted seat in said vehicle, a vertical rod pivotally connected to said seat and extending downwardly through the body of said vehicle, guide-pulleys upon the body of said vehicle, a flexible connection engaged with said pulleys and having one end attached to the front of said swinging frame and its other end attached to the lower end of said vertical rod whereby when said seat is raised and lowered said swinging frame will be moved vertically to throw said pinion into and out of mesh with its gear, and a checking-rein for connection with the animal attached to the vehicle, said rein having one of its ends secured to said drum whereby it will be wound thereon and drawn taut when a forward movement of the vehicle occurs, substantially as shown and described.

840,080. WIRE-STRETCHER. ALEXANDER MILLER, San Antonio, Tex., assignor of one-half to George Leonard, San Antonio, Tex. Filed Sept. 15, 1906. Serial No. 334,713.

Claim.—1. A wire-stretcher comprising a frame having spaced sides connected near their ends by transverse bolts having lateral shoulders to maintain the side members spaced apart, tubular rollers rotative upon said bolts and bearing upon said shoulders, a windlass-shaft journaled in the frame members between said bolts, and a flexible straining element carried by said shaft.

2. The combination in a wire-stretcher, of a frame including spaced side members, shouldered connecting-bolts extending between and spacing said members, tubular rollers mounted on the bolts, a shaft journaled in the frame at a point about midway of the length of the latter, said shaft having a polygonal portion, a lock-pawl pivoted to the frame and having a recess arranged to receive the polygonal portion of the shaft to prevent rotative movement of the latter in either direction, a sleeve secured to the shaft, a bolt extending through the sleeve and shaft and having an eye at one end, and a flexible member extending through the eye and provided with wire-engaging means at both ends.



840,081. STORM-APRON. ANDREW J. MILLER, Henderson, Ky. Filed Dec. 22, 1905. Serial No. 292,978.



Claim.—A storm-apron for vehicles comprising a foldable supporting-frame pivotally connected to the vehicle-body, said frame comprising a number of wire-fabric sections which are joined endwise by a hinge connection, and a cover secured to the frame and foldable therewith.

840,082. LIFTING MECHANISM. JOSEPH R. MILLER, Mansfield, Ohio, assignor of one-half to William Michael, Mansfield, Ohio. Filed Mar. 10, 1906. Serial No. 305,264.

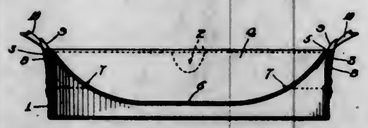
Claim.—1. In a power lifting-machine, a cylinder provided with heads formed with inlet-ports, three-way valves connected with the inlet-ports, a vertical pipe connection between the valves, a globe-valve and a T connection placed in line of said pipe, the said valves provided with levers, said levers held in normal position by coil-springs, a vertical discharge-pipe connecting the three-way valves, flexible connections from the supply and discharge to stationary supply and discharge pipes, a piston and piston-rod within the cylinder adapted to lift the load by compressed air or liquid, as set forth.

2. In a power lifting mechanism, the combination with a cylinder adapted for suspension, said cylinder having heads provided with inlet-ports, a piston within the cylinder provided at its lower end with a hook, of three-way valves connected with the inlet-ports, a vertical supply-pipe between said valves, and a discharge-pipe connected between the valves.

840,082.



840,083. FROSTING OR ICING PAN. WILLIAM F. MORRIS, Los Angeles, Cal., assignor of one-half to A. J. Allen and A. B. Allen, Los Angeles, Cal. Filed Oct. 23, 1906. Serial No. 340,226.



Claim.—A frosting or icing pan comprising an oval outer receptacle, an oval inner receptacle with a concave bottom, the central portion of which is flat, the inner receptacle nesting with the outer one, spring-catches on the ends of the outer receptacle detachably engaging the rim of the inner receptacle, the outer receptacle having a spout at one side, and handles on the inner receptacle protecting the spring-catches.

840,084. REFLECTOR. FRIEDERICH MÜLLER, Elizabeth, N. J. Filed Mar. 18, 1904. Serial No. 198,859.



Claim.—1. The combination with a mirror or reflector constructed and adapted to present to the object to be reflected an operative portion of simple curvature, of automatically-acting means for supporting and moving said mirror or reflector in progressively-varying angular relation to the direction of curvature of said operative portion to the object whereby a series of images of progressively-varying degree of distortion is produced.

2. The combination with a mirror or reflector adapted to expose to an object in a given position relative thereto a reflecting-surface of single curvature, of means for movably supporting said mirror or reflector and for presenting to said object said reflecting-surface in a succession of diverse angular relations, whereby a series of diversely-foreshortened symmetrical images of said object is produced.

3. The combination with a mirror or reflector provided with an operative portion adapted to produce a symmetrically-foreshortened image of an object disposed in a given position relative thereto, of means for supporting and communicating a circular movement to said mirror or reflector to progressively change the angular reflection of its operative portion to said object, and thereby produce a series of images of said object certain of which are symmetrically foreshortened in different directions and the intermediate images are unsymmetrically distorted.

4. The combination with a rigid mirror or reflector having an arched or cylindrically-curved reflecting-face, of means for movably supporting the same and imparting thereto a circular movement to vary the direction of its curvature in respect of an object disposed in front of its reflecting-face.

5. The combination with a rigid mirror or reflector having a cylindrically-curved reflecting-face, of means for movably supporting the same and imparting thereto a rotary motion.

6. The combination with a rigid mirror or reflector having a cylindrically-curved reflecting-face, of a supporting-shaft for said mirror or reflector whose axis of motion is intersected by the axis of curvature of said reflecting-face, and means for imparting to said mirror or reflector rotary motion.

7. The combination with a standard and a shaft mounted thereon and provided with means for rotating it, of a cylindrically-curved mirror or reflector mounted upon said shaft with its axis of curvature disposed transversely of said shaft, and wholly exposed for reflection of an object arranged in front of the same in line with said shaft.

8. The combination with a standard and a shaft mounted thereon and provided with means for rotating it, of a cylindrically-curved convex mirror or reflector mounted upon said shaft with its axis of curvature disposed transversely of said shaft, and wholly exposed for reflection of an object arranged in front of the same in line with said shaft.

840,085. FIREARM. PETER MULOCK, Leadville, Colo. Filed Aug. 2, 1904. Serial No. 219,209.

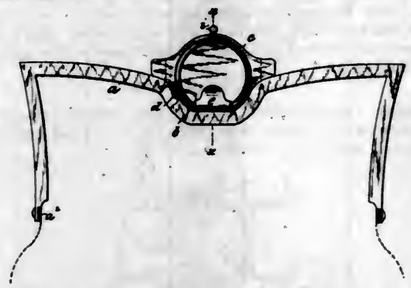


Claim.—A rifling for firearms extending the entire length of the bore thereof and uniform throughout its length, the entire periphery of the bore being composed of lands and approximately V-shaped grooves of uniform depth throughout the length of the bore, said grooves having one side radial of the bore and the other side extending from the bottom of the radial side to the top of the next consecutive land, the portions of the bore between the grooves serving to steady the bullet and to cause the displaced lead to be packed thereagainst, and thereby further prevent a leakage of gas.

2. A rifling for firearms, extending the entire length of the bore thereof and uniform throughout its length, the entire periphery of the bore being composed of alternate lands and grooves, the grooves being approximately V-shaped with one side radial of the bore and the other side curving from the bottom of the radial side to the top of the next consecutive land, said grooves of uniform depth throughout the length of the bore and the portions between the grooves serving to steady the bullet and to cause the displaced lead to become packed thereagainst and to thereby further prevent a leakage of gas.

3. A rifling for firearms extending the entire length of the bore thereof and uniform throughout its length, the entire periphery of the bore being composed of lands and approximately V-shaped grooves of uniform depth throughout the length of the bore, said grooves having one side radial of the bore and the other side extending from the bottom of the radial side to the top of the next consecutive land, said rifling being twisted throughout the length of the bore, the portions of the bore between the grooves serving to steady the bullet and to cause the displaced lead to become packed thereagainst, and thereby further prevent a leakage of gas.

840,086. BAG. KARL OSWALD, Jr., Newark, N. J. Filed May 19, 1906. Serial No. 317,684.



Claim.—1. A bag-frame member, said member having a central longitudinal depression therein and a purse secured in said depression.

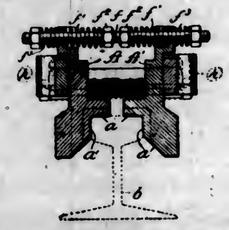
2. A bag-frame comprising a pair of hinged members each having a central longitudinal depression therein and a purse secured in the longitudinal depression of one of said members.

3. A bag-frame member having a longitudinal depression in the central portion thereof and a metallic coin-purse fitted to and secured in said depression.

4. A bag-frame comprising a pair of hinged frame members having central longitudinal depressions therein, and a purse secured in the depression of one of said members, and locking mechanism for said bag-frame located in the bottom of said depressions.

5. A bag-frame comprising a pair of hinged frame members having central depressions therein, a coin-purse secured in the depression of one of said members, a locking-clip located in the bottom of said depression beneath said purse and a corresponding holding-catch secured in the depression of the other member.

840,087. CONTACT-SHOE FOR ELECTRIC RAILWAYS. HENRY C. PEALOW, Batavia, Ill. Filed Nov. 9, 1905. Serial No. 286,457.



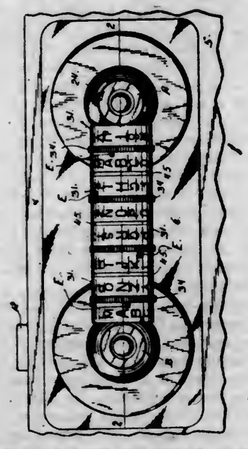
Claim.—1. A contact device for the third rail of an electric railway comprising a pair of oppositely-mounted shoes, the contact-surface of each shoe having a contour conforming to one side and a portion of the top of the rail, and spring mechanism for producing a constant engagement of said shoes with the rail.

2. A contact device for the third rail of an electric railway comprising a pair of oppositely-mounted shoes having angular-shaped lower portions adapted to engage the top and both sides of the rail, a series of horizontal bolts connecting said shoes, and springs carried by said bolts for producing a constant contact of said shoes with the rail.

3. In a contact device for the third rail of an electric railway, a pair of parallel shoes extending on opposite sides of the rail, each shoe having a contact-face conforming to the contour of the top and one side of the rail, said faces at the ends of the shoes being beveled outwardly, transverse bolts upon which said shoes are slidably mounted, and yielding means for holding said shoes in contact with the rail.

4. The combination with the third rail of an electric railway, of a pair of shoes disposed on opposite sides of the rail, each shoe having a contact-surface engaging the corresponding side and top portion of the rail, a horizontal member upon which said shoes are adjustable, upper and lower rods passing loosely through said shoes, springs carried by the upper rod between the shoes, and spacing apart the upper ends of the same, compression-springs carried by the projecting ends of the lower rod tending to press the shoes into firm contact with the rail, and cushioning-springs carried respectively upon the projecting ends of the upper rod and intermediate the shoes on the lower rod.

840,088. PERMUTATION-LOCK. ELSWORTH E. QUAINTANCE, Denver, Colo., assignor to The Permutation Lock and Novelty Manufacturing Company, Denver, Colo. Filed Feb. 13, 1906. Serial No. 300,843.



Claim.—1. In a lock, the combination with a suitable support, of a relatively stationary pedestal mounted on the support, a bolt-operating spindle journaled in the pedestal, a second pedestal journaled in the support and connected therewith to have a limited movement toward and away from the stationary pedestal, a hollow spindle mounted on the journaled pedestal, a locking-bar located in the hollow spindle, and a spring-actuated spindle mounted on the stationary pedestal parallel with the bolt-operating spindle, the spring-actuated spindle being rigidly connected with the locking-bar, the said bar being provided with a number of pins, tumblers rotatively mounted on the hollow spindle, each tumbler having an opening of a size to receive a pin of the locking-bar so that when the corresponding openings of all the tumblers are in alinement, the pins of the bar may simultaneously enter the tumblers, the stationary pedestal being recessed adjacent to the bolt-operating spindle to receive the locking-bar, the bolt-operating spindle having a polygonal-shaped part adapted to receive a corresponding opening formed in the adjacent extremity of the locking-bar, the outward movement of the spring-actuated spindle when the pins of the locking-bar enter the tumblers, being sufficient to disengage the locking-bar from the polygonal-shaped part of the bolt-operat-

ing spindle, the locking-bar being open at the end to allow it to pull away from the bolt-operating spindle, and the last-named spindle being free to turn for bolt-operating purposes when the locking-bar is actuated as aforesaid, the movement of the movable pedestal away from the stationary pedestal being sufficient to disengage the locking-bar from the stationary pedestal, allowing the journaled pedestal to turn whereby the hollow spindle and its connections are exposed at one extremity for the purpose set forth.

2. In a lock of the class described, the combination with a suitable support, of a lock composed of two pedestals, one of which is journaled in the support and also has a movement toward and away from the support, a hollow spindle rigidly connected with the stationary pedestal, a locking-bar located in the hollow spindle and protruding into the movable pedestal at one extremity and into the stationary pedestal at the other extremity, the said locking-bar having pins, a spring for actuating the bar in the hollow spindle, tumblers mounted on the spindle and cooperating with the pins, a bolt-operating spindle journaled in the stationary spindle and connected with the locking-bar to prevent the turning of the bolt-operating spindle when the bar is in a given position, the bar being capable of such movement within the hollow spindle as to release the bolt-operating spindle to permit the latter to turn, the connection of the locking-bar with the bolt-operating spindle being also such that when the bolt-operating spindle is released, the movable pedestal and the parts connected therewith may be moved away from the stationary spindle for the purpose set forth.

3. The combination with a suitable support, of two pedestals one of which is journaled in the support and has a movement toward and away from the other pedestal, a hollow spindle connecting the two pedestals, the spindle being rigidly attached to one pedestal and removably connected with the other pedestal, a locking-bar located in the hollow spindle, a revoluble bolt-operating spindle journaled in the stationary pedestal and having a part shaped to engage the locking-bar whereby the bolt-operating spindle may be locked against rotation, a spring acting on the locking-bar to shift it sufficiently to release the bolt-operating spindle, permutation-lock mechanism mounted on the hollow spindle and cooperating with the locking-bar, one pedestal being journaled in the support and also having a movement toward and away from the other pedestal for the purpose set forth.

4. A permutation-lock composed of two members, a hollow spindle connecting the members, a locking-bar located in the hollow spindle, tumblers mounted on the hollow spindle and having openings, the locking-bar being provided with pins adapted to enter said openings when the tumblers are properly adjusted, the tumblers being interiorly grooved, and click-springs connected at one extremity with the hollow spindle, the latter having circumferential grooves to receive the springs when the tumblers are slipped over the spindle, the outer extremities of the springs engaging the grooves of the tumblers as the latter are rotated for the purpose set forth.

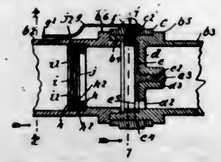
5. In a permutation-lock, the combination with a suitable support, of two members, a hollow spindle connecting the members, a locking-bar located in the hollow spindle and movable transversely therein, a spring acting on the locking-bar, the latter being provided with pins, tumblers mounted on the hollow spindle and having openings to receive the pins when the tumblers are adjusted to cause the position of the openings to coincide with the position of the pins, a sleeve mounted on each tumbler and provided with characters to facilitate the arrangement of the tumblers for unlocking purposes, a bolt-operating spindle journaled in one member and cooperating with the locking-bar, while the other member is journaled in the support and also has a movement toward and away from its companion member for the purpose set forth.

6. A lock including two pedestals one of which is movable, and a connection between the two pedestals including permutation devices capable of adjustment to allow one pedestal to move away from the other.

7. A lock including two pedestals, one of which is movable toward and away from the other and also has a revoluble movement around the axis of the pedestal, and a connection between the two pedestals including permutation devices capable of adjustment to allow the movable pedestal first to move away from the other pedestal and then turn on its axis to throw the permutation devices out of a straight alinement between the two pedestals.

8. A permutation-lock provided with a spindle having click-springs, tumblers revolubly mounted on the spindle, the said tumblers being provided with grooves engaging the click-springs, each tumbler being provided with an outer sleeve detachably connected with the tumbler and having an interior projection adapted to engage any groove of the tumbler, the tumbler being provided with openings, a locking-bar located in the spindle and having pins adapted to enter the openings of the tumblers when the latter are properly adjusted, each sleeve of each tumbler being provided exteriorly with a projection adapted to occupy any desired position with reference to the opening of the tumbler.

840,089. SOUND-REGULATOR FOR PHONOGRAPHS. ARTHUR H. RYDER, New York, N. Y. Filed Sept. 1, 1905. Serial No. 276,740.



Claim.—1. The herein-described means for connecting the horn of a reproducing instrument with said instrument, comprising a tubular coupling having a fixed transversely-arranged apertured plate therein and an apertured valve-plate coöperating with said fixed plate, and external devices movable independently of the coupling whereby said valve-plate may be rotated and the extent of said rotation indicated, said coupling being also provided in the end thereof adjacent to the instrument with a supplemental vibratory device.

2. The herein-described means for connecting the horn of a reproducing instrument with said instrument, comprising a tubular coupling having a fixed transversely-arranged apertured plate therein and an apertured valve-plate coöperating with said fixed plate, and external devices movable independently of the coupling whereby said valve-plate may be rotated and the extent of said rotation indicated, said coupling being also provided in the end thereof adjacent to the instrument with a supplemental vibratory device, consisting of a transversely-arranged perforated disk and a vibratory diaphragm adjacent thereto.

840,090. APPARATUS FOR HARDENING THE TEETH OF CARD-CLOTHING. LOUIS C. SCHNEIDER, Mittweida, Germany. Filed May 8, 1906. Serial No. 315,747.

Claim.—1. In an apparatus for hardening teeth of card-clothing, the combination with means for feeding said clothing, of a receptacle containing the hardening liquid, means for heating the teeth, means for supplying the hardening liquid from the receptacle to the heated teeth and means for controlling the supply of the hardening liquid to the teeth, substantially as and for the purpose specified.

2. In an apparatus for hardening teeth of card-clothing, the combination with means for feeding said clothing, of a receptacle containing the hardening liquid, means for heating the teeth, an endless yielding band conveyer for supplying the hardening liquid from the receptacle to the heated teeth and means for controlling the supply of the hardening liquid to the teeth, substantially as and for the purpose specified.

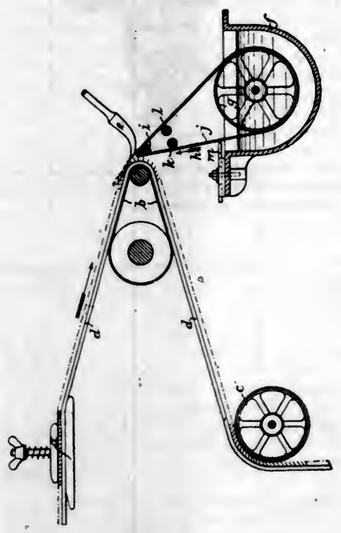
3. In an apparatus for hardening teeth of card-clothing, the combination with means for feeding said clothing, of a receptacle containing the hardening liquid, means for heating the teeth, an endless yielding band conveyer of pile fabric for supplying the hardening liquid from the receptacle to the heated teeth and means for controlling the supply of the hardening liquid to the teeth, substantially as and for the purpose specified.

4. In an apparatus for hardening teeth of card-clothing, the combination with means for feeding said clothing, of a receptacle containing the hardening liquid, means for heating the teeth, an endless band conveyer for supplying the hardening liquid from the receptacle to the heated teeth, and an adjustable bar for adjusting the upper end of the band conveyer against the heated teeth to be hardened, substantially as and for the purpose specified.

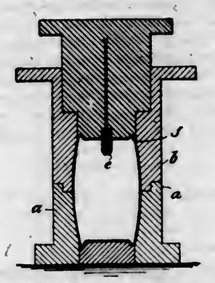
5. In an apparatus for hardening teeth of card-clothing, the combination with means for feeding said clothing, of a receptacle containing the hardening liquid, means for heating the teeth, an endless band conveyer for supplying the hardening liquid from the receptacle to the heated teeth, an adjustable bar for adjusting the upper end of the band conveyer against the heated teeth to be hardened and an adjustable blade for controlling the supply of the hardening liquid before reaching the teeth, substantially as and for the purpose specified.

6. In an apparatus for hardening teeth of card-clothing, the combination with means for feeding said clothing, of a receptacle containing the hardening liquid, a gas-burning nozzle for heating the teeth, an endless yielding band conveyer of pile fabric for supplying the hardening liquid from the receptacle to the heated teeth, an adjustable bar for adjusting the upper end of the band conveyer against the heated teeth to be hardened and an adjustable blade for controlling the supply of the hardening liquid before reaching the teeth, substantially as and for the purpose specified.

7. In an apparatus for hardening teeth of card-clothing, the combination with an endless band for feeding said clothing, of a receptacle containing the hardening liquid, a gas-burning nozzle for heating the teeth, an endless yielding band conveyer of pile fabric for supplying the hardening liquid from the receptacle to the heated teeth, an adjustable bar for adjusting the upper end of the band conveyer against the heated teeth to be hardened, and an adjustable blade for controlling the supply of the hardening liquid before reaching the teeth, substantially as and for the purpose specified.

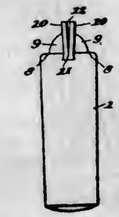


840,091. MEANS FOR MAKING HOLLOW METAL ARTICLES. EBERHARD SCHUMACHER and JOHN H. TYSON, Darlington, England. Filed Feb. 28, 1905. Serial No. 247,718.



Claim.—As a means for forming a cask or barrel shaped article, a forming mechanism consisting of a die conforming to the closed body of such article and a punch shaped to conform to the head thereof and having a protruding nipple to engage the metal and form an aperture in the head as set forth.

840,092. GAS-BURNER. PHILIPP SEILER, Chicago, Ill. assignor, by direct and mesne assignments, of one-fourth to John D. Caplinger, Chicago, Ill., one-fourth to John Elias Jones, Cincinnati, Ohio, one-fourth to Abram Diefendorf, Chicago, Ill., and one-fourth to William H. Craig. Filed Nov. 28, 1905. Serial No. 289,383.



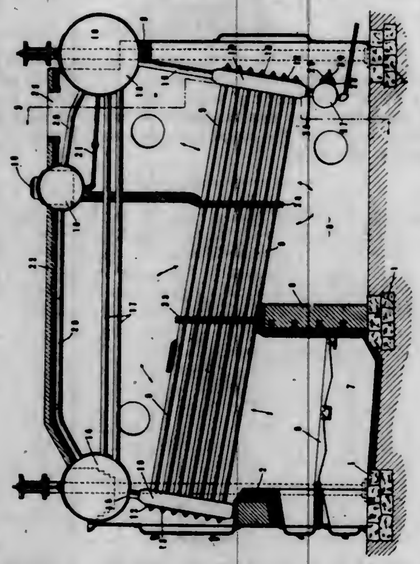
Claim.—1. A gas-burner tip comprising a tubular metallic body portion having a gas-passage produced in it, the upper end of said body portion having inwardly-directed parts at its opposite sides and extended toward each other and forming flanges extended diametrically across the upper end of the body portion, said flanges being spaced apart to produce between them a slitted opening communicating with the gas-passage within the body portion for discharge of gas to be burned, said flanges being also extended vertically above the top of the body portion with plane inner faces of greater width than the thickness of the metal from which the body portion is formed to produce flattened side walls for said slitted opening.

2. A gas-burner tip comprising a tubular metallic body portion having a gas-passage produced in it, the upper end of said body portion having inwardly-directed parts at its opposite sides and extended toward each other and forming flanges extended diametrically across the upper end and downward along the sides of the body portion, said flanges being spaced apart to produce between them a slitted opening and said opening being extended through the top and sides of the upper end of the body portion for communication with the gas-passage within the same for discharge of gas therefrom and said flanges being also extended at angles from the top and sides of the upper end of the body portion with plane inner surfaces wider than the thickness of the metal from which the body portion is produced and forming flattened side walls for said slitted opening.

3. A gas-burner tip comprising a tubular metallic body portion having a gas-passage produced in it, the upper end of said body portion having inwardly-directed parts at opposite sides and extended toward each other and forming flanges extended diametrically across the top and down-

ward along the sides of the upper end of the body portion, said flanges being extended vertically above the top and laterally beyond opposite sides of the top of the body portion and being spaced apart to produce between them a slitted opening and said slitted opening being extended through the top and sides of said upper end of the body portion for communication with the gas-passage within the body portion for discharge of gas therefrom and being gradually widened from its lower part whereat it communicates with said gas-passage toward its upper part adjacent to the upper edge portions of said flanges.

840,093. WATER-TUBE BOILER. FRANK Z. SHERER, Montclair, N. J. Filed May 26, 1906. Serial No. 318,801.



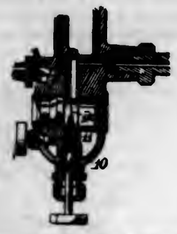
Claim.—1. In a water-tube boiler, the combination of a plurality of headers arranged at either end thereof, a series of water-tubes extended between oppositely-disposed headers, a steam and water drum extending transversely of said water-tubes above the same at either end of the boiler, separate risers connecting said headers with the steam and water drum above the same, a plurality of equalizer-tubes connecting said drums, a steam-drum arranged intermediate the steam and water drums, and a plurality of tubes arranged above the water-line for connecting said drum with one of said steam and water drums.

2. In a water-tube boiler, the combination of a series of water-tubes disposed in staggered vertical rows, a plurality of sinuous sectional headers, one of said headers being arranged at either end of each row of said water-tubes, and between which said tubes extend, a steam and water drum extending crosswise of said water-tubes at either end of the boiler, a tube or riser extending between each of said sinuous headers and the steam and water drum above the same, equalizer-tubes extended in one or more horizontal rows between said steam and water drums, a steam-drum located intermediate the steam and water drums, and a plurality of tubes extended between said steam-drum and said steam and water drums, said tubes being arranged above the water-line.

840,094. LUBRICATOR. OSCAR A. SHIPLEY, Rahway, N. J. Filed Apr. 16, 1906. Serial No. 311,939.

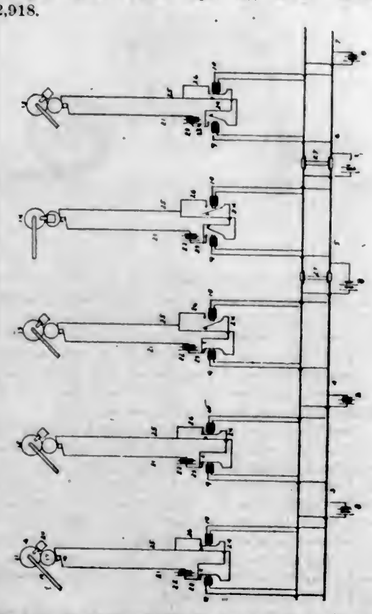
Claim.—1. In a lubricator of the kind described, a nozzle pointed on its outlet end, and having a needle attached to the pointed end and in extension thereof.

2. In a lubricator of the kind described, a pointed nozzle having a needle arranged outside the outlet, said needle projecting into the path of any substance emerging from the nozzle.



3. In a lubricator of the kind described, a pointed nozzle having a needle secured to its outside and extending as a continuation of the nozzle.

840,095. AUTOMATIC SIGNAL. JUDSON SHOECRAFT, Eskridge, Kans. Filed Apr. 20, 1906. Serial No. 312,918.



Claim.—1. In a block-signal system, the combination with a track divided into blocks, a single signaling device at each station, a reversible motor and a motor-circuit for controlling the signaling device, a pole-changer in the motor-circuit and a pole-changer motor, a relay at each end of each block for each signaling device, the two relays for each signaling-station being connected to control the motor-circuit in multiple, two pole-changer motor-circuits for each pole-changer motor, one of the relays in each block being adapted to control the circuits for the pole-changer motors for the signaling devices two blocks removed from said relay.

2. In a block-signal system for railways, the combination with a track divided into blocks, a track-battery for each block, two track-relays for each block, said battery and relays being so connected as to be controlled by the train upon the track, a signaling device at each junction-point, a motor and circuit for controlling the signaling device, said motor-circuit being controlled in multiple by the two relays of the adjoining blocks, whereby said circuit will be closed whenever one or neither of the track-relays is actuated by a train upon the block and whereby said motor-circuit will be broken when both of said relays are actuated by trains upon adjoining blocks.

3. In a block-signal system for railways, the combination with a track divided into blocks, a track-battery connected to the opposite rails of each block respectively, a relay at each end of each block connected with the opposite rails respectively, a signaling device at each junction and a motor and a motor-circuit therefor, said motor-circuit being normally closed and when closed holding the signaling device in "clear" position and having branches controlled in multiple by the relays at the said junction-point, so that a train upon one block will not open the circuit for the signal-motor, but trains upon adjoining blocks will open said motor-circuit and set the signal at "danger."

4. In a block-signal system for railways, the combination with a track divided into blocks, a track-battery connected to the respective rails of each block, a relay at each end of each block connected to the rails respectively, a signaling device at each junction and a motor and a normally closed motor-circuit therefor, said signaling device tending naturally to "danger" position but being thrown to and held in "clear" position by the energized motor, said motor-circuit being controlled in multiple by the armatures of the relays at that junction.

5. In a block-signal system for railways, the combination with a track divided into blocks with a signaling device at each junction-point or signaling-station and a reversible motor and a motor-circuit including a pole-changer therein and a pole-changer motor for each signaling device; of a track-battery and a relay at each end for each block; a pole-changer motor-circuit extending in each direction from the pole-changer and controlled by relays at distant blocks, respectively, and said signal-motor circuit being controlled in multiple by the relays of the adjoining blocks.

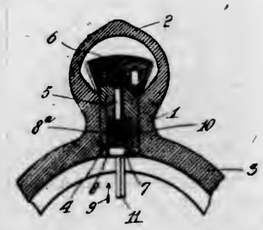
6. In a block-signal system for railways, the combination with a track divided into blocks and signaling-stations arranged along the track; of a single signaling device at each station, and a reversible motor and a motor-circuit including a pole-changer therefor, a pole-changer motor included in a circuit controlled by a relay in a distant block; a track-battery and two relays for each block, said relays being located at opposite ends of the respective blocks, so that at each signaling-station there is one of the relays from each of the adjoining blocks, said two relays at each station being connected to control in multiple the signal-motor circuit, and one of said relays being the one to control the pole-changer motor-circuits for the pole-changer motors at distant stations in opposite directions.

7. In a block-signal system for railways, the combination of a track divided into blocks, a battery for each block connected to opposite rails thereof, a relay at each end of each block and connected to opposite rails; a single signaling device at each junction or signaling-station tending naturally to "danger" position, a reversible motor for said signaling device so arranged that when the current flows in normal direction said signal will be driven to and held in "clear" position and when the current flows in opposite direction said signal will be driven to and held in "caution" position and when said circuit is broken said signal will go to its natural or "danger" position, a pole-changer in said signal-motor circuit and a pole-changer motor therefor; two circuits controlled by one of the relays in each block and extending in opposite directions to and including the pole-changer motors at distant stations respectively and being normally open; said signal-motor circuit being controlled in multiple by the track-relays at each respective station and being normally closed and being also closed when either one of said relays is affected by a train upon its block and said circuit being broken when both of said relays are affected by trains upon their respective blocks.

8. In a block-signal system for railways, the combination of a track divided into blocks, a battery for each block connected to opposite rails thereof, a relay at each end of each block and connected to opposite rails; a single signaling device at each junction or signaling-station tending naturally to "danger" position, a reversible motor for said signaling device so arranged that when the current flows in normal direction said signal will be driven to and held in "clear" position and when the current

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840,096. WATCHCASE-PENDANT. ADAM A. STENHOUSE, Montreal, Quebec, Canada. Filed Apr. 29, 1905. Serial No. 258,054.



Claim.—1. In a watchcase, the combination of a hollow pendant, a sleeve provided with a bore and secured within said pendant, a stem mounted in the bore of said sleeve, a crown carried by said stem and fitting over said sleeve, and a bow integral with said pendant, substantially as described.

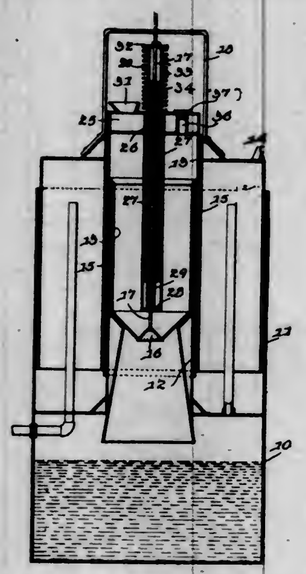
2. In a watchcase, the combination of a hollow pendant, a sleeve provided with a bore and secured within said pendant, a crown fitting over said sleeve, a stem mounted in the bore of said sleeve and threaded into said crown, and a bow integral with said pendant, substantially as described.

3. In a watchcase, the combination of a hollow pendant, a sleeve provided with a bore and secured within said pendant, a stem slidably mounted in the bore of said sleeve, resilient means for normally maintaining said stem in its inner position, a crown carried by said stem and fitting over said sleeve, and a bow integral with said pendant, substantially as described.

840,097. ACETYLENE-GAS GENERATOR. CYRUS W. WAYMIRE, Norwalk, Cal. Filed Feb. 23, 1906. Serial No. 302,555.

Claim.—In acetylene-gas apparatus, the combination with a generating-tank, of a gasometer arranged on top of the generating-tank, the bell of the gasometer being annular in form, a carbid-holder having a pendent tube or annular flange that is sealed in the water of the gasometer-tank, a pair of concentric annular tubes extending downward from the top of the carbid-holder and having their lower ends connected to each other to form an annular water-space, a filling and overflow chamber arranged at the top of the carbid-holder and in communication with said annular water-space, a valve-rod extending through the innermost tube, a valve carried thereby, a sealing-tube carried by the valve-rod and having its lower end dipping into said annular water-space, the top of the tube having a closing-cap, a spring extending between said closing-cap and the top of the carbid-holder and tending to maintain the valve in closed position, and a valve-operating frame carried by the carbid-holder and having an opening for the passage of the valve-rod.

840,097.



840,098. COMBINED REST AND HANDLE FOR BUCKETS AND OTHER RECEPTACLES. PETER H. WEIDEMAN, Port Byron, Ill. Filed May 3, 1906. Serial No. 315,073.



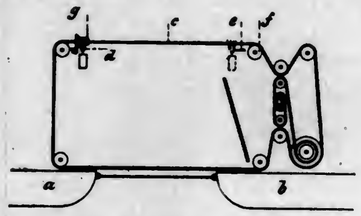
Claim.—1. In a device of the character described, the combination with a combined rest and handle having on its ends attaching-hooks, of an attaching device having eyes with which said hooks are adapted to be engaged, and a stop-bar to hold the combined rest and handle in an operative position when used as a support and to limit the downward movement of the same when used as a handle, substantially as described.

2. In a device of the character described, the combination with a combined rest and handle provided on its ends with attaching-hooks, of an attaching device, means to secure said attaching device to the edge of a receptacle, coils arranged on said attaching device to form eyes to receive said hooks, and a stop-bar to hold said combined rest and handle in position, substantially as described.

3. In a device of the character described, the combination with a combined rest and handle constructed of a single piece of wire, the ends of which are bent to form attaching-hooks, of an attaching device adapted to be secured to the edge of a receptacle, said attaching device being constructed of a single piece of wire bent to form clamping-fingers, whereby the same is attached to said receptacle, coils bent in said wire to form eyes to receive said attaching-hooks, and a centrally-disposed stop-bar to limit the up or down movement of said rest and handle when the latter is used as a support or handle, substantially as described.

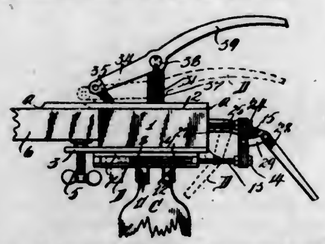
840,099. DEVICE FOR TAKING IN COAL AT SEA. HEINRICH O. ADAM, Dresden, Germany. Filed May 3, 1905. Serial No. 258,599.

Claim.—1. In combination with an endless rope circuit, a hitch of tow adapted to carry a coal-bag placed on said rope circuit and a knife provided at the place of unloading and in the place of movement of the hitch or tow, substantially as described.



2. In combination with an endless rope circuit, a cone placed at the place of suspension through which the rope is free to pass, a hitch of tow for carrying the coal formed upon said cone and a knife provided at the place of unloading and in the path of movement of the hitch of tow.

840,100. BOTTLE-CORKING MACHINE. FREDERICK ALEXANDER, New York, N. Y., assignor of one-half to Leland C. Smith, Westfield, N. J. Filed Apr. 4, 1905. Renewed June 1, 1906. Serial No. 319,770.



Claim.—1. A bottle-corking device comprising a frame adapted for attachment to a suitable support, a clamp carried by said frame adapted to grasp the neck of a bottle and hold same in position, said clamp comprising an adjustable stationary member and a movable member, means for imparting movement to said movable member, means for conveying a cork to a position over the opening in the neck of the bottle held by said clamp, and a plunger carried by said frame adapted to force a cork into the opening in the neck of a bottle.

2. A bottle-corking device comprising a frame adapted for attachment to a suitable support, a clamp carried by said frame adapted to grasp the neck of a bottle and hold same in position, said clamp comprising an adjustable stationary member and a movable member, means for imparting movement to said movable member, a slidable carrier carried by said frame adapted to receive a cork and carry same to a position over the opening in the neck of the bottle held by said clamp, and a plunger carried by said frame adapted to force a cork in the opening into the neck of a bottle.

3. A bottle-corking device comprising a frame adapted for attachment to a suitable support, a clamp carried by said frame adapted to grasp the neck of a bottle and hold same in position, said clamp comprising an adjustable stationary member and a movable member, a slidable carrier carried by said frame adapted to receive a cork, means whereby said movable clamp member and said slidable carrier may be simultaneously brought forward, thereby clamping a bottle in position and conveying a cork to a position over the opening in the neck of said bottle simultaneously, and a plunger carried by said frame adapted to force a cork into the opening in the neck of a bottle held by said clamp.

4. A bottle-corking device comprising a frame adapted for attachment to a suitable support, a clamp carried by said frame adapted to grasp the neck of a bottle and hold same in position, said clamp comprising an adjustable stationary member and a movable member, a slidable carrier carried by said frame adapted to receive a cork, means whereby said movable clamp member and said slidable carrier may be simultaneously brought forward, thereby clamping a bottle in position and conveying a cork to a position over the opening in the neck of said bottle, and a manually-operable plunger carried by said frame adapted to force a cork into the neck of a bottle held by said clamp.

5. A bottle-corking device comprising a frame adapted for attachment to a suitable support, a clamp carried by said frame adapted to grasp the neck of a bottle and hold same in position, said clamp comprising an adjustable stationary member and a movable member, a slidable carrier carried by said frame adapted to receive a cork, means whereby said movable clamp member and said slidable carrier may be simultaneously brought forward, thereby clamping a bottle in position and conveying a cork to a position over the opening in the neck of said bottle, a lever pivotally mounted upon said frame, a plunger detachably secured to said lever, means for guiding said plunger, and an operating-handle whereby said plunger can be forced downwardly to force a cork into the opening in the neck of the bottle held by said clamp.

6. A bottle-corking device, comprising a frame composed of a top plate, a bottom plate and side plates, a clamp carrier by said bottom plate and adapted to secure said frame to a suitable support; guides upon the bottom of said bottom plate, an adjustable stationary clamp mounted in said guides, a movable clamp also mounted in said guides, a lever pivotally mounted upon said frame and adapted to operate said movable clamp whereby a bottle can be held in position by said two clamps, an opening in said bottom plate of said frame in alinement with the neck of the bottle, an adjustable plate carried by said frame and mounted upon said bottom plate, said adjustable plate being provided with an opening adapted to aline with the opening in said bottom plate whereby the passage formed by said two alined openings may be increased or diminished by the movement of said adjustable plate, means for placing a cork in said opening, and a manually-operable plunger adapted to force a cork into the opening in the neck of a bottle held by said clamp.

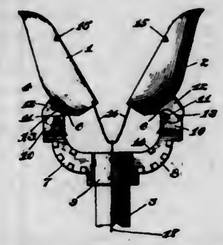
7. A bottle-corking device comprising a frame composed of a top plate, a bottom plate and side plates, a clamp carried by said bottom plate and adapted to secure said frame to a suitable support, guides upon the bottom of said bottom plate, an adjustable stationary clamp mounted in said guides, a movable clamp also mounted in said guides, a lever pivotally mounted upon said frame and adapted to operate said movable clamp whereby a bottle can be held in position by the said two clamps, an opening in said bottom plate of said frame in alinement with the neck of the bottle, an adjustable plate carried by said frame and mounted upon said bottom plate, said adjustable plate being provided with an opening adapted to aline with the opening in said bottom plate, whereby the passage formed by said two alined openings may be increased or diminished, a movable carrier carried by said frame, an opening in the top plate of said frame whereby a cork can be placed in said carrier, means whereby said carrier can be connected to the movable clamp-operating lever whereby said carrier and said movable clamp can be simultaneously brought forward whereby the cork in said carrier can be deposited in the opening in the bottom plate of said frame simultaneously with the clamping of a bottle, and a manually-operable plunger adapted to force a cork into the opening in the neck of the bottle held by said clamp.

840,101. SAFETY-RAZOR. FREDERICK H. ARNOLD, Reading, Pa. Filed Sept. 15, 1906. Serial No. 334,784.



Claim.—In a safety-razor a holder having a guard portion, a journal-bearing formed on said guard, a hollow locking-sleeve having three slots formed in its inner face, loosely mounted on said holder in combination with a single-edge blade having journals formed on its extremities adapted to enter the bearings on the guard and in the locking-sleeve.

840,102. MEANS FOR CLEANING OR MANIPULATING ELECTRIC-LIGHT GLOBES. CARL D. BATES, Chicago, Ill. Filed Apr. 24, 1905. Serial No. 257,062.



Claim.—1. In a device for the purpose described in combination of two relatively movable and normally open jaws approximating in shape the contour of a globe, and a handle upon which said jaws are mounted, said jaws being adapted to be closed by the insertion of the globe therein.

2. In a device for the purpose described the combination of two relatively movable jaws, and a handle upon which the jaws are mounted, said jaws being adapted to be closed by a pressure applied thereto by the globe.

3. In a device for the purpose described the combination of two hinged jaws having portions projecting inwardly away from said hinges, whereby pressure within the jaws against said portions will close them, and a handle upon which said jaws are mounted.

4. In a device for the purpose described the combination of two normally open jaws approximating in interior shape the contour of a lamp-globe, and having spurs for holding a cleaning-cloth, a handle, and pivots supporting said jaws upon the handle, said jaws being adapted to be automatically closed by a lamp-globe.

5. In a device for the purpose described the combination of a handle, two arms projecting from said handle, two jaws hinged in said arms respectively and having portions projecting inwardly from the hinges, whereby pressure within the jaws against said projecting portions will cause them to close, and means for opening said jaws when said pressure is relieved.

6. A device of the class described comprising normally open pivoted jaws, said jaws being adapted to receive a lamp-globe, and to be engaged thereby for closing the same.

7. A device of the class described, comprising pivoted jaws, said jaws being adapted to receive a globe, a portion of said jaws being adapted to be engaged by the globe to rock the jaws on their pivots to close the same.

8. In a device for the purpose described, the combination of pivoted jaws, means for holding said jaws separated, a portion of the jaws being adapted to be engaged by a globe for closing and holding said jaws against the globe.

9. In a device for the purpose described the combination of pivoted jaws, and springs for holding the jaws open, said jaws being adapted to be engaged by a globe to rock the same against the tension of the springs.

10. In a device for the purpose described, the combination of a handle, jaws pivoted thereto, stops carried by the jaws and adapted to engage the handle, and means for normally holding the stops against the handle, said jaws being adapted to be closed by a lamp inserted therein.

11. In a device of the class described, the combination of a handle, and jaws pivoted thereto, said jaws being normally open and inclined to the vertical and so disposed that a portion thereof will form an obstruction on one side of their pivots adapted to be engaged by a lamp-globe for closing the jaws.

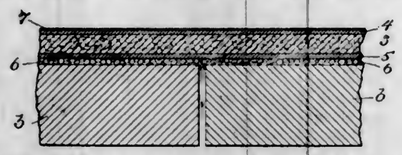
12. In a device of the class described, the combination of a handle, and jaws pivoted thereto, said jaws being normally open and so disposed that a portion thereof will

form an obstruction on one side of their pivots adapted to be engaged by a lamp-globe, for causing the jaws to loosely surround the globe, and means for increasing the pressure of the jaws on the globe.

13. A device of the class described comprising normally open movable jaws, said jaws being adapted to receive and be engaged by a lamp-globe to automatically close said jaws and hold the same closed.

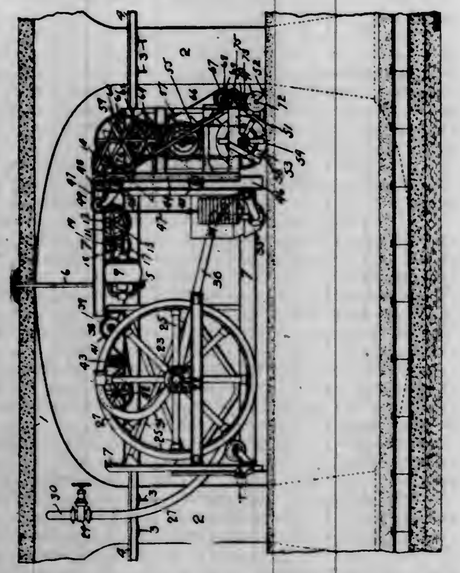
14. In a device for the purpose described the combination of bodily-movable jaws and yielding means for normally holding the jaws separated, said jaws being adapted to be engaged by a globe for closing the same against the tension of the first said means and holding said jaws in a closed position.

840,103. METHOD OF LAYING ROOFING. REGINALD W. BIRD, Boston, Mass., assignor to Flintkote Manufacturing Company, Rutherford, N. J., a Corporation of New Jersey. Filed Feb. 24, 1906. Serial No. 302,726.



Claim.—The herein-described method of laying roofing which consists in preparing a foundation of boards, taking strips or sheets of roofing material consisting of a fibrous body impregnated with waterproofing compound, and having on one face a layer of non-absorbent granular material and on the other face waterproofing compound, and laying said strips upon said foundation of boards with the granular material next to and in contact with said boards.

840,104. SCRAPING-MACHINE FOR CLOSED FILTERS. HIRAM W. BLAISDELL, Los Angeles, Cal. Filed Nov. 16, 1904. Serial No. 233,004.



Claim.—1. A covered filter provided with supporting means beneath the cover, a machine constructed to travel thereon, means carried by said machine for removing a portion of the filtering material and mechanism for operating the parts.

2. A covered filter provided with suspending means beneath the cover, a traveling structure constructed to move in engagement with said means, mechanism supported by said structure for removing a portion of the filtering material and instrumentalities for operating the parts.

3. A covered filter provided with supporting means beneath the cover, a traveling structure suspended therefrom, mechanism movably connected with said structure for removing a portion of the filtering material and instrumentalities for operating the parts.

4. A covered filter provided with supporting means beneath the cover, a structure suspended from said means above the surface of said filter, mechanism partially supported by said structure constructed to contact with said filter-surface to remove the filtering material and instrumentalities for operating the parts.

5. A filter provided with a covering supported by piers, supporting means beneath the covering, a mechanism constructed to travel on said supporting means beneath said covering and between said piers and to remove the filtering material and mechanism for operating the parts.

6. A machine constructed to travel on fixed supports within closed filters provided with means for removing the filtering material from the filter, devices for effecting the discharge of the material so removed and mechanism for operating the parts.

7. A machine constructed to operate upon fixed supports within covered filters provided with devices for scraping a predetermined portion of the filtering material from the filter and means for operating the parts.

8. A machine constructed to operate from fixed supports within covered filters provided with means for scraping the surface of the filter mechanism for removing the scraped filtering material and instrumentalities for operating the parts.

9. A covered filter provided with suspending means beneath the cover, mechanism supported therefrom constructed to scrape the surface of the filter and instrumentalities for operating the parts.

10. A covered filter provided with supports beneath the cover, means constructed to travel on said supports within the covering of the filter and adapted to scrape the filter and instrumentalities for operating the parts.

11. A machine constructed to operate from fixed supports within the covering of closed filters provided with means for removing a predetermined portion of the filtering material, a device constructed to contact with the surface of the filter to regulate the depth of the material removed and mechanism for operating the parts.

12. A machine constructed to operate from fixed supports within covered filters provided with means for scraping the filter, a shoe carried by said means constructed to slide over the filter-surface to regulate the cut thereof and mechanism to operate the parts.

13. A machine constructed to operate from fixed supports within covered filters provided with means for scraping the filter, an adjustable shoe carried by said means constructed to slide over the filter-surface to regulate the cut thereof and mechanism to operate the parts.

14. A covered filter provided with supports beneath the cover, scraping means constructed to engage said supports, a device carried by said means to regulate the depth of the cut and mechanism for operating the parts.

15. A covered filter provided with supports beneath the cover, scraping means constructed to engage said supports, an adjustable shoe carried by said means to regulate the depth of the cut and mechanism for operating the parts.

16. A machine for operating from fixed supports within covered filters provided with means for removing a portion of the filtering material, apparatus for effecting the discharge of the material and mechanism for operating the parts.

17. A machine for operating from fixed supports within covered filters provided with means for effecting the removal of a portion of the filtering material during the travel of the machine over the surface of the filter, apparatus for effecting during said travel the discharge of the material so removed and mechanism for operating the parts.

18. A machine for operating from fixed supports within covered filters provided with means for removing a portion of the filtering material, means for discharging the removed material, a fluid-vehicle to coöperate with said last-named means, connections between said means and the source of fluid-supply and place of deposit of the removed material and mechanism for operating the parts.

19. A machine for operating from fixed supports within covered filters provided with means for removing a portion of the filtering material, a fluid-vehicle to coöperate with said means, connections between the source of fluid-supply and place of deposit adapted to effect the continuous discharge of the removed material throughout the travel of said means and mechanism for operating the parts.

20. A machine for operating from fixed supports within covered filters provided with means for removing a portion of the filtering material, discharging apparatus fixed in relation to the filter and connections carried by said means constructed to permit the travel of said means while effecting the continuous discharge of the removed material.

21. A machine for operating upon covered filters provided with means for removing a portion of the filtering material, a fluid-vehicle to coöperate with said means, flexible connections between said means and the source of fluid-supply and between said means and the place of discharge of the removed material and mechanism for operating the parts.

22. A machine for operating upon covered filters provided with means for removing a portion of the filtering material, a discharging device, a fluid-vehicle to coöperate with said device, flexible connections between said device and both the source of fluid-supply and place of discharge of the removed material, apparatus for supporting said connections and mechanism for operating the parts.

23. A machine for operating upon filter-beds provided with means for removing a portion of the filtering material, a discharging device, a fluid-vehicle to coöperate with said device, reels, induction and education hose on said reels respectively connected with said device and the source of fluid-supply and place of deposit of said removed material and mechanism for operating the parts.

24. A machine for operating upon filter-beds provided with means for removing a portion of the filtering material, a discharging device, reels, hose thereon connected with said device, apparatus to operate said reels, to wind or unwind said hose during the travel of the machine and mechanism for operating the parts.

25. A machine for operating upon filter-beds provided with devices for removing the filtering material having a compound motion in the same plane and mechanism for operating the parts.

26. A machine for operating upon filter-beds provided with conveyers for removing the surface of the filter-bed, said conveyers having a double movement in the same plane in relation to the machine and mechanism for operating the parts.

27. A machine of the character described provided with conveyers, means for imparting a rotary and a reciprocating motion thereto in the same plane whereby the efficiency of the machine is increased and mechanism for operating the parts.

28. A machine of the character described provided with a main conveyer, auxiliary conveyers and mechanism for operating the parts.

29. A machine of the character described provided with a main device for removing material, extensible and retractable auxiliary devices and mechanism for operating the parts.

30. A machine of the character described provided with a main conveyer, extensible and retractable conveyers, means for effecting such extension and retraction and mechanism for operating the parts.

31. A machine of the character described provided with a main scraper, auxiliary scrapers, means for regulating the cut of the scrapers and mechanism for operating the parts.

32. A machine of the character described provided with a main scraper, auxiliary scrapers, adjustable means for automatically regulating the cut of said scrapers and mechanism for operating the parts.

33. A machine of the character described provided with a main scraper, auxiliary scrapers, an elevator taking the material therefrom, apparatus to discharge the elevated material and mechanism for operating the parts.

34. A machine of the character described provided with a main conveyer, auxiliary conveyers, an elevator driving said conveyers, means for discharging the elevated material and mechanism for operating the parts.

35. A machine of the character described provided with a main scraper, auxiliary scrapers, an elevator, a receiver for the material raised by the elevator, apparatus for discharging the material from said receiver and mechanism for operating the parts.

36. A machine of the character described provided with a main scraper, auxiliary scrapers, devices for extending or retracting the latter, an elevator driving said scrapers shoes to regulate the cut of said scrapers, apparatus for discharging the material reels for supporting part of said apparatus operated by the travel of the machine and mechanism for propelling the machine and for operating the elevator.

37. A covered filter provided with supporting means beneath the cover, mechanism supported thereby, an ejector carried by said mechanism and instrumentalities for operating the parts.

38. A filter provided with a covering supported by piers, means carried by said piers beneath said covering to receive a machine, a machine constructed to engage said means to effect the removal of material and mechanism for operating the parts.

39. A filter provided with a covering having suitable supports, tracks connected with said supports beneath said covering, a scraping-machine constructed to travel on said tracks and mechanism for operating the parts.

840,105. PERFUMERY-PACKAGE. JOHN BLOCKI, Chicago, Ill. Filed Apr. 7, 1906. Serial No. 310,577.



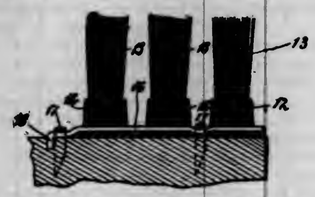
Claim.—1. A new article of manufacture, a perfumery-package containing therein a natural flower, for the purpose set forth.

2. As a new article of manufacture, a perfumery-package comprising a transparent vessel adopted to contain perfume and having therein a natural flower.

3. As a new article of manufacture, a perfumery-package comprising a transparent vessel adapted to contain a liquid perfume and a flower, having an odor corresponding to that of the perfume contained within said vessel.

4. As a new article of manufacture, a perfumery-package comprising a transparent vessel containing perfume and a flower placed in said vessel and maintained therein in its natural shape, said flower having a natural odor corresponding to that of the perfume.

840,106. BRUSH. JOHN F. BOWDITCH, Boston, Mass. Filed July 28, 1905. Serial No. 271,599.



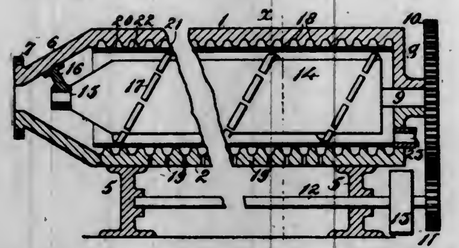
Claim.—1. A brush comprising a body having a supporting-face, a series of connected brush units each of said units comprising a transversely-elongated socket and a tuft of bristles secured therein, said units being arranged with their minor axes in alinement transverse to the direction of movement of the brush in use, and body-penetrating fastening members at the ends and at intermediate points of the series to secure the series to the said face.

2. A brush comprising a body having a supporting-face, a plurality of brush units, each composed of a tubular socket seated on said face, and a tuft of bristles secured in said socket, an elongated socket-connecting member engaged with a series of sockets, and staples bestriding the said connecting member and driven into the body between brush units.

3. A brush comprising a body having a supporting-face, a plurality of brush units each composed of a tubular socket seated on said face, and a tuft of bristles secured in said socket, an elongated connecting flexible wire engaged with a series of sockets, and staples bestriding said wire and driven into the body between brush units.

4. A brush comprising a body having a supporting-face, a plurality of brush units, each composed of a socket and a tuft of bristles secured therein, an elongated socket-connecting member engaged with a series of sockets, said sockets and socket-connecting member being mounted on said face, and body-penetrating fastening members engaging said connecting member and driven into the body to secure the sockets and member to said face intermediate its ends.

840,107. CLAY-MILL. THOMAS R. BRITTAIN, Akron, Ohio. Filed Apr. 25, 1906. Serial No. 313,615.



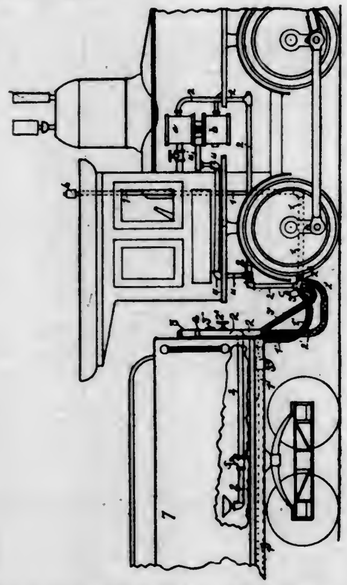
Claim.—1. The combination in a device of the class described, of a cylinder provided at one end with a contracted opening, a mandrel mounted in said cylinder provided with spirally-arranged members projecting therefrom, the interior of said cylinder being provided with a plurality of circumferential grooves having outlets and a layer of filtering material adapted to form a lining for said cylinder, means for retaining said lining in position and means for introducing to the interior of the cylinder a suitable matter in solution.

2. A device of the class described, comprising in combination an elongated cylinder provided with a contracted opening at one end, said cylinder being further provided with interiorly-arranged circumferential grooves having outlets connecting with said grooves, a lining for said cylinder consisting of a foraminous or reticulated substance, a mandrel mounted in said cylinder, a plurality of spirally-arranged blades on said mandrel, means for revolving said mandrel, and means for introducing to the interior of said cylinder a suitable material in solution.

3. A device of the class described, comprising in combination an elongated divided cylinder provided with a contracted opening at one end and further provided with interiorly-arranged circumferential grooves having outlets extending therefrom through the wall of said cylinder, a foraminous or reticulated lining for said cylinder adapted to be retained in position by being clamped between the contacting edges of the parts of said cylinder, a mandrel mounted for rotation in said cylinder, means for rotating said cylinder, and means carried by said mandrel for forcing material placed in said cylinder through the contracted opening in the end thereof and expressing the aqueous moisture through said lining.

4. A device of the class described, comprising a cylinder consisting of two semicylindrical body portions adapted to be fastened together, means for forcing material along the interior of said cylinder, said cylinder being provided with interiorly-arranged circumferential grooves having openings extending through the wall thereof, a lining therefor composed of a foraminous or reticulated material and means for introducing to the interior of the cylinder a suitable matter in solution.

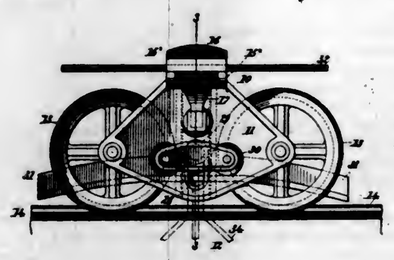
840,108. FEED-WATER HEATER FOR LOCOMOTIVES. ROBERT BURNS, Rensselaer, N. Y. Filed Feb. 21, 1906. Serial No. 302,229.



Claim.—1. In a feed-water-heating system for locomotives steam-piping leading from the exhaust-steam chamber of the air-pump of a locomotive to the interior of the feed-water tender, said piping having a multiple-pass connection, one passage-way at least being in operative connection with said piping and said tender and having a valve therein, one passage-way at least of said multiple-pass connection being in operative connection with the steam-heating pipes of the train steam-heating system the steam therein being also valve-controlled, all arranged and operating so that the steam from the steam-heating pipes of the car-heating system and that from the air-pump exhaust-steam chamber may be together or separately carried into the water-tender, the pipe discharging into the tender rising outside thereof to a point at least as high as the water-level in the tender and having a valve in said pipe, said pipe dropping and entering said tender at a point near the bottom of the tender and discharging its contents near said bottom substantially as described.

2. In connection with a locomotive a system of steam-pipes leading from the exhaust-chamber of the steam-cylinder of the air-pump to the interior of the tender, said system of piping having a multiple-passage-way connection therein one passage-way at least in operative connection with the interior of the tender, the discharge end of the piping rising to at least the height of the normal water-line in said tender said pipe entering said tender near its bottom and discharging its contents near its bottom and having a valve in its discharge end outside the tender, one passage-way at least of the multiple-passage-way connection being in operative connection with the train-heating piping and having a valve therein all arranged and operating so that the steam from the steam-exhaust chamber of the air-pump and the steam from the train steam-heating piping may be conducted to the tender separately or together substantially as described.

840,109. CLUTCH FOR AERIAL ROPEWAYS. GIULIO CERETTI, Milan, Italy. Filed Dec. 13, 1905. Serial No. 291,569.



Claim.—1. The combination with a rail or other support, of a coupling comprising a carrier-truck, adapted to ride thereon, clutch mechanism on said carrier-truck comprising a fixed jaw, and a movable jaw adapted to engage a traveling cable, a reciprocating link connected to said movable jaw, and a vertically-movable member, adapted to sustain the load conveyed, coöperating with said reciprocating link to actuate said movable jaw, substantially as specified.

2. The combination with a rail or other support, of a coupling comprising a carrier-truck, adapted to ride thereon, a fixed jaw, a movable jaw on said carrier-truck adapted to engage a traveling cable, a reciprocating link connected to said movable jaw, and a block, adapted to sustain the load conveyed, having cam means thereon for reciprocating said link, substantially as specified.

3. The combination with a rail or other support, of a coupling comprising a carrier-truck, adapted to ride thereon, a fixed jaw, and a movable jaw on said carrier-truck adapted to engage a traveling cable, a reciprocating link pivotally connected to said movable jaw, and a vertically-movable block, adapted to sustain the load conveyed, having a cam-groove thereon adapted to engage said reciprocating link, substantially as specified.

4. The combination with a rail or other support, of a coupling comprising a wheeled carrier-truck, adapted to ride thereon, a fixed jaw and a pivoted jaw on said carrier-truck adapted to engage a traveling cable, a reciprocating link pivotally connected at one end to said link, a vertically-movable block, having a cam-groove thereon adapted to engage said link, a shaft carried by said block, bearings carried upon the outer ends of said shaft provided with rollers, and means secured to said shaft for supporting the load, substantially as specified.

5. The combination with a rail or other support, of a coupling comprising a frame, wheels mounted in the ends thereof, a fixed jaw and a movable jaw having a depending arm, a link supported transversely of said frame, and having one end pivotally connected to the depending arm of said movable jaw, guides arranged in said frame, a vertically-movable block arranged in said guides having a cam-groove thereon engaging said link, a shaft mounted in said block having its ends extending through said frame, bearings carried by the ends of said shaft having rollers mounted therein, and means carried by said shaft for supporting the load, substantially as specified.

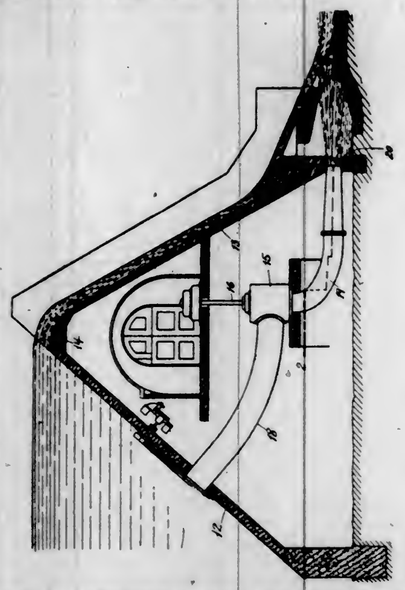
6. The combination with a rail or other support, of a coupling comprising a frame, wheels mounted in the ends thereof, a fixed jaw and a pivoted jaw on said frame; said pivoted jaw having a depending arm, guides arranged transversely of said frame, a link disposed in said guide having a recess in its forward end adapted to receive the end of the depending arm of said pivoted jaw, and a pin arranged transversely in the rear end of said link, vertical guides arranged in said frame, a block arranged to work therein having an upwardly-extending portion provided with a cam-groove engaging the pin on said link, a shaft mounted in said block, having its ends extending through said frame, bearings secured to the projecting ends of said shaft, rollers mounted in said bearings, and means secured to said shaft for supporting the load, substantially as specified.

7. The combination with a rail or other support, and releasing means arranged adjacent thereto, of a coupling comprising a frame, wheels mounted in the ends thereof, a fixed jaw and a pivoted jaw on said frame; said pivoted jaw having a depending arm, guides arranged transversely of said frame, a link disposed in said guide having a recess in its forward end adapted to receive the end of the depending arm of said pivoted jaw, and a pin arranged transversely in the rear end of said link, vertical guides arranged in said frame, a block arranged to work therein having an upwardly-extending portion provided with a cam-groove engaging the pin on said link, a shaft mounted in said block, having its ends extending through said frame, bearings secured to the projecting ends of said shaft, rollers mounted in said bearings, adapted for engagement with the releasing means aforesaid, and means secured to said shaft for supporting the load, substantially as specified.

8. The combination with a rail or other support, of a coupling comprising a frame, wheels mounted in the ends thereof, a fixed jaw and a pivoted jaw on said frame; said pivoted jaw having a depending arm, guides arranged transversely of said frame, a link disposed in said guides having its rear end bifurcated, and a roller mounted transversely of said link intermediate its bifurcated portions, and its forward end recessed to receive the end of the depending arm of said pivoted jaw, vertical guides arranged in said frame, a block arranged to work therein having an upwardly-projecting portion extending between the bifurcated portions of said link, a cam-groove in said projecting portion in engagement with the roller intermediate the bifurcated portions of said link, a shaft mounted in said block having its ends extending through said frame, bearings secured upon the ends of said shaft, rollers mounted in the ends of said bearings, and means carried by said shaft for supporting the load, substantially as specified.

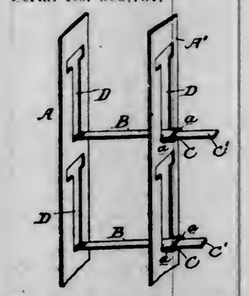
9. The combination with a rail or other support, and inclined rail-sections supported adjacent to said rail or support, of a coupling comprising a frame, wheels mounted in the ends thereof, a fixed jaw and a pivoted jaw on said frame; said pivoted jaw having a depending arm, guides arranged transversely of said frame, a link disposed in said guides having its rear end bifurcated and a roller mounted transversely of said link intermediate its bifurcated portions, and its forward end recessed to receive the end of the depending arm of said pivoted jaw, vertical guides arranged in said frame, a block arranged to work therein, having an upwardly-projecting portion extending between the bifurcated portions of said link, a cam-groove in said projecting portion in engagement with the roller intermediate the bifurcated portions of said link, a shaft mounted in said block having its ends extending through said frame, bearings secured upon the ends of said shaft, rollers mounted in the ends of said bearings, adapted to ride upon the inclined rail-sections aforesaid, and means carried by said shaft for supporting the load, substantially as specified.

840,110. DAM. HOWARD L. COBURN, Boston, Mass. Filed May 2, 1906. Serial No. 314,846.



Claim.—A power-space-inclosing dam having a continuous conduit extending downwardly from the upstream side of the dam, through said space, to the downstream side of the dam, said conduit including a wheel-casing and a draft-tube, the outlet end of the draft-tube portion of the conduit being under the path of the overfall, whereby the overfall is caused to accelerate the flow of water through the draft-tube.

840,111. FIREPROOF BUILDING CONSTRUCTION. Filed Mar. 12, 1906. Serial No. 305,731.
CORNELIUS COLLINS, San Francisco, Cal. Filed Mar. 12, 1906. Serial No. 305,731.

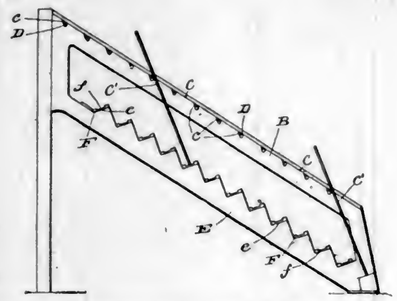


Claim.—1. In a fireproof building construction, the combination of parallel metal strips, and bracing-tongues extending transversely between adjacent strips said bracing-tongues each having a transversely-enlarged head forming a flanged portion which is bent around the base portion of a tongue of an adjacent strip.

2. In a fireproof building construction, the combination of parallel strips and a bracing-piece extending transversely therebetween, said bracing-piece of one strip having a transversely-widened head terminating in side flanges which are bent around the edges of a bracing-piece of an adjacent strip.

3. In a fireproof building construction the combination of parallel strips and a bracing-piece cut from each of said strips to form a slot said piece remaining attached to the strip at one end and being of substantially T shape, and having its head portion passed through the slot of the adjacent strip, and the sides of the head portion bent around the tongue of said adjacent strip and locked thereto.

840,112. DISPLAY-RACK. CURTIS S. COPP and LOUIS FRANK, Jacksonville, Ill. Filed June 12, 1905. Serial No. 264,882.



Claim.—1. In combination with a show-case, open frames secured in said show-case, the upper edges of said frames being transversely grooved, rods seated in said grooves, the lower rails of said frames having their top edges cut into step forms having their front edges higher than their rear edges, shelves secured to said step forms having their top surface longitudinally grooved, and bars slidably mounted on said rods, substantially as shown and described.

2. In combination with a show-case, open rhomboidal-shaped frames secured in said show-case, the upper edges of said frames being transversely grooved, rods seated in said grooves, the lower rails of said frames having their top edges cut into step forms having their front edges higher than their rear edges, shelves secured to said step forms having their top surface longitudinally grooved, and bars slidably mounted on said rods, substantially as shown and described.

840,113. WIRE-FENCE CONSTRUCTION. EVAN W. CORNELL, Adrian, Mich. Filed Feb. 10, 1905. Serial No. 300,379.

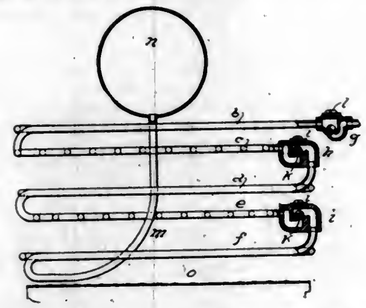


Claim.—1. A wire fabric consisting of intersecting strands, one of which is twisted to place a torsional strain thereon, a tie for uniting the strands at their points of intersection, and means of which said tie is a part for preventing the untwisting of the strand to which the torsional strain is applied.

2. A wire fabric, consisting of crossed strands, one of which is twisted at or near the intersecting strands to place a torsional strain thereon, the twisted strand having lateral bends which engage the intersecting strands to prevent the untwisting of the twisted strand, and ties for joining said strands at their points of intersection.

840,114. BOILER. MERRILL DAVIS, New York, N. Y. Filed Apr. 16, 1906. Serial No. 311,910.

Claim.—1. In a device or the character described, the combination of a pipe provided with a water-inlet, and formed in a series of coils, and having a plurality of check-valves located in said pipe, and a steam-outlet, the lower coil of said pipe being adjacent to a source of heat-supply, substantially as shown and described.



2. In a device of the character described, the combination of a pipe provided with a water-inlet, and formed in a series of coils, and having a plurality of gravity-valves located in said pipe, and a steam-outlet, the lower coil of said pipe being adjacent to a source of heat-supply, substantially as shown and described.

3. In a device of the character described, the combination of a boiler formed of one continuous pipe, having one inlet and one outlet, and provided with a plurality of check-valves, intermediate of the inlet and outlet, substantially as shown and described.

4. In a device of the character described, the combination of a boiler formed of one continuous pipe, having one inlet and one outlet, and provided with a plurality of gravity-valves intermediate of the inlet and outlet, substantially as shown and described.

5. In a device of the character described, the combination of a boiler formed of one continuous pipe, having one inlet and one outlet, and provided with a plurality of check-valves intermediate of the inlet and outlet, and having a section thereof adjacent to a source of heat-supply, substantially as shown and described.

6. In a device of the character described, the combination of a boiler formed of one continuous pipe, having one inlet and one outlet and provided with a plurality of gravity-valves intermediate of the inlet and outlet, and having a section thereof adjacent to a source of heat-supply, substantially as shown and described.

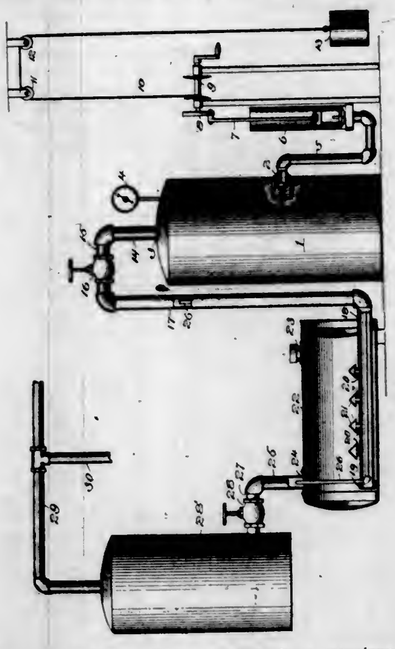
7. In a device of the character described, a series of superimposed coils of pipe so arranged that the water will flow by force or gravity from the upper coils into the coils below, and having a plurality of check-valves interposed, intermediate of the ends, to be opened by the pressure of the water from above, and closed by the pressure of the steam, formed in the lower of the said coils, substantially as shown and described.

8. In a device of the character described, a series of superimposed coils of pipe, so arranged that the water will flow by force or gravity from the upper coils into the coils below, and having a plurality of gravity-valves interposed, intermediate of the ends, to be opened by the pressure of the water from above, and closed by the pressure of the steam, formed in the lower of said coils, substantially as shown and described.

840,115. GAS-GENERATOR. JEFFERSON D. DAWSON, Beardstown, Ill. Filed Jan. 15, 1906. Serial No. 296,119.

Claim.—1. In a gas-generator, an air-tank, a gasolene-tank, a pipe extending into the gasolene-tank, jets arranged in said pipe, a small pipe extending through said pipe and gasolene-tank, the said pipes communicating with the air-tank, a gas-supply tank communicating with the gasolene-tank and said small pipe, substantially as specified.

2. In a gas-generator, an air-tank, a gasolene-tank, a pipe-section extending into said gasolene-tank, a series of jets arranged in said pipe-section, a small pipe extending through said pipe-section and gasolene-tank, the said small pipe communicating with the air-tank, a gas-supply tank having communication with the small pipe and gasolene-tank, substantially as specified.



3. In a gas-generator, an air-tank, a gasolene-tank, means for filling said gasolene-tank, a pipe-section extending into the gasolene-tank, a series of jets arranged in said pipe-section, hoods over the jets, a small pipe extending through the pipe-section and gasolene-tank, the said small pipe and pipe-section communicating with the air-tank, a valve for cutting off said communication, a gas-supply tank communicating with the small pipe and gasolene-tank, and a valve for controlling the communication, substantially as shown and for the purpose specified.

840,116. MEANS FOR BALANCING CENTRIFUGAL PUMPS. JULIUS DEGEN, Trenton, N. J., assignor, by mesne assignments, to Lea-Dergen Pump Company, Trenton, N. J., a Corporation of New Jersey. Filed July 6, 1905. Serial No. 268,399.

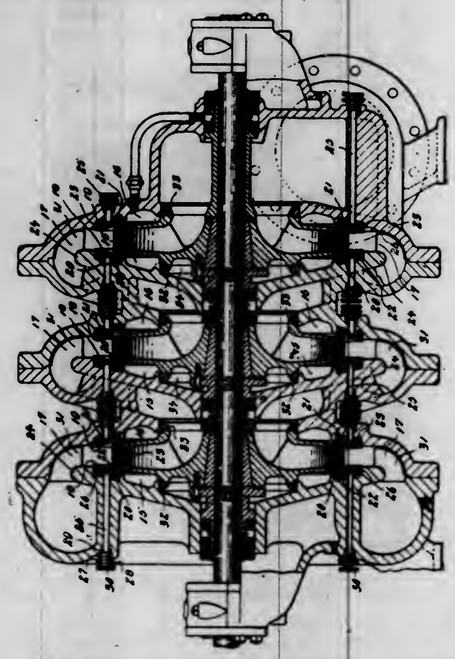
Claim.—1. In a centrifugal pump, the following combination of elements; a casing, an impeller running therein, a shaft, means movable to and from the walls of the casing whereby to enlarge and diminish, at will, the spaces between the means and the impeller whereby to vary the suction upon the fluid on either side of the impeller.

2. In a centrifugal pump, the following combination of elements; a casing, an impeller running therein, a shaft, means movable to and from the walls of the casing whereby to enlarge and decrease at will, the spaces between the means and the impeller whereby to vary the suction upon the fluid on either side of the impeller, and means to govern the shiftment of the means.

3. In a centrifugal pump, the following combination of elements: a casing, an impeller running therein, a shaft, means movable to and from the walls of the casing whereby to enlarge and diminish at will, the spaces between the means and the impeller whereby to vary the suction upon the fluid on either side of the impeller, means to govern the shiftment of the means, and securing devices to maintain the shiftment means in given positions.

4. In a centrifugal pump, the combination with a casing, of an impeller operating therein, the walls of said

casing being provided with recesses, means located in said recesses, and means for shifting the first-named means to and fro in said recesses and to and from the face of the impeller whereby to vary the suction of the fluid on either side of the impeller.

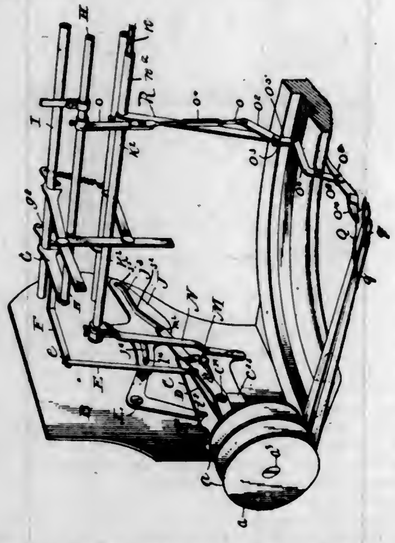


5. In a centrifugal pump, the combination of a casing, a shaft, an impeller thereon, rotating within the casing, closed chambers formed in said casing at each side of the impeller, annular grooves formed in the casing at each side of the mouth of the impeller and outside of said chambers, rings mounted in said grooves, the adjacent faces of said rings converging toward each other, and means to shift said rings toward and from the impeller to vary the width of the communications between said chambers and the discharge of the impeller.

6. In a centrifugal pump, the combination of a casing, a shaft, an impeller thereon, rotating within the casing, closed chambers formed in said casing at each side of the impeller, annular grooves formed in the casing at each side of the mouth of the impeller and outside of said chambers, rings mounted in said grooves, the adjacent faces of said rings converging toward each other, and means to shift said rings toward and from the impeller to vary the width of the communications between said chambers and the discharge of the impeller, said means consisting of screw-rods swiveled to said rings and extending through the casing.

7. In a centrifugal pump, the combination of a casing, a shaft having bearings therein, an impeller mounted on the shaft, closed chambers formed in said casing at each side of the impeller, said casing having annular grooves at each side of the mouth of the impeller, and outside of said chambers, rings mounted in said grooves, the adjacent faces of said rings converging toward each other in the direction of the flow of the water from the impeller, rods mounted in the casing and having grooved heads that are seated in sockets in said rings, screws mounted in said rings and engaging said grooved heads, said rods having a screw-thread engaging a stationary part, and having means whereby they may be turned, whereby the width of the communications between said chambers and the discharge of the impeller may be varied.

840,117. RECORD-PRODUCING MACHINE. GEORGE W. DONNING, East Orange, N. J., assignor to Harry T. Ambrose, Orange, N. J. Filed May 15, 1902. Serial No. 107,471.



Claim.—1. In a writing-machine, the combination of a rotatable ribbon-carrier, a ratchet-wheel connected therewith, a shiftable plate, and a feed-pawl mounted reciprocably thereon to rotate said wheel and shiftable therewith into and out of operative relation to said wheel.

2. In a writing-machine the combination of a rotatable ribbon-carrier, a ratchet-wheel connected therewith, a shiftable member, a feed-pawl movable thereon to rotate the ratchet-wheel and shiftable therewith into and out of operative relation to said wheel, and a retaining-pawl shiftable into and out of operative relation with said wheel by said member.

3. In a writing-machine, the combination with a traveling writing mechanism, of a ribbon-carrier disposed contiguous to and movable with said writing mechanism, a slidable member upon which said ribbon-carrier is rotatably mounted, a ratchet-wheel connecting with said carrier to rotate the same, means for shifting said slidable member, and means for rotating said ratchet-wheel, and means for effecting disengagement of said ratchet-wheel-rotating means.

4. In a writing-machine, the combination with a ribbon-carrier, a horizontally-slidable member upon which said carrier is rotatably supported, means for shifting said member, a ratchet-wheel, a plurality of pawl-carrying members arranged to be reciprocated together in one direction to position the same relative to the ratchet-wheel, and one of said members being constructed to be reciprocated in a direction different from that of the plurality of members together.

5. In a writing-machine, the combination with a ribbon-carrier, a ratchet-wheel disposed contiguous thereto, a slidable member upon which said carrier is supported, means for shifting said slidable member, pawl-carrying members movably supported on said slidable member, and means distinct from each other for moving each of said pawl-carrying members.

6. In a writing-machine, the combination with a ribbon-carrier, a toothed wheel disposed contiguous thereto, a slidable member upon which said carrier is rotatably supported, pawl-carrying members arranged on and shiftable with said slidable member, means constructed to reciprocate said members in one direction, and independent means constructed to actuate one of said members in a different direction.

7. In a writing-machine, a rotatable ribbon-carrier, a carrier-rotating device disposed contiguous thereto, a plurality of sliding members arranged to be moved together in one direction, one of said members being constructed to be moved in a different direction, a support member slidable axially of the ribbon-carrier and upon which said slidable members are movably supported, means for shifting said support member, and means for actuating said sliding members independent of the movement of said support member.

8. In a writing-machine, the combination with a printing mechanism, and with an operating member coöperating therewith, of ribbon-feed mechanism comprising a shiftable member, a retaining-pawl member arranged to be oscillated on said shiftable member, a feed-pawl member constructed to be reciprocated on said shiftable member, means for shifting said shiftable member and said retaining-pawl member into and out of operative position, and means connecting with said operating member for reciprocating said feed-pawl member.

9. In a writing-machine, the combination with printing mechanism, of an operating member constructed and arranged to be actuated by said printing mechanism, of a shiftable member, means for shifting said shiftable member, a ratchet wheel, and a pawl member shiftable with said shiftable member into and out of operative relation to said wheel and constructed to be actuated by the operation of said operating member.

10. In a writing-machine, the combination with a ratchet-wheel, a shiftable support member upon which said wheel is supported, pawl-carrying plates movably supported on said support member, means for actuating one of said pawl-carrying plates vertically to rotate the ratchet-wheel, means for reciprocating the other of said pawl-carrying plates in a direction at an angle to the actuation of said first-named pawl-carrying plate to engage the same with the ratchet-wheel, and means for shifting the support member.

11. Ribbon-feeding, reversing and shifting mechanism, comprising a ribbon-spool, a ratchet-wheel, a shiftable support member connecting with said ribbon-spool and ratchet-wheel, a swinging two-member lever, one member of which engages said shiftable support member, a cam-plate engaged by the other member of said lever, means for swinging said cam-plate, and means for rotating said ratchet-wheel and spool.

12. In ribbon mechanism, the combination with a ribbon-spool and a ratchet-wheel, of a shiftable support member with which said spool and ratchet-wheel connect, a bell-crank lever, one member of which engages said shiftable support member, a swinging cam-plate engaged by another member of said bell-crank lever, means for swinging said cam-plate to move the bell-crank lever and shift said support member, a feed-reversing arm also engaging, and operated by, said cam-plate, and means for rotating said ratchet-wheel and spool.

13. In ribbon mechanism, the combination with a ribbon-spool and a ratchet-wheel, of a shiftable support member with which said spool and ratchet-wheel connect, a bell-crank lever, one member of which engages said shiftable member, a swinging cam-plate engaged by another member of said bell-crank lever, means for swinging said cam-plate to move the bell-crank lever and shift said shiftable member, a feed-reversing arm also engaging, and operated by, said cam-plate, and a feed-lever fulcrumed on said support member and constructed to effect rotation of the ratchet-wheel and spool.

14. In ribbon mechanism for type-writers, the combination with a ribbon-spool and a ratchet-wheel, of a shiftable support member, a two-member bell-crank lever, one member of which engages said support member, a cam-plate with which the other member of said bell-crank lever engages, a feed-reversing arm also engaging said cam-plate, a feed-lever fulcrumed on and movable with said support member, and a reciprocating pawl-carrying plate with which said feed-lever engages and constructed to rotate the ratchet-wheel and spool.

15. In ribbon mechanism for type-writers, the combination with a ribbon-spool and a ratchet-wheel, of a shiftable support member, a two-member bell-crank lever, one member of which engages said support member, a cam-plate with which the other member of said bell-crank lever engages, a feed-reversing arm also engaging said cam-plate, a feed-lever fulcrumed on and movable with said support member, a reciprocating pawl-carrying plate with which said feed-lever engages and constructed to rotate the ratchet-wheel and spool, and a reciprocating plate with which said feed-reversing arm engages and constructed to shift said pawl-carrying plate in a plane at an angle to the direction of reciprocation of the pawl-carrying plate.

16. In ribbon mechanism for type-writers, the combination with a ribbon-spool and a ratchet-wheel, of a shiftable support member, a two-member bell-crank lever, one member of which engages said support member, a cam-plate with which the other member of said bell-crank lever engages, a feed-reversing arm also engaging said cam-plate, a feed-lever fulcrumed on and movable with said support member, a reciprocating pawl-carrying plate with which said feed-lever engages and constructed to rotate the ratchet-wheel and spool, and a reciprocating plate carrying a retaining-pawl with which said feed-reversing arm engages and constructed to shift said pawl-carrying plate in a plane at an angle to the direction of reciprocation of the pawl-carrying plate.

17. In ribbon mechanism for type-writers, the combination with a ribbon-spool and a ratchet-wheel, of a shiftable support member, a two-member bell-crank lever, one member of which engages said support member, a cam-plate with which the other member of said bell-crank lever engages, a feed-reversing arm also engaging said cam-plate, a feed-lever, said feed-reversing arm and feed-lever being pivotally supported on and movable with said support member, and a reciprocating pawl-carrying plate with which said feed-lever engages and constructed to rotate the ratchet-wheel and spool.

18. In ribbon mechanism for type-writers, the combination with a ribbon-spool and a ratchet-wheel, of a slide, a bell-crank lever, one member of which engages said slide, a cam-plate with which said bell-crank lever also engages, an angulated portion projecting from said slide, flanges formed on said angulated portion, a reciprocating block arranged to slide on said flanges, a reciprocating plate juxtapositioned to, and movable in one direction with, said reciprocating block, a feed-lever connecting with said reciprocating plate and constructed to actuate the same and rotate the ratchet-wheel and spool to feed the ribbon, and a feed-reversing lever connecting with said reciprocating block and constructed to actuate it to position said reciprocating plate toward and away from the ratchet-wheel.

19. In ribbon mechanism for type-writers, the combination with a ribbon-spool and a ratchet-wheel, of a slide, a bell-crank lever, one member of which engages said slide, a cam-plate with which said bell-crank lever also engages, an angulated portion projecting from said slide, flanges formed on said angulated portion, a reciprocating block arranged to slide on said flanges, a reciprocating plate juxtapositioned to, and movable in one direction with, said reciprocating block, a feed-lever, connections between said feed-lever and said reciprocating plate, and a feed-reversing lever connecting with said reciprocating block and constructed to actuate it to position said reciprocating plate toward and away from the ratchet-wheel.

20. In ribbon mechanism for type-writers, the combination with a ribbon-spool and a ratchet-wheel, of a slide, a bell-crank lever, one member of which engages said slide, a cam-plate with which said bell-crank lever also engages, an angulated portion projecting from said slide, flanges formed on said angulated portion, a reciprocating block arranged to slide on said flanges, a reciprocating plate juxtapositioned to, and movable in one direction with, said reciprocating block, a feed-lever connecting with said reciprocating plate and constructed to actuate the same and rotate the ratchet-wheel and spool to feed the ribbon, a feed-reversing lever, and connections between said lever and said reciprocating block whereby, when said lever is actuated, said block is positioned toward and away from the ratchet-wheel.

21. In ribbon mechanism for type-writers, the combina-

tion with a ribbon-spool and a ratchet-wheel, of a slide, a cam-plate operatively connected with said slide, an angulated portion projecting from said slide, flanges formed on said angulated portion, a reciprocating block movably supported in said flanges, a retaining-pawl pivoted on said block, a reciprocating plate juxtapositioned to and movable with said reciprocating block, a feed-pawl pivoted on said plate, a feed-lever connecting with said plate and constructed to actuate the same to raise said feed-pawl and effect rotation of the ratchet-wheel, a feed-reversing lever connecting with said reciprocating block and constructed to move the same and the feed-pawl-carrying plate toward and away from the ratchet-wheel and effect engagement of the pawls with and disengagement thereof from said ratchet-wheel.

22. In ribbon mechanism for type-writers, the combination with a ribbon-spool and a ratchet-wheel, of a slide, a cam-plate operatively connected with said slide, an angulated portion projecting from said slide, flanges formed on said angulated portion, a reciprocating block movably supported in said flanges, a retaining-pawl pivoted on said block, a reciprocating plate juxtapositioned to and movable with said reciprocating block, a feed-pawl pivoted on said plate, a feed-lever connecting with said plate and constructed to actuate the same to raise said feed-pawl and effect rotation of the ratchet-wheel, means for actuating said feed-lever, a feed-reversing lever connecting with said reciprocating block and constructed to move the same and the feed-pawl-carrying plate toward and away from the ratchet-wheel and effect engagement of the pawls with and disengagement thereof from said ratchet-wheel.

23. In ribbon mechanism for type-writers, the combination with a ribbon-spool and a ratchet-wheel, of a slide, a cam-plate operatively connected with said slide, an angulated portion projecting from said slide, flanges formed on said angulated portion, a reciprocating block movably supported in said flanges, a retaining-pawl pivoted on said block, a reciprocating plate juxtapositioned to and movable with said reciprocating block, a feed-pawl pivoted on said plate, a feed-lever connecting with said plate and constructed to actuate the same to raise said feed-pawl and effect rotation of the ratchet-wheel, a feed-reversing lever connecting with said reciprocating block and constructed to move the same and the feed-pawl-carrying plate toward and away from the ratchet-wheel and effect engagement of the pawls with and disengagement thereof from said ratchet-wheel, and means for operating said feed-reversing lever.

24. In ribbon mechanism for type-writers, the combination with a ribbon-spool and a ratchet-wheel, of a slide, a cam-plate operatively connected with said slide, an angulated portion projecting from said slide, flanges formed on said angulated portion, a reciprocating block movably supported in said flanges, a retaining-pawl pivoted on said block, a reciprocating plate juxtapositioned to and movable with said reciprocating block, a feed-pawl pivoted on said plate, a feed-lever connecting with said plate and constructed to actuate the same to raise said feed-pawl and effect rotation of the ratchet-wheel, a feed-reversing lever connecting with said reciprocating block and constructed to move the same and the feed-pawl-carrying plate toward and away from the ratchet-wheel and effect engagement of the pawls with and disengagement thereof from said ratchet-wheel, and means for operating said feed-reversing lever.

25. In ribbon mechanism for type-writers, the combination with ribbon-spools for feeding and receiving a ribbon, of means for effecting the feeding of said ribbon and comprising a ratchet-wheel juxtapositioned to a ribbon-spool, a feed-pawl, a reciprocating plate upon which said pawl is supported, a feed-lever connecting with said plate, a ribbon-feed-reverse device connecting with said plate and constructed to position it and its feed-pawl away from said ratchet-wheel, and means for actuating said reverse device.

26. In ribbon mechanism for type-writers, the combination with ribbon-spools for feeding and receiving a ribbon, of means for effecting the feeding of said ribbon and comprising a ratchet-wheel juxtapositioned to a ribbon-spool, a feed-pawl, a reciprocating plate upon which said pawl is supported, a feed-lever connecting with said plate, a ribbon-feed-reverse device connecting with said plate and constructed to position it and its feed-pawl away from said ratchet-wheel, means for actuating said reverse device, and means for shifting the ribbon widthwise.

27. In ribbon mechanism for type-writers, the combination with ribbon-spools for feeding and receiving a ribbon, of means for effecting the feeding of said ribbon and comprising a ratchet-wheel juxtapositioned to a ribbon-spool, a feed-pawl, a reciprocating plate upon which said pawl is supported, a feed-lever connecting with said plate and constructed to actuate it and its feed-pawl to rotate said ratchet-wheel, means for actuating said feed-lever, and a ribbon-guide device constructed to be oscillated simultaneously with the feed of the ribbon.

28. In ribbon mechanism for type-writers, the combination with ribbon-spools for feeding and receiving a ribbon, of means for effecting the feeding of said ribbon and comprising a ratchet-wheel juxtapositioned to a ribbon-spool, a feed-pawl, a reciprocating plate upon which said pawl is supported, a feed-lever connecting with said plate, a ribbon-feed-reverse device connecting with said plate and constructed to position it and its feed-pawl away from said ratchet-wheel, means for actuating said reverse device, means for shifting said ribbon-spools axially, a ribbon-guide, and means for shifting the ribbon-guide.

29. In ribbon mechanism for type-writers, the combination with a ribbon-spool and a ratchet-wheel connecting therewith, of a supporting member, a cam-plate disposed in juxtaposition thereto, a feed-lever constructed and arranged to effect rotation of the ratchet-wheel and ribbon-spool, a feed-reversing lever arranged to engage said cam-plate, means for actuating said cam-plate, and means for operating said feed-lever.

30. In ribbon mechanism for type-writers, a ribbon-spool and a ratchet-wheel connecting therewith, a supporting member upon which said spool and ratchet-wheel are disposed, a plurality of movable plates arranged on said supporting member, a feed-lever connecting with one of said plates and constructed to effect rotation of the ratchet-wheel and spool to feed the ribbon, and a feed-reversing lever connecting with another of said movable plates and constructed to shift the same and reverse the feed of the ribbon.

31. In ribbon mechanism for type-writers, a ribbon-spool and a ratchet-wheel connecting therewith, a supporting member upon which said spool and ratchet-wheel are disposed, a plurality of movable plates arranged on said supporting member, a feed-lever connecting with one of said plates and constructed to effect rotation of the ratchet-wheel and spool to feed the ribbon, a feed-reversing lever connecting with another of said movable plates and constructed to shift the same and reverse the feed of the ribbon, and a cam-plate with which said feed-reversing lever engages and constructed to actuate the same.

32. In ribbon mechanism for type-writers, a ribbon-spool and a ratchet-wheel connecting therewith, a supporting member upon which said spool and ratchet-wheel are disposed, a plurality of movable plates arranged on said supporting member, a feed-lever connecting with one of said plates and constructed to effect rotation of the ratchet-wheel and spool to feed the ribbon, a feed-reversing lever connecting with another of said movable plates and constructed to shift the same and reverse the feed of the ribbon, a cam-plate with which said feed-reversing lever engages and constructed to actuate the same, and means for swinging said cam-plate.

33. In ribbon mechanism for type-writers, a ribbon-spool and a ratchet-wheel connecting therewith, a supporting member upon which said spool and ratchet-wheel are disposed, a plurality of movable plates arranged on said supporting member, a feed-lever connecting with one of said plates and constructed to effect rotation of the ratchet-wheel and spool to feed the ribbon, a feed-reversing lever connecting with another of said movable plates and constructed to shift the same and reverse the feed of the ribbon, a cam-plate with which said feed-reversing lever engages and constructed to actuate the same, a shaft upon which said cam-plate is supported, and an arm for moving said shaft to swing said cam-plate.

34. In ribbon mechanism for type-writers, a ribbon-spool and a ratchet-wheel connecting therewith, a supporting member upon which said spool and ratchet-wheel are disposed, a plurality of movable plates arranged on said supporting member, a feed-lever connecting with one of said plates and constructed to effect rotation of the ratchet-wheel and spool to feed the ribbon, a feed-reversing lever connecting with another of said movable plates and constructed to shift the same and reverse the feed of the ribbon, a cam-plate with which said feed-reversing lever engages and constructed to actuate the same, a shaft upon which said cam-plate is supported, an arm for moving said shaft to swing said cam-plate, a tube encircling said shaft, an arm on said tube connecting with the supporting member, a second arm on the tube, and a slidable ribbon-guide connected with said arm.

35. In ribbon mechanism for type-writers, a ribbon-spool and a ratchet-wheel connecting therewith, a shiftable supporting member upon which said spool and ratchet-wheel are disposed, a ribbon-feeding device supported on said supporting member, a feed-reversing device also supported thereon, and a single means for shifting said supporting member and actuating the feed-reversing device.

36. In a writing-machine, the combination with a traveling writing mechanism, a spool-supporting member disposed thereon, a ribbon-carrier mounted on the supporting member, means for effecting rotation of the ribbon-carrier to feed the ribbon, an operating-bar constructed to effect operation of the ribbon-carrier-rotating means, a cam member connecting with said spool-supporting member, and means for operating said cam member and constructed to effect widthwise shifting of the ribbon carried by the spool.

37. In a writing-machine, the combination with a traveling writing mechanism, a spool-supporting member disposed thereon, a ribbon-carrier mounted on the supporting member, means for effecting rotation of the ribbon-carrier to feed the ribbon, an operating-bar constructed to effect operation of the ribbon-carrier-rotating means, a cam member connecting with said spool-supporting member, and means for operating said cam member and constructed to effect widthwise shifting of the ribbon carried by the spool and, simultaneously, effect reversal of the feed of the ribbon.

38. In a writing-machine, the combination with a traveling writing mechanism, a slidable spool-supporting member disposed thereon, a ribbon-carrier mounted on the supporting member, means for effecting rotation of the ribbon-carrier to feed the ribbon, an operating-bar constructed to effect operation of the ribbon-carrier-rotating means, a cam member disposed contiguous to and connecting with said spool-supporting member, a rotatable shaft upon which said cam member is supported, and means for rotating said shaft whereby said slidable member is actuated to shift the ribbon widthwise.

39. In a writing-machine, a slidable spool-supporting member, a ribbon-carrier disposed on said slidable member, means for effecting rotation of said ribbon-carrier in one direction to feed the ribbon, a cam member disposed contiguous to and connecting with said slidable member, a rotatable shaft upon which said cam member is supported and constructed to swing the same, means supported on said slidable member and engaging said cam member whereby, when said cam member is actuated, reversal of the feed of the ribbon will be effected.

40. In a writing-machine, the combination with a slidable supporting member, a ribbon-carrier disposed thereon, means for effecting rotation of the ribbon carrier to feed the ribbon, a cam member disposed adjacent to said slidable member, a connecting device engaging the cam member and the slidable member, a rocking member supported on said slidable member and engaging the cam member, a rotatable shaft upon which the cam member is supported and constructed to effect movement of the cam member to actuate the slidable member to shift the ribbon widthwise, and, simultaneously, to operate the rocking member and effect reversal of the feed of the ribbon.

41. In a writing-machine, the combination with a traveling writing mechanism, of a slidable member, a ribbon-carrier connecting therewith and movable with said writing mechanism, means for effecting rotation of the ribbon-carrier, an operating-bar actuated by the writing mechanism, means connecting with the operating-bar and said carrier-rotating means to effect operation thereof to feed the ribbon lengthwise, a carrier-supporting member, means engaging said carrier-supporting member and constructed to actuate the same to effect shifting of the ribbon widthwise, and means for simultaneously effecting reversal of the feed of the ribbon.

42. In a writing-machine, the combination with a ribbon-carrier-supporting member, a ribbon-carrier disposed thereon and movable with the writing mechanism, an operating member actuated by the writing mechanism, a ribbon-feeding device actuated by the operating member to feed the ribbon lengthwise, a swinging member connecting with said carrier-supporting member and constructed to actuate the same to shift the ribbon to one of a plurality of positions widthwise of its feeding path, and means for holding the same in such shifted position.

43. In a writing-machine, the combination with writing mechanism, a ribbon-carrier arranged at each side of the writing mechanism and movable therewith, an operating-bar actuated by the writing mechanism, a ribbon-feeding device actuated by the operating-bar, a slidable carrier-supporting member, a swinging member connecting with said slidable supporting member and constructed to actuate the same to shift the ribbon widthwise, means for supporting and actuating said swinging member, a ribbon-guide disposed intermediate of said ribbon-carriers, means connecting said guide and swinging-member-supporting device and constructed to shift said ribbon-guide simultaneously with the shifting of said slidable supporting member, and means connecting said ribbon-guide and operating-bar and constructed to oscillate said guide simultaneously with the feeding of the ribbon.

44. In a type-writer, the combination with a writing mechanism, of ribbon-carriers disposed at either side thereof, a slidable supporting member upon which each of said ribbon-carriers is disposed, a universal operating-bar actuated by said writing mechanism, a ribbon-feed device connecting with said ribbon-carriers and actuated by said operating-bar to feed the ribbon lengthwise over the printing-point, means for shifting the ribbon widthwise, a vertically-vibrating ribbon-guide disposed contiguous to the printing-point, means for vibrating said guide, and means for shifting the ribbon-guide horizontally.

45. In a type-writer, the combination with a writing mechanism, an operating-bar constructed to be actuated by said writing mechanism, ribbon-carriers disposed contiguous to said writing mechanism, ribbon-feed mechanism constructed to be actuated by said operating-bar to feed the ribbon over the printing-point, means for shifting the ribbons widthwise, a ribbon-guide connecting with said operating-bar and constructed to be actuated thereby to vibrate the ribbon-guide to and away from the printing-point, and means for horizontally shifting the ribbon-guide in unison with the shifting of the ribbons widthwise.

46. In a type-writer, the combination with a writing mechanism, an operating-bar constructed to be actuated by said writing mechanism, ribbon-carriers disposed contiguous to said writing mechanism, ribbon-feed mechanism constructed to be actuated by said operating-bar to feed the ribbon over the printing-point, means for shifting the ribbons widthwise, a vertically-vibrating hinged ribbon-guide connecting with said operating-bar and constructed to be actuated thereby to vibrate the ribbon-guide to and away from the printing-point, and means for horizontally shifting the ribbon-guide in unison with the shifting of the ribbons widthwise.

47. In a type-writer, the combination with a writing mechanism of ribbon-carriers disposed at opposite sides thereof, an operating-bar constructed to be actuated by said writing mechanism, ribbon-feeding mechanism deriving movement from the operation of said operating-bar to effect winding of the ribbon upon a ribbon-carrier, carrier-supporting members, means for shifting said members

to shift the ribbons widthwise, a ribbon-guide also deriving a vibratory movement from the actuation of said operating-bar, and means for shifting said ribbon-guide in unison with the shifting of said supporting member.

48. In a type-writer, the combination with writing mechanism, of an operating-bar constructed to be operated by the writing mechanism, ribbon-carriers, means for rotating said carriers to feed the ribbon and deriving movement from the actuation of said operating-bar, a slidable member upon which each of said carriers is disposed, means for shifting said slidable member to shift the ribbon widthwise, means for reversing the feed of the ribbon, a ribbon shifting and lifting guide also constructed to derive a lifting motion from the actuation of said operating-bar, and means for shifting the ribbon-guide horizontally in unison with the shifting of the supporting member.

49. In a type-writer, the combination with a writing mechanism, of an operating-bar constructed to be actuated thereby, ribbon-carriers, ribbon-feeding mechanism deriving movement from the actuation of the operating-bar, a vertically-vibrating ribbon-guide positioned normally away from the printing-point and constructed to derive movement from the actuation of the operating-bar to move said guide to the printing-point, and means for simultaneously shifting the ribbon-carriers and the ribbon-guide horizontally to shift the ribbon widthwise independent of the feeding of the ribbon.

50. In ribbon mechanism for type-writers, the combination with ribbon-carriers, of a ribbon-feeding mechanism comprising a supporting member, a ratchet-wheel disposed thereon, a reciprocating feed-pawl-supporting plate, a feeding-pawl disposed on and movable with said plate, a feed-lever connecting with and constructed to oscillate said plate, and a vibrating operating-bar with which said feed-lever connects.

51. In ribbon mechanism for type-writers, the combination with a ribbon-carrier, of a ribbon-feeding mechanism comprising a supporting member, a ratchet-wheel disposed thereon, a reciprocating feed-pawl-supporting plate, a feeding-pawl disposed on and movable with said plate, a feed-lever connecting with and constructed to oscillate said plate, a vibrating operating-bar with which said feed-lever connects, a feed-reversing mechanism comprising a slidable block upon which said feeding-pawl-supporting plate is mounted, a rocking arm connecting with and constructed to move said slidable block, a cam member with which said rocking arm engages, and means for swinging said cam member.

52. In ribbon mechanism for type-writers, the combination with a ribbon-carrier, of a ribbon-feeding mechanism comprising a supporting member, a ratchet-wheel disposed thereon, a reciprocating feed-pawl-supporting plate, a feeding-pawl disposed on and movable with said plate, a feed-lever connecting with and constructed to reciprocate said plate, a vibrating operating-bar with which said feed-lever connects, a feed-reversing mechanism comprising a slidable block upon which said feeding-pawl-supporting plate is mounted, a rocking arm connecting with and constructed to move said slidable block, a cam member with which said rocking arm engages, means for swinging said cam member, and ribbon-shifting mechanism comprising a bell-crank lever engaging the said supporting member and said cam member.

53. In a type-writer, the combination with a slidable supporting member, a ribbon-carrier disposed thereon, means for shifting said slidable member horizontally, a vertically-vibrating ribbon-guide, a slidable plate upon which said guide is pivoted, a post disposed on said slidable plate, an operating-bar, connections between said operating-bar and said ribbon-guide, a rotatable shaft member, an arm connecting said post and said shaft member and constructed to be moved by said shaft member to shift said slidable plate, an arm for rotating said shaft member, and means for retaining said arm at the desired position.

54. In a writing-machine, the combination with a platen, and writing mechanism comprising downwardly-acting type-bars, of ribbon-carriers for sustaining a ribbon rachet-wheels disposed contiguous thereto, an operating-bar arranged in juxtaposition to the writing mechanism and adapted to have movement imparted to it thereby at each operation of said writing mechanism, means adapted to receive movement by the actuation of said operating-bar for effecting complete feeding of the ribbon during the descent of a type-bar to the platen and prior to the impact of the bar upon the platen.

55. In a writing-machine, the combination with a platen, and writing mechanism comprising downwardly-acting type-bars, of ribbon-carriers for sustaining a ribbon, ratchet-wheels disposed contiguous thereto, an operating-bar arranged in juxtaposition to the writing mechanism and adapted to have movement imparted to it thereby at each operation of said writing mechanism, means adapted to receive movement by the actuation of said operating-bar for effecting feeding of the ribbon during the descent of a type-bar to the platen and prior to the impact of the bar upon the platen, and means for disengaging said feeding means to stop such feeding of the ribbon at the moment of impact of the type-bar upon the platen.

56. In a writing-machine, the combination with carriers adapted to sustain a ribbon element constituted of a plurality of differentiated portions, each portion being constructed of a width sufficient to present a plurality of writing-paths longitudinal of the ribbon, means for rotating said carriers to feed the ribbon lengthwise, means constructed to shift said ribbon widthwise to a predetermined point for presenting one or another of said colored portions over the printing-point and, simultaneously, to effect reversal of the feed, and means constructed to shift said ribbon widthwise to a position beyond its first shifted point and thereby position the operating parts without effecting reversal of the feed.

57. In a writing-machine, the combination with carriers adapted to carry a ribbon constituted of two different color portions or stripes extending longitudinally of the ribbon, each of said stripes comprising two longitudinal writing-paths, means for rotating said carriers to feed the ribbon lengthwise, means constructed to shift said ribbon widthwise and position a different color portion over the printing-point, and means constructed and arranged to shift the ribbon widthwise and position a different writing-path of the same color portion at the writing-point and, simultaneously, to effect reversal of the feed.

58. In a writing-machine, the combination with carriers adapted to carry a ribbon constituted of two different color portions or stripes extending longitudinally of the ribbon, each of said stripes comprising two longitudinal writing-paths, means for rotating said carriers to feed the ribbon lengthwise, and means constructed to reverse the feed of the ribbon and, simultaneously, shift the ribbon widthwise without removing the color portion away from the printing-point.

59. In a writing-machine, the combination with carriers adapted to carry a ribbon constituted of two different color portions or stripes extending longitudinally of the ribbon, each of said stripes comprising two longitudinal writing-paths, means for rotating said carriers to feed the ribbon lengthwise, means constructed to shift said ribbon widthwise and position a different color portion over the printing-point, means constructed and arranged to shift the ribbon widthwise and position a different writing-path of the same color portion at the writing-point, and, simultaneously, to effect reversal of the feed, a ribbon-guide, and means constructed to shift the same simultaneously with the shifting of the ribbon.

60. In a writing-machine, the combination with writing mechanism comprising type-bars and key-levers, of ribbon-carriers, means for rotating the same to effect feed of the ribbon, an automatically-operated ribbon-guide adapted to be oscillated at each actuation of the key-levers toward and away from the printing-point, and means constructed to hold the ribbon-carriers against rotation during operation of said ribbon-guide.

61. In a writing-machine, the combination with ribbon-carriers, a shiftable supporting member adapted to support said carriers, ribbons disposed on said carriers, means constructed to rotate said carriers to feed the ribbons, means constructed to reverse the feed of the ribbons, and idler members disposed contiguous to the carriers and adapted to guide the ribbon therefrom during its feed.

62. In a writing-machine, the combination with ribbon-carriers, a shiftable supporting member adapted to support said carriers, ribbons disposed on said carriers, means constructed to rotate said carriers to feed the ribbons, means constructed to reverse the feed of the ribbons, a ribbon-guide, and ribbon-feed-guide means disposed contiguous to the carriers and constructed to position the ribbon in a plane relative to that of the ribbon-guide.

63. In ribbon mechanism, the combination with a slidable supporting member, ribbon-carriers removably supported thereon, ratchet-wheels arranged indepenent of, but connecting with, the carriers, means for rotating said ribbon-carriers, and a shiftable and oscillating ribbon-guide.

64. In a ribbon mechanism, the combination of a ribbon-carrier rotatable for ribbon-feed and shiftable axially, a feed-reversing member, and a cam-surface provided with a plurality of stations governing successive feed reversals and engaged by said feed-reversing member during shifting of the ribbon-carrier.

65. In a ribbon mechanism, the combination of a rotatable ribbon-carrier, and a shiftable carrier-support; of a feed-reversing member, and a cam-surface provided with a plurality of stations governing successive feed reversals and engaged by said feed-reversing member during shifting of the carrier-support.

66. In a ribbon mechanism, the combination of a ribbon-carrier rotatable for ribbon-feed and shiftable axially, a feed-reversing member, a cam-surface engaged by said member and provided with a plurality of stations governing successive feed reversals, and common means for simultaneously shifting the ribbon-carrier and cam-surface.

67. In a ribbon mechanism, the combination of a rotatable and axially-shiftable ribbon-carrier, a feed-reversing member, a cam-surface provided with a plurality of stations governing successive feed reversals, common operating means for shifting the ribbon-carrier and moving said cam-surface to bring said stations into engagement with the feed-reversing member, and means for locking said operating means at points of feed reversal.

68. In a ribbon mechanism, the combination of a rotatable ribbon-carrier, a ribbon-carrier support shiftable axially of said carrier, a cam-surface, a support-shifting member connecting said support and said cam-surface, a second cam-surface provided with a plurality of stations governing feed reversal, a feed-reversing member engaging such cam-surface, and common operating means for causing said feed-reversing member to engage said stations successively as said support-shifting member passes along the other cam-surface.

69. In a ribbon mechanism, the combination of a ribbon-carrier rotatable for ribbon-feed, a shiftable ribbon-carrier support, support-shifting means, a cam-surface provided with a plurality of stations governing feed reversal, a feed-reversing member engaging such surface, and means for causing said feed-reversing member to engage a plurality of said stations during the shifting of the carrier-support in one direction.

70. In a ribbon mechanism, the combination of a rotatable ribbon-carrier shiftable axially to any one of a number of predetermined points, a feed-reversing member, and a cam-surface provided with a plurality of stations govern feed reversal, said stations being engaged successively by said feed-reversing member as the ribbon-carrier assumes its several shifted positions.

71. In a ribbon mechanism, the combination of a rotatable ribbon-carrier shiftable axially to any one of a number of predetermined points, a feed-reversing member, a movable cam-surface engaged by said feed-reversing member and provided with a plurality of stations governing feed reversal, and means for moving said cam-surface to cause said feed-reversing member to engage said stations successively as the ribbon-carrier assumes its several shifted positions.

72. In a ribbon mechanism, the combination of a ribbon-carrier rotatable for ribbon-feed and shiftable axially, means for locking said carrier against axial movement at any one of a number of predetermined points, a feed-reversing member, a cam-surface engaged by said member and provided with a plurality of stations governing feed reversal, and common means for shifting said ribbon-carrier and during such shifting causing the feed-reversing member to engage said stations successively as the ribbon-carrier reaches said predetermined points.

73. In a ribbon mechanism, the combination of a rotatable ribbon-carrier, a ribbon-carrier support shiftable axially of said carrier, a swinging cam member having a camway, a support-shifting member connecting said carrier-support and said camway, said cam member being provided with a second camway having a plurality of stations governing successive feed reversal, and a feed-reversing member engaging said second camway and arranged to occupy said stations successively as the support-shifting member passes along the other camway.

74. In a ribbon mechanism, the combination of a rotatable ribbon-carrier, a shiftable carrier-support, a swinging cam member having a camway, a bell-crank lever connecting said carrier-support and said camway, said cam member being provided with a second camway having a plurality of stations, governing feed reversal, and a feed-reversing lever engaging said second camway and arranged to occupy said stations successively as the bell-crank lever passes along the other camway.

75. In a ribbon mechanism, the combination of ribbon-carriers, feeding mechanism, feed-reversing mechanism, and means connected with the feed-reversing mechanism for shifting the ribbon widthwise from one rest position to another without reversing the feed.

76. In a ribbon mechanism, the combination of rotatable ribbon-carriers, feeding mechanism, feed-reversing mechanism, and means connected with the feed-reversing mechanism for shifting said carriers axially from one rest position to another without reversing the feed.

77. In a type-writer, ribbon-carriers, feeding mechanism therefor, a movable ribbon-guide disposed independent of the ribbon-carriers for positioning the ribbon at the printing-point, and means for effecting widthwise shifting of the carriers and simultaneously therewith of the movable ribbon-guide.

78. In a type-writer, ribbon-carriers, feeding mechanism therefor, a ribbon-guide for positioning the ribbon at the printing-point, means for oscillating the guide to and away from the printing-point, and means for shifting the ribbon-carriers and guide to any one of a plurality of operating positions.

79. In a type-writer, shiftable ribbon-carriers, means for effecting feeding thereof, means for effecting reversing of such feeding, a ribbon-guide, means for effecting positioning of the guide at and away from the printing-point, means for bodily shifting the ribbon-carriers, and means for shifting the ribbon-guide.

80. In a type-writer, ribbon-carriers, a multicolored ribbon carried thereby and each color thereof constituted of a width to present a plurality of paths, means for feeding said ribbon between its carriers, means for reversing such feed, means for bodily shifting the ribbon-carriers widthwise to present a different path of the ribbon along a line parallel with the printing-point and simultaneously effecting a reversal of the feed, the means for effecting bodily shifting of the ribbon widthwise to present a different color at the printing-point being constructed to effect such function without reversing the feed.

81. In a type-writer, shiftable ribbon-carriers, a multicolored ribbon carried thereby and each color thereof constituted of a width to present a plurality of paths, means for feeding said ribbon between its carriers, means for reversing such feed, means for bodily shifting the ribbon-carriers, to present a different path of the ribbon at the printing-point and simultaneously to effect a reversal of the feed, and means, distinct from the carrier-shifting means, acting at the printing-point to present a different color thereover and constructed to effect such function without reversing the feed, and means for maintaining the parts in such shifted positions.

82. In a type-writer, ribbon-carriers, a multicolored ribbon carried thereby and each color constituted of a width to present a plurality of paths, means for feeding said

ribbon between its carriers, means for reversing such feed, means for shifting the ribbon-carriers to present a different path at the printing-point and simultaneously to effect a reversal of the feed, means, distinct from the carrier-shifting means, acting at the printing-point to effect shifting of the ribbon widthwise to present a different color at the printing-point and constructed to present such different colors without reversing the feed, and means for limiting the shifting.

83. In a type-writer, ribbon-carriers shiftable to a plurality of operating positions, rotating mechanism engaging therewith, means for effecting operation of such rotating mechanism, means for effecting disengagement of the operating means from the rotating mechanism, a universal bar, connections between said bar and the rotating mechanism, means for shifting the carriers to, and retaining the same in, one of the plurality of operating positions, means constructed and arranged to effect temporary checking of the operation of the rotating mechanism, and means for slacking the ribbon between carriers at such moment.

84. In a type-writer, a ribbon-carrier shiftable to different rest positions, a slide member upon which said carrier is rotatably and slidably supported, means for effecting reciprocation of said slide member to position the carrier in one or another of its rest positions, means also carried by said slide member for effecting rotation of the carrier, and means, independent of said slide member, for effecting operating of said rotating means.

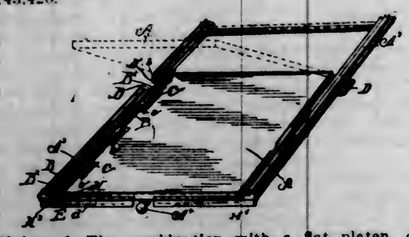
85. In a type-writer, a ribbon-carrier, a slide upon which the carrier is rotatably mounted, means for reciprocating said slide to position the carrier in any one of a plurality of positions, comprising a cam-plate, a lever connecting with said cam-plate and said slide, means for effecting movement of the cam-plate, consisting of an arm, a shaft member to which said arm is secured, a shifting-lever device carried on said shaft, and means for regulating the shift of said lever device.

86. In a type-writer, a ribbon-carrier, a slide upon which the carrier is rotatably mounted, means for reciprocating said slide to position the carrier in any one of a plurality of positions, comprising a cam-plate, a lever connected with said cam-plate and said slide, means for effecting movement of said cam-plate, consisting of an arm, a shaft to which said arm is secured, a shifting-lever device carried on said shaft, and means for locking said shifting-lever device in position.

87. In a type-writer, a ribbon-carrier, a slide upon which the carrier is rotatably mounted, means for effecting rotation of said carrier to feed the ribbon, and means for effecting reversal of the feed comprising a rocker-lever fulcrumed on the slide, a cam-plate connecting with said rocker-lever, a shiftable plate slidable on said slide, and connections between said rocker-lever and said shiftable plate.

88. In a type-writer, printing mechanism, means for actuating the same, ribbon-carriers, ribbons carried thereby, feeding mechanism therefor, means for governing operation of the feeding mechanism and constructed to retard and stop movement of the ribbon at the printing-point, when said printing mechanism is operated to print.

840,118. PAPER-RETAINING DEVICE. GEORGE W. DONNING, East Orange, N. J., assignor to Harry T. Ambrose, Orange, N. J. Filed Feb. 14, 1903. Serial No. 143,420.



Claim.—1. The combination with a flat platen, of a work-holder blade arranged in a plane different from that of the platen, means for supporting the blade contiguous to but independent of the platen, a tension device connecting with the blade-support and operating and arranged to retain the blade in resilient engagement with the platen, means for raising the blades away from the platen, and means engaging the raising means to lock the same against the action of the tension device, substantially as described.

2. The combination with a flat platen, of a shaft, means for supporting the shaft independent of the platen, a work holder blade mounted on the shaft and arranged in a plane different from that of the platen, a tension device connecting with the shaft and arranged to retain the blades in resilient engagement with the platen, means for raising the blades away from the platen, and means engaging the raising means to lock the same against the action of the tension device, substantially as described.

3. The combination with a flat platen, of a shaft, means for supporting the shaft independent of the platen, one or more blades mounted on the shaft and connected therewith and arranged in a plane different from that of the platen, a tension device arranged to rock the shaft and retain the blades in resilient engagement with the platen, means for raising the blades away from the platen, and means engaging the raising means to lock the same against the action of the tension device, substantially as described.

4. The combination with a flat platen, of a shaft, one or more blades having resilient connection with the shaft, and arranged in a plane different from that of the platen, and means for supporting the shaft with the blades and having a resilient engagement with the platen, means for tilting the blades away from the platen, and means engaging the tilting means and locking them tilted, substantially as described.

5. The combination with a flat platen, of a shaft, means for supporting the shaft independent of the platen, one or more work-holder blades mounted on the shaft, a tension device arranged to rock the shaft, means for operating said blades, and means engaging said operating means and locking them against operation of the tension device the blades being so disposed and operated as to effect resilient connection between themselves and the platen, substantially as described.

6. The combination with a flat platen, of a shaft, journal-blocks for the shaft, one or more work-holder blades mounted upon the shaft, a coiled spring operating to hold each work-holder blade in contact with the platen, means for tilting the blades, and means for holding them against the action of the spring, substantially as described.

7. The combination with a flat platen, of a blade, means for supporting the blade contiguous to but independent of the platen, a tension device arranged normally to retain the blade in resilient engagement with the platen, means for raising the blade from engagement with the platen, and means engaging said raising means for retaining the blade in the raised position, substantially as described.

8. The combination with a flat platen, of a blade, means for supporting the blade contiguous to but independent of the platen, a tension device arranged normally to retain the blade in resilient engagement with the platen, means for raising the blade from engagement with the platen, and means for retaining the blade in a plurality of raised positions, substantially as described.

9. The combination with a flat platen, of a plurality of blades, means for supporting the blades contiguous to but independent of the platen, a tension device arranged normally to retain the blades in engagement with the platen, and means for raising the blades from engagement with the platen, and means engaging said raising means for locking them against action of the tension device, substantially as described.

10. The combination with a flat platen, of a blade, means for supporting the blade contiguous to but independent of the platen, a tension device arranged normally to retain the blade in engagement with the platen, means for raising the blade from engagement with the platen, and means for automatically and rigidly locking the blade in the raised position, and means for releasing the blade from its locked position, substantially as described.

11. The combination with a flat platen, of a blade, means for supporting the blade contiguous to but independent of the platen, a tension device arranged to normally retain the blade in engagement with the platen, means for raising the blade from engagement with the platen, means for rigidly locking the blade in the raised position, and independent means for tripping the blade from the locked position and permit it to be returned to engagement with the platen by the tension device, substantially as described.

12. The combination with a tiltable flat platen, of a blade, means contiguous to one edge of the platen but independent thereof disposed independent of the platen for supporting the blade contiguous to but independent of the platen, a tension device constructed to engage the supporting means and the blade and arranged to retain the blade normally in resilient engagement with the platen, and means, operable independent of the blade-supporting means, for tilting the blade out of its normal position, substantially as described.

13. The combination with a tiltable flat platen, of a blade, means independent of the platen for supporting the blade contiguous thereto, a tension device arranged normally to retain the blade in resilient engagement with the platen, means operable independent of the blade-supporting means for tilting the blade free from and out of the path of tiltable movement of the platen, and means for holding the blade in its tilted position, substantially as described.

14. The combination with a flat platen arranged to be tilted, of a blade, means for supporting the blade independent of the platen, a tension device arranged to retain the blade in engagement with the platen, and means for raising the blade from engagement with the platen and thereby permit the platen to be tilted, and means for locking the blade in the said raised position, substantially as described.

15. The combination with a flat platen, of a shaft, means for supporting the shaft at its extremities, a plurality of blades mounted on the shaft and connected therewith, a tension device arranged to cause the blades to have a resilient engagement with the platen, and arms arranged to support the shaft on the lower side intermediate said blades, substantially as described.

16. The combination with a flat platen, of a shaft, means for supporting the shaft at its extremities, one or more blades mounted on the shaft, a resilient connection between the blades and the shaft arranged to cause the blades to have a resilient engagement with the platen, and one or more arms arranged to support the shaft on the lower side at intermediate portions, substantially as described.

17. The combination with a flat platen, of a frame, one of said members being movable bodily relative to the other in a direction parallel with the surface of the platen, a shaft having one end held stationary relative to the platen, one or more blades connected with the shaft and held thereby in engagement with the platen, means on the said frame for supporting the other end of the shaft and permitting a relative axial movement of the shaft and supporting member of the frame, substantially as described.

18. The combination with a flat platen, of a frame, one of said members being movable bodily relative to the other in a direction parallel with the surface of the platen, a shaft having one end held stationary relative to the platen, one or more blades connected with the shaft and normally held thereby in engagement with the platen, means on the said frame for supporting the other end of the shaft and permitting a relative axial movement of the shaft and supporting portion of the frame, and means on the said supporting portion arranged to rotate the shaft in its several said latter relative positions, substantially as described.

19. The combination with a flat platen, of a frame, one of said members being movable bodily relative to the other in a direction parallel with the surface of the platen, a shaft having one end held stationary relative to the platen, one or more blades having a resilient connection with the shaft and normally held thereby in engagement with the platen, means on said frame for supporting the other end of the shaft and permitting a relative axial movement of the shaft and supporting portion of the frame, means on the said supporting portion of the frame arranged to rock the shaft and raise the blade from the platen, and means on the supporting portion for locking the shaft in the raised position, substantially as described.

20. The combination of a support member, a track-frame slidably mounted on the support member, a flat platen, a shaft having one end secured to said support member, and the other end slidably supported in said frame, one or more blades connected with the shaft and normally held thereby in engagement with the platen, and means on the frame for rocking the shaft and raising the blade from the platen, substantially as described.

21. The combination of a support member, a tiltable flat platen, a track-frame slidable on said support member and normally surrounding the platen, a shaft having one end secured to said support member and its other end slidably supported in said track-frame, one or more blades connected with the shaft and normally held thereby in engagement with the platen, and means on the said frame for rocking the shaft and raising the blade to permit the platen to be raised, substantially as described.

22. The combination with a flat platen, of a frame, one of said members being movable bodily relative to the other, a shaft having one end held stationary, relative to the platen, one or more blades connected with the shaft and normally held thereby in engagement with the platen, a tubular bolt rotatably mounted on the said frame, said shaft having its other end slidably supported in the bore of said bolt and arranged to be rotated by the bolt in its several relative positions therein, and an operating-lever connecting with the bolt, substantially as described.

23. The combination with a flat platen, of a work-holder blade, means for supporting the blade, means for rotating the blade-support, means for locking the same in an adjusted position, and independent means for unlocking the same to cause the blade to contact with the platen, substantially as described.

24. The combination with a flat platen, a shaft, one or more work-holder blades carried by the shaft and normally held in engagement with the platen, a tubular member rotatably mounted and supporting one end of the shaft, a lever connecting with the shaft to operate the same, means for locking the shaft in one of a plurality of adjusted positions, and means for unlocking the same, and means for normally holding the blades in resilient engagement with the platen, substantially as described.

25. The combination with a flat platen, of a frame, one of said members being movable bodily relative to the other, a shaft having one end held stationary relative to the platen when the latter is in the normal position, one or more blades connected with the shaft, a tension device arranged to rock the shaft and normally retain the blades in resilient engagement with the platen, a tubular bolt rotatably mounted on the said frame, said shaft having its other end slidably supported in the bore of the bolt and arranged to be rotated by the bolt in its several relative positions therein, an operating-lever secured to the bolt and arranged to rock the same and thereby raise the blades from the platen, substantially as described.

26. The combination with a flat platen, a shaft, a tubular member in which one end of said shaft is inserted, the said shaft being constructed to permit a slidable movement thereon of the tubular member while the shaft remains stationary, a lever device connecting with the shaft to rotate the same for tilting the blades away from the platen, the lever being provided with locking-shoulders and a locking-pawl for engaging the locking-shoulders to hold the shaft when rotated, and means carried by the pawl for operating the same to disengage it from the locking-shoulders, and containing means serving to depress the blades when released from the locking means, substantially as described.

27. The combination with a flat platen, of a work-holder blade arranged in a plane different from that of the platen, means for supporting the blade, independent of the platen, a tension device connecting with the blade-support and operating and arranged to retain the blade in resilient engagement with the platen, means for raising the blade away from the platen, and means engaging said raising

means to lock the same in a plurality of positions against action of the tension device, substantially as described.

28. The combination with a flat platen, of a shaft, means for supporting the shaft independent of the platen, a work-holder blade mounted on the shaft and arranged in a plane different from that of the platen, a tension device connecting with the shaft and arranged to retain the blade in resilient engagement with the platen, means for raising the blade away from the platen, and means engaging said raising means to lock the same in a plurality of positions against action of the tension device, substantially as described.

29. The combination with a flat platen, of a shaft, means for supporting the shaft independent of the platen, one or more blades mounted on the shaft and connected therewith and arranged in a plane different from that of the platen, a tension device arranged to rock the shaft and retain the blades in resilient engagement with the platen, means for raising the blade away from the platen, and means engaging said raising means to lock the same in a plurality of positions against action of a tension device, substantially as described.

30. The combination with a flat platen, of a shaft, means for supporting the shaft independent of the platen, one or more blades having resilient connection with the shaft and arranged in a plane different from that of the platen, means for supporting the shaft with the blades and having a resilient engagement with the platen, means for tilting the blades away from the platen, and means for engaging the tilting means and locking them tilted in one of a plurality of positions, substantially as described.

31. The combination with a flat platen, of a shaft, means for supporting the shaft independent of the platen, one or more work-holder blades mounted on the shaft, a tension device arranged to rock the shaft, means for tilting the blades away from the platen, and means for engaging the tilting means and locking them tilted in one of a plurality of positions, the blades being so disposed and operated as to effect resilient connection betwen themselves and the platen, substantially as described.

32. The combination with a flat platen, of a blade, means for supporting the blade contiguous to but independent of the platen, a tension device arranged normally to retain the blade in resilient engagement with the platen, means for raising the blade from engagement with the platen, and means engaging said raising means for retaining the blade in one of plurality of raised positions, substantially as described.

33. The combination with a flat platen, of a plurality of blades, means for supporting the blades contiguous to but independent of the platen, a tension device arranged normally to retain the blades in engagement with the platen, means for raising the blades from engagement with the platen, and means engaging said raising means for locking it in a plurality of positions against action of the tension device, substantially as described.

34. The combination with a flat platen, of a blade, means for supporting the blade contiguous to but independent of the platen, a tension device arranged normally to retain the blade in engagement with the platen, means for positioning the blade in one of a plurality of retained, raised positions, and means for automatically and rigidly locking the blade in one of said raised positions, substantially as described.

35. The combination with a flat platen, of a blade, means for supporting the blade contiguous to but independent of the platen, a tension device arranged to normally retain the blade in engagement with the platen, means for raising the blade from engagement with the platen, means for rigidly locking the blade in one of a plurality of positions, and means for tripping the blade from the locked position and permit it to be returned to engagement with the platen by the tension device, substantially as described.

36. The combination with a flat platen, of a blade, means for supporting the blade contiguous to, but independent of the platen, a tension device arranged to retain the blade in engagement with the platen, means for raising the blade away from the platen, and means engaging said raising means to lock the same in a plurality of positions against action of the tension device, substantially as described.

37. The combination with a flat platen arranged to be tilted, of a blade, means for supporting the blade contiguous to, but independent of the platen, means for normally retaining the blade in engagement with the platen, means for raising the blade from engagement with the platen and thereby permit the platen to be tilted, and means for locking the blades in one of a plurality of positions, substantially as described.

38. The combination with a flat platen, of a work-holder blade, means for supporting the blade contiguous to but independent of the platen, means for rotating the blade-support, means for locking the same in one of a plurality of adjusted positions, and independent means for unlocking the same to cause the blade to contact with the platen, substantially as described.

39. The combination with a flat platen, of a tiltable work-holding blade coöperating therewith, means for supporting the blade independent of the platen, tensioning means for retaining the blade in engagement with the platen, and an automatic locking device for retaining the blade against the action of said tensioning means at a plurality of elevations above the platen.

40. The combination with a flat platen of a tiltable work-holding blade coöperating therewith, means for supporting the blade independent of the platen, a spring operating normally to retain the blade in engagement with the platen, operating means for tilting the blade away from the platen, and an automatic locking device arranged to engage with said operating means to retain the blade against the action of the spring at a plurality of elevations above the platen.

41. The combination with a flat platen, of a tiltable work-holding blade coöperating therewith and having depending guiding and gaging means, means for supporting the blade independent of the platen, a spring operating normally to retain the blade in engagement with the platen, and an automatic locking device operative upon slight elevation of the blade to retain the same against the action of the spring with said guiding and gaging means in operative position, said locking device being also operative to secure the blade at a greater elevation with said guiding and gaging means raised away from the work.

42. The combination with a tiltable flat platen, of a tiltable work-holding blade coöperative therewith and having depending guiding and gaging means, a spring operating normally to retain the blade in engagement with the platen, and an automatic locking device operative upon slight elevation of the blade to retain the same against the action of the spring with said guiding and gaging means in operative position, said locking device being also operative to secure the blade at a greater elevation to permit raising of the platen.

43. The combination with a tiltable flat platen, of a tiltable work-holding blade coöperating therewith, a spring operating normally to retain the blade in engagement with the platen, and an automatic locking device operative upon slight elevation of the blade to lock the same against the action of the spring to permit shifting of the work upon the platen, said locking device being also operative to secure the blade at a greater elevation to permit raising of the platen.

44. The combination with a flat platen, of a tiltable work-holding clamp supported adjacent to and coöperating with the platen and means carried by and depending from the work-holder for guiding work disposed on the platen, said work-holder being pivoted parallel to said guiding means.

45. The combination with a flat platen, of a work-holding clamp coöperating with the platen, means depending from and carried by the work-holder for guiding work upon the platen, and a pivot member for said clamp disposed parallel to said guiding means.

46. The combination with a flat platen, of a tiltable work-holding clamp, means carried by and depending from the clamp for guiding work upon the platen, and a frame contiguous to the platen upon which said clamp is pivoted parallel to said guiding means.

47. The combination with a flat platen, of a tiltable work-holding clamp, a frame contiguous to the platen, a pivot member for said clamp mounted upon said frame, and paper-guiding means depending from the clamp and disposed parallel to said pivot.

48. The combination with a flat platen, of a combined work-holding clamp and work-guide disposed contiguous to and coöperating with one longitudinal edge of the platen, and a longitudinally-arranged pivot for said member to permit the tilting thereof away from the platen.

49. The combination with a flat platen, of a rod disposed parallel and adjacent to one longitudinal edge of the platen, and a combined work-holding clamp and guide pivotally supported by said rod and coöperating with the platen.

50. The combination with a flat platen, of a tiltable work-holding clamp coöperating with the platen, means depending from said clamp for guiding and gaging work longitudinally of the platen, and a track-frame upon which said clamp is pivoted parallel to said guiding means.

51. The combination with a flat platen, of a work-holding clamp coöperating with the platen, paper-guiding means depending from the clamp, a pivot for said clamp disposed parallel to said guiding means, and means for elevating said clamp to position said guiding means for operation.

52. The combination with a flat platen, of a movable work-holding clamp, a support therefor, means carried by by the clamp for guiding the work when said clamp is elevated, means for elevating said clamp to position said guiding means for operation, and means for locking said clamp in its elevated position to maintain the guiding means in operative position, substantially as described.

53. The combination with a flat platen, of a movable work-holding clamp, a support therefor, means carried by the clamp for guiding the work when said clamp is elevated, means for elevating said clamp to position said guiding means for operation, means for locking said clamp in its elevated position to maintain the guiding means in operative position, and means for releasing the locking means, substantially as described.

54. The combination with a flat platen, of a movable work-holding clamp, a support therefor, means carried by the clamp for guiding the work when said clamp is elevated, means for elevating said clamp to position said guiding means for operation, means for locking said clamp in its elevated position to maintain the guiding means in operative position, means for releasing the locking means, and means for effecting return of the clamp to its normal clamping position, substantially as described.

55. The combination with a flat platen, of a work-holding clamp coöperating with the platen, paper-guiding means depending from the clamp, a pivot for said clamp arranged parallel to said guiding means, means for elevating said clamp to position said guiding means for operation, and means for effecting return of the clamp to normal clamping position.

56. The combination with a flat platen, of a movable work-holding clamp, a support therefor, means carried by the clamp for guiding the work when said clamp is elevated, means for elevating said clamp to position said guiding means for operation, and means for locking said clamp, when elevated, in one of a plurality of positions, substantially as described.

57. The combination with a flat platen and a movable frame, of a work-holding clamp coöperating with the platen, paper-guiding means depending from the clamp, and a pivot for said clamp carried by the frame parallel to said paper-guiding means.

58. The combination with a flat platen, of a support member, a movable track-frame slidably supported at its rear end on said support member, and a work-holding clamp coöperating with the platen to secure the work-sheet thereto and arranged to remain stationary against the platen when the track-frame is slidingly moved, substantially as described.

59. The combination with a flat platen, of a support member, a movable track-frame slidably supported at its rear end on said support member, a work-holding clamp coöperating with the platen to secure the work-sheet thereto and arranged to remain stationary against the platen when the track-frame is slidingly moved, and means carried by the work-holding clamp for guiding the work on the platen, substantially as described.

60. The combination with a flat platen, of a support member upon which the platen is supported at its rear end, a track-frame horizontally adjustable at its rear end upon said support member, a bracket carried by said support member, a work-holder clamp bearing normally upon the platen and having its rear end movably supported in said bracket and permitting said clamp to remain stationarily in contact with the clamp when the track-frame is horizontally adjusted, substantially as described.

61. The combination with a flat platen, of a support member, a movable track-frame horizontally adjustably supported on said support member, a work-holding clamp non-adjustable horizontally, but otherwise movable with said track-frame, substantially as described.

62. The combination with a flat platen and a track frame, one slidable relative to the other, a clamping-guide having engagement with the platen and remaining stationarily in such engagement when the horizontal relation of the platen and track-frame is changed, substantially as described.

63. The combination with a flat platen and a movable track-frame, a support member slidably supporting said track member, a clamping work-holder having one end secured to said support member, and means carried by the track-frame for slidingly holding the opposite end of said clamp, substantially as described.

64. The combination with a flat platen and a movable track-frame, a support member slidably supporting said track member, a clamping work-holder having one end secured to said support member, means carried by the track-frame for slidingly holding the opposite end of said clamp, and means for tilting said work-holder to one of a plurality of upraised positions, substantially as described.

65. The combination with a flat platen and a horizontally-slidable frame, of a work-holding clamp, normally in engagement with but supported independent of, and above the plane of, the platen and stationary against the sliding movement of the frame.

66. The combination with a flat platen and a horizontally-slidable frame, of a work-holding clamp connecting with the frame, normally in contact with the platen and stationary against horizontal movement of the same, but vertically movable away from the platen.

67. The combination with a flat platen and a horizontally-slidable frame, of a work-holding clamp, normally in engagement with the platen and stationary against the sliding movement of the frame, means for moving the clamp away from the platen, means for locking the same in a plurality of upraised positions, and independent means for unlocking the same.

68. The combination with a flat platen and a horizontally-slidable frame, of a work-holding clamp, normally in engagement with the platen and stationary against the sliding movement of the frame, means for moving the clamp away from the platen, means for locking the same in a plurality of upraised positions, independent means for unlocking the same, and guiding means carried by the work-holder clamp.

69. The combination with a flat platen and a horizontally-slidable frame, of a work-holding clamp, normally in engagement with the platen and stationary against the sliding movement of the frame, and guiding means carried by the clamp.

70. The combination with a flat platen, of a frame movable relative to the platen, a work-holder pivoted to said frame, and means for tilting said work-holder irrespective of the position of the frame, substantially as described.

71. The combination with a tiltable flat platen, of a frame inclosing and free from the platen and movable relative thereto, and a work-holder coöperating with the platen and pivoted on said frame so as to be movable out of the path of the platen independently of the movement or position thereof, substantially as described.

72. The combination with a tiltable flat platen, of a

frame inclosing and free from the platen and movable relative thereto, a work-holder coöperating with the platen and pivoted on the frame, and means for tilting said work-holder out of the path of the platen independently of the movement of the frame, substantially as described.

73. The combination with a flat platen, a track-frame disposed contiguous to said platen, the platen and track-frame being horizontally adjustable one with relation to the other, and a work-holder constructed and arranged to bear upon the platen, the work-holder, the platen, and the work carried thereby, always being maintained in the same operable relation, substantially as described.

74. The combination with a tiltable flat platen, a track-frame disposed contiguous to said platen, the platen and track-frame being horizontally adjustable one with relation to the other, and a work-holder constructed and arranged to bear upon the platen, the work-holder, the platen, and the work carried thereby, always being maintained in the same operable relation, substantially as described.

75. The combination with a tiltable flat platen, a movable track-frame disposed contiguous to said platen, the platen and track-frame being horizontally adjustable one with relation to the other, and a work-holder constructed and arranged to bear upon the platen, the work-holder, the platen, and the work carried thereby, always being maintained in the same operable relation, substantially as described.

76. The combination with a flat platen, a track-frame disposed contiguous thereto, and a work-holder arranged to bear upon the platen, the work-holder, the platen, and the work carried thereby, being always maintained in the same operable relation, substantially as described.

77. The combination with a flat platen, of a movable longitudinal track-frame, and a work-holding clamp coöperating with the platen and pivoted to said frame and tiltable independently of the movement of the frame, substantially as described.

78. The combination with a flat platen, of a movable frame, and a combined work-holder and guide coöperating with the platen and pivoted to the frame and tiltable independently of the movement and position of the frame, substantially as described.

79. The combination with a flat platen, of a movable frame, a work-clamp coöperating with the platen and pivoted to the frame, and tiltable independently of the movement and position of the frame, and work-guiding means depending from said clamp, substantially as described.

80. The combination with a tiltable flat platen, of a movable track-rail disposed at one side of and free from the platen, a work-holder coöperating with the platen and pivoted on said track-rail, and means for tilting said work-holder out of the path of the tiltable platen independently of the movement and position of the track-rail, substantially as described.

81. The combination with a tiltable flat platen, of a movable track-rail disposed at one side of and free from the platen, a combined work-holder and guide coöperating with the platen, and means for tilting said work-holder out of the path of the platen independently of the movement of the track-rail, substantially as described.

82. The combination with a flat platen, of a supporting element, a track-rail longitudinally slidable on said supporting element, and a work-holder mounted on said element and having movement in a direction different from that of the track-rail.

83. The combination with a flat platen, of a supporting element, a track-rail longitudinally adjustable on said supporting element, and a longitudinally-disposed work-holder coöperating with the platen and mounted at its rear end upon said supporting element and telescopically connected at its front end with the track-rail, substantially as described.

84. The combination with a flat platen, of a supporting element, a track-rail longitudinally adjustable on said supporting element, and a longitudinally-disposed work-holder coöperating with the platen and pivoted at its rear end upon said supporting element and telescopically and pivotally connected at its front end with the track-rail, substantially as described.

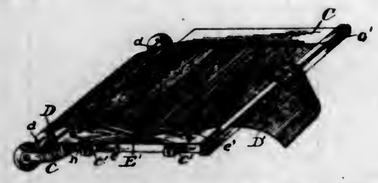
85. The combination with a flat platen, of a supporting element, a track-frame longitudinally adjustable on said element, and a longitudinally-disposed work-holder coöperating with the platen and mounted at its rear end upon said element and telescopically mounted at its front end in said track-frame, and stationary with the platen during the longitudinal adjustment of the track-frame, substantially as described.

86. In a type-writer, the combination of a tiltable flat platen, and a tiltable work-holder coöperating therewith and having a plurality of raised positions, the last of said positions permitting tilting of the platen past the work-holder.

87. In a type-writer, the combination of a tiltable flat platen, and a tiltable work-holder pivoted at one side of the platen and normally resting thereon, said work-holder having a plurality of raised positions and in the last of said positions clearing the platen to permit raising thereof.

88. In a type-writer, the combination of a flat platen pivoted at its rear, and a tiltable work-holder coöperating therewith and having a plurality of raised positions in which it is automatically retained, the last of said positions permitting tilting of the platen past the work-holder.

840,119. WORK-GUIDE FOR TYPE-WRITERS. GEORGE W. DONNING, East Orange, N. J., assignor to Harry T. Ambrose, Orange, N. J. Filed Feb. 14, 1903. Serial No. 143,424.



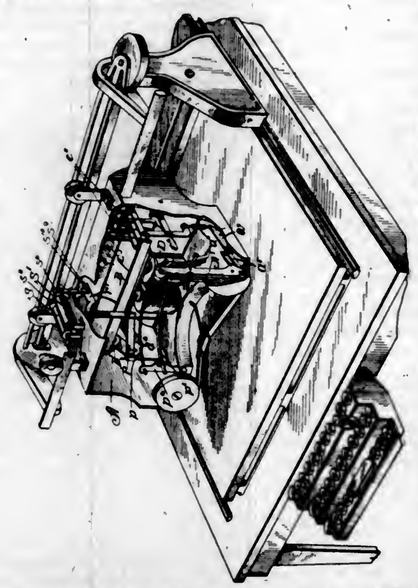
Claim.—In a type-writing machine, the combination with the platen, of a paper-roll, the lazy-tongs guiding device adjustable in a direction at right angles to the feed of the paper and pivoted to supports at one side of the platen, and composed of bars, having guide pins or projections at their inner ends, and one of said bars having a curved slot at its outer end and a set-screw therefor, whereby parallel movement of the guide-pins may be maintained, substantially as described.

840,120. ELECTRICAL TYPE-WRITER SELECTING AND OPERATING MEANS. GEORGE W. DONNING, East Orange, N. J., asignor to Harry T. Ambrose, Orange, N. J. Filed May 27, 1903. Serial No. 158,962.

Claim.—1. In an electrical type-writer, the combination with a series of movable members, and a source of electric current, of a universal power-bar, actuating means therefor, selective devices associated with the several movable members, and a selective operating device for each member constructed successively to complete the circuit from said source to energize the corresponding selective device and then to switch the current to energize the power-bar-actuating means.

2. In an electrical type-writer, the combination with a series of movable members, and a source of electric current, of a universal power-bar, an actuating-electromagnet therefor, selective electromagnets associated with the several movable members, and a selective operating device for each member constructed successively to complete the circuit from said source to energize the corresponding selecting-magnet and then to switch the current to energize the power-bar-actuating magnet.

3. In an electrical type-writer, the combination with a series of type-bars, and a source of electric current, of a universal power-bar, an actuating-electromagnet therefor, selective electromagnets associated with the several type-bars, and a selective operating-key for each type-bar constructed when depressed to energize the corresponding selecting-magnet and then to switch the current to energize the power-bar-actuating magnet.



4. In an electrical machine, the combination with a selecting and operating device, of a series of type-bar-movable members, a series of operating-levers arranged to operate the movable members respectively, a pair of links arranged to support each of said operating-levers, an armature-lever pivoted on one of each of said pair of links, an armature on each of said armature-levers, an electromagnet arranged to operate each of said armatures, a universal power-bar, an armature connected with the power-bar, an electromagnet arranged to move said armature and thereby rock the power-bar, a lug on each of said armature-levers and arranged to be moved into the path of movement of the power-bar when its armature is attracted by its engaging magnet, means for operating any one of the selecting-magnets, and means operating in succession to the selecting-magnet-operating means for energizing the magnet to rock the said power-bar, substantially as described.

5. In an electrical machine, the combination with a selecting and operating device, of a series of type-bar-movable members, a series of operating-levers arranged to operate the type-bar-movable members respectively, a pair of links arranged to support each of said operating-levers, an armature-lever pivoted on one of each of said pairs of links, an armature on each of said armature-levers, an electromagnet arranged to operate each of said armatures, a universal power-bar, an armature connected with the power-bar, an electromagnet arranged to move said armature and thereby rock the power-bar, a lug on each of said armature-levers and arranged to be moved into the path of movement of the power-bar when its armature is attracted by its engaging magnet, and means for first energizing the selecting-magnet and then successively energizing the power-bar-operating magnet, substantially as described.

6. In an electrical machine, the combination with a selecting and operating device, of type-bars carrying a plurality of characters, a member arranged to be shifted and thereby cause the proper character on each type-bar to occupy printing position when the type-bars are operated, and a universal power-bar, of means for causing the shiftable member to be shifted by the movement of said power-bar, said selecting and operating device comprising means arranged to be projected to a plurality of operating positions and constructed, when it is in its initial position, to effect selection of a printing type-bar and, then, when in a second operating position, to effect operation of said power-bar, substantially as described.

7. In an electrical machine, the combination with a selecting and operating device, of type-bars carrying a plurality of characters, a member arranged to be shifted and thereby cause the proper character on each type-bar to occupy printing position when the type-bars are operated, and a universal power-bar, of means for causing the shiftable members to be shifted by a normal movement of said power-bar, said selecting and operating device comprising means arranged to be projected to a plurality of operating positions and constructed, when in its initial position, to effect selection of a printing type-bar and, then, when in a second operating position, to effect operation of said power-bar, substantially as described.

8. In an electrical machine, the combination with a selecting and operating device, of a member arranged to be shifted and thereby cause different characters to be printed when the keys are operated, and a universal power-bar, of means for causing the shiftable member to be shifted from its normal position by the movement of the power-bar, means for locking said member in its shifted positions, and means for returning said member to its normal position, substantially as described.

9. In an electrical machine, the combination with a selecting and operating device, of a set of type-bar members, each carrying a plurality of type, a member arranged to be shifted and thereby cause the different type on the keys to print when the type-bar is operated, a universal power-bar, and means for causing the shiftable member to be shifted by the movement of the power-bar, substantially as described.

10. In an electrical machine, the combination with a selecting and operating device, of a set of type members, each carrying a series of type, a shiftable type-head-shifting member arranged to be shifted and thereby cause different type on the type-bar to print when the type member is operated, a universal power-bar, and means for causing the shiftable member to be shifted by the movement of the power-bar, said selecting and operating device comprising means arranged to be projected to a plurality of operating positions and constructed, when projected to its initial operating position, to effect a selection and, when projected to its second operating position, to effect operation of the power-bar, substantially as described.

11. In an electrical machine, the combination with a selecting and operating device, of a type-carrying member arranged to be shifted and thereby cause different characters to be printed when the keys are operated, a shiftable type-head-actuating member, a universal power-bar, an electromagnet arranged to operate the power-bar, means for causing the shiftable member to be shifted by the movement of the power-bar, an electromagnet for controlling said latter means, and an operating-key arranged to be projected to a plurality of operating positions and constructed, when projected to its initial operating position, to cause said latter magnet to be energized and then successively, when projected to a second operating position, to cause the said other magnet to be energized, substantially as described.

12. In an electrical machine, the combination with a selecting and operating key device, of a shiftable type-carrying member arranged to be shifted to a series of positions and thereby cause different characters to be printed when the key device is operated, a shiftable type-head-actuating member, a universal power-bar, means for carrying the actuating member to be shifted from it normal position a certain distance to a different position by the movement of said power-bar, and means operating successively for causing the actuating member to be shifted by said power-bar a certain additional distance to a still different position, the said key device comprising means arranged to be projected to its initial operating position, to effect a selection and, when projected to its second operating position, to effect operation of said power-bar, substantially as described.

13. In an electrical machine, the combination with a selecting and operating key device, of a shiftable type-carry-

ing member arranged to be shifted to a series of positions and thereby cause different characters to be printed when the key device is operated, a shiftable type-head-actuating member, a universal power-bar, an electromagnet arranged to operate said power-bar, means for carrying the actuating member to be shifted from its normal position a certain distance to a different position by the movement of said power-bar, an electromagnet arranged to control said last-mentioned means, means operating successively for causing the actuating member to be shifted by said power-bar a certain additional distance to a still different position, and an electromagnet arranged to control said shifting means, the said key device comprising means arranged to be projected to its initial operating position, to effect a selection and, when projected to its second operating position, to effect operation of said power-bar, substantially as described.

14. In an electrical machine, the combination with a selecting and operating key device, of a shiftable type-carrying member arranged to be shifted to a series of positions and thereby cause different characters to be printed when the key device is operated, a shiftable type-head-actuating member, a universal power-bar, an electromagnet arranged to operate said power-bar, means for carrying the actuating member to be shifted from its normal position a certain distance to a different position by the movement of said power-bar, an electromagnet arranged to control said last-mentioned means, an operating-key arranged to be projected to a plurality of operating positions and, when projected to its initial operating position, first to cause said first-mentioned magnet to be energized and, thereupon, successively, when projected to its second operating position, to cause the power-bar magnet to be energized, and a second operating-key arranged first to cause the second-mentioned shift-controlling magnet to be energized and thereupon, successively, to cause the power-bar magnet to be energized, substantially as described.

15. The combination of a rock-shaft, a shiftable member arranged to be shifted by the oscillation of said shaft, a lever secured to said shaft, a lever having one end pivotally connected with said lever and having a slotted portion in its other extremity, an electromagnet, an armature-lever arranged to be engaged by said magnet and having a slotted portion by which it is pivotally supported, a retractile spring connected to said armature-lever and tending to retain it with its pivot at one extremity of said slot, a pin on the other extremity of said armature-lever and engaging said slotted lever at its slotted portion, a universal power-bar, means for rocking the power-bar, said armature-lever having a foot arranged to be moved into the path of movement of said power-bar when the armature-lever is attracted by its magnet, substantially as described.

16. The combination of a rock-shaft, a shiftable member arranged to be shifted by the oscillation of said shaft, a lever secured to said shaft, a lever having one end pivotally connected with said lever and having a slotted portion in its other extremity, an electromagnet, an armature-lever arranged to be engaged by said magnet and having a slotted portion by which it is pivotally supported, a retractile spring connected to said armature-lever and tending to retain it with its pivot at one extremity of said slot, a pin on the other extremity of said armature-lever and engaging said slotted lever at its slotted portion, a universal power-bar, means for rocking the power-bar, said armature-lever having a foot arranged to be moved into the path of movement of said power-bar when the armature-lever is attracted by its magnet, a segment-bar secured to said shaft and containing notches in its periphery, a notched lever arranged to engage the notched portion of the segment when the lever has been rocked and lock the shaft in this position, an armature on said latter lever, an electromagnet arranged to rock said latter lever and cause it to release the said segment and shaft, substantially as described.

17. The combination of a rock-shaft, a shiftable member arranged to be shifted when the shaft is oscillated, a pair of arms secured to said shaft, a pair of levers each pivotally connected with one of said arms, each of said levers having a slotted portion in its other extremity, an electromagnet, an armature-lever arranged to be rocked by said magnet, said armature-lever having a slotted portion at which it is pivotally supported, a retractile spring connected to said armature-lever, a pin on said armature-lever arranged to engage one of said slotted levers at its slotted portion, a power-bar, means for rocking the power-bar, a foot on said armature-lever arranged to be moved into the path of movement of the power-bar when said armature-lever is rocked by its magnet, a second electromagnet, a second armature-lever arranged to be rocked by the second electromagnet, said latter lever having a slotted portion at which it is pivotally supported, a spring arranged to retract said second armature-lever, a pin on said second armature-lever arranged to engage said other slotted lever at its slotted portion, a foot on said second armature-lever arranged to be moved into the path of movement of said power-bar when the armature-lever is rocked by its magnet, said armature-levers having their respective feet so relatively arranged that they will be rocked different distances by the normal movement of the power-bar, substantially as described.

18. The combination of a rock-shaft, a lever secured to said shaft, a shiftable member arranged to be shifted by said shaft when oscillated, a lever secured to said shaft, a pivoted lever connected with said latter lever at one end and having a slotted portion at its other end, an electromagnet, an armature-lever arranged to be rocked by said magnet, said armature-lever having a slotted portion at which it is pivoted, a retractile spring connected to said armature-lever, a pin on said armature-lever arranged to engage said sloted lever at its slotted portion, a universal power-bar, a second electromagnet arranged to operate said power-bar, a foot on said armature-lever arranged to be brought into the path of movement of said power-bar when the armature-lever is rocked by its magnet, a source of electricity, a circuit including said current source and said first electromagnet, a circuit including said current source and said power-bar-operating magnet, and a switch arranged first to close the first-mentioned circuit and thereafter close the last-mentioned circuit, substantially as described.

19. In an electrical type-writer, the combination with a series of movable members, and a source of electric current, of a universal power-bar, actuating means therefor, selective devices associated with the several movable members, a selective operating device for each member constructed successively to complete the circuit from said source to energize the corresponding selective device and then to switch the current to energize the power-bar-actuating means, and means carried by the several movable members for retaining them in operative relation to the power-bar while being actuated thereby.

20. The combination of a series of type-carrying members, a series of operating-levers arranged to operate said members respectively, a pair of parallel links pivotally supported at one end and pivotally supporting said levers at the other end, an armature-lever pivoted on one of each of said pair of links, an armature on each of said armature-levers, an electromagnet arranged to operate each of said armatures, a universal power-bar, an armature connected with the power-bar, an electromagnet arranged to move said armature and thereby rock the power-bar, a hook-shaped lug on each of said armature-levers and arranged to be moved into the path of movement of the power-bar when its armature is attracted by its engaging magnet, means for operating any one of the selecting-magnets, and means for energizing the magnet successive to the operation of the selecting-magnets, to rock the said power-bar, substantially as described.

21. The combination of a series of movable members, a series of operating-levers arranged to operate the members respectively, a pair of parallel links pivotally supported at one end and pivotally supporting said levers at the other end, an armature-lever connected with each of the movable members, an armature on each of said armature-levers, an electromagnet arranged to operate each of said armatures, a universal power-bar, an armature connected with the power-bar, an electromagnet arranged to move said armature and thereby rock the power-bar, a hook-shaped lug on each of said armature-levers and arranged to be moved into the path of movement of the power-bar when its armature is attracted by its engaging magnet, and means operating successively for first energizing the selecting-magnet and thereupon energizing the power-bar-operating magnet, substantially as described.

22. In an electrical machine, the combination with certain moving parts and a series of latches, one connected with each said part, of a selecting-magnet arranged to control each said moving part, an operating-bar arranged to actuate the several moving parts each through its appropriate connecting-latch, an electromagnet arranged to actuate the said bar, a circuit, for the latter magnet, a circuit for each said selecting-magnet, a key for each selecting-magnet comprising a reciprocable striking member and a subjacent terminal member, each key being arranged to be projected to a plurality of operating positions and constructed, when projected to its initial operating position, to close the circuit including the appropriate selecting-magnet, and then successively when projected to a second operating position, to switch the current to the circuit of the bar-magnet, substantially as described.

23. In an electrical machine, the combination with a series of working parts, a series of selecting-magnets, each arranged to move one of said parts into a certain position, and an operating-bar, of an electromagnet arranged to engage and operate any of the said working parts that have been positioned by said magnet, a circuit for each selecting-magnet, a circuit for the bar-operating magnet, a key for each selecting-magnet, comprising a reciprocable striking member and a subjacent terminal member, said key to be projected to a plurality of operating positions and constructed, when depressed to its initial operating position, to close the circuit of the appropriate selecting-magnet and, upon further depression, to its second operating position to switch the current to and through the bar-operating magnet and thereby operate the bar, substantially as described.

24. In an electrical type-writer, the combination with a selecting and operating device, of a plurality of movable members, a power-bar, an operating member having a single movable terminal thereon, and a member carrying a plurality of terminals, one of said terminals connecting with selecting-magnets, and other of said terminals connecting with the operating device.

25. In an electrical type-writer, the combination with a selecting and operating device, of a plurality of movable members, a power-bar, an operating member having a single movable terminal thereon, and a member carrying a plurality of coöperating terminals, said terminals having a sliding engagement one with the other.

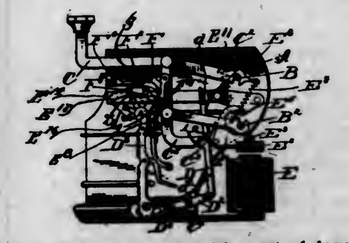
26. In an electrical machine, the combination with a selecting and operating device, of a type-carrying member arranged to be shifted to a series of positions and thereby cause different characters to be printed when the members are operated, of a universal power-bar, an electromagnet arranged to operate the power-bar, means for causing the shiftable member to be shifted from its normal position to another, predetermined position, by the movement of the power-bar, an electromagnet arranged to control said shifting means, and means arranged to be projected to a plurality of operating positions, and, when in its initial operating position, to position said shiftable member for actuation and, when in a second operating position, to operate said universal power-bar and effect its engagement with said shiftable member, substantially as described.

27. In an electrical machine, the combination with a selecting and operating device, of a series of movable members, a universal power-bar, and an operating member having a single terminal thereon, a stationary member having a plurality of terminals thereon, said single terminal-carrying member being arranged to have a plurality of operating positions and constructed to engage, in sequence, one and then the other of said plurality of terminals to establish distinct electrical circuits and operate said movable member and power-bar, respectively, and, then, break contact with the same to open the circuits, and a key device arranged to be projected to effect movement of the single terminal, substantially as described.

28. In an electrical machine, the combination with a selecting and operating device, of a series of movable members, a universal power-bar, an operating member having a single terminal thereon, a stationary member having a plurality of terminals thereon, said single terminal-carrying member being arranged to have a plurality of operating positions and constructed to engage, in sequence, one and then the other of said plurality of terminals to establish distinct electrical circuits and operate said movable member and power-bar, respectively, and, then, break contact with the same to open the circuits, a key device arranged to be projected to effect movement of the single terminal, and means for returning said key device to normal position, substantially as described.

29. In an electrical machine, the combination with a selecting and operating device and a series of movable members, of a universal power-bar, means for operating the power-bar, separate selecting means arranged to bring the movable members respectively into position to be engaged by the power-bar, when the latter is actuated, and controlling means for each of said movable members comprising a movable terminal arranged to be actuated to a plurality of operating positions, and a plurality of stationary terminals arranged in juxtaposition and in the path of movement of the movable terminal, electric connections between said terminals and said selecting means, and a single source of electrical supply, substantially as described.

840,121. ELECTRICAL TYPE-WRITER. GEORGE W. DONNING, East Orange, N. J., assignor to Harry T. Ambrose, Orange, N. J. Filed May 27, 1903. Serial No. 158,964.



Claim.—1. The combination with a set of downwardly-acting type-bars, operating-levers connected therewith, key-levers disposed adjacent thereto, coinciding abutting faces arranged on said operating and key levers for positioning the operating-levers in operative position, during movement of the key-levers, an operating-bar disposed to impinge upon said operating-levers, to depress the same when positioned, an electromagnet for actuating said operating-bar, and means operated by the further movement of the key-levers for establishing a circuit through the electromagnet to energize the same, and, by still further movement of said key-levers, for effecting a discontinuance of said circuit, and means for returning the operating-bar to operative position.

2. The combination with a set of downwardly-acting type-bars, operating-levers connected therewith, key-levers disposed adjacent thereto, coinciding abutting faces arranged on said operating and key levers for positioning the operating-levers in operative position, during movement of the key-levers, an operating-bar disposed to impinge upon said operating-levers, to depress the same when positioned, an electromagnet for actuating said operating-bar, and means operated by the further movement of the key-levers for establishing a circuit through the electromagnet to energize the same, and, by still further movement of said key-levers, for effecting a discontinuance of said circuit, and spring-actuated means for returning the operating-bar to operative position.

3. The combination with a set of downwardly-acting type-bars, operating-levers connected therewith, key-levers

disposed adjacent thereto, coinciding abutting faces arranged on said operating and key levers for positioning the operating-levers in operative position, during movement of the key-levers, an operating-bar disposed to impinge upon said operating-levers, to depress the same when positioned, an electromagnet for actuating said operating-bar, and means operated by the further movement of the key-levers for establishing a circuit through the electromagnet to energize the same, and, by still further movement of said key-levers, for effecting a discontinuance of said circuit, and means for effecting return of the operating-bar to normal position, substantially as described.

4. The combination with a set of type-bars and an individual selecting device for each of said type-bars, of a power-bar for operating all of said type-bars, and an electromagnet for actuating said power-bar; said selecting device comprising an operating-lever and a key-lever movable, first, and, in succession, to position the operating-levers into the path of actuation of the power-bar and, then, by continued movement to effect energizing of said electromagnet for actuation of said power-bar, and, finally, by further movement, to effect deënergizing of the said electromagnet to permit return of said power-bar; an abutting face disposed on said operating-lever, an arm on said key-lever juxtapositioned to said abutting face of the operating-lever, means for effecting impingement of said arm against the abutting face to position said operating-lever, a spring-actuated detent carried by the key-lever, and a rocker-lever disposed independent of the key-lever and, during movement of the key-lever, coöperating with the detent for effecting energizing of the electromagnet to actuate the power-bar, substantially as described.

5. The combination of a set of type-bars, a set of operating-levers each connected with one of said type-bars and arranged to operate one of the same when moved endwise, a stop on each of said levers, a power-bar, a cam-lug on each of said levers, a set of key-levers corresponding to said levers, an arm on each of the key-levers arranged to engage a cam-lug on one of the said operating-levers, and thereby rock the lever and bring its stop into position to engage the said power-bar, and means on the key-levers to operate said power-bar, substantially as described.

6. The combination of a set of type-bars, a set of operating-levers each connected with one of said type-bars and arranged to operate one of the same when moved endwise, a stop on each of said levers, cam-lug on each of said levers, a power-bar, a set of key-levers corresponding to but independent of the operating-levers, an arm on each of the key-levers arranged, during one part of movement of the key-levers to engage the cam-lug on one of said operating-levers and thereby rock the lever and bring its stop into position to engage the said power-bar, an electromagnet arranged to operate the power-bar, and a circuit-closer arranged to be operated by the key-lever upon the further movement of the same, after having rocked the operating-lever, and thereby cause the said magnet to be energized and move the power-bar, substantially as described.

7. The combination of a set of type-bars, a set of operating-levers each connected with one of said type-bars and arranged to operate one of the same when moved endwise, a stop on each of said levers, a cam-lug on each of said levers, a power-bar, a set of key-levers corresponding to the operating-levers, an arm on each of the key-levers arranged, during the first part of movement of the key-levers, to engage a cam-lug on one of said operating-levers and thereby rock the lever and bring its stop into position to engage said power-bar, an electromagnet arranged to operate the power-bar, and a circuit-closer arranged to be operated by the key-lever upon a continued movement of the same after having rocked the said operating-lever and thereby cause the said magnet to be energized and move the power-bar, said circuit-closer being arranged to be released upon a further movement of the key-bar, and also arranged not to be operated further upon the return movement of the key-bar, substantially as described.

8. The combination of a set of type-bars, a set of operating-levers, a pair of links pivoted to each of the operating-levers, a pair of shafts upon which said links are pivoted, a set of operating-levers each connected with one of said type-bars and arranged to operate one of the same when moved endwise, a stop on each of said levers, a power-bar, a cam-lug on each of said levers, a set of key-levers corresponding to said levers, an arm on each of the key-levers arranged, during the first part of movement of the key-levers, to engage a cam-lug on one of the said operating-levers, and thereby rock the lever and bring its stop into position to engage the said power-bar, and means on the key-levers arranged to cause a further movement after rocking said cam-lever to operate said power-bar, substantially as described.

9. The combination of a set of type-bars, a set of operating-levers each connected with one of said type-bars, and arranged to operate one of the same when moved endwise, a stop on each of said levers, a segment-shaped power-bar, means for movably supporting the power-bar so that it will remain substantially parallel with a given plane in its several positions, a cam-lug on each of said levers, a set of key-levers corresponding to said levers, an arm on each of the key-levers arranged to engage, during the first part of movement of the key-levers, a cam-lug on said operating-levers and thereby rock the lever and bring its stop into position to engage the said power-bar, and means on the key-levers arranged to cause, upon a further movement of the same after rocking said cam-lever, said power-bar to be operated, substantially as described.

10. The combination of a set of type-bars, a set of operating-levers each connected with one of said type-bars and arranged to operate one of the same when moved endwise, a stop on each of said levers, a power-bar, a cam-lug on each of said levers, a set of key-levers corresponding to said levers, an arm on each of the key-levers arranged to engage the cam-lug on one of the said operating-levers and thereby rock the lever and bring its stop into position to engage the said power-bar, an electromagnet, an armature connected with said power-bar and arranged to operate the same when attracted by its magnet, a notched detent pivoted on each of the key-levers, a series of terminal levers, each arranged to engage one of said detents, a series of terminals each arranged to be engaged by one of the said terminal levers, a beveled stop on each of said detents arranged to engage its appropriate terminal lever on the downward movement of the key-lever and thereby cause said terminals to engage after the said key-lever shall have moved its coacting operating-lever into position of engagement with the power-bar, said notched detent being arranged to be rocked upon a further depression of the key-bar and release said terminals, being also arranged to be rocked on the return movement of the key-lever to avoid the adjacent terminal lever, substantially as described.

11. The combination with a set of operating-levers, of a set of key-levers, each arranged for selecting a particular operating-lever, a magnetically-operated power-bar, means operating during the depression of the key-lever for positioning a selected operating-lever into the path of the power-bar, a power-bar magnet, means for energizing the power-bar magnet during the further depression of the key-lever, and, during an additional, continued depression of the power-bar, for deënerizing the power-bar magnet, independent of the movement of the power-bar, and independent means connecting with the operating-levers and constructed to return the same to normal position independent of the position and movement of the power-bar, substantially as described.

12. The combination with a set of operating-levers, of a set of key-levers, each arranged for selecting a particular operating-lever, a magnetically-operated power-bar, means operating during the depression of the key-lever for positioning a selected operating-lever into the path of the power-bar, a power-bar magnet, and means for energizing the power-bar magnet during the further depression of the key-lever, and, during an additional, continued depression of the power-bar, for deënergizing the power-bar magnet independent of the movement of the power-bar, the power-bar and the operating-levers being constructed and relatively arranged to permit return of the key-levers to normal position independent of the position and movement of the power-bar, and the key-lever being constructed to return to said normal position without again effecting energizing of the power-bar magnet, substantially as described.

13. The combination with a set of operating-levers, of a set of key-levers, each arranged for selecting a particular operating-lever, a magnetically-operated power-bar, means operating during the depression of the key-lever for positioning a selected operating-lever into the path of the power-bar, a power-bar magnet, means for energizing the power-bar magnet during the further depression of the key-lever, and, during an additional, continued depression of the power-bar, for deënergizing the power-bar magnet independent of the movement of the power-bar, and means for effecting return to normal position of the operating-levers, independent of the movement of the key-lever, substantially as described.

14. The combination with a set of operating-levers, of a set of key-levers, each arranged for selecting a particular operating-lever, a magnetically-operated power-bar, means for normally supporting the power-bar, means operating during the depression of the key-lever for positioning a selected operating-lever into the path of the power-bar, a power-bar magnet, means for energizing the power-bar magnet during the further depression of the key-lever, and, during an additional continued depression of the power-bar, for deënergizing the power-bar magnet independent of the movement of the power-bar, means for effecting return to normal position of the operating-levers independent of the movement of the key-levers, and means for effecting return of the key-lever to normal position without again energizing the power-bar magnet, substantially as described.

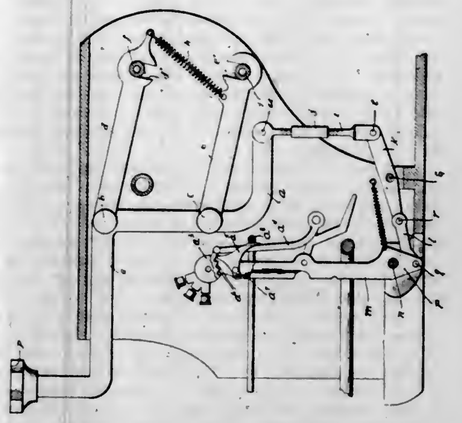
15. The combination with a series of pivoted type-bars and operating-levers connected therewith, of a set of movable key-levers for selecting a particular type-bar-operating arm, a magnetically-actuated power-bar arranged to operate a selected operating-lever to actuate a type-bar, an electric current-controlling device operated by each key-lever to effect closing and then opening of an electric circuit independent of the movement of the power-bar for operating and returning the selected operating-lever during the downstroke of the key-lever, and means constructed to return the type-bar to normal position after actuation independent of the return movement of the key-lever and type-bar-operating arm, substantially as described.

16. The combination with a series of pivoted type-bars and operating-levers connected therewith, of a set of movable key-levers for selecting a particular type-bar-operating arm, a magnetically-actuated power-bar arranged to operate a selected operating-lever to actuate a type-bar, an electric current-controlling device operated by each key-lever to effect closing and then opening of an electric circuit independent of the movement of the power-bar for operating and returning the selected operating-lever during the downstroke of the key-lever, and means for effecting return of the key-lever to normal position without again closing the electric circuit, substantially as described.

17. The combination with a set of operating-levers, of a set of key-levers, each arranged for selecting a particular operating-lever, a magnetically-operated power-bar, means operating during the depression of the key-lever for positioning a selected operating-lever into the path of the power-bar, a power-bar magnet, means for energizing the power-bar magnet during the further depression of the key-lever, and, during an additional, continued depression of the power-bar, for deënergizing the power-bar magnet independent of the movement of the power-bar, means for effecting return to normal position of the operating-levers independent of the movement of the key-levers, means for effecting return of the key-lever to normal position without again energizing the power-bar magnet, actuating type-bars, and means constructed to return the type-bars to normal position, after each actuation, independent of the return to normal position of the key-levers, substantially as described.

18. The combination with a set of operating-levers, of a set of key-levers, each arranged for selecting a particular operating-lever, a magnetically-operated power-bar, means operating during the depression of the key-lever for positioning a selected operating-lever into the path of the power-bar, a power-bar magnet, means for energizing the power-bar magnet during the further depression of the key-lever, and, during an additional, continued depression of the power-bar, for deënergizing the power-bar magnet independent of the movement of the power-bar, means for effecting return to normal position of the power-bar and the operating-levers independent of the movement of the key-levers, means for effecting return of the key-lever to normal position without again energizing the power-bar magnet, actuating type-bars, and means constructed to return each type-bar to normal position, after actuation, independent of the position of the power-bar, substantially as described.

840,122. TYPE-WRITER. GEORGE W. DONNING, East Orange, N. J., assignor to Harry T. Ambrose, Orange, N. J. Original application filed May 1, 1902, Serial No. 105,548. Divided and this application filed Oct. 26, 1903. Serial No. 178,603.



Claim.—1. In a writing mechanism, the combination of a key member provided with a striking-face, parallel supporting-links pivotally connected to said key member and inclined normally upward toward their points of connection therewith and constructed to maintain the striking-face of said key member in parallel planes during the entire movement thereof, a pivoted type-bar, and, between the type-bar and key member, an operating connection entirely distinct from said links.

2. In a writing mechanism, the combination of a key member provided with a striking-face, parallel supporting-links pivotally connected to said key member adjacent one end and inclined normally upward toward such ends and constructed to maintain the striking-face of said key member in parallel planes during the entire movement thereof, pivotal supports for the other ends of the links, a pivoted type-bar, and, between said type-bar and key member, an operating connection entirely distinct from said links.

3. In a writing mechanism, the combination of a key member provided with a striking-face, parallel supporting-links inclined normally and pivoted toward their upper ends to the key member and constructed to maintain the striking-face of said member in parallel planes during the entire movement thereof, pivotal supports for the other ends of the links, a pivoted type-bar, between said type-bar and the key-member-operating connection entirely distinct from the links, and resilient means connected with

said links and constructed to effect return of the parts to their normal position.

4. In a writing mechanism, the combination of a key member provided with a striking-face, link mechanism pivotally connected to said key member and provided with cut-out bearings, transverse rods constructed to fit in said cut-out bearings and constitute pivotal supports for said link mechanism, and means carried by said link mechanism for maintaining the same in position on the supporting transverse rods, substantially as described.

5. In a writing mechanism, the combination of a key member provided with a striking-face, link mechanism pivotally connected to said key member and provided with cut-out bearings, transverse rods constructed to fit in said cut-out bearings and constitute pivotal supports for said link mechanism, and a spring member carried by said link mechanism for maintaining the same in position on the supporting transverse rods, substantially as described.

6. In a writing mechanism, the combination of a key member provided with a striking-face, parallel links pivotally connected to said key member and provided with cut-out bearings, transverse rods constructed to fit in said cut-out bearings and constitute pivotal supports for said parallel links, and a spring member secured to said parallel links and constructed to maintain said cut-out bearings in position on their supporting transverse rods, substantially as described.

7. In a writing mechanism, the combination of a key member provided with a striking-face, parallel links pivotally connected to said key member and provided with cut-out bearings, transverse rods constructed to fit in said cut-out bearings and constitute pivotal supports for said parallel links, and a spring member connected to such parallel links at opposite sides of their pivotal supports, whereby said spring member will act to return the parts to their normal position upon release of the key member, substantially as described.

8. In a writing mechanism, the combination with an operating-key member having a striking-face, a plurality of links connecting with said operating member and constructed to maintain the striking-face of said member in parallel planes during the entire movement thereof, supporting members on which said links are pivoted and by which they are sustained, and a resilient member connecting with said links at opposite sides of their pivots.

9. In a writing mechanism, the combination with an operating-key member having a striking-face, a plurality of links connecting with said operating member and constructed to maintain the striking-face of said member in parallel planes during the entire movement thereof, supporting members on which said links are pivoted and by which they are sustained, and a resilient member connecting with said links at opposite sides of their pivots and independent of said link-supporting members.

10. In a writing mechanism, the combination with a type-bar, of an operating member having a striking-face and connecting therewith, a plurality of links arranged one parallel with another and each connecting with said operating member and constructed to maintain the striking-face of said member in parallel planes during the entire movement thereof, and resilient means connecting with each of said plurality of links and constructed to return the parts to their normal position upon release of said operating member.

11. In a writing mechanism, the combination with a type-bar, of an operating member having a striking-face and connecting therewith, a plurality of links arranged one parallel with another and each connecting with said operating member and constructed to maintain the striking-face of said member in parallel planes during the entire movement thereof, resilient means connecting with each of said plurality of links and constructed to return the parts to their normal position upon release of said operating member, and supporting means for said links disposed adjacent to the ends of said links.

12. In a writing mechanism, the combination with a type-bar, of an operating member having a striking-face and connecting therewith, a plurality of links arranged one parallel with another and each connecting with said operating member and constructed to maintain the striking-face of said member in parallel planes during the entire movement thereof, resilient means connecting with each of said plurality of links and constructed to return the parts to their normal position upon release of said operating member, and independent supports for each of said links.

13. In a writing mechanism, the combination with a type-bar, of an operating member having a striking-face and connecting therewith, a plurality of links arranged one parallel with another and each connecting with said operating member and constructed to maintain the striking-face of said member in parallel planes during the entire movement thereof, resilient means connecting with each of said plurality of links and constructed to return the parts to their normal position upon release of said operating member, and independent supports for each of said links, one end of said resilient means connecting with one end of one of said links, and the other end connecting intermediate of the ends of another of said links.

14. In a writing mechanism, the combination with a key member provided with a striking-face, a plurality of link members pivotally connected to said key member, and separate supports to which each of said link members is separately pivoted, the pivotal points of said link members adjacent the key member being normally in a plane above, but operable to a plane below, the plane of their pivotal points adjacent the supports, and a spring member connecting with said links at points at opposite sides, respectively, of their pivots adjacent said supports.

15. In writing mechanism, the combination with a type-bar, and a fulcrum-support therefor, of an operating member connecting with said bar, a plurality of links arranged one parallel with another and each connecting with said operating member, a spring element having one end connecting with one of said links adjacent its end and having its other end connecting with another of said links intermediate of its ends, and supporting means upon which said links rest.

16. In writing mechanism, the combination with a type-bar, of an operating member, an intermediate connecting element, said operating member being formed with a plurality of horizontally-extending sections and a vertical, connecting-section, one of said horizontally-extending sections carrying a striking-face and the other pivotally engaging said intermediate connecting element, of parallel links engaging the vertical, connecting-link of said operating member, and a resilient element connecting with said links.

17. In a writing-machine, the combination with an operating-key member, provided with a striking-face, of link mechanism constructed to support said key member and arranged to maintain the striking-face of said member in parallel planes during the entire movement thereof, a type-bar, and mechanism connecting said key member and type-bar for operating the bar upon actuation of the key member, said connecting mechanism constructed and arranged to prevent rebound of said type-bar from its normal position after return thereto following actuation of said link-supported key member.

18. In a writing-machine, the combination with an operating-key member, provided with a striking-face, of link mechanism constructed to support said key member and arranged to maintain the striking-face of said member in parallel planes during the entire movement thereof, a type-bar, and mechanism connecting said key member and type-bar for operating the bar upon actuation of the key member, said connecting mechanism constructed and arranged to effect automatic locking of the type-bar in its normal position and to prevent rebound of said bar until unlocked by depression of the link-supported key member.

19. In a writing-machine, the combination with an operating-key member, provided with a striking-face, of link mechanism constructed to support said key member and arranged to maintain the striking-face of said member in parallel planes during the entire movement thereof, a type-bar, a sublever, a link connecting said sublever and type-bar, and a link connecting said sublever and key member, the said sublever and its connecting-link constructed and arranged to effect automatic locking of the type-bar in its normal, upright position and to prevent rebound of said type-bar until unlocked by depression of the link-supported key member.

20. In a writing-machine, the combination with an operating-key member, provided with a striking-face, of link mechanism constructed to support said key member and arranged to maintain the striking-face of said member in parallel planes during the entire movement thereof, means engaging said link mechanism and constructed to return the parts to normal position after actuation, a type-bar, a toggle element interposed between said key member and said type-bar and constructed automatically to lock the type-bar against rebound when said bar has been returned to its normal, upright position.

21. In a writing-machine, the combination with an operating-key member, provided with a striking-face, of link mechanism constructed to support said key member and arranged to maintain the striking-face of said member in parallel planes during the entire movement thereof, means engaging said link mechanism and constructed to return the parts to normal position, a type-bar, and a toggle element interposed between the type-bar and key member and constructed to operate said type-bar and accelerate movement of the same at points in its travel and, also, to effect locking of said bar against rebound after it has been returned to its normal, upright position.

22. In a type-writer, the combination with an operating-key member, provided with a striking-face, links connecting with said key member and constructed to support and maintain the striking-face of the member constantly in parallel planes, a type-bar, a toggle device connecting therewith, and a resilient member engaging said links and constructed to hold the parts under stress and arranged to effect a taking up of "lost motion" of the parts.

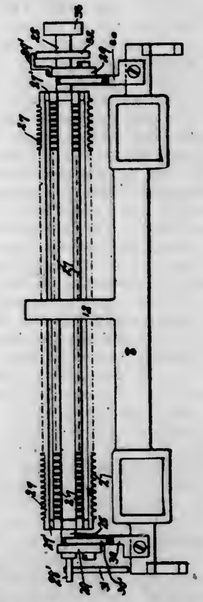
23. In a writing mechanism, the combination with an operating-key member provided with a striking-face, parallel link mechanism connecting therewith and serving to support the same, a type-bar, a movable head thereon, a spring-operated head-locking member carried by the type-bar, a buffer disposed adjacent thereto and against which said head-locking member normally abuts, and a toggle device connecting with said type-bar and constructed to hold the same against rebound and, also, in position to abut the head-locking member against the buffer to hold said locking member normally out of engagement with the head.

24. In a writing mechanism, the combination with an operating-key member provided with a striking-face, parallel link mechanism connecting therewith and serving to support the same, a type-bar, a movable head thereon, a spring-operated head-locking member carried by the type-bar, a buffer disposed adjacent thereto and against which said head-locking member normally abuts, and a toggle device connecting with said type-bar and constructed to hold the same against rebound and, also, in position to abut the head-locking member against the buffer to hold said locking member normally out of engagement with the head, said link members normally, and when moving, occupying a plane parallel to each other, but normally at an angle to the plane of the type-bar.

25. In a writing mechanism, the combination with an operating-key member provided with a striking-face, said key member being formed of a substantially vertical portion, horizontal upper and lower portions, parallel link mechanism connecting with, and disposed at an angle to, said vertical portion, and serving to support the same, a type-bar, a movable head thereon, a spring-operated head-locking member carried by the type-bar, a buffer disposed adjacent thereto and against which said head-locking member normally abuts, and a toggle device connecting with said type-bar and constructed to hold the same against rebound and, also, in position to abut the head-locking member against the buffer to hold said locking member normally out of engagement with the head.

26. In a writing mechanism, the combination with an operating-key member provided with a striking-face, said key member being formed of a substantially vertical portion and horizontal upper and lower portions, parallel link mechanism connecting with, and disposed at an angle to, said vertical portion, and serving to support the same, a type-bar, a movable head thereon, a spring-operated head-locking member carried by the type-bar, a buffer disposed adjacent thereto and against which said head-locking member normally abuts, and a toggle device connecting with said type-bar and constructed to hold the same against rebound and, also, in position to abut the head-locking member against the buffer to hold said locking member normally out of engagement with the head, said type-bar normally lying in a substantially vertical plane and parallel with said vertical portion of the key member, and said links lying at an angle to the plane of said upper and lower portions of said key member.

840,123. TYPE-WRITER ATTACHMENT. JOHN EDWARDS, Edgard, La. Filed July 17, 1905. Serial No. 270,034.



Claim.—1. In a type-writer, a carriage, escapement mechanism for allowing the lateral shifting of said carriage, two or more connected sets of escapement-teeth, one set having teeth with a normal space between them, the other set having teeth the spaces between each two teeth of which are of like width to each other, but smaller than the spaces between the normal teeth of the other set, and means for operatively engaging said sets and moving one of the other sets of teeth into or out of engagement with the said escapement mechanism, substantially as described.

2. In a type-writer, an escapement-rack having normally space teeth, said rack being continued beyond the machine to form an auxiliary rack and being there provided with teeth variably spaced to the normal teeth of the rack, and means for sliding said rack laterally to move the main rack out of position relatively to the carriage travel and to bring the auxiliary rack in position either along the whole or a portion of the carriage travel.

3. In a type-writer having a carriage and a main spacing-rack attached thereto, and escapement mechanism acting on the teeth of the rack to allow it and the carriage to shift laterally, an auxiliary spacing-rack having a less number of teeth than the main rack so mounted that it may be substituted for said main rack and engaged with the carriage escapement mechanism, mechanism for shift-

ing said racks so that one may be substituted for the other, and a mechanism attached to the carriage for lifting the main or auxiliary racks out of engagement with the shifting mechanism to allow one rack to be replaced by the other, substantially as described.

4. In a type-writer having a carriage, a main spacing-rack, and escapement-dogs engaging with said rack for allowing the step-by-step lateral movement of said main rack and carriage, an auxiliary spacing-rack connected with said main rack having a less number of teeth than the main rack, so mounted that it may be substituted for said rack and engage with the escapement-dogs, means for shifting said racks and mechanism attached to the carriage for lifting the main or auxiliary racks out of engagement with the escapement mechanism to allow one rack to be replaced by the other, substantially as described.

5. In a type-writer, a carriage, controlling mechanism, main spacing-rack mounted on said carriage and adapted to be moved out of operative relation with the said controlling mechanism, an auxiliary rack attached to the main rack, mechanism whereby the auxiliary rack may be moved into the place of the main rack to engage with the carriage-controlling mechanism, mechanism engaging with the said racks to control the carriage, arms projecting from the longitudinal main bar of the carriage-frame, links pivoted to said arms and carrying the main and auxiliary racks, springs on said arms for holding the links depressed to bring the rack-bars into contact with the controlling mechanism, and a key pivoted on the carriage whose end engages said rack-bars to raise the same out of contact with the said shifting mechanism.

6. In a type-writer, having a carriage with mechanism for controlling the lateral shift of said carriage, an elongated rack-bar having a certain number of teeth along a portion of its length and a certain other number of teeth along the remainder of its length, the said rack-bar being shiftable laterally with relation to the carriage, guides in which said rack-bar is supported, a catch connected to the carriage and normally engaging with the rack-bar to hold it to move with the carriage, and means for lifting said rack-bar out of engagement with said catch to permit it to be shifted with relation to the carriage to bring a variable number of teeth into operative relation with the carriage-shifting mechanism, substantially as described.

7. In a type-writer, a carriage and mechanism for controlling the lateral shift of said carriage, a laterally-shiftable elongated rack-bar, having a certain number of teeth along a portion of its length equal to the length of the line to be written, and a certain other number of teeth along the remainder of its length, guides for connecting said rack to the carriage, a catch for holding said rack from lateral shifting relative to said guides and carriage, and means for freeing the rack-bar from engagement with said catch to permit the lateral shifting of said rack-bar to bring a variable number of teeth into operative relation with the carriage-shifting mechanism, substantially as described.

8. In a type-writer, a carriage-platform and carriage mounted to move laterally thereon, arms projecting from the rear of said carriage, a longitudinal guide-bar having an upwardly-yielding connection with said arms, springs for holding said guide-bar down, mechanism for raising said guide-bar up against the force of said springs, a rack-bar mounted to slide longitudinally on said guide-bar but to move vertically with it, catches on said arms adapted to engage with the rack-bar when the same is in its lowest position, and carriage-operating mechanism adapted to engage with and move said rack-bar when the same is in its lowest position, said rack-bar having a certain number of teeth along one portion of its length equal to the length of the line to be written and a certain other number of teeth along the remainder of its length, substantially as described.

9. In a type-writer, a carriage-platform and carriage mounted to move laterally thereon, arms projecting from the rear of said carriage, a longitudinal guide-bar having ears pivoted to said arms, springs for holding said guide-bar in its lowest position relative to said arms, a key pivoted on said carriage and engaging to lift said guide-bar when depressed, springs for holding said bar depressed, guide-pins on said bar projecting rearwardly, a slotted rack-bar mounted on said guide-pins to slide longitudinally thereon, and carriage-operating mechanism adapted to engage with said rack-bar to move the carriage laterally along the platform, said rack-bar having a certain number of teeth along one portion of its length equal to the length of the line to be written and a certain other number of teeth along the remainder of its length, substantially as described.

10. In a type-writer, a carriage-platform and carriage mounted to move laterally thereon, arms projecting from the rear of said carriage, a longitudinal guide-bar having ears pivoted to said arms, springs for holding said guide-bar in its lowest position relative to said arms, a key pivoted on said carriage and engaging to lift said guide-bar when depressed, springs for holding said bar depressed, guide-pins on said bar projecting rearwardly, a slotted rack-bar mounted on said guide-pins to slide longitudinally thereon, and carriage-operating mechanism adapted to engage with said rack-bar to move the carriage laterally along the platform, said rack-bar having a certain number of teeth along one portion of its length equal to the length of the line to be written, and a certain other number of teeth along the remainder of its length, in combination with a rack-bar-shifting wheel mounted to engage with the upper edge of said bar to shift it laterally, and a pointer arranged to coöperate with said wheel to show the longitudinal position of the said rack-bar, substantially as described.

840,124. FENCE-POST. LEWIS D. EWING, Akron, Ohio. Filed Apr. 16, 1906. Serial No. 311,907.



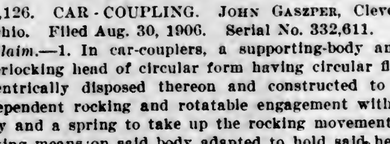
Claim.—1. A fence-post having vertical wires or rods extending therethrough and having a channel in one side thereof, panels or wires crossing said channel, and a securing-wire having its upper portion wound around the post and passing vertically downward to secure the wires or panels and having its terminal entering the ground to form a lightning-conductor.

2. A fence-post having the rounded knob or head at its upper end provided with a vertical and horizontal groove, a wire wound around said knob and fitting in the vertical groove, wires or panels secured in position upon the post by said wire, and a longitudinal fence-wire resting in the longitudinal groove of the head.

3. A fence-post, having the vertical channel or passage in one face thereof open at top and bottom, spaces in said post leading to the said channel, wires or panels fitting in said spaces, and a securing-wire having its upper end wound around the top of the post and engaging the panels or wires to secure them in place, said wire having near its lower portion, a securing-loop and a terminal entering the ground to form a lightning-conductor.

840,125. SEAL. LEWIS A. FOOTE, Chicago, Ill., assignor to Chicago Car Seal and Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 10, 1906. Serial No. 295,389.

Claim.—1. A seal comprising a casing and sheet-metal shackle, said shackle having a fold at one end affording substantially parallel members separated by a space, said members extending within the casing and secured thereto, inwardly-struck forwardly-pointing prongs carried by said members, and a member at the free end of the shackle insertible between said first-named members and provided with sockets comprising perforations with rearwardly-pointing embossments thereat, part of said embossments being on one side of said last-named member and part on the other side thereof, for the purpose set forth.



2. A seal comprising a casing and sheet-metal shackle with a fold at one end thereof affording substantially parallel members having inwardly-struck forwardly-pointing yielding prongs, said members received within said casing and secured thereto, and a member at the free end of the shackle insertible between said first-named members and having perforations with embossments thereat spaced to correspond with said prongs, for the purpose set forth.

3. A seal comprising a rectangular casing, and a sheet-metal shackle, the shackle having a fold at one end affording substantially parallel members separated by a space, a member at the free end of the shackle insertible between said first-named members, transversely-struck projections carried by said members adapted to interlock, and registering embossments carried on the casing and the members of the shackle in the rear of the interlocking means, for the purpose set forth.

4. A seal comprising a rectangular casing equipped at its base end with an outwardly-turned forwardly-directed flange, and a shackle having a fold at one end affording substantially parallel members with a space between them, one of said members having at its free end a flange interlocking with the flange of the casing, a member at the free end of the shackle insertible between said first-named members, and transversely-struck-locking means carried by said members, for the purpose set forth.

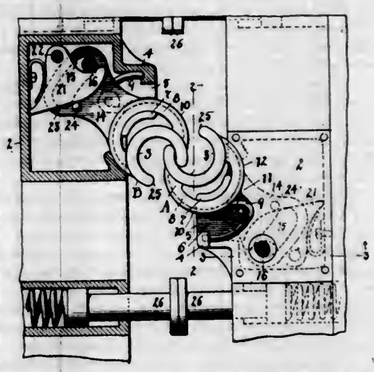
5. A seal comprising a rectangular open-ended casing with an outwardly-struck embossment at one side and an outwardly-turned forwardly-directed flange at the other side of its base, and a sheet-metal shackle having a fold at one end affording parallel members with a space between them said members lying within said casing, the free end of one of said members having a flange interlocking with said first-named flange, inwardly-struck forwardly-pointing yielding prongs carried by said members, a member at the free end of the shackle insertible between said first-named members and having a series of perforations with rearwardly-pointing embossments thereat adapted to engage said prongs, and registering embossments on said members registering with the embossments of the casing, for the purpose set forth.

840,126. CAR-COUPLING. JOHN GASZPER, Cleveland, Ohio. Filed Aug. 30, 1906. Serial No. 332,611.

Claim.—1. In car-couplers, a supporting-body and an interlocking head of circular form having circular flanges eccentrically disposed thereon and constructed to have independent rocking and rotatable engagement with said body and a spring to take up the rocking movement, and locking means on said body adapted to hold said head in locked relation therewith.

2. In car-couplers, a supporting-body having recessed flanges, and an interlocking head of circular form having curved flanges eccentrically disposed at one side thereof and adapted to both rock and rotate within said recessed body-flanges, a shoulder on said body adapted to provide a fulcrum for rocking said head, a slotted arm on said head, and a locking-pin slidably seated within said body and adapted to engage said slotted arm.

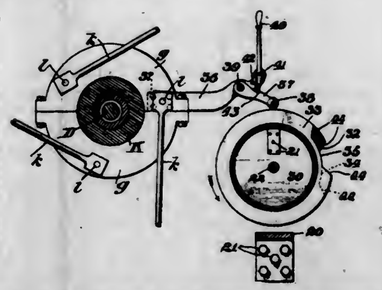
3. In car-couplers, a supporting-body, an interlocking head of circular form having circular flanges eccentric therewith and rotatably engaged with said body, a slotted arm on said head, a locking-pin adapted to engage said arm, a stop-plate adapted to cross beneath said pin, and a stud on said arm adapted to engage said stop-plate to release said pin.



4. In car-couplers, a supporting-body and an interlocking member having a circular head and eccentric supporting-flanges rotatably engaged with said body and adapted to have an independent rocking movement therewith, springs to hold said member as against rocking, and a locking-pin for said member slidably mounted within said body.

5. In car-couplers, a body having recessed flanges at its front, an interlocking head of circular form having curved flanges eccentrically disposed at one side thereof and adapted to be rotatably mounted within said recessed flanges, shoulders on said body adapted to provide a backing and a fulcrum rocking-point for said head, a spring to hold said head in position, an arm integral with said head having a slot in its outer face portion, a locking-pin adapted to enter said slot to fix the position of said head, a stop-plate adapted to prevent said pin from entering the slot, and means on said arm adapted to operate said plate to release said pin.

840,127. TRIPPING MECHANISM FOR MACHINERY. CHARLES E. GLESSNER, Ouray, Colo., assignor of one-half to Cooper Anderson, Telluride, Colo. Filed Jan. 22, 1906. Serial No. 297,156.



Claim.—1. In tripping mechanism for machinery, the combination of a plurality of continuously-rotating disks having high and low portions, means for varying the angular position of one disk relatively to the other and a follower adapted to bear upon the peripheries of said disks.

2. In tripping mechanism for machinery, the combination of at least two continuously-rotating disks, each having a high and a low portion, means for varying the angular position of one disk relatively to the other, and a follower adapted to bear upon the peripheries of said disks.

3. In tripping mechanism for machinery, the combination of two continuously-rotating disks, each provided with a gap in its periphery, means for varying the relative

position of said gaps, and a follower adapted to bear upon the peripheries of said disks.

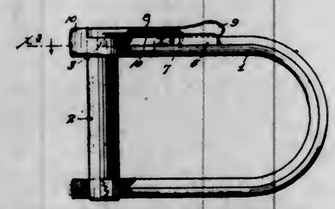
4. In tripping mechanism for machinery, the combination of two disks adapted to be continuously rotated, each provided with a gap in its periphery, said gaps being arranged opposite each other, means for varying the width of the gap formed in the periphery of said two disks, and a follower adapted to bear upon said periphery.

5. In tripping mechanism for machinery, the combination of two disks adapted to be continuously rotated, each disk having a gap in its periphery, means for varying the width in the gap of the periphery of the two disks and for entirely closing said gap, and a follower adapted to bear upon the periphery of the disks.

6. In tripping mechanism for machinery, the combination of a shaft adapted to be continuously rotated, two planetary transmission-gears, mechanisms adapted to be arranged side by side and adapted to be operated by said shaft, each of said transmission mechanisms having continuously-rotating disks, said disks being provided with high and low portions, means for varying the angular position of one disk relatively to the other and a follower adapted to bear upon the peripheries of said disks.

7. In tripping mechanism for machinery, the combination of a shaft adapted to be continuously rotated, two planetary transmission mechanisms adapted to be operated by said shaft, each of said mechanisms being provided with continuously-rotating disks rotating at substantially the same speed side by side, each of said disks being provided with a gap in its periphery arranged substantially opposite each other, means for varying the width of the gap formed in the periphery of said disks, and a follower adapted to bear upon the said periphery.

840,128. INTERLOCKING CLEVIS. EDWIN J. J. GREGERSON, Woodville, Wis. Filed Oct. 3, 1906. Serial No. 337,222.

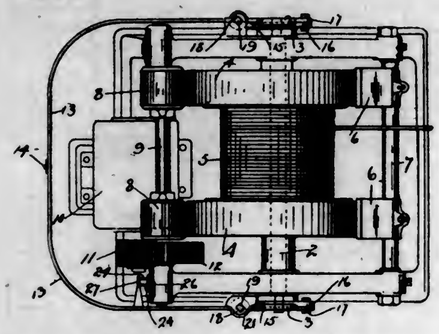


Claim.—1. The combination with a clevis-yoke, of a clevis-bolt having interlocking engagement therewith under endwise and rotary movement, of a spring-lever applied to said bolt and having interlocking engagement with said clevis-yoke to hold said bolt in its interlocked position, substantially as described.

2. The combination with a clevis-yoke 1 having bolt-seats in its prongs, one of said prongs having adjacent to its bolt-seat a notch 3, segmental clearance 4 and lock-shoulder 5, of a clevis-bolt 2 having a spring-lever 8 and lock-lug 11, which lock-lug is adapted to be inserted through said notch 3, and turned into said clearance-groove 4 under said lock-shoulder 5, and which spring-lever is engageable with a seat formed on said clevis-yoke, substantially as described.

3. The combination with a clevis-yoke 1, having bolt-seats in its prongs and having on one of its prongs, adjacent to its bolt-seat, a notch 3, segmental clearance-groove 4 and lock-shoulder 5, the said prong of said yoke having a guard-flange 10 and cam-surface 6 formed with lock-grooves 7, of a lock-bolt 2 provided with a lock-shoulder 11 and a spring-lever 8, which lock-lug is insertible through said notch 3 and is adapted to be turned into said groove 4 under said lock-shoulder 5, and the free end of which lever 8 in engageable with said lock-groove 7, substantially as described.

840,129. HOISTING-MACHINE. ARTHUR E. HANDY, Providence, R. I., assignor to Rhode Island Elevator and Machine Company, Providence, R. I., a Corporation of Rhode Island. Filed Mar. 27, 1906. Serial No. 308,252.



Claim.—1. In a hoisting-machine, a drum, friction-rolls for driving said drum, a motor for actuating said rolls, an actuating-lever, means including said lever by the movement of which said drum is operatively connected to said rolls and said motor and drum may be started slowly and subsequently accelerated in speed.

2. In a hoisting-machine, a drum, fixed friction-shoes, rotatable driving means, means for moving said drum whereby it will be released from said shoes to be engaged and rotated by said driving means, a motor for rotating said driving means, an operating-lever, and means whereby the movement of said lever shall start the motor, cause the drum to rotate and subsequently accelerate the speed of the motor.

3. In a hoisting-machine, a drum, fixed friction-shoes, rotatable driving means, means for moving said drum whereby it will be released from said shoes to be engaged and rotated by said driving means, an electric motor for rotating said driving means, a rheostat placed in the electric circuit, an operating-lever, and means whereby the movement of said lever in one direction shall first start the motor then release the drum from the brake-shoe to be rotated by said motor and subsequently accelerate the speed of said motor and drum by cutting out the resistance in the rheostat.

4. In a hoisting-machine, a drum, fixed friction-shoes, rotatable driving means, means for moving said drum whereby it will be released from said shoes to be engaged and rotated by said driving means, an electric motor for rotating said driving means, a rheostat placed in the electric circuit, an operating-lever, and means whereby the movement of said lever in one direction will first cause the motor to start and then move the drum to be rotated by the driving means, and means for cutting out the resistance in the rheostat step by step to cause said motor to gradually increase its speed.

5. In a hoisting-machine, a drum, fixed friction-shoes, rotatable driving means, means for moving said drum whereby it will be released from said shoes to be engaged and rotated by said driving means, an electric motor for rotating said driving means, a rheostat placed in the electric circuit, an operating-lever, means actuated by said lever for completing the circuit to start the motor, and means connected to said lever whereby the rheostat-arm will be actuated to cut out the resistance step by step after the current has been completed to start the motor and the drum connected thereto.

6. In a hoisting-machine, a drum mounted in eccentrics, fixed friction-shoes, rotatable driving means, means for moving said drum whereby it will be released from said shoes to be engaged and rotated by said driving means, an electric motor for rotating said driving means, a rheostat placed in the electric circuit, an operating-lever pivotally connected to said eccentrics, a yieldable connection also on said lever whereby the same is allowed to continue

to rise after said eccentrics have been turned to bring said drum into rotatable engagement with said driving means, and means whereby the continued upward movement of said lever cuts out the resistance in the rheostat to speed up the motor.

7. In a hoisting-machine, a drum mounted in eccentrics, fixed friction-shoes, rotatable driving means, means to be engaged and rotated by said driving means, an electric motor for rotating said driving means, a rheostat placed in the electric circuit, a frame connected to each eccentric, an operating-lever pivotally connected to said frames in the rear of the eccentric centers, springs in said frames resting on said lever whereby said lever is allowed to continue to rise after said eccentrics have been turned to bring the drum into rotatable engagement with said driving means, and means whereby the continued upward movement of said lever cuts out the resistance in the rheostat to speed up the motor.

8. In a hoisting-machine, a drum mounted in eccentrics, fixed friction-shoes, rotatable driving means, means for moving said drum whereby it will be released from said shoes to be engaged and rotated by said driving means, an electric motor for rotating said driving means, a rheostat placed in the electric circuit, a frame connected to each eccentric, an operating-lever pivotally connected to said frames in the rear of the eccentric centers, springs in said frame resting on said lever forward of said eccentric centers, a connection to said rheostat pivoted to said lever directly over the center of the eccentric when said lever is in its normal position, whereby the first raising of said lever starts the motor and rotates said eccentric, and a further upward movement of said lever compresses the spring, and raises said rheostat-arm to cut out the resistance step by step.

9. In a hoisting-machine, a drum mounted in eccentrics, fixed friction-shoes, rotatable driving means, means for moving said drum whereby it will be released from said shoes to be engaged and rotated by said driving means, an electric motor for rotating said driving means, a rheostat placed in the electric circuit, a rheostat-arm, a permanent wire connection in said rheostat to assist said arm in carrying the current, an operating-lever, and means whereby the movement of said lever in one direction will first cause the motor to start and then move the drum to be rotated by the driving means, and means for cutting out the resistance in the rheostat step by step to cause said motor to gradually increase its speed.

10. In a hoisting-machine, a hoisting-drum, friction-wheels eccentrically mounted, friction driving-rolls arranged to engage the periphery of said wheels, means including an operating-lever and said eccentrics to move said friction-wheels into and out of engagement with said driving-rolls and said friction-shoes, and means whereby one movement of said lever will start the motor, connect the driving-drum thereto and subsequently accelerate the speed of the motor.

11. In a hoisting-machine, the combination of a hoisting-drum, friction-wheels eccentrically mounted, friction holding-shoes arranged to engage the periphery of said wheels, friction driving-rolls also arranged to engage the periphery of said wheels, means including an operating-lever for transferring said friction-wheels alternately from said shoes to said driving-rolls, an electric driving-motor, a rheostat placed in the electric circuit and means whereby one movement of the operating-arm shall first start the motor, connect the drum thereto and subsequently cut out the resistance from the rheostat step by step to increase the speed of the motor.

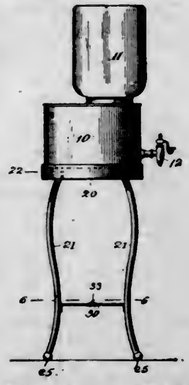
12. In a hoisting-machine, a drum, fixed friction-shoes, means including friction delivery-rolls for rotating said drum, means whereby said drum may be moved to be engaged and rotated by said rotating means and also moved to engage and be held by the said friction-shoes, a driving-motor and means for starting and stopping said motor gradually.

13. In a hoisting-machine, a drum, fixed friction-shoes, means including friction delivery-rolls for rotating said drum, means whereby said drum may be moved to be engaged and rotated by said rotating means and also moved to engage and be held by the said friction-shoes, and means whereby the hoisting-drum may be caused to start the load slowly and be gradually increased to its maximum speed, and means whereby said drum and load may be caused to stop gradually.

14. In a hoisting-machine, a drum, fixed friction-shoes, rotatable driving means, means for moving said drum whereby it will be released from said shoes to be engaged and rotated by said driving means, a motor for rotating said driving means, an operating-lever, means whereby an upward movement of said lever shall start the motor, cause the drum to rotate and subsequently accelerate the speed of the motor, and means whereby when said lever is returned the speed of the motor is first reduced, the drum detached from the rotary means to be held by said shoes and finally the motor stopped.

15. In a hoisting-machine, a drum, fixed friction-shoes, rotatable driving means, means for moving said drum whereby it will be released from said shoes to be engaged and rotated by said driving means, an electric motor for rotating said driving means, rheostat placed in the electric circuit, an operating-lever, means whereby the movement of said lever in one direction shall first start the motor then release the drum from the brake-shoe to be rotated by said motor and subsequently accelerate the speed of said motor and drum by cutting out the resistance in the rheostat, and means whereby the return movement of said lever shall first cut the resistance into the rheostat to reduce the speed of the motor then return the drum from the driving means to engage said shoes and finally stop the motor.

840,130. COLLAPSIBLE STAND FOR WATER-COOLERS. JOHN C. HYLTON, Chicago, Ill. Filed Aug. 22, 1906. Serial No. 331,568.



Claim.—1. In a device of the class described, the combination with a plurality of supporting-legs, of a connecting-ring removably secured thereto, and a tank fitting in said ring and resting directly upon the upper ends of the legs.

2. In a device of the class described, the combination with a plurality of legs, the upper ends of which are substantially vertical and contain flat outer faces, of a connecting-ring, and clips secured to said ring and encircling the upper ends of the legs, the flat faces of the legs engaging the inner face of the ring to prevent lateral sway of the legs.

3. In a device of the class described, the combination with a plurality of legs having substantially vertical portions at their upper ends, the outer faces of which contain a flat vertical portion, and a horizontal shoulder, of a connecting-ring resting upon said shoulders with the inner face of the ring contiguous with the flat faces of the legs and clips removably connecting the legs thereto.

4. In a device of the class described, the combination with a plurality of tubular legs, and a cross-brace removably secured thereto near the lower ends thereof, said legs being formed with substantially vertical portions having

flat outer faces and horizontal shoulders, of a connecting-ring resting upon said shoulders with the inner face of the ring contiguous with the flat faces of the legs, clips removably connecting the legs to the ring and a water-tank fitting within the ring and resting directly upon the upper ends of the legs.

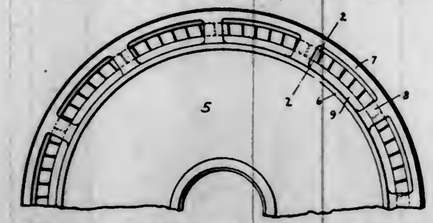
840,131. INK-ERASER. WILLIAM K. JONES, Homestead, Pa., assignor of one-fourth to Andrew F. Mitchell, Homeville, Pa. Filed Apr. 12, 1906. Serial No. 311,308.



Claim.—1. An ink-eraser of the character described comprising a blade, an integrally-formed socket, said socket having a longitudinal slot formed therein, a clamping-band arranged on said socket to force the walls of the same into tight engagement with a penholder, and means to hold said clamping-band in place.

2. An ink-eraser of the character described comprising a blade, an integrally-formed socket-section, said section having a longitudinal slot, an upwardly-turned flange formed on one edge of said slot, and means to hold said socket in tight engagement with the penholder, substantially as described.

840,132. DIAPHRAGM AND NOZZLE CONSTRUCTION FOR TURBINES. OSCAR JUNGGREN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 5, 1905. Serial No. 263,704.



Claim.—1. In an elastic-fluid turbine, the combination of a casing, a diaphragm or partition which divides the casing into wheel-compartments comprising a central portion, a surrounding rim separated therefrom by a space and connected by ribs, wheel-buckets, a fluid-discharging device comprising passages separated by thin partitions, which discharge motive fluid in an unbroken column to the wheel-buckets, and a chamber that extends under the ribs and receives motive fluid from a wheel-compartment and is in free communication with and supplies motive fluid to all of the nozzle-passages.

2. In an elastic-fluid turbine, the combination of a casing, wheel-buckets, an annular fluid-discharging device comprising a plurality of closely-associated discharge-passages separated by thin sheet-metal partitions, which discharge motive fluid in an unbroken cylindrical column to all of the wheel-buckets located adjacent thereto, and an annular chamber that receives fluid from a wheel-compartment and is in free communication with and supplies motive fluid to all of the nozzle-passages.

3. In a turbine, the combination of a support having outwardly-extending ribs, a rim surrounding the support and connecting the ribs, segmental chambers between the support and the rim, which are connected on one side of the ribs so as to supply all of the nozzle-passages, and nozzle-passages which receive motive fluid from the chambers and discharge it in an unbroken column against the wheel-buckets.

4. In a turbine, the combination of a support having outwardly-extending ribs, a rim surrounding the support and connecting the ribs, segmental chambers between the support and the rim, passages connecting the chambers for supplying one or more nozzle-passages adjacent to the ribs, and a nozzle structure containing passages which receive fluid from the chambers and passages.

5. In a turbine, the combination of a support having a circumferential strengthening-web, ribs extending outwardly from said support, a rim connecting the ribs and surrounding the support, chambers situated between the support and the rim for supplying fluid to the nozzle, passages connecting the chambers, and a nozzle structure attached to the support and provided with passages which receive fluid from the chambers and the passages.

6. In a nozzle for turbines, the combination of a frame divided into sections and having concentric walls separated by a space, one or more partitions which divide the space into fluid-discharge passages, and inclined abutting surfaces for the sections of the frame.

7. In a turbine, the combination of a support, a nozzle attached thereto comprising a structure curved in the arc of a circle and divided into sections, beveled abutting surfaces between the sections, and partitions carried by the nozzle which with the walls of said structure form fluid-discharging passages.

8. In a turbine, the combination of a support, a nozzle attached thereto comprising a structure curved in the arc of a circle and divided into abutting sections, partitions carried by the said structure which coöperate with the walls thereof to form fluid-discharging passages, the sections being so arranged that the plane of division between them is situated between two adjacent partitions, and means for securing the nozzle-sections to the support and holding the abutting surfaces in contact.

9. In an elastic-fluid turbine, the combination of a support having peripheral ribs thereon, a rim surrounding and connecting the ribs, segmental chambers situated between the ribs, passages extending across the ribs and connecting the chambers, and a nozzle attached to the support and in a position to receive fluid from the chambers and passages, comprising concentric members and transverse partitions, the said nozzle being divided into segmental sections, each section having an inclined surface which abuts on the adjacent sections.

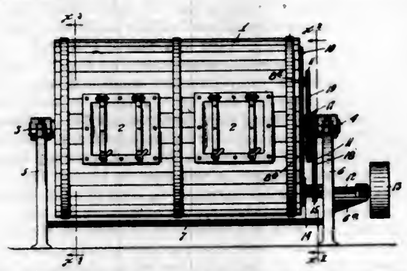
10. As an article of manufacture, a nozzle-section comprising curved walls separated by a space, partitions which are attached to the walls and divide the space between them into fluid-discharging passages, and a finished beveled surface at one end of the section, which is adapted to cooperate with a similar surface on an adjacent section when assembled.

11. As an article of manufacture, a nozzle-section comprising curved walls separated by a space, thin sheet-metal partitions which are cast into the walls and cooperate therewith to form fluid-discharging passages, and finished abutting surfaces on the ends of the section which are adapted to coöperate with similar surfaces on adjacent sections, the said abutting surfaces being located between two partitions when the parts are assembled.

840,133. COMBINED CHURN AND BUTTER-WORKER. GODFREY J. KAPLAN, Owatonna, Minn., assignor of one-half to Lutheria Disbrow and one-half to Reuben B. Drisbow, Owatonna, Minn. Filed Apr. 25, 1906. Serial No. 313,651.

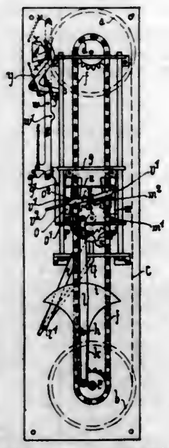
Claim.—1. In a machine of the kind described, the combination with a rotary drum and a plurality of rollers therein eccentric to the axes thereof, said drum having internal means coöperating with said rollers to lift the butter and to cut portions from the bottom thereof, and driving means for rotating said drum in one direction and for rotating said rollers on their own axes in an opposite direction to that of the rotation of the drum, substantially as described.

2. In a machine of the kind described, the combination with a horizontally-disposed rotary drum and a plurality of corrugated rollers mounted therein eccentric to the axes thereof, said drum having internal lifting-shelves outward of and coöperating with the several rollers, and driving connections for rotating the drum in one direction and for rotating said rollers on their own axes in an opposite direction to that of the rotation of the drum, substantially as described.



3. In a machine of the kind described, the combination with a horizontally-disposed rotary drum provided with three internal lifting-shelves 9, and three internal eccentric working rollers 8 each coöperating with one of said lifting-shelves, and driving connections for rotating said drum in one direction and for rotating said rollers on their own axes in a direction opposite to that of the rotation of the drum, substantially as described.

840,134. ADVERTISING APPARATUS. KARL J. H. KLEMPAU, Hamburg-Hohenfelde, Germany. Filed July 27, 1905. Serial No. 271,538.



Claim.—1. An advertising apparatus comprising a frame, separated and oppositely-disposed rotatable drums supported in said frame, an advertisement-band adapted to be wound from one drum to the other, an endless chain geared to the oppositely-disposed drums and capable of rotating the same and moving the advertisement-band, a sliding frame adapted to reciprocate between the drums and adjacent to the endless chain, a pawl on each side of the sliding frame either one of which is adapted to engage the endless chain and oppositely move the same, means for reciprocating the sliding frame whereby the endless chain and advertisement-band is intermittently displaced.

2. An advertising apparatus comprising a frame, separated and oppositely-disposed rotatable drums supported in said frame, an advertisement-band adapted to be wound from one drum to the other, an endless chain geared to the oppositely-disposed drums and capable of rotating the same, and moving the advertisement-band, a sliding frame adapted to reciprocate between the drums and adjacent to the endless chain, a pawl on each side of the sliding frame either one of which is adapted to engage the endless chain and oppositely move the same, means for automatically disengaging or engaging either one of the pawls from the endless chain for the reversal of motion of the advertisement-band, and means for reciprocating the sliding frame whereby the advertisement-band is intermittently and oppositely moved.

3. An advertising apparatus comprising a frame, separated and oppositely-disposed rotatable drums supported in said frame, an advertisement-band adapted to be wound from one drum to the other, an endless chain geared to the oppositely-disposed drums and capable of rotating the same, and moving the advertisement-band, a sliding frame adapted to reciprocate between the drums and adjacent to the endless chain, a pawl on each side of the sliding frame either one of which is adapted to engage the endless chain and oppositely move the same; a stopping-lever interposed between the pawls on said sliding frame and adapted to engage the pawls and make them simultaneously inoperative with respect to engaging the endless chain, means in the path of the sliding frame at a predetermined point for engaging the stopping-lever and restoring the operativeness of either one of the pawls, and means for reciprocating the sliding frame whereby the advertisement-band is intermittently and oppositely moved.

4. An advertising apparatus comprising a frame, separated and oppositely-disposed rotatable drums supported in said frame, an advertisement-band adapted to be wound from one drum to the other, an endless chain geared to the oppositely-disposed drums and capable of rotating the same, and moving the advertisement-band, a sliding frame adapted to reciprocate between the drums and adjacent to the endless chain, a pawl on each side of the sliding frame either one of which is adapted to engage the endless chain and oppositely move the same; a pin on one of said drums, a spring-actuated catch engaging the said pin in the drum, a lever attached to the frame and controlling the position of the spring-actuated catch, means on said sliding frame for actuating the lever for engaging and disengaging the catch from the pin on the drum and means for reciprocating the sliding frame whereby the advertisement-band is intermittently and oppositely moved.

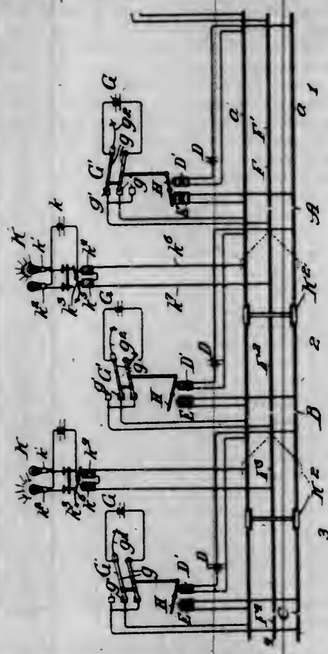
840,135. SINGAL APPARATUS. W BRITTON LANE, Evanston, Ill. Filed July 25, 1906. Serial No. 327,637.

Claim.—1. The combination with rails electrically divided into blocks, of a high-resistance electromagnet and a low-resistance electromagnet connected with one block, a track-battery normally energizing said magnets, a local signal-controlling battery connected with an adjacent block and forming therewith a local partial circuit, a pole-changer controlling the circuit of said signal-controlling battery and controlled by both of said electromagnets, and train-carried signal mechanism having a partial circuit adapted to complete the local partial circuit as the train passes over the same.

2. The combination with rails electrically divided into blocks, of a high-resistance electromagnet and a low-resistance electromagnet located adjacent to each other and connected with opposite ends of one block, a track-battery normally energizing said magnets, a local signal-controlling battery connected with an adjacent block and forming therewith a local partial circuit, a pole-changer controlling the circuit of said signal-controlling battery, an armature controlled by both of said electromagnets and connected with said pole-changer, and train-carried signal mechanism having a partial circuit adapted to complete the local partial circuit as a train passes over the same.

3. The combination with rails electrically divided into blocks, of a high-resistance electromagnet and a low-resistance electromagnet connected with one block near opposite ends of the same, a track-battery normally energizing said magnets, a local signal-controlling battery connected with an adjacent block and forming therewith a local partial circuit, a pole-changer controlling the circuit of said signal-controlling battery and controlled by both said electromagnets, means for throwing said pole-changer to a neutral position in the event of deënergization of both said magnets, and train-carried signal mechanism having a partial circuit adapted to complete the local partial circuit as the train passes over the same, said train-carried signal mechanism having a circuit-controlling member adapted to assume a neutral position in the event of the failure of current from the local signal-controlling battery.

4. The combination with rails electrically divided into blocks, of a high-resistance electromagnet and a low-resistance electromagnet connected with one block, a track-battery normally energizing said magnets, a local signal-controlling battery connected with an adjacent block and forming therewith a local partial circuit, a pole-changer controlling the circuit of said signal-controlling battery and controlled by both of said electromagnets, means for moving the pole-changer to a neutral position in the event of deenergization of both of said electromagnets, and train-carried signal mechanism comprising clear and danger signals having circuits, a polarized armature controlling said circuits, means for moving said armature to a neutral position, and electromagnets controlling said polarized armature and having a partial circuit adapted to complete the local partial circuit as the train passes over the same.



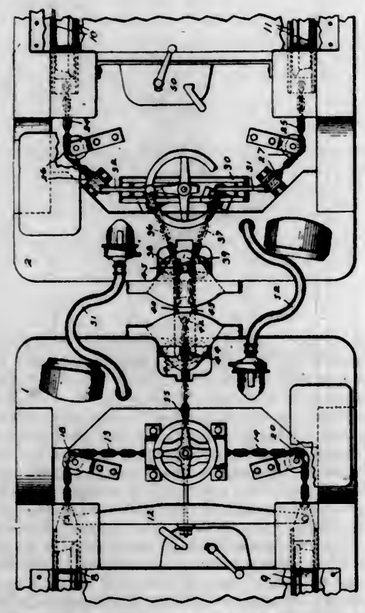
5. The combination with a pair of track-rails, one of which is electrically continuous and the other electrically divided into blocks, of a high-resistance electromagnet connected with both track-rails in one block, a low-resistance electromagnet connected with both track-rails in the same block, a track-battery normally energizing said electromagnets, a third rail electrically divided into blocks, a local signal-controlling battery connected with said continuous rail and with said third rail in an adjacent block and forming therewith a local partial circuit, a pole-changer controlling said local partial circuit and controlled by both of said electromagnets, and train-carried signal mechanism having a partial circuit adapted to complete said local partial circuit as the train passes over the same.

6. The combination with a pair of track-rails, one of which is electrically continuous and the other electrically divided into blocks, of a third and fourth rail both electrically divided into blocks, a high-resistance electromagnet and a low-resistance electromagnet connected with the track-rails near opposite ends of one block, a track-battery normally energizing said electromagnets, a signal-controlling battery connected with the continuous rail and with the third rail of an adjacent block and forming therewith a local partial circuit, a pole-changer controlling said local partial circuit and controlled by both of said electromagnets, conductors joining one set of ends of the sections of the third rail with the other set of ends of alternate sections of the fourth rail, and train-carried signal mechanism having a partial circuit adapted to be completed through said local partial circuit as the train passes over the same.

7. The combination with a pair of track-rails, one of which is electrically continuous and the other electrically divided into blocks, of a third and fourth rail both electrically divided into blocks, a high-resistance electromagnet and a low-resistance electromagnet connected with the track-rails near opposite ends of one block, a track-battery normally energizing said electromagnets, a signal-controlling battery connected with the continuous rail and with the third rail of an adjacent block and forming therewith a local partial circuit, a pole-changer controlling said local partial circuit and controlled by both of said electromagnets, conductors joining one set of ends of the sections of the third rail with the other set of ends of alternate sections of the fourth rail, and train-carried signal mechanism comprising clear and danger signals, circuits for the same, electromagnets controlling said last-named circuits and having rail-engaging conductors, one of said conductors being equipped with a switch and with two terminals engaging said third and fourth rails.

8. Train-carried signal mechanism of the character described, comprising clear and danger lights provided with electric circuits, an armature controlling said circuits, a plate provided with a sight-opening, clear and danger semaphores mounted on said armature and adapted to be presented at said sight-opening, and electromagnets controlling said armature and having a partial circuit adapted to be completed through a local partial circuit.

840,136. BRAKE SYSTEM. CARL W. LARSON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 3, 1906. Serial No. 314,976.



Claim.—1. In a multiple-unit brake system, a brake apparatus including an equalizer, a second brake apparatus a lever pivoted at its center and having auxiliary centrally-pivoted levers mounted on the ends thereof, a connection between one end of each of said auxiliary levers and the said equalizer, and a connection between the other ends of said auxiliary levers and the second brake apparatus.

2. In a multiple-unit brake system, a brake apparatus including an equalizer, a second brake apparatus, a brake-shaft, a member screw-threaded upon said shaft for operation thereby, a main lever pivoted at its center to said member, auxiliary levers centrally pivoted on the ends of said main lever, a connection between one end of each of said auxiliary levers and said equalizer, and a connection between the other ends of said auxiliary levers and the second brake apparatus.

3. In a multiple-unit brake system, a pair of vehicles each having brake apparatus, an operating member on one of the vehicles, a main lever pivoted at its center on said operating member, auxiliary levers pivoted at their centers on the ends of said main lever a connection between one end of each auxiliary lever and the brake apparatus on one vehicle, and a connection between the other end of each auxiliary lever and the brake apparatus on the other vehicle.

4. In a multiple-unit brake system, a pair of vehicles each having brake apparatus, a brake-staff on one of the vehicles, a member screw-threaded upon said brake-staff for operation thereby, a main lever pivoted at its center upon said member, auxiliary levers pivoted at their centers on the ends of said main lever, a connection between one end of each auxiliary lever and the brake apparatus on one vehicle, and a connection between the other end of each auxiliary lever and the brake apparatus on the other vehicle.

5. In a multiple-unit brake system, a vehicle having brake apparatus including an equalizer together with means for operating said apparatus independently of the equalizer, a second vehicle having brake apparatus, a brake-staff on said second vehicle, a member operated by said staff, a main lever pivoted at its center upon said member, auxiliary levers pivoted at their centers upon the ends of said main lever, a connection between one end of each of said auxiliary levers and the said equalizer, and a connection between the other ends of said auxiliary levers and the brake apparatus on the second vehicle.

6. In a multiple-unit brake system, a pair of vehicles, each having brake apparatus including horizontally-arranged flexible actuating devices, a brake-staff on one of said vehicles, a member adapted to be moved vertically by said staff, a main lever pivoted at its center on said member, auxiliary levers pivoted at their centers upon the ends of said main lever, guides for said flexible devices beneath the ends of said auxiliary levers, and means connecting said flexible devices to the ends of said auxiliary levers.

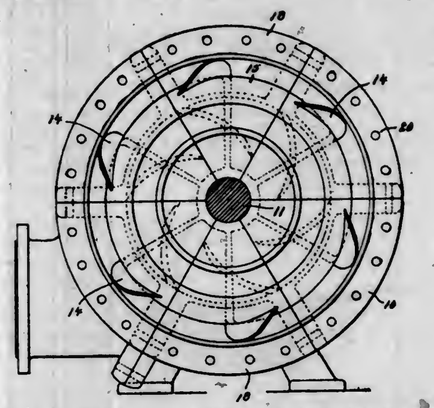
7. In a multiple-unit brake system, a pair of vehicles, a coupling-link pivoted at its ends to said vehicles, brake apparatus upon each vehicle, a flexible connection between said brake apparatus, and guides for said connections on each vehicle arranged in vertical alinement with the pivots between the coupling-link and the vehicle.

8. In combination, a vehicle having a brake apparatus, a second vehicle having a brake apparatus, a brake-staff on the second vehicle, a member arranged to be operated thereby, a main lever pivoted at its center upon said member, auxiliary levers pivoted at their centers upon the ends of the main lever, connections between corresponding ends of the auxiliary levers and the brake apparatus of the second vehicle, means for connecting the other ends of said auxiliary levers to or disconnecting them from the brake apparatus in the other vehicle, and means for locking said auxiliary levers in fixed positions on said main lever.

840,137. MULTIPLE-SECTION PUMP-CASING. EDWARD S. LEA and JULIUS DEGEN, Trenton, N. J., assignors, by mesne assignments, to Lea-Degen Pump Company, Trenton, N. J., a Corporation of New Jersey. Filed May 27, 1905. Serial No. 262,609.

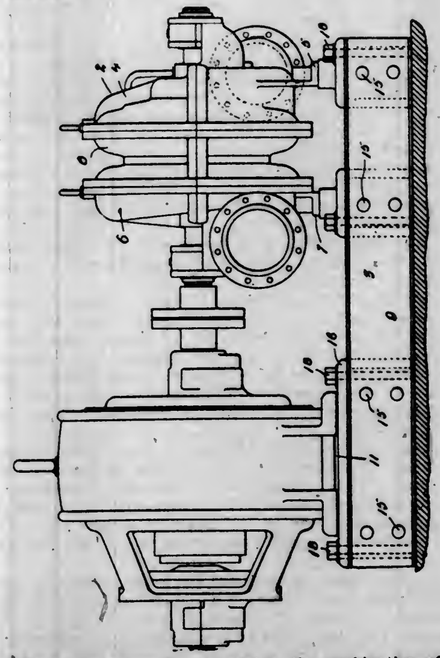
Claim.—1. A centrifugal pump, comprising a casing, a shaft, an impeller on said shaft, a partition forming with the casing a chamber in which the impeller may rotate, and deflectors uniting said partition with said casing and forming water-passages, said casing being divided into segments, there being but one segment for each deflector.

2. A centrifugal pump, consisting of the combination of a casing, a shaft mounted in said casing, a plurality of impellers on said shaft, partitions forming with the casing chambers in which the impellers may rotate, deflectors supporting said partitions from said casing and forming therewith water-passages, said casing being formed in segments, there being but one segment for each deflector, whereby the water-guiding surfaces may be most perfectly formed.



3. A centrifugal pump, consisting of the combination of a casing, a shaft mounted in said casing, a plurality of impellers on said shaft, partitions forming with the casing chambers in which the impellers may rotate, deflectors supporting said partitions from said casing and forming therewith water-passages, said casing consisting of sections meeting in planes substantially perpendicular to its axis, each of said sections being divided along substantially radial planes into segments, there being but one segment for each deflector, and said casing as a whole being divided substantially parallel to the shaft.

840,138. PUMP-BASE. EDWARD S. LEA and JULIUS DEGEN, Trenton, N. J., assignors, by mesne assignments, to Lea-Degen Pump Company, Trenton, N. J., a Corporation of New Jersey. Filed June 2, 1905. Serial No. 263,416.



Claim.—In a pumping apparatus, the combination of a motor, a centrifugal pump, said pump comprising a de-

livery-head having a supporting-foot, a suction-head having a supporting-foot, and casing-sections connecting said heads, whereby said sections may be increased or decreased in number to vary the number of stages in the pump, and a pump-base adapted to accommodate the correspondingly-varying length of the apparatus, said base consisting of parallel beams to which said motor and the feet of said pump-heads can be secured at any required point and yet be in line with each other.

840,139. COMBINED GRADER AND SCRAPER. GEORGE E. LE CLAIR, Elyria, Ohio. Filed Apr. 14, 1906. Serial No. 311,664.



Claim.—1. In a combined grader and scraper, a set of supporting wheels, a tongue adjustably suspended at its rear from said wheels, a roller beneath the rear portion of said tongue, and means from which the tongue is balanced and vertically adjusted between its ends, and a scraper-blade supported from said tongue in advance of said roller.

2. In a combined grader and scraper, a two-wheeled carriage, a tongue adjustably suspended at its rear end from said carriage and side draft-rods from carriage to tongue, a separate roller-support for the tongue between its ends and means to fix the elevation of the tongue as to said support, a ring fixed on said tongue and a scraper adjustably supported from said ring.

3. In a combined grader and scraper, a wheeled carriage, a tongue adjustably suspended therefrom at its rear end and having draft connections with said carriage loosely engaged at their ends, in combination with a roller supporting the tongue between its ends, a yoke over the tongue connected with said roller and an adjusting-lever mounted on the tongue to raise and lower said yoke, and right-angled carriers engaged at one end on said roller and at their other ends with said tongue forward of said yoke.

4. In a combined grader and scraper, a suitable wheeled carriage and a tongue loosely supported therefrom at its rear end, in combination with a carrying-roller for the tongue forward of said carriage, a yoke over the tongue having its ends engaged with the spindle of said roller, a lever mounted on the tongue engaged with said yoke and right-angled side supporting-pieces for the tongue resting on said roller-spindle at the lower ends and having their upper front ends loosely engaged at the sides of the tongue, and a scraper supported from said tongue.

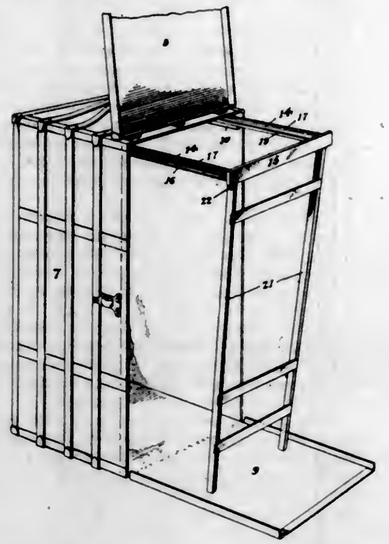
5. In a combined grader and scraper, a suitable carriage, a tongue and link connections therewith from said carriage, and means to laterally tilt the tongue, comprising a cross-piece fixed at its rear end, separate lever-adjusting mechanism mounted on said carriage and linked to the ends of said cross-piece, and separate roller-supported mechanism loosely connected with the tongue forward of said carriage.

6. A combined grader and scraper comprising a wheeled carriage, in combination with a tongue having link connections with the carriage, a roller and parts resting thereon to adjustably support the tongue between its ends, a supporting-ring fixed to the tongue, a scraper and a rotarily-adjustable segment supporting said blade from said ring.

7. The wheeled carriage and the tongue adjustably supported therefrom, a separate roller beneath the rear portion of the tongue, and means to carry the body of the tongue therefrom, a ring on said tongue and a segment adjustable on said ring, a scraper supported from the ends of said segment and means to fix the inclination of the scraper to a vertical plane.

8. The carriage and the tongue adjustably suspended therefrom at its rear end and link connections between the carriage and the tongue, an adjustable roller-support for the tongue between its ends and a transversely-arranged scraper adjustably supported from said tongue in advance of said roller-support.

840,140. TRUNK. FRED M. LEE, Newark, N. J., assignor to T. B. Peddle and Co., a Corporation of New Jersey. Filed Sept. 25, 1905. Serial No. 279,968.



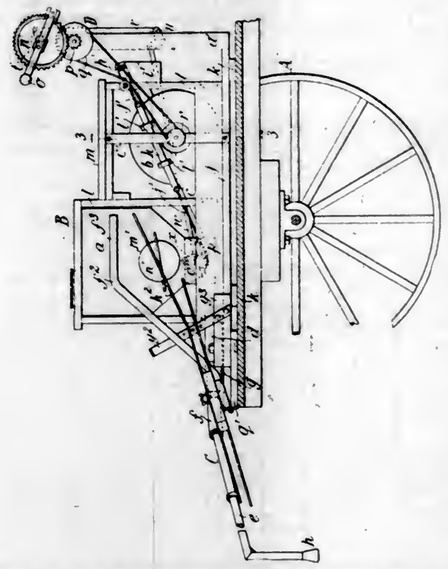
Claim.—An improved trunk containing a horizontally-sliding frame arranged to be withdrawn from the trunk, projecting strips on the opposed sides of the frame, rollers on the side of the trunk to receive the strips, the frame being provided with slots on the inside of its opposed sides, a supporting-frame having inclined plates to fit the slots in the sliding frame, the supporting-frame being adapted to be swung to assume a vertical position and thus lock the inclined pieces in the slots, and a set of clothes-supports on the sliding frame.

840,141. POWDER-DISTRIBUTER. CLINTON H. LEGGETT, New York, N. Y. Filed July 31, 1906. Serial No. 328,507.

Claim.—1. In an insecticide-distributer, the combination of a powder-forcing means and a powder-distributing means, such distributing means including a series of distributing-pipes and means for adjusting them laterally, such forcing and distributing means being adapted to be detachably connected, means for supporting such powder-forcing means, and means for supporting such distributing means, the respective supporting means being separable, so that such powder forcing and distributing means may be separately mounted and dismounted.

2. In an insecticide-distributer, the combination of a powder-forcing means and a powder-distributing means, such distributing means including a series of distributing-pipes and means for adjusting them laterally, such forcing and distributing means being adapted to be detachably connected, and a separate base for each of such means adapted to permit it to be separately mounted and dismounted.

3. In an insecticide-distributer, the combination of a powder-forcing means and a powder-distributing means, such powder-forcing means including a fan, a reservoir, an agitator, and means for actuating such fan and agitator, and such distributing means including a series of distributing-pipes, and means for adjusting them laterally and vertically, and separate supporting devices for such powder forcing and distributing means adapted to permit them to be independently mounted.



4. In an insecticide-distributer, the combination of a powder-forcing means and a powder-distributing means, such powder-forcing means including a fan, a reservoir, an agitator, and means for actuating such fan and agitator, and such distributing means including a series of distributing-pipes, means for vertically adjusting such pipes collectively, means for individually adjusting them laterally, and separate supporting devices for such powder forcing and distributing means adapted to permit them to be independently mounted.

5. In an insecticide-distributer, a base, a member hinged thereto, a series of levers pivoted to said member, a series of distributing-pipes connected with said levers and adapted to be individually adjusted thereby, a lever for tilting said hinged member, fixed thereto, and means for connecting such base to a vehicle.

6. In an insecticide-distributer, a vehicle, a series of distributing-pipes thereon, and a series of levers, each connected to a single distributing-pipe, whereby each pipe may be individually adjusted, said levers extending forwardly so as to be operable from the body of the vehicle.

7. In an insecticide-distributer, a vehicle, a series of distributing-pipes thereon, and a series of levers, each connected to a distributing-pipe, said levers extending forwardly so as to be operable from the body of the vehicle, and one of said levers having a portion extended angularly in a lateral direction, so as to avoid contact with other portions of the device.

8. In an insecticide-distributer, a vehicle, a distributing-pipe, a lever adapted to move such distributing-pipe, a second distributing-pipe, and a lever adapted to move the latter, such lever being arranged at a higher level than the first lever whereby to avoid interference between the two.

9. In an insecticide-distributer, a base-board, a tilting member hinged to said board and extending over the same, a lever for moving such member, a series of distributing-pipes, and means upon such member for supporting such pipes.

10. In an insecticide-distributer, a base-board, a tilting member hinged to said board and extending over the same, a lever for moving such member, a series of distributing-pipes, and levers mounted upon such member for supporting such pipes.

11. In an insecticide-distributer, the combination with a vehicle having a seat, of an insecticide-distributing mechanism mounted upon said vehicle, and means for manually actuating said mechanism arranged close to said seat so as to be operated by the operator while facing forwardly therein.

12. In an insecticide-distributer, the combination with a vehicle, of an insecticide-distributing mechanism, means for manually actuating said mechanism, and a seat adapted to be straddled by the operator arranged at rear of said means and close to the latter, so that such means may be operated by the operator while facing forwardly in said seat.

13. In an insecticide-distributer, the combination with a vehicle, of an insecticide-distributing mechanism having a fan, a seat extended over such fan, and an operating mechanism operable from such seat.

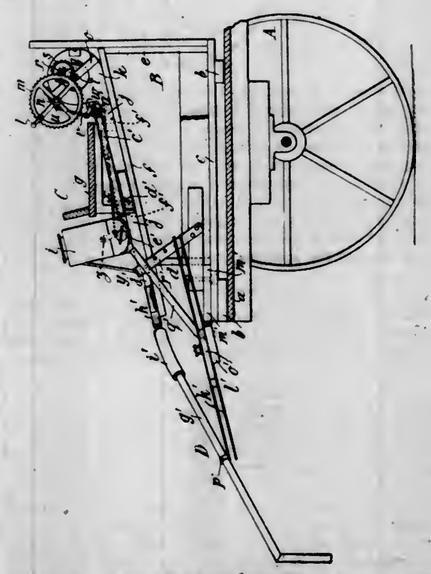
14. In an insecticide-distributer, the combination with a vehicle having a seat, of an insecticide-distributing mechanism, and means for manually actuating said mechanism arranged in front of said seat and within reach of the operator.

15. In an insecticide-distributer, the combination of a reservoir, a fan, and an adjusting means for regulating the passage of insecticide from such reservoir, such adjusting means having a portion extending around said fan.

16. In an insecticide-distributer, the combination of an insecticide-forcing mechanism, a distributing mechanism, and separate means for mounting such mechanisms, such means being adapted to be detachably connected.

17. In an insecticide-distributer, the combination of an insecticide-forcing mechanism, a distributing mechanism, a frame for said forcing mechanism and a base for said distributing mechanism, said insecticide forcing and distributing mechanisms being detachably connected.

840,142. POWDER-DISTRIBUTER. CLINTON H. LEGGETT, New York, N. Y. Filed July 31, 1906. Serial No. 328,508.



Claim.—1. In an insecticide-distributer the combination of an insecticide-forcing mechanism and a distributing mechanism, means for operating such forcing mechanism, and a seat interposed between said distributing mechanism

and said means, and arranged close to the latter so that it may be actuated from said seat.

2. In an insecticide-distributer the combination of a vehicle, an insecticide-forcing mechanism thereon, such mechanism having a reservoir and an operating mechanism, and a seat interposed between the two and arranged close to said operating mechanism so that the latter can be operated from said seat.

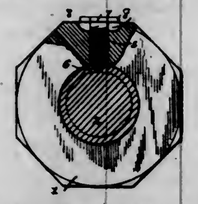
3. In an insecticide-distributer, the combination of a vehicle, a powder-forcing mechanism thereon, such mechanism having a reservoir and a fan, such reservoir and fan being spaced apart and arranged with the fan in advance of the reservoir, a seat interposed between such fan and reservoir, and facing the former, and means for actuating such mechanism arranged close to said seat so as to be operated therefrom while the operator is facing forwardly in said seat.

4. In an insecticide-distributer, the combination of a frame adapted to be removably applied to a cart or the like, said frame having an inclined support, and a powder-forcing mechanism fixed to said support.

5. In an insecticide-distributer, the combination of a base-board, a powder-distributing mechanism having a series of pipes, a tilting member by the movements of which such pipes are raised and lowered, and connections between such member and said pipes, said tilting member being hinged to said base-board, and extending rearwardly therefrom.

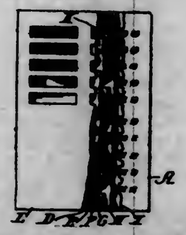
6. In a powder-distributer, a reservoir having a means for regulating the passage of powder therefrom, an operating-rod extending to a point remote therefrom and a guard for protecting such rod comprising a piece of metal bent to form a groove in which such rod is arranged.

840,143. NUT-LOCK. WILLIAM D. LEONARD, York, Pa. Filed Apr. 27, 1906. Serial No. 313,949.



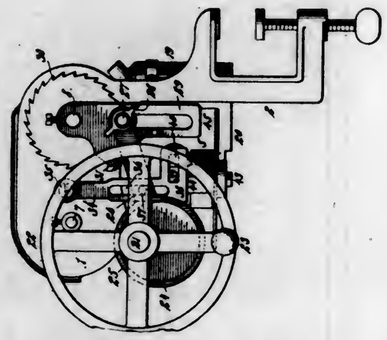
Claim.—In a nut-lock, the combination of a flat-sided nut formed with a radial threaded opening and alined recesses in its flat side adjacent to and on each side of said opening and communicating therewith, of a locking element for positive engagement with the bolt comprising a threaded pin having a pointed end projected through said opening and engaging said bolt, said pin being formed with a squared head and with integral alined projections on opposite sides of said head designed to be bent downwardly into said recesses for positive engagement therewith.

840,144. PUZZLE. LEO B. LINCOLN, Chicago, Ill., assignor to Howard Ames, Chicago, Ill. Filed Nov. 6, 1905. Serial No. 286,032.



Claim.—In a game device, a plurality of sheets adapted to be superposed and consisting of a single sheet having thereon a symbol for every symbol entering into the game, and a plurality of perforated eliminating-sheets, each of which has upon one side only thereof, selecting symbols corresponding to some of the symbols on the base-sheet and a marker or markers, the base-sheet and the perforated eliminating-sheets being arranged so when superposed and arranged according to the markers appearing on the several eliminatiog-sheets, any selected symbol entering into the game will be exhibited through the perforations in the eliminating-sheets and all other symbols eliminated.

840,145. BUTTER-PAT MACHINE. LEOPOLD LINKIEWICZ and WILLIAM KLEIN, Brooklyn, N. Y. Filed Oct. 11, 1906. Serial No. 338,405.



Claim.—1. A butter-pat machine in which is comprised a pair of cylinders provided with blades adapted to force butter into a compression-chamber; means for retracting said blades within the cylinders or drums; means for cleaning the peripheries of the drums; a compression-chamber; means for severing a predetermined amount of butter from the bottom of the mass within the compression-chamber, and means for preventing adhesion of the severed pat to the severing mechanism.

2. In a machine of the character herein specified, a pair of feeding-drums provided with projecting retractile blades; means for causing said blades to retract to the level of the fixed portions of the drums as they pass into a compression-chamber; means for cleaning the peripheries of the drums, and a compression-chamber.

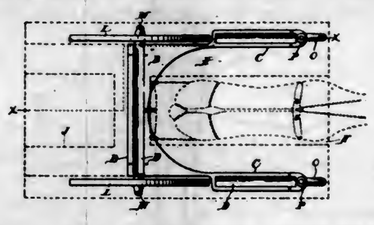
3. In a machine of the character herein specified, a rotatable, slotted feeding-drum provided with a series of blades mounted in said slots, springs for forcing the projecting blades outward, and means for retracting the blades within the drum to the level of the periphery thereof in combination with a compression-chamber below the level of the axis of the drum, substantially as shown and described.

4. In a machine of the character herein specified, the combination with a compression-chamber and means for compressing butter therein, of an intermittently-movable cutting device, and means for applying heat whereby the severed parts of butter are caused to part from the severing mechanism.

5. In a machine of the character herein specified, the combination with the compressing-drums, and compression-chamber, of a triangular bar located above the compression-chamber having its apex uppermost with which the blades are arranged to contact, substantially as shown and described.

6. In a machine of the character herein specified, a compression-drum having a slotted longitudinal body, in combination with a series of blades mounted over springs within said slots, said blades being slotted at each end, and a ring at the end of the drum located within said slots last mentioned, substantially as and for the uses and purpose shown and described.

840,146. VEHICLE. SAMUEL D. MADDIN, Detroit, Mich. Filed May 10, 1905. Serial No. 259,674.



Claim.—1. In a horse-drawn vehicle, a two-wheeled rigid underframe extending forwardly of the axle and forming sills between which the horse is adapted to be hitched, a wagon-body extending over the underframe forwardly and rearwardly of the axle and upon which the body is substantially balanced, the forward portion of the body being shaped in conformity with the underframe to form a protecting-inclosure for the horse and a pneumatic support for the body interposed between the underframe and body.

2. In a horse-drawn vehicle, a two-wheeled rigid underframe extending forwardly of the axle and forming sills between which the horse is adapted to be hitched, caster-wheels mounted in the forward ends of the frame, a wagon-body extending over the underframe forwardly and rearwardly of the axle, the forward portion of the body being shaped in conformity with the underframe, a yielding support interposed between the underframe and body and draft connection in proximity to the axle.

3. In a vehicle having a two-wheeled rigid underframe extending forwardly of the axle and formed substantially U-shaped in plan, an inclosed wagon-body extending forwardly and rearwardly of the axle over the underframe and yieldingly supported thereon on pneumatic cushions interposed between the frame and body.

4. In a horse-drawn vehicle having a two-wheeled rigid underframe extending forwardly of the axle and formed substantially U-shaped in plan, caster-wheels pivotally mounted in the forward ends of the frame, an inclosed wagon-body extending forwardly and rearwardly of the axle over the underframe and upon which the body is substantially balanced, the forward portion of the body being shaped in conformity with the underframe to form a protecting-housing for the horse in direct draft connection with the axle, said body being yieldingly supported on the underframe and formed with a drop in rear of the axle and means for steering the caster-wheels.

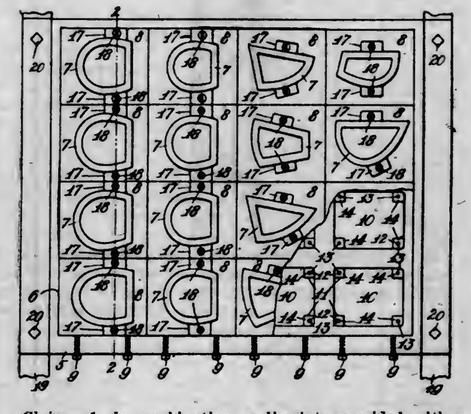
5. A vehicle having a rigid underframe extending forwardly of the axle and constituting with its forward portion the sills between which the animal is hitched, wheels journaled in the forward ends of said portions and an inclosed wagon-body extending over the underframe forwardly and rearwardly of the axle upon which the body is substantially balanced, said body having its forwardly-extending portion inclosed in conformity with the underframe, draft connection in proximity to the axle and means for steering the wheels by the driver.

6. A vehicle having a rigid underframe extending forwardly of the axle and constituting with its forward portion the sills between which the animal is hitched, wheels journaled in the forward ends of said portions and an inclosed wagon-body extending over the underframe forwardly and rearwardly of the axle upon which the body is substantially balanced, said body having its forwardly-extending portion inclosed in conformity with the underframe said body being yieldingly supported on the underframe and formed with a drop in the floor in rear of the axle and means for steering the wheels by the driver.

7. In a horse-drawn vehicle a rigid two-wheeled underframe provided with draft connection within the forward portion of said frame between the side sills of which the horse is adapted to travel and having its forward ends supported upon caster-wheels, an inclosed wagon-body pneumatically supported upon said underframe and having integral forward portions shaped in conformity to the forward portion of the underframe to provide space for the storage of goods within the wagon-body on opposite sides of the horse.

8. In a horse-drawn vehicle, a rigid two-wheeled underframe, forming with its forward portion a U-shaped frame within which the horse is adapted to be hitched for drawing the vehicle and the forward ends of which are supported upon caster-wheels, an inclosed vehicle-body extending over the forward end of the underframe and shaped in conformity therewith to form an inclosing housing over the underframe, said body being independent of the underframe and yieldingly supported thereon in a substantially balanced condition and lever connections for steering the caster-wheels by the driver.

840,147. DIE-PLATE. JOHN J. MALLOY, Brockton, Mass. Filed Mar. 7, 1906. Serial No. 304,665.



Claim.—1. In combination, a die-plate provided with a recess therein, an aperture leading from said recess, and a plurality of lugs projecting into said aperture, said lugs provided with perforations therein, a die located in said recess, means for clamping said die in said die-plate, a plurality of bolts adapted to pass through said perforations, a plurality of nuts for said bolts, and a receptacle suspended from said bolts.

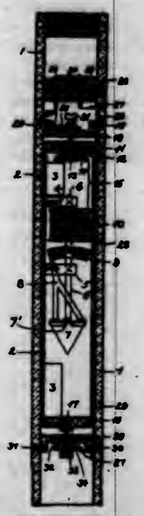
2. In combination, a die-plate provided with a recess therein, an aperture leading from said recess, and a plurality of lugs projecting into said aperture, said lugs provided with perforations therein, a die located in said recess, means for clamping said die in said die-plate, a plurality of bolts adapted to pass through said perforations, a plurality of nuts for said bolts, said nuts adapted to engage the walls of said aperture, and a receptacle suspended from said bolts.

3. In combination, a die-plate provided with a recess therein, a plurality of interchangeable dies having bases separable therefrom located in said recess and abutting edge to edge, means for clamping said bases in said die-plate one against another, and a plurality of receptacles suspended from beneath said die-plate.

840,148. MEANS FOR SURVEYING BORE-HOLES. HUGH F. MARRIOTT, Parktown, Transvaal. Original application filed Aug. 30, 1904, Serial No. 222,776. Divided and this application filed Feb. 21, 1905. Serial No. 246,751.

Claim.—1. An instrument for surveying bore-holes comprising a casing, a revoluble portion mounted therein, a plumb-bob pivotally carried by said revoluble portion, a switch-arm carried by said plumb-bob, a commutator carried by the revoluble portion over which the switch-arm is caused to travel as the revoluble portion is inclined, and a resistance-coil, the resistance-coil and commutator being

so arranged that the switch-arm starts from a normal position with a maximum resistance and as it passes over the commutator gradually varies the resistance, substantially as described.



2. An instrument for surveying bore-holes comprising in combination a casing, a portion pivoted therein, said portion being weighted upon one side, a plumb-bob carried by said pivoted portion, a switch-arm carried by said plumb-bob, a commutator and a resistance-coil carried by said pivoted portion, said commutator consisting of a number of metal contacts interspaced with non-conducting material, the commutator and coil being so connected that the switch-arm starts from a normal position with a maximum resistance and gradually as it passes over the commutator cuts out the resistance and provides a blank between each segment of the resistance, substantially as described.

3. In an instrument for surveying bore-holes in combination, an outer casing, a portion pivoted therein, said portion being weighted upon one side, a plumb-bob carried by said pivoted portion, a switch-arm carried by said plumb-bob a commutator and a resistance-coil carried by said pivoted portion and arranged so that the declination of the plumb-bob from the vertical causes the switch-arm to move over the commutator, the commutator and coil being arranged so that the switch-arm starts from a normal position with a maximum resistance and gradually as it passes over the commutator cuts out the resistance, each successive metal contact being interspaced with insulating material which forms a blank or break in the circuit, substantially as described.

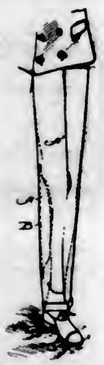
840,149. GARMENT-PAD. JOSEPH Z. MATHIEU, Willimantic, Conn. Filed Mar. 17, 1906. Serial No. 306,561.

Claim.—1. In devices of the class described, a long pad of light material having its upper end adapted for attachment of the cloth turned inward at the seam of the trousers-leg and its lower end provided with a device adapted for vertically-sliding engagement with the trousers-leg.

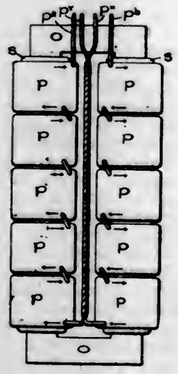
2. The combination with a trousers-leg, of a pendent pad having its upper end fixed to the inner face of the same and its lower end secured to the leg by devices permitting relative vertical movement of the pad and adjacent portion of the garment while preventing lateral displacement of said lower end.

3. In devices of the class described, a pad made up of layers of loose fluffy material quilted with alternate layers of light fabric and inclosed in a close-fitting covering, the whole having its upper end adapted for attachment to the inside of a trousers-leg and its lower end provided with a long vertical loop or bar, substantially as set forth.

840,149.



840,150. TRANSFORMER. WALTER S. MOODY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Dec. 16, 1901. Serial No. 86,030.



Claim.—1. In a transformer, the combination with a core constituting a single magnetic circuit, of a winding consisting of sets of coils, the sets being located on different parts of the core, the coils on the same part of the core being connected respectively in series with coils on another part of the core and the sets of coils in series being joined in multiple, and a second winding in inductive relation with respect to the first winding.

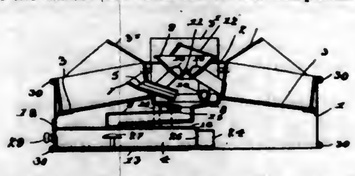
2. In a transformer, the combination with a core constituting a single magnetic circuit, of a winding consisting of multiply-connected sets of coils, each set consisting of an inner and an outer coil in series with each other.

3. The combination in a transformer, of a core having a single magnetic circuit, a primary winding mounted thereon, and a secondary winding consisting of two sets of coils in multiple with each other, each of said sets being composed of two coils, one of said coils being located on one leg of the core and the other coil located upon the other leg of said core.

4. In a transformer, the combination with a core constituting a single magnetic circuit, of a winding consisting of multiply-connected sets of coils located on different parts of the core, each set consisting of an inner coil on one part of the core in series with an outer coil on another part of the core.

840,151. SECRET-BALLOT AND DISTRIBUTER BOX. GEORGE L. MURDEN, Peru, Ind. Filed May 11, 1906. Serial No. 316,313.

Claim.—1. A ballot-box comprising a plurality of diametrically-disposed ballot-compartments, hoods arranged over the same which extend outwardly in opposite directions with respect to the same, and a receptacle adapted to receive the ballots cast from the several compartments.



2. A ballot-box comprising a plurality of radially-disposed compartments for the ballots, hoods extending outwardly over the compartments and providing access to the compartments in a radial, inward direction, and means for receiving the ballots cast from the several compartments.

3. A ballot-box comprising a plurality of radially-disposed compartments for the ballots to be cast, the floors of which incline downwardly in an outward direction from a central point, hoods extending in an upwardly-inclined direction over the compartments, a receptacle, and means for conveying the ballots cast from the compartments to the receptacle.

4. A ballot-box comprising a plurality of ballot-compartments, a common receptacle for receiving the ballots cast from the compartments, and a conductor intermediate the compartments and the receptacle and having inlets at each compartment and a common outlet at the receptacle.

5. A ballot-box comprising a plurality of ballot-compartments, a common receptacle for receiving the ballots cast from the compartments, and a conductor intermediate the compartments and the receptacle, said conductor comprising a plurality of passages terminating in a single passage leading to the receptacle.

6. A ballot-box comprising a plurality of ballot-compartments, a common receptacle for receiving the ballots cast from the compartments, and a conductor intermediate the compartments and the receptacle, said conductor comprising a plurality of downwardly-inclined passages communicating with the inner ends of the compartments, and a single passage leading from the lower ends of the said passages to the receptacle.

7. A ballot-box comprising a plurality of cushion-lined ballot-compartments, a cushion-lined receptacle, and a conductor intermediate the two for conveying the ballots to be cast from the compartments to the receptacle, said conductor comprising a plurality of cushion-lined passages, a cushion-lined conical member at the discharge end of the passages and provided with a central opening, and a cushioned passage leading from the opening of the member through the receptacle.

8. A ballot-box comprising a plurality of ballot-compartments, and a distributer arranged to distribute the ballots to the several compartments from a common point.

9. A ballot-box comprising a plurality of ballot-compartments, and a distributer arranged to distribute the ballots to the several compartments from a common point, said distributer comprising a receiving member and passages extending therefrom to the compartments.

10. A ballot-box comprising a plurality of radially-disposed ballot-compartments, and a distributer arranged to distribute the ballots to the several compartments from a common point, said distributer consisting of a receiving member arranged centrally between the compartments, and a passage between each compartment and said member.

11. A ballot-box comprising a plurality of radially-disposed ballot-compartments, and a distributer arranged to distribute the ballots to the several compartments from a common point, said distributer consisting of a funnel-shaped member supported centrally with respect to the compartment, and tubes communicating with the chamber and the several compartments.

12. A ballot-box comprising a plurality of radially-disposed ballot-compartments, a receptacle for receiving the ballots voted, a plurality of members for conveying the ballots from the compartments to the receptacle, and a distributer for distributing the ballots to the compartments from the receptacle, said distributer comprising a receiving member and a plurality of conduits between the chamber and the compartments which are closely nested among the said conveying members.

13. A ballot-box comprising a frame, a plurality of ballot-compartments supported thereon, a receptacle arranged on the frame, a plurality of tubes extending from the compartments, a tube arranged between the latter tubes and the receptacle, and distributing-tubes leading to the compartments.

14. A ballot-box comprising a frame, a plurality of ballot-compartments supported thereon, a receptacle arranged on the frame, a plurality of tubes extending from the compartments, a tube arranged between the latter tubes and the receptacle, a funnel-shaped member carried by the frame and tubes extending from said member into the several compartments.

15. A ballot-box comprising a plurality of radially-extending ballot-compartments, a system of tubes connected with the compartments and beginning centrally between the compartments and leading to a common point, a receptacle removably supported under the said point, said receptacle being provided with an opening for receiving the ballots, and a noise-deadening device supported in the receptacle and located under the opening for the ballots to strike upon when entering the receptacle.

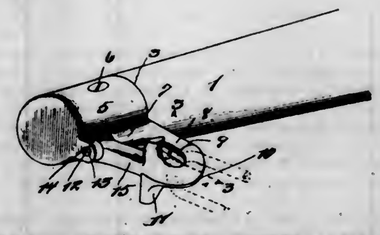
16. In a ballot-box, a ballot-receiving receptacle comprising a box-shaped structure, a slide on the top thereof and removable therewith, a slide at one end thereof, and a mouth controlled by the latter slide.

17. In a ballot-box, a receptacle comprising a rectangular box-shaped structure, a longitudinally-movable slide therefor provided with an opening for receiving the ballots that are cast, a slide mounted on the end of the box through which the receptacle is emptied, and a mouth controlled by the latter slide.

18. In a ballot-box, a receptacle comprising a rectangular box-shaped structure, a longitudinally-movable sliding cover therefor provided with an opening for receiving the ballots that are cast, a slide mounted on the end of the box through which the receptacle is emptied, a mouth controlled by the latter slide, and deflector-plates arranged in the receptacle for guiding the ballots into the mouth.

19. In a ballot-box, a receptacle comprising a rectangular box-shaped structure, a longitudinally-movable sliding cover therefor provided with an opening for receiving the ballots that are cast, a device in said structure arranged under the opening upon which the ballots strike on entering the receptacle, a slide mounted on the end of the box through which the receptacle is emptied, a mouth controlled by the latter slide, and deflector-plates arranged in the receptacle for guiding the ballots into the mouth.

840,152. WHIFFLETREE-HOOK. JAMES MCCLELLAND. Carson City, Mich. Filed Apr. 5, 1905. Serial No. 253,956.



Claim.—A whiffletree-hook, comprising a cup-shaped casting, a jaw formed integral therewith, and having a curved outer portion, a pivoted jaw also having a curved outer portion overlapping said integral jaw, a recess formed in the curve of said pivoted jaw, for relieving the same of strain, and a lug or shoulder, formed intermediate the ends of said pivoted jaw, substantially as described.

840,153. CASTING APPARATUS. GEORGE F. MCKEE and WILLIAM F. SCHILLING, Aspinwall, Pa. Filed Nov. 8, 1905. Serial No. 286,422.



Claim.—1. The combination with a flask, of a two-part gate, each part having a tapering recess formed therein adapted to form a common opening between said parts, bars mounted upon said flask, and means to suspend the parts of said gate from said bars, substantially as described.

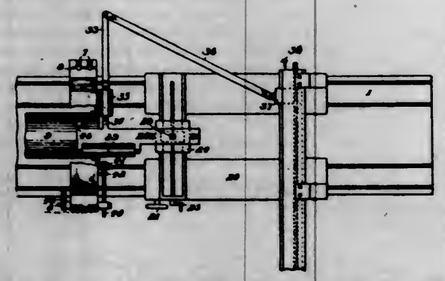
2. A gate for flasks, consisting of two parts forming a frusto-conical-shaped gate, each part having a tapering recess formed therein adapted to form a common opening having a sink-head, means to detachably suspend said gate within one part of a flask, substantially as described.

3. The combination with a two-part flask adapted to contain a two-part mold of indestructible material, of a movable two-part gate of indestructible material, of a of the gate having a recess formed therein adapted to provide a common opening and means to support said gate in one part of the flask, substantially as described.

4. A gate for flasks consisting of two parts of a frusto-conical shape, said parts having coinciding recesses adapted to form a vertically-disposed opening in said gate, and means to support said gate in the flask, substantially as described.

5. A two-part flask, a mold of indestructible material arranged within said flask, an indestructible gate formed separately from and located in said mold, said gate having a tapering opening therein with the smaller end toward the bottom of the gate and said mold being provided with a vent-opening of frusto-conical form, the larger end of said vent-opening being toward the mold-cavity of the flask.

840,154. PIPE-FLANGING MACHINE. CHARLES R. MCKIBBEN, Pittsburg, Pa. Filed Apr. 9, 1906. Serial No. 310,608.



Claim.—1. In a steady-rest for pipe-flanging machines, radially-adjustable blocks, antifriction-rollers carried by said blocks and arranged to support and steady the pipe and radially-adjustable dogs adapted to engage and support the flanged collar on the pipe.

2. In a steady-rest for pipe-flanging machines, means pressing against the flange of the collar on the pipe to prevent the canting of the collar by the pressure of the flanging-tool.

3. A steady-rest for pipe-flanging machines, consisting of two parts, a pivot-pin connecting them together, a holddown carried by said pivot-pin and adapted to be brought against the face of the flange of the collar on the pipe, and means for moving the pin longitudinally.

4. A steady-rest for pipe-flanging machines, consisting of pivotally-connected members, a holddown carried by the pivot-pin and adjustable toward and from the axis of the steady-rest, and a nut on said pivot-pin to move the holddown against the flange of the collar on the pipe.

5. In a pipe-flanging machine, means for rotating the pipe, a slide-rest movable toward and from the pipe, a flanging-tool carried by said slide-rest and provided on one side with an antifriction-roll to bear against the interior of the tube and on the other side with a flange-turning device.

6. In a pipe-flanging machine, a pivoted flange-turning lever, a block, and a link connecting the lever and the block, and means for moving the block transversely of the pipe.

7. In a pipe-flanging machine, a flanging device adapted to enter the end of the tube, antifriction means on one side of the device, and a bending-tool on the other side thereof, comprising a lever, a flanging-roller carried thereby, and means for moving said lever so as to cause the roller to gradually turn a flange on the end of the pipe.

8. In a pipe-flanging machine, a steady-rest for the pipe, means for rotating the pipe therein, a slide-rest adjustable longitudinally of the pipe, a tool-rest adjustable transversely of the pipe, a flange-turning tool carried by the tool-rest, and means independent of the tool-rest for causing the said tool to bend a flange on the pipe.

9. In a pipe-flanging machine, a bending-tool, a support for the same, and means for adjusting the pivoted point of the tool transversely of the support.

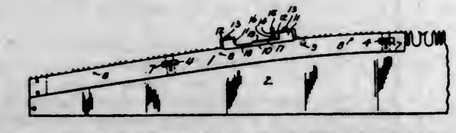
10. In a pipe-flanging machine, a support adapted to hold a flanging-tool in one working position, a flanging-tool adapted to be detachably secured to said support, an arm adapted to be detachably secured to said support and to hold a flanging-tool in a second working position.

11. In a pipe-flanging machine, a support, an arm adapted to be detachably secured thereto and projecting laterally therefrom, and a flanging-tool adapted to be supported on said arm, whereby arms having different lateral extensions may be severally secured to said support.

12. In a pipe-flanging machine, a steady-rest for the pipe, dogs adjustable toward and from the pipe to support a collar on the pipe, and a pipe-cutter carried by one of the dogs.

13. In a pipe-flanging machine, a steady-rest for the pipe, dogs adjustable toward and from the pipe to support a collar on the pipe, and a pipe-cutter adjustable along one of said dogs toward and from the pipe.

840,155. SAW GAGE AND JOINTER. JOHN P. OLSON, Tacoma, Wash. Filed July 24, 1905. Serial No. 271,031.

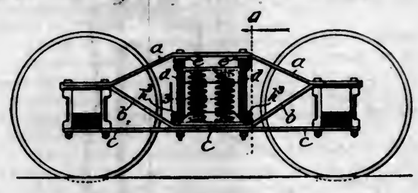


Claim.—In a saw-gage, the combination of a pair of guide-bars on each side of a saw, clamping-pieces secured to the inner edges thereof at suitable positions, a pair of yoke outside of said guide-bars and joined by two rods, one of said rods being adapted to be on each side of a saw-tooth or saw-raker, and a clamp-screw passing through one of said yokes and adapted to screw against the adjacent guide-bar whereby the other yoke is pressed against the other guide-bar and said bars are clamped to the saw.

840,156. RAILWAY-CAR TRUCK. SPENCER OTIS, Chicago, Ill., assignor to National Patent Holding Company, Rapid City, S. D., a Corporation of South Dakota. Filed Dec. 26, 1905. Serial No. 293,377.

Claim.—1. In a railway-car truck, a column comprising a wrought-metal channeled bar having flanges substantially parallel to its web and substantially parallel members connecting the flanges and web.

2. In a railway-car truck, having columns on each side comprising channeled bars having flanges substantially parallel to their webs and substantially parallel members connecting the flanges and web, and tie-bars secured to the flanges connecting the opposite sides of the truck.



3. In a railway-car truck, a substantially rectangular wrought-metal spring-plate having flanges on its four sides.

4. In a railway-car truck, the combination of a substantially rectangular metallic spring-plate having flanges on its four sides of flanged metal columns secured through their flanges to the spring-plate flanges on opposite sides of said plates.

5. In a railway-car truck, the combination of flanged metal spring-plates, flanged channeled columns secured thereto, an angle tie-bar connecting the upper ends of the columns on opposite sides of the truck, and a flat tie-bar connecting the lower ends thereof.

6. In a railway-car truck, a column comprising a flanged channeled wrought-metal bar, and an angle-brace member in the upper end of the channeled bar.

7. The combination in a railway-car truck having the usual arch-bars and tie-bars of substantially rectangular metal spring-plates and columns connected to the transverse tie-bars said columns comprising a channeled wrought-metal bar, an angle-brace member in the upper end thereof, and a bolt passing through the tie-bars, spring-plate and angle-brace.

840,157. WORM-GEARING. SPENCER OTIS, Chicago, Ill., assignor to National Patent Holding Company, Rapid City, S. D., a Corporation of South Dakota. Filed Mar. 16, 1906. Serial No. 306,399.



Claim.—1. In a worm-gearing, a solid tooth provided with a transverse recess, and an antifriction device mounted in the recess and forming a part of the tooth, said antifriction device projecting laterally on both sides of the tooth to form the bearing-surface of the tooth.

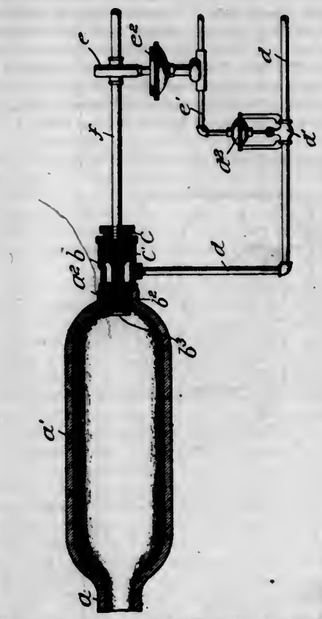
2. In a worm-gearing, a solid roller provided with a transverse recess, and an antifriction-ball filling the recess and forming a part of the tooth and projecting laterally on both sides of the tooth to form the bearing-surface of the tooth.

3. In a worm-gearing, a solid tooth provided with a transverse recess forming a ball-pocket, an antifriction-ball in the pocket, and a recessed plug forming a part of the tooth for retaining the ball in operative position.

4. In a worm-gearing, a solid tooth provided with a screw-threaded transverse recess forming a ball-pocket, an antifriction-ball in the pocket projecting laterally on each side of the tooth to form a bearing-surface thereof, and a screw-threaded plug forming a part of the tooth for retaining the ball in operative position.

5. In a worm-gearing, a worm having transverse recesses extending therethrough, antifriction-balls in the recesses, each ball projecting on each side of the worm, and plugs forming a part of the worm for retaining the balls in operative position.

840,158. STEAM-TRANSFORMER. SPENCER OTIS, Chicago, Ill., assignor to National Patent Holding Company, Rapid City, S. D., a Corporation of South Dakota. Filed June 8, 1906. Serial No. 320,762.



Claim.—1. In a steam-transformer, a chamber, means for introducing steam into the chamber, means for simultaneously introducing water into the chamber, and means governed by the temperature of the incoming steam for regulating the supply of water.

2. In a steam-transformer, a chamber, means for introducing superheated steam into the chamber, means for introducing a water-spray simultaneously with the steam into the chamber, and means governed by the temperature of the incoming steam for regulating the amount of water.

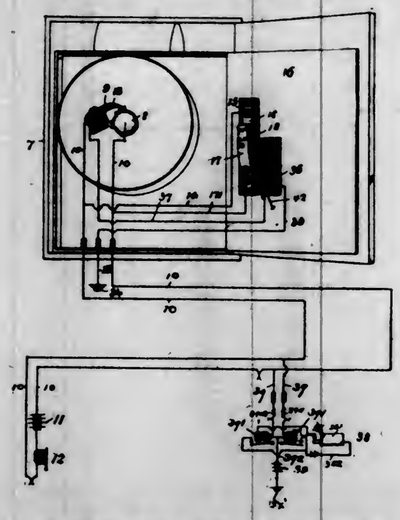
3. In a steam-transformer, a chamber, a steam-inlet connected to a source of steam-supply, a water-inlet, a water-supply pipe connected to the water-inlet, a valve in the water-supply pipe, a thermostat in the steam-supply pipe, and means connecting the thermostat with the valve to operate the valve.

840,159. ELECTRICAL SIGNALING APPARATUS. JOHN D. PEACHEY, East Orange, N. J. Filed Jan. 10, 1903. Serial No. 138,472.

Claim.—1. In a combined fire and police signaling system, the combination with a box having indicating words or marks applied thereto and a switching device, of a word or mark concealing and exposing drop plate or shutter arranged adjacent to said words or marks and adapted to automatically coöperate with the switching device and indicate the central office at which the signal will be recorded when the box is operated, said box having electric connection with central offices, and electrical appliances, substantially as set forth.

2. The combination with a fire central station and its normally closed electrical circuit having street-boxes thereon, circuit-breaking means in said boxes adapted to open said normally closed circuit, and police-circuit wires and connections connecting with the said normally closed fire-circuit, and with a police central station distant from and independent of the fire central station, and means stationed at said boxes adapted to prevent the opening of the fire-circuit during the operation of the police-circuit wires and connections, substantially as set forth.

3. The combination with a municipal fire central station and its normally closed metallic circuit having street-boxes thereon with circuit closing and breaking apparatus therein, the said circuit closing and breaking apparatus being normally open to ground, of two tap-wires connected to the normally closed metallic circuit, one tap-wire connected on each side of the said circuit between the fire-station apparatus and the first box out from the fire-station on that side of the line of said circuit, both tap-wires extending to a police central station distant from the fire central station and both being normally grounded through resistance, relays and battery as shown and set forth.



4. In combination with a police central office and a fire central office separate and distant from one another, a box having a circuit-changing wheel and its metallic fire-circuit connections and terminals, a police-circuit wire in said box, of a switch arranged in said box adapted to hold fire-circuit closed while said box is being used for the transmission of police-signals and a key for operating the switch to mechanically release the fire-circuit terminals when opening the box, substantially as set forth.

5. In combination with a municipal or street box having therein fire-signaling closed-circuit connections and appliances, a ground-wire tapped on a terminal of the fire-circuit and attached to the closed terminals of the police-circuit, a lever holding the fire-terminals in contact, a catch holding said lever against said fire-terminals, and a key adapted to open the box, detach the lever and its catch and open both the fire and police terminals to render the police-circuit inoperative and the fire-circuit and its signal appliances operative, substantially as set forth.

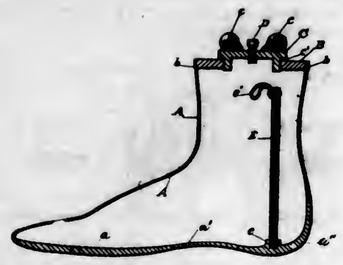
840,160. PNEUMATIC TREE. DAVID M. REID, Mingo Junction, Ohio. Filed Dec. 1, 1905. Serial No. 289,894.

Claim.—1. A pneumatic tree or form for boots and shoes having a main body, the upper and ankle of which are composed of elastic material, and having a sole flexible at the waist and stiff at the ball and toe and at the heel.

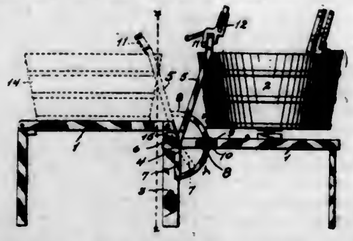
2. A pneumatic tree for boots and shoes provided interiorly with means detachably connected to the heel portion for forcing said tree into boots or shoes, or withdrawing same therefrom.

3. A pneumatic tree for boots and shoes provided with an elastic upper, a sole flexible at the waist, detachable means at the upper part of the ankle for opening or hermetically closing the tree, means through which the tree may be inflated and means interiorly disposed for forcing into or withdrawing the tree from a boot or shoe.

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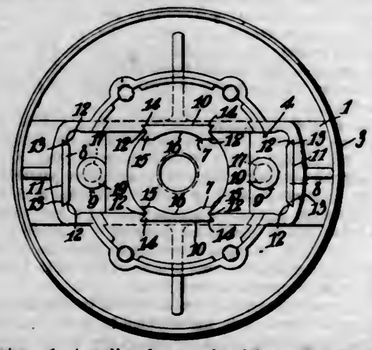
840,161. WRINGER-SUPPORT FOR WASHING-MACHINES. WILLIAM S. S. RODGERS, Columbus, Ohio. Filed May 11, 1905. Serial No. 259,855.



Claim.—1. The combination with a stand, of a wringer-support pivotally mounted on the stand comprising side bars carrying a wringer-rest at their upper ends, stop-pieces projecting downwardly from the said bars and adapted to engage the stand, guide-pieces extending upwardly from the stop-pieces to the side bars, and means mounted on the stand and associated with the guide-pieces for fastening the wringer-support in place.

2. The combination with a stand, of a wringer-support pivotally mounted on the stand, the said support comprising side bars and stop-pieces comprising laterally-extending portions, a wringer-rest carried by the side bars at their upper ends, segmental pieces extending from the side bars to the stop-pieces, the said laterally-extending portions of said side bars and stop-pieces adapted to contact with the stand to limit the swinging movement of the support, and means carried by the stand and engaging with the segmental pieces for fastening the wringer-support in position.

840,162. PULLEY FOR PULVERIZING-MILLS. GEORGE E. RUDNICK, Iola, Kans. Filed Aug. 13, 1906. Serial No. 330,409.

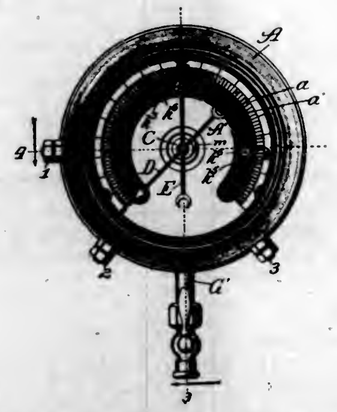


Claim.—1. A pulley for a pulverizing-mill comprising a rectangular chamber having vertical grooves in its ends and central vertical grooves in its sides provided with overhanging walls, and removable bearing-plates having their edges shaped to interlock with the walls of the grooves and removable in a direction longitudinal of the grooves.

2. A pulley for a pulverizing-mill comprising a rectangular chamber having vertically-extending grooves in its side and end walls, said grooves being provided with overhanging walls, and plates having their edges shaped to interlock with the overhanging walls for removably holding the plates in position.

3. A pulley for a pulverizing-mill comprising a body formed with a box-shaped chamber and having apertures in its bottom, and removable wearing devices arranged in the said apertures.

840,163. CONTROLLING MEANS FOR FLUID-RESERVOIRS. JACOB L. SCHUREMAN, Chicago, Ill. Filed Jan. 16, 1906. Serial No. 296,425.



Claim.—1. In a pressure-gage, the combination with a scale, of an indicator adapted to indicate all pressures on the gage, an electrode movable with relation to said indicator and adapted to traverse only a portion of its range, contacts for said electrode at the opposite limits of its movement, and pressure-actuated means connected with said indicator and operating to move it and said electrode, for the purpose set forth.

2. In a pressure-gage, the combination with a scale, of an indicator adapted to indicate all pressures on the gage, and an electrode on a common axis with said indicator and movable with relation to said indicator and adapted to traverse only a portion of its range, contacts for said electrode at the opposite limits of its movement, and pressure-actuated means connected with said indicator and operating to move it and said electrode, for the purpose set forth.

3. In a pressure-gage, the combination with a scale, of an indicator adapted to indicate all pressures on the gage, and an electrode on a common axis with said indicator and movable with relation to said indicator and adapted to traverse only a portion of its range, separate arbitrarily-disposed electrical contacts for said electrode at the opposite limits of its movement, and pressure-actuated means connected with said indicator and operating to move it and said electrode, for the purpose set forth.

4. In a pressure-gage, the combination of separate arbitrarily-disposed electrical contacts, a shaft, an indicator on the shaft, movable to indicate reservoir-pressure, an electrode resiliently connected with said shaft to adapt it to be moved with said indicator between said contacts and means actuated by the pressure in the reservoir for moving said indicator and electrode, whereby the indicator will show at all times the reservoir-pressures and the electrode will encounter the contacts for making electrical connection therewith.

5. In a pressure-gage, the combination of separate arbitrarily-disposed electrical contacts, a shaft provided with a stop, an indicator on the shaft and movable therewith for registering reservoir-pressure, an electrode positioned on the shaft to cause it to encounter said contacts, and provided with a stop, the electrode being loosely mounted on the shaft to adapt it to be arrested by said contacts when encountered during its varying movements, a coil-spring about the shaft having its ends crossed over said stops to cause said spring ends to be in the path of said stops, whereby the electrode will move with said indicator between said contacts and the spring will be caused to flex when the shaft is rotated beyond the points at which the electrode is arrested, and means actuated by the reservoir-pressures for moving said indicator and electrode, whereby the indicator will show at all times the reservoir-pressure and the electrode makes electrical connections with the contacts.

6. A pressure-gage comprising, in combination, a dial provided with a pressure-scale and having an opening concentric with the scale, separate electrical contacts projecting through said opening and adjustable therein relative to each other, a shaft provided with a stop, an indicator secured on said shaft for registering reservoir-pressure, an electrode positioned on the shaft to cause it to encounter said contacts and provided with a stop, the electrode being loosely secured to the shaft to adapt it to be arrested by said contacts when encountered during its varying movements, a coil-spring about the shaft having its ends crossed over said stops to cause said spring ends to be in the path of said stops, whereby the electrode is movable with said indicator between said contacts and the spring is caused to flex when the shaft is rotated beyond the points at which the electrode is arrested, and means actuated by the pressure in the reservoir for moving said indicator and electrode whereby the indicator will show at all times the reservoir-pressure and the electrode makes electrical connections with the contacts.

7. In a pressure-gage, the combination with a casing, of a central support, a movable electrode on said support, and adjustable contact members supported concentric with and surrounding said central support.

8. In a pressure-gage for the purpose set forth, the combination with a casing, of brackets secured to said casing in relatively arbitrary positions and insulated from each other, each provided with a peripherally-grooved ring portion positioned centrally of the casing, contact-plates provided at their outer extremity with contact-points and adjustably secured on the respective ring portions of the brackets, an electrode movable between said contact-points for forming electrical connections therewith and means actuated by the pressure in the reservoir for actuating said electrode, whereby the electrode will be caused to encounter and make electrical connections with the contacts.

9. In a pressure-gage for the purpose set forth, the combination of a casing, a dial provided with an opening, contact members in said casing insulated from each other, the outer ends of said members terminating in contacts extending through the opening in said dial, said contacts being adapted to be adjusted independently of each other in said opening, an electrode movable between said contacts for forming electrical connections therewith, and means actuated by the pressure in the reservoir for actuating said electrode, whereby the electrode will be caused to encounter and make electrical connections with the contacts.

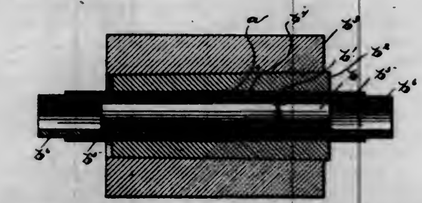
10. In a pressure-gage for the purpose set forth, the combination with a casing of a dial provided with an opening, brackets secured to the casing and insulated from each other, contact members adjustable on said brackets and terminating in contacts extending through the opening in said dial, an electrode movable between said contacts for forming electrical connections therewith, and means actuated by the pressure in the reservoir for actuating said electrode, whereby the electrode will be caused to encounter and make electrical connection with said contacts.

840,164. TIE FOR WIRE FENCING. WILLIAM H. SHIERSON, Adrian, Mich. Filed Feb. 24, 1906. Serial No. 302,693.



Claim.—In a tie for wire fencing, the combination with the crossed strand and stay wires, of a tie-wire having its loop or body portion lying upon the strand-wire at one side of the stay-wire, legs passing in the rear of the stay-wire, the terminal portion of one leg being formed into an eye around the stay-wire contiguous to the strand-wire, the other leg after passing in the rear of the stay-wire having its end portion curving in the arc of a circle across the strand-wire on the opposite side of the stay-wire from the loop of the tie, the terminal portion of said last-mentioned leg curving inwardly toward the stay-wire and engaging the outer face of the eye of the first-mentioned leg which is formed around said stay.

840,165. BUSHING AND PROCESS OF MAKING SAME. JOHN R. SIMPSON, Troy, Ohio. Filed Feb. 9, 1906. Serial No. 300,345.



Claim.—1. The herein-described method of manufacturing journal-bearings which comprises employing a sleeve, a piece of metal fabric longer than said sleeve rolled upon itself and inserted therein, said fabric being previously charged with a lubricant, and applying pressure to the protruding ends of said fabric to compress said fabric to a length substantially equal to that of the sleeve.

2. As an article of manufacture, a journal-bearing comprising a sleeve having corrugations on the exterior thereof, a lining for said sleeve of metallic fabric arranged in convolute form and charged with lubricant.

3. As an article of manufacture, a journal-bearing comprising a sleeve having an undulating or crenate interior, a lining for said sleeve of metallic fabric arranged in convolute form and charged with lubricant.

4. As an article of manufacture, a journal-bearing comprising a sleeve having corrugations on the exterior thereof, and an undulating or crenate interior, a lining for said sleeve of metallic fabric arranged in convolute form and charged with lubricant.

5. As an article of manufacture, a journal-bearing comprising a sleeve, a strip of metallic fabric having the warp and woof respectively thereof arranged at an angle with the respective edges of the strip, said strip of fabric being arranged in convolute form within said sleeve and charged with lubricant, substantially as specified.

6. As an article of manufacture, a journal-bearing comprising a sleeve having corrugations on the exterior thereof, and an undulating or crenate interior, a lining for said sleeve comprising a strip of metallic fabric having its warp and woof angularly arranged with the respective edges of the strip of fabric, said metallic fabric being charged with lubricant, substantially as specified.

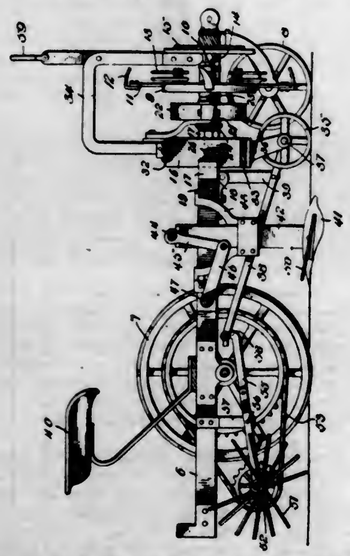
7. As an article of manufacture, a journal-bearing comprising a sleeve, a lining for said sleeve consisting of a strip of metallic fabric in convolute form, the respective convolutions of said fabric being collapsed or buckled, and lubricant within said fabric, substantially as described.

8. The herein-described method of manufacturing journal-bearings which comprises employing a sleeve, a strip of metallic fabric having the warp and woof angularly arranged, said piece of fabric being of greater dimensions than the length of said tube, charging said fabric with lubricant, rolling said lubricant-charged metallic fabric upon itself and inserting it within the sleeve, applying pressure to the projecting ends of said fabric, whereby the fabric will be compressed within said sleeve causing said sleeve to expand in irregular outline and the respective convolutions of said fabric to collapse or buckle, substantially as specified.

9. The herein-described method of manufacturing journal-bearings which comprises employing a sleeve, a strip of metallic fabric, charging said fabric with a mixture comprising a lubricant, and a binder therefor, said mixture also containing particles of antifriction metal, rolling the said lubricant-charged metallic fabric upon itself, and inserting within the sleeve, applying pressure to the projecting ends of said fabric, whereby the fabric will be compressed within the sleeve and subsequently baking the structure thus produced, whereby the particles of antifrictional metal will be fused and unite the respective convolutions of the metallic fabric, substantially as specified.

10. As an article of manufacture, a journal-bearing comprising a sleeve, a piece of metallic fabric in convolute form, a lubricating mixture comprising a lubricant with binding material within the meshes and convolutions of said fabric, the respective convolutions of the fabric being united by particles of non-abrasive metal, substantially as specified.

840,166. BEET-HARVESTER. WILLIAM E. SLEIGHT, Lansing, Mich. Filed Nov. 2, 1904. Renewed June 20, 1906. Serial No. 322,607.



Claim.—1. In a beet-topper, the combination with a main wheeled frame having guides, of a minor frame slidable vertically in said guides, and supported on wheels which travel close beside the row, and a knife-wheel rotatable in said minor frame and driven by gearing from the wheels of the main frame.

2. In a beet-topper, a wheel carrying knives, and spring-fingers in advance of the knives, substantially as described.

3. In a beet-harvester, the combination with a main wheeled frame and diggers or lifters carried thereby, of a minor frame which has free vertical movement in the main frame and which travels on wheels adjacent the row, and topping-knives carried by the minor frame.

4. In a beet-topper, the combination with a main wheeled frame, of bearing-boxes slidable vertically in the main frame, and supported on independent wheels, a knife-wheel the shaft of which is carried in said boxes, and a driving-gearing between said knife-wheel and the main wheels.

840,167. PROCESS OF MAKING A POLISHING COMPOSITION. MARIE SPRINGBORN and ERICH SPRINGBORN, London, England. Filed May 20, 1905. Serial No. 261,418.

Claim.—1. The process for the manufacture of a chemical renovating and polishing preparation, which consists in treating paraffin-oil with permanganate of potassium for twenty-four hours to cause the paraffin-oil to absorb the oxygen given off by the latter and form an oxidized hydrocarbon having cleansing properties, then decanting it and treating it with an alcoholic solution of asafetida.

2. The process of manufacturing a chemical preparation for staining, renovating and polishing vegetable materials and fabrics, which consists in subjecting one hundred and ninety-five parts by weight of paraffin-oil to the action of four and one-half parts by weight of permanganate of potassium in crystals for twenty-four hours, then decanting it, treating it with an alcoholic solution in the proportion of one ounce of asafetida to one pound of alcohol, applied at ordinary temperature, as set forth.

840,168. CHECK FOR SAFE KEEPING OF ARTICLES. FRED C. STEVENSON, Los Angeles, Cal., assignor of one-half to Moye W. Stephens and Milo Henry Smith, Los Angeles, Cal. Filed Jan. 12, 1905. Serial No. 240,700.



Claim.—A check device comprising a fastener member comprising a flat base portion having upturned flanges or ears and an upturned end forming a gripping-jaw, a spring-actuated portion pivotally mounted on said flanges or ears and having a forwardly-extending end provided with a downward-turned end forming a gripping-jaw coöperating with said first-named jaw and with a rearwardly-extending portion, said flat base portion extended in the same plane to form a solid integral flat extended portion adapted to receive a number or identification-mark and provided with a perforation at its rear end by which the fastener member may be suspended, in combination with a check member in flat form to receive a corresponding number or identification-mark and also provided with a perforation adapted to receive said gripping-jaws.

840,169. BATHING-HOOD. ROBERT STOLLBERG, New York, N. Y., assignor to D. C. Hall and Company, New York, N. Y., a Firm. Filed May 3, 1906. Serial No. 314,974.



Claim.—1. A bathing-hood comprising a sheet-rubber cap which fits the head closely at the edge of the hair and is provided with a skirt extending from the edge of the crown, a covering secured to the edge of the skirt, the edges of said covering and skirt being plaited leaving an opening which receives the head loosely, and a band attached to the edge of said opening, the ends being left loose to form tie-strings.

2. A bathing-hood comprising a rubber cap formed from two sheets of rubber, the upper sheet comprising the crown and the lower sheet having a head-opening, a skirt extending from the edge of the crown, an ornamental covering secured to the edge of the skirt, the edges of said covering and skirt being plaited leaving an opening which receives the head loosely and a band attached to the edge of said opening.

3. A bathing-hood comprising a cap having a skirt extending from the crown thereof, a covering secured to the edge of the skirt, the edges of said covering and skirt being plaited, and a band attached to said plaited edge.

4. A bathing-hood comprising a cap having a skirt extending from the crown thereof, a covering secured to the edge of the skirt, the edges of said covering and skirt being plaited, and a band folded at its mid-width and atttached to the plaited edge, the ends of the band forming tie-strings.

5. A bathing-hood comprising a rubber cap having a skirt extending from the crown thereof, an ornamental covering of waterproof material secured to the edge of the skirt, the edges of said covering and skirt being plaited, and a band of ornamental waterproof material attached to the plaited edge, the ends of said band forming tie-strings.

840,170. HEEL-CUSHION. JOHN T. STORY, New York, N. Y. Filed May 7, 1906. Serial No. 315,639.



Claim.—1. A heel-cushion, comprising two connected flexible members, pads on the adjacent surfaces of the members, and a row of stitches around the edge of each member for securing the pad thereto, each pad comprising a web of cushioning material, a backing of cloth presented to its respective member, and stitches securing them together.

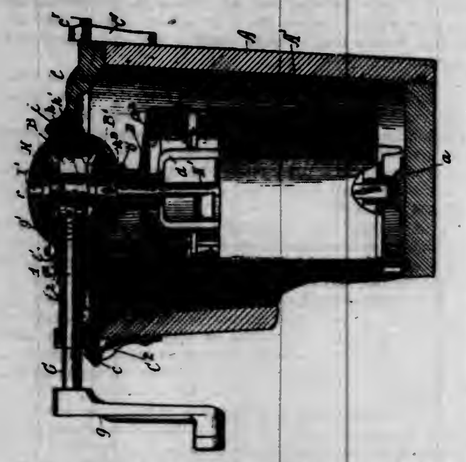
2. A heel-cushion, comprising two flexible members, pads on the adjacent surfaces of the members, and a row of peripheral stitches on each member for securing the pad thereto, each pad comprising a web of cushioning material, a cloth backing therefor, and rows of stitches holding the two together and the ends of which are secured by the peripheral row of stitches.

3. A heel-cushion, comprising two flexible members, stitches for uniting them, pads on the adjacent surfaces of the members, and a row of peripheral stitches on each member for securing the pad thereto, each pad comprising a web of curled hair, a cloth backing therefor, and rows of stitches holding the two together and the ends of which are secured by the peripheral row of stitches, in combination with a filler-piece of flexible material substantially like the said members and adapted to be loosely held between and in contact with the pads on the latter.

4. A heel-cushion, comprising two flexible members, stitches for uniting them, pads on the adjacent surfaces of the members, and a filler-piece loosely arranged between the said member and in contact with said pads.

5. As an article of manufacture, an insole, a cushion attached thereto, a member secured at the heel portion of the insole, a cushion on the said member presented to the cushion on the insole, stitches for securing said member on the insole, a filler-piece loosely arranged between the heel portion and said member and disposed in contact with the cushions thereof, and stitches for securing the cushions on the said member and the insole, said cushions comprising webs of suitable fabric of substantially the same elasticity.

840,171. ICE-CREAM FREEZER. LEE STURGES, Chicago, Ill. Filed Jan. 22, 1906. Serial No. 297,179.



Claim.—1. In a rotating mechanism the combination with a casing having a circular aperture in its bottom and a raised seat surrounding the same, a gear journaled in the bottom of the casing with the hub extending through said opening, a pinion meshing therewith, a gear meshing with said pinion oppositely disposed from the first gear, a hub thereon extending axially through said first gear, a close-fitting cover for the gear-case, a pin therein extending into said last-named gear and affording a bearing therefor, means for rotating said pinion and angular sockets in the end of each hub for engagement with the element to be rotated.

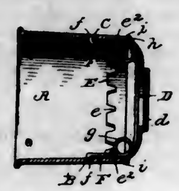
2. In a rotating mechanism the combination with concentric inwardly-facing beveled gears, hubs integral with each and the hub of one extending axially into the other and affording a bearing for the top of the other hub, an angular socket in the end of each hub, a pinion meshing with both of said gears, means for rotating the same, a gear-case inclosing said mechanism and having an aperture through the bottom and a raised seat adjacent the same, providing an annular channel, said casing affording a bearing for both gears.

3. In a device of the class described the combination with a bar of a central casing thereon having an aperture in its bottom, a shaft journaled in said casing, a pinion on the inner end thereof, upper and lower beveled gears in said casing meshing with said pinion, a tubular hub on the lower gear extending through the aperture in said casing, a tubular hub on the upper gear extending through the lower gear and having a shoulder thereon bearing on said lower gear, and a raised annular seat in the bottom of said casing affording a cup about the same and supporting said gears.

4. An actuating mechanism comprising a casing having a removable top provided with an aperture through said top and bottom, a flange around the bottom of the casing affording a chamber, a gear journaled in said casing bearing on said flange and having a hub, a gear in said casing opposite said gear and having a hub projecting into the same, a bearing for said last-named gear in the top of the casing, means in said hubs adapted to engage the mechanism to be operated, a pinion positioned to drive said gears and means for actuating the same.

840,172. HUB-CAP. JAMES W. SUMMERS, Augusta, Ga. Filed June 8, 1906. Serial No. 320,785.

Claim.—1. In a combined hub band and cap, the band A, provided in the inner face of its wall with a pocket B, and diametrically opposite it with a perforation C therethrough, with the cap D and spring-catches secured therein, each spring-catch having on its free end a laterally-bent head, one of said heads to engage the pocket B and the other to engage the perforation C, substantially as described.



2. In a combined hub band and cap, the band A provided in the inner face of its wall with a pocket B and diametrically opposite it with a perforation C therethrough, with the cap D, its band E having a scalloped edge and two scallops slitted, the spring-catches secured within the cap D and passing through said slitted scallops and guided thereby into engagement with the pocket B, and the perforation C, substantially as described.

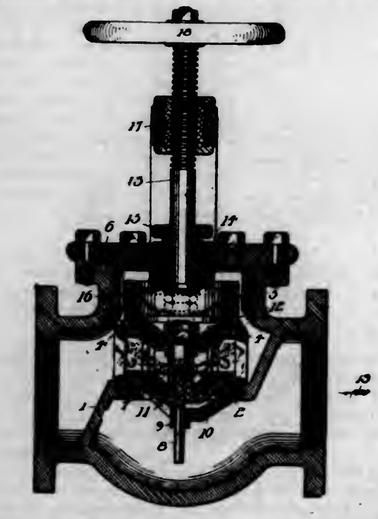
840,173. NECKTIE-HOLDER. JOSEPH L. SUTHERLAND, Rockford, Ill. Filed June 19, 1905. Serial No. 265,965.



Claim.—1. A necktie-holder comprising a shield having loops and a spring-clasp, said clasp having arms engaging said loops and holding them in relative position, and a retainer connected thereto for engaging the collar.

2. In a necktie-holder the combination of a shield of a single piece of wire having loops and a spring-clasp, said loops and spring-clasp interlocking with each other, and a retainer of a separate piece of wire having wings, said retainer and shield being connected, wings of said retainer adapted to engage the folds of a collar and hold the necktie-holder in position.

840,174. NON-RETURN VALVE. JULIUS R. TANNER, Pittsburg, Pa. Filed June 13, 1905. Serial No. 265,021.

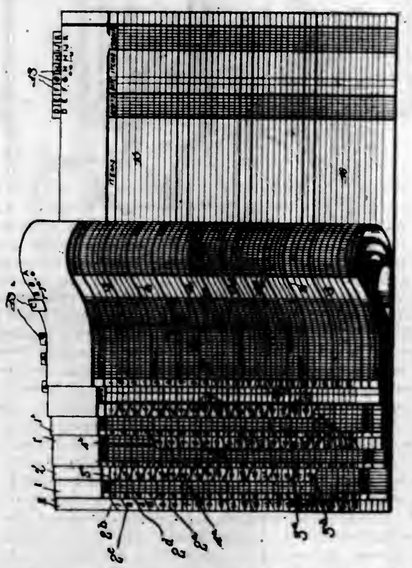


Claim.—1. In a non-return valve, an insertible valve-seat in combination with a dash-pot member supported by said valve-seat member, a piston in the dash-pot, and a valve between the dash-pot and the seat.

2. In a non-return valve, a valve-seat member insertible in the same, a dash-pot member carried by said valve-seat member outside the valve-seat opening, a valve, and a second dash-pot member carried thereby, the valve and dash-pot both being the same side of the valve-seat.

3. In a non-return valve, a valve-seat member, a dash-pot cylinder supported thereby, a dash-pot piston therein, a valve secured to said piston and adapted to said seat, the said cylinder and valve both being on the same side of said valve-seat member.

840,175. COMBINATION LEDGER AND INDEX. ALDON F. THOMPSON, Conyers, Ga. Filed May 12, 1904. Serial No. 207,661.

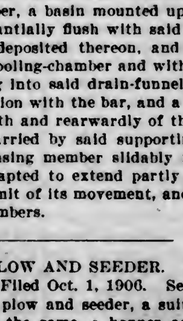


Claim.—1. An account-book having a set of pages provided with a set of tabs, an index-sheet arranged adjacent said set of tabs, a second set of pages, a second set of tabs connected with said second set of pages, one end of said second set of tabs being located at a point removed from the end of the first-mentioned set of tabs to expose a portion of said first-mentioned set of tabs and normally conceal the remainder of said first-mentioned set of tabs, and a second index-sheet arranged adjacent said second set of tabs and also adjacent the exposed portion of said first-mentioned set of tabs.

2. An account-book having a set of pages provided with a set of marginal tabs having a series of characters thereon, an index-sheet having a series of characters identical with the characters on said tabs, a second set of pages, a second set of tabs connected with said second set of pages, one end of said second set of tabs being located at a point removed from the end of the first-mentioned set of tabs to expose a portion of said first-mentioned set of tabs and normally conceal the remainder thereof, said second set of tabs being provided with a series of characters, and a second index-sheet having a series of characters identical with the series of characters of the first-mentioned set of tabs, said index-sheet being arranged adjacent the second set of tabs and the exposed portion of the first set of tabs.

840,176. COOLING AND DISPENSING CABINET. JULIUS THUEMLING, Chicago, Ill. Filed June 4, 1906. Serial No. 320,093.

Claim.—1. A device of the kind specified comprising a base, a basin therein having a delivery-spout, a drain-pipe in said base into which said spout discharges, guide-rails on said base, a cooling-chamber movable on said base and carying faucets disposed above said basin, a basin in the upper end of said cooling-chamber, a drain-pipe leading therefrom, and a drain-pipe from said cooling-chamber, said last-named drain-pipe being so disposed as to be in vertical alinement with said drain-pipe in said base or with the basin therein according to the position of the said cooling-chamber.



2. The combination with the bar, of a cooling and dispensing cabinet disposed behind and partially beneath the bar, and comprising a base, and a cooling-chamber movably disposed on said base and provided in its upper portion with a recess adapted to receive the rear edge portion of the bar, there being faucets on said cooling-chamber, and coils within the same communicating with said faucets and with sources of supply of beer, a basin in said base above which said faucets are normally disposed, a basin in the uppermost portion of said cooling-chamber having its mouth disposed substantially flush with the bar, a drain-pipe in said base having a funnel at its upper end, and drain-pipes in said cooling-chamber and said basins disposed to discharge into the said funnel, said drain-pipes of said cooling-chamber and the basin thereof being adapted to deliver into said basin in said base when said cooling-chamber is moved away from the bar.

3. The combination with a bar, of a cabinet comprising a stationary base disposed in the rear of and partially underneath the said bar, and a cooling-chamber of less width than said base slidably mounted in guides on the latter, said cooling-chamber being provided in its upper end with a recess adapted to receive the rear edge portion of the bar when said cooling-chamber is at one limit of its movement, a basin in the uppermost portion of the said cooling-chamber having its mouth portion disposed flush with the bar and adapted to receive liquid deposited upon the latter, dispensing-faucets carried by said cooling-chamber, a drip-basin located in said base, below said faucets, and a single drain in said base adapted to receive the liquid from both said basins and from the said cooling-chamber.

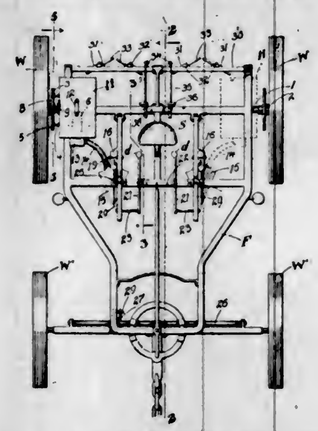
4. The combination with a bar, of a supporting member disposed below and rearwardly thereof, guides therein, a drain-funnel therein, a cooling-chamber mounted on said guides and slidable thereon and adapted to receive the pipe-coils disposed in said cooling-chamber and adapted to be connected with beer-barrels and with faucets carried by said cooling-chamber, a basin mounted upon the said cooling-chamber substantially flush with said bar and adapted to receive liquid deposited thereon, and drain-pipes connected with said cooling-chamber and with the basin therein and discharging into said drain-funnel

5. The combination with the bar, and a supporting member disposed beneath and rearwardly of the same, and parallel guide-rails carried by said supporting member, of a cooling and dispensing member slidably mounted on said guide-rails and adapted to extend partly underneath said bar when at one limit of its movement, and draining means carried by said members.

840,177. PLOW AND SEEDER. FRANK THURRID, St. Louis, Mo. Filed Oct. 1, 1906. Serial No. 336,908.

Claim.—1. In a plow and seeder, a suitable frame, rear bearing-wheels for the same, a hopper adjacent to either

wheel, a gear-wheel coupled to the bearing-wheel, a pinion meshing with said gear-wheel, a plowshare, a conveying tube or hose leading from the hopper to a point in the rear of the plowshare, a controlling-lever, devices within the hopper for delivering the contents of the hopper to said conveying-tubes, and an intermediate gear carled by the lever for completing the train of gears between the aforesaid pinion and said delivering devices, upon an oscillation of the lever in one direction, substantially as set forth.



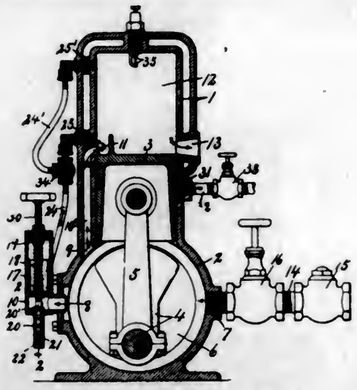
2. In a plow and seeder, a suitable frame, rear bearing-wheels for the same, a hopper adjacent to each wheel, a gear-wheel coupled to each bearing-wheel, a pinion meshing with said gear-wheel, a plowshare, a conveying tube or hose leading from the hopper to a point in the rear of the share, a controlling-lever, a feed-disk having peripheral pockets confined within the hopper for delivering the contents of the hopper to said conveying-tubes, a pinion on the outer end of the feed-disk shaft, a pinion on the end of one arm of the controlling-lever adapted to be thrown into mesh with the aforesaid pinions for imparting motion to the feed-disk upon advance of the machine over the ground, and means for locking the lever in its engaged or disengaged position, substantially as set forth.

3. In a plow and seeder, a suitable frame, a plowshare therefor, means for conveying the seed to a point behind the share, an oscillating arm pivoted to the frame and carrying the share, a pedal-lever pivoted at an intermediate point of its length and having one end in cooperative relation with the free end of the oscillating arm whereby upon depression of the opposite end of the pedal-lever the end engaging the oscillating arm is raised, thereby raising the arm and elevating the plowshare, and means for locking the pedal-lever in either of its extreme positions, substantially as set forth.

4. In a plow and seeder, a frame having a front harrow, plowshares in the rear of the harrow, means for delivering the seed to the furrow made by the shares, a rear rocker-bar on the frame, means for rotating said bar, a series of arms arranged in pairs depending from said rocker-bar in the path of the furrow receiving the seed, and scrapers or blades set at an incline to one another whereby the furrow is covered up in the passage of the blades thereover, and means for throwing the blades out of engagement with the ground, substantially as set forth.

840,178. GAS-ENGINE. DANIEL M. TUTTLE, Canastota, N. Y. Filed May 25, 1905. Serial No. 262,294.

Claim.—1. In a gas-engine of the class described, the combination with an explosion-chamber and crank-chamber and a piston, the explosion-chamber having separate inlets, one for air and the other for liquid hydrocarbon, the air-inlet communicating with the crank-chamber, an air-supply conduit also communicating with the crank-chamber and provided with a throttle-valve for controlling the amount of air admitted to said crank-chamber, an outlet-conduit leading from the crank-chamber, said piston compressing the air in the crank-chamber and its outlet on its down-stroke, a movable member actuated in one direction by the compression of the air in said crank-chamber and outlet, means for actuating said member in the opposite direction when the pressure in the crank-chamber is relieved by the opening of the air-inlet port and additional means brought into action by the reaction of said member to force liquid hydrocarbon into the explosion-chamber.



2. In a hydrocarbon-engine, a cylinder, a crank-case and a piston, said cylinder having an air-inlet port connecting with the crank-chamber and also provided with a separate inlet for liquid hydrocarbon, an air-supply conduit leading to the interior of the crank-chamber and means for graduating the air-supply to regulate the degree of pressure in the crank-chamber by the compression-stroke of the piston and means brought into action by said pressure from the crank-chamber for feeding hydrocarbon liquid through its port into the explosion-chamber, the quantity of such liquid hydrocarbon which is fed to the explosion-chamber being proportionate to the air-pressure in the crank-chamber.

3. The combination with a gas-engine in which the air is compressed in the crank-chamber by the downstroke of the piston, of means for graduating the entrance of air into the crank-chamber thereby controlling the degree of pressure therein and separate means controlled by such pressure for feeding hydrocarbon liquid into the explosion-chamber of the engine.

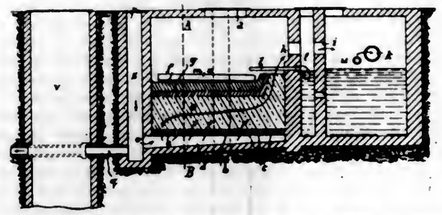
4. In a gas-engine, an explosion-chamber having an inlet-port for the liquid hydrocarbon and also provided with a chamber in which air is compressed by the piston, means for graduating the degree of pressure in said chamber and a feeding device for the hydrocarbon liquid controlled by such pressure whereby the quantity of the liquid hydrocarbon fed to the explosion-chamber is proportionate to the degree of pressure in said chamber.

5. In a gas-engine, the combination of an explosion-chamber and a crank-chamber, a by-pass leading from the crank-chamber to the explosion-chamber, means for admitting and regulating the entrance of the air into the crank-chamber, such air being compressed on the downstroke of the piston, a movable element actuated by the pressure of air from the crank-chamber, a yielding resistance operating to return said element when the air-pressure is relieved and means actuated by the return of said element for forcing hydrocarbon liquid into the explosion-chamber of the engine.

6. In a gas-engine the combination of a piston and air-chamber in which air is compressed by the said piston and means controlled by the pressure of air in said chamber for forcing liquid hydrocarbon into the explosion-chamber of the engine, said means including an air-operated element, a yielding resistance returning said element and a plunger actuated by said element upon its return to force the liquid hydrocarbon into said explosion-chamber.

7. In a gas-engine, the combination of a piston and air-chamber in which air is compressed by the said piston and means controlled by the pressure of air in said chamber for forcing liquid hydrocarbon into the explosion-chamber of the engine, said means including an air-operating element, a yielding resistance returning said element and a plunger actuated by said element upon its return to force the liquid hydrocarbon into said explosion-chamber, and adjustable means for varying said yielding resistance.

840,179. APPARATUS FOR PURIFYING SEWAGE. ALFRED VOGELSANG, Dresden, Germany. Filed Aug. 24, 1905. Serial No. 275,550.



Claim.—1. An apparatus for purifying sewage comprising a vault, an apertured bridge within said vault, layers of filtering material on the said bridge, an air-shaft providing a direct communication from the atmosphere to the passage-way beneath the said bridge, a settling-tank adjacent to said vault and means establishing communication between the interiors of the said vault and tank and for conveying the sewage from the settling-tank to and distributing the same upon the uppermost layer of the said purifying material, a chimney and a connection between the said chimney and the interior of the said vault.

2. An apparatus for purifying sewage, comprising a vault, an apertured bridge within said vault, layers of filtering material placed on the said bridge, an air-shaft providing a direct communication from the atmosphere to the passage-way beneath the said bridge, a settling-tank adjacent to said vault and means establishing communication between the interiors of the said vault and tank and for conveying the sewage from the settling-tank to and distributing the same upon the uppermost layer of the said purifying material, a chimney, a connection between the said chimney and the interior of the said vault, a collecting-tank for receiving the clarified liquid and a passage between the same and the bottom of the said shaft.

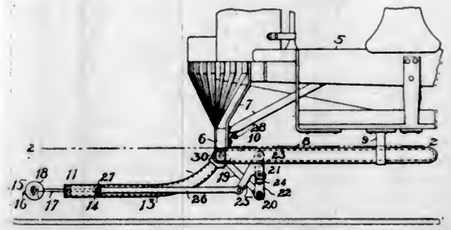
3. An apparatus for purifying sewage comprising a vault placed beneath the ground, an apertured bridge within said vault, layers of filtering material of different sizes placed on the said bridge, each layer being banked to the same height at one side of the said vault, an air-shaft providing a direct communication from the atmosphere to the pasage-way beneath the said bridge, a settling-tank in communication with the interior of the said vault, means for conveying the sewage from the settling-tank to and distributing the same upon the uppermost layer of the said purifying material, a chimney and a connection between the said chimney and the interior of the said vault.

4. An apparatus for purifying sewage, comprising a vault placed beneath the ground, an apertured bridge within said vault, layers of filtering material of different sizes placed on the said bridge, each layer being banked to the same height at one side of the said vault, an air-shaft providing a direct communication from the atmosphere to the passage-way beneath the said bridge, a settling-tank in communication with the interior of the said vault, means for conveying the sewage from the settling-tank to and distributing the same upon the upermost layer of the said purifying material, a chimney, a connection between the said chimney and the interior of the said vault, a collecting-tank for receiving the clarified liquid and a passage between the same and the bottom of the said shaft.

5. An apparatus for purifying sewage, comprising an entirely-closed vault, a perforated bottom extending entirely across the lower part of the said vault, a purifying body placed on said perforated bottom, a free connection between the atmosphere and the chamber beneath the said perforated bottom, a chimney apart from said vault and a connection between said chimney and the chamber in said vault above the said filtering material.

6. An apparatus for purifying sewage, comprising an entirely-closed vault, an arched perforated bottom extending entirely across the lower part of said vault, a connection between the atmosphere and the chamber beneath the said arched perforated bottom, a floor beneath the said arched perforated bottom inclining toward the said connection, a filtering material on said arched perforated bottom and banked along the side of the vault opposite the said connection, a chimney apart from said vault and a connection between said chimney and the chamber within the vault above the said filtering material.

840,180. CAR-FENDER. ETTA W. WHEELOCK, Arlington, Mass. Filed July 14, 1906. Serial No. 326,191.



Claim.—1. The combination with a car of a fender comprising in its construction a horizontally-pivoted member arranged with its axis extending transversely of said car, a slidable member arranged to move toward and away from said axis, a toggle adapted to lock said pivoted member in a normally raised position, and means connecting said slidable member and said toggle, whereby said toggle may be actuated to release said pivoted member and allow it to drop.

2. The combination with a car of a fender comprising in its construction a horizontally-pivoted member arranged with its axis extending transversely of said car, a slidable member arranged to move toward and away from said axis, a toggle adapted to lock said pivoted member in a normally raised position, and a link connecting said slidable member and said toggle, whereby said toggle may be actuated to release said pivoted member held thereby.

3. The combination with a car of a fender comprising in its construction a horizontally-pivoted member arranged with its axis extending transversely of said car, a slidable member arranged to move toward and away from said axis, a pair of toggles adapted to lock said pivoted member in a normally raised position, and a pair of links connecting said toggles and said slidable member, whereby said toggles may be actuated to release said pivoted member held thereby.

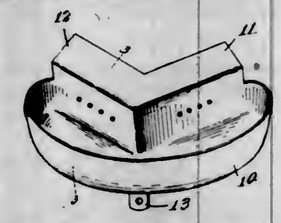
4. The combination with a car of a fender comprising in its construction a horizontally-pivoted member arranged with its axis extending transversely of said car, a pair of blocks to which said member is pivoted, a pair of guides in which said blocks are slidably arranged, a member slidably mounted on said pivoted member, and means for locking said pivoted member in a normally raised position, said slidable member adapted to actuate said locking means to release said pivoted member held thereby.

5. The combination with a car of a fender comprising in its construction a horizontally-pivoted member arranged with its axis extending transversely of said car, a pair of blocks to which said member is pivoted, a pair of guides in which said blocks are slidably arranged, a member slidably mounted on said pivoted member, a pair of toggles adapted to lock said pivoted member in a normally raised position, said slidable member adapted to actuate said toggles to release said pivoted member held thereby.

6. The combination with a car of a fender comprising in

its construction a horizontally-pivoted member arranged with its axis extending transversely of said car, a pair of blocks to which said member is pivoted, a pair of guides in which said blocks are slidably arranged, a member slidably mounted on said pivoted member, and a pair of toggles adapted to lock said pivoted member in a normally raised position, said toggles connected at one pair of ends of said blocks and at the other pair of ends to said pivoted member, said slidable member adapted to move said toggles to release said pivoted member held thereby.

840,181. RECEPTACLE FOR GATHERING TURPENTINE. HARRY M. WINCHESTER, Worcester, Mass. Filed May 19, 1905. Serial No. 261,204.



Claim.—1. As an article of manufacture a turpentine-cup comprising a receptacle having an upwardly-extending rear wall, and a flange extending rearwardly from the upper end of said wall and adapted to fit in a pair of angularly-placed saw-kerfs in a tree-trunk, said flange constituting means for preventing the horizontal displacement of the cup along the saw-kerfs.

2. As an article of manufacture, a sap-cup for gathering turpentine consisting of a receptacle having two rearwardly-extending flanges arranged at an obtuse angle with respect to each other and adapted to be placed in saw-kerfs to hold the sap-cup in position on a tree-trunk against horizontal and vertical displacement.

3. As an article of manufacture, a sap-cup for gathering turpentine, comprising a stamped-out sheet of metal, substantially crescent-shaped and of an open substantially U shape in cross-section with two integral rearwardly-extending flanges arranged at an obtuse angle with respect to each other, and adapted to be placed in saw-kerfs to hold the cup in position on a tree-trunk, and with a perforated lug extending down from the receptacle for receiving a nail or other fastening device.

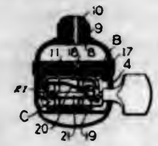
4. The combination of a sap-cup, comprising a pressed sheet-metal substantially crescent-shaped receptacle of an open substantially U-shaped-trough cross-section, having two integral rearwardly-extending flanges arranged at an obtuse angle with respect to each other and with a central downwardly-extending lug perforated to receive a nail or other fastening device, and a substantially crescent-shaped cover for protecting the contents of the receptacle from chips or refuse during the chipping or scraping of the tree-trunk.

5. As an article of manufacture, a turpentine-cup comprising a receptacle having a rearwardly-extending flange adapted to enter saw-kerfs in a tree-trunk and constituting means for preventing the horizontal displacement of the cup, said receptacle having a wall extending downwardly from said flange, said wall being provided with perforations to permit the overflow of water.

6. As an article of manufacture, a cup for collecting the sap of pine and other trees, comprising a receptacle, and a pair of flanges projecting from the upper part of the receptacle at an angle to each other in the same plane and formed integrally with the cup.

840,182. PENDENT SWITCH. HERBERT C. WIRT, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Aug. 3, 1903. Serial No. 167,956.

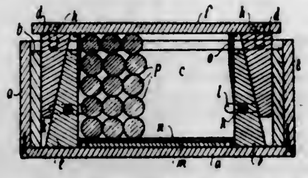
Claim.—1. In an electric switch, the combination of an insulating-base comprising a body part and two integral projections from one face thereof, a stationary metallic contact secured to said base between said projections and provided with a binding-post, an integrally-connected binding-post and metallic contact spanning the space between said projections and secured to the outer ends thereof, and a rotary switch-block and actuating-shaft therefor journaled between said projections and adapted to electrically connect said stationary contacts.



2. In an electric switch, the combination of an insulating-base comprising a circular body part and two integral projections from one face thereof, a stationary metallic contact secured to said base between said projections and provided with a binding-post, a C-shaped metallic contact having thereon an integral binding-post bent up at right angles and secured to the outer ends of said projections across the space between them, a rotary switch-block adapted to engage said stationary contacts, and an actuating-shaft therefor journaled between said projections.

3. In an electric switch, the combination of an insulating-base comprising a circular body part and two integral projections from one face thereof on opposite sides of a diameter, a metallic bracket secured to said base between said projections and provided with a binding-post and a stationary spring-contact, a C-shaped contact having an integral binding-post bent up at right angles and secured to the outer ends of said projections across the space between them, a switch-shaft journaled in said bracket, and a rotary contact-block mounted upon said shaft and adapted to engage said stationary contacts.

840,183. CIGAR-PRESSING BOX. ROBERT WOERNER, Mannheim, Germany. Filed Mar. 12, 1906. Serial No. 305,684.



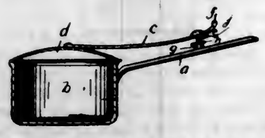
Claim.—1. In a cigar-pressing device, the combination with a rectangular box, of two pairs of wedges adapted to bear against two opposite sides of said rectangular box, their two inclined contact-faces converging upward and the external wedges having a plurality of holes in their top faces, and a cover provided with a plurality of pins which can engage in the holes of said two external wedges, so that by pressing on said cover the cigars are compressed on four sides.

2. In a cigar-pressing device, the combination with a rectangular box provided in two opposite sides with four lengthy slots parallel to its bottom, of two internal wedges movable on the bottom of said rectangular box and provided with pins, which engage in the lengthy slots in the sides, their opposite faces being vertical and their rear faces converging upward, two external wedges adapted to engage between said two internal wedges and the two other opposite sides of said rectangular box and provided with a plurality of holes in their top faces, and a cover provided with a plurality of pins which can engage in the holes of said two external wedges, so that by pressing on said cover the cigars are compressed on four sides.

3. In a cigar-pressing device, the combination with a rectangular box provided in two opposite sides with four lengthy slots parallel to its bottom, of a vertical distance-piece bearing against one side of said rectangular box and provided with two slots which register with those of the side, two further vertical distance-pieces adjoining said vertical distance-piece and bearing against the respective sides of said rectangular box, two internal wedges movable on the bottom of said rectangular box between said vertical distance-piece and the opposite side and provided with pins, which engage in the lengthy slots in the sides and the distance-piece, their opposite faces being vertical and their rear faces converging upward, two external wedges adapted to engage between said two internal wedges and said two further vertical distance-pieces and provided with a plurality of holes in their top faces, a cover provided with a plurality of pins which can engage in the holes of said two external wedges, and two vertical sliding pieces adapted to engage with their sharpened lower edges between the cigars and said two internal wedges under the action of said cover, so that by pressing on said cover the cigars are compressed on four sides.

4. In a cigar-pressing device, the combination with a rectangular box provided in two opposite sides with four lengthy slots parallel to its bottom, of a vertical distance-piece bearing against one side of said rectangular box and provided with two slots which register with those of the side, two further vertical distance-pieces adjoining said vertical distance-piece and bearing against the respective sides of said rectangular box, two internal wedges movable on the bottom of said rectangular box between said vertical distance-piece and the opposite side and provided with pins, which engage in the lengthy slots in the sides and the distance-piece, their opposite faces being vertical and their rear faces converging upward, two external wedges adapted to engage between said two internal wedges and said two further vertical distance-pieces and provided with a plurality of holes in their top faces, a horizontal distance-piece on the bottom of said rectangular box, two sliding pieces on said horizontal distance-piece and overlapping with their sharpened edges each other, a cover provided with a plurality of pins which can engage in the holes of said two external wedges, and two vertical sliding pieces adapted to engage with their sharpened lower edges between the cigars and said two internal wedges under the action of said cover, so that by pressing on said cover the cigars are compressed on four sides.

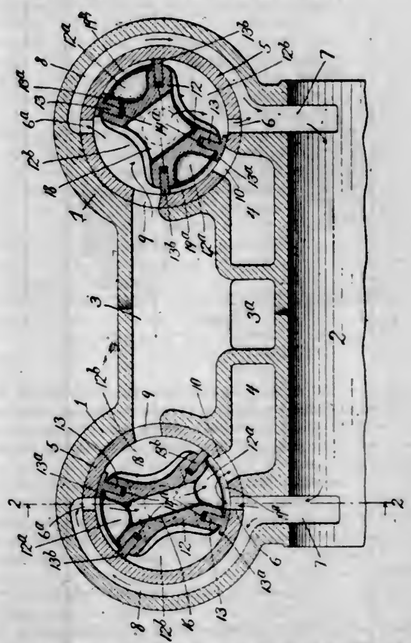
840,184. LID OF SAUCEPANS. JOHN W. WOOLVEN, Pulborough, England. Filed Nov. 13, 1905. Serial No. 287,177.



Claim.—The combination with the lid of a saucepan of a supplementary handle, one end of which is attached to the lid, the said supplementary handle being above the ordinary handle of the said saucepan and having an upturned outer end, a stud on the saucepan handle passing freely through a hole in the supplementary handle, a washer between the two handles, the said washer having an upstanding rim in which is a notch, and a hook on the supplementary handle to be inserted in the said notch when the lid is required to be retained in its raised position.

840,185. ENGINE-VALVE. OTIS W. YOUNG, Chicago, Ill., assignor to Young-Mann-Averill Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 31, 1904. Serial No. 230,665.

Claim.—1. In an engine, a valve structure for controlling the motive fluid comprising a cylindrical valve-chamber; a valve-carrier mounted axially therein for rocking movement completely inclosed in the chamber, the cylindrical wall of the chamber having opening through it a steam-inlet port and other ports for communication with the engine-cylinder and with the exhaust respectively; strips lodged in such carrier extending longitudinally parallel with the axis of the carrier, with range of movement relative thereto toward and from the cylindrical face of the chamber, said strips being in pairs, the members of each pair being exposed adequately to afford between them communication from the cylinder-port to the exhaust ports, the proximate members of the two pairs being spaced apart about the circumference of the chamber adequately to embrace between them the steam-inlet port and the full range of the rocking movement of the valve; two pairs of other strips mounted in the carrier extending transversely with respect to the first-mentioned pairs of strips and the axis and abutting edgewise upon the same cylindrical face of the valve-chamber upon which the longitudinal strips abut, and through which the ports open, and abutting sidewise upon the ends of the said strips, and having range of movement in the carrier toward and from said face.



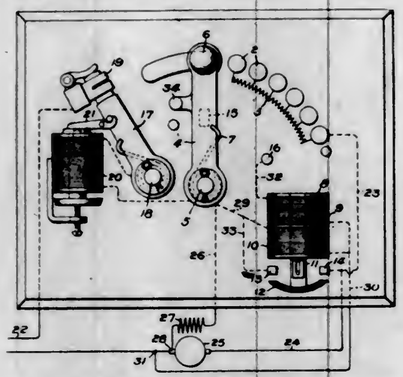
2. In an engine, a valve structure comprising a valve-carrier; means for moving it and for guiding it in an invariable path; a valve proper comprising two strips lodged separately in the carrier extending transversely to its path of movement with range of movement in the carrier toward and from the valve-seat, the remote longitudinal corners of the seating edges of said strips being respectively the "steam edge" and the "exhaust edge" of the valve.

3. In an engine, a valve structure comprising a valve-carrier, means for moving it and for guiding it in an invariable path; a valve proper consisting of two strips lodged separately in the carrier extending transversely to its path of travel with range of movement in the carrier toward and from the valve-seat, one of said strips having the "steam edge" and the other having the "exhaust edge" of the valve, the channel of the carrier in which the exhaust-edge strip is lodged being shallower than that for lodging the steam-edge strip; packing-strips lodged in the carrier at the ends of the valve-strips, closing the exhaust-edge-strip channel but not closing the steam-edge-strip channel, the exhaust-edge strip being provided with means for slight admission of steam past its face in the channel at the side toward the cylinder-port.

4. In an engine, a valve structure comprising a valve-carrier and means for moving it and for guiding it in an invariable path; a valve proper consisting of two strips lodged separately in the carrier extending transversely to

its path of travel, with range of movement in the carrier toward and from the valve-seat, one of said strips having the steam edge and the other having the exhaust edge of the valve; means for closing at the ends the channels of the carrier in which the strip having the exhaust edge is lodged, the channel for lodgment of the other strip being open at the ends whereby the steam-pressure in the valve-chamber is admitted back of the last-mentioned strip and is not admitted back of the exhaust-edge strip, and means for admitting steam to the back edge of the exhaust-edge strip from between the seating edges of the two strips.

840,186. MOTOR-STARTING RHEOSTAT. PAUL H. ZIMMER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 28, 1905. Serial No. 267,367.



Claim.—1. In a starting-rheostat, the combination with a controlling member having a bias to the starting position, of electrically-controlled means for closing an auxiliary circuit around said arm when the latter is moved to running position.

2. In a starting-rheostat, the combination with a controlling-arm having a bias to the starting position, of electrically-controlled means for closing a shunt-circuit around said arm when the latter is moved to running position and for maintaining it closed when the arm is returned to starting position.

3. In a starting-rheostat, the combination with a pivoted controlling-arm having a bias to the starting position, of means for closing a shunt-circuit around said arm when the latter is moved to running position, said means including electromagnetic means for maintaining it closed when the arm is returned to starting position.

4. In a starting-rheostat, the combination with a pivoted controlling-arm having a bias to the starting position, of a switch, an electromagnet for operating the same to close a shunt-circuit around said arm when the latter is moved to running position, said magnet being normally energized sufficiently to maintain said shunt-circuit.

5. In a starting-rheostat, the combination with a pivoted controlling-arm having a bias to the starting position, of a switch, a compound-wound electromagnet for operating the same to close a shunt-circuit around said arm when the latter is moved to running position, said magnet being normally energized sufficiently by one of its windings to maintain the closed condition of said shunt-circuit.

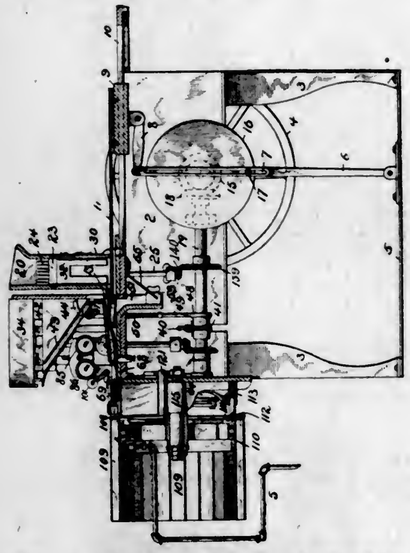
6. A motor-rheostat comprising a variable resistance, a controlling-arm therefor, and electrically-controlled means for closing an auxiliary circuit around said arm when the latter is moved to a predetermined position and for maintaining it closed when the arm leaves said position.

7. A motor-starter comprising a spring-retracted starting-lever, a starting resistance coöperating therewith, an electromagnet, a circuit-breaking relay cut in by said magnet when the lever is moved to full-on position, and means dependent upon line voltage for maintaining the relay active.

8. A starting-rheostat comprising a switch biased to open position, a resistance-controlling arm arranged to close said switch when moved in the direction to insert resistance, means responsive to normal circuit conditions for holding said switch closed, and means for closing an auxiliary circuit around said controlling-arm when the latter is moved to running position.

9. A starting-rheostat comprising a spring-actuated switch, a locking device for holding said switch in closed position, means responsive to overload conditions for releasing said device, a resistance-controlling arm, and an electromagnetic device responsive to underload conditions for closing an auxiliary circuit around said controlling-arm when the latter is moved to running position.

840,187. CIGARETTE-PACKING MACHINE. AUGUSTUS ABBOTT, New York, N. Y., assignor to American Wrapping and Box Machine Company, New York, N. Y. Filed Apr. 29, 1901. Serial No. 57,886.



Claim.—1. In a packaging-machine, the combination, with a support, a receptacle for cigarettes arranged above the support and provided with a discharge-opening, a plunger reciprocating through said opening and operating to discharge cigarettes therefrom, and means for feeding an inclosing wrapper across the path of movement of the cigarettes as they are removed from the receptacle and folding it over their front ends, of folding means on opposite sides of the path of travel of the plunger for folding the edges of one portion of the wrapper against and along the sides of the mass of cigarettes as it is carried past them by the plunger, means for applying paste to the edges of the unfolded portion of the wrapper, and for folding them against the edges of the folded portion thereof, to complete the folding of the wrapper around the sides of the mass, a tumble-box having a channel in line with the plunger to receive the package at the end of the plunger movement, means for rotating the tumble-box, a receptacle for receiving the package, and means in addition to the plunger and operating under the influence thereof through which the transference of the package from the tumble-box to the receptacle is accomplished.

2. In a packaging-machine, the combination, with mechanism for moving a body of cigarettes in a given direction, means for feeding an inclosing wrapper in the direction of its length across the path of movement of the cigarettes and thereby folding it over their forward ends, folding devices arranged in relation to the cigarette-moving mechanism for folding the wrapper around the sides of the body of cigarettes as the latter is carried by them in moving in the given direction, a tumble-box to receive the package after passing the folding devices, and means for applying paste whereby the rear end flap of the wrapper is secured down upon the package, of means for rotating the tumble-box for folding the rear end flap of the wrapper upon the package, devices for coöperating with the tumble-box in effecting this folding operation, a tumble-block movable within the tumble-box, and a receptacle for receiving the package as it is transferred to it from the tumble-box by the cigarette-moving mechanism.

3. In a packaging-machine, the combination, with mechanism for moving a body of cigarettes in a given direction, means for feeding an inclosing wrapper in the direction of its length across the path of movement of the cigarettes and thereby folding it over their forward ends, folding devices arranged in relation to the cigarette-moving mechanism for folding the wrapper around the sides of the cigarettes as the latter is carried by them in moving in the given direction, a tumble-box to receive the package after passing the folding devices, means for applying paste whereby the rear flap of the wrapper may be secured upon the package after having been folded over upon the same, means for rotating the tumble-box to thereby fold the rear end flap of the wrapper upon the package, and devices for coöperating with the tumble-box in effecting this folding operation, of a tumble-block movable longitudinally within the tumble-box, a receptacle for receiving the package as such package is transferred to it from the tumble-box by the cigarette-moving mechanism, and means for drying the package within such receptacle.

4. The combination with a pivoted tumble-box constructed with a package-receiving orifice extending longitudinally through the same, and provided with slots 130, 131, formed in the opposite sides of the same, means for intermittingly rotating such box, a tumble-block arranged within the tumble-box, to be moved back and forth therein by the action of the cigarette-packages, and a friction-spring for controlling the movement of said block and packages, of the paste-roll 101 and means for rocking such roll for bringing it in contact with the package through the appropriate slots 130 or 131, and carrying it therefrom, all substantially as and for the purposes set forth.

5. The combination, with a plunger, and means for reciprocating the same, of a chute for presenting wrappers one at a time across the path of movement of the plunger, plates 57 and 58 projecting laterally from the front wall of the chute above and below the path of movement of the plunger respectively, with the plate 57 provided with downwardly-extending folders 59 and 60 and the plate 58 similarly provided with upwardly-extending folders 62 and 63, and tucking-fingers 126^a disposed on opposite sides of the path of movement of the plunger, whereby as a mass of cigarettes or other articles is carried forward by the plunger the wrapper is folded over its forward end and the edges of the respective top and bottom flaps thereof folded downwardly and upwardly along the edges of the mass respectively, substantially as described.

6. The combination, with a tumble-box mounted on a transverse axis, a reciprocating plunger for coöperating therewith, and the machine-table, of means for both rotating the tumble-box intermittingly through a partial rotation and for locking it in the different positions to which it may be rotated, and a spring 72 arranged to bear upon the package within the tumble-box, substantially as described.

7. The combination, with the tumble-box 69 mounted on a transverse axis, the block 73 movably arranged within the same, and means for both rotating the tumble-box intermittingly through a partial rotation and for locking it in the different positions to which it may be thus rotated, of a spring 72 arranged to bear upon the package to hold it in the tumble-box, substantially as described.

8. The combination, with the tumble-box 69, provided with springs 75 and 76 at its opposite ends, the tumble-block 73 movably arranged within the tumble-box, and means for both rotating such box intermittingly through a partial rotation and locking it in the different positions to which it may be thus rotated, and a spring 72 arranged to bear upon the package within the tumble-box, substantially as described.

9. The combination, with the tumble-box 69 provided with trunnions upon which it is mounted, a sleeve 82 fixedly secured to one of said trunnions and provided with ratchet-teeth 83, and a rotating shaft, of a hollow disk 80 loosely mounted on said trunnion in close relationship to the sleeve and provided with spring-pawls on its inner face, and with a gear-wheel 81 on one of its sides, a rack 107 for engagement with such gear-wheel, a cam for imparting a reciprocating motion to said rack, a returning-cam 78 fixedly secured to the other trunnion thereof and provided with flattened surfaces, a spring-operated plate 79 for coöperating with these flattened surfaces, whereby the intermittent rotation of the tumble-box is effected and the retaining of the same in the positions to which it may be rotated accomplished, substantially as described.

10. The combination, with a tumble-box mounted on a transverse axis and having a channel-way extending through it, the machine-table, and a drying-drum having a series of package-receiving tubes disposed around its outer edge with a ring secured to its end that is provided with a series of indentations, of mechanism for intermittingly rotating such drying-drum, and restraining means for engaging with such indentations, substantially as described.

11. The combination, with a rotating tumble-box, mechanism for delivering inclosed packages of cigarettes thereto and for removing them therefrom, a drying-drum 110 having a ring secured to its end and provided with a series of indentations 111, means for intermittingly rotating said drying-drum, a rotating shaft 19, and a cam 114 thereon, of a wheel 112 for engaging with the indentations 111, and a lever 113 upon which the wheel 112 is supported, whereby the drying-drum is intermittingly rotated and the wheel 112 removed from and allowed to return into engagement with such indentations, substantially as described.

12. The combination, with a rotating tumble-box, mechanism for delivering inclosed packages of cigarettes thereto and for removing them therefrom, a drying-drum 110 having a series of package-receiving tubes 109 around its outer edge, means for intermittingly rotating said drying-drum, a rotating shaft, and a cam 127 thereon, of a plunger 126 adapted to enter the receiving-tubes 109 as they are successively brought opposite to it, and a coöperating spring, whereby as the successive receiving-tubes are brought opposite to the plunger in the rotation of the drying-drum the packages contained in them are forced inward by it from the ends of the tubes, substantially as described.

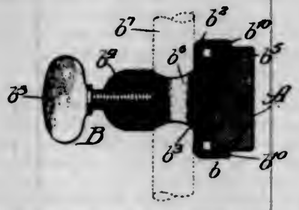
13. In a packaging-machine, blank-feeding mechanism, article-feeding mechanism, blank-folding mechanism, and a receiving-drum having a plurality of receiving-pockets, means for heating the drum, means for rotating the drum for successively registering the pockets with the feeding mechanism, and additional means for advancing the packages in the pockets of the drum, substantially as described.

14. The combination, with wrapper-feeding devices having a receiving-trough and a delivery-chute, and a reciprocating plunger, of a tongue pivotally arranged within the trough of the feeding devices, means for arresting the movement of the wrapper in said trough and at the lower end of the chute, and means for imparting a vibrating movement to the tongue within the trough, whereby the wrappers as successively selected are transferred to the chute and there held in proper position to be struck and folded over upon the articles to be wrapped as they are carried forward by the plunger in its reciprocation, substantially as described.

840,188. UMBRELLA-SUPPORT. ARTHUR J. ADAMS, Chicago, Ill., assignor to Fulton Manufacturing Company, a Corporation of Illinois. Filed Sept. 6, 1906. Serial No. 333,553.

Claim.—1. In an umbrella-support, the combination of a clip having a raised portion provided with a perforation, and having also means for attachment to a member, such

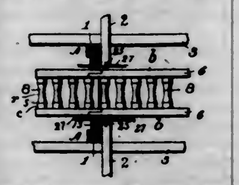
as a handle-bar; a rotatable member having a neck portion received by said perforation and a flange bearing against the inner surface of said raised portion, said rotatable member having a transverse perforation closely adjacent to the outer surface of the raised portion of said clip and having also an intersecting axial perforation, and a thumb-screw extending through said axial perforation.



2. In an umbrella-support, the combination of a clip having a raised portion provided with a perforation and attaching end portions adapted to bear upon a lateral surface of a handle-bar and lateral flanges adapted to embrace the edge surfaces of said handle-bar, a rotatable member having a circular portion received by said perforations and a flange bearing against the inner surface of said clip, said rotatable member having a transverse bore closely adjacent to the clip and an intersecting threaded axial bore, and a set-screw adapted to engage an umbrella-rod extending through said transverse bore.

3. The combination with a handle-bar, of a clip secured thereto having a body separated from one side of said bar by a space, said body containing a perforation, a member having a shank extending through said perforation and a head rotatably confined between said bar and the body of the clip, said shank having a transverse perforation whose inner wall lies inside the plane of the outer surface of the body of the clip and said shank having also an axial threaded perforation intersecting said first-named perforation, and a clamping-screw extending through said threaded perforation and serving to clamp an umbrella-rod against the outer surface of said clip.

840,189. ELEVATOR. BENJAMIN H. ALVEY, Louisville, Ky., assignor to The Alvey-Ferguson Co., Louisville, Ky., a Corporation of Kentucky. Filed July 15, 1901. Renewed July 25, 1902. Serial No. 116,977.



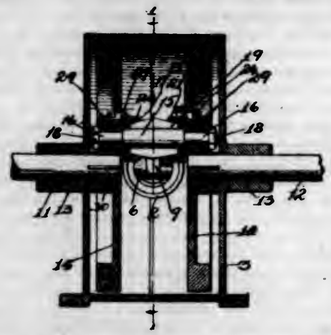
Claim.—1. In an elevator, the combination of racks or supports at different heights, the side bars jointed together, rollers carried by the said bars, and a hoisting mechanism connected with different parts of the skid, substantially as and for the purposes described.

2. The combination of racks or supports at different heights, the guiding-frame, frames vertically movable in the guiding-frame, bars jointed together to form a continuous skid-bed and carried in the movable frames, rollers mounted in the said bars and a hoisting mechanism connected with the vertically-movable frames.

3. The combination of racks or supports at different heights, the guiding-frame, a skid-bed vertically movable therein and composed of movably-connected sections provided with rollers, a hoisting mechanism connected with the said bed and means for connecting the said bed with the frame at different heights, substantially as set forth.

4. The combination of racks or supports at different heights, a skid arranged along the said supports and provided with rollers 8, and a hoisting mechanism connected with the skid at different points, substantially as and for the purposes set forth.

840,190. PISTON-ROD CONNECTION. LARS ANDERSON, Chicago, Ill., assignor of one-half to George W. Stahl, Chicago, Ill., and one-half to Triplex Gas Engine Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 14, 1904. Serial No. 197,919.



Claim.—1. The combination of a piston-rod having a segmental box member thereon at one end thereof, a crank-pin against which said member bears, a boss surrounding said pin, a retaining-collar carried by said boss and encompassing said crank-pin and the end of said box member, said collar and member having coöperating inclined surfaces where they contact with each other, means for adjusting said collar along said member to take up wear, means for locking said collar in adjusted position, a crank-shaft, and connections between said collar and pin and said shaft.

2. The combination of a piston-rod, provided with a segmental box member thereon having conical ends, a crank-pin against which said member bears, collars embracing said crank-pin and member, means for adjusting said collars relatively to said member, a crank-shaft, and means for connecting said collars and pin with said crank-shaft.

3. The combination with a piston-rod, provided with a segmental box member thereon, a crank-pin, means for tightening said box member against said pin comprising an adjustable collar, a detachable lock for holding said collar up to its adjustment, said lock being provided with a projection whereby the lock may be disengaged, a crank-shaft and means for connecting said pin to said shaft.

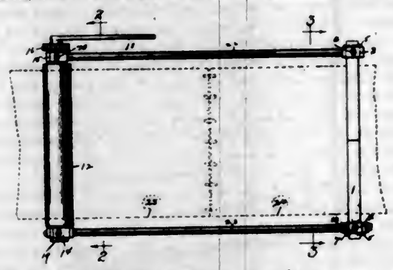
4. The combination of a piston-rod, provided with a segmental box member thereon, a crank-pin against which said member bears, means for tightening said member against said crank-pin comprising an adjustable collar, a lock for holding said collar up to its adjustment, a spring for pressing said lock into engagement, said lock being provided with a thumb-piece projecting over said collar whereby the lock may be disengaged, a crank-shaft, and means for connecting said shaft to said pin.

5. The combination of a piston-rod, provided with a segmental box member thereon, a crank-shaft, a revoluble member secured to said shaft and constituting the arm of the crank, a threaded boss formed on said revoluble member, a crank-pin projecting from said threaded boss and against which pin said segmental member bears, and means for tightening said segmental member on said pin comprising a collar embracing said segmental member and threaded on said boss.

6. The combination of a piston-rod, provided with a segmental box member thereon having conical ends, a two-part crank-shaft, two fly-wheels secured to the parts of said crank-shaft respectively and having threaded bosses on their opposed faces, a crank-pin having its ends secured in said bosses and connecting said fly-wheels together, and collars threaded on said bosses and embracing said segmental member.

7. The combination of a piston-rod, provided with a segmental box member thereon, a crank-pin, a crank-shaft, a crank-arm member securing said shaft to said pin, a collar adjustably connected to said crank-arm member and embracing said pin and box member, a lock for said collar socketed in said crank-arm member and having a portion projecting outwardly through said crank-arm member and acessible for releasing said lock.

840,191. BELT-STRETCHER. WILFRED BAKER, Aberdeen, S. D. Filed Mar. 31, 1906. Serial No. 309,034.



Claim.—1. In a belt-stretcher, a suitable frame, engaging rollers mounted one above the other in said frame, engaging gears mounted on said rollers, means for rotating said rollers, clamps mounted one above the other in the frame opposite said rollers, links hinged to the frame and adapted respectively to engage or disengage and to support one end of the lower roller and one end of the lower clamp.

2. In a device of the character described, two pair of slotted frames, two rollers mounted one above the other in one pair of said frames, means for rotating said rollers, two clamps arranged one above the other and having their ends mounted in the other pair of frames, bars connecting the roller-frames with the clamp-frames, a link hinged to one of the roller-frames and adapted to carry the adjacent end of the lower roller, and a link hinged to one of the clamp-frames and adapted to carry the adjacent end of the lower clamp.

3. In a belt-stretcher, two pair of slotted frames, two rollers having bearings mounted in one pair of said frames, means for rotating the rollers, means for disengaging one end of one of the rollers, two clamps having their ends mounted in the other pair of frames, means for disengaging one end of one of the clamps, and bars connecting the roller-frames with the clamp-frames.

4. In a belt-stretcher, a suitable frame provided with means for holding one end of a belt, rollers mounted in the frame and adapted to engage and hold the opposite end of the belt, and means for operating the rollers.

5. In a belt-stretcher, a suitable frame provided with means for holding the end of a belt, rollers having bearings in said frame and adapted to hold the opposite end of the belt, means for rotating the rollers, and means for disconnecting the stretcher and belt after connecting the ends of the latter.

840,192. BUCKLE. MIECZYSLAW BARABASZ, Baltimore, Md. Filed May 16, 1906. Serial No. 317,047.

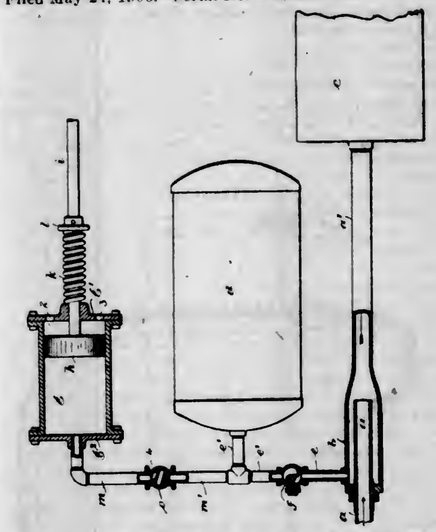


Claim.—1. A single-piece buckle having two side bars and two end bars and one of the end bars having teeth, outwardly-projecting cross-bars adjacent each of the end bars and a flat cross-bar between said two outwardly-projecting bars, said flat bar having teeth along one of its edges.

2. A single-piece buckle having two side bars and two end bars and one of the end bars having teeth along its inner edge, an outward-projecting cross-bar adjacent the end bar with the teeth; an arched cross-bar adjacent the other end bar, said arched bar having depressed portions at each side of the arch, and a cross-bar between the arched bar and the outwardly-projecting bar, said cross-bar having teeth that project outwardly.

3. A single-piece buckle having side bars connected by end bars and one of the end bars having teeth along its inner edge, a central flat cross-bar lying in a plane flush with the side bars and having outwardly-projecting teeth along one of its edges which project in a plane beyond the outer surface of the side bars, and a cross-bar between the inwardly-projecting teeth of the end bar and the outwardly-projecting teeth of the central bar, and said buckle also having a cross-bar between the bar with the outwardly-projecting teeth and the other end bar.

840,193. DEVICE FOR OPERATING BRAKES AND BRAKE-RODS. GEORGE W. BARLOW, Shrewsbury, N. J. Filed May 24, 1906. Serial No. 318,437.



Claim.—1. The combination with an exhaust-pipe from a motor-engine, an ejector and a discharge-pipe therefrom, of a vacuum-tank, a pipe extending therefrom to the said ejector, a check-valve interposed in said line of pipe, a pipe from said vacuum-tank and a valve in the line of pipe, a longitudinally-movable rod and devices interposed between the same and the latter pipe for moving said rod in opposite directions.

2. The combination with an exhaust-pipe from a motor-engine, an ejector and a discharge-pipe therefrom, of a vacuum-tank, a pipe extending therefrom to the said ejector, a check-valve interposed in said line of pipe, a pipe from said vacuum-tank and a valve in the line of pipe, a cylinder connected with said pipe, a piston longitudinally movable in said cylinder, a brake-rod passing through one cylinder-head and connected to said piston, and means for automatically returning said piston and rod to an initial position.

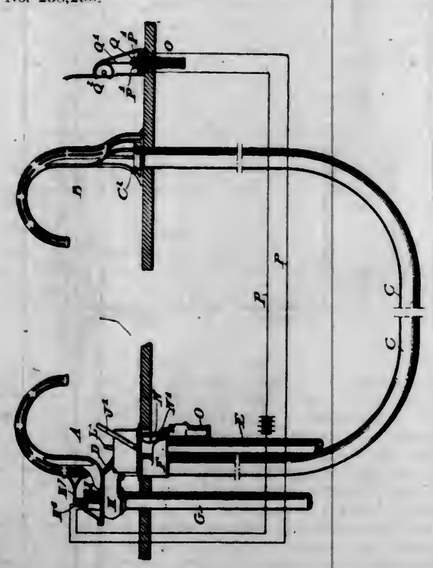
3. The combination with an exhaust-pipe from a motor-engine, an ejector and a discharge-pipe therefrom, of a vacuum-tank, a pipe extending therefrom to the said ejector, a check-valve interposed in said line of pipe, a pipe from said vacuum-tank and a valve in the line of pipe, a cylinder connected with said pipe, a piston longitudinally movable in said cylinder, a brake-rod passing through one cylinder-head and connected to said piston, a helical spring surrounding said rod outside of said cylinder, a collar se-

cured to said rod beyond said spring, the adjacent cylindrical head being provided with a series of perforations.

4. The combination with an exhaust-pipe from a motor-engine, a muffler, and an interposed ejector, of a vacuum-tank, pipes connecting the ejector and vacuum-tank, a back-pressure check-valve inserted in said line of pipe, a pipe extending from the vacuum-tank and a two-way valve having a perforation for the admission of air in its case interposed in said latter line of pipe, a longitudinally-movable rod and interposed devices between the same and the said line of pipe for moving said rod in opposite directions.

5. The combination with an exhaust-pipe from a motor-engine, a muffler, and an interposed ejector, of a vacuum-tank, pipes connecting the ejector and vacuum-tank, a back-pressure check-valve inserted in said line of pipe, a pipe extending from the vacuum-tank and a two-way valve having a perforation for the admission of air in its case interposed in said latter line of pipe, a cylinder connected at one head with said latter line of pipe, the other head being provided with series of perforations for the admission of the atmosphere, a piston in said cylinder with said rod connected thereto and extending through the cylinder-head having the perforation, a collar fastened to said rod and a helical spring between the collar and the piston-head having the perforations.

840,194. PNEUMATIC-TUBE SYSTEM. BIRNEY C. BATCHELLER, Philadelphia, Pa., assignor to The Pearsall Pneumatic Tube and Power Company, New York, N. Y., a Corporation of New York. Filed May 1, 1905. Serial No. 258,290.



Claim.—1. A pneumatic-tube system comprising a transmission-tube, in combination with compressed-air and vacuum supply chambers connected to one end of said tube, normally closed valves for controlling the connection of said supply-chambers with the tube, means for closing the end of the tube which is connected with the supply-chamber to the passage of outer air, means for opening the compressed-air-supply valve situated and actuated at the end of the tube which is connected with the supply-chambers and means for opening the vacuum-supply valve having actuating means located at the other end of the tube.

2. A pneumatic-tube system comprising a tranamission-tube, in combination with compressed-air and vacuum supply chambers connected to one end of said tube, normally closed valves for controlling the connection of said supply-chambers with the tube, means for closing the end of the tube which is connected with the supply-chamber to the passage of outer air, means for opening the compressed-air-supply valve situated and actuated at the end of the tube which is connected with the supply-chambers, means for opening the vacuum-supply valve having actuating means located at the other end of the tube, and means for closing the open supply-valves after a carrier has passed through the tube.

3. A pneumatic-tube system comprising a transmission-tube, in combination with compressed-air and vacuum supply chambers connected to one end of said tube, normally closed valves for controlling the connection of said supply-chambers with the tube, means for closing the end of the tube which is connected with the supply-chamber to the passage of outer air, means for opening the compressed-air-supply valve situated and actuated at the end of the tube which is connected with the supply-chambers, means for opening the vacuum-supply valve having actuating means located at the other end of the tube and time escapement means for closing the open supply-valves set in operation by the means employed to open said valves.

4. In a pneumatic-tube system adapted to operate both as a pressure and vacuum system and having pressure and vacuum supply chambers connected to one end thereof, the combination therewith of normally closed valves controlling the pressure and vacuum connections, a flap-valve D, at the end of the tube, normally held closed by resilient means, means located and actuated at the valved end of the tube for opening the pressure-supply valve and locking the flap-valve and means for opening the vacuum-valve actuated from the other end of the tube.

5. A pneumatic-tube system comprising a transmission-tube, in combination with compresed-air and vacuum supply chambers connected to one end of said tube, normally closed valves for controlling the connection of said supply-chambers with the tube, a gate-valve at the end of the tube which is connected with the supply-chambers, means for opening the compressed-air-supply valve and for locking the gate-valve situated and actuated at the end of the tube which is connected with the supply-chambers and means for opening the vacuum-supply valve having actuating means located at the other end of the tube.

6. In a pneumatic-tube system adapted to operate both as a pressure and vacuum system and having pressure and vacuum supply chambers connected to one end thereof, the combination therewith of normally closed valves controlling the pressure and vacuum connections, a flap-valve D, at the end of the tube, normally held closed by resilient means, a pivoted lever K, arranged when actuated to open the pressure-valve after moving through a determined angle, a flap-valve locking-lever L', having a lever-arm L, extending from it, a link K^2, connecting arm L, and lever K, as described, a latch for holding lever K, and connected parts in position to keep the pressure-valve open, a time escapement device for releasing the latch and manually-operated means for actuating lever K, and setting the time escapement in operation.

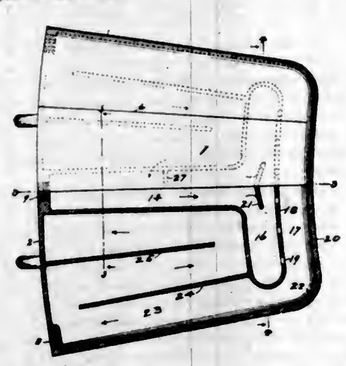
840,195. BOSH-PLATE. WILLIAM D. BERRY, New Brighton, Pa. Filed May 25, 1906. Serial No. 318,631.

Claim.—1. A bosh-plate comprising a recessed body having inlet and outlet openings, a passage from the inlet-opening toward the nose of the plate, and a spreader at the forward end of the passage arranged to divide the stream and direct the same toward both sides.

2. A bosh-plate comprising a recessed body having inlet and outlet openings, and a passage from the inlet-opening toward the nose of the plate and ending in a laterally-enlarged distributing portion separated from the nose of the plate by a perforated wall.

3. A bosh-plate comprising a recessed body having inlet and outlet openings, the inlet-opening communicating with a passage extending toward the nose of the plate and ending in a laterally-enlarged distributing-chamber, a perforated wall between said chamber and the nose-wall of the plate, and a spreader in said chamber opposite the end of the passage coming from the inlet-opening.

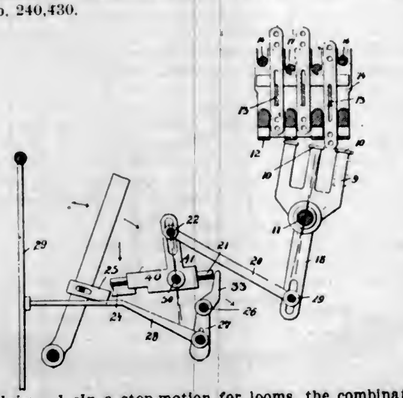
4. A bosh-plate comprising a recessed body having inlet and outlet openings arranged centrally of the plate, said inlet-opening communicating with a passage extending toward the nose of the plate, other passages located at the sides of the plate and leading from the nose portion of the plate, and baffle-walls extending longitudinally of the plate and forming circuitous passages from the side passages to the outlet.



5. A bosh-plate comprising a recessed body having inlet and outlet openings, said inlet-opening communicating with a passage extending centrally of the plate toward the front end thereof and ending in a laterally-enlarged distributing-chamber, a perforated wall separating said distributing-chamber from the nose of the plate, and a passage located at each edge of the plate and leading from the forward corners of the plate to the exit-opening.

6. A bosh-plate comprising a recessed body provided with inlet and outlet openings near its central portion and washout-openings near each side, and having a baffle-wall on each side forming with the side walls restricted passages and extending from the washout-openings to the front corners of the plate.

840,196. WARP STOP-MOTION FOR LOOMS. JOSEF BIM, Vienna, Austria-Hungary, assignor to Union Bank, Vienna, Austria-Hungary. Filed Jan. 10, 1905. Serial No. 240,430.



Claim.—1. In a stop-motion for looms, the combination of the slay, a rock-shaft, power-transmitting connections between the slay and rock-shaft, having a yielding connection whereby the motion of the rock-shaft may be arrested without stopping the slay, a frame carried by said rock-shaft and having longitudinal bars, a series of drops carried by the warp-threads and adapted when they fail to engage said bars and temporarily arrest the rock-shaft, a knock-off device, actuating devices between the shaft and knock-off device, and means for moving said frame and its bars out of engagement with the operative drop when the knock-off device has been actuated.

2. In a stop-motion for looms, the combination of the slay, a rock-shaft, power-transmitting connections between the slay and rock-shaft having a yielding connection whereby the motion of the rock-shaft may be arrested without stopping the slay, intermediate devices controlled by the drops for arresting the movement of the rock-shaft, a series of drops carried by the warp-threads, and adapted when they fail to arrest said intermediate devices for stopping the rock-shaft, the spring-block 24, adapted to be actuated by the slay, a knock-off device, lever devices actuated by the block to operate said knock-off device, and intermediate connections between the rock-shaft and block for moving it into position to be actuated by the slay when the rock-shaft is arrested.

3. In a stop-motion for looms, the combination of the slay, a rock-shaft, power-transmitting connections between the slay and rock-shaft, having a yielding connection whereby the motion of the rock-shaft may be arrested without stopping the slay, a frame carried by said rock-shaft and having longitudinal bars having lateral clutching parts, a series of drops carried by the warp-threads and adapted when they fail to engage the lateral clutching parts of said bars and temporarily arrest the rock-shaft, a knock-off device to stop the loom, and actuating devices between the rock-shaft and knock-off device consisting of a pivoted part connected to the rock-shaft to move it and be moved by it as the case may be during its operation; and means acting on the pivoted part to simultaneously operate the knock-off device and rock the pivoted part, whereby the lateral clutching parts of the frame are moved away from the drops in the act of stopping the loom.

4. In a stop-motion for looms, the combination of the slay, a rock-shaft, power-transmitting connections between said slay and rock-shaft, having a yielding connection whereby the motion of the rock-shaft may be arrested without stopping the slay, a series of drops normally supported by the warps, a movable frame secured to the rock-shaft adapted to strike the drops when dropped for arresting the movement of the rock-shaft, a knock-off device, and actuating devices between said rock-shaft and knock-off device to actuate the latter when the shaft is stopped and simultaneously move the movable frame away from the drops.

5. In a stop-motion for looms the combination of the slay, a rock-shaft, power-transmitting connections between the slay and rock-shaft, having a yielding connection whereby the motion of the rock-shaft may be arrested without stopping the slay, a frame carried by said rock-shaft and having longitudinal feeler-bars, a series of drops carried by the warp-threads and adapted when they fail to engage said feeler-bars and temporarily arrest the rock-shaft, a knock-off device, and actuating devices between the shaft and knock-off device consisting of the pivoted frame connected with the rock-shaft so as to rock in unison with it, a striker-block 24, 21 to operate the knock-off device, and a bunter to move the striker-bar to operate the knock-off device and simultaneously oscillate the rock-shaft to relieve pressure upon the drops by the feeler-bars.

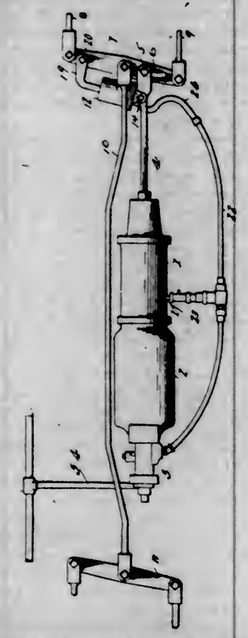
6. In a stop-motion for looms, the knock-off devices, and means for operating the feeler-bars and moving them out of contact with the drops simultaneously with the operation of the knock-off devices consisting of a pivoted frame a spring-actuated pin 21 and striker-block 24, combined with the drops, the feeler-bars, a movable bunter which simultaneously drives the striker-block and pin forward to operate the knock-off devices and rocks the pivoted frame, and connecting devices between the pivoted frame and feeler-bars for moving the feeler-bars out of contact with the drops before the loom is stopped.

840,197. AIR-BRAKE. LEWIS E. BLACK, Nashville, Tenn. Filed Apr. 27, 1906. Serial No. 314,000.

Claim.—1. In a brake system, the combination with a brake-cylinder, auxiliary reservoir and triple valve, of a reduction-valve in communication with the brake-cylinder, and a shift-cylinder mounted on the brake piston-rod.

2. In a brake system, the combination with a brake-cylinder, auxiliary reservoir and triple valve, of a reduction-valve in communication with the brake-cylinder, a brake-lever, and means for shifting the brake-lever on the brake piston-rod.

3. In a brake system, the combination with a brake-cylinder having a piston-rod therein, triple valve and auxiliary reservoir, a valve in connection with the brake-cylinder having an exhaust-port, a brake-lever slidably secured to the brake piston-rod, and means for shifting the brake-lever on the piston-rod.



4. In a brake system, the combination with a brake-cylinder having a piston-rod therein, triple valve and auxiliary reservoir, a reduction-valve mounted on the brake-cylinder having connection with the triple valve, a brake-lever adjustably connected with the brake piston-rod, and pneumatically-operated means for shifting said lever, in connection with the reduction-valve.

5. In a brake system, the combination with brake-cylinders having piston-rods therein, auxiliary reservoirs and triple valves, of valves in communication with the brake-cylinders having outlet-ports controlled by the exhaust from the triple valves, brake-levers slidably secured to the brake piston-rods, shift-cylinders adapted to shift the brake-levers, said cylinders also operated by the exhaust from the triple valves.

6. The combination with a brake-cylinder having a piston and rod therein, an auxiliary reservoir and triple valve, a valve in communication with the brake-cylinder adapted to gradually reduce the pressure therein, a brake-lever adjustably secured to the brake piston-rod, of means carried by the brake piston-rod for shifting the lever thereon.

7. In a fluid-pressure brake, the combination with a brake-cylinder, auxiliary reservoir and triple valve, a brake-lever slidably secured to the brake piston-rod, a cylinder carried by the brake piston-rod adapted to shift the brake-lever thereon, of means for admitting pressure to the shift-cylinder and gradually reducing the pressure in the brake-cylinder.

8. In a brake system, the combination with a brake-cylinder provided with piston-rod, an auxiliary reservoir and triple valve, a brake-lever movably secured to the brake piston-rod, of a cylinder carried by the brake piston-rod adapted to shift the lever thereon, said shift-cylinder adapted to be operated by exhaust-pressure from the triple valve.

9. In a fluid-pressure brake, the combination with a brake-cylinder, a brake-lever movably secured to the brake piston-rod, of means for shifting the brake-lever on the piston-rod, and means controlling the operation of the shifting means and adapted to gradually reduce the pressure in the brake-cylinder.

10. In a brake system, the combination with a brake-cylinder provided with piston-rod, a brake-lever movably secured to the brake piston-rod, a cylinder carried by the brake piston-rod adapted to shift the lever thereon, of means for gradually reducing the pressure in the brake-cylinder.

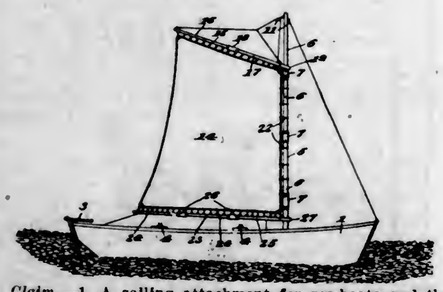
11. In a brake system, the combination with a brake-cylinder, auxiliary reservoir and triple valve, of a brake-lever movably connected to the brake piston-rod, a cylinder carried by said piston-rod adapted to shift the brake-lever thereon, connection between the exhaust of the triple valve and said shift-cylinder, and means in communication with said connection for gradually reducing the pressure in the brake-cylinder.

12. In combination, a brake-cylinder provided with piston-rod, an auxiliary reservoir and triple valve, a brake-lever movably connected with the brake piston-rod, pneumatically-operated means for shifting the lever on said rod, pipe connection between the exhaust of the triple valve and said pneumatically-operated means, means in connection with the brake-cylinder for gradually reducing the pressure therein and also communicating with said pipe connection, said shift-cylinder adapted to be first operated by the exhaust of the triple valve, said brake piston-rod adapted to be actuated after the shifting of the brake-lever thereon.

13. In a brake system, the combination with a brake-cylinder, auxiliary reservoir and triple valve, a brake-lever movably connected to the brake piston-rod, means for shifting the lever on the piston-rod, and controlling means for first actuating the shifting means, then operating the brake-piston and gradually reducing the pressure in the brake-cylinder, and means for returning the shifting means to the first position.

14. In an air-brake system, the combination with a brake-cylinder, auxiliary reservoir and triple valve, a brake piston-rod having movable connection with a brake-lever, pneumatically-operated means for shifting the brake-lever on the piston-rod, of a valve between the triple valve and shifting means adapted to admit exhaust-pressure from the triple valve to operate the shifting means, said valve actuated by the exhaust-pressure to open an exhaust-port in connection with the brake-cylinder.

840,198. KNOCKDOWN SAILING ATTACHMENT FOR ROWBOATS. CHARLES L. BURGOYNE, Norwood, Ohio. Filed Nov. 17, 1905. Serial No. 287,857.

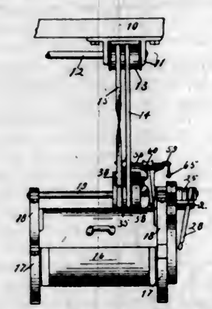


Claim.—1. A sailing attachment for rowboats and the like comprising a mast and a clamping device having means for detachable connection with said mast and comprising members adapted for engagement at opposite sides of a seat or other part of the boat and means for holding said members in clamping engagement on said seat or other part.

2. A sailing attachment for rowboats and the like comprising a mast and a clamping device comprising members having apertures which are traversed by said mast and provided with clamping-screws passed through said members, said members being adapted for engagement at opposite sides of a seat or other part of the row-boat for supporting the mast in erect position.

3. A sailing attachment for rowboats and the like comprising a mast, a step-block adapted to be loosely rested on the bottom of the rowboat and having a socket at its upper part in which the foot of the mast is stepped and a clamping device comprising members perforated for the passage of the mast and having adjacent lined surfaces to engage opposite sides of a seat or other part of the boat and clamping-screws passed through said members for drawing the same into clamping engagement on said seat or other part of the boat.

840,199. MACHINE-DRIVING MEANS. PRENTICE E. CLARK, Indianapolis, Ind. Filed Apr. 12, 1906. Serial No. 311,364.



Claim.—1. A machine including a longitudinal driving-shaft, three pulleys longitudinally adjustable thereof, the middle one of which is keyed to said shaft and the other two being idlers, two driving-belts in engagement with said pulleys one of which is twisted, a belt-shifter in engagement with both belts, means actuated by one of said pulleys for operating said belt-shifter to change the belts on said pulleys to reverse the direction of movement of said shaft, a pinion on said shaft for driving the machine, and a clutch on said shaft for coupling and uncoupling the same with said pinion.

2. The combination of a plurality of machines, a single driving means therefor, a separate clutch for each machine to throw the same into and out of operation, and means mounted on one of said machines for automatically and periodically reversing the direction of movement of said driving means.

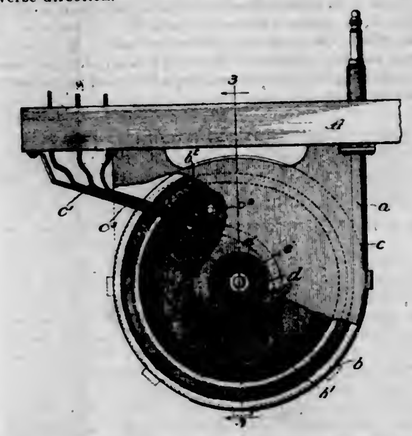
3. The combination of a plurality of machines, a single shaft for driving them, a separate clutch for each machine to throw the same into and out of operation, pulleys on said shaft that are connected with one of said machines and longitudinally adjustable thereon, belts for driving the same, a longitudinally-movable belt-shifter adjacent said pulleys, and means on the machine that carries the pulleys for periodically operating said belt-shifter to reverse the direction of movement of said shaft.

840,200. SWITCHBOARD-CORD REEL. EDWARD B. CRAFT, Chicago, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 13, 1906. Serial No. 300,881.

Claim.—1. In a switchboard-cord reel, the combination with a frame, of a sheave adapted to hold the switch-cord, and from which the cord may be led for use, a drum between the frame and sheave around which the idle portion of the cord is wrapped, and mechanism adapted to operate said sheave to return the cord to normal position after use.

2. In a switchboard-cord reel, the combination with a frame, of a cord-sheave rotatably secured to the frame, a spring connecting said frame and sheave, the cord being led from said sheave against the tension of said spring, and a drum around which the idle portion of the cord is wrapped.

3. In a switchboard-cord reel, the combination with a frame-plate, of a spring carried thereby, a sheave rotatably secured to the frame, from which the switch-cord may be led against the tension of said spring, and a drum of less diameter than the sheave between the frame and sheave, around which the idle portion of the cord is wrapped, said portion upon the withdrawal of the cord from the sheave being unwrapped from the drum and wrapped thereon in a reverse direction.



4. In a switchboard-cord reel, the combination with a frame adapted to be supported adjacent the key-shelf of a switchboard, of a sheave rotatably secured to said frame, and from which the switch-cord is led to the key-shelf, the cord being secured near its fixed end to the sheave, a drum around which the portion of the cord between said connection and its fixed end is wrapped, said portion upon the withdrawal of the cord from the sheave, being unwrapped from said drum and wrapped thereon in a reverse direction, and mechanism adapted to operate said sheave, to return said cord to its normal position after use.

5. In a switchboard-cord reel, the combination with a frame adapted to be supported adjacent the key-shelf of a switchboard, of a disk rotatably mounted upon said frame and having an annular flange secured thereto, forming with the disk a sheave for the switch-cord, the cord being led from said sheave to the key-shelf, and a spring carried by the frame adapted to operate the sheave to return the switch-cord to its normal position after use.

6. In a switchboard-cord reel, the combination with a frame-plate adapted to be supported adjacent the key-shelf of a switchboard, of a sheave for a switch-cord, said cord passing through an opening in the side of the sheave, and being secured near its fixed end to the sheave, a drum secured to the frame-plate, a spindle passing through said drum serving as a gearing for said sheave, the portion of said cord between its attachment to said sheave and its fixed end being wrapped around said drum and being unwrapped therefrom and reversely wrapped thereon upon the withdrawal of said cord from the sheave for use, lugs projecting from the rear of the drum and forming a chamber between the drum and sheave, and a helical spring within said chamber connecting said drum and sheave, said spring being adapted to operate said sheave to return the cord to its normal position after use.

7. A switchboard-cord reel comprising a sheave for switch-cords, having a peripheral groove of varying width to accommodate the varying diameter of a switch-cord.

8. A switchboard-cord reel comprising a disk provided with an annular flange forming with the disk a sheave for the switch-cord, said flange being curved to form seats to accommodate the varying diameter of the switch-cord.

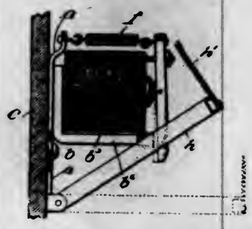
9. In a switchboard-cord reel, the combination with a frame, of a sheave adapted to hold the cord and from which the cord may be led for use, said cord being secured near its fixed end to said sheave, a stationary drum between the frame and sheave around which the idle portion of the cord is wrapped, and mechanism adapted to operate said sheave, to return the cord to its normal position.

10. In a switchboard-cord reel, the combination with a

frame-plate, of a disk rotatably mounted on said frame-plate, said disk having an annular flange forming with said disk a cord-sheave, a spring tending to maintain the cord within the sheave, and a casing for said spring secured between the plate and disk to said plate.

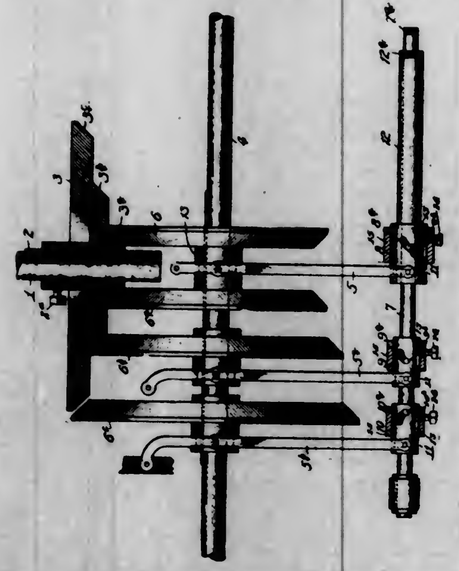
11. In a switchboard-cord reel, the combination with a frame, of a sheave adapted to hold the switch-cord, and from which the cord may be led for use, a drum around which the idle portion of the cord is wrapped, and means for operating said sheave to return the cord to normal position after use.

840,201. ELECTROMAGNET SIGNAL. HENRY M. CRANE, New York, N. Y., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed June 8, 1904. Serial No. 211,611.



Claim.—In an annunciator-drop, the combination with an electromagnet having a projecting core, of a return pole-piece for said magnet, a supporting-plate for said magnet, an armature pivoted at its center of gravity upon said core, a retractile spring connecting the upper end of said armature with said plate, a stop carried by the upper end of said armature adapted to abut against said magnet to limit the retractive movement of said armature, and a target-arm pivoted to said plate and normally held by the other end of said armature.

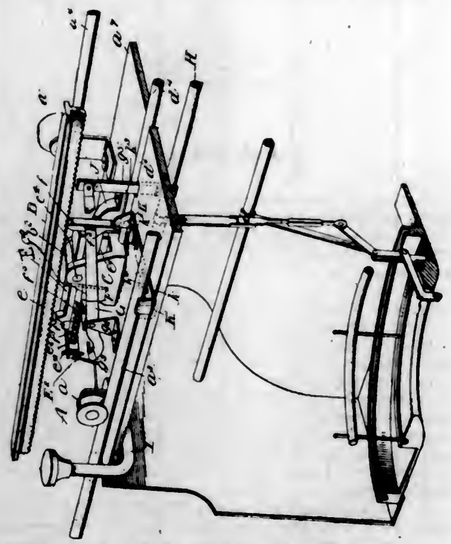
840,202. VARIABLE-SPEED GEAR. JOHN P. DAVIS, Chicago, Ill. Filed Aug. 23, 1906. Serial No. 331,735.



Claim.—1. A variable-speed gear comprising, in combination, a rotary shaft, a stepped cone on said shaft with the steps forming coaxial beveled gears each occupying wholly a different plane from the other or others, a second rotary shaft, a plurality of beveled gears of varying diameters mounted on said last-named shaft to rotate with it and be movable longitudinally thereof into and out of engagement with the gears of said cone, and means for shifting said movable gears.

2. A variable-speed gear comprising, in combination, a rotary shaft, a stepped cone mounted on said shaft to rotate with it and be adjustable lengthwise thereof, with the steps forming coaxial beveled gears each occupying wholly a different plane from the other or others, a second rotary shaft, a plurality of beveled gears of varying diameters mounted on said last-named shaft to rotate with it and be movable longitudinally thereof into and out of engagement with the gears of said cone, and means for shifting said movable gears.

840,203. FEEDING MECHANISM. GEORGE W. DONNINO, East Orange, N. J., assignor to Harry T. Ambrose, Orange, N. J. Filed Apr. 26, 1902. Serial No. 104,843.



Claim.—1. In a feed mechanism, the combination of a supporting part, a feed-rack supported adjacent thereto, a combined longitudinally and transversely rocking dog mechanism carried by the supporting part in position to engage said feed-rack and comprising a rocking member and a tiltable bearing member in which said rocking member is fulcrumed intermediate of its length and by which it is positioned relative to the feed-rack, means constructed to rock said rocking member longitudinally to said feed-rack to permit limited travel of the supporting part in a direction longitudinally of the feed-rack, independent means constructed to effect tilting of the bearing member axially out of engagement with said feed-rack to permit free travel of the supporting part longitudinally of the feed-rack.

2. In a feed mechanism, the combination of a supporting part, a fed-rack suported adjacent thereto, a combined longitudinally and traversely rocking dog mechanism carried by the supporting part in position to engage said feed-rack and comprising a rocking member and a tiltable bearing member in which said rocking member is fulcrumed intermediate of its length and by which it is positioned relative to the feed-rack, means constructed to rock said rocking member longitudinally to said feed-rack to permit limited travel of the supporting part in a direction longitudinally of the feed-rack, independent means constructed to effect tilting of the bearing member axially out of engagement with said feed-rack to permit free travel

of the supporting part longitudinally of the feed-rack, and means for automatically effecting reshifting of the dog mechanism into engagement with the feed-rack.

3. In a feed mechanism, the combination of a supporting part, a fed-rack supported adjacent thereto, a combined longitudinally and transversely rocking dog mechanism carried by the supporting part in position to engage said feed-rack and comprising a rocking member and a tiltable bearing member in which said rocking member is fulcrumed intermediate of its length and by which it is positioned relative to the feed-rack, means constructed to rock said rocking member longitudinally to said feed-rack to permit limited travel of the supporting part in a direction longitudinally of the feed-rack, independent means constructed to effect tilting of the bearing member axially out of engagement with said feed-rack to permit free travel of the supporting part longitudinally of the feed-rack, and spring-actuated means for automatically effecting reshifting of the dog mechanism into engagement with the feed-rack.

4. In a feed mechanism, the combination of a supporting part, a feed-rack supported adjacent thereto, a combined longitudinally and transversely rocking dog mechanism carried by the supporting part in position to engage said feed-rack and comprising a rocking member and a tiltable bearing member in which said rocking member is fulcrumed intermediate of its length and by which it is positioned relative to the feed-rack, means constructed to rock said rocking member longitudinally to said feed-rack to permit limited travel of the supporting part in a direction longitudinally of the feed-rack, means constructed and arranged to vary the extent of said limited travel, independent means constructed to effect tilting of the bearing member axially out of engagement with said feed-rack to permit free travel of the supporting part longitudinally of the feed-rack.

5. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a combined longitudinally and transversely rocking dog mechanism carried by said movable part in position to engage said feed-rack, means constructed to rock said dog mechanism longitudinally to permit limited travel of the movable part in a direction longitudinally of the feed-rack, means mounted separately from the dog mechanism and constructed to vary the extent of said limited movement, and means constructed to rock said dog mechanism transversely out of engagement with the feed-rack, substantially as described.

6. In a feed mechanism, the combination with a movable part, of a feed-rack supported adjacent thereto, a combined longitudinally and transversely rocking dog mechanism carried by said movable part in position to engage said feed-rack, means constructed to rock said dog mechanism to permit limited travel of the movable part in a direction longitudinally of the feed-rack, means disposed on the movable part, independent of the dog mechanism and constructed to vary the extent of said limited movement, and means constructed to rock said dog mechanism out of engagement with the feed-rack to effect general release of the dog mechanism, substantially as described.

7. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, dog mechanism carried by said movable part in position to engage said feed-rack, means constructed to rock said dog mechanism in the plane of the rack to permit limited travel of the movable part in a direction longitudinally of the feed-rack, means mounted separately from and movable into longitudinal alinement with the dog mechanism constructed and arranged to vary the extent of said limited movement, and means for positioning said varying means, substantially as described.

8. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a combined longitudinally and transversely rocking dog mechanism carried by said movable part in position to engage said feed-rack, means constructed to rock said dog mechanism to permit limited travel of the movable part in a direction longitudinally of the feed-rack, a movable abutment for regulating the extent of said limited movement, means for positioning said abutment, and means constructed to rock said dog mechanism out of engagement with said feed-rack to permit free travel of the movable part longitudinally of the feed-rack, substantially as described.

9. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a combined longitudinally and transversely rocking dog mechanism carried by said movable part in position to engage said feed-rack, means constructed to rock said dog mechanism to permit limited travel of the movable part in a direction longitudinally of the feed-rack, a slidable abutment for regulating the extent of said limited movement, means for positioning said abutment, means constructed to rock said dog mechanism out of engagement with said feed-rack to permit free travel of the movable part longitudinally of the feed-rack, and means for effecting automatic shifting of the dog mechanism into engagement with the rack, substantially as described.

10. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a combined longitudinally and transversely rocking dog mechanism carried by said movable part in position to engage said feed-rack, means constructed to rock said dog mechanism to permit limited travel of the movable part in a direction longitudinally of the feed-rack, means constructed to rock said dog mechanism transversely to said feed-rack to permit free travel of the movable part longitudinally of the feed-rack, and means arranged independent of the dog mechanism to lock the parts thereof in their normal relative positions when so shifted, substantially as described.

11. In feed mechanism, the combination with a movable part and a feed-rack supported adjacent thereto, of a combined longitudinally and transversely rocking dog mechanism carried by said movable part in position to engage the feed-rack, means constructed to actuate said dog mechanism longitudinally to said feed-rack to permit limited travel of the movable part in a direction longitudinally of the feed-rack, means constructed to rock transversely said dog mechanism out of engagement with the feed-rack to permit free travel of the movable part longitudinally thereof, and means disposed on the movable part, normally disengaged from the dog mechanism, and constructed to engage with and lock the parts of the dog mechanism in their normal relative positions when so shifted, substantially as described.

12. In feed mechanism, the combination with a movable part and a feed-rack supported adjacent thereto, of a combined longitudinally and transversely rocking dog mechanism fulcrumed intermediate of its length for rocking movement and carried by the movable part in position to engage said feed-rack, means constructed to rock said dog mechanism longitudinally to said feed-rack to permit limited travel of the movable part in a direction longitudinally of the feed-rack, means constructed to tilt said dog mechanism at right angles to its longitudinal axis to position it out of engagement with the feed-rack, and means carried by the movable part, normally out of the path of operating movement of the dog mechanism, and arranged to be engaged by the dog mechanism to lock the parts thereof in their normal relative positions while shifted, substantially as described.

13. In feed mechanism, the combination with a movable part and a feed-rack supported adjacent thereto, of a combined longitudinally and transversely rocking dog mechanism carried by the movable part in position to engage said feed-rack, means constructed to rock said dog mechanism longitudinally to said feed-rack to permit limited travel of the movable part in a direction longitudinally of the feed-rack, means constructed to tilt said dog mechanism at right angles to its longitudinal axis to position it out of engagement with the feed-rack, and a guiding member carried by the movable part, normally out of the path of operating movement of the dog mechanism, and operable only when the parts are tilted out of engagement with the feed-rack and arranged to lock the parts of the dog mechanism in their normal relative positions when so shifted, substantially as described

14. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, dog mechanism carried by said movable part in position to engage said feed-rack, means constructed to actuate said dog mechanism to permit limited travel of the movable part in a direction longitudinally of the feed-rack, means constructed and arranged to vary the extent of said limited movement, means constructed to shift said dog mechanism transversely to said feed-rack to permit free travel of the movable part longitudinally of the feed-rack, and means arranged to engage said dog mechanism and lock the parts thereof in their normal relative positions when so shifted, substantially as described.

15. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a combined longitudinally and transversely rocking dog mechanism carried by said movable part in position to engage said feed-rack, means constructed to rock said dog mechanism longitudinally to said feed-rack to permit limited travel of the movable part in a direction longitudinally of the feed-rack, means constructed to rock said dog mechanism transversely to said feed-rack to permit free travel of the movable part longitudinally of the feed-rack, and a guiding member arranged to engage said dog mechanism to hold the parts of the dog mechanism against actuation and retain them, positively, in their normal relative positions when so shifted, said guiding member constructed to automatically guide said dog mechanism during return of the latter to reëngagement with the feed-rack, substantially as described.

16. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a rocker-block carried on said movable part and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, means constructed to rock said rocker-block to free the loose dog from engagement with the feed-rack and to shift the rigid dog into engagement therewith, means constructed to maintain the loose dog in its extreme position from the rigid dog upon release of the former from the feed-rack, and an abutment-bar, independent of the rocker-block, carried by said movable part and constructed to be moved into and out of the path of the loose dog to regulate the extent of said extreme movement of the loose dog, substantially as described.

17. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a rocker-block carried on said movable part and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, means constructed to automatically maintain the loose dog in engagement with the feed-rack and the rigid dog free therefrom, means constructed to rock said rocker-block to free the loose dog from engagement with the feed-rack and to shift the rigid dog into engagement therewith, means constructed to maintain the loose dog in its extreme position from the rigid dog upon release of the former from the feed-rack, and an abutment-bar, independent of the rocker-block, carried by said movable part and constructed to be moved into and out of the path of the dog mechanism to regulate the extent of said extreme movement of the loose dog, substantially as described.

18. In a feed mechanism, the combination with a movable part and a feed-rack supported adjacent thereto, of a rocker-block carried on the movable part and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, means constructed to automatically maintain the loose dog in engagement with the feed-rack and the rigid dog free therefrom, means constructed to rock said rocker-block to free the loose dog from engagement with the feed-rack and to shift the rigid dog into engagement therewith, means constructed to maintain the loose dog in its extreme position from the rigid dog upon release of the former from the feed-rack, and means carried by the movable part, independent of the rocker-block, and movable into and out of the path of the loose dog to regulate the extent of said extreme movement of the loose dog, substantially as described.

19. In a feed mechanism, the combination with a movable part and a feed-rack supported adjacent thereto, of a rocker-block carried on the movable part and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, means constructed to automatically maintain the loose dog in engagement with the feed-rack and the rigid dog free therefrom, means constructed to rock said rocker-block to free the loose dog from engagement with the feed-rack and to shift the rigid dog into engagement therewith, means constructed to maintain the loose dog in its extreme position from the rigid dog upon release of the former from the feed-rack, means carried by the movable part, independent of the rocker-block, and movable into and out of the path of the loose dog to regulate the extent of said extreme movement of the loose dog, and means for positioning said regulating means, substantially as described.

20. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a rocker-block carried on said movable part and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, means constructed to automatically maintain the loose dog in engagement with the feed-rack and the rigid dog free therefrom, means constructed to rock said rocker-block to free the loose dog from engagement with the feed-rack and to shift the rigid dog into engagement therewith, means constructed to maintain the loose dog in its extreme position from the rigid dog upon release of the former from the feed-rack, adjustable means carried by said movable part independent of the dog mechanism and constructed to regulate the extent of said extreme movement of the loose dog, and means constructed to rock both dogs away from engagement with said feed-rack, whereby a position of general release will be obtained to permit free travel of said movable part in either direction, substantially as described.

21. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a rocker-block carried on said movable part and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, means constructed to automatically maintain the loose dog in engagement with the feed-rack and the rigid dog free therefrom, means constructed to rock said rocker-block to free the loose dog from engagement with the feed-rack and to shift the rigid dog into engagement therewith, means constructed to maintain the loose dog in its extreme position from the rigid dog upon release of the former from the feed-rack, adjustable means carried by said movable part and constructed to regulate the extent of said extreme movement of the loose dog, means constructed to shift said rocker-block to simultaneously release both of said dogs from said feed-rack, and means arranged to engage said dog mechanism and lock the loose dog in its normal position relative to the rigid dog when so shifted, substantially as described.

22. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a rocker-block carried on said movable part and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, means constructed to automatically maintain the loose dog in engagement with the feed-rack and the rigid dog free therefrom, means constructed to rock said rocker-block to free the loose dog from engagement with the feed-rack and to shift the rigid dog into engagement therewith, means constructed to maintain the loose dog in its extreme position from the rigid dog upon release of the former from the feed-rack, adjustable means carried by said movable part and constructed to regulate the extent of said extreme movement of the loose dog, means constructed to shift said rocker-block to simultaneously release both of said dogs from said feed-rack, and means arranged to engage said dog mechanism and lock the loose dog in its normal position relative to the rigid dog when so shifted, said engaging means constructed to automatically guide the loose dog into engagement with the feed-rack upon return of the rocker-block to its normal position, substantially as described.

23. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a combined vertically-reciprocating and transversely-tiltable rocker-block carried on said movable part and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, means constructed to rock said rocker-block to free the loose dog from engagement with the feed-rack and to shift the rigid dog into engagement therewith, means constructed to maintain the loose dog in its extreme position from the rigid dog upon release of the former from the feed-rack, slidable means carried by said movable part normally out of the path of travel of the slidable dog-plate and constructed to be moved into and out of the path of the dog mechanism to regulate the extent of said extreme movement of the loose dog, and adjustable means constructed to limit the approach of the loose dog to the rigid dog, substantially as described.

24. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a combined vertically-reciprocating and transversely-tiltable rocker-block carried on said movable part and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, means constructed to rock said rocker-block to free the loose dog from engagement with the feed-rack and to shift the rigid dog into engagement therewith, means constructed to maintain the loose dog in its extreme position from the rigid dog upon release of the former from the feed-rack, adjustable means carried by said movable part normally out of the path of travel of the slidable dog-plate and constructed to be moved into and out of the path of the dog mechanism to regulate the extent of said extreme movement of the loose dog, and adjustable means constructed to limit the approach of the loose dog to the rigid dog, substantially as described.

25. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a bearing-yoke rockingly supported on said movable part, a rocker-block fulcrumed intermediate of its length in said bearing-yoke and constructed to be rocked alternately to raise and lower its ends and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, means constructed to rock said rocker-block on said bearing-yoke to free the loose dog from engagement with the feed-rack and to shift the rigid dog into engagement therewith, and means constructed to swing said bearing-yoke to simultaneously shift both the rigid and loose dogs from engagement with the feed-rack, and separate means for returning the dogs into reëngagement with the rack, substantially as described.

26. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a bearing-yoke rockingly supported on said movable part, a rocker-block journaled on said bearing-yoke and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, means constructed to rock said rocker-block on said bearing-yoke to free the loose dog from engagement therewith, means constructed to swing said bearing-yoke to simultaneously shift both the rigid and loose dogs from engagement with the feed-rack, and means arranged independent of the bearing-yoke to engage said dog mechanism and lock the loose dog in its normal position relative to the rigid dog when so shifted, substantially as described.

27. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a rocker-block carried on said movable part and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, an adjustable stop carried by said rocker-block, and actuating means constructed to engage said adjustable stop for actuating the rocker-block to free the loose dog from engagement with the feed-rack and to shift the rigid dog into engagement therewith, said actuating means arranged to be normally held from engagement with said adjustable stop and to engage the same after passing through a predetermined portion of its path, substantially as described.

28. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a rocker-block carried on said movable part and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, an adjustable stop carried by said rocker-block, actuating means constructed to engage said adjustable stop for actuating the rocker-block to free the loose dog from engagement with the feed-rack and to shift the rigid dog into engagement therewith, said actuating means arranged to be normally held from engagement with said adjustable stop and to engage the same after passing through a predetermined portion of its path, and means constructed to maintain the loose dog in its extreme position from the rigid dog upon release of the former from the feed-rack, substantially as described.

29. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a rocker-block carried on said movable part and provided with a rigid dog, a dog-plate slidably mounted on said rocker-block and carrying a dog constituting the loose dog of the feed mechanism, an adjustable stop carried by said rocker-block, actuating means constructed to engage said adjustable stop for actuating the rocker-block to free the loose dog from engagement with the feed-rack and to shift the rigid dog into engagement therewith, said actuating means arranged to be normally held from engagement with said adjustable stop and to engage the same after passing through a predetermined portion of its path, means constructed to maintain the loose dog in its extreme position from the rigid dog upon release of the former from the feed-rack, and adjustable means carried by said movable part and constructed to regulate the extent of said extreme movement of the loose dog, substantially as described.

30. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, dog mechanism carried by said movable part in position to engage said feed-rack and comprising a rigid dog and a loose dog, each dog disposed to be alternately in engagement with the feed-rack, movable supporting-blocks for the dogs, means carried by the dog-supporting blocks and constructed to throw both dogs into simultaneous engagement with the feed-rack when the movable part is moved in an opposite direction to its normal travel.

31. In a type-writer, letter-spacing mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a rigid dog and a loose dog constructed alternately to engage said feed-rack for regular spacing, movable supporting-blocks for said rigid and loose dogs, and back-space means constructed to effect engagement and locking of both dogs, simultaneously, with said feed-rack when the movable part is moved back in an opposite direction to its regular travel, and operating automatically to effect repositioning of the parts for further, regular letter-spacing.

32. In a feed mechanism, the combination of a movable part, a feed-rack supported adjacent thereto, a rocker-block, a rigid dog carried by the rocker-block, a dog-block sliding on and movable with the rocker-block, a dog carried by the dog-block and constituting the loose dog of the feed mechanism, and means carried by both blocks and coacting to tilt the rocker-block to project the rigid dog into engagement with the feed-rack, without disengagement of the loose dog therewith.

33. In a type-writer, the combination with a feed-rack, of dog mechanism arranged to rock in the plane of the rack to effect step-by-step feeding, key-levers, a universal bar disposed to be operated directly thereby, a dog-mechanism actuator normally spaced from operative engagement with said mechanism, and connection between said actuator and

the universal bar, whereby the universal bar and the dog-mechanism actuator are set in motion and then transmit the motion to the dog mechanism at a later point in the stroke of the key-lever.

34. In a type-writer, the combination with a traveling carriage and a feed-rack, of a dog mechanism arranged to rock in the plane of the rack to effect feeding of the carriage, key-levers, a universal bar disposed to be operated directly thereby, a rocker-arm disposed to engage with said mechanism after a period of lost motion, and a link directly connecting the universal bar and said rocker-arm, whereby the universal bar and the rocker-arm are set in motion and then transmit the motion to the dog mechanism at a later period in the stroke of the key-lever.

35. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of dog mechanism carried by the movable part and comprising a tiltable member, a dog-block constructed to oscillate in a vertical plane and to coact with the feed-rack and supported in and tiltable with said tiltable member to release the feed mechanism, and an independent rocker-bar engaging said dog mechanism and constructed to operate the same to cause it to engage the feed-rack but disposed to be unaffected by the tilting of the dog mechanism for release, substantially as described.

36. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, dog mechanism carried by the movable part and comprising a trunnion-plate carried by the movable part, a tiltable member supported in the trunnion-plate, a movable dog-block supported in the tiltable member to tilt therewith for release of the feed mechanism, and means engaging said dog mechanism and constructed to operate the same to effect its engagement with the feed-rack, substantially as described.

37. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a trunnion-plate carried by the movable part, a member tiltable on the trunnion-plate to bring about release of the escapement mechanism, an oscillating dog-block mounted on the tiltable member, a slidable dog-block, and means engaging said oscillating dog-block for effecting alternate engagement of the dog-blocks with the feed-rack, substantially as described.

38. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a trunnion-plate carried by the movable part, a tiltable member movably supported on the trunnion-plate, a rocking dog-block mounted on the tiltable member, and rocking in a plane at right angles to the plane of the tilting movement, a slidable dog-block, means engaging said dog-blocks for effecting their engagement with the feed-rack, and means for tilting the said member and dog-blocks away from the feed-rack, substantially as described.

39. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a trunnion-plate carried by the movable part, a tiltable member movably supported on the trunnion-plate, movable dog-blocks supported in the tiltable member, means engaging one of said dog-blocks for effecting engagement of one of the blocks with, and disengagement of the other block from, the feed-rack, a rock-shaft engaging said tiltable member, and means connecting with said shaft and constructed to rock the same and tilt the dog mechanism out of engagement with the feed-rack, substantially as described.

40. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a trunnion-plate carried by the movable part, a tiltable member movably supported on the trunnion-plate, dog-blocks mounted on the tiltable member, means engaging one of said dog-blocks for effecting engagement thereof with the feed-rack, a rock-shaft engaging said tiltable member, and mechanism connecting with said shaft and constructed to rock the same and tilt the dog mechanism out of engagement with the feed-rack, substantially as described.

41. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of a transversely-tiltable member, means for movably supporting said member, dog-blocks rockingly supported in said member, a universal bar carried by said movable part, and a rocker-bar unconnected with the dog-blocks but connecting with said universal bar and engaging the rocking dog-blocks and constructed to rock said blocks during movement of the universal bar, substantially as described.

42. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of a member tiltable to bring about release of the feed mechanism, means for movably supporting said member, dog mechanism rockingly supported in said member, a universal bar carried by said movable part, and a rocker-arm disposed adjacent to said member and connecting with the universal bar and engaging the dog mechanism to rock the same, said arm being mounted in such manner as to be unaffected by the tilting of the dog mechanism for release, substantially as described.

43. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of a transversely-tiltable member, means carried by the movable part for tiltably supporting the said member, blocks rockingly supported on the tiltable member, means for tilting the member and dog-blocks away from a vertical line, means for limiting the extent of tilt of said member, an oscillating member disconnected from but engaging with said dog-blocks for rocking the same into engagement with the feed-rack, substantially as described.

44. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of a transversely-tiltable member, means carried by the movable part for supporting the tiltable member, dog-blocks rockingly supported on the tiltable member, means for tilting the member and dog-blocks away from a vertical line, an inclined shoulder formed on the tilting member and engaging its support for limiting the tilt of said member, and means disconnected from but engaging with said dog-blocks for rocking the same into engagement with the feed-rack, substantially as described.

45. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of a tiltable member, means carried by the movable part for supporting the tiltable member, dog-blocks rockingly supported on the tiltable member, means for tilting the member and dog-blocks transversely away from a perpendicular line, means associated with the tiltable member and its support and constructed to limit the extent of tilt of said member, an oscillating member disconnected from but engaging with said dog-blocks for rocking the same into engagement with the feed-rack, and means for returning the tiltable member from its shifted position, substantially as described.

46. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of a tiltable member, means carried by the movable part for supporting the tiltable member, dog-blocks rockingly supported on the tiltable member, means for tilting the member and dog-blocks away from a vertical line simultaneously, means for limiting the extent of tilt of said member, means disconnected from but engaging with said dog-blocks for oscillating the same into engagement with the feed-rack for spacing, means for returning the tiltable member from its shifted position, and means for limiting the backward movement of the tiltable member during its return, substantially as described.

47. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, which supporting member is constructed to have movement out of the perpendicular plane of the feed-rack for releasing the feed mechanism, a rigid dog rocker-block supported on said member, a loose dog-block slidably mounted on said rocker-block, means for sliding said loose dog-block on the rocker-block and means for guiding said dog-block in its movement on the rocker-block, substantially as described.

48. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rigid dog rocker-block supported on said member, a loose dog-block slidably mounted on said rocker-block, means for sliding said loose dog-block on the rocker-block, and a slidable plate disposed independent of the dog-blocks and movable into the path of travel of the loose dog-block and constructed to limit its movement for single spacing and adjustable out of the path of movement thereof for permitting double spacing, substantially as described.

49. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rigid dog rocker-block supported on said member, a loose dog-block slidably mounted on said rocker-block, means for sliding said loose dog-block on the rocker-block, a slidable plate disposed independent of the dog-blocks and movable into the path of travel of the loose dog-block and constructed to limit its movement for single spacing and adjustable out of the path of movement thereof for permitting double spacing, and means for limiting the movement of said slidable plate, substantially as described.

50. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, which supporting member is constructed to have movement out of the perpendicular plane of the feed-rack for releasing the feed mechanism, a rigid dog rocker-block supported on said member, a loose dog-block slidably mounted on said rocker-block, spring-actuated means for sliding said loose dog-block on the rocker-block, a slidable plate disposed independent of the dog-blocks and movable into the path of travel of the loose dog-block and constructed to limit its movement for single spacing and adjustable out of the path of movement thereof for permitting double spacing, and means for maintaining the slidable plate in operative position, substantially as described.

51. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rocker-block supported on said member, a dog-block slidably mounted on said rocker-block, means for effecting sliding of said dog-block on the rocker-block, a slidable plate disposed adjacent to said slidable dog-block, an abutting lug carried by said slidable plate and constructed to be positioned in the path of movement of the slidable dog-block for limiting movement thereof for single spacing and movable out of the path thereof to permit greater movement of the slidable block for double spacing, and means engaging the rocker-block and constructed to cause engagement of the blocks with the feed-rack, substantially as described.

52. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rocker-block supported on said member and having movement with said supporting member in one direction and, also, movement in a different direction, a dog-block slidably mounted on said rocker-block, means for effecting sliding of said dog-block on the rocker-block, a lug carried by the slidable block, and a sliding plate disposed independent of the dog-blocks and engaging said lug to limit movement of the slidable plate, substantially as described.

53. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rocker-block supported on said member, a dog-block slidably mounted on said rocker-block, means for effecting sliding of said dog-block on the rocker-block, a beveled lug carried by the slidable block, and a sliding plate engaging said lug to limit movement of the slidable plate, substantially as described.

54. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rocker-block mounted on said supporting member, a dog-block having sliding engagement with said rocker-block, shoulders formed on said sliding block for limiting movement thereof, and means independent of but constructed to be rocked into contact with said rocker-block for effecting engagement between said blocks and the feed-rack, substantially as described.

55. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, constructed and arranged to be tilted out of the perpendicular plane of the feed-rack for releasing the feed mechanism, a rocker-block movably fulcrumed intermediate of its length on said supporting member and constructed to engage the feed-rack, a slidable block carried by the rocker-block and constructed also to have engagement with the feed-rack, means for effecting a sliding movement of said slidable block, and means for returning said sliding block to normal position, and an operating device constructed to have a lost-motion engagement with the rocker-block for actuating the same into engagement with the feed-rack, substantially as described.

56. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, constructed and arranged to be tilted out of the perpendicular plane of the feed-rack for releasing the feed mechanism, a rocker-block movably fulcrumed intermediate of its length on said supporting member and constructed to engage the feed-rack, a slidable block carried by the rocker-block and constructed also to have engagement with the feed-rack, means for effecting a sliding movement of said slidable block, means for returning said sliding block to normal position, and means for limiting the forward movement of the slidable block, and an operating device constructed to have a lost-motion engagement with the rocker-block for actuating the same into engagement with the feed-rack, substantially as described.

57. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, constructed and arranged to be tilted out of the perpendicular plane of the feed-rack for releasing the feed mechanism, a rocker-block movably fulcrumed intermediate of its length on said supporting member and constructed to engage the feed-rack, a slidable block carried by the rocker-block and constructed also to have engagement with the feed-rack, means for effecting a sliding movement of said slidable block, means for returning said sliding block to normal position, and means for limiting the backward movement of the slidable block, and an operating device constructed to have a lost-motion engagement with the rocker-block for actuating the same into engagement with the feed-rack, substantially as described.

58. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rocker-block movably mounted on said supporting-block and constructed to engage the feed-rack, a slidable block carried by the rocker-block and constructed also to have engagement with the feed-rack, an arm carried by the rocker-block, and a spindle threaded in the loose block and sliding in said arm, substantially as described.

59. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rocker-block movably mounted on said supporting member and constructed to engage the feed-rack, a slidable block carried by the rocker-block and constructed also to have engagement with the feed-rack, an arm carried by the rocker-block, and a headed spindle threaded in the loose block and sliding in said arm, substantially as described.

60. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rocker-block movably mounted on said supporting member and constructed to engage the feed-rack, a slidable block carried by the rocker-block and constructed also to have engagement with the feed-rack, an arm carried by the rocker-block, and an adjustable spindle threaded in the loose block and sliding in said arm and means associated with the spindle and said arm and adapted to project the slidable block away from said arm, substantially as described.

61. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rocker-block movably mounted on said supporting member and constructed to engage the feed-rack, a slidable block carried by the rocker-block and constructed also to have engagement with the feed-rack, an arm carried by the rocker-

block, a spindle threaded in the loose block and sliding in said arm, and a spring encircling the spindle, substantially as described.

62. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rocker-block fulcrumed intermediate of its length on said supporting member and arranged to be rocked to position its extremities, alternately, contiguous to the lower face of the feed-rack, a slidable block carried by the rocker-block and constructed also to have engagement with the feed-rack, an arm carried by the rocker-block, a rocker-arm normally out of engagement with, but constructed to be actuated into contact with said arm for rocking the rocker-block, and means for operating the rocker-arm, substantially as described.

63. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rocker-block fulcrumed intermediate of its length on said supporting member and arranged to be rocked to position its extremities, alternately, contiguous to the lower face of the feed-rack, a slidable block carried by the rocker-block and constructed also to have engagement with the feed-rack, an arm carried by the rocker-block, a rocker-arm normally out of engagement with, but constructed to be actuated into contact with said arm for rocking the rocker-block, means for operating the rocker-arm, and means connecting with said arm and said movable part for returning the rocker-block after being operated by the rocker-arm, substantially as described.

64. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rocker-block fulcrumed intermediate of its length on said supporting member and arranged to be rocked to position its extremities, alternately, contiguous to the lower face of the feed-rack, a slidable block carried by the rocker-block and constructed also to have engagement with the feed-rack, means normally out of engagement, but constructed to be actuated into contact with the rocker-block for rocking the same, and means for limiting the extent of rocking of said rocker-block, substantially as described.

65. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rocker-block fulcrumed intermediate of its length on said supporting member and arranged to position its extremities, alternately, contiguous to the lower face of the feed-rack, a slidable block carried by the rocker-block and constructed also to have engagement with the feed-rack, means normally out of engagement, but constructed to be actuated into contact with the rocker-block for rocking the same, and adjustable means for limiting the extent of rocking of said rocker-block, substantially as described.

66. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a tiltable supporting member carried by the movable part, a rocker-block fulcrumed intermediate of its length on said supporting member and arranged to be rocked to position its extremities, alternately, contiguous to the lower face of the feed-rack, a slidable block carried by the rocker-block and constructed also to have engagement with the feed-rack, a rocker-arm disposed adjacent to, and normally out of engagement with said rocker-block and constructed to engage the same to rock it, and means engaged by the rocker-arm for limiting the amount of rocking of the rocker-block, said rocker-block being movable in one direction with the tiltable block and, also, movable in a different direction independent of the tiltable movement of said tiltable member, substantially as described.

67. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, a supporting member carried by the movable part, a rocker-block fulcrumed intermediate of its length on said supporting member and arranged to be rocked to position its extremities, alternately, contiguous to the lower face of the feed-rack, a slidable block carried by the rocker-block and constructed also to have engagement with the feed-rack, a rocker-arm disposed adjacent to, and normally out of engagement with said rocker-block and constructed to engage the same to rock it, and adjustable means engaged by the rocker-arm for limiting the amount of rocking of the rocker-block, substantially as described.

68. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of a tiltable member carried by the movable part, a rocker-block supported on the tiltable member and constructed to engage the feed-rack, a loose dog-block slidably carried by said rocker-block and also constructed to engage the feed-rack, means for moving said tiltable member and blocks out of engagement with the feed-rack, and a loose dog-block-positioning guide, normally out of the path of said block and constructed to engage and hold the same against further sliding movement when the tiltable member is tilted, substantially as described.

69. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of a tiltable member carried by the movable part, a rocker-block supported on the tiltable member and constructed to engage the feed-rack, a loose dog-block slidably carried by said rocker-block and also constructed to engage the feed-rack, means for moving said tiltable member and blocks out of engagement with the feed-rack, and a loose dog-block-positioning guide carried by and upstanding from the movable part, normally out of the path of said block, and constructed to engage and hold the same against further sliding movement when the tiltable member is tilted, substantially as described.

70. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of a tiltable member carried by the movable part, a rocker-block supported on the tiltable member and constructed to engage the feed-rack, a loose dog-block slidably carried by said rocker-block and also constructed to engage the feed-rack, means for moving said tiltable member and blocks out of engagement with the feed-rack, means constructed to thrust and maintain the loose dog in its extreme position from the rigid dog upon the release of the former from the feed-rack and a stationary positioning-guide, normally out of the path of said block, and constructed to engage the block when in its nearest position to the rigid dog and hold the block against further sliding movement when the tiltable member is tilted, substantially as described.

71. In a feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of a tiltable member supported on the movable part, a rocker-block supported on the tiltable member and constructed to engage the feed-rack, a slidable block carried by the rocker-block and constructed to engage the feed-rack, a rocker-arm disposed independent of the tiltable member and constructed to engage and actuate the rocker-block, and means for tilting said member and blocks away from the feed-rack without effecting operation of the rocker-arm, substantially as described.

72. In a feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of a tiltable member supported on the movable part, a rocker-block supported on the tiltable member and constructed to engage the feed-rack, a slidable block carried by the rocker-block and constructed to engage the feed-rack, a rocker-arm disposed independent of the tiltable member and constructed to engage and actuate the rocker-block, means for tilting said member and blocks away from the feed-rack without effecting operation of the rocker-arm, and means for returning the tiltable member to normal position, substantially as described.

73. In a feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of a tiltable member supported on the movable part, a rocker-block supported on the tiltable member and constructed to engage the feed-rack, a slidable block carried by the rocker-block and constructed to engage the feed-rack, a rocker-arm disposed independent of the tiltable member and constructed to engage and actuate the rocker-block, means for tilting said member and blocks away from the feed-rack without effecting operation of the rocker-arm, and spring-actuated means for returning the tiltable member to normal position, substantially as described.

74. In feed mechanism, the combination with a movable part and a feed-rack disposed adjacent thereto, of a tiltable member carried by the movable part, a rocker-block rockingly supported on said tiltable member and constructed to engage the feed-rack, a slidable block supported on said rocker-block and constructed to engage the feed-rack, means for rocking the rocker-block, means for tilting the tiltable member and said block out of engagement with the feed-rack, and means for returning the tiltable member and said blocks to normal position in engagement with the rack, said means serving, also, to operate the rocker-block after the same has been rocked by said rocking means, substantially as described.

75. In feed mechanism, the combination with a movable part and a feed-rack supported adjacent thereto, of dog mechanism comprising a plurality of dogs constructed to be rocked alternately in a vertical plane to effect operative engagement of one or the other of the dogs with the feed-rack for spacing, a rocker-shaft engaging the dog mechanism and constructed to be rocked to tilt the plurality of dogs, simultaneously, away from vertical plane, and out of engagement with the rack to permit travel of the movable part longitudinally of the feed-rack, and a rocker-arm fulcrumed independent of the rocker-shaft and normally unconnected with the dog mechanism, but constructed to be rocked into engagement with the dog mechanism and oscillate the same substantially as described.

76. In a type-writer, the combination with a carriage, of a feed-rack extending in the direction of travel of said carriage, a rocking dog mechanism underlying said feed-rack and comprising a rigid dog and a loose dog, one of which is normally in engagement with the rack but normally displaceable therefrom to effect engagement of the other dog with the rack, means for enabling said dog mechanism to perform variable spacing, said dog mechanism being pivoted intermediate of its length to perform a rocking movement relative to the feed-rack, abutment devices arranged to limit movement of said dog mechanism and operating, when said carriage is given a slight retrograde movement, to rock said dog mechanism and permit sliding of the normally engaged dog upon the rack without complete disengagement thereof and, at the same time, cause the locking engagement of the other dog with the rack at the conclusion of a movement corresponding to the feed determined by said variable-space means.

77. In a type-writer, the combination with a carriage, a feed-rack disposed adjacent thereto, dog mechanism constructed to have two movements in different directions relative to the feed-rack, a tiltable member arranged to support dog mechanism for movement in one direction, a rocking member supported by the tiltable member and constructed to be moved in a direction different from the movement of the tiltable member, means for effecting engagement of the dog mechanism in a direction in opposition to the face of said feed-rack, for spacing purposes, and means for tilting said tiltable member in a direction transverse to the feed-rack for releasing said feed mechanism from the feed-rack, substantially as described.

78. In a type-writer, the combination with a carriage, a feed-rack disposed in juxtaposition to the carriage, a rocker-block fulcrumed toward its center intermediate of its length and carrying toward one end thereof a dog, a slidable block movably supported on said rocker-block and carrying a dog toward one end thereof, the said dogs carried by the rocker and slidable blocks being at opposite sides of the fulcrum-point of the rocker-block, a rocker-arm unconnected with the rocker-block but arranged to be oscillated to engage therewith contiguous to one end of the blocks to position its dog in engagement with the feed-rack, and means independent of the rocker-arm for positioning the dog on the slidable block for engagement with the feed-rack.

79. In a type-writer, the combination with a carriage, a feed-rack disposed in juxtaposition to the carriage, a rocker-block fulcrumed toward its center, intermediate of its length and carrying toward one end thereof a dog, a slidable block movably supported on said rocker-block and carrying a dog toward one end, the said dogs carried by the slidable and rocker blocks being at opposite sides of the fulcrum-point of the rocker-block, means for rocking the rocker-block to effect engagement, first, of its dog with the feed-rack and, then, of the dog on the slidable block, means for effecting a longitudinal slidable movement of the slidable block independent of the movement of the rocker-block, and a tiltable member for supporting the rocker-block, substantially as described.

80. In a type-writer, the combination with a carriage, a feed-rack disposed in juxtaposition to the carriage, a rocker-block fulcrumed toward its center, intermediate of its length and carrying toward one end thereof a dog, a slidable block movably supported on said rocker-block and carrying a dog toward one end, the said dogs carried by the rocker and slidable blocks being at opposite sides of the fulcrum-point of the rocker-block, means for rocking the rocker-block to effect engagement, first, of its dog with the feed-rack and, then, of the dog on the slidable block, resilient means for effecting a longitudinal slidable movement of the slidable block independent of the movement of the rocker-block, a tiltable member for supporting the rocker-block, and means for effecting tilting of said member to disengage both dogs from the rack, substantially as described.

81. In a type-writer, the combination with a carriage, a feed-rack disposed in juxtaposition to the carriage, a rocker-block fulcrumed toward its center, intermediate of its length and carrying toward one end thereof a dog, a slidable block movably supported on said rocker-block and carrying a dog toward one end, the said dogs carried by the rocker and slidable blocks being at opposite sides of the fulcrum-point of the rocker-block, means for rocking the rocker-block to effect engagement, first, of its dog with the feed-rack and, then, of the dog on the slidable block, means for effecting a longitudinal slidable movement of the slidable block independent of the movement of the rocker-block, a tiltable member for supporting the rocker-block, means for effecting tilting of said member to disengage both dogs from the rack, and means engaging the slidable block and constructed to hold the same during such tilting and to guide its dog-block into operative engagement with the rack without permitting operation of the dog-carrying blocks for spacing, substantially as described.

82. In a type-writer, the combination with a carriage, a feed-rack disposed in juxtaposition to the carriage, a rocker-block fulcrumed toward its center, intermediate of its length and carrying toward one end thereof a dog, a slidable block movably supported on said rocker-block and carrying a dog toward one end, the said dogs carried by the rocker and slidable blocks being at opposite sides of the fulcrum-point of the rocker-block, means for rocking the rocker-block to effect engagement, first, of its dog with the feed-rack and, then, of the dog on the slidable block, means for effecting a longitudinal slidable movement of the slidable block independent of the movement of the rocker-block, a tiltable member for supporting the rocker-block, means for effecting tilting of said member to disengage both dogs from the rack, means engaging the slidable block and constructed to hold the same during such tilting and to guide its dog-block into operative engagement with the rack without permitting operation of the dog-carrying blocks for spacing, and a sliding abutment member constructed to be positioned into and out of the path of the slidable block to permit variable spacing, substantially as described.

83. In a type-writer, the combination with a carriage, a feed-rack disposed in juxtaposition to the carriage, a rocker-block fulcrumed toward its center, intermediate of its length and carrying toward one end thereof a dog, a slidable block movably supported on said rocker-block and carrying a dog toward one end, the said dogs carried by the rocker-block and by the slidable block being at opposite sides of the fulcrum-point of the rocker-block, lost-motion means for rocking the rocker-block to effect engagement, first, of its dog with the feed-rack and, then, of the dog on the slidable member, means for effecting a longitudinal slidable movement of the slidable block independ-

ent of the movement of the rocker-block, and independent means for limiting the movement of the dog-carrying blocks, substantially as described.

84. In a type-writer, the combination with a carriage, guide-rails upon which carriage is supported toward its sides, a feed-rack disposed intermediate of said guide-rails and parallel therewith, and dog mechanism disposed on said carriage also intermediate, approximately midway of said guide-rails and normally in engagement with said feed-rack and constructed to move the carriage longitudinally of the rails and center the weight of the carriage between the rails for prevention of transverse vibration, substantially as described.

85. In a type-writer, the combination with a writing-mechanism carriage, a feed-rack disposed adjacent to the carriage, a rocker-block fulcrumed toward its center, a dog mounted on said rocker-block, a slidable block having sliding engagement with the rocker-block, a dog mounted on the slidable block, block-oscillating means disposed contiguous to and normally out of engagement with the rocker-block, a universal bar disposed independent of the rocker-block, connections interposed between said universal bar and the rocker-block, oscillating means and key members constructed to impinge the universal bar and effect rocking of the rocker-block on its fulcrum to engage the dogs alternately with the feed-rack, substantially as described.

86. In a type-writer, the combination with a writing-mechanism carriage, a feed-rack disposed adjacent to the carriage, a rocker-block fulcrumed intermediate of its ends for rocking movement, a dog on said rocker-block, a slidable block supported on the rocker-block, a dog mounted on the slidable block, a rocking arm disposed contiguous to and normally out of engagement with the rocker-block, a universal bar, connections interposed between the rocking arm and the universal bar, and key members constructed to impinge the universal bar and effect reciprocal movement thereof and transmit movement to the rocking arm for actuating the dog-carrying blocks, substantially as described.

87. In a type-writer, the combination with a writing-mechanism carriage, guide-rails upon which said carriage travels, a feed-rack disposed adjacent to the carriage a handle disposed on the carriage, dog mechanism normally in engagement with the feed-rack, means for effecting total disengagement of the dog mechanism from the feed-rack to permit noiseless return of the carriage toward its starting-point, and a key member connecting with said disengaging means and disposed in proximity to the carriage-handle, substantially as described.

88. In a type-writer, the combination with a laterally-traveling carriage, a feed-rack member, a fulcrum member, a rocker-block supported on the fulcrum member, a dog mounted on the rocker-block, a slidable block, a dog mounted on the slidable block, a plurality of independent means for effecting movement, respectively, of the rocker-block and the slidable block to effect their alternate engagement with the feed-rack member, and means for effecting positioning of the dog-carrying blocks and the feed-rack member relative to each other for single, double and greater spacing, substantially as described.

89. In a type-writer, the combination with a laterally-traveling carriage, guide-rails disposed adjacent the upper portion of the carriage whereby said carriage is suspended from the guide-rails, a feed-rack disposed adjacent the carriage and independent of said guide-rails, dog mechanism coöperating with the feed-rack and constructed to be actuated to effect intermittent, spacing movement of the carriage and comprising an oscillating block, carrying a dog, a slidable block supported by the oscillating block and also carrying a dog, and key members for effecting actuation of said dog mechanism.

90. In a type-writer, the combination with a laterally-traveling carriage, guide-rails disposed adjacent the upper portion of the carriage whereby said carriage is suspended from the guide-rails, a feed-rack disposed adjacent the carriage and independent of said guide-rails, dog mechanism coöperating with the feed-rack and constructed to be actuated to effect intermittent, spacing movement of the carriage and comprising an oscillating block, carrying a dog, a slidable block supported by the oscillating block and also carrying a dog, key members for effecting actuation of said dog mechanism, and a rocker member normally unconnected with the oscillating member and constructed to be operated to engage the same.

91. In a type-writer, the combination with transverse guide-rails and a rectangular carriage-frame suspended therefrom, a feed-rack disposed parallel with but independent of said guide-rails, dog mechanism supported on said frame and comprising an oscillating block, a slidable block supported on the oscillating block, and an operating member normally out of engagement with said oscillating block and constructed to be operated to engage therewith, and means carried by said carriage-frame for effecting engagement of said operating member with said oscillating block and effecting engagement of said dog mechanism with the feed-rack to produce intermittent travel of the carriage on said guide-rails.

92. In a type-writer, transverse guide-rails, a carriage-frame suspended from the guide-rails and comprising a top plate, side plates, and a base-plate, dog mechanism disposed on the top plate, key members operating beneath the top plate, a carriage-handle disposed on one of the side plates, and a key member disposed in juxtaposition to the carriage-handle, and a feed-rack disposed adjacent to the carriage and independent of the guide-rails, and coöperating with the dog mechanism for effecting spacing of the carriage.

93. In a type-writer, a plurality of transverse round-faced guide-rails, a traveling carriage supported thereon and adapted to travel thereover, brackets secured to the traveling carriage, a plurality of V-shaped and flat-faced rollers supported on said brackets, a feed-rack disposed intermediate of said guide-rails, dog mechanism constructed to engage said feed-rack and comprising an oscillating block, a slidable block supported on the oscillating block, and an operating member normally out of engagement with the oscillating block and constructed to be actuated to engage therewith to oscillate the same.

94. In a type-writer, a transversely-traveling carriage, guide-rails disposed parallel to each other above the carriage and from which the carriage is suspended, a feed-rack disposed adjacent to the carriage and intermediate of the guide-rails, and dog mechanism disposed centrally of the carriage approximately midway between said parallel rails and coöperating with the feed-rack, and means for moving the carriage on its rails.

95. In a type-writer, the combination with a carriage, a feed-rack disposed adjacent to the carriage, a rocker-bar fulcrumed on the carriage, a dog mounted on the rocker-block and constructed to engage the feed-rack, a slidable block supported on the rocker-block, a dog mounted on the slidable block and constructed to engage the feed-rack, means for effecting sliding of the slidable block, means for tilting the rocker-block and the slidable block away from a vertical plane and out of engagement with the feed-rack, and means independent of the rocker and slidable blocks and constructed to engage the slidable block during the tilting of the rocker and slidable blocks and lock the slidable block against sliding during such tilting movement and to guide said block when the same is being returned to normal position, after being tilted out of engagement with the feed-rack, whereby movement of the slidable dog is prevented to effect spacing of the carriage, and whereby positioning of the dog on said slidable block in its original position in the feed-rack before tilting is effected.

96. In a type-writer, the combination with a laterally-traveling carriage, a feed-rack disposed adjacent to the carriage, a trunnion-plate supported on the carriage, a rocker-block fulcrumed in the trunnion-plate, a slidable block supported on the rocker-block independent of the trunnion-plate, a rocking arm normally out of engagement with the trunnion-plate and the rocker-block and constructed to be actuated to engage with the rocker-block, and means for operating said rocking arm.

97. In a type-writer, the combination with a carriage, a feed-rack disposed adjacent to the carriage, a tiltable fulcrum member, a rocker-block and a slidable bar coacting with the feed-rack, the rocker-block being pivoted intermediate of its length in said fulcrum member, and said slidable bar being supported on said rocker-block, means for moving said slidable bar, a rocking arm disposed adjacent to the rocker-block and independent thereof, and constructed to be moved into engagement with the rocker-block, and means for tilting the rocker-block for effecting movement of the rocking arm.

98. In a type-writer, dog mechanism comprising a rocker-block provided with a channel, a slidable block disposed in said channel, abutments formed on said slidable block and constructed to limit its movement, means carried by the rocker-block and constructed to actuate the slidable block longitudinally, a tiltable yoke member in which the rocker-block is supported, and means for actuating said rocker-block.

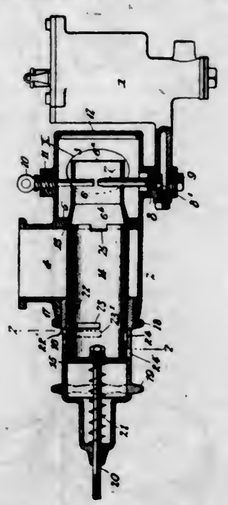
99. In a type-writer, dog mechanism comprising a rocker-block provided with a channel, a slidable block disposed in said channel, abutments formed on said slidable block and constructed to limit its movement, means carried by the rocker-block and constructed to actuate the slidable block longitudinally, a tiltable yoke member in which the rocker-block is supported, means for actuating said rocker-block, and means for changing the position of said abutments to vary the extent of movement of the slidable block.

100. In a type-writer, dog mechanism, comprising a rack, a tiltable fulcrum member, a plate in which said fulcrum member is supported, means carried by the fulcrum member and said plate for limiting movement of said member, a rocker-block pivoted in said fulcrum member, means for limiting the movement of said rocker-block in the fulcrum member, a dog mounted on said rocker-block, a slidable block disposed in said rocker-block, a dog mounted on said slidable block, means for effecting movement of said slidable block to position the dog mounted thereon away from the dog mounted on the rocker-block, means for limiting the extent of movement of said slidable block, a rocking arm disposed in juxtaposition to the rocker-block and constructed to be rocked into engagement with one end of said rocker-block and tilt that end to position its dog in engagement with the feed-rack, means engaging said rocker-block for withdrawing its dog out of engagement with the rack and to effect engagement with the rack of the dog on the slidable block, an abutment-plate normally out of engagement with the slidable block and constructed to be moved into the path thereof to reduce the length of its thrust, and means for tilting the fulcrum member to position the dogs mounted, respectively, on the rocker and slidable blocks out of engagement with the rack.

101. In a feed mechanism, the combination of a supporting part, a feed-rack supported adjacent thereto, a combined longitudinally and transversely rocking dog mechanism carried by the supporting part in position to engage said feed-rack and comprising a rocking member and a tiltable bearing member in which said rocking member is fulcrumed intermediate of its length and by which it is positioned relative to the feed-rack, means constructed to rock said rocking member longitudinally to said feed-rack to permit limited travel of the supporting part in a direction longitudinally of the feed-rack, means disposed independent of the dog mechanism and constructed and arranged to vary the extent of said limited travel, independent means constructed to effect tilting of the bearing member axially out of engagement with said feed-rack to permit free travel of the supporting part longitudinally of the feed-rack.

102. In a feed mechanism, the combination of a supporting part, a feed-rack supported adjacent thereto, a combined longitudinally and transversely rocking dog mechanism carried by the supporting part in position to engage said feed-rack and comprising a rocking member and a tiltable bearing member in which said rocking member is fulcrumed intermediate of its length and by which it is positioned relative to the feed-rack, means constructed to rock said rocking member longitudinally to said feed-rack to permit limited travel of the supporting part in a direction longitudinally of the feed-rack, means constructed and arranged to vary the extent of said limited travel, independent means constructed to effect tilting of the bearing member axially out of engagement with said feed-rack to permit free travel of the supporting part longitudinally of the feed-rack, and means for positioning said varying means.

840,204. CARBURETER. GUSTAVE E. FRANQUIST, New York, N. Y. Filed Aug. 11, 1905. Serial No. 273,719.



Claim.—1. In a float-feed carbureter, a chamber or casing having a cavity therein, a guiding-sleeve adjustably arranged within the walls of said cavity, a plurality of ports or openings in said guiding-sleeve, a valve having a plurality of ports arranged to successively register with said first-named ports when the valve is opened, a diaphragm having a tubular extension, a supply pipe or nozzle within said extension, and means for moving the valve into seating relation upon said diaphragm.

2. In a float-feed carbureter, a chamber or casing having a cavity therein, a guiding-sleeve adjustably arranged within the walls of said casing, a plurality of ports or openings of different sizes in said guiding-sleeve, said ports or openings being arranged in different angular relations, a valve having ports arranged to successively register with said first-named ports when the valve is opened, and means for admitting a small quantity of carbureted air to the engine when the valve is closed.

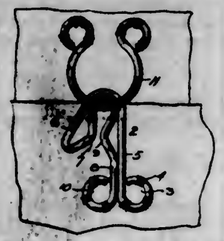
3. In a float-feed carbureter, a chamber or casing having a threaded guiding-sleeve projecting therefrom, ports within said guiding-sleeve arranged at different angular positions, a valve having ports adapted to successively register with said first-named ports, and additional means whereby said valve admits carbureted air to the engine.

840,205. HOOK AND EYE. BENJAMIN F. GABLE, St. Louis, Mo. Filed June 27, 1906. Serial No. 323,694.

Claim.—1. A hook composed of a single wire doubled on itself to form a hook portion and shank with a double strand of wire, the inner one of said strands having a hump bent thereon beginning at about midway of the shank and ending at or about the point where the bend begins for the hook portion, all the parts lying in one and the same plane with the exception of the outer end of the hook portion.

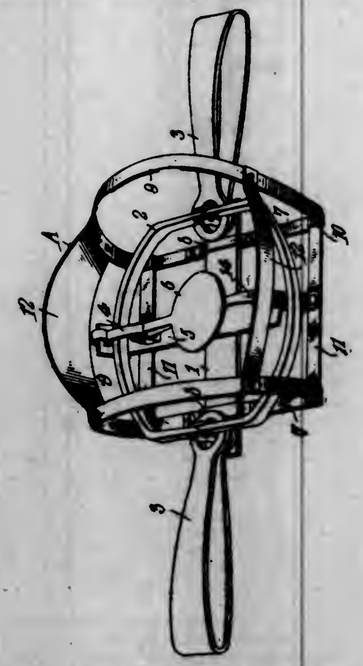
2. A hook composed of a single wire doubled on itself to form the hook portion, said hook portion having a triangular-shaped loop at its outer end and a shank with a double strand of wire, the inner one of said strands having a

hump formed thereon, the high point of said hump being substantially in line with the apex of said triangular loop,



all the parts lying in one and the same plane with the exception of the outer end of the hook portion.

840,206. ANIMAL-TRAP. JOSEPH GASS, Portland, Oreg. Filed Sept. 20, 1906. Serial No. 335,472.



Claim.—1. A trap having a releasing device, and a skeleton guard surrounding the releasing device.

2. A trap comprising swinging jaws, a releasing device, and a skeleton guard surrounding the releasing device, the ends of the jaws projecting through the ends of the guard.

3. A trap comprising swinging jaws, a releasing device and a guard at opposite sides of the jaws and surrounding the releasing device, the ends of the jaws projecting through the ends of the guard.

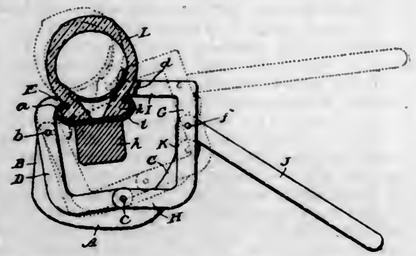
4. A trap having swinging jaws, a releasing device, a skeleton guard at opposite sides of the jaws and surrounding the releasing device, the ends of said jaws projecting through the ends of the guard.

5. A trap having a releasing device, a detachable guard surrounding the releasing device, and a spring carried by the guard and acting upon the releasing device, said spring being detachable with the guard.

6. A trap having a pair of jaws, a releasing device for controlling said jaws, and a guard surrounding said releasing device and jaws and comprising a pair of end loops and a pair of side bars.

7. In a trap, the combination with a base-plate, a pair of jaws pivotally mounted on said base-plate, a pair of springs for operating said jaws, a cross-piece, a pawl pivotally connected with said cross-piece and a releasing device pivotally connected with said cross-piece and adapted to be engaged by said pawl for holding said jaws in opened position, of a guard comprising a pair of end cross-pieces, brackets detachably secured to said end cross-pieces and embracing said base-plate, lower side bars connecting said end cross-pieces, approximately U-shaped loops secured to said end cross-pieces and lower side bars, curved upper side bars connecting said loops, and a spring secured to one of said lower side bars and bearing upward against the lower surface of said releasing device, for substantially the purposes set forth.

840,207. CLENCHER-TIRE-RELEASING TOOL. JOHN E. GLICKERT and ALFRED L. SWIGERT, Jr., Indianapolis, Ind. Filed May 3, 1906. Serial No. 315,008.



Claim.—1. A tire-releasing tool comprising a yoke formed of a body part and two lateral arms attached rigidly to the body part, the yoke being approximately U shape, a holding-jaw pivoted to one of the arms of the yoke, a lever pivoted to the other one of the arms of the yoke, and a traveling jaw pivoted to the lever and also to the holding-jaw.

2. A tire-releasing tool comprising a rigid yoke, a holding-jaw comprising a body part having a projecting rim-engaging finger on one end and a lateral arm on the opposite end thereof, the body part near the finger being pivoted to the yoke, a lever pivoted to the yoke, and a traveling jaw pivoted to the lever and also to the arm of the holding-jaw.

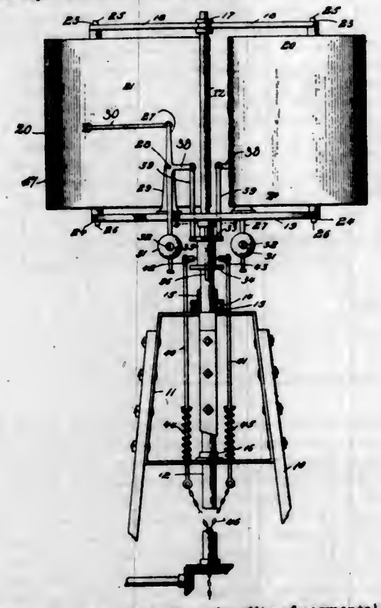
3. A tire-releasing tool comprising a rigid yoke, a holding-jaw pivoted to the yoke, a lever having a relatively short lateral ear near an end thereof which is pivoted to the yoke, said lever end being relatively short, and a traveling jaw pivoted to the holding-jaw and also pivoted to said short end part of the lever near to said ear.

4. A tire-releasing tool comprising a rigid yoke, a holding-jaw pivoted to the yoke, a lever pivoted near an end thereof to the yoke, and a traveling jaw having a body part pivoted near an end thereof to the end of the lever near which the lever is pivoted to the yoke, said body part having a rigid lateral arm on the end thereof near its connection with the lever and a lateral arm on the opposite end thereof pivoted to the holding-jaw.

5. A tire-releasing tool comprising a yoke having a body part and two lateral arms attached rigidly to opposite ends of the body part, the yoke being approximately U shape and rigid throughout, a holding-jaw comprising a body part having a laterally-projecting rim-engaging finger on one end and a lateral arm on the opposite end thereof, the body part near the finger being pivoted to an arm of the yoke, a lever having a relatively short ear attached rigidly thereto near an end thereof and pivoted to the other one of the arms of the yoke, said lever having a relatively short end part, and a traveling jaw having a body part pivoted near an end thereof to the relatively short end of the lever near said ear thereof, said body part having a rigid lateral arm at one end thereof extending to and pivoted to the end of the arm of the holding-jaw, the opposite end of said body part of the traveling jaw having a tire-engaging arm attached thereto.

6. A tire-releasing tool comprising a U-shape yoke having a body and a plurality of rigid arms, a holding-jaw having a body part pivoted to one of the arms of the yoke and provided at one end thereof with a rigid arm and at the opposite end thereof with a rigid rim-engaging finger, a lever having a rigid lateral ear pivoted to another one of the arms of the yoke and having also a relatively short end part, and a traveling jaw having a body part pivoted near an end thereof to the short end part of the lever and provided at its opposite end with a rigid arm pivoted to the arm of the holding-jaw and having also a separate rigid arm provided with lateral projections at the end thereof for engaging a tire.

840,208. WINDMILL. MILES V. HARTONG, Plainfield, Ill. Filed Apr. 27, 1906. Serial No. 314,038.



Claim.—1. In a windmill, a plurality of segmental wings arranged to form a substantially cylindrical structure when in closed position, a plurality of swinging levers associated with said wings and provided with lateral arms, coupling means between said levers and wings, weights connected to said levers and operating to maintain the same yieldably in position and to move the wings toward a closed position when the weighted levers are distended, a member slidably disposed relative to said wings and provided with a lateral flange, coupling means between said member and the lateral lever-arms, rods having rollers bearing over said lateral flange, and means for operating said rods.

2. In a windmill, a plurality of segmental wings arranged to form a substantially cylindrical structure when in closed position, a plurality of swinging levers associated with said wings and provided with lateral arms, coupling means between said levers and wings, weights connected to said levers and operating to maintain the same slidably in position and to move the wings toward a closed position when the weighted levers are distended, a member slidably disposed relative to said wings, and means for operating said member.

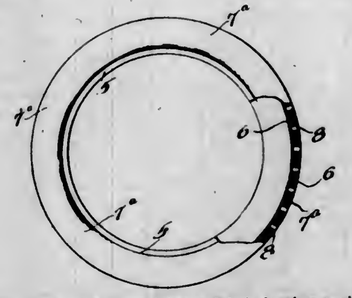
3. In a windmill, a plurality of wings formed of segmental outer plates and segmental inner plates of greater radius than the outer plates and connected thereto at the edges and arranged to form a substantially cylindrical structure when in closed position, means for supporting said wings yieldably in open position, and means for moving said wings toward a closed position.

4. In a windmill, a base-frame, a shaft supported for rotation in said frame, bearing-frames spaced apart on said shaft, segmental wings swinging between said bearing-frames, levers swinging upon one of said bearing-frames and provided with lateral arms, means for movably coupling said levers to said wings, weights adjustably connected to said levers, a member slidable upon said shaft, coupling means between said member and the lateral arms of said levers, and means for operating said member.

5. In a windmill, a base-frame, a shaft supported for rotation in said frame, bearing-frames spaced apart on said shaft, segmental wings swinging between said bearing-frames, levers swinging upon one of said bearing-frames and provided with lateral arms, means for movably coupling said levers to said wings, weights adjustably connected to said levers, a member slidable upon said shaft and provided with a lateral flange, coupling means between said member and the lateral arms of said levers, rods having rollers bearing over said flange, and means for operating said rods.

6. In a windmill, a shaft supported for rotation, bearing-frames spaced apart upon said shaft, a plurality of wings formed of segmental outer plates and segmental inner plates of greater radius than the outer plates and connected thereto at the edges, studs extending from said wings and movably engaging said bearing-frames, means for supporting said wings yieldably in open position, and means for moving said wings toward a closed position.

840,209. TIRE. GEORGE E. HEYL-DIA, Streton, near Warrington, England. Filed Sept. 29, 1905. Serial No. 280,565.



Claim.—1. A tire comprising a fabric having a plurality of layers of rubber thereon, each layer differing in hardness from the others, and studs extending from the outer surface of the fabric through the rubber portion of the tire out to the tread-surface thereof.

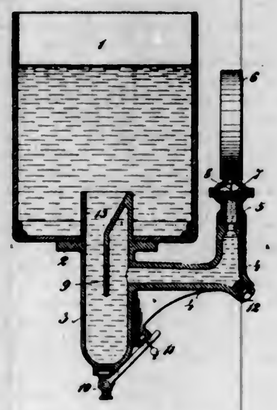
2. A tire comprising a fabric, layers of rubber of varying hardness applied to said fabric, and rubber stud members molded into the layers of rubber and extending from the outer surface of the fabric portion of the tire through to the tread portion thereof.

3. A tire comprising a fabric provided with layers of rubber compound, each layer differing in hardness from the others and studs of relatively soft rubber embedded in the layers of rubber, to be integral therewith.

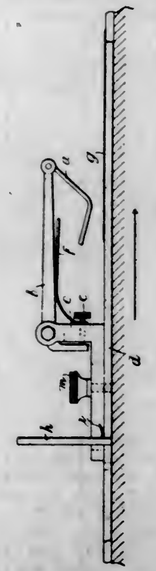
840,210. ARRANGEMENT FOR MEASURING QUANTITIES OF LIQUID. THEO HILLMER, Bucharest, Roumania. Filed Dec. 10, 1904. Serial No. 236,351.

Claim.—The combination, a measuring-reservoir, having an outlet-tube, the inner end of said tube being above the bottom of said reservoir a manometer, having a spring-plate, said plate being on a level with the inner end of said

outlet-tube and a branch tube, connecting said outlet-tube and said manometer.



840,211. DEVICE FOR FEEDING SHEETS TO PRINTING AND LIKE MACHINES. FRANK E. HODGKINSON, London, England, assignor to The Printing Appliance and Engineering Company Limited, London, England. Filed Sept. 29, 1905. Serial No. 280,570.



Claim.—1. An automatic side-lay device for printing and like machines, comprising a reciprocating bar, a freely-pivoted weight adapted to rest on the bar when stationary or when moved in one direction and to raise under the influence of its inertia when moved in the opposite direction, and means for supporting the pivot of the weight.

2. An automatic side-lay device for printing and like machines, comprising a bar, a bracket mounted thereon, means for adjusting the relative position of the bracket on the bar, an overhanging arm on said bracket, a weight freely pivoted on the end thereof, said weight being free to rise due to its inertia when the device is moved in one direction and being free to fall and bind against the bar when the device is moved in the reverse direction.

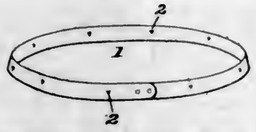
3. An automatic side-lay device for printing and like machines, comprising a bar, a bracket mounted thereon, an overhanging arm on said bracket, means for relatively adjusting said arm and bracket a weight freely pivoted on the free end of the arm said weight being free to rise due to its inertia when the device is moved in one direction and being free to fall and bind against the bar when the device is moved in the reverse direction.

4. An automatic side-lay device for printing and like machines, comprising a reciprocating bar, a freely-pivoted weight above said bar adapted to rise under the influence of its inertia when moved in one direction and to fall against the bar when moved in the opposite direction, means for supporting said weight, and means for adding to or subtracting from said weight to adjust the pressure thereof on the bar.

5. An automatic side-lay device for printing and like machines, comprising a bar, a bracket thereon an overhanging arm pivoted on the bracket, means for securing said arm in its adjusted position, a weight freely pivoted on the free end of the arm and free to rest on the bar when stationary, or when moved in one direction and means on the weight for receiving additional weights.

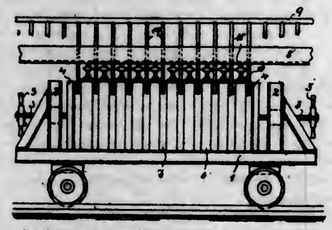
6. An automatic side-lay device for printing and like machines, comprising a bar, a bracket secured thereon by a screw-and-slot device, an overhanging arm on said bracket, means for adjusting said arm, a weight freely pivoted on the free end of said arm and adapted to rest on the bar when stationary or when moved in one direction, and a stationary side lay or stop consisting of a plate having an opening therein to permit the passage of the bar and appurtenances thereon, and upturned pins adjacent said opening, substantially as and for the purposes hereinbefore set forth.

840,212. BARREL-HOOP. CHARLES HOFF, Cincinnati, Ohio. Filed Oct. 28, 1905. Serial No. 284,859.



Claim.—A sheet-metal barrel-hoop having on its inner face one or more equilateral-triangle-shape stops each comprising an uncut retreating impression made in the face of the hoop intermediate its longitudinal edges, the apex or point of the triangle lying in the direction of the bilge edge and the base of the same being concaved or curved and beveled toward said point, whereby, when the hoop is being driven into place the point of each stop plows into the face of the barrel and guides the inclined stop or retainer projection into seating or embedding position in the stave with the contiguous fibers of the stave crowded into the said concaved or curved and beveled base and resisting the accidental slipping of the hoop from place but permitting the forcible withdrawal of the hoop without material injury to the barrel, substantially as set forth.

840,213. SOAP-MOLDING BATTERY. FRANT HOLOUBEK, Nusle, near Prague, Austria-Hungary. Filed July 3, 1905. Serial No. 268,110.



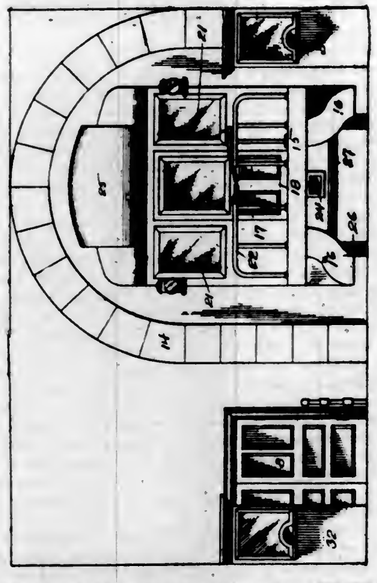
Claim.—1. A soap-molding battery comprising a plurality of molding-frames and cooling-chambers alternately disposed, said frames being open at both sides and adapted to be closed by said cooling-chambers to receive the fluid soap, means for supplying soap to said frames, and means for supplying cooling fluid to said chambers.

2. A soap-molding battery comprising a plurality of molding-frames and cooling-chambers, said frames being open at both sides and adapted to be closed by said cooling-chambers to receive the fluid soap, and means for supplying fluid soap to said frames.

3. A soap-molding battery comprising a plurality of molding-frames and cooling-chambers alternately disposed, said frames being open at both sides and adapted to be closed by said cooling-chambers to receive the fluid soap, and means for supplying cooling fluid to said chambers.

4. A soap-molding battery comprising a plurality of molding-frames and cooling-chambers alternately disposed, said frames being open at both sides and adapted to be closed by said cooling-chambers to receive the fluid soap.

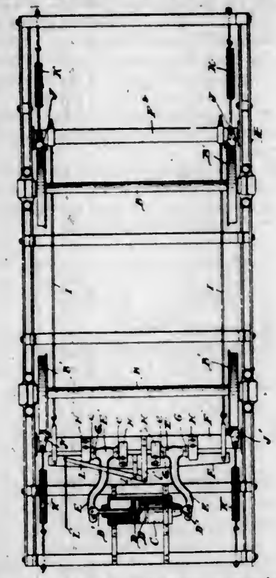
840,214. AMUSEMENT DEVICE. FRANK T. HOOVER, Pittsburg, Pa., assignor of one-half to Edmund D. Smith, Pittsburg, Pa. Filed July 3, 1906. Serial No. 324,709.



Claim.—1. In an illusionary amusement structure, the combination with side walls, of a vertical partition adjacent to one of said side walls forming in connection therewith an exit passage-way, an arch located between the front ends of said partition and the front end of one side wall, said arch being constructed in imitation of a masonry arch, a railway-car platform arranged within said arch, a car end wall and roof above said platform, car side walls extending from said car end wall, and transverse extensions from said car side walls, secured to the inner end of the arch to close the space between the car side walls and the arch and thus conceal the interior of the structure.

2. In an illusionary amusement structure, the combination with side and end walls, and a main floor, of a supplemental inclined floor, a platform at the rear thereof, seats arranged on said inclined floor an exit-passage, an arch made to imitate the entrance to a railway-tunnel, and spanning the space between one side wall of the building, and one of the walls of the exit-passage, a railway-car end within said arch, having a hollow roof to provide a compartment for a moving-picture machine, and lateral wall extensions closing the spaces between the rear end of the arch and the side walls of the car end.

840,215. CAR-BRAKE. DAVID J. HOUGHTON, Detroit, Mich. Filed May 17, 1906. Serial No. 317,285.



Claim.—1. A braking mechanism comprising braking elements, a fluid-pressure cylinder operatively connecting said elements, the braking elements including a pair of adjacent beams, a bar secured to one of said beams, a lever fulcrumed upon the other of said beams, and pivotally connected to said bar whereby the braking elements may be operated independently of and without resistance from the fluid-pressure means.

2. A braking mechanism comprising braking elements, including oppositely-disposed arms, a fluid-pressure cylinder operatively connected to said arms to move the outer ends of the latter away from each other to apply the brakes, and means for operating the braking elements independently of the fluid-pressure means.

3. In a car-brake, brake-beams located adjacent to each other to which are engaged and connected the brake-shoes of the front and rear trucks, brake-arms provided with means for spreading the beams apart, an air-brake cylinder with pistons operating in opposite directions, the piston-rods of each being connected with the ends of the respective brake-arms, substantially as described.

4. In a car-brake, brake-beams located adjacent to each other to which are engaged and connected the brake-shoes of the front and rear trucks, brake-arms provided with means for spreading the beams apart consisting of bolts projecting between the beams, said bolts provided with friction-rolls, suitable wearing-plates mounted in the beams against which the rolls contact, and means for operating said brake-arms, substantially as described.

5. In a car-brake, brake-beams located adjacent to each other to which are engaged the brake-shoes of the front and rear trucks, brake-arms provided with means for spreading the beams apart whereby the brake-shoes are forced in contact with the wheels, retaining-plates, provided with means for lateral adjustment, secured to the brake-beams to insure the brake-arms against lateral displacement, substantially as described.

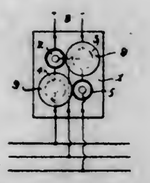
6. In a car-brake, brake-beams located adjacent to each other to which are engaged and connected the brake-shoes of the front and rear trucks, an air-brake cylinder having pistons working in opposite directions, the rods of which engage the ends of the brake-arms, brake-arms provided with means for spreading the beams apart whereby the brake-shoes are forced in contact with the wheels, said brake-arms slotted for adjustment at the point where the piston-rods engage the arms, retaining-plates to engage the

brake-arms to insure the brake-arms against lateral displacement, said retaining-plates provided with slotted ways through which the bolts pass which secure them to the brake-beams by means of which they may be adjusted laterally, substantially as described.

7. A braking mechanism comprising braking elements including oppositely-disposed arms, a fluid-pressure cylinder operatively connecting said arms to move the outer ends of the latter away from each other to apply the brakes, and means for applying the brakes independently of the fluid-pressure means.

8. A braking mechanism comprising braking elements including oppositely-disposed arms, a fluid-pressure cylinder arranged transversely of the car between said arms and provided with pistons operating in opposite directions with respect to each other to move the arms and apply the brakes, and hand-operating means for applying the brakes independently of the fluid-pressure means.

840,216. SYSTEM OF ELECTRICAL DISTRIBUTION. RUDOLF HUNDHAUSEN, Wilmersdorf, near Berlin, Germany, assignor, by mesne assignments, to General Electric Company, a Corporation of New York. Filed Feb. 19, 1900. Serial No. 5,785.



Claim.—1. A device for connecting a single circuit with any one of a plurality of energizing-circuits without reversing the polarity of the conductors of the single circuit, which consists in independent means for connecting the opposite sides of the single circuit with any one of the conductors of the plurality of energizing-circuits, and means for causing all such connections made simultaneously to retain the polarity of the aforesaid conductors constant, substantially as described.

2. A device for connecting a single circuit with any one of a plurality of energizing-circuits, comprising independent means for connecting the opposite sides of single circuit with any one of the conductors of the plurality of circuits, said means being constructed so as to prevent different simultaneous connections from changing the polarity of conductors of the single circuit, substantially as described.

3. A device for connecting a single circuit with any one of a plurality of circuits, which consists of a base having a plurality of sockets to which the conductors of the single circuit and the plurality of circuits are connected so as to permit the connection of the sides of the single circuit with desired conductors of the plurality of circuits, and plugs adapted to fit in said sockets, said connection to the sockets being made and the plugs being constructed so as to prevent simultaneous connection made by inserting the plugs from changing the relative polarity of the conductors in the single circuit, substantially as described.

4. A device for connecting a single circuit with any one of a plurality of energizing-circuits, which consists of a base having a plurality of sockets to which the conductors of the single circuit and of the plurality of energizing-circuits are connected so as to permit the connection of the opposite sides of the single circuit with any one of the conductors of the plurality of circuits, plugs adapted to fit into said sockets and having their outer ends enlarged, the connections to the sockets being such and the sockets being arranged in such a manner that plugs to connect the single circuit with one of the plurality of circuits to establish different polarities in the single circuit, cannot be simultaneously inserted, substantially as described.

5. A device for connecting a three-wire system with subcircuit, comprising separately-movable means for connecting the conductors of the subcircuits with any one of the conductors of the three-wire system, and means for causing all simultaneous connections to produce in the conductors of the single circuit the same polarity for the currents passing therethrough, substantially as described.

6. A device for connecting three-wire systems with subcircuits, comprising a base having four sockets, two of which are connected with the neutral wire and the other two of which are connected with the positive and negative wires and the plugs having their outer ends made larger than the central displacement of the sockets, whereby the plugs cannot be inserted in adjacent sockets, substantially as described.

7. A device for connecting a three-wire system with subcircuits, consisting of a base having four sockets arranged at substantially equal distances from one another, two of said sockets having their inner contacts connected with the neutral wire of the system, and the other two of said sockets having their inner contacts connected with the positive and negative wires of the system, the outer contacts of one end pair of sockets being adapted for connection with one side of the subcircuit, and the outer contacts of the other end pair of sockets being adapted for connection with the other side of the subcircuit, and plugs adapted to fit into said sockets and having their outer ends made larger than the central displacement of said sockets, whereby the plugs cannot be inserted into the adjacent sockets, substantially as described.

8. A device for connecting a three-wire system with subcircuits, comprising a base having four sockets arranged in quadrilateral form, two of said sockets adjacent to one another having their inner contacts connected with the neutral wire of said system, and the other sockets having their inner contacts connected with the positive and negative wires of said system, the outer contacts of one of the sockets connected with the neutral wire and of the socket connected with the positive wire being adapted for connection with one side of the subcircuit, and the outer contacts of the other socket connected with the neutral wire and of the socket connected with the negative wire being adapted for connection with the other side of the subcircuit, and plugs adapted to fit into said sockets and having their outer ends made larger than the distance between centers of adjacent sockets, substantially as described.

9. A device of the class specified, comprising a base having a plurality of sockets, and a number of plugs adapted to fit into said sockets, said plugs having their outer ends enlarged so as to prevent the simultaneous insertion of plugs into adjacent sockets, substantially as described.

10. A switching device, comprising a base having sockets and plugs adapted to fit into said sockets, having their outer ends enlarged so as to prevent the simultaneous insertion of plugs into adjacent sockets, substantially as described.

11. A device of the class specified, comprising a base having a plurality of sockets arranged in quadrilateral form, and a number of plugs adapted to fit into said sockets, the plugs having their outer ends enlarged so as to prevent plugs being inserted simultaneously into adjacent sockets, substantially as described.

12. A device of the class specified, comprising a base having sockets arranged in the form of a parallelogram and the distance between certain of said sockets shorter than the distance between others of said sockets, and plugs adapted to fit into said sockets, said plugs having their outer ends enlarged so as to prevent the simultaneous insertion of plugs in the sockets separated by the short distances, substantially as described.

13. The combination with a three-wire system and a subcircuit, of means comprising a pair of independent circuit-closing devices for connecting the subcircuit with any desired two of the three wires of the three-wire system, substantially as described.

14. The combination with conductors affording a plurality of circuits and with a single circuit, of means comprising a pair of independent circuit-closing devices for connecting the single circuit with the conductors forming any one of the said circuits, the polarity of the single circuit being the same irrespective of the conductors to which it is connected, substantially as described.

15. A device of the class specified, comprising three or more sockets arranged so that the distance between one of said sockets and another of said sockets is shorter than the distance between said first-mentioned socket and another of said sockets, and plugs adapted to fit into said sockets, said plugs having their outer ends arranged so as to prevent the simultaneous insertion of plugs in the sockets separated by the shorter distance.

16. The combination with a circuit comprising three cooperating conductors and a subcircuit, of means whereby the said subcircuit can be simultaneously connected with two of said three coöperating conductors, said means preventing the simultaneous connection of the said subcircuit-conductors with any but the desired coöperating conductors.

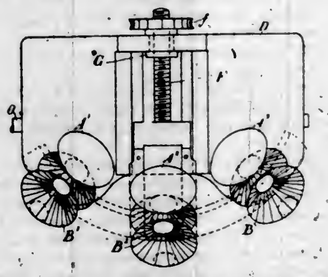
17. A device of the class specified, comprising plugs for connecting any desired conductors or sets of conductors, and means for preventing the improper simultaneous connection of two or more of such conductors or sets of conductors, substantially as described.

18. In a device of the class described, the combination with a supply-circuit having a given number of wires, of a consumption-circuit having a lesser number of conducting-wires, and separately-movable means for selectively connecting conductors of the consumption-circuit with conductors of the supply-circuit, substantially as described.

19. In a device of the class described, the combination with a supply-circuit having a given number of wires, of a consumption-circuit having a lesser number of conducting-wires, independent means for selectively connecting conductors of the consumption-circuit with conductors of the supply-circuit, and means for preventing the simultaneous connection of a conductor of the consumption-circuit with more than one conductor of the supply-circuit, substantially as described.

20. In a system of distribution, the combination with a consumption-circuit, of a supply-circuit having more than two conductors, separately-movable means for connecting said consumption-circuit with either of the supply-circuits, said means preventing the change of polarity of the conductors of said consumption-circuit irrespective of which of the supply-circuits said consumption-circuit is connected with, substantially as described.

840,217. MACHINE FOR BENDING ANGLE-IRON AND THE LIKE INTO DIFFERENT SHAPES OF CURVATURE. ELIAS O. HUVIG, Moss, Norway. Filed Sept. 14, 1906. Serial No. 334,567.

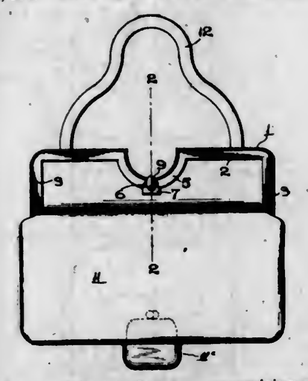


Claim.—1. In a machine for bending angle-irons and the like, the combination of a central roller pair and two side roller pairs, means for positively moving the central roller pair on a straight line and for simultaneously and positively adjusting the side roller pairs angularly with relation to the central roller pair.

2. In a machine for bending angle-irons and the like, the combination of a central roller pair and two side roller pairs, means for positively moving the central roller pair on a straight line and for simultaneously and positively adjusting the side roller pairs angularly with relation to the central roller pair and means for positively driving the side roller pairs.

3. In a machine for bending angle-irons and the like, the combination of a central roller pair and two side roller pairs means for forcibly moving the central roller pair, means for forcibly moving the side roller pairs to adjust them to different angles and means for positively driving the side roller pairs.

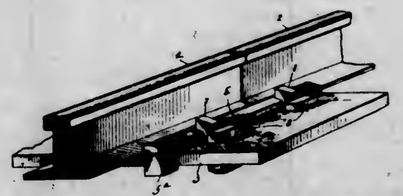
840,218. SAFETY BAG-FASTENER. FANNY F. JACOB, St. Louis, Mo. Filed June 19, 1906. Serial No. 322,473.



Claim.—1. A safety bag-fastener, comprising a pair of frames hinged together at their ends, there being coinciding U-shaped bends formed in the centers of the frames, a latching-button carried by one of the frames at the lower end of the U-shaped bend therein, and there being an aperture formed through the U-shaped bend of the opposite frame to receive said button; substantially as specified.

2. A safety bag-fastener, comprising a pair of frames, hinged together at their ends, there being coinciding U-shaped bends formed in the centers of the frames, a latching-button carried by one of the frames at the lower end of the U-shaped bend therein, there being an aperture formed through the U-shaped bend of the opposite frame to receive the button, a button fixed to the outer face of the frame to which the latching-button is fixed, and an engaging lip integral with and projecting outwardly from the frame below the aperture; substantially as specified.

840,219. RAIL-FASTENER. WILLIAM P. JOHNSON, Kerrmoor, Pa. Filed Aug. 31, 1906. Serial No. 332,774.



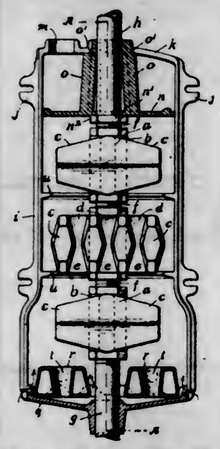
Claim.—The combination with the meeting ends of two rails, and a metallic tie formed with a plurality of T-shaped slots on opposite sides of the rails, a clamping-bar formed with end projections to engage the side edges of the tie, clamps fitting within said slots, and having lugs overlapping said bar and the base of the rail, and wedge keys for locking the clamps in position.

840,220. WATER-HEATER. WILLIAM KANE, Philadelphia, Pa. Filed Aug. 10, 1906. Serial No. 329,972.

Claim.—1. In a water-heater, the combination of a series of hollow communicating sections arranged one above the other and each having a series of lateral hollow projections the hollow projections of one section being ar-

ranged at substantially right angles to those of adjacent sections.

2. In a water-heater, the combination of a series of hollow communicating sections arranged one above the other and each consisting of a central portion and hollow lateral projections on each side, the lateral projections of each section being staggered or arranged at right angles to the projections of adjacent sections.



3. A heater-section for the purpose described, consisting of a hollow casting comprising a large vertical hollow center, two oppositely-directed hollow arms forming flattened hollow parts, and a series of lateral hollow projections extending oppositely from the walls of the flattened hollow parts and tapered toward their free ends or extremities.

4. A heater-section for the purpose described, consisting of a hollow casting comprising a series of parallel flattened parts tapering toward their free ends, and united by a flattened hollow part arranged at right angles to the series of parallel parts and having an enlarged central portion.

5. A heater-section for the purpose described, consisting of a hollow casting having a central vertical tubular portion *b* adapted to be coupled with other sections, a series of hollow parallel projections *c* extending from said central portion on each side, oppositely-directed flattened hollow parts *d* also extending from the tubular portion at right angles to the parts *c*, and additional hollow projections from said parts *d* parallel to the parts *c*.

6. In a water-heater, the combination of a series of hollow communicating water-sections arranged one above the other, an inclosing case independent of the water-sections formed of parts detachably united on the sides and having inwardly-projecting deflecting-ribs, arranged intermediate of the water-sections.

7. In a water-heater, the combination of a series of hollow communicating sections arranged one above the other and each having a series of lateral hollow projecting portions extending horizontally, an inclosing casing for said sections, and a slotted top plate within said casing arranged above the upper section in the series.

8. In a water-heater, the combination of a series of hollow communicating sections arranged one above the other and each having a series of lateral hollow projecting portions extending horizontally, an inclosing casing for said sections, and a slotted top plate within said casing arranged above the upper section in the series having its slots arranged parallel with the horizontal projections of said upper section.

9. In a water-heater, the combination of a series of hollow communicating sections arranged one above the other, an inclosing casing for said sections having a closed top provided with an outlet for the heated products, and a slotted top plate within said casing located above the upper section of the series.

10. In a water-heater, the combination of a series of hollow communicating sections arranged one above the other, an inclosing casing for said sections having a closed top provided with an outlet for the heated products, and a slotted top plate within said casing located above the upper section of the series having upright supports for the top of the casing.

11. In a water-heater, the combination of a series of hollow communicating water-sections arranged one above the other, and an inclosing casing for said sections having deflecting-ribs on its inner walls located between independent of the successive water-sections.

12. In a water-heater, the combination of a series of hollow communicating sections arranged one above the other, a supply-pipe communicating with the lower section and a discharge-pipe leading from the upper section, an inclosing casing for said sections, and a burner within said casing below the lower section of the series consisting of a U-shaped casting embracing the supply-pipe.

13. In a water-heater, the combination of a series of hollow communicating sections arranged one above the other, a supply-pipe communicating with the lower section and a discharge-pipe leading from the upper section, an inclosing casing for said sections, and a burner within said casing below the lower section of the series consisting of a U-shaped casting embracing the supply-pipe and having projections *t* at the extremities engaging the base of the casing.

14. In a water-heater, the combination of a series of hollow communicating sections arranged one above the other, a supply-pipe communicating with the lower section, a discharge-pipe leading from the upper section, an inclosing casing for said sections, and a burner within said casing below the lower section of the series consisting of a U-shaped casting, each leg being of flattened oval form, embracing said supply-pipe.

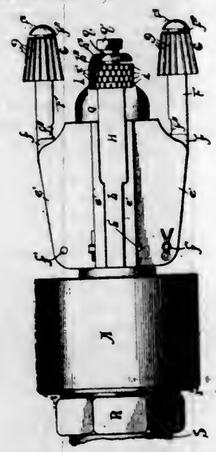
15. In a water-heater, the combination of a series of water-heating sections connected one above the other, a supply-pipe connecting with the bottom of the lowermost section, a discharge-pipe extending upward from the top of the uppermost section, a base-plate secured to the supply-pipe, and a divided casing supported by the base-plate and inclosing the water-heating sections whereby said casing may be removed to expose said sections without disturbing the base-plate.

16. In a water-heater, the combination of a series of water-heating sections connected one above the other, a supply-pipe connecting with the bottom of the lowermost section, a discharge-pipe extending upward from the top of the uppermost section, a base-plate secured to the supply-pipe, a divided casing supported by the base-plate and inclosing the water-heating sections, and a gas-burner extending through the casing and resting upon the base-plate whereby said casing may be removed to expose said sections and burner without disturbing the base-plate.

840,221. BOILER-TUBE CLEANER. CHARLES S. KNIGHT, Aurora, Ill. Filed July 15, 1904. Serial No. 216,755.

Claim.—1. In a boiler-tube cleaner, the combination of a main shell having a cross-wall, a fixed stem forwardly extending from the center of the cross-wall and having a reduced forward end with an exterior screw-thread thereon and having in the reduced forward end cross-slots on opposite sides and having in the reduced forward end and in the end of the body of the stem a central longitudinal hole screw-threaded at its inner end, a cutter-head having a side wall encircling the stem, a bearing for the forward end of the cutter-head, said bearing consisting of a cup and cone with the cone threaded onto the reduced front end of the fixed stem, and an expanding-screw having a threaded advance end engaging the threaded section of the hole in the forward end of the stem and having a tapered body entered into the hole of the reduced slotted end of the fixed stem, for the advance of the screw to cause the tapered body to act and expand the reduced slotted end of the fixed stem and lock the cone thereon in adjusted position, substantially as described.

2. In a boiler-tube cleaner, the combination of a central fixed stem having a reduced forward end with an exterior screw-thread and having slots on opposite sides of the reduced forward end and having a hole terminating in a screw-thread within the end proper of the stem, a cutter-head having a side wall encircling the fixed stem, a bearing for the front end of the cutter-head, said bearing consisting of a cup and a cone with the cone threaded onto the reduced forward end of the stem, and a screw having a threaded advance end and a tapered body and entered into the hole in the forward end of the stem for the thread to advance the screw and cause the tapered body to act and expand the reduced slotted end of the fixed stem and lock the bearing-cone thereon in an adjusted position, substantially as described.



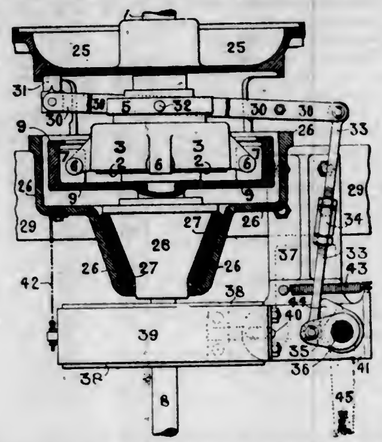
3. In a boiler-tube cleaner, the combination of a cutter head having a side wall, a plurality of ears integral with the side wall of the cutter-head and arranged in opposing pairs, each pair of ears laterally projecting from the side wall of the cutter-head and the forward end of each ear extending beyond the end proper of the side wall, a bearing-cup at the front end of the cutter-head entered between the projecting forward ends of the ears, and abutting against the end proper of the wall of the cutter-head and having a forwardly-projecting rim, and a cap having a body and a neck with the inner end of the body entered into the rim of the cup, for the cup and cap to furnish a receptacle for a lubricant, substantially as described.

4. In a boiler-tube cleaner, the combination of a cutter-head having a side wall, a plurality of ears integral with the side wall of the cutter-head and arranged in opposing pairs, each pair of ears laterally projecting from the side wall of the cutter-head and the forward end of each ear extending beyond the end proper of the side wall, a bearing-cup at the front end of the cutter-head entered between the projecting forward ends of the ears, and abutting against the end proper of the wall of the cutter-head and having a forwardly-projecting rim, a cap having a body and a neck with the inner end of the body entered into the rim of the cup, for the cup and cap to furnish a receptacle for a lubricant, and a bearing-cone on the forward end of the stem inclosed within the receptacle formed by the cup and cap, substantially as described.

840,222. ARC-LIGHT CARBON. AUGUST KUFFERATH, Beuel, near Bonn, Germany, assignor to L. C. Marquart, Beuel, near Bonn, Germany. Filed Mar. 30, 1906. Serial No. 308,977.

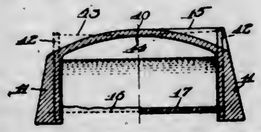
Claim.—Arc-light carbons for the production of a powerful actinic light, characterized by the fact that there is added to the carbon one-half per cent. of a metallic combination, which consists of equal parts by weight of yttrium nitrate and lead nitrate.

840,223. CLUTCH OR BRAKE MECHANISM. JOHN LAIDLAW and JAMES W. MACFARLANE, Glasgow, Scotland. Filed May 22, 1905. Serial No. 261,693.



Claim.—In combination with a continuously-running shaft, and a second shaft coaxial therewith and intermittently driven therefrom, a clutch between the two shafts for intermittently connecting them, a clutch-operating lever, a band-brake upon the second shaft, a handled operating-shaft, a crank thereon, a link between the crank and the clutch-operating lever, and a cam upon the handled shaft and operating the brake, the crank and cam being so set relatively to each other and to the parts they operate that clutch and brake can only be engaged alternatively and not simultaneously.

840,224. ARCH AND ANALOGOUS STRUCTURE. DANIEL B. LUTEN, Indianapolis, Ind. Filed Aug. 23, 1905. Serial No. 275,474.



Claim.—1. An arch or bridge with reinforcing members embedded in the abutments or piers and tension members across the span below the waterway.

2. An arch having beams set in the abutments or bench-walls, and suspension-rods extending between the upper ends of said beams and passing through the arch, substantially as described.

3. An arch having beams set in the abutments or bench-walls, and suspension-rods extending between the upper ends of said beams and passing through the arch near the intrados, substantially as described.

4. An arch having beams set in the abutments or bench-walls, and suspension-rods sagged at the middle extending between the upper ends of the beams and passing through and embedded in the arch-rib, substantially as described.

5. An arch having beams set in the abutments or bench-walls, and suspension-rods extending between the upper ends of the beams and passing near the intrados of the arch, and an external protecting-rib covering said rod and beams, substantially as described.

6. An arch provided with a pavement and having beams set in the abutments or bench-walls, suspension-rods extending between the upper ends of the beams and passing near the intrados of the arch, and tie-rods passing through said pavement and anchored in the abutments, substantially as described.

7. An arch or bridge having the bed of stream paved with a reinforced concrete pavement.

8. An arch or bridge having the bed of stream paved with concrete reinforced with members from abutment to abutment and extending well into the abutments.

9. An arch or bridge having the bed of stream paved with concrete with tension members embedded transverse to the course of the stream.

10. An arch or bridge with a concrete pavement in the bed of the stream and tension members embedded near its upper surface.

11. An arch or bridge having the bed of stream paved with concrete with concave upper surface and tension members embedded passing near the upper surface at the middle of the span and near the lower surface at the ends.

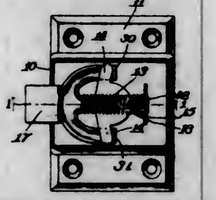
12. An arch or bridge with reinforced concrete pavement in bed of stream, the reinforcing members extending into the abutments and connected to other members embedded in the abutments.

13. In a bridge a pavement in bed of stream with reinforcing members embedded near upper and lower surfaces.

14. An arch or bridge having a pavement in the bed of stream from abutment to abutment, and a tension member embedded in the abutment.

15. An arch or bridge having a strut embedded in the bed of the stream from abutment to abutment, and a reinforcing member in the abutment transverse to the strut.

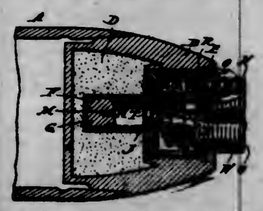
840,225. BOLT FOR RIM-LATCHES. WILLIAM A. MARBACH, Cleveland, Ohio. Filed Jan. 12, 1905. Serial No. 240,805.



Claim.—1. A latch-bolt formed of sheet metal, the side pairs of lateral wings, one pair of wings being turned downwardly to form the side walls of the head of the bolt, end of the bolt, the bolt having lateral shoulders which are integral with its shank and have upturned edges.

2. A latch-bolt formed of a sheet-metal blank having two pairs of lateral wings, one pair of wings being turned downwardly to form the side walls of the head of the bolt, the blank-body being folded downwardly transversely at the rear end of its head, and the second pair of wings having both their edges and their outer ends turned upwardly.

840,226. DETONATING-FUSE. HUDSON MAXIM, New York, N. Y. Filed Jan. 29, 1903. Serial No. 141,066.



Claim.—1. A fuse for projectiles, provided with means for timing the explosion of the projectile by regulating the pressure upon the products of combustion or the conditions of confinement of a body of self-combustive material, whereby the speed of its combustion is made correspondingly rapid or slow, as desired.

2. In a fuse for projectiles, provided with a body of self-combustive material, means for igniting the self-combustive material, and means for regulating the speed of combustion of the self-combustive material.

3. In a fuse for projectiles, provided with a self-combustive material, with means for igniting the self-combustive material, means for increasing or lessening the pressure of the products of combustion escaping from the self-combustive material.

4. In a fuse for projectiles provided with a body of self-combustive material impervious to the products of combustion, interposed between an igniting means and the bursting charge of the projectile, means regulating or increasing or diminishing the rapidity of combustion of the self-combustive material.

5. In a fuse for projectiles provided with a body of self-combustive material impervious to the products of its combustion, means confining its combustion to but one surface of the body.

6. In a fuse for projectiles, provided with a body of self-combustive material interposed between an igniting means and the bursting charge of the projectile, means igniting the self-combustive body, and means regulating the rate of combustion of the self-combustive body.

7. In a fuse for projectiles, provided with a self-combustive body interposed between an igniting means and the bursting charge of the projectile, a valve interposed in the path and opposing the escape of the products of combustion escaping from the self-combustive body.

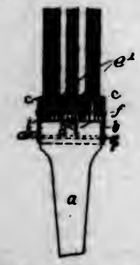
8. In a fuse for projectiles, provided with a body of self-combustive material interposed between an igniting means and the bursting charge of the projectile, a valve for the escape of the products of combustion of the self-combustive compound, with means regulating the pressure of the valve upon its seat.

9. In a fuse for projectiles, provided with a body of self-combustive compound interposed between an igniting means and the bursting charge of the projectile, and provided with a passage for the escape of the products of combustion, a valve closing the passage, with means for controlling the resistance of the valve to the escape of the products of combustion.

10. In a fuse for projectiles, provided with a self-combustive material interposed between an igniting means and the bursting charge of the projectile, means for impeding free escape of the products of combustion of the self-combustive compound, exerted or actuated by atmospheric pressure or resistance to the projectile during flight.

11. In a fuse for projectiles, a fuse-chamber, a self-combustive material therein between an igniting means and the bursting charge of the projectile, and means actuated by the resistance of the air during the flight of the projectile and regulating the pressure in said chamber.

840,227. BRUSH. ERNST MELCHIOR, Chicago, Ill. Filed Feb. 6, 1903. Serial No. 142,150.

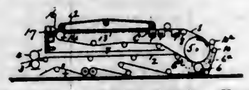


Claim.—The combination with a brush-handle provided with a head having its opposite ends of like dimensions and outline, of a band around and extending beyond said head having its outer edge inturned and partitions within said band having enlarged edges of the same height as said band and bristles retained within the strictured area formed by said edges.

840,228. PAPER-MAKING MACHINE. SAMUEL MILNE, Edinburgh, Scotland. Filed Dec. 3, 1904. Serial No. 235,326.

Claim.—1. A paper-making machine, having Fourdrinier wires in combination with a single felt passing below said wires, the wires coming in contact with the felt so as to deliver their webs onto the felt.

2. A paper-making machine, having Fourdrinier wires, in combination with a single felt passing below said wires, one or more inner couch-rolls so arranged that the under side of wire is brought sufficiently low down to meet the felt passing underneath.



3. A paper-making machine, having Fourdrinier wires, in combination with a felt having couch-rolls under the wire and inside the felt, the wire being in contact with the felt at the roll, whereby the paper is transferred directly to the upper side of the felt.

4. A paper-making machine, having Fourdrinier wires, in combination with a felt having couch-rolls under the wire and inside the felt to deliver the paper from the under side of the wire direct to the upper side of the felt with the wire side uppermost to come first in contact with the top press-roll.

5. A paper-making machine having Fourdrinier wires, in combination with a felt and press rolls, arranged whereby the paper passes under the wire directly onto the felt, with the wire side upward, the paper being supported and carried by the felt from the wires to the press-rolls.

6. In paper-making machines of the Fourdrinier class, beams 19 and 21 and side bars rigidly fixed thereto, and a pin mounted in the center of said beam 19, in combination with movable supports carrying the breast-roll end so that the wire frame is capable of receiving a swinging motion round pin 23.

7. In paper-making machines of the Fourdrinier class, a cross-beam 20 and a bar 21 arranged inside the wire in combination with and carrying side bars and other parts which come within the part of the wire from said beam 20 and bar 21 placed inside the wire, whereby a wire can be slipped on without removing these parts.

840,229. THINNER. WILLIAM B. MOSS, Lancaster, Ky. Filed Oct. 27, 1906. Serial No. 340,837.



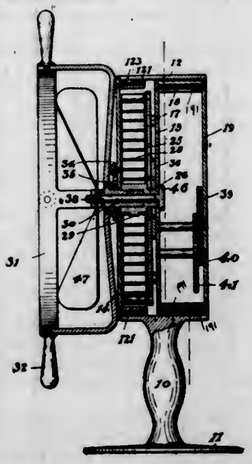
Claim.—1. An implement of the character specified, comprising opposite pivoted levers provided with forwardly-projecting jaws on their lower ends, and a stop-bar attached to one of said levers above the jaws and adapted to limit the opening of the jaws and to position the jaws relatively to an object so that the jaws cannot be moved forwardly past the object between them, substantially as described.

2. An implement of the character specified, comprising opposite pivotally-connected handle-levers provided with forwardly-extending jaws on their lower ends, and a stop-bar connected to the levers below the pivot and above the jaws and adapted to prevent the jaws being moved forwardly past an object coming between the jaws, and to position the jaws properly for grasping such object.

3. An implement comprising a pair of opposite pivotally-connected handle-levers having forwardly-projecting jaws on their lower ends, roughened on their inner faces, a stop-bar connected to the levers above the jaws and below the pivot, and a spring interposed between the levers above the pivot.

4. An implement for the purpose specified, comprising a pair of opposite handle-levers pivotally connected near their lower ends and having forwardly-projecting jaws on their lower ends, a stop-bar connected to the levers above the jaws and below the pivot; foot-plates on the levers above the jaws, and a spring interposed between the levers above the pivot.

840,230. DRAFT-PRODUCING FAN. LOUIS MYERS, Newark, N. J. Filed Jan. 27, 1904. Renewed Oct. 9, 1906. Serial No. 338,183.



Claim.—1. In a rotary fan, the combination with a portable casing of a removable front plate, a center plate and a rear plate fastened together, a spring-carrying plate inserted between said front plate and center plate, a hub arranged between the front plate and center plate and having in connection therewith a spring and winding means, the spring-carrying plate being pivoted on said hub, and a train of gear-wheels arranged between the center plate and rear plate and transmitting power to the rotary fan and said rotary fan arranged outside of said front plate concentric with said hub and in connection with said train of gearing, substantially as set forth.

2. In a rotary fan, the combination with a portable casing open at the front and back, of a front plate, rear plate and center plate separably joined together, a hub having bearings in said center plate and extending forward therefrom to the front plate, a spring-carrying plate between the front plate and center plate on said hub, a spring in connection with said hub and carrying-plate, means for winding said spring, a train of gear-wheels arranged in bearings of the center plate and rear plate and receiving power from said spring-carrying plate, and a fan-wheel arranged on a shaft concentric with said hub and receiving power from said train of gear-wheels, substantially as set forth.

3. In a draft-producing fan, the combination with a casing open at the front and rear, of a front plate, a rear plate and center plate separably fastened together and having bearings for the working parts, a spring-carrying plate arranged loosely on a hub extending forward from the center of the center plate, said hub being stepped and the smaller end thereof lying in the said center plate, the next larger end providing the pivotal center on which the said spring-carrying plate loosely turns, and the large part of the hub lying within the motive spring secured thereto, said hub at its axial center being bored out and provided with a female thread to receive an extension of winding means, said extension being provided with said winding means outside the front plate, a pawl and ratchet-wheel to prevent the winding means and spring from unwinding, a train of gear-wheels arranged between the center plate and rear plate in communication with the said spring-carrying plate and rotary fan and said fan arranged on a fan-carrying shaft which extends through the hub and the extension thereof, from the train of gear-wheels, substantially as set forth.

4. The combination with a portable casing inclosing a spring and having a fan in connection with said spring, of a frame-like spring-winding device serving as a guard for said fan, substantially as set forth.

5. The combination with a portable casing inclosing a spring and having a fan in connection with said spring, of a frame-like winding device for the spring, inclosing the spring and guarding the same in its movements and having handles whereby said winding device may be conveniently turned to wind the spring.

6. In a draft-producing fan, the combination with a loose spring-carrying plate and the spring mounted thereon, a hollow hub, means for turning the hub and winding the said spring connected with said hub, a train of gear-wheels in connection with said spring-carrying plate, a fan-wheel shaft in connection with said train of gear-wheels and extending through said hollow hub, and a fan-wheel arranged on said shaft concentric with the winding means, substantially as set forth.

7. In a draft-producing fan, the combination with a loose spring-carrying plate and the spring mounted thereon, a hollow hub, a hub extension screwed upon said hub and separable therefrom, means for turning the hub and winding the said spring connected with said hub, a train of gear-wheels in connection with said spring-carrying plate, a fan-wheel shaft in connection with said train of gear-wheels and extending through said hollow hub and separable hub extension, and a fan-wheel arranged on said shaft concentric with the winding means, substantially as set forth.

8. The improved rotary fan herein described comprising an annular frame, open at front and rear to receive front and rear plates, said front and rear plates and an intermediate plate separably fastened to one another and providing bearings for the movable parts, a hollow pivotal hub arranged at the center of the annular frame and extending from the intermediate plate to the front plate, a movable spring-carrying plate arranged on the pivotal hub, a spring attached to said hub and to said spring-carrying plate, a rotary fan and a winding-frame concentrically arranged at the outside of said front plate in connection with a train of gear-wheels and said hub respectively, said train of gear-wheels adapted to transmit power from the spring-carrying plate to the rotary fan, and means to prevent the winding device from moving backward, substantially as set forth.

9. The improved rotary fan herein described comprising an annular frame, open at front and rear to receive front and rear plates, said front and rear plates and an intermediate plate separably fastened to one another and providing bearings for the movable parts, a hollow pivotal hub arranged at the center of the annular frame and extending from the intermediate plate to the front plate, a movable spring-carrying plate arranged on the pivotal hub, between the front and intermediate plates and having at its side toward the intermediate plate a gear-wheel rotating therewith, a pinion meshing with said gear-wheel, and gear-wheels between said intermediate plate and the rear plate in train with said pinion, and transmitting movement to the rotary fan, said rotary fan and a winding-frame lying adjacent to and concentric with said fan and adapted to be turned by hand to wind up said spring, and means to prevent an ineffective unwinding of said spring, substantially as set forth.

10. The combination with a portable casing inclosing a spring and having a fan in connection with said spring, of a spring-winding device arranged at the front of said fan and adapted to be turned by hand on a center concentric with the axis of said fan, substantially as set forth.

11. In a rotary fan, the combination with a portable casing, of a front plate removable from said casing, a center plate and a rear plate separably fastened together and together removable from the front plate, a spring-carrying plate inserted between said front plate and center plate, a hub arranged between the front plate and center plate and having in connection therewith a spring and a spring-winding means, the spring-carrying plate being pivoted on said hub, a train of gear-wheels arranged between the center plate and rear plate and transmitting power to the rotary fan and said rotary fan arranged outside of said front plate concentric with said hub and in connection with said train of gearing, the said spring-winding means having a hollow pivotal extension arranged on the axis of the fan and having hand-operable means adapted to be turned to wind the spring, substantially as set forth.

12. A draft-producing fan apparatus comprising a hollow casing mounted on a suitable stand, a helical spring and train of gearing driven thereby, contained in said casing, a rotary fan-wheel in front of the casing mounted on a horizontal driving-shaft driven by the said spring through the medium of said gearing and a winding device surrounding the fan-wheel and connected with the hub of the spring for winding the same substantially as shown and described.

13. A draft-producing fan apparatus comprising a hollow casing mounted on a suitable stand, a helical spring and train of gearing driven thereby, contained in said casing, a rotary fan-wheel in front of the casing mounted on a horizontal driving-shaft driven by the said spring through the medium of said gearing, a hollow hub surrounding said driving-shaft and connected with the inner end of the spring, a winding device surrounding the fan-wheel and connected with the hollow hub for winding the spring and a pawl-and-ratchet device to secure the winding device against reverse movement.

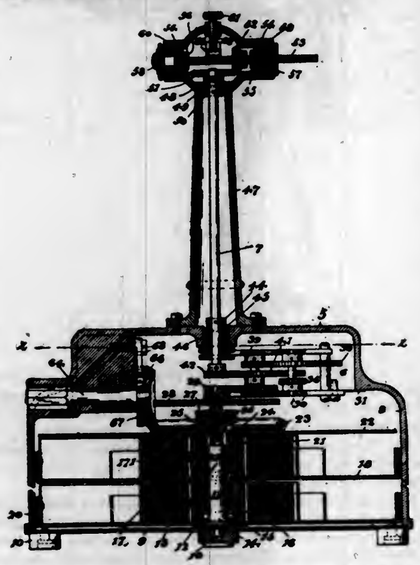
14. A draft-producing fan apparatus comprising a hollow casing mounted on a suitable stand, a helical spring and train of gearing driven thereby, contained in said casing, a rotary fan-wheel in front of the casing mounted on a horizontal driving-shaft driven by the said spring through the medium of said gearing, a hollow hub formed with a threaded socket, surrounding said driving-shaft and connected to the inner end of the spring, a winding device having a hollow, rearwardly-projecting hub, surrounding the fan-wheel shaft and externally threaded to engage the internal thread of the spring-hub for winding the spring and a suitable pawl-and-ratchet device to prevent reverse rotation of the winding device.

15. A draft-producing fan apparatus comprising a hollow casing mounted on a suitable stand, a helical spring and train of gearing driven thereby, contained in said casing a rotary fan-wheel in front of the casing mounted on a horizontal driving-shaft driven by the said spring through the medium of said gearing and a winding device consisting of a frame surrounding the fan, handles projecting radially therefrom for turning it and a rearwardly-projecting hub engaging with the hub of the spring for winding the latter, substantially as described.

840,231. SPRING-OPERATED FAN-MOTOR. LOUIS MYERS, Newark, N. J. Filed Oct. 24, 1904. Serial No. 229,753.

Claim.—1. In a motor apparatus of the character described, a casing comprising a massive hollow base open at bottom to give access to the interior, a hollow post secured on top of the said casing having an enlarged head to receive transmitting-gearing and horizontal extensions

threaded internally to receive bearings for a horizontal shaft; in combination with a motor contained in a lower chamber of the base, transmitting-gearing contained in an upper chamber of the same, a vertical shaft contained in the hollow post and driven by the transmitting-gearing, bevel-gearing contained in the enlarged head, threaded tubular bearings mounted adjustably in the horizontal extensions of the head and a horizontal shaft running in said bearing and driven from the vertical shaft through the medium of the said bevel-gearing.



2. In a spring-motor, the combination of a casing open at bottom, a removable bottom-plate therefor, carrying a step-bearing, a power-shaft running in said step-bearing, a spring-supporting plate secured to said power-shaft, a hub surrounding the power-shaft and supported thereon by a bearing permitting relative rotation, a power-spring secured at its periphery to the spring-supporting plate and at its interior to the said hub, means for applying winding movement to the hub and a bracket constituting a bearing for the upper end of the power-shaft, secured removably within the casing permitting the removal bodily through the bottom of the casing of the power-spring and shaft and the spring-supporting plate and hub, substantially as described.

3. In a spring-motor, the combination of a casing open at bottom, a removable bottom-plate therefor, having a central step-bearing, a power-shaft running in the step-bearing on said bottom-plate, a spring-supporting-plate secured to said power-shaft, a hub surrounding the power-shaft and supported thereon by a bearing permitting relative rotation, a power-spring secured at its periphery to the spring-supporting plate and at its interior to the said hub, means for applying winding movement to the hub, a gear-wheel fixed to the top of the power-shaft, a train of gearing within the top of the casing driven by said power-shaft gear-wheel, and a plate and bracket fastened securely and removably within the top of the casing furnishing support for the train of gearing and a bearing for the top of the power-shaft, whereby the power-spring, shaft, gearing and the spring-supporting plate and hub may be removed bodily through the bottom of the casing after removal of the bottom-plate thereof, substantially as described.

4. The combination of the hollow base-casing 5 formed with an open bottom, the removable plate 9 closing the said open bottom and carrying a central step-bearing, the motor-shaft 11 running in the step-bearing on said bottom-plate, the spring-supporting plate 13 secured to the shaft 11 to drive the same, a motor-spring 17 fixed at its outside to the periphery of the plate 13, a hub 16 fixed to the interior of the spring 17, bearing-collar 14 formed on shaft 11, balls 15 supporting said hub on the bearing-collar 14 and permitting rotation of one on the other, the bracket 29 and plate 30 removably secured beneath the top of the casing and constituting a bearing for the top of the shaft 11, a gear-wheel 28 secured to the top of the shaft 11, a suitable train of gearing driven from the wheel 28, a vertical shaft driven through the medium of said train from the wheel 28, a hollow post 47 in which the shaft 7 is contained, mounted on top of the casing, and bearings 46, 48 in the top of the casing and in the hollow post for the bottom and top of the shaft 7, substantially as described.

5. The combination of the hollow base-casing 5 formed with an open bottom, the removable plate 9 closing the said open bottom, the motor-shaft 11 running in a step-bearing on said bottom-plate, the spring-supporting plate 13 secured to the shaft 11 to drive the same, a motor-spring 17 fixed at its outside to the periphery of the plate 13, a hub 16 fixed to the interior of the spring 17, bearings 14, 15 supporting said hub on the shaft 11 and permitting rotation of one on the other, the plate 30 and bracket 29 removably secured beneath the top of the casing and constituting a bearing for the top of the shaft 11, a gear-wheel 28 secured to the top of the shaft 11, a suitable train of gearing driven from the wheel 28, a hollow post 47 mounted on top of the casing 5 and having an enlarged hollow head and lateral tubular extensions for the reception of transmitting-gear and bearings for a horizontal shaft, a vertical shaft 7, bearings 44, 45, 46 in the top of the casing and bearings 48, 49, 50 in the top of the hollow post for the bottom and top of the shaft 7, a horizontal shaft 53 running in bearings in the lateral tubular extensions of the hollow post and gearing contained in the enlarged head of said hollow post transmitting rotation from the vertical shaft 7 to the horizontal shaft 53, substantially as described.

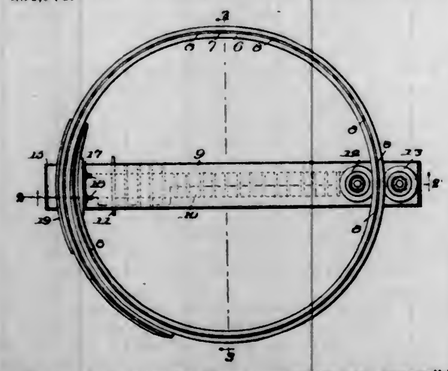
6. In a spring-motor, the combination of a base-casing 5, having a bottom-opening closed by a removable plate 9, a hollow post 47 mounted removably on top of said casing and formed with an enlarged head and internally-threaded lateral extensions 59, 60, a power-shaft 11 running in a step-bearing on said plate 9, a spring-supporting plate 13 fixed to the shaft 11 to drive the same, a power-spring 17 attached at its outer end to the plate 13, a hub 16 attached to the inner end of the spring 17, means for applying winding power to said hub and thereby to the power-spring, a plate and bracket 30, 29 secured removably within the top of the casing and providing a bearing for the upper end of the power-shaft, a train of gearing supported on said removable plate and driven by the shaft 11, a vertical shaft 7 within the hollow post 47, bearings 46 and 48 therefor in the top of the casing and in the hollow post 47, the horizontal shaft 53 having conical collars 55, 56, externally-threaded sleeves 57, 58 screwing into the internally-threaded post extensions 59, 60, loosely surrounding the shaft 53 and having concave ends to operate in conjunction with the collars 55, 56 in confining antifriction bearing-balls 54, and bevel-gears 51, 52 inclosed in the enlarged head of the hollow post and fixed respectively on the vertical shaft 7 and horizontal shaft 53 for transmitting rotation from one to the other as described.

7. In a fan-motor, the combination of a base-casing, a hollow post mounted centrally on said casing and having an enlarged hollow head and internally-threaded lateral extensions, power-springs, power-shaft and transmitting-gearing mounted within the base-casing, a vertical shaft inclosed in the hollow post, projecting down therefrom into the base-casing and driven by means of the said transmitting-gearing from the power-shaft, bearings for the vertical shaft in the top of the casing and in the hollow post, a horizontal shaft running in bearings in the lateral extensions in top of the hollow post, bevel-gearing contained in the enlarged head of the post, transmitting rotation from the vertical shaft to the horizontal shaft, and a friction-brake consisting of a reflexed spring 63 mounted within the enlarged head of the post and bearing on the horizontal shaft, and a thumb-screw 62 threaded in the

top of the hollow post and acting on the spring 63, substantially as described.

8. In a spring-motor, the combination of a base-casing having a closed top and open bottom, a removable plate closing the bottom-opening and supporting the spring-motor within the casing, a central power-shaft stepped at its lower end in the removable bottom-plate and running at top in a removable bearing secured within the closed top of the casing, a spring-carrying plate attached at its center to a supporting-flange near the lower end of the said shaft, a loose hub resting through the medium of antifriction-balls on a conical bearing formed on the shaft near its lower end, a second spring-carrying plate attached to said hub, a second hub resting on the first through the medium of antifriction balls and runways, power-springs each attached by its outside to its spring-carrying plate and its inside to the hub above said plate, means for applying winding power to the upper hub of the series, a train of transmitting-gears mounted removably within the top of the casing and driven by the said power-shaft, a vertical shaft driven by the transmitting-gear, a hollow post inclosing said vertical shaft mounted centrally on top of the casing and having an enlarged hollow head and lateral extensions, bearings for the vertical shaft in top of the casing and in the hollow post, a horizontal shaft mounted in bearings in said lateral extensions, and bevel-gears inclosed in the enlarged head of the post, transmitting rotation from the vertical to the horizontal shaft, substantially as described.

840,232. STRETCHER-FRAME. ELIZABETH MCCOMBIE, Chicago, Ill., assignor of one-half to James McCombie Watt, Chicago, Ill. Filed Sept. 17, 1906. Serial No. 334,971.



Claim.—1. A stretcher-frame comprising an expansible hoop having lapped ends, and an extensible diametrical bar extending across the hoop and connected to opposite sides thereof.

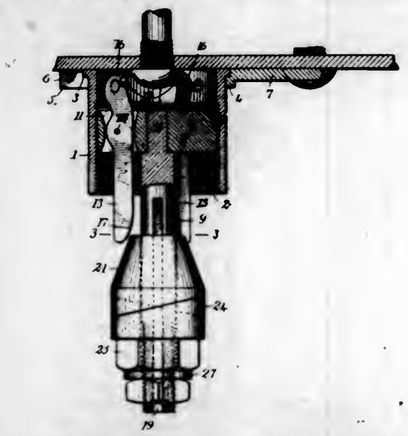
2. A stretcher-frame comprising a hoop having lapped ends, a diametrical bar formed in extensible sections one of which has a clamp at the end engaging the lapped ends and the other of which is connected to the opposite side of the hoop.

3. A stretcher-frame comprising an expansible hoop having grooves in the sides thereof, and an extensible diametrical bar one end of which is connected to the hoop at one side and the other end of which has a pair of wheels thereon which project into the said grooves in the hoop.

840,233. BOLT-EXTRACTOR. WASHINGTON MCCORMICK, Hillyard, Wash. Filed July 11, 1906. Serial No. 325,587.

Claim.—1. In a bolt-extractor, a tubular support, clamping-jaws carried in said support, means for adjusting the jaws in the support longitudinally thereof, and means for forcing said clamping-jaws inward to engage the bolt-head or the like, for the purpose described.

2. In a bolt-extractor, a tubular support having an internal thread at its outer end, means for holding the support in relative fixed position, a disk threaded into the support provided with clamping-jaws for engaging a bolt-head or the like, and means for forcing said jaws inwardly, for the purpose described.



3. In a bolt-extractor, a tubular support, a clamping-ring embracing said support having an arm extending therefrom, a disk threaded into the outer end of the support, levers pivotally mounted in the disk, clamping-jaws at the inner ends of the levers, and means for spreading the outer ends of the levers and revolving them, for the purpose described.

4. In a bolt-extractor, a tubular support, a disk threaded into the support, levers carrying clamping-jaws pivotally connected to the disk, and means whereby the strain is removed from said pivotal connections when the jaws are operated.

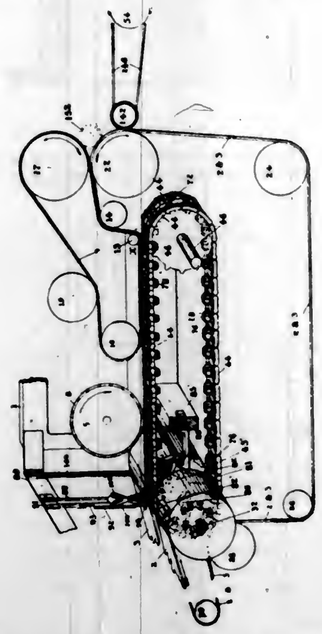
5. In a bolt-extractor, a tubular support, a disk threaded into the support, carrying clamping-jaws pivotally connected thereto, and means for operating the clamping-jaws to force them into engagement with a bolt-head or the like, whereby, as the bolt is unscrewed, the jaws and disk will travel outwardly at the same speed.

6. In a bolt-extractor, a tubular support, means for holding said support from relative rotation, a disk threaded into the support, carrying-levers pivotally connected thereto, clamping-jaws at the inner ends of said levers, cam-faces at the outer ends of said levers, a bolt in fixed relation to the disk, a cone slidably mounted on the bolt, adapted to engage said cam-faces and operate the jaws, a spiral face at the outer end of the cone, and a member working freely on the bolt and having a spiral face, an exact counterpart of that of the cone, a washer engaging said latter-named member, and a nut threaded on said bolt and engaging said washer.

840,234. TOBACCO STEMMING AND BOOKING MACHINE. BRADFORD MCGREGOR, Covington, Ky., assignor of two-fifths to Charles L. Doughty, Cincinnati, Ohio. Filed Mar. 13, 1906. Serial No. 305,752.

Claim.—1. In a tobacco stemming and booking machine, a frame, a feed-table, a belt thereon, a feeder, a cutter for cutting the stem of the leaf, a spreading-roll for spreading the leaf, a series of clutches for clutching the stem of said leaf, a device for opening and closing said clutches, a continuous belt for holding and clamping the blades of said leaf, revolving knives for separating the blades of said leaf after the stem has been stripped therefrom, a booker, and two continuous belts, passing around a series of rolls, journaled into said frame, and adapted to convey the leaf over said feed-table and under said cutter, spreading-roll, clamping-belt and revolving knife to the booker.

2. In a tobacco stemming and booking machine, two conveying-belts arranged side by side of sufficient width to support the leaf in its entire width and having a narrow space between them adapted to receive and guide the downwardly-extending part of the stem, a clamping-belt extending over the entire width of the leaf and adapted to engage and hold said leaf firmly and smoothly upon said conveying-belts and said stem between said conveying-belts, endless chains arranged and adapted to move beneath said conveying-belts, a series of clutches secured to and between said endless chains, each of said clutches being adapted to clutch the stem at the will of the operator and be automatically released therefrom, and rolls arranged to direct the course of said belts, having the tobacco-leaf clamped tightly between them, abruptly upwardly over a small roll while the clutch is drawing the stem forwardly, thus not only stripping the leaf from the stem but also stripping the vein-leaders from the sides of the stem forming a beaded edge on the stripped sides of the leaf halves.



3. In a tobacco stemming and booking machine, a series of clutches, parallel sprocket-chains, a frame connecting the inner side of said sprocket-chains having recesses adapted to receive said clutches, a plate for holding said frames to said sprocket-chains, jaws adapted to clutch the stems of said leaves, arms connected to said jaws by means of connecting-arms, a sliding guide connected to said arms, an opening and closing device having sloping flanges adapted to engage said arms, a cam-shaped arm adapted to engage said sliding guide and a treadle adapted to operate said cam-arm.

4. In a tobacco stemming and booking machine, a series of clutches, a frame connecting said clutches to two sprocket-chains which pass around sprocket-wheels, a plate for holding said frame to said sprocket-chains, jaws adapted to clutch the stems of said leaves, arms connected to said jaws by means of connecting-arms, a sliding guide connected to said arms, an opening and closing device having sloping flanges adapted to engage said arms, a cam-shaped arm adapted to engage said sliding guide and a treadle adapted to operate said cam-arm.

5. In a tobacco stemming and booking machine, a clutch comprising a frame having a slot, jaws pivoted in said frame, a guide adapted to slide therein, arms pivoted to said guide and to said jaws and means for engaging said arms and guide respectively to open and close said jaws.

6. In a tobacco stemming and booking machine, a clutch comprising a frame having a slot, jaws pivoted to said frame, a guide adapted to slide therein, arms pivoted to said guide and to said jaws and adapted to engage mechanism to open and close said jaws, in combination with a supporting-frame, endless chains and means for securing said supporting-frame thereto.

7. In a tobacco stemming and booking machine, a clutch comprising a supporting-frame adapted to hold said clutch, hooked ends on said supporting-frame adapted to receive links of endless chains and holding-plates adapted to secure said supporting-frame in fixed position upon said chains.

8. In a tobacco stemming and booking machine, endless chains, a clutch adapted to be secured to said endless chains and having jaws extending parallel with the direction of motion of said chains, an opening and closing device comprising a frame, sloping flanges, cam-arms, yoke and angle-bars all arranged and adapted to operate substantially as set forth.

9. In a tobacco stemming and booking machine, a clutch comprising a frame having a slot, jaws pivoted in said frame, a slide in said slot, arms pivoted to said slide and to said jaws, means for securing said clutch to and between endless chains in combination with a cam-arm adapted to engage said guide and a treadle adapted to engage said cam-arm and slide to close the jaws of the clutch.

10. In a tobacco stemming and booking machine, a clutch comprising a frame having a slot, jaws pivoted in said frame, a guide slidably mounted in said slot, arms pivoted to said guide and to said jaws, endless chains, means for securing said clutch to and between said endless chains, sloping flanges arranged in the path of said clutch and adapted to engage the free ends of said arms to open said jaws.

11. In a tobacco stemming and booking machine, a cutter having a suitable support fixed upon the frame of said machine, a cylinder attached to said support, a sliding rod adapted to slide in said cylinder, a spring for operating said rod, a thumb-rest at the bottom of said rod, a shoe under said thumb-rest, shears pivoted to said shoe, means for opening and closing said shears, a presser-guide plate at the bottom of said shoe fixed upon said sliding rod, and a treadle adapted to operate said cutter.

12. In a tobacco stemming and booking machine, a frame, a cutter comprising a suitable support fixed upon said frame, a cylinder attached to said support, a sliding rod adapted to slide in said cylinder, a spring in said cylinder adapted to exert upward pressure upon said sliding rod, a thumb-rest at the bottom of said rod, a shoe attached to said thumb-rest, shears pivoted to said shoe, means for opening and closing said shears, a presser-guide plate at the bottom of said shoe fixed upon said sliding rod and a treadle adapted to operate said cutter.

13. In a tobacco stemming and booking machine, a frame, a cutter comprising a suitable support fixed upon said frame, a cylinder attached to said support, a sliding rod adapted to slide in said cylinder, a spring for operating said rod, a thumb-rest at the bottom of said rod, a shoe under said thumb-rest, shears pivoted to said shoe, an L-support secured to the sliding rod, guides each having slots pivoted to said L-support and to said shears and adapted to engage guide-pins to open and close said shears, substantially as set forth.

14. In a tobacco stemming and booking machine, a frame, a cutter comprising a suitable support fixed upon said frame, a cylinder attached to said support, a sliding rod adapted to slide in said cylinder, a spring for operating said rod, a thumb-rest at the bottom of said rod, a shoe under said thumb-rest, shears pivoted to said shoe, means for opening and closing said shears, a spring presser-guide at the bottom of said shoe fixed upon said sliding rod and a treadle adapted to operate said cutter.

15. In a tobacco stemming and booking machine, rolls, a feeder having a belt on said rolls, a treadle for pressing

same in contact with the conveying-belts and means for releasing same automatically.

16. In a tobacco stemming and booking machine, a feeder, rolls therein, a belt on said rolls adapted to press the stem of the leaf into the recess between the conveying-belts, mechanism for adjusting said rolls and means for automatically releasing said feeder.

17. In a tobacco stemming and booking machine, a main frame, a supporting-frame rigidly secured to said main frame, a feeder pivotally connected to said supporting-frame, rolls in said feeder, an endless belt on said rolls, a connecting-link, a toggle pivoted to said supporting-frame and feeder and adapted to be engaged by a sliding arm pivoted to said connecting-link.

18. In a tobacco stemming and booking machine, a main frame, a supporting-frame rigidly secured to said main frame, a feeder pivotally connected to said supporting-frame, rolls in said feeder, an endless belt on said rolls, a connecting-link, a toggle pivoted to said supporting-frame and feeder and adapted to be engaged by a sliding arm pivoted to said connecting-link and a spring adapted to draw the feeder into raised position.

19. In a tobacco stemming and booking machine, a main frame, a supporting-frame rigidly secured to said frame, a feeder pivotally connected to said supporting-frame, rolls in said feeder, an endless belt on said rolls, a toggle pivoted to said supporting-frame and a connecting-link adapted to be engaged by a sliding arm pivoted to said connecting-link, arms on said belt, a cam-shaft, arms on said cam-shaft adapted to engage said arms on said belt to throw said toggle upwardly past the center, and a spring connecting the supporting-frame and feeder to draw the latter into raised position.

20. In a tobacco stemming and booking machine, two belts adapted to convey the tobacco-leaf, means for cutting the stem of the tobacco-leaf transversely near the tip end of the leaf, endless chains, clutches carried by said endless chains adapted to engage the stem of said leaf extending between said belts, a clamping-belt adapted to engage and hold said leaf firmly upon said conveying-belts and rolls arranged to carry said leaf upwardly tip end first while the clutches are drawing the stem forwardly thereby stripping the stem from the leaf.

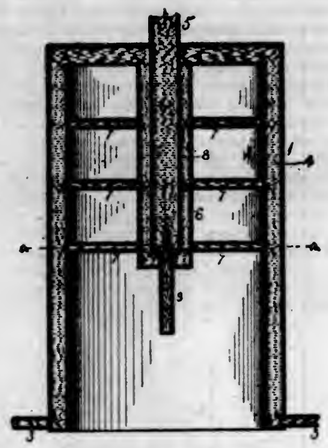
21. In a tobacco stemming and booking machine, two belts adapted to convey the tobacco-leaf, means for cutting the stem transversely near the tip end, a clutch adapted to engage the stem of said leaf extending between said belts, a clamping-belt adapted to hold said leaf firmly upon said conveying-belts and said stem between them, rolls arranged to carry said leaf upwardly while the clutch is drawing the stem forwardly thereby stripping the stem from the leaf and means for cutting the tip end of the leaf in two to completely separate the sides after the stem has been stripped therefrom.

22. In a tobacco stemming and booking machine, two belts arranged parallel and spaced apart adapted to convey the tobacco-leaf, means for cutting the stem, clutches adapted to engage the stem of said leaf extending between said belts, a clamping-belt adapted to hold said leaf firmly upon said conveying-belts, rolls arranged to carry said leaf upwardly and means for conveying the clutches forwadly at the same point thereby stripping the stem from the leaf, rolls each having a knife adapted to cut said leaf in two after the stem has been removed and means for placing the leaves upon a booking-table.

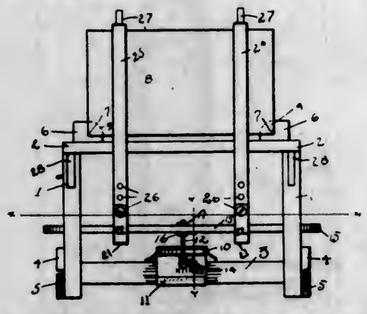
840,235. HEATER. WILLIAM F. MCGUIRE, Rockford, Ill. Filed July 19, 1905. Serial No. 270,434.

Claim.—In a water-heater, the combination of an outer water-space, a central tube having a closed lower end, its upper end communicating with the outer water-space at the top of the heater, a discharge-pipe located within the tube and extending upward through the top of the heater, and a steam-generating pipe connected with the closed lower end of the tube and having its open upper end contracted and located axially with relation to the lower end of the discharge-pipe.

840,235.



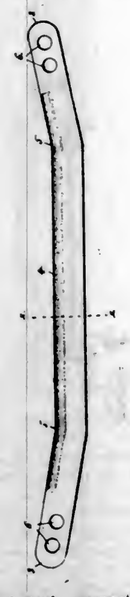
840,236. PRESS FOR PRESSING LIDS ON BOXES. ALFRED MCHENRY, Bentonville, Ark. Filed Mar. 12, 1906. Serial No. 305,547.



Claim.—1. A rectangular frame consisting of four upright posts 1, platform 2, rear sill 3, and end sills 4 and 5; recessed cross-beams 6, one secured at each end of said platform; stops 9, one secured at each end of said cross-beams; loops 24 and 25, resting on the top of a box resting in the recesses of said cross-beams, their perforated ends hanging down, one on each side of said frame; a slotted longitudinal beam 15, situated longitudinally in said frame, a little distance above the end beams 4; bolts 19, passing downwardly through said slots; cross-beams 20, secured to the lower end of said bolts and resting against the lower face of said longitudinal beam; strips 21, secured to the lower face of said cross-beams 20, their ends turning up vertically and terminating in two arms 22 and 23, in which the lower ends of said loops are hinged; rests, one at each corner of said frame, preventing said loops from falling back too far; a foot-treadle, its rear end hinged to the rear sill 3, and having near its center a perforation, and a rod 12, threaded at each end, its lower end passing through the perforation in said treadle and adjustably secured therein by nuts 13 and 14, its upper end passing through a perforation in said beam 15, and adjustably secured therein by nuts 16 and 17, substantially as shown and described and for the purposes set forth.

2. The combination of an upright oblong frame; a platform secured on the top of said frame; a foot-treadle, perforated near its center, its rear end hinged to the rear sill of said frame; a beam provided with slots and a central perforation longitudinally situated in said frame; a threaded rod passing through the perforation of said foot-treadle and said longitudinal beam, and adjustably secured therein by means of nuts; cross-beams adjustably secured to the lower face of said longitudinal beam, their ends turning upwardly, and loops adapted to pass over a box seated on the platform of said frame, the lower perforated ends extending downwardly and hinged to the ends of the upturned ends of the last-mentioned cross-beams, substantially as shown and described and for the purposes set forth.

840,237. PRESSED-STEEL CONNECTING-BAR. NEIL MCINNES, Allegheny, Pa. Filed Oct. 12, 1906. Serial No. 338,576.



Claim.—1. A pressed-steel connection comprising a blank formed at its ends with longitudinal slots and having its body portion pressed to inverted-U shape in cross-section.

2. A pressed-steel connection comprising a flat blank longitudinally slotted and perforated at its ends, and pressed to provide a body portion of inverted-U shape in cross-section, and parallel upwardly-directed arms.

3. A pressed-steel connection comprising a body portion of inverted-U shape in cross-section having its ends upwardly inclined, and provided with parallel perforated arms.

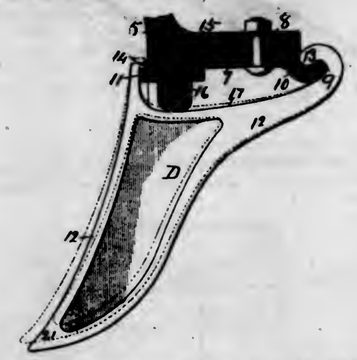
4. A pressed-steel connection comprising a blank longitudinally slotted at its ends and rounded and perforated, and having the body portion pressed into inverted-U shape in cross-section, and provided with vertically-disposed perforated arms.

5. A pressed-steel connection comprising a blank slotted and perforated at its ends and pressed to provide a body portion the side walls of which are deflected toward each other, and to bring the perforated ends into vertical parallel relation.

840,238. CHIP-BREAKER. LOUIS J. NELSON, Chicago, Ill. Filed Sept. 25, 1905. Serial No. 280,016.

Claim.—1. In a chip-breaker for planing-machines and analogous mechanism, a head-plate having a concave channel 10 formed along its upper side parallel and in proximity to one edge and a rib formed at its other edge, in combination with a series of breaker-sections arranged side by side but free to rise independently of each other, each breaker-section being provided with a part resting on said rib and a rounded part 13 curved over to fit in the said channel substantially as set forth.

2. In a chip-breaker for planing-machines and analogous mechanism, the combination of a head-plate with a pivoted arm, means for attaching said plate thereto and adjusting it thereon, and a series of parallel breaker-sections, arranged side by side and carried by said head-plate, each section having two parts which rest on parts of said plate, these parts of said sections and plate being arranged and adapted to permit said sections to tilt up on one side individually substantially as set forth.



3. In a planing-machine or analogous mechanism, a head-plate having at one edge a projecting rib and in proximity to the other edge, which is convex, a concave channel 10, in combination with a series of breaker-sections arranged side by side and pivoted independently, each section being provided with a part which rests on said rib and another part which is curved to fit over said convex edge of the head-plate and into said channel, the contiguous parts of said head-plate and said breaker-sections constituting the pivots for said sections substantially as set forth.

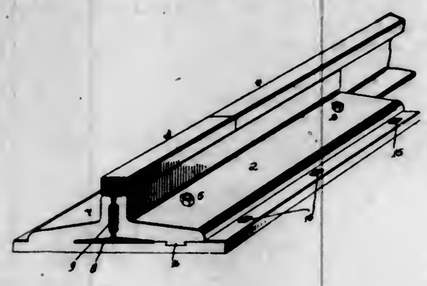
4. In a planing-machine or analogous mechanism, a head-plate having a flanged groove in its under side, a rib at one edge and a channel parallel and in proximity to its other edge, in combination with a series of breaker-sections arranged side by side, each section being provided with two parts which overlap respectively the edges of said head-plate, and a bar of resilient material fitted into said flanged groove and held by the flanges at the mouth thereof and bearing against the upper edges of said sections, each of the latter being adapted to pivot independently on the channeled edge of the said head-plate substantially as set forth.

5. In a planing-machine or analogous mechanism, a head-plate having a rib at one edge and a channel near the other, in combination with a series of breaker-sections arranged side by side and adjustable means for preventing their lateral displacement each of said sections being provided with two parts, one of which overlaps the said rib, the other part overlapping the other edge of said head-plate, fitting into said channel and affording a pivotal bearing for said breaker-section substantially as set forth.

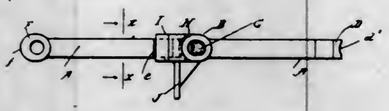
840,239. RAIL-JOINT. MATHIAS NEMECEK, McKeesport, Pa. Filed Aug. 8, 1906. Serial No. 329,725.

Claim.—A railway-rail joint comprising a base portion having an integral fish-bar adapted to bear against the tie-flange and vertical web of the rail at one side and with an upwardly-extending rib adapted to bear against the tie-flange at the opposite side and with a dovetail groove spaced from said rib and inclined to the longitudinal plane of the base, and a fish-bar bearing over the tie-flange and against the vertical web of the rail at the opposite side from the integral fish-bar and with an inclined dove-

tail tongue adapted to engage said dovetail groove, and means for clamping said last-mentioned fish-bar to the base.



840,240. DRIVE-CHAIN. JESMOND T. NICHOLSON, Wilkes-Barre, Pa. Filed Apr. 20, 1906. Serial No. 312,825.



Claim.—1. The combination, with a link provided with a head, and a link provided with an eye; of a coupling-piece provided with a socket for the said head and having also a double-eye, and a pin pivotally connecting the said eye and double-eye.

2. The combination, with a link provided with a head, and a link provided with an eye which is articulated with the said head; of a coupling-piece provided with a socket having an opening on one side to admit the said head and having also a double-eye, and a pin connecting the said eye and double-eye.

3. The combination, with a link provided with a head, and a link provided with an eye; of a coupling-piece provided with a socket for the said head and a double-eye, and a pin connecting the said eye and double-eye and provided with means which prevent it from sliding crosswise of the said coupling-piece when the holes of the said eye are out of line with each other.

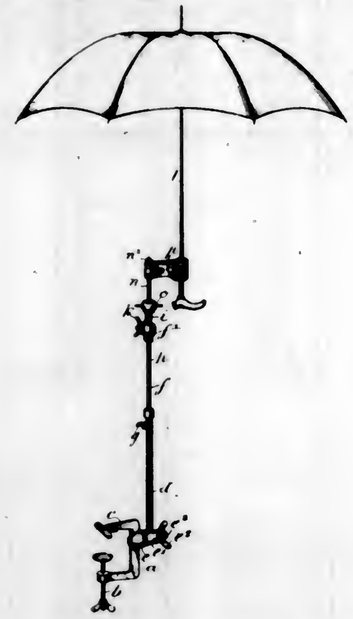
4. The combination, with a link provided with a head, and a link provided with an eye the end of which is articulated with the end of the said head; of a coupling-piece provided with a socket for the said head and having also a double-eye, and a pin which connects the said eye and double-eye and which normally holds the said head and eye in operative relation.

5. The combination, with a link provided with a head, and a link provided with an eye which is articulated with the said head; of a coupling-piece provided with a socket for the said head and having also a double-eye, and a pin engaging with the said eye and provided with reduced portions which are slidable longitudinally of the said coupling-piece in its said double-eye.

6. The combination with a link provided with a head having a recess in its end, and a link provided with an eye having an eccentric projection at its end which engages pivotally with the said recess; of a coupling-piece provided with a socket for the said head and having also a double-eye, and means for pivotally connecting the said eye and double-eye and holding the said projection and recess in operative relation.

7. The combination, with a link provided with a head and a lateral projection behind the head, and a link provided with an eye; of a coupling-piece provided with a socket having an opening on one side and a lug at the bottom of the said opening so as to admit the said head and support it in the socket and having also a double-eye, and a pin connecting the said eye and double-eye.

840,241. HOLDER FOR EXPANDED UMBRELLAS. ERNST NOOTBAAR, Berlin, Germany. Filed Mar. 21, 1906. Serial No. 307,282.



Claim.—A device for holding an expanded umbrella, comprising a clamp, a tubular member attached thereto and angularly adjustable with respect to the same, a rod telescoping in said member and provided at its outer end with a serrated portion or face and a socket, a clamp-carrying arm having at its inner end a serrated portion engaging said first-named serrated portion and a socket facing said first-named socket, a pin pivoting said arm and said rod and passing through said sockets, a spring confined within and between said sockets and normally separating said arm and said rod, and a clamping thumb-nut threaded on said pin.

840,242. FIREWORKS. LOUIS NORDLINGER, New York, N. Y. Filed Apr. 9, 1906. Serial No. 310,597.

Claim.—1. In a device of the class described, a fire-cracker with ends unplugged, and a handle having means for plugging the end of said fire-cracker and holding the same so that it may be exploded.

2. In a device of the class described, an unplugged fire-cracker, detachable plugs for the ends of said fire-cracker, and means for holding said plugs under pressure in the ends of said fire-cracker.

3. In a device of the class described, a holder, wires leading therefrom, a clamp on said wires, plugs on the end of said wires, and an unplugged fire-cracker held between said plugs and plugged by them.

4. A fire-cracker composed of a tube, a fuse, and an explosive in the bore of said tube, said tube being unplugged.

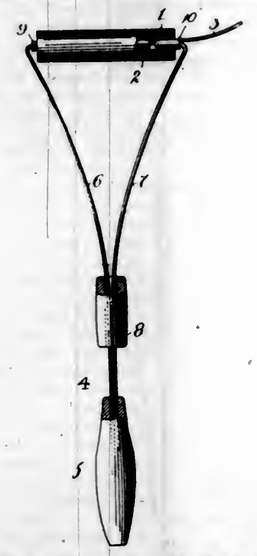
5. In a device of the class described, an unplugged fire-cracker and a holder, said holder composed of a handle, plugs, resilient means for supporting said plugs, and a plug on said wires for holding said plugs in place.

6. In a device of the class described, a handle, curved wires leading therefrom, and fire-cracker-engaging means on said wires.

7. In a device of the class described, a handle, wires leading therefrom, a clamp sliding thereon and fire-cracker-engaging means on said wires.

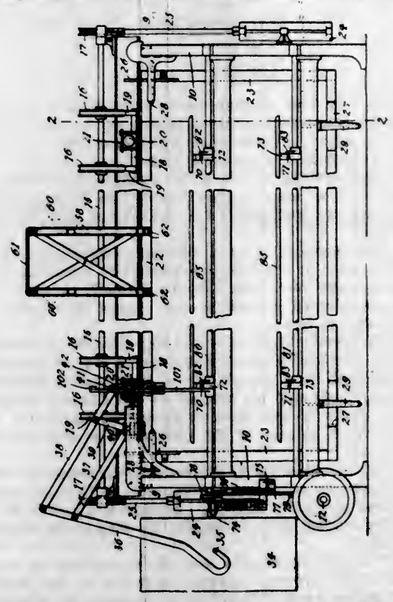
8. In a device of the class described, a handle, wires leading therefrom, a cylindrical clamp sliding thereon, and fire-cracker-engaging means on said wires.

9. In a device of the class described, a handle, wires leading therefrom, a clamp sliding thereon, and plugs on said wires adapted to enter the bore of a fire-cracker tube.



10. In a device of the class described, a handle, wires leading therefrom, a clamp leading therefrom, a clamp sliding thereon, plugs on said wires, and means to receive a fuse in one of said plugs.

840,243. EMBROIDERING-MACHINE. ALBERT NUFER, Jersey City, N. J. Filed Oct. 5, 1906. Serial No. 337,504.

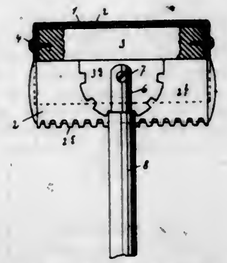


Claim.—1. An embroidering-machine provided with a pair of fabric-carrying frames adapted to move in different vertical planes, a pointer operatively connected to the first of said frames, and means for transmitting the motion from said first frame to the second frame, substantially as specified.

2. An embroidering-machine provided with a pair of fabric-carrying frames adapted to move in parallel vertical planes, a pointer operatively connected to the first of said frames, and a yoke connecting said first frame to the second frame, substantially as specified.

3. An embroidering-machine provided with a pattern-plate, a pantograph, a frame connected to the pantograph, means for suspending the frame so that it is freely movable in a vertical plane, a yoke connected to said frame, a second frame connected to the yoke, and means for suspending said second frame so that it is freely movable in a vertical plane other than the plane of movement of the first frame, substantially as specified.

840,244. SAFETY-RAZOR. DANIEL W. ODELL and EDWARD H. ODELL, Utica, N. Y. Filed Feb. 5, 1906. Serial No. 299,390.



Claim.—1. The combination in a safety-razor of a holder, consisting of elastic members having an angular bend therein, and a blade having a turned edge adapted to be received between the free edges of the elastic members, substantially as set forth.

2. The combination in a safety-razor of a holder, consisting of elastic members having free edges and an angular bend, and one of the members having a serrated edge, and a blade having a turned edge adapted to be placed between the said members, substantially as set forth.

3. The combination in a safety-razor of a holder composed of two trough-shaped nesting spring members, a head to which said members are secured, removable blades adapted to be placed between the free edges of said members, and an angularly-adjustable handle on said head and projecting from the holder between the blade-holding edges, substantially as set forth.

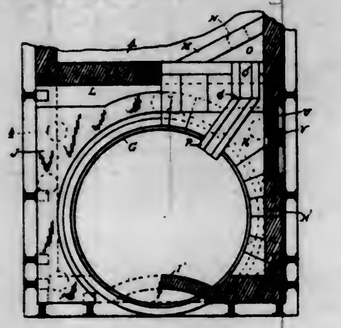
4. The combination in a safety-razor of a holder composed of two trough-shaped nesting spring members, same being secured together at their backs and providing free spring edges, blades adapted to be placed between the free spring edges of said members, a segmental handle-base secured in the trough between the free edges and an angularly-adjustable handle mounted on said segmental handle-base, substantially as set forth.

5. The combination in a safety-razor of a holder composed of two trough-shaped nesting spring parts, having a segmental-notch handle-base secured in the bottom of the trough, a screw-threaded handle-shank pivotally secured to said segmental base, and a tubular handle screw-threaded onto said shank, and removable blades adapted to be placed between the spring edges of said holder, substantially as set forth.

840,245. GLASS-TANK. MICHAEL J. OWENS, Toledo, Ohio, assignor to The Toledo Glass Company, Toledo, Ohio, a Corporation of Ohio. Filed Nov. 21, 1904. Serial No. 233,678.

Claim.—1. The combination with a glass-melting tank, of a rotary working tank adjacent thereto, a wall across one corner of said melting-tank having an aperture in its

lower portion and forming a vertical conduit, a forehearth between said tanks, a trough forming a portion of said forehearth and extending from said conduit to a point above said working tank, and a common hood for said tanks, for the purpose described.



2. The combination with a glass-melting tank, of a rotary working tank adjacent thereto, a wall across one corner of said melting-tank having an aperture in its lower portion, and forming a vertical conduit, a forehearth between said tanks, a trough forming a portion of said forehearth and extending from said conduit and projecting over said working tank and a common heating-hood for both tanks having a concavity in its front wall, for the purpose described.

840,246. ART OF MAKING REFRACTORY METALLIC WIRES OR FILAMENTS. HERSCHEL C. PARKER, New York, N. Y., and WALTER G. CLARK, Seattle, Wash., assignors to Parker-Clark Electric Company, Jersey City, N. J., a Corporation of New Jersey. Filed Oct. 14, 1905. Serial No. 282,712.



Claim.—1. The improvement in the art of producing refractory metallic tapes or wires, which consists in reducing by heat a mixture of iridium ammonium chlorid with an excess of ammonium chlorid, in the form of an elongated metallic tape deposited upon a suitable surface.

2. The improvement in the art of producing refractory metallic wires or tapes, which consists in placing upon a suitable surface salts containing iridium together with ammonium chlorid, the salts being distributed in the form of a tape or band, and then heating the salts, whereby the volatile matter is thrown off and metallic iridium in tape form deposited.

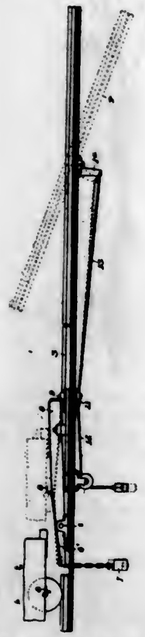
3. The improvement in the art of producing refractory metallic wires or tapes, which consists in placing upon a suitable surface a mixture of iridium ammonium chlorid together with a volatile reducing agent, the material being placed in tape form, and then applying heat to the mixture whereby the volatile matter is thrown off and the iridium tape deposited.

4. The improvement in the art of producing refractory metal tapes or wires, which consists in arranging in the form of a band upon a suitable surface, salts containing iridium chlorin and ammonium, then adding a volatile reducing agent, and then heating the surface so as to produce the metal in band or tape form.

5. The herein-described improvement in the art of producing refractory metallic tapes or wires, which consists in placing upon a suitable surface salts containing iridium ammonium and chlorin, adding thereto a reducing agent, then heating the materials to reduce the metal, and finally slitting up the deposited metal into the form of wires or filaments.

6. The improvement in the art of producing refractory metal tapes or wires, which consists in arranging upon a suitable surface and in band form, salts containing iridium ammonium and chlorin, adding thereto a reducing agent such as ammonium chlorid, then heating the materials to reduce the metal in the form of a tape, and finally slitting the tape into wires or filaments.

840,247. AUTOMATIC CAR-STOP. JAMES S. PATES, Monongahela, Pa. Filed Sept. 8, 1906. Serial No. 333,795.



Claim.—1. The combination of a movable stop device normally projected into car-stopping position and adapted when unlocked to be deflected by the car, and means for locking the device in car-stopping position.

2. The combination of a vertically-movable normally raised car-stop adapted when unlocked to be depressed by a passing car, and means for locking the stop in raised position.

3. The combination of a vertically-movable car-stop adapted when unlocked to be depressed by a passing car, a counterweight for holding the stop normally raised, a movable arm adapted to hold the stop against depression, and arm-operating means.

4. The combination of a car-stop pivoted between its ends to oscillate vertically and adapted when unlocked to be depressed by a passing car, a weight suspended from one end of the stop for holding its opposite end normally raised, and a locking device adapted to engage the normally raised portion of the stop for preventing its depression.

5. The combination of a vertically-movable normally raised car-stop adapted when unlocked to be depressed by a passing car, and a laterally-swinging arm at one side of the stop adapted to move beneath the stop and prevent its depression.

6. The combination of a base having an opening, a normally raised car-stop movable vertically in the opening and adapted when unlocked to be depressed by a passing car, and a lock device movable over the base-opening and beneath the stop to prevent depression of the latter.

7. The combination of a vertically-movable normally raised car-stop adapted when unlocked to be depressed by a passing car, a laterally-turning arm adapted to lock the stop in raised position, an operating-arm adapted to turn with the locking-arm, and actuating means connected to the operating-arm.

8. The combination of a car-track having a movable section, a movable stop device normally projected into the path of a car and adapted when unlocked to be deflected by the car, a lock for holding the stop against deflection, and lock-operating means connected to the movable track-section, whereby when the latter is moved the lock is set.

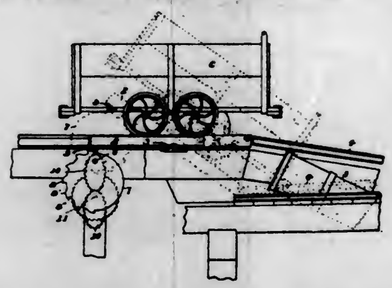
9. The combination of a car-track having a movable section, a depressible car-stop adapted when unlocked to be depressed by a passing car, a lock device for the stop, and a connection between the lock and the movable track-section operating to set the lock upon movement of the track-section and release the same upon return of the track-section to normal position.

10. The combination of a car-track having a movable section, a movable car-stop adapted when unlocked to be deflected by a passing car, a lock device for preventing deflection of the stop, a weight connected to the lock for moving it into stop-engaging position, and a connection between the movable track-section and the lock for holding the latter disengaged from the stop when the movable track-section is in normal position.

11. The combination of a car-track having a tilting section, a movable car-stop adapted when unlocked to be deflected by a passing car, a lock for preventing depression of the stop, and lock-actuating means connected to and controlled by the movement of said track-section.

12. The combination of a car-track having a tilting section, a normally raised car-stop adapted, when unlocked to be depressed by a passing car, a lock device for the stop to prevent its depression, a weight connected to said device for drawing it into stop-locking position, and a connection between the tilting track-section and the lock operating to hold the latter disengaged from the stop while the tilting section is in normal position.

840,248. COAL-TIPPLE. JAMES S. PATES, Monongahela, Pa. Filed Oct. 11, 1906. Serial No. 338,364.



Claim.—1. A tilting car-support, in combination with an eccentrically-mounted wheel for controlling the tilting movement of the support, and means for jolting the support during the tilting movement.

2. A tilting car-support, in combination with an eccentrically-mounted wheel for controlling the tilting movement of the support, and a series of projections on the wheel adapted to jolt the support during the tilting movement.

3. A tilting car-support, and a device carried by the support, in combination with an eccentrically-mounted wheel for controlling the tilting movement of the support, and a series of projections on the wheel adapted to cooperate with the device carried by the support for imparting to the latter a series of jolts during the tilting movement.

4. A tilting car-support, in combination with an eccentrically-mounted wheel for tilting same, and a series of projections on the wheel adapted to jolt the support while tilting.

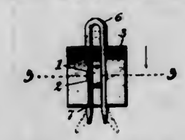
5. A tilting car-support, in combination with an eccentrically-mounted wheel beneath and adapted to raise one end of the support, and a series of projections on the wheel adapted to jolt the support while tilting.

6. A tilting car-support in combination with an eccentrically-mounted wheel beneath and adapted to raise one end of the support, and a series of projections on the periphery of the wheel adapted to engage and jolt the support while tilting.

7. A tilting car-support having a depending part, in combination with an ecentrically-mounted wheel beneath and having its periphery in engagement with said depending part, and a series of projections on the wheel periphery adapted to pass beneath the depending part and jolt the support while tilting.

8. A tilting car-support, in combination with a shaft, a wheel mounted ecentrically on the shaft and adapted to control the tilting movement of the support, and elliptical driving-gearing for said shaft for the purpose described.

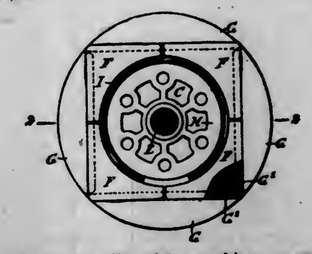
840,249. NUT-LOCK. DAVID W. PATTON, Moberly, Mo. Filed July 19, 1906. Serial No. 326,849.



Claim.—1. In combination, a bolt having portions of its end cut away on opposite sides to form substantially flat parallel surfaces, a nut having the usual threaded opening therethrough and two parallel grooves in one face thereof intersecting the threaded opening, and a staple formed of a piece of wire and having the ends thereof bent parallel and inserted in said groove and holding the flattened end of the bolt from rotation, said arms having notches adjacent their ends adapted to engage with the nut and hold the arms from accidental displacement.

2. The combination with a nut provided with two grooves, circular in cross-section, tangent to the face of the nut, and intersecting the threaded opening of the nut, of a bolt having a portion of its threaded end cut away on opposite sides leaving the thickness of the remaining portion substantially equal to the distance between the grooves in the nut, and a staple having two arms, each provided with a notch adjacent its outer end, the arms of the staple being adapted to enter the grooves of the nut and contact with the opposite sides of the flattened end of the bolt to prevent the bolt or nut from turning in respect to the other, and the staple being held in place by the engagement of the notches on the staple-arms with the side of the nut at the ends of the grooves.

840,250. METALLIC PISTON-PACKING. NICHOLAS PFLAUM, Pittsburg, Pa. Filed Apr. 10, 1906. Serial No. 310,915.



Claim.—1. A metallic piston-packing, comprising interior segmental blocks each having outer surfaces at right angles to each other, exterior segments fitted onto the said

angular surfaces of the said blocks, and dovetailed tongues and grooves connecting the blocks and segments with each other at their contacting faces.

2. A metallic piston-packing comprising interior segmental blocks having outer angular surfaces and dovetailed grooves formed therein, the said blocks being provided at their inner faces with curved offsets, the inner faces of said blocks to one side of the offsets being also curved, exterior segments fitted onto the said angular surfaces of the said blocks and provided at their contacting surfaces with dovetailed tongues slidably fitting the said dovetailed grooves, the tongue of one segment being longer than the tongue of the adjacent segment to insure a complete fitting of the segments on the blocks.

3. The combination with a piston, of a metallic packing arranged between the heads of the piston, and comprising a plurality of interior segmental blocks provided on their inner faces at one end with concaved offsets engaging the peripheral surface of the piston, the inner faces of the blocks at one side of the offset being also concaved and forming with the surface of the piston an annular recess, springs in said recess for pressing the blocks outward, exterior segments fitted onto the outer angular surfaces of the said blocks, and dovetailed tongues and grooves connecting the blocks and segments with each other at their contacting faces.

840,251. PATTERN-POWDER. GEORG PINKUS, Charlottenburg, Germany. Filed May 4, 1906. Serial No. 315,182.

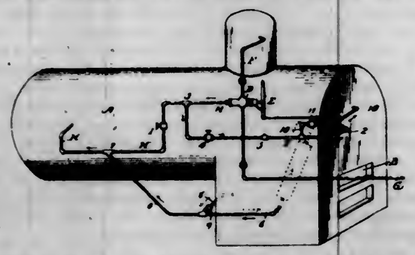
Claim.—1. As a new composition of matter, a pattern-powder containing a mixture of cornstarch and wax.

2. As a new composition of matter, a pattern-powder containing a mixture of cornstarch, wax and resin.

3. As a new composition of matter, a pattern-powder containing a mixture of cornstarch, wax, resin and a light and fine powder.

4. As a new composition of matter, a pattern-powder containing a mixture of cornstarch, wax, resin and infusorial earth.

840,252. FEED-WATER HEATER. JOHN E. PROCTOR, Detroit, Mich. Filed Sept. 14, 1906. Serial No. 334,681.



Claim.—1. The combination with the boiler and feed-pipe connecting it with the appliance for feeding the boiler and provided with a stop-valve of a drum in the fire-box located at one side thereof in a substantially vertical position, pipes separately connecting the top and bottom of said drum with the feed-pipe on opposite sides of its stop-valve, the pipe leading into the top of the drum provided with a stop-valve and a check-valve, a branch pipe connecting the pipe which leads from the bottom of the drum with the water-space of the boiler at or near its bottom and provided with a check-valve and a branch pipe connecting the pipe which leads into the top of the drum at a point between its check-valve and the drum with the water-space in the boiler at or near the top thereof and a valve in said branch pipe controlled by the operation of the boiler-feed appliance to close and open said pipe.

2. The combination with the boiler and feed-pipe extending alongside the boiler and connecting it with the appliance for feeding the boiler, of a drum in the fire-box located near the side wall thereof adjacent to the feed-pipe and extending in a substantially vertical and forwardly-inclined position, pipes separately connecting the top and bottom of said drum with the feed-pipe, said pipe passing through the sides of the fire-box and extending below the feed-pipe alongside the boiler, a stop-valve in the feed-pipe between the points of connections of the aforesaid pipes with the feed-pipe, a stop-valve and a check-valve in the pipe leading from the feed-pipe into the top of the drum, a branch pipe from the pipe which connects from the bottom of the drum into the water-space of the boiler at or near the bottom thereof and provided with a check-valve and a branch pipe from the pipe which connects with the top of the drum into the water-space of the boiler at or near the surface thereof, said branch pipe provided with a valve the opening and closing of which is controlled by the operation of the feed appliance of the boiler.

3. The combination with the boiler, of an injector having a discharge-pipe leading into the boiler and provided with a stop-valve, a drum in the fire-box, top and bottom connections between the drum and feed-pipe forming in connection with the drum a by-pass around the stop-valve in the feed-pipe, the top connection being provided with a stop-valve and with a check-valve, and branch pipes from said top and bottom connecting with the water-space of the boiler at or near the top and bottom thereof respectively, that from the bottom connection being provided with a check-valve and that from the top connection with a valve operated by mechanical connection with the starting mechanism of the injector.

840,253. ROASTING OF PYRITOUS MINERALS. GIOVANNI RAMBALDINI, Miniera di Boccheggiano, Italy. Filed Jan. 28, 1902. Serial No. 91,600.



Claim.—1. The herein-described process for treating minerals which consists in effectually crushing the materials for treatment, limiting the maximum size between ten and fifteen millimeters, obtaining the greatest possible quantity of granular material, roasting the same and separating the granular portion.

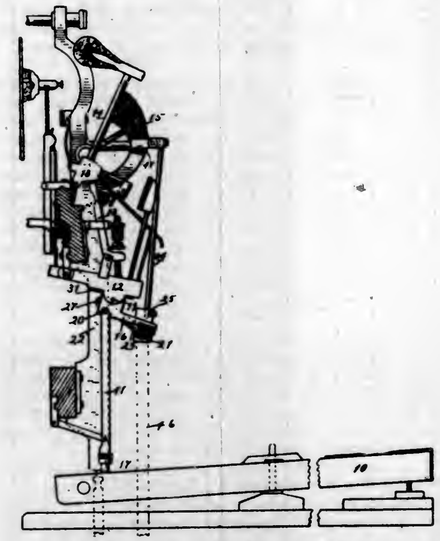
2. In the process of treating minerals, the step which consists in roasting the materials in a mass, and disposing the material in vertical columns and bringing all of said columns into intercommunication.

3. In a process for treating minerals, roasting the same in a mass, disposing the same in vertical columns and bringing all of said columns into intercommunication, oxidizing the sulfids during roasting, and maintaining the temperature at the center of the mass at substantially 700° centigrade.

840,254. PIANISSIMO DEVICE. CHARLES F. REEPS and TOM H. NOTT, Newcastle, Ind. Filed Sept. 6, 1906. Serial No. 333,430.

Claim.—1. In a pianissimo device, the combination with a hammer, a movable hammer-rest rail, a key, a wippen, and a vertical abstract arranged to be actuated by said key and to operate said wippen, of a lever pivotally connected near one end with said wippen, and a bar movable with the hammer-rest rail for elevating and operating the other end of said lever, said abstract being pivoted to said lever at a point in vertical alinement with its pivotal connection with said wippen when said lever is in an actuated position.

2. In a pianissimo device, the combination with a hammer, a movable hammer-rest rail, a key, a wippen, and a vertical abstract arranged to be actuated by said key and to operate said wippen, of a lever pivotally connected near one end with said wippen, and a bar movable with the hammer-rest rail for elevating and operating the other end of said lever, said abstract being pivoted to said lever at a point in vertical alinement with its pivotal connection with said wippen when said lever is in an actuated position, and said lever being provided with a shoulder between its pivotal connection with said wippen and its actuated end that engages the under side of said wippen when said lever is actuated.



3. In a pianissimo device, the combination with a hammer, a movable hammer-rest rail, a key, a wippen, and a vertical abstract arranged to be actuated by said key and to operate said wippen, of a lever pivotally connected near one end with said wippen, and a bar movable with the hammer-rest rail for elevating and operating the other end of said lever, said abstract being pivoted to said lever at a point in vertical alinement with its pivotal connection with said wippen when said lever is in an actuated position, and said lever having a shoulder at its rear end adapted to engage said wippen at a point substantially in alinement with the abstract and its pivotal connection with said lever, substantially as set forth.

840,255. LOCOMOTIVE. HUGH REID, Springburn, and DAVID M. RAMSAY, Uddingston, Scotland. Filed May 18, 1906. Serial No. 317,596.

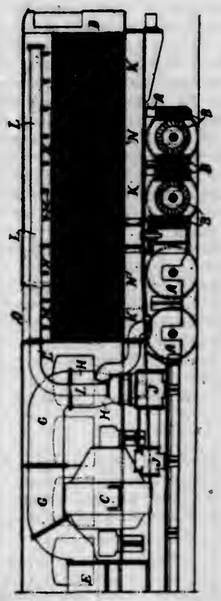
Claim.—1. A motor-vehicle carrying an isolated steam-electric generating plant having a steam-turbine in combination with a water-cooled condenser and means for cooling the water used.

2. A motor-vehicle carrying an isolated steam-electric generating plant having a steam-turbine in combination with a jet-condenser, and means for cooling the water used.

3. A motor-vehicle carrying an isolated steam-electric generating plant having a steam-turbine in combination with a water-cooled condenser and means for cooling by air the water used.

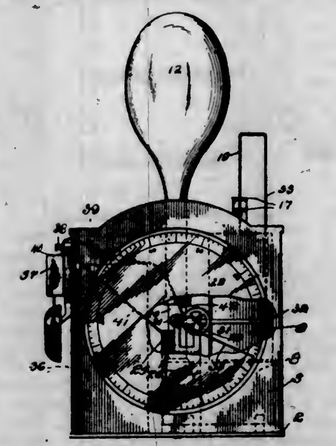
4. A motor-vehicle carrying an isolated steam-electric generating plant having a steam-turbine in combination with a jet-condenser and means for cooling by air the water used.

5. A motor-vehicle carrying an isolated steam-electric generating plant having a steam-turbine in combination with a water-cooled condenser and vertical screens exposed to air-currents and over which the water from the condenser is delivered for cooling.



6. A motor-vehicle carrying an isolated steam-electric generating plant having a steam-turbine in combination with a jet-condenser and vertical screens arranged lengthwise in the vehicle exposed to air-currents and over which the water from the condenser is delivered for cooling.

840,256. THERMOSTATIC APPARATUS. KARL ROSTEL, Monessen, Pa. Filed Mar. 30, 1906. Serial No. 308,936.



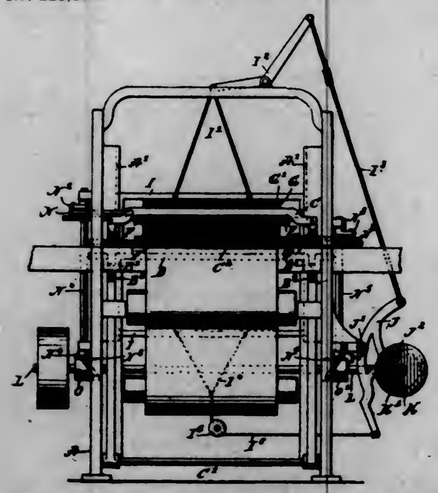
Claim.—1. In an apparatus of the type described, the combination with a suitable casing, of a tank mounted in said casing, a trough communicating with said tank, a receptacle mounted in the top of said casing and communicating with said tank, a float mounted in said trough and actuated by the expansion and contraction of the air within said receptacle, a dial-plate mounted in said casing and having graduations arranged thereon, a hand carried in front of said dial-plate and actuated by said float, a

hand adapted to contact with the first-named hand, to sound an alarm, substantially as described.

2. A thermostatic alarm comprising a casing having a graduated dial-plate, a tank mounted in the casing, a trough mounted on said tank and in communication therewith, brackets carried by the casing, a float arranged in the trough and having a rod extending through said brackets, a receptacle mounted on the casing and having a neck extending into the casing and communicating with the tank, a standard mounted in the casing, a frame connected to said standard, shafts journaled in said frame and meshing pinions on said shafts, an arm connected to one of said shafts and attached at its outer end to the rod of said float, and hands carried by the other ends of said shafts adapted in one position to complete an electrical circuit and sound an alarm.

3. In an apparatus of the type described, the combination with a suitable casing, and a tank therein, a trough communicating with the tank, a receptacle mounted on the casing and having a neck extending into the casing and communicating with the tank, a float in said trough actuated by the expansion and contraction of air within the receptacle, a graduated dial-plate carried by the casing and mechanism actuated by the float in its rise and fall in the trough for completing an electrical circuit to sound an alarm.

840,257. PILE-FABRIC LOOM. HOVCEP SARAFIAN, Yonkers, N. Y., assignor, by mesne assignments, to United States Persian Carpet Company, New York, N. Y., a Corporation of New York. Filed July 26, 1904. Serial No. 218,193.



Claim.—1. A pile-fabric loom for interweaving ground warp-threads, a pile warp-thread and weft-threads provided with coöperating devices for looping the pile warp-thread around one of the ground warp-threads, for passing the pile warp-thread between the ground warp-threads, for forming face-loops above the ground warp-threads and for crossing the ground warp-threads.

2. A pile-fabric loom for interweaving ground warp-threads, a pile warp-thread and weft-threads comprising coöperating devices arranged for looping the pile warp-thread around one of the ground warp-threads for forming bottom loops for passing the pile warp-threads between the ground warp-threads, for forming face-loops alternately above the ground warp-threads, for crossing the ground warp-threads above each bottom loop, for passing weft-threads between the ground warp-threads below each face-loop.

3. A pile-fabric loom for interweaving sets of warp-threads and weft-threads comprising a lay, a pair of heddles for the ground warp-threads, a shogging device for the ground warp-threads, a guideway for the passage of the ground warp-threads and a needle for the pile warp-thread and having up-and-down movement, the needle lying approximately in a plane extending midway between the sides of the guideway to allow the ground warp-threads to pass to opposite sides of the needle.

4. A pile-fabric loom for interweaving a pair of ground warp-threads, a pile warp-thread and weft-threads, comprising a lay, a pair of heddles for the ground warp-threads, a shogging device for the ground warp-threads, a guideway for the passage of the ground warp-threads, a needle having an eye for the passage of the pile warp-thread and extending in a plane lying approximately midway of the guideway, and means for moving the said lay, the said heddles, the said shogging device and the said needle in unison.

5. A pile-fabric loom for interweaving a pair of ground warp-threads, a pile warp-thread and weft-threads, comprising a lay, a pair of heddles for the ground warp-threads, a shogging device for the ground warp-threads, a guideway for the passage of the ground warp-threads, a needle having an eye for the passage of the pile warp-thread and extending in a plane lying approximately midway of the guideway, and means for moving the said lay, the said heddles, the said shogging device and the said needle in unison, to loop the pile warp-thread around one of the ground warp-threads, to pass the pile warp-thread between the ground warp-threads, to form face-loops above the ground warp-threads, and to cross the ground warp-threads.

6. A loom for interweaving ground warp-threads and a pile warp-thread, comprising a guideway for the passage of the ground warp-threads, a needle having an eye for the passage of the pile warp-thread, shifting means for shifting the ground warp-threads transversely to bring the same to opposite sides of the needle, and heddles for shifting the ground warp-threads up and down.

7. A loom for interweaving ground warp-threads and a pile warp-thread, comprising a guideway for the passage of the ground warp-threads, a needle having an eye for the passage of the pile warp-thread, shifting means for shifting the ground warp-threads transversely to bring the same to opposite sides of the needle, and heddles for shifting the ground warp-threads up and down, the said shifting means being arranged between the said heddles and the said guideway and its needle.

8. A loom for interweaving ground warp-threads and a pile warp-thread, comprising a guideway for the passage of the ground warp-threads, a needle having a point for the passage of the pile warp-thread and located about midway of the length of the guideway and spaced from the inner faces of the guideway, a shogging device mounted to reciprocate intermittently in a transverse direction, to shift the ground warp-threads transversely from one side of the guideway to the other to bring the ground warp-threads alternately on opposite sides of the needle, and heddles for moving the ground warp-threads up and down above and below the point of the needle.

9. A loom for interweaving ground warp-threads and a pile warp-thread, comprising a guideway for the passage of the ground warp-threads, a needle having a point for the passage of the pile warp-thread and located about midway of the length of the guideway and spaced from the inner faces of the guideway, the said guideway and its needle reciprocating intermittently in an up-and-down direction, a shogging device mounted to reciprocate intermittently in a transverse direction, to shift the ground warp-threads transversely from one side of the guideway to the other to bring the ground warp-threads alternately on opposite sides of the needle, heddles for moving the ground warp-threads up and down above and below the point of the needle and means for reciprocating and intermittently moving the needle, the guideway and the shogging device.

10. A loom for interweaving ground warp-threads and a pile warp-thread, comprising a guideway for the passage of the ground warp-threads, a needle having a point for the passage of the pile warp-thread and located about midway of the length of the guideway and spaced from the inner faces of the guideway, the said guideway and its needle reciprocating in unison and intermittently in an up-and-down direction, a shogging device mounted to reciprocate intermittently in a transverse direction, to shift the ground warp-threads transversely from one side of the guideway to the other to bring the ground warp-threads alternately on opposite sides of the needle, heddles for moving the ground warp-threads up and down above and below the point of the needle and means for reciprocating and intermittently moving the needle, the guideway and the shogging device.

11. A loom for interweaving ground warp-threads and a pile warp-thread, comprising a guideway for the passage of the ground warp-threads, a needle having a point for the passage of the pile warp-thread and located about midway of the length of the guideway and spaced from the inner faces of the guideway, the said guideway and its needle reciprocating in unison and intermittently in an up-and-down direction, a shogging device mounted to reciprocate intermittently in a transverse direction, to shift the ground warp-threads transversely from one side of the guideway to the other to bring the ground warp-threads alternately on opposite sides of the needle, heddles for moving the ground warp-threads up and down above and below the point of the needle, the said shogging device being located between the heddles and the guideway and its needle and means for reciprocating and intermittently moving the needle, the guideway and the shogging device.

12. A loom for interweaving ground warp-threads and a pile warp-thread, provided with a guideway for the passage of the ground warp-threads, and a needle having an eye for the passage of the pile warp-thread, the said needle being arranged in a plane extending longitudinally through the guideway and the eye of the needle being located approximately half-way of the height of the guideway, to leave a portion of the guideway wholly unobstructed, means for shifting the ground warp-threads transversely in the said guideway, and means for raising and lowering the ground warp-threads in the said guideway.

13. A loom for interweaving ground warp-threads and a pile warp-thread, provided with a device for moving the ground warp-threads alternately to opposite sides of the pile warp-thread, and means for moving the pile warp-thread to loop the same around one of the ground warp-threads and to pass the pile warp-thread between the ground warp-threads.

14. A loom for interweaving ground warp-threads and a pile warp-thread, provided with heddles for moving the ground warp-threads alternately up and down, means for moving the ground warp-threads laterally, for bringing the same alternately to opposite sides of the pile warp-thread, and means for moving the pile warp-thread up and down, for looping the pile warp-thread around one of the ground warp-threads and then passing the pile warp-thread up between the ground warp-threads.

15. A loom for interweaving ground warp-threads and a pile warp-thread, provided with a guideway for the passage of a pair of ground warp-threads, a needle having an eye for the passage of the pile warp-thread, means for shifting the said pair of ground warp-threads laterally while the needle is down and to hold the ground warp-threads spaced apart in the guideway, and means for raising and lowering the said needle, for the latter to pass the said pile warp-thread between the said ground warp-threads.

16. A loom for interweaving ground warp-threads and a pile warp-thread, provided with a guideway for the passage of a pair of ground warp-threads, a needle having an eye for the passage of the pile warp-thread, means for shifting the said pair of ground warp-threads laterally while the needle is down and to hold the ground warp-threads spaced apart in the guideway, means for raising and lowering the said needle, for the latter to pass the said pile warp-thread between the said ground warp-threads, and means for moving the said ground warp-threads up and down while the needle is up between the said ground warp-threads.

17. A pile-fabric loom provided with a guideway for the passage of the ground warp-threads, a guideway-needle having an eye for the passage of the pile warp-thread and movable up and down, shogging-combs for engaging the ground warp-threads and shifting the same transversely in the guideway, to alternately bring the ground warp-threads to opposite sides of the needle, and heddles for moving the ground warp-threads up and down.

18. A pile-fabric loom provided with a guideway for the passage of the ground warp-threads, a guideway-needle having an eye for the passage of the pile warp-thread and movable up and down, shogging-combs for engaging the ground warp-threads and shifting the same transversely in the guideway, to alternately bring the ground warp-threads to opposite sides of the needle, and heddles for moving the ground warp-threads up and down, the said shogging-combs being located intermediate the heddles and the said guideway and its needle.

19. A pile-fabric loom provided with a guideway for the passage of the ground warp-threads, a guideway-needle having an eye for the passage of the pile warp-thread and movable up and down, shogging-combs for engaging the ground warp-threads and shifting the same transversely in the guideway, to alternately bring the ground warp-threads to opposite sides of the needle, and heddles for moving the ground warp-threads up and down, the said shogging-combs being spaced apart one above the other and having their teeth standing toward each other.

20. A pile-fabric loom provided with a pair of heddles for the ground warp-threads, a guideway for the passage of the ground warp-threads, a pair of shogging-combs spaced apart and having their teeth standing opposite each other, and a needle for carrying the pile warp-thread between the said ground warp-threads in the guideway.

21. A pile-fabric loom provided with a pair of heddles for the ground warp-threads, a guideway for the passage of the ground warp-threads, a pair of shogging-combs spaced apart and having their teeth standing opposite each other, a needle for carrying the pile warp-thread between the said ground warp-threads in the guideway, means for raising and lowering the said needle, and means for shogging the said combs when the needle is down.

22. A pile-fabric loom provided with heddles for the ground warp-threads, a guideway for the passage of the ground warp-threads, and a pair of shogging-combs spaced apart and having their teeth standing oposite each other.

23. A pile-fabric loom provided with heddles for the ground warp-threads, a guideway for the passage of the ground warp-threads, and a pair of shogging-combs spaced apart and having their teeth standing opposite each other, the shogging-combs being located intermediate the heddles and the guideway.

24. A pile-fabric loom provided with a pair of heddles for a pair of ground warp-threads, a single guideway for the passage of the said pair of ground warp-threads, a needle having an up-and-down movement, the needle being provided with an eye for the passage of a pile warp-thread, the needle being arranged approximately midway between the sides of the guideway, for the heddles to move the ground warp-threads up and down on oposite sides of the said needle, the needle leaving a wholly unobstructed space in the said guideway, above the eye of the needle, and means for shifting the ground warp-threads from one side to the other in the said unobstructed space.

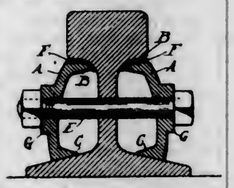
25. A pile-fabric loom provided with a guideway for the passage of the ground warp-threads, a needle having an eye for the passage of the pile warp-thread, the needle standing approximately midway between the sides of the guideway and distance from the top thereof to leave a portion of the guideway unobstructed and a pair of shogging-combs spaced apart and having their teeth standing toward each other.

26. A pile-fabric loom having a guideway for the passage of the ground warp-threads, a shogging device for shifting the ground warp-threads transversely in the said guideway, and a reciprocating needle provided with an eye for the passage of the pile warp-thread, the needle standing approximately midway between the sides of the

guideway and the needle-eye terminating a distance below the top of the guideway to leave an unobstructed space in the guideway.

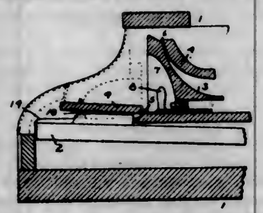
27. A loom for interweaving ground warp-threads and a pile warp-thread, provided with an intermittently-reciprocating frame having spaced bars, and needles extending in planes passing between adjacent bars, a portion of the space between adjacent bars being unobstructed for the passage of the ground warp-threads to opposite sides of the needle, the pile warp-thread passing through the eye of the needle, means for shifting the ground warp-thread transversely in the said unobstructed space portion and means for intermittently reciprocating the said frame.

840,258. SOUND-DEADENING MEANS FOR RAILWAYS. JOHN SCHENBECK, Chicago, Ill. Filed Apr. 30, 1906. Serial No. 314,347.



Claim—Sound-deadening means for railways including wedges disposed in the recesses formed on opposite sides of the rail between the head and flanges thereof, bolts passing through said wedges and the web of the rail at intervals to force said wedges into said recesses, heads carried by the outer plates and adapted to break joint with the rail-joint, V-shaped projections on the inner faces of said heads between their ends adapted to enter V-shaped recesses formed by the tapered cut-away portions of the outer faces of the heads of adjoining rails, said heads of said wedges being disposed at a higher elevation at their middle portions than said rails and adapted to carry the weight of the rolling-stock passing over the rail-joint to relieve the end portions of said rails from wear.

840,259. MECHANICAL MUSICAL INSTRUMENT. EDMUND SCHNABEL and WILLIAM W. LAWSON, New York, N. Y., assignors to The Aeolian Company, a Corporation of Connecticut. Filed Feb. 21, 1906. Serial No. 302,319.



Claim.—1. In a mechanical musical instrument, a keyboard, a handle at the rear of said keyboard, and a movable portion for alternately covering said handle and said keyboard.

2. In a mechanical musical instrument, a keyboard, a handle at the rear of said keyboard, and a movable portion hinged at its lower edge to a stationary portion at the rear of said keyboard for alternately covering said handle and said keyboard.

3. In a mechanical musical instrument, a keyboard, a handle at the rear of said keyboard, and a movable portion forming in its raised position a cover for said handle and in its lowered position an approximately horizontal hand-rest above said keyboard.

4. In a mechanical musical instrument, a keyboard, a handle at the rear of said keyboard, a fall-board movable to uncover both said keyboard and said handle, and a second portion movable to cover said handle when said fall-board is in its open position.

5. In a mechanical musical instrument, a keyboard, a handle at the rear of said keyboard, a fall-board movable to uncover both said keyboard and said handle and recessed to receive said handle, and a second portion movable to cover said handle when said fall-board is in its open position.

6. In a mechanical musical instrument, a keyboard, key-blocks, a handle at the rear of said keyboard, and a movable portion forming in its raised position a cover for said keyboard and in its lowered position resting on said key-blocks and forming an approximately horizontal hand-rest.

7. In a mechanical musical instrument, a keyboard, a handle at the rear of said keyboard, a fall-board movable to uncover both said keyboard and said handle, and a second movable portion pivoted for movement with said fall-board and independently movable to cover said handle when said fall-board is in its open position.

8. In a mechanical musical instrument, a keyboard, a handle at the rear of said keyboard, a fall-board movable to uncover both said keyboard and said handle, a second portion movable to cover said handle when said fall-board is in its open position, and means for engaging said movable portion with said fall-board.

9. In a mechanical musical instrument, a keyboard, a handle at the rear of said keyboard, a fall-board movable to uncover both said keyboard and said handle, a second portion movable to cover said handle when said fall-board is in its open position, a latch in said keyboard, and an engaging portion in said fall-board for said latch.

10. In a mechanical musical instrument, a keyboard, key-blocks, a handle at the rear of said keyboard, a fall-board movable to uncover both said keyboard and said handle, a second portion forming in its raised position a cover for said handle and in its lowered position an approximately horizontal hand-rest above said keyboard, latches in said second portion, and engaging portions for said latches in said fall-board, said latches being provided at their free ends with knobs for resting on said key-blocks when said portion is in its lowered position.

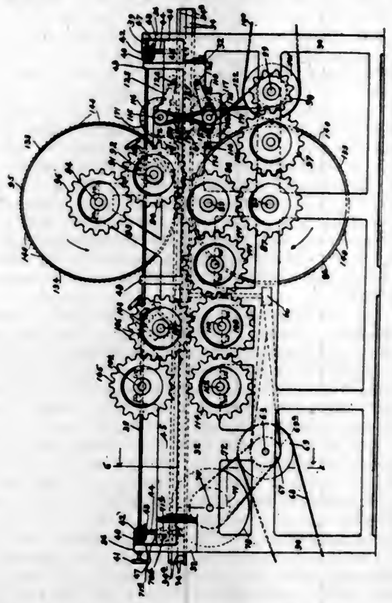
840,260. MACHINE FOR LAYING OFF PATTERNS ON AND OTHERWISE PREPARING BOARDS FOR THE MANUFACTURE OF PIANO AND ORGAN KEYS. PHILIP SCHNEIDER, Chicago, Ill. Filed Apr. 28, 1906. Serial No. 314,236.

Claim.—1. In a machine of the character described, the combination with the main frame, of a pair of marking-rollers transversely journaled in parallelism, means to rotate said rollers, marking devices arranged on the periphery of each of the rollers in circumferential and transverse rows to form marks or indented patterns on boards to indicate where they are to be sawed and bored to form keys for a piano or organ, some of the transverse rows of the marking devices being arranged out of alinement with the other rows thereof, substantially as described.

2. In a machine of the character described, the combination with the main frame, of a series of antifriction-rollers vertically journaled on its side rails, a pair of feed-rollers transversely journaled, a pair of marking-rollers transversely journaled in parallelism, means to rotate said rollers, marking devices arranged on the periphery of each of the marking-rollers in circumferential and transverse rows to form marks or indented patterns on boards to indicate where they are to be sawed and bored to form keys for a piano or organ, some of the transverse rows of the marking devices being located out of alinement with the other transverse rows thereof, substantially as described.

3. In a machine of the character described, the combination with the main frame, of a series of antifriction-rollers vertically journaled on one of its side rails, a series of antifriction-rollers vertically journaled and adjustably mounted on the other side rail of the frame, a pair of marking-rollers transversely journaled in parallelism, means to rotate said rollers, marking devices arranged on the periphery of each of the rollers in circumferential and transverse rows to form marks or indented patterns on boards to indicate where they are to be sawed and bored to form keys for a piano or organ, some of the transverse rows of the marking devices being arranged out of alinement with the other rows thereof, substantially as described.

4. In a machine of the character described, the combination with the main frame, of a series of antifriction-rollers vertically journaled on one of its side rails, a series of antifriction-rollers vertically journaled and adjustably mounted on the other side rail of the frame, a pair of marking-rollers transversely journaled in parallelism, means to rotate said rollers, marking devices arranged on the periphery of each of the rollers in circumferential and transverse rows to form marks or indented patterns on boards to indicate where they are to be sawed and bored to form keys for a piano or organ, substantially as described.



5. In a machine of the character described, the combination with the main frame, of a pair of marking-rollers transversely journaled in parallelism, each of said rollers peripherally reduced from one of its ends inwardly, means to rotate said rollers, marking devices arranged on the periphery of each of the rollers in circumferential and transverse rows to form marks or indented patterns on boards to indicate where they are to be sawed and bored to form keys for a piano or organ, substantially as described.

6. In a machine of the character described, the combination with the main frame, of a pair of marking-rollers transversely journaled in parallelism, each of said rollers peripherally reduced from one of its ends inwardly, means to rotate said rollers, marking devices arranged on the periphery of each of the rollers in circumferential and transverse rows to form marks or indented patterns on boards to indicate where they are to be sawed and bored to form keys for a piano or organ, some of the transverse rows of the marking devices being arranged out of alinement with the other rows thereof, substantially as described.

7. In a machine of the character described, the combination with the main frame, of a series of antifriction-rollers vertically journaled on its side rails, a pair of feed-rollers transversely journaled on the main frame, a pair of marking-rollers transversely journaled in parallelism on the frame near the feed-rollers, each of the feed-rollers and each of the marking-rollers having peripherally-reduced portions extending from one of their ends inwardly, means to rotate all of said rollers, marking devices arranged on the periphery of each of the marking-rollers in circumferential and transverse rows to form marks or indented patterns on boards to indicate where they are to be sawed and bored to form keys for a piano or organ, substantially as described.

8. In a machine of the character described, the combination with the main frame, of a series of antifriction-rollers vertically journaled on its side rails, a pair of feed-rollers transversely journaled on the main frame, a pair of marking-rollers transversely journaled in parallelism on the frame near the feed-rollers, each of the feed-rollers and each of the marking-rollers having peripherally-reduced portions extending from one of their ends inwardly, means to rotate all of said rollers, marking devices arranged on the periphery of each of the marking-rollers in circumferential and transverse rows to form marks or indented patterns on boards to indicate where they are to be sawed and bored to form keys for a piano or organ, some of the transverse rows of the marking devices being located out of alinement with the other transverse rows thereof, substantially as described.

9. In a machine of the character described, the combination with the main frame, of a pair of marking-rollers transversely journaled thereon in parallelism, means to rotate said rollers, marking devices arranged on the periphery of each of the rollers in circumferential and transverse rows to form marks or indented patterns on boards to indicate where they are to be sawed and bored to form keys for a piano or organ, a shaft transversely journaled on the main frame at the rear of the marking-rollers, a pair of circular saws mounted in parallelism on said shaft to form longitudinal slits in one of the boards, substantially as described.

10. In a machine of the character described, the combination with the main frame, of a pair of marking-rollers transversely journaled thereon in parallelism, marking devices arranged on the periphery of each of the rollers in circumferential and transverse rows, two shafts transversely journaled one above the other on the frame at the rear of the marking-rollers, a pair of circular saws mounted in parallelism on each of said shafts to form longitudinal slits in the boards, substantially as described.

11. In a machine of the character described, the combination with the main frame, of a pair of marking-rollers transversely journaled thereon, each of said rollers peripherally reduced from one of its ends inwardly, marking devices arranged on the periphery of each of the rollers in circumferential and transverse rows, a shaft transversely journaled on the main frame at the rear of the marking-rollers, and a circular cutter mounted on said shaft at a point in the rear of the inner portion of the reduced part of one of the marking-rollers, substantially as described.

12. In a machine of the character described, the combination with the main frame, of a pair of marking-rollers transversely journaled thereon, each of said rollers peripherally reduced from one of its ends inwardly, marking devices arranged on the periphery of each of the rollers in circumferential and transverse rows, two shafts transversely journaled one above the other on the main frame at the rear of the marking-rollers, and a circular cutter mounted on each of said shafts at a point in the rear of the inner portion of the reduced parts of the marking-rollers, substantially as described.

13. In a machine of the character described, the combination with the main frame, of a pair of marking-rollers transversely journaled thereon in parallelism, each of said rollers peripherally reduced from one of its ends inwardly, marking devices arranged on the periphery of each of the rollers in circumferential and transverse rows, two shafts transversely journaled one above the other on the main frame at the rear of the marking-rollers, a circular cutter mounted on each of said shafts near one of its ends, two other shafts transversely journaled one above the other on the main frame between the first-named shafts and the marking-rollers, and a circular saw mounted on each of said shafts directly in front of said circular cutters, substantially as described.

14. In a machine of the character described, the combination with the main frame, of a pair of feed-rollers transversely journaled on the main frame, a pair of marking-rollers transversely journaled in parallelism on the frame near the feed-rollers, marking devices arranged on

the periphery of each of the marking-rollers in circumferential and transverse rows to form marks or indented patterns on boards to indicate where they are to be sawed and bored to form keys for a piano or organ, and means on the main frame to raise and lower the upper feed and marking rollers, substantially as described.

15. In a machine of the character described, the combination with the main frame, of a pair of feed-rollers transversely journaled thereon, a pair of marking-rollers transversely journaled on the frame near the feed-rollers, each of the feed-rollers and each of the marking-rollers having peripherally-reduced portions extending from one of their ends inwardly, marking devices arranged on the periphery of each of the marking-rollers in circumferential and transverse rows to form marks or indented patterns on boards, and means on the main frame to raise and lower the upper feed and marking rollers, substantially as described.

16. In a machine of the character described, the combination with a main frame having two stationary side rails, of a rail movably and longitudinally mounted on each of said side rails, a screw-rod vertically located at each end of each of the movable rails and engaging the same as well as the stationary side rails, a beveled gear on the upper end of each of said rods, a shaft transversely and horizontally journaled at each end of the main frame, a beveled gear on each end of each of said shafts to mesh with the gears on the screw-rods, a shaft longitudinally journaled on one side of the main frame, a beveled gear mounted on said shaft near each of its ends to engage the gears on the screw-rods on one side of the frame, and means to turn the last-named shaft, substantially as described.

17. In a machine of the character described, the combination with a main frame having two stationary side rails, of a rail movably and longitudinally mounted on each of said side rails, a screw-rod vertically located at each end of each of the movable rails and engaging the same as well as the stationary side rails, a beveled gear on the upper end of each of said rods, a shaft transversely and horizontally journaled at each end of the main farme, a beveled gear on each end of each of said shafts to mesh with the gears on the screw-rods, a shaft longitudinally journaled on one side of the main frame, a beveled gear mounted on said shaft near each of its ends to engage the gears on the screw-rods on one side of the frame, means to turn the last-named shaft, a lower marking-roller transversely journaled on the stationary part of the main frame, an upper marking-roller transversely journaled on the movable rails, marking devices arranged on the periphery of each of the marking-rollers in circumferential and transverse rows to form marks or indented patterns on boards, substantially as described.

18. In a machine of the character described, the combination with a main frame having two stationary side rails, of a rail movably and longitudinally mounted on each of said side rails, a screw-rod vertically located at each end of each of the movable rails and engaging the same as well as the stationary side rails, a beveled gear on the upper end of each of said rods, a shaft transversely and horizontally journaled at each end of the main frame, a beveled gear on each end of each of said shafts to mesh with the gears on the screw-rods, a shaft longitudinally journaled on one side of the main frame, a beveled gear mounted on said shaft near each of its ends to engage the gears on the screw-rods on one side of the frame, means to turn the last-named shaft, a lower feed-roller transversely journaled on the stationary part of the frame, an upper feed-roller transversely journaled on the movable rails above said lower roller, a lower marking-roller transversely journaled on the stationary part of the frame, an upper marking-roller transversely journaled on the movable rails above the lower marking-roller, each of the feed-rollers and each of the marking-rollers having peripherally-reduced portions extending form one of their ends inwardly, marking devices arranged on the periphery of each of the marking-rollers in circumferential and transverse rows to form marks or indented patterns on boards, substantially as described.

19. In a machine of the character described, the combination with a main frame having two stationary side rails, of a rail movably and longitudinally mounted on each of said side rails, a screw-rod vertically located at each end of each of the movable rails and engaging the same as well as the stationary side rails, a beveled gear on the upper end of each of said rods, a shaft transversely and horizontally journaled at each end of the main frame, a beveled gear on each end of each of said shafts to mesh with the gears on the screw-rods, a shaft longitudinally journaled on one side of the main frame, a beveled gear mounted on said shaft near each of its ends to engage the gears on the screw-rods on one side of the frame, means to turn the last-named shaft, a lower feed-roller transversely journaled on the stationary part of the frame, an upper feed-roller transversely journaled on the movable rails above said lower roller, a lower marking-roller transversely journaled on the stationary part of the frame, an upper marking-roller transversely journaled on the movable rails above the lower marking-roller, each of the feed-rollers and each of the marking-rollers having peripherally-reduced portions extending from one of their ends inwardly, marking devices arranged on the periphery of each of the marking-rollers in circumferential and transverse rows to form marks on indented patterns on boards, two shafts transversely journaled one above the other on the frame at the rear of the marking-rollers, one of said shafts being journaled on the stationary part of the frame and the other on the movable rails thereof, and a circular cutter mounted on each of said shafts near one of its ends, substantially as described.

20. In a machine of the character described, the combination with the main frame, of a pair of marking-rollers transversely journaled thereon in parallelism, means to rotate said rollers, a band rigidly secured on the periphery of each of the rollers at one of its ends and having marking devices arranged thereon in circumferential and transverse rows, a series of bars located transversely on the periphery of each of the rollers and adjustably secured thereon, each of said bars having a series of pointed pins at one of its edges, and a pointed pin adjustably secured to each of said bars at about its middle, substantially as described.

21. In a machine of the character described, the combination with the main frame, of a pair of marking-rollers transversely journaled thereon one above the other, each of said rollers peripherally reduced from one of its ends inwardly, a band rigidly secured on the periphery of each of the rollers at one of its ends and having marking devices arranged thereon in circumferential and transverse rows, a series of bars located transversely on the periphery of each of the rollers and adjustably secured thereon, each of said bars having a series of pointed pins at one of its edges, and a pointed pin adjustably secured to each of said bars at about its middle, substantially as described.

22. In a machine of the character described, the combination with the main frame, of a pair of marking-rollers transversely journaled thereon one above the other, each of said rollers peripherally reduced from one of its ends inwardly, a band rigidly secured on the periphery of each of the rollers at one of its ends and having marking devices arranged thereon in circumferential and transverse rows, a series of bars located transversely on the periphery of the enlarged part of each of the rollers and adjustably secured thereon, each of said bars having a series of pointed pins at one of its edges, and a pointed pin adjustably secured to each of said bars at about its middle, substantially as described.

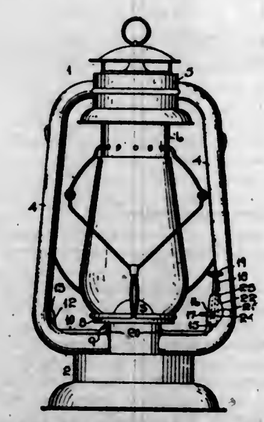
23. In a machine of the character described, the combination with the main frame, of a pair of marking-rollers transversely journaled thereon one above the other, each of said rollers peripherally reduced from one of its ends inwardly, a band rigidly secured on the periphery of each of the rollers at its enlarged end and having marking devices arranged thereon in circumferential and transverse rows, a series of bars located transversely on the peripherally-enlarged portion of each of the rollers and adjustably secured thereon, each of said bars having a series of pointed pins at one of its edges and a pointed pin adjustably secured to each of said bars at about its middle, substantially as described.

24. In a machine of the character described, the combination with the main frame, of a pair of feed-rollers transversely journaled thereon one above the other, a pair of marking-rollers transversely journaled on the frame one above the other, each of the feed-rollers and each of the marking-rollers peripherally reduced from one of its ends inwardly, a band rigidly secured on the periphery of each of the marking-rollers at its enlarged end and having marking devices arranged thereon in circumferential and transverse rows, a series of bars located transversely on the periphery of each of the marking-rollers and adjustably secured thereon, each of said bars having a series of pointed pins at one of its edges, and a pointed pin adjustably secured to each of said bars at about its middle, substantially as described.

25. In a machine of the character described, the combination with the main frame, of a pair of feed-rollers transversely journaled thereon one above the other, a pair of marking-rollers transversely journaled on the frame one above the other, each of the feed-rollers and each of the marking-rollers peripherally reduced from one of its ends inwardly, a band rigidly secured on the periphery of each of the marking-rollers at its enlarged end and having marking devices arranged thereon in circumferential and transverse rows, a series of bars located transversely on the peripherally-enlarged portion of each of the marking-rollers and adjustably secured thereon, each of said bars having a series of pointed pins at one of its edges and a pointed pin adjustably secured to each of said bars at about its middle, another series of bars located transversely on the peripherally-reduced portion of each of the marking-rollers and adjustably secured thereon, each of the last-named bars having a series of pointed pins at one of its edges, substantially as described.

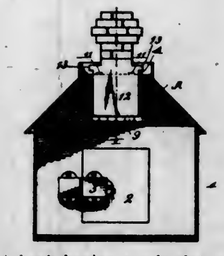
26. In a machine of the character described, the combination with the main frame, of a pair of marking-rollers transversely journaled thereon one above the other, each of said rollers peripherally reduced from one of its ends inwardly, marking devices arranged on the periphery of each of the rollers in circumferential and transverse rows, two pairs of circular saws journaled in parallelism one pair above the other on the main frame at the rear of the marking-rollers, and means to hold the boards against said saws, substantially as described.

840,261. GLOBE-LIFTING ATTACHMENT FOR LANTERNS. FRANK A. SCHWERTNER, Canton, Ohio. Filed July 12, 1906. Serial No. 325,912.



Claim.—In a lantern, the combination of a globe raising and lowering attachment for lanterns comprising a lifting-rod having right-angularly-bent ends, a bearing-trunnion formed on one of said ends to engage a bearing in one of the draft-tubes of the lantern, a bearing-stud arranged on the opposite draft-tube, a bearing-eye formed in the opposite angularly-bent end of the lifting-rod to engage said stud, an offset formed in said rod, a bearing-clip to pivotally connect said offset with the globe-supporting plate of the lantern, a lever formed on one end of said rod, a finger-engaging loop formed on the end of said lever and bent at an angle thereto, a longitudinally-curved cam-shaped spring locking-plate secured to one of the draft-tubes of the lantern, a lever-engaging seat formed on the upper end of said plate, a lever-engaging notch or recess formed near the lower end of the plate, said seat and recess being adapted to be engaged by said lever to hold the lantern-globe in a raised or lowered position, substantially as described.

840,262. PORTABLE SAVINGS-BANK. WILLIAM E. SEXTON, Kansas City, Mo. Filed June 30, 1906. Serial No. 324,159.



Claim.—1. A bank having a coin-slot, a coin-chute communicating with said slot and having parallel sides extending into the bank, a guard consisting of two series of resilient jaws overlapping each other at the discharge end of the chute, and a follower for forcing money through the chute and the jaws, said follower being provided with shoulders for limiting its inward movement.

2. In a savings-bank having a coin-slot, a device stamped from one piece of metal and consisting of a coin-chute communicating with said slot, wings extending in opposite directions from the inlet end of said chute and provided with fastening devices whereby they are secured to the inner side of the bank, and a series of resilient jaws extending downwardly from each wing, the jaws of one series overlapping those of the other beneath the discharge end of the chute.

3. A bank having a coin-slot, a coin-chute within the bank communicating with said slot, a guard consisting of two series of resilient jaws overlapping each other before the discharge end of said coin-chute, and outward extensions on the two outermost jaws.

840,263. MANUFACTURING OF FENCE-POSTS AND RAILROAD-TIES. HARVEY M. SHELLABARGER, Wapello, Iowa. Filed Dec. 5, 1905. Serial No. 290,494.



Claim.—The process of forming a composite body consisting in wrapping a wooden core in tarred paper and per-

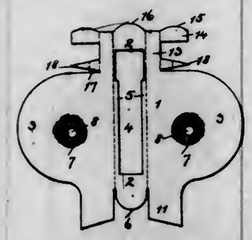
manently embedding the wrapped core in cement or other plastic material.

840,264. PROCESS OF WEIGHTING SILK. CHARLES SIMON, Paterson, N. J. Filed May 10, 1906. Serial No. 316,128.

Claim.—1. The process of weighting silk which consists in acting upon the silk with a solution of a metallic salt and with a solution of quebracho extract, substantially as described.

2. The process of weighting silk which consists in acting upon the silk with a solution of a metallic salt and with a solution of quebracho extract in the presence of a tin salt, substantially as described.

840,265. SHEET-METAL PULLEY-CASING. FRANCIS E. SLOAN, Baltimore, Md. Filed Mar. 21, 1906. Serial No. 307,154.



Claim.—1. A sheet-metal casing for sash-pulleys having a slotted face and parallel side cheek-pieces and also having a hollow vertical extension which extends above the cheek-pieces with securing-tangs formed integrally with and at opposite sides of the said extension and lying in a vertical plane between the side walls.

2. A sheet-metal casing for sash-pulleys having a slotted front wall and parallel side cheek-pieces, and having hollow vertical extensions projecting above the cheek-pieces which are provided with laterally-extending overlapping flaps which project parallel with but spaced from the front wall and securing devices at said hollow extension.

3. A sheet-metal casing for sash-pulleys having a slotted front wall and parallel side cheek-pieces with a hollow extension projecting above the cheek-pieces and the front of the extension being higher than the rear thereof, said casing having its sides projecting below the front wall and increasing in length as they recede from the front wall whereby to form a hollow inclined bottom.

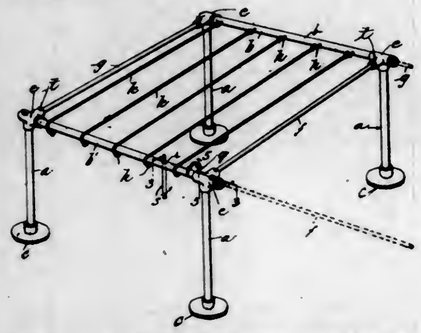
840,266. HOOK AND EYE. JOSEPH S. C. SOWAR, Brazil, Ind. Filed Feb. 8, 1906. Serial No. 300,167.



Claim.—1. A garment-hook, consisting of a single piece of wire having a central bend to form the hook, the branches of which have equal rearward extensions past the hook having each a terminal fastening-loop, such loops having equal forward-extending branches one inside and one outside of the branches of the hook and past the hook having each a terminal fastening-eye.

2. A garment-hook, consisting of a single piece of wire having a central bend to form the hook, the branches of which have equal rearward extensions past the hook having each a terminal fastening-loop, such loops having equal forward-extending branches one inside and one outside of the branches of the hook and past the hook having each a terminal fastening-eye, the inside branch of the loop having a hump bend.

840,267. CLOTHES-DRYING FRAME. GEORGE S. STEBBINS, Springfield, Mass. Filed Feb. 26, 1906. Serial No. 302,836.

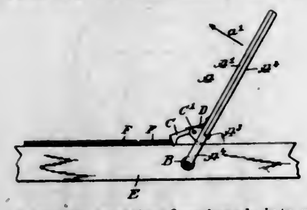


Claim.—1. A clothes-drying frame comprising two substantially rectangular side frames each consisting of two uprights and a cross-bar, one of which bars is rotatable; transverse bars extending from the ends of each side frame to the other, and means to secure a rope to the two cross-bars together with locking means to secure the rotatable cross-bar against unwinding movement, in combination with a broad circular supporting-piece for the lower ends of the uprights.

2. A clothes-drying frame comprising two substantially rectangular side frames, each consisting of two uprights and a cross-bar, one of the latter being rotatable; a flat foot broader than the base of the uprights, located at the lower end of each of the latter, and parallel transverse bars extending from the ends of each side frame to the other and removably engaging the latter, and projections on the cross-bars to which a rope may be secured to extend from one side frame to the other; means to rotate one of said cross-bars, and a locking device to secure the rotatable bar against unwinding movement.

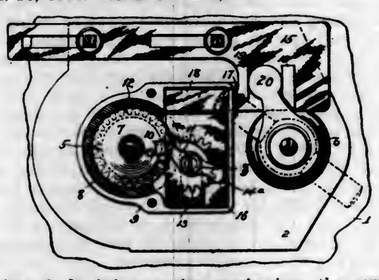
3. In a clothes-drier in combination, two substantially rectangular frames including a fixed and a rotatable cross-bar having circular bearing-pieces at the lower ends of said frames, parallel transverse bars connecting the rectangular frames, said fixed and rotatable tubular cross-bars, the rotatable cross-bar having an annular groove at one end, double T-shaped corner-fastenings for securing the uprights, fixed, and rotatable cross-bars and side transverse connecting-bars together, removable locking means therefor, means for securing a rope to the fixed and rotatable cross-bars, and means for rotating the rotatable cross-bar, as described.

840,268. CARPENTER'S TOOL. BRUNO STOLL, Gardena, N. D. Filed May 12, 1906. Serial No. 316,525.



Claim.—A tool for pressing floor-boards into position for nailing, comprising members pivotally connected adjacent to one of their ends, the longer portions of said members being superimposed one upon the other, and the shorter portions lying in the same horizontal plane, and spaced apart from each other, whereby to receive the joist therebetween, disks rotatably connected with the inner faces of said shorter ends, said disks being provided on their inner faces with points for gripping the joist, bearings on the upper face of one of said shorter ends adjacent to the pivot, a tongue for engaging the floor-boards pivoted in the bearings, and a spring engaging the tongue for resisting the upward movement thereof.

840,269. SAFE-BOLT MECHANISM AND LOCK. WARREN H. TAYLOR, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford Conn. Filed Jan. 16, 1906. Serial No. 296,290.



Claim.—1. In bolt-operating mechanism, the combination with a lock-casing and a sliding bolt therein, of a series of tumblers, a pivoted fence intermediate the tumblers and bolt, and connected to the latter, and devices actuated by the rotation of the tumblers whereby one end of the fence is moved into the gatings in the tumblers when the gatings are brought into alinement with the adjacent end of the fence.

2. In bolt-operating mechanism, the combination with a lock-casing and a sliding bolt therein, of a series of tumblers, a device rotating with the tumblers and a pivoted fence connected with the bolt and having frictional contact with said rotating device, whereby a rotation of the tumblers also tends to turn the fence.

3. The combination with a lock-casing a movable bolt within said casing, a pivoted fence engaging the bolt for moving same, and a series of tumblers for moving the fence in a direction to shift the bolt to its locking position, of a pinion connected with the tumblers so as to turn therewith a second pinion meshing with said first-mentioned pinion and having frictional contact with the fence.

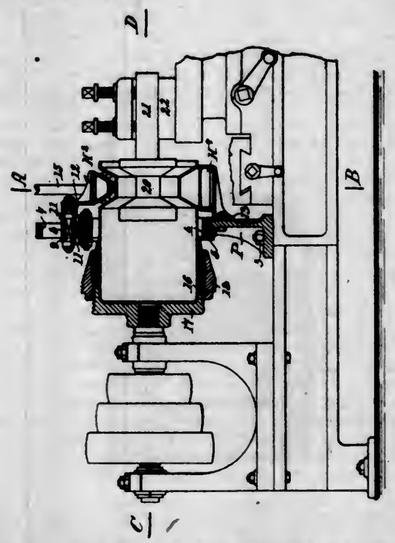
840,270. HEATING DEVICE FOR SPINNING-LATHES. RUDOLPH THIEL, Lilbeck, Germany. Filed Apr. 27, 1905. Serial No. 257,604.

Claim.—1. A heating device for spinning-lathes, comprising a plurality of members through which heat may be supplied to the work, and means for advancing said members inwardly as the dimensions of said work is reduced.

2. A heating device for spinning-lathes comprising a vertical annular plate movable on the lathe-bed, a plurality of stationary segmental heating-boxes and a plurality of radially-movable segmental heating-boxes on said vertical annular plate, the movable boxes alternating with the stationary boxes and two of the latter leaving between them a gap for the spinning-tool or pattern-roll.

3. In a heating device for spinning-lathes, the combination with a vertical annular plate adapted to slide on the lathe-bed and provided with a plurality of radial slots, of a plurality of stationary heating-boxes on said vertical annular plate and alternating with said plurality of radial slots, two of these boxes leaving between them a gap for the spinning-tool or pattern-roll, and a plurality of movable heating-boxes guided in said plurality of radial slots.

4. In a heating device for spinning-lathes, the combination with a vertical annular plate adapted to slide on the lathe-bed and provided with a plurality of radial slots, of a plurality of stationary heating-boxes on said vertical annular plate and alternating with said plurality of radial slots, two of these boxes leaving between them a gap for the spinning-tool or pattern-roll, a plurality of movable heating-boxes guided in said plurality of radial slots, means for supplying heating medium to said plurality of stationary heating-boxes and said plurality of movable heating-boxes, and means for simultaneously moving said plurality of movable heating-boxes.



5. In a heating device for spinning-lathes, the combination with a vertical annular plate adapted to slide on the lathe-bed and provided with a plurality of radial slots, of a plurality of stationary segmental boxes on said vertical annular plate and alternating with said plurality of radial slots, two of these boxes leaving between them a gap for the spinning-tool or pattern-roll, a plurality of movable segmental boxes guided in said plurality of radial slots and arranged to nearly touch in their initial position said plurality of stationary segmental boxes, all of said plurality of stationary segmental boxes and of said plurality of movable segmental boxes being each provided on the inside with a plurality of holes for the escape of gas and on the outside with a connection, means for supplying gas to the connections of said plurality of stationary segmental boxes and said plurality of movable segmental boxes, and means for simultaneously moving said plurality of movable segmental boxes.

840,271. MANUFACTURE OF FRAMES AND TUBES. EDOUARD C. F. VERSCHAVE, Paris, France. Filed Sept. 29, 1904. Serial No. 226,579.

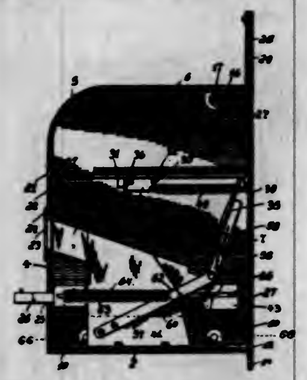


Claim.—The process of making a tubular frame with members extending angularly to each other, which consists in forming sections of sheet metal having the general contour of the finished frame, stamping said sections in approximately semicircular form in cross-section, locating between said sections a reinforce with its faces between the edges of said sections and its edges forming with the outer faces of the semicircular sections a continuous smooth periphery, and welding the whole, whereby the edges form substantially an integral structure having the appearance of a frame formed of ordinary tubes.

840,272. VENDING-MACHINE. JOSEPH VIERLING, Pittsburg, Pa. Filed Dec. 18, 1905. Serial No. 292,341.

Claim.—1. A vending-machine comprising a closed box or casing having a delivery-opening in the front wall thereof, a resilient strip secured to the inner face of the front wall of the box or casing and projecting above the lower edge of said delivery-opening, a bar projecting from

the rear wall of the box or casing, a shield-carrying plate having a sleeve slidable on said bar and cut away to form a shoulder at its forward end, a rod mounted in the casing to be engaged by said shoulder and limit the forward movement of the said carrying-plate, a depending angularly-disposed plate carried by said sleeve, a plunger-casing mounted within the box or casing, a plunger therein extending through the front wall of the box or casing, means



actuated by said plunger for engagement with the angularly-disposed plate depending from the carrying-plate to move said carrying-plate forwardly and engage the outer end thereof in the delivery-opening, means to return the plunger to its normal position, and means to return said shield-carrying plate to its normal position, substantially as described.

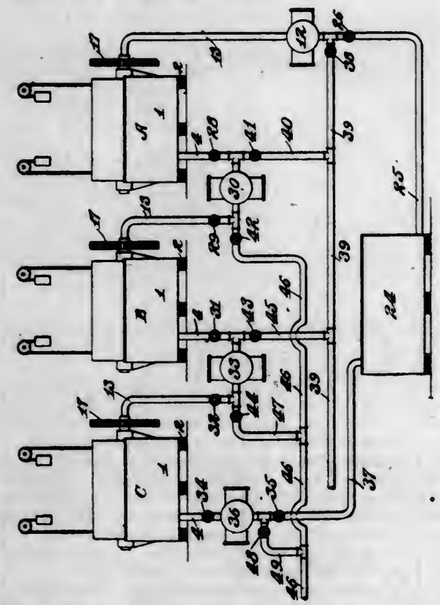
2. In a vending-machine, the combination with a box or casing having a delivery-opening in the front wall thereof, of a supporting-bar carried by the casing, a shield-carrying plate having a sleeve slidably mounted on said bar, means arranged in the casing adjacent to the delivery-opening for limiting the outward movement of said shield-carrying plate, an angularly-disposed plate depending from the shield-carrying plate, a plunger-casing, a plunger mounted therein and extending through the front wall of the box or casing, a pivoted lever actuated by the plunger on its inward movement to engage said depending plate and move the shield-carrying plate forwardly to delivery position, means to return the plunger to its normal position, and means to return the shield-carrying plate to its normal position.

3. A vending-machine comprising a box or casing having a delivery-opening in the front wall thereof, a flexible strip secured to the inner face of said front wall and projecting above the lower edge of the delivery-opening, a supporting-bar projecting forwardly from the rear wall of the box or casing, a shield-carrying plate having a sleeve slidably mounted on said supporting-bar, said shield-carrying plate having its side edges cut away at the forward end to permit said forward end to project through the delivery-opening, means coacting with said sleeve for limiting the forward movement of said carrying-plate, an angularly-disposed plate carried by said sleeve, a plunger-casing arranged within the aforesaid box or casing, a plunger operating therein, a pin carried by said plunger and projecting through a slot in the wall of the plunger-casing, a pivotally-mounted lever engaged by said pin adjacent one end and at its other end engaging the angularly-disposed plate to move the shield-carrying plate forwardly as the plunger is moved inwardly, means for returning the plunger to its normal position, means for returning the shield-carrying-plate to its normal position.

4. A vending-machine, comprising a box or casing having a disinfectant-receptacle therein, and having openings in one of its walls, the front wall of the box or casing having a delivery-opening, and a flexible strip secured to said front wall of the box or casing and projecting above the lower edge of said delivery-opening, in combination with a supporting-bar projecting from the rear wall of the box or casing, a shield-carrying plate provided with a sleeve slidably mounted on said bar and having a shoulder at its forward end, a stop-rod within the box or casing to engage said shoulder and limit the forward movement of the shield-carrying plate, an angularly-disposed plate carried by said sleeve, a pivoted lever within the box or casing engaging said angularly-disposed plate, plunger mechanism for actuating said lever to move the shield-carrying plate forwardly in the box or casing, and means for returning said shield-carrying plate to its normal position.

5. A vending-machine, comprising a box or casing having a delivery-opening in the front wall thereof, and a flexible strip secured to the box or casing projecting above the lower edge of said delivery-opening, combined with a shield-carrying plate for supporting a pack of paper shields, a sleeve carried by said plate, a supporting-bar received in said sleeve and on which the sleeve is slidable, means for limiting the forward movement of the shield-carrying plate, an angularly-disposed depending plate carried by the said sleeve, mechanism for engagement with said angularly-disposed plate to move the shield-carrying plate forwardly and project the outer end thereof through the delivery-opening, and means for returning the shield-carrying plate to its normal position.

840,273. PROCESS OF AND APPARATUS FOR CLEANSING BOTTLES. EDWARD WAGNER, St. Louis, Mo. Filed Oct. 9, 1905. Serial No. 281,880.



Claim.—1. A bank of bottle-cleansers arranged to operate successively in series so as to utilize the same body of cleansing fluid more than once.

2. A bank of bottle-cleansing machines so connected together and arranged as to use the same body of cleansing fluid repeatedly.

3. A bank of bottle-cleansers each provided with a supply-pipe and an exit-pipe, said supply-pipe being adapted by suitable valves to admit first a cleansing solution or fluid, and later a rinsing fluid, and said exit-pipe being adapted by suitable valves to drain said cleansing solution into a receptacle where it may be used again, but said rinsing fluid into a separate pipe or receptacle.

4. A bank of bottle-cleansers adapted and arranged to operate successively in series so that, when the bottle-cleansing solution is in use in one of said machines, the

bottle-rinsing operation will be proceeding in another, each machine being adapted to be used alternately for cleansing and for rinsing.

5. A bank of bottle-cleansers so arranged and adapted to operate successively in series that, when the bottle-cleaning fluid is in use in one of said machines, the bottle-rinsing operation is proceeding in another, while in a third the unloading of the bottles is taking place, each machine being adapted to be used successively for cleaning, for rinsing, and for unloading and loading.

6. The herein-described process of cleansing bottles, consisting in mounting the bottles on one group of bottle-supports, injecting a cleansing solution under pressure through said bottle-supports in said bottles, allowing said cleansing solution to run out of said bottles to form a bath, passing said bottles through said bath; mounting another batch of bottles upon another group of bottle-supports, pumping said cleansing-solution bath from contiguity with the first-mentioned group of bottles and forcing the same under pressure through said second-mentioned groups of bottle-supports in the bottles supported thereon, allowing same to escape from said last-mentioned bottles to form a bath therefor, and passing said bottles through said bath; repeating the operations hereinbefore mentioned in connection with the first-named groups of bottles as may be desired; injecting rinsing-water under pressure through the first-mentioned group of bottle-supports into the first group of bottles when all of the cleansing solution has been withdrawn from contiguity therewith; and repeating said rinsing operation in connection with the second group of bottles when the cleansing-solution bath for said second group of bottles has been withdrawn from contiguity therewith.

7. The herein-described process of cleansing bottles, consisting in mounting the bottles on one group of bottle-supports, injecting a cleansing solution under pressure through said bottle-supports in said bottles, allowing said cleansing solution to run out of said bottles to form a bath, passing said bottles through said bath; mounting another batch of bottles upon another group of bottle-supports, pumping said cleansing-solution bath from contiguity with the first-mentioned group of bottles and forcing the same under pressure through said second-mentioned group of bottle-supports into the bottles supported thereon, allowing same to escape from said last-mentioned bottles to form a bath therefor, and passing said bottles through said bath; repeating the operations hereinbefore mentioned in connection with the first-named groups of bottles as may be desired; injecting rinsing-water under pressure through the first-mentioned group of bottle-supports into the first group of bottles when all of the cleansing solution has been withdrawn from contiguity therewith; repeating said rinsing operation in connection with the second group of bottles when the cleansing-solution bath for said second group of bottles has been withdrawn from contiguity therewith; and removing the bottles from the first group of bottle-supports while the said rinsing operation is being performed in connection with the second group of bottle-supports.

8. The herein-described process of cleansing bottles, consisting in mounting the bottles on one group of bottle-supports, injecting a cleansing solution under pressure through said bottle-supports in said bottles, allowing said cleansing solution to run out of said bottles to form a bath, passing said bottles through said bath; mounting another batch of bottles upon another group of bottle-supports, pumping said cleansing-solution bath from contiguity with the first-mentioned group of bottles and forcing the same under pressure through said second-mentioned group of bottle-supports into the bottles supported thereon, allowing same to escape from said last-mentioned bottles to form a bath therefor, and passing said bottles through said bath; repeating the operations hereinbefore mentioned in connection with the first-named groups of bottles as may be desired; injecting rinsing-water under pressure through the first-mentioned group of bottle-supports into the first group of bottles when all of the cleansing solution has been withdrawn from contiguity therewith; and repeating said rinsing operation in connection with the second group of bottles when the cleansing-solution bath for said second group of bottles has been withdrawn from contiguity therewith, the same body of cleansing solution being used for the first step of the process in a plurality of groups of bottles.

9. A bank of independent bottle-cleansing machines, so connected that the cleansing fluid used in one can be reused in the others.

10. A bank of independent bottle-cleansing machines so connected that the cleansing fluid, having been used in one can be drawn off into another, and the first machine then used for another operation.

11. A bank of independent bottle-cleansing machines adapted and arranged to operate in series so that each machine can successively perform distinct steps in the cleansing process, each machine performing a particular step after the preceding machine has performed the same step, the fluid used in the first machine being passed on to and reused in the second machine.

12. A bank of bottle-cleansing machines, each of which is provided with a supply-pipe and an exit-pipe, said supply-pipe being adapted by suitable valves to admit first a cleansing solution and later a rinsing solution, and said exit-pipe being adapted to be connected to the supply-pipe of the succeeding machine so that the fluid used in one machine may be used again in the other machines, and said exit-pipes being also adapted by suitable valves to drain said cleansing solution into a receptacle where it may be used again, but said rinsing fluid into a separate receptacle.

13. A bank of bottle-cleansing machines arranged to perform different parts of the cleansing process simultaneously, the fluid used in one machine being passed on to the next, whereupon each machine performs that part of the cleansing process last performed by the machine immediately preceding it.

14. A bank of independent bottle-cleansing machines adapted and arranged to operatesin series so that each machine can successively perform distinct steps in the cleansing process, each machine performing a particular step after the preceding machine has performed the same step, suitable pipes connecting the different machines by which the fluids used in the first machine are passed on to and reused in the second machine, and the identity of the fluids used in the different steps are preserved.

15. A bank of independent bottle-cleansing machines adapted and arranged to operate in series so that each machine can successively perform distinct steps in the cleansing process, each machine performing a particular step after the preceding machine has performed the same step, suitable pipes connecting the different machines, a separate fluid being used for each particular step, said fluid being used in the first machine, then passed on to and used in the second machine, and having its identity preserved throughout.

16. A bank of independent bottle-cleansing machines adapted and arranged to operate in series so that each machine can successively perform distinct steps in the cleansing process, each machine performing a particular step after the preceding machine has performed the same step, suitable pipes connecting the different machines, a separate fluid being used for each particular step of the cleansing process, each of said fluids being used in the first machine, then passed on to and used in the second machine, without being mixed with the fluid used in any other step.

17. A system of bottle-cleaning, consisting in the arrangement of a plurality of bottle-cleansing machines in bank to operate successively in series, each of same being provided with a supply-pipe and an exit-pipe for cleansing liquid, the supply-pipe of each machine after the first in series connecting with the exit-pipe from the machine preceding it in series, so as to allow the cleansing fluid used in said preceding machine to be used in said succeeding machine.

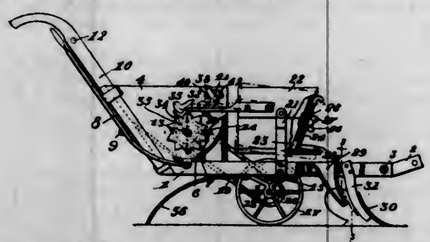
18. A bank of bottle-cleaners each provided with a supply-pipe and an exit-pipe, the supply-pipe of each machine after the first in series connecting with the exit-pipe from the machine preceding it in series, other pipes connected to said exit-pipe, and suitable valves whereby the fluid

discharged from each machine through its exit-pipe may be conveyed to the machine succeeding it in series through the supply-pipe thereof, and there reused, or may be conveyed to another receptacle through said other pipe.

19. A bank of bottle-cleaners each provided with a supply-pipe and an exit-pipe, the supply-pipe of each machine after the first in series being connected to the exit-pipe from the one preceding it in series, said supply-pipe being adapted by suitable valves to admit first a cleansing fluid then a rinsing fluid, said exit-pipe being adapted to convey said cleansing fluid to the machine succeeding it in series, and said rinsing fluid to another receptacle.

20. A bank of bottle-cleaners arranged successively in series, a supply-pipe and an exit-pipe for each, the supply-pipe of each machine after the first being connected to the exit-pipe of the machine preceding it, suitable valves in said pipes, and other pipes connected to said exit-pipe, said exit-pipe being adapted to convey the fluid from each machine to the supply-pipe of the succeeding machine or to said other pipe.

840,274. SEED-PLANTER AND FERTILIZER-DISTRIBUTER. FLEM H. WEAVER, Griffin, Ga., assignor of one-third to Ernest E. Wolcott, one-third to Henry H. Geiger, and one-third to Thomas J. Brooks, Griffin, Ga. Filed Apr. 12, 1906. Serial No. 311,304.



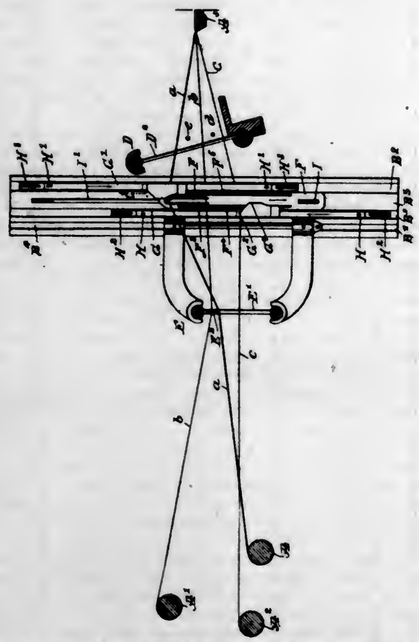
Claim.—1. In a machine of the class described, a seed-box having a driven agitator-shaft provided with a star-wheel, an oscillator fertilizer-box having an arm provided with a terminal V-shaped lug engaging the star-wheel, a bell-crank fulcrumed upon the seedbox and having a lug extending beneath and adapted to support the arm that extends from the fertilizer-box, and means for securing the bell-crank at various adjustments.

2. A machine of the class described consisting of a wheel-supported frame, a seed-hopper relatively fixed upon said frame, a seed-stirring mechanism carried by said seed-hopper, an oscillating hopper attached to the frame and being operatively connected with said seed-stirring mechanism, means carried by the fixed hopper and adapted to limit the movement of the oscillating hopper, and means operatively connecting said seed-stirring mechanism with the supporting-wheel.

3. In a machine of the class described, a wheel-supported frame, a hopper relatively fixed upon said frame, a seed-stirrer carried by said fixed hopper, a star-wheel attached to the shaft of said seed-stirrer, a means for rotating said shaft, and being operatively connected with the frame-supporting wheel, an oscillating hopper attached to the frame, an arm attached to said oscillating hopper and having a V-shaped end which engages the periphery of said star-wheel, the apex of said V-shaped end being disposed toward the center of said star-wheel.

840,275. PILE-FABRIC LOOM. FRED A. WHITMORE, Philadelphia, Pa., assignor to Nazar Costikyan, New York, N. Y. Filed Jan. 15, 1904. Renewed Sept. 14, 1906. Serial No. 334,596.

Claim.—1. A loom for interweaving ground warp-threads and a pile warp-thread, provided with a reciprocating needle-plate, a needle integral on the needle-plate and forming with the latter a slot extending around the sides and point of the needle, the needle having an eye for the passage of the pile warp-thread and one of the ground warp-threads extending through the said slot, means for carrying the other ground warp-thread up and down past the pile warp-thread and the said ground warp-thread in the slot, and alternately to opposite faces of the needle-plate and its needle, and a reciprocating back reed having an eye for the passage of the ground warp-thread which passes through the said needle-plate slot, the back reed also having a vertical slot for the passage of the other ground warp-thread and the said pile warp-thread, as set forth.



2. A loom for interweaving ground warp-threads and a pile warp-thread, provided with a reciprocating needle-plate, having a beveled head, a needle integral on the needle-plate and forming with the latter a slot extending around the sides and point of the needle, the needle having an eye for the passage of the pile warp-thread, and one of the ground warp-threads extending through the said slot, reciprocating hook-bars on opposite sides of the needle-plate, spaced therefrom to form spaces into which passes alternately the other ground warp-thread, the hook-bars having hooks extending across the spaces onto the needle-plate at the opposite faces thereof, the hooks being adapted to alternately engage the last-mentioned ground warp-thread, and a thread-cam and needle-guide on each hook-bar, immediately below the corresponding hook, each pair of thread-cams and needle-guides engaging opposite sides of the needle-plate and extending beyond the sides of the said slot, as set forth.

3. A loom for interweaving ground warp-threads and a pile warp-thread, provided with a reciprocating needle-plate, having a beveled head, a needle integral on the needle-plate and forming with the latter a slot extending around the sides and point of the needle, the needle having an eye for the passage of the pile warp-thread, and one of the ground warp-threads extending through said slot, reciprocating hook-bars on opposite sides of the needle-plate, spaced therefrom to form spaces into which passes alternately the other ground warp-thread, the hook-bars having hooks extending across the spaces onto the needle-plate at the opposite faces thereof, the hooks being adapted to alternately engage the last-mentioned ground warp-thread, a thread-cam and needle-guide on each hook-bar, immediately below the corresponding hook, each pair of thread-cams and needle-guides engaging opposite sides of the needle-plate and extending beyond the sides of the said slot, and a reciprocating back reed having an eye for the passage of the ground warp-thread which passes through the said needle-plate slot, the back reed also having a vertical slot for the passage of the other ground warp-thread and the said pile warp-thread, as set forth.

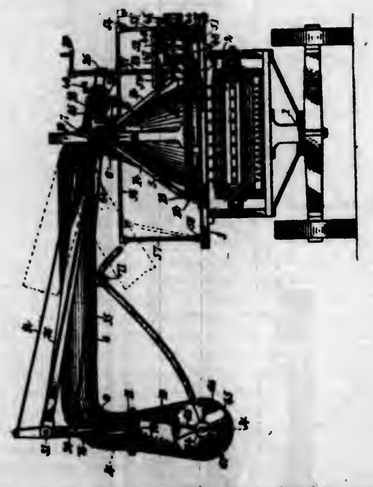
4. A loom for interweaving ground warp-threads and a pile warp-thread, provided with a needle-plate, a needle thereon for the passage of the pile warp-thread and forming a slot with the needle-plate for the passage of one of the ground warp-threads, a reciprocating device having hooks moving alternately in opposite directions for alternately carrying the other ground warp-thread in front and rear of the needle-plate and its needle, a needle-guide for each hook, and a thread-cam for each hook, as set forth.

5. A heddle device for a loom for interweaving ground warp-threads and a pile warp-thread, comprising a pile warp-needle, a needle-plate having a slot for one of the ground warp-threads, and hooks reciprocating in opposite directions on opposite sides of the needle-plate and needle for manipulating the other ground warp-thread, as set forth.

6. A heddle device for a loom for interweaving ground warp-threads and a pile warp-thread, comprising a reciprocating needle-plate, a needle carrying the pile warp-thread and moving in unison with the said needle-plate and forming with the needle-plate a slot for the passage of the other ground warp-thread, hooks reciprocating in opposite directions on opposite sides of the needle-plate, each hook having a needle-guide and a thread-cam, as set forth.

7. A heddle device for a loom for interweaving ground warp-threads and a pile warp-thread, comprising a reciprocating needle-plate having a head beveled on the sides, a needle moving with the needle-plate and forming with the same a slot extending around the sides and top of the needle, hooks reciprocating in opposite directions on opposite sides of the needle-plate, a needle-guide for each hook, and a thread-cam for each book, as set forth.

840,276. AUTOMATIC PITCHER AND SELF-FEEDER FOR THRESHING-MACHINES. GEORGE C. WILES, Hutchinson, Kans. Filed July 13, 1905. Serial No. 269,485.



Claim.—1. Feeding mechanism for a thresher, comprising in combination, a pneumatic feeder-tube, a suction-head at the extremity thereof carrying a fan, a motor at said suction-head for driving said fan, means for controlling the position of said feeder-tube, and a hose leading to said engine and supported on said tube.

2. Feeding mechanism for a thresher, comprising in combination, a platform having an opening disposed above the thresher-cylinder, a spout disposed over said opening, a feed-tube having a swivel connection with said spout, a wheel surrounding said spout and supported on said platform, a frame supported on said wheel, an arm carried by said frame and supporting the outer extremity of said tube, means for adjusting said arm, means for rotating said wheel, and a fan at the outer extremity of said feed-tube.

3. Feeding mechanism for a thresher, comprising in combination, a feed-tube adapted to deliver to the thresher-cylinder, means for rotating said feed-tube upon a vertical axis, an operator's platform rotatable upon said axis with said tube, mechanism for controlling said tube, a rail near said platform, and a connection from said rail to said mechanism for operating the same.

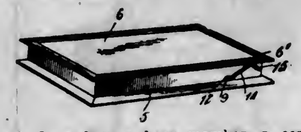
4. Feeding mechanism for a thresher, comprising, in combination, a fixed platform, a feed-tube supported on said platform, means for rotating said feed-tube upon a vertical axis, an operator's platform rotating with said tube, a rail having pivoted stanchions supported on said fixed platform, and mechanism for controlling said tube mounted on said fixed platform, and actuated by said rail.

5. Feeding mechanism for a thresher, comprising in combination, a feed-tube, a casing carried thereby having an opening in the wall thereof, and a fan rotatably mounted within said casing and having fingers projecting through said opening and adapted to engage the supply of grain.

6. Feeding mechanism for a thresher, comprising in combination, a feed-tube adapted to deliver to the thresher-cylinder, a casing carried at the extremity thereof and having an opening in its wall, a fan mounted within said casing and adapted to produce a suction through said opening, and members projecting from said fan and adapted to engage the grain-supply.

7. Feeding mechanism for a thresher, comprising in combination, a feed-tube, a delivery-spout, a flexible connection between said tube and said delivery-spout, a suction-head at the outer extremity of said tube, a flexible connection between said suction-head and said tube, a frame, means for rotatably supporting said frame, an arm carried by said frame, means for adjusting said frame, a hanger pivotally attached to the outer extremity of said arm and supporting said suction-head, cables leading from said hanger and affording means for adjusting the position thereof, a swivel connection between said suction-head and said tube, means for rotating said suction-head, and means for generating an air-current in said tube.

840,277. BOX. JOSEPH H. WILLIAMSON, Chicago, Ill. Filed Aug. 28, 1905. Serial No. 275,999.



Claim.—1. In a box, a base member, a cover member hinged thereto, and a lever, pivoted on said base member adjacent the bottom thereof and having a handle portion extending to the exterior of the box, and another portion within the box coacting with the cover adjacent the hinge, whereby the depression of the handle portion effects the opening movement of the cover.

2. In a box, a base member, a lever extending within and without the box arranged to be operated from without the box to raise the cover, and a forwardly-projecting part upon said base member constituting an extension-bearing to prevent the box from tipping when the exterior portion of the lever is depressed.

3. In a box, a base member, a cover member hinged thereto, a lever extending through the side of the box, comprising a handle portion arranged without the box, a shank portion traversing the box, and an elevating element disposed to coact with the cover adjacent its hinge and arranged to raise said cover when the handle portion is depressed.

4. In a box, a base, a cover hinged thereto, and a cam-lever comprising a shank 10 traversing the box at the

bottom thereof, a handle portion 14 standing at an angle to horizontal, and an elevating cam portion 16 disposed adjacent the cover-hinge.

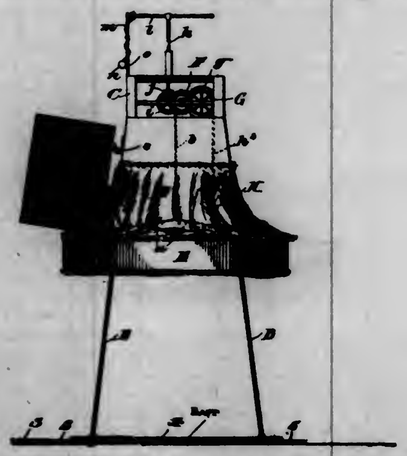
5. In a box, a base member, a hinged cover member a lever comprising a shank traversing the box at the bottom thereof and extending to the exterior thereof at the front of the box, a handle without the box, and a cam member within the box adapted for coaction with the cover adjacent its hinge to raise the same when the handle is depressed, said member being heavier than the handle member.

6. In a box, a base member, a cover member hinged thereto along one side, the side of one of the members, opposite the hinge, being arranged to closely overlie the corresponding side of the other member, and the side of the underlying member being provided with a substantially horizontal projection arranged to receive the edge of the overlying side of the other member, and a lever extending within and without the box, having a handle portion without the box, a shank portion traversing the box and an elevating element disposed to coact with the cover adjacent its hinge and arranged to raise the cover when the handle portion is depressed.

7. In a box, a base member comprising vertical sides, and a horizontal bottom, extended along one of the sides in a horizontal plane beyond the confines of the vertical side portions to form an extension of the box-bottom, and a cover member, comprising a top portion, and a side member at substantially right angles thereto, arranged when the box is closed to overlie a side of the base member and to effect contact along its edge with the bottom extension of the base member aforesaid, said cover member being hinged to the base member along another side, whereby when the box is closed wedging of the base and cover members together is positively prevented.

840,278. FLY-TRAP. JAMES O. WINDUST, Walker, Wash. Filed Oct. 12, 1906. Serial No. 338,588.

Claim.—1. A fly-trap consisting of a hood of flexible



fabric having at its lower end a stiff marginal frame, stationary means for suspending the top of the hood and means for raising and dropping the marginal frame at intervals.

2. A fly-trap consisting of a hood of flexible fabric impervious to light but having a lighted exit at the top, a receiving-cage communicating with this exit, means for suspending the top of the hood, a marginal frame attached to the lower end of the hood, and means for raising and dropping the marginal frame at intervals.

3. A fly-trap consisting of a hood of flexible fabric, a stationary supporting-frame for suspending the top of the same, a stiff marginal frame for the bottom and means for raising and dropping the marginal frame at intervals.

4. A fly-trap consisting of a main frame, a motor mechanism mounted on top of the main frame centrally above the same, a hood of flexible fabric concentrically inclosing said frame and attached at its upper end to the top of the same and having a stiff marginal frame at the bottom surrounding the main frame, a suspending-sling for the marginal frame extending centrally up to the motor mechanism and means for raising and dropping the marginal frame.

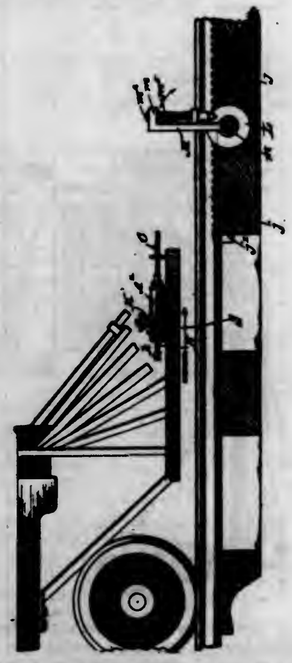
5. A fly-trap consisting of upright legs converging toward the top, a motor mechanism mounted on top of said legs, a flexible hood embracing said legs and connected to the motor mechanism to be raised thereby and tripping devices for dropping the hood.

6. A fly-trap consisting of upright legs converging toward the top, a motor mechanism mounted on top of said legs, a flexible hood secured at its upper end and having a marginal weighted ring at the bottom, a cord connected to the said ring for raising it, a windlass connected to the cord and operated by the motor mechanism and tripping devices for the windlass for dropping the hood.

7. The combination with a fly-trap having a rising and falling hood; of a slip-windlass having a cord connected to the hood and a gear-wheel, and a driving gear-wheel meshing with the windlass-gear and having on its periphery blank spaces of omitted teeth to allow the windlass to slip back automatically at intervals.

8. The combination with a fly-trap having a rising and falling hood; of a motor mechanism for the same having an escapement consisting of a rotating shaft bearing an arm with a cord and ball at its outer end, and a stationary post arranged outside of the sweep of the arm but within range of engagement of the ball and cord when under the influence of centrifugal action.

840,279. SAFETY APPLIANCE FOR AIR-BRAKES. WALTER H. WINKS, Baltimore, Md., assignor of one-half to Gilson W. Metcalfe, Baltimore, Md. Filed Oct. 24, 1906. Serial No. 340,297.



Claim.—1. A safety appliance for air-brakes consisting of a casing having connection with the train-line-pressure pipe, a frangible diaphragm located within the same, and retaining the train-line pressure therein, a plunger within said casing and projecting therefrom, said casing being attached to the forward end of an engine-pilot and means located between railway-tracks adapted to impinge the one end of the plunger and drive the other end against and fracture the frangible diaphragm, to permit escape and reduction of train-line pressure to cause an application of the air-brakes.

2. A safety appliance for air-brakes consisting of a casing secured to the forward end of a locomotive and having connection with the train-line-pressure pipe, a frangible diaphragm located within said casing, and a movable member carried by said casing and adapted to be struck by an obstruction located between the railway-tracks and forced against the frangible diaphragm and rupture the same to cause escape and reduction of train-line pressure and application of the air-brake.

3. A safety appliance for air-brakes consisting of a casing fitted to the forward end of a locomotive and having connections with the train-line-pressure pipe, a frangible diaphragm within said casing and retaining the train-line pressure therein, a perforated cap covering the rear end of said casing, a plunger held within the forward end of the casing, the rear end of said plunger being normally held a short distance in advance of the frangible diaphragm, and a tappet located between the railway-tracks and operatively connected with a switch or signal rod, said tappet adapted to impinge the forward end of the plunger and force the same rearwardly to rupture the frangible diaphragm within the casing and cause escape and reduction of train-line pressure, and application of the air-brakes.

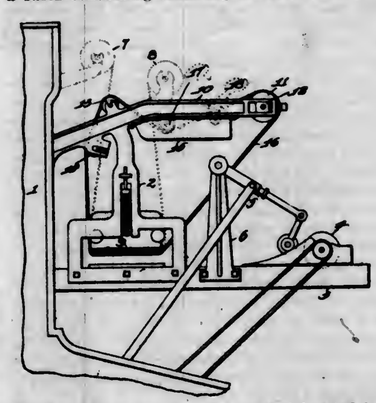
4. A safety appliance for air-brakes consisting of a casing fitted to the forward end of a locomotive and adapted to have connection with the train-line-pressure pipe, a frangible diaphragm within said casing retaining the train-line pressure therein, a plunger held within the forward end of the casing and projecting therefrom, the rear end of said plunger being normally held a short distance in advance of the frangible diaphragm, and a tappet located between the railway-tracks and operatively connected to a switch or signal rod, said tappet comprising a collar rigidly secured to the switch or signal shaft, a bifurcated yoke rotatably mounted on the shaft and inclosing said collar, and a slidable bolt carried by said yoke and adapted to engage the periphery of the rigid collar.

5. A safety appliance for air-brakes consisting of a casing fitted to the forward end of a locomotive and having connection with the train-line-pressure pipe, a frangible diaphragm within said casing and retaining train-line pressure therein, a removable perforated cap covering the rear end of the casing, means for removably holding said perforated cap in position, a plunger movably held within the casing and projecting forwardly therefrom, the rear end of said plunger normally held slightly in advance of the frangible diaphragm, and means located between the railway-tracks, operatively connected with a switch or signal shaft, and adapted to impinge the forward end of the plunger.

6. A safety appliance for air-brakes consisting of a casing fitted to the forward end of a locomotive adapted to have connection with the train-line-pressure pipe, a frangible diaphragm within said casing and retaining the train-line pressure therein, a plunger held within the forward end of the casing and projecting therefrom, the rear end of said plunger being normally held a short distance in advance of the frangible diaphragm, and a tappet located between the railway-tracks and operatively connected to a switch or signal rod, said tappet comprising a notched collar rigidly mounted on the switch or signal shaft, a bifurcated yoke rotatably mounted on said shaft and inclosing said collar, a spring-actuated slidable bolt carried by said yoke and adapted to engage the notched collar, and means for regulating the tension of the spring.

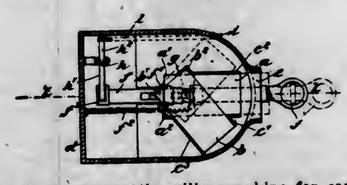
840,280. WIPING ATTACHMENT FOR POWER EMBOSSING-PRESSES. LOUIS M. WINTER, St. Louis, Mo. Filed Apr. 15, 1905. Serial No. 255,782.

Claim.—A wiping attachment for power embossing-presses comprising a pair of projecting arms in combination with the frame of an embossing-press, brackets formed on the lower surface of the projecting arms and projecting downwardly, a table projecting from the frame of the machine and to which is attached the lower end of the brackets, a wiper-head adjustably mounted within the brackets, a plurality of rollers carried by the projecting arms, a basin containing cleansing material secured to the



under surface of the projecting arms and located between two of said rollers, three of said rollers located above the basin, and an endless wiper passed around the rollers and under the wiper-head for removing the surplus material from the embossing dye and passing through the cleansing material and between two of said rollers for removing the material from the endless wiper, substantially as specified.

849,281. AUTOMATIC SELLING-MACHINE. WILLY ABEL, Berlin, Germany, assignor to Heinrich Wollheim and Arthur Schunack, Berlin, Germany. Filed May 16, 1904. Serial No. 208,313.



Claim.—1. An automatic selling-machine for cards and the like, comprising a swinging card-holder having compartments arranged at an angle one to the other and adapted to receive cards piled crosswise one upon the other, a reciprocating member for removing the cards from the compartments, and means for swinging the card-holder from the reciprocating member.

2. In an automatic selling-machine for cards and the like, a swinging card-holder having compartments arranged at an angle one to the other and adapted to receive cards piled crosswise one upon the other, a reciprocating member for removing the cards, an eccentric connected with the holder, and means for operating the eccentric from the reciprocating member.

3. In an automatic selling-machine for cards and the like, a swinging card-holder having compartments arranged at an angle one to the other and adapted to receive cards piled crosswise one upon the other, a spring-pressed slide for removing the cards, an eccentric mounted upon the pivot of the holder and provided with notches, and means carried by the slide and engaging the notches of the eccentric.

4. In an automatic selling-machine for cards and the like, a swinging card-holder having compartments arranged at an angle one to the other and adapted to receive cards piled crosswise one upon the other, a spring-pressed slide for removing the cards, an eccentric on the pivot of the

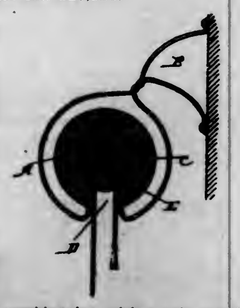
holder and provided with notches, and a pivoted and spring-pressed reversing-lever mounted upon the slide and provided with a pin for engaging the notches of the eccentric.

5. In an automatic selling-machine for cards and the like, a swinging card-holder having compartments at an angle one to the other and adapted to receive cards piled crosswise one upon the other, a slide for removing the cards, means for preventing the card-holder from turning when a card is only partially removed, and means for operating the card-holder from the slide.

6. An automatic selling-machine for cards and the like, comprising a casing having an opening at one end, a card-holder pivoted in the casing and having compartments arranged at an angle one to the other and adapted to receive cards piled crosswise one upon the other, a spring-pressed slide having a projection for engaging a card to move it from the holder out through the opening of the casing, and a reversing mechanism for the holder, operated by the slide.

7. An automatic selling-machine for cards and the like, comprising a casing having an opening through which the cards are removed, a pivoted card-holder adapted to receive cards piled crosswise one upon the other, a spring-pressed slide having a projection for engaging a card to remove it from the holder, an eccentric on the pivot of the holder and provided with spaced notches, a reversing-lever pivoted on the slide and provided with a pin for engaging the notches of the eccentric, and a spring secured to the lever and slide.

840,282. CURTAIN-POLE. BENEDICT ADAMOWICZ, Philadelphia, Pa. Filed July 12, 1904. Renewed July 21, 1906. Serial No. 327,111.



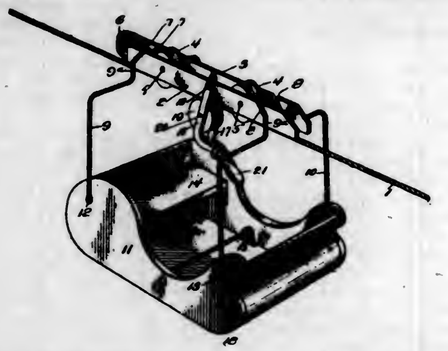
Claim.—In combination with a pole provided with a longitudinal opening formed therethrough connected with the exterior of a pole by a longitudinal slot, and a smaller pole around which the curtain is placed lying within the opening of the larger pole; a hanger for the said larger pole, said hanger comprising a single piece of wire bent upon itself to form a split ring, the free portions of the wire being twisted one around the other and terminating in eyes, as and for the purpose set forth.

840,283. PLEASURE-VEHICLE. WALTER T. ADAMS, Hays borough, and JOHN R. DIVENS, McKeesport, Pa. Filed June 18, 1906. Serial No. 322,181.

Claim.—1. The combination with an inclined flexible support, of a carrier comprising parallel side bars, and grooved wheels mounted between said side bars, a car or vehicle suspended from said carrier, and a brake consisting of a lever pivotally secured to said carrier at a point between said wheels, and a grooved roller adapted to be swung between said side bars to engage said flexible support.

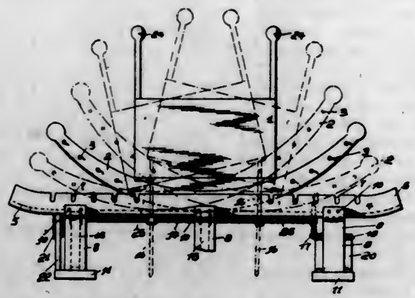
2. The combination with an inclined cable, of a carrier comprising parallel side bars and grooved wheels mounted between said side bars, a car or vehicle suspended from said carrier, and a brake consisting of a bifurcated lever, the arms of which are pivotally secured to opposite sides of the carrier, and a grooved roller adapted to be swung between the side bars of the carrier.

3. The combination with an inclined cable, of a carrier, comprising parallel side bars, formed with oppositely-inclined slots, a car, bails pivotally secured to said car, and suspended within said slots, and a brake consisting of a bifurcated lever provided with a handle, the arms of said lever embracing the opposite sides of the carrier and pivotally secured thereto, and a grooved roller mounted between said arms, and adapted to be swung upward to engage the cable.



4. The combination with an inclined cable, of a carrier comprising parallel side bars formed with oppositely-inclined slots, a car, bails pivotally secured to the opposite sides of the car and having centrally-disposed suspending-loops arranged in said slots, and a brake consisting of a bifurcated lever having its arms pivotally secured to opposite sides of the carrier, and a grooved roller mounted between said arms, and adapted to be thrown upward between said side bars to engage the cable.

840,284. CRADLE. WILHELM ADLER, Heidelburg, Pa. Filed Oct. 27, 1906. Serial No. 340,844.



Claim.—1. The combination with parallel supports, of a cradle, rockers on said supports, a revoluble shaft below the cradle, and arms projecting from said shaft in position to strike the cradle.

2. The combination with parallel slotted supports, of a cradle, rockers on said cradle provided with pins to enter the slots of said supports, a revoluble shaft below the cradle, the arms projecting from opposite sides of said shaft.

3. The combination with parallel channel-bars, formed with slots, of a cradle, pins projecting from opposite sides of said rockers and adapted to enter said slots, a shaft below the cradle, a clock-movement and gearing for revolving said shaft, and arms projecting from opposite sides of said shaft.

4. The combination with parallel supports, of a cradle, rockers on said cradle movable on said supports, a revoluble shaft below the cradle, arms projecting from said shaft, and a brake for arresting the revolution of said shaft.

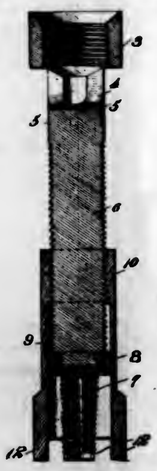
840,285. TRUSS ATTACHMENT FOR CORSETS. ISIDOR BAER, New York, N. Y. Filed June 27, 1905. Serial No. 267,220.



Claim.—1. A corset, in combination with a substantially vertical strip attached to the front thereof and having a longitudinal slot, a clamping-screw running in said slot, a radial arm disposed on the inner side of said corset and having a pivotal connection with said screw, a pad, and means for fastening said pad to said arm.

2. A corset, in combination with a substantially vertical strip attached to the front thereof and having a longitudinal slot, a clamping-screw running in said slot, a radial arm disposed on the inner side of said corset and pivotally attached to said clamping-screw, said arm being adapted to assume substantially any angular position with respect to said screw, a pad, and means for attaching said arm to said pad at different points on said pad.

840,286. VALVE. CLARENCE D. BALLARD, Elgin, Ohio. Filed Aug. 16, 1906. Serial No. 330,820.

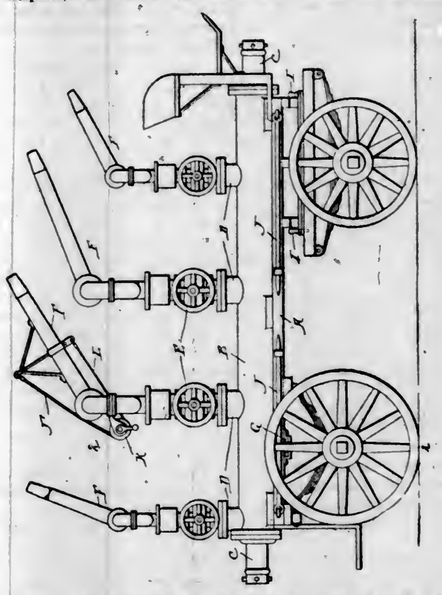


Claim.—1. The combination of an upper and lower valve, a threaded shank fixed to the lower end of the upper valve and forming a permanent part thereof, a sleeve in threaded engagement with the shank, jaws carried by the sleeve, and threaded means coacting with the jaws to connect the valves together.

2. The combination of an upper and lower valve, a threaded shank fixed to the lower end of the upper valve and forming a permanent part thereof, a tap extending from the lower end of the shank, a sleeve in threaded engagement with the shank, jaws carried by the sleeve coacting with the tap to connect the two valves together, and means for preventing the accidental removal of the sleeve from the shank.

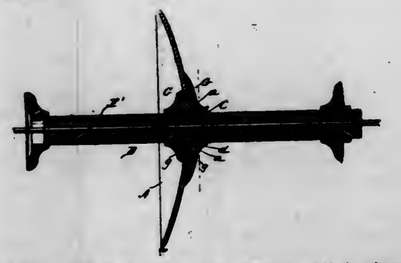
3. The combination of a threaded shank, means for securing the shank to a valve, a tap projecting from the end of the shank, and a sleeve threaded to the shank having jaws to engage a second valve whereby the tap may be screwed therein for the purpose described.

840,287. NOZZLE-WAGON. GEORGE H. BARDSLEY, Philadelphia, Pa. Filed June 29, 1905. Serial No. 267,541.



Claim.—In combination, a truck, a longitudinally-arranged reservoir thereon, hose connections projecting from the reservoir at opposite ends in order to equalize the pressure of water within the reservoir, said connections projecting from the reservoir on horizontal planes.

840,288. SPINDLE OR HUB FOR AGRICULTURAL IMPLEMENTS. WILLIAM C. BARKER, New York, N. Y., assignor to The Bucher & Gibbs Plow Co., Canton, Ohio, a Corporation of Ohio. Filed Mar. 17, 1906. Serial No. 306,560.



Claim.—A spindle or hub for agricultural implements comprising a series of shanks having, each, at one end a collar or flange with an integral central extension having laterally-extending lugs and, at the other end, a collar or flange with a central socket having notches to receive the lugs on the adjacent end of an adjoining shank.

840,289. HOSE-SUPPORTER CLASP. PERRY S. BAUER, Chicago, Ill. Filed Jan. 11, 1906. Serial No. 295,672.

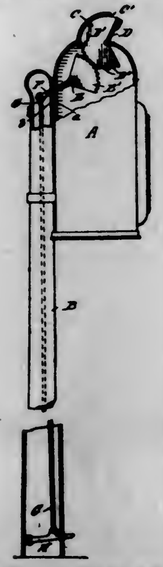
Claim.—1. A hose-supporter clasp comprising a plate having an opening and a slot to receive a stud, said opening being large enough to permit the passage of the head of the stud and said slot leading from said opening to re-

ceive the shank of the stud and being sufficiently narrow to prevent the passage of the head of the stud, a spring-tongue formed by slitting the plate behind the opening therein, and a locking member pivoted on the plate over the free rear end of said tongue and arranged to close the opening in the plate after the stud is located in said slot and lie against the plate behind the head of the stud, the end of said locking member behind its pivot being arranged to engage the free rear end of said tongue.



2. A hose-supporter clasp comprising a plate having an opening and a slot to receive a stud, said opening being large enough to permit the passage of the head of the stud and said slot leading from said opening to receive the shank of the stud and being sufficiently narrow to prevent the passage of the head of the stud, a spring-tongue formed by slitting the plate behind the opening therein, pivot-bearings on the plate on opposite sides of said tongue and near the free rear end thereof, a locking member, and pivot-studs on said locking member held in said bearings by said tongue, said locking member being arranged to close the opening in said plate after the stud is located in said slot and lie against said plate behind the head of the stud.

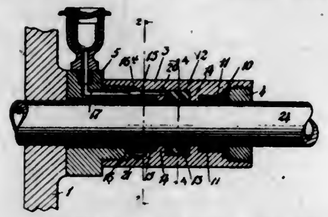
840,290. MAIL-BOX. JACOB BECKER, Seattle, Wash., assignor of one-half to Sarah McCandish, Seattle, Wash. Filed Apr. 7, 1906. Serial No. 310,551.



Claim.—1. A mail-box provided with a hood at its top having a front opening therein, in combination with a tiltable shutter adapted to close said opening and having sector-shaped end flanges formed with peripheral teeth, a spindle, sector-gears mounted on said spindle and in mesh with the peripheral teeth of said flanges, an arm on the spindle, a foot-pedal, and a rod connecting the arm with the pedal.

2. In combination with a hollow post, a mail-box secured to said post and provided with an opening through which mail is deposited in the box, of a shutter adapted to normally close said opening, a spindle, gear connection between the shutter and the spindle, an arm on the spindle, a foot-pedal in the said post and extending outwardly therefrom, and the connection between said pedal and said arm.

840,291. STUFFING-BOX. MICHAEL BERECKY, New York, N. Y., assignor of one-half to Julius Bauman, New York, N. Y. Filed Aug. 16, 1906. Serial No. 330,804.

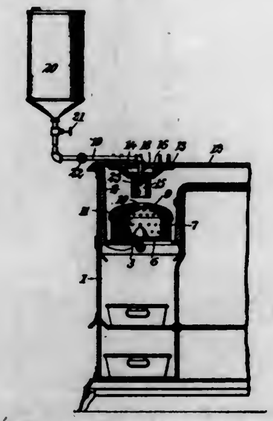


Claim.—1. A stuffing-box having a chamber formed therein adapted to receive an absorbent packing, metallic split packing-rings carried on each side of said chamber, said stuffing-box having a duct adapted to lead a lubricant to said chamber, means for feeding a lubricant to said duct, and an absorbent packing in said chamber, said split rings operating to assist in retaining said lubricant.

2. A stuffing-box having a chamber formed therein receiving a vegetable packing, metallic packing-rings beyond said chamber, a keeper for said packing-rings having an opening therethrough to conduct a lubricant, said stuffing-box having a duct in the wall thereof communicating with said opening and leading the lubricant into said chamber.

3. A stuffing-box having a chamber receiving a vegetable packing, metallic packing-rings therebeyond, a follower-ring retaining said packing-rings and having an opening to pass oil, said stuffing-box having a duct in the wall thereof alining with said opening and leading oil to said chamber, said follower-ring having a projection, and said stuffing-box having an opening receiving said projection, to aline said opening with said duct.

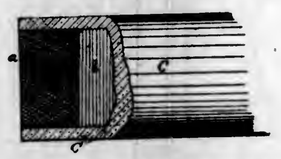
840,292. HYDROCARBON-BURNER. JOSEPH N. BLAIN and ORLIN H. SMITH, Ottawa, Kans. Filed Nov. 14, 1905. Serial No. 287,255.



Claim.—1. In a liquid-fuel burner, in combination, a fire-pot, a basin adapted to be supported in the upper portion of said fire-pot, a pipe connection passing downwardly through said basin, a damper rotatably mounted on said pipe connection and adapted to regulate the flow of air thereto, a tubular member supported in the lower portion of said basin and depending into said fire-pot, a fire-pan disposed below said tubular member and having perforations therein, said fire-pot further having an opening in the cover thereof disposed below said pipe connection through which the drip from said pipe connection may pass.

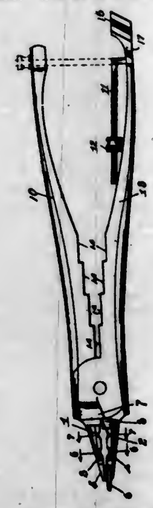
2. In a liquid-fuel burner, in combination, a fire-pot, a basin adapted to be supported in the upper portion of said fire-pot, a pipe connection passing downwardly through said basin, a damper rotatably mounted on said pipe connection and adapted to regulate the flow of air thereto, a tubular member supported in the lower portion of said basin, and depending into said fire-pot, a fire-pan disposed below said tubular member and having perforations therein, said fire-pot further having an opening in the cover thereof disposed below said pipe connection through which the drip from said pipe connection may pass, said pipe connection being arranged to extend downwardly into the interior of said tubular member, and having a nozzle adapted to drip into said fire-pan.

840,293. SKELETON FOR PIPES, RESERVOIRS, AND THE LIKE OF STRENGTHENED CEMENT AND CONCRETE. FERNAND E. BOCQUET, Paris France. Filed Mar. 29, 1901. Serial No. 53,530.



Claim.—A compound cement pipe, comprising a number of concentric trellis-work skeletons, convolutions of wire coiled around each of said trellis-work skeletons, and a fabric between each of the convolutions of wire and the next outer trellis-work skeleton.

840,294. PIANO-TOOL. JULIUS N. BROWN, Chicago, Ill. Filed Nov. 16, 1903. Serial No. 181,302.



Claim.—1. A piano-tool in plier form, having registering grooves across the nose thereof, one of said grooves being concave and the other convex across the plier, whereby a hammer-shank engaged by the grooves will be bent, substantially as set forth.

2. A piano-tool in plier form, having registering grooves, one concave and the other convex across the plier, the convexity being greater than the concavity, whereby a hammer-shank engaged by the grooves will be bent and set, substantially as set forth.

3. A tool of the character described, having a nose comprising two members movable toward and from each other and provided with registering grooves across the abutting faces thereof, one of said grooves being concave and the other convex.

4. A tool of the character described, having a nose comprising two substantially flat members movable toward and from each other, one member being narrower than the other, and the wider member having a convex working face and registering grooves in the said flat members of the nose in rear of the working faces thereof.

5. A piano-tool in plier form, having a nose consisting of two substantially flat members movable toward and from each other, one member having less surface area than the other, and the larger member having its working face convex in all directions and registering grooves in the said members in rear of the working faces thereof.

6. A tool of the character described having a nose comprising two members movable toward and from each other and each member provided with a pair of grooves across its face, the grooves in one member being convex and the grooves in the other member being respectively concave and convex.

7. A tool of the character described, comprising two members movable toward and from each other and provided with two pairs of registering grooves across the abutting faces thereof, the grooves of one pair being respectively concave and convex and those of the other pair being convex.

8. A tool of the class described having two pairs of bending-faces adjacent to one another, one pair comprising a concave seat and a central pressing-face and the other comprising a convex seat and a central pressing-face, such faces being shaped respectively to bend the material operated upon in one direction when operating with the concavo seat, and in the other direction when operating the convex seat.

9. A device of the class described having two pairs of bending-faces adjacent to one another, the dies at one side comprising a concave seat and a central pressing-face and the dies upon the opposite side comprising a convex seat and a pressing-face, whereby the material operated upon can be bent in either direction without turning it over.

10. A tool of the class described having two pairs of bending-faces adjacent to one another, one pair comprising a concave seat grooved to steady the material and a pressing-face opposite thereto, and the other pair comprising a convex seat grooved to steady the material and a pressing-face opposite thereto, the seats and pressing-faces being adapted respectively to bend the material in opposite directions, substantially as herein set forth.

11. A tool of the class described comprising hand-pliers having in the opposed jaws two pairs of bending-dies adjacent to one another, the dies upon one face comprising a concave seat and a pressing-face, and the dies upon the opposite face comprising a convex seat and a pressing-face, whereby the material operated upon can be bent in either direction without turning it over.

840,295. RADIATOR FOR AUTOMOBILES. FRANK A. BRYANT, Seattle, Wash. Filed Aug. 22, 1906. Serial No. 331,612.

Claim.—1. In apparatus of the class described, the combination with a frame, of a tubular coil adapted to have its ends respectively connected with the inlet and discharge ends of a water-cooling conduit of an engine, said coil being provided with a series of apertures whereby connection is had with a draw-off hollow member and said member.

2. In apparatus of the class described, the combination with a frame consisting of two members each comprised of a plurality of arms radiating from centrally-apertured bosses, one of said arms being made hollow and provided with a plurality of spaced perforations, of a tubular coil intermediate said frame members seated in grooves of the arms and rigidly connected to said hollow arm, said coil being provided with a plurality of perforations corresponding with those of said hollow arm, and pipe members connected to the ends of the coil.

3. In apparatus of the class described, the combination with a frame with radial arms terminating in oppositely-directed overlapping flanges, means to secure each pair of said flanges together, one of said arms being hollow and provided with a plurality of spaced apertures, while the other arms have inner corrugated faces, of a tubular coil interposed between said frame members and provided with a plurality of apertures spaced to register with those of the arm, and a pipe member connected to each end of the coil.



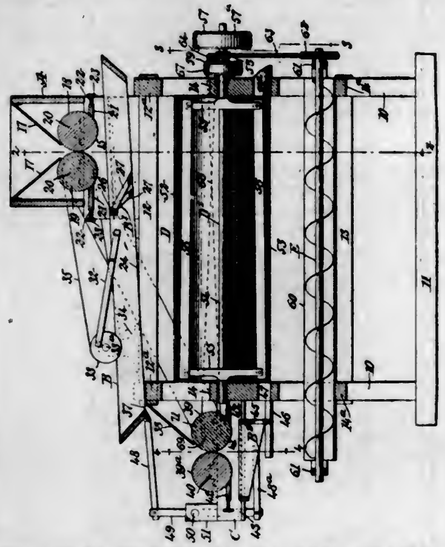
4. In apparatus of the class described, the combination with a frame formed of two members which are each comprised of an apertured boss with radial arms extending therefrom and terminating in oppositely-directed overlapping flanges, means to secure each pair of said flanges together, one of said arms being hollow and provided with a plurality of spaced apertures, while the other arms have inner corrugated faces, and a draw-off cock for said hollow arm, of a tubular coil interposed between said frame members and rigidly connected to said hollow arm, said coil being provided with a plurality of apertures spaced to register with those of the arm, and a pipe member connected to each end of the coil and protruding outwardly from the frame.

5. In apparatus of the class described, a coil connected at each end with a pipe, said pipe, and a supporting-frame consisting of two connected members, one of said members being provided with a hollow portion having apertures therein which register with apertures provided in said coil.

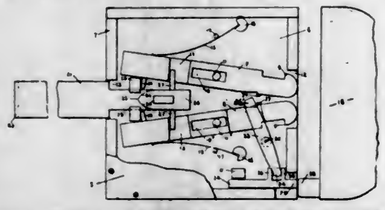
840,296. MACHINE FOR HULLING GREEN CORN. WAYNE CALDWELL, Circleville, Ohio. Filed Apr. 2, 1906. Serial No. 309,355.

Claim.—1. In corn-hulling machines, the combination with a frame, a hopper supported by the frame, combined hulling and reducing rolls mounted to revolve in the frame below the outlet for the hopper, scrapers for said rolls, an inclined sieve mounted for movement in the frame below the rolls, a crank-disk, a shank therefor, a link connected with the sieve and the crank-disk, and a spreading device located in said sieve, of a second inclined and lower sieve receiving material from the upper sieve, a cylinder secured within said frame below the upper sieve, which cylinder is provided with a reticulated body portion and a plain upper portion, means for delivering material from the lower or second sieve into the reticulated portion of the said cylinder, said cylinder being provided at said reticulated portion with an inlet and an outlet, a reel mounted to revolve in the said cylinder, having spiral blades, a trough located below the cylinder, a screw conveyer in said trough, and driving devices for the conveyer and reels, the rolls and the said crank-shaft.

2. In corn-hulling machines, the combination with a frame, a hopper supported thereby, combined hulling and reducing rolls mounted to turn in close relation to each other below the outlet of said hopper, a screen mounted in the frame below the said rolls, having an outlet at its rear ends, means for imparting reciprocating motion to the said sieve, a cylinder secured in the said frame below the said sieve, the cylinder being provided with a lower perforated or reticulated section having end inlets and outlets, and a reel mounted to revolve in the said cylinder, the blades of which reel are spiral, of a second set of combined hulling and reducing rolls located between the sieve and the cylinder, guide devices for conducting the material from the end outlet of the sieve to the second set of rolls, a second inclined reciprocating sieve located beneath the second pair of rolls, a driving connection between the two sieves, the second sieve having guided horizontal movement, the said second sieve being likewise provided with an outlet-opening opposite the inlet-opening for the cylinder, a guide for the lower portion of the sieve, extending out from a wall-section of the inlet-opening for the cylinder, a trough supported by the frame and extending beneath the cylinder and the said second sieve, a conveyer located within the said trough, and driving devices for the conveyer, the reel and the rolls.



840,297. SLIDING-DOOR LATCH. ROBERT CAMPBELL, Brooklyn, N. Y., assignor to Hugo Tolliner, New York, N. Y. Filed Dec. 6, 1904. Serial No. 235,704.



Claim.—1. In latches for sliding doors, the combination of a casing adapted to be connected to a door, two latch-bars supported in said casing to have pivotal and longitudinal movement, said latch-bars having hooks at their outer ends adapted to engage a keeper when said outer ends are projected beyond the casing, manually-operated means for imparting a pivotal motion to said latch-bars to disengage them from the keeper and subsequently to move them longitudinally within the casing, and means automatically operated upon closing the door for returning said latch-bars to latching position.

2. In latches for sliding doors, the combination of a casing adapted to be connected to a door, two latch-bars supported in said casing to have pivotal and longitudinal movement, said latch-bars having hooks at their outer ends adapted to engage a keeper when the said outer ends are projected beyond the casing, springs engaging the inner ends of said latch-bars and normally holding their outer ends apart, manually-operated means for first spreading the inner ends of said bars apart and then moving said bars longitudinally to bring the hooked ends within the casing, and means automatically operated upon closing the door for returning said latch-bars to latching position.

3. In latches for sliding doors, the combination of a casing adapted to be connected to a door, two latch-bars having hooks at their outer ends for engaging a keeper, means for supporting said latch-bars in the casing and permit them to have pivotal and longitudinal movement, springs engaging the inner ends of said bars and normally holding their outer ends apart in latching position, a slidable bar for manual operation, means carried by said slidable bar for spreading the inner ends of the latch-bars apart and thereby disengaging the hooked ends from said keeper, and means carried by said slidable bar for moving said latch-bars longitudinally to bring said hooked ends within the casing, and said casing having openings for the passage of said bars.

4. In latches for sliding doors, the combination of a casing adapted to be connected to a door, two latch-bars having hooks at their outer ends for engaging a keeper, and slots intermediate their ends, fixed pins within the casing extending through said slots, springs engaging the inner ends of said bars and normally holding their outer ends apart, a slidable bar for manual operation, means carried by said slidable bar for spreading the inner ends of the latch-bars apart and causing the outer ends to approach each other, and means carried by said sliding bar for moving said latch-bars longitudinally to bring said hooked ends within the casing, and said casing having openings for the passage of said bars.

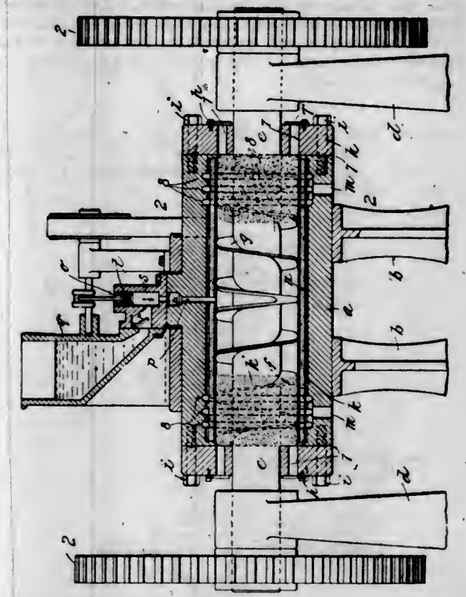
5. In latches for sliding doors, the combination of a casing adapted to be connected to a door, two latch-bars having hooks at their outer ends for engaging a keeper, and slots intermediate their ends, fixed pins within the casing extending through said slots, springs engaging the inner ends of said bars and normally holding their outer ends apart, a slidable bar supported in said casing and having oppositely-inclined surfaces thereon, pins projecting from said bars in position to be engaged by said inclined surfaces when the slidable bar is moved longitudinally, and means carried by said slidable bar for engaging said latch-bars and moving them longitudinally after said inclined surfaces have acted upon said pins.

840,298. CONTINUOUS-SCREW CHOCOLATE-PRESS. GABRIEL CARLSON, Springfield, Mass. Filed Dec. 26, 1905. Serial No. 293,317.

Claim.—1. In a device of the class described, the combination with a cylinder, longitudinal grooves in the interior thereof and communicating with openings adjacent the ends of the cylinder, absorbent material in the longitudinal grooves, adjustable cylinder-heads, a screw adjacent said absorbent material, and means for forcing the material into the cylinder, and operating means for said screw and said forcing means.

2. In a continuous chocolate-press, a cylinder, longitudinal grooves extending nearly the entire length of the interior of the cylinder, transverse grooves in communication with the longitudinal grooves, absorbent material located in said longitudinal grooves, cylinder-heads rigidly secured to the ends of the cylinder and having openings therethrough, a right and left hand threaded screw located in said cylinder, and means for forcing the material from which moisture is to be extracted into the cylinder, and operating means for the cylinder and the feeding means.

3. In a chocolate-press, the combination of a cylinder, a screw therein, a series of grooves located in the interior of the cylinder, said groves having a series of grooves in the bottom of the same, absorbent material located in the first series of grooves and over the second series of grooves, outlets in the opposite ends of the cylinder communicating with said series of grooves, cylinder-heads secured to the opposite ends of the cylinder, a pump for forcing the chocolate into the cylinder and located midway of the cylinder, and means for simultaneously operating the pump and the screw located in the cylinder.



4. In a device of the class described, the combination with a cylinder, a series of longitudinal grooves extending nearly the entire length of the interior of the cylinder, a series of transverse grooves or channels communicating with the longitudinal grooves, absorbent material in the longitudinal grooves, cylinder-heads secured to the opposite ends of the cylinders and having openings therethrough, a right and left hand threaded screw located in the said cylinder, a receptacle for holding the material from which the moisture is to be extracted, outlets communicating with the bottom of the receptacle and the interior of the cylinder, and connected operating mechanism for simultaneously forcing the material into the cylinder thereof, and forcing it therefrom.

5. In a machine of the class described, a cylinder having closed ends provided with a restricted opening in one of said ends, means to introduce pasty material into the cylinder under pressure, a device to retard the movement of said material toward the opening in the end of said cylinder to create lateral pressure against the wall of the cylinder, and a porous lining for the cylinder.

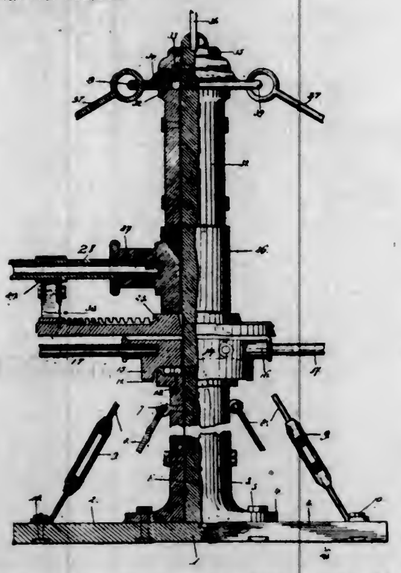
6. In a machine of the class described, a cylinder having substantially closed ends, absorbent material in the interior of the cylinder, means for forcing the pasty material into said cylinder, retarding means to prevent the rapid movement of the pasty material in opposite directions whereby lateral pressure is exerted against the lateral walls of the cylinder and moisture is extracted from the pasty material, and whereby a cake of substantially dry material is formed at different ends of the cylinder.

7. In a chocolate-press, a casing longitudinally divided and having two screws therein and slowly rotated in opposite directions, said screws each having a right and left hand thread and overlapping each other, an interior lining of perforated metal in close contact with the blades of the screws, a felt backing for said metal lining, and transverse grooves back of said felt backing whereby when the machine is operated, a dry cake will be formed from the pasty mass.

8. In a machine of the class described, a casing having two screws located therein, and means for rotating said screws in opposite directions, the blades of said screws

overlapping each other, a restricted opening at one end of said casing, absorbent material within said casing and adjacent the periphery of the screws, means for forcing a pasty or semiliquid material into the casing under pressure, said means for forcing the material into the casing being operated at a greater speed than the rotation of the screws, whereby lateral pressure is created within the cylinder, and a cake of dry material is accumulated at one end of the casing.

840,290. AMUSEMENT DEVICE. JAMES E. CISCO, Allegheny, Pa., assignor of one-fourth to J. J. Bullitt and George T. Bullitt, Pittsburg, Pa. Filed Apr. 11, 1906. Serial No. 311,118.

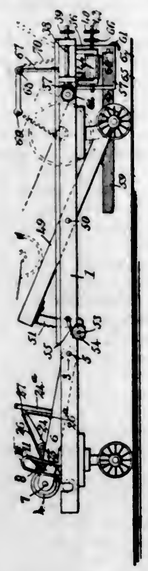


Claim.—1. In a swing of the character described, the combination of a pedestal, a supporting-base therefor having a plurality of radially-extending arms, a head mounted to revolve on the pedestal and provided with a plurality of circumferentially-arranged sleeves, a mast arranged in the pedestal and head, a circular rack keyed to said mast, a sleeve revolubly mounted on the mast above said rack, horisontal outriggers secured at their inner ends in the sleeves of said head, and provided with forked outer ends, seats secured to said forked ends, an actuating-rod secured to said sleeve and carrying a dog to engage said circular rack, and tie-rods connecting the pedestal to said radially-extending arms.

2. In a swing of the type described, the combination of a supporting-base provided with a plurality of radially-extending arms, a pedestal mounted centrally of the base and provided with a ball-race at its upper end, a head mounted on the pedestal, and balls interposed between the head and the pedestal in said ball-race, a plurality of horisontally-extending outriggers secured at their inner ends in said head, seats carried by the outer ends of said outriggers, tie-rods connecting said pedestal to said radially-extending arms, a mast mounted in the pedestal and head, a circular rack keyed to said mast, a sleeve revoluble on the mast above the rack, an actuating-arm secured at its inner end to said sleeve, and carrying a dog engaging said rack, a collar secured to the mast above said sleeve and having a ball-race in its upper end, a retaining-cap mounted above said collar and resting on balls in said race, and tie-rods connecting said retaining-cap to the outriggers, substantially as described.

3. In a swing of the type described, the combination of a supporting-base, a pedestal thereon, a head mounted on the pedestal, and balls interposed between the head and the pedestal, tie-rods connecting the pedestal to the base, a plurality of outriggers connected at their inner ends to said head, seats carried by said outriggers at their outer ends, a mast revoluble in the head and pedestal, a circular rack fixed in said mast, a sleeve revoluble on the mast above the rack, an actuating-arm secured to said sleeve and carrying a pivoted dog to engage the rack, a retaining-cap carried by the mast, and tie-rods connecting the retaining-cap to the outriggers for supporting the latter intermediate their ends, substantially as described.

840,300. DUMP AND ELEVATOR. JAMES F. COLLINS, Marcus, Iowa. Filed Aug. 31, 1906. Serial No. 332,743.



Claim.—1. The combination with a main frame, of a horse-tread and a wagon-tread mounted on said frame and adapted to be inclined thereto independently of each other, a conveyer extending transversely of the main frame at the rear of the wagon-tread, means connected with the horse-tread adapted to rotate said conveyer in opposite directions, an inclined conveyer adapted to be detachably secured to the main frame and adapted to be arranged and operated at either end of the transverse conveyer, and means for operating said inclined conveyer connected with the horse-tread, substantially as shown and described.

2. The combination with a main frame, of a horse-tread comprising an endless apron mounted upon drums journaled in side bars pivoted to the main frame, a brake-clutch secured to the forward drum of said frame, and means for elevating the forward end of said frame relatively to the main frame, substantially as shown and described.

3. The combination with a main frame, of a horse-tread frame pivoted thereto, an endless apron mounted on said tread-frame, and means for elevating the forward end of said tread-frame, comprising arc racks and rotatable pinions adapted to engage said racks, substantially as shown and described.

4. The combination with a horse-tread and frame pivotally mounted upon a transverse shaft, and a governor comprising a head fixedly secured to said shaft and provided with an expandible band secured at one end to said head, a weighted lever connected with said band, a spring connected with said lever, a casing freely mounted on said shaft, a pivoted lever supported on said tread-frame, and a cable connected with said lever and casing, substantially as shown and described.

5. The combination with a main frame, of a transverse shaft journaled in said main frame and provided with a beveled gear, a horse-tread frame having a rocking movement on said shaft and provided with an endless belt, a longitudinal shaft provided with oppositely-disposed gears adapted to engage the beveled gear of the transverse shaft, and rotate said longitudinal shaft in opposite directions, a wagon-tread pivotally mounted on the main frame, a conveyer arranged at the end of the wagon-tread, and means connected with said conveyer and the longitudinal shaft adapted to rotate said conveyer, substantially as shown and described.

6. The combination of a main frame, a horse-tread and a wagon-tread pivotally mounted upon the main frame, means adapted to elevate the forward ends of said horse-tread and wagon-tread independently of each other, consisting of arc racks, and pinions mounted upon the transverse shafts engaging said racks, substantially as shown and described.

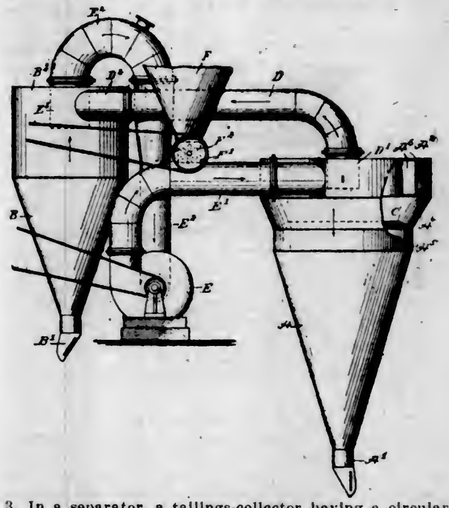
7. The combination with a main frame, of a horse-tread and a wagon-tread pivoted to said frame and adjustable vertically at their forward ends independently of each other, a conveyer arranged at the rear end of the wagon-tread and adapted to rotate transversely of said frame to the right or the left thereof, an inclined conveyer detachably secured to said frame and adapted to be adjustable independently of the transverse conveyor so as to extend in line with said transverse conveyer, or in opposite directions parallel with the main frame, and a transverse shaft secured to the main frame, connected with the horse-tread, and provided on each end with means adapted to operate said inclined conveyer when extending in a line parallel with the main frame, substantially as shown and described.

8. The combination with a main frame, of a horse-tread and a wagon-tread pivoted thereto and adapted to be inclined relatively to the main frame independently of each other, a transverse conveyer secured to the main frame at the rear end of the wagon-frame, a detachable vertical conveyer adapted to be attached to either side of the main frame and arranged on each of those sides in line with said transverse conveyer, or in opposite directions parallel to the main frame, a transverse shaft journaled on the main frame at the rear end thereof and provided on its ends with means adapted to be connected to the inclined elevator when arranged in line with the main frame, and a longitudinal shaft connected with the horse-tread and provided with means adapted to operate said transverse shaft, substantially as shown and described.

840,301. SEPARATOR. WALTER M. COOK, Ludlow, Vt., assignor of one-half to Christian M. Lauritzen, Chicago, Ill. Filed Dec. 13, 1905. Serial No. 291,561.

Claim.—1. In a separator, a tailings-collector having a circular head provided with an air-supply pipe communicating therewith at a tangent to the periphery thereof, said head having a plurality of independent concentric spiral passages leading from the supply-pipe and opening at different points into the head, gates for controlling the openings of the passages, means outside of the head for manipulating the gates, a collector for the finished product, provided with a circular head, a blower communicating with the supply-pipe of the tailings-collector, a hopper connected with the supply-pipe, a pipe leading from the tailings-collector and communicating at a tangent with the head of the collector for the finished product, and a pipe leading from the collector for the finished product to the blower, whereby a continuous circulation of air is assured through the collectors.

2. In a separator, a tailings-collector having a circular head provided with an air-supply pipe communicating therewith at a tangent to the periphery thereof, said head having a plurality of independent concentric spiral passages leading from the supply-pipe and opening at different points into the head, a blower communicating with the supply-pipe, a hopper connected with said supply-pipe between the blower and the tailings-collector, a collector for the finished product, provided with a circular head, a pipe leading from the tailings-collector and communicating at a tangent with the head of the collector for the finished product, and a pipe leading from, the collector for the finished product to the blower, whereby a continuous circulation of air is secured through the collectors.



3. In a separator, a tailings-collector having a circular head provided with an air-supply pipe communicating therewith at a tangent to the periphery thereof, said head having a plurality of independent concentric spiral passages leading from the supply-pipe and opening at different points into the head, gates for controlling the openings of the passages, and means outside of the head for manipulating the gates.

4. In a separator, a tailings-collector having a circular head provided with an air-supply pipe communicating therewith at a tangent to the periphery thereof, said head having a plurality of independent concentric spiral passages leading from the supply-pipe and opening at different points into the head, and means for controlling said openings.

5. In a separator, a tailings-collector having a circular head provided with an air-supply pipe communicating therewith at a tangent to the periphery thereof, said head having a plurality of independent concentric spiral passages leading from the supply-pipe and opening into the head at points spaced apart circumferentially from each other.

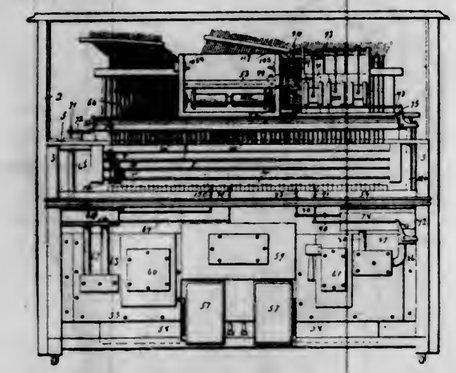
6. In a separator, a tailings-collector having a circular head provided with an air-supply pipe communicating therewith at a tangent to the periphery thereof, said head having a plurality of independent concentric spiral passages leading from the supply-pipe and opening into the head.

7. A separator provided with a tailings-collector having a head, spiral channels in the said head and starting from one point and opening into the head at different points of the circumference of the head, an adjustable gate at the discharge end of each channel, and a blower having a discharge-pipe opening into the starting ends of the said channels.

8. A separator, provided with a tailings-collector having a head, spiral channels in the said head and starting from one point and opening into the head at different points of the circumference of the head, an adjustable gate at the discharge end of each channel, a blower having a discharge-pipe opening into the starting ends of the said channels, a discharge-pipe leading centrally out of the said head, the said discharge-pipe extending a distance down in the head, and a deflector in the said head below

the said channels and inclined inwardly and upwardly toward the entrance end of the said discharge-pipe.

840,302. MECHANICALLY-OPERATED PIANO. FRANK V. CROFUT, Derby, Conn., assignor of one-half to The Sterling Co., Derby, Conn., a Corporation. Filed Aug. 14, 1905. Serial No. 274,175.

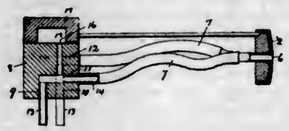


Claim.—1. The combination with a piano-case and piano mechanism, of pneumatic instrumentalities comprising a transversely-arranged secondary-pneumatic chamber, a valve-board above the same and parallel therewith, power-pneumatics arranged horizontally in two or more series below said secondary pneumatics, valves in said valve-board for controlling said power-pneumatics, said valves arranged in two or more rows, passages from the foremost row of valves forward and upward through the valve-board, thence over the valve-board and down through the same to the uppermost power-pneumatics, and passages from the other valves rearward through the valve-board and opening downward through the same into connection with the lower pneumatics, and connections between the forward ends of the pneumatics downward to levers which extend rearward into engagement with the piano-action.

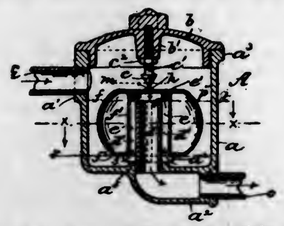
2. The combination with the piano-action including a key-board and means for operating the hammers, of a pneumatic action arranged above the keyboard and having levers extending rearward into engagement with said action, said pneumatic action including a secondary-pneumatic chamber, a motor and means for shifting the power therefrom to wind and rewind a roll, an exhaust-chamber, passages therefrom to the secondary-pneumatic chamber and to the motor, a valve in the secondary-pneumatic chamber for closing the passage thereto, a valve below the keyboard for opening direct connection between the exhaust-chamber and the motor, a lever above the secondary-pneumatic chamber for operating the first-mentioned valve, a bell-crank lever for operating the motor-shifting mechanism and for operating the valve for operating and closing connection between the exhaust-chamber and the motor, said levers being coupled together for simultaneous action, substantially as described.

840,303. PNEUMATICALLY-OPERATED MUSICAL INSTRUMENT. FRANK V. CROFUT, Derby, Conn., assignor to The Sterling Co., Derby, Conn., a Corporation. Filed July 23, 1906. Serial No. 327,291.

Claim.—In a pneumatically-operated instrument, the combination with a tracker, of a vent-rail secured in rear of said tracker but separated therefrom and having passages through it corresponding to the holes in said tracker, connections from the tracker to the passages in said vent-rail, vertically-arranged holes in said vent-rail and intersecting said passages, a cap secured to the top of said vent-rail and having a recess forming a chamber above said holes and above said passages, and means for exhausting the air from said chamber, substantially as described.



840,304. AUTOMATIC RELIEF-VALVE FOR STEAM-HEATING SYSTEMS. THOMAS F. DEXTER, Providence, R. I. Filed Nov. 25, 1905. Serial No. 289,065.



Claim.—1. As a new and improved article of manufacture, a relief-valve for steam-heating systems, the same comprising a chambered casing having suitably-arranged main inlet and discharge passages, a fixed vertical pipe or element *d* mounted in said casing and being in continuously-open communication with said discharge-passage, a movably-mounted air-vented float member enveloping the upper end and side portions of said pipe and forming a continuously-open way between the casing-chamber and the top of said member *d* for the flow of the water of condensation, and means for automatically closing the air-vent of the float when the latter rises to a predetermined point.

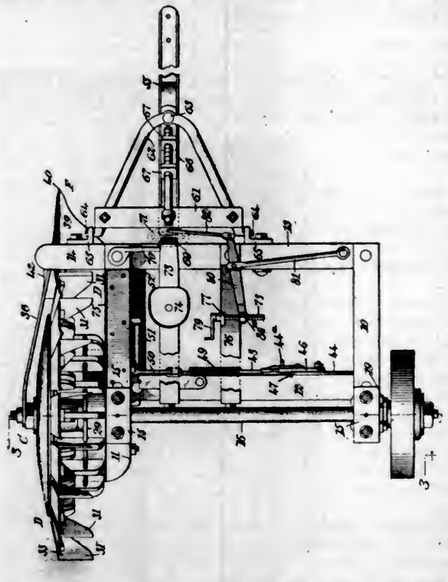
2. In a device of the character described, the combination of a chambered body or casing having open main inlet and discharge passages, a vertically-extending tube within the casing-chamber in open communication with said discharge-passage, an air-vented movable float member enveloping or surrounding the upper portion of said discharge-tube and forming therewith a practically unobstructed continuously-open duct for the flow of water from the chamber, and means coöperating with the float for automatically closing its air-vent when the float rises to a predetermined point.

3. In a device of the character described, the combination with the chambered casing having main inlet and discharge pasages and an upwardly-extending central tube *d* communicating with said discharge-passage, of a vertically-guided air-vented movable float interposed between said inlet and discharge passages and loosely enveloping the member *d* and also forming therewith a continuously-open passage-way, and means for closing the said air-vent of the float.

4. In a device of the character described, the combination with a casing having an inlet *i* and an outlet at or near the base and below said inlet, a cover removably secured to the casing, an adjustably-mounted plug or vent-closure, and a vertically-arranged ribbed continuously-open discharge-tube secured to the base of the casing and communicating with said outlet, of a movable float member having a small air-vent in its upper end, said float being supported and guided by said tube, all constructed and arranged so that a free passage-way is maintained at all times between the casing-chamber and said base-outlet for the passage of the water of condensation.

840,305. ROAD-GRADER. EZRA FAHRNEY, Deep River, Iowa. Filed May 3, 1906. Serial No. 314,965.

Claim.—1. In road-grading machines, a wheel adapted to operate upon the ground, a support therefor, spades pivotally mounted upon the wheel, means for normally holding said blades in a rigid position, and devices for tripping the spades to discharging position at a point in the rotation of the wheel.



2. In road-grading machines, a wheel adapted to operate upon the ground, a support for the wheel, spades pivotally mounted upon the wheel, each spade comprising an outer or landside blade and an inwardly-extending cutting-blade at an angle to the landside-blade, a device for normally holding said spades in rigid cutting position during the major portion of the rotation of the wheel, said device including likewise a releasing means brought into action when the spades reach a lower rear position, and devices for tripping the spades to discharging position when they reach the said lower rear position.

3. In road-grading machines, a wheel adapted to operate upon the ground, a support therefor, a series of spades of substantially L-shaped construction mounted upon the wheel, members extending inward from the pivotal portions of the spades, a fixed cam having a peripheral supporting and guide surface for the said members of the spades and a recessed or releasing surface therefor, and a tension-controlled trip-bar which acts upon said members when said releasing-surface of the cam is reached to throw and raise the spade thus acted upon in direction of the middle of the road to dump and spread its load.

4. In road-grading machines, a dished wheel, a support therefor, angle-levers pivoted upon the concaved face thereof, each comprising an inwardly and an outwardly projecting member the latter of which extends beyond the periphery of the wheel, spades secured to the outwardly-projecting members of the levers and adapted for consecutive engagement with the ground as the wheel revolves, a cam fixed to the support, having a circular peripheral surface and a recess at the rear lower central portion of said surface, with which peripheral surface of the cam the said inwardly-extending lever members engage, said spades being held rigid while said inwardly-extending lever members are in engagement with the true surface of the cam, being released when the recessed portion is reached, and a tension-controlled trip device which automatically acts upon the inwardly-extending members of the levers to force the spades carried thereby violently inward with an upward inclination.

5. In a road-grading machine, a wheeled support, a shaft mounted to revolve on the support, extending beyond one of its sides, a disk having its inner surface concaved, secured upon the projecting portion of the shaft, angle-levers pivotally mounted at the inner face of the disk, the outwardly-extending members of said levers projecting beyond the periphery of the disk, a spade carried by the projecting portion of the outer members of the said levers, each spade comprising an outer moldboard-blade and an inwardly-extending transverse cutting-blade, a slotted guide for the inwardly-extending members of the said levers, mounted to rotate also with the said shaft, a fixed cam through which the shaft passes, which cam has a true circular peripheral surface for the major portion of its circumference, being provided with a recess in its periphery at its rear lower portion, the inwardly-projecting members of said levers being adapted to travel over the peripheral surface of the cam, and a tension-controlled adjustable trip device adapted for automatic action upon the inwardly-extending members of the said levers when said members reach the recessed portion of the cam.

6. In a road-grading machine, the combination with a wheeled support, a shaft mounted to revolve on the support, extending beyond one of its sides, a disk having its inner surface concaved, secured upon the projecting portion of the shaft, angle-levers pivotally mounted at the inner face of the disk, the outwardly-extending members of said levers projecting beyond the periphery of the disk, a spade carried by the projecting portion of the outer members of said levers, each spade comprising an outer moldboard-blade and an inwardly-extending transverse cutting-blade, a slotted guide for the inwardly-extending members of said levers, mounted to rotate also with the said shaft, a fixed cam through which the shaft passes, which cam has a true circular peripheral surface for the major portion of its circumference, being provided with a recess in its periphery at its rear lower portion, the inwardly-projecting members of said levers being adapted to travel over the peripheral surface of the cam, and a tension-controlled adjustable trip device adapted for automatic action upon the inwardly-extending members of the said levers when said members reach the recessed portion of the cam, of a plow-standard supported in front of the said spades, and a plow secured to the said support, comprising a moldboard in longitudinal relation to the moldboard-blades of the spades, and a horizontal blade-section at the lower end of the landside, the blade-section and landside terminating in a point, the cutting-blades of said spades being adapted for cutting action on the ground turned up by the blade of the plow.

7. In a road-grading machine, a support, a rotating digging-wheel carrying a number of spades adapted for engaging with the ground, means for holding said spades rigid throughout the major portion of the rotation of the wheel, trip devices for the spades, acting thereon when the said spades reach the lower rear position relative to the support, and a plow adapted to the said support located in front of the said wheel, the said plow producing a furrow into which the spades of the said wheel track.

8. In a road-grading machine, a support, a rotating digging-wheel carrying a number of spades adapted for engagement with the ground, means for holding said spades rigid throughout the major portion of the rotation of the wheel, and trip devices for the spades, acting thereon when the said spades reach a lower rear position relative to the support, and a plow adapted to the said support, located in front of said wheel, the said plow producing a furrow into which the spades of the said wheel track, and a stop at the landside portion of the plow, whereby to prevent the plow furrowing too deep when crossing ridges.

9. In a road-grading machine, a wheeled support, a plow carried thereby, and a stop at the landside of the plow to limit the depth of cut of the plow when crossing ridges.

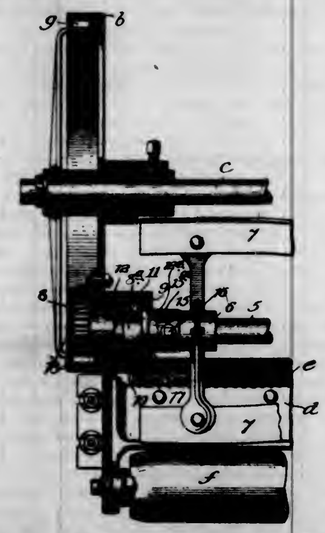
10. In a road-grading machine, a wheeled support, a plow carried thereby and a stop at the landside of the plow to limit the depth of cut of the plow when crossing ridges, turned, the blade and landside sections terminating forzontal blade-section having its outer edge portion upturned, the blade and landside sections terminating forwardly in a point, and means for raising and lowering the forward section of the support.

11. In a road-grading machine, the combination with a

wheeled support and a reach or tongue having pivotal and swinging connection with the support, of an adjusting mechanism carried by the support and connected with the inner end portion of said tongue or reach to impart lateral adjustment thereto, for the purpose specified.

12. In a road-grading machine, the combination with a wheeled support, of a tongue or reach pivotally connected therewith and having lateral adjustment thereon.

840,306. ADJUSTING DEVICE FOR CONE BALL-BEARINGS. FRANK T. FARMER, Chicago, Ill., assignor to The Whitman & Barnes Manufacturing Co., Akron, Ohio, a Corporation of Ohio. Filed Mar. 9, 1906. Serial No. 305,069.



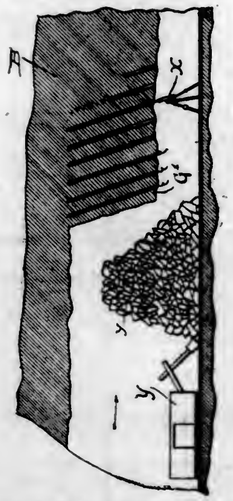
Claim.—1. A ball-bearing comprising a bearing-cup having a ring and balls therein, a cone, adapted to fit within said cup and rest upon said balls, mounted to rotate with a shaft but free to move longitudinally thereon, having on the face opposite to said cup a cam-surface, a hub or block rigidly secured to said shaft, an adjusting-collar, adapted to be secured to said shaft by a set-screw, intermediate of and contacting with said block and cone and having on the side adjacent to the latter a cam-surface oppositely pitched to the cam-surface on said cone, whereby said collar may be turned to adjust said cone relative to said balls.

2. The combination of a rotating shaft having a cone secured thereon, one of said members being provided with a groove and the other with a pin adapted to engage therewith to permit independent longitudinal movement of the cone on said shaft while securing it to rotate therewith, an adjusting-collar adapted to be secured at any point about the circumference of said shaft by a set-screw, said cone and collar having oppositely-pitched cam-faces, and a block secured to said shaft adapted to hold said cam-faces in contact whereby said cone is moved longitudinally on said shaft by turning said collar.

3. The combination of a rotating shaft, a bearing-cup containing balls, a cone fitted within said balls secured on said shaft to rotate therewith but free to move longitudinally thereon, a collar contacting with said cone secured to said shaft by a set-screw, and a block on said shaft adapted to maintain said contact, the adjacent faces of said cone and collar having oppositely-pitched cam-surfaces whereby said cone may be adjusted by setting said collar at different points around said shaft.

4. The combination of a rotating shaft, a cone secured to rotate therewith but free to move longitudinally thereof, balls, a bearing-cup adapted to hold the said balls in contact with the inclined sides of said cone, a collar contacting with the rear of said cone adapted to be secured in different positions on the circumference of said shaft and a block on said shaft adapted to maintain said contact, the adjacent faces of said collar and cone having oppositely-pitched cam-surfaces.

840,307. METHOD FOR TUNNELING THROUGH ROCKS. PATRICK FORD, Chicago, Ill. Filed Dec. 26, 1905. Serial No. 293,432.



Claim.—1. The method of excavating rock tunnels comprising first constructing an under heading for the length of the tunnel and then throwing down the material from the roof of said tunnel, into said heading and operating simultaneously at either or both ends of the tunnel.

2. The method of excavating rock tunnels comprising first constructing an under heading having its bottom slightly below grade for the length of the tunnel and then throwing down the material from the roof of said tunnel into said heading and operating simultaneously at either or both ends of the tunnel.

3. The method of constructing rock tunnels embracing first, constructing a heading of the width and length of the proposed tunnel and of a height convenient for the operation of the workmen then casting down the material from the top of the tunnel to the roof-line and removing the same by means of steam-shovels.

4. The method of constructing rock tunnels embracing first constructing a heading of the width and length of the proposed tunnel and of a height convenient for the operation of the workmen and having its bottom slightly below grade, then casting down the material to the roof-line from the top of the tunnel and removing the same by means of steam-shovels.

5. The method of constructing rock tunnels, embracing first constructing a heading for the entire length and width of the tunnel and of a height convenient for the operation of workmen then operating from one or both ends of the tunnel and throwing down into the heading by successive shots the superposed material to the roof-line and forming a muck-pile and utilizing the muck-pile thus formed as a guard for the muck-men, thereby enabling them to work continuously and independent of the operation of drilling and blasting crews.

6. The method of constructing rock tunnels, embracing first the constructing of a heading of the desired width and the length of the tunnel and with its bottom slightly below grade-line, then drilling the superposed material approximately in one plane transversely with the drill-holes inclined forwardly at the top and the central drill-holes converging inwardly, then shooting the blast to throw the material forwardly and downwardly forming a muck-pile thus affording a shield for the muck-men and shovels during successive shots and whereby the drillers at all times are unimpeded by the accumulation of muck.

7. The method of constructing rock tunnels consisting in first blasting a heading open at both ends and having the bottom thereof slightly below grade and wherein successive shots are arranged to throw the material outwardly affording clean or true rib-walls and roof, next beginning at each end of said heading at the extremities of the tunnel and drilling the superposed rock to slightly above the roof-line, said holes inclining forwardly and the central holes converging at their inner ends and then blasting and removing the superposed rock.

8. The method of constructing rock tunnels comprising first constructing an under heading open at both ends, then throwing down the remainder to the roof-line thereby forming a muck-pile and utilizing the muck-pile as a shield to protect the mucking-crew and utilizing steam-shovels to remove the muck.

9. The method of constructing rock tunnels by first constructing a heading with its bottom below grade and for the length of the tunnel and drilling therefor several converging wet holes on each side of the center, the lower of which extend below grade, intermediate holes also converging inwardly, rib-holes in line and parallel with the ribs and dry roof-holes and shooting the same, the central holes first then the intermediate next the rib, then the roof-holes and later after completing the heading for the entire length blasting down to the tunnel-roof line in successive charges each charge including all material from the heading to the tunnel-roof.

10. The method of constructing rock tunnels comprising first constructing an under heading the length and width of the tunnel, then drilling the roof from the heading to slightly above the tunnel-roof line to afford central converging holes, intermediate holes of less convergence extending above the roof and non-converging rib-holes, all of said holes inclining forwardly at their tops and a distance from the front of the mass dependent on the nature of the rock, shooting said holes in the order before named, and removing the muck by means of steam-shovels.

11. The method of constructing tunnels comprising constructing an under heading on a level with the bottom of the tunnel, drilling a plurality of forwardly and inwardly inclined holes in the superposed material and shooting the charge in said holes thereby throwing the material down to form a muck-pile between the drillers and the mouth of the tunnel.

12. The method of constructing tunnels comprising forming an under head for the drillers then throwing down the superposed material and forming a muck-pile between the drillers and the muck-men.

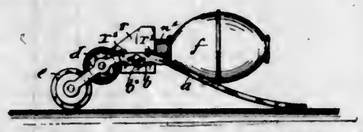
13. The method of constructing tunnels comprising forming an under heading drilling the superposed rock from the mouth of the tunnel inwardly then blasting to throw down the superposed material between the drillers and the mouth of the tunnel and forwardly of the muck-men.

14. The method of tunneling comprising forming an under heading for the drillers, and blasting down the superposed rock to form a muck-pile between the drillers and the muck-men.

15. The method of tunneling through rock comprising first forming an under heading inwardly to air and approximately the width of the tunnel and to bottom grade then utilizing gravity by drilling the superposed material to cast the same down and forwardly in blasting, thereby economizing in labor and explosives.

840,308. PAINTER'S STRIPING AND STENCILING WHEEL. CHARLES L. GARRECHT, New York, N. Y. Filed Apr. 25, 1906. Serial No. 313,710.

Claim.—1. A striping or stenciling tool comprising a U-shaped frame, a receptacle supported in said frame intermediately of the length of the latter, a paint-bulb communicating with said receptacle, a feed-roller journaled in said frame in advance of said receptacle, and a striping-roller journaled in the ends of said frame and rotatable in contact with said feed-roller.



2. A striping or stenciling tool comprising substantially parallel legs, a receptacle supported between said legs, a bulb attached to said receptacle, a feed-roller journaled between said legs adjacent said receptacle, and a striping-roller journaled in the ends of said legs.

3. A striping or stenciling tool comprising a frame constituted by substantially parallel legs, a paint-receptacle, means for clamping said receptacle between said legs, a bulb attached to said receptacle, and a feed-roller and stenciling-roller extending between and journaled in openings in said legs, the latter being capable of being spread apart, when said receptacle-clamping means is loosened, in order to permit said rollers to be removed from said frame.

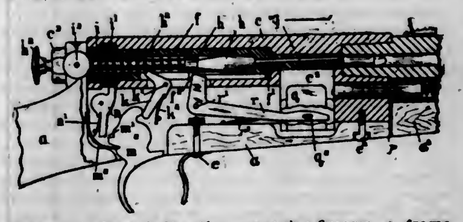
4. A striping or stenciling tool comprising a frame curved intermediately of its length, a paint-receptacle supported in said frame at such curved portion, a rearwardly-extending bulb communicating with said receptacle, and feed and stenciling rollers journaled in said frame in advance of said receptacle.

5. In a striping or stenciling tool, in combination, a U-shaped frame having a widened rear portion, a receptacle supported in said frame intermediately of its ends, a bulb communicating with said receptacle and extending rearwardly so as to be supported by said widened rear portion of the frame, and feed and stenciling rollers journaled in the forward portion of said frame.

6. A striping or stenciling tool for painters, consisting of a supporting handle-frame provided with a handle at one end and a forked portion at the opposite end, a bulb resting on the handle portion, a receptacle attached to the frame adjacent to the bulb and connecting at its rear part with the latter, the front wall of the receptacle being concave and provided with a slot, a feed-roller rotatable in contact with the concave front of the receptacle, and a striping or stenciling roller movable in contact with the feed-roller.

7. In a striping or stenciling tool for painters, in combination, a handle-frame, a receptacle in the intermediate portion of the handle-frame, means for attaching said receptacle to said handle, said receptacle being provided with a concave slotted front wall, an elastic bulb connected with the rear wall of said receptacle, a feed-roller supported in bearings of the frame and moving in contact with the front wall of the receptacle, and a striping or stenciling roller movable in contact with said feed-roller.

840,309. MAGAZINE-GUN. WILLIAM H. GATES, Norwich, Conn. Filed Jan. 26, 1906. Serial No. 298,041.



Claim.—1. In a bolt-action magazine-firearm, a frame, a bolt slidably mounted therein, a cam-collar rotatably mounted on said bolt and having oppositely-located ribs and an operating-handle, a housing for said bolt having its rear end formed with recesses and uncut portions to receive said ribs, said ribs and recesses being relatively

disposed so that when said handle is turned into horizontal position said ribs interlock with the uncut portions between said recesses, a notched trigger and a safety-lever having one end constructed to enter the trigger-notch, and having its other end located in the path of said cam-collar.

2. In combination, in a bolt-action magazine-firearm, a cam-collar rotatably mounted upon the bolt, a notched trigger, and a safety-lever having one end adapted to enter the trigger-notch and having its other end located in the path of said cam.

3. In combination, in a magazine-gun, a receiver, and a bolt slidably mounted in said receiver; said bolt consisting essentially of a non-rotatable body-section, a firing-pin slidable in said bolt, and a cam-collar rotatably mounted on said bolt and adapted to interlock with the receiver when the bolt is in its firing position, a notched trigger, and a safety-lever having one end adapted to enter the notch of the trigger and its other end located in the path of said cam.

4. In combination, in a bolt-action firearm, a longitudinally-slidable bolt, a trigger, a locking-lever and means rotatably mounted on said bolt for locking said trigger against accidental discharge until the bolt is in its firing position.

840,310. TURBINE. RICHARD H. GOLDSBOROUGH, Washington, D. C. Filed May 14, 1906. Serial No. 316,734.



Claim.—1. In a turbine, the combination of a plurality of axially-arranged rotor members, a plurality of vanes, rings engaging the opposed radial walls of said members and provided with series of recesses corresponding in contour to transverse sections of said vanes, and a common means for securely clamping together said rotor members, rings and vanes, substantially as described.

2. In a turbine, the combination of a plurality of axially-arranged rotor members provided with apertures in their opposed radial walls, a plurality of vanes, and rings provided with series of recesses corresponding in contour to transverse sections of said vanes and with studs engaging said apertures in the rotor members, substantially as described.

3. In a turbine, the combination of a plurality of axially-arranged rotor members provided with apertures in their opposed radial walls, a plurality of vanes, rings provided with series of recesses corresponding in contour to transverse sections of said vanes and with studs engaging said apertures in the rotor members, and a common means for securely clamping together said rotor members, rings and vanes, substantially as described.

4. In a turbine, the combination of a plurality of axially-arranged rotor members, a plurality of vanes, rings engaging the opposed radial walls of said members and provided with series of recesses corresponding in contour to transverse sections of said vanes, and yielding seats positioned in said recesses for engagement by the ends of said vanes, substantially as described.

5. In a turbine, the combination of a plurality of axially-arranged rotor members, a plurality of vanes, rings engaging the opposed radial walls of said members and provided with series of recesses corresponding in contour to transverse sections of said vanes, yielding seats positioned in said recesses for engagement by the ends of said vanes, and a common means for securely clamping together said rotor members, rings and vanes, substantially as described.

6. In a turbine, the combination of a plurality of axially-arranged rotor members provided with apertures in their opposed radial walls, a plurality of vanes, rings provided with series of recesses corresponding in contour to transverse sections of said vanes and with studs engaging said apertures in the rotor members, and yielding seats positioned in said recesses for engagement by the ends of said vanes, substantially as described.

7. In a turbine, the combination of a plurality of axially-arranged rotor members, a plurality of vanes, rings engaging the opposed radial walls of said members and provided with series of recesses corresponding in contour to transverse sections of said vanes, a gasket positioned in each of said recesses and constructed to extend over a portion only of the bottom thereof, and a common means for securely clamping together said rotor members, rings and vanes, substantially as described.

8. In a turbine, the combination of a plurality of axially-arranged rotor members, a plurality of vanes, rings engaging the opposed radial walls of said members and provided with a series of recesses corresponding in contour to transverse sections of said vanes, said recesses extending to the outer peripheries of the respective rings, and a common means for securely clamping together said rotor members, rings and vanes, substantially as described.

9. In a turbine, the combination of a plurality of axially-arranged rotor members provided with channels in their opposed radial walls and with apertures extending from the bottom of said channels, a plurality of vanes, and rings positioned in said channels and provided with studs engaging said apertures and with series of recesses corresponding in contour to transverse sections of said vanes, substantially as described.

10. In a turbine, the combination of a plurality of axially-arranged rotor members provided with channels in their opposed radial walls and with apertures extending from the bottom of said channels, a plurality of vanes, rings positioned in said channels and provided with studs engaging said apertures and with series of recesses corresponding in contour to transverse sections of said vanes, and a common means for securely clamping together said rotor members, rings and vanes, substantially as described.

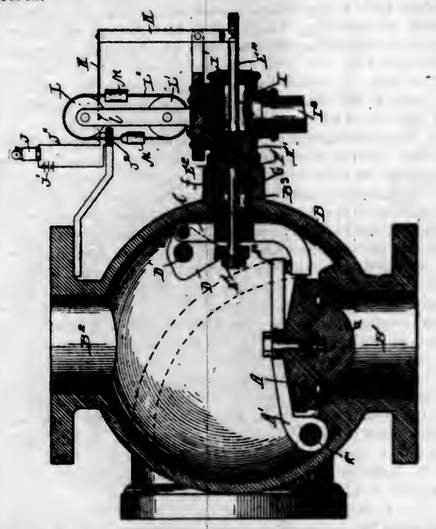
11. In a turbine, the combination of a plurality of axially-arranged rotor members provided with channels in their opposed radial walls and with apertures extending from the bottom of said channels, a plurality of vanes, rings positioned in said channels and provided with studs engaging said apertures and with series of recesses corresponding in contour to transverse sections of said vanes, yielding seats positioned in said recesses for engagement by the ends of said vanes, and a common means for securely clamping together said rotor members, rings and vanes, substantially as described.

12. In a turbine, the combination of a plurality of axially-arranged rotor members provided with annular channels in their opposed radial walls and circular apertures extending from the bottoms of said channels, a plurality of vanes, and rings positioned in said channels and provided with cylindrical studs engaging said apertures and with series of recesses corresponding in contour to transverse sections of said vanes, substantially as described.

840,311. ALARM FOR AUTOMATIC FIRE-EXTINGUISHERS. WILLIAM A. GOLDTHWAIT, Melrose Park, Ill., assignor to Automatic Fire Protection Company, a Corporation of Maine. Filed Feb. 6, 1904. Serial No. 192,413.

Claim.—1. In a device of the class described, the combination with a valve exposed to the pressure of the water flowing past it, and an alarm mechanism, of time mechanism for conditioning the alarm mechanism to operate, and connections between the valve and time mechanism through which power is transmitted from the valve to the time mechanism for controlling the latter, substantially as described.

2. In a device of the class described, the combination with a valve exposed to the pressure of the water flowing past it and an alarm mechanism, of time mechanism for conditioning the alarm mechanism to operate, said time mechanism having a suspended weight, and connections between the valve and time mechanism for holding the weight suspended while the valve is seated and permitting it to fall when the valve is unseated, substantially as described.



3. In a device of the class described, the combination with a valve exposed to the pressure of the water flowing past it, and an alarm mechanism, of time mechanism for conditioning the alarm mechanism to operate, said time mechanism having differential weights acting against each other and connections between the valve and time mechanism for restraining said weights while the valve is seated and permitting them to move when the valve is unseated, substantially as described.

4. In a device of the class described, the combination with a valve exposed to the pressure of the water flowing past it and an alarm mechanism, of time mechanism for conditioning the alarm mechanism to operate, said time mechanism having a pair of pulleys, a band surrounding them, and differential weights attached to opposite sides of said band, and connections between the valve and time mechanism for controlling it, substantially as described.

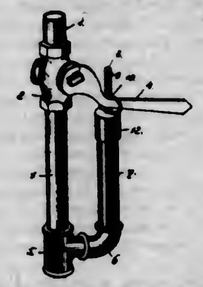
5. In a device of the class described, the combination with a casing having an opening, a valve exposed to the pressure of the water flowing past it and an alarm mechanism, of time mechanism for conditioning the alarm mechanism to operate, connections between the valve and time mechanism for controlling it, said connections including a stem passing through said opening in the casing, and inward and outward seating valves carried by the stem and adapted to control said opening, substantially as described.

6. In a device of the class described, the combination with a valve and an alarm mechanism, of time mechanism having a shifting body, and means through which the valve lifts said body to a position from which it may fall by gravity and condition the alarm mechanism to operate, substantially as described.

7. In a device of the class described, the combination with a valve and an alarm mechanism of time mechanism having a shifting body which, upon falling, conditions the alarm mechanism to operate, and having also means for retarding the falling of said body, and means through which the valve lifts said body, substantially as described.

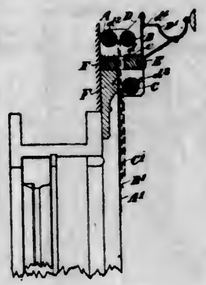
840,312. AUTOMATIC SHUT-OFF. THOMAS F. GOODFELLOW, Altoona, Pa., assignor of one-fourth to Thomas M. Goodfellow, Altoona, Pa. Filed Sept. 20, 1906. Serial No. 335,438.

Claim.—In an automatic shut-off, the combination with a pipe adapted to convey fluid under pressure, of a valve-casing interposed in said pipe, a valve in said valve-casing and having a by-pass, a lever connected to the stem of said valve, a T connection interposed in the pipe, a cylinder having one end in communication with the pipe through said T connection, a cap on the outer end of said cylinder, a piston in said cylinder having its rod extending



through said cap and provided with a plurality of openings, a yoke secured in some of said openings and receiving said lever, and a tension-spring on the opposite rod between the piston and the end cap of the cylinder, substantially as described.

840,313. MULTIPLE ROLLER-BLIND AND FIXINGS FOR SAME. HILMAR GRAFF, Melbourne, Victoria, Australia, assignor of one-half to William Hartley, Melbourne, Victoria, Australia. Filed Dec. 11, 1905. Serial No. 291,346.



Claim.—1. Supports for multiple roller-blinds comprising a horizontally-disposed supporting-frame adapted to be secured to the window-frame and having a longitudinal opening, and vertically-disposed metal brackets secured to and extending above said supporting-frame, and adapted to detachably receive rollers arranged above the supporting-frame with the blinds thereof depending through said opening, substantially as described.

2. Supports for multiple roller-blinds comprising a horizontally-disposed supporting-frame adapted to be secured to a window-frame, and vertically-disposed metal brackets notched to receive the supporting-frame and secured thereto and extending above and below the same and formed to detachably receive several rollers, substantially as described.

3. Supports for multiple roller-blinds comprising a pair of flat metal brackets adapted to be vertically arranged, and formed with transverse openings to receive the terminals of several rollers, each plate having its front vertical edge formed with a lateral vertical curtain-pole-bracket-receiving flange, and its rear portion notched to fit horizontal and vertical faces of a support and provided with a lateral flange to fit such support, substantially as described.

4. In combination, supports, a pair of flat plate metal brackets having their rear portions notched to fit such supports, whereby the brackets extend vertically above and forwardly from such supports, said brackets formed with transverse openings above said notches to receive the terminals of roller-blinds, substantially as described.

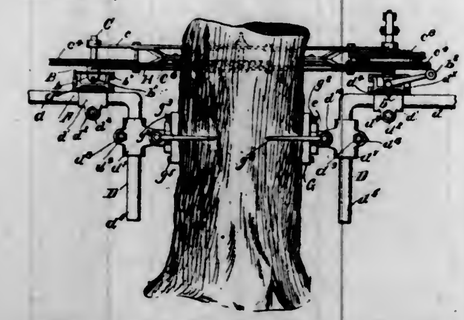
5. In combination, supports, vertical plate metal brackets notched to receive and having lateral flanges to fit and be secured to said supports, said plates formed with transverse openings in their upper portions above said notches and in their lower portions to detachably receive the end terminals of several parallel blind-rollers.

6. In combination, a horizontal support, a pair of parallel flat metal brackets, each at its rear portion notched to fit down on said support and extend vertically above the same and depend below the plane of the top edge thereof, said brackets having lateral flanges to fit and be secured to said supports, and formed with transverse openings in said upper and depending portions to receive the terminals of several parallel blind-rollers.

7. Supports for roller-blinds comprising a pair of plate metal brackets having bearing-holes and slots for roller-terminals, each bracket being notched at the rear portion and formed with a lateral securing-flange, in combination with a horizontal support fitting in said notches, substantially as described.

8. In combination, a pair of vertical plate metal brackets having bearing holes and slots for roller-terminals, a horizontal support having front and rear portions, each bracket being notched at its front and rear edges to receive said portions of said support and provided with lateral flanges adapted to fit and be secured to said support portions, substantially as described.

840,314. SAWING-MACHINE. SIMON J. GRAY and JOHN HORNING, Oakland, Cal. Filed Mar. 20, 1906. Serial No. 306,993.



Claim.—1. In a sawing-machine, the combination of a plurality of spaced bars, brackets slidably mounted on the bars, and provided with lugs having screw-threaded openings, screw-threaded rods journaled on the bars and engaging the openings in the lugs, bevel-gears on the rods at one end thereof, a telescoping rod having one end journaled upon each bar and provided with a bevel-gear meshing with the bevel-gears on the screw-threaded rods, stud-shafts journaled on the brackets, an A-shaped frame comprising pairs of spaced plates, one end of each pair being journaled upon a stud-shaft, and the other end overlapping the corresponding end of the other pair, a bolt traversing the overlapping ends, a grooved pulley journaled on the bolt, grooved pulleys journaled on the stud-shafts, an endless saw supported by the pulleys, a driving-pulley on one of the stud-shafts, clutch mechanism for connecting the driving-pulley with the grooved pulley, means for supporting each of the bars, and means for attaching said supporting means to the object to be sawed.

2. In a sawing-machine, the combination with a frame comprising legs pivotally connected at one end, grooved pulleys journaled in the free ends of the legs, and at the point of pivotal connection, an endless saw supported on the pulleys, bars for supporting the free ends of the legs, means for adjusting the legs on the bars, an angle-bar having one leg adjustably connected with the supporting-bar, a block adjustably connected with the other leg of the angle-bar, a plate having dogs pivoted thereto and adapted to engage the object to be sawed, a swivel connection between the block and the plate, and means for fixing the block with respect to the plate.

3. In a sawing-machine, the combination of a frame comprising pairs of spaced plates, a bolt connecting the pairs at one end of the plates, grooved pulleys journaled between the plates at the free ends thereof and on the bolt, bars for supporting the free ends of the pairs, means for adjusting the said free ends in unison on the bars, an endless saw supported by the pulleys, means for attaching the bars to the object to be sawed, and means for adjusting the bars with respect to the attaching means.

4. In a sawing-machine, the combination of an A-frame, the legs thereof being pivotally connected, grooved pulleys journaled at the corners of the frame, bars connected with the legs of the frame, means for adjusting said legs in unison on the bars, means connected with the bars for engaging the objects to be sawed, and means for adjusting the bars on the engaging means, an endless saw supported by the pulleys, and means for driving one of the pulleys.

5. In a sawing-machine, the combination with a frame comprising legs pivotally connected at one end, grooved pulleys journaled in the free ends of the legs, and at the point of pivotal connection, an endless saw supported on the pulleys, angle-bars having one leg connected with a leg of the frame, means for adjusting the legs of the frame longitudinally of the legs of the angle-bars, means for adjusting the frame transversely of the angle-bars, said frame being rotatable upon the angle-bars, means on the other legs of the angle-bars for engaging the object to be sawed, and means for adjusting the angle-bars on the engaging means.

6. In a sawing-machine, a frame comprising pivotally-connected legs, grooved pulleys, journaled in the free ends of the legs and at the point of connection, an endless saw supported on the pulleys, means for driving one of the pulleys, bars for engaging opposite sides of the object to be sawed, and connected with the free ends of the legs, and means for adjusting the frame with respect to the bars.

7. In a sawing-machine, the combination with a frame, comprising legs pivotally connected at one end, pulleys journaled in the free ends of the legs and at their point of connection, an endless saw supported on the pulleys, means engaging one of the pulleys for driving the saw, means for engaging opposite sides of the objects to be sawed, and means whereby to adjust the frame with respect to the said engaging means.

8. In a sawing-machine, the combination with a frame comprising legs pivotally connected at one end, pulleys journaled at the corners of the frame, an endless saw supported on the pulleys, means engaging one of the pulleys for driving the saw, means for engaging opposite sides of the object to be sawed and means for adjustably connecting the free ends of the legs with said engaging means.

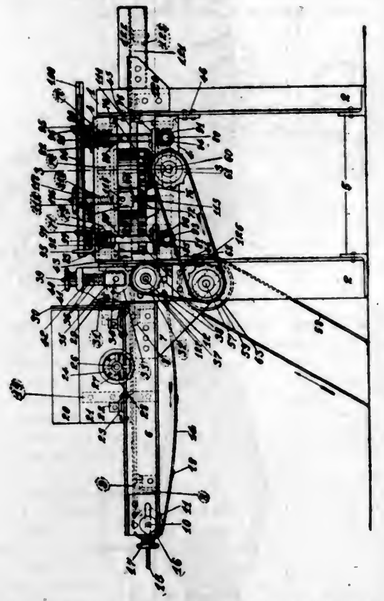
840,315. WOODWORKING-MACHINE. FRANK W. GREENE, Shreveport, La. Filed June 13, 1906. Serial No. 321,435.

Claim.—1. A machine for assembling boards or strips in a common plane to constitute a shook, comprising means for forwarding the boards and presenting the edge of each board to the edge of the one adjacent, and rotary means for pressing the individual boards together.

2. A machine for assembling boards or strips in a common plane to constitute a shook, comprising means for forwarding the boards and presenting the edge of each board to the edge of the one adjacent, and rotary means for pressing the individual boards together, said first-mentioned means operating approximately at right angles to said last-mentioned means.

3. A machine for assembling boards or strips in a common plane to constitute a shook, comprising means for forwarding the boards and presenting the edge of each board to the edge of the one adjacent, and rotary means for pressing the individual boards together, said first-mentioned and said last-mentioned means being driven from the same main shaft.

4. A machine for assembling boards or strips in a common plane to constitute a shook, comprising means for forwarding the boards and presenting the edge of each board to the edge of the one adjacent, and rotary means for pressing the individual boards together, said first-mentioned and said last-mentioned means being driven from the same primary but different secondary sources of power.



5. A machine for assembling boards or strips in a common plane to constitute a shook, comprising sprocket means and horizontal rollers for forwarding the shooks, a table upon which the edge of each board is presented to the edge of the one adjacent, and oppositely-disposed vertical rollers for pressing the individual boards together.

6. A machine for assembling boards or strips in a common plane to constitute a shook, comprising means for forwarding the boards and presenting the edge of each board to the edge of the one adjacent, vertical rollers on each side of the machine to press the individual boards together, means for adjusting said vertical rollers, and means for causing the rotation of said rollers.

7. In a machine for assembling boards or strips in a common plane to constitute a shook, the combination of means for presenting the edge of each board to the edge of the one adjacent, oppositely-disposed pairs of vertical rollers, pairs of upper and lower journal-blocks in which said rollers are mounted, and springs against the pressure of which one pair of said blocks and the rollers mounted therein may travel.

8. In a machine for assembling boards or strips in a common plane to constitute a shook, the combination of means for presenting the edge of each board to the edge of the one adjacent, oppositely-disposed pairs of vertical rollers, pairs of upper and lower journal-blocks in which said rollers are mounted, means for rotating one of each of said pairs of rollers, and means intermediate the rollers of each pair whereby rotation of the first of said rollers causes rotation of the other roller of the same pair, both rollers rotating in the same direction.

9. In combination with a hopper for holding the shooks, means for removing one shook at a time therefrom, rollers adapted to forward said shook, and other rollers adapted to press together the individual pieces of said shook.

10. In combination with sprocket-chains for forwarding the shooks, a pair of rollers into the bite of which the shooks are fed, and other rollers the axes of which are at right angles to the axes of said first-mentioned rollers, said second-mentioned rollers being adapted to press together the individual pieces composing the shooks.

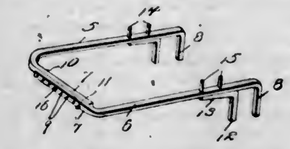
11. In combination with a table on which the shooks are forwarded, rollers at right angles to the plane of said table adapted to press together the individual pieces composing the shooks, and a spring-controlled roller parallel to the plane of said table adapted to keep the shooks flat upon said table.

12. In combination with a hopper composed of a fixed side, a horizontally-sliding side, and a vertically-adjustable front, means for removing one shook at a time from the hopper, forwarding-rollers into the bite of which the shooks come, and other rollers adapted to press together the individual pieces of the shooks.

13. In a machine of the character described, the combination of oppositely-disposed pairs of vertical rollers, pairs of upper and lower journal-blocks in which said rollers are mounted, means for rotating one of each of said pairs of rollers, and means mounted upon the pair of journal-blocks whereby the rotation of the first of each pair of rollers causes rotation of the other roller in the same pair, both rollers rotating in the same direction.

14. In a machine of the character described, the combination of sprocket means and horizontal rollers for forwarding the shooks, vertical rolls for compacting the same, a main shaft, a secondary shaft driven thereby for actuating said sprocket means and horizontal rollers, and another secondary shaft driven by said main shaft for actuating said vertical rollers.

840,316. BAG-HOLDER. JAMES W. GREGORY, Marilla, N. Y. Filed June 27, 1906. Serial No. 323,624.



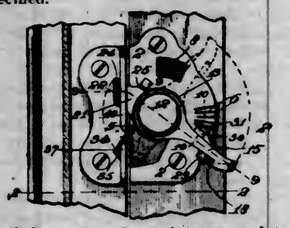
Claim.—1. A bag-holder comprising parallel members having their forward portions turned inwardly and overlapped, said overlapped portions being connected for longitudinal adjustment with respect to each other, the rearward ends of said members being turned downwardly at right angles, bars disposed in parallel spaced relation to the downwardly-turned portions of the members and having upper end portions resting against the under surface of the members, and a pair of longitudinally-spaced pins engaged in each member and in the upper portion of each bar, to hold the bars of the members, said pins extending above the members, as shown.

2. A bag-holder comprising two members disposed in parallel relation and having their rearward ends turned downwardly, bars located forwardly of the downwardly-turned portions and in parallel spaced relation thereto, upwardly-extending longitudinally-spaced pins engaged in the members and in the bars, to hold the bars in position, said members having their forward end portions turned inwardly and overlapped and provided with longitudinal series of perforations, the outer extremities of the overlapped portions being turned at right angles and removably engaged each in one of the perforations of the other member, said extremities being adapted for engagement in the different perforations of the series interchangeably, and a fastening device removably engaged in a pair of the perforations.

840,317. SASH-FASTENER. JOHN L. GRETHER, St. Louis, Mo. Filed Oct. 10, 1905. Serial No. 282,192.

Claim.—1. In a sash-fastener, a base-plate, a spring-actuated locking-arm mounted for rotation on the base-plate, a locking-plate secured to the opposite sash, a hook formed integral with said locking-plate, the under side of which hook is inclined, a latch-plate located beneath and mov-

uble with the locking-arm and adapted to engage with the base-plate at different points to lock said arm against rotation in one direction by the application of any vertical or lateral pressure applied to the locking-arm; substantially as specified.



2. In a sash-fastener, a base-plate secured to one sash, a locking-plate secured to the opposite sash, a locking-arm mounted for rotation upon the base-plate and adapted to engage the locking-plate, and means carried by the locking-arm for locking it at different points on the base-plate against movement in one direction; substantially as specified.

3. In a sash-fastener, a base-plate secured to one sash, a locking-plate secured to the opposite sash, a spring-actuated locking-arm mounted for rotation upon the base-plate and adapted to engage the locking-plate, and a latch-plate arranged beneath and movable with the locking-arm and arranged to lock the locking-arm against rotary motion in one direction; substantially as specified.

4. In a sash-fastener, a base-plate secured to one sash, a locking-plate secured to the opposite sash, a spring-actuated locking-arm arranged for rotation upon the base-plate and adapted to engage the locking-plate, means whereby the locking-arm is held locked against rotation in one direction at different points, and means formed in the base-plate whereby the locking-arm is held in an unlocked position thereon and in position to be automatically released to engage the locking-plate when the sashes are closed; substantially as specified.

5. In a sash-fastener, a base-plate secured to one sash, a locking-plate secured to the opposite sash, a post fixed to the base-plate, a locking-arm pivotally arranged on the post and adapted to engage the locking-plate, a spring mounted upon the post and adapted to engage the locking-arm, and a latch-plate pivotally mounted upon the post and arranged to hold the locking-arm against rotation in one direction at different points; substantially as specified.

6. In a sash-fastener of the class described, a base-plate, a spring-actuated locking-arm arranged for rotation thereon, a series of notches formed in said base-plate, means carried by the locking-arm for engaging in said notches to hold the locking-arm at different points against rotation in one direction, a notch formed in one side of the base-plate in which the forward end of the locking-arm engages by being slightly depressed when in an unlocked position; substantially as specified.

7. In a sash-fastener of the class described, a base-plate adapted to be secured to the lower sash, a spring-actuated locking-arm pivotally arranged for rotation thereon, which arm is arranged to be slightly tilted upon its pivot-point, a notch formed in the base-plate in which the forward end of the locking-arm is engaged to hold said arm in an unlocked position and in position to be automatically released, a locking-plate adapted to be secured to the upper sash, said plate being provided with an arm with an inclined top surface for automatically releasing said locking-arm when the sash are closed; substantially as specified.

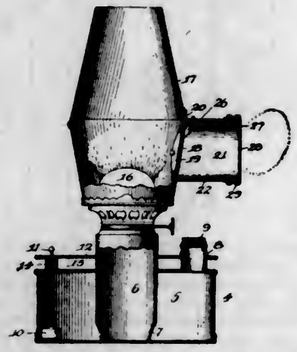
840,318. LIFE-BELT. ABEL GROS, Saintes, France, assignor of one-half to George H. Jackson and one-fourth to Octave Rondier, La Rochelle, and one-fourth to Judith Gros, Saintes, France. Filed May 15, 1905. Serial No. 260,431.

Claim.—In a life-belt, the combination with a corselet and gas and water tight floats, of a receptacle for calcium carbid divided by perforated partitions into three compartments in the middle one of which the calcium carbid is placed while the lower compartment is provided with a valve for the admission of water when the corselet is immersed therein and the upper compartment is provided with a valve for the escape of the acetylene gas produced



in the receptacle into the floats, said receptacle and the upper valve-box being screw-threaded, and a tapped tubulure fixed to each of the large floats for connecting said valve-box thereto, all substantially as set forth.

840,319. LAMP. GEORGE HACKER, St. Louis, Mo. Filed July 17, 1905. Serial No. 270,166.



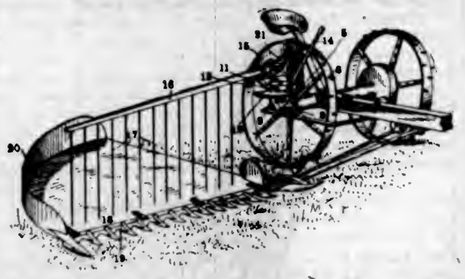
Claim.—A lamp of the class described having a burner, a chimney mounted upon said burner, an opening formed in the chimney in alinement with the burner, a strip of transparent material located over the opening in the chimney, a hook formed on the chimney above the opening in combination with an egg-tester comprising a tube supported by said hook, the end of said tube covered with a strip of flexible material having an opening against which the egg is placed for testing, said tube having recesses formed in the end contacting with the chimney to permit the circulation of air so as not to overheat the egg-tester, substantially as specified.

840,320. SIDE-DELIVERY BUNCHER. NELSON G. HANNA, Center township, Howard county, Ind., assignor of three-eighths to Virgil H. Lockwood, Indianapolis, Ind. Filed June 2, 1902. Serial No. 109,848.

Claim.—1. The combination with a mowing-machine having a transporting-wheel, of a supplemental hub clamped to said wheel, a bevel-gear thereon, a frame for the rake mechanism journaled upon the hub and having a rigid connection with the frame of the machine, a rake, and means mounted in said frame for the rake mechanism for transmitting power from said bevel-gear to the rake.

2. The combination with a mowing-machine having a transporting-wheel, of a supplemental hub secured to the wheel, a frame mounted upon and extending above said hub, means connected with the frame of the machine to prevent the rotation of said frame, a rake, a bevel-gear on said supplemental hub, and means including a vertical shaft mounted in said frame that is driven by said bevel-gear for actuating the rake.

3. A rake mechanism for mowing-machines comprising a supplemental hub, means for securing said hub centrally to the side of a transporting-wheel of the machine to rotate therewith, a frame mounted on said hub, means for holding it from rotation with the hub, a rake, means mounted in said frame for operating the rake, and means on the hub for actuating said rake-operating means.



4. A rake mechanism for mowing-machines comprising a supplemental hub, means for securing said hub centrally to the side of a transporting-wheel of the machine to rotate therewith, a frame mounted on said hub, means for holding said frame from rotation and upright, a rake, means mounted in said frame for operating said rake, means on the hub for actuating said rake-operating means and a cam for elevating the rake during the operation thereof.

5. A buncher attachment for mowing-machines, consisting of a driving-gear, means for clamping said gear to a supporting-wheel of a mower, a frame, mounted beside the center of said wheel a shaft journaled in said frame, a gear journaled on said shaft and driven by the first-mentioned gear, a rake connected with the shaft, and a cam for elevating the rake substantially as and for the purpose set forth.

6. In a buncher, the combination with a platform to be secured in the rear of the cutter-bar of a mower, of a supplemental hub, means for attaching said hub to a transporting-wheel of a mower, a gear carried by said hub, a shaft, a frame mounted on said hub for supporting said shaft substantially vertically, a gear carried by said shaft and meshing with the first-mentioned gear, a rake pivotally connected with the upper end of such shaft, and a cam-plate arranged to engage the rake-bar, all substantially as and for the purpose set forth.

7. A rake mechanism for mowing-machines comprising a supplemental hub, means for securing said hub centrally to the side of a transporting-wheel to rotate therewith, a frame mounted on said hub, means for preventing the frame from rotating with the hub, a rake, a gear secured on said hub, and means mounted in said frame for transmitting power from the gear to the rake for operating the same.

8. A rake mechanism for mowing-machines comprising a supplemental hub, means for securing said hub centrally to the side of a transporting-wheel of the machine, a bevel-gear secured on said hub, a frame mounted on said hub, means for preventing the frame from rotating therewith, a bevel-gear carried by said frame at right angles to the bevel-gear on the hub and meshing therewith, a rake, and a shaft mounted in the frame and driven by said bevel-gears for operating the rake.

9. A detachable raking mechanism for grass-cutting machines comprising a bevel-gear, means for securing said gear at the end of the axle of the machine, a frame extending upwardly from said means, a rigid support for said frame, a shaft mounted in said frame, a bevel-gear thereon engaging the first-mentioned gear, a rake-bar pivoted on said shaft, a track controlling the movement of said bar, and rake-teeth attached to said bar.

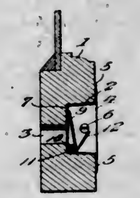
10. A detachable raking mechanism for grass-cutting machines comprising a bevel-gear, means for securing said gear at the end of the axle of the machine, a frame extending upwardly from said means, a rigid support for said frame, a shaft mounted in said frame, a bevel-gear thereon engaging the first-mentioned gear, a rake-bar pivoted to said shaft, a track controlling the movement of said bar, rake-teeth attached to said bar, and a clutch on said shaft for throwing the rake-actuating means into or out of operation.

11. A detachable raking mechanism for grass-cutting machines comprising a bevel-gear, means for securing said gear at the end of the axle of the machine, a frame extending upwardly from said means, a rigid support for said frame, a shaft mounted in said frame, a bevel-gear thereon engaging the first-mentioned gear, a rake-bar pivoted on said shaft, a track controlling the movement of said bar, rake-teeth attached to said bar, a clutch on said shaft for throwing the rake-actuating means into or out of operation, and means for moving said clutch for disengaging it from the rake-actuating means.

12. A detachable raking mechanism for grass-cutting machines comprising a bevel-gear, means for securing said bevel-gear at the end of the axle of the machine, a bearing-frame extending upwardly from said means, a rigid support for said frame, a shaft mounted in said frame, a bevel-gear thereon engaging the first gear, a rake-bar pivoted on said shaft, a track controlling the movement of said bar, rake-teeth attached to said bar, a clutch on said shaft for throwing the rake-actuating means into or out of operation, and a member connected with said clutch for disengaging it from the rake-actuating means.

13. A detachable raking mechanism for grass-cutting machines comprising a bevel-gear, means for securing said bevel-gear at the end of the axle of the machine, a frame extending upwardly from said means, a rigid support for said frame, a shaft mounted in said frame, a bevel-gear thereon engaging the first gear, a rake-bar pivoted on said shaft, a track controlling the movement of said bar, rake-teeth attached to said bar, a clutch on said shaft for throwing the rake-actuating means into or out of operation, and means for moving said clutch that is controlled by the operator and for disengaging said clutch.

840,321. VENTILATOR. FRANK L. HARGREAVES, North Adams, Mass. Filed Apr. 10, 1906. Serial No. 310,974.



Claim.—1. A ventilator comprising a casing, a plate provided with a lug and mounted within the casing, a spring member secured within the casing and adapted to engage the lug to pivotally mount the plate and to retain it in opened or closed position.

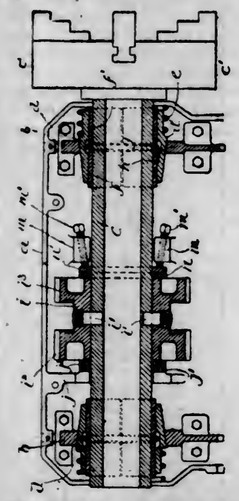
2. A ventilator comprising a casing, a plate mounted within the casing, said plate being provided with a lug and with a finger-piece, and a spring member secured within the casing and adapted to engage the lug to pivotally mount the plate and to retain it in its opened or closed position.

3. A ventilator comprising a casing, and a plate pivotally mounted within the casing, said plate being provided with a finger-piece adapted to support the plate in an upwardly-inclined position.

4. In a ventilator, the combination with the rail of a window-sash, said rail being provided with an opening, of a casing provided with an opening communicating with the opening in the rail, a plate provided with a lug and a combined support and finger-piece, and a spring member secured within the casing and adapted to engage the lug to retain the plate in its opened or closed position.

5. A ventilator comprising a casing, a plate provided with a lug, and means adapted to engage the lug to pivotally mount the plate and to retain it in its opened or closed position.

840,322. LATHE-SPINDLE. JAMES HARTNESS, Springfield, Vt. Original application filed July 27, 1903, Serial No. 167,068. Divided and this application filed May 26, 1905. Serial No. 262,419.



Claim.—1. In a lathe, a casing, journal-boxes supported thereby, rigid inwardly-projecting abutments on the interior of said casing between said journal-boxes and independent thereof, a live-spindle journaled in said boxes, and a member fast upon said spindle and held against axial movement by said abutments whereby the journal-boxes are relieved from the end thrust of said spindle.

2. In a lathe, a casing, journal-boxes supported thereby, rigid inwardly-projecting abutments on the interior of said casing between said journal-boxes and independent thereof, a live-spindle journaled in said boxes, a member fast upon said spindle and held against axial movement by said abutments whereby the journal-boxes are relieved from the end thrust of said spindle, and screws interposed between said members and some of the abutments to compensate for wear.

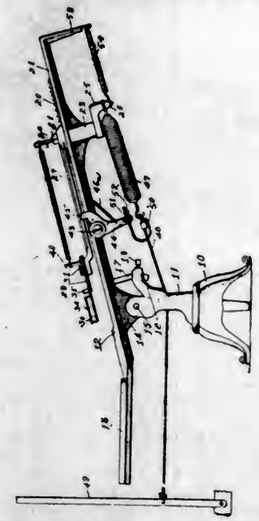
3. A metal-working machine comprising a head having supports with tapering apertures, externally-tapering journal-boxes in said apertures, springs for maintaining said boxes in said apertures, a live-spindle journaled in said boxes, and means independent of said boxes and located between them for holding said spindle against axial movement.

4. In a metal-working machine, a head having end walls, supports in said head between the said end walls, journal-boxes in said supports, means located between said end walls and said journal-boxes for adjusting said journal-boxes to compensate for wear, a spindle journaled in said boxes, and means independent of the boxes for holding said spindle against axial movement.

5. In a metal-working machine, a live-spindle, a head having bearings for the spindle and having thrust-shoulders independent of the bearings, and a member secured to the spindle and engaged by said shoulders for holding the said spindle against axial movement in combination with automatic compensating journal-boxes in said bearing.

840,323. TARGET-TRAP. JOHN W. HAUGHAWOUT, Fort Dodge, Iowa, assignor to Hoyt Metal Company, St. Louis, Mo., a Corporation. Filed Mar. 1, 1904. Serial No. 196,066.

Claim.—1. A target-trap comprising a frame having a ratchet-faced portion, a rotatably-mounted throwing-arm adapted to move in a complete circle, a catch carried by said throwing-arm for engagement with said ratchet-faced portion after the throwing-arm has reached its throwing position, a mainspring for initially actuating said throwing-arm, a trigger for maintaining said throwing-arm in a fixed position while said mainspring is being placed under tension, and a second spring for actuating said throwing-arm after said mainspring has been relaxed; said second spring being adapted to carry the throwing-arm to said trigger in completing its path of circular travel.



2. A target-trap comprising a frame, a rotatably-mounted throwing-arm mounted upon said frame to rotate in a complete circle, a mainspring for carrying said arm to a throwing position, a trigger for maintaining said arm in a fixed position while said manspring is being placed under tension, means for placing said mainspring under tension, and a second spring connected with said arm and adapted to carry said arm from its throwing position in completing its path of circular travel to a position against said trigger.

3. A target-trap comprising a frame, a throwing-arm rotatably mounted upon said frame and adapted to move in a complete circle, a mainspring for carrying said arm to a throwing position, means for momentarily placing said mainspring under tension, and a second spring actuating after said mainspring is relaxed to carry said throwing-arm throughout the remainder of the circle of its travel from its throwing position to its starting-point.

4. A target-trap comprising a frame, a throwing-arm rotatably mounted on said frame and adapted to move in a complete circle, a mainspring for actuating the throwing-arm through a portion of its movement, means for placing said mainspring under tension momentarily only, a second spring for actuating the arm through the remainder of its movement in a circle after said mainspring is relaxed, and a trigger to receive the engagement of the throwing-arm at its starting-point.

5. A target-trap comprising a frame, a throwing-arm rotatably mounted upon said frame adapted to move in a complete circle, a spring for actuating said throwing-arm, a trigger for holding said throwing-arm until said spring is placed under tension, means for placing said spring under tension, and a flexible connection between said means for placing said spring under tension and said trigger; said flexible connection being adjustably secured to said means for placing said spring under tension.

6. A target-trap, comprising a frame, a pivotally-mounted throwing-arm capable of moving in a complete circle, a spring for actuating the throwing-arm through a portion of its movement, a second spring for actuating the arm through the remainder of its movement, a trigger designed to be engaged by the throwing-arm at its point of starting, a rope connected with said trigger and with the first-mentioned spring for releasing the trigger at a certain predetermined point, and means for extending the spring and operating the trigger.

7. A target-trap, comprising a pivotally-mounted frame, a pivotally-mounted throwing-arm capable of moving in a complete circle, a spring for actuating the throwing-arm through a portion of its movement, a second spring for actuating the arm through the remainder of its movement, a trigger designed to be engaged by the throwing-arm at its point of starting, a rope connected with said trigger and with the first-mentioned spring for releasing the trigger at a certain predetermined point and a lever for extending the spring and operating the trigger.

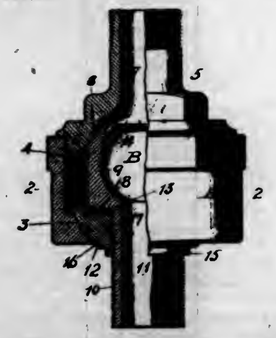
8. A target-trap, comprising a horizontally-vibratable frame, a table at the rear of the frame adapted for the londer of the trap to rest his arms upon, a pivotally-mounted throwing-arm, and means for operating the throwing-arm.

9. A target-trap comprising a rotatably-mounted throwing-arm capable of moving in a complete circle, a spring for actuating said throwing-arm, a trigger for holding the throwing-arm against movement due to the spring, and means for placing the spring under tension and connected with the trigger for operating it, said connection being adjustable to permit the tension placed upon the spring to be varied.

10. In a target-trap, a frame, a ratchet-faced semicircular portion near the forward end and at one side of the frame, a pivotally-mounted throwing-arm, a thin metallic catch attached to the under surface of said arm for engaging the teeth of the ratchet-faced portion as the arm is swung on its pivot, a trigger for maintaining the throwing-arm at its point of starting, a spring pressing against the outside of the trigger for preventing the shock on the frame as the throwing-arm is forced against the trigger, and means for operating the throwing-arms.

11. A target-trap comprising a frame having a ratchet-faced portion, a throwing-arm rotatably mounted on said frame, a catch carried by said throwing-arm for engagement with said ratchet-faced portion after said throwing-arm has passed its throwing position, a spring connected with the throwing-arm for actuating it, a rope connected to said spring, a trigger for maintaining the throwing-arm in a fixed position while said spring is being placed under tension, and means adjustably connected to said rope and attached to said trigger adapted to actuate said trigger after said spring has been placed under tension.

840,324. FLEXIBLE FLUID-JOINT. CHARLES G. HAWLEY, Chicago, Ill., assignor, by mesne assignments, to The United States Flexible Joint Company, Chicago, Ill., a Corporation of South Dakota. Filed May 6, 1905. Serial No. 259,191.



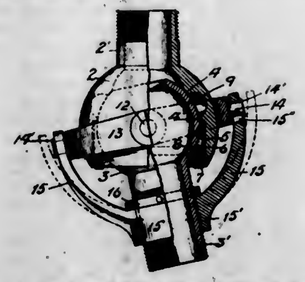
Claim.—1. A ball-and-socket joint of the class described comprising a substantially cylindrical socket member having a socket-surface at its inner end, in combination with a ball portion having a threaded shank, a ball-ring secured upon said shank, suitable packing between said ball portion and said ball-ring, a nipple having a threaded flange portion adapted to screw in the threaded end of said cylindrical socket member and provided with an internal stop-surface, substantially as described.

2. In a ball-and-socket joint of the class described, a socket member having a ball-socket, 3, at its inner end, and a stop-surface, 8, near its outer end, in combination with a ball portion having a stop-surface at its inner end and provided with a threaded shank, a ball-ring arranged upon said threaded shank and fitting the socket, 3, and suitable packing between said ball portion and said ball-ring, substantially as described.

3. In a ball-and-socket joint of the class described, a socket member containing a duct or cavity and provided with a ball-socket, 3, at its inner end, in combination with a ball portion, 9, having its inner end in proximity to an inner wall of said socket member, said ball portion, 9, having a threaded shank and a shoulder, 18, a ball-ring, 12, screwed upon said shank and provided with a packing-recess, and a gasket or packing, 13, provided in said recess between the ring and the shoulder of said ball portion, 9, substantially as described.

4. A ball-and-socket joint of the class described, comprising the cup portion, 2, having a ball-socket, 3, in its end, in combination with a nipple portion, 5, containing a duct, 7, secured in said cup portion, 2, a ball-ring, 12, fitting the said socket, 3, a ball portion, 9, having a shank, 10, whereon said ring is secured, said ball portion containing a duct, 11, said ball and nipple portions being provided with spherical stop-surfaces 14 and 8, respectively, substantially as described.

840,325. FLEXIBLE FLUID-JOINT. CHARLES G. HAWLEY, Chicago, Ill., assignor, by mesne assignments, to The United States Flexible Joint Company, Chicago, Ill., a Corporation of South Dakota. Filed May 6, 1905. Serial No. 259,193.



Claim.—1. In a ball-and-socket joint of the class described, a socket member, in combination with a ball member seated therein, a ring or yoke mounted for oscillation upon said socket member and provided with outwardly-projecting trunnions, the axis of which substantially includes the center of said ball member, and a yoke upon said ball member pivoted upon said trunnions, substantially as described.

2. A ball-and-socket joint of the class described, comprising a socket member, in combination with a ball member, a yoke upon said ball member, suitable packing, a ring between said socket member and said yoke and pivoted upon said socket member, and trunnions upon said ring to engage said yoke, substantially as described.

3. In a ball-and-socket joint of the class described, a socket member provided with trunnions upon its sides, the axis of said trunnions including the center of the socket in said member, a ring or yoke pivoted upon said trunnions and provided with outwardly-projecting trunnions at right angles thereto, a ball member seated within said socket member, and a yoke upon said ball member, pivoted upon the trunnions of said ring, substantially as described.

4. In a ball-and-socket joint of the class described, a socket member provided with trunnions upon its sides, in combination with a ring mounted upon said trunnions and

provided with other trunnions projecting outwardly and at right angles thereto, a ball member seated within said socket member, and arms connected with the ball member and extending from said ball member into engagement with the trunnions upon said rings, substantially as described.

5. In a ball-and-socket joint of the class described a socket member, in combination with a ring pivoted upon said socket member to swing upon an axis coincident with the center of said socket member, a ball member and a yoke upon said ball member and having its arms pivoted upon trunnions provided upon the exterior of said ring and at right angles to the axis of said ring, substantially as described.

6. In a ball-and-socket joint of the class described, a substantially spherical socket member having a ball-socket, in combination with a ball member in said socket, a ring or yoke pivoted upon said socket member, and an adjustable yoke provided on said ball member connected with said ring at right angles to the axis of said ring, substantially as described.

7. In a ball-and-socket joint of the class described, a socket member provided with trunnions upon its sides, in combination with a ring of malleable metal having trunnion-openings and pressed upon the trunnions of said socket, other trunnions upon said ring, a ball member and a yoke of malleable metal on said ball member and having its arms pressed upon the trunnions of said ring, substantially as described.

8. In a ball-and-socket joint of the class described, a socket member, in combination with a ball member, a ring mounted for oscillation upon said socket member and provided with integral trunnions and a malleable yoke provided upon said ball member and pressed into engagement with the trunnions of said ring, substantially as described.

9. In a ball-and-socket joint of the class described, a socket member having trunnions upon its sides, in combination with a ring pivoted upon said trunnions, a ball member having a threaded shank, a yoke adjustable upon said shank and having arms pivoted upon said ring at right angles to said trunnions, substantially as described.

10. In a ball-and-socket joint of the class described, a socket member and trunnions upon said socket member, in combination with a ring pivoted upon said trunnions, trunnions upon said ring and extending outwardly therefrom, a ball member, a yoke adjustably secured upon said ball member and pivoted upon the trunnions upon said ring, an annular rib in said socket member, a follower and soft packing interposed between said rib and follower, substantially as described.

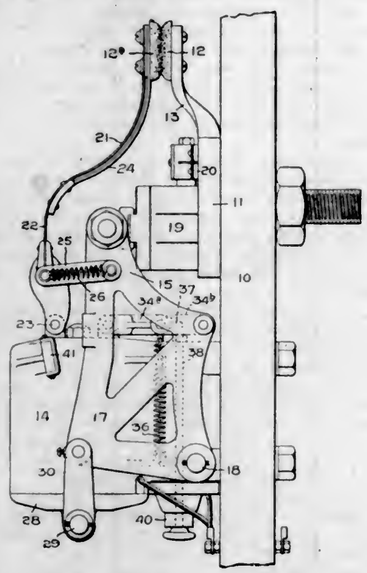
840,326. PROCESS OF MAKING A SOLUTION OF OXYHEMOGLOBIN. WILLEM J. J. HENDRIKSZOON, The Hague, Netherlands. Filed Oct. 28, 1905. Serial No. 284,829.

Claim.—1. The method of manufacturing a solution of oxyhemoglobin, which consists in separating the blood-serum from freshly-collected blood in any known manner, mixing the paste of blood-corpuscles so obtained with a solution of common salt in water, freeing the mixture from all traces of serum by centrifugalizing, next shaking the centrifugalized mass with finely-cut asbestos and water, and finally in filtering the whole, so that the solution of oxyhemoglobin is obtained.

2. The method of manufacturing a solution of oxyhemoglobin, which consists in centrifugalizing freshly-collected blood and thereby eliminating the blood-serum, then mixing the paste of blood-corpuscles so obtained with a solution of common salt in water, freeing the mixture from all traces of serum by centrifugalizing, next shaking the centrifugalized mass with finely-cut asbestos and water, so that the blood-corpuscles will be broken up and all the hemoglobin will dissolve in the solution, and finally in filtering the whole, so that the asbestos will retain the stroma and the filtrate will be a solution of oxyhemoglobin free from stroma.

3. The step in the manufacture of a solution of oxyhemoglobin, which consists in freeing a paste of blood-corpuscles from all traces of serum by mixing it with a solution of common salt in water and by centrifugalizing the mixture, next shaking the centrifugalized mass with finely-cut asbestos and water, and finally in filtering the whole, whereby a solution of oxyhemoglobin free from stroma is obtained.

840,327. ELECTRIC SWITCH. EDWARD M. HEWLETT and THEODORE E. BUTTON, Schenectady, N. Y., assignors to General Electric Company, a Corporation of New York. Filed May 28, 1904. Serial No. 210,165.



Claim.—1. A magnetically-controlled switch comprising fixed and movable contacts, an arched supporting-frame for the movable contact, locking devices for said switch-contacts, a release-magnet therefor, and a switch-closing magnet, said magnets located in a common magnet-frame, said locking device and releasing and closing magnets being housed between the vertical portions of said frame.

2. A magnetically-controlled switch comprising fixed and movable contacts, an arched supporting-frame for the movable contact, a switch-magnet and a releasing-magnet located in a common magnet-frame mounted between the vertical portions of said contact-supporting frame.

3. A magnetically-controlled switch comprising fixed and movable contacts, an arched supporting-frame for the movable contact, a switch-operating magnet and a releasing-magnet located in a common magnet-frame mounted between the vertical portions of said contact-supporting frame, and locking devices located on the upper side of said magnet-frame.

4. An electric switch comprising fixed and movable contacts, an arched supporting-frame for the movable contact, electrically-actuated mechanism for closing the switch-contacts housed between the vertical portions of said frame, auxiliary fixed and movable shunt-contacts, an auxiliary frame carrying said movable shunt-contact, and elastic connecting means between said auxiliary frame and said supporting-frame whereby the supporting-frame actuates the auxiliary frame and said shunt-contacts are maintained in engagement after the circuit is broken at the main contacts.

5. A magnetically-controlled switch comprising fixed and movable contacts, an arched supporting-frame for the movable contact, a releasing-magnet and a switch-operating magnet mounted between the vertical portions of said frame, a toggle above the releasing-magnet for locking said contacts in closed position, and connecting means below the switch-operating magnet and operable thereby to rock said frame to close the switch.

6. A magnetically-controlled switch comprising fixed and movable contacts, an arched supporting-frame for the movable bridging contact, a releasing-magnet and a switch-operating magnet mounted between the vertical portions of said frame, a locking-toggle connected to said frame above said releasing-magnet, a pin operated by said releasing-magnet to break said toggle, an armature for the switch-operating magnet located at the lower end of said magnet, and a link connection between said armature and said supporting-frame for closing said switch when said armature is drawn upward.

7. A magnetically-controlled switch comprising fixed and movable contacts, an arched supporting-frame for the movable contact, switch-operating means housed between the vertical portions of said frame, said means comprising an operating-magnet having its armature connected to said supporting-frame so as to close said switch when said magnet is energized, and means for cushioning the blow of the contacts.

8. A magnetically-controlled switch comprising fixed and movable contacts, a supporting-frame for the movable contact, and switch-operating means comprising an operating-magnet having its armature connected to said supporting-frame so as to close said switch when said magnet is energized, and a dash-pot located within said magnet-coil and arranged to retard the movement of said armature in closing the switch and to permit a quick movement in opening it.

9. A magnetically-controlled switch comprising fixed and movable contacts, a supporting-frame for the movable contact, and switch-operating means comprising an operating-magnet having its armature connected to said supporting-frame so as to close said switch when said magnet is energized, and an armature for said magnet fitted loosely in an air-pot within the magnet-coil, and a valve controlling an outlet-passage from said pot arranged to close during the closing movement of said switch to cushion the blow of the switch-contacts, and to open during the opening movement of the switch to permit a quick switch movement.

10. An electric switch comprising a support, fixed main and shunt contacts, a main frame pivoted to said support and carrying a movable main contact, a supplementary frame carrying a movable shunt-contact pivoted to said support and actuated by said main frame, and an elastic connection between said frames.

11. An electric switch comprising a support, fixed main and shunt contacts, a main supporting-frame carrying a movable main contact, a supplementary frame carrying a movable shunt-contact and connected from said main supporting-frame, a lost-motion connection between said frames, and a spring connecting said frames.

12. An electric switch comprising fixed and movable main and shunt contacts, supporting-frames for the movable contacts, a lost-motion connection between said supporting-frames, and springs tending to force said shunt-contacts into engaging position whereby the shunt-contacts remain closed during the initial opening movement of the main contact.

13. An electric switch comprising fixed and movable main and shunt contacts, supporting-frames for the movable contacts, a pin-and-slot connection between said supporting-frames, and springs tending to draw said frames toward each other, whereby the shunt-contacts are held closed during the initial opening movement of the main contact.

14. An electric switch comprising a supporting-base, contact-studs mounted thereon, a movable bridging contact, an arched supporting-frame for said bridging contact pivoted to said base, a magnet for closing said contacts secured to said base between the vertical portions of said frame, a fixed shunt-contact, a movable shunt-contact pivoted to said magnet, and elastic connections between said supporting-frame and said movable shunt-contact whereby the circuit is broken between said main and shunt contacts in succession.

15. A magnetically-controlled switch comprising fixed and movable contacts, an operating-magnet for the movable switch element located below said contacts, a locking-toggle for holding the switch in closed position located between said magnet and contacts, and a releasing-magnet for said toggle mounted in a common magnet-frame with said operating-magnet.

16. A magnetically-controlled switch comprising fixed and movable contacts, an iron-clad actuating-magnet for the movable switch element located below said contacts, an arched contact-supporting frame pivoted at its lower ends to the opposite sides of said magnet-frame, and locking means connected to the upper side of said magnet-frame.

17. A magnetically-controlled switch comprising a base, a switch-operating magnet and a releasing-magnet located in a common magnet-frame, fixed and movable contacts, a supporting-frame for the movable contact carrying said contact at its upper end and pivoted to the magnet-frame at its lower end, and means for locking the switch in closed position located on the upper side of said magnet-frame.

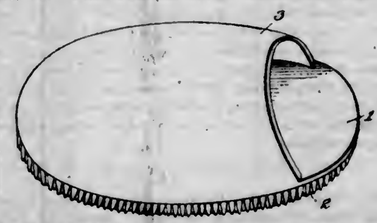
18. A magnetically-controlled switch comprising a base, a switch-operating magnet and a releasing-magnet in a common magnet-frame secured to said base, fixed and movable contacts, a supporting-frame for the movable contact carrying said contact at its upper end and pivoted at its lower end to the magnet-frame, and an armature for the switch-operating magnet located at the lower side of the magnet and connected to said supporting-frame so as to close the switch when said magnet is energized.

19. A magnetically-controlled switch comprising a base, a switch-operating magnet and a releasing-magnet in a common magnet-frame secured to said base, fixed and movable contacts, a supporting-frame for the movable contact carrying said contact at its upper end and pivoted at its lower end to the magnet-frame, an armature for the switch-operating magnet located at the lower side of the magnet and connected to said supporting-frame so as to close the switch when said magnet is energized, and a locking-toggle for holding the switch in closed position connected between the upper side of said magnet-frame and the contact-supporting frame.

20. A magnetically-controlled switch comprising a base, an iron-clad operating-magnet secured thereto, fixed and movable main and shunt contacts, and supporting-frames for the movable contacts carrying said contacts at their upper ends and pivoted to the magnet-frame at their lower ends.

21. A magnetically-controlled switch comprising a base, an iron-clad operating-magnet secured thereto, fixed and movable main and shunt contacts, supporting-frames for the movable contacts carrying said contacts at their upper ends and pivoted to the magnet-frame at their lower ends, and an elastic connection between said supporting-frames whereby the circuit is broken at the main and shunt contacts in succession.

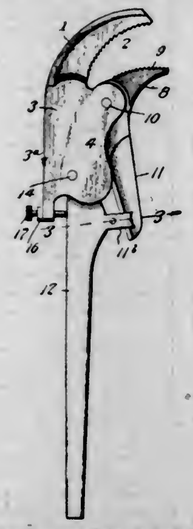
840,328. HORSE-BRUSH. JOHN S. HICKSON, Charlottesville, Va. Filed Jan. 29, 1906. Serial No. 298,515.



Claim.—A new rubber article of manufacture comprising a brush consisting of a back having a plurality of integral tapering teeth projecting from its face, and provided with a retainer for the hand extending from the rear side of said back and integral therewith, said retainer being adapted to completely house the hand and having its edge portions thickened at the point of jointure with the back for the purpose specified, the retainer being further provided with an entrance-opening or receiving end formed by cut-

ting a portion of said retainer away on an incline toward the closed end thereof, whereby the entrance-opening is formed with a contracted mouth and is adapted to permit of free play of the wrist in manipulating the brush.

840,329. WRENCH. JOHN W. HIELSCHER, Knilman, Ind. Filed Apr. 17, 1906. Serial No. 312,151.



Claim.—1. A wrench comprising a body, a fixed jaw carried by the body, a movable jaw pivotally secured to the body and having a shank provided with a longitudinally-extending shoulder, a handle pivotally secured to the body and provided with an arm adapted to engage the shoulder, and a roller journaled upon the handle and adapted to engage the shank of the movable jaw.

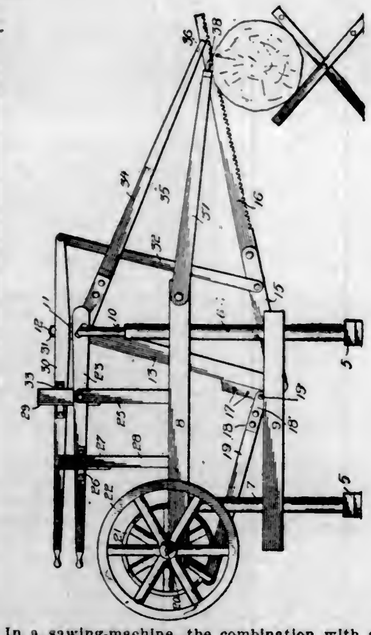
2. A wrench comprising a body, a fixed jaw carried by the body, a movable jaw pivotally secured to the body and having a shank provided with a longitudinally-extending shoulder, a handle pivotally secured to the body and provided with an arm adapted to engage the shoulder, and a roller journaled upon the arm and adapted to engage the shank.

3. A wrench comprising a body, a fixed jaw carried by the body, a movable jaw pivotally secured to the body and having a shank provided with a longitudinally-extending shoulder, a handle pivotally secured to the body and provided with an arm having its upper end bent for engagement with the shoulder, and a roller journaled upon the handle and adapted to engage the shank.

4. A wrench comprising a body, a fixed jaw carried by the body, a movable jaw pivotally secured to the body and having a shank provided with longitudinally-extending shoulders, a handle pivotally secured to the body and provided with arms having their upper ends bent to provide curved shoulder-engaging members, and a roller journaled upon and between the arms, said roller being adapted to engage the shank.

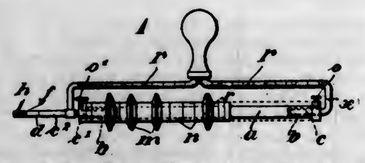
840,330. SAWING-MACHINE. ORLANDA C. HOAR, Vanatta, Ohio. Filed Aug. 10, 1906. Serial No. 330,049.

Claim.—1. In a sawing-machine, the combination with a frame including spaced front and rear hollow standards, and upper and lower connecting side beams; of a saw-carrier movable between said standards and provided with depending arms movable within the front standards; a saw connected with said carrier; reciprocating mechanism operatively connected with said carrier; an upright mounted upon one of the upper side beams; a lever pivotally mounted in said upright for adjusting the vertical position of said carrier with respect to the frame; a lever pivotally mounted on said carrier for independently adjusting the vertical position of the saw with respect to the carrier; and means for retaining said parts in adjusted position.



2. In a sawing-machine, the combination with a frame including spaced front and rear hollow standards, and upper and lower side beams; of a saw-carrier movable between said standards and including a member having depending arms movable within the front standards; a saw connected to said carrier; reciprocating mechanism operatively connected with said carrier; a pair of uprights mounted upon one of the upper side beams; racks secured to the rear faces of said uprights; a lever pivotally mounted in one of said uprights for adjusting the vertical position of said carrier within the frame; a catch secured to said lever for engagement with the rack on the other upright; and a lever pivoted to said armed member for independently adjusting the vertical position of the saw with respect to the carrier; and provided with a catch for engagement with the first-mentioned upright.

840,331. RULING APPLIANCE. LUDWIG HÖLZERMANN, Antwerp, Belgium. Filed Jan. 25, 1906. Serial No. 297,848.



Claim.—1. A ruling appliance, comprising a ruling device consisting of a holder, a spindle mounted therein and having a lateral extension on one end, and ruling-wheels mounted on the spindle, in combination with a guide to be arranged only on one side of the surface to be ruled and presenting a race along which said extension travels, substantially as described.

2. A ruling appliance, comprising a ruling device consisting of a holder having a movable terminal member, a spindle, having a terminal extension, and carried at one end by the body of the holder and at the other end by the said movable terminal member, and ruling-wheels mounted on the spindle; in combination with a guide presenting a race along which the said spindle extension travels, substantially as described.

3. A ruling appliance, comprising a ruling device consisting of a holder having a bent member sliding telescopically at one end, a spindle, having a terminal extension, and carried at one end by the body of the holder and receiving at the other end one limb of the telescopic member, and ruling-wheels mounted on the spindle; in combination with a guide presenting a race along which the said spindle extension travels, substantially as described.

4. A ruling appliance, comprising a ruling device consisting of a holder marked with a scale, a spindle removably mounted in the holder and having a terminal extension, and ruling-wheels and spacing-disks mounted on the spindle, the two outer disks being provided with set-screws on their periphery; in combination with a guide presenting a race along which the said spindle extension travels, substantially as described.

5. A ruling appliance, comprising a ruling device consisting of a holder, a spindle mounted therein and having a terminal extension which presents a rectangular portion and a terminal catch device, and ruling-wheels mounted on the spindle; in combination with a guide presenting a race along which the rectangular portion of the spindle extension travels, being retained therein by the said catch device; substantially as described.

6. A ruling appliance, comprising a ruling device consisting of a holder, a spindle mounted therein and having a terminal extension which presents a rectangular portion and a terminal catch device, and ruling-wheels mounted on the spindle; in combination with a guide consisting of a base, swivel-screws at the ends thereof, and a race consisting of two parallel bars tapped terminally to receive the screws and receiving the rectangular portion of the said spindle extension between them, which latter is retained in position by the said catch device, substantially as described.

7. A ruling appliance, comprising a ruling device consisting of a holder, a spindle mounted therein and having a terminal extension, which presents a rectangular portion and terminal hinged catches, and ruling-wheels mounted on the spindle; in combination with a guide consisting of a base, swivel-screws at the ends thereof, and a race consisting of two hollow parallel bars tapped terminally to receive the screws and having antifriction-balls projecting from their inner surfaces and receiving the rectangular portion of the said spindle extension between them, which latter is retained in position by the said catches, substantially as described.

840,332. INDEX CELL-CASE EQUIPMENT FOR DELIVERY OF MAIL. JOSEPH W. HOWARD and ROBERT M. MCKEE, Greeneville, Tenn. Filed Mar. 20, 1905. Serial No. 251,175.

Claim.—1. In an equipment of the class described, the combination with a neck-yoke comprising neck-embracing shoulder-straps connected at their front and rear ends, of a body-strap suspended from the front and rear ends of the neck-yoke, mail-holding means arranged on the body-strap, a hutch-supporting strap located above the body-strap and having its ends detachably connected to the front end of the neck-yoke, a detachable supporting connection between an intermediate portion of the hutch-supporting strap and the rear end of the yoke, and a hutch adjustably mounted on the hutch-supporting strap.

2. In an equipment of the class described, the combination with a neck-yoke comprising neck-embracing shoulder-straps connected at their front and rear ends, of a continuous body-embracing hutch-supporting strap having an adjustable connection at its ends with the front end of the neck-yoke, said strap extending rearwardly beneath the rear end of the neck-yoke, and a hutch slidably mounted on the strap.

3. In an equipment of the class described, the combination with a neck-yoke, of a continuous hutch-supporting strap having a detachable connection at its ends with the front portion of the neck-yoke and extending beneath the rear portion of the same, a support detachably connecting the rear portion of the neck-yoke and the rear portion of the strap, and a hutch carried by the strap and normally mounted on the rear portion thereof, said hutch being slidable toward the ends of the strap.



4. In an equipment of the class described, the combination with a neck-yoke comprising neck-embracing straps, of a continuous hutch-supporting strap having its ends crossed and detachably connected to the front portion of the neck-yoke, and a hutch slidably mounted on the straps and normally located beneath the rear portion of the neck-yoke.

5. In an equipment of the class described, the combination with a neck-yoke, of a body-surrounding hutch-supporting strap, snap-hooks carried by the ends of the strap and detachably connecting the same to the front of the neck-yoke, said ends being crossed, and a hutch supported by said strap and slidable thereupon.

6. In an equipment of the class described, the combination with a supporting device, of a hutch, a body-surrounding hutch-supporting strap connected to the supporting device and to one portion of the hutch, and supplemental supporting means located adjacent to the hutch and connected to said supporting device.

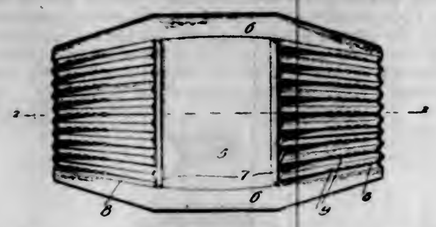
7. In an equipment of the class described, the combination with a neck-yoke, of a hutch, a body-surrounding hutch-supporting strap connected to one end of the neck-yoke, and supplemental supporting means disposed adjacent to the hutch and connected to the other end of said neck-yoke.

8. In an equipment of the class described, the combination with a neck-yoke, of a hutch, a body-surrounding hutch-supporting strap connected to the hutch and to the front end of the yoke, and a supplemental strap detachably connected to the hutch-supporting strap and also connected to the rear end of the neck-yoke.

9. In an equipment of the class described, the combination with a neck-yoke, of a hutch-supporting strap having its ends detachably connected to the front end of the neck-yoke, a hutch slidably supported on the strap, a supplemental supporting-strap connected to the rear end of the neck-yoke, and a hook carried by the supplemental strap and arranged to detachably engage the hutch-supporting strap contiguous to the hutch.

10. In an equipment of the class described, the combination with a neck-yoke, of depending straps secured to the ends thereof, stirrups suspended from said straps, a body-strap engaged in the stirrups, mail-holding receptacles connected to the body-strap, a hutch-supporting strap having ends detachably connected to the front end of the neck-yoke, a hutch having spaced loops slidably engaging the hutch-supporting strap, and a hook suspended from the rear end of the neck-yoke and arranged to detachably engage the hutch-supporting strap between the loops.

840,333. MINER'S GOLD-PAN. THOMAS HUSSEY, Hollywood, Cal. Filed Apr. 30, 1906. Serial No. 314,359.



Claim.—1. A hand gold-pan having a portion of the upper part of the end walls corrugated and having perforations at the apices of the outer portions of the corrugations.

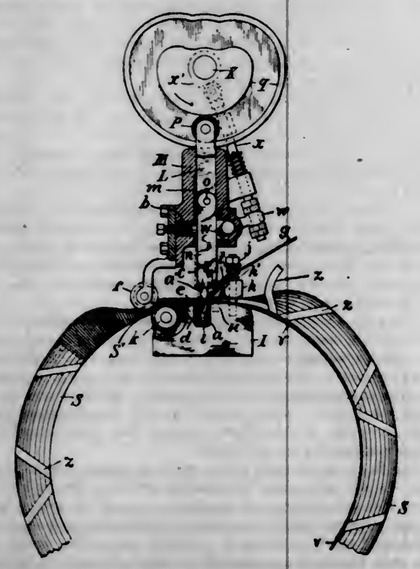
2. A hand gold-pan having a portion of each end of the bottom sloping upwardly and outwardly and having perforations near the outer ends of such sloping portions.

3. A hand gold-pan having a portion of each end of the bottom sloping upwardly and outwardly and corrugated, said corrugations having perforations at the apices ed, said corrugations having perforations at the apices thereof near the outer ends.

4. A hand gold-pan having a portion of the bottom nearly level and the other portions sloping upwardly and outwardly and corrugated, said corrugations having perforations at the apices thereof near the outer ends; and riffles extending transversely the bottom between the smooth and corrugated portions.

5. A device of the class described, comprising a sheet-metal body having side walls, the end walls of said body sloping upwardly and outwardly from the center thereof, and having corrugations at their outer ends; and a plurality of perforations at the apex of each corrugation.

840,334. PROCESS OF MAKING SHOES FOR PNEUMATIC TIRES. JOHN W. HYATT, Newark, N. J. Filed Aug. 19, 1905. Serial No. 274,039.



Claim.—1. The process of making an endless trough-shaped shoe for pneumatic tires, which consists in first winding a warp into circular trough-shape with its opening upon the inner side, second, flattening such trough upon a transverse line, and third, connecting the coils of the warp by a transverse filling.

2. The process of making an endless trough-shaped shoe for pneumatic tires, which consists in first winding a warp into circular trough shape with its opening upon the inner side, second, supporting endless rings of rigid material, as wire, at opposite edges of the trough, third, flattening such trough transversely into line with the periphery of such rings, and fourth, connecting such rings and the warp-coils by a transverse filling.

3. The process of making an endless trough-shaped shoe for pneumatic tires, which consists in first winding a single continuous strand spirally into a trough-shaped circular warp, second, flattening such trough upon a transverse line, and third, connecting the coils of the warp by a transverse filling.

4. The process of making an endless trough-shaped shoe for pneumatic tires, which consists in first winding a single continuous cord spirally into a trough-shaped circular warp, second, flattening such trough upon a transverse line, third, separating longitudinally the cords of such warp transversely into a series of parallel groups, and fourth, connecting the cords by a transverse filling.

5. The process of making an endless trough-shaped shoe for pneumatic tires, which consists in first moistening the circular strands with an adhesive cement or composition, second, winding the warp into circular trough shape with its opening upon the inner side, third, flattening such trough upon a transverse line, fourth, separating the strands of such warp progressively upon a line across the flattended portion, and fifth, connecting such separated strands progressively by a transverse filling.

6. The process of making an endless trough-shaped shoe for pneumatic tires, which consists in first winding the strands of the warp into circular trough shape and cementing the strands together, second, flattening such trough upon a transverse line, third, separating the strands of the warp upon a line across the flattened portion, fourth, carrying stitching-threads between the strands thus separated and connecting the stitches beneath the strands by a lock-thread.

7. The process of making an endless trough-shaped shoe for pneumatic tires, which consists in first saturating the warp-strands with a soluble composition adapted to stiffen and cement together the strands, second, winding the saturated warp into circular trough shape with its opening upon the inner side, third, flattening such trough upon a transverse line, fourth, softening the cementing material upon such transverse line, and fifth, progressively connecting the coils of the warp by a filling upon such transverse line.

8. The process of making an endless trough-shaped shoe for pneumatic tires, which consists in first saturating the warp-strands with a soluble composition adapted to stiffen and cement together the strands, second, winding the saturated warp into circular trough shape with its opening upon the inner side, third, flattening such trough upon a transverse line, fourth, separating the strands of the warp into a series of parallel groups progressively, fifth, projecting steam against the warp along such transverse line to soften the cementing material, and sixth, connecting the strands progressively by a filling upon such transverse line.

9. The process of making an endless trough-shaped shoe for pneumatic tires, which consists in first saturating the warp-strands with a soluble composition adapted to stiffen and cement together the strands, second, winding the saturated strand spirally into a trough-shaped circular warp, third, flattening such trough upon a transverse line, fourth, softening the cementing material upon such transverse line, and separating the strands on such line, fifth, supporting endless wire rings at the margin of the softened portion, and sixth, progressively connecting such ring and the warp-strands by a permanent filling upon such transverse line.

10. The process of making a tire-shoe with endless warp, which consists first in passing the cord for the strands through a soluble composition and through a die to remove the excess of the composition, second, winding the cord continuously and spirally in a series of strands into a trough-shaped circular warp, with the strands coherent at their edges, third, flattening such trough upon a transverse line, and fourth, connecting the strands progressively by a permanent transverse filling.

11. The process of making a tire-shoe with endless warp, which consists first in passing the cords for the strands through a soluble composition and through a die to remove the excess of the composition, second, winding the cord continuously and spirally in a series of strands into a trough-shaped circular warp, with the strands coherent at their edges, third, flattening such trough upon a transverse line, fourth, projecting steam upon the flattened warp on such transverse line to soften the composition, and fifth, progressively connecting the strands by a permanent filling where thus softened.

12. The process of making a tire-shoe with endless warp and transverse filling of zigzag stitches, which consists first in passing the cord for the strands through a soluble composition, second, winding the cord continuously and spirally, in a series of strands, into a trough-shaped circular warp with the strands coherent at their edges, third, flattening such trough on a transverse line and supporting the flattened portion below a transverse row of stitching-needles, fourth, projecting steam upon such needles and upon the flattened warp to soften the composition, fifth, separating the warp-strands in line with the stitching positions of the needles, and sixth, extending zigzag stitches back and forth across the warp-strands, and connecting the loops of such stitches beneath the strands.

13. The process of making a tire-shoe with endless warp, which consists in first saturating the cord for the warp-strands with a soluble composition, second, forming such cord, in a series of adjacent circular strands, into a trough-shaped circular warp with the edges of the strands coherent, third, attaching a tape in a zigzag path across the outer side of the trough-shaped warp, fourth, flattening such trough upon a transverse line, and fifth, connecting the strands by a permanent filling upon such transverse line.

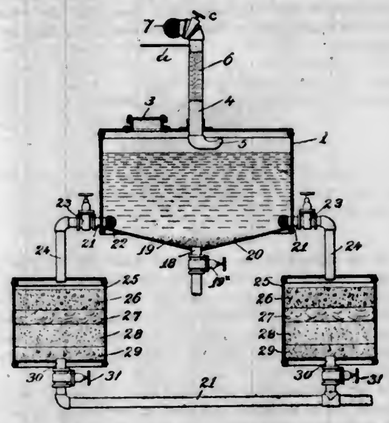
14. The process of making a tire-shoe with endless warp, which consists in first forming strands into a trough-shaped circular warp and cementing them together by a soluble composition, second, connecting such strands progressively by a transverse filling, and third, washing the cementing material out of the fabric.

15. The process of making a tire-shoe with endless warp, which consists in first forming strands into a trough-shaped circular warp and cementing them together, second, flattening such trough upon a transverse line and forming a stitched filling across the warp upon such transverse line, and third, feeding the warp forward with a greater speed at the middle than at the edges of the flattened portion, whereby the transverse rows of filling are spaced in accordance with the trough shape of the shoe.

16. The process of making a tire-shoe with endless warp, which consists in first forming strands into a trough-shaped circular warp and cementing them together, second, flattening such trough upon a transverse line and forming a stitched filling across the warp upon such transverse line, and third, feeding the warp forward with a greater speed at the middle than at the edges of the flattened portion and holding back the warp with suitable tension for applying the transverse filling.

17. The process of making a tire-shoe with endless warp and transverse filling of zigzag stitches, which consists in first forming strands into a trough-shaped circular warp, second, flattening such trough on a transverse line and supporting the flattened portion below a transverse row of stitching-needles, third, feeding the warp continuously forward with a greater speed at the middle than at the edges of the flattened portion, and fourth, moving the row of needles forcibly against the previously-formed row of stitches, while the needles are between the strands, and then removing the needles from such row to retract them freely from the strands.

840,335. ELECTRIC WATER PURIFYING AND FILTERING APPARATUS. JACOB A. HYLE, Altoona, Pa., assignor, by direct and mesne assignments, of one-half to Frederick Hesser and one-fourth to D. A. Reagan, Altoona, Pa. Filed Apr. 3, 1906. Serial No. 309,678.



Claim.—1. In an apparatus of the character described, an inlet-pipe provided with an electrolytic cell, said cell comprising a series of longitudinally-extending pipes secured to disks at their ends, and a corrugated plate surrounding the pipes and disks, said disks being supported upon glass insulators, and electric connections for the plate and disk, respectively, substantially as described.

2. An inlet-pipe for water-purifiers having a contracted discharge end and containing an electrolytic cell composed of longitudinally-extending pipes, end disks and a corrugated plate surrounding the pipes, and electric connections for the plate and disk, respectively, substantially as described.

3. An inlet-pipe for water-purifiers, said pipe having secured to the interior surface thereof insulator supporting lugs or flanges, an electrolytic cell comprising end disks, longitudinal pipes extending through said disks and supported on said lugs or flanges, a corrugated cell-plate supported on the lugs or flanges, the lower disk being provided with a peripheral groove and recesses, a corrugated plate surrounding said pipes and disks, and electric connections for the plate and disks, respectively, substantially as described.

4. In an electric water purifying and filtering system, a reservoir, a filter, outlet-pipes leading from the reservoir to said filter, a service-pipe communicating with the filter, a cleaning-pipe at the bottom of the reservoir, and an inlet-pipe containing an electrolytic cell composed of longitudinally-extending pipes, end disks and a corrugated plate surrounding the pipes, and electric connections for the plate and disks respectively, all substantially as described.

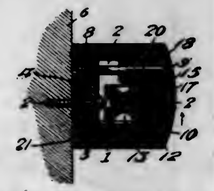
5. In an electric water purifying and filtering system, a reservoir having a concaved bottom, a cleaning-pipe attached to the bottom of the reservoir and provided with a valve, outlet-pipes leading from the reservoir, filters connected to said pipes, a service-pipe leading from the bottom of the filters, and an inlet-pipe having a contracted discharge end and containing an electrolytic cell composed of longitudinally-extending pipes, end disks and a corrugated cell-plate surrounding the pipes, and electric connections for the plate and disks respectively, all substantially as described.

840,336. INSULATOR. ALFRED JOHNSON, Quincy, Ill. Filed Feb. 7, 1906. Serial No. 299,983.

Claim.—1. In an insulator, a base, means for securing said base to a suitable support, a reversible seat-block mounted in the base, and a clamping-cap lying opposite

the seat block or step provided with means for securing the same to the base.

2. In an insulator, a channeled base, means for securing said base to a suitable support, a reversible seat-block mounted in the channeled portion of the base and provided with conductor-grooves in two or more faces thereof, and a clamping-cap having means for securing the same to the base and adapted to clamp the conductor against the seat-block.



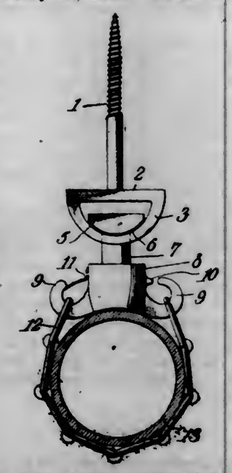
3. In an insulator, a channeled base, an anchor-plate mounted therein, an attaching-screw passing through the anchor-plate and base for securing the base to a suitable support, a seat for a conductor, a clamping-cap adapted to clamp the conductor against the seat or step, and a clamping-bolt passing through said cap and engaging a threaded opening in the anchor-plate.

4. In an insulator, a channeled base, means for securing said base to a suitable support, a reversible seat-block mounted in the channeled base and removable therefrom, and a clamping-cap having means for securing the same to the base, said cap being provided with a stop which engages the seat-block.

5. An insulator, a channeled base, means for securing said base to a suitable support, a reversible seat-block removably fitted in the channeled base and provided with one or more notches, and a clamping-cap having means for securing the same to the base, said cap being provided with a lug which engages one of the notches in the seat-block, substantially as and for the purpose described.

6. In an insulator, the combination with a base, and means for securing said base to a suitable support, of a reversible seat-block having a plurality of faces provided with grooves of different sizes to receive a conductor, and a clamping-cap secured to the base and adapted to clamp said conductor within one of said grooves in the reversible seat-block.

840,337. PIPE-HANGER. JOHN E. JOHNSON, Ishpeming, Mich. Filed July 26, 1906. Serial No. 327,945.

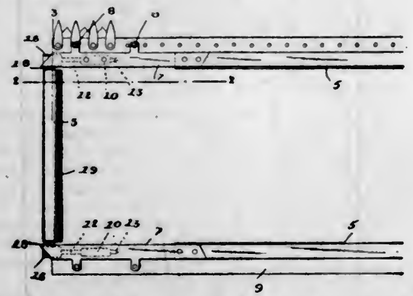


Claim.—1. A pipe-hanger comprising an attachment means having an integral head with an integral stirrup depending therefrom, said stirrup having a perforation, a head located within the stirrup, a nipple attached to the head within the stirrup and passing through the stirrup perforation, a bracket attached to the lower end of said nipple and having oppositely-disposed hooks, a chain linked at its ends upon said hooks, and means attached to the bracket for positively retaining the linked ends of the chain in engagement with said hooks.

2. A pipe-hanger comprising an attaching means having an integral head and an integral concaved stirrup depending therefrom, said stirrup being provided with a perforation, a head having a convex surface which bears against the concaved surface of said stirrup, a nipple passing through the stirrup perforation and attached to said convexed head, a bracket attached to said nipple and having oppositely-disposed hooks, a chain linked at its ends to said hooks, and means carried by the bracket for positively retaining the links of the chain in engagement with the said hooks.

3. A pipe-hanger comprising an attaching means having an integral head with an integral stirrup depending therefrom, a head received within the said stirrup, said stirrup having a perforation, a member attached to said head and passing through said perforation, a bracket attached to the lower end of said member and having oppositely-disposed hooks, said bracket having at one side a hook located opposite the end of one of the hooks and at its opposite side a snap-spring bearing against one of said hooks, a chain adapted to be moved sidewise within the space between said lug and its opposite hook end and when swung down being retained upon the said hook, the link at the opposite end of said chain adapted to be passed over the opposite hook of the bracket and held in engagement therewith by the said snap-spring.

840,338. HARVESTER ATTACHMENT. HADFIELD E. JOHNSON, Axel, Minn. Filed Aug. 16, 1906. Serial No. 330,850.

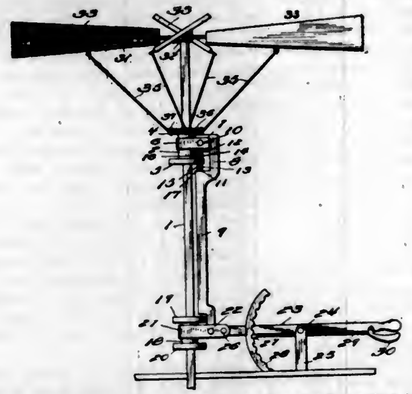


Claim.—1. In a device of the class described, the combination with the platform of a harvester, of rods slidably mounted upon said platform, springs carried by the rod and arranged to hold the same normally at one limit of their movement, bearing-heads connected directly with and carried by the rods at their outer ends, and a shaft journaled at its ends in said bearing-heads.

2. In a device of the class described, the combination with the platform of a harvester, of rods slidably mounted upon said platform, springs carried by the rod and arranged to hold the same normally at one limit of their movement, heads formed on the outer end of said rod and provided with alining sockets, and a shaft journaled at its ends in said socket.

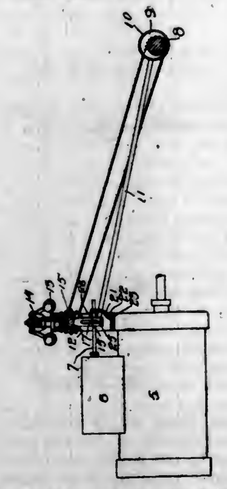
840,339. AIR-SHIP. HENRY H. JOHNSON, Avoca, Iowa. Filed June 1, 1905. Serial No. 263,352.

Claim.—1. An air-ship comprising a continuously-rotating propeller-shaft having bars connected to its upper end; a propeller-blade pivotally connected at its under face to the ends of each of said bars; upper and lower sleeves mounted for slidable movement upon said propeller-shaft and for rotation therewith; a rod connection between the lower edge of each of the propeller-blades and the upper sleeve; an arm arranged parallel with the propeller-shaft; a connection between the upper and lower ends of said arm, and the respective sleeves; the said arm having a recess in its inner face; wheels journaled in the said recess of the arm for contact with the upper sleeve; and a lever pivotally connected with the said connection between the lower end of the arm, and the lower sleeve whereby the sleeves and arm may be moved upwardly and downwardly for adjusting the propeller-blades upon their bars to different planes with respect to the plane of said bars.



2. An air-ship comprising a rotatable shaft having bars connected to its upper end; a propeller-blade pivotally connected at its under face to the ends of each of said bars; upper and lower sleeves mounted for sliding movement upon said propeller-shaft and for rotation therewith; a rod connecting the lower edge of said propeller-blade with the upper sleeve; an arm arranged parallel with the propeller-shaft; a strap embracing each sleeve and connected to the respective end of said arm; said arm being formed with a recess in its inner face; wheels journaled in the said recess of the arm for contact with the upper sleeve; and a lever pivotally connected with the said connection between the lower end of the arm, and the lower sleeve whereby the sleeves and arm may be moved upwardly and downwardly for adjusting the propeller-blades upon their bars to different planes with respect to the plane of said bars.

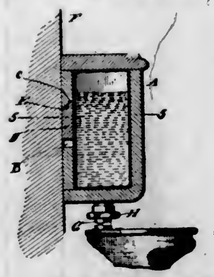
840,340. GOVERNOR. ROBERT L. JOHNSON, Murfreesboro, Tenn. Filed Mar. 22, 1906. Serial No. 307,432.



Claim.—1. In a device of the character described, the combination with a reciprocatory valve-rod, a governor-stem and an eccentric-rod, of an arm pivoted to the governor-stem and having its lower end bent back upon itself, the end of the eccentric-rod being pivoted to said back-turned portion, and a pin carried by said valve-rod and engaged in a slot in said arm.

2. In a device of the class described, the combination with a valve-rod, a governor-stem, and an eccentric-rod, of a slotted arm pivoted to the governor-stem, the lower end portion of said arm being bent back upon itself in spaced relation to its body portion, the end of the eccentric-rod being pivoted to the back-bent portion of the arm and the valve-rod being received between the spaced portions thus formed, and a pin carried by the valve-rod and engaged in the slot in the arm.

840,341. WATER-CLOSET TANK. FORREST W. KINGSBURY, Evansville, Ind., assignor to Peerless Tank and Seat Works, Evansville, Ind., a Corporation of Indiana. Filed Dec. 26, 1905. Serial No. 293,257.



Claim.—1. The combination substantially as herein described of a supporting-block having its upper edge undercut, the tank having its back board provided with an opening whose upper wall is undercut and is adapted to interlock with the undercut upper edge of the supporting-bar, the said opening being of sufficient width vertically to permit the application of the tank to and its removal from the undercut supporting-bar, and plumbing connections whereby to hold the tank in interlocked engagement with the supporting-block and having detachable means whereby the tank may be readily released when it is desired to remove the same, all substantially as and for the purpose set forth.

2. The combination of a tank having the lining and the back board provided with an opening extending into the lining and whose upper wall is undercut, and a supporting bar or block fitting within the opening and against the lining and having its upper edge undercut and adapted for interlocked engagement with the undercut wall of the opening in the tank, said opening in the tank being of such size relatively to the width of the block as to permit the application to and removal of the tank from the block, substantially as set forth.

840,342. WATER-CLOSET SEAT. FORREST W. KINGSBURY, Evansville, Ind., assignor to Peerless Tank and Seat Works, Evansville, Ind., a Corporation of Indiana. Filed Dec. 26, 1905. Serial No. 293,258.

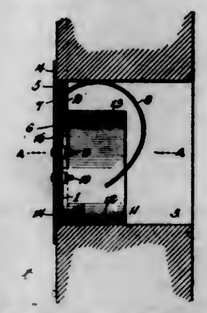
Claim.—1. A closet-seat comprising sections having their side edges abutting against each other and having in said abutting edges in front and rear of the hole, sockets opening at such edges and closed at all other points whereby no openings from said sockets appear on exposed faces of the sections, and pins of a diameter slightly larger than that of their respective openings and pressed at their ends in the coincident alined sockets of the abutting sections, the said pins having rounded ends and barbed or bearded from their ends toward their middles, the middle portions of the pins being smooth for short distances on opposite sides of the center of the pins all substantially as and for the purposes set forth.

2. The combination of the seat-sections abutting at their side edges in front and rear of the hole and provided in said edges with alined sockets and pins of

slightly-greater diameter than that of the sockets and driven at their ends into the sockets and barbed or bearded to engage the walls of the sockets substantially as set forth.



840,343. FLUE-STOP. JOHN H. KINLEY, Upper Sandusky, Ohio. Filed Feb. 14, 1906. Serial No. 301,056.



Claim.—1. A flue-stop comprising inner and outer stops or heads, the inner stop or head fitting within and conforming to the configuration of a stovepipe-opening or flue and the outer stop being of greater diameter than the same, and a narrow diametrically-arranged strip interposed between the inner and the outer stops or heads and spacing the same apart to provide an intervening air-space for preventing the outer stop from becoming heated.

2. A flue-stop comprising inner and outer stops, the inner stop conforming to the configuration of and adapted to fit within the stovepipe-opening or flue, and the outer stop being of greater diameter than the same, and a diametrically-arranged spacing-strip interposed between the inner and outer stops to provide an intervening air-space, and having an extension forming a clamping-arm.

3. A flue-stop comprising inner and outer stops, the inner stop conforming to the configuration of and adapted to fit within a stovepipe-opening or flue, and the outer stop being of greater diameter than the same, and a spacing-strip interposed between the inner and outer stops to provide an intervening air-space, and having an extension passing through the inner stop and curved in rear of the same to form a clamping-arm for engaging the interior of a stovepipe or flue.

4. A flue-stop comprising an inner circular stop or head provided at its periphery with a rim to fit the interior of a stovepipe-opening or flue, an outer stop or cap-plate spaced from the inner stop or head and extending beyond the stovepipe-opening or flue, a narrow diametrically-disposed spacing-strip arranged in said space, fastening means piercing the inner stop or head, the strip and the outer stop or cap-plate and securing the said parts together, and clamping means for retaining the device in the stovepipe-opening or flue.

5. A flue-stop provided with a combined scoop and clamp consisting of a fixed intermediate portion arranged at the bottom of the flue-stop, and resilient side portions compressible at diametrically opposite points and adapted to clamp the interior of a stovepipe-hole or flue at opposite sides thereof.

6. A flue-stop having an inner stop or head provided with a rim, a combined clamp and scoop consisting of a fixed intermediate portion fitted against said rim, and resilient side portions having recesses at their inner edges to clear the said rim and compressible at diametrically opposite points.

7. A flue-stop comprising inner and outer stops spaced apart, the inner stop being provided with slots, and a combined clamp and scoop consisting of resilient side portions and a fixed intermediate bottom portion provided with tongues extending through the slots of the inner head into the space between the inner and outer heads.

8. A flue-stop comprising inner and outer stops spaced apart, a spacing-strip interposed between the inner and outer heads and provided at the top of the device with a curved clamping-arm extending rearward from the inner stop, and a combined clamp and scoop composed of a fixed intermediate bottom portion and resilient side portions coöperating with the said clamping-arm for engaging the interior of a stovepipe-opening or flue.

9. A flue-stop provided with a combined scoop and clamp, consisting of a fixed intermediate portion arranged at the bottom of the flue-stop, and resilient side portions adapted to clamp the interior of a stovepipe-hole or flue at opposite sides thereof, and a clamping-arm connected at one end to and carried by the flue-stop and having its other end free and adapted to coöperate with the combined scoop and clamp.

10. A flue-stop comprising flat inner and outer stops spaced apart, the inner stop being of a size to fit within a stovepipe-hole or flue and having an inwardly-extending annular rim to fit a stove-hole or flue, and a combined scoop and clamp having resilient side portions and an intermediate fixed portion which is rigid with the inner stop.

11. A flue-stop comprising inner and outer stops spaced apart, the inner stop being of a size to fit within a stovepipe-hole or flue, a combined scoop and clamp having resilient side portions and an intermediate fixed portion which is rigid with the inner stop, and a clamping-arm extending from the inner stop and connected at one end to the same and having its other end free and coöperating with the combined scoop and clamp.

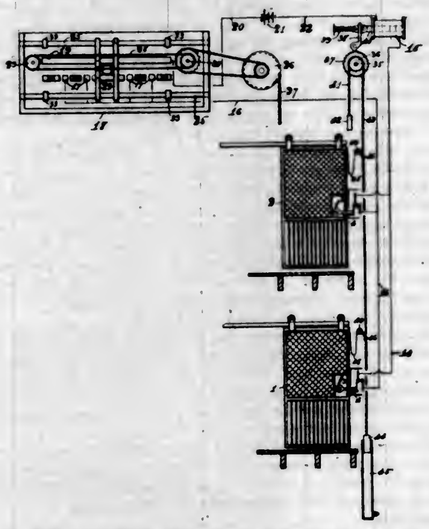
12. A flue-stop comprising inner and outer heads or stops consisting of flat plates, the inner head or stop being provided at its periphery with a rim to fit a stovepipe-opening or flue, and a narrow diametrically-arranged strip interposed between the inner and outer stops or heads and spacing the same from each other to provide an intervening air-space for preventing the outer stop or head from becoming heated.

840,344. ELEVATOR-GATE-CLOSING MEANS. CHARLES W. KIRSCH, Chicago, Ill. Filed Apr. 2, 1906. Serial No. 309,527.

Claim.—1. A device of the kind specified comprising a supported member, gate-operating means disposed in operative relation to said supported member, supporting means disposed in operative relation to said supported member, electrically-actuated releasing means disposed in operative relation to said supporting means, an electric circuit controlling said releasing means, and circuit-closing means controlled by the gates and the car and disposed in operative relation to said circuit to control the same.

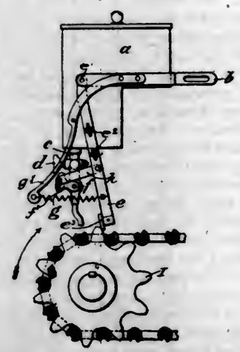
2. Automatic elevator-gate-closing means comprising electrically-controlled means normally maintained out of operative relation to the gates, a normally open circuit controlling the same, circuit-closing means controlled by the gates, and circuit-closing means controlled by the car and coacting with said first-named circuit-closing means to throw the said electrically-controlled means into operative relation to said gates to close the same.

3. Elevator-gate-closing means comprising electrically-controlled gate-closing devices normally maintained out of operative relation to the gates, a normally open circuit controlling the same, traveling circuit-closing means controlled by the car and adapted to close said circuit at one point at intervals, and circuit-closing means controlled by the gates and adapted to close said circuit at another point when a gate is opened, said circuit when closed at both points being adapted to throw said gate-closing devices into operative relation to the open gate to close the same.



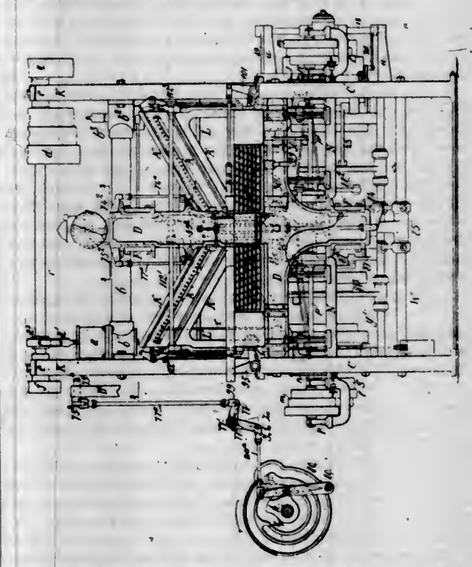
4. Elevator-gate-closing means comprising a supported member, coacting means disposed thereon and on said gates to close the latter when said supported member is released, electrically-controlled supporting means disposed in operative relation to the said supported member, an electric circuit normally open at two points controlling said supporting means, circuit-closing means controlled by said gates for closing said circuit at one point when a gate is opened, and traveling circuit-closing means controlled by the movements of the car to close said circuit at another point, both said circuit-closing means coacting to cause said supported member to be released when a gate is open after the elevator passes a floor in either direction.

840,345. AUTOMATIC LUBRICATOR. MAX KLEMM, Bielefeld, Germany. Filed Mar. 5, 1906. Serial No. 304,297.



Claim.—An improved lubricating apparatus comprising in combination a receptacle for the lubricant, a pipe leading therefrom, a valve in said pipe adapted to permanently close or open the same, a second valve in said pipe adapted to be intermittently operated, a lever provided with a link adjustably connected with said last-mentioned valve, a toothed wheel adapted to engage said lever to intermittently operate the same, said lever being provided with an elongated engaging portion adapted to be successively engaged by said teeth, a spring connected with said lever and with a stationary part, and means for adjusting said lever to vary the movement of said last-mentioned valve.

840,346. TYPE-BAR MACHINE. ALBERT J. KLETZKER and JOHN G. GOESEL, St. Louis, Mo., assignors to The Duplex Typeline Company, a Corporation. Filed June 21, 1897. Serial No. 641,722.



Claim.—1. The matrix-bar, having a matrix-plate 2, a stem 2^2 an eye 2', a recess 2^3 with upper and lower beveled edges, and a tooth 2^9 projecting from the eye.

2. A separate eyepiece, uniform for all matrix-bars, having an eye 2', a tooth 2^9 projecting from the eye, a recess 2^3 with upper and lower beveled edges, and a joint 2^5 for connection with the stem of a matrix-bar.

3. A separate matrix-plate 2, uniform for all matrix-bars, having a circular convex edge, two guide projections, one at each end of the convex edge, the circular concave edge, concentric with the convex edge, the recess for the type-matrix at the middle of the convex edge, and a joint 2^6 for connection with the stem of the matrix-bar.

4. Means for holding a row of matrix-bars in compact form and in a fixed position on a suspension-rod, consisting of a horizontal rod of solid circular section supported at both ends in stationary frames, a series of similar matrix-bars suspended from the rod near one of its ends, a retaining-lever having a projecting retaining-hook at one end, a compressing-plate 35 and the means to press the series of matrix-bars toward the projecting hook of the retaining-lever.

5. Means for releasing one matrix-bar and for simultaneously retaining the remaining row of matrix-bars, consisting of the horizontal rod of solid circular section, the frames supporting both ends thereof, the row of similar matrix-bars mounted and suspended near one end of the rod, the means for compressing the row of matrix-bars, a retaining-lever 36 having a projecting hook normally engaged for retaining the whole row of matrix-bars in a fixed position, a retaining-lever 39 having a projecting hook normally disengaged and means for simultaneously moving the retaining-hook of the two levers in opposite directions.

6. Means for operating the retaining-levers, consisting of the retaining-lever 36, the retaining-lever 39, the fulcrum-bracket 37, the angle-lever 38, the pin extending from both

sides at the end of the upward-extending lever-arm of angle-lever 38 engaged in cam-slots in each retaining-lever, the cam-slots in said retaining-levers so formed that the first part of the motion of angle-lever 38 produces simultaneous motions in opposite directions of the two retaining-levers, while the second part of the motion of said angle-lever 38 holds the two retaining-levers in a stationary position.

7. Means for removing a released matrix-bar longitudinally on the supporting-rod, consisting of the pawl-lever 40, the opening 40′ and the slot 40^2 therein, the fulcrum-bracket 37, the angle-lever 38, the pin extending from one side of the upright arm of angle-lever 38 engaged in the opening 40′, the guide-slot in bracket 37 for the motion of pawl-lever 40 and the pin in bracket 37 passing through slot 40^2, and means to communicate motion to the horizontal arm of angle-lever 38.

8. Means for holding a retaining-lever in a stationary position and the projecting hook at one end thereof engaged with the first of a row of matrix-bars suspended from a rod and pressed against the projecting hook, thereby holding the row of matrix-bars in a fixed and immovable position, consisting of the fulcrum-bracket 37, the retaining-lever 36 having a projecting hook at one end and being connected at the opposite end to the rod 36^a, the bar 41 connected to the lower end of rod 36^a, the strip 41^2 and the spring 41′ pressing downwardly on a collar fastened to the connecting-rod 36^a.

9. Means for holding a pawl-lever normally in engagement for operating the first of a row of matrix-bars suspended from a rod, and held in a fixed position by the retaining-hook of a lever, consisting of the fulcrum-bracket 37, the pawl-lever 40 having the beveled projecting pawl at one end the opposite end being joined to the upper end of connecting-rod 40^a, the bar 42 joined to the lower end of connecting-rod 40^a, and the spring 42′ pressing the connecting-rod upwardly.

10. Means for holding normally, the angle-lever 38, the retaining and pawl levers and the row of matrix-bars connected therewith, in a stationary and fixed position, consisting of the fulcrum-bracket 37, the angle-lever 38, the connecting-rod 38^a being at its upper end joined to the end of the horizontal arm of angle-lever 38, the flat joint-plate 43 fastened to the lower end of connecting-rod 38^a and the supporting-rod 45.

11. The joint-plate 43 having at its upper end a socket for connection with rod 38^a, and consisting of the rectangular flat part 43, the heel 43^2 at its lower end, the slot 43^2 in the body of the plate for connection with operative parts of the keyboard and the notch 43′ on one edge for connection with moving parts of the machine.

12. Means for guiding in its vertical motion a connecting-rod 38^a, consisting of a fulcrum-bracket 37, an angle-lever 38, the bar 46, the horizontal slotted guide-strip 46′, a joint-plate 43 engaged therein, having a slot 43^2, a slide-plate 47 having a lateral pin engaged in slot 43^2.

13. Means for guiding a slide-plate 47 in its horizontal motion, consisting of the bar 46, the slotted vertical guide-strip 46^2, the link 48 and the fulcrum-bar 49.

14. Means for moving joint-plate 43 horizontally by depressing a finger-key, consisting of the slide-plate 47, its laterally-extending pin engaged in slot 43^2, the link 48, the fulcrum-bar 49, the connecting-rod 50^a, the lever-arm 50′, and the key-lever 50.

15. Means for guiding in its combined vertical and horizontal motion a joint-plate 43, consisting of the bracket 37, the angle-lever 38, the connecting-rod 38^a, the guide-bar 46, the guide-strip 46′, and the supporting-rod 45.

16. Means for connecting with moving parts a normally stationary connecting-rod 38^a, consisting of a joint-plate 43 provided with a notch 43′ and a slot 43^2, a slide-plate 47, having a laterally-extending pin engaged with slot 43^2, a link 48, the fulcrum-bar 49, a connecting-rod 50^a, a lever-arm 50′ and a finger-key 50.

17. Means for disconnecting automatically from moving parts a connecting-rod 38^a, consisting of a joint-plate 43 provided with a notch 43′ and a slot 43^2, a slide-plate 47, the laterally-extending pin therein engaged with slot 43^2, the elongated notch 47′ at its top edge, the rod 51^2, the upward-extending series of lever-arms 51, the fulcrum-shaft 51′ thereof, the downward-extending lever-arm 52, and means to impart oscillating motion to lever-arm 52 by a revolving shaft.

18. Means for communicating motion to angle-lever 38 and thereby to the matrix-bar-operating mechanism, consisting of the fulcrum-shaft 44′, the series of levers 44 secured thereon, the rod 44^2, the connecting-rod 38^a, the joint-plate 43 having the notch 43′ and slot 43^2, the mechanism for engaging the slot 43′ with the rod 44^2, the lever-arm 53 in operative connection through link 53^a with the cam-lever 54 the latter having a roller 54′ engaged in the cam-groove of cam p^2 fastened to cam-shaft p, and means to communicate motion to cam-shaft p.

19. Means for holding a number of rows of matrix-bars suspended from an equal number of rods in compact form and in a fixed position, consisting of a series of horizontal straight rods of circular section and of equal length, the two parallel frames A and B supporting the rods, a row of a number of similar matrix-bars suspended from each rod, a series of fulcrum-brackets 37, a series of retaining-levers 36, a series of springs 34′, pressing all the rows of matrix-bars, through lever-arms 34, guide-rods 35 and plates 35′, against the hooks of levers 36.

20. Means for releasing one matrix-bar from any one of a number of rows of matrix-bars suspended from an equal number of horizontal rods and for retaining the remaining row of matrix-bars, consisting of a series of horizontal straight rods of solid circular section and of equal length, the two parallel frames supporting the rods, a row of a number of similar matrix-bars suspended from each rod, a series of springs compacting the rows of matrix-bars, a series of retaining-levers 36, a series of retaining-levers 39, a series of fulcrum-brackets 37 and a series of angle-levers 38.

21. Means for moving longitudinally on the rod a released matrix-bar from any one of a number of rows of matrix-bars suspended from an equal number of horizontal rods, consisting of a series of horizontal straight rods of equal length and solid circular section, the two parallel frames supporting the rods, a row of similar matrix-bars suspended from each rod, a series of retaining-levers 39, a series of pawl-levers 40, a series of fulcrum-brackets 37 and a series of angle-levers 38.

22. Means for holding the matrix-bar-operating mechanisms normally in a state of rest, consisting of a series of angle-levers 38, a series of fulcrum-brackets 37, a series of connecting-rods 38^a, a series of joint-plates 43 and the supporting-rod 45.

23. Means for guiding the motion of any one of a series of connecting-rods 38^a, consisting of a series of fulcrum-brackets 37, a series of angle-levers 38, a series of joint-plates 43 each being provided with a slot 43^2, a series of slide-plates 47, having each a laterally-projecting pin engaged with the slots 43^2, the guide-bar 46, the horizontal guide-strip 46′ having a series of guide-slots and the supporting-rod 45.

24. Means for guiding the motion of each of a series of slide-plates 47, consisting of the fulcrum-bar 49, the series of guide-grooves therein, a fulcrum-rod, a series of links suspended therefrom, the guide-bar 46 and the vertical guide-strip 46^2 having a series of guide-slots.

25. Means to hold each of a series of retaining-levers normally in a fixed position, consisting of a series of fulcrum-brackets 37, a series of retaining-levers 36, a series of connecting-rods 36^a each having an abutment-collar secured to its lower part, the bar 41 having a series of round countersunk holes at its upper edge, the abutment-strip 41^2, the series of springs 41′ and means to hold the movable bar 41 normally in a fixed position.

26. Means to hold each of a series of pawl-levers normally in a fixed position, consisting of a series of fulcrum-brackets 37, a series of pawl-levers 40, the corresponding series of connecting-rods 40^a, the bar 42 having a horizontally-projecting rib with a series of slots for connection with the lower joint-sockets of rods 40^a, the plate 42^2, the series of springs 42′ and means to hold the movable bar 42 normally in a fixed position.

27. A support for the rods and the matrix-bars suspended therefrom, consisting of the two triangular parallel frames A′ and B′, the frame-plates A and B superposed thereon, said plates A and B having a series of equidistant circular holes therein for the support of rods 1, and the cross-ties U connecting the top part of said plates.

28. Means for holding the rows of matrix-bars in a vertical position on their suspension-rods, consisting of the two parallel triangular frames A′ and B′, the frame-plates A and B, the cross-ties U and the stationary rack 55.

29. The frame-plate A, consisting of the parallel lower and upper flanges, the web having a series of openings for the passage of pawl and retaining levers, and having a series of equidistant holes disposed in a straight line for supporting one end of each of a series of rods 1.

30. Means for supporting the mechanism compressing the rows of matrix-bars suspended from the rods 1, consisting of the frame-plate A with the parallel upper and lower flanges, the connecting-web having a series of circular guide-holes for the rods 35, angle-plate A^2, secured to the upper flange of plate A, having its upward-projecting rib supplied with a series of circular holes for the support of brackets 34^2.

31. Means for holding the removable rods, 1, in a fixed position in the supporting-frames, consisting of the two parallel frame-plates A and B, the retaining-strip 33 fastened to plate B and the projecting pin 32 secured near one end of each of the rods 1.

32. The construction of the framework and fundamental support for all other parts of the machine, consisting of the two standards C and C′, the two cross connecting-frames D and D′, the upper and lower beams F and F′, the inside supporting-plates E and E′, all immovably and rigidly connected together.

33. Means to resist the stress of stamping the type-blanks, consisting of the beams F secured to the upper ends of cross-frames D and D′, the hangers H and H′ and the mandrel or platen I, all rigidly connected together.

34. Means for the support of the rows of justifying spacing-plates in position for operation, consisting of the beams F, the hangers H and H′, the mandrel I and the sleeve J as described.

35. Means for guiding the justifying spacing-plates in their progressive motion in the line of matrix-plates, consisting of the beams F, the hangers H and H′, the mandrel I, the sleeve J and the guide-rods 81.

36. Means for holding the rows of justifying spacing-plates normally in a fixed position, consisting of the mandrel I the sleeve J, the bracket 65′, the movable retaining-bar 65 and the spring holding the retaining-bar in its normal position.

37. Means for compressing two rows of justifying spacing-plates, consisting of the mandrel I, the sleeve J, the ring-plate 64^2, the rods 64^2, the socket 64, the guide-rod 64′ and the spring 64^a.

38. Means for the support of spacing-plates, consisting of the mandrel I, the sleeve J and two rows of an equal number of justifying-plates 4 having circular projecting heads supported by sleeve J.

39. Means for moving the heads of justification-plates in arcs concentric with the circumference of mandrel I, consisting of the hangers H and H′, the two fulcrum-spindles 66′, the guide-levers 66, the links 66^2 and link-plates 66^4.

40. Means for holding the two link-plates 66^4 normally in a fixed position for the introduction of two heads of spacing-plates 4, consisting of, the links 66^2, the lever-arms 66, the links 66^3, the lever-arm 67, the fulcrum-shaft 67′, the lever-arm 67^2, the connecting-rod 67^3, having at its lower end a socket connected to the joint end 68^3 by plates 69^3, and the supporting-bracket 70.

41. Means for moving the heads of a number of pairs of justification spacing-plates in arcs concentric with the circumference of mandrel I, consisting of the hangers H and H′, the fulcrum-spindles 66′, the guide-levers 66 and 66^6, the links 72 and the tubular ends 72^2 thereof.

42. Means for holding the tubular ends 72^2 normally in a fixed position for the introduction therein of the heads of spacing-plates 4 consisting of the links 72, the guide-levers 66 and 66^6, the links 73^a, one cross-head 73, all connected with links 72, the lever-arm 74, the link 73′ joining lever 74 to one cross-head 73, the spring 73^2 in compression between 74 and 73, and means for holding lever 74 normally in a fixed position.

43. Means for converting reciprocating motion of fixed amplitude of lever-arm 74, into motion of variable amplitude of the wedge ends of jusification-plates 4, consisting of the cross-head 73, the forked link 73′, joined to lever-arm 74, and connected by means of slots with cross-head 73, the spring 73^2, the links 73^a, the links 72, the tubular ends 72^2 and the justification-plates 4.

44. Means for moving two series of justifying spacing-plates in circular arcs, one series independent of the other series, consisting of the two stationary hangers H and H′, the two fulcrum-spindles 66′, the guide-levers 66 and 66^6, the pair of justfying-links 72, the tubular ends 72^2 thereof, the pair of justfying-links 72′, and the tubular ends 72^2.

45. Means for justifying two lines of assembled matrix-plates independently of each other, consisting of, the mechanism for imparting reciprocating motion of fixed amplitude to lever-arm 74, the similar mechanism imparting reciprocating motion of fixed amplitude to lever-arm 75, the mechanism converting the motions of fixed amplitude into motions of variable amplitude and the mechanism moving the tubular ends 72^2 and 72^2 through arcs concentric with the circumference of mandrel I.

46. Means for supporting matrix-plates during formation of lines and during subsequent operations of justifying and of stamping of type-lines, consisting of the cross-frames D and D′, the vertically-adjustable brackets G^2, the slide-bars G and G′ and the movable slide 3.

47. Means for supporting the movable type-blank holder and for adjusting the vertical position thereof, consisting of the type-blank holder 82, the slide-bars 82′, the adjustable connecting-rods 86′, the joint-forks 86^2, the horizontally-extending arms of angle-levers 86 and means to hold angle-lever 86 normally stationary and in a fixed position.

48. Means for equalizing the vertical motion of both ends of bar 83^2, consisting of the bar 83^2, the adjustable connecting-rods 84^a, the fulcrum-shaft 84′, the lever-arms 84 secured thereto, and the bearing-brackets 84^2 rigidly connected to cross-frames D and D′.

49. Means for communicating reciprocating motion to operating-rods 44^2 and 44^2 from a revolving cam-shaft, consisting of the fulcrum-shaft 44′, the series of parallel levers 44 secured thereto, the rods 44^2 and 44^2, the downwardly-extending lever-arm 53, the link connection 53^a, the angle-lever 54 with friction-roller 54′, at its downwardly-extending arm, engaged in the groove of cam p^2 secured to cam-shaft p and the fulcrum-pin of angle-lever 54 secured to bracket Q.

50. Means for rotating an isolated matrix-bar on its suspension-rod, so as to bring its matrix-plate in contact with mandrel I consisting of the rack 55′, the link 56^a, the lever-arm 56, the fulcrum-shaft 56′ supported in bearings rigidly connected to hangers H and H′, the horizontally-extending lever-arm 56^2, the connecting-rod 57^a, the angle-lever 57, the fulcrum-shaft 57′, the cam 58 secured to cam-shaft p.

51. Means for assembling in the spaces between the supporting-slide and the mandrel I the matrix-plates and the justifying spacing-plates to form lines, consisting of the guide-rods 63′, the pushing-rods 63^2, the fork 63^3, the annular socket 63, the downwardly-extending lever-arm 59 connected by links to socket 63, the fulcrum-shaft 59′ supported in stationary bearings, the horizontally-extending lever-arm 59, the connecting-rod 59^a, the fulcrum-shaft 61′ supported in bearings in brackets Q′ and Q^2, the two oppositely-extending lever-arms 61 and 61^2, the friction-roller at the end of lever-arm 61^2 and the cam 62 secured to cam-shaft p.

52. Means for transferring motion to the mechanism for moving two justifying spacing-plates in position to be fed in line, consisting of the cam-shaft p, the cam 62^2, secured thereto, the fulcrum-shaft 68′ supported in brackets Q′ and Q^2, the downwardly-extending lever-arm 68^2 with friction-roller engaged in the groove of cam 68^2, the horizontally-extending lever-arm 68 with laterally-extending pin from the end thereof and the means to engage this pin in the notch of joint end 68^3 by depressin a finger-key.

53. Means for feeding a pair of justifying spacing-plates in the space for collecting matrices in line, consisting of the two guide-rods 63′, the semi-annular socket 63, the fork 63^3, the downwardly-extending lever-arm 59 connected by links to socket 63, the fulcrum-shaft 59′ supported in stationary bearings, the horizontally-extending lever-arm 59, the connecting-rod 59^4, the lever-arms 61, 61^2 and 61^3 secured to fulcrum-shaft 61′ and the supporting-brackets Q′, Q^2 and Q^3.

54. Means for supporting finger-key levers or the construction of the keyboard, consisting of, the brackets 105, 105′ and 105^2 all fastened to cross-frame D, the oblique supporting-bars 106 and 106′, the inclined bearing-bars 106^2 secured thereto and the keyboard-plates 105^3 with the downwardly-projecting lugs 105^4.

55. Means for transferring motion from rod 44^2 to the mechanism for separating one matrix-bar from a selected row of matrix-bars, consisting of a finger-key lever 50, the downwardly-extending lever-arm 50′ rigidly connected with lever 50, the connecting-rod 50^4, the link 48, the fulcrum-bar 49, the slide-plate 47 with the laterally-extending pin engaged in slot 43^2 of the joint-plate 43.

56. Means for restoring to its normal position a depressed finger-key, consisting of the slide-plate 47, the notch 47′ therein, the rod 51^2 engaged in the notch 47′, the upwardly-extending series of lever arms 51 secured to fulcrum-shaft 51′, the downwardly-extending lever-arm 52, the upwardly-extending lever-arm 13 directly connected with lever-arm 52 by a laterally-extending pin, the connecting-link 15, the upwardly-extending lever-arm 14, the upwardly-extending cam-lever 16, both secured to the same fulcrum-shaft movable in bearings of brackets S′, the disk 9 fastened to cam-shaft *p* and, laterally extending from the face of the disk 9, the lugs 9^0 and 9′.

57. Means for connecting the end of lever-arm 68 with the joint end 68^3 of connecting-rod 67^3, consisting of the two horizontally-extending key-levers 71 rigidly secured to the fulcrum-shaft 71^2, the finger-plate 71^4, the downwardly-extending lever-arm 71′, the rod 71^3 joined at one end to lever-arm 71′ and guided at the other end in a hole of the projection 70^2 of the bracket 70 and the guide and slide piece 70′.

58. Means for disconnecting automatically the joint end 68^3 from lever 68, consisting of the slide-plate 69, the notch at its upper edge, the rod 51^2 engaged in the notch, the swiveling and sliding connection 69′ with joint-plates 69^2, the fulcrum-shaft 51′, a number of upwardly-extending similar lever-arms 51 holding rod 51^2, the lever-arm 52, the lever-arm 13 connected therewith, the link 15, the lever-arm 14, the cam-lever 16 and the lugs 9^0 and 9′ projecting from the face of disk 9 secured to cam-shaft *p*.

59. Means to trasmit motion from the normally revolving shaft *n* to the cam-shaft *p*, by depressing a finger-key, consisting of the shaft *n*, the bearings P, the cone-pulley *m*, the clutch *o*, the disk 9 secured to shaft *p*, the circular clutch projection 5, the lugs 9^0 and 9′, the cam-shaft *p* supported in bearings P, the clutch-levers 6, the spring-lever 8, the disengaging lever 10, all three levers being rigidly secured to fulcrum-shaft 7, the spring-cap 11, the abutment-lever 12 and, secured to the same fulcrum-shaft, the lever-arm 13.

60. Means to communicate motion to the upwardly-extending lever-arm 13, thereby disengaging abutment-lever 12 and spring-cap 11, by depressing a finger-key, consisting of the fulcrum-shaft 51′ and, rigidly connected thereto, the lever-arm 52 and the series of lever-arms 51, the rod 51^2, the slide-plate 47, the notch 47′ at the top edge thereof, the suspended link 48, the fulcrum-bar 49, the connecting-rod 50^4, the lever-arm 50′ and the finger-key lever 50.

61. Means for disengaging the clutch *o* automatically, consisting of the disk 9 secured to shaft *p*, the lugs 9^0 and 9′, the cam-lever 16, the lever-arm 14 both rigidly secured to a common fulcrum-shaft, the link 15, the lever-arm 13, the abutment-lever 12, both secured to the same fulcrum-shaft, the spring-cap 11, the fulcrum-shaft 7 and, rigidly secured thereon, the clutch-levers 6, the spring-lever 8, the disengaging lever 10 and the beveled upper projecting nose thereof.

62. Means to transmit the motion of depression of finger-keys 71 to fulcrum-shaft 51′ and to the lever-arms secured thereon, consisting of the lever-arms 71 and 71′ secured to fulcrum-shaft 71^2, the connecting-rod 71^3, the sliding guide-piece 70′, the joint end 68^3, the plates 69^2, the socket and the connecting-rod 67^3, the swivel and slide connection 69′, the slide-plate 69, the notch at its upper endge engaging rod 51^2, the series of levers 51, the fulcrum-shaft 51′ and the lever-arm 52.

63. Means for indicating the progressive additions in assembling a line of matrix-plates, consisting of the shaft 109′, the supporting and bearing brackets 108 and 108′, the pointer 107^2, the dial 107, the dial-disk 107′, the ratchet-wheel 109, the lever 110, the pawl 110′ and the pawl 110^2.

64. The construction of the indicator-link 114′, consisting of the hook at one end for suspension from a rod, the slot 114^3 at the opposite end for connection with slide-plate 47, the notch 114^2 at one edge and the supporting-heel projecting from the opposite edge.

65. Means to hold an indicator-link normally in a fixed position unaffected by moving parts, consisting of the rod 113^3 normally held up in engagement with the hook of indicator-link 114′, the slot at the lower end, the slide-plate 47 with the laterally-extending pin engaged in the lower slot of link 114′, the guide-strip 46^2, the suspension-link 48, the fulcrum-bar 49 and the supporting-bar 114 for the projecting heel of link 114′.

66. Means to hold a series of indicator-links in a fixed position unaffected by the motion of one of the indicator-links and the rod 113^3 or of any other part, consisting of a series of indicator-links 114′, a series of slide-plates 47 each connected by a laterally-extending pin engaged in the slot 114^3 at the lower end of each indicator-link, a series of suspension-links 48, the fulcrum-bar 49, the guide-strip 46^3 with a series of guide-slots and the bar 114.

67. Means to hold the rod 113^3 normally in a fixed position against the upper end of the fork of the indicator-link 114′, consisting of the fulcrum-shaft 113′, a number of parallel lever-arms 113^2 supporting rod 113^3, the lever-arm 113, the connecting-rod 113^4, the lever-arm 112^3, the fulcrum-shaft 112′, the lever-arm 112^2 and the adjustable spring 112^5.

68. Means for simultaneously connecting a joint-plate 43 and an indicator-link with the rods held by levers 44, consisting of the fulcrum-shaft 44′, a number of parallel levers 44, the rods 44^2 and 44^3, the connecting-rod 38^4, the joint-plate 43, the notch 43′, the slot 43^2, the indicator-link 114′, the notch 114^2, the slot 114^3, the slide-plate 47, the laterally-extending pins thereof engaged in slots 43^2 and 114^3, the link 48, the fulcrum-bar 49 and the guide-bar 46 with guide-strips 46′ and 46^2.

69. Means for giving audible warning of the approaching completion of a line of matrix and spacing plates, consisting of the bell 111, the bell-hammer 111′, the sleeve 111^2 fitted to a stationary fulcrum-pin, the arm 111^4 held in a fixed position against a stop-pin by a spring, the downwardly-extending arm with the projecting flap 111^3, the disk 109^2 secured to shaft 109′ and the pins projecting laterally from the face of disk 109^2.

70. Means for separating from a first line of assembled matrix-plates a second line of such plates, consisting of the line-separating spacer 2^4, the projecting heel thereof, the supporting-slide 3, the mandrel I and the groove I′ therein.

71. Means for moving the pointer 107^2 to a zero-point on the dial 107 by the introduction of the line-separating spacer 2^4 after a first line of matrix-plates has been assembled, consisting of the lever 115, its fulcrum-bracket 115′, an indicator-link 114′ suspended from a laterally-projecting pin of one arm of lever 115, a slide-plate 47 connected to said indicator-link 114′ by a pin engaged in the slot 114^3 thereof, the connecting-rod 115^5, the fork 115^3 joined to the second arm of lever 115, intermediate lever connection between connecting-rods 115^5 and 116^5, the sheet-metal slide 117, the guide-bracket 117′, the friction-plate 117^2 the disk 109^2 secured to shaft 109′ and the stop-pins projecting laterally from the face of disk 109^2.

72. Means for moving the pointer 107^2 to a zero-point on the dial 107 by the operation of a hand-lever, consisting of the hand-lever 29, the fulcrum-shaft 30′, the lever-arm 31, the link 31^5, the lever-arm 79^2, the lever-arm 79^3 both secured to fulcrum-shaft 79′, the joint-piece 115^3, the connecting-rods 115^5 and 116^5, the intermediate lever connection between them, the slide 117, the guide-bracket 117′, the friction-plate 117^2, the disk 109^2 secured to shaft 109′ and the stop-pins projecting from the face of the disk.

73. Means for holding a supply of type-blanks ready for the operation of the machine consisting of a tray 91, a movable compressing-plate 91′ secured to the guide-block 91^3, the guide-box 91^2, the slide-plate 97, the rectangular opening 97′ for the reception of a type-blank and the weight 92^3 connected by cords to block 91^3.

74. Means for transferring a type-blank from the tray in position to be fed in the holder, consisting of the slide-plate 97, having a rectangular opening 97′ normally holding a type-blank, the joint-piece 97^2 the connecting-link thereof with lever-arm 98, the fulcrum-shaft 98′, the lever-arm 98^2, the connecting-rod 98^4, the lever-arm 98^5 with fulcrum on rod *y* and a friction-roller engaged in the cam-groove of cam *z′* secured to cam-shaft *k*.

75. Means for introducing a type-blank into the holder, consisting of the type-blank holder 82, the guide-box 91^2, the slide-plate 97, the opening 97′ containing a type-blank, the plungers 94 and 94′, the connecting-rod 95^4, the lever-arms 95 and 95^2 both secured to fulcrum-shaft 95′, the connecting-link 96^4, the lever 96 with fulcrum on pin 96′ and with friction-roller engaged in the groove of cam *z*.

76. Means for pushing a type-blank in the holder in position exposing its upper edge to the action of a heating medium, consisting of the blank-holder 82, the stamping-plate 83, the bar 83^2, the means for equalizing the motion of the two ends of bar 83^2, the adjustable eyepiece 83^3, the links 83^4, the levers 88 and 88^2 secured to fulcrum-shaft 88′, the connecting-rod 88^4, the lever-arm 88^5 with fulcrum on rod *y* and friction-roller engaged in the groove of cam 88^3.

77. Means for softening the whole horizontal upper projecting edge of a metallic type-bar blank, consisting of an inclosing type-bar-blank holder, a metallic type-bar blank inclosed therein, a device for supplying a heat-generating medium, and means to impart the heat generated to the whole upper projecting edge of the type-bar blank in the inclosing holder.

78. Means for transferring a type-bar blank, from a supply thereof, to an inclosing holder, and means for softening the upper edge of the type-bar blank, projecting from the upper surface of the inclosing holder, consisting of a horizontal tray closed at one end, mechanism for pressing a supply of type-bar blanks in the tray toward the closed end thereof, mechanism for feeding a type-bar blank into an inclosing holder, exposing the upper edge thereof, a device for supplying a heat-generating medium, and means to impart heat generated by the medium to the whole upper projecting edge of the type-bar blank in the inclosing holder.

79. Means for softening the upper projecting horizontal edge of a type-bar blank in an inclosing holder, and means for stamping embossed printing characters on the softened edge of the type-bar blank in the inclosing holder, consisting of a type-bar-blank-inclosing holder, a type-bar blank inclosed therein, a device for supplying a heat-generating medium, means for imparting heat generated by the medium to the whole upper projecting edge of the type-bar blank in the inclosing holder, an assembled row of matrix-plates, mechanism for moving the holder horizontally with a type-bar blank inclosed therein, under the assembled row of matrix-plates, mechanism for pressing the upper surface of the holder against the under surface formed by the assembled matrix-plates, mechanism for adjusting the exact horizontal position of the type-bar blank in the inclosing holder, and mechanism for stamping embossed printing characters on the softened upper edge of the type-bar blank in the holder.

80. Means for softening a projecting edge of a type-bar blank in an inclosing holder, means for stamping embossed printing characters on the softened edge of the type-bar blank in the inclosing holder, means for discharging the finished type-bar from the inclosing holder, and means to feed a new type-bar blank in the inclosing holder, consisting of a type-bar-blank holder, a type-bar blank inclosed therein, a device for the conveyance of a heat-generating medium, means to impart heat generated by the medium to the upper projecting edge of the type-bar blank in the inclosing holder, an assembled row of matrix-plates, mechanism for moving the holder with the inclosed type-bar blank horizontally, mechanism for moving the holder independently of the type-bar blank inclosed therein vertically, mechanism for moving the type-bar blank and the embossed type-bar in the inclosing holder vertically, mechanism for discharging the embossed and finished type-bar and mechanism for feeding a new type-bar blank in the inclosing holder.

81. Means for transferring two type-blanks to a holder from a supply of type-blanks and for softening the upper edges of the same for the operation of stamping, consisting of two trays holding each a supply of metallic type-blanks, a type-blank holder for two type-blanks, the mechanism for feeding into the holder two type-blanks in position exposing the upper edges thereof, means to generate heat independent of any other function of the machine and means to transmit the so generated heat to the upper projecting blank edges of the two type-blanks.

82. Means for softening the upper edges of two type-line blanks and for stamping embossed printing characters thereon, consisting of a holder for two type-line blanks, two metallic type-line blanks therein, means to generate heat, means to transmit heat to the upper projecting edges of the two type-line blanks, the mechanism for bringing the holder with the two type-line blanks in juxtaposition with two assembled lines of matrix-dies and the mechanism for embossing at one operation two lines of printing characters on the previously-heated blank edges of the two metallic type-line blanks.

83. The blowpipe-lamp for heating the upper edge of a type-blank in a holder, and the means for supplying the burners thereof with the gaseous combustible necessary for the production of a flame, consisting of the socket 118, fastened to frame D′, the faucet-joint 118′, the pipe 118^2, the horizontal pipe 119 having a number of holes longitudinally disposed thereon, the clamp-sockets 119^2, the burners 119′ secured on the top of the short pipes held in the sockets 119^3, said pipes being closed at their lower ends and each of the short pipes being provided with an opening communicating with the holes in pipe 119.

84. Means for generating heat and for applying the generated heat to the horizontal upper edge of a metallic type-bar blank projecting from the upper surface of an inclosing holder, consisting of a type-bar-blank holder, a type-bar blank inclosed therein, a burner at one side of the holder, apparatus for supplying the burner with combustible for the production of a flame and means to deflect the flame laterally to the length of and toward the horizontal upper edge of the type-bar blank inclosed in the holder.

85. Means for generating heat and for its application to the whole length of a projecting horizontal upper edge of a metallic type-bar blank in an inclosing holder, consisting of a type-bar-blank-inclosing holder, a type-bar blank inclosed therein, a number of burners disposed in a row at one side of the holder, apparatus for supplying the burners with combustible for the production of flames, and means to deflect each flame laterally to the length of and toward the horizontal upper projecting edge of the type-bar blank in the inclosing holder.

86. Means for generating heat, for applying the heat to the upper horizontal projecting edge of a type-bar blank in an inclosing holder and for regulating the intensity of heat so applied, consisting of a type-bar-blank-inclosing holder, a type-bar blank inclosed therein, a burner at one side of the holder, apparatus for supplying the burner with combustible for the production of a flame, means to deflect the flame laterally to the length of and toward the projecting edge of the type-bar blank in the inclosing holder and means to change the position of the burner in relation to the projecting edge of the type-bar blank in the inclosing holder.

87. Means for generating heat, for applying the generated heat to the whole length of a horizontal upper projecting edge of a type-bar blank in an inclosing holder,

and for regulating the intensity of heat so applied, consisting of a type-bar-blank-inclosing holder, a type-bar blank inclosed therein, a number of burners in a row parallel with and at one side of the type-bar-blank-inclosing holder, apparatus for supplying the burners with combustible for the production of flames, means to deflect the flame of each burner laterally to the length of and toward the projecting edge of the type-bar blank in the inclosing holder, and means to change the positions of the burners in relation to said horizontal upper projecting edge of the type-bar blank inclosed in the holder.

88. Means for deflecting the flame of a burner toward the horizontal upper projecting edge of a type-bar blank in an inclosing holder, consisting of a type-bar-blank-inclosing holder, a type-bar blank inclosed therein, a burner at one side of the holder, supplied with combustible producing a flame, apparatus for supplying compressed air and a blowpipe supplied with compressed air deflecting the flame of the burner toward the projecting edge of the type-bar blank in the inclosing holder.

89. Means for deflecting the flames of a row of burners toward the horizontal upper projecting edge of a type-bar blank in an inclosing holder, consisting of a type-bar-blank-inclosing holder, a type-bar blank inclosed therein, a row of a number of burners at one side of the holder and parallel to the length of the projecting edge of the type-bar blank inclosed therein, apparatus for supplying to the burners combustible producing flames, for each burner a blowpipe supplied with compressed air deflecting each flame toward the projecting edge of the type-bar blank in the inclosing holder, and apparatus for supplying the blowpipes with compressed air.

90. Means for deflecting the flame of a burner toward the horizontal upper projecting edge of a type-bar blank in an inclosing holder, means for regulating the direction of the flame and means for regulating the quality of the flame, consisting of a type-bar-blank-inclosing holder, a type-bar blank inclosed therein, a burner at one side of the holder, apparatus for supplying the burner with combustible producing a flame, a blowpipe adjustably located in relation to the burner, apparatus for the supply of compressed air for the blow-pipe, means for changing the direction of the blowpipe and means for changing the distance of the blowpipe from the burner.

91. Means for deflecting the flames of a row of burners toward the horizontal upper projecting edge of a type-bar blank inclosed in a holder, means for regulating the direction of each of the flames, and means for regulating the quality of all the flames, consisting of a type-bar-blank-inclosing holder, a type-bar blank inclosed therein, a row of a number of burners at one side of the holder and parallel to the length of the projecting edge of the type-bar blank inclosed therein, apparatus for supplying to the burners combustible producing flames, blowpipes adjustably located in relation to each of the burners, apparatus supplying the blowpipes with compressed air, means for changing the direction of the blowpipes and means for changing the distance of the blowpipes in relation to the row of burners.

92. Means for locking an assembled line of matrix-plates within a predetermined length of space, consisting of the hand-lever 29, the lever-arm 31 both secured to fulcrum-shaft 30', the connecting-link 31^{a}, the lever-arms 79^{2} and 79 secured to fulcrum-shaft 79', the stationary guide-rod 78, the sleeve 78' with its downward extension, the link connection 79^{a} and the bolt 78^{2}.

93. Means for relieving the pressure on the rows of justifying spacing-plates, consisting of the hand-lever 29, the horizontally-extending lever-arm 31' both secured to fulcrum-shaft 30', the connecting-link 31^{c}, the lever-arms 31^{2} and 31^{3} secured to a common fulcrum-shaft supported in bearings of brackets V, the spring-rod 64', the abutment projection at one end, the socket 64 at the other end of rod 64' and the guide-rods 64^{2}.

94. Means for releasing the cam-shaft k from the stop holding it normally in a fixed position while at rest, consisting of the hand-lever 29, the lever-arm 30 both secured to fulcrum-shaft 30', the connecting-rod 30^{a}, the lever-arm 27 with fulcrum on rod y, the cam-roller 27', the cam x fastened to cam-shaft k and the abutting stop x' in the groove of the cam.

95. Means for transmitting motion to shaft k from a pulley rotating idly on the same, by releasing mechanism normally holding the shaft in a state of rest, consisting of the hand-lever 29 the lever-arm 30 both secured to fulcrum-shaft 30', the connecting-rod 30^{a}, the cam-lever 27 with fulcrum on rod y, the collar 24^{2} on connecting-rod 30^{a}, the lever-arms 24 and 24' with fulcrum on shaft 22, the connecting-rod 25^{a}, the lever-arm 25, the catch-lever 26 both secured to a fulcrum-rod movable in lug r', and the spring 25'.

96. Means for automatically connecting the clutches transferring motion from pulley j to cam-shaft k, consisting of the pulley j with the clutch-ring, the clutch t, the hub provided with the arms s secured to shaft k, the collar t', the lever-arms 17, the lever-arm 19, the lever-arm 20, the fulcrum-shaft 18, the connecting-rod 20^{a}, the lever-arm 21 secured to the fulcrum-shaft 22 and the spring 21'.

97. Means for the automatic disengagement of the clutch by one revolution of shaft k, consisting of the circular disk w fastened to cam-shaft k, the projecting nose w' thereof, the angle-lever 28 with fulcrum on rod y', the projecting nose 28^{2}, the connecting-rod 23^{a}, lever-arm 23 secured to fulcrum-shaft 22 and the mechanism for operating the clutch t.

98. The mechanism for justifying an assembled line of matrix-plates by the revolving motion of cam-shaft k, consisting of a pair of justifying-links 72', the tubular lower ends 72^{3} thereof, the guide-levers 66 and 66^{9} with fulcrum on spindles 66', the cross-head 73, link connection thereof with links 72', the spring-link 73', the lever-arms 75 and 75^{2} secured to fulcrum-shaft 75', the lever-arms 77 and 77^{2} secured to fulcrum-shaft 77', the connecting-rods 77^{a} and 80^{a} and the lever-arm 80 with fulcrum on pin 80' and with a friction-roller engaged in a groove of cam z.

99. Means for justifying two assembled lines of matrix-plates in succession, consisting of the pair of justifying-links 72, the tubular ends 72^{2} thereof, the pair of justifying-links 72' the tubular ends 72^{3} thereof, the guide-levers 66 and 66^{9} with fulcrum on spindles 66', the mechanism connecting links 72' with cam Z, the similar mechanism connecting links 72 with cam Z^{2} and the relative construction of the two grooves in the cams Z and Z^{2} by which the cam Z^{2} connected to justifying-links 72 will perform the operation of justifying in advance of the cam Z connected to justifying-links 72'.

100. Means for moving the type-blank holder from its normal position of rest in the various positions for performance of its functions, consisting of the slide-bars 82', the type-blank holder 82, the connecting-rod 82^{a}, the lever 85 with fulcrum on rod W, the adjusting-slot 85', the connecting-rod 85^{a}, the lever-arm 85^{2} with fulcrum on rod y and the cam 85^{3} secured to cam-shaft k.

101. Means for pressing the upper face of the type-blank holder tightly against the under face of an assembled line of matrix-plates consisting of the slide-bars 82', the supporting-forks 86^{3} and connecting-rods 86', the angle-levers 86, the connecting-rods 86^{a}, the oppositely-extending lever-arms 86^{2} fastened to fulcrum-shaft 87', the lever-arm 87, the connecting-rod 87^{a}, the lever-arm 87^{2} with fulcrum on rod y and with friction-roller engaged in groove of cam 87^{3}.

102. Means for the exact adjustment of the position of the type-blank holder for stamping, consisting of the blank-holder 82, the notched projection 82^{2}, the slide-bars 82', the lever 90 with arms extending in opposite directions from a fulcrum-pin secured to bar G', the link connection of the end of one arm with a pin secured to bar 82', the bolt 90' in operative connection with the second arm of lever 90, the guide-plate for the bolt 90' secured to the bar G'.

103. The mechanism for the performance of the stamping operation, consisting of the stamping-plate 83, the bar 83^{2}, the eyepiece 83^{3}, the links 83^{a}, the lever-arms 88 and 88^{2} secured to fulcrum-shaft 88', the connecting-rod 88^{a}, the lever-arm 88^{4} with fulcrum on rod y and with a friction-roller engaged in the groove of cam 88^{3} which is secured to cam-shaft k.

104. Means for equalizing the vertical motion of the two ends of bar 83^{2}, consisting of the pins 83^{4} projecting from each end of bar 83^{2}, the adjustable connecting-rods 84^{a} the lever-arms 84 rigidly secured to shaft 84' and the stationary bearing-brackets 84^{2}.

105. Means for moving an embossed type-bar in the discharging position, consisting of the mechanism for moving the type-blank holder in a horizontal direction in combination with the mechanism for moving the stamping-plate 83 in a vertical direction.

106. Means for discharging an embossed type-bar from the holder consisting of the guide-frame 100, the plungers 100' and 100^{2}, the connecting-rod 101^{a}, the lever-arm 101 and 101^{2} both secured to fulcrum-shaft 101', the lever 102 with arms extending in opposite directions from its fulcrum-pin secured to standard C', the link connection of the end of one arm of lever 102 with lever-arm 101^{2}, and the cam z^{2} the groove of which holds in engagement the friction-roller at the end of the second arm of lever 102.

107. Means for loosening locked and justified matrix and spacing plates consisting of the mechanism for locking assembled lines in a predetermined space, in combination with the lever-arm 30 secured to fulcrum-shaft 30', the connecting-rod 30^{a}, the lever-arm 27 with fulcrum on rod y and with friction-roller 27' engaged in the groove of cam x and the offset x^{2} in said cam-groove.

108. Means for automatically reëstablishing pressure on the rows of justifying-plates, consisting of the mechanism for relieving the pressure on said rows of justifying-plates in combination with the lever-arm 30, the connecting-rod 30^{a}, the lever-arm 27 with fulcrum on rod y, and having a friction-roller 27', engaged in the cam-groove of the cam x, rigidly secured to cam-shaft k.

109. Means for dropping matrix-bars, from an assembled line of matrix-plates, in position on the suspension-rods to be returned in their respective rows, consisting of the supporting-slide 3, the type-blank holder 82, the mechanism for moving the holder 82 with the slide 3 in the type-bar-discharging position, the mechanism for the production of the return motion of bolt 78^{2}.

110. Means for providing an unobstructed passage for the return of justifying spacing-plates into their respective rows, consisting of the mechanism for operating the pair of justifying-links 72, the tubular ends 72^{2} thereof with the recessed front extension, the retaining-bar 65 the spring holding the bar in said recessed extension, and the guide-bracket 65' for the clearing motion of bar 65.

111. Means for returning matrix-bars into their respective rows after having been dropped from lines of assembled matrix-plates, consisting of the bars 122, the guide-rods 122^{2} and 122^{3}, the frame-plates B, the brackets L' supporting the guide-rods.

112. Means for returning justifying spacing-plates into their rows from assembled lines of matrix-plates, consisting of the distributing-collar 122', the bars 122 connected therewith, the guide-rods 122^{2} and 122^{3}, the guide-rod-supporting plates B, the guide-rod-supporting brackets L'.

113. Means for transmitting motion from cam-shaft k to the distributers of matrix-bars and of justifying-spacers, consisting of the cam 125^{3}, the lever-arm 125^{2} with fulcrum on rod y' and with friction-roller engaged in the cam-groove of cam 125^{3}, the connecting-rod 125^{c}, the lever-arms 125', 125 and 123 all secured to the same fulcrum-shaft 123', the connecting-rod 125^{a}, the lever-arms 124 secured to fulcrum-pin 124', the connecting-rods 123^{a} and 124^{a} and the joint-sockets 123^{2} adjustably secured to guide-rods 122^{2} and 122^{3}.

114. Means for providing an unobstructed passage-way for the distribution of matrix-bars by a downward motion of the guide-plate A^{4}, consisting of the lever-arm 126 secured to fulcrum-shaft 123', the spring-pawl 126', the angle-lever 127 with fulcrum on shaft 77', the projecting nose at the upwardly-extending arm of angle-lever 127, the connecting-link 127^{a}, the lever-arms 128, 129 and angle-lever 131 secured to fulcrum-shaft 128', the lever-arm 129^{2} and angle-lever 131' secured to cam-shaft 129', the connecting-rod 130^{a}, the lever 130 with fulcrum on a pin secured to the bracket 130', the angle-levers 132 and [illegible] with fulcrum on pins secured to brackets 132^{2}, the connecting-rods 131^{a}, the guide-rods 134, the guide-rods 134', the springs 136 and 136' and the guide-plates A^{4} secured to the guide-rods.

115. Means of providing an unobstructed passage-way for the distribution of matrix-bars by transmitting motion from guide-rods 134 to racks 55^{2}, consisting of the guide-rods 134, the angle-levers 137 secured to fulcrum-shafts 137', the joint connections of the horizontal arms of levers 137 with guide-rods 134, the racks 55^{2} and the link connections thereof with the upwardly-extending arms of levers 137.

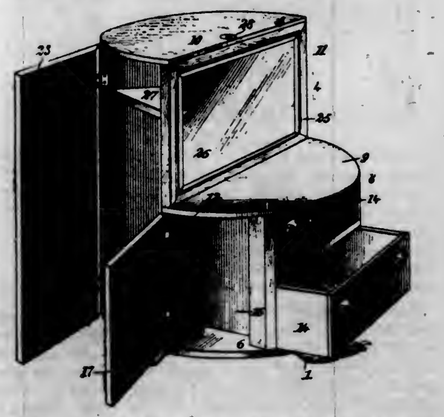
116. Means for disengaging a pawl-lever and a retaining-lever simultaneously from a row of matrix-bars by transmitting motion to two bars from the fulcrum-shaft 137', consisting of the lever-arm 138 secured to fulcrum-shaft 137', the connecting-rod 138^{a}, the two similarly-constructed levers 139 and 139' connected at their vertically-extending arms by connecting-rod 139^{a} and with fulcrum on pins secured to frames A', the bar 42 connecting the oppositely-extending outside lever-arms of the two levers 139 and 139', the bar 41 connecting the oppositely-extending inside lever-arms of levers 139 and 139', the connecting-rod 40^{a} joined to pawl-lever 40 and the connecting-rod 36^{a} joined to retaining-lever 36.

117. Means for disengaging a series of pawl-levers from a series of rows of matrix-bars by the motion of fulcrum-shaft 137', consisting of the lever-arm 138 secured to shaft 137', the connecting-rod 138^{a}, the two similarly-constructed levers 139 and 139' with fulcrums on pins secured to frames A', the connecting-rod 139^{a} joined to the vertically-extending arms of levers 139 and 139' the bar 42, the series of connecting-rods 40^{a} connected at their lower ends to a series of slots in the rib of bar 42 and joined at their upper ends to the series of pawl-levers 40.

118. Means for disengaging a series of retaining-levers from a series of rows of matrix-bars by the motion of fulcrum-shaft 137', consisting of the lever-arm 138, the connecting-rod 138^{a}, the levers 139 and 139' of similar construction with fulcrums on pins secured to frames A', the connecting-rod 139^{a}, the bar 41, the series of countersunk holes in the upper edge thereof, the series of connecting-rods 36^{a}, the series of retaining-levers 36 with fulcrum on brackets 37.

119. Means for correcting mistakes in the formation of a line of matrix-plates by removing the wrong matrix-plate from the line, consisting of the supporting-slide 3, the pin 104 thereon, the cam-plate and lever-arm 104' with fulcrum on a pin secured to bracket 104^{2} and the operating-rod 104^{a}.

840,347. COMBINED DRESSING-TABLE AND CLOTHES-PRESS. HENRY KNAPP, Springfield, Mass. Filed Apr. 9, 1906. Serial No. 310,691.



Claim.—In a cabinet of the class described, in combination, a base, a body rotatably mounted on said base,

said body being of substantially circular form and having a substantially diametrically disposed dividing-partition, a dressing-table formed on one side of said partition, a clothes-press formed on the opposite side of said partition and having a cover, said dressing-table having a cover depressed with respect to said first cover, a mirror disposed in a substantially vertical plane between said covers and constituting the forward side of the upper portion of said clothes-press, a pair of radially-disposed partitions in said clothes-press dividing the same into three triangular cupboards having doors for closing the same, a pair of parallel side boards dividing the interior of said dressing-table into a centrally-disposed chest, and triangular side cupboards having doors adapted to close the same, and drawers received in said chest.

840,348. SPECIALIST'S CHAIR. CHARLES N. LEONARD, Indianapolis, Ind., assignor to William D. Allison, Indianapolis, Ind. Filed Sept. 28, 1904. Serial No. 226,289.



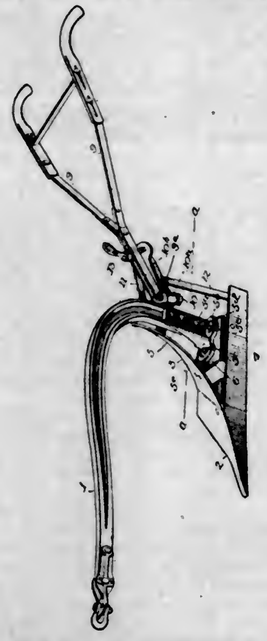
Claim.—In an adjustable chair, a base, a rocking-chair frame mounted thereon, a frame secured to said rocking frame and extending down into the base and carrying a segmental rack on the lower end thereof that is curved concentric with the pivotal point of said rocking frame, the teeth of said rack extending laterally, a rod extending from one side to the other of said base immediately under said rack, a lever pivoted to the rear part of the chair with the forwardly-extending end of said lever resting and laterally movable on said rod, a catch on the movable end of said lever near said rod adapted to engage said rack when the lever is moved laterally, a pedal mechanism for actuating said lever to move the catch away from said rack, and a spring connected with said lever tending to hold the catch in engagement with said rack.

840,349. PENCIL-HOLDER. SIDNEY J. LESTER, Otter Pond, Ky. Filed Sept. 15, 1906. Serial No. 334,736.



Claim.—A pencil-holder comprising a frame constructed with an elastic member, transverse members at the ends of the elastic member, extending pins on the transverse members, inner and outer layers secured on the frame covering it, and with the pins arranged projecting through the inner layer, pencil-loops on the outer layer, and spring-tongues in the loops adapted to clamp an inserted pencil.

840,350. PLOW. AUGUST LINGREN, Moline, Ill., assignor to Moline Plow Company, a Corporation of Illinois. Filed Oct. 16, 1906. Serial No. 339,153.



Claim.—1. In a plow, the combination with a landside and moldboard, of a horizontal supporting-plate sustained fixedly with relation to and situated between said parts, a beam having at its rear extremity a downward extension, a horizontal flat base on the lower end of said extension seated on the horizontal plate, and means for adjusting the base on the plate around a vertical axis.

2. In a plow, the combinalton with a landside and moldboard, of a fixed horizontal supporting-plate situated between said parts, a beam provided at its rear end with a downward extension, a foot-piece fixed to said extension and formed with a flat base seated on the plate, and means for adjusting the foot-piece on the plate around a vertical axis.

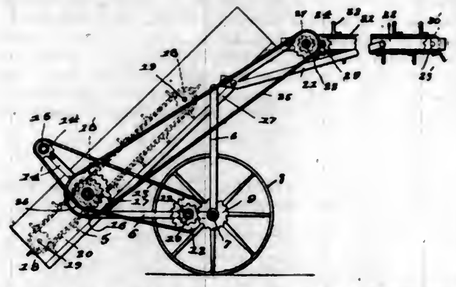
3. In a plow, the combination with a landside and moldboard and share, of a horizontal plate fixed to the landside and share, a horizontal beam having at its rear end a vertical downward extension, a foot-piece fixed to said extension and formed with a horizontal base or flange seated on the plate, a vertical pivot connecting the flange with the plate; whereby the foot-piece may be adjusted relatively to the plate around a vertical axis, and means for holding the parts in their adjusted positions.

4. In a plow, the combination with a landside and moldboard, of a horizontal beam adjustable horizontally around a vertical axis at or adjacent its rear end, a bracket sustained by the landside and moldboard, and handles sustained by said bracket and adjustable thereon around a vertical axis.

840,351. HAY-LOADER. HARRY J. LORMIS, Magnolia, Ill. Filed Sept. 6, 1906. Serial No. 333,518.

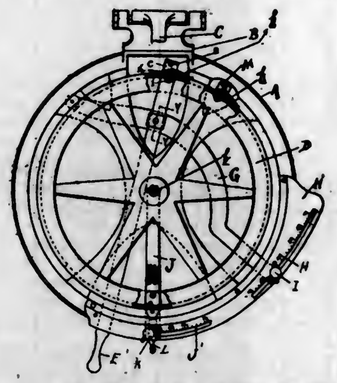
Claim.—1. A hay-loader adapted to be secured to a wagon and comprising in combination an inclined receiving-platform having a transverse opening adjacent its upper end; a conveyer-belt carried by said platform and extending up to said opening to discharge the hay therethrough onto the wagon; a table secured to the upper end of said platform and extending over the front end of the wagon when the loader is attached to the wagon, and movable means carried by said platform adapted to engage the hay discharged onto the wagon and force the same toward the rear end thereof.

2. A hay-loader adapted to be secured to a wagon and comprising in combination an inclined receiving-platform having a transverse opening adjacent its upper end; a conveyer-belt carried by said platform and extending up to said opening to discharge the hay therethrough onto the wagon; a table secured to the upper end of said platform and extending over the front end of the wagon when the loader is attached to the wagon, and a conveyer-belt carried by said table and provided with fingers adapted upon movement of the belt to engage discharged hay and force the same toward the rear end of the wagon.



3. A hay-loader adapted to be attached to a wagon and comprising in combination an inclined receiving-platform having a transverse opening adjacent its upper end; a conveyer-belt carried by said platform and extending to discharge the hay therethrough onto the wagon; a table secured to the upper end of said platform and extending over the front end of the wagon when the loader is attached to the wagon; a conveyer-belt carried by said table and provided with fingers and means for rotating said conveyer-belts in opposite directions whereby the end stretch of said table conveyer-belt is adapted to engage the discharged hay and force the same toward the rear end of the wagon.

840,352. CHEESE-CUTTER. WALTER A. LOSHBOUGH, Detroit, Mich., assignor to George H. Paine, Detroit, Mich. Filed Oct. 31, 1904. Serial No. 230,818.



Claim.—1. In a cheese-cutter, the combination of a rotary cheese-plate, means for imparting a partial rotation thereto, and means for automatically locking said plate said means being operable by said rotating means at the completion of its forward movement.

2. In a cheese-cutter, the combination of a rotary cheese-plate, a reciprocating lever for imparting a partial rotation thereto, and a lock for said plate adapted to be actuated by the lever at the end of its forward movement, substantially as described.

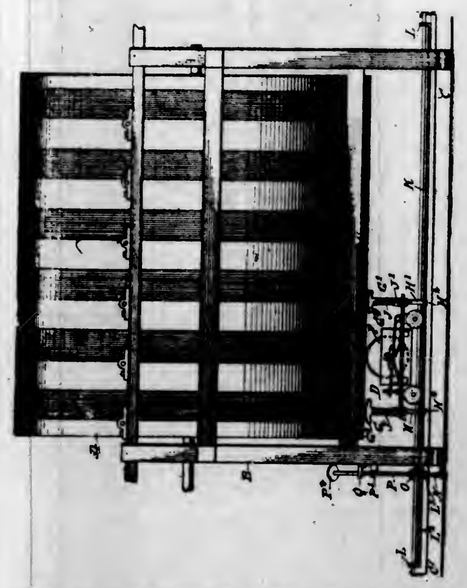
3. In a cheese-cutter, the combination of a base, a rotary cheese-plate thereon, an actuating-lever for imparting partial rotary movement to the cheese-plate, an adjustable stop-lever, and a lock for the cheese-plate adjustable with the stop-lever, said lock being adapted to be actuated by the actuating-lever.

4. In a cheese-cutter, the combination of a base, a rotary cheese-plate, a stop-lever pivoted in the base, means for locking the lever at different points of adjustment, a lever for actuating the cheese-plate, for which an arm from the stop-lever acts as a stop, and a lock for the cheese-plate operatively connected with said arm.

5. In a cheese-cutter, the combination with a base, a cheese-plate journaled thereon, the depending flange *a* on said cheese-plate, and the dog or pawl operating on said flange, comprising a pivoted plate having two pins upon opposite sides of the flange and upon different radii, and a third pin upon a still different radius and a spring engaging said third pin and contacting the cheese-plate, as and for the purpose described.

6. In a cheese-cutter, the combination of a rotary cheese-plate, means for imparting a partial rotation thereto, and means for automatically locking said plate from movement in either direction, said means being operable at the completion of the forward movement of said rotating means.

840,353. YARN-PRINTING MACHINE. WILLIAM E. LYFORD, Thompsonville, Conn., assignor to The Hartford Carpet Corporation, Thompsonville, Conn., a Corporation of Connecticut. Filed June 28, 1906. Serial No. 323,804.



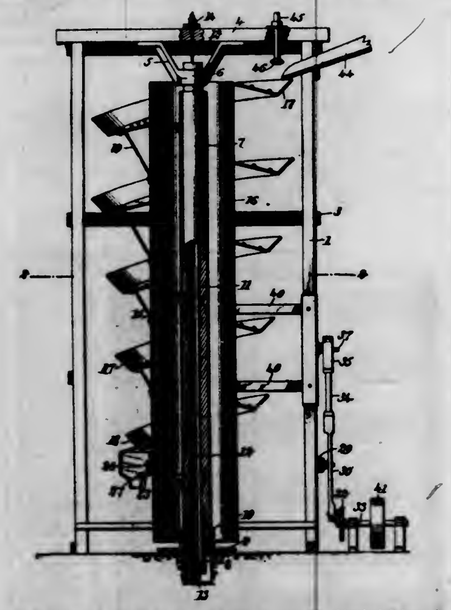
Claim.—1. A yarn-printing machine provided with a traverse-carriage having sets of posts at the ends thereof, cross-heads mounted to slide on the sets of posts, springs normally retaining the cross-heads in their uppermost positions, rubbing-blocks adjustably mounted on the cross-heads, said cross-heads having spaced depending arms, rollers journaled between the arms at the lower ends thereof, a rail extending across the machine above the rollers, links pivoted to the rail at each end thereof, a U-shaped lever having the arms thereof pivotally connected with the links, a spring connected with the body portion of the lever for normally maintaining the track in its elevated position, and a treadle connected with the U-shaped lever for depressing the track whereby to depress the rubbers.

2. A yarn-printing machine provided with a traverse-

carriage having sets of posts, cross-heads mounted to slide on the posts, springs for supporting the cross-heads, rubbing-blocks on the cross-heads, spaced depending arms on the cross-heads, rollers journaled between the arms at the lower ends thereof, a rail extending across the machine above the rollers, and means for depressing the rail whereby to depress the rubbers.

3. A yarn-printing machine provided with a printing-drum, a traverse-carriage having a color-box, a printing-roller and rubbing devices, each rubbing device being yieldingly mounted and provided with a rubbing-block having a curved rubbing-face capable of rubbing the yarn on the travel of the said traverse-carriage in either direction, a rail for engaging the rubbing devices to move the same simultaneously out of action, a lever pivotally connected with the ends of the said rail, and a treadle connected with the said lever.

840,354. ORE-SEPARATOR. MATTHEW R. LYLE, Oakland, Cal. Filed Nov. 10, 1905. Serial No. 286,681.



Claim.—1. A separator having a chute diminishing in sectional area toward one extremity thereof, and means for agitating said chute, said chute presenting an overhanging edge throughout the length thereof, whereby the waste material is constantly ejected from said separator as it progresses downwardly.

2. A separator having a helically-disposed chute tapering toward its lower extremity whereby the upper layers of the material moving down are constantly ejected from said separator, and means for giving said chute a reciprocating rotary movement.

3. A separator having a substantially round body and a chute attached thereto and disposed in helical coils thereabout, the edges of the uppermost of said coils projecting beyond the coils therebelow, and means for giving said chute a reciprocating rotary movement, to eject the material from said separator throughout the entire length of said chute.

4. A separator having a substantially cylindrical body with a chute attached thereto and tapering toward the lower extremity thereof, said chute being arranged so that the material falling over the edge thereof is ejected from said separator, and means for imparting a reciprocating rotary movement to the said body.

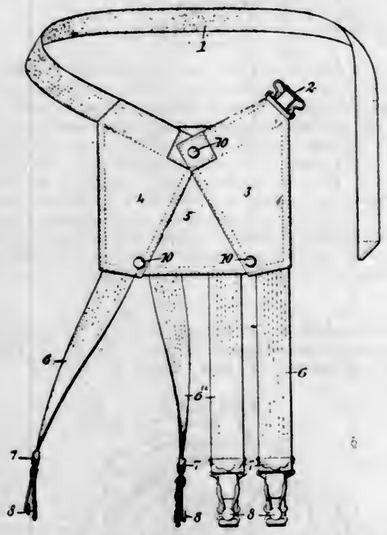
5. In a separator, in combination, a body carrying a chute in which a separation may be effected, a cord supporting said body, and means for imparting a reciprocating rotary movement to said body.

6. In a separator, in combination, a frame, a body carrying a chute, a cord supporting said body, members engaging the extremities of said body and maintaining the same in a substantially upright position, and means for imparting a reciprocating rotary movement to said body.

7. In a separator, in combination, a frame presenting a beam, a hanger disposed below said beam, a hollow body disposed beneath said hanger, a cord suspending said body from said beam, said body engaging said hanger and maintaining the same in a vertical position, and means for imparting a reciprocating movement to said body.

8. In an ore-separator, in combination, a substantially cylindrical body, a chute disposed in coils thereabout decreasing in dimension toward the lower end of said body, and a pair of hoppers attached to said body at the lower end of said chute and adapted respectively to receive the material from the end of said chute and the waste overflow adjacent to the same, and means for adjusting said hoppers in a substantially horizontal plane beneath the lower end of said chute.

840,355. HOSE-SUPPORTER. JACOB MANN, New York, N. Y. Filed Aug. 28, 1906. Serial No. 332,348.



Claim.—1. A hose-supporter comprising a waistband, flaps arranged on the waistband, tapes depending from the flaps, means for connecting the flaps together, and means for disposing the flaps in spaced relation.

2. A hose-supporter comprising a waistband, flaps arranged on the waistband, tapes of elastic material depending from the flaps and carrying means at their extremities for securing them to the hose, means for connecting the flaps together, and means for disposing them in spaced relation.

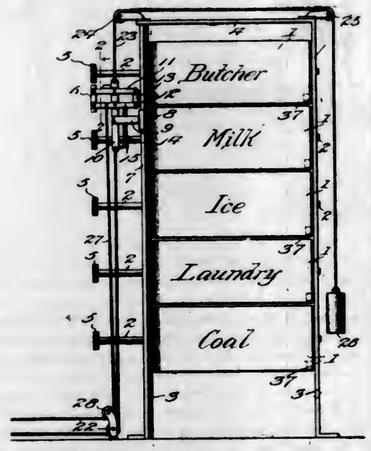
3. A hose-supporter comprising a waistband, a flap fixed thereto, flaps adjustable thereon, tapes depending from the flaps, and means for connecting the flaps together.

4. A hose-supporter comprising a waistband, a flap of right-angle triangular shape fixed thereto, a flap of the same shape slidable thereon, an intermediate flap of substantially the shape of an isosceles triangle slidable on the waistband, tapes depending from the flaps, means for connecting the lower ends of the outer flaps to the intermediate flap, and means for connecting the upper ends of the outer flaps together whereby they are disposed in an angular relation as described.

5. A hose-supporter comprising a waistband, three flaps arranged on the waistband, tapes depending from the flaps, means for connecting the outer flaps to the intermediate flap at their lower ends, and means for connecting the outer flaps together.

6. A hose-supporter comprising a waistband, two flaps of right-angle triangular shape carried by the waistband, a flap carried therebetween by the waistband of substantially isosceles-triangle shape, tapes depending from the flaps, means for connecting the lower ends of the outer flaps to the intermediate flap, and means for connecting the upper ends of the outer flaps together.

840,356. SIGNAL. PAUL MARWEDEL, Dallas, Tex. Filed Feb. 27, 1906. Serial No. 303,190.



Claim.—1. The combination with a series of reversible panels each provided with a pinion, of a traveling rack for actuating said pinions one after the other, and means for shifting said rack to throw the same into or out of line with the pinions.

2. The combination with a series of reversible panels, of a traveling rack, means at a distance therefrom for imparting movement to said traveling rack, and means also located at a distance for shifting the rack to throw the same into or out of line with operating devices carried by the reversible panels.

3. The combination with a series of reversible panels carrying pinions on the journals thereof, of a runner, parallel-motion levers mounted thereon, a traveling rack pivotally connected to said levers and adapted to be moved thereby into and out of line with the pinions, and means located at a distance from the panels for actuating said runner and vibrating the parallel-motion levers.

4. The combination with a series of reversible panels having pinions on their journals, of a runner, a shiftable rack mounted on said runner and movable into and out of line with said pinions, a second runner located at a distance from the panels, a latch on said second runner, a rack-bar with which said latch engages, a latch-lever on the second runner, a rack-shift lever on said second runner, and operating-cords extending from said rack-shift lever and latch-lever to the first-named runner, one of said cords being connected with the shiftable rack, substantially as and for the purpose described.

5. The combination with a series of revolving and reversible panels having actuating-pinions, of a runner operating adjacent to said panels, a shiftable rack carried by said runner and movable into and out of line with the pinions, a spring for holding the rack normally in line with the pinions, a second runner located at a distance from the panels and operatively connected with the first-named runner, a latch carried by the second runner, a rack-bar with which said latch engages, and indicators on said rack-bar corresponding with the panels, substantially as described.

840,357. BICYCLE-SUPPORT. EDWIN G. MAY, Aston Manor, England. Filed Apr. 16, 1906. Serial No. 311,979.



Claim.—1. A bicycle-support comprising an arm pivoted to one of the bifurcations of the steering-wheel fork, and a rod movably secured to the terminal of said bifurcation and engaging at its outer end with the pivoted arm when in its supporting position.

2. A bicycle-support comprising an arm pivoted to one of the bifurcations of the steering-wheel fork, a rod connecting said arm with the bifurcation, and means for securing the rod in its normal position.

3. A bicycle-support comprising an arm pivoted to one of the bifurcations of a steering-wheel fork, a rod connecting said arm with the bifurcation, and a spring-clip carried by the arm for detachably securing the rod in its normal position.

4. A bicycle-support comprising an arm pivoted to one of the bifurcations of the steering-wheel fork, a rod connecting said arm with the bifurcation, and a recess in said arm for seating the rod in its normal position.

5. A bicycle-support comprising an arm pivoted to one of the bifurcations of the steering-wheel fork, and a rod connecting said arm with the bifurcation, said arm having a spring-clip and a seating-recess for holding the rod in its normal position.

6. A bicycle-support comprising an arm pivoted to one of the bifurcations of the steering-wheel fork, a double-eyed clip secured to the spindle of the steering-wheel, a rod attached to one of said eyes and engaging at its outer end with the pivoted arm when in its supporting position.

7. A bicycle-support comprising an arm pivoted to one of the bifurcations of the steering-wheel fork, a keyhole-slot in said arm, a rod movably secured to the terminal of said bifurcation and passing through said slot, the said rod having a terminally-reduced portion for engaging with the narrow part of the keyhole-slot when the pivoted arm is in its supporting position.

8. A bicycle-support comprising an arm pivoted to one of the bifurcations of the steering-wheel fork, a double-eyed clip secured to the spindle of the steering-wheel, a keyhole-slot in said arm, a rod secured to one of the eyes of said clip, and means for engaging the rod with the arm in its supporting position.

9. A bicycle-support comprising an arm pivoted to one of the bifurcations of the steering-wheel fork, a keyhole-slot in said arm, a rod secured to the terminal of the bifurcation and having a handle at its outer extremity, and a clip on said bifurcation for detachably securing the rod in its normal position.

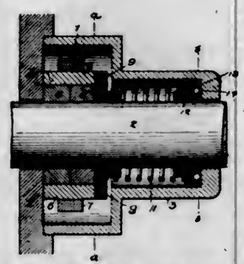
10. A bicycle-support comprising an arm pivoted to one of the bifurcations of the steering-wheel fork, a brace for said arm, and a projection carried by the supporting-arm, said projection having a spindle with a spring thereon and adapted to rotate against torsional action of the spring and engage the tire when the arm is in its supporting position.

840,358. METALLIC PACKING FOR ROCKING OR ROTATING RODS OR SHAFTS. ALFRED D. MORRIS, Philadelphia, Pa. Filed Oct. 11, 1906. Serial No. 338,484.

Claim.—1. A metallic packing for a rocking or rotating rod or shaft, said packing consisting of a contractile-ring structure confined to said rod or shaft and partaking of the movement of the same, a contractile member of said

ring structure having sliding contact at one end with a portion of the structure surrounding the rod or shaft.

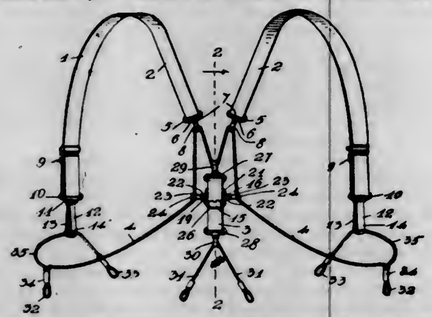
2. A metallic packing for a rocking or rotating rod or shaft, said packing having contractile rings, and a split ring enveloping the same and serving to confine them so tightly to the rod or shaft that they partake of the movement of the same, one end of the ring structure having sliding contact with a portion of the structure surrounding the rod or shaft.



3. A metallic packing for a rocking or rotating rod or shaft, said packing comprising a contractile-ring structure surrounding the shaft, means for confining said ring structure so firmly to the rod or shaft that it will rock or rotate therewith, and a spring-pressed follower acting upon one end of the ring structure and serving to press the other end of the same into contact with a portion of the fixed structure surrounding the rod or shaft.

4. A metallic packing for a rocking or rotating rod or shaft, said packing consisting of a contractile-ring structure confined to the rod or shaft so as to partake of the movement of the same, a follower whereby said ring structure is pressed into contact with a portion of the fixed structure surrounding the rod or shaft, a spring for acting upon said follower, and an antifriction-bearing between said spring and a portion of the fixed structure opposed to that against which the packing-rings bear.

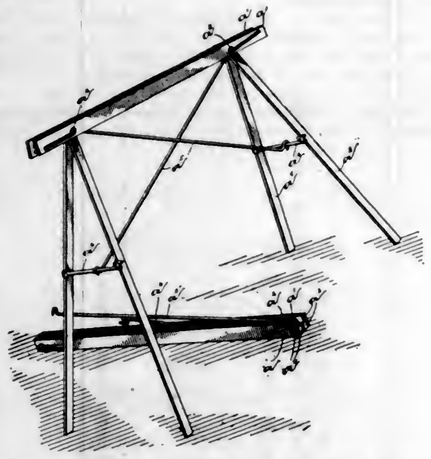
840,359. SUSPENDERS. CHAUNCEY A. MURRAY, Cumberland, Wyo. Filed Feb. 1, 1906. Serial No. 299,025.



Claim.—In suspenders, the combination with the back piece or strap 3 and the cord 4 of a buckle for adjusting said back-strap, said buckle comprising a rectangular frame having its upper and lower cross-bars offset from its side bars, a base-plate attached to said side bars by integral ears bent around the latter, guide-loops for said cord pivoted upon integral ears upon the opposite sides of said base-plate, a leaf hinged upon the upper cross-bar of said frame, and a hinged leaf upon the lower cross-bar of said frame, substantially as described and for the purpose set forth.

840,360. TRESTLE. JOSEPH M. NORMAND, Springfield, Ohio, assignor to The Ridgely Trimmer Company, Springfield, Ohio, a Corporation of West Virginia. Filed Apr. 3, 1905. Serial No. 253,701.

Claim.—1. A trestle comprising a beam, having slots in its ends, supports for said beam extending within the slots, a plurality of spreading legs, and mechanism for holding the legs in operative position, both pivotally connected to the supports, the slots at one end being inclined, for the purpose specified.

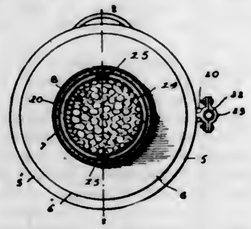


2. In a trestle, the combination of a beam, a plurality of pairs of spreading legs, guides at each end of said beam, one of said guides being inclined, and supports held within said guides.

3. In a trestle, the combination of a pair of beams, a plurality of pairs of spreading legs, adapted at their upper ends to extend between said beams, a central body portion for said beams, and guides at the end thereof, braces extending from said end portions to the legs, and braces connecting said legs, for the purpose specified.

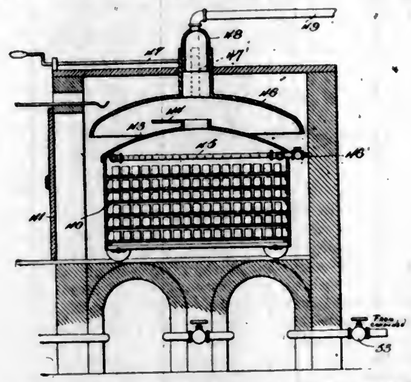
4. A trestle, comprising a beam having slots in its ends, supports for said beam extending within the slots, a plurality of pairs of spreading legs, and mechanism for holding the legs in operative position, both pivotally connected to the supports, the slots at one end being inclined, for the purpose specified.

840,361. ACETYLENE-GENERATOR. ANCIL G. ODELL, Milan, Ohio. Filed Aug. 10, 1906. Serial No. 330,054.



Claim.—A gas-machine comprising a tank; a bell vertically movable within the tank, and including a top having flat inner and outer faces, and provided with a circular opening formed centrally therethrough; a dome mounted on the bell-top and comprising inner and outer walls spaced apart to provide a water-space, said inner wall being coincident with the wall of said opening; lugs secured at diametrically opposite points to the outer wall of the dome exteriorly thereof; a removable cover for said dome having an annular depending portion fitting within said water-space; a strap secured to the top of said cover having its opposite ends bent inwardly to form hooks adapted upon rotation of said cover to be moved into engagement with said lugs, to lock said cover in place; a carbid-holder removably mounted within the bell and comprising a basket and a handle, the handle having downwardly-projecting shoulders located at opposite points thereon and adapted to extend over the inner wall of the dome for supporting the basket therefrom; an inlet-port formed in the tank; a service-pipe secured to the tank and including a section extending upwardly within the bell; and an air-valve secured to the dome-cover.

840,362. APPARATUS FOR RECOVERING PRODUCTS FROM VEGETABLE MATTER. ROBERT H. PARTRIDGE, Broadrun, Va. Filed Aug. 21, 1905. Serial No. 275,103.



Claim.—1. An apparatus of the character described comprising an oven, a receptacle adapted to be placed therein, an adjustable dome located in said oven, and means connected with said dome for conducting off the vapors arising from said receptacle.

2. An apparatus of the character described comprising an oven, a receptacle removably located therein and provided with an outlet-opening, a conduit for conducting off the vapors passing through said outlet-opening, and adjustable means interposed between said outlet and said conduit for directing the vapors into said conduit.

3. An apparatus of the character described comprising an oven, a normally closed receptacle removably located therein, an adjustable dome located in said oven above said receptacle, said receptacle and dome provided with outlets in line with each other, and means connected with said dome for conducting off the vapors passing out of said outlet-opening.

4. An apparatus of the character described comprising an oven, a normally closed receptacle located therein and provided with an outlet-opening, a dome located in said oven above said receptacle, means for adjusting said dome, and means connected with said dome for conducting off the vapors passing out of the outlet-opening of said receptacle.

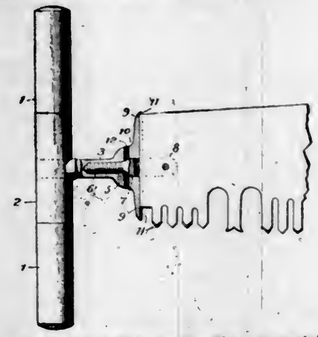
5. An apparatus of the character described comprising an oven, a normally closed receptacle therein provided with an outlet-opening, a dome located in said oven and provided with an outlet-sleeve located in juxtaposition with said outlet-opening, and means connected with said sleeve for conducting off the vapors passing through said outlet-opening.

6. An apparatus of the character described comprising an oven, a normally closed receptacle located therein and provided with an outlet-opening, a dome located in said oven and provided with an outlet-sleeve located in juxtaposition to the outlet-opening of said receptacle, means for adjusting said dome, and means connected with said sleeve for conducting off the vapors passing through said outlets.

7. An apparatus of the character described comprising an oven, a normally closed receptacle located therein and provided with an outlet-opening, a dome located in said oven and provided with an outlet located in juxtaposition with the outlet-opening in said receptacle, and a pipe leading from the outlet of said dome.

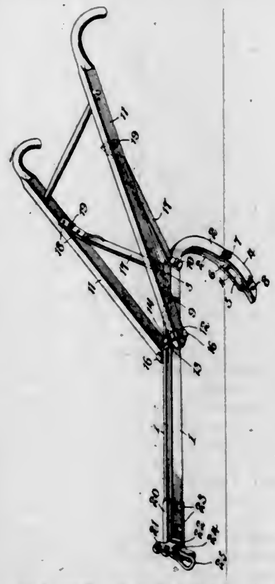
8. An apparatus of the character described comprising an oven, a closed car or receptacle provided with a removable cover having an outlet-opening, a closure for said opening, a spray-pipe located in said car, and means connected with said oven for conducting off the vapors passing through said outlet-opening.

840,363. CROSSCUT-SAW HANDLE. ALFRED S. PATTON, Frances, Wash., assignor of two-thirds to John H. Drissler and Freeman Albright, South Bend, Wash. Filed Jan. 22, 1904. Serial No. 190,251.



Claim.—A fastening for saw-handles, comprising a bolt having a forked end to receive a saw-blade and also having a threaded shank, a handle-socket provided with a sleeve arranged at right angles thereto, said sleeve being internally threaded to receive the threaded shank of said bolt and thereby permit adjustment of said socket upon said bolt, said sleeve having a collar at its free end, a guard-plate loosely mounted upon said bolt and having a groove in one of its faces for the reception of the saw-blade, said guard-plate also having a collar at its face opposite to said grooved face, and a washer of compressible material arranged upon said bolt between the collar of the sleeve and the collar of the guard-plate and forming a frictional lock between said collars when the sleeve is adjusted toward the saw-blade.

840,364. PLOW. MARCUS PEARSON, Springville, Ala. Filed June 15, 1906. Serial No. 321,841.



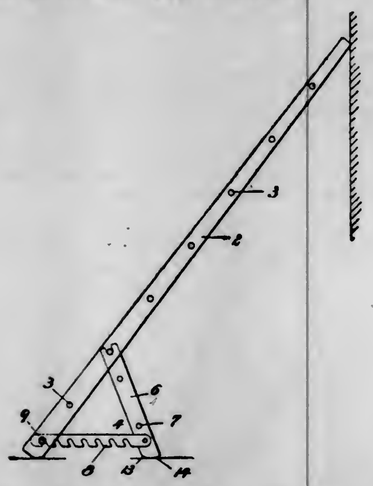
Claim.—1. In a plow, the combination of a beam composed of spaced bars or members, a block or piece interposed between the bars or members at a point between the ends thereof and provided with recesses receiving the same and forming shoulders for engaging the upper and lower edges thereof, handle-bars fitted against the outer

faces of the bars or members of the plow-beam at opposite sides of the said block or piece, and a fastening device piercing the handle-bars, the bars or members and the said block or piece.

2. In a plow, the combination of a plow-beam composed of two spaced bars or members, a substantially I-shaped block or piece interposed between the sides or members of the plow-beam and having upper and lower flanges for engaging the upper and lower edges of the said bars or members, handle-bars fitted against the outer faces of the bars or members of the plow-beam, clips embracing the handle-bars, a fastening device piercing the clips, the handle-bars, the plow-beam and the block or piece and forming a pivot for the said handle-bars, and braces adjustably supporting the handle-bars.

3. In a plow, the combination of a plow-beam composed of two sides or members having downwardly-curved portions forming a standard, the said downwardly-curved portions being laterally offset near the lower end of the standard and having their terminals fitted together and beveled, and an intermediate reinforcing-bar interposed between the sides or members of the plow and curved to conform to the standard and having a lower enlarged end fitted between the laterally-offset portions at the upper ends thereof, the said laterally-offset portions forming a slot or opening.

840,365. LADDER. HENRY W. PEASE, Philadelphia, Pa., assignor of one-half to J. Irwin Doan, Philadelphia, Pa. Filed Feb. 18, 1904. Serial No. 194,156.

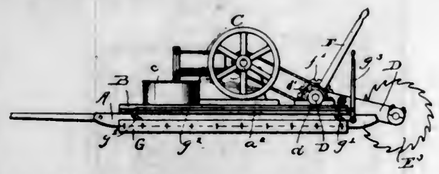


Claim.—1. An attachment for ladders comprising a foot adapted to rest at its lower end on the ground and provided at its upper end with hooks having notches for detachably engaging a ladder-round and at the lower end with a tie-piece for detachably engaging the ladder near its base, substantially as described.

2. An attachment for ladders comprising a foot adapted to rest at its lower end on the ground and provided at its upper end with notches for detachably engaging a ladder-round and at the lower end with means for adjustably connecting it with a ladder-base, substantially as described.

840,366. SAWING-MACHINE. JOHN G. PEDLEY, Pleasant Prairie, Wis. Filed June 26, 1905. Serial No. 266,978.

Claim.—1. In a machine of the class described the combination with a frame of a motor thereon, a shaft journaled on said frame, a plurality of forked arms rigidly engaged on said shaft, means rigidly connecting said arms intermediate the shaft and their outer ends, a shaft journaled in the outer end of said arms, a saw rigidly engaged thereon in the fork of each arm, means adapted to adjust said saws as to height, a slotted guide-plate on the side of the frame adapted to space the saws the required distance from the previous cut, a plurality of bolts rigidly engaged on said frame and extending through said slotted guide-plates, bell-crank levers pivotally engaged on said guide-plates and frame at each end thereof, a bar pivotally engaging said levers and a lever pivoted thereto adapted to raise and lower said guide-plates.



2. In an ice-cutting machine, the combination with a platform of runners therefor, a shaft journaled in said frame, a plurality of rearwardly-directed arms on said shaft, a saw journaled at the outer end of each arm and adapted to operate with upward cut, a lever rigidly engaged on said shaft adapted to hold the saws in adjusted position, guide-plates slidably engaged on the outer side of each runner and adapted to space the saws the required distance from the edge of the guides, a bell-crank lever on each end of the plate and pivoted on the runner, a bar connecting the bell-crank levers of each plate and an operating-lever connected with each bar adapted to raise and lower said plate.

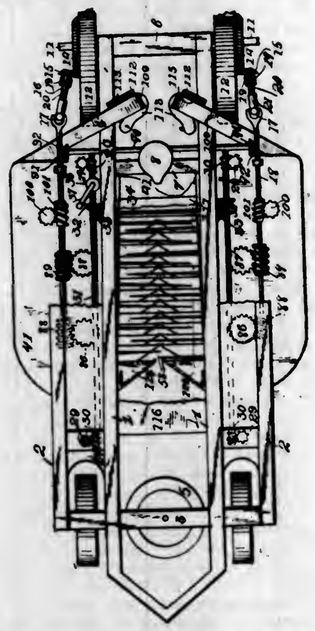
3. In a sawing-machine the combination with a sled, of a rigid platform thereon, a slotted guide-plate on each runner of the sled, a bell-crank lever at each end of said guides and pivoted to the runner, a lever connected therewith and adapted to slide said guides vertically, means for operating said levers, a motor on the platform, an arbor journaled at the rear end of the sled and adapted to be adjusted vertically above or below the platform, a plurality of saws removably engaged on said arbor and a lever and segment acting to rigidly hold the arbor in its adjusted position.

4. In a combined ice and wood sawing machine, the combination with a sled having a rigid platform thereon, a shaft journaled on said frame, rearwardly-directed forked arms on said shaft, transverse bars connecting said arms, an arbor journaled in said arms, saws thereon, means for rotating said shaft and bringing said arms to a vertical position, removable braces connected with said arms and with said platform, means on said braces adapted to apply tension to the arm a frame rigidly engaged on said platform for supporting material thereon and means for driving said saws.

840,367. COTTON-PICKER. JAMES K. PIPER, Wilmerding, Pa. Filed Dec. 24, 1902. Serial No. 136,453.

Claim.—1. In a cotton-picker, a series of carriers traveling in an endless oblong course, picker stems or fingers carried by said carriers, endless oblong tracks for said carriers, means for driving the carriers, means for rotating the stems or fingers during a portion of the travel of the carriers, and means for elevating and lowering said carriers to impart forward and downward movement to the picker stems or fingers at the forward end of their path of travel, substantially as described.

2. In a cotton-picker, a series of carriers traveling in an oblong endless course, means for imparting movement to said carriers, picker stems or fingers journaled in the carriers, means for rotating said picker stems or fingers during a portion of their travel, upwardly and downwardly inclined endless tracks for said carriers, means connected to the carriers engaging in said tracks for elevating and lowering the carriers during their travel, slotted guards for said picker-fingers, guides arranged to conduct the picker-fingers within the slotted guards, scrapers arranged to receive said picker fingers or stems to remove the cotton therefrom, a rotary fan, a cleaner arranged to engage the fingers after they have passed from engagement with the scrapers, and means for operating the rotary fan simultaneously with the carriers substantially as described.



3. In a cotton-picker, a series of carriers arranged to travel in an oblong endless course, screws on the lower ends of said carriers, a chain engaging said screws, means for operating said chain to impart movement to the carriers, an endless oblong track irregular in this endless course, means carried by the lower ends of the carriers for engagement with said track to elevate and lower the carriers during their travel around the track, a supplemental track, a supplemental elevating and lowering means near the upper end of the carriers to engage said supplemental track, and means for imparting a rotary movement to the picker stems or fingers during a portion of their travel around the endless track, substantially as described.

4. In a cotton-picker, the combination with a supporting-frame, a platform carried thereby, spring-pressed catching devices carried by said platform and adapted when pressed to slide beneath the platform, a series of carriers connected together in the endless oblong course, picker stems or fingers carried by said carriers, a track for said carriers having upwardly and downwardly inclined portions, and means for elevating and lowering the carriers during their travel around the track to impart a forward, downward and inward thrust to the fingers at the forward end of their travel, substantially as described.

5. In a cotton-picker, the combination of a series of carriers, endless chains at their upper and lower ends, the ends of the carriers being screwed into the links, means for driving said chains, a series of picker fingers or stems carried by each of the carriers, and means for rotating said picker fingers or stems during a part of the travel of the carriers, substantially as described.

6. In a cotton-picker, a supporting-frame, supporting-brackets secured to said frame, a base connected to said brackets, means for elevating or lowering said base or bed plate, a series of carriers traveling in an endless oblong course, chains engaging the upper and lower ends of said carriers, a track having upwardly and downwardly inclined portions, and means engaging said track for elevating and lowering said carriers to impart a forward and downward movement to the fingers at the forward end of their travel, substantially as described.

7. In a cotton-picker, the combination with a traveling carrier, the means for operating the same, the picker stems or fingers rotatably mounted in said carrier, the means for rotating said picker stems or fingers, of scrapers adapted to receive the picker stems or fingers and provided with shoulders or offsets, and a rotary fan having blades or vanes adapted to engage the offsets or shoulders of the scrapers during their rotation, as and for the purpose described.

8. In a cotton-picker, the combination with the carriers, chains engaging the upper and lower ends of said carriers, means for driving said chains to move the carriers in an endless oblong course, picker stems or fingers rotatably mounted in said carriers, means for rotating said picker stems or fingers, a track irregular in its course, means to elevate and lower the carriers, scrapers arranged to receive said fingers, a rotary fan to engage and remove the cotton from the picker stems or fingers as they pass out of engagement with the scrapers, and a cleaner arranged to be engaged by said picker stems or fingers after they have passed from engagement with the scrapers, substantially as described.

9. The combination with a pair of casings spaced apart, a platform-bar arranged below each casing at the inner side thereof, a plurality of arms bearing against said platform-bar, substantially triangular plates carried by said arms, and springs attached to the base-plate of the casing and to said arms whereby the plates are projected outwardly from the bar, substantially as described.

840,368. RAIL-JOINT. JOSHUA H. PRICE, Cleveland, Iowa. Filed May 31, 1906. Serial No. 319,572.



Claim.—1. A device of the type set forth comprising a base portion formed with a central longitudinal groove and with recesses arranged at regular intervals and extending downwardly from said groove and a tread portion formed with a depending wall interfitting said groove and with lugs carried by said wall and interfitting said recesses.

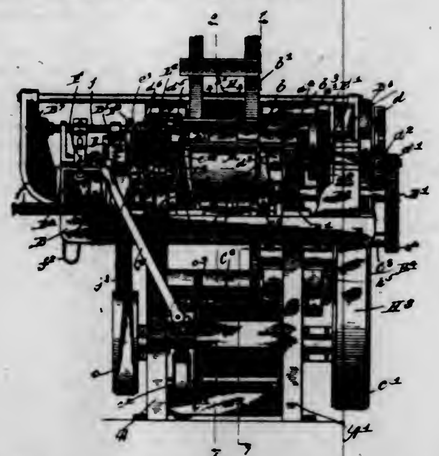
2. A compound rail comprising a base formed at regular intervals with longitudinal recesses, and a tread portion formed with depending lugs interfitting said recesses and forming a connection with said base.

3. A compound rail comprising a base provided with integral fish-plates, and formed with a longitudinal groove between said fish-plates, said base being further formed with recesses extending downwardly from said groove, and a tread portion formed with a depending wall interfitting said groove, and with lugs carried by said wall and interfitting said recesses.

4. A compound rail comprising a base formed with in-

tegral fish-plates and provided with recesses between said fish-plates, said recesses being arranged at the ends and at regular intervals in the body portion of said base, the recesses in the body portion of said base being twice the length of the recesses at the ends thereof, and a tread portion formed with depending lugs arranged at the ends thereof and at regular intervals between the ends and corresponding to the intervals of said recesses, said end lugs being half as long as the lugs therebetween, said end lugs interfitting in confronting relation the adjacent recess in the body portion of said base, and the lugs between said end lugs interfitting the recesses at the ends of said base portions in their confronting relation.

840,369. AUTOMATIC LATHE. GEORGE W. PRINGLE, Chicago, Ill., assignor to E. J. Noblett, Chicago, Ill. Filed Aug. 26, 1901. Serial No. 73,245.



Claim.—1. In a device of the class described the combination with a plurality of chucks of a rotary cutter journaled obliquely thereto and means for moving said cutter longitudinally of the chucks.

2. In a device of the class described the combination with a rotary chuck of a shaft journaled obliquely thereto, a plurality of cutters on said shaft, means for moving the same longitudinally of the chuck and automatic means for moving the cutters to and from the chuck.

3. In a device of the class described the combination with a rotary chuck adapted to engage a blank, of an arm pivoted beneath the same, a cutter-head journaled in said arm obliquely to the chuck and means adapted to engage the arm and move the cutter longitudinally of the chuck.

4. In a device of the class described the combination with a rotary chuck of outwardly and upwardly curved arms pivoted beneath the same, a shaft journaled in said arms obliquely to the chuck, a plurality of toothed cutters rigidly engaged thereon, a cam-follower on said arm and a plurality of cams adapted to engage therewith and move the cutters longitudinally of the chuck and outwardly therefrom.

5. In a device of the class described the combination with a frame of a rotative chuck thereon, curved arms pivoted on the frame beneath said chuck, a shaft journaled thereon obliquely to the chuck, toothed cutters on said shaft provided with beveled edges, an adjustable spring carried on the frame and adapted to normally hold the cutters from movement longitudinally of the chuck, means for moving said cutters against the tension of said spring and means for throwing said cutters outwardly from the chuck.

6. In a device of the class described the combination with a frame of a chuck thereon adapted to engage a blank, a shaft beneath the chuck and parallel therewith, arms pivotally supported on said shaft and movable longitudinally thereof, an arbor journaled in said arms at an angle to the axis of the blank-cutters thereon adapted to form threads in the blank, a follower on one of said arms, a shaft journaled beneath the arbor and adjustable cams adapted to engage said follower and regulate the operation of the cutters.

7. In a device of the class described the combination with a frame of an intermittently-revoluble mandrel thereon, continuously-rotating chucks on said mandrel adapted to engage blanks, an arbor pivotally supported adjacent the mandrel, at an angle to the axis of the blank a plurality of toothed thread-cutters thereon, means for moving said cutters longitudinally of the blank a distance equal to the lead of the thread during one revolution of the blank and means for throwing the cutters out of engagement therewith at the end of the revolution.

8. In a device of the class described the combination with a frame of an intermittently-revoluble arbor, a plurality of chucks thereon adapted to engage a blank, arms pivotally supported on the frame, an arbor journaled therein at an angle to the axis of the blank, a cutter-head thereon, an arm rigidly engaged on the frame, an adjustable spring engaged thereon and on the pivotally-supported arms, a cam-follower on one of said arms, a shaft journaled beneath the chucks, a longitudinally-directed adjustable cam thereon adapted to engage the cam-follower and move the cutter-head longitudinally of the blank, an adjustable, radially-directed cam on said shaft adapted to throw the cutters out of engagement with the blank and means for feeding the blanks to the chucks.

9. In a device of the class described the combination with a frame of an arbor journaled therein, a plurality of rotative chucks on said arbor adapted to engage blanks, means for throwing said chucks into and out of operative position, a pair of arms pivotally engaged beneath the arbor and extending forwardly and upwardly, longitudinally-movable cutting means thereon arranged at an angle to the axes of the blanks and a cam adapted to intermittently throw said cutting means outwardly.

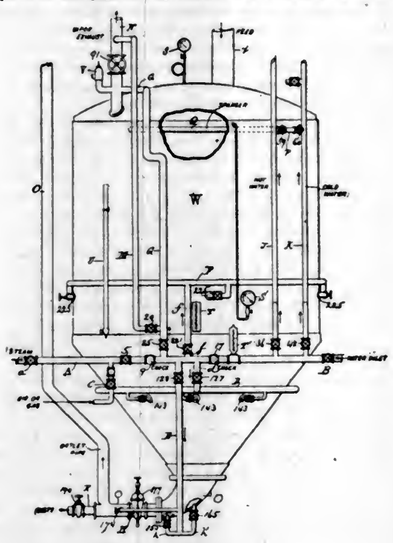
10. In a device of the class described the combination with a frame of an arbor journaled thereon, means acting to intermittently rotate said arbor, a plurality of chucks carried on said arbor, adapted to receive blanks, means for continuously rotating said chucks, a pair of forwardly and upwardly curved arms pivoted on the frame beneath the chucks, a plurality of cutters thereon, means normally holding said cutters in position to engage the blanks, means for throwing said cutters out of cutting position and means for moving the cutters longitudinally of the chucks.

11. In a device of the class described the combination with a frame of an arbor journaled thereon, a cam on said arbor, means engaging said cam and intermittently rotating the arbor, a plurality of chucks rotatively engaged on said arbor, a feed-chute adapted to deliver blanks to said chucks, means for throwing the chucks into engagement with the blanks, a pair of forwardly and upwardly curved arms pivotally supported beneath the chucks, a shaft journaled therein at an angle to the axes of the chucks, cutters thereon, means for rotating said cutters, means for moving the cutters longitudinally of the chucks, means for throwing said cutters into and out of engagement with the blanks and means for discharging the blank from the chucks.

840,370. COOKER FOR BREWING PURPOSES. CARL RACH, New York, N. Y. Filed Oct. 27, 1904. Serial No. 230,218.

Claim.—1. A cooking vessel for brewing purposes, provided with a main pipe-line A, a pipe-ring D below the pipe-line A, and another pipe F above the pipe-line A, branches from both rings into the vessels, valved branches from the pipe-line to the said rings, and valved steam and water connections to the main pipe-line.

2. A cooking vessel for brewing purposes, provided with a main-line steam-pipe and valved branches to the body of the vessel, a valved pipe N from the top of the vessel, a valved branch G from the main steam-pipe connecting with the top of the vessel, and a valved exhaust branch M from the pipe G to the pipe N beyond the valve in the latter.



840,371. RAZOR. JOSEPH A. REAMS, West Norfolk, Va., assignor of one-half to William H. Parrish, Richmond, Va. Filed Feb. 23, 1906. Serial No. 302,561.



Claim.—1. In a razor, the combination with a holder, of a blade substantially V-shaped in cross-section, a handle for said holder, and means for clamping said blade to said holder.

2. In a razor, the combination with a holder, of a blade substantially V-shaped in cross-section, a handle, and locking means actuated by said handle and engaging said blade and arranged to secure the same within said holder.

3. In a razor, the combination of a holder, substantially V-shaped in cross-section, a blade, a guard, and means for locking said blade and guard within said holder.

4. In a razor, the combination with a holder, of a substantially V-shaped blade, a substantially V-shaped guard engaging said blade, and means for clamping said blade and guard to said holder.

5. In a razor, the combination with a holder, a blade engaging said holder, a guard engaging said blade, of a bar pivoted upon said holder, a handle revolubly mounted upon said bar and arranged to press against said blade and guard for securing them in a clamped condition against said holder.

6. In a razor, the combination with a holder, a blade and a guard positioned within said holder, of a bar pivoted upon said holder, and revoluble locking means positioned upon said bar and pressing against said guard for clamping said blade against said holder.

7. In a razor, the combination with a holder, provided with ends, of removable supporting means connecting said ends, a revoluble member carried by said supporting means, a blade interposed between said revoluble member and said holder, and guard means interposed between said blade and said revoluble member.

8. In a razor, the combination with a holder having reversely-inclined sides, of a blade and a guard carried by and conforming in shape to said holder, and revoluble locking means for securing said blade and guard upon said holder.

9. In a razor, the combination with a holder having reversely-inclined sides, of a blade and a guard positioned within and conforming in shape to said holder, and clamping means engaging only the lower surface of said guard for clamping said guard and blade within said holder.

10. In a razor, the combination of a holder comprising an inverted, substantially V-shaped body, said body provided with sides, said sides provided with notches or sockets, a substantially V-shaped blade positioned within said holder, a substantially V-shaped guard provided with teeth upon its lower longitudinal edges, positioned within said holder and engaging said blade, a bar provided with grooves near its ends, the grooved portion of said bar engaging the notches of said sides, said bar provided with an internally-threaded hub, a handle provided with an extension, and said extension threaded near its lower end, the extension positioned within the threaded portion of said hub and having its upper end normally pressing against said guard for clamping the blade and guard against said casing.

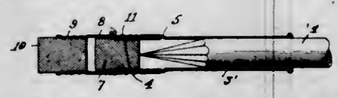
11. In a razor, the combination of a holder, provided with notched sides, horizontally-connecting means positioned within the notched portions of said sides, a handle supported upon said connecting means, and a blade positioned between said handle and holder, and being clamped against said holder by said handle.

12. In a razor, the combination with a holder, of a bar journaled in and connecting the ends of said holder, a handle revolubly mounted upon said bar, and a blade interposed between the upper end of said handle and engaging said holder.

13. In a razor, the combination with a holder, a bar removably journaled upon said holder, a blade, and a guard positioned between said holder and bar, and revoluble locking means carried by said bar and engaging said guard for clamping said blade against said holder.

14. In a razor, the combination with a holder, of a blade, and a guard positioned within said holder, a bar journaled in and connecting the ends of said holder, and fastening means carried by said bar intermediate its ends for securing said guard and blade within said holder.

840,372. ERASER-TIP FOR LEAD-PENCILS. LOUIS J. RECKENDORFER, New York, N. Y. Filed July 13, 1906. Serial No. 326,128.



Claim.—1. A lead-pencil provided with an eraser-carrying ferrule, and having removably applied to said ferrule, and protecting said eraser, another or supplemental ferrule carrying an erasive block exposed for use, substantially as described.

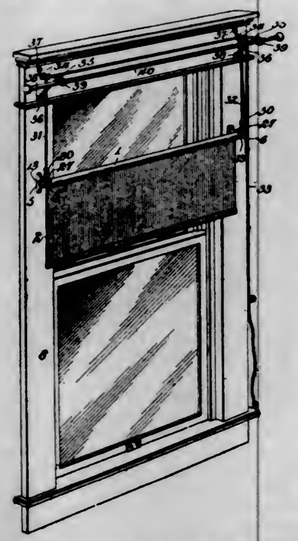
2. A lead-pencil having permanently fixed on one end an eraser-carrying ferrule, and having removably applied to said ferrule, and protecting said eraser, another or supplemental ferrule carrying an erasive block exposed for use, substantially as described.

3. A lead-pencil provided with a ferrule having its free end formed with a screw-thread and there receiving and holding a block of erasive material, and a supplemental ferrule threaded to screw onto the primary ferrule and serving to cover and protect the erasive block carried by said primary ferrule, the said supplemental ferrule also carrying a block of erasive material exposed for use, substantially as described.

4. A lead-pencil having permanently fixed on one end thereof a ferrule having its free end formed with a screw-thread and there receiving and holding a block of erasive material, and a supplemental ferrule threaded to screw onto the permanent ferrule and serving to cover and protect the erasive block carried by said permanent ferrule, the said supplemental ferrule also carrying a block of erasive material exposed for use, substantially as described.

5. The combination with a ferrule carrying an erasive block at one end, of another or supplemental ferrule, carrying an erasive block at one end and having the other end shaped to fit over and be temporarily secured to the eraser end of the primary ferrule, substantially as described.

840,373. BALL-BEARING WINDOW-SHADE ADJUSTER. JOHN RENNER, Burlington, Iowa. Filed Mar. 15, 1906. Serial No. 306,189.



Claim.—1. In a device of the class described, the combination with brackets adapted to support a window-shade, and an operating-cord having branches, of guiding means for the operating-cord consisting of supporting-brackets embodying a horizontal portion provided at its inner end with guide-eyes to receive the branches, and a bracing portion connected with the horizontal portion at the outer end thereof, said supporting-brackets being provided at the outer ends of the horizontal portions with loops or eyes for supporting a curtain-rod.

2. In a device of the class described, the combination with adjustable brackets adapted to support a window-shade, and an operating-cord having branches, of guiding means for the operating-cord consisting of supporting-brackets constructed of wire and embodying horizontal top portions coiled at their inner ends to form guide-eyes for the branches of the operating-cord, and inclined supporting portions connected with the outer ends of the horizontal portions, the wire of the supporting-brackets being coiled or looped at the contiguous ends of the horizontal and inclined portions to provide eyes for supporting a curtain-rod.

3. The combination of a bracket having an opening to receive the spring-journal of a curtain-roller, and a cam pivotally mounted on the brackets and arranged to clamp the said journal, whereby the same is rigidly secured to the bracket.

4. The combination of a bracket having a journal-receiving opening, a supporting-plate mounted on the bracket and arranged in spaced relation with the same and also provided with a journal-receiving opening, and a locking-cam pivotally mounted between the plate and the bracket in position for engaging a journal, whereby the same may be rigidly secured to the bracket.

5. The combination of a bracket adapted to support one end of a curtain-roller, a pivoted cam mounted on the bracket for engaging the journal of the curtain-roller, said cam having a slot or opening for enabling it to be engaged by a tool, and means carried by the bracket and coöperating with the cam for holding the journal.

6. In a device of the class described, the combination with a roller, of a support, an annular casing mounted on the support and fitted against one of the side faces thereof and having an interior annular groove, a ring or hub-section located within the casing and having its inner side face arranged in substantially the same plane as the side face of the casing, whereby the end of the roller is caused to abut against the ring or hub-section, said ring or hub-section being also provided with an annular groove coöperating with the groove of the casing to form a ball-race, and antifriction-balls arranged in the said groove and retaining the ring or hub-section within the casing.

7. In a device of the class described, the combination with a roller having a projecting portion, of a support provided with an opening, an annular casing having a corresponding opening and fitted against one of the side faces of the support, said casing and support forming an annular groove, a ring or hub-section of less diameter than the openings of the support and casing and located within the same and provided with a groove, said ring or hub-section having its inner side face arranged in substantially the same plane as the side face of the casing, whereby the projecting portion of the roller is caused to abut against the hub-section, and antifriction-balls arranged in the said grooves and retaining the said ring or hub-section within the casing.

8. The combination of a bracket having an opening and provided with notches, a casing provided with tongues arranged in the notches and engaging the bracket, said casing being also provided with an opening, a ring or hub-section of a size to pass through the said openings and provided with a groove, and antifriction-balls arranged within the casing and extending into the groove of the ring or hub-section, whereby the latter is retained in position.

9. In a device of the class described, the combination with brackets adapted to support a window-shade, and an operating-cord, of guiding means for the operating-cord consisting of a supporting-bracket embodying a horizontal portion provided at its inner end with guide-eyes and inclined bracing portions connected with the horizontal portion at the other end thereof, an eye formed at the juncture of the horizontal and inclined portions for supporting a curtain-rod, and attaching-eyes at the inner ends of the said portions.

840,374. OIL-WELL JACK. JAMES W. RHOADES, Fostoria, Ohio. Filed July 16, 1906. Serial No. 326,479.

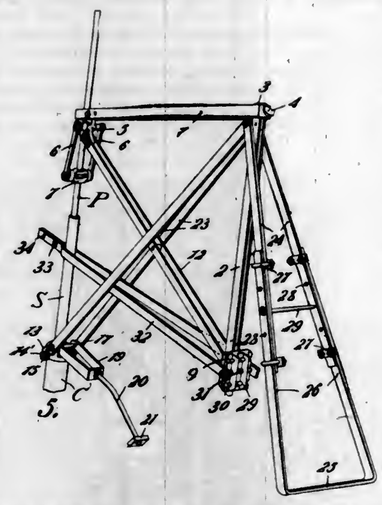
Claim.—1. In a pumping-jack, a tail-block, a rock-beam associated with the tail-block, and an adjustable anchoring member operatively connected with the tail-block for tilting the rock-beam.

2. In a pumping-jack, a tail-block, a rock-beam associated therewith, an adjustable anchoring member connected with the tail-block, a coupling member carried by one end of the rock-beam, and a draw-bar one end of which is adjustable vertically of the coupling member.

3. In a pumping-jack, a tail-block, a rock-beam associated with the tail-block, an anchor-supporting member secured to said tail-block, and an anchor adjustably secured to the supporting member for tilting the rock-beam.

4. In a pumping-jack, a tail-block, a rock-beam associated therewith, an anchor-supporting member pivotally connected with the tail-block and provided with spaced perforations, a U-shaped anchoring member adjustably mounted on the supporting member and provided with perforations adapted to register with the perforations in the supporting member, bolts passing through said perforations, and clips embracing the supporting and anchoring members.

5. In a pumping-jack, a tail-block, an angularly-disposed rock-beam associated with the tail-block, a coupling secured to one of the arms of the rock-beam, a head-block secured to the opposite arm of the rock-beam, a brace connecting the head-block and coupling member, a draw-bar operatively connected with the coupling member, and means for adjusting the tail-block thereby to tilt the rock-beam.



6. In a pumping-jack, a tail-block, a rock-beam provided with angularly-disposed arms, a coupling member pivotally connected with the lower end of one of said arms, a head-block secured to the free end of the opposite arm, a diagonal brace secured to the tail-block and pivotally connected with the coupling member and adjacent arm of the rock-beam, and a draw-bar associated with the coupling member.

7. In a pumping-jack, a tail-block, a rock-beam associated with the tail-block and provided with angularly-disposed arms, an adjustable anchoring member pivotally connected with the tail-block, a coupling member secured to one of the arms of the rock-beam, and a draw-bar adjusted vertically of the coupling member.

8. In a pumping-jack, a tail-block, a rock-beam associated with the tail-block and provided with angularly-disposed arms, a head-block secured to one of said arms, a coupling member secured to the opposite arm, braces pivotally connected to the head-block and coupling member, respectively, a draw-bar mounted on and adjustable vertically of the coupling member, an anchoring member, and a brace extending between the anchoring member and the tail-block.

9. In a pumping-jack, a tail-block, an angularly-disposed rock-beam associated with the tail-block, a head-block secured to one end of the rock-beam, a coupling-block secured to the opposite end of said rock-beam and provided with spaced ribs having transverse openings formed therein, a brace secured to the head-block and pivotally connected to the coupling-block and adjacent end of the rock-beam, respectively, a bolt engaging the openings in the coupling-block, and a draw-bar pivotally mounted on the bolt.

10. In a pumping-jack the combination with a casing-head, a sectional clamp engaging said head, an anchoring member associated with said clamp, a tail-block, a rock-beam associated with the tail-block, and a brace extending between the clamping member and tail-block, respectively.

11. In a pumping-jack the combination with a casing-head, of a clamp engaging the casing-head and provided provided with upstanding ears, a yoke pivotally mounted between said ears and provided with an anchoring member, a tail-block, a rock-beam associated with the tail-block, a brace extending between the ears of the clamping member and secured to the tail-block, a coupling member secured to one end of the rock-beam, and a draw-bar secured to and adjustable vertically of the coupling member.

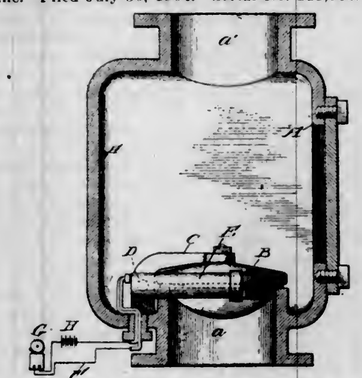
12. In a pumping-jack, the combination with a casing-head, of a clamp engaging the casing-head and provided with upstanding lugs, a yoke pivotally mounted between said lugs, an adjustable anchoring-rod carried by the yoke, a tail-block, a rock-beam associated with a tail-block, a brace extending between the lugs of the clamping member and said tail-block, an adjustable anchoring member pivotally secured to the tail-block, and a draw-bar mounted on and adjustable vertically of the rock-beam.

13. In a pumping-jack, a coupling member provided with a longitudinal reinforcing-bar and having a plurality of transverse bolt-receiving recesses formed in one face thereof.

14. In a pumping-jack, a coupling member comprising a block provided on one side thereof with a longitudinal reinforcing-bar and having its opposite face formed with spaced ribs provided with transverse recesses for the reception of a coupling-bolt, the walls of the recesses at the rear of the block being inclined or beveled.

15. In a pumping-jack, a coupling member comprising a block provided on one side thereof with a perforated longitudinal reinforcing-bar and spaced marginal flanges, and having its opposite face formed with parallel ribs provided with spaced transverse recesses, the adjacent face of the block at said recesses being concaved to form bearing-seats for the reception of a bolt, and the rear face of the block at said openings being inclined in opposite directions.

840,375. ALARM FOR AUTOMATIC FIRE-EXTINGUISHERS. FRANK H. RICE, Chicago, Ill., assignor to Automatic Fire Protection Company, a Corporation of Maine. Filed July 30, 1904. Serial No. 218,935.



Claim.—1. In a device of the class described, the combination with a valve and an alarm mechanism, of a movable support, a body carried thereby and adapted to shift from place to place thereon, by gravity, and means through which the valve shifts the support and conditions said body to shift, and thereby condition the time mechanism to operate, substantially as described.

2. In a device of the class described, the combination with a valve and an alarm mechanism, of a movable support, a body carried thereby and adapted to shift thereon, means for retarding the movement of said body, and means through which the valve shifts the support and conditions said body to shift, and thereby condition the alarm mechanism to operate, substantially as described.

3. In a device of the class described, the combination with a valve and an alarm mechanism, of a movable support having a chamber, a fluid body contained in said chamber and adapted to shift therein, and thereby condition the alarm mechanism to operate, and means through which the valve shifts the support, and thereby conditions the fluid body to shift, substantially as described.

4. In a device of the class described, the combination with a valve and an alarm mechanism, of a movable support having a chamber, a fluid body contained in said chamber and adapted to shift therein, and thereby condition the alarm mechanism to operate, means for retarding the shifting movements of said body, and means through which the valve shifts the support and thereby conditions said body to shift, substantially as described.

5. In a device of the class described, the combination with a valve and an alarm mechanism, of a movable support having a chamber comprising enlarged portions and a contracted duct connecting them, a fluid body contained in said chamber and adapted to shift from either of said enlarged portions to the other, and means through which the valve shifts the support and thereby causes said body to shift and condition the alarm mechanism to operate, substantially as described.

6. In a device of the class described, the combination with a valve and an alarm mechanism, of a movable support having a chamber comprising enlarged portions, a contracted duct connecting the bottoms of said enlarged portions, a fluid body contained in said chamber and adapted to shift from either of said enlarged portions to the other, and means through which the valve shifts the support and thereby causes said body to shift and condition the alarm mechanism to operate, substantially as described.

7. In a device of the class described, the combination with a valve and an alarm mechanism, of a movable support having a chamber, a fluid body contained in said chamber and adapted to shift back and forth therein, means for retarding the shifting of said body, and means through which the valve shifts the support back and forth, whereby said body is caused to shift in one direction and condition the alarm mechanism to operate and in the opposite direction and reëstablish itself in normal condition, substantially as described.

8. In a device of the class described, the combination of a valve, an electrical alarm mechanism, a water-tight chamber into which the terminals of the alarm-circuit extend, said chamber being located in the waterway, and means controlled by the valve and located in the waterway for controlling the alarm-circuit, substantially as described.

9. In a device of the class described, the combination of a valve, an electrical alarm mechanism, a water-tight chamber into which the terminals of the alarm-circuit extend, said chamber being located in the waterway, means within the chamber for controlling the alarm-circuit, and means through which the valve controls the circuit-controlling means, substantially as described.

10. In a device of the class described, the combination of a valve, an electrical alarm mechanism, a movable water-tight chamber into which the terminals of the alarm-circuit extend, said chamber being located in the waterway, a shifting body in said chamber for controlling the alarm-circuit, and means through which the valve moves the chamber, substantially as described.

11. In a device of the class described, the combination of a valve, an electrical alarm mechanism, a movable water-tight chamber located in the waterway and into which the terminals of the alarm-circuit extend, means in said chamber, controlled by the position of the chamber, for controlling the circuit, and means whereby the chamber is moved by the valve, substantially as described.

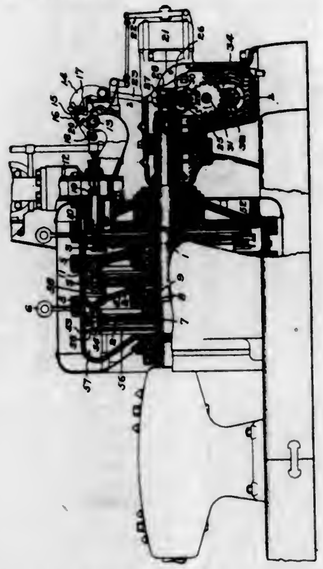
12. In a device of the class described, the combination of a support having a chamber, a fluid body contained in said chamber and adapted to shift from place to place therein, means for retarding the shifting of the fluid body, means controlled by the pressure in the system for shifting the fluid body in the chamber, and an electrical alarm mechanism having terminals in the chamber adapted to be connected and disconnected as the body shifts, substantially as described.

13. In a device of the class described, the combination of a valve exposed to the pressure in the system, a support movable with said valve, and having a chamber, comprising portions connected by a restricted duct, a fluid body contained in said chamber and adapted to flow back and forth through said duct, and an electrical alarm mechanism having terminals in the chamber, substantially as described.

14. In a device of the class described, the combination of a valve exposed to the pressure in the system, a support movable with the valve and having a chamber, a body of mercury contained in the chamber and adapted to shift therein, and an electrical alarm mechanism having terminals adapted to be closed by the mercury, substantially as described.

15. In a device of the class described, the combination of a movable support having a chamber comprising a reservoir, a contact-chamber and an overflow-chamber arranged between the reservoir and contact-chamber, an electrical alarm mechanism having terminals in the contact-chamber, and means for shifting the movable support, substantially as described.

840,376. ELASTIC-FLUID TURBINE. RICHARD H. RICE, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed June 14, 1906. Serial No. 321,617.



Claim.—1. An elastic-fluid turbine comprising relatively rotating parts, in combination with a main shaft, a valve mechanism, a secondary shaft driven by the main shaft, gearing between the main and secondary shafts, a means driven by the secondary shaft for actuating the valve mechanism, and a lubricating-pump geared to and driven by the secondary shaft.

2. An elastic-fluid turbine comprising relatively rotating parts and a main shaft, in combination with a bearing therefor, a secondary shaft carried by the bearing-support, gearing between the main and secondary shafts, a gear-pump also carried by the bearing-support, and a gear mounted on the secondary shaft and meshing with one of the pump-gears for driving it.

3. An elastic-fluid turbine comprising relatively rotating parts and a main shaft, in combination with a bearing therefor, a secondary shaft extending at right angles to the main shaft and carried by the bearing-support, a reciprocating member driven by the secondary shaft, gearing between the shafts, a gear-pump comprising meshing gears, shafts therefor extending parallel to the secondary shaft, and a gear mounted on the secondary shaft and meshing with one of the gears of the pumps to drive it

4. An elastic-fluid turbine comprising relatively rotating parts and a main driving-shaft, in combination with a bearing therefor, a secondary shaft extending at right angles to the main shaft; gearing between the two, a casing inclosing the gearing to confine the lubricant and insure proper distribution thereof, bearings for the secondary shaft, a gear-pump, and a support that is common to the bearings of the secondary and pump shafts.

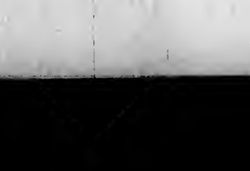
5. In an elastic-fluid turbine, the combination of a fluid-discharging device, a bucket-wheel, a lip on the discharging device which projects over the periphery of the wheel, and a cylindrical projection on the wheel that extends under the discharging device.

6. In an elastic-fluid turbine, the combination of a support that is split to provide a yielding clamping member and contains a bucket-receiving groove, buckets, the ends of which extend into the groove, and means for causing the parts of the support to clamp the buckets.

7. In an elastic-fluid turbine, the combination of a split support having a dovetail-groove, buckets with the ends mounted therein, means for clamping the parts of the support to hold the buckets, and a lining-strip inserted between the support and the main body of the buckets.

8. In an elastic-fluid turbine, the combination of wheel-buckets and fluid-discharging devices, a shield to reduce the rotation losses of the idle buckets, and a circumferential flange coöperating with the shield to reduce the tendency of the motive fluid to leave its normal path.

840,377. FILLING-DETECTING MECHANISM FOR LOOMS. CHARLES F. ROPER, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a corporation of Maine. Filed January 17, 1906. Serial No. 296,457.



Claim.—1. The combination, in a loom, of a slide, a tilting fork mounted thereon and having a tail, a vibrator, a hook thereon to coöperate with the fork-tail upon detection of filling failure, means to positively move the hook into coöperating position with relation to the fork-tail at the inner end of the stroke of the vibrator, and means to sustain the fork in detecting position independent of the hook.

2. The combination, in a loom, of a filling-fork adapted to be tilted by intact filling and provided with a tail, a vibrator, a hook movably mounted thereon to coöperate with the tail upon detection of filling failure, means to positively move the hook into operative position with relation to the tail at the inner end of the vibrator-stroke and to change the position of the hook at the outer end of the stroke, and means to prevent engagement of the hook and fork-tail until filling failure is detected.

3. The combination, in a loom, of a filling-fork, a vibrator having a hook to coöperate with the fork upon detection of filling failure thereby, and means to prevent any contact between the hook and fork except upon filling failure.

4. The combination, with a filling-fork having a tail, and adapted to be tilted by intact filling, of a vibrator, a hook fulcrumed thereon and to coöperate with the fork-tail upon detection of filling failure, a friction device to normally prevent relative movement of the hook, and vibrator, and means to inoperatively position the hook when the vibrator completes its outward stroke and to operatively position the hook with relation to the fork-tail when the vibrator is at the inner end of its stroke.

5. The combination, with a fork-slide and a filling-fork mounted tiltably thereon and having a tail, of a vibrator, a hook, a friction-coupling between it and the vibrator, said hook having an attached lug radial to its fulcrum, and a slotted plate mounted on the slide and coöperating with the lug, the latter by engaging the outer end of the slot depressing the hook, and elevating the hook by engaging the inner end of the slot, such elevation positioning the hook in readiness to coöperate with the tail if the fork is not tilted.

6. The combination, with a filling-fork having a tail and adapted to be tilted by intact filling, of, a vibrator, a hook carried thereby, means to positively move the hook into and out of operative position relative to the fork-tail as the vibrator moves in and out, and a momentum-absorbing member to support the fork-tail free of the hook when the fork is at rest and to prevent rebound of the fork after tilting thereof.

7. The combination, with a filling-fork having a tail and adapted to be tilted by intact filling, and a slide on which the fork is fulcrumed, of a vibrator, a hook carried thereby, means acting on the inward stroke of the vibrator to positively move the hook into position to coöperate with the fork-tail, and a momentum member movably mounted on the slide and acting to support the fork-tail free of the hook when the latter is operatively positioned and to take up the momentum and thereby prevent rebound of the fork after tilting thereof.

8. The combination, with a filling-fork having a tail and adapted to be tilted by intact filling, and a slide on which the fork is fulcrumed, of a vibrator, a hook carried thereby, means acting on the inward stroke of the vibrator to positively move the hook into position to coöperate with the fork-tail, and a substantially U-shaped momentum member loosely straddling one side of the fork-slide and having its inner end bent laterally to support the fork-tail free of the hook when the latter is operatively positioned and to take up the momentum of the fork after tilting thereof.

9. The combination, with a tilting filling-fork, of a momentum-absorbing member to coöperate therewith and prevent rebound after the fork has been tilted.

10. The combination, with a tilting filling-fork, of a movable member to coöperate therewith after tilting and take up the momentum of the fork, preventing rebound.

11. The combination with a filling-fork adapted to be tilted by intact filling, of means which by or through its momentum stops the fork after tilting at a definite point without rebound.

12. The combination, with a filling-fork adapted to be tilted by intact filling, of a slide on which the fork is sustained, and a member movably mounted on the slide to coöperate with the fork after tilting and take up the momentum thereof.

13. The combination with a filling-fork adapted to be tilted by intact filling, of a slide on which the fork is sustained, and a member mounted to rock on the slide and adapted to coöperate with the fork after tilting thereof, the effective weight of said member being so disposed as to take up the momemtum of the fork when coöperating therewith.

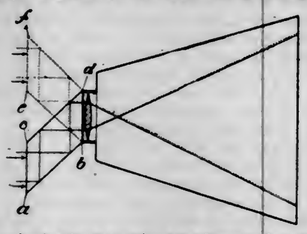
14. The combination with a filling-fork adapted to be tilted by intact filling and provided with a tail, of a fork-slide, and a momentum-check loosely mounted to rock on the slide and having at its inner end a projection to engage and support the fork-tail, the outer end of said check being heavier than the inner end, engagement of the fork-tail with the inner end of the check after tilting of the fork changing the position of the said check and acting by virtue of its heavier end to take up the momentum of the fork.

15. The combination, with a filling-fork provided with a tail and adapted to be tilted by intact filling, and a slide on which the fork is fulcrumed, of an upright projection on one side of the slide, of a momentum member bent to loosely embrace the side and having an aperture to receive the projection, said member having its shorter inner end bent to form a rest for the fork-tail, the impact of the latter on the said rest after tilting of the fork shifting the position of the momentum member and taking up the momentum of the fork.

16. The combination, with a filling-fork having a tail and adapted to be tilted by intact filling, of a checking device which is moved from its normal position by the impact of the fork-tail after tilting of the fork and which returns automatically to normal position when the fork is tilted.

17. The combination, with a filling-fork, having a tail and adapted to be tilted by intact filling, and a slide on which the fork is fulcrumed, of a device movably mounted on the slide and which is moved from its normal position by the impact of the fork-tail after tilting of the fork and which returns automatically to such position when the fork is tilted, said device acting as a rest or support for the tail when the fork is in detecting position.

840,378. STEREOSCOPIC ATTACHMENT FOR PHOTOGRAPHIC CAMERAS. WILHELM SALOW, Elberfeld, Germany. Filed Nov. 16, 1905. Serial No. 287,645.

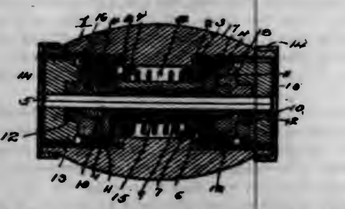


Claim.—1. A stereoscopic attachment for the purpose set forth, comprising two glass prisms of rectangular equilateral shape and so arranged with respect to each other that their hypotenuse-surfaces will be in parallelism so that the rays of light will be totally reflected from the hypotenuse-surfaces, and an opaque casing inclosing said prisms and provided with means for attaching it in position.

2. A stereoscopic attachment for photographic cameras comprising a shiftable casing provided with a socket for the attachment of the casing to the object-glass case of the camera, said casing extending obliquely with respect to the object-glass of the camera, and a reflecting means substantially parallelepipedal in contour arranged within said casing and extending obliquely with respect to the object-glass of the camera, said casing maintaining the said reflecting means at the same angle with respect to the object-glass when the said reflecting means is shifted by the casing.

3. A stereoscopic attachment for photographic cameras comprising a shiftable casing provided with a socket at one end and adapted to be connected to the camera-body, and a reflecting means within said casing and arranged at an angle with respect to the said socket and extending obliquely with respect to the object-glass of the camera, said reflecting means shiftable with the casing and maintained at the same angle with respect to the object-glass when shifted by the casing.

840,379. HUB. JAMES E. SAPP, Bainbridge, Ga. Filed Oct. 7, 1905. Serial No. 281,804.



Claim.—1. In a vehicle-hub, the combination with a body portion and a spindle, of sleeves mounted upon said spindle and fixed thereon with respect to the rotating portion of said hub, cups fixed upon the body portion and rotatable therewith, antifriction means interposed between said cups and said sleeves, and means for offsetting axial thrust.

2. In a vehicle-hub, the combination with a body portion and a spindle, of integral, flexible means positioned centrally of said spindle and surrounding the same, for compensating for axial thrust, said axial-thrust-compensating means taking the pressure from the thrust throughout its entire length, and cups fixed to said body portion for receiving the ends of the thrust-compensating means.

3. In a vehicle-hub the combination with a body portion and a non-rotating spindle, of a plurality of annuli slidable within said body portion and surrounding said spindle and a spring for forcing said annuli in either direction, whereby any axial thrust is compensated for.

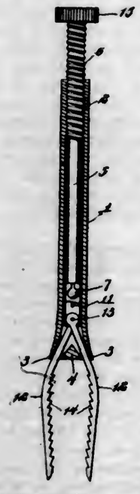
4. In a vehicle-hub the combination with a body portion having on its interior periphery a plurality of slots, of a plurality of rings within and arranged to rotate with said body portion, said rings having ribs arranged to slide in the slots of said body portion, and longitudinally thereof, means interposed between said rings for causing said longitudinal movement of said rings, whereby the lateral and axial thrust of the wheel is compensated for.

5. In a vehicle-hub the combination with a body portion and a spindle, rings within said body portion and arranged to rotate with respect to said spindle, of a plurality of sleeves mounted on said spindle, said sleeves being interlocked and spaced from said rings, means positioned circumferentially of said sleeves for producing a longitudinal, slidable movement of said rings, and means interposed between said sleeves and rings for reducing frictional resistance.

6. In a vehicle-hub the combination with a body portion being provided with a plurality of peripheral sockets of a plurality of rings within said body portion and arranged to fit said sockets said rings having an elongated flange provided with screw-threads, annuli arranged to engage the screw-threaded portion of said rings, and means interposed between said rings whereby the axial thrust will be taken up and offset by the longitudinal movement of said rings and said sockets.

7. In a vehicle-hub the combination with a body portion and a spindle, of a plurality of sleeves interlocking with said spindle and fixed against rotation, a plurality of cones at either end of said sleeves and arranged to engage said sleeves, said cones having raceways formed therein for ball-bearings, rings within said body portion and arranged to travel around the ball-bearings, said rings being slidable longitudinally of the axis of the hub, and annuli secured to said rings, and means interposed between said rings for offsetting the axial thrusts of the vehicle.

840,380. VETERINARY FORCEPS. MATTHEW SAVIDGE, Deloit, Nebr. Filed Aug. 22, 1906. Serial No. 331,627.

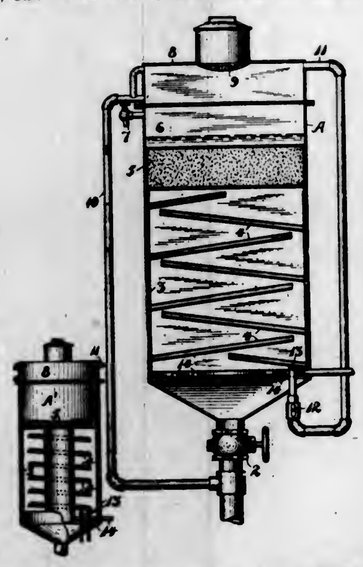


Claim.—1. A veterinary forcep comprising a tubular body portion internally threaded at one end and provided with flaring openings at the opposite end, an intermediate jaw-guide, a stem mounted to move within the tube and provided with threads to engage the interior threads of the tube, a ball formed on the inner end of said stem, a sectional bearing provided with a socket for said ball, and a pair of curved jaws pivoted to said sectional bearing, to be operated substantially as described.

2. A veterinary forcep comprising a tubular body portion, a stem moving within said body portion, a sectional bearing provided with a socket to accommodate a ball upon said stem, and a pair of jaws projected and retracted by the movement of said stem, substantially as described.

3. In a veterinary forcep, a bearing provided with a socket, a stem provided with a ball to engage said socket, a tubular body portion flaring openings in said tubular body portion, an intermediate jaw-guide, and curved jaws pivoted to said bearing and projecting through said flaring openings, substantially as described.

840,381. OIL-FILTER. THOMAS T. SAWDON, San Francisco, Cal. Filed June 7, 1906. Serial No. 320,631.



Claim.—1. A filter comprising a tank to contain water, an inclined baffle submerged in the tank, said baffle having its under face corrugated to form a plurality of independent channels along which globules of oil will roll in their ascent through the water, and separate feeding means for the independent channels.

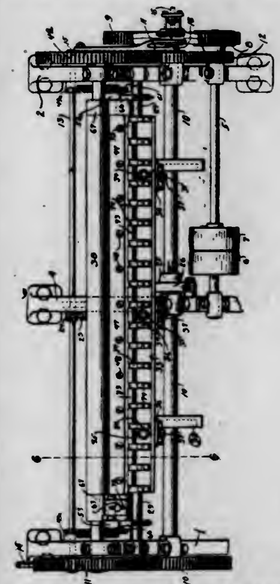
2. A filter comprising a tank to contain water, an inclined baffle submerged in the tank, said baffle having a plurality of independent non-communicating channels into which oil-globules are delivered and allowed to roll therealong, and a feeding device positioned relative to each channel.

3. A filter comprising a tank to contain water, a series of staggered, alternately arranged and inclined baffles submerged in the tank, each of said baffles having a plurality of channels, and means to admit oil drop by drop into the respective channels of the lowermost baffle, whereby the oil so admitted travels the length of the lowermost baffle and follows a defined path upward along the successive baffles.

4. A filter comprising a tank to contain water, a series of oppositely-inclined longitudinally-corrugated baffles within the tank arranged one above the other, and means for admitting oil separately into the several channels formed by said corrugations on the under side of the baffles, the channels in the several baffles being arranged in vertical series whereby a drop of oil entering one channel on the bottom baffle follows a defined path upward along the successive baffles.

5. A filter comprising a tank to contain water, a series of removable baffles arranged in alternately-inclined, superposed position, a submerged filter-box above the baffles, a collection-reservoir for the filtered oil, a reservoir above the filter-box for the oil to be filtered, an oil-feed connection between said reservoir for the unfiltered oil and the bottom of the tank and beneath the baffles, and means for regulating the admission of oil drop by drop into the tank.

840,382. EAVES-TROUGH-FORMING MACHINE. JULIUS H. SCHLAFLY, Canton, Ohio, assignor to The Berger Manufacturing Company, Canton, Ohio, a Corporation of Ohio. Filed June 14, 1906. Serial No. 321,660.



Claim.—1. In a machine for forming eaves-trough, the combination of a suitable frame, an eaves-trough-forming mandrel, journaled in the frame, grooved plates connected to and rotatable with the mandrel, a beading-rod located in the grooves of the plates and the beading-rod provided with a groove, and means for axially rotating the beading-rod and means for rotating the beading-rod around the trough-forming mandrel, substantially as and for the purpose specified.

2. In a machine for forming eaves-trough the combination, of a suitable frame, an eaves-trough-forming mandrel journaled therein, a beading-rod rotatable with the mandrel, said beading-rod provided with an angled extension, a longitudinally-movable shaft provided with a socket adapted to engage the angled end of the beading-rod, a pinion mounted upon said shaft, and a toothed segment adapted to mesh with the pinion mounted upon the longitudinally-movable shaft.

3. In an eaves-trough-forming machine, the combination of a frame, an eaves-trough-forming mandrel journaled in the frame, a beading-rod held in fixed spaced relation to the mandrel and rotatable around the mandrel and rotatable axially, and means for imparting movement around the mandrel, and axial movement to said beading-rod with its movement around the mandrel, substantially as and for the purpose specified.

4. In a machine for forming eaves-trough, a frame, an eaves-trough-forming mandrel journaled therein, gear-wheels secured to the mandrel, one of said gear-wheels provided with a slit, a beading-rod adapted to rotate axially

and around the mandrel, substantially as and for the purpose specified.

5. In a machine for forming eaves-trough, the combination of a frame, an eaves-trough-forming mandrel journaled in the frame, a beading-rod provided with a groove throughout its bead-forming length, said beading-rod rotatable around and with the mandrel, a shaft provided with a pinion, said shaft journaled in a hinged housing, means for connecting the beading-rod to axially rotate with the shaft, and means for rotating the shaft.

6. In a machine for forming eaves-trough, the combination of a frame, an eaves-trough-forming mandrel journaled in the frame, a beading-rod provided with a groove throughout its bead-forming length, said beading-rod rotatable around the mandrel, a shaft provided with a pinion, said shaft journaled in a hinged housing, means for connecting the beading-rod to axially rotate with the shaft, means for rotating the shaft, and means for longitudinally moving the shaft.

7. In a machine for forming eaves-trough, the combination of a suitable frame, an eaves-trough-forming mandrel journaled therein, a beading-rod carried by the mandrel, and rotatable therewith and around said mandrel, and means for imparting axially movement to the beading-rod, levers having adjustably connected thereto a presser-bar, said presser-bar provided with antifriction-rollers, and means for actuating the levers and presser-bar in timed relation with the rotation of the mandrel.

8. In a machine for forming eaves-trough, the combination of a frame, a mandrel journaled therein, a beading-rod rotatable around the mandrel and axially, a presser-bar, cam-actuated levers, and means for rotating the cams.

9. In a machine for forming eaves-trough, the combination of a frame, a mandrel journaled therein, a beading-rod rotatable around the mandrel and axially rotatable, a presser-bar, cam-actuated levers, means for actuating the cams, and clutch mechanism and means for actuating the clutch mechanism.

10. In a machine for forming eaves-trough, the combination of a suitable frame, an eaves-trough-forming mandrel journaled therein, a beading-rod, bars provided with grooves adapted to surround a portion of the periphery of the beading-rod, said bars secured together, and carried by the eaves-trough-forming mandrel, a shaft journaled in a hinged housing, and located at one end of the beading-rod and adapted to be connected and disconnected to and from the beading-rod, a pinion provided with a smooth peripheral portion, a groove formed in the smooth peripheral portion and a detent adapted to lock the pinion against rotation and means for actuating the detent.

11. In a machine for forming eaves-trough, the combination of a suitable frame, an eaves-trough-forming mandrel journaled in the frame, a beading-rod, means for axially rotating the beading-rod, and means for limiting the beading-rod to one revolution, with one movement of the eaves-trough-forming mandrel, and means for rotating the mandrel.

12. In a machine for forming eaves-trough, the combination of a suitable frame, an eaves-trough-forming mandrel journaled therein, a beading-rod provided with a groove, means for axially rotating the beading-rod, means for disconnecting the axially rotation of the beading-rod, and means for limiting the beading-rod to a single revolution with one revolution of the eaves-trough-forming mandrel, a presser-bar, cam-actuated levers and the presser-bar adjustably connected to the cam-actuated levers, and antifriction-rollers carried by and movable with the presser-bar.

13. In an eaves-trough-forming machine, the combination of a suitable frame, a mandrel journaled therein, and provided with a flanged head, a pivoted housing carried by the flanged head, and having journaled therein a shaft, a beading-rod, adapted to rotate with the rotation of the eaves-trough-forming mandrel, a ribbed bar journaled in the housing said ribbed bar adapted to actuate longitudinally the shaft journaled in the housing, and means for connecting the shaft journaled in the housing with the beading-rod

14. In an eaves-trough-forming machine, the combination of a suitable frame, a mandrel journaled therein and provided with a flanged head, a pivoted housing carried by the flanged head and having journaled therein a shaft, a beading-rod adapted to rotate around the eaves-trough-forming mandrel, a ribbed bar journaled in the housing, said ribbed bar adapted to longitudinally actuate and the shaft journaled in the hinged housing, means for connecting the shaft journaled in the housing with the beading-rod, and means for locking the housing in position to hold the shaft in axially alinement with the beading-rod.

15. In a machine for forming eaves-trough, the combination of a suitable frame, an eaves-trough-forming mandrel journaled in the flange, a power-shaft provided with a driving-pinion, a cam-shaft and cams mounted thereon, gear-wheels mounted upon the shaft, a clutch located upon the cam-shaft, means for connecting the clutch members, said cams rotatable with the cam-shaft, levers actuated by the cams, a presser-bar adjustably attached to the free ends of the cam-actuated levers, said presser-bars provided with antifriction-rollers, an axially-rotatable beading-rod carried by and rotatable with the eaves-trough-forming mandrel, and a gear-wheel provided with a sheet-receiving slit.

16. In a machine for forming eaves-trough, the combination of a frame, an eaves-trough-forming mandrel journaled therein, and a beading-rod, carried by the mandrel, means for rotating the eaves-trough-forming mandrel and means for imparting one rotation of the beading-rod with one distinct movement of the eaves-trough-forming mandrel, substantially as and for the purpose specified.

17. In a machine for forming eaves-trough, the combination of a suitable frame, an eaves-trough-forming mandrel journaled therein, a grooved beading-rod located parallel with the eaves-trough-forming mandrel, and adapted to be rotated axially and means for limiting the rotation of the mandrel and beading-rod, substantially as and for the purpose specified.

18. In a machine for forming eaves-trough, the combination of a suitable frame, an eaves-trough-forming mandrel journaled therein, a beading-rod carried by the mandrel, and rotatable axially, and with the mandrel, and means whereby the trough is held against the mandrel during the rotation of the mandrel, substantially as and for the purpose specified.

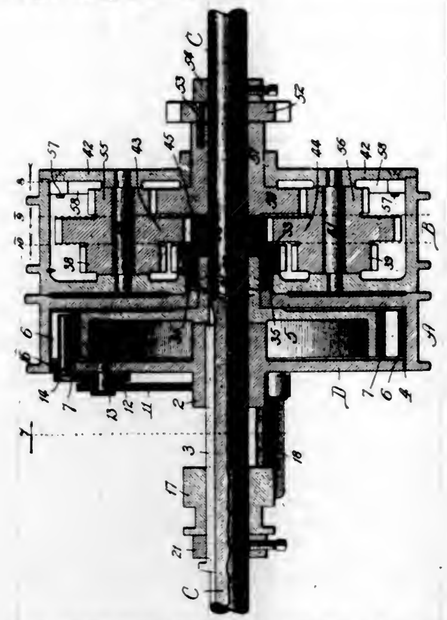
19. In an eaves-trough-forming machine, a suitable frame an eaves-trough-forming mandrel, and a grooved beading-rod located parallel to each other, mechanism to rotate the eaves-trough-forming mandrel and the beading-rod, and means for pressing the eaves-trough during the partial rotation of the mandrel, substantially as and for the purpose specified.

20. In an eaves-trough-forming machine, the combination of a suitable frame, an eaves-trough-forming mandrel journaled in the frame, a grooved beading-rod located parallel with the forming-mandrel, grooved bars adapted to hold the beading-rod, said bars carried by the mandrel, a pivoted housing, a shaft adapted to move longitudinally in the housing, a pinion provided with an integral smooth-faced portion and a groove continued through the smooth-faced portion of the pinion, a detent adapted to engage with the pinion, said detent provided with a head, a grooved toothed segment and the head of the detent adapted to engage the tooth of the segment and actuate the detent.

840,383. TRANSMISSION-GEAR. JOSEPH SCHMIDT, Jr., Chicago, Ill. Filed Dec. 11, 1903. Serial No. 184,730.

Claim.—1. In transmission-gear, a driving-shaft, the casing members loosely mounted thereon and having motion independent of each other, one of said casing members having a hub extending into the other member, a friction driving-drum loosely mounted on said shaft and also provided with a hub extension entering the adjacent member, the system of motion-transmission gears intermediate thereto, and the operative brake mechanism.

2. In transmission-gear, a revoluble shaft, the casing members loosely mounted thereon and having an independent rotary movement, a disk plate rigidly mounted on said shaft, a friction driving-drum of a less diameter than the surrounding casing and leaving an annular space therebetween, the clutch-rings located in said space, means for actuating said clutch-rings, and the operative connections with said casing members.



3. In transmission-gear, a revoluble shaft, a clutch-sleeve mounted thereon and having both a rotary and an endwise-sliding movement, the companion key-wedges secured to said sleeve, a disk plate, the clutch-rings, a driving-drum, the companion clutch-levers pivoted to said disk plate and having their lower ends in contact with said wedges and their upper ends provided with pins operatively engaging the clutch-rings, the casing members and the intermediate gear mechanism for transmitting motion.

4. In transmission-gear, a revoluble shaft, the casing members loosely mounted thereon, a clutch-sleeve feathered on said shaft, means for manually imparting an endwise movement to the clutch-sleeve, the key-wedges secured to the latter, the crossed clutch-levers, a disk plate, a driving-pulley, the clutch-rings, the solid gear-driving mechanism, the spindles on which the same is mounted, the gear 50 and the sprocket-wheel secured to the hub thereof.

840,384. TYPE-WRITER ATTACHMENT. ROY W. SCOGGIN, Millington, Ill. Filed Dec. 13, 1905. Serial No. 291,616.



Claim.—A paper-roll-holding attachment for type-writers comprising a supporting-frame formed of wire, said frame being bent to form a pressure-rod adapted to bear longitudinally upon the roll, spring-arms depending from the ends of the pressure-rod, and standards extending upwardly from the lower ends of the arms and arranged in divergent relation thereto, the upper ends of the standards being bent to form bearings for the shaft of the roll and the arms and standards bent to produce attaching portions at their points of junction, whereby the frame may be attached to the carriage of a type-writing machine.

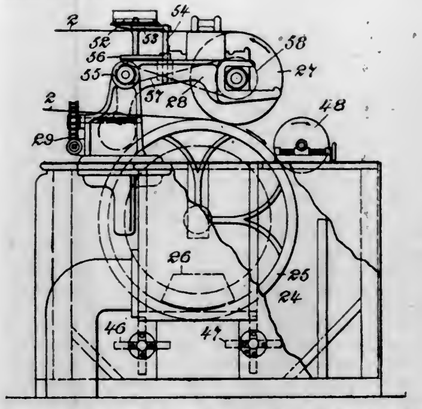
840,385. HOLDER FOR CIGARS AND CIGARETTES. FRANZ J. SEYFRIED, Cologne, Germany. Filed Nov. 1, 1905. Serial No. 285,405.



Claim.—1. A cigar or cigarette holder made of one continuous strip of paper comprising the holder proper, a paraffined mouthpiece, and a strengthening cross-bridge within said mouthpiece extending diametrically from one inner wall over to the other and secured in same.

2. In a cigar or cigarette holder a paraffined mouthpiece having integral therewith a strengthening cross-bridge extending from one inner wall diametrically over to the other and secured in same.

840,386. MACHINE FOR MAKING MILLBOARD. WILLIAM SILLMAN, New York, N. Y. Filed June 11, 1906. Serial No. 321,113.

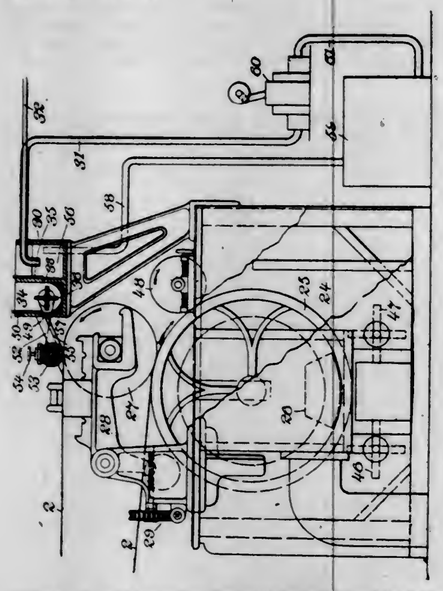


Claim.—1. In a machine for making millboard and similar substances, the combination with the ordinary mechanism of a "wet" paper-making machine including an endless band of felt on which a semifluid film of felted fibers is collected, of a mechanism located over said endless band of felt adapted to deposit finely-divided dry material thereon.

2. In a machine for making millboard and similar substances, the combination with the ordinary mechanism of a "wet" paper-making machine including an endless band of felt on which a semifluid film of felted fibers is collected, of a mechanism located over said endless band of felt adapted to deposit finely-divided dry material thereon, said last-mentioned mechanism comprising a sieve and connections to the paper-machine for shaking said sieve.

3. In a machine for making millboard and similar substances, the combination with the ordinary mechanism of a "wet" paper-making machine including an endless band of felt on which a felted film of fibers is collected, of a mechanism located over said endless band of felt adapted to deposit finely-divided dry material thereon, and means for varying the amount of water in the mixture formed on the felt.

840,387. MACHINE FOR MAKING MILLBOARD. WILLIAM SILLMAN, New York, N. Y. Filed June 11, 1906. Serial No. 321,114.



Claim.—1. In a machine for making millboard and similar substances, the combination with the ordinary mechanism of a "wet" paper-making machine including an endless band of felt on which a felted film of fibers is collected, of means adapted to deliver upon the upper strand of said endless felt a cement solution.

2. In a machine for making millboard and similar substances, the combination with the ordinary mechanism of a "wet" paper-making machine including an endless band of felt on which a felted film of fibers is collected, of means adapted to deliver upon the upper strand of said endless felt a cement solution, said means comprising a distributing-trough, a graduated sluiceway therein, approximating in length the width of the felt, and conveying means from said sluiceway to the upper section of the endless felt.

3. In a machine for making millboard and similar substances, the combination with the ordinary mechanism of a "wet" paper-making machine including an endless band of felt on which a felted film of fibers is collected, of means adapted to deliver upon the upper strand of said endless felt a cement solution, said means comprising a distributing-trough, a graduated sluiceway therein, an agitator in the trough located adjacent to the sluiceway, and an apron extending from the sluiceway to a point over the upper section of the endless felt.

4. In a machine for making millboard and similar substances, the combination with the ordinary mechanism of a "wet" paper-making machine including an endless band of felt on which a felted film of fibers is collected, of means adapted to deliver upon the upper strand of said endless felt a cement solution, said means comprising a distributing-trough, a graduated sluiceway therein, an agitator in the trough located adjacent to the sluiceway, and an apron extending from the sluiceway to a point over the upper section of the endless felt, said apron having upturned sides spaced apart a distance equal to the width of the web to be formed.

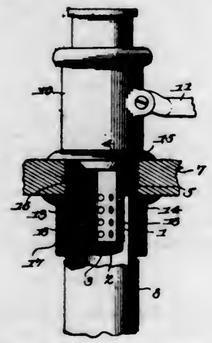
5. In a machine for making millboard and similar substances, the combination with the ordinary mechanism of a "wet" paper-making machine including an endless band of felt on which a felted film of fibers is collected, of means adapted to deliver upon the upper strand of said endless felt a cement solution, said means comprising a distributing-trough, a graduated sluiceway therein, an agitator in the trough located adjacent to the sluiceway, and an apron extending from the sluiceway to a point over the upper section of the endless felt, together with a distributing-roll located over the felt near a point where the cement solution is delivered to it.

6. In a machine for making millboard and similar substances, the combination with the ordinary mechanism of a "wet" paper-making machine including an endless band of felt on which a felted film of fibers is collected, of means adapted to deliver upon the upper strand of said endless felt a cement solution, said means comprising a distributing-trough, a graduated sluiceway therein, an agitator in the trough located adjacent to the sluiceway, and an apron extending from the sluiceway to a point over the upper section of the endless felt, together with a distributing-roll located over the felt near a point where the cement solution is delivered to it, said roll revolving in a direction to produce circumferential travel on its under side opposite to the travel of the felt at the point of contact therewith.

7. In a machine for making millboard and similar substances, the combination with the ordinary mechanism of a "wet" paper-making machine including an endless band of felt on which a felted film of fibers is collected, of means adapted to deliver upon the upper strand of said endless felt a cement solution and means disposed between the point of such delivery and the press-rolls of the "wet" machine for varying the amount of water in the mixture formed on the felt.

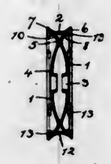
8. In a machine for making millboard and similar substances, the combination with the ordinary mechanism of a "wet" paper-making machine including an endless band of felt on which a felted film of fibers is collected, of means adapted to deliver upon the upper strand of said endless felt a cement solution and means disposed between the point of such delivery and the press-rolls of the "wet" machine for varying the amount of water in the mixture formed on the felt, said last-mentioned means comprising a series of suction-boxes, located under the upper strand of felt.

840,388. VALVE. JAMES H. SIMMS, Mobile, Ala. Filed June 5, 1905. Serial No. 263,832.



Claim.—A valve comprising a case open at one end and having an internally-threaded portion, said case being of uniform internal diameter, a tubular valve-seat member having its inner end open and constituting the valve-seat proper, said inner end portion being externally threaded and adjustably engaging the threaded portion of the case, the remaining portion of the valve-seat being reduced and of uniform diameter to form an annular space thereabout, said reduced portion being provided with one or more perforations, the upper end of the valve-seat member being closed and provided with a screw-driver seat accessible through the open end of the case, the adjustment of said valve-seat member being constantly unobstructed, and a tubular screen surrounding the reduced portion of the valve-seat member and having its internal diameter substantially equal to the external diameter of said portion.

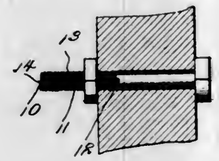
840,389. SHEET-METAL SASH-PULLEY. FRANCIS E. SLOAN, Baltimore, Md. Filed Apr. 13, 1906. Serial No. 311,452.



Claim.—1. In a pulley, the combination with the side plates having laterally-projecting circumferential flanges which are provided with a plurality of slots, of a circumferential tire adjacent said flanges and being of less width than the latter and having a plurality of tangs which project through the slots of said flanges.

2. In a pulley, the combination with the side plates having laterally-projecting flanges which are provided with a circumferential recess and having a plurality of slots around said recess, of a tire of less width than the flanges and extending across the latter between the slots, said tire having a plurality of tangs which project through said slots and are turned against the outer side of said flanges.

840,390. NUT-LOCK. JACOB B. SMILEY, Chicago, Ill. Filed June 27, 1906. Serial No. 323,634.



Claim.—A nut-lock comprising the threaded bolt provided with a longitudinal groove extending from the end inward and provided with a hole at its inner end, and a wire spring doubled for a portion of its length upon itself, the short part of the doubled portion extending under the longer portion, the outer surface of the spring from end to end being nicked or screw-threaded and the inner end of the latter portion being provided with a right-angular bend extending into the hole at the end of said groove.

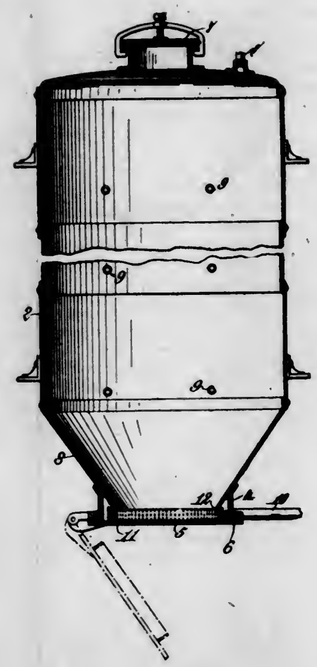
840,391. CHEMICAL APPARATUS. HORACE B. SNELL, Jacksonville, Fla. Filed Jan. 8, 1906. Renewed Nov. 5, 1906. Serial No. 342,134.

Claim.—1. In an apparatus of the class described, a tank, a door for the tank, having an annular perforated flange, said flange when the door is closed being separated from the tank, a discharge-pipe leading from the tank, the perforated flange serving to permit steam to enter the pipe but preventing solid matter from being blown thereinto, and means upon the tank for preventing solid matter in the vessel from entering the space between the flange and tank.

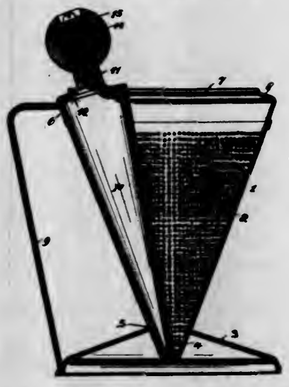
2. In an apparatus of the class described, a tank having an inwardly-tapered portion, a door for the tank having an annular perforated flange, said flange when the door is closed being separated from the tank, the inwardly-tapered portion of the tank being flanged to extend into the space defined by the flange, and a discharge-pipe leading from the tank substantially in horizontal line with the flange.

3. In an apparatus of the class described, a tank having an inwardly-tapered lower portion, a vertically-disposed ring fastened to and depending from the tapered portion, a door hinged to the ring and having a perforated flange to be located within and to be separated from the ring, the inwardly-tapered portion of the vessel having a flange to extend in the space defined by the perforated flange, and a discharge-pipe for the tank leading from said ring.

840,391.



840,392. POTATO-MASHER. ALEXANDER T. STEWART, Pittsburg, Pa. Filed Oct. 3, 1905. Serial No. 281,111.



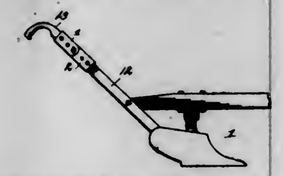
Claim.—1. A receptacle for mashing potatoes comprising a perforated inverted conical body, a base, a cap-ring overhanging the interior of the body, in combination with a crushing element.

2. The combination in a potato-masher of a receptacle comprising a perforated inverted conical body, and a cap-ring overhanging the interior of the body, a tapering crusher of a length and form to fit freely between and find its bearings upon the cap-ring and the inner apex of the cone, and to engage the surface thereof, said crusher having a revoluble handle.

840,393. PLOW-HANDLE. FRANK R. STEWART, Oblong, Ill. Filed May 2, 1906. Serial No. 314,802.

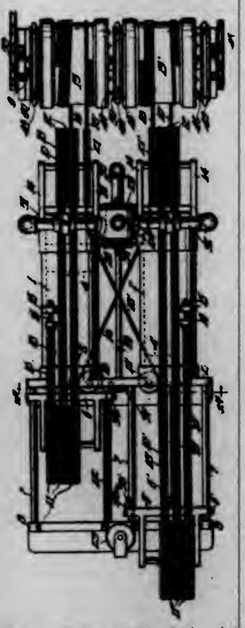
Claim.—1. A coupling-adjuster for plows or similar implements comprising duplicate members adapted to be se-

cured respectively to the end of the handle-bar and to the handle proper, each of said members comprising spaced walls and a forwardly-projecting disk arranged at one side of the longitudinal center of the member, said disk being formed with a circumferential row of teeth, and means connecting the respective disks.



2. A coupling-adjuster for plows or similar implements comprising duplicate members arranged to be secured respectively to the handle-bar and to the handle proper, each of said members comprising spaced plates connected at their forward ends by a transverse wall, the bearing-surface of the wall being formed with a double incline, and a disk projecting from the end of the member and offset from the longitudinal center thereof, said disk being formed with an annular row of teeth, and means for connecting the respective disks.

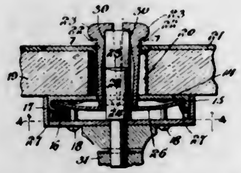
840,394. FLUID-PRESSURE ENGINE. ROSS H. STOLLAR, Los Angeles, Cal., assignor of three-fourths to Floyd C. Foote, Longbeach, Cal. Filed July 21, 1905. Serial No. 270,623.



Claim.—1. Two cylinders with their pistons, stationary pulleys 12 and 21 for one cylinder and movable pulleys 11 for said cylinder, stationary pulleys 12′ and 21′ for the other cylinder and movable pulleys 11′ for the latter cylinder, a driven shaft, drums 13 and 13′ on said shaft, a cable 10 having one end fixed and wound over pulleys 11 and 12 and a drum 13, and having its other end fixed to drum 13, a cable 18 having one end fixed and wound on pulleys 11, 12 and 21′ on the drum 13′ and having its other end fixed to the latter drum, a cable 10′ having one end fixed and wound on pulleys 11′ and 12′ and drum 13′ and having its other end fixed to the latter drum, a cable 18′ having one end fixed and wound on pulleys 11′, 12′ and 21 and wound on drum 13 and having its other end fixed to the latter drum, cable 18′ being wound on drum 13 in a reverse direction from cable 10, cable 10′ being wound on drum 13′ in a reverse direction from cable 18, pawl-and-ratchet devices operated by said drums for rotating said driven shaft, means operated by one piston for bodily moving pulleys 11, means operated by the other piston for bodily moving the pulleys 11′ and valve means for the cylinders controlled by the pistons.

2. Two cylinders with their pistons, stationary pulleys 12 and 21 for one cylinder and movable pulleys 11 for said cylinder, stationary pulleys 12′ and 21′ for the other cylinder and movable pulleys 11′ for the latter cylinder, a driven shaft, drums 13 and 13′ on said shaft, a cable 10 having one end fixed and wound over pulleys 11 and 12 and a drum 13, and having its other end fixed to drum 13, a cable 18 having one end fixed and wound on pulleys 11, 12 and 21′ and on drum 13′ and having its other end fixed to the latter drum, a cable 10′ having one end fixed and wound on pulleys 11′ and 12′ and drum 13′ and having its other end fixed to the latter drum, a cable 18′ having one end fixed and wound on pulleys 11′, 12′ and 21 and wound on drum 13 and having its other end fixed to the latter drum, cable 18′ being wound on drum 13 in a reverse direction from cable 10, cable 10′ being wound on drum 13′ in a reverse direction from cable 18, pawl-and-ratchet devices operated by said drums for rotating said driven shaft, a cross-head carrying pulleys 11 and operated by one piston, a cross-head carrying pulleys 11′ and operated by the other piston, a stationary pulley 23 and a cable 22 running over pulley 23 and having its respective ends fixed to the respective cross-heads, and valve means for the cylinders controlled by the pistons.

840,395. FASTENING MEANS. NATHANIEL B. STONE, Outlook, Wash., assignor of one-half to George Shilling, Washington, D. C. Filed May 7, 1906. Serial No. 315,630.



Claim.—1. In a device of the character set forth, the combination with a bolt having an enlarged head, said bolt comprising separate sections movable toward and from each other, of rotatable means operating between and including a rotatable portion that engages the sections of the bolt for positively separating the same and positively locking them in separated condition.

2. In a device of the character set forth, the combination with a sectional bolt having an enlarged split head, of a device disposed longitudinally within the bolt and including a rotatable cam operating between and engaging the sections thereof to positively separate the same and maintain them in separated condition.

3. In a device of the character set forth, the combination with a sectional bolt having an enlarged split head, of a rotatable device disposed within the bolt and having a rotatable cam portion operating between and engaging the sections of the same to positively separate them and positively lock said sections in separated condition, said device having its axis of rotation disposed longitudinally of the bolt.

4. In a device of the character set forth, the combination with a sectional bolt comprising a sectional tubular stem, a sectional head carried thereby, of a rotatable device located longitudinally within the bore of the stem and engaging the sections for separating the same upon its rotation, and means for rotating said device.

5. In a device of the character set forth, the combination with a bolt comprising a tubular stem having a head at one end, said stem being divided into two separate sections, of means located longitudinally within the bore of the stem and having a rotatable device engaging the sections thereof for separating said sections of the stem and head, said means projecting from the end of the stem that is opposite to the head.

6. In a device of the character set forth, the combination with separable members having latch elements, of an actuating device for separating the members and including a rotatable cam engaging the inner sides of the latch elements, said device being disposed longitudinally between the members and projecting beyond the same at one end.

7. In a device of the character set forth, the combination with separable members having latch elements at one end, of a rotatable actuating device having a rotatable separating portion engaging the inner sides of the members for separating said members, said device being disposed longitudinally between the members and projecting beyond the opposite ends thereof to the latch elements.

8. In a device of the character set forth, the combination with a sectional bolt comprising a sectional tubular stem and a sectional head carried thereby, of a rotatable shank located longitudinally of the bolt and having a cam portion disposed in the stem and operating against the sections thereof, said shank projecting beyond one end of the stem and having an actuating-head.

9. In a device of the character set forth, the combination with a casing, of a locking device movably mounted in the casing and projecting from one side of the same, said device comprising separable sections, and means for separating the sections including an actuating device projecting from the opposite side of the casing.

10. In a device of the character set forth, the combination with a casing, of a split locking-bolt comprising a tubular sectional stem and a sectional head carried thereby, said stem projecting from one side of the casing and having its inner end movably mounted in the same, and means for separating the sections including a rotatable shank disposed longitudinally within the bore of the stem and having a rotatable portion engaging the sections, and an actuating device projecting from the opposite side of the casing to the locking device.

11. In a device of the character set forth, the combination with separable locking members, of yielding means for urging the members toward each other, and a rotatable cam engaging the members for positively separating said members and maintaining them in separated condition.

12. In a device of the character set forth, the combination with pivoted and separable locking members, of a spring bearing against the members to urge the same toward each other, and a cam device rotatably mounted between and engaging the members for positively separating the same and maintaining them in separated condition.

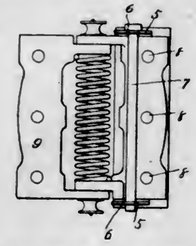
13. In a device of the character set forth, the combination with a casing, of a sectional bolt projecting from one side of the same and comprising separable sections pivoted at their inner ends within the casing and having a sectional head at their outer ends, of a spring located within the casing and bearing against the inner ends of the sections to swing the outer ends toward each other, a cam device located between the sections of the bolt for swinging the same, said cam device having its axis of rotation disposed longitudinally of the bolt, and an actuating device connected to the cam device and projecting from the opposite side of the casing to the bolt.

14. In a device of the character described, the combination with a casing, of a sectional bolt projecting from one side of the same, said bolt comprising a tubular sectional stem, the sections of which are pivoted within the casing at their inner ends, the outer ends of said sections having a sectional head, a plate-spring secured within the casing and bearing against the inner ends of the stem-sections to swing the outer ends toward each other, a shank rotatably mounted in the casing and projecting from the opposite side to the bolt, a cam carried by the inner end of the shank and located between the stem-sections for moving the same apart, and an actuating-head carried by the projecting end of the shank.

15. In a device of the character set forth, the combination with a casing comprising separable sections, of separable locking members projecting from and having their inner ends movably mounted in one section, and means mounted on the other section for effecting the relative movement of the members, said means including a rotatable cam detachably engaging said members.

16. In a device of the character set forth, the combination with a casing comprising separable sections, of a bolt projecting from one side of the casing and comprising separable sections mounted on one of the sections of the casing, means for separating the bolt-sections, mounted on the other casing-section and projecting from the opposite side of said casing to the bolt, and means other than said separating means for securing the casing to a support, said securing means passing through both of the casing-sections.

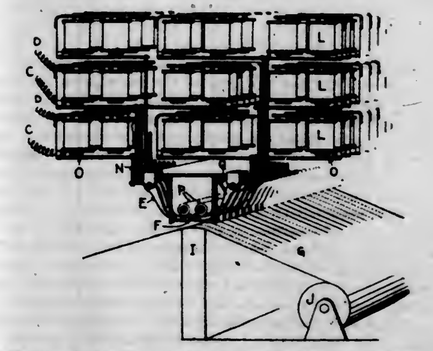
840,396. SPRING-HINGE ATTACHMENT FOR SCREEN-DOORS. ROBERT R. SUTER, Media, Pa. Filed July 9, 1906. Serial No. 325,353.



Claim.—1. A door-hanger or bracket having studs effective for engagement with the ordinary screw-receiving openings in the door-hinge, and additional means combining with said studs, for the retention of the door in working position.

2. A door-hanger or bracket equipped with means effective for engagement with the ordinary screw-receiving openings in the door-hinge, and with apertured right-angled end portions and a pin or bolt insertible through the apertures of said right-angled end portions.

840,397. MUSIC-RECORDING DEVICE. ALFRED J. SWING and KARL A. GRAENER, Cincinnati, Ohio, assignors, by direct and mesne assignments, to said Swing, John Sofge, and Edward Gardner, Cincinnati, Ohio. Filed Feb. 20, 1905. Serial No. 246,553.



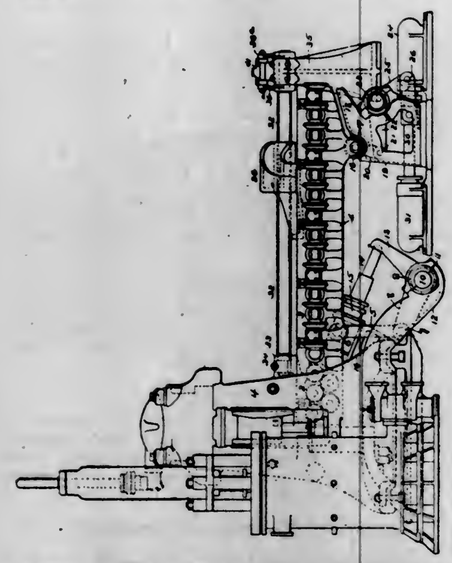
Claim.—1. In combination with means for feeding a paper strip, a series of electromagnets arranged in superimposed relation above said strip, a support underlying said electromagnets, spring-pressed levers carrying mark-

ing means at their lower ends pivoted on opposite sides of said support and having their marking means extending beneath said support, armatures for said electromagnets, connections between said armatures and said levers, and inking-rollers in said support normally engaged by said marking means.

2. In combination with means for feeding a paper strip, a support overlying said means, two series of levers pivotally secured to said support on opposite sides thereof, each of said levers carrying marking means on its lower end, a bed disposed beneath said marking means and having said paper strip passing thereover, and means for operating said levers.

3. In combination with means for feeding a paper strip, a support, series of levers pivotally suspended from said support on opposite sides thereof, marking means carried by the levers, a bed underlying said support and having said paper strip passing thereover, a series of electromagnets, armatures for said magnets, and vertically-extending rods connecting the outer ends of said levers and the outer ends of the armatures.

840,398. ROLLER-TABLE. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed Mar. 12, 1906. Serial No. 305,677.



Claim.—1. In a roller-table, the combination with a movable support for one end of the table, of a fixed inclined support for the other end of the table, and means for positively moving said table on said inclined support.

2. In a roller-table the combination with a movable support for one end of said table, of a fixed inclined support for the other end of said table and means connected with the table for positively moving it on said inclined support.

3. The combination with a shear or other tool or machine, of a roller-table located at the discharge side of said tool or machine, a movable support for the end of the table adjacent to the tool or machine, an inclined support for the rear end of the table and means for positively moving said table back and forth on said inclined support.

4. The combination with a shear or other tool or machine, of a roller-table located at the discharge side of said tool or machine, a movable support for the end of the table adjacent to the tool or machine, wheels carried by the rear end of said table, an inclined support for said wheels, the lower end of said inclined support terminating in curved seats for the wheels on the table, and means connected with the table for positively moving the latter on said inclined support.

5. The combination with a shear or other tool or machine, of a roller-table located at the discharge side of said tool or machine, a movable support for the end of the table adjacent to the tool or machine, wheels adjacent to the rear end of said table, an inclined support on which said wheels travel, a pair of cylinders, a plunger common to both cylinders and means connecting the plunger and table whereby the latter is positively moved back and forth over said inclined support.

6. The combination with a shear or other tool or machine, of a roller-table located at the discharge side of said tool or machine, a movable support for the end of the table adjacent to said tool or machine, wheels carried by said table near its discharge end, an upwardly and rearwardly inclined way on which said wheels are mounted, twin cylinders, a plunger common to both and mechanism connecting the plunger and table whereby the latter may be moved longitudinally on the inclined way.

7. The combination with a table, an inclined way or support for the resr end of the latter and means for moving the table over said inclined way or support, of links supporting the forward end of said arms, crank-arms supporting said links, a cylinder, a plunger therein and means connecting said plunger and crank-arms.

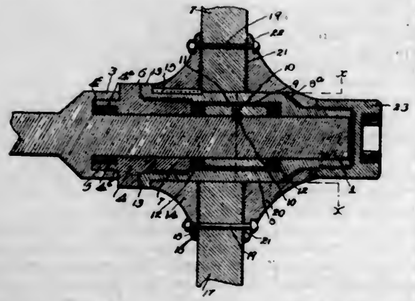
8. The combination with a table, an inclined way or support for the rear end of the latter, and means for moving the table over said inclined way or support, of links pivotally connected to the forward end of the table, crank-arms carrying said links, a cylinder, plunger therein, and a lever-arm connected to the crank-arms and bearing against the end of the plunger.

9. The combination with a roller-table, of a shaft parallel therewith, a gage slidingly mounted on said shaft and adapted to rest in a position over the table, and means for rocking the shaft.

10. The combination with a roller-table, of a shaft parallel therewith, a gage slidingly mounted on said shaft and constructed to overhang the roller-table, and a hydraulic plunger connected to said shaft for rocking same.

11. The combination with a roller-table, and means whereby the latter can be moved rearwardly into an inclined position, of a shaft parallel with said table, a gage slidingly mounted on said shaft, a crank on the shaft, a cylinder, and a plunger within the cylinder and connected to the crank on the shaft.

840,399. AXLE-BOX. JOHN S. TAYLOR, Logansport, Ind., assignor of one-fourth to Enos D. Morgan and one-half to Joseph Taylor, Clark M. Taylor, Dawes Taylor, and Zachary Taylor, Logansport, Ind. Filed Oct. 12, 1905. Serial No. 282,476.

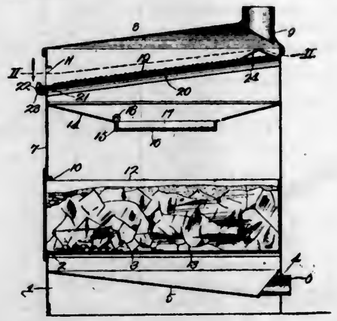


Claim.—1. The combination, with a spindle having a shoulder-ring at its inner end, of a boxing, a shoulder-bearing fitting around said spindle and having a portion for engagement with the boxing and a portion fitting within said shoulder-ring, means to retain the shoulder-bearing in place, the inner edge of the portion of said shoulder-bearing which extends within the shoulder-ring being cut away, and packing arranged within said shoulder-ring around the spindle in the recess formed by cutting away said edge.

2. The combination, with a spindle having a shoulder-ring at its inner end, of a boxing, a shoulder-bearing fitting around said spindle and having a portion for engagement with the boxing and a portion fitting within said shoulder-ring, means to retain the shoulder-bearing in place, the inner edge of the portion of said shoulder-bearing which extends within the shoulder-ring being cut away, packing arranged within said shoulder-ring around the spindle in the recess formed by cutting away said edge and a fiber ring for retaining said packing in place.

3. The combination, with a spindle having a shoulder-ring at its inner end, of a shoulder-bearing fitting around said spindle and having a portion for engagement with the boxing and a portion fitting within said shoulder-ring, a sleeve arranged midway between the ends of said spindle to which it is secured whereby the shoulder-bearing is retained in place, a boxing having a portion adapted to fit around the end of said spindle and an offset portion, extending over and beyond the sleeve, provided with means for engagment with the shoulder-bearing, and packing arranged around the spindle between the ends of said sleeve and the boxing and shoulder-bearing, respectively, for the purpose specified.

840,400. PLATFORM-FILTER FOR CISTERNS. RAY E. TIPTON, Agra, Kans. Filed Oct. 13, 1906. Serial No. 338,716.



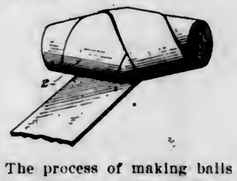
Claim.—1. A filter provided with an inlet-pipe and an opening in one of its walls below the plane of the inlet-pipe, a screen within the filter below said pipe and projecting through said opening, and hooks secured to the filter and engaging the front end of the screen to prevent the latter slipping through said opening.

2. A filter provided with an inlet-pipe and an opening in one of its walls below the plane of the inlet-pipe, a screen within the filter below said pipe and projecting through said opening and provided with a plate to receive the impact of the water entering the filter through said pipe, and hooks secured to the filter and engaging the front end of the screen to prevent the latter slipping through said opening.

3. A filter provided with an inlet-pipe and an opening in one of its walls and occupying a lower plane than said pipe, a screen partitioning the filter and pitched downwardly and forwardly to the lower edge of said opening, a hopper within the filter below said screen and provided with a depending angle-flange wall, and a fine screen covering the opening of the hopper and provided with upwardly-projecting walls.

4. A filter provided with an inlet-pipe in its roof near the upper margin thereof, and a pair of openings in its front wall, downwardly and forwardly inclined cleats secured within and to the side walls of the filter, a screen resting on said inclined cleats and projecting at its front end through the contiguous opening in the front wall, cleats within and secured to the side walls of the filter in the plane of the lower margin of the other opening in the front wall, a filtering-drawer projecting through said last-named opening and resting on said cleats and provided with a perforated bottom, a hopper partitioning the filter between said screen and drawer and equipped with a screen-bottomed receptacle, and means below the drawer to conduct water which passes through the latter from the filter.

840,401. HARD-RUBBER-COMPOSITION BALL AND PROCESS OF MAKING THE SAME. EDMUND F. UPTON, Mineral City, Ohio, assignor of one-fourth to E. Van Kirk, one-fourth to D. O. Van Kirk, and one-fourth to M. E. Fisher, Mineral City, Ohio. Filed May 3, 1906. Serial No. 315,089.



Claim.—1. The process of making balls which consists in winding strips of material diagonally upon each other, and then pressing said so-wound strips into a spherical body.

2. The process of making balls which consists in winding strips of elastic material diagonally upon each other, and then pressing said so-wound strips into a solid spherical body.

3. The process of making balls from sheets or strips of material, said sheets being first wound into an oblong body, the axis of which is greater than the width of the strip, and then exerting an endwise pressure on said body to form it into a solid, spherical body.

4. The process of making balls of sheets or strips of elastic composition, said strips or sheets being rolled together to form an elongated body, the axis of which is greater than the width of the strip and then compressing said body endwise to form it into a solid spherical body.

5. A ball comprising an endwise-compressed coil composed of a strip of diagonally-crossed, elastic material.

840,402. COUNTING AND COLLATING DEVICE FOR SHEET-DELIVERY MECHANISMS. FRED WAITE, Otley, England. Original application filed June 28, 1904, Serial No. 214,526. Divided and this application filed Oct. 2, 1905. Serial No. 281,059.

Claim.—1. In a sheet-delivery mechanism, the combination of a lever, means to operate the lever in synchronism with the mechanism, a counting-wheel on the lever adapted to be operated by the movement of the lever, and collating mechanism in operative relation with the counting-wheel.

2. In a sheet-delivery mechanism, the combination of a cam, a lever operated thereby, a counting-wheel on the lever and adapted to be operated by the movement of the lever, and collating mechanism in operative relation with the counting-wheel.

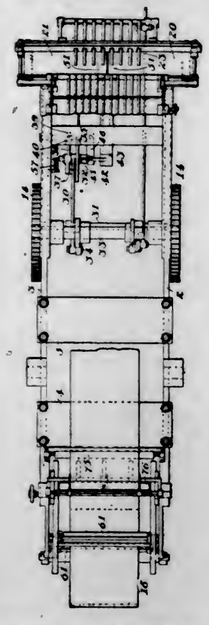
3. In a sheet-delivery mechanism, the combination of a cam, a lever operated thereby, a ratchet-wheel on the lever, a pawl carried by the lever and coöperating with a fixed part of the mechanism to move the ratchet-wheel, and collating mechanism in operative relation with the ratchet-wheel.

4. In a sheet-delivery mechanism, the combination of a cam, a bell-crank lever one arm of which is in operative engagement with the cam, a ratchet-wheel upon the other arm of the lever, an arm pivoted to the lever at the axis of the ratchet-wheel, a pawl carried by the arm and coöperating with a fixed part of the mechanism to move the ratchet-wheel, and collating mechanism in operative relation with the ratchet-wheel.

5. In a collating device for sheet-delivery mechanism, the combination of two endless belts in line with each other, shafts around which the belts turn, driving-gears upon the shafts, said gears meshing with each other whereby the

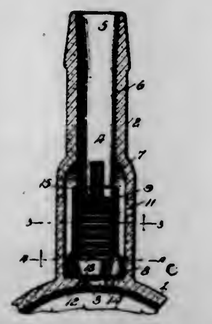
belts are driven in opposite directions, and means to drive one of the gears.

6. In a machine for producing sheets of paper from a web of paper in which the web is divided longitudinally, the combination of a collating device for the sheets including two endless belts in line with each other and extending from the center of the machine to each side thereof respectively and means to drive the belts in opposite directions to deliver the sheets from the center of the machine to each side of the machine.



7. A web-fed platen printing-press having a rocking shaft 43, counting mechanism including a vibrating counting-wheel and parts coöperating therewith to turn the wheel and periodically vibrate the rocking shaft for the purpose specified.

840,403. NON-REFILLABLE BOTTLE. EMILE WEBER, Baker City, Oreg. Filed July 3, 1906. Serial No. 324,647.



Claim.—1. A bottle having a neck forming a plug-seat of equal diameter throughout its length and a valve-opening leading to the body of the bottle, and a valve-plug carrying a valve for the valve-opening, said plug being adapted for initial support in the plug-seat and subsequent arrangement to provide for the valve coöperating with the valve-opening.

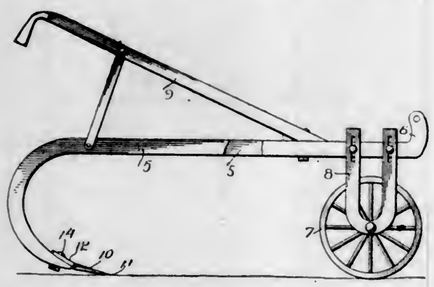
2. A bottle having a neck formed with a valve-chamber, a valve therein equal in diameter to the diameter of the neck above said chamber, and a valve-disk carried by the valve and adapted to seal the opening between the body of the bottle and the neck.

3. A bottle having a neck formed with a valve-chamber, the wall of said chamber being formed with a valve-plug recess a valve-plug within said recess said plug being approximately equal in diameter to the diameter of the bottle-neck above the chamber, and a valve-disk carried by the valve-plug and arranged to seal the opening between body of the bottle and the neck.

4. A bottle having a body, a neck projecting therefrom and in communication therewith, the communicating opening being of less diameter than the interior diameter of the bottle-neck, the neck being formed with a valve-recess immediately above said opening, a valve-chamber of less diameter than the recess and located above the same, the wall of said chamber being formed with longitudinally-extending channels communicating with the recess and with the neck above the chamber, the wall of the chamber being formed with a valve-plug recess, a valve-plug longitudinally movable within said recess, and a sealing-disk carried by the lower end of the plug and arranged to coöperate with the opening between the body and the neck.

5. A bottle having a neck formed with a valve-chamber, the wall of said chamber formed with a valve-plug recess, a valve-plug within said recess, said plug being approximately equal in diameter to the diameter of the bottle-neck above the chamber and formed with a series of circumferentially-arranged grooves to provide annular projections having relatively thin free edges, and a valve-disk carried by the valve-plug and arranged to seal the opening between the body of the bottle and the neck.

840,404. CULTIVATOR. ALFRED T. WESTLAKE, Newburgh, N. Y. Filed Apr. 5, 1906. Serial No. 310,165.

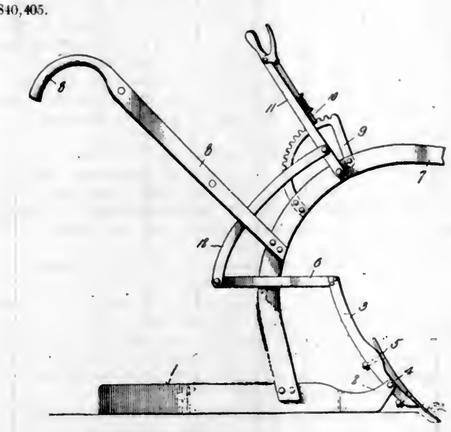


Claim.—In a weeder, the combination with a frame including a pair of blade-standards, said standards having their lower ends tapered, of a blade having ears formed integral with its rear edge and extending rearwardly therefrom and upwardly at an obtuse angle thereto, the upper face of the ears being flush with the upper face of the blade and the under face of the ears being spaced from the under face of the blade, said ears being secured upon the lower ends of the blade-standards with the under faces of the standards flush with the under faces of the blades whereby the blade will present an unobstructed upper and under face.

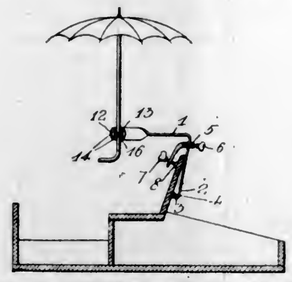
840,405. PLOW ATTACHMENT. THEODORE WIEGERT, Freisburg, Tex., assignor of one-half to Louis Neumann, Columbus, Tex. Filed Aug. 27, 1906. Serial No. 332,289.

Claim.—In a device of the character described the combination with a beam having a downwturned end portion; of a runner secured to the lower end portion of the beam and extending forward therefrom, an ear upon the front end of the runner, a standard pivoted thereto, a share carried by the standard, and means upon the beam for swinging the standard upon the ear.

840,405.



840,406. UMBRELLA-SUPPORT. JAKE C. WILLIAMS, Soperton, Ga., assignor of one-half to A. B. Conner, Soperton, Ga. Filed Feb. 1, 1906. Serial No. 299,038.

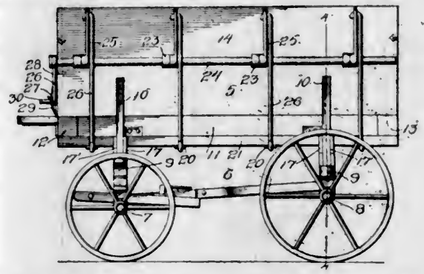


Claim.—1. In combination with the wall of a vertical seat or the like, having an attaching-bar on one side thereof, an umbrella-support comprising a standard having devices at its lower end coacting with said attaching-bar to secure said standard thereto, a clamping-arm adjustably connected to said standard and having a clamping-screw to bear against the opposite side of said wall from that to which said attaching-bar is secured, and means to secure an umbrella to the said standard, substantially as described.

2. An umbrella-support of the character described comprising a right-angularly bent supporting-standard having a forked lower end, attaching-hooks formed on said forked end, an attaching-bar adapted to be secured to the back of a vehicle-seat to receive said hooks, a clamping-arm adjustably secured to said standard to coact with said attaching-hooks, a clamping-screw arranged in said arm, said screw having an enlarged clamping-block on its inner end, a seat formed on the upper end of said standard, and an adjustable umbrella-attaching clamp arranged in said seat whereby an umbrella may be supported at any desired angle, substantially as described.

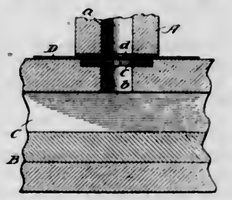
840,407. DUMPING-WAGON. REASON M. WILSON, Indiana Harbor, Ind. Filed Jan. 3, 1906. Serial No. 294,487.

Claim.—1. In a wagon, the combination with a body open at its bottom, of a bottom hinged for movement into and out of operative position, a rock-shaft pivoted upon the body, arms carried by the rock-shaft, links connected with the arms and with the bottom for movement of the bottom into and out of operative position when the rock-shaft is moved, a notched member secured to the body, a crank carried by the rock-shaft and arranged for engagement at times in a notch, said rock-shaft when the crank is in the notch being arranged to lie with the bottom in operative position, and a spring secured to the body and arranged to lie vertically in position to hold the crank against disengagement from the notch.



2. In a wagon, the combination with a body having an open bottom and including a longitudinal sill, of plates pivoted to the sill, wings secured to the plates and movable therewith into and out of position to close the bottom of the body, longitudinal rock-shafts journaled upon the body, arms carried by the rock-shafts, links pivoted to the wings and to the arms for movement of the wings into and out of operative position when the rock-shaft is moved, cranks carried by the rock-shaft and arranged to extend inwardly over an end of the body when the shafts are in position to hold the wings in operative position, notched members carried by said end of the body and arranged to receive the cranks therewithin to hold them against movement, and springs carried by the body and arranged to hold the cranks yieldably in the notches.

840,408. SELF-ACTING MEMBRANE-PACKING. PHILIPP WIRSCHING, Salem, Ohio, assignor to The Wirsching Organ Company, Salem, Ohio, a Corporation of Ohio. Filed Sept. 29, 1905. Serial No. 280,702.



Claim.—1. The combination with adjacent members of a pressure-joint, of an outlet-port in at least one of said members, and a self-acting packing for said joint comprising a ported flexible membrane secured around said outlet-port and adapted to be flexed by pressure from within, substantially as described.

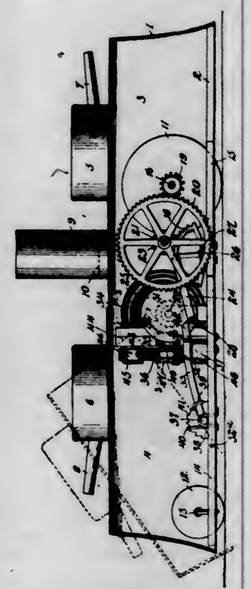
2. The combination with adjacent members of a pressure-joint, of an outlet-port in at least one of said members, and a self-acting packing for said joint comprising a ported flexible membrane secured by its edges around said outlet-port and adapted to be flexed by pressure from within, substantially as described.

3. The combination with adjacent members of a pressure-joint, of an outlet-port in at least one of said members, and a self-acting packing for said joint comprising a ported flexible membrane in concentric arrangement with relation to said outlet-port and adapted to be flexed by pressure from within, substantially as described.

4. The combination with adjacent members of a pressure-joint, of an outlet-port in at least one of said members, a self-acting packing for said joint comprising a ported flexible membrane secured around said outlet-port, and an air-pocket adjacent to said membrane in direct communication with the outlet-port aforesaid, substantially as described.

5. The combination with adjacent members of a pressure-joint, of an outlet-port in at least one of said members, a self-acting packing for said joint comprising a ported flexible membrane secured around said outlet-port, and an air-pocket adjacent to said membrane in register with the port aforesaid but of larger diameter, substantially as described.

840,409. TOY BATTLE-SHIP. WILLIAM T. WOOD, Nashville, Tenn., assignor of one-half to Edward W. Morgan, Nashville, Tenn. Filed June 15, 1905. Serial No. 265,371.



Claim.—1. In a device of the class described, the combination of a movable body, a motor for propelling the same, means for reversing the motion of the body, firing mechanism, and means for operating the firing mechanism at the reversal of the movement of the body.

2. In a device of the class described, the combination of a movable body, a motor for propelling the same, means for causing the body to move forward and backward, firing mechanism, and means for actuating the firing mechanism in the interval between the forward and backward movements.

3. In a device of the class described, the combination of a movable body, a spring-motor for moving the same, devices connected with the motor for causing the body to move forward and backward, firing mechanism, and means actuated by the said motor for operating the firing mechanism in the interval between the forward and backward movements.

4. In a device of the class described, the combination of a movable body, a motor for propelling the same, said motor being provided with a crank element, and firing mechanism arranged to be operated by the crank element.

5. In a device of the class described, the combination of a movable body, a motor for propelling the same, said motor being provided with a crank element, and firing mechanism arranged to be operated by the crank element while the same is passing around the dead-center.

6. In a device of the class described, the combination of a movable body, a motor, gearing for communicating motion from the motor to the body embodying a crank element, said gearing being also provided with means for reversing the motion, and firing mechanism arranged to be operated by the crank element while the same is passing around the dead-center.

7. In a device of the class described, the combination of a movable body, a motor, and means for communicating motion from the motor to the body, said means embodying an oscillatory segment for reversing the motion, a crank element, and a connecting-rod extending from the crank element to the segment, and firing mechanism arranged to be operated while the crank element is passing around the dead-center.

8. In a device of the class described, the combination of a movable body, a motor, means for communicating motion from the motor to the body, said means embodying a crank element, and firing mechanism having a spring-actuated hammer arranged in the path of the crank element.

9. In a device of the class described, the combination of a movable body, a motor, means for communicating motion from the motor to the body, said means embodying a crank element, and firing mechanism arranged to be operated by the crank element and comprising a pivoted hammer, a fixed segmental ratchet, and a spring having opposite ends connected respectively with the hammer and with the segmental ratchet.

10. In a device of the class described, the combination of a movable body, a motor, means for communicating motion from the motor to the body, said means embodying a crank element, firing mechanism arranged to be operated by the crank element, and means also operated by the crank element for feeding a fulminate strip or ribbon to the firing mechanism.

11. In a device of the class described, the combination of a movable body, a motor provided with means for communicating motion to the body, firing mechanism operated by the motor, and means also operated by the motor for feeding a fulminate strip or ribbon to the firing mechanism.

12. In a device of the class described, the combination of a movable body, firing mechanism mounted on the body, a motor for propelling the body, and means actuated by the motor for operating the firing mechanism.

13. In a device of the class described, the combination of a movable body, firing mechanism mounted on the body, a motor for propelling the body, means for feeding explosives to the firing mechanism, and means actuated by the motor for operating the firing mechanism and also the explosive-feeding means.

14. In a device of the class described, the combination of a movable body, a motor, a crank element, means for communicating motion from the crank element to the body, firing mechanism arranged to be operated by the crank element, feed wheels or rolls arranged to feed a fulminate strip or ribbon to the firing mechanism, one of the wheels being provided with projections or teeth, and means carried by the crank element for engaging the said projections or teeth.

15. In a device of the class described, the combination of a movable body, a motor, means for communicating motion from the motor to the body, firing mechanism operated by the motor, a ribbon-guide arranged to guide a ribbon to the firing mechanism, the ribbon-feeding means also operated by the motor.

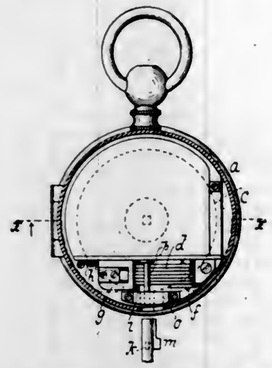
16. In a device of the class described, the combination of a movable body, a motor, means for communicating motion from the motor to the body, firing mechanism operated by the motor, a pivot arranged to receive a roll of fulminate-ribbon, a movable device for retaining the roll on the pivot, and means operated by the motor for feeding the ribbon.

17. In a device of the class described, the combination of a movable body, a motor for actuating the same, firing mechanism also operated by the motor, means operated by the motor for feeding a fulminate strip or ribbon to the firing mechanism, and a ribbon-guide having spaced projecting portions or flanges arranged to receive the ribbon between them.

18. In a device of the class described, the combination of a body composed of a bottom and a casing consisting of fixed and movable sections each having a top and side walls, the movable section being pivotally connected with the bottom at a point between the center and the outer end of the section, whereby the inner portion of the movable section is heavier than the outer portion.

19. In a device of the class described, the combination of a body composed of a bottom, and a sheet-metal casing consisting of fixed and movable sections, each having a top, and side walls, the movable section being pivotally connected with the bottom and arranged to be moved out of alinement with the fixed section to open the casing.

840,410. WATCHMAN'S TIME-DETECTOR. JOSEPH ZAUSMER, Newark, N. J., assignor to August F. Nanz, Brooklyn, N. Y. Filed Oct. 24, 1905. Serial No. 284,200.



Claim.—1. A detector or the like having a keyhole formed with angularly-placed branches, a marker or type and a detent for the marker, said detent having a key-engaging portion or shoulder to prevent return or backward rotation of the key.

2. A key for a time-detector or the like comprising a barb for actuating a marker and also a detent-engaging barb, and a detector having a keyhole with branches for the respective barbs, a detent having a shoulder extended along one of the branches to be engaged by one of the barbs and a marker extended along the other branch to be engaged by the other barb.

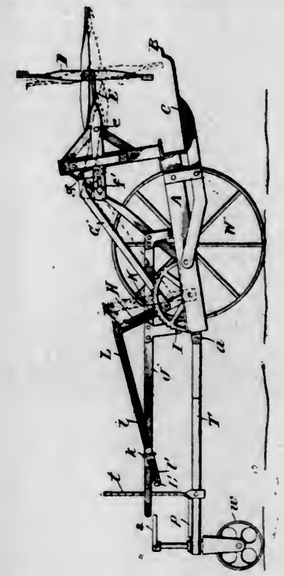
840,411. ADJUSTABLE REEL FOR HEADERS. REINT H. ACKERMAN, Endicott, Wash. Filed Aug. 1, 1906. Serial No. 328,740.

Claim.—1. In a header, the combination of the reel, the reel-adjusting mechanism, the comb-teeth and the comb-teeth-adjusting devices, the reel-adjusting mechanism being connected to the teeth-adjusting mechanism for simultaneous movement.

2. In a header, the combination of the reel-adjusting mechanism and the comb-teeth-adjusting devices, the reel-adjusting mechanism having a bar movable both longitudinally and up and down and the teeth-adjusting mechanism having a bar movable up and down and the reel-adjusting bar having a sliding connection with the teeth-adjusting bar and coupled with it for a simultaneous up-and-down movement together.

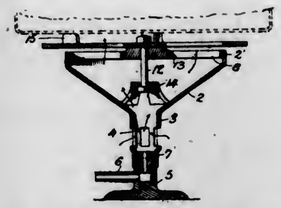
3. In a header, the combination of a tilting main frame having teeth along its forward edge, a rigid tilting-bar projecting rearwardly therefrom, a tongue hinged to the rear of the tilting frame and having a steering-wheel and an upright standard engaged by the tilting-bar, a reel-adjusting bar having a loose sliding connection with the tilting-bar, a lever connecting with the same, a locking device for the lever, a coupling-bar connected to the lever and a transverse rock-shaft having an intermediate crank connected to said coupling-bar and provided also with end cranks, a reel and carrying-arms connected to and operated by the end cranks of the rock-shaft.

4. A reel-adjusting device for a headet, comprising a longitudinally-moving hollow bar having a handle at its end, a sliding rod arranged within the same and having also a handle arranged within range of the grasp of the other handle, a lever connected to the hollow bar, a notched arc-bar, a spring-bolt, an elbow connected to the



spring-bolt and to the sliding rod, the reel-carrying arms, the reel, and means for connecting the lever to and operating the reel-carrying arms.

840,412. BURNER. JOHN H. ACKROYD, New York, N. Y. Filed Dec. 23, 1904. Serial No. 238,056.



Claim.—1. A burner comprising in combination, a burner-body provided with a burner-outlet orifice and having a gas-inlet and an inlet through which an inflow of air is induced by the gas-flow, and a plate located above and spaced apart from the burner-body having an opening registering with the burner-orifice, whereby the space within said opening between the walls thereof is traversed by the flame, and a flow of air is induced upward from below the plate between the walls of the opening and the side surfaces of the flame.

2. A two-step oxidation burner comprising in combination, a burner-body provided with outlet-orifices and having air and gas inlets whereby an initial mixture in the burner-body is effected, and a plate above the burner-body provided with openings each in register with an outlet-orifice, each of said openings being of substantially the same configuration as but of larger area than each corresponding outlet-orifice, whereby a thin sheet of air of equal thickness may flow upward through each opening between the walls of the opening and the sides of the partially-oxidized and burning mixture.

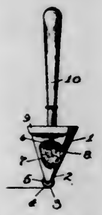
3. In a gas-burner, the combination, of a burner-body provided with a top-cover portion having a surface area substantially equal to the horizontal cross-sectional area

of the burner-body, forming a mixing-chamber having inlet-ports for gas and air, and a plurality of burner-orifices in said top-cover portion, and a plate located above said top-cover portion having a plurality of openings each in register with a burner-orifice, forming an air space or passage between the opposing surfaces of said top-cover portion and said plate, and pot-supporting lugs on said plate.

4. A two-step oxidation burner comprising in combination, a burner-body provided with a plurality of elongated outlet-orifices and having air and gas inlets whereby an initial mixture in the burner-body is effected, and a plate located above and spaced apart from the burner-body provided with a plurality of elongated openings each in register with an elongated outlet-orifice.

5. In an apparatus for burning gas, means for producing complete combustion of the gas and for effecting direct transmission of the heat to a body to be heated, comprising, the combination of a chamber having an outlet at its upper end and having a bottom portion or plate provided with a plurality of inlet-openings, and a burner of the Bunsen type located below and spaced apart from the bottom plate provided with a plurality of burner-outlet orifices each of substantially the same configuration as but of smaller area than each inlet-opening of the bottom plate, and each in register with a corresponding inlet-opening of said bottom plate, substantially as shown and described.

840,413. RULING-PEN. JULIUS M. ALEXANDER and HENRY FOX, Healdsburg, Cal. Filed Apr. 17, 1906. Serial No. 312,134.



Claim.—1. In an automatically ink-supplied ruling-pen, the combination with an ink-reservoir, of a series of marking-rolls of different diameters carried thereby, and means within the reservoir for supplying ink to the periphery of the marking-rolls.

2. In an automatically ink-supplied ruling-pen, the combination with an ink-reservoir, of a series of marking-rolls of different diameters carried thereby, and an ink-applying pad located within the ink-reservoir and in contact with the periphery of the marking-rolls.

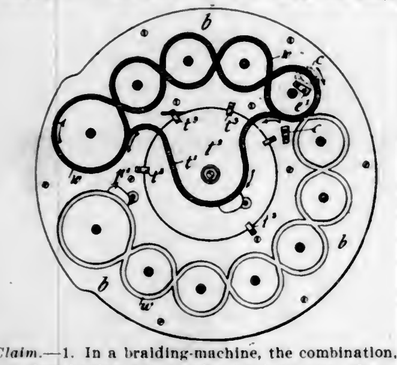
3. In an automatically ink-supplied ruling-pen, the combination with an ink-reservoir, of a series of marking-rolls of different diameters carried thereby, of a spring-held ink-applying pad located within the reservoir and in contact with the periphery of the marking-rolls.

4. In an automatically ink-supplied ruling-pen, the combination with an ink-reservoir, of a series of marking-rolls of different diameters carried thereby, of an ink-applying pad located within said reservoir and in contact with the periphery of the marking-rolls, and a cover for closing the upper open end of the ink-reservoir.

5. In an automatically ink-supplied ruling-pen, the combination with an ink-reservoir, of a series of marking-rolls of different diameters carried thereby, of an ink-applying pad located within said reservoir and in contact with the periphery of the marking-rolls, of a cover for closing the upper open end of the reservoir and a handle projecting from said cover.

6. A ruling-pen, the same comprising an ink-holding reservoir, of devices carried by the said reservoir for the marking of a series of independent parallel lines at one stroke of the pen, and means for automatically supplying ink to the said marking devices, including an absorbent pad within the reservoir, and spring-actuated means for holding the pad in inking position relative to the marking devices.

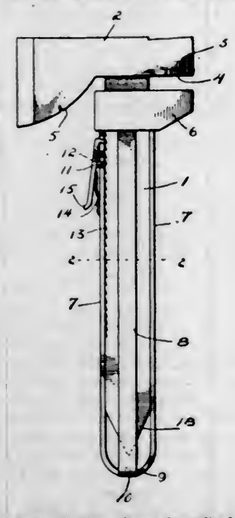
840,414. BRAIDING-MACHINE. EDWARD ANCHEL, New York, N. Y., assignor of one-half to Jonas Hecht, New York, N. Y. Filed July 28, 1906. Serial No. 328,152.



Claim.—1. In a braiding-machine, the combination, with a top plate having a serpentine track or way, of a curved approximately U-shaped track connecting the end of the main track with the intermediate portion of the same, ordinary bobbin-carriers, means at the point of connection of the main track with the U-shaped track for directing the ordinary bobbin-carriers into the main track, a bobbin-carrier for the purl-ribbon provided at its base with a projection, and means on the top plate for directing the bobbin-carrier into the U-shaped connecting-track.

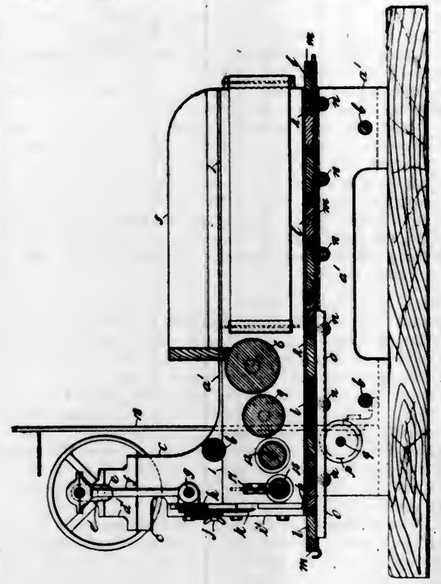
2. In a braiding-machine, the combination, with a top plate having a serpentine main track or way, of a center plate within said serpentine track, a curved approximately U-shaped track connecting the end portion of the main track with an intermediate portion of the same extending across said center plate, a number of ordinary bobbin-carriers traveling in the main track, means at the connection of the U-shaped track with the main track for keeping the ordinary bobbin-carriers in the main track, one or more bobbin-carriers for the purl-ribbon provided each with a projection or nose at their lower part, and means adjacent to the connection of the main track or way with the U-shaped track for directing the purl-ribbon carriers into the U-shaped track and preventing them from traveling in the main serpentine track.

840,415. WRENCH. REMEMBRANCE H. ANDERSON, Claysville, Pa. Filed June 17, 1905. Serial No. 265,718.



Claim.—A tool of the class described comprising the shank 1 having the jaw 3 formed integral with one of its ends, said shank being provided along one of its edges with the rack 13, the sliding jaw 6, the integral right-angularly-disposed U-shaped braces 7 and 8 arranged to embrace the edges and sides of the shank and formed integral with the sliding jaw, the pawl 12 pivoted to one of the spaced portions of the U-shaped member 7 and having one of its ends bent at an acute angle to engage with the rack 13, said bent end being arranged to extend through an opening formed in the said member 7, the spring 14 arranged to hold the pawl in engagement with the rack, and the upturned end 15 of the pawl substantially as described.

840,416. TOBACCO-CUTTING MACHINE. LAZARIDAS APTEKMAN, London, England. Filed Jan. 29, 1906. Serial No. 298,482.



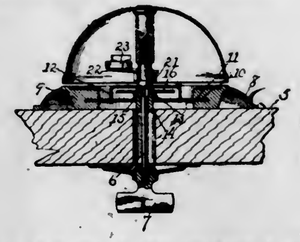
Claim.—1. In a device of the character described, a driving-shaft, a counter-shaft, a pair of ratchet-wheels secured on said counter-shaft, a crank carried by one end of said counter-shaft and having an extension thereon, a spring-pressed pawl held in said extension and engaging one of said ratchet-wheels, and a crank-rod adjustably connected to said driving-shaft and to the end of said crank whereby an intermittent rotation is imparted to said counter-shaft, substantially as described.

2. In a device of the character described, a driving-shaft, a counter-shaft, a pair of ratchet-wheels secured on said counter-shaft, a crank carried by one end of said counter-shaft and having an extension thereon, a spring-pressed pawl held in said extension and engaging one of said ratchet-wheels, a crank-rod adjustably connected to said driving-shaft and to the end of said crank whereby an intermittent rotation is imparted to said counter-shaft, and a pawl engaging the other of said ratchet-wheels to prevent the reverse movement of said counter-shaft, substantially as described.

3. In a device of the character described, a driving-shaft, a fast and a loose pulley carried by said driving-shaft, a belt-shifting device, a counter-shaft, a pair of ratchet-wheels secured on said counter-shaft, a crank carried by one end of said counter-shaft and having an extension thereon, a spring-pressed pawl held in said extension and engaging one of said ratchet-wheels, a crank-rod adjustably connected to said driving-shaft and to the end of said crank whereby an intermittent rotation is imparted to said counter-shaft, and a pawl engaging the other of said ratchet-wheels to prevent the reverse movement of said counter-shaft, substantially as described.

4. In a belt-driven device of the character described, the combination with a driving-shaft having fast and loose pulleys mounted thereon, of means for shifting the belt from one of said pulleys to the other, an intermittently-operated feed-table, antifriction-rollers disposed beneath and in the path of travel of said feed-table, means for intermittently moving said table forward, means for preventing the backward movement of said table, and a cutting-blade reciprocated by said driving-shaft to cut the tobacco fed forward by said table, substantially as described.

840,417. BELL. PHILIP C. ARNOLD, East Hampton, Conn., assignor to Bevin Brothers Manufacturing Company, East Hampton, Conn., a Corporation of Connecticut. Filed Sept. 19, 1906. Serial No. 335,239.



Claim.—1. In a bell, a base including a rim of cast metal, a bridge formed of a single plate of tougher metal extending across the opening bounded by the rim and secured thereto by means of an opening with a part projecting thereinto, bell-striking mechanism mounted on the plate, and means for operating the mechanism.

2. In a bell, a base including a rim formed of cast metal, a bridge formed of a single plate of tougher metal extending across the opening bounded by the rim and secured thereto by means of an opening with a part projecting thereinto, one of said parts being formed in the process of casting, bell mechanism secured to said plate, and means for operating the mechanism.

3. In a bell, a base including a single plate formed of a comparatively tough metal, and a rim formed of cast metal with sockets completely inclosing the ends of said bridge, striking mechanism mounted on the bridge, and means for operating the striking mechanism.

4. In a bell, a base including a rim formed of cast-iron, a bridge formed of a tougher metal extending across the opening and secured thereto by means of an opening on one part receiving a projection from the other part, a gong-post supported by said bridge, a gong secured to said post, bell-striking mechanism mounted on the bridge, and means for operating the mechanism.

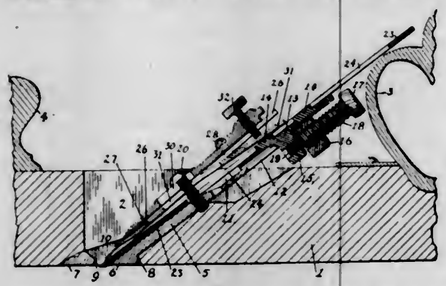
5. In a bell, a base including a rim formed of cast-iron, a bridge composed of a tougher metal and including a single plate extending across the opening bounded by said rim and secured thereto by means of an opening on one part receiving a projection from the opposite part, an arch secured to said bridge, a post secured to said arch, a gong mounted on the post, bell mechanism supported by the bridge, and means for operating the mechanism.

6. In a bell, a base including a rim formed of cast-iron, a bridge formed of a single plate of tougher metal extending across the opening bounded by the rim and secured to the latter by means of a projection on one part located within an opening in the opposite part, said bridge having a hub-bearing formed by the metal forced from an opening therethrough, a pinion-bearing mounted within said hub, a striker supported by the bridge, connections between said striker and pinion-bearing, means for operating the pinion-bearing, and a gong supported by the bridge.

7. In a bell, a base composed of cast-iron and including a rim, a bridge composed of a single plate of tougher metal extending across the opening bounded by the rim and secured thereto by an opening on one part receiving a pro-

jection on the opposite part, a hub-bearing formed in said bridge by metal forced from an opening therethrough, an arch secured to the bridge, a pinion-bearing mounted in said hub, means for rotating said bearing, a gong-post secured to said arch, a striker supported by the plate, connections between the pinion-bearing and striker, and a gong secured to said post.

840,418. CARPENTER'S PLANE. WILLIAM F. ARNOLD, Oakland, Cal. Filed Sept. 12, 1906. Serial No. 334,272.



Claim.—1. In a carpenter's plane, a shoe having its sole formed with a shouldered heel to bear against a corresponding shoulder in the stock-throat.

2. In a carpenter's plane, the combination of a stock, the throat of which at the lower terminus of its rear wall is formed with a bearing-shoulder, and a shoe the sole of which is formed with a shouldered heel bearing against the shoulder of the stock-throat.

3. In a carpenter's plane, the combination of a shoe secured in the stock-throat, the shank of said shoe having a groove terminating in a slot at its upper end; a slide seated in said shoe-shank groove, and having a lug passing down through said slot said slide having also a holding-lug on its upper surface; a cutting-bit having an opening to engage the holding-lug of the slide; means for clamping the bit to the shoe; and means engaging the downwardly-extending lug of the slide for adjusting said slide.

4. In a carpenter's plane, the combination of a shoe secured in the stock-throat, the shank of said shoe having a groove terminating in a slot at its upper end; a slide seated in said shoe-shank groove and having a holding-lug on its upper surface; a cutting-bit having an opening to engage the holding-lug; means for clamping the bit to the shoe; and means for adjusting the bit consisting of a lug on the slide playing down through the shoe-shank slot, a lug on the shoe, and a right and left hand threaded screw seated in said lugs.

5. In a carpenter's plane, the combination of a shoe secured in the stock-throat, the shank of said shoe having a groove terminating in a slot at its upper end; a slide seated in said shoe-shank groove; a cutting-bit; interengaging devices between the bit and slide; means for clamping the bit to the shoe; and means for adjusting the bit consisting of a lug on the slide playing down through the shoe-shank slot, a lug on the shoe, and a right and left hand threaded screw seated in said lugs.

6. In a carpenter's plane, the combination of a shoe secured in the stock-throat; a cutting-bit adjustably seated on the shoe; a top bit comprising a blank blind bit and a top cap, said blind bit being slit to form a spring-tongue; a pressure-screw in the top cap to force the spring-tongue down upon the cutting-bit; and a binding-screw passing through the top bit, the cutting-bit and the shoe, into the stock, to resist the pressure-screw, whereby the cutting-bit is clamped to the shoe.

7. In a carpenter's plane, the combination of a shoe secured in the stock-throat; a slide seated in the shoe and having a holding-lug on its face; means for adjusting the slide; a cutting-bit having an opening engaging the holding-lug of the slide; a top bit comprising a blank blind bit and a top cap, said blind bit being slit to form a spring-tongue; a pressure-screw in the top cap to force the spring-tongue down upon the cutting-bit; and a binding-screw passing through the top bit, the cutting-bit and the shoe, into the stock, to resist the pressure-screw, whereby the cutting-bit is clamped to the shoe.

8. In a carpenter's plane, the combination of a shoe secured in the stock-throat; a slide seated in the shoe and having a holding-lug on its face; means for adjusting the slide consisting of a lug on the slide, a lug on the shoe and a right and left hand threaded screw engaging said lugs; a cutting-bit having an opening engaging the holding-lug of the slide; a top bit comprising a blank blind bit and a top cap, said blind bit having a spring-tongue; a pressure-screw in the top cap to force the spring-tongue down upon the cutting-bit; and a binding-screw passing through the top bit, the cutting-bit and the shoe, into the stock, to resist the pressure-screw, whereby the cutting-bit is clamped to the shoe.

9. In a carpenter's plane, the combination of a shoe having its sole formed with a shouldered heel and bounded by low side flanges, said sole being let into corresponding depressions in the stock, a slide seated in the shoe and having a holding-lug on its face; means for adjusting the slide, consisting of a lug on the slide, a lug on the shoe and a right and left hand threaded screw engaging said lugs; a cutting-bit having an opening engaging the holding-lug of the slide; a top bit comprising a blank blind bit and a top cap, said blind bit having a spring-tongue; a pressure-screw in the top cap to force the spring-tongue down upon the cutting-bit; and a binding-screw passing through the top bit, the cutting-bit and the shoe, into the stock, to resist the pressure-screw, whereby the cutting-bit is clamped to the shoe.

840,419. PROCESS FOR DYEING TEXTILE FIBER VIOLET-BLUE. OSCAR BALLY, Mannheim, Germany, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany, a Corporation of Germany. Filed Feb. 21, 1905. Serial No. 246,764.

Claim.—1. The process of producing violet-blue shades on textile fiber by converting a coloring-matter, obtainable by heating with caustic alkali a compound containing a benzanthrone group, into its soluble form by acting on it with a suitable reducing agent and treating the fiber with the reduction product so obtained.

2. The process of producing violet-blue shades on textile fiber by exposing the said fiber to the action of the soluble form of a coloring-matter obtainable by heating with caustic alkali a compound containing a benzanthrone group, which soluble form can be obtained from the coloring-matter and sodium hydrosulfite.

3. As a new article of manufacture textile fiber incorporated with a violet-blue coloring-matter which can be obtained by heating with caustic alkali a compound containing a benzanthrone group, which incorporated fiber remains practically unaltered in color upon boiling with hydrochloric acid, and upon treatment with caustic-soda solution becomes redder and upon treatment with concentrated sulfuric acid and subsequent treatment with water shows a violet color.

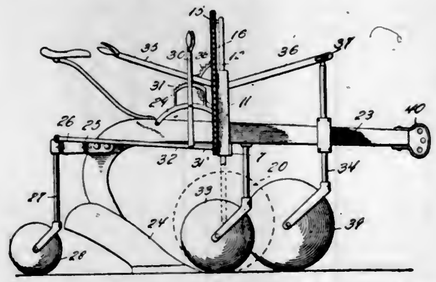
840,420. PROTECTOR FOR PEANUT-SHOCKS. JOSEPH L. BANGLEY, Suffolk, Va., assignor of one-third to Milby W. Lloyd, Suffolk, Va. Filed Jan. 17, 1906. Serial No. 296,564.

Claim.—1. In a protector of the character described, a post, a dome-shaped shield of waterproof material surrounding said post and resting upon the ground, a waterproof cover or protector supported near the top of the post, and an imperforate cap secured at the top of the post, substantially as described.

2. A protector of the character described, comprising a post, adapted to be driven in the ground, and provided with a reduced upper end and a shoulder or offset below said reduced portion, a concavo-convex waterproof shield surrounding said post and adapted to rest upon the ground, a cover of waterproof material provided with a central opening and adapted to rest upon the shoulder or offset, and a cap of waterproof material secured to the top of the post by a cap-headed nail, substantially as described.



840,421. WHEEL-PLOW. GEORGE W. BARNETT, Louise, Tex. Filed Jan. 3, 1906. Serial No. 294,389.



Claim.—1. An implement of the class described, the combination with a beam, of a cross member connected therewith for horizontal pivotal movement, vertical guides carried by the ends of the member, slides in the guides, flexible members connected with the first-named member, rollers pivoted upon the slides, said flexible members being engaged with the rollers, and springs arranged to hold the flexible members yieldably against movement over the rollers.

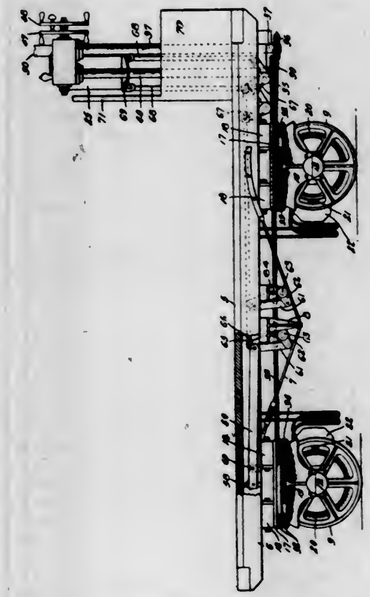
2. In an implement of the class described, the combination with a cross member, of vertical guides connected with the cross member, slides engaged in the guides, sprockets carried by the upper ends of the slides, chains secured at one end to the guides and engaged over the sprockets, and fixed springs connected with the other ends of the chains to hold the slides yieldably against upward movement.

3. In an implement of the class described, the combination with a beam, of a casting engaged with the beam, a member pivoted to the casting for horizontal movement, wheels carried by the member, a laterally-extending bar carried by the casting, a frame engaged with the bar and secured to the beam, a lever pivoted upon the frame, and connections between the lever and the member for movement of the member upon its pivot when the lever is moved.

4. In an implement of the class described, the combination with a beam, of a casting engaged with the beam, a member pivoted to the casting for horizontal movement, wheels carried by the member, a laterally-extending bar carried by the casting, a frame engaged with the bar and secured to the beam, a lever pivoted upon the frame, a wheel pivotally connected with the beam for lateral movement, a link connected with the wheel and with the pivoted member, said lever being pivoted to the link for movement thereof to shift the wheel and member when the lever is moved.

5. In an implement of the class described, the combination with a beam, of a transverse member pivoted to the beam for horizontal movement, vertical guides carried by the ends of the transverse member, rollers located in the guides, U-shaped slides having their bights directed upwardly engaged in the guides with their legs at opposite sides of the rollers, spindles engaged in the lower ends of the legs, wheels mounted upon the spindles, sprockets carried by the bights of the slides, chains having fixed ends engaged over the sprockets, and springs secured to the member and connected with the chains to hold the latter yieldably with the slides against upward movement.

840,422. TRANSFER-WAGON. NORMAN C. BASSETT, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed May 2, 1902. Serial No. 105,590.



Claim.—1. A transfer-wagon, comprising a body, four swiveled power-driven single-wheeled trucks, and means for simultaneously imparting to said trucks similar angular movement in the same direction with respect to the axis of the wagon through any angle up to ninety degrees either way from a straight forward position.

2. A transfer-wagon, comprising a body, two pairs of independently-swiveled power-driven single-wheeled trucks, two steering-wheels, and chains connecting said steering-wheels with the respective pairs of trucks.

3. A transfer-wagon, comprising a body, two pairs of independently-swiveled power-driven single-wheeled trucks, a steering-chain connected to each pair of trucks, a sprocket for each chain, and worm-gearing for rotating each sprocket.

4. A transfer-wagon, comprising a body, two pairs of independently-swiveled power-driven single-wheeled trucks, a steering-chain connected to each pair of trucks, a sprocket for each chain, worm-gearing for rotating each sprocket, and indicators on said worm-gears to show the relative positions of the pairs of trucks.

5. A transfer-wagon, comprising a body, two pairs of

independently-swiveled power-driven single-wheeled trucks, a steering-chain connected to each pair of trucks, a sprocket for each chain, worm-gearing for rotating each sprocket, a hand-wheel for operating each worm-gear, and means for locking said wheels together.

6. A transfer-wagon, comprising a body, two pairs of independently-swiveled power-driven single-wheeled trucks, a chain connecting each pair of trucks, a second chain for each pair of trucks, a sprocket for each of said second chains, and worm-gearing for operating said sprockets.

7. A transfer-wagon, comprising a body, four independently-swiveled electrically-driven trucks, a controller and trolley at one end of said wagon, and means for turning said trucks.

8. A transfer-wagon, comprising a body, two pairs of independently-swiveled electrically-driven trucks, a controller and trolley at one end of said wagon, and means for independently turning each pair of trucks.

9. A transfer-wagon, comprising a body, two pairs of independently-swiveled electrically-driven trucks, a controller and trolley at one end of said wagon, a steering-wheel for each pair of trucks, said wheels being located near the controller, and means for locking said wheels together when desired.

10. A transfer-wagon, comprising a body, two pairs of independently-swiveled power-driven trucks, a steering-chain attached to each pair of trucks, an upright shaft for operating each chain, a worm-gear on each shaft, a shaft carrying a worm engaging with one of said gears, a sleeve on said shaft carrying a worm engaging with the other gear, hand-wheels on the worm-shaft and sleeve, and means for causing said shaft and sleeve to rotate together when desired.

11. In a transfer-wagon, a plurality of independently-swiveled single-wheel trucks, each provided with an electric motor secured to the truck-frame, a gear secured to each truck-wheel and meshing with a pinion on the motor-shaft, flexible leads conveying current to each motor, and means for turning the trucks through at least one hundred and eighty degrees.

12. A vehicle provided with two pairs of wheels, means for independently turning each pair of wheels about substantially vertical axes, and means for independently braking each pair of wheels.

13. A transfer-wagon comprising a body and two pairs of wheels therefor, means for independently rotating each pair of wheels about vertical axes, means for independently rotating each pair of wheels about horizontal axes, and means for independently braking each pair of wheels.

14. A transfer-wagon comprising a body, a plurality of pairs of wheels therefor, and means for propelling, braking and turning each pair of wheels about vertical axes independently of the other wheels.

15. A transfer-wagon comprising a body, four swiveled power-driven single-wheeled trucks, a steering device, arc-shaped members on said trucks, and chains operated by said steering device and passing over said arc-shaped members.

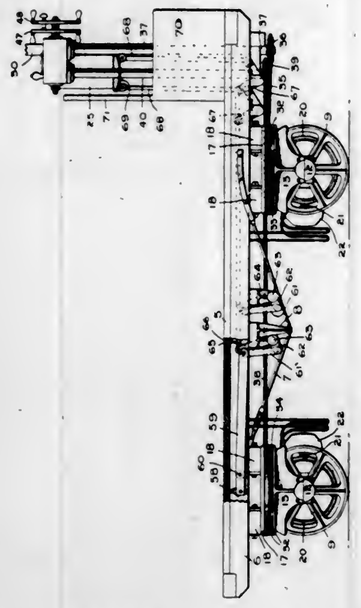
16. A transfer-wagon comprising a body, four independently-swiveled electrically-driven trucks, a controller and trolley at one end of said wagon, and means for turning said trucks also located at said end of said wagon.

840,423. BRAKE FOR TRANSFER-WAGONS. NORMAN C. BASSETT, Milwaukee, Wis., assignor to General Electric Company, a Corporation of New York. Original application filed May 2, 1902, Serial No. 103,590. Divided and this application filed Dec. 27, 1905. Serial No. 293,478.

Claim.—1. A transfer-wagon, comprising a body, a plurality of independently-swiveled single-wheel trucks, and brake-shoes bearing on the tops of said wheels, each shoe being swiveled to a brake-lever.

2. In a single-wheeled swiveled truck, whose axis of rotation is a vertical diameter of the wheel, the combination with said wheel, of a brake-shoe bearing on top thereof, a brake-lever fulcrumed on the stationary bearing of said truck, and a hanger hinged to the lever and swiveled to the brake-shoe.

3. In a single-wheeled swiveled truck, whose axis of rotation is a vertical diameter of the wheel, the combination, with a truck-frame having guides, of a brake-shoe vertically movable in said guides and bearing on top of the wheel, and a brake-lever having a swiveled connection with said shoe.



4. In a transfer-wagon, comprising a plurality of independently-swiveled single-wheel trucks, the combination, with each truck-wheel, of a brake-shoe therefor, a brake-lever swiveled to said shoe, a rock-shaft for actuating said said lever, and a brake-rod and foot-pedal for operating said shaft.

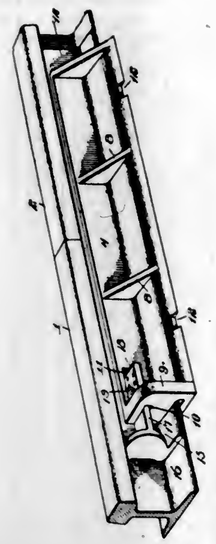
5. In a transfer-wagon, comprising two pairs of independently-swiveled single-wheel trucks, the combination, with each truck-wheel, of a brake-shoe therefor, a brake-lever swiveled to said shoe, a rock-shaft for actuating the levers for each pair of wheels, a brake-rod for each rock-shaft, and a foot-pedal adapted to operate either one or both of said rods at will.

6. In a transfer-wagon, comprising two pairs of independently-swiveled single-wheel trucks, the combination, with each truck-wheel, of a brake-shoe therefor, a brake-lever fulcrumed on the wagon and swiveled to said shoe, a rock-shaft for actuating the levers for each pair of wheels, a brake-rod for each rock-shaft, a bell-crank lever pivoted to each brake-rod, an upright presser-rod pivoted to each bell-crank lever, and a pedal hinged at each end to one of said presser-rods.

840,424. RAIL-JOINT. JOHN E. BEAVER, Warwick, Ohio. Filed Mar. 20, 1906. Serial No. 307,080.

Claim.—A rail-chair comprising a base, opposite splice-plates carried thereby, one of said splice-plates having at one end a slot and a head provided with a communicating slot, a wedge arranged to coöperate with said splice-plate and provided at one end with a vertical driving-head having a horizontally-projecting locking-plate adapted for insertion in said slots, and a key coöperating with the head on the splice-plate and locking-plate to secure the wedge in position.

840,424.



840,425. REPEATING TORPEDO-CANE. JAMES H. BEVINGTON, Cleveland, Ohio, assignor to The Crescent Appliance Co., Berea, Ohio, a Corporation of New Jersey. Filed Aug. 1, 1903. Serial No. 167,850.



Claim.—1. A repeating torpedo-cane provided with a magazine for torpedoes, and a head on said cane having an explosion-chamber, itself having a firing-anvil, and the opening to said chamber to introduce the torpedoes being on the outside of the head and separated from the chute of the magazine by an outer open air-space, thereby preventing possible ignition of the torpedoes in the magazine, and a plunger working in the head and adapted to admit the explosives into the head when it recedes from the firing-anvil.

2. A repeating torpedo-cane having a head with an explosion-chamber and a receiving opening thereto on its outside and exposed to the outer air, and a magazine for torpedoes open at its bottom to the outer air and spaced apart from said receiving-opening, and release mechanism for the torpedoes, substantially as described.

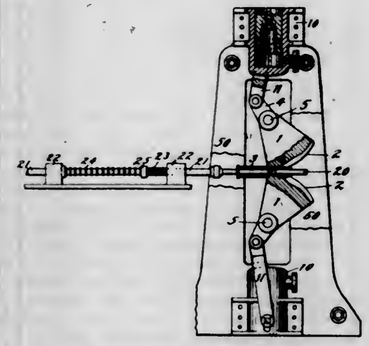
3. A repeating torpedo-cane having a magazine for torpedoes, and a pivoted releasing device having a pair of fingers reaching into said magazine on different planes one above the other, substantially as described.

4. A repeating torpedo-cane having a magazine on its outside and an explosion-chamber with a mouth to receive torpedoes directly beneath said magazine and separated therefrom by an air-space outside of the cane, a releasing device for the torpedoes, and means to actuate the same, and means to restore said device to closing position, substantially as described.

5. A torpedo-cane having a head with an explosion-chamber and a mouth open thereto on the outside of the head, a magazine having its outlet on the outside of the cane and wholly separated from said head and with an open outer air-space between the same and the said mouth, in combination with a releasing device adapted to intercept the torpedoes and release one at a time, said device located at the upper end of the chute portion of said magazine, substantially as described.

6. A repeating torpedo-cane comprising a magazine for torpedoes, and a head having an explosion-chamber containing a firing place or anvil and having an entrance-opening located on the outside of the chamber and into which the torpedoes are introduced, and separated from the chute or lower end of said magazine by an outer open space, thereby preventing possible ignition of the torpedoes in the magazine, and a firing plug or plunger admitting an explosive into the explosion-chamber when it moves from the firing place or anvil.

840,426. METAL-SWAGING APPARATUS. OTTO BRIEDE, Benrath, Germany. Filed Oct. 3, 1904. Serial No. 227,073.



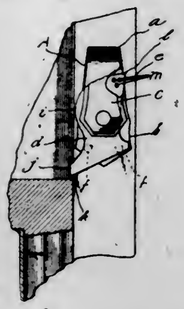
Claim.—1. In a machine for swaging metal tubes from hollow billets, the combination of grooved oscillatory swaging-dies, a mandrel reciprocated in both directions by the dies, and dash-pots coupled to the dies at points movable to and fro past a plane passing through the centers of oscillation of the dies, substantially as and for the purposes set forth.

2. In a machine for swaging metal tubes, the combination of oscillatory swaging-dies, a mandrel movable back and forth in both directions synchronously with the dies, and momentum-checking mechanism connected directly to the dies at points movable to and fro past a plane passing through the centers of the oscillations of the dies, substantially as described.

840,427. SASH HOLDER AND FASTENER. ALISON M. BRISTER, Saulsbury, Miss. Filed Nov. 28, 1905. Serial No. 289,451.

Claim.—The combination with a window-facing and a sash slidably mounted therein; of a housing secured to one

of the side members of said facing and comprising a metal plate having a return-bend at a line beyond its longitudinal center, forming a fastening-plate and a face-plate; and a latch pivoted in said housing between said plates and comprising a foot portion and a cam portion located directly above said foot portion, the uppermost end of said cam portion being diametrically opposite the lowest end of said foot portion and overweighted to cause the said foot-portion end to normally overhang the upper rail of the sash, to prevent the latter from being raised, the cam portion of said latch being adapted to be moved into frictional engagement with the adjacent side rail of the sash, when the foot portion is moved from its position above the upper rail of the sash and the latter is raised, to hold the sash in adjusted position.



840,428. ELECTRICAL SIGNALING SYSTEM. EDWARD R. BRODTON, Atlanta, Ga., assignor of one-twentieth to G. W. Parrott, one-twentieth to E. H. Thornton, one-fortieth to T. D. Meador, one-fortieth to D. B. Carson, one-twentieth to T. A. Hammond, one-twentieth to E. M. Horine, one-twentieth to T. H. Egleston, one-twentieth to Chas. A. Conklin, one-twentieth to R. E. Park, one-twentieth to D. U. O. Robertson, one-sixth to D. G. Jones, and one-twentieth to H. C. Stockdell, Atlanta, Ga. Filed Sept. 3, 1904. Serial No. 223,250.

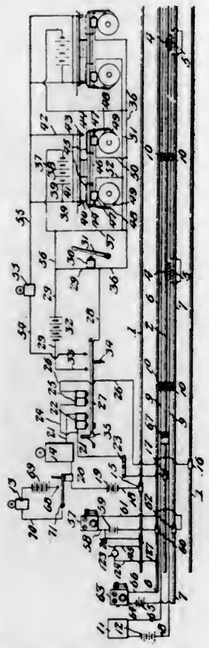
Claim.—1. In an electric train-signaling system, a normally open circuit carried by the locomotive, a normally closed circuit carried by the locomotive, a plurality of electromagnets arranged in said circuit, and means arranged with relation to the track to shunt one of said electromagnets in the closed circuit, whereby to close said open circuit.

2. In an electric train-signaling system, a normally open circuit carried by the locomotive, a secondary circuit carried by the locomotive and arranged to close the open circuit, said secondary circuit being closed through contact with the track-rails, a plurality of electromagnets arranged in said secondary circuit, and means to shunt one of said electromagnets to direct the current through the other of said electromagnets to close the open circuit.

3. In an electric train-signaling system, a normally open circuit carried by the locomotive, a secondary circuit carried by the locomotive, said secondary circuit being normally closed, a plurality of electromagnets arranged in said secondary circuit, whereby the said circuit is inoperative to close the open circuits, and means to direct the current of said secondary circuit through but one of said magnets, whereby said secondary circuit is effective to close the open circuit.

4. In an electric train-signaling-system, a normally open circuit carried by the locomotive, a secondary circuit carried by the locomotive, the terminals of said secondary circuit being in contact with the track-rails, a third rail intermediate said track-rails, a branch of said secondary circuit normally in contact with the third rail, and means carried by the track to electrically connect one of the track-rails and the third rail.

5. In an electric train-signaling system, the combination with track-rails, of auxiliary rails arranged intermediate the track-rails, a telephone-circuit carried by the locomotive, the terminals of said circuit being in contact with the auxiliary rails, a track alarm-circuit with its terminals in contact with one of the track-rails and one of the auxiliary rails respectively, and a branch leading from the telephone-circuit and in contact with a track-rail.



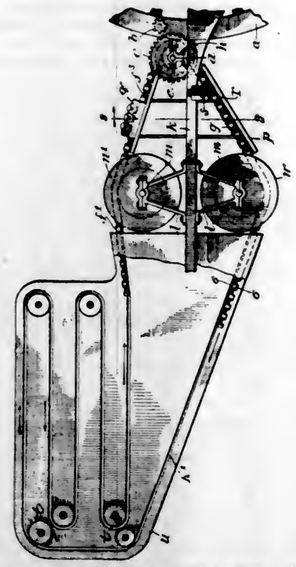
6. In an electric train-signaling system, a normally open operating-circuit carried by the locomotive, a secondary circuit carried by the locomotive, a plurality of electromagnets arranged in said secondary circuit, said electromagnets being arranged in series with the terminals of the circuit in contact with the track-rails, a third rail arranged intermediate the truck, a conductor leading from one of said electromagnets to said third rail, and means arranged with relation to the track to form an electrical connection between the track-rails and said third rail, whereby to shunt one of said electromagnets in the secondary circuit.

840,429. ADDRESS-PRINTING ATTACHMENT. WALTER L. BUCKSEN, Blooming Prairie, Minn. Filed Jan. 10, 1906. Serial No. 295,379.

Claim.—1. The combination with a printing-press, having a rotatable cylinder and a tappet rotatable with the cylinder, of a toothed wheel located in position to be moved by said tappet, a carrier for supporting a printing device, and means for connecting the wheel with the carrier.

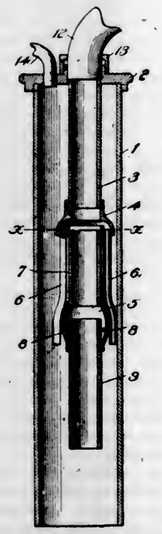
2. The combination in a printing-press, of a printing attachment comprising a frame provided with grooves on the inner faces of the sides thereof, an endless carrier supported in the frame and comprising a plurality of connected rectangular links for receiving a form and arranged with their long dimensions transversely of the carrier, lugs on the ends of the links for engaging the grooves of the frame whereby to guide the carrier, and means whereby the press may intermittently move the carrier.

3. The combination with a printing-press, of a printing attachment comprising a frame having grooves on the inner faces of the sides thereof, drums journaled in the frame, an endless carrier supported on the drums, and comprising a plurality of connected rectangular links for carrying a form having their long dimensions arranged transversely of the frame, lugs on the ends of the links for engaging the grooves of the frame whereby to guide the carrier, and a connection between the press and one of the drums whereby to intermittently move the carrier.



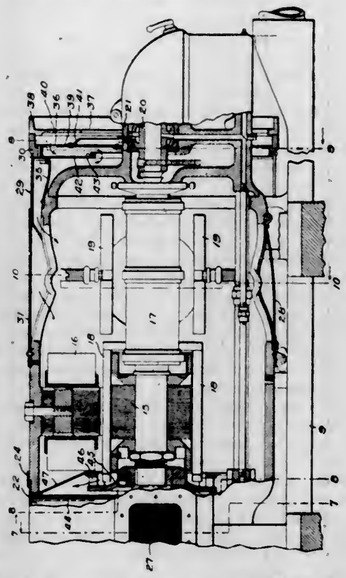
4. The combination with a printing-press, of a printing attachment comprising a frame provided with grooves in the inner faces of the sides thereof, an endless carrier supported in the frame and comprising a plurality of connected links for supporting forms, lugs on the ends of the links for engaging the grooves of the frame whereby to guide the carrier, and means whereby the press may intermittently move the carrier.

840,430. PUMP. THOMAS BUTLER, Fort Worth, Tex. Filed Sept. 15, 1905. Serial No. 278,628.



Claim.—A water-pumping apparatus having a watertight casing, a discharge-pipe entering said casing, a lower ejector intercepting said discharge-pipe and provided with air-inlets and means for deflecting the air from said inlets upward, an upper ejector intercepting said discharge-pipe and having bosses on the outside thereof and small air-inlet pipes entering said ejector through said bosses, said air-inlet pipes extending below the air-inlets of the lower ejector, and a pipe entering said casing for admitting compressed air.

840,431. TURBO-GENERATOR. JOHN G. CALLAN, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Original application filed May 25, 1905, Serial No. 262,287. Divided and this application filed June 8, 1906. Serial No. 320,756.



Claim.—1. In combination, an elastic-fluid motor, a generator driven thereby, and a fan which receives air through the generator and discharges it at one or more points between it and the motor.

2. In combination, an elastic-fluid motor, a generator driven thereby, and a fan driven by the main shaft which causes a fluid medium to circulate through the generator to cool the conductors and discharges said medium in a direction to oppose any tendency for currents of heated air from the motor to enter the generator.

3. In combination, an elastic-fluid motor, a generator driven thereby, and a means constructed and arranged to cause a current of air to enter the generator at a point remote from the motor and to flow through the generator and be discharged at one or more points between the motor and generator.

4. In combination, an elastic-fluid motor, a generator driven thereby, a shaft which is common to the motor and generator, a fan mounted on the shaft at the end of the generator adjacent to the motor, which draws air over the conductors in the generator, and means for causing the fan to discharge the air at one or more points between the motor and generator.

5. In combination, a dynamo-electric machine, a casing for the machine which is provided with receiving and discharge openings to permit of a circulation of air, and a baffling means suitably located with respect to the receiving-opening to prevent the entrance of foreign matter, said means including a plurality of plates which deflect the entering current of air transversely to the axis of the generator.

6. In combination, a generator, a motor for driving it, a casing for the generator, an opening admitting air to the casing, a baffler for preventing the entrance of foreign

matter to the casing, a discharge-opening for the casing, and a protecting device which prevents the entrance of foreign matter through the discharge-opening.

7. In combination, a generator, a motor for driving it, a casing for the generator having inlet and discharge openings, a baffling means for the inlet to prevent the entrance of foreign matter, and a fan which receives air from the baffled inlet and causes it to pass out through the discharge-opening.

8. In combination, a motor, a generator driven thereby, a frame for the generator having openings therein, an inclosing casing for the frame which contains a chamber communicating with the interior of the generator-frame, a baffling device regulating the admission of air to said chamber, a fan which causes a current of air to pass over the conductors when the machine is in operation, and an opening arranged to discharge the air delivered by the fan.

9. In combination, a motor, a generator driven thereby, a neck which connects the motor and generator, a covering which incloses the neck, an opening between the neck and covering to permit the escape of air, and an opening for admitting air to the generator-casing.

10. In combination, a motor, a generator driven thereby, a neck which connects the motor and generator, a covering which incloses the neck and is separated therefrom by a space through which air is discharged, a fan for causing a current of air to pass through the generator-casing and be discharged through said space, and a screen intermediate the fan and said space.

11. In combination, a motor, a generator driven thereby, a baffler which prevents the admission of foreign matter to the generator and comprises a number of perforated plates, a means for directing the air-currents into the perforations, and an opening which discharges the air from the generator-casing.

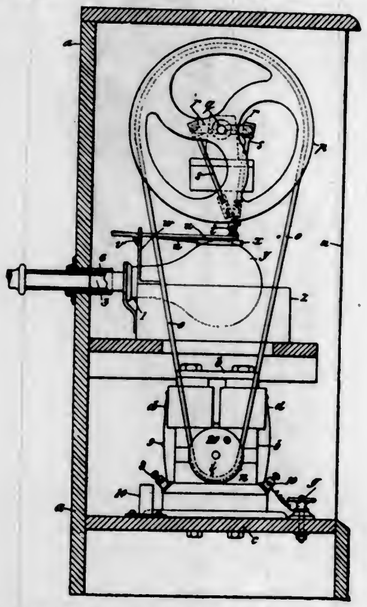
12. A dynamo-electric machine comprising a frame having ventilating-openings for supplying air to the interior of the machine, an inclosing casing or cover for the frame which contains a chamber communicating with the openings which supply the interior of the machine, and a head attached to the casing adjacent one end of the machine, the head having an air-inlet, also communicating with the chamber, which permits a flow of air through the head and the chamber to ventilate the machine, but prevents the entrance of foreign matter with the air.

840,432. APPARATUS FOR AUTOMATICALLY GIVING ALARM IN CASE OF BURGLARY, &c. JAMES CARTER, Leytonstone, England. Filed Jan. 2, 1906. Serial No. 294,303.

Claim.—1. Apparatus for automatically giving alarm in case of burglary or the like, consisting of an electric battery and conducting-wires, one of which is normally interrupted but has its circuit completed by any attempt at burglary or illicit entrance through a door, window, or other place, the conducting-wires passing to a small electromotor which is set in revolution when the circuit through the wires is completed, and sets in revolution a spindle provided with two opposite cranks, having connecting-rods actuating two levers which as they rise and fall alternately compress and release two elastic balls, communicating with whistles or sound-producing devices when the electromotor is working, and a switch by which the current can be cut off and the working stopped when desired, substantially as described.

2. In apparatus of the kind described in claim 1, the combination of an electric battery, conducting-wires *e*, *f* the circuit through which is automatically completed by any attempt to break open a window, door, or other place which is to be guarded, an electromotor *b*, a pulley *n* upon the spindle of the armature of the motor, a pulley *p* upon a parallel spindle *q*, a cord *o* connecting the pulleys, opposite cranks *r*, *r*, upon the spindle *q*, connecting-rods *s*, *s*, pivoted levers *u*, *u*, plates *x*, *x*, pressing upon hollow elastic balls *y*, *y*, having nozzles 1, 2, connected to pipes 3, 4, provided at their outer ends with whistles, and a switch 11, all substantially as described and illustrated.

3. In a device of the character described, a battery, a main circuit normally open and adapted to be closed by an attempt at entrance through the door or window, a motor arranged in said circuit with said battery and operated upon the closing of the said circuit, a pair of whistles, and means for alternately sounding said whistles upon the closing of the said circuit, substantially as described.



4. In an automatic burglar-alarm, a battery, a motor arranged in circuit therewith, said circuit being normally open and adapted to be closed by an attempt at burglary, alarm-sounding whistles, and means arranged in conjunction with said motor for alternately sounding said whistles, substantially as described.

5. In an automatic burglar-alarm, a battery, a main circuit normally open and adapted to be closed by an attempt at burglary, a motor arranged in said circuit with said battery, an emergency-circuit arranged between said battery and said motor, a pair of whistles, and means for alternately sounding said whistles, substantially as described.

6. In an automatic burglar-alarm, the combination with the alarm-sounding whistles and mechanism for alternately operating the same, of the electrical means for actuating the said whistles comprising a battery, a main circuit normally open and adapted to be closed upon an attempt at burglary, a motor arranged in said main circuit with said battery, and an emergency-circuit arranged between said battery and said motor and adapted to actuate the said motor upon a failure of the main circuit, substantially as described.

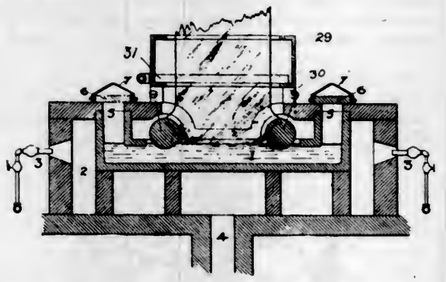
840,433. METHOD AND APPARATUS FOR DRAWING SHEET-GLASS. IRVING W. COLBURN, Franklin, Pa. Filed May 18, 1904. Serial No. 208,570.

Claim.—1. The method of forming a sheet of glass, which consists in preparing a mass of molten glass, and drawing the glass therefrom in sheet form, the drawing force being simultaneously applied in the directions of the sheet's length and width.

2. The method of forming a sheet of glass, which consists in preparing a mass of molten glass, and drawing the glass therefrom in sheet form, the drawing force being simultaneously applied in the direction of the sheet's length and in the directions of its two edges.

3. The method of forming a sheet of glass, which consists in preparing a mass of molten glass, and drawing the glass therefrom in sheet form, the drawing force being simultaneously applied in a vertical direction and transversely of the sheet.

4. The method of forming a sheet of glass, which consists in preparing a mass of molten glass, and drawing the glass therefrom in sheet form, the drawing force being simultaneously applied in the direction of the top and edges of the sheet.



5. The method of forming a sheet of glass which consists in preparing a mass of molten glass, drawing the molten glass in the direction of the sheet's length to form the middle portion of the sheet, and simultaneously drawing molten glass in the direction of the sheet's edges to form the edge portions of the sheet.

6. The method of forming a sheet of glass, which consists in preparing a mass of molten glass, and drawing the glass therefrom in sheet form, the drawing force being simultaneously applied in the directions of the sheet's length and width, and subjecting the sheet to the action of heat during the continuance of the drawing operation.

7. The method of forming a sheet of glass, which consists in preparing a mass of molten glass, and drawing the glass therefrom in sheet form, the drawing force being simultaneously applied in a vertical direction and transand in the directions of its two edges, and subjecting the sheet to the action of heat during the continuance of the drawing operation.

8. The method of forming a sheet of glass, which consists in preparing a mass of molten glass, and drawing the glass therefrom in sheet form, the drawing force being simultaneously applied in a vertical direction and transversely of the sheet, and subjecting the sheet to the action of heat during the continuance of the drawing operation.

9. The method of forming a sheet of glass, which consists in preparing a mass of molten glass, and drawing the glass therefrom in sheet form, the drawing force being simultaneously applied in the direction of the top and edges of the sheet, and subjecting the sheet to the action of heat during the continuance of the drawing operation.

10. The method of forming a sheet of glass, which consists in preparing a mass of molten glass, continuously drawing a sheet of glass therefrom in the direction of the sheet's length, and continuously drawing the molten glass in the direction of the sheet's edges.

11. The method of forming a sheet of glass, which consists in preparing a mass of molten glass, continuously drawing a sheet of glass therefrom in the direction of the sheet's length and also in the direction of its edges while maintaining the heat in the drawn sheet high enough to prevent cracking during the drawing operation.

12. In an apparatus for drawing sheet-glass, the combination of a receptacle for molten glass, a bait for drawing the glass in sheet form therefrom, and revolving means counteracting the tendency of the sheet to narrow and draw to a rod or thread.

13. In an apparatus for drawing sheet-glass, the combination of a receptacle for molten glass, a bait for drawing the glass in sheet form therefrom, and means also drawing molten glass from said receptacle in the direction of the edges of the sheet, whereby said bait and said means draw a sheet of uniform width.

14. In an apparatus for drawing sheet-glass, the combination of a receptacle for molten glass, a bait for drawing the glass in sheet form therefrom, and upwardly and outwardly drawing means adjacent to the ends of the bait when the latter is in place in the molten glass.

15. In an apparatus for drawing sheet-glass, the combination of a receptacle for molten glass, a bait, and means moving the bait away from said receptacle to draw a sheet, with a plurality of drawing devices acting to draw glass from said receptacle outward from the edges of the sheet drawn by the bait.

16. In an apparatus for drawing sheet-glass, the combination with a receptacle for molten glass, a bait, and means withdrawing said bait from said receptacle to form a sheet, of drawing devices located one adjacent to each edge of the sheet and serving to draw molten glass from said receptacle to form the edge portions of the sheet.

17. In an apparatus for drawing sheet-glass, the combination with a receptacle for molten glass, a bait, and means withdrawing said bait from said receptacle to form a sheet, of two drawing devices located one adjacent to each edge of the sheet at its bottom and serving to draw molten glass from said receptacle to form the edge portions of the sheet.

18. In an apparatus for drawing sheet-glass, the combination with a receptacle for molten glass, a bait, and means withdrawing said bait from said receptacle to form a sheet, of two drawing devices located one adjacent to each edge of the sheet and engaging the molten glass in said receptacle and serving to draw the glass therefrom to form the edge portions of the sheet.

19. In an apparatus for drawing sheet-glass, the combination with a receptacle for molten glass, a bait and means withdrawing said bait from said receptacle to form a sheet, of two revoluble bodies located one adjacent to each edge of the sheet at its bottom and means revolving said bodies in opposite directions.

20. In an apparatus for drawing sheet-glass, the combination with a receptacle for molten glass, a bait and means withdrawing said bait from said receptacle to form a sheet, of two revoluble bodies located one adjacent to each edge of the sheet at its bottom and engaging the glass in said receptacle, and means revolving said bodies in opposite directions.

21. In an apparatus for drawing sheet-glass, the combination of a receptacle for molten glass, a bait, and means withdrawing said bait from the receptacle to form a sheet, of two rollers located one adjacent to each edge of the sheet near its bottom, and means revolving said rollers in opposite directions.

22. In an apparatus for drawing sheet-glass, the combination of a receptacle for molten glass, a bait, and means withdrawing said bait from the receptacle to form a sheet, of two rollers located one adjacent to each edge of the sheet near its bottom and having axes transverse to the plane of the sheet drawn by the bait, and means revolving said rollers in opposite directions.

23. In an apparatus for drawing sheet-glass, the combination with a receptacle containing molten glass, a bait, and means withdrawing the bait from the receptacle to form a sheet, of two rollers revoluble on axes transverse to the sheet, the lower part of the peripheries of said rollers being immersed in the molten glass adjacent to the edges of the sheet being drawn, and means revolving said rollers in opposite directions.

24. In an apparatus for drawing sheet-glass, the combination with a receptacle containing molten glass, a bait, means withdrawing said bait from the receptacle to form a sheet of glass, and filling or supply conduits or openings for the entrance of molten glass into said receptacle adjacent to the edges of the sheet being drawn.

25. In an apparatus for drawing sheet-glass, the combination with a receptacle containing molten glass, a bait, means withdrawing said bait from the receptacle to form a sheet of glass, means counteracting the tendency of the sheet to narrow during drawing operation, and filling or supply conduits or openings for molten glass into said receptacle adjacent to the edges of the sheet being drawn.

26. In an apparatus for drawing sheet-glass, the combination with a receptacle containing molten glass and having two filling or supply conduits or openings, of a bait

interposable in the glass in said receptacle between said conduits or openings, and means withdrawing the bait from the receptacle to form a sheet of glass.

27. In an apparatus for drawing sheet-glass, the combination with a receptacle, containing molten glass, of a bait, means withdrawing said bait from the receptacle to form a sheet, rollers revoluble on axes transverse to the plane of said sheet, means revolving said rollers in opposite directions, and two filling or supply conduits or openings entering the receptacle one adjacent to each roller.

28. In an apparatus for drawing sheet-glass, the combination with a receptacle containing molten glass, of means for drawing a sheet of glass therefrom, revolving means maintaining the sheet of uniform width and a heating device for supplying heat to the drawn sheet adjacent to said receptacle.

29. In an apparatus for drawing sheet-glass, the combination with a receptacle containing molten glass, of means for drawing glass from said receptacle in sheet form longitudinally of the sheet, devices drawing the glass from the receptacle in the direction of the edges of the sheet, and independent operating mechanisms for said means and devices.

30. In an apparatus for drawing sheet-glass, the combination with a receptacle containing molten glass, of a bait for drawing a sheet of glass from said receptacle, means also drawing glass from the receptacle to form the edge portions of the sheet, and independent operating mechanism for said bait and means, said mechanisms being capable of operation at variable speeds.

31. In an apparatus for drawing sheet-glass, the combination of a receptacle containing molten glass, a cover for said receptacle having a depressed central portion and elevated end portions, and a slot extending across said depressed portion and into said elevated end portions.

32. In an apparatus for drawing sheet-glass, the combination of a receptacle containing molten glass, means for drawing a sheet of glass therefrom, and means drawing the glass to form the edge portions of the sheet whereby it is held to uniform width.

33. In an apparatus for drawing sheet-glass, a receptacle containing molten glass, means for drawing glass therefrom in sheet form in a longitudinal direction, and means simultaneously drawing and stretching the glass laterally.

34. In an apparatus for drawing sheet-glass, a receptacle containing molten glass, means for drawing glass therefrom in sheet form in a longitudinal direction, and a plurality of surfaces drawing glass from said receptacle to form the side portions of the sheet and simultaneously stretching the sheet laterally.

35. In an apparatus for drawing sheet-glass, a receptacle containing molten glass, means drawing glass therefrom in sheet form in a longitudinal direction, means simultaneously drawing glass from said receptacle and stretching the sheet in a lateral direction, and devices whereby said last-named means may be operated at variable speeds.

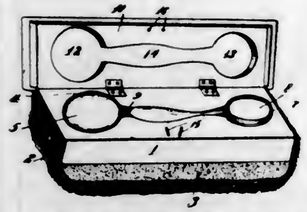
36. In an apparatus for drawing sheet-glass, a receptacle containing molten glass, means drawing glass therefrom in sheet form, two surfaces simultaneously drawing glass from said receptacle to form the lateral portions of the sheet and stretching said sheet, and means for cooling the sheet as drawn.

840,434. CAR-DOOR SEAL. CHARLES COLUMBUS, Spokane, Wash., assignor of one-half to William Gagnan, Spokane, Wash. Filed June 18, 1906. Serial No. 322,286.



Claim.—A car-seal comprising a closed casing having a slot in one end and a strip having one end bent upon itself with a slot formed longitudinally therein to form spaced guides, the free end of said bent portion being flared outwardly and provided with a detent near its terminal and with a longitudinal groove terminating at its inner end in an aperture, the other member of the bent portion having an aperture registering with said first-mentioned aperture, a spring slidable in the slot in said bent end and having means resting in said groove and adapted to extend into said registering apertures, said strip being bent to form a loop and having its free end apertured and adapted to slide between the members of said bent portion.

840,435. BACK FOR BRUSHES. CHARLES E. CONDER, Cambridge, Mass. Filed June 28, 1906. Serial No. 323,811.

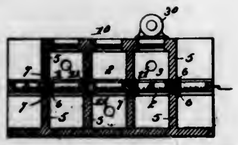


Claim.—1. A brush-back comprising a body portion having formed therein a series of implement-receiving compartments, a cover hingedly connected to said back or body portion and adapted to be closed over said compartments, said cover having means for retaining articles disposed within said compartments in position and means for retaining said cover in a closed position.

2. A brush-back comprising a body portion having a series of shaped recesses forming implement-receiving compartments, a cover hingedly connected to one side of said back or body portion and having recesses registering with and of a shape to correspond with the recesses in the body portion, and means for locking said cover in closed position.

3. A blackening or polishing brush comprising a body portion having formed therein a blackening-box compartment, a dauber-head compartment, a dauber-handle compartment communicating with the aforesaid compartments, a removable cup or receptacle arranged in said dauber-head compartment, a cover hingedly connected to one side of said back or body portion, said cover having formed therein recesses adapted to aline with the compartments in said body portion when the cover is in a closed position to hold the articles against movement, and means to fasten said cover in close engagement with said body portion, substantially as described.

840,436. PROCESS OF DEHYDRATING FOOD SUBSTANCES. ERNEST W. COOKE, New York, N. Y., assignor, by mesne assignments, to The Cokel Company, a Corporation of New Jersey. Filed Feb. 24, 1904. Serial No. 195,545.

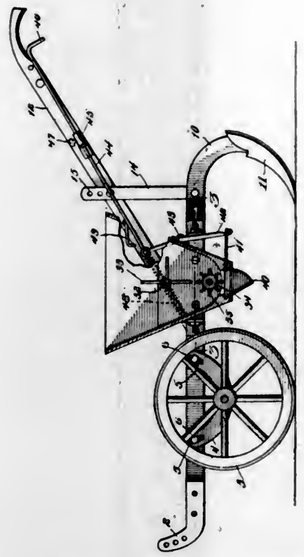


Claim.—1. The process of dehydrating food substances, which consists in passing therethrough a current of air of a certain temperature and humidity and immediately thereafter passing therethrough in the opposite direction an independent current of air of a different temperature and humidity.

2. The process of dehydrating food substances, which consists in inclosing them in a receptacle divided into substantially air-tight sections, passing currents of air of a certain temperature and humidity through alternate sections in one direction, passing independent currents of air of a different temperature and humidity through the intervening sections in the opposite direction and intermittently moving the substances forwardly through the receptacle.

3. The process of dehydrating food substances, which consists in alternately forcing therethrough in opposite directions independent currents of air of different temperatures and humidity.

840,437. COMBINED FERTILIZER-DISTRIBUTER AND PLOW. JOHN B. CORSBIE, Julian, N. C. Filed Aug. 8, 1906. Serial No. 329,782.



Claim.—1. In a combined fertilizer-distributer and plow, a hopper, an agitator mounted to rotate therein, a feeding device mounted to rotate therein, said hopper provided with a feed-opening, means for regulating the size of the opening, plow-beams adjustable laterally, a ground-wheel adjustable relatively to said beam, and handles secured to said beams, substantially as described.

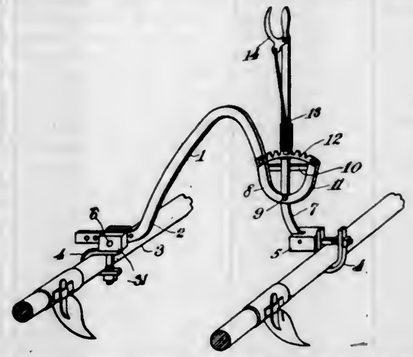
2. In an implement of the character described, a hopper, an agitator journaled therein, a feeding device in said hopper, a feed-opening in said hopper, a slide for regulating the size of said feed-opening, a crank-rod connected to said slide, a sliding rod connected to said crank-rod, means for holding said sliding rod in adjusted position, a spring connected to said rod and to the frame of the machine for holding said feed-slide in one position, and a hook for holding said slide in another position.

3. In an implement of the character described, a hopper, means for adjusting said hopper longitudinally, beams, plows secured to said beams, and means for adjusting said beams and plows laterally, substantially as described.

4. In an implement of the character described, a ground-wheel, a pair of plow-beams, yokes to which said wheel is journaled, said yokes being slotted to provide vertical adjustment of said ground-wheel, and said beams being longitudinally slotted to provide for adjustment lengthwise of the beams, substantially as described.

5. In an implement of the character described, the combination of a hopper for feeding fertilizer, a pair of beams carrying plows, serrated wedges for laterally adjusting said beams, and means for regulating the feed of the fertilizer, substantially as described.

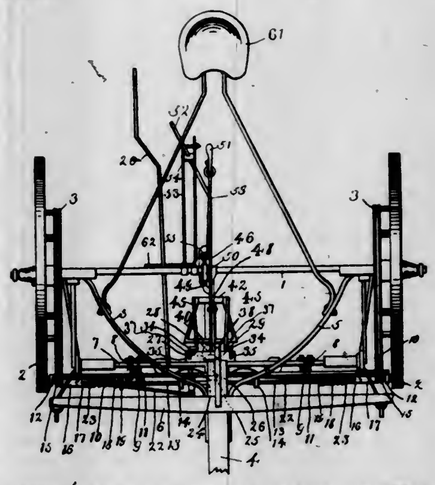
840,438. CULTIVATOR-HOPPLE. STEPHEN A. COWART, Midlothian, Tex. Filed June 7, 1906. Serial No. 320,539.



Claim.—1. A hopple for cultivators comprising an arch-bar, arms rigid with said arch-bar and provided with means for adjusting the beams of the cultivator toward or from each other, a rack rigid with the crest of said arch, a fulcrum-bar rigid with said arch-bar, and a lever for actuating said adjusting means provided with a spring-pressed dog for engaging said rack and pivotally mounted on said fulcrum-bar.

2. A hopple for cultivators comprising an arch-bar rigid at the crest thereof and provided with arms rigid therewith, adjusting members connecting said arms to the beams of the cultivator, a rack rigid with said arch, and a lever for operating said adjusting members carrying a spring-pressed dog for engaging said rack and provided with a fulcrum rigid with said arch-bar.

840,439. COTTON-CHOPPER. STEPHEN A. COWART, Midlothian, Tex. Filed Sept. 1, 1906. Serial No. 332,963.



Claim.—1. A cotton-chopping machine comprising a wheeled truck carrying an arch-bar, a main supporting-bar carried by said arch-bar, a shaft mounted in said supporting-bar, hangers attaching said main supporting-bar to said arch-bar at different vertical adjustments, means for driving said shaft, a revolving hoe, a vertical shaft for driving said hoe, and gearing for transmitting the power of said driving-shaft to said vertical shaft.

2. A cotton-chopping machine comprising a wheeled truck carrying an arch-bar, a main supporting-bar car-

ried by said arch-bar and carrying bearings, means for vertical adjustment of said supporting-bar on said arch-bar, a driving-shaft journaled in said bearings, means for driving said shaft, a revolving hoe, a vertical shaft provided with gearing for driving said hoe and means for transmitting the power of said driving-shaft to said vertical shaft.

3. A cotton-chopping machine having a revolving hoe, a vertical shaft, a frame vertically adjustable on said vertical shaft and carrying said hoe and gearing for driving said hoe at different points of adjustment, means for driving said vertical shaft, and means for elevating said frame and holding the same at any desirable adjustment.

4. A cotton-chopping machine having a revolving hoe, a vertically-adjustable frame carrying said hoe and gearing for driving said hoe, a vertical shaft for driving said gearing, said adjustable frame remaining horizontally arranged relative to said vertical shaft at different planes of adjustment, means for vertically adjusting said frame and holding the same at any desirable adjustment, and means for guiding said frame in its vertical adjustments.

5. A cotton-chopping machine having a revolving hoe, a vertically-adjustable frame carrying a hoe-shaft and gearing for driving said hoe-shaft, means for adjusting said hoe forward or backward relative to said hoe-shaft, a vertical shaft for driving said gearing, and means for elevating said frame and holding same at any desirable vertical adjustment.

6. A cotton-chopping machine having a revolving hoe, a vertically-adjustable frame carrying a hoe-shaft and gearing for driving said hoe-shaft, means for adjusting said hoe longitudinally relative to said hoe-shaft, a vertical shaft for driving said gearing, and means for vertically adjusting said frame and holding the same at any desirable adjustment, said vertical shaft driving said gearing at any adjustment.

7. A cotton-chopping machine having a revolving hoe, a vertically-adjustable frame carrying a hoe-shaft and gearing for driving said hoe-shaft, means for vertically adjusting said frame and holding the same at any desirable adjustment, a vertical shaft for driving said gearing at any desirable adjustment, and vertical guides for said frame.

8. A cotton-chopping machine having a revolving hoe, a vertically-adjustable frame carrying said hoe and gearing for driving said hoe, a vertical shaft for driving said gearing and guiding said frame, means for elevating or lowering said frame and holding the same at any desirable adjustment, and a lever for varying the position of said hoe relative to said adjustable frame.

9. A cotton-chopping machine comprising a wheeled truck, a driving-shaft journaled on said truck, gearing for transmitting power from the wheels of said truck to said driving-shaft normally held in operative position, means for disconnecting said gearing, a revolving hoe, a vertical shaft, a frame vertically adjustable on said vertical shaft and carrying said hoe and carrying gearing for driving said hoe, and gearing for transmitting the power of said driving-shaft to said vertical shaft.

840,440. MACHINE FOR CLEANING PRINTERS' ROLLERS. CLARENCE B. CUTLER, Stanhope, N. J., assignor to Henry H. Richardson, Brooklyn, N. Y. Filed Nov. 6, 1905. Serial No. 285,973.

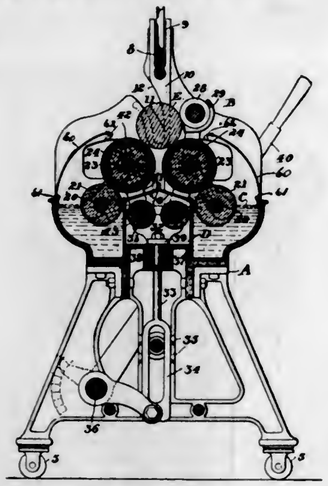
Claim.—1. The combination with means for supporting a roller to be cleaned and permitting the rotation of the same, of a screw member adapted to impinge upon and clean and convey material from the surface of the roller.

2. The combination with means for rotatably supporting a roller to be cleaned, of means extending substantially the length of the roller adapted to impinge upon the latter to clean and convey material therefrom in a direction longitudinally of the roller.

3. The combination with means for supporting a roller to be cleaned, of a screw arranged longitudinally of said roller and adapted to impinge upon and clean the surface of the roller.

4. The combination with means for holding a roller against endwise movement while permitting such roller to rotate, and rotating means impinging upon the surface of the rotating roller for removing material from the roller in a direction longitudinally thereof.

5. The combination with means for holding a roller against endwise movement while permitting such roller to rotate, a rotating means also held against endwise movement for impinging upon the surface of the rotating roller to clean and convey material therefrom in a direction substantially longitudinally of the axis thereof.



6. The combination with means for supporting a roller against endwise movement while permitting such roller to rotate, a rotating worm or screw also held against endwise movement and extending substantially the length of said rotating roller to clean and convey material from the surface of the roller in a direction substantially longitudinally thereof.

7. The combination with means for supporting the roller to be cleaned, of means for applying a cleansing fluid to said roller, and a rotating element extending lengthwise of the roller substantially the length thereof and held against endwise movement adapted to remove material from the surface of the roller in a direction longitudinally of the axis thereof.

8. In a machine of the class described the combination with a frame thereof, the supply-rolls, the washing-rolls and the drying-rolls, of a scraping device incapable of endwise movement and adapted to impinge upon the roller to be cleaned, and means for throwing the wash-rolls and the scraping device into and out of engagement with the roller being cleaned.

9. In a machine of the class described the combination with the frame thereof, of washing members adapted to support the roller to be cleaned, a rotating screw member for scraping said roller, and means for throwing said screw member and the supporting wash-rolls into and out of engagement with the roll being cleaned.

10. The combination with the frame thereof, of a reservoir for containing a cleansing material, means projecting into said reservoir for taking the material therefrom, wash-rollers for receiving the material from the first-mentioned means and applying the same to the roller to be cleaned, and means adapted to contact with the roller to be cleaned substantially its entire length for scraping the material therefrom and conveying the same in a direction longitudinally of the axis of said roller being cleaned.

11. In a machine of the class described the combination of the supply-rolls, the washing-rolls, the drying-rolls, and a screw device for scraping the roller to be cleaned.

12. In a machine of the class described the combination with the frame thereof, means for applying cleansing material to the roller to be cleaned, a screw member extending lengthwise of the roller for scraping said roller, and a member for napping the surface of the roll.

13. The combination of means for supporting a roller to be cleaned and restraining the roller against endwise movement, a rotatable element extending longitudinally of said roller and incapable of endwise movement and adapted to scrape and convey material from the roller in a longitudinal direction, and means for moving said rotatable element into and out of engagement with the surface of the roller.

14. In a machine of the class described the combination with the frame thereof, a reservoir on said frame, supply-rolls within the reservoir, washing-rolls arranged to contact with the supply-rolls and to support the roller to be cleaned, and a rotary scraping device adapted to impinge upon and scrape the roller supported by the washing-rolls.

15. In a machine of the class described the combination with the frame thereof, of a reservoir supported by said frame, supply-rolls extending through the reservoir, washing-rolls adapted to contact with and be wet by the supply-rolls, such washing-rolls being designed to support the roller to be cleaned, a rotary scraper designed to impinge upon the roller and scrape the same, drying-rolls, and means for actuating the supply-rolls, the washing-rolls, the scraper and the drying-rolls.

16. In a machine of the class described the combination with the frame thereof, a plurality of rolls for supporting the roller to be cleaned, means for supplying cleansing material to the supporting-rolls, a rotary scraper, and means for throwing the supporting-rolls into and out of supporting position relative to the roller being cleaned and for causing the scraper to impinge upon said roller.

17. In a machine of the class described the combination with the frame thereof, a reservoir containing a cleansing material, washer-rolls for supporting the roller to be cleaned, means for supplying cleansing material from the reservoir to the washer-rolls, and means for guiding the roller to be cleaned, and means comprising a rotary element incapable of endwise movement adapted to impinge upon and scrape the surface of the roller.

18. In a machine of the class described the combination with the frame thereof, of a reservoir mounted thereon, means for supporting a roller above the reservoir, means for supplying a cleansing material from the reservoir to the roller-supporting means, means for throwing said roller-supporting means out of engagement with the roller, and drying means designed to be moved into position to dry and support the roller.

19. In a machine of the class described the combination with the frame thereof, of rolls adapted to support and apply a cleansing material to the roller to be cleaned, a rotary scraper impinging upon and scraping the surface of said roller, drying-rolls normally out of engagement with the roller being cleaned when the first-mentioned supporting-rolls and the scraper are in contact therewith, and means for simultaneously moving the scraper and the first-mentioned supporting-rolls out of engagement with the roller being cleaned, and for moving the drying-rolls into supporting and wiping engagement with the roller being cleaned.

20. In a machine of the class described the combination with the frame thereof, a plurality of washing-rolls adapted to support the roller to be cleaned, means for applying a cleansing fluid to the washing-roll from whence it is applied to the roller, a scraping device adapted to impinge upon and scrape the roller, drying-rolls, means for shifting the washing-rolls and the scraper out of contact with the roller being cleaned and for shifting the drying-rolls into contact with the roller to wipe and support the same, a reservoir for containing a cleansing fluid, covers for said reservoir, and means carried by said cover for wiping the washer-rolls when such washer-rolls are thrown out of contact with the roll being cleaned.

21. In a machine of the class described the combination with the frame thereof, a reservoir mounted on said frame, rolls adapted to receive a cleansing material from the reservoir to apply the same to a roller to be cleaned, means for moving said rolls, a hinged cover for the reservoir, and means on said hinged cover for wiping and drying the rolls.

22. In a machine of the class described the combination with the frame thereof, of washing-rolls for supporting them and applying a cleansing material to the roller to be cleaned, a rotary screw for scraping the roller, drying-rolls, and means for moving said drying-rolls into engagement with the roller being cleaned.

23. In a machine of the class described the combination with the frame thereof, a plurality of supporting-rolls adapted to support the roller to be cleaned, means for applying a cleansing fluid to the supporting-rolls from whence it is applied to the roller, a scraping device incapable of endwise movement adapted to impinge upon and scrape the roller, drying-rolls for wiping the roller and a napping-roll for napping the roller.

24. In a machine of the class described the combination with the frame thereof, of a reservoir carried thereby, a plurality of supporting-rolls for supporting the roller to be cleaned at desired times, means for applying cleaning material from the reservoir to the supporting-rolls to be applied by the latter to the roller, a scraper for scraping the roller, a casing formed within the reservoir, drying-rolls normally lying within said casing when not in use, and means for shifting the first-mentioned supporting-rolls and the scraper out of contact with the roller being cleaned, and for shifting the drying-rollers within the casing into contact with said roller to wipe and support the same.

25. In a machine of the class described the combination with the frame thereof, of a superstructure embodying a reservoir, supporting-rolls for supporting the roller to be cleaned, means for applying a cleansing material from the reservoir to the supporting-rolls, a rotary scraper for scraping the roller to be cleaned, drying devices, and means for moving said drying devices into contact with the roller being cleaned, and simultaneously moving the first-mentioned supporting-rolls and the scraper out of contact with the roller, said means including mechanism for shifting the drying-rolls into contact with the surface of the roller being cleaned, and connections between the drying-rolls, the supporting-rolls, the means for applying the cleansing fluid to the supporting-rolls, and the scraper.

26. In a machine of the class described the combination with the frame thereof, of a reservoir containing a cleansing fluid, a plurality of supporting and washing rolls for supporting the roller to be cleaned, rolls adapted to contact with and supply material from the reservoir to the supporting and washing rolls, a rotary scraper for scraping the roller, means for guiding the roller, drying-rolls for wiping said roller, and means for imparting vertical movement to the drying-rolls to move the same into contact with the roller and simultaneously move the first-mentioned supporting-rolls and the scraper out of contact with the surface of the roller being cleaned.

27. A machine of the class described comprising a plurality of supporting-rollers for supporting the roller to be cleaned, said rollers having flanges thereon to prevent the endwise movement of the rollers, means for applying a cleansing material to the supporting-rolls, and a screw for scraping said roller, such screw being incapable of endwise movement.

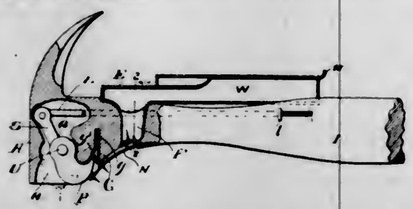
28. A machine of the class described comprising a plurality of rollers for supporting and applying a cleansing fluid to the roller to be cleaned, a scraper in the form of a screw adapted to impinge upon and scrape the surface of the roller, drying-rolls, link connections between the drying-rolls, the supporting-rolls and the scraper, and means including a rock-shaft and an operating device for the latter for throwing the drying-rolls into contact with the roller, and the scraper and the first-mentioned supporting-rolls out of contact with the roller.

29. A machine of the class described comprising supporting-rolls for supporting and applying a cleansing fluid to the roller to be cleaned, a rotary scraper, drying-rolls, a power-shaft, driving connections between the power-shaft, the supporting-rolls, the drying-rolls and the scraper for imparting a rotary movement to said parts, and mechanism for throwing the drying-rolls into contact with the roller being cleaned, and for moving the first-mentioned supporting-rolls and the scraper out of contact with such roller.

30. In a machine of the class described comprising a frame, a reservoir supported thereon, a casing extending

through said reservoir, covers for said casing, a plurality of supporting-rolls for supporting the roller to be cleaned, rolls for applying a cleansing fluid from the reservoir to the supporting-rolls, a rotary scraper of screw form, incapable of endwise movement, a trough arranged beneath said scraper, drying-rolls normally lying within the casing in the reservoir, means for moving said drying-rolls into contact with the roller, and connections between the drying-rolls, the supporting-rolls, the scraper, and means for applying the fluid to the supporting-rolls whereby when the drying-rolls are moved into contact with the roller the other device will be moved out of contact therewith.

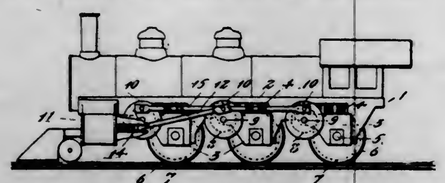
840,441. MAGNETIC TACK-HAMMER. JOSEPH A. R. DAMONTE, New Orleans, La. Filed June 11, 1906. Serial No. 321,131.



Claim.—1. A magnetic tack-hammer comprising a chambered head having an opening on the striking-face, a swinging magnet pivoted in the head and formed with a relatively heavy end curved toward the handle and terminating in a hook-shaped toe, a tack-channel arranged on the striking side of the hammer along its handle and extending to the curved face of the magnet and a spring-seated detent arranged in a recess in the hammer-head to slide transversely to the tack-channel to restrain the tacks and having a lip adapted to be engaged by the toe of the magnet to be lifted thereby when the magnet moves backward, and means for operating the magnet.

2. A magnetic tack-hammer, comprising a chambered head, a handle having a transverse slot through it near the head, a magazine communicating therewith and located near the hammer-head on the opposite side from the striking-face, a magnet pivoted in the head and having a curved face substantially coincident with the striking-face and terminating in a hook-shaped toe next to the handle, a tack-channel extending from the slot in the handle to the hammer-face and a spring-seated detent arranged in a recess in the hammer-head to slide across the tack-channel and restrain the tacks and having a lip adapted to be engaged by the backward movement of the toe of the magnet to transfer the tack, and means for operating the magnet.

840,442. LOCOMOTIVE. GILBERT G. DAVIS, Mukilteo, Wash. Filed Feb. 16, 1906. Serial No. 301,456.



Claim.—1. In a locomotive, the combination of a traction-wheel, a member provided with a bearing engaging the axle of said wheel, a main frame yieldingly supported on said member, and a rotatable driving element mounted on said member and operatively connected with said wheel.

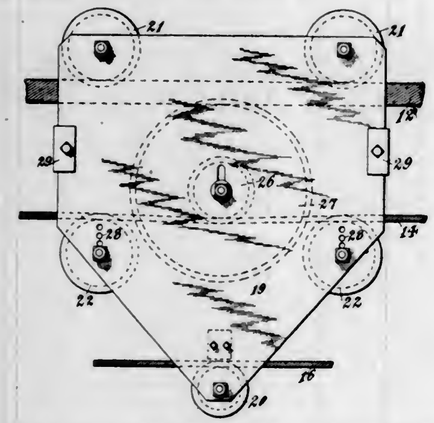
2. In a locomotive, the combination of a traction-wheel, a member provided with a journal engaging the axle of said wheel, a main frame yieldingly supported on said member, a rotatable driving element mounted on said member and operatively related to said wheel, and driving means supported on said frame and connected with said element.

3. In a locomotive, the combination of a traction-wheel, a gear rotatable therewith, a member provided with a journal engaging the axle of said wheel, a main frame yieldingly supported on said member, and a toothed member rotatably mounted on said journal member and engaging said gear.

4. In a locomotive, the combination of a traction-wheel, a spur-gear rotatable therewith, a member provided with a journal engaging the axle of said wheel, a main frame yieldingly supported on said member, a crank rotatably mounted on said member, and a spur-pinion rotatable wtih said crank and engaging said gear.

5. In a locomotive, the combination of a traction-wheel, a spur-gear rotatable therewith, a member provided with a journal engaging the axle of said wheel, a main frame yieldingly supported on said member, a crank rotatably mounted on said member, a spur-pinion rotatable with said crank and engaging said gear, and driving means supported on said frame and connected with said crank.

840,443. FALL-ROPE CARRIER. JAMES G. DELANEY and ASHER LAMBERT, Newark, N. J. Original application filed Mar. 18, 1904, Serial No. 198,768. Divided and this application filed Mar. 22, 1906. Serial No. 307,311.



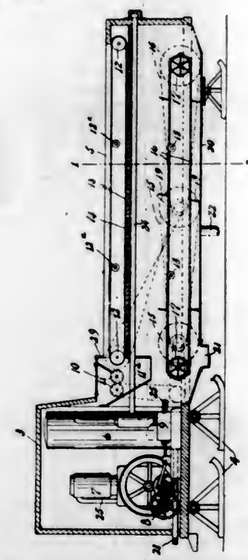
Claim.—In a conveyer system the combination of a track, a haul-rope, a carrier composed of two parallel sheets or plates of metal, a driving-wheel in said frame, an axle for said wheel, a vertically-elongated slot in each plate to receive said axle, a pair of wheels journaled in said frame running on the upper side of the track, a pair of wheels journaled in said frame running on the under side of the haul-rope, an axle for each of the last-named wheels and a series of perforations in the plates arranged in vertical lines.

840,444. SNOW-THAWING MACHINE. WILLIAM ELLIOT, Montreal, Quebec, Canada. Filed May 25, 1906. Serial No. 318,635.

Claim.—1. In a device of the class described, a conveyer adapted to receive the snow, an endless belt mounted beneath said conveyer, and means for delivering the snow from the conveyer to the endless belt in thin layers.

2. In a device of the class described, a snow-receiving conveyer, a belt mounted beneath said conveyer and traveling in the opposite direction thereto, means for delivering the snow from the conveyer to the belt in thin layers, and means for melting the snow during its travel upon said belt.

3. In a device of the class described, a snow-receiving conveyer, a melting-belt mounted beneath said conveyer, means for delivering the snow from the conveyer to the belt in thin layers, and means for discharging a plurality of streams of hot water on the snow during its travel upon said melting-belt.



4. In a device of the class described, a snow-receiving conveyer, ice-crushing rolls mounted adjacent one end of said conveyer, a melting-belt mounted beneath said conveyer, means for delivering snow and ice from the conveyer and crushing-rolls to the belt in thin layers, means for discharging a plurality of streams of hot water on the snow during its travel upon said melting-belt, and means for discharging heated gases to the snow during its travel upon said melting-belt.

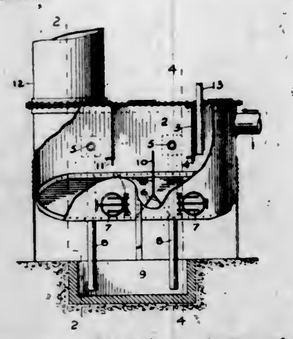
5. In a device of the class described, a snow-receiving conveyer, ice-crushing rolls mounted adjacent one end of said conveyer, a melting-belt mounted beneath said conveyer, means for delivering snow and ice from the conveyer and crushing-rolls to the belt in thin layers, a water-beater, a pump for discharging a plurality of streams of hot water on the snow during its travel upon said melting-belt, a motor driving said pump, means for discharging heated gases to the snow during its travel upon said melting-belt, and means for discharging water and mud from the device.

6. In a device of the class described, a snow-receiving conveyer, ice-crushing rolls mounted adjacent one end of said conveyer, an apertured melting-belt mounted beneath said conveyer, means for delivering snow and ice from the conveyer and crushing-rolls to the belt in thin layers, means for regulating the amount of snow delivered by said conveyer, a water-beater, a pump for discharging a plurality of streams of hot water on the snow during its travel upon said melting-belt, a motor driving said pump, means for discharging heated gases to the snow during its travel upon said melting-belt, means for discharging the water of melted snow, and means for discharging mud from the device.

840,445. COMBINED GAS-SEAL BOX AND WASHER. ISAAC N. ENRIGHT, San Francisco, Cal. Filed Mar. 28, 1906. Serial No. 308,381.

Claim.—1. The combination of a washing-chamber, an overflow-pipe therefrom, an inlet into said washing-chamber, and a partition between said inlet and overflow-pipe, extending downwardly in said washing-chamber to a point above the bottom, but lower than the overflow-pipe, its lower edge being formed with teeth extending alternately downward and at right angles to the partition, substantially as described.

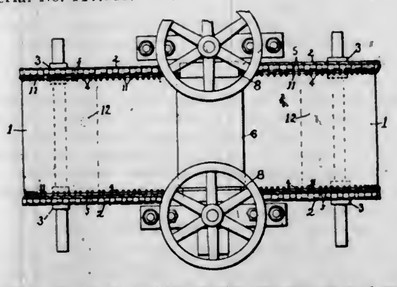
2. The combination of a tank, a wall separating the tank into two washing-chambers, an overflow-pipe in each washing-chamber, a partition extending downward in each washing-chamber to a point above the bottom and below said overflow-pipe, the lower edge of the partition being formed into teeth and the teeth of the second partition even finer than those of the first, an inlet for the water into the first washing-chamber on the side of the partition therein opposite to the overflow-pipe, a scrubber upon and connected with the second washing-chamber behind the partition therein, and a pipe for supplying water into the first compartment of the first washing-chamber, substantially as described.



3. The combination of a tank, the bottom of said tank sloping downward to one side, a wall separating the tank into two washing-chambers, a door for each chamber, located in the said side close to the said bottom, an overflow-pipe in each washing-chamber, a partition extending downward in each washing-chamber to a point above the bottom and below said overflow-pipe, and a suitable inlet and outlet for the water, substantially as described.

4. The combination of a tank, the bottom of said tank sloping downward to one side, a wall separating the tank into two washing-chambers, its lower portion being formed with shelving sides, a door for each chamber, located in the said side close to the said bottom, an overflow-pipe in each washing-chamber, a partition extending downward in each washing-chamber to a point above the bottom and below said overflow-pipe, and a suitable inlet and outlet for the water, substantially as described.

840,446. PROPELLING ENDLESS APRONS FOR CONVEYERS AND FOR FEEDING MACHINERY. PHILIP H. ERTHEILER, Philadelphia, Pa. Filed July 26, 1902. Serial No. 117,088.

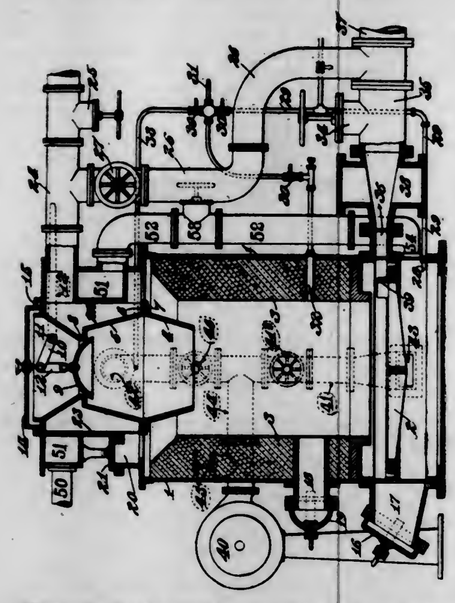


Claim.—1. In an endless carrier two aprons and endless chains flexibly attached to the edges of said aprons, said chains being arranged to have the hinges of each chain enter the opening of the links in the opposite chain as and for the purpose set forth.

2. In an endless carrier a pair of rollers, two aprons and endless chains flexibly attached to the edges of said

aprons in combination with sprocket-wheels of equal pitch-diameters with the said rollers to which the aprons are applied and so arranged and adjusted that the pivotal connections between the links of said chains clear each other in passing around said sprocket-wheels as and for the purpose set forth.

840,447. GAS-PRODUCER. PETER EYERMANN, Dubois, Pa. Filed Aug. 23, 1905. Serial No. 275,414.



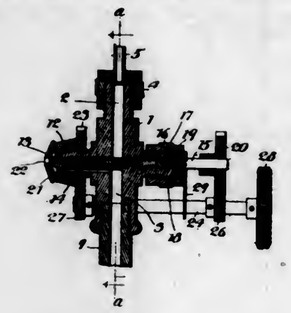
Claim.—1. A gas-producer comprising a body portion provided with a fire-brick lining and having grate-bars at its lower end, a metallic casing mounted on the upper end of said body portion, a fuel-receiving hopper arranged inside of said casing and spaced away from the walls thereof, a gas-conducting pipe leading from the space surrounding said hopper, and steam or water supplying nozzles entering the body portion of the producer at its upper end, at its central portion and at its lower end beneath the grate-bars; substantially as described.

2. A gas-producer comprising a casing, means for producing a downdraft in said casing, a pipe entering the lower end of said casing for conveying away the gas, a receptacle depending from said pipe at a point outside of the casing, and a baffle 39 arranged inside of the casing and projecting into the path of the gas as it escapes from the casing; substantially as described.

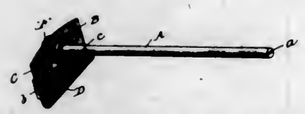
3. A gas-producer comprising a body portion having a casing 23 mounted on its upper end, a fuel-charging device arranged inside of said casing and spaced away from the interior thereof, a wall surrounding the casing 23 to provide a chamber 51, a pipe 50 entering said chamber, and a pipe 52 connecting said chamber with the lower end of the body portion of the producer; substantially as described.

840,448. CRUDE-OIL BURNER. MILTON A. FESLER, Visalia, Cal. Filed Aug. 31, 1905. Serial No. 276,663.

Claim.—A burner of the class described having a threaded needle-valve to regulate the discharge of steam, said valve being provided with an operating-screw, a threaded revoluble regulating and mixing nozzle to govern the discharge of oil, said nozzle and needle-valve each provided with a gear-wheel and an operating-shaft having gears engaging those of said valve and nozzle whereby said valve and nozzle are simultaneously rotated and adjusted, substantially as described.

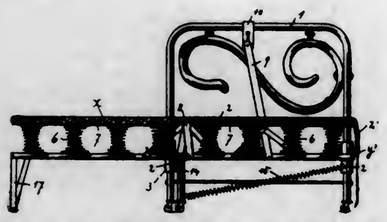


840,449. SAFETY-RAZOR. JAMES J. FETZER, Columbiana, Ohio, assignor to The Herbrand Company, Fremont, Ohio. Filed July 22, 1905. Serial No. 270,789.



Claim.—In a safety-razor the combination with a blade, of a guard having blade-retaining guides to prevent lateral displacement of the blade, a clearance-space in said guard between said guides, a supporting-handle threaded through said guard above the blade, and a jam-nut for securing said blade, guard and handle together in adjusted position, substantially as described.

840,450. COUCH-BED. WILLIAM E. FRANK and CALVIN C. TAYLOR, St. Louis, Mo. Filed Sept. 11, 1905. Serial No. 277,807.



Claim.—1. The combination in a couch-bed of a frame having end supports above the plane of the frame, a back-section hinged directly to the end supports by hangers rigid with the back-section, a seat-section hinged to the edge of the back-section and arranged to take positions in the frame and in front of the frame, and legs to support the front side of the seat-section, substantially as set forth.

2. The combination in a couch-bed of a main frame, a back-section provided with hangers rigid with the section and pivoted to the upper part of the main frame and arranged to swing from an upright position at the rear to a horizontal position in the main frame, a seat-section hinged to the side of the back-section and legs to support the forward edge of the seat-section when extended, substantially as set forth.

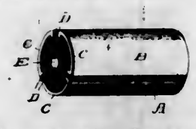
3. The combination in a couch-bed of a main frame, a back-section provided with hangers rigid therewith and pivoted to the upper part of the main frame and arranged to swing from an upright position at the rear of the main frame to a horizontal position in the main frame, a seat-section hinged to the edge of the back-section and links connecting the seat-section with the forward side of the main frame and serving to lock the sections in open or closed position, substantially as set forth.

4. The combination in a couch-bed of the main frame, a back-section provided with hangers rigid therewith and pivoted to the upper portions of the main frame and arranged to swing from an upright position at the rear of the main frame to a horizontal position in the main frame, a seat-section hinged to the back-section and provided with means for supporting the outer edge when extended, and links connecting the seat-section with the forward side of the main frame and arranged to turn over from a horizontal position on the one side, locking the seat-section in position in the main frame to a horizontal position opposite, locking the seat-section in extended position, substantially as set forth.

5. The combination in a couch-bed of a main frame, a back-section provided with hangers rigid with the back-section and pivoted to the upper portion of the main frame and arranged to swing from an upright position at the rear of the main frame to a horizontal position in the main frame, a seat-section hinged to the back-section and arranged to be moved from a position in the main frame to an extended position in front of the main frame, links connecting the seat-section with the forward side of the main frame adapted to lock the sections in open or closed positions, and a spring means for assisting the opening and closing movements of the movable sections, substantially as set forth.

6. The combination in a couch-bed of a main frame consisting of end frames and side rails detachably connected, a back-section provided with hangers rigid therewith and pivotally connected at detachable points with the upper parts of the main frame and arranged to swing from an upright position at the rear of the main frame to a horizontal position in the main frame, a seat-section hinged to the back-section and adapted to be moved from a position in the main frame to an extended position in front of the main frame, and means for locking the back and seat sections in their two mentioned positions, substantially as set forth.

840,451. COMMUTATOR. MANES E. FULD, Baltimore, Md. Filed Jan. 30, 1906. Serial No. 298,650.



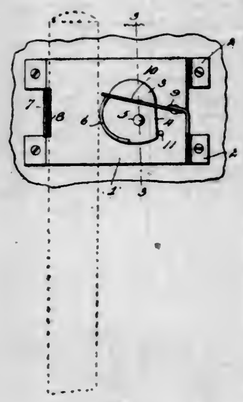
Claim.—1. A commutator for an electric motor or dynamo-electric machine consisting of a suitable body of non-conducting material provided with longitudinal grooves in its surface, and metallic sections each provided with an inwardly-directed rib or flange engaging said groove whereby they are securely held in place.

2. A commutator for an electric motor or dynamo-electric machine consisting of a suitable body of non-conducting material provided with longitudinal grooves in its surface, metallic sections each provided with an inwardly-directed rib or flange engaging said groove, and non-conducting strips between the ends of said sections.

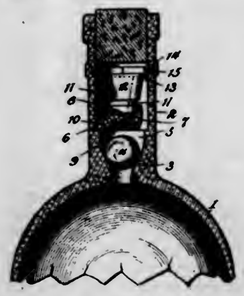
840,452. BROOM-HOLDER. FRANK P. GEE, Dumont, Colo. Filed Mar. 17, 1906. Serial No. 306,630.

Claim.—A holder comprising a base-plate longitudinally slitted at each end to provide lips, the central lip at one end being bent upward to provide a wall projecting at an angle from the face of the base-plate, the end lips adjacent said central lip being bent downward to provide for securing the holder in place, the central lip at the opposite end being bent upward to provide a spring-support, a cam-plate pivotally supported on the base-plate and having an eccentrically arranged wall adapted to coöperate with the wall projecting from the base-plate, and a spring secured to the spring-support and engaging the wall of the cam-plate.

840,452.



840,453. NON-REFILLABLE BOTTLE. HARRY GEHMAN and NELSON A. GIANNONE, Atlanta, Ga., assignors of one-third to William E. Wimpy, Atlanta, Ga. Filed Jan. 22, 1906. Serial No. 297,291.



Claim.—1. In a device of the class described, the combination with a neck, and a valve located within the neck, of a lower guard member provided with upwardly-projecting arms, and an upper tubular guard member fitting in the arms of the lower guard memebr.

2. In a device of the class described, the combination with a neck, and a valve, of lower guard member consisting of a body and upwardly-extending arms, and an upper guard member fitting within the arms and supported by the same in spaced relation with the lower guard member.

3. In a device of the class described, the combination with a neck having a seat, and a valve, of interfitting guard members located above the valve and forming a tortuous passage for the liquid, one of the guard members being provided with a seat arranged to receive and center the valve when the receptacle is inverted, whereby the valve is held in spaced relation with the walls of the neck to permit a free discharge of the liquid.

4. In a device of the class described, the combination with a neck, of a valve, and a guard member consisting of a circular body portion provided with peripheral supporting projections and having a recess in its upper face, and arms extending upward from the body portion at the walls of the said recess.

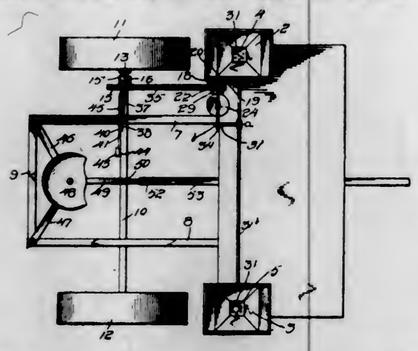
5. In a device of the class described, the combination with a neck having a seat, and a valve, of a lower guard member consisting of a body portion provided with projecting feet and having upwardly-extending arms, and an upper tubular guard member supported by the upper ends of the arms and extending downward within the same.

6. In a device of the class described, the combination with a neck having a seat, and a valve, of a lower guard

member having projecting supporting-lugs and provided with upwardly-extending arms, and an upper downwardly-tapered tubular guard member supported by the arms and extending downward within the same.

7. In a device of the class described, the combination of a neck having a seat, a valve, a lower guard member consisting of a circular body portion provided with upper and lower recesses and having projecting peripheral supporting-lugs and also provided with upwardly-extending arms, a downwardly-tapered tubular upper guard member fitting within the arms and having a flange at its top arranged upon the upper ends of the said arms, and a locking device engaging the neck and the flange.

840,454. CORN-PLANTER. LOGAN R. GILCHRIST, Emden, Ill. Filed Aug. 11, 1905. Serial No. 273,736.



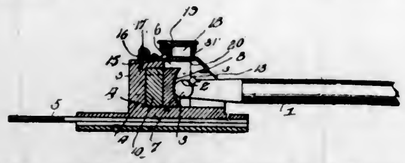
Claim.—1. A corn-planter comprising a wheeled frame, including a platform, hoppers provided with chutes carried by said platform, a fixed plate disposed in the chute of each hopper, said plate being provided with perforations, an oscillating plate carried by the first-named plate, said oscillating plate being provided with perforations, lugs carried by the oscillating plate, a rock-shaft mounted upon said platform, trip members carried by said rock-shaft at each of its ends, said members being arranged for engagement with the said lugs when the said shaft is rocked, and means for rocking said shaft.

2. A corn-planter comprising a wheeled frame, a platform carried by said frame, hoppers provided with chutes arranged upon said platform, a fixed and an oscillating plate mounted in the said chutes, lugs carried by the said oscillating plates, a rock-shaft mounted upon said platform, said rock-shaft being provided at each of its ends with trip members arranged for engagement with the said lugs, a vertical shaft carried by one of said hoppers, means for rotating said shaft, arms carried by said shaft, and an arm carried by said rock-shaft and arranged for engagement by the arm on said vertical shaft.

3. A corn-planter comprising a wheeled frame, a platform mounted upon said frame, hoppers provided with chutes arranged upon said platform, a fixed perforated plate mounted in the chute of each hopper, oscillating plates carried by said fixed plates, said oscillating plates being provided with perforations arranged for registration at times with the perforations in the said fixed plates, lugs carried by said oscillating plates, a rock-shaft carried by said platform, trip members carried by said shaft at each of its ends, said trip member being arranged for engagement with the said lugs, an arm carried by said rock-shaft and extending upwardly therefrom, a vertical shaft mounted upon one of said hoppers, means for rotating said shaft, arms carried by the upper end of said shaft and extending in opposite directions therefrom, the said arm on the said rock-shaft being arranged for engagement by the said arm on the vertical shaft, and means for returning said rock-shaft to its normal position.

4. In a corn-planter the combination with a wheeled frame of a platform carried thereby, of hoppers including chutes arranged upon said platform, fixed perforated plates mounted in said chutes, oscillating plates carried by said fixed plates, said oscillating plates being provided with perforations arranged to register at times with the perforations in the said fixed plate, lugs carried by said oscillating plate, a rock-shaft mounted upon said platform, trip members carried by said rock-shaft at each of its ends and arranged for engagement with the said lugs, an arm carried by said rock-shaft, means carried by one of said hoppers for engagement with said arm whereby the said shaft is rocked, and a spring connected to said trip member and the said chute for returning the said rock-shaft to its normal position.

840,455. PITMAN CONNECTION. WILLIAM H. GLASSBURN, Glenwood, Iowa. Filed June 13, 1905. Serial No. 265,034.



Claim.—In a device of the class described, a bearing-box designed for connection with the sickle-bar and having an entrance-opening, a pitman provided with a T-head designed for entrance through said opening into the box, bearing-shoulders formed in the latter and on which the head bears at one side, a movable bearing-block arranged in the box and having a curved bearing-surface disposed for contact with the side of the head opposite the bearing-shoulders, said block being provided opposite its covered bearing-face with an inclined face, an adjusting-key extended through the box and having an inclined face arranged to bear on the correspondingly-inclined face of the bearing-block, and means for moving the adjusting member to set up the bearing-block and compensate for wear between the same and head.

840,456. FOUNTAIN-PEN. BYRON B. GOLDSMITH, New York, N. Y. Filed Nov. 20, 1903. Serial No. 181,988.



Claim.—1. In a fountain-pen, a removable ink-reservoir having a cylindrical tubular neck and a separately-removable pen-carrying feed-plug fitting into the whole length of the neck and constituting a stopper or closure for the feeding end of said reservoir, substantially as described.

2. In a fountain-pen, a flexible ink-reservoir having an exterior, rigid reinforcement at one end, and a pen-carrying feed-plug inserted in said reinforced end of the ink-reservoir and clamping the said end against the reinforcement, substantially as described.

3. In a fountain-pen, a flexible ink-reservoir having an open end of less diameter than the body of the reservoir, an exterior, rigid reinforcement at the reduced end of the reservoir, and a feed-plug inserted in said reduced end and clamping the same against the reinforcement, substantially as described.

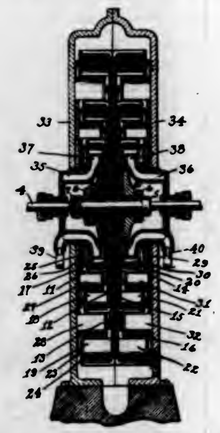
4. A fountain-pen comprising a flexible, tubular ink-reservoir having one end open, a rigid reinforcement applied to the said reservoir at the open end, a pen-carrying feed-plug closing the open end of the ink-reservoir and clamping the walls of the same against said reinforcement; and a mantle receiving the reservoir and one end of the reinforcement, substantially as described.

5. In a fountain-pen, a removable soft-rubber ink-reservoir having a cylindrical tubular neck and a separately-removable pen-carrying feed-plug fitting into the whole length of the neck and constituting a stopper or closure for the feeding end of said reservoir, substantially as described.

6. A fountain-pen comprising a flexible, tubular ink-reservoir having one end open, a rigid reinforcement applied to the said reservoir at the open end, a pen-carrying feed-plug closing the open end of the ink-reservoir and a mantle receiving the reservoir and one end of the reinforcement, substantially as described.

7. In a fountain-pen, a flexible ink-reservoir having an exterior rigid reinforcement at its open end, said reinforcement being provided with an inwardly-projecting annular collar, and a pen-carrying feed-plug inserted through said collar into said reinforced end of the ink-reservoir, substantially as described.

840,457. STEAM-TURBINE. HALBERT P. HILL, New York, N. Y. Filed July 20, 1906. Serial No. 327,090.



Claim.—1. In a steam-turbine, a series of buckets formed by bending the same up at an angle from a single piece of material, and means for admitting steam for operating said buckets.

2. In a steam-turbine, a series of buckets formed by bending the same up at an angle from the periphery of a disk, and means for admitting steam for operating said buckets.

3. In a steam-turbine, a plurality of series of buckets, each series being formed by bending the same up at an angle from the periphery of a disk and the buckets in the several series being formed in concentric circles, and means for admitting steam for operating said buckets.

4. In a steam-turbine, a series of buckets formed by bending the same up at an angle from a single piece of material, each bucket being formed with a projecting portion adapted to engage the adjacent bucket of the series, and means for admitting steam for operating said buckets.

5. In a steam-turbine, a series of buckets formed by bending the same up at an angle from a single piece of material, each bucket being formed with a projecting portion, a flat ring positioned over the outer ends of said series of buckets and having openings therein through which said projections may be passed to hold the same and the buckets in position, and means for admitting steam for operating said buckets.

6. In a steam-turbine, in combination, a plurality of series of rotatable buckets, each series being formed from a single flat disk of metal and bent up at an angle therefrom, said disks being mounted upon the shaft of the turbine, a plurality of series of fixed buckets, said buckets being so positioned in relation to each other as to provide a path by means of which the steam may pass in successive stages from the said rotatable buckets to the said fixed buckets causing the former to be rotated, and means for admitting steam for operating said buckets.

7. In a steam-turbine, in combination, a series of rotatable buckets formed by bending the same up at an angle from the periphery of a single disk mounted upon the shaft of the turbine, a series of fixed buckets, said buckets being so positioned in relation to each other as to provide a path by means of which the steam may pass in successive stages from the said rotatable buckets to the said fixed buckets causing the former to be rotated, and means for admitting steam for operating said buckets.

8. In a steam-turbine, in combination, a plurality of series of rotatable buckets, each series being bent at an angle from a single disk of material, and a plurality of series of fixed buckets, said buckets being so positioned in relation to each other as to provide a radially-extending path for the steam and by means of which the steam in expanding passes in successive stages from the said rotatable buckets to the said fixed buckets causing the former to be rotated.

9. In a steam-turbine, in combination, a plurality of series of rotatable buckets, each bucket being provided with a projection bent at an angle from the body portion thereof and adapted to engage the adjacent bucket, and a plurality of series of fixed buckets, said buckets being so positioned in relation to each other as to provide a radially-extending path for the steam and by means of which the steam in expanding passes in successive stages from the said rotatable buckets to the said fixed buckets causing the former to be rotated.

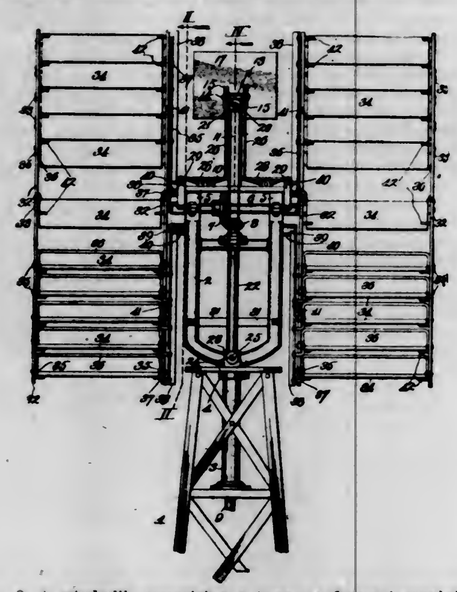
10. In a steam-turbine, in combination, a plurality of series of rotatable buckets, each bucket being provided with a projection therefrom, a ring having a series of openings through which said projections extend and over which they may be bent so as to engage the adjacent buckets, and a plurality of series of fixed buckets, said buckets being so positioned in relation to each other as to provide a radially-extending path for the steam and by means of which the steam in expanding passes in successive stages from the said rotatable buckets to the said fixed buckets causing the former to be rotated.

840,458. WINDMILL. RICHARD L. LONGLEY, Kansas City, Mo. Filed May 31, 1906. Serial No. 319,420.

Claim.—1. A windmill, comprising a tower, a frame journaled thereon, a substantially horizontal shaft journaled in said frame, a substantially vertical wind-wheel comprising radial arms, mounted on the shaft and provided with pivoted slats, a wind-plate, and means whereby movement imparted to the wind-plate shall prevent the pivoted slats on the uppermost arm from completely closing.

2. A windmill, comprising a tower, a frame journaled thereon, a substantially horizontal shaft journaled in said frame, a substantially vertical wind-wheel comprising radial arms, mounted on the shaft and provided with pivoted slats, a wind-plate, means whereby movement imparted to the wind-plate shall prevent the pivoted slats on

the uppermost arm from completely closing, and means to yieldingly resist such movement of the wind-plate.



3. A windmill, comprising a tower, a frame journaled thereon, a substantially horizontal shaft journaled in said frame, a substantially vertical wind-wheel comprising radial arms, mounted on the shaft and provided with pivoted slats, a wind-plate, means whereby the movement imparted to the wind-plate shall prevent the pivoted slats on the uppermost arm from completely closing, means for resisting the movement of the wind-plate, and means for varying the resistance of the wind-plate to the wind.

4. A windmill, comprising a tower, a frame journaled thereon, a substantially horizontal shaft journaled in said frame, a substantially vertical wind-wheel comprising radial arms, mounted on the shaft and provided with pivoted slats, bars capable of moving toward and from the shaft, and means actuated by inward movement of said bars to prevent the pivoted slats on the uppermost arm from completely closing.

5. A windmill, comprising a tower, a frame journaled thereon, a substantially horizontal shaft journaled in said frame, a substantially vertical wind-wheel comprising radial arms, mounted on the shaft and provided with pivoted slats, bars capable of moving toward and from the shaft, means actuated by inward movement of said bars to prevent the pivoted slats on the uppermost arm from completely closing, a wind-plate and means actuated thereby to successively move said bars inward when the slats are offering resistance to the wind to effect the rotation of the wheel.

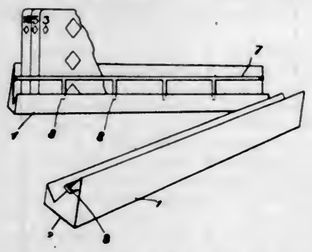
6. A windmill, comprising a tower, a frame journaled thereon, a substantially horizontal shaft journaled in said frame, a substantially vertical wind-wheel comprising radial arms, mounted on the shaft and provided with pivoted slats, bars capable of moving toward and from said shaft and provided with rollers at their inner ends, a trackway over the shaft, means to move said trackway toward or from the shaft and into or out of the path of said rollers, and means whereby inward movement imparted to said bars and the trackway shall prevent the pivoted slats on the uppermost arm from completely closing.

7. A windmill, comprising a tower, a frame journaled thereon, a substantially horizontal shaft journaled in said frame, a substantially vertical wind-wheel comprising radial arms, mounted on the shaft and provided with pivoted slats, a wind-plate, means whereby the movement imparted to the wind-plate shall prevent the pivoted slats of the uppermost arm from completely closing, and a vane to hold the face of the wind-plate and edge of the wheel to the wind.

8. In a windmill, a rotatable frame, a substantially vertical wind-wheel comprising radial arms, journaled thereon and provided with pivoted slats, a movable wind-plate to open said slats, an adjustable shaft, and a retractile spring connecting said shaft and wind-plate and bearing a swivel relation to the former.

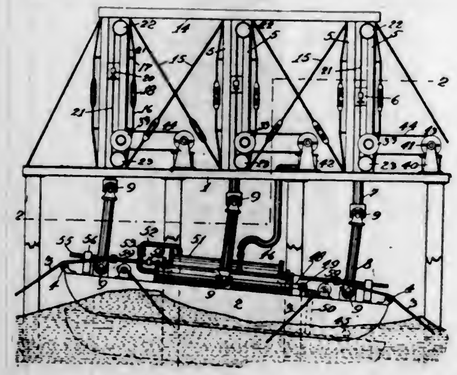
9. In a windmill, a rotatable frame, a substantially vertical wind-wheel comprising radial arms, journaled thereon and provided with pivoted slats, a movable wind-plate to open said slats, an adjustable shaft, a retractile spring connecting said shaft and wind-plate and bearing a swivel relation to the former, and means to longitudinally adjust said shaft.

840,459. CARD-SUPPORT. HENRY J. PHILLIPS, Salem, Mass., assignor to Parker Brothers, Incorporated, Salem, Mass., a Corporation of Maine. Filed June 15, 1906. Serial No. 321,895.



Claim.—A card-support having a base, a card-supporting wall sloping backward from the base, a rest to hold the card, and a retaining rail or wire for the sloping card-supporting wall.

840,460. WAVE-MOTOR. FRED STARR, San Francisco, Cal. Filed Feb. 8, 1906. Serial No. 300,134.



Claim.—1. In a wave-motor, a float, power-transmitting mechanism, reciprocatory members from the float to said mechanism, each provided with a flexible portion, and means for submerging the float.

2. In a wave-motor, a float, power-transmitting mechanism, a reciprocatory member connected at one end with said mechanism, a pitman connected with the other end of said member and with the float, and a loosely-mounted guide through which said member is adapted to be reciprocated and causing it to move in a straight line yet permitting excessive upward movement of the pitman.

3. In a wave-motor, a pier, clutches mounted thereon, each clutch comprising a recessed cylindrical body and a surrounding cylindrical casing, a wear-plate removably secured in each recess, a cylindrical wear-plate within each casing, a rotary member seated in each recess adapted to engage said wear-plates, a float beneath the pier, reciprocating members flexibly connected therewith and extending above the pier, and means for connecting said members with said clutches.

4. In a wave-motor, a pier, vertical guideways thereon, a head reciprocally mounted on said ways and having each end provided with an arm, two cables, each connected at its ends with one of said arms, a clutch connected with the intermediate portion of each cable, power-transmitting mechanism connected with said clutch, and a float for reciprocating the head.

5. In a wave-motor, a pier, vertical guideways thereon, a head reciprocally mounted on said ways and having each end provided with an arm, a drum in each arm, means for rotating the said drums, two cables, one for each arm and having their ends connected with said drums, a clutch connected with the intermediate portion of each cable, said clutch being adapted to operate, respectively, when the cables are moving in opposite directions, power-transmitting mechanism connected with said clutch, and a float for reciprocating the head.

6. In a wave-motor, a pier, vertical guideways and a crank-shaft thereon, a head reciprocally mounted on the guideways and air-pumps connected with said shaft, two oppositely-operating clutches connected with said head, means for connecting the opposite ends of the shaft with said clutches, and a float for reciprocating said head.

7. In a wave-motor, a pier, vertical guideways thereon, two clutches mounted on opposite sides of said ways, a head reciprocally mounted on said ways and connected with said clutches so as to operate one clutch when moving in one direction and the other clutch when moving in the other direction, power-transmitting mechanism connected with said clutches, and a float for operating the head.

8. In a wave-motor, a pier, vertical guideways thereon, two clutches mounted on opposite sides of said ways, each comprising a cylindrical body having inclined recesses formed within its periphery, a wear-plate removably secured in each recess, a casing around said body, a cylindrical wear-plate therein, a rotary member seated in each recess adapted to be engaged by said wear-plates, respectively, a head reciprocally mounted on said guideways, two cables connected at their ends with said head and having their intermediate portions coiled around said casings respectively, power-transmitting mechanism connected with said clutches, and a float for operating the head.

9. In a wave-motor, a hollow float, cylinders thereon for compressed air, means for charging said cylinders by the movements of the float, a valved conduit leading from the cylinder to the interior of the float, and a pipe extending from near the bottom of the float to and through the top thereof.

10. In a wave-motor, a float, guy-ropes connected therewith, and means for cushioning said connections by means of compressed air.

11. In a wave-motor, a float, cylinders thereon, each provided with a piston and a rod, guy-ropes connected with said rods, and means for cushioning each piston on air between itself and the end of its cylinder.

12. In a wave-motor, a float, cylinders thereon, a piston in one of said cylinders, guy-ropes connected with the rod of said piston, means for charging the remainder of said cylinders with compressed air by the movements of the float, and means for introducing said air into the first-mentioned cylinder between its end and the piston for counteracting the movement of the float to the rear.

13. In a wave-motor, a float, communicating cylinders thereon, a piston in one of said cylinders, guy-ropes connected with the rod of the piston, means for charging the remainder of said cylinders with compressed air by the movements of the float, a valve for permitting a portion of said air to pass into the first-mentioned cylinder between its end and the piston for counteracting the seaward movement of the float, and a projection on said piston-rod for actuating the valve as the float is moved longitudinally.

DESIGNS.

38,391. SHIELD. WILLIAM C. CODMAN, Providence, R. I., assignor to Gorham Manufacturing Company, Providence, R. I., a Corporation of Rhode Island. Filed Nov. 30, 1906. Serial No. 345,844. Term of patent 7 years.



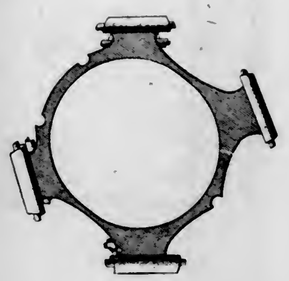
Claim.—The ornamental design for a shield, as shown.

38,392. BAIL FOR TRACE-BUCKLES. ALBERT MUDRA, Lincoln, Nebr. Filed May 14, 1906. Serial No. 316,864. Term of patent 14 years.



Claim.—The ornamental design for bail for trace-buckles as shown.

38,393. FRAME. GEORGE H. RICE, New York, N. Y. Filed Nov. 16, 1906. Serial No. 343,770. Term of patent 3½ years.



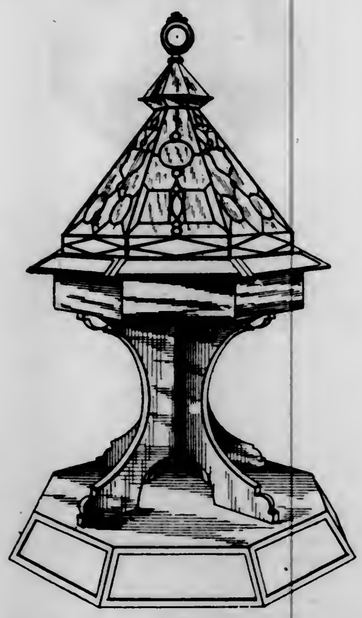
Claim.—The ornamental design of a frame, as shown.

38,394. FRAME. GEORGE H. RICE, New York, N. Y. Filed Nov. 16, 1906. Serial No. 343,771. Term of patent 3½ years.



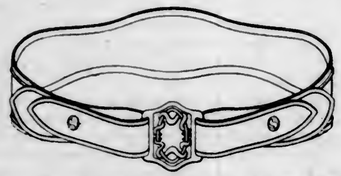
Claim.—The ornamental design of a frame, as shown.

38,395. ADVERTISING-STAND. HERBERT E. ELLSWORTH, Cleveland, Ohio. Filed Oct. 8, 1906. Serial No. 338,089. Term of patent 7 years.



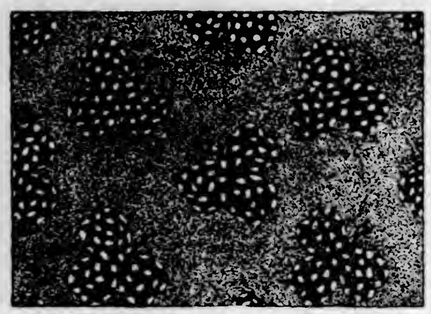
Claim.—The ornamental design for an advertising-stand, as shown.

38,396. BELT. MAX ISENSTEIN, New York, N. Y. Filed Nov. 28, 1906. Serial No. 345,575. Term of patent 3½ years.



Claim.—The ornamental design for a belt, as shown.

38,397. KNIT FABRIC. EVERETT H. BROWN, Philadelphia, Pa. Filed Nov. 28, 1906. Serial No. 345,574. Term of patent 7 years.



Claim.—The ornamental design for a knit fabric, as shown.

38,398. RUG. HENRY CHARLES WHITE, Philadelphia, Pa., assignor to Thomas Develon, Jr., Philadelphia, Pa., Filed Nov. 28, 1906. Serial No. 345,576. Term of patent 3½ years.



Claim.—The ornamental design for a rug, as shown.

TRADE-MARKS

PUBLISHED JANUARY 1, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 2,849. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE HOLYOKE VALVE AND HYDRANT COMPANY, Holyoke, Mass. Filed Apr. 24, 1905.

HERCULES

Particular description of goods.—Valved Nozzles for Hydrants.

Ser. No. 3,691. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) CARBOLINEUM WOOD PRESERVING CO., Milwaukee, Wis. Filed Apr. 29, 1905.

FERRUBRON

Particular description of goods.—An Antirust and Acid-Resisting Paint.

Ser. No. 4,218. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) GARDEN CITY LABORATORY, Chicago, Ill. Filed May 3, 1905.



Particular description of goods.—Soldering-Flux.

Ser. No. 6,880. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) C. H. GRAVES & SONS, Boston, Mass. Filed May 29, 1905.

BEECH GROVE

Particular description of goods.—Whisky.

Ser. No. 7,098. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) H. M. SAWYER & SON, Cambridge, Mass. Filed May 31, 1905. Used ten years.

LIGHT HOUSE

Particular description of goods.—Coats, Slickers, Jackets, Pants, Capes, Barvels, Aprons, Hats, and Caps Made from Fabrics Rendered Waterproof by being Impregnated with Oils, Waxes, or Chemicals.

Ser. No. 7,099. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) H. M. SAWYER & SON, Cambridge, Mass. Filed May 31, 1905. Used ten years.

EXCELSIOR

Particular description of goods.—Coats, Slickers, Jackets, Pants, Capes, Barvels, Aprons, Hats, and Caps Made from Fabrics Rendered Waterproof by being Impregnated with Oils, Waxes, or Chemicals.

Ser. No. 7,100. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) H. M. SAWYER & SON, Cambridge, Mass. Filed May 31, 1905. Used ten years.

COMPASS

Particular description of goods.—Coats, Slickers, Jackets, Pants, Capes, Barvels, Aprons, Hats, and Caps Made from Material Rendered Waterproof by being Impregnated with Oils, Waxes, or Chemicals.

Ser. No. 7,363. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) DUPARQUET, HUOT & MONEUSE COMPANY, New York, N. Y. Filed June 3, 1905.

IMPERIAL

Particular description of goods.—Cooking-Ranges, Except Gas-Ranges and Hot-Air Furnaces.

Ser. No. 7,496. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) E. LAZENBY & SON, LIMITED, London, England. Filed June 5, 1905.

Particular description of goods.—Pickles and Vegetable and Meat Sauces.

Ser. No. 8,365. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE PORTER MEDICINE COMPANY, Paris, Tenn. Filed June 16, 1905.



Particular description of goods.—A Remedy for the Treatment of Grip and Analogous Disorders.

Ser. No. 9,629. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) FOLLANSBEE BROTHERS COMPANY, Pittsburg, Pa. Filed July 3, 1905.

ROSEDALE

Particular description of goods.—Tin and Terne Plates.

Ser. No. 10,422. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) RAMON CRUSELLAS, Havana, Cuba. Filed July 17, 1905.

Bananina

Particular description of goods.—Flour Made from Bananas.

Ser. No. 10,896. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Filed July 27, 1905.

VIENNA COOKING OIL

Particular description of goods.—Cotton-Seed Oils.

Ser. No. 10,897. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Filed July 27, 1905.

GOLDEN ROD COOKING OIL

Particular description of goods.—Cotton-Seed Oils.

Ser. No. 10,901. (CLASS 32. FURNITURE AND UPHOLSTERY NOT OTHERWISE CLASSIFIED.) THE SOUTHERN COTTON OIL COMPANY, Jersey City N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Filed July 27, 1905.

MANUFACTURED BY THE SOUTHERN COTTON OIL CO. CHARLOTTE N.C.

Particular description of goods.—Mattresses.

Ser. No. 10,902. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE SOUTHERN COTTON OIL COMPANY, Jersey City N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Filed July 27, 1905.

KAISER

Particular description of goods.—Cotton-Seed Oils.

Ser. No. 10,903. (CLASS 8. DETERGENTS.) THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Filed July 27, 1905.

S.C.O.Co BALI

S.C.O.Co BASE

Particular description of goods.—Soap.

Ser. No. 11,136. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GEO. F. WERNER'S SON, New York, N. Y. Filed Aug. 2, 1905. Used ten years.

STANDARD CALF

Particular description of goods.—Calf-Leather with the Exception of Patent Calf-Leather.

Ser. No. 11,337. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) DUNHAM, CARRIGAN & HAYDEN CO., San Francisco, Cal. Filed Aug. 7, 1905.

Particular description of goods.—Hatchets, Axes, Chisels, Gouges, Drawing-Knives, Cold-Chisels, Auger-Bits, Saws, Pruning-Shears, Tinners' Snips, Mattocks, Scythes, Bush-Hooks, Files, and Rasps.

Ser. No. 11,341. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) DUNHAM, CARRIGAN & HAYDEN CO., San Francisco, Cal. Filed Aug. 7, 1905.

BRUNSWICK CUTLERY Co

Particular description of goods.—Pocket and Table Knives, Razors, Scissors, and Shears.

Ser. No. 12,341. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany. Filed Sept. 7, 1905. Used ten years.

RESORBIN

Particular description of goods.—Ointments.

Ser. No. 12,593. (CLASS 27. RAILWAY EQUIPMENT NOT OTHERWISE CLASSIFIED, AND RAILWAY ROLLING-STOCK.) CAMMELL LAIRD & CO. LIMITED, Sheffield, England. Filed Sept. 14, 1905. Used ten years.

Particular description of goods.—Railway-Points, Railway-Switches, Railway-Carriages, Railway-Trucks, Railway-Car Buffers, Railway Car and Locomotive Wheels, Railway Car and Locomotive Tires, Railway Car and Locomotive Axles, Railway Car and Locomotive Springs.

Ser. No. 12,594. (CLASS 27. RAILWAY EQUIPMENT NOT OTHERWISE CLASSIFIED, AND RAILWAY ROLLING-STOCK.) CAMMELL LAIRD & CO. LIMITED, Sheffield, England. Filed Sept. 14, 1905. Used ten years.

CYCLOPS

Particular description of goods.—Railway-Points, Railway-Switches, Railway-Carriages, Railway-Trucks, Railway-Car Buffers, Railway Car and Locomotive Wheels, Railway Car and Locomotive Tires, Railway Car and Locomotive Axles, Railway Car and Locomotive Springs.

Ser. No. 12,853. (CLASS 54. SEA FOODS.) THE MORGAN OYSTER COMPANY, San Francisco, Cal. Filed Sept. 21, 1905. Used ten years.

Particular description of goods.—Fresh Canned Frozen Oysters.

Ser. No. 13,143. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) REVERE RUBBER COMPANY, Boston, Mass. Filed Sept. 29, 1905.

AIR CUSHION

Particular description of goods.—Horseshoe-Pads.

Ser. No. 13,438. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ICHTHYOL GESELLSCHAFT, CORDES, HERMANNI & CO., Hamburg, Germany. Filed Oct. 9, 1905.

Particular description of goods.—Medicated Plasters, Salves, Ointments, Powders, Jellies, Solutions, Pills, Capsules, Tablets, Globules, and Suppositories.

Ser. No. 13,439. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ICHTHYOL GESELLSCHAFT, CORDES, HERMANNI & CO., Hamburg, Germany. Filed Oct. 9, 1905.

ICHTHYOL

Particular description of goods.—Medicated Plasters, Salves, Ointments, Powders, Jellies, Solutions, Pills, Capsules, Tablets, Globules, and Suppositories.

Ser. No. 13,592. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) COLUMBIA CHEMICAL WORKS, Brooklyn, N. Y. Filed Oct. 14, 1905. Used ten years.

PARSONS'

HOUSEHOLD

AMMONIA

Particular description of goods.—Aqua-Ammonia.

Ser. No. 14,094. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) TOMIJIRO KOBAYASHI, Tokyo, Japan. Filed Oct. 30, 1905.

LION

Particular description of goods.—Tooth-Powder.

Ser. No. 14,268. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) ARNHOLD, KARBERG & CO., New York, N. Y. Filed Nov. 4, 1905.

Particular description of goods.—Cotton Piece Goods.

Ser. No. 14,272. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) ARNHOLD, KARBERG & CO., New York, N. Y. Filed Nov. 4, 1905.

Particular description of goods.—Cotton Piece Goods.

Ser. No. 14,593. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE WHITMAN & BARNES MANUFACTURING COMPANY, Akron, Ohio. Filed Nov. 14, 1905.

Particular description of goods.—Countersinks, Machine-Bits, Mandrels, Twist-Drills, Reamers, Taps, Arbors, Sockets, and Sleeves as Parts of Metal and Wood Working Machines.

Ser. No. 14,676. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) H. A. METZ & CO., New York, N. Y. Filed Nov. 15, 1905.

JANUS

Particular description of goods.—Dyestuffs.

Ser. No. 14,678. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) H. A. METZ & CO., New York, N. Y. Filed Nov. 15, 1905.

THIOGENE

Particular description of goods.—Dyestuffs.

Ser. No. 15,026. (CLASS 48. DAIRY PRODUCTS.) HERBERT M. DE WITT, Denver, Colo., assignor to Franktown Creamery, Denver, Colo., a Firm. Filed Nov. 27, 1905.

Particular description of goods.—Butter.

Ser. No. 15,233. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, and EDGE-TOOLS.) CHARLES FOSBERY BUTCHER, Sheffield, England. Filed Dec. 6, 1905.

WADE & BUTCHER SHEFFIELD

Particular description of goods.—Razors, Scissors, and Pocket-Knives.

Ser. No. 17,149. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) COLUMBUS L. NORTON, Statesville, N. C. Filed Feb. 17, 1906.

Fellico

Particular description of goods.—A Non-Alcoholic Tonic Beverage.

Ser. No. 17,244. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) B. M. JONES & CO. INCOR., Boston, Mass. Filed Feb. 23, 1906. Used ten years.

MUSHET

Particular description of goods.—Unmanufactured Steel in the Form of Rods, Billets, and Sheets.

Ser. No. 17,492. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) ERNST PAUL LEHMANN, Brandenburg-on-the-Havel, Germany. Filed Mar. 3, 1906. Used ten years.

LEHMANN

Particular description of goods.—Sheet-Metal and Mechanical Toys.

Ser. No. 17,541. (CLASS 10. FERTILIZERS.) VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Filed Mar. 6, 1906.

V. C. C. CO'S
CHAMPION CITRUS
COMPOUND
C. C. C.

Particular description of goods.—Fertilizers.

Ser. No. 17,805. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) DADABHOY & CO., New York, N. Y. Filed Mar. 14, 1906.

HLOC

Particular description of goods.—Coffee.

Ser. No. 17,831. (CLASS 10. FERTILIZERS.) VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Filed Mar. 15, 1906.

V. C. C. CO'S
OLD DOMINION
O. D.

Particular description of goods.—Fertilizers.

Ser. No. 19,016. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ROYAL CREAM COMPANY, Chicago, Ill. Filed Apr. 23, 1906.

ROYAL CREAM

Particular description of goods.—Shaving-Cream.

Ser. No. 19,065. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) MILWAUKEE NET CO., Milwaukee, Wis. Filed Apr. 25, 1906.



Particular description of goods.—Leather Fly-Nets.

Ser. No. 19,452. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) JAMES CONNELLY & SONS, Philadelphia, Pa. Filed May 11, 1906. Used ten years.

NEWPORT

Particular description of goods.—Cotton Cheviots for Shirtings.

Ser. No. 20,009. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) FRANK H. RINGEMANN, Cincinnati, Ohio. Filed June 2, 1906.

VRIL

Particular description of goods.—Fluid Used for Generating an Artificial Gas, which May be Used for Lighting, Heating, and Various Other Purposes.

Ser. No. 20,021. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE NEW DEPARTURE MANUFACTURING COMPANY, Bristol, Conn. Filed June 4, 1906.

New Departure

Particular description of goods.—Bells, Except Electric Bells.

Ser. No. 20,022. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE NEW DEPARTURE MANUFACTURING COMPANY, Bristol, Conn. Filed June 4, 1906.



Particular description of goods.—Bells, Except Electric Bells.

Ser. No. 20,400. (CLASS 72. MERCHANDISE NOT OTHERWISE CLASSIFIED.) MARY L. PALMER, Chicago, Ill. Filed June 18, 1906.

KOOKIZER

Particular description of goods.—A Heat-Insulated Receptacle.

Ser. No. 20,471. (CLASS 52. PACKING-HOUSE PRODUCTS.) NEW YORK BUTCHERS DRESSED MEAT COMPANY, New York, N. Y. Filed June 21, 1906.



Particular description of goods.—Fresh Meats.

Ser. No. 20,482. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) J. R. THOMAS' SONS, Youngstown, Ohio. Filed June 22, 1906.



The diagonally opposite quarters of the shield being red and blue, respectively, the panel being yellow with a blue border, the lettering being blue and the stars being in alternate groups of red and blue.

Particular description of goods.—Cornmeal.

Ser. No. 20,529. (CLASS 3. VEGETABLE.) REAGAN ROUND BALE CO., San Antonio, Tex. Filed June 23, 1906.

RRB

Particular description of goods.—Raw Cotton.

Ser. No. 20,565. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) FRANCIS COBB & CO., Rockland, Me. Filed June 25, 1906.



Particular description of goods.—Wheat-Flour.

Ser. No. 20,599. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) A. MARTIN INC., New York, N. Y. Filed June 27, 1906.

Kontoriks

Particular description of goods.—Eyeglass and Spectacle Lenses.

Ser. No. 20,600. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) THE SMITH BROS. HARDWARE CO., Columbus, Ohio. Filed June 27, 1906.

Cut Easy

Particular description of goods.—Knives, Pocket-Knives, Razors, Axes, Hatchets, Cutting-Pliers, Scissors, Scythes, Files, Auger-Bits, and Handsaws.

Ser. No. 20,750. (CLASS 52. PACKING-HOUSE PRODUCTS.) THE JONES DAIRY FARM, Fort Atkinson, Wis. Filed July 6, 1906. Used ten years.

JONES

Particular description of goods.—Sausages, Hams, Bacon, and Lard.

Ser. No. 20,806. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) BISI & CAPRINI, Pittsburg, Pa. Filed July 9, 1906.



Particular description of goods.—Rye Whisky.

Ser. No. 20,887. (CLASS 9. EXPLOSIVES.) THE HAZARD POWDER COMPANY, Hazardville, Conn. Filed July 12, 1906. Used ten years.



Particular description of goods.—Explosive Powder.

Ser. No. 20,913. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE EAGLE WHITE LEAD COMPANY, Cincinnati, Ohio. Filed July 13, 1906.

EAGLE

Particular description of goods.—Pure White Lead.

Ser. No. 21,004. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) NATIONAL-FULTON BRASS MANUFACTURING COMPANY, Detroit, Mich. Filed July 18, 1906.

MONARCH BRONZE

Particular description of goods.—Bronze.

Ser. No. 21,064. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) GUGGENHEIM MFG. CO., Rochester, N. Y. Filed July 21, 1906.

THE QUEEN

QUEEN GRAY HAIR RESTORER.

Particular description of goods.—Hair-Dye.

Ser. No. 21,080. (CLASS 9. EXPLOSIVES.) THE EASTERN DYNAMITE COMPANY, Kenvil, N. J. Filed July 23, 1906.



The cross being printed in red.
Particular description of goods.—High Explosives.

Ser. No. 21,293. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE SLATER SHOE COMPANY, Montreal, Quebec, Canada. Filed Aug. 1, 1906.



Particular description of goods.—Leather Shoes, Boots, and Slippers.

Ser. No. 21,396. (CLASS 9. EXPLOSIVES.) THE EASTERN DYNAMITE COMPANY, Kenvil, N. J. Filed Aug. 9, 1906.

CUAUHTEMOC

Particular description of goods.—High Explosives.

Ser. No. 21,398. (CLASS 9. EXPLOSIVES.) THE EASTERN DYNAMITE COMPANY, Kenvil, N. J. Filed Aug. 9, 1906. Used ten years.

SCHRADER'S
SAFETY EXPLODERS

Particular description of goods.—Fuses and Blasting Caps.

Ser. No. 21,401. (CLASS 9. EXPLOSIVES.) THE EASTERN DYNAMITE COMPANY, Kenvil, N. J. Filed Aug. 9, 1906.

B.D.

Particular description of goods.—High Explosives.

Ser. No. 21,538. (CLASS 72. MERCHANDISE NOT OTHERWISE CLASSIFIED.) WM. HARBUTT, Bathampton, England. Filed Aug. 14, 1906.



Particular description of goods.—Modeling-Paste for the Use of Artists, Sculptors, and Others in School and Home Work.

Ser. No. 21,597. (CLASS 55. WINES.) LANSON PÈRE & FILS, Rheims, France. Filed Aug. 16, 1906. Used ten years.

LANSON P&F REIMS

Particular description of goods.—Champagnes.

Ser. No. 21,614. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE EASTERN DYNAMITE COMPANY, Kenvil, N. J. Filed Aug. 16, 1906. Used ten years.

PULL UP

Particular description of goods.—Blasting-Machines and Electric Batteries.

Ser. No. 21,615. (CLASS 9. EXPLOSIVES.) THE EASTERN DYNAMITE COMPANY, Kenvil, N. J. Filed Aug. 16, 1906.

ARCTIC

Particular description of goods.—High Explosives and Fuses.

Ser. No. 21,637. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ACNEZEMA COMPANY, Chicago, Ill. Filed Aug. 17, 1906.

Acnezema

Particular description of goods.—Remedies for Eczema and All Skin Diseases.

Ser. No. 21,656. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE EASTERN DYNAMITE COMPANY, Kenvil, N. J. Filed Aug. 18, 1906. Used ten years.

STANDARD

Particular description of goods.—Blasting-Machines and Electric Batteries.

Ser. No. 21,690. (CLASS 12. MASONRY MATERIALS.) NATIONAL FIRE PROOFING COMPANY, Pittsburg, Pa. Filed Aug. 21, 1906.

GIBRALTAR

Particular description of goods.—Portland Cement.

Ser. No. 21,726. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HILAIRE ET CIE., Paris, France. Filed Aug. 23, 1906.

La Cornière

Particular description of goods.—A Product for Curing Wire-Heels, Quitterbone, Hoof-Bound, and the Like in Horses.

Ser. No. 21,787. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JEFFERSON D. HELMS, Greensboro, N. C. Filed Aug. 28, 1906.

Helms'
BABYOLINE

Particular description of goods.—An External Remedy for Croup, Colds, Bronchitis, Pneumonia, and Whooping-Cough.

Ser. No. 21,838. (CLASS 8. DETERGENTS.) THE PHOENIX MANUFACTURING CO., Newark, N. J. Filed Aug. 31, 1906.

PHOENIX

Particular description of goods.—Laundry Tablets for Washing Clothes and Fabrics.

Ser. No. 21,894. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) COCHRAN & CO., Belfast, Ireland. Filed Sept. 4, 1906.



Particular description of goods.—Ginger-Ale, Soda-Water, and Aerated Sarsaparilla.

Ser. No. 21,906. (CLASS 51. MALT LIQUORS.) DICK AND BROTHERS QUINCY BREWERY CO., Quincy, Ill. Filed Sept. 4, 1906.



The scroll is red.
Particular description of goods.—Beer.

Ser. No. 22,084. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) VICTOR TALKING MACHINE COMPANY, Camden, N. J. Filed Sept. 14, 1906.

AUXETOPHONE

Particular description of goods.—Talking-Machines, Talking-Machine Parts, and Talking-Machine Records.

Ser. No. 22,249. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) EDWARD MILLER & CO., Meriden, Conn. Filed Sept. 22, 1906. Used ten years.

MILLER

Particular description of goods.—Oil-Lamps and Parts Thereof.

Ser. No. 22,376. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CAROLINE L. AMERMAN, New Boston, Pa. Filed Sept. 29, 1906.

AA

Particular description of goods.—A Medicine for the Cure of Gall-Stones in Man.

Ser. No. 22,382. (CLASS 51. MALT LIQUORS.) DOBLER BREWING CO., Albany, N. Y. Filed Sept. 29, 1906.

LIQUID BREAD

Particular description of goods.—Beer.

Ser. No. 22,389. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) NEW YORK SPECIALTY CO., New York, N. Y. Filed Sept. 29, 1906.

SECURITY STOPPER

Particular description of goods.—Metallic Bottle-Stoppers.

Ser. No. 22,438. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DAGGETT & RAMSDELL, New York, N. Y. Filed Oct. 2, 1906.



Particular description of goods.—Cold-Cream.

Ser. No. 22,445. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) STANDARD IMPORT CO. LIMITED, New Orleans, La. Filed Oct. 2, 1906.

"OTK"

Particular description of goods.—Tea.

Ser. No. 22,460. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE PROPHYLACTOL COMPANY, Batavia, N. Y. Filed Oct. 3, 1906.

Prophylactol.

Particular description of goods.—Antiseptic, Germicide, and Astringent Powders.

Ser. No. 22,542. (CLASS 51. MALT LIQUORS.) VICTOR NEUSTADTL, New York, N. Y. Filed Oct. 5, 1906.



Particular description of goods.—Beer.

Ser. No. 22,615. (CLASS 68. PUBLICATIONS.) WASHINGTON HERALD COMPANY, Washington, D. C. Filed Oct. 9, 1906.

THE WASHINGTON HERALD

Particular description of goods.—A Newspaper.

Ser. No. 22,651. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) AUGUSTUS WALTER KAYE, Meridian, Miss. Filed Oct. 11, 1906.

GOLDEN ROD

Particular description of goods.—Ginger-Ale.

Ser. No. 22,663. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) GORDON & DILWORTH, New York, N. Y. Filed Oct. 12, 1906. Used ten years.

GORDON & DILWORTH 561-565 GREENWICH ST. NEW YORK

Particular description of goods.—Preserved and Canned Fruits and Vegetables.

Ser. No. 22,698. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ELMER ELLSWORTH WILLIAMS, New York, N. Y. Filed Oct. 13, 1906.

ROSE BUDS FOR STOMACH LIVER AND BOWELS PURIFY THE BLOOD ROSE BUD TABLET CO. of New York

Particular description of goods.—Remedies for Diseases of the Stomach, Liver, Bowels, and Blood.

Ser. No. 22,854. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) REDDEN WHITAKER ADAMS, Boston, Ga. Filed Oct. 23, 1906.

BLOOD LIFE

Particular description of goods.—A Medicinal Preparation Constituting a Remedy for Diseases of the Blood.

Ser. No. 22,873. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) UNION CARD & PAPER CO., New York, N. Y. Filed Oct. 24, 1906. Used ten years.

OAKWOOD

Particular description of goods.—Writing-Paper, Bond-Paper, and Ledger-Paper.

Ser. No. 22,895. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) VIRGINIA ETNA LITHIA SPRINGS CO., Jersey City, N. J., and New York, N. Y. Filed Oct. 24, 1906.

VE

The monogram "V E" being dark blue surrounded by light-green shading.

Particular description of goods.—Mineral Water.

Ser. No. 22,908. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HYMAN BRUNSWICK, Hot Springs, Ark. Filed Oct. 25, 1906.



Particular description of goods.—Rheumatic Oil.

Ser. No. 22,923. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) JOHN H. CLAY, Philadelphia, Pa. Filed Oct. 26, 1906.



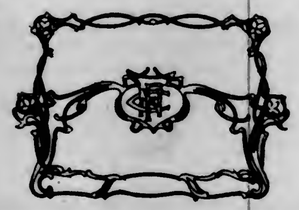
Particular description of goods.—Chemical Fire-Extinguishers.

Ser. No. 22,924. (CLASS 68. PUBLICATIONS.) THE DETECTIVE PUBLISHING COMPANY, Chicago, Ill. Filed Oct. 26, 1906.

THE DETECTIVE

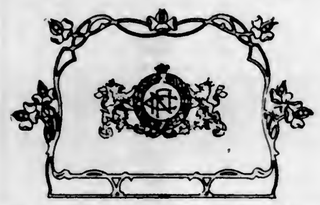
Particular description of goods.—A Periodical.

Ser. No. 22,970. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) THE NARROW FABRIC CORPORATION, Orange, Conn. Filed Oct. 29, 1906.



Particular description of goods.—Elastic Webbing.

Ser. No. 22,971. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) THE NARROW FABRIC CORPORATION, Orange, Conn. Filed Oct. 29, 1906.



Particular description of goods.—Elastic Webbing.

Ser. No. 22,985. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FREDERICK R. GREENE, Chicago, Ill. Filed Oct. 29, 1906.

MOTHER HUBBARD'S

Particular description of goods.—A Remedy for All Ailments Originating in the Stomach.

Ser. No. 23,000. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) HERRICK COMPLETE COMBUSTION COMPANY, New York, N. Y. Filed Oct. 30, 1906.

Combusco

Particular description of goods.—Devices for Promoting Combustion in the Furnace-Chambers of Furnaces, Stoves, Heaters, Ranges, and Other Apparatus Employing Closed or Substantially Closed Combustion-Chambers.

Ser. No. 23,003. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) NEW BRUNSWICK CHEMICAL CO., New Brunswick, N. J., assignor to Louis L. Grombacher, New York, N. Y. Filed Oct. 30, 1906.

ANAESTALGENE

Particular description of goods.—Anesthetic Preparations for Hypodermic Injections.

Ser. No. 23,041. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE ALBERT M. GUGENHEIM CO., Cincinnati, Ohio. Filed Nov. 1, 1906.

Affidavit

Particular description of goods.—Whisky.

Ser. No. 23,053. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) ONEITA KNITTING MILLS, Utica, N. Y. Filed Nov. 2, 1906. Used ten years.

Oneita

Particular description of goods.—Knit Underwear.

Ser. No. 23,121. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) ROSENTHAL-SLOAN MILLINERY CO., St. Louis, Mo. Filed Nov. 5, 1906.



Particular description of goods.—Ladies', Girls', and Children's Straw, Felt, Silk, and Velvet Hats and Caps.

Ser. No. 23,130. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOSEPH T. BALTAR, New Orleans, La. Filed Nov. 6, 1906. Used ten years.

BALTAR'S

Particular description of goods.—Rheumatic and Gout Medicines.

Ser. No. 23,162. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61 AND EDGE-TOOLS.) SHUMATE RAZOR COMPANY, St. Louis, Mo. Filed Nov. 7, 1906.



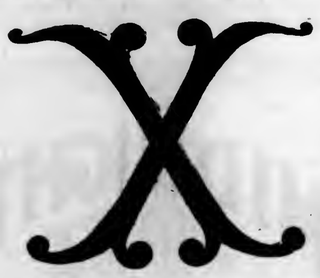
Particular description of goods.—Razors.

Ser. No. 23,173. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) WILLIAMS HOYT & CO., Rochester, N. Y. Filed Nov. 8, 1906.

PLA-MATE

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 23,205. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & CO., New York, N. Y. Filed Nov. 10, 1906. Used ten years.



Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,206. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & CO., New York, N. Y. Filed Nov. 10, 1906. Used ten years.

BIXBY

Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,207. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & CO., New York, N. Y. Filed Nov. 10, 1906. Used ten years.



Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,208. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & CO., New York, N. Y. Filed Nov. 10, 1906. Used ten years.



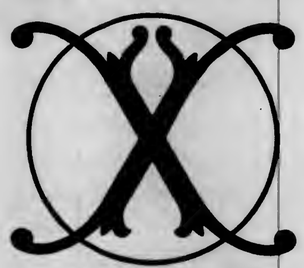
Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,209. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906.



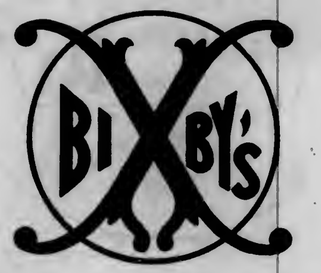
Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,211. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906. Used ten years.



Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,212. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906. Used ten years.



Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,214. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906. Used ten years.

THREE BEE

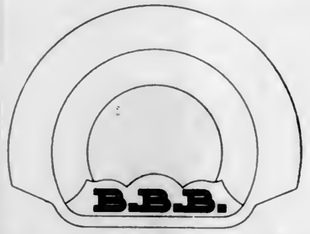
Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,215. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906. Used ten years.

BBB

Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,217. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906. Used ten years.



Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,220. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906.



Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,221. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906.

MIDNIGHT

Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,222. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906.

JET-OIL

Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,223. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906.

BIXOLA

Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,224. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906.



Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,225. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906.



Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,226. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906. Used ten years.

UNION

Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,227. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906. Used ten years.



Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,228. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906. Used ten years.

FISCHER'S

Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,231. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906. Used ten years.



Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,247. (CLASS 56. CANES, PARASOLS, AND UMBRELLAS.) LAWTON & HALL, Chicago, Ill. Filed Nov. 10, 1906. Used ten years.



Particular description of goods.—Umbrellas.

Ser. No. 23,256. (CLASS 71. TOBACCO PRODUCTS.) JOHN F. LAZARAKIS, Lowell, Mass. Filed Nov. 10, 1906.



Particular description of goods.—Cigarettes.

Ser. No. 23,259. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE RABEN COMPANY, Houston, Tex. Filed Nov. 10, 1906.

RA-BA-NETE

Particular description of goods.—Liver Medicines and Laxatives.

Ser. No. 23,264. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) K S C MEDICAL CO., Los Angeles, Cal. Filed Nov. 10, 1906. Used ten years.

KESCO

Particular description of goods.—Medicated Suppositories.

Ser. No. 23,289. (CLASS 12. MASONRY MATERIALS.) THE OHIO MINING AND MANUFACTURING CO., Shawnee, Ohio, and New York, N. Y. Filed Nov. 12, 1906.



Particular description of goods.—Building Bricks or Blocks.

Ser. No. 23,293. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) SHIREY & BROWN, Buena Vista, Va. Filed Nov. 12, 1906. Used ten years.

ARNICA CREAM

Particular description of goods.—Semifluid Cure for Chapped Hands and Lips or Other Roughness of the Skin and for the Removal of Freckles.

Ser. No. 23,313. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) CONTINENTAL COLOR AND CHEMICAL CO., New York, N. Y. Filed Nov. 13, 1906.

SERIKOSE

Particular description of goods.—Coal-Tar Dyes, Disinfectants, Preservatives for Food, Photographic Developers, Chemicals Used in Printing, Dyeing, and Finishing.

Ser. No. 23,319. (CLASS 9. EXPLOSIVES.) TAYLOR IRON & STEEL CO., High Bridge, N. J. Filed Nov. 13, 1906.

TISCO

Particular description of goods.—Cast-Steel Shells for Explosive Projectiles.

Ser. No. 23,351. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) ALBERT TROSTEL & SONS, Milwaukee, Wis. Filed Nov. 14, 1906.

CENTAUR

Particular description of goods.—Leather for Harness.

Ser. No. 23,352. (CLASS 68. PUBLICATIONS.) HAVEY & DARROW, Chicago, Ill. Filed Nov. 14, 1906.



Particular description of goods.—A Weekly Periodical.

Ser. No. 23,360½. (CLASS 12. MASONRY MATERIALS.) FRANCIS H. POUGH, New York, N. Y. Filed Nov. 15, 1906.

POZITE

Particular description of goods.—Pipe-Joint Cement.

Ser. No. 23,362. (CLASS 51. MALT LIQUORS.) S. LIEBMANN'S SONS BREWING COMPANY, Brooklyn, N. Y. Filed Nov. 15, 1906.

TEUTONIC

Particular description of goods.—Malt Extract.

Ser. No. 23,364. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) RAPP SHOE COMPANY, St. Louis, Mo. Filed Nov. 15, 1906.



Particular description of goods.—Leather Boots, Shoes, and Slippers.

Ser. No. 23,367. (CLASS 18. AGRICULTURAL AND DAIRY MACHINERY AND PARTS OF SUCH MACHINERY.) SPARTAN MANUFACTURING CO., Galesburg, Ill. Filed Nov. 15, 1906.

CORN BELT

Particular description of goods.—Feed-Grinders.

Ser. No. 23,387. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) SPRAGUE, WARNER & COMPANY, Chicago, Ill. Filed Nov. 15, 1906.

HARD WATER

Particular description of goods.—Coffee.

Ser. No. 23,388. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HALL & RUCKEL, New York, N. Y. Filed Nov. 16, 1906. Used ten years.

OLIVE TAR

Particular description of goods.—A Remedy for Diseases of the Throat and Lungs, for Rheumatic, Neuralgia, and other Pains, and for Scalds and Burns.

Ser No. 23,391. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HALL & RUCKEL, New York, N. Y. Filed Nov. 16, 1906. Used ten years.

MITCHELL'S

EYE SALVE

Particular description of goods.—Eye Salve or Ointment.

Ser. No. 23,417. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE KOHN DISTILLING CO., Montgomery, Ala. Filed Nov. 16, 1906.

"Med-Sen"

Particular description of goods.—Gin and Whisky.

Ser No. 23,418. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) NININGER & FRANTZ, Daleville, Va. Filed Nov. 16, 1906.



Particular description of goods.—Canned Vegetables.

Ser. No. 23,444. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) DODGE COAL STORAGE COMPANY, Naugatuck, Conn. Filed Nov. 17, 1906. Used ten years.

THE DODGE SYSTEM

Particular description of goods.—Storage and Conveying Apparatus for Coal, Ore, and the Like.

Ser. No. 23,453. (CLASS 51. MALT LIQUORS.) THE PETER SCHOENHOFEN BREWING COMPANY, Chicago, Ill. Filed Nov. 19, 1906.

Passport

Particular description of goods.—Lager-Beer.

Ser. No. 23,462. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) LEWIS GOLDEN, Detroit, Mich. Filed Nov. 19, 1906. Used ten years.



Particular description of goods.—Trousers.

Ser. No. 23,471. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) WILLIAM VOGEL & BROS., New York, N. Y. Filed Nov. 19, 1906.



Particular description of goods.—Stove-Urns, Gas Automobile-Lamps, Hand-Lanterns, and Campaign-Torches.

Ser. No. 23,472. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) WESTERN SHOE COMPANY, Janesville, Wis. Filed Nov. 19, 1906.



Particular description of goods.—Leather Shoes.

Ser. No. 23,477. (CLASS 10. FERTILIZERS.) NEW ORLEANS ACID AND FERTILIZER COMPANY, Union township, Hudson county, N. J. Filed Nov. 19, 1906.



Particular description of goods.—Fertilizers.

Ser. No. 23,478. (CLASS 10. FERTILIZERS.) NEW ORLEANS ACID AND FERTILIZER COMPANY, Union township, Hudson county, N. J. Filed Nov. 19, 1906.



Particular description of goods.—Fertilizers.

Ser. No. 23,479. (CLASS 10. FERTILIZERS.) NEW ORLEANS ACID AND FERTILIZER COMPANY, Union township, Hudson county, N. J. Filed Nov. 19, 1906.



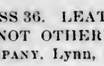
Particular description of goods.—Fertilizers.

Ser. No. 23,491. (CLASS 8. DETERGENTS.) THE H. B. CLAFLIN COMPANY, New York, N. Y. Filed Nov. 20, 1906.



Particular description of goods.—Soap.

Ser. No. 23,496. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) A. E. LITTLE & COMPANY, Lynn, Mass. Filed Nov. 20, 1906.



Particular description of goods.—Boots and Shoes Made in Whole or in Part of Leather.

Ser. No. 23,499. (CLASS 55. WINES.) P. J. VALCKENBERG, LIMITED, Worms, Germany. Filed Nov. 20, 1906.

LIEBFRAUMILCH
ewiges Klostergarten

Particular description of goods.—Rhine Wines.

Ser. No. 23,506. (CLASS 55. WINES.) P. J. VALCKENBERG, LIMITED, Worms, Germany. Filed Nov. 20, 1906.



Particular description of goods.—Rhine Wines.

Ser. No. 23,510. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) AUSTIN-WALKER M'F'G CO., Boston, Mass. Filed Nov. 21, 1906.



Particular description of goods.—Dress-Shields.

Ser. No. 23,511. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) HENRI CHUDEAU, Malakoff, (Seine.) France. Filed Nov. 21, 1906.

OXYVORE

Particular description of goods.—Oils and Greases for Preserving Metals and for Lubricating Purposes.

Ser. No. 23,518. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) RAINBOW ALE COMPANY, Atlanta, Ga. Filed Nov. 21, 1906.

Rainbow

Particular description of goods.—Ginger-Ale.

Ser. No. 23,536. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE KARGON EXTRACTING CO., Cincinnati, Ohio. Filed Nov. 22, 1906.

KARGON

Particular description of goods.—Compounds to be Used in Connection with Rheumatism, Uric-Acid, Kidney, and Bladder Diseases.

Ser. No. 23,540. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) GEO. W. TORREY CO., Boston, Mass. Filed Nov. 22, 1906.

Torrey's
Original Old M T V Rye
24 Sq. Market St
Boston
Established 1826

Particular description of goods.—Whisky.

Ser. No. 23,544. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WM. M. PALMER, Gardiner, Me. Filed Nov. 22, 1906.



Particular description of goods.—A Liniment.

Ser. No. 23,546. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BRAUER CHEMICAL COMPANY, New York, N. Y. Filed Nov. 22, 1906.

VELVITOL

Particular description of goods.—A Mouth-Wash.

Ser. No. 23,553. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE CURTIS & CURTIS COMPANY, Bridgeport, Conn. Filed Nov. 23, 1906. Used ten years.

CURTIS

Particular description of goods.—Pipe Threading and Cutting Machines.

Ser. No. 23,556. (CLASS 31. FILTERS AND REFRIGERATORS.) THOMAS W. GOREAU, New Orleans, La. Filed Nov. 23, 1906.



Particular description of goods.—Filters.

Ser. No. 23,560. (CLASS 52. PACKING-HOUSE PRODUCTS.) JOSEPH J. PATER, Hamilton, Ohio. Filed Nov. 23, 1906.



Particular description of goods.—Smoked Meats.

Ser. No. 23,570. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) ATLANTIC EXPORT COMPANY, New York, N. Y. Filed Nov. 24, 1906.

"Echte Amerikanische Ochsenkopf-Treber"

Particular description of goods.—Dried Brewers' Grain.

Ser. No. 23,571. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) SAMUEL ROY BEAL, Adrian, Mich. Filed Nov. 24, 1906.



Particular description of goods.—Card Game.

Ser. No. 23,578. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE MUSTEROLE CO., Cleveland, Ohio. Filed Nov. 24, 1906.

MUSTEROLE

Particular description of goods.—An Ointment for the Treatment of Coughs, Colds, Pneumonia, Bronchitis, Rheumatism, Sore Joints and Muscles.

Ser. No. 23,589. (CLASS 47. CONFECTIONERY.) R. U. DELAPENHA & CO., New York, N. Y. Filed Nov. 26, 1906.

IMPERIAL BRAND

Particular description of goods.—Candies, Including Crystallized Ginger.

Ser. No. 23,606. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HALL & RUCKEL, New York, N. Y. Filed Nov. 26, 1906.



Particular description of goods.—Dentifrices in Liquid, Powder, and Paste Form.

Ser. No. 23,610. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THOMAS H. MAXWELL, Boston, Mass. Filed Nov. 26, 1906.



Particular description of goods.—Ladies' Leather Boots, Shoes, and Slippers.

Ser. No. 23,628. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) BRENNAN & WHITE, Brooklyn, N. Y. Filed Nov. 27, 1906.

GIRDER SHANK

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 23,640. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) ATLANTIC EXPORT COMPANY, New York, N. Y. Filed Nov. 28, 1906.

Ochsenkopf

Particular description of goods.—Dried Brewers' Grain.

Ser. No. 23,649. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) WIGGINS TEAPE & CO. LIMITED, London, England. Filed Nov. 28, 1906.

CONQUEROR

Particular description of goods.—Writing, Printing, and Ledger Paper.

Ser. No. 23,657. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PAUL BROTHERS, Philadelphia, Pa. Filed Nov. 30, 1906.

Overland

Particular description of goods.—Leather Boots, Shoes, and Slippers.

Ser. No. 23,658. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PAUL BROTHERS, Philadelphia, Pa. Filed Nov. 30, 1906.

CROSS COUNTRY

Particular description of goods.—Leather Boots, Shoes, and Slippers.

Ser. No. 23,659. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PAUL BROTHERS, Philadelphia, Pa. Filed Nov. 30, 1906.



Particular description of goods.—Leather Boots, Shoes, and Slippers.

Ser. No. 23,660. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PAUL BROTHERS, Philadelphia, Pa. Filed Nov. 30, 1906.

The Fine Blue Line

Particular description of goods.—Leather Boots, Shoes, and Slippers.

Ser. No. 23,670. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed Nov. 30, 1906.



Particular description of goods.—Playing-Cards.

Ser. No. 23,671. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed Nov. 30, 1906.



Particular description of goods.—Playing-Cards.

Ser. No. 23,672. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed Nov. 30, 1906.



Particular description of goods.—Playing-Cards.

Ser. No. 23,673. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y. Filed Nov. 30, 1906.



Particular description of goods.—Playing-Cards.

Ser. No. 23,676. (CLASS 51. MALT LIQUORS.) THE EBLING BREWING CO., New York, N. Y. Filed Nov. 30, 1906.



Particular description of goods.—Malt Extract.

Ser. No. 23,684. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) GRAY & DUDLEY HARDWARE CO., Nashville, Tenn. Filed Nov. 30, 1906.



Particular description of goods.—Cooking and Heating Stoves.

Ser. No. 23,693. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE PALMER-PRICE CO., Newark, N. J. Filed Nov. 30, 1906.

Majesticoat

Particular description of goods.—Varnishes.

Ser. No. 23,714. (CLASS 2. MINERAL.) BERWIND WHITE COAL MINING COMPANY, Philadelphia, Pa. Filed Dec. 3, 1906.

OCEAN

Particular description of goods.—Coal.

Ser. No. 23,717. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) BORSUM BROS., New York, N. Y. Filed Dec. 3, 1906.



The bands and stripes being printed alternately in dark blue and red.

Particular description of goods.—Hard Polishing-Soap in Cake Form.

Ser. No. 23,718. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) BORSUM BROS., New York, N. Y. Filed Dec. 3, 1906.



Particular description of goods.—Hard Polishing-Soap in Cake Form.

Ser. No. 23,730. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) THOMAS J. CLEMENT. Atlantic City, N. J. Filed Dec. 3, 1906. Used ten years.



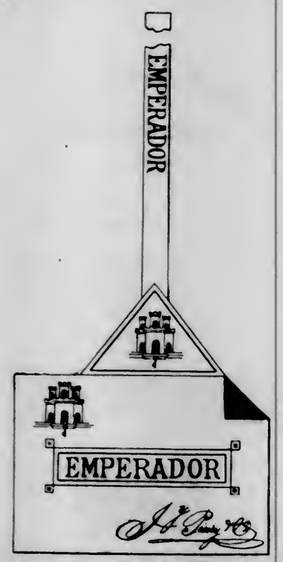
Particular description of goods.—Fruit-Juices.

Ser. No. 23,733. (CLASS 12. MASONRY MATERIALS.) GENUINE BANGOR SLATE CO. INC., Easton, Pa. Filed Dec. 3, 1906.



The shield being printed in red.
Particular description of goods.—Roofing and Building Slate.

Ser. No. 23,737. (CLASS 55. WINES.) JULIUS WILE, SONS & Co., New York, N. Y. Filed Dec. 3, 1906. Used ten years.



Particular description of goods—Sherry.

Ser. No. 23,735. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) E. F. HOUGHTON & Co., Philadelphia, Pa. Filed Dec. 4, 1906.



Particular description of goods.—Leather Pulley-Coverings, Leather Lug-Straps, Leather Aprons, Bellows-Leather, and Harness-Leather.

Ser. No. 23,756. (CLASS 12. MASONRY MATERIALS.) HUTTIG MFG. CO., Muscatine, Iowa. Filed Dec. 4, 1906.



The triangular flag being printed in green.
Particular description of goods.—Rubber Roofing.

Ser. No. 23,806. (CLASS 48. DAIRY PRODUCTS.) W. S. MOORE & Co., Chicago, Ill. Filed Dec. 6, 1906.



Particular description of goods.—Butter, Milk, and Cheese.

Ser. No. 23,816. (CLASS 5. ADHESIVES.) CAPE ANN ISINGLASS COMPANY, Boston, Mass. Filed Dec. 6, 1906.



Particular description of goods.—Isinglass.

Ser. No. 23,830. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) STANDARD PAPER M'F'G CO., Manchester, Va. Filed Dec. 6, 1906.



Particular description of goods.—Blotting-Paper.

TRADE-MARKS

REGISTERED JANUARY 1, 1907.

59,014. CAPSULES AND CONTAINERS FOR COMPRESSED OR LIQUEFIED GAS. AERATORS LIMITED, London, England.
Filed August 6, 1906. Serial No. 21,351. PUBLISHED NOVEMBER 6, 1906.

59,015. COLLAR AND CUFF BUTTONS. C. H. ALLEN & Co., Attleboro, Mass.
Filed September 22, 1905. Serial No. 12,922. PUBLISHED NOVEMBER 6, 1906.

59,016. FISH-LINES. ASHAWAY LINE & TWINE MFG. CO., Ashaway, R. I.
Filed September 29, 1906. Serial No. 22,377. PUBLISHED NOVEMBER 6, 1906.

59,017. METAL HAIR-PINS. S. BEAUMONT & FILS, Roubaix, France.
Filed August 4, 1905. Serial No. 11,251. PUBLISHED NOVEMBER 6, 1906.

59,018. SHOTGUNS AND PARTS THEREFOR. THE CHARLES PARKER CO., Meriden, Conn.
Filed September 5, 1906. Serial No. 21,920. PUBLISHED NOVEMBER 6, 1906.

59,019. SHOTGUNS AND PARTS THEREFOR. THE CHARLES PARKER CO., Meriden, Conn.
Filed September 5, 1906. Serial No. 21,921. PUBLISHED NOVEMBER 6, 1906.

59,020. SHOTGUNS AND PARTS THEREFOR. THE CHARLES PARKER CO., Meriden, Conn.
Filed September 5, 1906. Serial No. 21,922. PUBLISHED NOVEMBER 6, 1906.

59,021. METALLIC CORK-LINED BOTTLE-STOPPERS. THE CROWN CORK & SEAL COMPANY, Baltimore, Md.
Filed September 11, 1906. Serial No. 22,020. PUBLISHED NOVEMBER 6, 1906.

59,022. VARNISH AND STAINS. EAGLE PAINT & VARNISH CO., Allegheny, Pa.
Filed September 11, 1906. Serial No. 22,021. PUBLISHED NOVEMBER 6, 1906.

59,023. CERTAIN NAMED MACHINES. THE ENTERPRISE MANUFACTURING COMPANY OF PENNSYLVANIA, Philadelphia, Pa.
Filed August 17, 1905. Serial No. 11,728. PUBLISHED NOVEMBER 6, 1906.

59,024. PHOTOGRAPHIC PLATES. G. CRAMER DRY PLATE CO., St. Louis, Mo.
Filed April 5, 1906. Serial No. 18,537. PUBLISHED NOVEMBER 6, 1906.

59,025. SHOVELS, SCOOPS, AND SPADES. THE GEORGE WORTHINGTON COMPANY, Cleveland, Ohio.
Filed August 23, 1906. Serial No. 21,714. PUBLISHED NOVEMBER 6, 1906.

59,026. SHOVELS AND SPADES. THE GEORGE WORTHINGTON COMPANY, Cleveland, Ohio.
Filed August 23, 1906. Serial No. 21,715. PUBLISHED NOVEMBER 6, 1906.

59,027. AXES. THE GEORGE WORTHINGTON COMPANY, Cleveland, Ohio.
Filed August 23, 1906. Serial No. 21,717. PUBLISHED NOVEMBER 6, 1906.

59,028. KNIVES, AXES, HATCHETS, CHISELS, SHEARS, AND PLANES. HAMMACHER, DELIUS & Co., New York, N. Y.
Filed June 10, 1905. Serial No. 7,810. PUBLISHED NOVEMBER 6, 1906.

59,029. GRAPHITE. JOSEPH DIXON CRUCIBLE COMPANY, Jersey City, N. J.
Filed August 11, 1906. Serial No. 21,488. PUBLISHED NOVEMBER 6, 1906.

59,030. SOAP. LEVER BROTHERS COMPANY, Portland, Me., and Cambridge, Mass.
Filed August 2, 1905. Serial No. 11,127. PUBLISHED NOVEMBER 6, 1906.

59,031. SOAP. LEVER BROTHERS COMPANY, Portland, Me., and Cambridge, Mass.
Filed August 2, 1905. Serial No. 11,128. PUBLISHED NOVEMBER 6, 1906.

59,032. SOAP AND SOAP POWDER. LEVER BROTHERS COMPANY, Portland, Me., and Cambridge, Mass.
Filed August 2, 1905. Serial No. 11,130. PUBLISHED NOVEMBER 6, 1906.

59,033. SOAP. LEVER BROTHERS COMPANY, Portland, Me., and Cambridge, Mass.
Filed August 2, 1905. Serial No. 11,131. PUBLISHED NOVEMBER 6, 1906.

59,034. SOAP. LEVER BROTHERS COMPANY, Portland, Me., and Cambridge, Mass.
Filed August 2, 1905. Serial No. 11,134. PUBLISHED NOVEMBER 6, 1906.

59,035. PIPE-COUPLINGS, SOLDERLESS COUPLINGS, AND PLUMBERS' TACKS. MODERN IMPROVEMENTS MFG. Co., Brooklyn, N. Y.
Filed September 18, 1906. Serial No. 22,174. PUBLISHED NOVEMBER 6, 1906.

59,036. DRAWING-TABLES AND FILING-CASES. ROLLO G. MANNING, Toledo, Ohio.
Filed August 17, 1906. Serial No. 21,641. PUBLISHED NOVEMBER 6, 1906.

59,037. COMBINATION-TOOLS. THE NATIONAL HATCHET COMPANY, Webster City, Iowa.
Filed August 12, 1905. Serial No. 11,619. PUBLISHED NOVEMBER 6, 1906.

59,038. FURNITURE-POLISH. TRUMAN B. PEIRCE, Providence, R. I.
Filed September 21, 1906. Serial No. 22,224. PUBLISHED NOVEMBER 6, 1906.

59,039. WHISKY. W. L. PERKINS & Co., St. Paul, Minn.
Filed March 21, 1906. Serial No. 18,092. PUBLISHED NOVEMBER 6, 1906.

59,040. SOAP. JULES FRANÇOIS GEORGES DE ROUSSY DE SALES, Paris, France.
Filed March 13, 1906. Serial No. 17,789. PUBLISHED NOVEMBER 6, 1906.

59,041. METAL HEEL-PLATES FOR BOOTS AND SHOES. LOUIS SACKS, Newark, N. J.
Filed August 16, 1905. Serial No. 11,711. PUBLISHED NOVEMBER 6, 1906.

59,042. DRAWING INSTRUMENTS, COMPASSES, T-SQUARES, RULERS, AND DIVIDERS. EDWARD G. SOLTMANN, New York, N. Y.
Filed November 25, 1905. Serial No. 14,978. PUBLISHED NOVEMBER 6, 1906.

59,043. LAUNDRY SOAP. THE STANDARD SOAP CO., Berkeley, Cal.
Filed August 4, 1906. Serial No. 21,338. PUBLISHED NOVEMBER 6, 1906.

59,044. PLAYING-CARDS. THE UNITED STATES PLAYING CARD COMPANY, Cincinnati, Ohio.
Filed October 3, 1906. Serial No. 22,465. PUBLISHED NOVEMBER 6, 1906.

59,045. READY TAR AND FELT ROOFING. WARREN CHEMICAL & MANUFACTURING COMPANY, New York, N. Y.
Filed October 11, 1906. Serial No. 22,658. PUBLISHED NOVEMBER 6, 1906.

59,046. MECHANICS' SQUARES. FREDERICK G. BREUL, Bridgeport, Conn.
Filed July 14, 1906. Serial No. 20,934. PUBLISHED NOVEMBER 6, 1906.

59,047. SOAP. COLGATE & CO., New York, N. Y.
Filed June 27, 1906. Serial No. 20,613. PUBLISHED NOVEMBER 6, 1906.

59,048. CALF-WEANERS. JAMES E. GRIFFITH, Carroll, Iowa.
Filed June 30, 1906. Serial No. 20,676. PUBLISHED NOVEMBER 6, 1906.

59,049. IMITATION SILVERWARE. INTERNATIONAL SILVER COMPANY, Meriden, Conn.
Filed July 9, 1906. Serial No. 20,792. PUBLISHED NOVEMBER 6, 1906.

59,050. GREASES, LUBRICATING-OILS, AND LUBRICATING MIXTURES. THE IRONSIDES COMPANY, Columbus, Ohio.
Filed July 7, 1906. Serial No. 20,780. PUBLISHED NOVEMBER 6, 1906.

59,051. LIQUEUR. SCHALTIN & CIE., Spa, Belgium.
Filed July 6, 1906. Serial No. 20,761. PUBLISHED NOVEMBER 6, 1906.

59,052. WHISKY. JOSEPH SHAPIRO, Cincinnati, Ohio.
Filed July 25, 1906. Serial No. 21,164. PUBLISHED NOVEMBER 6, 1906.

59,053. NAPHTHA, BENZIN, AND GASOLENE. STANDARD OIL CO. OF NEW YORK, New York, N. Y.
Filed July 17, 1906. Serial No. 20,974. PUBLISHED NOVEMBER 6, 1906.

59,054. TIN AND TERNE PLATE. N. & G. TAYLOR CO., Philadelphia, Pa.
Filed July 21, 1906. Serial No. 21,072. PUBLISHED NOVEMBER 6, 1906.

59,055. FINGER-RINGS. ALLSOPP BROS., Newark, N. J.
Filed April 4, 1906. Serial No. 18,507. PUBLISHED NOVEMBER 6, 1906.

59,056. COTTON PIECE GOODS. ARNHOLD, KARBERG & CO., New York, N. Y.
Filed September 12, 1906. Serial No. 22,031. PUBLISHED NOVEMBER 6, 1906.

59,057. INSTEP-SUPPORTERS. THE ARROWSMITH MANUFACTURING COMPANY, Chester, N. J.
Filed March 1, 1906. Serial No. 17,451. PUBLISHED NOVEMBER 6, 1906.

59,058. OLIVE-OIL. CHAFFARD & COUDERC, Salon, France.
Filed October 9, 1905. Serial No. 13,443. PUBLISHED NOVEMBER 6, 1906.

59,059. INSULATED WIRES AND INSULATED CABLES. CHICAGO INSULATED WIRE AND MANUFACTURING COMPANY, Chicago, Ill.
Filed June 18, 1906. Serial No. 20,403. PUBLISHED NOVEMBER 6, 1906.

59,060. KNITTED UNDERSHIRTS AND DRAWERS. FLAVELL BROS., Philadelphia, Pa.
Filed June 16, 1906. Serial No. 20,320. PUBLISHED NOVEMBER 6, 1906.

59,061. CERTAIN NAMED PAINTS AND PAINTERS' MATERIALS. THE FOY PAINT & GLASS CO., Cincinnati, Ohio.
Filed June 7, 1906. Serial No. 20,125. PUBLISHED NOVEMBER 6, 1906.

59,062. KNIT GOODS IN THE PIECE. FRENCH & WARD, New York, N. Y., and West Stoughton, Mass.
Filed August 20, 1906. Serial No. 21,681. PUBLISHED NOVEMBER 6, 1906.

59,063. SILK GLOVES. THE GLOVERSVILLE SILK MILLS, Gloversville, N. Y.
Filed August 9, 1906. Serial No. 21,433. PUBLISHED NOVEMBER 6, 1906.

59,064. PROPELLER-WHEELS FOR VESSELS. CHARLES E. HYDE, New London, Conn.
Filed August 1, 1906. Serial No. 21,289. PUBLISHED NOVEMBER 6, 1906.

59,065. CIGARS. GEORGE D. JONES, New York, N. Y., and New Castle, Pa.
Filed June 11, 1906. Serial No. 20,220. PUBLISHED NOVEMBER 6, 1906.

59,066. CANNED TOMATOES, PEAS, CORN, AND BEANS. KOKOMO CANNING CO. (INC.), Kokomo, Ind.
Filed July 9, 1906. Serial No. 20,802. PUBLISHED NOVEMBER 6, 1906.

59,067. SUSPENDERS. ABRAHAM D. LOBEL, New York, N. Y.
Filed September 15, 1906. Serial No. 22,119. PUBLISHED NOVEMBER 6, 1906.

59,068. PIECE GOODS OR CLOTHS. JOHN LONKE, New York, N. Y.
Filed June 30, 1906. Serial No. 20,683. PUBLISHED NOVEMBER 6, 1906.

59,069. WELL-DRILLING MACHINES. GEORGE D. LOOMIS, Tiffin, Ohio.
Filed May 21, 1906. Serial No. 19,712. PUBLISHED NOVEMBER 6, 1906.

59,070. HAIR-CURLERS, HAIR-CRIMPERS, AND HAIR-WAVERS. MAGIC CURLER COMPANY, Philadelphia, Pa.
Filed August 20, 1906. Serial No. 21,684. PUBLISHED NOVEMBER 6, 1906.

59,071. BOOT AND SHOE POLISH. MICHAEL J. MCCORMACK, Memphis, Tenn.
Filed July 24, 1906. Serial No. 21,119. PUBLISHED NOVEMBER 6, 1906.

59,072. CERTAIN KNIT GOODS. GEORGE C. PRATT New York, N. Y.
Filed July 19, 1906. Serial No. 21,024. PUBLISHED NOVEMBER 6, 1906.

59,073. STIFF AND SOFT HATS AND CAPS. HENRY H ROELOFS, Philadelphia, Pa.
Filed June 27, 1906. Serial No. 20,614. PUBLISHED NOVEMBER 6, 1906.

59,074. TOILET-PAPER. SCOTT PAPER CO., Philadelphia, Pa.
Filed September 18, 1906. Serial No. 22,170. PUBLISHED NOVEMBER 6, 1906.

59,075. LEATHER BOOTS AND SHOES. A. W. TEDCASTLE & CO., Boston, Mass.
Filed September 17, 1906. Serial No. 22,154. PUBLISHED NOVEMBER 6, 1906.

59,076. KNITTING MACHINERY AND PARTS OF SUCH MACHINES. TOMPKINS BROS. CO., Troy, N. Y.
Filed September 14, 1906. Serial No. 22,111. PUBLISHED NOVEMBER 6, 1906.

59,077. WOMEN'S SCARFS. WILLIAM TREVOR, New York, N. Y.
Filed June 30, 1906. Serial No. 20,672. PUBLISHED NOVEMBER 6, 1906.

59,078. PREPARATION OF PINEAPPLE AND SUGAR. TROPIC FRUIT COMPANY, LIMITED, Wahiawa, Oahu, Hawaii.
Filed July 5, 1906. Serial No. 20,730. PUBLISHED NOVEMBER 6, 1906.

59,079. CIGARS. WERTHEIMER BROS., Baltimore, Md.
Filed September 11, 1906. Serial No. 22,025. PUBLISHED NOVEMBER 6, 1906.

59,080. GUN-GREASE. WINCHESTER REPEATING ARMS CO., New Haven, Conn.
Filed July 28, 1906. Serial No. 21,243. PUBLISHED NOVEMBER 6, 1906.

59,081. STOCK AND POULTRY FOODS. THE ALFALFA PRODUCTS COMPANY, Fremont, Nebr.
Filed September 10, 1906. Serial No. 22,000. PUBLISHED NOVEMBER 6, 1906.

59,082. DRESSINGS FOR MACHINE-BELTS. ATLAS SPECIALTY COMPANY, Buffalo, N. Y.
Filed July 2, 1906. Serial No. 20,692. PUBLISHED NOVEMBER 6, 1906.

59,083. ROOFING-FELT. SAMUEL CABOT, Boston, Mass.
Filed October 11, 1906. Serial No. 22,648. PUBLISHED NOVEMBER 6, 1906.

59,084. WHISKY. F. W. HUNT & CO., Boston, Mass.
Filed June 19, 1905. Serial No. 8,471. PUBLISHED NOVEMBER 6, 1906.

59,085. WHISKY. J. LIVELAR & CO., Canton, Miss.
Filed May 24, 1905. Serial No. 6,508. PUBLISHED NOVEMBER 6, 1906.

59,086. GROUND AND WHOLE SPICES. NEW ORLEANS IMPORT COMPANY, LIMITED, New Orleans, La.
Filed June 8, 1906. Serial No. 20,166. PUBLISHED NOVEMBER 6, 1906.

59,087. DENTAL ENGINES AND LATHES AND BRACKETS OR SUPPORTS THEREFOR. RITTER DENTAL MFG. CO., Rochester, N. Y.
Filed July 19, 1906. Serial No. 21,019. PUBLISHED NOVEMBER 6, 1906.

59,088. FLAVORING EXTRACTS. SCHLOTTERBECK & FOSS CO., Portland, Me.
Filed July 30, 1906. Serial No. 21,258. PUBLISHED NOVEMBER 6, 1906.

59,089. TOBIES OR STOGIES. WALTER A. SPRINGER, Wheeling, W. Va.
Filed July 11, 1906. Serial No. 20,860. PUBLISHED NOVEMBER 6, 1906.

59,090. CANNED CORN. HENRY VON GLAHN & SON, Brooklyn, N. Y.
Filed March 15, 1906. Serial No. 17,897. PUBLISHED OCTOBER 9, 1906.

59,091. PREPARED FOODS, PRIMARILY FOR INFANTS AND INVALIDS. WELLS & RICHARDSON COMPANY, Burlington, Vt.
Filed June 16, 1906. Serial No. 20,328. PUBLISHED NOVEMBER 6, 1906.

59,092. SHEEP AND GOAT LEATHER. A. B. CLARK COMPANY, Peabody, Mass.
Filed July 20, 1906. Serial No. 21,028. PUBLISHED NOVEMBER 6, 1906.

59,093. LOOSE-LEAF LEDGERS. FRANCIS WAYLAND BRIGGS, Lewiston, Me.
Filed June 28, 1906. Serial No. 20,640. PUBLISHED NOVEMBER 6, 1906.

59,094. CERTAIN NAMED CHEMICALS. CHEMISCHE FABRIK AUF ACTIEN (VORM. E. SCHERING), Berlin, Germany.
Filed August 24, 1905. Serial No. 11,972. PUBLISHED NOVEMBER 6, 1906.

59,095. BAKING-SODA, SALERATUS, AND BAKING-POWDER. CHURCH & DWIGHT COMPANY, New York, N. Y.
Filed April 4, 1905. Serial No. 363. PUBLISHED NOVEMBER 6, 1906.

59,096. SALERATUS AND SODA. CHURCH & DWIGHT COMPANY, New York, N. Y.
Filed April 11, 1905. Serial No. 1,111. PUBLISHED NOVEMBER 6, 1906.

59,097. HAMS, SHOULDERS, SIDES, AND BACON. PHILIP GEORGE CROMWELL, Baltimore, Md.
Filed June 26, 1905. Serial No. 9,052. PUBLISHED NOVEMBER 6, 1906.

59,098. CURED, SMOKED, AND CANNED MEATS. THE CUDAHY PACKING COMPANY, Chicago, Ill., and South Omaha, Nebr.
Filed May 23, 1905. Serial No. 6,372. PUBLISHED NOVEMBER 6, 1906.

59,099. FLAVORING EXTRACTS FOR TOBACCO. FRANZ P. DENGLER, Davenport, Iowa.
Filed June 16, 1905. Serial No. 8,357. PUBLISHED NOVEMBER 6, 1906.

59,100. PIANOS. E. G. HARRINGTON & COMPANY, New York, N. Y.
Filed August 1, 1906. Serial No. 21,282. PUBLISHED NOVEMBER 6, 1906.

59,101. SAUSAGES. WM. H. EASTON & CO., Newport, R. I.
Filed October 21, 1905. Serial No. 13,813. PUBLISHED NOVEMBER 6, 1906.

59,102. TEAS. GRIGGS, COOPER & COMPANY, St. Paul, Minn.
Filed July 1, 1905. Serial No. 9,547. PUBLISHED NOVEMBER 6, 1906.

59,103. PICKLES AND CHOW-CHOW. GRIGGS, COOPER & COMPANY, St. Paul, Minn.
Filed March 28, 1906. Serial No. 18,302. PUBLISHED NOVEMBER 6, 1906.

59,104. COLLARS AND CUFFS. HALL, HARTWELL & CO., Troy, N. Y.
Filed June 18, 1906. Serial No. 20,391. PUBLISHED NOVEMBER 6, 1906.

59,105. STEAM AND PRESSURE PACKING IN SHEET AND COIL FORM. I. X. L. STEAM PACKING MANUFACTURING CO., New York, N. Y.
Filed May 21, 1906. Serial No. 19,732. PUBLISHED NOVEMBER 6, 1906.

59,106. MATTRESSES. EVA K. JACOBS Everett, Wash.
Filed July 10, 1906. Serial No. 20,841. PUBLISHED NOVEMBER 6, 1906.

59,107. RUBBER BELTING, HOSE, AND MACHINERY PACKING. PEERLESS RUBBER MANUFACTURING COMPANY, New York, N. Y.
Filed November 14, 1905. Serial No. 14,598. PUBLISHED NOVEMBER 6, 1906.

59,108. RUBBER BELTING, HOSE, AND MACHINERY PACKING. PEERLESS RUBBER MANUFACTURING COMPANY, New York, N. Y.
Filed November 14, 1905. Serial No. 14,599. PUBLISHED NOVEMBER 6, 1906.

59,109. SLABS OR PLATES OF VITREOUS MATERIAL. PRESSED PRISM PLATE GLASS COMPANY, Morgantown, W. Va.
Filed July 3, 1906. Serial No. 20,725. PUBLISHED NOVEMBER 6, 1906.

59,110. CHOCOLATE AND COCOA. SOCIÉTÉ ANONYME DES CHOCOLATS DE MONTREUX, SÉCHAUD & FILS, Montreux, Switzerland.
Filed May 22, 1905. Serial No. 6,237. PUBLISHED FEBRUARY 6, 1906.

59,111. STEEL PENS. MICHAEL VOORSANGER, Philadelphia, Pa.
Filed July 2, 1906. Serial No. 20,706. PUBLISHED NOVEMBER 6, 1906.

59,112. CERTAIN TEXTILE FABRICS. A. G. HYDE & SONS, New York, N. Y.
Filed June 2, 1906. Serial No. 19,992. PUBLISHED NOVEMBER 6, 1906.

59,113. CERTAIN TEXTILE FABRICS. A. G. HYDE & SONS, New York, N. Y.
Filed June 2, 1906. Serial No. 19,993. PUBLISHED NOVEMBER 6, 1906.

59,114. CERTAIN TEXTILE FABRICS. A. G. HYDE & SONS, New York, N. Y.
Filed June 2, 1906. Serial No. 19,994. PUBLISHED NOVEMBER 6, 1906.

59,115. HANDKERCHIEFS. NEW JERSEY HANDKERCHIEF COMPANY, Passaic, N. J.
Filed June 5, 1906. Serial No. 20,069. PUBLISHED NOVEMBER 6, 1906.

59,116. DRESS-SILKS. THE NORFOLK SILK COMPANY, Jersey City, N. J., and Norfolk, Va.
Filed June 15, 1906. Serial No. 20,316. PUBLISHED NOVEMBER 6, 1906.

59,117. VASES, MUGS, TANKARDS, AND CLOCK-CASES. THE OWEN CHINA COMPANY, Minerva, Ohio.
Filed June 4, 1906. Serial No. 20,038. PUBLISHED NOVEMBER 6, 1906.

59,118. COTTON-SEED OILS. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La.
Filed July 27, 1905. Serial No. 10,888. PUBLISHED NOVEMBER 6, 1906.

59,119. COTTON-SEED OILS. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La.
Filed July 27, 1905. Serial No. 10,890. PUBLISHED NOVEMBER 6, 1906.

59,120. COTTON-SEED OILS. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La.
Filed July 27, 1905. Serial No. 10,892. PUBLISHED NOVEMBER 6, 1906.

59,121. COTTON-SEED OILS. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La.
Filed July 27, 1905. Serial No. 10,893. PUBLISHED NOVEMBER 6, 1906.

59,122. COTTON-SEED OILS. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La.
Filed July 27, 1905. Serial No. 10,895. PUBLISHED NOVEMBER 6, 1906.

59,123. LEATHER BOOTS AND SHOES. W. W. SPAULDING & Co., Haverhill, Mass.
Filed June 2, 1906. Serial No. 20,011. PUBLISHED NOVEMBER 6, 1906.

59,124. FILMS AND CARD-REELS. AMERICAN MUTOSCOPE AND BIOGRAPH COMPANY, New York, N. Y.
Filed July 13, 1905. Serial No. 10,273. PUBLISHED NOVEMBER 6, 1906.

59,125. SEEDING-MACHINES. CAMPBELL CORN DRILL CO., Harrison, Ohio.
Filed May 12, 1905. Serial No. 5,367. PUBLISHED NOVEMBER 6, 1906.

59,126. BUTTER. CHAS. W. RUDD & SON, Detroit, Mich.
Filed July 7, 1906. Serial No. 20,782. PUBLISHED NOVEMBER 6, 1906.

59,127. POLISHES FOR METALS. THE DAZZLE MANUFACTURING COMPANY, Westmont, N. J., and Philadelphia, Pa.
Filed March 13, 1906. Serial No. 17,925. PUBLISHED NOVEMBER 6, 1906.

59,128. LENSES FOR EYEGLASSES AND SPECTACLES. F. A. HARDY & Co., Chicago, Ill.
Filed January 29, 1906. Serial No. 16,592. PUBLISHED NOVEMBER 6, 1906.

59,129. BATTERY-CARBONS, CARBON BRUSHES, AND CARBONS FOR ELECTRIC LAMPS. L. E. FRORUP, New York, N. Y.
Filed December 4, 1905. Serial No. 15,182. PUBLISHED NOVEMBER 6, 1906.

59,130. DICTIONARIES. G. & C. MERRIAM Co., Springfield, Mass.
Filed May 17, 1906. Serial No. 19,618. PUBLISHED NOVEMBER 6, 1906.

59,131. CANNED PEAS. HENRY VON GLAHN & SON, Brooklyn, N. Y.
Filed March 15, 1906. Serial No. 17,898. PUBLISHED OCTOBER 9, 1906.

59,132. CANNED BEANS. HENRY VON GLAHN & SON, Brooklyn, N. Y.
Filed March 15, 1906. Serial No. 17,899. PUBLISHED OCTOBER 9, 1906.

59,133. OLIVE-OIL. GRIGGS, COOPER & COMPANY, St. Paul, Minn.
Filed March 26, 1906. Serial No. 18,240. PUBLISHED NOVEMBER 6, 1906.

59,134. COMBINED WRENCHES AND THREAD CUTTERS OR TRIMMERS. HAWKEYE WRENCH COMPANY, Marshalltown, Iowa.
Filed November 20, 1905. Serial No. 14,830. PUBLISHED NOVEMBER 6, 1906.

59,135. RUBBER BOOTS AND SHOES. WALTER MCKITTRICK, St. Louis, Mo.
Filed September 17, 1906. Serial No. 22,147. PUBLISHED NOVEMBER 6, 1906.

59,136. WASHING COMPOUND. IRVING MYERS, Brooklyn, N. Y.
Filed May 14, 1906. Serial No. 19,535. PUBLISHED NOVEMBER 6, 1906.

59,137. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y.
Filed June 27, 1905. Serial No. 9,225. PUBLISHED NOVEMBER 6, 1906.

59,138. OIL-BURNING LAMPS AND LANTERNS. R. E. DIETZ COMPANY, New York, N. Y.
Filed November 1, 1905. Serial No. 14,183. PUBLISHED NOVEMBER 6, 1906.

59,139. OIL-BURNING TUBULAR LAMPS AND LANTERNS. R. E. DIETZ COMPANY, New York, N. Y.
Filed November 1, 1905. Serial No. 14,187. PUBLISHED NOVEMBER 6, 1906.

59,140. GINGER-ALE. READ BROTHERS, LIMITED, London, England.
Filed September 20, 1906. Serial No. 22,209. PUBLISHED NOVEMBER 6, 1906.

59,141. SOAP. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La.
Filed July 27, 1905. Serial No. 10,900. PUBLISHED NOVEMBER 6, 1906.

59,142. SOAP. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La.
Filed July 27, 1905. Serial No. 10,907. PUBLISHED NOVEMBER 6, 1906.

59,143. ROOFING MATERIAL OF COMPOSITION OR CEMENT. THE SPARHAM FIREPROOF ROOFING CEMENT COMP'Y, Montreal, Quebec, Canada.
Filed January 22, 1906. Serial No. 16,383. PUBLISHED NOVEMBER 6, 1906.

59,144. CARBURETERS FOR GAS AND GASOLENE ENGINES. SPEED CHANGING PULLEY COMPANY, Indianapolis, Ind.
Filed April 12, 1906. Serial No. 18,724. PUBLISHED NOVEMBER 6, 1906.

59,145. PANTS, COATS, VESTS, AND OVERALLS. HERMAN R. STOEPEL, Detroit, Mich.
Filed April 20, 1905. Serial No. 2,375. PUBLISHED NOVEMBER 6, 1906.

59,146. CHEWING-GUM. FREDRICK M. SWITZER, St. Louis, Mo.
Filed June 29, 1906. Serial No. 20,663. PUBLISHED NOVEMBER 6, 1906.

59,147. CERTAIN NAMED MACHINES. THE TOLEDO MACHINE & TOOL CO., Toledo, Ohio.
Filed April 28, 1906. Serial No. 19,146. PUBLISHED NOVEMBER 6, 1906.

59,148. SWEETENED PINEAPPLE-JUICE. TROPIC FRUIT COMPANY, LIMITED, Wahiawa, Oahu, Hawaii.
Filed July 5, 1906. Serial No. 20,729. PUBLISHED NOVEMBER 6, 1906.

59,149. HAND STICK-FIREWORKS. EDWARD H. WAGNER, New York, N. Y.
Filed July 17, 1905. Serial No. 10,432. PUBLISHED NOVEMBER 6, 1906.

59,150. CLEANING COMPOUNDS. THE WHITE & BAGLEY Co., Worcester, Mass.
Filed July 10, 1905. Serial No. 9,955. PUBLISHED NOVEMBER 6, 1906.

59,151. TARRY COATING FOR ROADS AND OTHER SURFACES. BARRETT MANUFACTURING COMPANY, New York, N. Y.
Filed April 20, 1906. Serial No. 18,956. PUBLISHED NOVEMBER 6, 1906.

59,152. CHROME-TANNED CALF. BECKWITH & HITEMAN BROS., West Winfield, N. Y.
Filed August 31, 1906. Serial No. 21,833. PUBLISHED NOVEMBER 6, 1906.

59,153. CHIFFON. BENEDICTUS, WEILL & COMPANY, New York, N. Y.
Filed September 26, 1906. Serial No. 22,332. PUBLISHED NOVEMBER 6, 1906.

59,154. MAGAZINES. THE BLACK DIAMOND Co., Chicago, Ill.
Filed September 13, 1906. Serial No. 22,062. PUBLISHED NOVEMBER 6, 1906.

59,155. RUBBER AND COMPOSITION BELTING, HOSE, AND MACHINERY-PACKING. BOSTON BELTING COMPANY, Boston, Mass.
Filed July 24, 1905. Serial No. 10,734. PUBLISHED NOVEMBER 6, 1906.

59,156. RUBBER AND COMPOSITION BELTING, HOSE AND MACHINERY-PACKING. BOSTON BELTING COMPANY, Boston, Mass.
Filed July 24, 1905. Serial No. 10,735. PUBLISHED NOVEMBER 6, 1906.

59,157. WHEAT-FLOUR. CAIRO MILLING Co., Cairo, Ill.
Filed April 30, 1906. Serial No. 19,200. PUBLISHED NOVEMBER 6, 1906.

59,158. SEWING-COTTON, CROCHET, EMBROIDERY, AND KNITTING COTTON. CLARK & Co. LTD., Paisley, Scotland.
Filed September 27, 1905. Serial No. 13,084. PUBLISHED NOVEMBER 6, 1906.

59,159. PIANOS. ARTHUR L. CREED, Hartford, Conn.
Filed August 2, 1905. Serial No. 11,204. PUBLISHED NOVEMBER 6, 1906.

59,160. REMEDY FOR CERTAIN NAMED DISEASES. FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, Höchst-on-the-Main, Germany.
Filed June 18, 1906. Serial No. 20,378. PUBLISHED NOVEMBER 6, 1906.

59,161. CERTAIN NAMED MEDICINE. FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, Höchst-on-the-Main, Germany.
Filed June 19, 1906. Serial No. 20,409. PUBLISHED NOVEMBER 6, 1906.

59,162. LEATHER-BLACKING AND LEATHER-DRESSING. FRANK E. FENNESSY, Boston, Mass.
Filed May 31, 1905. Serial No. 7,104. PUBLISHED NOVEMBER 6, 1906.

59,163. PIANOS. HARDMAN, PECK & COMPANY, New York, N. Y.
Filed August 1, 1906. Serial No. 21,288. PUBLISHED NOVEMBER 6, 1906.

59,164. CORSETS. KABO CORSET COMPANY, Chicago, Ill.
Filed July 10, 1905. Serial No. 9,970. PUBLISHED MAY 22, 1906.

59,165. STEEL MUSIC-WIRE. LYON & HEALY, Chicago, Ill.
Filed August 7, 1905. Serial No. 11,360. PUBLISHED NOVEMBER 6, 1906.

59,166. CERTAIN NAMED PAPER AND CARDBOARD. MITTINEAGUE PAPER COMPANY, West Springfield, Mass.
Filed April 29, 1905. Serial No. 3,676. PUBLISHED NOVEMBER 6, 1906.

59,167. HANDKERCHIEFS. NEW JERSEY HANDKERCHIEF COMPANY, Passaic, N. J.
Filed June 5, 1906. Serial No. 20,070. PUBLISHED NOVEMBER 6, 1906.

59,168. MEDICINAL AND SURGICAL LUBRICANTS. PARMELE PHARMACAL COMPANY, New York, N. Y.
Filed June 20, 1906. Serial No. 20,435. PUBLISHED NOVEMBER 6, 1906.

59,169. FRUIT-JAR RUBBERS. WILLIAM H. SCHAEFER, Toledo, Ohio.
Filed September 12, 1906. Serial No. 22,051. PUBLISHED NOVEMBER 6, 1906.

59,170. TRACING-PAPER. EDWARD G. SOLTMANN, New York, N. Y.
Filed April 6, 1905. Serial No. 538. PUBLISHED NOVEMBER 6, 1906.

59,171. DRAWING-PAPER AND TRACING-PAPER. EDWARD G. SOLTMANN, New York, N. Y.
Filed April 6, 1905. Serial No. 539. PUBLISHED NOVEMBER 6, 1906.

59,172. CERTAIN NAMED CLOTHING. STAHL-URBAN & Co., Terre Haute, Ind.
Filed July 11, 1905. Serial No. 10,084. PUBLISHED NOVEMBER 6, 1906.

59,173. CIGARS, CHEROOTS, AND ALL-TOBACCO CIGARETTES. THE SUESSKIND SCHATZ Co., New York, N. Y.
Filed August 12, 1905. Serial No. 11,608. PUBLISHED NOVEMBER 6, 1906.

59,174. REMEDIES FOR CERTAIN NAMED DISEASES. WELLS & RICHARDSON COMPANY, Burlington, Vt.
Filed June 16, 1906. Serial No. 20,325. PUBLISHED NOVEMBER 6, 1906.

59,175. TONIC, ALTERATIVE, LAXATIVE, AND DIURETIC MEDICINES. WELLS & RICHARDSON COMPANY, Burlington, Vt.
Filed June 16, 1906. Serial No. 20,330. PUBLISHED NOVEMBER 6, 1906.

59,176. FINE WRITING-PAPER. WRITING PAPER COMPANY, Holyoke, Mass.
Filed June 16, 1906. Serial No. 20,335. PUBLISHED NOVEMBER 6, 1906.

59,177. TOOTH-POWDER, FOOT-POWDER, AND BORATED TALCUM POWDER. JOSEPH C. ALLEN, Plainfield, N. J.
Filed September 12, 1906. Serial No. 22,039. PUBLISHED NOVEMBER 6, 1906.

59,178. TOILET POWDER. AMOLIN CHEMICAL COMPANY, New York, N. Y.
Filed August 23, 1905. Serial No. 11,951. PUBLISHED SEPTEMBER 4, 1906.

59,179. REMEDY FOR CERTAIN NAMED DISEASES. ASCHENBACH & MILLER, INCORPORATED, Philadelphia, Pa.
Filed August 6, 1906. Serial No. 21,361. PUBLISHED NOVEMBER 6, 1906.

59,180. STOMACHIC POWDER. P. F. W. BARELLA, Berlin, Germany.
Filed September 18, 1905. Serial No. 12,762. PUBLISHED NOVEMBER 6, 1906.

59,181. BRIQUETS OF IRON AND SILICA. BOSNISCHE ELEKTRICITAETS-ACTIENGESELLSCHAFT, Vienna, Austria-Hungary.
Filed March 27, 1906. Serial No. 18,293. PUBLISHED NOVEMBER 6, 1906.

59,182. COFFEE. C. F. BLANKE TEA & COFFEE Co., St. Louis, Mo.
Filed April 11, 1906. Serial No. 18,683. PUBLISHED NOVEMBER 6, 1906.

59,183. SOAP POWDER. THE CUDAHY PACKING COMPANY, Chicago, Ill., and South Omaha, Nebr.
Filed May 14, 1906. Serial No. 19,537. PUBLISHED NOVEMBER 6, 1906.

59,184. CHEWING-GUM. EVERYBODY'S GUM Co., St. Louis, Mo.
Filed September 28, 1906. Serial No. 22,364. PUBLISHED NOVEMBER 6, 1906.

59,185. ANTISEPTIC. FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, Höchst-on-the-Main, Germany.
Filed June 18, 1906. Serial No. 20,380. PUBLISHED NOVEMBER 6, 1906.

59,186. REMEDY FOR FEVER AND WHOOPING-COUGH. FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, Höchst-on-the-Main, Germany.
Filed June 18, 1906. Serial No. 20,383. PUBLISHED NOVEMBER 6, 1906.

59,187. DICTIONARIES AND REFERENCE-MANUALS. G. & C. MERRIAM Co., Springfield, Mass.
Filed May 11, 1906. Serial No. 19,429. PUBLISHED NOVEMBER 6, 1906.

59,188. DICTIONARIES AND REFERENCE-MANUALS. G. & C. MERRIAM Co., Springfield, Mass.
Filed May 11, 1906. Serial No. 19,430. PUBLISHED NOVEMBER 6, 1906.

59,189. DICTIONARIES. G. & C. MERRIAM Co., Springfield, Mass.
Filed May 11, 1906. Serial No. 19,432. PUBLISHED NOVEMBER 6, 1906.

59,190. DICTIONARIES AND REFERENCE-MANUALS. G. & C. MERRIAM Co., Springfield, Mass.
Filed May 17, 1906. Serial No. 19,614. PUBLISHED NOVEMBER 6, 1906.

59,191. DICTIONARIES AND REFERENCE-MANUALS. G. & C. MERRIAM Co., Springfield, Mass.
Filed May 17, 1906. Serial No. 19,615. PUBLISHED NOVEMBER 6, 1906.

59,192. DICTIONARIES AND REFERENCE-MANUALS. G. & C. MERRIAM Co., Springfield, Mass.
Filed May 17, 1906. Serial No. 19,616. PUBLISHED NOVEMBER 6, 1906.

59,193. DICTIONARIES. G. & C. MERRIAM Co., Springfield Mass.
Filed May 17, 1906. Serial No. 19,617. PUBLISHED NOVEMBER 6, 1906.

59,194. GLAZED FRUITS AND CRYSTALLIZED GINGER. GRIGGS, COOPER & COMPANY, St. Paul, Minn.
Filed March 24, 1906. Serial No. 18,208. PUBLISHED NOVEMBER 6, 1906.

59,195. TEAS. GRIGGS, COOPER & COMPANY, St. Paul, Minn.
Filed August 31, 1906. Serial No. 21,844. PUBLISHED NOVEMBER 6, 1906.

59,196. RUBBER BOOTS AND SHOES. HOOD RUBBER Co., Boston, Mass.
Filed May 31, 1906. Serial No. 19,954. PUBLISHED NOVEMBER 6, 1906.

59,197. SALVE. JOSEPH HORN, McKeesport, Pa.
Filed June 8, 1906. Serial No. 20,167. PUBLISHED NOVEMBER 6, 1906.

59,198. ANTISEPTIC GERMICIDAL LIQUID. GEORGE H. KOCH, New York, N. Y.
Filed June 11, 1906. Serial No. 20,198. PUBLISHED NOVEMBER 6, 1906.

59,199. BUTTER. GEO. W. LINN & SON, Chicago, Ill.
Filed May 10, 1906. Serial No. 19,410. PUBLISHED NOVEMBER 6, 1906.

59,200. ACCORDIONS AND CONCERTINAS. LYON & HEALY, Chicago, Ill.
Filed March 8, 1906. Serial No. 17,678. PUBLISHED NOVEMBER 6, 1906.

59,201. LUBRICATING-OIL. LOUIS MENDEL, Philadelphia, Pa.
Filed March 14, 1906. Serial No. 17,812. PUBLISHED MAY 15, 1906.

59,202. CERTAIN TOILET PREPARATIONS. THE POMPEIAN MFG. Co., Cleveland, Ohio.
Filed January 6, 1906. Serial No. 15,950. PUBLISHED NOVEMBER 6, 1906.

59,203. DISTILLED EXTRACT OF HAMAMELIS. POND'S EXTRACT COMPANY, New York, N. Y.
Filed August 15, 1906. Serial No. 21,586. PUBLISHED NOVEMBER 6, 1906.

59,204. SUGAR. POSTUM CEREAL Co., LTD., Battle Creek, Mich.
Filed December 19, 1905. Serial No. 15,510. PUBLISHED NOVEMBER 6, 1906.

59,205. EFFERVESCENT SALTS. JAMES A. SMITH, Wilmington, N. C.
Filed July 31, 1906. Serial No. 21,276. PUBLISHED NOVEMBER 6, 1906.

59,206. SALAD-OIL. JAS. P. SMITH & COMPANY, New York, N. Y.
Filed July 3, 1906. Serial No. 20,723. PUBLISHED NOVEMBER 6, 1906.

59,207. SALAD-OIL. JAS. P. SMITH & COMPANY, New York, N. Y.
Filed July 13, 1906. Serial No. 20,919. PUBLISHED NOVEMBER 6, 1906.

59,208. PRODUCTS FOR THE PRODUCTION OF OXYGEN AND PEROXID OF HYDROGEN. SOCIÉTÉ L'OXYLITHE, Paris, France.
Filed February 23, 1906. Serial No. 17,287. PUBLISHED NOVEMBER 6, 1906.

59,209. SOAP. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La.
Filed July 27, 1905. Serial No. 10,904. PUBLISHED NOVEMBER 6, 1906.

59,210. BAKING-POWDER. THE SOUTHERN MANUFACTURING Co., Richmond, Va.
Filed February 10, 1906. Serial No. 16,890. PUBLISHED NOVEMBER 6, 1906.

59,211. BAKING-POWDER. THE SOUTHERN MANUFACTURING Co., Richmond, Va.
Filed February 10, 1906. Serial No. 16,891. PUBLISHED NOVEMBER 6, 1906.

59,212. KOJI, MOYASHI, DIASTASE, FERMENTS, AND CONVERTING AGENTS. JOKICHI TAKAMINE, New York, N. Y.
Filed March 19, 1906. Serial No. 18,030. PUBLISHED NOVEMBER 6, 1906.

59,213. BLUE FOR LAUNDRY PURPOSES. NILS THESTRUP, Newcastle-on-Tyne, England.
Filed June 29, 1906. Serial No. 20,661. PUBLISHED NOVEMBER 6 1906.

59,214. CEREAL-WHEAT BREAKFAST FOOD. FREDERICK T. VAN STRUM, Minneapolis, Minn.
Filed July 18, 1906. Serial No. 21,006. PUBLISHED NOVEMBER 6, 1906.

59,215. CEREAL-WHEAT BREAKFAST FOOD. FREDERICK T. VAN STRUM, Minneapolis, Minn.
Filed August 15, 1906. Serial No. 21,590. PUBLISHED NOVEMBER 6, 1906.

59,216. WHEAT-FLOUR AND MACARONI. ZARNITS BROTHERS GROCERY COMPANY, Wheeling, W. Va.
Filed July 12, 1906. Serial No. 20,867. PUBLISHED OCTOBER 30, 1906.

59,217. LEATHER PURSES. A. & E. LEATHER GOODS Co., New York, N. Y.
Filed November 13, 1905. Serial No. 14,574. PUBLISHED NOVEMBER 6, 1906.

59,218. SPECTACLE AND EYEGLASS LENSES. WILLISTON W. BISSELL, Rochester, N. Y.
Filed December 16, 1905. Serial No. 15,464. PUBLISHED JUNE 12, 1906.

59,219. STOCK FOOD COMPOSED OF GRAINS AND MOLASSES. COAKLEY & MEADER, New York, N. Y.
Filed June 19, 1906. Serial No. 20,414. PUBLISHED NOVEMBER 6, 1906.

59,220. MOLASSES. CLARKE E. COE, Memphis, Tenn.
Filed October 8, 1906. Serial No. 22,585. PUBLISHED NOVEMBER 6, 1906.

59,221. MOLASSES. CLARKE E. COE, Memphis, Tenn.
Filed October 8, 1906. Serial No. 22,586. PUBLISHED NOVEMBER 6, 1906.

59,222. BUTTER. THE CONOVER CREAMERY Co., Dayton, Ohio.
Filed January 22, 1906. Serial No. 16,394. PUBLISHED NOVEMBER 6, 1906.

59,223. DAILY NEWSPAPERS. THE EVENING NEWS PUBLISHING Co. OF BALTIMORE CITY, Baltimore, Md.
Filed April 5, 1906. Serial No. 18,525. PUBLISHED NOVEMBER 6, 1906.

59,224. DICTIONARIES. G. & C. MERRIAM Co., Springfield, Mass.
Filed May 11, 1906. Serial No. 19,433. PUBLISHED NOVEMBER 6, 1906.

59,225. LINIMENT FOR EXTERNAL USE. GARFIELD TEA Co., New York, N. Y.
Filed June 2, 1906. Serial No. 20,012. PUBLISHED NOVEMBER 6, 1906.

59,226. WORSTED, WOOLEN, AND COTTON-MIXED PIECE GOODS. GRIFFON COMPANY, New York, N. Y.
Filed May 26, 1905. Serial No. 6,749. PUBLISHED APRIL 24, 1906.

59,227. GARTERS. HEWES & POTTER, Boston and Malden, Mass.
Filed April 11, 1906. Serial No. 18,699. PUBLISHED NOVEMBER 6, 1906.

59,228. ANESTHETIC PREPARATION. LES ÉTABLISSEMENTS POULENC FRÈRES, Paris, France.
Filed June 7, 1906. Serial No. 20,114. PUBLISHED NOVEMBER 6, 1906.

59,229. CACAOS, CHOCOLATE, AND PREPARATIONS THEREOF. A. & W. LINDT, Berne, Switzerland.
Filed July 9, 1906. Serial No. 20,810. PUBLISHED NOVEMBER 6, 1906.

59,230. CHEWING-GUM. DU WANE NORRIS, Chicago, Ill.
Filed September 29, 1906. Serial No. 22,390. PUBLISHED NOVEMBER 6, 1906.

59,231. KNITTED AND NETTED UNDERWEAR. RICE, STIX DRY GOODS COMPANY, St. Louis, Mo.
Filed December 29, 1905. Serial No. 15,764. PUBLISHED NOVEMBER 6, 1906.

59,232. WHEAT-FLOUR. SCHWABACHER BROS. & Co., INC., Seattle, Wash.
Filed September 6, 1906. Serial No. 21,940. PUBLISHED NOVEMBER 6, 1906.

59,233. TOILET-PAPER. SCOTT PAPER Co., Philadelphia, Pa.
Filed February 10, 1906. Serial No. 16,879. PUBLISHED NOVEMBER 6, 1906.

59,234. TOILET-PAPER. SCOTT PAPER Co., Philadelphia, Pa.
Filed February 10, 1906. Serial No. 16,880. PUBLISHED NOVEMBER 6, 1906.

59,235. CERTAIN CEREAL FOODS. SPRAGUE, WARNER & COMPANY, Chicago, Ill.
Filed April 25, 1906. Serial No. 19,072. PUBLISHED NOVEMBER 6, 1906.

59,236. SEEDS FOR AGRICULTURAL AND HORTICULTURAL PURPOSES. SUTTON & SONS, Reading, England.
Filed October 24, 1905. Serial No. 13,893. PUBLISHED NOVEMBER 6, 1906.

59,237. TONICS. THOMAS M. WALSH, Kansas City, Mo.
Filed June 14, 1906. Serial No. 20,266. PUBLISHED NOVEMBER 6, 1906.

59,238. NON-ALCOHOLIC BEVERAGES CONTAINING CAFFEIN. YERMETH-COMPAGNIE LENDER & Co., Schoeneberg, near Berlin, Germany, assignor to Graf & Comp., Schoeneberg, near Berlin, Germany, a Firm.
Filed March 23, 1906. Serial No. 18,254. PUBLISHED NOVEMBER 6, 1906.

59,239. CHEWING-TOBACCO. THE A. SCHROER TOBACCO Co., Cincinnati, Ohio.
Filed June 3, 1905. Serial No. 7,365. PUBLISHED NOVEMBER 6, 1906.

59,240. LEATHER SHOES. AUGUSTUS WRIGHT COMPANY, Petersburg, Va.
Filed December 16, 1905. Serial No. 15,471. PUBLISHED MARCH 27, 1906.

59,241. HAIR-TONIC. RICHARD B. BENNETT, Belmar, N. J.
Filed April 25, 1905. Serial No. 2,981. PUBLISHED NOVEMBER 6, 1906.

59,242. CERTAIN NAMED MEDICINES. JOHN S. BURTON, Sherman, Tex.
Filed April 9, 1906. Serial No. 18,647. PUBLISHED NOVEMBER 6, 1906.

59,243. BREWERS' PITCH. BUSCH-FREUND BREWERS' SUPPLY Co., St. Louis, Mo.
Filed July 31, 1906. Serial No. 21,280. PUBLISHED NOVEMBER 6, 1906.

59,244. MEDICINE FOR CERTAIN NAMED DISEASES. FRANKLIN P. CADY, Lellaton, Ga., assignor of one-half to Henry H. Fielding, Lellaton, Ga.
Filed August 9, 1906. Serial No. 21,429. PUBLISHED NOVEMBER 6, 1906.

59,245. REMEDIES FOR CERTAIN NAMED DISEASES. CALMETTO COMPANY, Monticello, Fla.
Filed July 19, 1906. Serial No. 21,013. PUBLISHED NOVEMBER 6, 1906.

59,246. CERTAIN NAMED MEDICINE. FRÉDÉRIC COMBEMALE, Paris, France.
Filed December 30, 1905. Serial No. 15,784. PUBLISHED NOVEMBER 6, 1906.

59,247. WORKINGMEN'S LEATHER GLOVES. DETROIT LEATHER SPECIALTY Co., Detroit, Mich.
Filed May 1, 1906. Serial No. 19,205. PUBLISHED NOVEMBER 6, 1906.

59,248. TABLE-WATERS. EQUINOX COMPANY, Manchester, Vt.
Filed April 10, 1906. Serial No. 18,656. PUBLISHED NOVEMBER 6, 1906.

59,249. LEATHER-BLACKING AND LEATHER-DRESSING. FRANK E. FENNESSY, Boston, Mass.
Filed May 31, 1905. Serial No. 7,103. PUBLISHED NOVEMBER 6, 1906.

59,250. TOOTH-POWDER. SAMUEL H. GUNDER, Richmond, Va.
Filed July 25, 1906. Serial No. 21,144. PUBLISHED NOVEMBER 6, 1906.

59,251. TOOTH-POWDER. SAMUEL H. GUNDER, Richmond, Va.
Filed July 25, 1906. Serial No. 21,146. PUBLISHED NOVEMBER 6, 1906.

59,252. REMEDIES FOR DISEASES PECULIAR TO INFANTS AND TEETHING CHILDREN. J. A. HOUSE MEDICINE Co., Paris, Tex.
Filed July 12, 1906. Serial No. 20,889. PUBLISHED NOVEMBER 6, 1906.

59,253. CERTAIN BEVERAGES. HYGEIA DISTILLED WATER COMPANY, New York, N. Y.
Filed April 3, 1905. Serial No. 281. PUBLISHED NOVEMBER 6, 1906.

59,254. CERTAIN BEVERAGES. HYGEIA DISTILLED WATER COMPANY, New York, N. Y.
Filed April 3, 1905. Serial No. 282. PUBLISHED NOVEMBER 6, 1906.

59,255. MASSAGE-CREAM. IRON CITY CHEMICAL Co., Pittsburg, Pa.
Filed September 13, 1906. Serial No. 22,067. PUBLISHED NOVEMBER 6, 1906.

59,256. CHOCOLATE CREAMS AND CANDY. JOSEPH B. FUNKE COMPANY, La Crosse, Wis.
Filed April 12, 1906. Serial No. 18,718. PUBLISHED NOVEMBER 6, 1906.

59,257. WOODEN PEGS. KEARSARGE PEG COMPANY, Bartlett, N. H.
Filed April 1, 1905. Serial No. 192. PUBLISHED NOVEMBER 6, 1906.

59,258. POULTRY REMEDIES. JOSEPH M. KELSCH, Lockport, N. Y.
Filed August 2, 1906. Serial No. 21,307. PUBLISHED NOVEMBER 6, 1906.

59,259. FLOUR MADE FROM TOASTED CORN. F. S. & F. D. LARABEE, Stafford, Kans.
Filed June 23, 1906. Serial No. 20,528. PUBLISHED NOVEMBER 6, 1906.

59,260. PERFUMES AND CERTAIN NAMED TOILET PREPARATIONS. LAZELL, DALLEY & Co. INCORPORATED, New York, N. Y.
Filed July 3, 1906. Serial No. 20,718. PUBLISHED NOVEMBER 6, 1906.

59,261. LOOSE-LEAF LEDGERS. MARSHALL-JACKSON COMPANY, Chicago, Ill.
Filed April 11, 1906. Serial No. 18,709. PUBLISHED NOVEMBER 6, 1906.

59,262. HAIR-TONIC. JOHN L. MAUGHAN, San Francisco, Cal.
Filed September 12, 1906. Serial No. 22,045. PUBLISHED NOVEMBER 6, 1906.

59,263. WITHDRAWN.

59,264. CERTAIN CHEMICAL COMPOUND. MERGENTHALER LINOTYPE Co., New York, N. Y.
Filed June 18, 1906. Serial No. 20,360. PUBLISHED NOVEMBER 6, 1906.

59,265. SPECIFIC FOR ECZEMA. EDWARD MOREAU, Arvilla, N. D.
Filed June 30, 1906. Serial No. 20,668. PUBLISHED NOVEMBER 6, 1906.

59,266. LINIMENT. JOSEPH MOORE, Kansas City, Mo.
Filed July 31, 1906. Serial No. 21,271. PUBLISHED NOVEMBER 6, 1906.

59,267. INTERNAL HEADACHE REMEDIES IN TABLET FORM. THE NEURALGYLINE COMPANY, Wheeling, W. Va.
Filed June 21, 1906. Serial No. 20,464. PUBLISHED NOVEMBER 6, 1906.

59,268. CIGARS. NILES & MOSER, Kansas City, Mo.
Filed May 15, 1906. Serial No. 19,559. PUBLISHED NOVEMBER 6, 1906.

59,269. HOSIERY. NORTH TEXAS DRY GOODS COMPANY, Paris, Tex.
Filed August 4, 1906. Serial No. 21,334. PUBLISHED NOVEMBER 6, 1906.

59,270. POISONS FOR EXTERMINATING VERMIN. THE ORIENTAL COMP., New York, N. Y.
Filed April 5, 1906. Serial No. 18,529. PUBLISHED NOVEMBER 6, 1906.

59,271. CHOCOLATE AND COCOA. PENNSYLVANIA CHOCOLATE COMPANY, Pittsburg, Pa.
Filed August 10, 1906. Serial No. 21,453. PUBLISHED NOVEMBER 6, 1906.

59,272. LAXATIVE TABLETS. JOHN PETERSON, Buffalo, N. Y.
Filed July 31, 1906. Serial No. 21,274. PUBLISHED NOVEMBER 6, 1906.

59,273. TONICS AND REMEDIES FOR DYSPEPSIA, STOMACH AND RHEUMATIC DISORDERS. RICHARD PREISSLER, New York, N. Y.
Filed July 25, 1906. Serial No. 21,163. PUBLISHED NOVEMBER 6, 1906.

59,274. CONFECTIONERY-FLAVORING MATERIALS. PURITAN DRUG COMPANY, Boston, Mass.
Filed March 30, 1906. Serial No. 18,377. PUBLISHED NOVEMBER 6, 1906.

59,275. BLOOD-PURIFIER. GUMECINDO G. SANCHEZ, San Francisco, Cal.
Filed June 27, 1906. Serial No. 20,615. PUBLISHED NOVEMBER 6, 1906.

59,276. INSECTICIDE. ADELHAID SCHULZ, New York, N. Y.
Filed July 5, 1906. Serial No. 20,739. PUBLISHED NOVEMBER 6, 1906.

59,277. MEDICATED TONIC AND INVIGORATOR FOR POULTRY. SHENANDOAH POULTRY FOOD CO., Staunton, Va.
Filed June 19, 1906. Serial No. 20,417. PUBLISHED NOVEMBER 6, 1906.

59,278. CEREAL TEA AND COFFEE SUBSTITUTES. JACOB HUBER SHETTER, Philadelphia, Pa.
Filed March 31, 1906. Serial No. 18,398. PUBLISHED NOVEMBER 6, 1906.

59,279. HAIR-TONICS. ELIZABETH MARIE STEIBEL, Washington, D. C.
Filed December 4, 1905. Serial No. 15,173. PUBLISHED NOVEMBER 6, 1906.

59,280. BISCUITS AND CAKES. TACOMA BISCUIT & CANDY COMPANY, Tacoma, Wash.
Filed June 26, 1906. Serial No. 20,592. PUBLISHED NOVEMBER 6, 1906.

59,281. COMMINUTED, DESICCATED BREAD. HERBERT TAYLOR, Boston, Mass.
Filed February 10, 1906. Serial No. 16,897. PUBLISHED NOVEMBER 6, 1906.

59,282. OIL FOR MEDICINAL PURPOSES AND APPLICATIONS. C. DE KONING TILLY, Haarlem, Netherlands.
Filed June 26, 1906. Serial No. 20,590. PUBLISHED NOVEMBER 6 1906.

59,283. LEATHER SHOES. W. R. AND AUBURN LYNN SHOES CO., Auburn, Me.
Filed May 11, 1906. Serial No. 19,454. PUBLISHED NOVEMBER 6, 1906.

59,284. CARPETS AND RUGS. M. J. WHITTALL, Worcester, Mass.
Filed May 1, 1906. Serial No. 19,212. PUBLISHED NOVEMBER 6, 1906.

59,285. VEGETABLE BOILER COMPOUND. THE CANTON PAINT & VARNISH COMPANY, Canton, Ohio.
Filed August 15, 1906. Serial No. 21,581. PUBLISHED NOVEMBER 6, 1906.

59,286. REMEDY FOR THE ALLEVIATION AND CURE OF INDIGESTION. GLYCOSINE PHOSPHATE CO., Salisbury, N. C.
Filed August 17, 1905. Serial No. 11,730. PUBLISHED NOVEMBER 6, 1906.

59,287. NURSING AND DIETARY MILK. NUTRICIA MILK COMPANY, Milwaukee, Wis.
Filed September 1, 1906. Serial No. 21,854. PUBLISHED NOVEMBER 6, 1906.

59,288. CERTAIN NAMED REMEDIES. M. F. ADLEMAN, New York, N. Y.
Filed March 27, 1906. Serial No. 18,298. PUBLISHED NOVEMBER 6, 1906.

59,289. CATHARTICS. DR. BAYER ÉS TÁRSA, Budapest, Austria-Hungary.
Filed March 19, 1906. Serial No. 18,162. PUBLISHED NOVEMBER 6, 1906.

59,290. ALBUMEN COMPOUND CONTAINING PHOSPHORUS. FARBWERKE VORM. MEISTER LUCIUS & BRÜNING, Höchst-on-the-Main, Germany.
Filed June 18, 1906. Serial No. 20,384. PUBLISHED NOVEMBER 6, 1906.

59,291. TONIC AND RECONSTRUCTIVE. FERROMANNIN CHEMICAL CO. (INC.), New York, N. Y.
Filed June 7, 1906. Serial No. 20,108. PUBLISHED NOVEMBER 6, 1906.

59,292. OINTMENT FOR SKIN DISEASES. KIRBY CHEMICAL COMPANY, Grand Haven, Mich.
Filed April 30, 1906. Serial No. 19,182. PUBLISHED NOVEMBER 6, 1906.

59,293. VAGINAL SUPPOSITORIES. GEORGE H. KOCH, New York, N. Y.
Filed June 11, 1906. Serial No. 20,199. PUBLISHED NOVEMBER 6, 1906.

59,294. DYSPEPSIA REMEDIES. THE MOTHER SEIGEL'S SYRUP COMPANY, New York, N. Y.
Filed April 17, 1906. Serial No. 18,870. PUBLISHED NOVEMBER 6, 1906.

59,295. SUPPOSITORIES. WALTER S. RICHARDSON, Buffalo, N. Y.
Filed May 21, 1906. Serial No. 19,725. PUBLISHED NOVEMBER 6, 1906.

59,296. CERTAIN NAMED MEDICINES. SAN ANTONIO DRUG CO., San Antonio, Tex.
Filed February 16, 1906. Serial No. 17,100. PUBLISHED NOVEMBER 6, 1906.

59,297. BEEF-OIL OR BEEF-FAT. SCHWARZSCHILD & SULZBERGER COMPANY, New York, N. Y.
Filed May 19, 1906. Serial No. 19,697. PUBLISHED NOVEMBER 6, 1906.

59,298. OINTMENT. WILLIAM H. SERVER, Carbon Hill, Ill.
Filed May 5, 1906. Serial No. 19,306. PUBLISHED NOVEMBER 6, 1906.

59,299. MEDICINAL PREPARATION. THE TILDEN COMPANY, New Lebanon, N. Y., and St. Louis, Mo.
Filed March 5, 1906. Serial No. 17,512. PUBLISHED NOVEMBER 6, 1906.

59,300. COTTON PIECE GOODS. GRINNELL WILLIS & CO., New York, N. Y.
Filed August 30, 1906. Serial No. 21,812. PUBLISHED NOVEMBER 6, 1906.

LABELS

REGISTERED JANUARY 1, 1907.

13,297.—*Title:* "GOLDEN TOP." (For Ginger-Ale.) AMERICAN BOTTLING CO. INC., Norfolk, Va. Filed December 6, 1906.

13,298.—*Title:* "COCA-COLA." (For a Non-Alcoholic Beverage.) THE COCA COLA CO., Atlanta, Ga. Filed December 8, 1906.

13,299.—*Title:* "BLOOD OF THE GRAPE CHAMPAGNE." (For Non-Intoxicating Beverages.) WILSON FRUIT JUICE CO., Lawton, Mich. Filed December 10, 1906.

13,300.—*Title:* "WESTERN RESERVE MAPLE SYRUP." (For Maple-Syrup.) WESTERN RESERVE SYRUP CO., Cleveland, Ohio. Filed December 7, 1906.

13,301.—*Title:* "CLOVER GLEN." (For Butter.) GEORGE A. BARBER, Los Angeles, Cal. Filed November 26, 1906.

13,302.—*Title:* "RUSSELL'S CLUB MOGUL." (For Playing-Cards.) WILLIS W. RUSSELL CARD CO., Milltown, N. J., and New York, N. Y. Filed November 27, 1906.

PRINTS

REGISTERED JANUARY 1, 1907.

1,874.—*Title:* "SATISFIED." (For Coca-Cola.) S. L. WHITTEN, Chicago, Ill. Filed November 14, 1906.

1,875.—*Title:* "TEMPTATION." (For Liquors.) THE MEYERCORD COMPANY, Chicago, Ill. Filed December 7, 1906.

1,876.—*Title:* "MARTHA WASHINGTON BACK, CONGRESS PLAYING CARDS." (For Playing-Cards.) THE UNITED STATES PLAYING CARD COMPANY, Norwood, Ohio. Filed December 6, 1906.

1,877.—*Title:* "MEN'S AND BOYS' APPAREL." (For Men's and Boys' Apparel.) H. C. LYTTON, Chicago, Ill. Filed December 10, 1906.

1,878.—*Title:* "GROUND SHELLS OR HENS' TEETH." (For Ground Shell.) LONG BEACH MILLING COMPANY, Longbeach, Cal. Filed November 6, 1906.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE KLEPETKO.

Decided November 26, 1906.

AMENDMENT—ENTRY OF AFTER REJECTION UNDER RULE 132.

Where following the termination of an interference and the rejection of the defeated party's claims he filed an amendment canceling the rejected claims and adding new claims, which amendment was refused admission by the Examiner on the ground that the prosecution before the Primary Examiner was closed by reason of the fact that the application had been appealed to the Examiners-in-Chief, allowed, and passed to issue prior to the declaration of the interference, *Held* that the rejection of the claims involved in the interference under Rule 132 is a new ground of rejection and that the rules and statute give applicant the right to amend in an endeavor to overcome said ground of rejection.

ON PETITION.

ROASTING-FURNACE.

Mr. Emil Starek for the applicant.

ALLEN, *Commissioner:*

This is a petition from the action of the Examiner refusing to enter an amendment.

It appears that this application was appealed to the Examiners-in-Chief, who allowed the claims appealed, and the application was then passed to issue. The application, however, was subsequently withdrawn from issue and placed in interference. Said interference was decided adversely to petitioner, and he was informed that his claims 11 and 12 involved in the interference stood finally rejected under Rule 132. Petitioner thereupon filed an amendment on July 5, 1906, conceling the above-mentioned claims and adding four additional claims. The Examiner refused to admit this amendment, whereupon applicant took this petition.

The Examiner states that he refused to enter the amendment for the reason that the prosecution before the Primary Examiner was closed by the appeal to the Examiners-in-Chief and by the allowance of the application. He takes the position that the withdrawal of the application from issue was "for the purpose of declaring an interference only," and that while the further prosecution of the case is not closed by the interference, neither is it reopened thereby.

The position of the Examiner is considered untenable. In my decisions in the cases of *ex parte Harvey* (102 O. G., 621) and *ex parte Greuter* (116 O. G., 596) I held that an applicant is entitled to amend after the termination of the interference in an effort to secure allowable claims. The decision in *ex parte Harvey, supra*, states:

It is true that Rule 132 provides that the Examiner shall inform the defeated party in an interference that his claims involved in the interference "stand finally rejected." This proceeding does not however, close the consideration of the whole case, as in the case of a second and final rejection in view of the same references under Rule 133. Rule 132 merely provides for the final rejection of the claim involved. That claim must, if it is insisted upon by the applicant, stand as finally rejected; but in view of the fact that but one action has been taken against it it may be amended in order to avoid the "reason for rejection," or, what is the same thing, it may be canceled and a new and different claim presented in lieu thereof. Rule 96 specifically provides that after an interference has been decided the application may be held for revision and restriction. If by the provisions of this rule the Examiner is given jurisdiction to enter and consider amendments filed after the determination of an interference proceeding when he specifically reserves the same, there is no good reason why he should not have such jurisdiction whether he specifically reserves it under Rule 96 or not.

The Examiner, however, attempts to make a distinction between the above-cited cases and the present one, where an appeal was taken and an allowance of the application secured prior to the declaration of the interference. The above decisions make no such distinction. In the present case, following the termination of the interference, certain previously-allowed claims were rejected because applicant was not the first inventor thereof, as disclosed by the interference proceeding. Such rejection is based upon a new ground and is a new reason for rejection, in view of which applicant has the right to amend under Rules 65 and 68 and section 4903 of the Revised Statutes.

In the case of *ex parte Thurman* (111 O. G., 1625) the Examiner refused to admit an amendment after the termination of an interference on the ground—

> that the prosecution of the case was closed when the interference was declared, as it was then in all other respects ready for allowance.

In that case there was stated the following principle, which is applicable in the present case:

> The Examiner refers to the well-settled principle that there must be at some time an end to the prosecution of an application, and he is of the opinion that the prosecution of an application is closed when it has been placed in condition for allowance prior to the declaration of an interference, and it should therefore be treated as though it were in condition for appeal or had been formally passed to issue.
>
> An application which is in condition for appeal or which has been formally allowed and passed to issue has had the benefit of the careful consideration of the applicant, and his amendments have been filed at his own pleasure within the one-year limit of time prescribed by section 4894 of the Revised Statutes in which to prosecute the application. Therefore when a case is prosecuted to a final rejection or to a formal allowance some restriction must of necessity be placed upon the right of further amendment; but a different principle applies to a case such as this one where an interference has been declared, whether the case is then believed to be ready for allowance or whether it has been held to be subject to revision and restriction after the determination of the interference. In cases where the applicant has put his case in condition for allowance prior to the declaration of an interference he has usually done so within a fixed time set by the Office. As new light is often thrown upon an invention while involved in an interference, it would be unjust to an applicant to hold that no further amendments could be presented and considered after the termination of the proceeding. The application is then within the jurisdiction of the Examiner, and there is no rule which prohibits the formal entry and consideration of an amendment after the proceeding has

terminated. It is the province and aim of this Office to grant to an applicant a patent which will fully cover his invention, and all proper amendments should be considered and acted upon which are not prohibited by the rules.

In the present case permission was given to withdraw the application from issue for the consideration of a possible new ground of rejection—to wit, the prior invention of the opponent to the interference proceeding. Such ground having been found to exist and the claims of the issue having been rejected thereon under Rule 132, the rules and the statute heretofore noted give applicant the right to amend in an endeavor to avoid such reference. Said rules, for the reasons stated, are considered applicable to this application rather than Rule 142.

The Examiner calls attention to the fact that applicant attempted to insert the claims of the present amendment at the time he made claims suggested to him for the interference proceeding and that their admission was then denied on petition to the Commissioner. The ground of this refusal, however, was that "the declaration of the interference should not be delayed to await the consideration of claims not to be included as issues." This ground is not applicable at the present time.

The petition that the amendment be entered and considered is granted.

DENSTEN *v.* BURNHAM.

Decided November 26, 1906.

TRADE-MARK—INTERFERENCE—FAILURE TO TAKE DEPOSITION IN ACCORDANCE WITH NOTICE—SUBSEQUENT DEPOSITION—SUPPRESSION.

Where a party to an interference gives notice to the opposing party of his intention to take testimony at a certain time and place, but fails to appear at the time and place stated, and no notice is given of his inability to take testimony in accordance with the notice, testimony taken under a subsequent notice will not be considered if proper objection is made by the opposing party unless it appears that the opposing party was not injured by the failure to act upon the original notice or that there were good reasons for such failure to act then and for the failure to duly notify the opposing party of the postponement.

ON APPEAL.

TRADE-MARK FOR MEDICINE.

Dr. J. C. Densten pro se.

Messrs. Ellis Spear & Co. for Burnham.

ALLEN, *Commissioner:*

This is an appeal by Burnham from a decision of the Examiner of Interferences refusing to suppress Densten's deposition.

The record shows that a notice was served on Burnham and his attorney, who reside at Auburn, Me., stating that testimony on behalf of Densten would be taken at a specified place in Scranton, Pa., on July 2, 1906, at nine o'clock a. m. Burnham and his attorney appeared at the time and place designated. Although Scranton is the residence of Densten, neither Densten nor his attorney appeared at the place designated up to twelve o'clock of the day named, at which time Burnham and his attorney left.

On August 7, 1906, the deposition was taken, the suppression of which is now asked. Although the record contains no proof of the service of a notice that such deposition would be taken, it appears from the deposition itself that the attorney for Burnham was notified and that he appeared and cross-examined the witness, noting an objection, however, to the irregularity of the proceeding. This objection was followed up by bringing this motion to suppress said deposition.

The recognition of a right in a party to take such action as has been taken in this case may work much mischief. When a proper notice of taking testimony is given to an opposing party, a failure to attend at the time and place stated acts as a waiver of the right to cross-examine. The party to whom notice is given must therefore comply strictly with its terms in order to preserve this invaluable right. If it be contended that a party has the right to set a second time and place for the taking of testimony after having failed to appear in accordance with a previous notice given by him, no reason is apparent why he could not give a third notice and continue giving notices as often as he desired within the limit set for the taking of testimony. This might not be such an important consideration were the proceeding one in which the parties were likely to be residing in the same locality; but in interference proceedings parties are likely to reside in widely-separated parts of the country. Under these circumstances a party must bear the expense of a long journey or place the case in the hands of persons unfamiliar with the particular case and possibly unfamiliar with interference proceedings, which often results disastrously. Thus in order to preserve his rights a party might be compelled to keep his counsel in constant attendance within the limit set for the taking of testimony in accordance with the notices successively given by his adversary.

I am of the opinion that a party who fails to take his testimony in accordance with the notice of the taking of testimony which he has given to his opponents should not be permitted to present and have considered testimony taken under a subsequent notice when objection is made by the opponents unless it appears that the opponents were not injured by the failure to act upon the original notice or that there were good reasons for such failure to act then and for the failure to duly notify the parties of the postponement.

In the present case no excuse whatever has been offered by the appellee for the failure to take his testimony in accordance with the first notice or for the failure to give the appellant such notice of the fact that the testimony would not be taken at that time as might have saved him the expense and loss of time incident to the journey taken by him and his attorney pursuant to the first notice. The deposition in question should be suppressed.

The decision of the Examiner of Interferences is reversed.

Decided December 18, 1906.

BEALL, JR., *v.* LYON.

INTERFERENCE—PRELIMINARY STATEMENT—AMENDMENT—CARRYING BACK OF OPPONENT'S DATE.

A party will not be permitted to amend his preliminary statement to carry back his date of disclosure to cover the date proved by his opponent in a prior interference with a third party where the amended date is earlier than that set up in a preliminary statement filed three years before in an interference between him and said third party and where the affidavit in support of the motion indicates an uncertainty whether the alleged disclosure took place prior to the date originally given.

APPEAL on motion.

APPARATUS FOR USE IN MAKING CONCRETE PILES.

Messrs. John B. Thomas & Co., and *Mr. W. S. Duvall* for Beall, Jr.

Mr. Franklin H. Hough and *Messrs. Smith & Frazier* for Lyon.

ALLEN, *Commissioner:*

This case comes before me on appeal from the decision of the Examiner of Interferences denying Lyon's motion for leave to file an amended preliminary statement.

Beall, Jr., in his preliminary statement alleged conception and disclosure on August 1, 1902. Lyon in his original statement alleged conception on July 27, 1902, and disclosure on or about August 16, 1902. He now desires to amend his statement by alleging disclosure between July 27 and August 16, 1902.

The application upon which Lyon's patent involved in this interference was granted was previously in interference with an application of one Shuman, and an interference was also declared between applications of the same parties for the process disclosed in the apparatus applications. Shuman was defeated and purchased Lyon's applications, subsequently assigning them, together with the patent granted on his own application, to the Simplex Concrete Piling Company. Shuman then became involved in an interference with Beall, Jr., and judgment was rendered against Shuman by the Patent Office and by the court of appeals. The party in interest opposed to Beall, Jr., in the case now at bar is the Simplex Concrete Piling Company, assignee of Lyon's patent, which company was also the party in interest opposed to him in the Beall, Jr.-Shuman interference. Lyon in his interference with Shuman filed preliminary statements in which he alleged conception and disclosure of the invention in issue on August 16, 1902. In the Beall, Jr.-Shuman interference Beall, Jr., introduced testimony to the effect that he conceived and disclosed the invention about August 6, 1902, and the evidence was held sufficient to establish that he made the invention at about that time. Lyon, knowing this fact, did not in his original statement in the present interference adhere to the date of conception alleged by him in his prior interference with Shuman, which date was subsequent to that established by Beall, Jr., but alleged conception on July 27, 1902, a few days earlier than the date established by Beall, Jr., in the Beall, Jr.-Shuman interference. Lyon did not, however, allege disclosure of the invention until August 16, 1902. This being subsequent to the date credited to Beall, Jr., in the prior interference, it would apparently be impossible on the state of facts established in the Beall, Jr.-Shuman interference for Lyon to prevail in the case at bar unless he were permitted to file an amended statement setting forth an earlier date of disclosure.

It is alleged in affidavits filed by Lyon in support of his motion that on August 18, 1906, the day after times were set for taking testimony, a conference was held by Lyon and his attorneys and that Lyon then and there recalled sending a letter to one Kort Berle while the latter was at Spray Beach, N. J., in the summer of 1902. Lyon states that on August 20, 1906, Berle told him that the invention here in issue was described in the letter referred to. Berle states that he received this letter while at Spray Beach in August and September, 1902, but that he has been unable to find the letter and cannot recall its date. He does not state what part of the months of August and September he was at Spray Beach.

Lyon in his affidavit in support of his motion also states that he has endeavored to learn from the office records of one James L. Parsons the date of a certain experiment with wooden piles at the "Stoneleigh Court" apartment-house in this city, but that he has been unable as yet to ascertain the date. He believes, however, that the experiment took place between July 27 and August 16, 1902, and says that he disclosed the invention in issue during that period.

It seems fair to assume that Lyon's memory relative to occurrences in the summer of 1902 was more accurate and reliable in the summer of 1903, when he executed his preliminary statement in the Lyon-Shuman interference, than it is now, four years after the occurrences took place. The fact that Lyon states in his affidavit that he *believes* the Parsons experiment was made between July 27, 1902, and August 16, 1902, and that he is *positive* he disclosed the invention to others between the dates mentioned indicates that he is uncertain whether the experiment and his disclosure of the invention to others took place at the same time or at different times. The fact, moreover, that Lyon is now attempting to fix the date of the Parsons experiment would be no reason for permitting him to amend his statement even if the date of the experiment were connected with his date of disclosure. Amendments to preliminary statements are not permitted on the mere possibility that something may some time be discovered to justify such amendment. The same criticism applies to the letter written to Kort Berle. There is nothing in the record to indicate that this letter was written prior to August 16, 1902, the date of disclosure originally alleged by Lyon, Berle merely stating that he received it while at Spray Beach in August and September, 1902. The letter may have been written in the latter part of August or in September. The fact that a letter of unknown date may be found at some future time and may confirm Berle's recollection that such a letter was written and contained a description of the invention in issue affords no ground whatever for permitting Lyon to amend his preliminary statement.

The decision of the Examiner of Interferences is affirmed.

NAULTY *v.* CUTLER.

Decided December 21, 1906.

1. INTERFERENCE—MOTION FOR REHEARING—JURISDICTION TO DETERMINE AFTER LIMIT OF APPEAL.

The question of the Examiner's retaining jurisdiction to determine, after the expiration of the limit of appeal, a motion for rehearing brought before the expiration of the limit of appeal is a different matter from that of the termination of the limit of appeal. No good reason appears for holding that a tribunal may not properly render a decision on a motion for rehearing brought before the expiration of the limit of appeal, even though the date of the decision is after the limit of appeal has expired.

2. SAME—SAME—DOES NOT EXTEND LIMIT OF APPEAL.

The filing of the motion for rehearing does not extend the limit of appeal, and in case the motion is denied the moving party will have lost his right of appeal unless he has taken the precaution to file his appeal within the limit originally set or has obtained an extension of the limit of appeal.

3. SAME—SAME—QUESTION OF APPEAL.

The rule that there is no appeal from a decision denying a rehearing does not cover the case where the holding is want of jurisdiction to entertain the motion.

4. SAME—SAME—DATE OF FILING.

Where a motion was filed by N. on the last day of the limit of appeal and on the same day notice by registered letter was mailed to C.'s attorney and C. makes no contention that said notice was not received in ample time to prepare for the hearing, *Held* that N. is entitled to the date of the receipt of his motion in this Office as its date of filing.

5. SAME—SAME—PRACTICE.

It is not the practice to require service of requests or motions for rehearing upon the opposite party (*Townsend* v. *Copeland* v. *Robinson*, 124 O. G., 1845) or to set such motions for hearing unless examination of the motion and of the record shows that a rehearing ought to be granted. (*Adams* v. *Murphy*, 91 O. G., 2373.)

6. SAME—SAME—JURISDICTION NOT AFFECTED BY APPEAL.

Where a motion is filed for rehearing of the Examiner's decision and also an appeal from said decision, *Held* that the filing of the appeal does not oust the Examiner of jurisdiction to entertain the motion.

APPEAL and petition.

MAIL-CHUTE.

Mr. Chas. J. Stockman for Naulty.

Mr. Frederick F. Church for Cutler.

ALLEN, *Commissioner:*

This case comes up on an appeal and a petition by Naulty from the action of the Primary Examiner holding that he was without jurisdiction to hear and decide Naulty's motion for a rehearing.

On September 7, 1906, the Primary Examiner denied a motion by Naulty to dissolve the interference and set September 27, 1906, as the limit of appeal from his decision. On September 27 Naulty filed a motion, noticed for hearing on October 3, 1906, for a rehearing by the Examiner of his decision. The Examiner on October 1, 1906, notified Naulty that a hearing on his motion for a rehearing was set for October 11, 1906. On October 15, 1906, the Primary Examiner dismissed the motion for a rehearing on the ground that he was without jurisdiction to rehear the case and held that his jurisdiction terminated with the limit of appeal. The Examiner was mistaken in this conclusion. Naulty obtained no extension of the limit of appeal or stay of the running of the limit of appeal and filed no motion for that purpose. Rule 123 and the decisions in *Carmichael* v. *Fox*, (104 O. G., 1656,) *Cole* v. *Zarbock* v. *Greene*, (116 O. G., 1451,) and *Felsing* v. *Nelson* (122 O. G., 1722) provide that the filing of a motion for rehearing does not operate to stay the running of the limit of appeal. Otherwise it would be within the power of a party to obtain at will an extension of the limit of appeal by merely filing such a motion.

The question of the Examiner's retaining jurisdiction to determine, after the expiration of the limit of appeal, a motion for rehearing brought before the expiration of the limit of appeal is a different matter from that of the termination of the limit of appeal. No good reason appears for holding that a tribunal may not properly render a decision on a motion for rehearing brought before the expiration of the limit of appeal, even though the date of the decision is after the limit of appeal has expired. It is often inconvenient or impossible to hear and properly dispose of a motion for rehearing within the limit of appeal, or even of a motion for extension of the limit of appeal, where the party has filed his motion within the limit. Such a practice is not believed to be inconsistent with the rules and decisions. The filing of the motion for rehearing does not extend the limit of appeal, and in case the motion is denied the moving party will have lost his right of appeal unless he has taken the precaution to file his appeal within the limit originally set or has obtained an extension of the limit of appeal.

The Examiner based his decision that he was without jurisdiction to determine the motion, in part at least, upon the ground that the motion had not been noticed for hearing within the limit of appeal, citing the case of *Meyrose* v. *Jahn*, (56 O. G., 1447.) In that case it was held that motions after judgment should be noticed for hearing within the time set for appeal, as otherwise the tribunal rendering judgment would not have jurisdiction at the time of hearing. This holding was based on Rule 114, which as then in force and as amended on April 18, 1888, contained a provision that—

> The filing of such a motion, noticed for hearing within the limit of appeal, will operate to stay the running of the time so limited until the final determination of the motion.

Rule 114 was amended on March 13, 1903, by the omission of this provision, and the practice under *Meyrose* v. *Jahn*, *supra*, has been modified by my decision in *Kneedler* v. *Shepard*, (104 O. G., 1895,) so that motions under said rule need not be noticed for hearing within the term allowed for filing motions.

That it is the present practice to decide such motions after the expiration of the limit of appeal appears from the following cases. In *Wilderman* v. *Simm* (109 O. G., 275) the action of the Examiner of Interferences was held proper in a case where, on December 10, 1903, he granted a motion of Simm's filed December 8, 1903, for an extension of the limit of appeal, although the limit of appeal expired on December 9, 1903. In that case it was stated:

> Simm's motion having been brought before the limit of appeal as originally set had expired, the Examiner of Interferences had jurisdiction to grant the extension asked for.

In the case of *Cole* v. *Zarbock* v. *Green* (116 O. G., 1451) the Examiner denied Zarbock's motion to dissolve and set March 7, 1905, as the limit of appeal. A motion for a rehearing filed March 3, 1905, was entertained and denied by the Examiner on March 9, 1905, two days after the expiration of the limit of appeal.

The contention of Cutler that there is no appeal from a decision denying a motion for a rehearing is sound. (*Macey* v. *Laning* v. *Casler*, 101 O. G., 1608; *Carmichael* v. *Fox*, 104 O. G., 1656; *Cole* v. *Zarbock* v. *Green*, 116 O. G., 1451; *Hewitt* v. *Thomas* v. *Kruh* v. *Weintraub*, 122 O. G., 1045.) In the present case, however, the motion for a rehearing was not denied, but dismissed for want of jurisdiction. Naulty's appeal and petition are from the holding of the Examiner that he is without jurisdiction to entertain the motion. Although the holding in this decision is that the Examiner has jurisdiction to entertain Naulty's motion, he also has the power, when the case is returned to him, to deny the motion for rehearing if he is of the opinion that the reasons advanced do not warrant granting a rehearing. From such a decision no appeal will lie.

Cutler also contends that the motion of Naulty for a rehearing was not filed within the limit of appeal. The record shows that Naulty's motion paper was filed in this Office on the last day of the limit of appeal and that on the afternoon of the same day notice by registered letter was mailed to Cutler's attorney at Rochester, N. Y. Cutler makes no contention that this notice was not received by him in ample time to prepare for the hearing. Under these circumstances Naulty is considered entitled to the date of the receipt of his motion in this Office as its date of filing. To hold that acknowledgment of receipt of service must accompany the motion would often prevent the filing of motions within the limit of appeal and would work great hardship, especially where the party served resides at a great distance or in a foreign country.

Furthermore, it is not the practice to require service of

requests or motions for rehearing upon the opposite party. (*Townsend* v. *Copeland* v. *Robinson*, 124 O. G., 1845.) Such motions are not ordinarily set for hearing unless examination of the motion and of the record shows that a rehearing ought to be granted. (*Adams* v. *Murphy*, 91 O. G., 2373.) In case the motion for rehearing is granted, a date for the rehearing is fixed and all the parties are notified by this Office.

The record shows that on the day he filed his motion for a rehearing, September 27, 1906, Naulty also filed an appeal from the Examiner's decision, and that on October 9, 1906, after receiving notice that his motion would be heard on October 11, 1906, he withdrew said appeal. Cutler's contention that the filing of this appeal ousted the Examiner of jurisdiction to entertain the motion for a rehearing is contrary to the practice of this Office. In the case of *Greuter* v. *Mathieu*, (112 O. G., 254,) where motion was made before the Examiner of Interferences to reopen the interference, it was stated:

> * * * as the motion to reopen was brought on the last day within which Greuter had to file his appeal to the Examiners-in-Chief he should, out of an abundance of caution, have filed his appeal the same day on which he made the motion to reopen the interference.

The decision of the Examiner holding that he is without jurisdiction to consider Naulty's motion for a rehearing is reversed.

WOODS v. POOR.

Decided October 8, 1906.

1. INTERFERENCE—PRIORITY—DILIGENCE.

Where P. conceived the invention in the early part of November, 1903, and filed his application December 11, 1903, and W. conceived the invention on September 16, 1903, but did not reduce it to practice prior to the filing of his application on January 27, 1904, *Held* that W. was lacking in diligence in the absence of a sufficient excuse for the delay.

2. SAME—SAME—SAME—ENDEAVOR TO IMPROVE DEVICE.

The claim of an inventor, advanced as an excuse for his delay in reducing to practice, that he was endeavoring to improve upon his conception is not supported by testimony showing merely that conversations were held looking to the improvement thereof where it does not appear that any changes were actually made or that any material changes were even suggested.

3. SAME—SAME—SAME—CLAIM OF POVERTY NOT PROVED.

A claim of an inventor that he was financially unable to reduce his invention to practice after paying the necessary expenses of his business is not proved where the evidence does not show what the necessary expenses of the business were and where there is no evidence of the inventor's resources except his own statement that he had only a given amount of cash on hand.

4. SAME—ORIGINALITY.

An allegation of derivation of an invention by one party from another is not proved by a mere showing that opportunity for such derivation existed.

APPEAL from Examiners-in-Chief.

SIDE BEARING FOR CARS.

Messrs. Bond, Adams, Pickard & Jackson and *Messrs. Meyers, Cushman & Rea* for Woods.

Mr. Thomas F. Sheridan for Poor.

MOORE, *Acting Commissioner:*

This is an appeal by Woods from a decision of the Examiners-in-Chief affirming the decision of the Examiner of Interferences and awarding priority of invention to Poor on the following issue:

> 1. A side bearing for railway-cars comprising a casing or shell which has openings in its top and bottom and a roller in said shell adapted for rolling contact through said openings with bearing-surfaces; said casing or shell being provided with tracks located in position to support the roller when the latter is below and free from the upper bearing-surface and the said roller having free movement in the shell both endwise of the latter and vertically with respect to said tracks.
>
> 2. A side bearing for railway-cars comprising a casing or shell which has openings in its top and bottom and a roller in said shell adapted for rolling contact through said openings with bearing-surfaces and provided with trunnions at its ends; said casing or shell having inwardly-extending flanges forming tracks which are located in position to engage the said trunnions when the roller is below and free from the upper bearing-surface, and the said roller having free movement in the shell both endwise of the latter and vertically with respect to the said track.
>
> 3. In a device of the class described, the combination with a suitable roller, having oppositely-extending gudgeons, of a box open at the top to receive the roller and having a longitudinally-slotted bottom through which the roller projects, there being inwardly-extending side flanges on the box, to limit the downward movement of the roller, and a cover for the box, separately formed and adapted to furnish an upper tread for the roller.

The Examiner of Interferences and the Examiners-in-Chief both found that Woods was the first to conceive, but the last to reduce to practice, and that he was not exercising diligence when Poor entered the field.

The correctness of the decisions of the lower tribunals with respect to the facts does not seem to be seriously disputed; but it is strenuously contended by appellant that their conclusion upon the question of diligence is unjust and inequitable and contrary to the principles announced in prior decisions upon this point. Although the question is not entirely free from doubt, I am of the opinion that the conclusions reached below are correct.

Poor's application was filed December 11, 1903. Woods's application was filed January 27, 1904.

Woods conceived the invention in issue on September 16, 1903, but did not reduce it to practice prior to the filing of his application. Poor conceived the invention in the early part of November, 1903, and claims no reduction to practice prior to the filing of his application. In order that Woods shall prevail, it is necessary for him to show that he was exercising diligence just prior to the time when Poor entered the field and up to the time of filing his application.

At the time Woods conceived the invention he was vice-president and general manager of the Kindl Car Truck Company, which was engaged in the business of exploiting truck-frames for freight-cars. He was the inventor, jointly with Samuel W. McMunn, the president of the company, of a roller side bearing for car-trucks protected by Letters Patent No. 703,148, upon which the invention in issue was designed as an improvement. This patented device was exploited by Woods and McMunn up to the time when Woods left the employ of the company on October, 10, 1903. It appears that a disagreement with respect to a division of profits from the sale of these devices led Woods to sever his connection with the company. After resigning his position Woods went into the railway supply business himself, continuing the exploitation of the patented side bearings.

It appears from the testimony that about the middle of December, 1903, Woods heard through his father that Poor, the opposing party, who was connected with the Kindl Car Truck Company, had filed or was about to file an application for patent on an improved roller side bearing (Woods, X-Q. 79) and that he also heard that the final fee on such application had been paid. Upon receipt of this information he took immediate steps to file his application and diligently continued his efforts until the same was filed.

The testimony shows that Woods did little, if anything, toward reducing his invention to practice prior to the time when he called on his attorney with a view to filing his ap-

plication. It appears that immediately after conceiving the invention and disclosing it to one John Jacob, who was an employee of the Kindl Car Truck Company, Woods had a number of conversations with Jacob, who was working under his direction, relative to the practicability of the invention. In discussing the invention with Jacob "large sketches, full size or greater" were made upon a blackboard in Woods's office. (Woods, Q. 29.) It seems that these sketches remained on the blackboard for at least a number of days, and perhaps for two or three weeks, but that they were erased prior to Woods's resignation on October 10, 1903. (Jacob, X-Q. 94.) Jacob made objections to the construction of the device, and one of the principal excuses which Woods offers for his delay in filing the application is that he was endeavoring to overcome these objections, which he regarded as well founded. Testimony with respect to conversations held by him with Jacob is given to support his claim that he was diligently endeavoring to perfect his device; but it appears that no changes were ever made, and it does not appear that any material changes were even suggested. The claim of an endeavor to further improve the details of a device is one that could well be made by every inventor seeking to excuse his delay, and for this reason testimony on this point is regarded as of little weight unless it is shown that material changes were actually made.

Evidence of the circumstances surrounding Woods after his resignation is also offered as an excuse for this delay in reducing the invention to practice. According to his own testimony his bank account amounted only to about twelve hundred and fifty dollars, and all of this and more was necessary to start his business and pay running expenses. Could his uncorroborated statement be taken as sufficient proof on this point the evidence would still be insufficient, as there is no proof that he had no other resources; nor is there any evidence of the amount of money required to run his business. This evidence is not sufficient to show that he was financially unable either to file an application or to make a full-sized device. It would seem that the cost to him of making such a device would not be great, especially as he was manufacturing or having manufactured for him similar devices. Nor can the fact that the inventor was very busy in getting his new business started excuse the absence of practically all effort for a period of three months where the rights of other parties intervene.

On behalf of appellant attention is directed to the decision *O'Connell* v. *Schmidt*, (122 O. G., 730,) recently rendered by the Court of Appeals of the District of Columbia, which, it is claimed, is a departure from previous adjudications in the line of more liberality on the question of diligence toward the party who was the first to conceive; but the circumstances in that case are materially different from the circumstances presented here in several respects, but one of which need be mentioned. In that case the party who was required to show diligence had made a model showing every feature of the invention so complete that had it been tested it would have amounted to a reduction to practice, and this model was completed before the opposing party had entered the field. In this case Woods did nothing prior to Poor's entry into the field except make sketches of the invention. This is believed to be a very material distinction in the circumstances present in the two cases and it is thought to be sufficient to warrant a different conclusion from that reached in the case cited.

When this interference was declared it involved a third party, Edward A. Bern, who was connected with the Kindl Car Truck Company. The opposing party was also connected with the same company, and both of these parties had access to Woods's office at the time the sketches illustrating the invention were on the blackboard. It is suggested by appellant that when these sketches were on the blackboard they were seen by some of the officers or employees of the company, who thereupon entered into a conspiracy with McMunn and others to deprive him of his invention. This suggestion may be dismissed with the comment that the proofs utterly fail to substantiate the same.

The decision of the Examiners-in-Chief is affirmed.

Interference Notice.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., November 21, 1906.

Benjamin F. Cohen, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for registration of a trade-mark filed by Jacob Ries, of Shakopee, Scott county, Minn., and also trade-marks registered to said Ries and a trade-mark registered to Benjamin F. Cohen, of Baltimore, Md. The notice of declaration mailed by the Patent Office in the usual manner to said Cohen has been returned by the Post-Office Department undelivered, and his attorney of record has also been unable to get into communication with him.

Notice is therefore hereby given to the said Cohen, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner*

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.

[*BY AUTHORITY OF CONGRESS.*]

VOL. 126—No. 2. TUESDAY, JANUARY 8, 1907. PRICE—$5 per year.

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Patents	636—No.	840,461 to No. 841,096,	inclusive.
Designs	9—No.	38,399 to No. 38,407,	inclusive.
Trade-Marks	289—No.	59,301 to No. 59,589,	inclusive.
Labels	4—No.	13,303 to No. 13,306	inclusive.
Prints	4—No.	1,879 to No. 1,882,	inclusive.
Reissues	7—No.	12,587 to No. 12,593,	inclusive.
Total issue	949		

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	6	.....	New Hampshire	5	.....
Alaska, District of	.....	.....	New Jersey	27	20
Arizona Territory	.....	.....	New Mexico Ter't'y	.....	.....
Arkansas	3	.....	New York	83	65
California	15	1	North Carolina	3	2
Colorado	8	3	North Dakota	7	.....
Connecticut	14	9	Ohio	60	19
Delaware	2	.....	Oklahoma Territ'y	2	.....
District of Columbia	8	2	Oregon	7	1
Florida	4	1	Pennsylvania	52	29
Georgia	3	1	Philippine Islands	.....	.....
Hawaii Territory	.....	.....	Porto Rico	.....	.....
Idaho	.....	.....	Rhode Island	11	2
Illinois	69	20	South Carolina	.....	3
Indian Territory	1	.....	South Dakota	3	.....
Indiana	21	9	Tennessee	1	6
Iowa	14	2	Texas	17	2
Kansas	4	1	Utah	1	.....
Kentucky	6	3	Vermont	1	1
Louisiana	4	3	Virginia	5	4
Maine	3	.....	Washington	3	2
Maryland	7	7	West Virginia	1	1
Massachusetts	39	22	Wisconsin	14	6
Michigan	22	7	Wyoming	.....	.....
Minnesota	8	5	U. S. Army	.....	.....
Mississippi	5	.....	U. S. Navy	.....	.....
Missouri	15	10			
Montana	2	.....	Total to citizens of the United States	587	269
Nebraska	1	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Natal	.....	.....
Austria-Hungary	2	.....	Netherlands	.....	1
Belgium	2	.....	Newfoundland	.....	.....
Brazil	.....	.....	New South Wales	2	.....
British West Indies	.....	.....	New Zealand	.....	.....
Canada	13	.....	Norway	.....	.....
Cape Colony	.....	.....	Persia	.....	.....
Chile	.....	.....	Queensland	.....	.....
China	.....	.....	Roumania	.....	.....
Costa Rica	.....	.....	Russia	1	.....
Cuba	.....	.....	Scotland	.....	.....
Denmark	1	.....	South Australia	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	12	13	Sweden	1	.....
France	1	3	Switzerland	5	2
Germany	18	8	Transvaal, South Africa	.....	.....
Haiti	.....	.....	Victoria	.....	.....
Ireland	.....	.....	Western Australia	.....	.....
Italy	.....	1			
Japan	.....	.....	Total to citizens of foreign countries	58	28
Java	.....	.....			
Mexico	.....	.....			

Interference Notice.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 2, 1907.

Lyman F. Palmer and H. H. Wetherbee & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Crescent Manufacturing Company, of Seattle, Wash., for registration of a trade-mark, a trade-mark registered to Lyman F. Palmer, of Topeka, Kans., and a trade-mark registered to H. H. Wetherbee & Company, of Boston, Mass. The notices of declaration mailed by the Patent Office in the usual manner to the said Lyman F. Palmer and H. H. Wetherbee & Company have been returned by the Post-Office Department undelivered, and it appears of record in the interference that both of said parties are probably out of business.

Notice is therefore hereby given to the said Lyman F. Palmer and to H. H. Wetherbee & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

Inks to be Tested.

The application-room and the mail-room will hereafter test all applications, communications, and other instruments in writing or print, which should properly constitute a permanent record in this Office, filed in their respective rooms which have the appearance of being written in fugitive ink.

Those which are unable to stand the tests required—first, the application of the well-known Labarraque's solution, followed by a saturated solution of oxalic acid, to determine whether the ink will be faded by the action of light or chemicals, and, second, the application of a ten-per-cent. solution of nitric acid—will not be made a part of the Office records, but will be returned to the writers.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business December 31, 1906.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Dec. 24	Dec. 24	77
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Dec. 21	Dec. 4	95
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Dec. 18	Dec. 3	131
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Dec. 18	Dec. 3	250
321	I. Tillage, etc., Fences, and Railway Draft Appliances.	Dec. 17	Dec. 6	131
109	XVI. Telegraphy and Telephony..	Dec. 17	Dec. 4	142
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	Dec. 17	Dec. 4	211
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Dec. 17	Dec. 3	168
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Dec. 17	Dec. 3	176
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Dec. 17	Dec. 3	196
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Dec. 17	Dec. 3	180
227	XVIII. Steam-Engineering, etc ...	Dec. 17	Dec. 3	215
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	Dec. 17	Dec. 1	182
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Dec. 16	Dec. 1	205
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Dec. 15	Dec. 4	124
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Signals, Time Controlling Mechanism.	Dec. 15	Dec. 1	236
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Dec. 13	Dec. 8	223
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	Dec. 13	Dec. 4	188
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Dec. 12	Dec. 11	172
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Dec. 10	Dec. 3	144
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Dec. 10	Nov. 27	193
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Dec. 5	Dec. 3	144
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Dec. 4	Dec. 1	298
167	V. Bookbinding, Harvesters, Jewelry, and Music.	Dec. 3	Dec. 3	343

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Dec. 3	Dec. 3	226
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Dec. 3	Dec. 1	308
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Dec. 1	Dec. 3	340
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Dec. 1	Dec. 1	284
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Dec. 1	Dec. 1	279
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Dec. 1	Dec. 1	404
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Nov. 30	Nov. 26	469
122	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Nov. 19	Nov. 22	363
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Nov. 19	Nov. 14	353
343	XXXIX. Cushion and Pneumatic Tires, Fine Arts, and Water Distribution.	Nov. 19	Nov. 5	620
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	Nov. 16	Nov. 16	503
332	X. Carriages and Wagons.....	Nov. 10	Nov. 10	521
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Nov. 5	Nov. 5	769
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	Nov. 5	Nov. 5	305
382	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	Nov. 5	Nov. 1	434

Total number of applications awaiting action 10,602

Room No.		Amended	New.	No. of applications awaiting action.
159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Trade-Marks	Dec. 24	Dec. 14	282
	Designs	Dec. 22	Dec. 22	28
	Labels and Prints	.....	.....	....

Notice.

(ORDER No. 1,697.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 19, 1906.

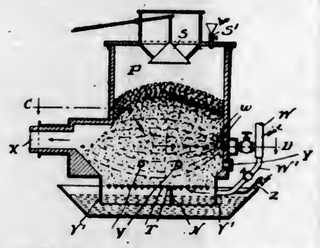
In ordering copies of drawings of foreign patents cited as references the date and number, the name of the patentee, and the country in which each patent was granted must be given and also the class and subclass in which the patent is classified; but if the class and subclass were not given in the Office letter citing the patent the serial number of the application in which it was cited and the number of the action therein, with the name of the inventor and title of the invention, will be given instead.

F. I. ALLEN,
Commissioner.

PATENTS

GRANTED JANUARY 8, 1907.

840,461. PROCESS OF MANUFACTURING PRODUCER-GAS. WILLIAM H. ADAMS and FREDERICK POWELL, Portland, Oreg., assignors of twenty-five per cent. to said Adams, fifteen per cent. to said Powell, and sixty per cent. to The Ladd Metals Company, a Corporation of Oregon. Filed June 20, 1904. Serial No. 213,242.



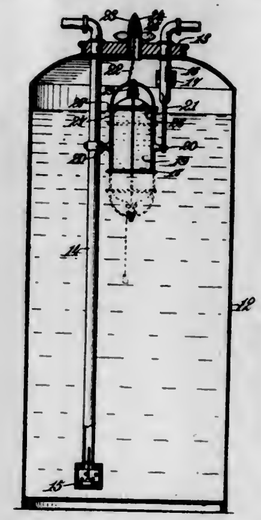
Claim.—1. The improvement in the manufacture of producer-gas consisting in establishing a horizontal zone of incandescence in the lower portion of a long horizontal body of fuel, admitting air to one end only of the body and giving exit to the gas at the other end, the admission of the air and the exit of the gas taking place at the same level and in the plane of the zone and such exit being the only exit provided for the gas, whereby the rear portion of the incandescent fuel is caused to decompose the products of combustion from the front portion.

2. The process of manufacture of gas consisting in forming a long horizontal body of fuel, maintaining the lower portion of said body in an incandescent condition by the combustion of a portion of its constituents by means of air admitted at one end of the body and escaping at the opposite end, both inlet and outlet being below the top of the fuel and at the same level and such exit being the only exit provided for the gas, and the further decomposition of the products of combustion in their passage horizontally through the bed of incandescent fuel and the addition of steam, thereby producing so-called producer-gas with an additional percentage of hydrogen.

3. The process of manufacture of gas consisting in forming a long horizontal body of fuel, maintaining the lower portion of said body in an incandescent condition by the combustion of a portion of its constituents by means of air admitted at one end of the body and escaping at the opposite end, both inlet and outlet being below the top of the fuel and at the same level and such exit being the only exit provided for the gas, and the further decomposition of the products of combustion in their passage horizontally through the bed of incandescent fuel, the addition of steam, the generation thereby of so-called producer and water gas and the addition to the said producer and water gas of the volatile constituents contained in liquid food.

4. The process of manufacture of gas consisting in forming a long horizontal body of fuel, maintaining the lower portion of said body in an incandescent condition by the combustion of a portion of its constituents by means of air admitted at one end of the body and escaping at the opposite end, both inlet and outlet being below the top of the fuel and at the same level and such exit being the only exit provided for the gas, the addition to said bed of fuel of liquid fuels rich in volatile hydrocarbons, the further decomposition of the products of combustion in their passage horizontally through the bed of incandescent fuel, the addition of steam, the generation thereby of so-called producer and water gas and the addition to the said producer and water gas of the volatile constituents contained in liquid fuel.

840,462. CHEMICAL FIRE-EXTINGUISHER. RICHARD F. BARKER and CARLTON G. MCCUMBER, Adams, N. Y. Filed Aug. 1, 1906. Serial No. 328,711.



Claim.—1. A chemical fire-extinguisher comprising the combination with a suitable vessel, of means for reversibly supporting an acid-bottle within the same, and two eduction pipes or tubes extending within the vessel and provided with reversely-acting gravity-valves, so that the extinguisher is adapted for either automatic or manual operation.

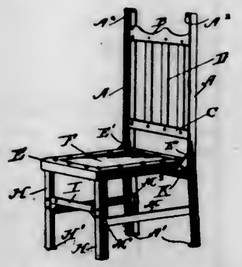
2. A chemical fire-extinguisher comprising the combination with a suitable vessel, the means for reversibly supporting an acid-bottle within the same, a fusible plug connected with the acid-bottle support in such a manner as normally to retain it in an upright position, and which acid-bottle support is adapted to turn over or reverse itself when the said fusible plug is melted, two eduction tubes or pipes extending within the said vessel and provided with reversely-acting gravity-valves, so that the extinguisher is adapted for either automatic or manual operation.

3. A chemical fire-extinguisher comprising the combination with the vessel 12, of the cap 13 removably secured in the mouth thereof, two eduction tubes or pipes mounted in said cap and provided with reversely-acting gravity-valves, a pivoted and reversible bottle-support suspended from said cap within said vessel, and a fusible plug mounted on said cap and with which said bottle-support is connected.

4. A chemical fire-extinguisher provided interiorly with a bottle-supporting cage having a hinged top, combined with an acid-bottle within said cage and a stopper for said acid-bottle attached to said hinged top so as to loosely fit in the neck or mouth of said bottle.

5. A chemical fire-extinguisher provided interiorly with a bottle-supporting cage having a hinged top, combined with a cap from which said cage is suspended and with which cap said cage has a fusible connection, an acid-bottle within said cage, and a stopper for said acid-bottle attached to said hinged top so as to loosely fit in the neck or mouth of said bottle.

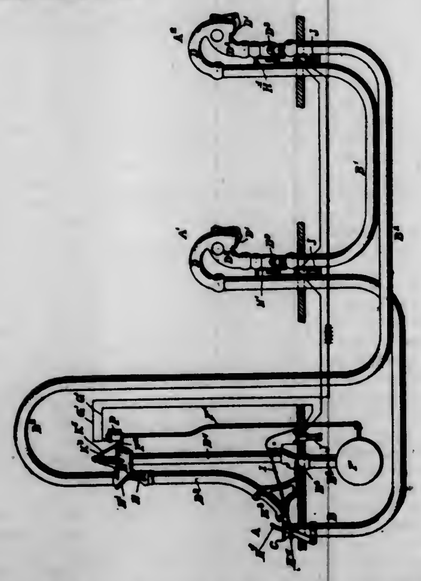
840,463. CHAIR. JOHN BARTA, Chicago, Ill. Filed July 26, 1904. Serial No. 218,220.



Claim.—1. A folding chair comprising legs formed of angle-irons, a seat pivotally connecting the front and rear legs of said chair, cleats secured to the flange of the rear legs and braces pivoted to the front legs having angled ends adapted to fit over the cleats of the rear legs and lock the legs in a vertical position, for the purpose described.

2. A metal chair comprising the rear standards of angle-iron connected by the top and bottom portions of the back and also by means of a horizontal brace, a seat-frame also of angle-iron pivotally connected to the rear standards, the front legs of angle-iron slotted and shouldered at their upper ends and pivotally connected to the seat-frame, the braces pivotally connected to the front legs and the cleats arranged upon the rear standards and adapted to be engaged by the ends of the pivot-brace, and a latch pivoted to the horizontal brace connecting the rear standards and adapted to engage the seat-frame when in a horizontal position.

840,464. PNEUMATIC-TUBE SYSTEM. BIRNEY C. BATCHELLER, Philadelphia, Pa., assignor to The Pearsall Pneumatic Tube and Power Company, New York, N. Y., a Corporation of New York. Filed May 1, 1905. Serial No. 258,288.



Claim.—1. In a pneumatic-tube system, the combination of a pneumatic tube, two or more stations thereon, a vacuum-pipe connected to said tube, a normally closed air-valve for controlling the flow of air through the tube, means for opening said valve, means for setting the valve-opening mechanism in operation situated at each station, and a time-escapement device also situated at each station and connected with the local device for actuating the valve-operating mechanism whereby said local valve-opening mechanism is maintained in position to keep the air-valve open for a determined time after it is set in operation from the station when said local device is actuated.

2. In a pneumatic-tube system, the combination of a pneumatic tube, two or more stations thereon, a vacuum-pipe connected to said tube, a normally closed air-valve for controlling the flow of air through the tube, means for opening said valve, a conduit extending from the valve-opening mechanism to each station, means, consisting of a device for opening and closing said conduit, situated at each station and whereby the valve-opening device is set in operation, and time-escapement devices at each station and actuated by the initial movement for opening and closing the conduit whereby the local devices for opening and closing the conduit are returned to normal position after a determined interval.

3. In a pneumatic-tube system the combination of a pneumatic tube, a vacuum pipe or chamber connected therewith and a normally closed air-valve controlling said connection, with means for actuating said valve, having connection to the vacuum-pipe and to the atmosphere, a valve for controlling said connection to the atmosphere normally held in and returned to one position by resilient means, means for moving said valve from normal position, and a time-escapement connected to said valve and whereby its return to normal position is retarded for a determined period.

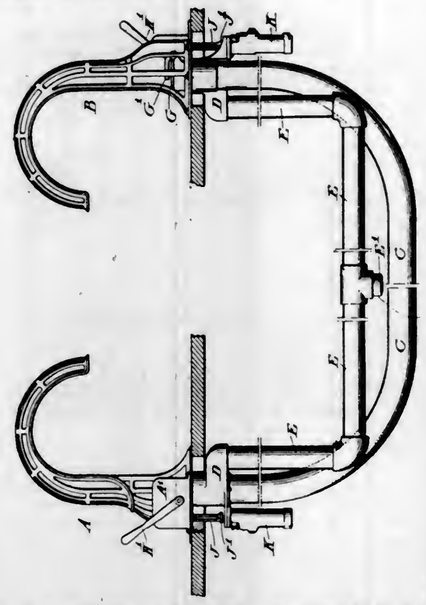
4. In a pneumatic-tube system, the combination of a pneumatic tube, two or more stations thereon, a vacuum-pipe connected to said tube, a normally closed air-valve for controlling the flow of air through the tube, means for opening said valve, means for setting the valve-opening mechanism in operation situated at each station, movable barriers for preventing the insertion of the carriers in the tube at each station said barriers being connected to and actuated by the local means for setting the valve-opening mechanism in operation so as to permit of the insertion of a carrier only after the valve-actuating mechanism is set in operation.

840,465. PNEUMATIC-TUBE SYSTEM. BIRNEY C. BATCHELLER, Philadelphia, Pa., assignor to The Pearsall Pneumatic Tube and Power Company, New York, N. Y., a Corporation of New York. Filed May 1, 1905. Serial No. 258,289.

Claim.—1. In a pneumatic-tube system, the combination of a tube, a gate or valve for closing its end, a connected air-supply pipe, a valve for controlling the admission of air from said pipe to the tube, means for opening the air-valve and closing the tube-gate, a manually-operated device for operating said means, an automatic latch for holding said valve in open and said gate in closed position, and a time-escapement mechanism acting to release said latch and positively and directly set in operation by the manually-operated device for actuating the valve and gate as aforesaid.

2. In a pneumatic-tube system, the combination of a tube, a gate or valve for closing its end, a connected air-supply pipe, a valve for controlling the admission of air from said pipe to the tube, a manually-movable device, means actuated by said device acting to first close the tube-gate and subsequently open the air-valve, an automatic latch for holding said gate closed and said valve open, a time-escapement device for releasing the latch and means for setting said device in operation directly actuated by the manually-operated device for shifting the gate and valve as described.

3. In a pneumatic-tube system, the combination of a tube, a gate or valve for closing its end, a connected air-supply pipe, a valve for controlling the admission of air from said pipe to the tube, a manually-movable device, means actuated by said device acting to first close the tube-gate and subsequently open the air-valve, an automatic latch for holding said gate closed and said valve open, a time-escapement device for releasing the latch, and means for setting said device in operation directly actuated by the manually-operated device for shifting the gate and valve as described, said means for actuating the time-escapement being adapted to permit the manually-operative device to move backward without affecting the movement of the time-escapement.



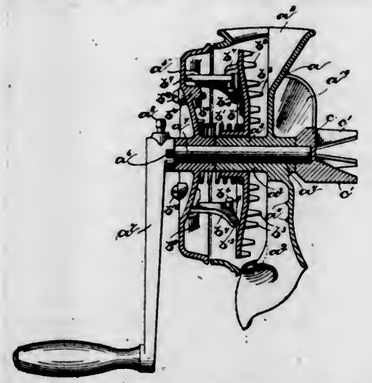
4. In a pneumatic-tube system, the combination of a tube having a valve or gate for closing its end, a connected air-supply pipe and a valve for controlling the admission of air to the tube, with a time-escapement device, a manually-actuated lever connected to actuate the time-escapement, a bell-crank lever I, I′, actuated by the time-escapement lever when it is turned to set the time-escapement in operation, one arm of said lever acting to open the air-valve, a shaft G^2, to which the gate-valve is attached said shaft having also a lever-arm G^4, a link I^2, connecting arm G^4, and I′, as described, a latch for holding lever I, I′, and connected parts in position to close the tube and hold the air-valve open and means for shifting said latch set in operation by the time-escapement.

5. In a pneumatic-tube system of the character described and having a gate-valve G, means for closing said valve comprising a rock-shaft G^2, having an attached lever-arm G^4, in combination with a manually-operable pivoted lever-arm I, and a connecting-link I^2, said levers and connecting-link being arranged as described and so that the lever I and link I^2, move from a position of angular divergence toward parallelism as the gate is closed.

840,466. CORN-SHELLER. WILLIAM BAYLEY, Springfield, Ohio. Filed Jan. 31, 1906. Serial No. 298,876.

Claim.—1. In a corn-sheller as described, the combination with a main frame, a revoluble shaft a toothed shelling-wheel flexibly connected to and adapted to revolve with said shaft, and capable of lateral movement and a limited revoluble movement independent of said shaft while at all times maintaining its driving connection with the shaft, substantially as and for the purpose specified.

2. In a device for shelling corn, the combination with the frame, a shaft, and means for revolving the shaft, a disk, and an intermediate member between the disk and shaft, articulate connections between said intermediate member and said disk, substantially as specified.



3. In a device for shelling corn, the combination with a main frame, of a revoluble shaft, a revoluble member connected to and revolving with said shaft, a toothed shelling-wheel independent of said shaft, links pivotally connected to said revoluble member and said toothed wheel respectively, substantially as specified.

4. In a device for shelling corn, the combination with a main frame, of a revoluble shaft, a toothed shelling-wheel capable of both a lateral and a revoluble movement independent of said shaft, and means for causing said toothed wheel to normally revolve with said shaft.

5. In a device for shelling corn, the combination with a main frame of a revoluble shaft, a toothed wheel, a revoluble member secured to said shaft, a spring pressing said toothed wheel away from said revoluble member, links connecting said toothed wheel and said revoluble member and opposing the tension of said spring, substantially as specified.

6. In a device for shelling corn, the combination with a main frame, of a revoluble shaft, a revoluble member secured to said shaft, a toothed wheel, a plurality of links hinged connections between said toothed wheel and said revoluble member, and a spring interposed between said revoluble member and said wheel, substantially as specified.

7. In a device for shelling corn, the combination with a main frame of a revoluble shaft, a revoluble member secured to said shaft, a toothed shelling-wheel, a perforated boss on said wheel, a link, a trunnion on said link engaging said perforated boss, and a hinged connection between said link and said revoluble member, substantially as specified.

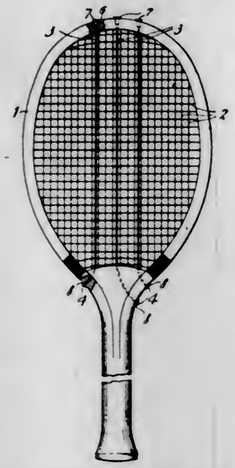
8. In a device for shelling corn, the combination with a main frame of a revoluble shaft, a revoluble member secured to said shaft, a toothed shelling-wheel, an inward-projecting portion on said revoluble member having a perforation therein, a link, a trunnion on said link engaging in said perforation, and a hinged connection between said link and said toothed wheel, substantially as specified.

9. In a device for shelling corn, the combination with a main frame, of a revoluble shaft, a revoluble member secured to said shaft, a toothed shelling-wheel, a link hinged to said toothed wheel, an indenture in said revoluble member having a perforation therein, bosses on said revoluble member adjacent to said indenture, having their adjacent faces so shaped as to engage a bolt-nut, trunnions extending in opposite directions from said aforementioned link, one of said trunnions extending through the aforementioned perforation and the other trunnion extending between said bosses, a bolt extending through said revoluble member and having the nut thereof located between said bosses and beyond said last-named trunnion, substantially as specified.

10. In a device for shelling corn, the combination of a main frame, inclined ribs formed in said main frame, a revoluble shaft, a toothed shelling-wheel, a spring pressing

said toothed wheel toward said inclined ribs, a driving connection between said toothed wheel and said shaft, whereby said toothed wheel is permitted a helical movement independent of said shaft, substantially as specified.

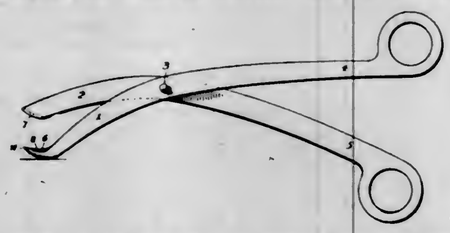
840,467. TENNIS-RACKET. SIDNEY H. BEARD, Paignton, England. Filed June 5, 1906. Serial No. 320,309.



Claim.—1. In a gut-strung tennis-racket, the combination with the gut strings, of rigid inextensible metal rods extending across the racket approximately in the central plane thereof, and means for retaining said rods in place, substantially as described for the purpose specified.

2. In a gut-strung tennis-racket, the combination with the gut strings, of rigid inextensible metal rods extending across the racket approximately in the central plane thereof, said rods being headed at one end and screw-threaded at the other end, with sleeve-nuts engaging the screw-threaded ends of said rods, substantially as shown for the purpose specified.

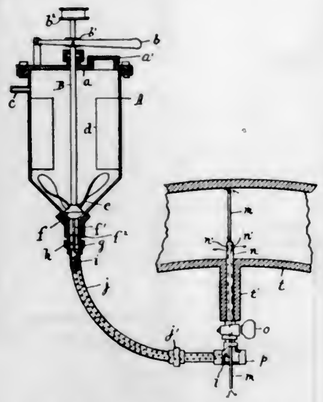
840,468. CUTTING IMPLEMENT. ABIJAH B. BENNETT, Opelika, Ala. Filed Feb. 14, 1906. Serial No. 301,074.



Claim.—1. An implement for severing wound-stitches comprising a pair of operating-handles, movably connected together and having downwardly-extending jaw portions arranged to hold the handles away from the flesh when in use, one of the jaw portions being offset at its end outwardly therefrom, said offset portion having an upwardly-facing cutting edge and being rounded transversely and tapered longitudinally to a point, and the other jaw member being formed with a complementary cutting edge arranged to close into shearing relation with said first-mentioned cutting edge.

2. An implement for severing wound-stitches comprising a pair of operating-handles movably connected together and having downwardly-extending jaw portions arranged to hold the handles away from the flesh when in use, one of the jaw portions being offset at its end outwardly therefrom and provided with an upwardly-turned flange to provide a groove for the reception of the other jaw, said offset portion having an upwardly-facing cutting edge and being rounded transversely and tapered longitudinally to a point, and the other jaw member being formed with a complementary cutting edge arranged to close into shearing relation with said first-mentioned cutting edge and enter the groove adjoining the same.

840,469. APPARATUS AND PROCESS FOR FILLING RUBBER TIRES WITH VISCOUS LIQUIDS. CHARLES W. BERRY, Portland, Me. Filed Mar. 8, 1906. Serial No. 304,914.



Claim.—1. The herein-described apparatus for filling rubber tires which consists of a filling-tube adapted to be inserted into the nipple, having lateral discharge-openings at its inner end, an air-tube inside said filling-tube closing the extreme inner end of the same and having its inner end extending beyond the end of the filling-tube and means for supplying the liquid under pressure to said filling-tube.

2. The herein-described apparatus for filling rubber tires with viscous liquid which consists of a filling-tube adapted to be inserted in the nipple, an elbow-fitting in which said filling-tube is inserted, a valve in said filling-tube, an air-tube extending through said elbow and said filling-tube and adapted to be withdrawn therefrom and a supply-pipe connected with said elbow.

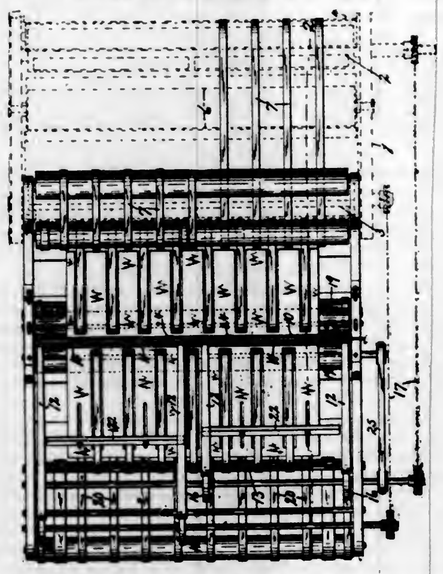
3. The herein-described apparatus for filling rubber tires consisting of a filling-tube, a supply-pipe connected with said filling-tube, a supply-tank to which said supply-pipe is connected, an agitator in said supply-tank and an agitator extending longitudinally of said supply-pipe.

4. The herein-described apparatus for filling rubber tires consisting of a filling-tube, a supply-pipe connected to said filling-tube, a worm-agitator adapted to rotate in said supply-pipe, a supply-tank to which said supply-pipe is connected and an agitator therein.

5. The herein-described apparatus for filling rubber tires consisting of a filling-tube, a curved supply-pipe connecting with said filling-tube, a filling-tank to the bottom of which said supply-pipe is connected, a vertical shaft in the said supply-tank, an agitator thereon, and a flexible spiral worm extending longitudinally through said supply-pipe and connected with the lower end of said shaft.

6. The herein-described apparatus for filling rubber tires consisting of a filling-tube, a supply-pipe connecting with said filling-tube, a supply-tank having a hopper-shaped bottom, a valve-seat at the outlet of said tank, a valve fitting said valve-seat, a vertical shaft secured by its lower end to said valve, an agitator on said shaft near its lower end and a lever for lifting said shaft and opening said valve.

840,470. PAPER-FOLDING ATTACHMENT FOR PAPER-CUTTING MACHINES. JOHN BRANNAN, Fulton, N. Y. Filed May 24, 1906. Serial No. 318,599.



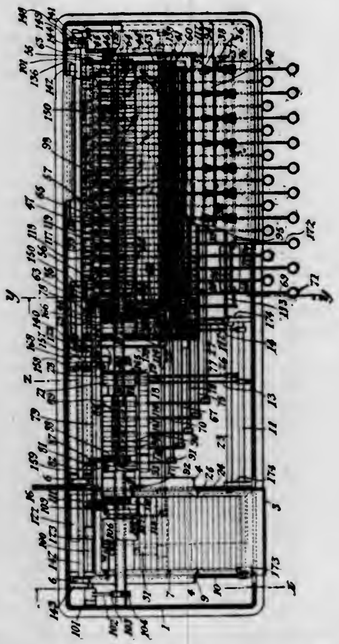
Claim.—1. In a device of the class described, a supporting-frame, two tables disposed transversely of said frame and with their adjacent edges spaced at a relatively short distance, one of said tables having a plurality of longitudinal slots, folding-rollers operating below the spaces between the adjacent edges of said tables, a plurality of stop members bearing over said slotted table, a clamping means carried by said stop members and operating through said slots, means for simultaneously feeding paper in varying lengths over said tables and against said several stop members, folding-blades corresponding in number to said stop members, means for simultaneously actuating said folding-blades to cause them to extend through a space between the adjacent edges of said tables and carrying the paper to the folding-rollers.

2. In a device of the class described, a supporting-frame, two tables disposed transversely of said frame and with their adjacent edges spaced at a relatively short distance, folding-rollers operating below the space between the adjacent edges of said table, stop members corresponding in number with the varying widths of paper to be folded and disposed transversely of one of said tables, means for independently adjusting said stop members to correspond with the varying widths to be folded, means for simultaneously feeding paper in varying lengths over said tables and against said several stop members, folding-blades corresponding in number to said stop members, means for simultaneously actuating said folding-blades to cause them to extend through a space between the adjacent edges of said tables and carrying the paper to the folding-rollers.

3. In a device of the class described, a supporting-frame, two tables disposed transversely of said frame with their adjacent edges spaced at a relatively short distance, folding-rollers operating below the space between the adjacent edges of said tables, stop members corresponding in number with the varying widths of paper to be folded and disposed transversely of one of said tables, means for independently adjusting said stop members to correspond with the varying widths of paper to be folded, means for simultaneously feeding paper in varying lengths over said tables and against said several stop members, arms swinging from said frame and provided with head members corresponding to the stop members and each provided with spaced longitudinal slots, folding-blades bearing upon each of said heads and secured adjustably thereto by clamp-screws operating through the slots in said head members, and means for simultaneously actuating said arms and the folding-blades carried thereby.

4. In a device of the class described, a supporting-frame, two tables disposed transversely of said frame with their adjacent edges spaced at a relatively short distance, folding-rollers operating below the space between the adjacent edges of said tables, stop members corresponding in number with the varying widths of paper to be folded and disposed transversely of one of said tables, means for independently adjusting said stop members to correspond with the varying widths of paper to be folded, means for simultaneously feeding paper in varying lengths over said tables and against said several stop members, arms mounted to swing upon said frame and provided with head members corresponding to the various widths of paper to be folded and each arm provided with a depending projection, the folding-blades carried by each of said heads, and cams arranged to simultaneously engage said projections and elevate said folding-blades after each action.

840,471. CHECK-PRINTING MACHINE. OSCAR E. BRIGHAM, New York, N. Y. Filed Aug. 15, 1904. Serial No. 220,809.



Claim.—1. In a check-printing machine, mechanism for printing desired characters on a check, mechanism for printing the same characters in any column selected by the operator in a series of vertical columns on a laterally-stationary checker's sheet, and operating means common to both said mechanisms, as set forth.

2. In a check-printing machine, mechanism for printing desired characters on a check, mechanism for printing the same characters in any column selected by the operator in a series of vertical columns on a laterally-stationary checker's sheet, mechanism for printing on the check the names of articles purchased, and operating means common to all of said mechanisms, as set forth.

3. In a check-printing machine, means for simultaneously printing desired characters on both a check and a checker's sheet, and means controlled by the check for

selecting and printing check-identifying characters on said sheet, as set forth.

4. In a check-printing machine, means for printing desired characters on an original check, a duplicate check, and a checker's sheet, and means controlled by the check for selecting and printing check-identifying characters on said sheet, as set forth.

5. In a check-printing machine, means for simultaneously printing desired characters on both a check and a checker's sheet, means for printing on the check the names of merchandise purchased, and means controlled by the check for selecting and printing check-identifying characters on said sheet, as set forth.

6. In a check-printing machine adapted to print by a single operation an original and one or more duplicate checks, printing mechanism for each check, means for adjusting the same according to the character to be printed, and means for imprinting the selected characters on one or more checks at points thereon selected by the operator, as set forth.

7. In a check-printing machine for printing by a single operation an original and one or more duplicate checks, price-printing mechanism for each check, means for adjusting the same according to the characters to be printed, and means for imprinting the selected characters upon the duplicates at points thereon predetermined by the nature of the merchandise indicated by the original check, as set forth.

8. In a check-printing machine for printing by a single operation an original and one or more duplicate checks, price-printing mechanism for each check, means for adjusting the same according to the characters to be printed, means for imprinting upon the duplicates the selected characters at points predetermined by the nature of the merchandise indicated by the original check, and means for printing on the latter the names of such merchandise, as set forth.

9. In a check-printing machine for printing at a single operation an original and one or more duplicate checks, price-printing mechanism for each check, means for adjusting the same according to the characters to be printed, mechanism for printing the names of merchandise on the original check, and means for imprinting upon the duplicate checks the selected price characters in columns thereon corresponding to the names of the merchandise printed on the original check, as set forth.

10. In a check-printing machine, printing mechanisms for printing on a check the names of merchandise and the prices thereof, a plurality of price-printing mechanisms for printing upon a checker's sheet, and means for simultaneously operating the check-printing mechanisms, and a selected sheet-printing mechanism for printing the name and price of a desired article on the check and the price thereof at a selected point on the sheet, as set forth.

11. In a check-printing machine, check-printing mechanisms for printing the names of articles and the prices thereof on a check, a plurality of price-printing mechanisms for printing on a duplicate check and a checker's sheet, and a series of manually-actuated key-levers for simultaneously operating the check-printing mechanisms and one each of the sheet and the duplicate-check-printing mechanisms, as set forth.

12. In a check-printing machine, printing mechanisms for operating on a check, independent printing mechanisms for operating on a checker's sheet, and means whereby the operation of one of the sheet-printing mechanisms causes a simultaneous operation of one predetermined check-printing mechanism, as set forth.

13. In a check-printing machine, printing mechanisms for operating on an original check, a duplicate check, and checker's sheet, and means whereby the operation of one of a plurality of sheet-printing mechanisms causes the simultaneous operation of the original check-printing mechanism and a predetermined duplicate-check-printing mechanism, as set forth.

14. In a check-printing machine, a series of sets of printing-wheels, each set arranged to print in a particular one of a series of columns on a check, a second series of sets of printing-wheels, each set arranged to print in a particular one of a series of columns on a checker's sheet, and a series of printing-levers each adapted to cause a particular set of sheet-printing wheels and a particular set of check-printing wheels to print in their corresponding columns, as set forth.

15. In a check-printing machine, a series of sets of printing-wheels, each set being arranged to print in a particular one of a series of columns on a checker's sheet, means for adjusting all the sets of wheels simultaneously to print as desired, and means for causing a selected set of wheels to print, as set forth.

16. In a check-printing machine, a series of sets of printing-wheels, each set being arranged to print in a particular one of a series of columns on a checker's sheet, means for simultaneously adjusting all the sets to print as desired, and a series of printing-levers each corresponding to a particular set of wheels and adapted to cause the same to print, as set forth.

17. In a check-printing machine, a series of sets of printing-wheels, each set being arranged to print in a particular one of a series of columns on a checker's sheet, means for locking said wheels in desired printing position, and means for causing a selected set of wheels to print in its corresponding column, and for releasing the said locking means after printing, as set forth.

18. In a check-printing machine, means for printing characters on a checker's sheet and a duplicate check, an independent check, a movable carriage for the independent check, operatively connected with the said printing means to adjust the same, and means controlled by the independent check for determining the extent of adjustment of the said printing means, as set forth.

19. In a check-printing machine, means for printing characters on a checker's sheet and a duplicate check, an independent check having a lateral notch, a movable carriage for the independent check, operatively connected with the said printing means to adjust the same, and means controlled by the lateral notch in the independent check for determining the extent of adjustment of the said printing means, as set forth.

20. In a check-printing machine, printing-wheels located in position to print a checker's sheet and a duplicate check, an independent check, a movable carriage for the independent check, operatively connected with the said printing-wheels to adjust the same, means controlled by the independent check for determining the extent of adjustment of the printing-wheels, and means for taking impressions from the printing-wheels, as set forth.

21. In a check-printing machine, printing-wheels located in position to print a checker's sheet and a duplicate check, an independent check, provided with recesses, a carriage for the independent check operatively connected with the printing-wheels to adjust the same, fingers adapted to enter the recesses in the independent check operatively connected with the type-wheels to determine the extent of their adjustment by the carriage, and means for taking impressions from the printing-wheels, as set forth.

22. In a check-printing machine, a plurality of printing-wheels arranged to print in corresponding columns on a checker's sheet, and a series of plungers operatively connected with the printing-wheels, each plunger being adapted to shift the wheels to a different extent, as set forth.

23. In a check-printing machine, a plurality of wheels for printing dollars, a plurality of wheels for printing cents, the wheels being arranged in sets so as to print dollars and cents in a plurality of columns, a series of plungers each operatively connected with the dollars-printing wheels, and each adapted to shift the wheels to a different extent, a similar series of plungers for the cents-printing wheels, and means for causing a selected set of wheels to print, as set forth.

24. In a check-printing machine, a plurality of printing-wheels for printing dollars, a plurality of printing-wheels for printing cents, a series of plungers each operatively connected with the dollars-printing wheels and each adapted to shift the wheels to a different extent, a similar series of plungers for the cents-printing wheels, means for locking the printing-wheels in any adjusted position, and means for causing a selected group of wheels to print, as set forth.

25. In a check-printing machine, a plurality of dollars-printing wheels arranged on a common axis, a plurality of cents-printing wheels on the same axis, a series of plungers for adjusting the dollars-printing wheels, each plunger being adapted to adjust all the said wheels to a different extent, a similar series of plungers for the cents-printing wheels, means for supporting a check, a duplicate check, and a checker's sheet in position to be printed by said dollars and cents printing wheels, and means for causing selected groups of wheels to print upon the said check, duplicate check and checker's sheet, as set forth.

26. In a check-printing machine, a plurality of dollars-printing wheels, a plurality of cents-printing wheels, a series of plungers for adjusting the dollars-printing wheels, each plunger being adapted to adjust all the said wheels to a different extent, a similar series of plungers for the cents-printing wheels, means for supporting a check and a checker's sheet in position to be printed by the wheels, a printing-wheel arranged to print on the check the names of articles purchased, and means for causing the check to receive a price and an article imprint and for simultaneously causing a selected group of dollars and cents wheels to print on a selected portion of the checker's sheet, as set forth.

27. In a check-printing machine, a plurality of printing devices each arranged to print in a different column on a checker's sheet, and a series of adjusting devices each adapted to adjust all the said devices to a different extent, and means for causing the cheet to receive an imprint in any selected column, as set forth.

28. In a check-printing machine, a plurality of printing devices arranged to print in different columns, a plurality of adjusting devices each adapted to set one of said printing devices for each column and each setting device being adapted to adjust its printing devices to a different extent from the adjustment effected by the other setting devices, and means for causing the selected column to receive an imprint.

29. In a check-printing machine, a plurality of printing devices arranged to print in columns on a plurality of records, means for adjusting the said devices whereby each record will receive the same imprint, and means for selecting the particular printing devices desired and causing them to print, as set forth.

30. In a check-printing machine, a plurality of series of printing-wheels, a plurality of series of setting devices for adjusting the wheels, each series of setting devices being adapted to control a corresponding series of wheels and each setting device being adapted to adjust all the wheels of its series to a different extent from the other series, means controlled by the operation of the setting devices for locking the wheels in adjusted position, and means for returning the wheels to normal position, as set forth.

31. In a check-printing machine, mechanism for printing on an original check, a duplicate check, and a checker's sheet, a waiter's number and the check-number, mechanism for printing on the check the names and prices of articles, means for printing on the checker's sheet the prices of the articles, and means operatively connected with the name-printing mechanism for locating the price imprints on the checker's sheet in the columns appropriated to the respective articles, as set forth.

32. In a check-printing machine, mechanism for printing on a check the names of articles and the prices thereof, and mechanism operatively connected with the name-printing mechanism for selecting on a check's sheet the columns appropriated to the respective articles and printing in such columns the prices of the articles, as set forth.

33. In a check-printing machine, a series of printing devices, a series of printing-levers indicating different articles, each lever corresponding to one of the series of printing devices, and a series of printing-hammers actuated by the printing-levers, whereby each lever will cause its particular printing devices to print, as set forth.

34. In a check-printing machine, a plurality of printing devices adapted to print a checker's sheet and a duplicate check, a series of printing-levers indicating different articles, printing-hammers operated by certain of said levers and arranged to cause the checker's sheet to receive impressions, independent printing-hammers operated by others of the said levers and arranged to cause the duplicate check to receive impressions, and a common printing-hammer in similar relation operated by the rest of the said levers, as set forth.

840,472. SYRINGE. ROBERT C. BROOKS, Waelder, Tex. Filed Oct. 8, 1906. Serial No. 337,946.



Claim.—1. An impregnating-syringe, comprising a rigid barrel, a piston therein, a flexible tube connected to said barrel, and a flexible piston-rod passing through said tube and connected to the piston in the barrel.

2. An impregnating-syringe, comprising a rigid barrel, a piston therein, a flexible tube connected to said barrel, a flexible piston-rod passing through said tube and connected to the piston in the barrel, and a stopper for securing the end of the tube in the barrel.

3. An impregnating-syringe, a transparent barrel of glass or the like, a piston therein, a flexible tube connected to the barrel, a stopper for removably securing the tube in the end of the barrel, a flexible rod passing through said tube and connected to the piston and finger-pieces on the ends of the tube and rod, respectively.

840,473. CHAIN-HOOK. JOSEPH BROUSE, Rapides des Joachims, Quebec, Canada. Filed Jan. 20, 1906. Serial No. 297,084.



Claim.—1. A chain-hook comprising a shank having a hole in one end thereof to receive the link of a chain and being curved to extend through the link of the joining-chain and then recurved to extend through the link to which it was originally joined and means for retaining the end of the recurved shank in position extending through the link of the chain to which it is joined as and for the purpose specified.

2. A chain-hook comprising a shank having a hole in

one end thereof to receive the link of a chain and being curved to extend through the link of the joining-chain and then recurved to extend through the link to which it was originally joined and a cross-bar formed integral with the recurved end of the shank and adapted to extend transversely of the link through which the shank extends and thus prevent the withdrawal therethrough of the end of the shank but permit the removal of the link of the joining-chain as and for the purpose specified.

3. A chain-hook comprising a link having a looped member extending at one end beyond the main body of the chain and having the free end extending back through the link and provided with a retaining cross-bar as and for the purpose specified.

840,474. PEN-PULLER. FRANK CANFIELD, Denver, Colo., assignor of one-third to Clarence J. Morley, Denver, Colo., and two-thirds to Edwin F. Arthur, trustee. Filed Oct. 23, 1905. Serial No. 283,941.



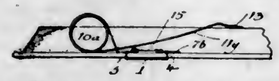
Claim.—1. A pen-puller comprising a handhold part provided at one extremity with a curved pen-pulling member consisting of two jaws, one stationary and the other movable, the two jaws being curved longitudinally and occupying positions approximately parallel and having a space betwen them to receive the pen to be pulled when occupying a position at right angles to the length of the device, the movable jaw having sufficient yielding capacity to cause the pen to be tightly gripped when the movable jaw is pressed toward the stationary jaw.

2. A pen-puller comprising a gripping member composed of two jaws curved longitudinally to conform approximately to the curve of the pen and normally having sufficient space between them to permit the easy insertion of the pen at right angles to the length of the device, one of the jaws being yielding and provided with a thumb piece extension for the purpose set forth.

3. A pen-puller provided with a pen-gripping device composed of two jaws bent longitudinally to conform approximately to the transverse curve of the pen when inserted in a direction at right angles to the length of the device, one of the jaws being yielding and provided with a thumb-piece extension whereby the pen may be tightly gripped by pressing upon the yielding jaw for the purpose set forth.

4. A pen-puller consisting of a device composed of two members curved longitudinally to conform approximately to the transverse curve of the pen, one of the members being yielding and having a thumb-piece extension, the space between the members remote from the thumb-piece being sufficient to permit the easy insertion of the pen, in a direction at right angles to the length of the yielding member having sufficient yielding capacity to permit the gripping of the pen tightly by pressure upon the thumb-piece, substantially as described.

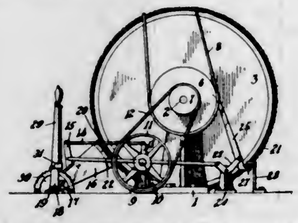
840,475. AUTOMATIC BOOK-MARK. MICHAEL J. CONTER, Chicago, Ill. Original application filed Jan. 24, 1906, Serial No. 297,549. Divided and this application filed Mar. 5, 1906. Serial No. 304,167.



Claim.—1. An automatic book-mark consisting of a continuous piece of spring-wire having a portion for a distance from one end of the wire folded to form upper and lower members of a clasp for engaging the book-cover, the upper member consisting of two side bars, the wire being reflexed upon itself from the inner end of one of said side bars, such reflex portion extending the length of said side bar, the wire being then bent approximately at right angle and extending across both side bars to form a leaf-holding arm, said arm terminating in an inwardly-trending finger for resting upon the leaf, and a link connecting the two side bars of said upper clasp member.

2. An automatic book-mark consisting of a continuous piece of spring-wire having a portion for a distance from one end of the wire folded to form upper and lower members of a clasp for engaging the book-cover, the upper member consisting of two side bars and the lower member consisting of the wire running from one to the other of said side bars, the wire being reflexed upon itself from the inner end of one of said side bars, extending back approximately the length of said side bar, the wire being then bent transversely to said side bars and extending thence as a leaf-holding arm and terminating in an inwardly-trending finger for resting upon the leaf, said two side bars of said upper clasp member being offset toward each other between their ends, and a link connecting them at said offset portions.

840,476. CARDING-MACHINE CLEANER. ROMAIN COUTURE, Somersworth, N. H. Filed Dec. 1, 190[illegible] Serial No. 289,767.



Claim.—1. In combination with a card-cylinder, a pivotally-supported cleaning member, a rocking shaft connected to the cleaning member; a cranked shaft, means for driving the shaft, a link connecting the cranked shaft and the cleaning member, a pawl coacting with the cleaning member, a ratchet connected with the card-cylinder; and adapted to be rotated by the pawl, and means for rocking the pawl out of engagement with the ratchet, comprising a lever connected to the cleaning-member-rocking shaft.

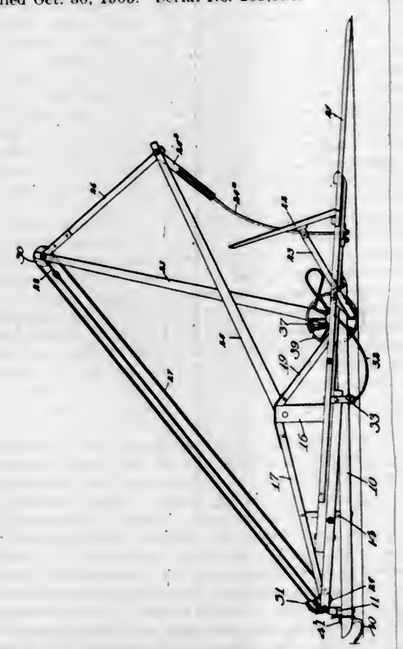
2. In combination with a card-cylinder, a pivotally-supported cleaning member, a cranked shaft, means for driving the shaft., a ling connecting the cranked shaft and the cleaning member, a pawl coacting with the cleaning member, a ratchet connected with the card cylinder and adapted to be rotated by the pawl, means for rocking the pawl ont of engagement with the ratchet, and means for locking the cleaning member out of contact with the card-roll and locking the pawl in engagement and out of engagement with the ratchet.

3. In combination with a card-cylinder, a cleaning-member-rocking shaft, a cleaning member connected to the cleaning-member-rocking shaft, means for rocking the cleaning member, a lever connected to the cleaning-member-rocking shaft, a segmental rack disposed adjacent the lever, a pawl on the lever adapted to engage the segmental rack, a rod connected to the cleaning member, a bell-crank lever pivoted to the rod, a pawl pivoted to the bell-crank lever, and a ratchet connected to the card-cylinder adapted to be engaged by the pawl.

4. In combination with a card-cylinder, a cleaning-member-rocking shaft, a cleaning member connected to the cleaning-member-rocking shaft, means for rocking the cleaning member, a lever connected to the cleaning-member-rocking shaft, a segmental rack disposed adjacent the lever, a pawl on the lever adapted to engage the segmental rack, a rod connected to the cleaning member, a bell-crank lever pivoted to the rod, a pawl pivoted to the bell-crank lever, a ratchet connected to the card-cylinder adapted to be engaged by the pawl, and means adapted to rock the pawl out of engagement with the ratchet.

5. In combination with a card-cylinder, a cleaning-member-rocking shaft, a cleaning member connected to the cleaning-member-rocking shaft, means for rocking the cleaning member, a lever connected to the cleaning-member-rocking shaft, a segmental rack disposed adjacent the lever, a pawl on the lever adapted to engage the segmental rack, a rod connected to the cleaning member, a bell-crank lever pivoted to the rod, a pawl pivoted to the bell-crank lever, a ratchet connected to the card-cylinder adapted to be engaged by the pawl, and a bracket adapted to engage the pawl and rock the same out of engagement with the ratchet when the lever is rocked.

840,477. HAY-STACKER. JOSEPH DAIN, Ottumwa, Iowa. Filed Oct. 30, 1905. Serial No. 285,198.



Claim.—1. The combination with a supporting-frame having rearwardly-extending diagonal braces, of a carrier-frame pivotally connected with said supporting-frame and provided with rearwardly-extending diagonal braces that are also pivotally connected with said supporting-frame and are adapted to be moved past the first-mentioned braces and to lie opposite the outer sides of said first-mentioned braces, and means for raising said carrier-frame, substantially as described.

2. The combination with a supporting-frame having two braces raised at their forward ends above the plane of said frame and extending diagonally to the rear toward the longitudinal center of the frame, of a carrier-frame pivotally connected with said supporting-frame and provided with rearwardly-extending diagonal braces that are also pivotally connected with said supporting-frame and are adapted to be moved past the first-mentioned braces and to lie opposite the outer sides of said first-mentioned braces, and means for raising said carrier-frame, substantially as described.

3. The combination with a supporting-frame having rearwardly-extending diagonal braces, of a carrier-frame pivotally connected with said supporting-frame and provided with rearwardly-extending diagonal braces that also have a pivotal connection with said supporting-frame, and means for raising said carrier-frame, substantially as described.

4. The combination with a supporting-frame comprising side bars an end sill and two braces extending diagonally from the said side bars toward the said sill, of brackets on said sill with which the said braces are connected, a carrier-frame pivotally mounted on said supporting-frame, diagonal braces secured to the said carrier-frame and pivotally attached to the said brackets on the said sill, and means for raising said carrier-frame, substantially as described.

5. The combination with a supporting-frame comprising side bars, an end sill, posts on the side bars, and two braces extending diagonally downward and to the rear from said posts and connected to said posts and to the said end sill, of a carrier-frame comprising side bars and two diagonal braces connected at their forward ends to said last-mentioned side bars and at their rear ends pivotally connected to the said end sill, and means for moving said carrier-frame, substantially as described.

6. The combination with a pivoted carrier-frame, and means for raising the same, of a spring arranged transversely of the line of travel of the said carrier-frame, a rope connected with said carrier-frame and said spring, and a guiding device for said rope, substantially as described.

7. The combination with a pivoted carrier-frame, and means for raising the same, of a rope attached to said frame and adapted to limit the movement of the frame, a coiled spring, a bar arranged transversely of the machine on which such spring is mounted, and means for connecting said rope and spring, substantially as described.

8. The combination with a supporting-frame, a carrier-frame pivotally attached thereto, and means for raising said carrier-frame, of a cross-bar extending between the side bars of the supporting-frame, a coiled spring on said cross-bar, a rope connected with said carrier-frame and said spring, and a guiding device around which the rope passes, substantially as described.

9. The combination with a supporting-frame, a carrier-frame pivotally attached thereto, and means for raising said carrier-frame, of a cross-bar extending between the side bars of the supporting-frame, a coiled spring on said cross-bars, a device slidable on said cross-bar and adapted to bear against one end of said spring, and a rope connected with said carrier-frame and said slidable device, substantially as described.

10. The combination with a supporting-frame, a carrier-frame pivotally attached thereto, and means for raising said carrier-frame, of an axle near the forward end of the supporting-frame, supporting-wheels on said axle, two springs on said axle intermediate of said wheels, two ropes connected with said carrier-frame, each of said ropes being connected with one of said springs, and a guiding device for each rope, substantially as described.

11. The combination with a supporting-frame, an axle near the forward end thereof, and supporting-wheels on said axle, of a carrier-frame pivotally mounted on said axle, means for raising said carrier-frame, two springs on

said axle intermediate of said wheels, two ropes connected with said carrier-frame, each of said ropes being connected with one of said springs, and a guiding device for each rope, substantially as described.

12. A hay-stacker having a supporting-frame, a swinging carrier-frame, mechanism for raising the carrier-frame from loading to dumping position, and spring mechanism mounted on and transversely of said supporting-frame and acting to return said carrier-frame toward its receiving position.

13. A hay-stacker having a supporting-frame, a swinging carrier-frame, mechanism for raising the carrier-frame from loading to dumping position, and compression-spring mechanism mounted on and transversely of said supporting-frame and acting to return said carrier-frame toward its receiving position.

14. A hay-stacker having a supporting-frame, a swinging carrier-frame, mechanism for raising the carrier-frame from loading to dumping position, and an elastic cushion acting to check further movement of the carrier-frame when it approaches the limit of its upward movement, said elastic cushion being arranged transversely of the supporting-frame.

15. A hay-stacker having a supporting-frame, a swinging carrier-frame, mechanism for raising the carrier-frame from loading to dumping position, and an elastic cushion mounted on said supporting-frame and acting to move said carrier-frame toward its receiving position, said elastic cushion being arranged transversely of the supporting-frame.

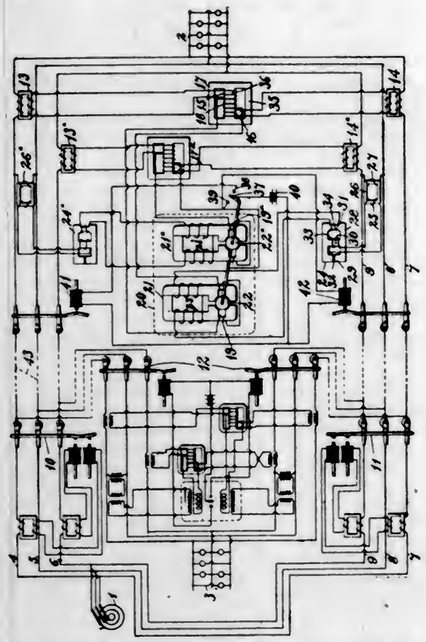
16. A hay-stacker having a supporting-frame, a swinging carrier-frame, mechanism for raising the carrier-frame from loading to dumping position, and a cushioning device arranged transversely to the plane of movement of the carrier-frame and acting to check the further movement of said carrier-frame when it approaches the limit of its upward movement.

840,478. PROTECTIVE APPARATUS FOR ELECTRICAL CIRCUITS. HARRY P. DAVIS, Pittsburg, and FRANK CONRAD, Edgewood Park, Pa., assignors to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed Jan. 20, 1904. Serial No. 189,903.

Claim.—1. The combination, in an alternating-current system of electrical distribution having parallel distributing-lines and circuit-breakers in one or both of the ends thereof, of means for selecting and energizing the tripping-coil of the proper circuit-breaker comprising a relay-transformer having two primary windings which are respectively energized by currents proportional to the currents in the distributing-conductors and which normally induce in a magnetic circuit opposing fluxes in approximately equal amounts and a secondary winding which is energized by the resultant of the primary fluxes, current-windings in series with said secondary windings, voltage-windings receiving an approximately constant voltage, an auxiliary circuit for each of said circuit-breaker tripping-coils, and a switch actuated by said current and voltage windings for closing the one or the other auxiliary circuit.

2. The combination, in an alternating-current system of electrical distribution having parallel distributing-lines, with circuit-breakers in either or both ends thereof, and electromagnetic means for selecting and energizing the tripping-coil of the proper circuit-breaker, of means for energizing said selecting apparatus comprising a transformer having two primary windings which normally produce opposing fluxes in approximately equal amounts and a secondary winding which is energized by the resultant of the primary fluxes.

3. The combination, in an alternating-current system of electrical distribution having parallel distributing-lines, with circuit-breakers in either or both ends thereof, and electromagnetic means for selecting and energizing the tripping-coil of the proper circuit-breaker having current and voltage windings, of means for energizing the voltage-windings of said selecting apparatus with an approximately constant voltage comprising a transformer having a magnetically-saturated iron core and a leakage-path for the flux.

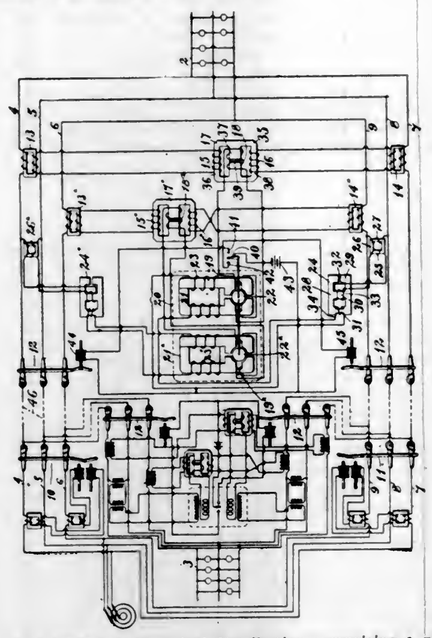


4. A system of electrical distribution comprising a generating-station, parallel distributing-lines, circuit-breakers near the distributing ends of the lines having tripping-coils, an auxiliary circuit therefor, series transformers having primary windings in series with conductors of the distributing-lines, a relay-transformer having primary windings connected to the secondary windings of said series transformers and normally producing opposing fluxes in approximately equal amounts and a secondary winding which is energized by the resultant of the primary fluxes.

5. The combination, in an alternating-current system of electrical distribution having parallel distributing-lines, with circuit-breakers in one or both ends thereof and means for selecting and energizing the tripping-coil of the proper circuit-breaker, of means for energizing current-windings of said selecting apparatus comprising relay-transformers each having two primary windings receiving energy respectively proportional to that flowing in corresponding conductors of parallel lines and secondary windings which are energized only when the current in one of said primary windings exceeds by more than a predetermined amount that in the other of the same transformer and which are in series with said current-windings.

840,479. PROTECTIVE APPARATUS FOR PARALLEL TRANSMISSION-LINES. HARRY P. DAVIS, Pittsburg, and FRANK CONRAD, Edgewood Park, Pa., assignors to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Original application filed Jan. 20, 1904, Serial No. 189,903. Divided and this application filed Jan. 30, 1905. Serial No. 243,313.

Claim.—1. The combination, in an alternating-current system of electrical distribution having parallel distributing-lines, with circuit-breakers therefor, a polyphase-motor device for selecting and energizing the tripping-coil of the proper circuit-breaker, of means for energizing a winding of said motor device comprising a transformer having two primary windings and one secondary winding, the fluxes induced by the primary windings being normally in the same direction and the secondary winding being energized only when the directions of the fluxes induced by the two primary windings oppose each other.



2. A system of electrical distribution comprising a generating-station, parallel distributing-lines, circuit-breakers in each line near the distributing ends thereof, tripping-coils for said breakers energized from an auxiliary circuit, series transformers the primary windings of which are respectively in series with conductors of the distributing-lines and the secondary windings of which having the same phase are connected to relay-windings which normally produce fluxes in the same direction in a magnetic circuit, a third relay-winding which is energized only when the directions of the fluxes induced by the other two relay-windings oppose each other and means for selecting and closing the proper battery-circuit through one of said tripping-coils.

3. The combination, in an alternating-current system of electrical distribution having parallel distributing-lines and circuit-breakers therefor, of means for selecting and energizing the tripping-coil of the proper circuit-breaker comprising a relay-transformer having two primary windings which are respectively energized by currents proportional to the currents in the distributing-conductors and which normally induce fluxes in the same direction in a magnetic circuit, and secondary windings which are energized only when the directions of the fluxes induced by the primary windings oppose each other, current-windings in series with said secondary windings, voltage-windings receiving a voltage approximately proportional to the voltage between two of the distributing-conductors, and a switch actuated by said current and voltage windings for closing an auxiliary circuit through either of the said circuit-breaker tripping-coils.

4. In an alternating-current system of electrical distribution having parallel distributing-lines, a circuit-breaker in each of said lines, a polyphase electromagnetic device for closing the circuits of the tripping-coils of said breakers and means for energizing one of the windings of said electromagnetic device when the normal direction of current in one of the lines is reversed.

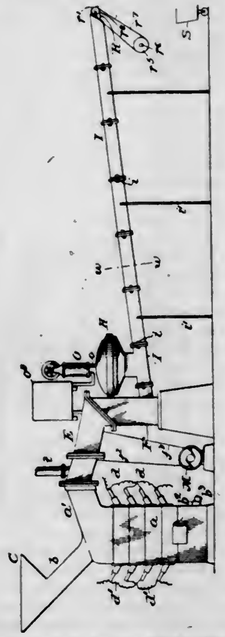
5. In an alternating-current system of electrical distribution having parallel distributing-lines, a circuit-breaker in each of said lines, a polyphase electromagnetic device for closing the circuits of the tripping-coils of said breakers, a transformer having primary windings supplied from the respective lines and having a secondary winding connected to one of the windings of the electromagnetic device, the effective circuit for the primary magnetic flux being outside the secondary winding except when the current is reversed in one of the primary windings.

6. In an alternating-current system of electrical distribution having parallel distributing-lines, a circuit-breaker in each line, a double electromagnetic circuit-closing device having voltage-coils and current-coils, means for supplying constant voltages from the lines to the voltage-coils and means for supplying current from the lines to the current-coils only when one of the line-currents is reversed from its normal direction.

7. In an alternating-current system of electrical distribution having parallel distributing-lines, a circuit-breaker for each line, a polyphase motor device, one of the windings of which is normally deënergized, and means for energizing said winding when the corresponding line-current is reversed from its normal direction, to effect operation of the corresponding circuit-breaker.

8. In an alternating-current system of electrical distribution having parallel distributing-lines, a circuit-breaker for each line, a polyphase-motor device for closing the circuits of the circuit-breaker tripping-coils, one of the field-windings of which is normally deënergized, and a transformer for energizing said winding when the current in the corresponding line is reversed.

840,480. APPARATUS FOR RECOVERING METALS FROM ORES AND OTHER SUBSTANCES. LÉON DION, New York, N. Y., assignor to The Americus Electro-Hermatic Company, New York, N. Y., a Corporation of Arizona. Filed Mar. 4, 1904. Serial No. 196,560.



Claim.—1. The combination, with a plurality of chambers through which the fumes, gases, or vapors arising from molten metal or metals may be passed, a group of electrodes arranged in each of such chambers, and means through which an electric current may be supplied to these electrodes, of a liquid bath in which a portion only of such groups of electrodes is submerged, and a receptacle in which the particles or masses of metal or metals

resulting from the concentration of the fumes, gases, or vapors by the electric currents through the electrodes are accumulated, substantially as described.

2. The combination, with a plurality of chambers through which the fumes, gases, or vapors arising from molten metal or metals may be passed, a group of electrodes arranged in each of such chambers, and means through which an electric current may be supplied to these electrodes, of means for passing a liquid between the electrodes of one chamber without submerging the electrodes of any of the others, and a receptacle in which the particles or masses of metal or metals resulting from the concentration of the fumes, gases, or vapors by the electric currents through the electrodes are accumulated, substantially as described.

3. The combination, with a plurality of chambers through which the fumes, gases, or vapors arising from molten metal or metals may be passed, a group of electrodes arranged in each of such chambers, and means through which an electric current may be supplied to such electrodes, of means for passing a liquid between the electrodes of one chamber, and a traveling apron arranged to travel across the end of one of said chambers whereby to receive and discharge the particles or masses of metal or metals resulting from the concentration of the fumes, gases, or vapors by the electric currents acting through the electrodes, substantially as described.

4. The combination, with a plurality of chambers through which the fumes, gases, or vapors arising from molten metal or metals may be passed, a group of electrodes arranged in each of these chambers, and means through which an electric current may be supplied to such electrodes, of means for passing a liquid current between the electrodes of one chamber without submerging the others, and a receptacle in which the particles or masses of metal or metals resulting from the concentration of the fumes, gases, or vapors by the electric currents acting through the electrodes may be accumulated, substantially as described.

5. The combination, with a plurality of chambers through which the fumes, gases, or vapors arising from molten metal or metals may be passed, a group of electrodes arranged in each of these chambers, means through which an electric current may be supplied to each of these electrodes, and a vessel or reservoir, of means for circulating a liquid between the electrodes of one of said chambers and through such vessel or receptacle, and a receptacle in which the particles or masses of metal or metals resulting from the concentration of the fumes, gases, or vapors by the electric currents acting through the said electrodes are accumulated, substantially as described.

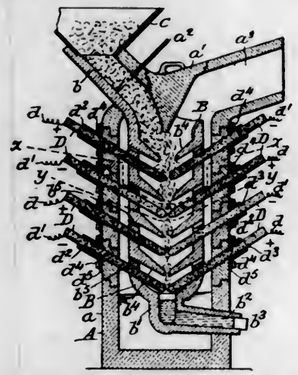
6. The combination, with a chamber through which the fumes, gases, or vapors arising from molten metal or metals may be passed, a group of electrodes arranged therein, with spaces between the elements thereof through with such fumes, gases or vapors may travel and means through which a current of electricity may be supplied to such electrodes, of means by which a liquid may be passed between such electrodes in the form of spray, substantially as described.

7. The combination, with a chamber through which the fumes, gases, or vapors arising from molten metal or metals may be passed, a group of electrodes arranged therein, and means through which a current of electricity may be supplied to such electrodes, of a vessel or receptacle, a filter arranged in such vessel or receptacle, and means whereby the circulation of a liquid through both the vessel or receptacle and between the electrodes may be effected, substantially as described.

8. The combination, with a vertically-disposed chamber, a group of electrodes arranged therein, and means through which a current of electricity may be supplied to these electrodes, of a vessel or receptacle, a passage-way connecting this vessel or receptacle with the chamber, a pump, and pipes by which it is connected with both the chamber and the vessel or receptacle, whereby the circulation of a liquid through the vessel or receptacle and between the said electrodes may be effected, substantially as described.

9. The combination, with a chamber through which the fumes, gases, or vapors arising from molten metal or metals may be passed, a group of electrodes arranged therein, means by which a current of electricity may be supplied to such electrodes, a vessel or receptacle, and a passage-way by which this vessel or receptacle is connected with such chamber, of a pump, pipes connecting this pump with both the vessel or receptacle and with the chamber, and means by which the cooling of the pipe extending from the pump to the chamber with its contents may be effected, substantially as described.

840,481. ELECTRIC FURNACE. LÉON DION, Wilkes-Barre, Pa., assignor to The Americus Electro-Hermetic Company, Wilkes-Barre, Pa. Filed Apr. 30, 1906. Serial No. 314,336.

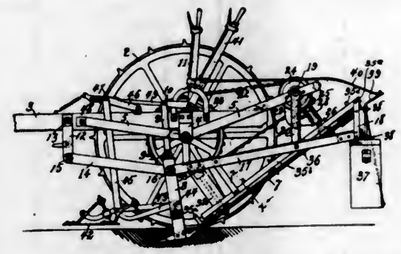


Claim.—1. The combination, with a furnace-chamber provided with a passage-way at its upper end, and a hopper or receptacle, of a crucible arranged in such chamber and provided with a contracted chamber portion or reservoir at its lower end, of a chuteway for connecting the hopper or receptacle with the crucible, a plurality of sets of electrodes extending inward through the walls of both the furnace-chamber and the crucible and adapted to be connected with a source of electric supply, with such sets of electrodes disposed the one beneath the other, substantially as described.

2. The combination, with a furnace-chamber provided with a passage-way at its upper end, and a hopper or receptacle, of a crucible arranged in such chamber and provided with a contracted chamber portion or reservoir at its lower end, with a number of inwardly and downwardly extending flanges disposed upon its interior, with apertures beneath them, a chuteway for connecting the hopper or receptacle with the crucible, and a plurality of sets of electrodes extending inward through the walls of both the furnace-chamber and crucible and adapted to be connected with a source of electric supply, with such sets of electrodes disposed the one beneath the other, substantially as described.

3. The combination, with a furnace-chamber provided with a passage-way at its upper end, and a hopper or receptacle, of a crucible arranged in such chamber and provided with a contracted chamber portion or reservoir in its lower end, with means for withdrawing the contents of the chamber or reservoir, with a number of inwardly and downwardly extending flanges disposed upon its interior, and with apertures beneath them, a chuteway for connecting the hopper or receptacle with the crucible, means for opening and closing such chuteway, and a plurality of sets of electrodes extending inward through the walls of both the furnace-chamber and the crucible beneath the flanges and adapted to be connected with a source of electric supply, with such sets of electrodes disposed the one beneath the other, substantially as described.

840,482. BEET-HARVESTER. CORNELIUS DUSSEAU, Toledo, Ohio. Filed Apr. 2, 1906. Serial No. 308,686.



Claim.—1. In a beet-harvester, a digging mechanism, an open inclined way leading upwardly and rearwardly from directly behind the digging mechanism, an endless chain, connections between the supporting-wheels of the machine and the chain for driving the chain, fingers upon the chain which traverse lengthwise the inclined way, an inclined trough swiveled at its upper end at the discharge end of the inclined way, and means for the horizontal adjustment of the lower end of the trough.

2. In a beet-harvester, a digging mechanism, a pair of inclined rods leading upwardly and rearwardly from the digging mechanism, an endless chain one stretch of which moves parallel with said rods, and pairs of fingers secured to and projecting horizontally from said chain and arranged to bestride one of said rods, substantially as described.

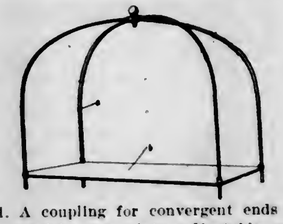
3. In a beet-harvester, a pair of supporting driving-wheels, a shaft for said wheels, a sprocket-wheel on said shaft, another sprocket-wheel, a chain upon said two sprocket-wheels, a shaft for the latter sprocket-wheel, a support for said latter shaft pivoted upon the shaft first mentioned, another pair of sprocket-wheels, an endless chain thereon, driving-gears intermediate said two pairs of sprocket-wheels, fingers on said latter chain, an inclined way traversed by said fingers, and a digging mechanism in advance of the lower end of said inclined way.

4. In a beet-harvester, a pair of supporting driving-wheels, a shaft for said wheels, a sprocket-wheel on said shaft, another sprocket-wheel, a chain upon said two sprocket-wheels, a shaft for the latter sprocket-wheel, a support for said latter shaft pivoted upon the shaft first mentioned, another pair of sprocket-wheels, an endless chain thereon, driving-gears intermediate said two pairs of sprocket-wheels, fingers on said latter chain, an inclined way traversed by said fingers, a digging mechanism in advance of the lower end of said inclined way, and a swiveled trough leading downwardly from the upper end of said inclined way.

5. In a beet-harvester, a topping mechanism, a digging mechanism, an inclined way leading upwardly and backwardly from the digging mechanism, a swiveled trough leading downwardly from the upper end of the inclined way, an endless chain, fingers on the chain arranged to traverse the inclined way, a lever, and pivotal connections between the lever, the topper, and the digger, for throwing said parts into and out of operative position.

6. In a beet-harvester, a pair of supporting driving-wheels, a shaft therefor, a sprocket-wheel on the shaft, a second shaft, a sprocket-wheel thereon, a chain for said two sprocket-wheels, a beveled gear-wheel on said second shaft, another beveled gear-wheel engaged therewith, a bracket 28 mounted upon said second shaft and supporting said last-mentioned gear-wheel, a shaft for said last-mentioned gear-wheel, a sprocket-wheel upon said last-mentioned shaft, a chain for said last-mentioned sprocket-wheel, fingers on said chain, an inclined way traversed by said fingers, a digging mechanism at the lower end of said inclined way, a support for said beveled gear-wheels inclined ways fingered chains and digging mechanism, pivoted upon the shaft first mentioned, and a lever for controlling said pivotal supports.

840,483. COUPLING FOR CONVERGING ENDS OF CANOPY-STANDARDS FOR SHOW-CASES, &c. ELMER E. EARNSHAW, New York, N. Y., assignor to National Cigar Stands Company, Jersey City, N. J., a Corporation of New Jersey. Filed July 25, 1906. Serial No. 327,607.



Claim.—1. A coupling for convergent ends of canopy-standards, comprising two plates adjustable one upon another and each having a pair of opposite bosses to hold the standards, and means for clamping the plates.

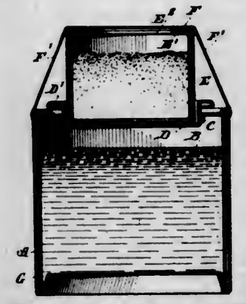
2. A coupling for convergent ends of canopy-standards, comprising two plates adjustable one upon another and each having a pair of opposite bosses to hold the standards, and a hollow bolt for clamping the plates through the bore of which an electrical conductor may be passed.

3. A coupling for convergent ends of canopy-standards, comprising two concentric plates having flanges which abut and bear against each other and four hollow bosses, two carried by one plate and two by the other, a means for clamping the plates together when the bosses are in adjusted position.

4. A coupling for convergent ends of canopy-standards, comprising two concentric plates having flanges which abut and bear against each other and four hollow bosses, two carried by one plate and two by the other, a threaded bolt passing through the plates and an end plate applied thereto and having diametrically opposite bosses.

5. A coupling for convergent ends of canopy-standards, comprising three plates, each having a pair of opposite bosses and means for clamping them together in any position to which they may be adjusted.

840,484. CAN. EDMUND ECKART, New Rochelle, N. Y., assignor to Gerstendorfer Bros., New York, N. Y., a Corporation of New York. Filed Dec. 20, 1905. Serial No. 292,558.



Claim.—1. The combination with a receptacle having a recess in its top, of another receptacle seated in said recess and having an open top, a seal closing said open top and having securing members extending to the upper portion of the first-named receptacle and along the sides thereof, and fastening means covering said securing members and holding them to the lower receptacle.

2. The combination, with a receptacle having a recess in its top, of another receptacle seated in said recess, and having an open top, and a seal extending across the said open top to close it and provided with lateral continuations which form securing members extending to the top of the first-named receptacle.

3. The combination, with a receptacle having a recess

in its top, of another receptacle seated in said recess and having an open top, a seal closing said open top and having securing members extending to the upper portion of the first-named receptacle and along the sides thereof, and a label or strip for fastening said securing members to the sides of the lower receptacle.

4. The combination, with a receptacle having a recess in one of its end faces, of another receptacle one end of which is set in said recess while the other end is open and is provided with an inwardly-extending flange at said opening, a seal covering said opening and securing members extending from the seal to the first-named receptacle.

5. The combination of different-sized receptacles disposed end to end, the contacting end surfaces differing in size with securing members extending outwardly from the free end surface of the smaller receptacle to the edge of the larger receptacle.

840,485. ERASER. EBERHARD FABER, New York, N. Y. Filed Sept. 29, 1906. Serial No. 336,778.



Claim.—1. An eraser having a pair of metallic plates, and a disk of rubber pivotally mounted between said plates, a portion of said plates about the pivotal axis of said disk extending a less distance from said axis than the remaining portion and said portion extending the less distance from the axis being provided with discrete projections, substantially as set forth.

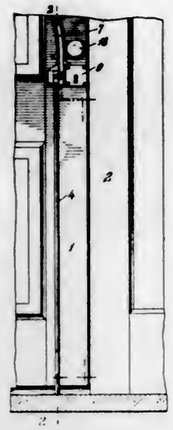
2. An eraser having a pair of metallic plates, a disk of rubber pivotally mounted between said plates adjacent to one end thereof, and a bundle of bristles secured between said plates at the other end thereof and beyond the periphery of the disk, the ends of said plates between which the disk is supported having a portion about the pivotal axis of the disk extending a less distance from said axis than the remaining portion and said portion extending the less distance from the axis being provided with discrete projections, substantially as set forth.

840,486. DOOR-SECURER. EMIEL R. FUCHS, New York, N. Y. Filed Mar. 20, 1906. Serial No. 307,014.

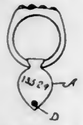
Claim.—1. The combination of a door, a securing-bar therefor adapted to rest against the door at an angle thereto, an abutment on the floor against which the lower end of said bar is set, a fixed abutment secured to said door, and a key-actuated means for moving said bar laterally to bring its upper end under said latter abutment.

2. The combination of a door having a casing secured thereto, a door-securing bar, a socket secured to the floor into which the lower end of said bar is stepped, said casing having a guideway, a wall against which the upper end of said bar is adapted to abut, and means to move said bar laterally to bring its upper end into the guideway or under said abutting wall when the door is to be unlocked and locked respectively.

3. The combination of a door having a casing secured thereto, a door-securing bar the upper end of which is retained by said casing, an abutment on the floor against which the lower end of said bar is set, an abutment fixed to the door, a lock having a bolt adapted to engage said bar to move it into position under said door-abutment, and a spring in said casing to move the bar in a reverse position to release the door therefrom.

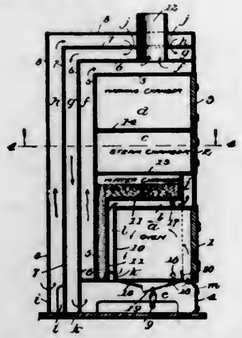


840,487. TAG FOR JEWELERS' USE. DANIEL GOLDSMITH, New York, N. Y., assignor of one-half to Charles P. Goldsmith and one-half to Isaac Loeb, New York, N. Y. Filed May 5, 1903. Serial No. 155,716.



Claim.—The herein-described marking-tag for finger-rings comprising the two tablet portions A of celluloid and the connecting strap portion *b* in combination with the fastening-rivet D, uniting the two tablet portions at their edge remote from the strap, all as described to permit the tag to swing freely on the ring and to prevent the same from catching in the tray when the ring is restored to place.

840,488. COMBINED HEATING AND COOKING STOVE. JOHN I. HAMAKER, College Park, Va. Filed Dec. 12, 1905. Serial No. 291,377.



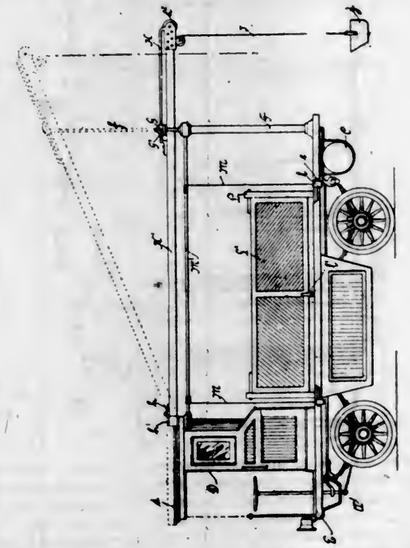
Claim.—1. The improved heating and cooking stove, comprising a series of shells, arranged parallel and spaced apart, the inner shell inclosing a warming-chamber, a steam-chamber, a water-space connected with such steam-chamber, an oven, a space surrounding the oven, and a combustion-chamber below the latter, the two outer shells 7 and 8, having openings to allow air to traverse the two adjacent spaces and enter the combustion-chamber, the products of combustion passing thence into the space around the oven and thus into an escape-flue arranged adjacent to the steam-chamber and warming-chamber.

2. In a stove of the character described, the combination of parallel shells spaced apart, and provided with openings for admission of air and products of combustion and final escape thereof, an oven arranged within the inner shell, a water-chamber exterior to the oven, and a steam-chamber located above the water-chamber and having its bottom cut away or slotted for admission of steam directly from the water-chamber, substantially as described.

3. A stove comprising a series of shells arranged parallel on the sides and at the top, and spaced apart, their front edges communicating with the front side of the stove, a combustion-chamber arranged at the base of the stove, and an oven, a water-chamber, a steam-chamber, and warming-chamber arranged one above another within the inner shell, and flue-spaces arranged around the oven and exterior to the water-chamber, steam-chamber, and warming-chamber, all substantially as described.

4. The combination with an oven, a series of shells inclosing the oven and spaced apart and a combustion-chamber communicating with the space around the oven, of inclined fender-plates arranged below the oven and spaced apart, and a pivoted oscillating plate arranged between them and serving to divert heated products of combustion laterally as described.

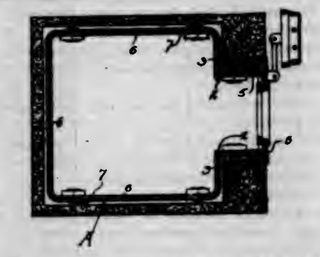
840,489. AUTOMOBILE CRANE AND TIP-CAR. PATRICK J. HEALEY, Boston, Mass. Filed June 30, 1905. Serial No. 267,715.



Claim.—1. A vehicle-truck, a platform therefor, a frame, a dumping device, a crane and a bucket, the frame being constructed and arranged to support the bucket carried by the crane and also the dumping device, in combination with a common means to move both the bucket and dumping device both up and down in a vertical direction and also in other directions.

2. A vehicle-truck, a platform therefor, a frame, a dumping device, a crane and a bucket, the frame being constructed and arranged to support the bucket carried by the crane and also the dumping device, in combination with a common means to move independently both the bucket and dumping device both up and down in a vertical direction and also in other directions.

840,490. VAULT. HENRY D. HIBBARD, Plainfield, N. J., assignor to Manganese Steel Safe Company, New York, N. Y., a Corporation of New Jersey. Filed May 3, 1906. Serial No. 314,948.



Claim.—1. A vault comprising a body, a door-frame, and a vestibule-forming member located between the body and door-frame and comprising a plate fastened to said body and forming to the extent thereof the front wall of said body and angled to form an integral forwardly-projecting flange or plate to which said door-frame is fastened.

2. A vault comprising a body, a door-frame, and a vestibule-forming member located between the body and door-frame and comprising a plate angled to form an integral rearwardly-extending flange fastened to the body and an integral forwardly-projecting flange to which said door-frame is fastened.

3. A vault comprising a body made up of several members including a door-frame, each having along its free edges inwardly-extending projections for the reception of fastening means, and a vestibule-forming member located between the body and door-frame and comprising a casting angled to form a forwardly-extending flange, said vestibule-forming member having along its edges at its points of juncture with the body and door-frame inwardly-extending projections for the reception of fastening means for securing said vestibule-forming member in position.

4. A vault comprising a body made up of several members including a door-frame, each having along its free edges inwardly-extending projections for the reception of fastening means, and a vestibule-forming member located between the body and door-frame and comprising a casting angled to form a rearwardly-extending flange and a forwardly-extending flange, said vestibule-forming member having along its edges at its points of juncture with the body and door-frame inwardly-extending projections for the reception of shrunk-in link-bolts for securing said vestibule-forming member in position.

5. A vault comprising a body, a door-frame, and a vestibule-forming member located between the body and door-frame and comprising an integral, angularly-formed structure fastened to said body and door-frame with the joints between said vestibule-forming member and the door-frame and body respectively located away from the corners of the vestibule-forming member.

6. A vault comprising a body, a door-frame, and an ingral, angularly-formed vestibule-forming member located between said body and door-frame, each of said structures having contiguous inwardly-extending projections for the reception of fastening means to connect one member to the other, the joints of said angularly-formed vestibule member being located away from the corners thereof.

7. A vestibule-forming member for vaults comprising a forwardly-extending plate or flange forming a part of the wall of the doorway or vestibule and in one piece therewith a transversely-extending plate or flange forming to the extent thereof the front wall of the vault said member having each of its plates or flanges formed with a plurality of edges in position and adapted to engage similarly-formed edges of companion members to make up the vault-body.

8. A vestibule-forming member for vaults comprising a forwardly-extending plate or flange forming a part of the doorway or vestibule and in one piece therewith a transversely-extending plate or flange forming to the extent thereof the front wall of the vault, the free edges of said plates having means for the reception of fastening devices

for connecting said vestibule member to companion members or plates.

9. A vestibule-forming member for vaults comprising a forwardly-extending plate or flange forming a part of the doorway or vestibule and in one piece therewith a transversely-extending plate or flange forming to the extent thereof the front wall of the vault, the free edges of said plates having inwardly-extending projections for the reception of fastening devices.

10. A vestibule-forming member for vaults comprising a forwardly-extending member or flange forming a part of the doorway or vestibule portion, and a rearwardly-extending plate or flange, each integrally joined by a plate extending transversely to said flanges.

11. A vestibule-forming member for vaults comprising a forwardly-extending member or flange forming a part of the doorway or vestibule portion, and a rearwardly-extending plate or flange, each integrally joined by a plate extending transversely to said flanges, the rearwardly-extending flange located at the outer edge of said transversely-extending plate and the forwardly-extending flange located at the inner edge thereof and forming a vestibule of less area than said plate.

12. A vestibule-forming member for vaults comprising a forwardly-extending member or flange forming a part of the doorway or vestibule portion, and a rearwardly-extending plate or flange, each integrally joined by a plate extending transversely to said flanges the free edges of said structure having means for the reception of fastening devices.

13. A vestibule-forming member for vaults comprising a forwardly-extending plate or flange forming a part of the doorway or vestibule portion, and a rearwardly-extending plate or flange integrally joined by a plate extending transversely to said flanges, one of said flanges extending along a plurality of the edges of said plate.

14. A vestibule-forming member for vaults comprising a forwardly-extending plate or flange forming a part of the doorway or vestibule portion, and a rearwardly-extending plate or flange integrally joined by a plate extending transversely to said flanges, one of said flanges extending along a plurality of the inner edges of said plate.

15. A vestibule-forming member for vaults comprising a forwardly-extending plate or flange forming a part of the doorway or vestibule portion, and a rearwardly-extending plate or flange integrally joined by a plate extending transversely to said flanges, one of said flanges extending along a plurality of the outer edges of said plate.

16. A vestibule-forming member for vaults comprising a forwardly-extending plate or flange forming a part of the doorway or vestibule portion, and a rearwardly-extending plate or flange integrally joined by a plate extending transversely to said flanges, said flanges extending along a plurality of both the inner and outer edges of said plate.

17. A vestibule-forming member for vaults comprising a forwardly-extending plate or flange forming a part of the doorway or vestibule portion, and a rearwardly-extending plate or flange integrally joined by a plate extending transversely to said flanges, one or both of said flanges extending all the way around the edge of said plate.

18. A vestibule-forming member for vaults comprising a forwardly-extending plate or flange forming a part of the doorway or vestibule portion, and a rearwardly-extending plate or flange integrally joined by a plate extending transversely to said flanges, one of said flanges extending all the way around the outer edge of said plate.

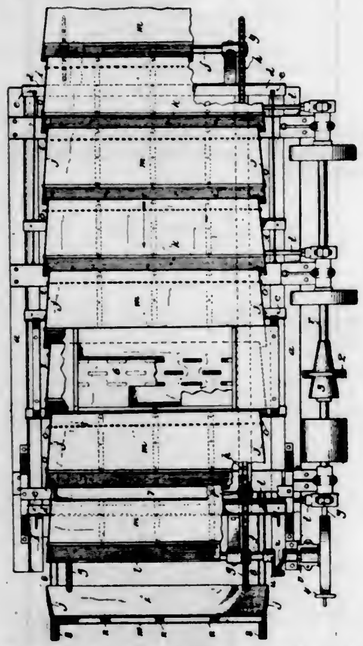
19. A vestibule-forming member for vaults comprising a forwardly-extending plate or flange forming a part of the doorway or vestibule portion, and a rearwardly-extending plate or flange integrally joined by a plate extending transversely to said flanges, one of said flanges extending all the way around the inner edge of said plate.

20. A vestibule-forming member for vaults comprising an integral structure formed of a single thickness of metal comprising a plate having one or more rearwardly-extending portions or flanges and a forwardly-projecting portion or flange extending around the front of said plate and forming a part of the vestibule or doorway and provided along its free edges with inwardly-extending projections for the reception of fastening means.

21. A vestibule-forming member for vaults comprising an integral structure formed of a plate having a passageway or opening therein and having a rearwardly-extending portion or flange along one or more of its edges, and a forwardly-extending flange all around said opening, a part of such forwardly-extending flange being within the outer edge of the plate and the free edges of said member having inwardly-extending projections for the reception of fastening means.

22. A vestibule-forming member, comprising a rearwardly-extending plate or flange, a forwardly-extending plate or flange, and a plate or flange extending transversely thereof and adapted to form to the extent thereof the front wall of a vault and having a plurality of edges adapted to engage similarly-formed edges of companion members to make up the vault-body.

840,491. ORE-CONCENTRATING MACHINE. HENRY C. HOLTHOFF, Milwaukee, Wis. Filed Apr. 22, 1905. Serial No. 256,835.



Claim.—1. In an ore-concentrating machine, an endless belt having a series of shields attached to and movable with it and arranged with spaces between them over the working surface of the belt, substantially as described.

2. In an ore-concentrating machine an endless belt provided with a series of hinged leaves or sections having raised sides and adapted to lap one over another on the upper side of the belt, each leaf or section being provided with a shield partially covering its working surface, substantially as described.

3. In an ore-concentrating machine an endless belt provided with a series of hinged leaves or sections adapted to lap one over another on the upper side of the belt, each leaf or section having closed or raised sides converging toward the tail end, a concentrating-mat and a shield supported over and partially covering said mat, substantially as described.

4. In an ore-concentrating machine the combination of a suitable frame provided with wheels, an endless belt mounted on said wheels and provided with a continuous series of leaves or sections adapted to lap one over another on the upper side of the belt, and each having a shield partially covering its concentrating-surface at a distance therefrom, a distributing-box mounted over the upper side of said belt, and means for turning said wheels and moving said belt endwise, substantially as described.

5. In an ore-concentrating machine the combination of a suitable frame provided with belt supporting and driving wheels, an endless belt mounted on said wheels and provided with a continuous series of hinged leaves or sections adapted to lap one over another on the upper span of the belt, each leaf being provided with a shield over and partially covering its concentrating-surface, a distributing-box located over the upper span of the belt and adapted to supply ore thereto upon the shields, and a wash-water box located over the upper span of the belt and between its head end and the distributing-box, substantially as described.

6. In an ore-concentrating machine the combination of a main frame, a vibratory frame mounted on the main frame and provided with belt supporting and guiding wheels, an endless belt mounted on said wheels with its upper span inclined downwardly toward the tail end and having hinged leaves, each of which is adapted to lap at its tail end over the head end of the next succeeding leaf on the upper span of the belt and has a shield supported over and covering the concentrating-surface of the leaf adjacent to its tail end, means for imparting a vibratory movement to said belt and its carrying-frame, means for turning said driving-wheels and moving the upper span of the belt toward its upper head end, and a distributing-box arranged over and adapted to feed pulp upon the upper span of the belt, substantially as described.

7. In an ore-concentrating machine the combination of a main frame, a vibratory frame mounted on the main frame and provided with belt supporting and driving wheels, means for varying the inclination of said vibratory frame, an endless belt having hinged leaves adapted to lap one over another on the upper side of the belt and each provided with a shield covering a portion of its working surface, means for imparting a vibratory movement to said belt and its carrying-frame, means for turning said driving-wheels and moving the upper side of the belt toward its upper end, and means for feeding pulp upon the upper side of the belt, substantially as described.

8. In an ore-concentrating machine the combination of a vibratory frame provided with belt supporting and guiding wheels, an endless belt mounted on said wheels with its upper side inclined downwardly toward the tail end and provided with hinged leaves adapted to lap one over another on the upper side of the belt and each provided with a shield covering a portion of its working surface, means for imparting a vibratory movement to said belt transverse to its longitudinal movement, and means for feeding ore upon the upper side of the belt, substantially as described.

9. In an ore-concentrating machine an endless belt comprising carrying-belts and transverse leaves hinged to said belts, and each consisting of a plate having upturned sides, a concentrating-mat on the bottom having a raised margin at the head end and a shield supported over and partially covering said mat, substantially as described.

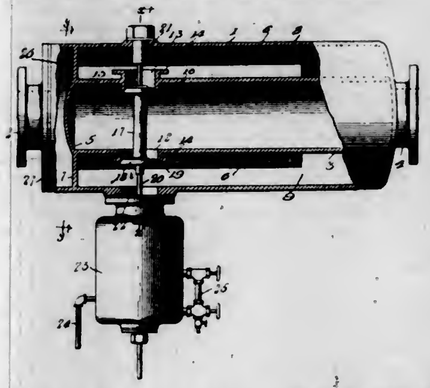
10. In an ore-concentrating machine an endless concentrating-belt comprising carrying-belts and leaves hinged at their head ends to said belts and each consisting of a flat plate having raised sides, a concentrating-mat on the bottom having a longitudinally-corrugated surface and a raised margin at its head end, and a shield located at a distance from and partially covering said mat, substantially as described.

11. In a concentrating-machine the combination with suitable belt supporting and carrying wheels, of an endless belt mounted on said wheels and having attached to it at a distance from its concentrating-surface a shield partially covering said surface and movable with the belt, substantially as described.

12. In an ore-concentrating machine the combination with a vibratory frame provided with belt supporting and driving wheels, an endless belt mounted upon said wheels with its upper span inclined downwardly toward the tail end, and having attached to and movable with it at a distance from its working surface a shield partially covering said surface, means for moving said belt on the upper side toward its higher end, means for imparting a vibratory movement to said belt, and means for charging pulp or ore upon the shield from which it is delivered to the concentrating-surface of the belt, substantially as described.

13. In an ore-concentrating machine the combination with a suitable frame provided with belt supporting and driving wheels, of an endless belt mounted upon said wheels and having attached to and movable with it a shield which is located a short distance from the concentrating-surface of the belt and has openings at intervals, and means for feeding the pulp or ore upon said shield from which it is discharged through said openings upon the concentrating-surface of the belt, substantially as described.

840,492. SEPARATOR. GEORGE D. HOPPES, Springfield, Ohio. Filed July 20, 1906. Serial No. 327,006.



Claim.—1. A steam-separator comprising inner and outer casings, a plurality of passages formed between said casings and means for connecting said passages with the interior of the inner casing.

2. A steam-separator comprising an outer casing connected to a source of steam-supply, an inner casing connected with an engine, and a plurality of passages formed between said casings, one of said passages being connected with the interior of the inner casing.

3. A steam-separator comprising an outer casing connected to a source of steam-supply, an inner casing connected to a steam-engine, partitions extending between said casings, and means for passing the steam around one end of said partitions and into the interior of said inner casing.

4. A steam-separator comprising inner and outer casings, passages formed between said casings, a part of said passages having their ends closed adjacent to the steam-inlet and the other passages having their ends open adjacent to said inlet, and a valve connecting said closed passages with the inner casing.

5. A steam-separator comprising an outer casing having one end connected with the source of steam-supply and the opposite end closed, an inner casing having one end connected with an engine and the opposite end closed, partitions extending between said inner and outer casings and forming passages, a part of said passages having their ends closed at the open end of said outer casing and the other passages having their ends open at the open end of said casing, a port connecting said closed passages with the said inner casing, and means for controlling said port.

6. A steam-separator comprising inner and outer casings, partitions between said casings extending a portion of the length of the same and dividing the space between said casings into passages, a part of said passages having one end closed against the entrance of steam and the re-

maining passages being open, and means for connecting said closed passages with the interior of said inner casing.

7. A steam-separator comprising an outer casing having one end connected to the source of steam-supply and its opposite end closed, an inner casing arranged within said outer casing and of less length than said outer casing, having one end connected with a steam-engine and its opposite end closed, partitions between said inner and outer casings extending a portion of the length thereof and dividing the space between said casings into passages, a portion of said passages having their ends adjacent to the inlet to said outer casing closed against the passage of steam, and means for connecting said closed passages with the interior of said inner casing, the remaining passages having their corresponding ends open.

8. A steam-separator comprising an outer casing having one end connected to a source of steam-supply and its opposite end closed, an inner casing of less length than said outer casing having that end adjacent to the inlet-opening in said outer casing closed and its opposite end connected to an engine, partitions extending from the closed end of said inner casing to a point near the opposite end thereof and dividing the space between said casings into passages, a part of said passages having the end adjacent to the steam-inlet of the outer casing closed, apertures connecting said closed passages with the interior of said inner casing, valves controlling said apertures, a valve-rod for operating said valves extending through said outer casing, and a water-outlet connected to one of said closed passages.

9. A steam-separator comprising inner and outer casings, passages formed between said casings, a part of said passages having one end closed against the entrance of steam, apertures connecting said closed passages with the interior of said inner casing, flanges surrounding said apertures and extending into said closed passages, and valves for controlling said apertures.

10. A steam-separator comprising an outer casing having one end connected to the source of steam-supply and the opposite end closed, an inner casing of less length than the outer casing and supported within the same, said inner casing having one end connected to a steam-engine and the opposite end closed, radial partitions of less length than said inner casing extending between said inner and outer casings and dividing the space between the same into passages, a part of said passages having transverse partitions closing the ends of the same near the closed end of said inner casing, the remaining passages being open, a valve-controlled aperture connecting said closed passages with the interior of said inner casing, annular flanges surrounding said apertures and extending into said closed passages, and a water-receptacle supported beneath said separator and connected to one of said closed passages.

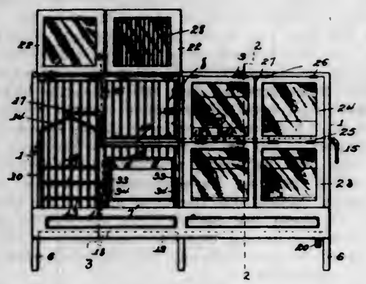
11. A steam-separator comprising inner and outer casings, radially-arranged steam-passages between said casings, angular projections in said passages, and a steam-controlling valve connecting the interiors of said casings.

12. In a steam-separator, the combination, with the inner and outer casings and radially-arranged passages between said casings, of a port connecting said passages with the inner casing, and a valve controlling said port.

13. In a steam-separator, the combination, with an outer casing and an inlet-chamber at one end thereof, of an inner casing within said outer casing, a plurality of passages surrounding said inner casing, the alternate passages being connected with said inlet-chamber, and means for connecting all of said passages at the ends opposite said inlet-chamber.

14. In a steam-separator, the combination, with an inner and an outer casing, of a plurality of passages between said casings and extending longitudinally thereof, the alternate passages being connected near one end of said casing with a source of steam-supply, and an annular conduit connecting said passages with the opposite end of said casing.

840,493. DISPLAY-STAND. CHARLES T. JACKLEY, Wheeling, W. Va. Filed July 19, 1906. Serial No. 326,853.

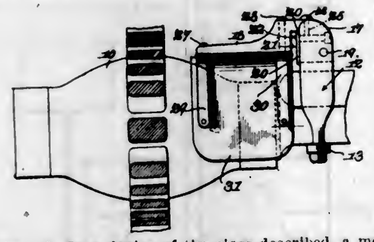


Claim.—1. In a display-stand, a case having a short vertical front wall, inclined supporting-strips, hinged doors normally resting upon said supporting-strips, vegetable-boxes in the bottom of the case, a plate having a socket therein secured on each side of each of said boxes at a suitable point, a supporting-arm having its upper end pivoted in said plate, a base member on the bottom of the case, the lower end of said supporting-arm being pivoted in said base member, said boxes being held by said supporting-arms at a display angle within the case and adapted for swinging forward on said arms and for resting upon the upper edge of said vertical front wall.

2. In a display-stand, a box-like case having a short vertical front wall, inclined supporting-strips, hinged doors normally resting upon said supporting-strips, a spray-pan mounted in said case, a berry-cooler in said case, said cooler having a roof-like top, a water-supply pipe mounted in the case, a foraminous-nozzle sprayer for the spray-pan connected with said supply-pipe, a perforated-pipe sprayer mounted on the comb of the roof-like top of the cooler and connected with said supply-pipe, troughs for draining the waste water from said spray-pan and from said berry-cooler, vegetable-boxes in the lower part of the case, a plate having a socket therein secured on each side of each of said boxes at a suitable point, a supporting-arm having its upper end pivoted in said plate, a base member on the bottom of the case, the lower end of said supporting-arm being pivoted in said base member, said boxes being held by said arms at a display angle within the case and adapted for swinging forward on said arms and for resting upon the upper edge of said vertical front wall.

3. In a display-stand, a box-like case having an inclined front, doors hinged for folding back over the top of the case, inclined supporting-strips on which said doors normally rest, a vertical wall below said inclined front, horizontal supporting-bars mounted transversely of said case substantially midway between the top and bottom thereof, the front and rear ends of said bars being respectively secured to the supporting-strips and to the rear wall of the case, each of said bars having a trough-receiving offset therein, a spray-pan mounted on said bars at a suitable point, a berry-cooler within the case at one end thereof, a water-supply pipe extending through said case, a sprayer connected with said supply-pipe for directing water into said spray-pan, a second sprayer connected with the supply-pipe for directing water over the top of the berry-cooler, troughs for receiving and draining the waste water from said spray-pan and said cooler, one of said troughs resting in the offsets in the supporting-bars, vegetable-boxes in the lower part of the case, a socketed plate carried by each side of each box, a supporting-arm having its upper end pivoted in said plate, a base member on the bottom of said case, the lower end of said supporting-arm being pivoted in said base member, said supporting-arms being adapted for holding each of said boxes at a display angle of inclination in the case and for admitting of said boxes swinging forward over the top of the front vertical wall of the case when the front ends thereof are raised, said vertical wall serving as a support for said boxes when the latter are swung forward.

840,494. MUD AND SAND GUARD FOR VEHICLE-WHEELS. ROBERT T. JACKSON, Magnolia, Ark. Filed May 24, 1906. Serial No. 318,573.

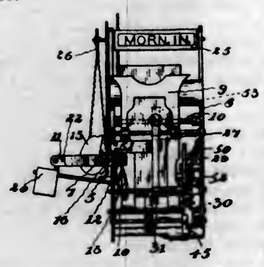


Claim.—1. In a device of the class described, a member having means for attachment to an axle, a keeper connected to said member, an arm swinging from said member and provided with a guard for bearing over the adjacent hub, a spring-pressed bolt carried by said arm and yieldably engaging said keeper and means for releasing said bolt.

2. In a device of the class described, a member having means for attachment to an axle and provided with spaced ears, a keeper extending transversely to said ears, an arm swinging between said ears and provided with a recess bearing over said keeper, a cap member connected to said arm for bearing over the hub and a spring-pressed bolt carried by said arm and yieldably engaging said keeper.

3. In a device of the class described, a member having means for attachment to an axle, a keeper connected to said member, an arm swinging from said member, curved straps spaced apart and connected to said arm, a curved guard member connected to said straps for bearing over the hub, a spring-pressed bolt carried by said arm and yieldably engaging said keeper.

840,495. TIME-RECORDER. ALFONSO L. JAYNES, Toronto, Ontario, Canada. Filed Jan. 10, 1906. Serial No. 295,459.



Claim.—1. In a time-recorder the combination of a card-holder laterally movable; means for automatically moving said card-holder in one direction at predetermined intervals; means for automatically returning the card-holder to its original position at a predetermined time; and means for locking said card-holder in each position; said means permitting a limited backward movement of the card-holder from each position other than the first, substantially as described.

2. In a time-recorder the combination of a card-holder laterally movable; an arm connected therewith and longitudinally slotted; a projection on said arm; a shaft transverse to the arm, and passing through the slot therein; means controlled by a time-clock for partially rotating the shaft at predetermined intervals; a snail connected to the shaft, and adapted to engage the projection on the arm; and yielding means tending to hold the projection in contact with the snail, substantially as described.

3. In a time-recorder the combination of a card-holder laterally movable; an arm connected therewith, a projection on said arm; a shaft transverse to the arm; means controlled by a time-clock for partially rotating the shaft at predetermined intervals; a snail connected to the shaft, and adapted to engage the projection on the arm; a pin on the arm for engagement by the snail, spaced from the projection a distance substantially equal to the greatest diameter of the snail; and arms secured to the snail substantially at right angles to its greatest diameter, and adapted to engage the pin to prevent forward movement of the arm when the snail is in intermediate positions, substantially as described.

4. In a time-recorder the combination of a card-holder laterally movable; an arm connected therewith, a projection on said arm; a shaft transverse to the arm; means controlled by a time-clock for partially rotating the shaft at predetermined intervals; a snail connected to the shaft, and adapted to engage the projection on the arm; and a pin on the arm for engagement by the snail, spaced from the projection a distance substantially equal to the greatest diameter of the snail, substantially as described.

5. In a time-recorder the combination of a card-holder laterally movable; an arm connected to the card-holder by a pin-and-slot connection; means engaging the arm for yieldingly pressing forward the card-holder; means for automatically moving forward the arm at predetermined intervals; and means for returning it to its original position at a predetermined time, substantially as described.

6. In a time-recorder the combination of a card-holder laterally movable; an arm connected therewith; a projection on said arm; a shaft transverse to the arm; a ratchet-wheel on the shaft; a spring-held ratchet-rack engaging the ratchet-wheel; clock-controlled means for operating said rack; a detent carried by the rack; a notched wheel secured to the shaft and adapted to be engaged by the detent when the rack is at the forward end of its stroke; and means preventing backward movement of the shaft, substantially as described.

7. In a time-recorder the combination of an abutment for a card; an operating-lever for recording mechanism; a detent normally preventing the movement of the operating-lever; a lever pivoted on the abutment in position for engagement by a card; and connections between the lever and the detent whereby the latter is disengaged from the operating-lever when the abutment-lever is pressed down by a card, substantially as described.

8. In a time-recorder the combination of a clock-driven vertically-reciprocating abutment for a card; a bell-crank lever pivoted on the abutment with one arm in position for engagement by a card; a vertical bar in position for engagement by the other arm of the bell-crank lever; parallel equal pivoted links connecting the bar with a stationary part; a lever having one end in operative engagement with the bar; a detent engaged by the other end of the lever; an operating-lever for recording mechanism normally engaged by the detent; and yielding means retaining the parts in the normal position, substantially as described.

9. In a time-recorder the combination of an abutment for a card; an operating-lever for recording mechanism; a detent for engagement with the operating-lever at two different positions of the latter and normally engaging the lever when the latter is in its normal position; a lever pivoted on the abutment in position for engagement by a card; and connections between the lever and the detent whereby the latter is disengaged from the operating-lever when the abutment-lever is pressed down by a card, substantially as described.

10. In a time-recorder the combination of a clock-driven vertically-reciprocating abutment for a card; a laterally-movable vertical rack with which the abutment is adapted to engage; yielding means normally maintaining the rack out of engagement with the abutment; means carried by the abutment adapted, when pressed by a card, to move the rack into engagement with the abutment, substantially as described.

11. In a time-recorder the combination of a clock-driven vertically-reciprocating abutment for a card; a vertical

rack; means for engaging the abutment and the rack; means carried by the abutment adapted, when pressed by a card, to effect an engagement between the rack and the abutment; and yielding means normally maintaining the rack and abutment out of engagement, substantially as described.

12. In a time-recorder the combination of a clock-driven vertically-reciprocating abutment for a card; a bell-crank lever pivoted on the abutment with one arm in position for engagement by a card; a vertical bar in position for engagement by the other arm of the bell-crank lever; parallel equal pivoted links connecting the bar with a stationary part; a lever having one end in operative engagement with the bar; a detent engaged by the other end of the lever; an operating-lever for recording mechanism normally engaged by the detent; a laterally-movable vertical rack with which the abutment is adapted to engage; an arm extending from the rack and engaging the vertical bar; and yielding means normally maintaining all the parts in their normal positions, substantially as described.

840,496. WRENCH. JOSEPH M. JUSTEN, Toledo, Ohio, assignor of two-fifths to Otto Augsbach, Toledo, Ohio. Filed Oct. 20, 1906. Serial No. 339,868.

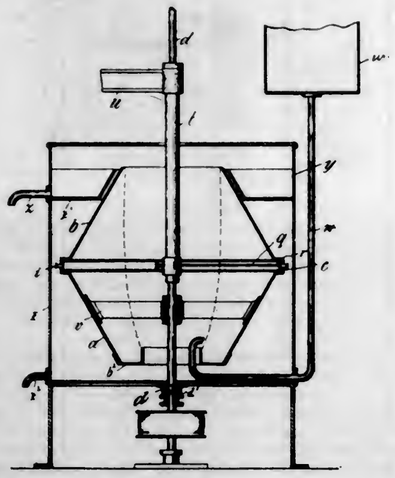


Claim.—1. A pipe-wrench comprising a handle, a jaw connected therewith having a corrugated gripping-face which is concaved in its longitudinal dimension and disposed with its length at an angle to the handle, a link pivoted on the handle, and a strap attached to the link and adapted to be gripped around the pipe by the said gripping-face.

2. A pipe-wrench comprising a handle, a jaw connected therewith having an inclined and concaved gripping-face disposed at an angle to the length of the handle, a link pivoted on the jaw and arranged to extend at an angle to the length of the handle and in the direction opposite to the said face when gripping a pipe, and a strap connected with the link and arranged to extend around a pipe and along the said gripping-face from the outer to the inner end thereof and thence through the link.

3. A pipe-wrench comprising a handle, a jaw connected therewith having a flat face at one end and a contiguous concaved face provided with corrugations, a link pivoted to the jaw at one side of the flat portion of the latter and disposed with its free end on the side of the jaw having the gripping-face, a strap connected to the free end of the link and arranged to be gripped by the flat and concaved faces of the jaw, and a sleeve on the link around which the strap extends.

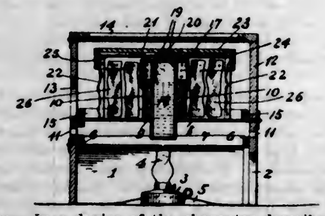
840,497. CENTRIFUGAL MACHINE. FERDINAND KAEHL, Berlin, Germany. Filed Apr. 11, 1905. Serial No. 255,020.



Claim.—1. In a centrifugal machine, the combination with a drum open at both ends and formed of two rotary oppositely-conical portions of different diameter at both ends, which are connected at their largest peripheries, of a shaft, means securing said drum on said shaft while leaving free passage to the materials to be separated and discharged, an arm stationary on said shaft, means for holding said arm in a stationary position, and a scraper on said arm and adapted to scrape the internal face of said drum.

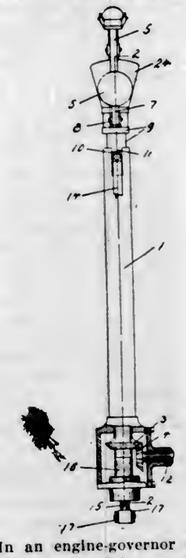
2. In a centrifugal machine, the combination with a drum having openings of unequal diameter at both ends and formed of two oppositely-conical portions and a perforated ring connecting their largest peripheries, of a vertical shaft, a spider on said vertical shaft for supporting said drum, means for introducing the materials to be separated into said drum through its smaller opening below, means for collecting the separated liquid from said drum at its larger opening above, means for collecting the separated solid substance discharged from said drum through the perforations of its ring, a sleeve loose on said vertical shaft, means for supporting said sleeve from without, an arm fastened on said sleeve, and a scraper on said arm and adapted to scrape the internal face of the perforated ring of said drum.

840,498. BROODER. HENRY E. KELLER, Decatur, Ind. Filed July 26, 1906. Serial No. 327,848.



Claim.—In a device of the character described, a chamber having a double flooring, the upper flooring being provided with an opening, an annular flange arranged around the opening, a cap fitted on the annular flange, the walls of said cap being perforated and the top of the cap being provided with an opening, a tube depending from the top of the cap, the upper portion of the tube being perforated, and a heating means arranged beneath the double flooring.

840,499. SPEED-GOVERNOR. JOHN KNOWLSON, Troy, N. Y. Filed May 7, 1906. Serial No. 315,478.



Claim.—1. In an engine-governor and in combination, a rotatory spindle; engine-driven means for rotating said spindle; a sleeve inclosing said spindle, and capable of movement longitudinally thereof; means adapted to connect said sleeve with the valve mechanism controlling said engine; weighted arms pivotally mounted at their inner ends upon the end of said spindle; connections between said weighted arms and said sleeve; and means whereby said spindle can be adjustably moved longitudinally and supported in adjusted position.

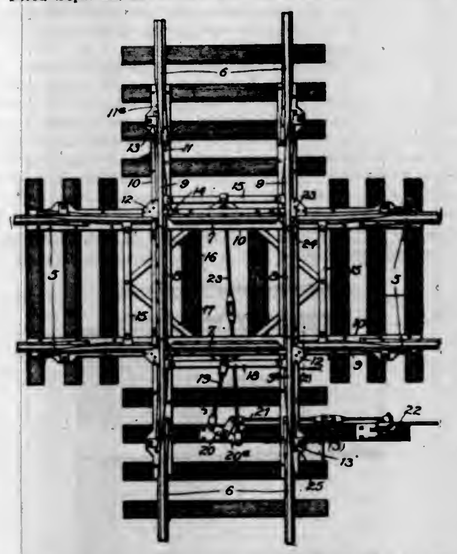
2. In an engine-governor and in combination, a vertically-arranged rotatory spindle; engine-driven means for rotating said spindle; a sleeve inclosing said spindle, and capable of movement vertically thereupon; means adapted to connect said sleeve with the valve mechanism controlling said engine; weighted arms pivotally mounted at their inner ends upon the upper end of said spindle; connections between said weighted arms and said sleeve; a step-bearing for the lower end of said spindle; a lever supporting said step-bearing; and a screw for operating said lever to raise or lower said step-bearing.

3. In an engine-governor and in combination, a rotatory spindle; a sleeve inclosing said spindle, and capable of movement longitudinally thereof; means adapted to connect said sleeve with the valve mechanism controlling said engine; weighted arms pivotally mounted at their inner ends upon the end of said spindle; connections between said weighted arms and said sleeve; means whereby said spindle can be adjustably moved longitudinally, and supported in adjusted position; a bevel-gear mounted upon said spindle to rotate therewith and permit sliding movement of the spindle therethrough, and a second bevel-gear meshing with said first-mentioned bevel-gear and adapted to be driven by said engine.

840,500. PROCESS OF HOMOGENIZING EMULSIONS. GEORGE KUNICK, London, England. Filed Dec. 15, 1905. Serial No. 291,841.

Claim.—The improved process of homogenizing emulsions consisting in homogenizing the liquid, removing the larger or non-disintegrated fat globules by centrifugal separation, subjecting the latter again to the homogenizing process, and adding together the homogenized fractions of the original liquid, substantially as described.

840,501. RAILWAY-CROSSING. TALBOT LENNOX, Chicago, Ill., assignor to McGuire-Cummings Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 13, 1904. Serial No. 224,278.



Claim.—1. In a railway crossing a shiftable rail section joined to the fixed portions of the rail upon bevel joints and movable in practically the straight rail line to open and close the joints.

2. In a railway crossing a sliding rail section having bevel joints with the fixed rail portions and provided with a wedge-shaped guide block whereby direct contact is constantly made with the guiding means for the movable section.

3. In a railway crossing a pair of shiftable rail sections jointed to the fixed rail portions by bevel joints, movable in approximate alinement with the rail and laterally tied together by a strut bar, substantially as described.

4. The combination with two pairs of fixed rail sections, 7, 8, and four pairs of longitudinally shiftable rail sections 9 and a connected set of lazy-tong links, whereby the retraction of one pair of movable sections places the other pair of movable sections in contact with the fixed portions of the rail, substantially as described.

5. In a rail crossing, a fixed rail, a movable rail section engaging the fixed rail by a bevel joint, and having a guide bearing parallel with the said bevel joint.

6. In a railway crossing the combination of the four links 16, 17, and the tie bars 15, and means for operating the links from two ends, substantially as described.

7. The combination of the bearing-plate 10, shiftable rail sections 9, tie bars 15, toggle links 16, 17, and means for operating the toggle links to reciprocate the rail sections, substantially as described.

8. In combination in a railroad crossing, four pairs of outer fixed rails having inner beveled ends, two pairs of inner fixed rails in alinement with the outer rails, and intermediate rails movably guided in substantial alinement with the outer rails and each having one end beveled to fit the bevel on the outer rail and having its inner end adapted to abut a stationary inner rail.

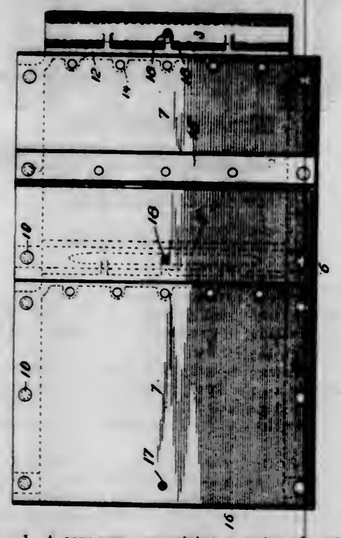
9. In combination in a railroad crossing, four pairs of outer fixed rails having inner beveled ends, two pairs of

inner fixed rails in alinement with the outer rails, intermediate rails movable in substantial alinement with the outer rails and each having one end beveled to fit the bevel on the outer rail and having its inner end adapted to abut a stationary inner rail, and guiding means for the beveled ends of the rails whereby such ends are held constantly in engagement with the bevel on the stationary rail.

10. In combination in a railway crossing, two pairs of fixed inner rail sections, four pairs of longitudinally shiftable rail sections, struts or bars tying together the members of each of the latter pairs, four levers pivoted at the centers of the struts and constituting a lazy tongs, and means for operating such lazy tongs.

11. In combination in a railway crossing, two pairs of fixed inner rail-sections, four pairs of longitudinally shiftable rail sections, struts or bars tying together the members of each of the latter pairs, four levers pivoted at the centers of the struts and constituting a lazy tongs, and lever mechanism connected with opposite struts whereby such struts may be made to approach or recede from each other.

840,502. CONVEYER. CHRISTOPHER W. LEVALLEY, Milwaukee, Wis. Filed May 3, 1906. Serial No. 314,991.



Claim.—1. A conveyer comprising a series of articulated chain-links and plate-like supports for the material of a width substantially equal to the width of the chain and one carried by each link, each support having a bearing along three of its edges upon the link that carries it, and its fourth edge bearing upon the cross member of the adjacent link, substantially as set forth.

2. A conveyer comprising a series of connected power-transmitting links and plate-like supports for the material, one for each link, the links having side bars and cross members, the side bars being formed to constitute supporting-bearings for the side edges of the plate-like supports, and the cross members being formed with bearings parallel thereto for the front and rear edges of the plate-like supports, substantially as set forth.

3. A conveyer comprising a series of connected power-transmitting chain-links, and plate-like supports for the material, such supports being of a width substantially equal to the width of the chain and one being carried by each link, each link having side bars and a cross member and a bearing for the support for the material parallel with the cross member and adjacent thereto, and each support for the material being supported adjacent to its side edges by the side bars of the link and having one of its end edges resting upon the cross-bearing of the link which carries it and its other end edge resting upon a cross-bearing of the adjacent link, substantially as set forth.

4. A conveyer comprising a series of connected power-transmitting chain-links, plate-like supports for the material, such supports being of a width substantially equal to the width of the chain and one being carried by each link, each link having side bars and a cross member and a bearing for the support for the material parallel with the cross member and adjacent thereto, and means for securing each plate-like support for the material to the side bars of the link that carries it and for securing one of its end edges to the cross-bearing, the other end edge resting upon a cross member of an adjacent link and being supported thereby, substantially as set forth.

5. In a conveyer the combination of a series of chain-links each having side bars, a perforated cross-bar and a bearing parallel with the cross-bar and connected thereto, pintles for uniting the links, and plate-like supports for the material of a width substantially equal to the width of the chain and one carried by each link, each plate-like support resting upon and being secured to the side bars of its link and having one end edge resting upon the cross-bearing of its link, its other end edge being arranged to extend over and rest upon the cross-bearing of the connecting-link, substantially as set forth.

6. A chain-link for conveyers consisting of side bars and a perforated cross-bar, the cross-bar being provided with a relatively broad transverse bearing situated in the plane of the top edges of the side bars and adapted to serve as a support for the adjacent edges of plate-like supports for the material being transported by the conveyer, substantially as set forth.

7. A chain-link for a conveyer consisting of side bars provided with studs extending from their upper edges, a cross-bar serving for attachment to an adjacent link, and a transversely-disposed bearing 12 situated in the plane of the top edges of the side bars and connected with and parallel to the cross-bar, substantially as set forth.

840,503. VEHICLE-TIRE. ARTHUR H. MARKS, Akron, Ohio. Filed Mar. 1, 1905. Serial No. 247,952.



Claim.—A pneumatic tire or tire-casing having two metallic rings embedded therein, one at each side of the tread, and a woven-wire strip carried thereby and disposed therebetween.

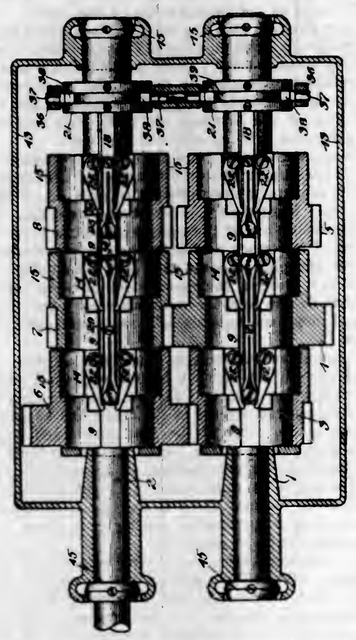
840,504. VARIABLE-SPEED GEARING. WILLIAM R. MAY, Newton, Mass. Filed Jan. 27, 1906. Serial No. 298,212.

Claim.—1. Variable-speed gearing comprising a plurality of shafts, coöperating wheels of varying sizes on the shafts, clutches intermediate the wheels and shafts for detachably connecting them, levers bearing directly against said clutches over limited areas, and means for moving said levers against the clutches.

2. Variable-speed gearing comprising a plurality of shafts, coöperating wheels of varying sizes on the shafts, clutches intermediate the wheels and shafts for detachably connecting them, levers having knife-edge bearings on said clutches, and means pressing the knife-edges of said levers against the clutches.

3. Variable-speed gearing comprising a plurality of shafts, coöperating wheels of varying sizes on the shafts, clutches intermediate the wheels and shafts for detachably connecting them, levers having integral short arms bearing directly against said clutches over limited areas, and means arranged to actuate the longer arms of said levers to press the short arms against the clutches.

4. Variable-speed gearing comprising a plurality of shafts, coöperating wheels of varying sizes on the shafts, clutches intermediate the wheels and shafts for detachably connecting them, levers bearing against said clutches over limited areas, and means for moving said levers against the clutches adjustable to vary the force of the pressure exerted by the levers against the clutches.



5. Variable-speed gearing comprising a plurality of shafts, coöperating wheels of varying sizes on the shafts, clutches intermediate the wheels and shafts for detachably connecting them, levers having intermediate their pivots and free ends protuberant angles forming bearing knife-edges adapted to press against the clutches, and actuators adapted to engage the levers adjacent their free ends and force the knife-edges thereof against the clutches.

6. Variable-speed gearing comprising a plurality of shafts, coöperating wheels of varying sizes on the shafts, clutches intermediate the wheels and shafts for detachably connecting them, and wedges adjustable in width constructed and arranged to operate the clutches to connect the shafts and wheels.

7. Variable-speed gearing comprising a plurality of shafts, coöperating wheels of varying sizes on the shafts, clutches intermediate the wheels and shafts for detachably connecting them, and an actuator for the clutches carrying enlargements of variable extent adapted, when adjacent the clutches, to operate the same.

8. Variable-speed gearing comprising a plurality of solid shafts, coöperating wheels of varying sizes on each shaft, the wheels of one shaft being loosely mounted, normally inoperative clutches between the several loose wheels and the shaft, and an actuator therefor wholly external of the latter shaft carrying a plurality of protuberances arranged to come into operating relation with the clutches one at a time to connect the wheels singly.

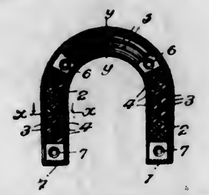
9. Variable speed-gearing comprising a plurality of shafts, coöperating wheels of varying sizes on each shaft, the wheels of one shaft being loosely mounted, normally inoperative connecting devices between the several loose wheels and the shaft, and an actuator therefor carrying a plurality of protuberances arranged to come into operating relation with the clutches one at a time to connect the wheels singly, said protuberances being variable in extent so that the degree of clutch-engaging pressure may be varied.

10. In a device of the character described, a solid shaft, a plurality of wheels loose thereon, clutches secured to the shaft closely adjacent each other, for detachably connecting the several wheels to the shaft, and an actuator mounted wholly externally of the shaft and provided with means for operating the several clutches in succession.

11. In a device of the character described, a solid shaft, a plurality of wheels loose thereon, friction-clutches secured to the shaft closely adjacent each other, for detachably connecting the several wheels to the shaft, and an actuator mounted wholly externally of the shaft and provided with means for operating the several clutches in succession.

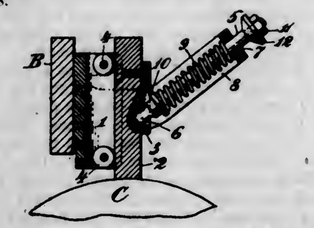
12. In a device of the character described, a solid shaft, a plurality of wheels loose thereon, friction-clutches secured to the shaft closely adjacent each other, for detachably connecting the several wheels to the shaft, and an actuator mounted wholly externally of the shaft and provided with means for operating the several clutches in succession, said means being movable wholly through a clutch from one side to the other thereof.

840,505. HEEL-PLATE. ROBERT MERRICK, Jr., and OTTIS E. MILLER, Hopedale, Ohio. Filed Dec. 22, 1905. Serial No. 292,997.



Claim.—As an improved article of manufacture the herein-described heel-plate comprising a U-shaped structure designed to cover the margin of the entire heel except the front edge, with the curve of the plate at the rear of the heel, said plate being tapered on its outer face from its outer edge toward its inner edge throughout the length thereof, the two side portions of said plate being formed on their outer faces with oblique intersecting grooves producing a plurality of knob-like protuberances, and an intermediate portion at the rear being formed on its outer face with a series of transversely-curved corrugations each in operative position in a higher plane than the next preceding it in the rear.

840,506. COMMUTATOR BRUSH AND HOLDER FOR DYNAMOS AND THE LIKE. JOSEPH A. MISLAND, New York, N. Y. Filed Dec. 7, 1905. Serial No. 290,738.

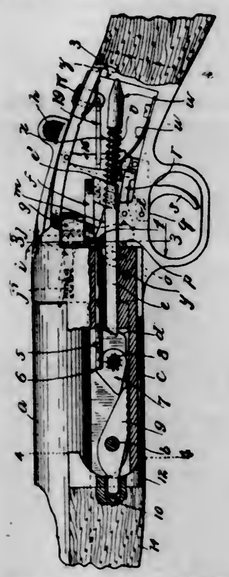


Claim.—1. A commutator-brush provided with a socket 3, set into the brush and provided with a concave recess, in combination with a holder for the brush provided with roller-bearings for the latter, and with a spring-plunger having a convex end engaging the socket on the brush, said plunger being disposed obliquely to the face of the brush and having a loose bearing at 7, to enable it to vary its obliquity.

2. A commutator-brush provided with a socket set into the brush and provided with a concave recess, in combination with a holder for the brush provided with a spring-plunger having a convex end engaging said socket in the brush, said plunger being disposed obliquely to the face of the brush and having a loose bearing to enable it to vary its obliquity.

3. The combination, with a commutator-brush, provided with a socket-piece 3, set in its face, of a holder 1, having in it a guideway for the brush, rollers on which the back of the brush bears, a frame 8, and a spring-plunger mounted loosely at 7, in said frame with its rounded end engaging the socket on the brush, said plunger having its axis oblique to the axis and the direction of movement of the brush.

840,507. BREECH-LOADING FIREARM. OSCAR F. MOSSBERG, Chicopee Falls, Mass., assignor to J. Stevens Arms & Tool Company, Chicopee Falls, Mass., a Corporation. Filed July 1, 1904. Serial No. 214,992.



Claim.—1. In a breech-loading firearm of the breakdown type, a frame, a hammer, a barrel hinged to the forward end of the frame, an arm carried by said hinge and in the horizontal plane of the pivot, a second arm adjacent thereto and engaging the first arm, a suitable lock mechanism for the barrel in said frame and including a hammer-block, and a cocking mechanism for the hammer operatively disposed in relation to the second arm and engaging the hammer-block whereby the tipping movement of the barrel will effect the cocking of the hammer.

2. The combination with the frame of a breech-loading firearm, of a barrel hinged in the forward end thereof, a hammer in the frame, a hammer-block, a plunger 5 extending from the forward edge of the hammer-block and toward the forward end of the frame, and the arms 7 and 9 operatively disposed between the forward end of said plunger and the pivotal point of the barrel, the arm 7 having a shoulder thereon and engaged by the forward end of the plunger and its rear end engaging the hammer-block, the hammer being pivoted to the hammer-block and the frame whereby the swinging movement of the barrel will actuate said arms and said plunger to effect the cocking of the hammer at the same time.

3. In a breech-loading firearm of the breakdown type, a frame, a hammer pivoted to same, a hammer-block pivoted to the hammer, a barrel hinged in the forward end of the frame and having a socket adjacent said pivot, an arm supported in the frame on the axis of the hinge between the barrel and frame and extending forward of the axis and engaging said socket, one end of said arm engaging the barrel; a second arm, and mechanism operatively disposed relative to the opposite end of said second arm and to the hammer and hammer-block whereby the swinging of the barrel on its hinge will effect the cocking of the hammer.

4. A breech-loading firearm comprising a frame, and a barrel hinged to the forward end of the latter; a bolt in the frame parallel with the barrel to lock the latter in firing position; a hammer pivotally supported in the frame, a slidable hammer-block pivoted to the hammer and a cocking mechanism operated by the tipping movement of the barrel in the frame to move said hammer-block, to effect the cocking of the hammer, the latter and said hammer-block extending through a slot in said bolt.

5. In a breech-loading firearm of the breakdown type, a frame, a barrel pivoted in the forward part thereof, a hammer and a hammer-block pivoted to each other, a double-armed lever pivoted on the barrel and extending in opposite directions, one of the arms engaging a socket in the fore-end of the stock and the other arm extending rearward and engaging a second arm, said second arm engaging one end of a plunger, the opposite end of the plunger being connected to the hammer-block whereby when the barrel is tipped down the hammer will be thrown into a cocked position.

6. A breech-loading firearm comprising a frame, a barrel pivoted thereto, an element having oppositely-extending arms mounted on the pivot thereof, a second element having a shoulder and pivoted in the frame and adapted to engage one of the arms of the first-mentioned element, a locking mechanism for the barrel, a hammer-block mounted within the locking mechanism, a hammer, a plunger, one end of which is in engagement with the shoulder of the second-named element and the opposite end engaging the hammer-block, whereby when the barrel is tipped the hammer is placed in firing position.

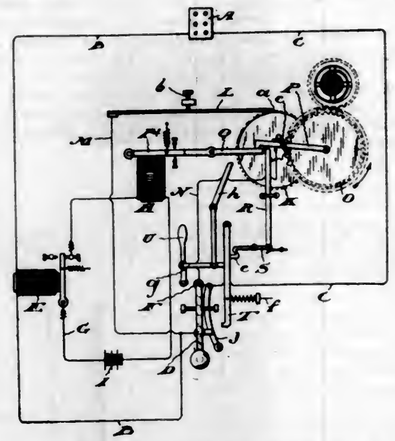
7. A breakdown firearm, a barrel pivoted to the frame thereof, a slotted sliding locking-bolt, a hammer, a slotted hammer-block mounted within the locking-bolt, a plunger for cocking the hammer, one end engaging the hammer-block and the other a shoulder in a pivoted arm, said pivoted arm being operated by the movement of the barrel whereby upon the downward movement of the barrel the plunger will operate the hammer-block, and place the hammer in cocked position.

8. In a firearm of the breakdown type, a frame, a barrel pivoted thereto, a double-armed lever carried by the pivot, a second lever engaging the rearwardly-extending arm of said lever and having a shoulder thereon, a slotted locking-bolt, a slotted hammer-block located within the locking-bolt and having an abutment, a hammer pivoted to the hammer-block and located within the same and also pivoted to the frame, a plunger extending between the shoulder on the last-mentioned lever and the abutment on the hammer-block whereby when the barrel is tipped, the hammer is placed in firing position as described.

9. A breech-loading firearm of the breakdown type, a slotted locking-bolt, a hammer, a hammer-block, a lever on the pivot-bolt of the barrel, the hammer, and hammer-block being mounted within the locking-bolt and the hammer being pivoted respectively to the frame and hammer-block, and means located between the said block and hammer to effect the cocking of the hammer when the arm is broken.

840,508. TELEGRAPHIC APPARATUS. THOMAS W. MCKENZIE, Kenton, Manitoba, Canada. Filed Jan. 15, 1906. Serial No. 296,085.

Claim.—1. In telegraphic apparatus the combination of a main-line circuit normally energized and provided with transmitting and receiving apparatus; an automatic caller; normally controlled means for sending the signals of the caller through the whole length of the main line, and means controlled by the opening of the main-line circuit for more than a predetermined time for stopping the signals of the caller until again manually started, substantially as described.



2. In telegraphic apparatus the combination of a main-line circuit; a loop-circuit; an automatic caller in the said loop-circuit; a switch by means of which the loop may be switched into and out of the main-line circuit; and means controlled by the opening of the main-line circuit for cutting out the loop-circuit, substantially as described.

3. In telegraphic apparatus the combination of a main-line circuit normally energized and provided with transmitting and receiving apparatus; a loop-circuit; an automatic caller in the said loop-circuit; a switch by means of which the loop may be switched into and out of the main-line circuit; and means controlled by the opening of the main-line circuit for stopping the signaling of the caller until manually restarted, substantially as described.

4. In telegraphic apparatus the combination of a main-line circuit; a loop-circuit; an automatic caller in the said loop-circuit; a switch by means of which the loop may be switched into and out of the main-line circuit; and means controlled by the opening of the main-line circuit for cutting out the loop-circuit and for stopping the caller, substantially as described.

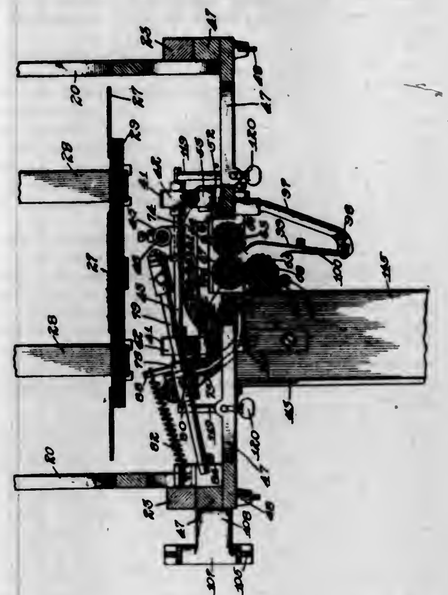
5. In telegraphic apparatus the combination of a main-line circuit provided with a plurality of sets of transmitting and receiving apparatus; an automatic caller; means for sending the signals of the caller through the main-line circuit; and means controlled from any station in the main-line circuit for stopping the transmission of caller-signals until manually restarted, substantially as described.

840,509. PAPER-FOLDING MACHINE. FREDERICK G. NIND and FREDERICK JULYAN, Chicago, Ill., assignors to Nind Paper Folder Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 19, 1906. Serial No. 312,666.

Claim.—1. In a paper-folding machine, the combination with a frame and a pair of vertically-arranged folding-rolls journaled therein, of means for conducting a sheet of paper opposite said rolls, a pivoted rod, a blade on said rod adapted to press the sheet toward said rolls, a rock-shaft having a turned end adapted to bear against said rod, and means for operating said rock-shaft, substantially as specified.

2. In a paper-folding machine, the combination with a frame and a pair of vertically-arranged folding-rolls journaled therein, of means for conducting a sheet of paper opposite said rolls, a pivoted rod, means for longitudinally adjusting said rod, a blade on said rod adapted to press the sheet toward said rolls, and means for intermittently turning said rod on its pivot, substantially as specified.

3. In a paper-folding machine, the combination with a frame and a pair of folding-rolls journaled therein, of means for conducting a sheet of paper opposite said rolls, an antifriction-rod in the rear of and opposite to each of such rolls, fixed supports for said rods, and means for forcing the sheet of paper between said rods and into the bite of said rolls, substantially as specified.



4. In a paper-folding machine, the combination with a frame and a pair of folding-rolls journaled thereon, of means for conducting a sheet of paper opposite said rolls, an antifriction-rod journaled in the rear of and opposite and parallel to each of said rolls, fixed bearings for said rods, and means for forcing the sheet of paper between said rods and into the bite of said rolls, substantially as specified.

5. In a paper-folding machine, the combination with a frame and a pair of vertical rolls journaled therein, of means for conducting a sheet of paper opposite said rolls, means for exerting a pressure on the rear face of such sheet to force it toward said rolls, a swinging plate adapted to receive such sheet as it issues from said rolls, means for intermittently swinging said plate, and means for taking the sheet from said plate and imparting to it another fold, said plate being curved at its free end to adapt it to guide the sheet to said last-named folding means, substantially as specified.

6. In a paper-folding machine, the combination with a frame and a pair of vertical rolls journaled therein, of means for conducting a sheet of paper opposite said rolls, means for exerting a pressure on the rear face of such sheet to force it toward said rolls, a third roll in front of and in contact with one of said pair of rolls, a swinging plate adapted to receive such sheet at it issues from said first-named pair of rolls and means for intermittently swinging said plate, the free end of said plate being adapted to force the sheet between said third roll and the roll in contact therewith, substantially as specified.

7. In a paper-folding machine, the combination with two vertical rolls, of a swinging plate adapted to receive a sheet of paper after the same has been folded, a rod connected with said plate, and means for intermittently moving said rod to move said plate toward said two rolls to permit the sheet of paper to be caught by the same, said plate being curved at its free end to adapt it to guide the sheet between said folding-rolls, substantially as specified.

8. In a paper-folding machine, the combination with two rolls, of a swinging plate adapted to receive a sheet of paper that is to be passed between and folded by said rolls, said plate being curved at its free end, a spring-finger on the face of the plate adapted to hold the paper lightly to the plate and means for intermittently moving said plate toward said rolls to permit the sheet of paper to be caught thereby and withdrawn from the plate, substantially as specified.

9. In a paper-folding machine, the combination with two rolls, of a swinging plate adapted to receive a sheet of paper that is to be passed between and folded by said rolls, a spring-finger on the face of the plate adapted to hold the paper lightly to the plate, and means for intermittently moving said plate and the sheet carried thereon toward said rolls, said plate being adapted to buckle the sheet during said movement to permit the sheet of paper to be caught by the rolls and withdrawn from beneath said spring-finger, substantially as specified.

10. In a paper-folding machine, the combination with a frame, and two folding-rolls journaled therein, of a supporting device extending out from the frame and having its forward end turned to lie opposite one of said rolls, a plate pivoted to the forward end of such support, said plate being adapted to receive a sheet of paper as it issues from said rolls, means for swinging said plate on its pivot, and means for receiving the sheet from said pivoted plate and imparting an additional fold thereto, substantially as specified.

11. In a paper-folding machine, the combination with a frame, and two folding-rolls journaled therein, of two arms projecting therefrom and having their forward ends turned to lie opposite one of said rolls, a plate located between said arms and pivoted to the forward ends of such arms, said plate being adapted to receive a sheet of paper as it issues from said rolls, means for swinging said plate on its pivot, and means for receiving the sheet from said pivoted plate and imparted an additional fold thereto, substantially as specified.

12. In a paper-folding machine, the combination with two vertical rolls, of a swinging plate, an actuating-rod connected with said plate, a pivoted member bearing against the rod to hold said plate away from said rolls, a cam bearing on said pivoted member to hold it in contact with said rod and adapted to permit of the breaking of such contact at intervals, and a spring for moving such rod and plate when said contact is broken, substantially as specified.

13. In a paper-folding machine, the combination with two vertical rolls, of a swinging plate, an actuating-rod connected with said plate, a pivoted member, an adjustable contact device carried by said member arranged to normally bear against said rod, a cam adapted to actuate said pivoted member, and a spring on said rod for moving the rod and the plate connected therewith when the pressure of the said contact device on the rod is removed, substantially as described.

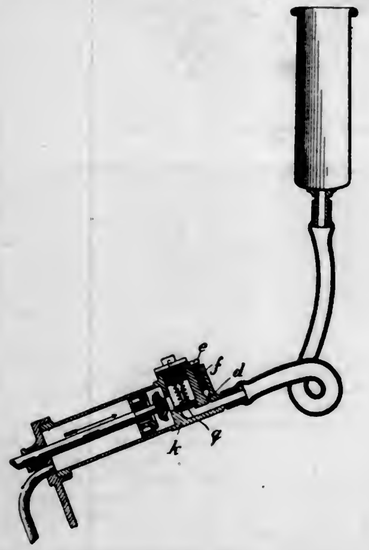
14. In a paper-folding machine, the combination with two vertical rolls, of a swinging plate, an actuating-rod connected therewith, a pivoted yoke adapted to act at one end upon said rod, and a cam acting upon the other end of the yoke, substantially as specified.

15. In a paper-folding machine, the combination with three vertical folding-rolls, of means for feeding a sheet of paper in rear of two of such rolls, a blade for moving such sheet toward said last-named rolls so that it will be caught by and folded by such rolls, a pivoted support for said blade, means for directing said folded sheet between one of said two rolls and the third roll, and means connected with the pivoted blade-support for moving the sheet after passing through the last set of rolls, substantially as specified.

16. In a paper-folding machine, the combination with three vertical folding-rolls, of means for feeding a sheet of paper in rear of two of such rolls, a blade for moving such sheet toward said last-named rolls so that it will be caught by and folded by such rolls, a pivoted support for said blade, means for directing said folded sheet between one of said two rolls and the third roll, and a bent rod connected to said blade-support, said bent rod lying opposite one of said last-named folding-rolls and being adapted to move the sheet after it issues from said last-named rolls, substantially as specified.

17. In a paper-folding machine, the combination with vertical folding-rolls adapted to fold a sheet of paper, of a blade for forcing such sheet toward the rolls, a pivoted yoke to which said blade is adjustably secured, and a bent rod connected with said yoke, said rod being arranged adjacent to one of said folding-rolls and adapted to move the sheet of paper after the same is folded, substantially as specified.

840,510. MILKING-MACHINE. HINRICH P. OHLHAVER, Saude, near Bergedorf, Germany. Filed June 11, 1906. Serial No. 321,172.



Claim.—1. In a milking-machine, the combination with a multiple-suction pump having a separate barrel, outlet-tube, suction-passage, and teat-cup, to each teat of the animal, of a non-return valve interposed between the pump and the suction-passage, and an air-regulating passage, or orifice, connecting the suction-passage between the non-return valve and the teat with the external air, so that the milk will not exude therethrough owing to the vacuum in the suction-passage.

2. In a milking-machine, the combination with a multiple-suction pump having a separate barrel, outlet-tube, suction-passage, and teat-cup, to each teat of the animal, of a non-return valve interposed between the pump and the suction-passage, an air-regulating passage connecting the suction-passage between the non-return valve and the teat with the external air, and means for regulating the size of the said passage so that the suction effect can be regulated without the milk coming into contact with the regulating means.

3. In a milking-machine, the combination with a multiple-suction pump having a separate barrel, outlet-tube, suction-passage, and teat-cup, to each teat of the animal, of a non-return valve interposed between the pump and the suction-passage, an air-regulating passage connecting the suction-passage between the non-return valve and the teat with the external air, a regulating-screw adjustable in the said passage, and a tapered slot on the side of the regulating-screw whereby the size of the passage can be varied and the suction regulated for each teat, substantially as described.

840,511. EXTRACTING METALS FROM SULFID ORES. ROBERT L. PACKARD, Washington, D. C. Filed Jan. 11, 1906. Serial No. 295,651.



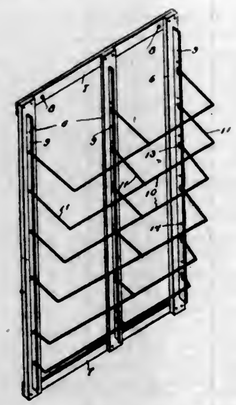
Claim.—1. The process herein described of extracting metals from sulfid ores, which consists in converting the sulfids into sulfates by subjecting a body of unroasted pulverized sulfid ore, freely distributed throughout a suitable acidified solution, to the action of chlorin saturating said solution and recovering the metals from said solution.

2. The method herein described of extracting metals from sulfid ores, which consists in converting the sulfids into sulfates by placing unroasted pulverized sulfid ore; freely distributed throughout an acid electrolyte bath, capable of yielding chlorin and then subjecting said electrolyte to the action of an electric current until the entire electrolyte bath is saturated with chlorin.

3. The process herein described of extracting metals from sulfid ores, which consists in converting the sulfids into sulfates, by placing and freely distributing unroasted pulverized sulfid ore in an acidified chlorid solution, and passing an electric current through said solution until the entire solution is saturated with chlorin.

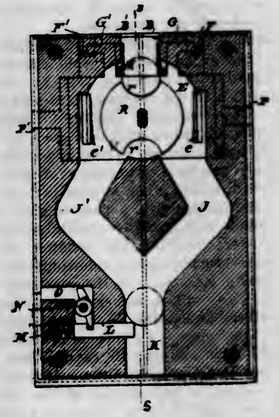
4. The herein-described process of extracting metals from sulfid ores, containing gold, which consists in converting the sulfids into sulfates by placing the unroasted pulverized sulfid ore, freely distributed throughout an electrolytic bath, capable of yielding chlorin; subjecting said electrolyte to the action of an electric current until the entire electrolyte bath is saturated with chlorin; interrupting the current to permit the chlorin to oxidize the iron salts and effect a complete solution of the gold, and then drawing off and precipitating the gold.

840,512. CLOTHES-RACK. EARL M. PALMER, Plymouth, Ohio. Filed Feb. 13, 1906. Serial No. 300,867.



Claim.—A clothes-rack comprising a set of uprights connected together and having forwardly-projecting longitudinal flanges provided with holes lugs below said holes and knobs above said holes, and a series of bars arranged one above the other and having spring-arms which are pivoted in said holes and which stop upon the lugs when the bars are lowered and spring behind the knobs when they are folded up.

840,513. COIN-OPERATED VENDING-MACHINE. JAMES W. PATTERSON, New York, N. Y. Filed Apr. 26, 1905. Serial No. 257,425.



Claim.—1. In a vending-machine the combination of a case having two compartments, separate retaining means for each compartment for retaining the vendible articles within said compartments, and a coin-controlled locking device having a single coin-slot, movable locking parts for each retaining means adapted to normally lock both of the retaining means and to unlock either of them separately and both successively upon the introduction of two successive coins and a hand-operated part to receive the coins and move them to operate the movable locking parts.

2. In a vending-machine, the combination of a case having two compartments, separate lids for each of the compartments both capable of being open at the same time, and a coin-controlled locking device common to both compartments having a rotary hand-operated part for unlocking either of the lids separately and both successively.

3. In a vending-machine, the combination of a case having two compartments, separate lids for each of the compartments, a coin-controlled locking device common to both compartments for unlocking either of the lids separately and both successively, consisting of a sliding locking-plate having two locking-bolts pointing in opposite directions and adapted to engage the lids, and a hand-operated coin-disk for receiving the coin and forcing it against the sliding locking-plate to move it in either direction to bring either of the bolts desired into action.

4. In a vending-machine, the combination of a case having two compartments, separate lids for each of the compartments, a coin-controlled locking device common to both compartments for unlocking either of the lids separately and both successively, consisting of a sliding locking-plate having two locking-bolts pointing in opposite directions and adapted to engage the lids and also two projections against which the coin is forced, and a hand-operated coin-disk for receiving the coin and forcing it against the sliding locking-plate to move it in either direction to bring either of the bolts desired into action said disk being located between the two projections and having a notch in its periphery to receive the coin and by which it is conveyed against either projection of the sliding plate.

5. In a vending-machine two movable parts adapted to be locked in position to retain independent vendible articles and both adapted to remain unlocked at the same time, in combination with a coin-controlled lock having a rotary hand-operated part common to both of the movable parts for unlocking either of said parts separately at one time and both of them successively.

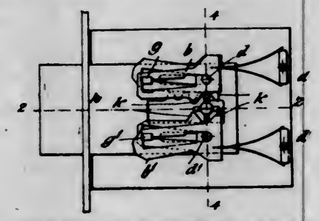
6. A vending-machine having two compartments, combined with independent lids for said compartments, and a hand-operated coin-controlled lock for unlocking said

lids successively and for holding them both locked at the same time provided with a single coin-slot and a rotary hand-operated disk to receive the coin and adapted to force the successive coins in opposite directions to successively operate the two locks.

7. A vending-machine having two compartments, combined with independent lids for said compartments, and a hand-operated coin-controlled lock for unlocking said lids successively and for holding them both locked at the same time, consisting of a sliding locking-plate and a rotary coin-disk to move the coin and by it shift the locking-plate, and a frame having key-slots at each end of the sliding plate for the insertion of keys to shift the plate in either direction when locking both the lids.

8. In a vending-machine, a case having two compartments, combined with separate retaining parts for each compartment for retaining the vendible articles within the said compartments, and a coin-controlled locking device to normally lock both of the retaining parts in retaining position or unlock either of them separately and both successively consisting of a part having a single coin-slot, locking means for the retaining parts, and a hand-operated part adapted to receive and support the coin and move it laterally in either direction to operate the locking means to unlock one of the retaining parts if moved in one direction and unlock the other retaining part if moved in the other direction.

840,514. SAFETY-LOCK. HUGO E. PRÄTORIUS, Leipzig, Germany. Filed Dec. 12, 1905. Serial No. 291,410.



Claim.—In a lock the combination with a bolt of two groups of tumblers each comprising two sets adapted to be rotated in different directions and having their tails respectively in two different planes, and a key having four bits distributed around its circumference adapted respectively to engage said tails substantially as described.

840,515. CLASP FOR GARMENT-SUPPORTERS. GEORGE E. PRENTICE, New Britain, Conn., assignor to The Traut & Hine Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Oct. 1, 1904. Serial No. 226,828.



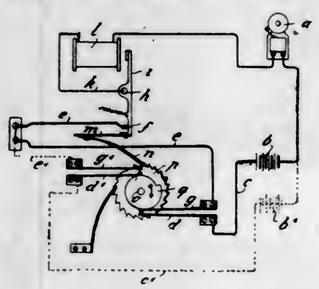
Claim.—1. A clasp for garment-supporters embodying a body portion having one end turned back to form a chamber, an elastic cushion held in said chamber, a tongue, a locking-lever formed of a single piece of wire formed into an upper webbing-loop to the lower bar of which the upper end of the body portion is pivotally connected, said loop constituting the means for operating the lever, the ends of the wire being bent outwardly from the center of said lower bar, to which wire ends the upper end of the tongue is pivotally connected; substantially as described.

2. A clasp for garment-supporters, embodying a body portion having an upturned end and elastic cushion constituting an abutment, a tongue, an operating arm or lever, pivotally connected at an intermediate point with the upper end of the body, the upper end of said lever constituting the means for securing the clasp to the webbing and for operating the lever, the lower end of the lever being pivotally connected with the upper end of the tongue; substantially as described.

3. A clasp for garment-supporters embodying a sheet-metal body having one end turned back to support the thrust of a locking-tongue and ears at the opposite end, a sheet-metal locking-tongue having ears at one end and a wire locking-lever formed into an upper webbing-loop, the lower bar of which is pivotally connected with the upper end of the body by the ears bent forward of the plane of the body, the ends of the wire being bent outwardly from the center of said lower bar and pivotally connected with the upper end of the tongue by the ears bent backwardly of the plane of the tongue; substantially as described.

4. A clasp for garment-supporters embodying a body portion having one end turned back to form a chamber, an elastic cushion held in said chamber having a forwardly-extending lip and an apron or flange, projecting up at the inner side, a tongue, a lever pivotally connecting one end of the tongue and one end of the body portion to form a toggle, whereby the cushion receives the end of the tongue when the clasp is closed; substantially as described.

840,516. SWITCHING ARRANGEMENT. OTTO RENNERT, London, England. Filed Jan. 12, 1903. Renewed June 17, 1905. Serial No. 265,765.

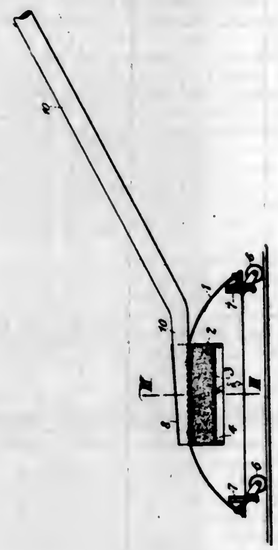


Claim.—1. Means for alternately switching into and out of circuit a number of sources of electric current consisting of a number of sources of electric current, circuits within which said sources of current are connected, means for alternately closing the circuit of said sources of current comprising a ratchet-wheel and an electromagnetic device lying in the circuit in which the current flows, an armature for said electromagnetic device also in circuit the movement of which makes and breaks the circuit of said electromagnetic device, and a pawl for said armature by which the said ratchet-wheel may be rotated on the movement thereof, substantially as described.

2. In an apparatus of the class described, the combination, with a circuit, and a plurality of sources of electricity for energizing said circuit, of an electromagnet included in said circuit, an armature for said electromagnet, said armature being arranged to control said circuit, a ratchet-wheel actuated by the armature, a cam operated by the ratchet-wheel and circuit-closers operated *seriatim* by the cam, said circuit-closers being arranged to connect and disconnect the respective sources of electricity to the said circuit.

840,517. SNOW AND ICE MELTER. REBECCA RICKARD, New York, N. Y. Filed Nov. 2, 1906. Serial No. 341,691.

Claim.—1. A snow and ice melter, comprising in combination, a downwardly-open hood provided with casters by which it may be readily moved about, a fire-box supported inside the hood and opening downwardly, a body of absorbent material in the box, to be saturated with combustible liquid, and a handle for moving the device about over the surface to be cleared of ice or snow, as set forth.



2. A snow and ice melter, comprising in combination, a downwardly-open hood of sustantially pyramidal form, provided at its corners with casters by which it may be moved about, a downwardly-open fire-box secured to the top of the hood inside the same, a body of absorbent material in the box, to be saturated with combustible liquid, a screen of wire-gauze supported in the fire-box to retain the absorbent material therein, and a removable handle for moving the device about over the surface to be cleared of ice or snow, as set forth.

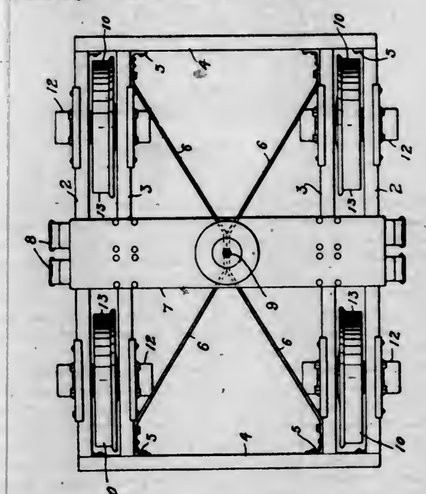
840,518. CUTTING APPARATUS FOR HARVESTERS. JAMES A. RODMAN, Sherard, Miss., assignor of one-half to John H. Sherard, Sherard, Miss. Filed Sept. 7, 1905. Serial No. 277,338.

Claim.—A cutting apparatus for harvesters comprising a cutter-bar having forwardly-extending housing-plates provided with spaced flanges and beveled ends, bracket members connected with the ends of the cutter-bar, a pair of rollers supported upon each bracket member, one roller of each pair being above and one below the cutter-bar and adjacent to the beveled ends of the housing-plates, a chain-tightening wheel supported adjustably by the bracket member at one end of the cutter-bar, a pintle supporting said wheel and being adjustably attached to the said bracket member and being adapted to be moved in a line midway of the centers of the pairs of rollers, the lower edge of said tightening-wheel being below the cutter-bar and in approximate alinement with the lower edge of the lower rollers, a supporting-bar connected with the inner end of the cutter-bar, a shaft extending through said bar, a sprocket-wheel supported for rotation upon said shaft with its lower edge in substantial alinement with the lower edges of the lower rollers, and a cutter-carrying chain supported by the sprocket-wheel and the tightening-wheel, the links of said chain being guided between the guide-rollers and between the housing-plates connected with the cutter-bar.

840,518.



840,519. CAR-TRUCK. READ RUSSELL, Warren, Ill. Filed Sept. 8, 1905. Serial No. 277,510.

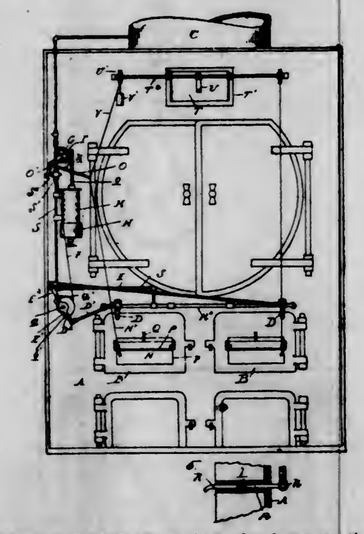


Claim.—1. A car-truck comprising channel-bar-iron side rails 2 and 3, arranged in pairs on each side of the truck with a space between the rails of each pair, cross-bars 4 also of channel bar-iron, connecting the ends of said side rails, brackets 5 provided in the angle formed by said cross-bars and the inner rails of said pairs and securing them together, braces or truss-rods 6 having their ends bolted to the inner side rails near said brackets 5 and extending lengthwise of the truck between said rails and secured together near the middle of the truck, a bolster 7 provided above said truss-rods near the middle of the same and wheels arranged in the spaces between the rails of each pair and having axles journaled in boxes secured to

said side rails, whereby independent movement of said wheels is permitted, to facilitate the passing of the truck around a curve.

2. A car-truck having side rails composed of channel bar-iron arranged in pairs with spaces between the rails of each pair, cross-bars connecting said side rails, truss-rods bolted to the inner rail of each pair and secured together near the middle of the truck, a bolster having springs located above said truss-rods and centrally on the truck, boxes bolted to the outer faces of the outer rails of each pair and the inner faces of the inner rails of said pairs and wheels having axles journaled in said boxes and movable independently of one another, substantially as described.

840,520. DRAFT-REGULATOR FOR FURNACES. GREGORY H. SCHARF, Ypsilanti, Mich. Filed Mar. 11, 1905. Serial No. 249,595.



Claim.—1. In a draft-regulator for furnaces, the combination of a valve or damper, means for operating the same in one direction, and a controlling device for operating the same in the reverse direction comprising a cylinder, a plunger therein, a reservoir below the cylinder, ports permitting the fluid in the reservoir to pass into the cylinder as the plunger is lifted, and a restricted outlet from the lower part of the cylinder leading to, at or near the lower end of the reservoir, for the purpose described.

2. In a draft-regulator for furnaces, the combination of a valve or damper, means for operating the same in one direction, and a timing device for controlling the reverse movement thereof comprising a cylinder, a plunger therein connected to the valve or damper, a reservoir below the cylinder, a restricted outlet from the cylinder to the reservoir, and a comparatively large inlet into the cylinder from the reservoir, a check-valve controlling the same, and an air-vent passage leading from the upper end of the cylinder into the reservoir.

3. In a draft-regulator, the combination of a valve or damper, of a controller therefor, comprising a cylinder provided with a pipe M, a plunger therein connected to the valve or damper for controlling the movement of the same in one direction, a valve-controlled exit from the lower end of the cylinder to the pipe M forming the exit-pipe from said valve-controlled exit, and a strainer in said outlet-pipe.

4. In a draft-regulator the combination of a valve or damper, means for operating the same in one direction, and a timing device for controlling the reverse movement thereof comprising a cylinder, a plunger therein connected to the valve or damper, a reservoir below the cylinder, and a restricted outlet connection from the cylinder to the reservoir, a comparatively large inlet connection from the reservoir to the cylinder, a check-valve controlling the same, and external means for opening said check-valve to permit the escape of the fluid beneath the plunger, to more rapidly control the opening of the valve or damper.

5. In a draft-regulator the combination with the valve or damper of means for operating the same in one direction, a timing device for controlling the reverse movement thereof, comprising a cylinder, a plunger therein connected to the valve or damper, a reservoir below the cylinder, a restricted discharge from the lower end of the cylinder into the reservoir, means responsive to the upward movement of the plunger for establishing free communication between the reservoir and the cylinder and manually-operable means adapted to control the aforesaid means to establish free communication between the cylinder and the reservoir.

6. In a furnace-regulator the combination with a furnace-door, means for opening the damper by the opening of the door, and timing means for controlling the closing of the damper, a casing I" around the damper-opening, the damper N fitting on said casing, the bail P connected to the damper and the inclined bearing Q on which said damper slides in its open position.

7. In a draft-regulator for furnaces the combination with a timing means, of a door, a bail pivoted on said door, a damper pivoted in said bail and connections between said damper and said timing means, for the purpose described.

8. In a draft-regulator, the combination of a valve or damper, a controller therefor comprising a cylinder and a plunger therein connected to the valve or damper for controlling the movement of the same in one direction, a reservoir communicating with the cylinder, and a strainer arranged to purify the reservoir contents.

9. In a draft-regulator for furnaces, the combination of the furnace-door, a damper operated in one direction by the opening of the door, a controlling-plunger lifted by the opening of the door, a connection from the plunger to the damper to control the reverse operation thereof, a cylinder in which the plunger operates, and a reservoir operably connected thereto.

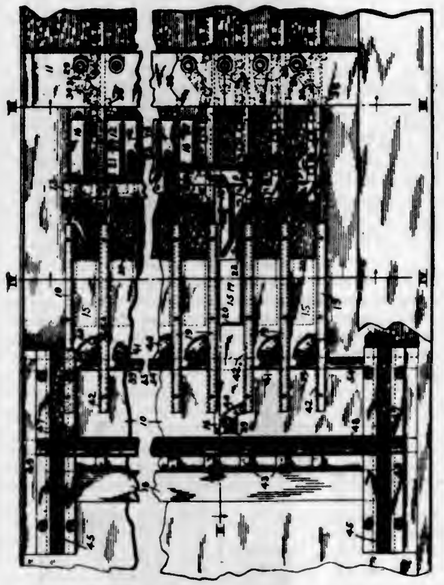
840,521. INTERLOCK FOR REGULAR AND INDEPENDENT VOTING MECHANISM. JEDEDIAH N. SHEPARDSON and CHARLES H. PITNEY, Pittsfield, Mass., assignors to Triumph Voting Machine Company, Pittsfield, Mass., a Corporation of New Jersey. Filed Aug. 13, 1906. Serial No. 330,376.

Claim.—1. In a mechanism of the character described, the combination with a series of regular-voting devices and a flexible member having sufficient slack to permit the operation of a single voting device, and provided with a pin, of an independent-voting shutter having a cam-slot engaged by said pin, opening of said shutter acting to tighten the flexible member and lock the regular-voting devices.

2. In a mechanism of the character described, the combination with a series of regular-voting devices and a flexible member having sufficient slack to permit the operation of a single voting device, and provided with a pin, of an independent-voting shutter having a cam-slot engaged by said pin, and means for locking said voting devices and shutter in the non-voting position.

3. In a mechanism of the character described, the combination with a series of regular-voting devices and a flexible member having sufficient slack to permit the operation of a single voting device, and provided with a pin, of an independent-voting shutter having a cam-slot engaged by said pin, a wedge-bar for locking the voting devices in the non-voting position and a tie-bar having a recess engaged by the pin to lock the shutter in the non-voting position.

4. In a mechanism of the character described, the combination with a series of regular-voting devices, and a flexible member having sufficient slack to permit the operation of a single voting device, and provided with a pin, of an independent-voting shutter having a cam-slot engaged by said pin, and a restricting-bar adapted to be engaged by said pin to lock the shutter at the non-voting position against a restricted voter.



5. In a mechanism of the character described, the combination with a series of regular-voting devices and a flexible member having sufficient slack to permit the operation of a single voting device, and provided with a pin, of an independent-voting shutter having a cam-slot engaged by said pin, and means for locking the shutter against return movement after it has been moved toward the voting position.

6. In a mechanism of the character described, the combination with a series of regular-voting devices and a flexible member having sufficient slack to permit the operation of a single voting device, and provided with a pin, of an independent-voting shutter having a cam-slot engaged by said pin, and means for locking the shutter against return movement after it has been moved toward the voting position, and means for disengaging the locking means and returning the shutter to the non-voting position.

7. In a mechanism of the character described, the combination with a series of regular-voting devices and a flexible member having sufficient slack to permit the operation of a single voting device, and provided with a pin, of an independent-voting shutter having a cam-slot engaged by said pin, and carrying a locking-pawl and a way in which the shutter slides and which is provided with a rack engaged by the pawl to lock the shutter against return movement after it has been moved toward the voting position.

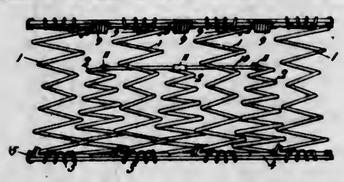
8. In a mechanism of the character described, the combination with a series of voting devices and a flexible member having sufficient slack to permit the operation of a single voting device, and provided with a pin, of an independent-voting shutter having a cam-slot engaged by said pin, and carrying a locking-pawl, a way in which the shutter slides and which is provided with a rack engaged by the pawl to lock the shutter against return movement after it has been moved toward the voting position and a closing-bar adapted to engage the shutter when open and return it to the non-voting position and provided with a finger adapted to disengage the locking-pawl from the rack.

9. In a mechanism of the character described, the combination with a series of voting devices and a flexible member having sufficient slack to permit the operation of a single voting device, and provided with a pin, of an independent-voting shutter having a cam-slot engaged by said pin, said cam-slot consisting of inclined and horizontal portions, the opening of said shutter acting to move the pin out of the inclined portion of the slot and into the horizontal portion thereby taking the slack out of the flexible member and locking the voting devices in the non-voting position.

10. In a mechanism of the character described, the combination with a plurality of series of voting devices and flexible members each having sufficient slack to permit the operation of a single voting device and provided with a pin, of independent-voting shutters having cam-slots engaged by said pins, the opening of a shutter acting to tighten the corresponding flexible member and lock the voting devices, a plurality of wedge-bars for the purpose set forth and a tie-bar connecting the wedge-bars and provided with recesses which receive the pins and lock them against movement in the cam-slots thereby locking the shutters in the non-voting position.

11. In a mechanism of the character described, the combination with a plurality of series of voting devices and flexible members each having sufficient slack to permit the operation of a single voting device and provided with a pin, of independent-voting shutters having cam-slots engaged by said pins, the opening of a shutter acting to tighten the corresponding flexible member and lock the voting devices, and a plurality of restricting-bars each having a rest adapted to be engaged by the corresponding pin to lock the shutter against a restricted voter.

840,522. SPRING STRUCTURE. EDWARD O. STOTTS, Chicago, Ill., assignor by mesne assignments, to Ventilated Cushion and Spring Company, Chicago, Ill., a Corporation. Filed Mar. 3, 1906. Serial No. 304,125.



Claim.—1. In a spring-cushion, the combination of a plurality of spiral springs arranged in a plurality of rows, a second set of spiral springs of less height than those of the first set, and located in the spaces between the springs of the first set, the bottom convolutions of the springs of the first set being in contact with and secured to the bottom convolutions of adjacent springs of the second aet, and coöperating to form a wire-network base.

2. In a spring-cushion, the combination of a plurality of spiral springs arranged in a plurality of rows, a second set of spiral springs of less height than those of the first set, and located in the spaces between the springs of the first set, the bottom convolutions of the springs of the first set being in contact with and secured to the bottom convolutions of adjacent springs of the second set, and a plurality of braces extending along said rows and fastened to said bottom convolutions to form a supporting-base for said springs.

3. A spring-cushion comprising a bottom frame, a set of springs mounted thereon, a top yieldingly supported by said springs, a second set of springs mounted on the bottom frame and being shorter than the first set, and a third frame of stiff material connecting said second set and being movable relatively of the other frames, said springs and frames being so disposed as to permit the top to be depressed a considerable distance without resistance by said second set and to cause such resistance when said top is further depressed.

4. In a spring-cushion, the combination of a wire bottom frame, a set of spiral metal springs mounted on said frame, a second set of springs shorter than the first and mounted on said bottom frame in staggered relation to the springs in the first set, a wire border-frame connecting the tops of the outer spring of the first set, a plurality of helical springs extending transversely between the tops of ad-

jacent springs in the first set, and a wire frame connecting the tops of the springs in the second set and bracing each from the others, the springs in the second set being considerably shorter than those of the first set and the top frame of the springs in the second set being disposed below and in parallel relation to the tops of the springs of the first set.

5. In a spring-cushion, the combination of a plurality of spiral furniture-springs having substantially circular bases and being arranged in a plurality of rows, and alternate springs being of less height than the others, the bottom coils of the springs in each row being in contact with each other and with those in the adjacent rows, clips connecting the bottom coil of each spring with those of the adjacent springs, and a plurality of braces extending along said rows and fastened to said coils to form a supporting-base frame for said springs.

6. The combination of a set of spiral furniture-springs, spaced apart and arranged in rows, a second set of furniture-springs of less height than those of the first set, and located in the spaces between the springs of said first set, the bottom convolution of each of said springs being rigidly fastened to the bottom convolution of each of the adjacent springs of the other set, and a system of wire bracing extending across said bottom convolutions secured thereto and coöperating therewith to form a stiff supporting-base of wire network.

7. The combination of a set of spiral furniture-springs spaced apart and arranged in rows and columns, a second set of furniture-springs of less height than those of the first set, arranged in staggered relation therewith, and located in the spaces between the springs of said first set, the bottom convolution of each of said springs being rigidly fastened to the bottom convolution of each of the adjacent springs of the other set, a system of wire bracing extending across said bottom convolutions and secured thereto to form a supporting-base for the structure, and a stiff frame of wire connecting the tops of the springs in said second set and adapted to engage and support the top on said first set when the springs in said first set have been compressed.

8. In a spring-cushion, the combination of a wire bottom frame, a set of furniture-springs mounted on said frame, being spaced apart and arranged in intersecting rows and columns, a second set of springs shorter than the first and mounted on said bottom in staggered relation to the springs in said first set, a wire border-frame connecting the tops of the outer springs of said first set, a plurality of helical springs extending transversely between the tops of adjacent springs in said first set, and a wire frame connecting the tops of the springs in said second set and bracing each from the others, the springs in said second set being considerably shorter than those of the first set and the top frame of the springs in said second set being disposed below and in parallel relation to the tops of the springs of the first set.

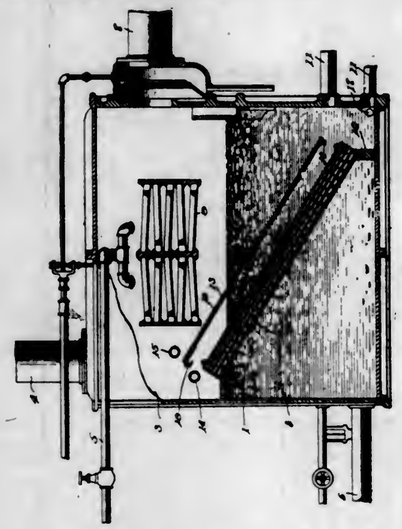
9. In a spring-cushion, the combination of a plurality of spiral springs arranged in a plurality of rows, a second set of spiral springs of less height than those of the first set, and located in the spaces between the springs of the first set, the springs of said second set being of frusto-conical shape with their bases downward and secured to and in contact with the bottom convolutions of adjacent springs of the second set, and coöperating to form a wire-network base.

10. In a spring-cushion, the combination of a plurality of spiral springs, a top frame yieldingly supported thereby, a plurality of spiral springs of less height than those of the first set, and each having its bottom convolution extending into the space bounded by the periphery of the bottom convolution of one of the springs of the first set, the bottom convolutions of both sets being secured together and coöperating to form a wire-net work base, said springs and top being so disposed as to permit the top to be depressed a considerable distance without resistance by the second set and to cause such resistance when said stop is further depressed.

11. A spring-cushion comprising a bottom frame, a set of springs mounted thereon, a top yieldingly supported by said springs, a second set of springs mounted on the bottom frame and being shorter than the first set, and a frame mounted on the upper ends of said second set and located below and free from said top, and being free from any restraining connection with the bottom frame except through its connection with said short springs.

12. A spring-cushion comprising a bottom frame, a set of springs mounted thereon, a top yieldingly supported by said springs, a second set of springs mounted on the bottom frame and being shorter than the first set, and an intermediate frame of stiff material connecting the upper ends of said second set, said springs and frames being so disposed as to permit the upper frame to be depressed a considerable distance without resistance by said second set and to cause such resistance through contact between said upper and intermediate frames when said upper frame is further depressed.

840,523. FEED-WATER HEATER. OMAN L. STUMP, JOHN REIDENBAUGH, and EDWIN D. PACKARD, Marion, Ohio, assignors to The Marion Incline Filter and Heater Company, Marion, Ohio, a Corporation of Ohio. Filed July 3, 1905. Serial No. 263,076.



Claim.—1. A feed-water heater having a steam-space above and a filtering-chamber below in open communication therewith, a filtering-bed located in the filtering-chamber, a feed-water inlet on one side of said filtering-bed, discharging into the steam-space, a feed-water outlet on the other side of the filtering-bed, a sediment-chamber, and an imperforate deflecting-plate located between the feed-water inlet and filtering-bed, above said filtering-bed covering and protecting the same, and inclined so as to be self-cleaning, said deflecting-plate being arranged to discharge its sediment into the sediment-chamber, substantially as described.

2. A feed-water heater having a steam-space above and a filtering-chamber below in open communication therewith, a filtering-bed extending across said filtering-chamber in an inclined position to make it self-cleaning, a feed-water inlet on one side of said filtering-bed, discharging into the steam-space, a feed-water outlet on the other side of the filtering-bed, a sediment-chamber, and a deflecting-plate located between the feed-water inlet and filtering-bed, covering and protecting the latter, and inclined so as to be self-cleaning, said deflecting-plate being arranged to discharge its sediment into the sediment-chamber, substantially as described.

3. A feed-water heater having a steam-space above and a filtering-chamber below in open communication therewith, a filtering-bed located in the filtering-chamber, a feed-water inlet on one side of said filtering-bed, discharging into the steam-space, a feed-water outlet on the other side of the filtering-bed, a sediment-chamber, and a plurality of imperforate deflecting-plates located one above the other between the feed-water inlet and filtering-bed, above said filtering-bed covering and protecting the same, and inclined so as to discharge the sediment by gravity into the sediment-chamber, substantially as described.

4. A feed-water heater having a steam-space above and a filtering-chamber below in open communication therewith, a filtering-bed located in the filtering-chamber, a feed-water inlet on one side of said filtering-bed, discharging into the steam-space, a feed-water outlet on the other side of the filtering-bed, and a plurality of deflecting-plates located between the feed-water inlet and filtering-bed, and covering and protecting the latter, said filtering-bed and deflecting-plates being inclined to make them self-cleaning, and the heater being provided with means for receiving the sediment discharge therefrom, substantially as described.

5. A feed-water heater having a steam-space above and a filtering-chamber below in open communication therewith, a filtering-bed located in the filtering-chamber, a feed-water inlet on one side of said filtering-bed, discharging into the steam-space, a feed-water outlet on the other side of the filtering-bed, a plurality of deflecting-plates located between the feed-water inlet and filtering-bed, and covering and protecting the latter, said filtering-bed and deflecting-plates being inclined to make them self-cleaning, and the heater being provided with means for receiving the sediment discharge therefrom, and means for causing the feed-water to pass downward successively over said plates and bed, substantially as described.

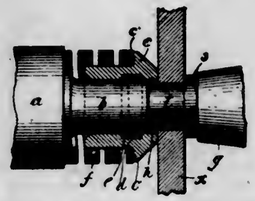
6. A feed-water heater having a steam-space above and a filtering-chamber below in open communication therewith, a filtering-bed located in the filtering-chamber, a feed-water inlet on one side of said filtering-bed, discharging into the steam-space, a feed-water outlet on the other side of the filtering-bed, a sediment-chamber, and an imperforate deflecting-plate located between the feed-water inlet and filtering-bed, covering and protecting the latter, and inclined so as to be self-cleaning, said deflecting-plate being arranged to discharge its sediment into the sediment-chamber, said deflecting-plate being longitudinally corrugated in the direction of its inclination, substantially as described.

7. A feed-water heater having a steam-space above and a filtering-chamber below in open communication therewith, a filtering-bed located in the filtering-chamber, a feed-water inlet on one side of said filtering-bed, discharging into the steam-space, a feed-water outlet on the other side of the filtering-bed, a sediment-chamber, and a deflecting-plate located between the feed-water inlet and filtering-bed, covering and protecting the latter, and inclined so as to be self-cleaning, said deflecting-plate being arranged to discharge its sediment into the sediment-chamber, said deflecting-plate being constructed of a plurality of separable sections, overlapping and longitudinally corrugated in the direction of their inclination, substantially as described.

8. A feed-water heater having a steam-space above and a filtering-chamber below in open communication therewith, a filtering-bed located in the filtering-chamber, a feed-water inlet on one side of said filtering-bed, discharging into the steam-space, a feed-water outlet on the other side of the filtering-bed, a sediment-chamber, and a deflecting-plate located between the feed-water inlet and filtering-bed, covering and protecting the latter, and longitudinally inclined so as to be self-cleaning, said deflecting-plate being arranged to discharge its sediment into the sediment-chamber, said deflecting-plate being also inclined from its longitudinal center toward the side of said chamber, substantially as described.

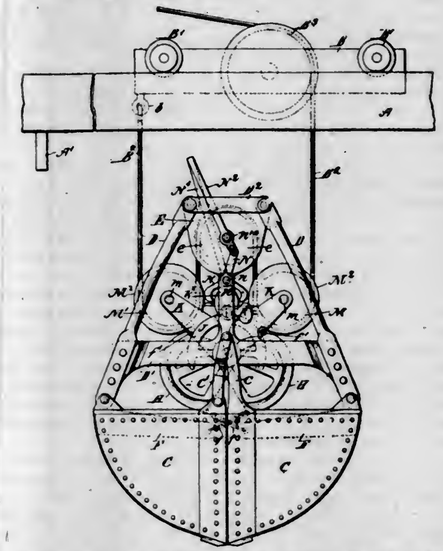
840,524. COMPRESSOR FOR RAIL-BONDS. CHARLES R. STURDEVANT, Worcester, Mass., assignor to The American Steel & Wire Company of New Jersey, Worcester, Mass., a Corporation of New Jersey. Filed Aug. 10, 1905. Serial No. 273,623.

Claim.—In a compressor for applying rail-bond terminals to conductor-rails, the combination of a plunger, having a reduced end *b* with an operating-face of substantially the same area as the head to be formed on the terminal, a spring-pressed sleeve *c* encircling the plunger end, and



having an internal diameter relatively proportioned to that of the terminal to limit the lateral spread of metal in the terminal end, an annular recess *d* on the inside of the sleeve, a pin *e* passing transversely through the end of the plunger with its ends projecting into the recess, the sleeve *c* projecting normally beyond the end of the plunger, the recess *d* being wide enough to permit the sleeve to have a limited sliding movement on the plunger end, and the annular recess permitting relative rotation between the sleeve and the plunger.

840,525. GRAB. ADOLPH SUCK, Boston, Mass. Filed Feb. 26, 1906. Serial No. 302,828.



Claim.—1. A grab having jaws, means by which said jaws may be operated, a hoisting mechanism operatable by a single rope and connecting to automatically engage with said means by which the jaws of the grab may be operated, and connecting means by which such automatic engagement may be obtained.

2. A grab having jaws, means by which said jaws may be operated, hoisting mechanism operatable by a single rope and connecting with said mechanism by which the jaws of the grab may be operated to close said jaws and hold them closed during the act of hoisting, and means by which such connection may be obtained.

3. A grab having jaws, means by which said jaws may be operated, hoisting mechanism operatable by a single rope and connecting to automatically engage with said means by which the jaws of the grab may be operated and become released therefrom, connecting means by which such automatic engagement may be obtained, and means whereby a release thereof may be obtained.

4. A grab having jaws, means by which said jaws may be operated, hoisting means operatable by a single rope connecting with to automatically engage said means by which the jaws of the grab may be operated to close and hold closed said jaws while the hoisting-rope is under stress, means by which such automatic engaging connection may be obtained, and means whereby said jaws of the grab may be released to open when said grab has reached a predetermined position.

5. A grab having jaws, means by which said jaws may be operated, a hoisting mechanism operatable by a single rope, means whereby said hoisting mechanism may automatically be connected with said means by which said jaws of the grab may be operated to close, for closing said jaws and holding them closed during the act of hoisting, and means whereby said jaws may automatically be released to open, when said grab has reached a predetermined position.

6. In a grab having jaws, a hoisting mechanism, a jaw-operating mechanism, and means operated by said hoisting mechanism adapted to engage said jaw-operating mechanism to close and hold closed said jaws during the act of hoisting, and means adapted to disengage said engaging mechanism whereby said jaws are allowed to open as set forth.

7. A grab having jaws adapted to assume a normally open position, means whereby said jaws may be closed, hoisting mechanism independent of said means, releasable means adapted automatically to connect said hoisting mechanism and the said means by which said jaws may be closed, for closing said jaws, and means for automatically releasing said releasable means whereby said jaws may assume their normal open position.

8. In a grab having jaws, a jaw-operating mechanism, a hoisting mechanism, latches adapted automatically to engage said jaw-operating mechanism with said hoisting mechanism, and means for tripping said latches whereby said parts will be disengaged as set forth.

9. In a grab having jaws, means by which said jaws may be operated, movable arms carrying pulleys adapted to receive a hoisting-rope, latches adapted to connect said arms with said means by which the jaws may be operated, whereby strain upon the hoisting-rope moving said arms will operate to close said jaws, and means whereby said latches may be released to allow said jaws to open.

10. In a grab having jaws, jaw-operating mechanism comprising segments and chains connecting said segments with said jaws, and means for operating said segments comprising swinging frames carrying hoisting-pulleys and latches adapted to engage with said segments upon the beginning of the hoisting operation and lock said segments and said hoisting mechanism during the hoisting operation, and means adapted to unlock said latches to allow said jaws to open as described.

11. In a grab having jaws and means for operating them such as segments and chains, swingable arms carrying latches adapted to engage said jaw-operating means and also carrying sheaves whereby a hoisting-rope may be reeved through said sheaves and the draft upon it may be utilized to cause the closing of said jaws as well as the movement of said grab.

12. In a grab having jaws, means connected therewith by which said jaws may be operated, movable sheave-carrying members adapted to have operative engagement with said means by which the jaws may be operated, releasable means by which such engagement is made when said sheave-carrying members have assumed a predetermined position and which releasable means is adapted to hold such engaging position during a predetermined movement of said sheave-carrying members whereby said jaws are closed and held closed, and means for obtaining the release of said jaws to open.

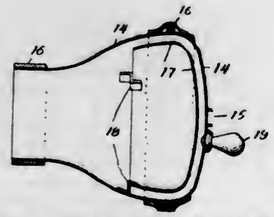
13. In a grab having jaws, a stationary sheave and pivoted arms each carrying a sheave through which a hoisting-rope is adapted to run, means by which the jaws of the grab may be operated, means for latching said movable sheave-carrying arms to said means by which the jaws may be operated, and means for obtaining the release thereof.

14. In a grab having jaws adapted to swing to a normally open position, means connecting therewith by which said jaws may be closed, pivoted arms bearing sheaves for receiving a hoisting-rope, said arms being adapted when said hoisting-rope is relaxed to assume a position by which they may engage with said means by which the arms may be operated, releasable latch-forming means by which said engagement may automatically be obtained, whereby upon lifting the grab said hoisting-rope will move said arms, closing said jaws and holding them closed, and means for releasing said latch-forming means by which said jaws may be released to open.

15. In a grab having jaws adapted to assume a normally closed position, means connecting therewith by which said jaws may be closed, a stationary sheave, pivoted arms bearing sheaves through all of which sheaves a hoisting-rope is adapted to run, said arms being adapted when said hoisting-rope is relaxed to assume a position by which they may engage with said means by which the jaws may be operated, releasable latches adapted to assume normally engaging positions and connecting said arms with said means by which the jaws may be operated when said hoisting-rope is relaxed as aforesaid and to assume such position during the subsequent movement of said arms, whereby said jaws are closed and held closed during the hoisting of the grab, and means adapted to release said latches when the grab has been lifted to a predetermined position.

16. In a grab mechanism, a sheave provided with a housing comprising disk-like sides and a peripheral rim having slots therein through which the rope passes to the sheave, said slots serving to center the rope with relation to the groove in the sheave.

840,526. MODIFIER FOR PHONOGRAPHS. ASHLEY S. THOMPSON, Chicago, Ill. Filed Mar. 31, 1906. Serial No. 309,037.



Claim.—1. A modifier for phonographs, adapted to fit in the throat of the horn, and consisting in the combination of, a piriform shell having its lesser end open and its greater end provided with a restricted orifice, a resonant reflector secured within said greater end of the shell, and a muffler whereby sound-vibrations are prevented from passing around said shell exteriorly, substantially as specified.

2. A modifier for phonographs, adapted to fit in the throat of the horn, and consisting in the combination of, a piriform metallic shell having its lesser end open and its greater end provided with a restricted orifice, a resonant reflector secured within said greater end of the shell, and a muffler whereby sound-vibrations are prevented from passing around said shell exteriorly, substantially as specified.

3. A modifier for phonographs, adapted to fit in the throat of the horn, and consisting in the combination of, a piriform shell having its lesser end open and its greater end provided with a restricted lipped orifice, a resonant reflector secured within said greater end of the shell, and a muffler whereby sound-vibrations are prevented from passing around said shell exteriorly, substantially as specified.

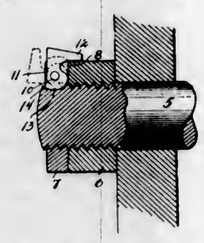
4. A modifier for phonographs, adapted to fit in the throat of the horn, and consisting in the combination of, a piriform shell having its lesser end open and its greater end provided with a restricted orifice, a resonant reflector secured within said greater end of the shell and convexly presented to said orifice, and a muffler whereby sound-vibrations are prevented from passing around said shell exteriorly, substantially as specified.

5. A modifier for phonographs, adapted to fit in the throat of the horn, and consisting in the combination of, a piriform shell having its lesser end open and its greater end provided with a restricted orifice, a resonant reflector secured within said greater end of the shell and nearly equaling the greatest inner diameter thereof, and a muffler whereby sound-vibrations are prevented from passing around said shell exteriorly, substantially as specified.

6. A modifier for phonographs, adapted to fit in the throat of the horn, and consisting in the combination of, a piriform shell having its lesser end open and its greater end provided with a restricted orifice, a resonant reflector secured within said greater end of the shell, and mufflers whereby sound-vibrations are prevented from passing around said shell exteriorly, substantially as specified.

7. A modifier for phonographs, adapted to fit within the throat of the horn, and consisting in the combination of, a piriform metallic shell having its lesser end open and its greater end provided with a restricted lipped orifice, a resonant reflector secured within said greater end of the shell and nearly equaling the greatest inner diameter thereof and convexly presented to said orifice, and mufflers whereby sound-vibrations are prevented from passing around said shell exteriorly, substantially as specified.

840,527. NUT-LOCK. CHANNING M. THOMPSON, Newark, Ohio. Filed Aug. 20, 1906. Serial No. 331,245.



Claim.—1. A nut-lock comprising a threaded resilient split nut, a retaining-dog pivoted in the split portion of said nut, said dog having a cam-shaped cutting edge which is adapted to cut into the threads of the bolt upon which the nut is screwed and which lies in longitudinal alinement with said bolt, the resiliency of the nut tending to hold said dog in its locking position.

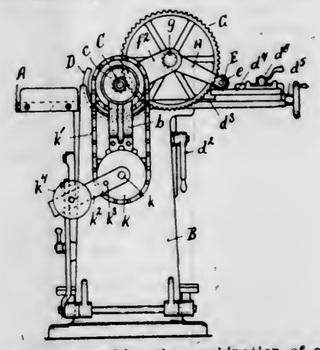
2. In a device of the character described, the combination with a threaded resilient split nut, of a retaining-dog pivoted in the split portion of said nut and having a cam-shaped cutting edge which is adapted to bite into the threads of a bolt, said dog lying in longitudinal alinement with said bolt, and an inwardly-extending tongue carried by said dog which is adapted to rest upon an adjacent nut when said dog is in its locking position.

840,528. DOUBLE BORING-MACHINE. JOHN T. TOWSLEY, Cincinnati, Ohio. Filed Oct. 24, 1906. Serial No. 340,266.

Claim.—1. In a boring-machine the combination of boring-spindles mounted so as to be adjustable toward and away from each other, gear-teeth upon the spindles, a gear-wheel mounted so as to move with the spindles and to keep in mesh with the teeth thereon, and an automatic counterbalance for the weight of the gear-wheel against the spindles.

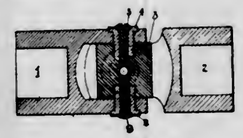
2. In a boring-machine the combination of a fixed boring-spindle, a boring-spindle mounted to revolve about the fixed spindle, teeth upon the spindles, a yoke revoluble about the fixed spindle, a gear-wheel carried by the yoke to mesh with the teeth upon the spindles, and a counterbalance connected to the yoke for the weight of the gear-wheel against the spindles.

3. In a boring-machine the combination of a fixed boring-spindle, a saddle-bed mounted to revolve about the fixed spindle, a saddle mounted reciprocally upon the bed, a spindle journaled in the saddle, teeth upon the spindles, a yoke mounted revolubly about the fixed spindle having outwardly-projecting arms, a gear-wheel journaled between the arms of the yoke and in mesh with the teeth upon the spindles, an arm pivoted at one of its ends to the yoke and at the other of its ends to the saddle, and a counterbalance carried by the yoke for the weight of the gear-wheel against the spindles.



4. In a boring-machine the combination of a fixed boring-spindle, a saddle-bed mounted to revolve about the fixed spindle, a saddle mounted reciprocally upon the bed, a spindle journaled in the saddle, teeth upon the spindles, a yoke mounted revolubly about the fixed spindle having outwardly-projecting arms, a gear-wheel journaled between the arms of the yoke and in mesh with the teeth upon the spindles, an arm pivoted at one of its ends to the yoke and at the other of its ends to the saddle, gear-teeth upon the yoke, a sprocket-wheel mounted adjacent to the yoke, a chain connecting the yoke and the sprocket-wheel, an arm secured to the sprocket-wheel and a weight carried by the arm to counterbalance the weight of the gear-wheel upon the spindles.

840,529. UNIVERSAL JOINT. WALTER S. TURPIN and JONAS H. HOLDEN, Washington, D. C. Filed May 10, 1906. Serial No. 316,141.



Claim.—1. A universal joint having, in combination, coupling-heads, a block or common binding-piece interposed between the coupling-heads, and sleeves or bushings screwing into the block, pivotally connecting the block with the coupling-heads, substantially as described.

2. A universal joint having, in combination, coupling-heads, a block or common binding-piece interposed between the coupling-heads, sleeves or bushings screwing into the block pivotally connecting the block to the coupling-heads; and pins arranged to pass through the sleeves and screw into the block, substantially as described.

3. A universal joint having, in combination, coupling-heads, a block or common binding-piece interposed between the coupling-heads, four sleeves or bushings screwing into the block pivotally connecting the block to the coupling-heads, and pins arranged to pass centrally through the sleeves and screw into the block to prevent the rotation of said sleeves, substantially as described.

4. A universal joint having, in combination, coupling-heads, a block or common binding-piece interposed between the coupling-heads, four sleeves or bushings provided with heads and screwing into the block pivotally connecting the block with the coupling-heads, and four pins arranged to

pass centrally through the sleeves and screw into the block to prevent the rotation of said sleeves, substantially as described.

5. A universal joint having, in combination, coupling-heads, a block or common binding-piece interposed between the coupling-heads, four sleeves or bushings provided with heads and screwing into the block pivotally connecting the block to the coupling-heads and effectually preventing spreading of the forks, and four pins provided with heads and arranged to pass through the sleeves and screw into the block to prevent the rotation of said sleeves substantially as described.

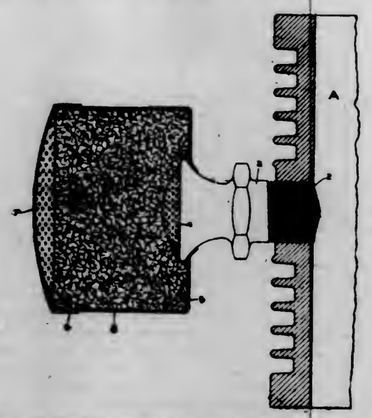
6. A universal joint having, in combination, coupling-heads, a block or common binding-piece interposed between the coupling-heads, four conical-headed sleeves or bushings screwing into the block pivotally connecting the block to the coupling-heads, and four conical-headed pins arranged to pass through the sleeves and screw into the block to prevent the rotation of said sleeves, substantially as described.

7. A universal joint having, in combination, coupling-heads, a block or common binding-piece interposed between the coupling-heads, four flange-headed sleeves or bushings screwing into the block pivotally connecting the block to the coupling-heads, and four conical-headed pins arranged to pass through the sleeves and screw into the block to prevent the rotation of said sleeves, substantially as described.

8. A universal joint having, in combination, coupling-heads, a block or common binding-piece interposed between the coupling-heads, four headed sleeves or bushings screwed into the block pivotally connecting the block with the coupling-heads, and four headed pins arranged to pass through the sleeves and screw into the block with a thread of different pitch from that used to screw the sleeves into the block, the said pins effectually locking and preventing the rotation of said sleeves, substantially as described.

9. A universal joint having, in combination, coupling-heads, a block or common binding-piece interposed between the coupling-heads, four headed sleeves or bushings screwed into the block pivotally connecting the block with the coupling-heads, and four headed pins arranged to pass centrally through the sleeves and screw into the block with a thread opposite in direction from that used to screw the sleeves into the block, to lock and prevent the rotation of said sleeves, substantially as described.

840,530. AIR-FILTER. IRA F. WALLACE, Minneapolis, Minn., and WILLIAM L. KELLOGG, Sioux City, Iowa. Filed Oct. 11, 1901. Serial No. 78,288.



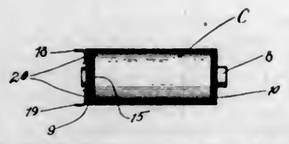
Claim.—1. The combination with an air-pump, of a body of open-work material arranged over the inlet thereof, said material being non-absorbent of water or oil and having an oily coating capable of being removed by washing, said coating serving to shed the water of the air but collect the dust and other impurities to prevent the same entering the pump.

2. The combination with the strainer-inlet of an air-pump, of a receptacle carried thereby, a body of open-work material arranged within said receptacle and covering said strainer-inlet, said material being non-absorbent of water or oil and having an oily coating capable of being removed by washing, said coating serving to shed the water of the air but collect the dust and other impurities to prevent the same entering the pump, and a perforated cover carried by said receptacle for retaining the open-work material within the latter.

3. An air-filtering attachment for air-pumps, comprising a receptacle designed to be applied to the air-inlet thereof, a body of open-work material arranged within said receptacle to cover said inlet, said material being non-absorbent of water or oil and having an oily coating capable of being removed by washing, said coating serving to shed the water of the air but collect the dust and other impurities to prevent the same entering the pump, and a perforated cover carried by said receptacle for retaining the open-work material within the latter.

4. An air-filtering attachment for air-pumps, comprising a receptacle designed to be applied to the air-inlet thereof, a body of open-work material arranged within said receptacle to cover said inlet, said material being non-absorbent of water or oil and having an oily coating capable of being removed by washing, said coating serving to shed the water of the air but collect the dust and other impurities to prevent the same entering the pump, and a perforated cover carried by said receptacle for retaining the open-work material within the latter, said cover having a detachable connection with the receptacle to permit the open-work material being removed therefrom for cleansing and recoating.

840,531. ELECTROMAGNET. THOMAS M. WALSH, Rochester, N. Y., assignor to Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed May 14, 1906. Serial No. 316,629.



Claim.—1. In an electromagnet, a core, a winding disposed upon said core, a head secured at either end of said core, a disk of non-corrosive material associated with one of said heads for supporting the wire terminals of said winding, and metal terminals upon the associated head to which may be secured the wire terminals of the winding.

2. In an electromagnet, a core, a winding upon said core, a head at either end of said core, an annulus of non-corrosive material associated with one of said heads, said annulus being provided with openings for the reception of winding-terminals and clips or metal terminals upon said associated head to which said wire terminals may be secured, said wire terminals passing through openings in said associated head, said openings being of sufficient size so that said wire terminals may not engage the said head.

3. In an electromagnet, a core, a head mounted at each end of said core, a disk associated with one of said heads, a coil mounted between said disk and the other of said heads, said disk being provided with openings wherein are disposed the terminals of the coil, metal terminals mounted upon the associated head to which said terminals may be secured, said associated head being provided with openings approximate to said clips and said openings in said disk of sufficient size whereby said wire terminals may pass through said openings without engaging the side of said opening.

4. In an electromagnet, the combination with a core and a winding thereon, of a head at either end of said core, an annulus associated with one of said heads, said annulus being provided with openings for the reception of the wire terminals of said winding, metal terminals mounted upon the said associated head to which may be secured the wire terminals of said winding, said head being provided with openings of sufficient size so that said wire terminals may not engage said head.

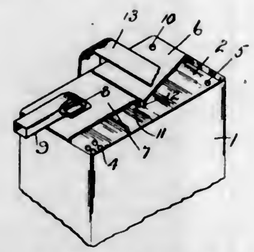
5. In combination, an electromagnet-core, a disk on said core, an auxiliary disk on said core adjacent to the first disk and having openings for receiving the terminals of a winding on said core, there being passage-ways or openings through the first disk in register with but larger than the holes through the auxiliary disk whereby the winding-terminals extending through said holes will be out of contact with the first disk.

6. In combination, the core for supporting a winding, end disks or heads engaging said core for confining said winding, an auxiliary disk adjacent to one of the heads and having holes, passage-ways or holes through the adjacent head in register with but larger than the holes in the auxiliary disk, terminal clips on the ontside of the head adjacent to the passage-ways thereto, said holes and passage-ways serving to lead the terminals of the winding to said terminal clips, said large openings through the head preventing contact of the terminal wires with the material of the head.

7. In combination, a core, a winding thereon, comparatively heavy heads at the ends of the core for confining the winding, large openings through one of said heads, terminal clips secured over said openings to the outside of the head, an auxiliary comparatively thin disk on said core and associated with said terminal head, there being openings through said auxiliary disk smaller than the openings of the head and in register with the center thereof, said holes and openings serving to lead the ends of the winding to said terminal clips, the size and disposition of the openings in the head and auxiliary disk preventing contact of the wires with the material of the disk.

8. In combination, a core, a comparatively heavy disk secured to said core, openings of large diameter through said heavy disk, terminals mounted on the outside of said disk over said openings, a comparatively light disk on said core adjacent to the inner side of the heavy disk, said lighter disk having openings concentric with the larger openings in the heavy disk but of less diameter whereby the ends of a winding on said core may pass through said openings to be secured to said terminal clips but held out of contact with the material of the heavy disk.

840,532. LIQUID-RECEPTACLE. EDWIN C. WEBB, Providence, R. I. Filed Feb. 5, 1906. Serial No. 299,411.



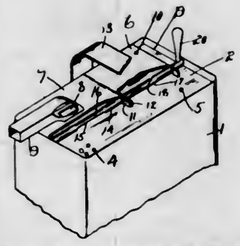
Claim.—1. In an oil-can, a body portion having a bottom at one end, an outer head at its opposite end, an inner head located below said outer head forming a narrow space between them, said inner head being provided with a plurality of open spaces, and the space between said inner and outer heads being divided into a plurality of compartments.

2. In an oil-can, a body portion, a bottom at one end, an outer head at its opposite end, an inner head provided with a plurality of holes, said head being located below said outer head, forming a narrow space between said two heads, a partition through said space dividing the same into a plurality of compartments, one of said compartments being provided with vent-holes and another compartment being provided with delivery-holes.

3. A receptacle comprising a body portion, an inner and outer head at one end of said body forming a narrow space between them, each of said heads being provided with an inlet and outlet hole, each of said heads also being provided with vent-holes independent of said outlet-holes.

4. In an oil-can, a body portion having a bottom at one end and an inner and outer head at its opposite end forming a space between said heads, an outlet-hole through said inner head, and an outlet-hole through said outer head, each of said holes being located in different relative positions in their respective heads, each of said heads being also provided with independent vent-holes, said latter holes also being located in different relative positions in their respective heads whereby the contents of the can will be prevented from slopping through one hole and out of the other.

840,533. LIQUID-RECEPTACLE. EDWIN C. WEBB, Providence, R. I. Filed Feb. 13, 1906. Serial No. 300,862.



Claim.—1. An oil-can comprising a body with a bottom at one end, a head at its opposite end, and an inner head or partition below said outer head forming an air-space between them, and a valve placed between said heads.

2. An oil-can comprising a body provided with a bottom at one end, an outer head at its opposite end, and a perforated inner head located a short distance below said outer head forming a narrow air-space between said heads, and a valve or shut-off between said heads dividing said space.

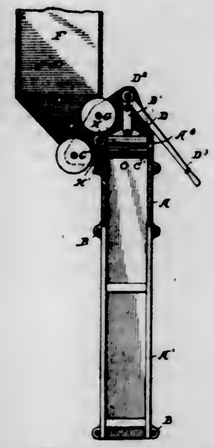
3. An oil-can comprising a body provided with a bottom at one end, an outer head at its opposite end, and a perforated inner head located a short distance below said outer head forming a narrow air-space between said heads, and a rotatable spindle-valve extending across the can between said heads and adapted to divide the space therein.

4. In an oil-can, a body portion having a bottom at one end, an outer head at its opposite end, an inner head located below said outer head forming a narrow space between them, said inner head being provided with a plurality of open spaces, and the space between said inner and outer heads being divided into a plurality of compartments, and means whereby said compartments may be subdivided.

5. In an oil-can, a body portion having a bottom at one end, an outer head at its opposite end, an inner head located below said outer head forming a narrow space between them, said inner head being provided with a plurality of open spaces, and the space between said inner and outer heads being divided into a plurality of compartments, and a rotatable spindle-valve extending across the can between said heads and adapted to subdivide the space between the heads in each compartment.

6. A receptacle comprising a body portion, an inner and outer head at one end of said body forming a narrow space between them, each of said heads being provided with an inlet and outlet hole, each of said heads also being provided with vent-holes independent of said outlet-holes, and a valve extending through said space between the heads adapted to control the communication between the holes in the inner head and the holes in the outer head.

840,534. BALING-PRESS. SAMUEL J. WEBB, Minden, La. Filed Jan. 16, 1900. Serial No. 1,630.



Claim.—1. In a baling-press, the combination with a bale-box, of an abutment stationary at one end of the box, and a movable abutment, one side of the box being adjustable and under spring-pressure for controlling the movements of the movable abutment and the bale by friction between the adjustable spring-pressed side of the box and the movable abutment and bale, substantially as described.

2. In a continuously-operating baling-press, the combination with a bale-box, of separating-plates, means for continuously delivering material between the plates in the box, and means for successively forcing the plates down upon the top of the completed bale into position to separate the bales, substantially as described.

3. The combination with a baling-press having an open end adapted to receive a lower and an upper separating-plate between which the material is to be pressed, of means for engaging and locking said upper plate in the box, and means for forcing another plate into position above said upper plate, substantially as described.

4. The combination with a baling-press having an open end adapted to receive a lower and an upper separating-plate between which the material is to be pressed, of means for holding said upper plate against displacement, a platen, and means for operating the same for forcing another plate into the box, substantially as described.

5. In a continuously-operating baling-press, the combination with a bale-box, of a separating-plate, one edge of the plate being reduced in thickness for the purpose stated, substantially as described.

6. In a continuously-operating baling-press, the combination with a bale-box, of two plates, one fixedly held in the box, and one forming a movable abutment, and between which plates the material is delivered, means for holding one of the plates in the box, means for forcing another plate on top of said held plate, and means for forcibly delivering the material between the plates, substantially as described.

7. In a continuously-operating baling-press, the combination with a bale-box, of two plates, one held fixedly in the box and the other forming a movable abutment in the box and between which plates the material is delivered, and means for continuously delivering the material between the plates, substantially as described.

8. In a baling-press, the combination with a box, of a stationary abutment, a movable abutment, means for forcing the material to be pressed between the abutments and means for causing a certain amount of resistance to the movable abutment, substantially as described.

9. In a compress, the combination with a box, of rollers for forcing the material to be pressed into the box, means for inserting a plate to separate the material into bales and means for offering resistance to the movement of the bale being discharged, substantially as described.

10. In a continuously-operating baling-press, the combination with a box, of means for forcing cotton or other material to be pressed into the box, means for inserting a plate to separate the material into bales and means for offering certain resistance to the movement of the bale being discharged, substantially as described.

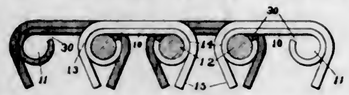
11. In a continuously-operating press, the combination with a box or chamber, of means for inserting a separating-plate means for forcing cotton into the box behind the separating-plate and means for offering the necessary resistance to the movement of the bale being discharged, substantially as described.

12. In a continuously-operating press, the combination with a box or chamber, of means for inserting a separating-plate means for forcing cotton into the box behind the separating-plate with means whereby the bale can be banded during the operation, substantially as described.

13. In a continuously-operating baling-press, the combination with the bale-box, of two plates, one forming a movable abutment and the other forming a fixed abutment, and between which the material is delivered, of compressing-rollers for progressively condensing the material and continuously delivering it to the box between the plates, substantially as described.

14. In a continuously-operating baling-press, the combination with a bale-box, of two plates within the box, one forming a movable abutment and the other a stationary abutment, and between which the material is delivered, and means for forcing the stationary abutment into position to act as a movable abutment and introducing another plate to act as a stationary abutment, substantially as described.

840,535. CHAIN. RUTHERFORD E. WEINLAND, Indianapolis, Ind. Filed Dec. 4, 1905. Serial No. 290,111.



Claim.—1. A belt composed of a multiplicity of links each formed of material bent at each end to form a pin-embracing socket and an extending working tip, and a multiplicity of transverse pins embraced in said sockets, each working tip presenting an outward working face substantially parallel with the axis of the adjacent pin, the working faces of the tips of the links embracing a given pin lying upon opposite sides of the axis thereof.

2. A belt composed of a multiplicity of links each formed of material bent at each end to form an incomplete pin-embracing socket and an extending working tip, and a multiplicity of transverse pins embraced in said sockets, each working tip presenting an outward working face substantially parallel with the axis of the adjacent pin, the working faces of the tips of the links embracing a given pin lying upon opposite sides of the axis thereof.

3. A belt composed of a multiplicity of links each consisting of an internal member formed of a strip of material bent at each end to form a pin-receiving eye, and a second cap-piece formed of a strip of material bent at each end to receive the lining-piece transversely in the plane of the eyes, and to form extended wearing-tips.

4. A belt composed of a multiplicity of links each consisting of an internal member formed of a strip of material bent at each end to form an incomplete pin-receiving eye, and a second cap-piece formed of a strip of material bent at each end to receive the lining-piece transversely in the plane of the eyes, and to form extended wearing-tips.

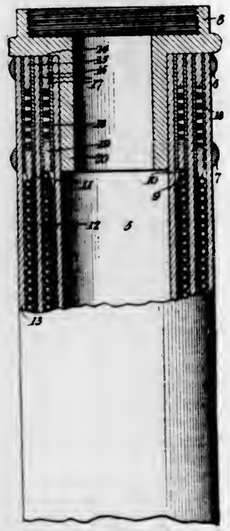
5. A belt composed of a multiplicity of links each formed of material bent at each end to form a pin-embracing socket and an extending working tip, a multiplicity of pins passing transversely through said sockets, spacing-links pivoted upon said pins, and means for holding the links in transverse position on the pins.

6. A belt composed of a multiplicity of links each formed of material bent at each end to form an incomplete pin-embracing socket and an extending working tip, a multiplicity of pins passing transversely through said sockets, spacing-links pivoted upon said pins, and means for holding the links in transverse position on the pins.

7. A belt composed of a multiplicity of links each consisting of an internal member formed of a strip of material bent at each end to form a pin-receiving eye, and a cap-piece formed of a strip of material bent at each end to embrace the internal member and to form extended wearing-tips, a multiplicity of pins passing transversely through said eyes, spacing-links pivoted upon said pins, and means for holding the links in transverse position on the pins.

8. A belt composed of a multiplicity of links each consisting of an internal member formed of a strip of material bent at each end to form an incomplete pin-receiving eye, and a cap-piece formed of a strip of material bent at each end to embrace the internal member and to form extended wearing-tips, a multiplicity of pins passing transversely through said eyes, spacing-links pivoted upon said pins, and means for holding the links in transverse position on the pins.

840,536. FLEXIBLE ARMOR FOR HOSE AND PIPING. WELBY D. WEIR, Winnsboro, Tex. Filed Aug. 21, 1905. Serial No. 275,157.



Claim.—1. A flexible armor for hose formed of a plurality of overlapping members, a pair of spaced collars carried by the hose, and a spring interposed between said collars for yieldably supporting said members in contact with each other.

2. A flexible armor for hose formed of a plurality of overlapping conical members, a collar slidably mounted on the hose and engaging the enlarged end of one of said members, and a coil-spring bearing against said collar for yieldably supporting the overlapping members in contact with each other.

3. A flexible armor for hose formed of an inner and an outer series of overlapping members, provided with lateral reinforcing-flanges, the members of one set being disposed with the flanges extending in the direction of one end of the hose, and the flanges on the opposite set being extended in the direction of the opposite end of the hose, and means for exerting a yieldable pressure on the members of each set in the direction of the length of the hose.

4. A flexible armor for hose formed of an inner and outer series of overlapping members provided with terminal reinforcing-flanges, independent means for yieldably supporting the members of each set in contact with each other, and a flexible sheath separating the two sets of members and interposed between the yieldable means.

5. A flexible armor for hose formed of a plurality of overlapping rings, a second set of rings surrounding the first set and arranged concentric therewith, and independent means for exerting pressure on each set of rings in the direction of the length of the hose.

6. A flexible armor for hose formed of an inner and an outer series of separable overlapping members, the members of one series being disposed on the hose with the enlarged ends thereof extending toward one end of the hose and the members of the adjacent series being arranged with their enlarged ends extending toward the opposite end of said hose, and means for yieldably supporting the members of each series in contact with each other.

7. A flexible armor for hose formed of a plurality of separable overlapping members each provided with a terminal laterally-extending reinforcing-flange, and means engaging the flange of one of the members for yieldably supporting said members in contact with each other.

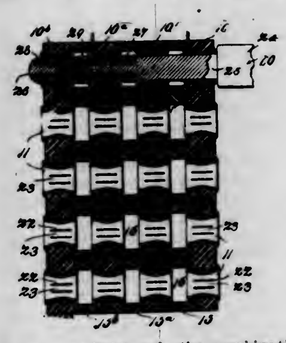
8. A flexible armor for hose formed of a plurality of separable overlapping conical rings each having its enlarged end bent laterally to form a terminal reinforcing-flange, and means engaging the flange of one of the rings for yieldably supporting said rings in contact with each other.

9. A flexible armor for hose comprising an inner and an outer set of overlapping members, a flexible sheath separating the two sets of members, and independent means for yieldably exerting a longitudinal pressure on each set of members.

10. A flexible armor for hose comprising an inner and an outer set of overlapping members, a flexible sheath separating the two sets of members, bearing-sleeves disposed above said members, and coil-springs interposed between the bearing-sleeves for yieldably supporting the members in contact with each other.

11. A flexible armor for hose comprising an inner and an outer set of overlapping members, a flexible sheath separating the two sets of members, bearing-sleeves disposed above said members, spacing-blocks separating the bearing-plates, collars slidably mounted between said sleeves, coil-springs interposed between the spacing-blocks and sliding collars for yieldably supporting the overlapping members of each set in contact with each other, a covering for the outer set of members, and means for clamping the several parts together.

840,537. SWITCHBOARD. WELBY D. WEIR, Winnsboro, Tex. Filed Oct. 2, 1905. Serial No. 280,953.



Claim.—1. In a switchboard, the combination with a pair of parallel boards, each having a plurality of openings, circuit-closing rings arranged in said openings and provided with flanged end portions projecting beyond the faces of the boards, and a spacing member formed of insulating material arranged between the boards and having openings of larger diameter than the circuit-closing rings for the reception of the flanged ends of the rings and serving to maintain the latter in spaced relation.

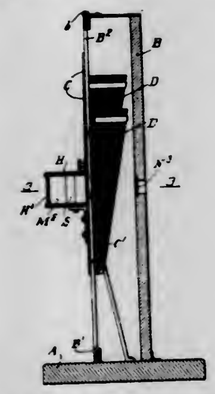
2. The combination in a switchboard, of a pair of

boards, each provided with a plurality of openings arranged in intersecting rows, and each having wire-receiving grooves in one of its faces, rings arranged in the openings, and conductors arranged within the grooves and electrically connected to said rings and a spacing member arranged between the boards and having openings in alinement with those of the boards.

3. In switchboard constructions, a circuit-closing ring formed of metal, the ring having solid ends and its intermediate portion being slit to form tongues that are bent inward toward the center of the ring.

4. The combination in a switchboard, of a plurality of boards arranged in parallel relation and provided with alining openings, ring contacts arranged within said openings and provided with solid ends and intermediate inbent integral tongues arranged to bind against and hold a circuit-closing plug, and a spacing member formed of insulating material arranged between the boards and having openings of larger diameter than said ring contacts.

840,538. COLORIMETER. CHARLES H. WHITE, Cambridge, Mass. Filed June 4, 1906. Serial No. 320,194.



Claim.—1. In a device of the class described the combination of means for transmitting light, a plurality of light-transmitting tanks for maintaining in bodies of liquid the same gradually-increasing thickness, and means to move said tanks independently across the path of the transmitted light.

2. In a device of the class described the combination of means for transmitting light, a plurality of light-transmitting tanks for maintaining in bodies of liquid the same gradually-increasing thickness, means to move said tanks independently across the path of the transmitted light and means to compare the interposed thicknesses of the liquids in the tanks.

3. In a device of the class described the combination of means for transmitting light, a plurality of light-transmitting tanks for maintaining in bodies of liquid the same gradually-increasing thickness, means to move said tanks independently across the path of the transmitted light, means for observing the transmitted lights in adjacent bands and means to compare the interposed thicknesses of the liquids in the tanks.

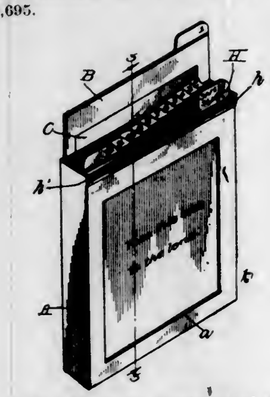
840,539. SEAL. CLARENCE E. WHITMORE, Bar Harbor, Me. Filed Mar. 2, 1906. Serial No. 303,890.

Claim.—A seal, die or stamp comprising a head provided with a countersink or recess, and an initial-plate adapted to be fitted snugly within said countersink and having a groove near its outer edge to form a thin edge or rim exterior to said groove, said plate being retained in place by crimping the rim of the head surrounding the countersink and at the same time crimping the rim surrounding the groove of the initial-plate.

840,539.



840,540. PHOTOGRAPHIC-PLATE HOLDER. FRANK WHITNEY, Lakeside, Ill. Filed Apr. 25, 1906. Serial No. 313,695.



Claim.—1. A plate-holder consisting of a paper envelop corrugated to provide an indirect slideway, in combination with a plate immovably inclosed in said envelop and a flexible slide adapted to cover said plate and to be withdrawn from said envelop through said indirect slideway.

2. A plate-holder consisting of an envelop having an exposure-opening and provided on its interior with means for centering a photographic plate with reference to the exposure-opening, said envelop being provided with a withdrawable slide arranged to overlap said centering means.

3. A plate-holder consisting of a flexible envelop having an exposure-opening and provided on its interior with means for centering a photographic plate with reference to the exposure-opening, said holder being also provided with a withdrawable flexible slide adapted to fit snugly within said envelop and so as to overlap said centering means.

4. A plate-holder, consisting of a paper envelop provided on its interior with marginal strips arranged to position a photographic plate in said holder, said envelop being also provided with an exposure-opening and with a withdrawable limp slide adapted to close said opening and to overlap said marginal strips.

5. The combination with a plate-holder provided with an exposure-opening in one slide and with a slideway in the opposite side thereof, of a flexible slide adapted to close said exposure-opening and arranged to be withdrawn through said slideway.

6. The combination with a plate-holder provided with an exposure-opening in one side thereof, of a slide arranged to close said opening, said slide extending through an opening in the back of said holder and being then folded downwardly over the back of said holder.

7. The combination with a plate-holder provided with an exposure-opening in one side thereof, of a slide arranged to close said opening, said slide extending through an opening in the back of said holder and being then folded downwardly over the back of said holder, said folded-over end of said slide being tapered.

8. A package comprising a photographic plate inclosed within a light-tight envelop, said envelop being provided with an exposure-opening and with a withdrawable, flexible slide within said envelop, sealed and arranged to close said opening.

9. A package comprising a photographic plate inclosed within a light-tight envelop, said envelop being provided with an exposure-opening and with a withdrawable, flexible slide arranged to close said opening, said slide being provided with a projecting end which is secured to said envelop.

10. A package comprising a photographic plate immovably inclosed within a flexible light-tight envelop, said envelop being provided with an exposure-opening and with an indirect slideway, and a sliding cover arranged to close said exposure-opening and adapted to be withdrawn through said slideway.

11. The combination with a plate-holder provided with an exposure-opening in one side thereof, of a slide arranged to close said opening, said slide extending through an opening in the back of said holder.

12. A package comprising a photographic plate inclosed within a light-tight envelop, said envelop being provided with an exposure-opening in one side thereof and with a slideway in the opposite side thereof, and a flexible slide arranged to close said exposure-opening, and extending through said slideway in the back of said envelop.

13. A package, comprising a carton open at one edge and provided on one side with an exposure-opening, and a plurality of light-tight envelops, each envelop inclosing a photographic plate and being provided with an exposure-opening adapted to register with the exposure-opening in said carton, each envelop being also provided with a withdrawable and non-returnable slide, said package being also provided with means for holding said envelops in yielding engagement with each other and with the side of said carton.

14. A magazine plate-holder, comprising a carton adapted to be interchanged in a camera with a conventional plate-holder and provided on one face with an exposure-aperture, and a plurality of flexible plate-holders contained therein, each plate-holder containing a flexible photographic plate and being provided with an exposure-aperture adapted to register with the exposure-aperture in said carton and being also provided with a withdrawable slide adapted to close said exposure-apertures, said holders being arranged in said carton in snug contact with each other, so that each holder may serve to form a light-tight closure for the exposure-aperture in the holder behind it.

15. A pack of resilient plate-holders each having an exposing-aperture, said holders being arranged in the pack front to back, so that the exposing-aperture of one holder is closed by the unapertured side of the next holder, a relatively stiff cover for the face of said pack, said holders being arranged to be held in snug contact with each other by their own resiliency.

16. A magazine plate-holder, comprising a carton adapted to be interchanged in a camera with a conventional plate-holder and provided in one side with an exposure-aperture, and a plurality of individual plate-holders contained in said carton, each individual plate-holder being provided with an exposure-aperture adapted to register with the exposure-aperture in said carton and provided also with a removable slide closing said aperture, each holder being provided with an exposed projecting tab bearing an index character.

17. A magazine plate-holder, comprising a casing having an exposing-aperture, and a series of resilient, light-tight holders and a sliding cover adapted to fit snugly into said casing.

18. A magazine plate-holder, comprising a casing having an exposing-aperture, a series of holders adapted to be inserted into said casing with one edge thereof exposed, each of said holders having an exposing-aperture adapted to register with the exposing-aperture of the casing and each of said holders being provided with a removable slide adapted to close said exposing-aperture, each holder being adapted to serve to close the exposure-aperture of the casing, and means for holding said holders in yielding contact with one another.

19. A magazine plate-holder, comprising a casing open along one edge and provided with an exposing-aperture in one of its sides, and a plurality of holders each having an exposing-aperture and provided with a removable slide adapted to close said aperture, said holders being adapted to be inserted into the open edge of the casing and each being provided with means projecting from said casing, whereby any one of said holders may be selected and withdrawn from said casing.

20. In a magazine plate-holder, the combination of a casing having an exposing-aperture, said casing being open along one of its edges, a plurality of envelops within said casing each provided with means extending from the open edge of said casing, said means adapted to bear a visible identifying character and to be grasped for manipulation of said envelop, and a comparatively stiff, light-excluding slide within said casing and provided with an extending tab.

21. The combination of a casing having an exposing-aperture, and a pack of envelops in said casing each containing a photo-sensitized plate, each of said envelops having an exposing-aperture and provided with an extending tab, said casing adapted to permit visible transposing of the envelops by the withdrawal of one of said envelops from the pack and the insertion of the same at the front of the pack.

22. The combination of a casing having an exposing-aperture, a pack of holders within said casing, each of said holders having an exposing-aperture and provided with a removable, flexible, light-excluding slide adapted to cover said aperture, each of said holders having an exposed projecting index-tab, said tabs so disposed as to offset one another, and a relatively stiff, light-excluding slide adapted to be inserted into said casing in front of the holders.

23. A pack, consisting of a series of plate-holders, each of said holders being provided with a tab, said tabs being visible and so arranged as to offset one another, whereby any one of the tabs may be readily seen and grasped for the purpose of removing a holder from the pack.

24. A pack of plate-holders, each of said holders having an exposing-aperture and being provided with a visible, projecting tab bearing an identifying character, said tabs offsetting one another so that the identifying characters are simultaneously exposed.

25. A plate-holder consisting of a paper envelop provided with an indirect slideway in combination with a plate immovably inclosed in said envelop and a flexible slide adapted to cover said plate and to be withdrawn from said envelop through said indirect slideway.

26. A pack, comprising a series of indexed holders, each of said holders having an exposing-aperture and provided with a removable, flexible slide therefor, and a relatively stiff slide having a tab thereon.

27. The combination of a magazine plate-holder comprising a casing having an exposing-aperture and a series of resilient light-tight holders therein with a resilient plate in each of said holders.

28. A plate-holder, consisting of an envelop having an exposing-aperture, and a flexible, light-excluding slide adapted to close said aperture, said envelop being provided with a slit extending across its back, through which the slide may be withdrawn.

29. A plate-holder, consisting of an envelop having an exposing-aperture and means for maintaining immovably a single plate in proper position relative to said exposing-aperture, an indirect opening leading to the interior of said envelop, and a light-excluding slide adapted to cover the exposing-aperture, said slide being flexible so as to permit its being withdrawn through said indirect opening.

30. A plate-holder, comprising an envelop having an exposing-aperture, a projecting tab upon said envelop, said tab bearing an identifying character, and a removable, flexible, light-excluding slide adapted to cover said exposing-aperture, said slide having a flap issuing from said envelop.

31. A plate-holder, consisting of an envelop provided with an exposure-opening and a dark slide for same, and a projecting tab upon said envelop, said envelop having a form printed upon its back.

32. A holder for a sensitized plate provided with an opening for the withdrawal, of a dark slide, said opening

being arranged so as to form a passage at right angles to the plane of the plate, and a light-excluding slide for said holder, said slide being flexible so that it may be withdrawn through said opening.

33. A magazine plate-holder comprising an open-top casing, a plurality of separately-removable plate-holders contained therein, plate-holders being arranged in said casing in sufficiently snug contact with each other and one side of the casing to exclude light from between the separate holders.

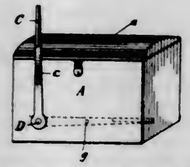
34. A pack, comprising a series of indexed photographic plate-holders, each of said holders having an exposing-aperture and provided with a removable, flexible slide adapted to cover said aperture.

35. An indexed package of light-excluding envelops, each containing a sensitized plate and having an exposure-opening protected by a flexible covering sliding within said envelop, and means extending from the envelop for the manipulation of said covering.

36. A magazine plate-holder comprising an open-top casing, a plurality of light-tight plate-holders, each provided with an exposure-opening and with a removable slide closing said opening, said holders being arranged in said casing in sufficiently snug contact with each other and with the end of the casing to exclude light from between the separate holders, when the slides are removed.

37. A magazine plate-holder comprising an outer casing having an exposing-aperture and another opening, a series of light-tight holders adapted to be inserted into said opening, each of said holders being provided with an exposing-aperture and a dark slide for same, each of said holders having a printed form thereon.

840,541. RURAL-DELIVERY POSTAL BOX. CHARLES M. WIGGINS, Andalusia, Ala. Filed July 5, 1906. Serial No. 324,805.



Claim.—1. In combination, a box, a semaphore-lever outside the box, a pivot to which said lever is attached extending through the wall of the box, a setting-lever in the box attached to the inner end of the pivot, and devices in the box adapted to be engaged by said setting-lever to lock it and the semaphore in either "collect" or "empty" position.

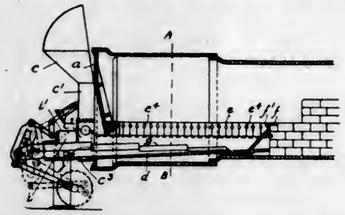
2. In combination with a box having a cover, a pivot extending through the wall of the box, a semaphore fast to the pivot outside the box, an operating-lever fast to the pivot inside the box, and devices adjacent said pivot adapted to be engaged by the setting-lever to lock it in either extreme position.

3. In combination with a box, a semaphore, a bolt transfixing the wall of the box, a semaphore-carrying lever fixed to the outer end of the bolt, a spring setting-lever fixed to the inner end of the bolt, and devices on the inner wall of the box adjacent the lever adapted to be engaged by the setting-lever to lock it in either of its extreme positions, said semaphore being adjustable only when the box is opened, substantially as described.

4. In a rural free-delivery mail-box signal, the combination of a box having a cover, a semaphore-lever outside the box, a pivot-bolt to which said lever is attached extending through the wall of the box, a setting-lever attached to the inner end of the bolt, and devices inside the box adapted to be engaged by said inner lever to lock it and the semaphore in either "collect" or "empty" position.

5. In combination with a box having a cover, a bolt transfixing the wall of the box, a semaphore-carrying lever fixed to the outer end of the bolt, a spring setting-lever fixed to the inner end of the bolt, studs attached to the wall of the box adjacent the lever, and adapted to engage an aperture in the setting-lever to lock it in either of its extreme positions, said semaphore being adjustable only when the box is opened, substantially as described.

840,542. FURNACE. WALTER R. WILLS, Sheffield, England. Filed July 28, 1905. Serial No. 271,657.



Claim.—1. In a furnace of the underfed type, the combination with a fuel-hopper, *c*, and feed-box, c^2, and a longitudinal trough, *d*, of a reciprocating pusher, *g*, therein, whose lower portion is approximately triangular in cross-section and arranged to travel on one edge, and whose upper portion is provided with a series of faces for feeding, conveying, and distributing the fuel, in the manner and for the purposes substantially as herein described and illustrated on the accompanying drawings.

2. In a furnace of the underfed type, the combination with a longitudinal trough, *d*, below the level of the fire-bars, an angular pusher, *g*, with a stepped diminution toward the outer end therein, traveling on one edge, and having a series of faces on its upper portion, of a fuel-hopper, *c*, and feed-box, c^2, communicating with the trough, *d*, at the front of the furnace and a stuffing-box, *i*, in the manner and for the purposes substantially as herein described and illustrated on the accompanying drawings.

3. In a furnace of the underfed type, the modified arrangement comprising the combination with a fuel-hopper, *c*, a feed-box, c^2, a central covered trough, *d*, below the fire-bars communicating with the hopper and feed-box at one end, and with a receptacle, *l*, under the bridge at the other end, a reciprocating pusher therein having a series of diminishing faces on its upper portion, so formed and arranged as to carry fuel from the hopper, *c*, to the receptacle, *l*, two longitudinal troughs, d^2, one on each side of the said chamber below the average fire-level and a reciprocating gradated bar in each trough, so arranged as to carry fuel and ashes from the back toward the front of the furnace, in the manner and for the purposes substantially as herein described and illustrated on the accompanying drawings.

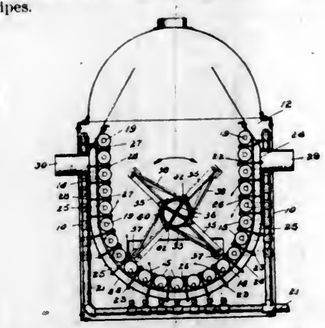
4. In a furnace of the underfed type, the modified arrangement comprising the combination with a fuel-hopper, and a feed box or boxes, a central trough below the fire-bars, two side troughs below the average fire-level, a receptacle below the bridge communicating with all three troughs and reciprocating pushers in each trough, so formed and arranged that the fuel in the side troughs will always travel in a direction contrary to the fuel in the central trough, in the manner and for the purposes substantially as herein described.

840,543. SECTIONAL DRIER. FREDERICK G. WEISEGOEL, Indianapolis, Ind. Filed Oct. 8, 1906. Serial No. 338,068.

Claim.—1. A drier the containing-wall of which is composed of a plurality of independently-rotatable pipes.

2. A drier the containing-wall of which is composed of a plurality of independently-rotatable and separately-removable pipes.

3. A drier the containing-wall of which is composed of a plurality of independently-rotatable and removable pipes, bridge-plates bridging the space between adjacent pipes, some of said bridge-plates having portions along one edge removed from the adjacent pipe, and a jacket externally embracing said pipes to form an air-chamber outside of said pipes.



4. A drier the containing-wall of which is composed of a plurality of independently-rotatable pipes, bridge-plates bridging the space between said adjacent pipes, some of said bridge-plates having portions along one edge removed from the adjacent pipe, and a jacket externally embracing said pipes to form an air-chamber outside of said pipes.

5. A drier the containing-wall of which is composed of a plurality of removable heating-pipes and induction and eduction pipes leading to and from each of said pipes.

6. A drier the containing-wall of which is composed of a plurality of independently-rotatable heating-pipes, and induction and eduction pipes connected to each of said heating-pipes.

7. A drier, the containing-wall of which is composed of a plurality of independently-rotatable and separately-removable heating-pipes, and induction and eduction pipes separably connected to each of said heating-pipes.

8. A drier the containing-wall of which is composed of a plurality of independently-rotatable and removable heating-pipes, bridge-plates bridging the space between adjacent pipes, some of said bridging-plates having portions along one edge removed from the adjacent pipe, a jacket externally embracing said pipes to form an air-chamber outside of said pipes, and induction and eduction pipes removably connected to said heating-pipes.

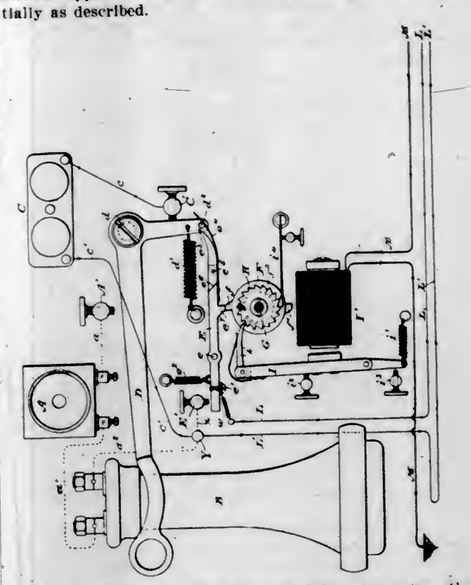
9. In a drier, a conveyer-paddle therefor consisting of a plate provided at one end with a portion to pass through the conveyer-shaft and at the other end provided with an overturned lip, and a brace-plate one end of which is attached to the first plate under the lip and the other end of which is curved to embrace a portion of the conveyer-shaft and provided at its inner end with a perforation to receive the protruding end of the first-mentioned plate.

10. A drier the container-wall of which is composed of a plurality of pipes and intermediate bridging-strips permitting induction of gases between the pipes, and a casing inclosing the container-wall.

840,544. PARTY-LINE-TELEPHONE MECHANISM. CHARLES H. WOOD, Cleveland, Ohio, assignor of one-fourth to John T. Hobbs, Cleveland, Ohio. Filed Feb. 17, 1904. Serial No. 193,962.

Claim.—1. In a subscriber's-station apparatus for multiple-station telephone system, the combination of a circuit-controlling lever or part connected in the telephone-circuit, a switch-hook coacting therewith to normally establish connection with the station apparatus, an electromagnet connected in a separate line to be actuated from a distant station, step-by-step mechanism controlled thereby and means therein for controlling the circuit-controlling part or lever into and out of electrical connection with the switch-hook, substantially as described.

2. A selector appliance for multiple-telephone lines comprising a circuit-controlling lever or part, an electromagnet designed to be governed from a distant station and a rotatable member actuated by the electromagnet; all in combination with a switch member in the subscriber's-station apparatus for controlling the local circuits thereof, the said circuit-controlling part normally coacting therewith but adapted, under the influence of the rotatable member, to become disconnected therefrom and cut the subscriber's-station apparatus out of the telephone-circuit, substantially as described.



3. In a subscriber's-telephone-station apparatus, the combination of a switch-lever for the station-circuits, actuated in the use of the telephone, a circuit-lever connected to one station-terminal of the telephone main line and having alternative positions respectively connecting the station apparatus with the line or disconnecting and shunting it out of the line, the circuit-lever having a bifurcated end adapted to engage a member of the switch-lever between its prongs in their normal position and when the telephone is in use, but when the station apparatus is cut out of the line to lie below the path of said member on the switch-lever, substantially as set forth.

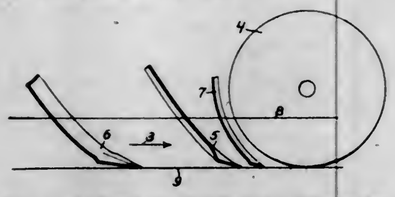
4. In a subscriber's-telephone-station apparatus, the combination of a switch-lever for the station-circuits, actuated in the use of the telephone, a circuit-lever connected to one station-terminal of the telephone main line and having alternative positions, electrical mechanism adapted to be operated from a distant station to control the positions of the circuit-lever, which, in one position is in electrical connection with the switch-lever and in the other position out of electrical connection with the switch-lever and in electrical connection with the other station-terminal of the telephone main line, substantially as described.

5. In a subscriber's-telephone-station apparatus, the combination of a switch-lever, actuated in the use of the telephone, a circuit-lever coacting therewith and having a bifurcated end adapted to engage a member of the switch-lever between its forks for the purpose described, a rotatable mechanism adapted to raise and hold the bifurcated end of the circuit-lever in contact with and proper presentation for the engaging member of the switch-lever or to drop it below the range of said member, one prong of the circuit-lever fork being constructed to yield with sufficient downward flexure to permit of the return of the engaging member of the switch-lever to its normal position in the event of the circuit-lever being raised and locked before such return, substantially as described.

6. In a subscriber's-telephone-station apparatus, for a multiple-station party-line, the combination of a switch-lever for the station-circuits actuated in the use of the telephone, a circuit-lever connected to one station-terminal of the telephone main line and having alternative electrical connection with the switch-lever or with the

other station-terminal of the line, a rotatable mechanism, adapted to be electrically operated from a distant station and provided with two cam-lugs adapted to engage the circuit-lever, one of said lugs, the zero-lug, having a fixed position in the rotatable mechanism, while the other lug, the subscriber's-service lug, may be set and secured at a perdetermined point away from the zero-lug, substantially as described.

840,545. CULTIVATOR. NOAH B. YINGLING, Seven Mile, Ohio. Filed June 2, 1906. Serial No. 319,820.

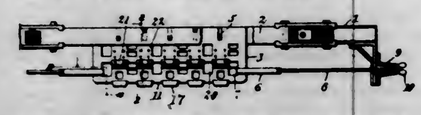


Claim.—1. A cultivator comprising an obliquely-set concavo-convex disk arranged to run with its convexity toward the plant row and cast the soil therefrom, a tooth set to the rear of the disk and farther from the plant row and arranged to cast the soil toward the plant row and into the furrow produced by the disk, and a tooth set rearward of the first-mentioned tooth and farther outwardly from the plant row and arranged to cast the soil in the direction away from the plant row, combined substantially as set forth.

2. A cultivator comprising an obliquely-set concavo-convex disk arranged to run with its convexity toward the plant row and cast the soil therefrom, a tooth set to the rear of the disk and farther from the plant row and arranged to cast the soil toward the plant row and into the furrow produced by the disk, and a tooth disposed contiguous to the convex side of the disk and rearward of its center and arranged to attack the soil at the base of the land side of the furrow produced by the disk, combined substantially as set forth.

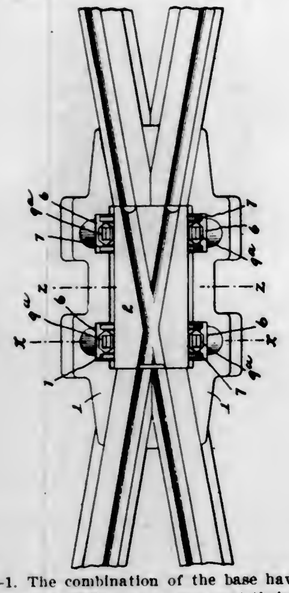
3. A cultivator comprising an obliquely-set concavo-convex disk arranged to run with its convexity toward the plant row and cast the soil therefrom, a tooth set to the rear of the disk and farther from the plant row and arranged to cast the soil toward the plant row and into the furrow produced by the disk, a tooth set rearward of the first-mentioned tooth and farther outwardly from the plant row and arranged to cast the soil in the direction away from the plant row, and a tooth disposed contiguous to the convex side of the disk and rearwardly at its center and arranged to attack the soil at the base of the land side of the furrow produced by the disk, combined substantially as set forth.

840,546. STONE-SAW. JAMES S. YOUNG, Bethel, Vt. Filed July 1, 1905. Serial No. 267,932.



Claim.—A stone-saw consisting of a blade having a plurality of notches in the lower edge thereof, said notches having beveled side edges converging downwardly and beveled inner edges, cutters mounted in said notches and having downwardly-converging side edges with grooves receiving the side edges of said notches, said cutters having each a groove in its upper edge receiving the inner edges of said notches, said cutters consisting each of a single plate projecting below the lower edge of said blade, substantially filling said notches, and projecting laterally at the sides of said blade, the side edges of said cutters which engage the side edges of said notches extending continuously to the lower edges of said cutters.

840,547. RAILWAY-FROG. CHARLES A. ALDEN, Steelton, Pa., assignor to The Pennsylvania Steel Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Feb. 3, 1906. Serial No. 299,276.



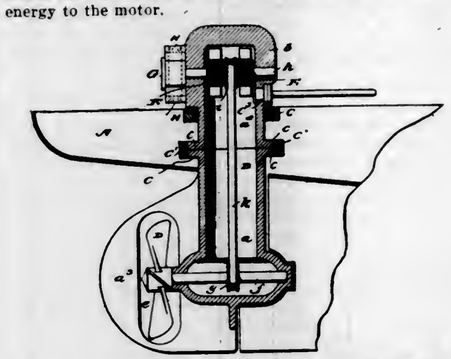
Claim.—1. The combination of the base having the depression therein, and the recesses open at their upper ends and whose inner sides communicate with said depression, the walls in said base dividing said recesses into upper and lower portions, the wear-plate seated in said depression, and having the lugs extending into said upper portions of said recesses respectively, together with the nuts in the lower portions respectively, of said recesses, and the bolts passing through said lugs and said walls, and engaging said nuts, substantially as set forth.

2. The combination of the base, having the depression therein, and the recesses open at their upper ends and whose inner sides communicate with said depression, said recesses extending into said base at substantially an angle of forty-five degrees to the level thereof, the walls in said base dividing said recesses into upper and lower portions, the wear-plate seated in said depression and having the lugs extending therefrom at substantially an angle of forty-five degrees into the upper portions of said recesses, respectively, together with the nuts in the lower portions respectively of said recesses, and the bolts passing through said lugs at right angles thereto, and through said walls, and engaging said nuts, substantially as set forth.

3. The combination of the base having the depression therein, and the recesses open at their upper ends and whose inner sides communicate with said depression, the hard-metal pieces within said recesses and having upper portions constituting transverse walls across said recesses, dividing the same into upper and lower portions, said hard-metal pieces having portions extending downwardly from said wall portions and embedded deep in the casting of the base, the wear-plate seated in said depression, and having the lugs extending therefrom into said upper portions of said recesses respectively, together with the nuts in the lower portions respectively of said recesses, and the bolts passing through said lugs and said wall portions of said hard-metal pieces, and engaging said nuts, substantially as set forth.

840,548. BOAT-PROPELLER. GEORGE F. ATWOOD, Wakefield, Mass. Filed May 12, 1906. Serial No. 316,519.

Claim.—1. The combination of a boat, a vertically-disposed, axially-movable casing journaled in a bearing on the boat, an insulating-disk having an annular projection extending through the casing-wall and secured thereto, a shaft journaled in the lower portion of the casing and provided at a point within the casing with a band-pulley and at a point outside the casing with a propeller, a shaft journaled in the upper portion of the casing and provided within the same with a band-pulley, a band or belt connecting the pulleys and contained in the casing, an electric motor comprising rotary armatures fixed directly on the second-mentioned shaft, a tiller having a disk opposed to the insulating-disk of the casing and pivotally connected thereto, a source of electric energy, and coöperating means on the disks for controlling the supply of electric energy to the motor.



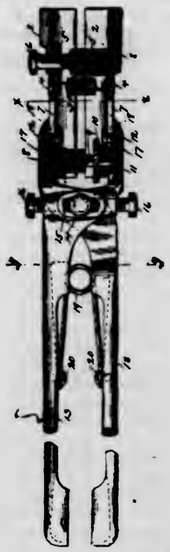
2. The combination of a boat, a vertically-disposed, axially-movable casing journaled in a bearing on the boat and comprising lower and upper sections, means connecting said sections to assure same turning together on their axes, an insulating-disk having an annular projection extending through the casing-wall and secured thereto, a shaft journaled in the lower portion of the casing and provided within the casing with a band-pulley and without the casing with a propeller, a shaft journaled in the upper portion of the casing and provided within the same with a band-pulley, a band or belt connecting the pulleys and contained in the casing, an electric motor comprising rotary armatures fixed directly on the second-mentioned shaft, a tiller having a disk opposed to the insulating-disk of the casing and pivotally connected thereto, a source of electric energy, and coöperating means on the disks for controlling the supply of electric energy to the motor.

3. The combination of a boat, a vertically-disposed casing journaled in a bearing on the boat and comprising lower and upper sections having oppositely-threaded portions, and a nut having interior opposite threads, surrounding and engaging the oppositely-threaded portions of the sections, a shaft journaled in the lower section of the casing and provided within the casing with a band-pulley and without the casing with a propeller, a shaft journaled in the upper section of the casing and bearing a pulley-band, a band connecting said pulleys, and a tiller for turning the casing on its axis.

840,549. WRENCH. HENRY D. AUPKE, Sharpsburg, Pa. Filed Feb. 8, 1906. Serial No. 300,068.

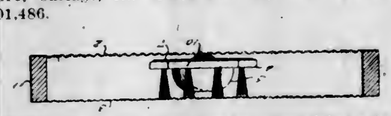
Claim.—1. The herein-described wrench, comprising the wrench proper formed in two parts, means for adjusting the parts toward or away from each other, tongs pivotally connecting the said parts, said tongs being provided with a means for adjusting the jaws toward and away from each other to adapt themselves to said adjustable wrench, as described.

2. The herein-described wrench adapted to operate on the nuts of vehicle-axles, comprising the sectional wrench joined together by temper-screws 6 and 11 and intermediate tension-spring 3, in such manner that the sections may be adjusted toward or away from each other, tongs slidably connected to said sections by means of pivots 12 operating in slots 7, whereby said tongs may be arranged in line or at right angles with said wrench, said tongs being joined together by means of an adjustable pivot, as and for the purpose described.



3. In combination with an adjustable sectional wrench such as described, the tongs and means for pivoting the same to said wrench, said tongs being coupled together by means of a bolt firmly attached to the one tang and arranged through a slot 15 formed in the other, and suitable temper-screws 16 operating at either end of said slot and against the said pivot to hold the same in various positions, as and for the purpose described.

840,550. BOLTING-CLOTH CLEANER. MARCUS J. BARTLETT, Chicago, Ill. Filed Feb. 16, 1906. Serial No. 301,486.



Claim.—1. A bolting-cloth cleaner, comprising a ball or roller, a socket member supported on said ball or roller and having a flange surrounding the same below the point of support, and a brushing device mounted on the flange and extending above the socket member; the center of gravity of said flange and brushing device being below their point of support on said ball or roller.

2. A bolting-cloth cleaner comprising a movable brushing member having a socket in its lower face and a ball or roller seated therein; said brushing member having its center of gravity below its point of support on said ball or roller.

3. A bolting-cloth cleaner, comprising a ball or roller, a socket member supported on said ball or roller and having a flange surrounding the same below the point of support, a flexible member mounted on said flange and extending beyond the outer edges thereof, and brushes mounted on said flexible member and extending above the socket member; the center of gravity of the parts supported by said ball or roller being below the point of support.

4. A bolting-cloth cleaner comprising a brush-supporting base with brushes thereon, a flanged socket-member extending upwardly through the base, and a ball or roller seated in said socket member; the center of gravity of said brush-supporting base and brushes being below their point of support on said ball or roller.

840,551. UMBRELLA-CLASP. ALBERT BAUMGARTEN, Freeport, Ill. Filed Aug. 15, 1904. Serial No. 220,765.



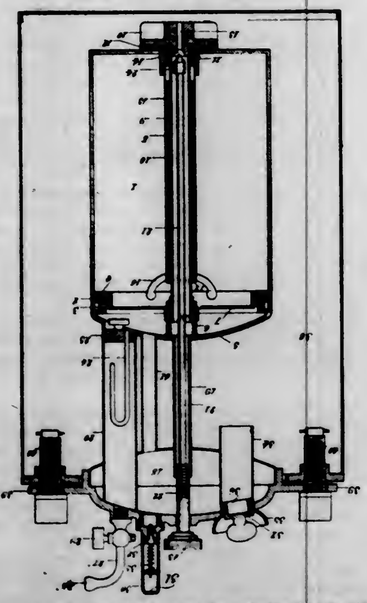
Claim.—1. The combination with an umbrella, of a resilient clasp secured at one of its ends to the fabric of the umbrella, having a part formed to lie around the folds of the cover to retain them in close relation, and having an opening through which the umbrella may be passed into said clasp.

2. The combination with an umbrella, of a resilient clasp secured at one of its ends to the fabric of the cover of the umbrella midway between adjacent stays thereof, having a part formed to pass, and be pressed, around the folds of the cover, and having an opening through which the umbrella can pass into the clasp, said clasp being adapted by inherent resiliency to retain the folds in close relation.

3. The combination with an umbrella, of a resilient clasp having one of its ends secured to the cover between the stays and having an opening between its ends whereby the clasp may be forced into position around the umbrella by relative twist of one of the parts with respect to the other, said clasp being formed to retain the umbrella closed when thus manipulated.

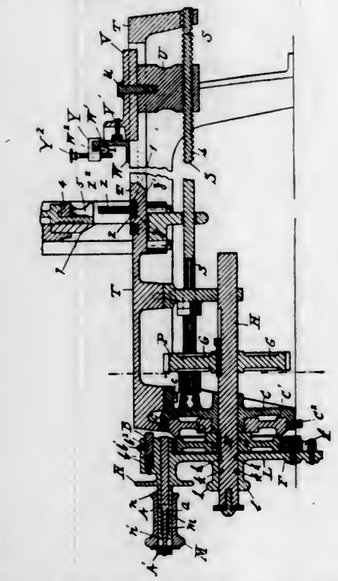
4. As an article of manufacture, an umbrella-clasp comprising a strip of resilient metal, provided with an eye at one end, having a part formed to lie around the folds of the umbrella-cover to retain them in close relation, and having an opening through which the umbrella may be passed into said clasp, and a loop of flexible material adapted to be permanently fastened to the umbrella and extending through said eye.

840,552. APPARATUS FOR GENERATING ACETYLENE. CHARLES BILLY, Paris, France. Filed Mar. 5, 1906. Serial No. 304,419.



Claim.—A portable apparatus for generating acetylene, said apparatus including the following elements: an external receptacle for the water, provided with a removable cover; an inner receptacle for the carbid of calcium, closed by means of an air-tight cover; a central passage at the bottom of the inner receptacle; an adjustable plug for closing or opening said passage; a central tube above said passage, provided with a lateral opening for the water coming from the external into the internal receptacle; a siphon-arrangement on the cover of the inner receptacle acting as a conveyer from the gas-generator to the drier; a tube receiving said arrangement, and communicating with the apparatus to be fed with gas; an external tube insuring said communication and provided with a tap for arresting or permitting said exit; a protecting perforated plate for preventing the carrying over of the carbid or the lime; a compression-chamber at the top of the external receptacle; a tube joining said chamber with the top of the inner receptacle, and provided with a safety-valve established on the cover of the external receptacle.

840,553. MACHINE FOR CUTTING PAPER, CARDBOARD, OR OTHER STOCK. CHAUNCEY D. BRADT, Troy, N. Y. Filed July 20, 1906. Serial No. 327,016.



Claim.—1. In a machine adapted to cut paper, cardboard or other stock, a table; a back gage; a screw-shaft; a means for connecting said back gage with said screw-shaft; a pinion on said screw-shaft; a shaft; a gear thereon meshing with said pinion; a ratchet mounted on said shaft; a crank loosely mounted on said shaft; a dog connected with said crank adapted to engage said ratchet; a means for stopping the rotation of said crank at a predetermined point.

2. In a machine adapted to cut paper, cardboard or other stock, a table; a movable gage mounted thereon; a screw-shaft, a means for connecting said gage with said screw-shaft; a crank-shaft; a means for connecting said crank-shaft with said screw-shaft, whereby the screw-shaft may be operated by said crank-shaft; a crank loosely mounted on said crank-shaft; a means for making and breaking engagement between said crank and said crank-shaft; an adjustable means for determining the extent of rotation of said crank.

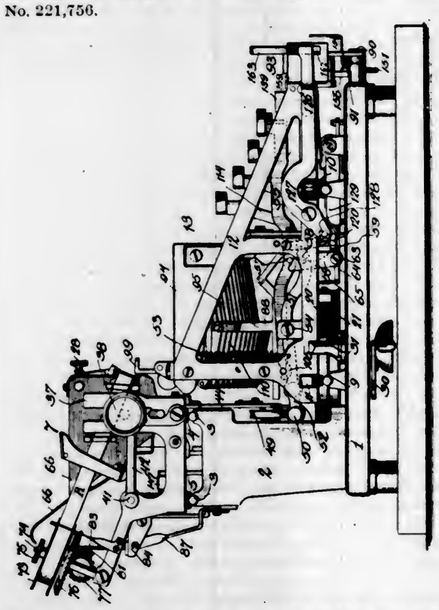
3. In a machine adapted to cut paper, cardboard or other stock, a table; a crank-shaft; a crank loosely mounted thereon; a dog carried by said crank engaging with an annular groove in the crank-shaft; a series of openings in said crank-shaft; a means for transferring said dog from engagement with said groove to engage with one of said openings in the chank-shaft, substantially as described.

4. In a machine adapted to cut paper, cardboard or other stock; a table; a crank-shaft; a crank mounted thereon; a spring-actuated bolt carried by said crank; a handle mounted on said crank; a bolt controlled by said handle; adjustable stop or stops in the path of the rotary movement of said crank, substantially as described.

5. In a machine adapted to cut paper, cardboard or other stock; a table; a gage movable thereon; a clamp consisting of a metal block provided with a groove, adapted to engage the top flange of the rail secured to a bar at the top of said gage; with a bolt passing through said clamp adapted to engage the end of the work to the horizontal rail; means for moving said gage on said table; with a means for adjusting the amount of the movement of said gage, substantially as described.

6. In a machine adapted to cut paper, cardboard or other stock, a table; a gage mounted thereon; a means for moving said gage backward and forward along said table; a guide-post provided with a screw-threaded portion at one end; a plate provided with a slot through which said screw-threaded portion of the guide-post may project; a nut engaging said screw-threaded portion of the guide-post beneath said plate; substantially as described.

840,554. TYPE-WRITING MACHINE. HERBERT A. BRIGGS, New York, N. Y. Filed Aug. 22, 1904. Serial No. 221,756.



Claim.—1. In a type-writing machine, paper and type carriages supported to travel in parallel planes, and a horizontal actuating-drum having separate connections respectively with the two carriages.

2. In a type-writing machine, a traveling paper-carriage and a traveling type-carriage, both having movement in the direction of letter-spacing, and a horizontally-arranged actuating-drum common to both carriages and having operative connection with both.

3. In a type-writing machine, paper and type carriages, supported to travel in parallel planes, the paper-carriage having a pendent rigid coupling-frame, an actuating-drum, flexible draft-tapes connected with said drum and the coupling-frame, and similar tapes connected with the drum and with the frame of the type-carriage.

4. In a type-writing machine, the base having an elevated section, a type-carriage supported to travel on the main portion of the base, a paper-carriage supported to travel on the elevated portion of the base, a pendent coupling-frame having a rigid connection with the paper-carriage and a sliding connection with the base, and an actuating-drum having separate draft connections respectively with said coupling-frame and the frame of the type-carriage.

5. In a type-writing machine, the base having an elevated section, a type-carriage supported to travel upon the base, a paper-carriage supported to travel upon the elevated base-section in a plane parallel to the movement of the type-carriage, a pendent coupling-frame having a rigid connection with the paper-carriage frame, and a guided slide connection with the base, an actuating-drum supported on the base, a pair of reversely-arranged draft-tapes respectively connected to opposite portions of the coupling-frame and to diametrically opposite points on the drum, and a pair of like tapes similarly connected with the drum and also with opposite portions of the type-carriage frame.

6. In a type-writing machine, the base having an elevated section, a type-carriage supported to travel on the base, a paper-carriage supported to travel on the elevated base-section above, and in a plane parallel with the plane of movement of the type-carriage, and means for coupling together and operating the said two carriages, whereby the same are caused to move in opposite directions.

7. In a type-writing machine, the base provided with oppositely-arranged margin-adjusting slots, and catch-racks adjacent to said slots, said base being further provided with graduations at the sides of the slots, a paper-carriage, a traveling type-carriage supported on the base, and marginal stops arranged respectively at opposite sides of the base, and each comprising a post adjustable in one of said slots and carrying a ratchet-locking device coöperating with the catch-rack.

8. In a type-writing machine, the base having an elevated section, a paper-carriage supported to travel on the elevated base-section, a type-carriage supported to travel on the base in a plane parallel to the path of movement of the paper-carriage, said type-carriage carrying the entire type-action, whose type-bars are arranged in the form of an approximately horizontal open type-basket and have a striking movement upwardly and rearwardly, and means for connecting and actuating the carriages whereby the same move oppositely in the direction of the letter-spacing.

9. The combination of the traveling paper-carriage, the traveling type-carriage, a vertically-shiftable platen, mechanism for shifting the platen carried by the paper-carriage, actuating mechanism for the shifting mechanism, and a traveling operating engagement between the actuating and shifting mechanisms.

10. In a type-writing machine, the combination with the traveling printing mechanism and a traveling paper-carriage having a shiftable platen, of key-controlled connections for shifting the platen, separate parts of said connections being respectively carried by the said carriages and maintaining a constant operative relation.

11. In a type-writing machine, a traveling type-action, a traveling paper-carriage having a shiftable platen, a key-controlled lifting member carried by the type-carriage, and an adjusting member carried by the paper-carriage and connected with the platen, said adjusting member maintaining a constant operative relation to the lifting member.

12. In a type-writing machine, a traveling type-action, a traveling paper-carriage having a vertically-shiftable platen, a vertically-movable adjusting member operatively related to the platen and carried by the paper-carriage, and a key-controlled lifting member carried with the type-action, said two members maintaining a constant operative relation.

13. In a type-writing machine, the combination of a traveling type-carriage, a traveling paper-carriage having a vertically-shiftable platen, an adjusting-lever carried by the paper-carriage and connected with the platen for shifting the same bodily, a suitably-supported swinging lifting-frame having an operative connection with said adjusting-lever, and a shift-key operatively related to said lifting-frame.

14. In a type-writing machine, a traveling type-action,

a traveling paper-carriage having a vertically-shiftable platen, an adjusting-lever carried by the paper-carriage and operatively connected with the platen for lifting the same, a vertically-swinging lifting-frame pivotally supported on the type-action frame and operatively connected with said adjusting-lever, and separate shift-key connections with the lifting-frame for controlling the position thereof from either side of the keyboard.

15. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, of a paper-carriage having a vertically-shiftable platen, a bell-crank adjusting-lever pivotally hung on the paper-carriage frame and operatively connected with the platen for lifting the same, said lever having a pendent arm carrying an engaging roller, a vertically-swinging lifting-frame carrying a bearing-rail for engagement with said roller of the adjusting-lever, and oppositely-arranged shift-key levers arranged to engage with the lifting-frame for elevating the rail part thereof.

16. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, of a paper-carriage frame having upright vertically-slotted guiding-standards, the platen having its spindles movable in the slots of the said standards, an adjusting-lever pivotally mounted on the paper-carriage and operatively connected with the platen, said lever carrying an engaging roller, a vertically-swinging lifting-frame having a pivotal support and carrying a rail for engagement with said roller, the said lifting-frame also having oppositely-arranged side arms, oppositely-arranged shift-key levers, each disposed above and engaging a side arm of the lifting-frame, and a locking device coöperating with the shift-key levers and said lifting-frame.

17. In a type-writing machine the combination with the printing mechanism, comprising a traveling type-carriage, of a paper-carriage frame having upright vertically-slotted guiding-standards, a removable open roller-casing carrying paper guiding and holding means, a platen supported and carried by the said casing and having its spindle extremities in the slotted standards, a spring-actuated counterbalancing device having members operatively related to the platen for counterbalancing the same with its attached parts, and key-controlled lifting connections for the platen with its attached parts.

18. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, of a paper-carriage frame, a vertically-shiftable platen movably arranged in the paper-carriage frame, a counterbalancing device comprising a spring-actuated rock-shaft journaled on the paper-carriage frame, and rocker-arms carried by the said shaft and bearing under the spindles of the platen, and key-controlled lifting connections for the platen.

19. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, and the vertically-shiftable platen, of lifting connections for the platen including a vertically-swinging lifting-frame having oppositely-disposed side arms, a shift-key lever engaging each side arm of the lifting-frame, and a locking device controlled by the shift-key levers and having elements coöperating with the shift-key levers to lock and release the platen.

20. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, and the vertically-shiftable platen, of lifting connections for the platen including a vertically-swinging lifting-frame having oppositely-disposed side arms, a shift-key lever engaging each side arm of the lifting-frame, and a locking device controlled by the shift-key levers and having elements coöperating with each of the said side arms of the lifting-frame.

21. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, and a vertically-shiftable platen, of lifting connections for the platen, including a swinging lifting-frame having oppositely-arranged side arms, oppositely-arranged shift-key levers which engage the side arms of the lifting-frame, and a locking device including oppositely-arranged locking-latches one of which has a locking engagement with one of the shift-key levers, and both of which have a camming engagement with said levers.

22. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type carriage, and a vertically-shiftable platen, of lifting connections for the platen including a swinging lifting-frame having oppositely-arranged side arms, oppositely-arranged shift-key levers, which engage the side arms of the lifting-frame, and a locking device including oppositely-arranged locking-latches each of which has a locking engagement with a side arm of the lifting-frame and a camming engagement with the shift-key levers.

23. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, and a vertically-shiftable platen of lifting connections for the platen including a lifting-frame having opposite side arms, opposite shift-key levers each engaging with the lifting-frame, and a locking device including oppositely-arranged latches, one of said latches having a locking engagement with one shift-key lever and the other of said latches having a release engagement with the opposite shift-key lever.

24. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, and a vertically-shiftable platen, of lifting connections for the platen including a lifting-frame having opposite side arms, opposite shift-key levers each engaging with a side arm of the lifting-frame, and a locking device including oppositely-arranged latches, each having a locking engagement with a side arm of the lifting-frame, one of said latches also having a locking engagement with one shift-key lever and the other having a release engagement with the opposite shift-key lever.

25. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, and a vertically-shiftable platen, of a lifting connection for the platen including a lifting-frame, a spring-pressed locking device including oppositely-arranged locking-latches of hook form, and oppositely-arranged shift-key levers each engaging with a locking-latch, one of said shift-key levers having both a camming and a locking engagement with one of the latches, and the other shift-key lever having only a camming release and idle engagement with the other latch.

26. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, and a vertically-shiftable platen, of a lifting connection for the platen including a lifting-frame having side arms each provided with a catch-stud, a spring-pressed locking device including oppositely-arranged locking-latches of hook form and adapted to have a locking engagement with the said catch-studs of the lifting-frame, and oppositely-arranged shift-key levers each bearing a stud engaging with a locking-latch, one of said shift-key levers having both a camming and a locking engagement with one of the latches and the opposite shift-key lever having only a camming release and idle engagement with the other latch.

27. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, and a vertically-shiftable platen, of means for locking the platen in lower-case position, shift-keys, and means controlled thereby for releasing said lock, and moving the platen to upper-case position.

28. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, and a vertically-shiftable platen, of means for locking the platen in lower-case position, shift-keys, and means controlled thereby for releasing said lock, for moving the platen into upper-case position, for locking it in such position and for releasing such lock.

29. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, and vertically-shiftable platen, of shift-key levers for actuating the lifting-frame, latches having a locking engagement with said lifting-frame to hold it in lower-case position, means controlled by the shift-key levers for releasing said lock and moving the platen into upper-case position, means controlled by one of said shift-key levers for actuating the latches to lock the lifting-frame in upper-case position and means controlled by the other shift-key lever to release said lock.

30. In a type-writing machine, the combination with a traveling paper-carriage carrying a roller-platen having a ratchet-feed disk, and a traveling type-carriage, of the line-spacing mechanism comprising a line-spacing pawl carried by the platen-support and pawl-actuating devices, and key-controlled connections for operating said actuating devices, separate parts of said connections being respectively carried by the said carriages and maintaining a constant operative relation.

31. In a type-writing machine, the combination with the traveling type-carriage carrying at or near its keyboard a controlling-key, a traveling paper-carriage carrying the platen, a line-spacing pawl carried by the platen-support and operatively related to the latter, a pawl-actuating device carried by the paper-carriage, and operating connections between said actuating device and the controlling-key.

32. In a type-writing machine, the combination of a traveling type-carriage having at or near its keyboard a controlling-key, a traveling paper-carriage supporting the platen, a line-spacing device operatively connected with the platen and carried by the paper-carriage, and an operating connection between said line-spacing device and the controlling-key, said operating connection having a traveling engagement with the controlling-key.

33. In a type-writing machine, the combination with a traveling type-carriage and the paper-carriage carrying a roller-platen having a ratchet-feed disk, of the line-spacing mechanism comprising a spring-retracted plunger mounted on the platen-support and carrying a spring-pressed line-spacing pawl engaging said ratchet-feed disk, a spring-retracted rocking actuating-frame mounted on the paper-carriage and having a lever-arm operatively connected with said plunger, said actuating-frame being also provided with a bearing-rail, and an operating connection including a controlling-key at the keyboard, and an operating rock-shaft having a relatively traveling pull-rod connection with said bearing-rail and a rocker-arm connection with the controlling-key.

34. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, of the paper-carriage carrying the platen, line-spacing mechanism for said platen including an operating rock-shaft carrying an operating-lever and a variable space-adjusting device for varying the at-rest angle of said lever, and a controlling-key coöperating with said lever, separate parts of said connections for the line-spacing mechanism being respectively carried by the said carriages and maintaining a constant operative relation.

35. In a type-writing machine, the combination with the printing mechanism, comprising a traveling type-carriage, and a roller-platen, of the paper-carriage carrying a line-spacing mechanism for said platen including an operating rock-shaft bearing a rocker-arm, an operating-lever, carrying a bearing element, and an adjustable spacing-stop having a plurality of rest projections of different heights for engagement with the operating-lever, and a controlling-key bearing on the bearing element of said operating-lever, separate parts of said connections for the line-spacing mechanism being respectively carried by the said carriages and maintaining a constant operative relation.

36. In a type-writing machine, a traveling type-carriage, a traveling paper-carriage carrying the roller-platen, line-spacing mechanism including a rocker-shaft carrying a rocker-arm, carriage-feed mechanism including a release-lever, and a movement-controlling key operatively related to said release-lever and the rocker-arm of the line-spacing mechanism separate parts of said connections for the line-spacing mechanism being respectively carried by the said carriages and maintaining a constant operative relation.

37. In a type-writing machine, a traveling type-carriage, a traveling paper-carriage carrying the platen, line-spacing mechanism for the platen including an operating-shaft carrying a rocker-arm, the carriage-feed mechanism including a release-lever, and a movement-controlling key operatively related to said release-lever and said rocker-arm, the release-lever connection with the controlling-key having a movement independent of the latter and also in unison therewith.

38. In a type-writing machine, a traveling type-carriage, a traveling paper-carriage bearing the platen, ribbon mechanism including a tripping-gear part for throwing the mechanism out of gear, the carriage-feed mechanism including a release element, and a movement-controlling key operatively related to the rocker-arm of the line-spacing mechanism, the tripping part of the ribbon mechanism, and to the release element for the carriage-feed mechanism.

39. In a type-writing machine, the traveling type-carriage, the traveling paper-carriage bearing the platen, line-spacing mechanism for the platen including an operating-shaft bearing a rocker-arm, ribbon mechanism having a tripping part for throwing the mechanism out of gear, and a combination movement-controlling key operatively connected with the rocker-arm of the line-spacing mechanism, the tripping part of the ribbon mechanism and the release element of the carriage-feed mechanism, the connection for the release element of the carriage-feed mechanism having a movement independent of the controlling-key and also in unison therewith.

40. In a type-writing machine, the traveling type-carriage, the traveling paper-carriage bearing the platen, the line-spacing mechanism including an operating-shaft bearing a rocker-arm, the ribbon mechanism including a tripping part and an operating rock-shaft connected with said tripping part and bearing a rocker-arm, the carriage-feed mechanism including a release-lever, and a yieldingly-supported movement-controlling key having separate members respectively engaging with the rocker-arms for the line-spacing and ribbon mechanisms, the member which engages with the rocker-arm for the ribbon mechanism being arranged for movement independent of the controlling-key and constantly engaged with the release-lever of the carriage-feed mechanism.

41. In a type-writing machine, the traveling type-carriage, the traveling paper-carriage bearing the platen, line-spacing mechanism for the platen, ribbon mechanism including a tripping part, carriage-feed mechanism having a release element, and a movement-controlling key operatively related, to such line-spacing mechanism, to the release for the carriage-feed mechanism, and to the tripping part of the ribbon mechanism, the connection for the carriage-release element having a movement independent of the key and also in unison therewith.

840,555. SHEEP-HOOK. CHARLES R. BUFFINGTON, Saco, Mont. Filed Aug. 13, 1906. Serial No. 330,394.

Claim.—1. A sheep-hook provided with spaced arms defining a leg-receiving opening, a spring locking member extending across said opening, and a trigger associated with the locking member for moving the latter to released position.

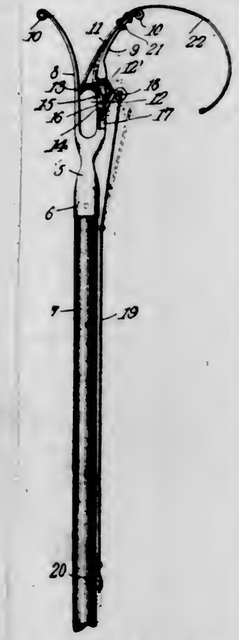
2. A sheep-hook provided with spaced arms defining a leg-receiving opening, one of said arms being provided with a slot, a spring-latch secured to the slotted arm and extending across the opening, a loop projecting laterally from the free end of the latch, and a trigger associated with the loop for moving the latch to released position.

3. A sheep-hook having a pair of spaced arms defining a leg-receiving opening, a latch extending across said opening, a trigger pivotally mounted on one of the arms for moving the latch to released position, and means for operating the trigger to release the latch.

4. A sheep-hook including a pair of spaced arms one of which is slotted and provided with reinforcing-flanges, a spring-latch secured to one of said arms and engaging the opposite arm, a loop extending laterally from the free end of the latch, a pin connecting the reinforcing-flanges, and a trigger pivotally mounted on the pin and operatively connected with the loop for moving the latch to released position.

5. A sheep-hook including spaced arms one of which is provided with an elongated slot, a spring-latch secured to one of the arms and bearing against the adjacent arm, a loop extending laterally from the free end of the latch and projecting through the slot in the arm, said loop being pro-

vided with an opening, and a trigger having angularly-disposed arms one of which is seated in the opening in the loop and its opposite arm operatively connected with the operating-cord for moving the latch to released position.



6. A sheep-hook comprising a pair of diverging arms, a locking member extending transversely across said arms and movable laterally to released position, one of said arms being provided with a spring-hook, and a trigger co-operating with the locking member for moving the latter to released position.

7. A sheep-hook comprising a pair of diverging arms, a spring locking member extending transversely across said arms, means for moving the locking member to released position, and a spring-hook detachably secured to one of said arms and having its free end bent downwardly and spaced from said arm.

840,556. SHOE-LAST. JOHN F. CAVANAGH, Providence, R. I. Filed Mar. 19, 1906. Serial No. 306,796.



Claim.—1. A last comprising a pair of sections adapted to fit together, pneumatic means for separating said sections, means carried by said sections for guarding the line of separation of said sections, substantially as shown and described.

2. A last comprising a pair of sections, lugs having piston-heads formed with each section, lateral pipe-sections forming cylinders for receiving said piston-heads, a pipe connecting said lateral pipe-sections together, and a pipe-support connecting with said last-named pipe and adapted to connect with a source of operative fluid-supply, substantially as shown and described.

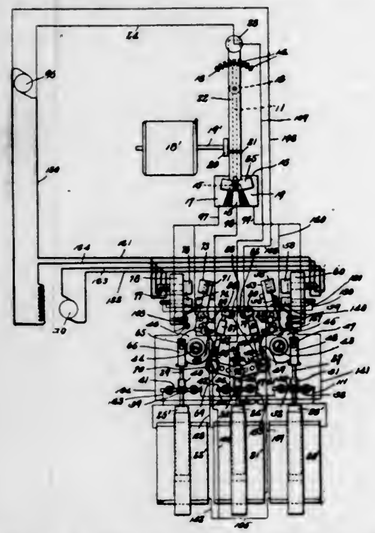
3. In a last of the class described, the combination with a pair of opposing sections, pneumatic means for separating said sections, and a guard-plate carried by one of said sections and overlapping the other section at the line of juncture of the said sections, substantially as shown and described.

4. A last of the class described, comprising a pair of opposing sections, means for supporting said sections, and pneumatic means for separating said sections, substantially as shown and described.

5. A last of the class described, comprising a pair of opposing sections, means for supporting said sections, and pneumatic means for separating said sections, and means for guarding the line of division between said sections, substantially as shown and described.

6. A last of the class described, the combination with a pair of opposing sections, each of said sections having pistons, the pistons of one section alining with those of the other section, a hollow support, a pipe-section connected to said hollow support, lateral pipe-sections connected to said last-named pipe-section to receive said pistons, said sections having interlocking portions along the line of division of said sections to form a guard for said line of division, substantially as shown and described.

840,557. AUTOMATIC CIRCUIT-CONTROLLING MECHANISM. HERBERT G. CRAWFORD, Elmont, Va. Filed Mar. 22, 1905. Serial No. 251,509.



Claim.—1. In apparatus of the class described, a delicately-balanced needle responsive to varying conditions, a plurality of contacts over which the needle swings, a needle-depressing member forming part of a normally open circuit of which the contacts form terminals, and means for forcing said member in the direction of the needle at predetermined intervals, and thereby engaging the needle with the contacts to close the circuit through said member.

2. In apparatus of the class described, the combination with a delicately-balanced needle responsive to varying conditions, of a plurality of contacts over which the needle swings, a spring-strip having an enlarged head for contact with the needle, said spring-strip being formed of conducting material and constituting a part of a circuit of which the contacts form terminals, a revoluble shaft, and a crank-pin supported by the shaft and arranged to engage said strip.

3. In apparatus of the class described, the combination with a needle responsive to varying conditions, of a contact carried by said needle, a plurality of contacts over which the needle swings, a spring-strip held in a fixed support at one end and provided at its free end with an enlarged head for engaging the needle-carried contact, said spring-strip being formed of conducting material and constituting a part of a circuit of which the contacts form terminals, a revoluble shaft, a crank-disk on the shaft, and a crank-pin projecting from the disk and arranged to engage said strip.

4. In apparatus of the class described, the combination with a delicately-balanced needle responsive to varying conditions, of a plurality of contacts arranged on convergent lines and over which the needle swings, and means for adjusting said contacts to alter the sensitiveness of the device by increasing or decreasing the distance between the contacts at the point of movement of said needle.

5. The combination with a delicately-balanced needle responsive to varying conditions, of a plurality of contacts arranged on convergent lines, and over which the needle swings, a block carrying said contacts, means for adjusting the block to vary the sensitiveness of the device, a spring-strip having a fixed support at one end and provided at its opposite end with an enlarged head arranged to engage the needle, and means for depressing the strip at regular intervals.

6. In apparatus of the class described, the combination with a shaft or arbor, of a needle mounted thereon and provided with a threaded arc having poising-screws, a contact carried by the needle, a plurality of contacts over which the needle-carried contact swings, and means for causing engagement of a needle-carried contact with one of the other contacts at regular predetermined intervals.

7. In apparatus of the class described, a circuit-closing member responsive to varying conditions, a plurality of contacts with which said member may engage to close different circuits, mechanically-actuated means for forcing said member into engagement with the contacts, electromagnets arranged in said circuits, switches under the control of said electromagnets, a source of energy, a translating device, and circuits extending between the source of energy and the translating device and including said switches.

8. The combination with a source of energy, of a translating device, circuits connecting the two, a pair of switches included in said circuits, pivotally-mounted arms forming the movable members of the switches, disks carrying said arms, electromagnets having movable cores connected to said disks, catches for engaging the disks and holding the switches in closed position, and a third electromagnet having a movable core connected to said catches.

9. In apparatus of the class described, the combination with a source of energy, of a translating device, circuits connecting the two, switches included in said circuits, pivoted disks having extended arms forming the movable members of said switches, electromagnets having movable cores, pin-and-slot connections between the movable cores and disks, catches for engaging the disks to retain the switch members in closed position, a third electromagnet, and means connecting the core of the third electromagnet to said catches.

10. In apparatus of the class described, the combination with a source of energy, of a translating device, circuits connecting the two, normally opened switches arranged in said circuits, electromagnets connected to the switches, contacts arranged in circuits each including an electromagnet, a third electromagnet operating to release and permit opening movement of the switch, a contact connected to the third electromagnet, a movable member responsive to varying conditions and arranged to swing over said contacts, and means for forcing said movable member in the direction of the contacts at regular intervals.

11. The combination with a source of energy, of a translating device, circuits connecting the two, normally opened switches arranged in said circuits, electromagnets having movable cores connected to the switches, catches for holding said switches in closed position, a third electromagnet, means connecting the core of the third electromagnet to the catches, a plurality of contacts arranged independently in circuits with said electromagnets, a delicately-balanced needle responsive to varying conditions and arranged to swing over such contacts, and means for forcing the needle at predetermined intervals in the direction of said contacts.

12. In apparatus of the class described, the combination with a source of energy, of a translating device, circuits connecting the two, normally opened switches arranged in said circuits and each including a pivoted disk having a locking-shoulder and provided with an extended arm for the support of the switch members, a pin projecting from the disk, an electromagnet adjacent to each disk and provided with a movable core, a plate connected to the core and having a slot for the reception of the pin, means for momentarily closing a circuit through either electromagnet, and means controlled by the movable core for holding the circuit closed until the core completes its movement.

13. In apparatus of the class described, the combination with a source of energy, of a translating device, circuits connecting the two, normally opened switch members included in said circuits and each including a pivotally-mounted disk having a locking-shoulder and a projecting supporting-arm for the switch members, a pin projecting from the disk, an electromagnet having a movable core, a slotted plate or bar carried by the core and arranged for the reception of the pin, a catch for engaging the locking-shoulder and holding the switch in closed position, a catch-operating electromagnet, and means for automatically closing the circuit through any one of the electromagnets.

14. The combination with a source of energy, of a translating device, circuits connecting the two, normally opened switches in said circuits and each including a disk having a locking-shoulder and a projecting supporting-arm for the switch members, a pin projecting from each disk, an electromagnet adjacent to each disk and having a movable core, a slotted plate carried by the core and arranged for the reception of the pin, a circuit-closing device carried by the core and serving to maintain a circuit closed through the electromagnet until the completion of movement of the core, a third electromagnet arranged between the others, a pair of bell-crank levers having catches for engaging the shoulders of the disks, and a movable core under the control of the third electromagnet and arranged to engage said bell-crank levers and permit opening movement of the switches.

15. The combination with a source of energy, of a translating device, circuits connecting the two, normally opened switches in said circuits, an independent electromagnet for operating each switch, and having a loose connection therewith, catches for holding the switches in closed positions after the electromagnets have been deënergized, a third electromagnet having a movable core, bell-crank levers carrying the catches and provided with arms engageable by said movable core, and means for closing a circuit through any one of said electromagnets.

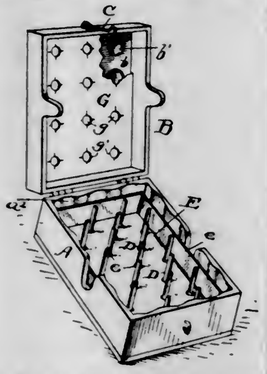
16. The combination with a source of energy, of a translating device, circuits connecting the two, normally opened switches arranged in said circuits, independent electromagnets for operating the switches, each of said magnets having a movable core, a circuit-closing device carried by each core and arranged to maintain closed a momentarily-energized circuit until the core has completed its movement, catches for holding the switches in closed position, pawl-carried levers carrying said catches, a third electromagnet having a movable core, a threaded pin projecting from the core of the third member, an adjustable nut carried by the pin and arranged to engage the arms of the bell-crank levers to effect movement of the catches to release position, means for holding closed a momentarily-energized circuit through said electromagnet, and contacts connected in circuits with the several electromagnets, a delicately-balanced needle responsive to varying conditions and arranged to swing over said contacts, and means for forcing the needle against said contacts at predetermined intervals.

17. The combination with a source of energy, of a translating device, circuits connecting the two, normally opened switches arranged in said circuits, electromagnets for operating said switches, each magnet having a movable core, a pair of contacts adjacent to each core, means carried by the core for closing a circuit between the contacts and thus maintaining closed a momentarily-energized circuit until

the core has completed its movement, bell-crank levers having catches for maintaining the switches in closed position, auxiliary circuit-controlling contacts carried by the bell-crank levers and adapted to open the circuits of the electromagnet when the switches have been closed, a third electromagnet having a movable core for engaging said bell-crank lever, contacts to which the electromagnets are electrically connected, and a movable member for engaging said contacts to close a circuit through any one of the electromagnets.

18. In apparatus of the class set forth, a switch, an electromagnet having a movable core connected to said switch, a movable contact member carried by the core, stationary contacts with which the movable contact engages to complete and hold close the energizing-circuit of the electromagnet until the core has completed its movement, and means for momentarily energizing the electromagnet.

840,558. EGG-CARRIER. JOHN W. DENMEAD, Akron, Ohio. Filed Sept. 29, 1905. Serial No. 280,572.



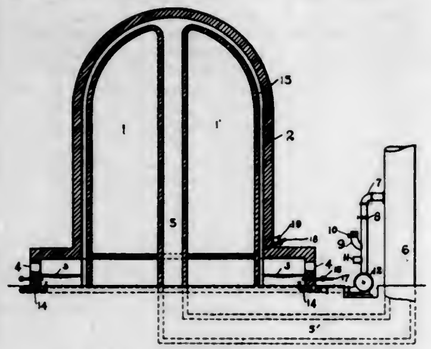
Claim.—1. In an egg-carrier the combination of a box and a plurality of pegs which are severally secured to and project upward from the bottom of said box, with a removable tray having upwardly-projecting marginal walls and a bottom in which are holes through which said pegs project when the tray is resting upon the bottom of the box, said tray being made of material which is so stiff and strong that when filled with eggs and removed from the box it will substantially retain its shape.

2. In an egg-carrier, the combination of a box having countersunk recesses in its bottom, and a plurality of upwardly-projecting pegs which are secured to the bottom of said box and are arranged in groups around said countersunk recesses, with a tray which is removably seated in said box and is made of flexible material and has holes in its bottom through which said pegs pass when the tray rests upon the bottom of said box, substantially as and for the purpose specified.

3. In an egg-carrier, the combination of a box, and a plurality of flattened pegs which are secured to and project upward from the bottom of said box, said pegs being arranged in parallel rows, and the pegs in alternate rows having their flat sides faced in the same directions and the pegs in the intermediate rows being staggered in respect to the pegs in the alternate rows and having their flat sides faced in a direction at substantially right angles to the direction in which the flat sides of the pegs of the other rows face, with a removable tray in said box resting upon the bottom thereof and having holes through which said pegs loosely project, substantially as and for the purpose specified.

4. In an egg-carrier, the combination of a stiff box, and upwardly-projecting pegs secured to the bottom of said box, the vertical walls of said box having internal vertical grooves a^2, with a removable tray made of flexible material and having holes in its bottom through which said pegs project, and having flexible sides which engage with the walls of said box and span the grooves a^2 therein, substantially as and for the purpose specified.

840,559. PROCESS OF FIRING PORCELAIN. CARLETON ELLIS, White Plains, N. Y. Filed Jan. 4, 1906. Serial No. 294,513.



Claim.—1. The process of firing ceramic ware which consists in placing such ware within a suitable inclosing chamber and applying heat by circulating around such chamber a body of burning gases free from unoxidized carbon, the combustion in such gas body occurring in substantially the entire portion of such body which is in the vicinity of such chamber.

2. The process of firing ceramic ware which consists in placing such ware within a suitable inclosing chamber and applying heat by circulating around such chamber a body of burning gases free from unoxidized carbon and comprising a mixture of combustible gas, oxygen, and combustion-retarding gas, the combustion in such gas body occurring in substantially the entire portion of such body which is in the vicinity of such chamber.

3. The process of firing ceramic ware which consists in placing such ware within a suitable inclosing chamber and applying heat by circulating around such chamber a body of burning gases free from unoxidized carbon and comprising a mixture of combustible gas, combustion-retarding gas, and an excess of oxygen, the combustion in such gas body occuring in subtsantially the entire portion of such body which is in the vicinity of such chamber.

4. The process of firing ceramic ware which consists in placing such ware within a suitable inclosing chamber surrounded by a combustion-space having heat-radiating walls, and circulating through such combustion-space a body of burning gases free from unoxidized carbon, combustion in such gas body occurring substantially throughout the portion of such body which is in the vicinity of such chamber.

5. The process of firing ceramic ware which consists in placing such ware within a suitable inclosing chamber surrounded by a combustion-space having heat-radiating walls, and circulating through such combustion-space a body of burning gases free from free carbon and comprising a mixture of combustible gas, oxygen, and combustion-retarding gas, combustion in such gas body occurring substantially throughout the portion of such body which is in the vicinity of such chamber.

6. The process of firing ceramic ware which consists in placing such ware within a space separated from a combustion-space by a porous heat-radiating wall, and circulating through such combustion-space a body of burning gases free from unoxidized carbon and comprising a mixture of combustible gas, oxygen, and combustion-retarding gas, combustion in such gas body occurring in substantially the entire portion of such body which is in said combustion-space in the vicinity of the ware being burned.

7. The process of firing ceramic ware which consists in placing such ware within a space separated from a combustion-space by a porous heat-radiating wall, and circulating through such combustion-space a body of burning gases free from unoxidized carbon and producing a drift of such gases through such porous wall into said chamber, and by the action of such radiated heat burning said gases, the combustion in such gas body occurring in substantially the entire portion of such body which is in the vicinity of said first-mentioned chamber.

8. The process of firing ceramic ware which consists in placing such ware within a suitable inclosing chamber having a porous wall composed of refractory material, circulating past said wall a body of burning gases free from unoxidized carbon and producing a drift of such gases through such porous wall into said chamber, and by the catalytic action of the material of such wall completing the combustion of the gas passing therethrough prior to contact with the ware.

9. The process of firing ceramic ware which consists in placing such ware within a suitable inclosing chamber having a porous wall composed of refractory material, circulating past such wall a body of burning gases free from unoxidized carbon and comprising a mixture of combustible gas, oxygen, and combustion-retarding gas and producing a drift of such gases through such porous wall into said chamber, and by the catalytic action of the material of such wall completing the combustion of the gas passing therethrough prior to contact with the ware.

10. The process of firing ceramic ware which consists in passing such ware within a suitable inclosing chamber having a porous wall composed of refractory material, circulating past such wall a body of burning gases free from unoxidized carbon and comprising a mixture of combustible gas, combustion-retarding gas, and an excess of oxygen and producing a drift of such gases through such porous wall into said chamber, and by the catalytic action of the material of such wall completing the combustion of the gas passing therethrough prior to contact with the ware.

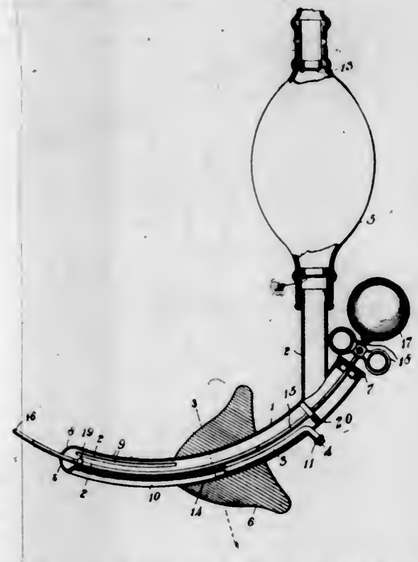
11. The process of firing ceramic ware which consists in placing such ware within a suitable inclosing chamber surrounded by a combustion-chamber and separated therefrom by a refractory wall, said combustion-chamber having refractory heat-radiating walls, circulating through such combustion-chamber a body of burning gases free from unoxidized carbon and comprising a mixture of combustible and combustion-supporting gases too poor in combustible to burn except under the influence of heat radiated from the walls of said chamber, and by the action of such radiated heat burning said gases, the combustion in such gas body occurring in substantially the entire portion of such body which is in the vicinity of said first-mentioned chamber.

12. The process of firing ceramic ware which consists in placing such ware within a suitable inclosing chamber, passing through a porous body of refractory material a body of gas comprising a mixture of combustible and combustion-supporting gases free from unoxidized carbon and too poor to burn except under the influence of heat radiated from surrounding objects, by the heat of the said body of refractory material completely burning the combustible constituent of such gas body, and causing the products of combustion to pass over the ware to be burned.

13. The process of firing ceramic ware which consists in placing such ware within an inclosing chamber surrounded by a combustion-space and circulating through such space a body of burning gases free from unoxidized carbon and maintaining around such chamber a zone of approximately uniform temperature by maintaining approximately uniform combustion of such gases in all portions of such combustion-spaces in the immediate vicinity of such chamber.

14. The process of firing ceramic ware which consists in placing such ware within an inclosing chamber surrounded by a combustion-space and circulating through such space a body of burning gases free from unoxidized carbon and comprising a mixture of combustible gas, oxygen, and combustion-retarding gas, and maintaining around such chamber a zone of approximately uniform temperature by regulating the proportion of combustion-retarding gas in the mixture so as to produce approximately uniform combustion of such gases in all portions of such combustion-space in the immediate vicinity of such chamber.

840,560. VAGINAL IRRIGATOR. CHARLES O. FARRINGTON and THOMAS WATSON, Sealy, Tex. Filed Jan. 13, 1906. Serial No. 295,990.



Claim.—1. A syringe comprising a large influent tube, having discharge-apertures in its sides and ends and a longitudinal channel, means for supplying liquid to the influent tube, and a small effluent tube disposed along one side of the large influent tube and communicating with the outer end of the channel.

2. A syringe comprising a longitudinally-curved influent tube provided at one end with an orifice-guide and at its other end with radially and laterally discharging orifices, an inlet branch communicating with the posterior portion of the influent tube, an effluent tube housed within the influent tube and communicating with the channel, and provided with an exteriorly-disposed outlet branch, a shield adjustably mounted upon the influent tube, a pressure-bulb connecting with the inlet branch, an intra-uterine syringe arranged within the influent tube and projecting at each end beyond the same, checks carried by the intermediate portion of the last-named syringe, and a compressible bulb and finger-holds combined with the posterior portion of the last-named syringe.

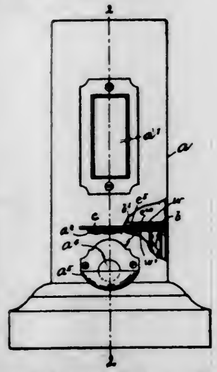
840,561. VENDING-MACHINE. FREDERICK M. FURBER, Haverhill, Mass. Filed Feb. 1, 1906. Serial No. 298,946.

Claim.—1. A coin-controlled apparatus having a magazine, a coin-carrying slide having a chamber adapted to be connected with said magazine when the slide is in its outer position and to be disconnected therefrom when in its inner position, and means for normally closing the bottom of said chamber disposed to be moved to its open position by the coin as it is carried inward by the slide, substantially as described.

2. A coin-controlled apparatus having a magazine, a coin-carrying slide having a chamber adapted to be connected with said magazine when the slide is in its outer position and to be disconnected therefrom when in its inner position, a lid for closing the bottom of said chamber, and means for normally holding said lid in its closed position and disposed to be moved to its open position by the coin as it is carried inward by the slide, substantially as described.

3. A coin-controlled apparatus comprising a magazine having an opening in its bottom, a coin-carrying slide mov-

able beneath said bottom having a chamber therein open at its top and arranged to register with said opening when the slide is in its outer position, a lid for closing the bottom of said chamber, a locking-bar for holding the same in its closed position, disposed to be engaged by the coin as it is carried inward by the slide to move said bar to release said lid, substantially as described.



4. A coin-controlled apparatus comprising a magazine, a coin-carrying slide having a chamber open at its top and adapted to be connected with said magazine when the slide is in its outer position and to be disconnected therefrom when in its inner position, a closing device for the bottom of said chamber, a spring-actuated locking device for normally holding said closing device in its closed position disposed to be moved by the coin as it is carried inward by the slide to permit the same to open said chamber, substantially as described.

5. A coin-controlled apparatus comprising a casing having a bottom, to provide a magazine, said bottom having a discharge-opening and an elongated bearing-surface on its under side, a coin-carrying slide mounted beneath said bottom having a receiving-chamber open at its top and arranged to register with said discharge-opening when the slide is in its outer position, a lid pivoted below said slide for closing the bottom of said receiving-chamber, a bar mounted on said lid and normally held in engagement with said bearing-surface to hold said lid in its closed position and disposed to be moved out of engagement with said surface by the coin as it is moved inward by the slide to permit said lid to swing downward to open said chamber, substantially as described.

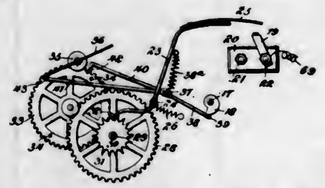
6. A coin-controlled apparatus comprising a casing having a bottom, to provide a magazine, said bottom having a discharge-opening and an elongated bearing-surface on its under side, a coin-slide mounted beneath said bottom having a receiving-chamber open at its top and arranged to register with said discharge-opening when the slide is in its outer position, a lid pivotally connected to said bottom and disposed beneath said slide to close the bottom of said receiving-chamber therein, said slide having a coin-opening and a rearwardly-extending slot leading therefrom, a spring-actuated bar mounted on said lid and extending through said slot to engage said bearing-surface, normally to hold said lid in its closed position, and movable out of engagement with said surface to release said lid, said parts being arranged to cause the coin to be forced into engagement with said bar, upon inward movement of the slide, to move the bar out of engagement with said surface, substantially as described.

7. A coin-controlled apparatus comprising a magazine, a coin-carrying slide having a receiving-chamber therein adapted to be connected with said magazine when in its outer position, closing devices supported independently of said slide and normally extending beneath the same to close the bottom of its chamber in all positions thereof, and means disposed to be engaged by the coin as it is carried inwardly by the slide for moving said closing devices to open said chamber, substantially as described.

8. A coin-controlled apparatus having a magazine, a coin-carrying slide having a chamber adapted to be connected with said magazine when the slide is in its outer position and to be disconnected therefrom when in its inner position, a lid stationarily pivoted below said slide and extending to close the bottom of said chamber in all positions of the slide, means for holding said lid in position to close said chamber and means, disposed to be operated by the coin as it is carried inward by the slide, for releasing said holding means to permit said lid to move to its open position, substantially as described.

9. A coin-controlled apparatus having a magazine, a coin-carrying slide having a chamber adapted to be supplied from said magazine, a stationarily-pivoted lid beneath said slide adapted to close the bottom of said chamber in all positions of the slide, a bar slidably mounted in said lid, and movable in the same direction as the slide, a spring acting to move said bar outward, a support normally engaged by said bar to hold said lid in its closed position, said slide having a coin-engaging face between which and said bar the coin is adapted to be clamped as the slide is forced inwardly, and means permitting said bar to swing to open said lid when the bar is forced inwardly to a predetermined position, said means being adapted to hold said bar from outward movement on the initial outward movement of the slide, and means operated by said slide, for releasing said bar and returning said lid to its initial position during the continued outward movement thereof, substantially as described.

840,562. TIME CIRCUIT-CLOSER. WILLIAM S. GUTHRIE, Terrell, Tex. Filed Aug. 29, 1905. Serial No. 276,233.

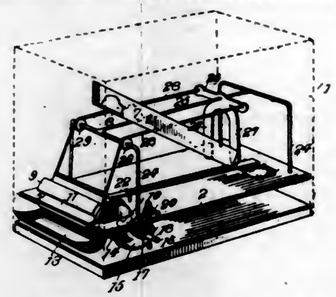


Claim.—1. In mechanism of the class described, the combination with a circuit-closer comprising contact elements, a swinging arm, a contact-spring secured to the arm between the ends thereof, one of the ends of said arm being free and disposed longitudinally of the spring, said spring moving into and out of sliding engagement with the contact element upon the movement of the arm, and the end of said arm being movable away from and against the spring to effect its disengagement from the contact element, a motor for effecting the swinging movement of the arm, means for holding the motor against movement, and means for intermittently releasing the motor.

2. In mechanism of the class described, the combination with a circuit-closer comprising a contact element, a swinging arm pivotally mounted between its ends, a contact-spring secured to the arm between the ends thereof, one of the ends of the arm being free and disposed longitudinally of the spring, said spring moving into and out of sliding engagement with the contact element upon the movement of the arm and said free end of the arm being movable away from and against the spring to effect the rapid disengagement of the latter from the contact element, a motor having an element that engages the other end of the arm to that associated with the spring for effecting the movement of the arm, a detent for holding the motor against movement, and means for intermittently actuating the detent and thereby permitting the intermittent movement of the motor.

840,563. MACHINE FOR VENDING CIGARS FROM ORIGINAL BOXES. GEORGE O. HALVORSON, Bricelyn, Minn. Filed Sept. 8, 1905. Serial No. 277,567.

Claim.—1. In an automatic cigar-vending device, a rotary drum provided with horizontal grooves or pockets, means for actuating the drum, an inverted U-shaped slidably-mounted delivery-yoke, a guide for the yoke, standards supporting the guide, and a connection between the yoke and the drum whereby said yoke is actuated.



2. In an automatic cigar-vending device, a rotary drum provided with horizontal grooves or pockets, means for actuating the drum, an inverted-U-shaped slidably-mounted delivery-yoke, a guide for the yoke, standards supporting the guide, a connection between the yoke and the drum whereby said yoke is actuated, and a case surrounding the whole.

3. In an automatic cigar-vending device, a receptacle for the cigars, a rotary drum provided with horizontal grooves or pockets, means for actuating the drum, an inverted-U-shaped slidably-mounted delivery-yoke, a guide for the yoke, standards supporting the guide, and a connection between the yoke and the drum whereby said yoke is actuated.

4. In an automatic cigar-vending device, a rotary drum provided with horizontal grooves or pockets, a shield thereover, means for actuating the drum, an inverted-U-shaped slidably-mounted delivery-yoke, a guide for the yoke, standards supporting the guide, and a connection between the yoke and the drum whereby said yoke is actuated.

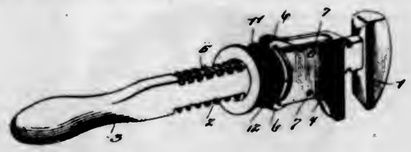
5. In an automatic cigar-vending device, a platform, a receptacle for the cigars carried thereby, standards arranged by the receptacle, a horizontal guide-rod connecting the standards, an inverted-U-shaped delivery-yoke slidably mounted on the guide-rod and having its arms depending into the receptacle, a rotary drum provided with horizontal grooves or pockets, and a connection between the yoke and the drum whereby the yoke is actuated to deliver the cigars to the pockets in the drum.

6. In an automatic cigar-vending device, a platform, a receptacle for the cigars carried thereby, standards arranged by the receptacle, a horizontal guide-rod connecting the standards, an inverted-U-shaped delivery-yoke slidably mounted on the guide-rod and having its arms depending into the receptacle, a rotary drum provided with horizontal grooves or pockets, a connection between the yoke and the drum whereby the yoke is actuated to deliver the cigars to the pockets in the drum, and a shield for the drum.

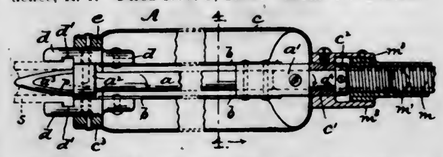
7. In an automatic cigar-vending device, a platform, a receptacle for the cigars carried thereby, standards arranged by the receptacle, a horizontal guide-rod connecting the standards, an inverted-U-shaped delivery-yoke slidably mounted on the guide-rod and having its arms depending into the receptacle, a rotary drum provided with horizontal grooves or pockets, a connection between the yoke and the drum whereby the yoke is actuated to deliver the cigars to the pockets in the drum, a shield for the drum, and a discharge-trough mounted in front of the drum.

840,564. WRENCH. THOMAS W. HARBER, Golden City, Mo. Filed Oct. 19, 1905. Serial No. 283,413.

Claim.—A wrench comprising a fixed jaw, a shank portion thereof and a handle therefor, a movable jaw mounted upon said shank, an adjustable nut carried by the shank, having interrupted threads upon the inner circumference thereof, snapping-clamps pivotally carried by the movable jaw, the outer portion thereof being beveled to coöperate with the beveled portion upon the adjustable nut, grooves formed by the snapping-clamps, and a portion of the movable jaw adapted to be engaged by the beveled flanged portion of the nut, as set forth.



840,565. IMPLEMENT FOR FORMING LIPS ON GLASS BLOWN BOTTLES. ARTHUR W. HUTCHINS, Providence, R. I. Filed Nov. 8, 1906. Serial No. 342,487.



Claim.—1. As an improved article of manufacture, a tool or implement for finishing the necks of glass blown bottles, the same comprising a revoluble shaft or member having its front end provided with an extension adapted to be inserted in and form a support for the heated neck of the bottle, self-opening jaws revoluble in unison with said shaft having a lip-forming groove or die therein, and a relatively stationary laterally-yielding handle having said shaft and jaw members revolubly mounted therein, constructed and arranged so that upon compressing the handle the revolving jaws are closed onto the bottle's neck, the said die portion at the same time producing a lip thereon.

2. In a glass-working tool or implement of the character described, the combination with a mechanically-revoluble center spindle and laterally-separated yieldingly-mounted lip-forming jaws revoluble by and in unison with the spindle, of a relatively stationary resilient handle member having said spindle and jaws mounted and supported therein, arranged so that the jaws may be closed and opened at will to a limited extent by a corresponding movement of the operator's hand upon the handle.

3. The combination with a manually-controlled portable tool or implement of the character described provided with suitably-mounted radially-movable and revoluble lip-forming jaws, of flexible driving means operatively connected with the tool so that the said jaws are adapted to be continuously rotated while the device is held in any position.

4. In a device or tool of the character described, the combination with a revoluble center spindle and self-opening lip-forming jaws having said spindle located thereb tween and revoluble in unison with it, of a relatively stationary self-opening casing or handle having a bearing in its front end portion in which said jaws revolve, and connecting means for transmitting power from any suitable source to rotate said spindle and jaw members.

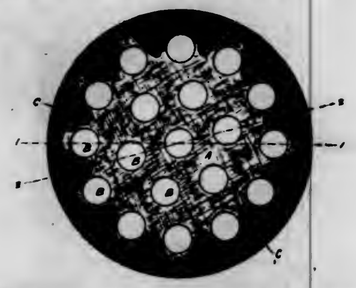
5. The combination with a pair of yieldingly-mounted oppositely-disposed revoluble lip-forming jaws and a revoluble central spindle or shaft located between and operatively connected therewith, of a relatively stationary resilient casing supporting said spindle and jaws and at the same time forming a handle or holder adapted to be held in the hand of the operator or attendant.

6. In a tool or implement of the character described, a center spindle, suitably-mounted laterally-separated lip forming jaws arranged relatively to said spindle, and means for revolving said members in unison, in combination with relatively stationary manually-controlled means for closing and opening said revolving jaws.

840,566. WATER-TUBE BOILER. SHERWOOD F. JETER, New Haven, Conn. Filed Oct. 5, 1906. Serial No. 337,654.

Claim.—1. A tube-plate, comprising a tube-surface, and a flange, provided with a series of depressed ribs in the

periphery of the tube-plate, extending from the flange to the tube-surface, and merging into the tube-surface, substantially as and for the purposes set forth.

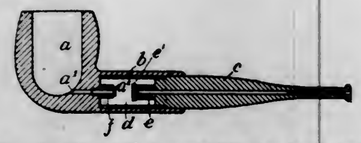


2. A tube-plate, comprising a tube-surface, a flange, and a rounded corner between said tube-surface and flange, provided with a series of depressed ribs formed in said rounded corner, the bottoms of said ribs extending diagonally from the periphery of the flange into the tube-surface, substantially as and for the purposes set forth.

3. A water-tube boiler, comprising a pair of headers connected by a nest of tubes, the opposing tube-plates of said headers constructed with a series of depressed ribs formed in their respective peripheries, and extending from the flanges of said tube-plates diagonally to the tube-surface between the outer series of tubes, substantially as and for the purposes set forth.

4. In a water-tube boiler, the combination with the tubes; of a tube-plate comprising a tube-surface having a series of holes for the tubes, a flange substantially at right angles to the tube-surface, and a series of depressed ribs extending diagonally from the flange into the tube-surface between the outer series of tubes, substantially as described.

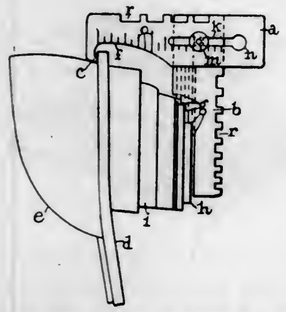
840,567. TOBACCO-PIPE. PATRICK A. KENNA, Sydney, New South Wales, Australia. Filed Feb. 1, 1906. Serial No. 299,029.



Claim.—A tobacco-pipe comprising a bowl having a stem with a smoke-passage therethrough and a cylindrical chamber within the free end of the stem of larger dimensions than the smoke-passage, a tube contained within the saliva-chamber and inserted into the smoke-passage, a mouthpiece inserted in the free end of the stem having a smoke-passage therethrough alined with the smoke-passage of the stem, and a projection at its inner end extending toward the bowl having a smoke-passage in continuation of the smoke-passage of the mouthpiece, a perforated cap fitted on the end of the projection to perform the function of a baffle for the smoke-passage through the projection and mouthpiece, and a tube fitted on the end of the mouthpiece within the cylindrical chamber to inclose the cap and having the end adjacent to the bowl closed with an inwardly-extending tubular part to inclose the first-mentioned tube, said tubular part having a bore to permit of the passage of the smoke from the bowl through the stem into the last-mentioned tube.

840,568. GAGE OR MEASURING DEVICE. HARRY C. KNOWLTON, Lynn, Mass., assignor to Frank P. Aborn, Lynn, Mass. Filed Oct. 12, 1906. Serial No. 338,567.

Claim.—1. A gage for determining the height and pitch of the heels of boots and shoes, comprising a member having graduations indicative of the height of the heel and provided with a finger to enter the crease formed by the outer sole and counter of the shoe, and a second member adjustably secured to the first-mentioned member and provided with means for indicating the pitch of the heel, and means for securing said members in a position substantially at right angles to each other, substantially as described.

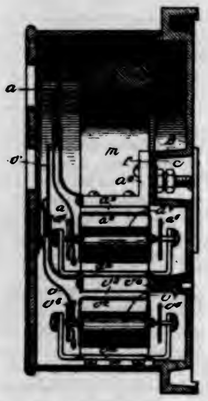


2. A gage for determining the height and pitch of the heels of boots and shoes, comprising a member having graduations indicative of the height of the heel and provided with a finger to enter the crease formed by the outer sole and counter of the shoe, and a second member adjustably secured to the first-mentioned member and provided with shoulders to engage the top lift of the heel, and means to secure said members in a position substantially at right angles to each other.

3. A gage for determining the height and pitch of the heels of boots and shoes, comprising a member having a finger to engage the outer sole and counter, and a second member extended substantially at right angles to the first-mentioned member and provided with a shoulder to engage the rear surface of the top lift, substantially as described.

4. A gage for determining the height and pitch of the heels of boots and shoes, comprising a member having a finger to enter the crease formed by the outer sole and counter, a second member adjustably secured to the first-mentioned member, and means for securing said members in different positions substantially at right angles to each other, substantially as described.

840,569. ELECTRICAL MEASURING INSTRUMENT. JOHN M. LEA, Chicago, Ill., assignor to International Electric Meter Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 25, 1906. Serial No. 336,120.

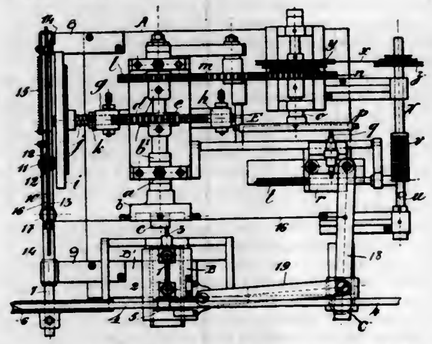


Claim.—1. A combined voltmeter and ammeter having separate meter-movements mounted in tandem and indicating-needles therefor swinging in planes one above the other, a scale-plate mounted in a plane between the planes of said needles, and a separate scale-plate under the lower needle.

2. In an electric measuring instrument, the combination with a base-plate having a raised portion forming a ridge upon the front face and a channel in the back, of a meter-movement and a bracket-support therefor mounted upon said ridge, electrical terminal pieces also mounted upon said ridge and extending through said ridge into the channel upon the back, said channel affording a free space for running the wires to said terminals, in the back of the instrument.

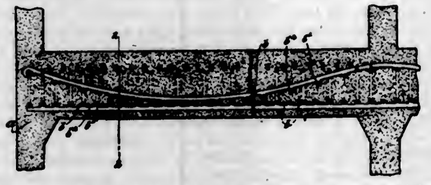
3. In an electrical measuring instrument, the combination with a base-plate having a raised portion forming a ridge across the front face of the plate and a channel in the back thereof, of a horseshoe-magnet resting against said ridge, a bracket mounted upon said ridge, a meter-movement supported by said bracket between the arms of said horseshoe-magnet, a second bracket mounted on said base-plate and a second meter-movement supported between the arms of said magnet, in tandem with the first movement, indicating-needles for said meter-movements arranged to swing in planes one above the other, and independently-supported scale-plates over which said needles are adapted to swing.

840,570. ENGRAVING-MACHINE. ROBERT A. LIENHARD, La Chaux-de-Fonds, Switzerland. Filed June 21, 1905. Serial No. 266,357.



Claim.—A device of the class described comprising pattern and work shafts geared to rotate at prescribed rates of speed relative to each other, tracer and cutter carriages, a pivotally-mounted operating-lever for said tracer-carriage, a link connecting said lever with the cutter-carriage, means for reciprocating said tracer-carriage, a yieldingly-mounted friction-disk geared to said work-shaft, a constantly-driven friction-roller slidably mounted abreast of said disk, a carriage for sliding said roller, a contractile spring connecting said carriage with a stationary part of the machine, and a cable or the like connecting said carriage with said pivotally-mounted lever.

840,571. CONCRETE-AND-METAL STRUCTURE. JOHN W. LINZEE, Jr., Boston, Mass. Filed Sept. 27, 1905. Serial No. 280,308.



Claim.—1. A concrete-and-metal structure comprising separate reinforcing members embedded in the concrete, some of said members having eyes through which other members pass, the opening of the eye being at one side of the longitudinal axis of its member, the eye members being enlarged adjacent to their eyes, whereby the tensile strength of the members is preserved at the eyes and anchoring portions are formed.

2. A concrete-and-metal structure comprising separate reinforcing members embedded in the concrete, some of said members having circular openings or eyes through which other members pass, the receiving portion of the openings or eyes being at one side of the longitudinal axis of the member, the members having openings or eyes being enlarged adjacent to said openings or eyes whereby the tensile strength of the members is preserved.

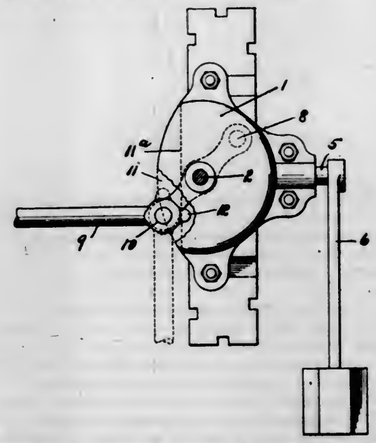
3. A concrete-and-metal structure comprising rods having circular eyes and formed with enlargements adjacent to said eyes to prevent breaking of the rods at the eyes, the enlargements and eyes being at one side of the longitudinal axis of the rods, whereby the shape of the eyes will not be affected by stress applied lengthwise of the rods, and supplemental members passing through said eyes.

4. A concrete-and-metal structure, comprising separate reinforcing members embedded in the concrete, said members having eyes, the openings of which are located at one side of the longitudinal axis of the member, said members being enlarged adjacent to their eyes, said eyes being adapted to receive pins or bolts of similar material to the members, for the purpose of connecting said reinforcing members together.

5. A concrete-and-metal structure comprising separate reinforcing members embedded in the concrete, said members having a continuous set of eyes, the openings of which are located at one side of the longitudinal axis of the member, said members being enlarged adjacent to their eyes, whereby said eyes furnish a ready, simple, economical and secure means for connecting said members together, at all points of their lengths where said eyes occur, without additional work in the field.

6. A concrete-and-metal structure, comprising separate reinforcing members embedded in the concrete, said members having eyes, the openings of which extend therethrough and through which other members pass, said openings being at one side of the longitudinal axis of the reinforcing members, said members also being enlarged adjacent to their eyes, said eyes being all in one plane, or some in one plane and the others in planes making an angle with those in other planes.

840,572. SWITCH-STAND. MALCOLM W. LONG, Harrisburg, Pa., assignor to The Pennsylvania Steel Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Nov. 18, 1905. Serial No. 288,052.

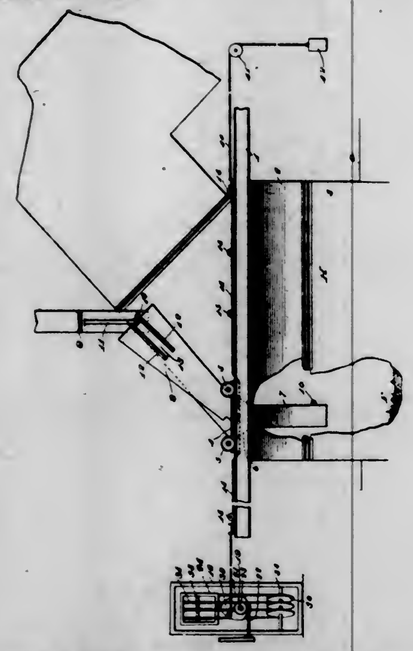


Claim.—1. In a switch-stand of the character recited, the combination with the target-shaft, of the crank there-

on, having the upwardly-projecting crank-pin, the switch-connecting rod having a hole adapted to receive said crank-pin, and having the projection on its inner end, and the casing having a portion under which said projection is adapted to extend when said rod is connected to the switch, and to be freed from said portion when the rod is disconnected from the switch and suitably rotated on said crank-pin, substantially as set forth.

2. In a switch-stand of the character recited, the combination of the target-shaft, of the crank thereon, having the upwardly-projecting crank-pin, the switch-connecting rod having a hole adapted to receive said crank-pin, and having the projection on its inner end, and the casing having a portion under which said projection is adapted to extend when said rod is connected to the switch, and having also the undercut space the height of the roof of which space above the top of said crank-pin is greater than the thickness of the inner end of said rod, whereby when said rod is disconnected from the switch and rotated on said crank-pin to cause said projection to come under said space, the said rod may be disconnected from said crank-pin, substantially as set forth.

840,573. FURNACE-CHARGING APPARATUS. EDWIN H. MESSITER, New York, N. Y. Filed Feb. 7, 1905. Serial No. 244,676.



Claim.—1. In furnace-charging apparatus, the combination with means for supplying and maintaining a stream of charging material, of deflecting devices having periodic movement in a single vertical plane for deflecting the stream of charging material to different parts of the furnace.

2. In furnace-charging apparatus, the combination with means for supplying charging material, of means for automatically effecting the distribution of the charging material to the furnace so that different amounts of material will be supplied to different portions of the furnace.

3. In furnace-charging apparatus, the combination with means for supplying charging material, of material-distributing devices, and means for imparting periodic movements to said distributing devices in a single vertical plane.

4. In furnace-charging apparatus, the combination with means for supplying charging material, of means for mechanically controlling the distribution of charging material to different parts of the furnace so that different amounts of material are automatically supplied to different parts of the furnace.

5. In furnace-charging apparatus, the combination with means for supplying a stream of charging material, of means for shifting the point of delivery of said stream of charging material, and means for automatically controlling the movement of said point of delivery so that unequal amounts of material will be delivered to different parts of the furnace.

6. In furnace-charging apparatus, the combination with means for maintaining a flow of charging material to the furnace, of means for deflecting the flow of material to different parts of the furnace and automatic devices whereby the movements of said deflecting means may be controlled so as to effect the delivery of unequal amounts of material to different parts of the furnace.

7. In furnace-charging apparatus, the combination with means for supplying charging material, of a receptacle to receive the supply of charging material, and distributing devices beneath said receptacle arranged for periodic movement in a single vertical plane, whereby a stream of material from said receptacle to the furnace is maintained and its direction periodically changed.

8. In furnace-charging apparatus, the combination with a furnace having a shifting charging-opening, of means for maintaining a flow of charging material through said opening, and means for automatically controlling the rate of shifting of said charging-opening, so that unequal amounts of charging material will be supplied to different parts of the furnace.

9. The combination with a smelting-furnace having an elongated charging-opening, of a distributer for charging material arranged to discharge through said opening and having a reciprocatory movement lengthwise of said opening, of a chute or conduit leading to said distributer and having its lower end secured thereto, the upper end of said chute or conduit being arranged to receive material discharged at a fixed point.

10. The combination with a smelting-furnace having an elongated charging-opening of material-distributing devices comprising a carriage external to the furnace and arranged for reciprocatory movement lengthwise of said charging-opening and an inclined chute extending downwardly from said carriage and through said charging-opening, shields at both ends of said carriage and of sufficient length to keep said charging-opening closed in any position of said carriage, means for supplying a stream of charging material and means for deflecting said stream of charging material from a fixed point to said carriage during the reciprocatory movement of said carriage and directing said stream of material into said inclined chute.

11. The combination with a smelting-furnace having a charging-opening on each side near the top, of a pair of material-distributers arranged for reciprocatory movement at the sides of said furnace, so as to effect the delivery of material into the interior of said furnace, a material-receiving hopper above said furnace having divergent discharge-chutes, and means for directing the streams of material from said discharge-chutes to said distributers during the reciprocatory movement of said distributers.

12. The combination with a smelting-furnace having an opening at the top thereof, of a hopper arranged for horizontal travel with respect to said opening, an oscillatory chute pivotally connected at its lower end with said hopper so as to discharge thereinto, means for moving said hopper to and fro with respect to said opening, and means at the top of said chute for discharging material thereinto.

13. The combination with a smelting-furnace of a fixed hopper, a traveling hopper at a lower level than the fixed hopper and having a chute leading to the furnace, and a chute pivoted at its lower end on the traveling hopper and having its upper end supported by suitable guiding devices so that material passing from the fixed hopper will pass into the last-named chute when the traveling hopper is in any position.

14. The combination in charging apparatus for a smelting-furnace, of a movable distributer for charging material and mechanism for imparting reciprocatory movement to said distributer, said mechanism comprising a heart-cam and a member engaging the surface of said cam and connected with said distributer.

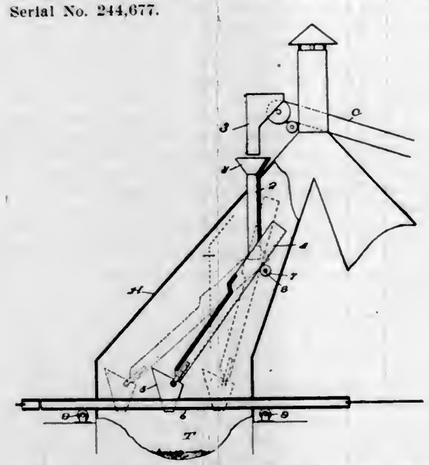
15. The combination in charging apparatus for a smelting-furnace of a movable distributer and mechanism for imparting periodic movement to said distributer, said mechanism comprising a heart-cam, a traveling structure moving in guides and having a part in contact with said cam, and connections between said structure and said distributer.

16. The combination in charging apparatus for a smelting-furnace of a movable distributer for the charging material and mechanism for imparting periodic motions to said distributer and comprising a heart-cam tapering from one end to the other and of the exact contour intermediate of its ends to impart uniform reciprocatory movement to a member engaging the cam, a traveling structure to which motion is imparted by the rotation of said cam, a roller carried by said traveling structure and engaged by said cam, said roller being adjustable between the ends of the cam.

17. The combination in charging apparatus for a smelting-furnace of a distributer for the charging material and mechanism for imparting periodic movement to said distributer, said mechanism comprising a cam and a structure to which reciprocatory movement is imparted by said cam, a pulley mounted on a fixed axis, and a pulley carried by said structure, and a cable rove over said pulleys and connected with said distributer.

18. The combination in furnace-charging apparatus of an endless conveyer, a fixed receiving-hopper into which said conveyer delivers, a distributer arranged for reciprocatory movement adjacent to said furnace so as to deliver material thereinto throughout its movement and shiftable members for conducting the material delivered from said receiving-hopper to said distributer during the movement of said distributer.

840,574. FURNACE-CHARGING APPARATUS. EDWIN H. MESSITER, New York, N. Y. Filed Feb. 7, 1905. Serial No. 244,677.



Claim.—1. In furnace-charging apparatus, the combination with means for introducing charging material within the furnace-hood, of distributing devices inclosed within the furnace-hood and arranged for periodic movement in a single vertical plane.

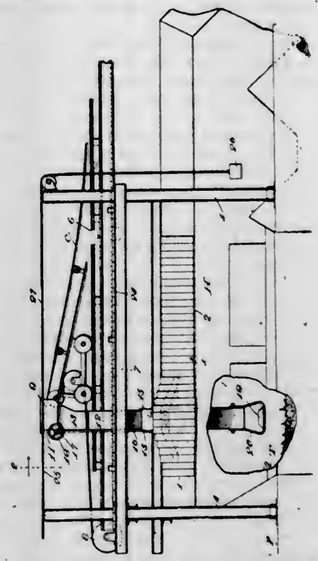
2. In furnace-charging apparatus, the combination with a furnace-hood having a hopper fixed therein and adapted to discharge material within the hood, of a chute or conduit arranged to receive material from said fixed chute and having its lower end mounted for periodic movement in a single vertical plane.

3. The combination with a furnace-hood having a charging-aperture therein, of means for discharging material through said aperture and distributing devices within the furnace-hood, said distributing devices being arranged for reciprocatory movement in a single vertical plane only and adapted to receive material from said charging-aperture in all positions of said distributing devices.

4. In furnace-charging apparatus, the combination with a furnace-hood of a carriage arranged for reciprocatory movement transversely through said hood, a conduit having its lower end arranged for travel with said carriage and its upper end resting on a fixed support, and means for supplying charging material to the said conduit at its upper end.

5. In furnace-charging apparatus, the combination with a furnace-hood of a carriage arranged for reciprocatory movement transversely through the hood at its base, a hopper fixed upon said carriage, a conduit having its lower end pivoted on said hopper, a roller fixed in the upper part of said hood upon which the upper end of said conduit rests, and means for supplying charging material to said conduit at its upper end.

840,575. FURNACE-CHARGING APPARATUS. EDWIN H. MESSITER, New York, N. Y. Filed Feb. 7, 1905. Serial No. 244,678.



Claim.—1. The combination with a smelting-furnace of an endless conveyer having a fixed supporting-frame, said conveyer having a movable point of discharge and being adapted to deliver material at the movable point of discharge to the furnace.

2. In furnace-charging apparatus, the combination with an endless conveyer having a fixed supporting-frame and a shiftable point of discharge, of means for directing the material discharged from the conveyer into the furnace.

3. In furnace-charging apparatus, the combination with an endless conveyer having a fixed supporting-frame, of traveling apparatus for discharging material from said conveyer and directing it into the furnace.

4. In furnace-charging apparatus, the combination with an endless conveyer having a shiftable point of discharge and a fixed supporting-frame, of a discharge spout or conduit shiftable with the point of discharge for the conveyer and arranged to deliver material to said furnace.

5. In furnace-charging apparatus, the combination with

a conveyer having a movable point of discharge, of a discharge-spout extending downwardly from said conveyer, and formed in relatively adjustable sections.

6. In furnace-charging apparatus, the combination with a conveyer having a movable point of discharge, of a discharge-spout extending from the conveyer toward the furnace, and having its lower end adjustable toward and away from the median line of the furnace.

7. In furnace-charging apparatus, the combination with a conveyer and a traveling tripper or deliverer for said conveyer, of a discharge-spout carried by said tripper or deliverer and having its lower end adjustable so as to control the delivery of material within the furnace.

8. In furnace-charging apparatus, the combination with an endless conveyer and a traveling deliverer for said conveyer, of a discharge-spout extending from said deliverer and having the upper section rigidly attached to the deliverer and the lower section pivotally connected with the upper section.

9. In furnace-charging apparatus, the combination with a conveyer having a shiftable point of discharge, of a discharge-spout extending downwardly from the conveyer at the point of discharge and shiftable with its point of discharge, and a deflector disposed beneath the lower end of said discharge-spout.

10. In furnace-charging apparatus, the combination with means for supplying charging material, of a spout or conduit for conducting said material into the furnace, said discharge-spout being arranged for reciprocatory movement within the furnace and an adjustable deflector arranged beneath the end of said discharge-spout.

11. In furnace-charging apparatus, the combination with a conveyer having a fixed supporting-frame, and a traveling deliverer or discharger for said conveyer, of a discharge-spout extending downwardly from said deliverer or discharger, and means at the lower end of said discharge-spout for deflecting the material passing therethrough.

12. In furnace-charging apparatus, the combination with a furnace having the top formed in sections, of a conveyer extending above the furnace-hood, and having a movable point of discharge, a traveling discharge-spout extending through the top of said hood, and means carried by the spout for shifting the sections of the top of said hood as the spout is moved.

13. In furnace-charging apparatus, the combination with a furnace having the top formed in sections, of a conveyer, a deliverer for said conveyer arranged for movement above the top of said hood, a spout extending from said deliverer through said top, and devices carried by said spout for gradually lifting said top sections as the spout advances.

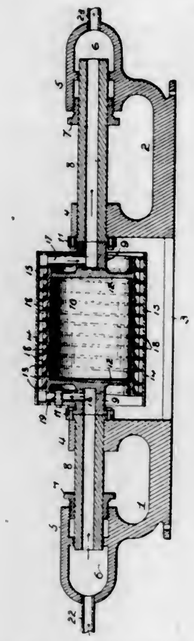
14. In furnace-charging apparatus, the combination with a furnace having the top formed in sections, of a discharge-spout extending through said top, and arranged for horizontal movement, means for supplying charging material to said discharge-spout, and devices carried by the spout for lifting said top sections as the spout advances.

15. In furnace-charging apparatus, the combination with a furnace having a top formed in sections, of a spout extending through said top and arranged for horizontal movement, means for supplying charging material to said spout, and means carried by said spout for lifting said top sections as the spout advances and partially closing the opening caused by the raising of said top sections.

840,576. TURBINE. FRED D. MILLARD, Burlington, Iowa. Filed July 12, 1906. Serial No. 325,858.

Claim.—1. In a turbine, the combination with a rotary element having an annular spiral fluid-passage, shafts supporting opposite ends of the rotary element, ducts or tubes in the rotary member communicating respectively with the ends of the fluid-passage, means for admitting motive fluid to one of said tubes or ducts, means for permitting exhaust of fluid from the other duct or tube, a valve in the inlet duct or tube and a governor carried by the rotary member and controlling said valve.

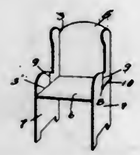
2. In a turbine, the combination with a rotary element having an annular spiral fluid-passage, of hollow shafts supporting opposite ends of said rotary element, tubes connecting the respective ends of the fluid-passage with the hollow shafts, a governor-valve in one of said tubes, and an inlet-chamber inclosing one end of one of said shafts and an exhaust-chamber inclosing the end of the other shaft.



3. In a turbine, the combination with a rotary element having an annular spiral fluid-passage, of hollow shafts supporting opposite ends of the rotary element and communicating with the respective ends of the fluid-passage, a fluid-inlet chamber inclosing one end of one shaft and provided with a bearing therefor, a fluid-outlet or exhaust chamber inclosing the end of the other shaft and provided with a shaft therefor, and vanes or buckets in the spiral fluid-passage.

4. A turbine comprising a cylinder having an annular spiral flange, a cylindrical casing shrunk onto said flange and forming a spiral fluid-passage, buckets or vanes in said passage, tubular stubs at the ends of the cylinder, and tubes connecting said stubs with the respective ends of the passage.

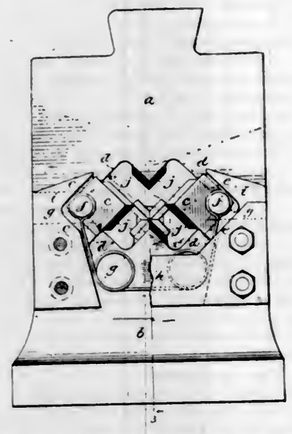
840,577. ADVERTISING DEVICE. OTTO N. MOORE, Indianapolis, Ind. Filed Apr. 18, 1906. Serial No. 312,289.



Claim.—1. A structure comprising a series of portions hinged together to simulate a solid body when in one position and capable of folding to a substantially flat position, and a flexible connection connecting opposite members and normally urging said members to a solid simulating position, said flexible connection being, at a point intermediate its connection with the first-mentioned opposite members, in engagement with an intermediate portion of the body having an axis at an angle to the axes of the first-mentioned opposite members, and deflected thereby when the parts are thrown in flat position.

2. A structure comprising a series of portions hinged together to simulate a solid body when in one position and capable of folding to a substantially flat position, and a rubber band connecting opposite members and normally urging said members to a solid simulating position, said rubber band being, at a point intermediate its connection with the first-mentioned opposite members, in engagement with an intermediate portion of the body having an axis at an angle to the axes of the first-mentioned opposite members, and deflected thereby when the parts are thrown in flat position.

840,578. FORGING-MACHINE. MACKINTOSH M. MORRISON, Calumet, Mich. Filed Oct. 22, 1902. Serial No. 128,207.



Claim.—1. In a forging-machine the combination of opposing main dies one of which is movable toward and from the other and one of which has an inclined guiding-face, an auxiliary die having an inclined face opposed to the guiding-face on one of the main dies, which latter guiding-face is adapted to force the auxiliary die laterally toward the working faces of the main dies when they are brought together, said auxiliary die having at one end a flange bearing against the side of the main die, and means tending to retract the auxiliary die, substantially as described.

2. In a forging-machine the combination of main dies, one of which is movable toward and from the other and one of which has a forming-face and guiding-faces inclined to the line of movement of the movable main die, and auxiliary dies having inclined faces opposed to the inclined faces on the main die and adapted to force the auxiliary dies simultaneously toward the working face of the other dies when they are brought together, the main-die guiding-faces being longer than the corresponding faces of the auxiliary dies, and the main dies having opposing stop-faces, which determine the approach of the working faces when the dies are brought together, substantially as described.

3. In a forging-machine the combination of main fixed and movable dies having forming-faces and inclined guiding-faces, laterally-movable auxiliary dies having inclined faces adapted to bear against the opposing guiding-faces of the main dies and to simultaneously force the auxiliary dies toward each other as the main dies are brought together, substantially as described.

4. In a forging-machine the combination of two main dies one of which is movable toward and from the other, having forming-faces and inclined guiding-faces which diverge in each die toward the opposing die, and laterally-movable auxiliary dies having inclined faces which correspond with and are adapted to bear against the opposing guiding-faces of the main dies and to simultaneously force the auxiliary dies toward each other as the main dies are brought together, substantially as described.

5. In a forging-machine the combination of opposing main dies, one of which is movable toward and from the other and one of which has an inclined guiding-face, an intermediate laterally-movable auxiliary die having an inclined face opposed to the guiding-face on one of the main dies and guiding-flanges overhanging said main die at the ends and holding said auxiliary die against longitudinal displacement, and stops on the sides of said main die for limiting the outward movement of the auxiliary die, and permitting the faces of the main dies to strike each other without injury to the auxiliary die, substantially as described.

6. In a forging-machine the combination of main dies one of which is movable toward and from the other, and one of which has inclined guiding-faces, intermediate laterally-movable auxiliary dies having inclined faces presented to the guiding-faces of the main dies, stops on the sides of said main die for limiting the outward movement of the auxiliary dies, and means tending to separate the auxiliary dies and permitting the faces of the main dies to strike each other, substantially as described.

7. In a forging-machine the combination of main dies one of which is movable toward and from the other and one of which has an inclined guiding-face, and an intermediate laterally-movable auxiliary die having an inclined face presented to the guiding-face on the main die, said dies having transverse cutting-off projections at one end of the working faces of the dies, substantially as described.

8. In a forging-machine the combination of main dies, one of which is movable toward and from the other and one of which has inclined guiding-faces, intermediate laterally-movable auxiliary dies having inclined faces presented to the inclined guiding-faces on the main die, retracting-springs connecting the auxiliary dies at their ends, and guards or keepers attached to one of the main dies over said springs and retaining them in place, substantially as described.

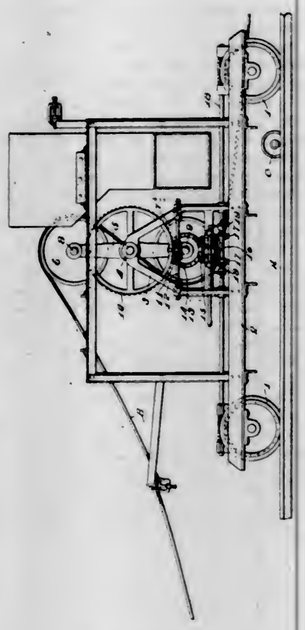
9. In a forging-machine the combination of main dies one of which is movable toward and from the other and one of which has recessed stops and guiding-faces diverging toward said stops from the longitudinal axis of said dies, laterally-movable auxiliary dies having inclined faces presented to the inclined guiding-faces on the main die, and a retracting-spring tending to withdraw said auxiliary dies against said stops and permitting the faces of the main dies to strike each other, thereby limiting the forward motion of the movable main die and insuring uniformity of thickness in the forgings without injury to the working faces of the dies, substantially as described.

840,579. TRIPPER OR DELIVERER FOR BELT CONVEYERS. BAXTER MORTON, New York, N. Y. Filed May 5, 1906. Serial No. 315,325.

Claim.—1. The combination in a tripper or deliverer for belt conveyers of a shiftable bend-pulley, traction members, and power-transmitting mechanism whereby movement is transmitted from said lower bend-pulley to said traction members, said power-transmitting mechanism comprising a pinion movable with said shiftable bend-pulley and a pinion turning about a fixed axis and adapted to engage with the pinion movable with the shiftable bend-pulley when said shiftable bend-pulley is in operative position.

2. The combination in a tripper or deliverer for belt conveyers of a shiftable lower bend-pulley, traction members for said tripper, and power-transmitting mechanism whereby movement is imparted from said shiftable lower bend-pulley to said traction members, said power-transmitting mechanism comprising a pinion rigidly connected with said shiftable lower bend-pulley and a pinion turning about a fixed axis and adapted for engagement with the pinion rigidly connected with the shiftable lower bend-pulley when said lower bend-pulley is in operative position.

840,579.



840,580. COMBINED NAIL-PULLER AND BAND-CUTTER. MARION A. MCMILLAN, Stedman, Cal. Filed July 31, 1906. Serial No. 328,626.



Claim.—1. A combination-tool comprising a shank, outer and inner claws on the shank with a bearing-face between the claws forming a fulcrum for both claws, and a ram slidable on the shank for driving the shank in either direction.

2. A combination-tool comprising a shank, outer and inner claws on the shank with a bearing-face between the claws forming a fulcrum for both claws, a ram slidable on the shank for driving the shank in either direction, and means for locking the ram from movement on the shank.

3. A combination-tool comprising a shank, outer and inner claws on the shank with a bearing-face between the claws forming a fulcrum for both claws, a ram slidable on the shank for driving the shank in either direction, and means operated by turning the ram relatively to the shank for locking the ram from movement on the shank.

4. A combination-tool comprising a shank, outer and inner claws on the shank with a bearing-face between the claws forming a fulcrum for both claws, a knife formed in the angle between the inner claw and shank, and a ram slidable on the shank to drive the knife or claws.

5. A combination-tool comprising a shank, an outer claw formed on the end of the shank, an inner hook-shaped claw extending in the opposite direction formed on the shank, a knife formed at one side of the inner claw between the claw and shank, the shank having a curved bearing-face between the two claws and forming a fulcrum for either claw or said knife, and a ram slidable on the shank to drive the knife or claws.

6. A combination-tool comprising a shank, an outer claw formed on the end of the shank, an inner hook-shaped claw extending in the opposite direction formed on the shank, a knife formed at one side of the inner claw between the claw and shank, the shank having a curved bearing-face between the two claws and forming a fulcrum for either claw or said knife, and a ram slidable on the shank for driving the shank in either direction.

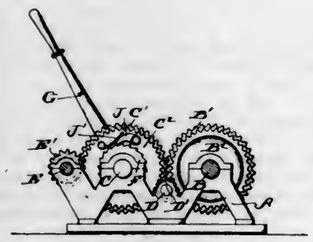
7. A combination-tool comprising a shank, outer and inner claws on the shank with a bearing-face between the claws forming a fulcrum for both claws, a ram slidable on the shank, a hood formed on one end of the ram, the shank having a lug adapted to engage in the hood when the shank is turned relatively to the ram.

8. A combination-tool comprising a shank, outer and inner claws on the shank with a bearing-face between the claws forming a fulcrum for both claws, a ram slidable on the shank, a hood formed on one end of the ram, the shank having a lug adapted to engage in the hood when the shank is turned relatively to the ram, the ram having an elongated cylindrical recess, the shank having a projection protruding into said recess and adapted to receive impact from an abutment on the ram at one end of the recess.

9. A combination-tool comprising a shank, outer and inner claws on the shank with a bearing-face between the claws forming a fulcrum for both claws, a ram slidable on the shank, a hood formed on one end of the ram, the shank having a lug adapted to engage in the hood when the shank is turned relatively to the ram, the ram having an elongated cylindrical recess, a pin in the shank projecting into the recess and adapted to receive impact from an abutment on the ram at one end of the recess, the ram having a perforation for permitting the assembling of the pin in the shank.

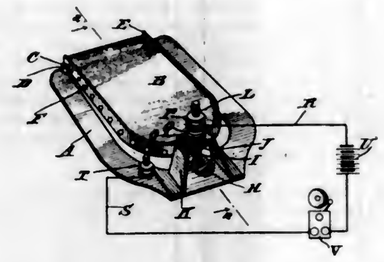
10. A combination-tool comprising a shank, outer and inner claws on the shank with a bearing-face between the claws forming a fulcrum for both claws, a ram slidable on the shank for driving the shank in either direction, and a handle formed on the end of the ram.

840,581. MECHANICAL MOVEMENT. DAVID NELSON, Burma, Ark. Filed June 24, 1905. Serial No. 266,816.



Claim.—A device of the kind described comprising a shaft, means for rocking the shaft, gear-wheels loose on the shaft, a fixed ratchet adjacent each gear-wheel, a spring-pressed pawl carried by each of the gear-wheels and adapted to engage the adjacent ratchets, said pawls being oppositely disposed, a parallel shaft, gear-wheels fixed thereon, one of said gear-wheels meshing with one of the loose gear-wheels, an intermediate shaft, a pinion thereon, said pinion meshing with the remaining loose and fixed gear-wheels, respectively, a third shaft, and a slidable gear thereon adapted to mesh with said loose gears, as and for the purpose mentioned.

840,582. ELECTRIC ALARM DEVICE. JOHN F. O'NEILL, Newburgh, N. Y. Filed Aug. 4, 1906. Serial No. 329,257.



Claim.—1. An electric overflow-alarm or indicating device for ice-boxes and other uses comprising a metallic base, a bridge at one end, a movable member or platform pivoted at the other end of the base and adapted to support a pan or other receptacle, a contact connected to said platform and insulated therefrom, means connected to the bridge for resisting downward pressure on said pivoted base, and electrical indicating means adapted to be set in operation when the said contact touches the base due to the weight of the material in the pan.

2. An electric overflow-alarm or indicating device for ice-boxes and other uses comprising a metallic base, a bridge at one end, a movable member or platform pivoted at the other end of the base and adapted to support a pan or other receptacle, a contact connected to said platform and insulated therefrom, adjustable means connected to the bridge for resisting downward pressure on said pivoted base, and electrical indicating means adapted to be set in operation when the said contact touches the base due to the weight of the material in the pan.

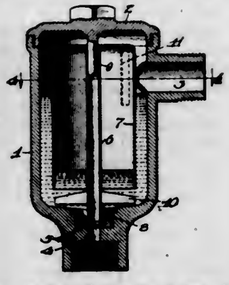
3. An electric overflow-alarm or indicating device for ice-boxes and other uses comprising a metallic base, a bridge at one end, a movable member pivoted at the other end of the base and adapted to support a pan or other receptacle, an insulated contact-tongue projecting from said base and extending underneath said bridge, a spring connecting the tongue with the bridge, and electrical indicating means adapted to be set in operation when the said tongue comes in contact with the base due to the weight of the water or other material in the pan.

4. An electric overflow-alarm or indicating device for ice-boxes and other uses comprising a base, a bridge connected thereto, a movable member or plaform pivoted at one end of the said base, a contact-tongue secured to said member and insulated therefrom, and an adjustable spring connecting said bridge to said tongue and adapted to yield to pressure on the movable member, and an electric alarm included in the circuit of the base, the contact-tongue and said spring.

5. An electric overflow-alarm or indicating device for ice-boxes and other uses comprising a metallic base, a metallic bridge secured thereto, a wooden member or platform provided with a reinforcing metallic edge, one end of said member being pivoted to the base, a metallic contact-tongue secured to the wooden portion of said platform and insulated from the metallic rim, an adjustable spring connecting said bridge to said tongue, and an electric alarm device included in the circuit of the base, the contact-tongue and the spring.

6. An electric overflow-alarm or indicating device for ice-boxes and other uses comprising a metallic base, a platform of insulating material pivoted at one end to the base and provided at the other end with a contact adapted to coöperate with the base, a bridge over said contact, an adjusting-screw carried by said bridge and insulated therefrom, a retracting-spring connecting said contact with the screw, adjusting-nuts on said screw, and an electric alarm or indicating device included in the circuit of the screw, the spring, the contact and the base, whereby a circuit will be completed when the tongue is brought into contact with the base due to pressure upon the platform.

840,583. RELIEF-VALVE. WILLIAM D. PICKELS, Chicago, Ill. Filed Feb. 28, 1906. Serial No. 303,508.



Claim.—1. A device of the kind described, comprising an inclosing shell provided with an inlet and an outlet, and means for connecting said shell in a steam system, in combination with means for controlling said outlet, and means operated by the liquid as it enters said shell for agitating the liquid in said shell.

2. A device of the kind described, comprising an inclosing shell provided with an inlet and an outlet and means for connecting the same in a steam system, a valve-seat at the inner end of said outlet, a valve coöperating with said valve-seat to control said outlet, and a float controlling the operation of said valve, in combination with one or more members connected to said float and arranged in proximity to the bottom of said shell, and means for revolving said members about the valve to agitate the liquid in the shell.

3. A device of the kind described, comprising an inclosing shell provided with an inlet and an outlet, and means for connecting the same in a steam system, in combination with a valve-seat positioned below the bottom of said shell at the inner end of said outlet, a valve coöperating with and terminating at said valve-seat positioned to control said outlet, and a float controlling the operation of said valve.

4. A device of the kind described, comprising an inclosing shell provided with an inlet and an outlet, and means for connecting the same in a steam system, in combination with a conical recess positioned in the bottom of said shell about the inner end of said outlet, with a valve-seat forming the bottom of said recess, a valve coöperating with said valve-seat to control said outlet, and a float controlling the operation of said valve.

5. A device of the kind described, comprising an inclosing shell having a slightly-hoppered bottom, and provided with an inlet and an outlet and means for connecting the same in a steam system, in combination with a conical recess positioned in the bottom of said shell at the apex of said hopper and about the inner end of said outlet, with a valve-seat forming the bottom of said recess, a valve coöperating with said valve-seat to control said outlet and a float controlling the operation of said valve.

6. A device of the kind described, comprising an inclosing shell provided with an inlet and an outlet, and means for connecting the same in a steam system, in combination with a valve-seat at the bottom of said shell and the inner end of said outlet, a valve coöperating with said valve-seat to control said outlet, a float controlling the operation of said valve, and a conical guide-recess inclosing said valve-seat and controlling the transverse position of said valve.

7. A device of the kind described, comprising an inclosing shell provided with an inlet and an outlet, and means for connecting the same in a steam system, in combination with a valve, a float to control the operation of said valve, a conical recess in the bottom of said shell about said outlet, to guide said valve to its seat, and a valve-seat at the bottom of said recess coöperating with said valve to control said outlet.

8. A device of the kind described, comprising an inclosing shell provided with an inlet and an outlet and means for connecting the same in a steam system, a valve controlling said outlet, and a float controlling said valve, in combination with a plurality of blades upon the exterior of said float, and means for directing the fluid entering said shell against said blades to rotate said valve and agitate the fluid in the shell.

9. In a device of the kind described, an inclosing shell provided with an inlet and an outlet, and a float positioned within said shell, in combination with a plurality of blades upon said float, extending longitudinally of said shell, the inner end of said inlet being substantially tangent to the shell, whereby liquid entering said shell will impinge upon said blades and tend to rotate said float.

10. In a relief-valve, an inclosing shell provided with an inlet the inner end of which is substantially tangent to the inner surface of the shell.

11. In a device of the kind described, an inclosing shell provided with an inlet and an outlet, and means for connecting the same in a steam system, in combination with means for controlling said outlet, and means for continuously discharging fluid from near the bottom of said shell into said outlet.

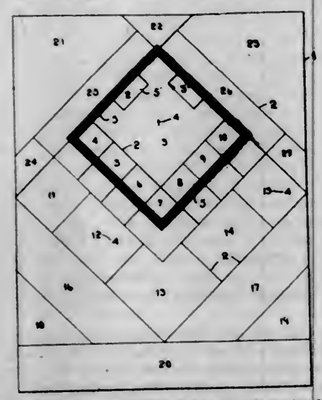
12. In a device of the kind described, an inclosing shell provided with an inlet and an outlet, and means for connecting the same in a steam system, in combination with a tubular valve arranged to control said outlet, and one or more tubular members extending from near the bottom of said shell into said tubular valve.

13. In a relief-valve, an inclosing shell provided with an inlet and an outlet and a removable part rigidly secured to said shell at the inner end of said outlet comprising a valve-seat and a conical guide-recess inclosing said valve-seat and adapted to direct a valve to said valve-seat.

14. In a device of the kind described, an inclosing shell provided with an inlet and an outlet, and a tubular valve arranged to control said outlet, in combination with one or more tubular members extending from a point near the bottom of said shell into said tubular valve and independent means for controlling the transverse position of each end of said valve.

15. In a device of the kind described, an inclosing shell provided with an inlet and an outlet, and a tubular valve arranged to control said outlet, in combination with one or more tubular members extending from a point near the bottom of said shell into said tubular valve, independent means for controlling the transverse position of each end of said valve, and means tending to rotate said valve to agitate the fluid near the bottom of said shell.

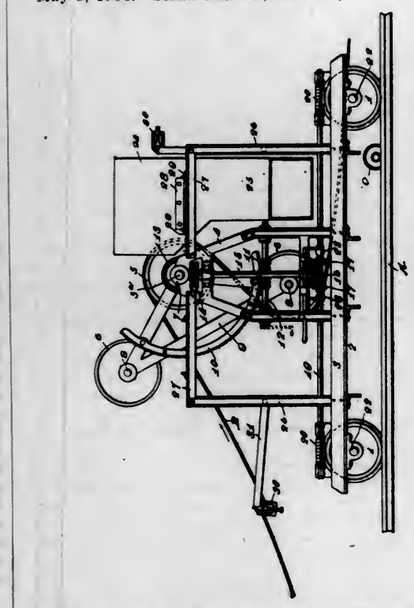
840,584. GAME APPARATUS. ROY W. PIPER, Warnock, Ohio. Filed Aug. 3, 1906. Serial No. 329,075.



Claim.—1. A game of the character described consisting of a board representing a base-ball field or diamond and divided into numbered spaces, game pieces or men to be moved about upon said board, and a deck of cards each of which is numbered and bears an inscription designating a play, the numbers on some of said cards corresponding to the number of the spaces on said board, substantially as described.

2. A game of the character described consisting of a board representing a base-ball field or diamond and divided into numbered spaces, nine similar game pieces or men, three similar game pieces or men but distinguishable from the first-mentioned game pieces or men, and a deck of cards, each of which bears a number and an inscription designating a play, the numbers on some of said cards corresponding to the numbers on the spaces of said board, substantially as described.

840,585. TRIPPER OR DELIVERER FOR BELT CONVEYERS. ARTHUR B. PROAL, Jr., New York, N. Y. Filed May 5, 1906. Serial No. 315,338.



Claim.—1. The combination in a tripper or deliverer for belt conveyers of a fixed upper bend-pulley and two shiftable lower bend-pulleys, only one of which is adapted to operate at one time.

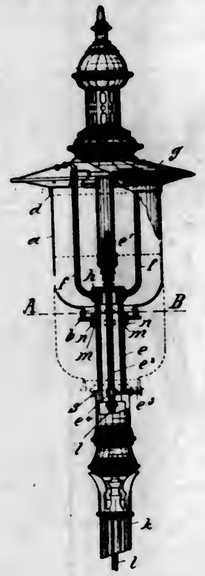
2. The combination in a tripper or deliverer for belt conveyers of one bend-pulley turning about a fixed axis and two other bend-pulleys turning about shiftable axes and so connected that one only of the latter bend-pulleys is adapted to operate at one time.

3. The combination in a tripper or deliverer for belt conveyers of a suitable supporting structure, a bend-pulley mounted on said supporting structure and turning about a fixed axis, a rocking superstructure pivoted to swing about the axis of said bend-pulley, and a pair of shiftable bend-pulleys carried by said rocking framework and adapted to operate one at a time only.

4. The combination in a tripper or deliverer for belt conveyers of a suitable supporting structure, a bend-pulley carried by said supporting structure and turning about a fixed axis, a pair of triangular frames pivoted to swing about said fixed axis, and a pair of bend-pulleys having their supporting-shafts mounted in the base-angles of said triangular frames.

840,586. STREET-LAMP. FRIEDRICH RECH, Ehrenfeld, near Cologne, Germany. Filed Feb. 15, 1906. Serial No. 301,313.

Claim.—In a street-lamp, the combination with a lamp-post having a cylindrical upper part which is provided intermediate its length with a plurality of projections in a horizontal plane and at its lower end with a shoulder, of a ring movable on the cylindrical upper part of said lamp-post and provided with a plurality of cuts, through which the projections can pass, also on its lower side with a plurality of noses, between which the projections can engage, a plurality of arms secured at the upper end of the cylindrical upper part of said lamp-post, a roof supported by said plurality of arms and provided with a concentric flange, and a globe surrounding said plurality of arms and adapted to be secured in said ring and to engage in the flange of said roof.



840,587. TRIPPER OR DELIVERER FOR CONVEYING APPARATUS. THOMAS ROBINS, Jr., New York, N. Y., and CLARENCE K. BALDWIN, Chicago, Ill. Filed May 5, 1906. Serial No. 315,278.

Claim.—1. In a tripper or deliverer for conveyers, the combination with means for supplying material to the tripper of a storage-receptacle for said material, said receptacle forming a part of the tripper, substantially as described.

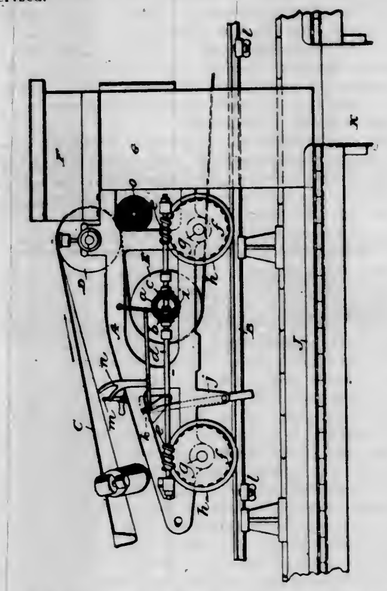
2. In a movable tripper or deliverer for conveyers, the combination with means for supplying material to the tripper of a storage-receptacle for said material, said receptacle being capable of movement with the tripper, substantially as described.

3. In a tripper or deliverer for conveyers, the combination with means for supplying material to the tripper and a storage-receptacle for said material, said receptacle forming a part of the tripper, of means for discharging the material from said receptacle, substantially as described.

4. In a tripper or deliverer for conveyers, the combination with a storage-receptacle for the material supplied to the tripper of means for automatically discharging said material therefrom at predetermined points, substantially as described.

5. In a tripper or deliverer for conveyers, the combination with a storage-receptacle for the material supplied to the tripper of means for automatically discharging said material therefrom only at predetermined points, substantially as described.

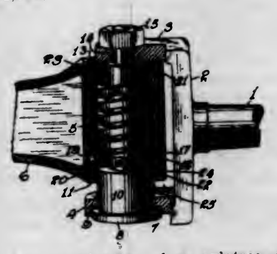
6. In a tripper or deliverer for conveyers, the combination with a storage-receptacle for the material supplied to the tripper of means for automatically discharging said material therefrom at predetermined points while the tripper and storage-receptacle are in motion, substantially as described.



7. In a tripper or deliverer for conveyers, the combination with means for constantly supplying material to the tripper and a storage-receptacle for said material of means for automatically discharging said material from said receptacle only at predetermined points, substantially as described.

8. In an automatic reversible tripper or deliverer for conveyers, the combination with means for constantly supplying material to the tripper and a storage-receptacle for said material of means for automatically discharging said receptacle only at predetermined points.

840,588. VEHICLE. JOSEPH D. ROURK and GODFREY J. A. BADDETT, New York, N. Y. Filed Aug. 20, 1906. Serial No. 331,354.



Claim.—1. The combination of an axletree, a swinging axle, a pintle connecting said members, said pintle having a shoulder and a shank, and one of said members having a hollow boss fitted at one end to turn upon said shoulder, and at the other end to turn upon said shank, and a shock-absorbing spring coiled about said pintle within said hollow boss and bearing against said shoulder and the opposite end of the boss; said shank and shoulder having an excess of length for accommodating the relative play of the axletree and axle longitudinally of said pintle.

2. The combination of an axletree, a swinging axle, one of said members having a hollow boss, and the other having a fork spanning said boss, a pintle connecting said members, said pintle having a head seated upon one end of said fork, and having a shoulder and a shank, said hollow

boss fitted at one end to turn upon said shoulder, and at the other end to turn upon said shank, said shank having a reduced end passing through the other end of said fork, and provided with securing means, and a shock-absorbing spring coiled about said pintle within said hollow boss and bearing against said shoulder and the opposite end of the boss; said shank and shoulder having an excess of length for accommodating the relative play of the axletree and axle longitudinally of said pintle.

3. The combination of an axletree, a swinging axle, a pintle connecting said members, said pintle having a shoulder and a shank, and one of said members having a hollow boss fitted at one end to turn upon said shoulder, and at the other end to turn upon said shank, a shock-absorbing spring coiled about said pintle within said hollow boss and bearing against said shoulder and the opposite end of the boss; said shank and shoulder having an excess of length for accommodating the relative play of the axletree and axle longitudinally of said pintle, a washer interposed between said spring and said shoulder, and a set of bearing-balls interposed between said washer and said shoulder.

4. The combination of an axletree, a swinging axle, one of said members having a hollow boss, and the other having a fork spanning said boss, a pintle connecting said members, said pintle having a head seated upon one end of said fork, and having a shoulder and a shank, said hollow boss fitted at one end to turn upon said shoulder, and at the other end to turn upon said shank, said shank having a reduced end passing through the other end of said fork, and provided with securing means, a shock-absorbing spring coiled about said pintle within said hollow boss and bearing against said shoulder and the opposite end of the boss; said shank and shoulder having an excess of length for accommodating the relative play of the axletree and axle longitudinally of said pintle, a set of bearing-balls running around the periphery of said shank, and a set of bearing-balls running around the periphery of said shoulder; means being provided upon said boss for confining said sets of balls.

5. The combination of an axletree, a swinging axle, one of said members having a hollow boss, and the other having a fork spanning said boss, a pintle connecting said members, said pintle having a head seated upon one end of said fork, and having a shoulder and a shank, said hollow boss fitted at one end to turn upon said shoulder, and at the other end to turn upon said shank, said shank having a reduced end passing through the other end of said fork, and provided with securing means, a shock-absorbing spring coiled about said pintle within said hollow boss and bearing against said shoulder and the opposite end of the boss; said shank and shoulder having an excess of length for accommodating the relative play of the axletree and axle longitudinally of said pintle, a set of bearing-balls running around the periphery of said shank, a set of bearing-balls running around the periphery of said shoulder; means being provided upon said boss for confining said sets of balls, a washer interposed between said spring and said shoulder, and a set of bearing-balls interposed between said washer and said shoulder.

840,589. TELEPHONE-SIGNAL. GUSTAVUS W. SCHUESSLER, Mason, Tex. Filed Sept. 23, 1905. Serial No. 279,865.

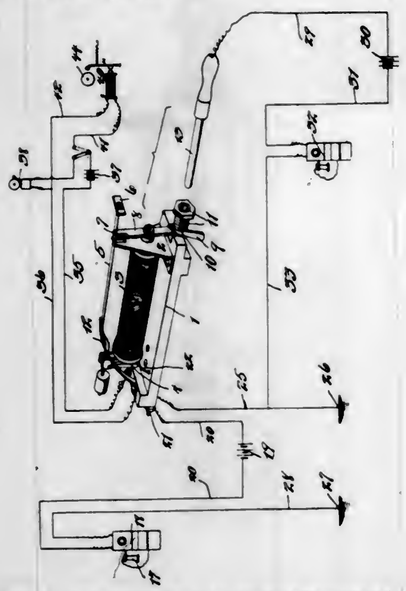
Claim.—1. In a switchboard-drop, a magnet, an armature therefor, an oscillating rod movable with said armature and carrying a visual indicator, and means for holding said rod in raised position.

2. In a switchboard-drop, a magnet, an armature therefor, an oscillating rod movable with said armature, and a pivoted support for the free end of said rod.

3. In a switchboard-drop, a magnet, an armature therefor, an oscillatory rod supported by said magnet, and a weighted notched pivoted support for the free end of said rod.

4. In a switchboard-drop, a magnet, an armature therefor, an oscillatory rod movable with the armature and weighted at one end, an indicator carried by the other end of said rod, and a pivoted support for said rod.

5. In a switchboard-drop, a magnet, an armature therefor, an oscillatory rod movable with the armature, an indicator carried by said rod, a socket, and a pivoted support for the free end of said rod, mounted with a portion traversing a passage through said socket when the oscillatory rod is in a raised position.



6. In a switchboard-drop, an electrically-actuated indicator having a rod, a plug-socket, and an oscillatory support for the indicator-rod, having a portion traversing said socket when the indicator is in a raised position.

7. In a switchboard-drop, an oscillatory indicator-rod, a notched pivoted support therefor, and a socket traversed by a portion of said notched support when the indicator-rod is raised.

8. In a switchboard-drop, a magnet, an oscillatory indicator-rod, an armature integral with said rod and supported by said magnet, a spring forming an electrical connection with said rod, and a pivoted oscillatory notched support for the free end of said rod.

9. In a switchboard-drop, a magnet, an armature therefor, a weighted oscillatory indicator-rod movable with the armature, a socket, a pivoted notched support for the free end of said rod, and having a portion extending into said socket when the indicator-rod is raised, a spring forming an electrical connection with said rod, and electrical connections, as and for the purpose specified.

10. In a switchboard-drop, a magnet, an armature therefor, an oscillatory rod movable with the armature, an indicator carried by said rod, a socket, and a pivoted support for the free end of said rod.

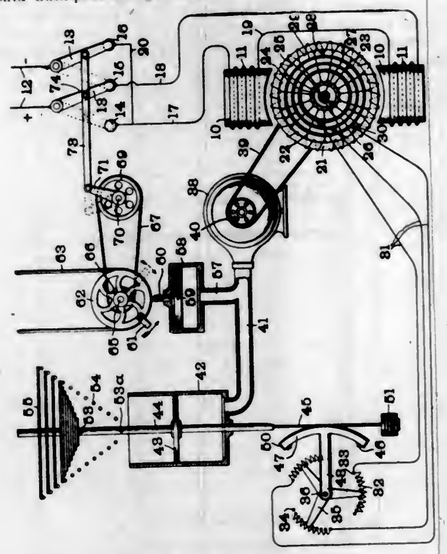
11. In a switchboard-drop, an electrically-actuated indicator having a weighted rod, a plug-socket, and an oscillatory support for the indicator.

840,590. ELECTRIC-MOTOR CONTROLLER. SIMON SPARROW, St. Louis, Mo., assignor to Wagner Electric Manufacturing Company, St. Louis, Mo. Filed Oct. 27, 1905. Serial No. 284,613.

Claim.—1. The combination with a motor, of reversing means therefor, and an automatic stop for said reversing means controlled by the rotation of said motor.

2. The combination with a motor, of a fluid-pressure generator driven by said motor, reversing means for said motor, and a stop for said reversing means controlled by said fluid-pressure generator.

3. The combination with an electric motor, of a resistance therefor, a fluid-pressure generator driven by said motor, means actuated by said fluid-pressure generator for varying said resistance, reversing means for said motor, and a stop for said reversing means controlled by said fluid-pressure generator.



4. The combination with an electric motor, of a resistance therefor, an air-pump driven by said motor, a cylinder connected with said pump, a piston in said cylinder, means connected with said piston for varying said resistance, a reversing-switch for said motor, a second cylinder connected with said pump, a second piston in said second cylinder, and a stop for said reversing-switch actuated by said second piston.

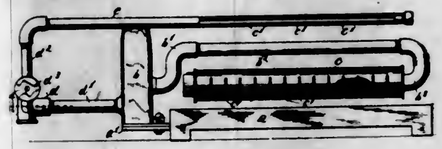
5. The combination with a motor, of a pressure-reservoir provided with a movable member, means driven by said motor for supplying fluid-pressure to said reservoir to actuate said movable member, a plurality of independent weights progressively opposed to the movement of said member, a resistance for said motor, and means connected with said member for varying said resistance.

6. The combination with a motor, of a cylinder, a piston in said cylinder, means actuated by said motor for supplying fluid-pressure to said cylinder to actuate said piston, a progressively-increasing weight opposing the movement of said piston, a resistance for said motor, means connected with said piston for varying said resistance, reversing means for said motor, a stop for said reversing means, and means controlled by said fluid-pressure for operating said stop.

7. The combination with the armature of an alternating-current motor, of a locally-closed circuit therefor, a second locally-closed circuit for said armature embodying a variable resistance, a pressure-reservoir comprising a movable member, a fluid-pressure generator driven by said armature and connected with said reservoir to supply fluid-pressure thereto, a progressively-increasing weight opposing the movement of said movable member, and means connected with said movable member for varying said resistance.

8. The combination with the armature of an alternating-current motor, of a locally-closed circuit therefor comprising a variable resistance, an air-pump driven from said armature, a cylinder, a conduit connecting said air-pump and cylinder, a piston in said cylinder, a progressively-increasing weight opposing the movement of said piston, means connected with said piston for varying said resistance, a second conduit leading from said pump, a second cylinder connected to said conduit, a second piston in said second cylinder, reversing means for said motor, and a stop for said reversing means actuated by said second piston.

840,591. HYDROCARBON-BURNER. ELY SPENCER, Jacksonville, Fla. Filed Dec. 9, 1905. Serial No. 291,009.



Claim.—1. In a hydrocarbon-burner, the combination of horizontally-arranged tubular burners, an auxiliary fluid-supply reservoir arranged adjacent to one end of said burners, fluid-supply pipes connected with said reservoir, passing over said burners and connected with the outer end of the latter, means for supplying fluid to said reservoir, and means for lighting said burners, said means arranged above and parallel with said burners.

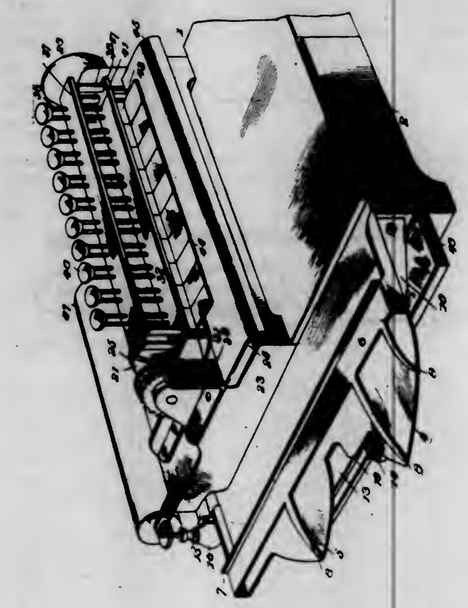
2. In a hydrocarbon-burner, the combination of parallel horizontally-arranged slotted tubular burners, an auxiliary fluid-supply reservoir arranged adjacent to one end of said burners, fluid-supply pipes connected with said reservoir, passing over said burners and connected with the other end of the latter, means for supplying fluid to said reservoir, and means for lighting said burners, consisting of a pipe communicating with the fluid-supply and extending longitudinally of said burners, said pipe having holes in its under side, means for controlling the supply of fluid to said pipe and means for controlling the supply of fluid to said reservoir.

3. In a hydrocarbon-burner, the combination of horizontally-arranged slotted tubular burners, an auxiliary fluid-supply reservoir, pipes respectively connected with said reservoir and said burners, a fluid-supply pipe leading to said reservoir, a perforated lighter or igniting-pipe arranged longitudinally of said burners and above same, means for conducting fluid to said reservoir supply-pipe and said igniting-pipe respectively, said means comprising a valve-casing having independent passages communicating with said pipes and with a fluid-supply chamber in said casing, and valves controlling said passages, substantially as set forth.

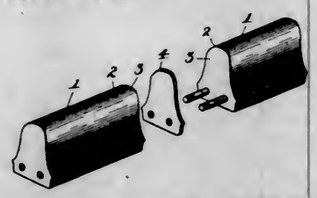
840,592. MACHINE FOR SUBDIVIDING SHEETS OF STAMPS. JAMES N. STACY, Portland, Oreg. Filed June 1, 1903. Renewed Feb. 17, 1906. Serial No. 301,632.

Claim.—In a machine of the character described, the combination of companion cutter-rolls, pillow-blocks provided with bearings for said cutter-rolls, a plate connecting the pillow-blocks and arranged about in a plane corresponding with the space formed between the cutter-rolls, one of said cutter-rolls having annular grooves and the other matching annular ribs, a ledger-plate secured to the plate connecting the pillow-blocks and arranged in front of the cutter-rolls, a bar located in the rear of the cutter-rolls and supported by the aforesaid plate, spring-holders attached at one end to said bar and passed between the cutter-rolls and supported at their front ends by means of the ledger-plate, and strippers attached to the under side of the aforementioned plate and inclined forward and downward, substantially as specified.

840,592.

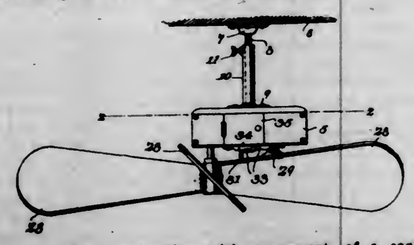


840,593. VULCANIZED JOINT FOR VEHICLE-TIRES. WILLIAM F. STEARNS, Batavia, N. Y. Filed Nov. 10, 1905. Serial No. 286,690.



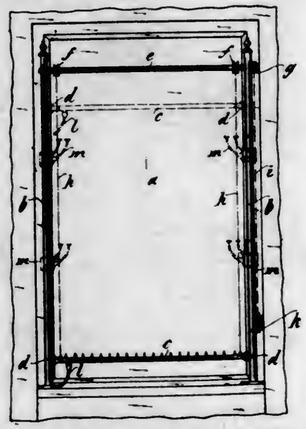
Claim.—The combination of the opposed ends of a rubber tire with an intermediate thin insert of vulcanizable material corresponding in size and contour to the cross-sectional size and contour of the tire, said ends and insert being all vulcanized together to form a homogeneous union of the opposed joint-forming surfaces.

840,594. FAN. WILLIS A. TOMISON, Winsboro, Tex., assignor of one-half to John F. Hitt, Winnsboro, Tex. Filed May 7, 1906. Serial No. 315,640.



Claim.—The combination with a support, of a casing suspended from the support and adjustable vertically with respect thereto, a door formed in one wall of the casing, a notched plate secured to the casing, a train of gearing disposed within said casing, a power-shaft connected with the gearing and having one end thereof extending through the walls of the casing, a fan carried by the power-shaft and disposed in a horizontal plane below the casing, a motive spring for rotating the gearing, and a brake-lever having an intermediate portion thereof bent to form a yoke for engagement with the gearing and its opposite end extended through the walls of the casing and provided with a terminal handle for engagement with the notches in the plate.

840,595. DEVICE FOR THAWING WINDOWS. MAX TRAUTMANN, Leipzig-Neustadt, Germany. Filed Oct. 17, 1903. Serial No. 177,465.



Claim.—1. A device for thawing windows, consisting of a horizontal tube having jet-holes along its length adapted to be mounted horizontally across the window, means for guiding the said tube vertically and means for adjusting it at any desired height on the window.

2. A device for thawing windows consisting of a horizontal tube having jet-holes along its length and adapted to be mounted horizontally across the window, means for feeding gas to the said tube, lateral vertical guide-rods at each side of the window and means for guiding the said tube between the said rods and means for adjusting the same at any position vertically on the window.

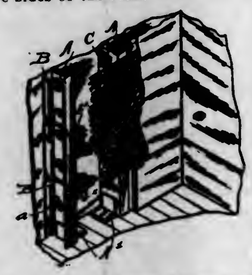
3. A device for thawing windows consisting of a horizontal tube adapted to be mounted horizontally across the window and having jet-holes along its length a flexible connection to connect the same to a gas-feed, guide-rolls at each end of the said tube, vertical guide-rods located one at each side of the window on which said rolls run, a spindle mounted at the top of the window and carrying rolls at each end, flexible members attached at one end to the jet-tube and at the other each to one of said rolls, an upper pulley at one end of said spindle and a lower crank-pulley at the lower end of the window and an endless band passing over the said pulley and crank-pulley for the purpose substantially as described.

840,596. METALLIC STUD. GEORGE A. TURNBULL, Chicago, Ill., assignor to Rosella E. Turnbull, Chicago, Ill. Filed Sept. 25, 1905. Serial No. 279,961.

Claim.—1. A stud comprising a channel slitted obliquely in the flanges to afford points directed toward the top of the stud and affording closed seats behind said points.

2. A metallic stud comprising a strip of sheet metal bent to afford one or more longitudinal flanges thereon and having the edges of the flanges slotted obliquely downwardly and inwardly and means secured in the slots adapted to engage the lath to the stud.

3. A metallic stud comprising a channel downwardly and inwardly directed slots in the oppositely-disposed flanges and rods or wires secured in said slots and projecting beyond the sides of the stud.



4. A metallic stud comprising a strip of sheet metal formed to provide longitudinal parallel flanges each slotted obliquely downward in its edge at intervals in its length and means secured in said slits adapted to engage lath to said stud.

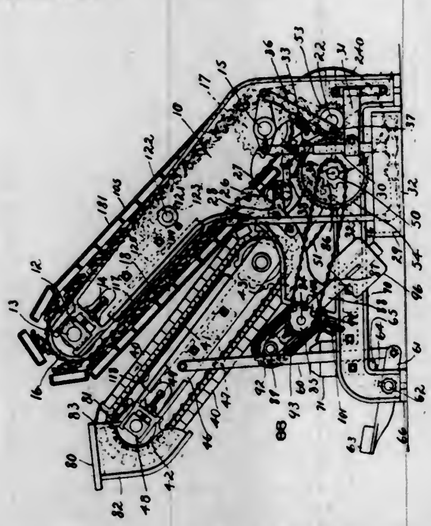
5. A stud comprising a channel having the flanges slotted on opposite sides thereof and a wire rigidly engaged in the bottoms of said slots.

6. A stud comprising a channel having downwardly and inwardly directed slots in its flanges, a wire bent to engage between the flanges and affording outward-directed ends adapted to support the lath and clips of sheet metal bent to engage the ends of the studs and adapted to be secured to the floor and joists.

7. A stud comprising a channel-bar having oppositely-disposed, downwardly-directed slots in its flanges, a rod bent to engage against the inner sides of said flanges and having its ends directed laterally through said slots, and a clip on each end of said stud.

8. A stud comprising a channel-bar having downwardly-directed slots in its flanges and wires or rods rigidly engaged in said slots and projecting outwardly from said flanges.

840,597. MACHINE FOR APPLYING LIQUID TO SKINS. WILLIAM B. TURNER, Melrose, Mass., assignor to The Turner Tanning Machinery Company, South Boston, Mass., a Corporation of Maine. Filed Apr. 1, 1904. Serial No. 201,177.



Claim.—1. A machine of the character described comprising a plurality of working members forming a flat surface when in operative position, means for operating said members, means for supplying liquid to said members, a work-support having a substantially flat surface to receive the skin, and means for causing said work-support and said members to be moved bodily one toward the other, in lines angular with relation to the said surface of the work-support.

2. A machine of the character described comprising a plurality of working members, means for yieldingly supporting and operating said members, a roll for supplying liquid to said members, a work-support, said work-support and said working members being separable to form a space for the insertion of a skin between them, and means for closing said space to cause the said working members to operate upon the skin.

3. A machine of the character described comprising a work-support having a substantially flat surface for the reception of a skin, a plurality of working members, means for moving said members rectilineally over the said surface, means for supplying liquid to said working members, and means for moving said work-support bodily at an angle to the lines of movement of said members to cause the skin on the said surface of the said work-support to be treated by said working members.

4. A machine of the character described comprising a plurality of working members, a work-support having a substantially flat surface for the reception of a skin, means for moving said working members rectilineally along the said surface of the said work-support, and treadle mechanism for moving said work-support and said working members, one toward the other in lines angular to the said surface to cause said working members to operate on a skin placed on the said surface.

5. A machine of the character described comprising a main frame, a plurality of endless carriers each having working members thereon, means for causing the actuation of said carriers, a work-support pivoted upon said main frame, and means for moving said support about its pivot to cause it to approach said working members, whereby the skin on said support will be treated by said working members.

6. A machine of the character described comprising a work-support adapted to travel in a plane parallel to its surface, liquid-applying members so disposed and related as to leave a space between said work-support and said members, between which a portion of a skin may be inserted and endless carriers yieldingly supporting said members, in combination with treadle mechanism for moving said work-support against said members.

7. A machine of the character described comprising the following instrumentalities, to wit, liquid-applying members, a work-support having a movable surface for a portion of the skin, and having a rest against which another portion of the skin may be held by the operator, in combination with treadle mechanism for moving one of said instrumentalities bodily toward the other in lines angular to said surface, and means for actuating said members consisting of endless carriers to which said members are yieldingly connected, and power mechanism for moving said carriers.

8. A machine of the character described comprising liquid-applying members, and endless carriers for supporting and actuating said members, in combination with a work-support consisting of an endless carrier with cross-slats forming a surface for the support of the skin to be treated, said members and said slats being movable in the same direction.

9. A machine of the character described comprising a work-support consisting of an endless carrier which forms a surface for that portion of the skin to be treated, and a relatively stationary rest for another portion of the skin, an endless series of liquid-applying members, and means for moving said members and said endless carrier so that their adjacent portions travel in the same direction.

10. A machine of the character described comprising two endless carriers arranged in proximity, one of said carriers constituting a work-support, and the other having a plurality of liquid-applying members attached thereto, mechanism for moving the adjacent stretches of said carriers in the same directions but at different speeds, and

means for bodily moving one of said carriers toward and from the other.

11. A machine of the character described comprising a work-support arranged at an inclination to both the vertical and the horizontal, a series of liquid-applying members, and an endless carrier supporting and actuating said members, and so arranged that its stretches overlie the said work-support.

12. In a machine of the character described, a plurality of endless carriers each having attached thereto a series of liquid-applying members, a pivoted frame adapted to be swung toward and from the working members, an endless carrier on said frame constituting a work-support, means for moving all of the said carriers, and means for moving the said frame.

13. In a liquid-applying machine, a work-support, liquid-applying mechanism, and means for cleaning the said work-support, said cleaning means comprising parallel rolls and an apron passed about said rolls and adapted to engage said work-support.

14. In a liquid-applying machine, a work-support, liquid-applying mechanism, and means for cleaning the said work-support, said cleaning means comprising rolls, endless chains connecting said rolls, and an apron connected to said chains and passed about the said rolls.

15. In a liquid-applying machine, a work-support, liquid-applying mechanism, and means for cleaning the said work-support, said cleaning means comprising a wiping device adapted to engage said work-support and a scraper for scraping the liquid from said wiping device.

16. In a liquid-applying machine, a work-support, and liquid-applying mechanism comprising an endless carrier and a plurality of wedge-shaped or tapered working members carried thereby.

17. In a liquid-applying machine, a work-support, and liquid-applying mechanism comprising an endless carrier and a plurality of flat substantially wedge-shaped blocks carried thereby, each block having its operative face covered with cushioning or absorbent material.

18. In a machine of the character described, liquid-applying mechanism comprising an endless carrier, means for moving said carrier, a block supported on said carrier and adapted to yield bodily in a direction substantially opposite to the direction of movement of said carrier.

840,598. FISHING-TACKLE. JONATHAN B. TUTTLE, Claremont, Cal. Filed July 5, 1906. Serial No. 324,911.

Claim.—1. In fishing-tackle, a rod, a spring supported thereby, and line-guides, one of which is carried by the rod and the other by the spring, said guides serving to multiply the action of the spring during the time the latter is taking up the line.

2. In a fishing-tackle, a rod, a spring having a given length of retractile movement, and guides around which the line may pass, one of said guides being carried by the rod and the other being carried by and movable with the spring, said guides serving to multiply the action of the spring during the time the latter is taking up the line.

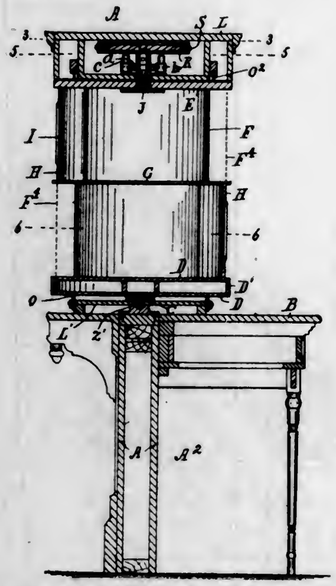
3. In fishing-tackle, a spring for imparting a quick, sharp pull on the line, means for securing one end of the spring to the rod, a catch for engaging the free end of the spring and holding said spring under stress, a pair of line-guiding rollers supported by the spring, and a line-guiding roller supported by the rod and having a tapered periphery.

4. In fishing-tackle, a spring formed of a section of wire that is coiled helically near one end, means for attaching the coiled end of the spring to the rod, a recessed arm arranged at the free end of the spring, a manually-operable latch-lever arranged to engage the recessed arm and hold the spring under stress, a pair of brackets projecting from the spring, line-guiding rollers mounted on said brackets and arranged with their axes at a right angle to each other, and a line-guiding roller carried by the rod and provided with a tapered periphery.

840,598.



840,599. ROTATABLE PARTITION-SHELF. THEOPHILUS VAN KANNEL, New York, N. Y., assignor to Van Kannel Revolving Door Company, New York, N. Y., a Corporation of West Virginia. Filed June 3, 1905. Serial No. 263,653.



Claim.—1. The combination, with a partition separating two rooms and extended from the floor to the ceiling and having a passage therethrough, of a suitable casing attached to the edges of such passage-way and projected from opposite sides of the partition, a cylindrical drum having a segmental doorway of less than ninety degrees and heads at the top and bottom with journals fitted to turn in the casing, the casing inclosing at least one-quarter of the periphery upon two opposite sides of the drum, with quadrantal openings at opposite sides of the casing adapted to communicate with either of the doorways of the drum, and two rectangular frames of packings attached to the edges of the casing around such quadrantal openings at the opposite sides of the casing, such packings bearing upon the periphery of the drum and upon its upper and lower heads, whereby the passage of air through the casing is prevented in all positions of the drum.

2. A duplex rotatable delivery-shelf having a drum with two heads, an intermediate shelf, and quadrantal doorways in the drum at opposite sides above and below the intermediate shelf, a casing inclosing at least one-quarter of the periphery upon each of two opposite sides of the drum, with quadrantal openings at opposite sides of the casing adapted to communicate with either of the doorways of the drum, and packings attached to the casing about ninety degrees apart, to bear upon the periphery of the drum and prevent the passage of air past its sides.

3. A rotatable delivery-shelf, comprising a drum having two heads D and E and an intermediate shelf G connected by opposite quadrantal sides F with intermediate openings of less than ninety degrees, quadrantal panels H closing the openings upon opposite sides of the drum above and below the intermediate shelf, a casing M embracing opposite quadrants of the drum, journals upon the drum fitted to the casing, and vertical packings attached to the casing at least ninety degrees apart to bear upon the sides of the drum.

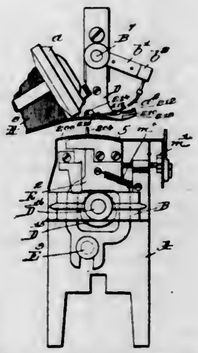
4. A rotatable delivery-shelf comprising a drum having a quadrantal doorway, a casing inclosing opposite quadrants of the drum with opposite openings corresponding to such doorway, and supporting-journals upon the drum, a cam rotatable with the drum and provided with two opposite recesses, and a yielding member upon the casing having a projection to fit the said recesses and adjusted to permit the rotation of the drum in either direction, and to automatically set the drum, when released from the rotary force, with its doorways opposite to the openings in the casing.

5. A rotatable delivery-shelf comprising a drum having a quadrantal doorway, a casing inclosing opposite quadrants of the drum, with opposite openings corresponding to such doorway, and supporting-journals upon the drum, a cam *a* rotatable with the drum and having two projections with intermediate recesses *a'*, the opposed leaf-springs *c* with rollers *b* fitted to the said recesses and supported upon the casing by studs, the rolls permitting the drum to rotate in either direction and adjusted to automatically set the drum when released from the rotary force, with its doorways opposite the openings of the casing.

6. The combination, with a hollow partition having a passage-way extended therethrough, of a drum journaled in the passage-way and having a quadrantal doorway, the casing M applied to the edges of the passage-way and embracing opposite quadrants of the drum's periphery, the pulley R attached to one of the journals of the drum, the crank-shaft V extended through the partition with hand-cranks W at opposite sides of the partition and pulley U mounted thereon inside the partition, and a cord S running over the pulley P and extending from the opposite sides thereof out from the casing and within the partition, and its ends wound about the pulley U in opposite directions, whereby the connections for rotating the drum are concealed in the partition and casing.

7. The combination, with the hollow partition A having a passage-way extended therethrough, of the drum E mounted in the passage-way and having a quadrantal doorway, the casing M applied to the edges of the passage-way and embracing opposite quadrants of the drum's periphery, the journals C and J upon the drum fitted to the casing, the pulley R attached to the journal J, the crank-shaft V extended through the partition with hand-cranks W at opposite sides of the partition and pulley U mounted thereon inside the partition, said pulley being one-half the size of the pulley R, guide-pulleys T within the partition at the level of the pulley R and above the pulley V, and a cord S running over the pulley E and extended from the opposite sides thereof out from the casing and within the partition over the guide-pulleys T and its ends wound around the pulley U in opposite directions, whereby a complete revolution of either crank turns the drum one-half a rotation in its casing.

840,600. ATTACHMENT FOR BLINDSTITCH SEWING-MACHINES. WOLF ARBETTER, Chelsea, Mass., assignor to Arbetter Felling Machine Company, Boston, Mass., a Corporation of Maine. Filed Mar. 1, 1905. Serial No. 247,836.



Claim.—1. In a sewing-machine, a curved needle and coöperating second thread-carrier, combined with a work-support comprising two plates with a slot between their opposed edges, one of said plates having a feed-opening parallel with and at one side of the edge of its plate forming part of said slot, said plates sustaining a waistband with the buttons attached to its side resting on said plates, said buttons traveling below the plates, the edges of the plates entering the space between the buttons and the waistband to which they are attached.

2. In a sewing-machine, a work-support having a feed-opening, a slot parallel with said feed opening and an opening for an edge-gage combined with a feeding device working through said feed-opening, an edge-gage located in said edge-gage opening, and means to withdraw said edge-gage into the work-support into its inoperative position.

3. In a sewing-machine, a work-support comprising a plate having a feed-opening therein parallel with the edge of the plate, and a button passage-way or slot provided with an edge parallel to the feed-opening, said edge being adapted to enter the space between a button and the fabric to which it is attached, combined with a feeding device to engage and move said fabric over the work-support, the attached buttons traveling under the work-support and being guided by the edge thereof.

4. In a sewing-machine, a work-support comprising a plate having a feed-opening therein, a button passage-way or slot having an edge parallel to said feed-opening, said edge being adapted to enter the space between a button and the fabric to which it is attached, combined with a feeding device to engage and move said fabric over the work-support, the attached buttons traveling under the work-support and being guided by the edge thereof, and an edge-gage.

5. In a sewing-machine, a work-support comprising a plate having a feed-opening therein parallel with the edge of the plate, said edge being adapted to enter the space between a button and the fabric to which it is attached, combined with a feeding device to engage and move said fabric over the work-support, the attached buttons traveling under the work-support and being guided by the edge thereof, combined with an edge-gage sustained by said

work-support, and a presser-foot having a gage for the internal edge of the material of the waistband superimposed on material passing under the presser-foot and guided by said edge-gage.

6. In a sewing-machine, stitch-forming mechanism comprising a curved needle and a coacting second thread-carrier; a feeding device, and a work-support having a feed-opening, and a parallel slot in which buttons may be moved as the material is being fed by the feeding device, combined with a presser-foot having a gage for the inturned edge of the material superimposed upon material traveling over the work-support and under the presser-foot, said foot having a wing projecting beyond the gage referred to and interposed between the inturned edge of said material and the material sustained on the work-support.

7. In a sewing-machine, stitch-forming mechanism comprising a curved needle and a coacting second thread-carrier; a feeding device, and a work-support having a feed-opening, and a parallel slot in which buttons may be moved as the material is being fed by the feeding device, combined with a presser-foot having a gage for the inturned edge of the material superimposed upon material traveling over the work-support and under the presser-foot, said foot having a wing projecting beyond the gage referred to and interposed between the inturned edge of said material and the material sustained on the work-support, and a lip overlapping said wing.

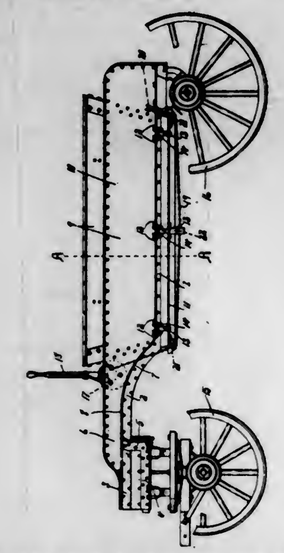
8. In a sewing-machine, stitch-forming mechanism comprising a curved needle and a coacting second thread-carrier; a feeding device, and a work-support having a feed-opening; and a parallel slot in which buttons may be moved as the material is being fed by the feeding device, combined with a presser-foot having a gage for the inturned edge of the material superimposed on the material traveling over the work-support and passing under the presser-foot, said foot having a wing interposed between the inturned edge of said material and the material passing under the presser-foot, and a toe connected with said presser-foot and extending over the inner end of said wing.

9. In a sewing-machine, stitch-forming mechanism comprising a curved needle and a coacting second thread-carrier; a work-support, means for feeding the work over the work-support, a presser-foot having an edge-gage, a lip and a wing, and provided at its upper side with a groove in which the needle works, a slot at right angles to the length of the foot to expose the material to be entered by the needle, and an edge-gage movable vertically with relation to said work-support and entering the transverse groove in the presser-foot.

840,601. DUMP-WAGON. COURTNEY C. AVERY, Auburn, N. Y., assignor to The Eagle Wagon Works, Auburn, N. Y., a Corporation of New York. Filed Sept. 23, 1905. Serial No. 279,759.

Claim.—1. In a dump-wagon, a frame comprising side bars having parts thereof in advance of the main portions of said side bars extended upwardly and forwardly, the advance ends of the side bars being disposed in a horizontal plane above and substantially parallel to said main portions, and supplemental frame members arranged, respectively, beneath the advance ends of the side bars, each of said members having its major portion arranged substantially parallel to the advance end of the corresponding side bar and rigidly connected to said advance end, substantially as and for the purpose described.

2. In a dump-wagon, a frame comprising side bars having parts thereof in advance of the main portions of said side bars extended upwardly and forwardly, the advance ends of the side bars being disposed in a horizontal plane above and substantially parallel to said main portions, and supplemental frame members arranged, respectively, beneath the advance ends of the side bars, each of said members consisting of a bar having its major portion arranged substantially parallel to the advance end of the corresponding side bar and having one end extended upwardly at substantially a right angle to such major portion and fixed to said corresponding side bar, substantially as and for the purpose set forth.



3. In a dump-wagon, a frame comprising side bars having parts thereof in advance of the main portions of said side bars extended upwardly and forwardly, the advance ends of the side bars being disposed in a horizontal plane above and substantially parallel to said main portions, and supplemental frame members arranged, respectively, beneath the advance ends of the side bars, each of said members consisting of a bar having its major portion arranged substantially parallel to the advance end of the corresponding side bar and having the rear end thereof extended upwardly at substantially a right angle to such major portion and fixed to said corresponding side bar, substantially as and for the purpose specified.

4. In a dump-wagon, side bars having parts thereof in advance of the main portions of said side bars extended upwardly and forwardly, the advance ends of the side bars being disposed in a horizontal plane above and substantially parallel to said main portions, supplemental frame members arranged, respectively, beneath the advance ends of the side bars, each of said members consisting of a bar having its major portion arranged substantially parallel to the advance end of the corresponding side bar and having one end extended upwardly at substantially a right angle to such major portion and fixed to said corresponding side bar, and the sides of the body of the wagon having their forward portions fixed to the inner faces of the advance ends of the side bars and to said supplemental frame members, substantially as and for the purpose described.

5. In a dump-wagon, the combination of a frame comprising side bars formed from angle-iron of inverted-L-shaped cross-section, the vertical flange of each side bar extending downwardly from the horizontal flange thereof, and said horizontal flange extending outwardly, a receptacle supported by the frame and having its sides secured to the vertical flanges of the side bars, the bottom of said receptacle being divided longitudinally into opposite sections, and hinges for said sections having their pivotal pins located, respectively, in the angles of the side bars, substantially as and for the purpose set forth.

6. In a dump-wagon, the combination of a frame comprising side bars formed from angle-iron of inverted-L-shaped cross-section, the vertical flange of each side bar extending downwardly from the horizontal flange thereof, and said horizontal flange extending outwardly, a receptacle supported by the frame and having its sides secured to the vertical flanges of the side bars, the lower edges of the sides of said receptacle being substantially flush with the lower edges of said vertical flanges of the side bars, and the bottom of said receptacle being divided longitudinally into opposite sections, and hinges for said sections having their pivotal pins located, respectively, in the angles of the side bars, substantially as and for the purpose specified.

7. In a dump-wagon, a frame comprising side bars formed from angle-iron of inverted-L-shaped cross-section, the vertical flange of each side bar extending downwardly from the horizontal flange thereof, and said horizontal flange extending outwardly, a receptacle supported by the frame and having its sides secured to the vertical flanges of the side bars, the bottom of said receptacle being divided longitudinally into opposite sections, and hinges for said sections supported, respectively, by the side bars, substantially as and for the purpose specified.

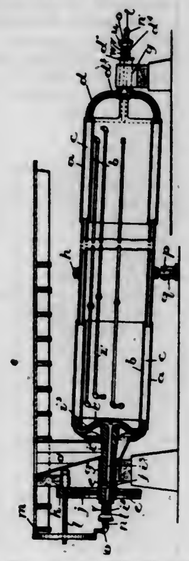
8. In a dump-wagon, a frame comprising side bars formed from angle-iron of inverted-L-shaped cross-section, the vertical flange of each side bar extending downwardly from the horizontal flange thereof and said horizontal flange extending outwardly, a receptacle supported by the frame and having its sides secured to the vertical flanges of the side bars, the bottom of said receptacle being divided longitudinally into opposite sections, and hinges for said sections having their pivotal pins located, respectively, in the angles of the side bars, each hinge consisting of a substantially U-shaped part depending from the horizontal flange of a side bar, and a part connected to a section of the bottom and having its outer end formed hook-shaped and engaged with the intermediate portion of the U-shaped part, substantially as and for the purpose set forth.

9. In a dump-wagon, the combination of a frame comprising side bars formed from angle-iron of inverted-L-shaped cross-section, the vertical flange of each side bar extending downwardly from the horizontal flange thereof, and said horizontal flange extending outwardly, a receptacle supported by the frame and having its sides secured to the vertical flanges of the side bars, the lower edges of the sides of said receptacle being substantially flush with the lower edges of said vertical flanges of the side bars, and the bottom of said receptacle being divided longitudinally into opposite sections, each provided with engaging members at the ends and intermediate portion thereof, the engaging members at the intermediate portions of the sections being below said members at the ends of the sections, hinges for the sections having their pivotal pins located, respectively, in the angles of the side bars, a winding-drum at one end of the receptacle, and a flexible element secured to the drum and passing beneath the engaging members provided at the ends and intermediate portions of the sections of the bottom, substantially as and for the purpose specified.

10. In a dump-wagon, a frame comprising side bars formed from angle-iron of inverted-L-shaped cross-section, the vertical flange of each side bar extending downwardly from the horizontal flange thereof, and said horizontal flange extending outwardly, said side bars having parts thereof in advance of the main portions of said side bars extended upwardly and forwardly, and the advance ends of the side bars being disposed in a horizontal plane above and substantially parallel to said main portions, supplemental frame members arranged beneath the advance ends of the side bars, each of said members having its major portion arranged substantially parallel to the advance end of the corresponding side bar, and rigidly connected to said advanced end, a receptacle supported by the frame and having its sides secured to the vertical flanges of the side bars, the bottom of said receptacle being divided longitudinally into opposite sections, and hinges for the sections having their pivotal pins located, respectively, in the angles of the side bars, substantially as and for the purpose described.

840,602. ROTARY DRIER. ANTON BERG, Anderson, Ind. Filed Feb. 3, 1906. Serial No. 299,282.

Claim.—1. In a rotary drier the combination of the drying-cylinder, a steam-jacket inclosing the drying-cylinder, annular end plates closing the ends of the steam-space between the drying-cylinder and steam-jacket, radial arms for the end plates having centrally-located journals with steam-passages, through the journals, arms and end plates, communicating with the steam-space, steam and exhaust pipes communicating with said steam-passages, means for revolubly coupling the journals to the steam and exhaust pipes and means for revolving the drier.



2. In a rotary drier the combination of the drying-cylinder, a steam-jacket inclosing the drying-cylinder, annular end plates closing the ends of the steam-space between the drying-cylinder and steam-jacket, radial arms for the end plates having centrally-located journals with steam-passages, through the journals, arms and end plates, communicating with the steam-space, steam and exhaust pipes communicating with said steam-passages, means for revolubly coupling the journals to the steam and exhaust pipes comprising spherical coupling-collars on the steam and exhaust pipes and spherical enlargements for extensions of the ends of the journals revolubly contained in the coupling-collars and means for revolving the drier.

3. In a rotary drier the combination of the drying-cylinder, a steam-jacket inclosing the drying-cylinder, annular end plates closing the ends of the steam-space between the drying-cylinder and steam-jacket, radial arms for the end plates having centrally-located journals with steam-passages, through the journals, arms and end plates, communicating with the steam-space, steam and exhaust pipes communicating with said steam-passages, means for revolubly coupling the journals to the steam and exhaust pipes comprising spherical coupling-collars on the steam and exhaust pipes, spherical enlargements for the extension of the ends of the journals revolubly contained in the coupling-collars, movable collars loosely encircling the extensions and stationary collars fixed thereto, compression-springs interposed between the movable and stationary collars and means for causing the revolution of the drier.

4. In a rotary drier the combination of the drying-cylinder, a steam-jacket inclosing the drying-cylinder, annular end plates closing the ends of the steam-space between the drying-cylinder and steam-jacket, radial arms for the end plates having centrally-located journals with steam-passages, through the journals, arms and end plates, communicating with the steam space, steam and exhaust pipes communicating with said steam-passages, means for revolubly coupling the journals to the steam and exhaust pipes, comprising coupling-collars on the steam and exhaust pipes, spherical enlargements for the extensions of the ends of

the journals revolubly contained in the coupling-collars, movable collars loosely encircling the extensions and stationary collars fixed thereto, compression-springs interposed between the movable and stationary collars, antifriction-balls interposed between the movable and coupling collars, and means for causing the revolution of the drier.

5. In a rotary drier the combination of the drying-cylinder, a steam-jacket inclosing the drying-cylinder, annular end plates closing the ends of the steam-space between the drying-cylinder and steam-jacket, radial arms for the end plates having centrally-located journals with steam-passages, through the journals, arms and end plates communicating with the steam-space, steam and exhaust pipes communicating with the steam-passages, means for revolubly coupling the journals to the steam and exhaust pipes comprising coupling-collars on the steam and exhaust pipes, spherical enlargements for the extensions of the ends of the journals revolubly contained in the coupling-collars, movable collars loosely encircling the extensions and stationary collars fixed thereto, compressing-springs interposed between the movable and stationary collars, antifriction-balls interposed between the movable and coupling collars, means for causing the revolution of the drier, a fixed shoulder for the journal at the receiving end of the drier, a thrust-ring interposed between the shoulder and adjacent bearing, antifriction-balls interposed between the shoulder and thrust-ring and means for causing the revolution of the drier.

6. In a rotary drier the combination of the drying-cylinder, a steam-jacket inclosing the drying-cylinder, annular end plates closing the ends of the steam-space between the drying-cylinder and steam-jacket, radial arms for the end plates having centrally-located journals with steam-passages, through the journals, arms and end plates, communicating with the steam-space, steam and exhaust pipes communicating with said steam-passages, means for revolubly coupling the journals to the steam and exhaust pipes, means for revolving the drier, and a feed-box at the receiving end of the drying-cylinder to deliver the material into the drying-cylinder.

7. In a rotary drier the combination of the drying-cylinder, a steam-jacket inclosing the drying-cylinder, annular end plates closing the ends of the steam-space between the drying-cylinder and steam-jacket, radial arms for the end plates having centrally-located journals with steam-passages, through the journals, arms and end plates, communicating with the steam-space, steam and exhaust pipes communicating with the steam-passages, means for revolubly coupling the journals to the steam and exhaust pipes comprising spherical coupling-collars on the steam and exhaust pipes, spherical enlargements for extensions of the ends of the journals revolubly contained in the coupling-collars, means for revolving the drier, and a feed-box at the receiving end of the drying-cylinder.

8. In a rotary drier the combination of the drying-cylinder, a steam-jacket inclosing the drying-cylinder, annular end plates closing the ends of the steam-space between the drying-cylinder and steam-jacket, radial arms for the end plates having centrally-located journals with steam-passages through the journals, arms and end plates communicating with the steam-space, steam and exhaust pipes communicating with said steam-passages, means for revolubly coupling the journals to the steam and exhaust pipes comprising coupling-collars on the steam and exhaust pipes, spherical enlargements for the extensions of the ends of the journals revolubly contained in the coupling-collars, movable collars loosely encircling the extensions and stationary collars fixed thereto, compression-springs interposed between the movable and stationary collars, means for causing the revolution of the drier, and a feed-box at the receiving end of the drying-cylinder.

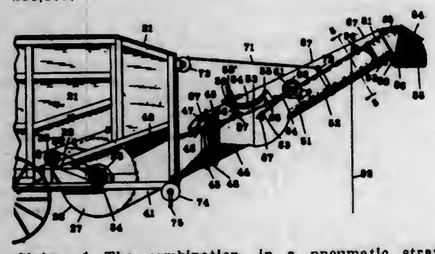
9. In a rotary drier the combination of the drying-cylinder, a steam-jacket inclosing the drying-cylinder, annular end plates closing the ends of the steam-space between the drying-cylinder and steam-jacket, radial arms for the end plates having centrally-located journals with steam-passages, through the journals, arms and end plates, communicating with the steam-space, steam and exhaust pipes communicating with said steam-passages, means for revolubly coupling the journals to the steam and exhaust pipes comprising coupling-collars on the steam and exhaust pipes, spherical enlargements for the extensions of the ends of the journals revolubly contained in the coupling-collars, movable collars loosely encircling the extensions and stationary collars fixed thereto, compression-springs interposed between the movable and stationary collars, means for causing the revolution of the drier, antifriction-balls interposed between the movable and coupling collars, and a feed-box at the receiving end of the drying-cylinder.

10. In a rotary drier, the combination of the drying-cylinder, a steam-jacket inclosing the drying-cylinder, annular end plates closing the ends of the steam-space between the drying-cylinder and steam-jacket, radial arms for the end plates having centrally-located journals with steam-passages through the journals, arms and end plates, communicating with the steam-space, steam and exhaust pipes communicating with the steam-passages, means for revolubly coupling the journals to the steam and exhaust pipes comprising coupling-collars on the steam and exhaust pipes, spherical enlargements for the extensions of the ends of the journals revolubly contained in the coupling-collars, movable collars loosely encircling the extensions and stationary collars fixed thereto, compression-springs interposed between the movable and stationary collars, antifriction-balls interposed between the movable and coupling collars, means for causing the revolution of the drier, a fixed shoulder for the journal at the receiving end of the drier, a thrust-ring interposed between the shoulder and adjacent bearing, antifriction-balls interposed between the shoulder and thrust-ring, and a feed-box at the receiving end of the drying-cylinder.

11. A rotary drier comprising an inner casing, an outer casing inclosing the inner casing to form a steam-space between them, plates connected to the inner and outer casings to close the ends of the steam-space, hollow arms connected with the plate at one end of the drier and curved inwardly into the inner casing, a hollow journal connected with the arms and projecting beyond the adjacent end of said casing, hollow arms connected with the plate at the other end of the drier and curved outwardly therefrom, and a hollow journal connected with last-mentioned arms.

12. A rotary drier comprising a drying-cylinder composed of an inner casing having both its ends open, an outer casing inclosing the inner casing with an unoccupied space between the outer and inner casings, end plates connected to the inner and outer casings to close the ends of said space, journals for the drying-cylinder having steam-passages therethrough, hollow arms with steam-passages therein connected with the journals, and said space between the inner and outer casings, and steam-pipes within the cylinder connected with the steam-space.

840,603. PENUMATIC STRAW-STACKER. OSCAR O. BODVIG, Ward county, N. D., assignor to The Indiana Manufacturing Company, Indianapolis, Ind., a Corporation of West Virginia. Filed Feb. 15, 1906. Serial No. 301,179.



Claim.—1. The combination, in a pneumatic straw-stacker, with the delivery tube or chute, of a horizontally-disposed fan-housing having a central partition in the form of an annular rim extending inwardly from the casing, and a fan the blades whereof are cut away to pass astride said central partition, whereby a double fan and fan-housing and embodied in a single structure.

2. The combination, in a pneumatic straw-stacker, of the fan, the fan-housing, a hopper-like structure for receiving the straw which develops into a nozzle-like end, a delivery tube or chute hingedly connected to said nozzle-like end, a pivoted segmental rack connected to the structure on one side of the hinge, the housing connected to the structure on the other side of the hinge, and a pinion mounted in said housing structure and engaging with said segmental rack, whereby said delivery tube or chute may be raised or lowered—said nozzle-like end and the adjacent portion of the tube or chute having a segmental formation and one overlapping the other.

3. The combination, in a pneumatic straw-stacker, with the fan and fan-housing, of a delivery tube or chute connected to said fan-housing composed of two parts hingedly connected together, one of said parts having a curved rack pivoted on said part at a point other than the hinge-pivot and the other having a shaft and pinion engaging with said circular rack, whereby the outer portion of said delivery tube or chute may be folded over in respect to the inner portion.

4. The combination, in a pneumatic straw-stacker, of a fan, a fan-casing therefor extending transversely across the rear portion of the separator, a casing into which the fan-casing discharges, a chaff-conveyer arranged behind said fan-casing and adapted to convey the chaff toward the sides, and inclosures leading said chaff around the fan-casing from said conveyer to the casing into which the fan-casing discharges.

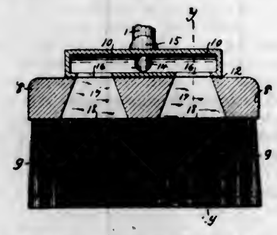
5. The combination, in a pneumatic straw-stacker, of the fan, the fan-casing, a hopper developing into a nozzle-like end, said nozzle-like end being composed of sections one revoluble in respect to the other, and a trunk or chute composed of sections hingedly connected together and to the nozzle one hinge being provided for purpose of vertical adjustment and the other hinge being provided for purposes of folding the outer portion of the chute over for storage or transportation, and means for effecting said hinge movements separately.

6. The combination, in a pneumatic straw-stacker, of a fan, a casing therefor having a lower portion axially extended beyond the ends of the fan, and a chaff-chute leading into said extended portion.

7. The combination, in a pneumatic straw-stacker, of a fan, a casing therefor having a lower portion extending beyond the ends of the fan structure and surrounding the eyes of the fan, and a chaff-chute leading into the extended portions of the fan-casing structure.

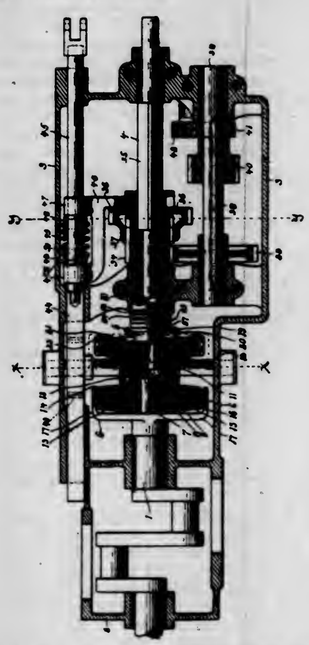
8. The combination, in a pneumatic straw-stacker, of a fan having tubular fan-eyes, a casing surrounding said fan of a greater length than said fan thereby leaving inclosed passages between the fan and the outer walls of said casing surrounding the tubular fan-eyes, and a chaff-chute parallel to the fan and extending beyond the ends thereof and communicating with said inclosed passages.

840,604. FOUNTAIN-BRUSH. FRANK L. BRINN, Milwaukee, Wis. Filed Feb. 20, 1905. Serial No. 246,592.



Claim.—In a brush of the described class, the combination of a brush-block provided with an aperture on each side of the center, extending through the brush in a plane cutting the brush substantially along its longitudinal central line; each of said apertures having side walls converging, and end walls diverging, in the direction of the bristles, and arranged to discharge a sheet of water between the bristles in a direction substantially parallel thereto, whereby the bristles may be separated throughout the length of the brush by a forcible discharge of water; together with a water-supply connection communicating with said apertures, and a valve for regulating the flow of water therethrough.

840,605. TRANSMISSION-GEAR. CHARLES H. BROOKS, Detroit, Mich., assignor to The Brooks Motor Company, Detroit, Mich., a Corporation of Michigan. Filed Mar. 30, 1906. Serial No. 308,858.



Claim.—1. In a transmission-gearing, the combination with a power-shaft, of a driving-shaft, a clutch to connect the power and driving shafts, a driven shaft, gearing for transmitting motion at various speeds from the driving to the driven shaft, a shifting arm to operate said gearing to change the speed, means for operating the clutch, and means connecting said arm and clutch-operating means to operate one by the movement of the other and to permit a limited relative movement between the same.

2. In a transmission-gearing, the combination with a driving and a driven shaft, of a clutch, gearing for transmitting motion at various speeds from the driving to the driven shaft, a shifting arm to operate the gearing to change the speed, a rod for operating the clutch, and a yielding connection between the arm and rod adapted to normally hold the arm to move with the rod and to yield to permit a limited movement of the rod relative to the arm.

3. In a transmission-gearing, the combination with a power-shaft, a driving-shaft, and a driven shaft, of a clutch to connect the power and driving shafts, gearing provided with a sliding gear for transmitting motion at various speeds from the driving to the driven shaft, a longitudinally-movable rod to operate the clutch, an arm to shift the sliding gear having eyes through which the rod extends, and means for yieldingly holding the arm upon the rod to permit it to move longitudinally therein a limited distance.

4. In a transmission-gearing, the combination with a power-shaft, a driving-shaft, and a driven shaft, of a

clutch to connect the power and driving shafts, gearing provided with a sliding member for transmitting motion at various speeds from the driving to the driven shaft, a longitudinally-movable rod to operate the clutch having longitudinal slots, an arm to shift the sliding member having eyes through which the rod extends, transverse pins in the slots in the rod, and a coiled spring sleeved on the rod between the pins to hold the same in the outer ends of the slots.

5. In a transmission-gearing, the combination with a power-shaft, a driving-shaft and a driven shaft, of a clutch to connect the power and driving shafts, gearing for transmitting motion from the driving to the driven shaft embodying a sliding gear adapted to be moved into various position to transmit various speeds, a wheel provided with notches corresponding to the several operative positions of the sliding gear, a lever to move and release the clutch adapted to be operated by said notched wheel, and means for simultaneously moving the sliding gear and turning the said notched wheel.

6. In a transmission-gearing, the combination with a power-shaft, a driving-shaft and a driven shaft, of a clutch to connect the power and driving shafts, gearing for transmitting motion from the driving to the driven shaft provided with a sliding gear to vary the speed, a yoke pivotally attached to the clutch to move the same and provided with a friction-roll, a wheel to engage the roll formed with notches to receive the same, and a longitudinally-movable rod to turn the wheel and shift the sliding gear.

7. In a transmission-gearing, the combination with a power-shaft, a driving-shaft, and a driven shaft, of a clutch to connect the power and driving shafts, gearing for transmitting motion from the driving to the driven shaft provided with a sliding gear to vary the speed, a yoke pivotally attached to the clutch to move the same, a longitudinally-movable rod to shift the sliding gear, means operated by said rod to engage the yoke at one side of the clutch and move the same, and a cam at the opposite side of said yoke to engage and move the same independently of said means.

8. In a transmission-gearing, the combination with a power-shaft, a driving-shaft, and a driven shaft, of a clutch to connect the power and driving shafts, gearing for transmitting motion from the driving to the driven shaft provided with a sliding gear to vary the speed, a yoke pivotally attached to the clutch, shafts extending transversely of the yoke adjacent to its upper and lower sides, a cam on one of said shafts and a notched wheel on the other shaft to engage and operate the yoke independently of each other, a pinion on the shaft carrying the notched wheel, a rack to operate said pinion, and means movable with the rack for shifting the sliding gear.

9. In a transmission-gearing, the combination with the crank-shaft of a motor, of a driving-shaft and a driven shaft in axial alinement with the crank-shaft, a clutch to connect the crank-shaft and the driving-shaft consisting of a facing-disk secured on the driving-shaft, a facing-disk movable toward and from said disk, a series of friction-disks connected to the driving-shaft to turn therewith, a yoke secured to the crank-shaft, a series of friction-disks alternating with the other series of disks and engaging the yoke to turn with said crank-shaft, and means for moving the movable facing-disk to clamp the friction-disks; a variable-speed gearing consisting of a gear on the driving-shaft having a long face, a counter-shaft, a gear on the counter-shaft, a sliding gear on the driven shaft having internal teeth to engage the gear on the driving-shaft and formed with external teeth, and a pinion on the counter-shaft into mesh with which the sliding gear is adapted to be moved; a longitudinally-movable rod; an arm on said rod to shift the sliding gear; and means for operating the clutch actuated by said rod.

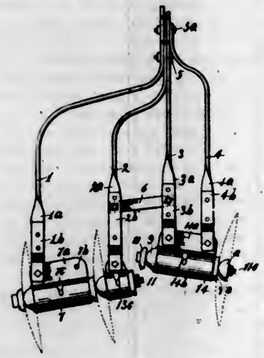
10. In a transmission-gearing, the combination with the crank-case and crank-shaft of an engine, of a casing formed integral with the crank-casing, a driving-shaft having a tubular end to receive the end of the crank-shaft and an axial bore at its opposite end, a bearing in the casing for said end of said shaft, a driven shaft engaging the bore of the driving-shaft at one end and a bearing in the end of the casing and formed with a square portion, a gear on the end of the driving-shaft, a sliding gear on the squared portion of the driven shaft having internal teeth to engage the gear on the driving-shaft and having external teeth, a counter-shaft mounted in bearings on the casing, a gear on the counter-shaft in mesh with the gear on the driving-shaft, pinions on the counter-shaft one of which is adapted to be engaged by the external teeth of the sliding gear, an idler engaging the other pinion adapted to be engaged by said external teeth, a friction-clutch on the tubular end of the driving-shaft to connect the crank-shaft thereto, transverse shafts in the casing adjacent to the upper and lower sides of said clutch, a yoke for operating the clutch, means on said transverse shafts for operating the yoke, a pinion on one of said shafts, a rack to engage and turn said pinion, a rod to actuate the rack, and an arm on the rod to move the sliding gear.

11. In a transmission-gearing, the combination with a crank-shaft and a crank-casing within which the same is mounted, of a casing formed integral with the crank-casing, a driving-shaft mounted at one end in a bearing in the casing and formed tubular to receive the end of the crank-shaft, a driven shaft having a squared portion, gearing for transmitting motion from the driving to the driven shaft having a sliding gear engaging the squared portion of the driven shaft, a facing-disk on the forward end of the driving-shaft, an opposing facing-disk movable toward and from the first disk and provided with a rearwardly-extending sleeve, a yoke fixed on the crank-shaft, two series of friction-disks interposed between the facing-disks one series being connected to the driving-shaft and the other to the yoke, a collar on the driving-shaft, a spring sleeved on said shaft between said collar and movable facing-disk, a thrust-bearing on the driving-shaft bearing against the forward side of the bearing for said shaft, a yoke pivotally attached to the sleeve on the movable facing-disk, a transverse shaft extending across the casing adjacent to said yoke, a notched wheel on said shaft to engage and operate said yoke, and means for turning said shaft and shifting the sliding gear at the same time.

12. In a transmission-gearing, the combination with a crank-shaft and crank-casing, of a casing formed integral with said crank-casing, a driving-shaft consisting of a tubular portion to receive the end of the crank-shaft and a bearing end having an axial bore, a driven shaft having an end engaging the bore of the driving-shaft, a yoke secured to the crank-shaft, a facing-disk secured to the tubular end of the driving-shaft, a movable facing-disk, friction-disks attached to the driving-shaft, friction-disks between said disks having notches in their peripheries engaged by said yoke, a sleeve on the movable facing-disk, a collar on the driving-shaft, a spring interposed between said collar and movable disk, a thrust-bearing between the collar and the bearing for the shaft, a ring on the sleeve of the movable disk, a yoke pivotally attached to said ring and formed with upwardly-extending ears on its upper side and downwardly-extending ears on its lower side, rolls between said ears, an adjusting-pin pivotally attached to said ears at the upper side and movable in a bearing, an adjusting-nut on said pin, a transverse shaft adjacent to the yoke at its upper side, a cam on said shaft to engage the roll, a lever on said shaft to operate the same, a transverse shaft adjacent to the lower side of the yoke, a notched wheel on said shaft to engage the roll, a pinion on said shaft, a longitudinally-movable rack-bar engaging said pinion, a rod attached to said bar, gearing for transmitting motion from the driving to the driven shaft having a sliding gear, a forked arm engaging the hub of said sliding gear and formed with eyes to receive the rod, and means for yieldingly holding the arm from longitudinal movement on the rod.

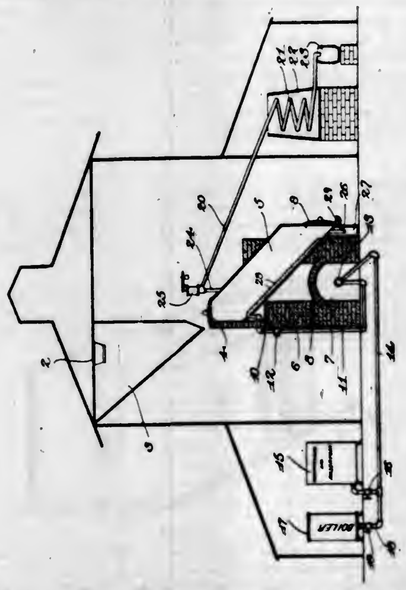
840,606. DISK ATTACHMENT FOR CULTIVATORS. MATTHEW P. BUCKLEY, Watertown, Ill. Filed Mar. 24, 1905. Serial No. 251,716.

Claim.—1. Means for supporting rotating disks consisting of a plurality of bars adapted to be adjustably secured together, said bars having journal-boxes connected with their outer ends, each of said boxes having a journal-block rotatably mounted therein, and said blocks provided with concave and convex end portions respectively, bolts passing through said blocks and washers mounted on said bolts, said washers provided with recesses, substantially in the manner and for the purpose set forth.



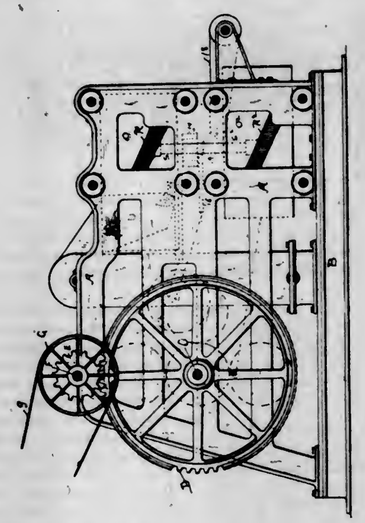
2. In means for supporting rotating disks, bars adjustably secured together at one end, each of said bars having adjustably connected with its free end disk-carrying devices consisting of a journal-box, a bearing-block rotatably mounted in each box and having a convex bearing at one end and a concave bearing at the other end, a shaft or bolt extending through said block, and means for clamping the disks against the end bearings of the blocks.

840,607. STILL. ARTHUR S. CARR, Hattiesburg, Miss. Filed Apr. 19, 1904. Serial No. 203,913.



Claim.—In a still the combination with a foundation, of a flue constituting a furnace, a header arranged within the flue and out of contact with the walls thereof, means for supplying steam and compressed air to the header, an inclined stationary retort supported by the foundation and having its ends disposed beyond the heating zone of the furnace, said retort being steam-tight, a charging-door combined with the upper end of the retort, a discharging-door combined with the lower end thereof, a conveyer arranged adjacent to the discharging-door, a perforated pipe posed upon the lower side of the retort, and terminating short of the discharging-door, a discharge-pipe arranged in the lower side of the retort between the discharging-door and the lower terminal of the perforated pipe, a connection between the perforated pipe and the heater whereby the former may be supplied with heated compressed air, or heated compressed air and superheated steam, a vapor-offtake pipe connected with the top of the retort, a condensing-coil with which the offtake-pipe connects, and a safety-valve mechanism located upon said offtake-pipe and adapted to be automatically operated by the accumulated pressure within the retort to open communication between the said retort and the condensing-coil whereby the vapors may pass from the steam-tight retort to the coil, said safety-valve mechanism adapted to automatically close when the pressure within the retort is reduced.

840,608. BRIQUET-MACHINE. JAMES H. CURELL, New York, N. Y. Filed Oct. 2, 1905. Serial No. 281,002.



Claim.—1. In a briquet-machine, the combination of the gear-wheels I J, the sliding plates O O^2, the friction-wheels *o o*, the pitman I^{12} attached at one end by wrist-pins in gear-wheels I J, the other ends journaled to the aforesaid sliding plates, the vertical sliding plates R^4 to which the cross-beams are attached and the plungers attached to the cross-beams, and means of operation substantially as and for the purpose set forth.

2. In a briquet-machine, the combination of the sliding plates O O^2, the inclined slots o^4, the vertical sliding plates R^4, to which the top and bottom cross-beams are attached, the friction-wheels *r*, journaled to vertical slides R^4, and means of operation substantially as and for the purpose set forth.

3. In a briquet-machine, the combination of the sliding plates O O^2, the inclined slots O^4, the friction-wheels *r*, attached to the vertical slides R^4, the pitmen P I^{12} attached at one end by wrist-pins to gear-wheels I J, the other ends journaled to the aforesaid sliding plates, and means of operation substantially as and for the purpose set forth.

4. In a briquet-machine the combination of the sliding-pocket frame W, having a lug 7 attached to it, a pitman 8 attached at one end by a wrist-pin to gear-wheel L, the other end being journaled to the aforesaid frame, and

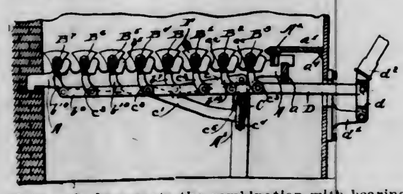
means of operation substantially as and for the purpose set forth.

5. In a briquet-machine the combination of the hopper U, the valve-slide 2, the lugs 5 and 6 on said valve-slide 2, the arm 4, the worm-wheel V, placed in the hopper and means of operation substantially as and for the purpose set forth.

6. In a briquet-machine the automatic combination of the gear-wheels I, J, L, and K, the wrist-pins, 21, 22, 23 and 24, the pitmen P P^2, 8 and 16, the sliding plates O O^2 and the inclined slots O^4, the friction-wheels o, the vertical sliding plates R^4, having cross-beams and plungers attached to them, the friction-wheels r firmly attached to the sliding plates R^4, the feed-slide W, the shoving-plate 15, the pocketed compression-beam attached to the frame, the carrying-belt 18 and means of operation substantially as and for the purpose set forth.

7. In a briquet-machine, the combination of the gear-wheels I, J, L, K, and M, the driving-wheel D, pinion E and band-wheel G and means of operation substantially as and for the purpose set forth.

840,609. FURNACE-GRATE. CHARLES J. DORRANCE, Chicago, Ill. Filed Jan. 18, 1905. Serial No. 241,568.



Claim.—1. In a grate the combination with bearing-bars of rocking bars mounted thereon, each rocking bar being provided with grooves arranged on opposite sides of the bearing-bars and forming seats, and protecting and fuel-supporting clips straddling said bearing-bars and engaging said seats.

2. In a grate the combination with bearing-bars of rocking bars pivotally engaged thereon and each provided with grooves on each side of the bearing-bars, a plurality of single clips engaged on the rocking bars intermediate the bearing-bars, a straddle-clip extending over each bearing and engaged in said grooves and means preventing said rocking bars lifting from their bearings when rocking.

3. In a grate the combination with bearing-bars of transverse rocking bars having offset journals on each end thereof engaged on said bearing-bars and provided with a groove on each side of the journal, clips seated on said rocking bars intermediate the ends thereof and a straddle-clip seated in the grooves adjacent each journal and covering the same and extending beyond the bearing-bar into close proximity with the furnace-wall affording an extended fuel-supporting surface.

4. In a grate the combination with bearing-bars of grate-bars journaled thereon at equal distances apart and provided with a groove at each side of each bearing-bar, a straddle-clip extending over each bearing-bar and provided with downwardly-directed legs adapted to engage in said grooves, independently-removable clips engaged on the bar between the straddle-clips and together therewith affording a fire-surface and a projection on each end of the grate-bar extending beneath the bearing and acting to hold the grate-bar from lifting its bearings when operated.

5. The combination in a furnace-grate, of rigidly-supported side frame members, parallel grate-bars journaled eccentrically thereon at their ends and provided with seats at each side of the bearing-bars, straddle-clips engaged in said seats and straddling said bearing-bars, interchangeable duplicate clips carried on and projecting above the bars and affording a fire-surface, means for shaking the grate and a projection on each end of each grate-bar extending beneath the bearing and holding the bar from lifting when shaken.

6. In a furnace-grate the combination with rigidly-supported side frame members having bearings therein of grate-bars spaced at equal distances apart and having offset journals at their ends adapted to engage in said bearings, and provided with grooves on each side of the journal interlocking means acting to prevent the grate-bars lifting from their bearings when operated, bars connecting alternate grate-bars in sets, means connecting said sets and adapting them to move oppositely, a shaking-bar connected with one of said grate-bars and acting to swing adjacent bars oppositely in shaking the grate, straddle-clips having a slotted leg on each end adapted to engage the grooves in the grate-bars and single clips affording together with the straddle-clips a fire-surface removably secured on and projecting above said bars.

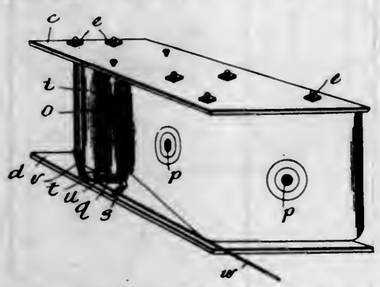
7. A grate-bar comprising a plain bar having forwardly-directed plates or knuckles at each end of the same and cylindric journals secured on said plates parallel with the bar, a plate engaged on the outer end of each journal, a straddle-clip covering the journal and projecting beyond the ends of the same, a lip or projection on one of said plates adapted to engage beneath the support for said bar and acting to prevent the bar lifting when shaking the grate.

8. In a grate construction the combination with a frame of parallel grate-bars having journals therein engaged in bearings in said frame, single clips on the bars intermediate the journals, straddle-clips removably engaged on the ends of the bars and covering the journals and provided with a lip projecting beyond the end of the bar and into close relation with the furnace-wall.

9. In a grate construction the combination with side supporting members of grate-bars journaled on and projecting beyond the same an offset journal on each end of the bar and a groove on each side of each journal, straddle-clips covering the journals and engaged at their ends in said grooves, and provided with a projection on the outer end of each adapted to extend the clip close to the furnace-wall and intermediate clips supported on the bar between the straddle-clips.

10. In a device of the class described the combination with a grate-bar having offset journals at the ends thereof and having a groove on each side of the journal, a plurality of clips supported on the bar between the journals, a straddle-clip covering each journal and comprising a central web and having lateral projections extending into close proximity with the furnace-walls and a leg on each end of said clip adapted to engage in the grooves on the opposite side of the journal.

840,610. TARGET. GEORGE EASDALE, Ottawa, Ontario, Canada, assignor of one-third to Zebulum Calvin Ketchum and one-third to Henry George Ketchum, Ottawa, Canada. Filed Jan. 19, 1906. Serial No. 296,875.



Claim.—1. A target comprising a deflecting side plate and a curved end plate secured in position laterally removed from the side plate to form a splash-receiving pocket between the two plates.

2. A target comprising two rearwardly-converging plates blocks secured to the outside of the same near the rear ends thereof and converging end plates secured to the blocks forming pockets between the ends of said plates and the first-named plates.

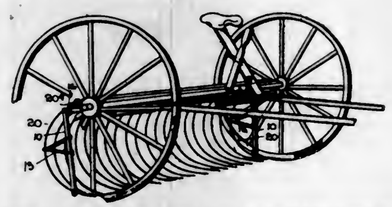
3. A target comprising two rearwardly-converging plates, blocks secured to the outside of the same near the rear ends thereof, converging end plates secured to the blocks forming pockets between the ends of said plates and the first-named plates, one of said end plates having an extended curved end, a roller located on each side of the converging plates, a target-belt extending from one roller across the outer ends of the converging plates to the other roller and means for rolling the belt from one roller onto the other.

4. A target having a deflecting side plate, a block secured to the outside thereof near the end thereof, a curved end plate secured to said block providing a pocket between the end of the side plate and the end plate which is adapted to receive the bullet-splashings as and for the purpose specified.

840,611. SOLUTION OF CELLULOSE. EDUARD ECK, Gross Anheim, and ERNST BECHTEL, Hanau, Germany, assignors to Hanauer Kunstreidefabrik, Hanau, Germany, a Corporation of Germany. Filed June 7, 1906. Serial No. 320,644.

Claim.—The process of manufacturing a solution of cellulose with ammoniureted cupric oxid, which consists in impregnating cellulose in an aqueous solution of ammonia, adding a paste of cuprie oxid, and shaking or agitating the whole.

840,612. ATTACHMENT FOR HAY-RAKES. EZRA T. ELLIOTT and ADDISON H. LEONARD, Del Norte, Colo. Filed Feb. 28, 1906. Serial No. 303,466.



Claim.—1. A device of the class described comprising in combination with the rake, rigid bars attached to the exterior teeth thereof at one of their extremities and loosely connected therewith at their opposite ends so as to permit independent movement of the therewith-intersecting portions of the teeth.

2. A device of the class described, comprising in combination with a rake having coiled teeth, rigid bars attached at their extremities to the exterior teeth thereof, and arms connecting the upper portions of the said bars with the coils of the said teeth.

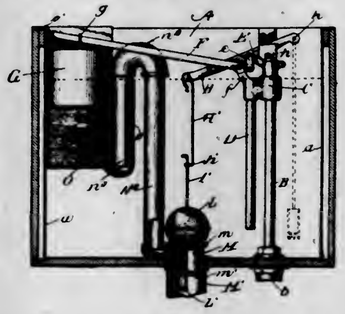
3. A device of the class described, comprising in combination with the rake, three-armed guards, secured to the exterior teeth thereof at the extremities of their upper arms, the ends of said other arms being loosely connected with the adjacent portions of the teeth.

840,613. FLUSHING-TANK. FREDERICK FINDEISEN, Chicago, Ill. Filed July 24, 1905. Serial No. 270,908.

Claim.—1. The combination with a flushing-tank for water-closet bowls, of an outlet-valve, means for opening said valve, an inlet-valve, means for automatically opening said inlet-valve and retaining the same fully open until the water supplied to the tank has reached a predetermined level, and means for refilling the bowl coincidently with the opening of the inlet-valve.

2. The combination with a flushing-tank for water-closet bowls, of an outlet-valve, means for opening said valve, an inlet-valve, means for automatically closing said inlet-valve when a predetermined amount of water has been supplied to the tank and retaining the same closed until after the discharge of the water from the tank, and means for refilling the bowl coincidently with the opening of the inlet-valve.

3. The combination with a flushing-tank for water-closet bowls, of an outlet-valve, means for opening said valve, an inlet-valve, means for opening said inlet-valve after the discharge of water from the tank and for closing said valve after the water supplied to the tank has reached a predetermined level, and means for refilling the bowl coincidently with the opening of the inlet-valve.



4. The combination with a flushing-tank for water-closet bowls, of a conduit leading from said tank for supplying water to the bowl, an outlet-valve controlling the flow of water from the tank to said conduit, a chamber for containing water, and a siphon leading from said chamber to said conduit for automatically delivering water to said conduit to refill the bowl after the discharge of the water from the tank.

5. The combination with a flushing-tank for water-closet bowls, of a conduit leading from said tank for supplying water to the bowl, an outlet-valve controlling the flow of water from the tank to said conduit, a chamber, means for supplying water to said chamber, and a siphon leading from said chamber to said conduit to refill the bowl after the closing of the outlet-valve.

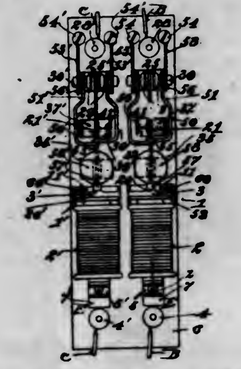
6. The combination with a flushing-tank for water-closet bowls, of a conduit leading from said tank for supplying water to the bowl, an outlet-valve controlling the flow of water from the tank to said conduit,, a chamber into which water is delivered from said tank, and a siphon leading from said chamber to said conduit to refill the bowl after the closing of the outlet-valve.

7. The combination with a flushing-tank for water-closet bowls, of a conduit leading from said tank for supplying water to the bowl, an outlet-valve controlling the flow of water from the tank to said conduit, a chamber into which water is delivered when the water in the tank reaches a predetermined level, means for discharging the water from said chamber to said conduit to refill the bowl after the water is discharged from the tank, and a float located within said chamber and operatively connected to the inlet-valve.

8. The combination with a flushing-tank for water-closet bowls, of a conduit leading from said tank for supplying water to the bowl, an outlet-valve controlling the flow of water from the tank to said conduit, a chamber into which water is delivered when the water in the tank reaches a predetermined level, a siphon leading from said chamber to said conduit below the outlet-valve to refill the bowl after the discharge of the water from the tank, and a float located within said chamber and operatively connected to the inlet-valve.

9. The combination with a flushing-tank for water-closet bowls, of a conduit leading from said tank for supplying water to the bowl, an outlet-valve controlling the flow of water from the tank to said conduit, a chamber within said tank into which water flows from the tank, a siphon leading from said chamber to said conduit below the outlet-valve, and a float located within said chamber and operatively connected to the inlet-valve whereby the discharge of water from said chamber refills the bowl and coincidently opens the inlet-valve.

840,614. ELECTRIC-CIRCUIT BREAKER. STANLEY B. FREIBERG, Cincinnati, Ohio. Filed Dec. 28, 1904. Serial No. 238,596.



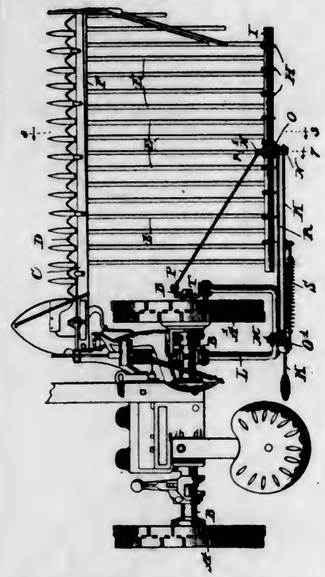
Claim.—1. In an electric-circuit breaker, the combination with an electromagnet having an armature, a support for said armature, and a base, of a spring for normally retracting said armature, said spring having a central loop below said armature-support and forming a pair of strands, a screw 12 taking through said armature-support and loop and into said base for securing said support and spring to said base, each of said strands having a spiral intermediate of its ends, the ends of each of said strands projecting upwardly from one side of said spiral toward said armature-support and armature respectively, and said strands having their outer ends take against said armature for normally retracting the same, a pivoted blade with contacts therefor, means normally connecting said blade and armature, and means normally acting to separate said blade and armature, substantially as described.

2. In an electric-circuit breaker, the combination of a base, a blade, said blade having a pivot, a spring for said blade, said spring having a central stirrup in which the blade rests at one edge of said blade and forming a pair of strands, said strands being bent across the other edge of said blade and thereby forming a loop about said blade at said stirrup for forming a stop against undue retraction of said blade, said strands extending from said loop toward the pivot of said blade and being coiled substantially coincident with the axis of said pivot, and means for securing the ends of said strands rigidly in position, substantially as described.

3. In an electric-circuit breaker, the combination of a base, a blade, said blade having a pivot, a metallic contact and a non-metallic contact spaced apart and secured to said base, a metallic contact and a non-metallic contact spaced apart and secured to said blade, a spring for the blade, said spring having a central stirrup located between said metallic and non-metallic contacts on said blade, the inner edge of said blade taking against said stirrup, said spring thereby forming a pair of strands, said strands crossing the outer edge of said blade between said metallic contact and said non-metallic contact thereon and thereby forming a loop within which said blade is confined, said strands spreading from said crossed position outwardly for forming bulges 50 and thereby clearing the non-metallic contact on said blade, said strands extending from said bulges toward the pivot of said blade and being coiled coincident with the pivotal axis of said blade, and means for securing the ends of said strands rigidly in position.

840,615. CLOVER-BUNCHER. ALFRED C. FUNK and CHARLES E. MICKLE, Springfield, Ohio, assignors to International Harvester Company, a Corporation of New Jersey. Filed Feb. 28, 1903. Serial No. 145,504.

Claim.—1. In a clover-buncher, the combination with a carrier and a vertical gate at the rear thereof, with mechanism for raising and lowering said gate with reference to the carrier, said means operating to move such gate in parallel lines so as to maintain its upper and lower edges in a horizontal position when raised above the carrier; substantially as and for the purpose set forth.



2. In a clover-buncher, the combination with a mower and a carrier, of a gate or obstructing-fork arranged to move vertically toward and from the carrier, and parallel arms connected to such gate and extending to and connected to a support secured to the main frame of the mower whereby said gate maintains parallel relation in the vertical movements thereof; substantially as and for the purpose set forth.

3. In a clover-buncher, the combination with a mower, of a carrier, an obstructing gate or fork mounted for vertical movement toward and from said carrier, parallel arms arranged above each other and secured to the gate near the longitudinal center thereof, an attachment carried by the main frame, the other ends of said arms being pivoted to said attachment to swing in a vertical plane whereby said gate maintains parallel relation with respect to itself in the vertical movements thereof, as and for the purpose set forth.

4. In a clover-buncher, the combination with a mower having a finger-bar, of a carrier mounted on said finger-bar, and an obstructing gate or fork mounted to move vertically toward and from said carrier, an attachment secured to the main frame of the mower and forming a support for said gate, and pivotal connections between said gate and attachment for moving said gate vertically toward and from said carrier, as and for the purpose set forth.

5. In a clover-buncher, the combination with a mower having a main frame and an attachment mounted on the main frame of a carrier, an obstructing gate or fork, and an inner brace-rod pivoted to the inner side of the head of the gate or fork and to the end of the attachment carried by the frame.

6. In a clover-buncher, the combination with a mower, of a carrier, an obstructing gate or fork, a pair of parallel bars or rods pivoted near the longitudinal center of the gate-head and also to an attachment of the main frame, and a spring pivoted at one end to such attachment and at the other end to one of the bars; substantially as and for the purpose set forth.

7. In a clover-buncher, the combination with a main frame and master-wheel, a forked attachment carried by the main frame, the arms of said attachment straddling the master-wheel, clamps for detachably connecting the ends of said arms to the main frame, and a carrier, a head or bar, fingers carried thereby and forming a gate said head or bar being pivotally mounted upon said attachment to swing in a vertical plane, as and for the purpose set forth.

8. In a clover-buncher, the combination with a mower including a finger-bar and an obstructing-gate arranged rearward of said finger-bar, of a U-shaped attachment adapted to straddle the grassward master-wheel and provided with detachable clamps, one arranged for each arm and respectively connected to the main frame and to the axle and provided with a bearing, and mechanism pivotally connecting the obstructing-gate with the said bearing; substantially as and for the purpose set forth.

9. In a clover-buncher, the combination with a mower and a gate, of a U-shaped attachment adapted to straddle the grassward master-wheel and having detachable clamps respectively for the main frame and the axle and provided with a fulcrum at the base of the U-shaped frame, a pair of parallel levers secured to such attachment, one of which constitutes the operating-lever and is journaled on the fulcrum and the other of which is journaled in vertical brackets, respectively secured to the head of the gate and to the attachment; substantially as and for the purpose set forth.

10. In a clover-buncher, the combination with a mower, of an obstructing-gate, a U-shaped attachment, one arm of which is detachably clamped to the frame and one arm provided with a plate journaled on the axle, a brace-rod having bearing at one end on said plate, which rod is journaled at its other end to the gate, and mechanism connecting the attachment with the gate whereby such gate is supported and braced by the attachment, as and for the purpose set forth.

11. In a clover-buncher, the combination with a mower and an obstructing-gate, of carrying-arms and a brace-rod, said arms and rod being respectively secured to the outer and inner sides of the gate-head, and a U-shaped frame arranged to straddle the grassward master-wheel and affording a support for the parallel arms connecting it to the gate and having at the end of the grassward arm of this attachment a plate journaled on the axle and provided with an eye for the brace-rod and having at the inner end of its other arm a clamp for securing such end to the frame; substantially as and for the purpose set forth.

12. In a clover-buncher, the combination with a mower and an obstructing-gate for bunching the material, of means for lifting the gate vertically, comprising a lever pivoted at one end to the gate and pivotally connected intermediate its ends to the main frame of the mower, and a rod arranged above and parallel to the lever, said rod being also pivotally connected at its ends to the gate and main frame respectively, and adapted to cause the gate to maintain its upper and lower edges in a horizontal position during the vertical movement thereof.

13. In a clover-buncher, the combination of a mower, an obstructing-gate, a head therefor, a bracket, an operating-lever pivotally connected at one end to said bracket and at the other to the mower-frame, and a bolt for connecting said bracket to said head, and a nut on said bolt operating to maintain the pivotal connection of said lever and bracket, as and for the purpose set forth.

14. In a clover-buncher, the combination with a mower, an obstructing-gate, and a head for the latter, of operating mechanism for supporting and manipulating the gate, including a bolt passing through said head and having an eye at one end, a brace-rod connected to said eye, a vertical bracket through which said bolt passes for clamping the same to said head, an operating-lever pivotally connected to said bracket, and a parallel bar also connected pivotally to said bracket, as and for the purpose set forth.

15. In a clover-buncher, the combination with a mower, of a carrier, an obstructing-gate, and a counterbalance for same; substantially as and for the purpose set forth.

16. In a clover-buncher, the combination with a side-cut mower, of a slatted platform attached to the cutter-bar, an obstructing-gate at the rear thereof, said gate being supported from the main frame and held against rearward movement by means of a diagonal brace extending from the gate to the main frame; substantially as and for the purpose set forth.

17. In a clover-buncher, a mower frame, a gate, upwardly-extending brackets respectively carried by the mower-frame and gate, a rod pivotally connected at the ends thereof to said brackets to swing in a vertical plane, and a lever pivotally mounted on the frame and connected to the gate for swinging the latter vertically, said rod being adapted to maintain the upper and lower edges of said gate in horizontal position during the vertical movement thereof.

18. In a clover-buncher, the combination of a mowing-machine, a finger-bar, a slatted carrier located rearward thereof, a gate located rearward of the carrier but disconnected therefrom, and supporting and operating means for said gate arranged on the grainward side of the machine and including a lever pivotally connected to the frame of the machine and to the gate, whereby the gate may be raised or lowered bodily, and a rod above and parallel to the lever also pivotally connected respectively to the gate and frame and adapted to prevent the tilting of the upper and lower edges of the gate during its raising and lowering movement.

19. In a clover-buncher, the combination with a side-cut mower, of a carrier and a vertically-movable gate carrying rake-teeth located at the rear of such carrier, of mechanism for supporting such gate from the main frame of the machine, means for raising and lowering said gate, and means for maintaining the upper and lower edges of said gate in horizontal position during the raising and lowering movements thereof.

20. In a clover-buncher, the combination with a mowing-machine, of a slatted platform attached to the cutter-bar, an obstructing-gate at the rear thereof, said gate being supported from the main frame and held against rearward movement by means of a brace pivotally connected at one end to the gate and braced at the other end by the main frame at a point adjacent to the axle of the grainward traction-wheel.

21. In a clover-buncher, the combination with a mowing-machine, of a slatted platform attached to the cutter-bar, an obstructing-gate at the rear thereof, said gate being supported from the main frame and held against rearward movement by means of a brace pivotally connected to the gate at one end and at its other end pivotally connected to the axle of the grainward traction-wheel.

22. In a clover-buncher, the combination with a mowing-machine, of a slatted platform attached to the cutter-bar, an obstructing-gate at the rear thereof, said gate being supported from the main frame, and a brace connecting the axle of the grainward traction-wheel with the gate.

23. In a clover-buncher, the combination with a mowing-machine, of a slatted platform attached to the cutter-bar, an obstructing-gate at the rear thereof, said gate being supported from the main frame, and a brace loosely connected at one end to the axle of the grainward wheel and at the other end loosely connected to the gate.

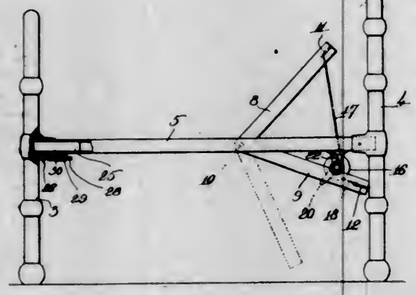
24. In a clover-buncher, the combination with a mowing-machine, of a slatted platform attached to the cutter-bar, an obstructing-gate at the rear thereof, said gate being supported from the main frame, and a brace connecting the axle of the grainward traction-wheel with the gate, and having vertical and rolling adjustment at each end of said connection.

25. In a clover-buncher, the combination with a side-cut mower, of a platform attached to the cutter-bar, an obstructing-gate at the rear thereof, said gate being supported from the main frame of the mower, and a member adapted to hold said gate against rearward movement, said member connected at one end to said gate and braced at the other end by the main frame at a point adjacent to the axle of the grainward traction-wheel.

840,616. BED. FRANCIS G. GALE, Waterville, Quebec, Canada. Filed April 26, 1906. Serial No. 313,743.

Claim.—1. A bedstead comprising a foot-frame, a head-frame, side rails, a swinging frame pivoted to the side

rails, said frame having two branches, and a wire fabric divided at one end and secured to the two branches of the swinging frame.



2. A bedstead comprising a foot-frame, a head-frame and side rails, a V-shaped swinging frame pivoted at its apex to the side rails, a wire fabric secured at one end to the foot-frame of the bed, the other end being divided and one part being secured to each branch of the V-shaped frame.

3. A bedstead comprising a foot-frame, a head-frame and side rails, a V-shaped frame pivoted at its apex to the side rails, a wire fabric secured to the foot-frame, said wire fabric being divided at one end on a line substantially in line with the pivots of the V-shaped frame, and one part of the divided end of the fabric being secured to one arm of the V-shaped frame, and the other part on the other arm thereof.

4. A bedstead comprising a foot-frame, a head-frame and side rails, a V-shaped swinging frame pivoted at its apex to the side rails, a wire fabric secured at one end to the foot-frame of the bed, the other end being divided and one part being secured to each branch of the V-shaped frame, and means to raise and lower the frame.

5. In a bedstead, a wire fabric secured at one end to the foot of the bed, said fabric being divided at the other end, and a swinging frame to which the parts of the divided portion of the fabric are secured.

6. In a bed, a wire fabric divided at one end, and a swinging frame having two branches to which the two parts of the divided fabric are secured.

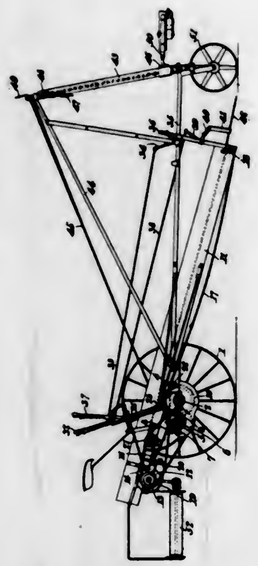
840,617. DITCHING-MACHINE. FRANK J. GOERGEN and FRANK J. DIEDERICH, Granville, Iowa; said Diederich assignor of one-sixth of his interest to said Goergen. Filed July 2, 1906. Serial No. 324,432.

Claim.—1. A ditching-machine comprising an axle, traction-wheels supporting the same, a conveyer superimposed upon the axle, a forwardly-extending frame, a wheel supporting the forward end of said frame, guides located at the forward end of the frame, a vertically-adjustable block retained between the guides, and braces extending from the guides to the axle.

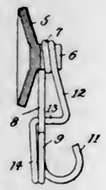
2. A ditching-machine comprising an axle, traction-wheels supporting the same, a conveyer superimposed upon the axle, a frame connected with the axle, a wheel supporting the forward end of said frame, a seat superimposed above the axle, and means for adjusting said seat whereby the same may be maintained at a desired level.

3. A ditching-machine, comprising a wheel-mounted axle, a conveyer superimposed upon the axle and having upwardly-extending straps, a cutter pivoted to the conveyer, a lever fulcrumed to said straps and being operatively connected to said cutter, a wheel-supported frame extending over the conveyer, a lever fulcrumed to said frame and being adjustably attached to said straps.

840,617.



840,618. DISPLAY-HOLDER FOR WINDOWS. SIGMUND GOLOMBEK, New York, N. Y. Filed Sept. 6, 1906. Serial No. 333,561.



Claim.—1. In a display-holder for windows, a suction-cup having a stud, combined with a wire engaging said stud and having a pair of jaws, and a hook in front of said jaws, substantially as specified.

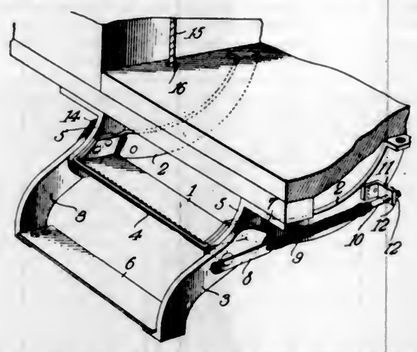
2. In a display-holder for windows, a suction-cup having a stud, combined with a wire engaging the same and having a front shank bent to form a fixed jaw and a hook, and a rear shank bent to form a finger-piece, and a movable jaw back of the fixed jaw, substantially as specified.

840,619. PIVOTED CAR-STEP. GUST HAGBERG, Warren, Pa. Filed Sept. 26, 1906. Serial No. 336,307.

Claim.—1. A device of the character indicated comprising a fixed step, a step pivotally attached thereto, a pulley journaled in fixed relation with the fixed step, a flexible element passing around said pulley and being attached to the pivoted step at a point, said point during the movement of the pivoted step describing an arc about the pivot thereof, the termini of which are located one above and the other below said pulley.

2. A device of the character indicated comprising a fixed step, a step pivotally attached thereto, a pulley fixed with relation to the fixed step, a flexible element passing around said pulley and attached to the pivoted step, a spring connected with said pivoted step and the fixed step and adapted to hold the pivoted step in elevated or depressed position.

3. A device of the character indicated comprising a fixed step, a step pivotally attached thereto and means for swinging said pivoted step upon its pivot, a spring connecting at one end with the pivoted step at a point between the pivot and the tread of said step and at its other end with said fixed step.



4. A device of the character indicated comprising a fixed step, a step pivotally attached thereto and means for swinging said pivoted step upon its pivot, a spring connecting at one end with the pivoted step at a point between the pivot and the tread of said step and at its other end with said fixed step and means for adjusting the tension of said spring.

840,620. CLAMP. JOHN N. HAKE, Littlestown, Pa. Filed Mar. 16, 1906. Serial No. 306,456.



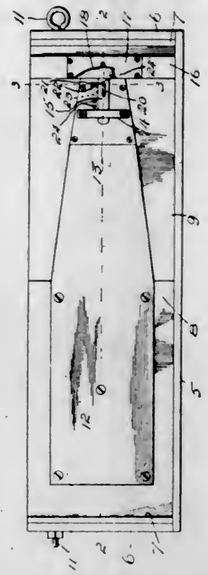
Claim.—1. A device of the character described comprising an inner and an outer plate, said plates being oppositely disposed and the inner plate having its end portions oppositely bowed and fitting snugly within the bend of the outer plate, and clamping means extending through the inner and outer plates between their bends and terminals.

2. A device of the character described comprising an inner and an outer plate, said plates being oppositely disposed and each folded at the center, the inner plate having its terminals bowed in opposite directions to constitute clamping-jaws fitting snugly within the bend of the outer plate, said plates having alining apertures therein between their bends and terminals, and a clamping device extending through the apertures.

3. A device of the character described comprising a folded spring inner clamping-plate, a folded spring outer clamping-plate, and means extending through said plates for contracting them.

840,621. END-GATE. JENS P. HANSEN, Kamsack, Saskatchewan, Canada. Filed Apr. 18, 1906. Serial No. 312,489.

Claim.—1. In combination with a wagon provided with vertical cleats at its inner sides, a break-joint end-gate comprising two sections hinged together at their inner sides, and adapted to project into the grooves between said cleats; a rigid arm attached to the rear side of one of said sections and extending across the face of the other said sections, the outer face of said arm adjacent its rear end being undercut to provide a seat; a plate fitting in said seat and attached to said arm; said plate being provided with a vertical slot adjacent its outer end, a bolt pivoted to the outer face of said plate, and having its free end extending beyond said plate; a spring fitting on said arm in the undercut portion thereof, and provided with a head normally projecting through said slot; and a slat carried by the other section and provided with a locking-plate slotted to receive the projecting end of said bolt.



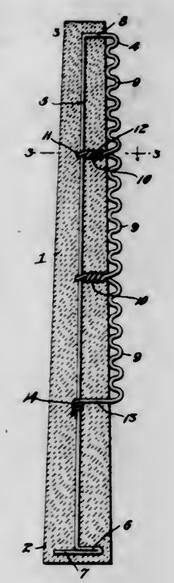
2. A break-joint end-gate consisting of two sections hinged together at their inner sides; a rigid arm attached to the rear side of one of said sections, and extending across the rear side of the other sections, the rear end of said arm being undercut to provide a seat; a plate carried by said arm and fitting in said undercut portion, said plate being provided with a vertical slot adjacent its rear side; a bolt pivoted to the outer face of said plate and having its free end projecting beyond the rear side of said plate; a spring attached to the inner face of said plate and fitting in the undercut seat in said arm; a head on said spring normally extending through said slot, the outer face being rounded to form a cam-surface; a slat carried by the other of said sections; and a plate attached to the outer face of said slat, said plate being provided with a slotted enlargement adapted to receive the projecting end of said bolt.

840,622. FENCE-POST. EARNEST B. HARRIS, Mount Olive, Ill. Filed Oct. 18, 1906. Serial No. 339,565.

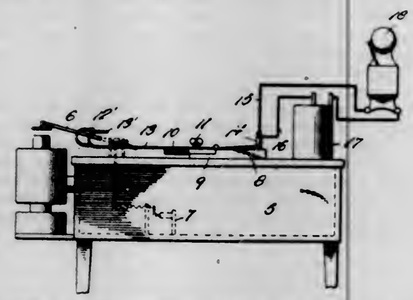
Claim.—1. A fence-post comprising a body of plastic material and a metal frame having a portion embedded in said body and a portion arranged upon the exterior thereof, the latter portion extending longitudinally of the body and being crimped continuously from end to end to provide fence-wire-receiving loops or eyes.

2. A fence-post comprising a body of plastic material and a metal frame for reinforcing the body and for the attachment of fence-wires thereto, said frame being formed from a single piece of metal rod or wire and having a vertical portion extending longitudinally through the body, an anchor in the base of the post formed by bending the lower end of said vertical portion, crimped sections arranged end to end and extending longitudinally upon the exterior of the post-body, the uppermost section being connected to the upper end of said vertical portion and the lowermost section having its lower end coiled around said vertical portion and connecting-loops embedded in said body and uniting the adjacent ends of said crimped sections to said vertical portion, substantially as shown and described.

840,622.



840,623. INCUBATOR-ALARM. FREMONT R. HARRIS, Kenmare, N. D. Filed Aug. 10, 1906. Serial No. 330,101.

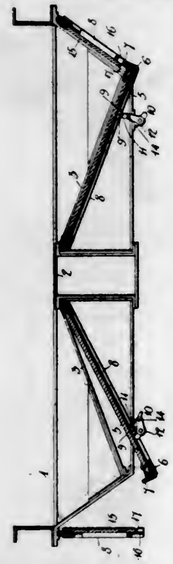


Claim.—1. The combination with an incubator having a movable damper-arm, of pivotally-connected blocks, contact-wires carried by the blocks and located in position for contact by the damper-arm, one of the blocks being movable with respect to the other, to vary the position of the wires with respect to the arm, means for holding the movable block at different points of its movement, and a battery and bell in circuit with the wires.

2. An alarm device for incubators comprising a block having a forwardly-extending reduced portion, a block hinged to the first-named block for movement into and out of position to rest upon the reduced portion, a set-screw engaged in the second block and bearing upon the reduced portion to hold the second block at different points of its movement, wires secured upon the two blocks and adapted for electrical connection to other wires thereto at one end, said wires at their other ends being turned upon themselves in spaced relation and bared at both sides of the turn for electrical engagement by the damper-arm of an incubator.

3. A device of the class described comprising a block, a block hinged to the first-named block and extending over a portion of the first-named block for movement upon its hinges toward and away from said portion, a set-screw engaged through the second-named block and engaging the first-named block, contact-wires carried by the blocks, a contact member located for movement into and out of simultaneous engagement with the wires, said set-screw being operable to vary the position of the wires with respect to the contact members, a source of electricity, and an electrically-operable mechanism in circuit with the wires.

840,624. DUMPING-CAR. CLIFTON E. HERMAN, Columbus, Ohio. Filed Oct. 22, 1906. Serial No. 340,056.



Claim.—1. A dumping-car having a door hinged to the bottom thereof, another door hinged to said car at a point opposite the first-mentioned door, said doors having complementary locking members, a shaft on said car, a folding lever fixed on said shaft and pivoted to one of said doors, and means for operating said shaft to fold said lever and separate said doors.

2. A dumping-car having oppositely-disposed doors hinged to the bottom thereof, the free ends of said doors being adapted to overlap and provided with complementary locking members, a shaft mounted to rotate on said car beneath one of said doors, a bell-crank fulcrumed on said shaft and having one of its ends bifurcated, a link pivoted at a point above one of its ends between said bifurcated bell-crank arm and pivoted at its free end to one of said doors, and means for operating said shaft to open and close said lever.

3. A dumping-car having oppositely-disposed doors hinged to the bottom thereof, the free ends of said doors being adapted to overlap and provided with complementary locking members, a shaft mounted to rotate on said car beneath one of said doors, a bell-crank fulcrumed on said shaft and having a knuckle-joint in one arm thereof, said arm being pivoted to one of said doors, and means for operating said shaft to open and close the joint of said lever.

4. A dumping-car having oppositely-disposed doors hinged to the bottom thereof, the free ends of said doors being adapted to overlap and provided with complementary locking members, a shaft mounted to rotate on said car beneath one of said doors, a bell-crank fulcrumed on said shaft and having a socket in one arm thereof, said socket being open at one side, a link pivoted to said socketed arm with one end extending into said socket and pivoted at its other end to one of said doors.

5. A dumping-car having oppositely-disposed doors hinged to the bottom thereof, the edge of one of said doors adapted to overlap the other door and having notches therein, flaps pivoted on the outer face of said door over said notches, the other door having catches to project through said notches and engage said flaps to hold the doors together, and means for releasing said catch-carrying door from the other door.

6. A Dumping-car having oppositely-disposed doors hinged to the bottom thereof, the edge of one of said doors adapted to overlap the other door and having notches therein, flaps pivoted on the outer face of said door over said notches, the other door having catches to project through said notches and engage said flaps to hold the doors together, a jointed lever attached to said catch-carrying door and to a support, and means for breaking said joint to release said doors.

7. A dumping-car having oppositely-disposed doors hinged to the bottom thereof, the edge of one of said doors adapted to overlap the other door and having notches therein, flaps pivoted on the outer face of said door over said notches, the other door having catches to project through said notches and engage said flaps to hold the doors together, a jointed lever attached to said catch-carrying door, a fulcrum-shaft for said lever, and means for operating said shaft to break said joint and release said door.

8. A dumping-car having oppositely-disposed doors hinged to the bottom thereof, the edge of one of said doors adapted to overlap the other door and having notches therein, flaps pivoted on the outer face of said door over said notches, the other door having catches to project through said notches and engage said flaps to hold the doors together, a jointed lever attached to said catch-carrying door, a fulcrum-shaft for said lever, a lever removably mounted on said shaft for turning it to open and close said jointed lever to release said doors.

9. A dumping-car having oppositely-disposed doors hinged to the bottom thereof, the edge of one of said doors adapted to overlap the other door and having notches therein, flaps pivoted on the outer face of said door over said notches, the other door having catches to project through said notches and engage said flaps to hold the doors together, a jointed lever attached to said catch-carrying door, a fulcrum-shaft for said lever, a lever removably mounted on said shaft for turning it to open and close said jointed lever to release said doors, and means for locking said shaft against rotation to prevent accidental disengagement of the doors.

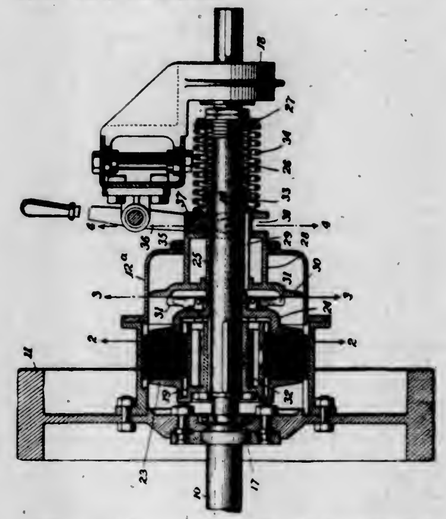
10. A dumping-car having oppositely-disposed doors hinged to the bottom thereof, the edge of one of said doors adapted to overlap the other door and having notches therein, flaps pivoted on the outer face of said door over said notches, the other door having catches to project through said notches and engage said flaps to hold the doors together, a jointed lever attached to said catch-carrying door, a fulcrum-shaft for said lever, a lever removably mounted on said shaft for turning it to open and close said jointed lever to release said doors, and an operating-lever for said shaft having a knuckle-joint therein.

840,625. GARMENT-HANGER. CORNELIA B. HOTCHKISS, Watertown, Conn. Filed Mar. 21, 1906. Serial No. 307,267.



Claim.—A garment-hanger comprising a horizontal frame, suspending means carried by the frame for connecting a garment therewith, and a bracket extending from the rear portion of the frame and comprising a plurality of loops radiating from a central point, said loops being adapted to form a firm bearing against a support from which the hanger is suspended, the uppermost of said loops being adapted to form a suspending member for the bracket.

840,626. FRICTION-CLUTCH. RUSSELL HUFF, Detroit, Mich., assignor to Packard Motor Car Company, Detroit, Mich., a Corporation of West Virginia. Filed Oct. 19, 1906. Serial No. 339,663.



Claim.—1. In a clutch mechanism, the combination with a driving-shaft and a friction-clutch member driven thereby, of a driven shaft, a friction-clutch member connected with said driven shaft, two springs arranged to press said clutch members together, and means for applying said springs successively to close the clutch, for the purpose set forth.

2. In a clutch mechanism, the combination with a driving-shaft and a friction-clutch member driven thereby, of a driven shaft, a friction-clutch member connected with said driven shaft, two springs arranged to press said clutch members together, and means for successively removing the pressure of said springs from the clutch members.

3. In a clutch mechanism, the combination of a driving-shaft and a primary friction-clutch member connected to rotate with said shaft, of a driven shaft, a secondary friction-clutch member connected to rotate with the driven shaft, a head or clamp for pressing said clutch members together, two springs adapted to bear upon said head or clamp, and means for successively throwing said springs into operation whereby the combined pressure of the springs is gradually applied to the clutch.

4. In a clutch mechanism, the combination of a driving-shaft and a primary friction-clutch member comprising a series of disks connected to rotate with said shaft, a driven shaft, a secondary friction-clutch member comprising a series of disks connected to rotate with the driven shaft, a head or clamp for pressing said clutch members together, two springs adapted to bear upon said head or clamp, and means for successively throwing said springs into operation whereby the combined pressure of the springs is gradually applied to the clutch.

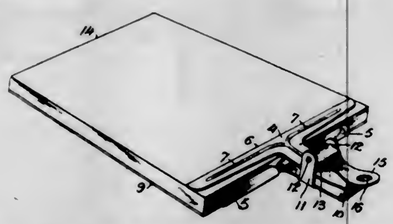
5. In a clutch mechanism, the combination with driving and driven shafts, of the two series of friction-disks connected respectively to said shafts, the sleeve on the driven shaft having a head bearing on said disks, the spring

adapted to bear on said sleeve, the outer sleeve, a second spring adapted to bear on the outer sleeve, and means for transmitting the pressure of the outer sleeve to the head of the inner sleeve, for the purpose set forth.

6. In a clutch mechanism, the combination with driving and driven shafts, of the two series of friction-disks connected respectively to said shafts, the sleeve on the driven shaft having a head bearing on said disks, the spring adapted to bear on said sleeve, the outer sleeve, a second spring adapted to bear on the outer sleeve, a head on said outer sleeve, and a series of levers arranged between the head of the outer sleeve and the head of the inner sleeve, for the purpose set forth.

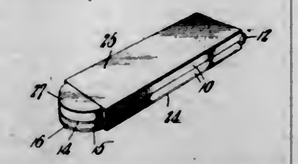
7. The combination with the motor or driving shaft, of the driven shaft coaxial with the driving-shaft and having a bearing at the end of the driving-shaft, a clutch-casing connected with the driving-shaft and carrying a series of clutch-disks, a clutch-hub upon the driven shaft and carrying an alternate series of clutch-disks, an inner sleeve adapted to slide on the driven shaft and having a head adapted to clamp the clutch-disks together, an outer sleeve adapted to slide upon the inner sleeve and turn therewith, a head upon the outer sleeve, a series of levers interposed between the heads of said sleeves, two springs bearing respectively on said sleeves and adapted to move them toward the clutch-disks, and means for applying said springs successively to clamp said clutch-disks and for relieving said clutch-disks successively of the pressure of said springs, for the purpose set forth.

840,627. PAD-HOLDING CLIP. KARNIG JELALIAN, New York, N. Y. Filed Aug. 2, 1905. Serial No. 272,387.



Claim.—In a clip for holding sheets of paper, the combination with a base-board supporting the sheets, of a jaw provided with perforations and having a guide-flange along its inner edge resting against the extremity of said board, means in said peroforations securing said board to said jaw, an upper movable jaw having a tearing edge, said jaws being formed of one piece of resilient metal and of approximately U shape, a cylindrical jaw-operating cam having lateral projections thereon, and bearings for said projections in a bent-up portion of the lower jaw extending above the upper jaw.

840,628. COMBINATION RULE AND BEVEL. EDWARD P. JOHNSON, Grand Forks, N. D. Filed July 12, 1906. Serial No. 325,970.



Claim.—1. A rule comprising jointed sections, one of said sections having a threaded pin extending therefrom and the other section having a slot to receive said pin, a clamping-nut engaging said pin, a bar-gage slidably engaging one of said sections and provided with an enlarged head having a recess formed therein for the reception of the nut and the protruding portion of said pin, and a sectional plate secured to one of the rule-sections and forming a housing for both sides of the rule when the latter is folded.

2. A rule comprising intermediately-jointed sections, a joint uniting said sections and formed of superimposed plates semicircular at the outer portions and pivotally united, housing-plates connected respectively to the jointed members of one of said rule-sections, one of said housing-plates having a semicircular terminal conforming to said superimposed joint-plates, and a bar-gage slidably engaging one of said rule-sections and provided with an enlarged head conforming to the superimposed plates and bearing upon the same when the implement is in folded position.

3. A rule comprising laterally-movable sections, a joint uniting said sections and formed of superimposed plates pivotally united, means for clamping the sections in adjusted position, a bar-gage slidably engaging one of said sections and having an enlarged head corresponding to said joint-plates and bearing upon the same when the sections are in folded position, said head being provided with a recess for the reception of the clamping means, and a sectional plate secured to one of the rule-sections and forming a housing for both sides of the rule when the latter is folded.

4. A rule comprising two sections, a joint uniting said sections and formed of superimposed plates pivotally united, a bar-gage slidably engaging one of said sections and having an enlarged head corresponding to said joint-plates and a sectional plate secured to one of the rule-sections, and forming a housing for both sides of the rule when the latter is folded.

5. A rule comprising pivotally-united sections, clamping means piercing the pivoted ends of said sections, a bar-gage slidably engaging one of said sections and having an enlarged head provided with a recess for the reception of the clamping means, and a sectional plate secured to one of the rule-sections and forming a housing for both sides of the rule when the latter is folded.

840,629. STOCKING. ALBERT F. A. KING, Washington, D. C. Filed Nov. 13, 1906. Serial No. 343,285.

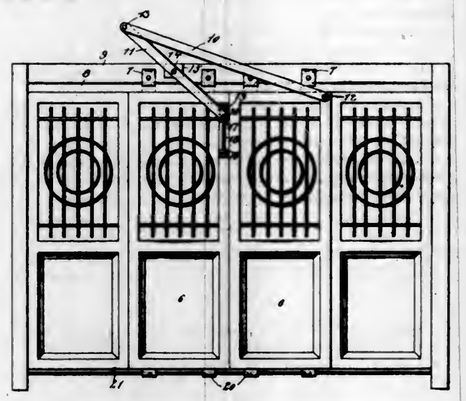


Claim.—A stocking closed at the toe and fitting the foot snugly at all points except in the region of the end of the great toe where a fullness is produced providing a dilated pocket or nail-cap which prevents tension and friction of the stocking against the nail.

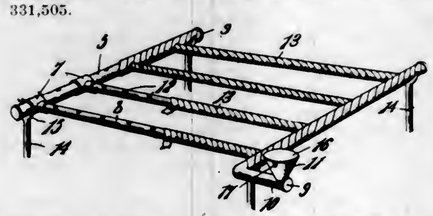
840,630. DOOR-OPENER. AUGUST KIRCHNER and WILLIAM KIRCHNER, Cleveland, Ohio. Filed Sept. 10, 1906. Serial No. 334,005.

Claim.—The combination with a door-casing and double sliding doors therein, of a lever fulcrumed above one of the doors, a vertical rod fixed to said door and having a sleeve thereon connected to the lower end of said lever, and a connecting-rod directly connected between the upper end of said lever and the other door.

840,630.



840,631. ROOST FOR CHICKENS. FRANCIS KREMER, Manchester, Okla. Filed Aug. 21, 1906. Serial No. 331,505.



Claim.—1. A perch comprising a hollow body portion having perforated walls and adapted to contain a quantity of oil, and an absorbent jacket covering the perforations in said body portion.

2. A perch comprising a hollow body portion adapted to contain a quantity of crude oil and having its walls perforated to permit the escape of the oil, and an absorbent jacket covering the perforations in the body portion and forming a yieldable surface for the perch.

3. A perch comprising a hollow perforated body portion adapted to contain an insecticide, and an absorbent jacket enveloping said body portion, and covering the perforations therein.

4. A perch comprising a hollow perforated body portion adapted to contain a liquid insecticide, and a strip of fabric covering the perforations in said body portion.

5. A perch comprising a hollow perforated body portion adapted to contain a quantity of crude oil, and a strip of absorbent material wound around the body portion in spiral form and covering the perforations therein.

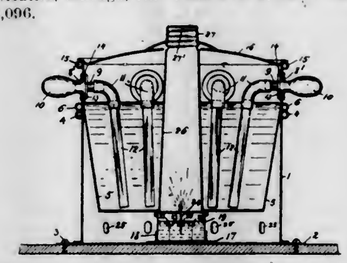
6. A perch comprising a plurality of longitudinal and transverse hollow tubes having perforations formed therein and adapted to contain a liquid insecticide, a reservoir communicating with the interior of the tubes, and an absorbent jacket surrounding the tubes and covering the perforations therein.

7. A perch comprising a plurality of communicating longitudinal and transverse hollow tubes having perforations formed therein and adapted to contain a liquid insecticide, one of said tubes being provided with an angular extension, a reservoir carried by the angular extension and communicating with the interior of said tubes, and an absorbent jacket surrounding the tubes and covering the perforations therein.

8. A perch comprising a hollow perforated body portion adapted to contain a liquid insecticide, and an absorbent jacket covering the perforations in the body portion and forming a yieldable surface for the perch.

9. A perch comprising spaced longitudinal perforated tubes provided with terminal caps and intermediate couplings, one of said tubes being formed with an angular extension, transverse hollow tubes threaded in said couplings and provided with similar perforations, a reservoir mounted on the angular extension and communicating with all of said tubes for supplying a liquid insecticide to the interior of the latter, and an absorbent jacket surrounding the tube and covering the perforations therein.

840,632. STOCK-NURSING APPLIANCE. HEINRICH KRÜMLING, Chicago, Ill. Filed Feb. 2, 1906. Serial No. 299,096.



Claim.—1. In an apparatus of the described class, the combination of a heated receptacle with a plurality of suction-nipples inserted through corresponding holes in the said receptacle, a washer for each suction-nipple and an enlargement upon each suction-nipple for the purpose of securing the said suction-nipples to the heated receptacle inwardly thereof, substantially as described.

2. In an apparatus of the described class, the combination, of an inclosure with a heated receptacle containing a heating-flue, a cover, which closes the heated receptacle and containing an aperture through which the said heating-flue passes, a screw-thread upon the upper end of the said heating-flue, and a screw-cap fitted to the thread of the said heating-flue whereby the said cover is securely fastened to the heated receptacle, substantially as described.

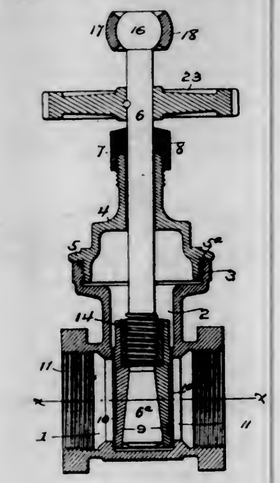
3. In an apparatus of the described class, the combination, of an inclosure with a heated receptacle containing a heating-flue, a cover, which closes the heated receptacle and containing an aperture through which the said heating-flue passes, a screw-thread upon the upper end of the said heating-flue, and a screw-cap fitted to the thread of the said heating-flue for the purpose of securing the said cover therewith, a plurality of suction-nipples inserted through corresponding holes in the said receptacle, a washer for and an enlargement upon each suction-nipple whereby the same is fastened to the said heated receptacle inwardly thereof, a plurality of suction-tubes in the said heated receptacle, flexible connection between the suction-nipples and the suction-tubes and an oil-lamp in said inclosure with a swimmer carrying one or more wicks therein, for the purpose and substantially as described.

840,633. GATE-VALVE. JOHN P. LADD, Alliance, Ohio. Filed Oct. 14, 1903. Serial No. 177,046.

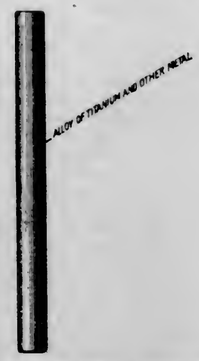
Claim.—1. The combination with a valve-casing having parallel valve-seats, of two gates each having a curved tapering recess on its inner face and a recess in the upper end, a conical head between said gates and having bearings in the recesses thereof, a threaded nut located above the conical head and near the upper ends of the gates and having flanges engaging the recesses in the upper ends of the two gates, and a threaded stem passing through said nut and rigid with said conical head.

2. The combination with a valve-casing having parallel valve-seats therein, of two gates each having a curved tapering recess, the two recesses forming a conical space larger at its lower end, each gate also having a recess at its upper end, each recess communicating with a socket also formed in the gate, a nut located within the recesses in the upper ends of the gates and provided with flanges which rest in the sockets communicating with said recesses, and a stem having a conical lower end resting with-

in the conical space between the gates, and also having threads to engage the nut, substantially as described.



840,634. ELECTRICAL CONDUCTOR FOR LIGHTING PURPOSES. ISADOR LADOFF, Schenectady, N. Y., assignor, by direct and mesne assignments, to Philip C. Peck, New York, N. Y., and Anna M. Ladoff, Schenectady, N. Y. Filed Dec. 2, 1903. Serial No. 183,528.



Claim.—1. An arc-light pencil consisting for the most part of an alloy of titanium with another metal possessing greater conductivity than titanium.

2. An arc-light pencil consisting for the most part of an alloy of titanium with iron.

3. An arc-light pencil comprising an alloy of titanium with other metal possessing greater electrical conductivity than titanium, said alloy constituting more than ten per centum of said pencil.

4. An arc-light pencil comprising an alloy of titanium with iron, said alloy constituting more than ten per centum of said pencil.

5. An arc-light pencil comprising an alloy of titanium with iron, said titanium constituting more than five per centum of said alloy.

6. An arc-light pencil comprising an alloy of titanium with other metal possessing greater electrical conductivity than titanium, said titanium constituting more than five per centum of said alloy.

7. An electrode for arc-lighting consisting of an alloy of titanium and other metal possessing greater electrical conductivity than titanium.

8. An electrode for arc-lighting consisting of an alloy of titanium and iron.

9. An electrode composed of ferrotitanium.

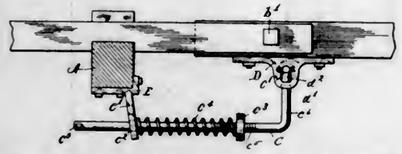
10. An electrode containing ferrotitanium.

11. An electrode containing considerable amounts of iron and titanium in a metallic state.

12. An electrode formed from an alloy of iron and titanium containing about thirty-five parts of titanium and about sixty-five parts of iron.

13. An electrode formed from an alloy of iron and titanium containing less than thirty-five parts of titanium and more than sixty-five parts of iron.

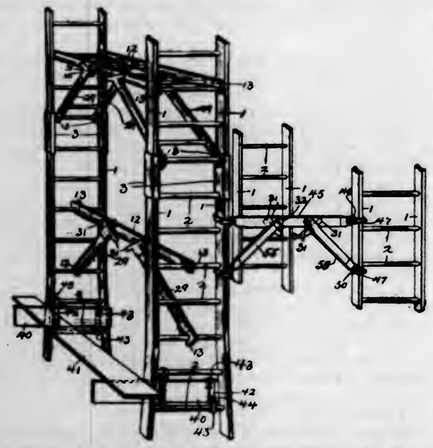
840,635. WAGON-TONGUE SUPPORT. JOHN C. LAMBERT, Tonica, Ill. Filed Dec. 15, 1905. Serial No. 291,810.



Claim.—1. In a tongue-support, a plate secured to the under side of the tongue and having elongated vertical slots therein, a bar bent to form a vertical member and a horizontal member, the vertical part being pivotally connected with said plate, and the horizontal part being threaded, a slotted plate secured to the wagon-axle, its slot receiving the horizontal member of said bar, a coil-spring arranged on said bar and bearing at one end against said axle-plate, and a nut mounted on the threaded portion of said bar as a bearing for the other end of said spring.

2. In a tongue-support, a plate secured to the tongue and having elongated slots therein, a rod pivotally mounted in said slots, the pivot being of less cross-diameter than the greatest cross-diameter of the slots, and means for holding said bar under tension substantially as set forth.

840,636. SCAFFOLD. CHARLES E. LILLOW, Cleveland, Ohio, assignor to The Cleveland Ladder-Scaffold Company, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 3, 1905. Serial No. 285,711.



Claim.—1. In a scaffold, the combination of a series of vertical sections, each section comprising vertically-arranged side pieces secured together by cross-bars and means for securing said vertical sections together, consisting of sleeves arranged to receive the upper ends of the side pieces of a lower vertical section and the lower end of the side pieces of an upper vertical section, walls arranged in said sleeves and lugs formed on said walls and arranged to enter the ends of the side pieces of one of the vertical sections.

2. In a scaffold, the combination of a series of vertical sections, each of said sections consisting of vertically-arranged side pieces secured together by cross-bars and means for securing said vertical sections together consisting of sleeves arranged to receive the upper ends of the side pieces of a lower section and the lower ends of the side pieces of an upper section, walls arranged in said sleeves, lugs formed on the upper surfaces of said walls and arranged to enter the lower ends of the side pieces of the upper section and means for permanently securing said sleeves to the side pieces of the lower sections.

3. In a scaffold, the combination of a series of vertical sections, each section consisting of two vertically-arranged side pieces secured together by cross-bars, and means for bracing two of said vertical sections together comprising a yoke portion, a hollow body portion having a slot in the bottom with two enlargements of the same size, a plate arranged to slide in said hollow body portion and a latch for locking said plate in said body portion, said latch consisting of a body portion approximately equal in size to the enlargements in the said slot, a neck portion arranged to enter the said slot, a flange arranged on the body portion and a stud secured to said body portion and arranged to enter an opening in the said plate and the arrangement is such that when the said plate is in its innermost or outermost position the said latch will drop of its own weight into one of the said enlargements in the said slot and thereby lock the plate against movement.

4. In a scaffold, the combination of a series of vertical sections and means for bracing said sections together comprising a brace-bar, means for securing the ends of said brace-bar to the vertical sections and stay-bars for reinforcing said brace-bars, said stay-bars being provided with hangers for securing them to the brace-bars, each hanger comprising a plate arranged at one side of a stay-bar and provided with two projecting ears and a plate arranged at the opposite side of the stay-bar and extending above the first-mentioned plate, means for securing said last-mentioned plate to the brace-bar and the arrangement is such that when the said stay-bar is in a vertical position the ears on the first-mentioned plate will lie below said brace-bar and when the stay-bar is moved to an inclined position one of said ears will extend along one side of said brace-bar and means for securing the lower ends of the stay-bars to the vertical sections.

5. In a scaffold, the combination of vertical sections, means for securing said vertical sections in pairs and means for connecting the pairs of vertical sections, said means comprising a link, means arranged to engage the vertical sections and universal joints arranged between the ends of the link and the means for engaging the vertical sections.

6. In a scaffold, the combination of vertical sections, each of said sections comprising vertical side pieces secured together by cross-bars, means for connecting the vertical sections in pairs, and means for connecting the pairs of vertical sections together, said means comprising U-shaped straps arranged to embrace the side pieces of the vertical section, latches arranged to close the open ends of the said straps, a clamping-screw arranged in each strap opposite the latch, a link and universal joints connecting the ends of said link and said straps.

840,637. MOLD FOR CONSTRUCTING HOLLOW CONCRETE COLUMNS. FRITZ LOCHER, Zürich, Switzerland, assignor to The Firm of Locher & Cie., Zürich, Switzerland. Filed Nov. 10, 1906. Serial No. 342,921.

Claim.—1. In apparatus for making hollow concrete columns, in combination, a tubular mold, consisting of a plurality of superposed sections; a hollow core consisting of a plurality of superposed sections, located within the said mold; and detachable members connecting the individual core-sections together, substantially as described.

2. In apparatus for making hollow concrete columns, in combination, a tubular mold, consisting of a plurality of superposed sections; a hollow core, consisting of a plurality of hollow sections, located within the said mold; transverse members having elongated slots, located at the ends of the cores; and bolts having elongated heads and tailpieces passing through the slots of each two adjacent transverse members, the distance between the head and tail of the bolts being greater than the distance between the top of one transverse member and the bottom of the adjacent one; substantially as described.



3. In apparatus for making hollow concrete columns, in combination, a tubular mold, consisting of a plurality of superposed sections; a hollow core, consisting of a plurality of superposed sections, located within the mold; and dowel-pins on the end of each core entering recesses in the adjacent end of the next core; substantially as described.

840,638. APPARATUS FOR CONSTRUCTING HOLLOW CONCRETE COLUMNS. FRITZ LOCHER, Zürich, Switzerland, assignor to The Firm of Locher & Cie., Zürich, Switzerland. Filed Nov. 10, 1906. Serial No. 342,922.

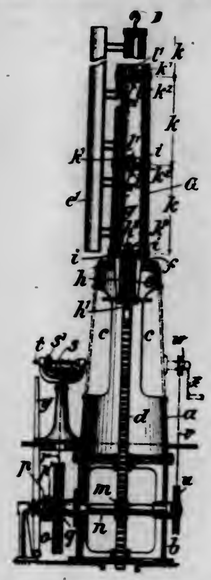
Claim.—1. In apparatus for making hollow concrete columns, in combination, a core consisting of a concatenation of detachable sections; a support for the bottom section; means for moving the support in vertical direction; and means for detachably securing the core to the said support, substantially as described.

2. In apparatus for making hollow concrete columns, in combination, a core consisting of a concatenation of detachable sections; a support for the core; a rack carrying the support; a shaft; a pinion mounted thereon meshing with the rack; and a winch for rotating the shaft; substantially as described.

3. In apparatus for making hollow concrete columns, in combination, a core consisting of a concatenation of detachable sections; a support for the core; a rack, recessed at the top, carrying the support; a shaft; a pinion mounted thereon meshing with the rack; a winch for rotating the shaft; a cross-piece, having an elongated slot, located at the bottom of the lowest core-section; a screw-bolt passing through the slot and the rack-recess and securing the core to the support; and dowel-pins on the support entering recesses in the bottom of the core; substantially as described.

4. In apparatus for making hollow concrete columns, in combination, a core consisting of a concatenation of detachable sections, each having dowel-pins at one end and

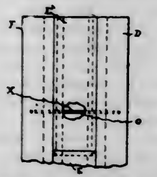
corresponding recesses at the other end; cross-pieces, having an elongated slot, at the bottom of the core-sections; cross-pieces having an elongated slot running at right angles to the slot in the said cross-pieces, located at the top of the core-sections; and bolts passing through the two slots in each two adjacent cross-pieces and presenting an elongated head and a like tailpiece disposed at a right angle to the head; substantially as described.



5. In apparatus for making hollow concrete columns, in combination, a core consisting of a concatenation of detachable sections; a support located below the core; a rack carrying the support; a pinion meshing with the rack; a shaft carrying the pinion; a winch, and gearing having respectively high and low ratios of transmission for driving the shaft; substantially as described.

6. In apparatus for making hollow concrete columns, in combination, a core consisting of a concatenation of detachable sections; a support for the bottom core-section; and means for operating the support in vertical direction; and means for rotating the support; substantially as described.

840,639. STAVE-COLUMN. GEORGE W. LOGGIE, Bellingham, Wash. Filed June 19, 1906. Serial No. 322,431.



Claim.—1. In a stave-column the combination of a number of tapering staves, the tapering ends of which lie in the same direction and one or more parallel staves.

2. In a stave-column the combination of a number of tapering staves; with a parallel stave; and a longitudinal piece cut from and reset in the outside of said parallel stave at each end of the same.

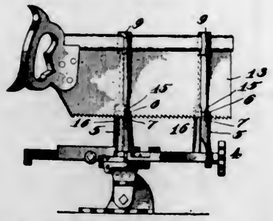
3. In a stave-column the combination of a number of tapering staves, with a parallel stave, there being transverse holes through said staves so placed that said holes may register in sets; and a longitudinal piece cut from and reset in the outside of said parallel stave at each end of the same, said piece being cut deep enough to uncover one or more of said holes in said stave.

4. In a stave-column the combination of a number of tapering staves; a parallel stave; a longitudinal tongue and groove in each stave to match with a groove and tongue in its neighboring staves; there being transverse holes through said staves nearer the axis of said column than said tongues and grooves and so placed that said holes may register in sets and each set form within the wall of said column the figure of a polygon; and a longitudinal piece cut from and reset in the outside of said parallel stave at each end of the same, said piece being cut from the full width of said stave and deep enough to include the tongue and groove of that part of said stave, and, also deep enough to uncover one or more of said transverse holes, and the inner end of said piece is cut on an acute angle.

5. In a stave-column the combination of a number of tapering staves, with a parallel stave; there being transverse holes through said staves so placed that said holes may register in sets; a longitudinal piece cut from and reset in the outside of said parallel stave at each end of the same, said piece being cut deep enough to uncover one or more of said holes in said parallel stave; and a band in each set of said holes.

6. In a stave-column the combination of a number of tapering staves, with a parallel stave; a longitudinal tongue and groove in each stave to match with a groove and tongue in its neighboring staves; there being transverse holes through each of said staves nearer the axis of said column than said tongues and grooves and so placed that said holes may register in sets and each set form within the wall of said column the figure of a polygon; a longitudinal piece cut from and reset in the outside of said parallel stave at each end of the same, said piece being cut from the full width of said stave and deep enough to include the tongue and groove of that part of said stave, and also deep enough to uncover one or more of said holes in said stave, and the inner end of said piece is cut at an acute angle; and a wire in each of said sets of holes drawn tightly with its ends twisted together and bent downward to lie in said hole.

840,640. MITER-BOX. ELMER E. LUTZHOFF, Rockford, Ill., assignor to H. Clarence Marsh, Rockford, Ill. Filed Oct. 22, 1906. Serial No. 340,093.

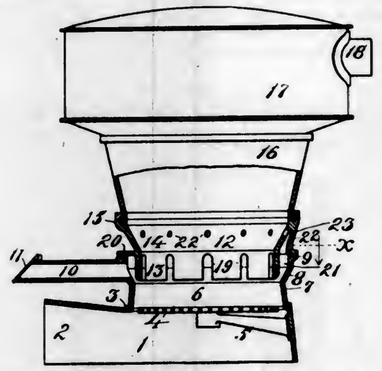


Claim.—1. In combination, a socket provided with a transverse detent-bearing, a hollow saw-guide pin slidably mounted therein, a spring included within the hollow saw-guide pin and projecting a detent through the transverse opening in the saw-guide pin into engagement with the detent-bearing of the socket.

2. In combination, a socket provided with a transverse detent-bearing, a hollow saw-guide pin slidably mounted therein, a U-shaped spring included within the hollow saw-guide pin and projecting a detent through the transverse opening therein into engagement with the detent-bearing of the socket.

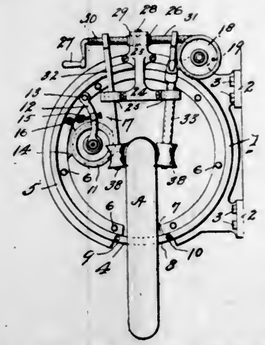
3. In combination, a socket provided with a transverse detent-bearing, a hollow saw-guide pin slidably mounted therein, a U-shaped wire spring included within the hollow saw-guide pin and projecting a detent through the transverse opening in said pin into engagement with the transverse detent-bearing of the socket.

840,641. FIRE-POT FOR STOVES OR FURNACES. RUDOLF A. MAY, Akron, Ohio. Filed Feb. 10, 1906. Serial No. 300,444.



Claim.—A stove or furnace comprising an ash-pit provided with an opening for establishing communication between the ash-pit and the fire-pot, a grate mounted in said opening, an annular member mounted upon the ash-pit and having the lower portion thereof substantially conoidal in contour, its intermediate portion of inverted-cone shape, and its upper portion cylindrical, an inlet-pipe formed integral with the upper and intermediate portions of said annular member, a second annular member having the lower portion thereof substantially cylindrical in contour and its upper portion of inverted-cone shape, said lower portion of said second member of less diameter than the upper and intermediate portions of said first member and surrounded by said upper and intermediate portions of said first member forming thereby an air-space between said lower portion of the second member and said upper and intermediate portions of the lower member, said lower portion of said second member provided with a plurality of upwardly-extending slots, said upper portion of said second member provided with a plurality of openings, a laterally-extending flange formed integral with the lower portion of said second member and extending upon the upper portion of the lower member and adapted to support the upper member upon the lower member, and a plurality of conduits formed integral with said flange and with the upper portion of said second member and adapted to establish communication between said air-space and said openings.

840,642. MACHINE FOR WRAPPING TIRES. CHARLES E. MILLER, Anderson, Ind. Filed Oct. 13, 1906. Serial No. 338,770.



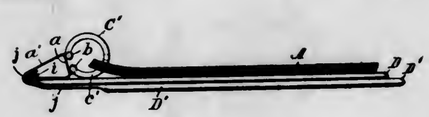
Claim.—1. A machine of the type set forth comprising an annular supporting-frame, an annular frame rotatably inclosed therein, supporting-arms carried by said last-named frame and pivoted thereto and a spool mounted between said arms.

2. A machine of the type set forth comprising an annular supporting-frame, an annular frame rotatably inclosed therein, a spool yieldably mounted upon said second frame and a brake-block bearing against said spool.

3. A machine of the type set forth comprising in combination with means for winding fabric about a tire, of tire-supporting means comprising a stationary support, opposed pulleys suspended therefrom on depending pivoted shafts and means for adjustably moving said shafts in either direction upon their respective pivots.

4. A machine of the type set forth comprising a supporting-annulus, an annulus rotatably mounted therein, means carried by said supporting-annulus for suspending a tire, means carried by said last-named annulus for wrapping a tire, and means on said supporting-annulus for rotating said last-named annulus.

840,643. TEMPORARY BINDER. LUCENA M. MORDEN, Waterbury, Conn. Filed Oct. 11, 1905. Serial No. 282,283.



Claim.—1. A temporary binder having a sheet-metal bed carrying a series of divided rings with the ring-sections at one side attached rigidly to the bed, and two of the opposite ring-sections formed integral with the opposite ends of the pivot-wire, bearings upon the bed for the pivot-wire adapted to hold the same from longitudinal movement, and a locking device, as the bevel *f* and notch *g*, applied to the joint of one of the rings, whereby the operator can spring such joint apart with the fingers and open all the rings simultaneously by a rotation of the pivot-wire with the same fingers.

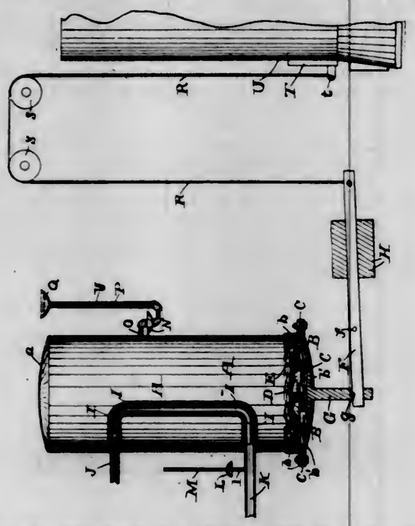
2. A temporary binder having a sheet-metal bed carrying a series of three or more divided rings with the ring-sections at one side attached rigidly to the bed, and two of the opposite ring-sections formed integral with the opposite ends of a pivot-wire, bearings upon the bed for the pivot-wire adapted to hold the same from longitudinal movement, a dovetail notch *k* in the pivot-wire for each of the intermediate ring-sections and the said intermediate sections having each a dovetail fitted to one of said notches and secured therein by rivet *l*, the meeting ends of the sections on one of the rings being beveled and notched upon their opposite inner sides to form similar jaws adapted to interlock with one another, and to be sprung apart when required.

840,644. DAMPER-REGULATOR. DOCTOR F. MORGAN, Chicago, Ill. Filed Apr. 27, 1905. Serial No. 257,749.

Claim.—1. A receptacle provided with a movable wall, means to automatically limit pressure of heated air in the receptacle, and to automatically replenish, when the air in the receptacle is cooled, air forced from the receptacle when heated, means to raise the temperature of the air in the receptacle to above climatic temperature, a damper, a fulcrumed lever, a connection between the lever and the damper and a connection between the lever and the movable wall and means to vary the pressure of the connection against such movable wall.

2. A receptacle provided with a movable wall, means to limit pressure of heated air in the receptacle, and to automatically replenish, when the air in the receptacle is cooled, air forced from the receptacle when heated, a pipe to convey heating fluid, such pipe extending through the wall of the casing thereinto and therefrom and means to vent such pipe of the air contained therein,

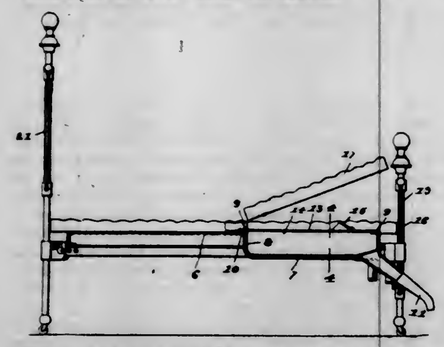
a fulcrumed lever, a connection between the lever and the movable wall, and means to vary the pressure of such connection against the movable wall.



3. The combination of a two-part base, each part provided with a hole therethrough, with a diaphragm secured between the parts, a cylinder closed at its upper end attached to the upper one of the parts, such cylinder arranged to hold liquid and air, a pipe for heating fluid extending through the side wall of the cylinder into and out thereof above the liquid therein to control the temperature of the air contained in such cylinder, a seal, and a communicating way between the seal and the interior of the cylinder.

4. The combination of a two-part base, each part provided with a hole therethrough, with a diaphragm secured between the parts, a cylinder closed at its upper end attached to the upper one of the parts, such cylinder arranged to hold liquid and air, and a pipe for heating fluid extending to and connected with the cylinder above the liquid therein to control the temperature of the air contained in such cylinder.

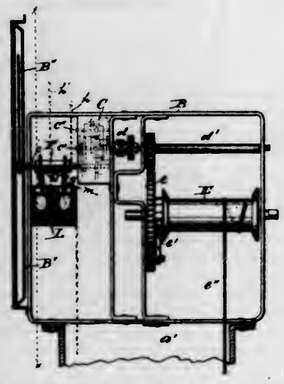
840,645. BED. NANCY S. A. E MYERS, Holland, Tex. Filed June 18, 1906. Serial No. 322,348.



Claim.—1. An invalid-bed comprising supporting portions, a receptacle open at its top and one end, a pan in the receptacle and movable outwardly through the end thereof, a cover for the pan having an opening therein, a mattress upon the support and having an opening over that of the cover, and a removable filling-piece in the opening of the mattress.

2. An invalid-bed comprising foot and head boards, one having an opening therein, a spring, a pan removably mounted in the spring, said opening being disposed for passage of the pan therethrough, and a mattress upon the spring, said mattress having an opening over the pan.

840,646. ELECTRIC TIME-SWITCH FOR BEACONS. ROBERT P. NELMS, Jacksonville, Fla. Filed Mar. 20, 1906. Serial No. 307,125.



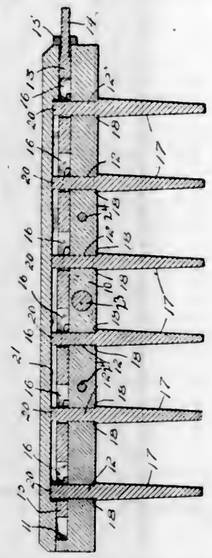
Claim.—1. In a device of the character set forth, time mechanism having the usual means for driving the same, supplemental means for winding the driving means when its power falls below normal, a shaft having thereon a pointer such shaft being driven by the time mechanism, an electrode on the shaft to move in unison with the pointer, an adjustable member attached to the fixed member of the electrode and movable therewith, a receptacle for mercury into which the electrode passes to complete a circuit and electric connections between the electrode; the mercury in the receptacle therefor; the lamp and a storage battery, substantially as shown.

2. In a device of the character described, time mechanism having a fixed dial and a revoluble pointer, a two-part electrode mounted on the shaft of the time mechanism that carries the pointer, one member of the electrode being maintained in slidable engagement with the other member, a receptacle for mercury maintained in the path of the electrode, and connections between the electrode; a lamp, a battery and mercury when placed in the receptacle, for the purpose set forth.

3. In a device of the character set forth, time mechanism having a driven shaft that carries a pointer or hand, an electrode and contact-points attached to the shaft and insulated therefrom, the electrode carried by the shaft having a part that is concentric to the axis of the shaft, means for increasing or diminishing the length of the concentric portion of the electrode, a receptacle having a concave chamber for mercury, and means for electrically connecting the movable electrode with a lamp, a battery and with mercury placed in the receptacle, for the purpose set forth.

4. In a device of the character set forth, a time-train of gears having means for driving a shaft which carries a pointer one revolution in twenty-four hours, means for maintaining the driving element of such time-train at a constant tension, an electrode carried by the shaft having thereon the pointer and insulated therefrom; the electrode having a member that is maintained in slidable engagement with the fixed member of the electrode to change the duration of an electric circuit, a chamber adapted to contain mercury located in the path of the electrode, electric connections between the electrode; a lamp; a battery and mercury when placed in the receptacle, substantially as shown.

840,647. RAKE-HEAD. MILLARD F. NEWSOM, Cross Cut, Tex. Filed Mar. 28, 1906. Serial No. 308,541.



Claim.—1. A device of the class described comprising a bar, a plate slidably mounted upon the bar, a series of headed teeth engaged through openings in said bar, and means carried by the plate for engagement with said heads to prevent removal of said teeth.

2. A device of the class described comprising a bar, a series of headed teeth engaged through openings in said bar, and a plate adjustably disposed upon said bar and having portions arranged for engagement with the heads on said teeth.

3. A device of the class described comprising a bar having a series of headed teeth engaged through openings therein, and a plate having wedge portions arranged for engagement beneath said heads on said teeth.

4. A device of the class described comprising a bar having openings formed therethrough, teeth engaged through said openings, said teeth being provided at their upper ends with heads and intermediate their ends with shoulders, said shoulders being arranged to abut against the under side of said bar, and a plate adjustably disposed upon said bar and having wedge portions arranged for engagement with the under side of said heads.

5. A device of the class described comprising a bar having openings formed therethrough, teeth engaged in said openings and having recesses formed upon opposite sides, and a plate adjustably disposed upon said bar and provided with keyhole-slots, the edges of the reduced portions of said slots being arranged for engagement in the said recesses.

6. A device of the class described comprising a bar having a series of openings formed therethrough, teeth engaged in said openings and having recesses formed in opposite sides thereof, and a plate adjustably disposed upon said bar, said plate being provided with a series of keyhole-slots, the edges of the reduced portions of said slots being wedge-shaped and being arranged for engagement in said recesses.

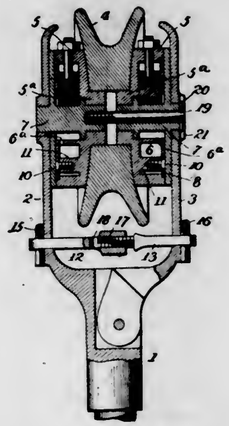
7. A device of the class described comprising a bar having a series of openings formed therethrough, a plate adjustably disposed upon the bar and provided with a series of keyhole-slots, headed teeth engaged through the openings in said bar and through said keyhole-slots and means for adjusting the plate to cause the same to engage the heads of the teeth.

8. A device of the class described comprising a bar having a series of openings formed therethrough, a plate adjustably disposed upon said bar and having keyhole-slots formed therethrough, headed teeth engaged through said openings and said slots, said teeth having the under sides of their heads inclined and means for adjusting the plate to cause the same to engage the heads of the teeth.

9. A device of the class described comprising a bar having openings formed therethrough, teeth engaged through said openings, heads formed on the upper ends of said teeth, a plate disposed upon said bar and having portions arranged for engagement beneath said heads, and means connected with the plate and coöperating with the bar for adjusting the said plate thereon.

10. A device of the class described comprising a bar provided with a series of openings, headed teeth engaged through said openings, a plate disposed upon said bar and having portions arranged for engagement beneath the heads formed on said teeth, a threaded stem formed integral with the plate, and a nut engaged upon the stem and abutting against one end of the bar.

840,648. TROLLEY-WEEL. JAMES A. NORTAN, Wilkes-Barre, Pa., assignor of one-half to William L. Raeder, Wilkes-Barre, Pa. Filed July 27, 1905. Serial No. 271,436.



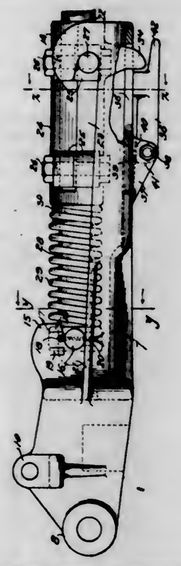
Claim.—1. The combination with a stationary support or bearing, of a wheel rotatably mounted on said support and having its hub provided with an interior lubricant-chamber that extends through one end thereof and a passage or passages for conducting lubricant from said chamber to the stationary bearing, and a plate adapted to cover and close the end of said chamber through which lubricant is supplied thereto, said plate having a radial projection extending beyond its periphery and engaging the hub.

2. The combination with a stationary support or bearing, of a wheel rotatably mounted on said support and having a sectional hub each section being provided with independent lubricant-chambers that open through the outer faces of the hub-section and passages for conducting lubricant from said chambers to the stationary bearing, and plates adapted to be detachably engaged with the outer faces of the hub to close the openings through which lubricant is supplied to said chambers.

3. The combination with a stationary support or bearing, of a wheel rotatably mounted on said support and having its hub provided with an interior lubricant-chamber that extends through one end thereof and a passage or passages for conducting lubricant from said chamber to the stationary bearing, and a plate adapted to be seated in a recess formed in the end of the hub through which said lubricant-chamber opens and to close said end of said chamber, said plate having on its inner face a

radial projection adapted to enter a suitable socket in the hub.

840,649. TROLLEY-POLE CONNECTION. JACOB M. OLINGER, Springfield, Ohio. Filed Apr. 28, 1906. Serial No. 314,286.



Claim.—1. A trolley-support comprising a standard swiveled to turn around a vertical axis, and a spring-controlled arm pivoted to said standard to turn around a horizontal axis, said arm having hook projections and an opposing abutment, in combination with a trolley-pole, and a base therefor having projections to engage the projections of the arm, and a spring acting against the abutment to hold said projections in engagement, substantially as described.

2. A trolley-support comprising a standard swiveled to turn around a vertical axis, and a spring-controlled arm pivoted to said standard to turn around a horizontal axis, said arm having hook projections and an opposing abutment, in combination with a trolley-pole, and a base comprising a split socket in which the trolley-pole is adjustably clamped, said base being provided with projections to engage the projections of the arm and with a spring acting against the abutment to hold said projections in engagement, substantially as described.

3. A trolley-support comprising a standard swiveled to turn around a vertical axis, and a spring-controlled arm pivoted to said standard to turn around a horizontal axis, said arm having hook projections and an opposing abutment, in combination with a trolley-pole, a base therefor having projections to engage the projections of the arm, and a spring acting against the abutment to hold said projections in engagement, and means for locking said base against longitudinal movement when the parts are thus engaged, substantially as described.

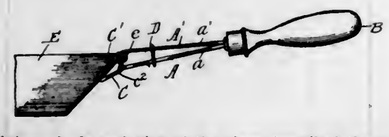
4. In a trolley-support, an arm provided with hook projections, and a pivoted abutment-collar arranged opposite the same, in combination with a pole having a base provided with projections to engage the hook projections of the arm, said base having a tailpiece or extension adapted to enter the abutment-collar, and a spring coiled on said tailpiece or extension and adapted to bear against the abutment-collar, substantially as described.

5. In a trolley-support, an arm provided with hook projections and an opposed pivoted abutment-collar, in combination with a trolley-pole, and a base therefor comprising a split socket in which the pole is adjustably clamped, one of the members of said split socket being provided with projections to engage the hook projections of the arm and with a tailpiece or extension having a spring coiled thereon, said tailpiece or extension being adapted to engage the abutment-collar, against which collar the spring is adapted to bear, substantially as described.

6. In a trolley-support, an arm provided with hook projections and an opposing abutment, in combination with a trolley-pole, a base therefor having projections to engage the projections of the arm, a spring acting against the abutment to hold said projections in engagement, and a locking projection, the arm being provided with a latch movable into the path of said locking projection to hold the base against longitudinal movement to disengage the same, substantially as described.

7. In a trolley-pole support of the character described, a pole-base having an extension and a collar provided with a spiral groove depressed near its end to form a shoulder, in combination with a spiral spring encircling said extension and fitting said groove, the spring being deflected near its end to form a shoulder engaging the shoulder of the groove, substantially as described.

840,650. COMBINATION-LIFTER. JAY B. OATT, Chicago, Ill. Filed May 10, 1905. Serial No. 259,680.

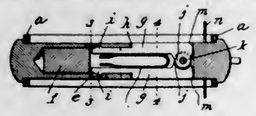


Claim.—1. In a device of the class described the combination with a plurality of resilient arms normally remaining out of engagement with each other and twisted together at one end, a handle engaged in said twisted portion, one of said arms being bent to form a transversely-elongated jaw directed at an inclination to the arms and provided with upwardly-directed lugs at its base adapted to engage beneath a pan-rim, a forked jaw on the other arm and means for forcing said jaws into gripping relation.

2. In a device of the class described the combination with a pair of outwardly-diverging resilient arms, of a jaw on each directed downwardly at one angle therewith and one of which projects laterally of its arm, upwardly-directed lugs on the rear of said last-named jaw and parallel fingers on the other jaw.

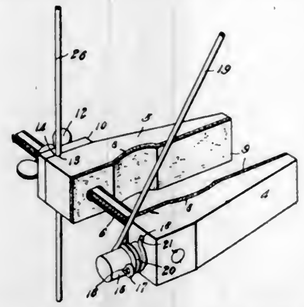
3. In a device of the class described the combination with a pair of resilient arms connected together at one end each comprising parallel rods, one of said arms being bent at its free end to provide a transversely-elongated jaw extending laterally beyond the arm and bent downwardly and having upwardly-directed lugs at the base of said jaw, the other arm being bent downwardly at the end to provide forwardly-inclined parallel fingers extending above the jaw and means for forcing said fingers into engagement with said jaw.

840,651. PAPER-ROLL HOLDER. HORACE Y. OTTO, Williamsport, Pa. Filed Nov. 6, 1906. Serial No. 342,271.



Claim.—A shaft for a paper-roll holder comprising two members, one having an axial recess, which recess is provided with an annular groove or channel at a distance from the inner end of the member, and the other member slotted longitudinally and carrying in said slot a pair of latch members having beveled hooked ends, a spring between the members, a pivot on which both members are pivoted at their outer ends, each member being shouldered to limit its outward movement, substantially as set forth.

840,652. MOSQUITO-BAR SUPPORT. PETER M. OWEN, Hopkinsville, Ky. Filed Dec. 8, 1905. Serial No. 290,954.



Claim.—1. In a device of the class specified, a pair of clamps adapted to engage upright supports and each including a jaw having a trunnion extending from the end thereof, there being a recess formed in the end of the jaw at a point adjacent to and parallel with the axis of the trunnion, resilient frame-bars having terminal coils wound around the trunnions, the inner ends of the coils lying against the ends of the jaws and provided with arms bent parallel to the axes of the coils and entering said recesses, and locking-pins extending through the trunnions for limiting outward movement of said coils.

2. In a device of the class described, a pair of clamps adapted to engage upright supports; each of said clamps including a front jaw having a laterally-extending trunnion and a flattened screw-threaded rod, a rear jaw slidable upon said rod, and a tightening-nut.

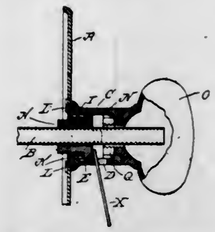
3. In a device of the class described, a pair of clamps adapted to engage upright supports; each of said clamps including a front jaw having a laterally-extending trunnion and a flattened screw-threaded rod, a rear jaw slidable upon said rod and having a vertically-grooved rear face, a washer slidably engaging the screw-threaded rod and having a vertically-grooved front face, and a tightening-nut.

4. In a device of the class described, a pair of clamps adapted to engage upright supports; each of said clamps including a front jaw having a laterally-extending trunnion and a flattened screw-threaded rod, a rear jaw slidable upon said rod and having a vertically-grooved rear face, a washer slidably engaging the screw-threaded rod and having a vertically-grooved front face, and a tightening-nut; a main frame having side members provided with terminal coils engaging the trunnions of the clamps and connected with the latter, and end members flexibly connected with the side members and telescopically connected with each other; and an end frame including uprights fitted between the grooved faces of the rear jaws and the washers, and end members flexibly connected with said uprights and telescopically connected with each other.

840,653. KNOB ATTACHMENT. ALBERT A. PAGE, East Haven, Conn., assignor to Sargent & Company, New Haven, Conn., a Corporation of Connecticut. Filed July 13, 1905. Serial No. 269,527.

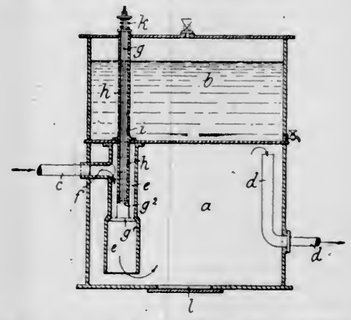
Claim.—1. In a knob attachment, the combination with a spindle; of a knob adapted to be screwed thereon; a sleeve adapted to be secured to the door, or other article; a clutch within said sleeve slidable on said spindle to rotate therewith; means for engaging said clutch and knob to prevent independent rotation; a spring within said sleeve for holding said clutch and knob in engagement; and means for retaining said clutch and spring within said sleeve when said spindle is withdrawn, substantially as described.

2. In a knob attachment, the combination with a spindle; of a knob adapted to be screwed thereon; a sleeve adapted to be secured to the door, or other article; a clutch within said sleeve slidable on said spindle to rotate therewith; means for engaging said clutch and knob to prevent independent rotation; a spring within said sleeve for holding said clutch and knob in engagement; and a flange on the outer end of said sleeve adapted to retain said clutch within said sleeve when said spindle is withdrawn, substantially as described.



3. In a knob attachment, the combination with a sleeve adapted to be secured to the door, or other article; a clutch within said sleeve, having an axial perforation for the spindle of the knob; a flange at the outer end of said sleeve; a plate at the rear of said sleeve; and a spring within said sleeve bearing against said plate and said clutch; and means for securing said plate to said sleeve and said sleeve to the door, or other article, substantially as described.

840,654. DEVICE FOR PURIFYING AIR CONTAINING DUST. JOSEPH L. PALOUS, Berlin, Germany. Filed July 16, 1906. Serial No. 326,439.



Claim.—1. A device for purifying air containing dust, comprising in combination an air-chamber, a water-reservoir above the same, means in said air-chamber adapted to admit air, means in said air-chamber adapted to admit water, said means being adapted to be actuated automatically and simultaneously, substantially as set forth for the purpose specified.

2. A device for purifying air containing dust, comprising in combination and air-chamber, a water-reservoir above the same, an air-admission pipe in said air-chamber, a valve in said air-pipe, means in said air-chamber adapted to admit water, said valve and said means being adapted to be actuated automatically and simultaneously, substantially as described.

3. A device for purifying air containing dust, comprising in combination an air-chamber, a water-reservoir above the same, an air-admission pipe in said air-chamber, a valve in said air-pipe, a water-admission pipe in said air-chamber, a valve in said water-pipe, said valves being adapted to be actuated automatically and simultaneously, substantially as described.

4. A device for purifying air containing dust, comprising in combination an air-chamber, a water-reservoir above the same, an air-admission pipe in said air-chamber, a valve in said air-pipe, a water-admission pipe extending into said reservoir, said water-pipe having a plurality of

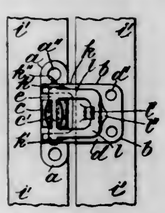
holes in said water-reservoir, and extending into said air-pipe, a valve in said water-pipe, said valves being adapted to be actuated automatically and simultaneously, substantially as described.

5. A device for purifying air containing dust, comprising in combination an air-chamber, a water-reservoir above the same, an air-admission pipe in said air-chamber, a water-admission pipe extending through said reservoir, and into said air-pipe, said water-pipe having a plurality of holes in said water-reservoir, a valve in said water-pipe, said valves being adapted to be actuated automatically and simultaneously, substantially as described.

6. A device for purifying air containing dust, comprising in combination an air-chamber, a water-reservoir above the same, an air-admission pipe in said air-chamber, a valve in said air-pipe, a water-admission pipe having a plurality of holes in said water-reservoir, said water-pipe extending into said air-pipe, a valve in said water-pipe, a rod rigidly connecting said valves, whereby said valves are adapted to be actuated automatically and simultaneously, substantially as described.

7. A device for purifying air containing dust, comprising in combination an air-chamber, a water-reservoir above the same, an air-admission pipe in said air-chamber, a valve in said air-pipe, a water-admission pipe having a plurality of holes in said water-reservoir, said water-pipe extending into said air-pipe, a rod rigidly connecting said valves, a spring engaging said water-pipe and said valve-rod, whereby said valves are adapted to be actuated automatically and simultaneously, substantially as described.

840,655. GARMENT-FASTENING. RICHARD PELLEW, Manchester, England. Filed Aug. 10, 1903. Serial No. 169,026.



Claim.—1. In a fastener, a section, arms on the section, a second section, ears on the second section, a frame pivotally secured at one end to the ears, the portion of the frame between the ears being adapted to pass between the arms of the first-named section when in one position and held thereby when in another position.

2. In a fastener, a section, arms on the section, a second section, ears on the second section, a frame pivotally secured at one end to the ears, the portion of the frame between the ears being adapted to pass between the arms of the first-named section when in one position and held thereby when in another position, and means for holding the frame in its locked position.

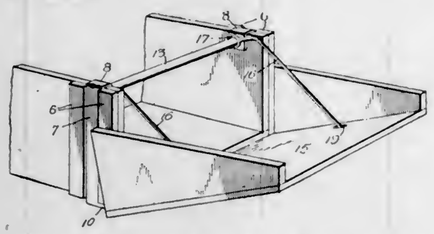
3. In a fastener, a section, arms on the section, a second section, ears on the second section, a frame pivotally secured at one end to the ears, the portion of the frame between the ears being adapted to pass between the arms of the first-named section when in one position and held thereby when in another position, and means carried by the second-named section engaging the frame to hold it in its locked position.

4. In a fastener, a section, arms on the section, a second section, ears on the second section, a frame pivotally secured at one end to the ears, the portion of the frame between the ears being adapted to pass between the arms of the first-named section when in one position and held thereby when in another position, and elastic means carried by the second-named section engaging the frame to hold it in its locked position.

5. In a fastener, a section, arms on the section, a second section, ears on the second section, a frame pivotally secured at one end to the ears, the portion of the frame between the ears being adapted to pass between the arms of the first-named section when in one position and held thereby when in another position and a spring on the second-named section engaging the frame.

6. In a fastener, a section, arms on the section, a second section, a frame pivoted at one end to the second section, the pivoted end of the frame being adapted to pass between the arms of the first-named section when in one position and held thereby when in another position.

840,656. SCOOP-BOARD FOR WAGON-BOXES. LOUIS PULS, Davenport, Iowa. Filed Sept. 20, 1906. Serial No. 335,493.

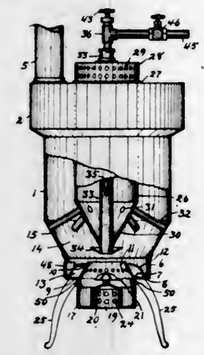


Claim.—1. The combination with a wagon-box, of a pair of vertical cleats provided on the outer face of each side thereof; a bracket mounted between each pair of cleats and having an upper and a lower extension; an inwardly-projecting finger formed on each upper extension of said brackets; a transverse brace having end sockets adapted to receive said fingers; a scoop-board having a pair of sockets formed in its lower edge; a wear-plate secured in each socket in said scoop-board and including a pair of spaced arms having their free ends projecting below the scoop-board edge, the lower extensions of said brackets passing between the corresponding pair of spaced arms; and means connecting said lower extensions and said extended arm ends, to serve as a pivotal support for said scoop-board.

2. The combination with a wagon-box, of a pair of vertical cleats provided on the outer face of each side thereof; a bracket mounted between each pair of cleats and having an upper and a lower extension; each upper extension having an inwardly-directed finger, and each lower extension having an eye formed therein toward its free end; a transverse brace-rod having end sockets adapted to receive said fingers; a scoop-board having a pair of sockets formed in its lower edge; a wear-plate secured in each socket and including a pair of spaced arms having their free ends projecting below said scoop-board edge and provided with an eye, the lower extensions of said brackets fitting between the corresponding pairs of spaced arms, with the several eyes disposed in alinement with each other; pins passing through said eyes to form a pivotal support for said scoop-board; a pair of rods mounted at one end upon said brace and projecting through corresponding slots formed in said scoop-board; eyes formed upon the opposite ends of said rods, and extending in a plane at right angles to that of said slots, for supporting said scoop-board when in lowered position; and a pair of spring-catches attached to the lower portion of said scoop-board adjacent the lower edges thereof, for engaging the lower ends of said rods when said scoop-board is in its raised or vertical position.

840,657. OIL-BURNING STOVE. FRANKLIN M. REED, Fort Wayne, Ind., assignor to Wayne Stove Company, Fort Wayne, Ind., a Corporation of Indiana. Filed July 11, 1904. Renewed Aug. 27, 1906. Serial No. 332,201.

Claim.—1. An oil-burning stove consisting of an inner and an outer shell in concentric arrangement, the outer shell having its top provided with an outlet-pipe for the products of combustion, and having its lower end provided with inlet air-openings, and having a combustion-chamber in its base, the inner shell having air-inlet openings at its base and having air-outlet openings at its top; a vaporizer detachably mounted in the base of the outer shell; a downdraft-tube mounted in the inner shell in vertical arrangement and provided upon its lower protruding end with a fixed flame-deflector above or within the combustion-chamber; and a feed-valve in said tube adapted to control the fuel-supply.



2. In an oil-burning stove an inner and an outer shell, the interior of the inner shell being in communication with the outer air at both its extremities, and the outer shell having a combustion-chamber in its base and inlet air-openings thereto; a vaporizer arranged in the combustion-chamber; a downdraft-tube passing through the inner shell and leading to the combustion-chamber, and provided upon its lower end with a flame-deflector; and a feed-valve mounted in said tube in coöperative arrangement with the vaporizer.

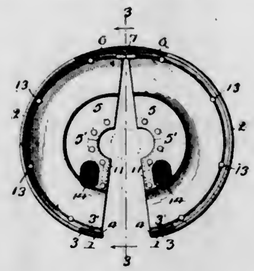
3. The combination in an oil-burning stove of an inner and an outer shell in vertical arrangement, the inner shell having always open means for communicating with the outer air at both ends, and the outer shell having a combustion-chamber in its base and inlet-openings thereto; a vaporizer arranged in the combustion-chamber; a centrally-arranged downdraft-tube passing through the inner shell and terminating in the combustion-chamber directly above the vaporizer; a flame-deflector fixed on the lower end of the said tube; and a feed-valve consisting of a tube mounted in said downdraft-tube, and having a valve-seat in its lower end, and a valve-stem mounted in the said tube by a screw-threaded connection and adapted to fit the said valve-seat.

4. In an oil-burning stove a vaporizer consisting of a two-part cylindrical shell, the lower part or section having a raised cylindrical bottom provided with a series of lateral air-inlet perforations and surmounted by a rosette as described, the upper section being of frusto-conical form open at the top and provided with lateral perforations.

840,658. SHEET-METAL PULLEY. CONRAD REGER, Philadelphia, Pa. Filed Jan. 17, 1906. Serial No. 296,471.

Claim.—1. A sheet-metal pulley comprising a rim, a pair of webs having alined apertures, the said rim and webs being split in a plane passing through the axis of the rim, to permit an axle to be passed therethrough into the said apertures, means for clamping said split portions together, a semicylindrical bearing-sleeve attached to each split portion of each web, each semicylindrical portion terminating in a flat flange parallel with the axis of the rim, and bolt-plates extending across the space between the two webs, the said bolt-plates having their extremities resting on their respective flanges and bolted thereto by bolts and nuts.

2. A sheet-metal pulley comprising a rim, a pair of webs having alined apertures, the said rim and webs being split in a plane passing through the axis of the rim, to permit an axle to be passed therethrough into the apertures, means for clamping said split portions together, a semicylindrical bearing-sleeve attached to each split portion of each web, each semicylindrical portion terminating in a flat flange parallel with the axis of the rim, bolt-plates extending across the space between the two webs, the said bolt-plates having their extremities resting on their respective flanges and bolted thereto by bolts and nuts, and the said webs having hand-holes therein to give access to the bolt-heads.



3. A sheet-metal pulley comprising a rim, a pair of webs having alined apertures, the said rim and webs being split in a plane passing through the axis of the rim, to permit an axle to be passed therethrough into said apertures, the edges of the rim adjacent to said split portion being turned back upon themselves.

4. A sheet-metal pulley comprising a rim, a pair of apertured webs, having their peripheral portions turned outwardly into flanges in contact with the interior surface of the rim, the said rim and webs being split in a plane passing through the axis of the rim, to permit an axle to be passed therethrough into the apertures, the edges of the rim adjacent to said split portion being extended and turned back upon themselves.

5. A sheet-metal pulley comprising a rim, a pair of apertured webs, having their peripheral portions turned outwardly into flanges in contact with the interior surface of the rim, the said rim and webs being split in a plane passing through the axis of the rim, to permit the axle to be passed therethrough in the apertures, the edges of the rim adjacent to said split portion being extended and turned back upon themselves to overlap the split portion of the flanges of the web.

6. A sheet-metal pulley comprising a resilient rim a pair of apertured webs, the said rim and webs being split in a plane passing through the axis of the rim to permit an axle to be passed therethrough into the said apertures, the peripheral portions of said rim being turned back upon themselves on the interior surface of the rim, and the edges of the rim adjacent to said split portions being turned back upon themselves to overlap the inturned peripheral portions.

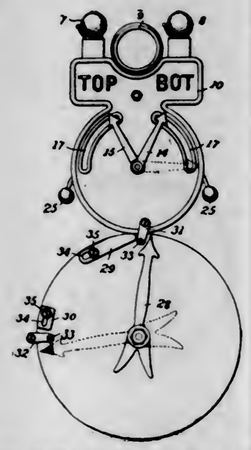
840,659. SIGNAL AND ALARM ATTACHMENT FOR MINE-HOISTS. BERNARD T. REILLY, Wilkes-Barre, Pa., assignor of one-half to Luke French and one-fourth to Maurice C. Gaertner, Wilkes-Barre, Pa. Filed July 23, 1906. Serial No. 327,371.

Claim.—1. In a signal apparatus for mine-hoists, the combination of two signal-bells, independent means for actuating each of said bells, and automatically-operated means for indicating when both said bells have been actuated.

2. In a signal apparatus for mine-hoists, the combination of two signal-bells, independent means controlling the actuation of each of said bells, an indicator for each bell, and a third indicator adapted to be automatically operated when both said bells have been actuated.

3. In a signal apparatus for mine-hoists, the combination of two signal-bells, independent means controlling the actuation of each of said bells, an indicator for each bell adapted to be operated when the bell rings, a supplemental

indicator adapted to be automatically operated when both said bells have been rung, and means controlled by the hoisting-engine for restoring all of said parts to normal position.



4. In a signal apparatus for mine-hoists, the combination of two signal-bells, two electric circuits each including one of said bells, an indicator for each bell, a latch for holding said indicator in one position, means for moving each indicator when released by its latch, a magnet included in each of said circuits and connected with one of said latches, and means operated by the hoisting-engine for moving said indicators into position to be engaged by said latches.

5. In a signal apparatus for mine-hoists, the combination of two signal-bells, independent means controlling the actuation of each of said bells, an indicator for each bell, means acting to move each indicator, a latch for restraining such movement of each indicator, means for releasing each latch as the corresponding bell is rung, and a supplemental indicator adapted to be automatically operated when both bells are rung.

6. In a signal apparatus for mine-hoists, the combination of two signal-bells, an indicator for each bell, a signal disk or plate, and means controlled by said bell-indicators for moving said disk, whereby the latter will not be actuated until both bells have been struck.

7. In a signal apparatus for mine-hoists, the combination of two signal-bells, independent means controlling the actuation of each of said bells, a vertically-sliding signal disk or plate, and means controlled by the signal-bells for holding said disk or plate elevated, whereby when both said bells are actuated said disk will be automatically released.

8. In a signal apparatus for mine-hoists, the combination of two signal-bells, independent means controlling the actuation of each of said bells, two indicator-hands or pointers adapted to be moved when said bells are actuated, a sliding signal-disk, means acting to move said disk in one direction, and means connected with said bell-indicators for restraining such movement of said disk until both bells have actuated.

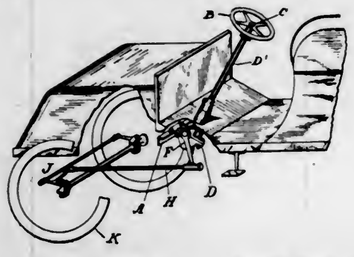
9. In a signal apparatus for mine-hoists, the combination of two signal-bells, independent means controlling the actuation of each of said bells, two pivotally-mounted indicator-hands or pointers, latches for holding said hands or pointers in one position and adapted to be released when said bells are actuated, a vertically-sliding disk or plate, means acting constantly to move said plate in one direction, means connected with the bell-indicators for preventing such movement of said disk until both bells have been actuated, and means actuated during each operation of the hoist for moving the bell-indicators into position to be engaged by said latches and returning the sliding disk to normal position.

10. In a signal apparatus for mine-hoists, the combination of two signal-bells, independent means for actuating each of said bells, a rock-shaft adapted to be actuated whenever the hoist is operated, and means for automatically operating one of said bells whenever the shaft is moved beyond the desired limit in either direction.

11. In a signal apparatus for mine-hoists, the combination of two signal-bells, independent means for actuating each of said bells, a rock-shaft adapted to be actuated whenever the hoist is operated, an arm connected with said rock-shaft, two electric circuits including one of said bells, two relatively stationary contacts included in said circuits, and two movable contacts arranged in the path of said arm on the rock-shaft and adapted to be moved thereby against said stationary contacts if said shaft is moved beyond its proper limit in either direction.

12. In a signal apparatus for mine-hoists, the combination of two signal-bells, independent means for actuating each of said bells, an indicator for each bell, a supplemental indicator adapted to be automatically operated when both said bells have been actuated, a shaft adapted to be actuated whenever the hoist is operated, and means controlled by said shaft for returning all of said indicators to normal position.

840,660. STEERING MECHANISM FOR VEHICLES. ANDREW L. RIKER, Short Hills, N. J., assignor, by mesne assignments, to Electric Vehicle Company, Jersey City, N. J., and Hartford, Conn., a Corporation of New Jersey. Filed May 15, 1902. Serial No. 107,438.



Claim.—1. The combination of a steering pillar or shaft rotatable about its axis to steer a vehicle, a block or interengaging member movable axially thereof and means for guiding said block or interengaging member and preventing rotation thereof, and steering arm or lever attached to the end of said movable block.

2. The combination of a steering pillar or shaft rotatable about its axis to steer a vehicle, a block or interengaging member movable axially thereof, connections to prevent rotation thereof and steering arm or lever attached to the end of said movable block, said lever moving in an arc, and means connecting said lever and block whereby the end of said lever is permitted to move in an arc slightly diverging from the axis of said block while the block moves directly therein.

3. The combination of a steering pillar or shaft rotatable about its axis to steer a vehicle, a block or interengaging member movable axially thereof, a steering arm or lever attached to the end of said movable block, and means coacting with said block to prevent its rotation, interconnecting mechanism between the pillar and the steering road-wheels of the vehicle magnifying the motion transmitted, whereby a limited movement of the rotating shaft causes a sufficient deflecting movement of the road-wheels as and for the purpose described.

4. In combination with a steering pillar or shaft rotating about its axis to steer a vehicle, an interengaging member movable axially thereof, a steering arm or lever and connections between the latter and the axially-moving member, the axis of said connection substantially intersecting the axis of the rotating shaft the whole mechanism embodied as a unit of apparatus attachable to and detachable from said vehicle without the disconnection of the component parts.

5. The combination in a steering-pillar for a vehicle, of an independent traverse screw-block with flexible connections at one end and coöperating rotating steering-shaft and oscillating steering arm or lever pivoted to a part integral with the support for said steering-shaft pillar for the purpose described.

6. The combination of a steering pillar or shaft rotatable about its axis to steer a vehicle, a block or interengaging member movable axially thereof, a steering arm or lever attached to the end of said movable block, and guides parallel with the axis of the shaft and coacting with said block, whereby the movement of the block is restrained to a purely axial one and the twisting strains prevented.

7. In a motor-vehicle, a steering-pillar, a threaded lower portion substantially integral therewith, a bearing for said pillar including means to prevent longitudinal movement thereof, a threaded screw moving axially within said steering pillar or shaft, link connections between said screw and a steering-lever substantially in the plane of axis of the steering-shaft.

8. In a motor-vehicle, a steering-shaft, bearing or support therefor, an axially-moving member, and coöperating parts on said shaft and member to move the latter axially, a steering arm or lever, connections between said axially-moving member and lever, connections to cause the deflection of the steering-wheels of the vehicle, said support for the steering-pillar mounted to swing about an axis transverse to the shaft and the hinging axis thereof passing substantially through the axis of the shaft.

9. In a motor-vehicle-lever-operating mechanism consisting of a shaft, a recessed end for said shaft internally threaded, means engaging said shaft to prevent longitudinal movement thereof, a threaded block moving axially of said shaft engaging the threaded portion thereof, connections between said axially-moving block and a pivoted lever, said connections lying substantially in the plane of said shaft and block, substantially as shown and described.

10. In a motor-vehicle-lever-operating device including a rotating shaft and an oscillated member, interconnecting mechanism for operating the one by the other comprising threaded or toothed coöperating parts and a casing completely inclosing and supporting the interconnecting mechanism and supporting the same.

11. In steering mechanism for motor-vehicles, a rotating steering-shaft, threaded connections at the lower end thereof, interengaging threaded member connected to oscillate a transverse shaft, a depending arm mounted upon said transverse shaft, a thrust-bearing for said steering-shaft and a bearing for said transverse shaft, a casing completely inclosing said threaded parts and embodying said bearings.

12. In a steering mechanism for motor-vehicles, a rotating steering-shaft and hand-wheel for operating the same, a threaded portion operated by the lower end of said shaft, a transverse shaft and means operated thereby to deflect the steering road-wheels, a casing, said latter shaft projecting through the casing, said casing supporting said shaft and likewise supporting the rotating steering-shaft, the interconnecting operating parts between the lower end of said rotating steering-shaft and transverse shaft being entirely inclosed within said casing.

13. In a steering mechanism for automobiles, an upright rotating shaft, a support at the base of said shaft having bearings for said shaft and bearings for a transverse shaft, said base attached to a rigid portion of the framework or body and including a casing completely inclosing the operating parts, a transverse shaft mounted in said casing, the operating mechanism attached to it within the casing and moved by the rotation of the upright shaft, and having a member attached to it outside of said casing to operate the links and levers to deflect the steering road-wheels.

14. In a steering mechanism for motor-vehicles, an upright rotating shaft, interengaging threaded or toothed parts at the lower end thereof to operate an oscillating member and connections therethrough to the connecting-rod and wheels, the oscillating member, a support or casing for the lower end of said shaft and pivot or hinge connections for said support having an axis substantially intersecting the axis of the rotating shaft.

15. In a steering mechanism for motor-vehicles, a rotating steering-shaft, a support therefor, interengaging threaded or toothed parts operatively connected therewith and pivotal connections with a member oscillating on or with the transverse shaft, said support being hinged or pivoted, the axis of said hinge and the axis of said pivotal connection substantially coinciding in the normal position of the parts, and said common axis substantially intersecting the axis of the rotating steering-shaft.

16. In a steering mechanism for motor-vehicles, a rotating upright shaft above the floor of the vehicle, a depending oscillating arm below the floor of the vehicle, interconnecting means whereby the rotation of the shaft will oscillate the depending lower arm and a casing completely inclosing all the threaded and toothed parts of said interconnections and embodying supporting-bearings for said rotating shaft and for said oscillating member.

17. In a steering mechanism for motor-vehicles, a rotating upright shaft above the floor of the vehicle, a depending oscillating arm below the floor of the vehicle, interconnecting means whereby the rotation of the shaft will oscillate the depending lower arm and a casing completely inclosing all the threaded and toothed parts of said interconnections and embodying supporting-bearings for said rotating shaft and for said oscillating member, and an inlet in said casing for oil above the threaded or toothed parts.

18. In steering mechanism for motor-vehicles, a supporting and inclosing casing including means for attachment to the framework or body of the vehicle, said casing embodying a thrust-bearing and shaft-bearing substantially for the purpose described.

19. In a steering mechanism for motor-vehicles, an upright shaft, mechanism at the lower end of said shaft operatively connecting the same with an oscillating member projecting downwardly, a supporting and inclosing casing for the lower end of said shaft, an inlet to said casing from the upper part whereby the same can be used as and constitute an oil-reservoir substantially as and for the purpose described.

20. In a steering-gear for motor-vehicles including a rotating shaft and its operating hand wheel or lever, a rocking lever or arm and connections to the deflectable road-wheels, intermediate threaded connections for operating the latter by the former, said connections including a tubular casing, an interiorly-close-fitting shell with a threaded portion fixed thereto, and an engaging threaded member within the same whereby said casing, shell, and threaded member coöperate in supporting one another and in transmitting the motion from the hand-wheel to the rocking lever.

21. In a steering-gear for motor-vehicles, a rotating shaft and means at the upper end for operating the same, a rocking lever connected to the deflectable road-wheels, intermediate connections for rocking said lever by the rotation of said shaft, said intermediate connections embodying exteriorly and interiorly coacting threaded parts of length relatively great with relation to their diameter, whereby the same are substantially self-supporting, and a coöperating casing adjacent to the point of engagement of said threaded parts.

22. In a steering-gear for motor-vehicles the combination of a socket, a nut adapted to rotate in the said socket, a screw-pin threaded into said nut, a rocking lever, a coupling between the said lever and the said screw-pin, a casing extended from the said socket and adapted to inclose the said screw-pin and a part of the said rocking lever.

23. In a steering-gear for motor-vehicles, the combination with the body or frame of the vehicle of a socket mounted on said body or frame, a pillar, a nut mounted on said pillar and adapted to rotate in said socket, a screw threaded into said nut, a rocking lever and means for coupling said rocking lever to said screw.

24. In a steering-gear for motor-vehicles, the combina-

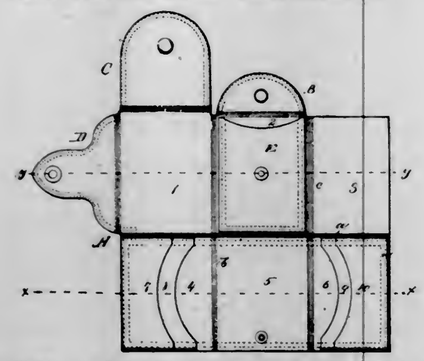
tion with a rocking lever, a screw and a nut, means for rotating said nut, and a coupling between the screw and one arm of the rocking lever adapted to allow of the straight movement of the said screw and a curved movement of the said arm of the rocking lever.

25. In a steering-gear for motor-vehicles, in combination with a body or frame of the vehicle of a support, a socket or non-rotating pillar mounted on said support extending upward and inclosing substantially the full length of the shaft or operating-pillar, an operating-pillar or shaft including at its lower end a threaded member rotating in the lower end of the socket or stationary pillar, a second threaded member moving within the support or casing and engaging said casing, whereby its rotation is prevented and its movement confined to axial movement upon the rotation of the pillar, a rocking lever and means for coupling said rocking lever to said threaded member.

26. In a steering-gear for motor-vehicles, a shaft or operating-pillar including a threaded member in the lower end thereof, a rocking lever and means for coupling it with said threaded member, a casing comprising three parts, an intermediate section, a lower section parted therefrom substantially at the bearing of the rocking lever and an upper section parted from the intermediate section substantially at the thrust-bearing of the pillar.

27. In a steering-gear for motor-vehicles, the combination of interengaging threaded parts, a rocking lever, operative connections therefor of an inclosing and supporting casing comprising a plurality of sections or parts, said section or portions of the casing parted in a manner whereby ready removal or inspection or repair of the bearings of said mechanism is afforded.

840,661. POCKET-BOOK. WILLIAM B. ROOD, Ware, Mass. Filed Oct. 22, 1906. Serial No. 339,973.

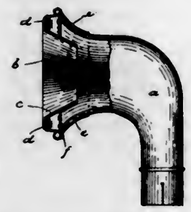


Claim.—1. A combined bill and coin pocket-book, comprising a body portion that is provided on one edge with two flaps of different sizes and on one of the other edges with a third flap, the blank being adapted to be folded to provide a bill-receptacle, a patch-pocket attached to the blank the open end of such pocket being covered by one of the flaps when the pocket-book is closed, substantially as shown.

2. In a pocket-book a blank having two flaps which project from one edge and a third flap that projects from the other edge, card-pockets attached to the end sections of that part of the blank that is folded to be overlaid by the flaps, a coin-pocket on the central part of the blank that has the flaps, the outer or larger flap serving as a closure for the open end of the coin-pocket and as a closure for the pocket-book, substantially as shown.

840,662. DEVICE FOR APPLYING STERILIZERS TO MOUTHPIECES. ORRIN H. SAVAGE, New York, N. Y., assignor to Oakville Company, Waterbury, Conn., a Corporation of Connecticut. Filed June 17, 1905. Serial No. 265,633.

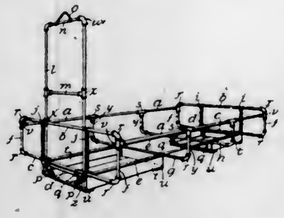
Claim.—1. A device for applying sterilizers to mouthpieces and comprising an annulus which is attachable to a mouthpiece and has a part which is adapted to extend inwardly of the mouthpiece and a collar which surrounds the periphery of the mouthpiece and is hinged to the annulus and with the latter clamps the device in an operative position.



2. A device for applying sterilizers to mouthpieces and comprising an annulus which is attachable to a mouthpiece; an absorbent annulus which is adapted to extend inwardly of the mouthpiece, and a resilient collar which is hinged to the first-mentioned annulus; said annuli and collar being so arranged one with another as to clamp the outer extremity of the mouthpiece.

3. A device for applying sterilizers to mouthpieces and which is attachable to a mouthpiece and comprises an annulus which has a part which is adapted to extend inwardly of the mouthpiece and an absorbent annulus which surrounds said inwardly-extending part; a collar which is hinged to the first-mentioned annulus; and a catch which is attached to said annulus, all being so arranged as to clamp the device to the outer extremity of the mouthpiece.

840,663. HAY-RACK. JOHN H. SCHUNEMAN, Cedar Falls, Iowa. Filed Aug. 30, 1906. Serial No. 332,669.

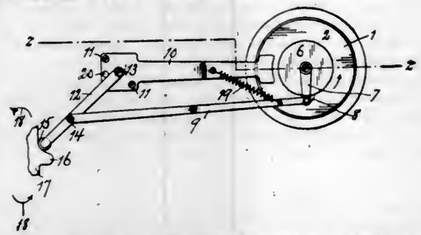


Claim.—1. A hay-rack comprising a base-frame, end frames mounted upon the base-frame and each comprising top and bottom and side tubes coupled together, intermediate transverse braces connecting said side tubes, the bottom tubes of the end frame and the transverse braces being detachably connected to the base-frame, and to separated open boxings, and separated open boxings beneath said bottom tubes and transverse braces.

2. A hay-rack comprising a base-frame, end frames mounted upon the base-frame and each comprising top and bottom and side tubes coupled together, intermediate transverse braces connecting said side tubes, the bottom tubes of the end frames and the transverse braces being detachably connected to the base-frame, and a front ladder pivotally connected to said rack having means for detachably securing it thereto in an upright position.

3. A hay-rack comprising a base-frame, end frames mounted upon the base-frame and each comprising top and bottom and side tubes coupled together, intermediate transverse braces connecting said side tubes, the bottom tubes of the end frame and the transverse braces being detachably connected to the base-frame and to separated open boxings, open boxings beneath said bottom tubes and transverse braces, and a front ladder pivotally connected to said rack having means for detachably securing it thereto in an upright position.

840,664. BLACKING AND PASTE RECEPTACLE AND ATTACHMENT THEREFOR. MAX SCHUPPE, New York, N. Y., assignor to Bernard F. Seadler, New York, N. Y. Filed Jan. 7, 1905. Serial No. 240,092.



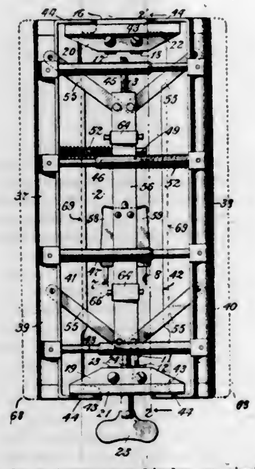
Claim.—1. In combination with a paste or blacking receptacle, a follower inclosed in said receptacle, means extending to the outside of said receptacle for moving said follower toward the mouth of said receptacle, and devices for operating said means intermittently and automatically irrespective of any movement of the receptacle.

2. In combination with a paste or blacking receptacle, a follower inclosed in said receptacle, a screw extending through the head or bottom of said receptacle, and engaging with said follower, a disk secured to the outer end of said screw and provided with cutters extending within the receptacle, and openings in said disk.

3. In combination with a paste or blacking receptacle, a follower inclosed in said receptacle, a screw extending through the head or bottom of said receptacle, and engaging with said follower, and a rotary cutter extending across the mouth of said receptacle.

4. In combination with a paste or blacking receptacle, a rotary disk extending across the mouth of said receptacle, and having openings in and cutters extending inward from the same, and means for giving movement relatively toward each other of the cutter and the contents of the receptacle and secured to the outer end of said screw.

840,665. TEMPORARY BINDER. GILBERT C. SHEPHERD, New York, N. Y. Filed Aug. 13, 1903. Serial No. 169,356.



Claim.—1. In a temporary binder or similar device, a back, clamps sliding thereon, a slide, a nut under said slide, means for positively engaging and disengaging said nut and slide, toggle-levers connecting said clamps and causing the same to be fixed so that the clamps will hold pages without danger of removal.

2. In a temporary binder or similar device, a back, clamps sliding thereon, locking means for securing said clamps against the pages, means connecting said locking means with the said clamps, and means for engaging or disengaging said locking means and connecting means.

3. In a temporary binder or similar device, a back, clamps sliding thereon, a slide secured to said back, toggle-levers connecting said slide and clamps, a nut and means for causing the slide and nut to be engaged or disengaged.

4. In a temporary binder or similar device, a back, clamps sliding thereon, a slide, toggles connecting said slide and clamps, pawls pivoted to said slide, ratchet-teeth adapted to move in a direction parallel to said slide and means for causing said teeth to engage or disengage said pawls.

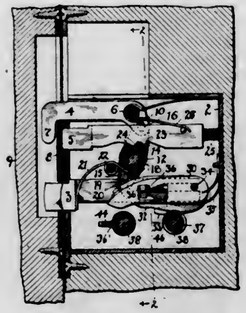
5. In a temporary binder or similar device, a back, clamps sliding thereon, a slide, toggles connecting said slide and clamps, movable ratchet-teeth, a spindle with means for operating said ratchet-teeth, and means on said slide adapted to engage and disengage said teeth.

6. In a temporary binder or similar device, a back, clamps sliding thereon, a slide, toggles connecting said slide and clamps, pawls with teeth and cams secured to said slide, a spindle, a nut on said spindle and ratchet-teeth and a cam on said nut.

7. In a temporary binder or similar device, a back, clamps sliding thereon, a slide, toggles connecting with said slide and clamps, pawls with teeth and cams pivoted to said slide, a spring tending to move said pawls together, dogs adapted to engage said cams secured to said back, a spindle and a nut with teeth, which are adapted to be engaged by said pawls, and a cam adapted to be engaged by said dogs.

8. In a temporary binder or similar device, a back, clamps sliding thereon, springs tending to support said clamps, toggle-levers, and means for causing said toggle-levers to move said clamps against the action of said springs.

840,666. DOOR-LOCK. JOHN SLIGA, Cleveland, Ohio. Filed May 17, 1906. Serial No. 317,411.



Claim.—1. In door-locks, a sliding latch, a pivoted catch having a slotted extension and a rotary member having arms and pins thereon slidably engaged within said extension and with said latch, means to rotate said member and a set of locking-dogs therefor, and unlocking members for said dogs.

2. In door-locks, a sliding latch and a pivoted catch and a rotary member operatively connected with the said parts, in combination with a set of locking-dogs for said parts and a set of unlocking rotary engaging members for said dogs.

3. In door-locks, a sliding latch and a pivoted catch having a slotted extension and a toothed rotary member having arms and pins thereon adapted to provide operating engagement between said parts, and a sliding bolt having teeth adapted to engage with said toothed rotary member, in combination with a set of locking-dogs for said parts and unlocking members for said dogs.

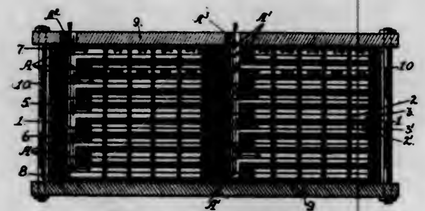
4. In door-locks, a set of three bolt members operatively connected with each other and means to actuate the same, in combination with a series of locking-dogs adapted to

engage with one of said members, a pair of unlocking members for said dogs, and means on the outside of said lock adapted to determine and set said unlocking members for unlocking.

5. A door-lock comprising a sliding latch and a pivoted catch and a rotary member having operating engagement with said parts, and a sliding bolt having operating engagement with said rotary member, in combination with a set of pivoted dogs adapted to have locking engagement with said sliding latch, and a set of combination unlocking members for said dogs.

6. In door-locks, a casing and three separate bolt members mounted therein comprising a sliding latch and a pivoted catch and a sliding bolt, and a rocking member operatively engaged with each of said bolt members, in combination with a set of dogs pivotally mounted within said casing and a projection on said sliding latch operatively engaged with said dogs, and a set of rotatable members for operatively engaging separate dogs, means to set said dog-operating members in predetermined positions, and means to operate said rocking member for throwing the bolts.

840,667. HEAT-INTERCHANGER. JAMES B. SPEED, Berkeley, and PAUL THELEN, National City, Cal., said Speed assignor of one-half of his right to John Herbert Wallace, San Francisco, Cal. Filed Oct. 13, 1906. Serial No. 338,718.

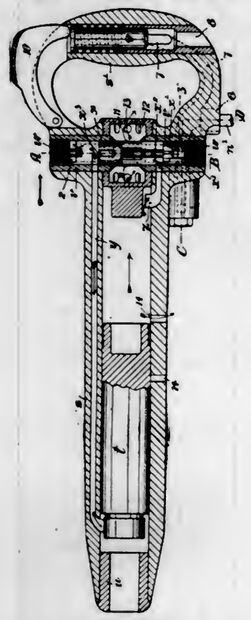


Claim.—1. A heat-interchanger having within its body a plurality of separate channels arranged successively adjacent in series, each channel running a course from the perimeter of the body to its axis; an inlet for the fluid of lower initial heat potential to alternate channels at their outer ends and an outlet for said fluid from said alternate channels at their inner ends, whereby said fluid is nearest the surfaces of the body which are exposed to the atmosphere at such time in its travel as it is at its lowest heat potential, namely at the beginning of its journey; an inlet for the fluid of higher initial heat potential to the intervening channels at their inner ends and an outlet for said fluid from said intervening channels at their outer ends, whereby said fluid is also nearest the surfaces of the body which are exposed to the atmosphere at such time in its travel as it is at its lowest heat potential, namely, at the end of its journey.

2. A heat-interchanger composed of a stack of independent plates clamped together, said plates having between them channels running a course from the perimeter of said stack to its axis; an inlet for the fluid of lower initial heat potential to alternate channels at their outer ends and an outlet for said fluid from said alternate channels at their inner ends, whereby said fluid is nearest the surfaces of the stack which are exposed to the atmosphere at such time in its travel as it is at its lowest heat potential, namely, at the beginning of its journey; an inlet for the fluid of higher initial heat potential to the intervening channels at their inner ends and an outlet for said fluid from said intervening channels at their outer ends, whereby said fluid is also nearest the surfaces of the stack which are exposed to the atmosphere at such time in its travel as it is at its lowest heat potential, namely, at the end of its journey.

3. A heat-interchanger composed of a stack of independent plates clamped together and ribbed to form between the adjacent surfaces of successive plates channels which run a course from the perimeter of said stack to its axis; an inlet for the fluid of lower initial heat potential to alternate channels at their outer ends and an outlet for said fluid from said alternate channels at their inner ends, whereby said fluid is nearest the surfaces of the stack which are exposed to the atmosphere at such time in its travel as it is at its lowest heat potential, namely, at the beginning of its journey; an inlet for the fluid of higher initial heat potential to the intervening channels at their inner ends and an outlet for said fluid from said intervening channels at their outer ends, whereby said fluid is also nearest the surfaces of the stack which are exposed to the atmosphere at such time in its travel as it is at its lowest heat potential, namely, at the end of its journey.

840,668. POWER-HAMMER AND MEANS OF OPERATING SAME. HARRY B. STOCKS, Manchester, England, assignor to The Climax Patents Limited, Manchester, England. Filed Mar. 26, 1906. Serial No. 308,083.



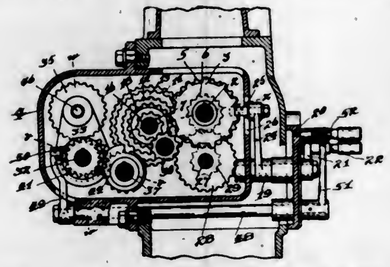
Claim.—1. In power-hammers and like percussive tools worked in conjunction with an air-compressor, a piston-hammer in the tool two tubes for conducting the air-pressure to the tool means for retaining the air-pressure generated at each stroke of the compressor within the tubes until a predetermined pressure is obtained in the tubes and means for utilizing the excess of such pressure at each stroke of the air-compressor to drive the piston-hammer of the tool back and forth substantially as described.

2. In power-hammers and like percussive tools, the combination of a separate air-compressor to each tool, two tubes connecting the compressor to each tool, back-pressure valves in the compressor and loaded valves in the tool for holding up the air-pressure generated at each stroke of the compressor until a predetermined pressure is attained in the two tubes and means for conducting the excess of such pressure on each stroke of the air-compressor to the piston-hammer of the tool substantially as described.

3. A power-hammer comprising a cylinder, a reciprocating piston-hammer therein, said cylinder having inlet and exhaust ports therein, spring-loaded valves governing said ports and a piston-valve actuated by the air under pressure to alternately open one port to admit air under pressure and the other to exhaust.

4. A power-hammer consisting of a cylinder, a reciprocating piston-hammer therein, said cylinder having exhaust-ports arranged therein to exhaust the air at the end of each stroke of the piston-hammer, said cylinder also having ports to conduct air to the front and back of the piston-hammer, spring-loaded valves for governing such ports, a double piston-valve actuated by the air under pressure to alternately open one port to admit air under pressure and the other to exhaust and means for conducting the exhaust to atmosphere from the port not under pressure, said cylinder also having an exhaust-port and a valve actuated by the operator to govern said exhaust-port to start and stay the tool, substantially as described.

840,669. VARIABLE-SPEED MECHANISM. LOUIS THIEL, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Company, Cincinnati, Ohio, a Corporation. Filed July 17, 1906. Serial No. 326,610.



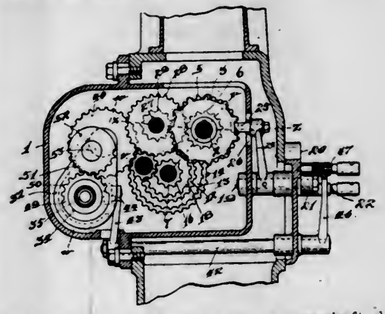
Claim.—1. In a variable-speed device, an inclosing box, a cone and tumbler gear-wheel system suitably mounted therein, a rock-shaft journaled in the box, a segmental gear mounted to turn with and slide on the rock-shaft, the tumbler having a segmental gear engaging with the segmental gear of the rock-shaft, a manipulating index-lever for the rock-shaft, a second rock-shaft having connections within the box adapted to slide the tumbler and the segmental gear of the rock-shaft simultaneously, and an indexing-lever for manipulating the second shaft, substantially as described.

2. In a variable-speed device, an inclosing box, a cone and tumbler gear system suitably mounted therein, a driving-shaft also mounted in said box, sliding gears of different diameter on the sliding shaft adapted to be selectively intermeshed with different members of the cone of gears, a rock-shaft and mechanism for sliding the said gears on the sliding shaft, a second rock-shaft journaled in the box, a segmental gear mounted to turn with and slide on the rock-shaft the tumbler having a segmental gear engaging with the segmental gear of the rock-shaft, a manipulating indexing-lever for the second rock-shaft, and a third rock-shaft mounted in the box adapted to slide the said segmental gears in unison, and an indexing-lever for said third rock-shaft, substantially as described.

840,670. VARIABLE-SPEED MECHANISM. LOUIS THIEL, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Company, Cincinnati, Ohio, a Corporation. Filed July 17, 1906. Serial No. ,611.

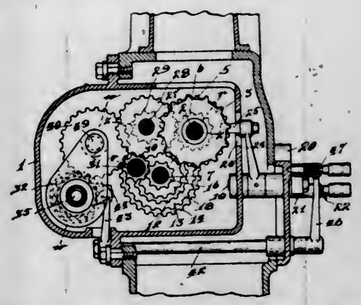
Claim.—1. In a variable-speed device, box, a cone-shaft, a series of different-diameter gear-wheels thereon, a second shaft, a rocking frame journaled in the box, a swinging shaft on the end of the frame, intermeshing gear-wheels on said second and swinging shafts adapted to be slid along said shafts and to be rocked by the frame to selectively engage the cone of gear-wheels, a rock-shaft, and mechanism coöperating therewith for sliding said intermeshing gear-wheels in unison, said rocking frame having a hub formed with gear-teeth, a stud-shaft journaled in the casing having a member within the casing formed with gear-teeth intermeshing with the hub-teeth, and a lever on the outer end of said stud-shaft for rocking said frame, substantially as described.

2. In a variable-speed device, a box, a cone and tumbler gear system suitably mounted therein, the said tumbler comprising a frame journaled in the box, a central shaft and a swinging shaft journaled in the frame, there being intermeshing gear-wheels on said shafts adapted to be slid along to impart a drive from the cone-shaft to the central shaft, a rock-shaft, and mechanism coöperating therewith for sliding said intermeshing gear-wheels in unison, said rocking frame having a hub formed with gear-teeth, a stud-shaft journaled in the casing having a member within the casing formed with gear-teeth intermeshing with the said hub-teeth, and a lever on the outer end of said stud-shaft whereby said shaft may be rocked, substantially as described.



3. In a variable-speed device, a box, a cone-shaft, different-diameter gear-wheels thereon, a tumbler-frame having end hubs journaled in the casing, a central shaft journaled in the said hubs of the frame, whereby said frame rocks thereon, a swinging shaft supported by the end of the frame, intermeshing gear-wheels on the said central shaft and swinging shaft adapted to slide thereon in unison, a rock-shaft projecting through the casing and having connections for adjustably sliding said intermeshing gear-wheels on said shafts, one of the hubs of the frame being formed with gear-teeth, a stud-shaft journaled in the casing having on the inside a member formed with gear-teeth meshing with the teeth of said hub, and a lever fixed to the outer end of said stud-shaft for adjustably rocking the said frame, substantially as described.

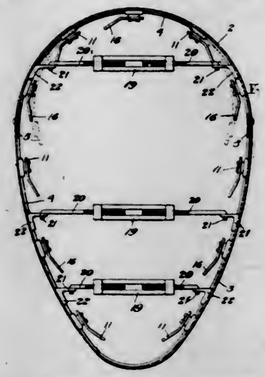
840,671. VARIABLE-SPEED MECHANISM. LOUIS THIEL, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Company, Cincinnati, Ohio, a Corporation. Filed July 17, 1906. Serial No. 326,612.



Claim.—In a variable-speed device, a box, a cone-shaft, different-diameter gear-wheels thereon, a rocking tumbler-frame having end hubs journaled in the casing, a second shaft journaled in said hubs, a tumbling-shaft supported by the swinging ends of the frame, intermeshing gear-wheels on said second shaft and tumbling-shaft adapted to slide thereon in unison, a rock-shaft projecting through the casing and having connections for adjustably sliding said intermeshing gear-wheels on said shafts, one of the

limbs of the tumbling-frame lying adjacent to the end wall of the box and being provided with a boss projecting through a segmental slot in said adjacent side of the box, and a handle attached to said boss on the outside of the box, and being provided with detent mechanism adapted to engage with a series of segmental orifices on the outside of the box, substantially as described.

840,672. COLLAPSIBLE CENTER. ELMER W. UTZLER, Pittsburg, Pa., assignor of one-half to John H. Carlin, Pittsburg, Pa. Filed June 18, 1906. Serial No. 322,334.



Claim.—1. A collapsible center consisting of interfitting sections of sheet metal, one of said sections having pivoted straps provided with locking cams, the other of said sections having holding-lugs adapted to be engaged thereby, whereby the adjacent edges of the sections may be drawn together and locked, substantially as set forth.

2. A collapsible center comprising interfitting sections of sheet metal having overlapping flanges, cam-actuated locking devices having pivoted cams with deflected operating-handles and adjustable bracing elements, substantially as set forth.

3. In a collapsible center, the combination with meeting sections, of pivoted straps provided with a locking cam, mounted on one section, and a lug on the adjacent section adapted to be engaged thereby, substantially as set forth.

4. In a collapsible center, the combination with meeting sections, of a base secured to one of the sections provided with pivotally-attached straps having a locking cam between their terminals, and an engaging lug secured to the other section adapted to be engaged by said cam, substantially as set forth.

5. In a collapsible center, the combination with meeting sections, of a base secured to one of the sections provided with pivotally-attached straps having a locking cam between their terminals, and an engaging lug secured to the other section and provided with a retaining-horn adapted to be engaged by said cam, substantially as set forth.

6. In a collapsible center, the combination with meeting sections, of a base secured to one of the sections provided with pivotally-attached straps having a locking cam between their terminals, and an engaging lug secured to the other section and provided with a retaining-horn and a cam-recess adapted to be engaged by said cam, substantially as set forth.

7. In a collapsible center, the combination with meeting sections, of a base secured to one of the sections provided with a pivotal bearing, a projecting bearing-lug, and pivotally-mounted straps having a locking cam pivotally mounted between their terminals, and a locking lug secured to the other section provided with a cam-engaging horn, substantially as set forth.

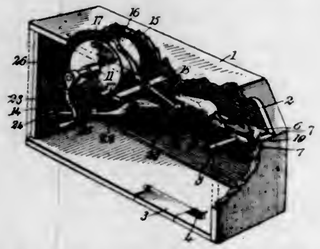
8. In a collapsible center, the combination with meeting sections, of an overlapping plate secured to the inner side of one of the sections and arranged to engage the inner edge of the next adjacent section, a pivotal bearing having a terminal horn secured to the first-named section and provided with pivotally-mounted straps carrying a pivoted cam between their terminals, and a locking lug secured to the other section having a horned cam-engaging terminal, substantially as set forth.

9. In a collapsible center, the combination with meeting sections, provided with overlapping longitudinal and transverse inner flanges, locking lugs secured to the edges of some of the sections, and corresponding pivotally-mounted straps provided with locking cams secured to the edges of corresponding adjacent sections and adapted to engage said lugs, substantially as set forth.

10. A collapsible center comprising series of upper and lower longitudinally-interfitting sections, said upper and lower sections meeting in a horizontal plane and provided with engaging flanges, consisting of pivoted straps carrying cam-locking devices adapted to clamp the adjacent edges of said sections together, and collapsible bracing-rods secured to and extending transversely from the opposite faces of said sections and provided with adjusting turnbuckles, substantially as set forth.

11. In a collapsible tubular structure of sheet metal, the combination of interfitting sections provided with longitudinal and transverse underlapping flanges, means for bracing and collapsing the sections, pivoted straps provided with locking cams, and corresponding engaging lugs secured to the meeting edges of said sections respectively, substantially as set forth.

840,673. ANIMAL-TRAP. JOHN A. WARD, Nowata, Ind. Ter. Filed Feb. 21, 1906. Serial No. 302,201.



Claim.—1. In an animal-trap, the combination of a pivoted tread, a cam, a spring for actuating the cam, a striker-arm actuated by the cam, a trigger for normally restraining the movement of the cam, and releasing means for said trigger actuated by the tread.

2. In an animal-trap, the combination of a tread, a pivoted striker-arm movable thereupon, a normally operative cam device for actuating the arm, means for restraining the operation of the cam device, and means whereby the tread may release said restraining means.

3. In an animal-trap, the combination of a spring-actuated cylinder having a cam-groove, a trigger coacting therewith, tripping mechanism, and a striker-arm operable by the cam.

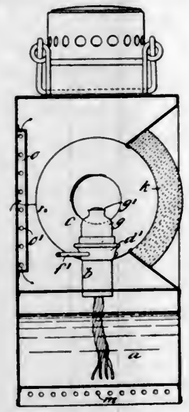
4. In an animal-trap, the combination of a cam, a striker-arm actuated by the cam, means for operating the cam, means for normally restraining the operation of the cam, and a tripping device for releasing the restraining device.

5. In an animal-trap, the combination of a cam-cylinder having a plurality of stops, means for rotating the cam-cylinder, a pivoted trigger-arm coacting with the stops for restraining the movement of the cam, a striker-arm operated by the cam, and a latch for releasing the trigger-arm.

6. In an animal-trap, the combination of a spring-actuated cam-cylinder having a plurality of stops, a pivoted striker-arm operated by the cam-cylinder, a pivoted spring-pressed trigger coacting with the stops for normally restraining the movement of the cam, and a pivoted latch for releasing the trigger.

7. In an animal-trap, the combination of a pivoted tread, a pivoted door coacting therewith, a spring-actuated cam-cylinder provided with stops, a pivoted striker-arm coacting with said cam-cylinder, a trigger coacting with said stops, and a pivoted arm having a catch coacting with said tread and said trigger substantially as, and for the purpose specified.

840,674. OIL-LAMP FOR RAILWAY-SIGNALS, &c. WILLIAM H. I. WELCH, London, England, assignor to The Lamp Manufacturing Company Limited, City Road, England. Filed Nov. 4, 1904. Serial No. 231,396.

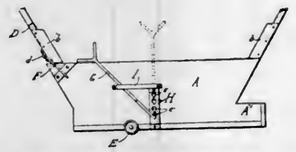


Claim.—1. In oil-lamps, an auxiliary oil-reservoir close to the flame, consisting of absorbent material disposed around the upper end of the wick-tube and in capillary communication with the wick and the main oil-reservoir and forming a parallel path with the main wick for the flow of oil to the burner; substantially as described.

2. In an oil-lamp, a burner-tube perforated at its upper portion, and an auxiliary suction-wick disposed around the said upper portion of the burner-tube and arranged to draw oil from the main oil-tank and deliver it to the burner-wick; substantially as described.

3. In oil-lamps, a burner comprising a burner-tube and inclosed cup, a wick-tube perforated at its upper end and projecting upward through the said cup, and an absorbent material inclosed in the said cup and in capillary communication with the burner-wick at different levels thereof, substantially as described.

840,675. WHEEL-WASHER. JOHN S. WILLIAMS, Hurley, S. D. Filed Sept. 5, 1906. Serial No. 333,353.

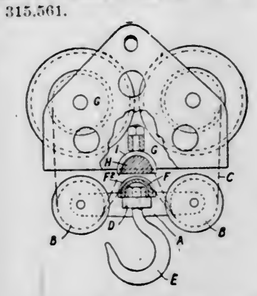


Claim—1. The combination with a box or trough, a sliding gate or door at one end of said trough, and rollers on which the trough is mounted, of a fork or rest pivotally secured to one side of the trough and adapted to catch the axle of a wheel as it enters the trough through the open end, and raise the wheel clear of the bottom of the trough as the fork assumes an upright position, substantially as described.

2. In a wheel-washer, the combination with a portable box or trough, a sliding gate or door at one end of said trough, a spring-clamp pivotally secured to said door and adapted for adjustment to the sides of the box to press the sides against the edges of the door, of a fork or rest adjustably secured to the side of the box and adapted to hold the wheel free of the box, cleats secured vertically to the inside of the box and strips secured to the box and adapted to hold sponges or cloths projecting inwardly against the wheel, substantially as described.

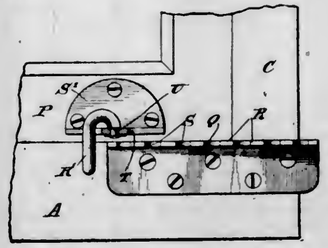
3. In a wheel-washer, the combination with a portable box or trough having a sliding gate or door at one end thereof, means for holding the wheel free of the bottom of the trough, of strips secured to the inside of the trough and adapted to hold cloths or sponges projecting against the wheel, substantially as described.

840,676. PULLEY-BLOCK. GEORGE T. WINNARD and JOSEPH BEDFORD, Sheffield, England. Filed May 7, 1906. Serial No. 315,561.



Claim.—In pulley-blocks, comprising upper and lower blocks the combination with the lower block of the grooved rope-support F, substantially as set forth.

840,677. SHUTTER-BOWER. IGNACY WROBLEWSKI, Krakow, Austria-Hungary. Filed Sept. 6, 1906. Serial No. 333,506.



Claim.—1. In a casement-window, the combination with a window-frame and swinging window-sash, of a horizontally-extending toothed segment connected to the window-sill, a horizontally-extending bracket secured to the lower sash-rail, and a U-shaped latch having one leg pivoted to the sash-rail bracket, the other leg being adapted to coöperate with the toothed segment to hold the window open.

2. In a casement-window, the combination with a window-frame and swinging window-sash, of a horizontally-extending toothed segment connected to the window-sill, a horizontally-extending bracket secured to the lower sash-rail, and an inverted-U-shaped latch having legs of unequal length, the shorter leg being pivoted to the sash-rail bracket and the longer leg being adapted to coöperate with the toothed segment when the sash is slightly elevated, to hold the window open.

840,678. METHOD OF MAKING BENT WOOD CORNERS. ALEXANDER WORSFOLD, Sydney, New South Wales, Australia. Filed Oct. 30, 1906. Serial No. 341,332.

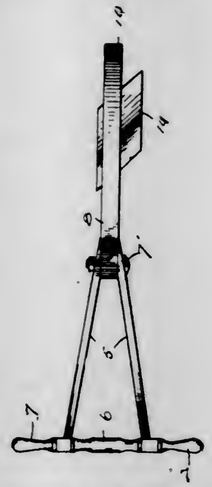
Claim.—A bent wood corner consisting of an obtuse-angled triangular piece of wood bent so that the base of

the triangle shall form the top of the wall, while the obtuse angle shall be the point of contact with the base upon which the wall is built, and suitably-shaped pieces of wood



to fill the spaces between the corners, the lay of the grain in the corner-pieces and in the adjacent pieces being in the same direction, as herein set forth.

840,679. HAND-CULTIVATOR. GUSTAVUS H. YARBROUGH, Waverly, Tenn. Filed June 1, 1906. Serial No. 319,789.



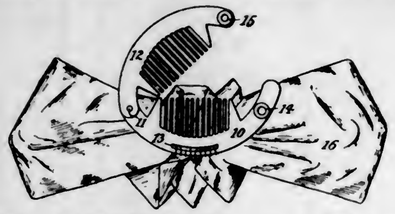
Claim.—An implement of the class described comprising handles, a shovel-standard connected with the handles, said standard being curved rearwardly and downwardly and thence forwardly, the extreme lower end of said standard being enlarged to form a shoe which extends below the body portion of the standard, the said shoe having a straight rear face and having its forward face disposed at an angle to its rear face, and a shovel-blade secured to the forward face of the shoe, substantially as described.

840,680. VAULT. WILBER E. ARNOLD, Madisonville, Ohio, assignor to Victor Safe & Lock Co., Cincinnati, Ohio., a Corporation of Ohio. Filed Nov. 27, 1905. Serial No. 289,193.



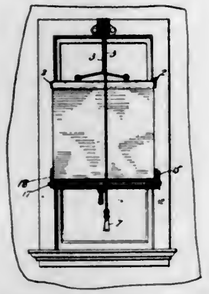
Claim.—A vault consisting of sections of non-machineable metal which are to be connected endwise, and are endwise fitted to each other for such purpose by being provided each with endwise-projecting rims and with a complementary recess at each rim, the rim of one of the two sections to be connected being complementary to the recess of the other section, pins seated in one of the rims of one of the sections and bearing endwise against the adjacent surface of the complementary rim of the adjoining section, said surface having a continuous recess opposite the ends of said pins and all around to enable such ends to project into this recess at any point and to engage said opposite surface wherever they may be located.

840,681. HAIR-RIBBON HOLDER. IDA BECKER, Hagen, Germans. Filed Oct. 11, 1906. Serial No. 338,406.



Claim.—A holder for hair-ribbons composed of an upper comb having its teeth set in a concave plane, a lower slotted comb having its teeth set in a parallel concave plane, means for pivotally connecting the combs, and a catch for interlocking the combs, substantially as specified.

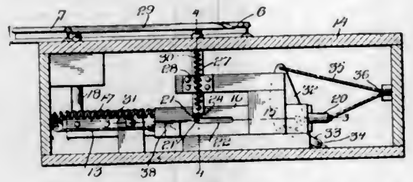
840,682. WINDOW CURTAIN OR SHADE. ENOS T. BELL, Spiceland, Ind., assignor of two-thirds to Oliver C. Steele and Luther O. Draper, Spiceland, Ind. Filed Feb. 2, 1906. Serial No. 299,117.



Claim.—1. The combination with a depending window-shade, a shade-roller attached to the bottom depending end of said shade, means for automatically operating said roller to roll up said shade, a gravity-pawl for locking said shade-roller at any portion of the length of said shade, a horizontally-extending bar connected to said locking-pawls and situated between the window to which the shade is applied and the roller of the latter, of a handle connected to a central portion of said horizontally-extending bar and extending under and back of said shade-roller to be accessible to manipulate the screen.

2. The combination with a depending window-curtain, a bar extending across and secured to the top end of said curtain, a suspension-cord connected to said bar whereby said curtain is suspended, a cord-pulley situated centrally above the top end of the window to which said curtain is applied and means for locking said pulley to hold said cord to retain said curtain at any desired height, of a curtain-roller secured to the bottom depending end of said curtain, a roller-actuating spring, an end trunnion connected to said spring and upon which the roller revolves, said trunnion provided with a prolonged rectangular end projecting from the end of said roller, a locking-arm on said trunnion, catches on the end of said roller, a gravity-pawl carried by said arm, a trunnion on the opposite end of said roller, its supporting-arm, an arm-connecting stop-bar and a manipulating-handle secured to said bar to extend under the curtain-roller whereby the said bar and the parts connected thereto may be operated to roll and unroll the curtain.

840,683. AUTOMATIC RAILWAY-GATE. WALTER BENGTSON, Porter, Minn. Filed Aug. 3, 1906. Serial No. 329,133.



Claim.—1. The combination with a railway-gate, of an operating mechanism comprising a pivoted lever, a slide, connections between the slide and gate for operation of the latter when the slide is moved, connections between the slide and lever for movement of the slide with the lever, said connections being movable into and out of operative position, means for holding the connections normally in operative position, an actuating member arranged for independent downward movement of its ends, and connections between said actuating member and the lever for movement of the lever when one end of the member is depressed, and means carried by the opposite end of the lever for movement of the connections between the slide and lever into inoperative position when said end of the member is depressed.

2. The combination with a gate, of a slide connected therewith for movement of the gate when the slide is moved, a rod slidable with respect to the slide, means for holding the rod normally against movement with respect to the slide, means connected with the rod for moving it and the slide, and means for moving the rod-holding means out of operative position.

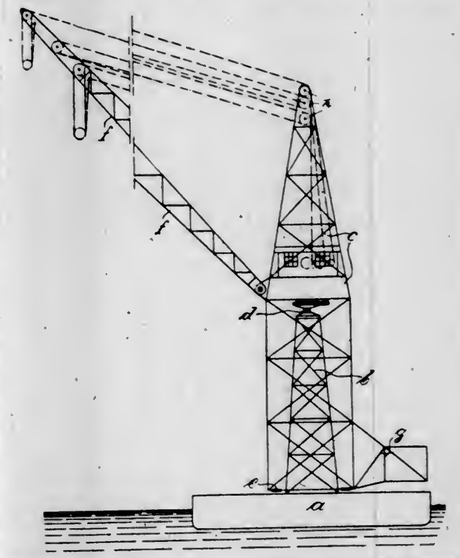
3. The combination with a railway-gate, of a slide, operative connections between the slide and gate, a rod slidable with respect to the slide, means for connecting the rod with the slide for simultaneous movement thereof, a lever, connections between said lever and the rod for movement of the latter when the lever is moved, means for moving the lever, means for moving the rod and slide-connecting means out of operative position, and means for actuating the third-named means and the lever-moving means, said actuating means being arranged for operation by a train passing in one direction over the tracks to inwardly move the lever, and by a train passing in the opposite direction to inwardly move the connecting means into inoperative position.

4. A gate-operating mechanism comprising a slide, a rod slidable with respect to the slide, means for holding the rod at times against movement independently of the slide, a plunger arranged for downward movement to move the rod-holding means into inoperative position, a pivoted lever, connections between the rod and the lever for simultaneous movement thereof, an operating-link connected with the lever, a flange-plate connected to the plunger and link for independent downward movement thereof, and means for holding the plunger and link yieldably in raised position.

840,684. FLOATING CRANE AND THE LIKE. ALFRED BODE and KARL BÖTTCHER, Benrath, Germany. Filed Aug. 21, 1905. Serial No. 275,050.

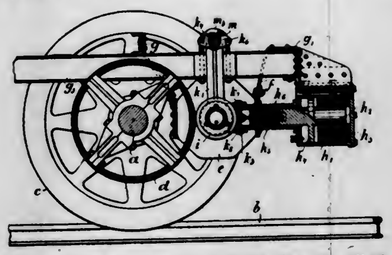
Claim.—1. In a floating rotating crane, in combination a movable jib *f*, a turning support *c* being formed as a bell-mantle in its lower part and carrying said jib, a receptacle *g* arranged at the lower end of said bell-mantle, a counterbalance mounted in said receptacle for keeping the center of gravity of the crane system as near as possible over the pontoon, a stationary support carrying said turning support, means for operating the latter and the jib, substantially as described.

2. In a floating crane, in combination a movable jib *f*, a turning support *c* being formed as a bell-mantle in its lower part and carrying said jib, a receptacle *g* arranged at the lower end of said bell-mantle, a driving-gear mounted in said receptacle for operating the turning support and for keeping the center of gravity of the crane system as near



as possible over the pontoon, a stationary support carrying said turning support, a windlass for operating the latter and the jib, substantially as described.

840,685. AUTOMATIC ENGAGING AND DISENGAGING DEVICE FOR DYNAMO AND STORAGE BATTERIES. OTTO BÖHM, Berlin, Germany. Filed Sept. 14, 1906. Serial No. 334,694.



Claim.—1. In an arrangement of the class described, the combination with a driving friction-wheel having its shaft mounted to turn in fixed journals, of a friction-wheel adapted to work with said driving friction-wheel and having its shaft mounted to turn in movable bearings, a dynamo, a yielding coupling between the shaft of said friction-wheel and that of said dynamo, a spring adapted to press said friction-wheel by means of its bearings against said driving friction-wheel, and an electromagnetic device adapted to detach said friction-wheel by means of its movable bearings from said driving friction-wheel.

2. In an arrangement of the class described, the combination with a driving friction-wheel having its shaft mounted to turn in fixed journals, of a friction-wheel adapted to work with said driving friction-wheel and having its shaft mounted to turn in movable bearings, a dynamo, a yielding coupling between the shaft of said friction-wheel and that of said dynamo, a spring adapted to press said friction-wheel by means of its bearings against said driving friction-wheel, an electromagnetic device adapted to detach said friction-wheel by means of its bear-

ings from said driving friction-wheel, a storage battery, a working circuit connected in multiple with said storage battery and said dynamo, a shunt-circuit connecting said electromagnetic device with said storage battery, and a relay shunted to said storage battery and adapted to close said shunt-circuit on the tension of the current exceeding a determined maximum.

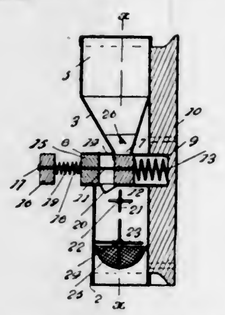
3. In an arrangement of the class described, the combination with a driving friction-wheel having its shaft mounted to turn in fixed journals, of a friction-wheel adapted to work with said driving friction-wheel and having its shaft mounted to turn in movable bearings, a dynamo, a yielding coupling between the shaft of said friction-wheel and that of said dynamo, a spring adapted to press said friction-wheel by means of its bearings against said driving friction-wheel, an electromagnetic device adapted to detach said friction-wheel by means of its bearings from said driving friction-wheel, a storage battery, a working circuit connected in multiple with said storage battery and said dynamo, a shunt-circuit connecting said electromagnetic device with said storage battery, a relay shunted to said storage battery and adapted to close said shunt-circuit on the tension of the current exceeding a determined maximum, and a second relay adapted to disconnect said dynamo from said storage battery on the tension of the current sinking below a determined minimum.

4. In an arrangement of the class described, the combination with a driving friction-wheel having its shaft mounted to turn in fixed journals, of a shaft mounted in movable bearings to turn, a friction-wheel fastened on said shaft and adapted to work with said driving friction-wheel, a dynamo with a rotor-shaft, an intermediate shaft, yielding couplings connecting said intermediate shaft with said shaft and the rotor-shaft of said dynamo, a spring adapted to press said friction-wheel by means of said shaft and its bearings against said driving friction-wheel, an electromagnetic device adapted to detach said friction-wheel by means of said shaft and its bearings from said driving friction-wheel, a storage battery, a working circuit connected in multiple with said storage battery and said dynamo, a shunt-circuit connecting said electromagnetic device with said storage battery, a relay shunted to said storage battery and adapted to close said shunt-circuit on the tension of the current exceeding a determined maximum, and a second relay adapted to disconnect said dynamo from said storage battery on the tension of the current sinking below a determined minimum.

5. In an arrangement of the class described, the combination with a driving friction-wheel having its shaft mounted to turn in fixed journals, of a rocking yoke, a shaft mounted to turn in the free end of said rocking yoke, a friction-wheel fastened on said shaft and adapted to work with said driving friction-wheel, a dynamo with a rotor-shaft, an intermediate shaft, yielding couplings connecting said intermediate shaft with said shaft and the rotor-shaft of said dynamo, a spring adapted to press said friction-wheel by means of said rocking yoke against said driving friction-wheel, an electromagnetic device adapted to detach said friction-wheel by means of said rocking yoke from said driving friction-wheel, a storage battery, a working circuit connected in multiple with said storage battery and said dynamo, a shunt-circuit connecting said electromagnetic device with said storage battery, a relay shunted to said storage battery and adapted to close said shunt-circuit on the tension of the current exceeding a determined maximum, and a second relay adapted to disconnect said dynamo from said storage battery on the tension of the current sinking below a determined minimum.

6. In an arrangement of the class described, the combination with a driving friction-wheel having its shaft mounted to turn in fixed journals, of a rocking yoke, a shaft mounted to turn in the free end of said rocking yoke, a friction-wheel fastened on said shaft and adapted to work with said driving friction-wheel, a dynamo with a rotor-shaft, an intermediate shaft, yielding couplings connecting said intermediate shaft with said shaft and the rotor-shaft of said dynamo, an electromagnetic device, a helical spring between said rocking yoke and said electromagnetic device and adapted to press said friction-wheel against said driving friction-wheel, a chain connecting said yoke with said electromagnetic device and adapted on the latter being energized to detach said friction-wheel from said driving friction-wheel, a storage battery, a working circuit connected in multiple with said storage battery and said dynamo, a shunt-circuit connecting said electromagnetic device with said storage battery, a relay shunted to said storage battery and adapted to close said shunt-circuit on the tension of the current exceeding a determined maximum, and a second relay adapted to disconnect said dynamo from said storage battery on the tension of the current sinking below a determined minimum.

840,686. MACHINE FOR MAKING BAKING-POWDERS. HARLEY M. BROOK, Saginaw, Mich. Filed May 19, 1906. Serial No. 317,713.



Claim.—1. In an apparatus of the character described, the combination of the hopper divided into compartments having separate discharge-openings, cylinders arranged side by side beneath the hopper, plungers in each of said cylinders, the plungers being adapted to control said discharge-openings, each cylinder being provided with a discharge-opening, a rod rigidly secured to a plunger of each cylinder, an actuating-plate mounted on both of said rods and arranged to move the rods and plungers simultaneously in one direction, and springs adapted to move said plungers and rods in the opposite direction.

2. In an apparatus of the character described, the combination of a hopper provided with a discharge-opening, a cylinder mounted underneath said discharge-opening and also provided with a discharge-opening, a plunger mounted in said cylinder and adapted to close the discharge-opening of the hopper, a rod to which said plunger is rigidly secured, another plunger mounted to move on said rod, means for moving the movable plunger independently of the rigid plunger, and means for moving both of said plungers together.

3. In an apparatus of the character described, the combination of a hopper provided with a discharge-opening, a plunger adapted to close said discharge-opening, a cylinder in which said plunger works, a rod on which said plunger is rigidly secured, another plunger movable on said rod, means for moving said last-named plunger toward the first-named plunger, and means for limiting the independent movement of the plungers.

4. In an apparatus of the character described, the combination of a hopper provided with a discharge-opening, a plunger adapted to close said opening, a cylinder in which said plunger works, a rod on which said plunger is rigidly secured, a plunger slidable on said rod, an actuating-plate also slidable on said rod, a spring interposed between and secured to the slidable plunger and the actuating-plate, and means for limiting the sliding movement of said plate and slidable plunger in one direction on the rod, as and for the purpose set forth.

5. In an apparatus of the character described, the combination of a hopper provided with a discharge-opening, a plunger adapted to close said opening, a cylinder in which said plunger works, means for automatically moving said plunger to its closed position, a stop device adapted to limit this movement of the plunger, a rod on which said plunger is rigidly mounted, a slidable plunger mounted on said rod and also adapted to contact with said stop devices to limit its slidable movement in one direction, an actuating-plate also slidably mounted on said rod, means for pressing said actuating-plate and slidable plunger apart, and means for limiting the independent movement of said slidable plunger and actuating-plate on the rod.

6. In an apparatus of the character described, the combination of a hopper provided with a discharge-opening, a plunger adapted to close said opening and to be moved away from said opening to permit the materials to be discharged therefrom, a cylinder in which said plunger works, a rod on which said plunger is secured, another plunger slidable on said rod, an actuating-plate slidably mounted on the outer end of said rod, and a spring interposed between said actuating-plate and slidable plunger adapted to press the same apart, the rod being provided with a swell adapted to limit the movement of the actuating-plate in one direction.

7. In an apparatus of the character described the combination of a hopper provided with a discharge-opening, a plunger adapted to close said opening, a cylinder in which said plunger works, a rod on which said plunger is fixedly held, another plunger adapted to slide on said rod, and means for limiting the inward movement of said slidable plunger at a point on one side of the discharge-opening, whereby the continued movement of the actuating-rod will move the plunger that is fixedly held thereon more or less away from said opening to permit the ingredients to discharge into the space thus produced.

8. In an apparatus of the character described the combination of a hopper provided with a discharge-opening, a plunger adapted to close said opening, a cylinder in which said plunger works, a rod on which said plunger is fixedly held, another plunger adapted to slide on said rod, means for automatically limiting the movement of said slidable plunger whereby the continued movement of the other plunger and rod will open up a space between the two plungers, and means for determining the size of said space, according to the desired amount of material to be discharged.

9. In an apparatus of the character described, the combination of the hopper provided with a discharge-opening, the plungers adapted to control said opening, a cylinder in which said plungers work, said cylinder being provided with a discharge-opening, the mixing devices mounted below the opening in the cylinder in the path of the material dropping therefrom, means for actuating said plungers, means for actuating the mixing devices through the operation of the plunger-actuating means, and means for actuating the mixing devices independently of the plunger-actuating means.

10. In an apparatus of the character described, the combination of the hopper, the plungers adapted to control the feed of material from said hopper, the cylinders in which said plungers work, said cylinders being provided with a discharge-opening, a toothed segment, actuating means for the plungers also arranged to operate said segment, the mixing devices underneath the discharge-opening of the cylinder, and means whereby the segment will actuate said mixing devices.

11. In an apparatus of the character described, the combination of the hopper, the plungers adapted to control the discharge of material from said hopper, a cylinder in which said plungers work, said cylinder being provided with a discharge-opening, mixing devices, a toothed segment designed to actuate said mixing devices, means for actuating said plungers, said means being arranged to also actuate said segment, a shaft upon which said segment is pivoted, and an agitating device mounted on said shaft.

12. In an apparatus of the character described, the combination of the hopper, the plungers adapted to control the feed of material from said hopper, cylinders in which said plungers work, said cylinders being provided with discharge-openings, a receiving-cylinder underneath the cylinders of the plungers, mixing devices mounted in such cylinder, means for actuating said plungers, a toothed segment, the actuating means for the plungers being operatively connected to said segment to turn the same, means whereby the actuation of the segment will operate the mixing devices, and a sieve underneath said mixing devices.

13. In an apparatus of the character described, the combination of the hopper, the plungers adapted to control the discharge of material from said hopper, the cylinder in which said plungers work, said cylinder being provided with a discharge-opening, mixing devices underneath the discharge-opening of said cylinder, a segment adapted to actuate said mixing devices, an actuating-plate for said plungers, and an arm connected to said actuating-plate and adapted to engage said segment to move the same, as and for the purpose set forth.

14. In an apparatus of the character described the combination of a hopper, plungers arranged to control the discharge of material from said hopper, mixing devices, a segment adapted to actuate said mixing devices and provided with an opening, an actuating-plate for said plungers, a rod connected to said actuating-plate and provided with a shoulder entered in said opening and adapted to move said segment, the segment being provided at one end with a hook, and a returning-spring connected to said hook.

15. In an apparatus of the character described, the combination of a hopper, plungers adapted to control the discharge of material from said hopper, the cylinder in which said plungers work, a movable actuating-plate designed to move said plungers, a rod connected to said plate and movable therewith, a bell-crank lever having one end operatively connected to said rod whereby the movement of the actuating-plate will effect a movement of the bell-crank, the other end of said bell-crank constituting a pointer adapted to indicate the amounts of materials fed by said plungers, the cylinders being provided with discharge-openings controlled by said plungers, and a tray underneath said discharge-openings and adapted to receive the material therefrom.

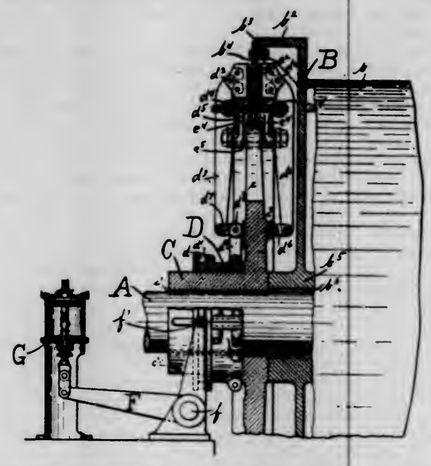
16. In an apparatus of the character described, the combination of a hopper provided with a discharge-opening, a cylinder mounted underneath the discharge-opening of the hopper and in communication therewith, said cylinder being provided with a discharge-opening out of alinement with the discharge-opening of the hopper, a plunger in said cylinder and adapted to cut off the discharge-opening of the hopper, another plunger movable in the cylinder, means whereby the cut-off plunger may be moved away from the opening in the hopper, and means for limiting the movement of the other plunger at a point on one side of the discharge-opening of the hopper, whereby a space between the two plungers will be produced into which space the material from the hopper may fall, and means for moving both of said plungers simultaneously toward and into registry with the discharge-opening in the cylinder, whereby the material held in the space between the two plungers, will fall through the discharge-opening in the cylinder and one of said plungers will be brought back into position to cut off the discharge-opening of the hopper.

840,687. FRICTION-CLUTCH. JOHN W. BROWN, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed Aug. 24, 1906. Serial No. 331,834.

Claim.—1. The combination with a shaft of a pulley rotatable concentrically therewith but independently thereof, said pulley being provided with a radially-projecting flange, a clutch-hub rigidly secured to said shaft, two annular clutch members directly secured to and adapted to be rotated by said clutch-hub and located one on each side of said flange, levers conected to said annular clutch members and extending toward said shaft, fulcrum-bars, each of said bars uniting a lever connected with one of the annular clutch members with a lever connected with the other of said annular clutch members, one lever of each pair thus united being secured to said clutch-hub, and means for operating the other levers.

2. The combination with a shaft of a pulley rotatable concentrically therewith but independently thereof, said pulley being provided with a radially-projecting flange, a clutch-hub rigidly secured to said shaft, two annular

clutch members directly secured to and adapted to be rotated by said clutch-hub and located one on each side of said flange, means for normally separating said annular clutch members, levers connected to said annular clutch members and extending toward said shaft, fulcrum-bars, each of said bars uniting a lever connected with one of the annular clutch members with a lever connected with the other of said annular clutch members, one lever of each pair thus united being secured to said clutch-hub, and means for operating the other levers.



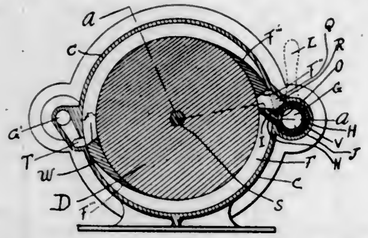
3. The combination with a shaft of a pulley rotatable concentrically therewith but independently thereof, said pulley being provided with a radially-projecting flange, a clutch-hub rigidly secured to said shaft, two annular clutch members directly secured to and adapted to be rotated by said clutch-hub and located one on each side of said flange, levers connected to said annular clutch members and extending toward said shaft, fulcrum-bars, each of said bars uniting a lever connected with one of the annular clutch members with a lever connected with the other of said annular clutch members, one lever of each pair thus united being secured to said clutch-hub, toggle members, one for each of the other levers, and means for operating said toggle members.

4. The combination with a shaft of a pulley rotatable concentrically therewith but independently thereof, said pulley being provided with a radially-projecting flange, a clutch-hub rigidly secured to said shaft, two annular clutch members directly secured to and adapted to be rotated by said clutch-hub and located one on each side of said flange, each of said annular clutch members being movable toward or away from said radially-projecting flange independently of the other, and means to engage said annular clutch members with said flange.

5. The combination with a shaft of a pulley rotatable concentrically therewith but independently thereof, said pulley being provided with a radially-projecting flange, a clutch-hub rigidly secured to said shaft, two annular clutch members directly secured to and adapted to be rotated by said clutch-hub and located one on each side of said flange, levers connected to said annular clutch members, fulcrum-bars, each of said bars uniting a lever connected with one of the annular clutch members with a lever connected with the other of said annular clutch members, one lever of each pair thus united being connected with said clutch-hub by a link, toggle members, one for each of the other levers, a sleeve to which said toggle members are connected, and means for moving said sleeve longitudinally of said shaft.

6. The combination with a shaft of a pulley rotatable concentrically therewith but independently thereof, said pulley being provided with a radially-projecting flange, a clutch-hub rigidly secured to said shaft, said hub being extended outwardly from said shaft forming arms, two annular clutch members directly secured to and adapted to be rotated by the arms of said clutch-hub and located one on each side of said flange, levers connected to each of said annular clutch members and extending toward said shaft, fulcrum-bars, each of said bars uniting a lever connected with one of the annular clutch members with a lever connected with the other of said annular clutch members, one lever of each pair thus united being secured by means of a link to said clutch-hub, each of the other levers being provided with a toggle member, a sleeve movable lengthwise of said shaft, links connecting said toggle members with said sleeve, means for moving said sleeve lengthwise of said shaft, and springs adapted to separate said annular clutch members.

840,688. ROTARY ENGINE. AMOS H. CARPENTER, Stockton, Cal. Filed Sept. 19, 1905. Serial No. 279,153.



Claim.—1. A hollow cylinder with closed ends, provided with a shaft that passes lengthwise through its center and is journaled in the end pieces thereof, a rotating wheel within said cylinder that turns therein and is rigidly attached to said shaft, and that has one or more recesses or chambers in its periphery, of suitable depth, length and width, one end of which said recess or recesses extends abruptly into the periphery of the wheel, at any suitable angle, and the other end, commencing at any suitable point, gradually lessens in depth until it terminates in the periphery of the wheel, a suitable feed-chamber for each set of recesses in the wheel for the incasement of the feed-valve, a suitable feed-valve with projecting nozzle that is adapted to drop from the frame of the inclosing feed-chamber into the chambers in the periphery of the inside wheel, and suitably hinged on a laterally-slotted feed-pipe for the entrance of the steam so as to open or close the slot in the valve at any desired point in the revolution of the inside wheel by the motion of the nozzle caused by its contact with the cam portion on the periphery of said wheel so as to utilize the expansive power of the steam, and a suitable exhaust-port for the escape of the steam, substantially as set forth.

2. A hollow cylinder with closed ends, provided with one or more compartments and suitable partitions to form the same, and a shaft that passes lengthwise through its center and is journaled in the end pieces thereof and said partitions, a rotating wheel in each compartment that turns loosely therein and is rigidly attached to said shaft and that has one or more recesses or steam-chambers in its periphery, of suitable depth, length and width, one end of which said recess or chambers extend abruptly into the periphery of its respective rotating wheel, at any suitable angle or curve, and the other end, commencing at any suitable point, gradually lessens in depth until it terminates in the periphery of the wheel, a suitable feed-chamber for each compartment and inclosed wheel for the inclosure of the feed-valve, a suitable cylindrical feed-valve, with projecting nozzle, hinged on a hollow feed-pipe and adapted to swing thereon and drop from the frame of the inclosing feed-chamber into the chambers in the periphery of the inside wheel, and provided with a lateral slot extending lengthwise from its interior to the outer surface through the front face of the nozzle, and having a hollow feed-pipe as an axle which is provided with a lateral slot extending lengthwise through its shell that is so arranged as to be opened or closed at any desired point in the revolution of the inside wheel by properly adjusting the cam-piece on its periphery to operate said nozzle and thereby use the expansive force of the steam, and a suitable exhaust-hole for the escape of the steam, substantially as set forth.

3. A hollow cylinder with closed ends, provided with an enlarged shaft or drum that passes lengthwise through its center and is journaled in the end pieces thereof, a rotating wheel within said cylinder that turns therein and is rigidly attached to said shaft or drum, and that has one or more recesses or steam-chambers or sets of chambers in its periphery, of suitable depth, length and width, one end of which said recess or chambers extends abruptly into the periphery of the wheel at any suitable angle, and the other end, commencing at any suitable point, gradually lessens in depth until it terminates in the periphery of the wheel, a feed-chamber for each set of steam-chambers in the wheel rigidly attached to said cylinder at a suitable place on its periphery for the inclosure of the feed-valve the inside of which is cylindrical in form and adapted to receive and closely embrace a hollow cylindrical feed-valve that turns loosely therein and upon a hollow pipe passing through its center and which has a lateral slot running lengthwise through its shell at any suitable place as an axis, the ends of which are journaled in the ends of said feed-chamber, and that has a triangular or other suitably-shaped projection or nozzle rigidly attached to its periphery, of suitable length, breadth and thickness to penetrate said steam-chambers in the wheel and form a steam-tight partition therein, through which a long narrow slot passes from the center of said valve to its front face, a lever attached to the end of the axle-pipe which projects through one of the end pieces of said feed-chamber, a suitable recess in the frame of said feed-chamber to receive said nozzle of said valve when closed, a suitable exhaust hole and pipe for each set of steam-chambers in the wheel for the escape of the steam, and suitable packing for the steam-joints, substantially as set forth.

4. A hollow cylinder with closed ends, provided with one or more compartments, and an enlarged shaft or drum that passes lengthwise through its center and is journaled in the end pieces thereof, a rotating wheel in each compartment of the cylinder that turns loosely therein and is rigidly attached to said shaft or drum, and that has one or more recesses or steam-chambers in its periphery, of suitable depth, length and width, one end of which said recess or chambers extends abruptly into the periphery of its respective wheel at any suitable curve or angle, and the other end, commencing at any suitable point, gradually lessens in depth until it terminates in the periphery of the wheel, a feed-chamber rigidly attached to said cylinder for each compartment thereof, at any suitable place on its periphery for the inclosure of the feed-valve, the inside of which is cylindrical in form and adapted to receive and closely embrace a hollow cylindrical feed-valve that works loosely therein and upon a hollow pipe passing through its center and which has a lateral slot running lengthwise through its shell at any suitable place as an axis, the ends of which are journaled in the ends of said feed-chamber, and that has a triangular or other suitably-shaped projection or nozzle rigidly attached to its periphery, of suitable length, breadth, and thickness to penetrate the said steam-chambers in the wheel and form a steam-tight partition therein, through which a long narrow slot passes from the center of said valve to its front face, a lever attached to the end of the axle-pipe which extends through one end of the feed-chamber, a suitable recess in the frame of said feed-chamber to receive said nozzle of the valve when closed, suitable partitions between the compartments of the cylinder, a suitable exhaust-hole for each compartment, a suitable channel connecting the exhaust of one compartment with the feed-pipe of its adjacent compartment, and suitable packing for the steam-joints, substantially as set forth.

5. A hollow cylinder with closed ends, provided with one or more compartments and an enlarged shaft or drum that passes lengthwise through its center and is journaled in the end pieces thereof, a rotating wheel in each compartment of the cylinder that turns loosely therein and is rigidly attached to said shaft or drum, and that has one or more recesses or steam-chambers in its periphery, of suitable depth, length and width, one end of which said recess or chambers extends abruptly into the periphery of its respective wheel at any suitable curve or angle, and the other end, commencing at any suitable point, gradually lessens in depth until it terminates in the periphery of the wheel, a feed-chamber rigidly attached to said cylinder for each compartment thereof, at any suitable place on its periphery for the inclosure of the feed-valve, the inside of which is cylindrical in form and adapted to receive and closely embrace a hollow cylindrical feed-valve that works loosely therein and upon a hollow pipe passing through its center and which has a lateral slot running lengthwise through its shell at any suitable place as an axis, the ends of which are journaled in the ends of said feed-chamber, and that has a triangular or other suitably-shaped projection or nozzle rigidly attached to its periphery, of suitable length, breadth, and thickness to penetrate the said steam-chambers in the wheel and form a steam-tight partition therein, through which a long narrow slot passes from the center of said valve to its front face, a lever attached to the end of the axle-pipe which extends through one end of the feed-chamber, a suitable recess in the frame of said feed-chamber to receive said nozzle of the valve when closed, suitable partitions between the compartments of the cylinder, a suitable exhaust-hole for each compartment, a suitable channel connecting the exhaust of one compartment with the feed-pipe of its adjacent compartment, and suitable packing for the steam-joints, substantially as set forth.

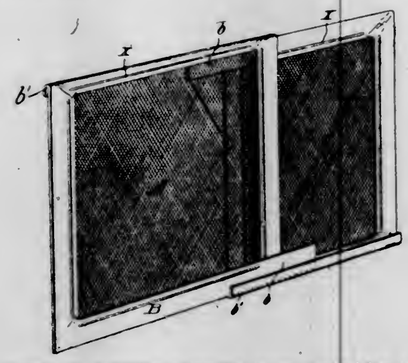
6. The combination, in rotary engines, of the hollow cylinder C, the drum D, the shaft S journaled in the end pieces E, the wheel W attached to said shaft or drum, with its recesses F and F' in its periphery, the feed-chamber G for the inclosure of the feed-valve, the feed-valve V with its nozzle N to penetrate the steam-chambers of the wheel for the passage of the steam to the wheel, the axle-pipe J with its slot O, the recess R for the reception of the nozzle of the valve, the exhaust-pipe T' for the escape of the steam, the lever L, the aperture I, the pipe U, the steam-rings X, substantially as shown and described and for the purposes set forth.

7. The combination, in rotary engines, of the cylinder C, with the end pieces E, provided with one or more compartments C' and C'', the partitions P, the drum D, the shaft S journaled in the end pieces E, the wheel W in each compartment of the cylinder with one or more steam-chambers F and F' in its periphery, the feed-chamber G for each compartment of the cylinder, the feed-valve V with its hole H, nozzle N, aperture I, the axle-pipe J with its slot O, and projecting end M, the entrance-pipe U, the recess R, the exhaust-pipe T and T' for each compartment of the cylinder for the escape of the steam and connecting the exhaust of one with the entrance-pipe of its adjacent compartment, the feed-chamber G', the lever L, the rim S, the flat card-piece 6 with edges 7, cylindrical post Z and journal Y, substantially as shown and described and for the purposes set forth.

8. In a rotary engine, the combination of a cylinder with closed ends, having one compartment, and an enlarged shaft or drum that passes lengthwise through its center and is journaled in the end pieces thereof, a rotating wheel that turns loosely therein and is rigidly attached to said shaft or drum and that has two or more sets of chambers in its periphery, of suitable depth, length and width, each recess in said several sets of chambers extends abruptly into the periphery of said wheel, at any suitable curve or angle, and the other end, commencing at any suitable point, gradually lessens in depth until it terminates in the periphery of the wheel, a feed-chamber rigidly attached to said cylinder for each set of recesses in said wheel, at any suitable place on its periphery for the inclosure of a feed-

valve, the inside of which is cylindrical in form and adapted to receive and closely embrace a hollow cylindrical feed-valve that works loosely therein and upon a hollow feed-pipe passing through its center, which has a lateral slot running lengthwise through its shell at any suitable place as an axis, the ends of which are journaled in the end pieces of said feed-chamber, and that has a triangular or other suitably-shaped projection or nozzle rigidly attached to its periphery, of suitable length, breadth and thickness, and adapted to drop from the frame of the feed-chamber and to penetrate the said steam-recesses in the wheel and form a steam-tight partition therein, through which a long narrow slot passes from the center of said valve to its front face, a lever attached to the end of the axle-pipe which extends through one end of the feed-chamber, a suitable recess in the frame of the feed-chamber to receive said nozzle of the valve when closed, suitable partitions between the several sets of recesses or chambers in the periphery of said wheel, a suitable exhaust-port for each set of chambers, a suitable channel or pipe connecting the exhaust of one set of chambers to the feed-pipe of its adjacent set of chambers and suitable packing for the steam-joints, substantially as described and for the purposes set forth.

840,689. METAL-FRAME WINDOW-SCREEN. ALBERT A. DAY, New York, N. Y. Filed Sept. 27, 1906. Serial No. 336,468.



Claim.—1. A sliding extensible screen comprising a plurality of screen-sections formed exactly alike, each section having one edge only provided with a retaining-flange extending throughout the length of said edge, to engage and interlock with the opposite edge of another screen-section, whereby said sections may be placed in sliding engagement with each other and will be maintained in operative position by gravity, substantially as described.

2. In a sliding extensible screen, the combination of a plurality of screen-sections formed exactly alike, each section having a portion of its frame-bar adjacent to one edge only of the section bent over to form a guiding-flange, and the opposite edge being formed without such flange, the guiding-flange of each section interlocking with the plain edge of the other section substantially as described.

3. In a sliding extensible screen, the combination of a plurality of screen-sections each having its frame-bar composed of sheet metal folded longitudinally, and a piece of screen fabric having its edges inclosed and secured within said folded bars, one only of said folded bars of each section being bent to form a guiding-flange, to receive the opposite bar of the other screen-section substantially as described.

4. In a sliding extensible screen, the combination of a plurality of screen-sections, each having a frame composed of a single strip of sheet metal folded longitudinally, and bent angularly, to form a rectangular frame, and a section of screen fabric having its edges inclosed and secured within said folded metal strip, one frame-bar only of each section being bent longitudinally to form a guiding-flange, to receive the opposite plain edge of the other screen-section substantially as described.

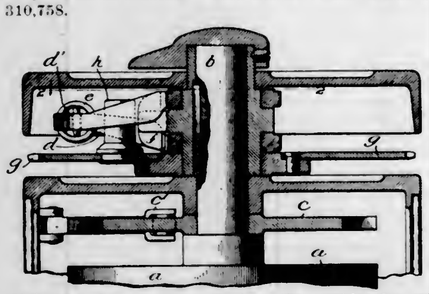
5. In a sliding extensible screen, the combination of a plurality of separate screen-sections, one of said sections having its upper horizontal edge bent over to form a retaining-flange, said flange being placed in engagement with an edge of another screen-section, whereby said sections will be held in engagement by gravity when the screen is in use, substantially as described.

6. A window-screen section having a frame composed of an integral strip of sheet metal folded longitudinally and extending entirely around the wire fabric, said strip being of greater width at certain portions than at others, to form a frame-bar, of greater width than other frame-bars, said wider frame-bar being bent over to form a retaining-flange, substantially as described.

7. A window-screen comprising two sections formed exactly alike, each section having a retaining and guiding flange formed on one only of its horizontal frame-bars and engaging and interlocking with the opposite frame-bar of the other screen-section, each section having one of its vertical frame-bars provided with a laterally-bent portion having retaining projections and projecting therefrom to engage retaining devices secured to the window-casing, substantially as described.

8. A window-screen comprising two sections formed exactly alike, each section having a retaining and guiding flange formed on one only of its horizontal frame-bars and engaging and interlocking with the opposite frame-bar of the other screen-section, each section having one of its vertical frame-bars provided with a laterally-bent portion having struck-up retaining projections formed integrally therewith and projecting therefrom, substantially as described.

840,690. SPRING ACTUATING DEVICE FOR DRUM-CONTROLLERS. ALEXANDER D. DU BOIS, Chicago, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 9, 1906. Serial No. 310,758.



Claim.—1. In a motor-controller, the combination with a contact-drum, of a pair of levers, a flexible connection between said levers, and means for operating either one of said levers to cause such other lever to effect the movement of said drum in rapid steps.

2. In a motor-controller, the combination with a contact-drum, of a shaft therefor, a lever loosely mounted upon said shaft, means controlled by said lever when operated for moving said drum, a second lever loosely mounted upon said shaft, a flexible connection between said levers, and means for moving said second lever to operate the said first-mentioned lever.

3. In a motor-controller, the combination with a contact-drum, of a shaft therefor, a pair of levers loosely mounted on said shaft, a flexible connection between said levers, a lug secured to said shaft and adapted to be engaged by one of said levers to turn the shaft, and means for operating said other lever to cause the engagement of said first-mentioned lever with the lug to operate the drum.

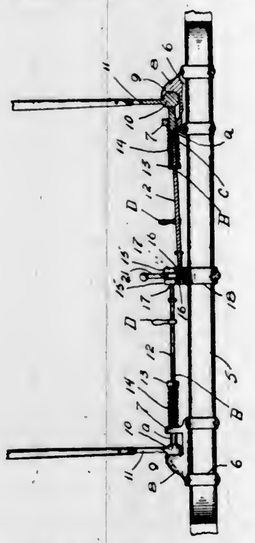
4. In a motor-controller, the combination with a contact-drum, of a lever for operating said drum, a second lever, a tension-spring connecting said levers, a sprocket, and a pin carried thereby adapted to engage said second lever to cause said spring to operate said first-mentioned lever.

5. In a motor-controller, the combination with a contact-drum, of a shaft therefor, a star-wheel carried by said shaft, a spring-controlled brake therefor, a lug secured to said shaft, a lever loosely mounted on said shaft and adapted when operated to engage said lug to rotate the shaft, a second lever loosely mounted upon the shaft, a tension-spring connecting said levers, a sprocket, and a pin carried thereby adapted to engage said second lever to operate the first-mentioned lever and rotate said drum by sudden movements.

6. In a motor-controller, the combination with a contact-drum, of a shaft therefor, a retarding device for said drum, a pair of levers loosely mounted on said shaft, a flexible connection between said levers, a lug secured to the shaft, and means for operating either one of said levers to cause said other lever to engage said lug and move said drum in rapid steps.

7. In a motor-controller, the combination with a contact-drum, of a shaft therefor, a spring-actuated retarding device for said drum, a pair of levers loosely mounted upon said shaft, a tension-spring connecting said levers, a lug secured to the shaft, means for initially operating either one of said levers to cause said other lever to engage said lug and move said drum through rapid steps, a lug for each lever secured to the shaft, and adapted to be engaged by said lever, when initially operated, to start the drum when said spring moving through a predetermined working range has failed to overcome the resistance offered by the drum.

840,691. HORSE-RELEASER. ALBERT E. FROMMEL, Groton, S. D. Filed Dec. 4, 1905. Serial No. 290,243.



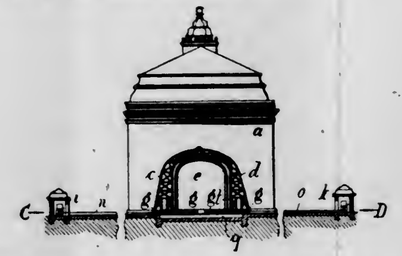
Claim.—1. In a horse-releaser, the combination with a support, of castings carried by the support in spaced relation, rods slidably engaged in the castings for movement into and out of operative position and extending inwardly toward each other, springs arranged to hold the rods yieldably at their inward limits of movement, a casting carried by the support between the members and including spaced ears in which the rods are slidably engaged, and a lever pivoted to the casting and having a finger movable into and out of the space between the ears to receive the inner ends of the rods thereagainst.

2. In a horse-releaser, the combination with a support, of members carried by the support, a casting carried by the support between the members and including spaced ears, said ears having openings therein, rods slidably engaged in the members and in the openings of the ears, springs arranged to hold the rods yieldably projected into the space between the ears, a lever pivoted to the casting and a finger carried by the lever and movable therewith into and out of the space between the ears, said finger when in the space receiving the inner ends of the rods thereagainst, to hold said rods against the action of the springs.

3. In a horse-releaser, the combination with a support, of members carried by the support and having recesses therein, members having enlargements engaged in the recesses, slide-rods engaged in the first members at their opposite sides from the recesses and arranged to hold them in the latter, said slide-rods being movable out of operative position, means for holding the slide-rods yieldably in inoperative position, and means for holding them at times in operative position.

4. In a horse-releaser, the combination with a support, of members carried thereby in spaced relation, rods slidably engaged in the members, spaced brackets carried by the supports between the members, said slide-rods being movably engaged at their inner ends in the brackets, springs arranged to hold the rods yieldably at the inward limits of their movements, and a finger movable to lie at times between the brackets and in position to receive the inner ends of the rods thereagainst to hold them against the action of the springs.

840,692. SAFETY APPLIANCE FOR THEATERS. ADOLF LUDWIG KARL ERNST VON U. ZU. GILSA, Mönchhaf, near Abterode, and ANTON KARST, Cassel Germany. Filed July 15, 1904. Serial No. 216,765.



Claim.—1. In a theater, a stage part and an auditory separated from the stage part by a gap through which fire or smoke may escape, and movable means for normally closing the said space.

2. In a theater, the combination with an auditory-house, of a stage-house divided from said auditory-house by a vertical gap permitting any fire or smoke to escape, a movable arched structure adapted to normally close the gap between the auditory and the stage, and means for moving said movable arched structure aside.

3. In a theater, the combination with an independent auditory-house, of a stage-house separated from said independent auditory-house by a gap permitting any fire or smoke to escape, a traveling platform on the floor of the space, an arched structure on said traveling platform and adapted to normally close the gap between the auditory and the stage, and means for moving said traveling platform with said arched structure, whereby the gap can be opened and closed respectively.

4. In a theater, the combination with an independent auditory-house, of a stage-house separated from said independent auditory-house by a gap permitting any fire or smoke to escape, a track on the floor of the space, a traveling platform on said track, an arched structure on said traveling platform and adapted to normally close the gap between the auditory and the stage, and means for moving said traveling platform with said arched structure on said track, whereby the gap can be opened and closed respectively.

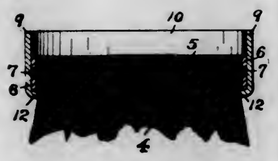
5. In a theater, the combination with an independent auditory-house, of a stage-house separated from said independent auditory-house by a gap permitting any fire or

smoke to escape, a track on the floor of the space, two traveling platforms on said track, two parts of an arched structure on said two traveling platforms and adapted to normally close the gap between the auditory and the stage, and means for moving said two traveling platforms with said two parts of an arched structure simultaneously or singly on said track, whereby the gap can be opened and closed respectively.

6. A theater, comprising a stage, an auditorium, and movable structures, said movable structures in conjunction with said stage and auditorium adapted to form the theater, and said movable structures when actuated adapted to disconnect the stage from the auditorium and to form passage-ways or outlets between the stage and auditorium.

7. A theater, comprising a stage, an auditorium, movable structures, said movable structures in conjunction with said stage and auditorium adapted to form the theater and said movable structures when actuated adapted to disconnect the stage from the auditorium and to form passage-ways or outlets between the stage and auditorium, and means adapted to hold the movable structures in their operative position and to permit of a free movement of the same when required.

840,693. BRUSH. FREDRICK GRAUL, Newark, N. J., assignor to Rubber and Celluloid Harness Trimming Co., a Corporation of New Jersey. Filed Sept. 19, 1906. Serial No. 335,173.



Claim.—1. A brush comprising a handle and a bunch of bristles, a band surrounding the knot of said bunch of bristles, said band being provided with openings, a cement hardened between the knot ends of said bunch of bristles and said cement extending into and being hardened in the openings of said band, substantially as and for the purposes set forth.

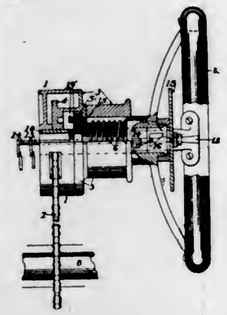
2. A brush comprising a handle and a bunch of bristles, a band surrounding the knot of said bunch of bristles, said band being provided with openings, a rubber cement hardened between the knot ends of said bunch of bristles, said cement extending into and being vulcanized in the openings of said band, substantially as and for the purposes set forth.

3. A brush comprising a handle provided with a butt, a bunch of bristles, an inner metal band surrounding the knot of said bunch of bristles, said band being provided with openings, a cement hardened between the knot ends of said bunch of bristles, said cement extending into and being hardened in the openings of said inner band, and an outer band surrounding the said inner band and the butt of said handle, substantially as and for the purposes set forth.

4. A brush comprising a handle provided with a butt a bunch of bristles, an inner metal band surrounding the knot of said bunch of bristles, said band being provided with openings, a rubber cement hardened between the knot ends of said bunch of bristles, said cement extending into and being vulcanized in the openings of said inner band, and an outer band surrounding the said inner band and the butt of said handle, substantially as and for the purposes set forth.

840,694. STARTING AND CONTROLLING INTERNAL-COMBUSTION-ENGINE-DRIVEN LAUNCHES AND VEHICLES. MARSHALL W. HANKS, Madison, Wis. Filed Feb. 24, 1905. Serial No. 247,197.

Claim.—1. In an internal-combustion engine, the combination with a steering means, of a starting means, means for controlling the point of gas ignition in the engine-cylinder, means actuating the ignition-controlling means to bring the point of ignition to the starting position by the operation of the starting means and an actuating element movable into position for connection with said steering means and said starting means and ignition-controlling means alternately.



2. In an internal-combustion-engine-driven launch or vehicle, steering means, engine-starting means, and an actuating element for said means movable into positions for connection with said steering means and starting means alternately.

3. In an internal-combustion-engine-driven launch or vehicle, steering means, engine-starting means, and an actuating rotatable elements for said means movable into positions for connection with said steering means and starting means alternately.

4. The combination of a steering-shaft a starting member connected to the engine-shaft, and a steering-wheel movable lengthwise on its shaft and having means to engage the starting member by such lengthwise movement and operate the same by its rotation.

5. The combination of steering means including a wheel, a support along which the wheel is movable, and engine-starting means actuated by said wheel in one position of the latter.

6. In an internal-combustion-engine-driven launch or vehicle, the combination with a hand-wheel, a steering-drum and a starting means, said hand-wheel being movable into position for connection with said steering-drum and starting means alternately.

7. In an internal-combustion-engine-driven launch or vehicle, a hand-wheel, a steering-drum, a starting means, and a spring-pressed sliding clutch fixed to the wheel and arranged to engage the drum and starting means alternately.

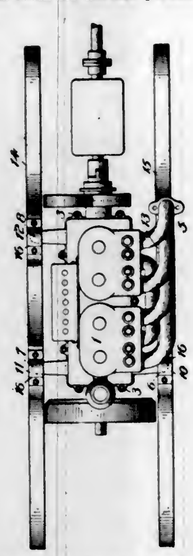
840,695. ENGINE-MOUNT. MARSHALL W. HANKS and JAMES T. ATWOOD, Madison, Wis.; said Atwood assignor to said Hanks. Filed Nov. 21, 1905. Serial No. 288,380.

Claim.—1. The combination with an engine, of a mount therefor, said engine being adapted to operate only when located in a fixed relation to the mount and means on the engine and mount to permit the tilting of the engine in a plurality of directions from its normal position whereby access may be obtained to the various parts thereof.

2. The combination with an engine, of a mount therefor, said engine being adapted to operate only when located in a fixed relation to the mount and coöperating means on the engine and mount whereby the engine may be tilted in a plurality of directions from its normal position whereby access may be obtained to the various parts of the engine.

3. The combination with an engine, of a mount therefor, journal-bearings formed on the mount and means on the engine for removably engaging said journal-bearings whereby the engine may be tilted in a plurality of directions from its normal position.

4. The combination with an engine, of a mount therefor provided with journal-bearings, and journals on the engine adjacent its ends and adapted to removably engage the journal-bearings whereby the engine may be tilted in a plurality of directions from its normal position.



5. The combination with an engine, of a mount therefor, journal-bearings formed on the mount and provided with removable caps and journals formed on the engine adapted to removably engage with the bearings, whereby said engine may be tilted in a plurality of directions from its normal position.

6. The combination with an engine, of a mount provided with a plurality of journal-bearings journals at each end of the engine adapted to removably engage said journal-bearings whereby said engine may be tilted in a plurality of directions from its normal position.

7. The combination with an engine, of a mount therefor, journals projecting from the engine and journal-bearings on the mount with which said projecting journals removably engage whereby said engine may be tilted into a plurality of directions from its normal position.

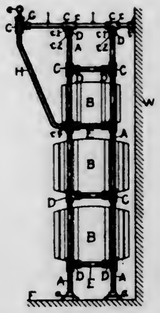
8. The combination with an engine, of a mount therefor, journal-bearings on the mount and projecting journals on the engine located near the ends thereof and adapted to removably engage the journal-bearings whereby the engine may be tilted in a plurality of directions from its normal position.

9. The combination with an engine, of a mount, journal-bearings on the mount, rounded projections on the engine forming journals and adapted to engage the journal-bearings and removable caps for said bearings whereby the engine may be tilted in a plurality of directions from its normal position.

10. The combination with an engine, of a mount therefor, journals projecting from the engine at each angle thereof and journal-bearings on the mount with which said projections removably engage whereby the engine may be tilted in a plurality of directions from its normal position.

840,696. RACK. JOHN HEBERLING, Rochester, N. Y. Filed Aug. 27, 1906. Serial No. 332,141.

Claim.—1. A rack comprising a series of prismatic standards and a series of horizontally-disposed prismatic bars arranged to receive the articles to be supported, a series of couplings each having a member provided with an opening adapted to receive such standards with a sliding fit and provided also with a member having an opening adapted to receive such horizontal bars with a sliding fit, such standards notched to receive such horizontal bars and such couplings adapted to hold such horizontal bars when in position therein in engagement with such notches therefor in such standards, such couplings also provided with members having openings therein adapted to receive suitable transverse bars, such horizontal bars notched to receive the ends of such transverse bars and means for holding such transverse bars in the members therefor in such couplings and in engagement with the notches therefor in such horizontal bars.



2. A rack comprising a front and a rear series of prismatic standards and a correspondingly front and rear series of horizontally-disposed prismatic bars arranged to receive the articles to be supported, a series of couplings each having a member provided with an opening adapted to receive such standards with a sliding fit and provided also with a member having an opening adapted to receive such horizontal bars with a sliding fit, such standards notched to receive such horizontal bars and such couplings adapted to hold such horizontal bars when in position therein in engagement with such notches therefor in such standards, such couplings also provided with members having openings therein adapted to receive suitable connecting-bars adapted to connect such front and rear series of standards and horizontal bars together, such horizontal bars notched to receive the ends of such connecting-bars and means for holding such connecting-bars in the members therefor in such couplings and in engagement with the notches therefor in such horizontal bars.

3. In a rack, a series of standards, a series of horizontal bars, couplings each carrying a member having an opening therein adapted to engage one of such standards with a sliding fit and also a member having an opening therein adapted to engage one of such horizontal bars with a sliding fit, such standards notched and such couplings adapted to hold such horizontal bars in engagement with the notches in such standards, such couplings each having also a member adapted to receive a bar extending outwardly therefrom approximately at right angles to such standards and to such horizontal bars, such horizontal bars having notches therein adapted to be engaged by the ends of such last-named bars and means for holding such last-named bars in such openings therefor in such couplings with the ends thereof in engagement with such notches therefor in such horizontal bars.

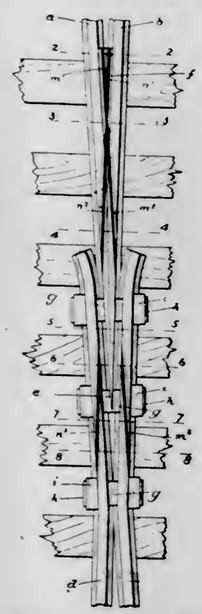
4. As a means for holding three prismatic elements together, a coupling carrying first and second members having openings therethrough adapted to receive such first and second elements with a sliding fit, the openings in such members of such coupling intersecting with each other and the first element having a notch therein adapted to receive the second element when such first and second elements are in position in such coupling, such coupling carrying a third member having an opening therein adapted to receive the third element, such second element having a notch therein adapted to receive and be engaged by the end of such third element and means for holding such third element in the opening therefor in such coupling and with its end in engagement with the notch therefor in such second element.

5. As a means for holding two prismatic elements to-

gether, a coupling carrying a member having an opening therein adapted to receive the first of such elements therein with a sliding fit and also carrying a member adapted to receive such second element, such first element having a notch adapted to be engaged by the end of such second element and means for holding such second element in position in the member therefor on such coupling and with the end thereof in engagement with the notch therefor in such first element.

6. As a means for holding the abutting ends of two prismatic elements together, a coupling adapted to receive the abutting ends of such elements with a sliding fit, a member carried by such coupling adapted to receive a transversely-disposed member, such transverse member recessed in its end, such prismatic members notched to receive the recessed end of such transverse members.

840,697. RAILWAY-FROG. EDWIN S. HIPPEY, York, Pa. Filed Oct. 12, 1906. Serial No. 338,549.



Claim.—1. A railway special-work structure comprising at least two rail members adjacent, and extending at an angle, to each other, one at least of which is adapted to support more or less of the tread of the wheel guided by the other, in which the head of the first-named rail member is provided with a groove extending substantially parallel with the wheel-guiding edge of the head of the last-named rail member.

2. A railway special-work structure comprising at least two rail members adjacent, and extending at an angle, to each other, one at least of which is adapted to support more or less of the tread of the wheel guided by the other, in which the head of the first-named rail member is provided with a groove whose base extends substantially parallel with the wheel-guiding edge of the head of the last-named rail member and at a distance from said edge exceeding the width of a rail-head.

3. A railway special-work structure comprising members whose upper faces receive the wheel-trend, in which one or more of said members is provided with a groove in its upper face whose base extends parallel with and outside the part thereof with which the wheel-tread contacts.

4. A railway-frog comprising heel-rails and wing-rails in which the heel-rail and wing-rail on one side of the frog are grooved obliquely along a line extending substantially parallel with the direction of extension of the head of the other heel-rail and substantially alining with the side of the last-named rail-head opposite the wheel-guiding edge thereof.

5. A railway-frog comprising heel-rails and wing-rails in which the heel-rail and wing-rail on each side of the frog are grooved obliquely along a line extending substantially parallel with, and at one side of the center line of, the head of the other heel-rail.

6. A railway-frog comprising heel-rails and wing-rails in which the heel-rail and wing-rail on each side of the frog are provided with mutually-alining oblique grooves whose common base-line extends substantially parallel with a vertical plane through the wheel-guiding edge of the opposite heel-rail and at a distance from such plane exceeding the width of a rail-head.

7. A railway-frog comprising heel-rails, a frog-point merging into the heads of the heel-rails, a filler-block inserted in the angle between the heel-rails, and wing-rails extending on opposite sides of, and beyond, the frog-point, the face of the filler-block, the head of one of the heel-rails and the head of the corresponding wing-rail being each provided with a groove, said grooves being in longitudinal alinement and adapted to receive the blind flange of a wheel in its passage along and between said wing-rail and the opposite heel-rail.

8. A railway-frog comprising heel-rails, a frog-point merging into the heads of the heel-rails, a filler-block inserted in the angle between the heel-rails, and wing-rails extending on opposite sides of, and beyond, the frog-point, the head of one of said wing-rails being grooved obliquely from the inner side of the head to the outer side thereof toward the toe of the frog, the head of the corresponding heel-rail and the filler-block being also grooved obliquely toward said wing-rail, said grooves being in longitudinal alinement and adapted to receive the blind flange of a wheel in its passage along and between the opposite heel-rail and said wing-rail.

9. A railway-frog comprising heel-rails, a frog-point merging into the heads of the heel-rails, a filler-block inserted in the angle between the heel-rails, and wing-rails extending on opposite sides of, and beyond, the frog-point, the face of the filler-block, and the heads of the wing-rail and heel-rail on one side of the frog being provided with grooves in longitudinal alinement, the bases of said grooves extending substantially parallel with a vertical plane through the wheel-guiding edges of said wing-rail and opposite heel-rail and spaced therefrom a distance exceeding the width of a rail-head.

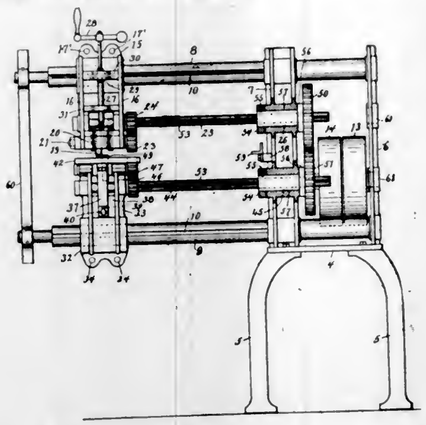
10. A railway-frog comprising heel-rails, a frog-point merging into the heads of the heel-rails, a filler-block inserted in the angle between the heel-rails, and wing-rails extending on opposite sides of, and beyond, the frog-point, the face of the filler-block and the heads of said rails being grooved to form two continuous intersecting grooves, said grooves being respectively arranged to receive the blind flanges of wheels passing along and between one wing-rail and the heel-rail on the opposite side and along and between the remaining heel-rail and wing-rail.

840,698. ROTARY SHEARS. JOHN JUNGERS and FRANZ KESSL, Cedar Grove, Wis. Filed Apr. 11, 1904. Serial No. 202,508.

Claim.—1. In a shearing-machine, the combination of a shear-carrying frame, a suitable support therefor, an arm pivoted to the shear-carrying frame, a shear mounted in said arm, a spindle having one end engaging the free end of the pivoted arm, and adapted when raised or lowered to raise or lower said arm, and means for holding the spindle in adjusted position.

2. In a shearing-machine, the combination of a shear-carrying frame, a suitable support therefor, an arm pivoted to the shear-carrying frame, a shear mounted in said arm, and a spindle having one end engaging the free end of the pivoted arm, the said spindle also provided with threads engaging a threaded opening in the shear-carrying frame.

3. In a shearing-machine, the combination of a shear-carrying frame, a suitable support therefor, a shear carried by the shear-carrying frame, a bed-plate at one end of the shear-carrying frame, said plate provided with an opening into which the shear extends, and adjusting means for causing the shear to project to a greater or less extent through the opening of the bed-plate.



4. In a shearing-machine, the combination of a shear-carrying frame, a suitable support therefor, a shear carried by the shear-carrying frame, a bed-plate at one end of the shear-carrying frame, said plate provided with an opening into which the shear extends, and means for adjusting the plate so as to expose more or less of the peripheral edge of the shear.

5. In a shearing-machine, the combination of a shear-carrying frame, a suitable support therefor, a shear carried by the shear-carrying frame, a bed-plate at one end of the shear-carrying frame, said plate provided with an opening into which the shear extends, yoke-arms extending from the plate, a bolt passing through the yoke-arms and through an elongated slot in the shear-carrying frame, and a nut turned onto the threaded end of the bolt.

6. In a shearing-machine, the combination of shear-carrying frames, suitable supports therefor, shears carried by the shear-carrying frames in opposition to each other to effect a shearing cut, a bed-plate for one of the shear-carrying frames, said plate provided with an opening through which the shear carried by that frame projects, and an adjusting means for causing the latter shear to project to a greater or less extent through the opening of the bed-plate.

7. In a rotary shear, the combination of a supporting bed or table, an upright projecting therefrom, said upright provided with openings, rails extending from the upright, shear-carrying frames slidably and adjustably mounted on the rails so as to be brought closer to or farther away from the upright, rotary shears carried by the shear-carrying frames, the shafts or axes of the shears having pinions mounted thereon, and rotatable shafts mounted in the shear-carrying frames and having driving-pinions mounted thereon in mesh with the pinions of the shears, the said shafts passing freely through the openings of the upright so as to be capable of moving therethrough.

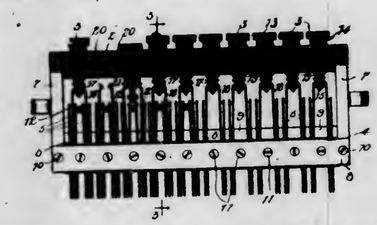
8. In a rotary shear, the combination of a supporting bed or table, an upright projecting therefrom, said upright provided with openings, rails extending from the upright, shear-carrying frames slidably and adjustably mounted on the rails so as to be brought closer to or farther away from the upright, rotary shears carried by the shear-carrying frames the shafts or axes of the shears having pinions mounted thereon, other shafts mounted in the shear-carrying frames and having driving-pinions mounted thereon in mesh with the pinions of the rotary shears, the said shafts passing freely through the openings of the upright, and intermeshing gears mounted to rotate with the shafts but held against longitudinal movement therewith, whereby the said shafts when moved with the shear-carrying frames are adapted to pass freely through the gears, to thereby maintain the intermeshing engagement of the said gears.

9. In a rotary shear, the combination of a supporting bed or table, uprights projecting therefrom, said uprights provided with alined openings, rails extending from the uprights, shear-carrying frames slidably and adjustably mounted on the rails so as to be brought closer to or farther away from the uprights, rotary shears carried by the shear-carrying frames, the shafts or axes of the shears having pinions mounted thereon, other shafts mounted in the shear-carrying frames and having driving-pinions mounted thereon in mesh with the pinions of the rotary shears, the said shafts passing freely through the openings of the upright nearest to the shear-carrying frame, intermeshing gears mounted to rotate with the shafts but held against longitudinal movement therewith, whereby the said shafts when moved with the shear-carrying frames are adapted to pass freely through the gears, to thereby maintain the intermeshing engagement of said gears, and means for positively driving one of said gears.

10. In a rotary shear, the combination of a supporting bed or table, an upright projecting therefrom, said upright provided with openings, rails extending from the upright, shear-carrying frames slidably and adjustably mounted on the rails so as to be brought closer to or farther away from the upright, rotary shears carried by the shear-carrying frames, the shafts or axes of the shears having pinions mounted thereon, longitudinally splined or grooved shafts mounted in the shear-carrying frames and having driving-pinions mounted thereon in mesh with the pinions of the rotary shears, intermeshing gears having feathers engaging the splines or grooves of the shafts, the said gears provided with projecting hubs fitting in the openings of the uprights, and through which hubs the shafts pass freely, means for permitting the gear-wheels and their hubs to rotate with the shaft, but preventing longitudinal movement of the hubs in the openings of the uprights, and means for positively driving one of said gears.

11. In a shearing-machine, the combination of an upright support, rails extending therefrom, shear-carrying frames adjustable longitudinally along the rails toward or away from the upright support, and a removable brace-arm connecting the outer ends of the rails.

840,699. TELEPHONE OPERATOR'S SWITCHING DEVICE. WILLIAM KAISLING, Chicago, Ill., assignor to Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y., a Corporation of New York. Filed Nov. 23, 1903. Serial No. 182,392.



Claim.—1. In a device of the class described, the combination with a supporting-frame consisting of a top and a lower supporting-bar, flat switch-springs mounted in said lower bar and extending upwardly therefrom so that their flat edges extend transversely of the supporting-frame, vertical openings through said upper supporting-bar, actuating-buttons disposed in said openings and adapted upon depression thereof to engage said switch-springs to change their operative position, a vertical keyway in the wall of each of said openings, and a key for each of said actuating-buttons adapted for engaging said keyway, said key being in the form of a staple.

2. In a device of the class described, the combination with a supporting-frame having upper and lower support-

ing-bars, flat switch-springs mounted in said lower bar and extending upwardly so that their flat edges are disposed transversely of said frame, vertical openings extending through said upper supporting-bar, actuating-buttons disposed in said openings and adapted upon depression thereof to engage said switch-springs to change the operative position thereof, a vertical keyway in the wall of each of said openings, and a key in the form of a staple, the limbs of the staple being secured in said button, the body portion of the staple being disposed at the outside of the actuating-button to form a key for engaging said keyways.

3. In a device of the class described, the combination with an upper and a lower supporting-bar of insulating material, of end plates disposed between and secured to the ends of said bars, switch-springs mounted in said lower supporting-bar so that their flat edges extend transversely of said bar, said springs extending upwardly and terminating in V-shaped indentations, vertical openings through said upper supporting-bar, actuating-buttons disposed in said openings and adapted upon depression thereof to engage said springs to change the operative position thereof, V-shaped indentations at the lower end of said actuating-buttons adapted normally to be engaged by the indentations of the switch-springs, and means for preventing said actuating-buttons from rotating in their openings.

4. In a device of the class described, the combination with an upper and a lower supporting-bar of insulating material, of end plates disposed between and secured to the ends of said bars, switch-springs mounted in said lower supporting-bar so that their flat edges extend transversely of said bar, said springs extending upwardly and terminating in V-shaped indentations, vertical openings through said upper supporting-bar, actuating-buttons disposed in said openings and adapted upon depression thereof to engage said spring to change the operative position thereof, V-shaped indentations at the lower end of said actuating-buttons adapted normally to be engaged by the indentations of the switch-springs, keyways in each of said openings, and keys on said actuating-buttons for engaging said keyways, whereby said buttons are prevented from rotation in their openings.

840,700. SHOVEL-PLOW. ROBERT L. KILPATRICK, Hempstead, Tex., assignor of one-third to J. D. Harvey and A. C. Browne, both of Hempstead, Tex. Filed Sept. 4, 1906. Serial No. 333,174.

Claim.—1. In combination, a beam, a foot pivoted to the beam, a point carried thereby, an adjustable heel on the foot, a rod held by the beam and passing through the foot, means on the rod for moving said foot on its pivot, said means controlling the adjustment of the heel.

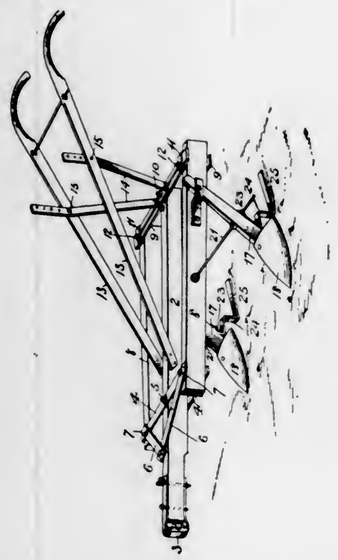
2. In combination, a beam, a foot pivoted to the beam, a point carried thereby, an adjustable heel on the foot, a rod held by the beam and passing through the foot and means on the rod for moving said foot on its pivot, said means controlling the adjustment of the heel.

3. In combination, a beam, a foot pivoted to the beam, a point carried thereby, a heel having a slot adjustable on the foot, a rod held by the beam and passing through the foot and the slot of the heel and means on the rod for moving said foot on its pivot said means controlling the adjustment of the heel.

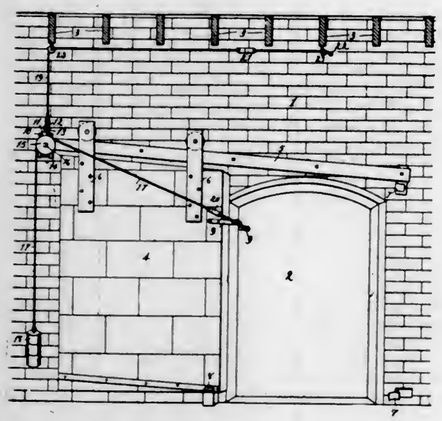
4. In combination, a beam, a foot pivoted to the beam, a point carried thereby, an angular heel adjustable on the foot, a rod held by the beam and passing through the foot, means on the rod for moving said foot on its pivot said means controlling the adjustment of the heel.

5. In combination, a central beam, side beams pivoted at one end to the central beam, a slotted bar secured to the central beam and adjustably engaging the free ends of the side beams, handles engaging the central beam and supports for the handles formed from a single piece of material, said supports being secured to the central beam by the same medium that secures the slotted bar thereto.

840,700.



840,701. FIRE-DOOR-RELEASING DEVICE. CORWIN LAMAREAUX, Aurora, Ill., assignor to The Richards Manufacturing Company, Aurora, Ill. Filed Mar. 12, 1906. Serial No. 305,553.



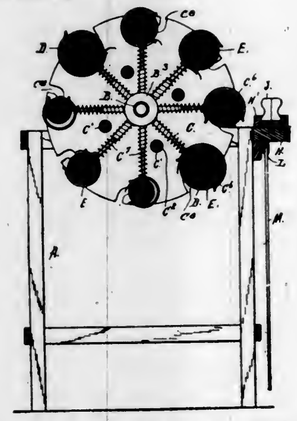
Claim.—1. Means for releasing slidable closures, comprising a hingedly-mounted pulley, a latch normally holding said pulley in operative position, a rope arranged on said pulley, secured to said closure and having a fusible element therein, means holding said rope under tension and means holding said latch in operative position.

2. Means for releasing slidable closures, comprising a pulley adapted to be thrown into inoperative position, a latch normally holding said pulley in operative position, a rope arranged on said pulley, secured to said closure and having a fusible element therein, a weight secured to said rope, and means holding said latch in operative position, said means comprising a fusible element.

3. Means for releasing slidable closures, comprising a fixed plate, a plate hinged on the fixed plate, a latch holding the hinged plate in apposition with the fixed plate, a pulley mounted on said hinged plate, means comprising a fusible element for operating said latch, a rope secured to the closure and passing over said pulley, said rope having a fusible link therein, and means for holding said rope under tension.

4. Means for releasing slidable closures, comprising a track, a plate adjustably arranged on the track, a plate hinged on said adjustable plate, a pulley mounted on said hinged plate, a rope arranged to travel on said pulley, said rope connected with the closure and carrying a weight and comprising a fusible link, a pivotally-mounted latch having one end engaging said hinged plate and having a rope secured to its other end, said rope comprising a fusible link.

840,702. DISPLAYING AND VENDING DEVICE. CHARLES L. MALONEY, Denver, Colo. Filed May 23, 1904. Serial No. 209,400.



Claim.—1. In a device of the class described, the combination of a reel suitably mounted, a plurality of spindles revolubly mounted on the reel, the latter having an axle, two telescoping parts one of which is rigidly connected with the axle and to the other of which is applied a spring-clasp, a coil-spring surrounding the telescoping parts and having a tendency to force the spring-clasp outwardly for the purpose set forth.

2. In an apparatus of the class described, the combination of a shaft or axle revolubly mounted, separated heads made fast to the axle, roll-holding spindles journaled in the heads, a number of radial tubes connected with the axle, rods telescoping in the tubes, the outer extremities of the rods being provided with spring-clasps and coil-springs surrounding the telescoping parts and having a tendency to force the clasps outwardly.

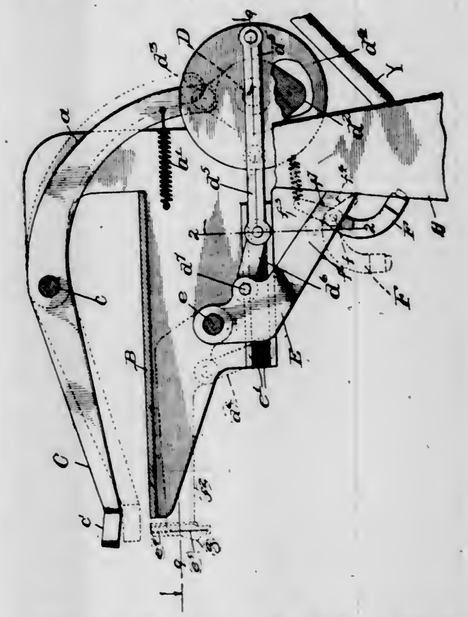
3. The combination with a suitable support, of an axle journaled therein, heads mounted on the axle, roll-holding spindles journaled in the heads, the axle having a centrally-located hub provided with radial tubes, rods telescoping in the tubes, springs surrounding the telescoping parts, clasps attached to the outer extremities of the rods and acted on by the springs, and means for locking the shaft in position to allow the material to be drawn from any roll, substantially as described.

4. The combination with a suitable support, of a reel provided with an axle revolubly mounted thereon, roll-holding spindles journaled in the reel, radially-disposed tubes connected with the reel-axle, rods telescoping in the tubes and provided with clasps at their outer extremities, coil-springs surrounding the telescoping parts and acting on the clasps, and a locking-pin mounted on the support and adapted to engage the reel whereby the latter may be held in any desired position of adjustment.

5. The combination with a suitable support, of a reel revolubly mounted thereon and provided with a shaft, a plurality of roll-holding spindles journaled in the reel, telescoping parts connected with the shaft, the outer telescoping members carrying clasps acting on the rolls of the spindles.

6. In an apparatus of the class described, the combination of a reel provided with an axle, a suitable support in which the axle is journaled, the reel having separated heads fast on the axle, slots formed in the said heads and open on the edges thereof, roll-holding spindles whose extremities engage the said slots, spring-actuated hooks mounted on the heads and engaging the spindle extremities to hold the latter in place, radial telescoping parts connected with the axle, one of said parts having a clasp at its outer extremity, and a spring surrounding the telescoping parts and acting on the clasp to force the latter outwardly, substantially as described.

840,703. MACHINE FOR USE IN MAKING WIRE-BOUND BOXES. JULIUS J. MILLER, St. Josep, Mich., assignor to William P. Healy, Chicago, Ill. Filed June 10, 1905. Serial No. 264,546.



Claim.—1. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, a rest for the materials to be fastened together, and means located under the rest adapted for driving or inserting the fastening devices upwardly through the said materials while the latter are suitably held upon said rest, the said driving means being considerably shorter than the distance between the points of supply and insertion, which point of supply is out of line with the direction of insertion.

2. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, means for holding the work, and means for inserting the fastening devices upwardly through the work, together with an upper device for holding the work down while the fastening devices are being driven, the said driving means being considerably shorter than the distance between the points of supply and insertion, which point of supply is out of line with the direction of insertion.

3. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, a rest for

the materials to be fastened together, an upper device for holding the materials down upon said rest while the fastening devices are being inserted, and driving means provided with means for picking up a fastening device, and means for causing said driving means to move down to pick up a fastening device and then move back and drive the same upwardly and into the materials supported upon the said rest, the said driving means being considerably shorter than the distance between the points of supply and insertion, which point of supply is out of line with the direction of insertion.

4. A machine for inserting fastening devices, comprising a rest for the materials to be fastened together, a clamping-arm adapted to bear down upon the materials and hold the same in place upon the said rest, staple feeding and delivering mechanism, a staple-driving device, together with means for causing said staple-driving device to pick up a staple from the staple-feeding mechanism and then drive the same upwardly through the materials supported or held upon said rest, the said driving means being considerably shorter than the distance between the points of supply and insertion, which point of supply is out of line with the direction of insertion.

5. A machine for inserting fastening devices, comprising a rest for the materials to be fastened together, means for holding the materials down upon the said rest, staple feeding and delivering mechanism, a staple-driving device, a swinging arm upon which the said staple-driving device is mounted, and means for operating the said elements and causing the said staple-driving device to receive a staple from the said mechanism and carry the same around and drive it upwardly through the materials supported upon the said rest, the said driving means being considerably shorter than the distance between the points of supply and insertion, which point of supply is out of line with the direction of insertion.

6. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, an arm upon which the materials can be placed, means for holding the materials down in place upon said arm, and a staple-driver adapted and operative to drive staples upwardly through the said materials at a point at or adjacent to the end of said arm, the said driving means being considerably shorter than the distance between the points of supply and insertion, which point of supply is out of line with the direction of insertion.

7. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, a horizontally-disposed and laterally-projecting arm having an end portion whereon a box or receptacle may be manipulated for the purpose of securing its parts together, a clamping device for bearing down upon the said box and holding the same against movement during the driving of the fastening devices, and a driving device adapted to work within the interior of the said box or package, and adapted to drive fastening devices upwardly at a point at or near the end of said arm, the said driving means being considerably shorter than the distance between the points of supply and insertion, which point of supply is out of line with the direction of insertion.

8. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, means for supporting a box having sides and a bottom and end walls, and means for securing the said end walls in place, said means including a driving device of a character to extend and operate within the interior of said box, and to thereby drive the fastening devices outwardly through the said end walls, the said driving means being considerably shorter than the distance between the points of supply and insertion, which point of supply is out of line with the direction of insertion.

9. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, a rest for the materials to be fastened together, and devices for inserting the fastening devices upwardly through the said materials while the latter are suitably held upon said rest, and the said machine comprising means whereby one of a number of fastening devices is automatically released and placed in readiness for delivery to the means for driving the fastening devices, and means for causing the said driving means to swing down and forward and then up in moving from the point of supply to the point of insertion.

10. A machine for inserting fastening devices, comprising means for holding the work, and means for inserting the fastening devices upwardly through the work, together with an upper device for holding the work down while the fastening devices are being driven, and the said machine comprising means whereby one of a number of fastening devices is automatically released and placed in readiness for delivery to the means for driving the fastening devices, and means for causing the said driving means to swing down and forward and then up in moving from the point of supply to the point of insertion.

11. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, a rest for the materials to be fastened together, an upper device for holding the materials down upon said rest while the fastening devices are being inserted, and a driving device adapted and operative to move down and pick up a fastening device and then move back and drive the same upwardly and into the materials supported upon the said rest, and the said machine comprising means whereby one of a number of fastening devices is automatically released and placed in readiness for delivery to the means for driving the fastening devices, and means for causing the said driving means to swing down and forward and then up in moving from the point of supply to the point of insertion.

12. A machine for inserting fastening devices, comprising a rest for the materials to be fastened together, a clamping-arm adapted to bear down upon the materials and hold the same in place upon the said rest, staple feeding and delivering mechanism, a staple-driving device, together with means for causing said staple-driving device to pick up a staple from the staple-feeding mechanism and then drive the same upwardly through the materials supported or held upon said rest, and the said machine comprising means whereby one of a number of fastening devices is automatically released and placed in readiness for delivery to the means for driving the fastening devices, and means for causing the said driving means to swing down and forward and then up in moving from the point of supply to the point of insertion.

13. A machine for inserting fastening devices, comprising a rest for the materials to be fastened together, means for holding the materials down upon the said rest, staple feeding and delivering mechanism, a staple-driving device, a swinging arm upon which the said staple-driving device is mounted, and means for operating the said elements and causing the said staple-driving device to receive a staple from the said mechanism and carry the same around and drive it upwardly through the materials supported upon the said rest, and the said machine comprising means whereby one of a number of fastening devices is automatically released and placed in readiness for delivery to the means for driving the fastening devices, and means for causing the said driving means to swing down and forward and then up in moving from the point of supply to the point of insertion.

14. A machine for inserting fastening devices, comprising an arm upon which the materials can be placed, means for holding the materials down in place upon said arm, and a staple-driver adapted and operative to drive staples upwardly through the said materials at a point at or adjacent to the end of said arm, and the said machine comprising means whereby one of a number of fastening devices is automatically released and placed in readiness for delivery to the means for driving the fastening devices, and means for causing the said driving means to swing down and forward and then up in moving from the point of supply to the point of insertion.

15. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, a horizontally-disposed and laterally-projecting arm having an end portion whereon a box or receptacle may be manipulated for the purpose of securing its parts together, a clamping device for bearing down upon the said box and holding the same against movement during the driving of the fastening devices, and a driving device adapted to work within the interior of the said box or package, and adapted to drive fastening devices upwardly at a point at or near the end of said arm, and the said machine comprising means whereby one of a number of fastening devices is automatically released and placed in readiness for delivery to the means for driving the fastening devices, and means for causing the said driving means to swing down and forward and then up in moving from the point of supply to the point of insertion.

16. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, means for supporting a box having sides and a bottom and end walls, and means for securing the said end walls in place, said means including a driving device of a character to extend and operate within the interior of said box, and to thereby drive the fastening devices outwardly through the said end walls, and the said machine comprising means whereby one of a number of fastening devices is automatically released and placed in readiness for delivery to the means for driving the fastening devices, and means for causing the said driving means to swing down and forward and then up in moving from the point of supply to the point of insertion.

17. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, a rest for the materials to be fastened together, and mechanism for inserting the fastening devices upwardly through the said materials while the latter are suitably held upon said rest, the said machine comprising suitable means whereby a number of ready-made fastening devices are released one by one, and whereby each released fastening device is subsequently delivered to the mechanism for driving the fastening devices, the said driving mechanism pivoted to swing about an axis located in a horizontal plane below the point of insertion, and midway between the point of supply and the point of insertion of the fastening devices.

18. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, means for holding the work, and means for inserting the fastening devices upwardly through the work, together with an upper device for holding the work down while the fastening devices are being driven, and the said machine comprising suitable means whereby a number of ready-made fastening devices are released one by one, and whereby each released fastening device is subsequently delivered to the means for driving the fastening devices, the said driving means pivoted to swing about an axis located in a horizontal plane below the point of insertion, and midway between the point of supply and the point of insertion of the fastening devices.

19. A machine for inserting fastening devices, comprising operative means for supplying fastening devices a rest for the materials to be fastened together, an upper device for holding the materials down upon said rest while the fastening devices are being inserted, and a driving device adapted and operative to move down and pick up a fastening device and then move back and drive the same upwardly and into the materials supported upon the said rest, the said machine comprising suitable means whereby a number of ready-made fastening devices are released one by one, and whereby each released fastening device is subsequently delivered to the means for driving the fastening devices, the said driving means pivoted to swing about an axis located in a horizontal plane below the point of insertion, and midway between the point of supply and the point of insertion of the fastening devices.

20. A machine for inserting fastening devices, comprising a rest for the materials to be fastened together, a clamping-arm adapted to bear down upon the materials and hold the same in place upon the said rest, staple feeding and delivering mechanism, a staple-driving device, together with means for causing said staple-driving device to pick up a staple from the staple-feeding mechanism and then drive the same upwardly through the materials supported or held upon said rest, the said machine comprising suitable means whereby a number of ready-made fastening devices are released one by one, and whereby each released fastening device is subsequently delivered to the means for driving the fastening devices, the said driving means pivoted to swing about an axis located in a horizontal plane below the point of insertion, and midway between the point of supply and the point of insertion of the fastening devices.

21. A machine for inserting fastening devices, comprising a rest for the materials to be fastened together, means for holding the materials down upon the said rest, staple feeding and delivering mechanism, a staple-driving device, a swinging arm upon which the said staple-driving device is mounted, and means for operating the said elements and causing the said staple-driving device to receive a staple from the said mechanism and carry the same around and drive it upwardly through the materials supported upon the said rest, the said machine comprising suitable means whereby a number of ready-made fastening devices are released one by one, and whereby each released fastening device is subsequently delivered to the means for driving the fastening devices, the said driving means pivoted to swing about an axis located in a horizontal plane below the point of insertion, and midway between the point of supply and the point of insertion of the fastening devices.

22. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, an arm upon which the materials can be placed, means for holding the materials down in place upon said arm, and a staple-driver adapted and operative to drive staples upwardly through the said materials at a point at or adjacent to the end of said arm, and the said machine comprising suitable means whereby a number of ready-made staples are released one by one, and whereby each released staple is subsequently delivered to the means for driving the staples, the said driving means pivoted to swing about an axis located in a horizontal plane below the point of insertion, and midway between the point of supply and the point of insertion of the fastening devices.

23. A machine for inserting fastening devices, comprising operative means for supplying fastening devices, a horizontally-disposed and laterally-projecting arm having an end portion whereon a box or receptacle may be manipulated for the purpose of securing its parts together, a clamping device for bearing down upon the said box and holding the same against movement during the driving of the fastening devices, and a driving device adapted to work within the interior of the said box or package, and adapted to drive fastening devices upwardly at a point at or near the end of said arm, the said machine comprising suitable means whereby a number of ready-made fastening devices are released one by one, and whereby each released fastening device is subsequently delivered to the means for driving the fastening devices, the said driving means pivoted to swing about an axis located in a horizontal plane below the point of insertion, and midway between the point of supply and the point of insertion of the fastening devices.

24. A machine for inserting fastening devices, comprising operative means for supplying fastening devices means for supporting a box having sides and a bottom and end walls, and means for securing the said end adapted to be inserted within the box-walls in place, said means including a driving device of a character to extend and operate within the interior of said box, and to thereby drive the fastening devices outwardly through the said end walls, and the said machine comprising suitable means whereby a number of ready-made fastening devices are released one by one, and whereby each released fastening device is subsequently delivered to the means for driving the fastening devices, the said driving means pivoted to swing about an axis located in a horizontal plane below the point of insertion, and midway between the point of supply and the point of insertion of the fastening devices.

25. A machine for inserting fastening devices, comprising a rest for the materials to be fastened together, and devices for inserting the fastening devices upwardly through the said materials while the latter are suitably held upon said rest, the said machine comprising means whereby ready-made staples are released one by one, and driving means including a staple-guide for picking up a released staple and carrying it to the position necessary for driving, a staple-driver adapted to slide in the staple-

guide after the latter strikes the work, and actuating mechanism operative to totally disconnect the staple guide and driver from the staple feeding or supplying means each time a staple is driven.

26. A machine for inserting fastening devices, comprising means for holding the work, and means for inserting the fastening devices upwardly through the work, together with an upper device for holding the work down while the fastening devices are being driven, the said machine comprising means whereby ready-made staples are released one by one, and the driving means including a staple-guide for picking up a released staple and carrying it to the position necessary for driving, a staple-driver adapted to slide in the staple-guide after the latter strikes the work, and actuating mechanism operative to totally disconnect the staple guide and driver from the staple feeding or supplying means each time a staple is driven.

27. A machine for inserting fastening devices, comprising a rest for the materials to be fastened together, an upper device for holding the materials down upon said rest while the fastening devices are being inserted, and a driving device adapted and operative to move down and pick up a fastening device and then move back and drive the same upwardly and into the materials supported upon the said rest, the said machine comprising means whereby ready-made staples are released one by one, and the driving means including a staple-guide for picking up a released staple and carrying it to the position necessary for driving, a staple-driver adapted to slide in the staple-guide after the latter strikes the work, and actuating mechanism operative to totally disconnect the staple guide and driver from the staple feeding or supplying means each time a staple is driven.

28. A machine for inserting fastening devices, comprising a rest for the materials to be fastened together, a clamping-arm adapted to bear down upon the materials and hold the same in place upon the said rest, staple feeding and delivering mechanism, a staple-driving device, together with means for causing said staple-driving device to pick up a staple from the staple-feeding mechanism and then drive the same upwardly through the materials supported or held upon said rest, the said machine comprising means whereby ready-made staples are released one by one, and the driving means including a staple-guide for picking up a released staple and carrying it to the position necessary for driving, a staple-driver adapted to slide in the staple-guide after the latter strikes the work, and actuating mechanism operative to totally disconnect the staple guide and driver from the staple feeding or supplying means each time a staple is driven.

29. A machine for inserting fastening devices, comprising a rest for the materials to be fastened together, means for holding the materials down upon the said rest, staple feeding and delivering mechanism, a staple-driving device, a swinging arm upon which the said staple-driving device is mounted, and means for operating the said elements and causing the said staple-driving device to receive a staple from the said mechanism and carry the same around and driving it upwardly through the materials supported upon the said rest, the said machine comprising means whereby ready-made staples are released one by one, and the driving means including a staple-guide for picking up a released staple and carrying it to the position necessary for driving, a staple-driver adapted to slide in the staple-guide after the latter strikes the work, and actuating mechanism operative to totally disconnect the staple guide and driver from the staple feeding or supplying means each time a staple is driven.

30. A machine for inserting fastening devices, comprising an arm upon which the materials can be placed, means for holding the materials down in place upon said arm, and a staple-driver adapted and operative to drive staples upwardly through the said materials at a point at or adjacent to the end of said arm, the said machine comprising means whereby ready-made staples are released one by one, and the driving means including a staple-guide for picking up a released staple and carrying it to the position necessary for driving, a staple-driver adapted to slide in the staple-guide after the latter strikes the work, and actuating mechanism operative to totally disconnect the staple guide and driver from the staple feeding or supplying means each time a staple is driven.

31. A machine for inserting fastening devices, comprising a horizontally-disposed and laterally-projecting arm having an end portion whereon a box or receptacle may be manipulated for the purpose of securing its parts together, a clamping device for bearing down upon the said box and holding the same against movement during the driving of the fastening devices, and a driving device adapted to work within the interior of the said box or package, and adapted to drive fastening devices upwardly at a point at or near the end of said arm, the said machine comprising means whereby ready-made staples are released one by one, and the driving means including a staple-guide for picking up a released staple and carrying it to the position necessary for driving, a staple-driver adapted to slide in the staple-guide after the latter strikes the work, and actuating mechanism operative to totally disconnect the staple guide and driver from the staple feeding or supplying means each time a staple is driven.

32. A machine for inserting fastening devices, comprising means for supporting a box having sides and a bottom and end walls, and means for securing the said end walls in place, said means including a driving device of a character to extend and operate within the interior of said box, and to thereby drive the fastening devices outwardly through the said end walls, the said machine comprising means whereby ready-made staples are released one by one, and the driving means including a staple-guide for picking up a released staple and carrying it to the position necessary for driving, a staple-driver adapted to slide in the staple-guide after the latter strikes the work, and actuating mechanism operative to totally disconnect the staple guide and driver from the staple feeding or supplying means each time a staple is driven.

33. In a machine of the character described, the combination of an upwardly-swinging hammer for driving fastening devices upwardly, and operative means for feeding or supplying the fastening devices to said hammer.

34. In a machine of the character described, a staple-driver mounted to vibrate between widely-disassociated points of supply and insertion, operative means for feeding or supplying staples to the said driver, means for entirely disconnecting the driver from the said feeding or supplying means and moving it to the point of insertion, in a curve path of back-and-forth travel, and a stationary guide, both the guide and the fastener-driver adapted to enter the interior of a box, substantially as and for the purpose set forth.

35. In a machine of the character described, the combination of means for suitably supplying fastening devices, and a driving device, operating means for entirely disconnecting the driving device from the said feeding or supplying means, and a stationary guide, both the guide and the fastener-driver adapted to enter the interior of a box, substantially as and for the purpose set forth.

36. In a machine for securing the ends of boxes in place, the combination of a combined support and guide adapted to project into the box to support the same and engage the side walls thereof, a clamp for holding the box, operative means for supplying fasteners and a fastener-driver adapted to enter the box, said guide adapted to permit lateral shift of the box thereon.

37. In a machine for securing the ends of boxes in place, the combination of a guide adapted to project into the box and engage the side walls thereof, operative means for supplying fasteners, and a fastener-driver also adapted to reach into the box, said guide adapted to permit lateral shift of the box thereon.

38. In a machine of the class specified, a guide, a fastener-driver adapted to swing down and forward and up, operative means for supplying fasteners, and means for so operating the driver, said guide adapted to permit lateral shift of the box thereon.

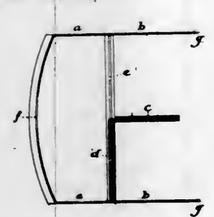
39. In a machine of the class specified, a horizontal guide-arm adapted to project into a box and engage the side walls thereof, operative means for supplying fasteners, and a swinging fastener-driver adapted to reach into the box, said guide adapted to permit lateral shift of the box thereon.

40. In a box-heading machine, the combination of a guide adapted to project into the box to engage the side walls thereof, a clamp to hold the box in place, operative means for supplying fasteners and a swinging stapler adapted to reach into the box, said guide adapted to permit lateral shift of the box thereon.

41. In a box-heading machine, the combination of a guide adapted to project into the box to engage the sides thereof, means for holding the box in place, means for supplying staples and a swinging staple carrier and driver adapted to reach into the box, said guide adapted to permit lateral shift of the box thereon.

42. A box-heading machine provided with guiding means adapted to reach into the box and engage the sides thereof, operative means for supplying fasteners and fastener-driving means also adapted to reach into the box, whereby the fasteners are driven outwardly from within the box, said guide adapted to permit lateral shift of the box thereon.

840,704. PASSENGER-CAR. ROBERT H. MOORE and MARGUERITE E. MOORE, New York, N. Y. Filed Apr. 19, 1906. Serial No. 312,733.



Claim.—1. The combination, on a passenger-car, of an additional doorway or passage, to the doorway or passage now in use on both sides of either end of a passenger-car, with a movable and a stationary partition communicating with the said doorways or passages, all substantially as set forth.

2. In a passenger-car, the combination of an additional doorway or passage to the doorway or passage now in use on both sides of either end of passenger-car, with a movable partition communicating with the said doorways or passages, and vertically adjusted on said track or groove, and capable of moving from one end of track or groove, to the other end of same.

3. The combination of a track or groove, with a movable and a stationary partition, in conjunction with the two doorways or passages on both sides of either end of car, adapted for the purpose all substantially as set forth.

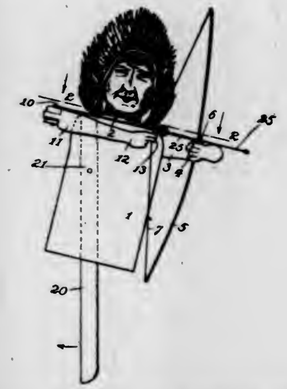
840,705. AMUSEMENT DEVICE. LEON MORAN, Plainfield, N. J. Filed Aug. 21, 1906. Serial No. 331,544.

Claim.—1. A manikin having an arm movable at shoulder and elbow and means for first manually moving said arm at the shoulder, in combination with means for secondly automatically moving the forearm at the elbow at a given time.

2. A manikin having an arm movable at shoulder and elbow and means for manually moving said arm at shoulder, in combination with means for automatically at a given time changing the direction of motion of the forearm.

3. A manikin having an arm movable at shoulder and elbow and means for first manually moving said arm at the shoulder, in combination with means for secondly automatically moving the forearm at the elbow at a given time, and a resilient controlling means exterior to such arm adapted to in part guide the forearm during its first movement.

4. A manikin having an arm movable at shoulder and elbow and means for first manually moving said arm at the shoulder, in combination with means for secondly automatically moving the forearm at the elbow at a given time, and a resilient controlling means exterior to such arm adapted to in part guide the forearm during its first movement, and automatic means for releasing said resilient means after the second movement of the arm.



5. A manikin having an arm movable at shoulder and elbow and means for first manually moving said arm at the shoulder, in combination with means for secondly automatically moving the forearm at the elbow at a given time, and a resilient controlling means exterior to such arm adapted to in part guide the forearm during its first movement, and automatic means for releasing said resilient means after the second movement of the arm, and means for permitting said forearm to fly back when released.

6. A manikin having an arm movable at shoulder and elbow and means for first manually moving said arm at the shoulder, in combination with means for secondly automatically moving the forearm at the elbow at a given time, and a resilient controlling means exterior to such arm adapted to in part guide the forearm during its first movement, said exterior means comprising a rigid arm and a bow and bow-string.

7. A manikin having an arm movable at shoulder and elbow and means for first manually moving said arm at the shoulder, in combination with means for secondly automatically moving the forearm at the elbow at a given time, and a resilient controlling means exterior to such arm adapted to in part guide the forearm during its first movement, and automatic means for releasing said resilient means after the second movement, said exterior means comprising a rigid arm and a bow and bow-string.

8. A manikin having an arm movable at shoulder and elbow and means for first manually moving said arm at the shoulder, in combination with means for secondly automatically moving the forearm at the elbow at a given time, and means for turning the head simultaneously with the arm movement.

9. A manikin comprising a trunk, an arm holding a bow, an arm pivoted at the shoulder, a pivoted forearm, means to move the arm from the shoulder and means to automatically move the forearm at a given time on the shoulder-pivot as a center.

10. A manikin comprising arms, a bow held by one arm, a hand adapted to grasp the bow-string, an arrow adapted to be drawn and released by said manikin, said bow-string being adapted to pivot on the shoulder of the manikin and means for moving the forearm thereof in addition to the movement of the entire arm member.

11. A manikin comprising arms, a bow held by one arm, a hand adapted to grasp the bow-string, an arrow adapted to be drawn and released by said manikin, said bow-string being adapted to pivot on the shoulder of the manikin and means for moving the forearm thereof in addition to the movement of the entire arm member, in combination with a pivoted head operatively connected with said arm.

840,706. SOFT-TREAD HORSESHOE. HENRY PAAR, Canton, Ohio. Filed Nov. 13, 1906. Serial No. 343,178.

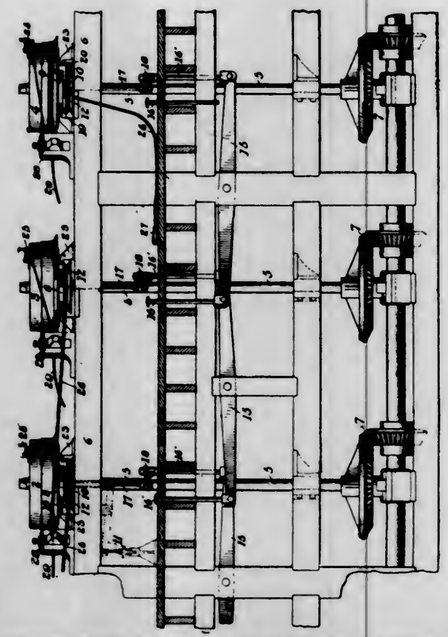


Claim.—1. In a soft-tread horseshoe the combination of a shoe provided with cushion-holding sockets, cushions located therein said cushions provided with sockets, plates secured to the cushions and separated from each other, strips of canvas secured to the cushions upon opposite sides of the plates, rivets or nuts provided with retaining-heads and the retaining-heads adapted to engage the plates, substantially as and for the purpose specified.

2. In a horseshoe of the class described the combination of a shoe cushions connected thereto, said cushions provided with plates having recesses upon their outer edges and their inner edges and rivets or studs provided with beveled heads and sockets formed in the cushions adapted to receive the beveled heads and strips of canvas connected to the cushions at their outer edges, substantially as and for the purpose specified.

3. In a horseshoe of the class described, the combination of a shoe, provided with pad-holding sockets, studs provided with beveled heads, pads located in the sockets, pad-retaining elements secured to the pads and adapted for engagement with the pad-holding elements, substantially as and for the purpose specified.

840,707. WIRE-DRAWING APPARATUS. GEORGE A. PAFF, Sharon, Pa., assignor to The American Steel & Wire Company, Worcester, Mass., a Corporation of New Jersey. Filed Nov. 3, 1905. Serial No. 285,678.



Claim.—1. In wire-drawing apparatus, the combination with a drawing-block having a clutch member, of a sheave loosely mounted on the same shaft with the drawing-block and adapted to be moved into and out of engagement with such clutch member, and a wire-gripping device attached to the sheave; substantially as described.

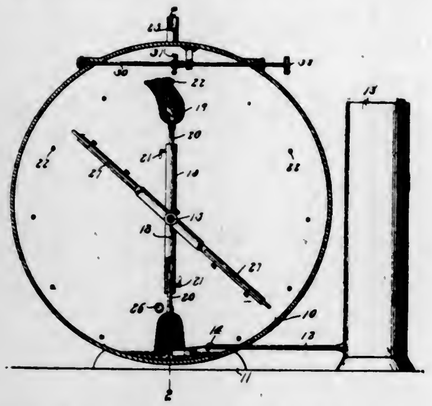
2. In wire-drawing apparatus, the combination with a drawing-block having a clutch member, of a wire-drawing sheave loosely mounted on the same shaft with the drawing-block and means for moving such sheave into driving engagement with the clutch member, and means for disengaging the sheave from the clutch member after substantially a complete revolution of the sheave; substantially as described.

3. In wire-drawing apparatus, the combination with a drawing-block, a wire-drawing sheave loosely mounted on the same shaft with the drawing-block and means for effecting a rotating engagement between the sheave and block, and means for automatically disengaging the sheave from the block; substantially as described.

4. In wire-drawing apparatus, the combination with a drawing-block, of a rotating loosely-mounted wire-drawing sheave loosely mounted on the same shaft with the drawing-block and actuating means for moving said sheave into and out of driving engagement with the block, and cam means for automatically effecting the disengagement of the sheave; substantially as described.

5. In wire-drawing apparatus, the combination of a drawing-block having a clutch member, a wire-drawing sheave mounted on said clutch member and adapted to be moved into and out of driving engagement therewith, means for effecting such engagement, said sheave having cams thereon, and relatively fixed means arranged to engage the cams to effect the disengagement of the sheave and clutch member at a predetermined time; substantially as described.

840,708. CARBURETER. ELIJAH D. PARROTT, Portland, Oreg. Filed Nov. 3, 1905. Serial No. 285,754.



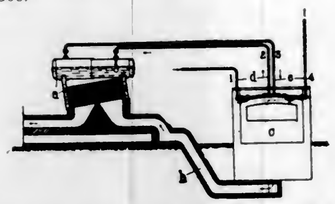
Claim.—1. In a carbureter, a casing arranged to contain a body of hydrocarbon, a shaft, an arm carried thereby, a spraying member adjustable on said arm, and a plurality of rigid bars disposed in the path of movement of said spraying member.

2. In a carbureter, a casing arranged to contain a body of liquid hydrocarbon, a movable shaft, hollow arms carried thereby, spraying members having stems arranged within said hollow arms, means for locking said stems in adjusted position, and a plurality of spaced bars carried by the casing and forming obstructions in the path of movement of the spraying devices.

3. In a carbureter, a casing having inlet and discharge ports and arranged to contain a body of hydrocarbon, a revoluble shaft, spraying members carried by the shaft, bars arranged in the path of movement of the spraying members, agitating-blades carried by the shaft, and an auxiliary fan arranged adjacent to the inlet-port and serving to direct a current of air around the interior of the casing.

4. In a cabureter, a casing having inlet and discharge ports and arranged to contain a body of hydrocarbon, a revoluble shaft, spraying members and agitating-blades both carried by said shaft, and means for engaging the spraying members during the rotative movement of the latter to effect the discharge of the hydrocarbon in the form of a spray.

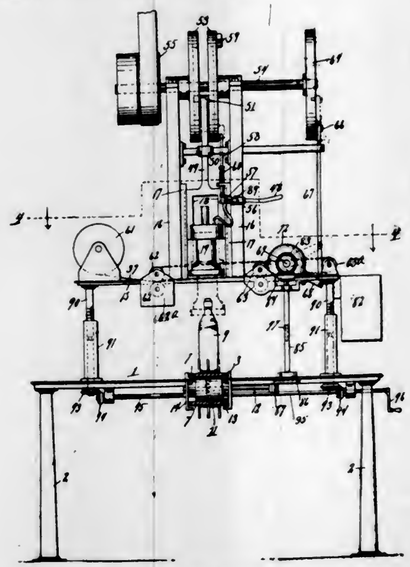
840,709. FLAME-FURNACE. ADOLF PFOSER, Achern-Baden, Germany. Filed Apr. 7, 1905. Serial No. 254,368.



Claim.—1. In flame-furnaces, in combination, the furnace proper, feed heating and superheating means in close proximity to said furnace, means inclosing said feed heating and superheating means and adapted to prevent escape of the heat radiating from said furnace, a steam-boiler arranged in the smoke-flue of said furnace, and means connecting said feed heating and superheating means with said boiler, all substantially as and for the purpose set forth.

2. In flame-furnaces, in combination, the furnace proper, feed heating and superheating means located in the walls of said furnace and entirely surrounded thereby, so as to receive the heat generated in the furnace-vault, a steam-boiler arranged in the smoke-flue of said furnace so as to receive the heat of the products of combustion, and means connecting said feed heating and superheating means with said boiler, as and for the purpose set forth.

840,710. MACHINE FOR APPLYING CAPSULES TO BOTTLES. ELIJAH W. POTTS, Detroit, Mich., assignor of one-fourth to John C. Metzner, Detroit, Mich. Filed Dec. 27, 1904. Serial No. 238,462.



Claim.—1. A machine for applying tin-foil capsules to bottles, comprising a reciprocatory compression-head adapted to receive the neck of a bottle, a flexible diaphragm within said head for compressing the capsule around the neck of the bottle, a pressure-chamber surrounding said diaphragm, a valve-controlled passage connecting said pressure-chamber with a source of fluid under pressure, and means for operating said valve to automatically open and close said port when said head is embracing the neck of the bottle.

2. A machine for applying foil capsules to bottles, comprising a compression-head adapted to move over and embrace the neck of a bottle, a flexible diaphragm adapted to surround the neck of the bottle within said head, a pressure-chamber around said diaphragm, means for admitting air to said chamber and discharging it therefrom while the neck of the bottle is within the compression-head and the reciprocatory plunger standing within the diaphragm and adapted to bear upon the cork of the bottle.

3. In a machine for applying capsules to bottles, the combination with the reciprocatory compression-head having a socket to receive the neck of the bottle and compress the capsules thereon, means for automatically placing the capsules on the necks of the bottles preparatory to their entrance into said head, means for operating said head to cause it to embrace the necks of the bottles and withdraw therefrom, and means for presenting the bottles successively to said head.

4. A machine for applying foil capsules to the necks of bottles, comprising a compression-head having a socket to receive the necks of the bottles and compress the capsules thereon, means for cutting the capsules and placing them upon the necks of the bottles in advance of the compressing operation, means for causing the capsules to forcibly conform to the necks of the bottles when embraced by said head and means for automatically presenting the bottles to and removing them from said head.

5. A machine for applying foil capsules to the necks of bottles, comprising a vertically-reciprocatory compression-head, a flexible diaphragm in said head adapted to embrace the necks of the bottles, a compression-chamber around said diaphragm, means for admitting fluid under pressure to said chamber, and exhausting it therefrom, a carrier movable under said head, said carrier having bottle-stands adapted to present the bottles successively in the path of said reciprocatory head, means for reciprocating said head and imparting an intermittent movement to said carrier.

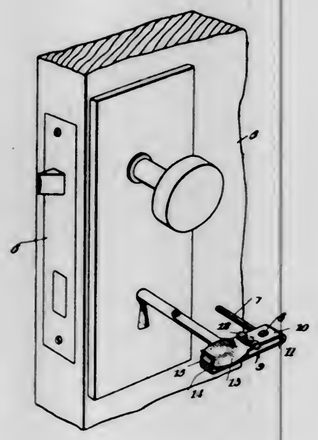
6. A machine for applying foil capsules to the necks of bottles, comprising a reciprocatory compression-head adapted by its movement to descend over the necks of the bottles in succession and rise therefrom, means for applying the capsules to the necks of the bottles in advance of the descent of said head, feed-rollers for feeding the foil from which the capsules are cut, means for actuating said rollers intermittently, a horizontal conveyer carrying stands adapted to receive the bottles, said conveyer being movable to present the bottles successively in the path of the reciprocatory head and means for imparting an intermittent movement to said conveyer.

840,711. KEY-FASTENER. ALBERT H. PUTTCAMP and LEAMON H. JUDSON, Los Angeles, Cal. Filed Sept. 13, 1905. Serial No. 278,342.

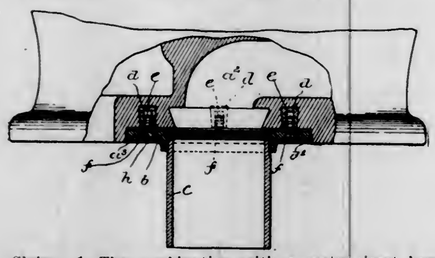
Claim.—1. The improved key-fastener provided with means for attachment to a door; a plate bent to form an upper and lower member loosely secured to said attaching means; a hinged catch pivotally secured to said upper member, the lower member being turned upwardly at its outer end to form a spring-catch having a shoulder adapted to receive the swinging catch of the upper member; and a key-engaging pin secured to said lower member.

2. In a device of the character herein described comprising a threaded stud bent at right angles at its outer end and having a head, adapted to be secured to a door; a fastener loosely mounted on said stud, said fastener bent to form an upper and lower member, the upper member provided with a hinged catch adapted to be pressed into engagement with a shoulder on the spring-catch formed on the outer end of the lower member; a key-engaging pin secured to said lower member.

840,711.



840,712. FLOOR CONNECTION FOR WATER-CLOSETS. CHARLES H. ROLLINS, Watertown, Mass., assignor of one-half to Edgar W. Anthony, Brookline, Mass. Filed Apr. 30, 1904. Serial No. 205,823.



Claim.—1. The combination with a water-closet bowl having an outlet, and an imperforate base with a recess around the said outlet and with a plurality of sockets converging toward their mouths, of metallic plugs in the said sockets, a ring member arranged beneath the plugs in the said recess, a pipe-section connected to the said ring member and arranged to register with the said outlet, and fastening devices passed through said ring member into the said metallic plugs, said fastening devices being located above the under surface of and being concealed by the said closet-base.

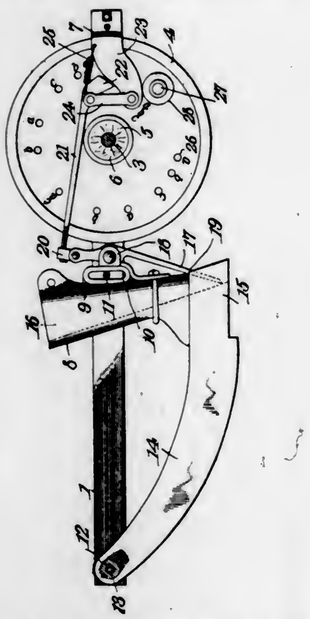
2. The combination with a water-closet having an outlet and an imperforate base with an upwardly-extending recess encircling the outlet and with a plurality of undercut sockets around the outlet, of metallic plugs in said sockets, a ring member in the said recess, and screws passed upward through said ring member into the said plugs to secure the said ring member thereto.

3. The combination with a porcelain water-closet having an imperforate base with a recess extending upward therein and a pipe-section, of means for positively connecting the said pipe-section to the said closet, said means being entirely concealed within said base and consisting of a ring member located within said recess, metallic plugs embedded in undercut sockets in the closet-base, and fastening members passed upward through the said ring member into the said plugs.

4. The combination with a water-closet having an imperforate base with undercut sockets surrounding the outlet, of a ring member, interiorly-threaded nipples externally corrugated and located entirely within said sockets, a metallic filling for locking the said nipples in the said sockets, and screws passed through the said ring into the said nipples for rigidly connecting the said ring to the base of the said closet, substantially as described.

5. The combination with a water-closet having an imperforate base with a recess and with undercut sockets around the outlet, of a ring member placed in said recess, internally-threaded devices in said undercut sockets, and screws passed upward through said ring member into said devices for securing said ring member to said closet-base, said screws and internally-threaded devices being concealed below the upper surface of the closet-base and being located above the bottom plane of said closet-base.

840,713. BEET-SEEDER. GEORGE H. D. ROSS, La Junta, Colo., assignor of one-half to David Garber, La Junta, Colo. Filed Aug. 7, 1906. Serial No. 329,587.



Claim.—1. A seeder consisting of a tube having an opening extending therethrough and terminating at its heel, a furrow-opener attached to said tube, a lever fulcrumed to the tube and having a valve which normally lies over the lower end of the opening thereof, presser-wheels following the tube, a rod attached at its forward end to said lever, a spring attached to the said rod and having a tendency to maintain the same in a rearward position, and a pin carried by a presser-wheel and adapted to trip said rod to operate said lever-valve and frame members connecting the parts together in proper relation.

2. A seeder consisting of a tube, means for adjusting the vertical position of said tube, said tube having an opening extending therethrough and terminating at its heel, an opener attached to said tube, a lever fulcrumed to said tube and having a valve which normally lies over the opening in the tube, a rod attached at its forward end to said lever, a spring engaging said rod and having a tendency to maintain the same in a rearward position, presser-wheels located behind the tube, a pin carried by said presser-wheel and adapted to engage said rod to move the same longitudinally in a forward direction, and suitable frame members for retaining the part in proper position with relation to each other.

3. A seeder consisting of a tube having an opening extending therethrough and terminating at the heel thereof, a furrow-opener attached to the lower end of said tube and having bifurcations which pass along the side of the tube and terminate at the heel thereof, a lever fulcrumed to the tube and having at its lower end a valve which normally lies between said bifurcations and closes the lower end of the tube-opening, a rod attached to the upper end of said lever, a spring engaging said rod and having a tendency to maintain the same in a rearward position, presser-wheels located behind the tube, a pin carried by one of said presser-wheels and adapted to engage said rod to move the same longitudinally in a forward direction, and frame members for retaining the parts in proper position with relation to each other.

4. A seeder consisting of a tube, an opener attached to the lower end of said tube, said tube having an opening extending therethrough and terminating at the heel thereof, a lever fulcrumed to said tube and having at its end a valve which normally closes the tube-opening, a knuckle-joint pivoted to the upper end of said lever, a rod screw-threaded in said joint, a spring attached to said rod and retaining the same normally in a rearward position, presser-wheels located behind the tube, a pin carried by one of the wheels and adapted to engage said rod to move the same longitudinally in a forward direction, and frame members for retaining the parts in proper positions with relation to each other.

5. A seeder consisting of a tube, an opener attached to the lower end of said tube, the said tube having an opening extending therethrough and terminating at the heel thereof, a lever fulcrumed to the tube and having a valved end which normally closes the tube-opening, a rod attached to said lever, a spring connected to said rod and normally maintaining the same in a forward position, a trip located at the rear end of said rod, presser-wheels located behind the tube, a trip attached to the rear end of said rod, a pin carried by the presser-wheel and adapted to engage the trip to move the rod longitudinally in a forward direction, and frame members for retaining the parts in proper positions with relation to each other.

6. In combination with a frame, wheels supporting the same, a vertically-adjustable tube having a projection provided with a vertically-disposed elongated opening, a pin extending through said opening and being located at its ends in the frame, said tube having an opening, and a valve-lever suitably operated by the wheels and normally closing the opening of said tube.

7. The combination with a frame, wheels supporting the same, a vertically-adjustable tube attached to the frame, said tube having an opening located therein which terminates at the heel thereof, lugs attached to said tube and a lever fulcrumed to said lugs and normally closing the tube-opening, and operating means between the wheels of said lever.

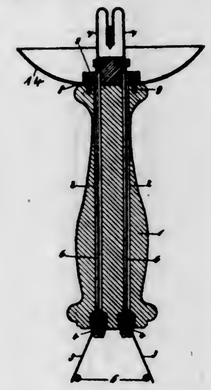
8. In combination with a frame, a tube attached thereto, said tube having an outlet, a valve normally closing said outlet, wheels journaled to the frame, and having at their hubs clutch members which engage each other, and means connecting said valve and operated by the wheels for opening the valve at intervals.

9. In combination with a frame, a tube having an outlet, a valve controlling said outlet, wheels journaled to the frame, said wheels having at their hubs clutch members which intermesh with each other, one of said wheels having means for operating said valve.

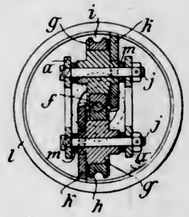
10. In combination with a frame, a tube located thereon and having an outlet, a valve normally closing said outlet, wheels journaled to the frame, one of said wheels having a number of perforations spaced apart at predetermined intervals, pins adapted to be placed in said perforations, and means connected with the valve and adapted to be operated by said pins for unseating the valve.

840,714. TOOL FOR TESTING THE CURRENT IN ELECTRIC WIRES. ALFRED SCHEIBLER, Aarau, Switzerland. Filed Oct. 3, 1906. Serial No. 337,296.

Claim.—A tool for testing electrical wires, comprising in combination the insulating-handle 1 with rods 6 therein, connected at one end to spring-plates carrying fuses 7 and having at the other end projections 3 adapted to be placed on the electric wires, substantially as described and shown and for the purpose set forth.



840,715. APPARATUS FOR COVERING CABLES, RODS, TUBES, AND THE LIKE. PAUL SCHMIDT, Vienna, Austria-Hungary, assignor to The Firm of Electr. Isolir- und Installitionsartikelerzeugung, Ingre. Schott & Schildorfer, Vienna, Austria-Hungary. Filed Feb. 9, 1905. Serial No. 244,894.



Claim.—In an apparatus for covering cables, rods, tubes and the like, the combination with a rotatable frame, of rollers adapted to revolve therewith and to rotate around their individual axes, endless bands placed over said rollers and formed with grooves adapted to grip the article to be covered, and means arranged independently of said frame, adapted to rotate the said rollers while revolving with the frame around their axes, thereby rotating the cable and simultaneously advancing the same.

840,716. APPARATUS FOR SHAPING THE ENDS OF BILLIARD-CUES. FREDERICK W. SCHROEDER, London, England. Filed Nov. 2, 1905. Serial No. 285,529.

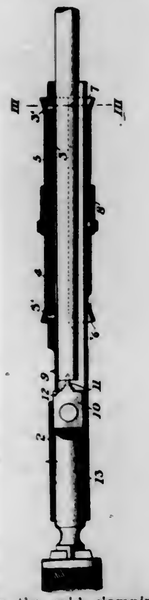
Claim.—1. In a cue-finishing device, a tubular support having longitudinal inner flat springs with projecting pins at each end, a pair of sleeves arranged to act upon the pins, and means for simultaneously forcing the sleeves apart; substantially as described.

2. In apparatus of the character described, two sets of radially-movable clamping devices, two oppositely-movable sleeves actuating said devices, and a screw device between the sleeves arranged to force them simultaneously in opposite directions with substantially equal pressure; substantially as described.

3. An apparatus for finishing billiard-cues comprising in one structure a tubular tool-guide adapted to receive interchangeable tools, and a tubular support in alinement with said guide having internal longitudinal clamping-bars, a pair of external sleeves coöperating with said bars, and means operating to displace the said sleeve longitudinally relative to each other; substantially as described.

4. In apparatus of the character herein described a combined tool-guide and self-centering cue-grip comprising a cy-

lindrical tube adapted to receive the tool at one end and the end of the cue at the other, a plurality of clamping-bars within the cue end of the said tube, holes in the cue end of



the tube and pins in the said clamping-bars projecting through the said holes, said pins having beveled heads, a pair of sleeves surrounding the tube and having flared ends adapted to coöperate with the beveled heads of the clamping-bar pins, and means for moving the said sleeve relatively to each other in an axial direction, substantially as described.

840,717. PROTECTIVE DEVICE. MACK SCHULTZ, Buffalo, N. Y. Filed Feb. 3, 1905. Serial No. 244,059.



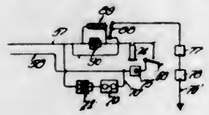
Claim.—1. A bunion-protector, comprising a tip or pocket closed at its front end and adapted to receive the front portion of the foot, a shield secured within the tip at one side thereof, and spaced pads attached to the inner side of said shield in front and in rear of the portion thereof opposite the bunion, substantially as set forth.

2. A bunion-protector, comprising a tip or pocket closed at its front end and adapted to receive the front portion of the foot, a shield secured within the tip at one side thereof and provided within the tip with an opening arranged to receive the bunion, and pads attached to the inner side of the shield on opposite sides of said opening, substantially as set forth.

3. A protector of the character described, comprising a tip, a cushioned shield arranged within the tip at one side thereof, and means for uniting said members located near the upper and lower edges of the shield, substantially as set forth.

840,718. VISUAL RECORDER FOR TELEPHONE SYSTEMS. RICHARD W. SHOEMAKER, Pasadena, Cal., assignor of fifty-five one-hundredths to Reginald H. Shoemaker, Jr., Pasadena, Cal. Filed Feb. 13, 1905. Serial No. 245,381.

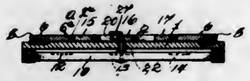
Claim.—1. The combination with a telephone-system line, subscriber's telephone apparatus connected therein, a call-bell having a connection to the line, open-circuited to direct current but responsive to alternating current, the subscriber's station having a switch normally open-circuiting the telephone connection to line, a character-printing mechanism and electromagnetic controlling means therefor and an operating connection for said controlling means having a normally closed connection to the line.



2. The combination with a telephone-system line, subscriber's telephone apparatus connected therein, a call-bell having a connection to the line, open-circuited to direct current but responsive to alternating current, the subscriber's station having a switch normally open-circuiting the telephone connection to line, a character-printing mechanism and electromagnetic controlling means therefor and an operating connection for said controlling means having a normally closed connection to the line, and means controlled by the aforesaid switch to open the operating connection for the printing mechanism when the telephone connection is closed.

3. The combination with a telephone-system line, subscriber's telephone apparatus connected therein, a call-bell having a connection to the line, open-circuited to direct current but responsive to alternating current, the subscriber's station having a switch normally open-circuiting the telephone connection line, a character-printing mechanism and electromagnetic controlling means therefor and an operating connection for said controlling means having a normally closed connection to the line, a relay in the telephone-line, connected to control the printing-mechanism circuit, and a connection shunting said relay.

840,719. FOLDABLE COUNTER. SAMUEL SODA, New York, N. Y., assignor, by direct and mesne assignments, to himself and Alfred Hutter, copartners in business as Indispensable Counter Company, New York, N. Y., a Firm. Filed Aug. 13, 1906. Serial No. 330,310.



Claim.—1. A foldable counter or table, comprising a top shelf, foldable end members hinged thereto, a detachable lower shelf having beveled side edges carried by said end members, said top shelf being provided with foldable rack-boards at the sides thereof, said rack-boards having beveled top edges, the beveled edges of said detachable shelf being adapted to overlap the beveled edges of said rack-boards when said table is folded, and a locking device to secure said detachable shelf to the top shelf of said counter or table when said counter or table is folded.

2. A foldable counter or table comprising a top shelf having a plurality of openings therein, foldable rack-boards pivotally connected to said top shelf, end members pivotally attached to said top shelf, a lower shelf detachably secured to said end members provided with a plurality of openings adapted to aline with the openings in said top shelf, a locking device carried by said end members adapted to pass through the openings in said top shelf and said lower shelf, and lock same when said table is folded and said openings are in alinement.

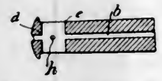
3. A foldable counter or table, comprising a top shelf having a plurality of openings therein, foldable rack-boards, having beveled top edges, pivotally attached to said top shelf, foldable end members pivotally attached to said top shelf, a detachable lower shelf, carried by said end members, provided with a plurality of openings adapted to aline with the openings in said top shelf, said lower shelf having beveled side edges, a locking device carried by said end members adapted to pass through the said

openings in the top and lower shelf and lock said shelves together when said table or counter is folded and said openings are in alinement, the beveled edges of said lower shelf being adapted to overlap the beveled edges of said rack-boards to prevent said rack-boards from opening.

4. A foldable counter or table, comprising a top shelf having a plurality of openings therein, foldable rack-boards carried thereby, foldable end members pivotally attached to said top shelf, a lower shelf detachably secured to said end members provided with a plurality of openings adapted to aline with the openings in said top shelf, pivotal locking means carried by said end members adapted to pass through the openings in said top and lower shelves when said table is folded, and means carried by said top shelf adapted to hold said rack-boards closed, independently of said locking means.

5. A foldable counter or table, comprising a top shelf provided with a plurality of openings, foldable end members pivotally attached thereto, a cross-brace, carried by said end members, provided with a plurality of recesses, a lower shelf comprising a plurality of slats adapted to enter said recesses, whereby said end members are braced, said lower shelf being provided with a plurality of openings adapted to aline with the openings in said top shelf, pivotal locking-pins carried by said end members adapted to pass through the openings in said shelves when said table is folded, and means independent of said locking-pins adapted to hold said rack-boards closed.

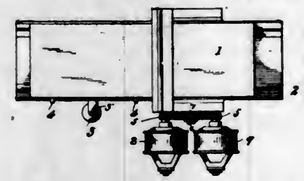
840,720. ANTINICOTIN-MOUTHPIECE. JEAN SOUHEUR, Antwerp, Belgium. Filed Nov. 13, 1906. Serial No. 287,158.



Claim.—1. An antinicotin-mouthpiece having a bore intersected at right angles by a second bore of greater width, said intersection of bores forming a wall *d e f* having an angle at *e* adapted to arrest the flow of saliva, substantially a set forth.

2. An antinicotin-mouthpiece having a bore intersected at right angles by a bore of greater width, and intersected by a third bore at right angles to said first and second bores, said intersection of bores forming a wall *d j* and a wall *k e f* having an angle at *e* adapted to arrest the flow of saliva, substantially as set forth.

840,721. VARIABLE-SPEED DRIVING. VICTOR O. STROBEL and ARTHUR E. HOGREBE, Philadelphia, Pa., assignors to Niles-Bement-Pond Company, Jersey City, N. J. Filed Jan. 20, 1905. Serial No. 241,965.



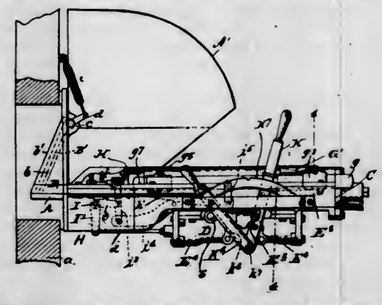
Claim.—1. In mechanism for variable-speed driving, a driven member, two electric machines connected therewith, and means for connecting said machines with a source of electrical power as motors and for connecting one of said machines with such source as a generator and the other as a motor.

2. In mechanism for variable-speed driving, a driven member, two electric machines constantly connected therewith, and means for connecting said machines with a source of electrical power as motors and for connecting one of said machines with such source as a generator and the other as a motor.

3. In mechanism for variable-speed driving, a driven member, two electric machines mechanically connected together and with said driven member, and means for successively connecting both of said machines with a source of electrical power as motors in series, in parallel, and for connecting one of said machines with such source as a motor and the other as a generator impelled by the first machine to act as a booster.

4. In mechanism for variable-speed driving, a driven member, two electric machines mechanically connected together and to said member, and means for successively placing said machines in series and in parallel as motors and for then connecting one of the machines as a motor and the other as a generator, and for varying the field resistance of said machines in any of these connections.

840,722. MECHANICAL STOKER. WILLIAM H. STROUSE, Oskaloosa, Iowa, assignor to W. H. Strouse Manufacturing Company, Oskaloosa, Iowa, a Corporation of Iowa. Filed Sept. 16, 1905. Serial No. 278,753.



Claim.—1. In a mechanical stoker, the combination with a reciprocatory plunger located above the level of the bottom of the fire-box and having a fuel-projecting nose on its forward end, of a plunger-operating mechanism embodying a hand-lever-controlled means for varying the extent of the forward stroke of the plunger during its operation to project the fuel a greater or less distance as desired.

2. In a mechanical stoker, the combination with a reciprocatory plunger located above the level of the bottom of the fire-box and having a fuel-projecting nose on its forward end, of a plunger-operating cylinder and piston, a valve controlling the admission and exhaust ports of the cylinder, a valve-gear operated by the plunger and embodying a hand-lever-controlled means for varying the extent of the forward stroke of the plunger during its operation to project the fuel a greater or less distance as desired.

3. In a mechanical stoker, the combination with a reciprocatory plunger located above the level of the bottom of the fire-box and having a fuel-projecting nose at its forward end, of an elastic-fluid motor for reciprocating the plunger, a valve therefor and a valve-gear embodying a hand-lever-controlled means for varying the extent of the forward stroke of the plunger during its operation to project the fuel a greater or less distance as desired.

4. In a mechanical stoker, the combination with a reciprocatory plunger located above the level of the bottom of the fire-box and having a fuel-projecting nose at its forward end, of an engine embodying a piston connected directly with the plunger and means for automatically reversing the forward movement of the plunger and piston embodying a hand-lever-controlled means for varying the point of reversal during the operation of the parts to project the fuel a greater or less distance as desired.

5. In a mechanical stoker, the combination with a reciprocatory plunger having a fuel-projecting nose at its forward end and a plunger-operating piston and cylinder, of a valve controlling the admission and exhaust ports of the cylinder and a valve-operating gear embodying independent operating-levers for moving the valve in opposite directions and each having a projection thereon and in-

clines moving with the plunger for coöperating with said projections to shift the valve as the plunger nears the extremes of its stroke; substantially as described.

6. In a mechanical stoker, the combination with a reciprocatory plunger having a fuel-projecting nose at its forward end and a plunger-operating piston and cylinder, of a valve controlling the admission and exhaust ports of the cylinder, a valve-operating gear embodying independent operating-levers for moving the valve in opposite directions and having movable projections thereon, hand-levers controlling the position of said projections on the levers and inclines moving with the plunger for coöperation with said projections to shift the valve; substantially as described.

7. In a mechanical stoker, the combination with a reciprocatory plunger having a fuel-projecting nose at its forward end and a plunger-operating piston and cylinder, of a valve controlling the admission and exhaust ports of the cylinder, a valve-operating gear embodying independent operating-levers, independently-movable projections on said levers, oppositely-arranged inclines moving with the plunger for coöperation with said projections to shift the valves and means for adjusting the relative positions of the projections and inclines to shift the valve at different points in the throw of the plunger; substantially as described.

8. In a mechanical stoker, the combination with a fuel door-frame and door, a reciprocatory plunger having a fuel-projecting nose adapted to work through the door-opening and a plunger-operating piston and cylinder, of valve mechanism for the cylinder embodying an admission and exhaust controlling valve and a throttle-valve, and a valve-gear embodying a lever controlling the throttle-valve and the operating connections for the admission and exhaust valve at the rear end of the cylinder, whereby the piston will be brought to rest at the rear of its stroke; substantially as described.

9. In a mechanical stoker the combination with a fuel door-frame and door, a reciprocatory plunger having a fuel-projecting nose adapted to work through the door-opening, a reciprocatory steam-engine for operating the plunger embodying a valve and valve-gear, of a throttle-valve, a hand-lever controlling the latter and connections between said lever and the valve-gear operating to throw the valve-gear controlling the advance of the plunger out of operation prior to the closing of the throttle; substantially as described.

10. In a mechanical stoker, the combination with the fuel door-frame and door, the plunger having a fuel-projecting nose adapted to work through the door-opening, cylinder and piston for operating the plunger, of a valve controlling the admission and exhaust ports of the cylinder, means whereby the movement of the plunger operates the valve and means for releasing the valve from control of the plunger.

11. In a mechanical stoker, the combination with the fuel door-frame and door, the plunger having a fuel-projecting nose adapted to work through the door-opening, cylinder and piston for operating the plunger, of a valve controlling the admission and exhaust ports of the cylinder, means whereby the movement of the plunger operates the valve, a lever adapted for manual operation and connections whereby a movement of the lever in one direction releases the valve from the control of the plunger to bring the plunger to rest and a movement in the opposite direction moves the valve to open the admission-port.

12. In a mechanical stoker the combination with a reciprocatory plunger having a fuel-projecting nose at its forward end and a power mechanism for imparting a rapid reciprocation to the plunger, of a door-frame through which the plunger works having an inclined seat and a door hinged to said frame and resting against said seat in an inwardly-inclined position and adapted to be opened by the fuel advanced by the plunger; substantially as described.

13. In a mechanical stoker the combination with a fuel-hopper having a fuel-discharge opening near the bottom at one side, a door hinged at the top of said opening and extending downwardly on an incline away from the hopper when in closed position whereby the fuel does not exert a pressure to open the door, and a reciprocatory plunger working through the bottom of the hopper and opening and operating to push fuel in front of it to open the door and to project the fuel into the furnace and a power mechanism for reciprocating the plunger.

14. In a mechanical stoker, the combination with a furnace-wall having an opening therein a stoker-bed projecting into said opening and a reciprocatory plunger working on the bed having a fuel-projecting nose and operating mechanism for imparting a forward movement to the plunger to project its nose beyond the end of the bed, of a door hinged at the top of the opening and extending downwardly and inwardly in an inclined position to close the opening and adapted to be opened inwardly by the advance of the plunger; substantially as described.

15. In a mechanical stoker, a reciprocatory plunger, for projecting the fuel into the furnace having deflecting-faces oppositely and outwardly inclined to the line of movement of the plunger and forwardly-extending fuel-supporting flanges at the lower edges of said deflecting-faces; substantially as described.

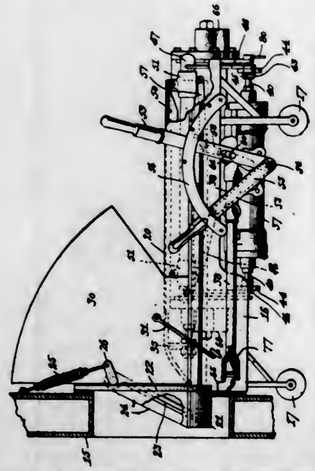
16. In a mechanical stoker, a reciprocatory plunger for projecting the fuel into the furnace, having deflecting-faces pivoted at the sides of the plunger and means for moving said faces on their pivots to project the fuel to the sides of the furnace; substantially as described.

17. In a mechanical stoker, a reciprocatory plunger for projecting the fuel into the furnace, having deflecting-faces pivoted at the sides of the plunger, forwardly-extending flanges at the lower edges of the deflecting-faces and means for moving said faces on their pivots to project the fuel to the sides of the furnace; substantially as described.

18. In a mechanical stoker, a reciprocatory plunger for projecting the fuel into the furnace, having pivoted inclined deflecting-faces means for moving said faces on their pivots to project the fuel to the sides of the furnace and means for holding said faces against movement independent of the plunger; substantially as described.

19. In a mechanical stoker, a reciprocatory plunger for projecting the fuel into the furnace, having pivoted inclined deflecting-faces, a plunger-operating mechanism connected with said faces to swing them on their pivots and means for holding said faces against independent movement; substantially as described.

840,723. MECHANICAL STOKER. WILLIAM H. STROUSE, Oskaloosa, Iowa, assignor to W. H. Strouse Manufacturing Company, Oskaloosa, Iowa, a Corporation of Iowa. Filed Feb. 19, 1906. Serial No. 301,826.



Claim.—1. In a mechanical stoker, the combination of a reciprocatory plunger having a fuel-projecting nose at its forward end provided with outwardly and rearwardly curved deflecting-faces and a power mechanism for imparting reciprocations to said plunger.

2. In a mechanical stoker, the combination of the reciprocatory plunger having a fuel-projecting nose at its forward end embodying outwardly and rearwardly curved deflecting-faces and fuel-supporting flanges projecting forwardly at the lower edges of said deflecting-faces; substantially as described.

3. In a mechanical stoker, the combination of a reciprocatory plunger having a fuel-projecting nose at its forward end embodying a downwardly-curved upper surface, laterally-curved deflecting-faces with their forward portions meeting at substantially the center of the nose and base-flanges integral with said nose and extending forwardly from the deflecting-faces.

4. In a mechanical stoker, the combination with the bed having the downwardly-curved forwardly-projecting portion, a reciprocatory plunger guided on said bed and having a fuel-projecting nose at its forward end provided with a downwardly-curved under surface and rearwardly and outwardly extending deflecting-faces, of a power mechanism for reciprocating said plunger, a hopper for supplying fuel in front of said plunger and a pivoted door through which the fuel is carried by the plunger; substantially as described.

5. In a mechanical stoker, the combination with the hopper, of the reciprocatory plunger working through the base of said hopper and having a fuel-projecting nose at its forward end embodying a downwardly-curved convex upper surface and laterally-inclined side faces and a door hinged at its upper edge and adapted to contact with the downwardly-curved upper surface of the plunger; substantially as described.

6. In a mechanical stoker, the combination with the door-frame, the door hinged thereto at its upper edge and supported in an inclined position when closed and a means for holding said door closed with a yielding pressure, of a plunger mounted to reciprocate in line with the door-opening and having a fuel-projecting nose at its forward end embodying a downwardly-curved convex upper surface with which the under edge of the door is adapted to contact; substantially as described.

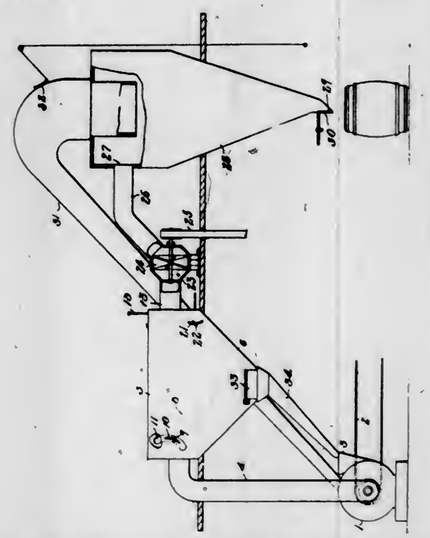
7. In a mechanical stoker, the combination with the reciprocatory plunger having the fuel-projecting nose at its forward end and the cylinder and piston for moving said plunger, of a valve mechanism controlling the admission and exhaust ports of the cylinder, embodying an oscillatory valve, oppositely-arranged levers for oscillating said valve in opposite directions and coöperating inclines and projections on the plunger and levers respectively, for moving one or the other of said levers as the plunger reaches opposite extremes of its movements.

8. In a mechanical stoker, the combination with a reciprocatory plunger having a fuel-projecting nose at its forward end and a cylinder and piston for reciprocating said plunger, of a valve controlling the exhaust and admission ports of the cylinder and a valve-gear embodying an oscillatory valve-rod, oppositely-projecting arms on said rod, levers coöperating with said arms, oppositely-arranged levers extending substantially parallel with the line of plunger movement, links connecting said last-mentioned levers and valve-operating levers, and coöperating projections and inclines on the levers and plunger respectively for shifting one or the other of said levers as the plunger reaches the extremes of its movement.

840,724. PNEUMATIC CLEANER AND SEPARATOR. BERT E. SWEET, Lodi, Cal. Filed Dec. 28, 1905. Serial No. 293,646.

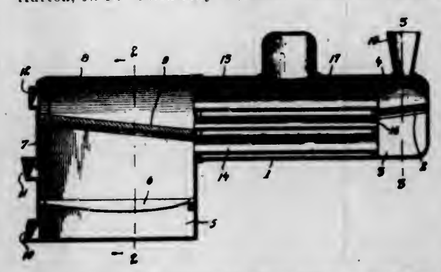
Claim.—1. A separator-casing, means for setting up an air-current through the casing, a deflector supported within the casing in the path of the air-current, and an exit-pipe having a telescopic extension within the separator-casing said telescopic extension member constituting means for varying the distance between the deflector and the exit-port.

2. A stationary separator-casing having an air-inlet and an air-outlet, means for setting up an air-current through the casing, a deflector supported within the casing adjacent to the air-inlet and in the path of the air-current, and an adjustable elbow within the casing and connected with the air-outlet.



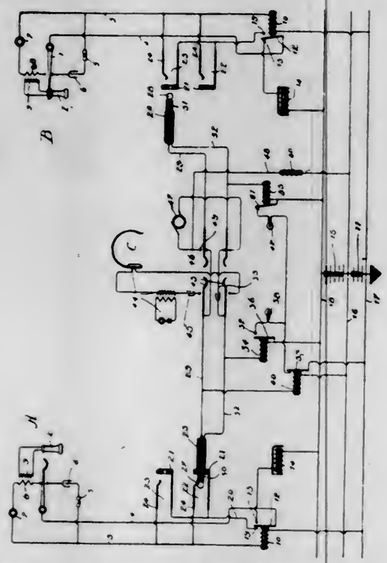
3. A separator-box having an inlet, a conduit connecting the inlet with a source of supply, a deflector within the casing adjacent to the inlet, an exit-pipe extending through the wall of the casing opposite to the inlet, a telescoping extension member upon the exit-pipe having an adjustable elbow, a valve in the exit-pipe, a settling-chamber, a conduit connecting the settling-chamber with the exit-pipe, and means for setting up suction in said conduit.

840,725. STEAM-BOILER. INGEBRIGT J. ULLENSAKER, Hatton, N. D. Filed May 11, 1906. Serial No. 316,410.



Claim.—The herein-described steam-boiler comprising a cylindrical shell or casing having at its rear an enlarged rectangular portion, a transversely-extending stationary partition fixed in the front end of said casing and inclined downwardly and rearwardly to divide it into upper and lower smoke-chambers, a transversely-extending stationary partition fixed in the enlarged rear portion of said casing above the fire-grate therein and inclined downwardly and forwardly to separate its fire box or chamber from the upper rear smoke-chamber, a smoke-stack leading from the top of the upper smoke-chamber at the front of the casing, a door closing a clean-out opening at the end of the upper rear smoke-chamber, and three horizontal rows of fire-flues affording communication between the said chambers of the casing, substantially as shown and described.

840,726. TELEPHONE-EXCHANGE SYSTEM. HARRY G. WEBSTER, Chicago, Ill. Filed May 28, 1903. Serial No. 159,118.



Claim.—1. In a telephone-exchange system, the combination with a subscriber's line-circuit, of a low-resistance cut-off relay, a high-resistance line-signal and a source of current all normally in the line-circuit, test-terminals normally disengaged from the line, and means for operating said cut-off relay to disconnect the line-signal and connect said test-terminals to the line when a connection is established therewith at central.

2. In a telephone-exchange system, a subscriber's line-circuit, a marginally-adjusted relay, a line-signal and a source of current all connected in the line and so arranged that a flow of current may be determined in the line by the subscriber to energize the signal but not to actuate said relay, test-terminals for said line normally disconnected therefrom, and means controlled by an operator in making connection with the line to energize said relay and thereby connect the line to the test-terminals.

3. In a telephone-exchange system, the combination with a subscriber's line-circuit, of a low-resistance non-polarized cut-off relay, a high-resistance line-signal, and a source of current all normally in the line-circuit, test-terminals normally disengaged from the line, and means for operating said cut-off relay to disconnect the line-signal and connect said test-terminals to the line when a connection is established therewith at central.

4. In a telephone-exchange system, a subscriber's bimetallic line-circuit normally including a source of current, test-terminals normally disconnected therefrom, a controlling-relay therefor having a single winding permanently connected to the line, and means to supply energizing-current to said relay in making connection with the line.

5. In a telephone-exchange system, a subscriber's line-circuit normally including a source of current, test-terminals normally disconnected therefrom, a non-polarized controlling-relay therefor, having a single winding permanently connected to the line, and means to supply energizing-current to said relay in making connection with the line.

6. In a telephone-exchange system, a subscriber's line-circuit adapted for use as a talking-circuit for carrying telephonic voice-currents, said line-circuit being normally closed through a source of current at the central station, test-terminals normally disconnected from the line, a controlling-relay therefor having a single winding permanently connected to the line, and means to supply energizing-current to said relay in making connection with the line.

7. In a telephone-exchange system, a subscriber's line-circuit normally closed through a source of current at the central station, test-terminals normally disconnected therefrom, a non-polarized controlling-relay therefor, having a single winding permanently connected to the line, and means to supply energizing-current to said relay in making connection with the line.

8. In a telephone-exchange system, a subscriber's line-circuit normally closed at the central station through a common source of current, test-terminals normally disconnected therefrom, a controlling-relay therefor, having a single winding permanently connected to the line, and means to supply energizing-current to said relay in making connection with the line.

9. In a telephone-exchange system, a subscriber's line-circuit normally closed at the central station through a common source of current, test-terminals normally disconnected therefrom, a non-polarized controlling-relay therefor, having a single winding permanently connected to the line, and means to supply energizing-current to said relay in making connection with the line.

840,727. TOY. JOHN N. WHITEHOUSE, New York, N. Y., assignor to Le-White Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Sept. 4, 1906. Serial No. 333,046.



Claim.—1. A device of the character described, consisting of a figure provided with a balancing-point intermediate the ends thereof, said figure being normally out of balance, one end of said figure being provided with means adapted to retain removable balancing-weights.

2. A device of the character described, consisting of a figure provided with a balancing-point intermediate the ends thereof, said figure being normally out of balance and being provided with a plurality of slots adapted to removably retain coins, said slots being distributed with reference to said balancing-point, substantially as and for the purpose set forth.

3. A device of the character described, consisting of a figure provided with a centrally-located balancing-point intermediate the ends thereof, said figure being normally out of balance and provided with slots adapted to receive removable weights, said slots being equally distributed on each side of the balancing-point.

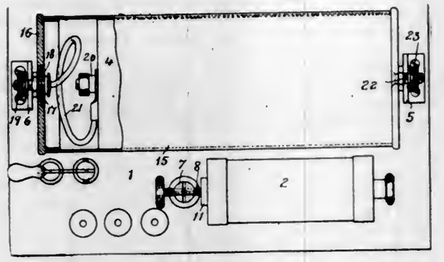
4. A sheet of cardboard or the like having illustrated thereupon a figure partially severed therefrom, a balancing-point carried by said figure, and means also carried by said figure adapted to detachably retain coins.

840,728. ELECTRIC INDUCTION-BATTERY. HALLE E. WILLIS, Lebanon, N. H., assignor to Kendrick & Davis, Lebanon, N. H., a Firm. Filed Nov. 15, 1906. Serial No. 343,592.

Claim.—1. In an induction-battery, a circuit-interrupter mounted to yield in all directions.

2. In an induction-battery, a circuit-interrupter mounted yieldingly with respect to the supporting-base of the battery, so as to be capable of moving toward and from, as well as parallel to said base.

3. In an induction-battery, a circuit-interrupter, mounted to yield relatively to the supporting-base of the battery so that its vibrations may be largely absorbed before reaching the base, whereby the sound produced is diminished.



4. In combination with an induction-coil, a circuit-breaker; and a spring holding the circuit-breaker, having a portion extending transversely of the supporting-base of the coil, whereby it may yield relatively to said base to absorb and diminish the sound-vibrations transmitted from the circuit-breaker through the spring to the base.

5. In combination with an induction-battery, a circuit-breaker, and a coiled spring in electrical connection with the primary coil of the battery and by which the circuit-breaker is supported with capability of yielding in all directions; the sound-producing vibrations of the circuit-breaker transmitted through the spring to the supporting-base of the battery being absorbed by the flexibility of the spring and diminished in intensity.

6. In an induction-battery, a holder supported in electrical connection with the primary coil, adjacent the core of the battery; a spiral spring attached at one end to the holder, making electrical contact therewith; and a circuit-breaker connected to the other end of the spring and yieldingly supported thereby.

7. In an induction-battery, a holder; a plurality of springs supporting said holder yieldingly adjacent the core of the battery and making electrical connection between the primary coil thereof and the holder; a spiral spring attached at one end to the holder, making electrical contact therewith, and a circuit-breaker connected to the other end of the spring and yieldingly supported thereby.

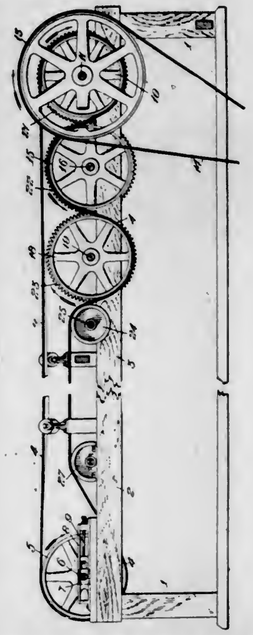
8. An electrical induction-battery, including an induction-coil, a battery-cell, and supports connected electrically with the coil, by which said cell is removably held and with which the terminals of the same make electrical contact.

9. An electrical induction-battery, including an induction-coil; supports for a battery-cell in electrical conection with the coil; a cell-casing having at one end a fixed stud adapted to engage one of said supports; a cover for the casing having an insulated stud adapted to engage the other support; and a battery-cell contained in said casing having one of its electrodes making electrical contact therewith, and its other electrode connected with the stud in the casing-cover.

10. In an induction-battery, a current-generating cell; a casing in which said cell is removably contained and with which it makes electrical contact; a stud fixed to said casing; a cover for the casing; a stud secured therein and insulated therefrom; a connection from the other cell-electrode with said stud; supports for the casing with which the studs thereof are detachably engaged and make electrical contacts; and an induction-coil in circuit with said cell-supports.

840,729. CONVEYER. FREEMAN R. WILLSON, Jr., Worthington, Ohio, assignor to Joseph A. Jeffrey, Columbus, Ohio. Filed May 4, 1906. Serial No. 315,253.

Claim.—1. In a conveyer, the combination with an endless belt, of a driving mechanism therefor comprising a plurality of driving-pulleys arranged substantially in line with each other and geared together to have their peripheries travel at the same speed, the said belt being carried around the endmost pulley and then alternately over and under the remaining pulleys so as to contact with opposite sections of adjacent pulleys, and means for driving the said pulleys.



2. In a conveyer, the combination with an endless belt, of a driving mechanism therefor comprising a series of driving-pulleys of uniform diameter arranged substantially in line with each other and geared together to have their peripheries travel at the same speed, the said belt being carried around the endmost pulley of the series and then alternately over and under the remaining pulleys of the series so as to contact with opposite sections of adjacent pulleys, and means for driving the said pulleys.

3. In a conveyer, the combination with an endless belt, of a driving mechanism therefor comprising a series of driving-pulleys of uniform diameter arranged substantially in line with each other and flexibly geared together to have their peripheries travel at the same speed, the said belt being carried around the endmost pulley of the series and then alternately over and under the remaining pulleys of the series so as to contact with opposite sections of adjacent pulleys, and means for driving said pulleys.

4. In a conveyer, the combination with an endless belt, of a driving mechanism therefor comprising a series of driving-pulleys arranged substantially in line with each other beneath the upper run of said belt and geared together to have their peripheries travel at the same speed, an idle guide-pulley arranged adjacent to the innermost pulley of said series, the said belt being carried around the endmost driving-pulley of said series, then alternately over and under the remaining driving-pulleys of the series so as to contact with opposite sections of adjacent driving-pulleys and then over the said idle pulley so as to cause the belt to contact with substantially one hundred and eighty degrees of the innermost driving-pulley, and means for driving said driving-pulleys.

840,730. APPARATUS FOR CRUSHING, CONVEYING, AND COOLING ROCKS, ORES, &c. ROBERT F. WENTZ, Siegfried, Pa. Filed Aug. 23, 1899. Serial No. 728,228.

Claim.—1. In an apparatus adapted for the crushing of rock, the combination of a rotary cylinder having per-

forated heads for the feed and discharge of the material, a crushing-cylinder supported within the said revolving cylinder, of a length less than the revolving cylinder and having a perforated periphery, a diaphragm closing the rear end of the chamber formed by the crushing-cylinder, feeding-flanges arranged between the crushing-cylinder and the outer shell of the revolving cylinder, means for directing the crushed material through the opening in the rear head of the revolving cylinder and means for advancing the material through the cylinder, substantially as set forth.



2. In an apparatus adapted for the crushing of rock, the combination of a revolving cylinder, a removable perforated crushing-cylinder arranged therein, means for holding the crushing-cylinder in place in the revolving cylinder and for causing it to turn therewith, means for directing the crushed material out of the crushing-cylinder into the rotary cylinder, and means for advancing it therethrough, substantially as set forth.

3. In a crushing apparatus, the combination of the revolving cylinder provided with a removable head, a diaphragm mounted therein, a removable perforated crushing-cylinder formed with the said diaphragm, and said removable head for its ends, and means for directing the crushed material out of the crushing-cylinder, substantially as set forth.

4. In an apparatus of the described class, the combination of an inclosing rotary cylinder having a series of spirally-arranged interior flanges, a crushing cylinder or ring having a plain interior surface and provided with perforations, and a corrugated crushing-roller loosely placed within the ring or cylinder, the walls of said perforations directing the crushed material from the crushing-cylinder onto said spirally-arranged interior flanges of the rotary cylinder, substantially as set forth.

5. The combination in a rotary cylinder, of a perforated concentric ring mounted therein, a crushing-roller within the ring, spirally-arranged flanges between the ring and the rim of the cylinder, a vertically-arranged diaphragm dished in its center in the direction of the discharge end, and formed with curved blades to direct the material inward, the diaphragm being provided with openings connecting the spaces between the spirally-arranged flanges and the curved blades, substantially as described.

6. In a crushing and cooling apparatus, the combination of two end cylinders each provided with material crushing and feeding mechanism, an intermediate conveyer consisting of a circular series of spirally-arranged slats, the adjacent edges of adjoining slats being so correlated as to maintain communication between the outside air and the interior of the conveyer, while advancing the material to be cooled from one crushing mechanism to the other.

7. In a crushing and cooling apparatus, the combination of mechanism for effecting a relatively coarse crushing of the material to be treated, a second mechanism for effecting a finer reduction of the material as it leaves the first said mechanism, and a rotary spirally-perforated conveying-drum for advancing the material from the first to the second of said mechanisms and for maintaining it in communication with the outside air while traveling between them.

8. In a crushing and cooling apparatus, the combination of rotary mechanism for effecting a relatively coarse crushing of the material to be treated, a second rotary mechanism for effecting a finer reduction of the material to be treated after it leaves the said first mechanism, and a rotary spirally-perforated conveying-drum communicating at either end with one of said crushing mechanisms and adapted to advance material from the one to the other and to maintain it in communication with the outside air during its travel between the said crushing mechanisms.

9. In a crushing mechanism, the combination of a rotary cylinder having internal corrugations longitudinally arranged and at an angle to the axis of rotation of the cylinder, a crushing-roller within the cylinder, free to roll therein and having longitudinal corrugations adapted to register with those of the cylinder as the latter revolves, an axial opening for introducing material into the cylinder, and openings eccentric to the axis of said cylinder for discharging the material therefrom.

10. In a crushing apparatus, the combination with the rim of the discharge-cylinder provided with spirally-arranged corrugations on its inner surface, and a crushing-roller loosely seated therein, and provided with spirally-arranged corrugations on its outer surface to register with those of the rim, of a spider-ring 52 formed with tangentially-arranged arms having openings with sieves secured therein and curved discharge-plates secured between the arms to discharge the material from the machine, substantially as set forth.

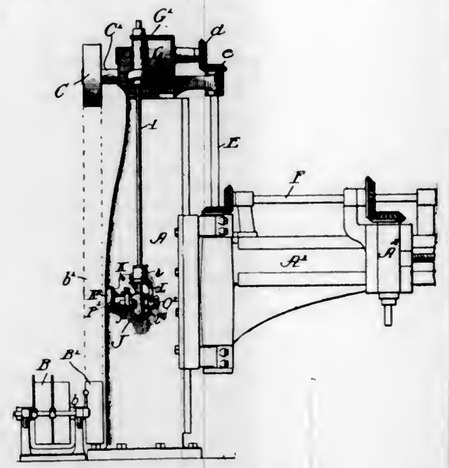
11. In a crushing and cooling apparatus, the combination with mechanism for crushing and delivering the material to be treated of a rotary conveying-drum consisting of a circular series of spirally-arranged slots, the adjacent edges of adjoining slats being so correlated as to prevent the escape of material between said slats while maintaining it in communication with the outside air during its travel through the drum.

840,731. CHANGE-SPEED GEAR. ALBERT W. WIGGLESWORTH, Chicago, Ill. Filed Nov. 28, 1904. Serial No. 234,613.

Claim.—1. In a change-speed gear, two rotative shafts, varied-diameter, closely-spaced gears carried by each of said shafts, one group of which is movable relatively to the other endwise of said shaft, a rocker-arm rockingly mounted independently of said shafts and gears carried by said rocker-arm for transmitting motion from one set of varied-diameter gears to the other, for the purpose set forth.

2. In a change-speed gear, two rotative shafts, a plurality of closely-grouped, varied-diameter gears on one of said shafts, diversely-sized gears on the other shaft, a rocker-arm having a rocking bearing independently of the latter shaft, and gears carried by said rocker-arm designed to transmit motion from the gears of one shaft to the gears of the other shaft, the variable-diameter gears of one of the shafts and said rocker-arm and the diversely-sized gears of the other shaft having relative movement endwise of the shafts, for the purpose set forth.

3. In a change-speed gear, two parallel, rotative shafts, a plurality of closely-grouped, varied-diameter gears fixed non-rotatively to and sliding endwise on one of said shafts, diversely-sized gears fixed to the other shaft, a rocker-arm having bearing independently of the second shaft, and gears carried by said rocker-arm designed to transmit motion from the gears of one shaft to those of the other, for the purpose set forth.



4. In a change-speed gear, two parallel, rotative shafts, a plurality of closely-grouped, varied-diameter gears fixed non-rotatively to and sliding endwise on one of said shafts, diversely-sized gears on the other shaft, a rocker-arm having bearing independently of the latter shaft, and gears carried by said rocker-arm designed to transmit motion from the gears of one shaft to those of the other for the purpose set forth, combined with means for rocking said arm and for moving said varied-diameter gears endwise of their shaft.

5. In a change-speed gear, two parallel rotative shafts, a plurality of closely-grouped, varied-diameter gears mounted to rotate with and slide endwise on one of said shafts, diversely-sized gears fixed to the other shaft, a rocker-arm and gears on the rocker-arm for transmitting motion from the gears on one shaft to those on the other for the purpose set forth, combined with means for shifting said varied-diameter gears on their shaft.

6. A change-speed gear comprising a casing or support, a shaft rotatively mounted therein, a plurality of closely-grouped, varied-diameter gears mounted on said shaft, a rocker-arm rotatively mounted in said support, a second shaft rotatively mounted at one end in said support and at its other end in said rocker-arm, diversely-sized gears mounted on said second shaft, and gears carried by the rocker-arm for transmitting motion from the gears of one shaft to those of the other shaft for the purpose set forth, the varied-diameter gears of one shaft and the rocker-arm and the diversely-sized gears of the other shaft having relative movement endwise of said shafts.

7. A change-speed gear comprising a casing or support, a shaft rotatively mounted therein, a plurality of varied-diameter, closely-spaced gears mounted non-rotatively on and movable endwise of said shaft, a rocker-arm mounted in said support, a second shaft mounted at one end in said support and at its other end in said rocker-arm, and gears on said rocker-arm for transmitting motion from the gears of one shaft to those of the other for the purpose set forth.

8. A change-speed gear comprising two parallel shafts, a cone-gear rotative with and movable endwise on one of said shafts, a rack-and-gear mechanism for shifting said cone-gear endwise of its shaft, two gears of different diameters affixed to the other shaft, a rocker-arm, two rotative gears mounted one on each end of said rocker-arm in alinement with each other and adapted to be brought alternately into mesh with the cone-gear, a second gear rotating with one of said gears of the rocker-arm, the gear at one end of the rocker-arm meshing directly with one of the gears of the second shaft, and the corresponding gear at the other end of said rocker-arm being driven from the second gear of the second shaft through said second or associated gear.

9. A change-speed gear comprising two parallel shafts, a cone-gear rotative with and movable endwise of one of said shafts, two gears of different diameters fixed to the other shaft, a rocker-arm, two rotative gears mounted one on each end of said rocker-arm in alinement with each other and adapted to be brought alternately into mesh with the cone-gear, a second gear rotating with one of said gears of the rocker-arm, one of said gears of the rocker-arm meshing directly with one of the gears of the second shaft and the sceond gear of the said rocker-arm being driven from the other gear of the second shaft by the said gear rotating therewith, and a single manually-operable part constructed to swing said rocker-arm on its axis and to shift the movable gears on their shaft.

10. In a change-speed gear, two rotative shafts, varied-diameter, closely-grouped gears carried by each shaft, one group of which is movable relatively to the other endwise of said shafts, a rocker-arm mounted independently of said shafts and gears carried by said rocker-arm for transmitting motion from one set of gears to the other for the purpose set forth, combined with means for rocking said arm and for effecting shifting of said movable gears.

11. A change-speed gear comprising a main shaft, a plurality of gears of varying diameters affixed to and movable endwise thereof, a counter-shaft parallel with the main shaft, two gears of different diameters fixed to the counter-shaft, a rocker-arm, a single idler mounted on one end of said arm, two connected idlers mounted on the other end of said rocker-arm, and a single controlling device for rocking said arm about its axis of oscillation and shifting the gears of varying diameters along their shaft.

12. A change-speed gear comprising a main shaft, a plurality of gears of varying diameters affixed to and movable endwise thereof, a counter-shaft parallel with the main shaft, two gears of different diameters fixed to the counter-shaft, a rocker-arm, a single idler mounted on one end of said rocker-arm, two connected idlers mounted on the other end of said rocker-arm, said single idler and one of the connected idlers having constant meshing engagement with the gears of the counter-shaft, and a single manually-operable part acting to swing said rocker-shaft on its axis of oscillation to bring said idlers alternately in mesh with the main-shaft gears, and to shift said plurality of gears endwise of said main shaft.

13. A change-speed gear comprising two rotative shafts, a cone-gear fixed non-rotatively to and sliding endwise on one shaft, a gear fixed to the other or second shaft, a rocker-arm, idler-gears carried by the outer ends of said arm and in constant mesh with the gear of the second shaft, and means for rocking said arm to bring the idler-gears thereof alternately in mesh with the cone-gears, comprising a segmental gear on said arm and an endwise-movable rack meshing therewith.

14. A change-speed gear comprising two rotative shafts, a cone-gear fixed non-rotatively to and sliding endwise on one shaft, a gear fixed to the other or second shaft, a rock-arm, idler-gears carried by the outer ends of said arm and in constant mesh with the gear of the second shaft, and means for rocking said arm to bring the idler-gears thereof alternately in mesh with the cone-gear, and for moving the cone-gear endwise of its shaft, comprising a segmental gear on said arm, an endwise-movable, rotative shaft provided with an annular rack adapted for engagement with said segmental gear, a gear-wheel fixed to said shaft, a sliding rack meshing with said gear, and connections between said rack and cone-gear.

15. A change-speed gear comprising a main shaft, a plurality of gears of varying diameters affixed to and movable endwise thereof, a counter-shaft parallel with the main shaft, two gears of different diameters fixed to the counter-shaft, a rocker-arm, a single idler mounted on one end of said rocker-arm, two connected idlers mounted on the other end of said arm, said single idler and one of the

connected idlers being in constant mesh with the gears of the counter-shaft, and a single manually-operable part operating to swing said rocker-arm to bring the two opposing idlers on the rocker-arm alternately into mesh with the gears of the main shaft and to shift said latter gears endwise of the main shaft, comprising a segmental gear on the rocker-arm, a rotative, endwise-sliding shaft provided with a circular rack engaging said segmental gear, a gear-wheel on said sliding shaft, and a sliding rack meshing with said latter gear-wheel and connected with said gears of the main shaft.

16. A change-speed gear comprising a main shaft, a plurality of gears of varying diameters affixed to and movable endwise thereof, a counter-shaft parallel with the main shaft, two gears of different diameters affixed to the counter-shaft, a rocker-arm, a single idler mounted on one end of said rocker-arm, two connected idlers mounted on the other end of said arm, said single idler and one of the connected idlers having constant meshing engagement with the gears of the counter-shaft, and said single idler and the other of the connected idlers being adapted for alternate meshing engagement with the gears of the main shaft, a gear-segment on said rocker-arm, an endwise-sliding, rotative shaft provided with an annular rack adapted for engagement with the gear-segment of the rocker-arm, a shaft parallel with said main shaft, a sleeve thereon provided with a rack, a gear affixed to said sliding shaft and meshing with said rack of the sleeve and interlocking connections between said rack-sleeve and said group of gears of the main shaft.

17. In a change-speed gear of the character described, the combination with the oscillating rocker-arm, a gear-segment thereon, and an endwise-sliding rack which moves in a direction parallel with the axis of oscillation of the rocker-arm, of a rotative and endwise-sliding shaft, an annular rack on said shaft adapted for engagement with the gear-segment of the rocker-arm and a gear-wheel on said shaft adapted for engagement with said sliding rack.

18. In a change-speed gear of the character described, the combination with the oscillating rocker-arm, a gear-segment thereon, and an endwise-sliding rack which moves in a direction parallel with the axis of oscillation of the rocker-arm, of a rotative and endwise-sliding shaft, an annular rack on said shaft adapted for engagement with the gear-segment of the rocker-arm, a gear-wheel also on said shaft adapted for engagement with said sliding rack, means at the lower end of said shaft for raising and lowering the shaft, means for rotating the shaft upon its axis, and locking means for holding the said shaft in an adjusted angular and raised or lowered positions.

19. In a change-speed gear of the character described, the combination with the oscillating rocker-arm, a gear-segment thereon, and an endwise-sliding rack which moves in a direction parallel with the axis of oscillation of the rocker-arm, of a rotative and endwise-sliding shaft, an annular rack on said shaft adapted for engagement with the gear-segment of the rocker-arm, and a gear-wheel also on said shaft adapted for engagement with said sliding rack, a head at the lower end of said shaft, a rack on said head, a lever pivoted to a stationary part, a gear-segment on said lever meshing with said rack of the head, means for turning said head and shaft, and means for locking the shaft in an adjusted angular and upper or lower positions.

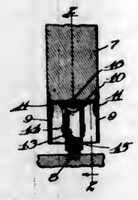
20. In a change-speed gear of the character described, the combination with the oscillating rocker-arm, a gear-segment thereon, and an endwise-sliding rack which moves in a direction parallel with the axis of oscillation of the rocker-arm, of a rotative and endwise-sliding shaft, an annular rack on said shaft adapted for engagement with the gear-segment of the rocker-arm, a gear-wheel also on said shaft adapted for engagement with the said sliding rack, a stationary bearing in which the lower end of the endwise-sliding shaft is mounted, a head on the shaft beneath said bearing, a rack on said head, a lever pivotally mounted in an arm depending from the bearing, a gear-segment on said lever meshing with said latter rack, whereby the shaft may be raised and lowered, said bearing being made of two parts, one of which, carrying said depending arm, is rotative with respect to the other part, whereby the head and shaft may be turned through the medium of said lever, and means for locking said head and shaft in an adjusted angular and upper or lower positions.

21. In a change-speed gear of the character described, the combination with the oscillating rocker-arm, a gear-segment thereon and an endwise-sliding rack which moves in a direction parallel with the axis of oscillation of the rocker-arm, of a rotative and endwise-sliding shaft, an annular rack on said shaft adapted for engagement with the gear-segment of the rocker-arm, a gear-wheel also on said shaft adapted for engagement with said sliding rack, a stationary bearing in which the lower end of said shaft is mounted, a head on the shaft beneath said bearing, a rack on said head, a lever pivotally mounted in an arm depending from the bearing, a gear-segment on said lever which meshes with the rack on said head whereby the shaft may be raised and lowered, said bearing being made of two parts, one of which, carrying said depending arm, is rotative with respect to the other part, whereby the head and shaft may be turned through the medium of said lever, and means for locking said head and shaft in an adjusted angular and upper or lower positions, including a plurality of longitudinal grooves of varying lengths, in said head, and provided at their lower ends with recesses, and a latch adapted to enter severally said grooves and engage either of said recesses or the upper end walls of the grooves.

22. In a change-speed gear of the character described, the combination with the oscillating rocker-arm and the endwise-sliding rack which moves in a direction parallel with the axis of oscillation of the rocker-arm, of a rotative and endwise-sliding shaft, an annular rack on said shaft adapted for engagement with the gear-segment of the yoke, a gear-wheel also on said shaft adapted for engagement with said sliding rack, a stationary bearing in which the lower end of the said shaft is mounted, a head on the shaft beneath said bearing, a rack on said head, a lever pivotally mounted in an arm depending from the bearing, a gear-segment on said arm which meshes with the rack on said head, whereby the shaft may be raised and lowered, said bearing being made of two parts, one of which, carrying said depending arm, is rotative with respect to the other part, whereby the head and shaft may be turned through the medium of said lever, and means for locking said head and shaft in an adjusted angular and upper or lower positions comprising a plurality of longitudinal grooves of varying lengths in said head provided at their lower ends with recesses, a latch adapted to enter severally said grooves and engage either said recesses or the upper end walls of the grooves, and a transversely-curved groove centrally intersecting the longitudinal grooves and located in position to receive said latch when the head and shaft are at the intermediate part of their longitudinal movement.

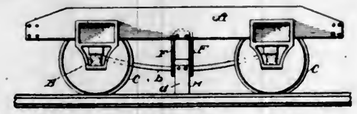
23. A change-speed gear comprising two rotative shafts, a cone-gear fixed non-rotatively to and sliding endwise on one shaft, a gear fixed to the other or second shaft, a rock-arm, idler-gears carried by the outer ends of said arm and in constant mesh with the gear of the second shaft, means for rocking said arm to bring the idler-gears thereof alternately in mesh with the cone-gear and for moving the cone-gear endwise of its shaft, comprising a segmental gear on the rocker-arm, an endwise-sliding, rotative shaft, an annular rack on said shaft adapted for engagement with said segmental gear, a gear-wheel fixed to said shaft, a sliding rack meshing with said gear-wheel and connected with the cone-gear, a head at the lower end of said edgewise-movable and rotative shaft, means for raising and lowering said head and shaft and for rotating the same, and means for locking said parts in an adjusted position, comprising a plurality of longitudinal grooves in said head, equal in number to the geared parts of said cone-gear, and of progressively-increasing length, said grooves being provided at their lower ends with recesses and a latch adapted to enter severally said grooves to prevent rotation of the head and to engage said recesses of the grooves or the upper end walls of the grooves to hold the head in its upper or lowermost position.

840,732. ROLLER-SUPPORT FOR EDGEWISE-MOVABLE DOORS AND TRACKS THEREFOR. ALBERT E. W. WYETH, New York, N. Y. Filed Jan. 15, 1906. Serial No. 296,180.



Claim.—The combination with a door provided with a recess in its lower edge extending transversely entirely through the door, and a frame comprising two side plates adapted to extend across and cover the marginal edges of said recess and be attached to the faces of the door and a substantially U-shaped bridge-plate having its side portions connected to said side plates and fitting within said recess, of a wheel-frame of less width than the recess, a swiveling connection between said wheel-frame and said bridge-plate, and wheels mounted in said frame, the axes of the wheels and the axis of the frame arranged at substantially right angles to each other, substantially as described.

840,733. DERAILMENT-GUARD. AUGUST ANDERSON, Birmingham, Ala. Filed Oct. 29, 1906. Serial No. 341,043.



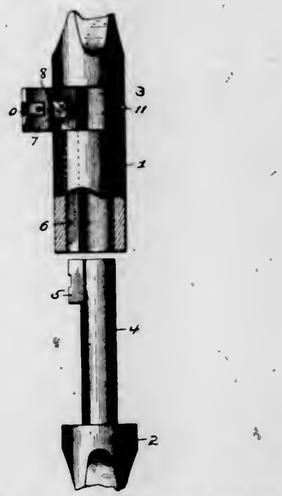
Claim.—1. The combination in means for guarding against derailment, of a truck, flanged wheels carried by axles journaled in bearings on the truck, and a derailment-guard connected and movable with the axles and wheels and with respect to the truck and having depending arms standing in alinement with the flanges of the wheels; the outer sides of the said depending arms being beveled at their forward and rear edges.

2. The combination in means for guarding against derailment, of a truck, axles journaled in bearings carried by the truck and having enlargements, flanged wheels fixed on said axles, and a derailment-guard comprising a cross-bar connected with and movable crosswise of the truck, a longitudinal bar fixed to said cross-bar and having portions arranged between the enlargements on the axles, and guard-arms depending from the cross-bar and standing in alinement with the flanges on the wheels.

3. The combination in means for guarding against derailment, of a truck, axles journaled in bearings carried by the truck and having enlargements at opposite sides of their middles, flanged wheels fixed on said axles, a cross-bar fixed to and extending between the side bars of the truck and having hangers and longitudinally-disposed rollers mounted in the lower portions of said hangers, and a derailment-guard comprising a cross-bar movable between the hangers and on the rollers, a longitudinal bar fixed to said cross-bar and having recessed end portions resting adjacent to the axles and between the enlargements thereon, and guard-arms fixed to and depending from the opposite ends of said cross-bar and standing in alinement with the flanges on the wheels; said guard-arms having their outer sides beveled at their forward and rear edges.

840,734. ROD-COUPLING. CHARLIE A. ANDERSON, Cornplanter, Pa. Filed Mar. 2, 1906. Serial No. 303,933.

Claim.—1. A rod-coupling comprising two members, one of said members having a bore and an open recess communicating with one end thereof, said member also having a keyway communicating with said bore and recess, the other member provided with a pin to enter the bore of the first-mentioned member, a lateral key on said pin to pass through said keyway and enter the open recess, and a hinged gate to enter said recess and confine the key therein, out of alinement with the keyway.



2. A rod-coupling, comprising two members, one member having a longitudinal bore, and a keyway in the wall of said bore, a pin on the other member to enter the bore, a key on said pin movable through said keyway, and a hinged gate on the bored member to lock the key out of line with the keyway in the bore of the first-mentioned member.

3. A rod-coupling, comprising two members, one member having a recess therein and a longitudinal bore communicating with the recess, said bore also having a keyway therein, a pin on the other member to enter the bore, a key on the pin to move through the keyway in the other member into the recess and movable in the recess out of alinement with the keyway, a hinged gate to enter said recess to close the same and hold the key out of alinement with the keyway, and a spring secured to the gate and constructed to lock the gate in closed position.

840,735. SAFETY-RAZOR. FREDERICK H. ARNOLD, Reading, Pa. Filed Sept. 15, 1906. Serial No. 334,785.

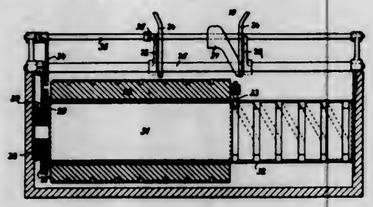


Claim.—In a safety-razor a holder having a guard formed with positioning-pins, a pin loosely mounted in the center thereof, a spring secured to and moving with said pin, a thumb-piece secured to the upper end of said pin in combination with a blade of thin metal having two cutting edges and a central elongated slot adapted to engage said spring and perforations adapted to engage said positioning-pins.

840,736. APPARATUS FOR PUNCHING, DAMPENING, AND AFFIXING STAMPS. PAUL ARNOLD, Grossenhain, Germany. Filed Apr. 13, 1905. Serial No. 255,469.

Claim.—1. In an apparatus for punching, dampening or gluing and affixing stamps connected together in the shape of a sheet, the combination with means for holding the stamp-sheet, of means for cutting the stamp off the sheet, means for dampening or gluing the stamp cut, means for holding the stamp cut and dampened or glued, and means

for automatically adjusting the means for holding the stamp-sheet for the purpose of presenting another stamp to be punched, substantially as described.



2. In an apparatus for punching, dampening or gluing and affixing stamps connected together in the shape of a sheet, the combination with a stamping-cylinder for receiving the stamp-sheet, of means for cutting the stamp off the sheet, means for dampening or gluing the stamp cut, means for holding the stamp cut and dampened or glued, means for releasing the stamp cut and means for automatically adjusting the stamp-cylinder by the cutting device for presenting another stamp to be punched, substantially as described.

3. In an apparatus for punching, dampening or gluing and affixing stamps connected together in the shape of a sheet, the combination with a stamping-cylinder for receiving the stamp-sheet, of a punching-knife secured to a movable and yielding plate for cutting the stamp off the sheet, of means for dampening or gluing the stamp cut, means for holding the stamp cut, means for releasing the stamp cut and means for automatically adjusting the stamp-cylinder for presenting another stamp to be punched, substantially as described.

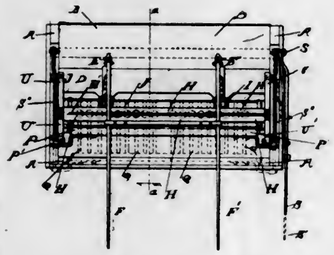
4. In an apparatus for punching, dampening or gluing and affixing stamps connected together in the shape of a sheet, the combination with a stamping-cylinder for receiving the stamp-sheet, of means for cutting the stamp off the sheet, of a dampening or glue-supplying roller, a finger, a shaft carrying such finger, levers carrying the dampening or glue-supplying roller and actuated by the finger on rotating the shaft, receptacles containing damp or glue to be applied to the roller, means for holding the stamp cut, means for releasing the stamp cut, and means for automatically adjusting the stamp-cylinder for presenting another stamp to be punched, substantially as described.

5. In an apparatus for punching, dampening or gluing and affixing stamps connected together in the shape of a sheet, the combination with a stamping-cylinder for receiving the stamp-sheet, of means for cutting the stamp off the sheet, means for dampening or gluing the stamp cut, of a block, needles, a bridge-piece carrying such needles inserted in the block, slotted arms connected to the bridge-piece, a pair of rods carrying the latter, traverses for holding down the stamps situated on both sides of the stamp cut on affixing it to the object to be stamped and means for automatically adjusting the stamp-cylinder for presenting another stamp to be punched, substantially as described.

6. In an apparatus for punching, dampening or gluing and affixing stamps connected together in the shape of a sheet, the combination with a stamping-cylinder for receiving the stamp-sheet, of means for cutting the stamp off the sheet, means for dampening or gluing the stamp cut, means for holding the stamp cut, means for releasing the stamp cut, of a toothed segment, a wheel engaging it and fixed to the shaft of the stamp-cylinder, a pair of levers fixed to a reciprocating shaft, a pair of arms fixed to the plate carrying the punching-knife, of grooves, a pin for the step-by-step rotary movement of the stamp-cylinder engaging such grooves for lateral adjustment the stamp-cylinder on rotating the latter, a locking-pawl, a lever actuated on the upward movement of the punching device for locking the stamp-cylinder rotated step by step and adjusted laterally in the width of a stamp for presenting another stamp to be punched, dampened or glued, held and released, substantially as described.

7. In an apparatus for punching, dampening or gluing and affixing stamps connected together in the shape of a sheet, the combination with a stamping-cylinder for receiving the stamp-sheet, of a punching-knife secured to a movable and yielding plate for cutting the stamp off the sheet, of a dampening or glue-supplying roller, a finger, a shaft carrying such finger, levers carrying the dampening or glue-supplying roller and actuated by the finger on rotating the shaft, receptacles containing damp or glue to be applied to the roller for dampening or gluing the stamp cut, of a block, needles, a bridge-piece carrying such needles inserted in such block, slotted arms connected to the bridge-piece, a pair of rods carrying the latter, traverses for holding down the stamp cut for holding and releasing the stamp cut, of a toothed segment, a wheel engaging it and fixed to the shaft of the stamp-cylinder, a pair of levers, a reciprocating shaft carrying such levers, a pair of arms fixed to the plate carrying the punching-knife, of grooves, a pin engaging such grooves for the step-by-step rotary movement and the lateral adjustment of the stamp-cylinder, of a locking-pawl actuated on the upward movement of the punching-knife for locking the stamp-cylinder rotated step by step adjusted laterally for presenting another stamp to be punched, dampened or glued, held and released, substantially as described.

840,737. MACHINE FOR MOLDING CORES. ULYSSES G. AUGUSTINE, Los Angeles, Cal. Filed Sept. 25, 1905. Serial No. 280,180.



Claim.—1. A machine for molding the cores used for forming the upper ends of window-sash weights, and consisting of the mold-box containing molds held therein, means for horizontally operating the molds, pins carried in a sliding bar for producing the holes through the upper and thinner part of each core while in the mold, the upper bar carrying the plugs which compress the mixture of sand and glutinous substance into the molds at the upper ends thereof, and the upwardly-moving bar for compressing the mixture of sand and glutinous substance at the bottoms of the molds, the levers for operating the upper and under bars which carry the plugs on the upper molding-bar and the compressing-strip on the under molding-bar, also the levers, the shaft on which said levers are carried, and the connecting-links by which the bar carrying the pins is operated, all substantially as hereinbefore described.

2. A machine for molding the cores used for forming the upper ends of window-sash weights, and consisting of the mold-box containing molds held therein, means for horizontally operating the molds, pins carried in a sliding bar for producing the holes through the upper and thinner part of each core while in the mold, the upper bar carrying the plugs which compress the mixture of sand and glutinous substance into the molds at the upper ends thereof, and the upwardly-moving bar for compressing the mixture of sand and glutinous substance at the bottoms of the molds, the levers for operating the upper and under bars which carry the plugs on the upper molding-bar and the compressing-strip on the under molding-bar, also the levers, the shaft on which said levers are carried, and the connecting-links by which the bar carrying the pins is operated, the vertical guides for receiving the ends of the upper molding-bar which carries the molding-plugs, and for guiding the said bar and the plugs vertically, the framing in or by which the entire mechanism is carried substantially as hereinbefore described.

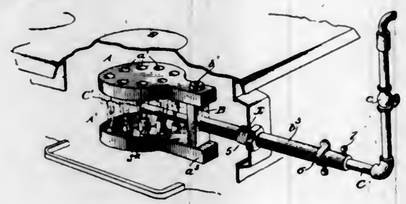
840,738. DENTIFRICE. FRANK P. BARNARD, Worcester, Mass., assignor to Woodman-Davis Company, Worcester, Mass., a Corporation of Massachusetts. Filed May 11, 1906. Serial No. 316,328.

Claim.—1. A dentifrice composition consisting of magnesium dioxid and an abrading-powder, substantially, in the proportions and for the purpose herein specified.

2. A dentifrice composition consisting of magnesium dioxid and powdered chalk, substantially in the proportions and for the purpose herein specified.

3. A dentifrice composition consisting of magnesium dioxid, powdered chalk, and a saponaceous substance, substantially in the proportions and for the purpose herein specified.

840,739. SELF-CLEANING OIL-BURNER. JOHN W. BAPTISTE, Portland, Oreg. Filed Aug. 15, 1906. Serial No. 330,719.



Claim.—1. A burner of the character described, which comprises a pair of parallelly-disposed apertured plates, each having an oil-collecting space on one side, the collecting-spaces of the two plates opposing each other, means for rotatably supporting the two plates whereby they can be turned to assume reverse positions, and a means for leading oil into the collecting-space of one of said plates through said supporting means for the purposes described.

2. A burner of the character described, comprising a tubular bearing adapted to be detachably fitted in a stove wall or door, a tubular member mounted in said bearing and having longitudinal adjustment therein, a burner on the inner end of the said tubular member, an oil-feed pipe that extends through the tubular member and discharges over the burner and means for fixedly connecting the tubular member to the feed-pipe, for the purposes described.

3. A burner of the character described, comprising in combination with a tubular bearing in the stove-body; a tubular member rotatably mounted in the said bearing and having longitudinal movement therein, a burner-plate supported on the inner end of the said tubular member in a plane below the said member, a second burner-plate on the tubular member inversely located over the first burner-plate, an oil-feed pipe mounted in the tubular member, and having its discharge located between the two burner-plates and means for securing the pivotal member that carries the burner-plates in its longitudinal and rotatably-adjusted positions, as set forth.

4. A burner of the character described, comprising a tube adapted to be rotatably supported in an aperture of the stove-wall, a pair of perforated burner-pans located one above the other, with their oil-receiving surfaces facing each other, said pans being secured to the inner end of the tube and an oil-feed pipe mounted in the tube with its discharge end located between the burner-pans, as set forth.

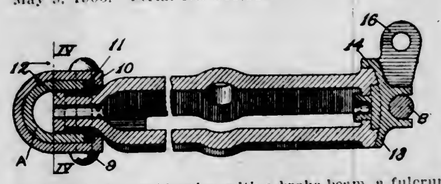
5. An oil-burner for stoves comprising a pair of superposed pans whose oil-receiving surfaces face each other, said pans having air-passages, means for rotatably mounting the said pans in the fire-box of the stove whereby to reverse the position thereof, and an oil-feed pipe having its discharge end projected between the burner-pans as set forth.

6. A self-cleaning oil-burner for stoves, consisting of a pair of superposed pans having conical air-passages that terminate in nozzles, the nozzle-faces of the two pans opposing each other, means for rotatably supporting said burner-pans within the stove fire-box, an oil-feed pipe whose discharge end projects between the two burner-pans and means for securing the burner-pans at their adjusted positions, as set forth.

7. The hereinbefore-described improvement in oil-burners for stoves, consisting of a pair of burner-pans, each having conical air-passages that terminate in discharge-nozzles projected from the bottoms of the pans, said pans being held with their nozzle sides facing each other, a tubular member having means at the inner end for supporting the burner-pans and adapted for being rotatably mounted in an aperture in the stove-body, a stationary oil-feed pipe that discharges at a point between the two burner-pans, and a means for fixedly connecting the tubular member to the oil-feed pipe, as set forth.

8. As a new article, a gas-burner for stoves, which comprises a tubular bearing member adapted to be secured in the stove-wall, a tube rotatably mounted in the said bearing, said tube having upwardly and downwardly projecting brackets, each provided with a shank, a pair of burner-pans, each having apertured extensions to fit on the shank end of the bracket, means for securing the pans on the said shanks, the said pans having air-apertures that terminate in nozzles, the nozzle-faces of the two pans opposing each other, an oil-feed pipe that passes through the rotatable tube and has its discharge end projected between the two burner-pans and means for clamping the rotatable tube on the oil-feed pipe, substantially as shown.

840,740. REVERSIBLE FULCRUM. CARL E. BAUER, Hammond, Ind., assignor to Simplex Railway Appliance Company, Chicago, Ill., a Corporation of Illinois. Filed May 9, 1906. Serial No. 315,886.



Claim.—1. In combination with a brake beam, a fulcrum comprising an open sided clip adapted to fit over the beam and provided with projecting inner edges, a headed king post adapted to fit such clip and securing means interposed between the said inner edges and the head of the king post.

2. In combination with a brake beam, a fulcrum comprising an open sided clip adapted to fit over the beam and provided with projecting inner edges, a headed king post adapted to revolubly fit such clip and securing means interposed between the said inner edges and the head of the king post.

3. In combination with a brake beam, a fulcrum comprising an open sided clip adapted to fit over the beam and provided with projecting inner edges, a headed king post adapted to fit such clip, securing means interposed between the said inner edges and the head of the king post, and through holding means to secure the clip to the beam and hold the said securing means in place.

4. In combination, a supporting means U shaped in section, a king post provided with a head fitting the supporting means, which head is shaped to be partially revoluble in the supporting means but to be positively stopped at a certain point, by the engagement of the head with the sides of the supporting means, and means for securing the head against longitudinal movement in the supporting means.

5. In combination, a supporting means U shaped in cross section, a king post provided with a head engaging the supporting means, which head has a short diameter fitting the inside width of the supporting means and a long diameter whereby the post will be positively stopped after a certain amount of revolution, and means for secur-

ing the head against longitudinal movement in the supporting means.

6. In combination, a supporting means U shaped in cross section, a king post provided with a head fitting the supporting means, which head is a pointed oval with the short diameter approximately fitting the inside width of the supporting means, and means for securing the head in the supporting means against longitudinal movement.

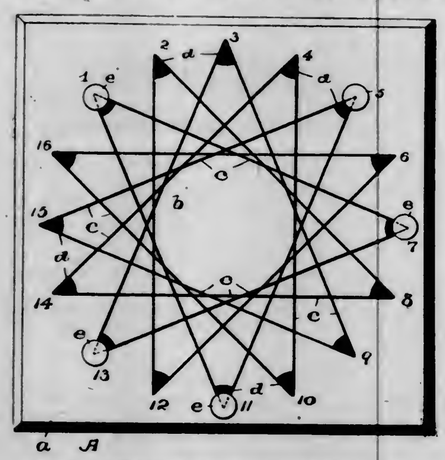
7. In combination with a trussed brake beam, an open sided clip for the beam provided with inner projecting edges, a king post supporting member having an open sided recess to engage the truss, a king post provided with a head engaging the clip and a bottom portion engaging the supporting member, and holding means interposed between the projecting edges of the clip and the head of the king post.

8. In combination with a trussed brake beam, an open sided clip for the beam provided with inner projecting edges, a king post supporting member having an open sided recess to engage the truss, a king post provided with a head rotatably engaging the clip and a bottom portion engaging the supporting member, and holding means interposed between the projecting edges of the clip and the head of the king post.

9. In combination, a brake beam U shaped in cross section, an open sided clip therefor, and a king post revolubly supported therein and provided with a head having stops adapted to engage the sides of the beam and limit the movement of revolution.

10. In combination, a brake beam U shaped in cross section, an open sided clip therefor, and a king post revolubly supported therein and provided with a pointed oval head adapted in certain positions to be positively engaged by the sides of the beam whereby the post is positioned rotatively.

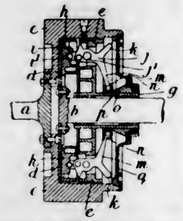
840,741. GAME OR PUZZLE. WILLIAM L. BEDELL, Newark, N. J. Filed Oct. 6, 1906. Serial No. 337,690.



Claim.—A puzzle or game comprising a base, a series of sixteen straight lines upon the face of said base, said lines meeting in points and forming a sixteen-point star-shaped figure, and a set of fourteen playing-pieces movably arranged upon said base, each playing-piece being adapted to be moved upon a straight line from a point at one end of the line to another point at the opposite end of the line, substantially as and for the purposes set forth.

840,742. FRICTION-CLUTCH COUPLING. HANS H. BENN, London, England. Filed Mar. 21, 1906. Serial No. 307,238.

Claim.—1. In a clutch-coupling of the kind described, the combination with a driving-shaft and a driven shaft in line with one another and having their ends adjacent, of a friction-disk mounted on the end of one of said shafts, a drum mounted on the adjacent end of the other of said shafts, a friction-ring mounted on said drum in line with said friction-disk and capable of moving into and out of engagement with said disk, toggle-links pivoted at one end to said ring and pivoted at their other end to said drum and means for operating said toggle-links to throw said ring into and out of engagement with said disk, substantially as described.



2. In a clutch-coupling of the kind described, the combination with a driving-shaft and a driven shaft in line with one another and having their ends adjacent, of a friction-disk mounted on the end of one of said shafts, a drum mounted on the adjacent end of the other of said shafts, a friction-ring mounted on said drum in line with said friction-disk and capable of moving into and out of engagement with said disk, toggle-links connecting said ring with said drum, means connected with said toggle-links for normally holding said ring in engagement with said disk and means for operating said toggle-links to throw said ring out of engagement with said disk, substantially as described.

3. In a clutch-coupling of the kind described, the combination with a driving-shaft and a driven shaft in line with one another and having their ends adjacent, of a hollow drum secured to the end of one of said shafts and provided with a friction-face, a friction-disk secured to the adjacent end of the other of said shafts, in line with and adjacent to said friction-face of said drum, a friction-ring mounted within said drum in line with said friction-disk and adjacent to its rear face, said ring being capable of moving into engagement with said disk to throw said disk into engagement with the friction-face of said drum, toggle-links pivoted at one end to said ring and pivoted at their other end to said drum and means for operating said toggle-links to throw said friction-ring into and out of engagement with said disk, substantially as described.

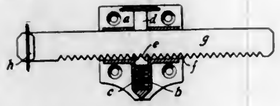
4. In a clutch-coupling of the kind described, the combination with a driving-shaft and a driven shaft in line with one another and having their ends adjacent, of a hollow drum secured to the end of one of said shafts and provided with a friction-face, a friction-disk secured to the adjacent end of the other of said shafts, in line with and adjacent to said friction-face of said drum, a friction-ring mounted within said drum in line with said friction-disk and adjacent to its rear face, said ring being capable of moving into engagement with said disk to throw said disk into engagement with the friction-face of said drum, toggle-links connecting said ring with said drum, coiled springs connecting said toggle-links and adapted to operate said links to normally hold said friction-ring in engagement with said friction-disk and means for operating said toggle-links to throw said ring out of engagement with said disk, substantially as described.

5. In a clutch-coupling of the kind described, the combination with a driving-shaft and a driven shaft in line with one another and having their ends adjacent, of a hollow drum secured to the end of one of said shafts and provided with a friction-face, a friction-disk secured to the adjacent end of the other of said shafts, in line with and adjacent to said friction-face of said drum, a friction-ring mounted within said drum in line with said friction-disk and adjacent to its rear face, said ring being capable of moving into engagement with said disk to throw said disk into engagement with the friction-face of said drum, toggle-links

connecting said ring with said drum, a sliding head mounted on one of said shafts, links connecting said sliding head with said toggle-links and means for normally retaining said toggle-links in position to lock said ring in engagement with said disk, substantially as described.

6. In a clutch-coupling of the kind described, the combination with a driving-shaft and a driven shaft in line with one another and having their ends adjacent, of a hollow drum secured to the end of one of said shafts and provided with a friction-face, a friction-disk secured to the adjacent end of the other of said shafts, in line with and adjacent to said friction-face of said drum, a friction-ring mounted within said drum in line with said friction-disk and adjacent to its rear face, said ring being capable of moving into engagement with said disk to throw said disk into engagement with the friction-face of said drum, toggle-links connecting said ring with said drum, a sliding head mounted on one of said shafts, links connecting said sliding head with said toggle-links, coiled springs connecting said toggle-links and adapted to normally retain said links in a position to lock said friction-ring in engagement with said friction-disk and a detachable cover adapted to be secured in the open end of said hollow drum whereby the clutching mechanism is entirely incased, substantially as described.

840,743. ADJUSTABLE SHADE OR CURTAIN FIXTURE. GEORGE BERES, Cleveland, Ohio. Filed June 7, 1906. Serial No. 320,540.



Claim.—1. The combination with a base member provided with a lateral slide *f*, and an intersecting opening *b*, of a toothed extension-bar *g*, normally positioned within the slide, a bracket or support *h*, mounted upon said bar, a spring *c*, positioned in the lower portion of the opening *b*, and a vertically-acting plunger part *d*, equipped with a lateral detent *c*, and disposed within the opening *b*, above the spring whereby the toothed extension-bar is normally held in its position of adjustment, substantially as set forth.

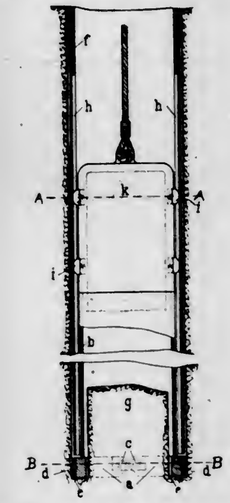
2. In an adjustable roller support or fixture, the combination with a fixed member adapted to be secured in position for support and provided with a transverse slide or way, of a toothed extension-bar longitudinally movable therein, a bracket carried thereby, and a manually-operated locking member adapted to secure the adjustable parts fixedly together; comprising a vertically-movable plunger having a lateral detent *c*, and a spring normally forcing said detent into engagement with the toothed extension-bar, substantially as set forth.

3. In an adjustable roller support or fixture, the combination with a fixed member adapted to be secured in position for support and provided with a transverse slide or way, of an extension-bar longitudinally movable therein; the same having a rack along its lower edge, a bracket carried thereby, a manually-operated locking member; the same comprising a vertical plunger extending above the supported shade-roller with a laterally and inferiorly positioned detent adapted to engage the extension-bar from beneath, and a spring acting thereon normally under tension adapted to secure the adjustable parts fixedly together, substantially as set forth.

840,744. REAMER. MICHAEL BOOF, Strassburg, Germany. Filed June 15, 1906. Serial No. 321,813.

Claim.—1. In a deep-boring reamer, in combination, a rotary working barrel, a boring-head sliding within the same, a crown-bit having two yokes pivoted to the head, and means for coupling the head with the barrel when rotation of the former is requisite, substantially as described.

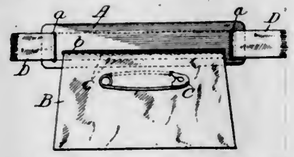
2. In a deep-boring reamer, in combination, a rotary working barrel having internal longitudinal grooves, a boring-head sliding within the barrel and external spring-actuated catches carried by the boring-head and engaging in



the said grooves, substantially as described.

3. In a deep-boring reamer, in combination, a rotary working barrel, a boring-head slidable thereon, means for coupling the head to rotate with the barrel, and a crown-bit composed of two yoke-shaped members pivoted to the lower end of the boring-head and resting under the lower end of the barrel during straight boring, substantially as described.

840,745. COMBINED SKIRT-SUPPORTER AND WAIST-RETAINER. WINFIELD S. BRAINERD, Chicago, Ill. Filed Nov. 5, 1906. Serial No. 342,066.



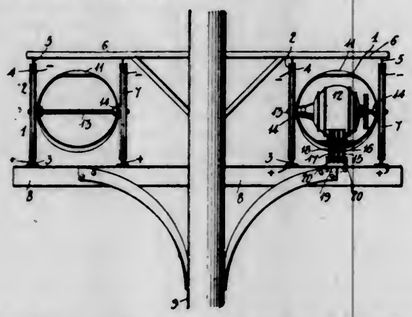
Claim.—As an article of manufacture, a combined skirt-supporter and waist-retainer comprising a horizontally-elongated strip of suitable flexible material having a vertically-elongated slot at each end, and a horizontally-elongated slot between said vertical slots near the lower edge of the strip, the lower edge of which is provided with serrations, a belt of suitable fabric threaded through said vertical slots, an apron inserted through said horizontally-elongated slot and prevented by said serrations from slipping toward the ends of the same, and means for securing the lapping ends of said apron to the waist.

840,746. PARCEL-CARRIER. ARTHUR S. BRETHERTON, Cleveland, Ohio. Filed Sept. 25, 1906. Serial No. 336,175.

Claim.—1. The combination with track-rails and wires arranged above the same, one of said wires serving as an electric conductor, of a carrier, an electric motor thereon, an axle driven by said motor, and grooved wheels fixed upon said axle and engaged with said track-rails and said wires, substantially as shown and described.

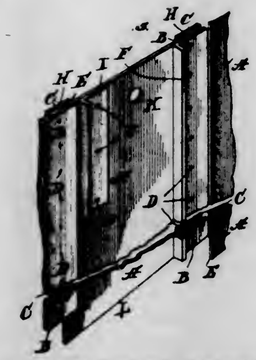
2. The combination with track-rails and wires arranged above the same, one of said wires serving as an electric conductor, of a carrier, an electric motor thereon, an axle driven by said motor, grooved wheels fixed upon said axle

to run upon said track-rails and engage said wires, and means for automatically controlling the supply of an electric current to the motor.



3. The combination with track-rails and wires arranged above the same, one of said wires serving as an electric conductor, of a carrier, an electric motor thereon, an axle driven by said motor, grooved wheels fixed upon said axle to run upon said track-rails and engage said wires, a motor-controlling device upon said carrier and a trip arranged adjacent to the track-rails for actuating said device.

840,747. TEMPORARY RETAINING-WALL FOR USE IN THE CONSTRUCTION OF SEWERS. MICHAEL P. BYRNE, Chicago, Ill. Filed Oct. 3, 1904. Serial No. 227,015.



Claim.—1. In a retaining-wall, the combination of a series of plates each having at one edge a channel formed by strips attached to either side of the plate and extending beyond that edge, together with a filling-piece between one strip and the plate, in which channel the opposite edge of the adjacent plate is adapted to slide.

2. In a retaining-wall, the combination of a series of plates each having at one edge a channel in which the opposite edge of the adjacent plate is adapted to slide, one side of which channel is formed by a strip, parallel with the plane of the plate and extending at one edge beyond the edge of the plate, and bent at its other edge at an angle to the side of the plate to form a strengthening-web.

3. In a retaining-wall, the combination of a series of plates each having at one edge a channel formed by strips attached to either side of the plate and extending beyond that edge, together with a filling-piece between one strip and the plate, in which channel the opposite edge of the adjacent plate is adapted to slide, one of which strips has one of its edges turned at an angle with the side of the plate to form a longitudinal strengthening-web.

4. In a retaining-wall, a plate or section provided at one side margin with a channel located in the vertical plane of the plate and made plain at its other side margin to enter a like channel of an adjacent plate or section, said channel being formed between two plates attached to the opposite faces of the plate or section and extending laterally beyond the side margin thereof, one of said channel-forming plates being turned at an angle to said section or plate to constitute a strengthening-web for the latter.

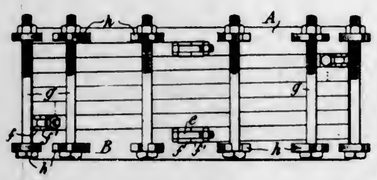
5. In a retaining-wall, the combination of a series of plates each having at one edge a channel formed by strips attached to either side of the plate and extending beyond that edge, together with a filling-piece between one strip and the plate, in which channel the opposite edge of the adjacent plate is adapted to slide, one of which strips has one of its edges turned at an angle with the side of the plate to form a longitudinal strengthening-web, the lower end of each plate being beveled transversely.

840,748. HANDLE FOR SAFETY-RAZOR BLADES. RIDNER P. CAFFERTY, Jr., Brooklyn, N. Y. Filed Feb. 6, 1906. Serial No. 299,697.



Claim.—A handle for razor-blades, said handle being tubular in form and larger at one end than at the other and composed of two parts, which are concavo-convex in cross-section, said parts being connected at one end and flattened at the other end to form parallel flat jaws, one of said jaws being provided at intervals with holes or apertures and the other with lugs adapted to pass through said holes or apertures, a spring placed between the handle members for forcing them apart and a sleeve mounted on said handle and adapted when moved in one direction to force the separate parts thereof and the said jaws together.

840,749. VULCANIZING-MOLD. HENRY Z. COBB, Chelsea, Mass., assignor to Revere Rubber Company, Boston, Mass., a Corporation of Massachusetts. Filed Aug. 6, 1906. Serial No. 329,402.



Claim.—1. A vulcanizing-mold for the purpose set forth, comprising in combination, a plurality of mold-sections separably secured flatwise one upon the other and provided with molding-faces extending continuously and sinuously through the mold, one of such sections having a recess adapted to permit the sidewise introduction of the article to be molded.

2. A vulcanizing-mold for the purpose set forth, comprising in combination, a plurality of mold-sections separably secured flatwise one upon the other, and having a plurality of molding-faces, each of which extends continuously and sinuously through the mold, one of such sections having a recess adapted to permit the sidewise introduction of the article to be molded.

3. A vulcanizing-mold for the purpose set forth, comprising in combination end plates forming mold-sections, and one or more intermediate annular sections, all piled flatwise one upon the other, and separably secured together and such sections being provided with molding-faces extending continuously and sinuously through the mold, and being recessed to permit the sidewise introduction of the article to be molded.

4. In a sectional mold, a section having a molding-face, the ends of which lie in different planes, such ends being sufficiently separated to permit the sidewise passage of the article to be molded to such face.

5. In a sectional mold, a substantially annular section of spiral form recessed to form two opposing ends, such

ends being spaced apart sufficiently to permit the introduction between them of the article to be molded.

840,750. CLASP. ADOLPH H. COHN, Larchmont, N. Y. Filed Apr. 26, 1906. Serial No. 313,750.



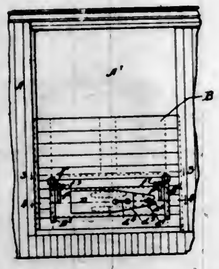
Claim.—1. A garment-clasp comprising a frame, a plate therein, a body of soft fabric backing material held between the frame and plate, a pivoted tongue member, means for depressing and holding the tongue in its locking position, means bearing against the tongue normally tending to throw the same out of locking position.

2. A clasp comprising a frame, a plate therein, a relatively soft fabric backing carried by the plate, lugs formed on said plate, a pivoted tongue member, a locking-lever pivoted between said lugs and adapted to bear against the tongue member to lock the same in its operative clasping position.

3. The combination with a garter, of a clasp connected to the same and comprising a body portion having one face thereof covered with a fabric forming a bearing-surface, a tongue pivoted to the body portion of the clasp, a cam-lever for pressing said tongue into its locking position, and a spring normally tending to throw said tongue out of its locking position.

4. A clasp comprising a grooved frame, a backing of fabric resting within said frame, a plate for clamping the fabric within the frame, a tongue pivoted to said plate, and a lever for moving said tongue into locking position.

840,751. GRAIN-CAR DOOR. ROY J. COOK and HILLIMANN H. HARVEY, Chicago, Ill. Filed Mar. 8, 1906. Serial No. 304,825.



Claim.—1. In a grain-car door, the combination ..... the main door, having an opening to receive a release or supplemental door, and provided with guide strips or keepers therefor, of a release or supplemental door comprising two sections hinged together at their meeting ends, two-way hinges having sliding members connecting said release or supplemental door with the main door, one of the sections of the release or supplemental door being provided with a projecting or overlapping member, and the other with a fastening and releasing device engaging said overlapping or projecting member, substantially as specified.

2. In a car, the combination with a vertically-sliding and inwardly-swinging main door, having a supplemental-door opening therein, and provided with guides or keepers at the ends of said opening to engage the outer ends of the supplemental door, of a horizontally and vertically swinging supplemental door composed of two sections hinged together at their meeting ends, and two-way hinges having sliding members connecting said supplemental door with the main door, substantially as specified.

3. In a car, the combination with a vertically-sliding and inwardly-swinging main door, having a supplemental-door opening therein, and provided with guides or keepers at the ends of said opening to engage the outer ends of the supplemental door, of a horizontally and vertically swinging supplemental door composed of two sections hinged together at their meeting ends, and two-way hinges having sliding members connecting said supplemental door with the main door, one of the hinged sections of the supplemental door having an outer overlapping handle member and a fastening and releasing device for connecting the overlapping handle member with the other section of the supplemental door, substantially as specified.

4. The combination with guides or keepers B^2 to engage and hold in position the opposite ends of the door D, of the door D comprising two sections hinged together at their meeting ends to enable the door to swing horizontally outward sufficiently at its middle to retract or withdraw the ends of the door from said guides or keepers B^2 and two-way hinges having sliding members upon which the door is mounted to enable it to swing both horizontally and vertically, substantially as specified.

5. The combination with guides or keepers B^2 to engage and hold in position the opposite ends of the door D, of the door D comprising two sections hinged together at their meeting ends to enable the door to swing horizontally outward sufficiently at its middle to retract or withdraw the ends of the door from said guides or keepers B^2 and two-way hinges having sliding members upon which the door is mounted to enable it to swing both horizontally and vertically, the members of said two-way hinges having a horizontally-sliding movement upon each other.

6. The combination with guides or keepers B^2 to engage and hold in position the opposite ends of the door D, of the door D comprising two sections hinged together at their meeting ends to enable the door to swing horizontally outward sufficiently at its middle to retract or withdraw the ends of the door from said guides or keepers B^2 and two-way hinges having sliding members upon which the door is mounted to enable it to swing both horizontally and vertically, one of the sections of said door having an overlapping handle member, and a fastener for connecting said handle member with the other section, substantially as specified.

7. The combination with guides or keepers B^2 to engage and hold in position the opposite ends of the door D, of the door D comprising two sections hinged together at their meeting ends to enable the door to swing horizontally outward sufficiently at its middle to retract or withdraw the ends of the door from said guides or keepers B^2 and two-way hinges upon which the door is mounted to enable it to swing both horizontally and vertically, the members of said two-way hinges having a horizontally-sliding movement upon each other, one of the sections of said door having an overlapping handle member, and a fastener for connecting said handle member with the other section, substantially as specified.

8. The combination with a door comprising two sections hinged together at their meeting ends, of two-way hinges F having horizontally-sliding members upon which the door is mounted, substantially as specified.

9. The combination with a door comprising two sections hinged together at their meeting ends, of two-way hinges F having horizontally-sliding members upon which the door is mounted, said two-way hinges having a pin or pintle member provided with upright and horizontal arms, substantially as specified.

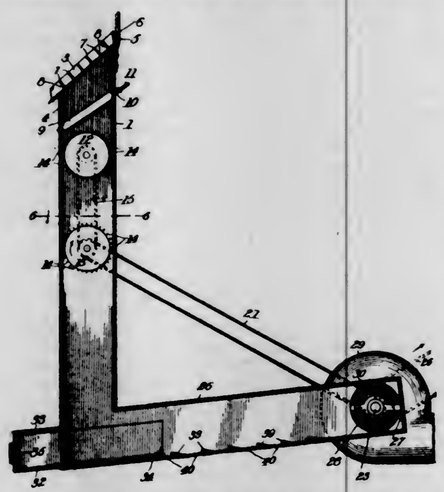
10. The combination with a door comprising two sections hinged together at their meeting ends, of two-way hinges F having horizontally-sliding members upon which the door is mounted, said two-way hinges having a pin or pintle member provided with upright and horizontal arms, and a hinge-strap secured to the door-section sliding on the horizontal arm of the pin or pintle member, substantially as specified.

11. The combination with a door comprising two sections hinged together at their meeting ends, of two-way hinges F having horizontally-sliding members upon which the door is mounted, one of the sections of said door having an overlapping handle member, and the other a fastening and releasing device to engage said overlapping handle member, substantially as specified.

12. The combination with a door comprising two sections

hinged together at their meeting ends, of two-way hinges F having horizontally-sliding members upon which the door is mounted, one of the sections of said door having an overlapping handle member, and the other a fastening and releasing device to engage said overlapping handle member, said overlapping handle member having a slotted end to engage said fastening and releasing device, substantially as specified.

840,752. APPARATUS FOR EXTRACTING AND SAVING GOLD. JOSEPH A. COOMBES, Atlantic City, N. J., assignor to The Aurum Mining Company, Corporation of Arizona. Filed Nov. 10, 1905. Serial No. 286,695.



Claim.—1. In a gold-saving apparatus, a vertical casing, an inclined hopper adjustably and removably mounted at the upper end of said casing, a pivotally-mounted inclined regulator within said casing beneath said hopper, a pair of cylinders mounted to revolve in unison within said casing beneath said regulator, and means for revolving said cylinders.

2. In a gold-saving apparatus, a vertical casing, an inclined hopper adjustably and removably mounted at the upper end of said casing, a pivotally-mounted inclined regulator within said casing beneath said hopper, a pair of cylinders mounted to revolve in unison within said casing beneath said regulator, means for revolving said cylinders, a horizontally-inclined casing communicating with the lower end of the vertical casing, a suction-fan located at one end of said horizontal casing, and a receptacle removably inserted in the other end beneath said cylinders.

3. In a gold-saving apparatus, a vertical casing, an inclined hopper adjustably and removably mounted at the upper end of said casing, a pivotally-mounted inclined regulator within said casing beneath said hopper, a pair of cylinders mounted to revolve in unison within said casing beneath said regulator, means for revolving said cylinders, a horizontally-inclined casing communicating with the lower end of the vertical casing, a suction-fan located at one end of said horizontal casing, and a receptacle removably inserted in the other end beneath said cylinders, the bottom of the horizontal casing between the fan and the receptacle being provided with riffles.

4. In a gold-saving apparatus, a vertical casing, an inclined hopper adjustably mounted at the upper end of said casing, a pivotally-mounted inclined regulator within said casing beneath said hopper, a pair of cylinders mounted to revolve in unison within said casing beneath said regulator, means for positively revolving said cylinders, a horizontally-disposed casing communicating with the lower end of the vertical casing, and a suction-fan located at the end of the horizontal casing farthest from the vertical casing.

5. In a gold-saving apparatus, a vertical casing, an inclined hopper adjustably mounted at the upper end of said casing, a pivotally-mounted inclined regulator within said casing beneath said hopper, a pair of cylinders mounted to revolve in unison within said casing beneath said regulator, means for positively revolving said cylinders, a horizontally-disposed casing communicating with the lower end of the vertical casing, and a suction-fan located at the end of the horizontal casing farthest from the vertical casing, said cylinders being provided with projections upon their peripheries.

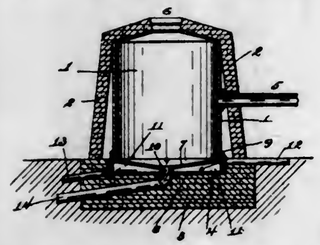
6. In a gold-saving apparatus, a casing, an inclined hopper at the upper end thereof, a pivotally-mounted regulator in said casing beneath said hopper, cylinders disposed one above the other in said casing beneath the regulator and having rigid prejections on their peripheries, a horizontal portion in communication with said casing, and a suction-fan at the rear end of said horizontal portion.

7. In a gold-saving apparatus, a casing having a hopper at its upper end, cylinders in said casing, one above the other and having rigid points on their peripheries, a horizontal portion with a suction-fan at its rear end, and riffles at the bottom of the horizontal portion.

8. In a gold-saving apparatus, a vertical casing, a horizontal portion in communication therewith, a suction-fan at one end of the horizontal portion, and a removable box at the other end and cylinders revoluble in the vertical casing above said box, said cylinders being disposed one above the other and positively driven.

9. In a gold-saving apparatus, a vertical casing, a substantially horizontal portion in communication therewith and having a bottom with alternately-disposed riffles and corrugations, a suction-fan at one end of the horizontal portion, a gold-collecting receptacle at the other end having a portion with a perforated top, and a cylinder revoluble in the vertical casing above said receptacle.

840,753. WOOD-STILL RETORT. HENRY COPILOVICH, Hinckley, Minn. Filed Oct. 13, 1906. Serial No. 338,791.



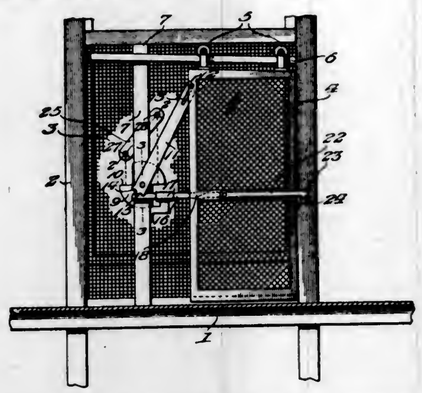
Claim.—1. In a wood-still, the combination, with a retort, of a retort-bottom comprising an inclosed chamber having a central neck and adapted to have a cooling fluid discharged thereinto for circulation around the neck, and means for conveying said fluid into and from the chamber.

2. In a wood-still, the combination, with a retort, of a vessel having top, bottom and side walls forming an annular chamber having a central passage, a water-pipe attached to the side wall and discharging into the chamber adjacent its top, and a water-pipe attached to the side wall adjacent the bottom of the chamber, and leading from the latter.

3. In a wood-still, the combination, with a retort, of a vessel having a central neck, top, bottom and side walls, forming an inclosed cooling-chamber, an annular flange projecting from the side wall above the top wall and adapted to surround the bottom of the retort, and the pipes attached to the vessel and discharging into and from the chamber.

4. In a wood-still, the combination, with a retort, of a retort-bottom having a chamber, a spray-pipe in the chamber, the induction-pipe to which the spray-pipe is connected, and the discharge-pipe connected to the chamber.

840,754. ELEVATOR-DOOR-OPENING DEVICE. MARK N. DAVIS, Baltimore, Md. Filed Apr. 4, 1906. Serial No. 309,879.



Claim.—1. In a door-opening device for elevators, the combination with a shaft and a door closing an entrance thereto, of door-operating means comprising a pivoted lever, an oscillatory wheel or disk for actuating said lever, a releasing device operated by the lever for retracting the latch of the door, and a car provided with members for engaging and operating said wheel or disk on the upward or downward movement of the car.

2. In a door-opening device for elevators, the combination with a shaft and a door closing an entrance thereto, of a swinging latch carried by the door, an arm connected with the latch and having a beveled portion, a sliding latch-releasing bar having a coöperating beveled portion and rack-teeth, a lever pivotally connected with the elevator frame and door and provided with rack-teeth engaging the teeth on the releasing-bar, an operating wheel or disk connected with said lever, and a car provided with members for engaging said wheel or disk on the upward or downward movement of the car.

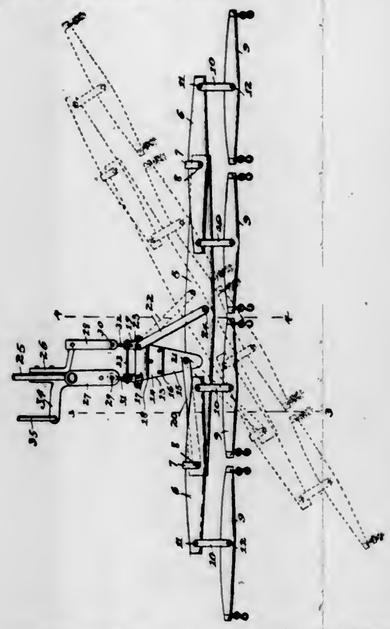
3. In a door-opening device for elevators, the combination of a sliding door, a lever pivotally connected with the elevator frame and door, an oscillatory disk or wheel for actuating said lever, said disk or wheel being provided with a plurality of contact portions, controllable devices on the elevator-car for operating the wheel, and door-lock-releasing mechanism controlled by the lever.

4. In a door-opening device for elevators, the combination of a sliding door, lock-releasing and opening mechanism therefor embodying an oscillatory disk or wheel provided with a plurality of contact portions, coöperating contact devices on the car arranged in different horizontal and vertical planes to effect the actuation of the disk on the upward or downward movement of the car, and means for projecting and retracting said contact devices.

840,755. DRAFT-EQUALIZER. BENJAMIN J. DETRICK and IRA A. WEAVER, Springfield, Ill.; said Weaver assignor to said Detrick. Filed Sept. 19, 1906. Serial No. 335,264.

Claim.—1. In a draft-equalizer, the combination with a draft-bar, of a connection-piece capable at its forward end of overlapping the draft-bar, means for holding said connection-piece against angular movement, and links connecting separated points on said connection-piece with the draft-bar at approximately the longitudinal center and one end of the latter, respectively, substantially as described.

2. In a draft-equalizer, the combination with a draft-bar, of a connection-piece open at its forward end and capable of overlapping the sides of the draft-bar, means for holding said connection-piece against angular movement, and links connecting separated points on both sides of said connection-piece with both sides of the draft-bar at approximately the longitudinal center and one end of the latter, respectively, substantially as described.



3. In a draft-equalizer, the combination with a draft-bar, of a connection-piece capable at its forward end of overlapping the draft-bar, means for holding said connection-piece against angular movement, a link connecting the forward portion of said connection-piece with one end of the draft-bar, and another link connecting the rear portion of said connection-piece with the draft-bar near the longitudinal center of the latter, substantially as described.

4. In a draft-equalizer, the combination with a draft-bar, of a connection-piece open at its forward end and capable of overlapping the sides of the draft-bar, means for holding said connection piece against angular movement, a pair of links connecting the opposite sides of the forward portion of said connection-piece with the opposite sides of one end of the draft-bar, and another pair of links connecting the opposite sides of the rear portion of said connection-piece with the opposite sides of the draft-bar near the longitudinal center of the latter, substantially as described.

5. In a draft-equalizer, the combination with a draft-bar, of a connection-piece consisting of a pair of metal plates secured together and having laterally-offset forward end portions adapted to overlap the sides of the draft-bar and laterally-offset rear portions adapted to embrace the cross-clevis of a plow or like implement, a pair of links connecting the offset forward portions of the connection-piece with the opposite sides of one end of the draft-bar, and another pair of links connecting the offset rear portions of the connection-piece with the opposite sides of the draft-bar near the longitudinal center of the latter, substantially as described.

6. The combination with a clevis and a plow-beam, of a connection between said parts permitting lateral bodily movement of said clevis but preventing angular movement thereof, substantially as described.

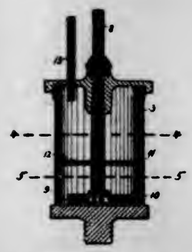
7. The combination with a clevis and a plow-beam, of a pair of links pivotally connected at their opposite ends to laterally-separated points on said clevis and plow-beam, respectively, whereby said clevis is permitted a lateral bodily movement but is prevented from angular movement, substantially as described.

8. The combination with an equalizer-bar, and a connection-piece, of links connecting the latter to said equalizer-

bar in a manner to resist endwise thrust of the latter under draft of the team, a clevis, and means connecting the latter to the plow or other implement permitting bodily lateral movement of said clevis and connection-piece but preventing angular movement thereof, substantially as described.

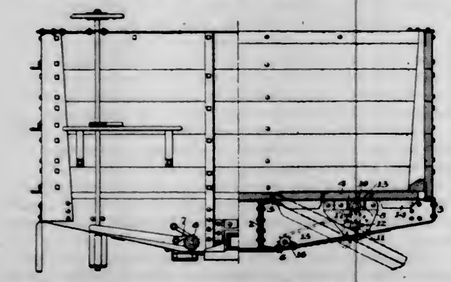
9. The combination with an equalizer-bar, and a connection-piece, of links connecting the latter to said equalizer-bar in a manner to resist endwise thrust of the latter under draft of the team, a cross-clevis connected to the rear end of said connection-piece, a plow-beam, a pair of links pivotally connected at their opposite ends to laterally-separated points on said cross-clevis and plow-beam, respectively, and means under control of the operator for swinging said last-named links on their pivotal connections to the plow-beam, whereby said cross-clevis and connection-piece may be moved laterally without angular movement, substantially as described.

840,756. METHOD OF PURIFYING AIR. JOHN M. DIETERLE, St. Louis, Mo. Filed Feb. 16, 1903. Serial No. 143,525.



Claim.—The herein-described process of preparing air for use in forcing beer from a barrel in vending the same, consisting in the following successive steps, first discharging air under pressure into a liquid mass of glycerin at a multiplicity of points adjacent the bottom of the latter, splitting up said compressed air into finely-divided streams, whereby said streams may individually course upwardly through said glycerin to have the moisture and impurities removed, then passing said streams of air through a strainer after they have become freed of said glycerin, then passing said air through an aroma-imparting mixture, and finally collecting the air immediately it has left said mixture and while still in a compressed state in a storage receptacle.

840,757. DOOR-OPERATING MECHANISM. FRANK DITCHFIELD, Bellevue, Pa., assignor to Pressed Steel Car Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Mar. 21, 1905. Serial No. 251,220.



Claim.—1. Door-operating mechanism comprising a main operating-shaft, another rock-shaft having a crank-arm, a swinging door actuated by the crank-arm, said door and arm swinging in the same or parallel planes, and an actuating connection between the main operating-shaft and the crank-arm shaft; substantially as described.

2. Door-operating mechanism comprising a longitudinal power-shaft, a series of separated shafts parallel therewith, each having a crank-arm, swinging doors actuated by said crank-arms, said doors and arms swinging in the same or parallel planes, and actuating connections between the main operating-shafts and the separate crank-arm shafts; substantially as described.

3. Door-operating mechanism comprising a power-shaft extending longitudinally of the car at one side of its center, a series of doors arranged to swing in paths transverse of the car, shafts having crank-arms swinging parallel to the planes of the paths of the doors, and sprocket connections between the main operating-shaft and the crank-arm shafts; substantially as described.

4. Door-operating mechanism comprising crank-arms engaging the door, said crank-arms moving slightly inside the vertical when in closed position, and stops for the arms in such position; substantially as described.

5. In door-operating mechanism, a swinging crank-arm, flexible connections arranged to turn the arm, and a stop for the arm in closed position, said stop being stationary relatively to the crank-arm shaft; substantially as described.

6. In door-operating mechanism, a short shaft having an intermediate sprocket-wheel, crank-arms secured to the shaft on opposite sides of the sprocket-wheel, and separate doors engaged by the crank-arms; substantially as described.

7. Door-operating mechanism comprising two crank-arms on the same rotary support, a sprocket-wheel on the support between the crank-arms, and a chain arranged to turn the sprocket; substantially as described.

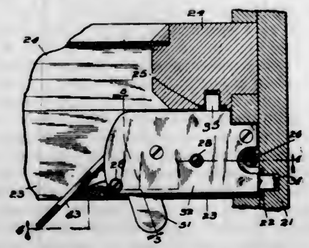
8. A car having two doors, a bearing supported on the frame between said doors, a shaft carried in the bearing and having crank-arms engaging both doors, and a separate power-shaft having actuating connection with the said crank-arm shaft; substantially as described.

9. A car having a series of doors in its floor arranged to swing downwardly and inwardly toward the longitudinal axis of the car, a longitudinal operating-shaft near the longitudinal axis of the car, rocking crank-arms beneath the series of doors and swinging in parallel planes with the paths of said doors, and actuating connections from the power-shaft arranged to rock said crank-arms; substantially as described.

10. A car having downwardly and inwardly swinging doors in its floor, a longitudinal power-shaft extending below the floor near the hinged ends of the doors, a series of stub-shafts outside of and parallel with the power-shaft, crank-arms on the stub-shafts, and flexible connections from the power-shaft arranged to simultaneously rock the series of stub-shafts; substantially as described.

11. A car having a series of doors in its floor arranged to swing in parallel planes, crank-arms arranged to operate the doors and swinging in parallel planes therewith, separated stub-shafts for the crank-arms, and a power-shaft having actuating connections with several of said stub-shafts; substantially as described.

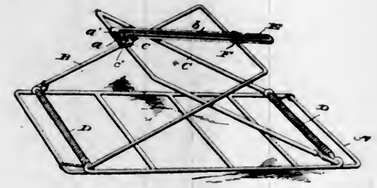
840,758. SASH-LOCK. OLIVER L. DURFLINGER, Indianapolis, Ind. Filed May 28, 1906. Serial No. 319,026.



Claim.—1. A sash-lock comprising a suitable inclosing casing, a pair of sliding bolts mounted therein and projectable therefrom along lines substantially at right angles to each other, a plate 43 pivotally mounted within the casing and provided with portions projecting adjacent the sliding bolts, a connection between said projections and each bolt whereby the bolts may be positively reciprocated by oscillation of the plate, an operating-handle carried by said plate and projecting from the casing, a spring mounted within the casing and normally urging the bolts and plate to one extreme of position, and a catch member pivotally mounted within the casing and adapted to engage the plate to hold the same against movement in one direction.

2. A sash-lock comprising a suitable inclosing casing, a pair of sliding bolts mounted therein and projectable therefrom along lines substantially at right angles to each other, a plate 43 pivotally mounted within the casing and provided with portions projecting adjacent the sliding bolts, a connection between said projections and each bolt whereby the bolts may be positively reciprocated by oscillation of the plate, an operating-handle carried by said plate and projecting from the casing, a spring mounted within the casing and normally urging the bolts and plate to one extreme of position, and a catch consisting of a strip having oppositely-arranged notches in its edges, said strip lying within a notch formed in the side wall of the casing, the notches in the strip receiving the said side wall, said strip having at its inner end a portion adapted to engage the pivoted plate, substantially as and for the purpose set forth.

840,759. LETTER-CLASPING DEVICE. CLAUD B. ELLIOTT and JOHN T. LOGGINS, Hempstead, Tex. Filed July 26, 1906. Serial No. 327,911.



Claim.—1. In a letter-clasping device, the combination of a base, clamping members pivoted thereto, and a fastening member connected to one clamping member and having a slot for the adjustment of the other clamping member and also having a seat extending from the slot for adjustably fixing said member.

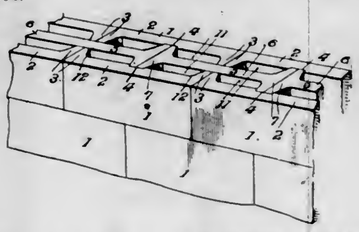
2. In a letter-clasping device, the combination of a base, clamping members pivoted thereto, a fastening member connected to one clamping member and having a longitudinal slot and a seat extending from the inner end of said slot, and means carried by the other clamping member and movable in the slot of the fastening member and into and out of the seat at the inner end of the slot.

3. In a letter-clasping device, the combination of a base, spring-pressed clamping members pivoted thereto; one of said clamping members carrying a lug provided with a threaded aperture, a fastening member connected to the other clamping member and having a longitudinal slot and an angularly-disposed seat at the inner end of the slot, and a set-screw extending through the slot of the fastening member and into the threaded aperture of the lug of the clamping member and having a shoulder arranged to engage the fastening member.

4. In a letter-clasping device, the combination of a base, clamping members pivoted thereto; one of said clamping members carrying a projection, and a fastening member carried by and movable on the other clamping member and having a slot and a seat in communication with the slot to receive the said projection.

5. In a letter-clasping device, the combination of a base, clamping members pivoted thereto; one of said clamping members carrying a projection, and a fastening member connected to and adjustable laterally on the other clamping member and having a slot and a seat in communication with the slot to receive the said projection.

840,760. WALL STRUCTURE. WILLIS H. FISHER, Mount Gilead, Ohio. Filed July 12, 1905. Serial No. 269,304.



Claim.—1. A wall of three thicknesses comprising a middle thickness formed of blocks composed of a body portion having a projection extending out from each side of the body portion at each end thereof and substantially E-shaped blocks laid on each side of the middle thickness to form the outer thicknesses of said wall, the projections on the middle thickness extending between the lateral ends of the substantially E-shaped blocks, the projections on the middle blocks being spaced apart from the lateral ends of the E-shaped blocks, so as to leave vertical air-spaces in the wall.

2. A wall of three thicknesses comprising a middle thickness formed of blocks having a projection extending out from each side of the body portion at each end thereof, and blocks composed of a body portion and a lateral projection extending at an angle from one side of the body portion at each side thereof, laid on each side of the middle thickness to form the outer thicknesses, projections on the middle thickness extending between the projections of the blocks formed on the outer thicknesses, the projections on the middle thickness being spaced apart from the lateral projections of the blocks of the outer thicknesses, so as to leave vertical air-spaces in the wall.

3. A wall of three thicknesses comprising a middle thickness formed of blocks composed of a body portion, having a projection extending out from each side of the body portion at each end thereof and blocks composed of a body portion and a lateral projection extending at an angle from one side of the body portion from each end thereof and a depression formed in the side of the body portion into which the projections on the blocks of the middle thickness are adapted to enter to lock the parts of the wall together, said projections on the blocks forming the middle thickness being spaced apart from the lateral projections of the blocks forming the outer thicknesses so as to leave vertical air-spaces in the wall.

840,761. POWER-PRESS. HARBERT K. FORBIS, Columbus, Ohio. Filed May 10, 1906. Serial No. 316,079.

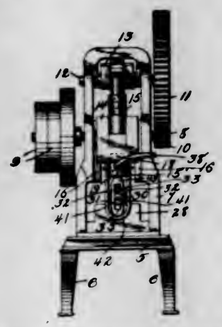
Claim.—1. In a machine for perforating turnbuckles, a punch adapted to enter between the side bars of a turnbuckle, a reciprocatory die coacting with said punch, and a stripping mechanism for stripping the turnbuckles from said punch.

2. In a machine for perforating turnbuckles, the combination with a reciprocatory head, of a die carried by said head, a fixed punch adapted to enter between the side bars of a turnbuckle, and a stripping mechanism carried by said reciprocatory head.

3. In a machine of the character described, the combination with a reciprocatory die-head, of a fixed punch-support having a reduced portion which is adapted to enter between the side bars of a turnbuckle, a punch carried by said reduced portion, a die carried by said reciprocatory head, and a stripper mechanism for stripping the turnbuckle from the punch.

4. In a machine for perforating turnbuckles, the combi-

nation with a reciprocatory head, of a die carried in said head, a punch adapted to enter between the side bars of a turnbuckle, and an ejecting mechanism located in said head above the die.



5. In a machine for perforating turnbuckles, the combination with a reciprocatory head, of a die carried by said head, a stripping mechanism carried by said head, and a fixed punch lying directly beneath said die, said punch being adapted to enter between the side bars of a turnbuckle.

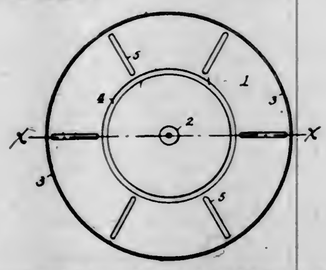
6. In a machine for perforating turnbuckles, a reciprocatory head, a fixed punch adapted to enter between the side bars of a turnbuckle, a die carried by said reciprocatory head and coacting with said punch, and a yielding bar having its lower end beveled and located in said head above the die.

7. In a machine for perforating turnbuckles, a reciprocatory head, a die carried by said head, and a punch coacting with said die and adapted to enter between the side bars of a turnbuckle, said head being cut away as and for the purposes set forth.

8. In a device of the character set forth, the combination with a reciprocatory head, of a die carried by said head, a fixed punch, and a U-shaped yoke carried by the reciprocatory head, the arms of said yoke lying upon each side of said punch and the lower portion of said yoke lying directly beneath said punch.

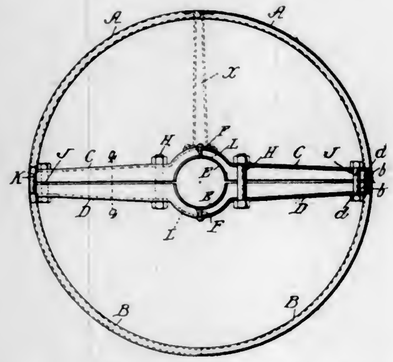
9. In a machine for perforating turnbuckles, the combination with a punch adapted to enter between the side bars of a turnbuckle, of a die, and a reciprocatory stripper mechanism for stripping a turnbuckle from said punch.

840,762. COOKING-UTENSIL COVER. PAUL F. GAENZLE, Reading, Pa., assignor to Gaenzle, Regenfuse & Company, Reading, Pa., a Firm. Filed Mar. 14, 1906. Serial No. 316,642.



Claim.—A cover for frying-pans consisting of a flat circular plate of sheet metal, an upturned bead formed on the periphery thereof, a circular depression midway between the center and the periphery thereof, a series of radiating depressions extending from a point near the outer edge of said circular depression to a point near the periphery of the cover, and a centrally-disposed knob.

840,763. PULLEY. HENRY J. GILBERT, Saginaw, Mich. Filed June 9, 1903. Serial No. 160,730.



Claim.—1. A separable pulley comprising sheet-metal rim-segments, a plurality of sets of spoke-arms of uniform construction formed of sheet metal and secured in said rim-segments, half-thimbles in the shaft-opening of the hub portions of the spoke-arms, formed of sheet metal, and secured to and permanently connecting the several sets of arms, and clamping-bolts for securing the pulley-halves to the shaft; substantially as and for the purpose described.

2. A separable pulley comprising sheet-metal rim-segments, a plurality of sets of spoke-arms of uniform construction formed of sheet metal and secured in said rim-segments, and each composed of a hub portion and integral radial arms, half-thimbles in the shaft-opening of the hub portions of the spoke-arms formed of sheet metal and secured to and permanently connecting the several sets of arms, and clamping-bolts for securing the pulley-halves to the shaft; substantially as and for the purpose described.

3. A separable pulley comprising sheet-metal rim-segments, a plurality of sets of sheet-metal spoke-arms of uniform construction secured in said rim-segments, each spoke-arm being of approximately U shape in cross-section and comprising a hub portion and two integral radially-extending arms secured at their outer ends to the rim-segments, half-thimbles in the shaft-opening of the hub portions of the spoke-arms formed of sheet metal and secured to and permanently connecting the several sets of arms, and clamping-bolts for securing the pulley-halves to the shaft; substantially as and for the purpose described.

4. A separable pulley comprising the sheet-metal half-rims A B, the spoke-arms C D formed of sheet metal approximately U-shaped in cross-section and comprising the hub portions and the radially-extending arms secured at their outer ends to the half-rims, and the half-thimbles E E formed of sheet metal and permanently secured in the hub portions of the spoke-arms; substantially as described.

5. A sheet-metal pulley comprising rim-segments having their meeting ends bent inward and backward to form sockets or recesses, and spoke-arms provided with suitably-shaped ends to engage such sockets and riveted to the rim; substantially as described.

6. A sheet-metal pulley comprising rim-segments having their meeting ends bent inward and backward to form sockets or recesses, and sheet-metal spoke-arms provided with laterally-projecting end tongues fitting in said sockets and riveted to the rim; substantially as described.

7. A sheet-metal pulley comprising rim-segments having their meeting ends bent inward and backward to form sockets or recesses, and sheet-metal spoke-arms provided with end tongues bent vertically or circumferentially of the pulley and fitting in said sockets and riveted to the rim; substantially as described.

8. A sheet-metal pulley comprising rim-segments having their meeting ends bent inward and backward to form sockets or recesses, and sheet-metal spoke-arms provided with laterally and vertically projecting end tongues fitting in said sockets and riveted to the rim; substantially as described.

9. A sheet-metal pulley comprising rim-segments having their meeting ends bent inward and backward to form the flanges *d* and inclosed sockets or recesses, and the sheet-metal spoke-arms approximately U shape in cross-section and having their ends slit and bent outward to form the tongues *c* fitting in said sockets and riveted to the rim; substantially as described.

10. A sheet-metal pulley comprising rim-segments having their meeting ends bent inward and backward to form the flanges *d* and inclosed sockets or recesses, and the sheet-metal spoke-arms approximately U shape in cross-section and having their ends slit and bent laterally and vertically to form the tongues *c* and *d* fitting in said sockets and riveted to the rim; substantially as described.

11. The herein-described separable pulley, comprising the sheet-metal half-rims A B having their meeting ends bent inward and backward to form the flanges *d* and inclosed sockets or recesses, and the pair of parallel spoke-arms C D, formed of sheet metal, approximately U-shaped in cross-section, and comprising the hub portions and the radially-extending parallel arms, the outer ends of said arms being slit and bent to form the tongues *b c* fitting in the sockets in the meeting ends of the rim and riveted thereto; substantially as described.

12. The herein-described separable pulley comprising the sheet-metal half-rims A B having their meeting ends bent inward and backward to form the flanges *d* and inclosed sockets or recesses, the pair of parallel spoke-arms C D, formed of sheet metal, approximately U-shaped in cross-section and comprising the hub portions and the radially-extending parallel arms, the outer ends of said arms being slit and bent to form the tongues *b c* fitting in the sockets in the meeting ends of the rim and riveted thereto, and the half-thimbles E E secured in the hub portions of the respective spoke-arms; substantially as described.

13. The herein-described separable pulley, comprising the sheet-metal half-rims A B, having their meeting ends bent inward and backward to form the flanges *d* and inclosed sockets or recesses, the plurality of pairs of parallel spoke-arms C D, each spoke-arm formed of sheet metal, approximately U-shaped in cross-section, and comprising a hub portion and the radially-extending parallel arms slit and bent at their outer ends to form the tongues *b c* fitting in the sockets in the meeting ends of the rim and riveted thereto, and the half-thimbles E E secured in the hub portions of the respective spoke-arms and connecting the arms of the several pairs; substantially as described.

14. In a sheet-metal pulley, the rim-sections having their meeting ends bent inward and backward to form the inturned flanges *d d*, one of said meeting ends being provided with the opening *x* and the other having the tongue *y* cut from its flange *d* and passed through said opening *x*; substantially as described.

15. In a crown-faced sheet-metal pulley, the combination of the rim-segments, the spoke-arms provided at their outer ends with the rim-connecting tongues, and the crowning-pieces Z interposed between said tongues and rim and riveted thereto; substantially as described.

16. In a crown-faced sheet-metal pulley, the combination of the rim-segments, the U-shaped sheet-metal spoke-arms slit and bent at their outer ends to form the rim-connecting tongues *b c*, and the crowning-pieces Z having approximately straight or flat inner faces fitting against said tongues and convex outer faces conforming to the crown of the pulley and riveted between the tongues and rim; substantially as described.

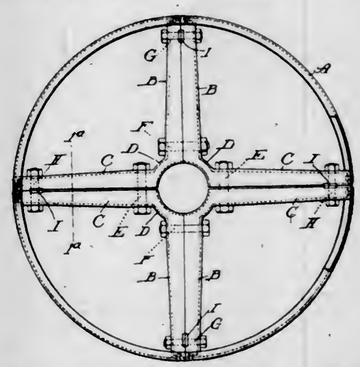
17. In a separable pulley, the combination, with the separable portions of the pulley, of separable bushings, and means for detachably securing said bushings in the hubs of the respective portions of the pulley while said portions are separate from each other, so that in assembling the pulley upon a shaft the bushings will be held in place in the hub portions of the pulley by the means connecting them therewith; substantially as described.

18. A separable pulley having its hub portions provided with recesses or openings, in combination with separable bushings provided with devices to engage the recesses or openings in the hub portions of the pulley and detachably secure the bushings therein while the pulley portions are separate from each other; substantially as and for the purpose described.

19. A sheet-metal pulley having its hub provided with an opening L and offset M therefrom, in combination with a bushing N having the headed projection O adapted to coöperate with said opening and offset in the manner and for the purpose described.

20. The herein-described sheet-metal pulley having the half-thimbles E secured in its opposite hub portions and provided with the openings L having the offsets M, in combination with the bushings N provided with the headed projections O coöperating with said openings and their offsets, as described.

840,764. PULLEY. HENRY J. GILBERT, Saginaw, Mich. Filed July 6, 1903. Serial No. 164,427.



Claim.—1. A separable pulley made in four similar parts, each part comprising a sheet-metal rim-segment, a spoke structure formed of a single piece of sheet metal, and consisting of a hub portion and two spoke-arm sections projecting therefrom at right angles to each other and secured at their outer ends to a rim-segment, and means for securing the parts of the pulley together and clamping them upon the shaft; substantially as described.

2. A separable pulley made in four similar parts, each part comprising a sheet-metal rim-segment, a spoke structure formed of a single piece of sheet metal approximately U-shaped in cross-section and consisting of a hub portion D and two spoke-arm sections B C projecting therefrom at right angles to each other and secured at their outer ends to a rim-segment, bolts F G for permanently securing the adjacent arms B B together and thereby forming two separate halves of the pulley, and means for securing such two halves of the pulley together and clamping them to the shaft; substantially as described.

3. A pulley comprising the rim-segments A A having the tongues I I extending inward therefrom at approximately right angles to the surface of the rim and provided with recesses, the sheet-metal spoke-arms C C provided with recesses adapted to receive the tongues I I and with projections fitting in the recesses of said tongues, and means for securing the opposing rim-segments and spoke-arms together; substantially as described.

4. A pulley comprising the rim-segments A A having the inturned tongues I I provided with recesses, the sheet-metal spoke-arms C C provided with the recesses *a a* for the tongues I I and with the projecting portions *a' a'* engaging the recesses in the tongues I I, and means for securing the opposing rim-segments and spoke-arms together; substantially as described.

5. A pulley comprising the rim-segments A A having the inturned tongues I I, the sheet-metal spoke-arms C C provided with the end tongues *b* riveted to the rim-segments A A, and means for securing the opposing rim-segments and spoke-arms together; substantially as described.

6. A pulley comprising the rim-segments A A having the inturned tongues I I, the sheet-metal spoke-arms C C provided with the end tongues *b* and *b'* riveted to the rim-segments A A, and means for securing the opposing rim-segments and spoke-arms together; substantially as described.

7. A pulley comprising the rim-segments A A having the inturned tongues I I provided with recesses, the sheet-metal spoke-arms C C provided with recesses for the tongues I I and with projecting portions engaging the recesses in the tongues and with the end tongues *b* riveted to the rim-segments A A, and means for securing the opposing rim-segments and spoke-arms together; substantially as described.

8. A pulley comprising the rim-segments A A having the inturned tongues I I provided with recesses, the sheet-metal spoke-arms C C provided with recesses for the tongues I I and with projecting portions engaging the recesses in the tongues and with the end tongues *b* and *b'* riveted to the rim-segments A A, and means for securing the opposing rim-segments and spoke-arms together; substantially as described.

9. A pulley comprising the rim-segments A A having the inturned tongues I I provided with recesses, the sheet-metal spoke-arms C C provided with the recesses *a a* for the tongues I I and with the projecting portions *a' a'* engaging the recesses in said tongues, and with the end tongues *b* riveted to the rim-segments, and means for securing the opposing rim-segments and spoke-arms together; substantially as described.

10. A pulley comprising the rim-segments A A having the inturned tongues I I provided with recesses, the sheet-metal spoke-arms C C provided with the recesses *a a* for the tongues I I and with the projecting portions *a' a'* engaging the recesses in said tongues, and with the end tongues *b* and *b'* riveted to the rim-segments, and means for securing the opposing rim-segments and spoke-arms together; substantially as described.

11. A sheet-metal bushing for pulleys having corrugations extending lengthwise of it and having external bearing-surfaces concentric to the axis of the bushing; substantially as described.

12. A sheet-metal bushing for pulleys having corrugations extending lengthwise of it and having a sheet-metal thimble permanently secured to it within its shaft-opening; substantially as described.

13. A sheet-metal bushing for pulleys having corrugations extending lengthwise of it and a sheet-metal thimble secured in its shaft-opening and bent outward into one of its corrugations to form a keyway; substantially as described.

14. A sheet-metal bushing for pulleys having straight corrugations extending lengthwise of it from end to end and having external bearing-surfaces concentric to the axis of the bushing; substantially as described.

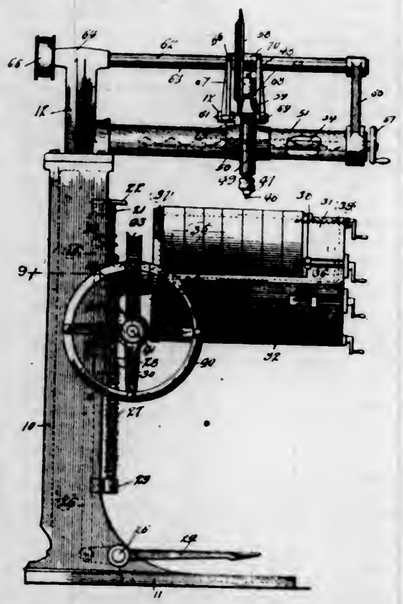
15. A sheet-metal bushing for pulleys having straight corrugations extending from end to end of it and having a sheet-metal thimble permanently secured to it within its shaft-opening; substantially as described.

840,765. ROUTING-MACHINE. SAMUEL G. GOSS, Chicago, Ill., assignor to Goss Printing Press Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 4, 1903. Serial No. 168,236.

Claim.—1. In a routing-machine, the combination of a shaft, and a rotary plate-support mounted on said shaft, said plate-support being composed of a plurality of sections fitted together, each of said sections having a sleeve fitting upon said shaft and acting to secure the section thereto, the outer surfaces of said sections being curved.

2. In a routing-machine, the combination of a non-rotary shaft, and a plate-support rotatably mounted on said shaft, said plate-support being composed of a plurality of sections fitted together, each of said sections having a sleeve fitting upon said shaft and acting to secure the section thereto, the outer surfaces of said sections being curved and of different degrees of curvature.

3. In a routing-machine, the combination of a non-rotary shaft, a plate-support rotatably mounted on said shaft, said plate-support being composed of a plurality of sections adapted to fit together and having bearings fitting upon said shaft, the surfaces of said sections being curved, a routing-tool, and means for moving said shaft toward and from said routing-tool.



4. In a routing-machine, the combination of a non-rotary shaft, a plate-support rotatably mounted on said shaft, said plate-support being composed of a plurality of sections adapted to fit together and having bearings fitting upon said shaft, the surfaces of said sections being curved and of different degrees of curvature, a routing-tool, and means for moving said shaft toward and from said routing-tool.

5. In a routing-machine, the combination of a non-rotary shaft, a plate-support rotatably mounted on said shaft, said plate-support being composed of a plurality of sections adapted to fit together and having bearings fitting upon said shaft, the surfaces of said sections being curved, a routing-tool, means for moving said shaft toward and from said routing-tool, and a cushioning-spring for said shaft.

6. In a routing-machine, the combination of a non-rotary shaft, a plate-support rotatably mounted on said shaft, said plate-support being composed of a plurality of sections adapted to fit together and having bearings fitting upon said shaft, the surfaces of said sections being curved, a routing-tool, means for moving said shaft toward and from said routing-tool, and means for rotating said plate-support sections upon said shaft.

7 In a routing-machine, the combination of a supporting-shaft, a plate-support composed of separable curved sections having hubs adapted to fit upon said shaft and inwardly-extending flanges at their side edges, a routing-tool, and means for bringing said tool into operative relation to the plate or plates carried by said support, substantially as described.

8. In a routing-machine, the combination of a supporting-shaft, a plate-support composed of separable curved sections having hubs adapted to fit upon said shaft and inwardly-extending flanges at their side edges, said sections being of different diameters, a routing-tool, and means for bringing said tool into operative relation to the plate or plates carried by said support, substantially as described.

9. In a routing-machine, the combination of a rotary plate-support, a routing-tool movable longitudinally of said plate-support, a traveling sleeve supporting said tool, a stationary sleeve upon which said traveling sleeve is mounted, means within said stationary sleeve for moving said traveling sleeve longitudinally, and means for rotating said routing-tool, substantially as described.

10. In a routing-machine, the combination of a rotary plate-support, a routing-tool movable longitudinally of said plate-support, a traveling sleeve supporting said tool, a stationary sleeve upon which said traveling sleeve is mounted, means within said stationary sleeve for moving said traveling sleeve longitudinally, a pinion connected with said tool, a friction-disk engaging said pinion, means for rotating said friction-disk, and means for moving said disk and pinion longitudinally with said tool, substantially as described.

11. In a routing-machine, the combination of a routing-tool, a stationary sleeve, means supporting said tool and movable longitudinally of said stationary sleeve, means within said stationary sleeve for moving said tool longitudinally thereof, and means for rotating said tool, substantially as described.

12. In a routing-machine, the combination of a stationary sleeve, a routing-tool, a traveling support for said routing-tool mounted on said stationary sleeve, means within said sleeve for moving said support longitudinally thereof, mechanism for rotating said tool, and means carried by said support for moving said rotating mechanism longitudinally with said tool, substantially as described.

13. In a routing-machine, the combination of a stationary sleeve, a routing-tool, a tool-support movable longitudinally of said sleeve, means within said sleeve for moving said tool-support longitudinally thereof, a shaft arranged parallel with said stationary sleeve, a driving-disk mounted on said shaft and adapted by its rotation to rotate said tool, and means for moving said disk longitudinally of said shaft with said tool-support, substantially as described.

14. In a routing-machine, the combination of a non-rotary, shaft, a plate-support rotatably mounted on said shaft, said plate-support being composed of a plurality of sections adapted to fit together and having bearings fitting upon said shaft, the surfaces of said sections being curved and of different degrees of curvature, a routing-tool, means for moving said shaft toward and from said routing-tool, and means for rotating said plate-support sections upon said shaft.

15. In a routing-machine, the combination of a shaft, a plate-support comprising semicylindrical sections of different diameters, said sections having surfaces adapted to abut, means carried by each of said sections adapted to fit upon said shaft to form supports for said sections, and means for rotating said sections.

16. In a routing-machine, the combination of a vertically-movable plate-support, means for moving said plate-support vertically, a cushioning-spring for said plate-support, means for rotating said plate-support, a routing-tool, and means for rotating the same, substantially as described.

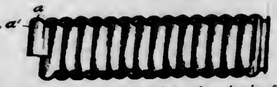
17. In a routing-machine, the combination of a supporting-shaft, a plate-support composed of abutting seperable curved sections having supports fitting upon said shaft, a routing-tool, and means for bringing said tool into operative relation to the plate or plates carried by said support.

18. In a routing-machine, the combination of a supporting-shaft, a plate-support composed of separable curved sections, each of said sections having a sleeve fitting upon said shaft, a routing-tool, and means for bringing said tool into operative relation to the plate or plates carried by said support.

19. The combination of a shaft and a plurality of cylinder-segments mounted thereon, said cylinder-segments having abutting longitudinal margins and each having an axially-disposed sleeve fitting upon said shaft and acting to secure the segment thereto.

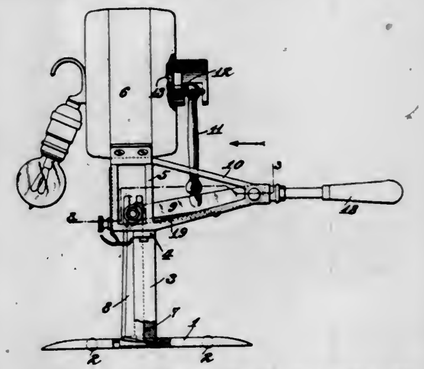
840,766. TUBING. EDWIN T. GREENFIELD, Klamesha, N. Y. Filed Oct. 30, 1905. Serial No. 285,074.

Claim.—1. A tube consisting of a series of spirals formed of a plurality of thicknesses of material of equal width and one directly overlying another, the adjacent edges of said spirals being interlocked, substantially as set forth.



2. A tube consisting of a series of spirals formed of a plurality of thicknesses of material of equal width and one directly overlying another, said thicknesses being similarly curved transversely and said spirals being interlocked at their adjacent edges, substantially as set forth.

840,767. CLOTH-CUTTING MACHINE. JOHN B. GURY, St. Louis, Mo. Filed Aug. 11, 1906. Serial No. 330,174.



Claim.—1. A cloth-cutting machine comprising a base, a standard thereon, a motor mounted on said standard, a rock-arm mounted in the plane of the motor-shaft, a link universally connected to said motor-shaft and to said rock-arm, and a knife pivotally connected to said rock-arm.

2. A cloth-cutting machine comprising a base, a standard thereon, a motor mounted on said standard in alinement therewith, a rock-arm mounted in the plane of the motor-shaft, a link universally connected to said motor-shaft and to said rock-arm, and a knife pivotally connected to said rock-arm.

3. A reciprocating cutting-machine comprising a standard having a knife-guide therein, a motor mounted on said standard, a rock-arm pivotally mounted on said standard, a knife pivotally connected to said rock-arm, and a link universally connected to the motor-shaft and to said rock-arm.

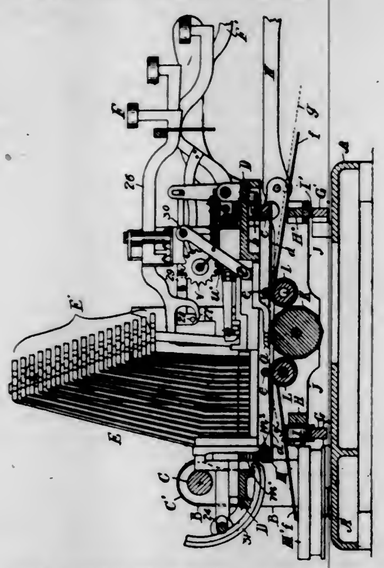
4. A reciprocating cutting-machine comprising a standard having a knife-guide therein, a motor mounted on said standard, a rock-arm pivotally mounted on said standard, a knife pivotally connected to said rock-arm, and a link connected by ball-and-socket joints to the motor-shaft and to said rock-arm.

840,768. TYPE-WRITER. JOHN J. HANNAHS, New York, and ANTHONY A. HIEBER, Brooklyn, N. Y., assignors, by direct and mesne assignments, to Universal Typewriter Company, a Corporation of New York. Filed Aug. 18, 1902. Serial No. 120,156.

Claim.—1. In a type-writing machine, the combination of a base, a carriage movable over said base, a platen upon said carriage, a frame overlying said carriage and hinged in rear upon said base, type-bars and keys mounted upon said hinged frame over said carriage, carriage-escapement mechanism controlled by said keys, means whereby said carriage is detained from movement when said frame is in tilted-up position, a release-key mounted upon said carriage, and means for enabling said release-key to release the carriage when said hinged frame is in its tilted-up position.

2. In a type-writing machine, the combination of a

base, a carriage movable over said base, a platen upon said carriage, a frame overlying said carriage and hinged in rear upon said base, type-bars and keys mounted upon said hinged frame over said carriage, carriage-escapement mechanism controlled by said keys, means whereby said carriage is detained from movement when said frame is in tilted-up position, a release-key mounted upon said carriage, and means for enabling said release-key to release the carriage when said hinged frame is either down in working position or tilted up about its hinge.



3. In a type-writing machine, the combination of a base, a carriage movable over said base, a platen upon said carriage, a frame overlying said carriage and hinged in rear upon said base, means for locking the carriage against movement when the frame is tilted upward, type-bars and keys mounted upon said hinged frame over said carriage, a rack mounted upon said carriage for a releasing movement, a key upon said carriage for moving said rack to carriage-releasing position, said key being operable for both the normal and tilted relation of the carriage and key-controlled escapement devices to coöperate with said rack.

4. In a type-writing machine, the combination of a base, a carriage movable over said base, a platen upon said carriage, a frame overlying said carriage and hinged in rear upon said base, type-bars and keys mounted upon said hinged frame over said carriage, escapement devices mounted upon said hinged frame and controlled by said keys, a rack to coöperate with said escapement devices and mounted upon said carriage for a releasing movement, a key upon said carriage for moving said rack to carriage-releasing position, said escapement devices being movable out of engagement with said rack when said hinged frame is tilted up; and a detent upon said hinged frame and normally disengaged from said rack but moving into engagement therewith when said hinged frame is tilted up; said rack being releasable from both said detent and said escapement devices.

5. In a type-writing machine, the combination of a base, a letter-feeding carriage movable over said base and having a platen, a stationary frame overlying said carriage and hinged in rear upon said base, two rows of type-bars upon said hinged frame and radiating from opposite sides of the printing-point, keys connected to said type-bars, means upon said hinged frame for indicating the printing-point, carriage-escapement devices controlled by said keys, a release-key upon said carriage, and means for enabling said release-key to release the carriage when said hinged frame is either down in working position or tilted up about its hinge.

6. In a type-writing machine, the combination of a base, a letter-feeding carriage supported upon said base and movable thereover, a stationary frame hinged in rear upon said base and having a ribbon-feed and a rotatable support at its forward position bearing upon said carriage arranged to operate the ribbon-feed, a system of type-bars mounted upon said frame, keys connected to the type-bars, and letter-feeding mechanism connected to the keys.

7. In a type-writing machine, the combination of a base, a letter-feeding carriage supported upon said base and movable thereover, a stationary frame hinged in rear upon said base and having a ribbon-feed and a rotatable support at its front side bearing upon said carriage arranged to operate the ribbon-feed, a spring opposing the weight of said frame, a system of type-bars mounted upon said frame, keys connected to the type-bars, and letter-feeding mechanism connected to the keys.

8. In a type-writing machine, the combination of a base, a carriage-track thereon, a letter-feeding carriage movable upon said track, a rail upon the upper side of said carriage, a stationary frame hinged in rear upon said base and having a ribbon-feed and a roll to rest upon said rail and arranged to operate the ribbon-feed, a system of type-bars mounted upon said frame, keys for the type-bars, and letter-feeding mechanism controlled by the keys.

9. In a type-writing machine, the combination of a base, front and rear carriage-tracks thereon, a letter-feeding carriage having rolls running upon said tracks, including a pair of rolls running upon said front track, a rail upon said carriage directly over said front rolls, a stationary frame hinged in rear upon said base and having a ribbon-feed and a front roll to rest upon said rail and arranged to operate the ribbon-feed, type-bars and keys mounted upon said frame, and letter-feeding mechanism.

10. In a type-writing machine, the combination of a base, a carriage movable over said base, a feed-rack upon said carriage, a frame hinged in rear upon said base, type-bars and keys upon said hinged frame, letter-feeding mechanism controlled by the keys and mounted upon said hinged frame and having a part to engage said rack but moving out of engagement therewith when said hinged frame is swung up, and a segmental detent curved concentrically with the hinge of said frame and normally out of engagement with said rack but moved into engagement therewith by the upward movement of said hinged frame, for detaining the rack and carriage.

11. In a type-writing machine, the combination of a base, a carriage movable over said base, a rack upon said carriage, a frame hinged in rear upon said base, type-bars and keys upon said hinged frame, a pinion and escapement-wheel mounted upon said hinged frame, said pinion normally engaging said rack but moving out of engagement therewith when said hinged frame is swung up, type-bars and keys mounted upon said hinged frame, a key-controlled escapement device to coöperate with said escapement-wheel, and a detent upon said hinged frame for engaging the rack when said pinion is swung out of engagement therewith.

12. In a type-writer, a bed having a paper-carriage movable thereon, bearings projected upwardly from the bed, a hinge-bar affixed therein, a frame attached to such hinge-bar and having a ribbon-feed and a type mechanism mounted on said frame, a supporting-rod upon the paper-carrier, and a rotatable supporting device upon the frame to support the type mechanism over the platen arranged to operate the ribbon-feed.

840,769. DEVICE FOR REMOVING FROST, STEAM, &c., FROM WINDOWS. JAMES C. HARMER, Kingston, Ontario, Canada. Filed Jan. 10, 1906. Serial No. 295,511.

Claim.—1. In a device of the class described the combination of a plurality of nozzles directed against the window-pane, a plurality of conducting-pipes leading from a supply of compressed fluid to said nozzle and a plurality of directing-shields secured to said nozzles as and for the purpose specified.



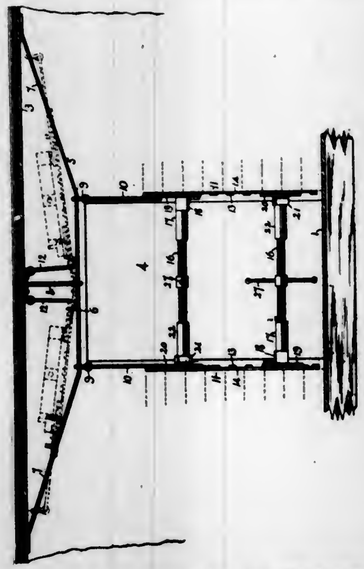
2. In a device of the class described the combination of a conducting-pipe leading from a supply of compressed fluid, and having an orifice in the end thereof and a directing-shield directing the stream of fluid from said orifice against the window-pane as and for the purpose specified.

3. In a device of the class described the combination of a conducting-pipe leading from a supply of compressed fluid having a small orifice in the end thereof discharging along the window-pane and a directing-shield inclosing the end of the conducting-pipe and having one face thereof open and parallel to the window-frame whereby the jet of fluid flowing through the orifice will be directed against the window-pane as and for the purpose specified.

4. In a device of the class described the combination with the window-pane, of conducting-pipes leading from a supply of compressed fluid to each side of the window-pane and having orifices in their ends and directing-shields for directing the jet of fluid from the orifice against the window-pane as and for the purpose specified.

5. In a device of the class described the combination with the window-pane, of conducting-pipes leading from a supply of compressed fluid to each side of the window-pane and having orifices in their ends, directing-shields for directing the jet of fluid from the orifice against the window-pane and means for separately controlling the flow of fluid through the conducting-pipes on each side of the window as and for the purpose specified.

840,770. FRUIT-CAR BRACER. NORMAN C. IVES, Camden, N. J. Filed Oct. 12, 1906. Serial No. 338,607.



Claim.—1. In a fruit-car, suspension-rods horizontally disposed at the top of the car, a bracer comprising a pair of intersticed followers, with means for their suspension from the rods aforesaid, and means fixedly attached to one follower and removably attached to the opposite follower, to force and hold the followers apart and against the packages comprising the car's lading.

2. In a fruit-car, a bracer comprising a pair of spertured followers with means for their suspension, opposite the door-openings, and means secured to each follower to force and secure the opposite follower against the fruit-packages comprising the car's lading.

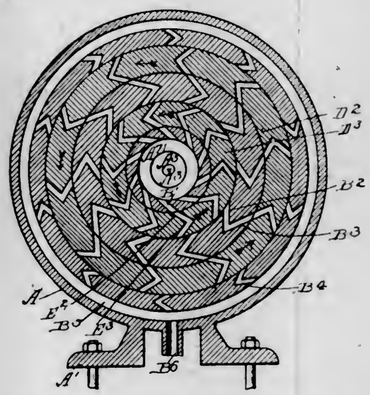
3. In combination, a car-body, horizontal suspension-rods and a bracer composed of two followers located therein, with means for their suspension from the rods aforesaid and attachments between the followers whereby they may be adjusted and forced apart in different degrees, against the car's lading to secure it from shifting between the ends and the doors of the car.

4. In a refrigerator-car, in combination, the car-body with door-openings therefor, and a bracer comprising suspended followers arranged for horizontal movement in the car, and means attached to and between the followers, and whereby said followers may be forced apart to adjust and secure the followers in pressure-contact with the packages, in each end of the car, which comprise its lading.

5. In an inclosed freight-car, a bracer comprising apertured followers, with means for their storing at the upper part of the car when not in use; means to suspend them in a perpendicular position and across the car, and attachments whereby they may be made to move in unison, oppositely, toward or from each other, and toward or from the end of the car.

6. In a car, a pair of apertured followers, means for the support within the top of the car when in disuse; means for their extension across the car when in use; right-and-left screws with sleeves hinged to a follower; pockets upon the opposite follower, sleeves upon the screws aforesaid adapted to enter the pockets, and means to removably secure the sleeves in the pockets.

840,771. STEAM TURBINE-ENGINE. AMARIAH W. JACKSON, Chicago, Ill. Filed May 12, 1906. Serial No. 316,547.



Claim.—1. A turbine-engine formed of two members, one of said members being stationary and adapted to stand or be affixed in a permanent position, said member having a central inlet for admission of steam, a steam-chamber forming an extension of said inlet, the walls of said chamber forming an external central cylindrical taper bearing, a series of tangential steam-ports extending through the taper wall of said chamber and bearing; a taper cylindrical external and internal bearing concentric with said central bearing and spaced therefrom; a series of tangential V-shaped steam-ports extending through said bearing; an internal taper cylindrical bearing, concentric with said external and internal bearing and spaced therefrom; a series of V-shaped tangential steam-ports extending through said bearing; an exhaust-chamber encircling said ports in said internal bearing, said ports opening into said exhaust-chamber, said exhaust-chamber having an outlet through the exterior wall of said member; a rotatable

member of said engine, said member having a central external and internal cylindrical taper bearing adapted to fit the corresponding central external bearings in said stationary member, a series of V-shaped tangential steam-ports extending through the wall of said cylinder, said ports corresponding in number and adapted to register with the ports in said corresponding external central bearing in said stationary member; a taper cylindrical external and internal bearing concentric with said central external and internal bearing and spaced therefrom, said bearing being adapted to fit the corresponding internal and external bearings in the stationary member, a series of V-shaped steam-ports, corresponding in number and adapted to register with the ports in said stationary part, and means for holding and adjusting said rotatable member in the stationary member substantially as and for the purposes specified.

2. In a turbine-engine of the kind described, the combination of a stationary member, having a central steam inlet and chamber, the external wall of said chamber forming a central external cylindrical bearing, pierced with a series of tangential steam-ports, and concentric internal and external cylindrical bearing spaced from said central bearing pierced with a series of V-shaped tangential steam-ports, and an internal concentric bearing spaced from said external and internal concentric bearing, pierced with a series of V-shaped tangential ports, and an exhaust-steam chamber encircling said internal concentric bearing and connected with and forming an exhaust-outlet for the said steam-ports; with a rotatable member having taper concentric cylindrical bearings, corresponding with and adapted to fit the bearings in said stationary member, said bearings in said rotatable member being pierced with V-shaped tangential steam-ports, corresponding in number and adapted to register with the steam-ports in the bearings in said stationary parts; and means for adjusting and holding said rotatable member in said stationary member.

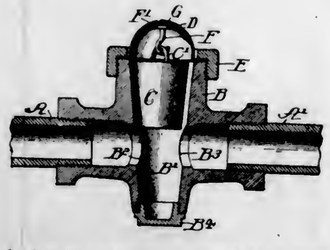
3. In a turbine-engine of the kind described, the combination of a stationary member having an external axial taper bearing; an axial steam-inlet and chamber within said bearing; radial tangential ports extending from said chamber through said bearing; a plurality of taper cylindrical bearings concentric with said axial bearing and spaced therefrom and from each other; radial tangential ports extending through each of said bearings; an exhaust chamber and outlet, said chamber being concentric with said cylindrical bearings; radial tangential ports extending through the outer cylindrical bearing into said exhaust-chamber, with a rotatable member having an internal axial bearings adapted to fit said axial bearing on said stationary member; a plurality of taper cylindrical bearings adapted to fit and to be rotatable on said cylindrical bearings on said stationary member; radial tangential ports extending through said axial and said cylindrical bearings adapted to register with said ports in said stationary member.

4. In a turbine-engine of the kind described, the combination comprising a supporting member, having a base and central aperture for a steam-inlet; a cylindrical steam-chamber affixed to said supporting member, said chamber being pierced with a series of tangential steam-ports, and finished externally as a central cylindrical bearing; a cylindrical ring affixed to said supporting member concentric with said central bearing, said ring being pierced with a series of tangential V-shaped steam-ports; a cylindrical ring affixed on said supporting member, concentric with the inner ring and central bearing, said ring being finished internally and pierced with a series of tangential V-shaped steam-ports, said ports opening into an exhaust-chamber forming the body of said ring and having a steam-outlet; a rotatable member, consisting of a supporting-plate, a central cylindrical ring attached to said plate, said ring being pierced with a series of tangential V-shaped steam-ports; a cylindrical ring attached to said plate concentric to and spaced from said central ring, said ring being pierced with a series of tangential V-shaped steam-ports, said cylindrical rings attached to said plate, being adapted to fit into the cylindrical rings, and bearings attached to said supporting member, and adapted to be rotated in and on said bearings; said steam-ports in said rings being adapted to register with each other and to permit the passage of steam therethrough, and means for adjusting and holding said members and their bearing parts together.

5. In a turbine-engine of the kind described, the combination of one stationary member with one movable member, said stationary member having an external axial bearing; a central steam-inlet in said bearing; radial tangential ports from said inlet through said bearing; cylindrical bearings concentric with said axial bearing, spaced therefrom and from each other; radial tangential ports extending through said bearings, and an exhaust-port concentric with said bearings, radial ports connecting said exhaust-port with said bearings; said movable member having an internal axial bearing and cylindrical concentric bearings adapted to fit said bearings on said stationary member and to be revolved thereon; radial tangential ports extending through said axial and cylindrical bearings adapted to register with said ports in said stationary member.

6. In a steam-engine of the kind described, the combination of a stationary part consisting of series of concentric cylindrical bearings, pierced by a series of tangential steam-ports, the advance face of each of said ports being corrugated across the line of passage of the steam, and a rotative part consisting of a series of concentric cylindrical bearings pierced by a series of tangential steam-ports, said ports having corrugated faces, said corrugations being across the line of the passage of the steam, the cylindrical parts of said stationary and said rotatable parts of said engine being adapted to fit each other and the steam-ports to register and permit the passage of steam from the center of said stationary part through all of said stationary and rotative cylinders.

840,772. AUTOMATIC SAFETY-VALVE FOR GAS-SUPPLY PIPES. ADOLPH W. JENCZEWSKY, Chicago, Ill. Filed Aug. 21, 1905. Serial No. 275,054.

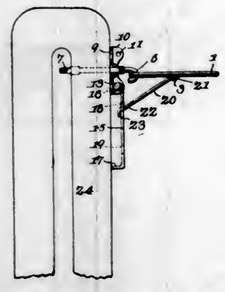


Claim.—1. A safety-valve comprising a valve-casing having a cast-metal body and a valve-chamber therein, a dome-shaped thin sheet-metal cap which extends outwardly from the cast-metal body and forms the end portion of the valve-chamber, said cap being provided with a marginal flange, a clamping-ring having screw-threaded connection with the cast-metal body and acting to clamp the marginal flange of the sheet-metal cap to said body, a movable valve-closure in the valve-chamber and means for holding the valve-closure in its open position embracing a support for the closure attached to the said sheet-metal cap by fusible metal.

2. The combination with a valve-casing and a movable valve-closure therein, of means for holding the valve-closure in its open position, embracing a sheet-metal cap forming part of the outer wall of the casing and provided with a hole, and a support for the valve-closure provided with a disk which is attached to the cap around the hole therein by fusible metal, said support being also provided with a rod which projects outwardly through said hole in the cap.

840,773. BRACKET. RANDAL KENT, Pittsburg, Pa. Filed Dec. 27, 1905. Serial No. 293,520.

Claim.—1. The combination with a support, of a bracket including a pair of clamps engaged with said support, an abutment pivotally connected at its upper end with said clamps and bearing loosely at its lower end against said support, a shelf swung upon the clamps approximately on a level with the upper end of said abutment, and a prop extending downward from the shelf to the abutment so as to sustain the shelf and press the lower end of the abutment against the support.



2. The combination with a support, of a pair of clamps connected with said support, an abutment having its upper end bent rearwardly to form a hook which is detachably secured to said clamps, the lower end of said abutment resting loosely against said support, a shelf connected with said clamps adjacent the upper end of said abutment, and a prop loosely connected with said shelf and abutment for holding the shelf in elevated position.

3. A bracket including a pair of clamps for engagement with a support, an abutment hung from said clamps, a shelf detachably connected with said clamps, and a prop connected with said shelf and comprising a pair of diverging arms adapted to be disengaged from said shelf by being forced together, said prop being detachably engaged at its lower end with said abutment.

4. A bracket including a pair of clamps for engagement with a support, an abutment pivotally connected with the clamps at its upper end and having a plurality of perforations forming seats, a shelf connected with the clamps, and a prop comprising a pair of diverging arms detachably connected with said shelf, said prop having at its lower end an integral connecting member provided with a hook to engage one of the perforations in said abutment.

5. A bracket including a pair of clamps for engagement with a support, an abutment hung therefrom and provided with a seat, a shelf swung upon the clamps and provided with a pair of eyes upon its under side, and a forked prop having its fork-terminals pivotally engaged with the respective eyes and its opposite end formed for detachable engagement with the seat of the abutment.

6. A bracket comprising a pair of spaced clamps for engagement with a support, said clamps including nuts, a cross-bar connecting the nuts, an abutment hung from the cross-bar, a shelf hung upon the clamps, and a prop between the abutment and the shelf.

7. A bracket comprising a pair of spaced clamps for engagement with a support, each clamp having a nut provided with a plurality of seats, a cross-bar for detachable engagement with the individual seats of the nuts, an abutment hung from the cross-bar, a shelf swung upon the clamps, and a prop between the abutment and the shelf.

8. A bracket comprising a pair of spaced clamps for engagement with a support, each clamp having a nut provided with a series of radial ribs having openings, a cross-bar for engagement with the openings of the individual ribs to connect and lock the nuts, an abutment hung upon the cross-bar, a shelf swung upon the clamps, and a prop between the abutment and the shelf.

9. A bracket including a pair of spaced clamps for engagement with a support, each clamp including a threaded shank and a head having members bent to form hooks, a nut upon the threaded portion of the shank to clamp a support between the head and the nut, a shelf swung upon the shanks of the clamps, a removable cross-bar connecting the nuts, an abutment hung upon the cross-bar, and a prop between the abutment and the shelf.

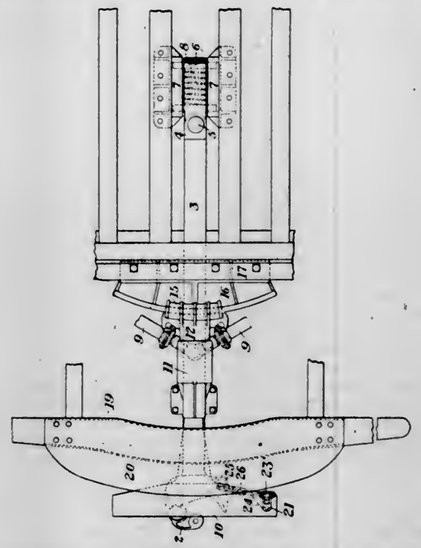
10. A bracket including a pair of spaced clamp members for engagement with a support, a cross-bar extending between the clamp members and secured thereto, an abutment having a hook to detachably engage the cross-bar, a shelf swung upon the clamp members, and a prop between the abutment and the shelf, said prop having a pair of diverging arms detachably connected with said shelf.

11. A bracket including a pair of spaced clamps for engagement with a support, each clamp including a clamping-nut, a detachable cross-bar extending between the nuts to lock the same and secured thereto, a shelf swung upon the clamps, an abutment having an upper terminal hook for engagement with the cross-bar and a lower terminal transverse shoulder upon the back thereof, and a prop between the abutment and the shelf.

12. A bracket including a pair of spaced clamps for engagement with a support, each clamp including a threaded shank provided at one end with a transversely-disposed support-engaging element and at its other end with a hook, a nut upon the threaded portion of the shank to clamp a support between the support-engaging element and the nut, a shelf swung upon and detachably engaged with the hooks of the shank, and a prop for the shelf.

13. A bracket including a pair of shanks having their ends reversely threaded, a head engaging the threaded rear end of each shank, a nut engaging the forward threaded end of each shank, a shelf carried by the front ends of the shanks, an abutment hung from the shanks, and a prop between the abutment and the shelf.

840,774. UNCOUPLING MECHANISM FOR RAILWAY-CARS. HARRY T. KRAKAU, Cleveland, Ohio, assignor to The National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Original application filed Nov. 17, 1905, Serial No. 287,864. Divided and this application filed Mar. 29, 1906. Serial No. 308,682.



Claim.—1. A swinging draft-gear and buffer having a coupler-operating shaft mounted on the buffer.

2. The combination of a laterally-swining draft-gear and a floating buffer, of a coupler-operating shaft mounted on the buffer.

3. A swinging draft-gear, a buffer engaged by the draft-gear to move laterally therewith, a curved rear bearing for the buffer, and a coupler-operating device mounted on the buffer; substantially as described.

4. A swinging draft-gear, a floating buffer movable laterally with the draft-gear, a vertical shaft mounted on the

buffer, means for operating the shaft, and a connection between the shaft and the coupler-lock mechanism.

5. A laterally-swinging draft-gear and buffer, a hollow post mounted on the buffer, a shaft extending through said post, means for operating the shaft, and a connection between the shaft and the coupler-lock mechanism.

6. The combination of a laterally-swinging draft-gear, a laterally-swinging buffer engaged by the draft-gear and movable laterally therewith, a relatively fixed curved segment forming a rear bearing for the buffer, and a coupler-operating device mounted on the buffer.

340,775. PROCESS OF STEREOTYPING. SIGVALD A. C. KRISTENSEN, Sötorp per Valby, near Copenhagen, Denmark, assignor to Andelsselskabet Internationalt Metallotypikompagni, Limited, Copenhagen, Denmark. Filed July 27, 1905. Serial No. 271,537.

Claim.—1. The process for making matrices for a stereotype from a printing-form, which consists in coating such form with a volatile fluid containing an adhesive substance and a metallic powder, and after drying forming a matrix or flong of paper or papier-mâché thereon, said coating being transferred to the said matrix and forming when the matrix is dried a continuous and tough metallic film or skin extending over the face thereof.

2. In the making of matrices for a stereotype wherein a flong of fibrous material is pressed onto the printing-form, the process which consists in coating one of said devices with a liquid containing a fine metallic powder, and then pressing the flong and form together to form the matrix, such coating constituting a part of the matrix when the latter is removed, and forming a metallic film or skin extending over the face thereof.

3. In the making of matrices for a stereotype wherein a flong of fibrous material is pressed onto the printing-form, the process which consists in coating one of said devices with a liquid containing a fine aluminium powder, and then pressing the flong and form together to form the matrix, such coating constituting a part of the matrix when the later is removed, and forming a metallic film or skin extending over the face thereof.

4. A paper or papier-mâché matrix for stereotyping a printing-form, having on its face a dry and solid film consisting of a metallic powder with an adhesive as a carrier.

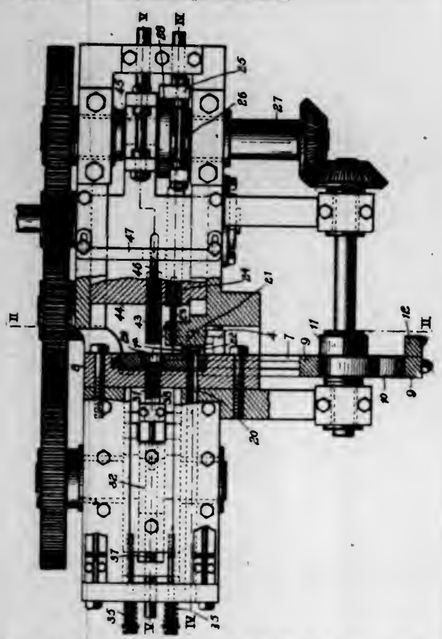
840,776. NUT-MACHINE. FREDERICK LACKNER, Pittsburg, Pa., assignor to Neely Nut & Bolt Company, Pittsburg, Pa. Filed Feb. 18, 1905. Serial No. 246,323.

Claim.—1. In a nut-machine the combination of a shear edge or wall gripping-jaws having a shaping-matrix, means for closing said jaws around a bar or rod, a reciprocating punch at one side of the line of feed of the bar or rod, and means for shifting said jaws when in a closed position transversely of the shear edge or wall and into the line of movement of the punch, substantially as set forth.

2. In a nut-machine the combination of a shear edge or wall gripping-jaws having a shaping-matrix, means for closing said jaws around a bar or rod, means for shifting the jaws when in a closed position transversely of the shear edge, and means for laterally spreading the blank within and while held between said jaws, substantially as set forth.

3. In a nut-machine the combination of a shear edge, gripping-jaws having a shaping-matrix, means for closing said jaws around a bar or rod, means for shifting the jaws when closed transversely of the shear edge to complete the severance of the bar or rod and to shift the blank into position for further operation, a punch adapted to spread and partially perforate the blank and means for reciprocating the punch.

4. In a nut-machine the combination of a shear edge or wall, gripping-jaws having a shaping-matrix, means for closing the jaws around a bar or rod, means for shifting the jaws when closed transversely of the shear edge to complete the severance of the bar or rod and to shift the blank into position for further operations, a punch for spreading and partially perforating the blank, means for reciprocating the punch and means for completing the perforation or opening through the blank.



5. In a nut-machine the combination of a shear edge or wall gripping-jaws having a shaping-matrix, means for closing the jaws around a bar or rod, means for shifting the jaws when closed transversely of the shear edge to complete the severance of the bar or rod and to shift the blank into position for further operations, a spreading-punch, a supporting-punch, means for reciprocating said punches, and a reciprocating die for forcing the blank over the supporting-punch and thereby completing the perforation of the nut, substantially as set forth.

6. In a machine for making nuts, the combination of a shear edge, a spreading-punch, a supporting-punch, a reciprocating die for forcing a blank over the supporting-punch, gripping-jaws having a shaping-matrix, means for closing the jaws around a bar or rod, and means for successively shifting the jaws when closed across the shear edge and into position in front of the spreading and supporting punches, substantially as set forth.

7. In a machine for making nuts the combination of a carrier provided with guides, means for reciprocating the carrier, slides arranged in said guides and provided with jaws having a shaping-matrix, and means for opening and closing said jaws and holding them closed during the movement of the carrier in one direction, substantially as set forth.

8. In a machine for making nuts the combination of a carrier provided with guides, slides arranged in said guides, means for shifting said slides, means for moving the carrier step by step in one direction and means for returning the carrier to normal position by a continuous movement, substantially as set forth.

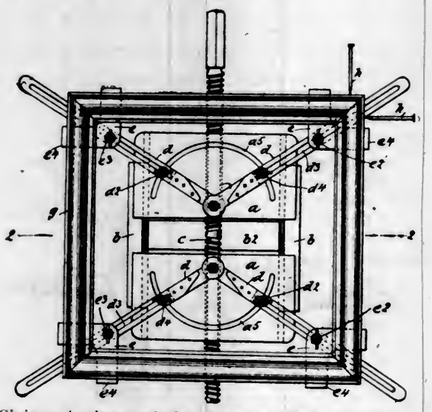
9. In a machine for making nuts, the combination of a shear edge gripping-jaws having a shaping-matrix, means for closing said jaws around a bar or rod, means for shifting said jaws when in a closed position across the shear edge and a stop or abutment extending from feed position in the direction of the movement of the jaws, substantially as set forth.

10. In a machine for making nuts, the combination of gripping-jaws having a shaping-matrix, means for closing said jaws around a bar or rod, a punch and die for spreading the blank, means for reciprocating the punch and die, means for shifting the jaws when in a closed position into line with the punch and die and means for imparting a further operative movement to the punch, substantially as set forth.

11. In a nut-machine the combination of jaws having shaping-matrices provided with inwardly-projecting edges, means for closing the jaws around the bar from which the nuts are to be formed, means for severing the bar outside of the plane of the inwardly-projecting edges of the matrix and means for spreading the blank to fill the matrix.

12. In a nut-machine, the combination of gripping-jaws having a matrix, means for moving said jaws toward and from each other, a punch adapted to enter a blank and support the same when the jaws are open, means for operating said punch and means for shifting the jaws into alinement with the punch.

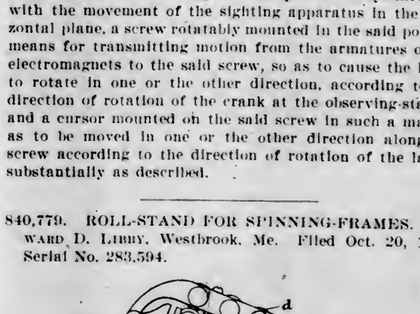
840,777. FRAME-CLAMP. CHARLES W. LAWSON, Waterbury, Conn. Filed Apr. 20, 1906. Serial No. 312,843.



Claim.—A clamp of the class described, comprising a base member provided with parallel side guides which extend above the same, blocks movable between said guides, a screw passed horizontally through said blocks and in the plane of said guides and provided at its opposite ends with reversed threads, said blocks being provided with bores which are correspondingly threaded, whereby the turning of said screws will force said blocks apart or draw them together, a pair of arms pivoted to the top of each of said blocks and near the adjacent side faces thereof, and said arms being adapted to swing in a horizontal plane above said blocks, rotatable clamps adjustably connected with said arms and adapted to hold a frame in a plane above said arms, said blocks being also provided with segmental slots and said arms with headed bolts which are passed therethrough and provided with thumb-nuts, and means for pivoting said base on a support.

840,778. ATTACHMENT FOR RANGE-FINDERS. KARL O. LEON, Stockholm, Sweden. Filed May 25, 1905. Serial No. 262,296.

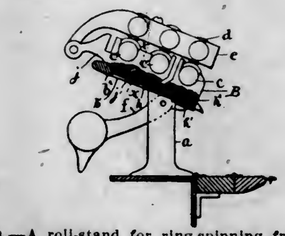
Claim.—1. In an apparatus for automatically indicating, at a receiving-station, the instantaneous position of an object observed from a single observing-station, the combination with a sighting apparatus at the observing-station, a map or chart at the receiving-station, a pointer adapted to move over the said map or chart, and means for moving the said pointer in accordance with the horizontal movement of the sighting apparatus, of a cursor adapted to move along the said pointer, means for causing the cursor to automatically move inwardly or outwardly according as the sighting apparatus is adjusted for a more or less distant object, and a second pointer or index moved by the said cursor about a point of the map or chart corresponding to the receiving-station, substantially as described.



2. In an apparatus for automatically indicating, at a receiving-station, the instantaneous position of an object observed from a single observing-station, the combination with a sighting apparatus at the observing-station, a map or chart at the receiving-station, a pointer adapted to move over the said map or chart, and means for moving the said pointer in accordance with the horizontal movement of the sighting apparatus, of a cursor adapted to move along the said pointer, means for causing the cursor to automatically move inwardly or outwardly according as the angle of depression of the sighting apparatus is increased or decreased, and a second pointer or index moved by the said cursor about a point of the map or chart corresponding to the receiving-station, substantially as described.

3. Apparatus for automatically indicating, at a receiving-station, the instantaneous position of an object observed from a single observing-station, characterized by the combination of a sighting apparatus placed at the observing-station, a crank by which the angle of depression of the sighting apparatus can be altered as desired, means operated by the crank for transmitting an alternating current from the observing-station, two contact-pieces at the said station, a contact-finger adapted to be brought into contact with one or the other of the said contact-pieces, according as the crank is rotated in one or the other direction, circuits connected with the said contact-pieces, electromagnets included in each of the said circuits, polarized armatures operated by the said electromagnets, a movable pointer, means for moving the said pointer in synchronism with the movement of the sighting apparatus in the horizontal plane, a screw rotatably mounted in the said pointer, means for transmitting motion from the armatures of the electromagnets to the said screw, so as to cause the latter to rotate in one or the other direction, according to the direction of rotation of the crank at the observing-station, and a cursor mounted on the said screw in such a manner as to be moved in one or the other direction along the screw according to the direction of rotation of the latter, substantially as described.

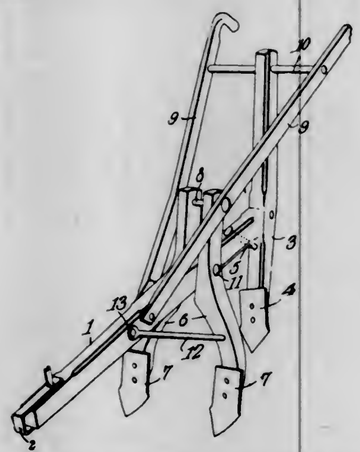
840,779. ROLL-STAND FOR SPINNING-FRAMES. EDWARD D. LIBBY, Westbrook, Me. Filed Oct. 20, 1905. Serial No. 283,594.



Claim.—A roll-stand for ring-spinning frames and the like including a standard having on the upper end thereof

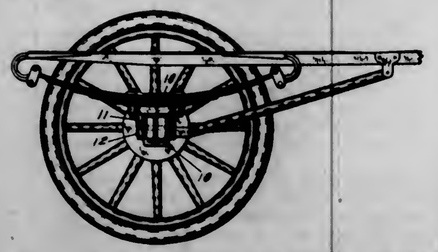
a head comprising the front-roll bearing, a flange extending rearward from said bearing having a longitudinal slot therein and the head being provided with a bore extending therethrough from the front thereof to the slot in the flange, a sliding bearing for supporting the rear rolls having on its under side a nut adapted to fit in the slot of the flange, a headed adjusting-screw in cross-section throughout its length smaller than the bore in the head and adapted to be inserted through the bore in the head from the forward end thereof to engage the nut, and the adjusting-screw head having an annular groove therein and a set-screw passing laterally through the head and entering the groove to prevent longitudinal movement of the adjusting-screw relative to the head and adapted to be adjusted to engage the adjusting-screw to prevent any movement thereof.

840,780. PLOW. BEDFORD D. LIGON and WILLIAM E. JENNINGS, Robard, Ky. Filed Oct. 11, 1906. Serial No. 338,459.



Claim.—A plow comprising a beam, a standard attached to the end thereof, removable standards attached to opposite sides of the beam, a bolt passing through the side standards and the beam, braces attached to the side standards, a bolt fixing the upper ends of said braces to the beam, handles attached at their lower ends to the beam, a round connecting the upper end of the end standard with the handles, said handles being connected with the upper ends of the side standards, and a plow-point attached to the end standard and having its tip in vertical alinement with the side of the beam.

840,781. BODY-SUPPORT FOR AXLES. THOMAS J. LINDSAY, Indianapolis, Ind. Filed Apr. 9, 1906. Serial No. 310,727.

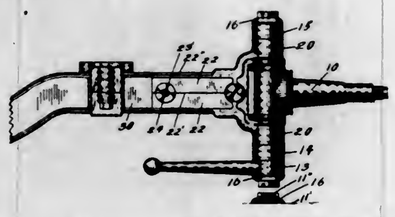


Claim.—1. A vehicle superstructure-support comprising a pair of separable members provided on their adjacent faces with portions adapted to receive an axle structure, a clip provided with means for engaging and holding one of said members against longitudinal movement on the axle structure, and adapted to lie within one of said transverse grooves between one of the members and the axle, and means for holding said clip against longitudinal movement on the axle structure.

2. The combination, with an axle structure, of a pair of separable members provided on their adjacent faces with portions adapted to receive the axle structure, a clip extending through one of said members between it and the axle structure and provided with portions embracing one of said members, and means for holding said clip against longitudinal movement on the axle structure.

3. The combination, with an axle structure, of a superstructure-supporting device comprising a pair of separable members provided on their adjacent faces with transverse grooves adapted to receive the axle structure, a clip provided with a medial opening and adapted to extend through one of said members between the axle structure and said member, interengaging portions between said clip and said member for preventing longitudinal movement of the member on the axle structure, and a projecting pin carried by the axle structure and adapted to be received in the opening of the clip.

840,782. STEERING-SPINDLE. THOMAS J. LINDSAY, Indianapolis, Ind. Filed Apr. 9, 1906. Serial No. 310,728.



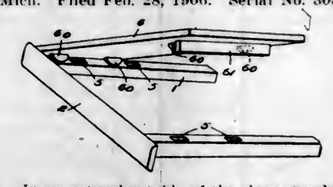
Claim.—1. The combination, with an axle structure comprising a medial web and overhanging flanges, of a steering-spindle support comprising a journal for the steering-spindle, and a main body, the inner end of which is longitudinally slitted to receive the medial web of the axle, and is fitted between the overhanging flanges, and means for fastening the spindle-support member to the axle structure to prevent longitudinal withdrawal.

2. The combination, with an axle structure comprising a medial web and overhanging flanges, of a steering-spindle support comprising a member carrying at its outer end a steering-spindle journal and at its inner end fitted to lie between the overhanging flanges of the axle structure, and means for attaching said member to the axle structure to prevent longitudinal withdrawal.

3. The combination, with an axle structure comprising a medial web and overhanging flanges, of a steering-spindle support comprising a pair of members each consisting of an arm and a steering-spindle journal, each of said arms being slitted to receive the medial web of the axle structure, and being fitted at its inner end to lie between the overhanging flanges of the axle structure, and means for holding said members in position upon the axle structure against longitudinal displacement.

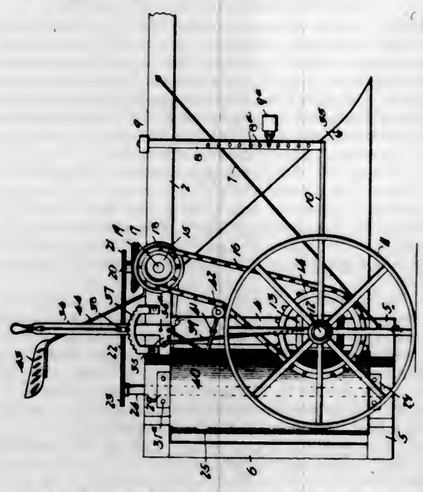
4. The combination, with an axle structure comprising a medial web and overhanging flanges, of a steering-spindle support comprising a pair of members each consisting of an arm and a steering-spindle journal, each of said arms being slitted to receive the medial web of the axle structure, and being fitted at its inner end to lie between the overhanging flanges of the axle structure, and each provided in that face which mates with the other member with a transverse groove, and a fastening member passing through the axle member and lying in the registering transverse grooves of the spindle-supporting members.

840,783. EXTENSION-TABLE. JOHN B. LISEE, Marine City, Mich. Filed Feb. 28, 1906. Serial No. 303,523.



Claim.—In an extension-table of the character described, the combination with a fixed top 30 of the main table-section and the slides 1, said slides having a plurality of longitudinally-positioned concaved seats 5 5; of the supplemental table-top section 6 having a plurality of pendent semicircular lugs 60 for fitting in the sockets 5 5 when the section 6 is slid inwardly and to ride out of the said sockets 5 5 onto the slides 1 whereby to form rests for supporting the table-section 6 in a plane with the main table-section 30 when said section 6 is slid outwardly, said section 6 having pendent longitudinal cleats 61 of a depth greater than that of the semicircular lugs, said cleats being adapted to fit over the slides 1 and hold the top section 6 from lateral displacement when in either of its horizontal positions, the said section 6 being loosely mounted upon the slides, all being arranged substantially in the manner shown and for the purposes described.

840,784. MACHINE FOR OPENING COTTON-BOLLS. WILLIAM I. LOWE, Sentinel, Okla. Filed Apr. 24, 1906. Serial No. 313,472.



Claim.—1. A machine for opening cotton-bolls, comprising a pair of upright rolls, free from picking devices and mounted with a space between them and suitable gearing connecting with the axles of the wheels and with the rolls, for revolving them, substantially as described.

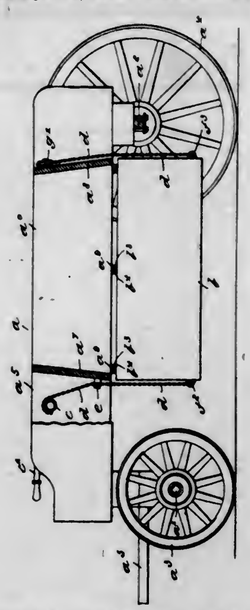
2. A machine for opening cotton-bolls, comprising a pair of pressing-rolls free from picking devices, mounted with their axles or journals in yielding journal-boxes for permitting the rolls to spread apart during the passage of bolls and stalks to prevent injury thereto, a supporting-frame on wheels and means for revolving the rolls, substantially as described.

3. A machine for opening cotton-bolls, comprising a pair of upright rolls free from picking devices mounted on shafts, adjustable and yielding journal-bearings for said shafts for setting the rolls toward or away from one another, main driving-wheels having axles carried by the frame of the machine, sprocket-wheels on said axles, and suitable gearing connecting them with the shafts of the rolls, for revolving them, substantially as described.

4. In a machine for opening cotton-bolls, the combination with a supporting-frame, of driving-wheels having axles mounted to slide vertically on the frame, a pair of pressing-rolls free from picking devices and mounted with a space between them in the frame, spring-pressed sliding journal-bearings for the shafts of said rolls, suitable gearing connecting with the main wheels and with shafts of the rolls for revolving them, and means for raising and lowering the machine on the wheels, substantially as described.

5. In a machine for opening cotton-bolls, the combination with the supporting-frame, of driving-wheels having axles connecting at their inner ends with cuffs or boxes arranged to slide on vertical standards of the frame, a pair of pressing-rolls, free from picking devices, and mounted with a space between them, a lever pivoted to the frame and a rod connecting it to the wheel-axle or its inner box for raising or lowering the machine, and suitable gearing connecting the driving-wheels with the shafts of the rolls for revolving them, substantially as described.

840,785. DUMP-WAGON. RICHARD H. MACCLERNAN, West Philadelphia, Pa., assignor to Contractors Wagon Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Apr. 18, 1906. Serial No. 312,304.



Claim.—1. In a dump-wagon, a box having straight sides and downwardly-inclined ends forming an outlet of greater size than the inlet thereof to prevent material to be dumped arching between the ends of said box, said box provided with pivotal doors forming the bottom of said box and occupying when closed a position at different elevations with respect to each other and means for raising and lowering said doors.

2. In a dump-wagon, a box having sides of different widths, doors of different widths pivotally secured to said sides and adapted to be held by the same in varying elevations, the side of greater width adapted to hold the door connected therewith below the door connected with the opposite side of said box to permit the respective doors to assume horizontal positions.

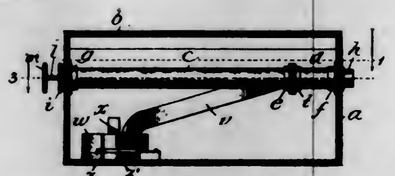
3. In a dump-wagon, a box having sides of different widths and downwardly-inclined ends, doors of different

widths pivotally secured to said sides, the side of greater width adapted to be connected with the door of greater width to permit the same to assume a horizontal position with respect to the door of lesser width and to overlap the same.

4. In a dump-wagon, a box having sides of different widths, and downwardly-inclined ends, doors of different widths and weights connected with said sides, the side of greater width adapted to support the door of greater weight, a chain for supporting said doors in one of their positions and said chains adapted to permit of the raising of one of the doors in advance of the other.

5. In a dump-wagon, a box having sides of different widths and downwardly-inclined ends, doors of different widths and weights connected with said sides, the side of greater width adapted to support the door of greater weight, a chain for supporting said doors in one of their positions and said chains adapted to permit of the raising of one of the doors in advance of the other, so as to overlap.

840,786. MAGAZINE DEVELOPING-CAMERA. LOUIS MANDEL, Chicago, Ill. Filed Mar. 26, 1906. Serial No. 308,086.



Claim.—1. A magazine-camera having a tubular magazine, a lens in alinement therewith, a spring-controlled follower within the magazine, a laterally-sliding gate at the forward end of the magazine, a runway in the plane of the gate upon the opposite side of the magazine therefrom, and a revoluble bath vessel having a series of bath-receptacles, arranged to stand successively beneath the mouth of said runway, said vessel being partially projected from the case to permit one of said receptacles to be at all times without the case, substantially as specified.

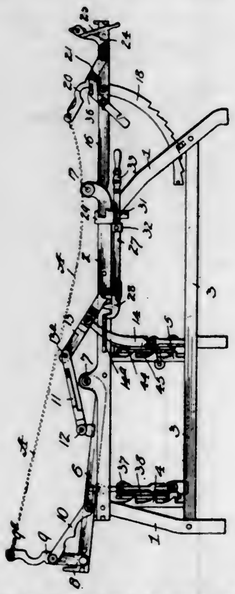
2. The combination in a camera of a closed case, a magazine-tube, a spring-controlled follower, a lens in front of the tube, a laterally-slidable gate at the forward end of said tube, a lateral runway opposite to said gate, a revoluble bath-carrying element disposed upon a vertical axis, said element being partly within and partly without said case, a plurality of bath-holding receptacles disposed at equal distances from each other upon said carrying element and means for yieldingly holding said element in a predetermined position and governing the extent of its movement, substantially as set forth.

3. In a camera of the class described, the combination of a tubular magazine, a gate at its forward end for positively discharging the plates, a spring-follower a follower-spring and a screw-rod at the rear of said follower for adjusting the tension of the follower-spring, substantially as and for the purposes specified.

4. In a camera of the class described, the combination of a magazine and means for exposing and discharging plates therefrom, a bath-carrying element arranged to rotate upon a vertical axis partly within and partly without the camera-case, a series of receptacles therein arranged to pass beneath the discharge-exit from the magazine, and means for controlling and retaining said carrying element with one of its receptacles beneath said discharge-exit and one outside of the camera, substantially as specified.

5. The combination with a camera of the class described, of a plate-discharge runway, means for exposing and discharging plates therein, a bath-carrying element pivotally mounted upon a vertical axis, said element being in an opening in the side wall of the case, a series of equidistant bath-carrying receptacles in said element, notches in the periphery of said element and a retaining-spring for engaging said notches, as and for the purpose specified.

840,787. INVALID-BED. EDWARD C. MEAD, Elkhart, Ind. Filed Aug. 29, 1904. Serial No. 222,622.



Claim.—1. In an invalid-bed, a frame, a head-section pivotally connected therewith, a bracket pivotally connected to the frame on an axis parallel to the axis of the head-section, a toggle-joint connecting said bracket and the free end of the head-section, an operating-lever also pivotally connected to said bracket, and a link forming a connection between said lever and one of the members of the toggle-joint, substantially as described.

2. In a device of the character described, a main frame, a head-section pivoted thereto with means for operating it, standards pivotally connected to said head-section and adapted for engagement with a suspending device, and means near the center of the bed for drawing upon said suspending device to lift the patient, substantially as described.

3. In a device of the character described, a main frame, a head-section pivoted thereto with means for operating it, standards pivotally carried by said head-section and adapted for engagement with a suspending device, and means near the center of the bed for drawing upon said suspending device to lift the patient, and a hinged leg-support with means for holding it in any position to which it may be adjusted, substantially as described.

4. In an invalid's bed, a pivoted head-section, standards 9 pivoted to the head-section, standards 13 pivoted to the middle section of the bed, arm-rests pivoted to the head-section and detachably connected with the standards 13, and standards at the foot of the bed adapted to be raised and lowered, said standards at the head, middle portion and foot of the bed being adapted to removably receive and support a hammock, substantially as described.

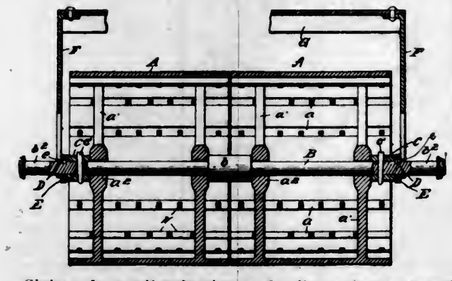
5. In combination, in an invalid's bed, a head and foot section, a middle section to which said head and foot sections are pivoted, and standards on the head, middle and foot sections pivotally supported and adapted to support a hammock, said standards being combined with means for holding them up, substantially as described.

6. In combination, a pivoted head-section standards pivoted thereon for holding a hammock, a middle section having pivoted standards thereon for holding another part of said hammock, means for raising and holding the standards of the middle section, and means at the foot of the bed for holding the said hammock.

7. In combination, in an invalid's bed, standards at the head for holding a hammock, pivoted standards at the central portion for supporting and drawing upon the hammock, and means for raising the said standards, said means comprising segmental side arms, guides in which said side arms slide and toggle-levers connected therewith, substantially as described.

8. In an invalid-bed, the combination with the bed-stead, of a bearing-bracket carried thereby, a hanger pivotally supported by said bracket, said hanger having a horizontal arm and a notched vertical bar, a long arm having a sliding and pivotal engagement with said horizontal arm, and having a handle at one end and a commode-holding device at the other, and means in proximity to the handle for effecting locking engagement with said notched bar, substantially as described.

840,788. CUTTING-HARROW. LEMUEL G. MEADE, Paint Rock, Ala. Filed Oct. 18, 1906. Ser al No. 339,552.



Claim.—In a soil pulverizer and roller, a frame, an axle rigidly keyed in the frame and having its ends projecting beyond the side bars of the frame to form spindles for temporary wheels, a central rigid boss on the axle, a pair of toothed land-rollers journaled on the axle one at each side of said boss, the inner ends of the hubs of the rollers abutting against said boss, and a pair of collars C keyed to the axle, one between each side bar of the frame and the adjacent hub of the adjacent roller.

840,789. GRAVITY MOLDING APPARATUS. JOHN E. MITCHELL and DENNIS PARKS, St. Louis, Mo., assignors to Mitchell-Parks Manufacturing Co., St. Louis, Mo., a Corporation of Missouri. Filed June 28, 1906. Serial No. 323,911.

Claim.—1. Gravity molding apparatus comprising, in combination with means for intermittently discharging into a flask from a suitable elevation compact wads of sand, a support for the flask movable back and forth across the line of fall of such wads.

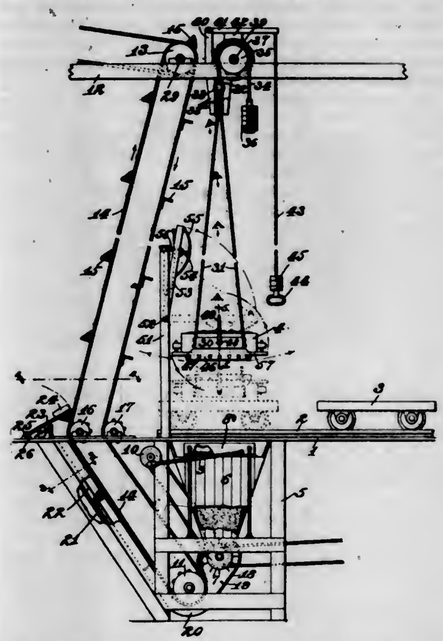
2. In gravity molding apparatus, in combination with means for elevating sand and intermittently discharging into a flask from such elevation compact wads thereof, a support for the flask movable back and forth across the line of fall of such wads.

3. Gravity molding apparatus comprising, in combination with sand elevating, compressing and discharging mechanism, a pendent flask-support partially located in, and movable back and forth across the line of fall of the sand.

4. Gravity molding apparatus comprising, in combination with sand elevating, compressing and discharging mechanism, a reversible flask-support partially located in, and movable back and forth across the line of fall of the sand.

5. Gravity molding apparatus comprising, in combination with sand elevating, compressing and discharging mechanism, a pendent reversible flask-support partially located in and movable back and forth across the line of fall of the sand.

6. Gravity molding apparatus comprising, in combination with means for intermittently discharging into a flask from a suitable elevation compact wads of sand, a swinging flask-support partially located in and movable back and forth across the line of fall of such wads.



7. Gravity molding apparatus comprising, in combination with means for intermittently discharging into a flask from a suitable elevation compact wads of sand, a pendent reversible flask-support partially located in and movable back and forth across the line of fall of such wads, and means for locking said support in adjusted position.

8. Gravity molding apparatus comprising, in combination with means for intermittently discharging into a flask from a suitable elevation compact wads of sand, a pendent reversible and vertically-movable flask-support partially located in and movable back and forth across the line of fall of such wads.

9. Gravity molding apparatus comprising, in combination with means for intermittently discharging into a flask from a suitable elevation compact wads of sand, a swinging vertically-movable frame, a flask-support bed pivotally mounted in said frame, and means for locking said bed in adjusted positions, said bed being movable back and forth across the line of fall of the wads.

10. Gravity molding apparatus comprising, in combination with sand elevating and discharging mechanism, a cradle having at its lower end a bed partially located in the line of discharge of the sand, a shaft mounted above said bed and having sprocket-wheels and a brake-wheel fast thereon, chains connected to the upper end of said cradle and passing over said sprocket-wheels and having weights applied to their free ends, and brake mechanism coöperating with said brake-wheel, the combination operating as described.

11. Gravity molding apparatus comprising an endless bucket elevator having one end supported at a suitable elevation, as described, the buckets being adapted to discharge at the upper end of the elevator over a flask, and the sand so discharged to fall into the flask, a sand-supply for said elevator, and means coöperating with said elevator for compressing the sand in the buckets thereof.

12. Gravity molding apparatus comprising an endless bucket elevator having one end supported at a suitable elevation, as described, the buckets being adapted to discharge at the upper end of the elevator over a flask, and the sand so discharged to fall into the flask, a sand-supply for said elevator, and a pivoted packing-plate adapted to

be engaged successively by the buckets in their upward movement.

13. In gravity molding apparatus, in combination with means for elevating and intermittently discharging sand above a flask to fall by gravity thereinto, means for compressing the sand, before its discharge, into unitary blocks or wads.

14. In gravity molding apparatus, means for elevating the sand, means for compressing the same into separate wads, or blocks, and means for intermittently discharging said wads or blocks above a flask to cause the sand to fall into and pack in said flask.

15. In gravity molding apparatus, means for continuously elevating and discharging separate, unitary bodies of sand above a flask to cause the sand to fall into and pack in said flask, and means for compressing each body of sand before its discharge.

16. In gravity molding apparatus, means for continuously elevating and discharging separate, unitary bodies of sand above a flask to cause the sand to fall into and pack in said flask, and automatic means for compressing each body of sand before its discharge.

17. In gravity molding apparatus, in combination with a swinging cradle, a scraper pivotally mounted adjacent thereto and adapted to be turned into and out of coöperative relation therewith.

18. In gravity molding apparatus, in combination with a swinging cradle, a scraper coöperating therewith, said scraper comprising a frame, a blade projecting therefrom, and curved guards located at the outer edge of the blade at each end thereof and extending to the frame at points removed from either side thereof.

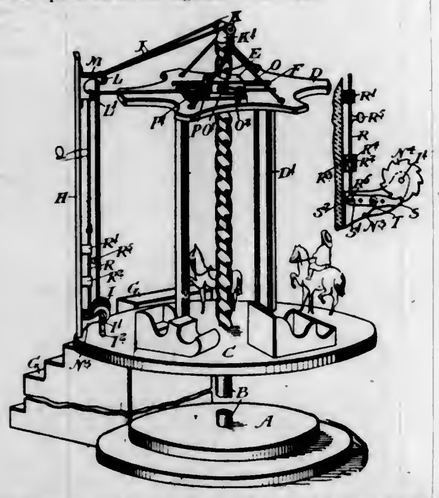
19. Gravity molding apparatus comprising an endless sand-elevator having one end supported at a considerable height, as described, and being adapted to discharge the sand intermittently at its upper end over a flask, to cause the sand to fall by gravity directly thereinto, a sand-supply for said elevator, said elevator being guided to travel in planes inclined to the vertical, and a flask-support movable back and forth across the line of fall of the sand.

20. Gravity molding apparatus comprising an endless sand-elevator having one end supported at a considerable height, as described, and being adapted to discharge the sand intermittently at its upper end over a flask, to cause the sand to fall by gravity directly thereinto, a sand-supply for said elevator, said elevator being guided intermediate its ends to cause the upper and lower portions thereof, respectively, to travel in planes inclined in opposite directions to the vertical, and a flask-support movable back and forth across the line of fall of the sand.

21. Gravity molding apparatus comprising an endless sand-elevator having one end supported at a considerable height, as described, and being adapted to discharge the sand intermittently into space at its upper end over a flask, to cause the sand to fall by gravity directly thereinto, a sand-supply for said elevator, said elevator being guided intermediate its ends to cause the upper and lower portions thereof, respectively, to travel in planes inclined in opposite directions to the vertical, and a swinging cradle adapted to support the flask to receive the wads of sand discharged from the elevator, said cradle being movable toward and from the elevator in the space afforded by inclining the opposite end portions thereof as described.

840,790. MERRY-GO-ROUND. ERNEST J. MITCHESON, Toronto, Ontario, Canada. Filed Apr. 14, 1906. Serial No. 311,733.

Claim.—1. In a merry-go-round, the combination with the base and the central standard secured in the same and having a spiral thread, of a circular platform having figures or the like circularly arranged on same, and a central aperture through which the standard extends, and a canopy located above the platform, and standards rigidly connecting the canopy and platform together, the said canopy having also an aperture through which the spiral standard extends and serving to maintain the platform from wabbling as it rotates as specified, said canopy being adapted to be lifted by hand to draw the platform upwardly on the spiral standard together with itself.



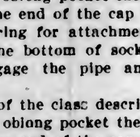
2. The combination with the base and screw-standard and platform, and a divided nut suitably supported on the platform, a swivel top for the standard provided with pulleys, ropes connected to the platform and extending over the pulleys, an upright also connected to the platform and provided with pulleys through which such rope will extend, and a reel journaled in the bottom of the upright and to which the lower ends of the ropes are connected and a ratchet-wheel secured to the end of the reel and engaged by a pawl as and for the purpose specified.

3. The combination with the base and screw-standard and platform and divided nut suitably supported on the platform, a swivel top for the standard provided with pulleys, ropes connected to the platform and extending over the pulleys, an upright also connected to the platform and provided with pulleys through which such ropes extend, a reel journaled in the bottom of the upright and to which the lower ends of the ropes are connected, a ratchet-wheel secured to the end of the reel and engaged by a pawl and means for throwing the nut apart when manipulating the reel as and for the purpose specified.

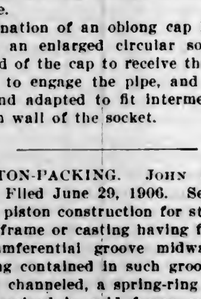
4. In combination, a base, a suitable screw-standard, a platform, a canopy supported on the platform, a divided nut located centrally on the canopy, guideways for the same, springs having a normal tendency to hold the divided nut apart, pins on one portion of the divided nut and pulleys on the other portion, pulleys on the canopy, a rope connected to the pins of one portion of the divided nut and extending over the pulleys aforesaid, a cross-bar to which the ropes are connected extending through slots in the guideways, a rope connected to the center of such bar and extending over the pulleys on the upright, a pull-bar located at the lower end of such rope and having a tooth thereon, suitable brackets in which such pull-bar is supported, the lower one of which is provided with a tooth, ropes connected to the upper end of the canopy, a swiveled top for the screw-standard provided with pulleys over which such ropes extend, an upright secured to the platform and provided with a bearing-bracket pulleys over which the raising-ropes extend, a spring-pressed lever-pawl engaging such ratchet-wheel, a lever pivotally connected to one end of the lever-pawl and to the lower end of the pull-bar as and for the purpose specified.

840,791. SPRING-WASHER. HERMANN MÖHRING, St. Petersburg, Russia, assignor to Commercial Firm "Carl Spiegel," St. Petersburg, Russia. Filed Nov. 14, 1905. Serial No. 287,278.

Claim.—A washer consisting of the parallel annular portions each having a central recess, an outer vertical portion connecting the parallel portions together and an upwardly-extending flange on the inner edge of the lower parallel portion.



840,792. PIPE-CAP. WALTER G. MORSE, Waterbury, Conn. Filed Mar. 15, 1906. Serial No. 306,204.



Claim.—1. In a pipe-cap of the class described, the combination with a cap having a pocket therein, of an enlargement in one end thereof, a pipe-socket in such enlarged end having a shoulder extending around three sides of the socket, set-screws passing through the walls of the socket of the cap and adapted to engage a pipe.

2. In a pipe-cap of the class described, the combination with a one-piece cap having a single oblong opening therein, one end of said opening being enlarged and having a circular shoulder and smooth side wall to receive the end of a pipe, and screws passing through the cap to engage the pipe when seated within the enlargement.

3. In a pipe-cap of the class described, the combination of a cap having an oblong pocket therein, an enlargement of said pocket in one end of the cap to form a socket for a pipe, a ring with rounded sides to fit into the bottom of the socket and against the end of pipe, and screws passing through the said cap for engagement with the pipe.

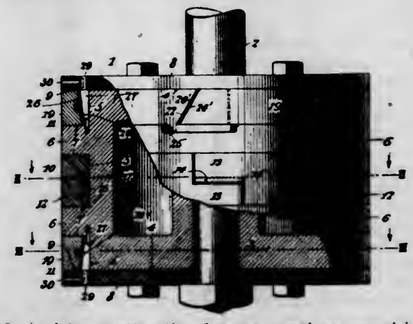
4. In a pipe-cap of the class described, the combination of a cap having an oblong pocket therein, an enlargement of said pocket in one end of the cap to form a socket for the pipe, an open ring for attachment around the wires and intermediate the bottom of socket and end of pipe, and screws to engage the pipe and secure the parts together.

5. In a pipe-cap of the class described, the combination of a cap having an oblong pocket therein, an enlargement of said pocket in one end of the cap, a ring with an oval top surface and an extended apron and adapted to be engaged intermediate the bottom of socket and end of pipe, and a screw passing through the cap to engage the sides of the pipe.

6. The combination of an oblong cap having an oblong pocket therein, an enlarged circular socket in the side walls of one end of the cap to receive the pipe, set-screws within the cap to engage the pipe, and a ring having a rounded side and adapted to fit intermediate the end of pipe and bottom wall of the socket.

840,793. PISTON-PACKING. JOHN J. MCGEE, New York, N. Y. Filed June 29, 1906. Serial No. 323,981.

Claim.—1. A piston construction for steam-engines comprising a main frame or casting having flat end faces and having a circumferential groove midway between such faces, a bull-ring contained in such groove, said bull-ring being interiorly channeled, a spring-ring in such channel, packing-rings received in said frame or casting, spring-rings for impelling said packing-rings outward, flat metal disks fastened to said flat end faces of the frame or casting, pistons working in said disks, and wedges on said pistons and bearing against the spring-rings of said packing-rings to force the latter outward.



2. A piston construction for steam-engines comprising a frame or casting having flat end faces and having a central circumferential groove, a bull-ring in said groove, a spring for normally impelling said bull-ring outward so as to support the weight thereof, packing-rings received in grooves or channels adjacent the end faces of said frame or casting, metallic disks fastened upon said end faces and adapted to hold said packing-rings in place, a plurality of wedges working inwardly from the end faces of the piston, and small pistons integral with said wedges and open to the steam-pressure at the ends of the piston for impelling said packing-rings outward.

3. A piston construction for steam-engines comprising a frame or casting having a central bull-ring, and having reduced portions adjacent the two end faces thereof, metallic disks bolted on said end faces, packing-rings supported by said metallic disks, and pistons moving in said metallic disks and having wedges to impinge against said packing-rings to impel the same outward.

4. A piston construction for steam-engines comprising a frame or casting having a bull-ring and having reduced portions adjacent to its ends, packing-rings received in said reduced portions, a pair of metallic disks supported upon the end faces of said frame or casting and supporting said packing-rings in place, spring-rings beneath said packing-rings and adapted to impel the same outward, and pistons working through said metallic disks and having wedges adapted to impel said spring-rings outward.

5. A piston construction for steam-engines comprising a frame or casting having a bull-ring and having reduced portions adjacent to its ends, packing-rings received in said reduced portions, a pair of metallic disks supported upon the end faces of said frame or casting and supporting said packing-rings in place, spring-rings beneath said packing-rings and adapted to impel the same outward, and a plurality of small pistons acting on each packing-ring and adapted to impel the same outward.

840,794. PROCESS OF TREATING HIDES AND SKINS. WILLIAM M. NORRIS, Princeton, N. J. Filed Nov. 16, 1905. Serial No. 287,670.

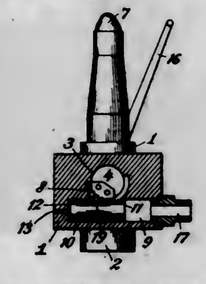
Claim.—1. The within-described improvement in treating hides and skins, which consists in depilitating them in lime and arsenic and then subjecting them to the direct action of hyposulfite of soda and then to acid.

2. The within-described improvement in treating skins which consists in depilitating them in lime and arsenic, subjecting them to the direct action of a solution of hyposulfite of soda to set the gelatinous fiber of the skins, then subjecting the same to the action of a solution of hydrochloric acid, salt and water, and then slating the stock.

3. The within-described improvement in treating skins which consists in depilitating them in lime and arsenic, subjecting them to the direct action of a solution of hyposulfite of soda to set the gelatinous fibers of the skins, then subjecting the same to the action of a solution of hydro-

chloric acid, salt and water, then slating the stock, and then subjecting it to a slight tawing operation.

840,795. APPARATUS FOR REGULATING GAS-PORTS. RICHARD N. OAKMAN, New York, N. Y. Filed Dec. 8, 1905. Serial No. 290,900.



Claim.—In an apparatus for regulating gas-ports a standard provided with a bore having a throughway for the passage of gas to a burner a nozzle for attachment to a source of gas-supply and a rotary plug-valve fitting the bore and perforated diametrically, in combination with a bore adapted to receive a piston, a reciprocating piston carrying a rack within the bore, a pinion upon the end of the rotary valve, meshing with the rack on the piston, and a socket at the end of the piston-bore for connection with a supply of fluid-pressure to reciprocate the piston.

840,796. GAS-CONTROLLING DEVICE. RICHARD N. OAKMAN, New York, N. Y. Filed Dec. 8, 1905. Serial No. 290,901.



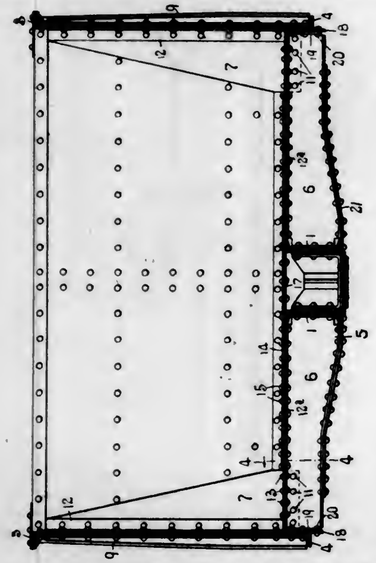
Claim.—1. In a gas-controlling device a standard provided with a bore having a throughway for the passage of gas, and a rotary plug-valve seated within the bore adapted to open and close the throughway when rotated, in combination with a blade secured to the rotary valve, a space behind the blade for the admission of compressed air or fluid and adapted to be exhausted of air or fluid, to propel the blade to the end of its stroke and return it to its original position.

2. In a gas-controlling device a standard provided with a cylindrical bore, and having a throughway for the passage of gas and a rotary plug-valve seated within the bore adapted to open and close the throughway when rotated, in combination with a blade secured to the valve, a space behind the blade to receive compressed air or fluid, to propel the blade and return it, and a vent on the other side of the blade for the escape and entrance of air to facilitate its movement in either direction.

840,797. GONDOLA CAR. ALLEN E. OSTRANDER, Paterson, N. J., assignor to American Car & Foundry Company, St. Louis Mo., a Corporation of New Jersey. Filed June 29, 1906. Serial No. 324,033.

Claim.—1. In a car, side plates, a bolster, gusset-plates secured to the side plates and being connected to the bolster below the floor of the car, floor-plates which abut at the bolster, and a top cover-plate for the bolster arranged over the abutting edges of said floor-plates and being connected to the floor-plates and to the bolster; substantially as described.

2. In a car, a bolster, floor-plates which abut at the bolster, a top cover-plate for the bolster arranged over the abutting edges of said floor-plates, and a center floor-plate provided with an extension which is deflected below the top cover-plate of the bolster; substantially as described.



3. In a car, center sills, a bolster, floor-plates that terminate at the bolster, a top cover-plate arranged above the floor-plates and being connected to the bolster, and a center floor-plate connected to the center sills and having its end deflected below the top cover-plate to which it is connected; substantially as described.

4. In a car, center sills, side plates, connecting-plates depending from the side plates, and laterally-projecting members fastened to said connecting-plates and to the center sills; substantially as described.

5. In a car, center sills, side plates, connecting-plates depending from the side plates, and web-plates provided with flanges for fastening them to the connecting-plates and to the center sills; substantially as described.

6. A car comprising center sills, plate-girder sides, connecting-plates carried by said sides, flanged web-plates arranged back to back and fastened to the center sills and to said connecting-plates, gusset-plates connected to the plate-girder sides and extending between the web-plates, abutting floor-plates connected to the upper flanges of said web-plates, and a top cover-plate arranged over the abutting edges of said plates and being secured to said plates and to the upper flanges of the web-plates; substantially as described.

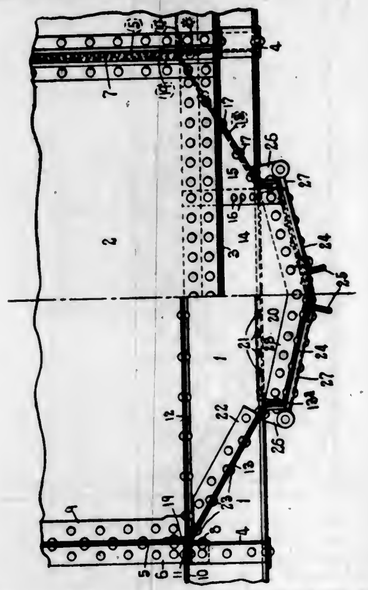
7. In a car, plate-girder sides, center sills, flanged web-plates connected at one end to the center sills and at their other ends to the plate-girder sides, gusset-plates connected to the sides and to the web-plates below the floor of the car, floor-plates abutting at the gusset-plates and connected to the upper flanges of the web-plates, a top cover-plate arranged above the floor-plates and also connected to the upper flanges of the web-plates, and a bottom plate extending beneath the center sills and being fastened to the lower flanges of the web-plates; substantially as described.

8. In a car, center sills, bolsters comprising top cover-plates, a continuous central floor-plate extending between said bolsters and connected to said center sills, and to the top cover-plates of the bolsters, and floor-plates abutting at the bolsters and extending underneath the top cover-plates of the bolsters; substantially as described.

9. In a car, a side, a transversely-extending floor-support, a gusset connected to the side and to the floor-support, and floor-plates terminating at said floor-support and being connected thereto; substantially as described.

10. In a car provided with side sills and center sills, connecting-plates depending below said side sills, and laterally-projecting members fastened to said connecting-plates and to the center sills; substantially as described.

840,798. HOPPER-BOTTOM GONDOLA CAR. ALLEN E. OSTRANDER, Paterson, N. J., assignor to American Car & Foundry Company, St. Louis, Mo., a Corporation of New Jersey. Filed June 29, 1906. Serial No. 324,034.



Claim.—1. A car comprising sides, cross-bearers, gusset-plates connected to the sides and to the cross-bearers, inclined plates connected at their upper ends to the cross-bearers and forming the center sheet of a hopper, a central plate connected to the side of the car and forming part of the side sheet of the hopper, said plate being inclined inwardly, and end plates connected to said central plate, to the inclined plates, to the gusset-plates, and to the sides of the car; substantially as described.

2. A car comprising center sills, cross-bearers, inclined plates connected to the cross-bearers and forming the center sheet of a hopper, means for connecting said plates to the center sill, inclined doors connected to the inner ends of said plates, and a plate connected to the center sill between the inner ends of said inclined plates and projecting below said plates to form the inside sheet of the hopper; substantially as described.

3. In a hopper-bottom car, center sills, inclined plates forming the center sheet of the hopper, and supporting-angles connected to the center sill and extending underneath the inner edges of said plates; substantially as described.

4. In a hopper-bottom car, inclined plates forming the center sheet of the hopper, doors connected to the lower edges of the center-sheet plates, outside and inside sheets having portions which extend below the lower edges of said inclined plates, and members connected to the inside and outside sheets below the inclined center-sheet plates to act as bearings for said doors when they are closed; substantially as described.

5. In a hopper-bottom car provided with channel-shaped center sills and plate-girder sides, plates depending from the center sills and provided with flanges which rest upon and are riveted to the lower flanges of the center sills, said plates acting as the inside sheets of the hoppers, inwardly-inclined plates forming the outside sheets of the hopper and provided with flanges which are connected to the plate-girder sides, plates forming the center sheets of the hopper and being connected to the center sills and to said inwardly-inclined plates, and doors connected to said center-sheet plates; substantially as described.

6. A car comprising a side, a cross-bearer, a gusset-plate connected to said side and extending below the floor of the car and connected to the cross-bearer, a strengthening-angle connected to the gusset-plate and to the side, an inclined plate forming the center sheet of a hopper and being connected to said cross-bearer, and a plate connected to said plate and to the side of the car and provided with a flange which is connected to the gusset-plate and to the strengthening-angle; substantially as described.

7. A car comprising center sills, plate-girder sides, flanged members, connected to the sills and to the sides to form a cross-bearer, gusset-plates connected to the sides and to the webs of the cross-bearers below the floor of the car, hoppers arranged on each side of the center sills and comprising inclined plates provided with flanges which are connected to the cross-bearers, the sides and the center sills, and doors for said hoppers; substantially as described.

8. A car having a hopper in which the corners are formed by sheet-metal plates that are separate from the side and end sheets of the hopper; substantially as described.

9. A car having a hopper consisting of side sheets and end sheets and separate sheet-metal plates forming the corners of the hopper; substantially as described.

10. A car provided with a hopper in which the side sheets and end sheets have parallel edges and separate sheet-metal plates connected to the side and end sheets to form the corners of the hopper; substantially as described.

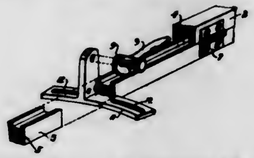
11. A car having a hopper consisting of side sheets and end sheets, and pressed-metal plates connected to said side and end sheets and forming the corners of the hopper; substantially as described.

12. A gondola car consisting of sides, transversely-extending cross-bearers or floor-beams, a hopper located between said cross-bearers, and gusset-plates arranged at the outside corners of said hopper and being connected to the sides and to the cross-bearers; substantially as described.

13. A car comprising sides, cross-bearers, a hopper located between said cross-bearers, gusset-plates arranged at the outside corners of said hopper and being connected to the sides and to the cross-bearers, and side stakes connected to said gusset-plates and to the cross-bearers; substantially as described.

14. A car comprising a side, a cross-bearer, an end sheet of a hopper connected to said cross-bearer, and a gusset-plate connected to the side and to the cross-bearer; substantially as described.

840,799. MACHINE FOR INSERTING AND WITHDRAWING TIRE-WIRES. HENRY PAAR, Canton, Ohio. Filed Aug. 27, 1906. Serial No. 332,130.



Claim.—1. In a machine for inserting and withdrawing tire-wires, the combination of tire-clamping members provided with grooves, the lower clamp member provided with a series of bars, eccentric clamps pivoted to said bars, a housing having journaled therein shafts, wheels provided with grooves upon their peripheries, said grooves having a series of alternating ridges and grooves located at opposite angles as between the wheels and at an angle to the shafts, upon which said wheels are mounted, substantially as and for the purpose specified.

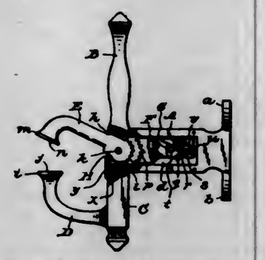
2. In a machine of the class described, the combination of a housing, shafts journaled therein, wire-feeding wheels

mounted upon the shafts, one of said shafts adapted to receive the crank, said shaft provided with a flange, means for connecting a tire-wire to said flange, a crank provided with a flange and tire-clamping members hinged together, means for clamping said tire-clamping members, one of said members provided with a slotted bracket, means for holding the bracket and tire-clamping members in fixed position, substantially as and for the purpose specified.

3. In a machine of the class described, the combination of tire-clamping members hinged together, means for clamping the tire-clamping members together, a housing having journaled therein shafts, wheels mounted upon said shafts, said wheels provided with wire-feeding grooves, and a wire-guide bar secured to the housing, substantially as and for the purpose specified.

4. The combination of a housing, shafts journaled therein and provided with tire-wire-feeding wheels, tire-clamping members hinged together, a scraper-blade detachably connected to the tire-wires, substantially as and for the purpose specified.

840,800. LOCKED COAT-HOOK. ARTHUR C. PEGAN, Indianapolis, Ind., assignor of one-half to Leonidas C. Hinchman, Indianapolis, Ind. Filed Feb. 3, 1906. Serial No. 299,480.



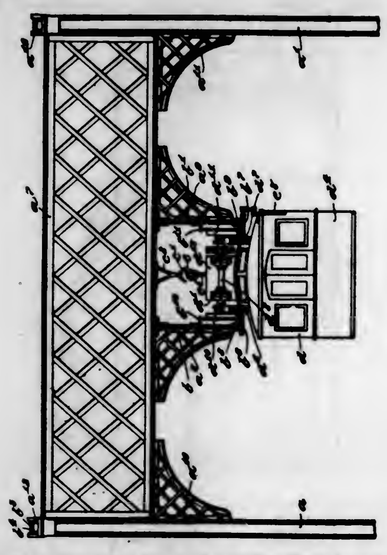
Claim.—1. In a coat-hook, the combination of a hollow supporting-arm having an open end provided therein with a spring-seat, a hook-shank attached to the arm, a pivot in the open end of the arm near said spring-seat, a spring in said spring-seat, a garment-hook attached to said shank, a shackle-bar mounted on said pivot and having a socket receiving an end of said spring, and a lock-bolt in said arm for holding said shackle-bar in opposition to said spring and said hook.

2. In a coat-hook, the combination of a hollow supporting-arm having an open end provided therein with a spring-seat, a hook-shank attached to the arm, a pivot in the open end of the arm near said spring-seat, a spring in said spring-seat, a garment-hook attached to said shank, a shackle-bar mounted on said pivot and having a socket receiving an end of said spring, a lock-bolt in said arm for holding said shackle-bar in opposition to said spring and said hook, and a plate attached to said arm at the front of said spring.

840,801. ELEVATED-RAILWAY SYSTEM. DANIEL M. PFAUTZ, Germantown, Pa., assignor of one-half to William H. Tigerman, Philadelphia, Pa. Filed May 23, 1906. Serial No. 318,306.

Claim.—1. In an elevated railway, the combination of two parallel series of columns, a series of vertically-arranged cross-girders uniting the upper ends of opposite columns in series, two parallel longitudinal girders suspended from beneath the cross-girders and each supporting a track upon which a car is adapted to travel, a guard-rail for said car, and a bracket for each longitudinal girder adapted to connect the outside of said girder directly with the under side of the cross-girder, substantially as and for the purposes described.

2. In an elevated railway, the combination of two parallel series of columns, a series of vertically-arranged cross-girders uniting the upper ends of opposite columns in series, two parallel longitudinal girders suspended from beneath the cross-girders and each supporting a track upon which a car is adapted to travel, a guard-rail for said car, brackets for each longitudinal girder and column, said brackets connecting the outside of said girders and the inside of said columns directly to the under side of the cross-girder, substantially as and for the purposes described.



3. In an elevated railway, the combination of two longitudinal girders each supporting a track upon which the vehicle is adapted to travel, braces spanning and tying the upper faces of the longitudinal girders together and closing the same at their upper ends, and tie-rods connected with said longitudinal girders and passing over columns to connect both of said longitudinal girders with each of said columns, substantially as and for the purposes described.

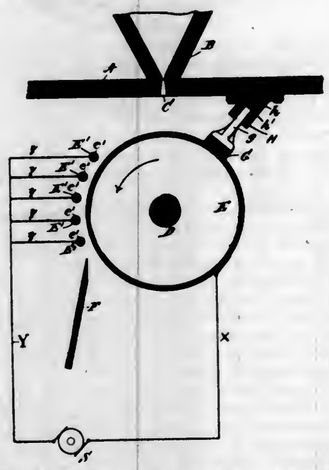
4. In an elevated railway, the combination of two parallel series of columns, a series of cross-girders connecting the upper ends of opposite columns in series, two parallel longitudinal girders suspended from the cross-girders and each supporting a track upon which a car is adapted to travel, braces spanning and tying the longitudinal girders together at their upper faces, and tie-rods connected with said longitudinal girders and passing over said columns to connect both of the longitudinal girders with each of said columns, substantially as and for the purposes described.

5. In an elevated railway, the combination of two parallel series of columns, a series of cross-girders uniting the upper ends of opposite columns in series, two parallel longitudinal girders suspended from beneath the cross-girders and each supporting a track upon which a car is adapted to travel, braces spanning and tying the longitudinal girders together at their upper faces, tie-rods connected with the upper faces of said longitudinal girders and passing over said columns to connect the longitudinal girders and columns adapted to connect the outside of the longitudinal girders and the inside of said columns directly to the under side of said cross-girders, substantially as and for the purposes described.

6. In an elevated railway, the combination of two parallel series of columns, a series of vertically-arranged cross-girders uniting the upper ends of said opposite columns, two parallel longitudinal girders suspended from the cross-girders and each supporting a track upon which a car is adapted to travel, guard-rails arranged intermediate of the upper and lower faces of said longitudinal girders and above the tracks thereof, brackets for each longitudinal girder adapted to connect the outside of said girders directly to the under side of the cross-girders and braces spanning and tying the upper faces of the longitudinal girders together, substantially as and for the purposes described.

7. In an elevated railway, the combination of two parallel series of columns, a series of vertically-arranged cross-girders uniting the upper ends of said opposite columns, two parallel longitudinal girders suspended from beneath the cross-girders and each supporting a track upon which a car is adapted to travel, brackets suspended from beneath the cross-girders intermediate of the longitudinal girders and adapted to support a hood, a trolley-wire arranged in said hood and carried by the same and said brackets, substantially as and for the purposes described.

840,802. ELECTROSTATIC SEPARATOR. GREENLEAF W. PICKARD, Amesbury, Mass., asignor to Huff Electrostatic Separator Company, Boston, Mass., a Corporation of Maine. Filed Jan. 29, 1906. No. 298,381.



Claim.—In an electrostatic separator, a repelling-electrode; means to feed material thereto, an opposite electrode divided into a plurality of subdivisions each of small superficial extent as contrasted with the repelling-electrode and each of said subdivisions being inclosed in a dielectric envelop, to bring the subdivisions into closer electrical proximity to the repelling-electrode than to each other, and means for electrically exciting the said electrodes.

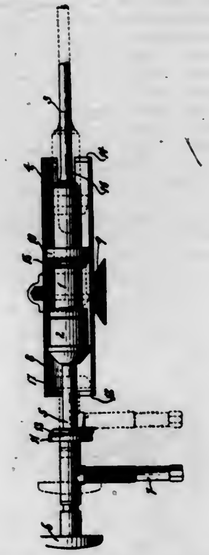
840,803. HAMMER-DRILL. WILLIAM PRELLWITZ, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N. Y., a Corporation of New Jersey. Filed June 28, 1906. Serial No. 323,896.

Claim.—1. In a hand-feed hammer-drill, means within which the drill may be freely moved for supporting the drill in the proper position independently of the operator.

2. In a hand-feed hammer-drill, means within which the drill may be freely moved for supporting the drill in the proper position independently of the operator comprising an open-ended hollow guide-sleeve embracing the drill.

3. In a hand-feed hammer-drill, its cylinder, means for supporting the drill in the proper position independently of the operator comprising an open-ended hollow guide-sleeve and a guide-ring on the cylinder fitted to enter the bore of the said sleeve.

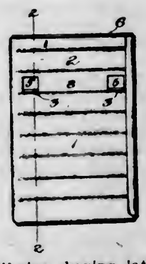
4. In a hand-feed hammer-drill, its tail-rod, means for supporting the drill in the proper position independently of the operator comprising an open-ended hollow guide-sleeve and a guide-ring on the tail-rod fitted to enter the bore of the said sleeve.



5. In a hand-feed hammer-drill, its cylinder and tail-rod, means for supporting the drill in the proper position independently of the operator comprising an open-ended hollow guide-sleeve and guide-rings on the cylinder and tail-rod fitted to enter the bore of the said sleeve.

6. In a hand-feed hammer-drill, its cylinder and tail-rod, means for supporting the drill in the proper position independently of the operator comprising an open-ended hollow guide-sleeve and guide-rings on the cylinder and tail-rod fitted to enter the bore of the said sleeve, the ends of the sleeve and the said rings having tapered portions for facilitating the insertion of the rings into the said sleeve.

840,804. WALL-PLUG. JESSE PRESCOTT, Webster, Mass. Filed Feb. 15, 1906. Serial No. 301,191.



Claim.—1. A wall-plug, having lateral projections adjacent its front end for engaging the front surface of the wall, and an extension projecting therefrom provided with means for encompassing and holding a retaining-nail at a distance from the wall and means for supporting the secured object remote from the wall.

2. A wall-plug, having a flat body provided with laterally-projecting ears extending from the body of the plug near to but back from the outer end for maintaining said outer end projected beyond the wall proper, said outer end containing means for grasping a nail when driven into it endwise.

3. A wall-plug, having laterally-projecting ears extending from the body of the plug adjacent to but back from the outer end for holding the outer end projected beyond

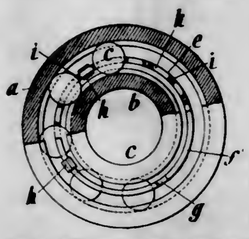
the wall proper, and provided with transverse holes through the body of the plug between said ears and the outer end, said outer end containing means for grasping a nail when driven into the plug endwise.

4. A wall-plug, having laterally-projecting ears extending from the body of the plug adjacent the outer end for holding the outer end projected beyond the wall proper, and provided with transverse holes between said ears and the outer end, and supporting-flanges extending laterally from the extremity of said outer end.

5. A wall-plug, provided at and near to its outer end with pairs of parallel alining means for temporarily positioning the wall-plug in the course of forming concrete buildings.

6. A wall-plug, having parallel engaging and alining means at its outer end beyond the body portion of the plug to be embedded in concrete, combined with a supporting-board having means for holding said outer end rigidly.

840,805. BALL-BEARING. AUGUST RIEBE, Berlin, Germany. Filed Apr. 18, 1906. Serial No. 312,378.



Claim.—1. In a ball-bearing, a cage having two rings arranged edgewise and having ball-openings between them, and means for yieldingly opposing relative movement of such rings in an axial direction.

2. In a ball-bearing, a cage having two rings arranged edgewise and having ball-openings between them, and clamps for yieldingly holding such rings together.

3. In a ball-bearing, a cage having ball-openings, and having recesses leading to such openings, such openings being sufficiently restricted to prevent the balls from normally contacting with the ends of said recesses.

4. In a ball-bearing, a cage having two rings arranged edgewise and having ball-openings between them, and recesses leading from such openings, such recesses being adapted to receive the front or rear sides of the balls, and such openings and recesses being adapted to normally prevent the balls from contacting with the ends of said recesses.

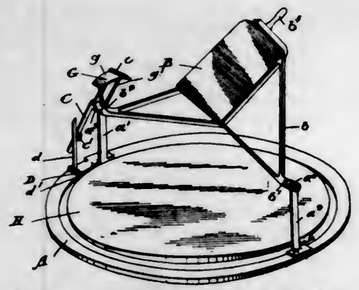
5. In a ball-bearing, a cage having two rings arranged edgewise and having ball-openings between them, and recesses leading from such openings, such recesses being adapted to receive the front or rear sides of the balls so that they do not normally contact with the rings, and means for yieldingly opposing relative movement of such rings in an axial direction.

840,806. CHEESE-CUTTING MACHINE. WILBER H. SCOTT, Ottawa, Ontario, Canada. Filed May 5, 1905. Serial No. 259,042.

Claim.—1. In a cheese-cutter, the combination with the cheese-carrier, of a pivotally-supported knife, an arm connected with the knife so as to move therewith, and a tappet-roller adjustably carried by the arm, and means operated by said tappet-roller serving to rotate the carrier, substantially as described.

2. In a cheese-cutter, in combination a cheese-carrier, a knife, a handle for operating the same, a lever connected to and operating with the knife, an index-finger on the lever, a dial coöperating with the finger and means for transmitting the movement of the lever to the carrier and means for varying the amount of motion so transmitted.

3. In a cheese-cutter the combination with the pivotally-supported cutting-knife, of a lever connected thereto, graduations indicating the various weights of cheese placed on said lever and a tappet slidably secured on said lever, an indicator on said tappet adapted to coact with said graduations a cheese-carrier, and means for communicating the motion of said tappet to the cheese-carrier as and for the purpose specified



4. In a cheese-cutter the combination with the pivotally-supported cutting-knife, of a lever connected thereto, a cheese-carrier, a pivotally-supported member, a standard upwardly extending therefrom, and adapted to be engaged by said lever in its motion, means for changing the point of engagement of the said lever with the said standard and means for communicating motion of said standard and member to the cheese-carrier as and for the purpose specified.

5. In a cheese-cutter, in combination a cheese-carrier, a knife, a lever for operating the knife, means for transmitting the motion of said lever to the carrier and means for varying the amount of motion so transmitted.

6. In a cheese-cutter in combination a carrier, a carrier-operating lever, a tappet-roller slidably supported on said lever and adapted to transmit the motion of the lever to the carrier, an index-finger connected to said lever, and an indicator-card adapted to coact with said index-finger as and for the purpose specified.

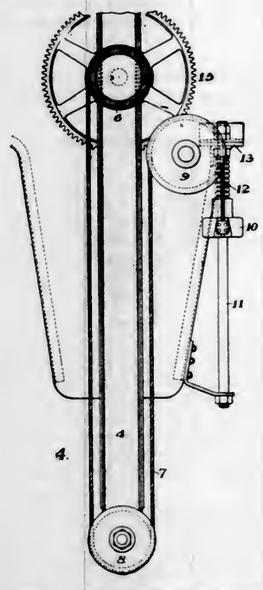
7. In a cheese-cutter the combination with the cheese-carrier, a carrier-operating lever having graduations indicating various weights of cheese placed on the carrier of a tappet-roller slidably secured on the lever and provided with an indicator adapted to coact with said graduations and means for transmitting the motion of the tappet-roller to the carrier as and for the purpose specified.

8. In a cheese-cutter the combination with the knife, base and rotary carrier of a non-rotary spider carried by the base, a pintle integral therewith supporting the carrier, a plurality of spring-held pawls permitting rotation of the carrier in one direction only, a pivoted member supported below said carrier, a plurality of spring-held pawls on said member adapted to press against said carrier and cause it to rotate with the aforesaid member only when moved in one direction and means for simultaneously operating the knife and said member as and for the purpose specified.

9. In a cheese-cutter the combination with the knife, base and rotary carrier, of an arm connected to said knife, a tappet on said arm, a non-rotary spider carried by the base, a pintle integral therewith supporting the carrier, a plurality of spring-held pawls permitting rotation of the carrier in one direction only, a pivoted member mounted below said carrier, a stop on said member adapted to engage with the tappet a plurality of spring-held pawls on said member adapted to press against said carrier and cause it to rotate with the aforesaid member only when rotated in one direction and resilient means for keeping said member in engagement with the tappet as and for the purpose specified.

10. In a cheese-cutter, in combination a pivotally-supported cutting-knife, a lever integral therewith, an indicator card, an index-finger integral with said lever and adapted to coact with said card, a scale of graduations placed on said lever corresponding to the total weight of the cheese, a tappet-roller slidably supported on said lever and provided with an index-mark adapted to coact with said graduated scale, a pivoted member, a spider secured to the base of the cutter, a pintle integral therewith and supporting said member, a standard upwardly extending from said member and adapted to engage said tappet, a cheese-carrier, a plurality of spring-held pawls secured to the base, and bearing on said carrier whereby rotation of the same is permitted in one direction only, and a plurality of spring-held pawls secured to the aforesaid member and adapted to press against the carrier and cause it to rotate with the said member only when moved in one direction as and for the purpose specified.

840,807. TAKE-UP DEVICE FOR CRANE LIFTS OR HOISTS. GEORGE W. SHEM, Alliance, Ohio, assignor to The Alliance Machine Company, Alliance, Ohio, a Corporation of Ohio. Filed Jan. 19, 1906. Serial No. 296,777.



Claim.—1. In a crane or hoist, the combination with a lifting-bar, and ropes or cables for actuating the same, of a slack-take-up device connected to the dead ends of the ropes or cables and arranged to move independently of the lifting-bar; substantially as described.

2. In a crane or hoist, having a lifting-bar, and actuating ropes or cables therefor, a vertically-movable counterweight to which the free ends of the ropes or cables are connected and arranged to move independently of the lifting-bar; substantially as described.

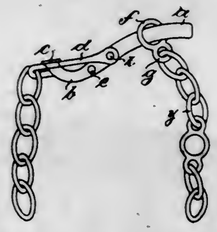
3. In a crane or hoist, the combination with a vertically-movable lifting-bar, ropes or cables for operating the same, and winding-drums for the ropes or cables, of a vertically-movable counterweight to which the free ends of the ropes or cables are connected and arranged to move independently of the lifting-bar, and a yielding stop or buffer for the counterweight; substantially as described.

4. In a crane or hoist, the combination of a vertically-movable lifting-bar, having a sheave or pulley at its lower end portion, an actuating-drum, a rope or cable attached to said drum and passing around the sheave or pulley, a vertically-sliding counterweight to which the free end of the rope or cable is connected, and an intermediate bearing for the rope or cable; substantially as described.

5. A take-up device for crane ropes or cables, consisting of a counterweight to which the free ends of the ropes or cables are connected and which is arranged to move independently of the part to which the opposite or lifting ends of the ropes or cables are connected, and a buffer forming a stop for the upward movement of the counterweight; substantially as described.

6. In a crane or hoist, a vertically-movable lifting member, an actuating rope or cable for the lifting member and connected thereto at an intermediate point in the length of the rope or cable, and a slack-take-up device connected to the free end of the rope or cable; substantially as described.

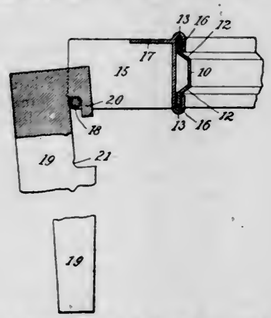
840,808. FASTENING FOR CHAINS. ADOLPH SPECHT, Posen, Germany. Filed May 15, 1906. Serial No. 317,034.



Claim.—1. Chain-fastening, consisting of a U-shaped bow and a toggle pivoted thereto, the shorter arm of which bears a lateral stud for frictionally engaging the inner side of the bow for the purpose of preventing accidental uncoupling.

2. Chain-fastening, consisting of a U-shaped bow and a toggle pivoted thereto, the shorter arm of which bears a lateral stud on each side for frictionally engaging the inner sides of the bow for the purpose of preventing accidental uncoupling.

840,809. CLOTHES-DRIER. CHRISTIAN STUEBEN, Union, N. J., assignor of one-half to Henry C. Steinhoff, Union, N. J. Filed May 10, 1906. Serial No. 316,054.

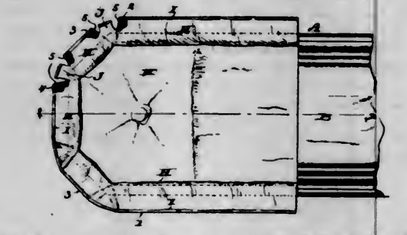


Claim.—In a clothes-drier, a flanged circular band, combined with a socket slidable thereon and having an upper rear shoulder and a lower front pin, and with a foldable arm having a bottom recess which terminates at its rear end in a hook, and at its front end in a groove, substantially as specified.

840,810. BURIAL-CASKET. WARREN E. SWARTZ, Milwaukee, Wis., assignor to Milwaukee Casket Company, Milwaukee, Wis. Filed June 7, 1906. Serial No. 320,504.

Claim.—A burial-casket body provided with attachments in the form of leaves in folding connection with upper portions of its walls independent of the casket-lid or depending walls of same, and upholstery material in connection with said body and the leaves to stop-gap the latter

and limit outward swing of same; said attachments being folded within the confines of the closed casket and de-



signed to overhang the upper edges of the body of said casket when open.

840,811. IRRIGATION-GATE. WARNER L. VESTAL, San Bernardino, Cal. Filed June 25, 1904. Serial No. 214,166.



Claim.—A device of the character described comprising, in combination, an irrigation box or flume, a discharge-pipe projecting through one of the walls of the box, said pipe being provided with a threaded outer end and having at its inner end an attaching-plate fixed against rotation to said wall, and an adjustable nozzle upon the outer end of said discharge-pipe, said nozzle comprising a pipe or tube arranged at right angles to the aforesaid wall of the box or flume and provided with an eccentrically-arranged sleeve internally threaded to receive and engage the threaded end of said discharge-pipe, the longer arm of the nozzle being provided with a passage leading from said sleeve to the outlet end of the arm and the shorter arm of the nozzle being formed with an integral counterweight, all the parts of the nozzle being integral with each other and the nozzle *per se* being pivotally mounted directly upon the discharge-pipe.

840,812. AMBER VARNISH AND PROCESS OF MAKING SAME. WILLIAM F. WEBER, Washington, D. C. Filed Dec. 24, 1900. Renewed Apr. 26, 1906. Serial No. 313,834.

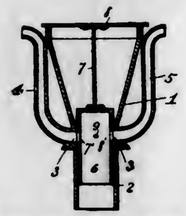
Claim.—1. The herein-described process of making varnish consisting in placing together a preparation of amber or other gum and oil, subjecting the same to a temperature in excess of 700° Fahrenheit in an open vessel, without stirring, cooling the mass, adding turpentine to thin the mixture and at the same time stirring and finally allowing the mixture to cool; substantially as described.

2. The herein-described process of dissolving amber in fatty oil, for the purpose of forming varnish, said process consisting in mixing the amber with the oil in the proportion of one pound of amber to not exceeding one and one-half pint of oil, heating the mixture in an open vessel to a temperature not less than 600° Fahrenheit, until a scum consisting of particles of softened amber, is formed over the entire surface, maintaining such coating of scum unbroken during the further heating of the mixture, whereby the mixture is brought to a temperature in excess of 700° Fahrenheit, and the particles of amber are gradually and completely dissolved in the oil; substantially as described.

3. The herein-described process of making varnish from amber, and fatty oil, said process consisting in mixing the amber with the oil in the proportion of one pound of amber to not exceeding one and one-half pint of oil, heating the mixture in an open vessel to a temperature not less than 600° Fahrenheit, until a scum consisting of particles of softened amber, is formed over the entire surface, maintaining such coating of scum unbroken during the further heating of the mixture, whereby the mixture is brought to a temperature in excess of 700° Fahrenheit, and the particles of amber are gradually and completely dissolved in the oil, cooling the mass thus formed, adding turpentine, heating and stirring until completely mixed; substantially as described.

4. The herein-described varnish consisting of a mixture of amber with linseed-oil and turpentine in the proportion of one pound of amber to not exceeding one and one-half pint of oil and sufficient turpentine to thin the mixture to proper consistency for use, the mixture being formed by first dissolving the amber in the oil in an open vessel at a temperature in excess of 700° Fahrenheit, cooling the mass so formed, adding the turpentine and heating and stirring the mixture; substantially as described.

840,813. BOTTLE-STOPPER. DAVID W. WHITAKER, Oak Ridge, N. C. Filed Aug. 3, 1906. Serial No. 329,024.



Claim.—1. A device of the character described, comprising a closure for a bottle including a funnel member having a tubular extension provided with opposed orifices and with pouring-spouts arranged in communication with said orifices, one of said orifices and one of said spouts serving as a vent, and an upper end closed tubular plug fitted to said tubular extension and provided with opposed orifices or ports effective for registration with the aforesaid orifices.

2. A device of the character described, comprising a closure for a bottle including a funnel member having a tubular extension provided with orifices or ports and with pouring-spouts arranged in communication with said orifices, and an upper end closed tubular plug provided with ports or orifices one being much the smallest or diminutive, two being registrable synchronously with the aforesaid orifices, and said diminutive port being adapted to register with either of the aforesaid orifices separately.

3. A device of the character described, comprising a closure for a bottle, including a funnel member having a tubular extension provided with opposed orifices or ports, and an upper end closed tubular plug fitted to said tubular extension and provided with orifices or ports effective for registration with the aforesaid orifices or ports, said plug having its shank portion provided with a cover adapted to form a closure for said funnel member.

840,814. PAPER BOX. HENRY L. R. WOLF, Dayton, Ohio, assignor to The Auil Brothers Paper and Box Company, Dayton, Ohio, a Corporation of Ohio. Filed Aug. 18, 1905. Serial No. 274,654.

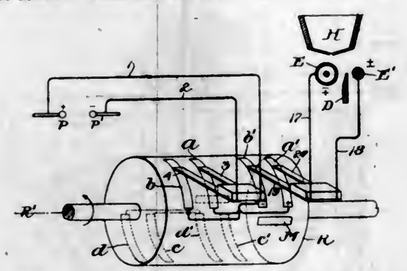
Claim.—The combination, with a foldable box having two opposite sides creased to fold inward and upon themselves, of supplemental strips formed separate from the sides of said box and composed of inner and outer portions, the inner portion of each strip secured near its middle to the inner face of one such side of the box and lying beneath the same when in its folded position, and

the outer portion, of less length than the end of said box, free to stand out from the side and to be drawn down



against the outer face thereof when in its upright position and to fold down upon such side and between the ends of said box when said side is in its folded position, and a tape or cord to draw and hold such outer portion down to such side, substantially as described.

840,815. ELECTROSTATIC SEPARATOR. PHILIP H. WYNNE, Boston, Mass., assignor, by mesne assignments, to Huff Electrostatic Separator Company, a Corporation of Maine. Filed Jan. 20, 1905. Serial No. 241,981.



Claim.—1. The combination with the electrodes of an electrostatic separator, of means to supply potential to the electrodes at intervals, and means to deprive the electrodes of potential in the intervals between the acts of supply.

2. In an electrostatic separator, the combination with the electrodes, of a source of potential, connections between the source and the electrodes, and means interposed between the electrodes and the said source substantially to deprive the electrodes of potential except during predetermined intervals of time.

3. In an electrostatic separator, the combination with the electrodes, of a source of potential, connections between the source and the electrodes, and means to interrupt recurrently the persistence of effective potential on the electrodes.

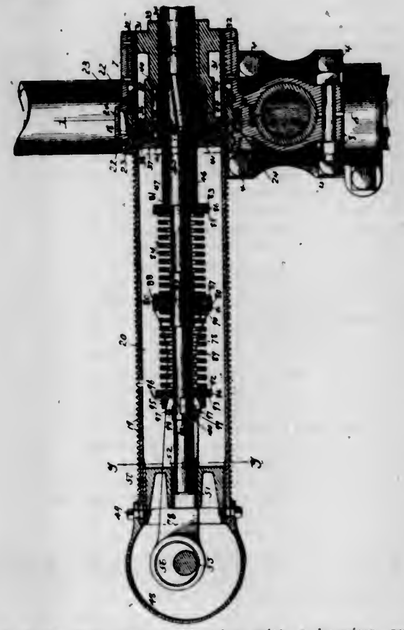
4. In an electrostatic separator, the combination with the electrodes, of a source of potential, connections between the source and the electrodes, comprising a rotary interrupter, recurrently to deprive the electrodes of potential.

5. In an electrostatic separator, the combination with the electrodes, of a source of potential, connections between the source and the electrodes, comprising segmental contact-pieces, brushes therefor, and means relatively to move the brushes and segmental contact-pieces in order recurrently and alternately to supply the electrodes with potential from the source and to deprive the electrodes of potential.

840,816. ROCK-DRILL. THOMAS E. ADAMS, Cleveland, Ohio, assignor to The Adams Drill Company, Cleveland, Ohio, a Corporation of Ohio. Filed Oct. 24, 1901. Serial No. 79,832.

Claim.—1. In a drill, the combination with a sectional housing, an externally-threaded barrel passing through the same and a drill-rod carried by and longitudinally movable through said barrel, of a split feeding-nut mounted within the housing and engaging the threaded barrel and means for turning said nut.

2. In a drill, the combination with a housing made in two parts hinged together, and a clamp engaging the free edges of said sections, of an externally-screw-threaded barrel passing through the housing, a longitudinally-split feeding-nut disposed within the housing and engaging the threaded barrel and means for operating said nut, a drill-rod longitudinally movable through said housing, and means carried by the rear end of the barrel for operating the drill-rod.



3. In a drill, the combination with a housing, and a drill-body threaded externally from end to end and passing through the housing, a drill-rod independent of the barrel and carried in it, said housing having interior annular grooves, of a feeding-nut mounted within the housing and engaging the threaded barrel, flanges on said nut and entering the grooves in the housing said drill-body having external longitudinal grooves, flanges projecting from the housing and entering said longitudinal grooves, means for operating said nut, a casing secured to the rear end of the barrel and means in said casing for reciprocating the drill-rod.

4. In a drill, the combination with a housing and an externally-threaded barrel movable longitudinally therethrough, of a feeding-nut mounted within the housing and engaging the barrel to move it longitudinally, gear-teeth on said nut, a pinion mounted in the housing and engaging said gear-teeth and means for operating said pinion.

5. In a drill, the combination with a housing and an externally-threaded barrel passing through said housing, of a feeding-nut mounted within the housing and engaging said barrel to move it longitudinally, gear-teeth on said nut, a sleeve mounted in the housing, gear-teeth on said sleeve and meshing with the gear-teeth on the feeding-nut and an operating-rod removably attached to said sleeve for turning it.

6. In a drill, the combination with a drill-rod having recesses and means for guiding it, of a disk mounted on said rod, an internally-beveled annular flange on said disk, blocks or wedges within said flange and engaging the drill-rod in the recesses therein, another disk on the drill-rod, two springs encircling the drill-rod between said disks, a crank-shaft, a pitman connected with the crank-shaft and a cross-head on said pitman, disposed between said springs.

7. In a drill, the combination with a barrel and a drill-

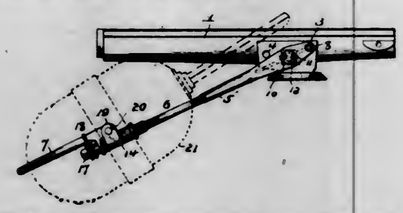
rod mounted therein, of a casing secured to the barrel, a transverse crank-shaft in the casing and connected with the drill-rod, a lateral bearing on the casing for one end of the crank-shaft, the casing having a large opening in the side opposite said lateral bearing, an annular flange around said opening, a gear-casing, a sleeve projecting from said gear-casing and mounted to rotate within said annular flange and supported by said first-mentioned casing, a bushing within said sleeve for the reception of the crank-shaft, a pinion secured to the crank-shaft within the gear-casing, a second pinion in the gear-casing meshing with the pinion on the crank-shaft, said second pinion supported independently of the crank-shaft, and means for connecting a motor with said second pinion.

8. In a drill, the combination with a housing, of an externally-threaded cylindrical body portion passing therethrough, means engaging the external threads of said body portion for feeding the latter, a drill-rod longitudinally movable through the cylindrical body portion, a separate casing secured to the rear end of the body portion, operating mechanism for the drill-rod mounted in said casing and connected with said drill-rod and an external driving-shaft connected with said driving mechanism.

9. In a drill, the combination with a barrel and a drill-rod therein, of a crank-shaft, a head in one end of the barrel having slots, a sleeve on said head in which the drill-rod is guided and a pitman connected with the crank-shaft, passing through the slots in said head and connected with the drill-rod.

10. In a drill, the combination with a drill-body, a drill-rod therein, a housing at the rear end of the drill-body, journal-bearings in said housing, bushings in said bearings, a crank-shaft mounted within said bushings and a connection between said crank-shaft and drill-rod, of a gear-casing having a part mounted in said housing around the bushing therein, whereby the gear-casing will be supported by the housing independently of the crank-shaft, and gearing in said gear-casing for rotating the crank-shaft.

840,817. MOTOR-SUPPORTING HARP FOR ROCK-DRILLS. THOMAS E. ADAMS, Cleveland, Ohio. Filed Feb. 25, 1905. Serial No. 247,317.



Claim.—1. A motor-supporting harp comprising two members, one movable longitudinally relatively to the other and means for mounting a motor on the longitudinally movable member.

2. A motor-supporting harp comprising an elastic fork, a yoke attached to and movable longitudinally with relation to the fork, springs between the fork and yoke and means on the yoke for mounting the motor.

3. A motor-supporting harp, consisting of two members removably secured together and elastic connection between the members.

4. A motor-supporting harp, consisting of two members, elastic connecting means between the members, and removable pins in one member forming pivotal motor-supports.

5. A motor-supporting harp, consisting of a fork and a yoke, means for removably connecting them together, springs forming elastic cushions between them, and removable conical pins driven into openings in the yoke and adapted to provide pivotal mounting for the motor.

6. A motor-supporting harp, comprising a fork and a yoke, sleeves on the yoke ends to receive the fork ends, and springs in each sleeve engaging a part on the fork and a part in the sleeve.

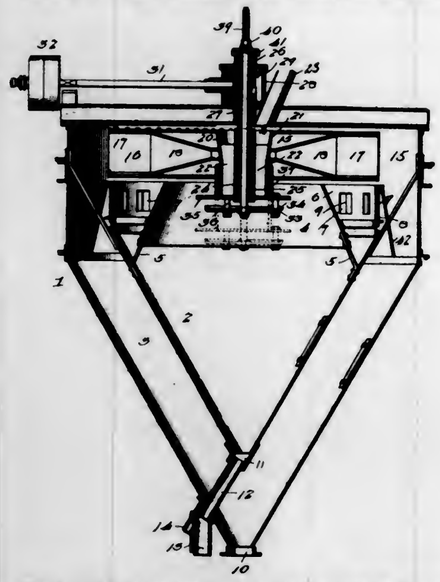
7. A motor-supporting harp, consisting of a fork and a yoke, sleeves on the yoke ends to receive the fork ends, springs in said sleeves bearing against shoulders therein, nuts screwed onto the fork ends and against which the said springs in the sleeves bear, and conical pins driven into openings in the yoke and providing pivotal support for a motor.

8. A motor-supporting harp, consisting of a fork of elastic material and a yoke elastically attached together, and said fork consisting of two flattened bars secured together, and means for securing the same to the drill-guide shell.

9. The combination with a guide-shell having a part provided with recesses, of a motor-supporting harp provided at one end with a lateral projection to enter any one of said recesses, and a bolt passing through the harp and shell and securing the parts together.

10. A motor-supporting harp comprising a fork, a yoke, sleeves on the yoke to receive the ends of the fork, springs in said sleeves, nuts screwed on the fork ends and entering the sleeves, and devices, carried by the arms of the yoke to prevent accidental displacement of the nuts.

840,818. DRY SEPARATOR. WILLIAM N. BEACH, New York, N. Y. Filed June 25, 1906. Serial No. 323,322.



Claim.—1. In a separator, a separator-casing having separate collecting-chambers, a rotary feeding-chute arranged within the top part of the casing, a suction-fan located above the lower end of the chute, a rotary distributing-table mounted below the lower end of the feeding-chute and carried therewith, said table having a vertical adjustment independent of the chute, and provided with a peripheral upstanding deflecting-lip, and a baffle-plate supported and carried by the distributing-table and arranged above the same.

2. In a separator, a separator-casing having separate collecting-chambers, a rotary feeding-chute arranged within the top of the casing, and provided with distributing-blades, a rotary suction-fan mounted above the lower end of said chute, a vertically-adjustable deflector-table supported below the chute, and a baffle-plate carried by and supported above the table.

3. In a separator, a separator-casing having separate collecting-chambers, a rotary feeding-chute arranged within the top part of the casing and provided with a plurality of radial and spirally-disposed distributing-blades, a rotary suction-fan mounted above the lower end of the feeding-chute, a vertically-adjustable rotary distributing-table supported below the chute, and provided with a peripheral deflector-lip, and a baffle-plate supported and carried by said table and arranged above and in spaced relation thereto, said baffle-plate having a sleeve extension working over the feeding-chute.

4. In a separator, a separator-casing having separating collecting-chambers, a rotary feeding-chute arranged in the top of the casing and carrying a rotary suction-fan, a suitably-driven sleeve-shaft fitted to and carrying said feeding-chute, a rotary distributing-table arranged below the chute, a baffle-plate carried by said table and arranged above and in spaced relation thereto, a shaft-rod extending through the sleeve-shaft, and connected at its lower end with the distributing-table and an adjustable coupling connection between said shaft-rod and said sleeve-shaft to provide for their rotation in unison and also to permit vertical adjustment of the shaft-rod with reference to the sleeve-shaft.

840,819. SWITCH-CONTACT FOR CONTROLLERS AND THE LIKE. SAMUEL D. BLACK, Baltimore, Md., assignor to Manufacturer's Engineering Company, Baltimore, Md., a Corporation of Maryland. Filed Oct. 25, 1906. Serial No. 340,516.



Claim.—1. The combination with a socket member, of a plug member to fit said socket, and a switch-block consisting of a head on one of said members.

2. The combination with a socket, of means to secure said socket to a support, a plug adapted to fit said socket, and a switch-block on one end of said plug.

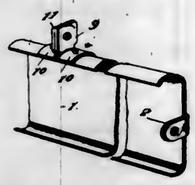
3. The combination with a socket-bolt having a chamber opening through the head thereof, of a plug adapted to fit said chamber, and a switch-block on one end of said plug.

4. The combination with a socket-bolt having a chamber opening through the head thereof, of a split plug adapted to fit said chamber, a switch-block on one end of said plug, and a nut for said bolt.

5. The combination with a switch-contact segment, of one or more plugs fast to said segment, a socket member to fit each of said plugs, and means to make the said sockets fast to a support.

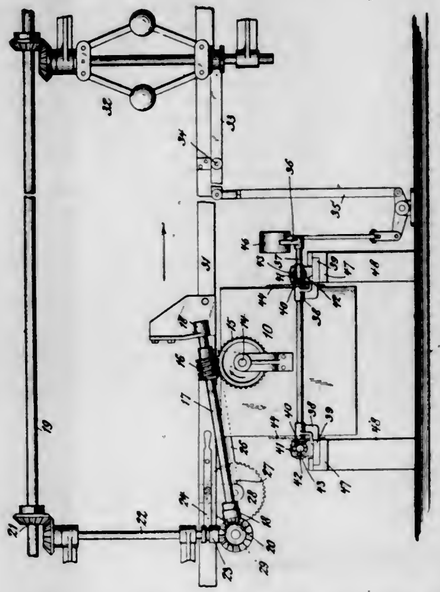
6. The combination with an insulating switch-plate for controllers and the like, of a socket member, a plug member to fit said socket member, a switch-block forming a head on one of said members, and means to secure one of said members rigidly to said switch-plate.

840,820. SHUTTER CONSTRUCTION. JACOB BRAUCHLI, Hampton, Va. Filed Oct. 23, 1905. Serial No. 284,069.



Claim.—A shutter comprising a frame, metallic slats the edges of which are rounded correspondingly and the ends of which are formed with integral offset ears designed for pivotal engagement with the sides of the frame, sheet-metal strips doubled intermediate their ends and provided with two outwardly-extending end portions substantially at right angles to the doubled part and riveted to the slats at the rounded edges thereof, conforming to the curvature of said edges, the double portion of said strip being perforated and the side edges of said strip lying flush with the margin of the rounded portion of the slats, a U-shaped rod provided at intervals with ears extending at right angles from its edges and embracing the apertured double portion of the said metallic strips and pivotally connected thereto, and means for holding said rod in different adjusted positions.

840,821. MATCH-MAKING MACHINERY. ALMON B. CALKINS, Belleville, N. J., assignor to Ferral C. Dininny, New York, N. Y. Filed Apr. 19, 1906. Serial No. 312,587.



Claim.—1. In match-making machinery, the combination with means for applying a composition to splints, and driving means, of means automatically operated by the stopping of the driving means for throwing the composition-applying means and the splints to which the composition is to be applied, out of operative relation with each other.

2. In match-making machinery, the combination with means for applying a composition to splints, and driving means, of means automatically operated by the slackening of speed of the driving means for throwing the composition-applying means and the splints to which the composition is to be applied, out of operative relation with each other.

3. In match-making machinery, the combination with mechanism for applying composition to splints, and driving means, of a governor in connection with said driving means for automatically throwing the said mechanism into and out of operative relation.

4. In match-making machinery, the combination with mechanism for applying composition to splints, and driving means, of a centrifugal governor in connection with said driving means, for automatically throwing the said mechanism into and out of operative relation.

5. In match-making machinery, the combination with composition-applying apparatus, of a carrier for presenting splints thereto, a support for the carrier, driving means, a governor in connection therewith, and means under the control of the governor for moving the composition-applying means and carrier-support toward and away from each other.

6. In match-making machinery, the combination with composition-applying apparatus, of a carrier for presenting splints thereto, a support for the carrier, driving

means, a centrifugal governor in connection therewith, and means under the control of the governor for moving the composition-applying means and carrier-support toward and away from each other.

7. In match-making machinery, the combination of composition-applying means, carriers arranged to travel thereover, a drive-shaft, a governor in connection therewith, and means controlled by the governor for moving the composition-applying means and splint-carrier laterally with respect to each other.

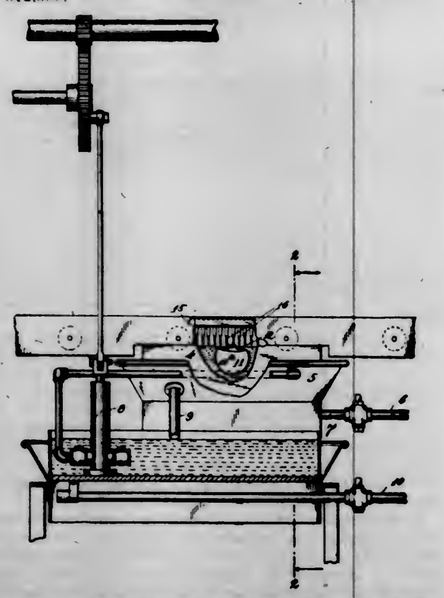
8. In match-making machinery, the combination with a composition-applying roller, of a splint-carrier adapted to travel thereover, and a centrifugal governor for raising and lowering the roller with respect to the path of movement of the splint-carrier.

9. In match-making machinery, the combination with a composition-applying roller, of a splint-carrier arranged to travel thereover, a drive-shaft, a governor in connection with said drive-shaft, and intermediate connections between the governor and roller, whereby the governor, in its operation, will raise and lower the said roller toward and away from the splint-carrier.

10. In match-making machinery, the combination of a composition-tank, a roller therein, a splint-carrier arranged to travel over the tank and roller, a centrifugal governor, and means controlled thereby for raising and lowering the tank and roller bodily toward and away from the path of movement of the splint-carrier.

11. In match-making machinery, the combination with a composition-tank mounted to slide horizontally in horizontal ways, of a drive-shaft, a centrifugal governor connected thereto, and means intermediate the centrifugal governor and the tank, whereby the operation of the said governor will raise or lower the tank with respect to the ways upon which it is mounted.

840,822. MATCH-MAKING MACHINERY. ALMON B. CALKINS, Belleville, N. J., assignor to Ferral C. Dininny, New York, N. Y. Filed Apr. 19, 1906. Serial No. 312,588.



Claim.—1. In apparatus of the class described, the combination with a tank for containing liquid, of a roller arranged to be freely contained in said liquid, said roller of less specific gravity as a whole than the liquid in which it is arranged to be contained, and means for passing splints over said tank to engage the periphery of the said roller contained therein.

2. In apparatus of the class described, the combination with a tank for containing liquid, of a longitudinally-fluted roller arranged to be freely contained in said liquid, said roller of less specific gravity as a whole than the liquid in which it is arranged to be contained, and means for passing splints over said tank to engage the periphery of the said roller contained therein.

3. In apparatus of the class described, the combination with a tank for containing paraffin, of a roller arranged to float in said paraffin when the latter is in a liquid condition, and means for causing splints to engage the periphery of the roller and for rotating same.

4. In apparatus of the class described, the combination with a tank for containing liquid, of a roller arranged to float in the liquid therein, and means for passing splints over said tank to engage the periphery of the floating roller contained therein.

5. In apparatus of the class described, the combination with a tank for containing liquid, of a longitudinally-fluted roller arranged to float in the liquid therein, and means for passing splints over said tank to engage the periphery of the floating roller contained therein.

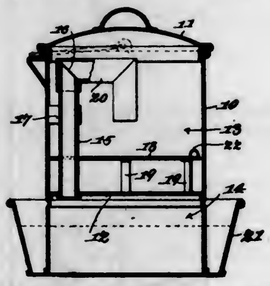
6. In apparatus of the class described, the combination with a tank for containing liquid, of a roller arranged to float in the liquid contained therein, side guides for the roller, and means for causing splints to engage the periphery of said roller.

7. In apparatus of the class described, the combination with a tank for containing liquid, of a longitudinally-fluted roller arranged to float in the liquid contained therein, side guides for the roller and means for causing splints to engage the periphery of said roller.

8. Means for applying paraffin or the like to match-splints comprising a roller arranged to float freely in the paraffin while the same is in a liquid condition, said roller having peripheral indentations, substantially as set forth.

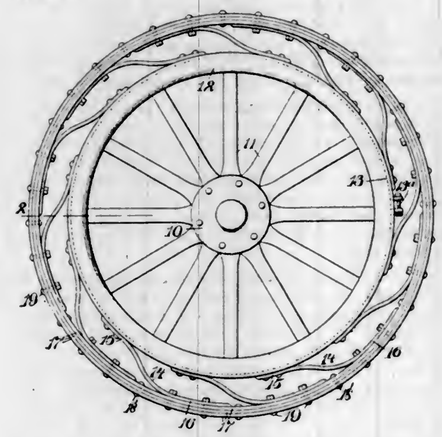
9. In apparatus of the class described, the combination of a tank for containing liquid, a feeding-roll contained in said tank, said tank provided with an overflow-channel all the way round the exterior thereof, a second tank, a discharge-pipe from the overflow-channel to the second tank, and pumping means for pumping material from the second tank into the first tank.

840,823. STEAM-COOKER. NIAL N. CHASE, Peoria, Ill. Filed Jan. 20, 1906. Serial No. 297,074.



Claim.—A steam-cooker comprising a water-receiving vessel, a shell having open ends and supported upon the bottom of said receptacle, a partition secured within the shell and forming an upper and a lower compartment, a closure for the upper compartment, a steam-conducting tube secured to and extending upward from the partition adjacent one side of the shell, said tube having a beveled end, an angular tubular conductor having parallel arms of unequal length, the interior of said tube being unobstructed, either of said arms being adapted to receive the beveled end of the conducting-tube, said end constituting a support for the angular conductor and adapted to hold the ends thereof above the partition, standards arranged upon the partition, and an apertured plate carried by the standards and removed from the angular conducting-tube.

840,824. VEHICLE-WHEEL. SAMUEL S. CHILDS, Bernardsville, N. J. Filed June 27, 1906. Serial No. 323,578.



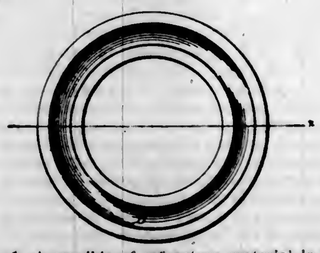
Claim.—1. A wheel comprising a body portion having a felly, a band on the periphery of the felly having means for tightening it to clamp the felly, a rim portion, and sinuous springs having one end of each spring secured to the band, and the other end secured to the inside of the rim.

2. A wheel comprising a body portion having a felly, the felly having a peripheral groove, a band in the groove and having a tension device between its ends for tightening it on the felly, a rim portion, and a series of springs secured to the band, the rim being detachably secured to the springs.

3. A wheel comprising a body portion having a felly, a detachable band secured to the felly, means for tightening the band, a rim composed of concentric rings secured together, a series of springs secured to the band, and means for detachably securing the assembled rings forming the rim to the ends of the springs.

4. A wheel comprising a body portion having a felly, a detachable band on the periphery of the felly, a series of springs having their inner ends secured to the band, and their outer ends arranged concentric to the felly, a rim comprising a series of bands, the alternate bands being of metal, means for securing the bands composing the rim together, and means for detachably attaching the rim to the outer ends of the springs irrespective of the means for securing the bands of the rim together.

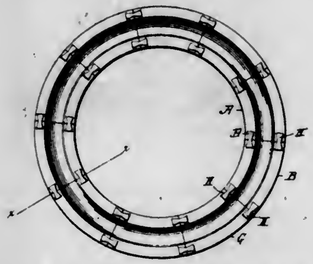
840,825. CRUCIBLE. EDWARD A. COLBY, Newark, N. J. Filed Nov. 23, 1905. Renewed Oct. 9, 1906. Serial No. 338,169.



Claim.—1. A crucible of refractory material in annular form having an annular recess in its under side.

2. A crucible of refractory material in annular form having one wall thinner than the other and an annular recess in its under side.

840,826. CRUCIBLE. EDWARD A. COLBY, Newark, N. J. Filed Nov. 23, 1905. Renewed Oct. 9, 1906. Serial No. 338,170.



Claim.—1. A crucible formed of arc-shaped sections having dovetailed keyways in their approximating edges and keys constructed to fit in said keyways.

2. A crucible formed of arc-shaped sections having dovetail keyways parallel to the central axis of said crucible in their approximating edges and keys constructed to fit in said keyways.

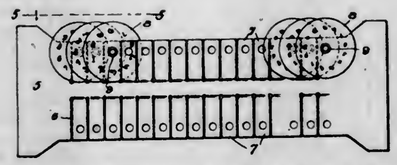
3. A crucible formed of arc-shaped sections having dovetailed keyways at right angles to the central axis of said crucible, in their approximating edges and keys constructed to fit in said keyways.

4. A crucible formed of arc-shaped sections having in their approximating edges dovetail keyways parallel to the axis of said crucible and dovetail keyways at right angles to said first-named keyways and keys constructed to fit in said keyways.

5. An annular crucible formed of sections having in their approximating edges dovetail keyways and keys constructed to fit in said keyways.

6. As a new article of manufacture and sale, an arc-shaped crucible-section having two parallel walls and in the edges of said walls dovetail keyways disposed relatively at right angles.

840,827. SCORE-CARD. WALTER F. CONNOLLY, New York, N. Y. Filed Dec. 5, 1905. Serial No. 290,390.



Claim.—1. The combination with a strip having integral tongues and character-bearing disks rotatably mounted upon and extending between the tongues; of face-strips extending over the tongues and disks, one of said strips having apertures, the characters upon the disks adapted to successively appear through the apertures.

2. In a device of the character described, the combination with face-strips, one of said strips having parallel columns of apertures therein, suitable designations for the apertures; of an intermediate strip secured between the face-strips and having oppositely-extending, integral tongues, clips overlapping the ends and corners of said strips, and character-bearing disks rotatably mounted upon and extending between the tongues and beyond the edges of the face-strips, the characters on said disks adapted to successively appear within the apertures.

840,828. KNITTING-MACHINE. FRANK A. DEMERS, St. Hyacinthe, Quebec, Canada, assignor of one-half to Charles E. Wakeman, Pontiac, Mich. Filed Aug. 5, 1902. Serial No. 118,504.



Claim.—1. In a knitting-machine the combination with a rotatable circular gang of bearded needles, a feed-wheel and a presser-foot outside of said circular gang of needles for closing the beards thereof, and a cast-off wheel within said circular gang of needles, a combined loop-slackening and needle positioning and steadying device located in the path of said needles and in a position to cause each needle as it is having its stitch cast therefrom to ride thereon and be displaced toward the cast-off wheel, for the purpose set forth.

2. In a knitting-machine the combination with a rotatable circular gang of bearded needles, a feed-wheel and a presser-foot outside of said circular gang of needles, and a cast-off wheel within said circular gang of needles, a combined loop-slackening and needle positioning and steadying device in conjunction with said presser-foot and located in the path of said needles and in a position to cause each needle as it is having its stitch cast therefrom to ride thereon and be displaced toward the cast-off wheel, for the purpose set forth.

3. In a knitting-machine the combination with a rotatable circular gang of bearded needles, of a presser-foot, an auxiliary presser member in conjunction with said presser-foot, a toothed cast-off wheel, on the opposite side of said needles to that upon which said presser device and auxiliary presser member bear, and intermeshing with the needles borne upon by said auxiliary presser member, for the purpose set forth.

4. In a knitting-machine the combination with a rotatable circular gang of bearded needles and a toothed cast-off wheel intermeshing with the said needles, of a presser-foot, an auxiliary presser member in conjunction with the said presser-foot and together therewith bearing upon the needles at the opposite side to that at which the cast-off wheel is located, the end of the bearing-face of the presser-foot adjacent to the said auxiliary presser member being beveled to accommodate the teeth of the cast-off wheel in the movement thereof, for the purpose set forth.

5. In a knitting-machine, the combination with a rotatable circular gang of bearded needles, a toothed cast-off wheel intermeshing with the said needles, of a presser-foot, an auxiliary presser member in conjunction with the said presser-foot and together therewith bearing upon the needles at the opposite side to that at which the cast-off wheel is located, the end of the bearing-face of the said presser-foot adjacent to the auxiliary presser member and the bearing edge of said auxiliary presser member being oppositely beveled to accommodate the teeth of the wheel in the movement of the latter, for the purpose set forth.

6. In a knitting-machine the combination with a rotatable circular gang of bearded needles and a toothed cast-off wheel intermeshing with the said needles, of a presser-foot, a presser-wheel in conjunction with said presser-foot and together therewith bearing upon the needles at the opposite side to that at which the cast-off wheel is located, the end of the bearing-face of said presser-foot adjacent to said presser-wheel and the periphery of said presser-wheel being oppositely beveled to accommodate the teeth of the cast-off wheel in the movement thereof, substantially as described and for the purpose set forth.

7. In a circular-knitting machine the combination with a rotatable circular gang of needles, a cast-off wheel and a frame supporting a guide, a feed-wheel, and a cloth-wheel, of a bracket and means for slackening the loop and positioning and steadying the needle, said means being carried by said bracket and accessory to the stitch-forming instrumentalities carried by said frame, and means for adjustably supporting said bracket for the purpose set forth.

8. In a circular-knitting machine the combination with a rotatable circular gang of needles, a cast-off wheel and a frame supporting a guide, a feed-wheel, and a cloth-wheel, of a bracket, said bracket carrying a presser-foot, and a combined loop-slackener and needle positioner and steadier also carried by said bracket and accessory to the stitch-forming instrumentalities carried by said frame, and means for adjustably supporting said bracket for the purpose set forth.

9. In a circular-knitting machine the combination with a rotatable circular gang of needles, a cast-off wheel and a frame supporting a guide, a feed-wheel, and a cloth-wheel, of a bracket, a presser-foot and a combined loop-slackener and needle positioner and steadier carried by said bracket and accessory to the stitch-forming instrumentalities carried by said frame, and means for adjustably securing said bracket to said frame, for the purpose set forth.

10. In a knitting-machine, the combination with a rotatable circular gang of needles, of accessory stitch-forming instrumentalities and a toothed cast-off wheel having its teeth intermeshing with said needles, of a presser device located with the bearing portion of its face beneath the teeth adjacent thereto of said cast-off wheel and in a position to press the needles inwardly toward the axis of said cast-off wheel and retain them against displacement while the stitch is being cast off.

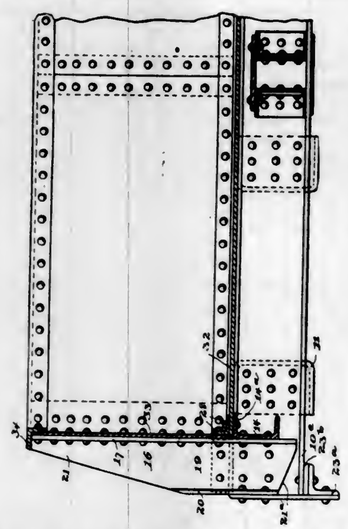
11. In a knitting-machine, the combination with a rotatable circular gang of needles, and accessory stitch-forming instrumentalities and a cast-off wheel having teeth of wing form, of a presser device located with the bearing portion of its face beneath the teeth adjacent thereto of said cast-off wheel and in a position to press the needles inwardly toward the axis of said cast-off wheel and retain them against displacement while the stitch is being cast off.

12. In a knitting-machine, the combination with a rotatable circular gang of needles, and accessory stitch-forming instrumentalities, a presser-foot and a toothed cast-off wheel having its teeth intermeshing with said needles, of a presser device in conjunction with said presser-foot and located with the bearing portion of its face beneath the teeth adjacent thereto of said cast-off wheel and in a position to press the needles inwardly toward the axis of said cast-off wheel and retain them against displacement while the stitch is being cast off.

13. In a knitting-machine, the combination with a rotatable circular gang of needles, and accessory stitch-forming instrumentalities and a toothed cast-off wheel having its teeth intermeshing with said needles, of a presser-wheel located with a portion of its periphery beneath the teeth adjacent thereto of said cast-off wheel and in a position to press the needles inwardly toward the axis of said cast-off wheel and retain them against displacement while the stitch is being cast off substantially as described.

14. In a knitting-machine, the combination with a rotatable circular gang of needles, and accessory stitch-forming instrumentalities, a presser-foot, and a toothed cast-off wheel having its teeth intermeshing with said needles, of a presser-wheel in conjunction with said presser-foot and located with a portion of its periphery beneath the teeth adjacent thereto of said cast-off wheel and in a position to press the needle inwardly toward the axis of said cast-off wheel and retain them against displacement while the stitch is being formed, substantially as described.

840,829. END CONSTRUCTION FOR CARS. ETHAN I. DODDS, Pullman, Ill., assignor to The Pullman Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 7, 1905. Serial No. 277,431.



Claim.—1. A car-stake having a web with flanges of unequal length on its opposite edges, one of said flanges being tapered, substantially as described.

2. A car-stake having two flanges of unequal length and a web connecting said flanges, said web being prolonged and tapered beyond an end of the shorter flange, substantially as described.

3. A car-stake having two flanges of unequal length and a web connecting said flanges, said web being prolonged and tapered beyond both ends of the shorter flange, substantially as described.

4. A car-stake having two parallel flanges of unequal length, one of the same being tapered, and a web connecting said flanges, said web being prolonged and tapered beyond an end of the shorter flange, substantially as described.

5. In a railway-car, the combination of a longitudinal sill having a web, an end stake having a web and inner and outer flanges, an end sill, and a buffer or face plate, the inner flange of said end stake being secured to said end sill, the outer flange of said end stake being secured to said buffer or face plate, and the web of said end stake being secured to the web of said longitudinal sill, substantially as described.

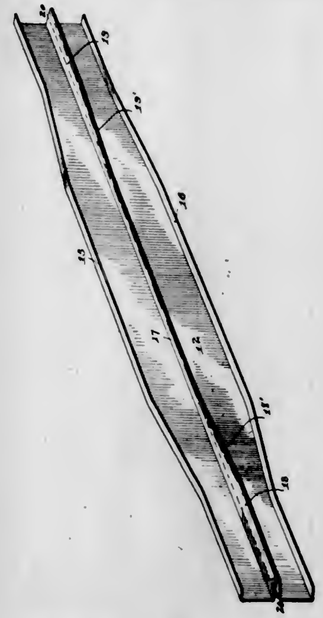
6. In a railway-car, the combination of a longitudinal sill having a flange at its upper edge, said flange being cut away for a portion of the length of the sill inwardly from the end thereof, an end stake having a web and an inner and outer flange, an end sill, and a buffer or face plate, the inner flange of said end stake being secured to said end sill, the outer flange of said end stake being secured to said buffer or face plate, and the web of said end stake being secured to the side of said longitudinal sill and that portion of the same where the upper flange is cut away, substantially as described.

7. In a railway-car, the combination of a longitudinal sill having a vertical portion, an end stake having a web and an inner and outer flange, an end sill, a transverse angle-bar, and a buffer or face plate, the inner flange of said end stake being secured to said end sill and transverse angle-bar, the outer flange of said stake being secured to said buffer or face plate, and the web of said end stake being secured to said vertical portion of the longitudinal sill, substantially as described.

8. In a railway-car, the combination of a longitudinal sill having a vertical portion, an end stake having a web and an inner and outer flange, an end sill, and a buffer or face plate having an upturned flange, the inner flange of said end stake being secured to said end sill, the outer flange of said end stake being secured to said buffer or face plate, and the web of said end stake being secured to said vertical portion of the longitudinal sill and to said flange of the buffer or face plate, substantially as described.

9. In a railway-car, the combination of a longitudinal sill projecting beyond the end of the car-body, and having a vertical portion, a channel end stake, an end sill, a transverse angle-bar riveted to said end sill, and a buffer or face plate having an upstanding flange, the inner flange of said end stake being secured to said end sill and to said transverse angle-bar, the outer flange of said end stake being secured to said buffer or face plate, and the web of said end stake being secured to said vertical portion of the longitudinal sill and to said upstanding flange of the buffer or face plate, substantially as described.

840,830. METHOD OF MAKING METALLIC SILLS FOR CARS. ETHAN I. DODDS, Pullman, Ill., assignor to The Pullman Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 30, 1905. Serial No. 285,151.



Claim.—1. The method of manufacturing car-sills, which consists in pressing a longitudinal rib out of the plane of a metal sheet on one side thereof, and longitudinally cutting said rib whereby two sills are formed, substantially as described.

2. The method of manufacturing metallic car-sills which consists in pressing a longitudinal rib out of the plane of a metal sheet on one side thereof and longitudinally cutting said rib to remove a portion thereof thereby forming two sills, substantially as described.

3. The method of manufacturing metallic car-sills, which consists in turning over flanges along the longitudinal edges of a metal sheet, pressing a longitudinal integral rib out of the plane of one side of said sheet, and cutting off the outer portion of said rib thereby forming two sills each with an integral flange, substantially as described.

4. The method of manufacturing metallic car-sills, which consists in pressing out of the plane of a metal sheet on

one side thereof a longitudinal rib deeper at its ends than at its central portion, and longitudinally cutting said rib thereby forming two bellied sills each with an integral flange, substantially as described.

5. The method of manufacturing metallic car-sills, which consists in pressing out of the plane of a rectangular metal sheet on one side thereof a longitudinal rib deeper at its ends than at its central portion, and longitudinally cutting said rib to remove the outer portion thereof thereby forming two bellied sills each with an integral flange, substantially as described.

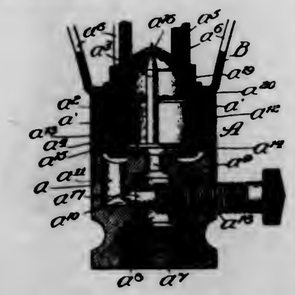
6. The method of manufacturing metallic car-sills, which consists in turning over flanges along the longitudinal edges of a metal sheet, pressing out of the plane of said sheet on one side thereof a longitudinal integral rib deeper at its ends than at its central portion, and cutting off the outer portion of said rib, thereby forming two bellied sills each with integral flanges along its longitudinal edges, substantially as described.

7. The method of manufacturing metallic car-sills, which consists in pressing a longitudinal integral rib out of the plane of a metal sheet on one side thereof, deepening the end portions of said rib, and longitudinally cutting said rib, thereby forming two sills, substantially as described.

8. The method of manufacturing metallic car-sills, which consists in turning over flanges along the longitudinal edges of a metallic sheet, pressing a longitudinal integral rib out of the plane of said sheet on one side thereof, deepening the end portions of said rib, and cutting off the outer portion of said rib, thereby forming two bellied sills each with integral flanges along its longitudinal edges, substantially as described.

9. The method of manufacturing metallic car-sills, which consists in turning over flanges along the longitudinal edges of a rectangular metal sheet, pressing a central longitudinal integral rib of uniform depth out of the plane of said sheet on one side thereof, deepening and tapering the end portions of said rib, and severing the outer portion of said rib on a line parallel to said sheet thereby forming two bellied sills, each with integral flanges along its longitudinal edges, substantially as described.

840,831. GAS-BURNER. JOHN DOORENBOS, Kalamazoo, Mich., assignor to National Gas Light Co., Kalamazoo, Mich., a Corporation of Michigan. Filed Apr. 20, 1906. Serial No. 312,847.



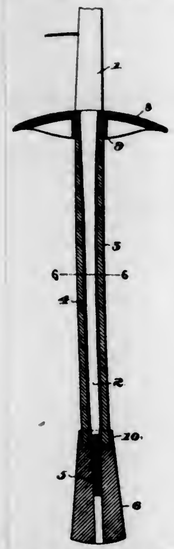
Claim.—1. The combination with a Welsbach burner having a gas-orifice and a mixer-tube into which said orifice opens, a valve controlling said orifice and equipped with a piston, a cylinder in which said piston moves, a passage leading to the cylinder beneath the piston, a passage extending around the cylinder to said first-named orifice, and a valve controlling said last-named passage.

2. The combination of a nipple having a chamber therein and a vertical passage from said chamber and a lateral passage from said chamber, a laterally-extending threaded valve connected with said nipple and controlling said lateral passage, a cap surmounting the nipple and having an orifice, a cylinder within the cap surmounting the nipple, and a piston within the cylinder equipped with a valve controlling said orifice.

3. The combination of a nipple having a chamber with a central vertical passage therefrom and a lateral passage, a cylinder connected with the upper portion of said nipple into which said vertical passage opens, a piston within said cylinder, a cap surmounting said nipple and inclosing said cylinder, said cap having a central orifice at its apex, and a needle-valve extending into said orifice and equipped with a piston working in said cylinder, for the purpose set forth.

4. The combination of a nipple having a chamber with two passages leading therefrom, a cylinder in communication with one passage, a piston working in said cylinder and equipped with an upward-extending valve, a cap surmounting said nipple and forming with the cylinder an annular passage for gas, the said cap having a reduced externally-threaded upper portion, and a mixer-tube screwed on said cap.

840,832. HANDLED IMPLEMENT. HENRY F. EVERETT, West Roxbury, Mass., assignor to Frank P. Partridge, Boston, Mass. Filed Oct. 5, 1904. Serial No. 227,316.



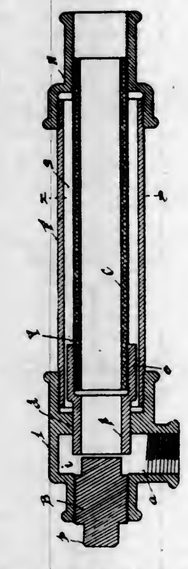
Claim.—An implement comprising the combination of a blade provided with a shank and a gripping member provided with a bore of greater diameter than and to receive said shank, a guard and pommel located opposite the extremities respectively of said gripping member and provided with sockets to receive said extremities and to hold said member clamped between said guard and pommel and out of contact with said shank.

840,833. STEAM-CONTROLLER. JOHN FEHRENBATCH, Cincinnati, Ohio. Filed Feb. 16, 1906. Serial No. 301,443.

Claim.—1. A controller for steam-heating appliances, composed of a fitting, an adjustable piston fitted therein, an expansion-tube supported on bearings in said fittings at one end thereof and axially in line with said piston, means for holding said tube stationary at one end, and means for connecting said chamber to the pipes of a steam appliance, substantially as described.

2. A controller for steam-heating appliances, composed of a fitting, an adjustable piston fitted therein, an expansion-tube supported on bearings in said fitting at one end, and axially alined with said piston a second fitting for holding said expansion-tube stationary at one end, means for holding said fittings in fixed relative positions,

and a jacket-pipe surrounding the expansion-tube and connected to the fittings at each end thereof, substantially as described.



3. A controller for steam appliances, composed of a fitting, a chamber in said fitting, an adjustable piston fitted therein, an expansion-tube supported on one end in a bearing in said fitting communicating with said chamber axially alined with said piston, forming an annular orifice between said parts and means for connecting the parts together and to the pipes of a steam appliance, substantially as described.

4. A combined steam-trap and steam-controller, composed of a part employing a chamber or annulus, an expansion-tube journaled therein and an adjustable piston in axial alinement therewith forming normally an annular orifice between said parts, means for supporting said parts in relative position, and means for connecting the same to the discharge-pipe of a steam appliance, substantially as described.

5. A controller for steam-heating appliances, composed of a fitting, a chamber therein, a piston terminating in said chamber, an expansion-tube supported on bearings in said fitting at one end thereof in axial alinement with said piston, means for holding said tube stationary at the opposite end, and means for adjusting the relative position of tube and piston for regulating the area of the orifice between said members, substantially as described.

6. In a device of the class described, a longitudinally-expansible steam-conduit one end of which is fixed, and a piston supported in juxtaposition to the other end of the conduit, whereby an annular orifice is formed between them variable in area under the changing conditions of expansion and contraction of the conduit, substantially as described.

7. In a device of the class described, a longitudinally-expansible steam-conduit one end of which is fixed, a piston supported in juxtaposition to the other end of the conduit, forming an annular orifice between them, and means for adjusting one of said members relative to the other, substantially as described.

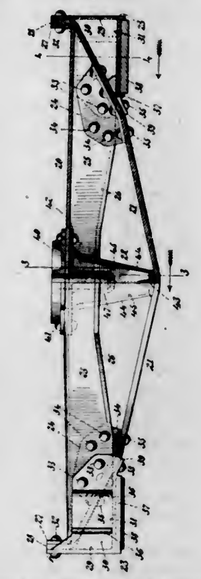
8. In a device of the class described a fitting, a chamber therein, an expansible steam-conduit fixed at one end in a second fitting, the other end having a slidable bearing in a wall of said chamber, and a closely-fitting piston supported in said chamber in juxtaposition to the movable end of said conduit, adapted to form a variable passage between them and adapted to pass the tube over the piston when the conduit is expanded beyond the normal point, substantially as described.

9. In a device of the class described, a chamber having a steam-orifice, an expansible steam-conduit fixed at one end, the other end having a slidable bearing in a wall of said chamber, a closely-fitting piston supported in said chamber in juxtaposition to the movable end of said conduit, the said piston being adapted to enter said movable conduit end when the conduit is expanded to close the annular orifice, and means for relatively adjusting the piston and conduit to vary the normal size of the annular orifice formed between them, substantially as described.

10. In a device of the class described, a conduit, a closely-fitting piston adapted to pass into and out of one end of the conduit and an annular orifice between itself and the end of the conduit in the normal position, a seatless valve when the tube is expanded to cover the piston and means for utilizing the heat of the contents of the conduit to cause contraction and expansion whereby the said annular orifice is varied in area, substantially as described.

11. In a device of the class described, an expansible-tube conduit having an open end, a piston placed in juxtaposition to and adapted to fit within said open end, thereby forming an annular orifice between the opposing ends of said members, and means for utilizing the heating medium to expand and contract said expansible member for automatically controlling the area and for opening and closing said annular orifice, substantially as described.

840,834. CAR-TRUCK BOLSTER. HENRY P. FIELD, Jr., Berwick, Pa., assignor to Benjamin A. Hegeman, Jr., North Plainfield, N. J. Filed Nov. 9, 1906. Serial No. 342,601.



Claim.—1. A bolster comprising a compression member, a tension member, a strut and means connecting said members at the ends of the bolster, said compression member being of pressed steel, and having a top and sides, and said sides having laterally-extending flanges along their lower edges which flanges define upwardly-extending arches; substantially as set forth.

2. A bolster comprising a compression member, a tension member, a strut and means connecting said members at the ends of the bolster, said compression member being of pressed steel and having a top and sides, and said sides having laterally-extending flanges along their lower edges

which flanges define upwardly-extending arches and are widest at their middle portions, whence they taper toward the ends of the bolster; substantially as set forth.

3. A bolster comprising a pressed-steel compression member having a top and sides and being flanged upwardly at its ends and laterally along the lower edges of its sides, a tension member formed of a downwardly-arched steel plate whose end portions extend upwardly to the ends of the compression member and thence turn upwardly in the form of flanges to match the flanges on the ends of said compression member, a central strut, and end box-like members fitted upon the ends of the bolster and riveted to said compression and tension members and securing the same together; substantially as set forth.

4. A bolster comprising a pressed-steel compression member having a top and sides and being flanged upwardly at its ends and laterally along the lower edges of its sides, a tension member formed of a downwardly-arched steel plate whose end portions extend upwardly to the ends of the compression member and thence turn upwardly in the form of flanges to match the flanges on the ends of said compression member, a central strut, and end box-like cast members fitted upon the ends of the bolster and riveted to said compression and tension members and securing the same together, said end members affording column-guides and inverted pockets for the bearing-blocks for the carrying-springs; substantially as set forth.

5. A bolster comprising a pressed-steel compression member having a top and sides and being flanged upwardly at its ends and laterally along the lower edges of its sides, a tension member formed of a downwardly-arched steel plate whose end portions extend upwardly to the ends of the compression member and thence turn upwardly in the form of flanges to match the flanges on the ends of said compression member, a central strut, end box-like members fitted upon the ends of the bolster, and inner connections at each side of each end of the bolster and riveted to said compression and tension members, said end members being also riveted to said tension and compression members; substantially as set forth.

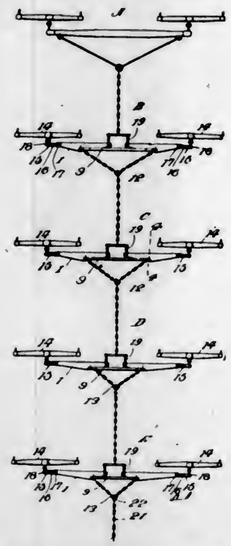
6. A bolster comprising a pressed-steel compression member having a top and sides and being flanged upwardly at its ends and laterally along the lower edges of its sides, a tension member formed of a downwardly-arched steel plate whose end portions extend upwardly to the ends of the compression member and thence turn upwardly in the form of flanges to match the flanges on the ends of said compression member, a central strut, end box-like members fitted upon the ends of the bolster, and inner connections at each side of each end of the bolster and riveted to said compression and tension members, said end members being also riveted to said tension and compression members and being of cast metal and affording column-guides and inverted pockets for the bearing-blocks for the carrying-springs; substantially as set forth.

7. A bolster comprising a pressed-steel compression member having a top and sides, a downwardly-arched steel-plate tension member whose end portions extend upwardly and are secured to the ends of said compression member, a central strut, end box-like members fitted upon the ends of the bolster, and inner connections at each side of each end of the bolster and riveted to said compression and tension members, said end members being also riveted to said tension and compression members; substantially as set forth.

8. A bolster comprising a pressed-steel compression member having a top and sides, a downwardly-arched steel-plate tension member whose end portions extend upwardly and are secured to the ends of said compression member, a central strut, end box-like members fitted upon the ends of the bolster, and inner connections at each side of each end of the bolster and riveted to said compression and tension members, said end-members being also riveted to said tension and compression members and being of cast metal and affording column guides and inverted pockets for the bearing-blocks for the carrying-springs; substantially as set forth.

9. A bolster comprising a pressed-steel compression member having a top and sides, a downwardly-arched steel-plate tension member whose end portions extend upwardly and are secured to the ends of said compression member, a central strut, end box-like members fitted upon the ends of the bolster, and inner connections at each side of each end of the bolster and riveted to said compression and tension members, said end members being also riveted to said tension and compression members and having inner lugs forming seats for the end portions of the sides of the compression member and for the inclined end portions of said tension member; substantially as set forth.

840,835. DRAFT-EQUALIZER. JOHN A. FLANAGAN and JOAQUIN J. FLANAGAN, Corning, Cal. Filed Jan. 4, 1906. Serial No. 294,621.



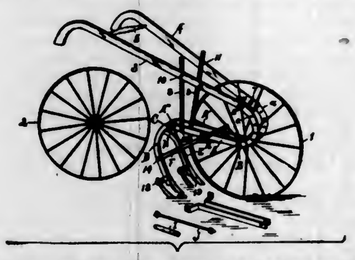
Claim.—1. A draft-equalizer comprising a series of team connections arranged in file formation and each consisting of a pair of primary levers, fulcrum-blocks arranged in said levers, the fulcrum-blocks of the levers of each of the respective connections being disposed to vary the fulcrum lengths of said levers with respect to the position of the team connection in the file formation, spacing-straps having their ends engaged with the fulcrum-blocks of each pair of levers, swingletrees upon the outer ends of said levers, secondary levers, links connecting said secondary levers to the inner ends of the primary levers, connections between each of said secondary levers and the fulcrum-blocks of the team connection in advance of said secondary lever, means for attaching the rearmost team connection to the load, and a doubletree attached to the secondary lever of the foremost team connection.

2. A draft-equalizer comprising a series of team connections arranged in file formation and each consisting of a pair of primary levers, fulcrum-blocks arranged in said levers, upper and lower spacing-straps connecting the levers of each pair and having their ends secured to the ends of the fulcrum-blocks in said levers, longitudinally-slotted extension-bars adjustably mounted upon the outer ends of said levers, swingletrees carried by said extension-bars, secondary levers, slotted links connecting said secondary levers to the inner ends of the primary levers, fifth-chain connections between the fulcrum-blocks of the levers of one team connection and the secondary lever of the next adjacent team connection, means for attaching the fulcrum-blocks of the rearmost team connection to the load, and a doubletree attached to the secondary lever of the foremost team connection.

3. A draft-equalizer comprising a series of team connections arranged in file formation and each having a pair of primary levers disposed in longitudinal alinement with each other and each consisting of spaced upper and lower plates, the outer ends of said plates being formed with longitudinal slots, fulcrum-blocks having enlarged barrels to fit between the plates of the levers and end extensions to project through apertures in said plates, upper and lower spacing-straps having apertured ends to engage the extended ends of said fulcrum-blocks, fastenings passed through said straps and fulcrum-blocks to secure said parts together, longitudinally-slotted extension-bars arranged between the slotted outer ends of the plates of said levers, fastenings passed through the slots in said lever-plates and said extension-bars for adjustably securing the latter between the former, swingletrees carried by said extension-bars, secondary levers, links connecting the latter to the inner ends of said primary levers, fifth-chain connections between the fulcrum-blocks in one team connection and the secondary lever in the adjacent team connection, means for attaching the fulcrum-blocks of the rearmost team connection to the load, and a doubletree attached to the secondary lever of the foremost team connection.

4. An equalizer-stretcher comprising duplicate primary levers arranged in alinement end to end and each consisting of spaced upper and lower plates, the outer ends of said plates being formed with longitudinal slots, fulcrum-blocks having enlarged barrel portions arranged between the said lever-plates and end extensions projecting through apertures in said lever-plates, upper and lower spacing-straps having apertures at their ends to engage the extended ends of said fulcrum-blocks, longitudinally-slotted extension-bars arranged between the slotted outer ends of said lever-plates, fastening devices passed through the slots in said lever-plates and said extension-bars for adjustably securing the latter between the former, swingletrees attached to said extension-bars, means for attaching the fulcrum-blocks of said levers to the load and a draft connection attached to the inner ends of said levers.

840,836. CONVERTIBLE HAND-PLOW. JOHN T. FOULKE, Richmond, Ind. Filed Mar 5, 1906. Serial No. 304,195.

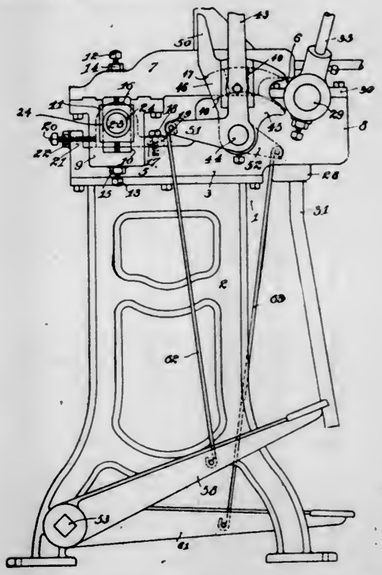


Claim.—1. A convertible hand-plow having in combination, a two-member beam united in the rear and having forwardly-upturned ends, handles attached to said upturned ends, a pair of braces for supporting the handles from the beam, means for mounting the ground-wheels, sheths interchangeable with each other extending downward from the rear of each of the members of the team, a yoke providing means for connecting the sheths, and guards extending from the axle outside the wheels and attached to the beam, all substantially as shown and described and for the purposes set forth.

2. A hand-plow of the character described, having in combination, a two-member beam the members being integrally united in the rear and having forward upturned ends, handles attached to said upturned ends of the beam, braces for supporting the handles and connecting them to the beam, means for mounting ground-wheels to support the forward portion of the beam, removable sheths attached to the rear of the beam, and an inverted-U-shaped yoke for connecting the sheths, all substantially as shown and described and for the purposes set forth.

3. A convertible hand-plow characterized by a two-member beam, the members thereof being united in the rear, an axle carried adjustably by the forward portion of the beam, ground-wheels adapted to be mounted on said axle on either side of and between the members of the beam, sheths extending downward, forward, and inward, from the rear end of said beam, which sheths are adapted to be transposed with reference to each other, an inverted-U-shaped yoke adapted to hold said sheths a predetermined distance apart, and guards extending outside said wheels and connected to the respective members of the beam, all substantially as shown an ddescribed.

840,837. BRAKE. CLARENCE N. FREY, Cincinnati, Ohio, assignor to The J. M. Robinson Manufacturing Company, Cincinnati, Ohio, a Corporation of Ohio. Filed July 23, 1906. Serial No. 327,330.



Claim.—1. In a brake, the combination of a bed-piece comprising a lower clamping-jaw and having a rear extension at each end of the bed-piece, an upper clamping-jaw having a rear extension at each end thereof, the said rear extensions at the respective ends of said bed-piece and upper clamping-jaw being adjacent to each other, a bearing on each extension, said bearings being in the same axial plane, and a shaft in said bearings extending throughout the entire width of said clamping-jaws forming a rear support for the material clamped between said clamping-jaws, substantially as described.

2. In a brake, the combination of a bed-piece comprising a lower clamping-jaw and having a rear extension at each end thereof, a movable clamping-jaw having a rear extension at each end thereof, a bearing at the rear end of each of said extensions in the same axial plane, a shaft extending therethrough and acting as a rear support for the sheet clamped between said clamping-jaws, a cam-block at each end of said movable clamping-jaw, a cam-lever at each end of said bed-piece comprising a cam-plate having a cam-groove with a lower and an abbreviated upper cam-wall adapted to make engagement with said cam-blocks, said cam-plates also having an extension which is normally upright, said extension supported from said shaft and acting as a stop for said cam-levers when the latter are retracted, substantially as described.

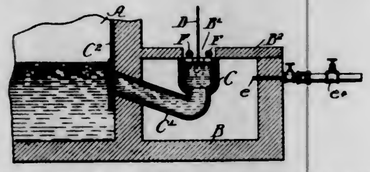
3. In a brake, the combination, with a pair of clamping-jaws, of a bending-leaf, bending-plates thereon whose edges

are adapted to contact the sheet for bending the same, and means for securing said bending-plates flatwise against the bending-leaf and each other, said securing means being constructed and arranged for permitting successive removal of said bending-plates, substantially as and for the purpose described.

4. In a brake, the combination, with the clamping-jaws, of a bending-leaf having an upper front rabbet therein, a bending-plate in said rabbet and having an upwardly-opening rabbet at its front, a removable bending-plate in said last-named rabbet, the edges of said bending-plates being normally projected upwardly for forming the bending-surface for said bending-leaf, and means for securing the said bending-plates flatwise of each other in said rabbets, substantially as and for the purpose specified.

5. In a brake, the combination with the clamping-jaws, of a bending-leaf, a plurality of bending-plates, the upper edges of said plates forming bending-faces for said bending-leaf, and means for securing said bending-plates flatwise of each other to said bending-leaf, said securing means permitting one or more of said bending-plates to form the bending-face for said leaf, the bending-plate nearest said bending-leaf having an outer side face closely adjacent to the outer meeting edges of said clamping-jaws for permitting very narrow reverse bends to be formed, substantially as and for the purpose described.

840,838. PROCESS FOR DRAWING SHEET-GLASS. JAPHUS GEORGE, Wilcox, Pa., and CHRISTOPHER M. SHORTLE, Bernhards Bay, N. Y., assignors, by mesne assignments, to Newkirk Glass Company, Pierre, S. D., a Corporation of South Dakota. Filed Aug. 19, 1904. Serial No. 221,431.



Claim.—1. The improvement in the process of drawing glass sheets from a body of molten glass which consists in maintaining the margins of the sheet or film as it is drawn upwardly from the body of molten glass in contact with vertical surfaces rising from the body of molten glass while maintaining said surfaces and the margins of the sheet or film at such temperature as to cause said margins to cling to said surfaces in passing the same.

2. The improvement in the process of drawing glass sheets from a body of molten glass which consists in protecting the body of the formed sheet from the direct action of radiated heat and maintaining the margins of the sheet or film as it is drawn upwardly from the body of molten glass in contact with vertical surfaces rising from the body of molten glass while maintaining said surfaces and the margins of the sheet or film at such temperature as to cause said margins to cling to said surfaces in passing the same.

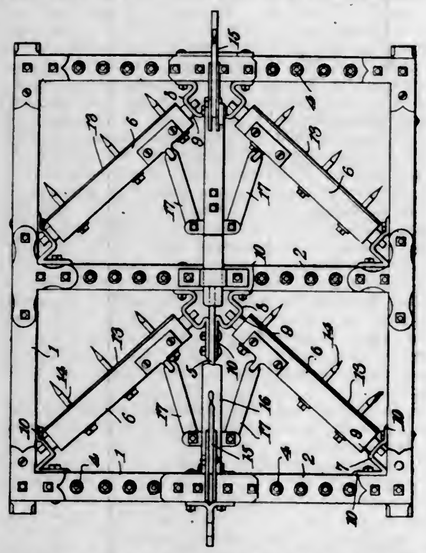
840,839. HARROW. FRANK GERMON, Leadville, Colo. Filed Sept. 28, 1906. Serial No. 336,607.

Claim.—1. A harrow, a shaft located upon the same and having harrow-teeth and a scraping edge, and means for turning said shaft in order to bring either the teeth or the edge in contact with the ground.

2. A harrow, a series of shafts located thereon, each shaft having harrow-teeth and a scraping edge, means for turning said shafts simultaneously to bring either the teeth or the scraping edges thereof in contact with the ground.

3. A harrow, a shaft located diagonally with relation to the same, said shaft having harrow-teeth and a scraping edge and means for turning said shaft.

4. A harrow, a series of shafts located diagonally upon the same, said shafts having harrow-teeth and scraping edges, and means for turning said shafts simultaneously.



5. A harrow, shafts diagonally located upon the same, said shafts having harrow-teeth and scraping edges, means for turning said shafts whereby all of the scraping edges thereof or all of the teeth thereof are brought in contact simultaneously with the ground.

6. A harrow, a shaft located diagonally thereof, corner-strips having ends attached to the frame of the harrow and intermediate parallel sections, the ends of the shaft being journaled in said parallel sections of the strips, said shaft having harrow-teeth and a scraping edge, and means for turning said shaft.

7. A harrow, a shaft journaled thereon, means for turning said shaft, said shaft having teeth attached thereto, and a scraping edge located at right angles to said teeth.

8. A harrow, a shaft journaled thereon, means for turning said shaft, said shaft having converging sides which form a scraping edge, harrow-teeth attached to the shaft and extending at right angles to the long transverse axis of the shaft.

9. A harrow, a shaft journaled thereon, means for turning said shaft, said shaft having a scraping edge located at its central long transverse axis, teeth located upon the shaft and extending at right angles to the long transverse axis thereof.

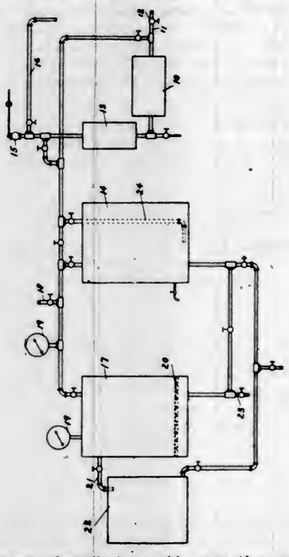
840,840. CYANID PROCESS. HOWARD B. GOETSCHIUS, Dumont, N. J. Filed Mar. 28, 1906. Serial No. 308,579.

Claim.—1. The herein-described cyanid extraction process, consisting in: first aerating the cyanid solution under pressure greater than atmospheric pressure; then forcing the aerated solution under said pressure through the ore to be treated and against a suitable back pressure.

2. The herein-described cyanid extraction process, consisting in: first aerating the cyanid solution under pressure; then forcing said aerated solution under the initial pressure through the ore to be treated and against a suitable back pressure; and then releasing the pressure upon the mixture.

3. The herein-described cyanid extraction process, consisting in: first aerating the cyanid solution under pressure; then forcing said aerated solution under the initial pressure through the ore to be treated and against a suitable back pressure; releasing the pressure upon the mixture; and finally increasing the pressure upon said mixture slightly above the initial pressure.

4. The herein-described cyanid extraction process, consisting in: treating the ore with an aerated cyanid solution under pressure, and alternately releasing and increasing the pressure to mechanically stir the mass of ore and redissolve the remaining released gases.



5. The herein-described cyanid extraction process, consisting in: treating the ore in a closed vessel with an aerated cyanid solution under pressure; then releasing the pressure to mechanically stir the mass of ore; and finally increasing the pressure slightly above the initial pressure to dissolve the remaining disengaged gas and any gas films or bubbles adhering to the particles of ore.

6. The herein-described cyanid extraction process, consisting in: a preliminary treatment of the ore with a watery solution of chlorin or the like aerated with oxygen or air under pressure and with an alternate release and increase of said pressure; then finally treating the ore with cyanid solution under pressure as set forth.

7. The herein-described cyanid extraction process, consisting in: a preliminary treatment of the ore with a watery solution of chlorin or the like aerated with oxygen or air under pressure as set forth; then treating the ore with cyanid solution under pressure; and finally releasing the pressure upon the mixture.

8. The herein-described cyanid extraction process, consisting in: a preliminary treatment of the ore with a watery solution of chlorin or the like aerated with oxygen or air under pressure as set forth; and then treating the ore with cyanid solution under pressure, alternately releasing and increasing said pressure upon the mixture.

840,841. PROCESS OF MAKING FABRIC CONTAINING HAIRCLOTH. GUSTAV GOLDMAN, Baltimore, Md. Filed Dec. 4, 1903. Serial No. 183,824.

Claim.—1. The process of forming a fibrous fabric with a layer of haircloth incorporated therein which consists in placing a layer of haircloth upon the fibers so that some of them project through the meshes of the cloth, dusting a dry finely-divided binding material upon the haircloth and fibers, and then converting the said material into an active binding agent for the haircloth and fibers.

2. The process of forming a fibrous material with a layer of haircloth incorporated therein, which consists in interposing a layer of haircloth between two layers of fibers with a dry finely-divided binding material distributed among the fibers, and then converting said material into an active binding agent for the fibers.

3. The process of forming a fibrous material with a layer of haircloth incorporated therein, which consists in laying down a layer of fibers, dusting a dry finely-divided binding material among the fibers, superimposing a layer of haircloth thereon, then placing a layer of fibers upon the haircloth, dusting a dry finely-divided binding material among the fibers of said layer, and then converting said binding material into an active binding agent, whereby the fibers and haircloth are united in a coherent mass.

4. The process of forming a fibrous material with a layer of haircloth incorporated therein which consists in placing a layer of haircloth within a mass of loose fibers having a dry finely-divided binding material distributed therethrough, and then converting said binding material into an active binding agent, whereby the fibers are united together and to the haircloth.

5. The process of forming a fibrous material with a layer of haircloth incorporated therein which consists in superimposing a layer of haircloth on a mass of fibers, and uniting the whole mass of the fibers to each other and to the haircloth by a resinate.

6. The process of forming a fibrous material with a layer of haircloth incorporated therein which consists in interposing a layer of haircloth in a mass of loose fluffy fibers, and then uniting the whole mass of the fibers to each other and to the haircloth by a resinate.

7. The process of forming a fibrous material with a layer of haircloth incorporated therein which consists in superimposing a layer of haircloth on a mass of fibers, and uniting the fibers and the haircloth by a zinc resinate.

8. The process of forming a fibrous material with a layer of haircloth incorporated therein which consists in interposing a layer of haircloth in a mass of loose fluffy fibers, and then uniting the haircloth and fibers by a zinc resinate.

9. The process of forming a fibrous material with a layer of haircloth incorporated therein which consists in interposing a layer of haircloth in a mass of fibers having a dry finely-divided resinate distributed therethrough, and then converting said resinate into an active binding agent.

10. The process of forming a fibrous material with a layer of haircloth incorporated therein which consists in interposing a layer of haircloth in a mass of fibers having a dry finely-divided resinate distributed therethrough, and then converting said resinate into an active binding agent by the application of heat.

11. The process of forming a fibrous material with a layer of haircloth incorporated therein which consists in interposing a layer of haircloth in a mass of fibers having a dry finely-divided zinc resinate distributed therethrough, and then converting said resinate into an active binding agent.

12. The process of forming a fibrous material with a layer of haircloth incorporated therein which consists in interposing a layer of haircloth in a mass of fibers having a dry finely-divided zinc resinate distributed therethrough, and then converting said resinate into an active binding agent by the application of heat.

13. The process of forming a fibrous material with a layer of haircloth incorporated therein which consists in interposing a layer of haircloth in a mass of fibers having a dry finely-divided resinate distributed therethrough, and then converting said resinate into an active binding agent by the application of heat in the presence of moisture.

14. The process of forming a fibrous material with a layer of haircloth incorporated therein which consists in interposing a layer of haircloth in a mass of fibers having a dry finely-divided zinc resinate distributed therethrough, and then converting said resinate into an active binding agent by the application of heat in the presence of moisture.

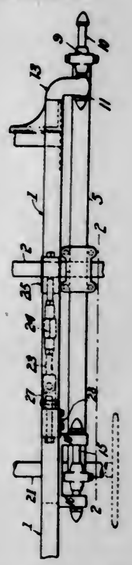
15. The process of forming a fibrous material with a layer of haircloth incorporated therein which consists in interposing a layer of haircloth in a mass of fibers having a dry finely-divided resinate distributed therethrough, and then converting said resinate into an active binding agent by the application of heat and pressure in the presence of moisture.

16. The process of forming a fibrous material with a

layer of haircloth incorporated therein which consists in interposing a layer of haircloth in a mass of fibers having a dry finely-divided zinc resinate distributed therethrough, and then converting said resinate into an active binding agent by the application of heat and pressure in the presence of moisture.

17. The process of coating haircloth with fibrous material which consists in treating haircloth and a fibrous mass with a dry finely-divided binding material applying the haircloth to the fibrous mass, and then converting the binding material into an active binding agent, whereby the fibers are bound together and to the haircloth.

840,842. DRIVING-AXLE SUSPENSION FOR MOTOR-VEHICLES. CHARLES R. GREUTER, Holyoke, Mass., assignor to Matheson Motor Car Company, Wilkes-Barre, Pa., a Corporation. Filed Dec. 29, 1905. Renewed Nov. 22, 1906. Serial No. 344,649.



Claim.—1. In a driving-axle suspension for motor-vehicles, the combination with the running-gear frame and the rear axle, of a main supporting-spring fastened to the axle and having slidable and rotative connections between its ends and the frame.

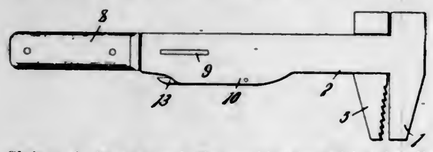
2. In a driving-axle suspension for motor-vehicles, the combination with the frame, the rear axle and jack-shaft, of the main supporting-spring having slidable and rotative connections between its ends and the frame, a support for the jack-shaft, and adjustable means for maintaining the distance between the rear axle and the jack-shaft.

3. In a driving-axle suspension for motor-vehicles, the combination with the frame, the wheel-axle, and the jack-shaft, a main supporting-spring having slidable connections between its ends and the frame, a support for the jack-shaft carried by the frame, and the distance-rod connection between the axle and the frame, said distance-rod connection embodying a universal joint.

4. In a driving-axle suspension for motor-vehicles, the combination with the frame, the wheel-axle, and the jack-shaft, of a supporting-spring having slidable and rotative connections between its ends and the frame, a bearing-hanger carried by the frame, a rocking bearing mounted in said hanger and receiving the jack-shaft, and an adjustable distance-rod having a pivotal connection at one end with the axle and a gimbal-joint connection at its other end with the frame.

5. In a driving-axle suspension for motor-vehicles, a frame carrying opposite longitudinally-arranged fixed guide-rods, a main supporting-spring fastened to the wheel-axle and carrying at its ends coupling-sleeves slidably and rotatably engaging the opposite guide-rods, a bearing-hanger rigid with the frame and provided with a bearing-opening, a spherical bearing mounted in said opening and receiving the jack-shaft, a rigid frame member carried by the frame, and an adjustable distance-rod having a gimbal connection joint at one end with said member and at its other end pivotally coupled to the wheel-axle.

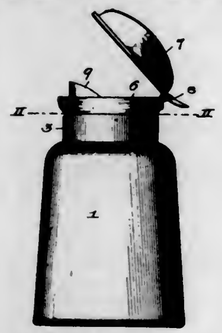
840,843. WRENCH. SEABORNE R. GRIFFIN, Whigham, Ga., assignor of one-half to Frank Bethene, Bainbridge, Ga. Filed Aug. 15, 1906. Serial No. 330,725.



Claim.—1. In a wrench the combination with a handle; of a toothed shank extending therefrom and slotted longitudinally, a fixed jaw secured to one end of the shank, a movable jaw, parallel arms extending from the movable jaw and slidably mounted on opposite faces of the shank, said fixed jaw constituting a guide for the arms, a flat holding device connecting the arms and slidably mounted within the slot, and a spring-pressed locking device connected to the arms and adapted to engage the toothed shank.

2. In a wrench the combination with a jaw having parallel arms extending therefrom, and flanges integral with the arms; of a shank movable longitudinally between the arms and having teeth upon one face, a handle at one end of the shank, a jaw at the other end thereof, said jaw having grooves in which the arms are seated, a holding-plate connecting the arms and slidably mounted within a slot in the shank, and a spring-pressed locking-lever pivotally mounted between the flanges and normally engaging a tooth, said lever having a projecting end constituting a finger-piece.

840,844. RECEPTACLE-TOP FASTENER. JAMES F. HAFFEY, Tiffin, Ohio, assignor to Charles S. Baron, Tiffin, Ohio. Filed Mar. 24, 1905. Serial No. 251,873.



Claim.—1. The combination with a pair of telescoping members, of an intermediate fastening member anchored in place by the union of the telescoping members, and itself serving to preserve said union.

2. The combination with a pair of telescoping members, of a loose fastening member, located between said telescoping members and anchored in place by the union thereof, and itself serving to preserve said union.

3. The combination with a receptacle provided with a neck, and a retaining member, said neck and retaining member constituting a pair of telescoping members, of an intermediate fastening member anchored in place by the union of said telescoping members and itself serving to preserve said union.

4. The combination with a receptacle, and a top, comprehending a retaining member, of a loose mechanical fastening member, means of anchorage of the fastening member in the receptacle, and means for securing the fastening member and retaining member together.

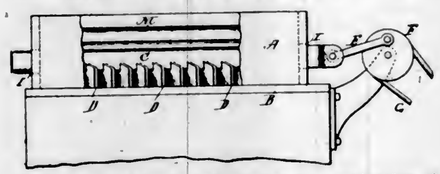
5. The combination with a receptacle provided with a neck, and a retaining member adapted to fit the neck, of a fastening member confined between the neck and the retaining member, and means for uniting the fastening and retaining members together.

6. The combiation with a receptacle provided with a neck and groove therein, of a retaining member adapted to fit the neck, a fastening member confined within the groove by the retaining member, and means for uniting the fastening and retaining members together.

7. The combination with a receptacle provided with a neck and groove therein, of a retaining member adapted to fit the neck, a fastening member confined within the groove by the retaining member and means for uniting the fastening and retaining members together, said means consisting of the permanent flexion of the ends of said fastening member upon the retaining member.

8. The combination with a receptacle provided with a grooved neck, of a collar having an annular flange fitting over said neck, apertures in said flange, a fastening member within the groove confined by the collar and having its ends passed through said apertures and secured upon the flange by permanent flexion.

840,845. FEEDER FOR COMMINUTED MATERIAL. GEORGE S. HEATH, Revere, Mass., assignor to Huff Electrostatic Separator Company, Boston, Mass., a Corporation of Maine. Filed Jan. 29, 1906. Serial No. 298,406.



Claim.—1. In a feeding apparatus, the combination of a hopper and feeder-bar, means to reciprocate the feeder-bar longitudinally in the hopper, bottom plates with adjacent edges to form a longitudinal slot under the feeder-bar, and floats on the feeder-bar sliding upon the bottom plates.

2. In a feeding apparatus, the combination of a hopper and feeder-bar, means to reciprocate the feeder-bar longitudinally in the hopper, bottom plates with adjacent edges to form a slot under the feeder-bar, and floats on the feeder-bar at an acute angle thereto and sliding upon the bottom plates.

3. In a feeding apparatus, the combination of a hopper, a feeder-bar, means to reciprocate the feeder-bar longitudinally and laterally in the hopper, and bottom plates with adjacent edges to form a slot under the feeder-bar.

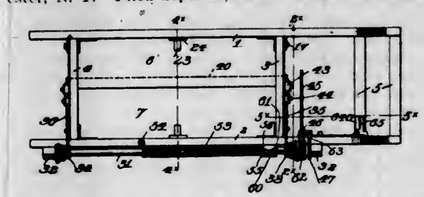
4. In a feeding aparatus, the combination of a hopper, a feeder-bar, means to reciprocate the feeder-bar longitudinally in the hopper, bottom plates with adjacent edges to form a slot under the feeder-bar, and floats on the feeder-bar at an acute angle thereto and sliding upon the bottom plates.

5. In a feeding apparatus, the combination of a hopper, a feeder-bar, means to reciprocate the feeder-bar longitudinally, bearings for the feeder-bar to slide in, having lateral clearance therefor, bottom plates in the hopper with adjacent edges to form a slot, and floats on the feeder-bar at an acute angle thereto, sliding upon the bottom plates.

6. In a feeding apparatus, the combination of a hopper, bottom plates therein, laterally adjustable and thickened at their adjacent edges, on the top thereof, and beveled to form a slot widening downward, a feeder-bar, means to reciprocate the same longitudinally of the hopper, end bearings for the feeder-bar providing lateral play therefor, and floats on the feeder-bar at an acute angle thereto, resting on and spanning the thickened portions of the bottom plates.

7. In a feeding apparatus, the combination of a hopper, a feeder-bar, means to reciprocate the feeder-bar longitudinally in the hopper, bottom plates with adjacent edges to form a slot under the feeder-bar, floats on the feeder-bar and a protective shed located in the hopper above the feeder-bar.

840,846. DUMPING-WAGON. JOHN HEBERLING, Rochester, N. Y. Filed Sept. 23, 1904. Serial No. 225,592.



Claim.—1. The combination with a receptacle for transporting material comprising a box, movable bottom sections therefor, of hinges supporting the bottom sections beneath the box, the hinges on the respective sections having their pivotal points located in vertical planes lying within the sides of the box above the bottom sections.

2. The combination with a receptacle for transporting material comprising a box, a bottom composed of sections extending longitudinally beneath the box, of hinges supporting said sections, the hinges on the respective sections having their pivotal points located in different vertical planes lying within the box above the bottom sections and arranged to cause said sections to rotate away from each other.

3. The combination with a wagon-box embodying sides and ends and a bottom composed of separate sections extending beneath said sides and ends, of hinges supporting said sections extending upwardly therefrom and pivoted to the wagon-box the pivotal centers being located in planes lying within the box.

4. The combination with a wagon-box embodying sides and ends and a bottom composed of sections extending longitudinally of the box beneath the sides and ends thereof, of hinges supporting said sections and pivoted to the ends of the box.

5. The combination with a wagon-box embodying sides and ends and a bottom composed of sections extending longitudinally thereof, of hinges supporting said sections and pivoted to the ends of the box, an intermediate hinge member arranged on each section and supports for said members arranged within the box.

6. The combination with a wagon-box embodying sides and ends and a bottom composed of sections extending longitudinally thereof, of hinges supporting said sections pivoted to the ends of the box, housings extending inwardly from the sides of the box, and intermediate hinge members on the sections pivoted within the housings.

7. The combination with a wagon-box embodying sides and ends and a sectional bottom for the box extending beneath the sides and ends thereof, of a plurality of hinge members supporting said sections, pintles therefor and supports for the pintles arranged between the sides of the box above the bottom sections.

8. The combination with a wagon-box embodying sides and ends and a sectional bottom, of hinges journaled on the box and supporting the ends of the sections, channel-plates open at the bottom and rear sides and provided with laterally-extending flanges, devices engaging the latter and securing said plates to the sides of the box and hinge members on the bottom sections journaled in the channel-plates.

9. The combination with a wagon-box embodying sides and ends and a sectional bottom, of hinges journaled on the ends of the box having faces extending over the ends of the bottom sections and supporting-flanges on the faces extending beneath said sections.

10. The combination with a wagon-box and a bottom therefor composed of two independently-movable sections, of a single flexible connection coöperating with the forward and rear ends of both sections and means for winding both ends of said connection to close the sections.

11. The combination with a wagon-box and a bottom therefor composed of independently-movable sections having their side edges abutting when the sections are in normal closed position, of an angle-bar secured beneath the edge of one section and having its face projecting beneath the edge of the other section and means for operating the sections.

12. The combination with a wagon-box, and a bottom therefor composed of movable sections, supports on the box and similar supports on one of the bottom sections, of a winding-shaft extending longitudinally of the box a flexible connection attached to one of the bottom sections and passing over the supports on the box and the other bottom section and attached to the shaft at the ends of the box and a means for rotating the shaft.

13. The combination with a wagon-box, of a bottom composed of movable sections, a shaft and pulleys supported on the end of the box and one of the sections, a flexible connection attached to one of the sections and extending over the pulleys on the box and the other bottom section and passing upwardly at the ends of the box and attached to the shaft and means for rotating the latter.

14. The combination with a wagon-box and a bottom composed of two pivoted sections and a longitudinally-extending shaft, of a single flexible connection coöperating with each end of both sections and attached at its ends to the ends of the shaft and means for rotating the latter.

15. The combination with a wagon-box, a bottom composed of pivoted sections, of a shaft extending longitudinally of the box, conical winding-drums thereon and a flexible connection passing loosely beneath one of the sections and loosely engaging the other section and attached at its ends to the larger ends of both drums and means for rotating the latter.

16. The combination with a wagon-box, a bottom composed of movable sections and a winding-shaft, of flexible connections each attached to the shaft and loosely connected to the ends of the bottom sections, means extending between the connections for equalizing the tension between them and a device for operating the shaft.

17. In a dump-wagon, the combination with a box, a movable bottom therefor, a winding-shaft and a flexible connection between it and the bottom, of a ratchet-wheel on the shaft, a lever and a pawl thereon coöperating with the ratchet-wheel, a rigid stop coöperating with the pawl to adjust it into an inoperative position when the lever is moved into one position, a detent coöperating with the ratchet-wheel and movably supported on the box and a foot-lever independent of the detent and coöperating therewith to disengage it.

18. The combination with a wagon-box, having a movable bottom, a winding-shaft and a flexible connection between the former and the latter, of a device for locking the shaft against rotation in one direction, a tension device for rotating the shaft in the opposite direction, a second locking device for securing the shaft against the operation of the tension device, and means for alternately throwing said locking devices into and out of operative position.

19. The combination with a wagon-box, having a movable bottom, a winding-shaft and a flexible connection between the former and the latter, of means for rotating the shaft to wind said connection thereon, a tension device operating the shaft in the same direction, locking devices adapted to coöperate with the shaft to prevent its operation in opposite directions and means for alternately actuating said devices into and out of operative position.

20. The combination with a wagon-box, having a movable bottom, a winding-shaft and a flexible connection between the former and the latter, of means for rotating the shaft to wind said connection thereon, a tension device operating the shaft in the same direction, locking devices adapted to coöperate with the shaft to prevent its operation in opposite directions and an actuating device adapted to be moved by an operator's foot to alternately actuate said devices into and out of operative position.

21. The combination with a wagon-box, having a movable bottom, a winding-shaft and a flexible connection between the former and latter, of means for rotating the shaft to wind said connection thereon, a tension device operating the shaft in the same direction, locking devices adapted to coöperate with the shaft to prevent its operation in opposite directions, an actuating device adapted to be moved by an operator's foot to alternately actuate said devices into and out of operative position and a latch for locking said actuating device.

22. The combination with a wagon-box, having a movable bottom, a winding-shaft and a flexible connection between the former and latter, of a handle for rotating the shaft to wind up said connection, a tension device for operating the shaft in the same direction and two ratchet-wheels on the shaft having their teeth extending in opposite directions, a pawl coöperating with each ratchet and means coöperating with the pawls to alternately actuate them into and out of engagement with their respective ratchet-wheels.

23. The combination with a wagon-box, having a movable bottom, a winding-shaft and a flexible connection between the former and latter, of a handle for rotating the shaft to wind up said connection, a tension device for operating the shaft in the same direction and two ratchet-wheels on the shaft having their teeth extending in opposite directions, a pawl coöperating with each ratchet and a foot-lever coöperating with both pawls to actuate them alternately into and out of operative position relatively to their respective ratchet-wheels.

24. In a self-dumping wagon, the combination with a wagon-box, of a movable bottom thereon and devices for retaining and supporting it in closed position and connections between the box and bottom for automatically guiding the latter outwardly and upwardly in proximity to the sides of the box upon a center of movement located within the wagon-box when the retaining devices are released.

25. In a self-dumping wagon, the combination with a wagon-box, a movable bottom located exteriorly of the box and a retaining device for holding the bottom closed, of means for movably supporting and guiding the bottom to automatically rotate it on a center located within the wagon-box to move said bottom laterally and vertically in proximity to the sides of the box during its downward movement when the retaining device is released.

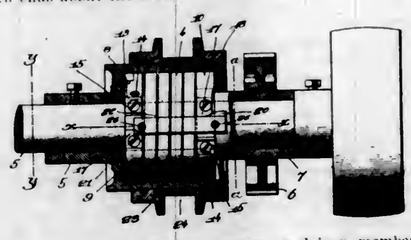
26. In a self-dumping wagon, the combination with a wagon-box and a swinging bottom therefor, of means for supporting the bottom exteriorly of the box and guiding it in proximity to the sides of the box to swing about a pivotal center located above the bottom and within the box.

27. In a self-dumping wagon, the combination with a wagon-box, two movable bottom sections therefor and devices for retaining them in the closed position, of means for supporting the sections at their outer sides and guiding the sections to rotate on centers located within the wagon-box to move said sections laterally away from each other and vertically relatively to the box and in proximity to the sides thereof when the retaining devices are released to permit them to open downwardly.

28. In a self-dumping wagon, the combination with a wagon-box, two movable bottom sections therefor and devices for retaining them in the closed position, of means for supporting the sections at their outer sides and guiding the sections to rotate on centers located within the wagon-box to move said sections laterally away from each other and vertically relatively to the box when the retaining devices are released to permit them to open downwardly.

840,847. CLUTCH. WILLIAM A. E. HENRICI, Boston, Mass. Filed Jan. 22, 1906. Serial No. 297,113.

Claim.—1. In a clutch, a driving member, a driven member, a drum rigid with one of said members, two collars rotated by the other member but capable of turning relative to each other, a friction-coil encircling the drum and having one end fast to each collar, and means to turn the collars in opposite directions, thereby to tighten the coil at both ends about the drum.



2. In a clutch, a driving member, a driven member, a drum rigid with one member, a friction-coil encircling the drum and connected with the other member to rotate therewith, both ends of the coil being free to be moved relative to said member, and means to act on both ends of the coil to tighten it about the drum when the clutch is to be applied.

3. In a clutch, a friction-drum, a friction-coil surrounding the drum, two loosely-mounted collars, one connected to each end of the coil, each collar having an abutment and an actuator-cam to act on the abutments and thereby give the collars a relative rotary movement in opposite directions.

4. A clutch comprising a drum, a friction-coil encircling the drum, two loosely-mounted collars, each connected to an end of the coil and each carrying an abutment, an actuator having two cam-surfaces, one to act on each abutment, and means to move the actuator thereby to give the collars a relative movement in opposite directions.

5. In a clutch, a shaft, a friction-drum loosely mounted thereon, a friction-coil encircling the drum, loosely-mounted collars to which the ends of the friction-coil are secured, means to rotate the collars in the same direction from the shaft, and a clutch-actuator to give the collars a relative turning movement in opposite directions.

6. In a clutch, a shaft, a drum loosely mounted thereon, a friction-coil surrounding the drum, two loosely-mounted collars to which the ends of the coil are connected, a driving member fast to the shaft and inclosing the drum and friction-coil, said collars having projections to be engaged by the driving member, whereby the collars are driven thereby, and means to give the collars a relative turning movement in opposite directions, thereby to wind the friction-coil onto the drum.

7. In a clutch, a shaft, a drum loosely mounted thereon, a friction-coil surrounding the drum, two loosely-mounted collars to which the ends of the coil are connected, a driving member fast to the shaft and inclosing the drum and friction-coil, said collars having projections to be engaged by the driving member, whereby the collars are driven thereby, a sleeve slidably mounted on the driving member and carrying means to engage the collars, whereby sliding movement of the sleeve turns the collars in opposite directions.

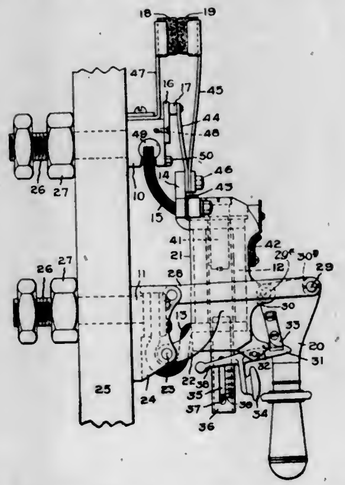
840,848. CIRCUIT-BREAKER. EDWARD M. HEWLETT, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Nov. 7, 1904. Serial No. 231,666.

Claim.—1. In a circuit-breaker, the combination with fixed and movable contacts, of a movable tripping-coil, and an operating-handle having a permanent controlling relation to said coil but movable relatively thereto.

2. In a circuit-breaker, the combination with fixed and movable contacts, of a tripping-coil movable with said movable contact, and an operating-handle having a permanent controlling relation to said coil to shift it, but movable relative thereto.

3. In a circuit-breaker, the combination with fixed and movable contacts, of a swinging tripping-coil movable with said movable contact, a support therefor and lever mechanism comprising an operating-handle pivoted to the coil and linked to the support for forcing said contacts into engagement.

4. In a circuit-breaker, the combination with fixed and movable contacts, of a tripping-coil movable with said movable contact, a link connected with the fixed part of the breaker, and an operating-handle pivoted to said link and to said coil so as to form a toggle for cramping said contacts into engagement.



5. In a circuit-breaker, the combination with fixed and movable contacts, of a tripping-coil movable with said movable contact and pivotally supported at one side of said coil, and an operating-handle pivotally supported beyond said coil and having a pivoted connection with said coil at the opposite side thereof and intermediate of said supporting-points, so arranged that said coil and handle serve as a toggle to cramp said contacts into engagement.

6. In a circuit-breaker, the combination with fixed contact-studs, of a bodily-movable tripping-coil permanently included in circuit with one of said studs, and an operating-handle having a permanent controlling relation to said coil to shift it, but movable relatively thereto.

7. In a circuit-breaker, the combination with fixed contact-studs, of a pivotally-supported tripping-coil, a flexible electrical connection between one of said studs and said coil whereby said coil is permanently included in circuit with said fixed stud, and an operating-handle permanently connected to shift said coil but movable relatively thereto.

8. In a circuit-breaker, the combination with fixed and movable contacts, of a tripping-coil movable with said movable contact, an operating-handle linked to a fixed point and pivoted to said coil so as to form a toggle for cramping said contacts into engagement, a latch for holding said contacts in cramped position, and means actuated by said coil for tripping said latch.

9. In a circuit-breaker, the combination with fixed and movable contacts, of a movable tripping-coil, lever mechanism having a permanent controlling relation to said coil, but movable relatively thereto for forcing said contacts into engagement, a latch mounted at the lower end of said coil and operative to hold said lever mechanism against movement when the contacts are in engagement, an armature for said tripping-coil, and means carried by said armature for engaging and tripping said latch.

10. In a circuit-breaker, the combination with a movable tripping-coil, of a core movable into and out of said coil, a lever mechanism permanently connected to said coil, but movable relatively thereto, a latch carried by said coil and arranged to lock said mechanism against movement, and a laterally-projecting pin carried by said core and extending into the path of movement of said latch so as to trip it when said coil is sufficiently energized.

11. In a circuit-breaker, the combination with a movable tripping-coil pivotally supported at its end, fixed and

movable contacts adjacent to the upper end of said coil, and an operating-handle permanently connected to shift said coil and movable relatively thereto, and operated by a downward movement to bring said fixed and movable contacts into engagement.

12. In a circuit-breaker, the combination with a movable tripping-coil pivotally supported at its lower end, fixed and movable contacts adjacent to the upper end of said coil, an operating-handle permanently connected to said coil and operated by a downward movement to bring said fixed and movable contacts into engagement, a latch located at the lower end of said coil for holding said handle in its down position, and means actuated by said coil for tripping said latch.

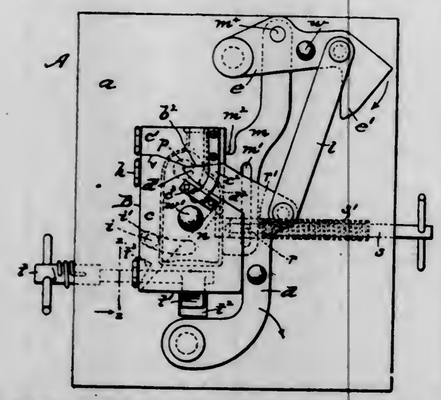
13. In a circuit-breaker, the combination with fixed contacts, of a pivoted frame carrying a contact, a tripping-coil mounted therein and included in circuit with said contact, means for insulating one end of said coil from said frame, and an operating-handle for said frame permanently connected to said coil and movable relative thereto.

14. In a circuit-breaker, the combination with fixed and movable contacts, of a pivoted movable open frame carrying said movable contact, a tripping-coil located within said frame, and means pivoted to said frame for moving said frame to carry said movable contact into and out of engaging position.

15. In an automatic circuit-breaker, the combination of a swinging trip-coil carrying main and shunt contacts, a rocking cramping-frame pivoted to a fixed part at one end, an operating-lever, and a toggle formed by said operating-lever and coil pivoted to the other end of the rocking cramping-frame.

16. In an automatic circuit-breaker, the combination of a swinging trip-coil carrying main and shunt contacts, a rocking cramping-frame pivoted to a fixed part at one end, an operating-lever, and a toggle formed by said operating-lever and coil pivoted to the other end of the rocking cramping-frame, and a latch to hold toggle set off center.

840,849. METHOD OF FORMING GLASS BLOWN BOTTLES AND MOLDS THEREFOR. ARTHUR W. HUTCHINS, Providence, R. I. Filed May 7, 1906. Serial No. 315,464.



Claim.—1. The improvement in the process of producing glass blown bottles in separable molds, the same consisting in introducing the charge of heated glass into the open mold, then closing the mold and blowing said charge of glass so as to normally fill the mold's matrix thereby forming an initial or normal bottle, then manipulating the side section of the mold so as to produce an indentation in and located at or near the base of the neck of the still heated and confined bottle, and then opening the mold and removing the bottle therefrom.

2. An improvement in the process of producing glass blown bottles in separable molds, the same consisting in blowing the heated glass or charge confined in the mold so as to form an initial or normal bottle, removing a portion of the mold and substituting another member therefor to change the form of the corresponding part of the bottle, followed by withdrawing the said substitute member from the mold and at the same time changing the axial relation of the body and nozzle portions of the bottle to each other while still confined in the mold, and then opening the mold and removing the practically completed bottle therefrom.

3. The method of producing in a separable mold a blown-glass bottle having an irregular shape from a plain or normal shaped bottle while the latter is still in a plastic state and confined in said mold, which consists in removing a section of the mold and exposing the corresponding part of the bottle, introducing a forming-section into the mold in lieu of said removed section to engage and re-form the said exposed part of the bottle, then removing the forming-section, followed by swinging portions of the mold proper to practically close the opening uncovered by the said removed section, and then opening the mold and removing the completely-shaped bottle therefrom.

4. As an improved article of manufacture, a separable normally closed mold having a portion of its side wall and including the corresponding part of the matrix cut away or removed at a point contiguous to the base of the neck of the bottle so as to expose the adjacent part of the mold's interior, and a manually-movable section operatively connected with the mold, the same also forming the counterpart of and adapted to fit and close said cut-away portion of the mold and at the same time forming the complementary part of the matrix.

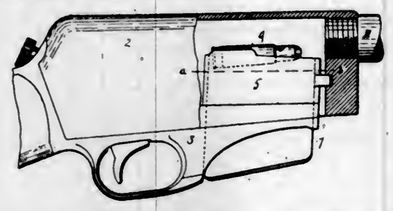
5. A separable mold for shaping glass blown bottles, the same comprising a plurality of manually-movable sections, one of which extends transversely into the mold's matrix at a point contiguous to the base of the bottle's neck thereby adapting the mold to produce a normal shaped bottle, and a transforming-section operatively connected with and forming a part of the mold, adapted and arranged to be temporarily substituted for the first-named section for changing the form of the bottle's body adjacent the neck while the bottle is still confined in the mold, substantially as hereinbefore described.

6. The combination with a separable bottle-mold having the major or body portion thereof pivotally mounted, and having the sides or edges of the stationary and movable portions adjacent the pivot-point cut away to form a lateral opening extending into the matrix, of operatively-connected forming and transforming sections adapted to be successively introduced into and removed from said opening, and means connected with said pivotally-mounted part of the mold for swinging the latter from the normal position, substantially as hereinbefore described and for the purpose set forth.

7. The combination with a separable bottle-mold having the major or body portion thereof pivotally mounted, and having the sides or edges of the stationary and movable portions adjacent the pivot-point cut away to form a lateral opening extending into the matrix, of operatively-connected forming and transforming sections adapted to be successively introduced into and removed from said opening, a latch movable with said section members adapted to connect with said pivotally-mounted part of the mold to swing the latter from the normal position, and means for locking the mold in said normal and changed positions.

8. The combination with a separable mold having fixed and movable portions and a lateral opening extending into the matrix thereof, of connected swinging forming and transforming members, *d'* and *e'*, respectively, adapted to be successively introduced into and withdrawn from said mold-opening, means for swinging the main or body portion of the mold in an angular direction from its normal position so as to practically close said lateral opening thereby at the same time changing the normal relation of the body and neck portions of the bottle to each other, a stop for limiting the degree of said angular movement, and means for locking the mold in its said normal and angular positions.

840,850. BOX-MAGAZINE FIREARM. THOMAS C. JOHNSON, New Haven, Conn., assignor to Winchester Repeating Arms Co., New Haven, Conn., a Corporation. Filed Apr. 9, 1906. Serial No. 310,773.



Claim.—1. In a box-magazine gun, the combination with a receiver, of a lower tang or guard having bearing-surfaces upon which the breech-block rides back and forth, and an integral box-magazine housing rising centrally between the said bearing-surfaces, closed at its front and rear ends as well as at its sides, and having the upper ends of its side walls formed with inwardly-turned lips which stop the magazine against undue upward movement and prevent its upper end from spreading laterally, whereby the upper portion of a thin sheet-metal box-magazine is supported and reinforced.

2. In a take-down box-magazine gun, the combination with a receiver, of a lower tang or guard formed with bearing-surfaces upon which the breech-block rides back and forth, means for coupling the said receiver and tang or guard, and an integral box-magazine housing formed at the forward end of the said tang or guard and rising centrally between the said bearing-surfaces and closed at its front and rear ends as well as at its sides, and having the upper ends of its side walls formed with inwardly-turned lips which stop the magazine against undue upward movement, and prevent its upper ends from spreading laterally, whereby the said housing supports and reinforces the upper portion of a detachable thin sheet-metal box-magazine.

840,851. WIND-SHIELD FOR VEHICLES. JOSEPH E. JOHNSTON, Ardmore, Pa. Filed Feb. 21, 1906. Serial No. 302,164.



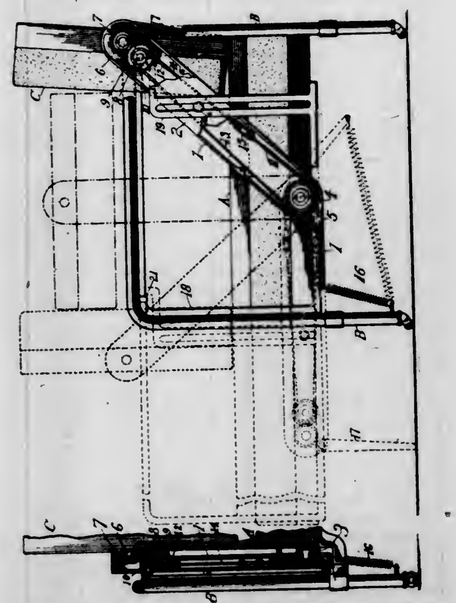
Claim.—1. In a wind-shield, the combination with a flexible curtain; of a separable frame comprising vertical standards provided with means engaging the edges of said curtain; means arranged to detachably connect said standards with a vehicle; a cross-bar connecting the tops of said standards and pivotally connected therewith and, means whereby said standards may be rotated and clamped to hold said curtain in stretched position, substantially as set forth.

2. In a wind-shield, the combination with a flexible curtain; of a separable frame comprising vertical standards and a cross-bar connecting the tops of said standards; means on said standards and said cross-bar engaging the edges of said curtain; and, means whereby said standards may be vertically adjusted and rotated relatively to said cross-bar and clamped in adjusted position, substantially as set forth.

3. In a wind-shield, the combination with a flexible curtain; of a separable frame comprising vertical standards each formed of two separable sections, and a cross-bar formed of two separable sections; means connecting the sections of said standards arranged to clamp them in rigid relation; means on said standards and cross-bar arranged to engage the edges of said curtain, whereby said curtain may be stretched; brackets provided with means for attachment to a vehicle and comprising sockets for said standards; and, means in said brackets arranged to clamp said standards in adjusted position, substantially as set forth.

4. In a wind-shield for vehicles, the combination with a flexible curtain; of a separable frame comprising vertical standards at the opposite sides of said curtain; means connecting said standards with said curtain; brackets supporting said standards in relatively rotatable relation, whereby said curtain may be stretched transversely; a cross-bar connecting the tops of said standards, and pivotally connected therewith and, means arranged to clamp said standards in said brackets, substantially as set forth.

840,852. DAVENPORT-BED. CHARLES A. JONES, St. Louis, Mo. Filed Sept. 4, 1906. Serial No. 333,075.



Claim.—1. In a davenport-bed, the combination of a stationary section, a movable section, a link pivotally connecting said movable section to said stationary section, and gearing whereby said movable section is rotated from an upright position, to an inverted position to reversed position, and to a horizontal position right-side up or vice versa when said link is moved, substantially as set forth.

2. In a davenport-bed, the combination of a stationary section, a movable section, a link pivotally supported by

said stationary section and having pivotal connection with said movable section, and gearing associated with said link consisting of a gear member fixed to said stationary section, a gear member fixed to said movable section, and operating means connecting the gear members and adapted to rotate said movable section from an upright position, to an inverted position, to a reversed position, and to a horizontal position right-side up or vice versa when said link is moved, substantially as set forth.

3. In a davenport-bed, the combination of a stationary section, a movable section, a link pivotally supported by said stationary section and having pivotal connection with said movable section, a gear member fixed to said stationary section, a gear member fixed to said movable section, a gear member carried by said link and arranged in mesh with the gear member of said movable section, and operating means connecting the link-carried gear member to the stationary-section gear member, substantially as set forth.

4. In a davenport-bed, the combination of a stationary section, a movable section, a link pivotally supported by said stationary section and having pivotal connection with said movable section, a gear member fixed to said stationary section, a gear member fixed to said movable section, a gear member carried by said link and arranged in mesh with the gear member of said movable section, and a belt connecting said stationary-section gear member and said link-carried gear member, substantially as set forth.

5. In a davenport-bed, the combination of a stationary section, a stud supported by said section, a link pivoted to said stud, a sprocket-wheel fixed to said stud, a movable section, a stud fixed to said movable section, and to which said link is pivotally fitted, a spur-wheel carried by said last-named stud, a spur-wheel loosely fitted to said link and meshing with said first-named spur-wheel, and a belt operatable upon said sprocket-wheel and having connection with said link-carried spur-wheel, substantially as set forth.

6. In a davenport-bed, the combination of a stationary section, a movable section, a link pivotally supported by said stationary section and having pivotal connection with said movable section, gearing associated with said link and adapted to rotate said movable section when said link is moved, and a slidable head or foot member having connection with said link, substantially as set forth.

7. In a davenport-bed, the combination of a stationary section, a movable section, a link pivotally supported by said stationary section and having pivotal connection with said movable section, gearing associated with said link and adapted to rotate said movable section when said link is moved, and a slidable head or foot member having connection with said link; said head or foot member being provided with a slotted portion and said link being provided with a stud adapted to operate in said slotted portion, substantially as set forth.

840,853. SMOKING DEVICE. ROBERT E. KING, Beaufort, N. C. Filed Apr. 7, 1906. Serial No. 310,533.



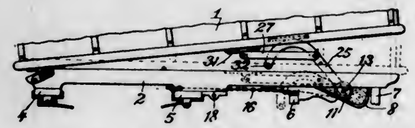
Claim.—1. A smoking device comprising a holder or mouthpiece provided at its outer end with a fireproof cage or tobacco-receptacle having radial openings or perforations and adapted to receive a paper wrapper or covering to exclude air from entering said openings or perforations, substantially as and for the purpose set forth.

2. A smoking device consisting of a holder or mouthpiece having its outer end reduced and screw-threaded, in combination with a fireproof cage or tobacco-receptacle formed with radial perforations or openings and provided at one end with a threaded collar adapted to be secured in position upon the threaded portion of the holder or mouthpiece, said cage or tobacco-receptacle being also adapted to receive a paper covering for excluding air through the radial openings, substantially as and for the purpose set forth.

3. A tobacco-receptacle for a smoking device, consisting of a fireproof cage provided at one end with a collar adapted to be secured to the outer end of a mouthpiece and to receive a surrounding envelop or tobacco-confining wrapper substantially as hereinafter set forth.

4. A smoking device consisting of a mouthpiece provided at its outer end with a cage or tobacco-receptacle consisting of a series of parallel wires adapted to temporarily confine a charge or quantity of tobacco and to receive a surrounding air-excluding wrapper or envelop, substantially as set forth.

840,854. WAGON-DUMPING MECHANISM. ANTON KUKIELSKI, Jersey City, N. J. Filed Feb. 6, 1906. Serial No. 299,674.



Claim.—1. In a device of the character described the combination of a winch-shaft journaled to the wagon-frame, means for rotating said winch-shaft, a movable counter-shaft parallel with said winch-shaft, flexible connections between said shafts, lifting-bars having their lower ends connected to said counter-shaft, and a connecting-bar pivotally attached to each lifting-bar and to the bottom of the wagon-body.

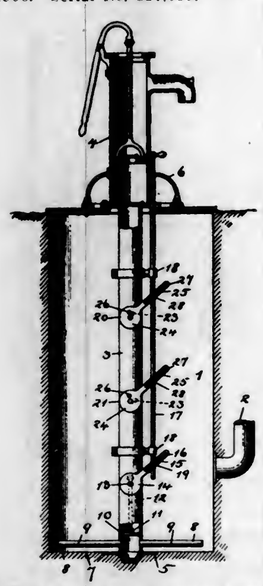
2. In a device of the character described the combination of a lifting-bar connected to a movable counter-shaft, a connecting-bar having one end pivoted to said lifting-bar and its other end pivoted to the bottom of the wagon-body; the upper end of said lifting-bar being backwardly and downwardly bent, its extremity extending below said connecting-bar and provided with means for engaging therewith when moved upwardly by the tilting movement of said lifting-bar.

3. In a device of the character described the combination of a lifting-bar, means for tilting said lifting-bar, a double connecting-bar having one end pivoted to the said lifting-bar and the other end pivoted to the bottom of the wagon-body, the portion of the said lifting-bar above the connecting-bar pivot being bent backwardly and downwardly, so that its extremity passes downwardly between the members of said connecting-bar, and a stop at the extremity of said bent portion adapted to prevent said extremity from passing between said connecting-bar members.

4. In a device of the character described the combination of a lifting-bar and a connecting-bar, the end of the latter pivotally attached to the middle portion of the former, the lower end of the lifting-bar being connected to a movable counter-shaft, the second terminal of the connecting-bar being attached to the bottom of the wagon-body, the said lifting-bar having its upper portion bent backwardly and downwardly in the plane of the connecting-bar, its extremity normally lying below said connecting-bar and provided with a stop adapted to seat against said connecting-bar and to exert a lifting force thereon when the lifting-bar is tilted.

5. In a device of the character described the combination of a wagon-frame, a wagon-body having its rear portion pivotally attached to said frame, a winch-shaft journaled to said frame, means for rotating said winch-shaft, a counter-shaft movably mounted upon bearing-tracks and parallel to said winch-shaft, flexible connections between said shafts, lifting-bars attached to said counter-shaft, and connecting-bars pivotally attached to said lifting-bars and to the bottom of the wagon-body, the upper portion of said lifting-bars being bent backwardly and downwardly, so that their extremities normally lie below their respective connecting-bars, each of said extremities being provided with a stop adapted to seat against the connecting-bar at a suitable point in the tilting movement of the lifting-bar.

840,855. APPARATUS FOR DRAWING WATER FROM CISTERNS. TIMOTHY LYDON, Baltimore, Md. Filed May 16, 1906. Serial No. 317,059.



Claim.—1. In an apparatus for drawing water from cisterns the combination with a draw-off pipe having a plurality of draw-off passages in its lower end adjacent the bottom of the cistern, of a valve in said pipe to control the said bottom draw-off passages; a valve in said pipe above the draw-off passages; means whereby said valves may be opened one at a time, and a pump connected to the draw-off pipe.

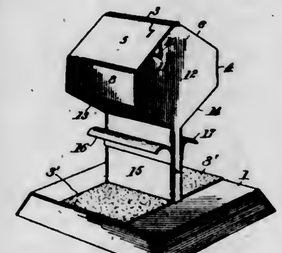
2. In an apparatus for drawing water from cisterns the combination with a draw-off pipe having an inlet near its bottom and another inlet above the bottom inlet, of means for governing said inlets; means for permitting the outlet-pipe to be revolved; means carried by the outlet-pipe and projecting laterally therefrom and adjacent to the bottom of the cistern for directing the sediment in the cistern toward the outlet-pipe, and a pump connected to the outlet-pipe.

3. In an apparatus for drawing water from cisterns the combination with a draw-off pipe, of a branch pipe at the lower end of said draw-off pipe and adjacent the bottom of the cistern—said branch pipe being in communication with the cistern; a port in the draw-off pipe above the branch pipe; means whereby the branch pipe may be moved over the bottom of the cistern, and a pump connected to the draw-off pipe.

4. In an apparatus for drawing water from cisterns the combination with a draw-off pipe, of branch pipes carried by the draw-off pipe and opening into the latter and provided with a plurality of perforations; a valve in the draw-off pipe to control the passage of water and sediment from the branch pipes; a valve in the draw-off pipe above the branch pipes for the passage of clear water; means connecting said two valves whereby they may be opened and closed successively; and a pump connected to the draw-off pipe.

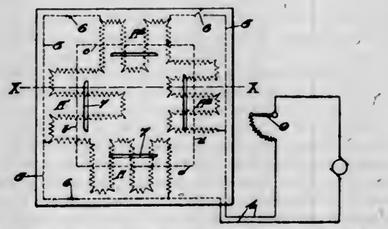
5. In an apparatus for drawing water from cisterns the combination with a draw-off pipe, of a perforated branch pipe carried by the draw-off pipe and opening into the latter and projecting laterally adjacent the bottom of the cistern; a valve to control the passage in the perforated pipe; a valve in the draw-off pipe above the branch pipe; a rod extending parallel with the draw-off pipe and connected to said valves; a pump connected to said draw-off pipe; and means for sustaining said pump and draw-off pipe so they may be revolved.

840,856. MATCH-BOX. WILLIAM T. MAPES, Ogden, Ill., assignor of one-half to William McKinley and L. W. Baird, Ogden, Ill. Filed Jan. 30, 1906. Serial No. 298,678.



Claim.—A single-delivery match-box comprising a base, an upright secured to the base and provided at its upper end with a match-receiving groove and also with a laterally-directed projection at one side near its upper end, a match-box having a depending portion snugly embracing the upright to prevent matches falling therebetween and the upright, the lower end of said depending portion resting normally upon the base, the box having an opening in its top snugly embracing the upright and lying normally above said projection of the standard, the box also having a groove in the inner face of one of its side walls terminating in a shoulder at one end to engage the aforesaid projection of the upright to limit the sliding movement of the box in one direction, a closure hinged against displacement and a lift member secured to the depending portion of the box to lift the box upwardly upon the upright for the purpose set forth.

840,857. ELECTRIC HEATER. NICHOLAS N. S. MATCOVITCH, San Francisco, Cal., assignor to J. Earl Moore, Los Angeles, Cal. Filed Jan. 25, 1906. Serial No. 297,764.



Claim.—1. The combination with a pair of blankets, of flexible resistance-conductors secured therebetween and arranged in series, and said blankets provided with one or more pockets.

2. The combination with a pair of blankets, of resistance-conductors secured therebetween and arranged in series, and shunt-circuit connections between alternate members of said resistances.

3. The combination with a pair of flexible non-conductor sheets, of a series of resistances secured therebetween and arranged in series, shunt-circuit connections between alternate members of said resistances, and switches in said circuits to permit one or more of said resistances to be cut out.

4. The combination with a pair of flexible non-conductor sheets, of a series of resistances secured therebetween and arranged in series, shunt-circuit connections between cer-

tain of said electrical conductors, switches in said circuits to permit one or more of said resistances to be cut out, and pockets arranged relative to said resistances.

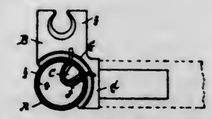
5. A covering of flexible material in which is embedded a plurality of resistances, conductors arranged in series, pockets arranged in said covering proximate to the resistances, and means for heating one pocket independent of the others.

6. A heater consisting of a plurality of superposed flexible non-conductor sheets with flexible resistance-conductors arranged between them, said sheets and conductors bent over on one or more sides to form pockets with the resistances disposed on a plurality of sides of a pocket.

7. An electric heater comprising a plurality of superposed flexible non-conductor sheets with flexible resistance-conductors arranged between the sheets, said sheets and conductors bent over to form a pocket with the resistances disposed on two sides of the pocket.

8. An electric heater comprising a plurality of superposed flexible non-conductor sheets with flexible resistance-conductors arranged between the sheets, said sheets and conductors bent over to form a pocket with the resistances disposed on two sides of the pocket, said pocket having an opening in the bottom for the passage of a tube or the like.

840,858. CORNER-FASTENER FOR BEDSTEADS. MORTIMER G. MERRITT, Rome, N. Y., assignor to Rome Metallic Bedstead Company, Rome, N. Y. Filed Sept. 20, 1905. Serial No. 279,301.



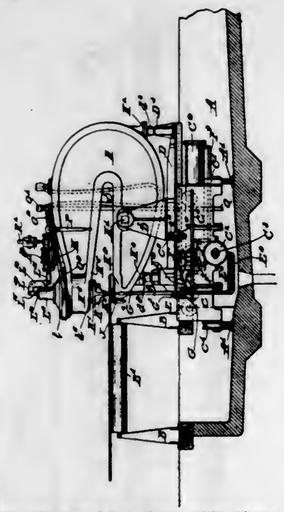
Claim.—The combination in a bedstead corner-fastener of a tubular post having an opening through the side wall and corner-piece fitting the side of the post and having a U-shaped staple entering the opening in the post, and a wedging-key extending longitudinally of and engaging with the inner surface of the post and passing through said staple with the larger end of the key uppermost, the staple, key and opening through the post being of relative size to enable the key to be passed by the staple outside of the loop thereof when the staple is within the opening, substantially as set forth.

840,859. PUNCHING-MACHINE. MARY K. MORSE, Philadelphia, Pa., executrix of Henry G. Morse, deceased, assignor to New York Shipbuilding Company, Camden, N. J., a Corporation of New Jersey. Filed July 13, 1903. Renewed June 6, 1905. Serial No. 264,012.

Claim.—1. In a punching-machine, the combination with a track, of a machine-frame supported and movable thereon and having a guideway formed on its top in a direction transverse to that of the track, a table supported on and movable along said guideway, punching mechanism supported on said table, power-cylinders supported on the movable machine-frame and connected to actuate said frame and the table respectively, and means for admitting and exhausting pressure fluid to and from said cylinders.

2. In a punching-machine, the combination with means for supporting a metal plate at one side of the machine, of a track extending parallel to and at one side thereof, a machine-frame supported and movable thereon and having a guideway formed on its top in a direction transverse to that of the track and plate-support, a table supported on and movable along said guideway, punching mechanism supported on said table, power-cylinders supported on the movable machine-frame and connected to actuate said frame and the table respectively and means for admitting and exhausting pressure fluid to and from said cylinders.

3. In a punching-machine, the combination with a track of a machine-frame supported and movable thereon and having a guideway formed on its top in a direction transverse to that of the track, a table supported on and movable along said guideway, punching mechanism pivotally supported on said table, means for adjusting the angular position of the punching mechanism on its pivots and for regulating its freedom to move thereon, power-cylinders supported on the movable machine-frame and connected to actuate said frame and the table respectively and means for admitting and exhausting pressure fluid to and from said cylinders.



4. In a punching-machine, the combination with a track of a machine-frame supported and movable thereon and having a guideway formed on its top in a direction transverse to that of the track, a table supported on and movable along said guideway, punching mechanism supported on said table, power-cylinders supported on the movable machine-frame and connected to actuate said frame and the table respectively, valve mechanism for each cylinder arranged to control the admission and exhaust of pressure fluid to and from said cylinders, and a valve-actuating lever having a universal-joint pivot and connected to the valves to operate one when moved in one direction and the other when moved in a transverse direction and whereby they are independently controlled by the operator through a single lever.

5. In a punching-machine having a cylinder and piston for operating the punch in its working stroke and means acting to pull back the punch and piston when the pressure fluid is exhausted from the cylinder, the combination of a valve controlling the admission and exhaust of pressure fluid to and from the cylinder, with means actuated by the working stroke of the piston acting to shift said valve to cut off the inflow of pressure fluid and arrest the downward motion of the piston and punch before the completion of the working stroke, and means independent of the motion of the piston and under the control of the operator whereby the valve is shifted to readmit the pressure fluid to the cylinder and complete the working stroke.

6. In a punching-machine having a cylinder and piston for operating the punch in its working stroke and means acting to pull back the punch and piston when the pressure fluid is exhausted from the cylinder, the combination of a valve controlling the admission and exhaust of pressure fluid to and from the cylinder, with means actuated by the working stroke of the piston acting to shift said valve to the exhaust position at the end of the working stroke of the piston, to again shift the valve to admit pressure fluid at the top of the back stroke of the piston and to again shift said valve to cut off the inflow of pressure fluid and arrest the downward motion of the piston and punch before the completion of the working stroke, and means independent of the motion of the piston and under the control of the operator whereby the valve is shifted to readmit the pressure fluid to the cylinder and complete the working stroke.

7. In a punching-machine having a cylinder and piston for operating the punch in its working stroke and means acting to pull back the punch and piston when the pressure fluid is exhausted from the cylinder, the combination with said piston of a punch attached thereto so as to have a slight freedom of longitudinal movement, a valve controlling the admission and exhaust of pressure fluid to and from the cylinder, with means actuated by the working stroke of the piston acting to shift said valve to cut off the inflow of pressure fluid and arrest the downward motion of the piston and punch before the completion of the working stroke, and means independent of the motion of the piston and under the control of the operator whereby the valve is shifted to readmit the pressure fluid to the cylinder and complete the working stroke.

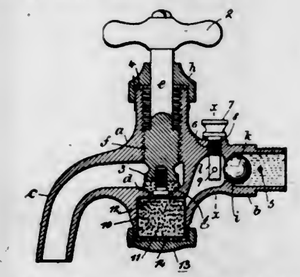
8. In a punching-machine having a cylinder and piston for operating the punch in its working stroke and means acting to pull back the punch and piston when the pressure fluid is exhausted from the cylinder, the combination with said piston of a punch attached thereto so as to have a slight freedom of longitudinal movement, a valve controlling the admission and exhaust of pressure fluid to and from the cylinder, with means actuated by the working stroke of the piston acting to shift said valve to the exhaust position at the end of the working stroke of the piston, to again shift the valve to admit pressure fluid at the top of the back stroke of the piston and to again shift said valve to cut off the inflow of pressure fluid and arrest the downward motion of the piston and punch before the completion of the working stroke, and means independent of the motion of the piston and under the control of the operator whereby the valve is shifted to readmit the pressure fluid to the cylinder and complete the working stroke.

9. In a punching-machine having a cylinder and piston for operating the punch in its working stroke and means acting to pull back the punch and piston when the pressure fluid is exhausted from the cylinder, the combination with the piston of a reciprocating device coupled to move backward or forward as the piston moves up or down, a valve controlling the admission and exhaust of pressure fluid to the cylinder, a second reciprocating device coupled to said valve and moving parallel to and in close relation with the device coupled to the piston, means whereby the reciprocating devices are connected so as to move together during the downstroke of the piston and until the movement of its coupled device shifts the valve to cut off the fluid-supply, means whereby said movement of the valve-connected device operates against a pressure tending to shift it to a position to again open the valve for the passage of fluid, means under the control of the operator, for releasing the connection between the reciprocating devices and permitting the pressure aforesaid to again open the valve, means operated by the further motion of the device connected with the piston acting to again shift the valve to exhaust position at the end of the working stroke and means operated by the reverse motion of the device, acting to shift the valve to admit pressure fluid at the top of the upward movement of the piston.

10. In a punching-machine, the combination of a support for the punch having the capacity of movement in two directions, with cylinders and coacting piston governing said movements, valves controlling the admission and exhaust of pressure fluid from said cylinders, a lever pivoted on a universal joint connected to operate one of said valves when moved in one direction and the other when moved in a transverse direction, a cylinder and piston arranged to actuate the punch, a valve controlling the admission and exhaust of pressure fluid to said cylinder, valve-actuating mechanism operated by the movements of the piston whereby the valve is shifted to exhaust at the bottom of the stroke and to admission at the top of the stroke and whereby also the valve is shifted to cut off admission at a determined point in the working stroke, means independent of the further movement of the piston whereby the valve is again shifted to admit fluid and complete the working stroke and an electromagnetic circuit-closer situated in the universally-pivoted lever aforesaid whereby said last-mentioned means is set in operation.

11. In a punching-machine, the combination with a punch-actuating cylinder and piston and means for effecting a return stroke or pull-back of the punch, of a valve adapted to admit pressure fluid to the cylinder in one position, to cut off admission in another position and to connect the cylinder to exhaust in a third position, a reciprocating rod N connected with and moved by the piston, a parallel reciprocating rod N^{18} connected with the valve, a connecting device between said rods whereby the movement of the piston is communicated to the valve-rod during the working stroke and whereby the valve is shifted to its position to cut off admission, means under the control of the operator whereby said connecting device can be disconnected, heads N^{22} n^{22} lying between and movable parallel to the rods N N^{18}, a spring secured between said heads, abutments N′ and N^2 on rod N and N^{17} N^{19} on rod N^{18}, arranged to engage the heads in the shifting positions of the rods, catches, N^{25} n^{25} arranged to engage the heads as they move back and forward, and catch-releasing devices actuated by the movements of the abutments N′ and N^2 as described and whereby the valve is shifted to admission or exhaust as and for the purposes specified.

840,860. FAUCET. OTTO MÜLLER, New York, N. Y. Filed Oct. 16, 1905. Serial No. 282,913.



Claim.—1. A faucet comprising an integral body portion, bib and shank, a main valve in the body portion and a means for operating the same, a ball-valve and a seat for the same within the shank, a suspended pin extending through and supported by the body portion of the faucet and located between the main and ball valves and immediately in front of the ball-valve, and a device connected with said pin and adapted when the pin is turned to be moved into the path of the ball-valve to bear against and unseat the ball-valve and to retain it in an unseated position.

2. A faucet comprising an integral body portion, bib and shank, a main valve in the body portion and a means for operating the same, a ball-valve and a seat for the same within the shank, a suspended pin extending through and supported by the body portion of the faucet and located between the main and ball valves and immediately in front of the ball-valve, a device connected with said pin and adapted when the pin is turned to be moved into the path of the ball-valve to bear against and unseat the ball-valve and to retain it in an unseated position and a pin 5 passing transversely through the shank and appreciably back of the ball-valve so as to limit the rearward movement thereof.

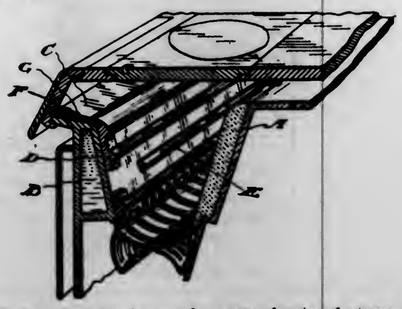
3. A faucet comprising an integral body portion, bib and shank, a main valve in the body portion and a means for operating the same, a ball-valve and a seat for the same within the shank, a suspended pin *l* occupying a vertical position between the main and ball valves with a threaded portion in and supported by the body of the faucet, a thumb-screw 7 outside of the body portion with a washer between the thumb-screw and the surface of the body of the faucet, a cross-arm 9 passing transversely through the pin in a horizontal plane through the center of the ball-valve and adapted upon the turning of the pin and in one position to come in contact with the ball-valve to unseat the valve and maintain the same in an unseated position.

4. A faucet comprising a body portion, bib and shank, a main valve, means for operating the same, means for stopping the flow of the liquid through the faucet before the same reaches the main valve, means for normally maintaining the aforesaid means in an open position, a filter device adapted to fit into the chamber adjacent to the main valve in the faucet-body and means for holding and maintaining the filter device within the faucet-body.

5. A faucet comprising a body portion, a bib and shank, a main valve, means for operating the same, means for stopping the flow of liquid through the faucet before the same reaches the main valve, means for normally maintaining the aforesaid means in an open position, a wire-gauze receptacle adapted to fit into a chamber adjacent to the main valve in the faucet-body, filtering material within said receptacle, and means for maintaining the said receptacle and filtering material in position within the said faucet-body.

6. A faucet comprising a body portion, a bib and shank, a main valve, means for operating the same, a ball-valve, a seat for the same within the said shank, a pin extending through the body portion of the faucet immediately in front of the said ball-valve, a cross-arm adapted upon turning the said pin to bear against and normally maintain the said ball-valve away from its seat, a wire-gauze receptacle adapted to fit into the chamber beneath the main valve in the faucet-body, filtering material within the said receptacle, and means for maintaining the receptacle and filtering material in position beneath the main valve and between the same and the ball-valve.

840,861. STOVE AND THE LIKE. SAMUEL M. NEILL, Guelph, Ontario, Canada. Filed July 29, 1905. Serial No. 271,840.



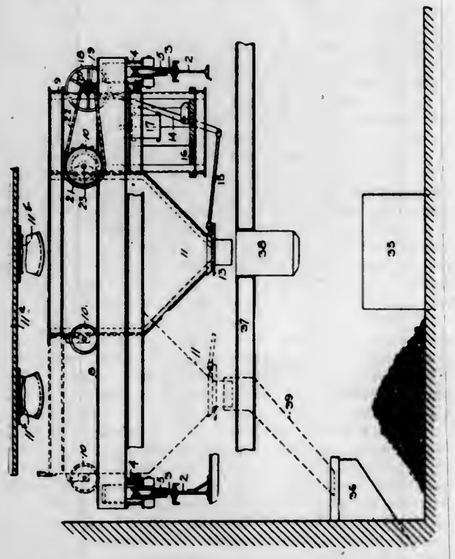
Claim.—An attachment for water-fronts of stoves and the like comprising a lipped bar adapted to engage the inner upper corner of a water-front, depending vertical bars, and transverse bars connected with the vertical bars at the inner faces of the latter, substantially as described.

840,862. TRENCH-SHOVEL. ERIK J. NELSON, Chicago, Ill. Filed Aug. 8, 1906. Serial No. 329,669.



Claim.—In a tool of the class described, the combination with a handle-bar provided with a roller at one end, of a light box-like structure closed at the rear end and mounted rigidly upon the handle-bar and having a narrow open front end provided with a V-shaped cutting edge projecting below and to one side of the roller, as and for the purpose specified.

840,863. TRAVELING HOPPER. WILLIAM J. PATTERSON, Pittsburg, Pa., assignor to Heyl & Patterson, Incorporated, Pittsburg, Pa., a Corporation of Pennsylvania. Filed July 13, 1906. Serial No. 325,984.



Claim.—1. In apparatus for handling coal, or like material, the combination with a suitable structure, of an overhead traveling frame supported thereby, a motor, connections between said motor and said frame, a transversely-traveling hopper-carriage carried by said frame, a platform on said hopper-carriage, a controller on said platform, connections between said controller and said motor, and means accessible from said platform to drive said hopper-carriage.

2. In apparatus for handling coal or like material, the combination with a suitable structure, of an overhead traveling frame supported thereby, a motor, connections between said motor and said frame, a transversely-traveling hopper-carriage carried by said frame, a platform on said hopper-carriage, a controller on said platform, connections between said controller and said motor, a hand-wheel mounted on said carriage, and connections between said hand-wheel and said carriage to drive the same.

3. In apparatus for handling coal, or like material, the combination with a suitable structure, of an overhead traveling frame supported thereby, a motor, connections between said motor and said frame, a transversely-traveling hopper carried by said frame, a platform on said hopper, a controller on said platform, connections between said controller and said motor, a hand-wheel mounted on said carriage, connections between said hand-wheel and said carriage to drive the same, a gate controlling the opening in said hopper, and a lever on said platform to operate said gate.

4. In apparatus for handling coal, or like material, the combination with a suitable structure, of an overhead traveling frame supported thereby, a storage-bin above said frame having two or more discharge-openings in the bottom thereof and arranged transversely thereof, and a transversely-traveling hopper carried by said frame beneath said bin.

840,864. BRACELET. BERNHARD PETERSON, Cranston, R. I., assignor to Geo. Becker & Co., Providence, R. I., a Corporation of Rhode Island. Filed Nov. 30, 1906. Serial No. 345,804.



Claim.—1. In a bracelet, a concealed hinge comprising duplicate hinge members, each having a body portion extending in from one end of which is a central slot forming two side arms in the inner faces of which are curved grooves in the form of an arc and an interlocking pintle-block adapted to fit in the slots in the hinge members and having curved side webs in the form of an arc adapted to enter the curved grooves in the arms of the hinge members, and means for limiting the opening movement of the hinge.

2. In a bracelet, a concealed hinge comprising duplicate hinge members each having a solid body portion extending in from one end of which is a central slot forming two side arms on the inner faces of which are curved webs in the form of an arc and an interlocking pintle-block adapted to fit in the slots in the hinge members and having curved side grooves adapted to receive the curved webs on the arms of the hinge members, and means for limiting the opening movement of the hinge.

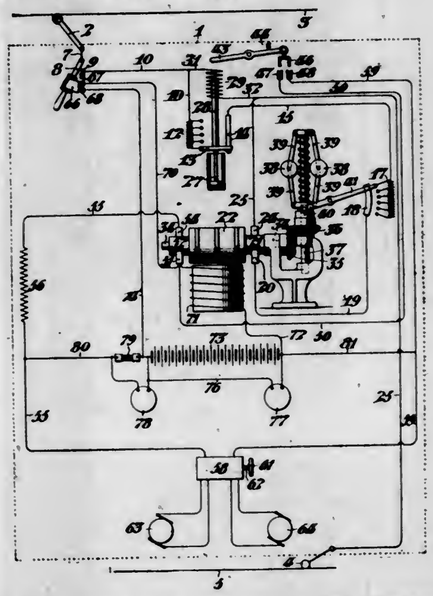
3. A concealed bracelet-hinge comprising two identically-constructed hinge members *d d* each member *d* having a solid body portion 11 extending in from one end of which is a central slot 12 forming two side arms 13 13 having the ends 14 14 and the curved grooves 15 15 in the inner faces of the arms 13 13 in the form of an arc, the center of which is struck on the center on which the hinge turns, and an interlocking pintle-block *c* having the solid body 16 adapted to fit in the slots 12 12 in the hinge members *d d*, the end stop-fingers 18 18, and the curved side webs 19 19 in the form of an arc, the center of which is struck on the center on which the hinge turns, and adapted to fit in the grooves 15 15 in the arms of the hinge members *d d*, as described.

4. The combination with the halves *a* and *b* of a bracelet having the open ends 7 and 8, of a concealed hinge *c* composed of two identically-constructed members *d d*, each member *d* having a solid body portion 11 extending in from one end of which is a central slot 12 forming two side arms 13 13 having the ends 14 14 and the curved grooves 15 15 in the inner faces of the arms 13 13 in the form of an arc, the center of which is struck on the center on which the hinge turns and an interlocking pintle-block *c* having the solid body 16 adapted to fit in the slots 12 12 in the hinge members *d d*, the curved outer edge 17, the end stop-fingers 18 18, and the curved side webs 19 19 in the form of an arc, the center of which is struck on the center on which the hinge turns and adapted to fit in the grooves 15 15 in the arms of the hinge members *d d*, whereby the halves *a* and *b* of the bracelet are pivotally secured together, as described.

840,865. ELECTRICALLY-PROPELLED VEHICLE. MATHIAS PFATISCHER, Philadelphia, Pa., assignor to Russell Thayer, Philadelphia, Pa. Filed Nov. 25, 1905. Serial No. 289,008.

Claim.—1. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a dynamotor comprising a motor-armature coil, a generator-armature coil and a field-coil common to both of said armature-coils; a controller operatively connecting said battery, dynamotor and motor; and, means arranged to operate said motor directly by connection with said battery and indirectly by connection with the railway supply system through said dynamotor, comprising means to connect a motor-armature coil of said dynamotor directly with said system and to contemporaneously connect said field-coil with said battery, substantially as set forth.

2. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a dynamotor; and, means arranged to operate said motor directly by connection with said battery and indirectly by connection with a railway supply system through said dynamotor, comprising means arranged to automatically vary the resistance in the motor-armature circuit of said dynamotor in accordance with the speed of rotation of said armature, substantially as set forth.

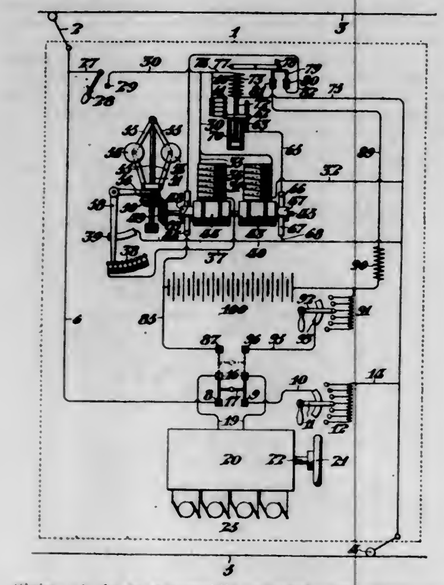


3. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a dynamotor comprising a motor-armature coil, a generator-armature coil and a field-coil, common to both of said armature-coils; and, means arranged to operate said motor directly by connection with said battery and indirectly by connection with a railway supply system through said dynamotor, comprising means arranged to automatically vary the resistance in the motor-armature circuit of said dynamotor in accordance with the speed of rotation of said armature, substantially as set forth.

4. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a dynamotor comprising a motor-armature coil, a generator-armature coil and a field-coil, common to both of said armature-coils; and, means arranged to operate said motor directly by connection with said battery and indirectly by connection with a railway supply system through said dynamotor, comprising means arranged to connect a motor-armature coil of said dynamotor directly with said system and to contemporaneously connect said field-coil with said battery, substantially as set forth.

5. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a dynamotor comprising a motor-armature coil, a generator-armature coil and a field-coil common to both of said armature-coils; means connecting said field-coil with said battery; and, means arranged to operate said motor directly by connection with said battery and indirectly by connection with a railway supply system through said dynamotor, comprising a controller in parallel relation with said battery in the secondary circuit of said dynamotor, substantially as set forth.

840,866. ELECTRICALLY-PROPELLED VEHICLE. MATHIAS PFATISCHER, Philadelphia, Pa., assignor to Russell Thayer, Philadelphia, Pa. Filed Nov. 29, 1905. Serial No. 289,557.



Claim.—1. In an automobile provided with wheels constructed and arranged to traverse the tracks of a direct-current railway supply system, and to traverse a trackless road-bed independently of said system; the combination with a storage battery; of a direct-current transformer; a plurality of electric motors respectively in operative relation with said wheels; and, means arranged to operate said motors directly by connection with said battery and indirectly by connection with said railway supply system through said transformer, comprising a controller in parallel relation with said battery in the secondary circuit of said transformer, substantially as set forth.

2. In an automobile provided with wheels constructed and arranged to traverse the tracks of a direct-current railway supply system, and to traverse a trackless road-bed independently of said system; the combination with a storage battery; of direct-current rotary transformer; a starting-switch comprising an automatically-variable rheostat in the supply-circuit including the primary coil of said transformer; a solenoid in a shunt to ground; a secondary-circuit closer in operative relation with said solenoid; a permanent iron resistance in the secondary circuit, between said circuit-closer and said battery; a governing device arranged to operate in definite relation to the rotation of the armature of said transformer; a rheostat controlled by said governing device and in the secondary circuit of said transformer; a rheostat in the circuit between said battery and said controller; a shunt-circuit from the supply-circuit to ground, in operative relation with said controller; a rheostat in said shunt-circuit; a plurality of electric motors respectively in operative relation with said wheels; and, means arranged to operate said motors directly by connection with said battery and indirectly by connection with said railway supply system through said transformer, comprising a controller in parallel relation with said battery in the secondary circuit of said transformer, substantially as set forth.

3. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer comprising separate motor and generator field-coils, and armature-coils respectively local to said field-coils; a controller operatively connecting said battery, motor and transformer; and, means arranged to operate said motor directly by connection with said battery, and indirectly by connection with a railway supply system through said transformer, comprising means arranged to connect said generator field-coil directly with said system, substantially as set forth.

4. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer, comprising separate motor and generator field-coils; and armature-coils respectively local to said field-coils; a controller operatively connecting said battery, motor and transformer; and means arranged to operate said motor directly by connection with said battery, and indirectly by connection with a railway supply system through said transformer, comprising means arranged to connect said motor field-coil directly with said system, substantially as set forth.

5. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer comprising separate motor and generator field-coils, and armature-coils respectively local to said field-coils; a controller operatively connecting said battery, motor and transformer; and, means arranged to operate said motor directly by connection with said battery, and indirectly by connection with a railway supply system through said transformer, comprising means arranged to connect said motor and generator field-coils of the transformer directly with said system, in parallel relation, substantially as set forth.

6. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer; and, means operatively connecting said battery, motor and transformer, arranged to operate said motor directly by connection with said battery and indirectly by connection with the railway supply system through said transformer, comprising means arranged to connect a field-coil of the transformer with said railway supply system, substantially as set forth.

7. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer; means operatively connecting said battery, motor and transformer, arranged to operate said motor directly by connection with said battery and indirectly by connection with the railway supply system through said transformer, comprising means arranged to connect a field-coil of the transformer with said railway supply system; and, means arranged to automatically vary the resistance in circuit with a transformer field-coil of said transformer, in accordance with the speed of rotation of the transformer-armature, substantially as set forth.

8. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer comprising separate motor and generator field-coils, armature-coils respectively local to said field-coils and an armature-shaft common to said armature-coils; and, means operatively connecting said battery, motor and transformer, arranged to operate said motor directly by connection with said battery, and indirectly by connection with the railway supply system through said transformer, comprising means arranged to maintain said motor field-coil of said transformer saturated, substantially as set forth.

9. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer comprising separate motor and generator field-coils, and armature-coils respectively local to said field-coils; a controller operatively connecting said battery, motor and transformer; and means arranged to operate said motor directly by connection with said battery and indirectly by connection with the railway supply system through said transformer, comprising means arranged to automatically vary the resistance in circuit with said generator field-coil, in accordance with the speed of rotation of said armature, substantially as set forth.

10. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer comprising separate motor and generator field-coils, and armature-coils respectively local to said field-coils; a controller operatively connecting said battery motor and transformer; means arranged to operate said motor directly by connection with said battery and indirectly by connection with a railway supply system through said transformer, comprising means arranged to maintain said motor field-coil of said transformer saturated; and means arranged to automatically vary the resistance in circuit with said generator field-coil, in accordance with the speed of rotation of its armature, substantially as set forth.

11. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer; and, means operatively connecting said battery, motor and transformer, arranged to operate said motor directly by connection with a railway supply system, indirectly by connection with said system through said transformer, and independently of said system by connection with said storage battery, substantially as set forth.

12. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer; and, means arranged to operate said motor directly by connection with said battery and indirectly by connection with a railway supply system through said transformer, comprising means arranged to automatically vary the resistance in a circuit including an armature-coil of said transformer, substantially as set forth.

13. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer; and, means arranged to operate said motor directly by connection with said battery and indirectly by connection with a railway supply system through said transformer, comprising means arranged to automatically vary the resistance in a circuit including an armature-coil of said transformer, and to automatically close the secondary circuit of said transformer, substantially as set forth.

14. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer; and, means arranged to operate said motor directly by connection with said battery and indirectly by connection with a railway supply system through said transformer; comprising means arranged to maintain the motor-field of said transformer saturated during the connection of the railway supply system with the vehicle, substantially as set forth.

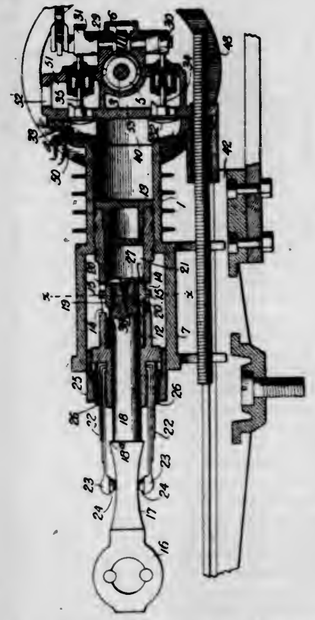
15. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer; and, means arranged to operate said motor directly by connection with said battery and indirectly by connection with a railway supply system through said transformer, comprising means arranged to automatically vary the resistance in the generator field-circuit of said transformer in accordance with the speed of rotation of its armature, substantially as set forth.

16. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer; comprising a motor armature-coil, a generator armature-coil, and field-coils respectively local to said armature-coils; a controller operatively connecting said battery, motor and transformer; and, means arranged to operate said motor directly by connection with said battery and indirectly by connection with the railway supply system through said transformer, comprising a starting-switch including means to gradually diminish the resistance in a circuit including an armature-coil of the transformer, automatically, and, means to close the secondary circuit of said transformer, automatically, substantially as set forth.

17. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; means arranged to connect said motor directly with a railway supply system and with said storage battery; and separate rheostats independently operative to vary the speed of the vehicle when connected with said supply system and with said battery, substantially as set forth.

18. In a vehicle of the class described, the combination with a storage battery; of a motor arranged to propel the vehicle; a direct-current transformer; means arranged to operate said motor directly by connection with said battery and indirectly by connection with a railway supply system through said dynamotor, comprising a controller in parallel relation with said battery in the secondary circuit of said transformer, and, means arranged to maintain the motor-field of said transformer, saturated during the connection of the railway supply system with the vehicle, substantially as set forth.

840,867. HYDROCARBON ROCK-DRILL. JOHN V. RICE, Jr., Edgewater Park, N. J. Filed May 9, 1903. Serial No. 156,480.



Claim.—1. In a rock-drill or similar machine, the combination with a cylinder and a piston, of a piston-rod, slidable within the piston and means for rotating said rod, said means being carried in part by the piston and in part on the rod, and consisting of a rolling-device clutch.

2. In a rock-drill or similar machine, the combination with a cylinder and a piston, of a piston-rod carrying a drill or other tool and slidable within the piston, means on the piston and coöperating means on the piston-rod for rotating the drill, the same operating automatically, and consisting of a rolling-device clutch.

3. In a rock-drill or similar machine, the combination with a cylinder and a piston, of a piston-rod carrying the drilling-tool, said rod being slidable within the piston and means for automatically rotating the drill consisting essentially of a rolling-device clutch carried by the piston-rod and operated by connection with the piston.

4. In a rock-drill or similar machine, the combination with a cylinder, a piston therein, and a piston-rod carrying a drill and slidable within said piston, of means for rotating the drill consisting essentially of rolling devices carried by the rod and acting as an automatic clutch together with a ring surrounding said rolling devices and engaging the wall of the piston.

5. In a rock-drill, the combination with a cylinder and a

piston, of a piston-rod carrying the drilling or other tool, and means for rotating the drill consisting essentially of rolling devices and a ring surrounding said rolling devices and having pins that engage slots in the piston.

6. In a hydrocarbon rock-drill, the combination of a cylinder, a piston therein having oblique slots, a piston-rod slidable within the piston and carrying a drill or other tool, means for moving said piston-rod with the piston and also permitting said piston to have an additional movement relatively to the piston, and means for automatically imparting a rotation to the drill consisting essentially of a clutch on the end of the piston-rod having rolling devices and a ring provided with pins engaging the slots in the piston.

7. In a hydrocarbon rock-drill, the combination of a cylinder having an extension forming a guide, a slotted piston in said cylinder and guide, a piston-rod for carrying the tool, means on the piston exerting a pressure against the side of the piston-rod to cushion the blow, and means for rotating the drill consisting essentially in clutching-rollers carried at the end of the rod and a ring surrounding them having pins engaging the slots in the piston.

8. In a hydrocarbon rock-drill, the combination of a cylinder having a guide, a slotted piston in said cylinder and guide, a piston-rod slidable within the piston and carrying the tool, means on the piston exerting pressure against the side of the rod to cushion the blow, and a clutch device, consisting of rollers or balls and a ring surrounding said balls or rollers and having projecting pins that engage the slots in the piston.

9. In a hydrocarbon rock-drill, the combination of an explosion-cylinder and a piston, of a piston-rod carrying the drilling-tool and slidable within the piston, means on the piston exerting a pressure against the piston-rod to cushion the blow and means for automatically rotating the drill, said means being in part in the piston and in part on the piston-rod, substantially as described.

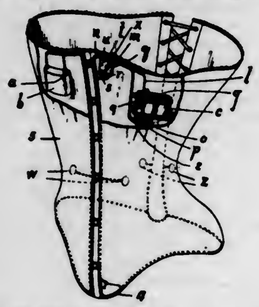
10. In a hydrocarbon rock-drill, the combination with an explosion-cylinder and a piston, of a piston-rod carrying the drill and slidable within the piston, and means for automatically rotating the drill, said means being in part in the piston and in part on the piston-rod, substantially as described.

11. In a hydrocarbon rock-drill, the combination of an explosion-cylinder and a piston, of a piston-rod carrying the drilling-tool and slidable within the piston, means on the piston exerting a pressure against the piston-rod to cushion the blow, and means for automatically rotating the drill, said means consisting of a rolling-device clutch.

12. In a hydrocarbon rock-drill, the combination with an explosion-cylinder and a piston, of a piston-rod carrying a drill and slidable within the piston, means on the piston exerting a pressure against the piston-rod to cushion the blow, and means for automatically rotating the drill, said means consisting of rolling devices and a ring surrounding said rolling devices and having pins that engage slots in the piston.

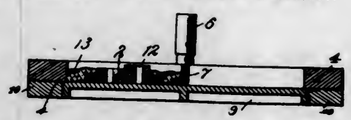
840,868. ELECTRICAL DISTRIBUTION AND CONTROL IN BODY APPLIANCES FOR MEDICAL PURPOSES. JOHN F. RICHARDSON, Montreal, Quebec, Canada, assignor of one-half to John Campbell Wardell, Montreal, Canada. Filed Dec. 4, 1905. Serial No. 290,212.

Claim.—A system for the electrical distribution and control in body appliances for medical purposes, comprising a battery, an induction-coil having primary and secondary windings and a vibrating reed, a switch formed of a lever pivotally mounted on a plate having a contact secured thereto coacting with the lower end of said lever and a plurality of contacts secured thereto coacting with the upper end of said lever respectively, wiring connecting a battery-terminal to a contact coacting with the reed of said induction-coil, wiring connecting a battery-terminal with the lowermost contact on said switch-plate, wiring connecting said plurality of upper contacts on said switch-plate respectively to a corresponding number of sections of said secondary windings respectively, body-contacts in sets, wiring connecting one set of said body-contacts with said secondary windings, and wiring connecting the other set of body-contacts with said lever and forming with the two sets of body-contacts, the induction-coil, the wiring



thereto and the body, a circuit connected with the battery-circuit and adapted to transmit through said body a faradic current, as and for the purpose specified.

840,869. METHOD OF ASSEMBLING PATTERNS ON PATTERN-PLATES. ROBERT RUDDY, Mount Vernon, N. Y. Filed Mar. 1, 1906. Serial No. 303,717.

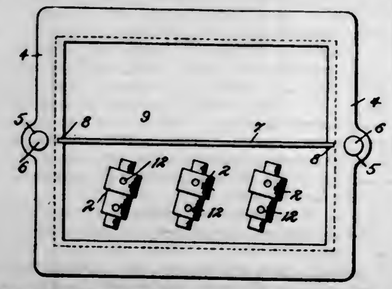


Claim.—1. The method of assembling patterns upon a pattern-plate consisting in arranging patterns in a frame, fixing them therein by means of a suitable cement and then transferring them to the pattern-plate while held in such assembling-frame.

2. The method of assembling patterns upon a pattern-plate consisting in arranging half-patterns in a suitable frame, fixing them therein by means of suitable cement, arranging counterpart half-patterns upon the first patterns, fixing such counterpart patterns in a second frame and then applying the two sets of halves to the pattern-plate successively.

3. The method of assembling patterns upon a pattern-plate consisting in arranging half-patterns in a suitable frame, fixing them therein by means of suitable cement, arranging counterpart half-patterns upon the first patterns, fixing such counterpart patterns in a second frame and then applying the two sets of halves to the pattern-plate.

840,870. APPARATUS FOR LOCATING PATTERNS ON PATTERN-PLATES. ROBERT RUDDY, Mount Vernon, N. Y. Original application filed Mar. 1, 1906, Serial No. 303,717. Divided and this application filed May 22, 1906. Serial No. 318,273.



Claim.—1. Apparatus for assembling patterns on a pattern-plate, comprising in combination an assembling-frame,

removable means for holding the patterns in fixed position therein, means for fastening the assembling-frame upon the pattern-plate, and means for fastening the patterns to the pattern-plate while held by the assembling-frame.

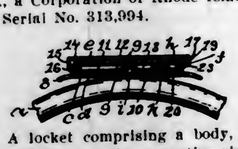
2. Apparatus for assembling patterns on a pattern-plate, comprising in combination two corresponding assembling-frames each adapted to receive and have fixed thereto one half of a set of patterns, and means for holding the two frames together while the half-patterns are being assembled and for holding such frames to the pattern-plate while the patterns are attached thereto.

3. Apparatus for assembling patterns on a pattern-plate, comprising a pattern-assembling frame having jig-holes or holding devices corresponding to similar holes, or holding devices associated with the pattern-plate, and pins or fastening devices engaging such holes or holding devices, and removable means for attaching the patterns to said assembling-frame.

4. Apparatus for assembling patterns on a pattern-plate, comprising a frame constructed to receive a set of patterns and cement-holding means therefor, means for assembling the frame with a corresponding frame or with the pattern-plate, and a dam for restricting the area occupied by the pattern-holding cement.

5. Apparatus for assembling patterns on a pattern-plate, comprising a frame constructed to receive a set of patterns and cement-holding means therefor, means for assembling the frame with a corresponding frame or with the pattern-plate, and a removable dam for restricting the area occupied by the pattern-holding cement.

840,871. BRACELET-LOCKET. LOUIS E. SADLER, Attleboro, Mass., assignor to The F. H. Sadler Co., Attleboro, Mass., a Corporation of Rhode Island. Filed Apr. 27, 1906. Serial No. 313,994.



Claim.—1. A locket comprising a body, a cover and a spring-hinge, said hinge having a portion rigidly secured to said body and a portion having pivotal relation to said cover and projecting beyond said body, said last-named portion exerting a constant tension on said cover while the latter is closed to retain same in closed position with respect to said body.

2. A locket comprising a body, a cover and a spring-hinge, said hinge consisting of a base portion rigidly secured to the upper face of the bottom of said body and an upwardly-extending resilient portion pivotally secured to said cover and exerting a constant tension on the latter while it is closed to retain the same in closed position with respect to said body.

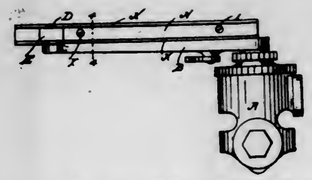
3. A locket comprising a body, a cover having a lip, and a spring-hinge consisting of a spring member forming the knuckle of the hinge secured to the body and a pintle in the knuckle secured to the cover by rolling a portion of the lip on the cover over the ends of the pintle, whereby the cover is pivotally secured to the body and held in the closed position by the frictional contact of another portion of the lip on the cover with the body of the locket, through the tension of the spring-hinge, as described.

4. A locket comprising a plate, a body in the form of a shallow box, in the bottom of which is an opening extending through the side, a cover having a lip in which is an opening, and a spring-hinge consisting of a spring member forming the knuckle of the hinge secured to the plate and located in the opening in the body, and a wire pintle having a straight central portion in the knuckle and flattened ends secured to the cover by rolling a portion of the lip on the cover over the flattened ends of the pintle, whereby the cover is pivotally secured to the body and held in the closed position by the frictional contact of another portion of the lip on the cover with the body of the locket, through the tension of the spring-hinge, and means for securing the body of the locket to the plate, as described.

5. A locket composed of a cover, a body, and a spring-hinge for pivotally securing the cover to the body, said hinge comprising a flat arm having a knuckle bent up therefrom at one end, and a pintle having a straight central portion engaging in said knuckle and flattened ends secured to said cover.

6. A locket composed of a cover, a body, and a hinge having a portion rigidly secured to said body and having an upwardly-projecting resilient knuckle, and means engaging said knuckle and secured to said cover for pivotally relating said body and cover, said knuckle exerting a constant tension on said cover while the latter is closed to thereby retain the same in closed position with respect to said body.

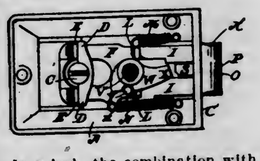
840,872. COMBINED DOOR CHECK AND SPRING. JOHN H. SHAW, New Haven, Conn., assignor to Sargent & Company, New Haven, Conn., a Corporation of Connecticut. Filed July 26, 1905. Serial No. 271,322.



Claim.—1. In a combined door check and spring, the combination with the rotary spindle thereof; of a track on said door; an arm rigidly secured to said spindle to rotate therewith; and a shoe having a non-rotary sliding connection with said track and a pivotal connection with said arm, substantially as described.

2. In a combined door check and spring, the combination with the rotary spindle thereof; of an arm rigidly secured thereon to rotate therewith; a shoe U-shaped in cross-section pivotally connected to said arm and having laterally-projecting flanges; and a track having longitudinal flanges constructed to engage the lateral flanges of said shoe, whereby the shoe may travel longitudinally on said track during the opening or closing of the door, substantially as described.

840,873. LOCK. WILLIAM E. SPARKS, New Haven, Conn., assignor to Sargent & Company, New Haven, Conn., a Corporation of Connecticut. Filed Sept. 12, 1904. Serial No. 224,109.



Claim.—1. In a lock, the combination with the case; of a bolt movable in said case; a safety-catch pivoted to the bolt; a device adapted to engage said safety-catch and rotate it when the bolt is pushed in; and a keeper adapted to engage the bolt and prevent the rotation of said safety-catch; substantially as described.

2. In a lock, the combination with the case; of a bolt movable in said case; a safety-catch pivoted to the bolt; and a device adapted to engage said safety-catch and rotate it when the bolt is pushed in, and mechanism operated by the bolt adapted to withdraw said device from said engagement upon the rotation of said catch, substantially as described.

3. In a lock, the combination with the case; of a bolt movable in said case; a safety-catch pivoted to the bolt; a device adapted to engage said safety-catch and rotate it when the bolt is pushed in; and mechanism for withdrawing said device from such engagement, substantially as described.

4. In a lock, the combination with the case; of a bolt

movable in said case; a safety-catch pivoted to the bolt; a device adapted to engage said safety-catch and rotate it when the bolt is pushed in; and mechanism for withdrawing said device from such engagement upon the further rearward movement of the bolt, substantially as described.

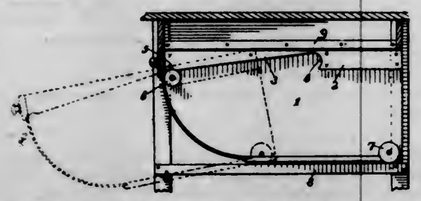
5. In a lock, the combination with the case; of a bolt movable in said case; a safety-catch on the bolt; a device adapted to engage said safety-catch when the bolt is pushedin; a retracting member for the bolt; and mechanism for withdrawing said device from such engagement only upon the rearward movement of said member, substantially as described.

6. In a lock, the combination with the case; of a bolt movable in said case; a safety-catch pivoted to the bolt; a device adapted to engage said safety-catch to rotate it when the bolt is pushed in; a retracting member for the bolt adapted to withdraw said device from such engagement upon the rearward movement of the bolt, substantially as described.

7. In a lock, the combination with the case; of a bolt movable in said case; safety-catch pivoted to the bolt; a device adapted to engage said safety-catch to rotate it when the bolt is pushed in; mechanism for withdrawing said device from such engagement operated by the bolt, after the bolt is partially retracted, substantially as described.

8. In a lock, the combination with the case; of a bolt movable in said case; a safety-catch pivoted to the bolt; a device adapted to engage said safety-catch to rotate it when the bolt is pushed in; a sliding member for retracting the bolt, adapted to withdraw said device from such engagement, said sliding member being retracted by the bolt upon its continued retraction after it has been partially pushed in, substantially as described.

840,874. DRAWER-GUIDE. OAKLEY B. STARKWATHER, Grand Rapids, Mich. Filed July 19, 1906. Serial No. 326,948.



Claim.—1. A drawer-guide, comprising a drawer, supports attached to the drawer and having upwardly and rearwardly inclined under surfaces, and rolls engaging the inclined surfaces of the supports and traversed thereby.

2. A drawer-guide comprising a drawer, a support attached to the drawer, said support having an upwardly and rearwardly inclined under surface and a recess at the rear end of said inclined surface, and a roll engaging said surface and recess and traversed by the support.

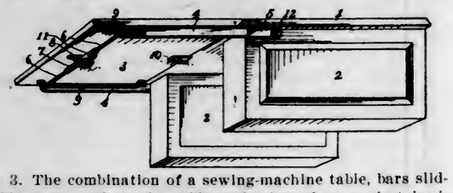
3. The combination of a case, a drawer, supports attached to the drawer, each support having an inclined under surface, and recesses at the respective ends of said surface, rolls journaled on the case and engaging the inclined surfaces and recesses of the supports, ways in the case, and rolls on the rear of the drawer to engage and traverse the ways.

4. The combination of a case, a drawer in the case, supports on the respective sides of the drawer, each support having an inclined under surface and a recess at the rear of said surface, rolls engaging the said surfaces and recesses and supporting the front of the drawer, horizontal strips in the case above the supports, rolls on the rear of the drawer, and horizontal ways traversed by said rolls.

840,875. ATTACHMENT FOR SEWING-MACHINE TABLES. OAKLEY B. STARKWATHER, Grand Rapids, Mich. Filed July 27, 1906. Serial No. 328,134.

Claim.—1. The combination of a sewing-machine table, an extension-top, bars slidably connected to the sewing-machine table and supporting the top, and means for slidably and pivotally connecting the said extension-top with the bars.

2. The combination of a sewing-machine table, clips attached to the ends of the tables, bars slidable in the clips, an extension-top supported by the bars, and rods attached to the top and slidably and pivotally connecting the same with the bars.



3. The combination of a sewing-machine table, bars slidably connected to the table and adapted to project horizontally therefrom, an extension-top supported by the bars, a rod connecting the outer ends of the bars, and rods attached to the extension-top and pivotally and slidably engaging the rod.

4. The combination of a sewing-machine table, clips attached beneath the top of the said table, bars slidable in said clips, an extension-top supported by said bars, a rod connecting the outer ends of said bars, a concave stop-block attached to the extension-top and engaging the rod, and rods attached to the extension-top and slidably and pivotally engaging the connecting-rod.

5. In combination with a sewing-machine table, clips adapted to be attached to the table, bars adapted to slide in said clips, a rod connecting said bars and divided intermediate its ends, a sleeve on said rod, a set-screw in the sleeve, and an extension-top pivotally and slidably connected to the rod.

6. The combination of a sewing-machine table, clips attached to the ends of the same, bars slidable in said clips, an extension-top supported by said bars, a lug on said top to engage the top of the sewing-machine table, and means for pivotally connecting the top and the supporting-bars.

7. In combination with a sewing-machine table, bars slidably connected thereto, a rod connecting the outer ends of the bars, an extension-top supported by the bars, means for slidably and pivotally connecting the top to the rod, a lug on the extension-top to engage the table-top and a concave stop-block on the extension-top to engage the connecting-rod.

8. The combination of a sewing-machine table, clips attached to the respective ends of the same, supporting-bars slidable in said clips, a rod connecting the outer ends of said bars, an extension-top supported by said bars, rod on the top to slidably and pivotally engage the connecting-rod, a lug on the extension-top to engage the table-top and a concave stop-block on the extension-top to engage the connecting-rod.

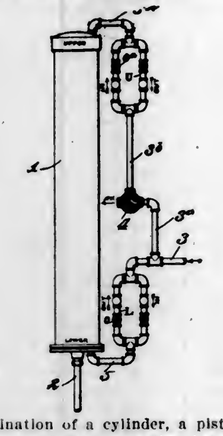
840,876. REGULATED HOIST. GEORGE F. STEEDMAN, St. Louis, Mo. Filed Dec. 4, 1905. Serial No. 290,179.

Claim.—1. The combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into connecting-passages, and means for cutting off communication between the cylinder and valve in one of the passages when the other passage is open; substantially as described.

2. The combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into connecting-passages, and means for automatically cutting off communication between the cylinder and valve in one of the passages when the other passage is open; substantially as described.

3. The combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into connecting-passages, and oppositely-opening check-valves in the said passages; substantially as described.

4. The combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection having independent connecting-ports, and means for regulating the size of each port; substantially as described.



5. The combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into independent connecting-passages, oppositely-opening check-valves in the respective passages, and means for regulating the size of each passage; substantially as described.

6. The combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into separate branches, one of which is a supply to the cylinder and the other an exhaust, means for automatically closing one branch when the other is opened, and means for regulating the size of the port in each branch; substantially as described.

7. The combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into separate branches, one of which is a supply to the cylinder and the other an exhaust, means for automatically closing one branch when the other is opening, and means for regulating the size of the port in the exhaust branch; substantially as described.

8. The combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into separate branches, one of which is a supply to the cylinder and the other an exhaust, means for automatically closing one branch when the other is opening, and means for regulating the size of the port in the supply branch; substantially as described.

9. A regulating device of the class described, having two ports adapted to alternately receive and discharge a fluid, said device having independent interior openings, one for each port and each separate from the other port; substantially as described.

10. A regulating device of the class described, comprising tubular portions, and valved branches intermediate the tubular portions and having oppositely-opening check-valves therein; substantially as described.

11. A regulating device of the class described, comprising tubular portions, incased valve-seats intermediate the tubular portions, each tubular portion having a valve-seat common to itself, and valves in the seats each of which is adapted to open when the other is closed; substantially as described.

12. A regulating device of the class described, comprising a structure divided into connecting-passages, and oppositely-opening check-valves in said passages; substantially as described.

13. A regulating device of the class described, comprising a structure having inlet and outlet ports, said structure being interiorly divided into passages separate from each other but each connecting the inlet and outlet ports, and oppositely-opening check-valves in said passages to alternately open communication between said ports through one passage and close communication between said ports through the other passage; substantially as described.

14. A regulating device of the class described, comprising a structure having inlet and outlet ports, said structure being interiorly divided into passages separate from each other but each connecting the inlet and outlet ports, oppositely-opening check-valves in said passages to alternately open communication between said ports through one passage and close communication between said ports through the other passage, and means for regulating the degree of communication between the said passages; substantially as described.

15. In a device of the class described, the combination with a cylinder, of a piston therein, a ported connection at the upper end of the cylinder, a tubular port in communication with the lower end of the cylinder, divided branches in each of said tubular ports, and means for cutting off communication between the cylinder and its source of supply; substantially as described.

16. In a device of the class described, the combination with a cylinder, of a piston therein, means for regulating the active fluid-pressure on one side of the piston, and adjustable means for regulating the resisting fluid-pressure on the opposite side of the piston; substantially as described.

17. In a device of the class described, the combination with a cylinder, and a piston therein, of automatically-operating means for regulating the active fluid-pressure on one side of the piston, and means for regulating a resisting fluid-pressure on the opposite side of the piston; substantially as described.

18. In a device of the class described, the combination with a cylinder and a piston therein, of a fluid-supply tube having an operating-valve, means independent of the operating-valve for regulating the active fluid-pressure on one side of the piston, and means for regulating a resisting fluid-pressure on the opposite side of the piston; substantially as described.

19. In a device of the class described, the combination with a cylinder having a piston therein, of tubular ported parts at both ends of the cylinder, an operating-valve, means independent of the operating-valve for simultaneously regulating the flow of fluid into one end of the cylinder and the egress of the fluid from the opposite end of the cylinder; substantially as described.

20. In a device of the class described, the combination with a cylinder having a piston therein, of tubular ported parts at opposite ends of the cylinder, an operating-valve, an adjustable means independent of the operating-valve for simultaneously regulating the flow of fluid into one end of the cylinder and the egress of the fluid from the opposite end of the cylinder; substantially as described.

21. In a device of the class described, the combination with a cylinder, a piston therein, and ported parts at opposite ends of the cylinder, of an operating-valve, and automatically-operating means independent of the operating-valve for simultaneously regulating the flow of fluid into one end of the cylinder and egress of the fluid from the other end of the cylinder; substantially as described.

22. In a device of the class described, the combination with a cylinder and a piston therein, of ports at opposite ends of the cylinder, an operating-valve, and means independent of the operating-valve for simultaneously regulating the flow of fluid into one end of the cylinder and the egress of the fluid from the other end of the cylinder; substantially as described.

23. In a device of the class described, the combination with a cylinder, of a piston therein, ports at opposite ends of the cylinder, and regulating devices in communication with said ports, said regulating devices comprising tubular portions and valved branches intermediate the tubular portions and having oppositely-movable check-valves therein; substantially as described.

24. In a device of the class described, the combination

with a cylinder, a piston therein, of ported parts at opposite ends of the cylinder, regulating devices communicating with said ported parts, one of said regulating devices comprising a structure divided into connecting-passages, and oppositely-opening check-valves in said passages; substantially as described.

25. In a regulating device, a casing with two connecting-passages, check-valves seated in said passages and arranged to permit the flow of fluid in one direction only through each of said passages; substantially as described.

26. In a regulating device, a casing with two connecting-passages, check-valves seated in said passages and arranged to permit the flow of fluid in one direction only through each of said passages, and adjusting-screws on said check-valves to limit the opening movement of said check-valves; substantially as described.

27. The combination with a cylinder, of a piston therein, a tubular port at the upper end of the cylinder, a tubular port at the lower end of the cylinder, and regulating devices comprising incased valve-seats intermediate the ends of the tubular ports, each tubular port having a valve-seat common to itself, and valves in the seats, each of which is adapted to open when the other is closed; substantially as described.

28. The combination with a cylinder, of a piston therein, a tubular port at the upper end of the cylinder, a tubular port at the lower end of the cylinder, and a regulating device communicating with one of the tubular ports and having ports adapted to alternately receive and discharge fluid, said device having independent interior openings, one for each port and each separate from the other port; substantially as described.

29. The combination with a cylinder, of a piston therein, and pressure-regulating devices communicating with opposite ends of the cylinder, each pressure-regulating device comprising a structure having inlet and outlet ports, said structure being interiorly divided into passages separate from each other but each connecting the inlet and outlet ports, oppositely-opening check-valves in said passages to alternately open communication between said ports through one passage and close communication between said ports through the other passage, and means for regulating the degree of communication between said passages; substantially as described.

30. In a regulating device of the character described, a casing having a port permitting only admission of air to the cylinder, a port permitting only the exhaust of air from the cylinder, and a means for regulating independently the effective areas of said ports; substantially as described.

31. The combination with a cylinder having an admission-port and an exhaust-port communicating with its opposite ends, of a piston therein, an operating-valve, means for regulating the area of the admission-port to one end of the cylinder, and independent means for regulating the area of the exhaust-port from the opposite end of the cylinder; substantially as described.

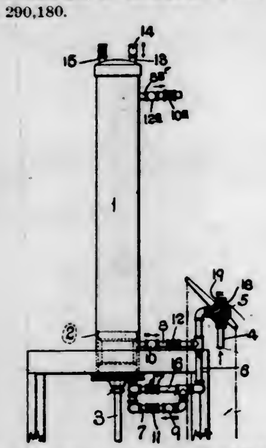
32. The combination of a cylinder with piston therein, of an operating-valve, and independent admission and exhaust ports communicating with each end of the cylinder; substantially as described.

33. The combination of a cylinder and piston therein, an operating-valve, a means independent of the operating-valve for throttling the admission of air to one end of the cylinder, and a means independent of the operating-valve for throttling the exhaust of air from the other end of the cylinder; substantially as described.

34. The combination of a cylinder and a piston therein, of an operating-valve, a regulatable means independent of the operating-valve for throttling the admission of air to one end of the cylinder, and a regulatable means independent of the operating-valve for throttling the exhaust of air from the other end of the cylinder; substantially as described.

35. In a regulating device of the character described, a casing with an exhaust-opening, and an admission-opening, and independent means for regulating each of said openings; substantially as described.

840,877. FLUID-ACTUATED CUSHIONED HOIST. GEORGE F. STEEDMAN, St. Louis, Mo. Filed Dec. 4, 1905. Serial No. 290,180.



Claim.—1. In a device of the class described, the combination of a cylinder, a piston therein, an inlet-pipe in communication with the end of the cylinder, an exhaust-pipe intermediate the ends of the cylinder and in communication therewith, the communication being cut off by the piston when the piston is adjacent to the exhaust-pipe, means for exhausting the fluid existing between the end of the cylinder and the piston after the communication with the exhaust-pipe has been cut off, and a regulating device in said last-named means; substantially as described.

2. In a device of the class described, the combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into connecting-passages, means for cutting off communication between the cylinder and valve in one of the passages when the other passage is open, and a regulating cushion device communicating with one end of the cylinder; substantially as described.

3. In a device of the class described, the combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into connecting-passages, means for cutting off communication between the cylinder and valve in one of the passages when the other passage is open, said piston being movable into position to cut off communication between the other passage and the cylinder, a secondary exhausting means communicating with the end of the cylinder and constructed so as to continue to exhaust after communication with said other passage has been cut off, whereby a cushion may be provided for the piston near the end of the cylinder due to the volume of air existing between the end of the cylinder and the piston, and means in the secondary exhaust for regulating the exhaust from said cylinder; substantially as described.

4. In a device of the class described, the combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into connecting-passages, means for automatically cutting off communication between the cylinder and valve in one of the passages when the other passage is open, and a cushioning exhausting device in communication with the end of the cylinder; substantially as described.

5. In a device of the class described, the combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into connecting-passages, oppositely-opening check-valves in said passages, and a valved exhaust-port in communication with the end of said cylinder; substantially as described.

6. In a device of the class described, the combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into connecting-passages, a check-valve in one passage opening toward the cylinder, a check-valve in the opposite passage opening toward the operating-valve, and an exhaust-port in communication with the end of the cylinder and permitting exhaust of the fluid from the cylinder when both check-valves are closed; substantially as described.

7. In a device of the class described, the combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection having independent connecting-ports, means for regulating the size of each port, means for cutting off communication between both ports, and an exhaust-port in communication with the cylinder which is capable of continuing the exhaust when communication between both ports and the cylinder is cut off; substantially as described.

8. In a device of the class described, the combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into independent connecting-passages, oppositely-opening check-valves in the respective passages, means for regulating the size of each passage, and a valved exhaust in communication with one end of the cylinder; substantially as described.

9. In a device of the class described, the combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into separate branches one of which is a supply to the cylinder and the other an exhaust, means for automatically closing one branch when the other is open, means for regulating the size of the port in each branch, the piston being movable into position for closing the open branch whereby both branches will be closed, and an exhaust-port through which the air may be continued to exhaust when both branches are closed; substantially as described.

10. In a device of the class described, the combination of a cylinder, a piston therein, an operating-valve, a tubular connection between the valve and the cylinder, said tubular connection being divided into separate branches, one of which is a supply to the cylinder and the other an exhaust, the exhaust branch being adapted to be closed by the movement of the piston, and a secondary exhaust in communication with the cylinder and operable after the exhaust branch is closed; substantially as described.

11. A regulating device of the class described having a port adapted to alternately receive and discharge a fluid, said regulating device having an exhaust-port in communication with said first-named port through which the fluid will flow in exhausting, all other sources of communication with said first-mentioned port being closed; substantially as described.

12. A regulating device of the class described comprising a casing, supply and exhaust ports in communication with said casing, a third port in communication with both said first-mentioned ports, and means for valving the first-mentioned ports, said casing having a port in communication with said supply-port and to one side of the valved portion of said port; substantially as described.

13. The combination with a cylinder, and a source of fluid-supply, a piston in said cylinder, a supply-tube in communication with said cylinder, an exhaust-tube in communication with said cylinder, a regulating device, the casing of which is in communication with both tubes, oppositely-opening check-valves in said regulating device affording communication between one of said tubes and the source of supply when the other of said tubes is closed, said casing having an exhaust-port between the supply-port valve and the discharge end of the supply-tube; substantially as described.

14. The combination with a cylinder, and a source of fluid-supply, a piston in said cylinder, a supply-tube in communication with said cylinder, an exhaust-tube in communication with said cylinder, a regulating device, the casing of which is in communication with both tubes, oppositely-opening check-valves in said regulating device affording communication between one of said tubes and the source of supply when the other of said tubes is closed, said casing having a valved exhaust-port between the supply-port valve and the discharge end of the supply-tube; substantially as described.

15. The combination with a cylinder and piston therein and a source of fluid-supply, of an operating-valve capable of admitting or exhausting the operating fluid from said cylinder, a tubular port connecting said operating-valve with the cylinder, regulating means in said port, for controlling the admission of fluid through the port, said means being independent of the operating-valve, regulating means in said port independent of the operating-valve for controlling the egress of fluid through said port, and a fluid cushion at the end of said cylinder connected to said port through a passage in which is a means for regulating the egress of fluid to said port; substantially as described.

16. The combination with a cylinder having a port at each end, and a piston in said cylinder and a source of fluid-supply, of an operating-valve capable of admitting or exhausing the operating fluid from said cylinder, a tubular port connecting said operating-valve with the cylinder, regulating means in said port, for controlling the admission of fluid through the port, said means being independent of the operating-valve, regulating means in said port independent of the operating-valve for controlling the egress of fluid through said port, and a fluid cushion at the end of said cylinder connected to said port through a passage in which is a means for regulating the egress of fluid to said port; substantially as described.

17. The combination of a cushioned cylinder with piston and operating-valve, of a port with check-valve therein which can be used for exhausting only, a port with check-valve therein which can be used for admission only, and a port to dissipate the cushion; substantially as described.

18. The combination of a cushioned cylinder with piston and operating-valve, of a port with check-valve and regulating-valve therein arranged for exhausting fluid from cylinder only, a port with check-valve and regulating-valve therein arranged for admitting fluid to the cylinder only, and a port with regulating-valve therein to control the cushion; substantially as described.

19. The combination of a cushioned cylinder and piston therein, a fluid cushion at each end of the cylinder, a source of fluid-pressure supply, an operating-valve connected by a port to one end of said cylinder, an exhaust connection with check-valve and regulating means therein between said port and cylinder, an admission connection with check-valve and regulating means therein between said port and cylinder, and a connection with regulating means therein between the cylinder and port arranged to regulate the dissipation of the cushion; substantially as described.

20. The combination with a cushioned cylinder and piston therein, a fluid cushion at each end of the cylinder, and a source of fluid-pressure supply, of an operating-valve connected by a port to one end of said cylinder, an exhaust connection with check-valve and regulating means therein between said port and cylinder, an admission connection with check-valve and regulating means therein between said port and cylinder, a connection with regulating means therein between the cylinder and port arranged to regulate the dissipation of the cushion; means for regulating the escape of air from the opposite end of the cylinder to the atmosphere, and a means for regulating the dissipation of the cushion at the last-mentioned end of the cylinder; substantially as described.

21. The combination with a double-acting cushioned cylinder and piston therein and a source of fluid-supply, of an operating-valve connected to said source and to both ends of the cylinder by ports, and regulatable admission, exhaust and cushion dissipating connections between each end of said cylinder and its respective port; substantially as described.

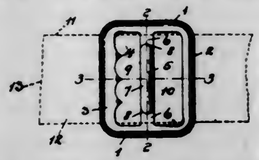
22. In a means for regulating a cushioned cylinder, the combination of an exhaust-port with check-valve and regulating device therein, an admission-port with check-valve and regulating device therein, and a cushion-dissipating port and regulating means therein; substantially as described.

23. In a means for regulating a cushioned cylinder of

the class described, a casing with an exhaust connection, and an admission connection, an operating-valve connection, a port in said casing between the exhaust and operating-valve connection, a check-valve in said port permitting exhaust of air from the cylinder but preventing admission of air to same, a means for regulating the area of the exhaust-port; a port in said casing between the admission connection and operating-valve connection, a check-valve in said port permitting the admission of air to the cylinder but preventing the exhaust of air from same, a means for regulating the area of the admission-passage, a secondary port connecting the admission connection to the operating-valve connection, and a means in said secondary port for regulating the area of said port; substantially as described.

24. In a means for regulating a cushioned cylinder of the class described, the combination of a casing with an operating-valve connection 23, an exhaust connection 29, and an admission connection 30, a port in said casing leading from exhaust connection 29 to operating-valve connection 23, a check-valve 27 in said port, a means for limiting the maximum opening of said check-valve, a port in said casing leading from the operating-valve connection 23 to admission connection 30, a check-valve 28 in said port, a means for limiting the maximum opening of said check-valve, and a secondary port between connections 23 and 30, with a means for adjusting the area of said secondary port; substantially as described.

840,878. GARMENT-BUCKLE. AUGUST F. P. STENZY, Baltimore, Md. Filed Aug. 17, 1906. Serial No. 330,957.



Claim.—1. A buckle formed from a single piece of metal and having parallel side bars connected by end bars one of which has teeth and also having a cross-bar parallel with said end bars, said cross-bar having two flat ends which are flush with the side bars and a raised central portion in a plane above said flat ends and side bars.

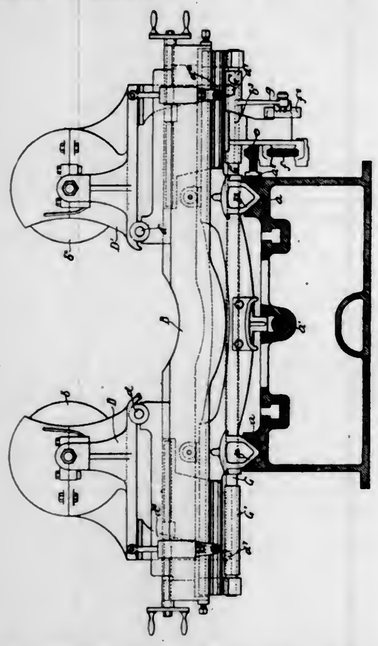
2. A buckle formed from a single piece of metal and having parallel side bars connected by end bars one of which latter has teeth and also having a cross-bar parallel with the end bars and connecting the side bars with slots at each side of said cross-bar—said cross-bar having flat ends and a central raised portion which is curved in cross-section and the length of the raised portion being less than the length of the slots at each side of the cross-bar.

840,879. ROLL-GRINDING MACHINE. JOSEPH STUART, Wilmington, Del., assignor to Lobdell Car Wheel Company, Wilmington, Del., a Corporation of Delaware. Filed May 11, 1906. Serial No. 316,377.

Claim.—1. The combination in a grinding-machine, of a bed, a carriage movable thereon, a grinding-wheel, a supporting structure for said wheel hinged to said carriage, with means including a fixed rack, a gear operating thereon and mechanism connecting said gear with said structure for turning the structure on its hinge to vary the distance between the wheel and the axis of the roll operated on, substantially as described.

2. The combination in a grinding-machine, of a bed, a carriage movable thereon, a grinding-wheel, a supporting structure for said wheel hinged to said carriage, with a rack fixed to the bed, a shaft having a gear meshing with the rack and also carrying a worm, a second shaft, a worm-wheel thereon meshing with the worm, an adjustable crank also on the second shaft, and means connecting said crank with the wheel-supporting structure, whereby oscillation of the crank is caused to turn said structure on its hinge and vary the distance of the grinding-wheel from the axis of the roll operated on, substantially as described.

3. The combination in a grinding-machine, of a bed, a carriage movable longitudinally thereof, a grinding-wheel, a supporting structure therefor movably mounted on the carriage, a rack on the bed, a gear engaging said rack, a crank operatively connected to the gear, and mechanism connecting said crank with the wheel-supporting structure to vary the distance of the wheel from the axis of a roll operated on as said carriage is moved upon the bed, substantially as described.



4. The combination in a grinding-machine of a bed, a carriage movable thereon, a grinding-wheel, a supporting structure therefor hinged to the carriage and also movable bodily thereon, with mechanism including gearing and a rack fixed to the bed for actuating the same, connected to turn said structure on its hinge to vary the distance between the wheel and the axis of the roll operated on irrespective of the position of said wheel-supporting structure upon the carriage, substantially as described.

5. The combination in a grinding-machine, of a bed, a carriage movable thereon, a grinding-wheel, a supporting structure therefor hinged to the carriage, a shaft having an arm fixed to it and placed to partially support said wheel structure, an adjustable crank, and gearing connected to oscillate said crank as the carriage is moved on the bed, with means for connecting the crank and said shaft-arm, substantially as described.

6. The combination in a grinding-machine of a bed, a carriage movable thereon, a grinding-wheel, a supporting structure therefor movably supported on the carriage, means for automatically moving said structure to vary the distance between the wheel and the axis of a roll operated on, said means including a rack fixed to the bed and a gear meshing therewith, and a device for adjusting the amount of movement imparted to said wheel-supporting structure, substantially as described.

7. The combination in a grinding-machine, of a bed, a carriage movable thereon, a grinding-wheel, a supporting structure therefor hinged to the carriage, with mechanism including a crank having a movable pin, and a micrometer for adjusting the eccentricity of said pin in order

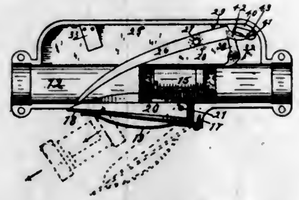
to turn said structure on its hinge and thereby vary the distance between the wheel and the axis of a roll operated on, substantially as described.

8. The combination in a roll-grinding machine, of a bed, a carriage movable thereon, a grinding-wheel, a supporting structure therefor hinged to the carriage and provided with a supporting-arm, a bar extending at right angles to the axis of a roll operated on for the support of said arm, a shaft, a collar or collars fixed thereto having projecting portions for supporting said bar, an arm fixed to the shaft and a crank operative on the arm, with means including a rack fixed to the bed, and a gear-wheel meshing therewith for turning said crank as the carriage is moved upon the bed, substantially as described.

9. The combination in a roll-grinding machine, of a bed, a carriage movable thereon, two grinding-wheels placed to operate on opposite sides of the roll, supporting structures for said wheels respectively hinged to the carriage, a shaft, structures fixed thereto for respectively supporting a portion of each wheel-supporting structure, with mechanism including a rack extending longitudinally of the bed, and a gear meshing therewith for oscillating said shaft first in one direction and then in the opposite direction as the carriage is moved on the bed, substantially as described.

10. The combination in a roll-grinding machine, of a bed, a carriage movable thereon, two grinding-wheels placed to operate on opposite sides of the roll, supporting structures for said wheels respectively hinged to the carriage, a shaft, structures fixed thereto for respectively supporting a portion of each wheel-supporting structure, with a rack fixed to the bed, a gear-wheel operative on the rack, and a crank actuated by said gear-wheel and operatively connected to the shaft for oscillating the same as the carriage is moved upon the bed, substantially as described.

840,880. PNEUMATIC-DESPATCH APPARATUS. FRED R. TAISEY, Indianapolis, Ind., assignor to The Lamson Consolidated Store Service Company, Boston, Mass., a Corporation of New Jersey. Filed May 24, 1906. Serial No. 318,473.



Claim.—1. A terminal in a pneumatic-despatch apparatus having a discharge-opening, a director arranged in the passage-way through the terminal to deflect a carrier through said discharge-opening, and means mounted on the terminal for engaging and preventing said director from being opened and that is released by a suitable carrier.

2. A terminal in a pneumatic-despatch apparatus with a discharge-opening, carriers of varying lengths, a director projecting normally into the pathway of the carriers, and spring-held means mounted on the terminal with one end projecting into the pathway of the carriers and the other adapted to hold and lock said director in its normal position except when released by a carrier, said means being located sufficiently far from the forward end of the director that short carriers will release said trip in time for it to lock said director while long carriers will not release the trip in time to lock said director.

3. A terminal in a pneumatic-despatch apparatus with a discharge-opening, a pivoted director projecting into the passage-way through said terminals, carriers varying in length, and means for preventing said director from being opened that is located sufficiently in advance of said director so that said means will be released and the director moved simultaneously by a carrier of a certain length.

4. A terminal in a pneumatic-despatch apparatus with a discharge-opening, a director projecting into the passage-way through the terminal and pivoted between its ends, a trip pivoted between its ends with one end projecting into the passage-way through the terminal and the other end normally engaging one end of said director, and carriers varying in length, one carrier being long enough to simultaneously release the trip and open the director.

5. A terminal in a pneumatic-despatch apparatus with a discharge-opening, a director projecting into the passage-way through the terminal and pivoted between its ends, a trip pivoted between its ends with one end projecting into the passage-way through the terminal and the other end normally engaging one end of said director, carriers varying in length, one carrier being long enough to simultaneously release the trip and open the director, and a latch controlled by said director for engaging said trip and holding it in a position to stop a succeeding carrier as long as said director is out of normal position.

6. A terminal in a pneumatic-despatch apparatus having a discharge-opening and a chamber opposite the discharge-opening, a director pivoted in said chamber and projecting into said passage-way through the terminal for deflecting a carrier through the discharge-opening, a stop-trip pivoted on said director and projecting into the passage-way through the terminal, and a fixed stop in position to be engaged by said stop-trip when the director is moved unless the stop-trip has been previously actuated.

7. A terminal in a pneumatic-despatch apparatus having a discharge-opening, and a chamber opposite the discharge-opening, a director projecting into the passage-way of the terminal for discharging a carrier, a fixed stop, and a stop-trip pivoted to the director in position to engage said fixed stop excepting when actuated by a suitable carrier.

8. A terminal in a pneumatic-despatch apparatus with a discharge-opening, a director projecting into the passage-way through the terminal and pivoted between its ends, a trip pivoted between its ends with one end projecting into the passage-way through the terminal and the other end normally engaging one end of said director, carriers varying in length, one carrier being long enough to simultaneously release the trip and open the director, a stop-trip pivoted to the director toward its deflecting end and projecting into the passage-way through the terminal, and a fixed stop in position to be engaged by said stop-trip when the director is moved unless the stop-trip has been previously actuated.

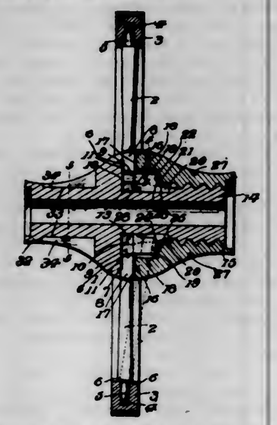
9. A terminal in a pneumatic-despatch apparatus having a discharge-opening and a chamber opposite the discharge-opening, a director pivoted in said chamber and projecting into said passage-way through the terminal for deflecting a carrier through the discharge-opening, a stop-trip pivoted on said director and projecting into the passage-way through the terminal and a fixed stop in position to be engaged by said trip when the director is moved unless the stop-trip has been previously actuated, and means controlled by said director for stopping a carrier when the director is moved from its normal position.

840,881. WHEEL. WILLIAM M. TARTER, Rocky Hill Station, WILLIAM N. TARTER, Smiths Grove, and DANIEL T. TARTER, Becks Store, Ky. Filed Apr. 5, 1906. Serial No. 310,071.

Claim.—1. A wheel comprising a rim having sockets, spokes having their outer ends seated in said sockets and their inner ends formed with enlargements having beveled ends and beveled tenons projecting from said ends, a hub having a longitudinally-grooved, cone-shaped portion, a flat head at one end of said portion and screw-threads at its other end, the tenons on said spokes being adapted to enter the grooves in said portion and the enlargements of said spokes being adapted to bear against said head, wedge-blocks slidable in said grooves, and a nut upon the threads of said hub, substantially as described.

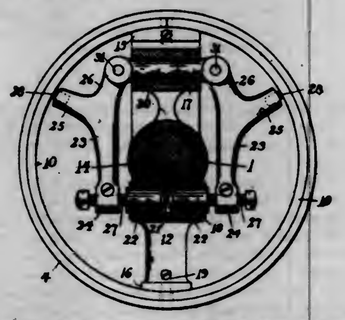
2. A wheel comprising a rim having sockets, spokes having their outer ends seated in said sockets and their inner ends formed with enlargements having beveled ends and beveled tenons projecting from said ends, a hub having a longitudinally-grooved, cone-shaped portion, a flat head at

one end of said portion and screw-threads at its other end, the tenons on said spokes being adapted to enter the grooves in said portion and the enlargements of said spokes being adapted to bear against said head, wedge-blocks slidable in said grooves, a nut upon the threads of said hub and having a cavity in one of its ends to receive said blocks, washers interposed between said nut and said blocks and spokes, and means for locking said nut upon the hub, substantially as described.



3. A wheel comprising a rim having sockets, spokes having their outer ends seated in said sockets and their inner ends formed with enlargements having beveled ends and beveled tenons projecting from said ends, a hub having a longitudinally-grooved, cone-shaped portion, a flat head at one end of said portion and screw-threads at its other end, the tenons on said spokes being adapted to enter the grooves in said portion and the enlargements of said spokes being adapted to bear against said head, wedge-blocks slidable in said grooves, a nut upon the threads of said hub and having a cavity in one of its ends to receive said blocks, washers interposed between said nut and said blocks and spokes, a locking-spring secured in a recess in said nut and having a bent end to engage said hub, and a screw in said nut to impinge against said spring, substantially as described and for the purpose set forth.

840,882. FRICTION-CLUTCH. SAMUEL UPTON, Somerville, Mass. Filed Aug. 1, 1904. Renewed Dec. 18, 1905. Serial No. 292,271.



Claim.—1. The combination with an annular rim, of a diametrical arm independent of but revoluble concentric with said rim, a divided friction-ring held by said arm within said rim, a pair of levers pivotally held by said arm and engaging said ring, and means for forcing said levers apart and thereby expanding said ring into frictional contact with said rim; the pivots of said arms being rigidly united but loosely held by said arm.

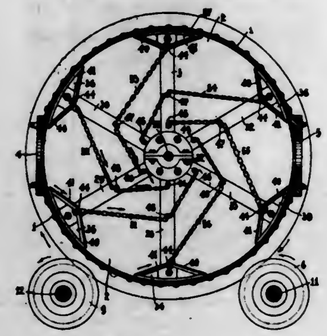
2. The combination with an annular rim, of a diametrical arm independent of but revoluble concentric with said rim, a pin slidably held by said arm with its ends projecting from opposite sides thereof, a lever pivoted to each end of said pin, a divided friction-ring engaged by said levers and in close juxtaposition to the inner surface of said rim, and means for forcing the free ends of said levers apart and thereby expanding said ring into frictional contact with said rim.

3. The combination with an annular rim, of a diametrical arm independent of but revoluble concentric with said rim, a pair of levers pivoted to said arm; a pair of plugs slidably held by said arm and arranged to move said levers when pressed apart, a pointed member constructed to be forcibly introduced between said plugs and thereby press them apart, and a divided friction-ring held by said arm at a point diametrically opposite the cut dividing it; said ring and levers being constructed to expand said ring when said plugs are pressed apart.

4. In combination, a rotating shaft, a power-transmitting device freely mounted on said shaft and having a cylindrical or annular rim rigidly connected therewith, a divided friction-ring within said rim, a diametrical arm fixed on said shaft, a pin loosely held by said arm, a three-armed lever pivoted to each end of said pin, a pair of plugs slidably held by said arm, a pointed pin constructed to be forcibly introduced between said plugs, adjusting-screws turning in the free ends of said levers and abutting against said plugs, and a pin passing through said ring into an end of said arm, one arm of each lever contacting with the interior of said rim and expanding the same when said plugs are forcibly moved apart.

5. The combination with an annular rim, of a diametrical arm independent of but revoluble concentric with said rim, a friction-ring between said arm's extremities and said rim divided at one point, a pin penetrating said ring at said point of division and fixed in an end of said arm, a second pin penetrating said ring at a diametrically opposite point to the first-named pin and fixed in the opposite end of said arm, and means for expanding said ring into contact with said rim.

840,883. DRYING-DRUM. EMILE VIAL, Brussels, Belgium. Filed Mar. 17, 1906. Serial No. 306,513.



Claim.—1. In a drying apparatus of the class described, the combination with a horizontal rotatable drum made with plain walls, charging and discharging openings in the cylindrical wall thereof, circular openings in the vertical side walls of the drum and means for rotating the latter at a relatively low rate of speed: of a horizontal independently-rotatable shaft, extending longitudinally and centrally through the drum, a plurality of suitable platforms carried by said shaft, means for raising the materials to be dried from the bottom of the drum upon said platforms, means for independently rotating said shaft at a higher rate of speed, and means for energically causing the circulation of hot gases through the drum and discharging the steam generated from the same, substantially as set forth.

2. In a drying apparatus of the class described, the combination with a horizontal rotatable drum made with plain walls, charging and discharging openings in the cylindrical wall thereof, circular openings in the vertical side walls of the drum and means for rotating the latter at a relatively low rate of speed: of a horizontal independently-rotatable shaft, extending longitudinally and centrally through the drum, a plurality of hubs secured to said shaft at suitable distances from each other, a series of radial arms on each hub, suitable raising devices carried on the free ends of said arms and arranged in close proximity to the cylindrical wall of the drum, a plurality of suitable platforms supported by the several series of arms and adapted to receive the materials raised by said devices means for independently rotating said shaft at a higher rate of speed, and means requiring a relatively weak motive power for energically causing the circulation of hot gases through the drum and the discharge of steam from the latter, substantially as set forth.

3. In a drying apparatus of the class described, the combination with a horizontal rotatable drum made with plain walls, charging and discharging openings in the cylindrical wall of the drum, circular passages in the vertical side walls thereof, suitable circular rails, secured to the outside of the cylindrical wall, pairs of loose grooved rollers engaged by said rails, horizontal shafts arranged longitudinally below the drum and carrying said loose rollers, means for rotating the drum on the latter at a relatively low rate of speed, and a suitable heat-insulating casing around the drum and its appliances: of a horizontal independently-rotatable shaft extending longitudinally and centrally through the drum, a plurality of suitable platforms carried by said shaft, means for raising the materials to be dried from the bottom of the drum upon said platforms, means for independently rotating said shaft at a higher rate of speed, and means for energically causing the circulation of hot gases through the drum and discharging the steam generated from the same, substantially as set forth.

4. In a drying apparatus of the class described, the combination with a horizontal rotatable drum made with plain walls, charging and discharging openings in the cylindrical wall of the drum, circular passages in the vertical side walls thereof, suitable circular rails, secured to the outside of the cylindrical wall, pairs of loose grooved rollers engaged by said rails, horizontal shafts arranged longitudinally below the drum and carrying said loose rollers, means for rotating the drum on the latter at a relatively low rate of speed, and a suitable heat-insulating casing around the drum and its appliances, of a horizontal independently-rotatable shaft, extending longitudinally and centrally through the circular passages in the vertical side walls of the drum, a plurality of hubs secured to said shaft at suitable distances from each other: a series of radial arms on each hub, suitable raising devices arranged on the free ends of said arms and in close proximity of the cylindrical wall of the drum, a plurality of suitable platforms supported by the several series of arms and adapted to receive the materials raised by said devices means for independently rotating said central shaft at a higher rate of speed, and means for energically causing the circulation of hot gases through the drum and the discharge of steam therefrom, substantially as set forth.

5. In a drying apparatus of the class described, the combination with a horizontal rotatable drum made with plain walls, charging and discharging openings in the cylindrical wall of the drum, circular passages in the vertical side walls thereof, suitable circular rails, secured to the outside of the cylindrical wall, pairs of loose grooved rollers engaged by said rails, horizontal shafts arranged longitudinally below the drum and carrying said loose rollers, means for rotating the drum on the latter at a relatively low rate of speed, and a suitable heat-insulating casing around the drum and its appliances, of a horizontal independently-rotatable shaft extending longitudinally and centrally through the circular passages in the vertical side walls of the drum, a plurality of hubs secured to said shaft at suitable distances from each other, a series of radial arms on each hub, a substantially triangular rigid shoe secured to the free end of each radial arm, longitudinally-extending oppositely-inclined rakes secured to the shoes of the several arms, suitable platforms carried by the latter to receive the materials raised by said rakes, means for rotating said central shaft independently and means for energically causing the circulation of hot gases through the drum and the discharge of steam therefrom, substantially as set forth.

6. In a drying apparatus of the class described, the combination with a horizontal rotatable drum made with plain walls, charging and discharging openings in the cylindrical wall of the drum, circular passages in the vertical side walls thereof, suitable circular rails, secured to the outside of the cylindrical wall, pairs of loose grooved rollers engaged by said rails, horizontal shafts arranged longitudinally below the drum and carrying said loose rollers, means for rotating the drum on the latter at a relatively low rate of speed, and a suitable heat-insulating casing around the drum and its appliances, of a horizontal independently-rotatable shaft extending longitudinally and centrally through the circular passages in the vertical side walls of the drum, a plurality of hubs secured to said shaft at suitable distances from each other, a series of radial arms on each hub, a substantially triangular rigid shoe secured to the free end of each radial arm, longitudinally-extending oppositely-inclined rakes secured to the shoes of the several arms and extending over the entire length of the drum, longitudinal rods connecting the radial arms of the several hubs, parallel chains extending from each pair of rakes over the connecting-rods to the corresponding hubs to form a sort of platform, means for rotating said central shaft independently and means for energically causing the circulation of hot gases through the drum and the discharge of steam therefrom, substantially as set forth.

7. In a drying apparatus of the class described, the combination with a horizontal rotatable drum made with plain walls, charging and discharging openings in the cylindrical wall of the drum, circular passages in the vertical side walls thereof, suitable circular rails, secured to the outside of the cylindrical wall, pairs of loose grooved rollers engaged by said rails, horizontal shafts arranged longitudinally below the drum and carrying said loose rollers, means for rotating the drum on the latter at a relatively low rate of speed, and a suitable heat-insulating casing around the drum and its appliances: of a horizontal independently-rotatable shaft extending longitudinally and centrally through the drum, a plurality of suitable platforms carried by said shaft, means for raising the materials to be dried from the bottom of the drum upon said platforms, means for independently rotating said shaft at a higher rate of speed, a suitable exhauster outside of the drum, a pipe connection between the steam-discharge passage of the latter and the inlet of the exhauster, and a pipe connection between said discharge-passage and the outlet or discharge of the exhauster, substantially as set forth.

8. In a drying apparatus of the class described, the combination with a horizontal rotatable drum made with plain walls, charging and discharging openings in the cylindrical wall of the drum, circular passages in the vertical side walls thereof, suitable circular rails, secured to the outside of the cylindrical wall, pairs of loose grooved rollers engaged by said rails, horizontal shafts arranged longitudinally below the drum and carrying said loose rollers, means for rotating the drum on the latter at a relatively low rate of speed, and a suitable heat-insulating casing around the drum and its appliances, of a horizontal independently-rotatable shaft extending longitudinally and centrally through the circular passages in the vertical side walls of the drum, a plurality of hubs secured to said shaft at suitable distances from each other, a series of radial arms on each hub, a substantially triangular rigid shoe secured to the free end of each radial arm, longitudinally-extending oppositely-inclined rakes secured to the shoes of the several arms and extending over the entire length of the drum, longitudinal rods connecting the radial arms of the several hubs, parallel chains extending from each pair of rakes over the connecting-rods to the corresponding hubs to form a sort of platform, suitable

scrapers, carried by the end series of radial arms and adapted to scrape the vertical side walls of the drum, means for rotating the central shaft independently, a suitable exhauster outside of the drum, a pipe connection between the steam-discharge passage of the latter and the inlet of the exhauster, and a pipe connection between said discharge-passage and the outlet or discharge of the exhauster, substantially as set forth.

840,884. METAL PILING. JULIUS R. WEMLINGER, Brooklyn, N. Y. Filed Sept. 22, 1905. Serial No. 279,644.



Claim.—1. A metal-piling construction comprising corrugated plates secured together in pairs and provided with locking members attached to the said plates.

2. A metal-piling construction comprising corrugated plates secured together in pairs at the meeting edges of the corrugations and provided with locking members attached to the said plates.

3. A metal-piling construction comprising piles having cells, and means secured to said piles for locking them together.

4. A metal-piling construction comprising piles having cells and webs between the said cells, means secured to said webs for locking the piles together.

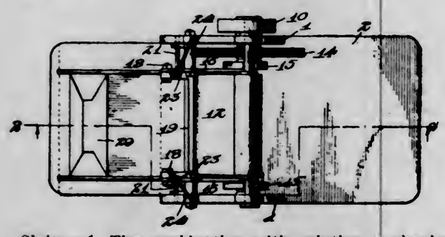
5. A metal-piling construction comprising piles having open spaces webs between the said open spaces and splices for securing the said piles together.

6. A metal-piling construction comprising piles having cells, the wall of one of the said cells adapted to fit into one of the cells of the adjoining pile, and means for locking the said piles together.

7. A metal-piling construction comprising piles having cells and webs between the said cells, the walls of one of the said cells adapted to fit into one of the cells of the adjoining pile, and means secured to the webs of the said cell for locking the piles together.

8. A metal-piling construction comprising piles having cells and webs between the said cells, the walls of one of the said cells adapted to fit into one of the cells of the adjoining pile, splices fastened to the webs of the said pile, for locking the piles together, the said splices being each composed of a flat portion secured to the web and a curved locking member.

840,885. PRINTING-PRESS. HERBERT E. WESTERVELT, South Bend, Ind. Filed Oct. 30, 1905. Serial No. 284,964.



Claim.—1. The combination with printing mechanism, of means for tilting the bag-bottom to an upright position across the end of the bag-body, and means for feeding the bag to the printing mechanism so that the latter will print upon the bag-body when the bottom is in its upright tilted position.

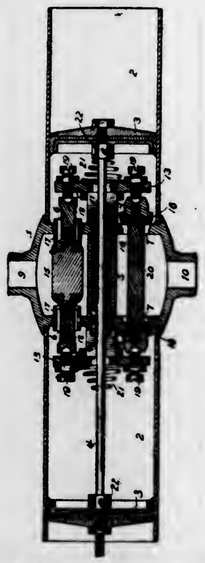
2. The combination with the printing and bed rolls, both of which are cut away to permit the bag-bottom to remain in a tilted upright position during the printing operation, of means for gripping the bag to the bed-roll, and means for tilting the bag-bottom into an upright tilted position to permit printing upon that portion of the bag-body adjacent to the bag-bottom.

3. The combination with printing and bed or platen rolls, of means for gripping the bags to one of said rolls, a swinging blade for lifting the forward end of the bag-bottom, and means for actuating said swinging blade.

4. The combination with printing and platen rolls, of a gripping device carried by the platen-roll, a cam for actuating said gripping device, a pivotal lever associated with the printing-roll, a cam rotating with the printing-roll for actuating said lever, a swinging blade having supporting-arms pivotally connected with said lever, said arms being provided with pins, and guideways for receiving and guiding said pins.

5. The combination with means for printing on the side of the bag on which the bottom is folded, of means for striking the bottom beyond the primary cross-fold line and thereby tilting the bottom away from the body to expose the latter.

840,886. FLUID-MOTOR. CHARLES L. WILKINS, Columbus, Ohio, assignor to The Ohio Pump and Brass Company, Columbus, Ohio. Filed Jan. 24, 1906. Serial No. 297,663.



Claim.—1. In a fluid-motor, the combination with cylinders arranged in tandem, a valve-chamber between them, pistons in the cylinders, and a rod secured to both pistons and extending through the valve-chamber, of hinged yokes on the valve-chamber, inlet and exhaust valves supported solely by said yokes and shifted thereby when the yokes are moved by the movement of the pistons.

2. In a fluid-motor, the combination with cylinders arranged in tandem, a valve-chamber between them, pistons in the cylinders, and a rod secured to both pistons and extending through the valve-chamber, of inlet and exhaust valves in the valve-chamber, hinged yokes supporting said valves, springs secured to said yokes, and means on the rod to engage the springs and throw the yokes and valves.

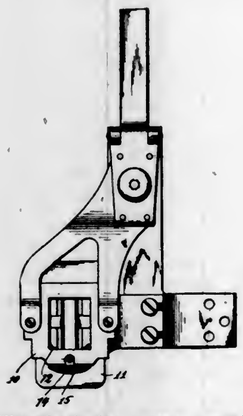
3. In a fluid-motor, the combination with cylinders arranged in tandem, a valve-chamber between them having a central horizontal partition, pistons in the cylinders, and a rod secured to both pistons and extending through the valve-chamber, of an inlet-valve in the valve-chamber above the partition, an exhaust-valve in the valve-chamber below the partition, hinged yokes supporting both valves, and means on the rod for moving the yokes.

4. In a fluid-motor, the combination with cylinders arranged in tandem, a valve-chamber between them having a central horizontal partition, pistons in the cylinders and a rod secured to both pistons and extending through the valve-chamber, of an inlet-valve in the valve-chamber above the partition, an exhaust-valve in the chamber below the partition, inlet and exhaust ports in both ends of the valve-chamber, adjustable seats in the inlet-ports, and hinged yokes on the ends of the valve-chamber affording the sole support for the valves.

5. In a fluid-motor, the combination with a valve-chamber having ports in its ends, of sleeves screwed into the ports and constituting adjustable valve-seats, a valve between the ports having contracted extensions projecting through the sleeves but out of contact therewith, swinging yokes, and screws thereon engaging the ends of the valve extensions and supporting the valve.

6. The combination with a valve-chamber having a horizontal partition therein and an inlet at its top and an exhaust at its bottom, of an inlet-valve in the upper portion of the chamber to alternately close and open ports in the ends of the chamber, an exhaust-valve in the lower portion of the chamber to alternately open and close ports in the ends of the chamber, yokes hinged to the ends of the chamber, screws in said yokes engaging the ends of the valves and supporting them, and springs secured to said yokes to receive the buffing means to move the yokes and valves.

840,887. THREAD-CLIP FOR SEWING-MACHINES. ALFRED WOOD, Waterford, N. Y., assignor to The National Machine Company, Mamaroneck, N. Y., a Corporation of New York. Filed Jan. 15, 1906. Serial No. 296,020.



Claim.—1. Thread-gripping means comprising a helix supported axially across the path of movement of the thread to be gripped, whereby thread may be received between adjacent coils thereof.

2. Thread-gripping means comprising a helix supported in a curve with its axis across the path of movement of the thread to be gripped, whereby thread may be received between adjacent coils thereof.

3. Thread-gripping means comprising a helix supported at its ends in the path of movement of the thread to be gripped, and with its axis transverse to such path of movement whereby thread may be received between adjacent coils thereof, said helix arranged in a curve between its points of support.

4. A thread-gripping device for sewing-machine comprising a plurality of separate gripping-surfaces arranged radially in advance of the point of sewing so that thread drawn from the point of sewing in different radial directions, may be gripped thereby at any one of a number of points.

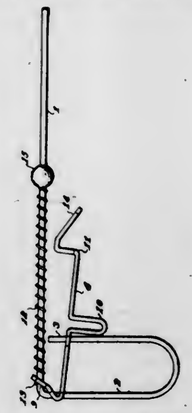
5. The combination with a presser-foot, of a helix secured thereto, with its axis in a horizontal plane transverse to the path of movement of thread to be gripped, said helix adapted and arranged as a thread-gripping means, substantially as set forth.

6. The combination with a sewing-machine presser-foot, of a helix secured beneath same and disposed in a curve across the path of movement of the needle-thread of the machine while the work is being removed, the said helix being arranged with its axis transverse to the said path of movement of the thread, whereby the thread may be received between adjacent coils of the helix.

7. The combination with a sewing-machine presser-foot, of a helix secured at its ends beneath same, said helix disposed in a curve between its points of support and with its axis across the path of movement of the needle-thread of the machine while the work is being removed, whereby thread may be received between adjacent coils thereof.

8. In a sewing-machine, the combination with a work-support, of a helix arranged thereon arranged with its axis across the path of movement of the thread while the work is being removed, whereby thread may be received between adjacent coils thereof.

840,888. TOY GUN. IRVING C. WOODWARD, Chicago, Ill. Filed Feb. 24, 1906. Serial No. 302,794.



Claim.—1. A toy gun comprising a rod having a straight portion forming the barrel of the gun and being bent to form a handle at one end of the barrel, a helical spring encircling said barrel, and a trigger member fulcrumed on said rod and having a forked part adapted to straddle the barrel in front of the spring to secure the same after it has been compressed.

2. A toy gun comprising a rod having a straight portion forming the barrel of the gun and being bent to a loop to form a handle at one end thereof, a helical spring encircling the barrel, and a trigger member movably mounted on said rod and having apertures therein for receiving the rod at opposite sides of the loop for guiding the movement of said member, said member being movable into and out of position for holding the spring in a retracted position.

3. A toy gun comprising a rod having a straight portion to form the barrel and being bent to a loop to form a handle at one end thereof, said loop having a portion at the forward side thereof disposed substantially at right angles to the barrel, a helical spring encircling the barrel, and a trigger member fulcrumed on said rod near the rear side of the loop and having an aperture fitting said forward portion to guide the movement of the trigger member, and said member having a forked part adapted to straddle the barrel for holding said spring in its retracted position.

4. A toy gun comprising a rod having a straight portion forming the barrel and being bent to a loop to form a handle at one end thereof, a helical spring encircling the barrel, and a trigger member formed of a single strip of flat metal perforated for receiving the rod at opposite sides of said loop for securing said member to the barrel and

permitting a limited transverse movement thereon, said strip being bent upward at its forward end to form a detent adapted to hold said spring in a retracted position.

5. A toy gun comprising a rod having a straight portion forming the barrel and being bent to a loop to form a handle at one end thereof, a helical spring encircling the barrel and a trigger member formed of a flat strip of metal perforated for receiving the rod at opposite sides of said loop for securing said member to the barrel and permitting a limited transverse movement thereon, said strip being slotted near its forward end and being bent upward at the slot to form a forked portion adapted to straddle the barrel and secure the spring in a retracted position.

6. A toy gun comprising a rod having a straight portion forming the barrel and being bent to a loop to form a handle at one end thereof, a helical spring encircling the barrel, and a trigger member formed of a single flat strip of metal perforated for receiving the rod at opposite sides of said loop for securing said trigger to the barrel and permitting a limited transverse movement thereof, said strip being bent upon itself to form a downwardly-extending trigger in front of the loop and being slotted at its forward end, the slotted portion of said strip being bent upward to form a fork adapted to straddle the barrel for holding the spring in its retracted position, and the portion of said strip which is in front of said fork being inclined forward and downward to cause the fork to be pushed out of the way when a perforated projectile is pushed along the barrel for compressing the spring.

7. A toy gun comprising a barrel having a handle at one end, a helical spring encircling said barrel, and a trigger member having thereon a shoulder adapted to hold said spring in a retracted position, said trigger member having a part engaged by said spring and adapted through the pressure thereof to urge said shoulder into position for securing the spring.

8. A toy gun comprising a barrel having a handle at one end, a helical spring arranged for discharging a projectile along said barrel, and a trigger member having thereon a shoulder adapted to hold said spring in its retracted position, said trigger member having a part engaged by said spring and adapted through the pressure thereof, to urge said shoulder into position for securing the spring.

9. A toy gun comprising a rod having a straight portion to form the barrel and being bent to a loop at one end to form a handle, a helical spring encircling said barrel, and a trigger member formed of a single strip being perforated for receiving the rod at the front of said loop, being slotted and bent upon itself to form a fulcrum and fork engaging the rear part of said loop, the rearward end of said strip extending forward and upward from the fulcrum and having a perforation for receiving the barrel, the front end of said strip being bent up to form a shoulder for holding said spring in a retracted position, and said spring being adapted when compressed to bear upon the rear end of said trigger member and urge the front end thereof into position for engaging the spring.

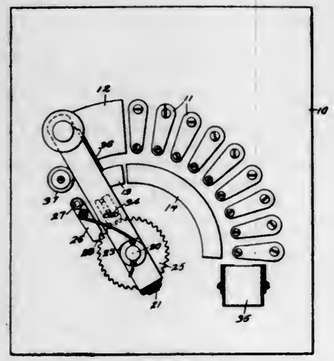
840,889. STARTING-RHEOSTAT. WILLIAM C. YATES and PAUL H. ZIMMER, Schenectady, N. Y., assignors to General Electric Company, a Corporation of New York. Filed Apr. 26, 1906. Serial No. 313,794.

Claim.—1. A starting-rheostat comprising a variable impedance, a controlling-arm therefor biased to the starting position, and means for giving said arm a quick break between successive increments of the impedance.

2. A starting-rheostat comprising a series of contacts, a controlling-arm therefor biased to the starting position, means for giving said arm a quick break between adjacent contacts, and a no-voltage magnet for maintaining the arm in running position.

3. A starting-rheostat comprising a series of contacts, a controlling-arm adapted to successively engage the same, an operating-arm, means for giving said controlling-arm a quick-break movement between adjacent contacts as the operating-arm is moved continuously over the contacts, and a no-voltage magnet for maintaining the controlling-arm in running position.

4. A starting-rheostat comprising a series of contacts, an operating-arm biased to the starting position thereof, a controlling-arm biased toward said operating-arm, means for giving said controlling-arm a step-by-step movement as the operating-arm is moved continuously toward running position, and a no-voltage magnet for retaining the latter in running position.

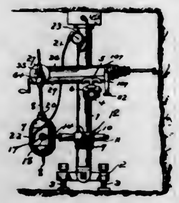


5. A starting-rheostat comprising a series of contacts, an operating-arm biased to the starting position thereof, a controlling-arm based toward said operating-arm but normally locked in predetermined positions, means controlled by the movement of said operating-arm for unlocking at intervals the controlling-arm and allowing it to follow the operating-arm in response to its bias, and a no-voltage magnet for retaining the operating-arm in running position.

6. A starting-rheostat comprising a series of contacts, an operating-arm biased to the starting position thereof, a controlling-arm biased toward said operating-arm and pivoted concentrically therewith, a rotary member locked against movement with said arms toward running position, means for locking said controlling-arm to said member in predetermined positions, means controlled by the movement of the operating-arm toward running position for unlocking the controlling-arm and allowing it to follow the operating-arm in response to its bias, and a no-voltage magnet for retaining the latter in running position.

7. A starting-rheostat comprising a series of contacts, an operating-arm biased to the starting position thereof, a controlling-arm biased toward said operating-arm and pivoted concentrically therewith, a ratchet-wheel and a pawl for locking the same against movement with said arms toward running position, a pawl arranged to lock the controlling-arm to the ratchet-wheel, means whereby a predetermined movement of the operating-arm toward running position releases the controlling-arm allowing it to follow the operating-arm in response to its bias, and a no-voltage magnet for retaining the latter in running position.

840,890. ROCK-DRILL. THOMAS E. ADAMS, Cleveland, Ohio, assignor to The Adams Drill Company, Cleveland, Ohio, a Corporation of Ohio. Filed June 24, 1903. Serial No. 162,925.



Claim.—1. The combination with a drill-guide, a drill-body movable thereon, and drill-operating mechanism carried by the drill-body, of a motor-support, a motor

pivotally mounted on said support, means for effecting angular adjustment of said motor-support and a rigid driving-shaft connecting the motor with the drill-operating mechanism.

2. In a motor-driven tool-operating machine, a support, a shiftable carrier thereon, and tool-actuating mechanism operatively associated with the carrier including a motor, and means independent of said carrier for cushioning said motor.

3. The combination with a drill-support and drill mechanism, of a rotary motor, an elastic supporting device pivotally connected to the motor and connected with said support and a rigid driving-shaft connecting said motor with the gearing of the drill mechanism.

4. The combination with a drill-support, of a motor, a spring secured to said support and pivotally connected to the motor at its free end, a drill in said support and a rigid driving-shaft connecting the motor and drill.

5. In a drill, the combination with a support and a drill mechanism, of a motor, a rigid driving-rod connecting the motor with the drill mechanism, a spring-yoke in which said motor is mounted, means for adjusting said spring-yoke, and means for supporting said yoke independently of the drill mechanism.

6. In a drill, the combination with a support and drill mechanism, of a motor, a bar, means for supporting said bar and permitting its longitudinal adjustment, a mounting for the motor flexibly supported by said bar, and a rigid driving-rod connecting the motor with the drill mechanism.

7. In a drill, the combination with a support and drill mechanism, of a tubular bar, means for supporting said tubular bar and permitting its longitudinal adjustment, a device flexibly supported by said tubular bar, a motor mounted in said device, and a rigid driving-rod connecting the motor with the drill mechanism.

8. In a drill, the combination with a support and drill mechanism, of a tubular bar, a flexible yoke revolubly mounted in said tubular bar, a motor mounted in said flexible yoke and a rigid driving-rod connecting said motor with the drill mechanism.

9. In a drill, the combination with a support, and drill mechanism, of a tubular bar movable longitudinally through said support, means for adjustably securing said bar to the support, a yoke flexibly mounted in said bar, means for permitting the removal of said yoke, a motor mounted in said yoke and a rigid driving-rod connecting the motor with the drill mechanism.

10. In a drill, the combination with a support and drill mechanism, of a bracket secured to said support, a sleeve on said bracket a tubular bar movable longitudinally through said sleeve, means for securing the tubular bar at any desired adjustment in the sleeve, a yoke flexibly carried by the tubular bar, a motor mounted in said yoke and a rigid driving-rod connecting said motor with the drill mechanism.

11. In a drill the combination with a support and drill mechanism including a gear having an opening in its center, of a motor, a support for the motor, a rigid driving-rod passing completely through both the gear and the rotary member of the motor and means for preventing longitudinal movement of the driving-rod, with respect to one of the rotary devices through which it passes and permitting free longitudinal movement of said driving-rod through the other rotary member.

12. In a drill, the combination with a support, and drill mechanism, of a motor mechanism, a support therefor, a rigid driving-rod adapted to have longitudinal movement relatively to said motor mechanism and drill mechanism and constructed to transmit motion from the former to the latter, and a thumb-nut or collar for locking the driving-rod against longitudinal movement relatively to one of said mechanisms.

13. In a drill, the combination with a guide-shell, a drill-body mounted to move thereon, a housing at the rear end of said drill-body, lateral bearing-sleeves on said drill-body, and a drill-operating shaft mounted in said lateral bearing-sleeves, of depending enlargements on each of said lateral bearing-sleeves, removable plates secured to said enlargements and lips on said removable plates projecting under the upper edges of the guide-shell.

14. In a drill, the combination with a guide-shell, a drill-body longitudinally movable thereon, a drill-rod, means for operating the drill-rod and a chuck on the end of the drill-rod, of a pivoted yoke connected with the guide-shell and adapted to be made to engage the jaws of the chuck for the purpose of opening the same for the insertion or withdrawal of a tool, when the drill-body is fed forwardly.

15. In a drill, the combination with a barrel and a drill rod therein, of a housing, a cylindrical extension on said housing projecting into the barrel, a cross-head on the drill-rod movable in said cylindrical extension, a crank-shaft in the housing, and a draw-bar connected at one end with said crank-shaft, passing through said cylindrical extension and connected at its forward end with the drill-rod at a point forward of the cross-head.

16. In a drill, the combination with a drill-body and a drill-rod, of a cylinder in the rear end of the drill-body, said cylinder having oppositely-disposed internal grooves or recesses, a crank-shaft, and a draw-bar connected at one end with said crank-shaft, passing through the grooves or recesses in the cylinder and connected at its forward end with the drill-rod.

17. In a drill, the combination with a barrel, a housing at the rear end thereof and a crank-shaft in said housing, of a drill-rod in the barrel, a cross-head secured to said drill-rod, a draw-bar connected with the crank-shaft and provided at its forward end with a cross-head embracing the drill-rod and a spring between said cross-head and cross-head.

18. In a drill, the combination with a housing and adjustable bushings in the walls thereof, of a crank-shaft having its journals mounted in said bushings, means for adjusting said bushings for wear, a drill-rod and a draw-bar connecting said crank-shaft and drill-rod.

19. In a drill, the combination with a housing, a crank-shaft therein, a drill-rod, and a draw-bar connecting the crank-shaft with the drill-rod, of a plate on said housing, a gear-casing revolubly mounted on said plate, a gear in said casing secured to the crank-shaft, a second gear mounted in said casing and meshing with the first-mentioned gear, a rigid drive-rod passing through said second gear, and a motor with which said rigid drive-rod is directly connected.

20. In a drill, the combination with a housing, a crank-shaft therein, and a drill-rod connected with said crank-shaft, of a plate mounted on said housing, a gear-casing, a spring-ring removably and revolubly connecting said gear-casing with said plate, and gearing in said casing.

21. In a drill, the combination with a drill-body and a drill-rod having a spiral groove, of a sleeve screwed into the forward end of the drill-body, a ratchet device in the drill-body and having one of its members engaging the spiral groove in the drill-rod, and a nose-bushing for the drill-rod keyed to the other member of said ratchet device, said nose-bushing having frictional contact with the rear end of the sleeve in forward end of the drill-body.

22. In a rock-drill, the combination of a barrel, a drill-rod therein and a chuck secured to the forward end of the drill-rod to operate within the forward end of the barrel and exclude dust from the drill-rod.

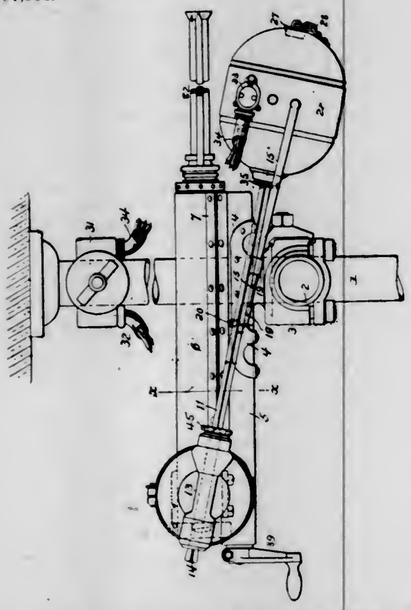
23. In a rock-drill, the combination of a barrel, a nose-bushing therein, a drill-rod movable longitudinally through the nose-bushing, and a chuck on the end of the drill-rod and movable longitudinally in the forward end of the barrel, said chuck adapted to exclude dust from the portion of the drill-rod which passes through and beyond the nose-bushing.

24. In a rock-drill, the combination with a guide-shell, of a drill-barrel or body mounted thereon and provided with means at its sides engaging and movable against the under face of said guide-shell.

25. In a rock-drill, the combination with a drill body or barrel having enlargements at respective sides, of a guide-shell on which said drill body or barrel is mounted and plates secured to said enlargements and movable against the under face of the guide-shell.

26. In a rock-drill, the combination with a sheet-steel guide-shell and a longitudinally-movable drill-body mounted thereon, of guiding means projecting from the sides of the drill-body, embracing the sides of the guide-shell and movable against the under face of said guide-shell.

840,891. DRILL. THOMAS E. ADAMS, Cleveland, Ohio, assignor to The Adams Drill Company, Cleveland, Ohio, a Corporation of Ohio. Filed Mar. 9, 1904. Serial No. 197,351.



Claim.—1. The combination with a drill-guide, a drill-body movable thereon, and drill-operating mechanism carried by the drill-body, of a motor-support, a motor pivotally mounted on said support, means for adjustably connecting said support with the drill-guide, and a rigid driving-shaft connecting the motor with the drill-operating mechanism.

2. The combination with the guide-shell of a rock-drill or similar machine, of an electric motor yieldingly suspended therefrom, and an operative connection between the motor and the drill, including telescoping parts whereby the connection is extensible to compensate for the back-and-forth movement of the drill-body on the guide-shell.

3. The combination with a drill, a guide-shell and an electric motor, of a cushion connection between the guide-shell and the motor whereby the latter is yieldingly suspended on the shell to prevent or overcome the vibration incident to the operation of the drill.

4. The combination of a drill, a guide-shell and a motor, of a cushion connection between the guide-shell and motor for arresting the vibrations which would otherwise be communicated from the drill to the motor during the operation of the drill.

5. The combination with a guide-shell, a drill-body thereon and drill-operating mechanism, of a motor having a yielding support connected with the guide-shell, and driving means connecting the motor with the drill-operating mechanism.

6. The combination with a guide-shell, a drill-body movable thereon and drill-operating mechanism, of a motor, a yielding support between the motor and guide-shell and driving means between the motor and drill-operating mechanism.

7. The combination with a guide-shell, a drill-body thereon and drill-operating mechanism carried by the drill-body, of a motor, yielding means suspending the motor from the guide-shell, a rigid driving-shaft, means for operatively connecting said driving-shaft with the motor and drill-operating mechanism, and means for maintaining the bearings of said driving-shaft in alinement with each other when the drill-body is moved.

8. The combination with a drill-support, a drill carried thereby and supported to move thereon, and gearing for operating said drill, of a motor-casing, a motor therein, a spring-fork connected with said support at one end and supporting the motor-casing at its other end, and a shaft connecting the shaft of the motor with the gearing of the drill.

9. The combination with a drill support and guide, of a drill mounted to move longitudinally on said support, alined rings or eyes on said support, a spring-fork secured in said eyes at one end, a motor supported between the spring-arms of the fork at its outer end, and a shaft connecting the motor with the gearing of the drill.

10. The combination with a drill-support, a drill therein, and gearing for operating said drill, of a motor-casing, a motor in said casing, a spring-fork supporting said motor-casing at one end and secured to the support at its other end, and a shaft connecting the shaft of the motor with the gearing and movable longitudinally through both.

11. The combination with a drill-support, a drill-guide secured in said support or made integral therewith, a drill movable longitudinally in said guide, a hollow shaft having an angular bore, and a gear on said shaft transmitting motion to the drill, of a motor-casing, a motor therein, a hollow shaft in said motor having an angular bore, and elastic support for said motor casing, an angular shaft located in the angular bore of the hollow shaft and means for limiting longitudinal movement of the shaft through the hollow shaft of motor.

12. The combination with a drill-support, a drill therein, and a gear transmitting motion to the drill, of alined eyes or rings on opposite sides of the support, a spring-fork, a motor-casing, a motor in said casing, said fork having lugs or trunnions to enter pockets in opposite sides of the casing, a clamp to hold the fork in such engaging position, and said fork bent to one side of its center and located in the eyes or rings at either side of the support, a pin securing the fork in the rings, and a shaft connecting the motor with the drill-gear.

13. The combination with a drill, a hollow shaft having an angular bore, and a gear on said shaft for transmitting motion to the drill, of a motor-casing, a motor therein, a shaft in the motor having an angular bore, an angular shaft located in the hollow shaft of motor, and a removable plug in the motor-casing limiting the longitudinal movement of the shaft through the motor-shaft.

14. The combination with a drill, of a motor-casing having a motor therein, a shaft connecting the motor and drill and a slip-fit disk or washer on said shaft near the motor-casing and adapted to throw off all dirt, water, &c., preventing its entrance into the motor-casing.

15. The combination with a drill, of a shaft for driving the same, and a rotary motor to turn said shaft, of a casing inclosing the motor, a spring-fork supporting the casing, and comprising a spring-rod bent together between its ends and flared at its ends to receive the casing, one rod or end but slightly curved and the other given a compound curvature, to centrally dispose the casing regardless of which side of a support the fork is secured.

16. The combination with a column, an arm projecting at right angles thereto, a drill support and guide on said arm, a drill in said guide, and a hollow shaft having a gear thereon transmitting motion to the drill, of a spring-fork secured at one end to the support, a rotary motor supported at the free ends of said spring-fork, and a shaft connecting the hollow shaft and motor.

17. The combination with drill mechanism, gearing connected therewith and a rigid driving-shaft connected with said gearing, of a rotary motor, a tubular shaft for said motor mounted in the motor-casing and having an angular bore for the reception of the rigid driving-shaft, and a flexible support for the motor.

18. In a drill mechanism, the combination with a crank-shaft, a gear thereon, a driving-shaft, and a pinion on said drive-shaft meshing with said gear, of a casing inclosing said gears, and adapted to turn, journals on said drive-shaft, ball-bearings in the casing around said journals, and an enlargement on one journal where it projects outside of the casing to throw off dirt and water preventing its entrance into the casing, and knobs around said enlargement.

19. In a drill, the combination with a crank-shaft, a drill-barrel, a drill-rod and a yoke or draw-bar connecting the crank-shaft and rod, of a piston on said rod in the drill-barrel, and split washers of yielding material on said piston engaging the barrel of the drill.

20. In a drill, the combination, with a barrel, of a cylindrical casing in said barrel having sleeves at opposite sides, a crank-shaft mounted in bearings in said sleeves, a drill-rod in the barrel, a piston on said rod, a yoke or draw-bar, a shell in said barrel having opposite recesses to receive a yoke or draw-bar, a cross-head connecting said yoke or draw-bar with the drill-rod, and a non-metallic packing around the piston engaging the shell and holding the drill-rod true.

21. In a drill, the combination with a drill-rod, of a piston thereon, a cross-head loose on the rod, a draw-bar to operate said cross-head, a gang of coiled springs between the piston and cross-head, comprising longer and shorter springs surrounded one by the other.

22. In a drill, the combination with a drill-rod, and a driving cross-head loose on said rod, a piston secured on the rod at one side of the cross-head, a ring or disk on the rod at the other side of the cross-head, a gang of coiled springs between the cross-head and piston comprising long and short springs, the shorter springs surrounded by the longer, and elastic connection between the cross-head and ring or disk.

23. In a drill, the combination with a drill-rod, an operating cross-head loose on the rod, a piston secured on the rod at one side of the cross-head, a ring or disk on the rod at the other side of the cross-head, of gangs of springs located between the cross-head and piston and cross-head and ring or disk, and comprising long and short coiled springs nested together.

24. The combination with a drill-support and drill-mechanism, of a rotary motor, an elastic supporting device pivotally connected to the motor, means for removably attaching said elastic supporting device at either side of the drill mechanism, gearing connected with the drill mechanism, means for supporting said gearing at either side of the drill mechanism and a rigid driving-shaft connecting said motor with the gearing of the drill mechanism.

25. The combination of a drill-body, a motor-support, a motor pivotally mounted therein, a common support sustaining said drill-body and motor-support, drill mechanism in the drill-body, gearing for transmitting motion to said mechanism and a rigid driving-shaft connecting the motor with said gearing.

26. The combination with a drill-body, of a drill-rod, a nose-bushing through which the drill-rod passes, a chuck on the end of the drill-rod and a plurality of small springs mounted in the nose-bushing and terminating behind the chuck.

27. The combination of a drill, a rod therein, a series of small springs around the drill-rod to cushion the same, and a star or spacing wheel around the rod having curved pockets to receive the springs.

28. In a motor-driven tool-operating machine, the combination with a supporting device, of a shiftable carrier thereon, and tool-operating mechanism operatively associated with said carrier including a yieldably-supported motor mounted on the supporting device, and a slidably-connected motor-shaft whereby the parts may adjust themselves in consonance with the shifting of the carrier.

29. In a motor-driven tool-operating machine, the combination with a supporting device, of a shiftable carrier thereon, and tool-operating mechanism operatively associated with said carrier including a yieldably-supported motor mounted on the supporting device, gearing on the shiftable carrier, and a slidably-connected motor-shaft operatively associated with said gearing whereby the parts may be shifted in consonance with the shifting of the carrier.

30. In a motor-driven tool-operating machine, the combination with a supporting device, of tool-operating mechanism thereon, including a motor, a motor-shaft, intermeshing gearing connected to said shaft, and means for yieldably mounting the motor comprising cushioned bearings at opposite sides thereof.

31. In a motor-driven tool-operating machine, the combination with a supporting device, of a shiftable carrier thereon, and tool-operating mechanism operatively associated with said carrier including a motor, and means for yieldably mounting the motor on the supporting device comprising spring pivot-bearings at opposite sides thereof.

32. In a motor-driven tool-operating machine, the combination with a supporting device, of a shiftable carrier thereon, and tool-operating mechanism operatively associated with said carrier including a motor, and means independent of the shiftable carrier for movably mounting the motor on the supporting device and cushioning the same relative thereto.

33. In a motor-driven tool-operating machine, a support, a shiftable carrier operatively associated therewith, and tool-operating mechanism operatively associated with the carrier including a motor yieldably mounted on the support independently of said carrier and a rigid shaft for the motor.

34. In a motor-driven tool-operating machine, a support, a shiftable carrier operatively associated therewith, and tool-operating mechanism operatively associated with the carrier including a motor pivotally mounted on the support independently of the carrier and a rigid shaft for the motor.

35. In a motor-driven tool-operating machine, a support, a shiftable carrier operatively associated therewith, and tool-operating mechanism operatively associated with the carrier including a motor movably mounted on the support independently of the carrier and a rigid shaft for the motor.

36. In a motor-driven tool-operating machine, a support, a shiftable carrier thereon, and tool-actuating mechanism operatively associated with the carrier including a motor yieldably mounted on said support independently of the carrier, a motor-shaft, and a tool-spindle operatively connected with said shaft, the operating parts being rigid but movably related whereby they may adjust themselves in consonance with the shifting of the carrier.

37. In a motor-driven tool-operating machine, a support, a shiftable carrier thereon, and tool-actuating mechanism operatively associated with the carrier including a motor yieldably mounted on said support independently of the carrier, a rigid motor-shaft, and a tool-spindle operatively connected with said shaft, the motor and its shaft being movably related to the other operating parts whereby they may adjust themselves in consonance with the shifting of the carrier.

38. In a motor-driven tool-operating machine, the combination with a supporting device, of tool-operating mechanism thereon including a motor, means for yieldably mounting the motor comprising spring-bearings at opposite sides thereof, and a rigid shaft for the motor mounted whereby the same and the motor may adjust themselves relative to the other parts of the operating mechanism when the motor yields with its bearings.

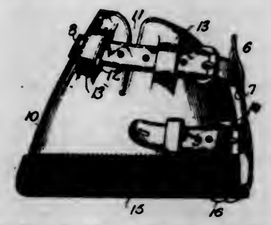
840,892. HORSESHOE. EMILE ADAM, New York, N. Y. Filed Oct. 10, 1906. Serial No. 338,319.

Claim.—1. In an overshoe for animals, the combination with a sole having at its rear an upwardly-extending tongue, of an upper with gores attached to the sole, and securing means connected with the upper and tongue for binding the shoe upon the ankle of the animal.

2. In an overshoe for animals, the combination with a sole, of an upper provided with gores and loops, a tongue at the rear of the sole having a loop, binding means passing through the loops and a subsole on the first sole.

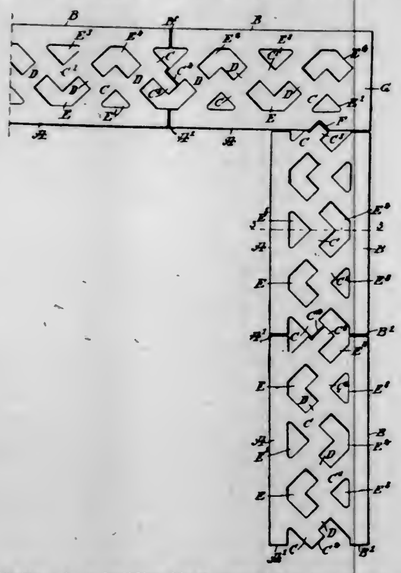
3. In an overshoe for animals the combination with a

sole, of a tongue rising from the rear of the sole and having a loop, an upper secured to the sole and having gores



and loops, binding means passing through the loops and a frictional waterproof flexible subsole secured to the first sole.

840,893. BUILDING-BLOCK. JOHN AITKEN, New York, N. Y. Filed May 10, 1906. Serial No. 316,109.



Claim.—1. A building-block comprising inner and outer facing-walls and integral webs connecting the walls with each other, said webs being composed of V-shaped members projecting inwardly from the inner and outer facing-walls, the alternate members projecting from one wall and the intermediate member from the other wall, said members being connected by arms extending between the adjacent faces of the V-shaped members.

2. A building-block, comprising spaced parallel facing-walls, a vertical web integrally connecting the said facing-walls with each other, the web consisting of rows of V-shaped webs integrally connected at their ends with the said facing-walls, the said V-shaped webs of the opposite facing-walls being alternately arranged, and arms integrally connecting the sides of alternating webs with each other.

3. A building-block, comprising spaced parallel facing-walls, a vertical web integrally connecting the said facing-walls with each other, the web consisting of rows of V-shaped webs integrally connected at their ends with the said facing-walls, the said V-shaped webs of the opposite facing-walls being alternately arranged, and arms integrally connecting the sides of alternating webs with each other, and the separate members of the end webs of adjacent blocks overlapping each other at an angle to the joints of the facing-walls of adjacent blocks.

4. A building-block, comprising facing-walls, and a web integrally connecting the facing-walls with each other, the end of the web extending at an angle to the ends of the facing-walls and having its vertical face tapering.

5. A building-block, comprising spaced parallel facing-walls, a vertical web integrally connecting the said facing-walls with each other, the web consisting of rows of V-shaped webs integrally connected at their ends with the said facing-walls, the said V-shaped webs of the opposite facing-walls being alternately arranged, and arms integrally connecting the sides of alternating webs with each other, and the separate members of the end webs of adjacent blocks overlapping each other at an angle to the joints of the facing-walls of adjacent blocks, and the contacting surfaces of the members of the end webs of adjacent blocks being tapering.

840,894. BRANCH-PIPE VALVE FOR DUST-COLLECTING SYSTEMS. WILLIAM E. ALLINGTON, Saginaw, Mich. Filed July 26, 1906. Serial No. 327,803.



Claim.—1. In combination with an angular joint for main and branch pipes, in a dust-collecting system, a slide-valve for the branch pipe taking thereinto from the heel side of the branch pipe.

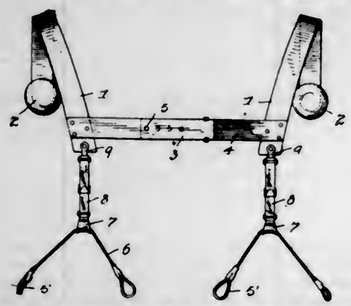
2. In combination with an angular joint of main and branch pipes, in a dust-collecting system, of a slide-valve for the branch pipe taking thereinto from the heel side of the branch pipe at an obtuse angle to the inner surface of the heel side of said pipe.

3. The combination with a piping-joint comprising a main-pipe part and a branch-pipe part communicating therewith at an acute angle, of a slide-valve entering the branch pipe from its heel side, and at its end shaped to enter the area of the branch pipe above the plane of the joint before it enters the area of said branch pipe below the plane of the joint.

4. The combination with a piping-joint comprising a main-pipe part and a branch-pipe part communicating therewith at an acute angle, of a slide-valve having an inclined end.

5. The combination with a piping-joint comprising a main-pipe part and a branch-pipe part communicating therewith at an acute angle, of a slide-valve entering the branch pipe from its heel side, and means for retaining the valve in adjusted position.

840,895. SHOULDER-BRACES. CHARLES C. ARMSTRONG, Marysville, Ohio. Filed Feb. 6, 1906. Serial No. 299,808.



Claim.—1. A shoulder-brace comprising the arch portions of resilient material, and the cross-piece at the rear also of resilient material and connecting the depending ends of the arch portions, substantially as described.

2. A shoulder-brace comprising the arch portions of resilient material and the extensible cross-piece connecting the same at the rear whereby the lower rear ends may be set nearer or farther from each other, substantially as described.

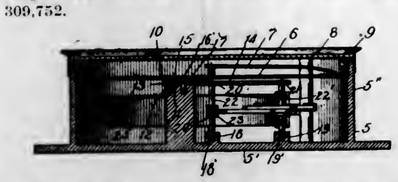
3. A shoulder-brace and garment-support comprising the frame composed of the arch portions of resilient material having terminal front bearings to rest against the body of the wearer and the garment-supports attached at the rear of said frame, substantially as described.

4. A shoulder-brace and garment-support comprising the frame composed of the arch portions of resilient material having terminal front bearings to rest against the body of the wearer and the garment-supports attached at the rear of said frame, said garment-supports comprising a pair of tabs for each end of the frame, a cord for each pair of tabs connected with the frame and having freedom of adjustment in relation to said frame, substantially as described.

5. In combination the shoulder-brace frame comprising the arch portions, one for each shoulder, a pair of tabs for each arch portion, cords connecting the tabs, means having a sliding connection with the cords and a pivotal connection with the frame, one of said tabs of each pair being for connection with the rear button and the other of each pair for connection with a side or front button, the front ends of the arch portions being adapted to bear against the body and being free from garment-supporting means, substantially as described.

6. In combination the two arched portions of resilient material having terminal front ends to rest against the body of the wearer, an adjustable connection between the rear ends of the arched portions whereby the arches may be set nearer to or farther from each other and garment-supporting means extending from the rear ends of the arched portions downwardly, substantially as described.

840,896. PRESSURE-GAGE. OTTO ARNOLD, Jr., Magdeburg-Buckau, Germany. Filed Apr. 4, 1906. Serial No. 309,752.



Claim.—1. In a pressure-gage, the combination of a case having a flat base and a surrounding peripheral wall, a post projecting from the base into the case and integral with the base, a bearing-arm at one end secured to the post, and a rotatable gage-movement part, mounted at opposite ends in bearings in the base of the case and the bearing-arm respectively.

2. In a gage, the combination of the gage-casing, provided with an integral projecting support, having a relatively extended top surface, an arm having a relatively extended portion engaging the top surface of said projection, retaining parts taking through said arm extension and securing the arm to the projection at one end only to leave its other end free, and rotatable gage-movement members each at one end bearing in the said arm and at its other end bearing in an integral part of the casing.

3. In a gage, the combination of a casing providing post integral therewith extending into the casing and having a top surface providing a flat plane portion and a shoulder transverse to said plane portion, an arm providing an end arranged to interfit with said shoulder, secured to said plane surface of the post and arranged with its free end projecting therefrom in parallelism to the base of the case, and rotatable gage-movement parts at one end bearing in said arm and at their opposite extremities bearing an integral part of the casing-base.

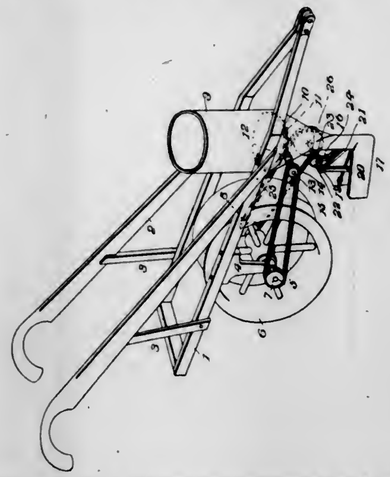
4. In a gage, a cast case provided with a projecting post 11, having relatively large superficial area in plan, and provided with a portion 13 affording a shoulder 12, an arm 14 having an enlargement 15, the edge whereof is shaped for intimate contact with the shoulder, a screw 17 securing said arm to the post, and gage-movement spindles 22 and 22', each at one end bearing in a suitable aperture in the arm 14, and at its opposite extremity bearing in an integral portion of the casing.

5. In a gage of the character described, a casing comprising a base 5', an integral post 11 and lugs 18 and 19; an arm 14 rigidly secured to the post 11 to project therefrom in alinement with the studs 18 and 19; and gage-movement arbors 22 and 22' each at one end bearing in a suitable aperture in the arm 14 and at its other extremity bearing in one of the lugs 18 and 19.

6. In a gage of the character described, a spring-tube, a movement comprising a gage-segment, and a pivoted link connection between the tube and gage-segment, said link being at an end provided with an offset L-shaped extension, bent to provide superposed alining fingers 29 29', arranged to embrace a part of the coacting element, and perforated to receive a pivot-pin.

7. In a gage of the character described, a tube 25 compressed and sealed at its free end, and a cap bifurcated at its extended end to receive the link 28.

840,897. CORN-PLANTER. THOMAS M. BAILEY, Madison, Ala. Filed Aug. 21, 1906. Serial No. 331,500.



Claim.—1. In a planter, the combination of a grain-spout comprising vertical and horizontal portions, braces extended from, respectively, said vertical and horizontal portions and provided at their points of intersection with bearings, a transverse shaft mounted in said bearings, a gate located in said spout to retard the delivery of grain therethrough, and an eccentric connection between said gate and transverse shaft for actuating the gate at stated intervals.

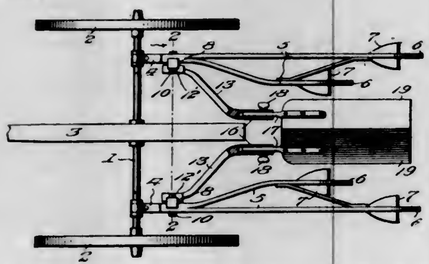
2. In a planter, the combination of a grain-spout comprising vertical and horizontal portions, means for supplying grain to the spout at stated intervals, a gate located in said spout to retard the delivery of the grain therethrough, a shaft, an eccentric connection with said shaft and gate, a drive-shaft, and independent connections between said drive-shaft and the means for supplying grain to the spout and to the shaft for operating the gate located in said spout.

840,898. CULTIVATOR. GEORGE E. BARRETT, Duluth, Minn., assignor of one-half to John Z. Miller, Superior, Wis. Filed Mar. 7, 1906. Serial No. 304,735.

Claim.—1. The combination with a cultivator, of a plant-shield embodying angularly-disposed members, and shield-carriers movable toward and away from each other

in a direction transverse to the path of movement of the cultivator to vary the distance between the shield members.

2. The combination with a cultivator, of a plant-shield comprising angularly-disposed members adjustable relatively to each other and each having an inwardly-extending flange at the bottom thereof, substantially as described.



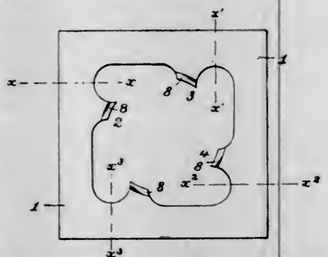
3. The combination with a cultivator, of a plant-shield embodying angularly-disposed members provided with shanks, and shield-carriers connected with the machine-frame and provided with sockets to receive the shanks of the shield members, said shanks being adjustably connected with the carriers.

4. The combination with a cultivator, of a plant-shield embodying angularly-disposed members having shanks, and shield-carriers adjustably connected to the machine-frame and provided with sockets in which said shanks are received, and means for adjusting said shanks to vary the relative angles of the shield members.

5. The combination with a cultivator, of a plant-shield embodying angularly-disposed members, hangers therefor connected to the cultivator-beams, blocks adjustable up and down on said hangers and provided with flanges having inclined shoulders substantially parallel to each other, and carriers for said shield members pivotally connected to said blocks and interposed between the shoulders thereof.

6. The combination with a cultivator, of a plant-shield embodying angularly-disposed members, upright hangers therefor connected to the cultivator-beams and having serrated inner surfaces, serrated blocks adjustable up and down on said hangers, and carriers for said shield members connected to said blocks and adjustable up and down therewith on the hangers.

840,899. SCREW-CUTTING TOOL. EDWARD E. BECK, Chicago, Ill., assignor to Nye Tool and Machine Works, a Corporation of Illinois. Filed Oct. 26, 1905. Serial No. 284,442.



Claim.—1. A screw-cutting tool having a series of blades provided with threading-teeth, each blade having at the front end of the tool one or more initial threading-teeth, said initial threading-teeth on the several blades being in pitch-line with each other, and each blade having part of its teeth in rear of said initial threading-teeth removed.

2. A screw-cutting tool having a series of blades provided with threading-teeth, each blade having at the front end of the tool one or more initial threading-teeth, said initial threading-teeth on the several blades being in pitch-line with each other, and each blade having its alternate teeth in rear of said initial threading-teeth removed.

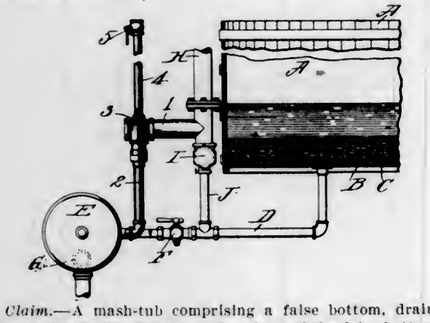
3. A screw-cutting tool provided with a series of blades formed with threading-teeth, the initial threading-tooth of each blade back of the forward end of the tool being full size and on a pitch-line one with the other, the remainder of the threading-teeth being separated from each other a distance equal to the base of a tooth with each circular series of said teeth arranged on a common pitch-line.

4. A screw-cutting tool having a series of instanding blades provided with threading-teeth, each blade having at the front end of the tool one or more initial threading-teeth, said initial threading-teeth on the several blades being in pitch-line with each other, and each blade having part of its teeth in the rear of said initial threading-teeth removed.

5. A screw-cutting tool having a series of instanding blades provided with threading-teeth, each blade having at the front end of the tool one or more initial threading-teeth, said initial threading-teeth on the several blades being in pitch-line with each other, and each blade having its alternate teeth in rear of said initial threading-teeth removed.

6. A screw-cutting tool comprising a tool-body having a central aperture formed with an entrance-counterbore and a series of instanding blades, the initial threading-tooth of each blade back of said counterbore being full size and on a pitch-line one with the other, the remainder of the threading-teeth of the blades being separated from each other a distance equal to the base of a tooth with each circular series of said teeth arranged on a common pitch-line.

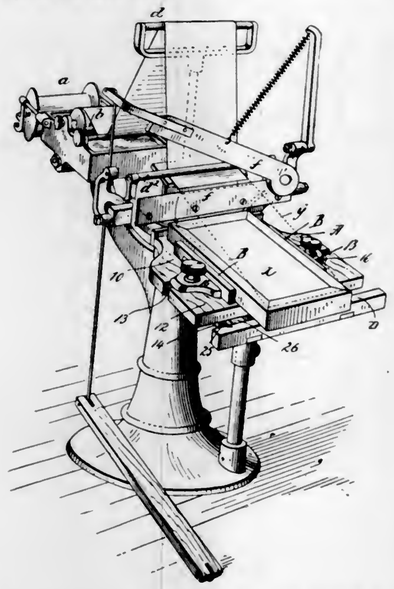
840,900. DRAIN ATTACHMENT FOR MASH-TUBS. JOHN N. BIRSNER, Belleville, Ill. Filed Sept. 1, 1906. Serial No. 332,933.



Claim.—A mash-tub comprising a false bottom, drain-pipes, a header located about the plane of the false bottom, branch pipes connecting the drain-pipes with the header, a pipe for conducting water under pressure to the header, a main draw-pipe connected with the water-pipe adjacent to the header, a receiving-tank, branch pipes having cut-off valves and connecting the main draw-pipe with the receiving-tank, and vertically-extending vent-pipe for vapor, connected with the main draw-pipe and provided with a shut-off valve for closing the vent-pipe previous to the passage of water.

840,901. PAPER-BOX-TOPPING MACHINE. HENRY A. BOWEN, Shelburne Falls, Mass. Filed June 4, 1906. Serial No. 320,008.

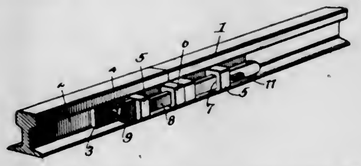
Claim.—1. A machine for topping paper boxes having at the forward portion thereof a table consisting of two top sections or boards, one in front of the other, and separated by a transversely-extending space or way, opposite parallel bars which are arranged from front to rear and are firmly secured to the under side of the top sections, and a board extending between and secured to the under sides of said bars, a pair of gages comprising plates or bars having outwardly-projecting base-flanges, and intermediately of their lengths, downwardly-protruding transverse ribs having guiding fits in the crossway of the table, and the clamping devices for the gages consisting of screws having lower end heads with transverse ribs engaging in the table-way from below, the shanks of the screws passing upwardly through the gage base-flanges, and thumb-nuts screw-engaging the upper extremities of the screw-shanks and to be set against the tops of the base-flanges.



2. A machine for topping paper boxes having at the forward portion thereof a table consisting of two top sections or boards, one in front of the other, and separated by a transversely-extending space or way, oppositely-arranged pairs of parallel bars extending from front to rear and secured to the under side of the top sections, each pair of said bars having longitudinal grooves within the sides thereof which are toward each other, a supporting-piece extending between, and secured to, the under sides of said bars, a pair of gages comprising plates or bars having outwardly-projecting base-flanges, and, intermediately of their lengths, downwardly-protruding transverse ribs having guiding fits in the crossway of the table, and the clamping devices for the gages consisting of screws having lower end heads with transverse ribs engaging in the table-way from below, the shanks of the screws passing upwardly through the gage base-flanges, and thumb-nuts screw-engaging the upper extremities of the screw-shanks and to be set against the tops of the base-flanges, and a pair of bars slidably engaged in the pairs of grooves in said first-named bars, having extending between, and supported by their forward portions, an extension-support bar.

3. A box-supporting table for a topping-machine consisting of two top sections, one in front of the other, and separated by a transversely-extending space or way, oppositely-arranged pairs of parallel bars extending from front to rear and secured to the under side of the top sections, each pair of said bars having longitudinal grooves within the sides thereof which are toward each other, and having the recesses 23 at their upper intermediate portions adjacent said transverse way, a supporting-piece extending between, and secured to, the under sides of said bars, a pair of gages comprising plates having outwardly-projecting base-flanges, and, intermediately of their lengths, downwardly-protruding transverse ribs having guiding fits in the cross way of the table, and the clamping devices for the gages consisting of screws having lower end heads with transverse ribs engaging in the table-way from below, the shanks of the screws passing upwardly through the gage base-flanges, and thumb-nuts screw-engaging the upper extremities of the screw-shanks and to be set against the tops of the base-flanges, and a pair of bars slidably engaged in the pairs of grooves in said first-named bars, having extending between, and supported by their forward portions, an extension-support bar.

840,902. SECURING MEANS FOR RAIL-JOINTS. JOHN J. BROWN, Phoenix, Miss. Filed May 9, 1906. Serial No. 316,009.



Claim.—1. The combination with rails of the class described; of plates, means to secure said plates to the rails, ears on said plates having registering ways therein, a locking-bar adapted to be disposed in said ways to secure the rails together, a head at one end of said locking-bar, and a key adapted to be seated in a slot in the opposite end of said bar, the distance between said head and key being greater than the distance between the opposing ears.

2. The combination with track-rails; of plates secured to each side of said rails, one end of each of said plates being flush with the end of the rail, means to secure said plates to the rails, ears on said plates having registering ways therein, a bar extending through the ways in said ears, and means to loosely secure said bar in said ways.

840,903. WEED-DIGGER. JOSEPH A. BUCKNALL, Detroit, Mich. Filed Oct. 15, 1906. Serial No. 338,959.



Claim.—1. A tool for removing weeds, consisting of a tube provided with a diagonal cutting end and with a chamber expanding from the cutting end toward the handle end, substantially as described.

2. A tool for removing weeds, consisting of a tube provided with pointed cutters having a space between said cutters expanding from the point of the tool toward the handle thereof, substantially as described.

840,904. RANGE-DETERMINING DEVICE. ARTHUR L. BUMP, Governors Island, N. Y. Filed Jan. 30, 1905. Serial No. 243,188.

Claim.—1. A sight device for firearms comprising a sleeve arranged to be slid onto the muzzle of a firearm, a linear sighting element carried by the sleeve in alinement with the bore of the barrel, a second linear sighting element carried by the sleeve and movable therein to and from the other sighting element in parallelism therewith, and means for indicating the movement of the sighting element relative to the other sighting element.

2. The combination in a firearm, of a casing removably attached to the barrel, a cross-wire carried by the casing and extending across in alinement with the bore of the barrel, a second cross-wire mounted on the casing, means for moving one of said cross-wires to and from the other cross-wire, an indicating device connected with the movable cross-wire and arranged to have a corresponding movement, a scale adjacent the indicator for showing the movement of the indicator, the butt of the firearm having a slot at its upper side, and a strip removably mounted in

such slotted portion, and having a peep device arranged to register with the bore of the firearm.

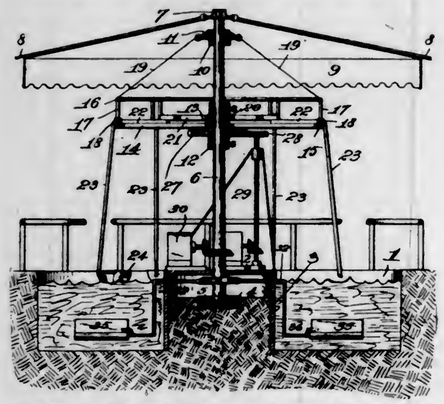
3. The combination with the barrel of a firearm of a casing arranged to slide on the end of the barrel and having a socket portion, a cross-wire carried by the casing and extending across in alinement with the bore of the barrel, a thumb-screw having a head at one end located in said socket in the casing, a piece having a threaded aperture engaging said screw, a pair of arms mounted on said piece, the casing having guideways in which said arms are slidably mounted, whereby the rotation of said screw will cause the plate and arms to reciprocate in the casing, a cross-wire carried by said arms and caused to approach and recede from said cross-wire by the rotation of said screw, a pointer pivoted on the casing and having one end engaging said movable member, and a scale arranged adjacent the other extremity of the pointer.



4. The combination with the barrel of a firearm, of a casing removably attached to the barrel, a plate attached to one end portion of the casing, a cross-wire secured by its extremities between the plate and the casing and extending across in alinement the bore of the barrel, the engaging portions of the casing and plate having registering grooves forming channels, a piece having a rod at each end disposed to slide in said channels, the plate and the casing having registering recesses forming a socket with an enlarged bottom portion, said piece having a screw-threaded bore, a thumb-screw working in said bore of the piece and having a head at one end retained in said socket, whereby the turning of the screw will advance the piece and rods, a cross-wire carried by said rods and moved to and from said cross-wire by the turning of the screw, a pointer pivoted on the casing and having a pin at one end engaging a socket portion in one of said rods, whereby the adjustment of the cross-wire will correspondingly move the pointer, and a scale arranged adjacent the other end of the pointer.

5. In a device of the character specified, the combination with a casing having a slot in its upper portion to accommodate the sight of a firearm, said casing having an opening, adapted when the casing is in place, to correspond with the bore of the arm, a depression in the face of said casing, a member located in said depression and having ways, a member having standards movably mounted in said ways, a set-screw associated with said casing and said member whereby the latter may be moved relatively to said casing, an indicator fulcrumed upon the casing and having its shorter end attached to a standard on the member, a wire carried by said standards, another wire carried between the depression and the member located therein, and a scale for ascertaining the movement of the indicator when the wires are spread apart or moved toward each other by the set-screw.

840,905. WATER-CAROUSEL. WALTER D. BURKE, St. Louis, Mo. Filed Apr. 24, 1906. Serial No. 313,506.



Claim.—1. In a water-carousel, a tank, a vertically-disposed shaft in the center thereof, means whereby said shaft is driven, a cage supported by said shaft, a series of radially-arranged arms fixed on the shaft, and a series of boat-carrying arms pivotally connected to the outer ends of the radially-arranged arms and extending through the cage; substantially as specified.

2. In a water-carousel, a tank, vertically-disposed shaft in the center thereof, means whereby said shaft is driven, a cage supported by said shaft, a series of radially-arranged arms fixed on the shaft, a series of boat-carrying arms pivotally connected to the outer ends of the radially-arranged arms and extending through the cage, and boats attached to the lower ends of said boat-carrying arms and which travel in the tank; substantially as specified.

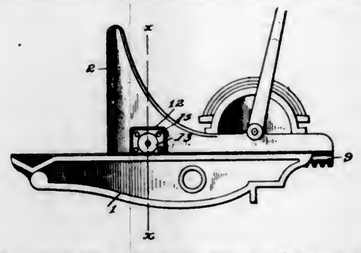
3. In a water-carousel, a tank, a vertically-disposed shaft in the center thereof, means whereby said shaft is driven, a cage supported by said shaft, a series of radially-arranged arms fixed on the shaft, a series of boat-carrying arms pivotally connected to the outer ends of the radially-arranged arms, and wave-creating devices arranged in the bottom of the tank and actuated by the rotation of the shaft; substantially as specified.

4. In a water-carousel, a tank, a vertically-disposed shaft arranged in the center thereof, means whereby said shaft is driven, a series of radially-arranged arms fixed on said shaft adjacent the upper end thereof, a series of boat-carrying arms pivotally connected to the outer ends of the radially-arranged arms, a support for said boat-carrying arms, and means whereby said support is shifted independent of the shaft; substantially as specified.

840,906. HEAD-BLOCK. ALEXANDER BURNS, Merrill, Wis. Filed Sept. 7, 1905. Serial No. 277,477.

Claim.—1. The combination with a head-block, a sawmill-carriage, a knee slidably mounted therein, housings detachably carried by the opposite faces of the knee, a journal rigidly carried by the housing, rollers detachably mounted upon said journal, a cover closing said housing, and means carried by the cover for holding said rollers on the journal.

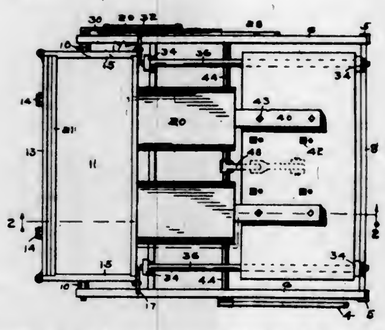
2. The combination with a head-block, of a sawmill-carriage, a knee slidably mounted therein, housings carried by the opposite sides of the knee, outwardly-extending journals mounted within the housing, detachable rollers mounted on said journals, and a swinging cover adapted to hold the rollers on the journals within the housing.



3. The combination with a head-block, of a sawmill-carriage, a knee slidably mounted therein, a housing detachably secured to the side of the knee and having an open outer face, an outwardly-extending journal rigidly mounted within the housing, detachable rollers mounted upon the journal and bearing upon the head-block, a cover hinged to the upper end of the housing and closing the opening end, and means for locking said cover in its vertical closed position, whereby the roller is held upon the journal.

4. The combination with a head-block, of a sawmill-carriage, a knee slidably mounted therein, a housing detachably secured to the side of the knee and having an open outer face, an outwardly-extending journal rigidly mounted within the housing, a detachable roller mounted upon the journal and bearing upon the head-block, a cover hinged to the upper end of the housing and closing the open outer face, a washer carried by the cover and engaging the journal and of a greater diameter, outwardly-extending lugs carried by the outer walls of said housing, and a pivoted arm carried by the cover adapted to swing under said lugs, whereby the cover is locked in its vertical position and the roller firmly held upon the journal.

840,907. CONCRETE-BLOCK MACHINE. HORACE K. BURRILL, Indianapolis, Ind. Filed Mar. 3, 1906. Serial No. 304,085



Claim.—1. In a concrete-block machine, a frame, a mold-box supported by said frame and pivotally attached thereto, a swinging support on the under side of the box to support the latter means for changing the position of the swinging support to permit of an adjustment of the pivotally-attached mold-box, said mold-box having openings through its side, and core-blocks having adjustment into and out of the mold-box through said side openings.

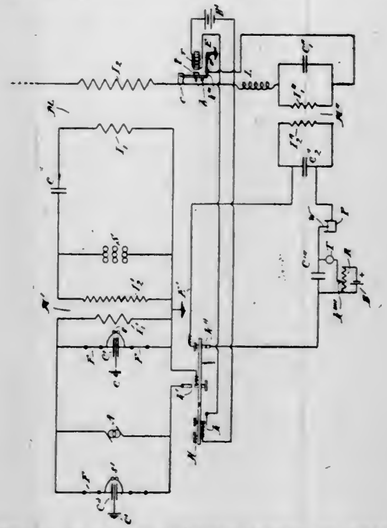
2. In a concrete-block machine, a frame, a mold-box pivotally attached to and supported by the frame, said box having openings through its inner side, a table supported by the frame of the machine and capable of a reciprocating movement, means for imparting a reciprocating movement to the table, and core-blocks attached to the table and adapted to be moved into the mold-box through said openings in the side of the box.

3. In a concrete-block machine, a frame, a mold-box pivotally attached to and supported by the frame, said box having openings through its inner side, a table supported by the frame of the machine and capable of a reciprocating movement, means for imparting a reciprocating movement to the table, means for adjusting the height of the table and core-blocks attached to the table and adapted to be moved into the mold-box through said openings in the side of the box.

4. In a concrete-block machine, a frame, a mold-box pivotally attached to and supported by the frame, said box having openings through its inner side, a table supported by the frame of the machine and capable of a reciprocating movement, means for imparting a reciprocating movement to the table, core-blocks attached to the table and adapted to be moved into the mold-box through said openings in the side of the box and means for adjusting the distance apart of the core-blocks.

5. In a concrete-block machine, a frame, a mold-box pivotally attached to and supported by the frame, said box having openings through its inner side, a table supported by the frame of the machine and capable of a reciprocating movement, means for adjusting the height of the table, means for imparting a reciprocating movement to the table, core-blocks attached to the table and adapted to be moved into the mold-box through said openings in the side of the box and means for adjusting the distance apart of the core-blocks.

840,908. SPACE TELEGRAPHY. SEWALL CABOT, Brookline, Mass., assignor to Stone Telegraph and Telephone Company, Boston, Mass., a Corporation of Maine. Filed Nov. 18, 1905. Serial No. 288,032.



Claim.—1. In a space-telegraph system, an elevated transmitting-conductor system and a receiving system having its terminals connected thereto at a point which during transmission has practically zero potential to ground.

2. In a space-telegraph system, a receiver, an elevated conductor, means associating said receiver therewith, a sending device and apparatus operated by said sending device for automatically putting said system in condition for receiving by grounding said elevated conductor through said means when said sending device is in one position and for automatically putting said system in condition for transmitting by short-circuiting said means and thereby connecting said elevated conductor directly to earth when said sending device is in another position.

3. In a space-telegraph system, a receiver, an elevated conductor, means associating said receiver therewith, a sending device and apparatus operated by said sending device for automatically putting said system in condition for receiving by grounding said elevated conductor through said means when said sending device is in its normal position and for automatically putting said system in condition for transmitting by short-circuiting said means and thereby connecting said elevated conductor directly to earth when said sending device is in another position.

4. In a space-telegraph system, a receiver, an elevated conductor, means associating said receiver therewith, a sending-key and apparatus operated by said sending-key for automatically putting said system in condition for receiving by grounding said elevated conductor through said means when said sending-key is in one position and for automatically putting said system in condition for transmitting by short-circuiting said means and thereby connecting said elevated conductor directly to earth when said sending-key is in another position.

5. In a space-telegraph system, a receiver, an elevated conductor, means associating said receiver therewith, a sending-key and apparatus operated by said sending-key for automatically putting said system in condition for receiving by grounding said elevated conductor through said means when said sending-key is in its normal position and for automatically putting said system in condition for transmitting by short-circuiting said means and thereby connecting said elevated conductor directly to earth when said sending-key is in another position.

6. In a space-telegraph system, a transmitting system including a power-circuit, a receiving system, an elevated conductor, means associating said receiving system therewith, a sending key provided with devices for closing and opening said power-circuit, and apparatus operated by said sending-key for automatically putting said receiving system in condition for receiving by grounding said elevated conductor through said means when said sending-key is in such position that said power-circuit is opened and for automatically putting said transmitting system in condition for transmitting before said sending-key is in such position that said power-circuit is closed by short-circuiting said means and thereby connecting said elevated conductor directly to earth.

7. In a space-telegraph system, a transmitting system including means for energizing the same, a receiving system, an elevated conductor, means associating said receiving system therewith, a sending device, and apparatus operated by said sending device for automatically putting said transmitting system in condition for transmitting prior to the energization thereof by short-circuiting said means and thereby connecting said elevated conductor directly to earth and for automatically putting said receiving system in condition for receiving subsequent to the deënergization of said transmitting system by grounding said elevated conductor through said means.

8. In a space-telegraph system, a transmitting system, a receiving system including a receiver, an elevated conductor, means associating said receiver therewith, and apparatus associated with said transmitting and receiving systems for rendering said receiver inoperative, short-circuiting said means, thereby directly grounding said elevated conductor, and then energizing said transmitting system.

9. In a space-telegraph system, a transmitting system, a receiving system including a receiver, an elevated conductor, means associating said receiving system therewith, a sending device associated with said transmitting and receiving systems, and apparatus operated by said sending device for rendering said receiver inoperative, short-circuiting said means, thereby directly grounding said elevated conductor, and energizing said transmitting system.

10. In a space-telegraph system, a transmitting system, a receiving system including a receiver, an elevated conductor, means associating said receiving system therewith, a sending device, and apparatus operated by said device for putting said system in condition for transmitting by rendering said receiver inoperative, short-circuiting said means, and thereby directly grounding said elevated conductor.

11. In a space-telegraph system, a transmitting system, a receiving system including a receiver, an elevated conductor, means associating said receiving system therewith, and apparatus associated with said transmitting and receiving systems for breaking the circuit of said receiver, short-circuiting said means, thereby directly grounding said elevated conductor, and then energizing said transmitting system.

12. In a space-telegraph system, a transmitting system, a receiving system including a receiver, an elevated conductor, means associating said receiving system therewith, a sending-key associated with said transmitting and receiving systems, and apparatus operated by said key for breaking the circuit of said receiver, short-circuiting said means, thereby directly grounding said elevated conductor, and then developing electrical oscillations in said transmitting system.

13. In a space-telegraph system, a transmitting system, a receiving system including a receiver, an elevated conductor, means associating said receiving system therewith, a sending-key and apparatus operated by said key for putting said system in condition for transmitting by breaking the circuit of said receiver, short-circuiting said means and thereby directly grounding said elevated conductor.

14. In a space-telegraph system, a transmitting system, a receiving system, an elevated conductor, means associating said receiving system therewith, a sending device, and apparatus operated by said sending device for protecting said receiving system during the operation of said transmitting system by short-circuiting said means and means for indicating to the transmitting operator, during the time intervals between his signal elements, that a receiving operator at another station is sending a signal.

15. In a space-telegraph system, a transmitting system, a receiving system, an elevated conductor normally grounded through said receiving system, a sending-key and means operated by said key for successively short-circuiting said receiving system, thereby directly grounding said elevated conductor, and developing electrical oscillations in said transmitting system.

16. In a space-telegraph system, a transmitting system, a receiving system, an elevated conductor normally grounded through said receiving system and means for successively short-circuiting said receiving system, thereby directly grounding said elevated conductor, and creating electrical oscillations in said transmitting system.

17. In a space-telegraph system, a transmitting system, a receiving system including a receiver, an elevated conductor, means associating said receiving system therewith, a sending device, and apparatus operated by said sending device for successively rendering said receiver inoperative, short-circuiting said means and energizing said transmitting system.

18. In a space-telegraph system, a transmitting system, a receiving system, an elevated conductor normally grounded through said receiving system, a sending device and apparatus operated by said sending device for successively short-circuiting said receiving system, thereby directly grounding said elevated conductor, and energizing said transmitting system.

19. In a space-telegraph system, a transmitting system, a receiving system, an elevated conductor normally grounded through said receiving system, a sending-key and means operated by said sending-key for short-circuiting said receiving system and thereby directly grounding said elevated conductor.

20. In a space-telegraph system, a transmitting system, a receiving system, an elevated conductor, means associating said receiving system therewith, a magnetically-operated device for short-circuiting said means, thereby directly grounding said elevated conductor, and a sending device provided with means for closing the circuit of said magnetically-operated device.

21. In a space-telegraph system, the combination with a transmitting and receiving system at the same station, of means controlled by the sending device of the transmitting system to short-circuit the receiving system during the time of transmission of each signal element.

22. In a space-telegraph system, the combination with transmitting and receiving apparatus at the same station, of means for automatically short-circuiting the receiving system synchronously with the transmission of each signal element.

23. In a space-telegraph system, the combination with transmitting and receiving apparatus at the same station, of an elevated conductor associated with said transmitting and receiving apparatus, a sending device, and means operated by said sending device for protecting said receiving apparatus by short-circuiting the same during the operation of said transmitting apparatus and means for indicating to the transmitting operator, during the time intervals between his signal elements, that a receiving operator at another station is sending a signal.

24. In a space-telegraph system, an elevated conductor, a source of electrical oscillations, means associating said elevated conductor and said source of electrical oscillations, and a receiving system serially connected with said elevated conductor between the lower end of the aforesaid means and the earth connection of said elevated conductor.

25. In a space-telegraph system, an elevated conductor, a source of electrical oscillations, means for inductively translating the energy of said electrical oscillations to the said elevated conductor, and a receiving system serially connected with said elevated conductor between the lower end of the aforesaid means and the earth connection of said elevated conductor.

26. In a space-telegraph system, an elevated conductor, an oscillation-circuit, an inductance included in said elevated conductor, an inductance included in said oscillation-circuit, and a receiving system serially connected with said elevated conductor between the lower end of the inductance which is included in said elevated conductor and the earth connection of said elevated conductor.

27. In a space-telegraph system, an elevated transmitting-conductor system, a receiving system connected thereto at a point which during transmission has practically zero potential to ground, a sending device and means controlled thereby for connecting said receiving system to said elevated transmitting-conductor system between two points across which there exists a practically zero difference of potential during transmission.

28. In a space-telegraph system, an elevated conductor, means whereby electrical oscillations may be developed therein and a receiving system serially connected with said elevated conductor between the earth connection thereof and the point of association of said means therewith.

29. In a space-telegraph system, an elevated conductor, means whereby electrical oscillations may be developed therein, a receiving system serially connected with said elevated conductor between the earth connection thereof and the point of association of said means therewith, and means for protecting said receiving system during the development of oscillations in said conductor.

30. In a space-telegraph system, an elevated conductor, an oscillation-producer, means associating said oscillation-producer with said elevated conductor, and a receiving system serially connected with said elevated conductor between said means and the earth connection of said conductor.

31. In a space-telegraph system, an elevated conductor, an oscillation-producer, means associating said oscillation-producer with said elevated conductor, a receiving system serially connected with said elevated conductor between said means and the earth connection of said conductor, and means for protecting said receiving system during the operation of said oscillation-producer.

32. In a space-telegraph system, an elevated conductor, means whereby electrical oscillations may be developed therein, a sending device controlling said means, a receiving system connected between the earth connection of said elevated conductor and the point of association of said means with said conductor, and means controlled by the said sending device for connecting said elevated conductor directly to earth and short-circuiting said receiving system.

33. In a space-telegraph system, an elevated conductor, an oscillation-producer, a sending device controlling said oscillation-producer, means associating said oscillation-producer with said elevated conductor, a receiving system connected to said elevated conductor between said means and the earth connection of said conductor, and means controlled by said sending device for connecting said elevated conductor directly to earth and short-circuiting said receiving system.

34. In a space-telegraph system, an elevated conductor, an inductance included in said elevated conductor, a receiving system serially connected with said elevated conductor between the lower end of said inductance and the earth connection of said conductor, means associated with said inductance for developing electrical oscillations in said elevated conductor, and apparatus for protecting said receiving system during the development of oscillations in said elevated conductor by said means.

35. In a space-telegraph system, an elevated transmitting-conductor system, a receiving system, a sending device and means controlled thereby for connecting said receiving system to said elevated transmitting-conductor system between two points across which there exists a practically zero difference of potential during transmission.

36. In a space-telegraph system, an elevated transmitting-conductor system, a receiving system, one terminal of which is connected to said transmitting system at a point having practically zero potential to ground, a sending device and means controlled thereby for connecting the other terminal of said receiving system to said elevated transmitting-conductor system at a point which during transmission has practically zero potential to ground.

37. In a space-telegraph system, an elevated transmitting-conductor system, a receiving system and means connecting the terminals of said receiving system during transmission to said elevated transmitting-conductor system at a point which during transmission has practically zero potential to ground.

38. In a space-telegraph system an elevated transmitting-conductor system, a receiving system, a sending device and means controlled thereby for connecting the terminals of said receiving system during transmission to said elevated transmitting-conductor system at a point which during transmission has practically zero potential to ground.

39. In a space-telegraph system, an elevated transmitting-conductor system, a sending device, a receiving system having one terminal connected to said elevated transmitting-conductor system at a point, a conductor of practically zero impedance connecting said point to earth, and a conductor of practically zero impedance controlled by said sending device for connecting the other terminal of said receiving system to the aforesaid point.

40. In a space-telegraph system, an elevated conductor, a source of electrical oscillations, means associating said elevated conductor and said source of electrical oscillations, a receiving system connected to said elevated conductor between the lower end of the aforesaid means and the earth connection of said elevated conductor, a sending device and means controlled thereby for short-circuiting said receiving system.

41. In a space-telegraph system, an elevated conductor, a source of electrical oscillations, means for inductively translating the energy of said electrical oscillations to said elevated conductor, a receiving system connected to said elevated conductor between the lower end of the aforesaid means and the earth connection of said elevated conductor, a sending device and means controlled thereby for short-circuiting said receiving system.

42. In a space-telegraph system, an elevated conductor, an oscillating circuit, an inductance included in said elevated conductor, an inductance included in said oscillation-circuit, a receiving system connected to said elevated conductor between the lower end of the inductance which is included in said elevated conductor and the earth connection of said elevated conductor, a sending device and means controlled thereby for short-circuiting said receiving system.

43. In a space-telegraph system, an elevated conductor, means whereby electrical oscillations may be developed therein, a sending device controlling said means, a re-

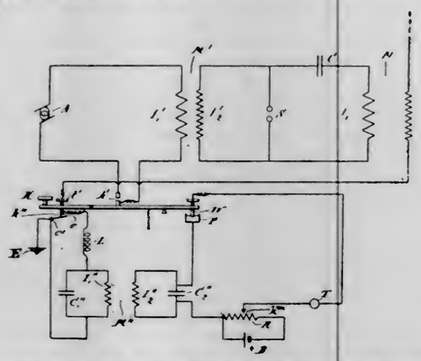
ceiving system connected between the earth connection of said elevated conductor and the point of association of said means with said conductor and means controlled by said sending device for short-circuiting said receiving system.

44. In a space-telegraph system, an elevated conductor, an oscillation-producer, a sending device controlling said oscillation-producer, means associating said oscillation-producer with said elevated conductor, a receiving system connected to said elevated conductor between said means and the earth connection of said conductor, and means controlled by said sending device for short-circuiting said receiving system.

45. In a space-telegraph system, a receiver, an elevated conductor, means associating said receiver therewith, a sending device and apparatus operated by said sending device for automatically putting said system in condition for receiving by grounding said elevated conductor through said means when said sending device is in one position and for automatically putting said system in condition for transmitting by short-circuiting said means when said sending device is in another position.

46. In a space-telegraph system, a receiver, an elevated conductor, means associating said receiver therewith, a sending device and apparatus operated by said sending device for automatically putting said system in condition for receiving by grounding said elevated conductor through said means when said sending device is in its normal position and for automatically putting said system in condition for transmitting by short-circuiting said means when said sending device is in another position.

840,909. SPACE TELEGRAPHY. SEWALL CABOT, Brookline, Mass., assignor to Stone Telegraph and Telephone Company, Boston, Mass., a Corporation of Maine. Original application filed Nov. 18, 1905, Serial No. 288,032. Divided and this application filed Nov. 25, 1905. Serial No. 288,989.



Claim.—1. In a space-telegraph system, a transmitting system, a receiving system including a receiver, a sending-key and means operated by said key for automatically rendering said receiver inoperative by separating the coöperating parts thereof.

2. In a space-telegraph system, a transmitting system, a receiving system including a receiver, and means associated with said transmitting and receiving systems for rendering said receiver inoperative by separating the coöperating parts thereof, grounding said transmitting system and creating electrical oscillations in said transmitting system.

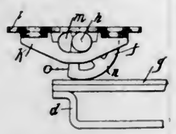
3. In a space-telegraph system, a transmitting system, a receiving system including a receiver, a sending-key and means for effecting the separation of the coöperating parts of said receiver by the movement of said key.

4. In a space-telegraph system, a transmitting system, a receiving system, an elevated conductor normally grounded through said receiving system, a sending device, and means directly connected with said sending device for short-circuiting said receiving system by the movement of said sending device.

5. In a space-telegraph system, a transmitting system including a sending device, an elevated conductor conductively connected to a contact member carried by said sending device, and a receiving system the terminals of which are conductively connected to said contact member and to a grounded member coöperating with said contact member, respectively, whereby the movement of said sending device will short-circuit said receiving system.

6. In a space-telegraph system, a transmitting system, a receiving system, an elevated conductor normally grounded through said receiving system, a sending device, and means conductively connected with said sending device for directly grounding said elevated conductor and short-circuiting said receiving system by the movement of said sending device.

840,910. CAR CONSTRUCTION. JAMES R. CARDWELL, Chicago, Ill. Filed Mar. 24, 1906. Serial No. 307,876.



Claim.—1. The combination with a car-body, of side bearings in the form of rockers depending therefrom and carried thereby, said rockers having shafts and bearings for the shafts carried by the car-body, said bearings being provided with horizontally-elongated openings into which said shafts project.

2. The combination with a car-body, of side bearings in the form of rockers depending therefrom and carried thereby, and mountings for carrying the rockers and permitting the rockers to swing to normal position when free of riding engagement and permitting bodily movement of the rockers where mounted.

3. The combination with a car-body, of side bearings in the form of rockers depending therefrom and carried thereby, there being means for returning the rockers to their normal vertical positions when relieved of riding engagement.

4. The combination with a car-body, of side bearings in the form of rockers depending therefrom and carried thereby, said rockers having shafts and bearings for the shafts carried by the car-body, there being means for returning the rockers to their normal vertical positions when relieved of riding engagement.

5. The combination with a car-body, of side bearings in the form of rockers depending therefrom and carried thereby, said rockers having shafts and bearings for the shafts carried by the car-body, said bearings being provided with horizontally-elongated openings into which said shafts project, there being means for returning the rockers to their normal vertical positions when relieved of riding engagement.

6. The combination with a car-body, of side bearings in the form of rockers depending therefrom and carried thereby, mountings for the rockers permitting the rockers to swing and permitting bodily movement of the rockers where mounted, there being means for returning the rockers to their normal vertical positions when relieved of riding engagement.

7. The combination with a car-body, of side bearings in the form of rockers depending therefrom and carried thereby, said rockers having shafts and bearings for the shafts carried by the car-body, said bearings being provided with horizontally-elongated openings into which said shafts project, there being means for returning the rockers to their normal central positions within their bearings.

8. The combination with a car-body, of side bearings in the form of rockers depending therefrom and carried thereby, mountings for the rockers permitting the rockers to swing and permitting bodily movement of the rockers where mounted, there being means for returning the rockers to their normal central positions within their bearings.

9. The combination with a car-body, of side bearings in the form of rockers depending therefrom and carried thereby, each rocker being provided with a tooth or projection p, the car-body being provided with a slot q for each tooth, with opposite walls of which slot said tooth may coöperate to return the rocker to its normal central position.

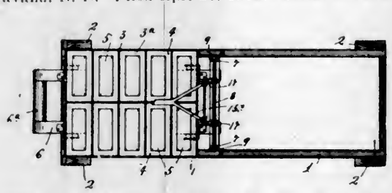
10. The combination with a car-body, of side bearings in the form of rockers depending therefrom and carried thereby, said rockers having shafts and bearings for the shafts carried by the car-body, each rocker being provided with a tooth or projection p, the car-body being provided with a slot q for each tooth, with opposite walls of which slot said tooth may coöperate to return the rocker to its normal central position.

11. The combination with a car-body, of side bearings in the form of rockers depending therefrom and carried thereby, said rockers having shafts and bearings for the shafts carried by the car-body, said bearings being provided with horizontally-elongated openings into which said shafts project, said rockers having shafts and bearings for the shafts carried by the car-body, each rocker being provided with a tooth or projection p, the car-body being provided with a slot q for each tooth, with opposite walls of which slot said tooth may coöperate to return the rocker to its normal central position.

12. The combination with a car-body, of side bearings in the form of rockers depending therefrom and carried thereby, and mountings for the rockers permitting the rockers to swing and permitting bodily movement of the rockers where mounted, said rockers having shafts and bearings for the shafts carried by the car-body, each rocker being provided with a tooth or projection p, the car-body being provided with a slot q for each tooth, with opposite walls of which slot said tooth may coöperate to return the rocker to its normal central position.

13. The combination with a car-body, of side bearings in the form of rockers depending therefrom and carried thereby, each rocker being provided with a cam formation and an element coöperating with said cam formation for returning the rocker to its normal position when free of riding engagement.

840,911. CONCRETE-BRICK MACHINE. JOHN CARLEN, Havana, N. D. Filed Apr. 21, 1906. Serial No. 312,999.



Claim.—1. In a machine of the kind described, the combination with a supporting-frame and an invertible carrying-frame hinged thereto and having a plurality of mold-plates, of a flask carried by said frame but movable laterally with respect thereto and having a plurality of molds in which the several mold-plates work, a pallet-board adapted to be applied on top of the filled flask and to be inverted with the flask and carrying-frame, and a lever-actuated means for raising the flask to eject the bricks therefrom when the said parts are inverted, substantially as described.

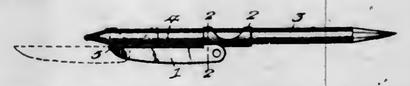
2. In a machine of the kind described, the combination with a supporting-frame, of an inverted carrying-frame hinged thereto and provided with a plurality of mold-plates, a flask carried by said invertible frame but movable laterally with respect thereto and having a plurality of molds in which the several mold-plates work, a pallet-board adapted to be applied to the top of the filled flask, a lever hinged to said invertible frame for holding said pallet-board in position while the said carrying-frame, flask and pallet-board are being inverted, a lever-actuated means arranged to impart a parallel movement to said flask to eject the bricks when the said parts are inverted, substantially as described.

3. In a machine of the kind described, the combination with an invertible carrying-frame provided with a plurality of mold-plates, of a flask carried by said frame but movable laterally with respect thereto and having a plurality of molds in which said mold-plates work, a pallet-board adapted to be applied to the top of the filled flask and to be inverted therewith, and means for raising the flask when the parts are inverted comprising guide-sheaves on said frame, an operating-lever pivoted to said frame, and flexible connections between said lever and said flask arranged to run over said guide-sheaves, substantially as described.

4. In a machine of the kind described, the combination with a supporting-frame and an invertible carrying-frame hinged thereto having a mold-plate formed with a core, of a flask carried by said frame but movable laterally with respect thereto and having a mold in which said mold-plate and core are arranged to work, substantially as described.

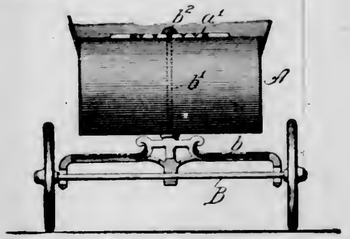
5. In a machine of the kind described, the combination with a supporting-frame and an invertible carrying-frame hinged thereto having a plurality of mold-plates secured thereto, said mold-plates having cores for producing hollow bricks, and a flask carried by said frame but mounted to move laterally with respect thereto and having a plurality of molds in which the said mold-plates and cores are adapted to work, substantially as described.

840,912. ENVELOP-OPENER. FREDERIC M. COFFILL, North Adams, Mass. Filed May 16, 1906. Serial No. 317,211.



Claim.—As a new article of manufacture, an envelop-opener formed from a single piece of material and comprising a fixed blade having a cutting edge and a tubular shank, said shank being disposed wholly to one side of the blade in a direction transversely thereof and in line with and parallel to the said cutting edge and designed for the reception of a body to cover and protect said cutting edge, the latter being formed on a straight line parallel with the body when in place.

840,913. TOY AUTOMOBILE. ADRIAN C. COOKE, Chicago, Ill., assignor to Acme Toy Works, Chicago, Ill., a Corporation of Illinois. Filed Nov. 28, 1904. Serial No. 234,552.

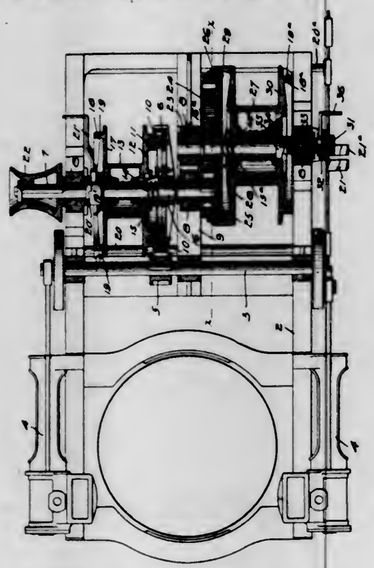


Claim.—In a toy automobile, the combination with a front axle, of a steering-fork having a central bearing in which the axle may oscillate vertically and having vertical guide-slots for the end portions of the axle, substantially as and for the purpose set forth.

840,914. LOGGING-ENGINE. WILLIAM H. CORBETT, Portland, Oreg. Filed Mar. 22, 1906. Serial No. 307,340.

Claim.—1. The combination, with a driving-shaft, of a drum-shaft geared to said driving-shaft, a loosely-mounted

drum on said drum-shaft, means for temporarily locking said drum to its shaft, a second drum-shaft, gear mounted thereon, a pinion provided on said first-named drum-shaft and meshing with said gear, whereby said gear will be driven at a slower speed than said first-named drum, a second drum mounted on said second-named drum-shaft, and means for temporarily locking said second-named drum to said gear, substantially as described.



2. The combination, with a driving-shaft, of a drum-shaft geared thereto, a pinion mounted on said drum-shaft, a second drum-shaft, gear mounted thereon, and meshing with said pinion, drums loosely mounted on said shafts, and means for temporarily locking them thereon, substantially as described.

3. The combination, with a driving-shaft, of a high-speed-drum shaft geared thereto, a low-speed-drum shaft having gear connection with said high-speed shaft, and drums mounted on said shafts, operating in the same direction the drum on said high-speed shaft being of less diameter than the drum on said low-speed shaft, substantially as described.

4. The combination, with a driving-shaft, of a high-speed shaft geared thereto, a head provided on the outer end of said high-speed shaft, a pinion mounted on the opposite end of said high-speed shaft, a low-speed shaft, gear mounted thereon and meshing with said pinions, drums loosely mounted on said high and low speed shafts, and means for temporarily locking said drums on said shafts, substantially as described.

5. An engine comprising in combination, a frame, a driven shaft mounted thereon, a pinion secured on said shaft, a high-speed shaft journaled in said frame, a gear secured on said shaft and meshing with said pinion, a pinion provided on one end of said high-speed shaft, a low-speed shaft also journaled in said frame, an internal gear mounted on said low-speed shaft and meshing with said last-named pinion, whereby said shafts will be driven in the same direction, winding-drums loosely mounted on said shafts, whereon a trip-line and a hauling-in cable are wound, and means for temporarily locking said drums on said shafts, substantially as described.

6. The combination, with a driving-shaft, of a drum-shaft geared to said driving-shaft, a loosely-mounted drum on said drum-shaft, means for temporarily locking said drum to its shaft, a second drum-shaft, an internal gear mounted thereon, a pinion provided on said first-named drum-shaft and meshing with said internal gear, whereby said internal gear will be driven at a slower speed than said first-named drum, a second drum mounted on said second-named drum-shaft, and means for temporarily locking said second-named drum to said internal gear, substantially as described.

7. The combination, with a driving-shaft, of a drum-shaft geared thereto, a pinion mounted on said drum-shaft, a second drum-shaft, an internal ring-gear mounted thereon, and meshing with said pinion, drums loosely mounted on said shafts, and means for temporarily locking them thereon, substantially as described.

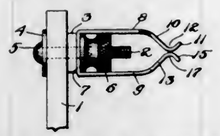
8. The combination with a driving-shaft, of a high-speed-drum shaft geared thereto, a low-speed-drum shaft having an internal gear connection with said high-speed shaft, and drums mounted on said shafts, and operating in the same direction, the drum on said high-speed shaft being of less diameter than the drum on said low-speed shaft, substantially as described.

9. The combination, in an engine of the class described, with a driving-shaft of a direct-geared trip-drum, a compound-geared main drum and a supplementary gipsy-winch, and means for causing said drums and winch to revolve in the same direction, substantially as described.

10. The combination, in an engine of the class described, with a driving-shaft, of a direct-geared trip-drum, a compound-geared main drum, and means for causing said drums to revolve in the same direction.

11. The combination, in an engine of the class described, with a driving-shaft, of a direct-geared, high-speed trip-drum, a compound-geared low-speed main drum, overwound cables for said drums and means for causing said drums to revolve in the same direction, substantially as described.

840,915. BATTERY BINDING-POST. GEORGE H. COVE, Roxbury, Mass., assignor, by direct and mesne assignments, of one-half to Frank R. Kimball and one-half to Hampton V. Hayward, Boston, Mass. Filed Mar. 3, 1906. Serial No. 303,986.

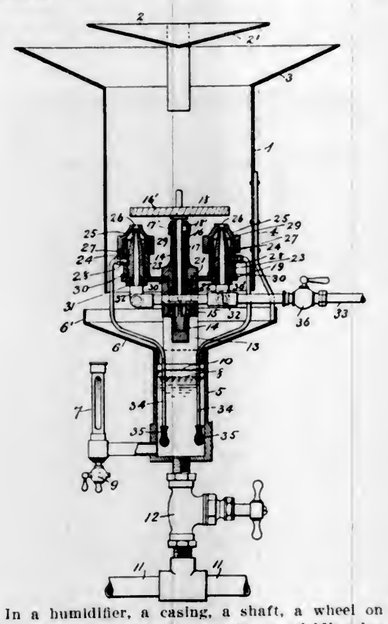


Claim.—1. As an article of manufacture, a binding-post attachment for electric batteries, consisting of a nut provided on its opposite sides with forwardly-extending spring members having their free ends bent and normally separated, one of said free ends having a longitudinal recess to receive the terminal of the opposite member when they are pressed or sprung past each other, for receiving and clamping a service-wire.

2. As an article of manufacture, a binding-post attachment for electric batteries, consisting of a single strip of spring metal having a U-shaped bend at its rear portion, securing means carried by said U-shaped bend between the opposite projecting members thereof, one member having a downwardly-bent tongue, and the other member having upwardly-bent embracing-tongues adapted to receive said downwardly-bent tongue between them, the extreme free ends of said tongues being oppositely bent to form coöperating engaging hollows for holding a wire when said tongues are sprung past each other into holding position.

840,916. HUMIDIFIER OR AIR-MOISTENING APPARATUS. STUART W. CRAMER, Charlotte, N. C. Filed Feb. 13, 1906. Serial No. 300,901.

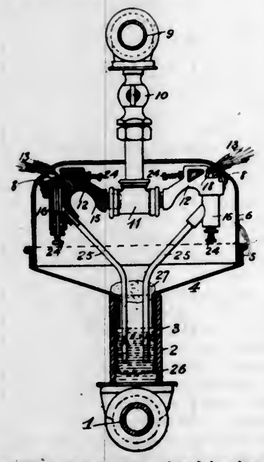
Claim.—1. In a humidifier, a casing, a shaft, a wheel on said shaft, a shaft-bearing casing, a support to which the shaft-bearing casing is secured, a loose sleeve-bearing for the shaft within said shaft-bearing casing, a plurality of vertical spray-heads under and adjacent to said wheel, a support for the spray-heads secured to the shaft-bearing casing, means for securing the spray-heads to their supports, a fluid-supply pipe, and a liquid-supply pipe for said spray-heads.



2. In a humidifier, a casing, a shaft, a wheel on the shaft, a vertical shaft-bearing casing, a yielding bearing for the shaft within said casing, means for limiting the upward movement of said shaft, spray-heads under and adjacent to said wheel and each having a nozzle provided with a nipple at its lower end, a horizontal support for the spray-heads secured to the shaft-bearing casing and through which support said nipples extend, a nut on each nipple under said horizontal support, a fluid-supply pipe, and a liquid-supply pipe for said heads.

840,917. HUMIDIFIER. STUART W. CRAMER, Charlotte, N. C. Filed Mar. 14, 1906. Serial No. 306,018.

Claim.—1. In a humidifier, an atomizer-head having air and water discharge orifices, said water-orifices being provided with a laterally-movable tip, and means for supplying air and water to the atomizer-head.



2. In a humidifier, an atomizer-head having air and water discharge orifices, a laterally-movable tip for the water-orifice, means for placing the tip in the path of air-discharge from the air-orifice, and means for supplying air and water to the atomizer-head.

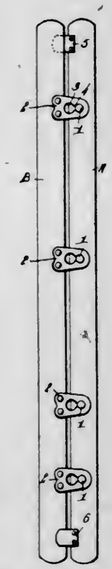
3. In a humidifier, an atomizer-head having air and water discharge orifices, said water-orifice being provided with a laterally-movable tip, and a reciprocating cleaning-needle, and means for supplying air and water to the atomizer-head.

4. In a humidifier, an atomizer-head having air and water discharge orifices, said water-orifice being provided with a laterally-movable tip, and both the air and water orifices provided with a reciprocating cleaning-needle, and means for supplying air and water to the atomizer-head.

5. An atomizer-head provided with air and water discharge orifices, the latter having a movable tip pivotally secured to the head, and means for placing the tip in the path of air discharged from the air-orifice.

6. In a humidifier, a pair of atomizer-heads provided with means for supplying air and water thereto, an air-supply pipe to which said heads are attached, a drip-pan, a removable casing resting on and closed at its lower end by said drip-pan, and provided with a discharge-aperture opposite each atomizer-head.

840,918. CORSET-CLASP. CLARA H. CUNNINGHAM, Washington, D. C. Filed Mar. 8, 1906. Serial No. 304,958.



Claim.—1. A corset-clasp comprising two stays, one having a series of studs on one side and the other having a series of laterally-projecting fastening devices adapted to engage said studs and prevent relative endwise movement and lateral separation of the stays, when the stays are arranged edge to edge, one of said stays having also a laterally-projecting tongue located at one end of the stay and at a sufficient distance beyond the series of fastening devices to permit the tongue to be sprung over the opposing stay after said fastening devices have been engaged.

2. A corset-clasp comprising two stays, one having a series of studs on one side and the other having a series of laterally-projecting fastening devices adapted to engage said studs and prevent relative endwise movement and lateral separation of the stays, when the stays are arranged edge to edge, one of said stays having also a laterally-projecting tongue located at one end of the stay and at a sufficient distance beyond the series of fastening devices to permit the tongue to be sprung over the opposing stay after said fastening devices have been engaged, and said clasp

having also means at the opposite end of said series of fastening devices for locking the stays together.

3. A corset-clasp comprising a pair of stays, one stay having a series of laterally-projecting eyes adapted to overlap the opposing stay, and said opposing stay having on one side a series of studs, said eyes and studs forming fastening devices adapted to engage and prevent relative endwise movement and lateral separation of the stays when the latter are arranged edge to edge, one of said stays having also a lateral projection located at one end of the stay and at a sufficient distance beyond the end of the series of fastening devices to permit the projection to be sprung over the opposite stay after said fastening devices have been engaged.

4. A corset-clasp comprising a pair of stays, one stay having a series of laterally-projecting eyes adapted to overlap the opposing stay, and said opposing stay having on one side a series of studs, said eyes and studs forming fastening devices adapted to engage and prevent relative endwise movement and lateral separation of the stays when the latter are arranged edge to edge, one of said stays having also a lateral projection located at one end of the stay and at a sufficient distance beyond the end of the series of fastening devices to permit the projection to be sprung over the opposite stay after said fastening devices have been engaged, and said clasp having means at the opposite end of the series of fastening devices for locking the stays together.

5. A corset-clasp comprising two stays, one having a series of studs projecting from one side, and a stay having laterally-projecting eyes adapted to engage said studs and prevent relative endwise movement and lateral separation of the stays when the latter are arranged edge to edge, said first-mentioned stay having also a laterally-projecting tongue at each end, said tongues being located at a sufficient distance beyond the ends of the series of fastening devices to permit the tongues to be sprung over the opposing stay when the studs are in engagement with the eyes.

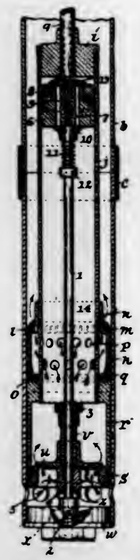
6. A corset-clasp comprising two stays, one having a series of studs on one side and the other having a series of laterally-projecting fastening devices adapted to engage said studs and prevent relative endwise movement and lateral separation of the stays when the stays are arranged edge to edge, one of said stays having also a tongue projecting laterally from the stay on the same side of the stay as the fastening devices thereon, said tongue being located at one end of the stay and at a sufficient distance beyond the end of the series of fastening devices to permit the tongue to be sprung over the opposing stay after said fastening devices have been engaged.

7. A corset-clasp comprising two stays, one having a series of studs on one side and the other having a series of laterally-projecting fastening devices adapted to engage said studs and prevent relative endwise movement and lateral separation of the stays when the stays are arranged edge to edge, one of said stays having also a pair of tongues projecting laterally from the stay on the same side of the stay as the fastening devices thereon, said tongues being located at the ends of the stay and at a sufficient distance beyond the ends of the series of fastening devices to permit the tongues to be sprung over the opposing stay after said fastening devices have been engaged.

840,919. PUMP. PHILIP H. DEIS, Washington, D. C. Filed Jan. 9, 1906. Serial No. 295,218.

Claim.—1. In a pump, the combination, with a conducting means, of a lifting means having an upwardly-opening valve constantly subject to the closing pressure of the rising column, and means for maintaining a pressure tending to open said valve which shall be greater during the upstroke and less during the downstroke than that due to said column, whereby to maintain the prime load substantially constant during a full stroke in both directions.

2. In a pump, the combination, with a conducting means, of a lifting means having an upwardly-opening valve constantly subject to the closing pressure of the rising column, and means for maintaining a pressure tending to open said valve which shall be greater during the upstroke and not more during the downstroke than that due to said column, whereby to maintain the prime load substantially constant during a full stroke in both directions.



3. In a pump, the combination, with a conducting means, of a lifting means having an upwardly-opening valve constantly subject to the closing pressure of the rising column, and means for maintaining a pressure tending to open said valve which shall be greater during the upstroke and not more during the downstroke than that due to said column and substantially the same during the downstroke as it is when the lifting means is at rest, whereby to maintain the prime load substantially constant during a full stroke in both directions.

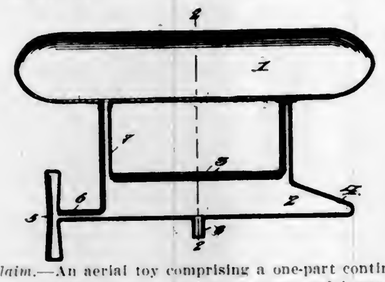
4. In a pump, the combination, with a conducting means, of a lifting means having an upwardly-opening valve constantly subject to the closing pressure of the rising column, a balancer for the prime load connected with the lifting means, and means for maintaining a pressure tending to open said valve which shall be greater during the upstroke and not more during the downstroke than that due to said column, whereby to maintain the prime load substantially constant during a full stroke in both directions.

5. The combination, with the conducting means, of a plunger having a vertical space therein, upwardly-opening relatively superposed valves movable with and relatively to said plunger, and a piston in said space with relation to which said plunger is movable, the lower valve being relatively below said space and the pressure escape by the upper valve being relatively between said lower valve and the piston, substantially as described.

6. The combination, with the conducting means, of a tubular plunger, a fixed piston arranged in the space of said plunger, and upwardly-opening relatively superposed valves movable with and relatively to said plunger, the lower valve being relatively below said space and the pressure escape by the upper valve being relatively between said lower valve and piston, substantially as described.

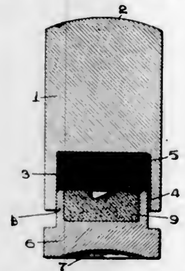
7. The combination, with the conducting means, of a tubular plunger, a tubular sucker-rod connected to the plunger and affording atmospheric communication to the space thereof, a fixed piston arranged in said plunger, upwardly-opening relatively superposed valves movable with and relatively to said plunger, the lower valve being relatively below said space and the pressure escape by the upper valve being relatively below the valve and the piston, substantially as described.

840,920. TOY. PETER J. DELZEIT, Jr., Rosedale, N. J. Filed May 24, 1905. Serial No. 262,101.



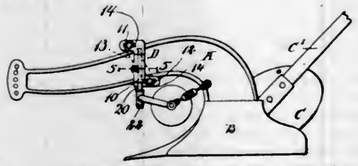
Claim.—An aerial toy comprising a one-part continuous hollow flexible structure having an upper and lower compartment separated by interposing vertically-arranged communicating tubes, a horizontal prow formed by a continuation of one of the tubes and by the bottom of the lower compartment, a horizontal tube formed by a continuation of the other tube and also by the bottom of said lower compartment, the horizontal tube being provided with blades, and a central depending filling-tube adapted to supply the whole structure with gas.

840,921. DENTAL SWAGE. JOSEPH W. DICKEY, St Louis, Mo. Filed Aug. 21, 1906. Serial No. 331,531.



Claim.—The herein-described dental swage, comprising a base provided with a recess in its upper end, a filler of plastic material for said recess, the top surface of which filler lies flush with the upper edge of the base, an upper member provided with a recess in its lower end, and adapted to slide closely down over the upper end of the base; grooves formed in the inner face of the recess in the upper member, which grooves extend the entire length of said recess and a body of plastic material partially filling the recess in the upper member; substantially as specified.

840,922. JOINTER FOR STUBBLE-PLOWS. DON H. DICKINSON, Parker, Oreg. Filed Aug. 30, 1906. Serial No. 332,613.



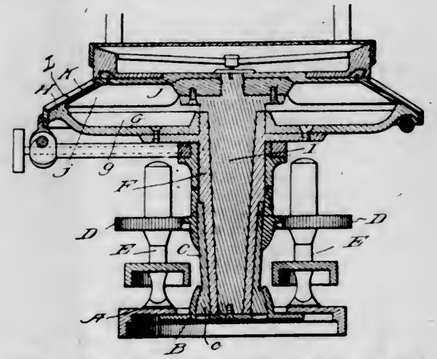
Claim.—1. In a plow, the combination with the beam, of a standard adjustably connected therewith, a frame journaled on the lower end of the standard, and an adjustable connection between the frame and the beam, whereby to fix the frame with respect to said beam.

2. In a plow, the combination with the beam, of a bracket adjustably secured thereto, said bracket being provided on its outer face with a tubular extension and with a transverse opening communicating with the extension, a standard extending into the tubular extension, and having an enlargement on the lower end thereof, a bolt within the opening, said bolt having a wedge-shaped serrated head for engaging the standard whereby to secure it in its adjusted position, a nut outside of the extension and engaging the bolt, whereby to force the head into contact with the standard, a frame journaled on the lower end of the standard above the enlargement, and means for fixing the frame with respect to the beam.

3. In a plow, the combination with the beam thereof, a bracket secured to the beam, a standard carried by said bracket, and a locking device for the standard also carried by said bracket, of a socket-section mounted to turn on the standard below the beam, and opposing arms extending rearwardly from said socket-section, the land-side arm being the longest, a spindle journaled in said arms, a disk cutter secured to said spindle, dished at its moldboard side, means for adjustably connecting the disk cutter to the beam, and a moldboard supported by one of said arms and acting in conjunction with the dished face of the cutter.

4. In a plow, the combination with the beam, of a bracket adjustably secured thereto, said bracket having a tubular extension on the outer face thereof, and a transverse opening communicating with the extension, a standard in the tubular extension, a bolt within the opening and having a wedge-shaped head for engaging the standard whereby to secure it in its adjusted position, a frame rotatably mounted on the lower end of the standard, a disk cutter journaled in the frame, and means controlled with the frame for retaining the cutter in position with respect to the plow.

840,923. ENGINEER'S TRANSIT. JOHN A. EARLY, Batchtown, Ill. Filed Apr. 13, 1904. Serial No. 203,006.

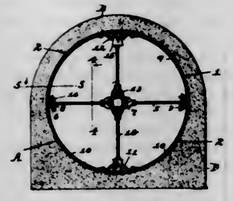


Claim.—In an instrument of the character described, a limb comprising a lower horizontal circular plate having a central opening with a collar or flange extending upwardly therefrom, an upwardly-curved peripheral edge provided with a scale-face inclined to the plane of the plate, and strengthening ribs or flanges extending radially between said collar and upwardly-curved edge, and an upper horizontal plate provided with a downwardly-inclined edge carrying a vernier, said scale-face and vernier thus lying in a conical surface and the plates being thus spaced to an increased degree, and radial ribs upon the bottom of the upper plate and connected to and strengthening said inclined edge, said ribs occupying the deepened space between the proximate faces of the plates, substantially as specified.

840,924. MOLD. WILLIAM P. EARNHEART, Wilkinsburg, Pa., assignor to Charles F. Dickinson, Pittsburg, Pa. Filed May 5, 1906. Serial No. 315,290.

Claim.—1. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, means

for contracting the collapsible section, and means for permitting the withdrawal of the contracting section on the adjacent section.



2. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, means on said sections for contracting the collapsible section, and means on said sections for permitting the withdrawal of the contracting section on the adjacent section.

3. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, means for contracting the collapsible section, and inwardly-extending portions on said sections for permitting the withdrawal of the contracting section on the adjacent section.

4. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, means for contracting the collapsible section, and bent portions extending inwardly from said sections for permitting the withdrawal of the contracting section on the adjacent section.

5. A mold for sewers, &c., consisting of sections, one of which is collapsible, two inwardly-extending portions on each side of each of said sections and opposite each other for permitting the withdrawal of the contracting section on the adjacent section, means within said mold and connected to said portions for expanding and sustaining the mold, and means for contracting the collapsible section.

6. A mold for sewers, &c., consisting of sections, one of which is collapsible, two inwardly-extending portions on each side of each of said sections and opposite each other for permitting the withdrawal of the contracting section on the adjacent section, means within said mold and connected to said portions for expanding and sustaining the mold, means for contracting the collapsible section, and means on said extending portions for engaging with said contracting means to permit said section to be contracted.

7. A mold for sewers, &c., consisting of sections, one of which is collapsible, two inwardly-extending portions on each side of each of said sections and opposite each other for permitting the withdrawal of the contracting section on the adjacent section, means within said mold and connected to said portions for expanding and sustaining the mold, means for contracting the collapsible section, and bent portions on said inwardly-extending portions for engaging with said contracting means to permit said section to be contracted.

8. A mold for sewers, &c., composed of divided cylinders or members, and means within said mold and fitting over the joint between the adjacent two divisions of said members and capable of being expanded and contracted to and from said joint.

9. A mold for sewers, &c., composed of divided cylinders or members, and a sectional ring within said mold and fitting over the joint between the adjacent two divisions of said members and capable of being expanded and contracted to and from said joint.

10. A mold for sewers, &c., composed of divided cylinders or members, a sectional ring within said mold and fitting over the joint between the adjacent two divisions of said members, and means engaging with said ring-sections for expanding and contracting the same to and from said joint.

11. A mold for sewers, &c., composed of divided cylinders or members, a sectional ring within said mold and fitting over the joint between the adjacent two divisions of said members, and means fitting between and engaging with the ends of said ring-sections for expanding and contracting the same to and from said joint.

12. A mold for sewers, &c., composed of divided cylinders or members, a sectional ring within said mold and fitting over the joint between the adjacent two divisions of said members, screw-rods fitting between and engaging with the ends of said ring-sections, and a rotatable device engaging with said rods for expanding and contracting said ring-sections to and from said joint.

13. A mold for sewers, &c., composed of divided cylinders or members, a sectional ring within said mold and fitting over the joint between the ends of said members, lugs on the adjacent two divisions of said ring-sections, screw-rods, inclined blocks on the ends of said rods for engaging with said lugs, and a rotatable device engaging with said rods for moving said blocks to expand and contract said ring-sections to and from said joint.

14. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, inwardly-extending portions on said sections for permitting the withdrawal of the contracting section on the adjacent section, and connections between the ends of said portions for forming a tight joint between the ends of said sections.

15. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, inwardly-extending portions on said sections for permitting the withdrawal of the contracting section on the adjacent section, and bolted screw-rods fitting between the ends of said portions for forming a tight joint between the ends of said sections.

16. A mold for sewers, &c., consisting of sections, one of which is collapsible, and said sections being adapted to be sustained and expanded from within, inwardly-extending portions on said sections for permitting the withdrawal of the contracting section on the adjacent section, lugs on the ends of said portions, and bolted screw-rods fitting between the ends of said portions and connected to said lugs for forming a tight joint between the ends of said sections.

17. A section for a mold for sewers, &c., consisting of a plate having a flanged portion on the side edges thereof and formed integral therewith for permitting the same to be withdrawn on the adjacent section.

18. A section for a mold for sewers, &., consisting of a plate having an inwardly-extending flanged portion on the side edge thereof and formed integral therewith for permitting the same to be withdrawn on the adjacent section.

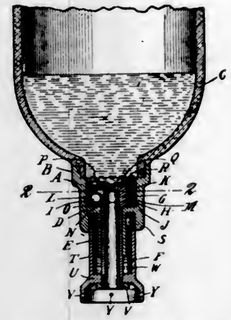
19. A section for a mold for sewers, &c., consisting of a plate having an inwardly-extending flanged portion on the side edge thereof and formed integral therewith and at an angle thereto for permitting the same to be withdrawn on the adjacent section.

20. A section for a mold for sewers, &c., consisting of a plate having an inwardly-extending flanged portion on the side edge thereof and formed integral therewith and having integral lugs formed at the end of said portion for permitting the same to be withdrawn on the adjacent section.

21. A section for a mold for sewers, &c., consisting of a plate having an inwardly-extending flanged portion on each side edge thereof and formed integral therewith and having integral lugs formed from the side edges of said portions for permitting the same to be withdrawn on the adjacent section.

840,925. LIQUID-SOAP DISPENSER. LOUIS A. FALK, Chicago, Ill., assignor of one-half to George A. Schmidt, Chicago, Ill. Filed Mar. 8, 1906. Serial No. 304,925.

Claim.—1. A device of the kind specified, comprising a pump-cylinder open at one end and provided at its other end with a head having a central opening, a piston reciprocally movable in said cylinder and provided with a hollow piston-rod passing through said opening in said head, a valve-chamber in said piston communicating with said piston-rod and with the pump-chamber, a valve disposed in said chamber for normally shutting off communication with said pump-chamber, an opening in said piston establishing communication between said pump-chamber and a source of supply of liquid connected with said open end of said cylinder, a spring-pressed valve controlling said port at its pump-chamber end, and a spring disposed in operative relation to said piston to maintain the same normally in contact with said cylinder-head.



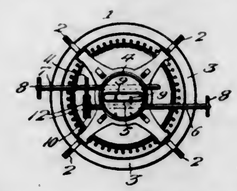
2. A device of the kind specified, comprising a pump-cylinder communicating at one end with a source of supply of liquid, a head on the other end of said cylinder provided with a central opening, a piston disposed in said cylinder, a hollow piston-rod connected therewith and passing through said opening in said head, a valve-controlled outlet-port therein communicating at its delivery end with said piston-rod, and a spring disposed in operative relation to said piston to maintain the same normally at one limit of its movement.

3. A device of the kind specified, comprising a pump-cylinder communicating at one end with a source of supply of liquid, a head on the other end of said cylinder provided with a central opening, a piston disposed in said cylinder, a hollow piston-rod connected therewith and passing through said opening in said head, an inlet-port in said piston, a valve controlling the same on the pressure side of said piston, a stem on said valve passing through said port, a bar-spring engaging said free end of said valve-stem and at its free end spanning the said inlet-port to limit the opening movement of said valve, a valve-controlled outlet-port in said piston communicating at its delivery end with said hollow piston-rod, and a spring disposed in operative relation to said piston to maintain the same normally at one limit of its movement.

4. A device of the kind specified, comprising a pump-cylinder communicating at one end with a source of supply of liquid, a head on the other end of said cylinder provided with a central opening, a piston disposed in said cylinder, a hollow piston-rod connected therewith and passing through said central opening in said cylinder-head, a valve-controlled inlet-port in said piston, a valve-controlled discharge-port communicating at its delivery end with said piston-rod, a removable nozzle disposed on the free end of said piston-rod, and a spring interposed between said nozzle and said cylinder-head adapted to maintain said piston normally at one limit of its movement.

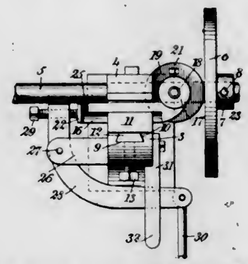
5. A device of the kind specified, comprising a pump-cylinder open at one end and communicating at said end with a source of supply of liquid, a head on the other end of said cylinder having a central opening, an annular flange surrounding said opening and constituting a hollow stem, a piston disposed in said cylinder, a hollow piston-rod connected therewith and passing through said hollow stem, a valve-controlled inlet-port in said piston, a valve-controlled discharge-port communicating with said hollow piston-rod, an annular flange on the other edge of the head end of said cylinder disposed parallel with said hollow stem, a nozzle secured to the free end of said piston-rod, an annular flange on said nozzle projecting at its free end into the annular space between said last-named flange and said hollow stem, and a spring disposed within said flange on said nozzle and bearing on the latter and said cylinder-head to maintain said piston normally at one limit of its movement.

840,926. LAMP-BURNER. JOSEPH H. FULTON, West Lebanon, Pa. Filed Apr. 4, 1906. Serial No. 309,789.



Claim.—A lamp-burner having a base portion provided with a depending tubular neck and having a wick-tube, a pair of shafts journaled in said neck respectively at opposite sides of the tube, said shafts being both extended wholly through the neck in relatively reverse directions and having bearing exclusively in said neck, wick-engaging members fixed on one of the shafts projecting into the tube, said members serving to hold the shaft against longitudinal movement, and a pair of intermeshing toothed pinions fixed respectively on said shafts to connect the same for rotation one from the other, one of said pinions being provided with spaced marginally-projecting flanges designed to bear on opposite sides of the other pinion for holding the shafts against relative longitudinal movement.

840,927. VARIABLE-SPEED GEAR. CHARLES E. FUNK, Enterprise, Oreg. Filed May 4, 1906. Serial No. 315,167.



Claim.—1. A device of the class described, comprising a friction-disk, a member adjustable in a plane substantially parallel to the plane of said disk and having a transverse groove substantially perpendicular to the plane of said disk, a slidable member in said groove and having a friction-pulley, and means for resiliently pressing said second member toward said disk.

2. In a device of the class described, a body, a shaft rotatably mounted thereon, a friction-disk rigidly mounted upon said shaft, said body having a groove substantially parallel to the plane of said disk, a member slidably mounted in said groove and having a transverse groove substantially perpendicular to the plane of said disk, a bar slidably located in said transverse groove, a friction-pulley rotatably mounted on said bar, and means for resiliently pressing said bar toward said friction-disk.

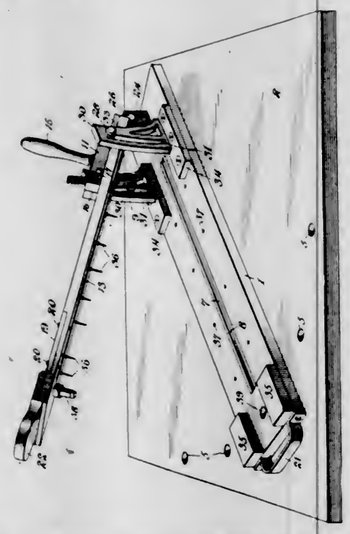
3. In a device of the class described, a body having a bearing, a shaft mounted in said bearing, a friction-disk rigidly mounted upon said shaft, said body having an extension provided with a groove the axis whereof is substantially parallel to the plane of said disk, a member having a transverse groove slidably mounted in said first groove, a slide-bar mounted in said transverse groove and having a friction-pulley, a spring-bar pivotally mounted on said body and adapted to press said slide-bar toward said disk, a lever adapted to press against said spring-bar, and means for holding said lever in a plurality of positions.

4. A device of the class described, comprising a body, a friction-disk, a member adjustable in a plane substantially parallel to the plane of said disk and having a transverse groove, means for holding said member in a plurality of positions, a slide-bar slidably mounted in said transverse groove, a friction-pulley thereon, a spring-bar adapted

to press said slide-bar toward said disk, a lever adapted to press against said spring-bar, a set-screw in said lever adapted to adjust the tension of said spring-bar, and a spring-fork adapted to grip said lever and hold the same in a plurality of positions.

5. In a device of the class described, the combination with a friction-disk, a slidable member and a friction-pulley thereon, of a spring-bar adapted to press said member toward said disk, a lever adapted to place said spring-bar under tension, and a fork having spring-tines adapted to grip said lever and hold the same in a plurality of positions.

840,928. CARPET-CUTTER. GEORGE GAMSTON and HARRY COWARD, Philadelphia, Pa. Filed July 14, 1906. Serial No. 326,292.



Claim.—1. A carpet-cutter comprising a table or support, an adjustable base or member pivotally mounted on the table or support and arranged to swing horizontally and provided with cutting means adapted to be arranged at different angles by the adjustment of the said base or member, and means for holding the base or member in its adjustment.

2. A carpet-cutter comprising a table or support provided with an arcuate series of perforations, an adjustable base or member pivotally connected with the table or support and provided with means for engaging the said perforations, whereby the base or member is held at different angles, and cutting mechanism carried by the base or member.

3. A carpet-cutter comprising a table or support having a pivot-perforation and provided with an arcuate series of perforations, a base or member provided at one end with a pivot to detachably fit in the pivot-perforation and having a depending stud at the other end to engage the arcuate series of perforations, and cutting mechanism carried by the base.

4. In a carpet-cutter, the combination of a base or member pivotally mounted at one end and adapted to swing horizontally to arrange it at various angles, cutting mechanism carried by the base or member in its adjustment, and means for holding the base or member in its adjusted position.

5. A carpet-cutter comprising a base or member having a slot or way, and provided with relatively fixed carpet-guides arranged in pairs at the ends of the slot, a slidable knife operating in the slot or way, and means for guiding the knife.

6. A carpet-cutter comprising a pivotally-mounted base or member arranged to swing horizontally, a hinged guide carried by the base or member, and a slidable knife mounted on the hinged guide.

7. A carpet-cutter comprising a pivotally-mounted base or member arranged to swing horizontally and having a slot or way, a hinged guide mounted on the base or member and provided at opposite sides of the slot or way with means for engaging a carpet, and a knife operating in the slot or way and slidably mounted on the hinged guide.

8. A carpet-cutter comprising a hinged guide provided with an opening and having inwardly-extending flanges at opposite sides thereof, said guide being also provided with a detachable section, and a knife-holder provided with grooves receiving the flanges of the guide, said knife-holder being detachably confined in the opening of the guide by the said section thereof.

9. A carpet-cutter comprising a base or member having a slot and provided at opposite sides thereof with sockets, a guide mounted on the base or member and provided with projections or spurs fitting in the socket of the base for engaging a carpet, and a slidable knife-holder mounted on the guide and having a knife operating in the said slot.

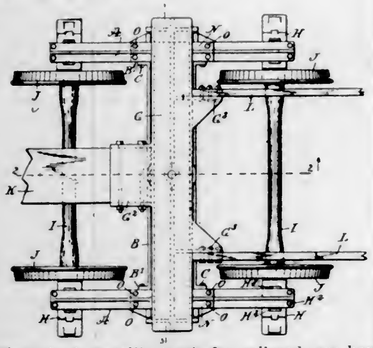
10. A carpet-cutter comprising a base, a hinged guide mounted on the base and provided with a lateral projection, and a standard or member extending upward from the base and having a slot receiving the said projection, said standard or member being also provided with a seat at the upper end of the slot of the lateral projection, whereby the hinged guide is supported in an elevated position.

11. A carpet-cutter comprising a base, a hinged knife-guide mounted on the base, standards extending upward from the base at opposite sides of the hinged guide and provided with slots and having recesses extending from the upper ends thereof and forming seats, and projections extending from the hinged guide and operating in the slots of the standards and adapted to engage the seats thereof.

12. A carpet-cutter comprising a base, a hinged guide having a limited longitudinal movement, standards rising from the base and provided at their upper portions with seats, and means carried by the hinged guide and slidable on the standards and carried into and out of engagement with the seats by the longitudinal movement of the guide.

13. A carpet-cutter comprising a base provided at its front with a socket or perforation, a guide hinged at the back to the base and provided with a depending stud arranged to fit in the socket or perforation, when the guide is closed, said guide being also provided with spurs and cutting mechanism.

840,929. METALLIC TRUCK FOR RAILROAD-CARS. FREDERICH GERHARDT, Alliance, Ohio. Filed May 15, 1906. Serial No. 316,913.

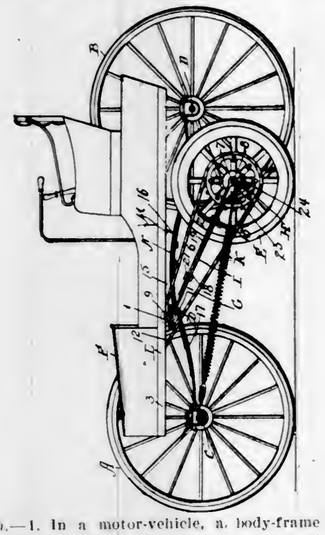


Claim.—1. A metallic truck for railroad-cars having a side frame provided at each end with a seat for the journal-box, the inner wall of the said seat being recessed, and a journal-box having lugs on each side and adapted to fit the said recess to allow interchange of a box on either seat.

2. A car-bolster having a flat upper surface, a pocket extending laterally from the central portion of said bolster adapted to receive a draw-beam timber, the upper surface of the pocket being flush with the upper surface of the bolster, and vertical flanges extending from the opposite side of the bolster provided with offset lower edges adapted to support the side beams of a car-body.

3. A car-bolster having a flat upper surface, a pocket adapted to receive a draw-beam timber extending laterally from the central portion of said bolster, the upper surface of the pocket being flush with the upper surface of the bolster, and vertically-disposed flanges extending from the side of said bolster on opposite sides of the line of said pocket, and provided with offset lower edges adapted to support the side beams of a car-body.

840,930. MOTOR-VEHICLE. GEORGE T. GLOVER, Chicago, Ill. Filed Feb. 10, 1906. Serial No. 300,488.



Claim.—1. In a motor-vehicle, a body-frame mounted upon running-wheels; a spring-truss provided with a traction propelling-wheel and consisting of a body-spring between and connecting the body-frame and a wheel-supported axle, a normally inclined arm or frame having its upper end portion pivotally attached to the body-frame and provided at its lower end portion with the supporting traction propelling-wheel, and a spiral tension-spring extending forwardly from the lower end portion of the inclined swinging arm or frame and urging such arm or frame to swing in direction to bring the axis of the traction-wheel toward a position under the axis about which the arm or frame is hung to swing; an engine supported upon the vehicle; and power-transmitting connection between the engine and the traction propelling-wheel.

2. In a motor-vehicle, a body-frame supported upon front and rear wheeled axles; a spring-truss provided with a traction propelling-wheel and consisting of a body-spring between and connecting the body-frame and the forward wheel-supported axle, a normally inclined arm or frame having its upper end portion pivotally attached to the body-frame and provided at its lower end portion with the supporting traction propelling-wheel, and a spiral tension traction-spring between the forward axle and the lower portion of the swinging arm or frame, and urging such arm or frame to swing in direction to bring the axis of the traction-wheel toward a position under the axis about which the arm or frame is hung to swing; an engine supported upon the vehicle; and power-transmitting connection between the engine and the traction propelling-wheel said propelling-wheel being forward of the rear axle.

3. In a motor-vehicle, a body-frame supported upon front and rear wheeled axles and body-springs arranged in the supporting connection between the body-frame and said wheels; an engine upon the body-frame; a normally inclined arm having its upper end pivotally attached to the body-frame and extending downwardly and rearwardly from the axis about which it is thus hung to swing; a traction propelling-wheel attached to and supporting the lower end portion of the said swinging arm or frame and arranged forward of the rear axle; a traction-spring urging the said pivoted arm or frame to swing forwardly and opposing depression of the body-frame with an increasing spring resistance; a sprocket rigid with the propelling traction-wheel; an upper sprocket supported to revolve about the axis of the pivotal connection between the swinging arm or frame and the body-frame; power-transmitting connection between the upper sprocket and the engine; and a driving-belt between said sprocket on the body-frame and the sprocket which is rigid with the traction propelling-wheel.

4. The combination with a vehicle constructed with a body-frame supported by springs upon front and rear wheel-supported axle-bars, of an engine supported upon the body-frame; a traction propelling-wheel arranged between the opposite planes of the side wheels and forward of the rear axle; a push bar or frame hung to swing under the body-frame and having its upper end portion pivotally attached to the body-frame and its lower end portion connected with the traction propelling-wheel, said swinging arm or frame being inclined downwardly and rearwardly from its connection with the body-frame; a tension-spring connecting the lower end portion of the swinging arm or frame with a suitable forward portion of the vehicle and constantly urging the swinging arm or frame to swing forwardly; and power-transmitting connection between the engine and the traction propelling-wheel.

5. In a motor-vehicle a body-frame supported by side springs upon front and rear wheeled axles, a normally inclinded swinging arm or frame provided at one end with a traction propelling-wheel and a driving-sprocket therefor, and at its opposite end pivotally attached to the body-frame, the said traction propelling-wheel being arranged forward of the rear axle with which the vehicle is provided; a sprocket-wheel supported to revolve about the axis of the pivotal connection between the swinging arm or frame and the body-frame; an engine upon the body-frame; power-transmitting connection between the engine and said upper sprocket; driving connection between the two sprockets; a tension-spring connecting the lower portion of the swinging arm or frame with a forward portion of the vehicle and extending under the axis about which the swinging arm or frame is hung.

6. In a motor-vehicle, a body-frame; a body-spring secured thereto and supported upon wheeled axles; a normally inclined arm or frame pivotally attached to the body-frame at its upper end and having its lower rear end portion provided with a traction propelling-wheel; a tension-spring connecting the lower end portion of the swinging arm or frame with the front axle and extending under the axis about which the swinging arm or frame is hung; and means for driving the traction propelling-wheel.

7. In a motor-vehicle, a wheeled body-frame; a propelling device consisting of a normally inclined arm hinged at its upper end upon the body-frame and provided at its lower rear end portion with and by a tension propelling-wheel and a traction-spring extending forward from the lower rear end portion of the swinging arm or frame and urging the same to swing in direction to bring the axis of the traction-wheel under the hinge connection between said swinging arm or frame and the body-frame and means under control of an occupant of the vehicle for regulating the tension of the tension-spring.

8. In a motor-vehicle, body-frame supported by front and rear wheels; a normally inclined swinging arm or frame arranged under the body-frame and extending downwardly and rearwardly and having its lower end portion provided with a traction propelling-wheel arranged forward of the axis of the rear wheels, and having it upper forward end portion pivotally hung upon the body-frame; a sprocket rigid with the traction propelling-wheel; a

transverse shaft or rod upon the body-frame and providing a pivot upon which the said swinging arm or frame is hung; a rotary sleeve supported upon said rod and provided with two sprockets; means for connecting one sprocket of said sleeve with an engine, and a link belt connecting the other sprocket of said sleeve with the sprocket which is rigid with the traction propelling-wheel, and a spring normally urging the swinging arm or frame to swing in a direction to bring the axis of the traction propelling-wheel toward a point under the axis about which said swinging arm or frame is hung.

9. In a motor-vehicle, a wheeled body-frame; a normally inclined swinging arm arranged under the body-frame and having its upper forward end hinge-connected with the body-frame and having its lower rear end portion provided with a traction propelling-wheel; an engine or motor on the vehicle and power-transmitting connection between such engine or motor and the traction-wheel; a tension-spring connected with the lower rear portion of the swinging arm and also connected with the vehicle forward of the traction propelling-wheel and arranged to urge the normally inclined arm to swing in direction to bring the axis of the traction-wheel toward a point below the axis about which said swinging arm is arranged to swing, and means for raising and temporarily holding the traction-wheel free from the ground and consisting of a lifting device connected with the swinging arm and available to an occupant of the motor-vehicle, said device being arranged for swinging upwardly the said swinging arm to an extent to raise the traction-wheel, and for holding said swinging arm in such raised position against the tension of the spring.

10. In a motor-vehicle, a body-frame supported by springs upon front and rear wheel-axles; a normally inclined swinging arm or frame having its upper forward end pivotally attached to the body-frame at a point between the front and rear axles, and having its lower end portion provided with and supported by a traction propelling-wheel arranged between planes of the rear running-wheels of the vehicle and forward of the axis of the rear wheels; an engine mounted upon the vehicle; power-transmitting connection between the engine and the traction propelling-wheel for operating the latter; and a traction-spring urging the swinging arm or frame to swing forward and thereby press down the traction propelling-wheel; the weight of the body-frame being partially sustained by the traction-spring, the traction propelling-wheel, and the swinging arm or frame which operates as a thrust-bar when the traction-wheel is forwardly revolved.

11. In a motor-vehicle, a body-frame supporting an engine and constructed with longitudinally-arranged angle-bars L forming opposite side bars of the frame, and a transversely-arranged rod or bar 9 secured at its ends to the angle-bars; an arm or frame comprising members 6 hung upon the rod 9 and connected by an axle 8 having a traction propelling-wheel mounted thereon; a sleeve arranged to revolve upon the rod 9 and provided with two sprockets, one of said sprockets being connected by a link belt with a sprocket on the axle 8, and the other sprocket on said sleeve being connected with a sprocket driven by the engine, and springs connected with the swinging arm or frame and urging the latter to swing downwardly and forwardly.

12. In a motor-vehicle, a body-frame; a normally inclined swinging arm or frame pivotally attached to the body-frame and swinging about a transverse axis back of the forward end of the body-frame; a traction propelling-wheel mounted upon the lower end portion of the swinging arm or frame and a traction-spring comprising spring-sections attached to the lower end portion of the swinging arm or frame and extending forwardly and attached to the vehicle at points forward of the transverse axis about which the said arm or frame is hung to swing; an engine mounted upon the body-frame and power-transmitting connection between the engine and the traction propelling-wheel.

13. In a motor-vehicle, a body-frame; front and rear wheeled axles; springs supporting the body-frame upon the front and rear axles; a traction propelling-wheel arranged between the planes of the rear wheels and forward of the rear axle; an arm or frame connected with the axle or journal for the traction propelling-wheel and extending upwardly and forwardly therefrom and having its upper end pivotally connected with the body-frame in rear of the front axle; an engine or motor supported upon the body-frame; power-transmitting connection between the engine or motor and the inclined swinging arm; and a traction-spring urging the inclined arm to swing in direction to move the axis of the traction propelling-wheel toward a point under the axis about which the inclined arm is hung to swing.

14. In a motor-vehicle, a wheel-supported body-frame; a traction propelling-wheel arranged under the body-frame; an inclined arm or frame tied to and extending forwardly and upwardly from the axis of the traction propelling-wheel and having its upper end portion pivotally attached to the body-frame; a motor and power-transmitting connection between the motor and the traction propelling-wheel; and coiled tension-springs connected at their rear ends with the axis of the traction propelling-wheel and diverging forwardly therefrom, the forward ends of these springs being connected with the front axle of the vehicle.

15. In a motor-vehicle, a wheel-supported body-frame with supporting-springs arranged between the body-frame and wheels; a traction propelling-wheel under the body-frame between the axes of the front and rear wheels; an inclined swinging arm or frame connecting the body-frame with the traction propelling-wheel and made adjustable in length; tension-springs connecting the lower rear end portion of the inclined swinging arm or frame with the vehicle at a point forward of the pivotal connection between the inclined swinging arm or frame and the body-frame; an engine or motor; and power-transmitting connection between the engine or motor and the traction propelling-wheel.

16. In a motor-vehicle, a body-frame spring-supported upon front and rear wheels; an inclined swinging arm or frame pivotally attached to the body-frame and inclining downwardly and rearwardly from its point of attachment; a traction propelling-wheel attached to the lower rear end portion of the inclined arm or frame; and spring means for urging the inclined arm to swing forward and comprising a tension-spring at the forward end of the vehicle.

17. In a motor-vehicle, a body-frame spring-supported upon front and rear wheels; an inclined swinging arm or frame pivotally attached to the body-frame and inclining downwardly and rearwardly from its point of attachment; a traction propelling-wheel attached to the lower rear end portion of the inclined swinging arm or frame; and spring means for urging the inclined arm or frame to swing forward and comprising a couple of reversely-wound tension-springs and connection between such springs and the lower rear end portion of the inclined swinging arm.

840,931. CASEIN COMPOUND. BYRON B. GOLDSMITH, New York, N. Y. Filed Aug. 28, 1906. Serial No. 332,395.

Claim.—1. The process of making a composition of matter which consists in uniting casein with an agent or agents which render the same moldable or thermoplastic, substantially as described.

2. The process of making a composition of matter, which consists in uniting casein under heat and pressure with an agent or agents which render the same moldable or thermoplastic, substantially as described.

3. The process of converting casein into a moldable or thermoplastic state, which consists in uniting casein with beta-naphthol or its equivalents.

4. The process of converting casein into a moldable or thermoplastic state, which consists in uniting casein under heat and pressure with beta-naphthol or its equivalents, substantially as described.

5. The process of making a thermoplastic composition of matter, which consists in uniting casein with an agent or agents which render the casein thermoplastic and with compounding materials or admixtures, substantially as described.

6. The process of making a thermoplastic composition of matter which consists in uniting casein under heat and pressure with an agent or agents which render the casein thermoplastic and with compounding materials or admixtures, substantially as described.

7. The composition of matter consisting of thermoplastic casein, substantially as described.

8. The composition of matter consisting of casein and beta-naphthol or its equivalents, substantially as described.

9. The composition of matter consisting of casein, beta-naphthol or its equivalents and compounding material, substantially as described.

10. The composition of matter which consists of thermoplastic casein and compounding materials, substantially as described.

840,932. SOUND-RECORD TABLET. BYRON B. GOLDSMITH, New York, N. Y. Filed Dec. 13, 1906. Serial No. 347,676.



Claim.—1. A sound-record tablet having a record-surface of casein.

2. A sound-record tablet having a record-surface of casein composition.

3. A sound-record tablet having a record-surface of thermoplastic casein, substantially as described.

4. A sound-record tablet having a record-surface of a mixture of thermoplastic casein and compounding materials, substantially as described.

5. A sound-record tablet having a record-surface composed of casein and beta-naphthol or its equivalents, substantially as described.

6. A sound-record tablet having a record-surface composed of casein, beta-naphthol or its equivalents, and compounding materials, substantially as described.

7. A sound-record tablet of casein.

8. A sound-record tablet of casein composition.

9. A sound-record tablet formed of thermoplastic casein.

10. A sound-record tablet formed of a mixture of thermoplastic casein and compounding materials, substantially as described.

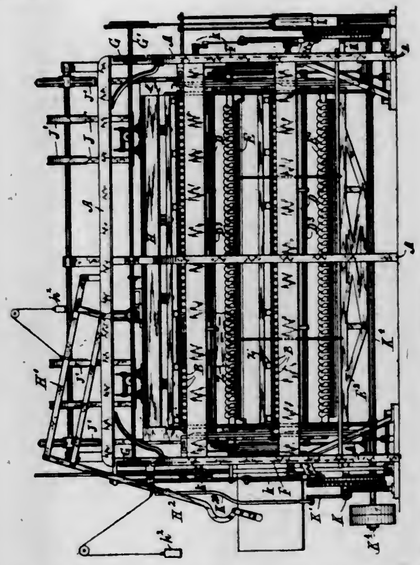
11. A sound-record tablet composed of casein and beta-naphthol or its equivalents, substantially as described.

12. A sound-record tablet composed of casein, beta-naphthol or its equivalents and compounding materials, substantially as described.

840,933. EMBROIDERING-MACHINE. CHARLES A. GONZENBACH, Warren, R. I. Filed Apr. 28, 1906. Serial No. 314,120.

Claim.—1. In an embroidering-machine, a thread-bar having a stationary axle with a sleeve rotatable thereon to diminish its friction with the thread, in combination with means for raising and lowering the axle and the sleeve as required.

2. In an embroidering-machine, a thread-bar consisting of the axle D', links for supporting the axle at intervals along its length, sleeves D fitted to turn loosely upon the axle between the links, and means for suspending and operating the links to raise and lower the thread-bar as required.



3. In an embroidering-machine, the means for raising and lowering thread-bars upon opposite sides of the fabric, consisting of the straps D^2, the rolls N upon opposite sides of the fabric, pinions I'' upon the ends of the rolls, segments I^2 for turning the pinions, and a cam with connections for oscillating the segments alternately in opposite directions.

4. In an embroidering-machine, the means for raising and lowering thread-bars upon opposite sides of the fabric, consisting of the straps D^2, the rolls N upon opposite sides of the fabric, pinions I'' upon the ends of the rolls, segments I^2 for turning the pinions, levers having one end connected to the respective segments, and a cam connected with the opposite ends of the levers to move them reversely, substantially as set forth.

5. In an embroidering-machine, the means for raising and lowering the thread-bars for two tiers of needles, consisting of the straps D^2, the rolls N upon opposite sides of the fabric above the level of the needles, pinions I'' upon the ends of the rolls, segments I^2 for turning the pinions, links connecting the two tiers of segments, and means for reversely operating the segments of the lower tier, substantially as set forth

6. The combination, with the take-up hook-bar having a bar F at each end with teeth upon its upper end, of a shaft G' carrying cog-wheels G meshing with said teeth, a reciprocating slide-bar L having a slide S movable therewith and connected by stud F^2 to one of the bars F, a vertical ratchet-bar *s* having the box *n* fitted movably thereon, the weight U' connected with such box, the pawls I and J upon such box operating oppositely upon the edges of the ratchet-bar, and the slide S provided with the dog *f* for operating successively upon the pawls I and J, as herein set forth.

7. In an embroidering-machine, the combination, with a take-up hook-bar, of the vertical ratchet-bar *s*, the box *n* fitted to such ratchet-bar and movable with the weight U', and having the pawls *i* and *j* operating oppositely upon the edges of the ratchet-bar, the crank *q* below the latch *i* for operating the pawl *j*, and the reciprocating slide-bar L having slide S movable therewith and connected to the hook-bar, and provided with the dog *f* having a hinged contact-piece *h* to operate successively upon the pawl *i* and

the crank *q*, so as to first release the box for upward movement and then push it downward by the momentum of the slide S.

8. In an embroidering-machine, the combination, with a take-up hook-bar, of the vertical ratchet-bar *s*, the box *n* fitted to such ratchet-bar and movable with the hook-bar, the pawls *i* and *j* upon the box *n* operating oppositely upon the edges of the ratchet-bar, the crank *q* upon the box with connections to the pawl *j*, and the seat *m* upon the box adjacent to the tail of the latch *i*, the reciprocating slide-bar L provided with the tooth *c*, the slide S movable thereon and provided with the dog *f* to engage the tooth, and the dog *f* having the hinged contact-piece *h* arranged to contact first with the seat *m* to release the dog *f* from the slide-bar L, and to then operate successively upon the pawl *i* and crank *q* so as to first release the box for upward movement and then push it downward by the momentum of the slide S.

9. In an embroidering-machine, the combination, with a take-up hook-bar, of the vertical ratchet-bar *s*, the box *n* fitted to such ratchet-bar and movable with the hook-bar, the pawls *i* and *j* upon the box *n* operating oppositely upon the edges of the ratchet-bar at the upper and lower ends of the box respectively, the crank *q* pivoted upon the box with horizontal arm below the tail of the pawl *i* and connected to the pawl *j*, the seat *m* mounted adjustably upon the box and projected adjacent to the tail of the pawl *i*, and a reciprocating slide S having a dog with contact-piece operating successively upon the seat, the pawl *i* and the crank *q*, as and for the purpose set forth.

10. In an embroidering-machine, the combination, with a take-up hook-bar, of the vertical ratchet-bar *s* fitted to a head-piece R', the box *n* fitted to such ratchet-bar and movable with the hook-bar, the pawl *i* and *j* operating oppositely on the edges of the ratchet-bar, the reciprocating slide-bar L movable through the head-piece R', and having the teeth *b* and *c* as set forth, the slide S movable upon the slide-bar and having the dog *f* to engage the tooth *b* and a socket *a'* at its upper end, the latch *a* pivoted upon the head-piece to engage the socket *a'*, and having an arm a^2 extended in the path of the tooth *b*, whereby the slide is supported by the pawl *a* during the passage of the needles through the fabric, and is released by the tooth *b* before the tooth *c* encounters the dog *f*, the said dog having a contact-piece to operate successively upon the pawls *i* and *j* upon the box.

11. In an embroidering-machine, the combination, with the slide-bar L having the teeth *b* and *c* as set forth, the slide S movable thereon having the socket *a'* at the upper end and provided with the dog *f* having contact-piece to operate upon the take-up mechanism, of a head piece R' to guide the slide-bar, the latch *a* pivoted upon the head-piece to engage the socket *a'* and having its tail provided with the adjustable block a^3, and the spring-arm a^2 movable upwardly thereon and projected in the path of the tooth *b* upon the slide-bar, whereby the slide-bar carries the slide to its highest position where it is held by the latch *a* during the movement of the needles through the fabric, and the latch then detached by the tooth *b* and the slide engaged by the tooth *c* to operate upon the take-up mechanism, as and for the purpose set forth.

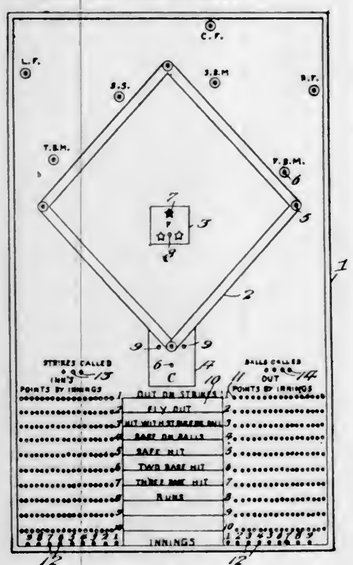
12. In an embroidering-machine, the combination, with take-up hook-bars operating upon opposite sides of the fabric, of a vertical ratchet-bar *s* for each of the hook-bars, the boxes *n* fitted movably to such ratchet-bars and movable with the hook-bar and provided with pawls *i* and *j* as set forth, reversely-reciprocating slide-bars L, L', each carrying a dog *f* to operate upon the latches of one of the boxes, and a loose coupling mechanism connecting the boxes and permitting only a short movement of either box upon its ratchet-bar independently of the other box.

13. In an embroidering-machine, the combination, with take-up hook-bars operating upon opposite sides of the fabric, of a vertical ratchet-bar *s* for each of the hook-bars, the boxes *n* fitted movably to such ratchet-bars and movable each with a weight U', and provided with pawls *i* and *j* as set forth, reversely-reciprocating slide-bars L, L', each carrying a dog *f* to operate upon the pawls of one of the boxes, and a coupler formed of rigid arms and projected from the boxes and having an adjustable connection intermediate to the boxes, permitting only a short and adjustable movement of either box upon its ratchet-bar independently of the other box.

14. In an embroidering-machine, the combination, with take-up hook-bars operating upon opposite sides of the fabric, of a vertical ratchet-bar *s* for each of the hook-bars, the boxes *n* fitted movably to such ratchet-bars and movable each with a weight U', and provided with pawls *i* and *j* as set forth, reversely-reciprocating slide-bars L, L', each carrying a dog *f* to operate upon the pawls of one of the boxes, and a coupler formed of rigid arms projected from the boxes, one of such arms carrying spring-pins and the other arm movable between such studs permitting a short movement of either box upon its ratchet-bar independently of the other box.

15. In an embroidering-machine, the combination, with the slide-bar L of the slide S movable thereon and provided with the dog *f* having contact-piece to operate upon the pawls of the take-up mechanism, and having the leaf-spring T^2 with screw to press the same toward the slide-bar, the notched dial T^4 upon the bearing of the screw, and the index-arm movable with the screw and having finger T with spring T' to press it into the notches of the dial, to hold the screw when adjusted.

840,934. GAME. JOSEPH T. GRANT, El Paso, Tex. Filed Sept. 26, 1906. Serial No. 336,306.



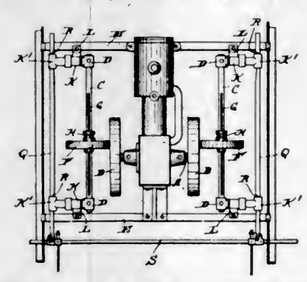
Claim.—1. A game comprising a game-board outlined to represent a base-ball diamond, the pitcher's box of the diamond having a plurality of positions for the pitcher each indicated by a particular symbol, and a series of play-controlling elements respectively bearing one or the other of the symbols of the pitcher's box.

2. A game apparatus comprising a game-board marked to indicate a pitcher's diamond, in combination with a ball-holder to receive and conceal a series of play-indicating balls, said holder being formed with diametrically-opposed openings adjacent the mouth to permit introduction of the fingers of the operator to retard the delivery of the balls.

3. A game apparatus comprising a game-board marked to indicate a base-ball diamond and formed with a series of openings to receive the players of each side in accordance with the game, the pitcher's box of the diamond being formed with two openings designated by different symbols, in combination with nine play-indicating elements divided into three groups, one group bearing one symbol of the pitcher's box, the second group bearing a second symbol of the pitcher's box and the third group being without either symbol.

4. A game apparatus comprising a game-board marked to indicate a base-ball diamond and formed with a series of openings to receive the players of each side in accordance with the game, the pitcher's box of the diamond being formed with two openings designated by different symbols, in combination with nine play-indicating elements divided into three groups, one group bearing one symbol of the pitcher's box, the second group bearing a second symbol of the pitcher's box and the third group being without either symbol, one ball of each of the symbol-bearing groups being marked with the word "Hit" and the ball without symbol being marked with the word "Fly out."

840,935. POWER-TRANSMISSION MEANS. KNUD GULBRANDSEN, Chicago, Ill., assignor of one-third to Cristian M. Hansen and one-third to Edward Torgerson, Chicago, Ill. Filed Apr. 16, 1906. Serial No. 311,945.

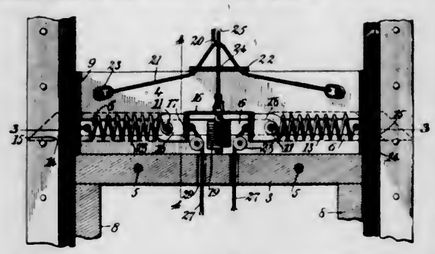


Claim.—1. A friction-drive for transmitting power, comprising a main shaft geared to a source of power, disks rigidly mounted on the ends thereof, a counter-shaft disposed adjacent to and outwardly of each of said disks, bearings in which said counter-shafts are journaled at both ends, supports on which said bearings are movably disposed, means disposed in operative relation to all of said bearings to simultaneously impart movement thereto toward and away from the ends of said main shaft, and disks disposed on said counter-shaft and adapted to be maintained in peripheral contact with the outer faces of said first-named disks.

2. A friction-drive for transmitting power, comprising a main shaft geared to a source of power, disks rigidly mounted on the ends thereof, a counter-shaft disposed adjacent to and outwardly of each of said disks, bearings in which said counter-shafts are journaled, disks on said counter-shaft, supports on which said journals are movably disposed, springs disposed in operative relation to said bearings to maintain the same normally at the outer limits of their movements, and means disposed in operative relation to said bearings for simultaneously moving the same against the action of said springs thereby imparting lateral movement to said shafts to force the disks thereon into peripheral contact with the outer faces of said disks on said main shaft.

840,936. SAFETY-ELEVATOR. JAMES HART, New Orleans, La., assignor of one-half to Emile Garnier, New Orleans, La. Filed Sept. 5, 1906. Serial No. 333,342.

Claim.—1. In an elevator, in combination, guides having a plurality of stops disposed along the length thereof, a car, catches slidably mounted on said car, means tending to force said catches outwardly to engage said stops, a keeper normally connected with said catches and holding the same in their withdrawn position, a spring normally holding said keeper in connection with said catches, a main cable supporting the said car, an auxiliary cable attached to said keeper and normally moving at the same speed with said main cable, said auxiliary cable being adapted to extend said spring to release said catches.

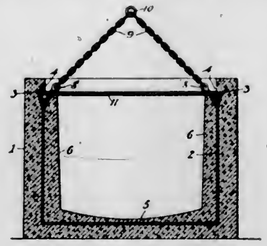


2. An elevator, in combination, guides having a plurality of stops disposed along the length thereof, a car moving between said guides, catches slidably mounted in said car, springs tending to force said catches outward to engage said stops, stirrups attached to the inner ends of said catches, a keeper having downwardly-projecting fingers engaging said stirrups and affording means for retaining said catches normally in a withdrawn position, a spring holding said keeper in engagement with said stirrups, a main cable supporting said car, and an auxiliary cable moving with said main cable and attached to said keeper.

3. An elevator, in combination, guides having a plurality of stops disposed along the length thereof, a car moving between said guides, catches slidably mounted in said car, springs tending to force said catches outward to engage said stops, stirrups attached to the inner ends of said catches, a keeper having downwardly-projecting fingers engaging said stirrups and affording means for retaining said catches normally in a withdrawn position, a spring holding said keeper in engagement with said stirrups, a main cable supporting the car, an auxiliary cable moving with said main cable and attached to said keeper, and cords connected respectively with said catches and depending in said car, said cords affording means for withdrawing said catches.

4. In an elevator, in combination, a pair of guides having a plurality of stops disposed along the length thereof, a car slidably mounted between said guides, catches slidably mounted in said car and having noses which may project so as to engage said stops, springs tending to force said catches outward to engage said stops, stirrups pivotally attached to the inner ends of said catches, a keeper having downwardly-projecting fingers adapted to engage said stirrups, to hold said catches in a withdrawn position, a spring attached to said keeper and holding the same in engagement with said stirrup, a main cable supporting said car, and a safety-cable running with said main cable and attached to said keeper.

840,937. BURIAL-VAULT. ALBERT H. HAVARD, Urbana, Ill. Filed Sept. 1, 1906. Serial No. 333,017.



Claim.—1. A vault comprising a concrete box forming its lower portion, brace-bars having upper thickened ends conforming to the shape of and embedded in the box, said box and brace-bars being rabbeted on their upper inner edges, a metal top seated in the rabbeted portion of the box, and a layer of concrete covering the top.

2. A vault comprising a concrete box forming its lower portion, brace-bars having upper thickened ends embedded in the box and conforming to the shape thereof, and a threaded socket in the thickened end of each brace-bar.

3. A vault comprising a box of hard, dry concrete, brace-bars embedded in the walls of the box, the upper, inner edges of said box and bars being rabbeted, a dished sheet-metal top for the box having the edges thereof seated in the rabbeted edges of the box, and a layer of green concrete covering the top and entering the rabbeted portion between the top and box.

840,938. TOOL FOR MANIPULATING PNEUMATIC TIRES. LEWIS L. HELLER and COOPER W. HANCOCK, Binghamton, N. Y.; said Hancock assignor to said Heller. Filed Sept. 20, 1904. Serial No. 225,201.



Claim.—1. A tool for the purpose described comprising a bar having a handle on one end and a flat bearing-face on its opposite end, and a U-shape grappling-bar swivel connected to the bar, each arm of the U-shape bar having a hook on its extremity.

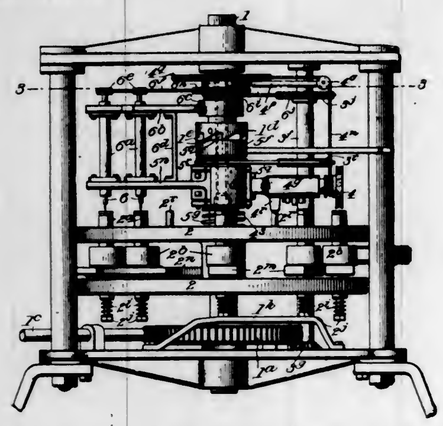
2. A tool for the purpose described, comprising a bar having a handle on one end and a flat bearing on its other end, an eyebolt rotatably mounted on the bolt, and a U-shape grapple-bar centrally journaled in the eye of said bolt whereby said U-shape bar may be rotated in planes at right angles to each other to cause it to straddle the first-named bar or to lie wholly at one side of the same.

840,939. BUTTON-MACHINE. WILLIAM C. HOPKINS and JOHN W. MILLER, Muscatine, Iowa; said Miller assignor to The McKee and Bliven Button Company, Muscatine, Iowa. Filed Dec. 18, 1905. Serial No. 292,398.

Claim.—1. In a button-machine, the combination of a rotatable blank-holder, a grinder adapted to rotate in a plane at right angles to the plane of movement of the blank-holder, means adapted to bring the blank and grinder into contact; and mechanism for traveling the blank holder and grinder in unison during the grinding operation, substantially as described.

2. In a button-machine, the combination of a rotatable blank-holder adapted to move orbitally in one plane, a grinder adapted to rotate in a plane at right angles to the plane of the blank-holder, and means adapted to bring the blank and grinder into contact; with mechanism for traveling the grinder in unison with the blank-holder during the grinding operation, and means for moving the grinder backward to starting position after each operation, substantially as described.

3. In a button-machine, the combination of a blank-holder adapted to travel, a rotatable grinder having a concave grinding-surface, a reciprocatory support therefor, means adapted to bring the grinder into contact with the blank, means for rotating the blank during the grinding operation, means for moving the grinder in unison with the blank-holder during the grinding operation, and means for moving the grinder back to the starting-point after each operation.



4. In a button-machine, the combination of a blank-holder adapted to travel; with a grinder, and a cat-eye cutter, adapted to successively operate on the blank, and means for traveling the grinder and cat-eye cutter with the blank-holder during the cutting operations.

5. In a button-machine, the combination of a plurality of blank-holders adapted to travel; with a grinder, and a cat-eye cutter adapted to successively operate on the blanks; means for moving the grinder and cat-eye cutter with the blanks during their coöperation, and means for moving the tools backward to initial position after each operation.

6. In a button-machine, the combination of a plurality of blank-holders adapted to travel; with a rotary grinder, and a rotary cutter adapted to operate simultaneously on different blanks, and successively on the same blank; means for moving the tools with the blanks during their coöperation, and means for moving the tools backward to initial position after each operation.

7. In a button-machine, the combination of a blank-holder adapted to travel; with a grinder, a cat-eye cutter; means for moving the grinder and cutter with the blank-holder while coöperating therewith; means for rotating the blank-holder on its axis while coacting with the grinder, means for stopping the rotation of the blank-holder while coöperating with the cutter; and means for moving the grinder and cutter back to initial position after their operations on the blank, substantially as described.

8. In a button-machine, the combination of a blank-holder adapted to travel; with a cat-eye cutter and drills, adapted to successively operate on the blank, and means for traveling the tools with the blank while operating thereon.

9. In a button-machine, the combination of a blank-holder adapted to travel, a cat-eye cutter and drills, adapted to successively operate on the blank, and means for traveling the tools in unison with the blank while operating thereon; with means for advancing the tools to the blanks during their coincident travel, and means for separating the tools from the blank and moving them backward to initial position after each operation.

10. In a button-machine, the combination of a blank-holder adapted to travel; with a cat-eye cutter and drills, adapted to successively operate on the blank; means for approaching the tools and blank during their operation; means for traveling the tools with the blank during their operation; means for preventing rotation of the blank while the cat-eye cutter is operating thereon, and means for separating the tools from the blanks and moving them backward to initial position after each operation.

11. In a button-machine, the combination of a blank-holder adapted to travel, a blank-grinder a cat-eye cutter, and drills, adapted to successively operate upon the blank carried by said holder, and means for moving the tools with the holder during the operations on the blank.

12. In a button-machine, the combination of a blank-holder, a blank-grinder, a cat-eye cutter, and a drill, adapted to successively operate upon the blank carried by said holder; with means for advancing the tools against the blank while operating thereon, and means for separating the tools from the blanks and moving them backward to initial position after each operation.

13. In a button-machine, the combination of a rotary main shaft, disks thereon, rotatable chuck-holders carried by said disks, chucks in said holders, a tool-carrier mounted loosely on the shaft above the disks, a horizontal rotary shaft mounted on said carrier adjacent the path of the chucks; a cutter on said shaft, a cam adapted to move the said carrier to cause the cutter to operate on blanks carried by the chucks; means for moving the carrier so as to cause the cutter to travel with the chucks during its operation; means for raising the carrier after each operation, and means for moving the carrier backward after each operation.

14. In a button-machine, the combination of a rotary main shaft, disks thereon, rotatable chuck-holders carried by said disks, a tool-carrier loose on said shaft adjacent the disks, a rotatable grinder, a rotatable cat-eye cutter, and rotatable drills mounted on said carrier; means for moving the carrier so as to travel the tools with the chucks during the operations on the blanks; means for rotating the chuck-holders while moving with the grinder; and means for stopping the rotation of the chuck-holders while they are moving with the cat-eye cutter and with the drills, substantially as described.

15. In a button-machine, the combination of a rotary main shaft, disks thereon, rotatable chuck-holders carried by said disks, a tool-carrier loose on said shaft adjacent the disks, a rotary grinder, a rotary cat-eye cutter, and rotatable drills mounted on said carrier; means for rotating said tools on their individual axes; means for moving the carrier so as to travel the tools with the chucks during the operations of the tools on the blanks; means for depressing the carrier to cause the tools to gradually descend toward the blanks during their operations thereon; means for rotating the chuck-holders while moving with the grinder; means for stopping the rotation of the chuck-holders while moving with the cat-eye cutter and with the drills; means for raising the carrier upon the completion of the operations, and means for then moving the carrier backward, substantially as described.

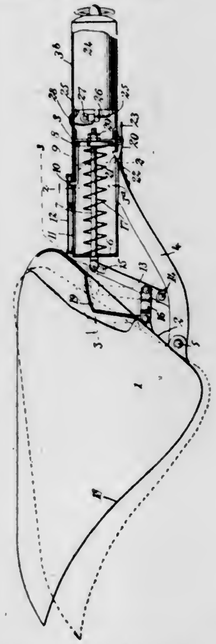
16. In a button-machine, the combination with a blank-holder adapted to travel; of a tool-holder comprising a rotatable shaft carrying the tool, a sleeve carrying the shaft, a movable support in which said sleeve is mounted, and means for moving said support to cause the tool to move with the blank-holder, substantially as described.

17. In a button-machine, the combination with a blank-holder adapted to travel; of a movable arm, a sleeve adjustably mounted in said arm, a shaft rotatably mounted in said sleeve, and a tool carried by said shaft; with means for rotating said shaft, and means for vibrating the arm to cause the tool to move with the blank-holder during its operation on the blanks.

18. The combination of a movable sleeve, an arm adjustably attached to said sleeve, a sleeve adjustably mounted in said arm, a shaft rotatably mounted in said sleeve, and a tool carried by said shaft; with means for rotating said shaft, and means for vibrating the arm, substantially as described.

840,940. SCOOP. FRANK C. HOWE, El Paso, Tex. Filed May 23, 1906. Serial No. 318,321.

Claim.—1. In a device of the class described, in combination, a pan, a handle movably attached thereto, a second member movably attached on said pan, a spring in connection with said last member and adapted to be distorted by a weight in said pan, and means for locking said second member with respect to said handle.



2. In a device of the class described, in combination, a pan, a handle pivotally attached to said pan, a runner guided in said handle and connected with said pan, a scale coöperating with said runner, and means for locking said runner to said handle.

3. In a device of the class described, in combination, a pan, a handle attached thereto, weighing mechanism carried by said handle and controlled by said pan, said weighing mechanism including a translucent scale, and a light supported on said handle and affording means for rendering said scale visible in the dark.

4. In a device of the class described, in combination, a pan, a handle movably attached to said pan, a runner connected with said pan and guided within said handle, said handle having a slot in the wall thereof, a translucent scale over said slot, a pointer running in said slot and controlled by said runner, and a light within said tubular handle.

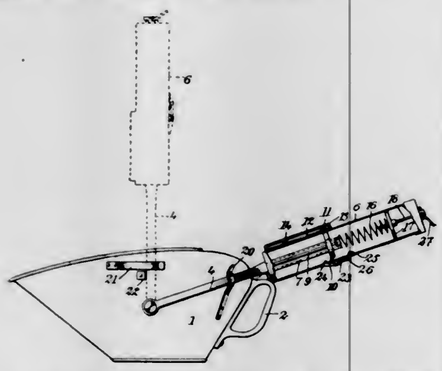
5. In a device of the class described, in combination, a pan, a handle having an arm rigid therewith and pivotally attached to said pan, a lever attached to said arm, a link connecting said lever with said pan, a runner running upon said handle and connected with said lever, a spring coöperating with said runner, and a scale for indicating the weight held in said pan and also coöperating with said runner.

6. In a device of the class described, in combination, a pan, a handle having an arm pivotally attached to said pan, a runner guided in said handle, a spring mounted in said handle and coöperating with said runner, a connection from said runner to said pan, a scale coöperating with said runner, a head carried by said runner, and a catch coöperating with said head to substantially fix the same with respect to said handle.

840,941. SCOOP. FRANK C. HOWE, El Paso, Tex. Filed May 23, 1906. Serial No. 318,322.

Claim.—1. In a device of the class described, in combination, a pan, a bail pivotally attached thereto, a handle

slidably mounted on said bail, a spring connecting said handle with said bail, a scale coöperating with said bail and said handle to constitute a weighing device, and means for locking said bail to said pan in a position at or near the vertical axis of said pan, and means for locking said bail in a laterally-disposed position.



2. In a device of the class described, in combination, a pan, a bail pivotally attached to said pan, a handle slidably mounted on said bail, a runner attached to said bail, a spring connecting said runner with said handle, said runner having a pointer, means for locking said runner to said handle, a scale coöperating with said pointer, and resilient clips attached to said pan and affording means respectively for locking said bail in a substantially central position and in a laterally-disposed position.

3. In a device of the class described, in combination, a pan, a bail pivotally attached to said pan and having outwardly-projecting forks, a handle slidably mounted on said forks, a runner carried by said bail, a spring connecting said runner with said handle, said runner having a pointer, means for locking said runner to said handle, a scale on said handle coöperating with said pointer, and means respectively carried by said pan for holding said bail in a substantially central position and in a laterally-disposed position.

840,942. DRAFT APPARATUS. THOMAS W. HUCKLE, Standish, Mich. Filed Dec. 14, 1905. Renewed Nov. 26, 1906. Serial No. 345,175.

Claim.—1. A draft apparatus, comprising the combination of the body, a holding device along which the body is arranged to roll, and a flexible connecting device attached to the body.

2. A draft apparatus, comprising a body, a holding device along which the body is arranged to roll, a connector, and means for adjustably mounting the connector on the body.

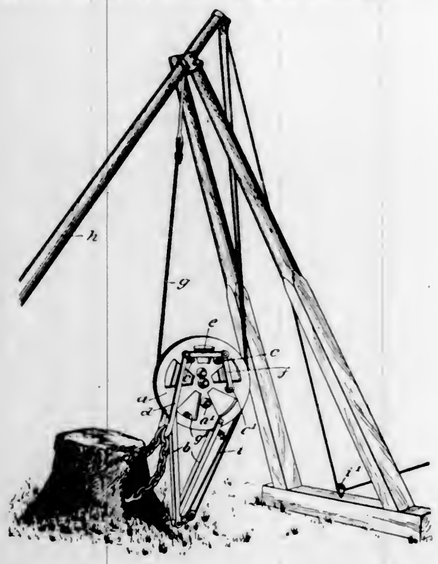
3. A draft apparatus, comprising a body, a holding device along which the body is arranged to roll, a flexible connector, and means for adjustably mounting the connector on the body.

4. A draft apparatus, comprising a body, a holding device along which the body is arranged to roll, a flexible connector, and means for adjustably mounting the connector on the body, said means effecting an engagement between the connector and the body at two different points on the body.

5. A draft apparatus, comprising the combination of a body, a holding device along which the body is arranged to roll, a connecting device attached to the body, and an arm attached to the body and projecting outward therefrom, said arm serving to have the power applied thereto.

6. A draft apparatus, comprising a body, a holding device along which the body is arranged to roll, a jointed connector attached to the body, and pins adjustably held in the body and adapted to be engaged by the connector.

7. A draft apparatus, comprising a body in the form of a sheave, a holding device along which the body is arranged to roll, and a connector attached to the body.



8. A draft apparatus, comprising a body in the form of a sheave, a holding device along which the said sheave is arranged to roll, a jointed connector, and means for mounting the connector on the sheave, said means engaging the connector at two points.

9. A draft apparatus, comprising a body in the form of a sheave, a holding device along which the sheave is arranged to roll, a jointed connector attached at one end to the body, and pins adjustably mounted on the body and adapted to be engaged by said connector.

10. A draft apparatus, comprising a body in the form of a sheave, a holding-cable attached to the periphery thereof, and a connector mounted on the body.

11. A draft apparatus, comprising a body in the form of a sheave, a holding-cable attached to the periphery thereof, a jointed connector attached at one end to the sheave, and pins adjustably mounted on the sheave and adapted to be engaged by the connector.

12. A draft apparatus, comprising a body in the form of a sheave, a holding device along which the sheave is arranged to climb, a flexible connector attached at one end to the body, and means located on the body and adapted to be engaged by the connector.

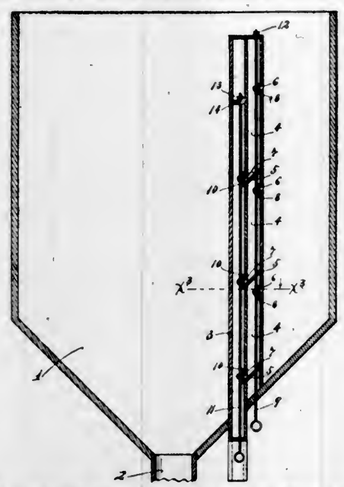
13. A draft apparatus, comprising a body in the form of a sheave, a holding device along which the sheave is arranged to roll, a flexible connector attached at one end to the sheave, said sheave having a plurality of orifices therein, and a pin capable of fitting a plurality of said orifices.

14. A draft appliance, comprising a body, a holding device along which the body is arranged to roll, a connector attached to the body, and means for varying the effective length of the connector.

840,943. GRAIN-SAMPLER FOR GRAIN-BINS. PERRY M. INGOLD, Minneapolis, Minn. Filed May 14, 1906. Serial No. 316,760.

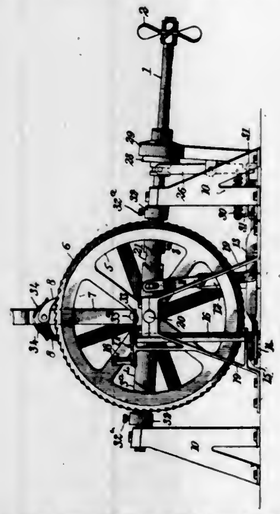
Claim.—1. The combination with a grain-bin or storage-receptacle, of a grain-sampling device comprising a vertical discharge-spout, a plurality of vertically-spaced receiving-compartments located within said bin and having inlet-ports opening thereinto from the said common bin, and having outlet-ports opening into said spout and valves for opening and closing the said inlet and outlet ports, at will, substantially as described.

2. The combination with a grain-bin or storage-receptacle, of a grain-sampler comprising a spout extending vertically within said bin and out through the lower portion thereof, a plurality of vertically-spaced receiving-compartments having inlet-ports opening thereinto from the said bin, and having discharge-ports opening into said spout,



a series of valves for opening and closing said inlet-ports, a common operating-rod connected to said inlet-valves, a series of discharge-valves for opening and closing said discharge-ports, and a common rod connecting said discharge-valves for common movements, substantially as described.

840,944. HAND-POWER PROPELLER. NELS JOHNSON, Chicago, Ill. Filed July 7, 1906. Serial No. 325,154.



Claim.—1. The combination with a rotating shaft, of a propeller secured thereto, pinions journaled freely on said shaft, a sleeve having a longitudinal movement on the shaft, adapted to engage said pinions, laterally-toothed gears provided with ratchet-teeth on their peripheries, and a pivoted lever provided with a pawl adapted to engage the teeth of said gears, substantially as shown and described.

2. The combination with a rotating shaft, of a propeller secured thereto, a friction-clutch secured to said shaft, a spring-actuated lever adapted to control said clutch, and a bar provided with a notch adapted to bear against the lower end of the said lever and movable transversely of said lever, substantially as shown and described.

3. The combination with a rotating shaft, of a propeller mounted thereon, pinions journaled freely on said shaft, a sleeve having a longitudinal movement on the shaft and adapted to engage said pinions, laterally-toothed gears provided with oppositely-arranged ratchet-teeth on their peripheries, and a pivoted lever provided with pawls adapted to engage the teeth of said gears, substantially as shown and described.

4. The combination with a rotating shaft, of a propeller secured thereto, pinions journaled freely on said shaft, laterally-toothed gears engaging said pinion, a sleeve movable longitudinally on said shaft, a friction-clutch secured to said shaft, and mechanism connected with said sleeve and clutch adapted to engage said clutch when the sleeve is free from engagement with said pinion, substantially as shown and described.

5. The combination with a rotating shaft, of a propeller secured thereto, pinions journaled freely on said shaft laterally-toothed gears engaging said pinions, a sleeve movable longitudinally on said shaft, a friction-clutch secured to the shaft, and mechanism connecting said sleeve and clutch adapted to release the clutch when said sleeve is in engagement with either of said pinions, substantially as shown and described.

840,945. PRESSED-STEEL AXLE. ROBERT S. G. LANE, Detroit, Mich., assignor of one-half to Robert J. H. Titcombe and Edward L. Titcombe, Detroit, Mich. Filed Dec. 11, 1905. Serial No. 291,275.



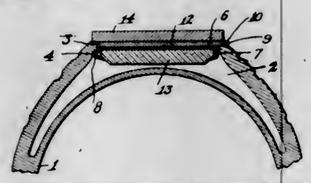
Claim.—1. A hollow vehicle-axle comprising a body formed of multiple parts of pressed steel, said parts arranged vertically side by side and having the extremities thereof made tapering and of annular form in cross-section, bolts passed horizontally through said parts to secure the parts together, separately-constructed skeins sleeved upon the tapering extremities of the body, means to strengthen the body at the longitudinal center thereof, and a kingbolt orifice passed through the body and through said strengthening means, said parts provided with strengthening-ribs on the front and rear lateral faces thereof.

2. A hollow vehicle-axle formed of pressed steel made of multiple parts, said parts arranged vertically side by side and secured together, and a filler within the hollow pressed-steel parts at the longitudinal center of the axle,

said filler provided with a vertical orifice to receive a bolt for the purpose described.

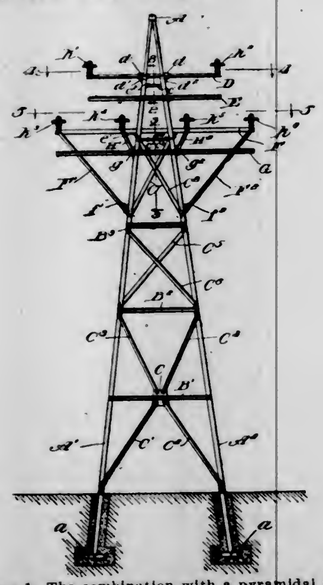
3. A hollow vehicle-axle comprising a body formed of multiple parts of pressed steel, said parts arranged vertically side by side and having the extremities thereof made tapering and of annular form in cross-section, bolts passing horizontally through said parts to secure the parts together, a filler within the hollow parts at the longitudinal center of the axle, and separately-constructed skeins sleeved upon the tapering extremities of the body, said parts provided with strengthening-ribs on the front and rear lateral faces thereof.

840,946. RING. CHARLES M. LEVY, New York, N. Y. Filed Aug. 7, 1906. Serial No. 329,528.



Claim.—A finger-ring having a recessed annular shank provided with an elliptical transversely-disposed opening in its outer side, an elliptical base having one edge hinged to one side of said opening, a bezel depending from the base and fitting snugly in said opening, the bezel being constructed to lockingly engage the wall of the opening opposite the hinge, a beveled-edge glass within the bezel, the edge of the bezel being bent over and down upon the edge of the glass, and an elliptical seal secured on the outer face of the base with its edge projecting beyond the edge of the base to rest upon the wall of the opening and merge into the surface of the shank.

840,947. TOWER FOR ELECTRIC TRANSMISSION-CABLES. ALBERT K. MANSFIELD, Batavia, Ill. Filed May 21, 1906. Serial No. 318,063.



Claim.—1. The combination with a pyramidal tower for supporting electrical transmission-cables comprising four angle-iron columns, of a plurality of cross-arms rigidly secured intermediate of their ends to said tower, means mounted upon said cross-arms for securing cables thereto, horizontal braces rigidly uniting alined flanges of said columns, inclined girths intermediate of said horizontal braces and rigidly uniting adjacent columns, and braces uniting diagonally opposite columns of said tower adjacent said cross-arms.

2. In a supporting structure for electrical transmission-cables, the combination with a tower comprising four or more angle-iron columns, of a cross-arm rigidly secured intermediate of its ends to said tower, braces uniting diagonally opposite columns of said tower adjacent said cross-arm, and means for securing electrical transmission-cables to said cross-arm.

3. In a supporting structure for electrical transmission-cables, the combination with four or more converging angle-iron columns forming a pyramidal tower, of braces connecting the alined flanges of said columns, horizontal braces uniting diagonally opposite columns, and a cross-arm secured intermediate of its ends to said tower adjacent said diagonal braces.

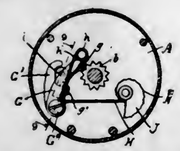
4. The combination with a supporting structure for electrical transmission-cables comprising a plurality of rigidly-united columns, of a cross-arm secured intermediate of its ends to said structure, means mounted upon said cross-arm for securing cables thereto, and an auxiliary cross-arm secured to and rigidly uniting the columns of said supporting structure to afford a footing for workmen while securing cables to said first cross-arm.

5. The combination with a supporting structure for electrical transmission-cables comprising a plurality of rigidly-united angle-iron columns, of a plurality of cross-arms secured intermediate of their ends to said structure, means mounted upon said cross-arms for securing cables thereto, and auxiliary cross-arms secured to and rigidly uniting the columns of said structure below said first-mentioned cross-arm to afford supports for workmen while securing cables to the structure.

6. In a supporting structure for electrical transmission-cables, the combination with a channel-bar cross-arm rigidly secured intermediate of its ends to said structure, means mounted upon said cross-arm for securing cables thereto, and a pair of torsion-braces interposed between said supporting structure, and each of the laterally-projecting portions of said cross-arm, whereby torsional strain imposed on the cross-arm will be resisted by the tension on one and the compression on the other of said pair of braces.

7. In a supporting structure for electrical transmission cables, the combination with a plurality of columns, means for rigidly connecting said columns to form a tower, a cross-arm composed of rigidly-united angle-bars secured intermediate of its ends to said tower, means mounted upon said cross-arm for securing cables thereto and a pair of torsion-braces interposed between the columns composing said tower, and each laterally-projecting portion of said cross-arm, whereby torsional strain imposed on the cross-arm will be resisted by the tension on one and the compression on the other of said pair of braces.

840,948. FISH-LINE REEL. WALTER E. MARHOFF, Kalamazoo, Mich., assignor to Marhoff Reel Co., Kalamazoo, Mich., a Corporation. Filed Mar. 19, 1906. Serial No. 306,839.



Claim.—1. In a fishing-reel, the combination of a frame; a click-pinion; a lever having a click or detent thereon; a pivot on which said lever is mounted; an adjusting-lever having a finger arranged to engage the under side of said click-lever, mounted on the said pivot; means for holding said adjusting-lever outwardly, provided with a suitable

finger-piece; a spring fulcrumed about said pivot, arranged with one end resting on said click or detent and having a coil therein beyond said click, with an extension arranged to engage said lug or finger on said adjusting-lever; a cam having a notched or toothed periphery on which the said tension-spring rests; a finger-piece for adjusting said cam; and a scale for said finger-piece, for the purpose specified.

2. In a fishing-reel, the combination of a frame; a click-pinion; a lever having a click or detent thereon; a pivot on which said lever is mounted; an adjusting-lever having a finger arranged to engage the under side of said click-lever, mounted on the said pivot; means for holding said adjusting-lever outwardly, provided with a suitable finger-piece; a spring fulcrumed about said pivot, arranged with one end resting on said click or detent and having an extension arranged to engage said lug or finger on said adjusting-lever; a cam having a notched or toothed periphery on which the said tension-spring rests, for the purpose specified.

3. In a fishing-reel, the combination of a frame; a click-pinion; a lever having a click or detent thereon; a pivot on which said lever is mounted; an adjusting-lever having a finger arranged to engage the under side of said click-lever, mounted on the said pivot; means for holding said adjusting-lever outwardly provided with a suitable finger-piece; a spring fulcrumed about said pivot, arranged with one end resting on said click or detent and having an extension arranged to engage said lug or finger on said adjusting-lever; a cam on which the said tension-spring rests; a finger-piece for adjusting said cam; and a scale for said finger-piece, for the purpose specified.

4. In a fishing-reel, the combination of a frame; a click-pinion; a lever having a click or detent thereon; a pivot on which said lever is mounted; an adjusting-lever having a finger arranged to engage the under side of said click-lever, mounted on the said pivot; means for holding said adjusting-lever outwardly, provided with a suitable finger-piece; a spring fulcrumed about said pivot, arranged with one end resting on said click or detent and having an extension arranged to engage said lug or finger on said adjusting-lever; a cam on which the said tension-spring rests, for the purpose specified.

5. In a fishing-reel, the combination of a frame; a click-pinion; a lever having a click or detent thereon; a pivot on which said lever is mounted; an adjusting-lever having a finger arranged to engage the under side of said click-lever, mounted on the said pivot; means for holding said adjusting-lever outwardly, provided with a suitable finger-piece; a spring fulcrumed about said pivot, arranged with one end resting on said click or detent and having a coil therein beyond said click, with an extension arranged to engage said lug or finger on said adjusting-lever, for the purpose specified.

6. In a fishing-reel, the combination of a frame; a click-pinion; a lever having a click or detent thereon; a pivot on which said lever is mounted; an adjusting-lever having a finger arranged to engage the under side of said click-lever, mounted on the said pivot; means for holding said adjusting-lever outwardly, provided with a suitable finger-piece; a spring fulcrumed about said pivot, arranged with one end resting on said click or detent and having an extension arranged to engage said lug or finger on said adjusting-lever; for the purpose specified.

7. In a fishing-reel, the combination of a frame; a click-pinion; a lever having a click or detent thereon; a pivot on which said lever is mounted; an adjusting-lever arranged to engage said click-lever mounted on the said pivot; means for holding said adjusting-lever outwardly, provided with a suitable finger-piece; a spring for applying tension to said click-lever; means for adjusting the tension thereof; and a tension-spring for said adjusting-lever; for the purpose specified.

8. In a fishing-reel, the combination of a frame; a click-pinion; a lever having a click or detent thereon; a pivot on which said lever is mounted; an adjusting-lever arranged to engage said click-lever mounted on the said pivot; means for holding said adjusting-lever outwardly; provided with a suitable finger-piece; a spring for applying tension to said click-lever; means for adjusting the tension thereof; for the purpose specified.

9. In a fishing-reel, the combination of a frame; a click-pinion; a lever having a click or detent thereon; a pivot on which said lever is mounted; an adjusting-lever arranged to engage said click-lever mounted on the said pivot; means for holding said adjusting-lever outwardly, provided with a suitable finger-piece; a spring for applying tension to said click-lever; for the purpose specified.

10. In a fishing-reel, the combination of a frame; a click-pinion; a pivoted lever having a click or detent thereon; an adjusting-lever arranged to engage the said click-lever; means for holding said adjusting-lever outwardly; a spring arranged to apply tension to said click-lever, having an extension arranged to apply tension to said adjusting-lever; a cam having a notched or toothed periphery on which the said tension-spring rests for adjusting the tension thereof; a finger-piece for adjusting said cam; and a scale for said finger-piece, for the purpose specified.

11. In a fishing-reel, the combination of a frame; a click-pinion; a pivoted lever having a click or detent thereon; an adjusting-lever arranged to engage the said click-lever; means for holding said adjusting-lever outwardly; a spring arranged to apply tension to said click-lever, having an extension arranged to apply tension to said adjusting-lever; a cam having a notched or toothed periphery on which the said tension-spring rests for adjusting the tension thereof; for the purpose specified.

12. In a fishing-reel, the combination of a frame; a click-pinion; a pivoted lever having a click or detent thereon; an adjusting-lever arranged to engage the said click-lever; means for holding said adjusting-lever outwardly; a spring arranged to apply tension to said click-lever, having an extension arranged to apply tension to said adjusting-lever; a cam for adjusting the tension thereof; a finger-piece for adjusting said cam; and a scale for said finger-piece, for the purpose specified.

13. In a fishing-reel, the combination of a frame; a click-pinion; a pivoted lever having a click or detent thereon; an adjusting-lever arranged to engage the said click-lever; means for holding said adjusting-lever outwardly; a spring arranged to apply tension to said click-lever, having an extension arranged to apply tension to said adjusting-lever; a cam for adjusting the tension thereof, for the purpose specified.

14. In a fishing-reel, the combination of a frame; a click-pinion; a pivoted lever having a click or detent thereon; an adjusting-lever arranged to engage the said click-lever; means for holding said adjusting-lever outwardly; a spring arranged to apply tension to said click-lever, having an extension arranged to apply tension to said adjusting-lever; for the purpose specified.

15. In a fishing-reel, the combination of a frame; a click-pinion; a pivoted lever having a click or detent thereon; an adjusting-lever arranged to engage the said click-lever; means for holding said adjusting-lever outwardly; a spring arranged to apply tension to said click-lever; a cam having a notched or toothed periphery on which the said tension-spring rests for adjusting the tension thereof; a finger-piece for adjusting said cam; and a scale for said finger-piece, for the purpose specified.

16. In a fishing-reel, the combination of a frame; a click-pinion; a pivoted lever having a click or detent thereon; an adjusting-lever arranged to engage the said click-lever; means for holding said adjusting-lever outwardly; a spring arranged to apply tension to said click-lever; a cam having a notched or toothed periphery on which the said tension-spring rests for adjusting the tension thereof, for the purpose specified.

17. In a fishing-reel, the combination of a frame; a spool; a detent; means for holding said detent out of its engaging position; a spring arranged to apply tension to said detent; a member for adjusting the tension of said spring, having a notched or toothed periphery on which said spring rests; a finger-piece therefor; and a scale for said finger-piece, for the purpose specified.

18. In a fishing-reel, the combination of a frame; a spool; a detent; means for holding said detent out of its

engaging position; a spring arranged to apply tension to said detent; a member for adjusting the tension of said spring; a finger-piece therefor; and a scale for said finger-piece, for the purpose specified.

19. In a fishing-reel, the combination of a frame; a spool; a detent; means for holding said detent out of its engaging position; a spring arranged to apply tension to said detent; and a cam for adjusting the tension of said spring, having a notched or toothed periphery on which said spring rests, for the purpose specified.

20. In a fishing-reel, the combination of a frame; a spool; a detent; means for holding said detent out of its engaging position; a spring arranged to apply tension to said detent; and a cam for adjusting the tension of said spring, for the purpose specified.

21. In a fishing-reel, the combination of a frame; a spool; a detent; a spring arranged to apply tension to said detent; a member for adjusting the tension of said spring, having a notched or toothed periphery on which said spring rests; a finger-piece therefor; and a scale for said finger-piece, for the purpose specified.

22. In a fishing-reel, the combination of a frame; a spool; a detent; a spring arranged to apply tension to said detent; a member for adjusting the tension of said spring; a finger-piece therefor; and a scale for said finger-piece, for the purpose specified.

23. In a fishing-reel, the combination with the frame, of a spool; a spring-arm secured at one end to said frame, having a slot therein and a friction-shoe on the free end thereof arranged to contact with said spool; a screw; a block threaded on said screw arranged in said slot in said spring-arm; a pinion on said screw having a hub journaled in said frame; a pinion meshing therewith arranged to project through the reel-frame for adjusting the same; and a finger-piece on the outer end of said screw, for the purpose specified.

24. In a fish-line reel, the combination with the frame, of a spool; a spring-arm secured at one end to said frame, having a slot therein and a friction-shoe on the free end thereof arranged to contact with said spool; a screw; a block threaded on said screw arranged in said slot in said spring-arm; and a finger-piece on the outer end of said screw, for the purpose specified.

25. In a fish-line reel, the combination with the frame, of a spool; a spring-arm secured at one end to said frame, having a slot therein and a friction-shoe on the free end thereof arranged to contact with the said spool; a screw; a block threaded on said screw arranged in said slot in said spring-arm; a pinion on said screw having a hub journaled in said frame; a pinion meshing therewith arranged to project through the reel-frame for adjusting the same for the purpose specified.

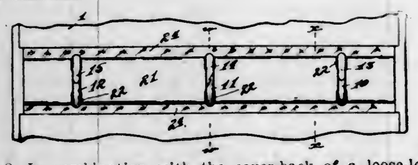
26. In a fish-line reel, the combination with the frame, of a spool; a spring-arm secured at one end to said frame, having a slot therein and a friction-shoe on the free end thereof arranged to contact with said spool; a screw for adjusting said arm; a pinion on said screw; a pinion meshing therewith arranged to project through the reel-frame for adjusting the same; and a finger-piece on the outer end of said screw, for the purpose specified.

27. In a fish-line reel, the combination with the frame, of a spool; a spring-arm secured at one end to said frame, having a slot therein and a friction-shoe on the free end thereof arranged to contact with said spool; a screw for adjusting said arm; and a finger-piece on the outer end of said screw, for the purpose specified.

28. In a fish-line reel, the combination with the frame, of a spool; a spring-arm secured at one end to said frame, having a slot therein and a friction-shoe on the free end thereof arranged to contact with said spool; a screw for adjusting said arm; a pinion on said screw; and a pinion meshing therewith arranged to project through the reel-frame for adjusting the same, for the purpose specified.

840,949. TEMPORARY BINDER. WALTER S. MENDENHALL, Cincinnati, Ohio, assignor to The Sam'l C. Tatum Company, Cincinnati, Ohio, a Corporation. Filed Mar. 16, 1906. Serial No. 306,333.

Claim.—1. In combination with the cover-back of a loose-leaf-holding book, a hinge-rod and hinge members movable independently of the back, a spring engaging the hinge members and pressing them normally in one direction of movement, coöperating hook-sections secured to the hinge members, one of said pairs of hooks having its meeting ends provided with interlocking surfaces, substantially as described.



2. In combination with the cover-back of a loose-leaf-holding book, a hinge-rod, hinge members having alined eye-lugs through which the rod passes, a support for the hinge, a spring engaging the hinge members and holding them normally in one direction, and hook-sections attached to said hinge members, substantially as described.

3. In combination with the cover-back of a loose-leaf-holding book, a lower casing member fitting the back, an arch-support within the casing, hinge members and a hinge-rod on said support, a spring forcing the hinge members in one direction normally, hook-sections attached to said hinge members, a cover-plate attached to the casing, and means for attaching the case to the cover-back, substantially as described.

4. In combination with the cover-back of a loose-leaf-holding book, a lower casing member fitting within the back, an arched support having a medial longitudinally-extending recess, hinge members having alined eye-lugs, a hinge-rod passing through said eyes, said lugs seating in the recess, a spring exerting a normal pressure on the hinge, hook-sections attached to said hinge members, and a cover-plate for the lower casing, the hinge members lying against the opposite sides of the support when the hooks are open and against the under surface of the cover-plate when the hooks are closed, substantially as described.

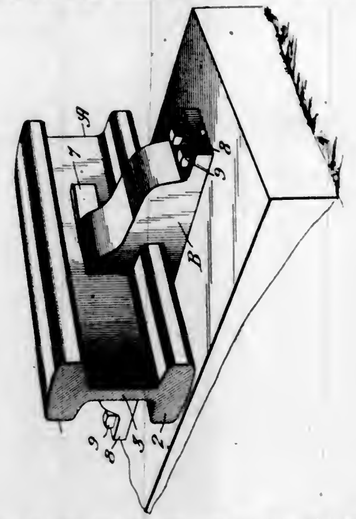
5. In combination with the cover-back of a loose-leaf-holding book, a lower casing member fitting within the back, an arched support having a medial longitudinally-extending recess, hinge members having alined eye-lugs, a hinge-rod passing through said eyes, said lugs seating in the recess, a coil-spring around the rod the opposite ends of which bear on the hinge members and press them normally down on opposite sides of the support, hook-sections attached to said hinge members, one of said hooks having interlocking meeting ends thereby constituting a master-hook, and a cover-plate attached to the lower casing member, substantially as described.

6. In combination with the cover-back of a loose-leaf-holding book, a lower casing member, hinge members having alined eye-lugs, a hinge-rod passing through said eyes, a support in the casing having a medial seat for the eye-lugs and sloping sides, a spring on the rod engaging the hinge members and forcing them normally upon the support, hooked sections attached to the hinge members, having interlocking ends, a cover-plate the edges of which are interlocked with the edges of the casing, and a lining secured to the cover-back and passing between the interlocking casing members, substantially as described.

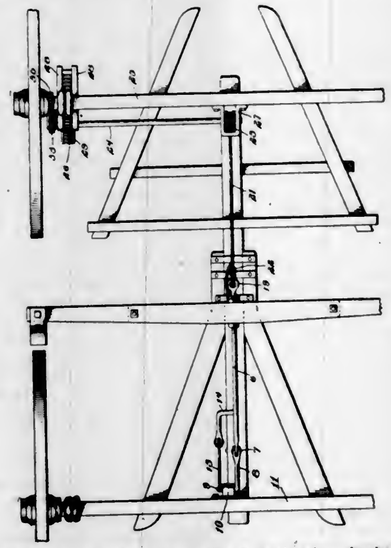
840,950. RAILWAY-RAIL AND CHAIR THEREFOR. ROBERT MORGAN, St. Paul, Minn. Filed Aug. 29, 1906. Serial No. 332,522.

Claim.—1. In a device of the character described, the combination with a rail provided with duplicate heads, of a chair, said chair being provided with a longitudinally-extending channel adapted to receive one of the heads of the rail and with a longitudinally-extending slot opening out through the upper surface of the chair, said slot being enlarged to provide shoulders, and wedges inserted into the enlarged end of the slot on opposite sides of the web of the rail, said wedges resting upon said shoulders.

2. In a device of the character described, the combination with a rail provided with duplicate heads, of a chair provided with a channel for the reception of one of the heads, and with a slot opening out through the upper surface of the chair, said slot being enlarged to provide shoulders, said chair being provided with laterally-extending base-flanges, and wedges inserted into the enlarged portion of the slot on each side of the web of the rail and seated on said shoulders.



840,951. BRAKE. HENRY C. NEALE, Philadelphia, Miss. Filed Mar. 3, 1906. Serial No. 304,009.



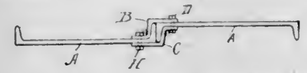
Claim.—1. A brake comprising a brake-shoe, brake connections therefor embodying a cable, a winding-shaft for said cable, a winding-gear on said shaft, a reciprocatory rack meshing with said winding-gear, a gear on one of the vehicle-wheels, means adapting said last-named gear to actuate the rack, and a hand-lever controlling the actuating connections between the gear on the vehicle-wheel and said rack.

2. A brake comprising a brake-shoe, brake connections embodying a cable, a winding-shaft for said cable, a winding-gear on said shaft, a reciprocatory rack-bar for actuating said gear, a gear-wheel on one of the vehicle-wheels, a shaft geared to the rack, a pinion-frame carrying pinions for actuating said shaft, one of said pinions being movable into and out of engagement with the gear on the vehicle-wheel, and a hand-lever connected with said movable pinion-frame, substantially as and for the purpose described.

3. A brake comprising a brake-shoe, brake connections therefor embodying a cable, a winding-shaft for said cable, a gear on said shaft, a gear on one of the vehicle-wheels, a reciprocatory rack engaging said gear on the winding-shaft, interposed gears for communicating motion from the gear on the vehicle-wheel to the gear on the winding-shaft, means embodying a hand-lever for shifting the gears to throw the same into and out of operation, and a detent engaging said reciprocatory rack, substantially as and for the purpose described.

4. A brake comprising a brake-shoe, a two-armed lever fulcrumed on a bracket connected with the rear axle, a brake-rod connecting the brake-shoe with said lever, a slide-rod connected with one arm of said lever and provided at its forward end with an eye and a laterally-offset hook, and brake connections embodying a cable and winding means therefor, said cable having the end portion thereof inserted though the eye of the slide-rod and the extremity thereof engaged within said offset hook, substantially as described.

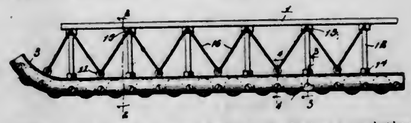
840,952. INTERLOCKING METAL SHEET-PILING. GEORGE E. NYE, Chicago, Ill., assignor of one-half to Gustavus A. Kreis, Chicago, Ill. Filed June 26, 1906. Serial No. 323,513.



Claim.—1. Metal sheet-piling comprising in combination, alternately oppositely disposed channel-bars having the outer faces of their flanges abutting against each other, and independent interlocking means comprising two opposing members each adapted to engage the free end portion of a flange of one unit and the web of the next adjacent unit, said members being connected at one end with a foot-piece and being adapted to be driven with one of said units and serve as a guide for the next adjacent unit, the free portions of said members being adapted to be maintained in proper position relatively to said units by pressure of the earth.

2. Metal sheet-piling comprising in combination, alternately oppositely disposed channel-bars having the outer faces of their flanges abutting against each other, and independent interlocking means comprising two opposing members each having two relatively angularly disposed plane portions adapted to receive the free end portion of the flange of one unit and the adjacent web portion of an adjacent unit, a foot-piece connecting said members at one end and on which said units are adapted to rest, the free portions of said members being adapted when driven to be held by pressure of the earth in engagement with the said units to interlock the same.

840,953. SLED-RUNNER. JOHN PEDERSEN, Stamford, Conn. Filed Aug. 4, 1906. Serial No. 329,235.



Claim.—1. A runner for sleds and skates consisting of a tube having a longitudinal slot in its under side, rotary earth-engaging members within the tube protruding through the slot, and cross-bars secured within the tube constituting spacing members and having upward-extend-

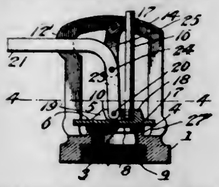
ing lugs provided with screw-threaded sockets registering with apertures in the runner-tube.

2. Tubular runners having slots in their under sides, earth-engaging rotary members within the tubular runners and protruding through the slots, spacing members having sockets registering with apertures in the upper sides of the runners, and body-supporting members threaded into said sockets.

3. A tubular runner having a slot in its under side, earth-engaging rotary members within the tubular runners and protruding through the slot, spacing members interposed between and connected with the sides of the tubular runner between the earth-engaging members which are thereby spaced, and wear-sleeves upon said spacing members.

4. Tubular runners having slots in their under sides, earth-engaging rotary members within the tubular runners and protruding through the slots, cross-bars constituting spacing members secured to the sides of the tubular runners between the rotary members and having sockets aliining with apertures in the upper sides of the runners, screw-eyes engaging the sockets of alternate cross-bars through the apertures in the runners, a body having cross-pieces on its under side, body-supporting members engaging the sockets of intermediate cross-bars and connected with the cross-bars upon the under side of the body, eyes at the terminal ends of the cross-bars beneath the body and flexible elements threaded through said eyes and through the screw-eyes engaging the alternate sockets of the cross-bars or spacing members within the tubular runners.

840,954. VALVE. HENRY S. PINKERTON, Juno, Tex. Filed May 19, 1905. Serial No. 261,241.



Claim.—A float-valve for tanks comprising a base with spaced-apart standards rising therefrom, a central screw-threaded socket extending into the body of the base, a valve-port, an annular rim on the upper portion of the base surrounding the valve-port and forming a valve-seat, a valve with a disk having a boss, means for operating and guiding the valve including a guide-stem mounted on said boss, said valve having a hollow cap-piece with a surrounding rim-flange, a packing detachably mounted on the upper surface of the rim-flange and contacting with the crown of the cap-piece, and means serving to clamp the packing between said disk and the rim-flange of the cap-piece.

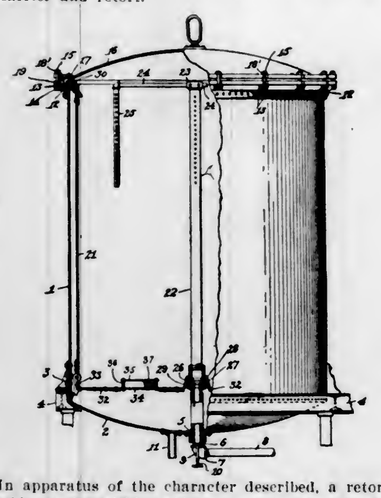
840,955. APPARATUS FOR EXTRACTING TURPENTINE FROM WOOD. GUY R. PRIDE, Jacksonville, Fla. Filed Aug. 11, 1906. Serial No. 330,151.

Claim.—1. In apparatus of the character described, a retort, a removable carrier within said retort, means for admitting steam to said carrier in said retort, means for conducting the steam to the upper part of the carrier, and means for causing said steam to follow a downward path in said carrier.

2. In apparatus of the character described, a retort, a removable carrier within said retort, means for conducting steam into said carrier in said retort at the bottom of said retort, means for conducting the steam to the upper part of the carrier, and means for causing said steam to follow a downward path in said carrier.

3. In apparatus of the character described, a retort, a removable carrier within said retort, means for forming from the exterior a steam-admission connection between the bottoms of said carrier and said retort when said carrier is inserted therein, means for conducting the steam to the upper part of said carrier, and means for causing the steam to follow a downward path in said carrier.

4. In apparatus of the character described, a retort, a removable carrier within said retort, and means for forming a steam-tight connection between the upper ends of said carrier and retort.



5. In apparatus of the character described, a retort, a removable carrier within said retort, and means for forming a steam-tight connection between the upper ends of said carrier and retort by the seating of the carrier within said retort.

6. In apparatus of the character described, a retort, a removable carrier within said retort, and a packing-ring interposed between the upper meeting ends of said carrier and retort forming a steam-tight connection by the seating of the carrier within said retort.

7. In apparatus of the character described, a retort, a removable carrier within said retort, a cover for said retort, and means for forming a steam-tight connection between the upper ends of said carrier and retort and between said cover and retort.

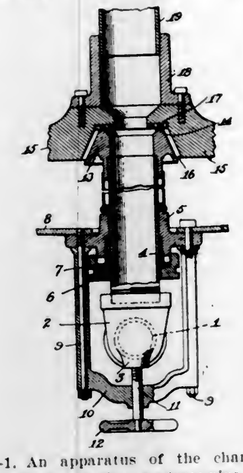
8. In apparatus of the character described, a retort, means for supplying steam to said retort at the bottom thereof, means for carrying said steam to substantially the top of said retort, means for discharging said steam into said retort at the upper end thereof, and means for carrying off said steam at the bottom of said retort.

9. In apparatus of the character described, a retort, a carrier within said retort, a steam-admission pipe passing into the bottom of said retort, a steam-pipe in said carrier communicating with said steam-admission pipe and leading to and discharging at the top of said carrier, and means for taking off said steam at the bottom of said carrier.

10. In apparatus of the character described, a retort, a removable carrier within said retort, a steam-admission pipe in the bottom of said retort, a vertical steam-pipe in said carrier adapted to register steam-tight with said admission-pipe when said carrier is in position, said pipe extending to substantially the top of said carrier, horizontal pipes radiating from the top of said pipe in said carrier and downwardly-disposed discharge-pipes connected to the ends of said radiating pipes.

11. In apparatus of the character described, a retort, a steam-admission pipe at the bottom thereof, a discharge-pipe at the bottom thereof, a removable carrier in said retort, a steam-tight connection between the upper ends of said carrier and retort, a cover having a steam-tight connection with said retort, a vertical steam-pipe in said carrier adapted to register steam-tight with said steam-admission pipe and extending to the top of said carrier, radiating downwardly-disposed discharge-pipes connected with said vertical pipe, and discharge-openings in the bottom of said carrier communicating with the discharge from said retort.

840,956. STEAM-JOINT. GUY R. PRIDE, Jacksonville, Fla. Filed Aug. 11, 1906. Serial No. 330,152.



Claim.—1. An apparatus of the character described, embodying an outer casing, a steam-pipe passing through said casing and adjustable therein, an inner vessel adapted to seat in said outer casing and having a packing-ring adapted to contact with said steam-pipe, and a steam-distributing pipe within said inner vessel registering with said outer-casing steam-pipe through said packing-ring.

2. An apparatus of the character described, embodying an outer casing, a stuffing-box therein, a steam-pipe adjustable in said stuffing-box, an inner vessel adapted to seat in said outer casing and having a packing-ring of comparatively broad area adapted to contact with said steam-pipe in any position that said inner vessel may assume in said outer casing, and a steam-distributing pipe within said inner vessel registering with said outer-casing steam-pipe through said packing-ring.

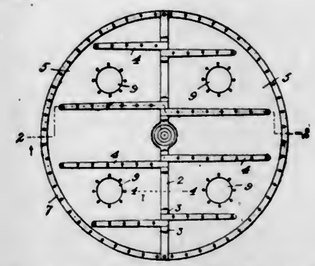
3. An apparatus of the character described, embodying an outer casing, a stuffing-box therein, a steam-pipe adjustable in said stuffing-box, an inner vessel adapted to seat in said outer casing and having a packing-ring adapted to contact with said steam-pipe, and a steam-distributing pipe within said inner vessel registering with said outer-casing steam-pipe through said packing-ring.

4. An apparatus of the character described, embodying an outer casing, a stuffing-box therein, a steam-pipe movable in said stuffing-box, a yoke attached to said outer casing and surrounding said steam-pipe, a set-screw in said yoke engaging said steam-pipe to regulate its movement in said stuffing-box, an inner vessel adapted to seat in said outer casing and having a packing-ring adapted to contact with said steam-pipe, and a steam-distributing pipe within said inner vessel registering with said outer-casing steam-pipe through said packing-ring.

5. An apparatus of the character described, embodying an outer casing, a steam-pipe passing through said casing and adjustable therein and having a narrow annular seat at its inner end, an inner vessel adapted to seat in said outer casing and recessed in its under side, a packing-ring in said recess against which the narrow annular seat of the steam-pipe is adapted to seat when said inner vessel is in position, and a steam-distributing pipe within the inner vessel communicating through said inner vessel and packing-ring with said outer-casing steam-pipe.

840,957. VESSEL OR CARRIER. GUY R. PRIDE, Jacksonville, Fla. Filed Aug. 11, 1906. Serial No. 330,153.

Claim.—1. An apparatus of the character described, embodying a vessel or carrier body, a central bar fixed in the bottom of said body, a plurality of bottom sections hinged to said central bar, means for detachably retaining said sections closed, and an inverted-V-shaped guard on top of said central bar presenting an upwardly-projecting knife-edge.



2. An apparatus of the character described, embodying a vessel or carrier body, a bottom thereto having one or more apertures therein, imperforate plates of greater diameter than said apertures located centrally above said apertures, a series of sleeves supporting said plates at a distance above the vessel or carrier bottom, and bolts passing through said sleeves and connecting said plates with the vessel or carrier bottom.

3. An apparatus of the character described, embodying a vessel or carrier body, a bottom thereto having one or more apertures therein, imperforate plates supported centrally above said apertures at a distance above the vessel or carrier bottom and of a diameter sufficient to cover said apertures, and an annular foraminous screen located vertically in the space between each of said plates and the vessel or carrier bottom and outside of the circumference of said apertures.

4. An apparatus of the character described, comprising a vessel or carrier body, a bottom thereto having one or more apertures therein, imperforate plates of greater diameter than said apertures located centrally above said apertures, a series of sleeves supporting said plates at a distance above the vessel or carrier bottom, bolts passing through said sleeves and connecting said plates with the vessel or carrier bottom, and an annular foraminous screen located vertically in the space between each of said plates and the vessel or carrier bottom and lying against said sleeves.

840,958. HARNESS-CONTROLLED STOP-MOTION FOR LOOMS. VICTOR RAINVILLE, Nashua, N. H., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed May 22, 1906. Serial No. 318,198.

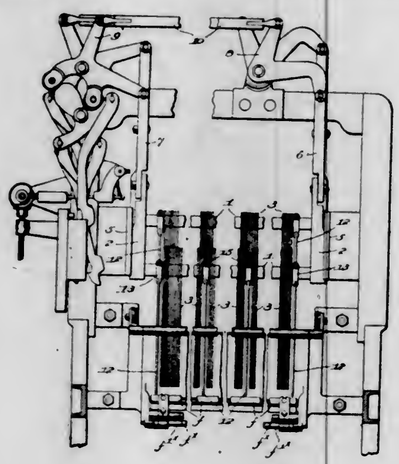
Claim.—1. In a loom, reciprocating heddle-frames each having a transverse heddle-support, detector-heddles carried by and having limited longitudinal movement relative to the support, one or more fingers depending from the latter below the heddles, and a stop-motion-controlling feeler adapted to coöperate with a released heddle, or with one of the fingers upon breakage or improper descent of its heddle-support.

2. In a loom, reciprocating heddle-frames each provided with detector-heddles having limited vertical movement relative to the frame, and a stop-motion-controlling feeler to coöperate with a released heddle, combined with means to separate and prevent undue lateral movement of the heddles and also adapted to coöperate with the feeler upon improper descent of the frame.

3. In a loom, reciprocating heddle-frames each having a cross-bar, and detector-heddles thereon having limited longitudinal movement relative thereto, overhead suspending and actuating connections for the frames, a stop-motion-controlling feeler to coöperate with a released heddle, and one or more fingers depending from the cross-bars below the heddles to limit lateral movement thereof and also to coöperate with the feeler upon breakage of a cross-bar or of its overhead connection.

4. A harness-motion for looms having, in combination, a heddle-frame provided with detector-heddles, an overhead

actuating connection for the frame, a stop-motion-controlling feeler to engage a released heddle, and means to separate and limit lateral movement of the heddles and to cooperate with the feeler upon rupture of the overhead connection.



5. A harness-motion for looms having, in combination, a heddle-frame comprising side bars and a connecting cross-bar, substantially vertical guides for the frame, heddles carried by and having limited vertical movement relative to the cross-bar, suspending and actuating connections attached to the side bars, a stop-motion-controlling member to coöperate with a released heddle, and heddle-separating means sustained by the cross-bar and adapted to coöperate with the controlling member upon rupture of the cross-bar or the actuating connections.

6. A harness-motion for looms having, in combination, a series of overhead-supported, reciprocating heddle-frames each provided with a series of detector-heddles, a stop-motion-controlling member adapted to coöperate with a released heddle, and means to prevent undue lateral movement of the heddles and also adapted to coöperate with said controlling member upon improper descent of a heddle-frame.

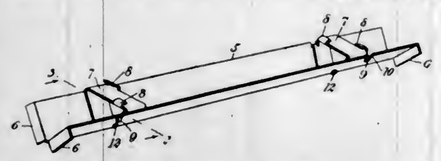
7. A harness-motion for looms having, in combination, an overhead-supported, reciprocating heddle-frame having a cross-bar and a series of detector-heddles thereon, a stop-motion-controlling feeler to coöperate with a released heddle, and a plurality of depending, blade-like separators on the cross-bar to divide the heddles into groups and prevent undue lateral movement thereof, the lower ends of the separators projecting below the heddles to cooperate with the feeler, upon abnormal positioning or breakage of the cross-bar, when the heddle-frame descends.

8. In a loom, overhead supported and actuated heddle-frames each provided with detector-heddles, a stop-motion-controlling feeler to engage a released heddle, and combined heddle-separating and safety means, to normally separate the heddles and to engage the feeler upon abnormal descent of the heddle-frame.

9. A heddle-frame for looms having a cross-bar adapted to support a series of detector-heddles capable of limited longitudinal movement with relation thereto, and depending blade-like fingers rigidly attached to the cross-bar to divide the heddles into groups and restrict lateral swaying thereof.

10. A heddle-frame for looms having a cross-bar adapted to support a series of detector-heddles capable of limited longitudinal movement with relation thereto, and a plurality of depending separators carried by said cross-bar, each separator comprising a thin, flat and substantially rigid depending finger, and a head adapted to be clamped upon the cross-bar.

840,959. RAILWAY-TIE. ERIK A. RASMUSSEN, Hot Springs, S. D. Filed Sept. 5, 1906. Serial No. 333,302.

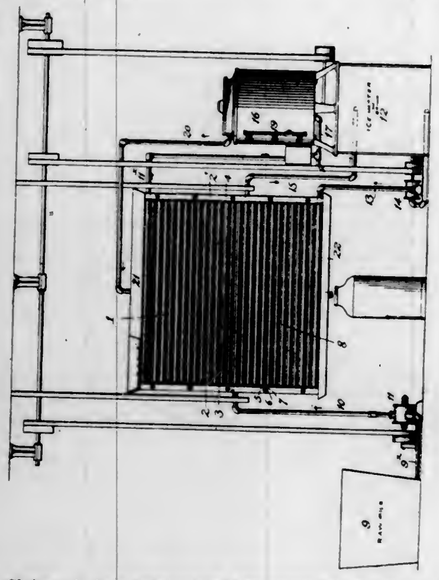


Claim.—1. A metal railway-tie substantially V-shaped in cross-section and having openings in its opposite walls near the bottom, triangular rail-fastenings slotted at the bottom, pins for passing through the openings in said side walls of the tie and through said slots, and keys for engaging between said pins and the bottom of the fastenings.

2. A metal railway-tie substantially V-shaped in cross-section and having openings in its opposite walls near the bottom, and notches at the top, triangular rail-fastenings slotted at the bottom and having hook portions for engaging in said notches, pins for passing through the openings in the said side walls of the tie, and through said slots, and keys for engaging between said pins and the bottom of the fastenings.

3. A railway-tie consisting of metal and substantially V-shaped in cross-section, outwardly-extended flanges at the ends of the tie, and triangular rail-fastening devices secured in the tie.

840,960. REGENERATIVE PASTEURIZING SYSTEM. ALBAN H. REID, Philadelphia, Pa. Filed May 25, 1906. Serial No. 318,677.



Claim.—1. In a regenerative pasteurizing apparatus, the combination of a series of horizontal superposed tubes, a source or supply for the raw milk, a connection between said milk-supply and one end of said system of tubes, a pasteurizing apparatus, a connection between said pasteurizing apparatus and the other end of said system of tubes, and means for directing the pasteurized milk from the pasteurizer onto the top of the system of tubes.

2. In a regenerative pasteurizing system, the combination of an upper series of horizontal connected tubes arranged one above the other, a lower series of horizontal connected tubes similarly arranged and non-communicating with the first series, means for introducing the cold raw milk into the lower tube of the upper series, means for discharging the milk from the upper tube of said series, means for introducing a cooling medium into the lower tube of the lower series, means for discharging the cooling medium from the upper tube of said lower series, a pasteurizer connected with the upper tube of the upper series, and means for discharging the pasteurized milk onto the top of the upper series of tubes.

3. In a regenerative pasteurizing system, the combination of an upper series of horizontal superposed tubes communicating with each other, a lower series of horizontal superposed tubes communicating with each other but having no communication with the upper series, the said lower series being arranged vertically beneath the upper series with its upper end forming an external continuation of the lower end of the upper series, means for circulating the cold raw milk through the upper series, means for pasteurizing the milk after it leaves the tubes, means for flowing the pasteurized milk downward over the external surface of both series of tubes, and means for circulating a cooling medium through the lower series.

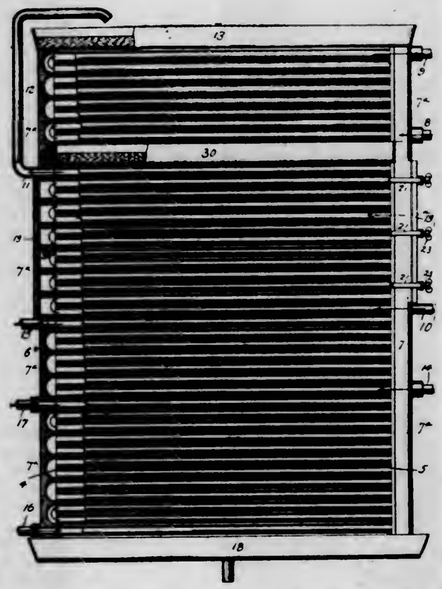
4. In a regenerative pasteurizing system, the combination of the upper series of horizontal superposed tubes communicating with each other, a lower series of horizontal superposed tubes communicating with each other and having no communication with the first, the said lower series being arranged vertically beneath the upper ones with its upper end forming a continuation of the lower end of the upper series, a source of supply for the raw milk, a connection between said milk-supply and one end of said upper series of tubes, a pasteurizing apparatus, a connection between said pasteurizing apparatus and the opposite end of the upper series of tubes, a source of supply for the cooling medium, a connection between said cooling-medium supply and one end of the lower series of tubes, a second connection between the opposite end of the lower series of tubes and the cooling-medium supply, and means for discharging the pasteurized milk onto the top of the upper series of tubes; whereby in flowing downward over said upper and lower series of tubes in succession, the pasteurized milk will be first reduced in temperature and will impart its heat to the incoming raw milk and will be finally further reduced in temperature to the proper degree for use.

840,961. REGENERATIVE PASTEURIZING SYSTEM. CHARLES W. REID, Milford, Del. Filed Sept. 27, 1906. Serial No. 336,405.

Claim.—1. In a regenerative pasteurizing system, the combination of a pasteurizing-coil comprising a series of horizontally-arranged superposed tubes, means for circulating a heating medium therethrough, a regenerative coil arranged vertically below the pasteurizing-coil and comprising a series of horizontally-superposed tubes, means for circulating the raw milk through the tubes of the regenerative coil, and means for flowing the milk from the regenerative coil downward over the external surfaces of the two coils in succession.

2. In a regenerative pasteurizing system, the combination of a pasteurizing-coil, a regenerative coil, and a cooling-coil, said coils being each composed of a series of horizontally-superposed tubes communicating with each other, the several coils being non-communicating and arranged one vertically above the other in a single vertical plane, the pasteurizing-coil at the top, the regenerative coil next, and the cooling-coil at the bottom, means for circulating a heating medium through the pasteurizing-coil, means for circulating the raw milk through the regenerative coil, means for circulating a cooling medium through the cooling-coil, and means for directing the milk from the regenerative coil onto the top of the pasteurizing-coil; whereby in flowing over the several coils, the milk will be successively pasteurized and cooled.

3. In a regenerative pasteurizing system, the combination with means for pasteurizing the raw milk, of means for circulating the pasteurized milk in proximity to but separated from the raw milk; whereby the temperature of the raw milk will be raised and that of the pasteurized milk correspondingly reduced, a primary cooling-coil comprising a series of horizontally-arranged superposed communicating tubes, a secondary non-communicating cooling-coil arranged vertically beneath the first and comprising a series of horizontal superposed tubes communicating with each other, means for circulating a cooling medium of a moderate temperature through the primary cooling-coil, means for independently circulating a cooling medium of a considerably lower temperature through the secondary cooling-coil, and means for discharging the pasteurized milk onto the primary coil; whereby in flowing over the external surface of the two cooling-coils in succession, the temperature of the milk will be gradually reduced.



4. In a regenerative pasteurizing system, the combination of a pasteurizing-coil comprising a series of horizontal superposed tubes communicating with each other, a non-communicating regenerative coil comprising a series of horizontal superposed tubes communicating with each other and arranged vertically beneath the pasteurizing-coil, means for circulating a heating medium through the pasteurizing-coil, means for circulating raw milk through the regenerative coil, means for directing the milk from the regenerative coil onto the top of the pasteurizing-coil, that it may flow down its external surface, and a receiving-trough interposed between the two coils in position to receive the milk from the pasteurizing-coil and direct it onto the regenerative coil.

5. In a regenerative pasteurizing system, the combination of an upper pasteurizing-coil comprising a series of horizontal superposed tubes communicating at their ends through manifolds, a regenerative coil arranged vertically beneath the pasteurizing-coil and comprising a series of open-ended horizontal superposed tubes communicating at their ends through manifolds, a cooler-coil arranged vertically beneath the regenerative coil and comprising a series of horizontal superposed tubes communicating at their ends through manifolds, fixed cap-plates closing the manifolds of the pasteurizing and cooling coils, removable cap-plates closing the manifolds of the regenerative coil, means for circulating a heating medium through the pasteurizing-coil, means for circulating a cooling medium through the cooling-coil, means for circulating the raw milk through the regenerative coil, and means for flowing the milk from the regenerative coil onto the top of the pasteurizing-coil.

840,962. PROCESS OF MAKING TERPIN HYDRATE. LUDWIG H. REUTER, New York, N. Y. Filed Feb. 24, 1906. Serial No. 302,739.

Claim.—1. A process of making terpin hydrate, consisting in absorbing spirits of turpentine in a porous inactive solid and reacting on the mixture with a dilute acid, mixing, and allowing the mixture to stand.

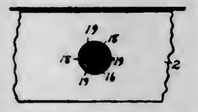
2. A process of making terpin hydrate, which consists in absorbing spirits of turpentine in sawdust, and reacting upon the mixture with dilute sulfuric acid, mixing, and allowing the mixture to stand.

3. A process of making terpin hydrate, consisting in absorbing spirits of turpentine in sawdust, treating the admixture with sulfuric acid, and allowing the whole to stand.

4. A process of making terpin hydrate, consisting in mixing spirits of turpentine, a dilute acid and a porous inactive material which absorbs liquids, macerating the mixture, removing the acid and non-converted oil, and extracting terpin hydrate from the residue.

5. A process of manufacturing terpin hydrate, consisting in mixing spirits of turpentine, dilute sulfuric acid and a porous inactive material, macerating the mixture, removing the acid and non-converted oil, and extracting terpin hydrate from the residue.

840,963. LOCK FOR LOOSE-LEAF BINDERS. ARTHUR I. RISSER and OTTO F. F. T. REINHARDT, Chicago, Ill., assignors to Robert H. Carnahan, Indianapolis, Ind. Filed Apr. 17, 1905. Serial No. 255,914.



Claim.—1. In locking mechanism for loose-leaf binders, two binding-sections, one telescoping the other; guide-tubes secured to each of said sections, the guide-tubes of one section telescoping the corresponding tubes of the other section; springs within said guide-tubes and acting against said sections to distend the same; a tube secured to the upper section and having a bushing in connection with its lower end, the bore of said bushing being tapered downwardly; a yoke secured to said upper section coincident with said tube and having an internal flange provided with diametrically opposite depressions in its upper face; a revoluble tube extending down through said yoke and the former tube, having an external flange at its top with diametrically opposite slots and also diametrically opposite lugs which depend from its under face, the said lugs being adapted to enter the said depressions in said yoke; a head fixed at the lower end of the revoluble tube, having a central vertical bore and radial recesses extending through its sides into its bore; a series of binding-balls arranged respectively in said recesses; a stem fixed at its lower end to said lower section and extending up through the bore of said head; and a spring surrounding the revoluble tube acting to hold the same in its lowermost position relative to said former tube.

2. In locking mechanism for loose-leaf binders, two binding-sections, one telescoping the other; a fixed tube depending from the upper of said sections; a bushing secured in the lower end of said fixed tube, the bore of which tapers downwardly; a yoke secured to said upper section coincident with said fixed tube, and having an internal flange provided with diametrically opposite depressions in the upper face; a revoluble tube extending down through said yoke and fixed tube, having an external flange at its top with slots and also diametrically opposite lugs which depend from its under face, the said lugs being adapted to enter the said depressions in said yoke; a head fixed at the lower end of the revoluble tube, having a central vertical bore; a stem fixed at its lower end to the lower of said sections, extending up through the bore of said head; a series of binding-balls in connection with said head adapted to become bound between said bushing and stem when said revoluble tube is in lowermost position relative to said fixed tube; and a spring acting to hold the revoluble tube downward.

3. In locking mechanism for loose-leaf binders, two binding-sections, one being movable relative to the other; a fixed tube depending from one of said sections; a stem fixed to the other section and extending centrally into said fixed tube; a bushing having a downwardly-tapered bore in fixed relation with said tube; a revoluble tube within said fixed tube with means in connection therewith for adjusting the same longitudinally therein; a head in fixed relation with the revoluble tube extending in said bushing; a series of binding-balls in loose connection with said head adapted to become bound between said bushing and stem when the revoluble tube is properly adjusted, and a spring acting against said head tending to force said balls in binding position.

4. In locking mechanism for loose-leaf binders, two binding-sections, one being movable relative to the other; a fixed tube depending from one of said sections and having a taper-bored bushing; a stem in connection with the other section and extending through said bushing into said fixed tube; a revoluble tube within said fixed tube having locking means in connection therewith to engage said stem to prevent said sections from moving from one another; and means to adjust said revoluble tube to thereby release said locking mechanism.

840,964. POST-MOLD. HIRAM ROUTT, Dallas Center, Iowa. Filed May 5, 1906. Serial No. 315,391.



Claim.—The herein-described mold for fence-posts, consisting of a bottom, side pieces hinged to said bottom and provided with registering holes for removable cores, removable end pieces forming abutments for the ends of the post, cross-bars extending through openings in the side pieces for holding said end pieces in place, and removable clamps comprising metal strips having their opposite ends bent at right angles to embrace the side pieces to hold the same in place during the molding operation, essentially as described.

840,965. SAFETY-RAZOR. WILLIAM SCHMACHTENBERG, New York, N. Y. Filed July 25, 1906. Serial No. 327,661.

Claim.—1. A safety-razor, comprising a handled frame having an integral guard operating in conjunction with the cutting edge of the razor-blade resting in the frame, stops on the rear of the said frame for the back of the razor-blade to abut against, to hold the razor-blade against rearward movement and to maintain the cutting edge of the razor-blade in its position relative to the guard, and a spring-pressed manually-controlled clamp fulcrumed on the rear of the said frame at a point approximately midway between the sides of the frame, the said clamp having a forwardly-extending clamping-arm engaging the top of the razor-blade approximately at the middle thereof to press the razor-blade downward.



2. A safety-razor, comprising a handled frame having an integral guard operating in conjunction with the cutting edge of the razor-blade resting in the frame, stops held transversely adjustable on the rear of the said frame for the back of the razor-blade to abut against, to hold the razor-blade against rearward movement and to maintain the cutting edge of the razor-blade in its position relative to the guard, and a spring-pressed, manually-controlled clamp fulcrumed on the rear of the said frame at a point approximately midway between the sides of the said frame, the said clamp having a forwardly-extending clamping-arm engaging the top of the razor-blade approximately at the middle thereof to press the razor-blade downward.

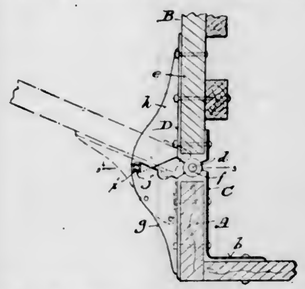
3. A safety-razor, comprising a handled frame having an integral guard operating in conjunction with the cutting edge of the razor-blade resting in the frame, stops in the form of set-screws arranged transversely on the rear of the said frame for the back of the razor-blade to abut against, to hold the razor-blade against rearward movement and to maintain the cutting edge of the razor-blade in its position relative to the guard, and a spring-pressed, manually-controlled clamp fulcrumed on the rear of the said frame at a point approximately midway between the sides of the said frame, the said clamp having a forwardly-extending clamping-arm engaging the top of the razor-blade approximately at the middle thereof to press the razor-blade downward.

4. A safety-razor, comprising a razor-blade, a handled frame having a perforate top plate for the razor-blade to rest on, and provided with side and rear flanges extending upwardly and raised seats adjacent to the said side flanges, an integral guard on the front of the said top plate, set-screws screwing transversely in the rear flange for the back of the razor-blade to rest on, and a spring-pressed clamp fulcrumed on the rear of the said frame and having a clamping-arm for engaging the face of the razor-blade and pressing the latter downward against the said seats, the clamp having a finger-piece for engagement by the operator and extending approximately parallel to the handle of the said frame.

840,966. HINGE. FRANK SHERSMITH, Oconomowoc, Wis. Filed July 5, 1906. Serial No. 324,781.

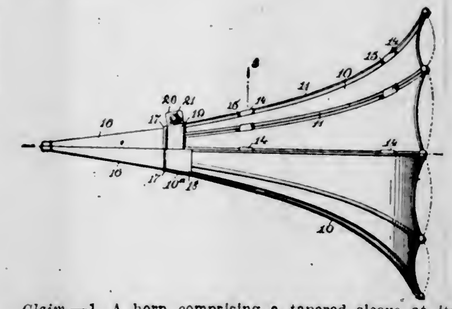
Claim.—1. A separable hinge each section of which has a partly-concave head and a convex ear, the concavity of one section being engaged by the ear of the other section, a pintle projecting from the center of one of the ears to have engagement with a central aperture in the other ear, webs projecting outward from said hinge-sections in position to lap one another when both sections of the hinge are alined or the swing-section at an angle to the other outward therefrom, and a bolt engageable with registering apertures in the webs, said hinge-sections being respectively for connection with a side of a wagon-body and an attachment for the same.

2. A separable hinge one section of which is made to straddle a side-board of a wagon-body and has its inner leg provided with a foot at a suitable angle thereto, the head of the hinge being provided with a concavity and convex ear, the other section of the hinge being made to straddle a side attachment for the wagon-body and provided with a concavity and convex ear having match fit respectively with the ear and concavity aforesaid, a pintle extending from the center of one of the ears to have engagement with a central aperture in the other ear, webs



projecting outward from said hinge-sections in position to lap one another when both sections of the hinge are alined or the swing-section at an angle to the other outward therefrom, and a bolt engageable with registering apertures in the web.

840,967. AMPLIFYING-HORN. MAX STEINER and MICK BRENNER, Newark, N. J. Filed May 25, 1906. Serial No. 318,611.



Claim.—1. A horn comprising a tapered sleeve at its small end, its large end made up of assembled sections detachably secured together, each section having a flat tongue on its inner end, and a detachable band for covering the tongues and clamping them around and against the tapered sleeve.

2. A horn comprising a tapered sleeve, at its small end, a large end made up of detachable sections, each section having one edge provided with clamps secured thereto and its opposed edge adapted to be clamped, whereby the adjacent sections are secured together, and means for clamping the assembled sections on the tapered sleeve.

3. A horn comprising a tapered sleeve at its inner end, a large end composed of separable sections, each section having a hollow rib on one edge, and a rib on its other edge to enter the hollow rib on the adjacent section, means on the ribs for fastening the sections together, and means for securing the assembled sections on the large end of the tapered sleeve.

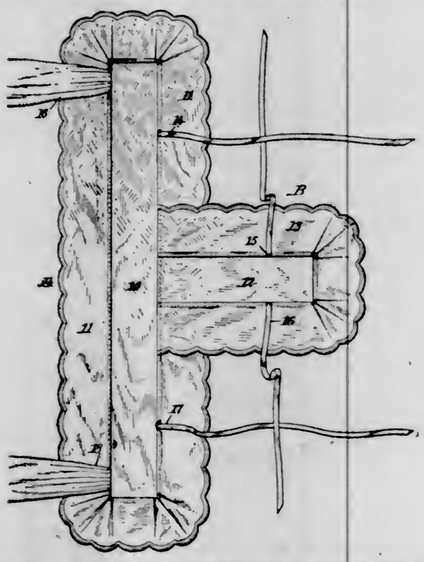
4. In a horn comprising a tapered sleeve at its smaller end, the larger end of the horn being made up of separable sections, each section having a hollow rib on one edge, and having on its other edge a rib to enter the hollow rib on the adjacent section, clips to go over the ribs to fasten them together, the inner ends of the assembled sections fitting on the large end of the tapered sleeve, and means encircling the ends of the sections to fasten the parts together.

5. A horn comprising a series of separable sections,

means for detachably securing the sections together, a tapered sleeve on the small end of the horn arranged to be embraced by the inner ends of the assembled sections, a peripheral rib on the tapered sleeve, ribs on the adjacent edges of the assembled sections, a peripheral band between the rib of the sleeve and the ends of the ribs on the sections, and means for drawing the ends of the bands together.

6. In a horn made up of detachable sections, each section comprising a body portion, a hollow rib on one edge, a rib on the opposed edge of the section to fit the first-mentioned rib, and pivoted clips on the hollow ribs and arranged, when in place, to cover the open side of the hollow rib.

840,968. CHILD'S CAP. LENA STEINTHAL, New York, N. Y. Filed Oct. 2, 1906. Serial No. 337,068.

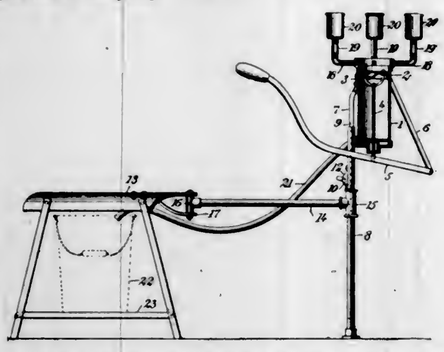


Claim.—A child's cap consisting of a front section and a rear or flap section, the sections being at right angles to each other, each section consisting of a longitudinal body member and a marginal member, the marginal member extending on all sides of the front section and extending at the sides and rear end of the rear or flap section, the forward end of the rear or flap section being permanently secured to the rear edge of the body member of the front section with the marginal member thereof extending over the rear or flap section, and tapes secured to the rear edges of the body member of the front section and the side edges of the body member of the rear or flap section for detachably and adjustably securing the parts together with the marginal member of the front section extending over the marginal member of the rear or flap section at the sides thereof.

840,969. MILKING-MACHINE. LEMUEL B. STEVENS, Logansport, Ind. Filed June 25, 1906. Serial No. 323,240.

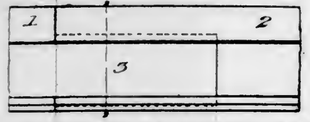
Claim.—1. A milking-machine comprising a pump, teat-cups communicating with the upper portion thereof, a lever for operating the pump-piston, a vertically-adjustable support for the pump, a stool with which said support has connection, and a discharge-pipe leading from the lower portion of the pump-cylinder.

2. A milking-machine comprising a pump, cups having flexible tube connection with the upper portion of the pump-cylinder, a lever for operating the pump-piston, a support for the pump, consisting of a tubular member, and a toothed rod movable in the tubular member, a pawl pivoted to the tubular member and adapted to engage with any one of the teeth, a rod having connection with said tubular member, a seat with which the rod has swinging connection, and a discharge-tube leading from the lower portion of the pump.



3. A milking-machine comprising a pump-cylinder, a piston for operating in the cylinder, and having an opening, a valve for said opening, teat-cups having flexible tube connection with the upper portion of the pump-cylinder, a stem extended downward from the piston through the bottom wall of the cylinder, a lever with which said stem connects, a support for the pump, a seat, a connection between the support and seat, a shelf attached to the legs of the seat, and a discharge-tube leading from the lower portion of the pump-cylinder.

840,970. RAIL-JOINT. FREDERICK TEUBNER, Dallas, Tex. Filed June 16, 1906. Serial No. 322,099.



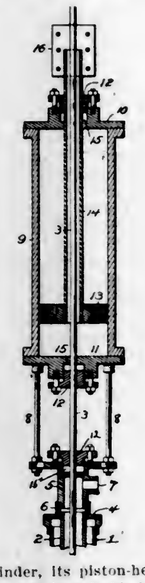
Claim.—In a rail-joint, the combination of a rail having its web cut away inwardly from the end thereof to form a slot, leaving the base and head of the rail intact with their abutting ends in vertical alinement, the base and head being formed with dovetailed recesses communicating with said slot and coextensive in length therewith, and an adjacent rail having the abutting portions of its base and head arranged in the same plane and its web provided with a tongue projecting forwardly therefrom to fit within said slot, said tongue being coextensive in length with the slot and provided at its upper and lower edges with dovetailed projections to engage said recesses, said tongue being formed with lateral longitudinal shoulders on opposite sides of said projection to respectively bear against the under side of the head and upper side of the base of the slotted rail, the construction being such as to adapt the abutting ends of the heads and bases of the rails to meet in the usual manner when said rails are coupled together.

840,971. MOWER ATTACHMENT. ALBERT THEEL, Lynden, Wash. Filed Dec. 29, 1905. Serial No. 293,712.



Claim.—The combination with a sickle-bar shoe having a curved slot and having a rib on its outside surface, said rib being formed with a semicircular socket, of a divider-bar having one end seated in said socket and having a portion of its body flat and having its other end curved, a bolt carried by said divider-bar, said bolt working in the curved slot, thereby forming means for the adjustment of said divider-bar.

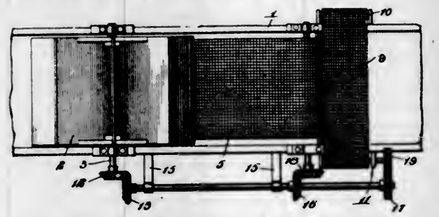
840,972. APPARATUS FOR PUMPING OIL-WELLS. JULIEN E. TINKER and JOSEPH CRAWFORD, Jr., Bradford, Pa. Filed Dec. 22, 1904. Serial No. 237,969.



Claim.—1. A cylinder, its piston-head provided with a tubular rod fitted to slide in suitable bearings in the upper cylinder-head, a pump-rod fitted to slide in suitable bearings in the lower cylinder-head, the said pump-rod being extended through the piston-head and piston-rod and means for securing the two rods together exterior to the cylinder.

2. The combination in a pumping-engine, of a cylinder, a T-coupling for attachment to a stand-pipe and having a fluid-outlet, a piston in said cylinder, a tubular piston-rod secured to said piston, a plunger-rod passing through the cylinder, the tubular piston-rod and the T-coupling, means for securing the tubular piston-rod with the plunger-rod, and valve mechanism for controlling the operation of the piston.

840,973. SCREEN. W. S. G. TODD, Boulder Creek, Cal. Filed May 29, 1906. Serial No. 319,383.



Claim.—1. In a device of the character described, the combination of a flume, a water-wheel arranged therein, a barrier-screen disposed in the flume and leading upward therefrom, a discharge-screen extending across the flume adjacent the delivery end of said barrier-screen, and means for operating said screens from the water-wheel.

2. In a device of the character described, the combination of a flume, a water-wheel arranged therein, a screen-belt leading on an upward inclination from the water-wheel to the top of the flume, a transversely-extending discharge-screen arranged adjacent the upper end of the barrier-screen, and gearing driven by the water-wheel for imparting motion to said screens.

3. In a device of the character described, the combination of a flume, a water-wheel arranged therein, a discharge-screen extending transversely across the top of the flume, an inclined barrier-screen extending upwardly from the bottom of the flume to the discharge-screen and between said screen and the water-wheel, shafts supporting said wheel and screens, and gearing connecting said shafts, whereby the action of the water-wheel will drive said screens.

840,974. SOUND-BOX. LOUIS P. VALIQUET, Newark, N. J. Filed Apr. 13, 1906. Serial No. 311,598.



Claim.—1. In a reproducer for talking-machines, a diaphragm-holder, sound-conveying tube and stylus-holding lug all stamped up out of one piece of metal, said lug being bent outward and downward through an angle of about one hundred and eighty degrees to form a tension-adjusting member.

2. In a reproducer for talking-machines, a diaphragm-holder, sound-conveying tube and stylus-holding lug all stamped up out of one piece of metal, said lug being bent outward and downward to form a tension-adjusting member and combined with an adjusting-screw mounted in one portion of said lug and bearing on the other portion.

3. In a reproducer for talking-machines, a stylus-holding arm having perforated lugs bent at right angles to the arm for attachment to the diaphragm-holder, the arm and lugs being all stamped out of one piece of metal.

4. In a reproducer for talking-machines, a stylus-holding arm having perforated lugs bent at right angles to the arm for attachment to the diaphragm-holder, and a central perforation for the stylus, the arm and lugs being all stamped out of one piece of metal.

5. In a reproducer for talking-machines, a stylus-holding arm having perforated lugs bent at right angles to the arm for attachment to the diaphragm-holder, and a central perforation for the stylus, combined with a needle-holder inserted in said central perforation.

6. In a reproducer for talking-machines, a diaphragm-holder having an outwardly and downwardly bent lug, a stylus-holding arm fastened thereto and means for adjusting the position of said downwardly-bent portion of the lug.

7. In a reproducer for talking-machines, a diaphragm-holder having an outwardly and downwardly bent lug, a stylus-holding arm fastened thereto and means for adjusting the position of said downwardly-bent portion of the lug, said means comprising a set-screw mounted in the downwardly-bent portion of the lug and bearing on the diaphragm-holder.

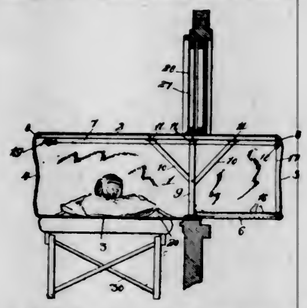
8. In a reproducer for talking-machines, a diaphragm-holder having an outwardly and downwardly bent lug, a stylus- holding arm fastened thereto by means of perforated lugs on said stylus-carrying arm bent at right angles thereto, all in combination.

9. In a reproducer for talking-machines, a diaphragm-holder having an outwardly and downwardly bent lug, a stylus-holding arm fastened thereto by means of perforated lugs on said stylus-carrying arm bent at right angles thereto, all in combination with a needle-holder inserted in a central perforation in the bent portion of the stylus-carrying arm.

10. In a reproducer for talking-machines, a diaphragm-

holder having an outwardly and downwardly bent lug, a stylus-holding arm fastened thereto by means of perforated lugs on said stylus-carrying arm bent at right angles thereto, all in combination with a needle-holder inserted in a central perforation in the bent portion of the stylus-carrying arm and means for adjusting the position of the downwardly-bent portion of the diaphragm-holder.

840,975. WINDOW-TENT. WILLIAM E. WALSH, Morris, Ill. Filed Apr. 17, 1906. Serial No. 312,271.



Claim.—1. A device of the class described, in the form of a box having top, bottom and side walls, closed at its inner end and provided with an opening at its outer end and adapted to have its outer end projected through a window to bring the opening in communication with the outer atmosphere, the inner portion of the box being provided with an opening for the insertion therethrough of the head of a patient, leaving the body of the patient outside of the box and within the room, substantially as described.

2. In a device of the class described, a framework and a covering for the framework constituting a box adapted to be projected through a window, the inner end of the box being provided with an opening for the insertion of a patient's head and being otherwise closed, and the outer or projected portion being provided with an opening in communication with the outer atmosphere, substantially as described.

3. In a device of the class described, a framework and a covering for the framework constituting a box adapted to be projected through a window, the inner end of the box being provided with an opening for the insertion of a patient's head and being otherwise closed, and the outer or projected portion being provided with an opening in its lower side in communication with the outer atmosphere, substantially as described.

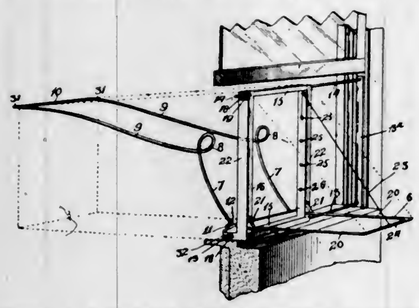
4. In a device of the class described, the combination of a framework, a covering therefor providing a substantially rectangular box having an opening in the bottom of the outer end portion, a hinged bracket to which the fabric surrounding the opening is secured, means for raising and lowering the hinged bracket, and an opening for the insertion of a patient's head, substantially as described.

5. In a device of the class described, the combination of a framework, a covering therefor providing a substantially rectangular box having an opening in the bottom of the outer end portion, a hinged bracket to which the fabric surrounding the opening is secured, means for raising and lowering the hinged bracket, an opening for the insertion of a patient's head, and a weighted edge adjacent to the opening for preventing the admission of air from the box to the room, substantially as described.

6. In a device of the class described, the combination of a rectangular framework, uprights secured to the framework and depending therefrom, a hinged bracket secured to the lower ends of the uprights, a covering of fabric surrounding the framework and uprights and providing a rectangular box adapted to be outwardly projected through a window and having an opening in the bottom of the outwardly-projected portion, the edges of the fabric being secured to the hinged bracket, and the fabric further having an opening for the projection of a patient's head into the box, substantially as described.

7. In a device of the class described, the combination of a rectangular framework, uprights secured to the framework and depending therefrom, a hinged bracket secured to the lower ends of the uprights, a covering of fabric surrounding the framework and uprights and providing a rectangular box adapted to be outwardly projected through a window and having an opening in the bottom of the outwardly-projecting portion, the edges of the fabric being secured to the hinged bracket, and the fabric further having an opening for the projection of a patient's head into the box, substantially as described.

840,976. WINDOW-TENT. WILLIAM E. WALSH, Morris, Ill. Filed May 21, 1906. Serial No. 317,930.



Claim.—1. A device of the class described, in the form of a box adapted to be inserted into a window-frame and open to the outer atmosphere, and adapted to have the head of a patient inserted thereinto, leaving the body of the patient outside of the box and within the room, and a lateral extension adapted to close the surplus space in the window, substantially as described.

2. In a device of the class described, a framework and a covering for the framework constituting a box adapted to be inserted into a framework and provided with an opening in its outer portion for the admission of air and provided with an opening in its inner portion for the insertion of the head of a patient therethrough, leaving the body of the patient outside of the box and within the room, and a lateral extension adapted to close the surplus space in the window, substantially as described.

3. In a device of the class described, the combination of a frame and a covering of fabric therefor constituting a box adapted to be inserted in a window-casing and provided with an opening in the lower side of the outwardly-projecting portion for the admission of air, and provided with an opening in the inner portion of the box for the insertion therethrough of a patient's head, leaving the patient's body outside of the box and within the room, and a lateral extension adapted to close the surplus space in the window, substantially as described.

4. In a device of the class described, the combination of a framework, a covering provided therefor, a substantially rectangular box having an opening in the bottom of the outer end portion, a hinged bracket to which the fabric surrounding the opening is secured, means for raising and lowering the hinged bracket, an opening for the insertion of a patient's head, and a lateral extension adapted to close the surplus space in the window, substantially as described.

5. A device of the class described, in the form of a box adapted to be inserted in a window-casing and open to the outer atmosphere, and adapted for the head of a patient to be inserted thereinto, leaving the body of the patient outside of the box and within the room, and an extensible framework having secured thereto a flexible covering adapted to provide a closure for the surplus window-space, substantially as described.

6. In a device of the class described, a framework and a covering for the framework constituting a box adapted to be inserted into the window-casing and provided with an opening in its outer portion for the admission of outside air and provided with a sack or pocket in its inner portion for the insertion of the head of a patient therethrough, whereby the body of the patient is outside of the box and within the room, substantially as described.

7. In a device of the class described, a framework and a covering for the framework constituting a box adapted to be inserted into the window-casing and provided with an opening in its outer portion for the admission of outside air and provided with a sack or pocket in its inner portion for the insertion of the head of a patient therethrough, whereby the body of the patient is outside of the box and within the room, and an extensible framework having secured thereto a flexible covering adapted to provide a closure for the surplus window-space, substantially as described.

8. In a device of the class described, the combination of a frame consisting of stiff wire and a covering of fabric therefor constituting a box adapted to be inserted into a window-casing, and provided with a downwardly-opening hood at its outer end for the admission of air, provided with a sack or pocket which is puckered at its mouth for the insertion therethrough of the patient's head, whereby the patient's body is left outside of the box and within the room, and an extensible framework having secured thereto a flexible covering adapted to provide a closure for the surplus window-space, substantially as described.

9. In a device of the class described, the combination of a frame consisting of stiff wire and a covering of fabric therefor constituting a box adapted to be inserted into a window-casing and provided with a downwardly-opening hood at its outer end for the admission of air, provided with a sack or pocket which is puckered at its mouth for the insertion therethrough of the patient's head, whereby the patient's body is left outside of the box and within the room, and a lateral extension consisting of a straight upper cross-bar and a lower L-shaped cross-bar adapted to position extensible side curtains to provide a closure for the surplus window-space, substantially as described.

10. In a device of the class described, a box adapted to be inserted into a window-frame and provided with an opening adapted to have the head of a patient inserted therethrough into the box, and an outwardly-projecting downwardly-opening hood having a sloping roof and having its lower edge secured to a hinged bracket, substantially as described.

11. In a device of the class described, a box adapted to be inserted into a window-frame and provided with an opening adapted to have the head of a patient inserted therethrough into the box, and an outwardly-projecting downwardly-opening hood having a sloping roof and having its lower edge secured to bracket, substantially as described.

840,977. GEAR. ARTHUR P. WARNER and ADDI B. CADMAN, Beloit, Wis., assignors to Warner Instrument Company, Beloit, Wis., a Corporation of Wisconsin. Filed Sept. 10, 1906. Serial No. 333,969.



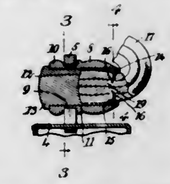
Claim.—1. A gear having a body portion, the periphery of the body portion being bent to form an open channel said body portion and the wall of said channel having cuts therethrough to form gear-teeth therein.

2. A gear having a body portion, said body portion bent interally at the periphery thereof to form a flange and the edge of the flange bent inwardly to form an open channel, the teeth being formed through the walls of the channel.

3. A gear having a body portion formed at its periphery into a substantially U-shaped channel, and gear-teeth formed of integrally-connected portions of the walls of said channel.

4. A gear formed from a circular plate, said plate having its peripheral edge bent to form an open channel, the plate adjacent the edge thereof and the wall of the channel being slotted through to form the gear-teeth.

840,978. FASTENING FOR HANDLES OF BAGS, SATCHELS, PURSES, &c. HERMAN B. WELCH, West Hoboken, N. J., assignor to Rudolph Wolff & Co., New York, N. Y. Filed Nov. 17, 1906. Serial No. 343,856.



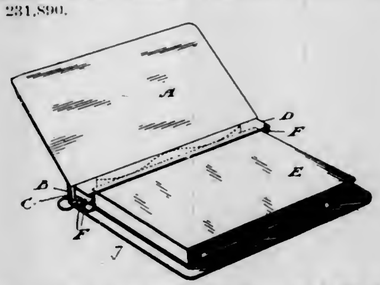
Claim.—1. A handle-fastening comprising a socket having a chamber formed in the extremity thereof adapted to receive the handle end, and a member in which said socket is received and affording means for crimping said socket inwardly to grasp the handle.

2. A handle-fastening comprising a swivel having a bore therein with a lip at the extremity thereof, a socket received in said bore and having a chamber in the extremity thereof adapted to receive the handle end, said lip affording means for crimping the wall of said chamber inwardly to engage the handle end when said socket is forced home.

3. A handle-fastening comprising a swivel having a bore with a lip at the extremity thereof, a socket having a chamber formed in the extremity thereof and adapted to be inserted in said bore at the end thereof opposite said lip, said socket having teeth formed in the wall of said chamber and adapted to engage said lip whereby said lip may crimp said teeth inwardly to engage the handle end introduced into said chamber.

4. A bag having a handle presenting projecting ends, swivels, bearings retaining said swivels, said swivels having each a bore receiving said ends respectively, said bores having lips formed at the inner extremities thereof at which said ends are introduced, and sockets adapted to be forced into the ends of said bores remote from said lips, said sockets having chambers formed in the inner extremities thereof adapted to receive said ends, the inner extremities of said sockets having teeth adapted to engage said lips respectively to be crimped inwardly to engage said handle ends.

840,979. TEMPORARY BINDER. CHARLES WHETHAM, Sheffield, Ontario, Canada. Filed Nov. 8, 1904. Serial No. 231,890.



Claim.—1. In a binder the combination of a case having an open-ended pocket formed in its back; a metal strip inserted in the said pocket and removable therefrom; a holder; and means for detachably connecting the holder to the said metal strip, substantially as described.

2. In a binder the combination of a case having an open-ended pocket formed in its back; a metal strip inserted in the said pocket and removable therefrom; a holder provided with means for detachable connection with a book;

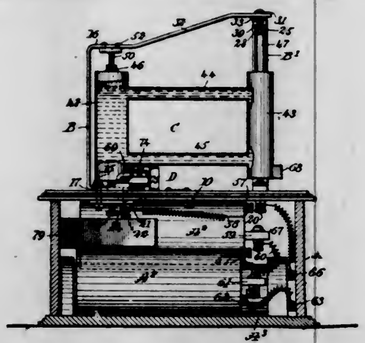
and means for detachably connecting the holder to the said metal strip, substantially as described.

3. In a binder the combination of a case having an open-ended pocket formed in its back; a metal strip inserted in the said pocket and removable therefrom; a holder; and metal tongues connected with the metal strip and projecting through slots formed in the case, slots being also formed in the holder through which the tongues may be passed and clenched, substantially as described.

4. In a binder the combination of a case having an open-ended pocket formed in its back; a metal strip inserted in the said pocket and removable therefrom; a holder; registered openings being formed in the strip, case and back; and metal tongues engaging said parts and passing through the said openings, substantially as described.

5. In a binder the combination of a case having an open-ended pocket formed in its back; a metal strip inserted in said pocket and having pairs of notches formed in its two edges; a holder; openings formed in the holder and case, and registering with the notches in the metal strip; and transverse metal tongues adapted to be inserted through each set of openings in the strip, cover and back, and bent to secure the latter in place, substantially as described.

840,980. CIGAR CUTTER AND LIGHTER. FREDERICK A. WIDMANN, Philadelphia, Pa. Filed Apr. 9, 1906. Serial No. 310,698.

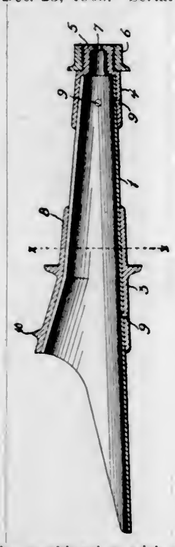


Claim.—1. In a cigar cutter and lighter the combination with the base, a fountain comprising a spring-controlled drum, a parallel drum and tubular connections between the drums, a bracket secured to the base in which the spring-controlled drum of the fountain is mounted to turn, a wick-tube for the outer drum of said fountain, a bracket secured to the base, a stop on the bracket for limiting the movement of the fountain in one direction, a sparking device in connection with the bracket, and a source of electric supply in circuit connection with the sparking device and fountain.

2. In a cigar cutter and lighter, the combination with a base, a fountain comprising a spring-controlled drum, a parallel drum and tubular connections between the drums, a bracket secured to the base in which the spring-controlled drum of the fountain is mounted to turn, a wick-tube for the outer drum of the said fountain, a bracket secured to the base, a stop secured to the said bracket, limiting the movement of the fountain in one direction, an extinguishing-tube secured to the said bracket and arranged for close and normal engagement with the wick-tube, a spring-controlled sparking-finger pivoted to said bracket and located in the path of the fountain, the said sparking-finger being normally out of engagement with its controlling-spring, and a source of electric supply in circuit connection with the sparking-finger and the fountain.

3. In a cigar cutter and lighter, the combination with a base, a fountain comprising a spring-controlled drum, a parallel drum and tubular connections between the drums, a bracket secured to the base, in which the spring-controlled drum of the fountain is mounted to turn, a wick-tube for the outer drum of said fountain, a bracket secured to the base, a stop secured to said bracket, limiting the movement of the fountain in one direction, an extinguishing-tube secured to the said bracket and arranged for close and normal engagement with the wick-tube, a spring-controlled sparking-finger pivoted to said bracket and located in the path of the fountain, said sparking-finger being normally out of engagement with its controlling-spring, a source of electric supply in circuit connection with the sparking-finger and the fountain, and a cigar-cutter, comprising a body portion having an upper receiving and a lower discharging opening, and a knife carried by said fountain and adapted to operate in said body in close relation to the receiving-opening therein and to travel over the discharging-opening, as described.

840,981. AXLE-SKEIN. CHARLES O. WILDER, Columbus, Ohio. Filed Dec. 23, 1905. Serial No. 293,057.



Claim.—1. The combination with an axle-skein having its meeting edges ununited, of bearing parts surrounding said skein and secured thereto, one of said bearing parts being provided with a nut-receiving boss.

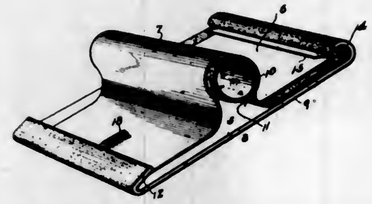
2. The combination with a split axle-skein having its meeting edges ununited, of a collar fitting snugly about the skein, and a cap fitting snugly about the skein at its outer end, the said cap being provided with a nut-receiving boss.

3. The combination with a hollow axle-skein, of bearing-collars surrounding said axle-skein, the outer of said bearing-collars having a reduced threaded portion, and a nut threaded upon said reduced threaded portion of the collar and adapted to act as a retaining member for the hub of the wheel.

4. An axle-skein comprising a hollow metallic body, bearing-collars surrounding said metallic body, the innermost of said bearing-collars having an upstanding annular flange formed thereon adapted to form a bearing for the inner face of a wheel box and hub, and the outer of said bearing-collars having a reduced threaded portion which is adapted to receive a nut.

840,982. SANDPAPER-HOLDER. WILLIAM W. WILLIAMS, Cortland, N. Y. Filed Jan. 2, 1906. Serial No. 294,193.

Claim.—1. A device of the class described, comprising relatively stationary and movable clamping members, one of which is provided with means for holding a roll of abrading material adapted to cover the exposed surface of the opposite member, and a lug formed on one member and engaging a depression in the adjacent member for preventing lateral displacement of said members.



2. A device of the class described comprising relatively stationary and movable clamping members, one of which is provided with means for holding a roll of abrading material adapted to cover the exposed surface of the opposite member, said members being provided with interlocking parts.

3. A device of the class described comprising a stationary clamping member, and a movable spring clamping member provided with a handle defining a pocket adapted to receive a roll of abrading material, one end of which is clamped between said members and covers the exposed face of the stationary member.

4. A device of the class described comprising relatively stationary and movable clamping members provided with terminal upwardly-extending lips, one of said members being provided with means for holding a roll of abrading material, the end of which covers the exposed surface of the opposite member and is clamped in position by engagement with said lips.

5. A device of the class described, comprising relatively stationary and movable clamping members provided with interlocking parts, and formed with terminal upwardly-extending lips, and a strip of abrading material covering the exposed face of one of the members and clamped in position between said lips.

6. A device of the class described comprising a stationary clamping member, one end of which is provided with an angular extension forming an upwardly-extending lip and the opposite end thereof provided with a curved portion terminating in a depending lip, a movable clamping member provided with corresponding lips, and a strip of abrading material covering the exposed surface of the stationary clamping member and interposed between said lips.

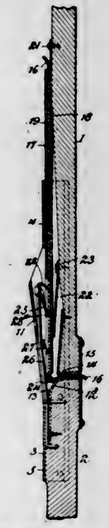
840,983. DETONATING TOY. JOHN C. WOOD, Portsmouth, Ohio, assignor of one-half to Edwin L. Allen, Portsmouth, Ohio. Filed June 18, 1906. Serial No. 322,262.

Claim.—1. A toy of the class described comprising two members slidably connected, a magazine mounted on one of the members and adapted to receive a strip or ribbon, a feeding device mounted on the other member and sliding with the same, means mounted on the first-mentioned member for causing the feeding device to engage the strip or ribbon.

2. A toy of the class described, comprising two members, means for slidably connecting the same, a magazine mounted on and extending longitudinally of one of the members and adapted to receive a strip or ribbon, a dog mounted on and sliding with the other member and movable longitudinally of the magazine, and means mounted on the first-mentioned member and located at the magazine for causing the feeding device to engage the strip or ribbon during one of the sliding movements of the members.

3. A toy of the class described comprising two slidably-connected members, a magazine mounted on one of the members and adapted to receive a strip or ribbon, a feeding device mounted on the other member, and means located in the path of the feeding device for causing the same to engage the strip or ribbon to feed the same.

4. A toy of the class described comprising two slidably-connected members, a magazine mounted on one of the members and adapted to receive a strip or ribbon, a feeding device mounted on the other member, and means located in the path of the feeding device for causing the same to engage the strip or ribbon during a portion of one of the sliding movements of the members.



5. A toy of the class described comprising two slidably-connected members, means carried by one of the members for guiding a strip or ribbon, a feeding-dog connected with the other member, and relatively fixed guiding means arranged in the path of the dog for holding the same in engagement with the strip or ribbon to feed the same.

6. A toy of the class described comprising two slidable members, a feeding-dog connected with one of the members, and a relatively fixed angularly-disposed guide arranged in the path of the dog for engaging the same.

7. A toy of the class described comprising two slidable members, a feeding-dog connected with one of the members, and a pair of spaced relatively fixed guides arranged in the path of the dog for engaging the same, whereby the dog is moved inwardly.

8. A toy of the class described comprising two slidable members, a spring mounted on one of the members, a feeding-dog carried by the spring, and a pair of relatively fixed angularly-disposed guides mounted on the other member and arranged in the path of the dog, said guides being spaced apart to provide a passage-wall way for the spring.

9. A toy of the class described comprising two slidably-connected members, a yieldably-mounted feeding-dog carried by one of the members, and relatively fixed guiding means mounted in the other member and arranged in the path of the dog for moving the same inwardly.

10. A toy of the class described comprising two slidably-connected members, means mounted on one of the members for guiding a strip or ribbon, a reciprocatory feeding device carried by the other member and provided with a spur or projection for engaging the strip or ribbon, and relatively fixed members located in the path of the feeding device for moving the spur or projection inwardly into engagement with the strip or ribbon.

11. A toy of the class described comprising two slidably-connected members, means mounted on one of the members for guiding a strip or ribbon, a spring carried by and sliding with the other member and having a terminal projection or spur for engaging the strip or ribbon, and relatively fixed means for moving the spring inwardly to engage the spur or projection with the strip or ribbon.

12. A toy of the class described comprising two slidable

members, angularly-disposed guides mounted on one of the members and spaced apart, a spring secured to the other member and having a terminal projection, and a feeding-dog carried by the spring and arranged to be engaged by the said guides, whereby the dog and spur are moved inwardly.

13. A toy of the class described provided with a magazine and having means for feeding a strip or ribbon, and means for normally closing the end of the magazine from which the strip or ribbon is fed, whereby any back flash is prevented from burning the strip or ribbon within the magazine.

14. A toy of the class described provided with a magazine for holding and guiding a strip or ribbon, said magazine being provided with a yieldable wall arranged to close the magazine to prevent any back flash from burning the strip or ribbon within the magazine.

15. A toy of the class described comprising two movable members having engaging faces, a magazine mounted on one of the members and having means for guiding a strip or ribbon between the engaging faces of said members, and means for closing the end of the magazine from which the strip or ribbon is fed to prevent any back flash from igniting the strip or ribbon within the magazine.

16. A toy of the class described comprising two movable members, a magazine mounted on one of the members and provided with a guide for directing the strip or ribbon between the said members, and yieldable means coöperating with the guide for closing the magazine to prevent any back flash from igniting the strip or ribbon within the magazine.

17. A toy of the class described comprising two movable members, a magazine mounted on one of the members and provided with a guide and having a yieldable wall coöperating with the guide for closing the magazine, and means operated by the members for feeding a strip or ribbon through the magazine.

18. A toy of the class described comprising two movable members, a magazine mounted on one of the members and adapted to receive a strip or ribbon and having a yieldable wall for closing the end of the magazine from which the strip or ribbon is fed, relatively fixed guides mounted on the magazine, and feeding means carried by the other member and arranged to be engaged by the said guides.

19. A toy of the class described comprising two movable members, a magazine mounted on one of the members and having a yieldable wall and provided with a guide coöperating with the said wall to close the magazine at one end, a spring engaging the said wall, and feeding mechanism operated by the said members.

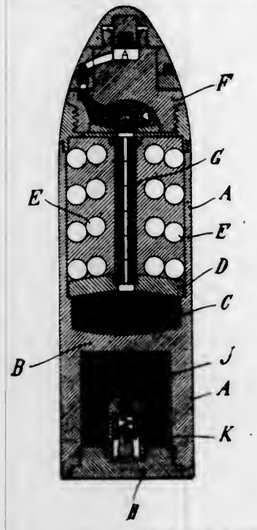
20. A toy of the class described comprising two movable sections or members, a casing having terminal portions fixed to one of the sections or members and slidably connected with the other, said casing having an intermediate open portion, a magazine mounted on one of the sections or members and having relatively fixed guiding means, and a yieldably-mounted feeding device carried by the other section or member and arranged to be engaged by the said guiding means.

21. A toy of the class described comprising two movable members, a magazine mounted on one of the members and adapted to receive a strip or ribbon and having a yieldable wall for closing the magazine to prevent any back flash from igniting the strip or ribbon within the same, and feeding mechanism operated by the said members for feeding the strip or ribbon and for opening the yieldable wall of the magazine during such feeding movement.

22. A toy of the class described comprising two movable members, a magazine mounted on one of the members and having a yieldable wall, a feeding-dog connected with the other member, and an angularly-disposed guide connected with the yieldable wall of the magazine and arranged in the path of the dog.

23. A toy of the class described comprising two slidable members, a magazine mounted on one of the members and adapted to receive a strip or ribbon and provided with a yieldable wall for closing the magazine to prevent any back flash from igniting the strip or ribbon therein, a feeding-dog connected with the other member, and angularly-disposed guides connected with the yieldable wall of the magazine and spaced apart and arranged in the path of the dog for forcing the same into engagement with the strip or ribbon and for actuating the yieldable wall to open the same during the feeding movement.

840,984. ARTILLERY-PROJECTILE. FRIEDRICH ZIEGENFUSS, Essen-on-the-Ruhr, Germany, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Filed Sept. 28, 1905. Serial No. 280,552.

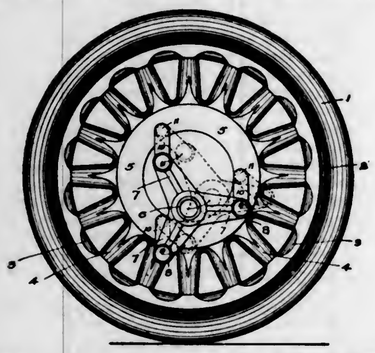


Claim.—1. A projectile provided with a transverse partition dividing the projectile into a front chamber and a rear chamber, a shrapnel charge and a time-fuse in the front chamber, and a shell charge and an impact-fuse in said rear chamber.

2. A projectile comprising a shrapnel charge, a time-fuse located on one side of the shrapnel charge, and an impact-fuse and a shell charge located on the opposite side of the shrapnel charge.

3. A projectile comprising a shrapnel charge, a time-fuse therefor, and a shell charge and an impact-fuse both located in the rear of the shrapnel charge.

840,985. VEHICLE-WHEEL. GEORGE W. ZWIEBEL, Papillion, Nebr. Filed Mar. 12, 1906. Serial No. 305,698.



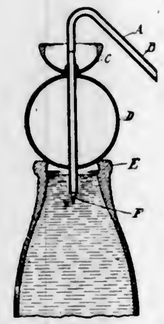
Claim.—1. In a wheel, an annulus held concentrically with the wheel-rim, a hub passing through the annulus eccentrically thereto, shafts journaled in the annulus, cranks carried by said shafts, and pins carried by said cranks and having a journaled connection with the hub.

2. In a wheel, a plurality of bearings spaced equidistantly upon a circle concentric with the wheel-rim, shafts journaled in said bearings, a hub, and cranks carried by the shafts and connecting with bearings upon the hub spaced the same as the shaft-bearings.

3. In a wheel, an annulus held concentrically with the wheel-rim, a hub passing through the annulus eccentrically thereto, and a plurality of cranks having journaled connections in the hub and annulus and adapted to maintain the hub constantly at such eccentric position with relation to the annulus.

4. A wheel having a concentric axial opening, a plurality of shafts journaled adjacent said axial opening, a hub passing through said opening, radial arms carried by the hub, bearings formed in said arms, and a plurality of cranks carried by the shafts, the pins of said cranks entering the bearings in the radial arms of the hub, the cranks all being of equal length, the distances from the center of the axial opening in the wheel to the centers of the shafts and from the center of the hub to the centers of the bearings in the radial arms all being equal, and the shafts and the bearings in the arms respectively being equiangularly spaced about the centers of the axial opening and the hub.

840,986. MILK-SKIMMING DEVICE. HERBERT M. ACKLEY, Chicago, Ill. Filed Sept. 23, 1905. Serial No. 279,859.



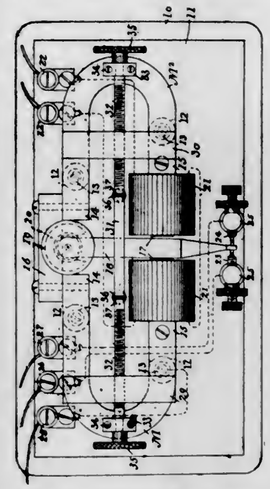
Claim.—1. A device of the kind specified comprising in combination, a tube adapted to be inserted at one end into a bottle or the like and carrying a delivery-spout at its other end, a bulb mounted on said tube and having an air-exhaust opening adapted to discharge into the bottle, and a member disposed between the ends of said tube and rigid therewith adapted to bear upon and compress said bulb when said tube is moved downwardly substantially as and for the purpose described.

2. A device of the kind specified comprising in combination, an inverted-V-shaped tube one arm of which is adapted to enter a bottle or the like and the other arm of which constitutes a delivery-spout, a bulb disposed on said first-named arm having an air-discharge opening in its lower end and adapted to rest upon the rim of the receptacle entered by said tube, and a member rigidly mounted upon said first-named arm and adapted to bear upon and collapse said bulb to discharge the contained air into said receptacle when said tube is moved downwardly.

3. A device of the kind specified comprising in combination an inverted-V-shaped tube one arm of which is adapted to enter a bottle or the like and the other arm of which constitutes a delivery-spout, a substantially spherical rubber bulb disposed between the ends of said first-named arm and adapted to rest upon the rim of the receptacle into which the latter is inserted, said bulb having an air-discharge opening communicating with said receptacle, and a substantially semispherical cup rigidly mounted upon and concentrical with said first-named arm, said cup being adapted to bear upon and collapse said bulb when said tube is moved downwardly.

4. A device of the kind specified comprising in combination an inverted-V-shaped tube one arm of which is adapted to enter a bottle or the like and the other arm of which constitutes a delivery-spout, a substantially spherical rubber bulb disposed between the ends of said first-named arm and adapted to rest upon the rim of the receptacle into which the latter is inserted, said bulb having an air-discharge opening communicating with said receptacle, and a substantially semispherical cup of smaller diameter than said bulb rigidly mounted upon and concentric with said first-named arm, said cup being adapted to bear upon and collapse said bulb when said tube is moved downwardly.

840,987. TELEGRAPH-RELAY. WILLIAM E. ATHEARN, New York, N. Y., assignor to American Telephone and Telegraph Company, a Corporation of New York. Filed Nov. 28, 1906. Serial No. 345,515.



Claim.—1. A relay comprising a magnet having oppositely-situated poles, an armature movable between the poles, means for controlling the attractive force of each of the poles, and operating mechanism common to the controlling means of both poles for oppositely varying the attraction of said poles.

2. In a magnetic mechanism, the combination with an armature, of permanent magnets associated with said armature and having separated leg portions, a keeper extending between the leg portions of each of two of the magnets, and means for simultaneously moving the keepers in the same direction.

3. A relay comprising a magnet having confronting poles, an armature mounted to oscillate between said poles, means for regulating the attractive power of both of said poles, and actuating mechanism adapted to operate the said regulating means for both poles and thereupon to adjust the attraction of both poles simultaneously and inversely, substantially as set forth.

4. The combination with a magnet having oppositely-situated poles and a plurality of adjacent leg portions associated with each pole, of an armature movable between the poles, independent magnetic members bridging the leg portions, and a rotatable operating member having threaded engagement with both bridge members, the thread coöperating with said bridge members encircling the operating member in the same direction.

5. In a polarized relay, the combination with two generally U-shaped permanent magnets having one pair of like poles joined magnetically and the other pair of like poles provided with adjacent pole-pieces, of an armature pivoted at the juncture of the first-named poles and extending between the pole-pieces, a magnetic keeper coöper-

ating with the legs of each magnet, and an operating member mounted upon the magnets and engaging both keepers, substantially as described.

6. A relay comprising a magnet having adjacent leg portions, an armature coöperating with the extremity of one leg portion, a keeper extending across the legs of the magnet and being movable thereover, an operating member for the keeper, and yieldable means for maintaining the engagement of the keeper and magnet.

7. A relay comprising a magnet having adjacent leg portions, an armature coöperating with the extremity of one leg portion, a keeper extending across the legs of the magnet and being movable thereover, an operating member for the keeper, and a spring engaging the operating member and serving to draw the keeper against the magnet, as and for the purpose set forth.

840,988. COMBINED TIE AND RAIL-FASTENER. ERICK P. BERGMAN, Concordia, Kans., assignor of one-half to Jessie Lapo, Concordia, Kans. Filed Sept. 14, 1906. Serial No. 334,654.



Claim.—1. The combination with a railway-tie, of inner and outer spacedly-arranged transverse shoulders on the upper side of the tie, the shoulders being constructed with longitudinal grooves in adjacent sides thereof, teeth on the inner side of one of said shoulders, a removable locking-plate, the locking-plate being constructed with a vertical opening therethrough, a flange on the locking-plate adapted for engagement with the groove in said inner shoulder, a key adapted for arrangement in said opening through the locking-plate, teeth on the key adapted for engaging similar teeth on said inner shoulder, and means adapted to secure the key in place.

2. The combination with a railway-tie, of inner and outer spacedly-arranged transverse shoulders on the upper side of the tie, the shoulders being constructed with longitudinal grooves in adjacent sides thereof, teeth on the inner side of said shoulder, rail-engaging projections on the other shoulder, a removable locking-plate, the locking-plate being constructed with a vertical opening therethrough, a flange on the locking-plate adapted for engagement with the groove in said inner shoulder, a key adapted for arrangement in said opening through the locking-plate, teeth on the key adapted for engaging similar teeth on said inner shoulder, and means for securing the key in place.

3. The combination with a railway-tie U-shaped in transverse section, and constructed with side braces on its under side, of inner and outer transverse shoulders on the upper side of the tie, the shoulders being constructed with longitudinal grooves in adjacent sides thereof, a removable locking-plate, the locking-plate being constructed with a vertical opening therethrough, a flange on the locking-plate adapted for endwise arrangement into the groove in said inner shoulder, a key with means adapting it to be secured in place, and interlocking means on the key and inner shoulder.

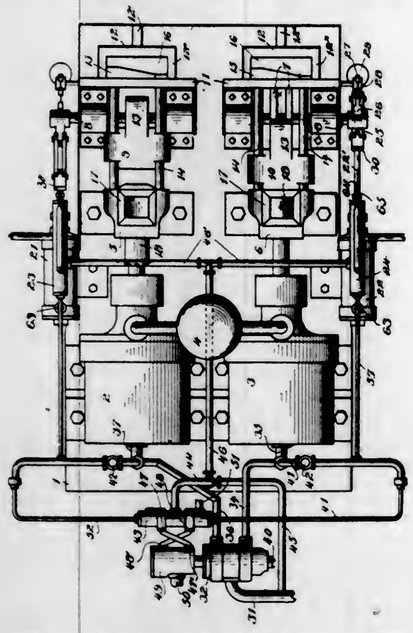
840,989. SAFETY-RAZOR. RHINEHARDT H. BROWN, Fremont, Ohio. Filed Aug. 2, 1905. Serial No. 272,369.

Claim.—1. A razor comprising a plate provided with a handle and having spaced spring-clips at its ends, and a blade held on the plate by said clips which take over the ends of the blade and having lugs projecting into the spaces between the clips.

2. In a razor, a blade-holding plate having a tongue bent over backwardly at one end thereof to form a clip, and a handle extending parallel to the plate and detachably engaged with the clip.



840,990. HYDRAULIC PRESS. FRANÇOIS CHAILLY, New York, N. Y. Filed Oct. 25, 1906. Serial No. 340,578.



Claim.—1. In a hydraulic press, a power-cylinder, a separable mold, one member of which is movable, a fixed member adjacent to said movable member to receive the pressure of the power-cylinder exerted on the mold, means for operating the movable member of the mold, an automatically-operated valve for supplying motor fluid to the power-cylinder, and an automatically-operated valve for controlling the means for operating the movable member of the mold.

2. In a hydraulic press, a pair of alternately-operating power-cylinders, and a pair of separable and alternately-operating molds, one member of which molds is movable, fixed members to receive the pressure of the power-cylinder exerted on the molds, means for operating the movable member of the molds, an automatically-operated valve for supplying motor fluid to both power-cylinders, and an automatically-operated valve for controlling the means for operating the movable member of each mold.

3. In a hydraulic press, a power-cylinder, a separable mold, one member of which is movable, a fixed abutment, cams between said movable member and said fixed abutment engaging the movable member to secure it in closed position, and also to remove said member from the fixed member of the mold, an automatically-operated valve for suppying motor fluid to the power-cylinder, and an automatically-operated valve for controlling said cams.

4. In a hydraulic press, a power-cylinder, a separable mold, one member of which is movable, a fixed abutment, cams between said movable member and said abutment, a supplemental power-cylinder for operating said cams, an extension on the movable member of the mold engaged by said cams to open the mold, an automatically-operated valve for supplying motor fluid to the power-cylinder, and an automatically-operated valve for supplying motor fluid to the supplemental power-cylinder.

5. In a hydraulic press, a power-cylinder, a separable mold, one member of which is movable, a fixed abutment on the base-plate, an adjustable plate provided with shaft-bearings, a shaft supported in said bearings, cams on said shaft engaging the movable member of the mold, a supplemental power-cylinder and connection with said shaft, an automatically-operated valve for controlling the power-cylinder, and an automatically-operated valve for controlling the supplemental power-cylinder.

6. In a hydraulic press, a power-cylinder, a separable mold, one member of which is movable, a fixed abutment on the base-plate, an adjustable plate provided with shaft-bearings, a shaft supported in said bearings, cams on said shaft engaging the movable member of the mold and a vertical member of said adjustable plate, an adjusting device between the fixed abutment and the adjustable plate a supplemental power-cylinder connected to said shaft, means for controlling the power-cylinder, and means for controlling the supplemental power-cylinder.

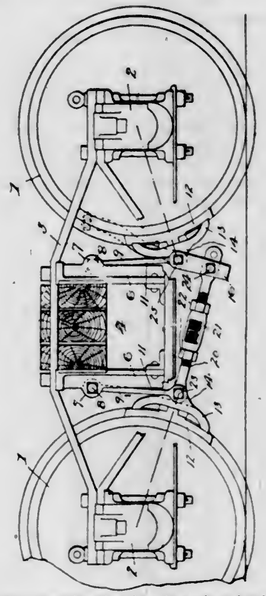
7. In a hydraulic press, a power-cylinder, a press-mold operated thereby, means for supplying motor fluid under a predetermined pressure to the cylinder on the power-stroke, a reservoir for supplying motor fluid under a reduced pressure to the cylinder on the return stroke of the piston and means for automatically cutting off the high-pressure fluid at the end of the power-stroke of the piston in the power-cylinder.

8. In a hydraulic press, a pair of alternately-operating power-cylinders, and a pair of molds connected to said cylinders, means for supplying motor fluid under a predetermined pressure to the cylinders on the power-stroke, a reservoir connected to both cylinders for supplying motor fluid under a reduced pressure to the cylinders on the return stroke of the piston, and means for cutting off the high-pressure fluid at the end of the power-stroke of one piston, and directing said fluid to the other cylinder.

9. In a hydraulic press, a pair of alternately-operating cylinders, and a pair of molds connected to said cylinders, a fluid motor-supply valve common to both cylinders, and comprising a hollow cylindrical slide open at both ends, a cylinder having a piston attached to said slide, a hollow cylindrical slide in a supplemental valve-casing, open at both ends and provided with a rod extending through the slide and having disks on the ends thereof to close the ends of the slide alternately, an imperforate annular groove, and a perforate annular groove in the exterior of the slide, the valve-casing having openings in its ends connected to the power-cylinders, supply and exhaust ports and ports communicating with the cylinder inclosing the piston attached to the main slide.

10. In a hydraulic press, a pair of alternately-operating power-cylinders, and a pair of separable molds connected thereto a supplemental power-cylinder for opening and closing the mold, and provided with a valve-case having a supply-pipe at one end communicating with the main power-cylinder, a hollow cylindrical slide open at both ends a rod extending through the slide and having disks to close the ends of the slide alternately, an imperforate annular groove and a perforated annular groove in the exterior of the slide, the valve-casing being provided with supply and exhaust ports, and a supplemental valve for controlling the supply of motor fluid to the main valve.

840,991. BEAMLESS BRAKE FOR CAR-TRUCKS. EDWARD S. COFFMAN, Clifton Forge, Va. Filed Apr. 13, 1906. Serial No. 311,450.



Claim.—1. The combination in a beamless brake, of brake shoes and heads; hangers for suspending the same; two brake-levers, two push-rods; and a floating lever connected at its ends with the ends of the brake-levers; the brake-levers being pivoted each between its ends to a brake-head; and the push-rods each secured at one end directly to a brake-head and at the other end to the short arm of a brake-lever.

2. The combination in a beamless brake, of brake heads and shoes; hangers for suspending the same; two brake-levers; two push-rods; and means for connecting the long arms of the brake-levers with a brake-rod; the said brake-levers each having its long arm offset from the plane of the wheel so as not to come in contact with the flange thereof when the brakes are applied.

3. The combination in a beamless brake, of brake heads and shoes; hangers for suspending the same; two brake-levers; two push-rods; and means for connecting the long arms of the levers with a brake-rod; said brake-levers being pivoted each intermediate of its ends to a brake-head and having the long arm thereof offset from the plane of the wheel; and each push-rod secured at one end to a brake-head and at the other end to the short end of a brake-lever.

4. The combination in a beamless brake, of brake heads and shoes; hangers; two pivoted brake-levers, each having its long arm offset from the plane of the wheel; two push-rods one end of each being secured to a brake-head and the other end to the short arm of a brake-lever; and a floating lever secured to the brake-levers.

5. The combination in a beamless brake, of brake heads and shoes; hangers for the same; two brake-levers each pivoted intermediate of its ends to a brake-head; two push-rods and means for connecting the long arms of the brake-levers with a brake-rod; the arrangement of the push-rods and brake-levers being such that in applying the brakes the shoes will be forced against the treads of the wheels in lines perpendicular to the centers of the axles.

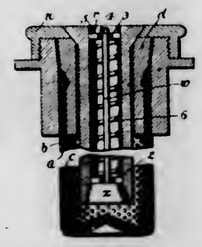
6. The combination in a beamless brake, of brake heads and shoes; hangers for the same; two brake-levers each pivoted intermediate of its ends to a brake-head, and having its long arm bent; two push-rods; and a floating lever

located between a pair of wheels and pivotally connected to the long arms of the brake-levers.

7. The combination in a beamless brake, of brake heads and shoes; hangers supporting the same; two brake-levers each pivoted between its ends to a brake-head; two push-rods each pivoted at one end to a brake-head and at the other end to the short arm of a brake-lever; and means for connecting the long arms of the levers with a brake-rod, the said push-rods being located below the plane of the truck spring-seat.

8. The combination with a beamless brake, constructed and operating substantially as set forth, of two brake-levers each pivoted intermediate of its ends to a brake-head, and each having its long arm offset from the plane of the wheel; and means for connecting said long arm with a brake-rod.

840,992. SAFETY VENTING ATTACHMENT FOR RECEPTACLES. JACOB COHN, London, England. Filed Apr. 13, 1906. Serial No. 311,480.



Claim.—1. A safety device for vessels containing inflammable liquids comprising a perforated cylinder adapted to be projected within the vessel, a gas-outlet valve and an air-inlet valve within said cylinder, substantially as described.

2. A safety device for vessels containing inflammable liquids comprising a perforated cylinder adapted to be projected within the vessel, an automatic valve arranged within said cylinder for the outlet of the gases, and an air-inlet valve within said gas-valve, substantially as described.

3. A safety device for vessels containing inflammable liquids comprising a perforated cylinder adapted to be projected within the vessel, an outlet-valve in said cylinder normally seated by gravity and adapted to be opened by the accumulating gases, and an air-inlet valve within said gas-valve, substantially as described.

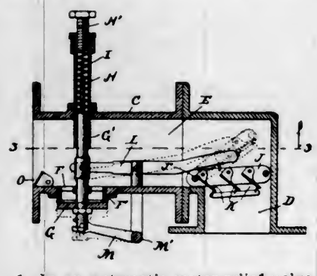
4. A safety device for vessels containing inflammable liquids comprising a perforated cylinder adapted to be projected within the vessel, an inlet-valve in said cylinder normally seated by gravity and adapted to be opened by the accumulating gases, and a spring-controlled air-inlet valve within said gas-valve, substantially as described.

5. A safety device for vessels containing inflammable liquids comprising a gauze cylinder adapted to be projected within the vessel, perforated protecting layers arranged on the inside and outside of said cylinder, a gas-outlet valve and an air-inlet valve within said cylinder, substantially as described.

6. A safety device for vessels containing inflammable liquids comprising a perforated cylinder adapted to be projected within the vessel, a hollow cylindrical valve in said cylinder having a beveled top and adapted to be opened by the accumulating gases and an air-inlet valve located in the hollow part of said gas-valve, substantially as described.

7. A safety device for vessels containing inflammable liquids comprising a perforated cylinder adapted to be projected within the vessel, a hollow cylindrical valve in said cylinder normally seated by gravity and adapted to be opened by the accumulating gases, and a spring-controlled air-inlet valve located in the hollow part of said gas-valve, substantially as described.

840,993. AUTOMATIC WATER-RELIEF VALVE. FREDERICK A. COOPER, Adams, Mass. Filed May 1, 1906. Serial No. 314,709.

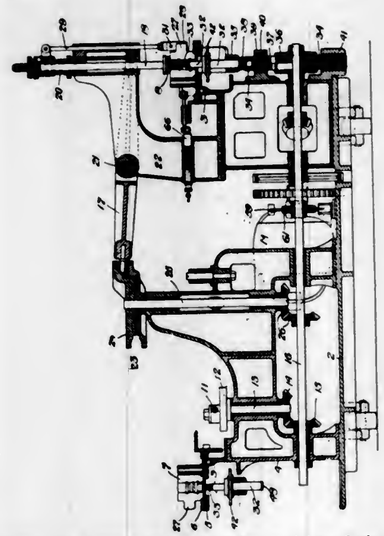


Claim.—1. In an automatic water-relief valve, a casing connecting the condenser or air-pump with the exhaust-pipe of the cylinder, the casing provided with an opening through the lower wall of its horizontal portion, a valve-seat adapted to said opening, a valve-disk adapted to contact the valve-seat from below, a vertically-sliding valve-stem, a spring adapted to exert tension downward upon the valve, a lever upon the outside of the casing for raising the valve, movable means adapted to allow the passage of the exhaust-steam from the cylinder to the condenser, but adapted to be moved by any pressure in the opposite direction, means whereby the movement of said movable means will remove the valve-disk from its seat, as and for the purpose specified.

2. In a device of the character described, a hollow casing connecting a condenser or air-pump with the exhaust-pipe of a steam-engine cylinder, said casing consisting of a horizontal and vertical portion, the vertical portion connecting with the condenser and the horizontal portion with the exhaust-pipe, the bottom of the horizontal portion provided with an opening, a valve-seat adapted to said opening, a valve-disk adapted to contact the valve-seat from below, a vertically-sliding valve-stem connected to the valve-disk, a spring adapted to exert pressure downward upon the valve-stem, means for adjusting the tension of said spring, a movable shutter arranged in the casing over the vertical passage, said shutter consisting of a series of plates normally separated by their own weight and allowing the passage of steam from the cylinder to the condenser, said plates adapted to close so as to overlap one another on pressure from beneath so as to cause the shutter to rise with the pressure from beneath, and a lever adapted to be operated by the raising of the shutter to depress the valve-stem, as and for the purpose specified.

3. In a device of the character described, a hollow casing connecting a condenser or air-pump with the exhaust-pipe of a steam-engine, said casing consisting of a horizontal and vertical portion, the vertical portion connecting with the top of a condenser, and the horizontal portion connecting with the exhaust-pipe, the bottom of the horizontal portion of the casing provided with an opening formed therethrough, a valve-seat formed around the lower rim of said opening, a valve-disk adapted to contact the valve-seat from below, a vertically-sliding valve-stem connected to the valve-disk, a spring adapted to exert pressure downward upon the valve-stem, means for adjusting the tension of said spring, a lever connected to the valve-stem upon the outside of the casing for primarily raising the valve to its seat, two arms arranged within the casing and upon each side close to the side walls, said arms pivoted at one end to the casing, the other end being free to rock upward, a series of slats pivoted at their upper ends to the arms and extending in between the same, said slats normally being separated to allow the passage of steam downward through the same but adapted to be closed and overlap one another on pressure from below so as to cause the shutter to rock upward upon its pivot, a lever pivoted intermediate of its two ends to the casing, one end of said lever lying above the shutter, the other end of the lever pivotally connected to the valve-stem, and a stop-plate, arising from the bottom of the casing and extending entirely across the same, located between the valve-opening and the exhaust-pipe, as and for the purpose specified.

840,994. APPARATUS FOR MANUFACTURING GLASS ARTICLES. JOHN H. CROSKEY, Pittsburg, Pa., assignor to Duquesne Glass Co., Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 31, 1906. Serial No. 319,493.



Claim.—1. Apparatus for forming articles of glassware consisting of a rotatable mold-carrier provided with a circularly-arranged series of molds, a pressing-plunger arranged to coöperate with each of said molds successively, a series of oppositely-disposed threaded plungers mounted in the mold-carrier, independent plunger-raising mechanism, means for partially unscrewing the threaded plungers during rotation of the mold-carrier, and means for entirely removing the threaded plungers while the mold-carrier is stationary, substantially as set forth.

2. Apparatus for forming articles of glassware consisting of a rotatable mold-carrier provided with a circularly-arranged series of divided molds having locking-lugs, a pressing-plunger arranged to coöperate with each of said molds successively, and means for simultaneously engaging the locking-lugs, substantially as set forth.

3. The combination with a divided mold having locking-lugs, of plunger mechanism and means connected therewith for simultaneously engaging the locking-lugs to hold the sides of the mold together during the pressing operation, substantially as set forth.

4. The combination with a glass-mold composed of pivotally-connected sides and having locking-lugs; of pressing mechanism, and a resilient fork connected therewith arranged to embrace the locking-lugs, substantially as set forth.

5. The combination with a glass-mold composed of pivotally-connected sides and having locking-lugs; of pressing mechanism, a fork composed of resilient embracing sides, and means for exerting inward pressure thereon, substantially as set forth.

6. The combination with a mold composed of pivoted sides and having locking-lugs; of a reciprocating plunger arranged to coöperate with the mold, and a fork connected with the plunger mechanism having spring-pressed terminals adapted to embrace the locking-lugs to hold the sides of the mold in closed position, substantially as set forth.

7. An apparatus for forming articles of glassware, the combination with a vertically-movable rotating plunger-actuating spindle, of a bevel-wheel slidingly engaging the spindle, a shaft provided with a bevel-wheel engaging said bevel, means for driving said shaft, a vertically-movable stem having a finger engaging the spindle, a pivoted lever engaging said vertically-movable spindle, a cam and coöperating mechanism arranged to actuate said lever in one direction, a retracting-spring arranged to actuate the lever in the opposite direction, and an inclined slide-bar projecting over the top of the plunger-actuating spindle and arranged to deliver the mold-spindles thereon, substantially as set forth.

8. The combination with a vertically-movable rotating plunger-actuating spindle, of gearing arranged to rotate the spindle, lever mechanism arranged to lower the spindle, and supporting-shafts for portions of the gearing and lever mechanism arranged to receive and impart motion to said elements at varying positions on the shafts, substantially as set forth.

9. The combination with a vertically-movable rotating plunger-actuating stem, of a bevel-wheel engaging the spindle, a shaft provided with a bevel-wheel at one end engaging said bevel, laterally-adjustable means for driving said shaft, a vertically-movable stem having a finger engaging the first-named stem and provided with a collar, a laterally-adjustable bell-crank lever engaging said collar, cam mechanism arranged to actuate said lever, and a counterweighted lever arranged to raise the spindle, substantially as set forth.

10. In an apparatus of the class described, the combination with a vertically-movable unscrewing-spindle having a flange and arranged to make lowering engagement underneath each of a series of annularly-traveling spindles, of an annularly-arranged spindle-supporting slide providing a bearing for said spindles projecting over said flange and making an embracing engagement with said spindle.

11. The combination with a plunger provided with an actuating star-wheel, of a slide arranged to provide a bearing for the teeth of said star-wheel to prevent rotation, substantially as set forth.

12. In apparatus for forming articles of glassware having a circular table provided with a circularly-arranged series of molds; a mold-closing cam arranged concentric to the center of said table and provided with resiliently-mounted supporting devices arranged on the same level therewith and extending radially backward toward the center of the table, substantially as set forth.

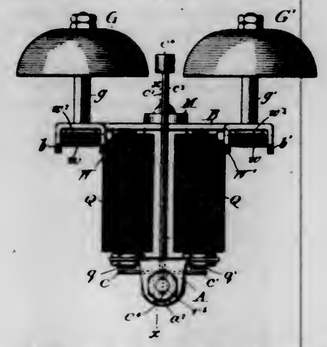
13. In apparatus for forming articles of glassware having a circular table provided with a circularly-arranged series of molds; a mold-closing cam arranged concentric to the center of said table and provided with backwardly-extending supporting-arms, casings for said arms, and springs mounted in said casings providing resilient backing arranged to oppose pressure against the opposite face of the cam, substantially as set forth.

14. In apparatus for forming articles of glassware having a circular table provided with a circularly-arranged series of molds, a mold-closing cam arranged concentric to the center of said table and provided with resiliently-mounted supporting devices arranged back of said cam on the same horizontal level therewith and having adjustable means for limiting outward travel of the cam, substantially as set forth.

15. In apparatus for forming articles of glassware provided with a rotatable table having a circularly-arranged series of molds, each of said molds having cam-actuated closing mechanism; an annularly-arranged cam substantially concentric with the center of said table adapted to actuate the mold-closing mechanism, resiliently-mounted supporting devices arranged back of said cam on the same horizontal level therewith, and resilient cushioning devices incorporated in said mold-closing mechanism, substantially as set forth.

16. In a machine of the class described, the combination with a vertically-movable rotating plunger-actuating spindle, of a lever-shaft and a power-shaft, lever mechanism arranged to lower the spindle slidingly mounted on the lever-shaft, gearing and framing therefor slidingly mounted on the power-shaft and in driving engagement with the spindle, and cam-actuated mechanism arranged to tilt the lever-shaft, substantially as set forth.

840,995. METHOD OF POLYSTATION SIGNALING. WILLIAM W. DEAN, Elyria, Ohio, assignor to The Dean Electric Company, Elyria, Ohio, a Corporation of Ohio. Original application filed May 19, 1905, Serial No. 261,132. Divided and this application filed Aug. 9, 1905. Serial No. 273,460.



Claim.—1. The method of selective, harmonic signaling, which consists in vibrating a tuned body by means of periodic increments of energy, causing said energy to be stored in said body until a desired totality is reached, then instantaneously interrupting the vibration and utilizing the stored energy to flex the body to produce a stroke of such short duration as not appreciably to retard or alter the normal or periodic movement of the vibrating body.

2. The method of selective, harmonic signaling which comprises the following steps: communicating to a stiff tuned reed, successive, small increments of periodic energy of proper frequency and thereby raising it from a state of inaction to a state of active vibration, storing up energy in said reed, and vibrating the same with gradually-increasing amplitudes, and finally at the point of maximum amplification, interposing a positive stop to render dead a portion of the vibrating reed structure, whereby the entire cumulative energy will be imparted suddenly to the remainder of the reed structure to produce a stroke or sounding movement at such accelerated velocity as not to retard or alter the normal periodic vibration of the reed structure as a whole.

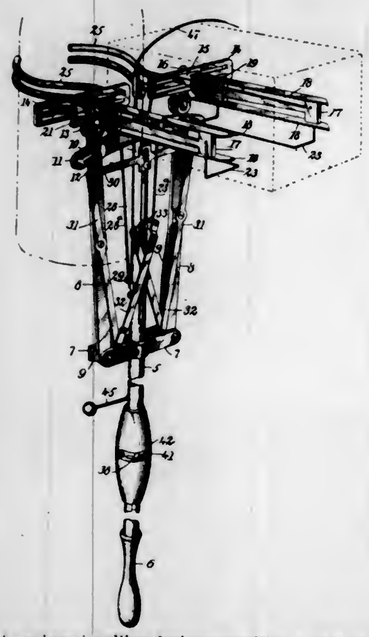
3. The method of selective, harmonic signaling, which consists in vibrating a stiff tuned body as a whole by means of periodic increments of energy, thereby causing said entire body to start from a state of inaction, storing up energy in said body, thus vibrating the same as a whole with gradually-increasing amplitudes until a desired totality is reached, then instantaneously interrupting said vibration, whereby the stored-up energy is utilized to flex the body to produce a stroke of such short duration that the retardation or alteration of the natural rate of vibration is rendered negligible.

840,996. PACKAGE-HANDLING DEVICE. WILLIAM R. DENNIS, Denver, Colo. Filed Jan. 16, 1906. Serial No. 296,283.

Claim.—1. A package-handling device comprising a staff, a plate attached to the upper portion of the staff and having arc slots, arms pivotally connected to devices at the lower portion of the staff, pins or screws extended from said arms through said slots, plates having pivotal connection with the upper ends of said arms, jaws carried by said plates, and means for moving the jaws toward and from each other.

2. A package-handling device comprising a staff, a cross-plate attached to the staff, spring-pressed arms having pivotal connection with said plate and extended upward therefrom, slotted plates having pivotal connection with the upper ends of the arms, a guide device for the outward and inward movement of the arms, brackets adjustable in the slots of the slotted plates, and jaws adjustable on said brackets.

3. A package-handling device comprising a staff, a cross-plate thereon, arms pivoted to said cross-plate, springs for moving said arms toward each other, means for moving the arms from each other, slotted plates pivotally connected to the upper ends of the arms, jaws adjustable on said slotted plates, the said jaws comprising arm portions having toothed flanges, and other clamping-arms in the form of curved wires adjustable on said slotted plates and extended in an opposite direction from the first-named jaws.



4. A package-handling device comprising a staff of tubular metal, the said staff being provided with longitudinal slots, a cross-head attached to the staff, arms pivoted to the cross-plate and extended upwardly therefrom, jaws carried by said arms, a cross-bar connected to the staff, rods pivoted to said arms and also pivoted to said cross-bar, a cross-head, link connections between said cross-head and the lower ends of said rods, a draw-rod having a portion extended through one of the slots in the staff and connecting the said cross-head, a block with which the lower end of said rod connects, a pin extended outward from said block through a section or lower slot, and a sleeve movable lengthwise of the staff and with which said pin connects.

5. A package-handling device comprising a staff, arms mounted to swing toward and from each other on said staff, horizontally-disposed slotted plates pivotally connected to the upper ends of said arms, swinging rod connections between the inner ends of said slotted plates and the staff, means for operating the arms, and jaws carried by said slotted plates.

6. A package-handling device comprising a staff, upwardly-extended arms having swinging connection with said staff, slotted plates mounted on the upper ends of the arms, brackets adjustable in the slots of said plates, clamping-jaws, clutch connections between said jaws and brackets, and means for operating the arms to move the jaws toward and from each other.

7. A package-handling device comprising a staff, arms mounted to swing on the staff, means for causing the swinging movements, jaws carried by the arms, and a hanger carried by each jaw and adapted to engage the under side of a package.

8. A package-handling device comprising a staff, a cross-plate thereon, jaw-carrying arms mounted to swing on said plate, a cross-bar arranged on the staff, rods pivoted to said arms and also pivoted at their upper ends to said cross-bar, the said cross-plate being provided with upper and lower slots, a cross-head, link connections between said cross-head and said rods, a pin extended from the cross-head through the upper wall, a rod extended downward from said pin and within the staff, a block with which the lower end of the rod connects, a pin extended from said block through the lower slot of the staff, a sleeve having a circumferentially-disposed slot through which said pin passes, and eccentric or cam plates arranged at opposite sides of said slot and with which the head of the pin engages.

9. A package-handling device comprising a staff, clamping-jaws carried by the staff, and a rod having rotary connection with the staff, the upper end or head of said rod being curved.

10. A package-handling device comprising a staff, arms having swinging relation to said staff, two pairs of clamping-jaws carried by the arms, the jaws of one pair extending in an opposite direction from the jaws of the other pair, keepers on the staff, a rod mounted to rotate in said keepers and having a handle at its lower portion, and a curved head detachably connected to the upper end of said rod.

11. A package-handling device comprising a staff, arms having swinging relation to said staff, means for causing the swinging movements of the arms, plates pivotally connected to the upper ends of the arms, each plate being provided with longitudinal slots, one slot above the other, brackets adjustable in the upper slots, jaws carried by and adjustable on said brackets, brackets adjustable in the lower slots, and jaws carried by and adjustable on said last-named brackets.

840,997. SMOKER'S PIPE. NICOLA D'ESPINOSA, Lynn, Mass. Filed Feb. 26, 1906. Serial No. 303,064.

Claim.—A tobacco-pipe in the shape of a cigar from end to end, and composed of a bowl-section and a mouthpiece-section, which is screwed into an open end of the bowl-section, in combination with a wooden partition located in the bowl-section toward its end receiving the mouthpiece-section, and having an axial bore of the same diameter as and in a line coincident with the axial bore of the mouthpiece-section, a metal-lined chamber of the bowl-section, interposed between its said partition and the inner end of the inserted mouthpiece-section, and a filling of sponge, or other such material in said interposed chamber, all as described, for the purposes specified.

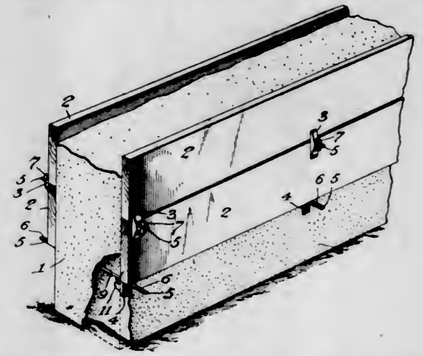
840,998. APPARATUS FOR CONSTRUCTING WALLS OF CONCRETE. CHARLES DIETRICHS, Little Ferry, N. J. Filed July 10, 1906. Serial No. 325,490.

Claim.—1. In apparatus of the character specified, the combination with a pair of clamps each adapted to grip a plank, of a stay having each end adapted for engagement with one of the clamps and adapted to coöperate in the action of the clamps.

2. In apparatus of the character specified, the combination with a pair of clamps each comprising two clamp-plates and a binding-link, of a stay adapted at each end for engagement with the binding-link of one of the clamps to coöperate in the action of the clamp.

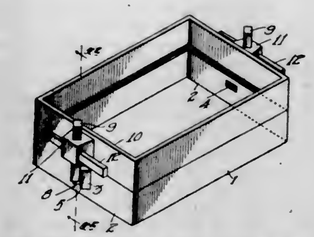
3. In apparatus of the character specified, the combination with a pair of clamps each comprising a pair of clamp-plates and a binding-link extending through said clamps and having an aperture near one end, of a stay having end portions adapted to pass through the apertures in said binding-links to coöperate with said binding-links in holding the clamp-plates in clamping engagement, said stay being itself secured in position by means of said clamps.

4. In apparatus of the character specified, the combination with a pair of clamps each adapted to hold two boards superposed edgewise in alinement, of a connecting member adapted to hold said clamps at a fixed distance apart and adapted to be held in secure engagement with said clamps by the clamping action thereof on the boards.



5. In apparatus of the character specified, the combination with a connecting member or stay of fixed length having end portions disposed substantially at right angles to the intermediate portion, of a pair of clamps each comprising two clamping-plates, a binding-link and a wedge, each binding-link passing through the two clamping-plates and being provided at one end with an aperture for the reception of one end of the connecting member or stay and being slotted adjacent to the other end for the reception of a wedge by which the clamping-plates are forced together and the connecting member or stay jammed against one of the clamping-plates.

840,999. EYE AND PIN FOR FLASKS. GEORGE DOWNING, Los Angeles, Cal. Filed Apr. 16, 1906. Serial No. 311,961.



Claim.—1. In a flask, an eye comprising a wedge-shaped member having a notch, the drag of the flask having a wedge-shaped slot for receiving the eye.

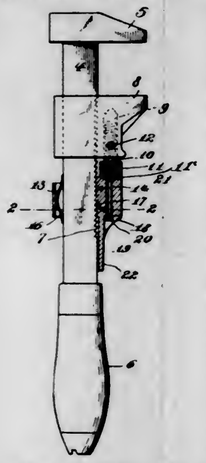
2. In a flask, an eye comprising a wedge-shaped member having a notch, the drag of the flask having means for receiving the eye, the cope of the flask having a pin-holder provided with a pin-hole, a pin mounted in the hole, and means for detachably holding the pin in the hole.

3. In a flask, eyes comprising wedge-shaped members each having a notch, the drag of the flask having wedge-shaped slots in each end piece, the cope having pin-holders on each end piece, each pin-holder having a pin-hole, pins in the holes in the pin-holders, each pin-holder having a transverse slot and keys in the transverse slots in the pin-holders for detachably holding the pins in place.

841,000. WRENCH. JERE C. DUFRESNE, Claremont, N. H. Filed Feb. 13, 1906. Serial No. 300,885.

Claim.—1. A wrench having a slidable jaw provided with a screw-threaded recess, a screw extending in said

recess and having a milled head provided with a conoidal-shaped end, means engaging the screw within the recess to prevent the turning of the screw, a yoke, an abutment member secured thereto and having a recess adapted to receive the conoidal-shaped end of the milled head of said screw, said abutment member further provided with an opening, and a bolt extending through the opening and connected to the milled head of the screw for connecting the jaw and the screw to the abutment.



2. A wrench having a slidable jaw provided with a screw-threaded recess, a screw extending in said recess and having a milled head provided with a conoidal-shaped end, a yoke, an abutment member secured thereto and having a recess adapted to receive the conoidal-shaped end of the milled head of said screw, said abutment member further provided with an opening, and a bolt extending through the opening and connected to the milled head of the screw for connecting the jaw and the screw to the abutment.

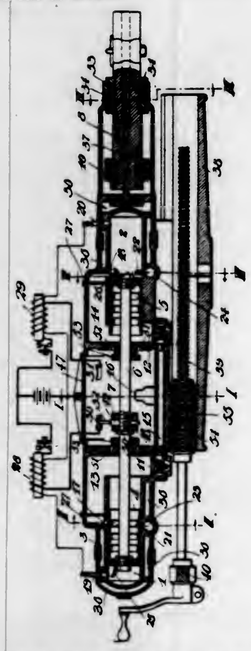
3. A wrench having a slidable jaw provided with a screw-threaded recess, a screw extending in said recess and having a head, a yoke, an abutment member secured thereto and having a recess adapted to receive the head of the screw, said abutment member further provided with an opening, and a bolt extending through the opening and connected to the head of the screw for connecting the jaw and the screw to the abutment.

4. A wrench having a slidable jaw provided with a screw-threaded recess, a screw extending in said recess and having a head, a yoke, an abutment member secured thereto and having a recess adapted to receive the head of the screw, said abutment member further provided with an opening, a bolt extending through the opening and connected to the head of the screw for connecting the jaw and the screw to the abutment, and means carried by the slidable jaw and engaging the screw to prevent the turning thereof.

841,001. SELF-CONTAINED ROCK-DRILL. OTHO C. DURYEA and MORRIS C. WHITE, Los Angeles, Cal., assignors to National Gas Drill Company, a Corporation of California. Filed Apr. 28, 1903. Serial No. 154,678.

Claim.—1. A pair of cylinders, pistons therein, reciprocating means rigidly connecting the pistons, a casing connected with the cylinders, a socket-shank rotatably mounted and connected to reciprocate with said reciprocating means, a rifled sleeve rotatably mounted in said casing, spiral ribs on the socket-shank slidable in the rifled sleeve, means for confining the rotation of the sleeve to one direction and means for causing explosions against said pistons to drive them in one and the other direction.

2. A pair of cylinders, pistons therein, means connecting the pistons, a casing connected with the cylinders, means for causing explosions against the pistons to drive the same in one and the other direction, a rifled ratchet rotatably mounted in the end of the front of the casing, a rifled socket-shank rotatably mounted in means connected with the pistons, and means for confining the rotation of the ratchet to one direction.



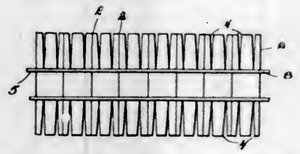
3. A pair of cylinders, means for causing explosions against the pistons to drive the same in one and the other direction, pistons therein, a piston-rod connecting the pistons, a yoke attached to the piston-rod, a casing extending forward from the front cylinder, a pair of slide-rods connected to said yoke, a front yoke inside of said casing connected to said slide-rods, a socket-shank rotatably mounted in the front yoke, a rifled ratchet rotatably mounted in the front end of said casing, spiral ribs on the socket-shank passing through the rifled ratchet and means for confining the rotation of the ratchet to one direction.

4. A pair of cylinders, explosion-chambers communicating therewith, pistons in the respective cylinders, means for causing explosions against the pistons to drive the same in one and the other direction, a piston-rod connecting the piston, screw-plugs in the walls of the respective explosion-chambers concentric with said piston-rod a yoke connected with the piston-rod between the plugs, a shank connected with said yoke, and means for intermittently rotating the shank.

5. A pair of cylinders, explosion-chambers communicating therewith, pistons in the respective cylinders, means for causing explosions against the pistons to drive the same in one and the other direction, a piston-rod connecting the piston, screw-plugs in the wall of the respective explosion-chambers concentric with said piston-rod, said plugs being provided with threaded stems and a packing-box screwed to each of said stems a shank, means connecting the shank with the pistons, and means for intermittently rotating the shank.

841,002. BARREL. JOHN F. EAST, Norfolk, Va. Filed Aug. 9, 1905. Serial No. 273,488.

Claim.—1. A barrel formed from a flexible sheet composed of a plurality of individual flat staves, the longitudinal side edges of each stave being parallel and straight the entire length of the staves, said staves being connected by quarter-hoops and formed with a V-shaped slot cut from each of their end edges, and end hoops for holding the ends of the staves in a contracted condition and the edges of the V-shaped slots in contact with each other from end to end thereof, substantially as described.



2. As an improved article of manufacture, a flat stave for a slack barrel having straight, beveled, longitudinal side edges and formed with two V-shaped slots in each of its end edges, which extend a considerable distance inwardly, the slots being so disposed that the width of the material outside the slots is equal to the width of the material between the slots, substantially as described.

3. As an improved article of manufacture, a flexible sheet from which to construct a slack barrel and comprising a plurality of individual flat staves arranged with their side edges contacting from end to end thereof, and connected by means of quarter-hoops; the longitudinal side edges of each stave being straight throughout its entire length and beveled inwardly, each stave being formed with a V-shaped slot cut from each of its end edges and extending a considerable distance inwardly, the inner ends of the slots terminating in a point, substantially as described.

4. A slack barrel formed from a flexible sheet composed of a plurality of individual flat staves, the longitudinal side edges of each stave being parallel and straight the entire length of the staves and beveled inwardly, said staves being formed with two V-shaped slots cut from each of their end edges and held in position by means of end hoops for holding the ends of the staves in a contracted condition and the edges of the V-shaped slots in contact with each other end to end thereof, substantially as described.

5. A slack barrel formed from a flexible sheet composed of a plurality of individual flat staves, the longitudinal side edges of each stave being parallel and straight the entire length of the staves and beveled inwardly, said staves being connected by quarter-hoops and formed with a V-shaped slot cut from each of their end edges, and end hoops for holding the ends of the staves in a contracted condition and the edges of the V-shaped slots in contact with each other, each quarter-hoop consisting of a wooden strip and a metal strip, the latter resting on top of the wooden strip, and fastening means passed through the strips and embedded in the staves of the barrel.

841,003. YELLOW-RED DYE AND PROCESS OF MAKING SAME. GADIENT ENGI, Basel, Switzerland, assignor to The Firm of Society of Chemical Industry in Basle, Basel, Switzerland. Filed May 11, 1906. Serial No. 316,309.

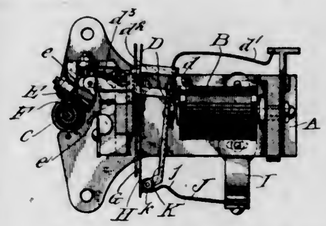
Claim.—1. The described process for the manufacture of yellowish-red vat-dyeing dyestuffs by heating salicylthioacetic acid

$$C_6H_4\begin{cases}S.CH_2.COOH\ (1)\\COOH\ (2)\end{cases}$$

at a high temperature with an aromatic nitrohydrocarbon and an isatin compound.

2. As a new article of manufacture, the herein-described yellowish-red, vat-dyeing dyestuff, insoluble in cold alcohol, difficultly soluble in hot benzene, and hot chloroform with bluish-red coloration and yellowish-red fluorescence, difficultly soluble in hot alcohol with a clear rose coloration, soluble in aniliin and nitrobenzene when heated, soluble in cold concentrated sulfuric acid with a dirty-brown coloration and in hot concentrated sulfuric acid with a beautiful violet-red coloration turning to clear brownish red on addition of water.

841,004. INTERRUPTER FOR ELECTROMAGNETS. JOHN ERICKSON, Chicago, Ill., assignor to Automatic Electric Company, Chicago, Ill. Filed Feb. 3, 1906. Serial No. 299,326.



Claim.—1. The combination of an electromagnet, an armature therefor, a spring-switch, a spring-latch for keeping said switch normally closed, means carried by the armature and adapted to operate said latch, a source of current, and an energizing-circuit for said magnet including said switch and source of current, together with an electromagnetic device for controlling said circuit, whereby said electromagnet alternately opens and closes its own circuit as long as the same remains closed at all other points.

2. The combination of an electromagnet, an armature therefor, an arm on said armature, a spring-switch, a spring-latch for normally holding said switch closed, and an energizing-circuit for said magnet, said circuit including said spring-switch, said arm adapted to operate said spring-latch, whereby said magnet alternately opens and closes its own energizing-circuit as long as the same remains closed at all other points.

3. The combination of an electromagnet, an armature therefor, a ratchet-and-pawl mechanism operated by said armature, a spring-switch, a latch for normally holding said switch closed, and an arm carried by said armature and adapted for operating said latch, together with an energizing-circuit for said magnet, said circuit including said spring-switch, whereby the said magnet vibrates its armature as long as said circuit remains closed at all points other than at the said spring-switch.

4. The combination of an electromagnet, an armature therefor, a spring-switch, a latch for normally holding said switch closed, an arm carried by said armature, and a roll carried at the end of said arm, together with an energizing-circuit for said magnet including said spring-switch, said roll adapted to operate the latch to open said switch, and adapted directly to operate the switch to close and restore the same in latched condition.

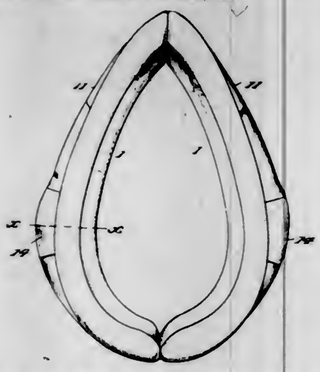
5. The combination of an electromagnet, an armature therefor, a switch adapted when released to open of its own accord, a latch for normally holding the switch closed, an arm carried by the armature and adapted for operating said latch, and an energizing-circuit for said magnet, said circuit including said switch, said arm adapted to operate the latch to open the switch, and adapted directly to engage and operate the switch to close and restore the same to latched condition.

6. The combination of an electromagnet, an armature therefor, an arm secured to said armature, a roll mounted at the end of said arm, a switch consisting of two contacts whereof one is adapted of its own accord to spring away from the other, a spring mounted at one end and adapted to engage said springy switch-contact with its other end, said spring having a hump between its mounted end and its free end, said roll adapted to engage said hump and press the spring out of engagement with said springy switch-contact, and adapted directly to engage said springy switch-contact to close the switch and restore the said spring to normal position.

7. The combination of an electromagnet, an armature therefor, a spring-switch adapted when released to open of its own accord, spring means for holding the switch normally closed, and means operated by the said magnet for opening and closing the switch, together with an energiz-

ing-circuit for said magnet, said circuit including said switch.

841,005. FABRIC HORSE-COLLAR. WILLIAM B. ESTES, Atlanta, Ga., assignor to The Atlanta Horse Collar Company, Atlanta, Ga., a Corporation of Georgia. Filed Nov. 23, 1905. Serial No. 289,111.



Claim.—1. A blank to form a section of a casing for a horse-collar, having substantially a straight edge, the opposite edge having two opposite inclinations intersected by two cuts, and a tuck formed from a point adjacent the cuts to the straight edge; said tuck permitting of the blank being folded to form a curve.

2. A blank to form a section of a casing for a horse-collar having substantially a straight edge, the opposite edge having two opposite inclinations intersected by two cuts, a tuck transverse of the blank, said tuck permitting of the blank being folded to form a curve.

3. A horse-collar-casing section formed of one piece of fabric provided with a stitched transverse tuck to form a curve.

4. A horse-collar-casing section formed of one piece of fabric provided with a stitched transverse tuck to form a curve, and stitches to form a rim and a body portion.

5. A horse-collar-casing section formed of one piece of fabric provided with a stitched transverse tuck, a row of substantially horizontal stitches uniting the ends of one edge of the casing, and a single row of stitches connecting both edges and the body of the casing to provide a rim and a body portion.

6. A horse-collar casing formed of one piece of fabric which is provided with one approximately straight edge, and an angularly-disposed opposite edge with wings, the edges of said wings when folded meeting, transverse stitches extending across the front of the collar to unite the edges of the wings, a row of stitches uniting the body of the blank and the angularly-disposed edges of the blank to form a section of a collar-body, the blank being folded along a line adjacent to and spaced from the row of stitches, the straight edge of the blank being stitched over the opposite stitched edge of said blank to form a section of a rim, and a stitched transverse tuck on the blank to form a curve near the bottom of the collar.

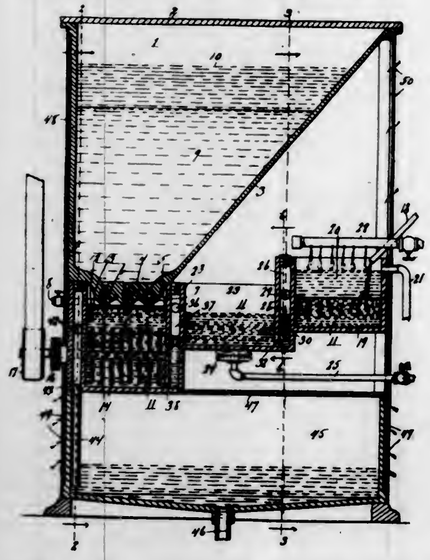
7. A horse-collar-casing section formed of one piece of fabric which is provided with wings united by a transverse row of stitches extending across the front of the collar, a transverse tuck in the blank to provide a curve in the section when the blank is folded, an inset located over the stitched line, and a row of stitches securing the body and opposite sides of the edges of the casing and the end of the inset, said row of stitches dividing the casing into a rim and a body portion.

8. A horse-collar-casing section formed from a single piece of fabric having a straight edge, two opposite inclined portions interrupted by a depression and two cuts, the depression and cuts forming wings, a transverse tuck formed in the blank to provide a curve in the section when the blank is folded, a row of stitches securing opposite edges of the wings when they are folded, a row of stitches securing the straight edge and the two opposite inclined edges.

9. A fabric horse-collar comprising two sections, each section being formed of a single piece of fabric, and having a rim and a body portion, and a single transverse tuck extending across the rim and partially across the body of each section to permit of the formation of the curve of the rim and body portion.

10. A fabric horse-collar comprising two sections, each section formed of a single piece of fabric, and having a rim and body portion, the rim and body portion being round in cross-section and an irregular single transverse stitched tuck extending across the rim and partially across the body of each section to permit of the formation of the curve of the rim and the body.

841,006. APPARATUS FOR THE MANUFACTURE OF REDUCING-AMALGAM. HERBERT P. EWELL, Rochester, Mich. Filed Jan. 8, 1906. Serial No. 295,025.



Claim.—1. In an apparatus for the manufacture of reducing-amalgam, the combination of a receptacle for the reducing agent, an amalgamating-chamber, means for discharging the reducing agent into the amalgamating material in said chamber, and means for excluding air from the amalgamating material at the point of introduction of the reducing agent thereto.

2. In an apparatus for the manufacture of reducing-amalgam, the combination of a receptacle for the reducing agent, an amalgamating-chamber, means for discharging the reducing agent into the amalgamating material in said chamber, means for excluding air from the amalgamating material at the point of introduction of the reducing agent thereto, and an agitator within the amalgamating-chamber to facilitate amalgamation.

3. In an apparatus for the manufacture of reducing-amalgam, the combination of a receptacle for the reducing agent, an amalgamating-chamber, means for introducing the reducing agent into the amalgamating material in said chamber, means for applying heat to the reducing agent to maintain it in a fluid state, means for excluding air from the amalgamating material at the point of introduction of the reducing agent thereto, and an agitator to facilitate amalgamation.

4. In an apparatus for the manufacture of reducing-amalgam, the combination of a receptacle for the reducing agent, means for heating the reducing agent in said receptacle to maintain it in a fluid state, means for excluding air from the surface of said reducing agent, an amalgamating-chamber, means for discharging the reducing agent onto the surface of the amalgamating material in said chamber, means for excluding air from the surface of the amalgamating material, and an agitator to facilitate amalgamation.

5. In an apparatus for the manufacture of reducing-amalgam, the combination of a receptacle for the reducing agent, means for applying heat to hold said reducing agent in a fluid state, a fatty substance in a fluid state upon the surface of the reducing agent to exclude air therefrom, an amalgam-chamber, means for discharging the reducing agent into the amalgamating material in said chamber, a fatty substance upon the surface of the amalgamating material through which the reducing agent passes, and means for facilitating amalgamation.

6. In an apparatus for the manufacture of reducing-amalgam, the combination of an amalgamating-chamber, means for introducing amalgamating material into said chamber, means for washing and drying said amalgamating material before entrance into said chamber, a receptacle for the reducing agent, and means for discharging the reducing agent into the amalgamating material in said chamber to form the reducing-amalgam.

7. In an apparatus for the manufacture of reducing-amalgam, the combination of an amalgamating-chamber adapted to contain amalgamating material, a receptacle to contain the reducing agent, means for discharging the reducing agent in small quantities into the amalgamating material in said chamber, and means for excluding air from the amalgamating material at the point of entrance of the reducing agent thereinto.

8. In an apparatus for the manufacture of reducing-amalgam, the combination of an amalgamating-chamber, a drying-tank, a washing-tank, means for regulating and directing the flow of the amalgamating material through said tanks into said chamber, a receptacle for the reducing agent, means for directing the reducing agent from said receptacle into the amalgamating material, and an agitator to facilitate amalgamation.

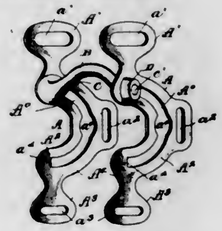
9. In an apparatus for the manufacture of reducing-amalgam, the combination of a washing-tank, a drying-tank, an amalgamating-chamber arranged in successively-declining planes in the order mentioned, means for maintaining the amalgamating material at a proper level in said tanks and chamber and directing the flow of said material by gravity into said chamber through said tanks.

10. In an apparatus for the manufacture of reducing-amalgam, the combination of an amalgamating-chamber, means for introducing amalgamating material into said chamber, means for washing and drying said amalgamating material before entrance into said chamber, and means for discharging the reducing agent into the amalgamating material in said chamber to form the reducing-amalgam.

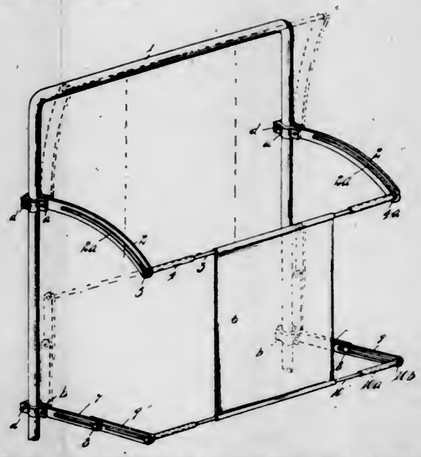
11. In an apparatus for the manufacture of reducing-amalgam, the combination of an amalgamating-chamber adapted to contain amalgamating material, means for discharging the reducing agent into the amalgamating material in said chamber, and means for maintaining the amalgamating material in excess of the reducing agent at the point of introduction of said reducing agent into said amalgamating material.

841,007. BRIDLE-BIT. JOHN A. FRETWELL, Little Rock, Ark. Filed July 19, 1906. Serial No. 326,945.

Claim.—A bridle-bit comprising two side frames each provided with a curved slot with an enlargement in the central portion of said slot, the mouth-bar consisting of an arched fixed member having a grooved channel therein, with rounded edges, and an arched movable member elliptical in cross-section adapted to fit approximately to and partly fill said grooved channel when in the closed position, and provided with square guide-lugs projecting into said curved slots and normally held against turning in the side frames, but turning freely in the enlargements in said grooves, with lock-nuts clamping said movable member to said frame, substantially as described.



841,008. HEAD AND BODY REST FOR BEDS. LEWIS C. FRICKEY, Battle Creek, Mich. Filed Mar. 19, 1906. Serial No. 306,716.



Claim.—1. An adjustable attachment for beds, having in combination with a plurality of clamp members adapted to engage about the corner-posts, pivoted arms extending therefrom, transverse bars extending from the arms on one side of the bed to the corresponding arm on the other side and adjustable with respect to the length of said arms, and a supporting-screen extending from one to the other of said transverse bars, substantially as described.

2. In combination with a screen, bars extending along its top and bottom edges, and a plurality of projecting arms adapted to be clamped to the head-posts of a bed, said arms being adapted to receive the ends of said bars in various positions wherein said screen is stretched therebetween, substantially as described.

3. In combination with a plurality of adjustable clamp members adapted to be secured to the head-posts of a bed, projecting arms pivoted thereto, bars extending from one to another of said arms and adjustable with respect thereto, and a screen extending from one to the other of said bars, substantially as described.

841,009. RAILWAY-TIE. THOMAS A. GALT, Sterling, Ill. Filed Jan. 15, 1906. Serial No. 296,199.

Claim.—1. In a railway-tie, a frame or shell composed of two members having vertical portions and inwardly-disposed top and bottom flanges forming ways, spacing members securing the frame members together and forming stops, and bearing members fitting the space between said stops within the ways.

2. In a railway-tie, a frame or shell of flanged iron forming ways for the insertion of bearing members, stops intermediate the center of the tie and the bearing members,

elastic bearing members in said ways abutting against said stops, and removable stops abutting against the opposite and outer ends of said bearing members to hold them in place.



3. In a railway-tie, a frame or shell of flanged iron forming ways for the insertion of bearing members, spacing members intermediate the center of the tie and the bearing members secured to the frame members to secure them together and also serving as stops, bearing members in said ways abutting against said stops, and removable stops abutting against the outer ends of said bearing members to hold them in place.

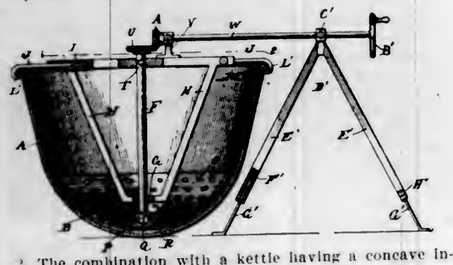
4. In a railway-tie, a frame or shell composed of two members having vertical portions and inwardly-disposed top and bottom flanges forming ways, two pairs of spacing members forming stops consisting of flat strips having their ends bent at right angles to form lugs, the lugs of each pair being disposed away from each other and secured to the frame members by bolts, and bearing members consisting of wooden sections disposed between said spacing and stop members within said ways.

5. In a railway-tie, a frame or shell composed of two members having vertical portions and inwardly-disposed top and bottom flanges forming ways, the upper flanges being narrower than the lower, bearing members consisting of wooden sections fitting within said ways, and means for securing the frame members together and the bearing members in place without perforating the latter.

6. In a railway-tie, a frame or shell composed of two members having vertical portions and inwardly-disposed top and bottom flanges forming ways, the upper flanges being narrower than the lower, bearing members consisting of wooden sections fitting within said ways and having their upper surfaces projecting above the upper surface of the frame members, and means for securing the frame members together and the bearing members in place between them.

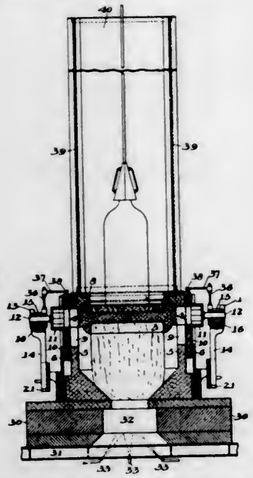
841,010. STIRRER. ISAAC W. GREENWALD, Frederick, Md., assignor of one-half to George L. Hildebrand, Dickerson, Md. Filed Jan. 25, 1906. Serial No. 297,783.

Claim.—1. A stirrer device adapted for arrangement in a vessel having a concave inner bottom, the stirrer device being constructed with a vertical shaft, a circular concave plate on the lower end of said vertical shaft, the plate being constructed with perforations throughout its whole surface, and means adapted for supporting and rotating the vertical shaft.



2. The combination with a kettle having a concave inner bottom, of a stirrer comprising a vertical shaft, braces and adjustable arms providing support for the shaft, means on the arms adapted for holding engagement with the kettle, a concave plate operatively connected with the lower end of said shaft, the plate being constructed with perforations throughout its whole surface, and means therethrough to impart rotary motion to the shaft.

841,011. METHOD OF DRAWING HOLLOW GLASS ARTICLES. THOMAS F. HART, Muncie, Ind., assignor to Window Glass Machine Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Feb. 27, 1905. Serial No. 247,410.



Claim.—1. The method of drawing hollow glass articles, consisting in applying heat to a pot or receptacle containing molten glass, protecting the glass at the drawing-point from such applied heat, drawing a hollow glass article upwardly from the bath, and cooling the glass and causing it to set solely by the action of the atmosphere; substantially as described.

2. The method of drawing hollow glass articles, consisting in heating a pot or receptacle containing molten glass, cutting off such heat from the drawing-point, drawing a hollow cylinder upwardly from the receptacle, supplying air under pressure to the interior of the article, and cooling the glass and causing it to set at the drawing-point solely by atmospheric action; substantially as described.

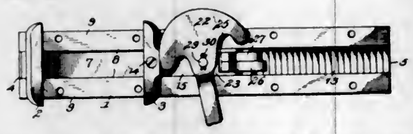
3. The method of forming hollow glass articles, consisting in drawing the article upwardly within an inclosure arranged to surround the articles with a practically confined atmosphere throughout their length, and supplying air to the interior of the article during drawing; substantially as described.

4. The method of forming hollow articles, consisting in drawing them forwardly within an inclosed atmosphere extending substantially the full length of the articles, and thereby protecting them from external influences; substantially as described.

5. The method of forming hollow articles, consisting in drawing the article upwardly within a partial inclosure extending substantially the full length of the articles, and arranged to surround the same by a quiescent atmosphere, allowing access to the drawing during drawing, and then removing the article laterally from the inclosure; substantially as described.

6. The method of forming hollow glass articles, consisting in drawing the hollow inclosed glass article upwardly from a bath of molten glass, applying heat to the pot or receptacle containing the glass from which the article is drawn, protecting the glass at the drawing-point from the applied heat, and cooling the glass being drawn and causing it to set by the action of the atmosphere; substantially as described.

841,012. WOODWORKER'S BENCH-CLAMP. FRANK HELM, Traverse City, Mich., assignor of one-third to Charles J. Helm and one-third to Edward Roesser, Traverse City, Mich. Filed Nov. 9, 1905. Serial No. 286,602.



Claim.—1. A bench-clamp comprising a guide open at one end and closed at the other and having a fixed rack at the bottom, said guide being provided with inwardly-extending longitudinal flanges, front and rear jaws slidably interlocked with the flanges of the guide and removable at the open end of the latter, a cam for engaging one of the jaws, and means engaging the rack for holding the cam against backward movement.

2. A bench-clamp, comprising a guide having a longitudinal ratchet-rack and provided with inwardly-extending flanges, front and rear jaws arched to straddle the ratchet-rack and interlocked with the inwardly-extending flanges, a cam-lever for actuating one of the jaws, and means for engaging the rack to lock the cam-lever against backward movement.

3. A bench-clamp, comprising a guide provided with a longitudinal ratchet-rack and having inwardly and outwardly extending flanges, front and rear jaws slidably interlocked with the guide and having arched portions to straddle and clear the ratchet-rack, a cam-lever for engaging one of the jaws, and means for engaging the rack to lock the cam-lever against backward movement.

4. A bench-clamp, comprising a longitudinal guide substantially rectangular in cross-section provided with a longitudinal ratchet-rack and having inwardly-extending flanges, front and rear jaws slidable in the guide and provided with slides or blocks having upper recesses to receive the flanges of the guide and provided with bottom openings to clear the ratchet-rack, a cam-lever for engaging one of the jaws, a slide receiving the cam-lever and having opposite recesses for the said flanges and also provided with a bottom opening to straddle the ratchet-rack, and means mounted on the latter slide for engaging the ratchet-rack.

5. The combination of a guide having a ratchet-rack, front and rear jaws slidably interlocked with the guide, a slide, a cam-lever mounted on the slide and engaging one of the jaws, and a pair of dogs pivoted to the slide and arranged to engage the ratchet-rack.

6. A bench-clamp, comprising a guide having a ratchet-rack, front and rear jaws, the rear jaw being provided with a stud or projection, a slide, a cam-lever fulcrumed on the slide and arranged to engage the rear jaw and provided with a curved flange for engaging the stud or projection, and means mounted on the slide for engaging the rack.

7. A bench-clamp, comprising a guide having a rack, front and rear jaws, the rear jaw being slidable along the guide and pivotally mounted, a slide, a cam-lever pivotally mounted on the slide and arranged to engage the rear jaw, and means mounted on the slide for engaging the rack.

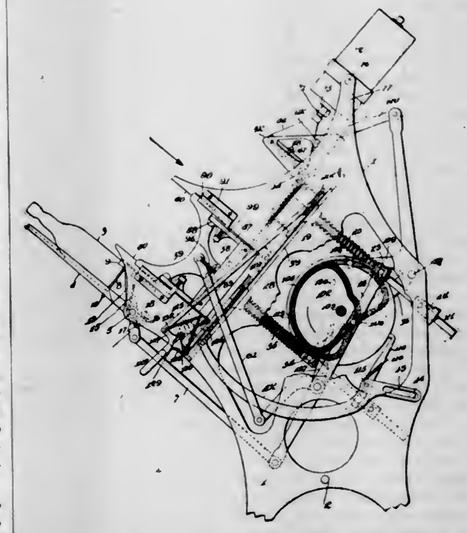
8. A bench-clamp, comprising a guide having a rack, front and rear jaws, the rear jaw being slidable along the guide and having a stud or projection, a slide, a cam-lever fulcrumed on the slide and provided with an eccentrically-arranged flange interposed between the stud or projection and the rear jaw and arranged to engage the same, and a pair of dogs or pawls of unequal length pivoted to the slide and arranged to engage the rack.

9. A bench-clamp, comprising a guide having a rack, a front jaw having a slide or block interlocked with the guide and arched to straddle the rack, a rear jaw slidably interlocked with the guide, a slide arched to clear the rack and interlocked with the guide and having its rear end bifurcated, a cam-lever fulcrumed on the bifurcated slide and engaging the rear jaw, and a dog pivoted in the bifurcation of such slide and engaging the rack.

10. A bench-clamp comprising a fixed jaw, a guide, a slide operating in the guide, a movable jaw carried by the slide, a cam-lever for actuating the movable jaw, a slide carrying the cam-lever, and a detent for locking the latter slide in its adjustment.

11. A bench-clamp comprising a guide, front and rear jaws, the rear jaw being slidable along the guide and having a stud or projection, a slide, a cam-lever fulcrumed on the slide and provided with an eccentrically-arranged flange interposed between the stud or projection and the rear jaw and engaging the same, and means for locking the slide against backward movement.

841,013. BOTTLE-LABELING MACHINE. CURTIS HOLLAND, Butte, Mont. Filed July 7, 1904. Serial No. 215,683.



Claim.—1. In a machine of the character described, the combination of means for pivotally supporting the bottle, means for applying labels to the sides of the bottle, and means for applying coverings to the stopper.

2. In a machine of the character described, the combination of means for pivotally supporting the bottle, means

for applying labels to the sides of the bottle, and means for applying tin-foil or labels to the stopper, such means operating without substantial change upon tin-foil or labels.

3. In a machine of the character described, the combination with means for pivotally supporting the bottle, and means for applying tin-foil to the stopper, such means acting upon the tin-foil in detached sheets.

4. In a machine of the character described, the combination with means for supporting the bottle, and means for applying tin-foil to the stopper and around the neck of the bottle, such means causing the tin-foil to envelop the neck of the bottle, and arranged to act upon the tin-foil in detached sheets.

5. In a machine of the character described, the combination with means for pivotally supporting the bottle, and means for applying a covering to the stopper, such means operating without substantial change upon tin-foil or upon labels.

6. In a machine of the character described, the combination with means for pivotally supporting the bottle, and means for applying a covering to the stopper, such means operating without substantial change upon coverings of different shapes and sizes.

7. In a machine of the character described, the combination with means for supporting the bottle, and means for applying a covering to the stopper and around the neck of the bottle, such means causing the covering to envelop the neck of the bottle, and being operated without substantial change upon coverings of different shapes and sizes.

8. In a machine of the character described, the combination with means for adjusting the covering for the stopper of the bottle, of means actuated by air-pressure to force the covering into engagement with the bottle and stopper.

9. In a machine of the character described, the combination with a pivoted support for the bottle, means for applying labels to the bottle, and means for oscillating and swinging the said support into the sphere of action of the label-applying device and out of such sphere of action, and a lock for holding the bottle to the support.

10. In a machine of the character described, the combination with a pivoted support for the bottle, means for applying labels to the bottle, and means for oscillating and swinging the said support into the sphere of action of the label-applying device and out of such sphere of action, and a lock for holding the bottle to the support, such lock being actuated by the means for swinging the support.

11. In a machine of the character described, the combination with a support for the bottle, and means for applying labels to the bottle, the said support being capable of swinging into the sphere of action of the label-applying device and out of such sphere of action, means for swinging the support means for locking the bottle to the support and means for adjusting the support to fit different sizes and shapes of bottles.

12. In a machine of the character described, the combination with a support for the bottle, of means for supplying labels to the bottle, the said support being capable of swinging into the sphere of action of the label-applying devices and out of such sphere of action, means for swinging the support, means for automatically locking the bottle to the support, and means for adjusting the support to fit bottles of different lengths and diameters.

13. In a machine of the character described, the combination with a frame, of a bottle-support pivoted thereon, the said support comprising an arm and a base-support, the said base-support having a flange and means for clamping the bottle between the arm and flange.

14. In a machine of the character described, the combination with a frame, of a bottle-support pivoted thereon, the said support comprising an arm and a base-support, the said base-support having a flange, the said base-support being adjustable in relation to the arm, and means for clamping the bottle between the arm and flange.

15. In a machine of the character described, the combination with a frame, of a bottle-support pivoted thereon, the said support comprising an arm and a base-support, the said base-support having a flange, the said base-support being adjustable in relation to the pivoting-point of the arm and means for clamping the bottle between the arm and flange.

16. In a machine of the character described, the combination with a frame, of a bottle-support pivoted thereon, the said support comprising an arm and a base-support, the said base-support having a flange, and the said base-support being adjustable both in relation to the arm and to the pivoting-support of the arm.

17. In a machine of the character described, the combination with a frame, of a bottle-supporting arm, and a base-support pivoted thereon, and means for changing the angular relation between the arm and base-support for clamping the bottle.

18. In a machine of the character described, the combination with a frame, of a bottle-support which comprises an arm and a base-support pivoted thereon, and means for changing the angular relation between the arm and base-support for clamping the bottle, and means for unclamping the bottle such means acting by the movement of the support.

19. In a machine of the character described, the combination with a frame, of a support which comprises an arm and a base-support pivoted to the frame, the said arm having a lever to which the operating mechanism is connected, a spring for moving the arm and base-support to clamp the bottle, and a fixed abutment arranged in the path of movement of the base-support for changing the angular relation of the arm and base-support and locking the bottle.

20. In a machine of the character described, the combination with a frame, of a bottle-support which comprises an arm and a base-support pivoted to the frame, the said arm having a lever to which the operating mechanism is connected, a spring for causing the lever and base-support to lock the bottle, and a fixed abutment arranged in the path of movement of the base-support for changing the angular relation of the arm and base-support and unlocking the bottle, the said bottle being disengaged from the support by means of a movement of the latter.

21. In a machine of the character described, the combination with a frame, of a bottle-support which comprises an arm and a base-support pivoted to the frame, the said arm having a lever to which the operating mechanism is connected, a spring for causing the arm and base-support to lock the bottle, a bolt on the base-support, and a fixed abutment arranged in the path of movement of the bolt for changing the angular relation of the arm and base-support and unlocking the bottle.

22. In a machine of the character described, the combination with a frame, a movable, pivoted support for the bottle and means for locking the bottle to the support, of a label-table, a pick-up device, and a paste-applying device, means for engaging the paste-applying device with the pick-up device and means for moving the pick-up device in position to cause the label to adhere to the bottle, and a wiper carried by the pick-up device.

23. In a machine of the character described, the combination with ways a pick-up device reciprocating therein, of means for reciprocating the pick-up device in relation to the bottle, means for adjusting the pick-up device, and a wiper carried upon the pick-up device, the said wiper being pivotally mounted.

24. In a machine of the character described, the combination with a frame, of a rising and falling reciprocating and adjustable pick-up device and a pivoted wiper carried thereon, and means on the frame for moving the wiper to engage with the bottle.

25. In a machine of the character described, the combination with a frame, of a pick-up for applying labels to the bottle, the said pick-up sliding in the frame and reciprocating in relation to the bottle and means for adjusting said label-applying means, and a wiper, and means carried by the frame for causing the wiper to engage with the bottle.

26. In a machine of the character described, the combination with a frame and an adjustable pick-up sliding therein, of a wiper carried on the pick-up, a cam on the frame, the said cam controlling the movements of the wiper.

27. In a machine of the character described, the combination with a frame, of a member sliding therein, an adjustable plate carried by said member, a wiper pivoted upon said sliding member, and a fixed cam for controlling the movement of the wiper.

28. In a machine of the character described, the combination with a frame, of an element sliding thereon, the said element carrying an adjustable plate, a wiper pivoted to the element, a fixed cam on the frame, and means engaging with the cam for controlling the movement of the wiper.

29. In a machine of the character described, the combination with a frame, of a wiper movable thereon, the said wiper being pivoted, means carried by the wiper for causing the wiper to swing toward and engage with the bottle, a fixed cam on the frame for actuating said means, and a spring for causing the wiper to disengage and swing away from the bottle.

30. In a machine of the character described, the combination with a frame, of a wiper movable thereon, the said wiper being pivoted, a fixed cam on the frame, and a pin carried by the wiper and engaging with the cam for causing the wiper to swing toward and engage with the bottle and a spring to cause the wiper to disengage and swing away from the bottle.

31. In a machine of the character described, the combination with a pivoted wiper, having a pin, of a cam, the said cam having two straight parallel grooves, and an inclined groove, one of said straight grooves being of varying depth.

32. In a machine of the character described, the combination with a pivoted wiper, and a cam, of a pin on the wiper engaging with the cam, the groove in the cam being of varying depth, and means for causing the pin to engage with the bottom of the cam-groove.

33. In a machine of the character described, the combination with a pick-up frame, of pick-up plates adjustably secured thereto, said plates being shaped to conform to the shape of the bottle.

34. In a machine of the character described, the combination with means for supporting a bottle, of label and tin-foil carrying tables, means for elevating and depressing the tables, and means for locking the said tables against operative movement.

35. In a machine of the character described, the combination with means for supporting a bottle, of label and tin-foil carrying-tables, means for elevating and depressing the tables, and means for locking the said tables against operative movement, the said means being disengageable at will.

36. In a machine of the character described, the combination with a frame, of pick-ups thereon, label-supporting tables, and means for moving the tables to bring the labels in contact with the pick-ups, and means for locking out the tables and preventing the labels from engaging with the pick-ups.

37. In a machine of the character described, the combination with a support for the bottle, a support for the stopper-covering, and a pivoted and longitudinally-movable pick-up for the stopper-covering.

38. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, a stopper-covering support, a pick-up therefor, means for moving the covering into engagement with the pick-up, and means for pivotally and longitudinally moving the pick-up to engage with the bottle.

39. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, a stopper-covering support, means for moving the stopper-covering support in a plane substantially at right angles to the longitudinal axis of the bottle, a pick-up, said pick-up being in the path of the stopper-covering support, and means for pivotally and longitudinally moving the pick-up to cause the covering to engage with the neck of the bottle.

40. In a machine of the character described, the combination with a frame, means for supporting a bottle therein, means for supporting a stopper-covering, means for moving the support in a path substantially at right angles to the longitudinal axis of the bottle, a pick-up, a carriage for supporting the pick-up, means for moving the carriage in a plane at right angles to the path of movement of the stopper-covering support, and means for pivotally and longitudinally moving the pick-up.

41. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, a carriage, the said carriage having a plate with an opening therein, means for moving the carriage to cause the neck of the bottle to pass through the opening, and means for supporting the stopper-covering adjacent to the opening.

42. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, means for supporting the stopper-covering, a reciprocating carriage, a pivoted pick-up, and means actuated by a movement of the carriage for swinging the pick-up and bodily moving it into engagement with the bottle.

43. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, a carriage, a pick-up, the said pick-up being supported between the frame and carriage in such a manner that it will be first tilted and then longitudinally moved by the carriage.

44. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, means for supporting a stopper-covering, a carriage, means for moving the carriage, a pick-up supported between the frame and the carriage, and means for causing the pick-up to engage with the stopper-covering, and tilt upon the carriage, and be bodily moved in engagement with the bottle.

45. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, a stopper-covering table working therein in a plane at right angles to the axis of the bottle, a carriage moving at right angles to the table, and a pick-up supported between the carriage and the frame in such a manner that a stopper-covering will be engaged by the pick-up and upon movement of the carriage, it will be turned at an angle and then bodily moved to engage with the bottle.

46. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, a table for supporting the stopper-covering, the said table moving in a path at right angles to the longitudinal axis of the bottle, a carriage moving at right angles to the path of movement of the table, a pick-up thereon, means for gumming the pick-up, means for engaging a stopper-covering with the pick-up, and means for turning the pick-up at right angles and moving it into engagement with the bottle.

47. In a machine of the character described, the combination with a frame, means for supporting the bottle therein, a carriage, means for supporting the stopper-covering in engagement with the carriage, a pick-up device within the frame, ways within the carriage and fingers on the pick-up engaging with the ways, and a stop and spring on the pick-up, for retaining one end of the pick-up until it is turned at a right angle by the movement of the carriage.

48. In a machine of the character described, the combination with a frame, of a carriage operating therein, ways on the carriage, the said ways having a curved portion, ways on the frame, at right angles to the ways on the carriage, a pick-up having fingers thereon in engagement with the ways, a stop, and a spring for retaining one end of the pick-up until it is turned at a right angle by the movement of the carriage.

49. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, a pick-up for carrying a stopper-covering and a receiving-chamber for the bottle neck and covering, an elastic diaphragm between the pick-up and the chamber, and means for supplying air-pressure to the chamber.

50. In a machine of the character described, the combination with a frame, of a chamber having an elastic diaphragm therein, means for supplying air-pressure to the chamber, and means for supporting a stopper-covering adjacent to the diaphragm, and means for moving the covering into engagement with the bottle.

51. In a machine of the character described, the combination with a chamber, of an elastic diaphragm thereon, a pick-up for supporting a stopper-covering, means for operating the pick-up, and means for supplying air-pressure to the chamber.

52. In a machine of the character described, the combination with a chamber, of an elastic diaphragm thereon, means for supplying air-pressure to the chamber, and means within the chamber for controlling the time and duration of the air-pressure.

53. In a machine of the character described, the combination with a chamber, of an elastic diaphragm therein, means for supplying air-pressure to the chamber, a valve for controlling the air-pressure, and means within the chamber for controlling the valve.

54. In a machine of the character described, the combination with a chamber, of an elastic diaphragm therein, means for supplying air-pressure to the chamber, a valve for controlling the air-pressure, the said valve having a stem which enters the chamber.

55. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, tables for supporting body-labels and stopper-coverings, pick-ups, and a paste-applying device adapted to travel between the tables and the pick-ups.

56. In a machine of the character described, the combination with a reciprocating carriage, having a plate thereon, of a chamber attachably secured thereto, and a diaphragm closing the chamber.

57. In a machine of the character described, the combination with a movable compressing-chamber, of a diaphragm and means for removably securing the diaphragm to the chamber.

58. In a machine of the character described, the combination with a movable compressing-chamber, of a plate removably secured thereto, and an elastic diaphragm between the chamber and plate.

59. In a machine of the character described, the combination with a frame, of a carriage sliding therein, a plate on the carriage, a cylinder pivotally mounted on the frame, a piston and piston-rod, a chamber carried by the carriage, connections between the chamber and piston-rod, and connections between the chamber and the plate whereby the chamber may be disconnected from the carriage and the cylinder swung upon its pivot.

60. In a machine of the character described, a pick-up, the said pick-up being perforated, and means for tilting and longitudinally moving the pick-up.

61. In a machine of the character described, the combination with a tin-foil table, and a pick-up both being provided with corresponding openings, and pins for confining the edges of the tin-foil, such pins being secured within the openings in the table and passing through openings in the pick-up.

62. In a machine of the character described, the combination with a frame, of a bottle-support thereon, the said support comprising a lock and means for swinging the bottle into and out of the sphere of action of the label-affixing mechanism, a label-table, a pick-up between the table and bottle, a paste-applying device, the said paste device moving in a path between the table and pick-up, and means for actuating the pick-up to affix the label.

63. In a machine of the character described, the combination with a frame, of a bottle-support thereon, the said support comprising a lock, and means for swinging the bottle into and out of the sphere of action of the label-affixing mechanism, a label-table, a pick-up between the table and bottle, a paste-applying device, the said paste device moving in a path between the table and pick-up, and means for actuating the pick-up to affix the label, and a wiper for the label.

64. In a machine of the character described, the combination with a frame, of a bottle-support thereon, the said support comprising a lock, and means for swinging the bottle into and out of the sphere of action of the label-affixing mechanism, a label-table, a pick-up between the table and bottle, a paste-applying device, the said paste device moving in a path between the table and pick-up, and means for actuating the pick-up to affix the label, and a wiper for the label, the said wiper being carried by the pick-up.

65. In a machine of the character described, the combination with a frame, of a bottle-support thereon, the said support comprising a lock, and means for swinging the bottle into and out of the sphere of action of the tin-foil-affixing mechanism, a foil-table, a pick-up for the foil, a paste device, the said device moving in a path between the table and pick-up, and means for actuating the pick-up to affix the tin-foil.

66. In a machine of the character described, the combination with a frame, of a bottle-support thereon, the said support comprising a lock, and means for swinging the bottle into and out of the sphere of action of the tin-foil-affixing mechanism, a foil-table, a pick-up for the foil, a paste device, the said device moving in a path between the table and pick-up, and means for actuating the pick-up to affix the tin-foil, and means for compressing the foil on the stopper.

67. In a machine of the character described, the combination with a frame, of a bottle-support thereon, the said support comprising a lock, and means for swinging the bottle into and out of the sphere of action of the tin-foil-affixing mechanism, a foil-table, a pick-up for the foil, a paste device, the said device moving in a path between the table and pick-up and means for actuating the pick-up to affix the tin-foil, and means for compressing the foil on the stopper, said means being independent of the pick-up.

68. In a machine of the character described, the combination with a frame, of a bottle-support thereon, the said support comprising a lock and means for swinging the bottle into and out of the sphere of action of the label and tin-foil affixing mechanism, a label-table, a pick-up between the table and bottle, a foil-table, a pick-up for the foil, a paste device, the said device moving in a path between the table and pick-ups and means for actuating the pick-ups to affix the label and tin-foil.

69. In a machine of the character described, the combination with a frame, of a bottle-support thereon, the said support comprising a lock and means for swinging the bottle into and out of the sphere of action of the label and tin-foil affixing mechanism, a label-table, a pick-up between the table and bottle, a foil-table, a pick-up for the foil, a paste device, the said device moving in a path between the tables and pick-ups and means for actuating the pick-ups to affix the label and tin-foil, and a wiper for the label.

70. In a machine of the character described, the combination with a frame, of a bottle-support thereon, the said support comprising a lock and means for swinging the bottle into and out of the sphere of action of the label and tin-foil affixing mechanism, a label-table, a pick-up between the table and bottle, a foil-table, a pick-up for the foil, a paste device, the said device moving in a path between the tables and pick-ups, means for actuating the pick-ups to affix the label and tin-foil, and a wiper for the label, the said wiper being carried by the label pick-up.

71. In a machine of the character described, the combination with a frame, of a bottle-support thereon, the said support comprising a lock and means for swinging the bottle into and out of the sphere of action of the label and tin-foil affixing mechanism, a label-table, a pick-up between the table and bottle, a foil-table, a pick-up for the foil, a paste device, the said device moving in a path between the tables and pick-ups, means for actuating the pick-ups to affix the label, and tin-foil, and means for compressing the foil on the stopper.

72. In a machine of the character described, the combination with a frame, of a bottle-support thereon, the said support comprising a lock and means for swinging the bottle into and out of the sphere of action of the label and tin-foil affixing mechanism, a label-table, a pick-up between the table and bottle, a foil-table, a pick-up for the foil, a paste device, the said device moving in a path between the tables and pick-ups, means for actuating the pick-ups to affix the label and tin-foil, and means for compressing the foil on the stopper, the said means being operated independently of the foil pick-up.

73. In a machine of the character described, the combination with a frame, of a bottle-support thereon, the said support comprising a lock and means for swinging the bottle into and out of the sphere of action of the label and tin-foil affixing mechanism, a label-table, a pick-up between the table and bottle, a foil-table, a pick-up for the foil, a paste device, the said device moving in a path between the tables and pick-ups, means for actuating the pick-ups to affix the label and tin-foil, and means for compressing the foil on the stopper, the said means being operated independently of the foil pick-up, and a wiper for the labels.

74. In a machine of the character described, the combination with a frame, of a bottle-support thereon, the said support comprising a lock and means for swinging the bottle into and out of the sphere of action of the label and tin-foil affixing mechanism, a label-table, a pick-up between the table and bottle, a foil-table, a pick-up for the foil, a paste device, the said device moving in a path between the tables and pick-ups, means for actuating the pick-ups to affix the label and tin-foil, and means for compressing the foil on the stopper, the said means being operated independently of the foil pick-up, and a wiper for the labels, the said wiper being carried by the label pick-up.

75. In a machine of the character described, the combination with a frame, means for supporting a bottle in the frame, reciprocating label-tables movable in the frame and labels carried by the tables, of a shaft, means actuated by the revolution of the shaft for reciprocating the tables, means for transferring the label from one table to the body of the bottle and means for transferring the label from another table to and over the stopper.

76. In a machine of the character described, the combination with a frame, means for supporting a bottle in the frame, a table carrying labels for the body of the bottle, a table carrying labels for the stopper, of a shaft, means actuated by the revolution of the shaft for reciprocating the tables, means actuated by the revolution of the shaft for delivering the label to the body of the bottle, and means actuated by the revolution of the shaft for delivering the label to the stopper.

77. In a machine of the character described, the combination with a frame, means for supporting a bottle in the frame, a table carrying labels for the body of the bottle, a table carrying labels for the stopper, of a shaft, means actuated by the revolution of the shaft for reciprocating the tables, means actuated by the revolution of the shaft for delivering the label to the body of the bottle, and means actuated by the revolution of the shaft for delivering the label to the stopper, and means actuated by the revolution of the shaft for causing the labels to adhere to the bottle and stopper.

78. In a machine of the character described, the combination with a frame, means for supporting a bottle in the frame, a table carrying labels for the body of the bottle, a table carrying labels for the stopper, of a shaft, means actuated by the revolution of the shaft for reciprocating the tables, means actuated by the revolution of the shaft for delivering the labels to the body of the bottle, and means actuated by the revolution of the shaft for delivering the labels to the stopper, and means actuated by the revolution of the shaft for applying the label to the bottle and stopper, and means actuated by the revolution of the shaft for oscillating and swinging the bottle out of the sphere of action of the label-applying devices.

79. In a machine of the character described, the combination with means for supporting the bottle, means for applying labels to the side of the bottle, means for applying coverings to the stopper and around the neck of the bottle, said means being actuated by air-pressure, and means for moving the bottle into the sphere of action of the label-applying device, and to return it to such sphere of action.

80. In a machine of the character described, the combination of mechanism for supporting the bottle, a label-carrying device, means for oscillating and swinging the bottle into the sphere of action of the said label-carrying device, and to return it from such sphere of action, means for applying a label to the body of the bottle, such means swinging into the sphere of action while applying the label and then out of such sphere of action, means for applying a label to the stopper and around the neck of the bottle, such mechanism being actuated by air-pressure and mechanism for actuating the body-label and stopper-label mechanism.

81. In a machine of the character described, the combination with a frame, of means for supporting a bottle thereon, a shaft, mechanism actuated by the revolution of the shaft for applying labels to the body of the bottle and mechanism for applying coverings to the stopper thereof.

82. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, such means acting to oscillate the bottle into and out of the sphere of action of the labeling mechanism, a shaft on the frame, and means actuated by the rotation of the shaft for oscillating the bottle.

83. In a machine of the character described, the combination with a frame, of a support for the bottle thereon, the said support being pivoted to the frame, a shaft within the frame, and means actuated by the rotation of the shaft for oscillating the bottle-support upon its pivot.

84. In a machine of the character described, the combination with a frame, of a pivoted bottle-support thereon, a shaft on the frame, a cam thereon, and connections between the cam and bottle-support for moving the latter upon its pivot.

85. In a machine of the character described, the combination with a frame, of a pivoted bottle-support thereon, a shaft on the frame, a cam on the shaft, a lever engaging with the cam, and connections between the lever and bottle-support for moving the latter.

86. In a machine of the character described, the combination with a frame, of a pivoted bottle-support thereon, a shaft, a cam on the shaft, a lever connected to the cam, and a connecting-rod connecting the lever and bottle-support for moving the latter.

87. In a machine of the character described, the combination with a frame, of a pivoted bottle-support thereon, and a tin-foil table, a shaft, and means actuated by the rotation of the shaft for simultaneously swinging the bottle-support and tin-foil table.

88. In a machine of the character described, the combination with a frame, of a support for the bottle, a label-table, a shaft, a cam thereon, and a spring and sliding-sleeve connections between the cam-and the label-table for moving the latter.

89. In a machine of the character described, the combination with a frame, of a support for the bottle, a label-table, a shaft, a cam on the shaft, a lever in engagement with the cam, and a spring and sliding-sleeve connections between the lever and label-table for moving the latter.

90. In a machine of the character described, the combination with a frame, of a body-label table and a stopper-label table therein, a shaft, and connections between the shaft and tables for independently operating the latter.

91. In a machine of the character described, the combination with a frame, of a body-label table and a stopper-label table therein, a shaft, a cam thereon, and connections between the cam and tables for independently moving the latter.

92. In a machine of the character described, the combination with a label-table, and a tin-foil table, of a shaft, a cam thereon, levers engaging with the cam and connections between the levers and the tables for independently and yieldingly moving the latter.

93. In a machine of the character described, the combination with a frame, of a tin-foil table and a pick-up therefor, of a shaft, means actuated by the rotation of the shaft for independently moving the tin-foil table and the pick-up, and means for locking the table against movement.

94. In a machine of the character described, the combination with a frame, of a tin-foil table, and a pick-up therefor, a shaft, and a cam thereon, connections between the cam, and the tin-foil table, and connections between the cam and pick-up for moving the latter, and means for locking the table against movement.

95. In a machine of the character described, the combination with a frame, of a tin-foil table, and a pick-up therefor, said pick-up being supported in a carriage, of a shaft, separate means actuated by the rotation of the latter for moving the tin-foil table and the carriage, and means for locking the table against movement.

96. In a machine of the character described, the combination with a frame, of a tin-foil table, and a pick-up, the latter being supported by a carriage, a shaft, a cam

thereon, connections between the cam and the carriage for moving the latter, connections between the cam and tin-foil table for moving the table, and means for locking the table against movement.

97. In a machine of the character described, the combination with a tin-foil table and a pick-up carriage, of a shaft, a cam thereon, the said cam having two grooves, connections between one groove and the pick-up carriage, and connections between the other groove and the tin-foil table.

98. In a machine of the character described, the combination with a tin-foil-pick-up carriage, and a label-table, of a shaft, a cam thereon, a groove in the cam, and means in engagement with the cam for actuating the tin-foil-pick-up carriage and the label-table.

99. In a machine of the character described, the combination with a frame, ways thereon, a paste reservoir and applying device movable in the ways, a paste-transferring device, and a label-carrying table, of a shaft, and means actuated by the revolution of the shaft for lowering the paste-transferring device, reciprocating the paste-applying device, raising the label-table, lowering the label-table and raising the paste-transferring device.

100. In a machine of the character described, the combination with a frame, ways thereon, a paste reservoir and applying device movable in the ways, a paste-transferring device, and a label-carrying table, of a shaft, and means actuated by the revolution of the shaft for lowering the paste-transferring device, reciprocating the paste-applying device, raising the label-table, lowering the label-table and raising the paste-transferring device, and a lock for preventing movement of the label-table.

101. In a machine of the character described, the combination with a frame, ways therein, a paste reservoir and applying device movable in the ways, a plurality of paste-transferring devices and a plurality of label-carrying tables, of a shaft, means actuated by the revolution of the shaft for moving the paste-transferring devices into position to receive the paste, means actuated by the revolution of the shaft for reciprocating the paste-applying device to apply paste to the transferring devices, means actuated by the revolution of the shaft for bringing the label-tables into position to deliver the labels to the transferring devices, and means actuated by the revolution of the shaft for separating the label-tables and the label-transferring devices.

102. In a machine of the character described, the combination with a frame, ways therein, a paste reservoir and applying device movable in the ways, a plurality of paste-transferring devices and a plurality of label-carrying tables, of a shaft, means actuated by the revolution of the shaft for moving the paste-transferring devices into position to receive the paste, means actuated by the revolution of the shaft for reciprocating the paste-applying device to apply paste to the transferring devices, means actuated by the revolution of the shaft for bringing the label-tables into position to deliver the labels to the transferring devices, and means actuated by the revolution of the shaft for separating the label-tables and the label-transferring devices, and locking devices for preventing movement of any or all of the label-tables.

103. In a machine of the character described, the combination with a paste-applying device, a lever for actuating the same, a shaft, a cam thereon, the said cam having a notch, and a hook connected to the lever and adapted to engage with the notch for reciprocating the lever.

104. In a machine of the character described, the combination with a paste-applying device, a lever connected thereto, the said lever having a slot, a pin on the frame engaging with the slot, a shaft, a cam thereon, the said cam having a notch, and a hook connected to the lever and engaging with the cam for oscillating the lever.

105. In a machine of the character described, the combination with a frame, of a moving table thereon, means for reciprocating the table, and a lock for preventing motion of the table.

106. In a machine of the character described, the combination with a frame, of a table therein, means for reciprocating the table, the said means being capable of being compressed and a lock for preventing motion of the table.

107. In a machine of the character described, the combination with a frame, of a reciprocating table therein, a lever for moving the table, a spring interposed between the lever and table, and a lock for preventing movement of the table said lock not affecting the movement of the lever.

108. In a machine of the character described, the combination with a plurality of reciprocating tables, means for moving the tables, and a lock for each table.

109. In a machine of the character described, the combination with a frame, of a plurality of tables therein, a lock for each table, a pivoted lever, and connections between the lever and locks for actuating the locks.

110. In a machine of the character described, the combination with a plurality of moving tables, a lock for each table, a lever, the said lever having a moving pivot, connections between the lever and the locks, and means for supporting the lever in position to actuate one or more of the locks.

111. In a machine of the character described, the combination with a frame, means for supporting a bottle thereon, a label pick-up, a shaft, a disk on the shaft, a pin on the cam, a lever actuated by the pin, and connections between the lever and pick-up for moving the latter.

112. In a machine of the character described, the combination with a frame, of means for supporting a bottle thereon, a pick-up, a support therefor, acting at right angles to the bottle when the latter is in the position to receive the label and the said support moving in ways in the frame, and means for moving the support.

113. In a machine of the character described, the combination with a frame, of means for supporting a bottle thereon, a label pick-up, a supporting-frame therefor, the said frame moving in ways in the frame, and a wiper carried by such supporting-frame.

114. In a machine of the character described, the combination with a frame, of a rocking support for the bottle, means for rocking the support about a pivot, means for supplying labels, and a pick-up, the said pick-up being moved in sequence with the bottle-support.

115. In a machine of the character described, the combination with a frame, of a bottle-support therefor, the said bottle-support being pivoted, means for supplying labels and stopper-coverings, pick-ups for the labels and stopper-coverings, and means for moving the pick-ups in sequence with the bottle-support.

116. In a machine of the character described, the combination with a frame, of means for supporting a bottle thereon, means for supplying labels and stopper-coverings, pick-ups, a shaft, and means actuated by the rotation of the shaft for moving the bottle-support and pick-ups in the proper sequence.

117. In a machine of the character described, the combination with a frame, of a support for the bottle, label and stopper-covering pick-ups, a paste-applying device, a shaft, and means actuated by the rotation of the shaft for actuating the pick-ups, and paste-applying device in proper sequence.

118. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, means for supporting labels and stopper-coverings, pick-ups therefor, a paste-applying device, a shaft, a cam thereon, and connections between the cam and pick-ups and paste-applying device for moving them in proper sequence.

119. In a machine of the character described, the combination with a frame, of a pivoted bottle-support thereon, means for supporting labels and stopper-coverings, pick-ups therefor, a paste-applying device for the pick-ups, a shaft, and means actuated by the rotation of the shaft for actuating the pick-ups, paste-applying device, and bottle-support in proper sequence.

120. In a machine of the character described, the combination with a frame, of a pivoted bottle-support thereon, means for supporting labels and tin-foil, pick-ups therefor, a paste-applying device, a shaft, a cam thereon, and connections between the cam and pick-ups, the paste-applying device and the bottle-supporting device for moving them in proper sequence.

121. In a machine of the character described, the combination with a frame, of a bottle-support thereon, means for supporting labels and stopper-coverings, pick-ups, a paste-applying device, a compressor for the stopper-covering, and a shaft, and connections actuated by the rotation of the shaft for actuating the paste-applying device, the pick-ups, and the compressor in proper sequence.

122. In a machine of the character described, the combination with a frame, of a bottle-support thereon, supports for the labels and foil, pick-ups, a paste-applying device, and a compressor for the foil, a shaft, and a cam thereon, and connections between the cam and the pick-ups and paste-applying device and compressor for operating them in proper sequence.

123. In a machine of the character described, the combination with a frame, of a pivoted bottle-support thereon, label and tin-foil supports, pick-ups therefor, a paste-applying device for the pick-ups, a compressor for the foil, a shaft, and means actuated by the rotation of the shaft for moving the bottle-support, the pick-ups, the paste-applying device, and the compressor in proper sequence.

124. In a machine of the character described, the combination with a frame, of a pivoted bottle-support thereon, supports for the labels and foil, pick-ups therefor, a paste-applying device for the pick-ups, a compressor for the foil, a shaft in the frame, a cam thereon, and connections between the cam and the bottle-support, the pick-ups, the paste-applying device, and the compressor for moving them in the proper sequence.

125. In a machine of the character described, the combination with a frame, of means for supporting a bottle thereon, moving tables for supporting labels and stopper-coverings, pick-ups, a paste-applying device for the pick-ups, a shaft, and means actuated by the rotation of the shaft for moving the tables, the pick-ups, and paste-applying device in proper sequence.

126. In a machine of the character described, the combination with a frame, of means for supporting a bottle thereon, moving tables for supporting labels and foil, pick-ups, a paste-applying device for the pick-ups, a shaft, a cam thereon, and means actuated by the cam for operating the tables, the pick-ups, and the paste-applying device in proper sequence.

127. In a machine of the character described, the combination with a frame, of a pivoted bottle-support thereon, moving tables for the labels and stopper-coverings, pick-ups therefor, a paste-applying device, a shaft, and means actuated by the shaft for moving the bottle-support, the pick-ups, the tables and the paste-applying device in proper sequence.

128. In a machine of the character described, the combination with a frame, of a pivoted bottle-support thereon, moving tables for the labels and foil, pick-ups therefor, a paste-applying device for the pick-ups, a shaft, a cam thereon, and connections between the cam and bottle-support, pick-ups, tables, and paste-applying devices for moving them in proper sequence.

129. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, moving tables for the label and foil, pick-ups therefor, a paste-applying device for the pick-ups, and a compressor for the foil, a shaft, and means actuated by the rotation of the shaft for moving the pick-ups, the tables, the paste-applying device, and the compressor in proper sequence.

130. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, moving tables for the labels and stopper-coverings, pick-ups therefor, means for applying paste to the pick-ups, a compressor for the stopper-coverings, a shaft, a cam thereon, and connections between the cam and the tables, the pick-ups, the paste-applying device, and the compressor for moving them in proper sequence.

131. In a machine of the character described, the combination with a frame, of a bottle-support pivoted thereon, moving tables for the labels and foil, pick-ups therefor, a paste-applying device for the pick-ups, a compressor for the foil, a shaft, and means actuated by the rotation of the shaft for moving the bottle-support, the pick-ups, the tables, the paste-applying device, and the compressor in proper sequence.

132. In a machine of the character described, the combination with a frame, of a bottle-support pivoted thereon, moving tables for the labels and foil, pick-ups therefor, a paste-applying device for the pick-ups, compressor for the foil, a shaft, a cam thereon, and connections between the cam and the bottle-support, the pick-ups, the tables, the paste-applying device and the compressor for moving them in proper sequence.

133. In a machine of the character described, the combination with means for supporting a bottle, supports for the labels and stopper-coverings, pick-ups therefor, a paste-applying device, and means for moving the pick-ups and paste-applying device in proper sequence.

134. In a machine of the character described, the combination with a frame, of a pivoted bottle-support thereon, means for supporting labels and foil, pick-ups, a paste-applying device for the pick-ups, and means for moving the bottle-support, the pick-ups, and paste-applying device in proper sequence.

135. In a machine of the character described, the combination with a frame, means for supporting a bottle therein, means for supporting labels and stopper-coverings, pick-ups therefor, a paste-applying device, a compressor for the stopper-coverings, and means for actuating the pick-ups, the paste-applying device, and the compressor in proper sequence.

136. In a machine of the character described, the combination with a frame, of a bottle-supporting device pivoted thereon, supports for the label and foil, pick-ups therefor, a paste-applying device, a compressor, and means for moving the bottle-support, the pick-ups, the paste-applying device and the compressor in proper sequence.

137. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, moving tables for the labels and stopper-coverings, pick-ups therefor, a paste-applying device, and means for actuating the tables, the pick-up devices, and the paste-applying device in proper sequence.

138. In a machine of the character described, the combination with a frame, of a pivoted bottle-support thereon, moving tables for the labels and stopper-coverings, pick-ups therefor, paste-applying devices, and means for moving the bottle-support, the tables, the pick-ups, and the paste-applying device in proper sequence.

139. In a machine of the character described, the combination with a frame, of means for supporting a bottle therein, moving tables for the labels and stopper-coverings, pick-ups therefor, a paste-applying device, a compressor for the stopper-coverings, and means for moving the tables and pick-up devices, the paste-applying device and the compressor in the proper sequence.

140. In a machine of the character described, the combination with a frame, of a pivoted bottle-support thereon, moving tables for the labels and foil, pick-ups therefor, a paste-applying device for the pick-ups, and a compressor for the foil, and means for moving the bottle-support, the pick-ups, the tables, the paste-applying device, and the compressor in proper sequence.

141. In a machine of the character described, the improved tin-foiling device which comprises a support for the foil in detached sheets, a pick-up therefor, and means for moving the foil to engage with the pick-up, means for engaging the foil with the stopper of the bottle, and means for stripping the foil from the pick-up and causing it to engage around the neck of the bottle.

142. In a machine of the character described, the improved tin-foiling device which comprises a support for the tin-foil in detached sheets, a pick-up for the foil, the said pick-up having a central opening, means for causing the pick-up to move toward the bottle and engage with the foil or stopper-covering, and cause the neck of the bottle to enter the opening and strip off the foil from the pick-up, and transfer it to and around the neck of the bottle.

143. In a machine of the character described, the combination with a support for the bottle, and a support for the tin-foil in detached sheets, of a pick-up and means for moving the pick-up to lift a sheet of foil and deposit it over the stopper and around the neck of the bottle.

144. In a machine of the character described, the combination with a support for the bottle, and a support for the

tin-foil in detached sheets, of a pick-up for the foil, means for applying paste to the pick-up, and means for moving the pick-up to engage with and around the neck of the bottle and transfer the foil thereto.

145. In a machine of the character described, the combination with a support for the bottle, a support for the tin-foil in detached sheets, a pick-up therefor, and means for moving the pick-up to transfer the sheet-foil from the pick-up to the bottle, and means for compressing the foil around the neck of the bottle.

146. In a machine of the character described, the combination with a support for the bottle, a support for the tin-foil in detached sheets, a pick-up therefor, and means for moving the pick-up to transfer the sheet-foil from the pick-up to the bottle, means for compressing the foil around the neck of the bottle, such means comprising a flexible diaphragm, and fluid-pressure means for engaging the diaphragm with the tin-foil.

147. In a machine of the character described, the combination with a frame, of a table carying body and neck labels and movable within the frame, and a wiper for simultaneously applying the body and neck labels.

148. In a machine of the character described, the combination with a frame, a single table carrying body and neck labels movable therein, of a paste-applying device for gumming the body and neck labels and means for simultaneously applying the body and neck labels carried by said table.

149. In a machine of the character described, the combination with a frame, a table movable therein, said table carrying body and neck labels, of a pick-up, a movable paste-applying device for transferring paste to the pick-up, means for engaging the labels with the pick-up, and means for removing the labels from the pick-up and applying them to the bottle simultaneously.

150. In a machine of the character described, the combination with a frame, a body and neck label table movable therein, a pick-up for removing the labels from the table, a stopper-covering table movable in the frame, of a movable paste-reservoir for applying paste to the pick-ups, a single set of wipers for simultaneously applying the body and neck labels to the bottle and fluid-pressure means for applying the stopper-covering to the stopper and neck of the bottle.

151. In a machine of the character described, the combination with a frame, means for supporting a bottle thereon, means for supplying body and neck labels, a pick-up, means for supplying paste to the pick-up, means for engaging the labels with the pick-up, means for engaging the labels with the bottle and means for simultaneously transferring the labels from the pick-up to the bottle, of a shaft, and means actuated by the movement of the shaft for moving the paste-applying means, the label-supplying means, the pick-up and transferring means, and the bottle in proper sequence.

152. In a machine of the character described the combination with a frame, and means for supporting a bottle thereon, of a body and neck label table, a label pick-up, a stopper-covering table, a stopper-covering pick-up, means for applying paste to the pick-ups, and means for applying the body and neck labels and stopper-coverings to the bottle in proper sequence.

153. In a machine of the character described, the combination with a frame and movable means for supporting a bottle thereon, a movable table carrying body and neck labels, a label pick-up, a movable table carrying stopper-coverings, a stopper-covering pick-up, means for applying paste to the pick-ups, means for simultaneously transferring the labels to the label pick-up, means for transferring a stopper-covering to its pick-up, means for applying the stopper-cover over the stopper and neck of the bottle, means for simultaneously applying the labels to the body and neck of the bottle, and means for moving the bottle away from the labeling and covering means, of a shaft, and means actuated by the movement of the shaft for moving the paste-applying means, the bottle toward the label-table, the label-table, the stopper-covering table, the label pick-up, the stopper-covering pick-up, the means for applying the stopper-cover, the means for applying the labels, and the bottle away from the tables in proper sequence.

154. In a machine of the character described, the combination with a frame, of a movable bottle-support thereon, supports for labels and stopper-coverings, pick-ups, a paste-applying device, a chamber for compressing the stopper-coverings, means for supplying the chamber with pressure, a shaft, and connections actuated by the rotation of the shaft for actuating the paste-applying device, the pick-ups, and the compressor in proper sequence.

155. In a machine of the character described, the combination with a frame of a movable bottle-support thereon, supports for body and neck labels and stopper-coverings, pick-ups, a paste-applying device, a chamber for compressing the stopper-coverings, means for supplying the chamber with pressure, a shaft, and connections actuated by the rotation of the shaft for actuating the paste-applying device, the pick-ups, and the compressor in proper sequence.

156. In a machine of the character described, the combination with a frame having guides therein, of a movable bottle-support thereon, of supports for labels and stopper-coverings, pick-ups, a paste-applying device, a chamber for compressing the stopper-coverings around the neck of the bottle, means for supplying the chamber with pressure, a shaft, and a cam thereon, and connections between the cam and pick-ups and paste-applying device and compressor for operating them in proper sequence.

157. In a machine of the character described, the combination with a frame having guides therein, of a movable bottle-support thereon, of supports for body and neck labels and stopper-coverings, pick-ups, a paste-applying device, a chamber for compressing the stopper-coverings around the neck of the bottle, means for supplying the chamber with pressure, a shaft, and a cam thereon, and connections between the cam and pick-ups and paste-applying device and compressor for operating them in proper sequence.

158. In a machine of the character described, the combination with a frame, of means for movably supporting a bottle therein, means for moving the bottle, means for supporting a stopper-covering, a carriage, a pick-up supported on the frame, movable connections between the pick-up and carriage, means for causing the stopper-covering to engage with the pick-up, means for tilting the pick-up to a position over the stopper of the bottle, means for moving the pick-up relatively to the bottle to transfer the covering from the pick-up to the bottle and means for engaging the covering around the neck of the bottle.

159. In a machine of the character described, the combination with a frame, of means for movably supporting a bottle therein, means for moving the bottle, means for supporting a stopper-covering, a carriage, a pick-up supported on the frame, movable connections between the pick-up and carriage, means for causing the stopper-covering to engage with the pick-up, means for tilting the pick-up to a position over the stopper of the bottle, means for moving the pick-up relatively to the bottle to transfer the covering from the pick-up to the bottle and means actuated by fluid-pressure for engaging the covering around the neck of the bottle.

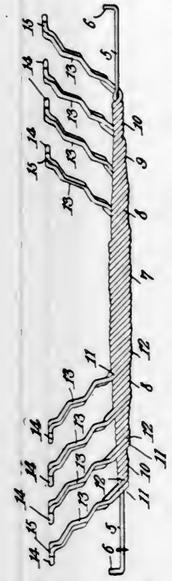
160. In a machine of the character described, the combination with a frame, guides within the frame and a plurality of tables movable in the guides, of a shaft, means actuated by the revolution of the shaft for reciprocating the tables and means for locking the tables against movement.

161. In a machine of the character described, the combination with a frame, guides within the frame, a plurality of tables movable in the guides, of a shaft, means actuated by the rotation of the shaft for yieldingly reciprocating the tables and means for locking the tables against movement.

162. In a machine of the character described, the combination with a frame, means for supporting a bottle within the frame, guides within the frame, a plurality of tables movable in the guides, of a shaft, means actuated by the rotation of the shaft for yieldingly reciprocating the tables and means for locking one or more of the tables against movement.

163. In a machine of the character described, the combination with a frame, a plurality of reciprocating tables movable in the frame, of a shaft, and means actuated by the rotation of the shaft for independently reciprocating the tables, and means for locking the tables against movement.

841,014. REINFORCING-BAR. LEIGH HUNT, Iola, Kans. Filed July 31, 1905. Serial No. 272,011.



Claim.—1. A reinforcing-bar comprising a plurality of rods or strands of different lengths arranged in pairs and twisted together to form inclined shearing members, one of the rods of each pair being provided with a terminal loop adapted to receive the end of the adjacent rod.

2. A reinforcing-bar comprising a plurality of rods or strands of different lengths twisted together and having their ends extended laterally and crimped to form a series of spaced corrugated shearing members.

3. A reinforcing-bar comprising a plurality of rods or strands of different lengths arranged in pairs and twisted together, the ends of each pair of rods being extended laterally on one side of the bar and crimped to form a series of spaced corrugated shearing members.

4. A reinforcing-bar comprising a plurality of superposed rods or strands of different lengths arranged in pairs and twisted together, the rods of each pair having their free ends corrugated and extended laterally to form spaced shearing members.

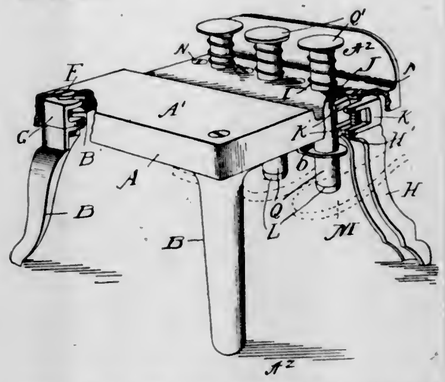
5. A reinforcing-bar comprising a plurality of intertwisted rods of different lengths, said rods being each formed of a plurality of strands the ends of which are corrugated and bent laterally to form shearing members.

6. A reinforcing-bar comprising a plurality of intertwisted rods of different lengths, said rods being each formed of a pair of strands the ends of which are corrugated and extended laterally to form shearing members.

7. A reinforcing-bar comprising a plurality of intertwisted rods of different lengths, said rods being each formed of a pair of strands the ends of which are bent laterally to form shearing members, the end of one strand of each pair terminating in a loop or hook adapted to receive the end of the adjacent strand.

8. A reinforcing-bar comprising a main supporting-rod having a plurality of superposed auxiliary rods of different lengths arranged in pairs and intertwisted therewith, the ends of the auxiliary rods being extended laterally in opposite directions from the center of the main rod to form shearing members, and each having one end thereof provided with a terminal loop adapted to receive the end of the adjacent rod.

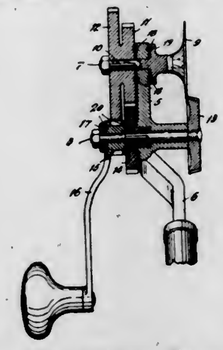
841,015. PEDAL-OPERATING DEVICE. HENRY JACOBSON, Perth Amboy, N. J. Filed May 21, 1906. Serial No. 318,010.



Claim.—1. A pedal-operating apparatus comprising a stool having a series of spring-pressed posts mounted to have vertical movements therein, legs having slots in their upper ends, U-shaped slotted members interposed between the tops of the legs and the plaform of the stool, bolts passing through apertures in the platform and through registering slots in said member and tops of the legs, as set forth.

2. An apparatus for operating pedals comprising a stool having its forward end upwardly turned with a depressed portion intermediate said upturned part and the rear of the top of the stool, an angled bar forming a series of loops, each of which is apertured, fastened to the under surface of the top of the stool, pedal-operating posts passing through registering apertures in said stool and loops, and a spring interposed between the top of the stool and the head of each post, as set forth.

841,016. HOOF-TRIMMER. PETER A. JENSEN, Seattle, Wash. Filed Mar. 23, 1906. Serial No. 307,663.



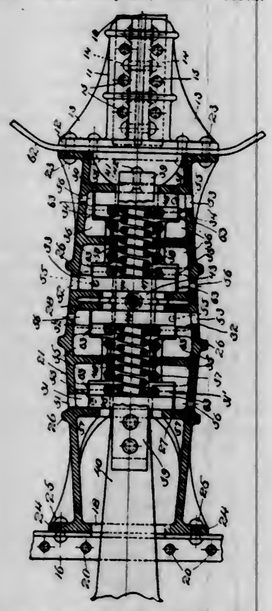
Claim.—1. In a hoof-trimmer, the combination of a frame provided with a handle-arm, two arbors rotatable in the frame, a disk cutter carried by one of said arbors, a spur-wheel carried by the other of said arbors, and means operated by a handle to rotate said arbors in different directions.

2. In a hoof-trimmer, the combination of a frame provided with a handle-arm, two arbors rotatable in the frame, a disk cutter carried by one of said arbors, a spur-wheel carried by the other of said arbors, and means operated by a handle to rotate said arbors in different directions and at different rates of speed.

3. A hoof-trimmer comprising a frame provided with a handle-arm, two arbors rotatably mounted in said frame, a disk cutter carried by one of said arbors, a wheel provided with peripheral spurs carried by the other of said arbors, and in juxtaposition with said cutter, two gears fixedly mounted upon the cutter-carrying arbor and respectively engaging with a fixed gear and a loose gear mounted upon the wheel-carrying arbor, said two last-named gears, and a handle operatively connected with said loose gear.

4. A hoof-trimmer comprising a frame, two arbors rotatably mounted in said frame, a disk cutter carried by one of said arbors, a wheel provided with peripheral spurs carried by the other of said arbors and in juxtaposition with said cutter, two gears fixedly mounted upon the cutter-carrying arbor and respectively engaging with a fixed gear and a loose gear mounted upon the wheel-carrying arbor, said two last-named gears, a handle operatively connected with said loose gear, means to prevent the displacement of said loose gear, and antifriction devices.

841,017. DRAFT APPLIANCE. FRANCIS JERDONE, Jr., Chicago, Ill. Filed July 25, 1906. Serial No. 327,754.



Claim.—1. In a draft-rigging, a barrel provided with openings formed in its walls, a yoke disposed and movable longitudinally within the barrel, cushioning members disposed within the yoke, and plates proportioned to be driven through the openings of the barrel and engaged and receive pressure from the spring.

2. In a draft-rigging, a barrel provided with openings formed through its walls, annular ribs formed within the barrel, a yoke member disposed and movable longitudinally within the barrel, cushioning members carried by the yoke, and plates proportioned to be driven through the openings of the barrel and engage the cushioning members and to bear against the annular ribs of the barrel.

3. In a draft-rigging, a barrel, a structure beam, means for rigidly securing the barrel to the beam, a yoke disposed within and movable longitudinally of the barrel, and means to permit the removal of the yoke from the barrel, said means being removable laterally through the wall of the barrel.

4. In a draft-rigging, a barrel, a structure beam, means for connecting the barrel to the beam, a yoke disposed and movable longitudinally within the barrel, plates disposed within the barrel, and arranged to receive pressure from the yoke, and means whereby the plates may be driven outwardly through the wall of the barrel.

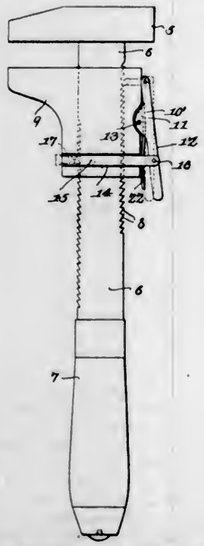
5. In a draft-rigging, a barrel provided with side openings, a structure beam, means connecting the barrel to the beam, a yoke disposed and movable longitudinally within the barrel, plates disposed within and bearing against the barrel structure, and arranged to receive pressure from the yoke, and means whereby the plates may be driven outwardly through the side openings of the barrel.

6. In a draft-rigging, a barrel provided with side openings, annular ribs formed within the barrel, longitudinal ribs formed within the barrel and between the annular ribs, a yoke disposed and movable longitudinally within the barrel, a cushioning member carried by the yoke, plates arranged to be inserted and removed through the side openings and to bear against the annular ribs and to receive pressure from the cushioning member.

7. In a draft-rigging, a barrel provided with side openings, spaced annular ribs formed within the barrel, longitudinally-extending ribs disposed between the annular ribs, a yoke member disposed within the barrel, a cushioning member carried by the yoke and bearing against the longitudinal ribs, plates proportioned to be driven through and removed from the side openings of the barrel, to bear against the annular ribs and receive pressure from the cushioning member, and means within the barrel to support the plates and permit a limited movement thereof longitudinally of the barrel.

8. In a draft-rigging, a car structure, a draw-head associated with the car structure, cushioning means disposed within the car structure, and arranged to receive buffing strains from the draw-head, a sleeve having tapered sides secured to the exterior of the car structure, and a cushioning member disposed within the sleeve and arranged to bear against the draw-head.

841,018. WRENCH. OTTO B. JORDAN, Wonewoc, Wis. Filed June 25, 1906. Serial No. 323,376.



Claim.—1. In a wrench, a stationary jaw provided with a shank, a movable jaw slidably mounted on the shank, locking-pawls carried by the movable jaw and adapted to engage the opposite longitudinal edges of the shank for locking the movable jaw in adjusted position, and a lever connecting said pawls and serving to release the same.

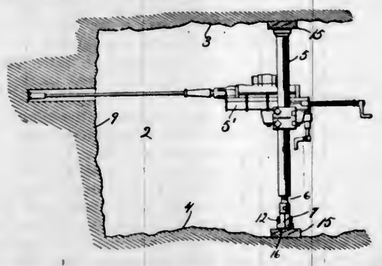
2. In a wrench, a stationary jaw provided with a shank having oppositely-disposed teeth, a movable jaw slidably mounted on the shank, locking-pawls carried by the movable jaw and adapted to engage the teeth on the shank for locking the movable jaw in adjusted position, and a spring-pressed lever connecting the pawls and serving to release the same.

3. In a wrench, a stationary jaw provided with a depending shank having oppositely-disposed teeth, a movable jaw slidably mounted on the shank and having its side walls provided with guiding-grooves, a ball slidably mounted in the guiding-grooves and provided with an integral pawl adapted to engage the teeth on one side of the shank, a pawl adapted to engage the teeth on the opposite side of the shank, and a spring-pressed lever pivotally mounted on the movable jaw and connecting the locking-ball and adjacent pawl, said lever serving to simultaneously release both locking-pawls.

4. In a wrench, a stationary jaw provided with a shank having oppositely-disposed teeth, a movable jaw slidably mounted on the shank and having its side walls formed with transversely-disposed guiding-grooves, a locking-ball slidably mounted in the grooves and provided with an inwardly-projecting pawl the free end of which is inclined or beveled for engagement with the teeth on one side of the shank, a pawl slidably mounted in an opening formed in the rear wall of the movable jaw and also provided with an inclined face for engagement with the teeth on the opposite side of the shank, a lever pivoted on the movable jaw and operatively connected with the locking-ball and adjacent pawl, and a spring interposed between the lever and the movable jaw for normally holding the locking-pawls in engagement with the teeth on said shank.

5. In a wrench, a stationary jaw provided with a depending shank having its opposite longitudinal edges formed with teeth, a movable jaw slidably mounted on the shank and provided with alined depressions, said movable jaw being formed with transversely-disposed guiding-grooves and having recesses formed in the front and rear walls communicating with the shank, a lever pivotally mounted on the movable jaw and provided with laterally-extending ears fitting within the depressions, a locking-ball pivoted to one end of the lever and having its closed end formed with an inwardly-projected locking-pawl adapted to engage the teeth on one side of the shank, a locking-pawl pivoted to the opposite end of the lever and slidably mounted in the adjacent opening in the movable jaw for engagement with the teeth on the opposite side of the shank, and a spring interposed between the handle and the movable jaw for normally holding the locking-pawls in engagement with the teeth on said shank.

841,019. FOOT-PLATE FOR DRILL-COLUMNS. ARTHUR D. KENYON, Cripple Creek, Colo. Filed Apr. 16, 1906. Serial No. 311,857.



Claim.—1. A foot-plate consisting of two parts of identical form, which may be used interchangeably.

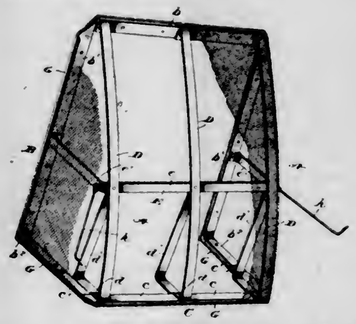
2. The combination with a supporting-column provided with a jack-screw, of a foot-plate for the latter made in two parts of substantially identical form, and means which not only secure said parts together but hold the foot-plate as a whole upon said screw.

3. The combination with the jack-screw of a drill-column, of a foot-plate made in two interchangeable parts, and means for holding said parts and said screw together.

4. The combination, with the jack-screw of a drill-column, of a pair of clamp members constructed and arranged to serve as a thrust-bearing for the end of said jack-screw and as a means for preventing rotation of the screw relatively to the foot-plate, and means adapted to operate said clamp members and support the latter upon said screw.

5. In combination, the column 5, jack-screw 6, the foot-plate 7 comprising the members 8 and 8' having grooves 9 and bolt-holes 13 therein, said jack-screw having a groove 14 adapted to be engaged by the bolts 12 arranged to clamp said members 8 and 8' together upon said screw either loosely or rigidly for the purpose set forth, and so as to provide an oil-space 11 communicating with the part 10 of said screw.

841,020. FIRE-SCREEN. SAMUEL KIPER, Duff, Ky. Filed May 15, 1905. Serial No. 260,530.



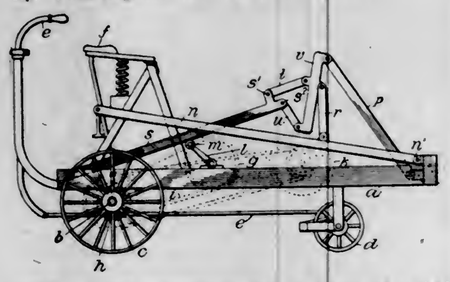
Claim.—1. In a fire-screen, an open framework comprising a U-shaped back portion, a U-shaped base portion extending from the extremities of said back portion, a plurality of longitudinally-disposed braces connecting the upper part of the back portion and the forward part of the base, supplementary supports for the frame extending rearwardly from the front edge of the base portion, vertically-disposed braces extending upwardly from the rear ends of said supplementary supports and connected to the longitudinally-disposed braces intermediate their connection with the back and base portions of the frame, and screening covering said frame.

2. In a screen for fireplaces, an open frame comprising a U-shaped back portion, a U-shaped base portion extending from the extremities of said back portion, a plurality of longitudinally-disposed inclined braces connecting the upper part of the back portion and the forward part of the base portion, the lower portions of said braces being bent rearwardly to form additional supports for the frame, and terminating at their rear ends in upwardly-extending braces, the upper ends of which are secured to the longitudinally-disposed braces intermediate their connection with the back and base portions of the framework, and screening covering said framework.

3. In a screen for fireplaces, an open framework comprising a U-shaped back portion, a U-shaped base portion extending from the extremities of said back portion, a plurality of longitudinally-disposed inclined braces connecting the upper part of the back portion and the forward part of the base portion, the lower portions of said braces being bent rearwardly to form additional supports for the frame, and terminating at their rear ends in upwardly-extending braces, the upper ends of which are secured to the longitudinally-disposed braces intermediate their connection with the back and base portions of the framework, a transversely-disposed U-shape brace member connecting said longitudinally-disposed braces intermediate the ends

thereof and having its ends secured to the back portion intermediate the top and bottom thereof, and screening covering said framework.

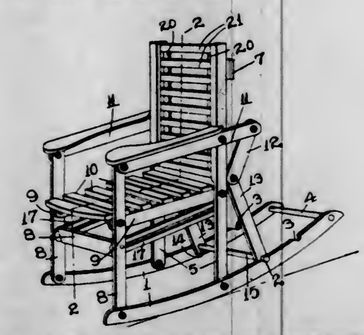
841,021. DRIVING MECHANISM WITH ALTERNATELY-ACTING LEVERS. FRIEDRICH KLEINVOGEL, Newport, Ky. Filed Aug. 24, 1906. Serial No. 331,931.



Claim.—1. The combination with a frame, of a shaft carried by the frame and having at its ends crank-arms provided with rollers, levers pivoted to the frame and engaging the rollers of the crank-arms, treadle-levers, connections interposed between the treadle-levers and the crank-engaging levers, bars pivoted to the frame and pivotally suspending the interposed connections, links pivoted to the crank-engaging levers and pivotally connected to the interposed connections below their suspension-points and links pivoted to the treadle-levers and also pivoted to the interposed connections below their suspension-points.

2. The combination with a frame, of an actuated lever pivoted thereto, an operating-lever pivoted to the frame, a connection interposed between the operating-lever and the actuated lever, and adapted to transmit power therebetween, a bar hinged to the frame and pivotally suspending the interposed connection, two links pivoted to the actuated lever and pivotally connected to one side of the interposed connection at independent points below the suspension-point of the connection, and a link pivoted to the operating-lever and also pivoted to the interposed connection at a point below its point of suspension, and at that side of the interposed connection opposite to the pivotal points of the links from the actuated lever.

841,022. COMBINED ROCKING AND RECLINING CHAIR. FERDINAND LAHM, St. Louis, Mo., assignor of one-half to Julius F. Hengelsberg, St. Louis, Mo. Filed Nov. 28, 1905. Serial No. 289,530.

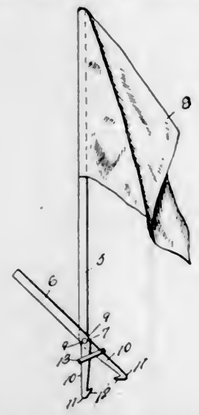


Claim.—1. The herein-described chair, constructed with a pair of rockers, posts extending upwardly from said rockers, a seat arranged between the posts, a back arranged between the two rear posts, arm-rails connecting each pair of side posts, and shifting links connected to the rear ends of the arm-rails and adjustably mounted on the rockers; substantially as specified.

2. The herein-described chair, constructed with a pair of rockers, there being notches formed in the tops of the rear portions of said rockers, posts extending upwardly from said rockers, a seat arranged between the posts, arm-rails connecting each pair of side posts, shifting links connected to the rear ends of the arm-rails, a rod connecting the lower ends of the lower pair of links the ends of which are adjustably seated in the notches in the rockers; substantially as specified.

3. The herein-described folding rocking-chair, constructed with a pair of rockers, a pair of posts pivotally secured at their lower ends to each rocker, a seat pivotally connected to the posts, arm-rails pivotally connected to the posts above the seat, a link pivotally secured to the rear end of each arm-rail, a link pivotally connected to the lower end of each of the first-mentioned links, the lower ends of the second pair of links being adjustably arranged on the rear portions of the rockers; substantially as specified.

841,023. RAILWAY-SIGNAL. WILLIAM E. LEMP, Mobile, Ala. Filed Oct. 13, 1906. Serial No. 338,807.

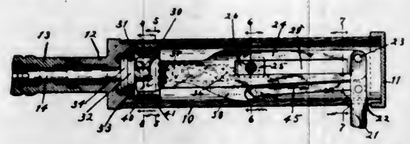


Claim.—1. In a device of the kind described, the combination with a pair of pivoted members having clamping-jaws adapted to coact with a support, each jaw including a straight body portion having its free end inbent, of an adjustable locking means coacting with said jaws for securing the same in position after attachment to such support, said means slidably embracing said jaws and having its lower edges adapted to be moved into binding contact with the body portion thereof; and a signal secured to the upper end of one of said members.

2. In a device of the kind described, the combination with a pair of pivoted members having clamping-jaws adapted to coact with a support, each jaw including a straight body portion having its free end inbent, of a flattened metal ring coacting with said jaws for securing the same in position after attachment to such support, said ring slidably embracing said jaws, and having its lower edges adapted to be moved into binding contact with the body portion thereof; and a signal secured to the upper end of one of said members.

3. In a device of the kind described, the combination with a pair of pivoted members bowed intermediate their ends and having clamping-jaws adapted to coact with a support, each jaw including a straight body portion having its free end inbent, of a flattened metal ring coacting with said jaws for securing the same in position after attachment to such support, said ring slidably embracing said jaws, and having its lower edges adapted to be moved into binding contact with the body portion thereof; and a signal secured to the upper end of one of said members, said bowed portions being directly toward each other with the pivot-bolt passing therethrough, to throw said signal outwardly beyond the vertical plane of the support.

841,024. MASSAGE-VIBRATOR. CHARLES N. LEONARD, Indianapolis, Ind., assignor to William D. Allison, Indianapolis, Ind. Filed Feb. 8, 1906. Serial No. 300,121.



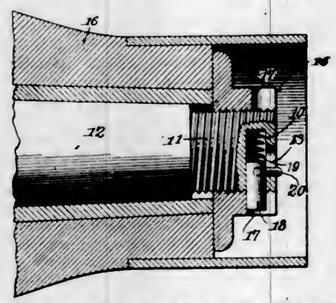
Claim.—1. In a massage-vibrator, a casing, an actuating-lever in said casing, a vibratory head with its stem extending into the casing and pivoted to one end of said lever, a shifting fulcrum for said lever, a block slidable in said casing in which said fulcrum is mounted, a threaded rod extending through said block and means outside the casing for rotating said threaded rod for shifting said fulcrum.

2. In a massage-vibrator, a casing, a lever within said casing, a vibratory head with its stem extending into said casing and pivoted to said lever, a rotary shaft at the other end of said casing and in line with said lever, an eccentric carried by said shaft with a pin in engagement with said lever for operating the latter, and means within the casing for guiding the actuated end of said lever in its vertical movements.

3. In a massage-vibrator, a casing, a lever within said casing, a vibratory head with its stem extending into said casing and pivoted to said lever, a rotary shaft at the other end of said casing, an eccentric carried by said shaft with a pin in engagement with said lever for operating the latter, and means pivotally connecting said lever with a stationary part for holding it in engagement with said eccentric-pin.

4. In a massage-vibrator, a casing, a lever fulcrumed between its ends in said casing, means for actuating one end of said lever, a vibratory head with the stem extending into the casing and pivoted to the other end of said lever, and a connecting-rod pivoted to said stem below its pivotal point with said lever and at its other end pivoted to a stationary part substantially below the fulcrum of said lever.

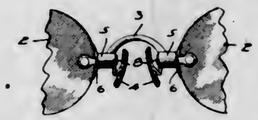
841,025. HUB-ATTACHING DEVICE. PHILIP LE SUEUR, Calabasas, Cal. Filed Jan. 31, 1906. Serial No. 298,858.



Claim.—1. In a hub-attaching device, the axle-journal having a transverse cavity in its threaded portion, the hub-securing nut having a plurality of spaced sockets registering with said cavity and increasing in depth progressively, a bolt movable in said cavity, means for projecting said bolt into said sockets one at a time, and means for withdrawing said bolt from said sockets.

2. In a hub-attaching device, the axle-journal having a transverse cavity in its threaded portion and a slot intersecting the cavity, said slot having a lateral extension at one end, a hub-securing nut having sockets registering with said cavity, a spring-actuated bolt movable in said cavity, and a pin connected to said bolt and extending through said slot and adapted to be seated in said lateral extension when the bolt is in withdrawn position.

841,026. EYEGLASSES. JOSEPH D. LEWIS, St. Paul, Minn. Filed Mar. 19, 1906. Serial No. 306,921.



Claim.—1. The combination, with a rigid bridge provided at its ends with horizontal guides in line with each other, of lens-clamps supported and arranged to slide on said guides, lenses supported by said clamps with their horizontal axes in the same plane with said guides and nose-guards carried by said clamps.

2. The combination, with a curved rigid bridge-piece adapted to fit the nose of the wearer, and provided at its ends with horizontal guides in line with each other, of lens-clamps supported and arranged to slide on said guides, nose-guards carried by said clamps, and springs tending to move said lens-clamps and nose-guards toward each other.

3. The combination, with a suitable bridge-piece provided at its ends with guides arranged in line with each other, of lens-clamps mounted and adapted to slide on said guides, lenses supported by said clamps with their horizontal axes in the same horizontal plane with said guides, nose-guards carried by said lens-clamps, and springs tending to move said lens-clamps and nose-guards toward each other.

4. The combination, with a rigid bridge provided at its ends with the hollow studs, sliding posts arranged in said studs, springs engaging said posts, and lens-clamps and nose-guards supported by and moving with said posts.

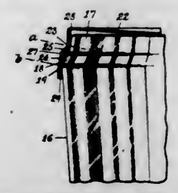
5. The combination, with the rigid bridge provided at its ends with the studs having horizontal openings therethrough in line with each other, sliding posts arranged in said studs, lens-clamps and nose-guards supported upon said posts, and springs arranged to move said lens-clamps and guards toward each other.

6. The combination, with the bridge provided at its ends with the studs having openings in line with each other, posts arranged in said openings and adapted to slide therein, lens-clamps secured to said posts, nose-guards also secured to said posts, and suitable springs arranged to engage said posts and to move said guards toward each other, substantially as described.

7. The combination, with the bridge, of the hollow stud 5 at each end thereof, the sliding post 6 arranged in said stud with a lens-clamp secured to one end of the post and a nose-guard to the other, and a spring engaging said post and arranged to move said guard inward, substantially as described.

8. The combination, with the bridge provided at each end with a hollow stud 5 having a longitudinal slot 7, of a combined post and lens-clamp 6 arranged in said hollow stud, a nose-guard 4 secured to said post, and a spring 9 arranged within said stud and engaging said guard, for the purpose set forth.

841,027. HERMETIC CLOSURE FOR RECEPTACLES. WILLIAM A. LORENZ, Hartford, Conn. Filed Apr. 11, 1904. Serial No. 202,503.



Claim.—1. The combination with a receptacle, of a closure therefor, comprising gasket material, and a cap provided with two sealing zones for wedging the gasket material against two different zones of the receptacle, to

establish two separated circles of contact, having a greater pressure than at the other portions of the gasket.

2. The combination with a receptacle, of a hermetic closure therefor comprising gasket material, and a cap having a plurality of annular zones, each inclined at an angle with the direction of the sealing movement of the cap for forming a plurality of wedging-closure joints upon the receptacle.

3. The combination of a receptacle provided with a plurality of annular sealing zones, gasket material therefor, and a cap provided with means for compressing the gasket material at an angle against each of the sealing zones of the receptacle, to establish the sealing pressure at two separated circles of hardest contact.

4. The combination with a receptacle provided with a plurality of annular tapering sealing zones, gasket material therefor, and a cap provided with means for compressing the gasket material at an angle against each of the said sealing zones of the receptacle, to divide the sealing pressure, and establish it at two separated circles of contact.

5. The combination of a receptacle provided with two separated tapering sealing zones of different diameters, compressible gasket material therefor, and a cap provided with means for compressing the gasket material at an angle against each of the sealing zones of the receptacle to form two wedging-closure joints.

6. The combination with a gasket, of a receptacle having two sealing zones, a flaring cap having two sealing zones for wedging the gasket against the two sealing zones of the receptacle, leaving an intermediate annular space substantially filled by the gasket between the two sealed joints, to divide the pressure and establish it at two separated circles of hardest contact.

7. The combination with a gasket, of a receptacle having two sealing zones, an intermediate receiving-seat for the gasket, and a flaring cap having two sealing zones for wedging the gasket against the two sealing zones of the receptacle, to divide the sealing pressure and establish it at two separated circles of hardest contact.

8. The combination with a gasket, of a receptacle having two separate sealing zones, intermediate receiving-seat for the gasket, a flaring cap having two sealing zones, and an intermediate portion between the two zones diverging from the intermediate seat of the receptacle, whereby the gasket is compressed at the two sealing zones with greater pressure than at the intermediate portion of the gasket.

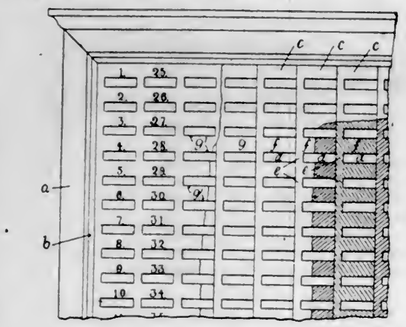
9. The combination of a receptacle provided with a rounded shoulder and with a tapering portion, forming two circumferential sealing zones, gasket material therefor, and a cap provided with a tapering portion and with a rounded shoulder for wedging the gasket against the aforesaid sealing zones of the receptacle, to establish increased pressure at two separated circular joints of the closure.

10. The combination of a receptacle provided with a tapering circumferential zone, and a circumferential shoulder below the said zone, gasket material therefor, and a cap provided with a circumferential shoulder, and with a tapering circumferential zone for compressing the gasket material against the tapering zone, and the shoulder, respectively, of the receptacle, to form two separated sealing-joints, each having a higher degree of pressure than the remaining portions of the gasket material.

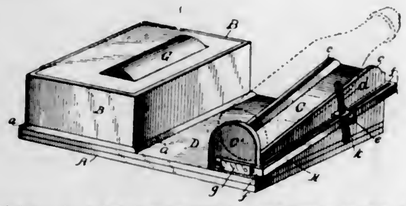
841,028. INDICATOR. RICHARDSON MACONOCHIE, Birmingham, England. Filed Sept. 21, 1905. Serial No. 279,449.

Claim.—1. A library or like indicator, including a plurality of slotted bars, said bars forming partition-strips, a covering for the face of the bars and having openings corresponding to and registering with the open ends of the pockets, and further provided with indicator-marks for the respective pockets, and a frame surrounding the said bars forming a case therefor.

2. An indicator of the class described including a plurality of panels having in one side thereof a series of slots, each separated a distance from each other to form pockets, the opposite sides of the panels forming partitions for the pockets, and a frame for holding the panels in a position contiguous with respect to each other.



841,029. LABELING-MACHINE. ANDRÉ MARCUS, Shreveport, La., assignor of one-half to August Cazeaux, one-fourth to Gus Klein, and one-fourth to Leopold Levy, Shreveport, La. Filed Mar. 27, 1906. Serial No. 308,267.



Claim.—1. A labeling-machine consisting of a base having at one end a paste-box projecting above the base and having a pan inside the same, and a paste-roller projecting through the top of the box, said base having also at its other end, a seat for holding the article to which the label is to be applied in a prone position and on substantially the same level as the paste-roller, said seat being spaced away from the paste-box, substantially as and for the purpose described.

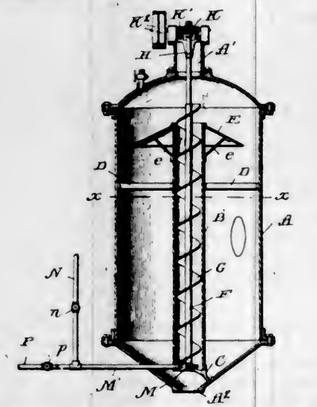
2. A labeling-machine consisting of a base having at one end a paste-box projecting above the base and having a pan inside the same and two paste-rollers, one dipping into the pan and the other in contact with the first and extending through a slot in the top of the box, and a seat for holding the article to which the label is to be applied in prone position and on about the same level of the upper roller, said seat being spaced apart from the paste-box as described.

3. A labeling-machine, consisting of a base having at one end a paste-box with slotted top, a glue-pan with two rollers in the paste-box, one dipping down into the glue-pan and the other extending through the slotted top of the paste-box, a seat for the article to be labeled, and a marker arranged at the side of the seat and adjustable in two directions.

4. In a labeling-machine, the combination of a base-board having an opening through the same, a glue-pan fitting within said opening, retaining devices for holding the pan in said opening, one or more distributing-rollers arranged above the pan, a paste-box inclosing the rollers and having a slotted top through which the surface of the roller may protrude and a seat for the article to be labeled located on the base-board and beside the paste-box.

841,030. APPARATUS FOR CRYSTALLIZATION. ALBERT L. MARSHALL, New Orleans, La. Filed Mar. 8, 1906. Serial No. 304,974.

Claim.—1. In a crystallizer, the combination with a tank for holding the liquid, of a scattering-plate above the liquid in said tank, a tube leading from near the base of said tank and opening above said scattering-plate, a pipe for supplying an air-blast opening into the base of said tube, a screw mounted in said tube, and means for rotating said screw, substantially as described.

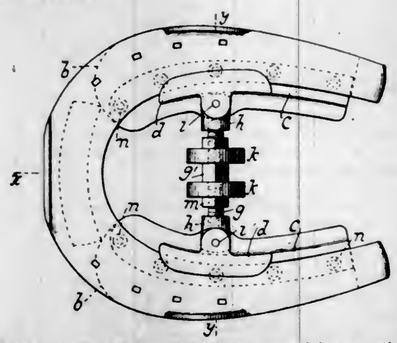


2. In a crystallizer, the combination with a tank for holding the liquid, and a scattering-plate above the liquid in said tank, of a tube open at both ends and leading from near the base of said tank to a point above said scattering-plate, an annular pipe opening into the base of said tube, a screw mounted in said tube, and means for rotating said screw, substantially as described.

3. In a crystallizer, the combination with a tank for holding the liquid, and a scattering-plate above the liquid in said tank, of a tube open at both ends and leading from near the base of said tank to a point above said scattering-plate, an annular perforated air-inlet pipe opening into the bottom of said tube, means for supplying air to said pipe, a screw journaled axially in said tube, and means for rotating said screw, substantially as described.

4. In a crystallizer, the combination with a tank for holding the liquid, of a scattering-plate above the liquid in said tank, a tube leading from near the base of said tank and opening above said scattering-plate, means for supplying an air-blast at the base of said tube, means for varying the temperature of the air in said blast, a screw mounted in said tube, and means for turning said screw, substantially as described.

841,031. PAD FOR HORSESHOES. ALFRED F. MARTINS, New York, N. Y., assignor of two-fifths to André Paluel De Marmon, Yonkers, N. Y. Filed Dec. 30, 1905. Serial No. 293,918.



Claim.—1. A pad for horseshoes comprising a pair of soft treads, a metal riser with flange permanently secured to each tread, and a screw for spreading the flange to engage the top of a shoe.

2. A pad for horseshoes comprising tread portions, a riser embodying two members each provided with a flange, and a screw, said riser being perforated for the passage therethrough of the screw to allow adjustment of the pad.

3. A pad for a horseshoe comprising tread portions with a riser embodying two members each provided with a flange, a transversely-extending adjusting-screw, and a tapped or screw-engaging piece hinged to the riser, the latter being perforated to allow the screw to extend from the hinge-piece through the riser.

4. A pad or the like for horseshoes comprising tread portions, and a transversely-extending adjusting-screw, said screw being provided with cushion-disks.

5. A pad or the like for a horseshoe comprising a tread, clamps for the tread, and a transversely-extending actuating-screw, said screw being provided with cushion-disks which rest against or touch the foot and prevent the screw from bending.

6. A horseshoe attachment comprising screw-actuated clamp or hinged pieces, and pads or the like having risers pressed by the screw and clamps against the inner edge of the shoe.

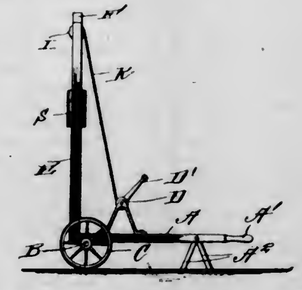
7. A pad for horseshoes comprising a tread formed of a plurality of members, a riser for each of said members, a screw-threaded clamp hinged to each of the risers, and an actuating-screw for the hinged clamps.

8. A pad for horseshoes comprising a tread formed of a plurality of members, a riser for each of said members, a screw-threaded clamp hinged to each of the risers, and an actuating-screw for the hinged clamps, said screw provided with a pair of cushion-disks.

9. A pad for horseshoes comprising a tread formed of two members, a plurality of risers straddling the shoe and connected to said members, a screw-threaded clamp hinged to the risers, and an actuating-screw for the clamps.

10. A pad for horseshoes comprising a tread formed of two members, a plurality of risers straddling the shoe and connected to said members, a screw-threaded clamp hinged to the risers, an actuating-screw for the clamps, and cushion-disks upon said screw.

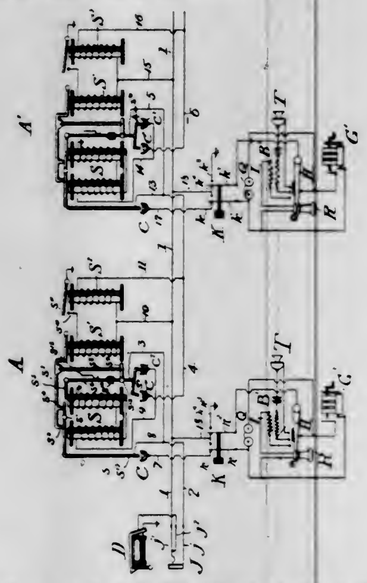
841,032. APPARATUS FOR DRIVING POSTS. JOHN A. MELLGREN, East Union, Minn. Filed June 15, 1906. Serial No. 321,906.



Claim.—An apparatus for driving posts comprising a truck with wheels at one end thereof and legs for supporting the opposite end of the truck, a standard rising from one end of the truck provided with intersecting cross-pieces fixed diagonally to the standard, guide-strips upon the inner faces of the upright portions of the standard, a weight mounted between the uprights of the standard and provided with fingers adapted to engage said guides, a headed lug projecting from the top of the weight, a cross-bar having T-shaped ends with grooves in the outer faces thereof adapted to receive said guides, the outer edges of the grooved ends of said cross-piece being flush with the opposite faces of the uprights of the standard, said cross-piece having an elongated slot, pivotal spring-engaging jaws mounted within said slot, the upper ends of the shank portions of said jaws being curved inwardly and adapted to contact with one of said diagonally-disposed braces, a rod

projecting from the cross-piece intermediate the jaws, and a cable connected to said rod and passing over a pulley upon the standard, and a windlass about which the cable is adapted to be wound, as set forth.

841,033. TELEPHONE-EXCHANGE SYSTEM. FRANK J. MERSMAN and JOSEPH MERSMAN, Ottawa, Ohio. Filed Apr. 14, 1906. Serial No. 311,734.



Claim.—1. In a selective signaling system, a metallic circuit subscriber's line having one side normally continuous and the other side normally broken at each station, a telephone at each station a polarized relay at each station normally connected to the end of the broken conductor leading to the next preceding station, means controlled by said relay for closing the telephone-circuit and for completing the broken conductor to the next succeeding station, and means controlled by an operator to send current impulses over the line, substantially as described.

2. In a selective signaling system, a metallic circuit subscriber's line having one side normally continuous and the other side normally broken at each station, a polarized relay at each station normally connected to the end of the broken conductor leading to the next preceding station, means controlled by said relay for completing the broken conductor to the next succeeding station, a restoring-magnet for each station, and means controlled by an operator for sending pulsations of current to work both the relay and the magnet, substantially as described.

3. In a selective signaling system, a metallic circuit subscriber's line having one side normally continuous and the other side normally broken at each station, a polarized relay at each station normally connected to the end of the broken conductor leading to the next preceding station, means controlled by said relay for completing the broken conductor to the next succeeding station, a restoring-magnet for each station, a high-wound relay bridged across the metallic circuit and controlling the circuit of the restoring-magnet, and means controlled by an operator for sending pulsations of current to operate said magnets and relays, substantially as described.

4. In a selective signaling system, a metallic circuit subscriber's line having one side normally continuous and the other side normally broken at each station, a polarized relay at each station normally connected to the end of the broken conductor leading to the next preceding station, means controlled by said relay for completing the broken conductor to the next succeeding station, a restoring-magnet connected on one side of the continuous side of line and having a normally broken ground connection on its other side, a high-wound relay bridged across the line at each station and adapted when energized to complete the ground connection of the restoring-magnet, and means controlled by an operator to send proper pulsations of current to energize the several magnets, substantially as described.

5. In a party-line telephone system a metallic circuit with a plurality of subscribers' stations thereon, a polarized relay at each station, a telephone talking set also at each station, one side of the line being continuous through all the stations and the other side broken at contacts at each station, means controlled by movement in one direction of said relay to close the local telephone-circuit across the line, and to maintain succeeding stations disconnected, said means serving upon a reversal of current to open the local telephone-circuit and to complete the metallic circuit to the succeeding station, a restoring-magnet for said means, and a controlling-relay for said restoring-magnet, said controlling-relay being high-wound and permanently bridged across the metallic circuit, substantially as described.

6. In a party-line telephone system a selective relay at each station, a restoring-magnet in a normally incomplete circuit, and a bridged controlling-relay for the restoring-magnet, substantially as described.

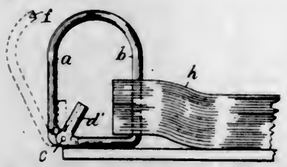
7. In a party-line telephone system a line-circuit, a plurality of substations on said circuit, means at each station to selectively complete the local telephone-circuit, restoring means therefor, a controlling-relay therefor high-wound and permanently bridged across the line, a source of current a key controlled by an operator for bridging said source of current to operate said controlling-relay, and a generator also controlled by the operator to energize the restoring means, substantially as described.

8. In a party-line telephone system, a circuit extending to a plurality of stations and being in part discontinuous at each station, a relay at each station responsive to current in the continuous portion of the line for controlling the local telephone-circuit at its own station, and means actuated by said relay for also controlling the circuit at the next station, substantially as described.

9. In a party-line telephone system, a metallic line-circuit extending to a plurality of stations, one side of said circuit being continuous through all the stations and the other side normally broken at each station a polarized magnet normally connected to the broken side of the circuit at each station, an armature controlled by said magnet and itself controlling the local telephone-circuit at said station, together with a second armature for the same magnet and a circuit-closer actuated thereby for controlling the continuity of the normally broken circuit to a succeeding station, substantially as described.

10. In a selective device for telephone systems, a polarized switching-relay having a tilting armature and a permanent magnet in combination with a restoring-magnet having an armature adapted to engage the tilting armature of the said relay with equal force at points on opposite sides of its fulcrum, so as to restore it to neutral position after it has been tilted either way, substantially as described.

841,034. BOOK-RING WITH LOCKING-ARMS. LUCENA M. MORDEN, Waterbury, Conn. Filed Feb. 17, 1906. Serial No. 301,690.



Claim.—1. A circular book-ring comprising two curved sections jointed together, having integral locking-arms extended into the space within the ring and operating by contact with one another when the ring is closed, to hold the sections in their closed position.

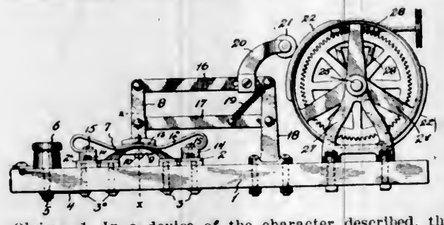
2. A book-ring comprising two sections jointed together, and having integral locking-arms extended inwardly from the joint and arranged to press laterally against one another when the ring is closed.

3. A book-ring comprising two sections jointed together and having integral locking-arms extended inwardly from the joint, the arms having flattened faces arranged to press elastically upon one another when the ring is closed.

4. A book-ring comprising two sections formed of wire jointed together and flattened at the joint and having integral locking-arms extended inwardly from the joint, the joint being shaped to preserve the exterior curvature of the ring and the arms being flattened and bowed outwardly, and their opposed faces arranged to press elastically upon one another when the ring is closed.

5. A book-ring comprising two sections jointed together and having integral locking-arms extended inwardly from the joint and arranged to press laterally against one another when the ring is closed, the free ends of the arms being provided with a stud and socket to engage and prevent lateral displacement when closed.

841,035. ELECTRICAL SWITCH. JOHN E. MORRIS, Columbus, Ohio, assignor of one-half to Edward Glaze, Columbus, Ohio. Filed July 28, 1905. Serial No. 271,590.



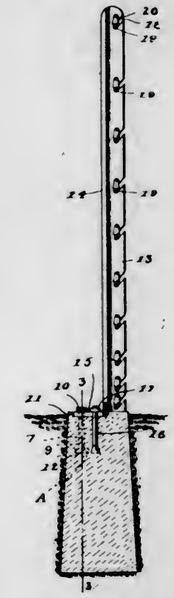
Claim.—1. In a device of the character described, the combination with a base, of a fixed support mounted upon said base, a pair of parallel arms pivoted to said fixed support, a hanger to which the free ends of said parallel arms are pivoted, a spring adapted to lift said arms and said hanger, a pair of separated contact-plates mounted upon the base, a connecting member carried by the hanger and adapted to connect said plates when said hanger is at its lowest limit of movement, a rotative member, cams carried by said rotative member, an arm carried by one of the pivoted parallel arms, and an antifriction-roller carried by said arm and adapted to be engaged by said cams.

2. In a device of the character described, the combination with a base, a fixed support, a pair of parallel arms pivoted to said fixed support, a hanger to which the free ends of said arms are pivotally connected, a spring one end of which is connected to said support and the other end of which is connected to one of the parallel arms, means for intermittently forcing said arms downwardly against the tension of said spring, separated contact-plates, a plurality of contact members carried by the hanger and adapted to connect said contact-plates when the hanger is at its lowest limit of movement, a member carried by one of the parallel pivoted arms, and a roller carried by said member.

3. In a device of the character described, the combination with a base, of a fixed support, a pair of parallel arms pivoted to said fixed support, a hanger to which the free ends of said arms are pivoted, contact-plates, a plurality of contact members carried by the hanger and adapted to connect said contact-plates when the hanger is at its lowest limit of movement, means for lifting said hanger and said contact members from the contact-plates, a roller supported from one of the pivoted parallel arms, and members adapted to intermittently engage said roller to force the hanger downward.

4. In a device of the character described, the combination with a fixed support, of a pair of parallel arms pivoted to said fixed support, a hanger to which the free ends of said arms are pivoted, a pair of separated contact-plates, a contact member carried by said hanger and adapted to connect said contact-plates, a resilient member for withdrawing said contact member from said contact-plates, a member connected to one of the pivoted parallel arms, a rotative member, and members carried by said rotative member and adapted to engage the member carried by the pivoted parallel arm to force said arms downwardly or against the tension of the resilient member.

841,036. FENCE-POST. HARVEY P. MORSE, Dundee, Mich. Filed June 8, 1906. Serial No. 320,826.



Claim.—1. The combination with a base, of a yoke carried by the base and extending thereabove, a fastening device engaged in the base at one side of the yoke, a post, having spaced feet engaged beneath the yoke and at opposite sides of the fastening device, said fastening device being so arranged to hold the feet against movement.

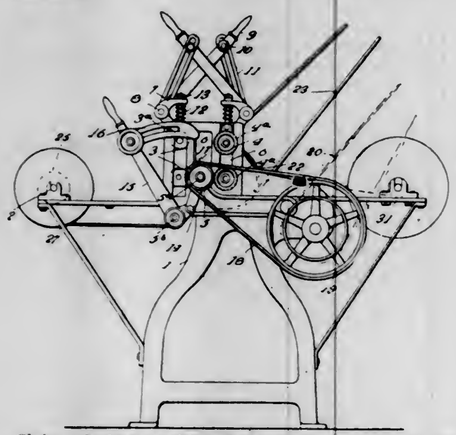
2. The combination with a base, of a post disposed thereupon, spaced feet carried by the post at its lower end, a yoke carried by the base, said feet being removably engaged in the yoke, and means for holding the feet against removal from the yoke.

3. The combination with a base, of a yoke engaged in the base and extending thereabove, a post having spaced feet engaged beneath the yoke and a fastening device engaged in the base and lying between the feet and arranged to hold the post against movement, said feet being formed integral with the post.

4. The combination with a plastic base, having a recess in its upper surface, of a yoke embedded in the base and including a top member extending across the recess, a post having spaced feet engaged in the recess and extending beneath the yoke, a bolt embedded in the base and extending upwardly between the feet, and between the yoke and the post and a nut engaged with the bolt and bearing upon the feet to hold the post against movement.

5. A base for posts having a yoke engaged therein with its bight above the upper surface of the post, the legs of the yoke being embedded in the post and having a connected member at their lower ends extending laterally beyond the legs to form wings, said yoke being arranged for engagement of post portions between it and the base.

841,037. SLITTING-MACHINE. MELVIN MCKINLEY, Coshocton, Ohio, assignor of one-half to R. F. Timmons, Coshocton, Ohio. Filed Mar. 21, 1906. Serial No. 307,283.



Claim.—1. In a machine of the character described, the combination of a shaft designed to support a roll of the material to be slit, tension-rolls and feed-rolls, a slitter-shaft between the two sets of rolls, a series of disk knives on said shaft, a rocking supporting-shaft and means for rocking the same, and a toggle connection between said shaft and the cutter-shaft, as and for the purpose set forth.

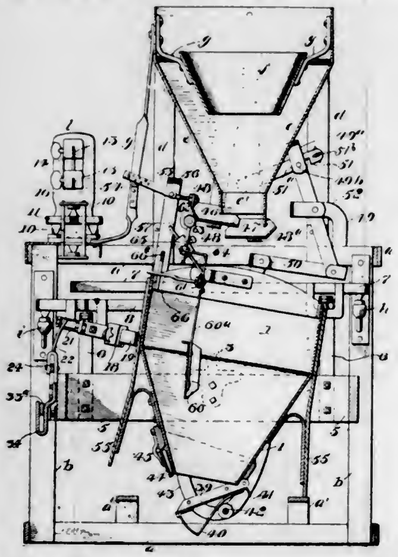
2. A cloth-slitting machine comprising a framework provided with three pairs of vertically-extending guideways, an upper and a lower tension-roll in one pair of guideways, an upper and a lower feed-roll in another pair of guideways, a cutter-shaft in the intermediate pair of guideways and provided with a series of slitting-disks, two transverse shafts in the framework provided with cranks at their ends, and with operating-handles, means for holding said handles at different inclinations whereby to turn said transverse shafts and hold the same in different positions, pins supporting the uppermost feed-roll and tension-roll, and mounted in the cranks of said shafts, and supported thereby, and springs encircling said pins, and bearing underneath said cranks, as and for the purpose set forth.

3. In a machine of the character described, the combination of an upper and a lower extension-roll and an upper and a lower feed-roll and slitting mechanism between said two sets of rolls, pins supporting the uppermost feed-roll and extension-roll, cranks in which said pins are mounted and from which they are suspended, means for adjusting said cranks whereby to hold said pins and the upper rolls at different elevations, and springs encircling said pins and bearing underneath said cranks as and for the purpose set forth.

841,038. AUTOMATIC WEIGHER. ANGUS MCLEOD and JOHN H. MCLEOD, Marietta, Kans. Filed Apr. 28, 1906. Serial No. 314,288.

Claim.—1. In a weighing-machine, the combination with a weighing-beam, weighing-levers operatively connected therewith, and a hanging support, of a hopper which is pivoted eccentrically on such support and provided with a forwardly-extending arm, mechanism for engaging and locking said arm, and means operatively connected with the weighing-levers for releasing such mechanism and allowing the hopper to tilt when a load of the required weight has been received, substantially as described.

2. In a weighing-machine, the combination with weighing mechanism and a support connected therewith, of a weighing-hopper pivoted eccentrically on said support and having a bottom-closure consisting of a plate hinged at one side and provided with an arm inclined downward from the hinged side of the valve, and a support on which it is adapted to slide, the same consisting of a hanger pendent from the hopper-support and a shaft and a roller journaled thereon, the arrangement being such that when the hopper is in the normal receiving position the valve is closed, but upon receiving a load and tilting backward the inclined arm slides forward on its support and thus allows the valve to open for discharging, as described.



3. In a weighing-machine, the combination with weighing mechanism, and a hopper-support pendent therefrom, of a weighing-hopper pivoted on said support and provided with a bottom valve which is hinged at one side, a support for said valve by which it is closed when the hopper is in normal position and allowed to open automatically when the hopper tilts, a guard-valve hinged on the opposite side of the hopper, and means for holding it in position to strike and slide upon the discharge-valve when the hopper tilts back to its normal position, substantially as described.

4. In a weighing-machine, the combination with weighing mechanism proper including pivoted levers and a frame suspended therefrom, of a weighing-hopper pivoted on such frame and having a forwardly-extended arm and a pivoted latch for engaging the same, and a device for locking the latch in position to lock the arm so that the hopper is prevented from tilting until the required load has been received, and a trip device connected with the weighing mechanism for tilting the aforesaid device and thereby releasing the latch, substantially as described.

5. In a weighing-machine, the combination with weighing mechanism and a hopper-support operatively connected therewith, of a weighing-hopper pivoted on said support and having a forwardly-extended arm, a latch pivoted and arranged vertically and provided on one side with a shoulder for engaging said arm and on the opposite side with another shoulder, a locking device consisting of a bar pivoted on the hopper-support and weighted at one end and adapted for sliding contact with the adjacent shouldered portion of the latch, and a trip device connected with and pendent from the weighing-levers, whereby, when the latter are depressed by the load in the hopper, the said device is tilted and releases the locking-latch, substantially as described.

6. In a weighing-machine, the combination with weighing mechanism proper and a support pendent therefrom, of a hopper pivoted eccentrically on said support and provided with a forwardly-extending arm, a pivoted latch for engaging said arm, a device which holds said latch normally engaged with the arm, and a trip pendent from the weighing mechanism and adapted, when the required load is in the hopper and the levers are depressed, to release the latch, substantially as described.

7. In a weighing-machine, the combination with weighing mechanism and a hopper-support pendent therefrom, of a weighing-hopper pivoted on said support and provided with a forwardly-extended arm, an elbow-lever pivoted on the hopper-support and arranged with its upper member inclined to a vertical plane in which the extremity of said arm moves as the hopper tilts, a register, and mechanism operatively connecting it with the horizontal member of said lever, whereby the register is operated automatically when the hopper tilts and the elbow-lever is automatically restored to normal position with the hopper, substantially as described.

8. In a weighing-machine, the combination with a fixed receiving-hopper and a pivoted weighing-hopper arranged below it, of a valve for regulating the flow of grain from the fixed hopper into the pivoted hopper, the same being provided with swinging supports, latches pivoted thereto, arms extending upward from the front side of the tiltable hopper and provided with means for engaging said latches, and means connected with the pivoted hopper for automatically releasing the latches and thus allowing the valve to swing beneath the receiving-hopper and arrest the flow of grain in part, substantially as described.

9. In a weighing-machine, the combination with a fixed receiving-hopper and a pivoted weighing-hopper arranged below it, of a valve for regulating the flow of grain from the fixed hopper into the pivoted hopper, the same being provided with swinging supports, latches pivoted thereto, arms extending upward from the front side of the tiltable hopper and provided with means for engaging said latches, means connected with the pivoted hopper for automatically releasing the latches and thus allowing the valves to swing beneath the receiving-hopper and arrest the flow of grain in part, and a second valve having a swinging support, and means operatively connecting it with the pivoted hopper, whereby, when the latter tilts, the last-named valve is released and allowed to swing forward to entirely cut off the flow of grain, substantially as described.

10. In a weighing-machine, the combination with a pivoted tiltable weighing-hopper and a receiving-hopper adapted to discharge thereinto, of a valve having a swinging support, means connected with the tilting hopper for retracting it, and other means arranged within the said hopper and serving, when the latter has filled to a certain degree, to automatically release the valve whereby it is allowed to swing beneath the receiving-hopper and partly arrest the flow of grain before the weighing-hopper tilts, and a cut-off valve arranged opposite the first-named valve, means for suspending it whereby it is adapted to swing beneath the receiving-hopper, and link-and-lever mechanism operatively connected with the tilting hopper whereby it is positively retracted when the latter swings to normal position and is automatically released when the same is tilted by its received load, substantially as described.

11. In a weighing-machine, the combination with a weighing-hopper pivoted and adapted to tilt, of a receiving-hopper arranged above it, a cut-off valve and a swinging support therefor whereby it is adapted to pass beneath the fixed hopper, a lever pivoted on the main frame of the machine, a link connecting it with the tilting hopper, and a second link pivoted to the valve-hanger and connected at its outer end with the aforesaid lever, the link being provided with a notch and the lever with a pin for engaging the outer shoulder of the same, whereby, when the hopper is tilted, the valve is released to swing to closing position by gravity but is positively retracted by the lever when the hopper tilts back to normal position, substantially as described.

12. In a weighing-machine, the combination with a pivoted tilting hopper and a receiving-hopper arranged above it, of a valve and a hanger therefor arranged so that the valve is adapted to swing beneath the hopper, means connected with the weighing-hopper for retracting the valve when the hopper tilts to normal position, and a device arranged within the weighing-hopper and pivoted, and provided with means for releasing the aforesaid valve when pressed backward by the grain accumulated in the weighing-hopper, substantially as described.

13. In a weighing-machine, the combination with a pivoted tiltable weighing-hopper and a fixed hopper for discharging thereinto, of a movable valve for regulating the flow of grain from the fixed hopper, and a movable device arranged within the weighing-hopper and operatively connected with the said valve, whereby the latter is automatically released when the weight and pressure of the grain within the weighing-hopper reach a certain maximum, substantially as described.

14. In a weighing-machine, the combination with a pivoted tiltable weighing-hopper and a receiving-hopper arranged above it, of a valve for regulating the flow of grain from the latter, said valve being supported and adapted to move from the normal retracted position to a position beneath the hopper, latches pivoted to the valve and arms attached to the weighing-hopper and having parts that engage the latches, a movable device arranged within the hopper in position to be acted upon by the pressure of the grain accumulated therein, and devices connected therewith and extending upward in position for contact with said latches, whereby, as the device within the hopper is tilted, the latches are released automatically and the valve thereby allowed to move to closing position before the weighing-hopper tilts, substantially as described.

15. In a weighing-machine, the combination with a pivoted, tiltable, weighing-hopper and a receiving-hopper adapted to discharge thereinto, of a valve which is movably connected with the fixed hopper for regulating the flow of grain therefrom, latch mechanism which operatively connects such valve with the weighing-hopper, and a plate pivoted within the latter and counterweighted for holding it in a certain normal position, and devices connected with the plate and extended upward whereby when a certain amount of grain has accumulated within the weighing-hopper the latch mechanism is automatically operated to release the regulating-valve, substantially as described.

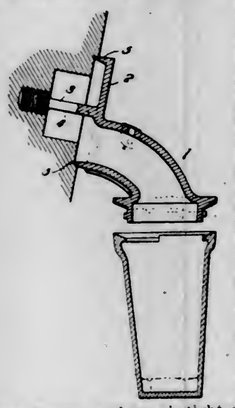
16. In a weighing-machine, the combination with a pivoted tilting weighing-hopper and a fixed hopper adapted to discharge thereinto, of a valve having a swinging support and adapted to partially cut off the flow of grain from the fixed hopper, latches pivotally connected with the valve and arms attached to the weighing-hopper which are engaged by the latches so that the valve is retracted when the weighing-hopper tilts back to its normal receiving position, a plate supported within the weighing-hopper and pivoted to the latter, vertically-adjustable rods connected with the pivotal support of said plate and extending upward so that they are adapted for contact with the latches when swung backward by the forward movement of said plate due to pressure of grain in the weighing-hopper, whereby the latches are raised and automatically released to allow the valve to close automatically, as described.

17. In a weighing-machine, the combination with a tilting weighing-hopper and a fixed hopper arranged to discharge thereinto, of a valve for regulating the flow of grain from the fixed hopper, latch mechanism operatively connecting the valve with the weighing-hopper, whereby the former is retracted when the hopper swings to its normal position, said mechanism being adapted to be released automatically to allow the valve to swing to the closing position, a plate pivoted within the weighing-hopper and counterbalanced as described, a rigid arm projecting from and pivoted to said plate, a stop for limiting its movement, and devices connected with the plate and extending upward and adapted to operate the latch mechanism automatically and thus release the valve when a due weight and pressure of grain have accumulated in the weighing-hopper, substantially as described.

841,039. SAP-EXTRACTOR. VINCENT P. MCVOY, Pensacola, Fla., assignor to James W. Wade, Mobile, Ala. Filed Oct. 16, 1906. Serial No. 339,264.

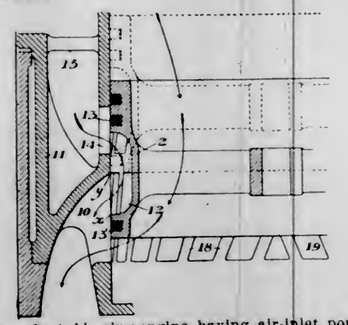
Claim.—A sap-collector comprising a spout having at its upper end a flange, a circumferential rib on the inner face of such flange formed with a knife-edge, a threaded

post extending from the flange for engaging the tree and holding such knife-edge tight against the face of the lat-



ter around a bore therein, and an air-tight receptacle detachably fitted to the lower end of said spout.

841,040. BLOWING-ENGINE VALVE. MARVIN A. NEELAND, Youngstown, Ohio. Filed Mar. 31, 1904. Serial No. 201,014.



Claim.—1. A blowing-engine having air-inlet ports and a valve controlling said ports, said valve and ports being arranged to maintain a substantially constant inlet-port opening through a period after the maximum port-opening and during the closing movement of the valve and while it is so moving; substantially as described.

2. A blowing-engine having air-inlet ports, a valve controlling said ports, the valve and ports being arranged to vary the port area during the middle portion of the piston suction-stroke, and then to maintain said area approximately constant through a period near the end of the said stroke; substantially as described.

3. A blowing-engine having an air-inlet port, and an air-inlet valve arranged to provide two ports or passages to the said port, one of said ports or passages, during a portion of the valve-stroke, being arranged to increase the area while the other port or passage decreases in like proportion; substantially as described.

4. A blowing-engine having cylinder air-inlet ports, an inlet-valve having two ports through which air flows to the cylinder-ports, these two ports being arranged to maintain a substantially constant inlet area during a portion of the closing stroke of the valve at a period following the maximum port-opening; substantially as described.

5. A blowing-engine having a reciprocating valve of ring form with an air-port leading therethrough, and having also an annular port around its periphery; substantially as described.

6. A compressor having an inlet-valve and ports arranged to maintain a substantially constant inlet-port area during a portion of the valve-stroke between the mid and end positions of the valve and while the valve is constantly moving; substantially as described.

7. A compressor, having a double-ported inlet-valve arranged to maintain a substantially constant inlet-port area during a portion of the valve-stroke between its mid and end positions, in combination with actuating connections for said valve arranged to slow the travel of the valve during its port-closing position relatively to its travel at other positions, and thus decrease the length of its movement during its port-closing position; substantially as described.

8. A blowing-engine having a valve-cage with an annular port provided with inclined bridges, the bridges at one portion of the cage being inclined in opposite directions to those at the other portion of the cage; substantially as described.

9. In a fluid-compressor, a valve-cage having an annular chamber in its wall, said chamber communicating with the interior of the cage, said cage having ports communicating with the compressor-cylinder, and a reciprocating inlet-valve of ring form seated in said cage and arranged to control the communication between the said annular chamber and the cylinder-ports, said valve also having a port leading through its body and arranged to admit air to the cylinder-ports below the lower edge of the valve; substantially as described.

10. In a blowing-engine, a ring-valve with an annular recessed port and two or more packing-rings, a cylindrical cage for the valve with one set of ports leading to the cylinder and another set leading to the atmosphere, and a ring between said sets of ports, one or more of the packing-rings of the valve being in contact with the ring between the sets of ports when the valve is closed; substantially as described.

11. In a blowing-engine, a ring-valve with an annular recessed port and two or more packing-rings, a cylindrical cage for the valve with one set of ports leading to the cylinder, and another set leading to the atmosphere, and a ring between said sets of ports, and actuating connections between the valve and a movable part of the engine, said connections containing a toggle-joint substantially in a straight line when one of the packing-rings of the valve is in contact with the ring between the sets of ports in the closed position; substantially as described.

12. In a fluid-compressor, the combination with a compressor-cylinder, of a valve-casing, a chamber therein open to the atmosphere at one end and closed at the other end, said chamber having ports through its inner wall, and a valve arranged to control the communication of said ports with the compressor-cylinder, and also to simultaneously admit air to the cylinder below its lower edge; substantially as described.

13. In a fluid-compressor, an inlet-valve, having two sets of inlet-ports arranged to admit air to the cylinder, said ports, during a portion of the valve-stroke, being arranged to combinedly maintain a substantially constant inlet area; substantially as described.

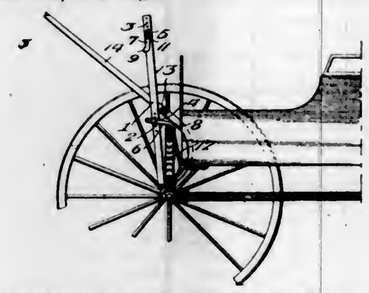
841,041. SHAFT OR TONGUE SUPPORT FOR VEHICLES. WILSON NOLES, Montrose, Iowa. Filed Dec. 26, 1905. Serial No. 293,344.

Claim.—1. A shaft or tongue support comprising a bar having transverse pivot-supports, and a pair of hooks arranged upon one side of the bar and pivoted one above the other to said supports to swing respectively forwardly and rearwardly of the bar.

2. A device of the character described comprising a bar provided with pivoted hooks thereon arranged one above the other, the upper hook having a laterally-projecting terminal extending in front of the bar to engage the hammer-strap of a tongue.

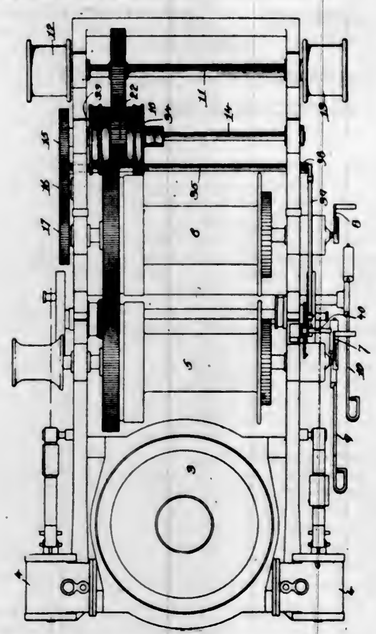
3. A shaft or tongue support comprising a bar provided with means of engagement to the front axle-spring of a vehicle and above such means with a pivoted hook having a laterally-projecting portion extending in front of the bar to engage the hammer-strap of a tongue.

4. A shaft or tongue support comprising a bar having hooks arranged one below the other for respective engagement with the front axle-spring of the vehicle and the hammer-strap of a tongue.



5. A shaft or tongue support comprising a bar, hooks pivotally mounted upon the bar, one above the other, and adapted respectively for forward and rearward swinging movement, the upper forwardly-swinging hook being provided with a lateral extension in front of the bar to engage the hammer-strap of a tongue.

841,042. HOISTING-ENGINE. ALMON E. NORRIS, Cambridge, Mass. Filed Nov. 22, 1905. Serial No. 288,524.



Claim.—1. A hoisting-engine, a derrick-swinging shaft having a gear thereon, a driving-shaft operated by the hoisting-engine, a driving-gear loose on the driving-shaft and meshing with the gear on the derrick-swinging shaft, two trains of normally inoperative gearing connecting the driving-gear with the driving-shaft, one adapted to rotate the driving-gear in one direction and the other to rotate the driving-gear in the other direction, and means to render either train of gears operative.

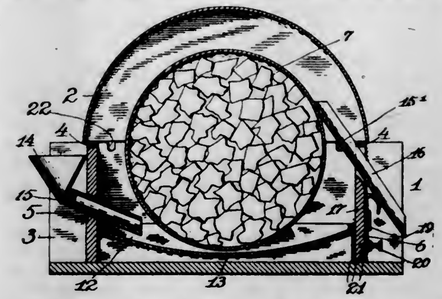
2. A hoisting-engine, a derrick-swinging shaft having a gear thereon, a driving-shaft operated by the hoisting-engine, a driving-gear loose on the driving-shaft and meshing with the gear on the derrick-swinging shaft, and two sets of gearing each including a resistance member for rotating the driving-gear, one set of gearing operating to rotate the driving-gear in one direction and the other set to rotate it in the opposite direction.

3. In a hoisting-engine, a driving-shaft connected thereto to be driven thereby, a derrick-swinging shaft situated in front of the driving-shaft and having a gear thereon, a driving-gear loose on the driving-shaft and meshing with that on the derrick-swinging shaft, two trains of geaging connecting the driving-gear with the driving-shaft, each train of gearing including a brake member, a band-brake coöperating with each brake member, and means for operating either band-brake, said means being situated adjacent the controlling means for the hoisting-drum.

4. A hoisting-engine including a drum and means for controlling the same, a derrick-swinging shaft situated at the front of the drum and having a gear thereon, a driving-shaft having a gear loose thereon, which gear meshes with the gear on the derrick-swinging shaft, two sets of gearing for rotating the driving-gear in either direction from the driving-shaft, and means situated adjacent the drum-controlling means for controlling the operation of the two sets of gearing.

5. A hoisting-engine, a driving-shaft connected thereto to be driven thereby constantly in one direction, two gears fast on the driving-shaft, a driving-gear loosely mounted on said shaft, two brake members also loosely mounted on said shaft, one of said brake members carrying a plurality of pinions meshing both with one of the gears on the driving-shaft and a gear rigid with the driving-gear, said driving-gear having a plurality of pinions meshing with the other gear fast on the driving-shaft and the other resistance member, and a brake for each resistance member.

841,043. LIQUID-FREEZER. MELVIN W. PALMER, Catskill, N. Y. Filed Jan. 20, 1906. Serial No. 296,934.



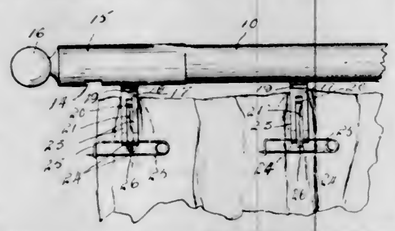
Claim.—1. In a liquid-freezer, a casing, a pan located therein, a cylinder rotatably journaled therein, a removable adjustable scraper-chute adapted to be mounted at either end of said casing in line with the cylinder, removable interchangeable end pieces, an adjustable plate mounted on one of said end pieces and having a projection adapted to bear against and support the lower end of the scraper-chute and a funnel mounted in the other one of said end pieces and projecting into said casing over said pan, substantially as described.

2. In a liquid-freezer, a casing, a pan located therein, a cylinder rotatably journaled therein and having means adapting it to be turned from either side, a removable adjustable scraper-chute adapted to be mounted at either end of said casing in line with the cylinder, removable interchangeable end pieces, an adjustable plate mounted on one of said end pieces and having a projection adapted to bear against and support the lower end of said scraper-chute and a funnel mounted in the other one of said end pieces and projecting into said casing over said pan, substantially as described.

3. In a liquid-freezer, a casing, a pan located therein, a cylinder rotatably journaled therein, a removable adjustable scraper-chute adapted to be mounted at either end of said casing in line with the cylinder, removable inter-

changeable end pieces, an adjustable plate mounted on one of said end pieces and having a spring projection adapted to bear against and yieldably support the lower end of the scraper-chute and a spring-pressed pin adapted to engage said end piece and lock said plate in its adjusted position and a funnel mounted in the other one of said end pieces and projecting into said casing over said pan, substantially as described.

841,044. CURTAIN-POLE. JOSEPH PERRY, Providence, R. I. Filed Aug. 13, 1906. Serial No. 330,331.



Claim.—1. A curtain-pole for slidably receiving headed hangers, said pole comprising a tubular body portion having a continuous slot opening through its ends of a width less than the internal diameter of the body portion, and a cap engaged in part over each end of the tubular body portion, each cap having in its body-engaging portion a longitudinal slot opening through the inner end of the cap and each cap having beyond the end of the body of the pole an opening communicating with the slot of the cap and both dimensions of which opening are greater than the width of the slot of the cap and body portion.

2. A curtain-pole consisting of a hollow tube provided with a longitudinal slit extending into the hollow, and hollow end portions into which the ends or body part of the pole may be inserted to render it adjustable as to length, the inner ends of the said adjustable end portions being provided with a slit corresponding to the slit in the body portion the former slit communicating with an enlarged opening in the end portions, the outer part of which is intact, combined with a curtain fastener or support having a hook on its upper end adapted to be inserted through the said enlarged opening, and the bow part of the hook extending through the slits enabling the hook to be moved to and along the pole proper to any position thereon.

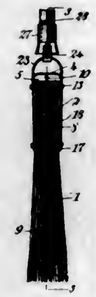
3. A curtain attaching or supporting means comprising a strip of sheet metal having a hook at the upper end, the end of which hook is curled, a curtain-attaching hook stamped or cut out of the lower part of the strip forming a bifurcation in the latter, and loops formed in the lower ends of the strips at the sides of the bifurcation, and a safety-pin having its fixed bar engaged by the latter loops, the said fixed bar of the pins having inwardly-bent loops formed from its central part, said loop extending into said bifurcation.

841,045. DUSTLESS BROOM. JOHN R. PRICE, Fond du Lac, Wis. Filed Dec. 28, 1905. Serial No. 293,593.

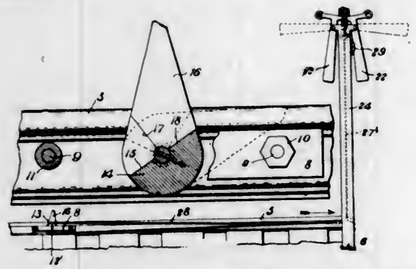
Claim.—1. A broom having a body composed of broom-straws with an apron depending in the interior of said body, and means for moistening said apron whereby moisture may be supplied to said straws to prevent the raising of dust.

2. In a broom in combination, a bonnet having a chamber constituting a reservoir, a sheath projecting downwardly therefrom, a body secured about said sheath, and an apron within said sheath and depending therebelow within said body.

3. In a broom in combination, a frame comprising a bonnet having a chamber formed therein adapted to receive an absorbent material, a sheath extending downward from the bottom of said chamber, a broom-body surrounding said sheath, clamping-plates attached to said bonnet and securing said body, and an apron within said sheath and depending within said broom-body.



841,046. RAILWAY-SIGNAL. WILLIAM M. RALSTON, Fostoria, Ohio. Filed Sept. 21, 1906. Serial No. 335,626.



Claim.—1. In a railway-signal, the combination with a track, of a danger-signal, brackets extending laterally from the track and provided with stub-shafts one of which is extended laterally beyond the adjacent bracket and provided with a crank-arm, a rod extending between the crank-arm and the signal, and tappets mounted on the stub-shafts and actuated by the car-wheels for moving the signal to operative and inoperative position.

2. In a railway-signal, the combination with a track, of a danger-signal, brackets extending laterally from the track, stub-shafts journaled in the brackets, sprocket-wheels secured to the stub-shafts and connected by a sprocket-chain, tappets loosely mounted on the stub-shafts and free to move in one direction and locked from movement in the opposite direction, said tappets being actuated by the car-wheels for moving the signal to operative and inoperative position.

3. In a railway-signal, the combination with a track, of a danger-signal, brackets extending laterally from the track, stub-shafts journaled in the brackets, tappets mounted on the stub-shafts, springs connecting the stub-shafts and tappets, respectively, for yieldably supporting the tappets in operative position, and a connection between one of the stub-shafts and the signal for operating the latter.

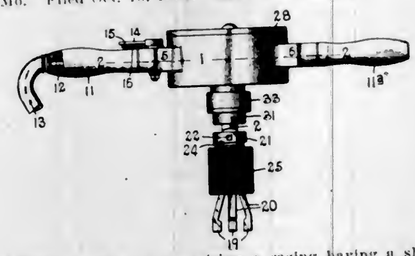
4. In a railway-signal, the combination with a track, of a danger-signal, brackets extending laterally from the track, stub-shafts journaled in the brackets, sprocket-wheels secured to the stub-shafts and provided with segmental plates, tappets loosely mounted on the stub-shafts and provided with inclined shoulders adapted to engage the adjacent ends of the plates for limiting the movement of the tappets, springs forming a yieldable connection between the stub-shafts and the adjacent tappets, said tappets being actuated by the car-wheels for moving the signal to operative and inoperative position.

5. In a railway-signal, the combination with a track, of a danger-signal, brackets extending laterally from the track and provided with spaced rods having rollers journaled thereon, stub-shafts journaled in the brackets between the rollers, sprocket-wheels secured to the stub-shafts and connected by a sprocket-chain, a segmental plate secured to each sprocket-wheel, tappets loosely mounted on the stub-shafts and having oppositely-disposed inclined faces adapted to engage the adjacent ends of the plates for limiting the lateral movement of the tappets, and a connection between one of the stub-shafts and the danger-signal for moving the latter to operative and inoperative position.

6. In a railway-signal, the combination with a track, of a danger-signal, bars spaced laterally from one of the track-rails, rods piercing the adjacent track-rail and having their ends threaded and provided with clamping-nuts adapted to engage said bars, rollers mounted on the rods, stub-shafts journaled in the bars and adjacent web of the rail, respectively, sprocket-wheels secured to the stub-shafts and connected by a sprocket-chain, one of said stub-shafts being extended laterally and provided with a crank-arm, a rod connecting the crank-arm and danger-signal, and tappets yieldably supported on the stub-shafts and actuated by the car-wheels for moving the danger-signal to operative and inoperative position.

7. In a railway-signal, the combination with a track, of a standard mounted adjacent the track, a bracket carried by the free end of the standard and having its intermediate portion offset and secured to said standard, a pair of semaphore-arms pivotally mounted on the bracket and having their inner ends provided with elongated slots, brackets extending laterally from the track, stub-shafts journaled in the bracket, sprocket-wheels secured to the stub-shafts and connected by a sprocket-chain, one of said stub-shafts being extended laterally and provided with a crank-arm, a rod having its lower end operatively connected with the crank-arm and its upper end engaging the slots in the inner ends of the semaphore-arms, and tappets yieldably mounted for lateral movement on the stub-shafts and actuated by the car-wheels for moving the semaphore-arms to operative and inoperative position.

841,047. WRENCH. CHARLES R. RAWDON, St. Louis, Mo. Filed Oct. 15, 1906. Serial No. 339,073.

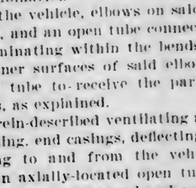


Claim.—A wrench comprising a casing having a shaft projecting outwardly therefrom, means connected to the shaft inside of the casing for causing the shaft to turn when fluid under pressure is introduced into the casing, a block connected to the lower end of said shaft and provided with a central recess, jaws provided with shanks which extend into said recess and are pivotally connected to the block, an adjusting-sleeve slidingly mounted on said block and provided on its interior with a mutilated thread which coöperates with a mutilated thread on the exterior of the block, and yielding means for forcing said jaws apart; substantially as described.

841,048. HEADLIGHT FOR STOCK. CHARLES E. RICE, Livermore, Ky., assignor of one-half to Arthur L. Parrish, Owensboro, Ky. Filed Apr. 7, 1906. Serial No. 310,506.

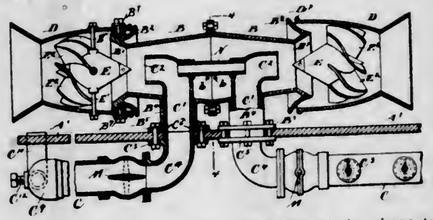
Claim.—1. A headlight for stock having a wire frame composed of front and rear connected members adapted to rest upon the ear-loop straps of the bridle and having forward-extending bracing means, a throat-latch connection and a lantern attachment.

2. A headlight for stock having a wire frame composed of front and rear connected wires adapted to rest upon the ear-loop straps of the bridle, and having forward-extending wire braces having detachable connection with the side rings of the bit, a throat-latch connection and a lantern attachment.



3. A headlight for stock having a wire frame composed of front and rear connected wires adapted to rest upon the ear-loop straps of the bridle, a transverse plate connected to said wire frame having a vertical hook extension, said plate and the hook extension having seats, a detachable lantern having top and bottom studs adapted to fit within said seats, and a throat-latch connection.

841,049. VENTILATING APPARATUS. JOHN S. ROAKE, New York, N. Y. Filed Oct. 14, 1905. Serial No. 282,701.



Claim.—1. In a ventilating apparatus of the character herein set forth, the combination with the casing, of the ducts leading to and from the vehicle, elbows on said ducts located within the casing, and an open tube connecting the said elbows and cones in line with the open ends of said tube beyond the open ends of the elbows, substantially as and for the purposes set forth.

2. In a ventilating apparatus of the character herein set forth, the combination with the casing, of the end casings applied thereon, deflecting-cones mounted axially in said end casings, ducts leading to and from the vehicle, elbows on said ducts located within the central casing, and an open tube connecting the said elbows and located axially of the central casing, substantially as and for the purposes set forth.

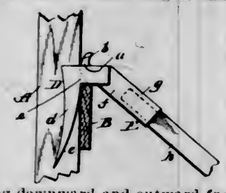
3. The combination with the casing, of the ducts leading to and from the vehicle, elbows on said ducts located within the casing, and an open tube connecting the said elbows, the tube terminating within the bends of the elbows with the upper inner surfaces of said elbows merging into the ends of said tube to receive the particles deflected from said surfaces, as explained.

4. The herein-described ventilating apparatus comprising a central casing, end casings, deflecting-cones having vanes, ducts leading to and from the vehicle, elbows on said ducts, and an axially-located open tube connecting the elbows, the parts being arranged and combined for operation, substantially as and for the purposes specified.

841,050. IMPLEMENT FOR DISMANTLING BUILDERS' STAGINGS. JEAN L. ROBERT, Lonsdale, R. I. Filed Oct. 4, 1906. Serial No. 337,423.

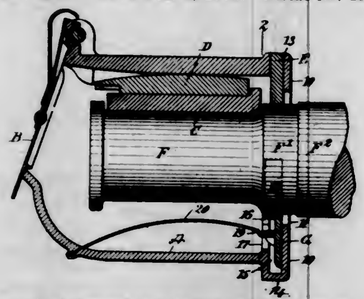
Claim.—In an implement for dismantling builders' stagings, a head comprising a crosswise fulcrum portion having a face which is convex in the direction of its height, arms c formed integral with and reaching forward from the ends of the fulcrum portion and adapted to rest on a ledger-

board, and claws formed integral with and depending from the forward portions of arms *c* and having their rear edges convex in the direction of their length, and a handle fixed



to and extending downward and outward from the fulcrum portion of the head.

841,051. OIL-SAVING DEVICE FOR JOURNAL-BOXES. CLARENCE E. ROOD, New York, N. Y., and JOHN GOETTEL, Boston, Mass. Filed Feb. 2, 1906. Serial No. 299,152.



Claim.—1. A journal-box having communicating pockets formed at the bottom and at the sides of its rear portion adjacent to the rear opening in the box through which the axle passes, the bottom pocket extending below the bottom of the box, a gate held to slide in said pockets, the upper face of said gate being concaved, and a resilient support extending approximately the length of the box and having one end engaging the plate and exerting normally upward and backward pressure on said plate.

2. A journal-box having side pockets and a bottom pocket adjacent to the rear wall of the box and to the axle-receiving opening in said wall, the bottom pocket extending below the bottom portion of said box and having an opening in its inner end, a plate mounted to slide in said pockets, having an enlarged and concaved upper face for engagement with an axle introduced into said box, said plate normally closing the lower portion of said opening while in engagement with the axle, and a spring-controlled means extending approximately the length of the box and engaging said plate and exerting upward and rearward pressure thereon, a space intervening the bottom of the plate and the bottom of the bottom pocket when said plate is in its upper position, for the purpose described.

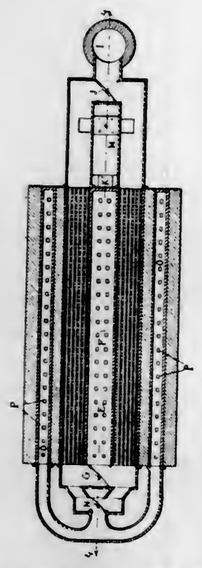
3. A journal-box having side and bottom pockets at the sides of its rear portion adjacent to the rear opening therein through which the axle passes, the bottom pocket extending below the bottom portion of the box and having an opening in its inner wall, a plate mounted to slide in the said pockets and having its upper end enlarged and concaved, the plate being provided on its inner face with a lip, and a spring-controlled means mounted in the box and extending through the opening of the bottom pocket into engagement with the lip of the said plate.

4. In a journal-box, the combination with a box having pockets in the sides and bottom of its rear portion, a plate mounted to slide in the said pockets, and a spring-pressed lever mounted in the box and having one end engaging the said plate.

5. In a journal-box, the combination with a box having pockets in the sides and bottom of its rear portion adjacent to the opening therein through which the axle passes, of a plate mounted to slide in the pockets and provided with an inwardly-projecting lip, a lever fulcrumed in the box and having one end engaging the lip of the plate, and a spring between the end of the lever and a lug of the box.

6. In a journal-box, the combination with a box having pockets in the sides and bottom of its rear portion adjacent to the opening therein through which the axle passes, the box being provided with a lug at its forward end and with an offset in its bottom, the bottom pocket extending below the bottom of the box and having an opening in its inner wall, a plate mounted to slide in the pockets and provided with a lip on its inner face, a lever fulcrumed on the offset of the box and having one end extending through the opening of the pocket into engagement with the lip of the plate, and a spring between the other end of the lever and the lug of the box.

841,052. COKE-OVEN. MATHEW E. ROTHBERG and ALFRED ERNST, Pittsburg, Pa. Filed Oct. 8, 1906. Serial No. 338,048.



Claim.—1. The combination with an oven having a series of horizontal reverting heating-flues in each side wall, and a hot-air supply, of means having connection with the hot-air supply for distributing hot air directly throughout the length of the upper flue of each series, and means of connection for the lower flue of each series with the stack.

2. The combination with an oven having a plurality of series of laterally-opposite horizontal reverting heating-flues in each side wall, and a hot-air supply, of means having connection with the hot-air supply and located between the series of heating-flues for distributing hot air directly to the upper flue of each series throughout its length, and means of connection for the lower flue of each series with the stack.

3. The combination with an oven, having a plurality of series of laterally-opposite horizontal reverting heating-flues in each side wall, and a hot-air supply, of branched means for distributing hot air located between the series of heating-flues, each branch having separate communication with the upper flue of each series throughout the length of the same, means of connection for said branched means with the hot-air supply, and means for connection for the lower flue of each series with the stack.

4. The combination with an oven, having heating-flues in its side walls, and a hot-air supply, of upward-extending hot-air flues connected with the hot-air supply, and horizontal flues connecting said hot-air flues and having communication with said heating-flues.

5. The combination with an oven having a plurality of series of laterally-opposite heating-flues in each side wall, and a hot-air supply, of upward-extending hot-air flues having connection with the hot-air supply, horizontal flues connecting the hot-air flues and located between the series of heating-flues in each side wall, said horizontal flues having connection at opposite sides with the series of heating-flues.

6. The combination with an oven having a series of heating-flues in each side wall, and a hot-air supply, of horizontal flues in the side walls having communication with the upper portion of said heating-flues throughout the length of the same, means of connection for the lower portion of said heating-flues with the stack, and means of connection for said horizontal flues with the hot-air supply.

7. The combination with an oven having a series of horizontal reverting heating-flues in each side wall, and a hot-air supply, of horizontal flues in the side walls having communication with the upper of said heating-flues throughout the length of the same, means of connection for the lower of said heating-flues with the stack, and means of connection for said horizontal flues with the hot-air supply.

8. The combination with an oven, having a plurality of series of laterally-opposite heating-flues in each side wall, and a hot-air supply, of a horizontal hot-air flue located between said series of heating-flues in each side wall, and having separate branched communication with the upper portion of the flues of each series, means of connection for the horizontal flues with the hot-air supply, and means of connection for the lower portion of the heating-flues of each series with the stack.

9. The combination with an oven, having a plurality of series of laterally-opposite horizontal reverting heating-flues in each side wall, and a hot-air supply, of a horizontal hot-air flue located between said series of heating-flues in each side wall and having separate branched communication with the upper flue of each series, means of connection for the horizontal flues with the hot-air supply, and means of connection for the lower flue of each series with the stack.

10. In an oven, the combination of a plurality of series of heating-flues in each side wall, hot-air mains in the base, vertical hot-air flues having connection with said mains, a plurality of horizontal flues in each side wall connecting said vertical hot-air flues, each of said horizontal flues including a branch at each side having lateral extensions throughout its length communicating with the upper portion of the series of heating-flues at that side, and means of connection for the lower portion of each series of flues with the stack.

11. In an oven, the combination of a central waste-gas main in the base, two endwise opposite series of horizontal reverting heating-flues in each side wall, two endwise opposite flues under the oven having short lateral connections with the lower flues of said series and downward-directed extensions communicating with the waste-gas main, and means for supplying hot air directly throughout the length of the upper flue of each series.

12. In an oven, the combination of a waste-gas main in the base, a series of horizontal reverting heating-flues in each side wall, a flue under the oven-chamber having a short lateral connection with the lower flue of each series and a downward-directed extension communicating with the waste-gas main, and means for supplying hot air directly to the upper flue of each series of heating-flues throughout the length of the same.

13. In an oven, the combination of a central waste-gas main in the base, lateral hot-air mains, a plurality of endwise opposite series of horizontal reverting heating-flues in each side wall, flues under the oven-chambers having short lateral connections with the lower heating-flues of the series and downward-directed extensions communicating with the waste-gas main, a horizontal hot-air flue in the upper portion of each side wall having lateral extensions throughout its length communicating with the upper heating-flue of each series, and vertical hot-air flues connecting the ends of the horizontal flues with the hot-air mains.

14. In an oven, the combination of a central waste-gas main in the base, lateral hot-air mains, hollow side walls provided each with a central partition, laterally-opposite series of horizontal reverting heating-flues in each side wall on each side of said partition, a horizontal hot-air flue in the upper portion of each side wall between said series and including a branch at each side having lateral extensions throughout its length communicating with the upper flues of the series on each side, and vertical flues connecting the ends of the horizontal flues with the hot-air mains.

15. In an oven, having heating-flues in its side walls, means for continuously supplying air in the same direction directly to the upper portion of said heating-flues, means located beneath the oven and disposed at right angles to the oven-chamber for continuously heating the air-supply through the waste gases of combustion, and means for continuously withdrawing the waste gases of combustion in the same direction having connection with the lower portion of said heating-flues.

16. In an oven having a series of horizontal reverting heating-flues in each side wall, means for continuously supplying air in the same direction directly to the upper flue of each series, means for continuously heating the air-supply through the waste gases of combustion, and means for continuously withdrawing the waste gases of combustion having connection with the lower heating-flues of the series.

841,053. SUPPORT FOR CONVEYER-BELTS. CHARLES ROUSE, Pittsburg, Pa. Filed Mar. 22, 1905. Serial No. 251,374.



Claim.—1. A support for a conveyer-belt, comprising a plurality of rollers, the central one of which is mounted on a horizontal plane and having a concaved periphery with circumferential grooves, while the outer rollers are angularly arranged so that their supporting-surface will conform to the natural curvature of the belt.

2. A support for a conveyer-belt, comprising two brackets, a journal connecting the brackets and one secured to the opposite side of each bracket and projecting outwardly, a roller provided with a concaved surface with circumferential grooves mounted upon the connecting-journal and two rollers one each, mounted upon the outwardly-projecting journals in such position that their surfaces conform to the natural curvature of the belt.

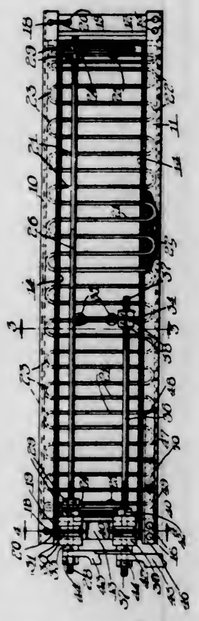
3. A support for conveyer-belts, comprising a plurality of rollers, the center one of which is concaved and provided with circumferential means for assisting in the engaging of the belt during its travel thereover.

841,054. RESISTANCE-CARD. HARRY SAWYER, Muskegon, Mich. Original application filed Feb. 5, 1906, Serial No. 299,660. Divided and this application filed July 14, 1906. Serial No. 326,179.

Claim.—1. A resistance-card comprising a frame, a resistance material removably supported within the frame, means for insulating the resistance material from the frame, conductors one end of which are connected to the resistance material, and means for securing the other end of the conductors to and insulating the same from the frame.

2. A resistance-card comprising a frame, a continuous strip of resistance material supported by the frame, said material being folded to form spaced walls, means for insulating the material from the frame, and conductors, one end of which are connected to the resistance material, the other ends being insulated from and connected to the frame.

3. A resistance-card comprising a separable frame, a removable resistance material within the frame and insulated therefrom, and conductors connected to the resistance material and having their free ends secured to and insulated from the frame.



4. A resistance-card comprising a separable frame, the sides of said frame being recessed or trough-shaped, insulating material within the recess or trough and having its ends projecting beyond the edges of the side members, a resistance material in the frame, the edges of which enter the recess or trough and stand between the insulating material, and conductors, one end of which are connected to the resistance material, the other end being secured to and insulated from the frame.

5. A resistance-card comprising a separable frame, a resistance material secured within and insulated therefrom, said resistance material comprising a strip of heavy material folded back and forth upon itself across the frame, to form spaced walls with the ends thereof alternately connected, and conductors, one end of which are connected to the resistance material, the other ends being insulated from and connected to the frame.

6. A resistance-card comprising a hollow, separable frame, a strip of resistance material within and extending across the frame, insulating material disposed between the ends of the resistance material and the frame, oppositely-disposed brackets secured to the resistance material and projecting beyond the plane thereof, a pair of rods respectively and removably engaging the brackets, the free ends of said rods being insulated from and secured to the frame.

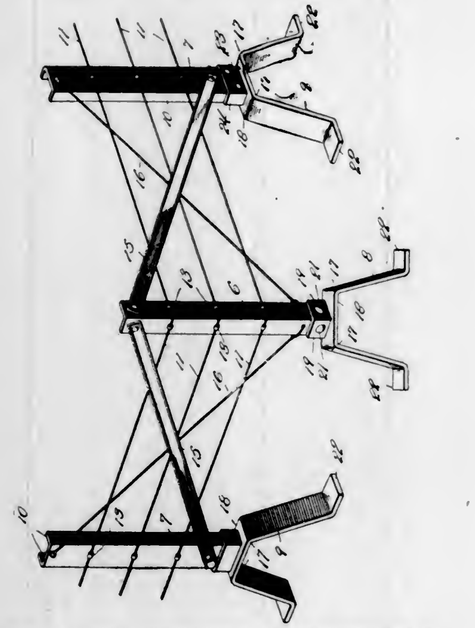
7. A resistance-card comprising a hollow, separable frame, a strip of resistance material within the frame, said strip being bent back and forth upon itself to form spaced walls, insulating material disposed between the ends of the resistance-strip and the frame, insulators secured to the front of the frame, brackets secured to the resistance-strip, and rods removably connected at one end to the brackets, the other ends thereof being secured to and passing through its respective insulator.

8. A resistance-card comprising a separable frame, a resistance material secured within and insulated from the frame, the front of the frame being provided with recesses, insulators secured within the recesses, connectors, one end of which are secured to and project beyond the insulators to form a binding-post, the other ends thereof being removably connected to the resistance material.

9. A resistance-card comprising a framework having side and end members, said side members being provided with a channel or groove in their adjacent faces, one of said side members being removable, means for securing said removable members in position, a continuous strip of resistance material, removably supported by the frame, said material being bent to form spaced walls with the ends of the walls within the grooves or channels, means for insulating the material from the frame, and conductors, one end of which are connected to the resistance material, the other ends being insulated from and connected to the frame.

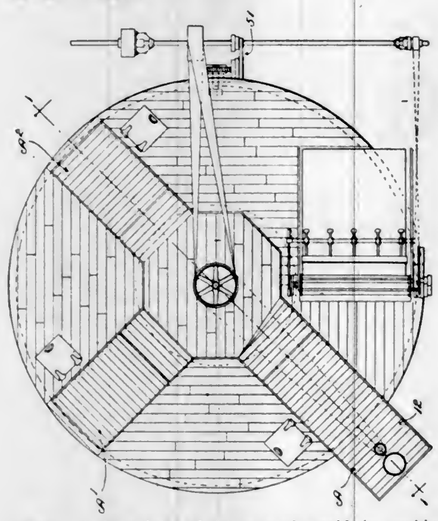
10. A resistance-card comprising a framework having side and end members, said side members being provided with a channel or groove in their adjacent faces, one of said side members being removable and provided with apertures adjacent the ends thereof, the end members being also provided with apertures adjacent the removable side member, a flexible fastening member passing through the adjacent apertures for securing said side member in position, a continuous strip of resistance material removably supported by the frame and bent to form spaced walls, means for insulating the material from the frame, and conductors, one end of which are connected to the resistance material, the other ends being insulated from and connected to the frame.

841,055. FENCE-POST. NICKLES J. SCHAEFER, Ardmore, S. D. Filed July 12, 1906. Serial No. 325,906.



Claim.—A corner construction for fences comprising a base including a body portion having an upstanding angle-iron flange formed integral therewith, a corner-post of angle-iron construction and comprising wings disposed at right angles with respect to each other received at its lower end in the angle formed by the upstanding flange upon the base and bolted in this position, line-bases having upstanding flanges including connecting portions and spaced parallel wings formed integral with the connecting portions, line-posts of angle-iron formation comprising each a connecting portion having wings formed integral therewith and extending in spaced parallel relation with respect to each other, said posts being disposed one upon each of the line-bases and having their lower ends seated in the flange upon the base, the connecting portions of the posts at their lower ends being bolted to the connecting portions of the flanges upon the line-bases, angle-iron braces connecting the upper end of the corner-post and the lower ends of the line-posts, and brace-rods bolted at their upper ends to the connecting portions of the line-posts at the upper ends thereof and provided at their lower ends with loops for connection with the corner-post at the lower end thereof, said loops being engaged through openings in the said corner-post.

841,056. DRIER FOR FIBROUS MATERIALS. CHARLES E. T. SCRIBNER, North Adams, Mass., assignor to The James Hunter Machine Company, North Adams, Mass., a Corporation of Massachusetts. Filed Dec. 26, 1905. Serial No. 293,274.



Claim.—1. In a drier of the type aforesaid, in combination, an inclosing casing comprising a central chamber and an annular chamber surrounding said central chamber, separated therefrom by a partition, and communicating with the central chamber above and below, an annular revolving perforated table within the said annular chamber, a fan rotating on a vertical axis within the said central chamber and operating to cause the air to circulate outward from the said central chamber into the upper portion of the annular chamber, down through the said table and the material spread thereon, and from the lower portion of the annular chamber back to the central chamber again, and steam-coils in the path of the moving air.

2. In a drier of the type aforesaid, in combination, an inclosing casing comprising a central chamber and an annular chamber surrounding said central chamber, separated therefrom by a partition, and communicating with the central chamber above and below, an annular revolving perforated table within the said annular chamber, steam-coils above the plane of the said table, and a fan rotating on a vertical axis within the said central chamber and operating to cause the air to circulate outward from such chamber through the said steam-coils, down through the said table and the material spread thereon, and from the lower portion of the annular chamber back to the central chamber again.

3. In a drier of the type aforesaid, in combination, an inclosing casing comprising a central chamber and an annular chamber surrounding said central chamber, separated therefrom by a partition, and communicating with the central chamber above and below, an annular revolving perforated table within the said annular chamber, steam-coils occupying an erect position above the plane of the said table, and a fan rotating on a vertical axis within the said central chamber and operating to cause the air to circulate outward from such chamber through the said steam-coils, down through the said table and the material spread thereon, and from the lower portion of the annular table back to the central chamber.

4. In a drier of the type aforesaid, in combination, an inclosing casing comprising a central chamber and an annular chamber surrounding said central chamber, separated therefrom by a partition and communicating with the central chamber above and below, an annular revolving perforated table within the said annular chamber, a fan rotating on a vertical axis within the said central chamber and operating to cause the air to circulate from the said central chamber into the annular chamber and from the latter back to the central chamber again, and steam-coils in the path of the moving air.

5. In a drier of the type aforesaid, in combination, an inclosing casing comprising a central chamber and an annular chamber surrounding said central chamber, separated therefrom by a partition, and communicating with the central chamber above and below, an annular revolving perforated table within the said annular chamber, a fan rotating on a vertical axis within the said central chamber and operating to cause the air to circulate from the said central chamber into the annular chamber, through the said table and the material spread thereon, and from the annular chamber back to the central chamber again, steam-coils in the path of the moving air, and an exhaust fan for discharging a portion of the air from the annular chamber to the exterior.

6. In a drier of the type aforesaid, in combination, an inclosing casing comprising a central chamber and an annular chamber surrounding said central chamber, separated therefrom by a partition and communicating with the central chamber above and below, an annular revolving perforated table within the said annular chamber, a vertical fan-shaft and fan within the said central chamber, the said fan operating to cause the air to circulate from the latter into the annular chamber and from the latter back to the central chamber, and reservoir-bearings for the said vertical shaft also located within the central chamber.

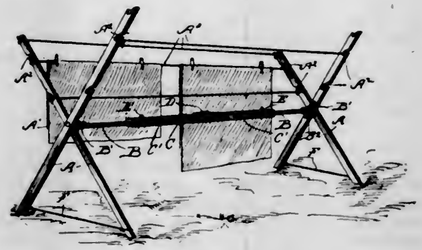
841,057. HAIR-TONIC. EDWARD N. SHELDON, Belleville, Kans. Filed Mar. 17, 1906. Serial No. 306,655.

Claim.—1. The herein-described hair-tonic consisting of kerosene, asafetida and naphthalene in about the proportions specified.

2. The herein-described filtered hair-tonic consisting of kerosene, asafetida and naphthalene, and a solvent for the asafetida in about the proportions specified.

3. The herein-described filtered hair-tonic consisting of kerosene, asafetida, naphthalene and alcohol in about the proportions specified.

841,058. FOLDING CLOTHES-RACK. DOMINIC SHERLOCK, Pittsburg, Pa. Filed Dec. 2, 1904. Serial No. 235,220.



Claim.—1. A device of the kind described comprising supporting-legs, bars hinged thereto, a coupling adapted to

receive the free ends of the bars, and means for detachably securing the bars in engagement with the coupling.

2. A device of the kind described comprising supporting-legs pivoted together intermediate their ends, bars hinged to the legs adjacent the pivotal point, a coupling comprising sections hinged together and adapted to receive the ends of the bars means for locking the bars in engagement with the coupling, and a cord connecting the lower end of said legs.

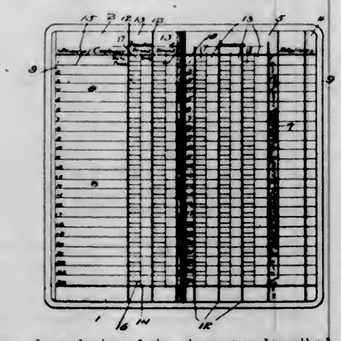
3. A clothes-rack comprising pivoted, supporting-legs, bars hinged to the legs, blocks longitudinally slotted from one end and hinged together at the non-slotted ends, and means for adjustably holding the free ends of the bars in the slotted portions of the blocks, as and for the purpose set forth.

841,059. GASKET. JOHN E. SHUTT, Ganado, Tex. Filed Jan. 3, 1906. Serial No. 294,442.



Claim.—A pipe-joint or the like having an unconfined wire wound spirally between the members of the joint, the outer whirl of the wire being expanded between the peripheries of the members of the joint, and means for clamping the joint members upon the wire to compress and spread it, the ends of the wire surrounding one of said means and overlapping.

841,060. FUTURE-SALES RECORD-BOOK. EDWARD R. SMITH, Oshkosh, Wis. Filed Jan. 22, 1906. Serial No. 297,172.

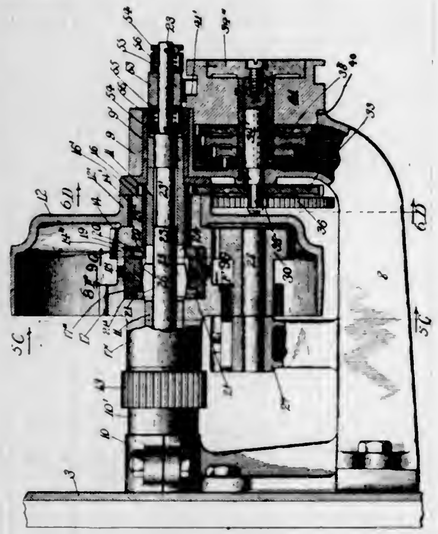


Claim.—In a device of the character described, the combination with a cover, of a plurality of long sheets secured within said cover, a plurality of short sheets secured between each two of said long sheets, a plurality of names being positioned on that part of said long sheets which projects beyond the short sheets, an indexed tab secured to each of said short sheets and horizontal lines upon said long and short sheets for producing horizontal spaces, said names being positioned on said horizontal lines, each horizontal space being subdivided by transverse ruled lines into a plurality of comparatively small spaces and each of said comparatively small spaces being subdivided by vertical lines and short horizontal lines.

841,061. DRIVING AND REVERSING MECHANISM. FREDERICK SNOW, Chicago, Ill., assignor, by mesne assignments, to Conkling Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 8, 1902. Serial No. 122,532.

Claim.—1. The driving and reversing mechanism comprising the shaft, the bracket wherein the same is journaled, means for driving the shaft in opposite directions, a shifting-cam arranged upon said bracket and the reversing and regulating mechanism concealed within said bracket, for operating said cam, substantially as described.

2. The driving and reversing mechanism comprising the shaft in combination with the drivers mounted thereon, the driver-clutches, the rod therefor longitudinally movable in said shaft, a positively-actuated shifter and cushions interposed between said rod and shifter, substantially as described.



3. The driving and reversing mechanism comprising the shaft, in combination with, the driving-pulley mounted thereon, the driver-pinion connected with said pulley for driving the shaft in one direction, the rotatively-opposed pinion journaled on said shaft and connected with said driver-pinion within said pulley, for driving the shaft in the opposite direction, the clutch mechanism arranged between said pinions, the clutch-rod revoluble with said shaft and means for operating said rod, substantially as described.

4. In a driving and reversing mechanism, the combination of a reversible member, with driving and reversing mechanism therefor, and means for regulably controlling and determining the number of rotations of said reversible member in each direction, substantially as described.

5. In a driving and reversing mechanism, the combination of a shaft with reversible driving means on said shaft, clutches for engaging said means with the shaft, and a clutch-operating cam positively driven in one direction only by said means, substantially as described.

6. In a driving and reversing mechanism, a member for alternative rotation, in combination with a driving-shaft therefor, drivers mounted thereon, means for continuously rotating the drivers in opposite directions, reciprocating means for connecting either of the drivers with said shaft, a rotary cam for actuating the reciprocating means, and mechanism whereby the operation of the cam may be variously timed, for controlling the peripheral travel of said member, substantially as described.

7. In a driving and reversing mechanism, a rotary working member, in combination with a driving-shaft therefor, drivers mounted on said shaft for rotating the same in opposite directions, a shifter controlling the operation of the shaft by said drivers, a shifter-actuating cam continuously driven in one direction, with one of said drivers, and means for varying the relative speeds of said cam and driver, substantially as described.

8. In a driving and reversing mechanism, the combination of a member for alternative rotation, with clutches for the periodical reversal of said member, and having a movable part, a clutch-shifting cam, and variable-speed gears for driving said cam, for increasing or decreasing the periods of rotation of said member, substantially as described.

9. In a driving and reversing mechanism, the combination of a member for alternative rotation, with clutches for the periodical reversal of said member, oppositely-rotating drivers, a clutch-shifting cam and a variable-speed gear interposed between one of said drivers and said cam, substantially as described.

10. In a driving and reversing mechanism, the combination of a member for alternative rotation, and a reversing-shaft therefor, with a stem movable longitudinally within said shaft, drivers mounted concentrically with the reversing-shaft, clutches operated by said stem, for connecting either of the drivers with said shaft, and means actuated by one of the drivers for imparting longitudinal reciprocation to said stem, substantially as described.

11. In a driving and reversing mechanism, the combination of a member for alternative rotation, with a longitudinally-moving stem operating a reversing mechanism for said member, a cam-wheel actuating said stem longitudinally in either direction, and a plurality of pinions of different diameters for operating said cam-wheel at varying speed, substantially as described.

12. In a driving and reversing mechanism, the combination of a member for alternative rotation, with oppositely-moving drivers for actuating said member in either direction, clutches for connecting said member alternately with the drivers, a longitudinally-moving stem operating said clutches, two sets of intermeshing gears actuated from one of said drivers, a cam-wheel operated by said gears, for imparting a longitudinal movement to said stem, a hollow shaft for one set of gears, and a manually-operated pin within the hollow shaft whereby said shaft may be operatively connected to any one of the gears mounted thereon, substantially as described.

13. In a driving and reversing mechanism, the combination of a member for alternative rotation, with a hollow reversing-shaft for said member, two drivers operated constantly in opposite directions, and mounted concentrically with the reversing-shaft, a stem mounted within the reversing-shaft, and operable longitudinally for connecting either of the drivers with said shaft, a plurality of intermeshing pinions actuated by one of said drivers, a cam-wheel operated by said pinions and reciprocating said stem longitudinally in either direction, and manually-actuated means for operatively connecting said pinions with one of the drivers, substantially as described.

14. In a driving and reversing mechanism, the combination of a member for alternative rotation, a reversing-shaft for said member, drivers revolving in opposite directions, clutches for the drivers, a longitudinally-moving clutch-actuating stem or shifter, and means for cushioning the stroke of said shifter in both directions, substantially as described.

15. In a driving and reversing mechanism, the combination of a working member, with means including two drivers for alternatively rotating said member, two pyramids of gears operatively connected with one of said drivers, a cam-wheel secured on the stem of one pyramid of gears, a hollow shaft for the other gears, constantly operated in one direction by one of said drivers, and a manually-operated pin for engaging the hollow shaft with any one of its gears, substantially as described.

16. In a driving and reversing mechanism, the combination of a member for alternative rotation, with a reversing-shaft for said member, drivers for said shaft revolving in opposite directions, clutches for connecting said drivers to the shaft, a longitudinally-moving stem for operating said clutches, a pair of springs for cushioning said stem at either end of its stroke, a cam-wheel operating said stem, two series of pinions actuating said cam-wheel, and a manually-operated key within the shaft of one of the series of pinions, for transmitting the motion of one of the drivers to the longitudinally-moving stem, substantially as described.

17. In a driving and reversing mechanism, a member for alternative rotation, in combination with a shaft continuously rotated in one direction, a reversing-shaft rotated alternatively, drivers for the reversing-shaft, clutches actuated by a longitudinally-sliding stem for engaging the drivers with the reversing-shaft alternately, a pyramid of gears loosely mounted on a hollow shaft, a second pyramid of gears intermeshing with the first and rigidly mounted on a stem, a cam-wheel also rigidly secured to the stem, gear-wheels connecting one of the drivers to the said hollow shaft, a pivotally-mounted lever secured to said sliding stem, means for manually connecting the hollow shaft with any one of its gears, whereby the speed of the cam-wheel may be varied, and means for manually connecting said lever to the cam-wheel, whereby the sliding stem is actuated longitudinally, substantially as described.

18. In a driving and reversing mechanism, a main pulley constantly rotated in one direction, in combination with a reversing-shaft operated by said pulley and rotated in the same direction, a member for alternative rotation, drivers for actuating said member in either direction, clutches for connecting either of the drivers with the reversing-shaft, a stem within said shaft, for operating the clutches, a cam-wheel for moving said stem longitudinally, in either direction, operative connection between one of the drivers and said cam-wheel, springs for cushioning the stroke of the stem, a device for varying the speed of the cam-wheel, means for operatively connecting said device with the cam-wheel, and means for operatively connecting the cam-wheel and the stem, substantially as described.

19. In a driving and reversing mechanism, a working member for alternative rotation, in combination with a driving-shaft coupled thereto, a driving-pulley mounted upon the shaft, oppositely-rotating drivers also mounted on the shaft, means for connecting either of said drivers with said shaft, and means geared to said pulley and driven thereby, controlling the connection between said pulley, drivers and shaft, substantially as described.

20. In a driving and reversing mechanism, a working member for alternative rotation, in combination with a driving-shaft coupled thereto, a pulley mounted on the shaft, an oppositely-rotated driver mounted on the shaft, a shifter for causing the shaft to be driven by the pulley or the driver, and a shifter-cam variably geared to said pulley, substantially as described.

21. In a driving and reversing mechanism, the combination of a working member with a stationary body whereon the same is arranged, a bracket extending from said body, a power-transmitting shaft arranged in said bracket and geared to said member, reversely-operated drivers on said shaft, means continuously actuating the same, a clutch for connecting either of the drivers to the shaft, a clutch-shifter, and a clutch-actuated device arranged on said bracket and geared to one of said drivers, substantially as described.

22. In a driving and reversing mechanism, the combination of a working member with a stationary body whereon the same is arranged, a bracket extending from said body, a power-transmitting shaft arranged in said bracket and geared to said member, reversely-operated drivers on said shaft, means continuously actuating the same, a clutch for connecting either of the drivers to the shaft, a clutch-shifter, and means upon said bracket for altering the relative speeds of the shifter-actuating device and the driver to which it is geared, whereby the operation of the clutch may be timed and the travel of the working member altered, substantially as described.

23. In a driving and reversing mechanism, a body, a member mounted thereon for alternative rotation, and a driving-shaft coupled to said member, in combination with the bracket having bearings for said shaft, and driving, reversing and variable-gear mechanisms associated with said shaft on said bracket, substantially as described.

24. In a driving and reversing mechanism a working member for alternative rotation, in combination with a driving-shaft coupled to said member, oppositely-driven clutches adapted to rotate said shaft in opposite directions, a clutch-shifter and a shifter-cam rotated continuously in one direction, substantially as described.

25. In a driving and reversing mechanism a working

member for alternative rotation, in combination with a driving-shaft coupled to said member, oppositely-driven clutches adapted to drive said shaft in opposite directions, a clutch-shifter, and a normally constant-speed single-direction shifter-cam adapted to operate said shifter periodically, substantially as described.

26. In a driving and reversing mechanism, a working member for alternative rotation, in combination with a driving-shaft coupled to said member, means for rotating said shaft in opposite directions, a shifter controlling the action of said means, a normally constant-speed single-direction shifter-cam adapted to operate said shifter periodically and means for changing the speed of said cam, to hasten or retard the action of said shifter, substantially as described.

27. In a driving and reversing mechanism, a working member, in combination with a driving-shaft coupled to said member, constantly and oppositely driven clutches, a shifter for engaging either thereof with said shaft, and a variable-speed shifter-cam mechanism continuously driven from and with one of said clutches, substantially as and for the purpose described.

28. In a driving and reversing mechanism, a working member for alternative rotation, in combination with an alternating mechanism coupled to said member and means for relatively hastening or retarding the reversals thereof to vary the number of revolutions of said member in each direction, substantially as described.

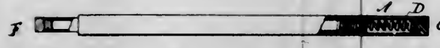
29. In a driving and reversing mechanism, a working member for alternative rotation, in combination with an alternating mechanism coupled to said member and means for relatively hastening or retarding the reversals thereof to vary the number of revolutions of said member in each direction, said means being positively actuated by a member of said alternating mechanism, substantially as described.

30. In a driving and reversing mechanism, a working member for alternative rotation, in combination with an alternating mechanism coupled thereto and including oppositely-driven parts and a shifter, a constantly-driven single-direction cam for actuating said shifter periodically and means for varying the speed of said cam, substantially as described.

31. In a driving and reversing mechanism, a working member for alternative rotation, in combination with a driving-shaft, coupled to said member, a single-direction power-pulley, shaft-driving clutches, adapted to be rotated in opposite directions by said pulley, a clutch-shifter and a shifter-cam continuously rotated by said pulley, to periodically reverse said clutches and, therethrough, said shaft and member, substantially as described.

32. In a driving and reversing mechanism, a working member for alternative rotation, in combination with a driving-shaft geared thereto, a power-pulley mounted on said shaft, opposite-direction clutches located within said pulley and driven in opposite directions thereby, a clutch-shifter, internal to said shaft, a shifter-cam external to said shaft and means interposed between said cam and shaft for driving and varying the operating time of said cam, substantially as described.

841,062. CURTAIN-ROD. ALBERT R. SNYDER and JOHN W. POTTS, Haverford, Pa. Filed Sept. 12, 1906. Serial No. 334,213.

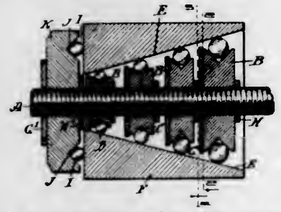


Claim.—1. As a new article of manufacture, a curtain-rod consisting of two sections, one telescoping within the other, a spring located within the rod and engaging one of the sections, and an inturned lug carried by the remaining section engaging the spring to cause one section to move with relation to the other when the sections are revolved.

2. As a new article of manufacture, a curtain-rod consisting of two sections telescoping within each other, a rubber tip carried by one end of the outer section, a second rubber tip carried by the opposite end of the inner section, a coil-spring attached to the first-named tip and extending within the inner section and an inturned lug formed within the inner section extending between the convolutions of the spring.

3. As a new article of manufacture, a curtain-rod consisting of two sections telescoping within each other, a spring secured to the outer section, means carried by the inner section for engaging the convolutions of the spring whereby said spring will act as a screw for feeding the inner section in or out when the sections are revolved in opposite directions.

841,063. BALL-BEARING. JOHN F. SPRINGER, Girard, Pa. Filed May 22, 1905. Serial No. 261,727.



Claim.—1. A compound ball-bearing comprising a hub-bearing provided with a plurality of conical bearing-surfaces having the same axis, a shaft-bearing having its axis coinciding with that of the said hub-bearing, the shaft-bearing having annular races, and sets of balls for the said races and in contact with the said conical bearing-surfaces, the diameters of the balls in successive sets of balls belonging to a conical hub-bearing surface increasing in diameter with the increase in the annular lines of contact of the sets of balls with the corresponding hub-bearing surface.

2. A compound ball-bearing comprising a hub-bearing provided with a plurality of conical bearing-surfaces having the same axis, a shaft-bearing having its axis coinciding with that of the said hub-bearing, the shaft-bearing having annular races, and sets of balls for the said races and in contact with the said conical bearing-surfaces, the balls in each set being alike, the diameters of the balls in successive sets of balls belonging to a conical hub-bearing surface increasing in diameter with the increase in the annular lines of contact of the sets of balls with the corresponding conical hub-bearing surface.

3. A ball-bearing comprising a hub-bearing having a conical bearing-surface, a shaft-bearing having its axis coinciding with that of the said hub-bearing, the shaft-bearing having annular races, and sets of balls for the said races and in contact with the said bearing-surface, the balls in each set being alike, and the diameters of the balls in successive sets of balls increasing in diameter with the increase in the annular lines of contact of the sets of balls with the conical hub-bearing surface.

4. A compound ball-bearing comprising a hub-bearing provided with a plurality of conical bearing-surfaces having the same axis, a shaft-bearing having its axis coinciding with that of the said hub-bearing, the shaft-bearing consisting of rings having annular races, and sets of balls for the said races and in contact with the said conical bearing-surfaces, the balls in each set being alike, the diameters of the balls in successive sets of balls belonging to a conical hub-bearing surface increasing in diameter with the increase in the annular lines of contact of the sets of balls with the corresponding conical hub-bearing surface.

5. A ball-bearing comprising a shaft-bearing consisting of a plurality of rings provided with ball-races and adjustable toward and from each other in the direction of the axis of the shaft-bearing, sets of balls, one set for each ball-race, the balls in each set being alike in size and the size of balls in the different sets varying in diameter, and a hub-bearing having an internal conical bearing-surface in contact with the said sets of balls.

6. A compound ball-bearing comprising a hub-bearing provided with a plurality of conical bearing-surfaces having the same axis, a shaft-bearing having its axis coinciding with that of the said hub-bearing, the shaft-bearing consisting of rings having annular races, sets of balls for the said races and in contact with the said conical bearing-surfaces, the balls in each set being alike, the diameters of the balls in successive sets of balls belonging to a conical hub-bearing surface increasing in diameter with the increase in the annular lines of contact of the sets of balls with the corresponding conical hub-bearing surface, and means for adjusting and maintaining adjustment of the rings forming the shaft-bearing.

7. A ball-bearing comprising a plurality of ball-races, sets of balls, one set of balls for each ball-race, the balls in each set being alike in size and the size of balls in the different sets varying in diameter, and a conical bearing-surface engaging the said sets of balls.

8. A ball-bearing comprising a plurality of ball-races of V shape in cross-section and varying in diameter, sets of balls, one set of balls for each ball-race, the balls in each set being alike in size and the size of the balls in the different sets varying in diameter, and a conical bearing-surface engaging the said sets of balls.

9. A ball-bearing comprising a shaft-bearing having a plurality of ball-races, sets of balls, one set for each race, the balls in each set being alike in size and the size of balls in the sets varying in diameter, and a hub-bearing having an internal conical bearing-surface in contact with the said sets of balls.

10. A ball-bearing comprising a shaft-bearing formed of a plurality of ball-races of increasing diameter and adjustable toward and from each other in the direction of the axis of the shaft-bearing, sets of balls, one set for each ball-race the sets of balls increasing in diameter of the balls in proportion to the increase in the diameters of the races, and a hub-bearing having an internal conical bearing-surface in contact with the said sets of balls.

841,064. TELEGRAPH AND TROLLEY POLE. THOMAS P. STANLEY, Athens, Ga. Filed Feb. 17, 1906. Serial No. 301,575.

Claim.—1. A telegraph or trolley pole comprising a continuous cement or concrete body having embedded therein a plurality of longitudinal truss members, each member extending substantially the length of the pole in a plane radial to the center thereof; substantially as described.

2. A telegraph or trolley pole comprising a continuous cement or concrete body having embedded therein a plurality of longitudinal truss members, each member extending substantially the length of the pole in a plane radial to the center thereof secured to anchor-plates at either end of the pole; substantially as described.

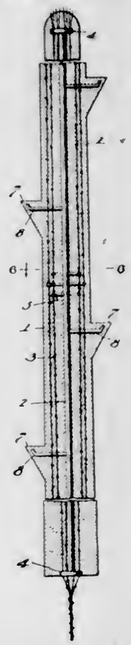
3. A telegraph or trolley pole comprising a continuous cement or concrete body having embedded therein a plurality of longitudinal truss members, secured to anchor-plates at either end of the pole, and passing over central struts or braces; substantially as described.

4. A telegraph or trolley pole comprising a continuous cement or concrete body having embedded therein a central metal core and a plurality of longitudinal truss members; substantially as described.

5. A telegraph or trolley pole comprising a continuous cement or concrete body having a central metal core provided with anchor-plates at each end and intermediate brace rods or struts, and a plurality of truss members passing over said struts and secured to said anchor-plates; substantially as described.

6. A telegraph or trolley pole comprising a continuous cement or concrete body having a central metal core provided with anchor-plates at each end and intermediate brace rods or struts, and a plurality of truss members passing over said struts and secured to said anchor-plates, and having their ends projecting beyond the top and bottom of said pole to constitute a lightning-conductor; substantially as described.

7. A telegraph or trolley pole comprising a continuous cement or concrete body and integral cross-arms, having a main central core with branches in said cross-arms, anchor-plates secured to the ends of the main and branch cores, intermediate brace rods or struts, and a plurality of truss members passing over said struts and secured to said anchor-plates; substantially as described.



8. A telegraph or trolley pole of plastic material, having embedded therein a metallic reinforcing-framework, comprising a central core having terminal anchor-plates and intermediate brace rods or struts and longitudinal brace members, radially disposed about said core, passing over said struts and secured to said anchor-plates; substantially as described.

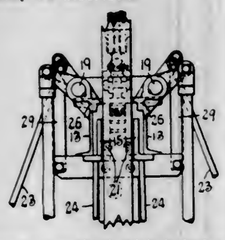
9. A telegraph or trolley pole of plastic material, having embedded therein a metallic reinforcing-framework, comprising a central core having terminal anchor-plates and intermediate brace rods or struts, longitudinal brace members radially disposed about said core passing over said struts, and secured to said anchor-plates, and brackets arranged in staggered relation on opposite sides of said core; substantially as described.

10. A telegraph or trolley pole of plastic material having embedded therein a metallic reinforcing-framework comprising a plurality of radially-disposed trusses and integral cross-arms, having a core provided with projecting stems constituting the cores of molded insulator-pins; substantially as described.

841,065. ELEVATOR. GEORGE F. STEEDMAN, St. Louis, Mo. Original application filed Mar. 12, 1906. Serial No. 305,652. Divided and this application filed July 2, 1906. Serial No. 324,381.

Claim.—1. In an elevator provided with hoisting means, a cage comprising an upper member, a platform detachably connected to said upper member, castings secured to said platform, a rock-shaft mounted in said castings with dogs rigidly fastened thereto adapted to engage the guides on which the cage travels, a rock-shaft mounted in castings which are secured to the upper member and having an arm rigidly fastened thereto, means for imparting rotary movement from the upper to the lower rock-shaft, and means connected to the arm of the upper rock-shaft for actuating said shaft in case the hoisting means fails to fulfil its

function whereby said dogs are caused to become operative; substantially as described.



2. In an elevator provided with hoisting means, a cage comprising an upper member, a platform detachably connected to said upper member, rock-shafts under said platform with dogs rigidly fastened thereto which are adapted to engage the guides on which the cage travels, rock-shafts carried by the upper member having arms rigidly fastened thereto, dogs on said rock-shafts, means connecting the upper and lower rock-shafts so that they will rotate simultaneously, and means connected to the arms on the upper rock-shafts for actuating said shafts in case the hoisting means fails to fulfil its function whereby said dogs are caused to become operative; substantially as described.

3. An elevator-cage comprising an upper horizontal member to which the hoisting mechanism of the elevator is attached, a platform, a vertical member and diagonal braces for detachably connecting the upper member to the platform, castings constructed to receive the horizontal and vertical members to connect them together and provided with openings to receive the diagonal braces, said castings being provided with ears to coöperate with the guides on the elevator-frame, a rock-shaft arranged on each side of said horizontal member and mounted in said castings, dogs rigidly connected to said shafts for engaging the guides on which the elevator-cage travels, a pair of rock-shafts connected to the underneath side of the platform and provided with dogs which engage said guides, and links for connecting said upper and lower rock-shafts together; substantially as described.

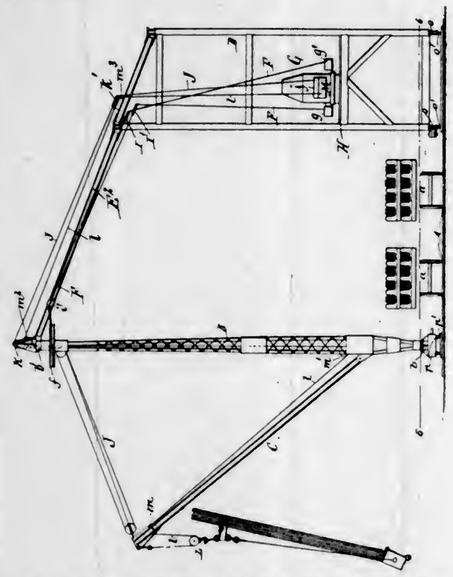
841,066. DERRICK. JOHN W. STOLKRANTZ, Buffalo, N. Y. Filed Sept. 12, 1906. Serial No. 334,255.

Claim.—1. A derrick comprising a mast, a boom pivoted on the mast, a tackle arranged at the outer end of the boom, a bearing in which the upper end of the mast is journaled, means for turning said mast comprising a bull-wheel secured to the upper end of the mast and a swinging cable passing around the bull-wheel, means for raising and lowering said boom comprising a boom-cable operatively connected with the boom and a guide-wheel arranged on said bearing and receiving the boom-cable, and means for raising and lowering said tackle comprising a tackle-cable operatively connected with said tackle and a guide-wheel arranged on said bearing and receiving said tackle-cable, substantially as set forth.

2. A derrick comprising a mast, boom and tackle arranged on one side of the loading-space, a stage arranged on the opposite side of the loading-space, a bearing for the upper end of the mast, a connection between said bearing and stage, a hoisting-machine arranged on said stage, and cables operatively connecting said mast, boom and tackle with said hoisting-machine, substantially as set forth.

3. A derrick comprising a mast, boom and tackle arranged on one side of the loading-space, a stage arranged on the opposite side of the loading-space, a bearing for the upper end of the mast, a connection between said bearing and stage, a hoisting-machine arranged on said stage, and cables operatively connecting said mast, boom and tackle with said hoisting-machine and having parts which pass from the top of the mast to the top of the stage, substantially as set forth.

4. A derrick comprising a mast, boom and tackle arranged on one side of the loading-space, a stage arranged on the opposite side of the loading-space and having an elevated platform, a hoisting-machine arranged on the platform, and cables operatively connecting said mast, boom and tackle with said hoisting-machine, substantially as set forth.



5. A derrick comprising a stage arranged on one side of the loading-space, a mast, boom and tackle arranged on the opposite side of the loading-space and opposite the central part of said stage, a connection between the upper ends of the mast and stage, a hoisting-machine mounted on the stage at one end thereof, guide-wheels mounted on the upper part of the stage at the upper end thereof, and cables operatively connecting said mast, boom and tackle with said hoisting-machine and passing from the top of the mast around said guide-wheels, substantially as set forth.

6. A derrick comprising a stage arranged on one side of the loading-space and having an elevated platform, a mast, boom and tackle arranged on the opposite side of the loading-space and opposite the central part of the stage, upper and lower bearings in which the upper and lower ends of the mast are journaled, a central tie-bar extending at right angles from the upper bearing of the mast to the central part of the upper end of the stage, two side tie-bars extending obliquely from the upper bearing of the mast on opposite sides of the central tie-bar to opposite ends of the upper part of the stage, a hoisting-machine arranged on said platform at one end of the stage, guide-wheels mounted on the upper part of said stage at the opposite end thereof, and cables operatively connecting the mast, boom and tackle with said hoisting-machine and having parts which pass from the upper part of the mast along one of said side tie-bars and around said guide-wheels, substantially as set forth.

7. A derrick comprising a stage arranged on one side of the loading-space, a mast arranged on the opposite side of the loading-space, a tie between said mast and stage, and rails upon which said mast and stage are movably supported, substantially as set forth.

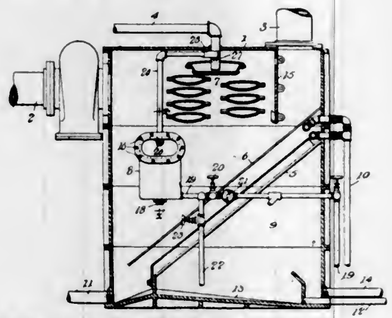
8. A derrick comprising a stage movable lengthwise of the loading-space on one side thereof, a mast movable lengthwise of the loading-space on the opposite side thereof, a permanent tie connecting the upper parts of the mast and the stage, and a detachable tie connecting the lower parts of the mast and stage, substantially as set forth.

9. A derrick comprising a stage arranged on one side of the loading-space, supporting-wheels mounted on said stage and running on tracks, a mast arranged on the opposite side of the loading-space, bearings in which the upper and lower ends of said mast are journaled, supporting-wheels mounted on the lower bearing of the mast and running on tracks, a tie-bar connecting the upper bearing of the mast with the upper part of the stage, and coupling-bar pivoted at one end on the stage and having means for detachably connecting its opposite end with the lower bearing of the mast, substantially as set forth.

10. A derrick comprising two connected stages movable lengthwise of the loading-space on one side thereof, two masts movable lengthwise of the loading-space on the opposite side thereof and each arranged opposite the central part of one of said stages, bearings in which the upper and lower ends of said masts are journaled, tie-bars connecting the upper bearing of each mast with the upper end of one of said stages, and a beam connecting the lower bearings of both masts, substantially as set forth.

11. A derrick comprising two connected stages movable lengthwise of the loading-space on one side thereof, two masts movable lengthwise of the loading-space on the opposite side thereof and each arranged opposite the central part of one of said stages, bearings in which the upper and lower ends of said masts are journaled, tie-bars connecting the upper bearing of each mast with the upper end of one of said stages, a beam connecting the lower bearings of both masts, and two detachable coupling-bars extending obliquely from the lower bearings of the masts to the outer ends of said stages, substantially as set forth.

841,067. WATER-PURIFYING PROCESS. OMAN L. STUMP, JOHN REIDENBAUGH, and EDWIN D. PACKARD, Marion, Ohio, assignors to The Marion Incline Filter and Heater Company, Marion, Ohio, a Corporation of Ohio. Original application filed June 22, 1906, Serial No. 322,911. Divided and this application filed Oct. 8, 1906. Serial No. 337,867.



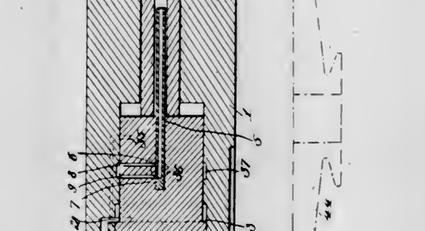
Claim.—1. The process herein described for producing a reagent chemical solution for treating water to be purified, consisting in subjecting the reagent to the water in a heated place and in discharging the resulting solution in a heated state into the water to be purified.

2. The process herein described consisting in placing a reagent inside of a water-purifier, in applying the heat used in the purifier to said reagent and in simultaneously introducing water into said reagent, in thereby producing a hot chemical solution and in introducing said solution a heated state into the water to be purified.

3. The herein-described process consisting in confining a reagent in a vessel inclosed in a water-purifier and subjected to the heat contained therein, in introducing a current of water into the reagent so situated, in conducting from the vessel the resulting solution in a heated state, and in introducing such solution into the water to be purified in advance of the purifying-pans of the purifier.

841,068. AUTOMATIC LOGGING-STANCHION. EMMETT H. SUMMERS, Lucedale, Miss. Filed Nov. 14, 1905. Serial No. 287,282.

Claim.—1. In a device of the kind described, the combination with a car-sill provided with a pivoted stake having a downwardly-projecting lower end, of a slidable rod adapted to engage the lower end of said stake and means for holding the rod in engagement with the said stake, for the purpose described.

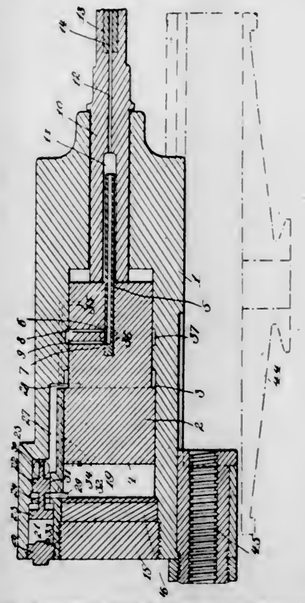


2. In a device of the kind described the combination with a car-sill, of a stake pivoted thereto having a downwardly-projecting lower end, a slidable rod mounted longitudinally on said sill adapted to engage the lower end of said stake; and means for locking said rod against said stake for the purpose described.

3. In a device of the kind described the combination with a casing of a stake pivoted in said casing provided with a cut-out portion at its end, a slidable rod adapted to engage said cut-out portion of the stake, and means for locking said rod in an engaged position, for the purpose described.

4. In a device of the kind described the combination with a sill of a casing secured adjacent one end of said sill, a stake pivoted in said casing provided with a cut-out portion at its lower end, a rod mounted in guide-eyes secured to the sill and extending into the casing, a guide-way secured to the other end of said sill, and a lever pivoted to a rod secured to said sill adapted to be swung in and out of alinement with said rod, for the purpose described.

841,069. PNEUMATIC DRILL. HARRY P. TAYLOR, Salt Lake City, Utah. Filed Apr. 28, 1905. Renewed July 14, 1906. Serial No. 326,277.



Claim.—1. A pneumatic drill comprising a reciprocatory hammer operated by a motive fluid, a tool-holder, and a combined air and water nozzle carried by said hammer.

2. A pneumatic drill comprising a cylinder having a

valve-chamber communicating with a motive-fluid supply and with the interior of the cylinder, a reciprocatory hammer arranged in said cylinder and operated by the motive fluid, a tool-holder, a valve operating in said valve-chamber, said cylinder provided with a water-space communicating with a water-supply, a nozzle carried by said hammer, said hammer provided with passages opening into said nozzle and adapted to communicate with said valve-chamber and said water-space, and said tool-holder provided with a channel and passage, said channel communicating with said nozle.

3. A pneumatic drill comprising a hammer having a pair of passages adapted to communicate with a fluid-supply, a nozzle carried by the hammer and communicating with the said passages for receiving the fluid therefrom, and a tool adapted to receive the fluid from said nozzle.

4. A pneumatic drill comprising a hammer having a pair of passages adapted to communicate with a fluid-supply, a nozzle carried by the hammer and communicating with said passages, and a tool-holder provided with a channel communicating with said nozzle.

5. A pneumatic drill comprising a cylinder having a valve-cylinder communicating with a motive-fluid supply and with the interior of the cylinder, said cylinder further provided with a fluid-space communicating with a fluid-supply, a reciprocatory hammer arranged in said cylinder, operated by the motive fluid and provided with passages communicating with said fluid-space, a nozzle carried by the hammer and communicating with said passages for receiving the fluid therefrom, and a tool adapted to receive the fluid from said nozzle.

6. A pneumatic drill comprising a hammer, a nozzle carried by and communicating through the hammer with a fluid-supply, and a tool-holder provided with a channel adapted to communicate with the nozzle for receiving the fluid therefrom.

7. A pneumatic drill comprising a hammer, a nozzle carried by and communicating through the hammer with a fluid-supply, a tool-holder provided with a channel adapted to communicate with the nozzle for receiving the fluid therefrom, and a tool carried by the tool-holder and provided with a passage communicating with the channel in the tool-holder for receiving the fluid therefrom.

841,070. SLUDGE-REMOVING MECHANISM FOR ACETYLENE-GAS GENERATORS. JUAN DE DIOS TEJADA, New York, N. Y. Filed Jan. 22, 1906. Serial No. 297,356.

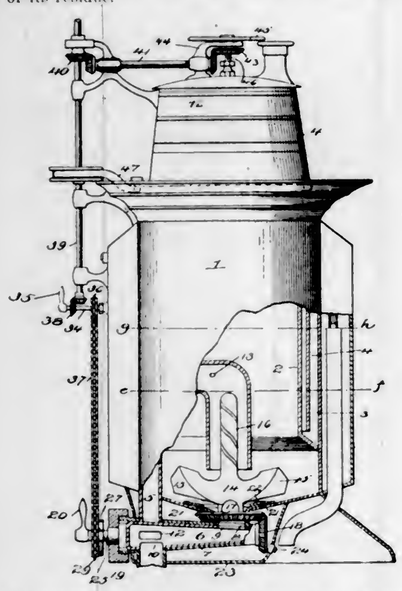
Claim.—1. A gas-generator comprising a casing having a gas-generating chamber formed therein, an inverted-U-shaped flushing-pipe extending into said generating-chamber, an opening near the bottom and a single valve mechanism capable of effecting the drainings of the generating-chamber through the outlet-pipe or directly through an aperture in the generating-chamber.

2. A gas-generator comprising a casing having a generating-chamber formed therein arranged to receive water and calcium carbid, a U-shaped outlet or flushing pipe having an enlarged inner end, the said inner end opening within the gas-chamber, and a stirring device mounted in the bottom of the generating-chamber and projecting into said enlarged end of the pipe.

3. A gas-generator comprising a casing having a water and carbid receiving compartment constituting a gas-generating chamber, a plurality of outlets formed in the base of said chamber, stirring means positioned in the bottom of said chamber and a single valve capable of controlling the discharge of materials from the generator through said outlets.

4. A gas-generator comprising a casing having a water and carbid receiving chamber for generating gas, the said chamber having an outlet in the central portion of the bottom, a flushing-pipe for conducting the material out of the chamber at another point, and a single valve operable exteriorly of the casing for controlling both outlets.

5. A gas-generator comprising a casing having a generating-chamber for receiving water and carbid, said chamber having a discharge-outlet and a curved discharge-pipe in the base, a hollow valve for controlling the passage of materials through the said curved pipe, and the outlet, the said valve being capable of closing either discharge means and opening either as it may be desired to clear the chamber of its residue.



6. A gas-generator comprising a casing having a water and carbid receiving chamber for forming gas, a plurality of means for forming a plurality of discharging-outlets at the bottom thereof, a valve-casing extending from one outlet to the other, a valve mounted in said casing and having ports arranged opposite each outlet, and means extending exteriorly of the casing for turning the valve, the discharge being permitted through one or the other outlet in accordance with the position of the valve.

7. A gas generator comprising a casing and a water and carbid receiving chamber for generating gas, the said chamber being provided with a plurality of outlets, a valve controlling both outlets, a pipe leading to one outlet and having an enlarged inner end opening within the gas-generating chamber, an agitator operable within the generating-chamber and having an agitating portion extending into the end of said pipe, and means extending exteriorly of the generator for operating said agitator.

8. A gas-generator comprising a casing having a chamber therein for receiving water and carbid for generating the gas, a discharge-outlet being formed centrally in the bottom of said chamber, a valve extending across said outlet, a stirring device within the chamber and above said outlet, and gearing connecting the stirring device with the said valve, the operation of the valve for opening the discharge-outlet causing the turning of the stirring device.

9. A gas-generator comprising a casing having a gas-generating chamber therein for receiving water and carbid, the said chamber having a plurality of discharge-openings at the bottom thereof, a single means for opening and closing said openings, a revoluble member positioned at the bottom of said chamber, a gear for turning said revoluble member, a stirring device extending into the gas-chamber and secured to said gear, and means outside the casing for actuating said gear.

10. A gas-generator comprising a casing formed with a gas-generating chamber having outlets at the base, a hollow valve extending across the outlets and having ports opposite each, the material from one outlet passing directly through the valve, while the material from the other outlet passes longitudinally of the valve and then out through its ports, and a packing-gland for holding said valve in position and preventing leakage therefrom.

11. A gas-generator comprising a casing having a generating-chamber in the lower portion thereof provided with a plurality of outlets, a stirring device in the lower portion of said chamber, a valve controlling said outlets and capable of operating said stirring device, and an auxiliary casing surrounding said valve to collect any drippings or leakage.

12. A gas-generator having a generating-chamber formed therein which is provided with outlets at the bottom, a stirrer mounted in the bottom of the generating-chamber having a hollow gear connected therewith, an annular flange carried by said gear and extending into an annular recess for sealing the movable joint formed between the parts, and a valve capable of controlling the outlet of materials from the generating-chamber and carrying a gear which meshes with the said hollow gear for operating the agitator.

13. A gas-generator comprising a generating-chamber, formed with a plurality of passage-ways for discharging matter therefrom, a screw-propeller-shaped stirrer positioned in the bottom of said chamber, means for rotating said stirrer and means for permitting the stirred material to be discharged through either of the discharge-passages of said generator.

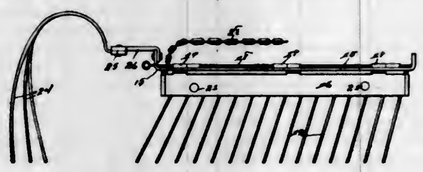
14. A gas-generator, comprising a generating-chamber formed with a discharge-opening centrally of the bottom thereof, a stirrer provided with a plurality of arms positioned at the bottom of said chamber, a set of gearings adapted to operate said stirrer, a valve for closing and regulating the discharge from the opening of said chamber, the operation of said valve operating said stirrer, and a plurality of means for operating said valve.

15. A gas-generator having a generating-chamber, an inverted-U-shaped flushing-pipe arranged in the bottom portion of the generating-chamber, and an agitator extending partially into the flushing-pipe and partially into the generating-chamber for breaking up deposits.

16. A gas-generator comprising a casing having a generating-chamber formed therein, an inverted-U-shaped flushing-pipe for said generating-chamber, an inclined bottom formed with a centrally-positioned aperture therein and a single valve for controlling the passage of the materials in the said generating-chamber through the opening in the inclined bottom and through the flushing-pipe.

17. In a gas-generator, a sludge-controlling valve having a valve-stem projecting beyond the casing of the generator, the said stem being formed with an annular flange having a recess in its face, a sprocket-wheel loosely mounted on the stem adjacent to the flange, a spring-actuated detent capable of engaging the recess in the flange for locking the parts together, a sprocket-chain engaging the sprocket-wheel and an actuated sprocket also engaging said sprocket-chain for turning the sludge-valve, the withdrawal of the detent operating to permit a movement of the sludge-valve irrespective of the sprocket-wheel.

841,071. CULTIVATOR ATTACHMENT. WILLIAM TIERNAN, Rolfe, Iowa. Filed Sept. 1, 1906. Serial No. 333,230.



Claim.—1. In an attachment for cultivators, a straight bar having longitudinal slots and two flat plates having hinge members at their tops extended up through said slots and a rod extended through the hinge members to operate as set forth.

2. In an attachment for cultivators, a straight bar and two flat plates pivotally connected with said bar to project downward and outward relative to the bar.

3. In an attachment for cultivators, a straight bar having longitudinal slots and two flat plates having hinge members at their tops extended up through said slots and a rod extended through the hinge members and a plurality of teeth fixed to each plate to extend down below the lower edge thereof, to operate as set forth.

4. In an attachment for cultivators, a straight bar and two flat plates pivotally and adjustably connected with said bar to project downward relative to the bar and a plurality of teeth fixed to each plate to extend down below the plate.

5. In an attachment for cultivators, a straight bar having longitudinal slots and two flat plates having hinge members at their tops extended up through said slots and a rod extended through the hinge members and a plurality of teeth fixed to each plate to extend down below the lower edge thereof, screw-bolts extended through holes in the plates, coil-springs on the bolts and thumb-nuts on the ends of the bolts to operate as set forth.

6. In an attachment for cultivators, a straight bar and two flat plates pivotally connected with said bar to project downward relative to the bar and a plurality of teeth fixed to each plate to extend down below the plate and means for spreading apart and holding the plates apart at different distances at different times as set forth.

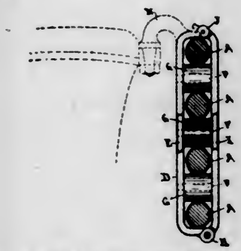
7. In an attachment for cultivators, a straight bar having teeth pivotally connected therewith to project outward and downward in reverse ways and a second bar having a cross-head at its rear end and spring-teeth fixed to the cross-head to project rearward and downward fixed to the rear end of the straight bar, to operate as set forth.

8. An attachment for cultivators comprising a straight bar, two flat plates pivotally connected with the straight bar, a plurality of teeth fixed to each plate and means for adjusting the flat plates arranged and combined to operate as set forth.

9. An attachment for cultivators comprising a straight bar, two flat plates pivotally connected with the straight bar, a plurality of teeth fixed to each plate and means for adjusting the flat plates, a bar having a cross-head and spring-teeth fixed to the cross-head, arranged and combined to operate as set forth.

10. An attachment for cultivators comprising a straight bar, two flat plates pivotally connected with the straight bar, a plurality of teeth fixed to each plate and means for adjusting the flat plates, a bar having a cross-head and spring-teeth fixed to the cross-head, and means for detachably connecting the attachment to cultivators, arranged and combined to operate as set forth.

841,072. BOW-SPACING CLAMP FOR VEHICLE-TOPS. MILES M. TROUT, Elmira, N. Y., assignor to Guy W. Shoemaker, Elmira, N. Y. Filed Feb. 15, 1906. Serial No. 301,170.

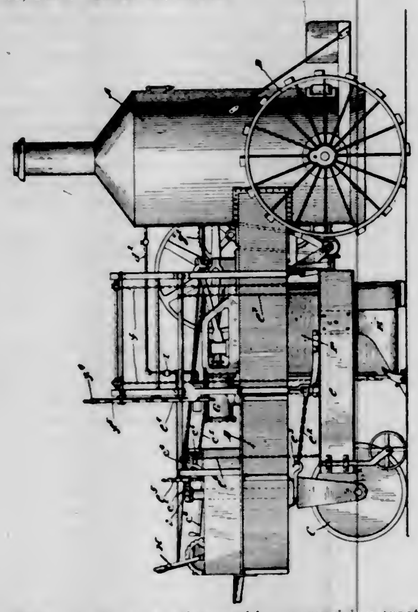


Claim.—1. A device of the character described comprising means for spacing apart the bows of a vehicle-top, when in lowered position, in combination with means for fastening the bows together when so spaced apart.

2. A spacing-clamp for vehicle-tops comprising a back piece, one or more studs projecting therefrom, and means for holding the stud or studs between the bows of the top.

3. A spacing-clamp for vehicle-tops comprising a rigid back piece, one or more studs projecting therefrom, a closing-piece hinged to one end of the back piece and adapted to close over the ends of the studs, and means for locking the free ends of said pieces together.

841,073. AUTOMOBILE DITCHING AND GRADING MACHINE. MORTON G. BUNNELL, Chicago, Ill., assignor to Western Wheeled Scraper Co., Aurora, Ill. Filed Dec. 28, 1901. Serial No. 87,549.



Claim.—1. An excavating-machine, comprising traction-wheels, an upright boiler, a frame or body structure extending forwardly from this boiler, a plow arranged at one side of said frame or body structure, a conveyer arranged transversely below said frame or body structure, the lower end of said conveyer being adapted and arranged to receive the dirt from said plow, an engine mounted upon said frame or body structure and connected with said boiler, power-transmitting connection between said engine and traction-wheels, and also between the engine and the conveyer, and forward running-gear for steering the said excavating-machine.

2. An excavating-machine, comprising a pair of rear traction-wheels, an upright boiler supported between said traction-wheels, forward running-gear for steering the machine, a forwardly-extending frame or body structure connecting said boiler with said running-gear, a plow suspended at one side of the waist portion of said frame or body structure, a belt conveyer suspended transversely below the waist portion of said frame or body structure, an engine mounted upon the waist portion of said frame or body structure, suitable power-transmitting connection between said engine and said traction-wheels, and suitable power-transmitting connection between said engine and said conveyer.

3. A traction-engine with an upright boiler and a forwardly-extending frame or body structure, and a plow and belt conveyer suspended from adjusting devices mounted upon the waist portion of said forwardly-extending frame or body structure, said adjusting devices being operable from the forward portion of the machine.

4. In a steam-propelled excavating and grading machine, the combination of traction and steering wheels, an upright boiler supported between the traction-wheels, a frame connecting the boiler with the forward running-gear, the frame and boiler serving as connection between the front and rear wheels, a suitable engine mounted upon said frame and connected with the boiler, a grading implement arranged to operate at one side of said frame, adjusting devices mounted upon said frame and adapted for raising and lowering said plow, an upwardly and laterally extending belt conveyer hung from the waist portion of said frame, the inner and lower end of said conveyer being adapted to receive the dirt from said grading implement, adjusting devices mounted upon said frame and adapted for raising and lowering said conveyer, steering mechanism for controlling the forward running-gear, power-transmitting connection between the engine and the traction-wheels and also between the engine and the conveyer, and independent power-transmitting connection between the engine and the steering mechanism.

5. In a self-propelling ditching and grading machine, the combination of traction and steering wheels, a suitable boiler and engine, a plow and a transversely-arranged conveyer, power-transmitting connection between the engine and traction-wheels, power-transmitting connections for independently driving the conveyer, suitable steering mechanism, and independent power-transmitting connection between said engine and said steering mechanism.

6. An automobile grading and ditching machine, comprising traction and steering wheels, an upright boiler supported between the traction-wheels, a frame or body structure connecting the boiler with the running-gear of the steering-wheel, the boiler serving as connection between the said frame or body structure and the traction-wheels, a suitable engine mounted upon said frame or body structure and connected with said boiler, a grading-plow arranged to operate at one side of said frame or body structure, a horizontally-disposed and transversely-arranged belt conveyer suspended from the waist portion of said frame or body structure, the inner and lower end of said conveyer being adapted to receive the dirt from said plow, independent power-transmitting connections between the engine and traction-wheels and conveyer, said power-transmitting connections being controlled by levers arranged adjacent to said steering-wheel, hand-wheel shafts mounted upon said frame or body structure, and flexible connections between said shafts and the plow and conveyer.

7. A steam grader and ditcher, comprising traction and steering wheels, a suitable boiler and engine, a plow and a transversely-arranged belt conveyer, power-transmitting connections for driving the traction-wheels and the conveyer, and a tank arranged to serve as medium of connection between the traction and steering wheels, said tank and boiler being also connected and arranged to conjointly sustain the weight of said conveyer, and also of the plow, when the latter is raised from the ground.

8. In a steam ditcher and grader, the combination of traction and steering wheels, a boiler and engine, a suitable plow, a conveyer arranged to receive the dirt from the plow and carry the same to a suitable point of discharge, power-transmitting connections between the engine and the conveyer, and also between the engine and the traction-wheels, steering mechanism independently controlled at the forward end of the machine, and controlling devices at the forward end of the machine for independently controlling the different power-transmitting connections.

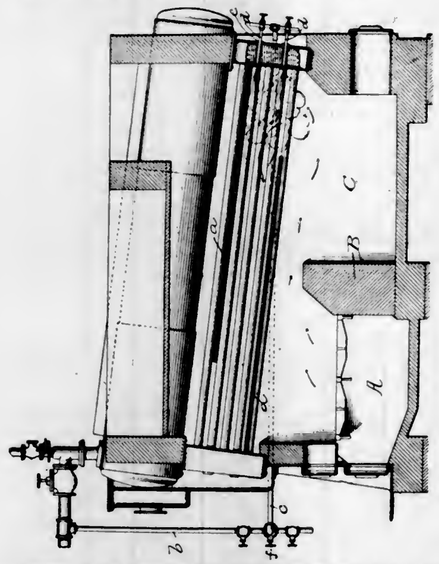
9. An automobile ditching and grading machine, comprising traction and steering wheels, an upright boiler supported between the traction-wheels, a horizontally-disposed tank forming medium of connection between the boiler and the forward running-gear, the boiler connecting the tank with the rear wheels, a suitable engine mounted upon said tank and connected with said boiler, piping for conducting oil or water or both from said tank to said boiler, a grading implement arranged to operate at one side of said tank, an upwardly-inclined and laterally-projecting conveyer hung from said tank, the inner and lower end of said conveyer being adapted to receive the dirt from said grading implement, power-transmitting connections for operating the conveyer, gearing between said engine and said traction-wheels, and adjusting devices mounted upon said tank and connected for raising and lowering the plow and conveyer.

10. An automobile excavating-machine, comprising traction and steering wheels, a prime mover for driving the traction-wheels, a fire-box structure supported between the traction-wheels, a horizontally-disposed tank serving as medium of connection between the fire-box structure and the forward running-gear, the said structure serving as a medium of connection between the said tank and traction-wheels, suitable piping for conducting fluid from said tank to said prime mover, the latter being constructed with a main crank-shaft, a longitudinally-arranged grading-plow, a transversely-arranged belt conveyer for receiving the dirt from said plow, independent power-transmitting connection between the conveyer and said crank-shaft, suitable steering mechanism and independently-controlled power-transmitting connection between said crank-shaft and said steering mechanism.

11. In a self-propelled ditching and grading machine, the combination of rear traction-wheels, an upright boiler supported between said traction-wheels, forward running-gear and steering mechanism, a horizontally-disposed tank extending between the boiler and forward running-gear, a grading-plow arranged to operate at one side of said tank, a transversely-arranged belt conveyer hung from said tank, the tank and boiler sustaining the weight of the conveyer, the said conveyer being arranged to receive the dirt from said plow, suitable piping for conducting oil or water or both from said tank to said boiler, steering mechanism; power-transmitting connection between the engine and the conveyer and traction-wheels, and independently-controlled power-transmitting connection between the engine and said steering mechanism.

12. In a grading and ditching machine, the combination of traction and steering wheels, excavating and conveying devices, a suitable prime mover, power-transmitting connection between the prime mover and the traction-wheels, power-transmitting connection between the prime mover and the conveying device, steering mechanism, power-transmitting connection between the prime mover and the steering mechanism, adjusting devices operable from the forward end of the machine and connected for raising and lowering the excavating and conveying devices, and controlling devices operable from the forward end of the machine and connected for independently controlling the different power-transmitting connections.

841,074. SMOKE-CONSUMING ATTACHMENT FOR BOILER-FURNACES. WILLIAM H. COLEIN, Baltimore, Md. Filed Apr. 23, 1906. Serial No. 313,220.



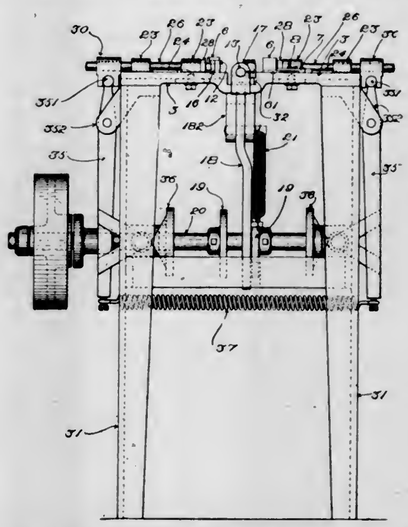
Claim.—1. In combination with a boiler-furnace having a combustion-chamber and a bridge-wall separating the combustion-chamber from the fire-box, means for supplying live steam to the combustion-chamber, said means being so arranged that the flow of the steam is across the path of the products of combustion, but in the general direction of the movement thereof, thus forming a cloud or curtain in a direction against the passage of the products of combustion but aiding in the draft.

2. In combination with a boiler-furnace having a combustion-chamber and a bridge-wall separating the combustion-chamber from the fire-box, means for supplying live steam to the combustion-chamber, said means being so arranged that the flow of the steam is across the path of the products of combustion, but in the general direction of the movement thereof, thus forming a cloud or curtain in a direction against the passage of the products of combustion but aiding in the draft, said steam being supplied with such force as to aid in cleaning the tubes and boiler-heating surface; substantially as described.

3. In a boiler-furnace in combination with the water-tubes and baffle-plates, a combustion-chamber, means for supplying live steam to the combustion-chamber, said means being so arranged that the steam is directed between the baffle-plates in the general direction of the draft, but across the path of the products of combustion, forming a cloud or curtain against the passage of the products of combustion, but also aiding in the draft; substantially as described.

4. In a boiler-furnace having baffle-plates extending in the direction of the tubes, steam-jets extending through the rear wall thereof and arranged to deliver live steam in the upper rear portion of the combustion-chamber in line with the tubes and across the path of the products of combustion and in the general direction of the draft, whereby a cloud or curtain is formed to envelop the products of combustion, the consumption thereof being aided and the tubes and boiler-heating surfaces kept clean, means located at the front of the boiler to control the steam-supply and a pipe extending from front to rear of the furnace to supply the steam-jets.

841,075. PAPER-BOX MACHINE. CHARLES C. DAVIS, Contoocook, N. H., assignor to The Kingsbury Box & Printing Company, Northampton, Mass., a Corporation of Connecticut. Filed Apr. 23, 1906. Serial No. 313,113.



Claim.—1. In a machine substantially such as described, in combination, corner-guides adapted to receive a flanged box member, oppositely-located punching devices to form thumb-holes in side flanges of the said box member, and oppositely-located punching devices adapted to form peep-holes or windows in end flanges of said box member.

2. In a machine substantially such as described, in combination, means to position a flanged box member, oppo-

sitely-located punching devices to form thumb-holes in side flanges of the said box member, and punching devices diagonally opposite with respect to each other and operating to form diagonally opposite openings in end flanges of the said box member.

3. In a machine substantially such as described, in combination, diagonally opposite corner-guides, opposite punching devices to form thumb-holes in the side flanges of a box member applied to the said corner-guides, and diagonally opposite punching devices alternating with the said corner-guides and operating to form openings in diagonally opposite portions of the end flanges of such box member.

4. In a machine substantially such as described, in combination, guides adapted to receive a flanged box member, means to adjust said guides to suit different sizes of boxes, oppositely-located punching devices to act on side flanges of the said box member, stands supporting the punches and dies, means to adjust said stands to correspond with different sizes of boxes, oppositely-located punching devices to act on end flanges of the said box member, stands supporting the punches and dies, and means to adjust the said stands to correspond with different sizes of boxes.

5. In a machine substantially such as described, in combination, guides adapted to receive a flanged box member, means to adjust said guides to suit different sizes of boxes, oppositely-located punching devices to act on side flanges of the said box member, stands supporting the punches and dies, means to adjust said stands toward and from each other, oppositely-located punching devices to act on end flanges of the said box member, stands supporting the punches and dies, and means to adjust the said stands toward and from each other.

6. In a machine substantially such as described, in combination, guides adapted to receive a flanged box member, means to adjust said guides to suit different sizes of boxes, oppositely-located punching devices to act on side flanges of the said box member, stands supporting the punches and dies, means to adjust said stands toward and from each other, oppositely-located punching devices to act on end flanges of the said box member, stands supporting the punches and dies, and means to adjust the said stands transversely.

7. In a machine substantially such as described, in combination, guides adapted to receive a flanged box member, means to adjust said guides to suit different sizes of boxes, oppositely-located punching devices to act on side flanges of the said box member, stands supporting the punches and dies, means to adjust said stands toward and from each other, oppositely-located punching devices to act on end flanges of the said box member, stands supporting the punches and dies, and means to adjust the said stands toward and from each other and also transversely.

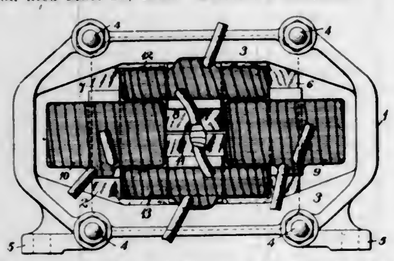
8. In a machine substantially such as described, in combination, guides adapted to receive a flanged box member, means to adjust said guides to suit different sizes of boxes, oppositely-located punching devices to act on side flanges of the said box member, stands supporting the punches and dies, means to adjust said stands toward and from each other, punching devices to act upon an end flange of the said box member, and means to adjust the said punching devices transversely of the box member.

9. In a machine substantially such as described, in combination, corner-guides adapted to receive a flanged box member, and diagonally opposite punching devices alternating with the said corner-guides and operating to form diagonally opposite openings in opposite flanges of the said box member.

10. In a machine substantially such as described, in combination, guides adapted to receive a flanged box member, means to adjust said guides to suit different sizes of boxes, diagonally opposite punching devices operating to form diagonally opposite openings in opposite flanges of such box member, and means to adjust the punching devices toward and from each other and also transversely.

11. In a machine substantially such as described, in combination, diagonally opposite corner-guides, opposite punching devices to form thumb-holes in the side flanges of a box member applied to the said corner-guides, diagonally opposite punching devices alternating with the said corner-guides and operating to form openings in the end flanges of such box member, and means to adjust the corner-guides and the punching devices to suit different sizes of box members.

841,076. TRANSFORMER. HARRY P. DAVIS, Pittsburg, and FRANK CONRAD, Swissvale, Pa., assignors to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Original application filed Jan. 20, 1904, Serial No. 189,903. Divided and this application filed Mar. 23, 1906. Serial No. 307,733.



Claim.—1. A transformer-core having three legs, the intermediate one of which is provided with an air-gap.

2. A transformer comprising two primary windings and a secondary winding, the fluxes induced by the primary windings being normally in the same direction and the secondary winding being energized only when the directions of the fluxes induced by the two primary windings oppose each other.

3. A transformer comprising two primary windings, a secondary winding and a core having three legs, the intermediate one of which is provided with an air-gap and upon which the secondary winding is placed, the primary windings being placed, respectively, on the outer legs.

4. A transformer comprising two primary windings, a secondary winding and a core having three legs the intermediate one of which has greater reluctance than the outer two and upon which the secondary winding is placed, the primary windings being placed, respectively, on the outer legs.

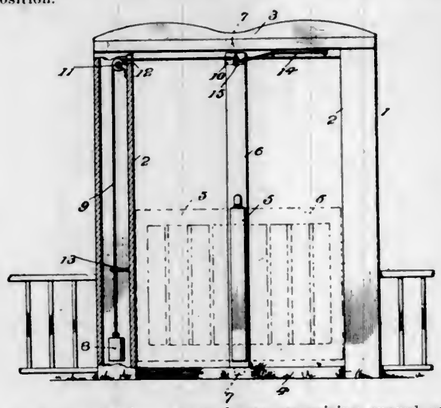
5. A transformer comprising a core having three legs, the intermediate one of which is provided with an air-gap, and a winding on each leg, those on the outer legs being primary windings so connected that they normally induce fluxes in the same direction in the core, the secondary winding which is on the intermediate leg being energized only when the fluxes induced by the primary windings oppose each other.

6. A tranformer having two primary windings and one secondary winding, a primary magnetic circuit of relatively low reluctance and primary magnetic circuits of high reluctance which are also the magnetic circuits for the secondary winding.

841,077. GATE. WILLIAM T. DOTSON, Manassa, Colo., assignor of one-fourth to Wilbur Sowards and Harmon Sowards, Manassa, Colo. Filed June 25, 1906. Serial No. 323,362.

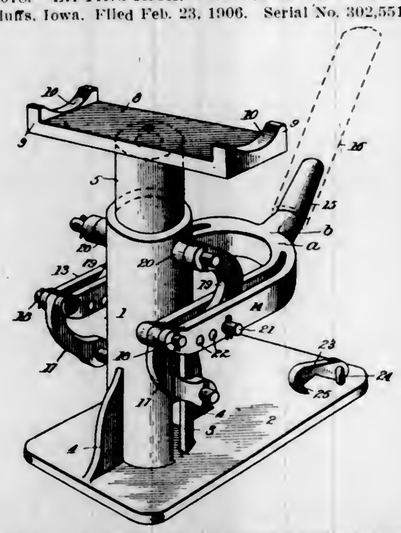
Claim.—1. In combination, a gate-frame comprising spaced uprights and top and lower bars connecting said uprights, a gate arranged between the uprights, a gate-bar having journals at its upper and lower ends mounted in bearings in the upper and lower bars of the gate-frame, weights movable on the uprights of the gate-frame, flexible connections connected at one end with the weights and having the other end attached to the upper portion of the gate-bar, sheaves or pulleys attached to the upper portion of the uprights and having the flexible connections passing thereover, and guides attached to the outer side of the gate-frame and having flexible connections passing therethrough.

2. In combination, a gate-frame comprising spaced uprights and top and lower bars connecting said uprights, a gate arranged between the uprights, a gate-bar having journals at its upper and lower ends mounted in bearings in the upper and lower bars of the gate-frame, weights movable on the uprights of the gate-frame, flexible connections connected at one end with the weights and having the other end attached to the upper portion of the gate-bar, sheaves or pulleys attached to the upper portion of the uprights and having the flexible connections passing thereover, guides attached to the gate-frame and having the flexible connnections passing therethrough, and a member secured at one end to the gate-frame and provided at its opposite end with engaging means to connect with the upper portion of the gate-post to hold the same in an open position.



3. In combination, a gate-frame comprising spaced uprights, a gate arranged between the uprights, a gate-bar having journals at its upper and lower ends mounted in bearings in the upper and lower bars of the gate-frame, weights connected with the upper end portion of the gate-bar to normally hold the same in closed position, and means for holding the gate in an open position temporarily and comprising a member secured at one end to the gate-frame and having an engaging member at its opposite end to connect with the gate-post.

841,078. LIFTING-JACK. PATRICK M. EGAN, Council Bluffs, Iowa. Filed Feb. 23, 1906. Serial No. 302,551.



Claim.—1. A lifting jack comprising a hollow standard, a lifting bar disposed within the standard, an operating lever, a plate confined within the standard to lift said bar upon movement of the operating lever in one direction.

2. A lifting jack comprising a hollow standard provided with oppositely disposed slots, a lifting bar disposed within the standard, an operating lever, a plate confined within the standard and provided with oppositely disposed lugs protruding through the slots of the standard, and connections between the said lugs of said plate and the operating lever to lift the plate and pull the said bar upwardly upon movement of the operating lever in one direction.

3. A lifting jack comprising a hollow standard, a lifting bar disposed within the standard, the latter having oppositely disposed slots, a plate disposed within the standard beneath said bar and provided with oppositely disposed lugs protuding through the slots of the standard, an operating lever, and interlocking connections between the lugs of said plate and the operating lever.

4. A lifting jack comprising a hollow standard, a lifting bar disposed within the standard, a plate disposed within the standard, an operating lever, and interlocking connections between the operating lever and said plate.

5. A lifting jack comprising a hollow standard, a lifting bar disposed within the standard and having an opening in one end, a cap removably disposed within the said opening of the lifting bar, a plate disposed within the standard for the support of the lifting bar, and connections between the operating lever and the said plate.

6. A lifting jack comprising a standard, a lifting bar, a plate for the support of the lifting bar, a cap removably mounted with respect to the lifting bar, an operating lever, and connections between the operating lever and the said plate.

7. A lifting jack comprising a standard, a lifting bar, a plate for the support of the lifting bar, a cap removably mounted with respect to the lifting bar, an operating lever, and interlocking connections between the lever and said plate.

8. A lifting jack comprising a standard, a lifting bar, a plate arranged for the support of the lifting bar, a cap removably mounted with respect to the lifting bar, an operating lever, and pairs of curved arms connecting the standard, the lever and said plate.

9. A lifting jack comprising a lifting bar, means for guiding the bar, a plate for the support of the lifting bar, and means having connection with the plate to raise it and lift the bar.

10. A lifting jack comprising a standard, a lifting bar, a plate for the support of the lifting bar, and an operating lever having connection with the plate to lift the bar.

11. A lifting jack comprising a standard, a lifting bar, a plate for the support of the lifting bar, an operating lever, and curved, interlocking arms between the lever and plate.

12. A lever for lifting jacks comprising a U-shaped member having a pair of spaced legs upon each side.

13. A lifting jack comprising a standard, a lifting bar, a plate for the support of the lifting bar, a lever, a pair of arms having pivotal connection with the standard and the lower edges of the lever, and another pair of arms having connection with said plate and the upper edges of said lever.

14. A lifting jack comprising a hollow standard, a lifting bar, an operating lever, a pair of arms having connection with the standard and the lower edges of the lever; and another pair of arms having connection with the interior of the standard and with the upper edges of the operating lever.

15. A lifting jack comprising a hollow standard having oppositely disposed slots therein, a lifting bar disposed within the standard, a plate arranged within the standard for the support of the lifting bar and provided with oppositely disposed lugs protruding through the aforesaid slots, a U-shaped operating lever provided with a pair of spaced legs upon each side, an arm disposed upon each side of the standard and pivotally connected therewith at its upper end, the lower end of each arm being disposed between the corresponding legs of the operating lever and pivoted therebetween near the lower edges thereof, another arm disposed upon each side of the standard beneath the afore-

said arms and pivoted at its upper end between the corresponding pair of legs of the operating lever and near the upper edges of said legs with its opposite end pivotally connected with the corresponding lug of said plate, and means permitting of adjustment of leverage.

16. A lifting jack comprising a lifting bar, means for guiding the bar, a plate for the support of the lifting bar, a cap removably mounted upon the bar, and means having connection with the plate to raise it and lift the bar.

17. A lifting jack comprising a standard, a lifting bar, a plate for the support of the lifting bar, an operating lever, and interlocking elements between the standard, the plate and the lever to exert a pulling action upon the bar upon movement of the lever in one direction.

18. A lifting jack comprising a standard, a lifting bar, a member arranged within the standard for the support of the bar, arms having connection with the standard, arms having connection with said member, and a lever supported by said arms.

19. A lifting jack comprising a standard, a lifting bar, arms having operative connection with the standard and bar, and a lever having connection with the arms, said arms being constructed and arranged to exert a pull upon the bar when the lever is moved in one direction and to interlock to hold the bar in its elevated position.

20. A lifting jack comprising a standard, a lifting bar arranged within the standard, arms having operative connection with the bar, and means supported by the arms for movement to pull upon the bar and interlock the arms.

21. A lifting jack comprising a lifting bar, means for guiding the bar, arms having operative connection with the bar, and means supported by the arms for movement to pull upon the bar and interlock the arms.

22. A lifting jack comprising a lifting bar, means for guiding the bar, arms having operative connection with the bar, and a lever supported by the arms for movement to pull the bar upwardly.

23. A lifting jack comprising a lifting bar, means for guiding the bar, arms having operative connection with the bar, a lever supported by the arms for movement to pull upon the bar, and means to lock the lever at one limit of its movement.

24. A lifting jack comprising a lifting bar, means for guiding the bar, means for supporting the bar, arms having operative connection with said means and arranged to interlock, a lever supported by the arms for movement to pull upon the bar and interlock said arms, and means for locking the lever in one of its positions.

25. A lifting jack comprising a lifting bar, means for guiding the bar, means for supporting the bar, an operating lever, and interlocking arms arranged upon each side of the bar and having connection with said means.

26. A lifting jack comprising a lifting bar, means for guiding the bar, interlocking arms arranged upon opposite sides of the bar, and an operating lever.

27. A lifting jack comprising a lifting bar, means for guiding the bar, interlocking arms arranged upon opposite sides of the bar, and an operating lever supported by the arms.

28. A lifting jack comprising a lifting bar, means for guiding the bar, arms upon opposite sides of the bar, and an operating lever having connection with said arms.

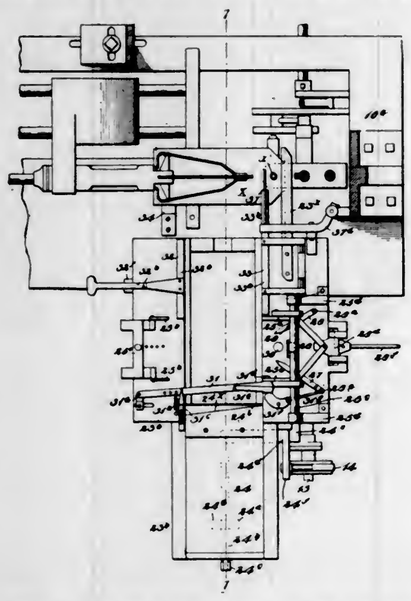
29. A lifting jack comprising a lifting bar, means for guiding the bar, means for supporting the bar, an upper arm, a lower arm, and an operating lever having connection with the arms, the upper arm having connection with the lever beneath the connection therewith and the connection of the upper end of the lower arm.

30. A lifting jack comprising a lifting bar, means for guiding the bar, means for supporting the bar, means for, lifting the bar, and interlocking connections between the second and third means, and a cap removably mounted with respect to the bar.

31. A lifting jack comprising a standard, a lifting bar guided thereby, an operating lever, a supporting link pivoted at its upper end to the standard and at its lower end to the operating lever, and a second link having a pivotal connection at its lower end with the lifting bar and at its upper end with the operating lever at a point removed from the pivotal connection with the first link.

32. A lifting jack comprising a standard, a lifting bar guided thereby, an operating lever, a supporting link pivoted at its upper end to the standard and at its lower end to the operating lever, and a second link having a pivotal connection at its lower end with the lifting bar and at its upper end with the operating lever at a point removed from the pivotal connection with the first link, the two links being reversely curved and so positioned that their points of pivotal connection with the lever pass each other and the links interlock on a downward movement of the lever.

841,079. TAG-FEEDER FOR TAG-WIRING MACHINES. JOSEPH J. ENGLERT, Chicago, Ill. Original application filed Sept. 15, 1905, Serial No. 278,662. Divided and this application filed Feb. 12, 1906. Serial No. 300,663.



Claim.—1. In a tag-wiring machine, feeding mechanism comprising a table, a magazine thereon in which the tags are piled, blades pivoted on the table beside the magazine and arranged to swing into the same in a plane parallel to the table-top, between the lowest tag and the next above, and a sliding carrier movable under the bottom of the magazine and arranged to carry said lowest tag therefrom.

2. In a tag-feeding mechanism, in combination, a magazine in which the tags are piled, a vertical adjustable block in the bottom of the magazine, to regulate the position of the lowest tag, means to separate the lowest tag from those above, and means to carry said lowest tag therefrom.

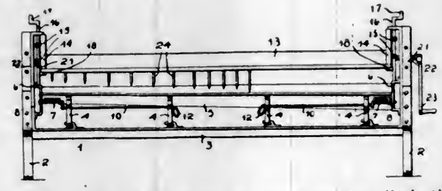
3. In a tag-feeding mechanism, in combination, a table, a magazine thereon in which tags are piled, a blade pivoted to the table and arranged to swing horizontally into the magazine in a plane parallel to the bottom thereof, between the lowest tag and those above, means to give the blade a slight lifting motion, to free the lowest tag, and a sliding carrier movable across the bottom of the magazine and arranged to carry said tag therefrom.

4. In a tag-feeding machine, in combination, a table, a magazine thereon, a blade movable into the magazine, between the lowest tag and those above, a stud projecting upwardly from the table in the path of the blade and up which the blade rides after it enters between the tags, to free the lowest tag from those above, and a sliding carrier movable under the blade and constructed to carry a tag from the magazine.

5. In a tag-feeding mechanism, in combination, a magazine in which tags are piled, and a carrier-plate slidable under the magazine and having a groove in its front edge, the edge above the groove being inclined laterally, to present a corner in advance at one side, adapted to enter between the lowest tag and those above.

6. In a tag-feeding mechanism, in combination, a table, a magazine thereon in which tags are piled, a carrier movable thereunder and adapted to remove the lowest tag, and a lever pivoted to the table-top and swinging in a plane parallel to said top and having a wedge movable in between the said tag and those above, to separate the same and allow the carrier to engage said tag.

841,080. FENCE-POST MOLD. JACOB B. ENGSTROM, Manchester, Iowa. Filed Mar. 26, 1906. Serial No. 303,022.



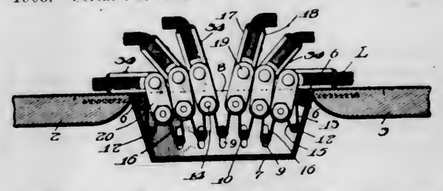
Claim.—1. In a mold of the character described, the combination with a supporting-frame having rigid supporting-standards connected by a longitudinally-disposed supporting-bar, of a mold-box pivotally connected to said bar, latch-bolts arranged on said mold-box to hold the same in an operative and a tilted position, a plunger slidably mounted between said standards, vertically-disposed guide-rods arranged on the latter, apertured guide-lugs secured to said plunger and to slidably engage said guide-rods when said plunger is raised or lowered, means whereby said plunger is operated, and means to support the same in an elevated position, substantially as described.

2. In a mold-box of the character described, the combination with a supporting-frame having rigid end supporting-standards connected by a longitudinally-disposed supporting-bar, of supporting-brackets hingedly connected to said bar, a mold-box arranged in said brackets, end plates secured to said standards at each end of said mold-box, spring-projected latch-bolts arranged on one side of said box to engage keeper holes or apertures formed in said plates, whereby said box is held in an operative position and in a tilted position for filling, a plunger arranged above said mold-box, vertically-disposed guide-rods secured to said standards, means to slidably engage said plunger with said guide-rods, means to raise and lower the plunger, and means to hold the same in an elevated position, substantially as described.

3. In a mold-box of the character described, the combination with a supporting-frame having rigid end supporting-standards connected by a longitudinally-disposed supporting-bar, of supporting-brackets hingedly connected to said bar, a mold-box arranged in said brackets, end plates secured to said standards at each end of said mold-box, spring-projected latch-bolts arranged on one side of said box to engage keeper holes or apertures formed in said plates, whereby said box is held in an operative position and in a tilted position for filling, a plunger arranged above said mold-box, vertically-disposed guide-rods secured to said standards, means to slidably engage said plunger with said guide-rods, detents arranged on said guide-rods to hold said plunger in an elevated position, crank-handles formed on the upper ends of said rods, whereby the same may be turned to engage said detents with and disengage the same from said plunger, and means to raise and lower the plunger, substantially as described.

4. In a mold-box of the character described, the combination with a supporting-frame having rigid end supporting-standards connected by a longitudinally-disposed supporting-bar, of supporting-brackets hingedly connected to said bar, a mold-box arranged in said brackets, end plates secured to said standards at each end of said mold-box, spring-projected latch-bolts arranged on one side of said box to engage keeper holes or apertures formed in said plates, whereby said box is held in an operative position and in a tilted position for filling, retracting rods and handles connected to said bolt whereby the same are released from said keeper holes, bearing-lugs arranged on the inner sides of said standards, guide-rods revolubly mounted in said bearing-lugs, a plunger arranged between the upper ends of said standards, apertured guide-lugs arranged on the ends of said plunger to slidably engage said guide-rods, a detent formed on said rods, crank-handles formed on the upper ends of the latter to turn the same to engage said detent with and disengage the same from said plunger, whereby the latter is held in an elevated position, rack-bars secured to one side of said plunger adjacent to the opposite end thereof, a longitudinally-disposed operating-shaft journaled in bearings on said standards, and pinions mounted on said shaft to engage said racks, thereby providing means for raising and lowering the plunger, substantially as described.

841,081. BINDER. ANTHONY FAIFER, Chicago, Ill., assignor to M. M. Chesrown, Chicago, Ill. Filed Apr. 3, 1905. Serial No. 253,400.



Claim.—1. In a binder the combination with a cover comprising a back, of a series of flexible leaf-clamps movable bodily with relation to said back, and means for limiting said movement.

2. In a binder the combination of a cover comprising a back, a series of leaf-clamps flexibly linked together across said back, means for attaching the ends of the series to the cover, and means for limiting their outward movement.

3. In a binder the combination of a cover comprising a back, a series of leaf-clamps flexibly linked together across said back and movable outwardly with relation thereto at the intermediate part of the series, the ends of the series being attached to the cover and means for limiting said outward movement in relation to the back.

4. In a binder the combination of a cover comprising a back, a series of leaf-clamps, guide-rods, said clamps being flexibly linked to said rods, and means for attaching the ends of the series to the cover.

5. In a binder the combination of a cover comprising a back, a series of leaf-clamps flexibly linked together and being individually flexible on axes extending lengthwise of the back, and means for limiting the outward movement of said clamps with relation to the back.

6. In a binder the combination of a cover comprising a back, a series of leaf-clamps flexibly linked across the back, pins projecting from said leaf-clamps and plates secured to the back and having slots in which said pins engage.

7. In a binder the combination of a cover comprising a back, a series of rods or pins extending lengthwise of the back, a pair of clamping-jaws hinged to each of said pins or rods, a second series of rods extending parallel with the first said series, means for fixing the end rods of the second series with relation to said back, and hinge-leaves connecting each of the rods of the first series with two of the rods of the second series.

8. In a binder the combination of a cover comprising a back, a series of rods or pins extending lengthwise of the back, a pair of clamping-jaws hinged to each of said rods, a second series of rods extending parallel with the first said rods, means for fixing the end rods of the second series with relation to the back, hinge-leaves connecting each of the rods of the first series with two of the rods of the second series, and slotted end plates in which the ends of the rods of the second series engage for limiting the outward movement of the clamping-jaws.

9. In a binder the combination of a cover comprising a back, a curve or offset from the plane of the inner face of the cover when the cover is open, a series of clamping-jaws flexibly hinged together across the back with the end jaws of said series so positioned with relation to the back and the cover that when the cover is open said jaws will lie substantially flat against the inner face of the cover, and means for limiting the outward movement of the jaws.

10. In a binder the combination of a cover, a clamp for holding a section of leaves, comprising two jaws hinged together and having registering slots, one of which is enlarged at one end, a flanged pin passing through said registering slots for clamping the jaws together, a nut having screw-threaded connection with said pin and adapted to press against one of the jaws, and means for attaching said clamp to the cover.

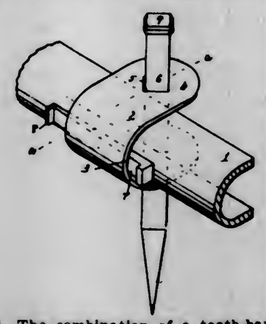
11. In a binder the combination of a cover, a leaf-clamp comprising two hinged jaws having registering slots and said jaws being countersunk around the edges of said slots, a pin passing through said slots and having a flange on one end seated in the countersink of one of said jaws and a nut screwed on the other end and seated in the countersink of the other of said jaws, and means for attaching said clamp to the cover.

12. In a binder the combination of a cover, a leaf-clamp comprising two hinged jaws having registering slots enlarged at one end and countersunk around their edges, a pin passing through said slots and having squared head on one end fitting in the countersink in one of said jaws and a nut on the other end fitting in the countersink in the other of said jaws and adapted to pass through said enlargement, and means for attaching said clamp to the cover.

13. In a binder, the combination of a cover comprising a back, a series of rods movably mounted on the back, a series of leaf-clamps and interposed members engaging said clamps and rods to form flexible connections therebetween, said clamps being independently movable about their points of engagement with the members.

14. In a binder, the combination of a cover comprising a back, provided with a plurality of guideways, a series of rods mounted and movable within said ways, a series of leaf-clamps, and links pivotally connecting the clamps and rods, said clamps being movable independently of the rods, and said rods and clamps being both movable with relation to the back.

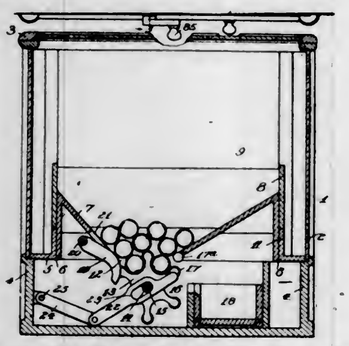
841,082. HARROW-TOOTH FASTENER. CLAUDE E. FREEMAN, Hamilton, Ohio, assignor to The H. P. Deuscher Company, Hamilton, Ohio, a Corporation of Ohio. Filed June 26, 1906. Serial No. 323,467.



Claim.—1. The combination of a tooth-bar, a clip consisting of a single piece of thin resilient metal formed with a central bend adapted to partially encircle the bar and with parallel wings which terminate beyond the face of the bar, said wings being each provided with a rectangular opening in registration with the other and quartering to the direction of the bar, a headed rectangular tooth longitudinally adjustable through the openings, and a narrow wedge provided with a retaining-toe and interposed between the curved portion of the clip and the rear side of the bar, whereby the curvature of the clip may be elongated and the clip and tooth thereby yieldingly maintained in adjusted positions on the bar.

2. The combination of a U-bar, a clip formed of resilient metal and adapted to encircle three sides thereof, said clip terminating its ends in parallel wings beyond the face of the bar and said wings being provided with rectangular openings in registration with each other, and set quartering to the face of the bar, a tooth formed rectangular in cross-section and provided with a head, said tooth being adjustable through the openings, and a wedge interposed between the clip and rear face of the bar for yieldingly clamping the tooth with one of its corners in contact with the face of the bar.

841,083. CIGAR-VENDING MACHINE. ISAAC H. GARSON, Rochester, N. Y., assignor to The Garson Vending Machine Company, a Corporation of New Jersey. Original application filed Dec. 16, 1904, Serial No. 237,138. Divided and this application filed Mar. 6, 1905. Serial No. 248,373.



Claim.—1. In a cigar-vending machine, the combination with a suitable casing and a box-support arranged in the casing and having a central aperture therein, of a hopper fitted into the aperture of the box-support and having vertical side walls extending upwardly beyond the box-support and adapted to rest within and coöperate with the inner sides of a box resting on said support.

2. In a cigar-vending machine, the combination with a suitable casing, and an upwardly-extending flange having its upper edge lying in a horizontal plane to form a box-support, of a hopper fitted within the flange and having vertical sides projecting above the top edges of the flange and arranged to rest within and coöperate with the inner sides of a box resting on said flange.

3. In a cigar-vending machine, the combination with a suitable casing, and a rectangular vertically-extending flange arranged in the casing having a horizontal upper edge adapted to form a cigar-box support, of a hopper having portions inclosed and centered by the flange, and vertically-extending portions projecting above the upper edge of the flange and arranged to coöperate with the inner sides of a cigar-box to center it in relation to said flange.

4. In a device for vending cigars, the combination with a suitable casing, and a hopper mounted therein, of a rotary delivery device mounted in coöperative relation with the hopper and having pockets for receiving the cigars from the hopper, cigar-engaging rollers journaled on the delivery device between the pockets thereof and a relatively fixed roller adjacent to the drum and arranged to receive each cigar between it and the drum during the discharge of the cigars from the delivery device.

5. In a device for vending cigars, the combination with a suitable casing, and a hopper or cigar-container mounted therein, of a rotatable drum having a series of axially-arranged cigar-receiving pockets therein, rollers on the drum between the pockets thereof and a roller journaled at the discharge-opening of the hopper in proximity to the drum and arranged to produce rolling engagement with the cigars as the latter are pushed past it by the rollers on the drum while the cigars are resting in their respective pockets of the drum.

6. In a device for vending cigars, the combination with a suitable casing, a hopper arranged therein and having discharge-apertures therein, and a roller journaled at one side of the discharge-aperture of the hopper, of a rotatable drum provided with axially-arranged cigar-receiving pockets for carrying the cigars past said roller, and rollers mounted on the drum and arranged to engage the cigars in their respective pockets for pushing them with rolling engagement past the first-mentioned roller.

7. In a device for vending cigars, the combination with a hopper having a discharge-aperture formed therein, of a rotatable carrier mounted in coöperative relation with the hopper and having pockets therein to receive the cigars therefrom, an arm mounted transversely of the carrier and adapted to be actuated by engagement with an article in the carrier, and a relatively fixed roller mounted opposite to the said arm to coöperate with the cigar while it is in engagement with the said arm.

8. In a device for vending cigars, the combination with a hopper having a discharge-aperture formed therein, of a delivery-carrier mounted in coöperative relation therewith and provided with axially-arranged pockets to receive the cigars, and agitating-fingers mounted to operate in a direction transversely of the pockets of the carrier and having portions extending into the pockets thereof for arranging the cigars to properly enter the pockets.

9. In a vending-machine, the combination with a casing, a receptacle for the articles to be vended, and a delivery device coöperatively arranged therewith, of a drawer movably mounted in the casing, a locking device for normally retaining the drawer within the casing, and means controlled by the operation of the delivery device for unlocking the drawer.

10. In a vending-machine, the combination with a receptacle for the articles to be vended, and a delivery device coöperatively arranged therewith, of a drawer movably mounted in the casing, a flexible arm coöperatively arranged between the drawer and a relatively fixed portion of the casing for locking the drawer within the casing, a cam controlled by the operation of the delivery device, and an arm operated thereby and coöperating with the said arm for unlocking the drawer.

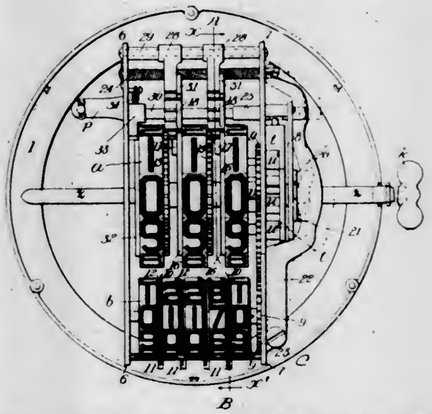
11. In a cigar-vending machine, the combination with a suitable hopper or cigar-container, of a rotatable drum having a series of axially-extending pockets having their walls curved at the bottoms of the pockets to conform substantially to the transverse curvature of the cigars, and normally holding the cigars centered in the drum, and rollers journaled in the drum at points between the pockets thereof and normally above the cigars resting therein, and serving to produce rolling engagement with the cigars in discharging the latter from their pockets of the drum.

12. In a device for vending cigars, the combination with a hopper having a discharge-aperture formed therein, of a rotatable drum mounted in coöperative relation with the hopper and having axially-extending pockets therein to receive the cigars therefrom, a pivoted arm extending transversely of the drum having a portion arranged to be engaged by the cigars while in the pockets of the drum, a relatively fixed roller journaled opposite to the pivoted arm and adjacent to the periphery of the drum, and arranged to engage the cigars while in engagement with the said arm, and a roller journaled in the walls of each of the pockets of the carrier and mounted to engage behind the cigars to eject them between the coöperating portion of the said arm and the relatively fixed roller, and operating means for the drum.

13. In a device for vending cigars, the combination with a hopper having a discharge-aperture formed therein, of a rotatable drum mounted in coöperative relation with the hopper and having a series of axially-extending pockets formed therein for the reception of the cigars from the hopper, an oscillatory arm pivoted transversely of the axis of the hopper and having a portion adapted to coöperate with the cigars while leaving the pockets of the drum, means for imparting a longitudinal motion to the said arm while the latter is being moved about its pivot by the cigar in the drum, and operating means for the drum.

14. In a device for vending cigars, the combination with a hopper having a discharge-aperture therein, of a rotatable drum mounted in coöperative relation with the hopper and having a series of axially-extending pockets therein for the reception of the cigars from the hopper, an oscillatory arm mounted to operate in a plane transversely of the axis of the drum and having portions projecting into the pockets of the drum, means for moving the said arm outwardly of the drum while the said arm is being swung about its pivot, rollers journaled in the walls of the pockets for engaging the cigars and moving them against the coöperating portion of the said arm to operate the latter, and operating means for the drum.

841,084. FARE-REGISTER. CHARLES E. GIERDING, Newark, N. J. Filed Sept. 28, 1906. Serial No. 336,603.



Claim.—1. A fare-register having, in combination with a totalizer, a series of decimal trip-register numeral-wheels arranged side by side, means for actuating said totalizer and simultaneously actuating the trip-register units-wheel step by step for the registration of fares, means for transmitting such motion from said units-wheel to the trip-register tens-wheel and so on, including a transmission device carried by the left-hand side of each wheel having a wheel of higher value at its left, a trip-pinion adapted to interact with said transmission device and a spur-ring in constant mesh with said trip-pinion carried by the right-hand side of each wheel to the left, said transmission device being adapted to contact with said trip-pinion when the numeral-wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, and means whereby the trip-pinions are prevented from turning backward, whereby said trip-pinions are adapted to interact with said transmission devices as zero-stops for the interacting numeral-wheels.

2. A fare-register having, in combination with a totalizer, a series of decimal trip-register numeral-wheels arranged side by side, means for actuating said totalizer and simultaneously actuating the trip-register units-wheel step by step for the registration of fares, means for transmitting such motion from said units-wheel to the trip-register tens-wheel and so on, including a transmission device carried by the left-hand side of each wheel having a wheel of higher value at its left, a trip-pinion adapted to interact with said transmission device and a spur-ring in constant mesh with said trip-pinion carried by the right-hand side of each wheel to the left, said transmission device being adapted to contact with said trip-pinion when the numeral-wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, and a dog interacting with each trip-pinion to prevent the same from turning back-

ward, whereby the trip-pinions are adapted to interact with said transmission devices as zero-stops for the interacting numeral-wheels.

3. A fare-register having, in combination with a totalizer, a series of decimal trip-register numeral-wheels arranged side by side, means for actuating said totalizer and simultaneously actuating the trip-register units-wheel step by step for the registration of fares, means for transmitting such motion from said units-wheel to the trip-register tens-wheels and so on, including a transmission device carried by the left-hand side of each wheel having a wheel of higher value at its left, a trip-pinion adapted to interact with said transmission device and a spur-ring in constant mesh with said trip-pinion carried by the right-hand side of each wheel to the left, said transmission device being adapted to contact with said trip-pinion when the numeral-wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, and a spring-pressed dog interacting with each trip-pinion to prevent the same from turning backward, whereby the trip-pinions are adapted to interact with said transmission devices as zero-stops for the interacting numeral-wheels.

4. A fare-register having, in combination with a totalizer, a series of decimal trip-register numeral-wheels arranged side by side, means for actuating said totalizer and simultaneously actuating the trip-register units-wheel step by step for the registration of fares, means for transmitting such motion from said units-wheel to the trip-register tens-wheels and so on, including a transmission device carried by the left-hand side of each wheel having a wheel of higher value at its left, a trip-pinion adapted to interact with said transmission device and a spur-ring in constant mesh with said trip-pinion carried by the right-hand side of each wheel to the left, said transmission device being adapted to contact with said trip-pinion when the numeral-wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, a rod parallel to the axis of said trip-pinions, dogs pivoted on said rod and interacting with the teeth of said trip-pinions to prevent the same from turning backward in the resetting operation, and a tensile spring stretched parallel to said rod and arranged to hold said dogs to their work by sidewise pressure of the spring.

5. A fare-register having, in combination with a totalizer, a series of decimal trip-register numeral-wheels arranged side by side, means for actuating said totalizer and simultaneously actuating the trip-register units-wheel step by step for the registration of fares, means for transmitting such motion from said units-wheel to the trip-register tens-wheel and so on, including a transmission device carried by the left-hand side of each wheel having a wheel of higher value at its left, a trip-pinion in the form of a small spur-wheel and a star-wheel of the same diameter side by side adapted to interact with said transmission device and a spur-ring in constant mesh with said trip-pinion carried by the right-hand side of each wheel to the left, said transmission device being adapted to contact with the star-wheel teeth of said trip-pinion when the numeral-wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, and a spring-pressed dog adapted to interact with the teeth of said spur-wheel portion of each trip-pinion and constructed with a lateral extension adapted to interact with a pair of the teeth of said star-wheel portion of the trip-pinion to prevent the same from turning backward in the resetting operation.

6. A fare-register having, in combination with a totalizer, a series of decimal trip-register numeral-wheels arranged side by side, means for actuating said totalizer and simultaneously actuating the trip-register units-wheel step by step for the registration of fares, means for transmitting such motion from wheel to wheel, including a suitably-spaced pair of spur-teeth carried by the left-hand side of each numeral-wheel having a wheel of higher value at its left, a trip-pinion in the form of a small spur-wheel and a star-wheel of the same diameter side by side adapted to mesh by its star-wheel teeth with the space between said pair of teeth and a spur-ring in constant mesh with the spur-wheel teeth of said trip-pinion carried by the right-hand side of the adjoining numeral-wheel, said pair of teeth being adapted to contact with the star-wheel teeth of said trip-pinion when the numeral-wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, and means whereby said trip-pinions are prevented from turning backward in the resetting operation.

7. A fare-register having, in combination with a totalizer, a series of decimal trip-register numeral-wheels arranged side by side, means for actuating said totalizer and simultaneously actuating the trip-register units-wheel step by step for the registration of fares, means for transmitting such motion from wheel to wheel, including a suitably-spaced pair of spur-teeth carried by the left-hand side of each numeral-wheel having a wheel of higher value at its left, a trip-pinion in the form of a small spur-wheel and a star-wheel of the same diameter side by side adapted to mesh by its star-wheel teeth with the space between said pair of teeth and a spur-ring in constant mesh with the spur-wheel teeth of said trip-pinion carried by the right-hand side of the adjoining numeral-wheel, said pair of teeth being adapted to contact with the spur-teeth of said trip-pinion when the numeral-wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, and a dog interacting with each trip-pinion to prevent the same from turning backward in the resetting operation.

8. A fare-register having, in combination with a totalizer, a series of decimal trip-register numeral-wheels arranged side by side, means for actuating said totalizer and simultaneously actuating the trip-register units-wheel step by step for the registration of fares, means for transmitting such motion from wheel to wheel, including a suitably-spaced pair of spur-teeth carried by the left-hand side of each numeral-wheel having a wheel of higher value at its left, a trip-pinion in the form of a small spur-wheel and a star-wheel of the same diameter side by side adapted to mesh by its star-wheel teeth with the space between said pair of teeth and a spur-ring in constant mesh with the spur-wheel teeth of said trip-pinion carried by the right-hand side of the adjoining numeral-wheel, said pair of teeth being adapted to contact with the star-wheel teeth of said trip-pinion when the numeral-wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, and means whereby said trip-pinions are prevented from turning backward in the resetting operation.

9. A fare-register having, in combination with a totalizer, a series of decimal trip-register numeral-wheels arranged side by side, means for actuating said totalizer and simultaneously actuating the trip-register units-wheel step by step for the registration of fares, means for transmitting such motion from wheel to wheel, including a suitably-spaced pair of spur-teeth carried by the left-hand side of each numeral-wheel having a wheel of higher value at its left, a trip-pinion in the form of a small spur-wheel and a star-wheel of the same diameter side by side adapted to mesh by its star-wheel teeth with the space between said pair of teeth and a spur-ring in constant mesh with the spur-wheel teeth of said trip-pinion carried by the right-hand side of the adjoining numeral-wheel, said pair of teeth being adapted to contact with the star-wheel teeth of said trip-pinion when the numeral-wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, a rod parallel to the axis of said trip-pinions, dogs pivoted on said rod and interacting with each trip-pinion to prevent the same from turning backward in the resetting operation, and a tensile spring stretched parallel to said rod and holding said dogs to their work by sidewise pressure.

10. A fare-register having, in combination with a totalizer, a series of decimal trip-register numeral-wheels arranged side by side, means for actuating said totalizer and simultaneously actuating the trip-register units-wheel step by step for the registration of fares, means for transmitting such motion from wheel to wheel, including a suitably-spaced pair of spur-teeth carried by the left-hand side of each numeral-wheel having a wheel of higher value at its left, a trip-pinion in the form of a small spur-wheel and a star-wheel of the same diameter side by side adapted to mesh by its star-wheel teeth with the space between said pair of teeth and a spur-ring in constant mesh with the spur-wheel teeth of said trip-pinion carried by the right-hand side of the adjoining numeral-wheel, said pair of teeth being adapted to contact with the star-wheel teeth of said pinion when the numeral-wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, and a spring-pressed dog interacting with the teeth of said spur-wheel portion of each trip-pinion to prevent the trip-pinion from turning backward in the resetting operation and constructed with a lateral extension adapted to interact with a pair of the star-wheel teeth of said trip-pinion when the trip-pinion is at rest.

11. A register having, in combination, a series of decimal numeral-wheels arranged side by side, means for turning the units-wheel forward in the registering operation, means for transmitting such motion from said units-wheel to the adjoining tens-wheel and so on, including a transmission device carried by the left-hand side of each numeral-wheel having a wheel of higher value at its left, a trip-pinion adapted to interact with said transmission device and a spur-ring in constant mesh with said trip-pinion carried by the right-hand side of the adjoining numeral-wheel, said transmission device being adapted to contact with said trip-pinion when the numeral-wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, means whereby each trip-pinion is prevented from turning backward and is thus adapted to interact with the corresponding transmission device as a zero-stop for the interacting numeral-wheel, and means for stopping the left-hand numeral-wheel at zero in the resetting operation.

12. A register having, in combination, a series of decimal numeral-wheels arranged side by side, means for turning the units-wheel forward in the registering operation, means for transmitting such motion from said units-wheel to the adjoining tens-wheel and so on, including a transmission device carried by the left-hand side of each numeral-wheel having a wheel of higher value at its left, a trip-pinion adapted to interact with said transmission device and a spur-ring in constant mesh with said trip-pinion carried by the right-hand side of the adjoining numeral-wheel, said transmission device being adapted to contact with said trip-pinion when the numeral-wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, means whereby each trip-pinion is prevented from turning backward and is thus adapted to interact with the corresponding transmission device as a zero-stop for the interacting numeral-wheel, and means for stopping the left-hand numeral-wheel at zero in the resetting operation while it permits the same to be turned forward past zero in the registering operation.

13. A register having, in combination, a series of decimal numeral-wheels arranged side by side, means for turning the units-wheel forward in the registering operation, means for transmitting such motion from said units-wheel to the adjoining tens-wheel, and so on, including a transmission device carried by the left-hand side of each numeral-wheel having a wheel of higher value at its left, a trip-pinion adapted to interact with said transmission device and a spur-ring in constant mesh with said trip-pinion carried by the right-hand side of the adjoining numeral-wheel, said transmission device being adapted to contact with said trip-pinion when the numeral-wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, means whereby each trip-pinion is prevented from turning backward and is thus adapted to interact with the corresponding transmission device as a zero-stop for the interacting numeral-wheel, a ring attached to the left-hand side of the left-hand numeral-wheel and constructed with a zero-stop notch, and a spring-pressed dog interacting with said notch to prevent turning said wheel backward beyond zero while it permits the same to be turned forward past zero in the registering operation.

14. A register having, in combination, a series of decimal numeral-wheels arranged side by side, means for turning the units-wheel forward in the registering operation, means for transmitting such motion from said units-wheel to the adjoining tens-wheel, and so on, including a transmission device carried by the left-hand side of each numeral-wheel having a wheel of higher value at its left, a trip-pinion adapted to interact with said transmission device and a spur-ring in constant mesh with said trip-pinion carried by the right-hand side of the adjoining numeral-wheel, said transmission device being adapted to contact with said trip-pinion when the numeral-wheel carrying the same is turned in either direction, a rotatable shaft common to said numeral-wheels, a resetting-key by which said shaft is turned, means for transmitting backward resetting motion from said shaft to said numeral-wheels individually, and means whereby said trip-pinion is prevented from turning backward, whereby each trip-pinion is adapted to form an effective zero-stop for the interacting numeral-wheel.

15. A register having, in combination, a series of decimal numeral-wheels arranged side by side, actuating means for turning the units-wheel forward in the registering operation, means for transmitting such motion from said units-wheel to the adjoining tens-wheel, including a transmission device carried by the left-hand side of each numeral-wheel having a wheel of higher value at its left, a trip-pinion adapted to interact with said transmission device and a spur-ring in constant mesh with said trip-pinion carried by the right-hand side of the adjoining numeral-wheel, said transmission device being adapted to contact with said trip-pinion when the numeral-wheel carrying the same is turned in either direction, a rotatable shaft common to said numeral-wheels, a resetting-key by which said shaft is turned, means for disconnecting the numeral-wheels from the registering-actuator and for transmitting backward resetting motion from said shaft to said numeral-wheels individually, and means whereby said trip-pinion is prevented from turning backward, whereby each trip-pinion is adapted to form an effective zero-stop for the interacting numeral-wheel.

16. A register having, in combination, a series of decimal numeral-wheels arranged side by side, actuating means for turning the units-wheel forward in the registering operation, means for transmitting such motion from said units-wheel to the adjoining tens-wheel, and so on, including a transmission device carried by the left-hand side of each numeral-wheel having a wheel of higher value at its left, a trip-pinion adapted to interact with said transmission device and a spur-ring in constant mesh with said trip-pinion carried by the right-hand side of the adjoining numeral-wheel, said transmission device being adapted to contact with said trip-pinion when the numeral-wheel carrying the same is turned in either direction, an endwise-movable and rotatable shaft common to said numeral-wheels, a resetting-key by which said shaft is turned, means for transmitting backward resetting motion from said shaft to said numeral-wheels individually, means for holding said shaft in its registering position including a tensile spring stretched horizontally above said numeral-wheels, a rod parallel therewith, and dogs pivoted upon this rod interacting with the trip-pinions to adapt the same to operate as zero-stops and held to their work by the lateral pressure of said spring.

17. The combination, in a register, of decimal numeral-wheels arranged side by side, means for transmitting the registering motion from wheel to wheel including a transmission device carried by the left-hand side of one wheel, a trip-pinion interacting with said transmission device and a spur-ring carried by the right-hand side of the adjoining wheel to the left in constant mesh with said trip-pinion, said transmission device being adapted to contact with said trip-pinion when the wheel carrying the same is turned in either direction, means for turning said numeral-wheels individually back to zero, and means whereby said trip-pinion is prevented from turning backward, whereby said trip-pinion is adapted to form an effective zero-stop for the interacting numeral-wheel.

18. The combination, in a register, of decimal numeral-wheels arranged side by side, means for transmitting the

registering motion from wheel to wheel including a transmission device carried by the left-hand side of one wheel, a trip-pinion interacting with said transmission device and a spur-ring carried by the right-hand side of the adjoining wheel to the left in constant mesh with said trip-pinion, said transmission device being adapted to contact with said trip-pinion when the wheel carrying the same is turned in either direction, means for turning said numeral-wheels individually backward to zero, and a spring-pressed dog interacting with said trip-pinion to prevent the same from turning backward.

19. The combination, in a register, of decimal numeral-wheels arranged side by side, means for transmitting the registering motion from wheel to wheel including a transmission device carried by the left-hand side of one wheel, a trip-pinion interacting with said transmission device and a spur-ring carried by the right-hand side of the adjoining wheel to the left in constant mesh with said trip-pinion, said transmission device being adapted to contact with said trip-pinion when the wheel carrying the same is turned in either direction, means for turning said numeral-wheels individually backward to zero, a supporting-rod parallel with the axis of said trip-pinion on which said dog is pivoted, and a tensile spring stretched parallel with said rod holding said dog in mesh with said trip-pinion by sidewise pressure.

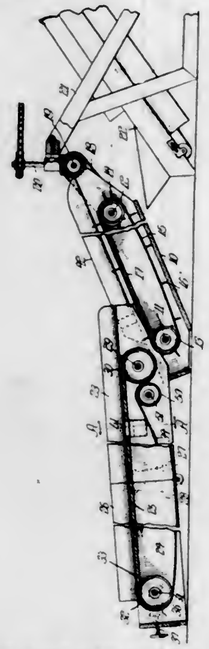
20. The combination, in a register, of decimal numeral-wheels arranged side by side, means for transmitting registering motion from wheel to wheel including a transmission device carried by the left-hand side of one wheel, a trip-pinion in the form of a small spur-wheel and a star-wheel of the same diameter side by side adapted to mesh by its star-wheel teeth with said transmission device and a spur-ring carried by the right-hand side of the adjoining wheel to the left in constant mesh with the spur-wheel teeth of said trip-pinion, said transmission device being adapted to contact with said star-wheel teeth of the trip-pinion when the wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, and a spring-pressed dog interacting with the spur-wheel teeth of said trip-pinion to prevent the same from turning backward and constructed with a lateral extension adapted to contact with the star-wheel teeth of said trip-pinion in its zero positions.

21. The combination, in a register, of decimal numeral-wheels arranged side by side, means for transmitting registering motion from wheel to wheel including a transmission device carried by the left-hand side of one wheel, a trip-pinion in the form of a small spur-wheel and a star-wheel of the same diameter side by side adapted to mesh by its star-wheel teeth with said transmission device and a spur-ring carried by the right-hand side of the adjoining wheel to the left in constant mesh with the spur-wheel teeth of said trip-pinion, said transmission device being adapted to contact with said star-wheel teeth of the trip-pinion when the wheel carrying the same is turned in either direction, means for turning the numeral-wheels individually backward to zero, a spring-pressed dog interacting with the spur-wheel teeth of said trip-pinion to prevent the same from turning backward and constructed with a lateral extension adapted to contact with the star-wheel teeth of said trip-pinion in its zero positions, a supporting-rod parallel with the axis of said trip-pinion on which said dog is pivoted, and a tensile spring stretched parallel with said rod holding said dog in mesh with said trip-pinion by sidewise pressure, substantially as hereinbefore specified.

841,085. CONVEYING APPARATUS. JOHN H. GILMAN, Ottawa, Ill., assignor to King & Hamilton Company, Ottawa, Ill., a Corporation of Illinois. Filed Mar. 2, 1906. Serial No. 303,781.

Claim.—1. In a device of the class described, the combination with the trough, of the belt-wheels at the ends thereof, means for driving one of said wheels, and a spring-held auxiliary pulley engaging the belt beneath the trough-bottom to hold it positively in engagement with the periphery of the driving-belt wheel.

2. In a device of the class described, the combination with the trough, of the belt-wheels at the ends thereof, means for driving one of said wheels, and a spring-held adjustable auxiliary pulley engaging the belt beneath the trough-bottom to hold it positively in engagement with the periphery of the driving-belt wheel.



3. In a device of the class described, the combination with the trough, of the belt-wheels at the ends thereof, means for driving one of said wheels, a tension-roller engaging the belt beneath the trough-bottom to hold it in engagement with the periphery of the driving-belt wheel, bearings for the shaft of said tension-roller, the bearing-bracket castings having elongated apertures in which the bearings slide, and helically-coiled expanding-springs confined by said castings and coöperating with the bearings, for the purpose described.

4. In a device of the class described, the combination with the trough, of the belt-wheels at the ends thereof, means for driving one of said wheels, a tension-roller engaging the belt beneath the trough-bottom to hold it in engagement with the periphery of the driving-belt wheel, bearings for the shaft of said tension-roller, the bearing-bracket castings having elongated apertures in which the bearings slide and U-shaped recesses therein, a helically-coiled expanding-spring in said recesses coöperating with the bearings, and means for positioning the other end of said spring.

5. In a device of the class described, the combination with the trough, of the belt-wheels at the ends thereof, means for driving one of said wheels, a tension-roller engaging the belt beneath the trough-bottom to hold it in engagement with the periphery of the driving-belt wheel, bearings for the shaft of said tension-roller, the bearing-bracket castings having elongated apertures in which the bearings slide, and U-shaped recesses therein, a helically-coiled expanding-spring in said recesses coöperating with the bearings, and means for positioning the other end of said spring, consisting of the rods having the nuts screwed thereon to form the adjustable abutment for the spring.

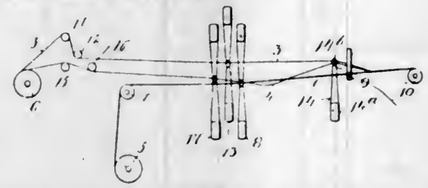
6. In a device of the class described, the combination with the trough made up of detachable and removable sections to vary its length, of the belt-wheels mounted in the end sections, and a belt coöperating therewith and made up of detachable sections provided with the hinges and removable pins.

841,086. COMPOSITION OF MATTER FOR THE ERADICATION OF STAINS. LOUIS VON GRAEVE, Philadelphia, Pa., assignor to Charles Bucherer and Heinrich Schroeder, Philadelphia, Pa. Filed Apr. 23, 1906. Serial No. 313,178.

Claim.—1. The herein-described compositions of matter, consisting of oxalic, hydrochloric and sulfuric acids, French chalk and water, substantially as described and for the purpose specified.

2. The herein-described composition of matter for the cleansing of marble, granite and the like, consisting of oxalic acid, two ounces, French chalk two pounds, water five pints, hydrochloric acid two pounds, and sulfuric acid one pound, substantially as described.

841,087. LOOM. WILLIAM HANNAH, Paterson, N. J. Original application filed July 25, 1905, Serial No. 271,133. Divided and this application filed Apr. 11, 1906. Serial No. 311,029.



Claim.—1. In a loom, a dupe having two binding-threads passed therethrough, means for holding said binding-threads so that they converge in said dupe and under a warp-thread, and means for tightening one of said binding-threads and loosening the other in alternation whereby the dupe is first raised on one side of said work-thread and then on the other.

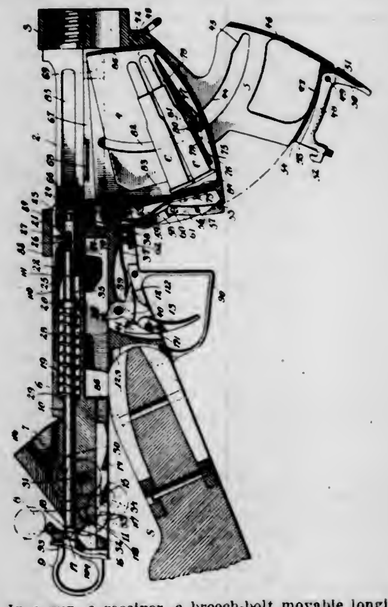
2. In a loom of the class described, means for stretching a series of warp-threads, means for stretching a converging series of binding-threads so that each warp-thread has a binding-thread on each side, a single dupe for converging the binding-threads under their warp-threads, a pair of heddles for said binding-threads, means for stretching and loosening said binding-threads and raising the heddles alternately, whereby the dupe may be drawn at either side of the warp-thread and above the same, and means for passing a woof-thread between the binding-threads and warp-threads.

3. In a loom of the class described, means for stretching and holding warp and binding threads, the binding-threads being arranged in pairs, one on each side of each warp-thread, rods for tightening or loosening said binding-threads, heddles for raising or lowering the binding-threads alternately, a single dupe for receiving each pair of binding-threads, a reed and a shuttle.

841,088. MAGAZINE-GUN. CARL HANSEN, Johnson, N. Y. Filed Apr. 25, 1906. Serial No. 313,567.

Claim.—1. In a gun, a reciprocating breech-bolt, a spring-operated firing-pin mounted longitudinally in said breech-bolt and passing outwardly through the rear end thereof and provided with a handle, a slide-bar connected with said handle and extending forwardly and longitudinally through the bottom of the rear end portion of the breech-bolt and provided in the bottom thereof with notches or recesses, a trigger-and-spring-operated sear adapted to operate in connection with said notches or recesses, a bolt-lock pivoted to the rear end of the breech-bolt and adapted to swing in a vertical plane, means whereby the handle portion of the firing-pin will lock the bolt-lock both in its closed and open positions, a handle-arm pivoted at the side of the rear end portion of the breech-bolt and adapted to swing in a vertical plane, and means whereby the backward movement of the handle-arm will move the firing-pin backwardly and cause it to disengage the bolt-lock, and means whereby the further backward movement of said handle-arm will raise the bolt-lock.

2. In a gun, a receiver, a sliding breech-bolt mounted therein, a spring-operated firing-pin mounted longitudinally in said breech-bolt and extending backwardly through the rear end thereof and provided with a handle, a slide-bar connected with the handle of the firing-pin and extending forwardly in the bottom portion of the breech-bolt, a spring-and-trigger-operated sear adapted to engage said slide-bar in different positions, a bolt-lock pivoted to the rear end portion of the breech-bolt and adapted to swing in a vertical plane, said bolt-lock being provided with a bottom recess and said breech-bolt with a web member movable in said recess, means whereby the bolt-lock can lock the breech-bolt in its innermost position, a handle-arm pivoted at one side of the rear end portion of the breech-bolt, means whereby the raising of the handle-arm will raise the bolt-lock and release the breech-bolt, means whereby the handle of the firing-pin will engage the bolt-lock both in its closed and open positions, and means whereby the said backward movement of the handle-arm will release the handle of the firing-pin from the bolt-lock when the latter is in its closed position.



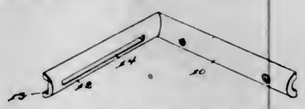
3. In a gun, a receiver, a breech-bolt movable longitudinally therein and through the rear end thereof, a breech-bolt head connected with the front end portion of the breech-bolt and provided with means for ejecting a cartridge when the breech-bolt is moved backwardly, a spring-operated firing-pin mounted in the breech-bolt and extending through the rear end portion thereof and provided at its rear end with a handle, a slide-bar connected with the handle of the firing-pin and extending forwardly and movable in the bottom of the rear end portion of the breech-bolt, a spring-and-trigger-operated sear adapted to engage said slide-bar, a bolt-lock pivoted to the rear end portion of the breech-bolt and adapted to swing in a vertical plane, a handle-arm pivoted to the rear end portion of the breech-bolt and adapted to swing in a vertical plane, means whereby the backward movement of the handle-arm will raise the bolt-lock and permit of the backward movement of said bolt, means whereby the handle of the spring-operated firing-pin will engage and hold the bolt-lock both in its closed and open positions, and means whereby the backward movement of said handle-arm will first disengage the handle of the firing-pin from the bolt-lock and afterward raise said bolt-lock so as to release the breech-bolt.

4. In a gun, a receiver, a spring-and-trigger-operated sear mounted in the bottom portion thereof, a sliding

breech-bolt mounted in the top portion of said receiver, a spring-operated firing-pin mounted in said bolt and extending through the rear end thereof and provided with a handle, a slide-bar connected with the handle of the firing-pin and adapted to be engaged by the said sear in different positions, a bolt-lock pivoted to the rear end portion of the breech-bolt, the handle of the firing-pin and the bolt-lock being provided with means whereby the latter may be locked in two different positions, a handle-arm pivoted at the side of the rear end portion of the breech-bolt, and means whereby the back movement of said handle-arm will disengage the handle of the firing-pin from the bolt-lock and the further backward movement of said handle-arm will raise said bolt-lock.

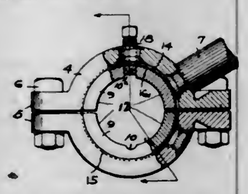
5. In a gun, a receiver, a breech-bolt movable longitudinally therein and provided at its front end with a head, a shell-extractor lever pivoted longitudinally in the top of said head and a shell-extractor spring provided with transverse convolutions and mounted in the bottom of said head and one end of which normally projects forwardly of said head, a spring-operated firing-pin movable longitudinally in the breech-bolt, and means for operating said breech-bolt and said firing-pin.

841,089. ADJUSTABLE CURTAIN-FIXTURE. FRANK JONES, Stanberry, Mo., executor of Jacob J. Kiser, deceased, assignor to William E. Kiser, Stanberry, Mo. Filed Aug. 1, 1906. Serial No. 328,805.



Claim.—An improved window-curtain fixture, comprising an elbow-shaped member having a plurality of screw-holes in one end portion a bearing in the face of its other end portion open at its outer end and an elongated slot intersecting the bearing, a double elbow-shaped member four sided and solid at its inner end portion and provided with a screw-seat and slidable in the bearing of the elbow-shaped member and a screw extended through the slot in the elbow-shaped member into the screw-seat, as set forth.

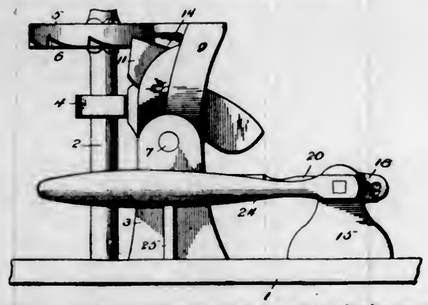
841,090. PULLEY AND BUSHING. JOSEPH A. KAPLAN, Pittsburg, Pa., assignor to Joshua Rhodes, Allegheny, Pa., and William H. Latshaw, Pittsburg, Pa. Filed Mar. 5, 1906. Serial No. 304,290.



Claim.—1. A sectional pulley and bushing comprising a partible hub, means for clamping the sections thereof together, spokes projecting through holes in said hub and upset at their inner ends, and a partible bushing fitting in said hub and provided with a circumferentially-reduced portion in the plane of the spokes, whereby clearance is provided for the upset spoke ends.

2. A sectional pulley and bushing comprising a partible hub, means for clamping the sections thereof together, spokes having their inner ends projecting through holes in said hub and upset at their inner ends, and a partible bushing fitting in said hub and having its sections provided with a longitudinal groove forming a weakened zone and also provided with a circumferentially-reduced portion in the plane of said spokes, whereby clearance for the upset ends of the spokes is provided and when the hub-sections are clamped onto the bushing-sections the latter yield along the weakened zones and clamp the shaft both longitudinally and circumferentially.

841,091. HOLDING AND RELEASING MECHANISM FOR BRAKE-SHAFTS. ANDREW MILLER, Connellsville, Pa. Filed Apr. 3, 1906. Serial No. 309,604.



Claim.—1. The combination with a rotary brake-operating shaft, a ratchet-disk carried thereby, of an intermediately-pivoted pawl-carrying member, a pawl carried by the upper end of the member and engaging the ratchet-disk, and means carried by the lower end of said member for rocking the same.

2. The combination with a rotary brake-operating shaft, a ratchet-disk carried thereby, of a pivoted pawl-carrying member, and an intermediately-pivoted weighted pawl carried by said member.

3. The combination with a rotary brake-operating shaft, a ratchet-disk carried thereby, of an intermediately-pivoted pawl-carrying member, an intermediately-pivoted weighted pawl carried by the upper end of said member, and means carried by the lower end of the pawl-carrying member for operating the same.

4. The combination with a rotary brake-operating shaft, a ratchet-disk carried thereby, of an intermediately-pivoted pawl-carrying member, an intermediately-pivoted pawl having one end weighted and holding the opposite end in engagement with the ratchet-disk, a double crank adjacent to and in a line with the lower end of the pawl-carrying member, and a pitman connected to said crank and pawl-carrying member, said pitman being on a dead-center when the pawl is engaging the ratchet-disk.

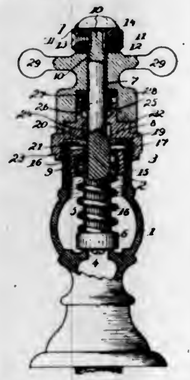
5. The combination with a rotary brake-operating shaft, a ratchet-disk carried thereby, of an intermediately-pivoted pawl-carrying member, an intermediately-pivoted pawl having one end weighted and holding the opposite end in engagement with the ratchet-disk, a double crank adjacent to and in a line with the lower end of the pawl-carrying member, a pitman connected to said crank and pawl-carrying member, said pitman being on a dead-center when the pawl is engaging the ratchet-disk, an operating-lever carried by the crank in a line therewith, and means for limiting the movement of said lever when the pitman is on a dead-center.

6. The combination with a rotary brake-operating shaft, a ratchet-disk carried thereby and having teeth on its lower face, of a frame adjacent to said shaft, a pawl-carrying member intermediately pivoted within said frame, a pawl intermediately pivoted within the upper end of said member below the ratchet-disk, a weight carried by one end of the pawl for holding the opposite end upwardly in engagement with the ratchet-disk, and a wedge-shaped guide carried by the frame and adapted to hold and guide the pawl to the ratchet-teeth of the disk.

7. The combination with a brake-operating shaft having a ratchet, of a movable pawl-carrying member, and a pawl carried by said member and adapted to be moved in or out of engagement with the ratchet-disk.

8. The combination with a brake-operating shaft having a ratchet-disk, of a movable pawl-carrying member, a pawl carried by said member and adapted to be moved in or out of engagement with the ratchet-disk, a double crank adjacent said movable member, a pitman connected to the pawl-carrying member and to the crank in such a manner that the pitman is on a dead-center when the pawl is engaging the ratchet-disk.

841,092. SELF-CLOSING COCK. HENRY MUELLER, Decatur, Ill., assignor to H. Mueller Manufacturing Co., Decatur, Ill., a Corporation of Illinois. Filed Oct. 11, 1905. Serial No. 282,298.



Claim.—1. In a spring-closed cock, the combination of a body having a cylindrical extension interiorly screw-threaded, a valve-seat in the body, a valve-stem protruding axially through the cylindrical extension of the cock-body and having a longitudinal groove, a valve on the inner end of the valve-stem adapted to the valve-seat, an exteriorly-threaded tension-controller screwed into the cylindrical extension of the cock-body and fitted slidably on the valve-stem, a projection of the tension-controller engaging the groove of the valve-stem, a spring on the valve-stem between the valve thereof and the tension-controller, means for opening the valve against the tension of the spring, means for rotating the valve-stem to screw the tension-controller in or out of the cock-body, and a lock to hold the stem against rotation in the cock-body and prevent disadjustment of the tension-controller.

2. In a spring-closed cock, the combination of a cock-body having a cylindrical extension exteriorly and interiorly screw-threaded, a valve-seat in the body, a valve-stem protruding axially through the cylindrical extension of the cock-body and having a longitudinal groove, a valve on the inner end of the valve-stem, adapted to the valve-seat, an exteriorly-threaded tension-controller screwed into the cylindrical extension of the cock-body and fitted slidably on the valve-stem, a projection of the tension-controller engaging the groove of the valve-stem, a spring on the valve-stem between the valve thereof and the tension-controller, a nut bored to fit the valve-stem and having an interiorly-screw-threaded ring extension adapted to be screwed onto the end of the cylindrical extension of the cock, a disk encircling the valve-stem with its edge between the end of the cylindrical extension of the cock-body and the nut screwed onto said cylindrical extension, a projection of the disk engaging the groove of the valve-stem, means for moving the valve-stem lengthwise against tension of the spring, and means for turning the stem on its axis.

3. In a spring-closed cock, the combination of a cock-body having a cylindrical extension exteriorly and interiorly screw-threaded, a valve seat in the body, a valve-stem protruding axially through the cylindrical extension of the cock-body and having a longitudinal groove, a valve on the inner end of the valve-stem, adapted to the valve-seat, an exteriorly-threaded tension-controller screwed into the cylindrical extension of the cock-body and fitted slidably on the valve-stem, a projection of the tension-controller engaging the groove of the valve-stem, a spring on the valve-stem between the valve thereof and the tension-controller, a nut bored to fit the valve-stem and having an interiorly-screw-threaded ring extension adapted to be screwed onto the cylindrical extension of the cock, a disk encircling the valve-stem with its perimeter between the end of the cylindrical extension of the cock-body and the nut screwed onto said cylindrical extension, a projection of the disk engaging the groove of the valve-stem, a nut locked on the protruding end of the valve-stem, a collar journaled on the valve-stem between the nut screwed onto the cock-body and the nut locked on the valve-stem, said collar having a handle or finger-hold for rotary manipulation, and inclined planes on the under side of the collar and the upper side of the nut screwed onto the cock-body, whereby the valve-stem is moved longitudinally as the collar is turned.

4. In a spring-closed cock, the combination of a cock-body, a valve-seat in the body, a valve-stem having a valve on its inner end and having its outer end screw-threaded and longitudinally grooved, a nut on the outer end of the valve-stem, a set-screw extending through the nut and engaging a groove of the stem, a spring to hold the valve closed, a collar rotatably movable on the valve-stem between the cock-body and the nut on the threaded end thereof, and inclined planes on the collar adapted to convert the rotary motion of the collar into motion lengthwise of its axis and to impart said longitudinal motion to the valve-stem through the nut, substantially as described.

841,093. BASIN-COCK. HENRY MUELLER and ANTON SCHUERMANN, Decatur, Ill., assignors to H. Mueller Manufacturing Co., Decatur, Ill., a Corporation of Illinois. Filed Nov. 9, 1905. Serial No. 286,612.

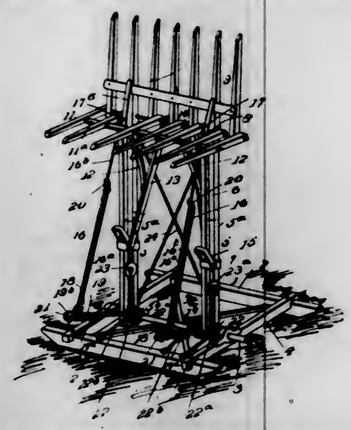
Claim.—1. A basin-cock comprising a body having a passage-way leading upward into the cock and sidewise therefrom, a valve-seat in the passage-way below the sidewise extension thereof, a closed cylindrical extension of the cock-body above the sidewise extension of the passage-way, a piston in the cylindrical upward extension of the body, a hollow piston-stem leading downward from the piston to below the valve-seat, a main valve on the lower end of the piston-stem closing upward against the seat, a valve-stem extending downward through the closed upward extension of the body and through the piston-stem, an auxiliary valve on the lower end of the valve-stem adapted to close the hollow piston-stem, and a shoulder on the valve-stem adapted to strike the piston when the auxiliary valve is opened.

2. A basin-cock comprising a body having a passage-way leading upward into the cock and sidewise therefrom, a valve-seat in the passage-way below the sidewise extension thereof, a closed cylindrical extension of the body above the sidewise extension of the passage-way, a piston in the cylindrical upward extension of the body, a hollow piston-stem leading downward from the piston to below the valve-seat, a main valve on the lower end of the piston-stem, closing upward against the seat, a valve-stem composed of two parts of different diameters, the larger part extending downward through the upward extension of the body into contacting proximity with the piston and

the smaller part extending upward through the piston-stem and screwing into the larger part, an auxiliary valve on the lower end of the valve-stem adapted to close the hollow piston-stem, a push-button on the upper end of the valve-stem and a spring tending to hold the valve-stem raised.

3. A basin-cock comprising a body having a passage-way leading upward into the cock and sidewise therefrom, a valve-seat in the passage-way below the sidewise extension thereof, a cylindrical extension of the body above the sidewise extension of the passage-way, a closure for the upper end of the upward cylindrical extension, a piston in the upward extension of the body, a hollow piston-stem leading downward from the piston to below the valve-seat, a valve-shell with a central horizontal partition attached to the lower end of the piston-stem, a rubber washer in the upper compartment of the shell closing upward against the valve-seat in the passage-way, a rubber washer in the lower compartment of the shell forming a continuation of the water-passage through the piston-stem and a valve-seat for an auxiliary valve, a valve-stem extending downward through the upward extension of the body and through the piston-stem and an auxiliary valve on the lower end of the valve-stem adapted to close upward against the lower rubber washer in the valve-shell.

841,094. HAY-STACKER. WILLIAM D. MCATLIN, Tullvania, Mo., assignor of one-half to John H. McConnell, Adair, Mo. Filed Jan. 27, 1906. Serial No. 298,219.



Claim.—1. A hay-stacker, comprising a support, an oscillating hay-receiving fork mounted on said support, and springs tending to swing said hay-receiving fork upwardly.

2. A hay-stacker, comprising a support, an oscillating hay-receiving fork on said support, springs tending to move said fork to a vertical position on the support, and means for depressing said fork.

3. A hay-stacker comprising a support, oscillating standards mounted on said support, means for oscillating the same, a hay-receiving fork extensibly mounted on said standards and provided with stirrups designed to take over the ends of the standards whereby to hold the fork in an extended position thereon, and an adjustable truss-rod connecting said fork and standards.

4. A hay-stacker comprising a support, oscillating standards mounted on said support and means for oscillating the same, a hay-receiving fork extensibly mounted on said standards and provided with means for holding the fork extended on the standards, and truss-rods connecting the fork and standards, said truss-rods being provided with two members adjustably connected together as and for the purpose set forth.

5. A hay-stacker comprising a support, oscillating standards mounted on said support and means for oscillating the same, a hay-receiving fork extensibly mounted on said standards and provided with means for holding the fork extended on the standards, and truss-rods connecting the fork and standards said truss-rods being constructed in two members adjustably connected together and of different lengths, each of such members being arranged for engagement with a stationary part of the standards.

6. A hay-stacker comprising a support, oscillating standards mounted on said support and means for oscillating the same, a hay-receiving fork extensibly mounted on said standards, means for holding said fork extended on the standards, longitudinally-adjustable truss-rods connected to said fork and a detachable connection between said truss-rods and the standards, as and for the purpose set forth.

7. A hay-stacker, comprising a support, oscillating standards mounted on said support and means for oscillating the same, a hay-receiving fork extensibly mounted on said standards, truss-rods connected to said fork and embodying two adjustably-connected members each of which is provided at one end with a loop and eccentric levers mounted on said standards and arranged for detachable connection with the lever of each member.

8. A hay-stacker, comprising a support, a shaft mounted on said support and designed to be rocked back and forth about its longitudinal axis, a hay-receiving fork carried by said shaft and embodying standards radially extended from the shaft, and springs coiled around said shaft and secured to the support at one end and to the standards at their other ends, as and for the purpose set forth.

9. A hay-stacker, comprising a support, a shaft mounted in said support and arranged to be rocked back and forth about its longitudinal axis, standards secured to said shaft and extending radially therefrom, said standards being spaced from each other, a hay-receiving fork provided with bars slidably mounted between the members of the standards, and springs coiled around said shaft one end of said springs being secured to the support and a spool mounted between spaced members of the standards and secured to the other ends of said springs.

10. In a hay-stacker the combination of an oscillating hay-receiving fork, and a tumbling-rod connected therewith.

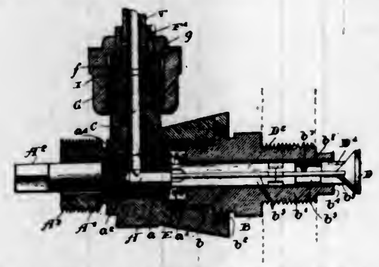
11. In a hay-stacker the combination of a shaft mounted to be rocked back and forth, a hay-receiving fork carried by said shaft and oscillated by the movement thereof, and a horse-power embodying a tumbling-rod connected to said shaft, as and for the purpose set forth.

12. A hay-stacker comprising a support, an oscillatory hay-receiving fork mounted on said support, means for oscillating said fork, the fork being provided with a set of stationary tines, a set of pivoted tines arranged to move toward and from the stationary tines, and longitudinally-adjustable straps arranged in pairs the outer ends of the respective straps of each pair being secured respectively to the set of pivoted tines and to some stationary portion of the fork, and the adjoining ends of said straps having an interengaging slotted connection, whereby they may move freely on each other in one direction.

841,095. SAFETY-VALVE FOR HIGH-PRESSURE TANKS. EUGENE F. OSBORNE, Chicago, Ill. Filed Mar. 19, 1903. Serial No. 148,565.

Claim.—1. The combination with a valve-casing provided with a part which is adapted for insertion into the wall of a receptacle, said part being provided with a valve-seat, of an inwardly-opening valve-closure, means normally maintaining said valve away from its seat, and a two-part stem connected with said valve and located within the bore of said part which is inserted into the wall of the receptacle, said parts being joined inside of the outer surface of the wall of the receptacle, and the inner part of the stem having interfitting connection with a part in the bore of the casing.

2. A valve mechanism comprising a tubular section the inner end portion of which is adapted for insertion into the wall of a receptacle and which is provided at its outer end with a conical valve-seat arranged with its central axis in line with that of the tubular section, said valve-seat being smaller at its outer than at its inner end, a rotative, conical valve-plug fitting said seat and provided with means, connected with its outer, smaller end, for turning the same, a spring acting on the inner end of said valve-plug to hold the same in contact with its seat, and an inwardly-opening check-valve, located at the inner end of said tubular section and provided with a two-part stem which at its outer end has endwise bearing engagement with the inner face of the said valve-plug and thereby maintains the check-valve normally open; the parts of said stem having separable endwise engagement with each other within the part of the tubular section which is inserted into the wall of the receptacle.



3. The combination with a valve-casing having a chamber provided with an annular seat, and a rotative valve-plug therein having a port adapted for communication with a passage which leads to the exterior valve of the casing, said casing being provided with a tubular part adapted for communication with the interior of a receptacle, and provided with a valve-seat, of a valve-closure provided with a stem which extends through the bore of said tubular part and engages at its end remote from the closure a part of the valve which serves to hold said closure away from its seat, said valve-plug being operable independently of the valve-closure at the inner end of the device.

4. The combination with a valve-casing having a chamber provided with an annular seat and a rotative valve-plug therein having a port adapted for communication with a passage which leads to the exterior of the casing, said casing being provided with a tubular part adapted for insertion into the wall of a receptacle, and having a valve-seat, of a valve-closure provided with a stem which extends through the tubular part and bears at its end remote from the closure against the valve-plug; said stem being composed of two parts which meet end to end at a point inside of the outer surface of the said wall of the receptacle.

5. A valve comprising a casing provided with a part which is adapted for insertion into the wall of a receptacle, said casing being provided with a chamber which communicates with said receptacle, a valve-seat in said chamber, a closure engaging said seat, a two-part stem connected with said closure, said stem being divided and having endwise-separable contact at a point inside of the outer surface of the wall of the receptacle into which the part is inserted, and a part engaging the stem outside of said wall and acting on the stem to hold the closure away from its seat.

6. A valve comprising a casing having a part adapted for insertion into the wall of a receptacle and an axial chamber which communicates with the receptacle, a seat in said chamber, a valve-closure engaging said seat, a rotative valve-plug having a bore which communicates with the outer end of said chamber, said chamber being provided with a discharge-opening with which the bore of the valve-plug is adapted to be brought into communication by rotation of said plug, and a two-part stem for said valve-closure which engages said valve-plug in a manner to normally hold the closure away from its seat, said stem being divided at a point inside of the outer surface of the wall of the receptacle.

841,096. SUPPORT FOR CONVEYER-BELTS. CHARLES ROUSE, Pittsburg, Pa. Original application filed Mar. 22, 1905, Serial No. 251,374. Divided and this application filed Nov. 26, 1906. Serial No. 345,172.



Claim.—1. A support for a conveyer-belt, comprising a plurality of angularly-arranged rollers having the supporting-surfaces thereof conforming to the natural curvature of the belt thereon, the central roller being made in a series of sections free to rotate independently of each other and having their surfaces upon a curved line, the angular rollers being of the same diameter throughout their lengths.

2. A supporting means for conveyer-belts, comprising a plurality of angularly-arranged rollers, the central one of which is made in a series of sections and provided with a concaved surface, the sections of which are journaled independently to each other and are inclined so that their surfaces form a connecting-link between the curvature of the central roller and the angularly-arranged rollers, said angularly-arranged rollers being cylindrical in shape and of equal diameters.

3. A support for conveyer-belts, comprising a pair of brackets, outwardly-inclined bearings carried thereby, a roller mounted upon each, a central bearing connecting the brackets together, and a central roller composed of a series of independently-rotatable sections mounted upon said connecting-bearing.

4. A support for conveyer-belts, consisting of a series of shafts suitably supported, the outer ones being arranged at an angle to the center one, a group of independently-rotatable rollers of different diameters mounted upon the center shaft, and a single roller mounted upon each angular shaft, the peripheries of all rollers uniting to form a concaved bearing for the surface of the conveyer-belt.

REISSUES.

12,587. DRAFT AND BUFFING GEAR OR RIGGING FOR CARS. MYERS A. GARRETT, Chicago, Ill., assignor to Farlow Draft Gear Company, Baltimore, Md. Filed Oct. 30, 1905. Serial No. 285,225. Original No. 781,877, dated Feb. 7, 1905.

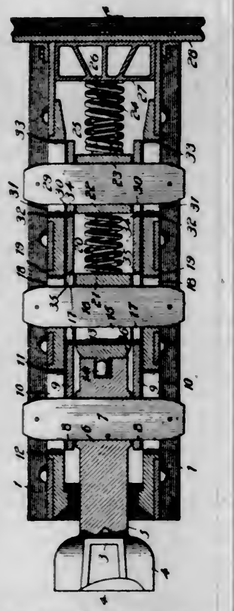
Claim.—1. In draft and buffing gear, the combination of a draw-bar, a block at the inner end of the draw-bar, and a movable crosstree arranged to permit the inward movement of the block and to prevent its outward movement.

2. In a draft and buffing gear, the combination of a draw-bar, a block at the inner end of the draw-bar, a movable crosstree arranged to permit the inward movement and to prevent the outward movement of the block, and a cushion arranged at the inner side of said block and adapted to receive the inward initial thrust of the draw-bar.

3. In a draft and buffing gear, the combination of a draw-bar, a block at the inner end of said draw-bar, a movable crosstree arranged to permit the inward movement and to prevent the outward movement of the block, a primary cushion arranged at the inner side of said block and adapted to receive the inward thrust of the draw-bar, a follower movable in both directions from its normal position, and a secondary cushion for resisting the inward movement of the follower.

4. In a draft and buffing gear, the combination of a draw-bar, primary and secondary cushions adapted to receive the inward thrust of the draw-bar, a movable block arranged at the inner end of said draw-bar, and a crosstree arranged to continue the inward movement after the primary cushion has been compressed a limited extent.

5. In a draft and buffing gear, the combination of a draw-bar, slotted draft-arms, slotted draw-bar extension, slotted follower-blocks, springs between said blocks, and crosstrees or keys, all of which are movable.



6. In a draft and buffing gear, the combination of a draw-bar, slotted draft-arms, a slotted draw-bar extension, slotted follower-blocks, springs between said blocks, and crosstrees or keys, the center one being movable.

7. In a draft and buffing gear, the combination of a draw-bar provided with a key, a movable block at the end of the draw-bar, said block provided with a movable crosstree, a follower-block also provided with a key, and springs between the movable block and the follower-block.

8. In a draft and buffing gear, the combination of a draw-bar, primary and secondary cushions arranged to receive the inward thrust of the draw-bar, and a follower through which said cushions react against each other under said thrust, said follower being movable in both directions from its normal position.

9. In a draft and buffing gear, the combination of a draw-bar, primary and secondary cushions, means for transmitting the inward thrust of the draw-bar to the primary cushion, a follower movable in both directions from its normal position arranged between the two cushions and adapted to transmit said inward thrust from the primary to the secondary cushion, and means for transmitting the outward movement of the draw-bar to the primary cushion.

10. In a draft and buffing gear, the combination of a draw-bar, primary and secondary cushions arranged in line with the draw-bar and adapted to receive the inward thrust, a follower movable in both directions from its normal position arranged between the cushions, a draw-bar extension for transmitting the outward movement of the draw-bar to the follower, said extension having clearance for permitting its inward movement relatively to the follower.

11. In a draft and buffing gear, the combination of a draw-bar, a primary cushion adapted to receive at its outer end the inward thrust of the draw-bar, a follower at the inner end of the primary cushion, a secondary cushion arranged to receive at its outer end the inward movement of the follower, an abutment at the inner end of the secondary cushion, and means for transmitting the outward movement of the draw-bar to the follower, the parts being provided with clearance for permitting the inward movement of the draw-bar relatively to the follower.

12. In a draft and buffing gear, the combination of a draw-bar, a primary cushion, means for transmitting the inward thrust of the draw-bar to the outer side of the primary cushion, a fixed abutment for preventing the outward movement of the primary cushion beyond its normal position, a follower movable in both directions from its normal position engaging the inner side of the primary cushion, a secondary cushion arranged to resist the inward movement of the follower, and means for transmitting the outward movement of the draw-bar to the follower.

13. In a draft and buffing gear, the combination of a draw-bar, draft timbers and plates, each having three elongated slots for the reception of movable keys, means including cushions for holding the draw-bar in normal position, and stops for arresting the inward and outward movement of the draw-bar at unequal distances from its normal position.

14. In a draft and buffing gear, the combination of a draw-bar, primary and secondary cushions, means for transmitting the inward movement of the draw-bar to both of said cushions, means for transmitting the outward movement of the draw-bar to one only of said cushions, and means for arresting the inward and outward movement of the draw-bar at unequal distances from its normal position.

15. In a draft and buffing gear, the combination of a draw-bar, a draw-bar extension carried by the draw-bar and fixed relatively thereto, primary and secondary cushions, a follower arranged between the cushions for transmitting the strains from one to the other, means for transmitting the inward movement of the draw-bar to the primary cushion, and a slotted connection between the draw-bar extension and the follower for transmitting the outward movement of the draw-bar to the follower, and permitting the inward movement of the draw-bar extension relatively to the follower.

16. In a draft and buffing gear, the combination of a draw-bar, a block at the inner end of the draw-bar, means for permitting the inward and preventing the outward movement of the block from normal position, a primary cushion arranged at the inner side of the block and adapted to receive the inward thrust of the draw-bar, a follower movable in both directions from its normal position, and adapted to receive the inward thrust of the draw-bar transmitted through the primary cushion, a secondary cushion for resisting the inward movement of the follower, and means for transmitting the outward movement of the draw-bar to the follower, substantially as described.

17. In a draft and buffing gear, the combination of draft-arms, a draw-bar, a draw-bar extension movable in both directions with the draw-bar, a slotted block at the inner end of the draw-bar, a crosstree passing through the slot of the block and supported by the draft-arms, the parts being provided with clearance for permitting the inward and preventing the outward movement of the block from its normal position, a primary cushion for resisting the inward movement of the block, a follower for receiving the inward thrust of the primary cushion, a crosstree movable with the follower, and connected to the draw-bar extension, the parts being provided with clearance for permitting the movement of the tree, in both directions from its normal position, and for permitting the inward movement of the draw-bar extension relatively to the follower, and a secondary cushion for resisting the inward movement of the follower, substantially as described.

18. In a draft and buffing gear, the combination of a draw-bar, a draw-bar extension, primary and secondary cushions, a follower arranged between the cushions, means for connecting the draw-bar extension and follower whereby the follower partakes of the outward movement of the draw-bar, the parts being provided with clearance for permitting a limited inward movement of the draw-bar independently of the follower, means for transmitting the initial inward thrust of the draw-bar to the primary cushion, and thence through the follower to the secondary cushion, and means for limiting the inward movement of the follower.

19. In a draft and buffing gear, the combination of a draw-bar, a block at the inner end of the draw-bar, and suitable cushioning devices arranged in operative relation to the draw-bar and block, said draw-bar and block having rocking engagement with each other.

20. The combination with a draft and buffing gear, constructed substantially as described, of draft timbers and plates, each having three elongated slots for the reception of movable keys, the slots in the plates being surrounded by bosses or flanges.

21. The combination in a draft and buffing gear, of a coupler and draw-bar; a front movable follower-block; a rear movable follower-block; a spring or springs between the blocks; links each having two elongated slots; keys; and slotted supports for the keys; two of said keys being adapted to move within the slots in the act of buffing, and one of the elongated slots of each link to move over a key during the act of drawing.

22. The combination in a draft and buffing gear provided with supports having slots, of a coupler and draw-bar; a front follower-block; a rear follower-block; a spring or springs between the blocks; slotted links which take the strains in drawing; and keys; all of said keys being movable within slots of the supports.

23. The combination with a draft and buffing gear, constructed substantially as described, of draft timbers and plates, each having three elongated slots for the reception of movable keys.

24. The combination in a draft and buffing gear, of supports having slots; a coupler and draw-bar; a front follower-block; a rear follower-block; slotted links; keys supporting the draw-bar and follower-blocks and located within the slots of the supports; and two springs located side by side one above the other in a vertical plane between the follower-blocks.

25. The combination with a draft and buffing gear having a draw-bar, slotted supports, keys, and links which take the strains in drawing, of two follower-blocks; and two springs located side by side in a vertical plane between the follower-blocks, and said follower-blocks provided with means for engaging and holding the springs in place.

26. The combination with a draft and buffing gear, of metallic draft arms or sills having slotted webs, and slotted plates for the reception of keys, the slots in said plates being surrounded by bosses or flanges which fit within the slots of the draft arms or sills.

27. The combination with a draft and buffing gear, of flanged metallic draft arms or sills having slotted webs; plates having slots surrounded by bosses or flanges, said bosses or flanges fitting within the slots in the webs of the draft arms or sills; keys; follower-blocks; springs; a coupler and draw-bar, and means connecting the draw-bar with the keys.

28. The combination with a draft and buffing gear, of slotted supports, all of the slots being elongated; a rear follower-block having a perforation; slotted links between the supports, two of said slots being elongated; a spring or springs in front of the follower-block; a movable key passed through the rear slots in the supports, the follower-block and the rear slots in the links; a movable key located within the slots of the supports and the slots of the links in front of the spring or springs, and a draw-bar and coupler, the front ends of the links being secured to the draw-bar, and said links being movable relative to the movable key located in front of the spring or springs, in drawing.

29. The combination with a draft and buffing gear, of a draw-bar; links which take the strains in drawing; means, including springs, for holding the draw-bar in normal position; and three movable keys for arresting the inward and outward travel of the draw-bar when moved from its normal position in either direction.

30. The combination with a draft and buffing gear having slots, of a coupler and perforated draw-bar; a front follower-block having a hole; a rear follower-block; a spring or springs between the blocks; links, and keys, the front and middle keys and the front follower-block being adapted to move rearwardly during the act of buffing.

31. The combination in a draft and buffing gear, of a coupler and draw-bar; a front follower-block; a rear movable follower-block; a spring or springs between the follower-blocks; links which take the strains in drawing, each having elongated slots; keys, and slotted supports for the keys, all of said keys being adapted to move within slots, and the central elongated slots of the links adapted to move over a key during the act of drawing.

32. The combination in a draft and buffing gear, of a draw-bar and coupler; supports, each having three elongated slots; three movable keys in the slots; two slotted links which take the strains in drawing, the said slots being elongated so that the rear and middle keys may move within the slots; a front follower-block; a rear follower-block, and a spring or springs between the follower-blocks, the draw-bar being provided with a perforation within which is located a key.

33. The combination in a draft and buffing gear of a coupler and draw-bar; a front follower-block at the rear of the end of the draw-bar; a rear follower-block; a spring or springs between the blocks; slotted supports or draft-timbers; slotted links, and keys, the central key being movable, and the slotted links transmitting motion to the rear key when the draw-bar is advanced in drawing.

34. The combination in a draft and buffing gear, of a coupler and draw-bar; slotted supports; follower-blocks; springs between the follower-blocks; slotted links, and keys supporting the links, front and rear follower-blocks and springs; the key passed through the front follower-block being movable, and said links being located between the slotted supports and the follower-blocks, and serving to transmit motion from the draw-bar to the rear key, in drawing.

35. The combination with a draft and buffing gear, of a draw-bar; springs; follower-blocks; two slotted links; slotted supports, and keys, all of which are movable; said links being located between the slotted supports and the draw-bar and spring or springs.

36. The combination in a draft and buffing gear, of slotted supports, all of the slots being elongated; follower-blocks located between the supports; a spring or springs between the follower-blocks; two slotted links located between the supports, and one on each side of the follower-blocks; keys, and a coupler and draw-bar.

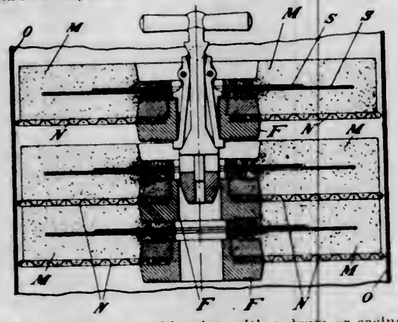
37. The combination in a draft and buffing gear, of slotted supports, all of the slots being elongated; a rear follower-block having a hole therethrough; slotted links between the supports and arranged one on each side of the follower-block; a spring or springs in front of the follower-block; a movable key passed through the rear slots in the supports, the follower-block, and the rear slots in the links; a movable key located within the slots of the supports and slots of the links and in front of the spring or springs; and a draw-bar and coupler, the front ends of the links being secured to the draw-bar, and said links being movable relative to the movable key, in front of the spring or springs.

38. The combination in a draft and buffing gear, of a coupler and a draw-bar having a slot; supports having elongated slots; keys within the slots, one of said keys being passed through the slot in the draw-bar; a rear follower-block having a bearing against the rear key; a front follower-block bearing against the end of the draw-bar; means for limiting the forward movement of the front follower-block in drawing; cushioning means between the follower-blocks, and links uniting the keys, said links taking the strains in drawing, and being disconnected from the cushioning means, and each link having an elongated slot where it engages the rear key.

12,588. FILTERING ELEMENT. KARL KIEFER, Cincinnati, Ohio. Filed Nov. 23, 1906. Serial No. 344,793. Original No. 834,304, dated Oct. 30, 1906.

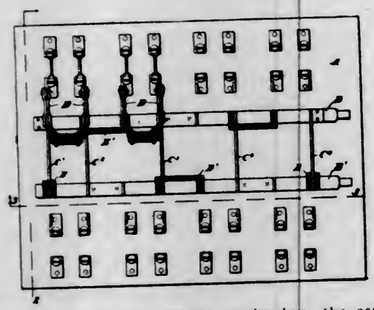
Claim.—1. In a filter, the combination with a drum or casing, of circular filtering layers of compressed fibrous pulp of a diameter somewhat smaller than the casing, and of liquid-conductors draining or supplying such filtering layers, said filtering layers and liquid-conductors completely filling the space between the base and cover of the casing and held in position by an elastic column composed of superposed parts consisting of non-compressible parts

of the liquid-conductor, in alternation with compressed parts of the filtering layer, the latter parts compressed to substantial imporosity.



2. In a filter, the combination with a drum or casing, of circular filtering layers of compressed fibrous pulp of a diameter somewhat smaller than the casing, and of liquid-conductors draining or supplying such filtering layers, said filtering layers and liquid-conductors completely filling the space between the base and cover of the casing and held in position by a substantially central elastic column composed of superposed parts consisting of non-compressible parts of the liquid-conductors in alternation with highly-compressed parts of the filtering layers.

12,589. ELECTRICAL SWITCH MECHANISM. HUBERT F. KRANTZ, Brooklyn, N. Y. Filed Dec. 26, 1905. Serial No. 293,424. Original No. 755,141, dated Mar. 22, 1904.



Claim.—1. In electric switch mechanism, the combination of bus-bars, approximately flat cross-bars and switches, with means for supporting said cross-bars edgewise to said bus-bars, said means adapted to make electrical connection between said cross-bars and bus-bars, and the ends of said cross-bars forming contacts for said switches.

2. In electrical switch mechanism, the combination of switches, bus-bars, and approximately flat cross-bars the ends of which form contacts for said switches, with means for supporting said cross-bars edgewise to said bus-bars and at a distance therefrom to permit the ends of the cross-bars being approximately flush with the bus-bars, said means also adapted to make electrical connection between said cross-bars and bus-bars.

3. In electrical switch mechanism, the combination of bus-bars, and switches, with an approximately flat cross-bar adapted to be supported edgewise to said bus-bars, and electrically connected to one of said bus-bars, said cross-bar being provided with U-shaped ends forming four contacts for said switches.

4. In electrical switch mechanism, the combination of bus-bars, with an approximately flat cross-bar supported edgewise to said bus-bars, said cross-bar being provided with U-shaped ends, one of which is secured to one of said bus-bars to support the cross-bars edgewise to, and make electrical connection with, said bus-bar.

5. In electrical switch mechanism, the combination of a base-plate, and bus-bars resting thereon, with approximately flat cross-bars provided with angle-pieces adapted to make electrical connection with said bus-bars and support the cross-bars above and edgewise to said bus-bars.

6. In an electrical switch mechanism, the combination of a bus-bar, with a cross-bar comprising a flat strip having a portion projecting therefrom, the end of said portion being bent at an angle and connected to said bus-bar, whereby the body of the cross-bar is electrically connected to said bus-bar and supported edgewise thereto.

7. In a panel-board, the combination of a base-board, with bus-bars mounted flatwise thereupon, and cross-bars superposing said bus-bars and in direct contact therewith.

8. In a panel-board, the combination of bus-bars affixed directly upon a base-board, with cross-bars secured to and resting directly upon the bus-bars and terminating flush therewith in edgewise-extending switch-contact portions.

9. In a panel-board, the combination with a base-board, of bus-bars resting flatwise thereon, cross-bars rigidly secured directly upon certain bus-bars and terminating flush with outer bus-bars in vertically-extending wings, and pivotally-mounted switches revolubly contacting directly with said wings.

10. In a panel-board, the combination of a base-board, with bus-bars mounted thereon, cross-bars resting in direct contact with one of said bus-bars and resting upon an intermediate septum of insulating material upon another of said bus-bars, said cross-bars terminating in edgewise-extending portions, contact-pieces having upright ends affixed directly upon the outer bus-bars and intermediate the aforesaid cross-bar terminations, and switches leading to branch lines.

11. In a plural-pole panel-board, a base-board, bus-bars mounted flatwise thereon, cross-bars resting directly upon one of said bus-bars and terminating flush over another of said bus-bars in two edgewise-positioned portions and insulated therefrom, contact-pieces having two upright ends and secured directly upon the latter bus-bar intermediate the cross-bars, and two-pole switches swinging into contact with adjacent portions of said cross-bar and contact-piece, respectively.

12. An electrical switchboard comprising in combination; a plurality of switches; a plurality of elongated parallelly-disposed bus-bars of diverse polarity; a substantially flat base-board of non-conducting material underlying said bus-bars, the latter resting substantially throughout their lengths directly upon said base-board and secured thereto, whereby said bus-bars are positioned a minimum distance from said base-board; and cross-bars overlying said bus-bars, each cross-bar resting upon and in direct electrical contact with the upper exposed surface of one of said bus-bars, and extending transversely over an adjacent bus-bar, and terminating in proximity with an associated switch.

13. An electrical switchboard comprising in combination, a substantially flat base-board of non-conducting material, a plurality of elongated symmetrically-arranged bus-bars of diverse polarity overlying said base-board and resting substantially throughout their lengths directly upon and secured to the upper surface of said base-board, whereby said bus-bars are positioned a minimum distance from said base-board, a cross-bar in direct electrical contact with one of said bus-bars and extending transversely over an adjacent bus-bar of opposite polarity and insulated therefrom, said cross-bar terminating adjacent said bus-bar in a plurality of contacts, and a corresponding plurality of two-pole switches, each adapted to be moved to simultaneously bring one of its poles into direct electrical connection with its associated cross-bar contact, and the other pole into electrical connection with the said bus-bar of opposite polarity.

14. An electrical switchboard comprising in combination, a substantially flat base-board of non-conducting material, a plurality of elongated symmetrically-arranged bus-bars of diverse polarity overlying said base-board and resting substantially throughout their lengths directly upon and secured to the upper surface of said base-board, whereby said bus-bars are positioned a minimum distance from said base-board, a substantially straight cross-bar overlying one of said bus-bars and resting upon and in direct electrical contact with the upper exposed surface of said bus-bar, and extending in a straight line substantially parallel with said base-board to and over, but insulated from, an adjacent bus-bar of polarity opposite to said cross-bar extension, said cross-bar terminating adjacent said bus-bar above said base-board in a pair of contacts, and a corresponding pair of two-pole switches, each adapted to be moved to simultaneously bring one of its poles into direct electrical connection with its associated cross-bar contact, and its other pole into electrical connection with the said bus-bar of opposite polarity.

15. An electrical switchboard comprising in combination, a substantially flat base-board of non-conducting material, a plurality of elongated equispaced and parallelly-arranged bus-bars, of relatively high conductivity and of diverse polarity, overlying said base-board and resting directly upon and secured to the upper surface of said base-board so as to lie in a plane substantially parallel with said base-board, an integral cross-bar of relatively high conductivity in direct electrical contact with one of said bus-bars and extending transversely to and over, but insulated from, an adjacent bus-bar of polarity opposite to said cross-bar extension, said cross-bar terminating over the said bus-bar and provided with a pair of contacts spaced apart longitudinally of said bus-bar, and a corresponding pair of two-pole switches, each adapted to be moved to simultaneously bring one of its poles directly over and into direct electrical connection with its associated cross-bar contact, and its other pole directly over and into electrical connection with the said bus-bar of opposite polarity.

16. An electrical switchboard comprising in combination, a substantially flat base-board of non-conducting material, a plurality of elongated equispaced and parallelly-arranged bus-bars, of relatively high conductivity and of diverse polarity, overlying said base-board and resting directly upon and secured to the upper surface of said base-board so as to lie in a plane substantially parallel with said base-board, an integral cross-bar of relatively high conductivity in direct electrical contact with one of said bus-bars and extending transversely to and over, but insulated from, an adjacent bus-bar of polarity opposite to said cross-bar extension, said cross-bar terminating over the said bus-bar and provided with a pair of contacts spaced apart longitudinally of said bus-bar, contact-pieces rising from direct contact with said latter bus-bar and terminating thereabove, and a corresponding pair of two-pole switches, each adapted to be moved to simultaneously bring one of its poles into direct electrical connection with its associated cross-bar contact, and its other pole into electrical connection with the said bus-bar of opposite polarity.

17. An electrical switchboard comprising in combination, a substantially flat base-board of non-conducting material, a plurality of elongated equispaced and parallelly-arranged bus-bars, of relatively high conductivity and of diverse polarity, overlying said base-board and resting directly upon and secured to the upper surface of said base-board so as to lie in a plane substantially parallel with said base-board, a plurality of integral cross-bars of relatively high conductivity, certain of said cross-bars being in direct electrical contact with one of said bus-bars and extending transversely to and over, but insulated from, an adjacent bus-bar of polarity opposite to said cross-bar extension, said cross-bar terminating over and flush with the outer vertical edge of said bus-bar and provided with a pair of upright contacts spaced apart longitudinally of said bus-bar and substantially flush therewith, contact-pieces rising from direct electrical contact with said latter bus-bars, positioned thereby, and terminating thereabove on a level with the upper ends of the aforesaid upright contacts, certain of said contact-pieces providing a single pole and positioned near the outer poles of the outer cross-bars, the other of said contact-pieces providing two poles and positioned intermediate adjacent cross-bars, and a corresponding number of two-pole switches, each adapted to be moved to simultaneously bring one of its poles into direct electrical connection with its associated cross-bar contact, and its other pole into electrical connection with the associated contact-piece above the said bus-bar of opposite polarity.

18. An electrical switchboard comprising in combination, a substantially flat base-board of non-conducting material, a plurality of elongated parallelly-arranged bus-bars, of relatively high conductivity and of diverse polarity, overlying said base-board and resting directly upon and secured to the upper surface of said base-board so as to lie in a plane substantially parallel with said base-board, the adjacent bus-bars being substantially equidistantly spaced apart, a plurality of cross-bars of relatively high conductivity, one of said cross-bars being in electrical contact with one of said bus-bars and extending transversely toward, but insulated from, an adjacent bus-bar of polarity opposite to said cross-bar extension, said cross-bar terminating above the said bus-bar and provided with a pair of contacts spaced apart longitudinally of said bus-bar, contact-pieces rising from direct electrical contact with said latter bus-bars, positioned thereby, and terminating thereabove on substantially a level with the upper end of the aforesaid upright contacts, certain of said contact-pieces providing a single pole and positioned near the outer poles of the outer cross-bars, the other of said contact-pieces providing two poles and positioned intermediate adjacent cross-bars, said cross-bar contacts and said poles being equidistantly spaced apart longitudinally of said bus-bar, and a corresponding number of two-pole switches, each adapted to be moved to simultaneously bring one of its poles into direct electrical connection with its associated cross-bar contact, and its other pole into electrical connection with the associated contact-piece above the said bus-bar of opposite polarity.

19. An electrical switchboard comprising in combination, a substantially flat base-board of non-conducting material, a plurality of elongated equispaced and parallelly-arranged bus-bars, of relatively high conductivity and of diverse polarity, overlying said base-board and resting directly upon and secured to the upper surface of said base-board so as to lie in a plane substantially parallel with said base-board, an integral cross-bar of relatively high conductivity in direct electrical contact with one of said bus-bars and extending transversely to and over, but separated from, an adjacent bus-bar of polarity opposite to said cross-bar extension, said cross-bar terminating over and flush with the said bus-bar and provided with a pair of contacts spaced apart longitudinally of said bus-bar and substantially flush therewith, a block of non-conducting material extending a distance above said cross-bar and arranged to support said cross-bar a predetermined distance above and out of contact with said bus-bar, and a corresponding pair of two-pole switches, each adapted to be moved to simultaneously bring one of its poles into direct electrical connection with its associated cross-bar contact, and its other pole into electrical connection with the said bus-bar of opposite polarity.

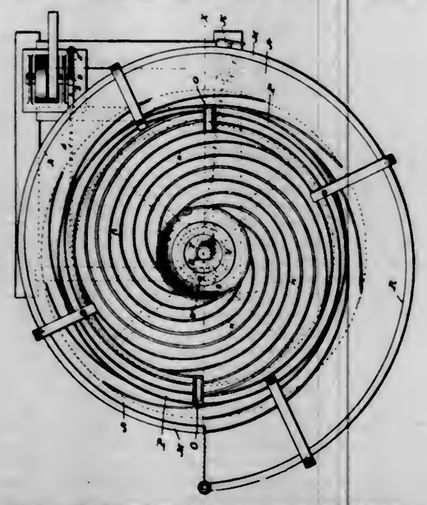
20. An electrical switchboard comprising in combination, a substantially flat base-board of non-conducting material, a plurality of elongated equispaced and parallelly-arranged bus-bars, of relatively high conductivity and of diverse polarity, overlying said base-board and resting directly upon and secured to the upper surface of said base-board so as to lie in a plane substantially parallel with said base-board, a plurality of cross-bars of relatively high conductivity, all in direct electrical contact with one of said bus-bars and extending transversely to and over, but insulated from, an adjacent bus-bar of polarity opposite to said cross-bar extension, said cross-bar terminating over and flush with the said bus-bar and provided with a pair of contacts spaced apart longitudinally of said bus-bar and substantially flush therewith, and a corresponding pair of two-pole switches, each adapted to be moved to simultaneously bring one of its poles into direct electrical connection with its associated cross-bar contact, and its other pole into electrical connection with the said bus-bar of opposite polarity.

21. An electrical switchboard comprising in combination, a substantially flat base-board of non-conducting material,

three elongated equispaced and parallelly-arranged bus-bars, of relatively high conductivity and of diverse polarity, overlying said base-board and resting directly upon and secured to the upper surface of said base-board so as to lie in a plane substantially parallel with said base-board, a plurality of integral cross-bars of relatively high conductivity, each in direct electrical contact with the intermediate one of said bus-bars and extending transversely to and over, but insulated from, the adjacent bus-bars of polarity opposite to each other and the associated cross-bar extensions, said cross-bars terminating over the said bus-bars and each provided with a pair of contacts spaced apart longitudinally of said bus-bar, contact-pieces rising from direct contact with associated bus-bars and providing a pole adjacent each of the aforesaid contacts and of polarity opposite thereto, and a corresponding pair of two-pole switches, each adapted to be moved to simultaneously bring one of its poles into direct electrical connection with its associated cross-bar contact, and its other pole into electrical connection with the said bus-bar of opposite polarity.

22. An electrical switchboard comprising in combination, a substantially flat base-board of non-conducting material, a plurality of elongated equispaced and parallelly-arranged bus-bars, of relatively high conductivity and of diverse polarity, overlying said base-board and resting directly upon and secured to the upper surface of said base-board so as to lie in a plane substantially parallel with said base-board, an I-shaped cross-bar of relatively high conductivity in direct electrical contact with one of said bus-bars and extending transversely to and over, but insulated from, an adjacent bus-bar of polarity opposite to said cross-bar extension, said cross-bar terminating over and flush with the said bus-bar and provided with a pair of upright contacts spaced apart longitudinally of said bus-bar and substantially flush therewith, a plurality of V-shaped contact-pieces in direct contact with and positioned by said bus-bar and positioned intermediate adjacent cross-bars, and a corresponding pair of two-pole switches, each adapted to be moved to simultaneously bring one of its poles into direct electrical connection with its associated cross-bar contact, and its other pole into electrical connection with a pole of its associated contact-piece of opposite polarity.

12,590. ORE-CONCENTRATOR. JOSEPH W. PINDER, San Francisco, Cal. Filed Feb. 28, 1906. Serial No. 264,201. Original No. 744,229, dated Nov. 17, 1903.



Claim.—1. A concentrating pan or table having a concave upper surface mounted on a center support that permits it to oscillate in a horizontal plane: a mercury and amalgam trap at the center of said table: spiral or evolute rifles secured to the upper surface of said table and terminating at stated intervals on the same circle near the outer periphery of the pan: distributing-boxes adapted to deliver the pulp at or near the outer edge of the series of rifles: means for imparting to said pan an oscillatory motion: and a perforated water-pipe surrounding the outer edge of the pan or table, substantially as above described.

2. A concentrating pan or table having a concave upper surface, the circumference of said pan having the form of an evolute: a central support for the pan which permits it to oscillate in a horizontal plane: a mercury and amalgam trap at the center of said pan: spiral or evolute rifles secured upon the bottom of the pan and terminating at their outer ends at intervals on the same circle near the outer edge of the pan: distributing-boxes adapted to deliver the pulp at the outer edge of the rifles: a water-pipe surrounding the outer edge of the pan and adapted to deliver a spray of clear water upon the outer edge of the table and means for imparting to the pan a rotary oscillation in a horizontal plane, substantially as described.

3. In a concentrating-pan having a concave upper surface, spiral or evolute rifles terminating at intervals on the same circle near the outer edge of the pan: a track surrounding said rifles on the outer periphery of the pan: means for imparting to the pan a slow rotary movement in one direction and a quick motion in the opposite direction so as to cause the particles to travel outward between the rifles: and a central mercury and amalgam trap at the center of the pan, substantially as described.

4. In a concentrating-pan having a concave upper surface spiral or evolute rifles on the upper surface of the pan: a track surrounding said rifles at the outer periphery of the pan: distributing-boxes arranged to deliver the pulp between the outermost rifles: means for imparting to said pan an oscillatory motion: a mercury or amalgam trap at the center of said pan and a water-pipe surrounding the outer edge of the pan and adapted to spray the water upon the outer circle of the pan.

5. A concentrating-pan the exterior outline of which is in the form of an evolute said pan being mounted on a pivotal center: a rim surrounding the exterior of the evolute except at the straight line which connects the outer end of the evolute with its commencement: a mercury or amalgam trap at its center: spiral or evolute rifles commencing at the central trap and terminating at intervals on the same circle near the outer edge of the pan: a track surrounding the rifles at the outer periphery of the pan and terminating at the straight line which connects the terminals of the evolute; a water-pipe surrounding the outer rim of the evolute and adapted to deliver a spray of water upon the table and means for imparting to the table a slow oscillating movement in one direction and a quick movement in the opposite direction, substantially as described.

6. In a concentrating-pan a concave upper surface: a mercury or amalgam trap at the center of the pan: spiral rifles surrounding the amalgam-trap: distributing-boxes adapted to deliver the pulp between the outermost rifles of the series: a carpet spread over said rifles with its nap side down and attached at its outer edge to the distributing-boxes so that the pulp will pass underneath it: a water-pipe surrounding the outer edge of the pan and adapted to deliver a spray of water on the outer edge of the pan and means for imparting to the pan a slow oscillating movement in one direction and a quick return movement in the opposite direction, substantially as described.

7. In a circular concentrating-pan having a reciprocating motion, and provided with spiral rifles on its concave upper surface, a central trap consisting of an outer shallow trough and an inner discharge chamber or passage; a partition lower than the outer edge of the trough separating said trough from the discharge-passage; a narrow shelf on top of the partition and projecting into the trough, and a perforated water-pipe below the shelf and adapted to deliver a spray of water into the trough, substantially as described.

8. A concentrating pan or table having a concave upper surface mounted on a center support that permits it to oscillate in a horizontal plane: a mercury and amalgam trap at the center of the table; spiral or evolute rifles secured to the upper surface of said table and opening outwardly toward the periphery of the table: distributing-boxes adapted to deliver the pulp at or near the outer edge of the series of rifles: means for imparting to said pan an oscillatory motion: and a perforated water-pipe surrounding the outer edge of the pan or table.

9. In a concentrating-pan having a concaved upper surface, spiral or evolute rifles extending from points substantially central of the pan toward the periphery thereof: a track surrounding the rifles approximate to the periphery of the pan: means for imparting an oscillatory movement to the pan to cause the particles to travel outward between the rifles, and said pan having a central water and gangue discharge.

10. A concentrating-pan, the exterior outline of which is essentially evolute in outline, said pan having means for centrally supporting it for oscillatory movement in a horizontal plane, and means for oscillating said pan.

11. A concentrating-pan, the exterior outline of which is essentially evolute in outline, said pan having means for centrally supporting it for oscillatory movement in a horizontal plane, spiral rifles on the pan opening outward toward the periphery of the pan, and means for oscillating said pan.

12. A concentrating-pan having a concaved upper surface, the exterior outline of said pan being essentially evolute in outline, the wider and narrower portions of said pan being connected by an approximately radial line, a support for the pan, and means for oscillating said pan.

13. A concentrating-pan, the exterior outline of which is essentially evolute in outline, said pan having means for centrally supporting it for oscillatory movement in a horizontal plane, means for oscillating said pan to cause material to tend to travel around the pan in one direction, and spiral rifles on the pan expanding outward toward the periphery of the pan and extending substantially in the direction of the tendency of travel of the material.

14. A concentrator-table mounted for oscillatory movement in a horizontal plane, spiral rifles on the table expanding outward toward the periphery of the pan, and means to impart an oscillatory movement to the pan to cause the heavier particles on the table to travel between the rifles.

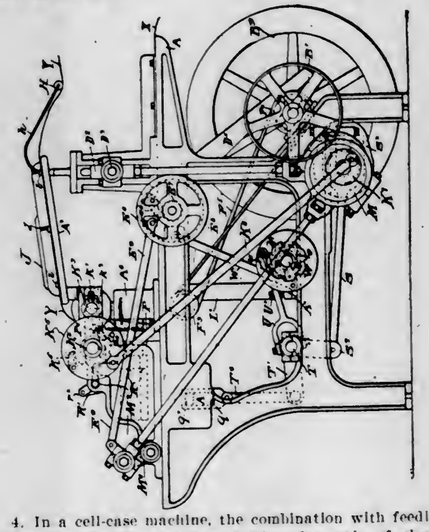
15. A concentrating pan or table having a concaved upper surface and mounted upon a central support for oscillatory movement in a horizontal plane: said table being essentially evolute in outline, rifles on the table having their outer ends relatively more remote from the center of the table than their inner ends are, means for delivering material and water upon the table, and means for giving the table an oscillatory movement.

12,591. CELL-CASE MACHINE. GEORGE W. SWIFT, Jr., Bordentown, N. J. Filed July 14, 1906. Serial No. 326,296. Original No. 622,403, dated Apr. 4, 1899.

Claim.—1. In a cell-case machine, the combination with feeding mechanism for the longitudinal and transverse strips of the cell-case fabric, of mechanism to notch said strips, mechanism comprising a stationary matrix to flex the edges of said notches, and mechanism coöperative with said stationary matrix to interengage the flexed strips, substantially as set forth.

2. In a cell-case machine, the combination with feeding mechanism for cell-case fabric, of shearing mechanism comprising two relatively movable blades, knife-edged notches in said blades to receive the cell-walls, mechanism to shift said blades to embrace said walls, and mechanism to effect the shearing operation of said blades, substantially as set forth.

3. In a cell-case machine, the combination with feeding mechanism for the cell-case fabric, of shears for said fabric adapted to be intermittently operated in a predetermined sequence with respect to the intermittent operation of said feeding mechanism, by the following instrumentalities: a rock-shaft, an arm fixed upon said rock-shaft and linked to said shears, a second arm loosely journaled upon said rock-shaft, mechanism to oscillate said loosely-journaled arm, clutch members upon the respective opposed faces of said fixed and loose arms, and a cam to effect the interengagement of said clutch members, and the consequent operation of said shears, at predetermined intervals, substantially as set forth.



4. In a cell-case machine, the combination with feeding mechanism for the cell-case fabric, of a pair of shear-blades, yokes for the opposite extremities of said blades, means to reciprocate said yokes, means to reciprocate said blades in said yokes, to shear said fabric, substantially as set forth.

5. In a cell-case machine, the combination with feeding mechanism for the cell-case fabric, of a pair of shear-blades, yokes for the opposite extremities of said blades, slideways for said yokes, mechanism to reciprocate said yokes in said slideways, and mechanism to relatively shift said two blades to shear said fabric, substantially as set forth.

6. In a cell-case machine, the combination with feeding mechanism for the cell-case fabric, of a pair of shear-blades, yokes for the opposite extremities of said blades, slideways for said yokes, mechanism to reciprocate said yokes in said slideways, and a fixed cam to relatively shift said two blades to shear said fabric, substantially as set forth.

7. In a cell-case machine, the combination with feeding mechanism for the cell-case fabric, of a pair of shear-blades having registered knife-edged notches, yokes for the opposite extremities of said blades, slideways for said yokes, roller-bearings in said yokes for said blades, mechanism to reciprocate said yokes, and mechanism to reciprocate said blades in said yokes upon said roller-bearings, to open and close said notches, substantially as set forth.

8. In a cell-case machine, paper-web-feeding mechanism for intermittent operation comprising: opposed feeding-rollers to grip the said web, a train of driving mechanism for said rollers comprising a ratchet-wheel with equal-spaced teeth, a reciprocatory pawl for engagement with said ratchet-teeth, and an eccentric to intermittently lift said pawl from said ratchet-teeth, and thus effect a diminished interval in the feeding operation, substantially as set forth.

9. In a cell-case machine, the combination with a fixed punching-die, provided with a shear-blade, of a moving punching-die provided with a shear-blade, and overlapping fingers upon the extremities of said blades to insure their proper alinement, substantially as set forth.

10. In a cell-case machine, the combination with a series of separate paper-web-feeding rollers, each provided with a circular shearing-plate, of a terminal roller for said series provided with two circular shearing-plates, and a similar reversed series of said rollers opposed to the first series

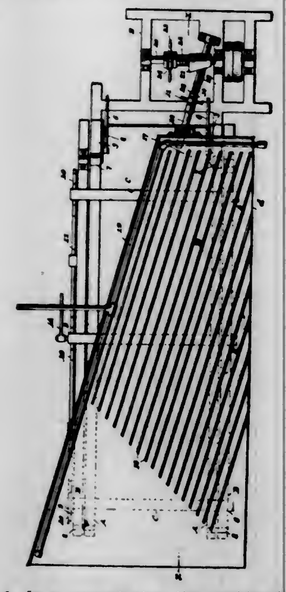
and provided with a similar terminal roller, substantially as set forth.

11. In a cell-case machine, the combination with feeding mechanism for the cell-case strips, of mechanism to notch or perforate said strips, a fixed conduit for said strips, and an oscillatory former adapted to bend the edges of the notches in said strips against the wall of said fixed conduit, substantially as set forth.

12. In a cell-case machine the combination with mechanism to feed separate paper webs, of mechanism to perforate said webs, mechanism to flex the edges of the perforations in the respective webs, mechanism to interengage the flexed portions of the respective webs before said portions are severed from the respective webs, and mechanism to sever said perforated portions from the respective webs subsequent to their interengagement, substantially as set forth.

13. In a cell-case machine the combination with mechanism to feed a notched paper strip, of a matrix through which said strip is fed, whereby the edges of its respective notches are flexed, said flexing operation being effected by opposed relatively fixed members of said matrix, substantially as set forth.

12,592. ORE-CONCENTRATOR. HARRY P. TAYLOR, Howard, Oreg., assignor of one-fourth to W. P. Keady, Howard, Oreg. Filed July 28, 1903. Serial No. 167,360. Original No. 682,371, dated Sept. 10, 1901.



Claim.—1. In a concentrator, the combination of a longitudinally and transversely inclined support, and a table mounted thereon, said table being of irregular shape with a narrowed head end, riffles upon the table arranged parallel with the outer or longer side thereof and diagonal to the said support, and means by which the table is given an endwise-reciprocating movement oblique to longitudinal axis of the machine, and in the line of said riffles.

2. In a concentrator, the combination with a base of a frame pivoted thereon, means by which the frame may be inclined longitudinally, a bed hinged on this frame and capable of being given an incline transverse to the frame, a table upon this bed, said table being of irregular shape and diverging from its head end, and having riffles parallel with its outer or long side and diagonal to the bed, and means by which the table may be given an endwise-reciprocating movement oblique to the longitudinal axis of the machine, and in the line of the riffles.

3. In a concentrator, a table having a narrow head end, and gradually increasing in width toward the foot having parallel riffles extending in a line oblique to the longitudinal axis of the table and parallel with the longer or outer side of the table, and means by which this table may be given a reciprocating movement in the line of these riffles.

4. In a concentrator, the combination with a base, of a frame pivoted at one end thereon, inclined wedges slidable upon the base, bearing-surfaces fixed upon the frame which engage these wedges, and means by which the wedges are moved and the frame given a longitudinal tilt, a bed hinged upon the frame, and means by which the bed is laterally tilted, a table carried upon the bed having parallel riffles oblique to the axis of the machine and extending in uphill direction, and means by which the table is given a reciprocating movement in the direction of the riffles.

5. The combination with a concentrator-table and means by which it may be longitudinally and transversely tilted, means whereby this table may be differentially reciprocated obliquely to the longitudinal axis of the table, said means consisting of a shaft, a cone-shaped cam slidable upon this shaft, a sleeve upon the shaft and also slidable thereon, and abutting against the base of the cone, said sleeve having exterior threads, a nut thereon held between guides by which the sliding movement of the sleeve on the shaft is effected, and the cam moved, and means whereby the sleeve is kept from turning, an arm upon the head of the table and carrying a wheel which runs on the periphery of the cam, means by which the contact of the wheel against the cam is maintained.

6. The combination in a concentrator of a longitudinally-tilted frame, and means by which this tilt may be varied, a transversely-tilted bed upon this frame and means whereby its tilt may be varied, a table mounted thereon having one side inclined outward from the axis of the machine and in the direction of the foot end of the table, means by which water is fed to the table along this longer outer edge, riffles parallel with the longer edge, and means by which this table is given a differential reciprocating movement in the direction of the riffles and whereby the concentrates are made to travel "uphill" upon the table.

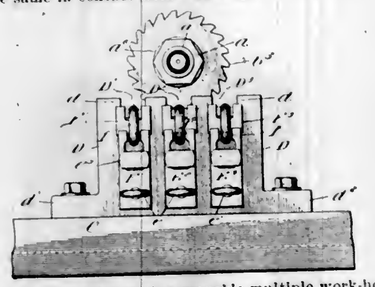
7. In an ore-concentrator, the combination with a longitudinally and transversely tilted table, said table having its outer and upper edge divergent from the axis of the machine, riffles of graduated lengths parallel with this upper edge and diagonal to the head end, and means whereby this table is given a differential reciprocating movement in the direction of this upper edge.

8. In an ore-concentrator, the combination of a table carrying a series of parallel riffles, the table being transversely adjustable about an axis which is situated in a longitudinal vertical plane, and also longitudinally adjustable about an axis that is situated in a transverse vertical plane, such adjustments being adapted to bring the surface of the table into different planes relative to the horizontal, and the said riffles being arranged in a direction oblique or inclined to the said longitudinal and transverse vertical planes, and means for imparting reciprocatory movements to the table on lines parallel with the riffles, substantially as set forth.

12,593. HOLDER FOR MILLING-MACHINES. HENRY H. VAUGHAN, Montreal, Quebec, Canada, assignor to The Railroad Supply Company, Chicago, Ill., a Corporation of Illinois. Filed July 12, 1906. Serial No. 325,973. Original No. 819,961, dated May 8, 1906.

Claim.—1. The combination with a multiple work-holder for milling-machines having a channel therein extending transversely to the direction of its movement and also having a plurality of parallel grooves formed in the upper surface thereof, and extending in the direction of movement of the holder, a magazine engaging said channel and adapted to support articles in register with said grooves.

2. The combination with a multiple work-holder having a channel extending transversely to its path of movement, of a magazine for removably engaging said channel, means for supporting a plurality of articles upon said magazine, a stop carried by said holder at one end of said channel, and an adjustable latch carried by said holder at the opposite end of the channel adapted to engage said magazine and retain the same in contact with said stop.



3. The combination with a movable multiple work-holder having a plurality of channels therein extending transversely to its direction of movement, a plurality of magazines engaging said channels and each adapted to support a plurality of articles, a stop carried by said holder at one side thereof and projecting into alinement with said channels, and an adjustable latch carried by said holder at the end of each channel opposite to said stop, said latch being adapted to engage and retain the corresponding magazine in contact with said stop.

4. The combination with a multiple work-holder for milling-machines, of a magazine extending transversely across said holder and having a plurality of parallel grooves therein extending longitudinally with respect to said holder, said grooves adapted to hold articles therein, and means for removably supporting said magazine upon said holder.

5. The combination with a multiple work-holder for milling-machines, of a plurality of magazines extending transversely across said holder and each having a plurality of grooves therein extending longitudinally with respect to said holder, each of said grooves adapted to hold an article, and means for removably supporting said magazines upon said holder.

6. In a milling-machine for making channel-pins, the combination with a movable multiple work-holder of a magazine extending transversely to the path of movement of said holder and having a plurality of grooves therein extending parallel with the path of movement of said holder, each groove adapted to hold a channel-pin, and means for removably supporting said magazine upon said holder.

7. In a milling-machine for manufacturing channel-pins, the combination with a multiple work-holder of a magazine extending transversely to the path of movement of said holder and having a plurality of grooves therein extending parallel with the path of movement of said holder, each groove having inwardly-projecting edges to retain the channel-pin therein.

8. In a milling-machine for manufacturing channel-pins the combination with a multiple work-holder, of a magazine extending transversely to the path of movement of said holder and having a plurality of tapered grooves therein extending parallel with the path of movement of said holder.

9. In a milling-machine for manufacturing channel-pins, the combination with a multiple work-holder, of a magazine extending transversely to the path of movement of said holder and having a plurality of tapered grooves therein extending parallel with the path of movement of said holder, each groove having inwardly-projecting edges to retain a channel-pin therein.

DESIGNS.

38,399. INSIGNIA. FRANK B. BOWER, Philadelphia, Pa., assignor to Phi Kappa Sigma Fraternity, Philadelphia, Pa. Filed Sept. 17, 1906. Serial No. 335,043. Term of patent 14 years.

Claim.—The ornamental design for insignia as shown.

38,399.



38,400. SHIELD. WILLIAM C. CODMAN, Providence, R. I., assignor to Gorham Manufacturing Company, Providence, R. I., a Corporation of Rhode Island. Filed Dec. 14, 1906. Serial No. 347,902. Term of patent 7 years.



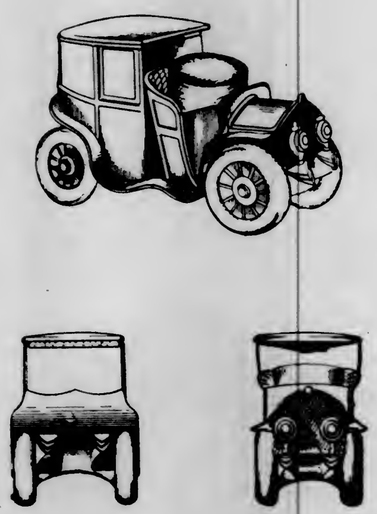
Claim.—The ornamental design for a shield, as shown.

38,401. SHIELD. WILLIAM C. CODMAN, Providence, R. I., assignor to Gorham Manufacturing Company, Providence, R. I., a Corporation of Rhode Island. Filed Dec. 14, 1906. Serial No. 347,903. Term of patent 7 years.



Claim.—The ornamental design for a shield, as shown.

38,402. INK-WELL AND PINCUSHION. LOUIS WEIDLICH and ERNEST C. WEIDLICH, Bridgeport, Conn., assignors to The Weidlich Brothers Manufacturing Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Nov. 17, 1906. Serial No. 343,942. Term of patent 3½ years.



Claim.—The ornamental design for an ink-well and pincushion as shown.

38,403. DISH OR CUP. HENRY A. MINER, Malden, Mass., assignor to Miner's Fruit Nectar Company, Boston, Mass., a Corporation of Maine. Filed Dec. 4, 1906. Serial No. 346,352. Term of patent 3½ years.



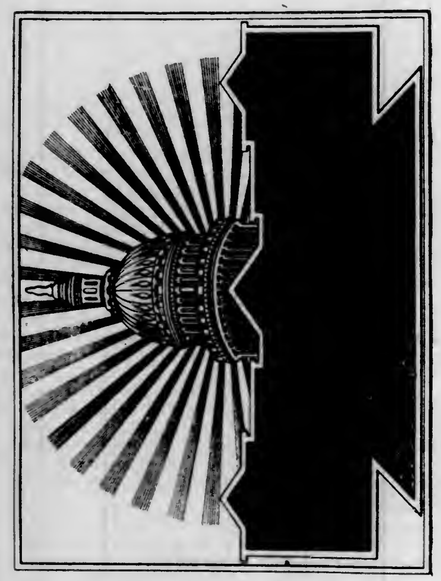
Claim.—The ornamental design for a dish or cup as shown.

38,404. MUSICAL INSTRUMENT. WILLIAM H. PRITCHARD, New York, N. Y., assignor to Patent Holding Company, New York, N. Y., a Corporation of New York. Filed Nov. 28, 1906. Serial No. 345,564. Term of patent 14 years.



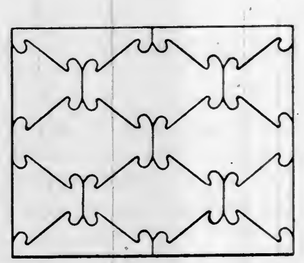
Claim.—The original design for a musical instrument, as shown.

38,405. ILLUMINATED SIGN. LOUIS K. LIGGETT, Brookline, Mass., assignor to National Cigar Stands Company, Jersey City, N. J., a Corporation of New Jersey. Filed Nov. 24, 1906. Serial No. 344,989. Term of patent 14 years.



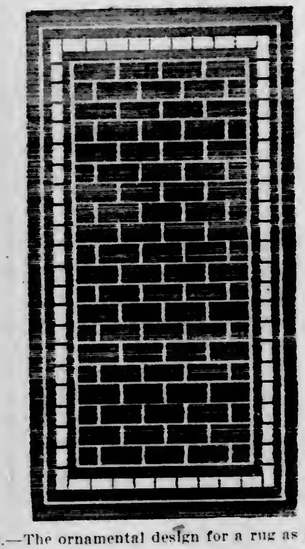
Claim.—The ornamental design for an illuminated sign, as shown.

38,406. FLOOR OR WALL COVERING. ALFRED LEE, Akron, Ohio. Filed Nov. 23, 1906. Serial No. 344,789. Term of patent 14 years.



Claim.—The ornamental design for floor or wall covering, as shown.

38,407. RUG. FRANK A. HAAS, New York, N. Y., assignor to Matthew J. Whittall, Worcester, Mass. Filed Nov. 30, 1906. Serial No. 345,843. Term of patent 3½ years.



Claim.—The ornamental design for a rug as shown.

TRADE-MARKS

PUBLISHED JANUARY 8, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 546. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE EBERHARD MANUFACTURING COMPANY, Cleveland, Ohio. Filed Apr. 6, 1905.



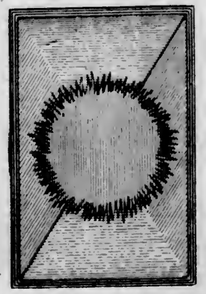
Particular description of goods.—Buckles, Rings, Snap-Hooks, Terrets, Cockeyes, Trees, Hames, Bits, Snaffles, Tugs, Trimmings, Loops, and Miscellaneous Metal Parts Used in Harness.

Ser. No. 654. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) RALSTON PURINA CO., St. Louis, Mo. Filed Apr. 6, 1905.

PURINA

Particular description of goods.—Cornmeal, Wheat-Flour, Cereal Breakfast Food, and Pancake-Flour.

Ser. No. 1,711. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) THE OHIO COFFEE & SPICE COMPANY, Columbus, Ohio. Filed Apr. 15, 1905.



The central figure is red, the upper and lower triangles green, and the side triangles blue.

Particular description of goods.—Coffee.

Ser. No. 2,541. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) ISA MONHEIMER, Chicago, Ill. Filed Apr. 21, 1905. Used ten years.

EDGEBROOK

Particular description of goods.—Whisky.

Ser. No. 4,643. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GUTHMANN CARPENTER & TELLING, Chicago, Ill. Filed May 8, 1905. Used ten years.

J. T.

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 6,628. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE SCHUSTER CO., Cleveland, Ohio. Filed May 25, 1905. Used ten years.



Particular description of goods.—Kümmel.

Ser. No. 8,481. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) RHEINSTROM BETTMAN JOHNSON & CO., Cincinnati, Ohio. Filed June 19, 1905.



Particular description of goods.—Blackberry Brandy and Cordials.

Ser. No. 8,750. (CLASS 12. MASONRY MATERIALS.) BANGOR ROOFING SLATE MANUFACTURERS ASSOCIATION, Bangor, Pa. Filed June 21, 1905.



Particular description of goods.—Roofing-Slate.

Ser. No. 8,908. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE MCCART-MOSSET CO., Cleveland, Ohio. Filed June 24, 1905.

Edelweiss

Particular description of goods.—Bitters.

Ser. No. 8,996. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) CHANDLER & TAYLOR COMPANY, Indianapolis, Ind. Filed June 24, 1905.

C & T O

Particular description of goods.—Steam-Engines, Sawmill Machinery, Air-Compressors, Clay-Working Machinery, and Parts and Attachments Therefor.

Ser. No. 9,670. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) INTERNATIONAL CUTLERY COMPANY, Fremont, Ohio. Filed July 3, 1905.

THISTLE

Particular description of goods.—Razors.

Ser. No. 9,722. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THOMAS PEPPER'S SONS, Ashland, Pa. Filed July 3, 1905. Used ten years.

Particular description of goods.—Whisky.

Ser. No. 10,247. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) J. R. THOMAS' SONS, Youngstown, Ohio. Filed July 13, 1905.



The diagonally opposite quarters of the shield being red and blue, respectively, the panel being yellow with a blue border, the lettering being blue, and the stars being in alternate groups of red and blue.

Particular description of goods.—Wheat, Rye, and Graham Flours.

Ser. No. 10,880. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich. Filed July 27, 1905.

Unique

Particular description of goods.—Carpet-Sweepers.

Ser. No. 10,881. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich. Filed July 27, 1905. Used ten years.

GRAND RAPIDS

Particular description of goods.—Carpet-Sweepers.

Ser. No. 10,898. (CLASS 52. PACKING-HOUSE PRODUCTS.) THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Filed July 27, 1905.

SNOW DROP

Particular description of goods.—A Mixture Having for Its Essential Ingredients a Vegetable Oil and an Animal Fat.

Ser. No. 11,105. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) T. E. MCPHERSON & CO., Kennett, Mo. Filed Aug. 1, 1905.



Particular description of goods.—Medicinal Remedies for the Eyes.

Ser. No. 11,183. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 2, 1905.

MAGIC

Particular description of goods.—Carbolic Ointment.

Ser. No. 11,191. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 2, 1905.

MAGIC

Particular description of goods.—Eye-Salve.

Ser. No. 11,192. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 2, 1905.

MAGIC

Particular description of goods.—Toothache-Drops.

Ser. No. 11,193. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 2, 1905.

PLANTATION



Particular description of goods.—Essence of Jamaica Ginger.

Ser. No. 11,194. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 2, 1905.

MAGIC

Particular description of goods.—A Preparation for the Cure and Alleviation of Diseases and Affections of the Skin.

Ser. No. 11,199. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 2, 1905.

EUREKA

Particular description of goods.—Itch Ointment.

Ser. No. 11,503. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) JAMES WALSH & CO., Cincinnati, Ohio. Filed Aug. 10, 1905. Used ten years.

OLD HICKORY

Particular description of goods.—Whisky.

Ser. No. 11,881. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 22, 1905. Used ten years.

MANSFIELD'S
Compound Extract
of
Buchu, Juniper,
Nitre and
Acetate Potassa

Particular description of goods.—A Remedy for Diseases of the Bladder and Kidneys, Obstructions, and other Ailments and Weaknesses of the Sexual Organs.

Ser. No. 11,883. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 22, 1905. Used ten years.

BROWN'S IRON Remedy



Particular description of goods.—A Remedy for Dyspepsia, General Debility, Nervousness, and Diseases and Impurities of the Blood.

Ser. No. 12,139. (CLASS 68. PUBLICATIONS.) WILLIAM J. JOHNSTON, New York, N. Y. Filed Sept. 1, 1905.

AMERICAN EXPORTER

Particular description of goods.—A Monthly Periodical.

Ser. No. 12,286. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Sept. 6, 1905.

"V.I.G."



Particular description of goods.—A Preparation for the Cure of Venereal Diseases and Their Results.

Ser. No. 12,288. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Sept. 6, 1905.

PLANTATION



Particular description of goods.—A Remedy for the Cure of Chills and Fever.

Ser. No. 12,294. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Sept. 6, 1905. Used ten years.

LAXATIVE PLANTATION QUINIDINE TABLETS

Particular description of goods.—A Remedy for Colds and Coughs, La Grippe, and Headache.

Ser. No. 12,296. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Sept. 6, 1905. Used ten years.

KIDNEY

Specific

Particular description of goods.—A Kidney Medicine.

Ser. No. 12,555. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Sept. 14, 1905.

PLANTATION



Particular description of goods.—Candy Vermifuge.

Ser. No. 12,851. (CLASS 54. SEA FOODS.) THE MORGAN OYSTER COMPANY, San Francisco, Cal. Filed Sept. 21, 1905. Used ten years.

EAGLE

Particular description of goods.—Fresh Canned Frozen Oysters.

Ser. No. 13,123. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) FABRIK VON MAGGI'S NAHRUNGSMITTELN, Kempttal, Switzerland. Filed Sept. 29, 1905.

CROSS-STAR

Particular description of goods.—Bouillon in Liquid Form Used as a Condiment for Flavoring, Enriching Soups, Gravies, Sauces, Cooked Vegetables, Game, Meat, and Any Variety of Cooked Food; Evaporated Bouillon in Granular Form for Use in Preparing Soups, Broth, and Beef-Tea; Consommé in Solid Form in Gelatin Capsules for Preparing or Ameliorating, Strengthening, or Enriching Soups, Bouillon, Gravies, &c.; Soup-Tablets Consisting of Various Kinds of Leguminous Flour, Desiccated Vegetables, and Herbs.

Ser. No. 13,124. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) FABRIK VON MAGGI'S NAHRUNGSMITTELN, Kempttal, Switzerland. Filed Sept. 29, 1905.



Particular description of goods.—Bouillon in Liquid Form Used as a Condiment for Flavoring, Enriching Soups, Gravies, Sauces, Cooked Vegetables, Game, Meat, and Any Variety of Cooked Food; Evaporated Bouillon in Granular Form for Use in Preparing Soups, Broth, and Beef-Tea; Consommé in Solid Form in Gelatin Capsules for Preparing or Ameliorating, Strengthening, or Enriching Soups, Bouillon, Gravies, &c.; Soup-Tablets Consisting of Various Kinds of Leguminous Flour, Desiccated Vegetables, and Herbs.

Ser. No. 13,332. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) JOHN POHLMAN & CO., Indianapolis, Ind. Filed Oct. 5, 1905. Used ten years.

BUCK RIDGE

Particular description of goods.—Whisky.

Ser. No. 13,407. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) M. A. PACKARD CO., Brockton, Mass. Filed Oct. 7, 1905.



Particular description of goods.—Boots and Shoes Made of Leather.

Ser. No. 14,356. (CLASS 32. FURNITURE AND UPHOLSTERY NOT OTHERWISE CLASSIFIED.) JAY C. WEMPLE CO., New York, N. Y. Filed Nov. 6, 1905. Used ten years.

Wemple

Particular description of goods.—Window-Shade Cloths.

Ser. No. 14,571. (CLASS 48. DAIRY PRODUCTS.) THE BERNESE ALPS MILK CO., Stalden, Emmenthal, Switzerland. Filed Nov. 13, 1905.



Particular description of goods.—Sterilized Milk, Concentrated Milk, Condensed Milk, Dried Milk, Evaporated Milk, Evaporated Cream, Sterilized Cream, Butter, Milk-Powder, and Milk.

Ser. No. 15,209. (CLASS 54. SEA FOODS.) A. W. MARSHALL, London, England. Filed Dec. 5, 1905.

Luxette

Particular description of goods.—A Prepared Food Made from Fish and other Ingredients.

Ser. No. 15,321. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) LE RIPOLIN, (SOCIÉTÉ ANONYME FRANÇAISE DE PEINTURES LAQUÉES ET D'ENDUITS SOUS-MARINS PROCÉDÉS LEFRANC & BRIEGLEB RÉUNIS.) Paris, France, and Amsterdam, Holland. Filed Dec. 7, 1905.

RIPOLETTE

Particular description of goods.—Enamel Paint.

Ser. No. 15,938. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) MEDLIN MILLING CO., Fort Worth, Tex. Filed Jan. 5, 1906.

MEDLIN MILLING COMPANY · FORT WORTH TEXAS ·

Our Seal

EXTRA HIGH PATENT

The seal is printed in ocher, the lettering on the seal in yellow, and the words "Our Seal" and the paraph beneath in blue.

Particular description of goods.—Wheat-Flour.

Ser. No. 16,703. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) JULIUS KING OPTICAL CO., New York, N. Y. Filed Feb. 2, 1906.

So-Easy

Particular description of goods.—Eyeglasses.

Ser. No. 16,840. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) THOMAS C. MURPHEY, Philadelphia, Pa. Filed Feb. 8, 1906.

"SHOO-FLY" The Animals' Friend

Particular description of goods.—A Non-Poisonous Insecticide and Antiseptic.

Ser. No. 17,026. (CLASS 19. BOATS AND ROAD-VEHICLES.) STUDEBAKER BROS. MFG. CO., South Bend, Ind. Filed Feb. 14, 1906.



Particular description of goods.—Buggies and Carriages.

Ser. No. 17,115. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) EPHRAIM PHELPS, Jr., New Orleans, La. Filed Feb. 16, 1906.



Particular description of goods.—Leather Boots and Shoes.

Ser. No. 18,099. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) TOUSEY VARNISH CO., Chicago, Ill. Filed Mar. 21, 1906.

WOOD SHINE

The panel being printed in red.
Particular description of goods.—Varnishes and Varnish-Like Preparations.

Ser. No. 18,432. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) H. JACQUIN & CO., New York, N. Y. Filed Apr. 2, 1906.

DERMOPHILE



Particular description of goods.—Men's, Women's, and Children's Knitted Undershirts and Drawers.

Ser. No. 18,607. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) ADOLPH COHEN, New York, N. Y. Filed Apr. 7, 1906. Used ten years.

The West End

Particular description of goods.—Ladies' and Misses' Outer Waists, Ladies' and Misses' Outer Skirts, and Ladies' and Misses' Suits.

Ser. No. 18,638. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) EDWARD F. FAHEY, Pittsfield, Mass. Filed Apr. 9, 1906.

Curo

Particular description of goods.—A Blood-Tonic.

Ser. No. 18,880. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE IOSALINE COMPANY, New York, N. Y. Filed Apr. 17, 1906.

IO • SAL • INE

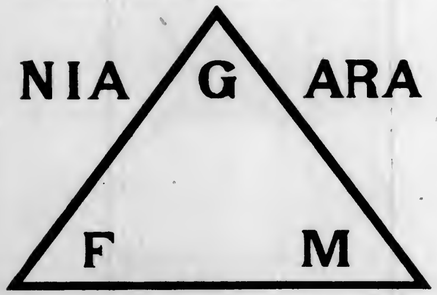
Particular description of goods.—A Transparent Non-Staining Paste of Iodin, True Oil of Wintergreen, and Menthol to be Used as an External Remedy in Pains of a Rheumatic Character by Massaging Therewith.

Ser. No. 18,908 (CLASS 19. BOATS AND ROAD-VEHICLES.) ARGUS MOTOREN GESELLSCHAFT JEANNIN & CO. COMM.-GES., Berlin, Germany. Filed Apr. 18, 1906.

Argus

Particular description of goods.—Automobiles and Parts Thereof Except Rubber Tires.

Ser. No. 19,104. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) THE NATIONAL ELECTROLYTIC CO., Niagara Falls, N. Y. Filed Apr. 27, 1906.



Particular description of goods.—Chlorates and Bichromates.

Ser. No. 19,256. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) KINAHAN & COMPANY LIMITED, Dublin, Ireland. Filed May 3, 1906.

SNOWDROP

Particular description of goods.—Gin.

Ser. No. 19,289. (CLASS 51. MALT LIQUORS.) PITTSBURGH BREWING COMPANY, Pittsburg, Pa. Filed May 4, 1906.



Particular description of goods.—Beer.

Ser. No. 19,379. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE BRISTOL CO., Waterbury, Conn. Filed May 9, 1906. Used ten years.



Particular description of goods.—Metallic Fasteners for Belts.

Ser. No. 19,389. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) CHARLES LOONEN, Paris, France. Filed May 9, 1906.

✚ RED CROSS

The cross being printed in red.
Particular description of goods.—Nail-Brushes.

Ser. No. 19,408. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) CLARKSON & FORD CO., New York, N. Y. Filed May 10, 1906.

TRADE MARK
BAN C&F NER

Particular description of goods.—Lubricating-Oil.

Ser. No. 19,409. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) CLARKSON & FORD CO., New York, N. Y. Filed May 10, 1906.

TRADE MARK
BAN C&F NER
TRIUMPH

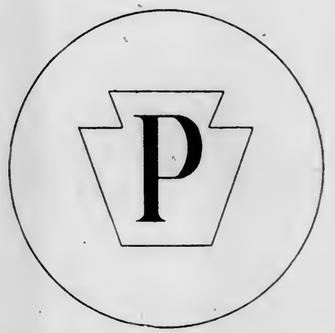
Particular description of goods.—Cutting-Oil.

Ser. No. 19,466. (CLASS 9. EXPLOSIVES.) THE EASTERN DYNAMITE COMPANY, Kenvil, N. J. Filed May 12, 1906.



The star is colored red.
Particular description of goods.—High Explosives and Blasting Supplies, Embracing Caps or Detonators, Electric Fuses, and Fuse Consisting of Hemp or Cotton and Powder Covered by Single, Double, or Triple Tape.

Ser. No. 19,657. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) PEERLESS HERB CO., Williamsport, Pa. Filed May 18, 1906.



Particular description of goods.—A Remedy for Diseases of the Blood, Liver, Stomach, and Kidneys.

Ser. No. 19,742. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) C. W. MASSIE, Fort Worth, Tex. Filed May 21, 1906.



Particular description of goods.—A Liniment Made Especially for Caked Breast in Women, Cows' Bags, Bee-Stings, Spider-Bites, Inflammation, or Burns.

Ser. No. 19,752. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) W. WAGNER, Jr., Plettenberg, Germany. Filed May 22, 1906.



Particular description of goods.—Tuning-Pins for Pianos.

Ser. No. 19,753. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) W. WAGNER Jr., Plettenberg, Germany. Filed May 22, 1906.



Fly Brand

Particular description of goods.—Tuning-Pins for Pianos.

Ser. No. 19,773. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) A. B. KIRSCHBAUM & Co., Philadelphia, Pa. Filed May 22, 1906.



Particular description of goods.—Men's and Young Men's or Youths' Suits, Comprising Coats, Trousers, Vests, Overcoats, and Rain-Coats.

Ser. No. 19,831. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) TH. LAPPE, Neudietendorf, Germany. Filed May 24, 1906.



Particular description of goods.—Stomach-Bitters.

Ser. No. 20,206. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) GEORGE C. THAYER, Indianapolis, Ind. Filed June 11, 1906.



Particular description of goods.—Relief-Printing Plates.

Ser. No. 20,306. (CLASS 32. FURNITURE AND UPHOLSTERY NOT OTHERWISE CLASSIFIED.) MARVEL FURNITURE COMPANY, Jamestown, N. Y. Filed June 15, 1906.



Particular description of goods.—Chiffonniers, Dressers, and Commodes.

Ser. No. 20,408. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) WM. VOGEL & BROS., Brooklyn, N. Y. Filed June 19, 1906.



Particular description of goods.—Oilers and Oiler-Spouts and Engineers' or Oiler Fillers, Can Screws and Trimmers, Coffee-Flask Screws, Mailing-Case Screws, Can-Tops, Can-Spout Screws, Filler-Faucets, Filling and Pouring Screws, Feeder Screws and Hoops, Nozzles and Caps, Can-Spouts and Sprinkler-Roses, Funnels, Sprayers, Crumb Sets, Sink-Cleaners, Spittoons or Cuspidors, Stationary, Drip, or Odor-Emitting Disinfectors, Tin Bottle-Spouts, Gasolene Tanks or Cans for Automobiles, Marking-Pots, Meter-Caps.

Ser. No. 20,458. (CLASS 51. MALT LIQUORS.) PARAGON MALT EXTRACT CO., New York, N. Y. Filed June 21, 1906.



Particular description of goods.—Malt Extracts.

Ser. No. 20,496. (CLASS 8. DETERGENTS.) MAGNOLIA HEALING SOAP CO., Muscatine, Iowa. Filed June 22, 1906.

MAGNOLIA HEALING SOAP

Particular description of goods.—Medicated Toilet Soap.

Ser. No. 20,523. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HUMPHREYS HOMEOPATHIC MEDICINE CO., New York, N. Y. Filed June 23, 1906. Used ten years.

HUMPHREYS

Particular description of goods.—Remedies for the Treatment of Fevers, Congestions, Inflammations, Worms, Colic, Diarrhea, Dysentery, Cholera, Cholera Morbus, Vomiting, Coughs, Colds, Bronchitis, Toothache, Faceache, Neuralgia, Headache, Vertigo, Dyspepsia, Indigestion, Constipation, Suppressed Menses, Leucorrhea, Croup, Laryngitis, Salt-Rheum, Eruptions, Erysipelas, Rheumatism, Fever and Ague, Malaria, Piles, Ophthalmia, Catarrh, Influenza, Cold in Head, Whooping-Cough, Asthma, Earache, Scrofula, General Debility, Brain-Fag, Dropsy, Seasickness, Nausea, Kidney Disease, Gravel, Calculi, Nervous Debility, Vital Weakness, Canker, Urinary Incontinence, Painful Menses, Pruritus, Diseases of the Heart, Epilepsy, St. Vitus' Dance, Sore Throat, Quinsy, Diphtheria, Chronic Congestions, Grippe, and Hay-Fever, and also for the Treatment of the Following Diseases in Animals: Fevers, Congestions, and Inflammations of the Lungs, Inflammation of the Head or Brain, Eyes or of the Liver or Belly, Sore Throat or Quinsy, Blind or Belly Staggers or Convulsions, Hot Skin, Quick Pulse, Chill or Panting, Milk-Fever in Cows, Spinal Meningitis, Diseases of the Tendons, Ligaments, or Joints, Founder, Curb, Spavin, Strains, Stiffness, Lameness, Rheumatism, Splint, Stifle, Diseases of the Glands, Epizootic, Distemper in Horses or Sheep or Dogs, Nasal Gleet, Farcy, and Glanders, Discharges from the Nose, Farcy-Buds, Swelled Glands, Scab in Sheep, Worm Diseases, Diseases of the Air-Passages, Cough, Influenza, Heaves, Broken Wind or Whistles, Colic, Spasmodic Wind or Inflammatory Colic, Bellyache, Gripes, Hoven or Wind-Blown, Diarrhea or Dysentery, Miscarriage, Diseases of the Kidneys, Bladder, or Urinary Passages, Cutaneous Diseases or Eruptions, Mange, Grease, Thrush, Erysipelas, Swellings, Abscesses, Fistulas, Ulcers, Unhealthy Skin, Rough Coat, Diseases of Digestion, Jaundice, Ill Condition, Staring Coat, Paralysis, Brittle Hoofs, and Impotency, and also for Extracts and Preparations of Witch-Hazel.

Ser. No. 20,691. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) ATLAS SPECIALTY COMPANY, Buffalo, N. Y. Filed July 2, 1906.

RENOVINE

Particular description of goods.—Preparations for Cleaning and Polishing Furniture and Woodwork.

Ser. No. 20,751. (CLASS 52. PACKING-HOUSE PRODUCTS.) THE JONES DAIRY FARM, Fort Atkinson, Wis. Filed July 6, 1906. Used ten years.

JONES DAIRY FARM

Particular description of goods.—Sausages, Hams, Bacon, Salt-Pork, and Lard.

Ser. No. 20,754. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) H. J. HEINZ COMPANY, Allegheny, Pa. Filed July 6, 1906.

57 VARIETIES

Particular description of goods.—Pickles, Chow-Chow, Sauer-Kraut, Pickled Onions, Vinegar, Baked Beans, Soup, Catchup, Chutney, Sauces, Relishes, Mustard, Olives, Olive-Oil, Horse-Radish, Fruit-Preserves, Fruit-Butters, Fruit-Jellies, Euchred Figs, Cranberry-Sauce, and Mince-Meat.

Ser. No. 20,755. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) H. J. HEINZ COMPANY, Allegheny, Pa. Filed July 6, 1906. Used ten years.



Particular description of goods.—Pickles, Chow-Chow, Sauer-Kraut, Pickled Onions, Vinegar, Baked Beans, Soup, Catchup, Chutney, Sauces, Relishes, Mustard, Olives, Olive-Oil, Horse-Radish, Fruit-Preserves, Fruit-Butters, Fruit-Jellies, Euchred Figs, Cranberry-Sauce, and Mince-Meat.

Ser. No. 20,756. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) H. J. HEINZ COMPANY, Allegheny, Pa. Filed July 6, 1906.

Anything That's HEINZ Is Safe To Buy

Particular description of goods.—Pickles, Chow-Chow, Sauer-Kraut, Pickled Onions, Vinegar, Baked Beans, Soup, Catchup, Chutney, Sauces, Relishes, Mustard, Olives, Olive-Oil, Horse-Radish, Fruit-Preserves, Fruit-Butters, Fruit-Jellies, Euchred Figs, Cranberry-Sauce, and Mince-Meat.

Ser. No. 20,832. (CLASS 5. ADHESIVES.) THADDEUS DAVIDS COMPANY, New York, N. Y. Filed July 10, 1906. Used ten years.

DAVIDS'

Particular description of goods.—Sealing-Wax of All Varieties, Mucilage, and Paste.

Ser. No. 20,979. (CLASS 22. FIREARMS, AND EQUIPMENTS AND PROJECTILES NOT OTHERWISE CLASSIFIED.) WINCHESTER REPEATING ARMS CO., New Haven, Conn. Filed July 17, 1906.

W

The letter being printed in red.

Particular description of goods.—Shotguns, Rifles, Small Cannon, Gun-Wads, Bullets, Bullet-Molds, Cartridge-Shell Extractors, Cartridge-Clips, and Magazine-Chargers.

Ser. No. 21,025. (CLASS 7. CORDAGE NOT INCLUDED IN CLASS 13.) COLUMBIAN ROPE COMPANY, Auburn, N. Y. Filed July 20, 1906. Used ten years.

EUREKA

Particular description of goods.—Rope, Cable, Tarred Lath and Fodder Yarns, and Commercial Twines of Hard or Soft Fiber.

Ser. No. 21,026. (CLASS 7. CORDAGE NOT INCLUDED IN CLASS 13.) COLUMBIAN ROPE COMPANY, Auburn, N. Y. Filed July 20, 1906. Used ten years.

COLUMBIAN

Particular description of goods.—Rope, Cable, Tarred Lath and Fodder Yarns, and Commercial Twines of Hard or Soft Fiber.

Ser. No. 21,075. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) READING HARDWARE COMPANY, Reading, Pa. Filed July 20, 1906.



Particular description of goods.—Knobs, Store-Door Handles, Door-Pulls, Push-Plates, Letter-Box Plates, Door-Butts, Sash-Lifts, Casement-Adjusters, Drawer-Pulls, and Transom-Lifters.

Ser. No. 21,076. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) READING HARDWARE COMPANY, Reading, Pa. Filed July 20, 1906.

RHCo

Particular description of goods.—Knobs, Store-Door Handles, Door-Pulls, Push-Plates, Letter-Box Plates, Door-Butts, Sash-Lifts, Casement-Adjusters, Drawer-Pulls, and Transom-Lifters.

Ser. No. 21,209. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE DEFIANCE MACHINE WORKS, Defiance, Ohio. Filed July 27, 1906. Used ten years.

THE DEFIANCE MACHINE WORKS

Particular description of goods.—Woodworking-Machines for the Making of Hubs, Spokes, Wheels, Wagons, Carriages, Wooden Handles, Oval Wood Dishes, Bobbins, Spools, Band Sawing-Machines, Circular Sawing Machines, Felly-Bending Machines, Wood-Polishing Machines, Mortising, Boring, and Planing Machines, Insulator-Pin Machines, Variety Turning-Lathes, and Barrel-Hoop Machines.

Ser. No. 21,308. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) THE NEW YORK MACKINTOSH COMPANY, New York, N. Y. Filed Aug. 2, 1906.

Queen Quality

Particular description of goods.—Women's Coats, Cloaks, Suits, and Outer Skirts.

Ser. No. 21,437. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) HERMAN OBERNAUER, Pittsburg, Pa. Filed Aug. 9, 1906.



Particular description of goods.—Gin.

Ser. No. 21,498. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) EDW. B. BRUCE CO., Baltimore, Md. Filed Aug. 13, 1906. Used ten years.

Chesapeake

Particular description of goods.—Whisky.

Ser. No. 21,672. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) COLUMBIA MILL & ELEVATOR COMPANY, Columbia, Tenn. Filed Aug. 20, 1906.



The color of the seal is blue.

Particular description of goods.—Wheat-Flour.

Ser. No. 21,797. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) KNOLL & CO., Ludwigshafen-on-the-Rhine, Germany. Filed Aug. 29, 1906.

Bromural

Particular description of goods.—Compounds of Bromisovalerianyl Therapeutically Applied as Soporific, Narcotic, and Calming Remedies.

Ser. No. 21,926. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) A. BALDWIN & CO. LTD., New Orleans, La. Filed Sept. 5, 1906. Used ten years.

ICUT KEEN

Particular description of goods.—Saws, Scissors, Shears, Chisels, Axes, Hatchets, Pliers Having a Cutting Edge, Files, Augers, and Auger-Bits.

Ser. No. 21,944. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE ROSSING PAINT & ROOFING CO., Minneapolis, Minn. Filed Sept. 6, 1906.



Particular description of goods.—Mineral Roof-Paint, Hot-Surface Paint, and Roof Cement Paint.

Ser. No. 22,052. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) JACOB LEVI, Paterson, N. J. Filed Sept. 12, 1906. Used ten years.



Particular description of goods.—Manufactured Shirts, Overalls, and Pantaloons for Mechanics' Working Clothes.

Ser. No. 22,058. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) ROBERT STEVENSON & CO., Chicago, Ill. Filed Sept. 13, 1906.

"LUXURY"

Particular description of goods.—Olive-Oil.

Ser. No. 22,068. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) OKLAHOMA WHOLESALE GROCER CO., Oklahoma, Okla. Filed Sept. 13, 1906.



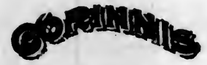
Particular description of goods.—Canned Vegetables.

Ser. No. 22,124. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) HINCKLEY & SCHMITT, INC., Chicago, Ill. Filed Sept. 17, 1906.

BLUE GRASS

Particular description of goods.—Mineral Water.

Ser. No. 22,125. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) HINCKLEY & SCHMITT, INC., Chicago, Ill. Filed Sept. 17, 1906.



Particular description of goods.—Mineral Water.

Ser. No. 22,300. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE PEAL MEDICINE COMPANY, Cleveland, Ohio. Filed Sept. 24, 1906.

Hytone

Particular description of goods.—Nerve-Tonic.

Ser. No. 22,303. (CLASS 52. PACKING-HOUSE PRODUCTS.) FRED W. SIEBERT, Yonkers, N. Y. Filed Sept. 24, 1906.

EAGLE BRAND

Particular description of goods.—Sliced Smoked Beef.

Ser. No. 22,381. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) COUCH BROS. & J. J. EAGAN CO., Atlanta and East Point, Ga. Filed Sept. 29, 1906. Used ten years.

Lankford

Particular description of goods.—Collars, Collar-Pads, and Back-Bands for Horses.

Ser. No. 22,411. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) RIEGER & LINDLEY, Salt Lake City, Utah. Filed Oct. 1, 1906. Used ten years.



Particular description of goods.—Whisky.

Ser. No. 22,466. (CLASS 53. SACCHARINE FOODS NOT INCLUDED IN CLASS 47.) S. J. VALK & BRO., New York, N. Y. Filed Oct. 3, 1906.



Particular description of goods.—Syrup.

Ser. No. 22,471. (CLASS 8. DETERGENTS.) MAX QUEISSNER, Berlin, Germany. Filed Oct. 3, 1906.



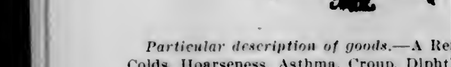
Particular description of goods.—A Preparation for Cleaning Straw and Bast Hats.

Ser. No. 22,486. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) F. P. KIRKENDALL & Co., Omaha, Nebr. Filed Oct. 4, 1906. Used ten years.



Particular description of goods.—Men's, Women's, Misses', Children's, Boys', and Youths' Leather Boots, Leather Shoes, Leather Slippers, and Leather Sandals.

Ser. No. 22,541. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) G. E. MILLER & Co., Pawtucket, R. I. Filed Oct. 5, 1906.



Particular description of goods.—A Remedy for Coughs, Colds, Hoarseness, Asthma, Croup, Diphtheria, Bronchitis, Whooping-Cough, Rheumatism, Burns, Scalds, Cuts, Earache, Local Inflammation, White Swelling, Deep-Seated Pains, Frozen Limbs, Inflammation of the Eyes, Chilblains, Piles, Corns, Bruises, Sore Nipples, and All External Complaints.

Ser. No. 22,623. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HENRY E. TURPIN, Haywards, Cal. Filed Oct. 10, 1906.



Particular description of goods.—A Remedy for Various Diseases of Poultry.

Ser. No. 22,635. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) SHARP & DOHME, Baltimore, Md. Filed Oct. 10, 1906.

PHOTABS

Particular description of goods.—Chemicals Used for Developing, Fixing, Toning, Reducing, Intensifying, Printing, Sensitizing, Retouching, Preparing and Finishing Materials Used in Photographic Processes.

Ser. No. 22,669. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) LUDWIG E. GOETZ & COMPANY, New York, N. Y. Filed Oct. 12, 1906.

HOLBEIN

Particular description of goods.—Embroideries, Embroidery-Patterns, and Needlework Designs on Linen or other Fabrics.

Ser. No. 22,760. (CLASS 16. PAINTS AND PAINTERS' MATERIAL.) THE PAYSON VARNISH CO., New York, N. Y. Filed Oct. 18, 1906.



Particular description of goods.—Varnish.

Ser. No. 22,834. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) KURI CHEMICAL CO., Pittsburg, Pa. Filed Oct. 22, 1906.



Particular description of goods.—A Remedy for Sore and Inflamed Eyes.

Ser. No. 22,861. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) THE KNY-SCHEERER COMPANY, New York, N. Y. Filed Oct. 23, 1906.



Particular description of goods.—Apparatus for the Examination of the Blood, the Stomach, and the Urine; Apparatus for Producing Anesthesia; Apparatus for Draining and Dressing Wounds and Hot-Air Treatment; Suspension, Infusion, Massage, Narcosis, Transfusion, and Guttafer Apparatus; Saws, Needles, Buttons, Syringes, Retractors, Spatulas, Curettes, Drills, Excavators, Gouges, Forceps, Percussors, Nippers, Specula, Probes, Clamps, Irrigators, Sounds, Hooks, Rollers, Bandages, Files, Cauterizers, Dilators, Wrenches, Twisters, Extractors, Depressors, Divulsors, Tubes, Perforators, Clippers, Insulators, Protectors, Hammers, Mallets, Masks, Magnets, Gags, Shields, Needle-Holders, Punchers, Searchers, Snares, Splints, Spoons, Sprays, Staves, Scrapers, Pins, Wedges, Separators, Knives, Lances, Scissors and Shears for the Use of Surgeons; for Anglioclasts, Angiotribes, Autoscopes, Basiotribes, Bistouries, Bladder-Phantoms, Calibrators, Catheters, Centrifuges, Cephalotribes, Conchotomes, Craniotomes, Cystoscopes, Cystotomes, Dakrytomes, Endoscopes, Urethroscopes, Enterotomes, Dakrytomes, Endoscopes, Hematokrits, Hysterotomes, Tonsilotomes, Lithoclasts, Lithotrites, Meatotomes, Microtomes, Osteoclasts, Osteotrites, Otoscopes, Polypotomes, Probangs, Protoscopes, Rachiotomes, Rarefacteurs, Raspatories, Rhineurynteurs, Rhinoscopes, Rongeurs, Saw-Conductors, Scarificators, Sclerotomes, Segregators, Serrefines, Sigmoidoscopes, Spincteroscopes, Spuds, Stethoscopes, Tampon-Expellers, Tampon-Screws, Tenacula, Test-Drums, Tonsilotomes, Trachotomes, Trephines, Turbinotomes, Urethroscopes, Urethrotomes, Sterilizers, Operating-Tables, Troeurs, Inhalers, Aspirators, Repositors, Vaporizers, Applicators, Cooling-Coils, Symphysiotomy-Compressors, Croup-Kettles, Phantom-Faces, Incubators, Obstetrical Phantoms, and Stretch-Boards; for Anal, Antrum, Appendectomy, Aural, Aural Operating, Auscultation, Autopsy, Bronchocele, Bullet-Extracting, Cataract, Cornea, Craniotomy, Obstetrical, Cupping, Dermal, Diagnostic, Embryotomy, Endo-Urethral, Endo-Rectal, Enucleation, Eye-Testing, Foreign-Body Extracting, Gastric, Gynecological, Hemorrhoidal, Hare-lip, Hernia, Intestinal, Intubation, Iris, Kidney Operation, Laryngeal, Ligature, Lithotomy, Urethral, Nasal, Asophageal, Ophthalmic, Oral, Osteotomy, Perineal, Periosteum, Phlebotomy, Plaster-Dressing, Polypus, Prostatecomy, Rectal, Resection, Scrotal, Septum, Staphylorrhaphy, Strabismus, Suture, Symphysiotomy, Throat, Tonsil, Tracheoscopy, Tracheotomy, Transluminating, Trepanning, Uranoplastic, Uterine, Uvula, Vaccinating, and Varicocele Instruments.

Ser. No. 22,893. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) VIRGINIA ETNA LITHIA SPRINGS CO., Jersey City, N. J., and New York, N. Y. Filed Oct. 24, 1906.

VIRGINIA ETNA

Particular description of goods.—Mineral Water.

Ser. No. 22,942. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE GORDSHELL CHEMICAL COMPANY, Baltimore, Md. Filed Oct. 27, 1906.



Particular description of goods.—A Salve.

Ser. No. 22,945. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) FREDERICK LOESER & Co., New York, N. Y. Filed Oct. 27, 1906.



Particular description of goods.—Hosiery.

Ser. No. 22,994. (CLASS 52. PACKING-HOUSE PRODUCTS.) F. W. WAGENER & Co., Charleston, S. C. Filed Oct. 29, 1906.

IVORY

Particular description of goods.—Lard.

Ser. No. 23,015. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BYRON E. FORTINER, Camden, N. J. Filed Oct. 30, 1906.

PURINUL

Particular description of goods.—A Remedy for Sea sickness.

Ser. No. 23,023. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) GEO. W. TORREY CO., Boston, Mass. Filed Oct. 31, 1906.

Torrey's
Old Mt. Vernon Rye
24 So. Market St
Boston
Established 1856

Particular description of goods.—Whisky.

Ser. No. 23,038. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) LEIGH W. WALKER, Pittsburg, Pa. Filed Nov. 1, 1906.

Walker's Club

Particular description of goods.—Whisky.

Ser. No. 23,086. (CLASS 51. MALT LIQUORS.) NEW ORLEANS BREWING COMPANY, New Orleans, La. Filed Nov. 3, 1906.



Particular description of goods.—Beer.

Ser. No. 23,095. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) BLANKE-BAER CHEMICAL COMPANY, St. Louis, Mo. Filed Nov. 3, 1906.

EXPOSITION

Particular description of goods.—Flavoring Extracts.

Ser. No. 23,176. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) MAGNET KNITTING MILLS, Clinton, Tenn. Filed Nov. 8, 1906.

THE MA-KNIT HOSE

FAST COLOR

Particular description of goods.—Knitted Socks and Stockings.

Ser. No. 23,202. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) THE REMSEN MANUFACTURING COMPANY, Hartford, Conn. Filed Nov. 9, 1906.

Remsen-ized

Particular description of goods.—Maternity Outfits.

Ser. No. 23,203. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) THE REMSEN MANUFACTURING COMPANY, Hartford, Conn. Filed Nov. 9, 1906.

Comfort

Particular description of goods.—Catamenial Bandages.

Ser. No. 23,282. (CLASS 12. MASONRY MATERIALS.) C. W. HULL COMPANY, Omaha, Nebr. Filed Nov. 12, 1906.

C. W. HULL CO. 1503 FARNAM ST. OMAHA, NEB

Particular description of goods.—Building Cement, Lime, Concrete, and Fire-Brick.

Ser. No. 23,339. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) SCHWABACHER BROS. & CO., INC., Seattle, Wash. Filed Nov. 14, 1906. Used ten years.

SILVER SHIELD BRAND

Particular description of goods.—Barley.

Ser. No. 23,340. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) SCHWABACHER BROS. & CO. INC., Seattle, Wash. Filed Nov. 14, 1906. Used ten years.

SILVER SHIELD BRAND

Particular description of goods.—Dried Fruits, Sago, Bird-Seed, Tapioca, and Split Peas.

Ser. No. 23,341. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) ALEXANDER J. WEIL, Cincinnati, Ohio. Filed Nov. 14, 1906.

Cold Stream

Particular description of goods.—Whisky.

Ser. No. 23,342. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) ALEXANDER J. WEIL, Cincinnati, Ohio. Filed Nov. 14, 1906.

Old Winewood

Particular description of goods.—Whisky.

Ser. No. 23,390. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HALL & RUCKEL, New York, N. Y. Filed Nov. 16, 1906. Used ten years.

BAZIN'S
DEPILATORY POWDER

Particular description of goods.—A Preparation for Removing Superfluous Hair from the Human Body.

Ser. No. 23,461. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) GLENN ROCK MINERAL SPRING COMPANY, Waukesha, Wis. Filed Nov. 19, 1906.

Glenn Rock WAUKESHA WATER. GLENN ROCK MINERAL SPRING CO. WAUKESHA WIS

Particular description of goods.—Still and Carbonated Waters.

Ser. No. 23,470. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE TOLEDO RAILWAYS & LIGHT COMPANY, Toledo, Ohio. Filed Nov. 19, 1906.

Particular description of goods.—Arc and Incandescent Electric Lamps.

Ser. No. 23,473. (CLASS 43. THREAD AND YARN.) CHICAGO THREAD MFG. CO., Chicago, Ill. Filed Nov. 19, 1906.

"KLOSTERSILK"

Particular description of goods.—Sewing-Thread and Art-Needle-Work Yarns.

Ser. No. 23,500. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) THE WILCOX & WHITE COMPANY, Meriden, Conn. Filed Nov. 20, 1906.

Melodant

Particular description of goods.—Automatic Music-Playing Instruments and Music-Rolls Therefor.

Ser. No. 23,521. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) THE UNITED STATES PLAYING CARD COMPANY, Cincinnati, Ohio. Filed Nov. 21, 1906.

Particular description of goods.—Game-Counters and Chips.

Ser. No. 23,533. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ABRAM R. CANTER, Wilkinsburg, Pa. Filed Nov. 22, 1906.

OPTLINE

Particular description of goods.—An Eye Medicine.

Ser. No. 23,535. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) GRENDEL MILLS, Greenwood, S. C. Filed Nov. 22, 1906.



WHISTLING RUFUS

Particular description of goods.—Cotton Piece Goods.

Ser. No. 23,537. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE E. C. NALLE DRUG COMPANY, Alexandria, Va., and Washington, D. C. Filed Nov. 22, 1906.

Self-aid

Particular description of goods.—Certain Proprietary Medicines, as follows: Bronchial and Dyspepsia Tablets and Lozenges, Liniments, Laxative and Cough Syrups, Kidney and Liver Cures, Headache Tablets and Wafers.

Ser. No. 23,561. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) RED SEAL NEVER DAMP SALT COMPANY, Kearny, N. J. Filed Nov. 23, 1906.

RED SEAL NEVER DAMP

The seal is colored red.

Particular description of goods.—Table-Salt.

Ser. No. 23,576. (CLASS 10. FERTILIZERS.) HOME FERTILIZER & CHEMICAL COMPANY OF BALTIMORE CITY, Baltimore, Md. Filed Nov. 24, 1906.

Crabb's Top Dressing

Particular description of goods.—Fertilizers.

Ser. No. 23,590. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) R. U. DELAPENHA & CO., New York, N. Y. Filed Nov. 26, 1906.

Imperial BRAND

Particular description of goods.—Preserved Ginger, Olives, Olive Oil, Figs, and Capers.

Ser. No. 23,600. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE CITIZENS' WHOLESALE SUPPLY CO., Columbus, Ohio. Filed Nov. 26, 1906.



Particular description of goods.—Liniments or Lotions for External Use, Such as Rheumatism Cures, Ointments for Cuts, Burns, or Bruises, Cures for Lameness or Soreness of Muscles, Cures for Sore or Diseased Skin, &c.

Ser. No. 23,604. (CLASS 72. MERCHANDISE NOT OTHERWISE CLASSIFIED.) R. DÜHRSSEN, New York, N. Y. Filed Nov. 26, 1906.



Particular description of goods.—Decalcomanias and Transfer-Pictures.

Ser. No. 23,612. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE SOUTHERN CHEMICAL COMPANY, Dallas, Tex. Filed Nov. 26, 1906.



The word "Moxine" is printed in red.

Particular description of goods.—A Remedy for Curing La Grippe, Colds, and Similar Ailments.

Ser. No. 23,613. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) RALSTON PURINA CO., St. Louis, Mo. Filed Nov. 26, 1906.

PURINA

Particular description of goods.—Poultry and Stock Food.

Ser. No. 23,614. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE AMERICAN COTTON OIL COMPANY, near Guttenburg, N. J. Filed Nov. 26, 1906.



B

Particular description of goods.—Summer-White Cotton-Seed Oil.

Ser. No. 23,615. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE AMERICAN COTTON OIL COMPANY, near Guttenburg, N. J. Filed Nov. 26, 1906. Used ten years.



Particular description of goods.—Cotton-Seed Oil.

Ser. No. 23,616. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE AMERICAN COTTON OIL COMPANY, near Guttenburg, N. J. Filed Nov. 26, 1906.



Particular description of goods.—Cotton-Seed Oil.

Ser. No. 23,617. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE AMERICAN COTTON OIL COMPANY, near Guttenburg, N. J. Filed Nov. 26, 1906. Used ten years.



Particular description of goods.—Cotton-Seed Oil.

Ser. No. 23,655. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) ROBERT BOSCH, NEW YORK, INC., New York, N. Y. Filed Nov. 28, 1906.



Particular description of goods.—Magnetos.

Ser. No. 23,689. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) LOWELL M. REYNOLDS, Brockton, Mass. Filed Nov. 30, 1906.

WALK-OVER-BRAND

Particular description of goods.—Canned and Bottled Fruits and Vegetables, Dried Fruits, Nuts, Including Salted Peanuts, and Flavoring Extracts and Essences.

Ser. No. 23,697. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE VEHNO COMPANY, Milwaukee, Wis. Filed Nov. 30, 1906.



Particular description of goods.—A Medicine for the Cure of Diseases of the Stomach, Liver, and Kidneys.

Ser. No. 23,700. (CLASS 12. MASONRY MATERIALS.) NATIONAL COAL TAR COMPANY, Wilmington, Del., and Boston, Mass. Filed Dec. 1, 1906.

FLEXOID

Particular description of goods.—Fabric for Roofing and Sheathing.

Ser. No. 23,721. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) THE NATIONAL DISINFECTANT COMPANY, Cincinnati, Ohio. Filed Dec. 3, 1906.

GOLD COIN

Particular description of goods.—Insect-Powders.

Ser. No. 23,743. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) JUDSON L. THOMSON MFG. CO., Waltham, Mass. Filed Dec. 3, 1906.



Particular description of goods.—Rivets.

Ser. No. 23,761. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) AUGUST OBROCK, New York, N. Y. Filed Dec. 4, 1906.



Particular description of goods.—Antiseptic Salve.

Ser. No. 23,771. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) OTTO GOETZE, New York, N. Y. Filed Dec. 5, 1906.



COLONIAL MILLS

Particular description of goods.—Dyed Cotton Fabrics.

Ser. No. 23,775. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio. Filed Dec. 5, 1906.

AUTOMOBILE

Particular description of goods.—Game-Counters and Chips.

Ser. No. 23,784. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) ONEIDA COMMUNITY LIMITED, Oneida and Niagara Falls, N. Y. Filed Dec. 5, 1906. Used ten years.



Particular description of goods.—Animal-Traps.

Ser. No. 23,789. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PAUL BROTHERS, Philadelphia, Pa. Filed Dec. 6, 1906.

Kingold

Particular description of goods.—Leather Boots, Shoes, and Slippers.

Ser. No. 23,790. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PAUL BROTHERS, Philadelphia, Pa. Filed Dec. 6, 1906.

Minerva

Particular description of goods.—Leather Boots, Shoes, and Slippers.

Ser. No. 23,791. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PAUL BROTHERS, Philadelphia, Pa. Filed Dec. 6, 1906.

REVENUE

Particular description of goods.—Leather Boots, Shoes, and Slippers.

Ser. No. 23,792. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PAUL BROTHERS, Philadelphia, Pa. Filed Dec. 6, 1906.

Fortuna

Particular description of goods.—Ladies' and Misses' Leather Shoes and Slippers.

Ser. No. 23,794. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE J. A. POZZONI PHARMACAL CO., St. Louis, Mo. Filed Dec. 6, 1906.

POZZONI

Particular description of goods.—Complexion-Powder.

Ser. No. 23,796. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GEO D WITT SHOE CO., Lynchburg, Va. Filed Dec. 6, 1906.

Wittonia

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 23,797. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GEO D WITT SHOE CO., Lynchburg, Va. Filed Dec. 6, 1906.

GEO. D. WITT SHOE CO. LYNCHBURG, VA.

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 23,799. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) DENISON COTTON MILL CO., Denison, Tex. Filed Dec. 6, 1906.

DREADNAUGHT

Particular description of goods.—Cotton Duck.

Ser. No. 23,803. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MEADE & BAKER CARBOLIC MOUTH WASH CO., Richmond, Va. Filed Dec. 6, 1906. Used ten years.

MEADE & BAKER'S CARBOLIC MOUTH WASH

Particular description of goods.—Dentifrice.

Ser. No. 23,804. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MEADE & BAKER CARBOLIC MOUTH WASH CO., Richmond, Va. Filed Dec. 6, 1906. Used ten years.

CARBOLIC Mouth Wash

Particular description of goods.—Dentifrice.

Ser. No. 23,809. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) ATLANTIC EXPORT COMPANY, New York, N. Y. Filed Dec. 6, 1906.

Ochsenkopf-Treber

Particular description of goods.—Brewers' Grain

Ser. No. 23,818. (CLASS 68. PUBLICATIONS.) ALICE W. CHAMBERS, Philadelphia, Pa. Filed Dec. 6, 1906.

THE CAMERA

Particular description of goods.—Periodical Publications Devoted to Photography.

Ser. No. 23,823. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) MICHAEL LETZELTER, Pittsburg, Pa. Filed Dec. 6, 1906.

BELLEFIELD

Particular description of goods.—Whisky.

Ser. No. 23,826. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) HERMAN OBERNAUER, Pittsburg, Pa. Filed Dec. 6, 1906.

Belle of Pittsburg

Particular description of goods.—Whisky.

Ser. No. 23,827. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) POTSDAM CLOTHING MANUFACTURING COMPANY, Potsdam, N. Y. Filed Dec. 6, 1906.

Senator TROUSERS UNION MADE

Particular description of goods.—Trousers.

Ser. No. 23,829. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) SIELEMANN DISTILLING CO., St. Louis, Mo. Filed Dec. 6, 1906.

PARTRIDGE CLUB



Particular description of goods.—Whisky.

Ser. No. 23,832. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) JOHN C. WELLER CO., Louisville, Ky. Filed Dec. 6, 1906.

UNCLE SAM



Particular description of goods.—Gin.

Ser. No. 23,857. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MACK & GILMORE, Berwick, La. Filed Dec. 7, 1906.

M&G

Particular description of goods.—An Internal Remedy for Diarrhea, Flux, and Dysentery.

Ser. No. 23,865. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) YORK SILK MANUFACTURING CO., York, Pa. Filed Dec. 7, 1906.

DIAMOND

Particular description of goods.—Silk Piece Goods.

Ser. No. 23,869. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) REISS & BRADY, New York, N. Y. Filed Dec. 8, 1906.

CRESCA

Particular description of goods.—Macaroni, Noodles, Wafers, and Crackers, Ginger-Cake, Plum-Pudding, Pumpernickel, and Rye Bread.

Ser. No. 23,870. (CLASS 47. CONFECTIONERY.) REISS & BRADY, New York, N. Y. Filed Dec. 8, 1906.

CRESCA

Particular description of goods.—Bonbons

Ser. No. 23,871. (CLASS 48. DAIRY PRODUCTS.) REISS & BRADY, New York, N. Y. Filed Dec. 8, 1906.

CRESCA

Particular description of goods.—Cheese.

Ser. No. 23,877. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PAUL BROTHERS, Philadelphia, Pa. Filed Dec. 8, 1906.

Aristocrat

Particular description of goods.—Leather Boots, Shoes, and Slippers.

Ser. No. 23,883. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) S. MAYER & SONS, New York, N. Y. Filed Dec. 8, 1906.

The Little Cherub

Particular description of goods.—Infants' Hats and Caps.

Ser. No. 23,904. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) THE HOHMANN & MAURER MFG. CO., Rochester, N. Y. Filed Dec. 10, 1906. Used ten years.

H&M

Particular description of goods.—Thermometers, Barometers, Mercury-Gages, Spring-Gages, and Hydrometers.

Ser. No. 23,910. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE TILDEN COMPANY, New Lebanon, N. Y. Filed Dec. 10, 1906. Used ten years.

FIRWEIN

Particular description of goods.—An Expectorant, Sedative, Antispasmodic Medicine.

Ser. No. 23,912. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) WINCH BROTHERS COMPANY, Boston, Mass. Filed Dec. 10, 1906.

ONLY

Particular description of goods.—Leather Boots, Shoes, and Slippers.

Ser. No. 23,926. (CLASS 8. DETERGENTS.) THE POMPEIAN MFG. CO., Cleveland, Ohio. Filed Dec. 11, 1906.

POMPEIAN

Particular description of goods.—Soap.

Ser. No. 23,932. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) CHARLES JACQUIN ET CIE., INC., New York, N. Y. Filed Dec. 11, 1906.

PEACHINE

Particular description of goods.—A Flavoring Extract.

Ser. No. 23,933. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) CHARLES JACQUIN ET CIE., INC., New York, N. Y. Filed Dec. 11, 1906.

PRUNINE

Particular description of goods.—A Flavoring Extract.

Ser. No. 23,934. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) THE NATIONAL REFINING COMPANY, Cleveland, Ohio. Filed Dec. 11, 1906.



Particular description of goods.—Stove-Gasolene.

Ser. No. 23,935. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) THE NATIONAL REFINING COMPANY, Cleveland, Ohio. Filed Dec. 11, 1906.



Particular description of goods.—Lubricating-Oil.

Ser. No. 23,936. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE UNION BAG & PAPER COMPANY, New York, N. Y. Filed Dec. 11, 1906.

VULCAN

Particular description of goods.—Wrapping-Paper Paper-Boards, and Paper Bags.

Ser. No. 23,937. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE UNION BAG & PAPER COMPANY, New York, N. Y. Filed Dec. 11, 1906.

UNION

Particular description of goods.—Wrapping-Paper and Paper-Boards.

Ser. No. 23,938. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) ACKER, MERRALL & CONDIT COMPANY, New York, N. Y. Filed Dec. 11, 1906.

MAUNA

Particular description of goods.—Coffee.

Ser. No. 23,943. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) RANDOLPH MILLING COMPANY, Baldwin, Ill. Filed Dec. 11, 1906.

COTTON STATES

Particular description of goods.—Wheat-Flour.

Ser. No. 23,945. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) WILLIAM WIERHAKE, St. Louis, Mo. Filed Dec. 11, 1906.

DANDY

Particular description of goods.—Stove-Polish.

Ser. No. 23,948. (CLASS 10. FERTILIZERS.) VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Filed Dec. 12, 1906. Used ten years.

COMMERCIAL GUANO CO'S
PERUVIAN
BONE COMPOUND

Particular description of goods.—Fertilizers.

Ser. No. 23,949. (CLASS 10. FERTILIZERS.) VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Filed Dec. 12, 1906.

V. C. C. CO'S
XXXX
BLOOD & BONE GUANO

Particular description of goods.—Fertilizers.

Ser. No. 23,950. (CLASS 10. FERTILIZERS.) VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Filed Dec. 12, 1906.

V. C. C. CO'S
DOUBLE POTASH
FORMULA

Particular description of goods.—Fertilizers.

Ser. No. 23,951. (CLASS 10. FERTILIZERS.) VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Filed Dec. 12, 1906.

PHOENIX

Particular description of goods.—Fertilizers.

Ser. No. 23,953. (CLASS 10. FERTILIZERS.) VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Filed Dec. 12, 1906.

CHAMPION COMPOUND

Particular description of goods.—Fertilizers.

Ser. No. 23,956. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) 35% AUTOMOBILE SUPPLY CO., New York, N. Y. Filed Dec. 12, 1906.

35%

Particular description of goods.—Automobile Hats and Caps.

TRADE-MARKS

REGISTERED JANUARY 8, 1907.

59,301. ACETYLENE-GENERATORS. ACETYLENE APPARATUS MANUFACTURING COMPANY, Chicago, Ill.
Filed September 17, 1906. Serial No. 22,132. PUBLISHED NOVEMBER 13, 1906.

59,302. WHEAT-FLOUR. BALLARD & BALLARD COMPANY, Louisville, Ky.
Filed May 18, 1906. Serial No. 19,664. PUBLISHED NOVEMBER 13, 1906.

59,303. OLIVE-OIL. BISI & CAPRINI, Pittsburg, Pa.
Filed May 15, 1906. Serial No. 19,556. PUBLISHED NOVEMBER 13, 1906.

59,304. CHEWING-GUM. THE BUFFALO GUM COMPANY, Buffalo, N. Y.
Filed October 3, 1906. Serial No. 22,453. PUBLISHED NOVEMBER 13, 1906.

59,305. MERCERIZED COTTON THREAD. HARRY CHODOROV, New York, N. Y.
Filed August 28, 1906. Serial No. 21,783. PUBLISHED NOVEMBER 13, 1906.

59,306. BEET-SUGAR SYRUP. THE COLORADO SYRUP COMPANY, Denver, Colo.
Filed July 9, 1906. Serial No. 20,801. PUBLISHED NOVEMBER 13, 1906.

59,307. CANNED FRUITS AND VEGETABLES. DAVID HUNT & Co., New York, Oswego, and Cherry Creek, N. Y.
Filed September 14, 1906. Serial No. 22,102. PUBLISHED NOVEMBER 13, 1906.

59,308. PRESERVED AND CANNED MEATS. GORDON & DILWORTH, New York, N. Y.
Filed October 7, 1905. Serial No. 13,409. PUBLISHED NOVEMBER 13, 1906.

59,309. SALAD-DRESSING. GRIGGS, COOPER & COMPANY, St. Paul, Minn.
Filed March 28, 1906. Serial No. 18,300. PUBLISHED NOVEMBER 13, 1906.

59,310. CONCENTRATED FOOD PREPARED FROM BEEF. H. K. MULFORD COMPANY, Philadelphia, Pa.
Filed June 5, 1905. Serial No. 7,388. PUBLISHED NOVEMBER 13, 1906.

59,311. SASH-CORD. THE J. E. FRICKE COMPANY, Philadelphia, Pa.
Filed September 12, 1906. Serial No. 22,040. PUBLISHED NOVEMBER 13, 1906.

59,312. CEREAL BREAKFAST FOODS. NORTHWESTERN CEREAL CO. INC., Ballard, Wash.
Filed July 21, 1906. Serial No. 21,067. PUBLISHED NOVEMBER 13, 1906.

59,313. CERTAIN NAMED WHEAT AND RYE PREPARATIONS AND BAKERY PRODUCTS. POTTER & WRIGHTINGTON, Boston, Mass.
Filed March 31, 1906. Serial No. 18,384. PUBLISHED NOVEMBER 13, 1906.

59,314. SOAP. AMOR SMITH & Co., Cincinnati, Ohio.
Filed October 1, 1906. Serial No. 22,416. PUBLISHED NOVEMBER 13, 1906.

59,315. ELASTIC WEBS OF INDIA-RUBBER. ARCHIBALD TURNER & Co. LIMITED, Leicester, England.
Filed July 17, 1905. Serial No. 10,460. PUBLISHED NOVEMBER 13, 1906.

59,316. ELECTRICAL SUPPLIES. THE BRYANT ELECTRIC COMPANY, Bridgeport, Conn.
Filed September 24, 1906. Serial No. 22,284. PUBLISHED NOVEMBER 13 1906.

59,317. ELECTRICAL SUPPLIES. THE BRYANT ELECTRIC COMPANY, Bridgeport, Conn.
Filed September 24, 1906. Serial No. 22,285. PUBLISHED NOVEMBER 13, 1906.

59,318. CERTAIN NAMED CLOTHING. C. KENYON COMPANY, Brooklyn, N. Y.
Filed June 5, 1906. Serial No. 20,066. PUBLISHED NOVEMBER 13, 1906.

59,319. CERTAIN NAMED CLOTHING. C. KENYON CO., Brooklyn, N. Y.
Filed June 7, 1906. Serial No. 20,123. PUBLISHED NOVEMBER 13, 1906.

59,320. OLIVE-OIL. CHAFFARD & COUDERC, Salon, France.
Filed April 4, 1906. Serial No. 18,510. PUBLISHED NOVEMBER 13, 1906.

59,321. HOSIERY. LYSANDER B. CONWAY, Jr., Danville, Va.
Filed August 3, 1906. Serial No. 21,317. PUBLISHED NOVEMBER 13, 1906.

59,322. HOSIERY. COOPER, WELLS & Co., St. Joseph, Mich.
Filed June 7, 1906. Serial No. 20,121. PUBLISHED NOVEMBER 13, 1906.

59,323. GLOVES, MITTENS, PALM-PROTECTORS, AND WRIST-SUPPORTERS. THE DEFIANCE TICK MITTEN CO., Toledo, Ohio.
Filed May 14, 1906. Serial No. 19,536. PUBLISHED NOVEMBER 13, 1906.

59,324. MEN'S TOP SUITS AND OVERCOATS. THE DESBECKER BLOCK TAILORING CO., Buffalo, N. Y.
Filed May 7, 1906. Serial No. 19,337. PUBLISHED NOVEMBER 13, 1906.

59,325. ELECTRICAL INCANDESCENT LAMPS. DEUTSCHE GASGLÜHLICHT AKTIENGESELLSCHAFT (AUERGESELLSCHAFT), Berlin, Germany.
Filed May 25, 1906. Serial No. 19,855. PUBLISHED NOVEMBER 13, 1906.

59,326. BLACK COTTON PRINTS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa.
Filed July 3, 1905. Serial No. 9,658. PUBLISHED NOVEMBER 13, 1906.

59,327. LATHE-CHUCKS. THE HOGGSON & PETTIS MANUFACTURING COMPANY, New Haven, Conn.
Filed October 11, 1906. Serial No. 22,649. PUBLISHED NOVEMBER 13, 1906.

59,328. HAIR-NETS. ALBERT G. JENNINGS, New York, N. Y.
Filed November 2, 1905. Serial No. 20,630. PUBLISHED NOVEMBER 13, 1906.

59,329. CARPETS AND RUGS. JOHN GAY'S SONS INCORPORATED, Philadelphia, Pa.
Filed July 3, 1906. Serial No. 20,714. PUBLISHED NOVEMBER 13, 1906.

59,330. OVERALLS, COATS, PANTS, AND VESTS. A. KORY & SONS, New Orleans, La.
Filed July 17, 1906. Serial No. 20,972. PUBLISHED NOVEMBER 13, 1906.

59,331. OVERALLS, COATS, PANTS, AND VESTS. A. KORY & SONS, New Orleans, La.
Filed July 17, 1906. Serial No. 20,973. PUBLISHED NOVEMBER 13, 1906.

59,332. WOMEN'S AND CHILDREN'S DRESSES. HARRY LEVEY, New York, N. Y.
Filed July 13, 1905. Serial No. 10,260. PUBLISHED NOVEMBER 13, 1906.

59,333. BEARING METALS. NAPOLEON LODOR, Chattanooga, Tenn.
Filed September 10, 1906. Serial No. 22,005. PUBLISHED NOVEMBER 13, 1906.

59,334. LEATHER GLOVES. I. & R. MORLEY, London, England.
Filed February 8, 1906. Serial No. 16,841. PUBLISHED NOVEMBER 13, 1906.

59,335. MUSLIN UNDERWEAR. NATICK UNDERWEAR COMPANY, Springfield, Mass.
Filed May 19, 1905. Serial No. 6,067. PUBLISHED NOVEMBER 13, 1906.

59,336. LIQUID METAL-POLISH. SAMUEL R. OLMSTED, New York, N. Y.
Filed October 16, 1906. Serial No. 22,721. PUBLISHED NOVEMBER 13, 1906.

59,337. CRAPES AND NUN'S VEILINGS. WM. OPENHYM & SONS, New York, N. Y.
Filed December 28, 1905. Serial No. 15,719. PUBLISHED NOVEMBER 13, 1906.

59,338. SHEETINGS. ORR COTTON MILLS, Anderson, S. C.
Filed September 17, 1906. Serial No. 22,130. PUBLISHED NOVEMBER 13, 1906.

59,339. SHEETINGS. ORR COTTON MILLS, Anderson, S. C.
Filed September 17, 1906. Serial No. 22,131. PUBLISHED NOVEMBER 13, 1906.

59,340. PLANERS, CARVERS, SANDERS, JOINTING-MACHINES, AND SHAPERS. C. O. & A. D. PORTER, Grand Rapids, Mich.
Filed May 18, 1906. Serial No. 19,665. PUBLISHED NOVEMBER 13, 1906.

59,341. COTTON PIECE GOODS. GRINNELL WILLIS & Co., New York, N. Y.
Filed August 30, 1906. Serial No. 21,813. PUBLISHED NOVEMBER 13, 1906.

59,342. STEAM-ENGINES AND GASOLENE-ENGINES. ATLAS ENGINE WORKS, Indianapolis, Ind.
Filed July 26, 1906. Serial No. 21,182. PUBLISHED NOVEMBER 13, 1906.

59,343. COPPER AND ZINC PLATES FOR PHOTO-ENGRAVERS' USES. THE AMERICAN STEEL & COPPER PLATE Co., New York, N. Y.
Filed June 20, 1906. Serial No. 20,433. PUBLISHED NOVEMBER 13, 1906.

59,344. GAME PLAYED WITH CARDS. ELMER W. BEERS, Baltimore, Md.
Filed September 26, 1906. Serial No. 22,337. PUBLISHED NOVEMBER 13, 1906.

59,345. CERTAIN NAMED JEWELRY AND PRECIOUS STONES. BERRY & WHITMORE Co., Washington, D. C.
Filed October 16, 1906. Serial No. 22,723. PUBLISHED NOVEMBER 13, 1906.

59,346. MACHINES FOR SEPARATING FRUIT-PULP FROM SKINS AND SEEDS. CHARLES S. BUCKLIN, Baltimore, Md.
Filed September 19, 1906. Serial No. 22,191. PUBLISHED NOVEMBER 13, 1906.

59,347. WHISKY. CAFE SAVARIN COMPANY, New York, N. Y.
Filed May 16, 1905. Serial No. 5,835. PUBLISHED NOVEMBER 13, 1906.

59,348. CENTRIFUGAL SEPARATORS. THE DE LAVAL SEPARATOR COMPANY, New York and Poughkeepsie, N. Y.
Filed July 21, 1905. Serial No. 10,661. PUBLISHED MARCH 27, 1906.

59,349. SAWS OF ALL KINDS. E. C. ATKINS & COMPANY, Indianapolis, Ind.; New York, N. Y.; Memphis, Tenn.; Atlanta, Ga.; Minneapolis, Minn.; Portland, Oreg.; Seattle Wash.; San Francisco, Cal.; Chicago, Ill., and Toronto, Canada.
Filed June 12, 1905. Serial No. 7,992. PUBLISHED NOVEMBER 13, 1906.

59,350. CERTAIN NAMED JEWELRY. EISENSTADT MANUFACTURING Co., St. Louis, Mo.
Filed August 22, 1906. Serial No. 21,701. PUBLISHED NOVEMBER 13, 1906.

59,351. CENTRIFUGAL LIQUID-SEPARATING MACHINES. EMPIRE CREAM SEPARATOR Co., Bloomfield, N. J.
Filed May 12, 1905. Serial No. 5,385. PUBLISHED NOVEMBER 13, 1906.

59,352. CERTAIN NAMED TOOLS. HANCHETT SWAGE WORKS, Big Rapids, Mich.
Filed December 15, 1905. Serial No. 15,443. PUBLISHED NOVEMBER 13, 1906.

59,353. CERTAIN IMITATION SILVERWARE. GEORGE E. HERRING, Chicago, Ill.
Filed July 7, 1906. Serial No. 20,774. PUBLISHED NOVEMBER 13, 1906.

59,354. CIGARS. JOSE LOVERA Co., New York, N. Y.
Filed August 8, 1906. Serial No. 21,387. PUBLISHED NOVEMBER 13, 1906.

59,355. AUTOMOBILES. THE LOCOMOBILE COMPANY OF AMERICA, Bridgeport, Conn.
Filed August 24, 1905. Serial No. 11,956. PUBLISHED NOVEMBER 13, 1906.

59,356. SAFETY RAZORS AND BLADES. MULTIPLEX SAFETY RAZOR COMPANY, Boston, Mass.
Filed September 27, 1906. Serial No. 22,353. PUBLISHED NOVEMBER 13, 1906.

59,357. ALES AND PORTER. ONEIDA BREWING Co., Utica, N. Y.
Filed September 10, 1906. Serial No. 22,007. PUBLISHED NOVEMBER 13, 1906.

59,358. CIGARS. L. S. PALMER, Belmont, Ohio.
Filed July 12, 1906. Serial No. 20,864. PUBLISHED NOVEMBER 13, 1906.

59,359. CARD GAME. PARKER BROTHERS, Salem, Mass.
Filed July 19, 1906. Serial No. 21,023. PUBLISHED NOVEMBER 13, 1906.

59,360. WHISKY. PATTERSON & COANE, Philadelphia, Pa.
Filed September 22, 1906. Serial No. 22,252. PUBLISHED NOVEMBER 13, 1906.

59,361. CERTAIN PARTS OF MACHINERY. RAILWAY STEEL-SPRING COMPANY, Jersey City, N. J., and New York, N. Y.
Filed September 22, 1906. Serial No. 22,237. PUBLISHED NOVEMBER 13, 1906.

59,362. SHAFT-HANGERS. STANDARD PRESSED STEEL Co., Philadelphia, Pa.
Filed October 13, 1906. Serial No. 22,689. PUBLISHED NOVEMBER 13, 1906.

59,363. CERTAIN NAMED PAINTS AND PAINTERS' MATERIALS. STANDARD VARNISH WORKS, New York, N. Y.
Filed April 8, 1905. Serial No. 767. PUBLISHED SEPTEMBER 11, 1906.

59,364. METAL SHADES AND HOODS AND HOLDERS THEREFOR. THE TEA TRAY COMPANY OF NEWARK, N. J., Newark, N. J.
Filed June 7, 1906. Serial No. 20,138. PUBLISHED NOVEMBER 13, 1906.

59,365. BOOT AND SHOE SEWING MACHINES, PARTS, AND ATTACHMENTS. UNITED SHOE MACHINERY COMPANY, Paterson, N. J., and Boston, Mass.
Filed October 6, 1906. Serial No. 22,556. PUBLISHED NOVEMBER 13, 1906.

59,366. BOOT AND SHOE SEWING MACHINES, PARTS AND ATTACHMENTS. UNITED SHOE MACHINERY COMPANY, Paterson, N. J., and Boston, Mass.
Filed October 6, 1906. Serial No. 22,557. PUBLISHED NOVEMBER 13, 1906.

59,367. WHISKY. CHARLES A. VAN RENSSELAER, New York, N. Y.
Filed October 6, 1905. Serial No. 13,396. PUBLISHED NOVEMBER 13, 1906.

59,368. CANNED OYSTERS. A. BOOTH & COMPANY, Chicago, Ill.
Filed September 26, 1906. Serial No. 22,350. PUBLISHED NOVEMBER 13, 1906.

59,369. PAPER INDEXES. AMBERG FILE & INDEX Co., Chicago, Ill.; New York, N. Y., and London, England.
Filed December 13, 1905. Serial No. 15,374. PUBLISHED NOVEMBER 13, 1906.

59,370. PAPER TRANSFER-CASES. AMBERG FILE & INDEX Co., Chicago, Ill.; New York, N. Y., and London, England.
Filed December 13, 1905. Serial No. 15,376. PUBLISHED NOVEMBER 13, 1906.

59,371. SPOOL-COTTON, SEWING-COTTON, AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed May 21, 1906. Serial No. 19,716. PUBLISHED NOVEMBER 13, 1906.

59,372. SPOOL-COTTON, SEWING-COTTON, AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed May 21, 1906. Serial No. 19,717. PUBLISHED NOVEMBER 13, 1906.

59,373. CERTAIN NAMED CLOTHING. C. KENYON COMPANY, Brooklyn, N. Y.
Filed June 5, 1906. Serial No. 20,067. PUBLISHED NOVEMBER 13, 1906.

59,374. CERTAIN NAMED CLOTHING. C. KENYON COMPANY, Brooklyn, N. Y.
Filed June 5, 1906. Serial No. 20,068. PUBLISHED NOVEMBER 13, 1906.

59,375. TOILET AND LAUNDRY SOAPS. THE CITIZENS' WHOLESALE SUPPLY Co., Columbus, Ohio.
Filed June 12, 1906. Serial No. 20,226. PUBLISHED NOVEMBER 13, 1906.

59,376. WATERPROOF STRUCTURAL AND ROOF PAINT. THE ECLIPSE PAINT & MANUFACTURING COMPANY, Cleveland, Ohio.
Filed May 15, 1906. Serial No. 19,561. PUBLISHED NOVEMBER 13, 1906.

59,377. BEVERAGES HAVING A CHOCOLATE FLAVOR. HARRY WIGHT ELIOT, Boston, Mass.
Filed August 15, 1906. Serial No. 21,582. PUBLISHED NOVEMBER 13, 1906.

59,378. NON-ALCOHOLIC TONIC BEVERAGES AND SYRUP MADE THEREFROM. MILTON L. EPPSTEIN, Fort Worth, Tex.
Filed August 4, 1906. Serial No. 21,330. PUBLISHED NOVEMBER 13, 1906.

59,379. RIBBONS. FRY & FRIEDSAM, New York, N. Y.
Filed May 9, 1906. Serial No. 19,390. PUBLISHED NOVEMBER 13, 1906.

59,380. BEER. THE GEORGE WIEDEMANN BREWING Co., Newport, Ky.
Filed September 4, 1906. Serial No. 21,901. PUBLISHED NOVEMBER 13, 1906.

59,381. ORNAMENTAL CHAINS. EDWIN E. HALE and ANNIE M. HALE, North Attleboro, Mass., executors of O. M. Draper, deceased.
Filed August 21, 1906. Serial No. 21,695. PUBLISHED NOVEMBER 13, 1906.

59,382. WATERPROOFING-FELTS FOR STRUCTURAL WORK. HYDREX FELT & ENGINEERING Co., Portland, Me.; New York, N. Y., and East Walpole, Mass.
Filed June 1, 1906. Serial No. 19,977. PUBLISHED NOVEMBER 13, 1906.

59,383. AUTOMOBILE-HOODS. JAMES R. KEISER, New York, N. Y.
Filed May 17, 1906. Serial No. 19,638. PUBLISHED NOVEMBER 13, 1906.

59,384. LIQUID SOAP. BERNARD S. MCKEAN, New York, N. Y.
Filed May 29, 1906. Serial No. 19,948. PUBLISHED NOVEMBER 13, 1906.

59,385. CANNED VEGETABLES. THE N. C. BARWISE BROKERAGE Co., Denver, Colo.
Filed July 14, 1905. Serial No. 10,323. PUBLISHED NOVEMBER 13, 1906.

59,386. FERTILIZERS. NAVASSA GUANO COMPANY OF WILMINGTON, Wilmington, N. C.
Filed March 15, 1906. Serial No. 17,855. PUBLISHED NOVEMBER 13, 1906.

59,387. HOOKS AND EYES. CLARA B. PATTERSON, Philadelphia, Pa.
Filed September 17, 1906. Serial No. 22,152. PUBLISHED NOVEMBER 13, 1906.

59,388. LUBRICATING-OILS. PURE OIL COMPANY, Philadelphia, Pa.
Filed September 19, 1906. Serial No. 22,183. PUBLISHED NOVEMBER 13, 1906.

59,389. OYSTER BOUILLON. ANDREW RADEL, Bridgeport and South Norwalk, Conn.
Filed May 4, 1906. Serial No. 19,287. PUBLISHED NOVEMBER 13, 1906.

59,390. CERTAIN NAMED PAINTERS' MATERIALS. THE RARITAN PAINT COMPANY, New York, N. Y.
Filed January 4, 1906. Serial No. 15,896. PUBLISHED NOVEMBER 13, 1906.

59,391. KNITTED UNDERWEAR. RYFF & Co., Berne, Switzerland.
Filed June 21, 1905. Serial No. 8,669. PUBLISHED NOVEMBER 13, 1906.

59,392. FUR FELT HATS. SPERRY & WALSH HAT Co., Nashville, Tenn.
Filed May 31, 1906. Serial No. 19,956. PUBLISHED NOVEMBER 13, 1904.

59,393. FUR FELT HATS. SPERRY & WALSH HAT Co., Nashville, Tenn.
Filed May 31, 1906. Serial No. 19,957. PUBLISHED NOVEMBER 13, 1906.

59,394. STOVES AND RANGES. ST. LOUIS UNION TRUST COMPANY, St. Louis, Mo.
Filed March 1, 1906. Serial No. 17,429. PUBLISHED NOVEMBER 13, 1906.

59,395. WHISKY. ULLMAN & CO., Cincinnati, Ohio.
Filed September 24, 1906. Serial No. 22,307. PUBLISHED NOVEMBER 13, 1906.

59,396. SILVER-PLATED WARE COMPRISING FLAT AND HOLLOW WARE AND CUTLERY. WM. A ROGERS LTD, New York, N. Y.
Filed July 2, 1906. Serial No. 20,686. PUBLISHED NOVEMBER 13, 1906.

59,397. LEATHER BOOTS AND SHOES. T. D. BARRY & Co., Brockton, Mass.
Filed September 10, 1906. Serial No. 22,015. PUBLISHED NOVEMBER 13, 1906.

59,398. CARD GAME. GEORGE J. BRONSTROP, Cincinnati, Ohio.
Filed August 29, 1906. Serial No. 21,791. PUBLISHED NOVEMBER 13, 1906.

59,399. JACKETS AND VESTS. WM. W. BROWN, Worcester, Mass.
Filed June 2, 1905. Serial No. 7,273. PUBLISHED NOVEMBER 13, 1906.

59,400. CERTAIN NAMED MACHINES. THE CLEVELAND PUNCH AND SHEAR WORKS Co., Cleveland, Ohio.
Filed December 6, 1905. Serial No. 15,240. PUBLISHED NOVEMBER 13, 1906.

59,401. HOOF-PADS FOR HORSES. CONSOLIDATED HOOF PAD COMPANY, New York, N. Y.
Filed September 26, 1906. Serial No. 22,341. PUBLISHED NOVEMBER 13, 1906.

59,402. BEARING METALS. FRICTIONLESS METAL COMPANY, Richmond, Va.
Filed May 10, 1905. Serial No. 4,907. PUBLISHED NOVEMBER 13, 1906.

59,403. SPARK-PLUGS FOR GASOLENE-ENGINES. THE GRANT MANUFACTURING AND MACHINE COMPANY, Bridgeport, Conn.
Filed April 21, 1906. Serial No. 18,974. PUBLISHED NOVEMBER 13, 1906.

59,404. OUTERSHIRTS. GREENEBAUM BROTHERS, Philadelphia, Pa.
Filed September 26, 1906. Serial No. 22,343. PUBLISHED NOVEMBER 13, 1906.

59,405. CATAMENIAL SACKS AND ABSORBENT MATERIALS FOR THE SAME. FANNY HEIN, New York, N. Y.
Filed September 29, 1906. Serial No. 22,385. PUBLISHED NOVEMBER 13, 1906.

59,406. LEATHER AND KID GLOVES. LARNED CARTER & Co., Detroit, Mich.
Filed September 4, 1906. Serial No. 21,891. PUBLISHED NOVEMBER 13, 1906.

59,407. PORTABLE GRAIN-ELEVATORS. LUTHY & Co., Peoria, Ill.
Filed August 13, 1906. Serial No. 21,623. PUBLISHED NOVEMBER 13, 1906.

59,408. MINERAL WATER, TABLE-WATER, AND A BEVERAGE MADE FROM GINGER. THE MANITOU MINERAL SPRINGS COMPANY, Manitou, Colo.
Filed July 30, 1906. Serial No. 21,255. PUBLISHED NOVEMBER 13, 1906.

59,409. COATS, VESTS, TROUSERS, AND OVERCOATS. MILLS & AVERILL TAILORING COMPANY, St. Louis, Mo.
Filed September 29, 1906. Serial No. 22,388. PUBLISHED NOVEMBER 13, 1906.

59,410. WHISKY. FRANK T. MORRISSEY, Lowell, Mass.
Filed September 11, 1906. Serial No. 22,027. PUBLISHED NOVEMBER 13, 1906.

59,411. SOAP. THE N. K. FAIRBANK COMPANY, Chicago, Ill.
Filed July 13, 1905. Serial No. 10,203. PUBLISHED NOVEMBER 13, 1906.

59,412. WASHING-POWDER. THE N. K. FAIRBANK COMPANY, Chicago, Ill.
Filed July 13, 1905. Serial No. 10,232. PUBLISHED NOVEMBER 13, 1906.

59,413. ALE, BEER, PORTER, MALT EXTRACT. NARRAGANSETT BREWING COMPANY, Cranston, R. I.
Filed June 4, 1906. Serial No. 20,043. PUBLISHED NOVEMBER 13, 1906.

59,414. SMOKING AND CHEWING TOBACCO. PENN TOBACCO Co., Wilkes-Barre, Pa.
Filed June 18, 1906. Serial No. 20,389. PUBLISHED NOVEMBER 13, 1906.

59,415. TOBACCO-SEED. ORRIN RALPH POMEROY, Grays Mills, Wis.
Filed August 13, 1906. Serial No. 21,531. PUBLISHED NOVEMBER 13, 1906.

59,416. GAME OF CARDS. SEA COAST ELECTRIC AND MANUFACTURING COMPANY, Lanoka, N. J.
Filed April 27, 1906. Serial No. 19,109. PUBLISHED OCTOBER 9, 1906.

59,417. ELECTRIC AUTOMOBILES. SOCIÉTÉ ANONYME L'ELECTRIQUE, Paris, France.
Filed May 28, 1906. Serial No. 19,886. PUBLISHED NOVEMBER 13, 1906.

59,418. INJECTORS. THE UNITED INJECTOR Co., New York, N. Y.
Filed August 19, 1905. Serial No. 11,817. PUBLISHED NOVEMBER 13, 1906.

59,419. STRAINERS AND VALVES. THE UNITED INJECTOR Co., New York, N. Y.
Filed August 19, 1905. Serial No. 11,822. PUBLISHED NOVEMBER 13, 1906.

59,420. HORSE-NAILS. UNION HORSE NAIL COMPANY, New Haven, Conn., and Chicago, Ill.
Filed June 20, 1905. Serial No. 8,613. PUBLISHED NOVEMBER 13, 1906.

59,421. REDUCTION-MACHINES. THE W. L. MCCULLOUGH Co., Ypsilanti, Mich.
Filed February 24, 1906. Serial No. 17,325. PUBLISHED NOVEMBER 13, 1906.

59,422. SILVER-PLATED WARE COMPRISING FLAT AND HOLLOW WARE AND CUTLERY. WM. A. ROGERS LTD., New York, N. Y.
Filed July 2, 1906. Serial No. 20,685. PUBLISHED NOVEMBER 13, 1906.

59,423. APPARATUS FOR HEATING, LIGHTING, AND COOKING BY GAS. A. G. KAUFMAN MFG. COMPANY, New York, N. Y.
Filed August 11, 1906. Serial No. 21,490. PUBLISHED NOVEMBER 13, 1906.

59,424. CERTAIN HEATING APPARATUS. ABENDROTH BROS., Port Chester and New York, N. Y.
Filed September 12, 1906. Serial No. 22,037. PUBLISHED NOVEMBER 13, 1906.

59,425. BUTTONS. ALMA MANUFACTURING COMPANY, Baltimore, Md.
Filed June 30, 1906. Serial No. 20,669. PUBLISHED NOVEMBER 13, 1906.

59,426. BEEF EXTRACTS. AMERICAN SODA FOUNTAIN COMPANY, Boston, Mass.
Filed November 13, 1905. Serial No. 14,526. PUBLISHED NOVEMBER 13, 1906.

59,427. CERTAIN TABLE-COVERS, SCARFS, CENTER-PIECES, AND DOILIES. BACH BROS. & KATZENSTEIN, New York, N. Y.
Filed August 24, 1906. Serial No. 21,730. PUBLISHED NOVEMBER 13, 1906.

59,428. SHOE-POLISH. THE BELL MFG. CO., St. Louis, Mo.
Filed May 16, 1906. Serial No. 19,587. PUBLISHED NOVEMBER 13, 1906.

59,429. LAMP-BURNERS AND PARTS THEREOF. BING BURNER Co., Minneapolis, Minn.
Filed August 13, 1906. Serial No. 21,512. PUBLISHED NOVEMBER 13, 1906.

59,430. HOSIERY. CHAS. CHIPMAN'S SONS, Easton, Pa.
Filed August 7, 1906. Serial No. 21,364. PUBLISHED NOVEMBER 13, 1906.

59,431. HOSIERY. CHAS. CHIPMAN'S SONS, Easton, Pa.
Filed August 7, 1906. Serial No. 21,366. PUBLISHED NOVEMBER 13, 1906.

59,432. INDIA-RUBBER BALLS. CONTINENTAL CAOUTCHOUC-UND GUTTAPERCHA-COMPAGNIE, Hanover, Germany.
Filed May 18, 1906. Serial No. 19,655. PUBLISHED NOVEMBER 13, 1906.

59,433. BREAD AND ROLLS. CORBY BROTHERS, Washington, D. C.
Filed October 4, 1906. Serial No. 22,481. PUBLISHED NOVEMBER 13, 1906.

59,434. DENTAL CEMENTS AND ALLOYS. THE DAYTON DENTAL SUPPLY Co., Dayton, Ohio.
Filed August 11, 1906. Serial No. 21,481. PUBLISHED NOVEMBER 13, 1906.

59,435. DENTAL CEMENTS AND ALLOYS. THE DAYTON DENTAL SUPPLY Co., Dayton, Ohio.
Filed August 11, 1906. Serial No. 21,482. PUBLISHED NOVEMBER 13, 1906.

59,436. WHEAT-FLOUR. DICKSON MILL & GRAIN Co., Scranton, Pa.
Filed April 1, 1905. Serial No. 98. PUBLISHED JUNE 19, 1906.

59,437. CERTAIN NAMED PAINTERS' MATERIALS. F. W. DEVOE & C. T. RAYNOLDS Co., New York, N. Y.
Filed November 25, 1905. Serial No. 15,001. PUBLISHED NOVEMBER 13, 1906.

59,438. CYLINDER-LUBRICANTS AND LUBRICANT-STOCK. THE FRED. G. CLARK COMPANY, Cleveland, Ohio.
Filed October 15, 1906. Serial No. 22,700. PUBLISHED NOVEMBER 13, 1906.

59,439. CYLINDER LUBRICANTS AND LUBRICANT-STOCK. THE FRED. G. CLARK COMPANY, Cleveland, Ohio.
Filed October 15, 1906. Serial No. 22,701. PUBLISHED NOVEMBER 13, 1906.

59,440. BREAD, CRACKERS, YEAST, AND CEREAL BREAKFAST FOOD. FREDERICK GARDNER, Chicago, Ill.
Filed September 13, 1906. Serial No. 22,066. PUBLISHED NOVEMBER 13, 1906.

59,441. CERTAIN CEREAL FOODS. DANIEL S. GOSS, Rutherford, N. J.
Filed November 17, 1905. Serial No. 14,763. PUBLISHED NOVEMBER 13 1906.

59,442. CERTAIN KNITTED GOODS. HARGADINE-MCKITTRICK DRY GOODS COMPANY, St. Louis, Mo.
Filed June 21, 1906. Serial No. 20,454. PUBLISHED NOVEMBER 13, 1906.

59,443. CEMENT FOR FILLING TEETH. THE HARVARD DENTAL MANUFACTURING COMPANY, Berlin, Germany.
Filed July 19, 1905. Serial No. 10,574. PUBLISHED NOVEMBER 13, 1906.

59,444. CERTAIN PAINTS AND PAINTERS' MATERIALS. JOHN T. LEWIS & BROS. Co., Philadelphia, Pa.
Filed September 20. 1905. Serial No. 12,827. PUBLISHED NOVEMBER 13, 1906.

59,445. BREAD. LOUIS KUHN, Chicago, Ill.
Filed September 24, 1906. Serial No. 22,295. PUBLISHED NOVEMBER 13 1906.

59,446. SOAP. LEVER BROTHERS COMPANY, Cambridge, Mass.
Filed July 17, 1905. Serial No. 10,415. PUBLISHED NOVEMBER 13, 1906.

59,447. HAMS, SHOULDERS, BACON, LARD, AND SAUSAGES. LOUCH, AUGUSTINE & Co., Seattle, Wash.
Filed October 5, 1906. Serial No. 22,538. PUBLISHED NOVEMBER 13, 1906.

59,448. PIGMENTS FOR PAINTS. N. Z. GRAVES Co., INC., Philadelphia, Pa.
Filed June 7, 1906. Serial No. 20,112. PUBLISHED NOVEMBER 13, 1906.

59,449. GERM FOOD FOR PLANTS. NATIONAL NITRO-CULTURE Co., West Chester, Pa.
Filed September 5, 1905. Serial No. 12,209. PUBLISHED NOVEMBER 13, 1906.

59,450. COCOA AND CHOCOLATE. HENRY SAUNDERS NUNN, London, England.
Filed August 21, 1905. Serial No. 11,859. PUBLISHED NOVEMBER 13, 1906.

59,451. CHOCOLATE AND COCOA. PENNSYLVANIA CHOCOLATE COMPANY, Pittsburg, Pa.
Filed August 10, 1906. Serial No. 21,451. PUBLISHED NOVEMBER 13, 1906.

59,452. WELDING OR BRAZING PLATES. THE PHILLIPS-LAFFITTE COMPANY, Philadelphia, Pa.
Filed May 16, 1906. Serial No. 19,600. PUBLISHED NOVEMBER 13, 1906.

59,453. METAL SHEETS COVERED WITH ASBESTOS. THE PROTECTED METAL COMPANY, Canton, Mass.
Filed June 7, 1906. Serial No. 20,095. PUBLISHED NOVEMBER 13, 1906.

59,454. POLISHING-OIL. RELIANCE MFG. CO., Newark, N. J.
Filed September 6, 1906. Serial No. 21,939. PUBLISHED NOVEMBER 13, 1906.

59,455. VARNISH AND JAPANS. ROBT. INGHAM CLARK & Co., LTD., London, England.
Filed June 4, 1906. Serial No. 20,042. PUBLISHED NOVEMBER 13, 1906.

59,456. TULLE. THEO. TIEDEMANN & SON, New York, N. Y.
Filed July 3, 1906. Serial No. 20,724. PUBLISHED NOVEMBER 13, 1906.

59,457. WHEAT-FLOUR. VANDERSLICE-LYNDS MERCANTILE Co., Kansas City, Mo., assignor to Megibben-Beatty Mercantile Co., Kansas City, Mo.
Filed September 22, 1906. Serial No. 22,257. PUBLISHED NOVEMBER 13, 1906.

59,458. WHEAT-FLOUR. WILLIAM S. HILLS Co., Boston, Mass.
Filed September 11, 1906. Serial No. 22,029. PUBLISHED NOVEMBER 13, 1906.

59,459. SHEEP, GOAT, CALF, AND KID LEATHER. A. B. CLARK Co., New York, N. Y.
Filed October 25, 1905. Serial No. 13,915. PUBLISHED NOVEMBER 13, 1906.

59,460. TRACING-CLOTHS AND TRACING-LINENS. AMERICAN TRACING CLOTH COMPANY, New York, N. Y.
Filed August 9, 1906. Serial No. 21,426. PUBLISHED NOVEMBER 13, 1906.

59,461. WATCHES. WEBSTER C. BALL, Cleveland, Ohio.
Filed October 24, 1905. Serial No. 13,905. PUBLISHED NOVEMBER 13, 1906.

59,462. WATCHES. WEBSTER C. BALL, Cleveland, Ohio.
Filed October 24, 1905. Serial No. 13,907. PUBLISHED NOVEMBER 13, 1906.

59,463. WHISKY. BONNIE BROS., Louisville, Ky.
Filed August 9, 1906. Serial No. 21,408. PUBLISHED NOVEMBER 13, 1906.

59,464. CERTAIN NAMED SAWS. EDW. S. BRADFORD, Jr., Chicopee, Mass.
Filed December 2, 1905. Serial No. 15,522. PUBLISHED NOVEMBER 13, 1906.

59,465. JEWELRY, AND SOLID AND PLATED PRECIOUS-METAL WARE. CARTER, HOWE & Co., Newark, N. J.
Filed June 22, 1905. Serial No. 8,786. PUBLISHED NOVEMBER 13, 1906.

59,466. CIGARS, CHEROOTS, AND CIGARETTES MADE OF CIGAR-TOBACCO. CAYEY-CAGUAS TOBACCO COMPANY, New York, N. Y., and Caguas, Porto Rico.
Filed February 12, 1906. Serial No. 16,917. PUBLISHED NOVEMBER 13, 1906.

59,467. CIGARS, CHEROOTS, AND CIGARETTES MADE OF CIGAR-TOBACCO. CAYEY-CAGUAS TOBACCO COMPANY, New York, N. Y., and Caguas, Porto Rico.
Filed May 10, 1906. Serial No. 19,416. PUBLISHED NOVEMBER 13, 1906.

59,468. HORSE-COVERS. L. C. CHASE & COMPANY, Boston, Mass.
Filed August 10, 1906. Serial No. 21,463. PUBLISHED NOVEMBER 13, 1906.

59,469. MONTHLY MAGAZINE. JOHN R. DUNLAP, New York, N. Y.
Filed June 5, 1906. Serial No. 20,075. PUBLISHED NOVEMBER 13, 1906.

59,470. WHISKY AND BRANDY. EDW. B. BRUCE Co., Baltimore, Md.
Filed August 13, 1906. Serial No. 21,500. PUBLISHED NOVEMBER 13, 1906.

59,471. WHISKY. FERD RODDEWIG SONS, Davenport, Iowa.
Filed May 22, 1905. Serial No. 6,254. PUBLISHED FEBRUARY 13, 1906.

59,472. CANNON AND CERTAIN EQUIPMENTS. FRIED. KRUPP AKTIENGESELLSCHAFT, Essen-on-the-Ruhr, Germany.
Filed January 3, 1906. Serial No. 15,848. PUBLISHED NOVEMBER 13, 1906.

59,473. DICTIONARIES. G. & C. MERRIAM Co., Springfield, Mass.
Filed May 11, 1906. Serial No. 19,431. PUBLISHED NOVEMBER 13, 1906.

59,474. CERTAIN NAMED BOATS AND ROAD-VEHICLES. EDMOND GENTIL, Neuilly-sur-Seine, near Paris, France.
Filed December 22, 1905. Serial No. 15,604. PUBLISHED NOVEMBER 13, 1906.

59,475. CERTAIN NAMED PAPER. HAMPSHIRE PAPER COMPANY, South Hadley Falls, Mass.
Filed September 12, 1906. Serial No. 22,034. PUBLISHED NOVEMBER 13, 1906.

59,476. CERTAIN NAMED PAPER. HAMPSHIRE PAPER COMPANY, South Hadley Falls, Mass.
Filed September 12, 1906. Serial No. 22,035. PUBLISHED NOVEMBER 13, 1906.

59,477. CERTAIN NAMED PAPER. HAMPSHIRE PAPER COMPANY, South Hadley Falls, Mass.
Filed September 12, 1906. Serial No. 22,036. PUBLISHED NOVEMBER 13, 1906.

59,478. WHISKY. JOSIAH HARBINSON, Sacramento, Cal.
Filed June 21, 1905. Serial No. 8,732. PUBLISHED NOVEMBER 13, 1906.

59,479. NEEDLES FOR HAND-SEWING. HENRY MILWARD & SONS, LIMITED, Redditch, England.
Filed August 10, 1906. Serial No. 21,473. PUBLISHED NOVEMBER 13, 1906.

59,480. RUBBER WATER-BOTTLES, CUSHIONS, AND ICE-CAPS. HODGMAN RUBBER COMPANY, New York, N. Y.
Filed September 19, 1905. Serial No. 12,778. PUBLISHED NOVEMBER 13, 1906.

59,481. CIGARS. HULMAN & Co., Terre Haute, Ind.
Filed April 24, 1906. Serial No. 19,036. PUBLISHED NOVEMBER 13, 1906.

59,482. CERTAIN NAMED JEWELRY. J. W. BENSON, LIMITED, London, England.
Filed May 8, 1906. Serial No. 19,368. PUBLISHED NOVEMBER 13, 1906.

59,483. STEAM AND WATER PACKINGS. THE JOHNS-PRATT COMPANY, Hartford, Conn.
Filed July 27, 1906. Serial No. 21,214. PUBLISHED NOVEMBER 13, 1906.

59,484. CARDS FOR CARDING COTTON. L. S. WATSON MANUF'G CO., Leicester, Mass.
Filed May 22, 1906. Serial No. 19,768. PUBLISHED NOVEMBER 13, 1906.

59,485. CERTAIN NAMED JEWELRY. LARTER & SONS, Newark, N. J.
Filed May 8, 1906. Serial No. 19,375. PUBLISHED NOVEMBER 13, 1906.

59,486. LEATHER BOOTS AND SHOES. LOCKE SHOE COMPANY, Wheeling, W. Va.
Filed July 12, 1906. Serial No. 20,865. PUBLISHED NOVEMBER 13, 1906.

59,487. CERTAIN NAMED ELECTRICAL SUPPLIES. THE MAGNET WIRE CO., New York, N. Y., assignor to The Electric Cable Company, New York, N. Y., a Corporation of Connecticut.
Filed January 15, 1906. Serial No. 16,200. PUBLISHED NOVEMBER 13, 1906.

59,488. WHISKY. J. & E. MAHONEY, Portsmouth, Va.
Filed June 30, 1905. Serial No. 9,431. PUBLISHED OCTOBER 31, 1905.

59,489. SLIPPERS. GUSTAVE MEHRINGER & COMPANY, New York, N. Y.
Filed September 18, 1906. Serial No. 22,173. PUBLISHED NOVEMBER 13, 1906.

59,490. TYPE-WRITER CARBON-PAPER AND TYPE-WRITER RIBBONS. THE MONARCH TYPEWRITER COMPANY, Syracuse, N. Y.
Filed June 2, 1906. Serial No. 19,997. PUBLISHED NOVEMBER 13, 1906.

59,491. ICE-CREAM FREEZERS. NORTH BRO'S. M'F'G. CO., Philadelphia, Pa.
Filed September 14, 1906. Serial No. 22,085. PUBLISHED NOVEMBER 13, 1906.

59,492. ICE-CREAM FREEZERS. NORTH BRO'S. M'F'G. CO., Philadelphia, Pa.
Filed September 14, 1906. Serial No. 22,086. PUBLISHED NOVEMBER 13, 1906.

59,493. ICE-CREAM FREEZERS. NORTH BRO'S. M'F'G. CO., Philadelphia, Pa.
Filed September 14, 1906. Serial No. 22,087. PUBLISHED NOVEMBER 13, 1906.

59,494. ICE-CREAM FREEZERS. NORTH BRO'S. M'F'G. CO., Philadelphia, Pa.
Filed September 14, 1906. Serial No. 22,088. PUBLISHED NOVEMBER 13, 1906.

59,495. ICE-CREAM FREEZERS. NORTH BRO'S. M'F'G. CO., Philadelphia, Pa.
Filed September 14, 1906. Serial No. 22,090. PUBLISHED NOVEMBER 13, 1906.

59,496. COMBS MADE FROM A PLASTIC COMPOSITION. JOSEPH P. NOYES & COMPANY, Binghamton, N. Y.
Filed December 11, 1905. Serial No. 15,322. PUBLISHED NOVEMBER 13, 1906.

59,497. AUTOMOBILES, MOTOR-CYCLES, CYCLES, AND PARTS THEREOF, EXCEPT RUBBER TIRES. OFFICINE TORKHEIMER PER AUTOMOBILI E VELOCIPEDI, Milan, Italy.
Filed March 26, 1906. Serial No. 18,269. PUBLISHED NOVEMBER 13, 1906.

59,498. GIN. EDWARD WERTHEIMER, Cincinnati, Ohio.
Filed August 10, 1905. Serial No. 11,484. PUBLISHED NOVEMBER 13, 1906.

59,499. PIANOS. RICHMOND PIANO CO., Richmond, Ind.
Filed August 10, 1906. Serial No. 21,470. PUBLISHED NOVEMBER 13, 1906.

59,500. WHISKY. ROBERT STEEL, Philadelphia, Pa.
Filed February 7, 1906. Serial No. 16,806. PUBLISHED NOVEMBER 13, 1906.

59,501. BUGGIES AND CARRIAGES. STUDEBAKER BROS. MFG. CO., South Bend, Ind.
Filed January 2, 1906. Serial No. 15,817. PUBLISHED JUNE 12, 1906.

59,502. ALL KINDS OF LEATHER. THOMAS BAYLEY & CO. LD., Nottingham, England.
Filed September 9, 1905. Serial No. 12,432. PUBLISHED NOVEMBER 13, 1906.

59,503. WRAPPING-PAPER. FREDERICK C. TRAVER, Chicago, Ill.
Filed July 27, 1906. Serial No. 21,223. PUBLISHED NOVEMBER 13, 1906.

59,504. PAPER BAGS. THE UNION BAG & PAPER COMPANY, New York, N. Y.
Filed June 27, 1906. Serial No. 20,604. PUBLISHED NOVEMBER 13, 1906.

59,505. CERTAIN NAMED LUBRICATING-OILS. THE UNITED STATES GRAPHITE COMPANY, Saginaw, Mich.
Filed February 23, 1906. Serial No. 17,238. PUBLISHED NOVEMBER 13, 1906.

59,506. WHISKY. VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn.
Filed August 2, 1905. Serial No. 11,179. PUBLISHED NOVEMBER 14, 1905.

59,507. CERTAIN NAMED TOOLS. VERONA TOOL WORKS, Pittsburg, Pa.
Filed April 21, 1905. Serial No. 2,606. PUBLISHED NOVEMBER 13, 1906.

59,508. LAGER-BEER. ZELTNER BREWING CO., New York, N. Y.
Filed May 8, 1906. Serial No. 19,367. PUBLISHED NOVEMBER 13, 1906.

59,509. STOMACHIC POWDER. P. F. W. BARELLA, Berlin, Germany.
Filed September 18, 1905. Serial No. 12,761. PUBLISHED NOVEMBER 13, 1906.

59,510. OINTMENTS. BURDO BROTHERS, Decatur, Ind.
Filed January 29, 1906. Serial No. 16,588. PUBLISHED NOVEMBER 13, 1906.

59,511. HAIR-TONIC. DUNCAN F. MACNAB DRUG CO., Moorhead, Minn.
Filed August 28, 1905. Serial No. 12,047. PUBLISHED NOVEMBER 13, 1906.

59,512. REMEDIES FOR THE CURE OF PILES. EUREKA COMPANY, Wilkinsburg, Pa.
Filed May 28, 1906. Serial No. 19,893. PUBLISHED NOVEMBER 13, 1906.

59,513. TOILET POWDER. FRA-NOL TOILET POWDER CO., Louisville, Ky.
Filed June 13, 1906. Serial No. 20,245. PUBLISHED NOVEMBER 13, 1906.

59,514. BLOOD MAKING, CLEANSING, AND PURIFYING MEDICINE. THE KIS-KO MEDICINE COMPANY, Chattanooga, Tenn.
Filed May 3, 1906. Serial No. 19,267. PUBLISHED NOVEMBER 13, 1906.

59,515. SALVE. MORTON-HOOTON MFG. CO., Wichita, Kans.
Filed July 12, 1906. Serial No. 20,892. PUBLISHED NOVEMBER 13, 1906.

59,516. SALVE FOR THE CURE OF EXTERNAL CANCERS. C. W. PACE & CO., Alberene, Va.
Filed July 21, 1906. Serial No. 21,068. PUBLISHED NOVEMBER 13, 1906.

59,517. DISINFECTANTS, DEODORANTS, GERM-DESTROYERS, AND SHEEP-DIP. WILLIAM PEARSON, Hamburg, Germany.
Filed May 7, 1906. Serial No. 19,339. PUBLISHED NOVEMBER 13, 1906.

59,518. WEIGHING MACHINERY. RICHARDSON SCALE COMPANY, Passaic, N. J., and New York, N. Y.
Filed September 20, 1906. Serial No. 22,203. PUBLISHED NOVEMBER 13, 1906.

59,519. MEDICINES FOR CERTAIN NAMED DISEASES. THE SNIVI MEDICINE COMPANY, Cincinnati, Ohio.
Filed September 10, 1906. Serial No. 22,010. PUBLISHED NOVEMBER 13, 1906.

59,520. HAIR RENEWER AND RESTORATIVE AND TONIC FOR THE HAIR, SCALP, AND SKIN. ST. JACOBS OIL, LIMITED, London, England, and Baltimore, Md.
Filed July 24, 1906. Serial No. 21,102. PUBLISHED NOVEMBER 13, 1906.

59,521. REMEDY FOR CERTAIN NAMED DISEASES. ST. JACOBS OIL, LIMITED, London, England, and Baltimore, Md.
Filed July 24, 1906. Serial No. 21,103. PUBLISHED NOVEMBER 13, 1906.

59,522. OIL FOR MEDICINAL PURPOSES. C. DE KONING TILLY, Haarlem, Netherlands.
Filed May 29, 1906. Serial No. 19,988. PUBLISHED NOVEMBER 13, 1906.

59,523. MEDICINES FOR CERTAIN NAMED DISEASES. THE TILDEN COMPANY, New Lebanon, N. Y., and St. Louis, Mo.
Filed July 11, 1906. Serial No. 20,861. PUBLISHED NOVEMBER 13 1906.

59,524. HAIR-DYE. L. PIERRE VALLIGNY, New York, N. Y.
Filed May 8, 1906. Serial No. 19,365. PUBLISHED NOVEMBER 13, 1906.

59,525. BOILER-PRESERVING COMPOUNDS. THE VAN DE SANDT MFG. & SUPPLY CO., LTD., New York, N. Y.
Filed May 2, 1906. Serial No. 19,244. PUBLISHED NOVEMBER 13, 1906.

59,526. BOILER-CLEANING COMPOUNDS. THE ZEPHON CHEMICAL COMPOUND COMPANY, Chicago, Ill.
Filed August 1, 1906. Serial No. 21,295. PUBLISHED NOVEMBER 13, 1906.

59,527. DENATURED ALCOHOL. AMERICAN ALCOHOL COMPANY, New York, N. Y.
Filed September 22, 1906. Serial No. 22,247. PUBLISHED NOVEMBER 13, 1906.

59,528. CONSECUTIVE-VIEW APPARATUS. AMERICAN MUTOSCOPE AND BIOGRAPH COMPANY, New York, N. Y.
Filed July 8, 1905. Serial No. 9,920. PUBLISHED NOVEMBER 13, 1906.

59,529. RHEUMATISM-DROPS. ANSTALT ZUR VERFERTIGUNG DER DR. SULZBERGER'SCHEN FLUSSTINKTUR, Salzungen, Germany.
Filed April 9, 1906. Serial No. 18,619. PUBLISHED NOVEMBER 13, 1906.

59,530. RHEUMATISM-DROPS. ANSTALT ZUR VERFERTIGUNG DER DR. SULZBERGER'SCHEN ALLGEMEINEN FLUSSTINKTUR, Salzungen, Germany.
Filed April 9, 1906. Serial No. 18,620. PUBLISHED NOVEMBER 13, 1906.

59,531. BITTERS. ASCHENBACH & MILLER INCORPORATED, Philadelphia, Pa.
Filed July 27, 1906. Serial No. 21,195. PUBLISHED NOVEMBER 13, 1906.

59,532. LEATHER BOOTS AND SHOES. J. E. BATES & CO., New York, N. Y.
Filed June 22, 1906. Serial No. 20,487. PUBLISHED NOVEMBER 13, 1906.

59,533. WHISKY. BEECH HILL DISTILLING CO., Cincinnati, Ohio.
Filed May 27, 1905. Serial No. 6,791. PUBLISHED NOVEMBER 13, 1906.

59,534. MONTHLY PERIODICAL. THE BOARD OF TRUSTEES OF THE AMERICAN MARINE ENGINEER, New York, N. Y.
Filed May 7, 1906. Serial No. 19,335. PUBLISHED NOVEMBER 13, 1906.

59,535. REMEDIES FOR CERTAIN NAMED DISEASES. L. A. H. BRANDT, Buffalo, N. Y.
Filed July 30, 1906. Serial No. 21,251. PUBLISHED NOVEMBER 13, 1906.

59,536. REMEDY FOR STOMACH AND BOWEL TROUBLES. ELIAS G. COLE, Fairchild, Wis.
Filed February 19, 1906. Serial No. 17,182. PUBLISHED NOVEMBER 13, 1906.

59,537. CANNED FRUITS AND VEGETABLES. DAVID HUNT & CO., New York, Oswego, and Cherry Creek, N. Y.
Filed September 14, 1906. Serial No. 22,103. PUBLISHED NOVEMBER 6, 1906.

59,538. MEDICINE FOR CURING PILES. GEORGE M. FOX, Cleveland, Ohio.
Filed August 9, 1906. Serial No. 21,446. PUBLISHED NOVEMBER 13, 1906.

59,539. CERTAIN NAMED WOODWORKING-MACHINES. ALEXANDER MASON GIBBES, Columbia, S. C.
Filed October 10, 1905. Serial No. 13,469. PUBLISHED NOVEMBER 13, 1906.

59,540. SURGICAL LUBRICANTS. J. M. GROSVENOR & CO., Boston, Mass.
Filed September 15, 1906. Serial No. 22,118. PUBLISHED NOVEMBER 13, 1906.

59,541. TOILET LOTION USED FOR DEODORIZING PURPOSES. FREDERICK H. LEONHARDT, New York, N. Y.
Filed July 30, 1906. Serial No. 21,254. PUBLISHED NOVEMBER 13, 1906.

59,542. ANTISEPTIC HEALING-POWDER. THOS. MALEY, Zumbrota and Goodhue, Minn.
Filed May 16, 1906. Serial No. 19,593. PUBLISHED NOVEMBER 13, 1906.

59,543. PIANOS. MELVILLE CLARK PIANO COMPANY, Chicago, Ill.
Filed August 2, 1906. Serial No. 21,306. PUBLISHED NOVEMBER 13, 1906.

59,544. BEER. THE MUESSEL BREWING CO., South Bend, Ind.
Filed July 21, 1906. Serial No. 21,055. PUBLISHED NOVEMBER 13, 1906.

59,545. REMEDY FOR SEXUAL DISEASES OR DISORDERS. FRANK G. PINKERTON, Portland, Oreg.
Filed May 8, 1906. Serial No. 19,364. PUBLISHED NOVEMBER 13, 1906.

59,546. PREPARATIONS FOR TREATMENT OF THE HAIR. ANNIE M. POPE, St. Louis, Mo.
Filed September 21, 1906. Serial No. 22,225. PUBLISHED NOVEMBER 13, 1906.

59,547. LAUNDRY BLUE. RIPLEY & SONS, LIMITED, Liverpool, England.
Filed September 7, 1906. Serial No. 21,946. PUBLISHED NOVEMBER 13, 1906.

59,548. REMEDY FOR DISEASES OF THROAT AND LUNGS. JOHANNA SCHOELM, Harvey, Ill.
Filed September 10, 1906. Serial No. 22,009. PUBLISHED NOVEMBER 13, 1906.

59,549. ANTIDOTE FOR RINGWORM AND TETTER. JAMES T. SHUPTRINE, Savannah, Ga.
Filed December 15, 1905. Serial No. 15,454. PUBLISHED NOVEMBER 13, 1906.

59,550. SOUND RECORDING OR REPRODUCING MACHINES AND PARTS THEREOF AND RECORDS. VICTOR TALKING MACHINE COMPANY, Camden, N. J.
Filed September 10, 1906. Serial No. 22,012. PUBLISHED NOVEMBER 13, 1906.

59,551. MEDICINE FOR THE CURE OF HEADACHE, COLDS, AND DYSMENORRHEA. ANTI-CORI-ZINE CHEMICAL COMPANY, St. Louis, Mo.
Filed April 6, 1906. Serial No. 18,567. PUBLISHED NOVEMBER 13, 1906.

59,552. SALVE. ASCHENBACH & MILLER INCORPORATED, Philadelphia, Pa.
Filed July 27, 1906. Serial No. 21,194. PUBLISHED NOVEMBER 13, 1906.

59,553. LINIMENT FOR EXTERNAL USE. JUNIUS BARNES, Burlington, Vt.
Filed May 6, 1905. Serial No 4,567. PUBLISHED SEPTEMBER 12, 1905.

59,554. WITHDRAWN.

59,555. WHISKY. CAHN, BELT & CO., Baltimore, Md.
Filed April 1, 1905. Serial No. 153. PUBLISHED JUNE 19, 1906.

59,556. REMEDIES FOR REGULATING THE STOMACH AND BOWELS. E. C. DE WITT & COMPANY, Chicago, Ill.
Filed May 11, 1906. Serial No. 19,435. PUBLISHED NOVEMBER 13, 1906.

59,557. REMEDIES FOR DISEASES OF DOGS. URBAN J. EHRHART, Chicago, Ill.
Filed May 10, 1906. Serial No. 19,428. PUBLISHED NOVEMBER 13, 1906.

59,558. DISINFECTANTS AND ANTISEPTICS. FERROMANNIN CHEMICAL CO. (INC.), New York, N. Y.
Filed June 7, 1906. Serial No. 20,107. PUBLISHED NOVEMBER 13, 1906.

59,559. HEADACHE REMEDY. FREDERICK STEARNS & CO., Detroit, Mich.
Filed April 16, 1906. Serial No. 19,376. PUBLISHED NOVEMBER 13, 1906.

59,560. MEDICINES FOR COUGHS, COLDS, AND LA GRIPPE. GEORGE T. HIVELY, Springfield, Mo.
Filed September 5, 1906. Serial No. 21,925. PUBLISHED NOVEMBER 13, 1906.

59,561. COAL-TAR DYES AND VEGETABLE DYE EXTRACTS. H. KOHNSTAMM & Co., New York, N. Y.
Filed April 17, 1906. Serial No. 18,882. PUBLISHED NOVEMBER 13, 1906.

59,562. WEEKLY PERIODICAL. MCGRAW PUBLISHING Co., New York, N. Y.
Filed July 18, 1906. Serial No. 20,997. PUBLISHED NOVEMBER 13, 1906.

59,563. LINIMENTS AND LOTIONS. ROSEN & BERGNER Co., Chicago, Ill.
Filed June 22, 1906. Serial No. 20,500. PUBLISHED NOVEMBER 13, 1906.

59,564. DEODORANTS. JOSEPH M. SCHUTZ, Minneapolis, Minn.
Filed May 25, 1906. Serial No. 19,852. PUBLISHED NOVEMBER 13, 1906.

59,565. REMEDY FOR CERTAIN NAMED DISEASES. ST. JACOBS OIL, LIMITED, London, England, and Baltimore, Md.
Filed July 24, 1906. Serial No. 21,104. PUBLISHED NOVEMBER 13, 1906.

59,566. REMEDY FOR CERTAIN NAMED DISEASES. ST. JACOBS OIL, LIMITED, London, England, and Baltimore, Md.
Filed July 24, 1906. Serial No. 21,105. PUBLISHED NOVEMBER 13, 1906.

59,567. REMEDY FOR CERTAIN NAMED DISEASES. ST. JACOBS OIL, LIMITED, London, England, and Baltimore, Md.
Filed July 24, 1906. Serial No. 21,106. PUBLISHED NOVEMBER 13, 1906.

59,568. REMEDIES FOR CERTAIN NAMED DISEASES. ST. JACOBS OIL, LIMITED, London, England, and Baltimore, Md.
Filed July 24, 1906. Serial No. 21,107. PUBLISHED NOVEMBER 13, 1906.

59,569. REMEDY FOR CERTAIN NAMED DISEASES. ST. JACOBS OIL, LIMITED, London, England, and Baltimore, Md.
Filed July 24, 1906. Serial No. 21,108. PUBLISHED NOVEMBER 13, 1906.

59,570. TOOTH, FACE, TOILET, AND LAXATIVE POWDERS AND HAIR-TONICS. CHARLES SUHR, West Hoboken, N. J.
Filed July 17, 1906. Serial No. 20,971. PUBLISHED NOVEMBER 13, 1906.

59,571. WHISKY. BLUTHENTHAL & HEILBRONNER, Memphis, Tenn.
Filed May 25, 1905. Serial No. 6,660. PUBLISHED JUNE 19, 1906.

59,572. REMEDY FOR CERTAIN NAMED DISEASES. THE CALENDULINE Co., Chicago, Ill.
Filed October 30, 1905. Serial No. 14,098. PUBLISHED NOVEMBER 13, 1906.

59,573. WHISKY. THE CASEY-SWASEY COMPANY, Fort Worth, Tex.
Filed November 8, 1905. Serial No. 14,400. PUBLISHED DECEMBER 19, 1905.

59,574. BAKING-POWDER, SODA, SALERATUS, AND SAL-SODA. CHURCH & DWIGHT COMPANY, New York, N. Y.
Filed April 4, 1905. Serial No. 366. PUBLISHED NOVEMBER 13, 1906.

59,575. ROASTED COFFEE. THE DAYTON SPICE MILLS Co., Dayton, Ohio.
Filed April 17, 1905. Serial No. 1,974. PUBLISHED OCTOBER 9, 1906.

59,576. WITHDRAWN.

59,577. PREPARATION FOR THE TREATMENT OF DISEASES OF THE BLOOD AND SKIN. THE DR. PETER FAHRNEY & SONS Co., Chicago, Ill.
Filed May 29, 1905. Serial No. 6,936. PUBLISHED NOVEMBER 13, 1906.

59,578. ANTISEPTICS. THE ELI LILLY & COMPANY, Indianapolis, Ind.
Filed May 29, 1905. Serial No. 6,944. PUBLISHED NOVEMBER 13, 1906.

59,579. WHISKY. GLASNER & BARZEN DISTILLING & IMPORTING Co., Kansas City, Mo.
Filed October 5, 1905. Serial No. 13,334. PUBLISHED MARCH 27, 1906.

59,580. SALVES. ERNEST F. GREENE, Silver Creek, N. Y.
Filed July 16, 1906. Serial No. 20,956. PUBLISHED NOVEMBER 13, 1906.

59,581. DIURETIC. F. HOFFMANN-LA ROCHE & Co., Basel, Switzerland.
Filed May 26, 1906. Serial No. 19,876. PUBLISHED NOVEMBER 13, 1906.

59,582. WHEAT-FLOUR. THE HUNGARIAN MILLING & ELEVATOR Co., Denver, Colo.
Filed May 15, 1905. Serial No. 5,644. PUBLISHED MARCH 13, 1906.

59,583. INSECTICIDES. DANIEL J. LAMBERT, Apponaug, R. I., assignor to The O. K. Stock Food Company, Chicago, Ill., a Corporation of Illinois.
Filed May 31, 1905. Serial No. 7,110. PUBLISHED NOVEMBER 13, 1906.

59,584. CHILL AND FEVER CURE AND CORN CURE. JOHN C. MENDENHALL, Evansville, Ind.
Filed April 30, 1906. Serial No. 19,202. PUBLISHED NOVEMBER 13, 1906.

59,585. FERTILIZER. SANDERS FERTILIZER COMPANY, Jacksonville, Fla.
Filed May 12, 1906. Serial No. 19,479. PUBLISHED NOVEMBER 13, 1906.

59,586. WOMEN'S AND MISSES' LEATHER BOOTS AND SHOES. THOMAS G. PLANT COMPANY, Montclair, N. J., and Boston, Mass.
Filed August 2, 1906. Serial No. 21,298. PUBLISHED NOVEMBER 13, 1906.

59,587. HORSE-NAILS. UNION HORSE NAIL COMPANY, New Haven, Conn., and Chicago, Ill.
Filed June 20, 1905. Serial No. 8,612. PUBLISHED NOVEMBER 13, 1906.

59,588. BEER. UNITED BREWERIES COMPANY, Chicago, Ill.
Filed May 22, 1905. Serial No. 6,225. PUBLISHED JANUARY 9, 1906.

59,589. PROPRIETARY MEDICINE USED AS A BLOOD-PURIFIER. F. A. WOLLSCHLÄGER, Winston, N. C.
Filed March 10, 1906. Serial No. 17,722. PUBLISHED NOVEMBER 13, 1906.

LABELS

REGISTERED JANUARY 8, 1907.

13,303.—*Title:* "DEFIANCE." (For Flour.) M. S. AYER & Co., Boston, Mass. Filed December 3, 1906.

13,304.—*Title:* "REX." (For Beer.) ALBERT TIEMANN, Milwaukee, Wis. Filed December 15, 1906.

13,305.—*Title:* "CUTISOL." (For an Ointment.) JOHN H. S. O'BRIEN, Brooklyn, N. Y. Filed December 12, 1906.

13,306.—*Title:* "ELECTROSINE." (For a Liquid Depilatory.) BERTHA SMITH, New York, N. Y. Filed November 8, 1906.

PRINTS

REGISTERED JANUARY 8, 1907.

1,879.—*Title:* "MOOSE, THE BEER THAT REIGNS SUPREME." (For Beer.) ALBERT TIEMANN, Milwaukee, Wis. Filed December 15, 1906.

1,880.—*Title:* "THE HOME OF THE FAMOUS MONARCH OF ALL BEERS." (For Beer.) ALBERT TIEMANN, Milwaukee, Wis. Filed December 15, 1906.

1,881.—*Title:* "MOOSE, THE MONARCH OF ALL PURE BEERS." (For Beer.) ALBERT TIEMANN, Milwaukee, Wis. Filed December 15, 1906.

1,882.—*Title:* "MEN'S AND BOYS' APPAREL." (For Men's and Boys' Apparel.) H. C. LYTTON, Chicago, Ill. Filed December 15, 1906.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

NORMAND *v.* KRIMMELBEIN.

Decided November 13, 1906.

1. INTERFERENCE—APPEAL AFTER EXPIRATION OF LIMIT OF APPEAL.

A motion to extend the limit of appeal to include an appeal filed about three weeks after the expiration of the limit of appeal, supported by affidavits tending to excuse the delay, granted, where it appeared that the granting of the motion was not opposed and that the appeal might be heard with an appeal filed by the opposing party, to whom no delay would therefore result.

2. SAME—SAME—MOTION CONSIDERED BY COMMISSIONER IN PERSON.

It is the practice for the Commissioner to consider in person a motion to extend the limit of appeal to include an appeal to the Examiners-in-Chief filed after the expiration of the limit of appeal rather than to restore jurisdiction to the Examiner of Interferences for this purpose.

ON MOTION.

QUICK-ACTION AUTOMATIC RELEASE MECHANISM FOR AIR-BRAKES.

Mr. Joseph E. Normand pro se.

Mr. Edward A. Wright and *Mr. J. Snowden Bell* for Krimmelbein.

ALLEN, *Commissioner:*

Krimmelbein moves that the limit of appeal from the decision of the Examiner of Interferences which expired September 17, 1906, be extended to include his appeal to the Examiners-in-Chief filed on October 25, 1906. From the affidavits filed it appears that the delay in filing the appeal was due to the loss or miscarriage in the mails of a letter and to the mistaken understanding of counsel for Krimmelbein, two of whom are of record, that the appeal had been filed by reason of the receipt of official notice fixing the date of hearing of an appeal to the Examiners-in-Chief, but which did not indicate that it was the appeal of the opposite party, Normand.

The granting of the motion is not opposed. Krimmelbein requests that his appeal be set for hearing on the date—December 13, 1906—fixed for the hearing of Normand's appeal from the portion of the decision of the Examiner of Interferences adverse to him. The delay in filing the appeal cannot, therefore, work any hardship on Normand. Under these circumstances the limit of appeal is extended to include Krimmelbein's appeal, and the Examiners-in-Chief are authorized to entertain the same.

Krimmelbein's accompanying motion to restore the jurisdiction of the Examiner of Interferences for the purpose of considering the appeal calls for no consideration, since it is the practice, as appears in the case of *Brissenden v. Roesch*, (118 O. G., 2253,) for the Commissioner to consider in person the motion to extend the limit of appeal to include an appeal filed after the limit of appeal has expired.

The motion is granted to the extent indicated.

OUTCAULT *v.* THE NEW YORK HERALD COMPANY.

Decided November 17, 1906.

TRADE-MARK INTERFERENCE—MOTION TO SUSPEND PROCEEDINGS—APPEAL.

The decision of the Examiner of Interferences refusing to suspend proceedings pending a determination of contempt proceedings brought in a United States circuit court for failure of witnesses to appear and testify in response to subpoena will not be disturbed where it does not appear that great hardship will otherwise ensue.

APPEAL from Examiner of Interferences.

TRADE-MARK FOR COMIC SECTIONS OF NEWSPAPERS.

Messrs. Mason, Fenwick & Lawrence for Outcault.

Mr. William A. Megrath for The New York Herald Company.

ALLEN, *Commissioner:*

This case comes up on appeal from the decision of the Examiner of Interferences denying Outcault's motion for a suspension of proceedings pending a decision of Judge Lacomb, of the Circuit Court of the United States for the Southern District of New York, and on a motion by The New York Herald Company that the above appeal of Outcault be dismissed.

It appears that contempt proceedings were instituted by Outcault against The New York Herald Company and others for failing to appear and testify as witnesses for appellant in response to subpoena and that the matter is awaiting the decision of the court.

The record shows that Outcault was granted several extensions of his time for taking testimony and that the times last set by the Examiner of Interferences are as follows:

Outcault's testimony to begin October 15, 1906, and to close October 22, 1906.
The New York Herald Co.'s time for taking testimony to begin October 23, and to close November 23, 1906.
Outcault's rebuttal testimony to close December 8, 1906.
Final hearing January 8, 1907, at 11 a. m., as before set.

A motion by Outcault for a further extension of the times set for taking testimony was denied by the Examiner of Interferences on October 29, 1906. Outcault thereupon filed a motion for suspension of proceedings pending the decision of the court mentioned above, and upon its denial by the Examiner of Interference filed this appeal.

The effect of granting this appeal would be an indefinite postponement of the further taking of testimony. It is the practice, as stated in *Goodfellow* v. *Jolly* (115 O. G., 1064) and *Christensen* v. *McKenzie*, (117 O. G., 277,) in appeals of this nature to reverse the decisions of the Examiner of Interferences only—

in extreme cases, and then only when it appears that great hardship will ensue unless his decision be reversed.

It is not clear that this appeal presents such a case or that the matter pending in the United States Circuit Court for the Southern District of New York warrants further postponement at this time of the regular proceedings in this case. The Examiner of Interferences has stated that in case the decision of the court is not rendered prior to the date now set for final hearing the final hearing will be postponed.

The decision of the Examiner of Interferences is accordingly affirmed, but without prejudice to appellant's bringing, when the court's decision is rendered, such motions as may be necessary to carry into effect the decision of the said court.

EX PARTE CRAIN.

Decided November 26, 1906.

1. DIVISION—SHOULD BE SETTLED BY APPEAL TO EXAMINERS-IN CHIEF BEFORE ACTION ON PATENTABILITY OF CLAIMS.

Where the Examiner based his requirement for division upon proper grounds, the question of whether the Examiner is right in his requirement is a matter for consideration on appeal by the Examiners-in-Chief before action is made upon the patentability of the claims.

2. SAME—PRACTICE.

The fact that as an aid to applicant in electing how he will divide the Examiner cited patents showing the prior art and volunteered the opinion that the claims are for aggregations does not change the practice and does not warrant the assumption that the Examiner's action amounts to a refusal to examine the case on the ground that the claims cover aggregations.

ON PETITION.

CARRIAGE-MACHINE.

Messrs. Wilkinson & Fisher for the applicant.

ALLEN, *Commissioner:*

This is a petition that the Examiner in charge of this application be directed to make an examination and act upon the claims upon their merits.

The Examiner has made a requirement of division and has refused to act on the merits of the claims prior to compliance with said requirement. The Examiner states that claim 1 covers a general combination machine and is examinable in class 144, subclass 1; that claim 2 is for a wheelwright-machine and belongs in class 157, subclass 1; that claims 3 and 5 are for a lathe appliance, which comes in class 142, subclass 55, and that claim 4 may be retained with either claim 1 or claim 2. He required division between these three groups of claims on the ground that each covers subject-matter which has acquired a distinct status in the arts and industries and in the Office classification.

Petitioner admits that under the present practice the question of division is appealable to the Examiners-in-Chief and not directly to the Commissioner; but he contends that the Examiner's actions—

really amount to a refusal to examine the case, on the ground that the claims are aggregations—

and that they are—

equivalent to the requirement of division of some of the claims, and not merely a requirement of division between different claims.

Petitioner's contentions are believed to be unwarranted. The Examiner has based his requirement for division upon proper grounds. These grounds, noted above, are the usual grounds upon which division is required. Whether the Examiner is right in his conclusion that they are applicable to the claims of the present case is a matter for consideration on appeal to the Examiners-in-Chief. Although it is true that the Examiner has volunteered the statement that the claims cover aggregations and not proper combinations, this does not appear to be the ground upon which the requirement of division is based. On the contrary, in his action of August 8, 1906, the Examiner states that although—

applicant's attention has been called to the fact that his claims confuse independent matters, the requirement of division has not been based upon this fact.

It is further noted that each action of the Examiner has been a requirement of division and not an action rejecting claims, although as an aid to applicant in electing how he will divide the Examiner has cited patents showing the prior art, as well as volunteered the opinion that the claims are for aggregations. The record of this case is not found to justify the assumption of petitioner that the Examiner has—

refused an examination on the real ground of aggregation, veiling this under a requirement of division.

Concerning petitioner's contention that the requirement of division is in, effect, a requirement that applicant be required to divide his claims, the Examiner states that—

there has been no requirement of division which necessitates the division of a claim.

If the claims in each group in fact cover subject-matter which has acquired a distinct status in the arts and industries and in the Office classification, the requirement of division on this ground appears to be a proper one, and there is thought to be no necessary inconsistency in this requirement and in the holding at the same time that the claims cover aggregations. Moreover, such requirement, under the well-established Office practice, should precede any action on the merits of the claims. (Rule 42; *ex parte Pickles*, 109 O. G., 1888; *ex parte Snyder*, 110 O. G., 2236.)

The petition is denied.

HERR v. HERR, GROVES, AND FOREMAN v. DODDS.

Decided August 11, 1906.

INTERFERENCE—ACCESS TO APPLICATION OF FORMER OPPONENT.

Where the joint applicants H., G., and F. filed a concession in favor of the sole applicant H. and judgment was thereupon entered against the joint applicants, *Held* that the application of H., G., and F. is no longer involved in the interference proceeding, and the fact that it was formerly so involved is no reason for permitting D., another party to said interference, to obtain a copy of it at this time.

ON PETITION.

DUMPING-CAR.

Mr. A. J. O'Brien and *Messrs. Spear, Middleton, Donaldson & Spear* for Herr and for Herr, Groves, and Foreman.

Messrs. Offield, Towle & Linthicum for Dodds.

MOORE, *Acting Commissioner:*

This is a petition by Dodds that he be permitted to inspect and obtain copies of the application and preliminary statement of the joint applicants Herr, Groves, and Foreman, formerly involved in this interference, or that it be ordered that Herr shall not be permitted to rely upon the application of Herr, Groves, and Foreman for any purpose in connection with said interference.

It appears that the interference was originally declared between the joint application of Herr, Groves, and Foreman and the application of Dodds. Before preliminary statements were filed an application was filed by Herr as the sole inventor of the subject-matter of the interference, which application was added to the interference. The joint applicants Herr, Groves, and Foreman then filed a concession of priority of invention in favor of Herr, and judgment was thereupon rendered against said joint applicants.

The application of Herr, Groves, and Foreman is no longer involved in the interference proceeding, and the fact that it was formerly involved in said interference is no reason for permitting Dodds to obtain a copy of it at this time. No reference is made to the joint application of Herr, Groves, and Foreman in the application of Herr or in his preliminary statement. The interference having been concluded, so far as the application of Herr, Groves, and Foreman is concerned, Dodds now stands upon the same footing as any member of the general public with respect to obtaining access to said application. (*Ex parte Warner*, 96 O. G., 1238; *in re Mygatt*, 115 O. G., 1066.)

The reasons stated above for refusing Dodds access to the application of Herr, Groves, and Foreman would also apply to their preliminary statement, provided they had filed one, which, however, does not appear to be the case. Dodds contends that he should be permitted access to the application of Herr, Groves, and Foreman for the reason that he anticipates that Herr intends to rely upon said application, and he requests in the latter part of his petition as an alternative remedy that it be ordered that Herr be prohibited from relying upon said application in the interference. This contention is hypothetical. There is nothing to indicate that Herr intends to rely upon the application of Herr, Groves, and Foreman. Furthermore, it does not appear how Herr can obtain any benefit from the joint application unless it be by introducing it in evidence, when it will then be open to the inspection of Dodds.

The petition is denied.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

HALL AND RUCKEL v. INGRAM.

Decided December 4, 1906.

TRADE-MARK OPPOSITION—DISSIMILARITY OF MARKS—DEMURRER.

Held that trade-marks consisting of the words "Zodenta" and "Sozodont" are quite dissimilar and that "Zodenta" is not calculated to mislead or deceive the average purchaser who may seek to buy "Sozodont." The resemblance is not such as to preclude a proper determination of the question upon demurrer.

Mr. C. T. Milans and *Mr. S. O. Edmunds* for the appellants.

Mr. L. S. Bacon and *Mr. J. H. Milans* for the appellee.

MCCOMAS, *J.:*

This is an appeal from a decision of the Commissioner of Patents sustaining a demurrer filed by the appellee to the appellant's notice of opposition to the appellee's application for registration of the trade-mark "Zodenta," for use on a dentifrice, the appellee claiming to have continuously used this trade-mark on a dentifrice since 1891. Within due time, under section six of the statute of February 20, 1905, the appellant filed notice of opposition to the registration of "Zodenta."

The grounds for opposition were: that the word "Sozodont" has been used continuously by the appellants and their predecessors in business as a trade-mark for dentifrices since 1863; that appellants are the sole and rightful proprietors of this mark and that the mark "Zodenta" so nearly resembles the word "Sozodont" as used by the appellants—

as to be calculated to mislead, deceive and confuse and to result in interference and conflict in trade.

The appellee demurred to the opposition. After hearing, the Examiner of Interferences sustained the demurrer, holding that the words in question—

do not so nearly resemble each other as to cause confusion in the mind of the public or deceive purchasers using ordinary care in the selection of the goods.

The Commissioner affirmed the Examiner's decision from which the present appeal was taken.

We are not impressed by the argument that "Sozodont" is a derivative from the two Greek words mentioned and "Zodenta" from combining the Greek and Latin words named. These fanciful etymologies are not apt to occur to the mind of the public nor to deceive purchasers. It is admitted upon this demurrer that during fifteen years the appellee had used the word "Zodenta" as his trade-mark. The two words differ so much in appearance and in sound that ordinary purchasers buying with ordinary caution are not likely to be misled. It is unnecessary to review the authorities. Two trade-marks are substantially the same if the resemblance would deceive an ordinary purchaser giving such attention as he usually gives in making a purchase and to cause him to purchase one article mistaking it for the other. (See *Gorham Company* v. *White*, 14 Wall., 511; *McLean* v. *Fleming*, 96 U. S., 256; *Gaines* v. *Carlton Importation Company*, 27 App. D. C., 574; *Buchanan-Anderson-Nelson Company* v. *Breen & Kennedy*, 27 App. D. C., 574.) In considering the similarity between "Anderson" and "Henderson" Chief Justice Shepard remarked:

The single question for our determination is whether the resemblance between the two marks as used is calculated to deceive and mislead the public into purchasing Breen & Kennedy's whisky under the belief that it is the whisky of the Buchanan-Anderson-Nelson Co.

It is claimed by the appellants that the two trade-marks here considered by close resemblance are calculated to mislead and deceive and it is further claimed that such an issue should not be decided upon a demurrer. It is said that a demurrer precludes the aid of evidence which might so inform the Office as to make it possible for the Office to intelligently decide this question. We think the Commissioner capable of deciding the resemblance or the difference between these words by the spelling, the appearance and the sound correctly. In the case last cited, as in this, the question arose upon a demurrer to the opposition sustained by the Commissioner of Patents. The Federal cases cited by the appellant on this point apply with great force where novelty or invention is involved and where the court may desire proof to be taken to better instruct the court. Witnesses were not needed to enable the Examiner and Commissioner of Patents to decide that "Zodenta" and "Sozodont" are quite dissimilar and that "Zodenta" is not calculated to mislead or deceive the average purchaser who may seek to buy "Sozodont."

The decision of the Commissioner of Patents is affirmed and it is further ordered that this decision be certified to the Commissioner of Patents as provided by law.

Supreme Court of the District of Columbia.

THE UNITED STATES OF AMERICA, *ex rel.* TUTTLE, *v.* ALLEN, COMMISSIONER OF PATENTS.

Decided December 21, 1906.

1. PRACTICE—MANDAMUS.
The writ of mandamus cannot be used in the place of an appeal or writ of error to correct any erroneous decision made by the Primary Examiner in the course of his official duties.

2. SAME—SAME.
The writ of mandamus cannot be used to control the exercise of judicial discretion.

3. DIVISION—MANDAMUS.
Where division had been required between the claims of an application for patent and it was sought by mandamus to compel consideration of the claims upon their merits, *Held* that it is of no consequence to the court in rendering the decision upon mandamus whether the Office was right or wrong in requiring division.

4. ABANDONMENT OF APPLICATION.
Where after final requirement of division numerous letters and petitions are filed in regard thereto, but no appeal is taken or compliance had within the ensuing year, *Held* that it is not clear that the actions taken could prevent the operation of the statute as to abandonment.

5. SAME—APPEAL.
The action of the Office holding an application to be abandoned is, in effect, a rejection. If that action is erroneous, the applicant has his remedy by way of appeal.

Mr. Edward L. Gies for the petitioner.

Mr. John M. Coit for the respondent.

BARNARD, *J.*:

In this case the petitioner prays for a writ of mandamus to require the Commissioner of Patents to order a reconsideration of a requirement of the Examiner in charge, for a division of his application numbered 134,953, for a patent for an improvement in voting-machines, so far as relates to claim No. 11 in said application, which claim covers interlocking means between push-keys, both severally and in the aggregate, and a single whole-ticket key, for independent voting; and further, to require the respondent to cause an examination to be made of the relator's alleged new invention or discovery, as set forth and claimed in claim No. 1 of his said application; and also to cause an examination to be made of several other claims in his said application, not required to be separated from said claim No. 1, and presented in a separate application, with a view to the allowance or rejection of all said claims; and further to require the respondent to cancel an order heretofore made, holding that the relator had abandoned his said application.

The answer of the respondent, filed February 15, 1906, sets forth the history of the case, as shown by the record in the Patent Office, and attaches copies of orders, motions, petitions, etc., as exhibits.

On March 9, 1906, the relator filed an amendment to his petition in this court; and on the same day a stipulation of counsel was filed, which allowed certain additional facts to appear by way of answer, and allowed the petitioner time to file reply.

On March 20, 1906, the relator filed a reply; and on April 11, 1906, the respondent filed a demurrer thereto.

By a stipulation filed Nov. 23, 1906, the case thus made, was submitted to the court, on briefs, without oral argument.

It appears that relator's application for Letters Patent was filed Dec. 12, 1902, and the same contained a number of claims.

On Jan. 14, 1903, the Primary Examiner decided that there should be a division of the claims, under Rule 41 of the Patent Office. He specifically pointed out what claims were required to be grouped together, but by a clerical error, claim 11 was omitted from the group which defined an interlocking or key-arresting system, but was evidently intended to be grouped with claims 8, 9, 14, 15, and 21, relating to the same subject.

The relator asked a reconsideration of the first requirement for division, on Sept. 10, 1903, and again on Sept. 14, 1903; and the Examiner on Nov. 11, 1903, denied the petition for a reconsideration, and repeated his requirement, and made his action final, expressly requiring said claim 11 to be divided out.

On October 3, 1904, the relator appealed, by petition, from the action of the Examiner, to the Commissioner of Patents, from the several orders requiring a division, and asked that the Examiner be no longer allowed to insist upon said orders.

To this petition the Examiner filed his answer, Oct. 6, 1904; and Oct. 18, 1904, the Commissioner dismissed the petition, and stated that applicant's only remedy was by appeal to the Examiners-in-Chief.

On Oct. 24, 1904, the applicant filed an argument; and on Oct. 26, 1904, a petition, in which petition he asked that the Examiner waive his requirement of division for the present, and act upon the claims, in order that an appeal might be taken to the Examiners-in-Chief; and that the Examiner be directed to select such invention, and claims relating thereto, as might be retained in the original application.

On Oct. 28, 1904, the Commissioner denied the relator's petition of Oct. 26, 1904.

On Oct. 31, 1904, the applicant filed an amendatory petition, in which he requested that the Examiner be directed to retain claim 1, and all its pertinent claims, in the original application.

The Commissioner denied this petition, Nov. 2, 1904, and stated that when a division was required, it must be settled before the Office would examine the claims to determine their probable novelty and patentability; and also held, under the authority of the case of *U. S., ex rel. Steinmetz*, v. *Allen* (109 O. G. 549) that the refusal to grant a patent because the application contained separate inventions, was in effect a rejection of the application, and entitled the applicant to an appeal to the Examiners-in-Chief.

On Nov. 1, 1904, relator filed another petition, dated Oct. 29, 1904, again urging that the Examiner retain claim 1, and all its relative claims, in the original case, and act upon them, regardless of the orders of division.

On Nov. 3, 1904, the Commissioner denied the last petition, on the ground that the division must be settled before any action could be had on the merits; and again holding that the requirement for a division is deemed a rejection.

On Feb. 13, 1905, the Examiner informed the applicant that his case was held to have been abandoned on Nov. 11, 1904, for failure to prosecute within one year; that being one year from the time said claim 11 was expressly required to be divided out; and when the requirement for a division was confirmed, or made final.

The applicant thereupon wrote three letters under date of Feb. 17, Mar. 1, and Mar. 10, respectively, asking for prompt attention, and stating that the holding of abandonment was not understood, in that no action had been taken with reference to certain claims.

On April 11, 1905, the Commissioner repeated the holding of abandonment, and stated that applicant had forfeited his right to proceed, by his failure to specifically elect what claims were to be retained in his original application.

The applicant filed a petition on May 8, 1905, again asking a reconsideration of the case; and on May 11, 1905, the Examiner answered the petition, and repeated the holding of abandonment, because the applicant did not take proper action within a year from Nov. 11, 1903. Under date of June 5, 1905, the Commissioner denied this petition.

It seems that the misunderstanding between the petitioner and the Patent Office began at the time the application for a patent was required to be divided, under Rules 41 and 42 of the Rules of Practice of the Patent Office. The Examiner in charge had decided that the applicant claimed in his application, independent inventions of such a nature that a single patent could not be issued to cover them.

In such case Rule 42 provides that the inventor will be required to limit the description, drawing, and claim of the pending application, to whichever invention he may elect. It also provides that if the independence of the inventions be clear, such limitation must be made before any action upon the merits; otherwise it may be made at any time before final action thereon, in the discretion of the Examiner.

The whole difficulty in which the applicant now finds himself, seems to have started by his persistence in trying to have the Examiner in charge reconsider the decision which required his application to be divided; and, notwithstanding the repeated decisions, both of the Examiner and the Commissioner, confirming his first decision, he failed to take his appeal to the Examiners-in-Chief.

He seems to have continued, by appeals to the Commissioner on petition, and by applications to the Examiner in charge, to try to secure the reconsideration, or some modification of the order; and particularly to have the Examiner decide which inventions might be continued in connection with claim 1, as his pending application, instead of himself making the selection, as seems to be required by Rule 42.

The original application containing a number of claims which could be divided into groups, the Examiner did not require a separate application for each claim, but did require a number of claims to be divided out of the original application, leaving certain claims therein for matters that did not constitute a distinct subject of invention, together with what are called combination claims.

If the applicant had deemed this action of the Examiner to be improper, he had his remedy by appeal, after the requirement for division had been repeated and made final, which it was on Nov. 11, 1903, when the Examiner refused to reconsider the case on the applicant's petition and argument filed in September, 1903.

This remedy seems to have been established by the decision of the Supreme Court in the said case of the *United States ex rel. Steinmetz* v. *Allen*, (109 O. G., 549; Commissioner's Decisions, 1904, 703; 192 U. S., 543.)

Not having accepted the suggestion of the Examiner, that the application should be divided in the manner pointed out, and not having taken an appeal, the next difficulty in which the applicant found himself was, that at the expiration of one year from November 11, 1903, when the requirement was for a second time made and became final, his application was held to be abandoned under section 4894 of the Revised Statutes, (29th Statute-at-Large, 692.)

This statute requires that all applications for patents shall be completed and prepared for examination within one year after the filing of the application; and in default thereof, or upon failure to prosecute the same within one year after any action therein, of which notice shall have been given to the applicant, they shall be regarded as abandoned, unless it be shown to the satisfaction of the Commissioner, that such delay was unavoidable.

Rule 171, based on this statute, defines what shall be considered as an abandoned application.

Rules 31 and 77 are also based on the said statute, Rule 77 defining the time when the one year shall begin to run, namely, from the day when the last official notice of any action by the Office was mailed to the applicant.

Rule 171, after defining what an abandoned application is, defines what prosecution is necessary to save an application from abandonment, and says that such prosecution must include such proper action as the condition of the case may require.

The petitioner, having a right to appeal from the requirement to have his application divided, it is of no consequence in this court, in a mandamus proceeding, whether the Examiner was right or wrong in such decision.

If the applicant thought the Examiner was wrong, and he still insisted on the right to prosecute his application with the several claims therein joined, then he could have taken his appeal to the Examiners-in-Chief, and if their decision was adverse, a further appeal to the Commissioner of Patents.

The writ of mandamus cannot be used in the place of an appeal or writ of error, to correct any erroneous decision made by the Primary Examiner in the course of his official duties.

The applicant having his right of appeal, which must be presumed to be an adequate remedy, cannot rightfully ask the court to give him the same relief by the writ of mandamus. (*Ex parte Virginia Commissioners*, 112 U. S., 177; *Riverside Oil Company* v. *Hitchcock*, 21 App. D. C., 252.)

In the last-mentioned case, Mr. Justice Morris stated the established rule in these words:

> The writ of mandamus, it is well settled, cannot be used to serve the purpose of an appeal or writ of error; nor can it be used to control the exercise of judicial discretion.

Having this right of appeal, and having neglected to pursue it, within one year after the mailing of notice that the action of the Examiner in charge had been repeated and made final, can the petitioner escape the predicament in which he is placed by the express language of section 4894 of the Revised Statutes?

He took no action in the prosecution of his claim for patent, except the ineffectual action by way of repeated motions and petitions, in which he sought to have the Examiner reverse himself as to the requirement for division of his application, whereas Rule 171 requires that he should take such proper action as the condition of the case demands. That was, in this case, to file separate claims, and so divide his application, or to take his appeal from the

order requiring such division, under section 4909 of the Revised Statutes.

It is not clear that such action on his part, as he did take, could prevent the operation of the statute as to abandonment, and I must therefore hold that he has no remedy by mandamus, to prevent the abandonment which the Office has declared.

If, however, the Office has declared that his application has been abandoned, and that decision should be erroneous, he has a remedy by appeal from that decision, which would bar him from any standing in this court in a proceeding for mandamus. On both of these points it seems to me that the respondent's contention must be sustained.

There is one other contention that the relator makes, namely, that he is entitled to the writ of mandamus to compel a consideration and decision as to his right to a patent under claim No. 1, of his application, and under such other claims as the Office may hold to be properly joined with said claim, No. 1. That is, without himself electing to abandon the claims required to be divided out, and electing what claims he wishes to prosecute in the pending application, he asks that the Office be required to proceed with its consideration of part of his application for a patent, on the merits. That is to say, that notwithstanding the Patent Office through its Examiner and Commissioner, holds that the relator's application has been abandoned; and notwithstanding the requirement that the application should be divided, before being examined on the merits, the court is asked to require, by mandamus, that the Examiner should proceed with the case, and proceed in a certain way.

The authorities have established the rule over and over again, that a mandamus will not lie to compel an officer having discretion to decide a question in a particular manner; and only where the petitioner has a clear legal right to the relief he claims, and it is a plain ministerial duty of the respondent to act in the premises, will the writ be issued.

In this case the action of the Patent Office is, in effect, a rejection of the plaintiff's application for a patent on two grounds, namely, because the requirement for division was not complied with; and because the application has been abandoned by failure to take the proper steps in its prosecution within one year.

Any order that the court might make to require the Office to proceed with the examination of claim No. 1, or any other claim, would operate as a reversal of the action taken by the Examiner and the Commissioner; and would be the substitution of the judgment of the court in place of that of the Patent Office, where jurisdiction has been vested by the statute, and where all the technical facilities have been provided for the examination and decision of questions pertaining to patents.

Many of the facts which are stated as appearing in this case, are admitted to be true by the stipulation filed herein on March 9th, 1906, and the petitioner has, by his reply to the answer to the respondent, admitted certain other of the facts assumed by the court in the foregoing statements.

In his said reply the relator repeats all the several allegations and averments contained in his petition, except such as are by the defendant's return fully admitted. He avers also that the several dates in the fourth paragraph of page 3 of defendant's first answer, should be 1904, and not 1903; and he admits that since the rule to show cause was issued herein, that he has filed in the Patent Office an appeal to the Examiners-in-Chief, from the action of the Primary Examiner, holding his application to have been adandoned.

It is insisted by the respondent that this appeal necessarily takes out of this case the right of the relator to insist upon an order of the court to require of the respondent a decision on the question of abandonment, and leaving only the other questions herein which have been above mentioned, and which contention I am inclined to think is correct.

Under section 1276 of the code of this District, the petitioner was allowed to plead or to traverse all or any of the material averments set forth in the respondent's answer, and the defendant was allowed to take issue or demur to said plea or traverse; and further proceedings were to be taken as in an action for a false return.

The proper practice under this section was pointed out by the court of appeals in the case of *West* v. *Hitchcock*, (19 App. D. C., 346.)

The demurrer to the reply seems to raise the question of the sufficiency of the petitioner's case; and, after considering all the facts which are admitted by the relator, or stated in his petition and reply; and after considering the matters claimed in his reply to be in avoidance of the facts contained in the answer of the respondent, I have reached the conclusion that the petitioner has failed in his reply and petition to state a plain right to the relief claimed by him; and that the court cannot properly grant him the writ of mandamus for any of the purposes asked for in the petition; and I will, therefore, sign an order sustaining the demurrer to the reply, and enter judgment for the defendant for costs, as appears to be proper under sections 1278 and 1279 of the code.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 2, 1907.

Charles A. Raymond, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for registration of a trade-mark filed by the Bay State Shoe & Leather Company, of Worcester, Mass., a registered trade-mark to the same company, and a trade-mark registered to Charles A. Raymond, of Boston, Mass., and New York, N. Y. The notice of declaration of said interference mailed by the Patent Office in the usual manner to the said Charles A. Raymond, 195 Congress street, Boston, Mass., has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said Charles A. Raymond, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 8, 1906.

Gustave Bossange, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the American Cement Company, of Philadelphia, Pa., for registration of a trade-mark and a trade-mark registered to Gustave Bossange, of New York, N. Y., whose known address is No. 54 Worth Street, in said city. The notice of declaration of said interference and also subsequent communications mailed by the Patent Office in the usual manner to the said Gustave Bossange have been returned by the Post-Office Department with the statement that he cannot be found.

Notice is therefore hereby given to the said Gustave Bossange, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

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Trade-Marks	229—No. 59,590 to No. 59,818,	inclusive.
Labels	19—No. 13,307 to No. 13,325,	inclusive.
Prints	11—No. 1,883 to No. 1,893,	inclusive.
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TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama			Nevada	1	
Alaska, District of			New Hampshire	3	1
Arizona Territory	2	1	New Jersey	24	15
Arkansas	2		New York	82	74
California	21	4	North Carolina		1
Colorado	10	2	North Dakota	4	
Connecticut	15	4	Ohio	31	22
Delaware	1	1	Oklahoma Territ'y	1	
District of Columbia	10		Oregon	10	
Florida		2	Pennsylvania	62	21
Georgia	1	3	Philippine Islands		
Hawaii Territory			Porto Rico		
Idaho	2	1	Rhode Island	5	2
Illinois	30	17	South Carolina		4
Indian Territory	3		South Dakota	3	
Indiana	8	4	Tennessee	2	2
Iowa	12	1	Texas	12	2
Kansas	6	2	Utah	1	
Kentucky	7	4	Vermont	1	1
Louisiana	3	3	Virginia	4	
Maine	3	5	Washington	7	1
Maryland	4	10	West Virginia	2	
Massachusetts	42	18	Wisconsin	13	5
Michigan	16	1	Wyoming	1	
Minnesota	11	4	U. S. Army		
Mississippi	2	1	U. S. Navy		
Missouri	19	6			
Montana	1		Total to citizens of the United States	505	246
Nebraska	5	1			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina			Natal		
Austria-Hungary	1		Netherlands		1
Belgium			Newfoundland		
Brazil			New South Wales	1	
British West Indies			New Zealand	2	
Canada	3	2	Norway		
Cape Colony			Persia		
Chile			Queensland		
China			Roumania		
Costa Rica			Russia		
Cuba			Scotland	1	
Denmark			South Australia		
Ecuador			Spain		
England	16	3	Sweden	2	1
France	6	4	Switzerland	3	1
Germany	25	1	Transvaal, South Africa	1	
Guatemala	1		Victoria	1	
Ireland			Western Australia		
Italy	1				
Japan			Total to citizens of foreign countries	64	13
Java					
Mexico					

Disclaimer.

833,290.—*Anson Gardner Betts*, Troy, N. Y. ELECTRICAL CONDUCTOR. Patent dated October 16, 1906. Disclaimer filed December 26, 1906, by *The Betts Electric and Reduction Co.*, assignee.

Enters its disclaimer—

"To that part of the claim in the specification of said Letters Patent which is in the following words, to wit:

"1. A composite conductor for electrical transmission lines or circuits consisting of a body of free or metallic sodium and a reinforcing-sheathing within which it is inclosed, the conductivity of the composite conductor being due essentially to the sodium present therein, as set forth.

"2. A composite conductor for electrical transmission lines or circuits consisting of a body of free or metallic sodium with a reinforcing-sheathing which contains the sodium and is entirely filled thereby, the conductivity of said composite conductor being due essentially to the sodium present therein, as set forth.

"4. A composite conductor for electrical transmission lines or circuits consisting essentially of free or metallic sodium contained within sections of a less readily oxidizable metal tubing, as set forth."

Date of Patent.

RULE 207. The weekly issue closes on Thursday, and the patents of that issue bear date as of the third Tuesday thereafter. If the final fee in any application is not paid on or before Thursday, the patent will not go to issue until the following week.

Delivery of Patent.

The patent will be delivered or mailed on the day of its date to the attorney of record, if there be one; if not, to the patentee; or, if the attorney so request, to the patentee or assignee of an interest therein.

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business January 8, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Jan. 2	Jan. 2	94
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Dec. 29	Dec. 13	95
109	XVI. Telegraphy and Telephony..	Dec. 26	Dec. 13	135
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Dec. 26	Dec. 12	212
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Dec. 26	Dec. 11	97
327	XVIII. Steam-Engineering, etc ...	Dec. 26	Dec. 11	168
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Dec. 26	Dec. 11	173
321	I. Tillage, etc., Fences, and Railway Draft Appliances.	Dec. 26	Dec. 11	129
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Dec. 26	Dec. 11	180
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Dec. 26	Dec. 11	242
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Dec. 26	Dec. 10	172
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	Dec. 24	Dec. 11	188
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Dec. 24	Dec. 11	191
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Dec. 24	Dec. 10	180
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Dec. 22	Dec. 11	165
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Dec. 22	Dec. 10	174
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	Dec. 21	Dec. 12	151
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	Dec. 20	Dec. 8	183
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Dec. 20	Dec. 6	194
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Signals, Time Controlling Mechanism.	Dec. 19	Dec. 3	269
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Dec. 18	Dec. 10	194
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Wood-working.	Dec. 17	Dec. 10	215
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Dec. 14	Dec. 10	163

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Dec. 11	Dec. 12	452
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Dec. 11	Dec. 11	356
167	V. Bookbinding, Harvesters, Jewelry, and Music.	Dec. 11	Dec. 4	313
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Dec. 10	Dec. 10	302
329	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Dec. 10	Dec. 10	300
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Dec. 8	Dec. 8	292
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Dec. 6	Dec. 6	305
122	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Dec. 4	Dec. 10	340
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Dec. 4	Dec. 7	378
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Dec. 3	Nov. 21	349
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	Nov. 28	Nov. 24	483
343	XXXIX. Cushion and Pneumatic Tires, Fine Arts, and Water Distribution.	Nov. 27	Nov. 19	588
332	X. Carriages and Wagons.....	Nov. 23	Nov. 20	511
382	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	Nov. 19	Nov. 19	385
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Nov. 16	Nov. 16	682
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	Nov. 13	Dec. 6	312

Total number of applications awaiting action 10,312

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Trade-Marks	Jan. 7	Dec. 22	199
	Designs	Jan. 2	Dec. 26	22
	Labels and Prints	.....	.....	....

Interference Notice.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 9, 1907.

Charles B. Hull, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of The J. F. Zahm Tobacco Company, of Toledo, Ohio, for registration of a trade-mark, and a trade-mark registered to the said company, and also a trade-mark registered to Charles B. Hull, of Detroit, Mich. It has been impossible to locate said Hull, and his attorney of record is no longer in business.

Notice is therefore hereby given to the said Charles B. Hull, his assigns or legal representatives that if they or any of them desire to contest the said interference, they should immediately put themselves in communication with the Commissioner of Patents.

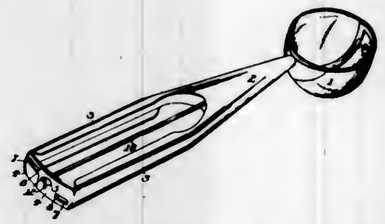
This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

PATENTS

GRANTED JANUARY 15, 1907.

841,097. ICE-CREAM DIPPER. THOMAS M. AIKEN and JAMES E. HARMON, Allegheny, Pa. Filed Oct. 3, 1906. Serial No. 337,182.



Claim.—1. In combination, a bowl, a hollow handle carried thereby and communicating with the interior thereof, said handle terminating in resilient sections, scraping means arranged within the bowl, a shaft engaging the scraping means and passing through the hollow handle and contacting with the resilient sections thereof.

2. In a device of the character described, a bowl, a hollow handle therefor communicating with the interior thereof, said hollow handle terminating in resilient sections having perforations, scraping means within the bowl, and a shaft for the scraping means passing through the hollow handle and plus on the shaft engaging the perforations of the resilient sections.

3. In a device of the character described, a suitable bowl; a hollow handle portion connected to said bowl; parallel spring compression members formed integral with the handle portion, the ends thereof being bent inwardly at right angles with the body portion and adapted to overlap and freely pass each other; scraping means seated in the bowl; a shaft connected with said means and passing through the handle portion the full length thereof, on the outer end being a fork; slotted openings formed in said bent portions adapted to receive the fork formed on the end of the shaft; means for revolving said shaft; and scraping means during the process of compressing or relaxing the spring members, and means for limiting the movement of the spring members; as, and for, the purpose set forth.

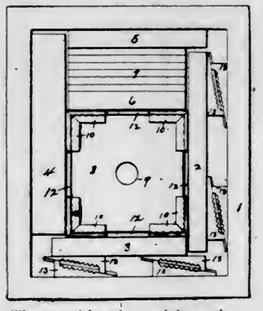
4. In a device of the character described, a bowl, a hollow handle therefor communicating with the interior of the bowl, scraping means within the bowl, a shaft for the scraping means passing through the hollow handle, said hollow handle terminating in resilient sections, inturned overlapping portions on the resilient sections, said inturned portions having perforations, and pins on the shaft extending within the perforations of the inturned portion.

5. In a device of the character described, a bowl, a hollow handle therefor communicating with the interior thereof, scraping means within the bowl, a shaft for the scraping means passing through the hollow handle, said hollow handle terminating in resilient sections, inturned overlapping portions on the resilient sections, said inturned portions having perforations, pins on the shaft extending within the perforations of the inturned portion, and guiding means for the inturned portions.

6. In a device of the character described, a suitable bowl; a handle secured to said bowl; scraping means seated in the bowl; a shaft secured to said scraping means and passing through the handle; spring members formed in said handle the ends thereof being bent inwardly and adapted to lap over and freely pass each other; slots formed in said bent portions adapted to receive the end of the shaft and to rotate said shaft while the spring members are being compressed or relaxed.

7. In combination, a bowl, a hollow handle carried thereby and communicating with the interior thereof, said handle terminating in resilient sections, scraping means within the bowl, a shaft engaging the scraping means and passing through the hollow handle and contacting with the resilient sections thereof, and means whereby the movement of the resilient sections rotates the shaft.

841,098. PRINTER'S FURNITURE. WILLIAM S. AIKMAN and HENRY C. STEVENSON, Chicago, Ill. Filed Mar. 23, 1906. Serial No. 307,737.



Claim.—1. The combination with a chase containing a form and suitable furniture, of a metal plate, and metal shoes arranged between the edge of the plate and the said furniture and each provided with yielding lips frictionally engaging opposite sides of the plate.

2. In printers' furniture, a metal plate having a finger-opening, and metal shoes comprising two pieces of sheet metal, one of said pieces being folded around the other piece and provided with two lips adapted to yieldingly and frictionally engage opposite sides of the plate, the inner piece of metal providing a bearing for the edge of the plate.

3. In printers' furniture, a metal plate, and a shoe comprising two pieces of sheet metal arranged one within the other, the outer piece having two lips formed at a right angle to the inner piece and adapted to receive the plate therebetween, the inner piece forming a bearing for the edge of plate.

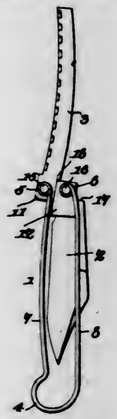
4. In printers' furniture; a shoe comprising two pieces of sheet metal arranged one within the other, the inner piece being flat and of rectangular form, the outer piece having two of its opposite edges folded over two of the opposite edges of the inner piece and bent outwardly to form two parallel yielding lips projecting at a right angle to the inner piece for the purpose set forth.

841,099. FISH SCALER AND CLEANER. ISAAC ANDERSON, Newcastle, Ind., assignor of one-half to William Valyar, Saginaw, Mich. Filed Jan. 29, 1906. Serial No. 298,454.

Claim.—1. An implement embodying a handle and a pair of members pivotally connected therewith and having their bolsters arranged to abut each other and interlock, and means acting on the bolsters to hold the members together in operative and inoperative positions respectively.

2. An implement comprising a handle embodying two

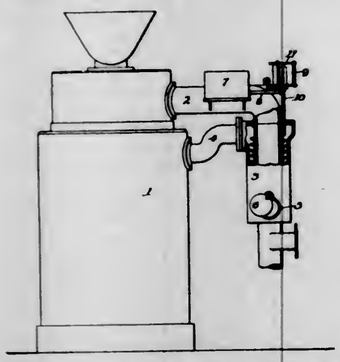
spring portions, and a member pivotally connected with each of the spring portions, the bolsters of the two members being disposed to abut each other.



3. An implement comprising a handle embodying two spring portions provided with terminal eyes, one of the portions having a slot extending substantially throughout its entire length and the other a slot extending only a short distance of its length, a pair of members having their bolsters disposed in the slots, rivets secured in the eyes and operating to hold the members in position, one of the members being adapted to engage the longer slot when closed.

4. An implement of the class described comprising a handle constructed from a single piece of metal bent to the appropriate form to present two handle portions each provided with two terminal spaced eyes, two members having their bolsters mounted in the slots and held in position by rivets passing through the eyes, one of the members being provided with a cutting edge and the other with obliquely-disposed teeth.

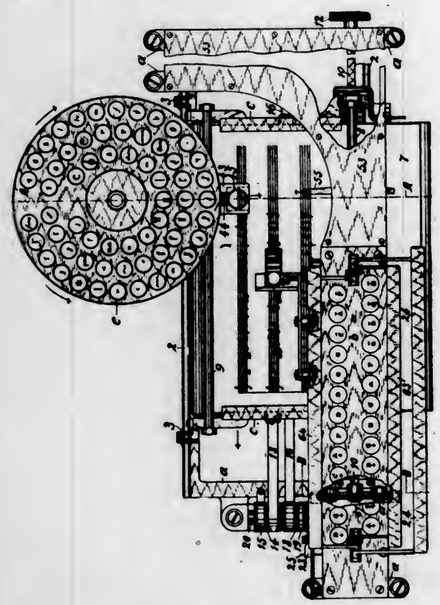
841,100. GAS-PRODUCER. CYRIL J. ATKINSON, Milwaukee, Wis., assignor to International Harvester Company, a Corporation of New Jersey. Filed May 7, 1906. Serial No. 315,698.



Claim.—1. A suction gas-producer comprising, in combination, a retort, a gas-conduit leading therefrom, a vaporizing-chamber adapted to receive heat from said gas-conduit, said chamber having an air-inlet and a conduit communicating with said retort, means for admitting water into said chamber, said means comprising a constant-level water-tank, an air-tight feed-water cup, a pipe connection between said tank and cup, said connection extending upward within said cup and provided with lateral openings therein, the combined areas of the openings being approximately equal to that of said pipe connection whereby said connection has a variable overflow within said cup proportionate with the degree of vacuum formed therein and caused by the flow of air to said producer, and a water-conduit connecting said cup with said vaporizing-chamber.

2. A suction gas-producer comprising, in combination, a retort, a gas-conduit leading therefrom, a vaporizer adapted to receive heat from said gas-conduit, said vaporizer having an air-inlet and a conduit communicating with said retort, means for admitting water into said vaporizer, said means comprising a constant-level water-tank, an air-tight feed-water cup, a pipe connection between said tank and cup, said pipe extending vertically within the cup and having one or more slots therein, the combined areas of the slots being approximately equal to that of said pipe connection, whereby a variable overflow of water is permitted within said cup proportionate with the degree of vacuum formed therein and caused by the flow of air to said producer, and a water-conduit connecting said cup with said vaporizing-chamber.

841,101. MUSIC TYPE-WRITER. LOUIS C. BADEAU and ISAAC F. BADEAU, Mahopac, N. Y. Filed Sept. 19, 1905. Serial No. 279,121.



Claim.—1. In a music type-writer, a base having horizontal, parallel ways, a paper-carriage adapted to move thereon, and means imparting a step-by-step movement thereto, together with a horizontal disk, a frame rotatably supporting it, parallel ways for said frame, a number of keys carried by said disk, and corresponding type for said keys; means for turning said disk and moving its frame over the paper-carriage, and means creating an impression therefrom upon the paper.

2. In a music type-writer, a horizontally-pivoted disk having a number of sockets, spring-held character-keys in said sockets, corresponding type adapted to be actuated thereby, and non-rotatable concentric guideways for said type; together with a frame for said disk, endwise ways therefor, a localizing type-gate having a guide-entrance, and means whereby said disk may be turned and moved endwise to guide a type into said gate, and an impression created adjacent thereto.

841,102. PROCESS OF TREATING ORES. CHARLES E. BAKER and ARTHUR W. BURWELL, Cleveland, Ohio. Filed July 5, 1904. Renewed July 5, 1906. Serial No. 324,792.

Claim.—1. The process which consists in subjecting pulverulent sulfid ores of metals forming fusible chlorids to the action of sulfur chlorid, thereby producing the chlorid of the metal, fusing said chlorid and recovering the metal, substantially as described.

2. The process which consists in subjecting pulverulent sulfid ores of metals forming fusible chlorids to the action of sulfur chlorid, thereby producing the chlorid of the metal, fusing said chlorid and recovering the metal by electrolyzing the fused chlorid, substantially as described.

3. The process which consists in subjecting pulverulent sulfid ores of metals forming fusible chlorids at a temperature above the fusing-point of the chlorid to the action of sulfur chlorid, thereby producing the chlorid of the metal and recovering the metal from the fused chlorid, substantially as described.

4. The process which consists in subjecting pulverulent sulfid ores of metals forming fusible chlorids at a temperature above the fusing-point of the chlorid to the action of sulfur chlorid, thereby producing the chlorid of the metal and recovering the metal by electrolyzing the fused chlorid, substantially as described.

841,103. PROCESS OF TREATING ORES. CHARLES E. BAKER and ARTHUR W. BURWELL, Cleveland, Ohio. Filed Mar. 1, 1905. Renewed July 5, 1906. Serial No. 324,793.

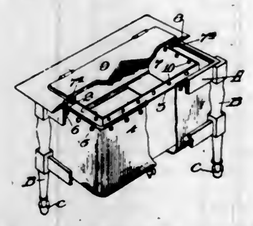
Claim.—1. The process which consists in reacting with dry sulfur chlorid upon dry pulverulent sulfid ore, at a suitable temperature, thereby separating sulfur and producing the chlorid of the metal or metals of the ore, substantially as described.

2. The process which consists in reacting with sulfur chlorid upon a dry pulverulent ore containing copper sulfid, at a suitable temperature, thereby separating sulfur and producing the chlorid of copper, substantially as described.

3. The process which consists in reacting with dry sulfur chlorid upon dry pulverulent sulfid ore at a suitable temperature, thereby separating sulfur and producing the chlorid of the metal or metals of the ore, extracting the metallic chlorid, and electrodepositing the metal, substantially as described.

4. The process which consists in reacting with sulfur chlorid upon a dry pulverulent ore containing copper sulfid, at a suitable temperature, thereby separating sulfur and producing chlorid of copper, extracting the chlorid of copper, and electrodepositing the metal, substantially as described.

841,104. REFRIGERATING DEVICE. GEORGE A. BAKER, Oakland, Cal., assignor to George Gordon, Fruitvale, Cal. Filed Apr. 5, 1906. Serial No. 310,003.



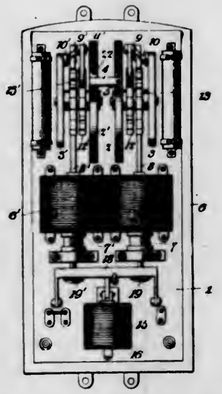
Claim.—1. A refrigerating device comprising a frame, a bag-like receptacle placed interior to said frame and having a rigid rim portion projecting outwardly and adapted to rest upon the upper edges of the frame, said receptacle being readily removable from the frame and adapted to contain water, and a cover-frame seating upon the rim of the receptacle and having a pendent receptacle adapted to enter the water-chamber of the bag-like receptacle.

2. In a refrigerating device, a frame having a rabbet or groove along the inner periphery of the top, a rod bent to fit said groove, a porous, flexible canvas container having the upper edge fixed to the rod whereby it is removably supported within the frame, a rim adapted to fit the top of the frame, an inner receptacle having its upper edge fixed to said rim so as to be submerged within the porous container, or removed therefrom, said canvas container having air-inlets around its upper portion circulating air over and through the apparatus.

3. In a refrigerating device, a frame supported upon legs having a groove or rabbet along the inner periphery at the upper part, a rod or bar bent to fit said rabbet, a porous flexible canvas container having its upper edge fixed to the rod and suspended thereby within the frame, said container having holes made around the upper periphery for the circulation of air over the surface of the contained liquid, an inner metal receptacle, a rim to which the upper edge of the receptacle is fixed, said rim resting upon the outer frame so that the receptacle may be submerged within the water in the outer container, said container having openings through which air may also circulate above the surface of the water.

4. In a refrigerating device, a rectangular frame having legs, and a rabbeted rim at the top, a correspondingly-shaped flexible canvas water-container, a bent bar to which the upper edge of the container is secured, and which bar fits the rabbet of the frame, a cap-piece adapted to rest upon the top of the frame, a receptacle secured to said cap-piece and removable therewith, a cover by which the receptacle may be closed, said container and receptacle having eyelet-holes and perforations made around the periphery above the surface of the water.

841,105. RECORDING SIGNAL-TRANSMITTER. ROLLIN A. BALDWIN, New Haven, Conn., assignor to Baldwin & Rowland Switch & Signal Company, a Corporation of Connecticut. Filed Nov. 10, 1905. Serial No. 286,651.



Claim.—1. In a signal-transmitter, a pair of coaxial contact-wheels, a contact strip or brush extending from the periphery of one of said wheels and bearing upon an insulated section upon the periphery of the other, a pair of ratchet-wheels secured to rotate with each of said contact-wheels, and having their teeth pointed in opposite directions, and feeding and locking pawls respectively cooperating with said ratchet-wheels.

2. In a signal-transmitter, a pair of contact-wheels arranged to transmit a signal by their relative movement, ratchet-wheels for moving said contact-wheels, rocking levers in proximity to said ratchet-wheels, and feeding and locking pawls on said rocking levers for engaging said ratchet-wheels.

3. In a signal-transmitter, a pair of coxial contact-wheels having means by which their relative movement is

effective to transmit a signal, ratchet-wheels secured to said contact-wheels, feeding and locking pawls coöperating with said ratchet-wheels, and a pair of solenoid-magnets operatively connected to said feeding and locking pawls.

4. In a signal-transmitter, a pair of coaxial contact-wheels arranged to transmit a signal by their relative movement, a pair of solenoid-magnets operatively connected to step around either desired wheel, and a locking-magnet arranged to mechanically prevent such actuation when desired.

5. In a signal-transmitter, a pair of coaxial contact-wheels, a contact strip or brush secured to the periphery of one of said wheels and bearing upon that of the other, and a stop upon the periphery of said latter wheel disposed to prevent rearward movement of the strip-carrying wheel under normal conditions.

6. In a signal-transmitter, a pair of coaxial contact-wheels, a contact strip or brush secured to the periphery of one of said wheels and bearing upon an insulated section upon the other, ratchet-wheels and feeding-pawls for positively moving said contact-wheels in the same direction, and additional ratchet-wheels and locking-pawls for normally holding the contact-wheels against movement.

7. In a signal-transmitter, a pair of coaxial contact-wheels having ratchet-toothed wheels secured thereto, a pair of magnets for feeding said ratchet-toothed wheels in the same direction, a locking-magnet and mechanical connections from said magnet for preventing movement of the contact-wheels when said locking-magnet is energized.

8. In a signal-transmitter, a pair of contact-wheels arranged to transmit a signal by their relative movement, pawl-and-ratchet mechanism for positively stepping around said wheels, a pair of operating-magnets, links or connections from said operating-magnets to said pawl-and-ratchet mechanism, a locking-bar hinged to move into the path of said links or connections, and a magnet for moving said bar.

9. In a signal-transmitter, a pair of coaxial contact-wheels arranged to transmit a signal by their relative movement, pawl-and-ratchet mechanism for positively feeding said wheels, operating-magnets, connections from said operating-magnets to said pawl-and-ratchet mechanism, a locking-bar arranged to prevent movement of said parts, and a magnet for moving said bar.

10. In a signal-transmitter, a pair of contact-wheels, means for stepping either of said wheels rotarily, a locking-bar hinged to prevent the actuation of said means, and a solenoid-magnet arranged to move said locking-bar.

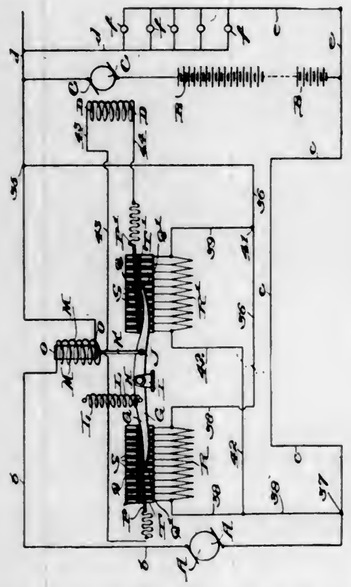
11. In a signal-transmitter, a contact-wheel, a ratchet-wheel secured thereto, a second ratchet-wheel also secured thereto and having its teeth pointed in the opposite direction, a rocking lever adjacent to said ratchet-wheels and having a feeding and locking pawl coöperating respectively therewith, and a magnet for rocking said lever.

12. In a signal-transmitter, a contact-wheel, a pair of ratchet-wheels secured thereto and having their teeth oppositely directed, a rocking lever having feeding and locking pawls coöperating with the respective ratchet-wheels, a link connection abutting against a portion of said rocking lever and a solenoid-magnet for lifting said link connection when energized.

13. In a signal-transmitter, a pair of contact-wheels arranged to transmit a signal by their relative movement, a pair of solenoid-magnets having link connections for moving said wheels, studs upon the lower ends of said link connections, a hinged locking-bar arranged to move into the path of said studs and having a projecting arm, a solenoid-magnet, and a core or armature for said magnet depending from said arm.

841,106. ELECTRIC REGULATOR. JOSEPH BIJUR, New York, N. Y., assignor to The General Storage Battery Company, a Corporation of New York. Filed Feb. 9, 1905. Serial No. 244,898.

Claim.—1. The combination of a plurality of series of contact-segments, a resistance connected thereto, a centrally-pivoted contact-arm extending at an angle across the edges of the segments, and electroresponsive means for moving said arm about the pivot in the plane of the edges of the segments to contact with the edges of the segments successively.



2. The combination of a plurality of series of contact-segments, a resistance connected thereto, a centrally-pivoted contact-arm arranged opposite the edges of the segments and at an angle to the direction of extent of the segments, whereby the arm when moved about the pivot in the plane of the edges of the segments is adapted to contact with the edges of the segments successively, and electroresponsive means for actuating said arm.

3. The combination of a plurality of series of contact-segments, a resistance connected thereto, a centrally-pivoted contact-arm arranged at an angle across the edges of the segments and adapted to make contact therewith, and electroresponsive means for moving said arm transversely to its length about the pivot in the plane of the edges of the segments, whereby different points on the arm contact successively with the edges of the segments.

4. The combination of a series of contact-segments, a resistance connected thereto, a pivoted contact-arm arranged opposite the edges of the segments and at an angle to the direction of extent of the segments, whereby the arm when moved on its pivot in the plane of the edges of the segments is adapted to contact with the edges of the segments successively, and electroresponsive means for actuating said arm about its pivot.

5. The combination of a series of contact-segments, a resistance connected thereto, a pivoted contact-arm extending at an angle across the edges of the segments, and electroresponsive means for moving said arm about its pivot in the plane of the edges of the segments to contact with the segments successively.

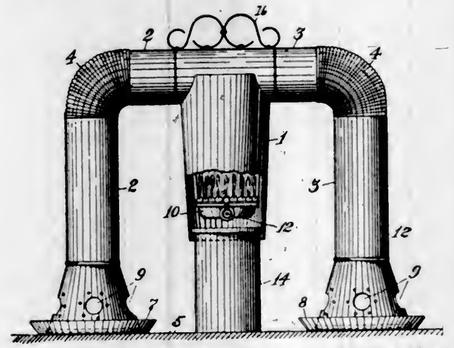
6. The combination of a series of contact-segments, a resistance connected thereto, a pivoted contact-arm arranged at an angle across the edges of the segments and adapted to make contact therewith, and electroresponsive means for moving said arm about its pivot in the plane of the edges of the segments, whereby different points on the arm contact successively with the edges of the segments.

7. In a regulator, the combination of a plurality of series of contact-segments, contact-blades extending at an angle across the edges of said segments, and bodily movable respectively in the planes of the edges of the segments, a pivoted arm connecting said blades, and means for actuating said arm.

8. In a regulator, the combination of a series of contact-segments, a contact-blade extending at an angle to the direction of extent of the edges or ends of the segments and adapted to be moved bodily in a plane including the edges of the segments, whereby different points on the blade contact successively with the edges of the segments, and means for actuating said arm.

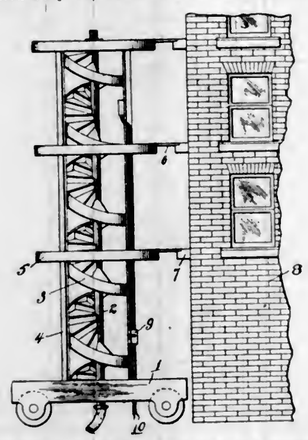
9. In a regulator, the combination of a plurality of series of contact-segments, contact-blades extending at an angle across the edges of said segments, and bodily movable respectively in the planes of the edges of the segments, a pivoted arm connecting said blades, and electroresponsive means for actuating said arm.

841,107. HEATING APPARATUS. JOHN H. BLAKEWAY, San Francisco, Cal. Filed Jan. 22, 1906. Serial No. 297,216.



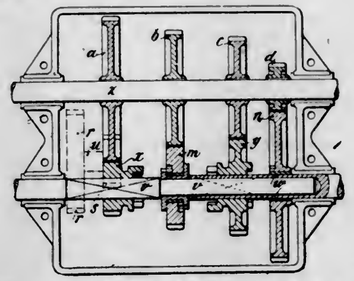
Claim.—In heating apparatus, a vertically-disposed heating-chamber, heat-generating means within said chamber, means for supplying fresh external air to said chamber at its bottom, downwardly-curved flues extending from the top of said chamber to the floor, and open-top pans in which said flues rest, for receiving condensed moisture therefrom, said flues having lateral apertures near the bottom for the escape of heated air, substantially as specified.

841,108. FIRE APPARATUS. DANIEL BOYCE, Camden, Pa. Filed July 10, 1906. Serial No. 325,498.



Claim.—A fire apparatus embodying a truck, a vertically-disposed stand-pipe carried by said truck, spiral stairs surrounding said pipe, standards supporting said stairs, platforms carried by said standards, and hinged plates carried by said platforms, substantially as described.

841,109. CHANGE-SPEED GEARING. SWINFEN BRAMLEY-MOORE, Bloomsbury, England. Filed Mar. 30, 1906. Serial No. 308,896.



Claim.—1. A change-speed gear comprising a driving and a driven shaft arranged in the same axial line, a counter-shaft parallel with the said driving and driven shafts, a spur-wheel mounted freely at the junction of the driving and driven shafts, a spur-wheel fixed on the counter-shaft with which the aforesaid spur-wheel is in constant mesh, a sliding spur-wheel on the driving-shaft, a spur-wheel on the counter-shaft with which the sliding spur-wheel on the driving-shaft can engage, one or more spur-wheels on the driven shaft, one or more spur-wheels on the counter-shaft with which the spur-wheels on the said driven shaft engage and means for locking the spur-wheel mounted at the junction of the driving and driven shafts to either of the said shafts, or to both, as set forth.

2. A change-speed gear comprising a driving and a driven shaft arranged in the same axial line, a counter-shaft parallel with the said driving and driven shafts, a sleeve freely mounted at the junction of the driving and driven shafts, a spur-wheel freely mounted on said sleeve, a spur-wheel fixed on the counter-shaft with which the aforesaid spur-wheel is in constant mesh, a sliding spur-wheel on the driving-shaft, a spur-wheel on the counter-shaft with which the sliding spur-wheel on the driving-shaft engages, one or more spur-wheels on the driven shaft, one or more spur-wheels on the counter-shaft with which the spur-wheel on said driving-shaft engage, and means for locking the spur-wheel mounted at the junction of the driving and driven shafts to either of the said shafts, or to both, as set forth.

3. A change-speed gear comprising a driving and a driven shaft arranged in the same axial line and having their adjacent ends abutting or interengaging a spur-wheel mounted freely at the junction of the said shafts, means for positively connecting said spur-wheel to either or both of the said shafts, a counter-shaft parallel with the driving and driven shafts, three or more spur-wheels fixed on the counter-shaft one of which is constantly in mesh with the spur-wheel mounted at the junction of the driving and driven shafts, a spur-wheel mounted on the driving-shaft, means for causing the spur-wheel on the driving-shaft to either impart motion to one of the spur-wheels on the counter-shaft or to run idle with respect thereto, one or more spur-wheels on the driven shaft, and means for bringing said wheel or wheels into engagement with the spur wheel or wheels on the counter-shaft whereby the motion of said shaft is transmitted to the driven shaft, as set forth.

4. A change-speed gear comprising a driving and a driven shaft arranged in the same axial line and having their adjacent ends abutting or interengaging, a sleeve mounted freely at the junction of the said shafts a spur-wheel mounted freely on said sleeve, means for positively connecting said spur-wheel and sleeve to either or both of the said shafts, a counter-shaft parallel with the driving and driven shafts, three or more spur-wheels fixed on the counter-shaft one of which is constantly in mesh with the spur-wheel mounted at the junction of the driving and driven shafts, a sliding spur-wheel on the driving-shaft, means for causing said sliding spur-wheel to either impart motion to one of the spur-wheels on the counter-shaft, and to run idle with respect thereto, one or more spur-wheels movable

effective to transmit a signal, ratchet-wheels secured to said contact-wheels, feeding and locking pawls coöperating with said ratchet-wheels, and a pair of solenoid-magnets operatively connected to said feeding and locking pawls.

4. In a signal-transmitter, a pair of coaxial contact-wheels arranged to transmit a signal by their relative movement, a pair of solenoid-magnets operatively connected to step around either desired wheel, and a locking-magnet arranged to mechanically prevent such actuation when desired.

5. In a signal-transmitter, a pair of coaxial contact-wheels, a contact strip or brush secured to the periphery of one of said wheels and bearing upon that of the other, and a stop upon the periphery of said latter wheel disposed to prevent rearward movement of the strip-carrying wheel under normal conditions.

6. In a signal-transmitter, a pair of coaxial contact-wheels, a contact strip or brush secured to the periphery of one of said wheels and bearing upon an insulated section upon the other, ratchet-wheels and feeding-pawls for positively moving said contact-wheels in the same direction, and additional ratchet-wheels and locking-pawls for normally holding the contact-wheels against movement.

7. In a signal-transmitter, a pair of coaxial contact-wheels having ratchet-toothed wheels secured thereto, a pair of magnets for feeding said ratchet-toothed wheels in the same direction, a locking-magnet and mechanical connections from said magnet for preventing movement of the contact-wheels when said locking-magnet is energized.

8. In a signal-transmitter, a pair of contact-wheels arranged to transmit a signal by their relative movement, pawl-and-ratchet mechanism for positively stepping around said wheels, a pair of operating-magnets, links or connections from said operating-magnets to said pawl-and-ratchet mechanism, a locking-bar hinged to move into the path of said links or connections, and a magnet for moving said bar.

9. In a signal-transmitter, a pair of coaxial contact-wheels arranged to transmit a signal by their relative movement, pawl-and-ratchet mechanism for positively feeding said wheels, operating-magnets, connections from said operating-magnets to said pawl-and-ratchet mechanism, a locking-bar arranged to prevent movement of said parts, and a magnet for moving said bar.

10. In a signal-transmitter, a pair of contact-wheels, means for stepping either of said wheels rotarily, a locking-bar hinged to prevent the actuation of said means, and a solenoid-magnet arranged to move said locking-bar.

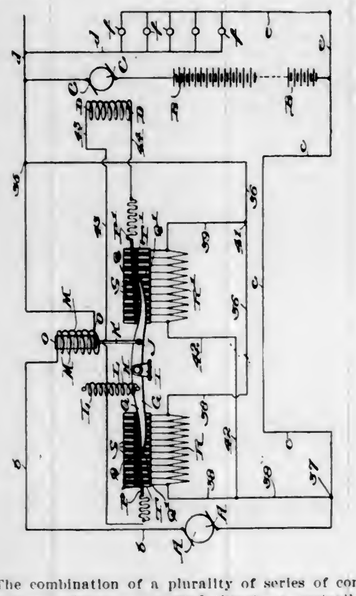
11. In a signal-transmitter, a contact-wheel, a ratchet-wheel secured thereto, a second ratchet-wheel also secured thereto and having its teeth pointed in the opposite direction, a rocking lever adjacent to said ratchet-wheels and having a feeding and locking pawl coöperating respectively therewith, and a magnet for rocking said lever.

12. In a signal-transmitter, a contact-wheel, a pair of ratchet-wheels secured thereto and having their teeth oppositely directed, a rocking lever having feeding and locking pawls coöperating with the respective ratchet-wheels, a link connection abutting against a portion of said rocking lever and a solenoid-magnet for lifting said link connection when energized.

13. In a signal-transmitter, a pair of contact-wheels arranged to transmit a signal by their relative movement, a pair of solenoid-magnets having link connections for moving said wheels, studs upon the lower ends of said link connections, a hinged locking-bar arranged to move into the path of said studs and having a projecting arm, a solenoid-magnet, and a core or armature for said magnet depending from said arm.

841,106. ELECTRIC REGULATOR. JOSEPH BIJUR, New York, N. Y., assignor to The General Storage Battery Company, a Corporation of New York. Filed Feb. 9, 1905. Serial No. 244,898.

Claim.—1. The combination of a plurality of series of contact-segments, a resistance connected thereto, a centrally-pivoted contact-arm extending at an angle across the edges of the segments, and electroresponsive means for moving said arm about the pivot in the plane of the edges of the segments to contact with the edges of the segments successively.



2. The combination of a plurality of series of contact-segments, a resistance connected thereto, a centrally-pivoted contact-arm arranged opposite the edges of the segments and at an angle to the direction of extent of the segments, whereby the arm when moved about the pivot in the plane of the edges of the segments is adapted to contact with the edges of the segments successively, and electroresponsive means for actuating said arm.

3. The combination of a plurality of series of contact-segments, a resistance connected thereto, a centrally-pivoted contact-arm arranged at an angle across the edges of the segments and adapted to make contact therewith, and electroresponsive means for moving said arm transversely to its length about the pivot in the plane of the edges of the segments, whereby different points on the arm contact successively with the edges of the segments.

4. The combination of a series of contact-segments, a resistance connected thereto, a pivoted contact-arm arranged opposite the edges of the segments and at an angle to the direction of extent of the segments, whereby the arm when moved on its pivot in the plane of the edges of the segments is adapted to contact with the edges of the segments successively, and electroresponsive means for actuating said arm about its pivot.

5. The combination of a series of contact-segments, a resistance connected thereto, a pivoted contact-arm extending at an angle across the edges of the segments, and electroresponsive means for moving said arm about its pivot in the plane of the edges of the segments to contact with the segments successively.

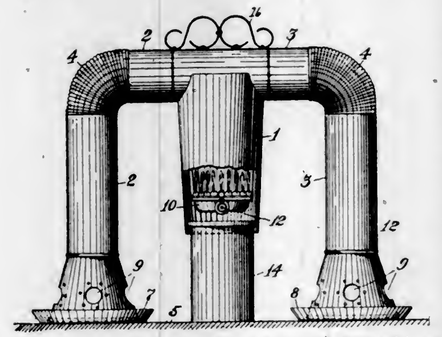
6. The combination of a series of contact-segments, a resistance connected thereto, a pivoted contact-arm arranged at an angle across the edges of the segments and adapted to make contact therewith, and electroresponsive means for moving said arm about its pivot in the plane of the edges of the segments, whereby different points on the arm contact successively with the edges of the segments.

7. In a regulator, the combination of a plurality of series of contact-segments, contact-blades extending at an angle across the edges of said segments, and bodily movable respectively in the planes of the edges of the segments, a pivoted arm connecting said blades, and means for actuating said arm.

8. In a regulator, the combination of a series of contact-segments, a contact-blade extending at an angle to the direction of extent of the edges or ends of the segments and adapted to be moved bodily in a plane including the edges of the segments, whereby different points on the blade contact successively with the edges of the segments, and means for actuating said arm.

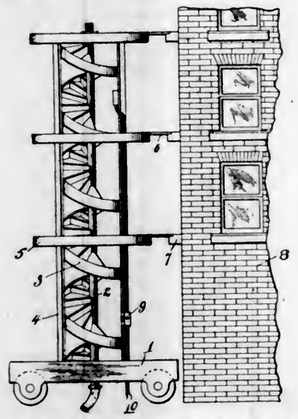
9. In a regulator, the combination of a plurality of series of contact-segments, contact-blades extending at an angle across the edges of said segments, and bodily movable respectively in the planes of the edges of the segments, a pivoted arm connecting said blades, and electroresponsive means for actuating said arm.

841,107. HEATING APPARATUS. JOHN H. BLAKEWAY, San Francisco, Cal. Filed Jan. 22, 1906. Serial No. 297,216.



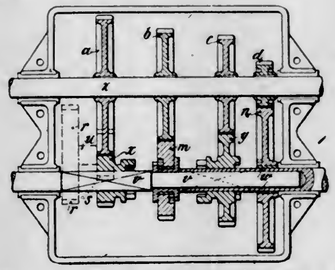
Claim.—In heating apparatus, a vertically-disposed heating-chamber, heat-generating means within said chamber, means for supplying fresh external air to said chamber at its bottom, downwardly-curved flues extending from the top of said chamber to the floor, and open-top pans in which said flues rest, for receiving condensed moisture therefrom, said flues having lateral apertures near the bottom for the escape of heated air, substantially as specified.

841,108. FIRE APPARATUS. DANIEL BOYCE, Camden, Pa. Filed July 10, 1906. Serial No. 325,498.



Claim.—A fire apparatus embodying a truck, a vertically-disposed stand-pipe carried by said truck, spiral stairs surrounding said pipe, standards supporting said stairs, platforms carried by said standards, and hinged plates carried by said platforms, substantially as described.

841,109. CHANGE-SPEED GEARING. SWINFEN BRAMLEY-MOORE, Bloomsbury, England. Filed Mar. 30, 1906. Serial No. 308,896.



Claim.—1. A change-speed gear comprising a driving and a driven shaft arranged in the same axial line, a counter-shaft parallel with the said driving and driven shafts, a spur-wheel mounted freely at the junction of the driving and driven shafts, a spur-wheel fixed on the counter-shaft with which the aforesaid spur-wheel is in constant mesh, a sliding spur-wheel on the driving-shaft, a spur-wheel on the counter-shaft with which the sliding spur-wheel on the driving-shaft can engage, one or more spur-wheels on the driven shaft, one or more spur-wheels on the counter-shaft with which the spur-wheels on the said driven shaft engage and means for locking the spur-wheel mounted at the junction of the driving and driven shafts to either of the said shafts, or to both, as set forth.

2. A change-speed gear comprising a driving and a driven shaft arranged in the same axial line, a counter-shaft parallel with the said driving and driven shafts, a sleeve freely mounted at the junction of the driving and driven shafts, a spur-wheel freely mounted on said sleeve, a spur-wheel fixed on the counter-shaft with which the aforesaid spur-wheel is in constant mesh, a sliding spur-wheel on the driving-shaft, a spur-wheel on the counter-shaft with which the sliding spur-wheel on the driving-shaft engages, one or more spur-wheels on the driven shaft, one or more spur-wheels on the counter-shaft with which the spur-wheel on said driving-shaft engage, and means for locking the spur-wheel mounted at the junction of the driving and driven shafts to either of the said shafts, or to both, as set forth.

3. A change-speed gear comprising a driving and a driven shaft arranged in the same axial line and having their adjacent ends abutting or interengaging a spur-wheel mounted freely at the junction of the said shafts, means for positively connecting said spur-wheel to either or both of the said shafts, a counter-shaft parallel with the driving and driven shafts, three or more spur-wheels fixed on the counter-shaft one of which is constantly in mesh with the spur-wheel mounted at the junction of the driving and driven shafts, a spur-wheel mounted on the driving-shaft, means for causing the spur-wheel on the driving-shaft to either impart motion to one of the spur-wheels on the counter-shaft or to run idle with respect thereto, one or more spur-wheels on the driven shaft, and means for bringing said wheel or wheels into engagement with the spur wheel or wheels on the counter-shaft whereby the motion of said shaft is transmitted to the driven shaft, as set forth.

4. A change-speed gear comprising a driving and a driven shaft arranged in the same axial line and having their adjacent ends abutting or interengaging, a sleeve mounted freely at the junction of the said shafts a spur-wheel mounted freely on said sleeve, means for positively connecting said spur-wheel and sleeve to either or both of the said shafts, a counter-shaft parallel with the driving and driven shafts, three or more spur-wheels fixed on the counter-shaft one of which is constantly in mesh with the spur-wheel mounted at the junction of the driving and driven shafts, a sliding spur-wheel on the driving-shaft, means for causing said sliding spur-wheel to either impart motion to one of the spur-wheels on the counter-shaft or to run idle with respect thereto, one or more spur-wheels

on the driven shaft, and means for bringing said wheel or wheels into engagement with the spur wheel or wheels on the counter-shaft whereby the motion of said shaft is transmitted to the driven shaft, as set forth.

5. The combination with a change-speed gear consisting of a driving and driven shaft in axial alinement, a counter-shaft parallel to said driving and driven shafts, a driving spur-wheel on the driving-shaft, a spur-wheel on the counter-shaft with which the driving spur-wheel on the driving-shaft engages and one or more trains of wheels connecting the counter-shaft with the driven shaft, of a second driving spur-wheel freely mounted at the junction of the driving and driven shafts, a spur-wheel on the counter-shaft with which said second driving-wheel permanently gears, means for locking said wheel to either of said shafts or to both whereby said wheel operates to give a second velocity ratio between the driving-shaft and the counter-shaft and enables a direct drive from the driving to the driven shafts to be obtained.

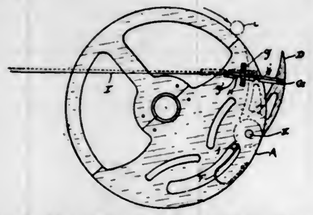
6. In a change-speed gear, the combination with a driving and driven shaft arranged in axial alinement, of a counter-shaft mounted parallel with the driving and driven shafts, three spur-wheels fixed on said counter-shaft, one free spur-wheel mounted at the junction of the driving and driven shafts and permanently in mesh with one of the wheels on the counter-shaft, and two sliding spur-wheels mounted respectively on the driving and driven shafts so as to rotate with said shafts and capable of meshing with two spur-wheels on the counter-shaft the said wheels having teeth or serrations on their bosses whereby they can be interlocked with the freely-mounted spur-wheels, as set forth.

7. In a change-speed gear, the combination with a driving and driven shaft arranged in axial alinement, of a counter-shaft mounted parallel with the driving and driven shafts, three spur-wheels fixed on said counter-shaft, one free spur-wheel mounted at the junction of the driving and driven shafts and permanently in mesh with one of the three spur-wheels on the counter-shaft, two sliding spur-wheels mounted respectively on the driving and driven shafts so as to rotate with said shafts and capable of meshing with the other two spur-wheels on the counter-shaft the said wheels having teeth or serrations on their bosses whereby they can be interlocked with the freely-mounted spur-wheels, a second counter-shaft, and two spur-pinions carried thereby one of which is in permanent mesh with the wheel on the first counter-shaft with which the sliding wheel on the driving-shaft engages and the other of which gears with the sliding wheel on the driving-shaft, as set forth.

8. In a change-speed gear, the combination with a driving and driven shaft arranged in axial alinement, of a counter-shaft mounted parallel with the driving and driven shafts, four spur-wheels fixed on said counter-shaft, a free spur-wheel mounted at the junction of the driving and driven shafts and permanently in mesh with one of the wheels on the counter-shaft, a free spur-wheel on the driven shaft permanently in mesh with one of the wheels on the counter-shaft, and two sliding spur-wheels mounted respectively on the driving and driven shafts so as to rotate with said shafts and capable of meshing with two spur-wheels on the counter-shaft the said wheels having teeth or serrations on their bosses whereby they can be interlocked with the freely-mounted wheels, as set forth.

9. In a change-speed gear, the combination with a driving and driven shaft arranged in axial alinement, of a counter-shaft mounted parallel with the driving and driven shafts, four spur-wheels fixed on said counter-shaft, a free spur-wheel mounted at the junction of the driving and driven shafts and permanently in mesh with one of the three spur-wheels on the counter-shaft, a free spur-wheel on the driven shaft permanently in mesh with one of the wheels on the counter-shaft, two sliding spur-wheels mounted respectively on the driving and driven shafts so as to rotate with said shafts and capable of meshing with the other two spur-wheels on the counter-shaft, the said wheels having teeth or serrations on their bosses whereby they can be interlocked with the freely-mounted wheels a second counter-shaft, and two spur-pinions carried thereby one of which is in permanent mesh with the wheel on the main counter-shaft with which the sliding wheel on the driving-shaft engages and the other of which gears with the sliding wheel on the driving-shaft, as set forth.

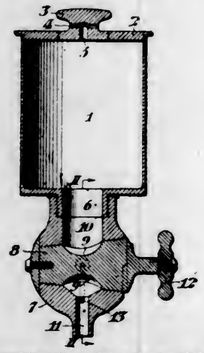
841,110. CAM FOR HARVESTER-REELS. JAMES T. BRETT, Milwaukee, Wis. Filed Feb. 19, 1906. Serial No. 301,746.



Claim.—1. In a device of the described class, the combination of a member having a substantially circular outer rim and provided with a cam-groove cutting the rim at two points; a switch pivoted to the member and adapted to close one end of the cam-groove; said switch being provided with a rounded outer surface adapted, when the switch is closed, to form a continuation of the rim, across one end of the cam-groove, a notched latch-bar connected with the switch and extending through a suitable guide on the member; a catch on the member adapted to engage in the latch-bar notches; a spring adapted to normally press the switch outwardly to open position, and a flexible connection adapted to close the switch from a distant point of operation.

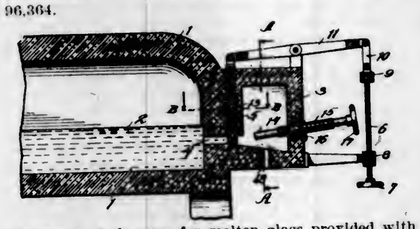
2. In a device of the described class, the combination of a member having a substantially circular outer rim, and provided with a cam-groove, cutting the rim at two points; a switch, pivoted to the member and adapted to close one end of the cam-groove; said switch having an outer surface adapted to form a continuation of the rim when the switch is closed; a projection on the switch extending beyond the switch-pivot and within the rim, a compression-spring interposed between the rim and said projection and adapted to normally hold the switch in adjusted position; and a flexible connection for operating said switch from a distant point.

841,111. DEVICE FOR CONTAINING AND DISPENSING LIQUIDS. JOHN H. BROMLEY, Philadelphia, Pa. Filed Apr. 23, 1906. Serial No. 313,103.



Claim.—The combination of a substantially closed receptacle, provided with a relatively small air-opening at its upper portion and having an outlet at its lower portion; a subjacent valve-casing having a passage which communicates with said outlet; a rotatable stop-cock arranged in said valve-casing and having a pocket which is substantially coextensive at its periphery with the internal diameter of said passage; means for rotating said stop-cock; and a discharge-nozzle having an orifice located at the bottom of the valve-casing and within the range of rotation of the pocket of the stop-cock, said discharge-nozzle being provided with an air-passage leading downward from an external point above the nozzle.

841,112. GLASS-FURNACE. HENRY M. BROOKFIELD, New York, N. Y. Filed Mar. 3, 1902. Serial No. 96,364.



Claim.—1. A furnace for molten glass provided with a heating-chamber at one side of the furnace, a channel through the wall of the furnace connecting the interior of the furnace with the chamber for the flow of molten glass from the former to the latter, a valve adapted to regulate the flow of the glass through such channel, and a stopper adapted to enter the outer end of the said channel to close the same when the valve-gate is open or removed.

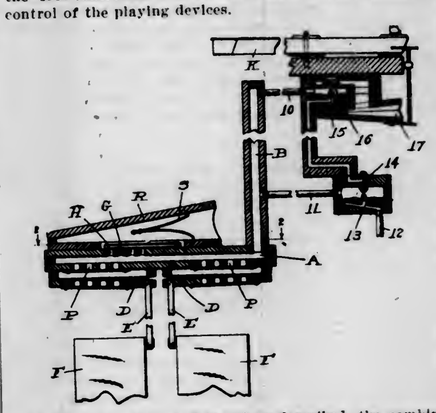
2. A furnace for molten glass provided with a heating-chamber at one side of the furnace, a channel through the wall of the furnace connecting the interior of the furnace with the chamber for the flow of molten glass from the former to the latter, a valve adapted to regulate the flow of the glass through such channel, a stopper adapted to enter the outer end of the said channel to close the same when the valve-gate is open or removed, and screw-threaded means connected with said stopper for moving the same to cause it to close or open the said channel.

3. A furnace for molten glass provided with an opening for the discharge of molten glass therefrom, means for regulating the size of such opening so as to regulate the flow of the molten glass in accordance with the fluidity of the glass or temperature of the opening so as to permit the flow of glass in such a relatively small stream as to be adapted to make glass insulators or other similar small glass articles, and means for heating the opening and the surface over which the glass must pass in its flow from the furnace to the point of discharge sufficiently to prevent the glass from congealing and clogging.

4. A furnace for molten glass provided with a heating-chamber at one side of the furnace, a channel through the wall of the furnace connecting the interior of the furnace with the chamber for the flow of molten glass from the former to the latter, a valve for regulating the size of such channel so as to regulate the flow of the molten glass in accordance with the fluidity of the glass or the temperature of the channel so as to permit the flow of molten glass in such a relatively small stream as to be adapted to make glass insulators or other similar small glass articles, a discharge-orifice leading from said chamber for the discharge of molten glass therefrom, and means for heating said chamber to keep heated the said channel and the surface over which the glass must pass in its flow to prevent the glass from congealing and clogging.

841,113. MODULATING ATTACHMENT FOR MUSICAL INSTRUMENTS. THEODORE P. BROWN, Worcester, Mass., assignor to Simplex Piano Player Company, Worcester, Mass., a Corporation of Massachusetts. Filed Oct. 10, 1902. Serial No. 126,654.

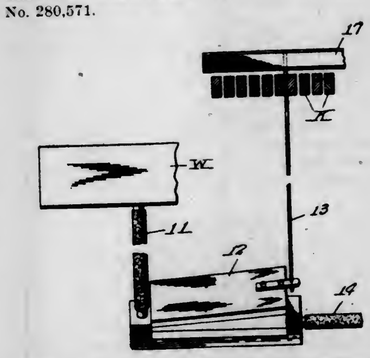
Claim.—1. In an apparatus of the class described, the combination of an air passage or chamber of fixed capacity, a regulating-bellows, pneumatic playing devices, and foot-controlled bellows, all independently connected to the air-chamber, and means for shutting off all connection between the air-chamber and the regulating-bellows so that the foot-controlled bellows will have direct, unmodified control of the playing devices.



2. In an apparatus of the class described, the combination of a wind-chest, foot-controlled bellows, a single regulating-bellows, and pneumatic playing devices, all independently connected with the wind-chest, and means for regulating and entirely shutting off the connection between the wind-chest and the regulating-bellows, so that the action of the foot-controlled bellows may be modulated to produce differently-accented effects.

3. In an automatic playing attachment for musical instruments, the combination of a main or striking pneumatic, a valve-controlling pneumatic, a primary pneumatic, a wind-chest of constant capacity, and a stack connected to operate the pneumatics, a pair of foot-controlled bellows for exhausting air from the wind-chest, a spring-pressed regulating-bellows independently connected with the wind-chest, and means for shutting off the connection between the wind-chest and regulating-bellows, so that the foot-controlled bellows will have direct, unmodified control of the playing devices.

841,114. KEY-LOCKING MECHANISM FOR AUTOMATIC MUSICAL INSTRUMENTS. THEODORE P. BROWN, Worcester Mass. Filed Sept. 29, 1905. Serial No. 280,571.



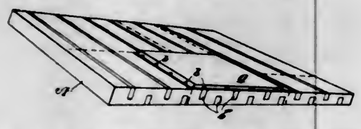
Claim.—1. In an automatic musical instrument, the combination with the keys, of a lock-bar for engaging the keys, a pneumatic having its moving member substantially in vertical alinement with the lock-bar, and a vertical rod directly connected with the bar and with the movable member of the pneumatic.

2. In an automatic musical instrument, the combination with the keys, of a lock-bar above the keys for engaging them, a pneumatic having the free end of its movable

member located directly below said bar, and a vertical rod directly connected with the bar and with the free end of the movable member of the pneumatic.

3. In an automatic musical instrument, the combination with the keys, of a lock-bar for engaging the keys, a rod rigidly connected with the lock-bar, the bar and rod being movable in a direction parallel to the length of the rod, and a pneumatic, the free end of the movable end of which is connected with the end of said rod for operating it.

841,115. BACKING-LUMBER FOR HALF-TONES. WILLIAM BROWN and ALBERT WEBER, San Francisco, Cal. Filed Apr. 17, 1906. Serial No. 312,272.



Claim.—1. A backing-lumber for half-tones comprising a board having transverse mortises on its two sides, tenons set into said mortises flush with the surfaces of the board, said mortises and tenons arranged to permit the board to be cut into smaller sections having the same characteristics as the original board.

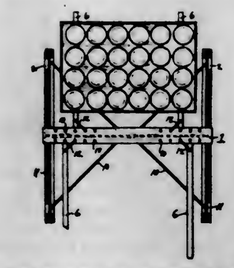
2. A non-warping backing-lumber for half-tones, comprising a board having transverse mortises on its two sides, tenons set into said mortises flush with the surfaces of the board, screws set permanently into one side of said board flush with the surface thereof, said screws, mortises and tenons arranged to permit the board to be cut into sections having the same characteristics as the board itself.

3. A backing-lumber for half-tones comprising a board having transverse mortises on its two sides, and tenons set into said mortises flush with the board, said board having metal inserts at suitable intervals forming anchorages for the half-tones.

4. A non-warping backing-lumber for half-tones comprising a board having transverse mortises on its two sides, and tenons set into said mortises flush with the board, said mortises on one side of the board arranged alternately with those on the opposite side of the board.

5. A non-warping backing-lumber for half-tones comprising a board having transverse mortises on its two sides, tenons set into said mortises flush with the board, said mortises on one side of the board arranged alternately with those on the opposite side of the board, said mortises and tenons having a depth greater than half the thickness of the board, and said mortises and tenoned board having shallow and narrow grooves on the side which is to support the half-tone.

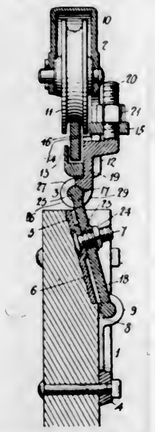
841,116. PAN-SUPPORTING RACK. EMIL F. BUERGERMEISTER and EDWARD E. FLICEK, Milwaukee, Wis.; said Flicek assignor to said Buergermeister. Filed Nov. 16, 1905. Serial No. 287,582.



Claim.—1. In a pan-supporting rack of the described class the combination of a vertical frame, a plurality of horizontally-arranged brackets connected at their respective ends to the sides of said vertical frame, said brackets being respectively provided with a plurality of apertures, a plurality of vertical standards having pivotal bearings removably secured at their respective ends in the apertures of said horizontal brackets and a plurality of pan-supporting arms rigidly fixed at one end to said standards respectively, all the arms of the respective standards being adapted to be simultaneously turned at right angles to the standard-supporting frame and means for locking said pan-supporting arms in their extended position at right angles to the supporting-frame, all substantially as and for the purpose specified.

2. In a supporting-rack for baking-pans the combination of a vertical frame comprising sides and top formed integrally from a single piece of metal; a plurality of transverse brackets connecting the respective sides of said frame between the top and its lower end; a plurality of sets of pan-supporting arms pivotally connected with and between said transverse brackets and with and between the upper transverse bracket and the upper end of said frame; means for locking said sets of pan-supporting arms at right angles to said vertical frame; frame-supporting legs pivotally connected with the lower ends of said vertical frame and adapted to be turned upon their connecting-bolts toward each other within said frame; legs and leg-connecting bolts; means for locking and retaining said legs in the proper position for supporting said vertical frame and brace-rods communicating between said frame-supporting legs and the central portion of said frame, all substantially as and for the purpose specified.

841,117. DOOR-HANGER. JOHN H. BURKHOLDER, Ashland, Ohio. Filed Aug. 27, 1906. Serial No. 332,179.



Claim.—1. In a door-hanger of the character described, a member for attachment to a door, a track member, and a sectional hanger member having a hinged connection between its sections, means for adjusting one of said sections vertically upon one of said members, and means for adjusting the other of said sections laterally upon the other of said members.

2. In a door-hanger of the character described, a member for attachment to a door, a track member, and a sectional hanger member having a hinged connection between its sections, one of said sections being mounted for vertical sliding movement upon the track member and the other of said sections being mounted for laterally-swinging movement upon said door member.

3. In a door-hanger of the character described, a member for attachment to a door, a track member, and a sectional hanger member having a hinged connection between its sections, means for adjusting one of said sections vertically upon said track member, and means for adjusting the other of said sections laterally upon said door member.

4. In a door-hanger of the character described, a door member, a track member, a hanger member having upper and lower hingedly-connected sections, means for connecting the upper section to said track member for vertical movement thereon, a pivotal connection between the lower end of said lower section and said door member, and means for adjusting the lower section laterally in said door member.

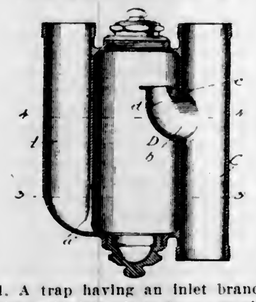
5. In a door-hanger of the character described, a door member or plate having a laterally-inclined, vertical channel, oppositely-disposed bearing-sockets and an upwardly-inclined screw-stud in the bottom of said channel, a track member having a depending slotted and recessed portion and a laterally-projecting, apertured ear, a hanger member comprising hingedly-connected upper and lower sections, the lower section being adapted to enter the channel in the door member and having an opening to receive said screw-stud, oppositely-projecting trunnions to enter the bearing-sockets in said door member, the upper section being adapted to slide in the recessed portion of the track member and having an upwardly-projecting screw-stud to enter the aperture in the ear on said track member, and an adjustable nut upon said screw-stud, substantially as described and for the purposes set forth.

6. In a door-hanger of the character described, a track member having a wheel-housing at its top and a depending portion formed with a vertically-extending guide-recess in one of its faces, and a vertical slot in its opposite face, said recess and slotted opening at the bottom of said depending portion, an upwardly-extending integral guard-lip upon one side of said depending portion, and an apertured laterally-extending ear upon the other side of said depending portion at the upper end of said slot, substantially as described and for the purposes set forth.

7. In a door-hanger of the character described, a door member comprising a plate having apertured ears, a laterally-inclined offset upon its bottom, said offset forming a vertically-extending channel, a screw-stud projecting upwardly and outwardly from the bottom of said channel, and enlargements upon said plate at the lower end of said channel and formed with oppositely-disposed bearing-sockets, substantially as shown and for the purposes set forth.

8. In a door-hanger of the character described, the combination with the door and track members, of a connecting hanger member having upper and lower sections, one of said sections having a transversely-extending, cylindrical pintle member upon its reduced end and the other of said members having upon its adjacent end a cylindrical socket member formed with a central longitudinally-extending recess at its rear, recesses upon its front face at its opposite ends, and a centrally-disposed recess in its bottom and front face, substantially as shown and for the purposes set forth.

841,118. PLUMBER'S TRAP. CHARLES T. BYRNE, Chicago, Ill. Filed Jan. 29, 1906. Serial No. 298,491.



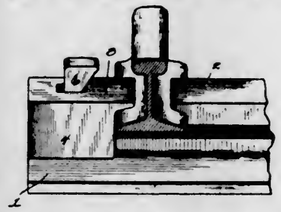
Claim.—1. A trap having an inlet branch, a chamber through which said inlet branch communicates, a pipe-section communicating with said chamber through an opening and extending both above and below said opening, and a dam or partition located in the chamber opposite the opening, and extending from a level above said opening to a level below it, substantially as described.

2. A trap having an inlet branch, a chamber with the lower portion of which said inlet branch communicates through an opening or passage disposed tangentially with respect to the chamber, a pipe-section communicating with said chamber through an opening below the top thereof, said pipe-section extending both above and below said opening, and a dam or partition located in the chamber opposite the opening and extending from a level above said opening downward to a level below it, substantially as described.

3. A trap having an inlet branch, a chamber with the lower portion of which said inlet branch communicates, a pipe-section communicating with the chamber through an opening below the top thereof, said pipe-section extending both above and below said opening and being open at both ends, and a dam or partition located in the chamber opposite the opening and extending from a level above said opening to a level below it, substantially as described.

4. A trap having a vertical inlet branch, a vertical chamber with the lower portion of which said inlet branch communicates, through an opening, a vertical pipe-section communicating with said chamber through an opening below the top thereof and above the opening first aforesaid, said pipe-section extending both above and below the opening and being open at both ends, and a dam or partition located in the chamber opposite the opening and extending from a level above said opening downward to a level below it, substantially as described.

841,119. METALLIC RAILROAD-TIE. FRANCIS M. CAIN, Wesner, Okla. Filed Apr. 11, 1906. Serial No. 311,126.



Claim.—1. A metallic railway-tie, having an inner integral jaw, an adjustable jaw coöperating therewith, and a bolt having a wedge-shaped portion engaging said adjustable jaw.

2. A metallic railway-tie, having an integral jaw, an adjustable jaw coöperating therewith, said adjustable jaw having depending side portions, inwardly-projecting tongues formed integral with said side portions and engaging grooves in said tie, and a bolt having a wedge-shaped portion to prevent lateral movement of said adjustable jaw.

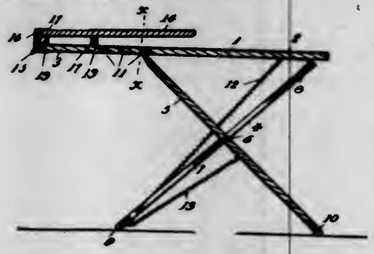
3. A metallic tie having an integral jaw and an adjustable jaw, a pair of longitudinal grooves formed in the end portion of said tie, said adjustable jaw being substantially U-shaped and having tongues engaging said grooves, and a bolt having a wedge-shaped portion for preventing lateral movement of said jaw.

841,120. IRONING-TABLE. CHARLES F. CARLSON, La Grande, Oreg. Filed Jan. 11, 1906. Serial No. 295,648.

Claim.—1. The combination of a table-top, a leg hinged to one end thereof, a second leg pivotally connected at an intermediate point to the first-mentioned leg, one end of the second-mentioned leg having an interlocking connection with the opposite end of the table to that having the first-mentioned leg hinged thereto, and means for drawing the first-mentioned leg toward the table-top in order to hold the second-mentioned leg in a close engagement therewith.

2. The combination of a table-top, a rack at one end thereof, a leg hinged to the opposite end thereof, a second leg pivotally connected at an intermediate point to the first-mentioned leg, one end of the second-mentioned leg

engaging with the before-mentioned rack when the table is in use, and means for drawing the first-mentioned leg toward the table-top in order to hold the second-mentioned leg in a close engagement with the rack.



3. The combination of a table-top, a rack at one end thereof, a leg hinged to the top at the opposite end thereof, a second leg pivoted to the first-mentioned leg at an intermediate point, one end of the second-mentioned leg being adapted to engage with the rack when the device is in use, and a spring member connecting the top and the first-mentioned leg and acting to draw the two members together.

4. The combination of a table-top, a rack at one end thereof, a leg hinged to the opposite end thereof, a second leg pivotally connected at an intermediate point to the first-mentioned leg, one end of which is adapted to engage with the rack when the table is in use, and means for throwing said end of the second-mentioned leg automatically into engagement with the rack when the first-mentioned leg is swung away from the table-top.

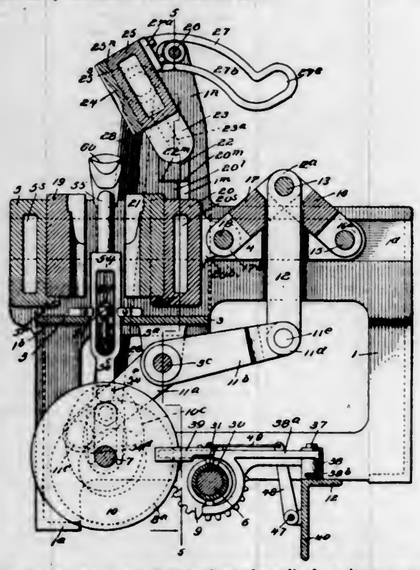
5. The combination of a table-top, a rack at one end thereof, a leg hinged to the opposite end thereof, a second leg pivotally connected at an intermediate point to the first-mentioned leg, one end of which is adapted to engage with the rack when the table is in use, and a spring connecting the two legs and secured thereto at opposite sides of the point where they are pivoted, said spring tending to throw the upper end of the second-mentioned leg automatically into an engagement with the rack when the first-mentioned leg is swung away from the table-top.

6. The combination of a table-top, a rack at one end thereof, a leg hinged to the opposite end thereof, means for pulling the table-top and leg together, a second leg pivotally connected to the first-mentioned leg at an intermediate point, the upper end of the second-mentioned leg being adapted to engage with the rack when the table is in use, and means for throwing said end of the second-mentioned leg automatically into engagement with the rack when the first-mentioned leg is swung away from the table-top.

7. The combination of a table-top, a rack at one end thereof, a leg hinged to the opposite end thereof, a spring connecting the table-top and said leg and tending to draw the said members together, a second leg pivotally connected to the first-mentioned leg at an intermediate point, the upper end of the second-mentioned leg being adapted to engage with the rack when the table is in use, and a spring connecting the two legs and secured thereto on opposite sides of the point where they are pivotally connected, said spring acting to throw the second-mentioned leg automatically into engagement with the rack when the first-mentioned leg is swung away from the table-top.

841,121. MACHINE FOR PREPARING RUBBER SHOES. JOHN F. CAVANAGH, Providence, R. I., assignor to The United States Rubber Co. of New Jersey, Providence, R. I., (Incorporated.) Filed Mar. 19, 1906. Serial No. 306,795.

Claim.—1. In a machine of the class described, a last member adapted to receive the material, a pair of "upper-molds," and a "sole-mold" for coöperating with said last, means for opening and closing said molds over said last, means for admitting steam into the last when the molds are closed, means for stopping the machine during a predetermined interval while the molds are closed, and means for stopping the machine when the molds are opened, substantially as shown and described.



2. In a machine of the class described, a last member adapted to receive the material, a pair of "upper-molds," and a "sole-mold" for coöperating with said last, means for opening and closing said molds over said last, means for admitting steam into the last when the molds are closed, means for stopping the machine during a predetermined interval while the molds are closed, means for stopping the machine when the molds are opened, and means for raising the last out of the molds when opened, substantially as shown and described.

3. In a machine of the class described, a last member adapted to receive the material, a pair of "upper-molds," and a "sole-mold" for coöperating with said last, means for opening and closing said molds over said last, means for admitting steam into the last when the molds are closed, means for stopping the machine during a predetermined interval while the molds are closed, means for stopping the machine when the molds are opened, said last comprising a pair of separable members and steam-controlled means for separating said separable members when the molds are closed to squeeze the material on the last into shape, substantially as shown and described.

4. In a machine of the class described, the combination with a last, a pair of "upper-molds," and a "sole-mold," means for moving said "upper-molds" simultaneously toward or from the central plane of the last to close or open the same around the last, means for moving the "sole-mold" toward or from the last as the "upper-molds" move correspondingly, said "sole-mold" being pivotally mounted, a part of its motion being in a plane at right angles to the horizontal, while lying in a horizontal position, and the remainder of its motion being on an arc of a circle having as its center the pivot-axis of the "sole-mold," and means for stopping the machine at intervals, substantially as shown and described.

5. In a machine of the class described, the combination with a last, a pair of "upper-molds," and a "sole-mold," means for moving said "upper-molds" simultaneously toward or from the central plane of the last to close or open the same around the last, means for moving the "sole-mold" toward or from the last as the "upper-molds" move correspondingly, said "sole-mold" being pivotally mounted, a part of its motion being in a plane at right angles to the horizontal while lying in a horizontal position and the remainder of its motion being on an arc of a circle having as its center the pivot-axis of the "sole-mold," means for stopping the machine at intervals, and means for restarting the machine at intervals, substantially as shown and described.

6. In a machine of the class described, the combination with a last, a pair of "upper-molds," and a "sole-mold," means for moving said "upper-molds" simultaneously toward or from the central plane of the last to close or open the same around the last, means for moving the "sole-mold" toward or from last as the "upper-molds" move correspondingly, said "sole-mold" being pivotally mounted, a part of its motion being in a plane at right angles to the horizontal while lying in a horizontal position and the remainder of its motion being on an arc of a circle having as its center the pivot-axis of the "sole-mold," means for stopping the machine at intervals, means for restarting the machine at intervals, and means for disconnecting said restarting means at predetermined times, substantially as shown and described.

7. In a machine of the class described, the combination with a supporting-frame, of a pair of bars longitudinally slidable in grooves in the supporting-frame, an "upper-mold" secured to said bars, a second "upper-mold" having grooves to permit passage of said bars and supported thereon, toggle-link connections between said bars and said second mold, guide-bars moving in grooves in said frame at right angles to said first-mentioned frame-grooves, and coöperatively connected with said toggle-links, means for operating said toggle-links at predetermined intervals to open and close said molds, a pair of sliding blocks mounted in bearings in said frame, a "sole-mold" pivotally mounted in said sliding blocks, means for opening and closing said "sole-mold," part of the movement of said "sole-mold" being in a plane at right angles to the horizontal, while lying in a horizontal plane, and the remainder of its movement being on an arc having as its center the pivot-axis of the "sole-mold," a last member, means for supporting said last member in alinement with said molds, means for moving said last member out of alinement with said molds when the molds are open, and means for stopping and starting the machine at predetermined intervals, substantially as shown and described.

8. In a machine of the class described, the combination with a supporting-frame, of a pair of bars longitudinally slidable in grooves in the supporting-frame, an "upper-mold" secured to said bars, a second "upper-mold" having grooves to permit passage of said bars and supported thereon, toggle-link connections between said bars and said second mold, guide-bars moving in grooves in said frame at right angles to said first-mentioned frame-grooves, and coöperatively connected with said toggle-links, means for operating said toggle-links at predetermined intervals to open and close the said molds, a pair of sliding blocks mounted in bearings in said frame, a "sole-mold" mounted in said sliding blocks, means for opening and closing said "sole-mold," part of the movement of said "sole-mold" being in a plane at right angles to the horizontal while lying in a horizontal plane, and the remainder of its movement being on an arc of a circle having as its center the pivot-axis of the "sole-mold," a last member, means for supporting said last member in alinement with said molds, means for moving said last member out of alinement with said molds when the molds are open, means for stopping and starting the machine at predetermined intervals, and timing means for said starting and stopping means substantially as shown and described.

9. In a machine of the class described, the combination with a plurality of molds, and means for opening and closing said molds, of a last, a last-support carrier, connections of the "breech-block" type between the last and last-support carrier whereby the last can be removed from the carrier, means for admitting steam into said last, and means for connecting and disconnecting the steam-supply from the last and moving the last out of alinement with the molds when open, substantially as shown and described.

10. In a machine of the class described, the combination with a plurality of molds, and means for opening and closing said molds, of a last, a last-support carrier, connections of the "breech-block" type between the last and last-support carrier whereby the last can be removed from the carrier, means for admitting steam into said last, means for connecting and disconnecting the steam-supply from the last and moving the last out of alinement with the molds when open, said last comprising a pair of separable members, steam-controlled means for separating said members when the molds are closed around the last, substantially as shown and described.

11. In a machine of the class described, the combination with a pair of oppositely-disposed "upper-molds" and a "sole-mold" at right angles thereto, and means for automatically opening and closing said molds at intervals, of a last, means for normally supporting said last in alinement with said "upper-molds," means for moving the said last out of alinement with said "upper-molds" when the molds are opened, said last comprising a pair of separable members, means for admitting steam into said last to separate the members when the molds are closed and to heat the last, means for admitting steam into the molds, means for maintaining the molds closed during predetermined intervals of time, and means for stopping the machine when the molds are opened, substantially as shown and described.

12. In a machine of the class described, the combination with a pair of oppositely-disposed "upper-molds" and a "sole-mold" at right angles thereto, and means for automatically opening and closing said molds at intervals, of a last, means for normally supporting said last in alinement with said "upper-molds," means for moving said last out of alinement with said "upper-molds" when the molds are opened, said last comprising a pair of separable members, means for admitting steam into said last to separate the members when the molds are closed and to heat the last, means for admitting steam into the molds, means for maintaining the molds closed during predetermined intervals of time, means for stopping the machine when the molds are opened, and manually-operating means for restarting the machine after the same has been stopped when the molds are opened, substantially as shown and described.

13. In a machine of the class described, the combination with a last and a plurality of molds for coöperating therewith, of means for opening and closing said molds and means for raising and lowering said last as the molds are opened and closed, means for stopping said mold opening and closing means and said last raising and lowering means during a predetermined interval when the molds are closed and the last lowered, substantially as shown and described.

14. In a machine of the class described, the combination with a last and a plurality of molds for coöperating therewith, of means for opening and closing said molds and means for raising and lowering said last as the molds are opened and closed, means for stopping said mold opening and closing means and said last raising and lowering means during a predetermined interval when the molds are closed and the last lowered, and means for positively stopping said opening and closing means and said last raising and lowering means when the molds are opened and the last raised, substantially as shown and described.

15. In a machine of the class described, the combination with a last and a plurality of molds coöperating therewith, of means for opening and closing said molds around said last, said means including a rotatable shaft and connections between said rotatable shaft and said molds, a drive-shaft, gear connections between said drive-shaft and said first-mentioned shaft, means for disconnecting said first-mentioned shaft from said drive-shaft at times, and timing means for releasing said disconnecting means at predetermined intervals, substantially as shown and described.

16. In a machine of the class described, the combination with a last and a plurality of molds coöperating therewith, of means for opening and closing said molds around said last, said means including a rotatable shaft and connections between said rotatable shaft and said molds, a drive-shaft, gear connections between said drive-shaft and said first-mentioned shaft, means for disconnecting said first-mentioned shaft from said drive-shaft at times, timing means for releasing said disconnecting means at prede-

termined intervals, and means for disconnecting said timing means at predetermined times, substantially as shown and described.

17. In a machine of the class described, the combination with a two-part separable last and a plurality of molds for coöperating therewith, of means for admitting steam into said last to separate the sections thereof when the molds are closed, substantially as shown and described.

18. In a machine of the class described, the combination with a two-part separable last and a plurality of molds for coöperating therewith, of means for admitting steam into said last to separate the sections thereof when the molds are closed, means for opening and closing said molds, and means for raising said last out of alinement with said molds when open, substantially as shown and described.

19. In a machine of the class described, the combination with a two-part separable last and a plurality of molds for coöperating therewith, of means for admitting steam into said last to separate the sections thereof when the molds are closed, means for opening and closing said molds, means for raising said last out of alinement with said molds when open, means for stopping said mold opening and closing means and said last-raising means when the molds are closed, and means for opening up the steam-admission to the last when the molds are closed and closing off the steam-admission to the last when the molds are open, substantially as shown and described.

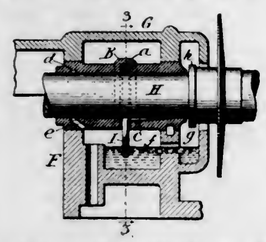
20. In a machine of the class described, the combination with a two-part separable last and a plurality of molds for coöperating therewith, of means for admitting steam into said last to separate the sections thereof when the molds are closed, means for opening and closing said molds, means for raising said last out of alinement with said molds when open, means for stopping said mold opening and closing means and said last-raising means when the molds are closed, means for opening up the steam-admission to the last when the molds are closed and closing off the steam-admission to the last when the molds are opened, and means for automatically restarting the mold opening and closing and the last-raising means at predetermined intervals, and means for disconnecting said starting means when the molds are opened, substantially as shown and described.

21. In a machine of the class described, the combination with a last-support, and a last detachably supported thereon, a plurality of "upper-mold" carriers having molds for coöperating with said last, and a "sole-mold" carrier having a mold for coöperating with said last, of means for opening and closing said "upper-molds" and means for opening and closing said "sole-mold," said "sole-mold" being pivotally mounted and part of the movement thereof in opening and closing being on an arc of a circle having as its center the pivot-axis of the "sole-mold" carrier and the remainder of its movement being at right angles to the movement of the "upper-mold" carriers while lying in a plane parallel to the plane of movement of the "upper-mold" carriers, substantially as shown and described.

22. In a machine of the class described, the combination with a last-support, and a last detachably supported thereon, a plurality of "upper-mold" carriers having molds for coöperating with said last, and a "sole-mold" having a mold for coöperating with said last, of means for opening and closing said "upper-molds," and means for opening and closing said "sole-mold," said "sole-mold" being pivotally mounted, and part of the movement thereof in opening and closing being on an arc of a circle having as its center the pivot-axis of the "sole-mold" carrier, and the remainder of its movement being at right angles to the movement of the "upper-mold" carriers while lying in a plane parallel to the plane of movement of the "upper-mold" carriers, and means for stopping said mold opening and closing means at the limit of each movement thereof, and means for restarting the mold opening and closing means at predetermined intervals after the molds have been closed, substantially as shown and described.

23. In a machine of the class described, the combination with a last-support and a last detachably supported thereon, a plurality of "upper-mold" carriers having molds for coöperating with said last, and a "sole-mold" carrier having a mold for coöperating with said last, of means for opening and closing said "upper-molds," and means for opening and closing said "sole-mold," said "sole-mold" being pivotally mounted, a part of the movement thereof in opening and closing being on an arc of a circle having as its center the pivot-axis of the "sole-mold" carrier and the remainder of its movement being at right angles to the movement of the "upper-mold" carriers while lying in a plane parallel to the plane of movement of the "upper-mold" carriers, means for stopping said mold opening and closing means at the limit of each movement thereof, means for restarting the mold opening and closing means at predetermined intervals after the molds have been closed, and means for disconnecting said restarting means when the molds are opened, substantially as shown and described.

841,122. LUBRICATING-BEARING. NIELS A. CHRISTENSEN, Milwaukee, Wis. Original application filed May 16, 1900. Serial No. 16,878. Divided and this application filed Sept. 26, 1905. Serial No. 280,135.



Claim.—1. In a lubricating-bearing the combination of a housing formed in the lower part with an oil-well and provided with a removable cap, a longitudinally-undivided one-part journal-box supported in said housing above said oil-well and formed with a transverse recess which is closed at the top and sides and opens into the bore of the box above the journal and downwardly at the ends into said well, and a ring passing loosely through said recess over the journal in said box and suspended therefrom in said well, substantially as described.

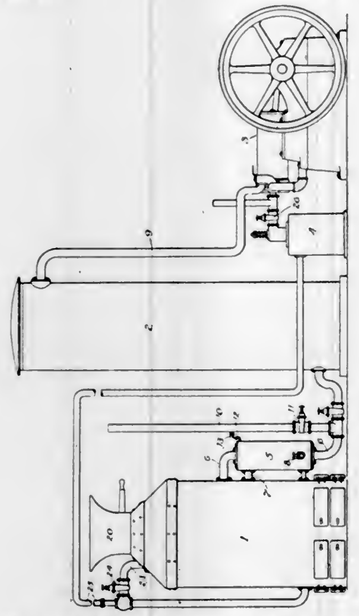
2. In a lubricating-bearing the combination of a housing formed with an oil-well, a longitudinally-undivided one-part journal-box supported at the ends in said housing above said oil-well and formed inside with a transverse recess which is closed at the top and sides and opens below through the box into said well, and a ring passing loosely through said recess over the journal in said box and suspended therefrom in said oil-well, substantially as and for the purposes set forth.

3. In a lubricating-bearing the combination of a housing formed in the under side with an oil-well, a longitudinally-undivided one-part journal-box fitted and supported at the ends in said housing and formed inside about midway between its ends with a transverse recess which is closed at the top and sides by a shield and opens on the under side into said well, said shield connecting the two otherwise transversely-severed parts of the box, one part of said box being formed in the under side with a longitudinal groove leading into said transverse recess, and a ring passing loosely through said recess over the journal in said box and hanging therefrom below the bottom of the box and into said oil-well, substantially as and for the purposes set forth.

4. In a lubricating-bearing the combination with a housing formed with an oil-well and provided with a removable cap, of a longitudinally-undivided one-part journal-box removably supported in said housing above said oil-well and formed with a transverse recess opening into the bore of the box and at its ends into said oil-well, a shield closing the top of said recess and terminating below the junction between the oil-well and its cap, the inner face of the bottom portion of said box being formed with a longitudinally-extending groove opening into the oil-well, and a ring passing loosely through said recess over the journal in said box and suspended therefrom in said oil-well, substantially as described.

5. In a lubricating-bearing the combination with a housing formed with an oil-well and provided with a removable cap, of a longitudinally-undivided one-part journal-box removably supported in said housing above said oil-well and formed with a transverse recess opening into the bore of the box and at its ends into said oil-well, a shield closing the top of said recess and terminating below the junction between the oil-well and its cap, said box being formed with a circumferential groove in its inner face near one end and opening into the oil-well, and a ring passing loosely through said recess over the journal in said box and suspended therefrom in said oil-well, substantially as described.

841,123. GAS-PRODUCER. HENRY K. COWEN, Chicago, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed May 7, 1906. Serial No. 315,651.

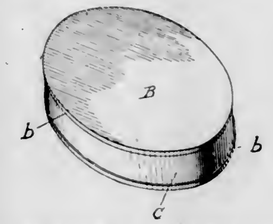


Claim.—1. A gas-producer comprising, in combination, a retort, said retort comprising a fire-pot, an air-chamber communicating with said fire-pot, a fuel-magazine adapted to deliver fuel to said fire-pot, a chamber above said magazine, a pipe connecting said upper chamber and said air-chamber, an explosive-engine connected with said gas-producer, said engine having an exhaust-port and a pipe connection between said exhaust-port and said pipe connecting the upper chamber of the retort with said air-chamber, whereby a downward flow of gas is induced through said pipe connection from said upper chamber.

2. A gas-producer comprising, in combination, a retort, said retort comprising a fire-pot, an air-chamber communicating with said fire-pot, a fuel-magazine adapted to deliver fuel to said fire-pot, a chamber above said magazine, a pipe connecting said upper chamber and said air-chamber, an explosive-engine connected with said gas-producer, said engine having an exhaust-port, a pipe connection between said exhaust-port and said pipe connecting the upper chamber of the retort with said air-chamber, whereby a downward flow of gas is induced through said pipe from said upper chamber, and means for controlling said flow of gas.

3. A gas-producer comprising, in combination, a retort, said retort comprising a fire-pot, an air-chamber communicating with said fire-pot, a fuel-magazine adapted to deliver fuel to said fire-pot, a chamber above said magazine, a pipe connecting said upper chamber and said air-chamber, an explosive-engine connected with said gas-producer, said engine having an exhaust-port, a pressure-tank, a pipe connection between said pressure-tank and said exhaust-port and between said pressure-tank, and said pipe connecting the upper chamber of the retort with said air-chamber, whereby a downward flow of gas is induced through said pipe from said upper chamber.

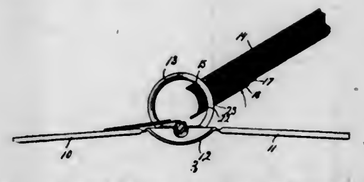
841,124. INCLOSED PAPER-WEIGHT. CURTIS L. CRUVER, Chicago, Ill. Filed June 27, 1906. Serial No. 323,570.



Claim.—1. An article of manufacture consisting of a paper-weight which comprises an inclosed body and an inclosing shell of the same, the shell comprising front and back plates and a peripheral band joined endless, said front and back plates each consisting exteriorly of glossy non-metallic sheet material of a nature to be shaped by pressure when moderately heated, and to be joined by adhesion at its laps, such as pyroxylin and gelatin sheet, and having marginal lips which encompass the edges of the peripheral band and are united thereto at their lap or contact therewith.

2. A new article of manufacture consisting of a flat paper-weight comprising an inclosed body and an inclosing shell for the same, the shell comprising front and back plates and a peripheral band joined endless, the front and back plates consisting of a marginally-flanged metal shell; an outer cover of glossy non-metallic sheet material of a nature to be shaped by pressure when moderately heated, and to be joined at its laps by adhesion, such as pyroxylin and gelatin sheet, such outer cover having a flange folded outside and inside of the flange of the metal shell, the endless peripheral band being of like material with said outer cover, having its edges encompassed by the infolding flanges of the front and back plate coverings and united thereto at the lap or contact of said flanges with the peripheral band.

841,125. LOOSE-LEAF BINDER. JAMES C. DAWSON, St. Louis, Mo., assignor to Sieber & Trussell Mnfg. Co., a Corporation of Missouri. Filed July 16, 1906. Serial No. 326,382.



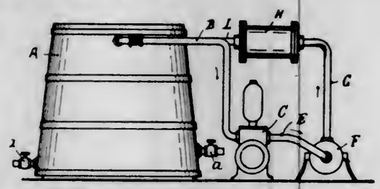
Claim.—1. A stiff follower for loose-leaf books having an arch-receiving aperture whose axis is oblique to the surface of the follower.

2. In a follower for loose-leaf books, in combination, a plurality of plates secured together, and each having an oblong arch-receiving aperture the major diameter of which is radial to the arch, the apertures of adjacent plates being longitudinally offset.

3. In a follower for loose-leaf books, in combination, a pair of stiff plates secured together, each plate having oblong arch-receiving apertures having their major diameters radial as to the arch, coöperating apertures of the two plates being longitudinally offset.

4. In a follower for loose-leaf books, in combination, a pair of plates secured together, each plate having arch-receiving apertures, coöperating apertures of the two plates being offset radially as to the arches.

841,126. PROCESS OF COOLING WORT. HENRY E. DECKEBACH, Cincinnati, Ohio. Filed Sept. 24, 1906. Serial No. 335,873.



Claim.—1. The process of cooling wort consisting in withdrawing it from the top of the fermenting-tub, passing it through a cooler, and then returning it to the top of the tub.

2. The process of cooling wort consisting in withdrawing it from the top of the fermenting-tub, passing it through a cooler, and returning it to the top of the tub at the opposite side from that from which it was withdrawn.

3. The process of cooling wort which consists in withdrawing it from the top of the fermenting-tub, passing it through a cooler, and a strainer, and returning it again to to the top of the tub.

841,127. STOCKING-SUPPORTING CLASP. GEORGE DEVOLL, Boston, Mass. Filed Mar. 26, 1906. Serial No. 308,035.



Claim.—1. A stocking-supporting clasp comprising a plate, a headed stud or button mounted thereon and flexible tapes or ribbons secured to said plate and adapted to secure the stocking to the headed stud or button, substantially as described.

2. A stocking-supporting clasp comprising a plate, a headed stud or button mounted thereon and flexible tapes or ribbons detachably secured to said plate and adapted to secure the stocking to the headed stud or button, substantially as described.

841,128. SEED-CORN RACK AND GERMINATOR. CHARLES A. DEWEY, Rockwell City, Iowa. Filed Sept. 7, 1906. Serial No. 333,617.

Claim.—1. A rack or frame composed of horizontal bars and vertical bars crossing the horizontal bars and rigidly connected thereto, some of the vertical bars extending beyond the horizontal bars and provided with hooks on their ends, hooks mounted on and depending from opposite sides of said horizontal bars and arranged in vertical rows, and containers mounted on and depending from the latter hooks.



2. A rack or frame, hooks thereon adapted to support ear-corn, and containers mounted contiguous to said hooks.

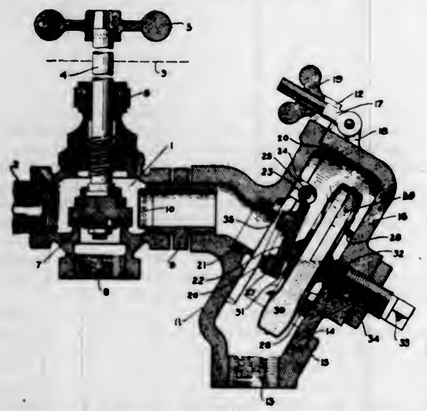
3. A rack or frame, means for mounting seed-corn thereon, and germinators mounted on said frame adjacent the corn thereon.

4. A rack or frame, hooks thereon, and containers mounted on said hooks.

5. A rack or frame, hooks on both sides of said rack or frame, and containers on said hooks.

6. A rack or frame composed of horizontal bars and vertical bars crossing the horizontal bars and rigidly connected thereto, some of the vertical bars extending beyond the horizontal bars and provided with hooks on their ends, hooks mounted on and depending from opposite sides of said horizontal bars and arranged in vertical rows, and containers mounted on and depending from the latter hooks.

841,129. STEAM-TRAP. ROBERT M. DIXON, East Orange, N. J., assignor to The Safety Car Heating & Lighting Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 20, 1905. Serial No. 246,469.



Claim.—1. A steam-trap comprising a valve having its operative portion adapted when open to lie in a plane inclined with respect to the floor of the structure upon which the valve is mounted, and a thermostatic device in operative relation to said valve and adapted to control the operation thereof.

2. In a steam-trap, in combination, a valve, and an inclined thermostat for operating the same a portion of which is directly below said valve.

3. In apparatus of the class described, in combination, a structure, piping upon said structure, and a steam-trap connected with said piping, said steam-trap comprising a valve and a thermostat mounted in a position inclined with respect to the floor of said structure.

4. In a steam-trap, in combination, piping, a casing, a thermostat adjacent said casing, and a valve adapted to swing about a point above the same controlling communication between said piping and said casing and adapted to be controlled by said thermostat.

5. In apparatus of the class described, in combination, a structure, piping mounted upon said structure, a steam-trap connected with said piping, said steam-trap comprising a valve adapted to swing about a point above the same, and a thermostatic device adapted for operating said valve.

6. In a steam-trap, in combination, a valve, and a thermostat for operating and controlling the same a portion of which is below said valve and a portion of which is at one side thereof, the operative portion of said valve being in an inclined position.

7. In a steam-trap, in combination, a valve and a thermostat for controlling said valve and located in the path of drainage of said valve, the operative portion of said valve being in an inclined position.

8. In apparatus of the class described, in combination, a structure, piping mounted upon said structure, and a steam-trap connected with said piping, said steam-trap comprising a thermostat and a valve operatively connected therewith, and said thermostat and valve being inclined with respect to the floor of the structure.

9. In apparatus of the class described, in combination, a steam-trap comprising a valve and a thermostat mounted in the path of discharge of said valve, said thermostat and the operative portion of said valve being in positions inclined with respect to the floor of the structure upon which the trap is mounted.

10. A steam-trap comprising, in combination, a pivotally-mounted valve having its operative portions in a plane inclined with respect to the structure upon which the trap is mounted, and a thermostatic device by means of which said valve is opened and closed.

11. A steam-trap comprising a pivotally-mounted valve, an inclined valve-seat adapted to coact therewith, said valve capable of being opened by gravity, and a device controlled by the temperature of the fluid passing through said trap adapted to operate said valve.

12. In a steam-trap, in combination, a valve adapted to swing about a point above the same, a valve-seat having its operative portions inclined and adapted to coact with said valve, and thermostatic means for controlling said valve.

13. In apparatus of the class described, in combination, a structure, piping mounted upon said structure, and a steam-trap connected with said piping, said steam-trap comprising a valve adapted to swing about a point above the same, a valve-seat adapted to coact with said valve and having its operative portions inclined with respect to the floor of the said structure, and thermostatic means free from said valve but adapted to engage the same and control the operation thereof.

14. In a steam-trap, in combination, a swinging valve, an inclined valve-seat adapted to coact therewith, a thermostat, and means adapted simultaneously to adjust the position of said thermostat and the play of said valve.

15. In a steam-trap, in combination, two relatively detachable members, a swinging valve mounted upon one of said members, a valve-seat upon said member having its operative portions inclined and adapted to coact with said valve, a thermostat mounted upon the other of said members, and means adapted simultaneously to adjust the position of said thermostat and the play of said valve.

16. A steam-trap comprising a valve adapted to swing about a point above the same, and a thermostat for controlling the same positioned in the path of the drainage of said valve.

17. In a steam-trap, in combination, a valve adapted to swing about a point above the same, and an inclined thermostat positioned in the path of the drainage of said valve.

18. In apparatus of the class described, in combination, a structure, piping mounted upon said structure, and a steam-trap connected with said piping, said steam-trap comprising a valve adapted to swing about a point above the same, and a thermostat inclined with respect to the floor of said structure and positioned in the path of drainage discharged by said valve.

19. In a steam-trap, in combination, a valve, an inclined thermostat positioned within the path of drainage discharged by said valve, and means adapted simultaneously to adjust the position of said thermostat and the play of said valve.

20. In a steam-trap, in combination, a pivotally-mounted valve, an inclined valve-seat adapted to coact therewith, and a thermostat operatively connected with said valve and positioned within the path of drainage discharged by said valve.

21. In a steam-trap, in combination, a valve adapted to swing about a point above the same, an inclined valve-seat adapted to coact with said valve, and a thermostat operatively connected with said valve and positioned within the path of drainage discharged by the same.

22. In a steam-trap, in combination, a valve adapted to swing about a point above the same, an inclined valve-seat adapted to coact therewith, and an inclined thermostat positioned within the path of drainage discharged by said valve.

23. In apparatus of the class described, in combination, a structure, piping mounted upon said structure, and a steam-trap operatively connected with said piping, said steam-trap comprising a valve adapted to swing about a point above the same, a valve-seat inclined with respect to the floor of said structure and adapted to coact with said valve, and a thermostat operatively connected with said valve and positioned within the path of drainage discharged thereby.

24. In a steam-trap, in combination, two relatively detachable members, a valve mounted upon one of said members, an inclined valve-seat upon the same member and adapted to coact with said valve, and a thermostat mounted upon the other of said members and positioned within the path of drainage discharged by said valve.

25. In a steam-trap, in combination, two relatively detachable members, a valve mounted upon one of said members, an inclined valve-seat upon the same member and adapted to coact with said valve, and an inclined thermostat detachably mounted upon the other of said members and positioned within the path of drainage discharged by said valve.

26. In a steam-trap, in combination, two relatively detachable members, a valve mounted upon one of said members, an inclined valve-seat upon the same member and adapted to coact with said valve, a thermostat mounted upon the other of said members and within the path of drainage discharged by said valve, and means adapted simultaneously to adjust the position of said thermostat and the play of said valve.

27. In a steam-trap, in combination, two relatively detachable members, a valve pivotally mounted upon one of said members, an inclined valve-seat upon the same member adapted to coact with said valve, and a thermostat upon the other of said members having an operative connection with said valve and positioned within the path of drainage discharged thereby.

28. In a steam-trap, in combination, two relatively detachable members, a valve mounted upon one of said members and adapted to swing about a point above the same, an inclined valve-seat upon the same member, and adapted to coact with said valve, and a thermostat upon the other of said members and operatively connected with said valve and positioned within the path of drainage discharged thereby.

29. In a steam-trap, in combination, two relatively detachable members, a valve mounted upon one of said members and adapted to swing about a point above the same, and a thermostat mounted upon the other of said members

and operatively connected with said valve and positioned within the path of drainage discharged thereby.

30. In a steam-trap, in combination, two relatively detachable members, a valve pivotally mounted upon one of the same, an inclined valve-seat upon the same member adapted to coact with said valve, and a thermostat mounted upon the other of said members having an operative connection with said valve and positioned within the path of drainage discharged thereby.

31. In a steam-trap, in combination, two relatively detachable members, a valve mounted upon one of said members and adapted to swing about a point above the same, an inclined valve-seat upon the said member and adapted to coact with said valve, and a thermostat mounted upon the other of said members having an operative connection with said valve and positioned within the path of drainage discharged thereby.

32. In a steam-trap, in combination, two relatively detachable members, a valve mounted upon one of said members and adapted to swing about a point above the same, an inclined valve-seat upon the same member adapted to coact with said valve, a thermostat upon the other of said members having an operative connection with said valve and positioned within the path of drainage discharged thereby and means adapted simultaneously to adjust the position of said thermostat and the play of said valve.

33. In a steam-trap, in combination, two relatively detachable interlocking members, a valve pivotally mounted upon one of said members and adapted to swing about a point above the same, an inclined valve-seat upon the same member adapted to coact with said valve, an inclined thermostat detachably mounted upon the other of said members having an operative connection with said valve and positioned within the path of drainage discharged thereby, and means adapted simultaneously to adjust the position of said thermostat and the play of said valve.

34. In apparatus of the class described, in combination, a service-pipe connection, a casing, an inclined valve-seat, a pivotally-mounted depending valve upon said casing adapted to coact with said valve-seat to control communication between said service-pipe connection and said casing, a cap detachably connected to said casing, and an inclined thermostat carried by said cap in the path of drainage discharged by said valve and adapted to control the operation thereof.

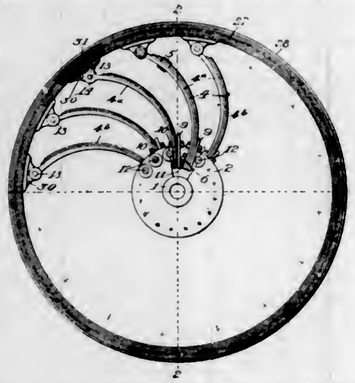
35. In apparatus of the class described, in combination, a service-pipe connection, a casing, an inclined valve-seat, a pivotally-mounted depending valve upon said casing adapted to coact with said valve-seat to control communication between said service-pipe connection and said casing, a cap detachably connected to said casing, and an inclined thermostat carried by said cap in the path of drainage discharged by said valve and adapted to control the operation thereof, said cap being provided with means adapted to adjust the position of said thermostat and the play of said valve.

36. A steam-trap comprising, in combination, a casing, a pivotally-mounted, gravity-operated valve mounted therein, and a thermostatic device adapted to control the operation of said valve.

37. A steam-trap comprising in combination a casing, a cap having one side thereof seated loosely in said casing, means for positively securing the opposite side of said cap to said casing, a gravity-operated valve mounted to swing within said casing, and a thermostatic device located in said casing and mounted upon said cap adapted to engage said valve and control the operation thereof.

38. A steam-trap comprising in combination a casing having a retaining-shoulder, a cap having one side thereof set behind said shoulder, a bolt for positively securing the opposite side of said cap to the casing, a gravity-operated valve mounted to swing within said casing, and a thermostatic device located within said casing and mounted upon said cap adapted to engage said valve and control the operation thereof.

841,130. SPRING-WHEEL. CHARLES DOLLINGER, Beszterecze-Banya, Austria-Hungary, assignor of one-half to Béla Göllner, Beszterecze-Banya, Comitat Zólyom, Austria-Hungary. Filed Sept. 11, 1905. Serial No. 278,018.



Claim.—1. An improved spring-wheel comprising a hub and tread, a plurality of springs yieldingly connecting the same, each spring including a main leaf pivotally connected to the tread and a plurality of reinforcing-leaves extending from the hub to a point adjacent to said pivotal connection, and a clip binding said leaf adjacent to said pivotal connection.

2. An improved spring-wheel comprising a laminated tread and a hub, springs secured to the hub, blocks mounted on said tread, and bolts extending through said blocks into the laminated tread, said springs having their outer ends pivotally secured to said blocks.

3. An improved spring-wheel comprising a laminated tread and a hub, springs secured to the hub, blocks mounted on said tread, and bolts extending through said blocks into the laminated tread, said springs having their outer ends secured to said blocks.

4. An improved spring-wheel comprising a plurality of springs, a hub provided with parallel flanges to receive the springs, and wedge bolts and blocks for holding said springs in position.

841,131. BRACKET. GEORG H. DÖRKEN, Gevelsberg, Germany. Filed Jan. 18, 1906. Serial No. 296,729.

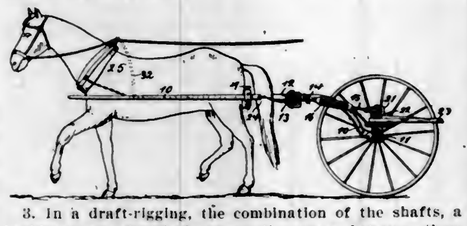


Claim.—A bracket comprising a wall-plate having inwardly-bent side flanges and a tongue at its top, a horizontal arm having inwardly-bent side flanges which embrace said tongue, and a brace supporting the arm and bearing against the wall-plate, the whole being integrally formed from a single metal blank.

841,132. DRAFT-RIGGING FOR VEHICLES. WILLIAM J. DREES, Covington, Ky. Filed Dec. 29, 1905. Serial No. 293,818.

Claim.—1. In a draft-rigging, the combination of shafts hingedly attached to a vehicle and provided with a cross-bar between them, of a screw-rod connected to this cross-bar and projecting rearwardly therefrom, a link connected to the vehicle and intermediate means for adjustably connecting screw-rod and link.

2. In a draft-rigging, the combination with the shafts and a swingletree, of draft-links to connect the draft-animal to the swingletree means to support these draft-links permanently on the shafts and flexible chain connections, one at each end of each link, to connect them at their rear ends to the swingletree and at their front ends to the horse-collar.

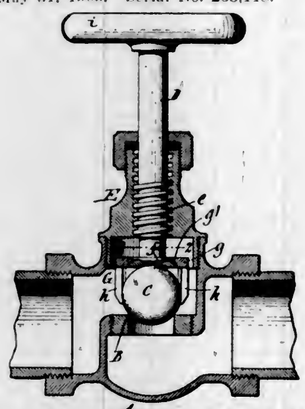


3. In a draft-rigging, the combination of the shafts, a backing-strap stretched across the space between them and couplings adjustably mounted on the shafts and to which couplings the ends of the straps are attached and held taut between them.

4. In a draft-rigging, the combination with the shafts and a swingletree, of draft-links carried by the shafts and adapted to attach the draft-animal to the swingletree a backing-strap adjustably stretched between these shafts and means connected to the vehicle to support the shafts in a fixed position independent of the draft-animal.

5. In a draft-rigging, the combination of shafts hingedly attached to a vehicle and provided with a cross-bar between them, a screw-rod projecting rearwardly from this bar, a link projecting forwardly from the vehicle, having its forward end threaded, a fitting whereby this link is connected to the vehicle with a swivel-joint and a knuckle-joint connecting the threaded end of the link to the rear end of the screw-rod.

841,133. VALVE. HENRY C. FARRELL, Buffalo, N. Y. Filed May 31, 1905. Serial No. 263,118.



Claim.—A valve comprising a casing having a seat, a ball-stopper for coöperating with said seat, a valve-stem movable toward and from said seat and having a head at its inner end which bears against the back of the stopper, and a coupling consisting of a ring bearing against a shoulder on the back of said head and having a plurality of integral jaws which extend forwardly from said ring and are bent inwardly so as to engage with the stopper in front of its largest diameter, whereby the stopper is held by the coupling against forward movement relatively to the stem of the stopper holds the coupling against backward movement on the stem, substantially as set forth.

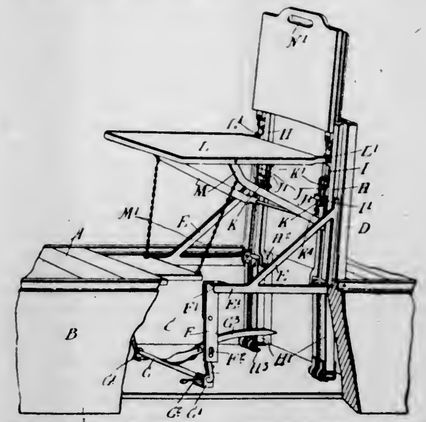
841,134. MILK-BUCKET. JESSE FERGUSON, Hoytsville, Ohio. Filed Aug. 13, 1906. Serial No. 330,445.

Claim.—A lid for milk-pails provided with a depending cylinder formed with a foraminous bottom and constituting a filtering-chamber and an upwardly-extending collar or flange surrounding the upper end of said filtering-chamber, the filtering-chamber being adapted to contain



granular material, and a bowl provided in its bottom with a screen and also provided below the screen with a depending flange arranged for detachable engagement with the said collar of the lid, whereby the said screen will form the top of the filtering-chamber, as and for the purpose set forth.

841,135. AUTOMATIC DISAPPEARING CHAIR. LESLIE G. FINCH, Brantford, Ontario, Canada. Filed Dec. 8, 1905. Serial No. 290,983.



Claim.—1. In an automatic disappearing chair, the combination with the receptacle, of a trap hinged at one end thereof and designed to cover the receptacle when down, bracing means for supporting the trap in the upright position, a seat recedably attached to the trap and means for releasing the bracing means operated by the dropping of the seat as and for the purpose specified.

2. In an automatic disappearing chair, the combination with the receptacle, of a trap hinged at one end thereof and designed to cover the receptacle when down, bracing means for supporting the trap in the upright position, a seat recedably attached to the trap, means for releasing the bracing means operated by the dropping of the seat, a flap hinged to the floor in front of the chair and chains connecting such flap to the bottom of the seat as and for the purpose specified.

3. In an automatic disappearing chair, the combination with the receptacle underneath the floor, of a trap hinged at one end thereof and designed to cover the receptacle when down and lie flush with the floor, braces attached to each side of the trap, a lock designed to receive the front end of the braces and means operated by the concussion of the seat when it drops thereon for releasing the lock as and for the purpose specified.

4. In an automatic disappearing chair, the combination with the receptacle underneath the floor, of a trap hinged at one end thereof and designed to cover the receptacle when down and lie flush with the floor, braces attached to each side of the trap, locking-levers provided with a notch designed to receive the front end of the braces and

having the lower end slotted, a rod journaled in suitable bearings in the receptacle and having the end extending through the slots, an arm extending rearwardly from the rod and a spring operatively connected to the rod and designed to normally hold the arm up as specified.

5. The combination with the receptacle and trap and the guideways secured on the side of the trap and means for supporting the trap in the substantially vertical position, extension-guideways hinged on the ends of the guideways on the trap, of bars located in the guideways and hinged intermediate of their length, the back secured to the upper portion of the bars above the hinge, the seat secured to the lower portion of the bars beneath the hinge, means for holding the bars and seat in the raised position and means operated by the removal of the weight of the person occupying the seat for disengaging the aforesaid means to allow of the seat to drop as and for the purpose specified.

6. The combination with the receptacle and trap and the guideways secured on the side of the trap and means for supporting the trap in a substantially vertical position, extension-guideways hinged on the ends of the guideways on the trap, of bars located in the guideways and hinged intermediate of their length, the back secured to the upper portion of the bars above the hinge, rocking dogs pivoted at the lower ends of the bars and designed to engage with notches in the guideways and braces connected to the seat and to the lower ends of the rocking dogs as and for the purpose specified.

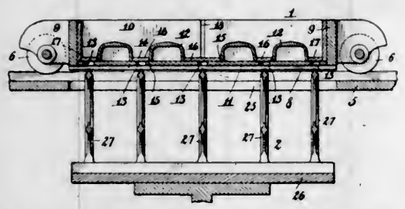
7. The combination with the receptacle and trap and the guideways secured on the side of the trap and means for supporting the trap in a substantially vertical position, and extension-guideways hinged on the ends of the guideways on the trap, of bars located in the guideways and hinged intermediate of their length, the back secured to the upper portion of the bars above the hinge, rocking dogs pivoted at the lower ends of the bars and designed to engage with notches in the guideways and braces connected to the seat and to the lower ends of the rocking dogs and springs pressing on the upper ends of the rocking dogs as and for the purpose specified.

8. The combination with the receptacle and trap and the guideways secured on the side of the trap and means for supporting the trap in the substantially vertical position, extension-guideways hinged on the ends of the guideways on the trap, of bars located in the guideways and hinged intermediate of their length, the back secured to the upper portion of the bars above the hinge, rocking dogs pivoted at the lower ends of the bars and designed to engage with notches in the guideways and braces connected to the seat and to the lower ends of the rocking dogs and spring-actuated catches designed to engage the end of the dogs and hold the bars up prior to the rocking dogs being tilted to engage the notches in the guideways as and for the purpose specified.

9. The combination with the trap-door having secured thereon two guideways, one toward each edge and extending longitudinally of the trap and having hinged depending extensions, a chair-holding receptacle designed to receive the chair when down, braces attached to the side of the trap, latches at the side of the receptacle with which the braces engage to hold the trap-door vertical, a spring-held arm and bar controlling the latches, bars extending into the guideways and having longitudinal movement therein and provided with intermediate hinges, a seat hinged at the back to the bars, braces pivotally connected at the front to the sides of the seat and at the back to rocking dogs in the bar, controlling-latches for the rocking dogs, a seat-back connected to the upper portions of the bars, a front hinged flap for the receptacle and chains connecting said flap to the braces of the seat.

841,136. MOLD AND DIE FOR MAKING BUILDING-BLOCKS. GEORGE F. FISHER, North Tonawanda, N. Y. Filed May 23, 1905. Serial No. 261,846.

Claim.—1. In a device for molding blocks for building or like purposes, the combination with a pressure-platform having an elevated portion, and a block-ejecting platform, of a mold having wheels and adapted to be moved from one of said platforms to the other and having its end walls narrower than its side walls to permit of moving it over the elevated portion of the pressure-platform, a removable bottom for said mold receiving support from said pressure-platform and having openings therein, a pallet on said bottom, and mechanism adapted to pass through the opening in said bottom to eject the molded block from the mold when the latter is moved onto the block-ejecting platform.



2. A device for molding building-blocks or the like, consisting of a mold having its end walls narrower than its side walls and inwardly-directed flanges at the lower edges of its side walls whose upper sides are alined with the lower edges of the end walls, and a removable bottom supported on said flanges.

3. A device for molding building-blocks or the like, consisting of a mold having its end walls narrower than its side walls and inwardly-directed flanges at the lower edges of its side walls, removable liners applied to the inner sides of said walls, and a removable bottom held between the lower edges of said liners and the flanges on said side walls.

4. In a device for molding blocks for buildings and like purposes, the combination of a mold having a removable bottom provided with openings and with fillers or caps on its upper surface, a pallet lying on said bottom and having openings through which said fillers or caps extend and being adapted to close the openings in said bottom, and means adapted to pass through the openings in said bottom and engage the pallet to elevate the same.

5. In a device for molding blocks for buildings and like purposes, the combination of a rectangular mold having its end walls narrower than its side walls and its side walls provided with inwardly-extending flanges at their lower edges, and a removable bottom receiving support from said flanges and provided with openings, a pallet lying on said bottom, and means passing through said openings in the bottom for elevating the pallet after a block is formed thereon.

6. In a device for molding building-blocks for buildings and like purposes, the combination of a mold having its end walls narrower than its side walls and the lower edges of the end walls in a plane above the lower edges of the side walls, and having also a removable bottom provided with fillers or caps on its upper surface, a pallet having openings through which said fillers or caps extend, and means for elevating the pallet after a block is formed thereon.

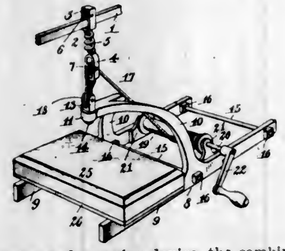
7. A mold having its end walls narrower than its side walls and the lower edges of the end walls in a plane above the lower edges of the side walls.

8. A mold having the lower edges of its end walls in a plane above the lower edges of the side walls.

841,137. BLOCK LIFTING AND CARRYING APPARATUS. GEORGE F. FISHER, North Tonawanda, N. Y. Filed Mar. 21, 1906. Serial No. 307,231.

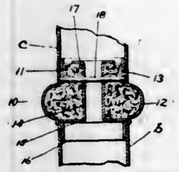
Claim.—1. In a lifting and carrying device, the combination with an overhead track, of a hanger comprising a wheel-housing having a grooved wheel riding said track, a sheave-block provided with a rope-sheave, and a coil-spring between said wheel-housing and said sheave-block, a supporting member, and a lifting and supporting rope passing over said rope-sheave and connected with the supporting member to permit of elevating and lowering the latter.

2. In a lifting and carrying device, the combination with an overhead track having a traveling hanger thereon, of a supporting member comprising side bars having upwardly and forwardly curved arms terminating in a single head, a rope-reel carried on said supporting member, a rope secured at one end to said rope-reel and connecting said hanger with the supporting member, so that the latter may be elevated or lowered when revolving the rope-reel.



3. In a lifting and carrying device, the combination with an overhead track having a traveling hanger provided with a rope-sheave, of a supporting member comprising side bars having upwardly and forwardly curved arms terminating in a single head and rods connecting said side bars, a sheave-swivel in said head having a rope-sheave, a rope-reel revoluble on the supporting member in rear of the upwardly and forwardly curved arms, and a lifting and supporting rope having opposite ends secured to the hanger and the rope-reel, respectively, and passing around the sheave in the sheave-swivel.

841,138. INSULATING HANDLE CONNECTION. JOHN H. GAULT, Philadelphia, Pa. Filed Aug. 7, 1906. Serial No. 329,526.



Claim.—1. An insulating handle connection comprising hollow handle-sections, a shell engaging one handle-section, an orificed insulating-block embraced by the shell, and a core comprising a neck extending within the other handle-section, an insulator-base, of larger diameter than the neck, confining the end of the insulating-block contiguous to the last-named handle-section and against which the last-named handle-section abuts, and a shank extending within the orifice in the insulating-block.

2. An insulating handle connection comprising hollow handle-sections, a shell engaging one handle-section, an orificed insulating-block embraced by the shell, and a core comprising a neck extending within the other handle section, an insulator-base, of larger diameter than the neck, confining the end of the insulating-block contiguous to the last-named handle-section and against which the last-named handle-section abuts, and a shank extending within the orifice in the insulating-block and a rivet extending through the shank of the core to rigidly confine the same to the insulating-block.

3. An insulating handle connection comprising hollow handle-sections, a shell engaging one handle-section, an orificed insulating-block embraced by the shell, and a core comprising a neck extending within the other handle-section, an insulator-base, of larger diameter than the neck, confining the end of the insulating-block contiguous to the last-named handle-section and against which the last-named handle-section abuts, and a shank extending within the orifice in the insulating-block and a rivet extending through the shell and the shank of the core.

4. An insulating handle connection comprising hollow handle-sections, a shell engaging one handle-section, an orificed insulating-block embraced by the shell, and a core comprising a neck extending within the other handle-section, an insulator-base, of larger diameter than the neck, confining the end of the insulating-block contiguous to the last-named handle-section and against which the last-named handle-section abuts, and a shank extending within the orifice in the insulating-block and a rivet extending through the insulating-block, the shell and the shank of the core.

5. An insulating handle connection comprising hollow handle-sections, a shell engaging one handle-section, an orificed insulating-block embraced by the shell, and a core inserted within the other handle-section and extending through the orificed insulating-block, said core having parts confining the insulating-block at both ends and engaging the other handle-section.

6. An insulating handle connection comprising hollow handle-sections, a shell engaging one handle-section, an orificed insulating-block embraced by the shell, and a core comprising a neck extending within the other handle-section, an insulator-base, of larger diameter than the neck, confining one end of the insulating-block and against which the last-named handle-section abuts, a shank extending through the orifice in the insulating-block and a flange on the shank confining the other end of the insulating-block.

7. An insulating handle connection comprising hollow handle-sections, a shell extending within and secured to one handle-section, an orificed insulating-block embraced by the shell, and a hollow core comprising a transversely-extending insulator-base confining one end of the insulating-block, a neck inserted within and secured to the other handle-section and connected to the base by means of an inward bend from the outer edge of the latter, and a shank extending into the orifice in the insulating-block.

8. An insulating handle connection comprising hollow handle-sections, a shell engaging one handle-section, an orificed insulating-block embraced by the shell, and a core comprising a neck extending within the other handle-section, an insulator-base, of larger diameter than the neck, confining the end of the insulating-block contiguous to the last-named handle-section and against which the last-named handle-section abuts, and a shank extending within the orifice in the insulating-block and additional means to hold together the insulating-block and the shank of the core.

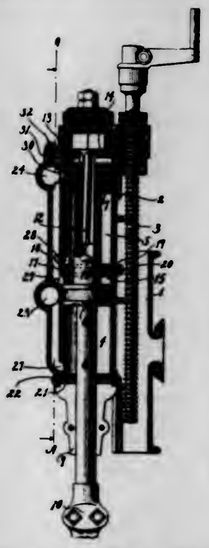
9. An insulating handle connection comprising hollow handle-sections, a metallic shell having an enlarged convex body and a contracted neck inserted within and secured to one handle-section, an insulating-block embraced by the shell, and a core having a shank extending within the longitudinal center of the insulating-block, a base connecting with the shank and confining one end of the core and a neck connecting with the base and inserted within and secured to the other handle-section.

841,139. ROCK-DRILL. ARTHUR H. GIBSON, Easton, Pa., assignor to The Ingersoll-Sergeant Drill Company, New York, N. Y., a Corporation of West Virginia. Filed July 28, 1905. Serial No. 271,602.

Claim.—1. A percussive tool-cylinder, a division-ring dividing the cylinder into front and rear chambers, a piston having front and rear piston-heads, two air-pressor tubes, valveless passages leading from one air-pressor tube to the front ends of the front and rear chambers and valveless passages leading from the other air-pressor tube to the rear ends of the said chambers whereby the tool-piston may be operated by reciprocating columns of air.

2. A percussive tool-cylinder, a division-ring dividing it into front and rear chambers, a piston having front and rear piston-heads, two air-pressor tubes, valveless passages leading from one air-pressor tube to the front ends of the front and rear chambers and valveless passages leading from the other air-pressor tube to the rear ends of the said chambers, the passage-port for the rear end of the rear chamber being spaced a short distance from the end of the chamber for forming a cushion of air on the back stroke of the piston.

3. A percussive tool-cylinder, a division-ring dividing the cylinder into front and rear chambers, a piston having a front extension, a piston-head thereon in the front chamber, and a hollow rear extension projecting into the rear chamber, a piston-head secured to the end of the said rear extension and a rotating device having a forwardly-extended rifle-bar working in said hollow rear extension.



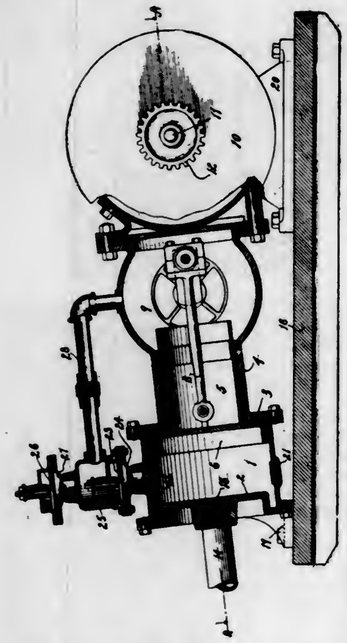
4. A percussive tool-cylinder, a division-ring dividing the cylinder into front and rear chambers, a piston having a front extension, a piston-head thereon in the front chamber and a hollow rear extension projecting into the rear chamber, a piston-head removably secured to the end of the said rear extension and a rotating device having a forwardly-extended rifle-bar working in said hollow rear extension.

5. The combination with the cylinder of a rock-drill, of a division-ring for separating the interior of the cylinder into front and rear piston-chambers, the inner walls of said cylinder having an annular groove therein and the division-ring having a circumferential groove therein, a split ring located in the two grooves for locking the division-ring in the cylinder and means carried by the cylinder for forcing the split ring entirely into the groove in the division-ring for permitting the removal of the division-ring from the cylinder.

841,140. PRESSOR. ARTHUR H. GIBSON, Easton, Pa., assignor to The Ingersoll-Sergeant Drill Company, New York, N. Y., a Corporation of West Virginia. Filed Aug. 12, 1905. Serial No. 273,924.

Claim.—1. A pressor-cylinder, its piston, fluid-pressure ports upon opposite sides of the piston, a crank-shaft casing, a passage leading from the crank-shaft casing to the pressor-cylinder at a point which will open the passage alternately to the opposite sides of the piston as it reciprocates, a valve for opening and closing communication between the interior of the crank-shaft casing and the interior of the pressor-cylinder and a valve for opening and closing communication from the external atmosphere to the interior of the crank-shaft casing.

2. A pressor-cylinder, its piston, fluid-pressure ports upon opposite sides of the piston, a closed crank-shaft casing, a passage leading from the crank-shaft casing to the pressor-cylinder, a valve for opening and closing communication between the interior of the crank-shaft casing and the interior of the pressor-cylinder, a valve for opening and closing communication from the external atmosphere to the interior of the crank-shaft casing and a bridge-port in the pressor-cylinder for opening communication from one to the other side of the pressor-piston at a predetermined point in its movement.



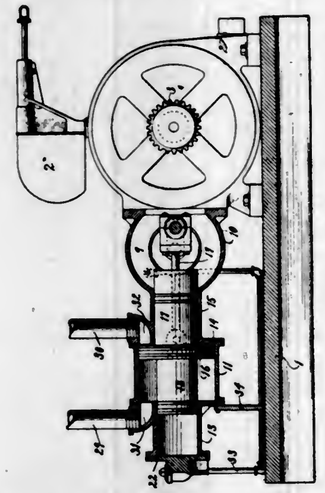
3. A pressor-cylinder, its piston, fluid-pressure ports upon opposite sides of the piston, a closed crank-shaft casing, an inlet-port in the cylinder arranged in position to be alternately opened to the opposite sides of the piston as it reciprocates, a non-return inlet-valve therefor, a passage leading from the crank-shaft casing to the said valve and a second non-return inlet-valve for opening and closing communication from the external atmosphere to the said passage intermediate the first-named valve and the crank-shaft casing.

4. A pressor-cylinder, a hollow trunk-piston therefor, fluid-pressure ports upon opposite sides of the piston, a closed crank-shaft casing in open communication with the piston-trunk, a passage leading from the closed crank-shaft casing to the pressor-cylinder at a point which will open the passage alternately to the opposite sides of the piston as it reciprocates, a non-return inlet-valve therein and a second non-return inlet-valve for opening and closing communication from the external atmosphere to the said passage intermediate the first-named valve and the crank-shaft casing.

5. A pressor-cylinder, its piston, fluid-pressure ports upon opposite sides of the piston, a closed crank-shaft casing, a non-return inlet-valve having its port located in the pressor-cylinder intermediate the ends thereof, a hollow cap above the inlet-valve, a second non-return inlet-valve for opening and closing communication from the external atmosphere to the interior of said cap and a pipe leading from the interior of the crank-shaft casing to the interior of the said cap between the two valves.

6. A pressor-cylinder, its piston, fluid-pressure ports upon opposite sides of the piston, a closed crank-shaft casing, a non-return inlet-valve having its port located in the pressor-cylinder intermediate the ends thereof, a hollow cap above the inlet-valve, a second non-return inlet-valve for opening and closing communication from the external atmosphere to the interior of said cap, a pipe leading from the interior of the crank-shaft casing to the interior of the said cap between the two valves and a bridge-port in the inner wall of the pressor-cylinder arranged to open communication from one to the other side of the piston when the piston is at a predetermined point in its movement.

841,141. PRESSOR. ARTHUR H. GIBSON, Easton, Pa., assignor to The Ingersoll-Sergeant Drill Company, New York, N. Y., a Corporation of West Virginia. Filed Sept. 12, 1905. Serial No. 278,172.



Claim.—1. A pressor-cylinder, air-tubes leading therefrom, a pressor-piston, a pump, its inlet and discharge valves and a passage leading from the discharge-valve of the pump to the cylinder and arranged to be alternately opened to the opposite sides of the pressor-piston.

2. A pressor-cylinder and a pump-cylinder arranged in alinement, air-tubes leading from the pressor-cylinder, inlet and discharge valves for the pump-cylinder, connected pressor and pump pistons and a passage leading from the discharge-valve of the pump to the pressor-cylinder and arranged to be alternately opened to the opposite sides of the pressor-piston.

3. A pressor-cylinder, a pump-cylinder, air-tubes leading from the pressor-cylinder, inlet and discharge valves for the pump-cylinder, connected pressor and pump pistons and a passage leading from the discharge-valve of the pump to the pressor-cylinder in a position to be alternately opened to the opposite sides of the pressor-piston, communication being closed from the interior of the pump-cylinder to the passage when the pressor-piston is moved in one direction and opened when the pressor-piston is moved in the other direction.

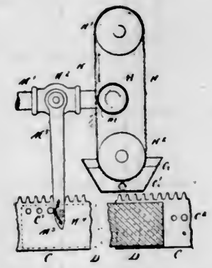
4. A pressor-cylinder, its piston, a pump-cylinder, its piston, inlet and discharge valves for the pump-cylinder, air-tubes leading from the pressor-cylinder and a passage leading from the discharge-valve to the pressor-cylinder and arranged to be alternately opened to the opposite sides of the pressor-piston, the said discharge-valve being arranged to open and close one end of the passage according to the direction in which the pressor-piston is moved whereby the said passage may be used to raise the air-pressure upon opposite sides of the pressor-piston.

5. A pressor-cylinder, its piston, air-tubes leading from the cylinder, a single-acting pump, inlet and discharge valves therefor and a passage leading from the discharge-valve to the pressor-cylinder and arranged to be opened to the opposite sides of the pressor-piston whereby the pressure of air may be raised upon opposite sides of the pressor-piston by the use of the said single-acting pump.

6. A pressor including a trunk-piston, a closed crank-shaft casing and a pump, inlet and discharge valves for the pump, and a passage leading from the closed crank-shaft casing to the inlet-valve of the pump as and for the purpose set forth.

7. A closed crank-shaft casing, a pressor-cylinder, a pump-cylinder, inlet and discharge valves for the pump-cylinder, air-tubes leading from the pressor-cylinder, pressor and pump pistons, a passage leading from the discharge-valve of the pump to the pressor-cylinder and arranged to be opened to the opposite sides of the pressor-piston and a passage leading from the crank-shaft casing to the inlet-valve of the pump.

841,142. MOISTENING DEVICE FOR PRINTING-MACHINES. HENRY GRAMLICH, New York, N. Y., assignor to himself, and Margaret Gillin, Brooklyn, N. Y. Filed May 3, 1904. Renewed Mar. 28, 1906. Serial No. 308,414.



Claim.—1. In a printing-machine of the character set forth, an atomizing device embodying a fixed sprayer and a movable moisture-absorbing medium interposed between the same and the surface to be sprayed and constructed to supply moisture to the printing-surface in the form of spray.

2. In a printing-machine of the character set forth, an atomizing device embodying a fixed sprayer and a movable moisture-absorbing medium interposed between the same and the surface to be sprayed and constructed to supply moisture to the printing-surface in the form of spray, and means automatically governing the action of said atomizing device to automatically control the duration of the spraying operation.

3. In a printing-machine of the character set forth, means for supplying air under pressure, and an endless moisture-conveying means interposed between the same and the surface to be moistened, whereby the compressed air forces said moisture in the form of spray upon said surface.

4. The spraying device described, consisting of a water-reservoir, a movably-mounted sheet of open-work material arranged to traverse said reservior and carry water therefrom in its interstices, and a relatively fixed air-blast arranged to drive the water from such interstices said movably-mounted sheet being interposed between said air-blast and the surface to be moistened.

5. The spraying device described consisting of a reservoir, a pair of rollers one of which is in said reservoir, a belt of open-work material as wire-gauze running on said rollers, means for moving said belt, and an air-pipe having a series of openings arranged to direct an air-blast through said belt.

6. The spraying device described, consisting of a water-reservoir, a pair of rollers one of which is in said reservoir, a belt of open-work material as wire-gauze running on said rollers, means for moving said belt, an air-pipe having a series of openings arranged to direct a current of air upon said belt, and means for automatically admitting and stopping a supply of air under pressure to said pipe.

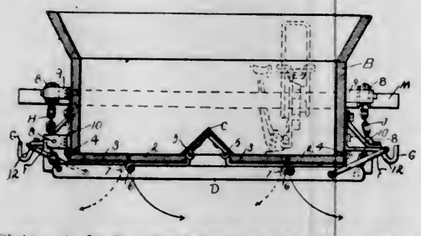
7. The spraying device described, consisting of a reservoir, a pair of rollers one of which is in said reservoir, a belt of open-work material as wire-gauze running on said

rollers, means for revolving one of said rollers and moving said belt, an air-pipe inclosed within said belt between said rollers, and having a series of openings arranged to direct a current of air through the interstices of said belt, and means for automatically admitting and stopping a supply of air under pressure to said pipe.

8. In a printing-machine, a reciprocating bed adapted to carry a printing-surface, a spraying device located above such surface and embodying a moisture-absorbing medium and a relatively fixed air-pipe inclosed within the same and adapted to direct a spray upon such surface, and means automatically operated by the movement of said bed for controlling said spraying device.

9. The spraying device described, consisting of a water-reservoir, a pair of rollers, one of which is in said reservoir, a belt of open-work material as wire-gauze running on said rollers, means for moving said belt, an air-pipe inclosed in said belt between said rollers and having a series of openings arranged to direct a current of air against the inner face of said belt, and a cock controlling the admission of air to said pipe, in combination with the reciprocating bed of a printing-machine, and with means carried by said bed for automatically operating said cock.

841,143. DUMPING-BED FOR WAGONS. DAVID E. GRAVES, Oberlin, Ohio. Filed Sept. 21, 1906. Serial No. 335,596.



Claim.—1. In dumping-wagons, a wagon-body having a bottom formed in sections longitudinally, and cross connecting-bars at intervals pivotally connected with alternate sections beneath the same and means at the ends of said connecting-bars to raise and lower the same horizontally.

2. A wagon-body having a bottom in sections longitudinally, said sections having fixed hinges at one edge and a plurality of connecting-bars transversely beneath said sections and hinged to said sections at their edges opposite their fixed hinges, and means to raise and lower said bars.

3. The wagon-body having a bottom formed in sections, the outer of said sections hinged at the sides of said body and the inner sections hinged in the middle of said body, and cross connecting-bars having each one inner and one outer bottom-section in hinge engagement therewith, and means to raise and lower said bars simultaneously.

4. A wagon-body having a bottom in sections adapted to swing downward to dumping position, hinges connecting one edge of each section directly with said body and a plurality of cross connecting-bars with which the other edges of said sections have hinge connection, the sections being alternately hinged to different bars, suspensory devices connecting one end of said bars with the body and cables connected with the other ends thereof and adapted to be let out and drawn up in operation.

5. A wagon-body having a bottom in sections, cross connecting-bars uniting said sections, a suspensory link supporting one end of each bar and a cable connected with the other end, and means to uniformly take up and let out said cables according as said sections are to be opened and closed.

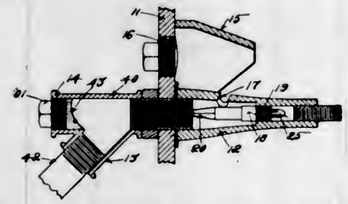
6. A wagon-body having a sectional bottom, cross connecting-bars united with alternate sections beneath the same, hooks on said body and links thereon supporting one end of each bar and a cable supporting each other end of said bars, a roller with which said cables are engaged and a lever and pawl-and-ratchet mechanism connected with said roller.

7. A dumping-wagon body having a sectional bottom and means to open and close said bottom comprising a cable at each side of the body, a roller on which said cables are adapted to be wound, a lever and a ratchet mounted on said roller, a pawl to engage said ratchet, means to engage the lever with the ratchet, and means to disengage lever and pawl and release the ratchet, thereby liberating the cables and allowing the bottom to open and dump the load.

8. A wagon-body having a sectional bottom, cross-bars pivotally connected with one edge of said sections alternately, hooks on said body having inner inclined portions, suspensory links engaged in said hooks and one end of said cross-bars, chains connected with the other end of said bars, and sleeves on said body in the same vertical plane as said bars and carrying said chains.

9. A dumping-wagon body having a shed of substantially Λ shape lengthwise in its center, longitudinal bottom-sections hinged beneath the edges of said shed and beneath the edges of the sides of the said body respectively, cross-bars connecting alternate sections, link and hook supports for one end of each bar and chain supports for the other ends, and means to tighten and release said chains simultaneously.

841,144. TRACK-SANDING DEVICE. JOHN H. HANLON, Somerville, Mass. Filed May 16, 1906. Serial No. 317,088.



Claim.—1. The improved air-nozzle for track-sanders, having a tapering end for engagement with a socket-wrench.

2. The improved air-nozzle for track-sanders, having one end tapering for engagement with the socket-wrench and the other end screw-threaded for engagement with the body of the sander.

3. In a track-sander, the combination of sand-collector, an air-discharge nozzle and a scale-collector within the said air-discharge nozzle.

4. In a track-sander, the combination of a sand-collector, an air-nozzle screwed into the interior of the said sand-collector, and a scale-collector within the said air-nozzle screwed to the interior thereof.

5. The improved air-nozzle for sand-collectors, comprising a nozzle-body, having an air-aperture and an enlarged bore, and a scale-collector within the said enlarged bore having an exterior diameter less than the interior diameter of the said enlarged bore.

6. The improved air-nozzle for sand-collectors, comprising a nozzle-body having an air-aperture, an enlarged bore and a scale-collector within the said enlarged bore, provided with air-apertures in the form of slits.

7. The improved air-nozzle for sand-collectors comprising a nozzle-body having an air-aperture, an enlarged bore and a scale-collector within the said enlarged bore provided with air-apertures in the form of slits and circular holes.

8. The improved clean-out device for track-sanders, which comprises a tube inclosing the air-nozzle and reaching from the exterior of the clean-out to a point back of the air-inlet holes.

9. The improved air-discharge nozzle for track-sanders having its air-discharge aperture counterbored to prevent the admission of sand to the interior of the air-discharge nozzle.

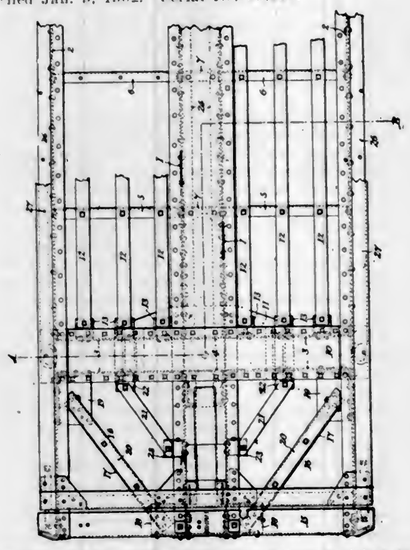
10. The improved means for preventing the wear of sand-discharge pipes comprising a cushion or buffer of sand collected in a suitable pocket.

11. The improved means for preventing the wear of sand-discharge pipes which consists in a pocket opposite the point of discharge in which sand may collect and form a cushion or buffer.

12. The improved means for preventing the wear of sand-discharge pipes which consists of a V connection, one branch of which serves as a pocket opposite the point of discharge in which the sand collects to form a cushion or buffer, and the other branch of which is connected to the sand-discharge pipe.

13. The improved means for preventing the wear of sand-discharge pipes which consists of a V connection, one branch of which serves as a pocket opposite the point of discharge in which the sand collects to form a cushion or buffer, and the other branch of which is connected to the sand-discharge pipe, the angle between the said branches of the V connection being relatively small.

841,145. UNDERFRAME FOR BOX-CARS. JOHN M. HANSEN, Pittsburg, Pa., assignor to Pressed Steel Car Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Jan. 9, 1902. Serial No. 89,056.



Claim.—1. An underframe for cars, comprising essentially metallic longitudinal sills, diaphragms and bolsters connecting them, the diaphragms between the bolsters being arranged at a level lower than that of the sills, wooden stringers applied to such diaphragms, end sills, braces applied between the end sills and bolsters below the level of the bolsters, and nailing-strips on said braces.

2. An underframe for cars, comprising essentially metallic longitudinal sills, diaphragms and bolsters connecting them, the diaphragms between the bolsters being arranged at a level lower than that of the sills, wooden stringers applied to such diaphragms, metallic supports on the bolsters for the ends of said stringers, end sills, braces applied between the end sills and bolsters below the level of the bolsters, and nailing-strips on said braces.

3. An underframe for cars, comprising essentially metallic center sills and side sills, built-up bolsters connecting them, diaphragms also connecting said sills and dropped below the upper level of the sills, longitudinal wooden stringers applied to said diaphragms, Z-bars secured longitudinally to the upper flanges of the side sills and wooden stringers secured to said Z-bars.

4. An underframe for cars, comprising essentially metallic center sills and side sills, built-up bolsters connecting them, diaphragms also connecting said sills and dropped below the upper level of the sills, wooden stringers applied to said diaphragms, Z-bars riveted to the upper flanges and sides of the side sills, wooden stringers secured to said Z-bars, and vertical tie-rods passed through said stringers and bars and engaging the upper part of the car-body.

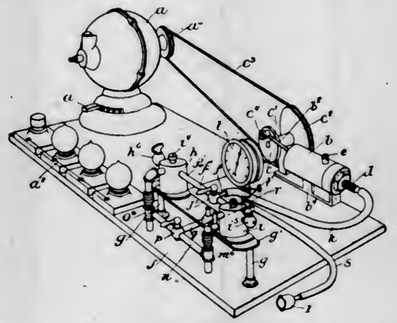
5. An underframe for cars, having diagonal braces arranged between its bolsters and end sills, and composed of angle-bars riveted in place below the level of these parts and having wooden nailing-strips secured thereto.

6. An underframe for cars, having diagonal braces arranged between its bolsters and end sills, and composed of angle-bars riveted in place below the level of these parts and having wooden nailing-strips secured thereto, and other diagonal braces interposed between the center sills and bolsters.

7. A car-underframe having longitudinal side sills of metal provided with top flanges, Z-bars whose upper flanges overlap the upper flanges of the longitudinal side sills, and wooden stringers mounted upon the lower flanges of said Z-bars and parallel with the side sills.

8. A box-car, having longitudinal metallic side sills, Z-bars riveted to the upper flanges thereof to receive wooden stringers, side plates, and vertical tie-rods connecting the side plates and the wooden stringers, and passing through the stringers and Z-bars, and having their nuts exposed on the outside.

841,146. PNEUMATIC MASSAGE APPARATUS. SAYER HASBROUCK, Providence, R. I. Filed Apr. 10, 1903. Serial No. 151,962.



Claim.—1. A pneumatic massage apparatus, comprising a generator for creating the forces of pressure and suction, a cup, and controlling apparatus, for changing each of said forces from continuous to oscillating, or vice versa.

2. A pneumatic massage apparatus, comprising a pressure-generator, a cup, and controlling mechanism having provisions for varying the pressure from continuous to oscillating, or vice versa.

3. A pneumatic massage apparatus comprising a generator for creating a suction or vacuum, a cup, and controlling mechanism for changing the suction from continuous to oscillating, or vice versa.

4. A pneumatic massage apparatus comprising a generator, a cup connected to the generator, means for varying the extent of the force created by the generator, whether it be suction or pressure, and means for changing the character of the force to render it continuous, or else intermittent.

5. A pneumatic massage apparatus comprising a generator, a cup connected to the generator, and a chamber located between the cup and the generator and through which the air must pass from the generator to the cup, and vice versa, and having a valve-cock, whereby the extent of the force may be varied.

6. A pneumatic massage apparatus comprising a generator, a cup connected to the generator, a check-valve mechanism, and means for adjusting the valve with rela-

tion to its seat, to change the force from continuous to intermittent, or vice versa.

7. A pneumatic apparatus comprising a generator, a cup connected to the generator, a chamber located between the cup and the generator and having a valve-cock, and an adjustable check-valve mechanism interposed between said chamber and said cup.

8. A pneumatic massage apparatus comprising a generator, a chamber having a regulating-valve, a conduit connecting said chamber to said generator independently of said valve, and a cup connected to said chamber.

9. A pneumatic massage apparatus, comprising a generator, a pair of independent chambers, having oppositely-acting check-valves, means for connecting each of said chambers with said generator, a cup, and means for connecting each of said chambers with said cup.

10. A pneumatic massage apparatus comprising a generator, a pair of independent chambers having oppositely-acting check-valves, means for connecting each of said chambers with said generator, a cup, means for connecting each of said chambers with said cup, and an adjustable check-valve for each of said chambers interposed between each chamber and said connecting means.

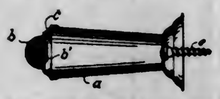
11. A pneumatic massage apparatus comprising a cylinder having an adjustable head, a piston, means for reciprocating said piston, and means for varying the stroke of said piston, in combination with a cup, a connection between said cup and said cylinder, and means whereby the pulsating charges of air caused by the reciprocation of the piston effect similar pulsations in the cup, or are changed to positive suction or positive pressure.

12. A pneumatic massage apparatus comprising a generator, a cup, an air-chamber intervening between the generator and the cup, and conduits connecting said air-chamber with said generator, and said cup respectively.

13. A pneumatic massage apparatus comprising a generator, a cup, an air-chamber intervening between the generator and the cup, conduits connecting said air-chamber with said generator, and said cup respectively, said air-chamber having an independent valve.

14. A pneumatic massage apparatus comprising a cup, a conduit leading to said cup, and a generator for compressing or rarefying air in said cup, said generator consisting of a piston, and a cylinder having an adjustable head and also having the conduit communicating with its interior.

841,147. DOOR-STOP. EZRA W. HASENFLUG, Geneva, Ohio. Filed Nov. 29, 1904. Serial No. 234,786.



Claim.—1. A sheet-metal door-stop, comprising a tubular body portion seated upon a base-cap, equipped with a screw, the said body portion having a crown or cap attached to its outer end, carrying a suitable button or stop, substantially as set forth.

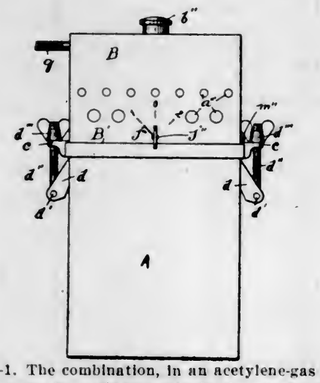
2. In a door-stop of the class described, the combination with a substantially tubular sheet-metal body portion, of a cap secured about its outer end, a button or stop upon said cap having a flanged part or nipple engaging said cap, a base portion mounting the tubular body, and a screw provided upon the base portion, substantially as set forth.

3. In a stop or abutment for doors and the like, the combination with a light sheet-metal body portion or support, having an opening in its outer end or face, of a button provided with an inner flanged nipple, inserted through said opening, and engaging a support, whereby said button is securely mounted in place, substantially as set forth.

4. The herein-described sheet-metal door-stop, comprising a conical body portion, a cap clamped thereon, having a substantially circular opening, a flanged rubber button fitting therein, a base-cap mounting the body portion, and a screw inserted and secured in said base-cap, substantially as set forth.

5. The herein-described sheet-metal door-stop, comprising a tubular body portion terminating in feet or lugs, a cap clamped upon the upper end thereof, and having a substantially circular opening, a flanged rubber button inserted therein, a base-cap receiving the lugs, wherein the same are upset, and a short screw securely riveted within the base-cap, to prevent it from turning therein, substantially as set forth.

841,148. ACETYLENE-GAS GENERATOR. ALBERT H. HEBERT, Holyoke, Mass. Filed June 24, 1905. Serial No. 266,780.



Claim.—1. The combination, in an acetylene-gas generator, of a generator-casing proper having a gas-chamber therein, a separate independent casing of like area arranged to rest upon and be secured to the first-mentioned casing, said supplementary casing having a water-reservoir in the upper portion and a cooling-chamber in the lower portion thereof, the end walls of said cooling-chamber being cut away to give free access to the interior thereof, and the side walls of said cooling-chamber being substantially continuous excepting for air-passage openings therein, water-feed conduits from said reservoir and a two-way-valve casing and valve in the cooling-chamber, said water-feed conduits communicating with the generator-chamber, a gas-pipe passing through the cooling-chamber from said gas-chamber to the reservoir, and waste-pipe connections in the cooling-chamber, said valve controlling both the water-feed and the waste, substantially as and for the purpose set forth.

2. The combination, in an acetylene-gas generator, with a casing provided with supporting means projecting inward from opposite walls thereof, of a carbid-holder having recesses to receive said supporting means and adapted to be supported thereby and to swing in said casing while extending substantially the entire distance between two of its walls.

3. The combination, in an acetylene-gas generator, with a gas-chamber, of a vibrating carbid-holder therein, and a separator in said holder, the bottom of said separator being above the bottom of the holder.

4. The combination, in an acetylene-gas generator, with a gas-chamber provided with interior pins, of a carbid-holder slotted to receive such pins and adapted to be suspended therefrom.

5. The combination, in an acetylene-gas generator, with a gas-chamber provided with interior pins, of a carbid-holder slotted to receive such pins and adapted to be suspended therefrom, and shields in said holder for the slots.

6. The combination, in an acetylene-gas generator, with a gas-chamber provided with interior pins, of a carbid-holder slotted to receive such pins and adapted to be suspended therefrom, shields in said holder for the slots, provided with guides, and a separator adapted to be held in place by such guides.

7. The combination, in an acetylene-gas generator, with a gas-chamber, of a carbid-holder therein, a separator in said holder, the bottom of said separator being above the bottom of the holder, and a drip-receiver in the holder extending below and opening below the horizontal plane of the bottom of the receiver.

8. The combination, in an acetylene-gas generator, with a water-feed apparatus consisting in part of a drip-pipe, of a vibrating carbid-holder, and a drip-receiver supported in said holder in operative relation with said drip-pipe.

9. The combination, in an acetylene-gas generator, of a gas-chamber, a water-reservoir, water-feed apparatus leading from said reservoir to said gas-chamber, a valve-casing and a valve forming part of such apparatus, a condenser-coil in the reservoir, a gas connection between the gas-chamber and said coil, a waste-water connection between the coil and said valve-casing, said valve controlling both the water-feed and the waste, and a gas-outlet from that part of the waste-water connection which is in the reservoir.

10. The combination, in an acetylene-gas generator, with a gas-chamber, and a water-reservoir, of connecting feed apparatus comprising pipes leading from said reservoir to a common connection, a pipe leading from such connection, a receptacle connected with the last-mentioned pipe, and a drip-pipe leading from said receptacle into said gas-chamber.

11. The combination, in an acetylene-gas generator, with a gas-chamber, and a water-reservoir, of connecting feed apparatus comprising pipes leading from said reservoir to a common connection, a pipe leading from such connection, a receptacle connected with the last-mentioned pipe, a drip-pipe leading from said receptacle into said gas-chamber, and a valve interposed between the receptacle and drip-pipe.

12. The combination, in an acetylene-gas generator, with a gas-chamber, and a water-reservoir, of connecting feed apparatus comprising pipes leading from said reservoir to a common connection, a pipe leading from such connection, a receptacle connected with the last-mentioned pipe, a second pipe leading from said connection to said receptacle, and a drip-pipe leading from the latter into said gas-chamber.

13. The combination, in an acetylene-gas generator, with a gas-chamber, and a water-reservoir, of connecting feed apparatus comprising pipes leading from said reservoir to a common connection, absorbent filling in such pipes, a pipe leading from such connection, absorbent filling in this pipe, a receptacle connected with the last-mentioned pipe, and a drip-pipe leading from said receptacle into said gas-chamber.

14. The combination, in an acetylene-gas generator, with a gas-chamber, and a water-reservoir, of connecting feed apparatus comprising pipes leading from said reservoir to a common connection, absorbent filling in such pipes, a pipe leading from such connection, absorbent filling in this pipe of less density than that in the other pipes, a receptacle connected with the pipe which leads from the connection, and a drip-pipe leading from said receptacle into said gas-chamber.

15. Feed apparatus, for an acetylene-gas generator, comprising the water-reservoir, a water-receptacle having a drip-pipe connected therewith, and supply-pipes leading from said receptacle and adapted to be connected with said reservoir, the connection between the receptacle and said supply-pipes being smaller than either.

16. Feed apparatus, for an acetylene-gas generator, comprising a water-reservoir, a water-receptacle, and pipes, having absorbent filling in certain of them, leading from said receptacle and adapted to be connected with said reservoir, the connection between the receptacle and said pipes being smaller than either.

17. Feed apparatus, for an acetylene-gas generator, comprising a water-reservoir, a water-receptacle, pipes leading from said receptacle and adapted to be connected with the reservoir, and absorbent filling of different densities in certain of said pipes, the denser filling being nearer the reservoir.

18. Feed apparatus, for an acetylene-gas generator, comprising a water-reservoir, a water-receptacle, supply-pipes leading from said receptacle and adapted to be connected with said reservoir, and a by-passage pipe connecting said receptacle with said supply-pipes at a point between the receptacle and reservoir connections.

19. The combination, in an acetylene-gas generator, with a gas-chamber, a water-reservoir, and an open-air or cooling chamber between said gas-chamber and reservoir, of supply-pipes arranged in angular relation with each other in said cooling-chamber and opening into said reservoir, a water-receptacle connected with said supply-pipes at the end opposite that which opens into the reservoir, a drip-pipe connected with said receptacle, and a valve adapted to control the flow of water from the receptacle into said drip-pipe.

20. The combination, in an acetylene-gas generator, of a gas-chamber, a water-reservoir, an open-air or cooling chamber between said gas-chamber and reservoir, supply-pipes arranged in angular relation with each other in said cooling-chamber and opening into the reservoir, a water-receptacle connected with said supply-pipes at the end opposite that which opens into the reservoir, a drip-pipe connected with said receptacle, a condenser in the reservoir, a connection between the gas-chamber and one end of said condenser, a combined gas and waste pipe connected with the other end of the condenser, a gas outlet pipe or pipes leading from the upper part of said last-mentioned pipe and a waste-conduit leading from the lower part thereof, and a valve arranged and adapted to control both the flow of water from the receptacle into said drip-pipe and the escape of water or gas or both through said conduit.

21. The combination, in an acetylene-gas generator, with a gas-chamber, a water-reservoir, and an open-air or cooling chamber between said gas-chamber and reservoir, of supply-pipes arranged in angular relation with each other in said cooling-chamber and opening into the reservoir, a water-receptacle connected with said supply-pipes at the end opposite that which opens into the reservoir, absorbent filling in the horizontal portions of the supply-pipes, a drip-pipe connected with said receptacle, and a valve adapted to control the flow of water from the receptacle into said drip-pipe.

22. The combination, in an acetylene-gas generator, with a gas-chamber, a water-reservoir, and an open-air or cooling chamber between said gas-chamber and reservoir, of supply-pipes arranged in angular relation with each other in said cooling-chamber and opening into the reservoir, a water-receptacle connected with said supply-pipes at the end opposite that which opens into the reservoir, absorbent filling of different densities in the horizontal portions of the supply-pipes, a drip-pipe connected with said receptacle, and a valve adapted to control the flow of water from the receptacle into said drip-pipe.

841,149. GAS-ENGINE STARTER. GEORGE C. HICKS, Jr., Connersville, Ind. Filed Nov. 22, 1905. Serial No. 288,515.

Claim.—1. The combination, substantially as set forth, of a shaft to be rotated by power in a given direction, a ratchet-wheel loose on said shaft, a pawl carried by the shaft and coöperating with the ratchet-wheel in such manner that the ratchet-wheel may act as a driver and turn the shaft in normal advance direction, and mechanism independent of said shaft for turning said ratchet-wheel in advance direction; said pawl being so mounted that when said shaft assumes its normal rotative speed the pawl is urged away from the ratchet by centrifugal force.

2. The combination, substantially as set forth, of a rotator to be angularly advanced, a spring connected therewith and tending when released under strain to advance the rotator, a locking device to hold the rotator in retreated position against the urgency of the spring, an angularly-movable handle, a retractable connection between the handle and the rotator serving to turn it in retreating direction and put the spring under strain, and releasing mechanism connected with said handle and locking device whereby an excess retreating movement of the handle releases the locking device.

3. The combination, substantially as set forth, of a rotator to be angularly advanced, a spring connected therewith and tending when released under strain to advance the rotator, a ratchet-wheel carried by the rotator, a stop-pawl engaging the ratchet-wheel and serving to hold the rotator in retreated position against the urgency of the spring, an angularly-movable handle, a retractable connection between the handle and the rotator serving to turn it in retreating direction and put the spring under strain, and releasing mechanism connected with said handle and stop-pawl whereby an excess retreating movement of the handle releases the ratchet-wheel.



4. The combination, substantially as set forth, of a rotator to be angularly advanced, a spring connected therewith and tending when released under strain to advance the rotator, a ratchet-wheel carried by the rotator, a stop-pawl engaging the ratchet-wheel and serving to hold it in retreated position against the urgency of the spring, an angularly-movable handle, a retractable connection between the handle and the rotator serving to turn it in retreating direction and put the spring under strain, and a part carried by said handle and adapted to engage the stop-pawl and release it from the ratchet-wheel when the handle is given an excess retreating movement.

5. The combination, substantially as set forth, of a rotator to be angularly advanced, a spring connected therewith and tending when released under strain to advance the rotator, a locking device to hold the rotator in retreated position against the urgency of the spring, a handle mounted for angular movement on the axis of the rotator and free of the rotator, hand-operated clutch mechanism carried by the handle and serving to temporarily lock the handle to the rotator whereby the handle may be employed in turning and temporarily holding the rotator, and releasing mechanism connected with said handle and locking device whereby an excess retreating movement of the handle releases the locking device.

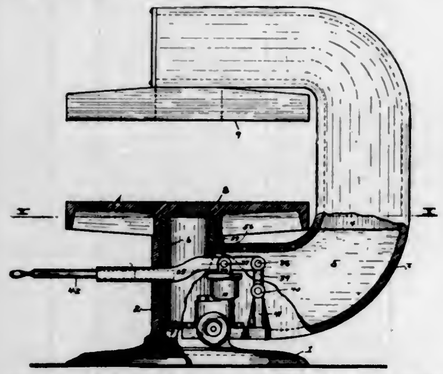
6. The combination, substantially as set forth, of a rotator to be angularly advanced, a spring connected therewith and tending when released under strain to advance the rotator, a locking device to hold the rotator in retreated position against the urgency of the spring, a notched wheel fast with the rotator, an angularly-movable handle loosely pivoted on the rotator, a pawl carried by the handle and cooperating with the notched wheel, a spring urging the pawl normally into engagement with the notched wheel, a pawl-releasing device carried by the handle for releasing the pawl from the notched wheel, and releasing mechanism connected with said handle and locking device whereby an excess retreating movement of the handle releases the locking device.

7. The combination, substantially as set forth, of a rotator to be angularly advanced, a spring connected therewith and tending when released under strain to advance the rotator, a ratchet-wheel carried by the rotator, a stop-pawl coöperating with the ratchet-wheel to hold the rotator in retreated position against the urgency of the spring, a hand-lever loosely pivoted upon the rotator, a notched wheel fast with the rotator, a projection carried by the handle to engage and release the stop-pawl when the handle is given an excess retreating movement, a pawl carried by the handle and coöperating with the notched wheel, a spring normally urging the pawl into engagement with the notched wheel, and a grip-lever carried by the hand-lever and connected to its pawl to serve in disengaging the pawl from the notched wheel.

8. The combination, substantially as set forth, of a bearing, a spindle journaled therein, a disk fast on the spindle, a spiral spring having one end secured to the disk and having its other end fixed, a ratchet-wheel fast on the spindle, a stop-pawl coöperating with the ratchet-wheel and serving to hold the spindle against rotation in the direction in which it is urged by the spring when under tension, a notched wheel fast with the spindle, a hand-lever loosely pivoted on the spindle, a pawl carried by the hand-lever and engaging the notched wheel and serving to clutch the hand-lever temporarily to the spindle, a spring urging and holding the pawl into engagement with the notched wheel, and a connection from the pawl to the handle of the lever whereby the hand grasping the hand-lever may release the pawl from the notched wheel.

9. In starting mechanism, the combination of a rotator, a motor-spring therefor, a clutch element on the rotator and a fixed detent coöperating with said clutch, an operating member, a retractable connection between the operating member and the rotator for placing the spring in position to impel the rotator, and coöperating members carried by the handle and detent arranged so that movement of the handle within a limited part of its angular motion serves to release and reëngage the detent.

841,150. HYDRAULIC PRESS. FRANK H. HONERG and DAVID W. HUDSON, Green Bay, Wis. Filed Mar. 28, 1906. Serial No. 308,421.



Claim.—1. In a device of the described class, the combination with a base; of a hollow goosenecked standard; a stationary plate carried by said standard; an upright press-cylinder connected with the base; a plunger operating in said cylinder and provided with a platen; a pump having suction and discharge passages for drawing liquid from the standard and discharging the same into the press-cylinder underneath the plunger; and an exhaust-passage leading from the press-cylinder and communicating with the hollow standard; said exhaust-passage having a raised horizontal portion provided with a manually-controlled valve for regulating the flow of liquid into said passage.

2. In a device of the described class, the combination of a base; a hollow standard provided with a press-cylinder, mounted on said base; a bed-plate provided with a pump-cylinder, mounted on the base; valved passages communicating through the pump-cylinder between the standard and press-cylinder; and other passages leading from the press-cylinder to the standard independently of the pump-cylinder and provided with a manually-controlled valve.

3. In a device of the described class, the combination of a base; a hollow standard provided with a press-cylinder, mounted on said base; a bed-plate provided with a pump-cylinder, mounted on the base; valved passages communicating through the pump-cylinder between the standard and press-cylinder, and other passages leading from the press-cylinder to the standard independently of the pump-cylinder and provided with a manually-controlled valve; said last-mentioned passages being also arranged to lead in part through the base and in part through the bed-plate of the pump-cylinder.

4. In a device of the described class, the combination with a base having a hollow standard provided with a hydraulic-press cylinder and press mounted thereon; of a set of castings containing a pump-cylinder and coöperating with the base to form passages communicating between the standard and press-cylinder, and through the pump-cylinder in one direction; one of said passages being independent of the pump-cylinder and provided with a raised horizontal portion; and a manually-operated valve controlling the passage of fluid through the raised portion.

5. In a device of the described class, the combination of a base; a hollow standard provided with a press-cylinder, mounted on said base; a bed-plate provided with a pump-cylinder, mounted on the base; valved passages communicating through the pump-cylinder; and other passages leading from the press-cylinder to the standard independently of the pump-cylinder and provided with a manually-controlled valve; said pump having a piston, a manually-operated lever connected therewith and a removable extension fitted to a socket in said lever.

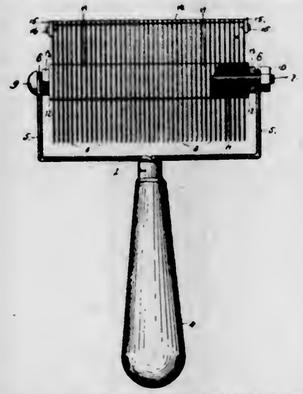
6. In a device of the described class, the combination of a base; a hollow standard provided with a press-cylinder, mounted on said base; a bed-plate provided with a pump-cylinder, mounted on the base; valved passages communicating through the pump-cylinder between the standard and press-cylinder, and other passages leading from the press-cylinder to the standard independently of the pump-cylinder and provided with a manually-controlled valve; together with a relief-passage leading from the press-cylinder to the standard; a valve controlling said passage; a lever connected with the valve; and an adjustable weight on said lever; said last-mentioned valve being arranged to open with the pressure of the liquid in the press-cylinder and against the pressure of the weight.

841,151. PROCESS OF BRAZING. CHARLEY C. HORNSBY, Krum, Tex., assignor of one-half to Robert F. Bell, Fort Worth, Tex. Filed Mar. 24, 1906. Serial No. 307,797.

Claim.—1. The brazing process herein described consisting of mixing iron and brass filings and borax, mixing with this composition muriatic acid combined with zinc and water, applying the mixture to the casting to be joined, applying heat to melt the brass-filings, treating the joint with borax while the joint is hot, and applying brass to the joint while hot enough to melt brass.

2. The brazing process consisting of mixing iron and brass filings in equal parts with powdered borax, the volume of borax being equal to the combined volume of the brass and iron filings, mixing with this composition muriatic acid combined with zinc and with water, the water being equal to one-third the quantity of acid, applying this mixture to the parts of castings to be brazed, applying sufficient heat to melt the brass-filings, and treating the heated portions with powdered borax and then with brass, the heat being sufficient to melt the brass.

841,152. NOODLE-CUTTER. GEORGE A. JELLEY, Pittsburg, Pa. Filed Sept. 20, 1906. Serial No. 335,444.



Claim.—A noodle-cutter comprising a bail provided with a handle, and formed with end loops or eyes, a headed bolt supported in said eyes, a series of disk cutters mounted on said bolt, and formed with alining peripheral slots, washers on said bolt for spacing the disk apart, a nut for removably securing the bolt in place, and a longitudinally-disposed knife fitting the slots in the disks, and removably secured to the end disks of the series.

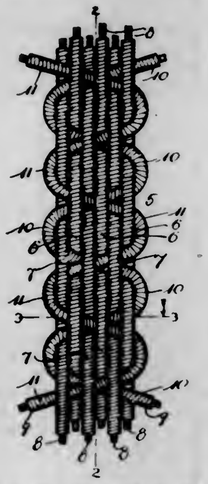
841,153. APPARATUS FOR DESICCATING MILK. JOHN A. JUST, Pulaski, N. Y. Filed July 11, 1905. Serial No. 269,165.

Claim.—In apparatus for desiccating milk, the combination of a chamber, means for injecting into said chamber a widely-diverging finely-divided stream of milk of constantly-increasing cross-sectional area, means for introducing into said chamber an oppositely-directed heated-air stream of similar character, said streams thereby intersecting in a plane of substantially maximum area at which the maximum action on the milk occurs, means for withdrawing the milk-powder thus formed from the sides of the chamber in a transverse direction at points adjacent to said plane of maximum action, and means for withdrawing the heated air and water-vapor from one end of the chamber in a longitudinal direction.

841,154. FLAT WIRE BELT OR ROPE. JACOB KAST, East Boston, Mass., assignor to Robert A. Hammond, Sandwich, Mass. Filed Jan. 17, 1906. Serial No. 296,493.

Claim.—1. A flat rope or belt consisting of two sets of longitudinal strands and two strands interwoven with said longitudinal strands and crossing said belt and each other

alternately in opposite directions, all of the strands of one of said sets extending across and outside said cross-strands on one face of said rope and all of the strands of the other of said sets extending across and outside said cross-strands on the other face of said rope.



2. A flat rope or belt consisting of two sets of longitudinal strands and two strands interwoven with said longitudinal strands and crossing said rope and each other alternately in opposite directions, all of the strands of one of said sets extending across and outside said cross-strands on one face of said rope and all of the strands of the other of said sets extending across and outside said cross-strands on the other face of said rope, all of the strands of each of said sets respectively, crossing from one face to the other of said rope between each crossing of said cross-strands.

841,155. TIRE-PROTECTOR. ORIN KELLY, Oreton, Ohio. Filed Nov. 18, 1905. Serial No. 288,009.



Claim.—1. In a vehicle-wheel the combination with a rubber tire, of a metallic shield engaging the tread-surface of the tire with its opposite longitudinal edges embracing approximately three-fourths of the exterior surface of said tire and curved outwardly to produce laterally-extending flanges, the adjacent ends of the shield being provided with shoulders defining reduced perforated extensions which overlap and bear against said shoulders, and fastening devices passing through the perforations in the overlapping ends of the shield.

2. In a vehicle-wheel, the combination with a rubber tire, of a metallic shield engaging the tread-surface of the tire with its opposite longitudinal edges embracing the major portion of said tire and with its opposite ends reduced to form overlapping perforated terminals, and rivets passing through the perforations in the overlapping ends of the shield and provided with intermediate annular shoulders bearing against the adjacent surface of one of said overlapping ends.

841,156. PRINTING-INK AND PROCESS OF MAKING SAME. EMANUEL KLEIN, New York, N. Y. Filed Jan. 13, 1903. Serial No. 138,916.

Claim.—1. The process of preparing a base for a printing-ink, which consists in subjecting a suitable mixture containing fat to washing with a suitable menstruum exemplified by salt water and heating the mixture while being stirred until a temperature in the mixture approximating 400° centigrade is obtained, substantially as described.

2. The process of preparing a printing-ink, which consists in subjecting a suitable mixture containing fat to washing with a suitable menstruum exemplified by salt water, heating the mixture while being stirred until a temperature in the mixture approximating 400° centigrade is obtained, and mixing therewith a suitable coloring-matter, substantially as described.

3. The process of producing a base for a printing-ink, which consists in subjecting a suitable mixture of fatty matters to washing, heating the same, while being stirred, until a temperature approximating 400° centigrade is obtained, cooling, and again heating the same to reduce its consistency, substantially as described.

4. The process of producing a printing-ink, which consists in subjecting a suitable mixture of fatty matters to washing, heating the same, while being stirred, until a temperature approximating 400° centigrade is obtained, cooling and again heating the same to reduce its consistency and mixing therewith a suitable coloring-matter, substantially as described.

5. The process of producing a base for a printing-ink, which consists in forming a mixture of a fat, oil and wax, substantially as explained, washing the same, and heating the same to a high temperature a number of times to form an inspissated mass, substantially as described.

6. The process for producing a base for a printing-ink, which consists in washing a suitable mixture of fatty matters, with a solution of salt water, and repeatedly heating and cooling the mass, substantially as described.

7. The process of producing a base for a printing-ink, which consists in washing a suitable mixture of fatty matters, heating the same at high temperature to eliminate acrolein and glycerin, and filtering the residuum, substantially as described.

8. The process of producing a base for a printing-ink, which consists in washing a suitable mixture of fatty matters, heating the same at a high temperature, cooling the same, again heating to a less temperature, and filtering the residue, substantially as described.

9. A printing-ink base from fatty matters composed of a plurality of fatty acids and higher alcohols of the fatty series, said base being insoluble in water or alcohol.

10. A printing-ink containing a mixture of a plurality of fatty acids and higher alcohols of the fatty series, substantially as described.

11. A printing-ink, composed of a mixture of a plurality of fatty acids and higher alcohols of the fatty series, and a suitable coloring-matter, substantially as described.

12. A printing-ink, containing in its ingredients a prepared incombustible substance, exemplified by metallic elements which will retain its appearance under the influence of heat of 400° centigrade, and a mixture of fatty matters, substantially as described.

13. A printing-ink, containing in its ingredients a prepared incombustible substance, exemplified by metallic elements which will retain its appearance under the influence of heat of 400° centigrade, a mixture of fatty matters, and a volatile oil, substantially as described.

841,157. BELT. FRANK F. KNOTHE, Ridgewood, N. J., assignor to Knothe Brothers, New York, N. Y., a Corporation of New York. Filed Sept. 27, 1906. Serial No. 336,447.

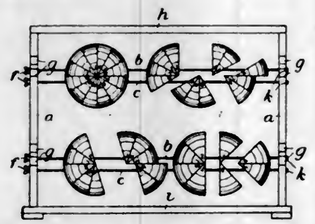
Claim.—1. In a belt, the combination of a strip of webbing, a strip of covering material, and means for fastening the two strips together at the end portions of said belt and substantially up to the back portion thereof, said means of fastening being confined to said end portions.

2. In a belt, the combination of a strip of webbing, a strip of covering material, and stitching extending along



the edges of the end portions of said strips substantially up to the back portion of the belt, the stitching being confined to said end portions.

841,158. DEVICE FOR FACILITATING THE TEACHING OF FRACTIONS. WILHELM KOOPS and HANS REIMERS, Hamburg, Germany. Filed Feb. 14, 1906. Serial No. 301,111.



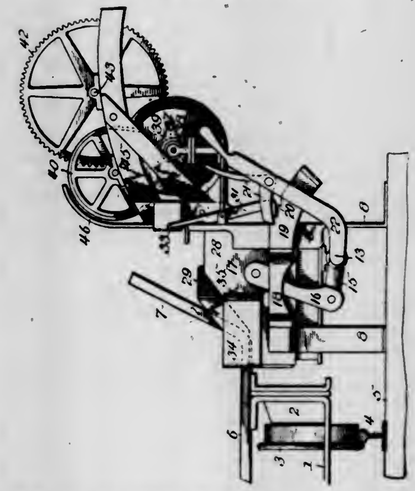
Claim.—1. A device for teaching fractions comprising a sphere divided into halves, said halves subdivided into a plurality of equal segments and means for supporting the sphere, said means preventing the individual members of the sphere from rotation, but enabling same to be rectilinearly moved and separated from each other and moved together to form a sphere, substantially as set forth.

2. A device for teaching fractions comprising a sphere divided into halves and subdivided into a plurality of equal segments, two sets of supporting-wires for the sphere, one set of said supporting-wires penetrating the individual members of the upper half, the other set penetrating the individual members of the lower half of the sphere and means for securing the supporting-wires in horizontal position, substantially as set forth.

3. A device for teaching fractions comprising a sphere divided into halves and subdivided into a plurality of equal segments, two sets of supporting-wires for the sphere, one set of said supporting-wires penetrating the individual members of the upper half, the other set penetrating the individual members of the lower half of the sphere, standards for the reception of the supporting-wires, attached to a sufficiently wide base to afford a firm footing, means for detaching the supporting-wires from the standards and means for pulling taut the wires between the standards, substantially as set forth.

4. A device for teaching fractions comprising a sphere divided into halves and subdivided into a plurality of equal segments, two sets of supporting-wires for the sphere, one set of said supporting-wires penetrating the individual members of the upper half and the other set penetrating the individual members of the lower half of the sphere in such a manner that the two halves may be interchanged on their supporting-wires, and means for securing the supporting-wires in horizontal position, substantially as set forth.

841,159. FORGE. RODERICK KRAATZ, Carbondale, Ill. Filed Oct. 9, 1906. Serial No. 338,161.



Claim.—1. In a forge, a base-frame provided with guide-posts, a forge-box slidingly mounted upon said posts, a lever carried by the frame, and a connection therefrom to the forge-box, as set forth.

2. In a forge, a base-frame provided with guide-posts, a forge-box slidingly mounted upon said posts, a lever carried by the frame, a connection therefrom to the forge-box, an extended frame at the rear of the forge-box, and a blower and driving connection carried by said frame and adjustable with said box, as set forth.

3. In a forge, a base-frame provided with guide-posts, a forge-box slidingly mounted upon said posts, a lever carried by the frame, a connection therefrom to the forge-box, an extended frame at the rear of the forge-box, a blower and driving connection carried by said frame and adjustable with said box, fuel-chambers at the opposite ends of the forge-box, and a sliding gate between said chambers and the forge, as set forth.

4. In a forge, a base-frame provided with guide-posts, a forge-box slidingly mounted upon said posts, a lever carried by the frame, a connection therefrom to the forge-box, an extended frame at the rear of the forge-box, a blower and driving connection carried by said frame and adjustable with said box, fuel-chambers at the opposite ends of the forge-box, a sliding gate between said chambers and the forge, and angular doors pivotally mounted upon the opposite ends of the forge-box and adapted to partially inclose the front thereof, as set forth.

5. In a forge, a base-frame provided with posts thereon, a forge-box slidingly mounted upon said posts, a rock-shaft carried by said frame and provided with a crank-arm therefrom at each end, a link extending from said arms to the ends of the forge-box, an operating-lever carried by said

shaft and provided with a retaining-pawl, and a rack-bar mounted upon said frame in the path of travel of said pawl, as set forth.

6. In a forge, a base-frame provided with posts thereon, a forge-box slidingly mounted upon said posts, a rock-shaft carried by said frame and provided with a crank-arm therefrom at each end, a link extending from said arms to the ends of the forge-box, an operating-lever carried by said shaft and provided with a retaining-pawl, a rack-bar mounted upon said frame in the path of travel of said pawl, a keeper embracing the link connections at the ends of the forge-box, and angular doors pivotally mounted on the ends of said box and adapted to partially inclose the front thereof, as set forth.

7. In a forge, a base-frame provided with posts thereon, a forge-box slidingly mounted upon said posts, a rock-shaft carried by said frame and provided with a crank-arm therefrom at each end, a link extending from said arms to the ends of the forge-box, an operating-lever carried by said shaft and provided with a retaining-pawl, a rack-bar mounted upon said frame in the path of travel of said pawl, a keeper embracing the link connections af the ends of the forge-box, angular doors pivotally mounted on the ends of said box and adapted to partially inclose the front thereof, and pivoted hooks carried by the free edges of said doors, as set forth.

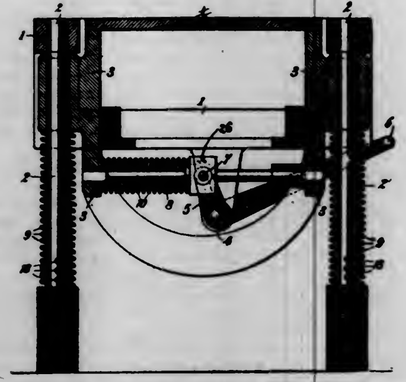
8. In a forge, a box provided at opposite ends with fuel-compartments by means of a partition-plate extending for part of the width thereof, a sliding gate disposed parallel to each of said partition-plates and adapted to engage the front wall of the box, an operating-lever for said gate, and a link connection between the gate and lever, as set forth.

841,160. MANUFACTURE OF ARTIFICIAL STONE IN IMITATION OF MARBLE OR GRANITE AND THE LIKE. LOUIS LEFRANC, Lausanne, Switzerland. Filed May 9, 1904. Serial No. 207,161.

Claim.—1. The process of manufacturing an artificial stone resembling marble, granite or the like, consisting in fusing together, sulfate of lime, and calcium fluorid, these constituents being in proportions corresponding to their molecular weights, and casting the fluid mixture in molds.

2. The process of manufacturing an artificial stone resembling marble, granite or the like, consisting in fusing together sulfate of lime and calcium fluorid, these constituents being in proportions corresponding to their molecular weights and casting the fluid mixture in molds, the imitation marble being colored by addition of coloring-matter substantially as described.

841,161. COUNTERBALANCE. WILFRED LEWIS, Philadelphia, Pa. Filed Sept. 20, 1904. Serial No. 225,278.



Claim.—1. In a spring-counterbalance, a crank sustaining a load acting in a given direction, and a spring acting in the opposite direction, combined with a spring acting upon said crank normal to said direction, whereby the moments of the two springs acting to turn the crank can be made exactly equal and opposite to the moment of the load upon the crank in all positions of the crank.

2. In a spring-counterbalance, the combination of a movable part, a plurality of springs for moving said part, and means whereby certain of said springs first resist and then assist the progressive motion of said part in one direction while the remainder of said springs continually resist said motion.

3. In a spring-counterbalance, the combination of a guided carrier, a plurality of springs for moving said table or carrier, and means whereby certain of said springs first resist and then assist the progressive motion of said carrier in one direction while the remainder of said springs continually resist said motion.

4. In a spring-counterbalance, the combination of a framework, a guided carrier, a plurality of springs for moving the same, certain of said springs abutting against said carrier or a part connected thereto, and crank connection between certain of said springs and the fixed framework.

5. In a spring-counterbalance, the combination of a framework, a carrier movable and guided thereon, a plurality of springs for moving said carrier, and crank connection between certain of said springs and the said framework.

6. In a spring-counterbalance, the combination of a framework, a carrier movable thereon, a plurality of springs for moving said carrier, and crank connection between certain of said springs and one of said framework and table elements.

7. In a spring-counterbalance, the combination of a framework, a part movable relatively thereto, a spring resistance for resisting progressive motion of said part in one direction, and crank-and-spring connection between said movable part and said framework.

8. In a spring-counterbalance, the combination of a framework, a carrier movable thereon, a spring resistance for resisting progressive motion of said carrier, a spring-rod on said carrier, and a crank on the fixed framework connected with said spring-rod.

9. In a spring-counterbalance, the combination of a framework, a carrier movable thereon, a spring resistance for resisting progressive motion of said carrier in one direction, a spring-rod on said carrier, and a crank on which said rod is pivoted.

10. In a spring-counterbalance, crank mechanism for sustaining a load or uniform force acting in a given direction, combined with springs arranged some to act on said crank mechanism or the load in the opposite direction, and the remainder to act upon said crank mechanism normal to said direction.

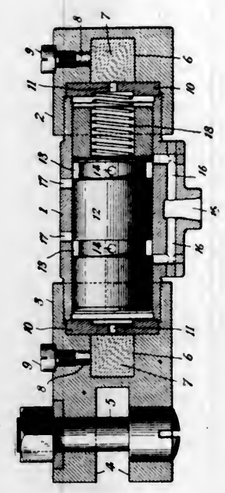
841,162. LUBRICATOR FOR PNEUMATIC ENGINES. WILFRED LEWIS, Philadelphia, Pa., assignor to Tabor Manufacturing Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Sept. 20, 1904. Serial No. 225,279.

Claim.—1. In a pneumatic engine, the combination with the barrel thereof, of an end closure provided with a recess in line with the opening of said cylinder or barrel and opening toward or inward of said barrel, a lubricant-absorbent in said recess, and a perforated cover for said recess with a free piston in said barrel which strikes said cover.

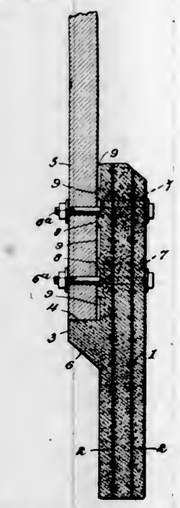
2. In a pneumatic engine, the combination with the barrel thereof, of an end closure thereon and provided with a recess in line with the opening of said barrel and opening inward of said barrel, a lubricant-absorbent in said recess, and a perforated plate covering said recess and held in place by the barrel and end closure with a free piston in said barrel which strikes against the said cover.

3. In a pneumatic engine, the combination with the cylinder and its piston, of a lubricant-holder having a foraminous cover against which the piston strikes.

841,162.



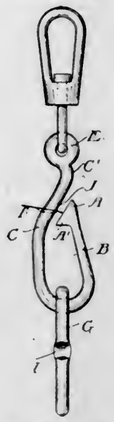
841,163. CONCRETE BASE FOR FENCE-POSTS. ROBERT J. LIVENGOOD, Harvel, Ill. Filed Jan. 13, 1906. Serial No. 295,946.



Claim.—A base having a projecting post-supporting arm or bracket located at an intermediate point between the top and bottom of the base, said base being also provided at its upper portion with integral horizontal spacing-ribs located at intervals and adapted to form intervening air-spaces between the upper portion of the base and a post.

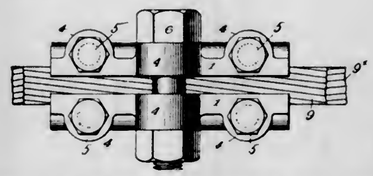
841,164. HOOK AND LINK. LUIGE D. MATTASSI, Melbourne, Victoria, Australia. Filed Nov. 21, 1905. Serial No. 288,472.

Claim.—In combination, a hook having an eye E and a shank extending at an incline therefrom to a certain distance, the lower part of the shank being in the form of a U, the left arm of which is an extension of the inclined portion, the extreme end of the other arm of the U forming a point, said point being enlarged and having an inclined face which is parallel to the inclined portion of the shank whereby an inclined opening is formed between the point and shank and an oblong link having an indentation



formed on one of its sides so as to enable the link to pass through the said opening.

841,165. ROPE AND CABLE CLAMP. ALFRED H. MEECH, Chatham, N. Y. Filed Nov. 24, 1905. Serial No. 288,883.



Claim.—1. A cable-clamp comprising four identical clamping jaws or elements having holes in right-angular relation with one another, and clamping means coöperating therewith.

2. A cable-clamp comprising a plurality of independent clamping jaws or elements having holes in right-angular-disposed planes, and having inclined jaw-faces for gripping a cable, and clamping-bolts coöperating therewith.

3. A cable-clamp comprising a plurality of jaws or elements having cable-engaging faces, means for adjusting the separation of pairs of said elements, and means for forcing said elements toward one another in a direction different from said adjustment so as to clamp a cable therebetween.

4. A cable-clamp comprising four identical clamping-jaws having inclined corrugated faces, and clamping-bolts for securing said jaws together.

5. A cable-clamp comprising independent identical jaws having holes or passages therethrough in right-angular relation to one another, and means in said holes or passages for forcing said jaws into clamping relation to a cable.

6. A cable-clamp comprising independent jaws having inclined corrugated faces, and means for drawing said jaws in two directions at right angles to one another whereby they are clamped upon an article.

7. A cable-clamp comprising jaws having inclined corrugated faces, bolts for drawing said jaws in two directions whereby said faces may be initially positioned and finally powerfully tightened upon an article to be clamped.

8. A cable-clamp comprising four identical jaws, having holes or passages therethrough in two directions, and bolts for said respective holes or passages, whereby the bolts may be tightened and the clamping members drawn together from two directions.

9. A cable-clamp comprising four elements having holes or passages therethrough extending in two directions at

right angles to each other, and bolts within said holes or passages for drawing the clamping members together in both of said directions at right angles to each other.

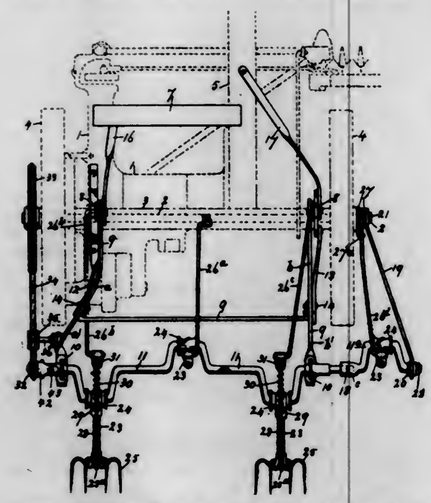
10. A cable-clamp comprising a plurality of identical jaws each having an inclined gripping-face, and means for adjusting the lateral separation of said jaws corresponding to an article to be clamped, and finally wedging them into clamping relation therewith.

11. A cable-clamp comprising identical clamping jaws or elements each having a pair of holes therethrough in a single plane, and each having an additional hole in a direction normal thereto, and bolts for said holes whereby the four clamping jaws or elements may be drawn together in two directions at right angles to each other.

12. A cable-clamp comprising four identical clamping elements or jaws each having a pair of holes or passages in a single plane, and each further having an additional hole or passage in a direction normal thereto, and having corrugated inclined faces, and bolts for said holes whereby the four elements or members may be drawn together upon an article to be clamped in two directions at right angles to each other.

13. A cable-clamp comprising four independent jaw elements each having a face with inclined corrugations thereon, and bolts for drawing said elements together in two directions at right angles to each other.

841,166. TEDDER ATTACHMENT TO MOWING-MACHINES. JOHN MOORE, London township, Ontario, Canada. Filed Jan. 4, 1906. Serial No. 294,673.



Claim.—1. In a tedder attachment to mowing-machines, standards adapted to be attached and rigidly secured to the main frame of the mowing-machine, and a tedder-frame pivotally secured to said standards at its front end, in combination with rearwardly and upwardly extending inclined braces provided with a series of holes and secured at one of their ends to said standards and at their other ends to said tedder-frame by bolts, one of said bolts projecting through one of said series of holes in one of each of said inclined braces and through a bolt-hole in the adjacent side of the tedder-frame, a tedder crank-shaft, and an extension for the tedder crank-shaft, in combination with the main axle of the mowing-machine, and braces connecting said extension with said axle, substantially as shown and described and for the purpose specified.

2. In a tedder attachment to mowing-machines, standards adapted to be rigidly secured to the main frame of the mowing-machine, and a tedder-frame provided with a series of bolt-holes and secured at its front end to said standards by bolts, one of said bolts projecting through one of said series of holes in each side of said tedder-frame and a bolt-hole in the standard adjacent thereto, in combination with inclined braces secured at one of their ends to said standards and at their other ends to said tedder-frame, a tedder crank-shaft, and an extension for said shaft in combination with the main axle of the mowing-machine, and a brace connecting said extension with said axle, substantially as shown and described and for the purpose specified.

3. In a tedder attachment to mowing-machines, standards adapted to be rigidly secured to the main frame of the mowing-machine, and a tedder-frame provided with a series of bolt-holes and secured at its front end to said standards by bolts, one of said bolts projecting through one of said series of holes in each side of said tedder-frame and a bolt-hole in the standard adjacent thereto, in combination with inclined braces provided with a series of holes and secured at one of their ends to said standards and at their other ends to said tedder-frame by bolts one of said bolts projecting through one of said series of holes in one of each of said inclined braces and through a bolt-hole in the adjacent side of said tedder-frame, a main frame downwardly and forwardly extending inclined braces secured at one of their ends to said standards and at their other ends to said main frame, a tedder crank-shaft, and an extension for said shaft in combination with the main axle of the mowing-machine, and connections between said extension and main axle, substantially as shown and described and for the purpose specified.

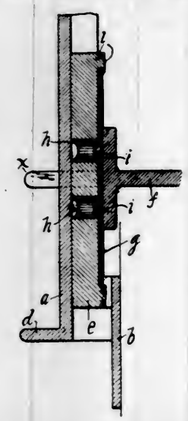
4. In a tedder attachment to mowing-machines, a tedder crank-shaft, an extension of said tedder crank-shaft adapted to be firmly attached to or detached from said tedder crank-shaft, and a sleeve secured to said extension of said tedder crank-shaft, in combination with the main axle of the mowing-machine and a brace one end of which encircles said sleeve on said extension of said tedder crank-shaft and its other end encircling said main axle, substantially as shown and for the purpose specified.

5. In a tedder attachment to mowing-machines, a tedder crank-shaft, an extension of said tedder crank-shaft adapted to be firmly attached to or detached from said tedder crank-shaft, and means for bracing and holding said extension of said tedder crank-shaft in position, in combination with a tedder-fork handle mounted on said extension of said tedder crank-shaft, a collar mounted on the main axle of the mowing-machine, and provided with lateral flanges, and a rod secured at one end to the upper end of the tedder-fork handle and its other end extending between said flanges and encircling said collar, substantially as shown and described and for the purpose specified.

6. In a tedder attachment to mowing-machines, a tedder crank-shaft, an extension of said tedder crank-shaft adapted to be firmly attached to or detached from said tedder crank-shaft, a tedder-fork handle mounted on said extension of said tedder crank-shaft, a collar provided with lateral flanges and mounted on the main axle of the mowing-machine, and a rod secured at one end to the upper end of said tedder-fork handle and its other end extending between said flanges and encircling said collar, in combination with a sleeve on said extension of said tedder crank-shaft, and a brace one end of which encircles said sleeve and its other end encircling the main axle of the mowing-machine, substantially as shown and described and for the purpose specified.

7. In a tedder attachment to mowing-machines, a tedder crank-shaft, an extension of said tedder-shaft adapted to be firmly attached to or detached from said tedder crank-shaft, means for bracing and holding said extension of said tedder crank-shaft in position, a sprocket-wheel on the other end of said tedder crank-shaft, a drive-axle, a sprocket-wheel thereon, a sprocket-chain operating on said sprocket-wheels, clutch mechanism for throwing the crank-shaft into and out of gear with the drive-axle, a tedder-fork handle mounted on said extension of said tedder crank-shaft, a collar mounted on the main axle of the mowing-machine, and provided with lateral flanges, and a rod secured at one end to the upper end of the tedder-fork handle and its other end extending between said flanges and encircling said collar, substantially as described.

841,167. PATTERN-GUIDE FOR MOLD-MAKING APPARATUS. EDGAR H. MUMFORD, Merion, Pa., assignor to Tabor Manufacturing Company, a Corporation of New Jersey. Filed Oct. 2, 1903. Serial No. 175,431.



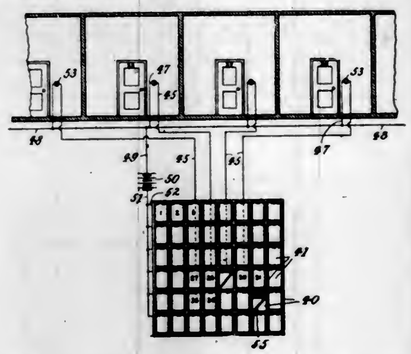
Claim.—1. A pattern-carrier, sliding guides therefor, and flat springs fast at their ends and central parts to said carrier and guides and connecting them.

2. A pattern-carrier provided with elongated guides movable relatively thereto and held in normal position by springs, combined with a vibrator-engine for agitating said carrier.

3. A pattern-carrier having elongated sliding guides arranged at right angles thereto and connected at their ends therewith by metal springs, combined with a vibrator-engine for agitating said carrier.

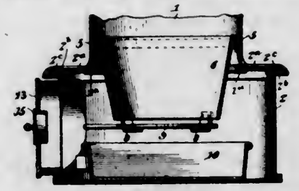
4. The combination of a pattern-carrier, sliding guides therefor, flat metal springs fast at their ends and central parts to and connecting said carrier and said guides together, and a vibrator-engine connected to said carrier.

841,168. ANNUNCIATOR FOR HOTEL LETTER-BOXES. FREDERICK MUSCHENHEIM, New York, N. Y. Filed Sept. 8, 1906. Serial No. 333,753.



Claim.—A letter-box having a metal drop-lid hinged at its top to the front of the box and having an exposed outer side, a contact-spring extending downward from the roof of the box in the path of the lid, and an indicator in circuit with said lid and spring, substantially as specified.

841,169. COAL-STOVE. CHARLES T. MCCARROLL, Ottumwa, Iowa. Filed Apr. 18, 1904. Serial No. 203,737.



Claim.—1. In a stove of the class described, the combination of a hollow sheet-metal body, a hollow sheet-metal base of greater diameter than the body, a top connecting-piece united at its inner and outer edges respectively to the lower edges of the body and to the inner edges of the walls of the base, the united edges of the said parts forming air-tight seams at both the inner and outer edges of the connecting-piece, and the said connecting-piece being imperforate and forming an air-tight joint or connection between the body and the base, a seat or support located in the body above the top connecting-piece, and a tapering fire-pot supported at its top by the seat or support and extending downward into the base and spaced from the said air-tight seams, whereby excessive heating of the seams is prevented, said fire-pot terminating short of the bottom of the base to admit of the placing of an ash-pan on the said bottom.

2. A stove of the class described, comprising a body provided at its bottom with an approximately U-shaped portion opening outwardly, a hollow base composed of a bottom, side walls having an outwardly-extending flange and a connecting top portion having its inner edge fitted within the U-shaped portion of the body and provided at its outer edge with a depending inwardly-extending L-shaped flange forming a groove to receive the outwardly-extending flange of the sides of the base, and a fire-pot, substantially as described.

841,170. BASKET. VALENTIN NACHT and PAUL SALOMON, Pittsburg, and JOHAN ERZEN, Finleyville, Pa. Filed Aug. 8, 1906. Serial No. 329,726.



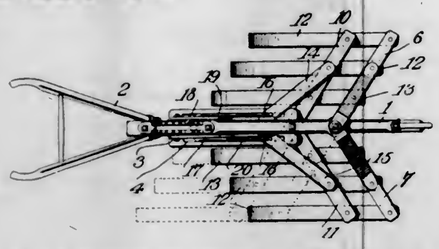
Claim.—A basket comprising a base-plate forming a bottom, and a body formed of a single piece of material doubled to form two ply having its ends secured to the bottom, rings placed between the two ply of the body at intervals and held spaced apart, eyes carried by the inner ply of the body and handles in the form of flexible cords passed through said eyes with the ends secured to the bottom.

841,171. CULTIVATOR. MATTHEW H. NICHOLSON, Tyler, Tex., assignor to Eugene Rosenbaum, Dallas, Tex. Filed Sept. 26, 1906. Serial No. 336,379.

Claim.—1. In a cultivator the combination with a beam; of a pair of cross-strips pivotally connected to the beam, a series of teeth pivoted to the cross-strips, a longitudinally-slotted guide-plate secured to the beam, a link pivoted to one of the cross-strips and slidably mounted on the guide-plate, means for actuating the link, and means extending from the link and into the slotted plate for retaining the link upon the plate.

2. In a cultivator the combination with a beam; of op-

positely-extending cross-strips pivotally connected thereto, a series of teeth pivoted to the cross-strips and maintained in fixed relation thereby, a guide carried by the beam, links slidably mounted upon the guide and pivoted to the cross-strips, independent means for sliding the links upon the guide, and retaining devices extending from the links and engaging the guide.



3. In a cultivator the combination with a beam; of oppositely-extending pairs of cross-strips pivotally connected to the beam, a series of teeth pivoted to each pair of cross-strips, a longitudinally-slotted guide secured to the beam, links pivoted to the pairs of cross-strips and slidably mounted on the guide, actuating-levers, and rods connecting said levers and the links, said rods extending through the slots and constituting retaining means for the links.

4. In a cultivator the combination with a beam; of oppositely-extending pairs of cross-strips pivotally connected to the beam, a series of teeth pivoted to each pair of cross-strips, a longitudinally-slotted guide secured to the beam, links pivoted to the pairs of cross-strips and slidably mounted on the guide, actuating-levers, rods connecting said levers and the links, said rods extending through the slots and constituting retaining means for the links, and means for locking the levers in adjusted position.

841,172. EXPLOSIVE. AUGUST E. NIENSTADT, Newark, N. J., assignor of one-half to George H. Rosenblatt, New York, N. Y. Filed Jan. 30, 1906. Serial No. 298,645.

Claim.—1. The process of producing an explosive composition consisting in reducing calcium carbid to small particles, admixing it with a metal which is capable of decomposing water under ordinary conditions enveloping thereby the metal by the coarse powder of calcium carbid, and reducing the mixture to powder.

2. The process of producing an explosive composition consisting in reducing calcium carbid to small particles, admixing therewith metallic sodium enveloping thereby the metallic sodium by the coarse powder of calcium carbid, and reducing the mixture to powder.

3. As a new article of manufacture a novel composition of matter composed of calcium carbid, and a metal in its uncombined state which is capable of decomposing water under ordinary conditions and existing in form of powder.

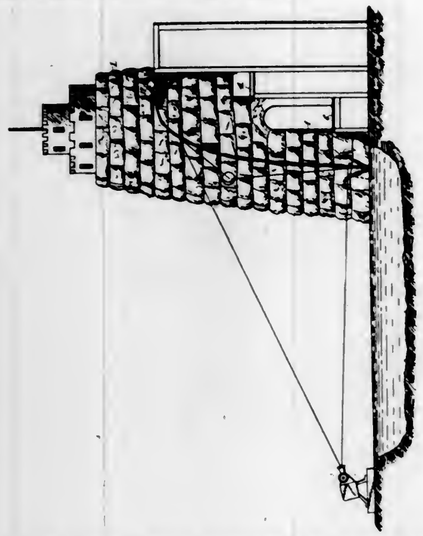
4. As a new article of manufacture a novel composition of matter composed of calcium carbid and metallic sodium and existing in form of powder.

841,173. AMUSEMENT APPARATUS. JOSEPH W. O'DONNELL, Kansas City, Mo., assignor of one-half to M. W. Elser, Kansas City, Mo. Filed Feb. 23, 1906. Serial No. 302,508.

Claim.—1. An amusement device comprising a set of towers, a waterfall therebetween, and walks arranged in said towers, and beneath said waterfall.

2. An amusement device comprising a set of towers, having a set of platforms arranged therebetween, a suitable pipe extending above said platforms and having discharge-openings therein, means for supplying water to said pipe, and a runway adapted to receive the water from said pipe, substantially as, and for the purpose set forth.

3. An amusement device comprising a set of chambered towers having walks extending therebetween, a spiral incline within one of said towers, connecting its inlet and outlet openings, suitable entrance and exit openings in the other tower, and a waterfall extending between said towers and over their connecting-walks.

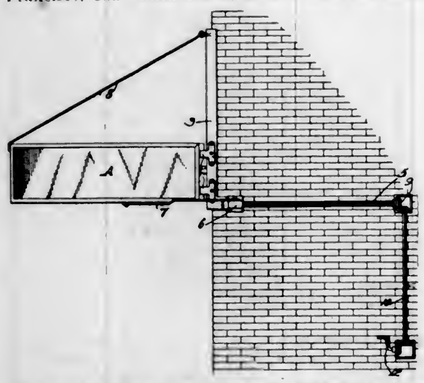


4. An amusement device comprising a set of chambered towers having walks extending therebetween, a spiral incline within one of said towers connecting its inlet and outlet opening, a well within said spiral incline, suitable entrance and exit openings in the other tower, and a waterfall extending between said towers and over their connecting-walks.

5. An amusement device comprising a set of chambered towers having walks extending therebetween, a spiral incline within one of said towers, a tank within the other tower, a pipe extending over said walks and connected with said tank, means for pumping water to said tank, and means for guiding the water from said pipe over said walks, substantially as set forth.

6. An amusement device comprising a set of chambered towers having walks extending therebetween, a waterfall extending between said towers, crevices in said towers facing said waterfall, and means supported in said crevices for lighting said waterfall.

841,174. ADJUSTABLE SIGN. JOHN V. PETRUSICH, San Francisco, Cal. Filed Oct. 8, 1906. Serial No. 338,070.

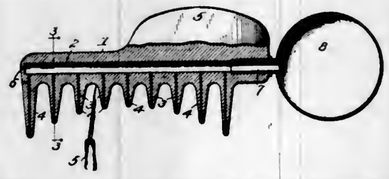


Claim.—1. A sign, vertically journaled hinges or pivots about which it is turnable, a horizontally-journaled screw-shaft with means for revolving it in either direction, a nut fitting and movable upon the screw and an arm connecting the nut with the sign.

2. The combination with a sign having vertical hinges or pivot-pins at one end, of a vertical post upon which the pivots are carried, said post being fixed to the corner of a building, a swiveling suspension-rod connecting the outer end of the sign with the post above the pivot, a screw-shaft journaled and turnable parallel with one of the sides of the building, a nut movable upon the screw, an arm connecting the rod with the sign, a crank-shaft located within operating reach, and means connecting said crank-shaft with the screw-shaft.

3. A swinging adjustable sign, vertical hinges or pivots connected with one end, a means for suspending the sign upon said pivots, and at the corner of a building, a horizontally-journaled screw having a nut movable thereon, mechanism by which the screw may be turned to advance the nut in either direction, an arm connecting with the nut at one end and pivoted to the sign at the other end, said arm having a segmental curvature at the end connected with the sign whereby the angle between the straight and curved portion acts as a stop to limit the outward swing of the sign.

841,175. COMB. WAKEFIELD PHINNEY, Redlands, Cal. Filed Oct. 10, 1905. Serial No. 282,125.



Claim.—1. A comb of the class described consisting of a straight body and teeth extending downward from the body, said body and teeth having connecting-passages, a handle extending longitudinally of and projecting from the upper edge of the body of the comb and located directly above the said teeth and having its outer end coincident with one end of said body, and means for forcing a liquid through the passages of the comb, said means being located at one end of the handle, and the said means and handle being arranged to be simultaneously grasped with the hand, whereby the liquid may be forced through the passages of the comb by the hand holding the same.

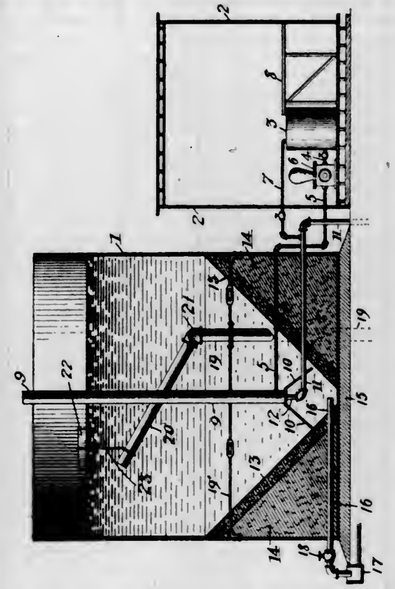
2. A comb of the class described consisting of a straight body provided with a handle extending along and projecting upward from the said body and having its outer end coincident with one end of the said body, and tapering teeth having their points arranged in a concaved row, said comb being provided in its body and teeth with connecting-passages, and means located at one end of the body of the comb for forcing a liquid through the passages, said means and handle being arranged to be simultaneously grasped with one hand, whereby the liquid may be forced through the passages of the comb by the hand holding the same.

841,176. APPARATUS FOR TREATING AND STORING WATER. WILLIAM A. POWERS, Topeka, Kans. Filed Oct. 10, 1904. Serial No. 227,846.

Claim.—1. In an apparatus for treating and storing water, the combination of a tank, a stand-pipe having its lower open end communicating with the interior of the tank and arranged at a distance from the bottom thereof, a water-supply pipe having its discharge end extending upward inside of the stand-pipe, and a chemical-supply pipe having its discharge end communicating with the interior of the stand-pipe, substantially as described.

2. In an apparatus for treating and storing water, the combination of a tank, a pipe having its lower open end communicating with the interior of such tank and arranged at a distance from the bottom thereof, a water-

supply pipe communicating with the interior of such pipe, a tank for containing a chemical solution, and a pipe connected with the chemical-tank having its discharge-opening inside the stand-pipe, substantially as described.



3. In an apparatus for treating and storing water, the combination of a tank, a stand-pipe having its lower open end communicating with the interior of such tank and arranged at a distance from the bottom thereof and its upper end open and extending above the water contained in the tank, a water-supply pipe having its discharge end extending upward inside of the stand-pipe, and a chemical-supply pipe having its discharge-opening inside of the stand-pipe, substantially as described.

4. In an apparatus for treating and storing water, the combination of a treating and storage tank, a stand-pipe having its lower open end communicating with the interior of such tank and arranged at a distance from the bottom thereof, a water-supply pipe having its discharge end communicating with the interior of the stand-pipe, a tank for containing a chemical solution, a chemical-supply pipe communicating with such chemical-tank and having its discharge end communicating with the interior of such stand-pipe, and means for forcing the chemical solution through such chemical-supply pipe into the stand-pipe, substantially as described.

5. In an apparatus for treating and storing water, the combination of a tank provided with a water-outlet, a stand-pipe mounted in such tank having its lower open end arranged at a distance from the bottom thereof, a water-supply pipe communicating with the interior of such stand-pipe, a chemical-supply pipe having its discharge-opening communicating with the interior of the stand-pipe, and means for removing the sediment from the bottom of the tank, substantially as described.

6. In an apparatus for treating and storing water, the combination of a tank, a stand-pipe mounted in such tank having its lower open end arranged at a distance from the bottom thereof, a water-supply pipe communicating with the interior of such stand-pipe, a chemical-supply pipe having its discharge-opening communicating with the interior of the stand-pipe, a discharge-pipe provided with a movable portion inside of the tank, and a buoy attached to such movable portion of the discharge-pipe for supporting its receiving end near the top of the water contained in the tank, substantially as described.

7. In an apparatus for treating and storing water, the

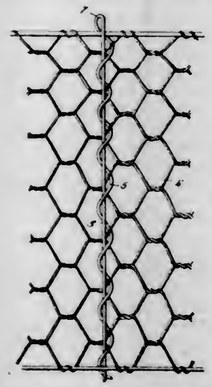
combination of a tank provided with an inclined bottom and having a water-outlet opening, a stand-pipe mounted in such tank having its lower end arranged at a distance from the bottom thereof and its upper end open and extending above the water contained in the tank, a water-supply pipe communicating with the interior of such stand-pipe, a chemical-supply pipe having its discharge end communicating with the interior of the stand-pipe, and means for drawing off the sediment from the bottom of such tank, substantially as described.

8. In an apparatus for treating and storing water, the combination of a tank provided with an inclined bottom, a discharge-pipe communicating with the lowest part of said tank, a stand-pipe provided with open upper and lower ends disposed in said tank at a distance from the bottom thereof and substantially over the lowest part of said bottom, a water-inlet pipe communicating with the interior of said stand-pipe and a chemical-supply pipe communicating with the interior of the stand-pipe directly above the outlet of the water-pipe, substantially as described.

9. In an apparatus for treating and storing water, the combination of a tank provided with an inclined bottom, a discharge-pipe communicating with the lowest part of said tank, a stand-pipe provided with open upper and lower ends disposed in said tank at a distance from the bottom thereof and substantially over the lowest part of said bottom, a water-inlet pipe communicating with the interior of said stand-pipe, a chemical-supply pipe communicating with the interior of the stand-pipe directly above the outlet of the water-pipe and means for forcing a chemical solution through said chemical-supply pipe.

10. In an apparatus for treating and storing water, the combination of a tank and stand-pipe provided with open upper and lower ends disposed at a distance from the bottom of said tank, a water-supply pipe and a chemical-supply pipe communicating with the open-ended stand-pipe at different levels and means for forcing a chemical solution through said chemical-supply pipe.

841,177. FENCE-STAY. THOMAS M. PRICE, Itasca, Tex. Filed Sept. 11, 1906. Serial No. 334,129.



Claim.—1. As an article of manufacture, a fence-stay comprising a substantially straight shank, and a retaining-coil surrounding the shank and irremovably fixed at one end to the same, said coil and shank being held by their connection against relative rotation.

2. As an article of manufacture, a fence-stay comprising a substantially straight shank having an offset terminal, and a retaining-coil surrounding the shank and fixed to the offset terminal thereof, said coil and shank being held by their connection against relative rotation.

3. As an article of manufacture, a fence-stay comprising a substantially straight heavy shank having an offset terminal, and a lighter retaining-coil surrounding the shank and fixed to the offset terminal thereof, said coil and shank being held by their connection against relative rotation and having their ends which are opposite to the connection entirely free from each other.

4. As an article of manufacture, a fence-stay comprising a straight shank, and a retaining-coil surrounding the shank and coiled from end to end, said coil and shank being connected at one end of the stay only, leaving their other ends free to permit the stay, when rotated, to feed freely downward through a fence.

841,178. PROCESS OF MIXING METALS. JOHN D. PRINCE, New York, N. Y., and HOWARD S. RODGERS, Covington, Ky. Filed Apr. 16, 1904. Serial No. 203,423.

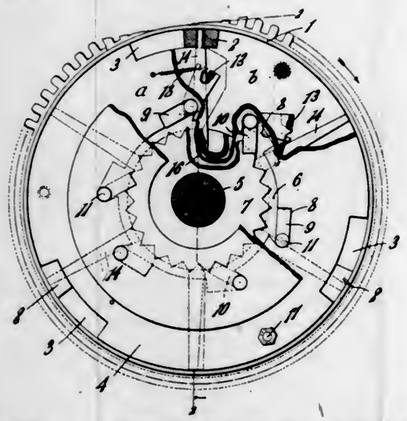
Claim.—1. The process as herein described of producing a homogeneous metal comprising a mixture of zinc and iron, which consists in melting the iron and pouring it into the mold to contain the mixed metals, while at the same time zinc in a finely-divided state, mixed with a flux, is poured into the mold, at the same gate, so that the two, the molten iron, and the dry finely-divided mixture of zinc and the flux, may unite as they flow into the mold.

2. The process as herein described of producing a homogeneous mixture of iron and zinc, by making a mixture of zinc in a finely-divided state and a flux, and pouring this mixture of flux and zinc dry into a receiver simultaneously with the pouring into it of the molten iron, the two mixing as they flow into the receptacle.

3. The process as herein described of forming a homogeneous mixture of iron and zinc by taking zinc in a finely-divided state, of an amount to make the desired percentage with the iron, mixing it with an equal amount of the flux, also in a finely-divided state, covering the same with water and allowing it to stand, then pouring off the water and permitting the mixture to dry, then pouring the mixture into a receptacle at the same time as molten iron is poured into said receptacle, the two mixing as they are poured in.

4. The process as herein described of forming a homogeneous mixture or alloy of two metals of different melting-points, by adding the metal of the lower melting-point in a cold finely-divided state mixed with a suitable flux at the gateway of the mold, into which the metal of the higher melting-point is being poured in molten form.

841,179. POWER-TRANSMITTING DEVICE. JOSEPH PUTNAM, Treloar, Mo. Filed Aug. 6, 1906. Serial No. 329,413.



Claim.—1. A power-transmitting device comprising a supporting member composed of spaced disks, a driving element encircling the same and capable of limited movement with relation to said supporting member, a ratchet member, oppositely-acting pawls carried by said supporting member, and means between the disks and operated by said driving element for positively moving one of said pawls out of engagement with said ratchet member and for permitting the other pawl to engage said ratchet member.

2. A power-transmitting device comprising a supporting member composed of spaced disks, a driving element encircling the member and capable of limited movement with relation thereto, a ratchet member, pawls carried by said supporting member for engaging said ratchet member, and radial arms adapted to be operated by said driving element for positively disengaging said pawls from said ratchet member.

3. A power-transmitting device comprising a supporting member having an annular chamber, a driving element capable of a limited movement with relation thereto, a ratchet member disposed within said chamber, oppositely-acting pawls on one side of and carried by the supporting member for engaging the ratchet member, means connected with the pawls and rotated on the side of the supporting member opposite from the latter, and radial arms adapted to be operated by said driving element and disposed in the path of the said means for positively disengaging one set of pawls from the ratchet member.

4. A power-transmitting device comprising a supporting member having elongated recesses therein, a driving element having lugs fitted loosely into said elongated recesses, a plurality of sets of oppositely-acting pawls carried by said supporting member, a plurality of ratchet members adapted to be engaged by said pawls, and a plurality of radial arms adapted to be operated by said driving element and disposed between the ratchet members and sets of pawls for positively disengaging some of said pawls from said ratchet members.

5. A power-transmitting device comprising a supporting member consisting of a pair of spaced disks each having an annular chamber and elongated recesses, a driving element having lugs loosely fitted into the said elongated recesses, a ratchet member mounted in the annular chamber of each disk, oppositely-acting sets of pawls carried by each disk for engaging said ratchet members, and radial arms located between said spaced disks and connected with said driving element for releasing one set of pawls from engagement with said ratchet members.

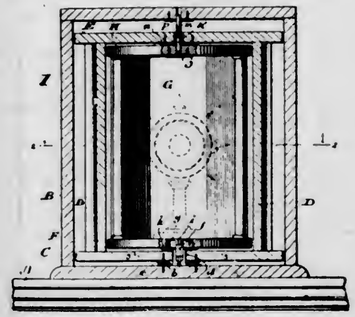
6. A power-transmitting device comprising a supporting member consisting of a pair of spaced disks each having a plurality of elongated recesses, a centrally-disposed annular chamber and a plurality of pawl-recesses opening into said chamber, a ratchet member mounted in the annular chamber of each of said disks, a plurality of oppositely-acting pawls mounted in said pawl-recesses and adapted to engage said ratchet members, each of said pawls having a pawl-shaft extending through the adjacent disk and having a pawl-finger located in the space between said disks, a plurality of radial arms mounted between said disks and adapted to engage said pawl-fingers for moving either set of pawls out of engagement with said ratchet members, and a driving element surrounding said disks and connected with said radial arms, said driving element having lugs projecting into the elongated recesses of said disks.

841,180. ALTAR-TABERNACLE. JOSEPH RAUWALD, Milwauke, Wis. Filed Apr. 9, 1906. Serial No. 310,764.

Claim.—1. An altar-tabernacle consisting of an open-front casing having a base and top, a canopied throne stationary within the casing central of same, and a throne-screen having central rotary adjustable connection with the casing-base, throne-canopy and casing-top; said screen constituting a closure for the front opening of said casing by which casing it is concealed when adjusted to disclose the throne.

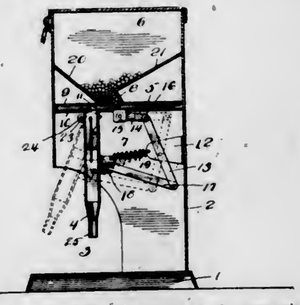
2. An altar-tabernacle consisting of an open-front casing, a rotary adjustable frame within the casing and comprising parallel outwardly-concave standards either of which is exposable to close the tabernacle, and a throne stationary within the confines of the frame.

3. An altar-tabernacle consisting of an open-front casing having the bottom thereof provided with a central upwardly-extending pivot-post, a closure for the casing loose on the pivot-post, a canopied throne having a depending angular shank engaging a corresponding socket in said pivot-post, a pivot-pin extending upward from the throne-canopy central of same and rigidly connected thereto, and another pivot-pin rigid with and extending upward from the top of said closure and bearing in the top of the casing, said first-named pivot-pin having a bearing in a socket in the lower end of said second-named pivot-pin.



4. An altar-tabernacle consisting of an open-front casing having the bottom thereof provided with a central upwardly-extending pivot-post, a closure for the casing loose on the pivot-post, a canopied throne having a depending angular shank engaging a corresponding socket in said pivot-post, a screw extending through the shank into the aforesaid post, a pivot-pin extending upward from the throne-canopy central of same and rigidly connected thereto, and another pivot-pin rigid with and extending upward from the top of said closure and bearing in the top of the casing, said first-named pivot-pin having a bearing in a socket in the lower end of said second-named pivot-pin.

841,181. MATCH-DELIVERING RECEPTACLE. CHARLES W. REDMAN, Pittsburg, Pa., assignor of one-half to Napoleon B. Gibson, Pittsburg, Pa. Filed Aug. 8, 1906. Serial No. 329,736.



Claim.—1. A match-delivering receptacle comprising a hopper having a discharge-opening, a slide supported below the hopper and having a slot adapted to receive one match at a time, a pivoted discharge-chute below the slide, serving also as an operating-handle, and connections between said pivoted chute and slide for moving the latter.

2. A match-delivering receptacle comprising a hopper having a discharge-opening, a slide supported below the hopper and having a slot adapted to receive only one match at a time from the hopper, a pivoted discharge-chute below the slide serving also as an operating-handle, a deflector within said pivoted chute to turn the match so that it will drop lengthwise, and connections between the pivoted chute and slide for operating the latter.

3. A match-delivering receptacle comprising a hopper having a discharge-opening, a slide supported below the hopper and having a slot adapted to receive only one match at a time from the hopper, a pivoted discharge-

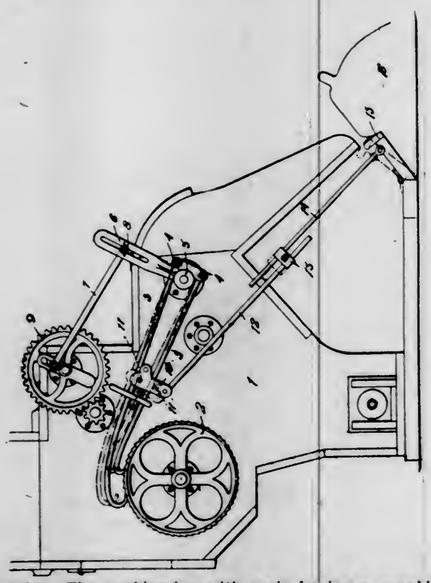
chute below the slide, serving also as an operating-handle, a deflector within said pivoted chute to turn the match so that it will drop lengthwise, and connections between the pivoted chute and slide for operating the latter, comprising a lever, a link connecting the slide and lever, and a link, connecting the pivoted chute and lever.

4. In a match-delivering receptacle, the combination with a casing cut away at its front and sides, of a slotted partition dividing the casing into an upper and a lower compartment, a hopper-bottom above said partition, a slotted slide below the partition, a pivoted chute to receive matches through the slot in the slide, and serving also as an operating-handle for the slide, a lever fulcrumed within the lower compartment of the casing, link connections between said lever and the slide and pivoted chute, and a retracting-spring for said chute.

5. In a match-delivering receptacle, the combination with a hopper and a slotted slide, of a pivoted delivery-chute connected to the slide, means for retracting the chute, and a deflector within the chute for tilting a match lengthwise after it passes into the chute through the slide.

6. In a match-delivering receptacle, the combination with a hopper, and a slotted slide, of a pivotally-secured chute, connections between said chute and slide, and a deflector within said chute at one side thereof, said pivoted chute having a contracted lower end to deliver the match lengthwise, and said connected lower end serving as a handle.

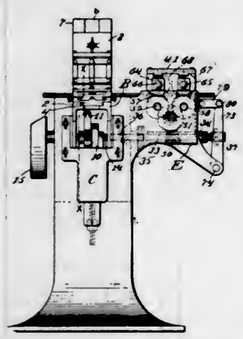
841,182. GIN-FEEDER. MICHAEL E. NORRIS and JESSE L. NORRIS, Temple, Tex. Filed June 30, 1906. Serial No. 324,241.



Claim.—The combination with a gin having a movable breast; of feed-operating mechanism comprising a ratchet, a lever, pawls pivoted thereto at opposite sides of its fulcrum, a guide-bracket secured between and extending over the pawls at a point between the ends thereof, a lifting-lever fulcrumed between the pawls and adjacent said bracket, projections upon said lever and adapted to simultaneously contact with and raise the pawls, and a longitudinally-adjustable rigid connection between the lifting-lever and the breast.

841,183. CARVING-MACHINE. FRANCIS H. RICHARDS, Hartford, Conn. Filed Mar. 24, 1902. Serial No. 99,623.

Claim.—1. The combination with driven mechanism embodying a working tool and driving means continuously connected to said mechanism for imparting intermittent working movement thereto, of means for continuously gripping the stock to be fed to said tool, means driven by said driving means for continuously imparting a constant movement to said gripping means, and means for intermittently retarding the actual feed given the work by the gripping means.



2. In an intermittent feed, the combination of a reciprocating carriage and a constantly-revolving roll carried thereby.

3. In an intermittent feed, the combination of a reciprocating carriage, one or more constantly-revolving rolls carried thereby.

4. In an intermittent feed, the combination of a reciprocating carriage, one or more rolls carried thereby, and means for imparting rotation to said rolls at a peripheral velocity equal to the velocity of movement of said carriage in one direction.

5. In an intermittent feed, the combination of a reciprocating carriage, one or more constantly-revolving rolls carried thereby, and means for imparting a reciprocating movement to said carriage in each direction at a velocity equal to the peripheral velocity of said rolls.

6. In an intermittent feed, the combination of a power-shaft, a carriage, one or more feed-rolls carried by said carriage and operably connected with said shaft, and lateral cam means on said shaft engaging and reciprocating said carriage at a velocity equal to the peripheral velocities of said rolls.

7. In an intermittent feed, the combination of a power-shaft, a carriage, one or more feed-rolls carried by said carriage, a spline power-transmission train between said shaft and rolls, and means connected to said carriage to reciprocate the same at a velocity equal to the peripheral velocity of the said rolls.

8. In an intermittent feed, the combination of a power-shaft, a carriage, one or more feed-rolls carried by said carriage, a gear-train carried by said carriage and driving said rolls and splined to said shaft, and means connected to said carriage to reciprocate the same at a velocity equal to the peripheral velocity of said rolls.

9. In an intermittent feed, a carriage, feed mechanism carried by and continuously operative relative to said carriage, and means for imparting a reciprocating movement to said carriage alternately neutralizing and augmenting the action of said feed.

10. The combination of a power-shaft, a carriage, a feed carried by said carriage and continuously operated from said shaft, and means carried by said shaft for reciprocating said carriage to alternately neutralize and augment the action of said feed.

11. In a feeding mechanism, the combination of a revoluble feeding member, means for revolving said member constantly at uniform speed, and means for reciprocating said feeding member bodily in the line of the feeding movement.

12. In a feeding mechanism, the combination of a revoluble feeding-roll, means for revolving said roll constantly at uniform speed, and means for reciprocating said feeding-roll bodily in the line of the feeding movement.

13. In a feeding mechanism, the combination of a revoluble feeding member, means for revolving said member constantly at uniform speed, and means for reciprocating said feeding member bodily in the line of the feeding movement at a speed equal to the peripheral velocity of said feeding member.

14. In a feeding mechanism, the combination of opposing feed-rolls, means for revolving one of said rolls constantly at uniform speed, and means for moving said rolls bodily in a direction opposite to the feeding movement at a speed equal to the peripheral speed of said rolls, and for returning said rolls to normal position.

15. In a feeding mechanism, the combination of opposing feed-rolls geared together, means for revolving one of said rolls constantly at uniform speed, and means for moving said rolls bodily in a direction opposite to the feeding movement at a speed equal to the peripheral speed of said rolls, and for returning said rolls to normal position.

16. In a feeding mechanism, the combination of a plurality of feeding-rolls geared together, feeding-rolls mounted to oppose said plurality and also geared thereto, means for revolving all of said rolls at uniform speed, and means for moving said rolls together in a direction opposite to the feeding movement at a speed equal to the peripheral speed of said rolls, and for returning said rolls to normal position.

17. In a feeding mechanism, the combination of a feed-roll, means for reciprocating said roll bodily along the stock and in constant contact therewith, and means for causing said roll to run along the stock during the return stroke to prevent movement thereon and to feed the stock during the forward stroke of the reciprocation.

18. In a feeding mechanism, the combination of opposite gripping-rolls, means for reciprocating said rolls bodily along the stock and in constant contact therewith, and means for causing said rolls to run along the stock during the return stroke to prevent movement thereon and to feed the stock during the forward stroke of the reciprocation.

19. In a feeding mechanism, the combination of a carriage, means for reciprocating said carriage, a plurality of feeding-rolls mounted upon said carriage and geared together, and means for causing said rolls to run along the stock during one stroke of the carriage to prevent movement thereon and to feed the stock during the return stroke thereof.

20. In a feeding mechanism, the combination of a carriage, means for reciprocating said carriage, a plurality of feeding-rolls mounted upon said carriage and geared together, opposite gripping-rolls also geared to said feed-rolls, and means for causing said rolls to run along the stock during one stroke of the carriage to prevent movement thereon and to feed the stock during the return stroke thereof.

21. In a carving-machine, the combination of means for operating upon the stock, driving means continuously connected to said operating means, and a continuous-grip intermittent stock-feed mechanism positively connected to said operative means and having constantly-operative connection throughout.

22. In a carving-machine, the combination of a cutting-tool, driving means positively connected to said tool for reciprocating the same, a revoluble feeding member, means connected to said driving means for revolving said feeding member constantly at uniform speed, and means for reciprocating said feeding member bodily in the line of the stock-feeding movement.

23. In a carving-machine, the combination of a cutting-tool, driving means positively connected to said tool for reciprocating the same, a stock-feeding roll, and means connected to said driving means for revolving said roll constantly at uniform speed, and for reciprocating said roll bodily in the line of the stock-feeding movement; the mechanism being so organized that the tool operates upon the stock while the roll is running back, and is out of the stock while the roll is running forward.

24. In a carving-machine, the combination of a cutting-tool movable into and out of the stock, a stock-guide, a stock-feeding roll mounted for coöperation with said stock-guide, means for revolving said feed-roll constantly at uniform speed, a positive connection between said cutting-tool and said roll-revolving means, and means positively connected to said connection for reciprocating said roll bodily in the line of the stock-feeding movement.

25. In a carving-machine, the combination of a cutting-tool movable into and out of the stock, a stock-guide, a stock-feeding roll mounted for coöperation with said stock-guide, means for revolving said feed-roll constantly at uniform speed, a positive connection between said cutting-tool and said roll-revolving means, and means positively connected to said connection for reciprocating said roll bodily in the line of the feeding movement at a speed equal to the peripheral velocity of said roll.

26. In a carving-machine, the combination of a cutting-tool, means for moving the tool into and out of the stock, a stock-guide, a stock-gripping feed-roll, means positively connected to said tool-moving means for revolving said roll constantly, means for moving said roll bodily in a direction opposite to the stock-feeding movement at a speed equal to its peripheral velocity, and for returning said roll to normal position, and an opposing stock-gripping feed-roll; the mechanism being so organized that said tool is moved into the stock when said roll is moving opposite to the direction of the stock-feeding movement.

27. In a carving-machine, the combination of a cutting-tool, driving means positively connected to said tool for reciprocating the same, a plurality of revoluble feeding members, means connected to said driving means for revolving said feeding members constantly at uniform speed, and means for reciprocating said feeding members bodily in the line of the stock-feeding movement.

28. In a carving-machine, the combination of a cutting-tool, driving means positively connected to said tool for reciprocating the same, a plurality of stock-feeding rolls geared together, and means connected to said driving means for revolving said rolls constantly at uniform speed, and for reciprocating said rolls bodily in the line of the stock-feeding movement; the mechanism being organized so that the tool operates upon the stock while the rolls are running back, and is out of the stock while the rolls are running forward.

29. In a carving-machine, the combination of a cutting-tool movable into and out of the stock, a stock-guide, opposite gripping feed-rolls mounted in line with said stock-guide, means for revolving at least one of said feed-rolls constantly at uniform speed, positive connections between said cutting-tool and said roll-revolving means, and means positively connected to said connections for reciprocating said rolls together bodily in the line of the stock-feeding movement.

30. In a carving-machine, the combination of a cutting-tool movable into and out of the stock, a stock-guide, a plurality of feeding-rolls geared together and mounted for coöperation with said stock-guide, means for revolving said feed-rolls constantly at uniform speed, positive connections between said cutting-tool and said roll-revolving means, and means positively connected to said connections for reciprocating said rolls bodily in the line of the feeding movement at a speed equal to the peripheral velocity of said rolls; and opposing coöperative rolls.

31. In a carving-machine, the combination of a cutting-tool, means for moving the tool into and out of the stock, a stock-guide, a plurality of stock-gripping feed-rolls, means positively connected to said tool-moving means for revolving said rolls constantly, means for moving said rolls bodily in a direction opposite to the stock-feeding movement at a speed equal to their peripheral velocity, and for returning said rolls to normal position, and an opposing stock-gripping feed-roll; the mechanism being so organized that said tool is moved into the stock when the first-mentioned rolls are moving opposite to the direction of the stock-feeding movement.

841,184. LUBRICATING TUBULAR DRILL. WILLIAM E. ROESKE, Davenport, Iowa. Filed Nov. 27, 1905. Serial No. 289,271.

Claim.—1. A metal-boring drill composed of the union of two cylindrical sectors, having an interior opening of lunar cross-section bounded by said sectors, and at its ex-

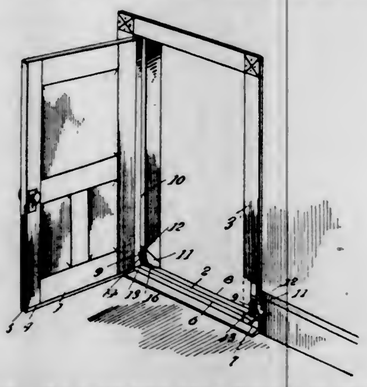
tremity a cutting-lip on the edge of one of the cylindrical sectors.



2. A hollow metal-boring drill of lunar cross-section having a longitudinal peripheral fluting, one half of the arc at the extremity of said fluting being disposed at right angles to the longitudinal axis of the drill and the other half of said fluting being cut by a plane passing through the transverse diameter perpendicular to the chord of the minor arc of the lune at an angle of less than ninety degrees, the drill being also cut by a plane passing at an angle of less than ninety degrees to the longitudinal axis of the drill passing through the first-mentioned half of the arc of fluting.

3. A hollow metal-boring drill with a longitudinal peripheral fluting, formed by the rigid union of two cylindrical segments of unequal diameters and provided with a cutting-lip and a flat steel bridge radially interposed between the extremity of the cylindrical segments.

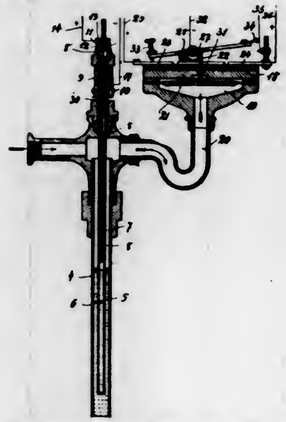
841,185. WEATHER-STRIP. CHARLES E. SAINT CLAIR, Star City, Ind. Filed May 19, 1906. Serial No. 317,656.



Claim.—The combination with a door and its frame, the latter embodying jambs, of a sill for the bottom of the door-frame, said sill being constructed of two transversely-extending sections of which one section is stationary and the other is loose and mounted to rock upon its lower face, said loose section being provided at its ends with outstanding arms concaved on those edges that are farthest from the door, as it is swung toward them, and blocks secured to the lower end of the door-jambs and adapted to accommodate the loose sections of the sill, each of said blocks being provided with a convex or rounded corner adapted to engage the concave side of the respective arms of said loose section, the parts being so proportioned that the upper ends of said arms normally stand out beyond the said blocks, whereby when the door is closed it will engage said outstanding ends of the arms and turn the same in a vertical plane so as to carry the outer edge of the loose section upwardly and over the adjacent edge of the other section.

841,186. ALARM-SIGNAL FOR BOILERS. HERMANN SANDVOSS, Neuss, Germany. Filed Feb. 23, 1906. Serial No. 302,435.

Claim.—1. In a boiler-alarm, an outer tube, an inner tube, a mercury column within the inner tube, a contact adapted to be engaged thereby, an alarm in circuit, means for connecting the lower end of the outer tube with the water-space of the boiler, and means for connecting the upper end of said tube with the steam-space of said boiler, substantially as specified.



2. In a boiler-alarm, an outer tube, an inner tube, a lower mercury column, and a separate upper mercury column in the inner tube, contacts for said columns, an alarm in circuit, means for connecting the lower end of the outer tube with the water-space of the boiler, and means for connecting the upper end of said tube with the steam-space of said boiler, substantially as specified.

841,187. ORNAMENTAL TRIMMING. CHARLES P. SCHLEGEL, Rochester, N. Y. Filed Apr. 13, 1905. Serial No. 255,365.



Claim.—1. An article of manufacture consisting of a hollow ornamental figure formed of an embossed backing of sized fabric and a covering intimately engaging the backing, the edges of said backing and covering being turned inwardly at the rear side of the figure.

2. An article of manufacture consisting of a hollow ornamental figure formed with a backing of stiff loosely-woven fabric and a covering of pliable fabric pasted thereon, both the backing and covering being embossed in intimate contact while the paste is in a moist condition and their edges turned inwardly.

3. An article of manufacture consisting of a hollow ornamental figure formed with a backing of stiff loosely-woven fabric and a covering of pliable fabric, both the backing and covering being embossed and secured in intimate contact by moist adhesive material and having their edges turned inwardly and tacking-pieces secured to the inner side of the embossed figure within the inwardly-turned edges.

841,188. DEVICE FOR DETECTING SUBTERRANEAN WATERS. ADOLF SCHMID, Berne, Switzerland. Filed Oct. 14, 1904. Serial No. 228,445.

Claim.—1. In a device of the class described the combination of a spool made up of a winding of magnetizable metal wire, the turns of which are separated electrically one from the other, the circuit of said winding being electrically open at all times; with a feebly-magnetized needle rotatably mounted in the proximity of said spool.



2. In a device of the class described, the combination of a spool made up of a winding of annealed iron wire, the turns of which are separated electrically one from the other, the circuit of said winding being electrically open at all times; with a feebly-magnetized needle rotatably mounted in the proximity of said spool.

3. In a device of the class described, the combination of a spool made up of a winding of magnetizable metal wire, the turns of which are out of contact with one another, and the several layers of which are separated by paraffined paper; said paraffined paper; a hollow glass cylinder within said spool; and a feebly-magnetized needle rotatably mounted.

4. In a device of the class described, the combination of a casing one face of which bears a graduated scale; a spool within said casing, said spool being made up of a winding of magnetizable metal wire, the electrical circuit of which is open at all times; and a rotatable feebly-magnetized needle.

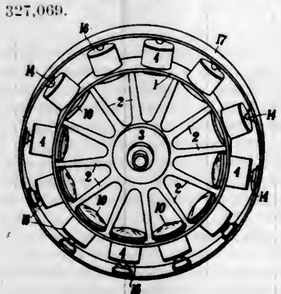
5. In a device of the class described, the combination of a casing one face of which bears a graduated scale; a spool within said casing, said spool having a winding of magnetizable metal wire, the electrical circuit of which is open at all times; a glass cylinder within said winding; and a feebly-magnetic needle rotatably mounted.

6. In a device of the class described, the combination of a spool the winding of which is of magnetizable iron wire, the turns of which are out of electrical contact with one another and the layers of which are separated by paraffined paper and tin-foil, said winding being constantly on open circuit; said paper and tin-foil; and a feebly-magnetic needle rotatably mounted.

7. In a device of the class described, the combination of a glass cylinder; a winding of magnetizable iron wire thereon, the turns of which are out of contact with one another and the several layers of which are separated from one another and from said glass cylinder by paraffined paper; said paper; and a feebly-magnetic needle rotatably mounted; said winding being constantly on open electrical circuit.

8. In a device of the class described, the combination of a casing; a winding therein of magnetizable metal wire the turns of which are out of electrical contact with one another, and the electrical circuit through which is constantly open; and a magnetic needle rotatably mounted.

841,189. ELASTIC WHEEL FOR VEHICLES. RICHARD SCHNICKE, Chemnitz, Germany. Filed July 20, 1906. Serial No. 327,069.



Claim.—1. In an elastic wheel the combination of a rim, a tire concentric thereto, bolts to which said rim is attached, two spiral springs facing each other surrounding said bolts adapted to move in a direction, in the plane of the wheel and at an angle to the same, substantially as and for the purpose set forth.

2. In an elastic wheel the combination of a rim, a tire concentric thereto, bolts to which said rim is fixed and means of enabling said bolts to move both in a direction in the plane of the wheel and at an angle thereto, substantially as and for the purpose set forth.

3. In an elastic wheel the combination of a rim, a tire concentric thereto, bolts to which said rim is fixed, springs supporting said bolts adapted to move both in a direction in the plane of the wheel and at an angle to the same, substantially as and for the purpose set forth.

4. In an elastic wheel the combination of a rim, a tire concentric thereto, pockets fixed to said tire, bolts attached to said rim extending into said pockets, a set of two spiral springs surrounding said bolts in each of said pockets facing each other.

5. In an elastic wheel the combination of a rim, a tire concentric thereto, pockets fixed to said tire, bolts attached to said rim respectively extending into said pockets provided at their upper and lower end with a collar, a set of spiral springs respectively surrounding the collars of said bolt facing one another in said pocket.

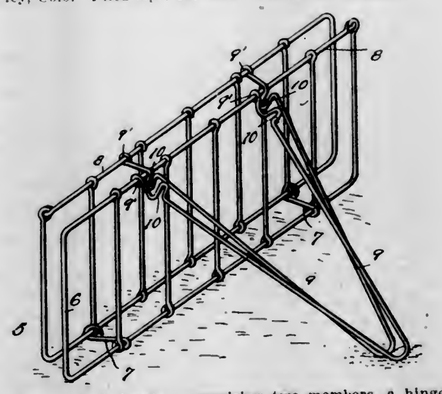
6. In an elastic wheel the combination of a rim, a tire concentric thereto, pockets fixed to said tire closed at both ends, bolts respectively attached to said rim extending into said pockets and a set of two spiral springs respectively surrounding said bolts facing one another in said pockets.

7. In an elastic wheel the combination of a rim, a tire concentric thereto, pockets fixed to said tire, bolts respectively attached to said rim extending into said pockets and a set of two spiral springs respectively surrounding said bolts facing one another in said pockets, a cover for each pocket adapted to close said pocket at one end and a resilient cover arranged at the other end of said pocket through which said bolts pass.

841,190. MANUFACTURE OF PURIFIED SODA-PINE PULP. WILLIAM H. SHARP, Philadelphia, Pa. Filed Nov. 6, 1906. Serial No. 342,172.

Claim.—The hereinbefore-described process of manufacturing soda-pine pulp, which consists in, first, digesting the pine-wood with a caustic soda; second, washing; third, treating with chlorid of lime; fourth, treating with a permanganate; and, finally, washing in a dilute sulfurous acid, substantially as set forth.

841,191. BREAD-TOASTER. ANNA M. SKINNER, Greeley, Colo. Filed Apr. 15, 1905. Serial No. 255,842.



Claim.—1. A toaster comprising two members, a hinge connection for one edge of each of said members, a handle pivoted to the free edge of each of said members, a projec-

tion on each of said handles, the projection on either of said handles engaging the edge of the opposite member when folded thereover.

2. A toaster comprising two pivotally-connected members, handles pivoted to the free edges of said members, a projection on each of said handles, said projection on either of said handles, adapted to engage the opposite member, to lock the members together and to support the toaster at an angle to the handles.

3. A toaster comprising a pair of vertical members arranged for the reception of food to be toasted therebetween, links connecting the members at their lower portions for movement of the members out of coöperative relation, a handle including spaced legs connected at the ends of its legs with one of the members for pivotal movement with respect thereto, and extending over and downwardly beyond the other member, said handle having its legs bent to form downwardly-extending loops engaged over the other member, and a similar handle pivotally connected at the ends of its legs with the second-named member, the legs of said second handle being bent to form upwardly-extending loops and being movable to engage said loops with the first-named member to hold the members in coöperative relation.

841,192. SHOE BUTTONER AND HORN. JOHN L. SOMMER, Newark, N. J. Filed May 23, 1906. Serial No. 318,287.



Claim.—1. A shoe-horn having a tongue at the small end thereof bent backward upon itself and perforated at the point of bending, and a button-hook having a shank passed through said perforation, and a rivet through said tongue, shank and shoe-horn.

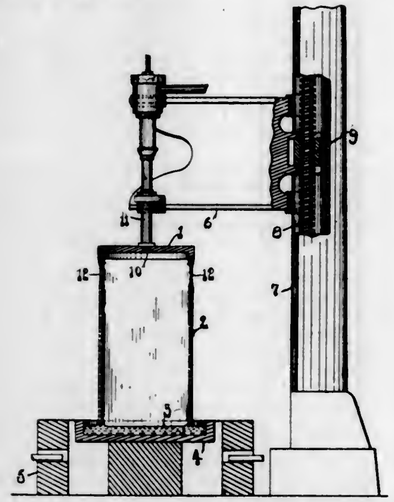
2. The combination of a shoe-horn, having an integral tongue at its small end returned or bent backward, and perforated at the point of bending, a shoe-buttoner having a shank lying in said perforation and a flattened extremity beyond the same lying between the shoe-horn and its tongue, and a rivet through said tongue, flattened shank and shoe-horn.

3. The combination of a shoe-horn, having at its small end an integral tongue curved backward at a distance from the body portion of the shoe-horn and brought at its extremity adjacent to the same, a shoe-buttoner having its shank passed through said tongue at its point of curvature, and a rivet through said tongue, shank and shoe-horn, the rounded or swelled end of said tongue providing a finger-grasp.

4. The combination of a sheet-metal shoe-horn having at its small end an integral tongue bent backward upon itself and perforated at the point of bending, and a wire member fitting the perforation in said tongue and extending between the end of the tongue and the body of the shoe-horn, said end of the tongue and the underlying wire member being secured to the shoe-horn body at that point.

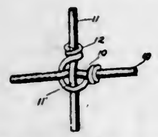
5. The combination of a sheet-metal shoe-horn having at its small end an integral tongue curved outwardly backward and brought at its extremity closer to the body of the shoe-horn, said tongue being perforated at its said bend, and a wire member fitting the said perforation and having a flattened portion beyond the same lying between the end of the tongue and the body of the shoe-horn, whereby said end of the tongue closely approaches the shoe-horn body and its rounded portion provides an enlarged finger-grasp, said end of the tongue and underlying flattened portion of the wire member being secured to the shoe-horn body at that point.

841,193. METHOD OF DRAWING GLASS. JAMES R. SPEER, Pittsburg, and GEORGE H. HARVEY, Glenfield, Pa., assignors to Brownsville Glass Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Nov. 23, 1906. Serial No. 344,708.



Claim.—The method of drawing sheet-glass, which consists in maintaining a higher temperature in an initial portion of the sheet by a speed of withdrawal above the normal required to draw the remainder of the sheet, whereby said initial portion is drawn thinner than the remaining portion.

841,194. WIRE FABRIC. LAFE SWANK, Anderson, Ind., assignor to Dwiggins Wire Fence Company, Indianapolis, Ind., a Corporation of Indiana. Filed Nov. 7, 1906. Serial No. 342,348.



Claim.—1. In a wire fabric, the combination with crossing wires, of a tie-wire having one end wound around one crossing wire and its other end wound around the other crossing wire with its intermediate portion passed alternately under and over the crossing wires.

2. In a wire fabric, the combination, with crossing wires, of a tie-wire having one end attached to one crossing wire and its other end attached to the other crossing wire with its intermediate portion passed alternately under and over the crossing wires.

3. In a wire fabric, the combination, with crossing wires having mating kinks at crossing-points, of a tie-wire having one end wound around one crossing wire and its other end wound around the other crossing wire with its intermediate portion passed alternately under and over the crossing wires.

4. In a wire fabric, the combination, with crossing wires having mating kinks at crossing-points, of a tie-wire having one end attached to one crossing wire and its other end attached to the other crossing wire with its intermediate portion passed alternately under and over the crossing wires.

5. In a wire fabric, the combination with crossing wires, of a tie-wire having one end wound around one crossing wire and at its other end wound around the other crossing wire, the intermediate portion of said tie passing through three quadrants only of the cross and binding the crossing wires together.

6. In a wire fabric, the combination with crossing wires, of a tie-wire having one end attached to one crossing wire and at its other end attached to the other crossing wire, the intermediate portion of said tie passing through three quadrants only of the cross and binding the crossing wires together.

7. In a wire fabric, the combination with crossing wires having mating kinks at crossing-points, of a tie-wire having one end wound around one crossing wire and at its other end wound around the other crossing wire, the intermediate portion of said tie passing through three quadrants only of the cross and binding the crossing wires together.

8. In a wire fabric, the combination with crossing wires having mating kinks at crossing-points, of a tie-wire having one end attached to one crossing wire and at its other end attached to the other crossing wire, the intermediate portion of said tie passing through three quadrants only of the cross and binding the crossing wires together.

9. In a wire fabric, the combination with crossing wires, of a tie-wire wound around the first crossing wire, thence through to adjacent quadrant of the cross beneath the second wire into a second quadrant, thence over the first wire and into the diagonally opposite quadrant and wound around the second crossing wire.

10. In a wire fabric, the combination with crossing wires, of a tie-wire attached to the first crossing wire, thence through to adjacent quadrant of the cross beneath the second wire into a second quadrant, thence over the first wire and into a third quadrant and attached to the second crossing wire.

11. In a wire fabric, the combination with crossing wires, of a tie-wire wound around the first crossing wire, thence through to adjacent quadrant of the cross beneath the second wire into a second quadrant, thence over the first wire and into a third quadrant and wound around the second crossing wire.

12. In a wire fabric, the combination with crossing wires, of a tie-wire attached to the first crossing wire, thence through to adjacent quadrant of the cross beneath the second wire into a second quadrant, thence over the first wire and into the diagonally opposite quadrant and attached to the second crossing wire.

13. In a wire fabric, the combination with crossing wires having mating kinks at crossing-points, of a tie-wire wound around the first crossing wire, thence through to adjacent quadrant of the cross beneath the second wire into a second quadrant, thence over the first wire and into the diagonally opposite quadrant and wound around the second crossing wire.

14. In a wire fabric, the combination with crossing wires having mating kinks at crossing-points, of a tie-wire attached to the first crossing wire, thence through to adjacent quadrant of the cross beneath the second wire into a second quadrant, thence over the first wire and into a third quadrant and attached to the second crossing wire.

15. In a wire fabric, the combination with crossing wires having mating kinks at crossing-points, of a tie-wire wound around the first crossing wire, thence through to adjacent quadrant of the cross beneath the second wire into a second quadrant, thence over the first wire and into a third quadrant and wound around the second crossing wire.

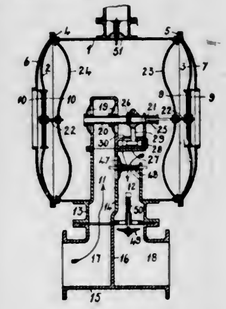
16. In a wire fabric, the combination with crossing wires having mating kinks at crossing-points, of a tie-wire attached to the first crossing wire, thence through to adjacent quadrant of the cross beneath the second wire into a second quadrant, thence over the first wire and into the diagonally opposite quadrant and attached to the second crossing wire.

841,195. SLUNG-SHOT. JEWETT B. SWEETSER, Danvers, Mass. Filed Oct. 6, 1906. Serial No. 337,797.



Claim.—A slung-shot comprising a handle, a spring having straight portions arranged in alinement with the handle, the outer end of said spring being flattened, a missile-holder fitted on the flattened end of said spring and having a cone-shaped socket adapted to exert slight friction upon a missile placed therein, and a finger-piece connected with said missile-holder and having an enlarged rear end adapted to be grasped between the thumb and forefinger.

841,196. ANTIPULSATOR FOR GAS-CONDUITS. THOMAS THORP, Whitefield, England. Filed Jan. 17, 1906. Serial No. 296,558.



Claim.—1. In an antipulsator for gaseous fluids the combination with the casing thereof of a diaphragm fixed over one end of said casing, a spring adapted to pull the diaphragm inward, an inlet-pipe provided with a valve, an outlet-pipe from the casing, a connection between said inlet-valve and said diaphragm adapted to allow the diaphragm to move inward and outward within limits without moving the valve and to open and to close it when said limits are exceeded.

2. The combination with an antipulsator for gaseous fluids having a diaphragm closing one side thereof and a spring adapted to pull the diaphragm inward of an inlet-pipe provided with a valve, an outlet-pipe, a connection between said inlet-valve and said diaphragm adapted to allow the diaphragm to move inward and outward within limits without moving the valve and to open and to close it when the movement of the diaphragm exceeds said limits, and a dash-pot connected to said valve and adapted to retard its movements in either direction.

3. In an antipulsator for gaseous fluids the combination of a casing, diaphragms fixed over the ends thereof and springs adapted to pull the diaphragms inward with an increasing pressure for the purpose of obtaining an equal pressure throughout the range, an inlet-pipe and an outlet-pipe to and from said casing, a valve on said inlet-pipe adapted to close and open the gas-inlet, a connection between one of said diaphragms and said inlet-valve adapted to allow the diaphragm to move inward and outward within certain limits without moving the valve and to open and close the same when said limits are exceeded, and a dash-pot connected to said valve and adapted to retard its movement.

4. In an antipulsator for gaseous fluids the combination of a cylindrical casing, diaphragms fixed over the ends thereof and springs adapted to pull said diaphragms

inward, an inlet-pipe and an outlet-pipe to and from said casing, a valve on said inlet-pipe adapted to close and open the gas-inlet, a connection between one of said diaphragms and said inlet-valve adapted to allow the diaphragm to move inward and outward within limits without moving the valve and to open and close the same when said limits are exceeded, a dash-pot connected to said valve and adapted to retard its movement, a second free-lifting valve on said inlet-pipe and a spring adapted to hold it in its seating.

5. In an antipulsator for gaseous fluids the combination of a cylindrical casing, diaphragms fixed over the ends thereof and springs adapted to pull said diaphragms inward, an inlet-pipe and an outlet-pipe to and from said casing, a valve on said inlet-pipe adapted to close and open the gas-inlet, a connection between one of said diaphragms, and said inlet-valve adapted to allow the diaphragm to move inward and outward within limits without moving the valve and to open and close the same when said limits are exceeded, a dash-pot connected to said valve and adapted to retard its movement, a second free-lifting valve on the inlet-pipe and a spring adapted to hold it on its seating, a back-pressure valve in the outlet-pipe and a safety-valve on the casing.

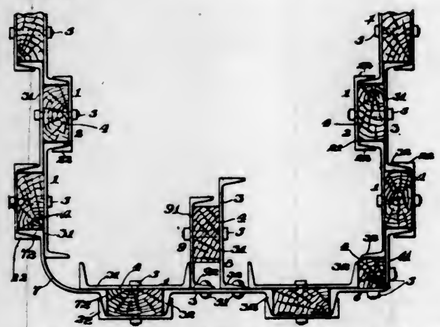
6. In an antipulsator for gaseous fluids the combination of a cylindrical casing, diaphragms fixed over the ends thereof and springs adapted to pull said diaphragms inward, a pipe fixed to the bottom of said casing divided by a partition-plate into an inlet and an outlet pipe and provided with branches for connection to the gas-main, an inlet-valve adapted to close and open the gas-inlet into the casing, a connection between said inlet-valve and one of said diaphragms adapted to allow the diaphragm to move inward and outward without moving the valve and to open and close the valve when said limits are exceeded, a dash-pot connected to said valve and adapted to retard its movement and a second free-lifting valve on said inlet-pipe and a spring adapted to hold it to its seating.

7. In an antipulsator for gaseous fluids the combination of a cylindrical casing, diaphragms fixed over the ends thereof and springs adapted to pull said diaphragms inward, an inlet-pipe and an outlet-pipe to and from said casing, a double-seated equilibrium-valve on said inlet-pipe adapted to close and open the gas-inlet and having a tubular spindle located centrally to said diaphragms, a piston in said tubular spindle and a piston-rod attached to one of said diaphragms, a stop fixed in said tubular spindle on each side of the piston, said stops being farther apart than the thickness of the piston, and a dash-pot connected to said tubular spindle adapted to retard its movement.

8. In an antipulsator for gaseous fluids the combination of a cylindrical casing, diaphragms fixed over the ends thereof and springs adapted to pull said diaphragms inward with an increasing pressure for the purpose of maintaining an equal pressure in the antipulsator throughout the range, a pipe fixed to the bottom of said casing having branches for connection to the gas-main and extending into said casing, a partition-plate in said pipe dividing the same into an inlet and outlet pipe, a top part to the inlet-pipe closed by a double-seated equilibrium-valve, a tubular spindle for said valve located in the center line of said casing and diaphragms, a piston in said tubular spindle and a piston-rod connecting the same to one of said diaphragms, stops fixed in said tubular spindle one on each side of the piston and farther apart than the thickness of the piston, a dash-pot connected to said tubular spindle and adapted to retard its movement a second free-lifting valve on the side of said inlet-pipe and a spring adapted to hold it upon its seating.

9. In an antipulsator for gaseous fluids, the combination of a cylindrical casing, diaphragms fixed over the ends thereof and springs adapted to pull said diaphragms inward with increasing pressure, a pipe fixed to the bottom of said casing divided by a partition-plate into an inlet and an outlet pipe, branches on said inlet and outlet pipes for connection to the gas-main, a top part to the inlet-pipe and a double-seated equilibrium-valve therein adapted to open and close the gas-inlet to the casing, a tubular spindle for said valve located in the center line of the casing and diaphragms, a piston in said tubular spindle and a piston-rod connecting the same to one of said diaphragms, stops fixed in said tubular spindle one on each side of the piston so far apart that the piston can move in and out for a certain distance without striking the same, a dash-pot consisting of a small cylinder parallel to said tubular spindle filled with oil and a piston therein adapted to allow the oil to pass slowly from one side to the other, an arm fixed on the tubular spindle and engaging with the piston through a slot in the top of the cylinder, a second valve on the inlet-pipe adapted to lift freely and a spring adapted to hold it upon its seating, a back-pressure valve in the outlet-pipe and a safety-valve on the said casing.

841,197. SHEET-PILING. CHARLES C. TOMKINSON, Plainfield, N. J. Filed Nov. 18, 1905. Serial No. 287,939.



Claim.—1. An interlocking pile for sheet-piling comprising metal beam members having approximately parallel webs secured together and spaced apart from each other, and a longitudinally-extending filler confined between the two members, one of said members being provided with a flange at each of its edges projecting toward the other member, the other of said members having a substantially flat web, the width of which is at least equal to the entire width of said first-named member.

2. Sheet-piling composed of a plurality of piles interlocked together, each of said piles consisting of two metal members of approximately equal length, at least one of which is trough-shaped, said metal members being secured together and spaced apart from each other.

3. Sheet-piling composed of a plurality of piles interlocked together, each of said piles consisting of two metal members of substantial length, at least one of which is trough-shaped, said metal members being secured together and spaced apart from each other, and a wood filler between said members.

4. Sheet-piling comprised of a plurality of piles interlocked together, each of said piles composed of two metal members of substantial length secured together with a wood filler between them, one of said members having flanges embracing said filler, for the purposes specified.

5. Sheet-piling comprised of a plurality of piles interlocked together, each of said piles composed of two metal beams of standard section each having a laterally-extending flange at each side of its web, the webs of said beams being secured together with a wood filler between them, for the purposes specified.

6. An interlocking pile for sheet-piling comprising two metal members of substantial length having parallel web portions, and a wood filler secured between them, one of said members having lateral flanges one at each side of said filler and projecting toward the other member for the purpose specified.

7. An interlocking pile for sheet-piling comprising two metal beams having web portions and laterally-projecting flanges, and a wood filler secured between said webs, the webs of said beams being of unequal widths and the flanges of said beams projecting in the same direction.

8. An interlocking pile for sheet-piling comprising a metal beam, consisting of a web and lateral flanges, a wooden filler of less width than said web having one of its faces placed against said web and between said flanges, and a second metal beam having an approximately straight face placed against the opposite side of said filler, the three members being secured together, for the purposes specified.

9. An interlocking pile for sheet-piling composed of two channel-beams of unequal width and a wood filler bolted together, the filler being placed between the flanges of the narrower channel-beam and against the rear face of the wider channel-beam.

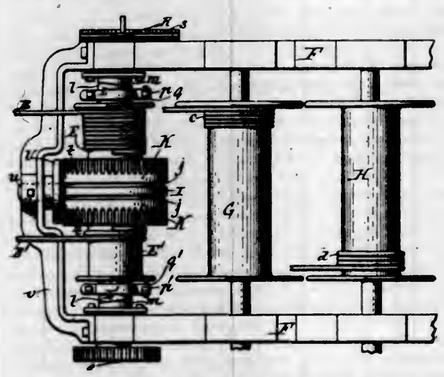
10. A pile comprising two metal members having parallel faces spaced apart from each other, one of said members being longer than the other at its lower end, in combination with a shoe consisting of a plate bent at an acute angle in which the lower end of the longer member is inserted, said shoe being secured to the face of each of said metal members.

11. A pile comprising two metal members having parallel faces spaced apart from each other, one of said members being longer than the other at its lower end, and a wood filler secured between them, in combination with a shoe consisting of a plate bent at an acute angle in which the lower end of the longer member is inserted, said shoe being secured to the face of each of said metal members.

12. A pile comprising two metal members, one of which is longer than the other at its lower end, said members having parallel faces, and a wood filler secured between them, in combination with a shoe consisting of an approximately flat plate bent at an acute angle and secured to the face of each of said metal members, said wood filler being beveled at its lower end and approximately filling the space between the faces of said shoe.

13. An interlocking pile comprising two longitudinal metal members and a longitudinal timber filler secured together, one of the metal members covering and secured to one face of the filler and the other of said members covering and secured to the opposite face of the filler and having flanges extending over the other longitudinal faces of the filler and having a longitudinal interval between it and the filler and between it and the other metal member for receiving and closely fitting the flange of a neighboring pile.

841,198. HOISTING-MACHINE. GEORGE L. TREDO, Buffalo, N. Y., assignor to The Contractors' Plant Manufacturing Company, Buffalo, N. Y. Filed May 24, 1906. Serial No. 318,443.



Claim.—1. A hoisting-machine having two drums around which opposite ends of a derrick-turning line are adapted to be wound and a gearing interposed between said drums and operating to turn one drum forwardly while the other drum turns backwardly, substantially as set forth.

2. A hoisting-machine having two axially-alined drums around which opposite ends of a derrick-turning line are adapted to be wound, and a gearing interposed between said drums and operating to turn said drums in opposite directions, substantially as set forth.

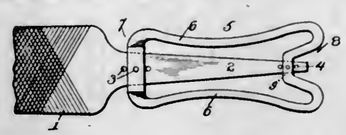
3. A hoisting-machine having two axially-alined drums around which opposite ends of a derrick-turning line are adapted to be wound, gear-wheels arranged on said drums, and an intermediate gear-pinion meshing on opposite sides with said gear-wheels, substantially as set forth.

4. A hoisting-machine having two axially-alined drums around which opposite ends of a derrick-turning line are adapted to be wound, gear-wheels arranged on the inner ends of said drums, and an intermediate gear-pinion journaled radially relatively to said drums and meshing on opposite sides of its center with said gear-wheels, substantially as set forth.

5. A hoisting-machine having two axially-alined drums around which opposite ends of a derrick-turning line are adapted to be wound, gear-wheels arranged on the inner ends of said drums, an intermediate gear-pinion journaled radially relatively to said drums and meshing on opposite sides of its center with said gear-wheels, and a cross-piece supporting the pivot of said pinion, substantially as set forth.

6. A hoisting-machine having a driving-shaft, two drums which are mounted on said shaft and around which opposite ends of a derrick-turning line are adapted to be wound, a driving-wheel arranged between said drums and secured to said shaft, means for coupling and uncoupling said drums and driving-shaft, gear-wheels arranged on the inner ends of said drums, an intermediate gear-pinion arranged at right angles to the axis of said shaft, drums and gear-wheels and having its teeth meshing on opposite sides of its center with the front side of said gear-wheels, and a cross-piece arranged in front of said pinion and supporting the pivot thereof, substantially as set forth.

841,199. HANDLE. ROBERT A. WATSON, Pittsburg, Pa. Filed Mar. 28, 1906. Serial No. 308,476.

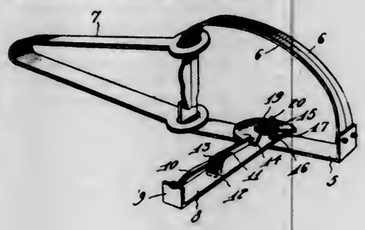


Claim.—The combination with a tool having a flat shank provided adjacent to each of its ends with a plurality of apertures, of a handle formed from a single piece of wire bent to form two oppositely-disposed curved grips, a cross-bar connecting the said curved grips at their inner ends, the said cross-bar being enlarged in thickness and having a longitudinal opening therethrough to receive the shank of said tool, and having a transverse opening adapted to register with one of the openings at the inner end in the shank of the tool, a cross-bar connecting the outer ends of said curved grips, said latter cross-bar being bent inwardly and having a longitudinal opening central of its inwardly-bent portion to receive the shank of said tool, and having a transverse opening adapted to register with one of the openings adjacent the outer end of said shank, and pins passed through the transverse openings in said cross-bars and shank to secure the handle to said shank.

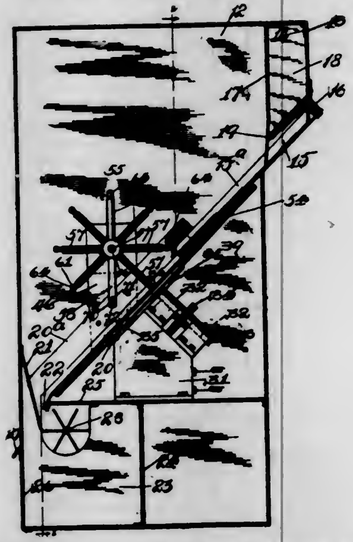
841,200. ANIMAL-TRAP. JOHN K. WEDGWORTH, Lockhart, Miss. Filed July 23, 1906. Serial No. 327,319.

Claim.—An animal-trap comprising spring-operated pivoted jaws, a catch therefor, a tilting trigger engageable by the catch and carrying a bait-plate provided with an opening, a roller under the bait-plate, and a bait-holding wire

fastened to the bait-plate, and extending under the roller and up through the opening in the bait-plate.



841,201. MAIL-BOX. CHARLES A. WELLMAN, Ottumwa, Iowa. Filed May 19, 1906. Serial No. 317,704.



Claim.—1. The combination with a letter-box, of a chute extending into said box and adapted to receive letters placed in said box, mechanism for agitating said chute to cause the letters to move along it into the box, and clock-actuated mechanism adapted to print upon letters delivered to said box along said chute, substantially as described.

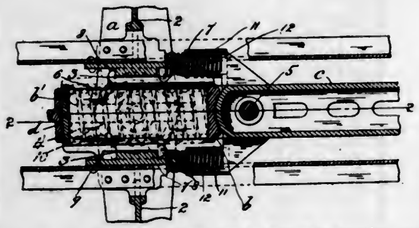
2. The combination with a letter-box, of an inclined chute pivoted to said box and passing into the same and adapted to receive the letters as they are deposited in the box, mechanism for vibrating said chute, and clock-actuated mechanism adapted to automatically stamp upon letters delivered to said box through said chute the hour and date at which they are deposited in the box, substantially as described.

3. The combination with a letter-box, of an inclined chute pivoted to said box and passing into the same and adapted to receive the letters as they are deposited in the box, mechanism for vibrating said chute, an inclined plate to which letters are delivered by said chute and having a slot therein, clock-actuated mechanism containing type adapted to print upon a letter passing over said slot the time and date of the entrance of the letter into the box, and clock-actuated mechanism adapted to engage the letter as it slides down said plate and passes over said slot and press the same against the printing devices below, substantially as described.

4. The combination with a letter-box, of an inclined chute pivoted to said box and passing into the same and adapted to receive the letters as they are deposited in the box, mechanism for vibrating said chute, an inclined plate to which letters are delivered by said chute and having a slot therein, clock-actuated mechanism containing type adapted to print upon a letter passing over said slot the time and date of the entrance of the letter into the box, clock-actuated mechanism adapted to engage the letter as it slides down said plate and passes over said slot and press the same against the printing devices below, a counting device, and mechanism adapted to be engaged by a letter passing off said plate to actuate said counting device, substantially as described.

5. The combination with a letter-box, of an inclined chute pivoted to said box and entering the same and adapted to receive letters deposited in said box, mechanism for vibrating said chute, an inclined plate in said box adapted to receive letters from said chute and provided with a suitable opening, a clock-actuated disk containing type adapted to print the hour and minute of the day passing below said opening in said plate, a second disk holding type adapted to print the month and day of the month, means for moving said second disk once every twenty-four hours, and a clock-actuated reel adapted to engage a letter as it passes down said plate and press the letter into the slot and against the type exposed below on said disks.

841,202. DRAFT-GEAR FOR RAILROAD-CARS. CHARLES T. WESTLAKE, St. Louis, Mo., assignor to The Transom Draft-Gear Company, St. Louis, Mo., a Corporation of Delaware. Filed Oct. 24, 1906. Serial No. 340,379.

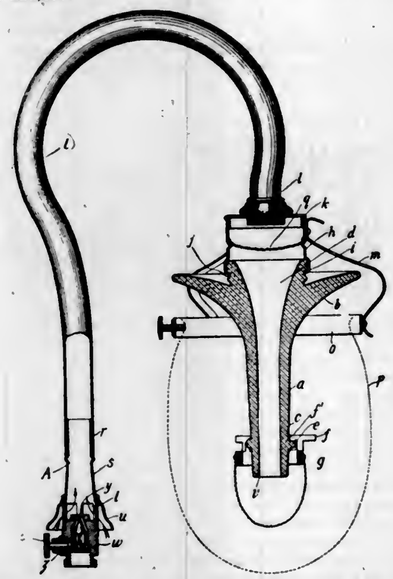


Claim.—1. In a draft-gear for a railroad-car, the combination of a spring, a suitable housing fixed in the car and having a passage longitudinally therethrough for the spring, a follower-plate adapted to bear against the front end of the spring, a follower-plate adapted to bear against the rear end of the spring, a draw-bar adapted to engage the front follower-plate, a yoke coupled to the draw-bar and embracing the said spring and plates, two opposite arms projecting from the inside of each of the said plates at right angles thereto and adapted to slide longitudinally through the housing, a flange on the free end of each of the said arms, the said flanges on the arms of the front follower-plate being adapted to engage the rear edge of the housing and the flanges on the arms of the rear follower-plate to engage the front edge of the housing in the normal position of, and for limiting the outer movement of the said plates, and means for limiting the inner movement of the said plates, substantially as described.

2. In a draft-gear for a railroad-car, the combination of a spring, a suitable housing fixed to the car and having a passage longitudinally therethrough for the spring, a follower-plate adapted to bear against the front end of the spring, a follower-plate adapted to bear against the rear end of the spring, a draw-bar adapted to engage the front follower-plate, a yoke coupled to the draw-bar and embracing the said spring and plates, two opposite arms projecting from the inside of each of the said plates at right angles thereto, and adapted to slide longitudinally through the housing, a flange on the free end of each of the said arms, the said flanges on the arms of the front follower-plate being adapted to engage the rear edge of the housing, and the flanges on the arms of the rear follower-plate to engage the front edge of the housing in the normal position of and for limiting the outer movement of the said plates and a lug on the said arms respectively adapted to engage the said edges for limiting the inner movement of the said plates, substantially as described.

3. In a draft-gear of the character described, the combination of a spring, a suitable housing having a passage longitudinally therethrough for the spring, a follower-plate adapted to bear against the front end of the spring, a follower-plate adapted to bear against the rear end of the spring, a draw-bar adapted to engage the front follower-plate and radially movable horizontally thereto, a yoke coupled to the draw-bar and embracing the said spring and plates and a spring interposed between the inner end of the draw-bar at each side of its longitudinal center and the said housing, substantially as described and for the purpose set forth.

841,203. INCANDESCENT GAS-LAMP. OSCAR WIEDERHOLD, Jersey City, N. J. Filed June 30, 1904. Serial No. 214,698.



Claim.—1. In an inverted incandescent gas-lamp the combination of a downwardly-delivering device for delivering an air-and-gas mixture to the delivery-point of the burner, an enlarged expansion-chamber located above the said delivery-point, a sieve located in said expansion-chamber directly above the delivery-point and dividing the said chamber into an upper and a lower chamber, the delivery device being in open communication with the lower chamber and an air-and-gas-supply device in open communication with the upper chamber.

2. In an inverted incandescent lamp the combination of a delivery device progressively decreasing in sectional area, an expansion mixing-chamber located above the said delivery device, a sieve in the said expansion mixing-chamber dividing the said expansion mixing-chamber into two chambers, the lowermost of which communicates with the delivery device and the uppermost of which communicates with the source of gas-supply.

3. In an inverted incandescent lamp, an expansion and mixing chamber located directly above the burner-outlet, a sieve located in said chamber and dividing it into upper and lower compartments, the lower compartment communicating with the burner, and a supply-pipe connected with the upper compartment and provided with an air-inlet located below the level of the burner-outlet.

4. In an inverted incandescent lamp, an enlarged expansion and mixing chamber exposed to the combustion products but receiving air from a point outside the path of the combustion gases, and provided with an inlet at the top and a tubular outlet at the bottom, and a sieve located in said chamber directly above the outlet, the diameter of said sieve being equal to the largest internal diameter of the chamber.

5. In an inverted incandescent lamp, an enlarged expansion and mixing chamber exposed to the combustion products but receiving air from a point outside the path of the combustion gases, and provided with an inlet at the top and a gradually-contracted vertical tubular outlet at the bottom, and a sieve located in said chamber directly above the outlet.

6. In an inverted incandescent lamp, an enlarged expansion and mixing chamber exposed to the combustion products but receiving air from a point outside the path of the combustion gases, and provided with an inlet at the top and a tubular outlet at the bottom, and a sieve located in said chamber directly above the outlet, the central portion of said sieve being lower than its edge.

7. In an inverted incandescent lamp, an enlarged expansion and mixing chamber exposed to the combustion products but receiving air from a point outside the path of the combustion gases, and provided with an inlet at the top and a tubular outlet at the bottom, and a sieve located in said chamber directly above the outlet, the said sieve being concaved upwardly.

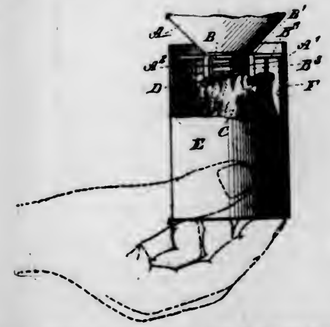
8. In an inverted incandescent lamp, an enlarged expansion and mixing chamber exposed to the combustion products, and provided with an inlet at the top and a tubular outlet at the bottom, and a sieve located in said chamber directly above the outlet, the diameter of said sieve being equal to the largest internal diameter of the chamber.

9. In an inverted incandescent lamp, an enlarged expansion and mixing chamber exposed to the combustion products, and provided with an inlet at the top and a gradually-contracted vertical tubular outlet at the bottom, and a sieve located in said chamber directly above the outlet.

10. In an inverted incandescent lamp, an enlarged expansion and mixing chamber exposed to the combustion products and provided with an inlet at the top and a tubular outlet at the bottom, and a sieve located in said chamber directly above the outlet, the central portion of said sieve being lower than its edge.

11. In an inverted incandescent lamp, an enlarged expansion and mixing chamber exposed to the combustion products, and provided with an inlet at the top and a tubular outlet at the bottom, and a sieve located in said chamber directly above the outlet, the said sieve being concaved upwardly.

841,204. MEANS FOR PROTECTING AND APPLYING INCANDESCENT MANTLES. OSCAR WIEDERHOLD, Jersey City, N. J. Filed Mar. 3, 1906. Serial No. 303,041.



Claim.—1. The combination, with a mantle-holder having outwardly-projecting arms and a mantle secured to said holder, of a receptacle comprising a shell, the inner

surface of which is adapted to be frictionally engaged by the outer ends of said arms, a bottom arranged within the shell at a distance from the lower edge thereof, an inner lining arranged within the shell to within a distance of its upper edge, so as to form a stop limiting the inward movement of said arms, and a cover for the upper end of the shell.

2. The combination, with the mantle and a holder extending outwardly beyond the largest diameter of the mantle, of a receptacle comprising a shell, the inner surface of which is adapted to be frictionally engaged by the outer portion of the holder, and a stop arranged within said shell to limit the inward movement of the holder.

3. The combination, with a mantle and a holder to which said mantle is secured, said holder having a portion projecting outwardly beyond the largest diameter of the mantle, of a receptacle adapted to contain said mantle and holder, and having its inner surface of such diameter as to frictionally engage the outer portion of the mantle-holder.

841,205. PNEUMATIC MUSIC-PLAYER. FREDERICK W. WINTER, New York, N. Y. Filed Dec. 28, 1905. Serial No. 293,656.



Claim.—1. In a piano-player, a lever, a slidable rock-shaft movable independent thereof and having a pivoted operating member, slidable means for concealing said operating member movable therewith, and means for connecting said shaft and lever whereby the latter is actuated as the shaft is rocked.

2. In a piano-player, a lever, a slidably-mounted rock-shaft having an operating member, means for connecting the two for joint operation, and slidable means operatively connected with the rock-shaft and constructed to conceal its operating member.

3. In a piano-player, a lever, a slidably-mounted rock-shaft for operating the same, a pivoted member on said rock-shaft, and means for concealing said pivoted member when the rock-shaft is pushed in.

4. In a piano-player, a lever, a slidably-mounted rock-shaft for actuating the same, an actuating member pivoted to said rock-shaft, and slidable means for moving said rock-shaft and for concealing its pivoted member.

5. In a piano-player, a lever, a slidably-mounted rock-shaft for actuating the same, an actuating member pivoted to said rock-shaft, slidable means for moving said rock-shaft and for concealing its pivoted member, and a stop for said slidable means.

6. A piano-player comprising a valve, a lever therefor, and slidable lever-operating means embodying a pivoted operating member, and a sliding concealing member therefor and slidable therewith.

7. A piano-player comprising a valve, a lever for the same, a slidable rock-shaft, means for suspending said lever from said rock-shaft and for clutching it therewith, means for sliding the shaft in and out and rocking it and slidable means movable with the last-named means and normally receiving the same.

8. A piano-player comprising a plurality of valves and levers therefor, slidable rock-shafts journaled in parallel lines, means for operatively connecting each lever with one rock-shaft, and a sliding drawer to slide the rock-shafts in and out simultaneously.

9. In a piano-player, tempo and expression devices, means for effecting the operation of said tempo and expression devices adapted to be moved inward when not in use, and slidable concealing means movable with and carrying the first-mentioned means.

10. In a piano-player, tempo and expression devices, slidably-mounted means for operating said tempo and expression devices, and pivotally-mounted actuating devices carried by said means, and concealing means for said actuating devices, said means being mounted for reciprocation.

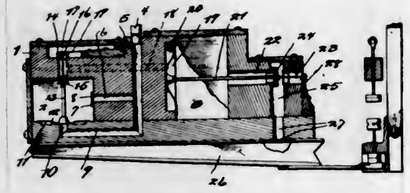
11. In a piano-player, tempo and expression devices, slidably-mounted means for operating said tempo and expression devices, pivotally-mounted actuating devices carried by said means and a receptacle movable with and receiving said pivoted means.

12. In a piano-player, a lever, a rock-shaft slidably mounted in said lever, clutch mechanism between said rock-shaft and lever, an operating member for said rock-shaft pivotally connected therewith, and means for normally concealing said member.

13. In a piano-player, a lever, a slidably-mounted rock-shaft, an operating member for said rock-shaft pivotally connected therewith, and means for normally concealing said member, said concealing means being movable with and receiving the operating member.

14. In a piano-player, tempo and expression devices, means for effecting the operation thereof mounted for movement in a horizontal plane, and slidably-mounted means movably connected therewith and receiving the same.

841,206. PNEUMATIC MUSIC-PLAYER. FREDERICK W. WINTER, New York, N. Y. Filed Dec. 28, 1905. Serial No. 293,657.



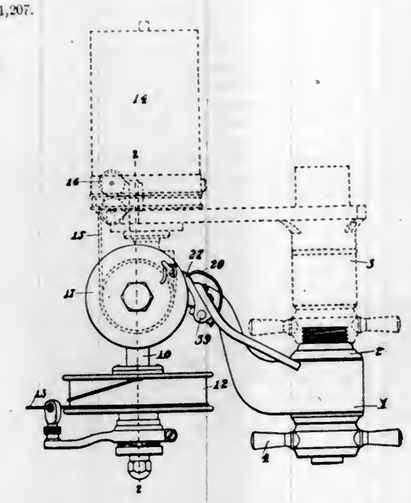
Claim.—In a piano-player, a pneumatic, an exhaust-chest having two chambers, a vertical passage between said chambers, a forwardly-extending passage from said vertical passage to one of said chambers, a plate in said chamber covering the end of said forwardly-extending passage and having a vent, a passage leading forwardly from the lower end of said vertical passage and communicating by a short vertical passage with said chamber, a diaphragm over said short passage, an air-chamber in said exhaust-chest, a vertical passage connecting said exhaust-chamber and said air-chamber, a passage leading from said vertical passage to the other chamber of said exhaust-chest, a spindle from said diaphragm extended through said last-named vertical passage, valves on said spindle upon opposite sides of said passage, and a spring in said air-chamber serving to press upon and guide said spindle, and the secondary action mechanism interposed between the rearmost of said chambers and the pneumatic.

841,207. REDUCING-WHEEL. FRANK L. WOLFE, Medford, Mass., assignor to Crosby Steam Gage and Valve Company, Boston, Mass., a Corporation of Massachusetts. Filed Feb. 27, 1905. Serial No. 247,472.

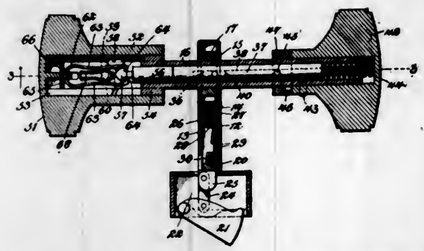
Claim.—1. In a reducing-wheel as described, a stroke-pulley shaft and arranged thereon a clutch comprising two members, one member being fixed to said shaft and having a spirally-grooved face and an axis, the second member being rotatable on said axis and having a radial groove, a ball adapted to engage said grooves, together with independent means for holding said second member in a fixed position at a certain part of the stroke; substantially as described.

2. In a reducing-wheel as described, a stroke-pulley shaft and arranged thereon a clutch comprising two members, one member being fixed to said shaft and the other member having a limited rotatability upon the first member, together with means, which, when operated at any part of a stroke, automatically serve to stop the said second member at a certain part of the stroke; substantially as described.

841,207.



841,208. LOCK. WILLIAM B. WYKOFF, Omaha, Nebr. Filed Mar. 25, 1905. Serial No. 252,034.



Claim.—1. In a lock, the combination with a latch, of a knob having a stem provided with a slot, a crank member mounted on the stem and having operative connections with the latch, said crank member having a keyway, a device movably mounted in the stem and having a feather that slidably engages in the slot of the stem and the keyway of the crank member to hold said crank and stem against relative rotation, a casing having a socket to receive a portion of the feather and normally alined therewith, and means for moving the said device and thereby the feather to carry the latter into and out of the socket, said feather at all times remaining in the slot of the stem and keyway of the crank member and maintaining them in alinement.

2. In a lock, the combination with a latch, of a rotatable knob having a stem provided with a slot, a collar surrounding the stem and having an interior keyway extending from end to end thereof and alined with the slot of the stem, a device movably mounted on the stem and having a feather slidably engaging in the slot of the stem and the keyway of the collar to hold the same against relative rotation, a casing having a socket to receive a portion of the feather and normally alined with the same, means for moving the said device and thereby the feather to carry the latter into and out of the socket, said feather remaining at all times in the slot of the stem and keyway of the collar and maintaining them in alinement, an arm carried by the collar, and connections between the knob and latch.

3. In a lock, the combination with a latch, of a rotatable knob having a stem, provided with a slot, a crank member mounted on the stem and having operative connections with the latch, said crank member having a keyway, a device movably mounted on the stem and having a feather slidably engaged in the slot of the stem and the keyway of the crank member to hold the same against relative rotation, said feather having an outstanding dog that is movable therewith, a casing having a socket to receive the said outstanding dog, and means for moving the said device and thereby the feather to carry the dog outside of the casing and into and out of the socket thereof.

4. In a lock, the combination with a casing having an opening and a seat located at one side of the opening, of a continuous tubular stem extending through the opening in the casing and having knobs on its ends, said stem being provided with a longitudinal slot, a collar located on the stem within the casing and having a crank, a latch actuated by said crank, a locking-spindle slidably mounted in the stem, a feather carried by the spindle, passing through the slot of the stem, and slidably interlocking with the collar throughout the extent of the sliding movement of the spindle said feather having an extension-dog that projects beyond the feather and is movable into and out of the seat of said casing, and means for effecting the longitudinal movement of the spindle.

5. In a lock, the combination with a casing, of a latch movable therein, a tubular knob-stem rotatably journaled in the casing, inner and outer knobs secured to the ends of the stem, a collar mounted on the stem within the casing and having oppositely-extending cranks, means operated by said cranks for actuating the latch, a locking-spindle located within the stem and slidably mounted therein, said spindle having a feather that extends through the stem and slidably engages the collar, a dog extension carried by the feather and movable into and out of interlocking engagement with the casing, a spring bearing against the spindle for urging the dog into said interlocking engagement, a cam device journaled on the stem contiguous to the inner knob for effecting the longitudinal movement of the spindle against the action of the spring, and key-actuated mechanism located in the outer knob and abutting against the spindle for also moving said spindle against the action of the spring.

6. In a lock, the combination with a casing, of knobs located on opposite sides of the casing, tubular means connecting the knobs and rotatable in the casing, key-operated locking mechanism having laterally and longitudinally movable elements located in the tubular means between one of the knobs and the casing, said means having in one side a keyhole adapted to receive a key for operating said elements, and a device movably mounted on the tubular means between the other knob and the casing and coöperating with the locking mechanism to move the same.

7. In a lock, the combination with a casing, of a tubular knob-stem having a knob at one end and a keyhole between the knob and casing, a latch actuated from the stem, key-actuated locking mechanism including a locking-spindle slidably mounted in the stem, a plunger portion associated with the spindle and slidable longitudinally of the same to move said spindle in a corresponding direction, and key-actuated tumbler mechanism located in the stem and movable transversely thereof for controlling the movement of the plunger.

8. In a lock, the combination with a casing, of a tubular knob-stem rotatably mounted therein, a latch actuated from the stem, a key-actuated locking mechanism including a locking-spindle slidably mounted in the stem, a plunger portion associated with the spindle and having a seat in one side, and a tumbler having a portion normally located in the seat for holding the plunger portion against movement, said tumbler being movable laterally of the stem out of the seat to permit the movement of the plunger portion.

9. In a lock, the combination with a casing, of a tubular knob-stem rotatably mounted therein, a latch operated from the stem, a key-operated locking mechanism including a locking-spindle slidably mounted in the stem, a plunger portion associated with the spindle and having a head, and a looped tumbler having side arms provided with hooks that embrace the head and are spread apart by a key inserted therebetween.

10. In a lock, the combination with a tubular knob-stem, of a latch actuated therefrom, a locking-spindle slidably

mounted in the stem, a plunger also slidably mounted in the stem and abutted against the spindle, a spring for urging the spindle toward the plunger, a head carried by the plunger, a looped tumbler having side arms that embrace the head and are spread apart by a key inserted therebetween, and means also located in the knob-stem and engaged with the spindle for moving the same against the action of the spring.

11. In a lock, the combination with a tubular knob-stem, of a latch operated therefrom, a locking-spindle slidably mounted in the stem, a plunger associated with the spindle, spaced tumbler-arms engaging the plunger for normally holding the same against movement, said arms being actuated by a key introduced therebetween, and a keyward located between the arms.

12. In a lock, the combination with a tubular knob-stem, of a latch operated therefrom, a locking-spindle slidably mounted in the stem, a plunger slidably mounted in the stem and abutted against the spindle, a head carried by the plunger, a looped tumbler having spaced arms that embrace the head for holding the same and the tumbler against movement, and a looped ward located between the arms of the tumbler and having slots to permit the rotation of the key.

13. In a lock, the combination with a tubular knob-stem, of a latch actuated therefrom, a locking-spindle slidably mounted in the stem, a plunger associated with the spindle and also having a sliding movement in the stem, an offset key-engaged lug carried by the plunger, tumblers associated with the plunger for normally holding the same against movement, and a ward arranged between the tumblers.

14. In a lock, the combination with a tubular knob-stem, of a latch actuated therefrom, a locking-spindle slidably mounted within the stem, a spring for urging the spindle in one direction within the stem, a cam having an engagement with the spindle for moving the same against the action of the spring, a plunger abutted against one end of the spindle and having a key-engaged portion, a head carried by the plunger, and key-actuated tumblers embracing the head.

15. In a lock, the combination with a casing, of a latch movably mounted therein, a tubular knob-stem journaled in the casing, means for operating the latch from the stem, knobs carried by the stem, a locking-spindle slidably mounted in the stem and having a locking-dog movable into and out of engagement with the casing, a spring located in one of the knobs and bearing against the spindle for urging the dog into engagement with the casing, a cam journaled on the stem, a projection carried by the spindle and engaged by the cam, said cam moving the spindle against the action of the spring, a plunger slidably mounted in the stem and abutting against the spindle, a head carried by the plunger, a looped tumbler having hooked arms that embrace the head, and a looped keyward located in the tumbler and having key-lug-receiving slots.

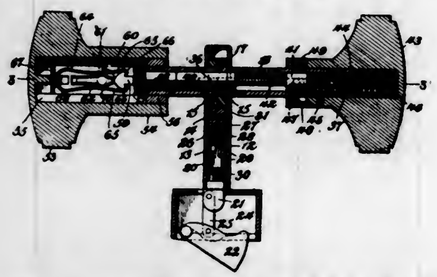
16. In a lock, the combination with a casing, of a tubular knob-stem slidably mounted therein, a latch operated from the stem, a key-operated locking mechanism including a locking-spindle slidably mounted in the stem, a plunger portion associated with the spindle and having a seat in one side, and a tumbler including a laterally-movable side arm provided with a hook that engages in the seat and is moved out of the same by a key engaging the tumbler.

17. In a lock, the combination with a knob-stem, of oppositely-extending crank-arms operated by the stem, a yoke comprising sections, each of which has an inturned terminal coöperating with one of the crank-arms, the other ends of said sections comprising outturned ears, a pivotally-mounted latch, and a link pivoted to the latch, said link being located between and having a pivotal connection with the ears, constituting the connection between the sections of the yoke.

18. In a lock, the combination with a casing, of a knob-stem journaled therein, a crank operated by the stem, a latch, a yoke operated by the crank and having a connection with the latch, and a spring comprising a wire having coiled intermediate portions and crossed terminals that engage the spaced portions of the yoke, said terminal portions having the portions rounded that bear against the yoke.

19. In a lock, the combination with a casing, of a knob-stem journaled therein, oppositely-extending crank-arms carried by the stem, a yoke having inturned terminals located in the path of movement of the crank-arms, a latch pivoted to the casing, a pivotal connection between the latch and yoke, and a spring arranged within the casing and within the yoke, said spring having separate crossed terminals, both of which engage the yoke to urge the same and the latch outwardly.

841,209. LOCK. WILLIAM B. WYKOFF, Omaha, Nebr. Filed Oct. 6, 1905. Serial No. 281,665.



Claim.—1. In a lock, the combination with a casing having an abutment-lug therein, of a latch movably associated with the casing, a knob-stem journaled in the casing, a collar carried by the stem and having a bearing against one side of the lug, said collar having outstanding crank-arms that project on opposite sides of the lug in substantially the same plane therewith, means connected to the latch and engaged by the arms for operating said latch on the movement of the arms, and a spring for projecting the latch, said spring bearing against the opposite side of the lug.

2. In a lock, the combination with a casing, of a tubular knob-stem rotatably mounted therein, a latch actuated from the stem, key-actuated locking mechanism including a locking-spindle slidably mounted in the stem, a plunger portion associated with the spindle and having a seat in one side, a tumbler having a portion normally located in the seat for holding the plunger portion against movement, said tumbler being movable laterally out of the seat to permit the movement of the plunger portion, and a spring engaging the plunger portion for moving the same to a position to allow the tumbler to engage in the seat.

3. In a lock, the combination with a casing, of a tubular knob-stem rotatably mounted therein, a latch operated from the stem, key-operated locking mechanism including a locking-spindle slidably mounted in the stem, a plunger portion associated with the spindle and having a head, a looped tumbler having side arms provided with hooks that embrace the head and are spread apart by a key inserted therebetween, and a coiled spring located on the plunger, said spring bearing against the head and stem and urging the head to a position to be engaged by the tumbler-arms.

4. In a lock, the combination with a casing having an opening and recessed seats at opposite sides of the opening, of a knob-stem journaled on the opening, a collar loosely and reversibly fitted on the stem within the casing, a latch mounted in the casing and operated by the collar, a feather slidably mounted in the stem and collar, said feather being movable into one of the seats when the collar is in one position and into the other seat when said collar is reversed, and operating means disposed exteriorly of the casing and having a connection with the feather for moving the same.

5. In a lock, the combination with a latch, of a knob-stem for operating the same, knobs relatively movable toward and from each other on the stem, means for holding the knobs in fixed relation, a lock for the latch, and operating means for the lock including an actuating device adjustable along the stem toward and from said lock.

6. In a lock, the combination with a latch, of a tubular knob-stem for operating the same, an extensible locking-spindle located in the stem, one end portion of said spindle having a locking device, and an actuating device adjustable along the stem and associated with the other end portion of the spindle.

7. In a lock, the combination with a latch, of a tubular knob-stem for operating the same, an extensible locking-spindle located in the stem and comprising adjustably-connected sections, a locking device connected to one of the sections, and an operating device connected to the other section and adjustable along the stem.

8 In a lock, the combination with a stationary member, of a tubular knob-stem, a latch operated from the stem, a spindle slidable longitudinally within the stem and comprising, adjustably-connected sections that are movable toward and from each other, a locking-feather carried by one of the sections and movable into and out of interlocking engagement with the stationary member, and an actuating-thimble journaled on the stem and movably connected to the other section, said thimble being adjustable longitudinally along the stem with the section.

9. In a lock, the combination with a latch, of a tubular knob-stem for operating the same, a longitudinally-slidable locking-spindle disposed within the stem and comprising sections, a threaded shank connecting the sections, a locking-feather carried by one section and projecting through the stem, an outstanding pin carried by the other section and projecting from the stem, locking means engaged by the feather, and an actuating-thimble rotatably mounted on the stem and longitudinally adjustable along the same, said thimble having a movable engagement with the pin.

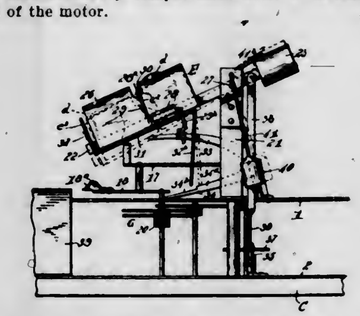
10. In a lock, the combination with a casing, of a latch movably mounted in the front portion of the same, an abutment-lug located within the casing, a spring interposed between the latch and abutment and bearing against the latter, a tubular knob-stem extending through the casing, a collar mounted on the stem and having a bearing in the abutment, said collar having operative connections with the latch, knobs carried by the ends of the stem, one of said knobs being adjustable toward and from the other, a locking-spindle slidably mounted within the stem, said spindle comprising sections and a threaded shank adjustably connecting the same, key-actuated mechanism located within the fixed knob for moving the spindle, a thimble rotatably mounted at the inner end of the adjustable knob, said thimble being adjustable with the knob and having a movable connection with one of the sections of the spindle, and a feather carried by the other section and having a slidable engagement with the collar, said feather being movable into and out of interlocking engagement with the casing.

11. In a lock, the combination with a latch, of a tubular knob-stem for operating the latch, knobs carried by the stem and adjustable toward and from each other, and locking means including a locking-spindle comprising connected sections slidably mounted within the stem and adjustable toward and from each other.

841,210. VENDING-MACHINE. GEORGE C. YOCUM, Scranton, Pa. Filed Jan. 15, 1906. Serial No. 296,110.

Claim.—1. In a vending-machine, a motor, a coin-chute, a coin-balance having means connected therewith for stopping and releasing the motor, said balance having primary and secondary coin-compartments, means for retaining a coin in each of said compartments, and means for releasing the coin from said compartments successively.

2. In a vending-machine, a motor, a coin-chute, a coin-balance having means connected therewith for stopping and releasing the motor, said balance having a primary compartment adapted to receive a coin from the chute and a secondary compartment adapted to receive the coin from said primary compartment, coin-retaining devices for each of said compartments and means actuated by the motor for releasing the coin from the primary compartment after a given movement of the motor, and for releasing the coin from said secondary compartment after a further movement of the motor.



3. In a vending-machine, a motor, a coin-balance movable to release and start the motor, said balance having primary and secondary coin-compartments and a coin-retainer for each compartment, means for directing a coin into said primary compartment, and means, actuated by the motor, for operating the coin-retainers of the primary and secondary compartments successively.

4. In a vending-machine, a motor, a pivoted coin-balance having primary and secondary coin-compartments arranged at successively greater distances from its pivotal point, a coin-retainer for each compartment, means for directing a coin into the primary compartment, and means, actuated by the motor, for operating said coin-retainers.

5. In a vending-machine, the combination with a motor and a coin-balance having means connected therewith for stopping and releasing the motor, said balance having primary and secondary compartments and a coin-retainer for each compartment, of a chute for delivering a coin into the primary compartment, a device movable by the motor, and means actuated by said device for moving said coin-retainers to release the coin from said compartments successively.

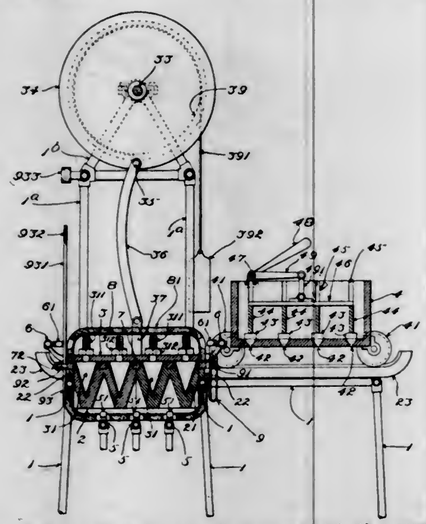
6. In a vending-machine, a coin-chute, a motor, a coin-balance having means connected therewith for stopping and releasing the motor, said balance having a primary compartment adapted to receive a coin from the coin-chute and a secondary compartment adapted to receive the coin from the primary compartment, coin-retainers for each of said compartments, said coin-retainers being pivotally connected to the balance and having laterally-projecting arms, a device for engaging and moving said arms, and means actuated by the motor for moving said device.

7. In a vending-machine, a coin-chute, a motor, a coin-balance having means connected therewith for stopping and releasing the motor, said balance having a primary compartment adapted to receive a coin from the coin-chute and a secondary compartment adapted to receive the coin from the primary compartment, coin-retainers for each of said compartments, said coin-retainers being pivotally connected to the balance and having laterally-projecting arms, the forked lever F for engaging and moving said arms, and a cam, actuated by the motor, for moving said forked lever intermittently.

8. In a vending-machine, the pivoted coin-balance having primary and secondary coin-compartments arranged at different distances from the pivotal point of the balance, coin-retainers for said compartments, means for releasing the coin from said compartments successively, and a freely-suspended counterbalance adapted to be engaged by the coin-balance when the latter is tilted by the weight of a coin.

9. In a vending-machine, a coin-chute having its lower or discharge end laterally inclined, a coin-balance normally in position to receive a coin from said chute, and a chute at one side of said balance arranged to receive coins from the inclined end of said first-mentioned chute when the coin-balance is moved from its normal position by a coin.

841,211. MACHINE FOR MAKING PASTRY HORNS OR CUPS FOR CONTAINING ICE-CREAM, &c. JACOB ABRAHAMS, Boston, Mass. Filed May 24, 1906. Serial No. 318,440.



Claim.—1. A machine for the purpose set forth comprising, essentially, a bed having a series of mold-cavities, a head provided with a corresponding series of cores or plungers to enter and partially fill the said mold-cavities, the said bed and head being movable relatively from and toward each other, a receptacle for paste in a fluid condition provided with means for delivering the said paste into the said mold-cavities, and means in connection with the said bed and head for supplying heat at both the inside and the outside, simultaneously, of the horns, cups, &c., to bake the latter.

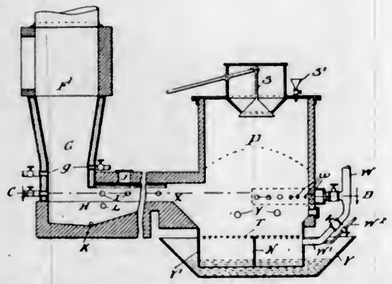
2. A machine for the purpose set forth comprising, essentially, a bed having a series of mold-cavities, a head provided with a corresponding series of cores or plungers to enter and partially fill the said mold-cavities, the said bed and head being movable relatively from and toward each other, a receptacle for paste in a fluid condition provided with means for delivering the said paste into the said mold-cavities, said receptacle mounted to move into position over the said mold-cavities to feed paste into the latter and also to withdraw from between the bed and head to permit the closing together of the latter, and means in connection with the said bed and head for supplying heat at both the inside and the outside, simultaneously, of the horns, cups, &c., to bake the latter.

3. A machine for the purpose set forth, comprising, essentially, a bed having a series of mold-cavities, a head provided with a corresponding series of cores or plungers to enter and partially fill the said mold-cavities, the said bed and head being movable relatively from and toward each other, a receptacle for paste in a fluid condition provided with means for delivering the said paste into the said mold-cavities, means in connection with the said bed and head for supplying heat at both the inside and the outside simultaneously of the horns, cups, &c., to bake the latter, and means to remove the baked horns, cups, &c., from the said mold-cavities.

4. A machine for the purpose set forth, comprising, essentially, a bed having a series of mold-cavities, a head provided with a corresponding series of cores or plungers to enter and partially fill the said mold-cavities, means for introducing paste into the said mold-cavities, the said means movable into position above the said mold-cavities, between the bed and head when these latter are separated, and means for supplying heat to bake the horns, cups, or the like.

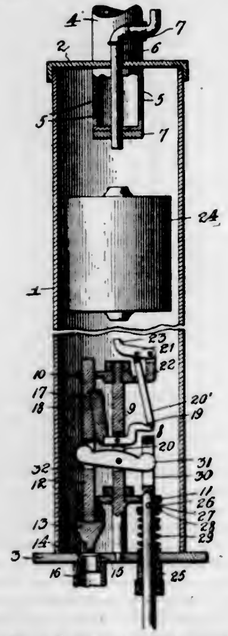
5. A machine for the purpose set forth, comprising, essentially, a bed having a series of mold-cavities, a head provided with a corresponding series of cores or plungers to enter and partially fill the said mold-cavities, means for introducing paste into the said mold-cavities, means for supplying heat to bake the horns, cups, or the like, and means for removing the latter from the mold-cavities.

841,212. COMBINED GAS-GENERATOR AND SMELTER. WILLIAM H. ADAMS and FREDERICK POWELL, Portland, Oreg., assignors of twenty-five one-hundredths to said Adams, fifteen one-hundredths to said Powell, and sixty one-hundredths to The Ladd Metals Company, a Corporation of Oregon. Filed July 16, 1904. Serial No. 216,799.



Claim.—The combination with a gas-generating furnace, of a smelting-stack, a reverberatory hearth connecting the furnace to the bottom of the stack, means for supplying the hearth with a blast of air and means for mixing fine ores with said blast.

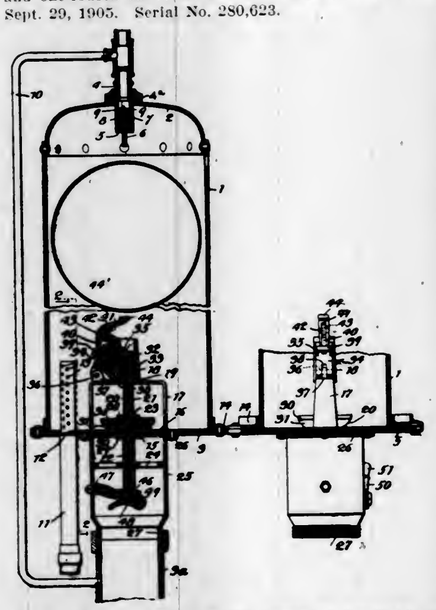
841,213. FLUSH-TANK. CHARLES J. AKINS, Huntington, Oreg., assignor of one-half to George W. Sherk and B. W. Graham, Huntington, Oreg. Filed May 5, 1905. Serial No. 258,948.



Claim.—1. In a device of the character described, the combination with a cylindrical tank or receptacle having a discharge-aperture formed in its lower end, a valve adapted to open and close said discharge-aperture, means whereby the valve is manually operated to open the same, an automatically-operating catch mechanism to lock said valve in an open position during the discharge of water from said tank, a cylindrical float free within the tank and adapted to be guided in its movements by the inner wall of said tank, said float having reduced upper and lower ends, a perforated inlet-pipe in the upper portion of the tank, and an air-pipe passing out through the tank, whereby said tank is noiselessly filled, the reduced upper end of said float adapted to close the air-pipe when the float is in its upper position and the reduced lower end of the float adapted to release said catch mechanism when in its lower position to seat the valve, substantially as described.

2. In a device of the character described, the combination with a cylindrical tank having a discharge-aperture formed in its lower end, a valve adapted to open and close said discharge-aperture, an air-pipe extending into the upper end of said tank, and a float free to rise and fall within the tank and adapted to be guided by the inner wall thereof, said float having reduced upper and lower ends, the lower reduced end adapted to operate the valve and the upper reduced end adapted to open and close the end of the air-pipe, substantially as described.

841,214. FLUSHING-TANK. CHARLES J. AKINS, Huntington, Oreg., assignor of one-fourth to B. W. Graham and one-fourth to G. W. Sherk, Portland, Oreg. Filed Sept. 29, 1905. Serial No. 280,623.

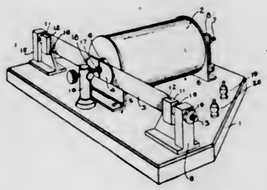


Claim.—1. In a device of the character described, the combination of a tank, a water-outlet therefor, a valve-seat in the bottom of said tank, a guide adjacent to said seat, a valve-stem slidable in said guide, a valve upon said stem to coact with said valve-seat, means for manually elevating the lower end of said valve-stem, a slotted, tubular guide for the upper end of said valve-stem, a shoulder formed upon the upper end of said valve-stem, an overbalanced dog pivoted upon said guide and adapted to project through the slot in said slotted guide, a loop upon said dog, a lug projecting from said slotted guide, a trip pivoted upon said lug and having one end engaged with said loop and its other end projecting above said valve-stem, a centrally-disposed air-valve in the top of said tank, and a float in said tank adapted to actuate said air-valve and said trip, substantially as described.

2. In a device of the character described, the combination of a tank, an air-valve casing disposed centrally in the top of said tank, an air-valve slidable in said casing and having its stem depending therefrom, a perforated water-supply pipe projecting into the bottom of said tank, a valve-seat formed centrally in the bottom of said tank, a casing surrounding said seat, guides in said casing, a valve-stem slidable in said guides, a valve carried by said stem and coacting with said valve-seat, a lifting-arm in said casing engaged with the lower end of said valve-stem, a shaft in said casing, a cam-lever upon said shaft and engaged with said lifting-arm, a counterbalanced operating-lever upon the outer end of said shaft, a bracket, stops upon said brackets to engage said operating-lever to limit the movement thereof, a slotted, tubular guide for the upper end of said valve-stem, a shoulder formed on the upper end of said valve-stem, a pivoted dog adapted to project through the slot in said tubular guide and to engage said shoulder, a trip pivotally mounted upon said guide and having one end loosely engaged with said dog and its other end disposed centrally in said tank above said valve-stem, and a float in said tank adapted to actuate said trip and the stem of said air-valve, substantially as described.

3. The combination of a tank having a vent, a valve to close and open said vent, a water-outlet, a valve to control said water-outlet, means to open the last-mentioned valve, means to lock said valve in opened position, and a float to trip said valve-locking means when said float descends to cause said valve to close, said float acting on its ascent to close the vent-valve, substantially as described.

841,215. ELECTRIC REGULATOR. WILLIAM S. ANDREWS, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 5, 1902. Serial No. 110,273.



Claim.—1. The combination of a dynamo-electric machine having resistance in its field-circuit, a magnet, a piece of sheet metal stretched in coöperative relation to said magnet, means for placing said piece of sheet metal under tension, and coöperating contacts shunted about a portion of said resistance and adapted to be opened and closed by vibration of said metal.

2. The combination of a dynamo-electric machine, resistance in the field-circuit of said dynamo-electric machine, and a circuit making and breaking device shunted about a portion of said resistance, said device consisting of a magnet, an armature, and a support therefor arranged to be placed under tension.

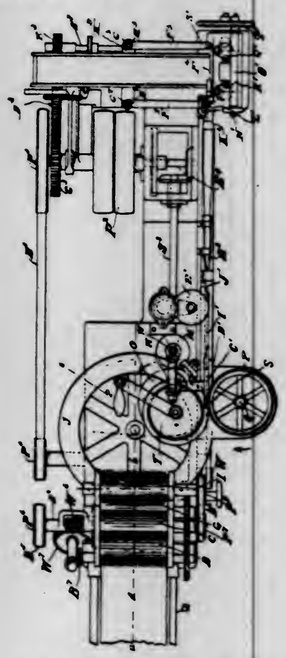
3. A circuit making and breaking device consisting of a magnet, a divided or two-part armature therefor carried by a piece of sheet metal under tension, and coöperating contacts, one fixed and the other secured to said piece of sheet metal at a point between the divisions or parts of said armature, the latter contact being movable in response to movement of the armature.

4. The combination of a regulating-magnet, a stretched strip or ribbon, a two-part armature carried by said ribbon and located within the influence of said magnet, a contact carried by said strip or ribbon, and a coöperating fixed contact.

5. In an interrupter, the combination of an electromagnet, a vibratory strip carrying a contact-point, and a two-

part armature mounted on said strip at opposite sides of the contact-point, substantially as specified.

841,216. MACHINE FOR MAKING CIGARETTES. WILLIAM BAGGULEY, Wishaw, Scotland. Filed Mar. 13, 1905. Serial No. 249,890.



Claim.—1. In a cigarette-machine, the combination of a feed-roller, a hopper and an endless feed-belt which feeds the tobacco to the said feed-roller and passes down and into the said hopper.

2. In a cigarette-machine, the combination of a hopper, an endless feed-belt passing down and into said hopper, and a spiked compression-roller coöperating with the said endless feed-belt to feed the tobacco into the hopper.

3. In a cigarette-machine, the combination of an annular plate for feeding the tobacco in a continuous stream, a pair of coöperating grooved rolls for continuously forming the tobacco thus fed, into a filler-rod, a tubular device for wrapping the filler thus formed and a tapered needle device for expelling the excess paste from the cigarette seam before the setting of the paste.

4. In a cigarette-machine, the combination of a paste-wheel, a feed-tube having a circular cross-section, and a tapered tongue device whereby pressure is first applied at the center of the pasted seam and gradually extended over the entire seam so as to remove all excess paste therefrom while maintaining the edges of the wrapper in close contact after pasting.

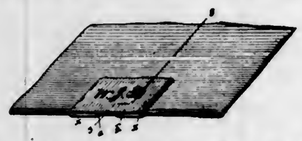
5. In a cigarette-machine, the combination of a shield or oscillating portion of the feed-tube, means for supporting both ends thereof in such manner as to allow an endwise oscillation while maintaining its axis in substantial coincidence with that of the major stationary portion of the feed-tube, and a rotary knife whose axis is revolved in a horizontal plane into and out of cutting relation with the cigarette rod.

6. In a cigarette-machine, the combination of a shield forming a separate portion of the feed-tube, a bar on which this portion is mounted, two relatively long levers carrying the bar and pivoted to the main frame of the machine and a crank-driven pitman for oscillating the whole.

7. In a cigarette-machine, the combination of a circular cutting-blade mounted so as to pass into and out of cutting relation with a continuous cigarette and having a movement along with the said cigarette rod while in cutting relation therewith, an oscillatory portion of the feed-tube mounted in such manner as to be oscillated longitudinally along the axis thereof while its axis is maintained in substantial coincidence with that of the stationary portion and a pitman joining in working relation, the aforesaid parts of the cigarette-cutting mechanism.

8. In a cigarette-machine, the combination of a hopper into which the tobacco is fed, an endless feed-belt passing down and into said hopper, a tubular wrapping device for inclosing the cigarette rod with paper, a needle-retaining device for holding the pasted edges of a continuous cigarette in close juxtaposition, a rotary cutting-knife whose axis is revolved in the horizontal plane of the feed-tube axis and a longitudinally-oscillatory portion of the feed-tube.

841,217. LAUNDRY-TAG. WILLIAM J. BAKER, Newport, Ky. Filed Jan. 22, 1904. Serial No. 190,186.

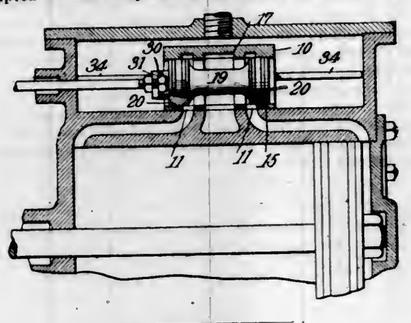


Claim.—1. As a new article of manufacture, a sheet-metal blank of rectangular form and provided with a central circular aperture, said blank bendable over upon itself to clasp a marking-tape, one end of said blank being provided with a plurality of V-shaped prongs projected at right angles to the blank-body and held in transverse alinement, with the points of the apertures left by the prongs toward the center, the other end of the blank-body having a plurality of sets of rectangularly-shaped tangs stamped to project in parallel planes at right angles to the plane containing the V-shaped prongs, and the corresponding tangs of each of said last-named sets being in transverse alinement, substantially as shown and described.

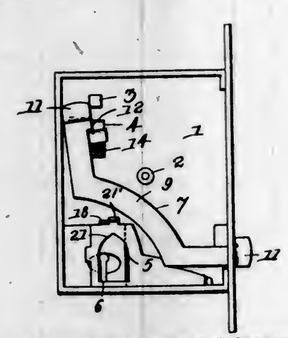
2. As a new article of manufacture, a laundry-tag comprising a sheet-metal blank of rectangular form and provided with a central circular aperture, said blank bendable over upon itself to clasp a marking-tape, one end of said blank being provided with a plurality of V-shaped prongs projected at right angles to the blank-body and held in transverse alinement with the points of the apertures left by the prongs toward the center, the other end of the blank-body having a plurality of sets of rectangularly-shaped tangs stamped therefrom, the lines of juncture of the tangs with the blank-body lying parallel to one another and at right angles to the plane containing the V-shaped prongs, and the corresponding tangs of each of said last-named sets being in transverse alinement, and a marking-tape disposed parallel of the blank-body and of a width equal to substantially one-half the length of the body, said tape having its ends passing over the longitudinally-arranged sets of tangs with its edges lapped under the same, said tape and its coöperating tangs having provisions in virtue of which the coöperating tangs will clamp the tape against the body portion of the blank and at the same time be covered by the tape all being arranged substantially as shown and described.

841,218. STEAM-VALVE. WILFRED BAKER, Aberdeen, S. D. Filed Oct. 25, 1906. Serial No. 340,567.

Claim.—In a device of the class described, a casing having a flat lower face and provided with a cylindrical bore, there being partitions dividing the casing into inlet and exhaust ports, the lower face of said casing being provided with transversely-extending grooves between the ports, said grooves being filled with yieldable or compressible material, bridging-pieces in alinement with the wall of the bore, and connecting the partitions, and end walls of the casing, a piston-valve mounted in the cylindrical bore, and a pair of spaced ribs arranged at one end of the piston and adapted for the reception of the head of a valve-stem.



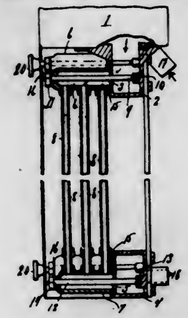
841,219. LOCK MECHANISM. ELLORY A. BALDWIN, West Upton, Mass. Filed Apr. 19, 1906. Serial No. 312,671.



Claim.—1. A lock-casing having a bolt-aperture in one edge near the bottom and transverse apertures through the sides of the casing near the top and with a guide-stop adjacent to said transverse apertures, a latch-bar formed with the ends substantially at right angles to each other and connected by a curved portion whereby an intermediate stop-shoulder is formed thereon, said latch-bar having a lateral stud adapted to be guided at one end by said guide-stop and to project through the bolt-aperture at the other end when the bar is in one position, a detent slidable in said casing and provided with spaced shoulders for alternately bearing against the shoulder of said latch-bar when the bar is in its projected and withdrawn positions, a knob-shank slidable through the transverse apertures in said casing and provided with a lug adapted to engage the lateral stud on the latch-bar and withdraw the same when the shank is in one position, means for actuating said detent and means for locking said detent in either of its two positions.

2. A lock-casing having a bolt-aperture in one edge near the bottom and transverse apertures through the sides of the casing near the top and with a guide-stop adjacent to said transverse apertures, a latch-bar formed with the ends substantially at right angles to each other and connected by a curved portion whereby an intermediate stop-shoulder is formed thereon, said latch-bar having a lateral stud adapted to be guided at one end by said guide-stop and to project through the bolt-aperture at the other end when the bar is in one position, a tumbler slidable in said casing and provided with a lateral stop, a detent slidable in said casing transversely of said tumbler and provided with a lateral stop for alternate engagement with the stop of said tumbler, said detent provided with spaced shoulders for alternately bearing against the shoulder of said latch-bar when the bar is in its projected or in its withdrawn position, a knob-shank slidable through the transverse aperture in said casing and provided with a lug adapted to engage the lateral stud on the latch-bar and withdraw the same when the shank is disposed in one position, and means for simultaneously actuating said detent and tumbler to alternately dispose said detent in either of its two positions.

841,220. WATER-COOLER. MADISON F. BATES, Lansing, Mich. Filed Nov. 10, 1905. Serial No. 286,653.



Claim.—1. In a water-cooling device, the combination with the reservoir, of the upper water-section communicating therewith and having water-circulatory openings through the wall thereof, the lower water-section also having water-circulatory openings through the wall thereof, the cooler-divisions comprising the upper and lower heads connected by a series of vertical tubes said heads being open at their inner ends, and means for removably securing said heads to the upper and lower water-sections respectively over said openings in said water-sections to establish communication between said sections through said heads and tubes.

2. In a water-cooling device, the combination with the upper and lower water-sections of relatively large area, of the cooler-divisions comprising the upper and lower hollow heads of relatively small area connected by a plurality of vertical tubes and communicating with said water-sections through openings equaling in diameter the diameter of said heads, and the tie-bolts passing longitudinally through said heads and secured in said sections respectively to detachably couple the heads and sections together.

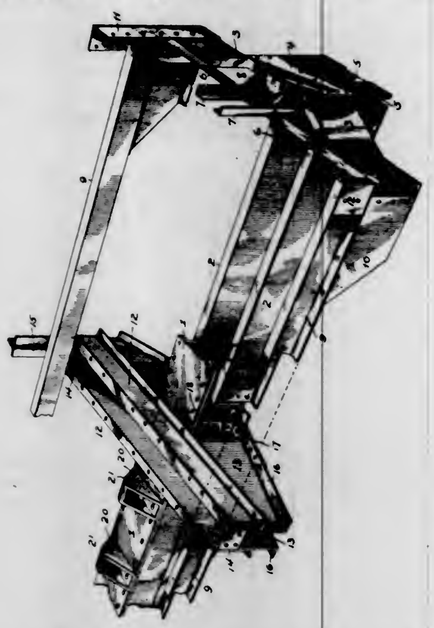
3. In a water-cooler, the combination with the upper water-section having openings in the wall thereof, a plurality of upper heads open at their ends communicating independently with said upper section through the openings therein, a lower water-section having openings in the wall thereof, a plurality of lower heads open at their ends communicating independently with said lower section through said openings, vertical tubes connecting the upper and lower heads in pairs, tie-bolts passing through the upper and lower heads and screwing into the upper and lower sections respectively, nuts upon the outer ends of said bolts and gaskets between the heads and sections, and between said nuts and the ends of said heads.

4. In a water-cooling device, the combination with the reservoir, of the upper water-section communicating therewith, the lower water-section said water-sections having openings in their side walls, the cooler-divisions comprising the upper and lower heads connected by a series of vertical tubes and open at their ends, and tie-bolts for removably securing said heads to the upper and lower water-sections respectively to establish communication between said sections through said heads and tubes.

841,221. STEEL UNDERFRAME FOR CARS. ANTON BECKER, Columbus, Ohio. Filed July 6, 1906. Serial No. 324,986.

Claim.—1. In a car-frame, the combination with a center girder and draft-sills secured to the sides of the center girder, of a bulged end sill secured to the ends of the draft-

sills, and end stakes secured to the draft-sills and having a bearing the entire height of the draft-sills.



2. In a car-frame, the combination with a center girder and draft-sills secured to the sides of the center girder, of a bulged end sill secured to the ends of the draft-sills, an end-sill angle extending over the bulged portion of the sill and secured thereto, end stakes secured to said sill-angles, and gusset-plates connecting sill-angles, end stakes, and end sills.

3. In a car-frame, the combination with an end sill, and side sills above the same, of sub side sills below the side sills, and devices securing them together at the corner of the frame.

4. In a car-frame, the combination with a center girder, of a bolster extending across the girder secured thereto, and comprising parallel channels, filler-pieces between the ends of the channels, and side stakes secured to the filler-pieces.

5. In a car-frame, the combination with a center girder, of a bolster extending across the girder, secured thereto and comprising parallel channels, diaphragm-plates secured to the channels and center girder, and bottom tie-plates extending beneath the girder and secured to the diaphragm-plates.

6. In a car-frame, the combination with a center girder, of a bolster extending across the girder, secured thereto, and comprising parallel channels, filler-pieces between the ends of the channels, side stakes secured to the filler-pieces, diaphragm-plates secured to the channels at opposite sides of the girder, angles securing the diaphragm-plates to the girder, flanges at the lower edges of the diaphragm-plates, and bottom tie-plates extending beneath the girder, secured thereto and secured to the flanges of the diaphragm-plates.

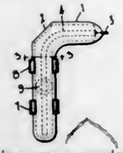
7. In a car-frame, the combination with a center girder, and cross-bearers, of blocks secured directly upon the center girder between the cross-bearers, journals in alined bearings in said blocks, and drop-doors hinged on said journals.

8. In a car-frame, the combination with a bolster comprising parallel channels, of stakes at the ends of the channels, means for securing said stakes to the inner faces of the bolster members, and side sills sustained by said bolster members.

9. In a car-frame, the combination with a center box-girder and cross-bearers extending across the same and secured thereto, of triangular blocks or castings secured directly on the girder between the cross-bearers, a journal or hinge-pin in alined bearings in the blocks or castings, and drop-doors hinged on said journal or pin and constructed to close the spaces between the cross-bearers at both sides of the center girder.

10. In a car-frame, the combination with an end sill, of a side sill above the plane of the end sill, and a sub side sill or bracket below the side sill, secured thereto and to the end sill.

841,222. CURVE-DRAWING INSTRUMENT. FRANCIS H. BOWMAN, Pittsfield, Mass., assignor to Stanley-G. I. Electric Manufacturing Company, a Corporation of New Jersey. Filed Dec. 1, 1905. Serial No. 289,839.



Claim.—1. A marking-pen comprising a glass receptacle closed at one end and having a metallic ink-duct sealed in the other end.

2. A marking-pen comprising a glass receptacle closed at one end, and an ink-duct provided with a metallic tip sealed in the other end.

3. A marking-pen comprising a bent glass receptacle closed at one end, and an ink-duct sealed in the other end and extending within the same and terminating adjacent the closed end.

4. A marking-pen comprising a bent glass receptacle closed at one end, an ink-duct sealed in the other end, and means for pivotally mounting said pen.

5. A marking-pen comprising a bent glass receptacle closed at one end, an ink-duct provided with a metallic tip sealed within the same and terminating adjacent the closed end, and means intermediate the ends for pivotally mounting said pen.

6. A marking-pen comprising a bent glass tube closed at one end, a metallic capillary tip sealed in the other end, and a larger tube secured to the inner end of said tip and terminating adjacent the closed end.

7. A marking-pen comprising a bent glass tube closed at one end, a metallic capillary tip sealed in the other end, a glass capillary tube secured to the inner end of said tip and terminating adjacent the closed end, and means intermediate the ends of said glass tube for pivotally mounting the same.

8. A marking-pen comprising a bent glass tube closed at one end, a metallic capillary tip sealed in the other end, a capillary tube secured to the inner end of said tip and terminating adjacent the closed end, and a detachable clip intermediate the ends of said glass tube provided with means for pivotally mounting the same.

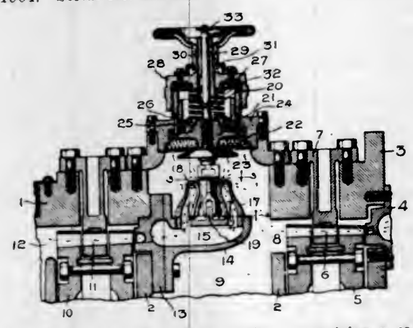
841,223. DRAWING APPARATUS. EMIL BRONNER, Eberbach-on-the-Neckar, Germany. Filed Mar. 17, 1906. Serial No. 306,519.



Claim.—1. In a drawing apparatus of the character described, the combination of a plate P attached to a drawing-board, an axle *d* on this plate P, a block L revolving on said axle *d*, two axles *c*, *c* on the said block L, rails A, A', B, B' revolving on said axles *c* and *c*, cogged wheels *z*, *z'* connecting said rails A, A', B, B', revolving grooved reels n', n^7 and n^2, n^8 on these axles *c*, *c* two more reels n^3, n^6 mounted on a pivot on said block L, and lying between said reels n', n^7 and n^2, n^8, two reels n^4, n^5 mounted on the ends of the said rails, two sliders *i*, *i'* on said rails A, A', B, B' which can be pushed to and fro, an endless cord *n* connected with said two slides and running over the said reels, in such a way that a lengthening and shortening of the cord when in use is impossible and the one slide makes exactly the same backward-and-forward movement on the rails as the other, substantially as set forth.

2. In a drawing apparatus the combination of a plate P attached to a drawing-board, an axle *d* on this plate P, a block L on said axle *d*, a screw *r* to fasten the block L to the plate P, two axles *c*, *c* on said block L, rails A, A', B, B' having holes *r'* and revolving on said axles *c* and *c*, cogged wheels *z*, *z'* connecting said rails A, A', B, B', revolving grooved reels n', n^7 and n^2, n^8 on these axles *c*, *c*, two more reels n^3, n^6 mounted in a pivot on said block L and lying between said reels n', n^7 and n^2, n^8, two reels n^4, n^5 mounted on the ends of the said rails, two sliders *i*, *i'* on said rails A, A', B, B', which can be pushed to and fro, an endless cord *n* connected with said two slides and running over the said reels, in such a way that a lengthening or shortening of the cord when in use is impossible and the one side makes exactly the same forward-and-backward movement on the rails as the other, a groove *k* in one of the ends of the rails in which one of the said reels n^4, n^5 runs, in order that the cord *n* may be tightened or loosened substantially as set forth.

841,224. VALVE MECHANISM FOR TURBINES. JOHN G. CALLAN, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Aug. 5, 1904. Serial No. 219,586.



Claim.—1. An elastic-fluid turbine comprising a casing, means for dividing it into compartments, and wheels located in compartments, in combination with a valve automatically responding to pressure changes located in a compartment situated between the wheels.

2. An elastic-fluid turbine comprising a casing containing wheels located in compartments, in combination with a chamber between said compartments, into which a wheel discharges, and a valve automatically responding to pressure changes located in the chamber for controlling the passage of fluid to a wheel.

3. An elastic-fluid turbine comprising a casing containing wheels located in compartments, in combination with a chamber formed within the casing and between the compartments which is in open communication with one of the latter to receive the exhaust therefrom, a valve located in the chamber for controlling the passage of motive fluid from the chamber to another compartment, automatic means for operating the valve, and a dash-pot for the valve.

4. An elastic-fluid turbine comprising a casing containing wheels located in compartments, in combination with a chamber located within the casing communicating with a compartment to receive the exhaust therefrom, an automatic valve controlling the passage of fluid through the chamber, and positively-operated means for holding said automatic valve in either a closed or open position.

5. An elastic-fluid turbine comprising relatively movable elements and a casing therefor, in combination with a valve, automatic means for opening and closing the valve in response to predetermined changes in operating conditions, and a device for opening or closing the valve positively and rendering said automatic means inoperative.

6. An elastic-fluid turbine comprising relatively movable elements and a casing therefor, in combination with a valve, a motor responsive to changes in fluid-pressure for operating the valve, and a device located outside of the casing for opening or closing the valve against said fluid-pressure.

7. An elastic-fluid turbine comprising relatively movable elements and a casing therefor, in combination with a valve, a fluid-actuated motor for automatically operating the valve, and a device for actuating the valve independently of said motor, which includes a lost-motion connection.

8. An elastic-fluid turbine comprising relatively movable elements and a casing therefor, in combination with a plurality of successively-operating valves within the casing which control the passage of fluid from one element to the other, and a dash-pot for each valve for checking the movements thereof.

9. In an elastic-fluid turbine, the combination of a casing divided into stages, a valve between stages, a fluid-actuated motor for moving the valve, which responds to changes in pressure of one of the stages, and a means located outside of the turbine-casing by means of which the valve can be opened or closed.

10. In an elastic-fluid turbine, the combination of a casing which is divided into stages, nozzles which receive fluid from one stage and discharge it into another, a covering for the nozzles, a valve controlling the passage of fluid through the nozzles, and a seat for the valve, which is supported by the covering.

11. In an elastic-fluid turbine, the combination of a casing which is divided into stages, nozzles which receive fluid from one stage and discharge it into another, a covering for the nozzles, which is divided into compartments, and a valve for each compartment.

12. In an elastic-fluid turbine, the combination of a casing, which is divided into stages, nozzles which receive fluid from one stage and discharge it into another, a covering for the nozzles, which is divided into compartments, a valve for each compartment, and a seat for each valve, which is carried by the covering.

13. In an elastic-fluid turbine, the combination of a casing, a wall dividing the casing into compartments, a nozzle supported by the wall, a valve, a seat for the valve removably supported by the wall, and means for operating the valve.

14. In an elastic-fluid turbine, the combination of a casing, a wall for dividing the casing into stages or compartments, a valve for controlling the passage of fluid between compartments, a stem for the valve, a sleeve around the stem, the sleeve and stem being capable of longitudinal movement, stops on the stem, and means for moving the sleeve into engagement with either of the stops.

15. In an elastic-fluid turbine, the combination of a casing, a wall for dividing the casing into stages or compartments, a valve for controlling the passage of fluid between compartments, a diaphragm for actuating the valve in response to changes in stage-pressure, a stem for actuating the valve positively, and means located outside of the casing for moving the stem.

16. In an elastic-fluid turbine, the combination of a casing, a wall for dividing the casing into stages or compartments, a balanced valve located within the casing and between the compartments, a motor for actuating the valve in response to changes in pressure of the motive fluid, a spring which urges the valve in one direction, a dash-pot for the valve, a means for positively actuating the valve, and a lost-motion connection between the valve and said means.

17. In an elastic-fluid turbine, the combination of a casing, partitions or walls for dividing the casing into stages, a valve for varying the admission of motive fluid to the turbine, and diaphragm-actuated valves controlled by

stage-pressure for varying the passage of fluid from one stage to another.

18. In an elastic-fluid turbine, the combination of a casing, which is divided into stages, a plurality of separately-actuated valves for varying the admission of motive fluid to the turbine, and independent diaphragm-actuated valves for controlling the passage of fluid between one stage and the next which are actuated by stage-pressure.

19. In an elastic-fluid turbine, the combination of a casing, walls which divide the casing into wheel-compartments and form a chamber intermediate the latter, nozzles which discharge from the chamber to one of the compartments, certain of the nozzles being permanently open, and a valve or valves controlling the remaining nozzles.

20. In an elastic-fluid turbine, the combination of a sectionalized nozzle, certain of whose discharge-passages are adapted to deliver motive fluid continuously, a ported cover for the remaining passage or passages, and a valve for controlling the admission of motive fluid to the covered passage or passages.

21. In an elastic-fluid turbine, the combination of a sectionalized nozzle, certain of whose discharge-passages are adapted to deliver motive fluid continuously, a ported and partitioned covering for the remaining passages of the nozzle, and a plurality of valves for controlling the admission of motive fluid to the covered passages.

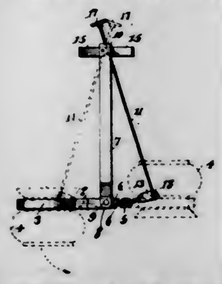
22. In an elastic-fluid turbine, the combination of a group of closely-associated fluid-discharging passages, a cover arranged over certain of the passages at the inlet ends thereof, means for dividing the cover into compartments, and a valve for each compartment controlling the admission of fluid thereto.

23. In an elastic-fluid turbine, the combination of a sectionalized nozzle comprising a group of closely-associated fluid-discharging passages, a support to which the nozzle is removably secured, a ported cover for certain of the fluid-discharging passages which is removably secured to the nozzle, and a valve for controlling the supply of motive fluid to the covered passages.

24. In an elastic-fluid turbine, the combination of stage-compartments, a bucket-wheel in each stage-compartment, a chamber which receives the exhaust from a wheel and prevents it from reacting thereon, devices which receive fluid from the chamber and discharge it to a wheel at a lower pressure, auxiliary nozzles, and a stage-valve which controls the passage of fluid from the chamber to the auxiliary nozzles.

25. In an elastic-fluid turbine, the combination of two or more stages, a bucket-wheel in each stage-compartment, a chamber which receives the exhaust from a wheel and prevents it from reacting thereon, devices which receive fluid from the chamber and discharge it to a wheel of lower pressure, auxiliary nozzles, and a plurality of valves which are responsive to variations in stage-pressure and operate successively to control the passage of fluid from the said chamber to the auxiliary nozzles.

841,225. CUSPIDOR-CARRIER. LEE J. CHAPMAN, Columbus, Ohio. Filed June 14, 1906. Serial No. 321,678.



Claim.—1. A device of the class described comprising two levers or members having clamping portions, operating-bars pivotally connected with the levers or members and adapted to open the same, and operating mechanism movably connected with the operating-bars for swinging the levers or members simultaneously on the pivots of the operating-bars.

2. A device of the class described comprising two levers or members having clamping portions, operating-bars pivotally connected with the levers or members and adapted to open the same, and operating mechanism movably connected with the operating-bars for swinging the levers or members simultaneously on the pivots of the operating-bars, said operating mechanism forming a pivot for the operating-bars.

3. A device of the class described comprising a pair of pivotally-connected levers or members having clamping portions, operating-bars supporting the levers or members and pivotally connected with the same, and an operating-rod connected with the levers or members for swinging the same on the operating-bars, said rod forming a pivot for the said bars and slidable on the same.

4. A device of the class described comprising a pair of pivotally-connected levers or members, operating-bars pivoted at their lower ends to the levers or members and provided at their upper ends with overlapped portions, and an operating-rod connected with the levers or members and piercing the overlapped portions of the bars to form a pivot for the same.

5. A device of the class described comprising a pair of pivoted levers or members having clamping portions, a spring connecting the levers or members, and operating-bars pivoted at their lower ends to the levers or members and provided at their upper ends with handles or grips.

6. A device of the class described comprising a pair of pivotally-connected levers or members, and operating-bars pivoted at their lower ends to the levers or members and provided at their upper portions with handles projecting in advance and in rear of the operating-bars.

7. A device of the class described comprising a pair of pivoted levers or members having clamping portions, operating-bars pivotally connected with the levers or members and provided with handles, and an operating-rod connected with the levers or members and forming a pivot for the operating-bars.

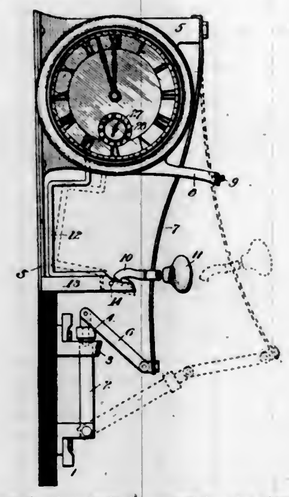
8. A device of the class described comprising a pair of levers or members pivoted together, one of the levers or members being provided with an arm extending beyond the pivot, supporting-bars pivotally connected with the levers or members, and operating mechanism movable on the supporting-bars and connected with the said arm for swinging the levers or members.

9. A device of the class described comprising a pair of pivotally-connected levers or members having clamping-jaws, one of the levers or members being provided with an arm extending beyond the pivot, operating-bars pivoted at their lower ends to the levers or members and provided at their upper ends with grips or handles, a spring connecting the levers or members, and an operating-rod connected with the said arm and pivoting the operating-bars together.

10. In a device of the class described, the vertically-disposed bars, the cuspidor-engaging members pivotally connected to the lower ends of said bars, and means extending from the tops of the bars and connected to the said members in rear of the pivotal point thereof to cause the swinging of said members on their pivots in the arc of a circle.

841,226. ELECTRIC TIME-SWITCH. JAMES M. CHAPPEL, Dallas, Tex. Filed Apr. 25, 1905. Serial No. 257,341.

Claim.—1. An electric time-switch, comprising an electric switch, a spring-arm fixed at one end and having its opposite end pivotally connected with the movable part of the switch and provided with a detent intermediately of its ends, an intermediately-pivoted lever adapted at one end to be engaged by said detent to hold the spring-arm under tension, a clock mechanism, and means engaging one end of said intermediately-pivoted lever and holding its opposite end in engagement with the detent actuated by the clock mechanism at a predetermined time for releasing said lever.



2. An electric time-switch comprising an electric switch, a spring-arm fixed at one end and having its opposite end pivotally connected with the movable part of the switch and provided with a detent intermediately of the ends, an intermediately-pivoted lever having a notched end to be engaged by the detent to hold the spring-arm under tension, a clock mechanism, and means engaging one end of said intermediately-pivoted lever and holding its notched end in engagement with the detent actuated by the clock mechanism at a predetermined time for releasing said lever.

3. An electric time-switch comprising an electric switch, a spring-arm fixed at one end and having its opposite end pivotally connected with the movable part of the switch and provided with a detent intermediately of the ends, an intermediately-pivoted lever adapted at one end to be engaged by said detent to hold the spring-arm under tension, a clock mechanism, means engaging one end of said intermediately-pivoted lever and holding its opposite end in engagement with the detent actuated by the clock mechanism at a predetermined time for releasing said lever, and adjustable means for limiting the movement of the spring-arm on its release.

4. An electric time-switch comprising an electric switch, a spring-arm fixed at one end having its opposite end pivotally connected with the movable part of the switch and provided with a detent intermediately of the ends, an intermediately-pivoted lever adapted at one end to be engaged by said detent to hold the spring-arm under tension, a clock mechanism, a retaining device for the opposite end of said intermediately-pivoted lever, and means actuated by the clock mechanism for effecting the movement of the retaining device to release said intermediately-pivoted lever at a predetermined time.

5. An electric time-switch comprising an electric switch, a spring-arm fixed at one end and having its opposite end pivotally connected with the movable part of the switch and provided with a detent intermediately of the ends, an intermediately-pivoted lever adapted at one end to be engaged by said detent to hold the spring-arm under tension, a clock mechanism, a spring-arm secured at one end and having its opposite end disposed in position to engage and retain the free end of the said intermediately-pivoted lever, and means actuated by the clock mechanism at a predetermined time for effecting the movement of said spring-arm to release the intermediately-pivoted lever.

6. An electric time-switch comprising an electric switch, a spring-arm, fixed at one end, a link pivotally connecting the opposite end of said spring-arm with the movable part of the switch, a detent carried by the spring-arm intermediately of its ends, an intermediately-pivoted lever engaged by said detent to hold the spring-arm under tension, a clock mechanism, and means actuated by the clock mechanism at a predetermined time to effect the release of said detent from the intermediately-pivoted lever.

841,227. SPRING-HELIX. WILLIAM H. CHELLIS, Milwaukee, Wis. Filed Apr. 5, 1906. Serial No. 310,103.



Claim.—1. A spring-helix having one end terminating in an attaching-loop set diametrically across the helix, and a cross-bar passing through the loop and between adjacent whirls of the spring.

2. A spring-helix terminating at one end in an attaching-loop disposed diametrically across the helix and a cross-bar passing through the loop in engagement with the inner periphery thereof and engaged with one of the whirls of the spring.

3. A spring-helix terminating at one end in an attaching-loop disposed diametrically across the end of the helix, and a cross-bar passing through the loop in engagement with the inner periphery thereof with its ends received between adjacent whirls of the spring and connected to one of them.

4. A spring-helix terminating at one end in an attaching-loop disposed diametrically across the end of the helix, and a cross-bar passing through the loop in engagement with the inner periphery thereof with its ends interposed between adjacent whirls of the spring, said cross-bar having wings cleft therefrom and bearing against the inner side of the helix.

5. A spring-helix terminating at one end in an attaching-loop disposed diametrically across the helix and entering the open end thereof, and a cross-bar passing through the loop in engagement with the inner periphery thereof with its ends connected to the helix.

6. A spring-helix terminating at one end in an attaching-loop disposed diametrically across the helix, and a cross-bar passing through the loop in engagement with the inner periphery thereof with its ends connected to the helix.

7. A spring-helix terminating at one end in an attaching-loop disposed diametrically across the helix and entering the open end thereof, and a cross-bar passing through the loop in engagement with the inner periphery thereof and interposed between the two outermost whirls of the helix.

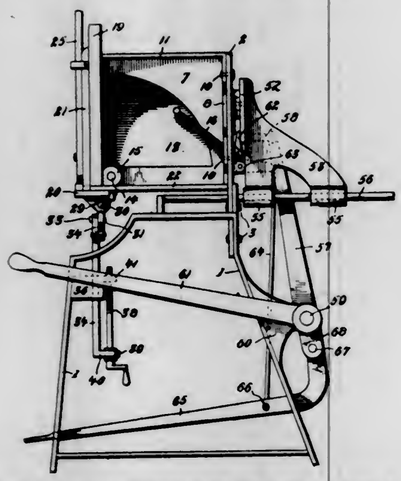
8. A spring-helix terminating at each end in an attaching-loop disposed diametrically across the whirls, and cross-bars passing through the respective loops in engage-

ment with the inner peripheries thereof with their ends connected to the helix.

9. A spring-helix having a cross-bar inserted between adjacent whirls, and an attaching-loop embracing the cross-bar.

10. A spring-helix having one end formed into an attaching-loop, and means to brace the adjacent terminal whirl of the helix to prevent straightening out of the whirl under the influence of strains upon the attaching-loop.

841,228. BLOCK-MOLDING MACHINE. FREDERICK CHRISTIAN and ELMO H. REED, Wichita, Kans., assignors of one-third to George C. Christopher, Wichita, Kans. Filed Sept. 7, 1906. Serial No. 333,648.



Claim.—1. In a block-molding machine, a frame, a rear wall rigidly supported therefrom, end walls rigidly mounted upon said rear wall, and a tiltingly-mounted bottom and front wall adapted for joint movement independent of the end walls.

2. In a block-molding machine, a frame, a rear wall rigidly supported therefrom, end walls rigidly mounted upon said rear wall, and a tiltingly-mounted bottom provided with means to support a removable pallet as a front wall and jointly movable with the bottom independently of the end walls.

3. In a block-molding machine, a frame, a rear wall rigidly supported therefrom, end walls mounted upon said rear wall, a tiltingly-mounted bottom and front wall, and a relatively movable plate mounted upon the inner face of the end walls.

4. In a block-molding machine, a mold-box provided with a tiltingly-mounted bottom and side wall, a core, a carriage for reciprocating said core toward and from said side wall, means for shifting said core, and an independent starting device connected to said core.

5. In a block-molding machine, a mold-box provided with a tiltingly-mounted bottom and side wall, a core, a carriage for reciprocating said core toward and from said side wall, means for shifting said core, a starting device comprising a crank-lever connected to said core, and an operating-lever connected to said crank-lever.

6. In a block-molding machine, a mold-box provided with a tiltingly-mounted bottom and side wall, a core, a carriage for reciprocating said core toward and from said side wall, means for shifting said core, a starting device comprising a crank-lever connected to said core, and a pivoted treadle having a rod connection with said crank-lever.

7. In a block-molding machine, a core composed of opposite members adjustably secured together one of said members having a transverse attaching-wall at one end thereof.

8. In a block-molding machine, a fixed rear wall, end walls secured thereto, a supporting-frame mounted for vertical adjustment, and a bottom and front wall pivotally carried by said frame for movement transversely of the mold.

9. In a block-molding machine, a fixed rear wall, end walls secured thereto, a supporting-frame mounted for vertical adjustment, a bottom and front wall carried by said frame, means for tiltingly adjusting said frame longitudinally of said mold.

10. In a block-molding machine, a wall provided with an aperture therein, and a movable core-plate mounted in said wall and provided with an aperture to correspond with the core used.

11. In a block-molding machine, a supporting-frame provided with projections therefrom, a bottom plate disposed upon said frame to tilt upon said projection, standards extending upward from said frame, and levers pivoted in said standards to tilt said bottom.

12. In a block-molding machine, a supporting-frame provided with projections therefrom, a bottom plate disposed upon said frame to tilt upon said projection, standards extending upward from said frame, levers pivoted to said standards to tilt said bottom, projecting lugs carried by the bottom, and a cam-face upon said levers to engage said lugs.

13. In a block-molding machine, an end wall provided with a securing-flange, a trowelling-plate pivotally mounted upon said wall to swing relatively thereto, and a restoring-spring extending from said plate to a portion of the end wall.

14. In a block-molding machine, a supporting-frame for a tilting wall provided with bearings in its under face, a bar pivoted at its opposite ends in said bearings, a central post upon which said bar is pivotally mounted, and means for securing said bar at its pivoted adjustment upon said post.

15. In a block-molding machine, a supporting-frame for a tilting wall provided with bearings in its under face, a bar pivoted at its opposite ends in said bearings, a central post upon which said bar is pivotally mounted, means for securing said bar at its pivoted adjustment upon said post, and a feed-screw carried by said post and engaging a fixed member to adjust the post vertically.

16. In a block-molding machine, a mold-box, a core mounted to slide therein, a shifting-lever for said core, an operating-handle for said lever, a starting device for engaging said core, a shifting-treadle for said starting device pivotally mounted upon the extended end of said lever, and a connecting-rod from said treadle to the starting device.

17. In a block-molding machine, a mold-box provided with a bottom and means for supporting a pallet-board as the front wall thereof, a core mounted to travel toward and from said board, a rigidly-mounted back wall, end walls rigidly mounted upon said back wall for adjustment longitudinally thereof, and means for tilting said pallet and bottom within said end walls.

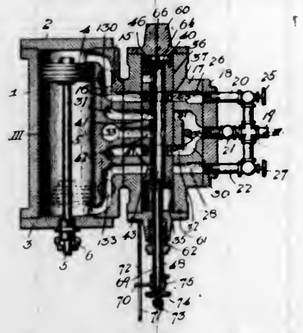
18. In a block-molding machine, a mold-box provided with means for supporting a pallet-board as the front wall thereof, a core mounted to travel toward and from said board, a rigidly-mounted back wall, end walls adjustably mounted upon said back wall, means for tilting outwardly said board and the bottom of the mold, and a movable troweling-plate carried by the inner face of the end walls.

19. In a block-molding machine, a mold-box provided with a bottom and means for supporting a pallet-board as the front wall thereof, a core mounted to travel toward and from said board, a rigidly-mounted back wall, end walls adjustably mounted upon said back wall, and means for vertically adjusting said board and bottom independent of the remaining walls.

20. In a block-molding machine, a mold-box provided with a bottom and means for supporting a pallet-board as the front wall thereof, a core mounted to travel toward and from said board, a rigidly-mounted back wall, end walls adjustably mounted upon said back wall, means for vertically adjusting said board and bottom independent of the remaining walls, and means for tilting said bottom longitudinally of the mold.

21. In a block-molding machine, an end wall, and a trowel-plate mounted thereon for travel relative thereto in the discharge from the mold.

841,229. ENGINE. THOMAS CONLIN, Mount Savage, Md. Filed July 12, 1905. Serial No. 269,380.



Claim.—1. In an engine, the combination with a plurality of double-acting cylinders, their pistons and means of supply and exhaust, of a slide-valve common to said cylinders provided with automatic means of constricting the exhaust alternately for each stroke of each piston.

2. The combination with a plurality of cylinders, their pistons, a valve-shell, a pair of ports communicating with each cylinder and with the interior of the valve-shell, a supply-port and a common exhaust also communicating with the interior of the valve-shell, of a movable slide-valve, provided with means for alternately establishing communication between the two ports of each pair of ports communicating with the respective cylinders and the supply and the exhaust respectively and means for constricting the exhaust against each stroke of each piston.

3. The combination with a plurality of double-acting cylinders, their pistons and means of supply and exhaust, of a valve controlling the communication of the pistons with the means of supply and exhaust respectively and means within the valve for constricting the exhaust from each cylinder.

4. The combination with a plurality of double-acting cylinders, their pistons and means of supply and exhaust, of a valve controlling the communication of the pistons with the means of supply and exhaust respectively, and adjustable means within the valve for constricting the exhaust from each cylinder.

5. The combination with a plurality of double-acting cylinders, their pistons and means of supply and exhaust, of a valve controlling the communication of the pistons with the means of supply and exhaust respectively and means within the valve for constricting the exhaust adjustable independently of the movement of the valve.

6. The combination with a plurality of cylinders, their pistons and means of supply and exhaust, of a single valve controlling said supply and exhaust to the respective cylinders, and means for shutting out of service one or more of the cylinders at will.

7. The combination with a plurality of cylinders, their pistons and means of supply and exhaust, of a single valve controlling said means of supply and exhaust to the respective cylinders, and means for shutting out of service any one or more of the cylinders from the supply and exhaust at will.

8. The combination with a plurality of cylinders, their pistons and means of supply and exhaust, of a single valve controlling said means of supply and exhaust to the respective cylinders, and means for shutting out of service part of the cylinders from the supply and exhaust at will, a part of said means being within said valve.

9. The combination with a plurality of cylinders, their pistons and means of supply and exhaust, of a single valve controlling said means of supply and exhaust to their respective cylinders, and means for shutting out of service any one or more of the cylinders from the supply and exhaust at will, said means of shutting off being adjustable independently of the movement of the valve.

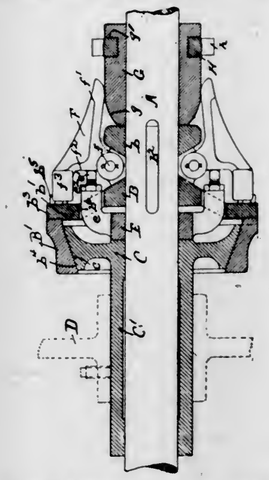
10. The combination with a plurality of cylinders, their pistons, and supply and exhaust ports, of a single valve controlling said supply and exhaust ports, and a sleeve within said valve provided with apertures adapted at will to register with said exhaust-ports.

11. The combination with a plurality of cylinders, their pistons, and supply and exhaust ports, of a single slide-valve controlling said supply and exhaust ports, and an adjustable sleeve within said valve provided with apertures adapted to register with said exhaust-ports.

12. The combination with a plurality of cylinders, their pistons, and supply and exhaust ports, of a fluid-actuated slide-valve controlling said supply and exhaust ports, an auxiliary valve controlling the admission of fluid to said slide-valve, means for actuating said auxiliary valve, and a sleeve within said slide-valve adjustable about its longitudinal axis and provided with apertures adapted to register with said exhaust-ports.

13. The combination with a plurality of cylinders, their pistons, and supply and exhaust ports, of a single valve controlling said supply and exhaust ports, an adjustable sleeve within said valve provided with apertures adapted to register with said exhaust-ports, and shut-off valves controlling said supply and exhaust ports.

841,230. FRICTION-CLUTCH. WILLIAM H. CORBETT, Portland, Oreg. Filed Mar. 8, 1906. Serial No. 304,817.



Claim.—1. In a friction-clutch, the combination of the driving member having the cone friction-surface interiorly faced; the driven member having the friction-surface adapted to engage said friction-surface; the thrust-ring E adapted to operate upon the driven member having the arm *e* extending through the driving member; thrust-levers F mounted on the driving member and adapted to operate against the arm *e* for throwing the members into engagement.

2. In a friction-clutch, the combination of the driving member comprising a hub *b*, the web *b'* having a complete annulus b^3 at its outer edge and the friction-ring B' secured thereto, its larger end next to the annulus; the driven member C having a friction-surface for engaging the friction-surface on the friction-ring; the thrust-ring E having the arms *e* extending through the web *b'*; adjusting-screws on said arms; the bell-crank levers F pivoted

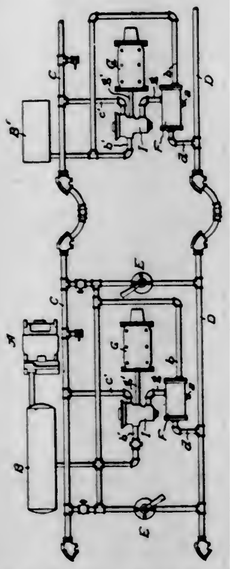
on the hubs *b* one arm of the bell-cranks operating upon the thrust-screws; and means for operating the opposite end of the bell-crank to throw the clutch into engagement.

3. In a friction-clutch, the combination of the driving member comprising a hub *b*, the web *b'* having a complete annulus b^3 at its outer edge and the friction-ring B' secured thereto, its larger end next to the annulus; the driven member C having a friction-surface for engaging the friction-surface on the friction-ring; the thrust-ring E having the arms *e* extending through the web *b'*; adjusting-screws on said arms; the bell-cranks operating upon the thrust-screws; and means for operating the opposite ends of the bell-cranks to throw the clutch into engagement, said bell-cranks being weighted to move out of engagement with the thrust device under the action of centrifugal force.

4. In a friction-clutch, the combination of a driving member and driven member, one of which is movable axially; thrust mechanism arranged at the opposite end of the clutch from the moving member; and a connecting mechanism communicating the thrust action from the thrust devices to the moving member, said connecting mechanism extending through the relatively stationary member.

5. In a friction-clutch, the combination of the driving and driven members having friction-surfaces adapted to be brought into engagement; levers for forcing said members into engagement; said levers being mounted on a normally rotating part and being so weighted as to throw them out of engagement to release the clutch under the action of centrifugal force; and devices operating upon said levers for setting and releasing the clutch.

841,231. AIR-BRAKE SYSTEM. FRED B. COREY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 26, 1906. Serial No. 318,883.



Claim.—1. In an air-brake system, a reservoir on each car, a train-pipe normally carrying air under pressure, a second train-pipe, a valve controlled by variations in pressure in the second train-pipe for connecting brake-cylinder to reservoir or to atmosphere, and means independent of said valve for connecting brake-cylinder to reservoir upon a fall in pressure in the first train-pipe.

2. In an air-brake system, a reservoir on each car, a train-pipe normally carrying air under pressure, a second train-pipe, a valve controlled by variations in pressure in the second train-pipe for connecting brake-cylinder to reservoir or to atmosphere, and means operative upon a breaking apart of the train for disconnecting brake-cylinder from said valve and connecting it directly to reservoir.

3. In an air-brake system, a reservoir on each car, a train-pipe, a valve controlled by variations in pressure in the train-pipe for connecting brake-cylinder to reservoir or to atmosphere, and means operative upon a breaking apart of the train for disconnecting brake-cylinder from said valve and connecting it directly to reservoir.

4. In an air-brake system, a reservoir on each car, a train-pipe, a valve for connecting brake-cylinder to reservoir or to atmosphere controlled by the differential action of train-pipe and brake-cylinder pressures, and means independent of said valve operative upon a breaking apart of the train for connecting brake-cylinder to reservoir.

5. In an air-brake system, a reservoir on each car, a train-pipe, a valve for connecting brake-cylinder to reservoir or to atmosphere controlled by the differential action of train-pipe and brake-cylinder pressures, and means operative upon a breaking apart of the train for disconnecting brake-cylinder from said valve and connecting it directly to reservoir.

6. In an air-brake-system, a reservoir on each car, a train-pipe normally carrying air under pressure, a second train-pipe, a valve for connecting brake-cylinder to reservoir or to atmosphere controlled by the differential action of the pressures in the second train-pipe and in brake-cylinder, and means independent of said valve for connecting brake-cylinder to reservoir upon a fall in pressure in the first train-pipe.

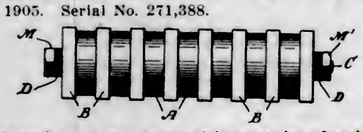
7. In an air-brake system, a reservoir on each car, a train-pipe normally carrying air under pressure, a second train-pipe, a valve for connecting brake-cylinder to reservoir or to atmosphere controlled by the differential action of the pressures in the second train-pipe and in brake-cylinder, and an emergency-valve arranged to disconnect brake-cylinder from the first-mentioned valve and to connect it to reservoir upon a fall in pressure in the first train-pipe.

8. In an air-brake system, a reservoir on each car, a train-pipe, a valve for connecting brake-cylinder to reservoir or to atmosphere controlled by the differential action of train-pipe and brake-cylinder pressures, and means for producing an emergency application of the brakes upon a breaking apart of the train.

9. In an air-brake system, a reservoir on each car, two train-pipes, one normally carrying air under pressure and the other normally at atmospheric pressure, and two valves on each car connected to said two train-pipes respectively and arranged to connect brake-cylinder to reservoir upon a fall in pressure in the first pipe or a rise in pressure in the second pipe.

10. In an air-brake system, a reservoir on each car, two train-pipes, one normally carrying air under pressure and the other normally at atmospheric pressure, and two valves on each car each adapted to connect brake-cylinder to reservoir, one controlled by the differential action of the pressures in the first train-pipe and in reservoir and the other by the differential action of the pressures in the second train-pipe and in brake-cylinder.

841,232. ELECTRIC RHEOSTAT. WILLIAM F. DANA and HENDERSON W. KNOTT, New York, N. Y. Filed July 26, 1905. Serial No. 271,388.



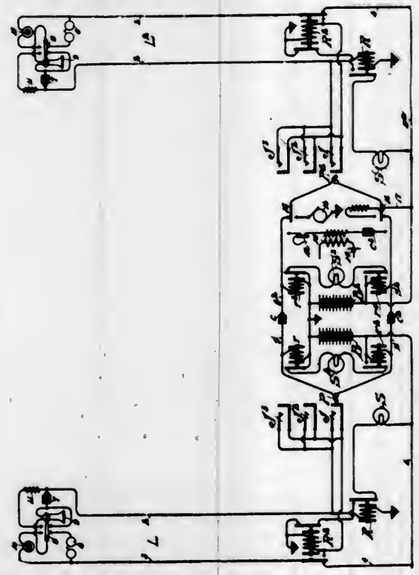
Claim.—1. A rheostat comprising a series of resistances composed of graphite and clay, alternating with interposed metallic contact-plates, the surfaces of which are sufficiently recessed to closely receive and rigidly hold said resistances in superficial contact, and to protect them from shock or other external injury, substantially as described.

2. A rheostat whose resistances are composed of graphite and clay mixed and formed into buttons of similar form, and cemented in close superficial contact to interposing metallic contact-plates by a graphitic paste of high conductivity, substantially as described.

3. The combination, in a rheostat, of graphite and clay resistance-buttons and of interposed metallic contact-plates, alternating therewith and completely united thereto at their respective surfaces by a graphitic paste, composed of powdered graphite, pure carbon-dust, gum-tragacanth and water mixed together, substantially as described.

4. A rheostat comprising the resistance-buttons A, similar in form and of graduated degrees of resistance, rigidly held in alternating series with and protected by the recessed contact-plates B and united to them in complete contact at their respective surfaces by a graphitic paste of high conductivity, all arranged in form of a column and so adapted that a contact-switch may be manipulated in the path of said contact-plates, substantially as described.

841,233. TELEPHONE SYSTEM. WILLIAM W. DEAN, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 23, 1904. Serial No. 190,311.

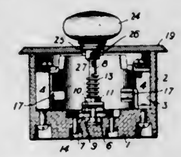


Claim.—1. In a telephone system, the combination with a telephone-line, of a line-relay for said line, one terminal of the coil of said relay being connected to one limb of the line and to one contact of the line-jack, the other terminal of said relay-coil being connected to one pole of a central battery, a line-signal, a single pair of normally open contacts for said relay adapted to close the circuit of said signal, a cut-off relay having one terminal of its winding connected to the same side of the central battery with which the line-relay connects, and having its other terminal connected with the other contact of said line-jack and with a normally open contact of said cut-off relay, a pair of normally closed contacts for said cut-off relay adapted by their actuation to open the circuit of the line-signal, a movable contact of said relay adapted normally to connect one limb of said line directly to one side of the central source but in its actuated position to connect said limb to said normally open contact of the cut-off relay, substantially as described.

2. In a telephone system, the combination with a telephone-line, of a line-signal therefor, a line-relay permanently connected with the tip side of the line and controlling normally open contacts in the circuit of said signal, a cut-off relay for the line legged to ground from the normally disconnected sleeve-contacts of the jacks, said cut-off relay serving when operated to open the circuit of said signal and to sever the normal connection of the sleeve side of the line and complete the connection between said sleeve side of the line and the jack-section of the same, substantially as described.

3. In a telephone system, the combination with a telephone-line, of a cord-circuit to establish connections therewith for conversation, a line-relay and a line-signal the tip line conductor branching to the tip-contacts of the spring-jacks and to one side of the line-relay, the sleeve side of the line being connected with one pole of the central battery, said line-relay being connected to the other pole of said battery, the test and sleeve contacts of said jacks being normally disconnected from the sleeve line conductor, a cut-off relay legged to ground from the said test-contacts and adapted when the cord-circuit is connected with the line to sever the normal connection of said sleeve line conductor and connected with the said test-contacts and also to open the circuit of said signal, substantially as described.

841,234. ROTARY SWITCH. FRANK C. DE REAMER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 21, 1904. Serial No. 217,456.



Claim.—1. The combination with a rotary-switch mechanism and its cover-plate, of a thumb-piece screw-threaded to the shaft of said switch, and a shouldered collar screw-threaded to said shaft and adapted to abut against the end of said thumb-piece.

2. The combination with a rotary-switch mechanism and its cover-plate, of a thumb-piece screw-threaded to the shaft of said switch, a shouldered collar screw-threaded to said shaft for holding said thumb-piece in adjusted position, and means for clamping said collar to the shaft.

3. The combination of a binding-post provided with a projecting arm, and a U-shaped spring-contact having one arm bent over at its end to form a shoulder and secured to said projecting arm of the binding-post with the shoulder in engagement with an edge thereof.

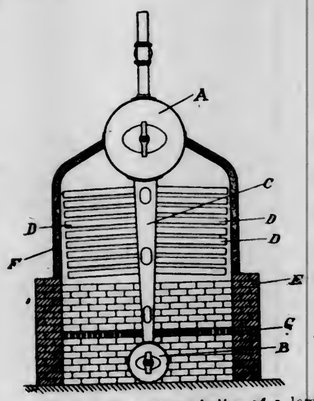
4. The combination with a spring-contact, of a sheet-metal post having its opposite ends bent up at right angles thereto to form a foot and a binding-plate and a side arm turned up from one edge of the foot and bent outwardly at right angles to the edge of the post, and means for securing said contact to said side arm.

841,235. STEAM-BOILER. WALLACE DOWNEY, Brooklyn, N. Y. Filed May 16, 1906. Serial No. 317,058.

Claim.—1. The combination in a steam-boiler of a lower water-drum running horizontally the length of the boiler, an upper water and steam drum running horizontally the length of the boiler, and a continuous water-leg extending horizontally the entire length of the boiler and vertically from the upper side of the lower water-drum to the lower side of the upper water and steam drum, and constructed to afford a large area for the free passage of water and steam.

2. The combination in a steam-boiler of a lower water-drum running horizontally the length of the boiler, an upper water and steam drum running horizontally the length of the boiler, a water-leg extending horizontally the entire length of the boiler and vertically from the upper side of the lower water-drum to the lower side of the upper water-drum, and water-tubes connected with said water-leg on one or both sides thereof.

3. The combination in a steam-boiler of a lower water-drum running horizontally the length of the boiler, an upper water and steam drum running horizontally the length of the boiler, a water-leg extending horizontally the entire length of the boiler and vertically from the upper side of the lower water-drum to the lower side of the upper water-drum, water-tubes connected with said water-leg on one or both sides thereof, and means for heating said water-tubes on either side of said water-legs, substantially as described.



4. The combination in a steam-boiler of a lower water-drum running horizontally the length of the boiler, an upper water and steam drum running horizontally the length of the boiler, and a continuous water-leg extending horizontally the entire length of the boiler, and vertically from the upper side of the lower water-drum to the lower side of the upper water and steam drum, adapted and constructed to connect with the upper side of the lower water-drum, and the lower side of the upper water and steam drum, in such manner as to make an aperture or water-outlet, from the lower water-drum, of an area practically the entire length of said lower water-drum by the width of the open space at the lower side of said water-leg, where it is attached to the said lower water-drum, and to make an aperture or water and steam inlet to the lower side of the upper steam and water drum of an area practically the entire length of said upper steam and water drum by the width of the open space at the upper side of said water-leg where it is attached to said upper water and steam dr... ubstantially as described.

841,236. TOBACCO-CUTTER. NAPOLEON DU BREUL, Cincinnati, Ohio. Filed Feb. 15, 1905. Serial No. 245,761.

Claim.—1. In a tobacco-cutting machine, a feeding mechanism comprising a series of compression-rolls and means for making these rolls self-adjusting about two different centers.

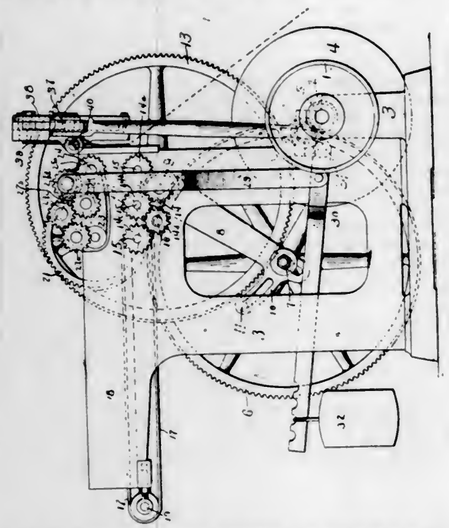
2. In a tobacco-cutting machine, a feeding mechanism comprising a plurality of compression-rolls in which the one last acting upon the tobacco is self-adjusting about a center from which it is driven and in which a primary compression-roll is relatively self-adjusting about the center of the compression-roll last acting upon the tobacco.

3. In a tobacco-feeding mechanism, a plurality of independently and relatively self-adjusting rolls acting successively upon the tobacco.

4. In a tobacco-cutting machine, a feeding mechanism comprising an adjustable frame, a final feeding-roll carried thereby a swinging frame carried by the adjustable frame and a primary feeding-roll mounted on the swinging frame and swinging independently of the final compression-roll.

5. In a tobacco-cutting machine, a feeding mechanism, embodying a swinging frame, a roll journaled thereon, a frame swinging on the first-mentioned frame, and rolls carried by the second frame.

6. In a tobacco-cutting machine, a feeding mechanism embodying a swinging frame, a roll journaled thereon, a frame swinging on the first-mentioned frame, rolls carried by the second frame and a weight acting on both frames.



7. In a tobacco-cutting machine, the combination of a reciprocating knife with a continuous feeding mechanism embodying a lower series of rolls, and an upper series of rolls adjustable relatively to the lower series of rolls and to one another.

8. In a tobacco-cutting machine, the combination with a lower series of rolls, of an upper series of rolls of which the one last acting on the tobacco is freely adjustable about a center and those first acting on the tobacco are freely adjustable in an arc concentric with the axis of, and are geared to, the said roll last acting.

9. In a tobacco-cutting machine, a feeding mechanism embodying a swinging frame, a gear-wheel journaled on an axis in alinement with the pivot of the frame, a roll carried by the swinging frame and geared to said gear-wheel, a second frame swung on the axis of said roll, and rolls carried by the second frame and geared to the first-mentioned roll.

10. In a tobacco-cutting machine, a feeding mechanism embodying a swinging frame, a gear-wheel journaled on an axis in alinement with the pivot of the frame, a roll carried by said swinging frame and geared to said gear-wheel, a second frame swung on the axis of said roll, a roll or rolls carried by said second frame and geared to the first-mentioned roll and a weight acting on both swinging frames.

11. In a tobacco-cutting machine, a feeding mechanism embodying a swinging frame, a gear-wheel journaled on an axis in alinement with the pivot of the frame, a roll carried by said swinging frame and geared to said gear-wheel, a second frame swung on the axis of said roll, a roll or rolls carried by said second frame and geared to the first-mentioned roll and a weight connected to the second-named frame near its fulcrum on the first-named frame and thereby acting on both swinging frames.

12. In a tobacco-cutter, the combination with the continuous feeding mechanism, of a knife and mechanism for causing the knife to make a draw cut on its downstroke and to move away from the material in the direction of its feed on its upstroke, so that the material may be continuously fed.

13. In a tobacco-cutter, the combination with the continuous feeding mechanism, of a knife, and mechanism causing the knife to make a draw cut and to oscillate out of the way of the material in the direction of its feed.

14. In a tobacco-cutter, the combination of an oscillatory frame, and a knife having reciprocating and draw-cut movements on the frame.

15. In a tobacco-cutter, the combination of an oscillating frame, and a knife having a draw-cut movement on said frame.

16. In a tobacco-cutter, the combination of an oscillatory frame, and a knife having a reciprocating movement on the frame and a lever connected at one end to the knife and at its other end to a part having a rotary movement.

17. In a tobacco-cutter, an oscillatory frame, a knife-holder guided on the frame, a swinging link connected to the frame and to the knife-holder, and mechanism for moving the knife and causing the frame to oscillate.

18. In a tobacco-cutter, an oscillatory frame, a knife-holder guided on the frame, a swinging link connected at one end to the frame and the other end to the knife-holder, a lever connected at one end to the knife-holder, and mechanism causing the other end of the lever to move in a circular path.

19. In a tobacco-cutter, an oscillatory frame, a knife-holder guided in an oblique path thereon, a lever connected at one end to the knife-holder, and mechanism causing the other end of the lever to travel in a circular path.

20. In a tobacco-cutter, an oscillatory frame, a knife-holder guided in an oblique path thereon, a lever connected at one end to the knife-holder and a crank-shaft connected to the other end of the lever.

21. A tobacco-cutter, comprising a frame, a crank-shaft journaled thereon, a lower series of feed-rolls, a reducing-gear connecting the crank-shaft and the lower series of feed-rolls, an upper series of feed-rolls geared to the lower series of feed-rolls and adjustable relatively to the lower series of feed-rolls and to one another, an oscillatory frame mounted on the main frame near the mouth of the feed, a knife-holder guided on said frame and a lever connected at one end to the knife-holder and at its other end to the crank-shaft.

22. In a tobacco-cutter, the combination with a continuous-feed mechanism, of an oscillatory frame, and a knife having reciprocating and draw-cut movements on and relative to said frame.

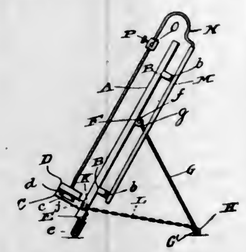
23. In a tobacco-cutter, the combination with a continuous-feed mechanism, of an oscillating frame, and a knife having a draw-cut movement on and relative to said frame.

24. In a tobacco-cutting machine, the combination with a lower series of rolls, of an upper series of rolls, of which the roll last acting on the tobacco is freely and automatically self-adjustable and those first acting on the tobacco are adjustable in an arc concentric with the axis of the roll last acting.

25. In a tobacco-cutter, the combination of a frame, oscillating about a fixed axis, and a knife having a reciprocating movement on the frame.

26. In a tobacco-cutter, the combination with a continuous-feed mechanism, of a frame oscillating about a fixed axis, and a knife having a reciprocating movement on and relative to said frame.

841,237. BOOK-HOLDER. JOHN S. DUDLEY, Marion, Ohio. Filed Jan. 29, 1906. Serial No. 298,526.



Claim.—1. In combination with a book-holder consisting of upright boards and a shelf thereon, a block removably and replaceably secured to the shelf at each end thereof and spaced apart from the upright boards so as to leave room for the edge of a book-cover between said boards and block to seat on the shelf, while the edges of the leaves rest on top of the blocks, substantially as shown and described.

2. The combination with a book-holder consisting of upright boards and a shelf secured thereto having dovetail sockets in its ends, blocks having dovetail tenons to fit said sockets, said blocks being formed so that when in position they are spaced apart from the upright boards leaving a space between said boards and blocks for the edges of a book-cover to seat on the shelf while the edges of the leaves rest on the blocks, substantially as shown and described.

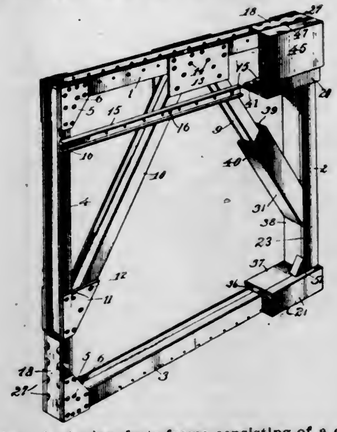
3. In a book-holder, in combination with upright boards, and cross-bars connecting said boards, a spring-arm secured to said cross-bars, and a line-marker slidably mounted on said spring-arm, substantially as shown and described.

4. In a book-holder, in combination with upright boards, and cross-bars connecting said boards, a spring-arm secured at one end to said bars, a line-marker slidably mounted on said spring-arm, and means to hold said spring-arm from lateral displacement, substantialy as shown and described.

5. In a book-holder, in combination with upright boards, cross-bars connecting said boards, and a shelf secured to the boards having a socket in the middle thereof, a spring-arm secured at one end to said cross-bar, and a cross-piece on the free end of said spring-arm and adapted to fit into said socket in the shelf, substantially as shown and described.

6. In a book-holder, in combination with upright boards, a shelf secured to said boards having dovetail sockets in its ends and a socket in its middle, a slotted piece of metal secured over said middle socket and having its end bent to form a hook, blocks having dovetail tenons to fit the sockets in the ends of the shelf, cross-bars connecting said upright boards having curved portions therebetween, a rod secured to said curved portions, a spring-arm having one end secured to said rod, a cross-piece at the other end of the arm to fit into the socket in the middle of the shelf, a line-marker slidably mounted on said spring-arm, a U-shaped brace pivotally secured to said boards, and a chain secured to said brace, the links of said chain being adapted to be secured to the hook aforesaid, substantially as shown and described.

841,238. PIANO. PETER DUFFY, New York, N. Y. Filed Aug. 17, 1904. Serial No. 221,075.



Claim.—1. A pianoforte-frame consisting of a composite structure comprising a complete external covering of wood, and an interior reinforcement of metal insheathed within the wood.

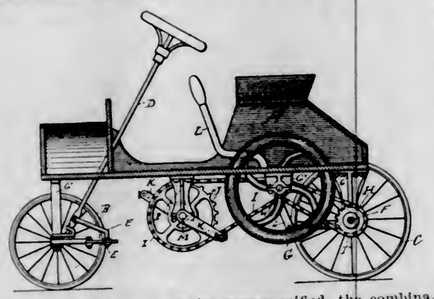
2. The combination in a pianoforte-frame, of a skeleton

of metal with a sheathing throughout of wood incorporated together into a unitary structure.

3. In a pianoforte-frame of composite structure of wood and metal, the combination with a channeled metal skeleton throughout, of a complete sheathing of wood, part of which is set in the channel of the skeleton.

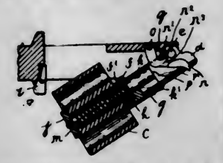
4. In a pianoforte-frame, the combination with a skeleton of metal adapted to afford comparative lightness and rigidity of structure, of sheathing-pieces of wood applied to and incorporated with the skeleton and so far enveloping the same as to impart substantially to the instrument in which it is embodied the tonal quality of an all-wood frame.

841,239. MOTOR-VEHICLE. EDWARD R. FOUTS, Greenville, Ohio. Filed Apr. 28, 1906. Serial No. 314,255.



Claim.—In a vehicle of the type specified, the combination with the vehicle running-gear, of a power-storage wheel mounted upon a short shaft below the vehicle-seat, a primary power-wheel transmitting motion to said power-wheel, said primary power-wheel being on the crank-shaft and having a connection with the shaft of the power-wheel by means of an intermediate transmission-wheel on said power-wheel shaft and adjacent to a side of the power-wheel, a second intermediate transmission-wheel on the shaft of the power-wheel and adjacent to a side of said power-wheel, and a wheel on the shaft of the carrying-wheels in alinement with said second intermediate transmission-wheel, said intermediate transmission-wheels being connected respectively, with the primary power-wheel on the crank-shaft, and the wheel on the shaft of the carrying-wheels, and the line of power-transmittal from said primary wheel being direct from the pedal or crank-shaft to the shaft of the carrying-wheels, as herein shown and described.

841,240. SHELL-EXPELLING MECHANISM FOR FIREARMS. ANDREW FYRBERG, Hopkinton, Mass. Filed Aug. 11, 1906. Serial No. 330,108.



Claim.—1. In combination with a firearm having a rigidly-connected frame and barrel, a cylinder-holder pivoted thereto at its front end to swing laterally in the horizontal plane of the barrel, a cylinder, on said holder, a shell-extractor for said cylinder, and means operated by said holder as it is swung laterally, for moving said extractor to extract the shells, and means for returning said extractor to its normal position upon continued outward movement thereof, substantially as described.

2. A firearm having a pivotally-mounted cylinder-holder adapted to swing laterally with relation thereto, a cylinder on said holder, a shell-extractor for said cylinder, a lever pivoted adjacent said holder, means on said holder for engaging said lever to cause the latter to operate said extractor upon outward movement of the holder, substantially as described.

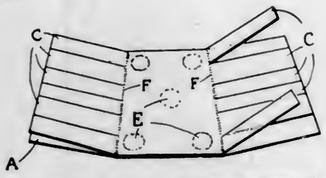
3. A firearm comprising a frame having a cylinder-holder pivotally mounted thereon and adapted to swing laterally with relation thereto, a cylinder on said holder, a shell-extractor for said cylinder, a lever pivoted on the frame adjacent said holder, means on said holder for engaging said lever to cause the latter to move said extractor to extract the shells during the outward movement of the holder, means permitting disengagement of said holder and lever during said outward movement, and means for returning said extractor to its normal position, substantially as described.

4. A firearm comprising a frame having a cylinder-holder pivotally mounted thereon and adapted to swing laterally with relation thereto, a cylinder on said holder, a spring-actuated shell-extractor for said cylinder, a lever pivoted on the frame adjacent said holder and extending transversely thereof, and engaging means on said holder for moving said lever into engagement with said extractor to extract the shells upon outward movement of said holder, said engaging means being arranged to move out of engagement with said lever as the holder reaches the end of its outward movement, substantially as described.

5. A firearm comprising a frame having a cylinder-holder pivotally mounted thereon and adapted to swing laterally with relation thereto, a cylinder on said holder, a spring-actuated shell-extractor for said cylinder, a lever pivoted on the frame adjacent said holder and extending transversely thereof, said lever having a cam-face, and an oppositely-disposed inclined face, a yielding abutment on said holder normally in position to engage said cam-face to move said lever into engagement with said extractor to extract the shells during the outward movement of the holder and to be moved out of engagement therewith at the end of said outward movement to permit said extractor and lever to return to their normal position, said inclined face being disposed to cause said abutment to yield and pass over the lever into its normal position upon inward movement of said holder, substantially as described.

6. A firearm comprising a frame having a cylinder-holder pivotally mounted thereon and adapted to swing laterally with relation thereto, a cylinder on said holder, a spring-actuated shell-extractor for said cylinder, a lever pivoted on the frame adjacent said holder and extending transversely thereof, said lever having a cam-face, a transverse recess at the outer end of said face, and an inclined, transversely-extending face oppositely disposed to said cam-face, a yielding abutment on said holder normally in position to engage said cam-face to move said lever into engagement with said extractor to extract the shells during the outward movement of the holder, and adapted to enter said recess at the end of said movement to permit said lever and extractor to return to their nomal positions, said inclined face being adapted to force said abutment inwardly to permit the same to pass over said lever during the return movement of said holder, substantially as described.

841,241. BOOKLET OR FOLDER. RAYMOND H. GARMAN, Chicago, Ill. Filed Oct. 3, 1906. Serial No. 337,260.



Claim.—1. In a booklet or folder, a sheet of paper or equivalent flexible material comprising the outside cover, and an internal sheet of similar material, one secured within the other, said inside sheet being slit or divided from its side edges in a direction toward the center of the sheet and transverse to the folding-line of the booklet; the slits extending a distance approximately one-third across the sheet, forming secondary leaves, and with a substantially unruptured central zone to said sheet, comprising approximately one-third of its extent, traversing transverse to the secondary leaves, said inner and outer sheets being secured together within the said central unruptured zone.

2. In a booklet or folder, a sheet of paper or equivalent flexible material comprising the outside portion of the booklet, and an internal sheet of similar flexible material, one within the other, secured together through a central zone, said internal sheet being slit or divided from its sides or edges in a direction toward the center of the sheet and transverse to the folding-line of the booklet, the slits extending a distance approximately one-third across the sheet toward the center, and forming secondary leaves integral with the sheet, and with a substantially unruptured zone comprising approximately one-third of the central portion of said sheet, extending transverse to the secondary leaves, and having folding creases or lines substantially transverse to the secondary leaves.

3. In a booklet or folder, a sheet of paper or equivalent flexible material, comprising the outer cover, and a part of it adapted when folded to form a leaf of the inner part of the booklet, and an internal sheet of flexible material, one sheet within the other, the inside sheet being slit or divided from two of its side edges in a direction toward the center of the sheet and transverse to the folding-line of the booklet; said slits extending a sufficient distance toward the central portion of the booklet to form secondary leaves in length approximately one-third the width of the booklet, and the inner sheet provided with a substantially unruptured central zone between the base-line of the secondary leaves and being secured to the outer sheet within said zone.

4. In a booklet or folder, a sheet of paper or equivalent flexible material comprising the outer cover, and an inner sheet also of suitable flexible material, one sheet within the other, said inner sheet being slit or divided from its side edges, in a direction toward the center of the sheet and transverse to the folding-line of the booklet, said slits extending a distance approximately one-third across the sheet and in relative positions to form secondary leaves of greater width adjacent to the top and bottom of said sheet, than the secondary leaves next toward the central portion of said sheet, and secondary leaves at the central portion of said sheet of less width than those intermediate thereto; said inner sheet provided with a substantially unruptured zone between the base portions of the secondary leaves, and the two sheets being secured together within said central zone.

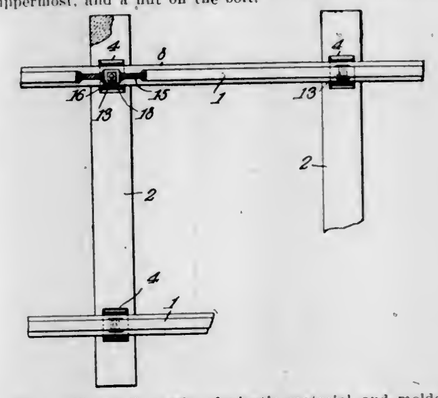
5. In a booklet or folder, the combination of two sheets of flexible material secured together and adapted to be folded as a booklet, the inner sheet being divided into secondary strips, adapted to be folded or turned separately to cover or expose parts of the surface of the booklet.

6. In a booklet or folder, the combination of two sheets of pliable material secured together and folded in the form of a booklet, leaves within said booklet cut into strips to form secondary leaves and adapted to be severally or collectively turned and laid in position over parts of said booklet to obscure said parts, or to be turned and removed from portions of the surface of said booklet to expose to view parts that are thus obscured.

841,242. RAILROAD-TIE. DANIEL C. GRAHAM, Pulaski, Va. Filed Oct. 16, 1906. Serial No. 339,248.

Claim.—1. A railroad-tie made of plastic material and molded with a depression in its top surface adjacent each end and with a vertically-extending opening at each depression, in combination with a plate seated in the depression of the tie, a rail resting on the plate which is provided with an opening in its base, and a bolt extending through the tie-opening and opening of the rail for securing the rail to the tie and preventing longitudinal movement of the rail.

2. A railroad-tie made of plastic material and molded with a vertically-extending opening, in combination with a rail having an opening in its base, a bolt extending through the opening of the tie and having its threaded end uppermost, and a nut on the bolt.



3. A railroad-tie made of plastic material and molded with a depression and a vertically-extending opening at the depression, in combination with a clamping plate seated in the depression and having an opening, a rail on the clamping-plate and having an opening in its base, and a bolt passing through the openings of the tie and plate and through the opening of the rail for securing the rail in place.

4. A railroad-tie composed of concrete and molded with a rectangular depression having sloping walls, in combination with a clamping-plate shaped to fit in the said depression, parallel walls on the clamping-plate, a rail having its base snugly fitted between said walls and provided with a vertical opening, and means extending through the plate and opening of the rail for securing the rail and clamping-plate to the tie.

5. The combination of a railroad-tie having a vertical opening, a rail having an opening in its base, and a bolt extending through the openings of the tie and rail for clamping the latter together.

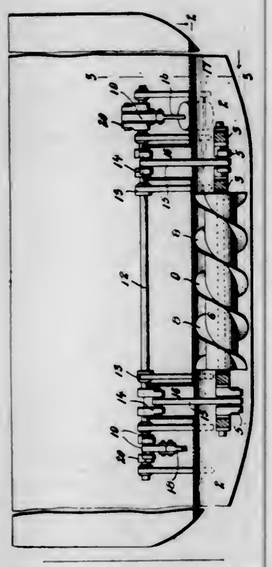
6. The combination with a railroad-tie having a vertically-extending opening adjacent each end, a rail located over each opening and having its web cut away transversely and a vertical opening in the base of the rail at the cut-away portion, a plate interposed between the tie and rail, a bolt having its shank extending upwardly through the tie and plate and through the opening in the base of the rail, and a nut on the bolt disposed in the cut-away portion of the rail.

7. The combination with a railroad-tie provided with a depression on its top surface and a vertical opening at the depression which is of angular cross-section at its lower end, a clamping-plate seated in the depression and provided with spaced parallel walls, a rail having its base confined between the walls and provided with a transverse hole in the web and with a vertical opening in the base of the rail adjacent the cut-away portion, a bolt in the opening of the tie which extends through the clamping-plate and opening in the base of the rail and is held from rotation by its head engaging the angular portion of the hole in the tie, and a nut on the upper end of the bolt and arranged in the cut-away portion of the rail-web.

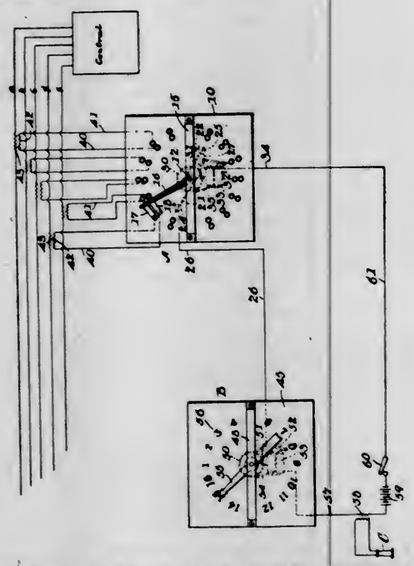
841,243. PROPELLING DEVICE FOR STEAM VESSELS. JOSEPH GREAVES, Radersburg, Mont. Filed Oct. 22, 1906. Serial No. 340,005.

Claim.—A vessel provided with a tunnel or channel at its keel, supporting-arms disposed across said channel, a driving-shaft rotatably mounted in said arms, a cylinder open at its opposite ends and mounted upon said driving-shaft, a channel-plate secured to the periphery of said cylinder in a spiral path, and a blade secured in the vertical channel of said plate, as set forth.

841,243.



841,244. LISTENING APPARATUS FOR TELEPHONES. WILLIAM W. GRIGSBY, Lawhon, La. Filed June 12, 1906. Serial No. 321,396.



Claim.—1. In listening apparatus for telephone exchanges, a movable-contact carrier, contacts arranged to be successively engaged thereby and connected in circuits that are inductively related to the telephone-line, means for imparting a step-by-step movement to the movable-contact carrier, and a telephone-receiver electrically connected to the movable contacts.

2. In listening apparatus for telphone systems, an annular series of stationary contacts connected in circuits that are inductively related to the telephone-line, a revoluble contact-carrying arm, movable contacts arranged on the arm and adapted to engage the stationary contacts, a telephone-receiver connected to the movable contacts, and means for operating the revoluble contact-carrier.

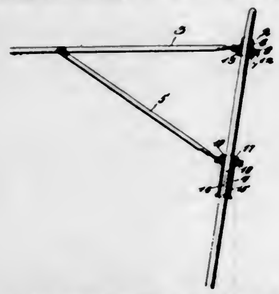
3. In listening apparatus for telephone systems, an annular series of stationary contacts arranged in circuits that are inductively related to the stationary lines, a revoluble contact-carrying arm, means for revolving the same, contacts supported by said arm and arranged to engage the successive stationary contacts, and a telephone-receiver arranged in a circuit of which the movable contacts form the terminals.

4. In listening apparatus for telephone systems, an annular series of stationary contacts, said contacts being arranged in circuits that are in communication with the different telephone-lines, a shaft, collecting rings or sleeves on said shaft, brushes engaging said rings or sleeves, a stationary receiver connected in a circuit that extends between said brushes, an arm carried by the shaft, contacts supported by said arm and arranged to engage the stationary contacts, a ratchet on the shaft, and an electromagnetically-actuated pawl for imparting a step-by-step movement to said ratchet.

5. In listening apparatus for telephone systems, a base-plate, contacts carried by the base-plate and arranged in continuous annular series, all of said contacts being insulated from each other, current-conductors leading from the contacts and in communication with the different telephone-lines, a shaft arranged at the center of the series of contacts, an arm carried by said shaft, movable contacts carried by the arm and arranged to engage the stationary contacts, collecting-sleeves on the shaft, said sleeves being connected to the movable contacts, brushes engaging said sleeves, a telephone-receiver in a circuit of which the sleeves form terminals, a ratchet secured to the shaft, a pawl engaging said ratchet, an electromagnet for actuating the pawl, said magnet being arranged in the circuit of the receiver.

6. In listening apparatus for telephone-receivers, a pair of spaced base-plates, an annular series of contacts carried by one of said base-plates, and inductively related to the different telephone-lines, movable contacts arranged to engage the stationary contacts, a step-by-step ratchet mechanism for advancing the movable contacts and including an electromagnet, an indicating-dial on the other base-plate, a shaft at the center of the dial, a pointer on said shaft, a step-by-step mechanism for turning the shaft, said mechanism including an electromagnet, a circuit extending from the movable contacts through both of the electromagnets, said circuit including also a key or switch, a source of electrical energy and the primary of an inductorium, and a telephone-receiver connected to the secondary of the inductorium.

841,245. UMBRELLA. CALEB S. GURNEY, Portsmouth, N. H. Filed Nov. 24, 1905. Serial No. 288,965.



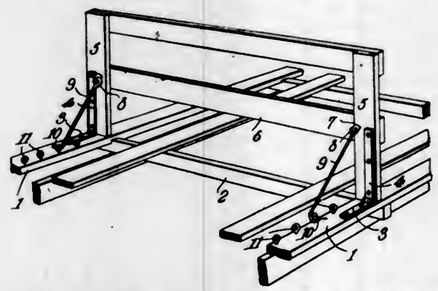
Claim.—1. An umbrella-rib, stretcher or the like, of channel metal, having a pivot-tip inserted in one of its ends and secured therein against longitudinal and axial movement, by clasping and compressing the same to form indentures or depressions, substantially as shown and described.

2. In combination with a rib or spreader having a pivotal element at one end, an umbrella-notch comprising an inner element and an outer element formed in their opposing faces with rib or stretcher pivotal element receiving sockets, the inner element being also provided with radial slots extending outwardly from said sockets to clear the ribs or stretchers when the umbrella is closed, the outer element being also provided in its inner side with radial neck-grooves extending outwardly from the said sockets to receive the ribs or stretchers when the umbrella is opened and prevent lateral turning of said ribs or stretcher with respect to said umbrella rod or handle, substantially as described.

3. In an umbrella, the combination of a tubular element or sleeve, external screw-threads at one end of said element, a disk upon said element intermediate its ends and having in its face, adjacent to said screw-threads, semispherical sockets formed with contracted neck portions, a removable disk upon said element having in its inner face semispherical sockets and in its periphery radially-extending nôtches or slots which aline with said sockets, a nut upon the screw-threaded end of said element for clamping said disks together, and ribs or stretchers having balls at their ends to enter said sockets and flattened portions adjacent to said balls, to project through and swing in said notches or slots and in said contracted neck portions of said sockets, substantially as described.

4. In combination with a rib or stretcher having a ball at one end, an umbrella-notch comprising an inner element and an outer element, said elements formed in their opposing faces with ball-receiving sockets, the inner element being also provided with a radial slot extending outwardly from the ball-receiving socket to clear the rib or stretcher when the umbrella is closed, the outer element being also provided on its inner side with a radial neck-groove extending outwardly from the ball-receiving socket to receive the rib or stretcher when the umbrella is opened and prevent lateral turning of said rib or stretcher with respect to the umbrella rod or handle.

841,246. WAGON-RACK. JOHN L. HARTNETT, Fablus, N. Y. Filed Aug. 20, 1906. Serial No. 331,337.



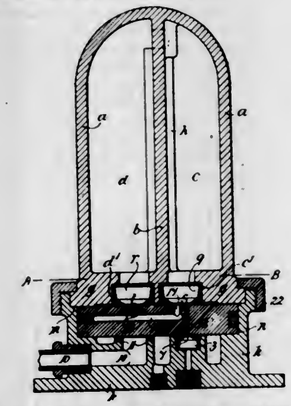
Claim.—1. A wagon-rack comprising bars, a cross-bar securing said bars together, uprights hinged to said bars and being located over said cross-bar, and a rod pivoted to said uprights, and means for securing the same to adjust the angle of inclination of the uprights with relation to said bars.

2. A wagon-rack comprising bars, cross-bars securing said bars together, uprights hinged to said bars and being located over said cross-bar, a rod pivotally attached at one end to said uprights and having its opposite end fashioned into a hook, and means located upon said bar for retaining the end of said hook.

3. A wagon-rack comprising bars, a cross-bar securing said bars together, uprights hinged to said bars and being located over said cross-bar, a rod having at one end an eye, a hook located upon said upright and entering the eye of said rod, said rod having its opposite ends fashioned into a hook, and means located upon said bar for receiving the hooked end of said rod.

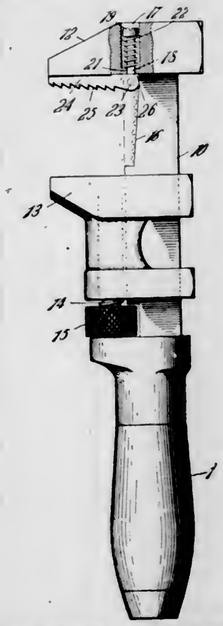
841,247. MANUFACTURE OF AERATED WATER. GEORGE HIGGINSON, London, England. Filed Nov. 21, 1904. Serial No. 233,599.

Claim.—1. In apparatus for manufacturing and dispensing aerated liquids, the combination of chambers *c* and *d*, the chamber *c* having at its bottom a passage *s*, the chamber *d* having at its bottom a passage *t*, a valve having a passage 16 connected with the chamber *c* and a plurality of small passages 18 leading from said passage 16 to the chamber *d*, and said valve having a port adapted to connect the passage *s* with the gas-supply



2. In apparatus for manufacturing aerated liquids, a chamber, a passage connected therewith, a valve controlling said passage, and a cup-shaped packer or washer the bottom of which bears against said valve and the sides of which bear against the walls of said passage, said packer having its edges tapered to bear closely against such parts.

841,248. PIPE-JAW ATTACHMENT TO WRENCHES. JOHN P. HILL, Phelps, N. Y., assignor of one-half to William A. White, Phelps, N. Y. Filed July 25, 1906. Serial No. 327,712.

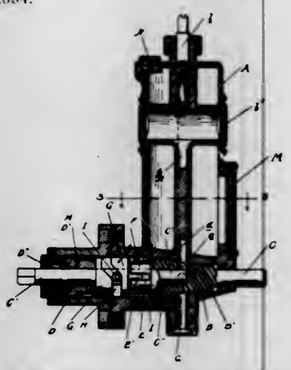


Claim.—1. The combination with a wrench having a recess in its stock, of a pipe-jaw swinging from said wrench and adapted to be withdrawn into said recess when in inoperative position, and a spring operating to hold said pipe-jaw yieldably in operative and inoperative position.

2. In a wrench, a stationary jaw having a socket and a stock having a recess, a spring-controlled plunger movable in said socket, and a pipe-engaging jaw swinging from said plunger and yieldably maintained thereby in operative or inoperative position.

3. The combination with a wrench having a recessed stock, and a rigid jaw upon the stock; of a supplemental jaw pivotally connected to the wrench and within the recess, said supplemental jaw adapted when in inoperative position to rest within the recess, and when in operative position to bear against the fixed jaw, and means within the fixed jaw for holding the supplemental jaw in either operative or inoperative position.

841,249. FORCE-FEED LUBRICATOR. CLARENCE R. HODGES, Detroit, Mich. Filed Mar. 11, 1905. Serial No. 249,594.



Claim.—1. In a lubricator, the combination of a rotary valve, a piston therein having means for causing the two to rotate together, and means for causing the valve to rotate and the piston to reciprocate.

2. In a lubricator, the combination of a rotary valve, a cylinder and piston concentrically arranged therein, means for causing the two to rotate together, means for imparting a rotary motion to one member, and means for reciprocating the piston by and during the rotation.

3. In a lubricator, a rotary valve having a longitudinally axially arranged cylinder therein, a piston in the cylinder rotating with the valve, means for rotating the valve, such rotation causing the reciprocation of the piston.

4. In a lubricator, a rotary valve having a longitudinally axially arranged piston therein, rotating therewith, and a drive connection device for rotating the valve and thereby reciprocating the piston.

5. In a lubricator, a reservoir, a pump, there being a sight-feed conduit leading from the pump and returning thereto, a discharge-conduit from the pump, and ports, and actuating means to cause the pump to receive a charge from the reservoir, force the same through the sight-feed conduit, and to again take the charge and discharge it to the point to be lubricated.

6. In a lubricator, a pump, having two discharge-conduits therefrom, one of said conduits comprising a sight-feed leading from and returning to the pump, the valve, and means for actuating the valve and pump to cause it to first discharge into the sight-feed conduit, and then to discharge through the other discharge-conduit.

7. In a lubricator, the combination of a pump, a sight-feed conduit leading therefrom and returning thereto, a sight-feed device therein, an exit-conduit, a valve and actuating means for the pump, to cause it to first discharge into the sight-feed conduit and then to draw therefrom and discharge into the exit-conduit.

8. In a lubricating device, the combination of a pump, a rotary valve controlling the inlet and outlet of the pump, two supply and two discharge ports, and a single port in the valve adapted to connect with all the ports in a single revolution, and means for reciprocating the pump to make two strokes to each rotation of the valve.

9. In a lubricating device, a reservoir, a rotary valve therein, an axially-arranged cylinder in the valve, a piston therein, there being a port leading from the valve at the end of the cylinder, an inlet-port from the cylinder to the valve, a conduit including a sight-feed device, leading from and returning to the valve, and an exit-conduit, the port in the pump registering with the ports and conduits named, successively, and means for reciprocating the piston.

10. In a lubricating device, a reservoir, a valve-casing communicating therewith, a sight-feed conduit having both ends terminating in ports in the casing, an exit-port in the casing, a rotary valve controlling all the ports, and a pump adapted to draw oil from the reservoir, force it through the sight-feed conduit, and to draw the oil from the sight-feed conduit and discharge it through the exit-port.

11. In a lubricating device, a reservoir, a pump, a sight-feed conduit leading therefrom, a regulating-valve therein, an overflow-conduit therein, and connections whereby the said pump is alternately connected to discharge oil into and to take oil from said sight-feed conduit.

12. In a lubricating device, a reservoir, a pump, a sight-feed conduit leading therefrom and returning thereto, and valve connections whereby said pump is alternately connected to discharge oil into and take oil from said sight-feed conduit.

13. A lubricator comprising a valve controlling the inflow and outflow of the lubricant, and a pump having a plunger for actuating the valve and for drawing in the lubricant and forcing it out by way of the valve, the said plunger having a sliding connection with the valve.

14. A lubricator comprising a valve alternately connecting with a lubricant-supply and a lubricant-discharge leading to the part to be lubricated, a pump-cylinder, a plunger mounted to turn and to reciprocate in the cylinder and having a sliding connection with the said valve, to draw in the lubricant by way of the valve and to force it out through the valve and means for rotating and reciprocating the said plunger.

15. A lubricator comprising a cylinder terminating in a valve-seat, a plunger mounted to turn and to reciprocate in the said cylinder, and a valve on the said seat, adapted to alternately connect with a supply and with a discharge, the said valve being in communication with the said cylinder and the said valve having a sliding connection with the said plunger.

16. A lubricator comprising a cylinder terminating in a valve-seat, a plunger mounted to turn and to reciprocate in the said cylinder, a valve on the said seat, adapted to alternately be connected with a supply and with a discharge, the said valve being in communication with the said cylinder, and the said valve having a sliding connection with the said plunger, and a spring pressing the valve, to hold the same to its seat.

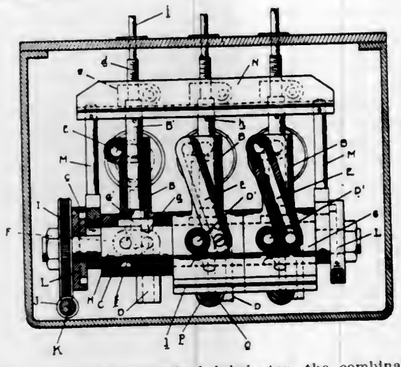
17. A lubricator comprising a cylinder provided with a valve-seat, a plunger mounted to turn and to reciprocate in the said cylinder, a valve held on said valve-seat and having a sliding connection with the plunger, whereby the valve turns when the plunger is turned, the said valve being provided with a recess adapted to alternately connect with a supply and a discharge, the said recess in the valve communicating by a port with the interior of the cylinder, means for rotating the plunger, and means for reciprocating the plunger when rotated.

18. In a lubricator, a pump, two valve-controlled inlet connections thereto and two valve-controlled discharge-conduits therefrom, and means for actuating the pump and the valve whereby said pump successively draws from the inlets and discharges into the outlets successively, and a sight-feed feature in one outlet-conduit.

19. In a lubricator, a pump, two inlet-conduits and two outlet-conduits, a rotary valve controlling all said conduits, and a sight-feed feature in one outlet-conduit.

20. In a lubricator, the combination of a pump, two separate discharge-conduits therefrom, a valve mechanism whereby the pump is caused to discharge successively into said conduits, and a sight-feed feature in one of said conduits.

841,250. FORCE-FEED LUBRICATOR. FREDERICK W. HODGES, Detroit, Mich. Filed Jan. 19, 1906. Serial No. 296,848.



Claim.—1. In a force-feed lubricator, the combination of a reservoir, a pump having outlet and discharge passages, a sight-feed conduit leading from the pump and returning thereto, and a rotary valve for said pump having separate ports adapted to successively connect the pump with the inlet, sight-feed inlet, sight-feed outlet and discharge passages.

2. In a force-feed lubricator, the combination of a reservoir, a pump having inlet and outlet conduits, and a sight-feed conduit leading from the pump and returning thereto, a rotary valve having separate ports adapted to alternately connect with the cylinder of the pump, and means for rotating the valve and actuating the pump to force the oil through the sight-feed conduit and take it therefrom and deliver it through the discharge.

3. In a force-feed lubricator, the combination of a series of pump-pistons, and cylinders, a rotary shaft at the end of the cylinders having pairs of ports adapted to connect with each cylinder, inlet and outlet ports, and a sight-feed conduit leading from and returning to the valve, for each pump, the parts operated for the purpose described.

4. In a force-feed lubricator, the combination of a series of adjacent pistons and cylinders, a valve-casing at the base of each cylinder, a rotary valve-shaft for all the pumps having ports for each pump, inlet and discharge ports in the valve-casing for each pump, a sight-feed conduit leading from and returning to each pump, and means for rotating the valve-shaft and operating the pistons, the parts operating for the purpose described.

5. In a force-feed lubricator, a reservoir, a series of pumps, a sight-feed conduit leading from each pump and returning thereto, an inlet and a discharge passage for each pump, and a common valve-shaft, separately ported for the inlet and discharge and for the sight-feed conduit of each pump, the parts being combined to operate as described.

6. In a force-feed lubricator, the combination of a reservoir, a series of cylinders and pistons, a sight-feed conduit leading from and returning thereto, an inlet and a discharge passage for each pump, a common valve-shaft separately ported for the inlet and discharge and for the sight-feed conduit of each pump, and means for adjusting the throw of each piston, the parts being combined to operate as described.

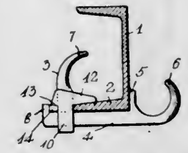
7. In a force-feed lubricator, the combination of a valve-casing having connected on opposite sides at one point the inlet-conduit and one end of a sight-feed passage which leads therefrom and returns thereto, and at another point the other end of the sight-feed conduit and the discharge-conduit, and a rotary valve having separate ports adapted to coöperate with these passages, and means for reciprocating the piston.

8. In a force-feed pump, the combination of a piston, a cylinder having the enlargement *a'* at the base, a valve-casing at the base of the cylinder, the rotary valve in the casing, having the separate ports *a b*, the inlet and discharge conduits, and the sight-feed conduit leading from and returning to the valve-casing at the ports, the parts being combined and operating substantially as described.

9. In a force-feed lubricator, a pump, two inlets for the pump and two discharge-conduits, one of said discharge-conduits comprising a sight-feed feature, and the other leading to the part to be lubricated, and a rotary valve having separate ports adapted to successively connect the pump with the inlet and discharge of the sight-feed conduit and the inlet and discharge of the lubricating-conduit.

10. In a force-feed lubricator, the combination of a series of pump-pistons and cylinders, a rotary shaft at the end of the cylinders having pairs of ports adapted to connect with each cylinder, and separate inlet and outlet connections for both of said ports for each cylinder.

841,251. COT OR HAMMOCK HOOK AND BEAM-SOCKET. WILLIAM HOUGHTON, Bath, Me. Filed Apr. 23, 1906. Serial No. 313,279.



Claim.—1. A beam-attaching device for supporting brackets and hooks comprising a bracket or hook a substantially U-shaped hanger adapted to engage said supporting bracket or hook, beam-engaging lugs formed on the upper end of said hanger, a locking-lug formed on said hook or bracket, a key adapted to be inserted between said locking-lug and the adjacent side of said hanger, and means formed on said hanger to engage and hold said key in place, substantially as described.

2. A beam-attaching device for supporting hooks and brackets comprising a bracket or hook a substantially U-shaped hanger, a shank or beam engaging bar formed on said hook or bracket and adapted to be engaged by said hanger, beam-engaging lugs formed on the upper ends of the sides of the latter to engage the flange or rib on said beam, and a lock-lug formed on the inner end of said bar or shank, said lug having an obliquely-disposed inner edge, and a wedge-shaped key to lock said hanger in engagement with the flange on said beam, substantially as described.

3. A beam-attaching device for supporting hooks or brackets comprising a bracket or hook a substantially U-shaped hanger, a shank or beam engaging bar formed on said hook or bracket, a lug formed on the forward end of said shank to engage the flat surface of said beam, forwardly-projecting lugs formed on the upper end of said hanger to engage the flange or rib on said beam after said hanger has been engaged with said shank or bar, key-engaging lugs formed on and projecting from the opposite side of said hanger, a lug formed on the inner end of said bar or shank, and a wedge-shaped key adapted to be inserted between said lug and the adjacent edges of the hanger to lock the latter in engagement with the beam, substantially as described.

4. A beam-engaging bracket comprising a shank adapted to engage the lower side of the beam, supporting devices formed on said shank, a beam-engaging lug formed on one end of said shank to engage the outer face of the beam, a substantially U-shaped hanger adapted to be applied to the opposite end of the shank, forwardly-projecting lugs formed on said hanger to engage the flange or rib on said beam, and means to lock said hanger in firm engagement with the beam, thereby securely attaching said bracket thereto, susstantially as described.

5. A beam-engaging bracket comprising a shank adapted to engage the lower side of the beam, supporting devices formed on said shank, a beam-engaging lug formed on one end of said shank to engage the outer face of the beam, a substantially U-shaped hanger adapted to be applied to the opposite end of the shank, forwardly-projecting lugs

formed on said hanger to engage the flange or rib on said beam, key-engaging lugs formed on and projecting rearwardly from said hanger, a locking-lug formed on the inner end of said shank, said lug having an obliquely-disposed key-engaging surface, and a wedge-shaped locking-key to hold said hanger in engagement with said key, substantially as described.

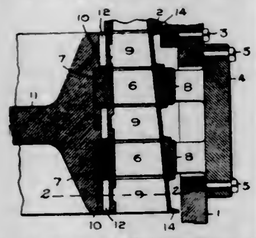
841,252. BELT-FASTENER. ISAAC JACKSON, Glossop, England. Filed May 17, 1905. Serial No. 260,915.



Claim.—1. In a belt-fastener, the combination with a perforated plate, of securing devices having prongs arranged to engage the edges of the perforations in the plate and having heads provided with recesses adapted to be engaged by a device for turning the head on its axis.

2. A belt-fastener comprising a perforated plate and rivets having prongs adapted to pass through the perforations in the plate, and to engage the edge or edges thereof, and be held thereby from turning therein, and with heads having recesses at their edges adapted to be engaged by a device for turning the head on its axis.

841,253. MEANS FOR DECREASING LEAKAGE IN TURBINES. OSCAR JUNGGREN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Apr. 29, 1903. Serial No. 154,888.



Claim.—1. In an elastic-fluid turbine, the combination of a casing, a means for discharging motive fluid, a wheel, segmental supports mounted on the wheel having integrally-formed buckets, a cover for the buckets composed of a single layer having a thin central portion and circumferential flanges at the edges, intermediate buckets, and supports therefor which are situated in line with the flanges and in close proximity thereto.

2. In an elastic-fluid turbine, the combination of a casing, a nozzle, intermediate buckets, a support therefor, a wheel having buckets, a row of buckets between the nozzle and the intermediates, and a cover for the wheel-buckets having a thin central portion and circumferential flanges which project beyond the central portion and revolve in close proximity to the nozzle and the intermediate support.

3. In an elastic-fluid turbine, the combination of a casing, a nozzle for discharging motive fluid, wheel-buckets situated in front of the nozzle, covers for the wheel-buckets having outwardly-extending flanges formed thereon, intermediate buckets situated between the wheel-buckets, a support therefor which is situated in line with the cover-flanges, and means for adjusting the support toward or away from the cover-flanges.

4. In an elastic-fluid turbine, the combination of a casing, a nozzle mounted thereon and adjustable in a plane parallel with the wheel-axis, a bucket-wheel, covers for the buckets having circumferential flanges formed integral therewith, intermediate buckets, a support therefor situated in line with the flanges, and means for adjusting the support toward or away from the cover-flanges.

5. In an elastic-fluid turbine, the combination of a plurality of wheel-buckets, a cover therefor, circumferential flanges at each side of the cover, intermediate buckets, a support therefor, and a groove opening into the clearance-space between the wheel and intermediate buckets for decreasing the leakage.

6. In an elastic-fluid turbine, the combination of a wheel or support having a plurality of grooved projections formed on the periphery, a plurality of buckets, each having a shank that enters the groove, a retaining means for each bucket which pass through a projection and the shank, covers for each row of buckets, and a row of intermediate buckets located between each two rows of wheel-buckets.

7. A bucket element for an elastic-fluid turbine comprising a wheel or support with a plurality of buckets attached thereto, and a jointed cover for the buckets comprising a single layer, each section of the cover having a portion which forms a part of the working passage, and integral side portions extending at right angles or substantially at right angles thereto for decreasing the leakage.

8. In an elastic-fluid turbine, the combination of a casing, a means for discharging motive fluid, buckets which are acted upon by the fluid and are formed integral with their support, a number of tenons each formed integral with a bucket, and a cover for the buckets which is held in place by the tenons, and has integral flanges occupying planes parallel or substantially parallel with the edges of the buckets.

9. In a turbine, the combination, with its drum and casing, of a number of turbine-blades and a fitting and baffling strip of channel shape in cross-section, one portion of which is attached to the free ends of the blades and the other portion of which extends at right angles to the turbine-axis.

10. In a turbine, the combination, with its drum and cylindrical casing, of a number of turbine-blades and a fitting and baffling strip made of a single thickness of stock of channel shape in cross-section, the middle portion of which extends longitudinally and is attached to the free ends of the blades, and the other portions of which extend away from the blades and presents their edges to the inclosing cylindrical casing.

11. In a turbine, the combination, with its drum and casing, of a number of turbine-blades and a fitting and baffling strip made of a single thickness of stock of angular cross-section, one portion of which is perforated to receive the blade ends and attached to the free ends of the blades by riveting over the blade ends which project through the perforations, and the other portion of which extends away from the blades transversely of the turbine-axis.

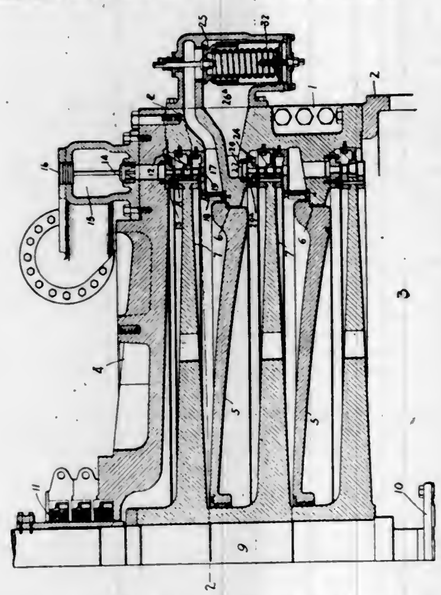
12. In a turbine, the combination, with its drum and casing, of a number of turbine-blades and a fitting and baffling strip divided into segmental lengths and made of a single thickness of stock of channel shape in cross-section, the middle portion of each segment being perforated and the ends notched to receive the blade ends, the said fitting and baffling strip being attached to the free ends of the blades by riveting over the blade ends which project through the perforations, and the other portions of which extend transversely away from the blades transversely of the turbine-axis.

13. In a turbine, the combination, with its drum and casing, of a number of radial turbine-blades, and a channel-shaped fitting and baffling strip attached to the free ends of the blades and extending at right angles to the turbine-axis, as set forth.

14. In a turbine, the combination, with its drum and casing, of a number of radial turbine-blades, and a fitting and baffling strip made of a single thickness of stock and attached to the free ends of the blades by riveting and extending transversely of the turbine-axis, as set forth.

841,254. ELASTIC-FLUID TURBINE. OSCAR JUNGGREN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 10, 1905. Serial No. 268,916.

Claim.—1. In an elastic-fluid turbine, the combination of a wheel having rows of buckets thereon, a casing having a compartment to receive the wheel, intermediate buckets arranged in rows between the wheel-buckets, and a chamber for receiving the motive fluid exhausting from the wheel, the wall of which is separated from the wheel by a clearance which does not exceed that of the buckets.



2. An elastic-fluid turbine comprising a plurality of separate stages each including a wheel and a compartment therefor, and nozzles or devices which discharge separate columns of motive fluid to the wheel, in combination with a chamber which receives the columns of fluid exhausting from the wheel and permits them to equalize, throats for the chamber which conform in shape to the columns, and nozzles or devices which receive the fluid from the chamber and discharge it to a point of low pressure.

3. In an elastic-fluid turbine, the combination of a casing, a diaphragm for dividing it into compartments, a shoulder on the casing which supports the diaphragm, wheels located in the compartments, devices discharging fluid thereto, and an annular chamber which receives the exhaust from a wheel and is located within the casing and surrounds the diaphragm.

4. In an elastic-fluid turbine, the combination of a casing, diaphragms for dividing it into compartments, shoulders on the casing which support the diaphragms, bucket-wheels located in the compartments, devices discharging motive fluid against the buckets, and chambers located within the casing which receive the exhaust from the wheels and supply it to the discharging devices of lower pressure, the said chambers having walls formed by the shoulders.

5. In an elastic-fluid turbine, the combination of a casing, a diaphragm for dividing it into compartments, a shoulder on the casing which supports the diaphragm, wheels located in the compartments, devices discharging fluid thereto, an annular chamber which receives the exhaust from a wheel, and segmental detachable pieces which form a wall for the chamber.

6. In an elastic-fluid turbine, the combination of a casing, a diaphragm for dividing it into compartments, a shoulder on the casing which supports the diaphragm, wheels located in the compartments, an annular chamber which receives the exhaust from a wheel, a wall therefor which is formed by the shoulder, admission nozzles or devices, and fluid-discharging devices which are carried by the shoulder.

7. In an elastic-fluid turbine, the combination of a casing divided into two or more stages, each containing a wheel-compartment, bucket-wheels therein, an internal shoulder on the casing, an annular nozzle comprising separate passages which discharge fluid against the adjacent wheel, and an annular chamber that receives the fluid column or columns from the preceding stage and delivers it to the passages of the annular nozzle.

8. In an elastic-fluid turbine, the combination of a casing having an internal shoulder, a diaphragm of less diameter than the bucket-wheels that divides the casing into compartments and is supported by the shoulder, bucket-wheels mounted in the compartments, an annular nozzle supported by the shoulder, and an annular chamber located in line with the shoulder which receives fluid exhausting from one wheel and delivers it to the annular nozzle.

9. In an elastic-fluid turbine, the combination of a casing, an internal shoulder thereon, a nozzle carried by the shoulder which is provided with a plurality of passages, and an annular chamber formed in the shoulder which supplies the nozzle-passages.

10. In an elastic-fluid turbine, the combination of two or more stages, a bucket-wheel in each stage-compartment, an annular chamber which receives the exhaust from a wheel and keeps it out of the influence thereof, nozzles which discharge fluid to a wheel of lower pressure, and valves which control the passage of fluid from the annular chamber to the nozzles, the said valves being sensitive to variations in stage-pressure and arranged to present a greater area when open than when closed to prevent chattering.

11. In an elastic-fluid turbine, the combination of two or more stages, a bucket-wheel in each stage-compartment, an annular chamber which receives the exhaust from a wheel and keeps it out of the influence thereof, nozzles which discharge fluid to a wheel of lower pressure, valves which control the passage of fluid from the annular chamber to the nozzles, the said valves being sensitive to variations in stage-pressure and arranged to present a greater area when open than when closed to prevent chattering, and indicators which show the positions of the valves.

12. In an elastic-fluid turbine, the combination of a casing containing a compartment, a wheel located therein, rows of buckets mounted on the wheel, intermediate buckets situated between the rows of wheel-buckets, a support for the intermediate buckets which is L-shaped in cross-section, and bolts that pass through the support into the casing for securing the former in place.

13. In an elastic-fluid turbine, the combination of a segmental casing containing a wheel-compartment, a bucket-wheel, and an annular chamber which receives the fluid exhausting from the wheel, the said chamber being provided with segmental walls the joints of which register with those of the casing so that they may be handled as a unit.

14. In an elastic-fluid turbine, the combination of a casing containing a compartment, a bucket-wheel mounted therein, segmental walls that form a receiving-chamber, a throat of relatively restricted area through which the exhaust from the wheel passes into the chamber, and a valve for controlling the passage of fluid from the chamber.

15. In an elastic-fluid turbine, the combination of a casing containing a compartment, bucket-wheels mounted therein, an annular chamber communicating with the wheel-compartment, and segmental throats for the chamber through which the exhaust from the wheel passes, the said throats being angularly displaced.

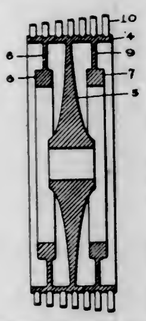
16. In an elastic-fluid turbine, the combination of a casing containing compartments, bucket-wheels mounted therein, an annular chamber, a throat or opening through which the exhaust from a wheel enters the chamber, main and auxiliary stage-nozzles which are supplied with motive fluid from the chamber, and a stage-valve which controls the passage of fluid to an auxiliary nozzle.

17. In an elastic-fluid turbine, the combination of a casing containing compartments, bucket-wheels mounted therein, an annular chamber, a throat or opening through which the exhaust from a wheel enters the chamber, main and auxiliary stage-nozzles which are supplied with motive fluid from the chamber, and successively-acting stage-

valves that control the passage of motive fluid from the chamber to an auxiliary stage-nozzle.

18. In an elastic-fluid turbine, the combination of separate stage-compartments, a bucket-wheel in each compartment, a shoulder, an annular chamber in the shoulder which receives the exhaust from a preceding wheel and prevents it from affecting the moving parts, ribs extending across the chamber to support one portion of the shoulder, and an annular nozzle which receives motive fluid from the chamber and discharges it under predetermined velocity to the adjacent wheel.

841,255. WHEEL FOR TURBINES. HILDREICH KELLER, Berlin, Germany, assignor to General Electric Company, a Corporation of New York. Filed July 31, 1905. Serial No. 272,018.



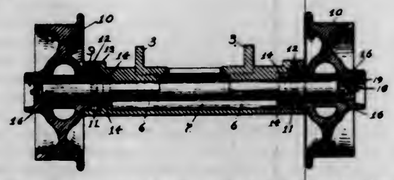
Claim.—1. An element intended to be rotated at high surface speed, comprising a spider adapted to be mounted on a shaft, a rim secured thereto, and rings which revolve at a materially lower surface speed than the rim, the said rings being connected to the rim and arranged to strengthen and support it.

2. An element intended to be rotated at high surface speed, comprising a spider adapted to be mounted on the shaft, a rim secured thereto, a ring situated at one side of the spider and having a materially less surface speed than the rim, and means connecting the ring with the rim whereby the centrifugal strains on the rim are partially transferred to the ring.

3. An element intended to be rotated at high surface speed comprising a spider adapted to be mounted on a shaft, a rim secured thereto, rings which revolve at a materially lower surface speed than the rim, the said rings being connected to the rim and arranged to strengthen and support it, and buckets carried by the rim for causing rotary motion.

4. A bucket-wheel intended to be rotated at high surface speed, comprising a spider adapted to be mounted on a shaft, a rim secured thereto, rings situated on opposite sides of the spider and having a materially less surface speed than the rim, webs connecting the rings and the rim whereby the strains to which the rim is subjected are partially sustained by the rings, and rows of buckets mounted on the rim for causing rotation.

841,256. RUNNING-GEAR FOR CARS. JOHN H. KELLY, San Francisco, Cal. Filed Feb. 23, 1906. Serial No. 302,588.



Claim.—1. A truck-frame and axle-bearings therefor cast in one piece, substantially as described.

2. A truck-frame comprising side members and cross or end members, the latter being hollow, and having formed therein axle-bearings, all cast in one piece, substantially as described.

3. A truck frame comprising side members and cross or end members, the latter being hollow, and having formed therein axle-bearings in cross-section not more than a semicircle, all cast in one piece, substantially as described.

4. A truck-frame comprising side members and cross or end members, the latter being hollow, and having formed therein chilled axle-bearings, all cast in one piece, substantially as described.

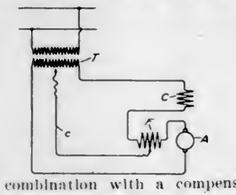
5. A truck-frame comprising side members and cross or end members, the latter being hollow, and having formed therein axle-bearings in cross-section not more than a semicircle, substantially as described.

6. A truck-frame comprising side members and cross or end members, the latter being hollow, and having formed therein chilled axle-bearings, substantially as described.

7. A truck frame and axle-bearings therefor cast in one piece, and chilled-iron bushings around which it is cast, substantially as described.

8. A truck-frame and axle-bearings therefor cast in one piece, and chilled-iron bushings having V-shaped slits around which it is cast, substantially as described.

841,257. CONTROL OF ALTERNATING-CURRENT MOTORS. MARIUS C. A. LATOUR, Paris, France, assignor to General Electric Company, a Corporation of New York. Filed Nov. 9, 1905. Serial No. 286,509.



Claim.—1. In combination with a compensated series motor for alternating currents, a local circuit comprising the motor-armature and a source of voltage of proper phase for producing in said local circuit a current for producing a commutating field.

2. In combination with a compensated series motor for alternating currents, a local circuit comprising the motor-armature and a source of voltage having one component dependent in phase on the impressed voltage and a second component dependent in phase on the motor-current.

3. In combination with a compensated series motor having one armature-terminal connected directly to one field-terminal, a connection from the other armature-terminal through a source of voltage to a point on the field-winding.

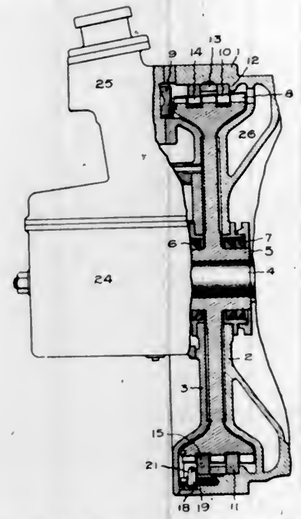
4. In combination with a compensated series motor for alternating currents, a local circuit comprising the motor-armature and a source of voltage having one component in phase with the impressed voltage and a second component dependent in phase on the motor-current.

5. In combination with a compensated series motor for alternating currents, a local circuit comprising the motor-armature and a source of voltage having one component in phase with the impressed voltage and a second component dependent in phase on the motor-current, and means for adjusting the relative magnitudes of said components.

6. In combination with a compensated series motor having one armature-terminal connected directly to one field-terminal, a connection from the other armature-terminal through a source of voltage to a point on the field-winding, and means for shifting said point on the field-winding.

841,258. MEANS FOR SECURING BUCKETS IN TURBINES. CLARENCE E. LITTLE, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed July 19, 1905. Serial No. 270,432.

Claim.—1. An elastic-fluid turbine comprising a wheel having rows of peripheral buckets, a casing, and fluid-admitting means, in combination with closely-associated intermediate buckets, a support therefor located between the rows of wheel-buckets and conforming to the shape of the casing, a blank wall connecting the ends of the intermediate-bucket support, a shoulder for positioning the intermediate buckets within the casing, and a clamping device for the support which exerts pressure in an axial direction.



2. An elastic-fluid turbine comprising a wheel having rows of buckets thereon, a fluid-admitting means, and a casing, the wheel and casing being so arranged that they can be separated by an axial movement, in combination with closely-associated intermediate buckets arranged in segmental rows, supports therefor located between the rows of wheel-buckets, blank walls connecting the opposite ends of the segmental rows of buckets, a follower or spacer between the rows of intermediate buckets, and one or more devices for exerting pressure in an axial direction on the intermediate-bucket supports and the follower or spacer.

3. An elastic-fluid turbine comprising a wheel having rows of buckets thereon, a fluid-admitting means, and a casing, in combination with two or more rows of closely-associated intermediate buckets having sharp edges and arranged in rings, portions of which are blank, a follower between two adjacent rings, an abutment receiving one of the rings, and one or more devices which exert a pressure on the rings and the follower to seat the parts against the abutment.

4. An elastic-fluid turbine comprising a wheel having rows of buckets thereon, a fluid-admitting means, and a casing having a shoulder, in combination with intermediate buckets arranged in the form of rings which are slipped axially into the casing, a follower-ring between each two intermediate-bucket rings, means which engages one of the rings and said shoulder for clamping the bucket and follower rings in place, and a key for preventing the bucket and follower rings from turning.

5. In an elastic-fluid turbine, the combination of a wheel having rows of peripheral buckets thereon, a casing having an internal shoulder, an intermediate-bucket ring which rests on the shoulder, a second intermediate-bucket ring, a follower between said rings which separates them by a fixed distance, a second shoulder formed on the casing, and clamping devices which engage the second shoulder and also a ring for holding the intermediate buckets in place.

6. In an elastic-fluid turbine, the combination of a wheel having rows of peripheral buckets thereon, a casing having an internal shoulder, intermediate-bucket rings which are restrained from axial movement by the shoulder, a follower between the rings, clamping devices located within the casing which exert axial pressure on the rings and follower, a nozzle or other device admitting fluid to the buckets, and a head for the casing which carries the nozzle and when removed exposes the clamping devices.

7. In an elastic-fluid turbine, the combination of a casing, a wheel having rows of peripheral buckets, intermediate-bucket-carrying rings located between the rows of wheel-buckets, a follower between adjacent bucket-rings, shoulders formed on the casing, one of which acts as an abutment, and clamping devices which engage the other shoulder and also one of the rings.

8. In an elastic-fluid turbine, the combination of a casing, a wheel having rows of peripheral buckets, intermediate-bucket-carrying rings located between the rows of wheel-buckets, which are slipped into the casing one after the other, blank walls on the rings which reduce the fan-like action of the idle-wheel buckets, a follower which surrounds the wheel and spaces the adjacent rings and is slipped into the casing between the rings, and means for clamping the rings and followers in place.

841,259. WELL-DRILLING APPARATUS. GEORGE D. LOOMIS, Tiffin, Ohio. Filed May 12, 1906. Serial No. 316,572.

Claim.—1. In a portable well-drilling apparatus, a wheeled frame, an engine mounted thereon, a main shaft receiving motion from the engine, a hollow crank-shaft, a crank carried thereby and arranged to operate the drilling mechanism, and a clutching means for connecting and disconnecting the two shafts.

2. In a drilling-rig, a shaft, means for actuating it, a crank loose on the shaft, and means for clutching the crank and shaft.

3. In a drilling-rig, a power-shaft, a hollow shaft mounted loosely thereon and having a drill-actuating crank, and means for connecting and disconnecting the two shafts.

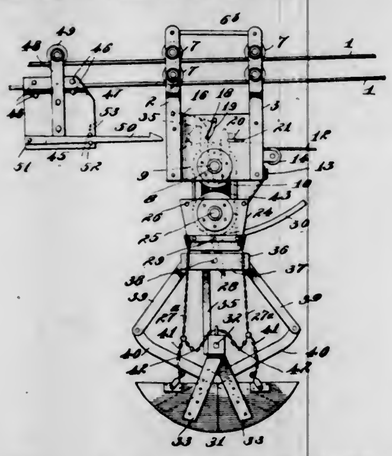
4. In a drilling-rig, a power-shaft, a loose crank mounted thereon and serving to transmit movement to the drilling mechanism, and means for connecting and disconnecting the shaft and crank.

5. In a drilling-rig, a hollow shaft, a drill-actuating crank arranged at one end of the shaft, a clutch-disk at the opposite end of the shaft, a main shaft extending into the hollow shaft, and in part supported thereby, a clutching

member mounted on the main shaft, and means for operating the clutch.

6. In a drilling-rig, the combination with a frame, of a shaft, means for actuating the same, a drill-operating crank, having a clutch-face, a sprocket-wheel mounted loosely on the shaft and having a clutch-face, a clutching member carried by the shaft, and movable to engage either the crank or the sprocket-wheel with the shaft, a winding-drum or shaft, a sprocket-wheel carried thereby, and a link belt connecting the two sprocket-wheels.

841,260. CARRIER. DWIGHT G. LYMAN, Omaha, Nebr. Filed Aug. 17, 1905. Serial No. 274,604.



Claim.—1. In a carrier, in combination, a carriage; means for locking said carriage upon a way; a hoisting-head; a cable arranged to extend between said carriage and said hoisting-head; a bucket movably supported from said hoisting-head; a locking member on said carriage; a suspending member attached to said hoisting-head and adapted to engage said locking member; a member carried by said bucket for operating said carriage-locking means; and a guide member in said carriage, said suspending member and said lock-operating member being arranged to pass at opposite sides of said member.

2. In a carrier, in combination, a carriage having guide-openings in its sides; a member adapted to be fixed with relation to the way upon which said carriage is adapted to travel; a hoisting-head having an operating cable connection with said carriage; a spring-actuated locking-bar slidably mounted in said carriage, the ends of said bar lying in said guide-openings; and a suspending member attached to said hoisting-head and adapted to engage said locking-bar, the member fixed to the carriage-way being adapted to move said locking-bar out of engagement with said suspending member.

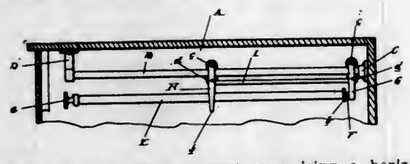
3. In a carrier, in combination, a carriage; a locking-latch on said carriage; a member adapted to be fixed with relation to the way and to project into said carriage, said member having a hooked forward end adapted to engage said locking-latch; a hoisting-head movably supported from said carriage; a locking member on said carriage in the path of the relative movement of the member fixed to the way and arranged to be moved out of locking position by said fixed member; and a suspending member on said hoisting-head adapted to engage said locking member.

4. In a carriage, in combination, a carriage, a pivoted locking-latch on said carriage, a member adapted to be fixed with relation to the way and to project into said carriage, said member having a hooked forward end adapted to engage said locking-latch; a hoisting-head movably supported from said carriage; a spring-pressed locking member slidably mounted on said carriage in line with the member fixed to the way and arranged to be pushed out of locking position by said fixed member; and a suspending member on said hoisting-head adapted to engage said slidable locking member.

5. In a carrier, in combination, a carriage; a hoisting-head movably supported from said carriage; a bucket movably supported from said hoisting-head; coöperating means on said carriage and said hoisting-head for locking said carriage and hoisting-head together; a locking member on the carriage-way; a locking-latch on said carriage adapted to be engaged by said locking member, said member being adapted to release said hoisting-head; and a member moving with said bucket for disengaging said latch and locking member.

6. In a carrier, in combination, a carriage comprising a plurality of spaced plates; a shaft rotatably supported in said carriage; two sheaves on said shaft between certain of said plates; a guide member between said sheaves; a hoisting-head provided with two sheaves; a cable extending over said sheaves; a locking member on said carriage; and a suspending member on said hoisting-head adapted to extend into said carriage and be guided by said guide member into engagement with said locking member.

841,261. GARMENT-SUPPORT. RAYMOND MANCHA, Detroit, Mich., assignor to Mancha Show Case Company, Detroit, Mich., a Corporation of Michigan. Filed Sept. 5, 1905. Serial No. 277,098.



Claim.—1. A garment-support comprising a horizontally-extending rail, telescopically-engaging rods beneath said rail, a traveling hanger engaging said rail and connected with one end of the inner rod, and a second traveling hanger engaging said rail and separated from the first hanger, and the second hanger being bent around the side and beneath said telescopic rods and extending upward into supporting engagement with the inner rod through a longitudinal slot in the outer rod.

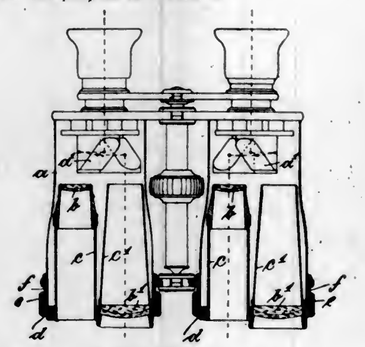
2. A garment-hanger comprising a horizontally-extending rail and a pair of telescopically-engaging rods beneath the same, said rail and rods being of substantially the same length, a traveling hanger engaging said rail and connected with one end of the inner rod, a second hanger engaging said rail and also engaging said inner rod at a point substantially midway between its ends, said last-mentioned hanger being bent laterally to provide clearance at the side of said telescopic rods and having a supporting engagement beneath the same, and the outer one of said telescopic rods being longitudinally slotted to clear said hanger.

3. A garment-hanger comprising a horizontally-extending rail, a pair of separated hangers engaging said rail, each comprising a downwardly-extending shank and anti-friction rolls journaled thereon arranged above and below the rail, a pair of telescopically-engaging rods beneath said rail, the inner rod being connected at its end to one of said hangers, a laterally-bent downward extension of the other hanger passing around the side of said rods and beneath the same, having a supporting engagement with the inner rod and passing through a longitudinal slot in the outer rod, and a brace-rod connecting said hangers above said telescopic rods.

841,262. PRISM-TELESCOPE. KARL MARTIN, Rathenow, Germany, assignor to The Firm of Rathenower Optische Industrie-Anstalt vorm. Emil Busch Actiengesellschaft, Rathenow, Germany. Filed Jan. 2, 1906. Serial No. 294,268.

Claim.—1. A prismatic telescope, comprising in combination: a telescope-tube, object-lenses having different focal

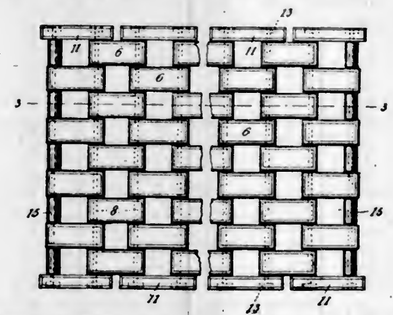
range, tubes for mounting therein the object-lenses, a plate carrying the tubes for adjusting the object-lenses, and a prism for the purpose as described.



2. A binocular prism-telescope, comprising in combination: telescope-tubes, object-lenses having different focal ranges, tubes for mounting therein the object-lenses, a plate in each telescope-tube carrying said tubes for the purpose of adjusting the object-lenses, and prisms in said telescope-tubes.

3. A binocular prism-telescope, comprising in combination: object-lenses having different focal ranges, tubes for mounting therein the object-lenses, a plate in each telescope-tube carrying said tubes, a toothed boss for each telescope-tube in connection with said plates, a toothed wheel *i* intermeshing with said toothed rims, a stem *k* carrying said toothed wheel and a knurled wheel *v* mounted on said stem for operating the toothed rims and the tubes.

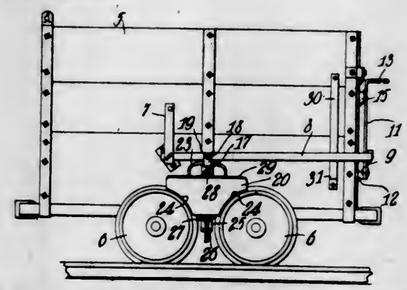
841,263. FOLDING MAT. OSKAR MARTIN, Bergenfield, N. J. Filed Mar. 7, 1906. Serial No. 304,663.



Claim.—A folding mat comprising rows of perforated links, parallel connecting-rods having threaded ends, and rails made up in sections, each section having communicating perforations and sockets, the rods each terminating within the corresponding sockets and free of the walls thereof, the perforations being smooth and the sockets screw-threaded, oppositely-disposed flanking rods connecting the links and end sections at corresponding ends or sides of the mat, sleeves loosely disposed upon the flanking rods between the corresponding links and end sections, and nuts fitted in the sockets having internal threads engaging the rods and external threads engaging the threads of the sockets, the nuts being confined within the outer face of said sections.

841,264. MINE-CAR BRAKE-SHOE. DANIEL S. MILLER and JOHN M. LANDFAIR, Black Lick Station, Pa. Filed Sept. 26, 1906. Serial No. 336,376.

Claim.—1. The combination with a vehicle, of a yoke pivotally mounted on the vehicle, a rod depending from the yoke, a brake-shoe adjustable vertically of the rod, a guide member passing through the rod and loosely mounted in the brake-shoe, and means for locking the brake-shoe in adjusted position.



2. The combination with a vehicle, of a yoke pivotally mounted on the vehicle, a vertically-adjustable brake-shoe pivotally mounted on the yoke and adapted to bear against the vehicle-wheels, a guiding member carried by the yoke and loosely mounted in the brake-shoe, and means for locking the brake-shoe in adjusted position.

3. The combination with a vehicle, of a yoke pivotally mounted on the vehicle, a threaded rod pivotally associated with the yoke, a brake-shoe mounted for vertical movement on the rod and adapted to bear against the vehicle-wheel, and clamping-nuts engaging the threads on the rod and bearing against the brake-shoe for locking the latter in adjusted position.

4. The combination with a vehicle, of a yoke pivotally mounted on the vehicle, a threaded rod depending from the yoke and having its upper end bifurcated for the reception of said yoke, a brake-shoe mounted for vertical movement on the rod, a guiding member threaded through the bifurcated end of the rod and loosely mounted in the brake-shoe, and clamping-nuts engaging the threads on the rod for locking the brake-shoe in adjusted position.

5. The combination with a vehicle, of a yoke pivotally mounted on the vehicle, a threaded rod having its upper end bifurcated for the reception of the yoke and pivotally connected therewith, a brake-shoe mounted for vertical movement on the rod and provided with oppositely-disposed recesses, a guiding-rod passing through the bifurcated end of the threaded rod and having its opposite ends seated in the recesses in the brake-shoe, and clamping-nuts engaging the threads on the rod for locking the brake-shoe in adjusted position.

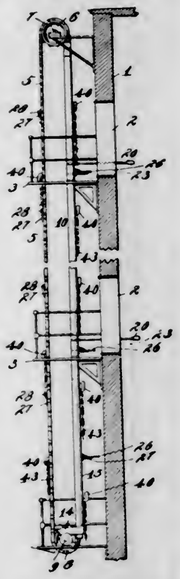
6. The combination with a vehicle, of a yoke pivotally mounted on the vehicle, a bracket secured to one side of the vehicle and having its lower end bent laterally and provided with an opening, a threaded rod having its lower end passing through said opening and its upper end bifurcated for the reception of the yoke and pivotally associated therewith, a brake-shoe mounted for vertical movement on the rod, a guiding-rod passing through the bifurcated end of the threaded rod and having its opposite ends seated in the recesses in the brake-shoe, and clamping-nuts engaging the threads on the rod for locking the brake-shoe in adjusted position.

7. The combination with a vehicle, of a yoke pivotally mounted on opposite sides of the vehicle and having its closed end extending transversely across the adjacent end of said vehicle, vertically-adjustable brake-shoes pivotally connected to the yoke and adapted to engage the vehicle-wheels, a link depending from the closed end of the yoke, a bell-crank lever pivotally mounted on one end of the vehicle and having its short arm operatively connected with the link and its long arm provided with an operating-handle, and a rock-shaft secured to the vehicle and adapted to engage the long end of the lever for locking the brake-shoes in operative position.

8. The combination with a vehicle, of a yoke pivotally mounted on opposite sides of the vehicle and having its closed end extended transversely across the adjacent end of said vehicle, guides secured to the sides of the ve-

hicle and bearing against the adjacent side bars of the yoke, threaded rods pivotally mounted on the opposite sides of the yoke, brake-shoes mounted for vertical movement on the rods, guiding members passing through the threaded rods and fitted in the brake-shoes, nuts threaded on the rods and bearing against the brake-shoes for locking the latter in adjusted position, and means operatively connected with the closed end of the yoke for simultaneously moving the brake-shoes to operative and inoperative position.

841,265. FIRE-ESCAPE. THOMAS NOONAN, Chicago, Ill. Filed Jan. 8, 1906. Serial No. 295,009.



Claim.—1. In a fire-escape, in combination, a conveyer comprising a pivotally-mounted platform; a braking device operated by said platform, comprising a lever carrying a brake-shoe, said lever being operated by the pivotal movement of said platform; and a member adapted to be engaged by said brake-shoe.

2. In a fire-escape, in combination, a conveyer comprising a chain and a pivotally-mounted platform; a guide-rail adjacent to said chain; and means connected with said platform and said chain, engaging opposite sides of said guide-rail and operated by the pivotal movement of the platform, for maintaining said platform in a horizontal position.

3. In a fire-escape, in combination, a conveyer comprising a chain and a platform pivotally connected with said chain; a guide-rail; a brake-shoe connected with said platform and adapted to slide in contact with said guide-rail; and a brake-shoe connected with said chain, also adapted to slide upon said rail.

4. In a fire-escape, in combination, a conveyer comprising two traveling chains; a rung connected with said chains; a platform pivoted to said rung; a guide-rail; and a brake-lever carried by said rung and adapted to be moved by the pivotal movement of said platform, said brake-lever carrying a shoe adapted to engage said guide-rail.

5. In a fire-escape, in combination, a conveyer comprising two traveling chains; a rung connected with said chains; a platform pivoted to said rung; a guide-rail for each of said chains; two brake-levers pivoted to said rung and having a link connection with said platform, said brake-levers being provided with brake-shoes adapted to engage said guide-rails; and brake-shoes carried by said rung.

6. In a fire-escape, in combination, a conveyer comprising two traveling chains; a rung connected with said chains; a hand-lever pivoted to said rung; a guide-rail for each of said chains; and brake-shoes adapted to engage said rails and operatively connected with said hand-lever.

7. In a fire-escape, in combination, a conveyer comprising two endless chains; sprocket-wheels for supporting said chains; a platform connected with said chains; a guide-rail; brake-shoes connected with said platform and adapted to engage said guide-rail; and a pivoted pawl for pivotally moving said platform.

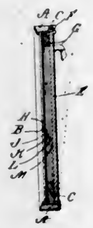
8. In a fire-escape, in combination, a conveyer comprising two endless chains; sprocket-wheels for supporting said chains; a platform connected with said chains; a guide-rail; brake-shoes connected with said platform and adapted to engage said guide-rail; a shell between said sprocket-wheels; and a pawl pivotally supported in the path of said chains and adapted to pivotally move said platform.

9. In a fire-escape, in combination, a conveyer comprising two endless chains; a platform pivotally connected with said chains; a guide-rail; a pair of brake-shoes connected with said platform and adapted to engage said guide-rail; means tending to support said brake-shoes; and means for pivotally moving said platform into position for said brake-shoes to engage said guide-rails.

10. In a fire-escape, in combination, a conveyer comprising an endless chain; sprocket-wheels for supporting said chain; a brake-disk fixed with relation to one of said sprocket-wheels; a brake-bar provided with a shoe adapted to engage said brake-disk; a platform connected with said chain; and a brake-shoe connected with said platform and adapted to bear upon said brake-bar.

11. In a fire-escape, in combination, a conveyer comprising a traveling chain; a stationary member; a brake-shoe arranged to travel with said chain and adapted to bear upon said stationary member; a lever for setting said brake-shoe; and a carrying-chain adapted to be attached at its ends to said lever.

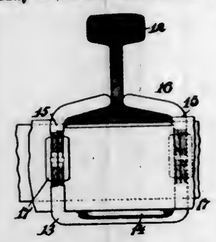
841,266. MEANS FOR DISPLAYING PAINT-COLORS. HOWARD E. NORTHUP, Clarks Green, Pa. Filed Feb. 26, 1906. Serial No. 303,133.



Claim.—1. A series of cards or plates of different colors arranged one behind another, one of which has a large pentangular opening, the next having a plurality of window-openings of relatively large size, the next having a plurality of relatively small openings, and a plane card or plate without openings in rear of the card containing said small openings for the purpose specified.

2. The combination of a frame or case having a glass front, strips for representing the shadows of the overhanging cornice and edges of the siding, secured to the glass, a sheet having a drawing of a house arranged in the frame next to the glass, and having a portion cut out as described, and a series of cards of different colors, formed with properly-shaped openings and arranged one behind the other to show different colors for the cornice, corner-boards, window-casings, &c.

841,267. RAIL-FASTENER. DAVID E. OLDS, Newark, N. J. Filed May 14, 1906. Serial No. 316,706.



Claim.—1. A rail-fastening comprising a member to extend beneath the tie and upward on either side thereof, members to embrace the flange of the rail and extend downward therefrom, and right and left threaded nuts to engage the ends of the member.

2. A fastening for rails, comprising a member to extend beneath a tie and upward on either side thereof, members to engage the flange of a rail and extend downward therefrom, and means on the ends of the members to regulate the tension on them.

3. A rail-fastening comprising a member to go underneath and extend up on either side of a tie, the extending portions being provided with screw-threads, members to fit on each flange of the rail and extend downward in line with the upward-projecting portions of the first member, and being provided with a screw-thread, and right and left threaded nuts to join the projecting portions of the members to regulate the distance between them.

4. A rail-fastening comprising a U-shaped piece having its ends threaded, rods arranged in line with the ends of the U-shaped piece and having portions bent to engage the flanges of the rail, and right and left threaded nuts to connect the ends of the U-shaped piece and the rods.

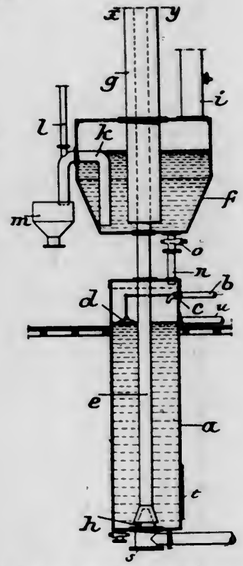
5. A rail-fastening comprising a U-shaped piece having a flattened straight portion and round projecting ends, the projecting ends being screw-threaded, rods having their ends screw-threaded and having portions bent at an angle thereto, and right and left threaded nuts to engage the ends of the U-shaped portions and the rods.

841,268. APPARATUS FOR TREATING LIQUIDS WITH GASES. AUGUSTE PAGNIEZ, Caudry, France. Filed Sept. 6, 1905. Serial No. 277,239.

Claim.—1. An apparatus for saturating sugar-juices, comprising a tank for the juices to be treated, a vessel for the saturated juices, a pipe leading from the lower part of the tank to the receiving vessel, means for introducing a saturating-gas into the lower part of the pipe under sufficient pressure to raise the liquid from the tank to the vessel, whereby the liquid is saturated while being transferred by the gas from the tank to the vessel.

2. An apparatus for saturating sugar-juices, comprising a tank for the juices to be treated, an elevated vessel for the saturated juices, a pipe rising from near the bottom of the tank and extending into the receiving vessel above the level of the liquid therein, a tube surrounding that part of the pipe above the liquid in the receiving vessel and extending downward below the level of the liquid therein, and means for introducing a saturating-gas into the lower part of the pipe under sufficient pressure to raise the liquid from the tank through the pipe into the surrounding tube whence it falls into the receiving vessel.

3. An apparatus for saturating sugar-juices, comprising a tank for the juices to be treated, a superposed vessel for the saturated juices, a pipe rising from near the bottom of the tank and extending up through the receiving vessel, a tube surrounding the upper end of the pipe and extending down into the receiving vessel below the level of liquid therein, and means for introducing an impregnating-gas into the lower part of the pipe under sufficient pressure to raise the liquid from the tank through the pipe into the surrounding tube whence it falls into the receiving vessel.



4. An apparatus for saturating sugar-juices, comprising a tank for the juices to be treated, a superposed vessel for the saturated juices, a pipe rising from near the bottom of the tank and extending up through the receiving vessel, a tube surrounding the upper end of the pipe and extending down into the receiving vessel below the level of liquid therein, means for introducing an impregnating-gas into the lower part of the pipe under sufficient pressure to raise the liquid from the tank through the pipe into the surrounding tube whence it falls into the receiving vessel, and means for discharging the saturated liquid at different elevations from the pipe into the surrounding tube.

5. An apparatus for saturating sugar-juices, comprising a tank for the juices to be treated, a superposed vessel for the saturated juices, a pipe rising from near the bottom of the tank and extending up through the receiving vessel, a tube surrounding the upper end of the pipe and extending down into the receiving vessel below the level of liquid therein, and means for introducing an impregnating-gas into the lower part of the pipe under sufficient pressure to raise the liquid from the tank through the pipe into the surrounding tube whence it falls into the receiving vessel, the upper end of the pipe being provided with telescopic sections for delivering the impregnated liquid into the surrounding tube at different elevations.

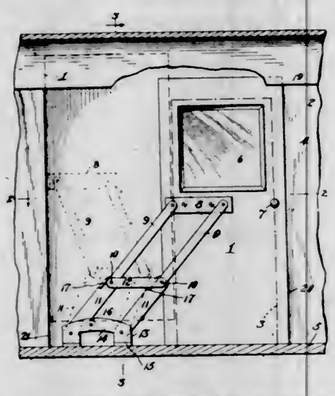
841,269. DOOR-HANGER. HENRY B. PITNER, Olean, N. Y., assignor of one-half to Willis A. Chamberlin, Olean, N. Y. Filed Oct. 12, 1906. Serial No. 338,639.

Claim.—1. The combination with a frame having an opening and a door for closing said opening, of upper and lower pairs of links pivotally connected, the links of the upper pair being pivoted to said door and the links of the lower pair to said frame, and a spacing-bar uniting the pivotally-connected ends of said links.

2. The combination with a frame having an opening and a door for closing said opening, of upper and lower pairs of links pivotally connected, the links of the upper pair being pivoted to said door and the links of the lower pair to said frame, a spacing-bar uniting the pivotally-connected ends of the said links and a stop for limiting the swinging movement of the links of the lower pair.

3. The combination with a frame having an opening and

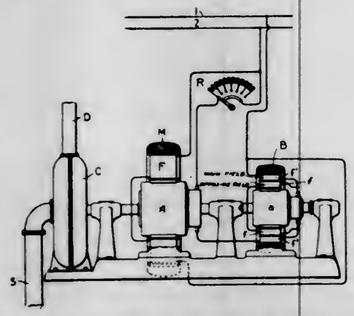
a door for closing said opening, of upper and lower pairs of links pivotally connected, the links of the upper pair being pivoted to said door and the links of the lower pair to said frame, a spacing-bar uniting the pivotally-connected ends of the said links, and a stop for limiting the swinging movement of the links of the upper pair with respect to the links of the lower pair.



4. The combination with a frame having an opening and a door for closing said opening, of an attaching-plate upon said door, a base-plate upon said frame, lower links pivoted to said base-plate, upper links pivoted to said attaching-plate, pivots connecting the upper and lower links, a spacing-bar connecting the last-mentioned pivots, a stop upon said base-plate to limit the swinging movement of said lower links, and stops upon said lower links for limiting the swinging movement of the upper links, substantially as shown and described.

5. The combination with a frame having an opening and a door for closing said opening, of upper and lower links pivotally connected, the upper link being pivoted to said door and the lower link to said frame, a stop for limiting the swinging movement of the lower link and a stop upon the lower link for limiting the swinging movement of the upper link with respect to the latter.

841,270. ELECTRIC MOTOR-DRIVE. WILLIAM B. POTTER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 21, 1904. Serial No. 199,161.



Claim.—1. In combination, a shunt-motor, a member driven thereby, and a differential booster driven by said motor having its shunt-field connected directly in shunt to its armature and adapted to raise the voltage impressed on said motor up to a certain limit as the load on said motor increases.

2. In combination, a shunt-motor, a member driven thereby, and a differential booster driven by said motor and connected in series with the armature of said motor, said booster having its shunt-field connected directly in shunt to its armature.

3. In combination, a shunt-motor, a member driven thereby, and a differential booster driven by said motor and in series therewith and having its series coil connected to raise the voltage on the motor, and a shunt-field connected directly in shunt to its armature.

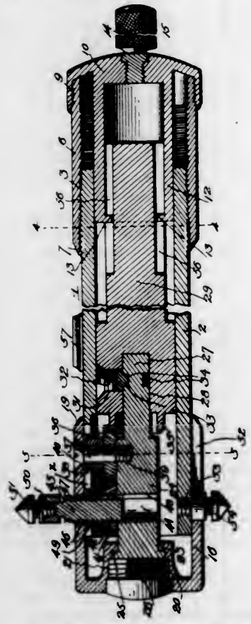
4. In combination, a shunt-motor, a member driven thereby, and a booster driven by said motor and having its armature and a series field-winding in series with the armature of said motor and connected to increase the voltage upon said armature, and having a shunt-field connected across the booster-armature in opposition to the series field to limit the increase of voltage.

5. In combination, a shunt-motor, a member driven thereby, and a differential booster having its armature and series field in series with the armature of said motor and having its shunt-field so connected as to increase in strength with increase of the booster voltage.

6. In combination, a shunt-motor, a member driven thereby, and a differential booster in series therewith having its series coil connected to increase the voltage impressed on the motor-terminals, and having its opposing shunt-field so connected as to increase in strength with increase of the booster voltage.

7. In combination, a shunt-motor, a member driven thereby, a differential booster in series therewith having its series coil proportioned to preponderate normally and connected to increase the voltage impressed on the motor, and a shunt-coil so connected as to increase in strength with increase of the booster voltage and proportioned to balance the series field when the booster voltage increases to a certain limit.

841,271. MICROMETER. JOHN RAU, Easton, Pa. Filed Apr. 5, 1906. Serial No. 310,170.



Claim.—1. In a micrometer of the character described, the combination with a tubular body portion, of a fixed measuring-point arranged in one end and projecting radially therefrom, an oppositely-disposed, radially-projecting, adjustable measuring-point, an operating-shaft arranged in said tubular body portion, means to turn said shaft, and

means actuate by turning thereof to move said adjustable point inwardly or outwardly, substantially as described.

2. In a micrometer of the character described, the combination with a tubular body portion, of a fixed measuring-point arranged in one end and projecting radially therefrom, an oppositely-disposed, radially-projecting, adjustable measuring-point, a revoluble operating-shaft arranged in said tubular body portion, a train of gears actuated by the turning of said shaft, and, means operated by said gears to move said adjustable point inwardly or outwardly, substantially as described.

3. In a micrometer of the character described, the combination with a cylindrical tubular body portion, of a revoluble operating-shaft arranged therein, means arranged on one end of said body portion to turn said shaft, a casing arranged on the outer end of said tubular body, a bearing-pin secured in said casing and the adjacent end of said shaft, a fixed measuring-point arranged in one side of said casing, a threaded adjusting-post having on its outer end a removable measuring-point, a beveled gear threaded on said post, an idle gear to engage the gear on said post and a gear on said operating-shaft to engage said idle gear, substantially as described.

4. In a micrometer of the character described, the combination with a cylindrical tubular body portion, of a revoluble operating-shaft arranged therein, means to turn said shaft, a bevel-gear formed on the outer end of the same, a casing adjustably mounted on the outer end of said tubular body, an apertured bearing-pin secured in said casing and the outer end of said shaft, a threaded, measuring-point-adjusting post slidably mounted in the aperture of said bearing-pin, an internally-threaded gear arranged on said post, an idle gear connecting the gear on said post and on said operating-shaft, means to hold said gears in working position on said bearing-pin, a keyway formed in said post to engage a key in the aperture of said bearing-pin, and a fixed measuring-point secured in said casing, diametrically opposite to said adjustable post and pin, substantially as described.

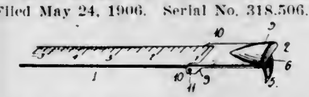
5. In a micrometer of the character described, the combination with a cylindrical tubular body portion, of a revoluble operating-shaft arranged therein, screw-threads formed on the inner end of said tubular body, an internally-threaded adjusting-barrel adapted to be screwed inwardly and outwardly on said tubular body, a cap secured to the outer end of said barrel, a socket formed on said cap and projecting into said barrel to receive the outer end of said shaft, lugs formed on the outer end of said socket to engage grooves formed in the inserted end of the shaft, a fixed measuring-point, an oppositely-disposed, adjustable measuring-point, and means actuated by the turning of said operating-shaft to project and retract said adjustable measuring-point, substantially as described.

6. In a micrometer of the character described, the combination with a cylindrical tubular body portion, of a revolubly-mounted operating-shaft arranged therein, means to turn said shaft, a bevel-gear formed on the outer end of the same, a casing adjustably mounted on the outer end of said tubular body, set-screws to hold said casing in its adjusted positions, a threaded socket formed on the outer end of said casing, a bearing-pin having a head arranged in said socket, a plug adapted to be screwed into said socket to secure said pin, a reduced inner end formed on the latter to engage a recess in the outer end of said operating-shaft, a removably-secured measuring-point, a threaded measuring-point post slidably mounted in an aperture in said bearing-pin, a removable measuring-point arranged in said post, an internally-threaded operating-gear mounted on said post, an idle gear connecting said operating-gear with the gear on said operating-shaft, and a level arranged on the tubular body of the micrometer, substantially as described.

7. In a micrometer of the character described, the combination with a cylindrical tubular body portion having an exteriorly-threaded inner end, of a revoluble, operating-shaft arranged in said tubular body, an operating and indicating barrel and cap having a screw-threaded engagement with the threaded end of said tubular body, means to connect said cap and barrel to said operating-shaft to turn the same, a fixed measuring-point, and an adjustable measuring-point arranged on the outer end of said tubular body, and means actuated by said shaft to move said adjustable measuring-point, substantially as described.

8. In a micrometer of the character described, the combination with a cylindrical tubular body portion having an exteriorly-threaded inner end, of a revoluble, operating-shaft arranged in said tubular body, an indicating barrel and cap adapted to be screwed onto the threaded end of said tubular body, a socket formed in said cap, said socket having a sliding engagement with the inner walls of said tubular body and adapted to receive the inner end of said shaft, inwardly-projecting lugs formed on the inner wall of said socket to engage longitudinally-disposed grooves or channels in the end of said shaft, whereby the latter is turned when said barrel is screwed in one direction or the other on said tubular body, a fixed measuring-point and an adjustable measuring-point arranged on the outer end of said tubular body, and means actuated by said shaft to move said adjustable measuring-point, substantially as described.

841,272. TAPE-MEASURE. RALSTON J. READ, Reno, Nev. Filed May 24, 1906. Serial No. 318,506.



Claim.—1. A tape-measure having a body secured to one end thereof, said body being provided on its outer side with an offset enlargement, and in its inner side with a recess extending into said enlargement, a spur pivotally mounted in said recess, and a spring coacting with said spur to hold the latter either in a closed or in an open position.

2. A device of the character described comprising a body having enlargements adjacent to its ends on its opposite sides, one of said enlargements being recessed to form apertured ears and the other being formed with a cavity or recess, a foldable spur mounted in said cavity or recess, and a tape-attaching pin passed through said apertured ears.

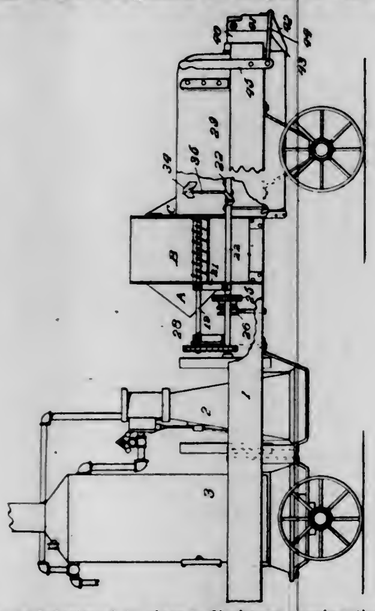
3. A device of the character described comprising a body having enlargements adjacent to its ends on its opposite sides, one of said enlargements being recessed to form apertured ears and the other being formed with a cavity or recess, a spur having an angular shank pivoted in said cavity or recess, a spring to engage said shank, a tape-measure having a loop upon its end and a screw passed through said loop and apertured ears, substantially as shown and described.

841,273. CONCRETE-MIXING MACHINE. LEONARD C. ROBERTS, Nunda, N. Y., assignor of one-third to Samuel G. McTarnaghan and one-third to William H. Jeffs, Fillmore, N. Y. Filed Mar. 6, 1906. Serial No. 304,568.

Claim.—1. In a concrete-mixing machine, a mixing-drum, a shaft mounted to rotate in said drum and extending longitudinally thereof, arms extending radially from said shaft and arranged in a plurality of longitudinally-extending series, the arms of one series being staggered with relation to the arms of the other series, means for turning said shaft, and shovels on the outer end of each arm, each shovel embodying two oppositely-extending curved wings of different sizes, whereby a portion of the material acted upon by each shovel will be thrown inwardly and rearwardly for successive action thereon by the same shovel, while the remainder of the material acted upon by said shovel will be thrown in the opposite direction toward the next shovel of the adjacent series.

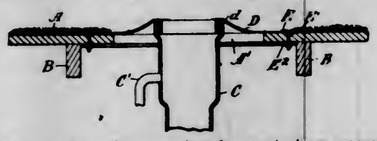
2. In a concrete-mixing machine, the combination of a mixing-drum, mixing devices therein and means for actuating the same, and a batch-chamber at the rear end of the mixing-drum, said chamber comprising a body portion projected rearwardly from the end of the mixing-drum, and a hinged end gate pivotally mounted to the body portion by its upper edge and provided with an angular lower end and a forwardly-extending angular edge flange, designed to shut across the lower edge of the body portion, as and for the purpose set forth.

3. In a concrete-mixing machine, the combination with a mixing-drum, mixing devices therein, and means for actuating the mixing devices, of a batch-chamber comprising a body portion secured to and projected from the rear end of the mixing-drum, an end gate for said body



portion and designed to close a discharge-opening therein, said end gate being formed with a draw-off opening, and a closure for said opening, said closure being designed to close the opening from the lower end of the same, toward its upper end, as and for the purpose set forth.

841,274. ROOF CONNECTION FOR VENT-PIPES. GEORGE F. RYAN, New York, N. Y. Continuation of application Serial No. 97,270, Filed Mar. 8, 1902. This application filed Aug. 21, 1905. Serial No. 275,177.



Claim.—1. A roof connection for vent-pipes comprising, in combination with a roof having an opening, a terminal or outlet section which extends through said opening, and terminating closely adjacent to the roof-line, and means for providing a joint between the end of said terminal and the roof comprising a roof-section located principally at the roof plane and through which the pipe discharges, said roof-section bridging the space between the open outer end of the pipe and the margin of the roof-opening and being made so thin as to facilitate the conduction of heat beneath the roof to the end of said terminal and prevent the formation of ice and frost in said terminal, said roof-section rising from the plane of the roof to the upper end of the pipe and meeting the same at an angle so as to afford a shed to prevent the passage of water from the roof to the pipe.

2. In a roof connection for vent-pipes, the combination with a roof provided with an outlet-opening for the vent-pipe, and a pipe extending through said opening, said opening being made larger than said pipe, of a sheet-metal plate forming part of the roof which extends across the opening and is provided with an opening, the margins of which are connected with the margin of the open outer end of the pipe, said plate being attached at its margin to the roof and rising from the plane of the roof to the edge of the open end of said pipe and meeting the latter at an angle, and the margin of the plate around the opening therein being turned downwardly and extending into the end of the pipe to form a tight joint.

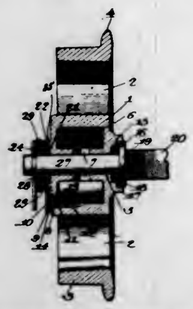
3. In a roof connection for vent-pipes, the combination with a roof provided with an outward opening for the vent-pipe and a pipe extending through said opening, said opening being made larger than the pipe, a sheet-metal plate forming part of said roof and bridging the opening between the roof and the open end of the pipe and said plate rising from the plane of the roof to the end of the pipe and being provided with an opening and the margins of the plate around said opening being turned downwardly to form a flange which extends into and fits close within said open end of the pipe and a rigid caliking-ring inserted within said downturned flange and acting to clamp the said flange against the inner surface of the pipe.

4. In a roof connection for vent-pipes, the combination with a roof provided with an outlet-opening for the vent-pipe, and a pipe extending through said opening, said opening being made larger than the pipe, of a thin sheet-metal plate forming part of said roof, said plate being flat at its outer margin and rising from the said outer margin to the open upper edge of the pipe, a rigid ring overlying the outer flat margin of said plate, a fastening device extending through said ring and plate to clamp said plate to the roof.

5. A roof connection for vent-pipes comprising in combination with a roof having an opening and provided with a roof-section covering said opening, a terminal or outlet section which discharges through the roof-section, the opening in the roof being made considerably larger than the said terminal and the roof-section bridging the space between the pipe, and the margin of the opening in the roof, said pipe terminating so close to the roof-level and the roof-section being so thin as to facilitate the conduction of heat from beneath the roof to the outer end of said terminal, whereby when the air above the roof is cooler than that beneath the roof, said heat beneath the roof is conducted to the outer end of the terminal to prevent the formation of frost or ice therein, and means for supplementing the heat of the building to increase the temperature of the space around the pipe beneath the roof consisting of a tube which surrounds the upper part of the pipe and communicates with a source supplying a heat-conducting medium.

6. The article described for connecting the open end of a ventilating-pipe with a roof consisting of a plate of sheet metal having a flat margin, and a central elevated part provided with an opening, the plate at the margin of the opening being bent downwardly to form a depending flange and the part of the plate between its margin and the opening rising in concave form toward the opening and meeting the said flange at an acute angle.

841,275. CAR-WHEEL. FREDERIC L. SMITH, Hamden Junction, Ohio. Filed May 20, 1905. Serial No. 261,474.



Claim.—A self-lubricating car-wheel having a hub provided at its outer end with a flange surrounding the bore

and provided with radially-extending recesses which at their outer ends extend along the sides of the flange to the face of the hub, said hub adapted to receive a spindle, a compressible bibulous washer seated within said flange, a washer adapted to receive the spindle, said washer having arms provided with portions in the same plane as the body of the washer which enter the radially-extending ends of said flange-recesses and upturned ends which enter the ends of said recesses that extend along the side of the flange, and means for holding the parts in place.

841,276. ROOF-JOINT. EMIL R. STASCH, Corning, N. Y. Filed July 11, 1906. Serial No. 325,697.

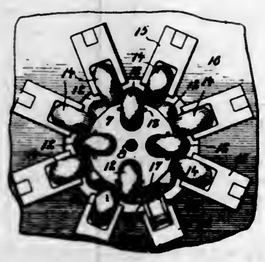


Claim.—1. A roof-joint comprising a rib having an overturned free edge and deflected contact-face, and an overlapping flange embracing said rib and provided with an angularly-disposed extension having its edge adapted to contact with the rib-face at an angle thereto.

2. A roof-joint comprising a curved rib having an angularly-disposed contact-face, and an overlapping flange provided with an angularly-disposed extension adapted to contact at its edge with said face of the rib at an angle thereto.

3. A plate provided at one edge with a curved rib extending above the body thereof and having an angularly-disposed contact-face, and a parallel overlapping flange at the opposite edge of said plate provided with an angularly-disposed extension adapted to contact at its edge with the face of an associated rib.

841,277. CORRUGATING-MANDREL. EMIL R. STASCH, Corning, N. Y. Filed July 13, 1906. Serial No. 326,160.



Claim.—1. A mandrel composed of a series of superposed sections each provided with a roller and journaling-recess, and means for clamping said sections together.

2. A mandrel composed of a series of superposed sections each provided with a roller and journaling-recess, and means for clamping said sections together, said recess being inset from the periphery of the mandrel.

3. A mandrel provided with corrugating-rollers mounted therein in parallel longitudinal planes and successive transverse planes, and coöperating rollers supported upon the carriage in planes intermediate of the longitudinal planes of the mandrel-rollers and movable with said mandrel.

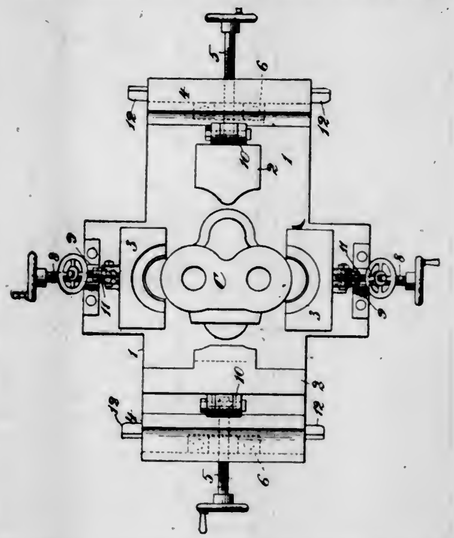
4. A corrugating-mandrel composed of sections each recessed to receive a roller, said rollers being disposed successively in parallel longitudinal planes and different transverse planes.

5. A corrugating-machine having a mandrel provided with rollers disposed in series in different transverse planes, in combination with a carriage traveling with said mandrel and carrying coöperating rollers all disposed in a single transverse plane in planes intermediate of the longitudinal planes of the mandrel-rollers.

841,278. MANUFACTURE OF CHROMIC ACID. ROBERT SUCHY, Bitterfeld, Germany, assignor to Chemische Fabrik Griesheim Electron, Frankfort-on-the-Main, Germany, a Corporation of Germany. Filed Nov. 9, 1906. Serial No. 342,759.

Claim.—The herein-described process of manufacturing chromic acid which consists in mixing a chromate with sulfuric acid, heating the mixture whereby chromic acid and a bisulfate are formed and water evaporated, then fusing the mixture by heat and separating the two fused superposed layers, substantially as described.

841,279. ART OF CASTING METAL. CHARLES S. SZEKELY, Sr., New York, N. Y., assignor to Metal Moulds Corporation, organized in New Jersey. Filed Dec. 14, 1903. Renewed Apr. 25, 1906. Serial No. 313,679.



Claim.—1. The herein-described improvement in the art of casting metal in metal molds, which consists in first pouring the molten metal into the closed mold until the latter is full, then, as soon as the surface of the casting shall have solidified sufficiently to enable the casting to retain the shape of the mold, and before the casting shall have reached its maximum expansion, removing all confining pressure from the surface of the casting so that it may first expand and then contract to the exact size of the mold.

2. The herein-described improvement in the art of casting in an iron mold a metal which contracts in cooling, which consists in first coating the inner surface of the said mold with a suitable wash, then closing the mold, then pouring the molten metal therein, and then, as soon as the surface of the casting shall have solidified sufficiently to enable the casting to retain its shape and before the casting shall have reached its maximum expansion removing all confining pressure from the surface of the casting so that it may first expand and then contract to the exact size of the mold.

3. The herein-described improvement in the art of producing from iron and steel, castings of the exact size of the mold, which consists in removing from the surface of the casting at the moment said surface shall have become solidified by cooling and before the casting shall have reached its maximum expansion, all confining pressure, whereby the subsequent expansion and contraction of the casting will be exactly counterbalanced.

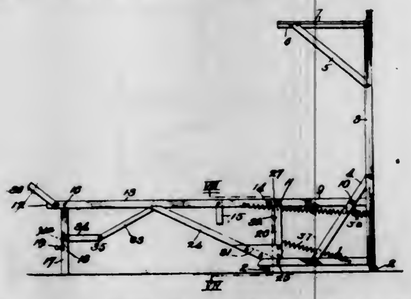
4. The process of casting metal in metal molds which consists in relieving the pressure of the mold upon the

metal, after the pouring and before the expansion of solidification is complete, substantially as described.

5. The process of casting metal in metal molds which consists first in coating the inner surface of the mold with a suitable wash that adheres to the mold both when cold and hot, then closing the mold, then pouring the metal therein, and then removing all confining pressure from the casting before the expansion of solidification is complete, substantially as described.

6. The process of making iron and steel castings of the exact size of the mold, which consists in removing from the casting the confining pressure of the mold before the casting shall have reached its maximum expansion, substantially as described.

841,280. FOLDING BED. JOHN L. TANDY, Kansas City, Mo. Filed Jan. 16, 1906. Serial No. 296,258.



Claim.—1. A folding bed, comprising a frame, a substantially V-shaped brace pivoted to the base of the frame, a head-rail section pivoted near its head end to the frame and adapted to rest upon one arm of said brace, a foot-rail section pivoted to the head-rail section between the arms of said brace and having a slidable connection with the outer arm of the latter, legs pivoted to the foot-rail section near the foot end of the same, and a break-joint brace having a pivotal connection at its ends with said outer arms of the first-named brace and said lugs.

2. A folding bed, comprising a frame, a substantially V-shaped brace pivoted to the base of the frame, a head-rail section pivoted near its head end to the frame and adapted to rest upon one arm of said brace and to be interlocked with the same, a foot-rail section pivoted to the head-rail section between the arms of said brace and having a slidable connection with the outer arms of the latter, legs pivoted to the foot-rail section near the foot end of the same, and a break-joint brace having a pivotal connection at its ends with the outer arms of the first-named brace and said legs.

3. A folding bed, comprising a frame, a substantially V-shaped brace pivoted to the base of the frame, a head-rail section pivoted near its head end to the frame and adapted to rest upon one arm of said brace, a foot-rail section pivoted to the head-rail section between the arms of said brace and having a slidable connection with the outer arms of the latter, legs pivoted to the foot-rail section near the foot end of the same, a break-joint brace having a pivotal connection at its ends with the outer arms of the first-named brace and said legs, and a retractile spring connecting the frame with the first-named brace and tending to effect the folding of the bed.

4. A folding bed, comprising a frame, a substantially V-shaped brace pivoted to the base of the frame, a head-rail section pivoted near its head end to the frame and adapted to rest upon one arm of said brace, a foot-rail section pivoted to the head-rail section between the arms of said brace and having a slidable connection with the outer arms of the latter, legs pivoted to the foot-rail section near the foot end of the same, a break-joint brace having a pivotal connection at its ends with the outer arms of the first-named brace and said legs, and a retractile spring connecting the frame with the foot-rail section and tending when the bed is unfolded to hold the same in such position and after the bed has been folded a suitable distance to exert its power in continuing said folding operation.

5. A folding bed, comprising a frame, a substantially V-shaped brace pivoted to the base of the frame, a head-rail section pivoted near its head end to the frame and adapted to rest upon one arm of said brace, a foot-rail section pivoted to the head-rail section between the arms of said brace and having a slidable connection with the outer arms of the latter, legs pivoted to the foot-rail section near the foot end of the same, a break-joint brace having a pivotal connection at its ends with the outer arms of the first-named brace and said legs, a retractile spring connecting the first-named brace with the frame and tending to effect the folding operation of the bed, and a retractile spring connecting the frame with the foot-rail section and tending when the bed is unfolded to hold the same in such position, and after the bed has been folded a suitable distance to exert its power in continuing said folding operation.

6. A folding bed, comprising a frame embodying standards and base-sills, pivots above said sills and between the vertical planes of their opposite ends, substantially V-shaped braces pivoted for rotation in a vertical plane on said sills near their foot ends, a head-rail section mounted near their head ends on the first-named pivots and adapted to rest upon contiguous arms of said braces, a foot-rail section pivoted for rotation in a vertical plane to the ends of the head-rail section outward of the brace-arms upon which said head-rail section is adapted to rest and having a sliding connection with the upper end of the other arms of said braces, legs pivotally attached to the foot-rail section near its foot end, and break-joint braces pivotally connected to said legs and having a pivotal connection with the upper ends of the last-named arms of said braces.

7. A folding bed, comprising a frame embodying standards and base-sills, pivots above said sills and between the vertical planes of their opposite ends, substantially V-shaped braces pivoted for rotation in a vertical plane on said sills near their foot ends, a head-rail section mounted near their head ends on the first-named pivots and adapted to rest upon contiguous arms of said braces, a foot-rail section pivoted for rotation in a vertical plane to the ends of the head-rail section outward of the brace-arms upon which said head-rail section is adapted to rest and having a sliding connection with the upper end of the other arms of said braces, legs pivotally attached to the foot-rail section near its foot end, break-joint braces pivotally connected to said legs and having a pivotal connection with the upper ends of the last-named arms of said braces, and a retractile spring connecting the frame with the first-named braces and tending to effect the folding of the bed.

8. A folding bed, comprising a frame embodying standards and base-sills, pivots above said sills and between the vertical planes of their opposite ends, substantially V-shaped braces pivoted for rotation in a vertical plane on said sills near their foot ends, a head-rail section mounted near their head ends on the first-named pivots and adapted to rest upon contiguous arms of said braces, a foot-rail section pivoted for rotation in a vertical plane to the ends of the head-rail section outward of the brace-arms upon which said head-rail section is adapted to rest and having a sliding connection with the upper end of the other arms of said braces, legs pivotally attached to the foot-rail section near its foot end, break-joint braces pivotally connected to said legs and having a pivotal connection with the upper ends of the last-named arms of said braces, and a retractile spring connecting the frame with the foot-rail section and tending when the bed is unfolded to hold the same in such position and after the bed has been folded a suitable distance to exert its power in continuing said folding operation.

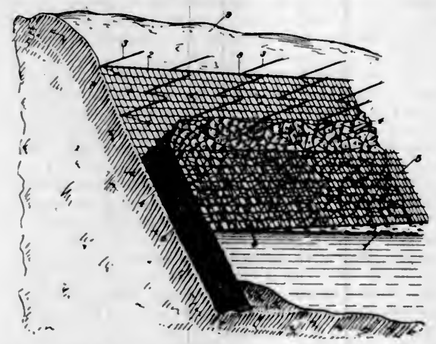
9. A folding bed, comprising a frame embodying standards and base-sills, pivots above said sills and between the vertical planes of their opposite ends, substantially V-shaped braces pivoted for rotation in a vertical plane on said sills near their foot ends, a head-rail section mounted near their head ends on the first-named pivots and adapted to rest upon contiguous arms of said braces, a foot-rail section pivoted for rotation in a vertical plane to the ends of the head-rail section outward of the brace-arms upon which said head-rail section is adapted to rest and having a sliding connection with the upper end of the other arms of said braces, legs pivotally attached to the foot-rail section near its foot end, break-joint braces pivotally connected to said legs and having a pivotal connection with the upper ends of the last-named arms of said braces, a retractile spring connecting the frame with the foot-rail section and tending when the bed is unfolded to hold the same in such position and after the bed has been folded a suitable distance to exert its power in continuing said folding operation.

10. In a folding bed, the combination of a suitable frame, a brace pivoted on the base of said frame and provided with a roller, a head-rail section pivoted for rotation in a vertical plane and adapted to rest upon said brace, a foot-rail section pivoted to the head-rail section and bearing upon the roller, a track-bar secured to the foot-rail section and adapted to engage the under side of said roller, legs pivoted to the foot-rail section, and a break-joint brace pivoted at one end to said legs and at its opposite end to the first-named brace contiguous to said roller.

11. In a folding bed, the combination of a suitable frame, a head-rail section pivoted thereto, a foot-rail section pivoted to the head-rail section, legs pivoted to the foot-rail section, braces pivoted to the frame below said head and foot rail sections and adapted to engage the head-rail section to support both sections in a substantially horizontal position and also having a sliding relation with the foot-rail section, and a break-joint brace, consisting of a pair of bars pivotally connected together, one of said bars having a pivotal connection with said first-named brace, and the other having a pivotal connection with the leg and having the lower portion of its outer end adapted to bear against said leg to positively limit downward swinging movement of said bar on said leg.

12. In a folding bed, a frame, a head-rail section pivoted thereto, a foot-rail section pivoted to the head-rail section, legs pivoted to the foot-rail section, braces pivoted to the frame and having sliding connection with the foot-rail section, means to support the head-rail section in a substantially horizontal position when the bed is unfolded, and break-joint braces having pivotal connections at their ends with said legs and the braces having a sliding connection with the foot-rail section.

841,281. REVETMENT. WILLIAM E. THORNE, Denver, Colo. Filed June 9, 1906. Serial No. 320,962.



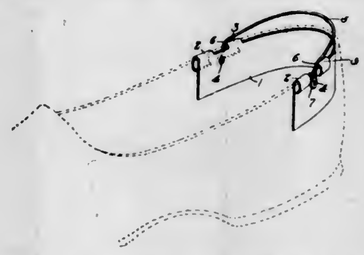
Claim.—1. A revetment, dam, or the like, comprising a mass of material composed of loosely-disposed parts, a flexible covering for said mass, and means for securing said covering to points below the surface of said mass, whereby said loosely-disposed parts are bound together.

2. A revetment, dam, or the like, comprising a mass of material composed of loosely-disposed parts, a flexible covering for said mass, binding-wires secured to said covering and penetrating said mass and secured at points below the surface of said mass.

3. A revetment, dam, or the like, comprising a mass of material composed of loosely-disposed parts, an upper stratum of flexible material constituting a covering for said mass, a substratum of flexible material, and binding means secured to said substratum and brought outwardly through said mass and secured to said upper stratum.

4. A revetment composed of a foundation of wire mesh, loose stone laid thereon, a cover of wire mesh upon said stone, and tie-wires secured to said foundation wire mesh and passed upwardly trough said stone and firmly secured to said cover of wire mesh, whereby the stones are firmly bound and secured in place.

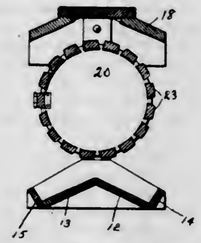
841,282. OVERSHOE-HOLDER. WILLIAM H. TILLSON, Quincy, Ill. Filed Jan. 19, 1906. Serial No. 296,888.



Claim.—1. An overshoe-holder consisting of a plate-metal body capable of being bent into substuntial U shape, and a ball having its ends pivoted upon the outer side of the body adjacent the ends thereof.

2. An overshoe-holder comprising a plate-metal body capable of being bent into substantial U shape, and a ball having its arms pivoted to the outer side of the body adjacent the ends thereof and operating as cams to draw the ends of the body inward when the ball is swung outward for engagement across the counter of a shoe.

841,283. SALT-FEEDER. PORTES J. TJOSSEM, Legrand, Iowa. Filed Oct. 6, 1905. Serial No. 281,634.



Claim.—1. A trough, uprights extending upwardly from the ends of the trough, a roof secured to the upper ends of the uprights, and a rotatable containing-receptacle mounted between the uprights and beneath the roof.

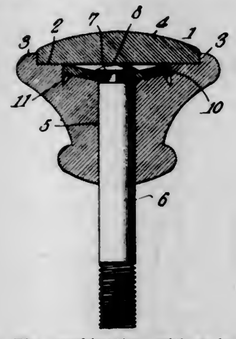
2. A trough, uprights extending upwardly from the ends of the trough, a roof secured to the upper ends of the uprights, a rotatable containing-receptacle mounted between the uprights and beneath the roof, comprising two disks, axles on the disks designed to rotate on the uprights, and a series of slats arranged substantially equidistant from each other between the disks.

3. A trough, uprights extending upwardly from the ends of the trough, a roof secured to the upper ends of the uprights, a rotatable containing-receptacle mounted between the uprights and beneath the roof, comprising two disks, axles on the disks designed to rotate on the uprights, a series of slats arranged substantially equidistant from each other between the disks, a hinge secured to one of the slats and to one of the disks, and a sliding pin secured to the same slat as the hinge, for retaining it in a closed position.

4. In a device of the class described, a rotatably-mounted receptacle, slots in the receptacle, arranged substantially equidistant from each other, one of said slats capable of being opened to allow access to the interior of the receptacle, a roof mounted above the receptacle, and a trough mounted beneath the receptacle.

5. In a device of the class described, a rotatably-mounted receptacle, slats in the receptacle, arranged substantially equidistant from each other, one of said slats capable of being opened to allow access to the interior of the receptacle, the receptacle comprising two disks having slats partially inside and partially outside of their peripheries, and screws for maintaining each of the slats in position relative to the disks, said screws extending through the disks and into the ends of the slats.

841,284. DEVICE FOR FASTENING KNOBS TO BOLTS. DANIEL W. TOWER, Grand Rapids, Mich. Filed Mar. 9, 1906. Serial No. 305,157.



Claim.—1. The combination with a knob having a recess; of a bolt extending through the knob and having an angular portion within the recess, a disk immovably mounted upon the angular portion and within the recess, said disk having spurs adapted to engage the knob.

2. The combination with a knob having a recess; of a bolt extending through the knob and having an angular portion within the recess, a disk immovably mounted upon the angular portion and within the recess, said disk having spurs adapted to engage the knob, and means for concealing the disk.

841,285. COMPOUND FOR MAKING PIPESTONE CEMENT. HERMAN E. TRUMBULL, Pipestone, Minn. Filed Nov. 30, 1906. Serial No. 345,722.

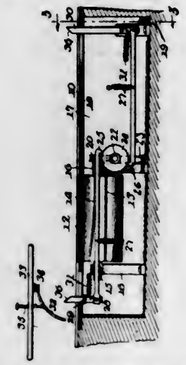
Claim.—1. The herein-described cement the same consisting of powdered pipestone, glue, and water.

2. The herein-described cement the same consisting of the following ingredients in the proportions stated by weight; powdered pipestone twelve parts, boiling water four parts and ground glue one part.

841,286. AUTOMATIC SWITCH. ANDREW UNDERHILL, Hoffman, Minn. Filed Aug. 31, 1906. Serial No. 332,844.

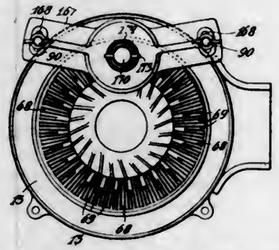
Claim.—1. In a switch, a movable switch-piece comprising a rotary cylinder having grooves therein for connecting one line of rails with another, and means on opposite sides of the switch for rotating the cylinder.

2. In a switch, a movable switch-piece comprising a rotary cylinder having grooves therein for connecting one line of rails with another, and car-actuated means on opposite sides of the switch for rotating the cylinder.



3. In a switch, a movable switch-piece comprising a rotary cylinder having means for connecting one line of rails with another, and provided with a worm-wheel, a worm and its shaft, a ratchet-wheel on said shaft, a pawl engageable with the ratchet, and an operating-lever connected at one end to the pawl and projecting at its opposite end above the road-bed.

841,287. SHARPENING DEVICE FOR GRAIN-MILLS. SAMUEL VESSOT, Joliette, Quebec, Canada. Original application filed May 16, 1904, Serial No. 208,185. Divided and this application filed June 19, 1905. Serial No. 265,930.



Claim.—1. In combination with a grinding-mill, a plate rigidly secured to the mill, an abrading element carried by the plate, and means adapted to normally maintain the abrading element away from the grinding members of the mill.

2. In combination with a grinding-mill, a plate rigidly secured to the mill, an abrading element carried by the plate, and resilient means adapted to normally maintain the abrading element away from the grinding members of the mill.

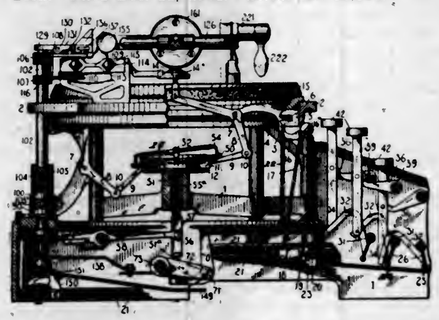
3. In combination with a grinding-mill, a plate provided with slots therein, bolts disposed through the slots and adapted to rigidly secure the plate to the mill, an abrading element carried by the plate, and means adapted normally to maintain the abrading element away from the grinding members of the mill.

4. In combination with a grinding-mill, a supporting member rigidly secured to the mill, a revoluble abrading element carried by the plate, and means adapted to normally maintain the abrading element in position.

5. In combination with a grinding-mill, a supporting member provided with a recess, a rotatable head disposed in the recess and provided with a shank projected through the supporting member, and means adapted to maintain said head seated in the recess.

6. In combination with a grinding-mill, a plate rigidly secured to the mill and provided with a central recess, a rotatable head disposed in said recess and provided with a shank projected through the plate, a spring disposed around said shank, a pin disposed transversely through said shank and adapted to receive the thrust of the spring, and a body of abrading material carried by the head.

841,288. TYPE-WRITING MACHINE. CHARLES W. WALKER, Bridgeport, Conn., assignor to Yost Writing Machine Company, Ilion, N. Y., a Corporation of New York. Filed Dec. 21, 1901. Serial No. 86,821.



Claim.—1. In a type-writing machine, the combination of a carriage, a feed-rack carried by said carriage, a pinion which engages said rack, a vertically-disposed shaft to which said pinion is fixed, a feed-wheel operatively connected to said shaft, a feed-dog, a carriage-release key, and two clutches interposed between the feed-pinion and feed-wheel, one clutch being disengaged by the release-key and the other permitting a movement of the carriage from left to right without turning the feed-wheel, but turning the feed-wheel when the carriage moves from right to left.

2. In a type-writing machine, the combination of a carriage having a feed-rack, a pinion which engages said rack, a vertical shaft to which said pinion is fixed, a feed-wheel operatively connected to said shaft, a dog for engaging said feed-wheel, two clutches interposed between the feed-pinion and feed-wheel, and hand-operated means for moving said vertical shaft in a longitudinal direction to disengage one of said clutches.

3. In a type-writing machine, the combination of a carriage having a feed-rack, a shaft carrying a pinion engaging with said rack and carrying also a clutch member, a concentric shaft carrying the other member 97 of said clutch and also a feed-wheel, a toothed wheel secured to said concentric shaft, a pawl secured to said clutch member 97 and engaging said toothed wheel, and means on the carriage for moving the pinion-shaft endwise and disengaging said clutch members.

4. In a type-writing machine, the combination of a shaft having a feed-wheel, a clutch member 90 secured to said shaft, a clutch member 97 connected to said clutch member 90, a shaft 102 having a clutch member 100 engaging the clutch member 97, a pinion on said shaft 102, a carriage having a feed-rack engaging said pinion, and means for separating the clutch-sections 100 and 97.

5. In a type-writing machine, the combination of a shaft having a feed-wheel, a toothed clutch member 90 secured on said shaft, clutch member 97 surrounding said shaft and carrying a pawl to engage said toothed clutch 90, a shaft 102 having a clutch member 100 to engage the clutch member 97, a spring for maintaining the clutches 100 and 97 normally in engagement, a pinion on the shaft 102, a carriage having a rack in engagement with said pinion, and means on said carriage for disengaging the clutch members 100 and 97 against the tension of said spring.

6. In a type-writing machine, the combination of a shaft having a feed-wheel, a clutch member as 90 secured thereto, a loose clutch member as 97 surrounding said shaft and having a pawl which engages the clutch member 90, a shaft 102 having a clutching member 100 that engages and turns the clutch member 97, and through the clutch members 95 and 90 the said feed-wheel shaft, a spring surrounding the shaft 102, a housing attached to the clutch member 97 and resisting one end of said spring, which spring acts to hold the clutch members 100 and 97 normally in engagement and rotates therewith and with the housing during such engagement, a pinion on said shaft 102, a carriage having a feed-rack in engagement with said pinion, and means for disengaging the clutch members 100 and 97.

7. In a type-writing machine, the combination of a carriage having a feed-rack, a tubular shaft 102 having a pinion to engage said rack and having a clutch member 100, a tubular shaft 88 within the shaft 102 and having a feed-wheel 86 and a clutch member 90, a loose clutch member 97 between the clutch members 100 and 90 and connected to both, a spring surrounding the shaft 102, a housing for said spring attached to the clutch member 97, and means on the carriage for disconnecting the clutch members 100 and 97.

8. In a type-writing machine, the combination of a carriage having a feed-rack 108, a feed-pinion 106 which engages said rack, a shaft to which said pinion is fixed, a feed-wheel operatively connected to said shaft, roller-bearings for the carriage, a separator for said rollers provided with a rack 112, a pinion 111 engaging said rack 112, a spur-gear 110 for driving said pinion 111 and a pinion 107 on said shaft for turning said spur-gear 110.

9. In a type-writing machine, the combination of a carriage, a feed-rack carried by said carriage, a feed-pinion which engages said rack, a shaft to which said pinion is fixed, a feed-wheel operatively connected to said shaft, a dog-rocker, feed-dogs carried by said rocker, an antifriction-roller separator, and independent gear connections between said pinion-shaft and separator.

10. In a type-writing machine, the combination of a carriage, a feed-rack carried by said carriage, a feed-pinion which engages said rack, a vertically-disposed shaft to which said pinion is fixed, a horizontally-disposed feed-wheel with circumferential teeth operatively connected to said shaft, a horizontally-disposed dog-rocker, feed-dogs carried by said rocker, an antifriction-roller separator and independent gear connections between said vertically-disposed shaft and the separator.

11. In a type-writing machine, the combination of a carriage, a feed-rack carried by said carriage, a feed-pinion which engages said rack, a vertically-disposed shaft to which said pinion is fixed, a feed-wheel operatively connected to said shaft, a dog-rocker, feed-dogs carried by said rocker, an antifriction-roller separator, a rack carried thereby, a second separator-pinion fixed to the vertically-disposed shaft and operative tooth-gear connections between said separator-pinion and the rack on the separator,

12. In a type-writing machine, the combination of a carriage, a feed-rack carried by said carriage, a feed-pinion which engages said rack, a vertically-disposed shaft to which said pinion is fixed, a horizontally-disposed feed-wheel with circumferential teeth operatively connected to said shaft, a horizontally-disposed dog-rocker, feed-dogs carried by said rocker, an antifriction-roller separator, a rack carried thereby, a second separator-pinion fixed to the vertically-disposed shaft, and operative tooth-gear connections between said separator-pinion and the rack on the separator.

13. In a type-writing machine, the combination of a carriage, a rack carried by said carriage, a feed-pinion meshing with said rack, an escapement-wheel operatively connected to the feed-pinion, to afford a step-by-step feed of the carriage, coöperating feed-dogs, a carriage-release key and two clutches interposed between the feed-pinion and escapement-wheel.

14. In a type-writing machine, the combination of a carriage, a rack carried by said carriage, a feed-pinion meshing with said rack, a feed-wheel operatively connected to the feed-pinion, a carriage-release key and two clutches interposed between the feed-pinion and feed-wheel, one of said clutches being disengageable by the said release-key and the other automatically disengageable during the backward movement of the carriage.

15. In a type-writing machine, the combination of a carriage, a rack carried by said carriage, a feed-pinion meshing with said rack, a feed-wheel operatively connected to

the feed-pinion, a carriage-release key and two independently-revoluble clutches interposed between the feed-pinion and feed-wheel, one of said clutches being spring-pressed and disengageable by the said release-key and the other automatically disengageable during the backward movement of the carriage.

16. In a type-writing machine, the combination of a carriage, a rack carried by said carriage, a feed-pinion meshing with said rack, a hollow shaft upon which said feed-pinion is mounted, a spring-pressed clutch-section carried by said shaft, a feed-shaft contained within said hollow shaft, a feed-wheel secured to said feed-shaft and clutching elements interposed between the spring-pressed clutch and the feed-wheel.

17. In a type-writing machine, the combination of a carriage, a feed-rack carried by the carriage, a feed-pinion which engages said rack, a hollow shaft to which said pinion is fixed, a longitudinally-movable and oscillatory line-lock shaft which extends through said hollow shaft but is movable independently thereof, and line-locking instrumentalities which coöperate with said line-lock shaft.

18. In a type-writing machine, the combination of a carriage, a feed-rack carried by the carriage, a feed-pinion which engages said feed-rack, a hollow shaft to which said feed-pinion is fixed, a longitudinally-movable and oscillatory line-lock shaft which extends through said hollow shaft but is movable independently thereof, a line-lock abutment carried by said line-lock shaft, a coöperating abutment carried by the carriage, and hand-operated means for moving said line-lock shaft in a longitudinal direction to permit said abutments to pass one another.

19. In a type-writing machine, the combination with the printing and escapement mechanisms, of a universal ring, a stem extending downwardly therefrom and having a head or catch, a horizontal lever normally out of the path of said head or catch and adapted to be swung thereover, a vertically-arranged and longitudinally-movable and oscillatory shaft having an arm to vibrate said lever, a line-locking abutment attached to the upper end of said shaft, a coöperating abutment on the paper-carriage, whereby the shaft is rocked and the stem and universal ring may be locked against upward movement, and key mechanism for raising said shaft and its connected abutment so that the abutment on the carriage may pass under and by the abutment on the shaft and enable the shaft and its connected lever to be restored to the normal position and the stem and universal ring to be released, so as to permit a further operation of the printing and escapement mechanisms.

20. In a type-writing machine, the combination of a carriage, a line-lock abutment carried thereby, a horizontally-disposed carriage-feed wheel, a vertical oscillatory and longitudinally-movable line-lock shaft, a line-lock abutment carried thereby, an arm secured to said shaft, a line-lock lever operatively connected to said arm, a universal ring, a depending stem connected to said ring, a horizontal dog-rocker connected directly to said depending stem and the feed-dogs on which coöperate with the feed-wheel, and a locking head or catch carried by said stem and with which the locking-lever is adapted to engage to prevent a movement of the universal ring and the dog-rocker.

21. In a type-writing machine, the combination of a carriage, a feed-rack carried by the carriage, a feed-pinion which engages said feed-rack, a hollow shaft to which said feed-pinion is fixed, a line-lock shaft which extends through said hollow shaft, and line-locking instrumentalities which coöperate with said line-lock shaft.

22. In a type-writing machine, the combination of a carriage, a feed-rack carried by the carriage, a feed-pinion which engages said feed-rack, a hollow shaft to which said feed-pinion is fixed, a spring-restored longitudinally-movable and oscillating line-lock shaft which extends through said hollow shaft but is movable independently thereof, a line-lock abutment carried by said line-lock shaft, a coöperating abutment carried by the carriage, locking instrumentalities which are thrown into locking engagement when the two abutments contact and hand-operated means for moving the line-lock shaft longitudinally to move one of the abutments out of the path of the other.

23. In a type-writing machine, the combination of a carriage, a locking-lever controlled by the carriage, a universal ring, a single locking-arm operatively connected to said ring and with which the locking-lever engages, a space-key and means operatively connected to said space-key for actuating the lock-arm to actuate the carriage-feed mechanism.

24. In a type-writing machine, the combination of a carriage, a locking-lever controlled by the carriage, a universal ring, a single locking-arm operatively connected to said ring and with which the locking-lever engages, a feed-dog rocker operatively connected to the locking-arm, a space-key, and means operatively connected to said space-key for actuating the locking-arm to move the dog-rocker.

25. In a type-writing machine, the combination of type-bars arranged in a circle, drivers and guide-links pivoted directly to said type-bars, a universal ring with which said guide-links contact and which is moved by said guide-links, a carriage, and escapement mechanism therefor controlled by said universal ring.

26. In a type-writing machine, the combination of type-bars arranged in a circle, drivers and guide-links therefor, a universal ring adapted to be moved by said guide-links, a depending stem connected to said universal ring and movable with and independently thereof, a dog-holder connected to said stem, escapement devices connected to a paper-carriage and controlled by the movements of said stem, a space-key, and means for moving said stem and dog-holder independently of said universal ring.

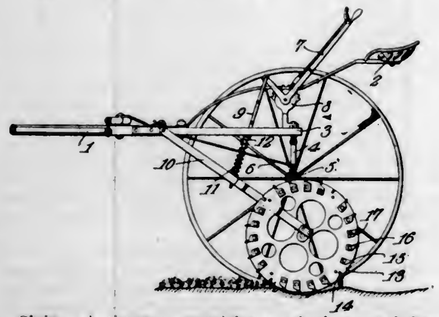
27. In a type-writing machine, the combination of a carriage, a platen-frame carried thereby, and spring-pressed pivot-plungers which lock the platen-frame to the carriage and on which the platen-frame may be turned.

28. In a type-writing machine, the combination of a carriage, a swinging platen-frame carried thereby, and spring-pressed plungers which have cylindrical locking-heads that lock the platen-frame to the carriage but permit the frame to swing independently thereof, said locking-heads being movable to permit the detachment of the platen-frame.

29. In a type-writing machine, the combination of a carriage, recessed open-mouth bearings carried thereby, a swinging platen-frame, pinties carried by said frame and seated in said open-mouth bearings, spring-pressed plungers having locking-heads that are seated in the recesses in said bearings and lock the platen-frame to the carriage but which permit the frame to swing independently thereof, said heads being movable to permit the detachment of the platen-frame from the carriage.

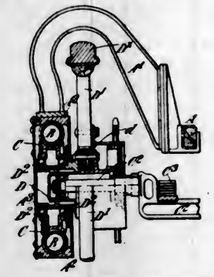
30. In a type-writing machine, the combination of the frame, a carriage comprising two sections, viz: a carrying-section or base connected with the frame, and a paper-holding section, and mechanism for detachably connecting said two sections of the carriage, said mechanism comprising alining spring-pressed bolts mounted on one of the carriage-sections and loosely engaged with the other carriage-section.

841,289. COTTON-CHOPPER. WILLIAM T. WALTER, Angleton, Tex. Filed Nov. 15, 1906. Serial No. 343,598.



Claim.—A chopper comprising a wheel-mounted frame, a cutter-frame pivoted thereto, disks journaled to said cutter-frame and having at their peripheries radially-extending recesses, blades seated near their ends in said recesses and connecting the disks together, said blades having their extremities bent at right angles to their intermediate portions and means securing the blade extremities directly against the outer faces of the disks.

841,290. WHEEL FOR MOTOR AND OTHER ROAD VEHICLES. FREDERICK WALTON, London, England. Filed Mar. 8, 1906. Serial No. 303,973.



Claim.—1. In a road-vehicle, the combination with the wheel, of an annular flange adapted to revolve with the wheel, a ring supported by said flange and adapted to remain stationary with respect to the latter, a bracket connected with the vehicle-body, and a resilient cushion interposed between the bracket and the stationary ring for the purpose specified.

2. In a road-vehicle, the combination with the wheel, of an annular flange adapted to revolve with the wheel, a ring supported by said flange and adapted to remain stationary with respect to the latter, a bracket connected with the vehicle-body, and a pneumatic cushion interposed between the bracket and the stationary ring for the purpose specified.

3. In a road-vehicle, the combination with the wheel, of an annular flange adapted to revolve with the wheel, a ring supported by said flange and adapted to remain stationary with respect to the latter, a bracket connected with the vehicle-body, and a segmental pneumatic cushion interposed between the bracket and the stationary ring for the purpose specified.

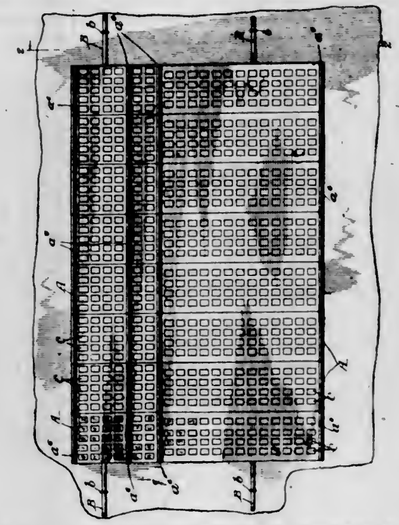
4. In a road-vehicle, the combination with the wheel, of an annular flange adapted to revolve with the wheel, a ring supported on antifriction-bearings by said flange and adapted to remain stationary with respect to the latter, a bracket connected with the vehicle-body, and a resilient cushion interposed between the bracket and the stationary ring for the purpose specified.

5. In a road-vehicle, the combination with the wheel, of an annular lateral flange adapted to revolve with the wheel, a ring supported on antifriction-bearings by said flange and adapted to remain stationary with respect to the latter, a bracket connected with the vehicle-body, and a resilient cushion interposed between the bracket and the stationary ring for the purpose specified.

6. In a road-vehicle, the combination with the wheel, of an annular lateral flange adapted to revolve with the wheel, a ring supported on antifriction-bearings by said flange and adapted to remain stationary with respect to the latter, a bracket connected with the vehicle-body, a substantially annular casing connected with the free end of said bracket, and a resilient cushion interposed between the annular casing and the stationary ring for the purpose specified.

7. In a road-vehicle, the combination with the wheel, of an annular lateral flange adapted to revolve with the wheel, a ring supported on antifriction-bearings by said flange, and adapted to remain stationary with respect to the latter, a bracket connected with the vehicle-body, a substantially annular casing connected with the free end of said bracket and formed in detachable halves, and a resilient cushion interposed between the annular casing and the stationary ring for the purpose specified.

841,291. ELASTIC BULLETIN-BOARD. FRANK W. WEEKS, San Antonio, Tex. Filed Oct. 19, 1903. Serial No. 177,521.



Claim.—1. An elastic bulletin-board comprising a plurality of sections arranged close together, each section having its face provided with a plurality of recesses having outwardly-converging top and bottom surfaces, each of said recesses communicating at its upper portion with a rearward extension or subrecess, and character-blocks adapted to be removably inserted in said recesses; said blocks being adapted to be removed from the front of said board by tilting their upper ends into the said subrecesses.

2. An elastic bulletin-board comprising suitably-mounted metallic rods, and a plurality of bulletin-board sections provided with means for adjustably mounting them upon said rods, each section being removable independently of and without disturbing the other or others.

3. An elastic bulletin-board, comprising a plurality of sections, a supporting-back, there being a plurality of outwardly-converging recesses in the face of each section, and a series of rearwardly-projecting recesses in said supporting-back communicating with said first-named recesses.

4. An elastic bulletin-board, comprising a plurality of sections, a supporting-back, there being a plurality of outwardly-converging recesses in the face of each section, and a series of rearwardly and upwardly projecting recesses in said supporting-back communicating with said first-named recesses.

5. An elastic bulletin-board, comprising a plurality of sections, a supporting-back, there being a plurality of outwardly-converging recesses in the face of each section, and a series of rearwardly and upwardly projecting recesses in said supporting-back communicating with the upper portions of said first-named recesses.

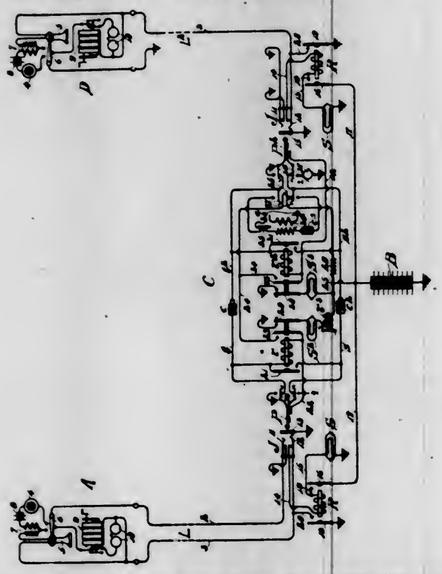
6. An elastic bulletin-board, comprising a plurality of sections, a supporting-back, there being a plurality of outwardly-converging recesses in the face of each section, and a series of rearwardly-projecting recesses in said supporting-back communicating with said first-named recesses, and a series of indicating-blocks adapted to fit in said first-named recesses.

7. An elastic bulletin-board, comprising a plurality of sections, a supporting-back, there being a plurality of outwardly-converging recesses in the face of each section, and a series of rearwardly and upwardly projecting recesses in said supporting-back communicating with said first-named recesses, and a series of indicating-blocks adapted to fit in said first-named recesses.

8. An elastic bulletin-board, comprising a plurality of

sections, a supporting-back, there being a plurality of outwardly-converging recesses in the face of each section, and a series of rearwardly and upwardly projecting recesses in said supporting-back communicating with the upper portions of said first-named recesses, and a series of indicating-blocks adapted to fit in said first-named recesses.

841,292. TELEPHONE SYSTEM. ALFRED H. WEISS, Evanston, Ill., assignor to Kellogg Switchboard & Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 3, 1904. Serial No. 223,198.



Claim.—1. In a telephone system, the combination with a telephone-line, of a magneto-signaling generator therefor at the substation, a relay at the central office adapted to be actuated by current from said generator, a lamp-signal controlled by said relay, a source of steady current at the central office, said relay when energized by said generator-current serving to close a circuit from said steady-current source through its own windings to maintain it actuated, and a by-path not including said source of steady current for the generator-current around its windings also closed by said relay when actuated, substantially as described.

2. In a telephone system, the combination with a telephone-line, of a magneto-generator therefor at the substation, a relay at the central office adapted to be actuated by current from said generator, a lamp-signal controlled by said relay, a source of steady current at the central office, said relay when energized by said generator-current serving to close a circuit from said steady-current source through its own windings to maintain it actuated, and a by-path not including said source of steady current for the generator-current around its windings also closed by said relay when actuated, said by-path forming also a part of the path for current from the steady-current source through said relay, substantially as described.

3. In a telephone system, the combination with a telephone-line, of a magneto-generator therefor at the substation, a relay at the central office adapted to be actuated by current from said generator, a signal controlled by said relay, a source of steady current at the central office, said relay when energized by said generator-current serving to close a locking-circuit from said steady-current source through its own windings and not including said signal to maintain it actuated and at the same time to short-circuit the limb of the subscriber's line, and means for opening said locking-circuit and said short circuit when a connection is established with the line, substantially as described.

4. In a telephone system, the combination with a telephone-line, of a magneto-generator therefor at the substation, a relay at the central office adapted to be actuated by current from said generator, a signal controlled by said relay, a source of steady current at the central office, said relay when energized by said generator-current serving to complete a path for current from said steady-current source through its own windings to maintain it actuated, a by-path not including said source of steady current for the generator-current around its windings also closed by said locking-circuit when a connection is established with the line, substantially as described.

5. In a telephone system, the combination with a telephone-line, of a magneto-generator therefor at the substation, a relay at the central office adapted to be operated by current from said generator, a signal controlled by said relay, and a battery at the central office, said relay when energized by said generator-current serving to close a circuit from said battery through its own windings to maintain it actuated and at the same time to connect the two limbs of the line together, thus maintaining them at the same potential and offering an unobstructed path for the generator-circuit, substantially as described.

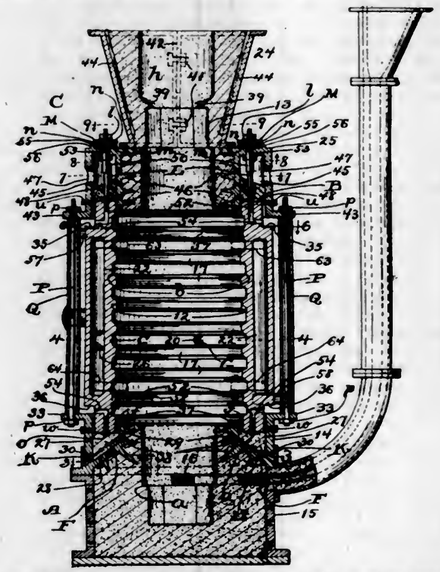
6. In a telephone system, the combination with a telephone-line, a relay and a signal for said line normally connected in series between ground and one limb of the telephone-line, a magneto-generator at the substation adapted to send current through said relay and signal to actuate the relay, a central source of current adapted to be connected with that portion of the line conductor lying between said signal and the coil of said relay by the actuation of said relay, whereby said signal is displayed, a second contact of said relay adapted to place ground upon said limb of the telephone-line beyond the coil of said relay, whereby the relay is locked in actuated position by current through its own contacts, and a contact associated with the jack of the telephone-line situated between the coil of said relay and said ground connection adapted to be opened when a connection is established with the telephone-line, whereby said relay is deënergized and said signal is effaced, substantially as described.

841,293. MOLD FOR CASTING CHILLED ROLLS. RALPH H. WEST, Sharpsville, Pa. Filed May 3, 1906. Serial No. 315,057.

Claim.—1. In a roll-casting mold, an upright chill provided interiorly with a chamber extending from end to end of the chill and with vertically-spaced grooves extending circumferentially of the chamber, with the top walls of the grooves sloping upwardly and inwardly and provided with shallow furrows which extend circumferentially of the chill and are spaced transversely of the said walls, with the bottom walls of the grooves sloping downwardly and inwardly and provided with shallow furrows which extend circumferentially of the chill and are spaced transversely of the said walls, with the slope of the bottom wall of the lower of two adjacent grooves less than the slope of the bottom wall of the upper of the said grooves, with the slope of the top wall of the upper of two adjacent grooves less than the slope of the top wall of the lower of the said grooves, and with the interior surfaces of the chill between the grooves provided with vertically-spaced furrows extending circumferentially of the chill.

2. In a roll-casting mold, an upright chill provided interiorly with a chamber which extends from end to end of the chill and is enlarged diametrically at suitable intervals between the ends of the chill, with the top walls of the diametrical enlargements of the chamber sloping upwardly and inwardly, with the bottom walls of the said chamber enlargements sloping downwardly and inwardly, with the slope of the bottom wall of the lower of two adjacent chamber enlargements less than the slope of the bottom wall of the upper of the said chamber enlargements, and with the slope of the top wall of the upper of two adjacent chamber enlargements less than the slope of the top wall of the lower of the said chamber enlargements.

3. In a roll-casting mold, an upright chill provided interiorly with a chamber extending from end to end of the chill, with the surrounding wall of the chamber provided with laterally and inwardly projecting vertically-spaced beads which extend circumferentially of the chamber and have shallow furrows extending circumferentially of the chill, with the top surfaces of the beads sloping downwardly and inwardly, with the downwardly-facing surfaces of the beads sloping upwardly and inwardly, with the slope of the lower surface of the lower of two adjacent beads greater than the slope of the lower surface of the upper of the said beads, and with the slope of the top surface of the upper of two adjacent beads greater than the slope of the top surface of the lower of the said beads.



4. In a roll-casting mold, an upright chill provided interiorly with a chamber extending from end to end of the chill, with the surrounding wall of the chamber provided with laterally and inwardly projecting vertically-spaced beads which extend circumferentially of the chamber, with the top surfaces of the beads sloping downwardly and inwardly and with all of the surfaces of the beads provided with shallow furrows extending circumferentially of the chill.

5. In a roll-casting mold, the combination, with an upright chill provided interiorly with a chamber which extends from the upper end to the lower end of the chill and is enlarged diametrically at suitable intervals between the ends of the chill, which chill is reversible end for end and provided in both upper and lower ends with vertically-arranged screw-threaded holes spaced circumferentially of the chill and with orifices or holes leading laterally and outwardly from the inner ends of the first-mentioned holes to the exterior of the chill, of correspondingly-threaded studs having their inner ends engaging the threaded holes in one end of the chill, correspondingly-threaded suitably-supported nuts mounted on the outer ends of the studs, and means whereby turning of the studs during the manipulation of the nuts is prevented.

6. In a roll-casting mold, the combination, with an upright chill provided interiorly with a chamber which extends from the upper end to the lower end of the chill and is enlarged diametrically at suitable intervals between the ends of the chill, which chill is provided at both upper and lower ends with vertically-arranged screw-threaded holes spaced circumferentially of the chill, of correspondingly-threaded studs having their inner ends engaging the threaded holes in one end of the chill, correspondingly-threaded suitably-supported nuts mounted on the outer ends of the studs, and means whereby turning of the studs during the manipulation of the nuts is prevented.

7. In a roll-casting mold, a vertically-shiftable upright chill provided interiorly with a chamber extending from end to end of the chill; a lower mold part or drag provided centrally of the lower end of the aforesaid chill-chamber with a cavity having an inlet and in communication with the chill-chamber; an upper mold part or cope supported independently of the chill and provided with a chamber arranged centrally of the upper end of and in communication with the chill-chamber; vertically-arranged studs screwed into the upper ends of the chill at suitable intervals circumferentially of the chill; correspondingly-threaded nuts supported from the cope and mounted on the studs, and means whereby turning of the studs during the manipulation of the nuts is prevented.

8. In a roll-casting mold, a vertically-shiftable upright chill provided interiorly with a chamber extending from end to end of the chill; a lower mold part or drag provided with a cavity having an inlet and in communication with the chill-chamber; an upper mold part or cope supported independently of the chill and provided with a chamber which is in communication with the chill-chamber, and means for shifting the chill vertically, said chill-shifting means being arranged at the upper end of the chill and supported from the cope.

9. In a roll-casting mold, an upright chill supported as required to render it capable of being lowered, said chill being smaller diametrically at both ends, with the upper and lower portions of the diametrically larger portion of the chill provided each externally with lugs which are spaced circumferentially of the chill; an annular supporting member arranged below the lower end of the diametrically larger portion of the chill and surrounding the lower diametrically smaller portion of the chill and normally compressible springs interposed, and confined between the aforesaid annular member and the lower lugs instrumental in supporting the chill upon lowering the chill.

10. In a roll-casting mold, an upright chill supported as required to render it capable of being lowered, with the upper and lower portions of the chill provided each externally with lugs which are spaced circumferentially of the chill; an annular supporting member arranged a suitable distance below the lower lugs and normally compressible springs interposed and confined between the said annular member and the lower lugs instrumental in supporting the chill upon lowering the chill.

11. In a roll-casting mold, an upright chill having a diametrically-reduced lower end and supported as required to render it capable of being lowered, with the diametrically larger portion of the chill provided externally with lugs which are spaced circumferentially of the chill and provided with holes extending vertically therethrough, and an annular supporting member arranged below the lower end of the diametrically larger portion of the chill and surrounding the diametrically smaller portion of the chill, and normally compressible springs interposed between the said annular member and the lugs.

12. In a roll-casting mold, an upright chill supported as required to render it capable of being lowered and provided a suitable distance above its lower extremity with lugs which are spaced circumferentially of the chill and provided with holes extending vertically therethrough; an annular supporting member arranged a suitable distance below the lugs; pins extending loosely through the lugs and loosely through the aforesaid annular member and having members resting upon the lugs, and normally compressible spiral springs coiled around the pins between the said annular member and the lugs.

13. In a roll-casing mold, a vertically-shiftable chill provided a suitable distance above its lower extremity with lugs spaced circumferentially of the chill; means instrumental in supporting the chill and holding the chill above the lower extremity of its range of movement, and suitably-supported springs arranged under and affording a

bottom bearing to the aforesaid lugs should the chill become unsupported by the first-mentioned chill-supporting means.

14. In a roll-casting mold, a vertically-shiftable chill; means instrumental in supporting the chill and holding the chill above the lower extremity of its range of movement, and suitably-applied springs instrumental in supporting the chill should the chill become unsupported by the first-mentioned chill-supporting means.

15. In a roll-casting mold, the combination, with an upright chill reduced diametrically at its upper and lower ends, of a suitably-supported lower annular supporting member surrounding the lower portion of the lower diametrically smaller portion of the chill, an upper annular member surrounding the upper diametrically smaller portion of the chill and arranged vertically above the aforesaid supporting member; set-screws screwed laterally into and through the said supporting member and arranged to engage and spaced circumferentially of the lower diametrically smaller portion of the chill; set-screws screwed laterally into and through the upper annular member and arranged to engage and spaced circumferentially of the upper diametrically smaller portion of the chill, and means whereby the upper annular member is supported from the lower annular supporting member.

16. In a roll-casting mold, the combination, with an upright chill, of a suitably-supported lower annular supporting member surrounding the lower portion of the chill, an upper annular member surrounding the upper portion of the chill; set-screws screwed laterally into and through the said lower supporting member and arranged to engage and spaced circumferentially of the chill; set-screws screwed laterally into and through the upper annular member and arranged to engage and spaced circumferentially of the chill, and means whereby the upper annular member is supported from the lower annular member.

17. In a roll-casting mold, the combination, with a suitably-supported upright chill correspondingly reduced diametrically at both ends, of a suitably-supported annular member embracing the lower portion of the diametrically-reduced lower end of the chill and larger in external diameter than the diametrically larger portion of the chill; an upper annular member embracing the upper portion of the upper diametrically-reduced end of the chill and arranged vertically above the aforesaid lower annular member and diametrically larger externally than the diametrically larger portion of the chill, and bolts extending vertically through the aforesaid annular members externally of the diametrically larger portion of the chill, which bolts are spaced circumferentially of the chill and attached to the aforesaid annular members; tubes embracing the bolts and resting upon the lower annular member, which tubes are arranged to support the upper annular member; means for centering the chill relative to the said annular members, and means for adjusting the chill vertically.

18. In a roll-casting mold, the combination, with a suitably-supported upright chill, of a suitably-supported annular member extending circumferentially of the lower portion of the chill and larger in external diameter than the chill; an upper annular member extending circumferentially of the upper portion of the chill and arranged vertically above and supported from the aforesaid lower annular member externally of the chill-chamber and diametrically larger externally than the chill, and means for centering the chill relative to the aforesaid annular members.

19. In a roll-casting mold, the combination, with a vertically-arranged chill reduced diametrically at its upper and lower ends, with the diametrically larger portion of the chill provided with two sets of laterally and outwardly projecting lugs spaced vertically, with the lugs of each set spaced circumferentially of the chill, with the lugs of each set arranged out of line vertically with the lugs of the other set, and with the lugs provided with correspondingly screw-threaded holes extending vertically through the lugs, of a suitably-supported lower annular member surrounding the lower portion of the lower diametrically smaller end of the chill and larger in external diameter than the diametrically larger portion of the chill; an upper annular member surrounding the upper diametrically smaller end of the chill and arranged vertically above the aforesaid lower annular member and larger in external diameter than the diametrically larger portion of the chill; vertically-arranged bolts extending through the upper annular member and screwed into and through the lugs of the lower set of lugs and downwardly against the lower annular member, and supporting means resting upon the lower annular member and bearing the upper annular member.

20. In a roll-casting mold, the combination, with a vertically-arranged chill provided with two sets of laterally and outwardly projecting lugs, with the sets of lugs spaced vertically, with the lugs of each set of lugs spaced circumferentially of the chill, with the lugs of each set arranged out of line vertically with the lugs of the other set, and with the lugs provided with correspondingly screw-threaded holes extending vertically through the lugs, of a suitably-supported lower annular member extending circumferentially of the chill below the lower set of lugs and larger in external diameter than the chill; an upper annular member extending circumferentially of the chill above the upper set of lugs and larger in external diameter than the chill; vertically-arranged bolts extending through the upper annular member and screwed into and through the lower set of lugs and downwardly against the lower annular member, and supporting means resting upon the lower annular member and bearing the upper annular member.

21. In a roll-casting mold, the combination, with a vertically-arranged chill provided with laterally and outwardly projecting lugs spaced circumferentially of the chill, with the lugs provided with correspondingly screw-threaded holes extending vertically through the lugs, of a suitably-supported lower annular member extending circumferentially of the chill below the lugs and larger in external diameter than the chill; an upper annular member extending circumferentially of the chill above the lugs and arranged vertically above the aforesaid lower annular member and larger in external diameter than the chill; vertically-arranged bolts extending through the upper annular member and screwed into and through the lugs and downwardly against the lower annular member, and supporting means resting upon the lower annular member and bearing the upper annular member.

22. In a roll-casting mold, the combination, with a vertically-arranged chill provided with laterally and outwardly projecting lugs spaced circumferentially of the chill, with the lugs provided with correspondingly screw-threaded holes extending vertically through the lugs, of a suitably-supported lower annular member extending circumferentially of the chill below the lugs and larger in external diameter than the chill; an upper annular member extending circumferentially of the chill above the lugs and arranged vertically above the lower annular member and larger in external diameter than the chill; vertically-arranged bolts extending through the upper annular member and screwed into and through the lugs and downwardly against the lower annular member; bolts extending vertically through and attached to both annular members, and tubes embracing the last-mentioned bolts and snugly interposed between the two annular members.

23. In a roll-casting mold, an upright chill provided interiorly with a chamber which extends from end to end of the chill, with the surrounding wall of the chamber provided within it with a fluid-receiving chamber which has circumferentially-extending opposite side walls which are integral with each other and is arranged externally and extends circumferentially of the first-mentioned chamber, said fluid-receiving chamber being provided with fluid connections, and the chill being provided at a suitable point between the upper and lower ends of the fluid-receiving chamber with a reinforcing portion which connects and is integral with the aforesaid walls, and the chill having also a gage-receiving hole connecting with the first-mentioned chamber and extending from the latter through the aforesaid reinforcing portion to the exterior of the chill, and a plug closing the said hole and removably attached to the chill.

24. In a roll-casting mold, an upright chill provided interiorly with a chamber which extends from end to end of the chill and is enlarged diametrically at suitable intervals between the said ends, with the diametrical enlargements of the chamber extending circumferentially of the chill, with the surrounding wall of the chamber provided within it with a fluid-receiving chamber which is arranged externally and extends circumferentially of the first-mentioned chamber, said fluid-receiving chamber being provided with fluid connections, and the chill being provided at a suitable point between the ends of the fluid-receiving chamber with reinforcing portions which connect opposite walls of the said fluid-receiving chamber and are spaced circumferentially of a chamber enlargement of the chill, and the chill being also provided with gage-receiving holes connecting with the said chamber enlargement and extending from the latter through the aforesaid reinforcing portions to the exterior of the chill, and plugs closing the said holes and removably attached to the chill.

25. In a roll-casting mold, an upright chill provided interiorly with a chamber which extends from end to end of the chill, with the surrounding wall of the chamber provided within it with a fluid-receiving chamber which is arranged externally and extends circumferentially of the first-mentioned chamber, said fluid-receiving chamber being provided with fluid connections, and the chill being provided at a suitable point between the ends of the fluid-receiving chamber with reinforcing portions which connect together opposite walls of the said fluid-receiving chamber and are spaced circumferentially of the chill, and the chill being also provided with gage-receiving holes leading from the first-mentioned chamber to the exterior of the chill, and removable plugs occupying the said holes.

26. In a roll-casting mold, a lower mold part or drag; an upright vertically-shiftable chill provided interiorly with a chamber extending from the upper end to the lower end of the chill, with the drag provided with a cavity which has an inlet for molten metal and is arranged centrally of the lower end of and in communication with but diametrically smaller than the aforesaid chamber, with the surrounding wall or walls of the said cavity formed by a body of loam or molding-sand, with a chamber formed within the upper end and outer portion of the drag and surrounding and arranged externally of the cavity, with the bottom of the last-mentioned chamber sloping downwardly and outwardly, with the chill arranged with its lower end projecting into the last-mentioned chamber, with the last-mentioned chamber filled with readily-displaceable material and provided with outlets which are arranged adjacent to the lower end of the said bottom and spaced circumferentially of the chamber, and means for controlling the discharge through the said outlets.

27. In a roll-casting mold, a lower mold part or drag; an upright chill supported as required to render it capable of being lowered and provided interiorly with a chamber extending from the upper end to the lower end of the chill, with the drag provided with a cavity which has an inlet for molten metal and is arranged centrally of the lower end of and in communication with but diametrically smaller than the aforesaid chamber, with the surrounding wall or walls of the said cavity formed by a body of loam or molding-sand, with a chamber formed within the drag and arranged externally and around the cavity and with the last-mentioned chamber in position to accommodate a descent of the chill.

28. In a roll-casting mold, a lower mold part or drag, a suitably-supported vertically-shiftable upright chill provided interiorly with a chamber extending from the upper end to the lower end of the chill, with the drag provided with a cavity which has an inlet for molten metal and is arranged centrally of the lower end of and in communication with but diametrically smaller than the aforesaid chamber, with the surrounding wall or walls of the said cavity formed by a body of loam or molding-sand surrounded by a metal casing which is provided at its upper end with an annular chamber surrounding but arranged externally of the aforesaid cavity and adapted to accommodate the descent into it of a chill employed in casting the body of a roll, which chamber is provided with suitably-arranged outlets.

29. In a roll-casting mold, a suitably-supported vertically-shiftable upright chill provided interiorly with a chamber extending from end to end of the chill, and a lower mold part or drag provided with a cavity which has an inlet for molten metal and is arranged centrally of the lower end of and in communication with but diametrically smaller than the aforesaid chill-chamber, with the surrounding wall or walls of the said cavity formed by a body of loam or molding-sand surrounded by a casing which is provided at its upper end with an annular chamber arranged to receive and accommodate the descent of the chill, with the last-mentioned chamber surrounding but arranged externally of the aforesaid cavity, and the joint between the chill and the drag-casing being suitably packed to prevent the escape of molten metal from the chill-chamber into the aforesaid chamber of the said casing.

30. In a roll-casting mold, a suitably-supported vertically-shiftable upright chill provided interiorly with a chamber extending from end to end of the chill, and a lower mold part or drag provided with a cavity which has an inlet for molten metal and is arranged centrally of the lower end of and in communication with but diametrically smaller than the aforesaid chill-chamber, with the surrounding wall or walls of the said cavity formed by a body of loam or molding-sand surrounded by a casing which is provided at its upper end with an annular chamber arranged to receive and accommodate the descent of the chill, with the last-mentioned chamber surrounding but arranged externally of the aforesaid cavity and having a downwardly and outwardly sloping bottom and outlets which are arranged at the lower end of the said bottom and spaced circumferentially of the drag; packing-forming displaceable material between the said bottom and the chill and adapted to prevent the escape of molten metal from the lower end of the chill, and means for controlling the feed of material through the said outlets.

31. In a roll-casting mold, a lower mold part or drag provided with a cavity which has an inlet for molten metal, with the surrounding wall or walls of the cavity formed by a body of loam or molding-sand surrounded by a metal casing which is provided at its upper end with an annular chamber surrounding but arranged externally of the aforesaid cavity and adapted to accommodate the descent into it of a chill employed in casting the body of a roll, which chamber is provided with suitably-arranged outlets.

32. In a roll-casting mold, a lower mold part or drag provided with a cavity which has an inlet for molten metal, with the surrounding wall or walls of the cavity formed by a body of loam or molding-sand surrounded by a casing which is provided at the upper end with an annular chamber surrounding but arranged externally of the aforesaid cavity and adapted to accommodate the descent into it of a chill employed in casting the body of the roll, with the surrounding wall of the chamber provided with downwardly and outwardly sloping discharge-openings, and means for controlling any discharge through the said openings.

33. In a roll-casting mold, a lower mold part or drag provided with a cavity which has an inlet for molten metal, with the surrounding wall or walls of the cavity formed by a body of loam or molding-sand surrounded by a casing which is provided at the upper end with a chamber adapted to accommodate the descent into it of a roll-body-casting chill, with the bottom and inner side wall of the said chamber provided with laterally and inwardly projecting tapering projections embedded in and instrumental in supporting the aforesaid body of loam or molding-sand.

34. In a roll-casting mold, a lower mold part or drag provided with a cavity which has an inlet for molten metal, with the surrounding wall or walls of the said cavity formed by a body of loam or molding-sand surrounded by a casing which is provided at the upper end with a chamber adapted to accommodate the descent into it of a roll-body-casting chill and having a vertically-arranged inner side wall, a downwardly and outwardly sloping bottom, and outlets spaced circumferentially of the casing.

35. In a roll-casting mold, an upper mold part or cope provided with a chamber which extends upwardly from the

lower end of the cope, with the surrounding wall or walls of the said chamber formed by a body of loam or molding-sand surrounded by a suitably-supported metal casing which is provided with an annular chamber surrounding and arranged externally of aforesaid body of loam or molding-sand, with the casing-chamber arranged to receive and accommodate an upward movement of a chill employed in casting the body of the roll, with the inner side wall of the casing-chamber provided with tapering projections embedded in and instrumental in supporting the aforesaid body of loam or molding-sand.

36. In a roll-casting mold, an upper mold part or cope provided with a chamber which extends upwardly from the lower end of the cope, with the surrounding wall or walls of the said chamber formed by a body of loam or molding-sand surrounded by a suitably-supported metal casing which is provided with an annular chamber surrounding the aforesaid body of loam or molding-sand, with the casing-chamber extending upwardly from the lower end of the casing a suitable distance, and with the outer and surrounding wall of the casing-chamber provided with lateral holes spaced circumferentially of the casing; an upright chill supported as required to render it capable of being shifted vertically and provided interiorly with a chamber which is in communication with and diametrically larger than the first-mentioned chamber, which chill has its upper end projecting into the aforesaid casing-chamber, and packing-forming material packed upon the upper end of the chill and adapted to prevent the passage of molten metal from within the chill into the casing-chamber.

37. In a roll-casting mold, an upper mold part or cope provided with a chamber which extends upwardly from the lower end of the cope, with the surrounding wall or walls of the said chamber formed by a body of loam or molding-sand surrounded by a suitably-supported casing which is provided with an annular chamber surrounding the aforesaid body of loam or molding-sand and extending upwardly from the lower end of the casing a suitable distance, and an upright chill supported as required to render it capable of being shifted vertically and provided interiorly with a chamber which is in communication with and diametrically larger than the first-mentioned chamber, which chill has its upper end projecting into the aforesaid casing-chamber.

38. In a roll-casting mold, an upper mold part or cope provided with a chamber which extends upwardly from the lower end of the cope, with the surrounding wall or walls of the said chamber formed by a body of loam or molding-sand surrounded by a suitably-supported casing which is provided with an annular chamber surrounding the aforesaid body of loam or molding-sand and extending upwardly from the lower end of the casing; a vertically-adjustable chill provided interiorly with a chamber which is in communication with and diametrically larger than the first-mentioned chamber, which chill has its upper end projecting into the aforesaid casing-chamber, and means supported from the aforesaid casing and instrumental in shifting the chill vertically.

39. In a roll-casting mold, an upper mold part or cope provided with a chamber which extends upwardly from the lower end of the cope, with the surrounding wall or walls of the said chamber formed by a body of loam or molding-sand surrounded by a suitably-supported casing which is provided with an annular chamber surrounding the aforesaid body of loam or molding-sand and extending upwardly from the lower end of the casing, with the outer and surrounding wall of the casing-chamber provided with lateral holes spaced circumferentially of the casing; a vertically-adjustable upright chill provided interiorly with a chamber which is in communication with and diametrically larger than the first-mentioned chamber, which chill is arranged to move upwardly into the casing-chamber; sand packed upon the upper end of the chill within the lower portion of the casing-chamber, and means for shifting the chill vertically.

40. In a roll-casting mold, a suitably-supported vertically-shiftable upright chill provided interiorly with a chamber extending from end to end of the chill, and an upper mold part or cope provided with a chamber which extends upwardly from and is in communication with but diametrically smaller than the aforesaid chill-chamber, with the surrounding wall or walls of the cope-chamber formed by a body of loam or molding-sand surrounded by a casing which has an annular portion snugly but slidably embraced by the upper end of the chill to accommodate upward movement of the chill.

41. In a roll-casting mold, an upper mold part or cope provided with a chamber which extends upwardly from the lower end of the cope, with the surrounding wall or walls of the said chamber formed by a body of loam or molding-sand surrounded by a suitably-supported casing which is provided with a chill-receiving chamber whose top wall is provided with angular holes extending vertically through the wall and spaced circumferentially of the mold; an upright chill provided interiorly with a chamber which is in communication with and diametrically larger than the first-mentioned chamber, which chill is arranged to move upwardly within the aforesaid chill-receiving chamber; studs attached to the upper end of the chill and extending upwardly through and a suitable distance above the aforesaid holes, which studs have correspondingly annular portions engaging the said holes and are screw-threaded at their upper ends; nuts mounted on the said ends of the studs, and washers interposed between the nuts and the outer surface of the last-mentioned wall, which washers are each divided into two sections horizontally, with the lower washer-section locked against rotation, and with antifriction-balls interposed between the washer-sections.

42. In a roll-casting mold, an upper mold part or cope provided with a chamber which extends upwardly from the lower end of the cope, with the surrounding wall or walls of the said chamber formed by a body of loam or molding-sand surrounded by a suitably-supported casing which is provided with a chill-receiving chamber whose top wall is provided with angular holes extending vertically through the wall and spaced circumferentially of the mold; an upright chill provided interiorly with a chamber which is in communication with and diametrically larger than the first-mentioned chamber, which chill is arranged to move upwardly within the aforesaid chill-receiving chamber; studs attached to the upper end of the chill and extending upwardly through and a suitable distance above the aforesaid holes, which studs have correspondingly-angular portions engaging the said holes and are screw-threaded at their upper ends; nuts mounted on the ends of the studs, and washers interposed between the nuts and the outer side of the last-mentioned wall.

43. In a roll-casting mold, an upper mold part or cope provided with a chamber which extends upwardly from the lower end of the cope, with the surrounding wall or walls of the said chamber formed by a body of loam or molding-sand surrounded by a suitably-supported casing which is provided with a chill-receiving chamber extending upwardly from the lower end of the casing; an upright chill provided interiorly with a chamber which is in communication with and diametrically larger than the first-mentioned chamber, which chill is arranged to move endwise within the aforesaid chill-receiving chamber; studs attached to the upper end of the chill and extending upwardly through the top wall and spaced circumferentially of the said chill-receiving chamber, and means whereby the studs and connected chill are shiftable vertically.

44. In a roll-casting mold, a suitably-supported chill provided interiorly with a chamber extending from end to end of the chill; a lower mold part or drag arranged at the lower end of the chill and provided with a cavity having an inlet and arranged centrally of the lower end of and in communication with the chill-chamber, and an upper mold part or cope arranged at the upper end of the chill and provided with a chamber which is arranged centrally of the upper end of and in communication with the chill-chamber, with the lower portion of the cope-chamber having the outline and dimensions required to form the inner end portion of a roll-neck, with the surrounding wall or walls of the said portion of the cope-chamber formed by a body of loam or molding-sand surrounded by a suitably-supported casing which is provided with a chamber extending from the lower end of the casing upwardly a suitable distance and arranged to form a feeding-head above the wabble-forming portion of the said chamber, and with the surrounding wall or walls of the last-mentioned portion and the feeding-head-forming portion of the cope-chamber built up of a body of loam or moluding-sand within and surrounded by a casing which is divided vertically into sections which are removably secured together and rest upon the first-mentioned cope-casing.

45. In a roll-casting mold, a suitably-supported chill provided interiorly with a chamber extending from end to end of the chill; a lower mold part or drag arranged at the lower end of the chill and provided with a cavity having an inlet and arranged centrally of the lower end of and in communication with the chill-chamber, and an upper mold part or cope arranged at the upper end of the chill and provided with a chamber which is arranged centrally of the upper end of and in communication with the chill-chamber, with the lower portion of the cope-chamber having the outline and dimensions required to form the inner end portion of a roll-neck, with the surrounding wall or walls of the said portion of the cope-chamber formed by a body of loam or molding-sand surrounded by a suitably-supported casing, with the remainder of the cope-chamber having the outline and dimensions required to form the wabble-forming outer end portion of the said neck and to form a feeding-head above the wabble-forming portion of the cope-chamber, with the surrounding wall or walls of the feeding-head-forming portion and wabble-forming portion of the cope-chamber built up of a body of loam or molding-sand within and surrounded by a suitably-supported casing which is provided interiorly with normally empty recesses spaced circumferentially of the cope and extending from the upper end of the last-mentioned casing into suitable proximity to the lower end of the said casing.

46. In a roll-casting mold, a suitably-supported chill provided interiorly with a chamber extending from end to end of the chill; a lower mold part or drag provided with a cavity which has an inlet and is arranged centrally of the lower end of and in communication with the chill-chamber, and a cope provided with a chamber which is arranged centrally of and in communication with the chill-chamber, which cope is divided horizontally into two parts, with the line of division at the inner end of the wabble-forming portion of the cope, with the lower portion of the cope-chamber formed in the lower cope part and having the outline and dimensions required to form the inner end portion of a roll-neck, with the surrounding wall or walls of the said portion of the cope-chamber formed by a body of loam or molding-sand surrounded by a suitably-supported casing, with the remainder of the cope-chamber formed in the upper cope part and having the outline and dimensions required to form the wabble-forming outer end portion of the said neck and to form a feeding-head above the wabble-forming portion of the cope-chamber, with the surrounding wall or walls of the feeding-head-forming portion and wabble-forming portion of the cope-chamber built up of a body of loam or molding-sand within and surrounded by a suitably-supported casing which removably rests upon the first-mentioned cope-casing.

47. In a roll-casting mold, an upright chill supported as required to render it capable of being shifted vertically and provided interiorly with a chamber extending from end to end of the chill; a lower mold part or drag provided with a cavity which has an inlet for molten metal and is arranged centrally of the lower end of and in communication with but diametrically smaller than the chill-chamber, with the surrounding wall or walls of the said cavity formed by a body of loam or molding-sand surrounded by a casing which is provided at its upper end with an annular chamber arranged to be engaged by the lower end and accommodate the descent of the chill; an upper mold part or cope provided centrally of the upper end of the chill with a chamber communicating with but diametrically smaller than the chill-chamber, with the surrounding wall or walls of the cope-chamber formed by a body of loam or molding-sand surrounded by a suitably-supported casing which is provided with a chamber extending from the lower end of the casing upwardly a suitable distance and arranged to be engaged by the upper end and accommodate upward movement of the chill, and means for shifting the chill vertically.

48. In a roll-casting mold, a vertically-shiftable upright chill provided with a chamber which extends from end to end of the chill and is enlarged diametrically at suitable intervals between the ends of the chill, with the top walls of the enlargements of the chill-chamber sloping upwardly and inwardly, and with the slope of the said walls decreasing toward the upper end of the chill; a lower mold part or drag arranged at the lower end of the chill and provided with a cavity having an inlet in communication with the chill-chamber; an upper mold part or cope arranged at the upper end and supported independently of the chill and provided with a chamber which is in communication with the chill-chamber, and means whereby the chill may be lowered.

49. In a roll-casting mold, a suitably-supported vertically-adjustable upright chill provided interiorly with a chamber extending from end to end of the chill; a lower mold part or drag provided with a cavity which has an inlet for molten metal and is arranged centrally of the lower end of and in communication with but diametrically smaller than the chill-chamber, with the surrounding wall or walls of the said cavity formed by a body of loam or molding-sand surrounded by a casing; an upper mold part or cope provided with a chamber arranged centrally of the upper end of and in communication with but diametrically smaller than the chill-chamber, with the surrounding wall or walls of the cope-chamber formed by a body of loam or molding-sand surrounded by a casing which is supported from the aforesaid drag-casing, and means for centering the chill relative to the aforesaid casings.

50. In a roll-casting mold, an upright chill supported as required to render it capable of being shifted vertically and provided interiorly with a chamber extending from end to end of the chill; a lower mold part or drag provided with a cavity which has an inlet for molten metal and is arranged centrally of the lower end of and in communication with but diametrically smaller than the chill-chamber, with the surrounding wall of the said cavity formed by a body of loam or molding-sand surrounded by a casing; an upper mold part or cope provided with a chamber arranged centrally of the upper end of and in communication with but diametrically smaller than the chill-chamber, with the surrounding wall or walls of the cope-chamber formed by a body of loam or molding-sand surrounded by a casing which is supported from the aforesaid drag-casing, and means for shifting the chill vertically.

51. In a roll-casting mold, an upright chill supported as required to render it capable of being shifted vertically and provided interiorly with a chamber extending from end to end of the chill, with the chill reduced in external diameter at the ends to form two annular shoulders arranged at the upper end and lower end respectively of the diametrically larger portion of the chill and facing upwardly and downwardly respectively; a lower mold part or drag provided with a cavity which has an inlet for molten metal and is arranged centrally of the lower end of and in communication with the chill-chamber, with the surrounding wall or walls of the said cavity formed by a body of loam or molding-sand surrounded by a casing arranged in under the aforesaid lower shoulder and provided at its upper end with an annular chamber arranged to be engaged by the lower diametrically smaller end and accommodate downward movement of the chill; an upper mold part or cope provided with a chamber arranged centrally of the upper end of and in communication with the chill-chamber, with the surrounding wall or walls of the cope-chamber formed by a body of loam or molding-sand surrounded by a suitably-supported casing which is provided with a chamber extending from the lower end of the casing upwardly and arranged to be engaged by the upper diametrically smaller end and accommodate upward movement of the chill, and means for shifting the chill vertically, and the joints between the chill and the aforesaid casings being suitably packed.

52. In a roll-casting mold, an upright chill supported as required to render it capable of being shifted vertically

and provided interiorly with a chamber extending from end to end of the chill; a lower mold part or drag provided with a cavity which has an inlet for molten metal and is arranged centrally of the lower end of and in communication with the chill-chamber, with the surrounding wall of the said cavity formed by a body of loam or molding-sand surrounded by a casing which is provided at its upper end and externally with a laterally and outwardly projecting annular flange larger in external diameter than the chill; an upper mold part or cope provided with a chamber arranged centrally of the upper end of and in communication with the chill-chamber, with the surrounding wall or walls of the cope-chamber formed by a body of loam or molding-sand surrounded by a casing which is provided at its lower end and externally with a laterally and outwardly projecting annular flange which is larger in external diameter than the chill and supported from the aforesaid flange on the drag-casing, and means for shifting the chill vertically, and the joints between the chill and the aforesaid casings being suitably packed.

53. In a roll-casting mold, an upright chill for casting the body of the roll, a lower mold part or drag arranged to cast one of the roll-necks, and an upper mold part or cope arranged to cast the other neck and supported independently of the chill.

54. In a roll-casting mold, a vertically-adjustable upright chill for casting the body of a roll, a lower mold part or drag comprising a casing and arranged to cast one of the roll-necks, an upper mold part or cope arranged to cast the other neck and supported from the drag-casing, and means whereby the chill may be raised or lowered while the cope is in position relative to and supported from the drag-casing.

841,294. COMPOSITE SHEET OR LAYER. WILLIAM W. WHITCOMB, Brookline, Mass. Filed Oct. 10, 1906. Serial No. 338,232.



Claim.—1. As an improved article of manufacture, a flexible composite sheet or strip composed of a flexible fibrous body portion in whole or in part provided with sockets or openings, and a plurality of inserts of non-metallic material extended into said sockets or openings, substantially as described.

2. As an improved article of manufacture, a flexible composite sheet or strip composed of a flexible body portion consisting of a plurality of fibrous layers cemented together and having holes or openings, and inserts of cork extended into said openings, substantially as described.

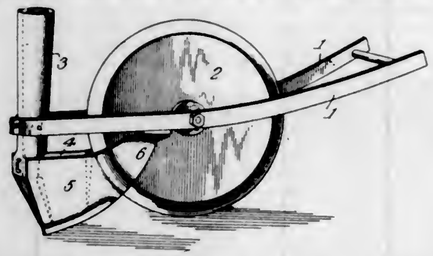
3. As an improved article of manufacture, a flexible composite sheet or strip composed of a body portion of fibrous material in whole or in part and having openings extended through it, inserts of non-metallic material extended into said openings, and a backing of flexible material secured to said body portion and covering said inserts, substantially as described.

4. As an improved article of manufacture, a flexible composite sheet or strip composed of a flexible body portion consisting of a plurality of fibrous layers connected together and having holes or openings, and inserts of cork extended into said openings, substantially as described.

841,295. GRAIN-DRILL. MERIT E. WILSON, Holdenville, Ind. Ter. Filed Nov. 13, 1906. Serial No. 343,219.

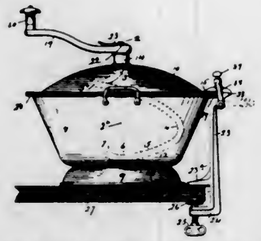
Claim.—1. In a grain-drill supporting-beams, a colter-disk journaled between the beams, a drill-tube fixed to the beams, a grain-shoe attached to the drill-tube and having its forward portion continued into plates which lie vertically along opposite sides of the colter-disk and in contact with the same and which are attached at their upper ends to said beams

2. In a grain-drill, supporting-beams, a colter-disk journaled between the beams, a drill-tube secured between the beams, a grain-shoe attached to the lower end of the drill-tube and having its forward portion continued into plates which lie vertically along opposite sides of the colter-disk and are in close contact with the same, the



upper portions of said plates having lateral outstanding sections which are attached to the said beams.

841,296. BREAD MIXER AND KNEADER. OLIVER D. WOODRUFF, Southington, Conn. Filed Dec. 6, 1906. Serial No. 346,603.



Claim.—1. In a bread mixer and kneader, the combination with a flaring pan, of a kneading-rod arranged coaxially therein, and means for supporting the said rod which rod comprises a journal forming its upper terminal, an upper reach extending outwardly and downwardly from the lower end of the said journal and including a bend or curve, a lower reach extending inwardly and downwardly and terminating at its lower end at a point located below or approximately below and in axial line with the said journal and closer to the pan than any other point on the rod, and a bend connecting the lower end of the upper reach with the inclined upper end of the lower reach.

2. In a bread mixer and kneader, the combination with a flaring pan, of a kneading-rod arranged coaxially therein, and means for supporting the said rod which rod comprises a journal forming its upper terminal, an upper reach extending outwardly and downwardly from the lower end of the said journal and including a bend or curve, a lower reach extending inwardly and downwardly, and a bend connecting the upper reach with the lower reach and wider in curvature than the bend thereof.

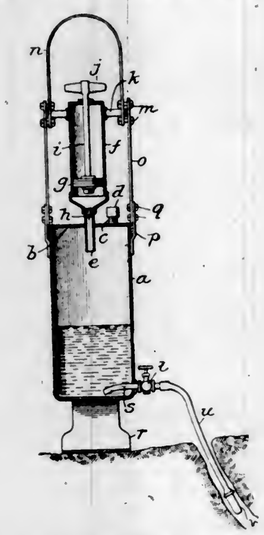
3. In a bread mixer and kneader, the combination with a flaring pan, of a kneading-rod arranged coaxially therein, and means for supporting the said rod which comprises a journal, an upper reach extending outwardly and downwardly from the lower end of the said journal and including a bend or curve, a lower reach extending inwardly and downwardly and terminating at its lower end at a point located below or approximately below and in axial line with the said journal, a bend connecting the upper reach with the lower reach, and a dough-centering finger extending upwardly from the lower end of the lower reach and forming the lower terminal of the rod.

4. In a bread mixer and kneader, the combination with a flaring pan, of a kneading-rod arranged coaxially therein, and means for supporting the said rod which rod comprises a journal, an upper reach extending outwardly and downwardly from the lower end of the said journal and including a bend or curve, a lower reach extending inwardly and downwardly and terminating at its lower end at a point located below or approximately below and in axial line with the said journal, a bend connecting the lower end of the upper reach with the inclined upper end of the lower reach and more open in curvature than the bend or curve thereof, and a dough-centering finger forming the lower terminal of the rod and extending beyond the lower end of the lower reach.

5. In a bread mixer and kneader, the combination with the receptacle thereof, of a mixing and kneading instrumentality, a carrier-arm supporting the instrumentality coaxially in the receptacle and having its outer end formed with an inwardly-inclined locking-face, a bracket, a yoke pivotally mounted thereon, a thumb-screw mounted in the said yoke, and a clamping-piece carried by the thumb-screw and coacting with the locking-face, when the yoke is swung inward from the vertical, for rigidly securing the arm to the bracket.

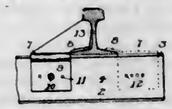
6. In a bread mixer and kneader, the combination with the receptacle thereof, of a mixing and kneading instrumentality, a carrier-arm supporting the instrumentality coaxially in the receptacle and having its outer end formed upon its upper face with a groove containing an inwardly-inclined locking-face, a bracket adapted at its upper end to have the outer end of the said arm applied to it, a yoke pivoted to the bracket, a thumb-screw mounted in the yoke, and a clamping-piece carried by the thumb-screw and engaging with the locking-face, when the yoke is swung inwardly from the vertical, for rigidly securing the arm to the bracket.

841,297. VERMIN-EXTERMINATOR. WALTER P. WYARD, Cathay, N. D. Filed Jan. 19, 1906. Serial No. 296,747.



Claim.—A vermin-exterminator comprising a reservoir provided at its lower end with a stirrup through which the operator passes his foot and with an outlet-aperture in which is fitted a pipe provided with a valve adjustable to regulate the flow of the solution from the reservoir according to the size of the burrow; a hose attached to the said pipe and provided with a spraying-nozzle; an air-pump the outlet end of which projects through an opening in the top of said reservoir and the other end of which is securely held by a collar; a pair of side straps the lower end of each of which is secured to said reservoir near its upper end and the upper end of each of which is secured to a bail; said bail secured to said side straps and to said collar; said collar; and a screw-cap which normally closes the opening through which the solution is poured into said reservoir.

841,298. RAIL-FASTENER. JOHN W. WYKE, Swissvale, Pa. Filed Oct. 9, 1906. Serial No. 338,136.



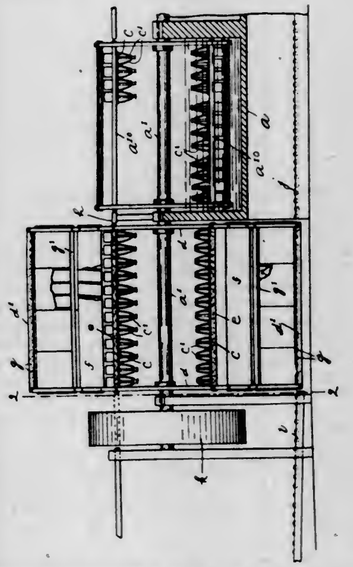
Claim.—1. An improved rail-fastener comprising a fastener-body shaped to partially embrace a flanged tie, a rail-holding extension carried by the upper portion of the fastener, and a downward extension carried thereby adapted to be secured to the tie.

2. An improved rail-fastener comprising a U-shaped body portion adapted to embrace the flange of the tie, a rail-holding extension on the top member of the body, and a depending extension on the bottom member thereof adapted to be secured to the tie.

3. An improved rail-fastener comprising a flange-embracing body portion having a top member adapted to rest on the top face of a flange and a bottom member adapted to bear upward against the under face of the flange, a plate-like extension depending from the inner edge of said under portion of the body for fastening to the rail-web, the top portion of the body being extended in the direction of the length of the tie and deflected upwardly for overhanging the rail-flange.

4. An improved rail-fastening comprising a flange-embracing body portion having an end extension for overhanging the rail-flange, means for securing the fastener to the flanged tie which it embraces, and a chair or brace extending upward from the fastener-body.

841,299. BOTTLE-WASHING MACHINE. FREEMAN N. YOUNG, Arlington, Mass. Filed Sept. 24, 1906. Serial No. 335,856.



Claim.—1. In an apparatus of the character described, the combination of a rotatable frame, means, extending throughout the length of the frame, for supporting a series of bottle-racks, means, extending throughout the length of the frame, for supporting a series of boxes and means for reversing the frame to cause the bottles to move by gravity from the boxes to the racks, substantially as described.

2. In an apparatus of the character described, the combination of a rotatable frame, means, carried by the frame,

for temporarily holding a series of bottle-racks and permitting the discharge thereof, and means, carried by the frame, for temporarily holding a series of boxes and permitting the discharge thereof, and means for reversing said frame to cause the bottles to move by gravity from the boxes to the racks, substantially as described.

3. In an apparatus of the character described, a rotatable open-ended frame, a horizontal shaft bearing it, a pair of horizontal tracks carried by said frame which extend from end to end thereof and which are adapted to support a series of bottle-racks, means, extending throughout the length of said frame, for supporting a series of boxes, and means for reversing said frame to cause the bottles to move by gravity from the boxes to the racks, substantially as described.

4. In an apparatus of the character described, the combination of a rotatable frame having an open-ended passage provided with tracks adapted to receive bottle-racks, and also having an open-ended passage adapted to receive boxes, and means for reversing said frame to cause the bottles to move by gravity from the boxes to the racks, substantially as described.

5. In an apparatus of the character described, a rotatable frame, a horizontal shaft bearing it, means, extending throughout the length of said frame, for supporting a series of bottle-racks, an open-ended passage having upper and under guides for holding a series of boxes adjacent said bottle-racks and means for reversing the frame to cause the bottles to move by gravity from the boxes to the racks, substantially as described.

6. In an apparatus of the character described, a rotatable frame, means, extended throughout the length of the frame, for supporting a series of bottle-racks, means, extending throughout the length of the frame, for supporting a series of boxes, means, extending throughout the length of the frame for guiding the bottles from the boxes to the racks, and means for reversing said frame to cause the bottles to move by gravity from the boxes to the racks, substantially as described.

7. In an apparatus of the character described, a rotatable frame, means, extending throughout the length of the frame, for supporting a series of bottle-racks and permitting the discharge thereof at one end as the new racks are supplied at the opposite end, means, also extending throughout the length of said frame, for supporting a series of boxes and permitting the discharge thereof at one end as new boxes are supplied at the opposite end, and means for reversing the frame to cause the bottles to move by gravity from the boxes to the racks, substantially as described.

8. In an apparatus of the character described, a rotatable frame, means, extending throughout the length of said frame, for supporting a series of bottle-racks and permitting the discharge thereof at one end as the new racks are supplied at the opposite end, means, also extending throughout the length of said frame for supporting a series of boxes and permitting the discharge thereof at one end as new boxes are supplied at the opposite end, and means, extending throughout the length of said frame, for guiding the bottles from the boxes to the racks, and means for reversing the frame to cause the bottles to move by gravity from the boxes to the racks, substantially as described.

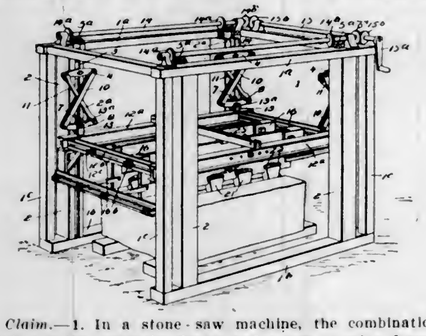
9. In an apparatus of the character described, a rotatable frame, a bottle-rack support carried by it, a box-support also carried by it, and means for guiding the bottles from the boxes on the box-support to the racks on the rack-support as the frame revolves, substantially as described.

10. In an apparatus of the character described, the combination of a tank, a revoluble frame therein having an open-ended passage through it from end to end provided with a bottle-rack support, another revoluble frame having an open-ended passage through it from end to end also provided with a bottle-rack support, means, extending throughout the length of said last-named frame, for supporting a series of boxes adjacent the bottle-rack support, and means for reversing said frame to cause the bottles to move by gravity from the boxes to the racks and for supporting the bottle-racks in alinement with the bottle-rack support which is carried by the other frame, substantially as described.

11. In an apparatus of the character described, the combination of a rotatable frame, means extending throughout the length of said frame for supporting a series of bottle-racks, means extending throughout the length of said frame for supporting a series of boxes, means for reversing the frame to cause the bottles to move by gravity from the boxes to the racks, and another rotatable frame having a bottle-rack support arranged in alinement with the aforesaid means for supporting the bottle-racks, substantially as described.

12. In an apparatus of the character described, a rotatable open-ended frame, a horizontal shaft bearing it, a pair of horizontal tracks carried by said frame which extend from end to end thereof and which are adapted to support a series of bottle-racks, means extending throughout the length of said frame for supporting a series of boxes, means for reversing said frame to cause the bottles to move by gravity from the boxes to the racks, and another rotatable open-ended frame having a pair of horizontal tracks which extend from end to end thereof arranged in alinement with the tracks on the aforesaid frame and adapted to support a series of bottle-racks, substantially as described.

841,300. STONE-SAWING MACHINE. JAMES S. YOUNG, Northfield, Vt. Filed Mar. 30, 1906. Serial No. 308,936.



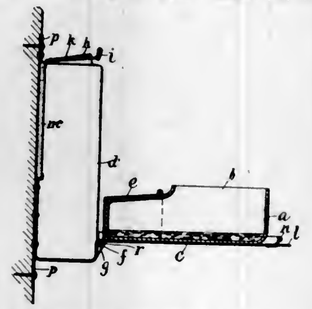
Claim.—1. In a stone-saw machine, the combination with a main supporting-frame and a saw-carrying frame, of a plurality of means for suspending said saw-carrying frame from said main supporting-frame to be reciprocable in a horizontal plane, said suspending means each comprising a block vertically adjustably held by said main supporting-frame, a walking-beam pivotally secured to said block, a pair of crossed hangers pivotally secured to said walking-beam, an arc-bar pivotally secured to said crossed bars, means connecting said arc-bars with said saw-carrying frame, supplemental blocks carrying friction-rollers for coöperating with the saw-carrying frame and arc-bars, and a plurality of sets of means for adjusting said first-mentioned blocks and said last-mentioned blocks in pairs, substantially as shown and described.

2. In a stone-saw machine, the combination with a main supporting-frame and a saw-carrying frame of a plurality of means for suspending said saw-carrying frame, from said main supporting-frame to be reciprocable in a horizontal plane, said suspending means each comprising a block vertically adjustably held by said main supporting-frame, a walking-beam pivotally secured to said block, a pair of crossed hangers pivotally secured to said walking-beam, an arc-bar pivotally secured to said saw-carrying frame, supplemental blocks carrying friction-rollers for coöperating with the saw-carrying frame and arc-bars, and a plurality of sets of means for adjusting said first-mentioned blocks and said last-mentioned blocks in pairs, and means for simultaneously operating all of said adjusting means, substantially as shown and described.

3. In a stone-saw, a main supporting-frame, grooved standards forming a part of said frame, pairs of blocks vertically adjustably held in said grooved standards and spaced apart, means coöperatively connecting said blocks together for adjusting the blocks in pairs, a saw-carrying frame, walking-beams pivotally supported on the upper blocks, crossed hangers pivotally secured to each walking-beam, an arc-plate secured to said cross-hangers, and to the saw-frame, friction-rollers on the lower blocks for coöperating with such arc-bars.

4. In a stone-saw, a main supporting-frame, grooved standards forming a part of said frame, pairs of blocks vertically adjustably held in said grooved standards and spaced apart, means coöperatively connecting said blocks together for adjusting the blocks in pairs, a saw-carrying frame, walking-beams pivotally supported on the upper blocks, crossed hangers pivotally secured to each walking-beam, an arc-plate secured to said cross-hangers, and to the saw-frame, friction-rollers on the lower blocks for coöperating with such arc-bars, and means coöperatively connecting each of said block-adjusting means to operate the same in unison substantially as shown and described.

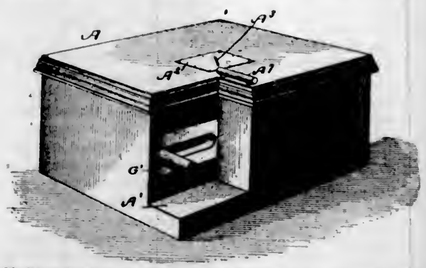
841,301. SPITTOON. GOTTHILF ZWEIGLE, Esslingen, Germany. Filed Aug. 16, 1906. Serial No. 330,836.



Claim.—1. A spittoon comprising a vertically-arranged casing, a cover provided with a pocket-shaped extension and hinged to the lower end of the casing and a shoe-shaped receptacle having a top opening and inserted into the pocket-shaped extension.

2. A spittoon comprising a vertically-arranged casing having a packing layer secured to the back thereof, a cover provided with a pocket-shaped extension and hinged to the lower end of the casing and a shoe-shaped receptacle having a top opening, completely closed by the packing layer, and inserted into the pocket-shaped receptacle.

841,302. COIN-OPERATED MACHINE. WILLIAM ANDREWS, Sioux City, Iowa, assignor, by direct and mesne assignments, of seventy-six one-hundredths to L. D. Rowland, Sioux City, Iowa, and twenty-four one-hundredths to O. A. Steffin. Filed Apr. 1, 1905. Serial No. 253,300.



Claim.—1. A coin-controlled apparatus comprising a casing having a horizontal slot on one side, a coin-chute arranged in the casing, a clockwork within the casing having a mainspring, an arm secured on the winding-stem of said spring and having a slot in normal alinement with the coin-chute, means for holding a coin in said slot, a slotted bar adapted to straddle said arm and bear against the coin, a handle secured to said bar, said handle projecting through and being adapted to slide in the slot in the casing, a bar carried by said handle and arranged substantially parallel to the slotted bar, and means for completing an electric circuit adapted to be actuated by the last-mentioned bar when the arm is moved by the first-mentioned bar.

2. A coin-controlled apparatus having means arranged therein for completing an electric circuit, a clockwork mechanism having a mainspring, an arm secured to the winding-stem of said spring, a coin-chute, a bar adapted to slide forward and straddle said arm, means for holding a coin temporarily on said arm, means for bringing the ends of the slotted bar into engagement with the coin and swinging the arm, means carried by the arm for starting the clockwork, means for locking said arm at the limit of its swinging movement, means for actuating the circuit-completing means when the arm is in a locked position, and means for returning the arm to its normal position and breaking the circuit at the end of a predetermined length of time.

3. In a coin-controlled apparatus of the kind described, a casing having a slot therein, a handle projecting from and adapted to slide in said slot, a thin, slightly-curved spring-bar secured to the handle within the casing, a pivoted arm arranged within the casing at one side of the path of said bar, means carried by the forward end of the bar adapted to engage said arm, a plate arranged on the bottom of the casing and having a hinged side plate, the said side having cut portions at each end, the rear end portion being turned inward and the forward end portion turned outward, a depending lug on the bar adapted to engage said portions, a pivoted lever having an end adapted to bear against the side of the bar and hold same from engagement with the pivoted arm, a coin-chute in the casing, means for relieving the bar from the pressure of said lever on the insertion of a coin, means for completing an electric circuit when the bar is in engagement with the pivoted arm, and means for forcing the lever against the bar and disengaging it from the arm at the end of a predetermined length of time.

841,303. PIGMENT AND PROCESS OF MAKING SAME. WILLIAM J. ARMBRUSTER, St. Louis, Mo. Filed Nov. 8, 1902. Renewed June 3, 1905. Serial No. 263,649.

Claim.—1. The process of making pigment which consists in preparing separate solutions of barium hydrate and aluminium sulfate, then mixing the same, and recovering the resulting precipitates, substantially as set forth.

2. The process of making pigment which consists in preparing separate solutions of barium hydrate and aluminium sulfate, then mixing the same in the presence of color solutions permitting the simultaneous precipitation of aluminium hydrate and barium sulfate, and recovering said precipitates, substantially as set forth.

3. The process of making pigment which consists in mixing solutions of barium hydrate and aluminium sulfate in the presence of a color solution adapted to be fixed as a lake, substantially as set forth.

4. The process of making pigment which consists in mixing solutions of barium hydrate and aluminium sulfate in the presence of a color solution precipitable by either of the reagents thus mixed, substantially as set forth.

5. The process of making pigment which consists in mixing solutions of barium hydrate and aluminium sulfate in the presence of a color solution precipitable concurrently with the composite precipitate of aluminium hydrate and barium sulfate, thus formed, substantially as set forth.

6. The process in making pigment which consists in mixing solutions of barium hydrate, and aluminium sulfate in the presence of salt solutions, and solutions of colors precipitable concurrently with the aluminium-hydrate and barium-sulfate precipitates formed, substantially as set forth.

7. The process of making pigment which consists in mixing solutions of barium hydrate and aluminium sulfate and a color solution, in the presence of reagents permitting the concurrent precipitation of aluminium hydrate, barium sulfate, and the formation of a lake, substantially as set forth.

8. A pigment composed of a composite precipitate of aluminium hydrate and barium sulfate formed from a mixture of separate solutions of barium hydrate and aluminium sulfate, substantially as set forth.

9. A pigment composed of a mixture of aluminium hydrate and barium sulfate precipitated from solutions of barium hydrate and aluminium sulfate, and a coloring-matter struck concurrently with the formation of the precipitates, substantially as set forth.

10. A pigment composed of a simultaneously-formed composite precipitate of aluminium hydrate, barium sulfate, and fixed coloring-matter, substantially as set forth.

841,304. SAFETY-RAZOR. FREDERICK H. ARNOLD, Reading, Pa. Filed Sept. 15, 1906. Serial No. 334,786.



Claim.—In a safety-razor a holder having a guard formed integral therewith, a stationary leg on said guard projecting from both faces thereof, a foot formed on the lower end of said leg, a movable leg in the opposite end of said guard, a foot on the lower end of said leg, a rod formed integral with said movable leg and a coiled spring located on said rod between said legs in combination with a blade of thin metal having two cutting edges and elongated slots adapted to engage said feet.

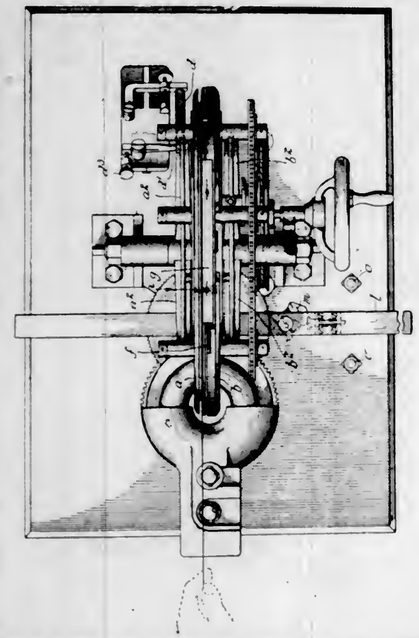
841,305. WINDING-MACHINE. GEORGE P. ATWOOD, New York, N. Y., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 27, 1904. Renewed Apr. 27, 1906. Serial No. 314,017.

Claim.—1. In a machine for winding closed cores, the combination with a spool-ring and a winding-ring having removable segments whereby they may be interlinked with a core to be wound, said two rings being mounted side by side to rotate independently, driving mechanism for the winding-ring, a frictional drag for the spool-ring, and a guide-sheave carried by said winding-ring over which the wire to be wound is led from the spool to the core, whereby in the rotation of the winding-ring the wire is wound upon the core, the spool being rotated by the pull of the wire to feed the same.

2. In a machine for winding closed cores, the combination with a spool-ring and a winding-ring adapted to be interlinked with the core, said two rings being eccentric to the body of the core, and mounted to rotate independently, a friction-drag acting upon the spool, and friction driving-wheels engaging the inside of the winding-ring to drive the same, said winding-ring carrying a guide-sheave over which the wire is carried from the spool to the core.

3. In a machine for winding closed cores, the combination with a spool-ring and winding-ring of the same diameter mounted together side by side to have the same central axis, segments of said rings being removable to permit a closed core to be interlinked therewith, a set of idler-wheels engaging the inner edge of the spool-ring, driven wheels engaging the inner edge of the winding-ring, the central space between the two sets of wheels in the plane between said rings being unobstructed, and a guide-sheave mounted in the winding-ring, the wire being led from said spool around said guide-sheave and onto the core, passing substantially in the central plane between the two rings.

4. In a machine for winding closed cores, the combination with a spool-ring and a winding-ring mounted side by side and having removable segments to permit the core to be interlinked therewith, said rings being rotatably mounted independent of each other, means for driving the winding-ring, the rotation of the spool-ring being retarded by a drag, a guide-sheave rotatably mounted upon the winding-ring substantially in the central plane between the two rings, and a bridge-piece removably mounted upon the periphery of the winding-ring and extending rearwardly from the guide-sheave to permit the wire to be led from the spool over said bridge-piece to the guide-sheave and thence to the core.



5. In a machine for winding closed cores, the combination with a spool-ring and a guide-ring adapted to be interlinked with the core, independent supports for said rings, whereby the same may rotate independently about the same central axis, a clear space being left in the plane between the two rings, and a guide carried by the winding-ring substantially in said plane between the two rings, the wire to be wound being led from the spool through said guide and onto the core, whereby in the rotation of the winding-ring the wire is pulled off the spool and wound upon the core, the spool being rotated by the pull of the wire to feed the same.

6. In a machine for winding closed cores, the combination with a spool-ring and a winding-ring, removable segments for said rings whereby they may be interlinked with a core to be wound, said rings being mounted side by side to rotate independently, the outer surface of each ring being rounded to conform to the space inside of the core, and mechanism operated in the movement of the winding-ring adapted to lead the wire from said spool-ring and wind the same through and around the core.

7. In a machine for winding closed cores, the combination with a spool-ring and a winding-ring adapted to be interlinked with a core to be wound, said rings being rotatably mounted side by side with their outer surfaces rounded, the spool-ring being hollowed out to conform to the curved outside thereof, and mechanism adapted to operate said rings to wind the wire upon the core; whereby the maximum amount of wire may be held within the spool-ring, and a coil wound to have a minimum inner diameter when completed.

8. In a machine for winding annular cores, the combination with a rotatable spool-ring adapted to be interlinked with the core, of a rotating guide adapted to lead the wire from said spool-ring and wind the same through and around said core, said guide and spool-ring being mounted side by side to rotate independently, mechanism for rotating said guide, a support for said core pivoted to rotate upon an axis substantially coincident with the axis of the core held thereby, and mechanism adapted to rotate said support upon its axis, whereby the wire may be rapidly wound upon said core in even and regular convolutions, substantially as set forth.

9. In a machine for winding closed cores, the combination with a spool-ring and a winding-ring adapted to be interlinked with a core to be wound, said rings being mounted side by side to rotate independently, a guide carried by the winding-ring over which the wire to be wound is led from the spool-ring to the core, the spool-ring being rotated by the pull of the wire as the winding-ring is moved to feed the same, and driving mechanism for said winding-ring; whereby as the winding-ring is rotated the guide is carried around and through the core and the wire wound thereon.

10. In a machine for winding closed cores, the combination with a spool-ring adapted to be interlinked with a closed core, of a rotating guide adapted to lead the wire from the spool-ring and wind the same through and around the core, said guide and spool rings being mounted side by side to rotate independently, and means for operating said guide.

11. In a machine for winding closed cores, the combination with a spool-ring and a guide-ring having removable segments whereby they may be interlinked with a core to be wound, said rings being mounted side by side to rotate independently, the guide-ring being adapted when operated to lead the wire from said spool-ring and wind the same upon said core, and means adapted to rotate said guide-ring, the spool-ring being rotated by the pull of the wire to feed the same, as the guide-ring is turned.

12. In a machine for winding annular cores, the combination with a rotatable spool-ring adapted to be interlinked with the core, of a rotating guide adapted to draw the wire from said spool-ring and thread the same through and around the core, mechanism for rotating said guide, a standard carrying clamps adapted to hold the core to be wound, said standard being mounted to rotate upon a vertical axis substantially coincident with the axis of the annular core held thereby, a gear adapted to rotate said standard, and an oscillating lever carrying a pawl adapted to actuate said gear, whereby the wire may be radially applied to the core being wound.

13. In a machine for winding closed cores, the combination with a spool-ring and a winding-ring adapted to be interlinked with a closed core, said rings being mounted side by side to rotate independently, driving mechanism for said winding-ring, a guide carried by the winding-ring over which the wire to be wound is led from the spool-ring to the core, and means actuated in the movement of the winding-ring for rotating said spool-ring to feed the wire to be wound.

14. In a machine for winding closed cores, the combination with a spool-ring and a winding-ring adapted to be interlinked with a closed core, said rings being mounted side by side to rotate independently of each other, driving mechanism for said winding-ring, a guide carried by the winding-ring over which the wire to be wound is led from the spool-ring to the core, said guide being disposed in substantially the central plane between the two rings, and means actuated in the movement of the winding-ring adapted to rotate said spool-ring to feed the wire to be wound.

15. In a machine for winding closed cores, the combination with a spool-ring and a winding-ring adapted to be interlinked with a closed core, said rings being mounted to rotate independently, driving mechanism for said winding-ring, a guide-sheave carried by said winding-ring over which the wire to be wound is led from the spool to the core, the spool-ring being rotated as the winding-ring is moved by the pull of the wire to feed the same, a support for said core, and mechanism adapted to rotate said support, whereby the wire applied to said core is guided back and forth through a semicircumference.

16. In a machine for winding closed cores, the combination with a spool-ring and a winding-ring, removable segments whereby said rings may be interlinked with a closed core, said rings being mounted side by side to rotate independently, driving mechanism for said winding-ring, a guide-sheave carried by said winding-ring over which the wire to be wound is led from the spool-ring to the core, the spool-ring being rotated by the pull of the wire as the winding-ring is moved to feed the same, a standard adapted to support the core being wound, a gear-train adapted to rotate said standard back and forth through a semicircumference, and a manually-operated mechanism for operating said gear-train; whereby the wire is evenly applied to the segment of the core being wound.

17. In a machine for winding closed cores, the combination with a spool-ring and a winding-ring adapted to be interlinked with a closed core, said rings being mounted side by side to rotate independently, driving mechanism for said winding-ring, mechanism actuated in the rotation of the winding-ring adapted to guide the wire from the spool-ring to the core, the spool-ring being rotated by the pull of the wire as the winding-ring is moved to feed the same, a frictional drag acting upon said spool-ring, and mechanism adapted to adjust the same to maintain a constant tension on the wire being wound.

18. In a machine for winding closed cores, the combination with a spool-ring adapted to be interlinked with a core in eccentric relation thereto, of means for leading the wire from the spool-ring to the core, and means for taking up slack wire.

19. In a machine for winding closed cores, the combination with a spool-ring adapted to be interlinked with a core of a diameter less than said ring, said core being eccentrically mounted with respect to said ring, a movable guide for leading the wire from the spool-ring to the core, and means for taking up the slack wire.

20. In a machine for winding closed cores, the combination with a spool-ring adapted to be interlinked with a core, said ring being of larger diameter than the core, said ring being disposed eccentrically with respect to the portion of the core embraced thereby, means for pulling the wire from the spool and winding it upon the core, and means for taking up slack wire due to the eccentric relation of the spool and core.

21. In a machine for winding closed cores, the combination with a spool-ring and winding-ring adapted to be interlinked with a core to be wound, said winding-ring being adapted to lead the wire from the spool-ring and wind it upon said core, said rings being eccentrically disposed with respect to said core, and means for taking up slack wire.

22. In a machine for winding closed cores, the combination with a core to be wound, of a spool-ring and winding-ring of larger diameter than said core adapted to be interlinked therewith, said winding-ring being adapted to lead the wire from the spool-ring to wind it upon said core, said rings being eccentrically disposed with respect to said core, and braking mechanism for the spool-ring, adapted to take up slack wire.

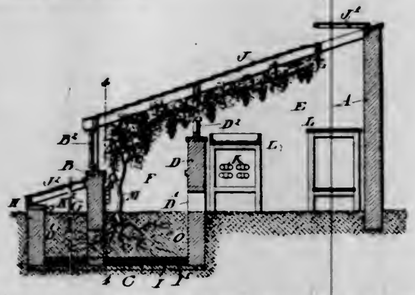
23. A machine for winding closed cores comprising a spool-ring and winding-ring mounted side by side to rotate independently, said rings being adapted to be interlinked with a core, the winding-ring in its rotation pulling wire off said spool-ring and winding the same upon the core.

24. A machine for winding closed cores comprising a spool-ring and winding-ring mounted side by side to rotate independently, said rings being adapted to be interlinked with a core, the winding-ring in its rotation pulling wire off said spool-ring and winding the same upon the core, said rings being eccentrically disposed with respect to said core.

841,306. COMBINED HOTHOUSE, GRAPERY, AND GREENHOUSE. ROBERT BENDER and FREDERICK W. TAYLOR, Philadelphia, Pa.; said Bender assignor to said Taylor. Filed Nov. 25, 1905. Serial No. 289,016.

Claim.—1. A house for growing grapes and flowers having in combination a compartment provided with heating apparatus and adapted for growing flowers a second compartment for housing the grape-vines while they are resting,

a removable partition between the compartments, the removal of which enables the grape-vines to be extended into the first compartment during their period of growth, said second compartment having an opening communicating with the external atmosphere and means for closing said opening when desired.

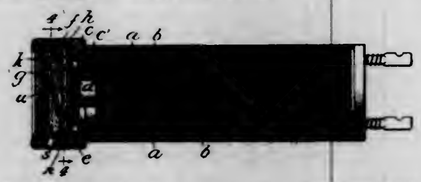


2. A house for growing grapes and flowers having in combination a compartment provided with heating apparatus and adapted for growing flowers, a second compartment for housing the grape-vines while they are resting, a wall separating the lower parts of the two compartments and having closable openings connecting the bottoms thereof and removable sashes for closing the space between said wall and the roof of the house.

3. A house for growing grapes and flowers having in combination a root-growing compartment O, O', lying partly in front of and partly within the front wall of the house, a front wall formed with openings C, in the root-growing compartment, and a removable partition separating the house into flower-growing and grape-housing compartments.

4. A house for growing grapes and flowers having in combination a root-growing compartment O, O', lying partly in front of and partly within the front wall of the house, a front wall formed with openings C, in the root-growing compartment, removable sashes for covering in the outer roof-growing compartment, and a removable partition separating the house into flower-growing and grape-housing compartments.

841,307. ELECTRIC ANNUNCIATOR. CHARLES C. BLAKE, Brookline, Mass., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 29, 1905. Serial No. 289,555.



Claim.—1. In an annunciator, the combination with a receptacle inclosing a signal-target and a colored liquid, and provided with a transparent window through which the taget is visible when in contact therewith, an electromagnet and its inclosing shell, separate from said receptacle, and an armature connected with said signal-target to operate the same.

2. In an annunciator, the combination with an electromagnet and its inclosing shell, of a hermetically-sealed chamber separate from the shell of the magnet, an armature and a colored liquid inclosed in said chamber, a target-signal secured to the armature, and a transparent window in the chamber through which the target is visible when the magnet is deënergized.

3. In an annunciator, the combination with an electromagnet, of a plate upon the rear of which said magnet is mounted, a hermetically-sealed chamber separately mounted on the front of the plate, an armature and a colored liquid inclosed in said chamber, a target secured to the armature, and a transparent window in the chamber through which the target is visible when the magnet is deënergized.

4. In an annunciator, the combination with a signal-target having grooved channels across its face, of a receptacle inclosing said target and provided with a transparent window, a colored fluid in the receptacle, an electromagnet, and an armature connected with the target to operate the same.

5. In an annunciator, the combination with an electromagnet, of a plate upon the rear of which said magnet is mounted, a hermetically-sealed chamber separately mounted on the front of the plate, a signal-target having grooved channels across its face inclosed in said chamber, an opaque liquid in the chamber, an armature secured to the target, and a window in the chamber toward and from which the armature is adapted to move the target.

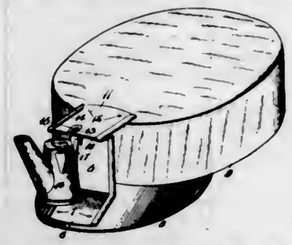
6. In an annunciator, the combination with a hermetically-sealed receptacle, of a fluid composed of benzole colupon the face of which said receptacle is mounted, a fluid composed of colored benzole inclosed in said receptacle, a signal-target movable in the receptacle toward and from the face thereof, an electromagnet separately mounted upon the rear of said plate, and an armature adapted to operate the target.

7. In an annunciator, the combination with a hermetically-sealed receptacle, of a fluid composed of benzole colored with asphaltum inclosed therein, a signal-target mounted in said chamber, an electromagnet mounted independently of said receptacle, and an armature for said magnet connected to the target and adapted to operate the same to control the signal.

8. In an annunciator, the combination with a receptacle inclosing a signal-target and a liquid, and provided with a window through which the target is visible when in proximity thereto, an electromagnet and its inclosing shell, separate from said receptacle, and an armature connected with said signal-target to operate the same.

9. In an annunciator, the combination with a receptacle provided with a window, of a liquid in said receptacle, a signal-target in said liquid, means for preventing the adhesion of the target to the window, an electromagnet, and an armature connected with the target to operate the same.

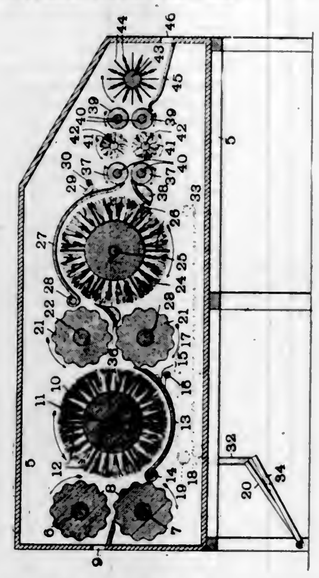
841,308. LAMP-BRACKET. HARRY BRYARLY, Rogers, Ohio. Filed Apr. 18, 1906. Serial No. 312,383.



Claim.—A lamp-bracket comprising a plate having at its upper end a forwardly-extending flange provided with a notch in its front edge, and a perforation in the flange behind the notch, in combination with a lamp having a hook extending through the perforation, the point of the hook bearing on the face of the aforesaid plate, and the shank of the hook extending through the notch, and a spring secured to the lamp and bearing against the point of the hook.

841,309. MACHINE FOR CLEANING BAGS AND THE LIKE. EDWARD L. BUSCHMAN, Orange, N. J. Filed Aug. 24, 1905. Serial No. 275,530.

Claim.—1. In a machine for cleaning bags or the like, the combination with a pair of longitudinally-corrugated rolls, of means for driving said rolls at different speeds, and a rotary brush operating on the material after the said material has passed between said rolls.



2. A machine for cleaning bags or the like comprising two pairs of longitudinally-corrugated rolls, means for driving the rolls of each pair at different speeds, a rotary brush between the pairs of rolls, a second rotary brush beyond the second pair of rolls and concaves under one brush and over the other brush to hold the material to the said brushes.

3. A machine for cleaning bags and the like comprising a pair of longitudinally-corrugated rolls, means for driving the rolls at different speeds, a rotary brush, a concave under the brush to hold the material thereagainst, a second pair of longitudinally-corrugated rolls to which the material is fed by the brush, a guide at the rear of said second pair of rolls to direct the material upwardly, a second rotary brush, a concave thereover, a second guide at the rear of the second brush and a pair of rolls receiving the material from the second guide.

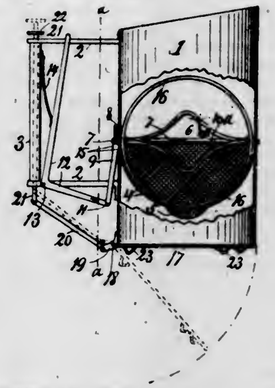
4. A machine for cleaning bags and the like, comprising a pair of longitudinally-fluted rolls, a rotary brush in rear thereof, a pivoted concave thereunder, a treadle mechanism for raising the concave, a second pair of corrugated rolls receiving the material from the brush, a guide beyond the second pair of rolls, a second rotary brush, a second pivoted concave above said brush, and a treadle mechanism for depressing said second concave.

841,310. FLOUR-SIFTER. CARL A. CARLSON, Underwood, N. D. Filed Mar. 19, 1906. Serial No. 306,776.

Claim.—1. A flour-sifter comprising a flour-receptacle with a hemispheric sieve in its lower portion and an agitator having wings moving near the inner surface of the sieve, said sieve having in its bottom a fixed integral pit or reservoir for the sifting.

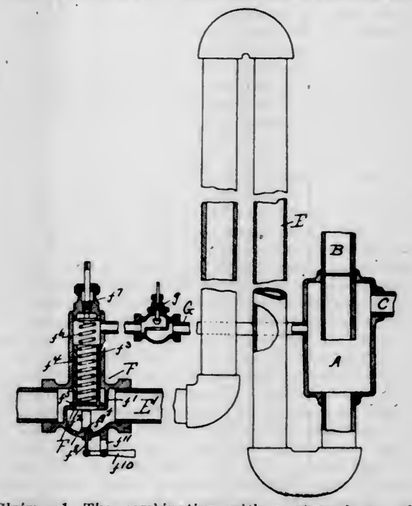
2. A flour-sifter comprising a flour-receptacle with a hemispheric sieve in its lower portion and an agitator having wings moving near the inner surface of the sieve, said sieve having in its bottom a fixed integral pit or reservoir for the sifting, some of said wings being U-shaped or V-shaped so as to gather the siftings speedily into the pit.

3. A flour-sifter comprising a vessel or receptacle, a sieve therein an agitator above the sieve, a shaft fixed in the agitator and journaled in the sides of the vessel, a handle or handhold on the receptacle, a spring-pressed lever fulcrumed within operative reach of the fingers of the hand holding the handle, and operative connection between said spring-and-finger-actuated lever and the shaft of the agitator; said operative connection consisting of a ratchet-wheel fixed on the end of the shaft and two spring-pressed pawls pivotally carried by the finger-operated lever and engaging opposite edges of the wheel and operating alternately to keep the wheel in practically constant rotation.



4. A flour-sifter comprising a vessel or receptacle, a sieve therein an agitator above the sieve, a shaft fixed in the agitator and journaled in the sides of the vessel, a handle or handhold on the receptacle, a spring-pressed lever fulcrumed within operative reach of the fingers of the hand holding the handle, and operative connection between said spring-and-finger-actuated lever and the shaft of the agitator; said operative connection consisting of a ratchet-wheel fixed on the end of the shaft and two spring-pressed pawls pivotally carried by the finger-operated lever and engaging opposite edges of the wheel and operating alternately to keep the wheel in practically constant rotation; said pawls having the guiding-arms 15 straddling the edge of the wheel for the purpose set forth.

841,311. STEAM-LOOP. RUDOLPH CONRADER and ANDREW J. GILLESPIE, Erie, Pa.; said Gillespie assignor to said Conrader. Filed June 18, 1904. Serial No. 213,185.



Claim.—1. The combination with a steam-loop; of a discharge-valve and closed against pressure from the discharge end; and means for balancing the steam-pressure on said valve by subjecting both sides of the valve to said steam-pressure.

2. The combination with a steam-loop, a discharge-valve opening in the direction of movement of the fluid through it, and having the face thereof subjected to the liquid-pressure in the loop, means for balancing the steam-pressure on the valve.

3. The combination with a steam connection, and a steam-loop extending therefrom, of a discharge-valve for the loop balanced when closed against pressure from the discharge end, a counter-pressure device tending to maintain said valve in a closed position, connections between said counter-pressure device and the steam connection.

4. The combination with a steam connection, and a steam-loop extending therefrom, of a discharge-valve for the loop balanced when closed against pressure from the discharge end, a counter-pressure device tending to maintain said valve in a closed position, a steam-passage between the counter-pressure device and the steam connection.

5. The combination with a steam connection; a steam-loop extending therefrom; of a discharge-valve for the loop, said valve opening in the direction of the movement of fluid through it, the face of the valve being subjected to the liquid-pressure of the loop; and a counter-pressure device having substantially the area of the closed space of the valve; and a connection between the counter-pressure device and the steam connection.

6. The combination with a steam connection and steam-loop extending therefrom; of a discharge-valve balanced when closed against pressure from the discharge end; a cylinder opposite said valve; a plunger in said cylinder and arranged to operate against said valve; and a connection between said cylinder and said steam connection.

7. The combination with a steam connection and steam-loop extending therefrom, of a discharge-valve opening in the direction of the movement of fluid through it, and having its face subjected to pressure from the liquid in the loop, a cylinder opposite said valve, a plunger in said cylinder and arranged to operate against said valve, and a connection between said cylinder and said steam connection.

8. In combination with a steam connection and a steam-loop extending therefrom, of a discharge-valve balanced when closed against pressure from the discharge end, said valve opening in the direction of movement of fluid through it, and having its face subjected to the pressure of the liquid in the loop, and means for balancing the steam-pressure on said valve.

9. The combination with a steam connection; a steam-loop extending therefrom; of a discharge-valve for the loop opening in the direction of the movement of the fluid through it, and having its face subjected to the pressure of the liquid in the loop; and a counter-pressure device having substantially the area of the closed space of the valve; a connection between the counter-pressure device and the steam connection; and means for adjustably adding pressure to close the valve.

10. The combination with a steam connection; a steam-loop extending therefrom; of a discharge-valve for the loop opening in the direction of the movement of the fluid through it, and having its face subjected to the pressure of the liquid in the loop; and a counter-pressure device having substantially the area of the closed space of the valve; a connection between the counter-pressure device and the steam connection; and means for adjustably varying the pressure exerted by the pressure device to control the necessary column in the loop to effect the discharge.

11. The combination with a steam connection; a steam-loop extending therefrom; of a discharge-valve for the loop opening in the direction of the movement of the fluid through it, and having its face subjected to the pressure of the liquid in the loop; and a counter-pressure device having substantially the area of the closed space of the valve; a connection between the counter-pressure device and the steam connection; and a spring arranged to operate against the valve to maintain the valve in a closed position until a given height of column in the loop is reached.

12. The combination with a steam connection, a water-column chamber extending therefrom, a discharge-valve for said chamber, a spring tending to close said valve, said spring being opposed to the weight of the column of liquid in the chamber, and means for balancing the steam-pressure on the mechanism.

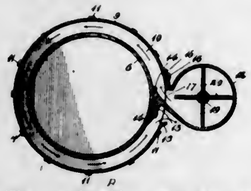
13. The combination with a steam connection; a steam-loop extending therefrom; of a discharge-valve for the loop; and a counter-pressure device having substantially the area of the closed space of the valve; a connection between the counter-pressure device and the steam connection; and a spring arranged to operate against the valve to maintain the valve in a closed position until a given height of column in the loop is reached; and means for varying the force of the spring.

14. The combination with a steam connection and steam-loop extending therefrom; of a discharge-valve; a cylinder opposite said valve; a plunger in said cylinder and arranged to operate against said valve; a connection between said cylinder and said steam connection; and means for manually actuating the valve to open it.

15. The combination with a steam connection; a steam-loop extending therefrom; of a discharge-valve for the loop; and a counter-pressure device having substantially the area of the closed space of the valve; a connection between the counter-pressure device and the steam connection; and a valve in said connection between the pressure device and steam connection.

16. The combination with a steam-loop E; a steam connection A with which said loop is connected; a discharge-valve device F connected with the loop comprising the diaphragm f' having the valve-opening f^2 therein, the valve F′ operating upon said opening and connected with the plunger f^4, and the cylinder f^3 in which the plunger operates; the connection G connecting the connection A with the cylinder f^3; the valve g in said connection; and the stem f^5 for manually opening the valve F′.

841,312. COOLING EXPLOSIVE-ENGINES. ALTON CORNELL and WILLIAM J. SWARTZ, Detroit, Mich. Filed Mar. 6, 1906. Serial No. 304,516.



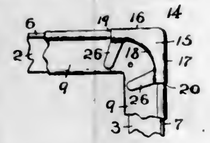
Claim.—1. The combination with an engine-cylinder and a jacket around the same having a longitudinal opening therethrough, of a fan-casing extending along beside the jacket and open on the side adjacent thereto and extending at one edge through the opening in the jacket to connection with the cylinder, and connected at the other edge to the jacket, and a fan within the casing.

2. The combination with an engine-cylinder and a jacket around the same, of a fan-casing extending along beside the jacket, the casing and jacket being of substantially equal length and having communicating openings along their full length, and a fan comprising a shaft extending lengthwise through the casing and having blades thereon.

3. The combination with an engine-cylinder and a jacket around the same having a longitudinal opening therethrough, of a fan-casing comprising a cylinder extending beside and parallel to the jacket, the cylinder having a longitudinal opening, and one edge of the same being extended through the opening in the jacket, dividing the same into two slots one of which communicates with the fan-casing to form an inlet and the other of which forms an outlet, and a fan located in the casing and extending along beside the inlet.

841,313. CORNER-FIXTURE FOR BAG-FRAMES. BENNO VOM EIGEN, Newark, N. J., assignor to Aug. Goertz & Co., a Corporation of New Jersey. Filed June 6, 1906. Serial No. 320,401.

Claim.—1. A corner-fixture for a leather-covered bag-frame section, comprising a triangularly-shaped plate-like body formed with downwardly-extending flanges adapted to be fitted over the corner of the frame-section, two of said flanges being adapted to be arranged upon the outer faces of the frame-section and the third flange being adapted to extend across the inner portion of the corner of the frame-section, and retaining-lugs extending from said third flange for securing the corner-fixture in position, substantially as and for the purposes set forth.



2. A corner-fixture for a leather-covered bag-frame section, comprising a triangularly-shaped plate-like body formed with a pair of downwardly-extending straight flanges and an intermediate downwardly-extending and convexly-curved flange, said straight flanges being adapted to be arranged upon the outer faces of the frame-section and said curved flange being adapted to extend across the inner portion of the corner of the frame-section, substantially as and for the purposes set forth.

3. A corner-fixture for a leather-covered bag-frame section, comprising a triangularly-shaped plate-like body formed with a pair of downwardly-extending straight flanges and an intermediate downwardly-extending and convexly-curved flange, said straight flanges being adapted to be arranged upon the outer faces of the frame-section and said curved flange being adapted to extend across the inner portion of the corner of the frame-section, and means connected with said curved flange for securing the corner-fixture in position, substantially as and for the purposes set forth.

4. A corner-fixture for a leather-covered bag-frame section, comprising a triangularly-shaped plate-like body formed with a pair of downwardly-extending straight flanges and an intermediate downwardly-extending and convexly-curved flange, said straight flanges being adapted to be arranged upon the outer faces of the frame-section and said curved flange being adapted to extend across the inner portion of the corner of the frame-section, and retaining-lugs extending from said curved flange for securing the corner-fixture in position, substantially as and for the purposes set forth.

5. The combination, with a bag-frame section having a right-angled corner, of a corner-fixture fitted over the corner, said fixture comprising a triangularly-shaped plate-like body formed with a pair of downwardly-extending straight flanges arranged about the outer faces of the corner, and an intermediate downwardly-extending and convexly-curved flange extending across the inner angular part of the corner of the frame-section, substantially as and for the purposes set forth.

6. The combination, with a bag-frame section having a right-angled corner, of a corner-fixture fitted over the corner, said fixture comprising a triangularly-shaped plate-like body formed with a pair of downwardly-extending straight flanges arranged about the outer faces of the corner, and an intermediate downwardly-extending and convexly-curved flange extending across the inner angular part of the corner of the frame-section, and means connected with said curved flange in retaining engagement with an inner face portion of the frame-section for securing the corner-fixture in position, substantially as and for the purposes set forth.

7. The combination, with a bag-frame section having a right-angled corner, of a corner-fixture fitted over the corner, said fixture comprising a triangularly-shaped plate-like body formed with a pair of downwardly-extending straight flanges arranged about the outer faces of the corner, and an intermediate downwardly-extending and convexly-curved flange extending across the inner angular part of the corner of the frame-section, retaining-lugs extending from said curved flange in retaining engagement with an inner face portion of the frame-section for securing the corner-fixture in position, substantially as and for the purposes set forth.

8. The combination, with a bag-frame section having a right-angled corner, of a corner-fixture fitted over the corner, said fixture comprising a triangularly-shaped plate-like body formed with a pair of downwardly-extending straight flanges arranged about the outer faces of the corner, an intermediate downwardly-extending and convexly-curved flange extending across the inner angular part of the corner of the frame-section, and an inlay in said frame-section having a rounded corner registering with the convex flange of the corner-fixture, substantially as and for the purposes set forth.

9. The combination, with a bag-frame section having a right-angled corner, of a corner-fixture fitted over the corner, said fixture comprising a triangularly-shaped plate-like body formed with a pair of downwardly-extending straight flanges arranged about the outer faces of the corner, an intermediate downwardly-extending and convexly-curved flange extending across the inner angular part of the corner of the frame-section, and an inlay in said frame-section having a rounded corner registering with the convex flange of the corner-fixture, and means connected with said convex flange and extending beneath said inlay for securing the corner-fixture in position, substantially as and for the purposes set forth.

10. The combination with a bag-frame section having a right-angled corner, of a corner-fixture fitted over the corner, said fixture comprising a triangularly-shaped plate-like body formed with a pair of downwardly-extending straight flanges arranged about the outer faces of the corner, an intermediate downwardly-extending and convexly-curved flange extending across the inner angular part of the corner of the frame-section, and an inlay in said frame-section having a rounded corner registering with the convex flange of the corner-fixture, and retaining-lugs projecting from said convex flange and extending beneath said inlay for securing the corner-fixture in position, substantially as and for the purposes set forth.

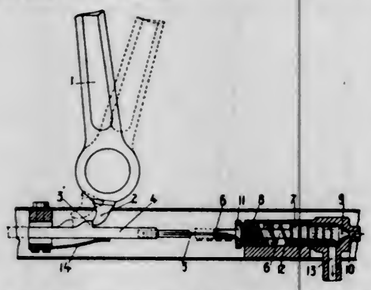
11. The herein-described corner-fixture for a bag-frame section, comprising a triangularly-shaped body-plate having two right-angled straight marginal edges, an intermediate convexly-curved marginal edge, and transversely-extending marginal edge portions connecting the respective ends of said right-angled straight marginal edges with the respective ends of the curved marginal edge, downwardly-projecting straight marginal edges, and a downwardly-projecting curved flange extending from said curved marginal edge, all arranged to provide a receiving-chamber formed with open-end portions between the respective flanges, substantially as and for the purposes set forth.

12. The herein-described corner-fixture for a bag-frame section, comprising a triangularly-shaped plate-like body having two right-angled straight marginal edges, an intermediate convexly-curved marginal edge, and transversely-extending marginal edge portions connecting the respective ends of said right-angled straight marginal edges with the respective ends of the curved marginal edges, downwardly-projecting straight flanges extending from said right-angled straight marginal edges, and a downwardly-projecting curved flange extending from said curved marginal edge, all arranged to provide a receiving-chamber formed with open-end portions between the respective flanges, and holding or retaining lugs extending at right angles from the lower marginal edge of said curved flange, substantially as and for the purposes set forth.

841,314. APPARATUS FOR SUPPLYING WATER OR OTHER LIQUIDS TO BRAKES. GIOVANNI ENRICO, Turin, Italy, assignor to F. I. A. T. Fabbrica Italiana Automobili Torino, Turin, Italy. Filed Aug. 16, 1906. Serial No. 330,815.

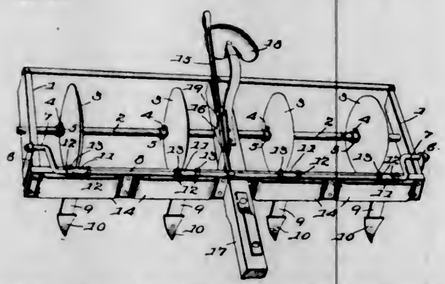
Claim.—1. For supplying water, or other liquid, to brakes especially those of motor-vehicles, the hereinbefore-described arrangement consisting in the provision on the brake-operating lever, or other suitable part, of a finger for bearing on a projection on a valve-rod in such a manner that when the brakes are being put on a valve is

opened so as to permit water, or other liquid, under pressure to pass to brake-shoes.



2. In a brake mechanism, a brake-operating lever, a valve operated by said lever, and a means for supplying liquid to a brake-shoe controlled by said valve.

841,315. DITCHING-MACHINE. ROBERT L. EVERETT, Scottsbluff, Nebr. Filed Feb. 26, 1906. Serial No. 303,026.

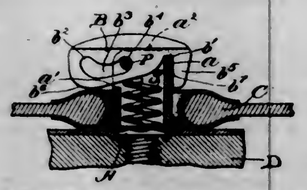


Claim.—1. In a ditching-machine, a rock-shaft, blade-carrying standards pivotally engaging and laterally adjustable upon a crank formed upon said rock-shaft, means for oscillating the rock-shaft, and loops confining and guiding the standards.

2. In a ditching-machine, a rock-shaft having a crank, blade-carrying standards pivotally engaging and laterally adjustable upon said crank, means for oscillating the rock-shaft and for securing it at various adjustments, means for guiding and confining the standards, and furrow-engaging, soil-compacting members supported for rotation in rear of the standards.

3. In a ditching-machine, a rock-shaft, blade-carrying standards pivotally engaging and laterally adjustable upon a crank formed upon said rock-shaft, means for oscillating the rock-shaft, loops confining and guiding the standards, a shaft located behind the plows and laterally-adjustable wheels located upon the last-said shaft.

841,316. CURTAIN-FASTENING. IGNATIUS V. FISTER, Stoneham, Mass. Filed July 21, 1906. Serial No. 327,179.

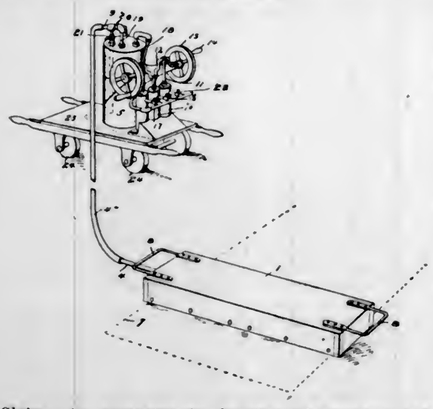


Claim.—1. In a fastener the combination of a post, a head mounted on the post and formed with a notch and a base inclined toward the bottom of the notch, a pin passing transversely through the post, the head provided with a curved slot embracing the pin and approximately parallel to the inclined base at its middle portion, the post being made with a bearing to occupy the notch when the head is transverse to the post, the side of the head farthest from the notch overhanging the post.

2. In a fastening the combination of a post, a head formed with a notch and a base inclined toward the bottom of the notch, a pin passing transversely through the post, the head provided with a curved slot embracing the pin, and approximately parallel to the inclined base at its middle portion, the post being made with a bearing to occupy the notch when the head is transverse to the post, the side of the head farthest from the notch overhanging the post, a socket in the post and a spring therein to bear against the head.

3. In a fastening the combination of a post, formed in box shape having one side of the box cut away to admit a head, the head formed with a notch and a base inclined toward the bottom of the notch, a pin passing transversely through the post, the head provided with a curved slot embracing the pin and approximately parallel to the inclined base at its middle portion the post being made with a bearing to occupy the notch when the head is transverse to the post, the side of the head farthest from the notch overhanging the post.

841,317. TOBACCO-PLANT-BED BURNER. JOHN D. FLOWERS and HENRY F. FLOWERS, Adairville, Ky. Filed Apr. 23, 1906. Serial No. 313,241.

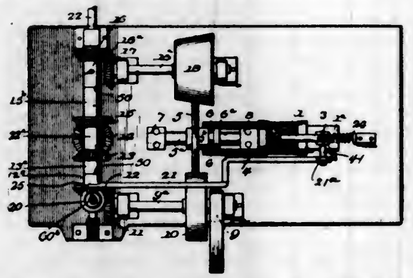


Claim.—An apparatus for burning tobacco-plant beds, comprising a portable base or platform, an oil-reservoir and air-compressing device thereon, said air-compressing apparatus arranged to deliver compressed air into the reservoir above the oil therein, an oil-outlet pipe communicating with the reservoir through the top and opening near the bottom thereof, an air-outlet pipe connecting the top of the reservoir with said outlet for mixing air with the oil, and an independent oil-burner adapted to be moved over the surface of the soil comprising a hood with an open side, and a series of perforated pipes therein whose perforations are so disposed as to direct flames therefrom upon the soil, and a flexible supply-pipe connecting said perforated pipes with the oil-outlet pipe of the reservoir.

841,318. GOVERNOR. SPOTTSWOOD C. FOSTER, Fredericksburg, Va. Filed Sept. 4, 1906. Serial No. 333,151.

Claim.—1. In a governor, the combination of a plain wheel and a cone-wheel, a shiftable friction-wheel therebetween, gears driven oppositely by said plain and cone wheels and having equal friction-surfaces, a motor-controlling shaft having opposite operative connections to said friction-surfaces and adapted to be turned one way or the other according to variations in speed of the said surfaces, and means to shift the friction-wheel to vary the relative speeds of the plain and cone wheels.

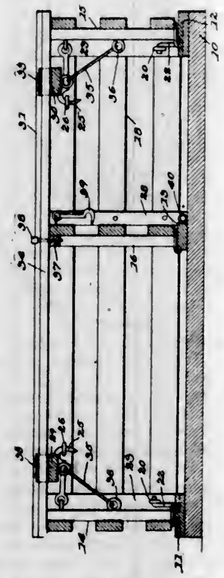
2. In a governor, the combination with a motor-controlling shaft, of frictionally-driven wheels geared to said shaft and tending to turn the same oppositely, the friction-surfaces of the wheels being equal, and automatic means to vary the speed of the respective wheels.



3. In an electric governor, the combination with a motor-controlling shaft, of frictionally-driven wheels geared to said shaft and tending to turn the same oppositely, the friction-surfaces of the wheels being equal, and electric means actuated by the rise and fall of the load to vary the speed of the respective wheels.

4. In an electric governor, in combination, a plain wheel, a cone-wheel, a connecting shiftable friction-wheel therebetween, means actuated by the plain and cone wheels to control the motor according to the respective speeds thereof, a solenoid in circuit with the load-line, and connections between the core of the solenoid and the shiftable wheel adapted to shift the latter according to movement of the core incident to variation in the load.

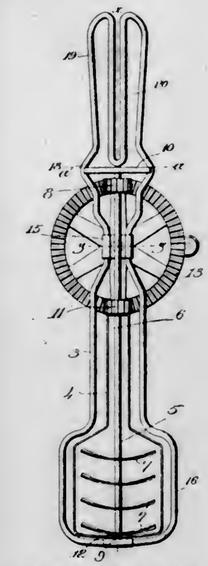
841,319. FOLDING CRATE. JOHN W. FULWILER, Fair Play, Mo. Filed July 20, 1905. Serial No. 270,556.



Claim.—1. A folding crate comprising a bottom, end panels hinged thereto, side panels, interlocking eyebolts secured to the bottom and side panels and constituting connections therebetween, cleats upon the side panels, partition hinged to the bottom and adapted to bear against the cleats, means diagonally disposed within the corners of the crate for separably securing the end and the side panels together, a top having end cleats interposed between the side panels and resting on the securing means, a transverse cleat upon the top, and adapted to overlap the partition to hold it against the cleats on the side panels, and means extending from the top and into the crate for securing the top to the crate.

2. A folding crate comprising a bottom, side and end panels adapted to fold thereon, a partition hinged to the bottom of the crate, cleats upon the side panels adapted to be contacted by the partition, a top consisting of parallel slats and end cleats, said cleats adapted to be seated between the side panels of the crate, straps secured above the end cleats, a longitudinally-removable slat engaging the straps, a transverse cleat upon the top and overhanging the partition to hold it against the cleats on the side panels, means upon the movable slat engaging said transverse cleat for holding the slat against movement, and means for securing the top to the crate.

841,320. EGG-BEATER. JOHN E. HILL, Center Harbor, N. H., assignor to The J. E. Hill Company, Boston, Mass., a Corporation of Massachusetts. Filed July 13, 1906. Serial No. 326,094.



Claim.—1. In an egg-beater, a frame comprising a handle and a loop portion made as an integral structure, a rotary beating member detachably supported by the frame, and means to rotate said member.

2. In an egg-beater, a frame comprising a handle and a loop portion made as an integral structure, a rotary beating member supported by the frame, and means to rotate said member, said rotating means and said beating member both being removable from the frame.

3. In an egg-beater, a frame, two rotary beating members both rotatable about the same axis and detachably carried by the frame, and means to rotate said beating members.

4. In an egg-beater, a frame, two rotary beating members both rotatable about the same axis and detachably carried by the frame, and means to rotate said beating members, said rotating means also being removable from the frame.

5. In an egg-beater, a frame, a bridge-piece carried thereby, and a beating member having a spindle, one end of which is journaled in the frame, and the other end of

which is journaled in the bridge-piece, said frame having a resilient portion to engage normally the end of the spindle and prevent longitudinal movement thereof.

6. In an egg-beater, a frame made from a piece of wire bent to shape, a bridge sustained by said wire, and a beating member having a spindle, one end of which is journaled in the frame, and the other end of which is journaled in the bridge, said frame having a resilient portion standing normally adjacent the bridge to limit longitudinal movement of the beating member, whereby when said portion of the frame is thrown into abnormal position the beating member may be removed.

7. In an egg-beater, a frame made of wire bent to shape, a rotary beating member supported thereby, a driving-gear for rotating said beating member, and a support for the driving-gear, said support having curved arms to embrace the sides of the frame, but being detachable therefrom.

841,321. LABEL. GEORGE E. HOWARD, Washington, D. C., assignor to The Howard Label Company, Washington, D. C. Filed Nov. 29, 1905. Serial No. 289,691.



Claim.—1. A label comprising a medium having label subject-matter thereon corresponding in position and superimposed on its obverse and reverse sides, said subject-matter being produced in reverse on the reverse side in indelible, transferable ink.

2. A label comprising a medium having duplicate subject-matter on its two sides in registry with each other, the subject-matter on one side being in transferable ink.

3. A label comprising an opaque medium having the label subject-matter imprinted in or approximately in registry on its two sides, the printing on one side being in transferable ink.

4. A label printed in ordinary ink on one side and in reverse in indelible transfer-ink on the opposite side, said transfer-ink adapted to leave its imprint upon the surface to which the label is applied and made to adhere by the act of so attaching it.

841,322. THROTTLE-VALVE. EDMUND HOXIE, Everett, Mass. Filed June 13, 1904. Serial No. 212,291.

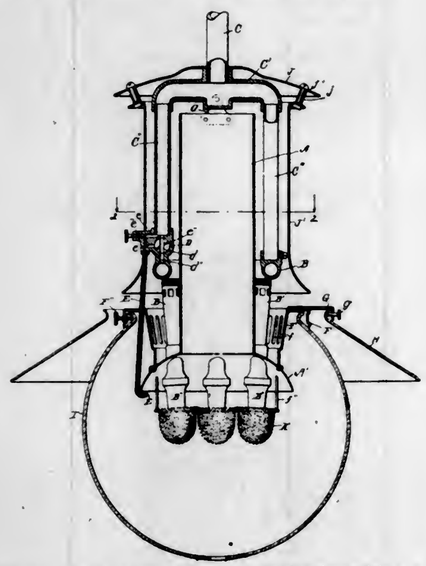


Claim.—1. The combination of a valve adapted to open or close by a combined rotary and longitudinal motion in an inclosing tube, a diagonal slot in said tube; a loosely-fitting sleeve outside of said tube, the ends of said sleeve packed against pressure from the inside, and a pin rigidly secured to said sleeve, passing through the diagonal slot in said tube, to a connection with said valve, so that said valve and sleeve will have a combined rotary and longitudinal motion, substantially as described.

2. The combination of a sleeve, loosely mounted upon a tube containing a valve, said sleeve having packing-glands at the ends, and packing between the said sleeve and tube, with a diagonal slot in the said tube and a pin rigidly secured to said sleeve and extending through the diagonal slot in said tube, to a connection with the said valve, said valve to open and close by a combined rotary and longitudinal motion of said valve, substantially as described.

3. The combination of a tube, having a different inside diameter at each end, a valve-seat at the shoulder, formed by the meeting of said two different diameters, and a diagonal slot in the side of said tube; with a loosely-fitting sleeve outside of said tube, provided with packing-glands and packing, at its ends, and a rigidly-connected pin extending through said slot in tube, forming a connection with a suitable valve seated inside of said tube, to operate said valve, by a combined rotary and longitudinal motion, substantially as described.

841,323. GAS-LAMP. ALFRED H. HUMPHREY, New York, N. Y. Filed Nov. 16, 1905. Serial No. 287,653.



Claim.—1. In a gas-lamp, the combination with a gas-delivery pipe, of a T-coupling member; a chimney having an outwardly-projecting flange at its lower end, secured to said coupling member; a gas-delivery ring arranged about said chimney; connections therefor to said coupling member; downwardly-directed burner-nozzles arranged on said gas-delivery ring; burner-tubes arranged through said flange of said chimney; downwardly-directed burner-tips arranged on the lower ends of said tubes; needle-valves for said burner-nozzles arranged through said gas-delivery ring; a globe; a globe-supporting ring or band having an outwardly and downwardly turned flange on its upper end, resting upon and secured to the flange of said chimney, said band having openings therethrough for the admission of air to the burners; a casing for the upper portion of said chimney, having openings therein through which the valves of said burner-nozzles may be manipulated; and a deflector-plate arranged above said chimney, to which said casing is secured, for the purpose specified.

2. In a gas-lamp, the combination with a gas-delivery pipe, of a T-coupling member; a chimney having an outwardly-projecting flange at its lower end, secured to said coupling member; a gas-delivery ring arranged about said chimney; connections therefor to said coupling member; downwardly-directed burner-nozzles arranged on said gas-delivery ring; burner-tubes arranged through said flange of said chimney; downwardly-directed burner-tips arranged on the lower ends of said tubes; needle-valves for said burner-nozzles arranged through said gas-delivery ring; a globe; a globe-supporting ring or band having an outwardly and downwardly turned flange on its upper end, resting upon and secured to the flange of said chimney, said band having openings therethrough for the admission of air to the burners; and a casing for the upper portion of said chimney, for the purpose specified.

3. In a gas-lamp, the combination of a chimney having an outwardly-projecting flange at its lower end; a gas-delivery ring arranged about said chimney; downwardly-directed burner-nozzles arranged on said gas-delivery ring; burner-tubes arranged through said flange of said chimney; downwardly-directed burner-tip arranged on the lower ends of said tubes; needle-valves for said burner-nozzles arranged through said gas-delivery ring; a globe; a globe-supporting ring or band carried by said chimney, having openings therethrough for the admission of air to the burners; mantles; supports therefor arranged through said flange of said chimney; means for securing said mantle-supports to said globe-supports; and a casing for the upper portion of said chimney, for the purpose specified.

4. In a gas-lamp, the combination of a chimney having an outwardly-projecting flange at its lower end; a gas-delivery ring arranged about said chimney; downwardly-directed burner-nozzles arranged on said gas-delivery ring; burner-tubes arranged through said flange of said chimney; downwardly-directed burner-tips arranged on the lower ends of said tubes; needle-valves for said burner-nozzles arranged through said gas-delivery ring; a globe; a globe-supporting ring or band carried by said chimney, having openings therethrough for the admission of air to the burners; and a casing for the upper portion of said chimney, for the purpose specified.

5. In a gas-lamp, the combination of a chimney having an outwardly-projecting flange at its lower end; a gas-delivery ring arranged about said chimney; downwardly-directed burner-nozzles arranged on said gas-delivery ring; burner-tubes arranged through said flange of said chimney; downwardly-directed burner-tips arranged on the lower ends of said tubes; needle-valves for said burner-nozzles arranged through said gas-delivery ring; a globe; and a globe-supporting ring or band carried by, said chimney, having openings therethrough for the admission of air to the burners, for the purpose specified.

6. In a gas-lamp, the combination of a chimney having an outwardly-projecting flange at its lower end; a gas-delivery ring arranged about said chimney; downwardly-directed burner-nozzles arranged on said gas-delivery ring; burner-tubes arranged through said flange of said chimney; downwardly-directed burner-tips arranged on the lower ends of said tubes; needle-valves for said burner-nozzles arranged through said gas-delivery ring; a globe; a globe-supporting ring or band carried by said chimney, having openings therethrough for the admission of air to the burners; mantles; supports therefor arranged through the flange of said chimney; and means for securing said mantle-supports to said globe-supports, for the purpose specified.

7. In a gas-lamp, the combination of a chimney having an outwardly-projecting flange at its lower end; a gas-delivery ring arranged about said chimney; downwardly-directed burner-nozzles arranged on said gas-delivery ring; burner-tubes arranged through said flange of said chimney; downwardly-directed burner-tips arranged on the lower ends of said tubes; needle-valves for said burner-nozzles arranged through said gas-delivery ring, for the purpose specified.

8. In a gas-lamp, the combination of a chimney having an outwardly-projecting flange at its lower end; a gas-delivery ring arranged about said chimney; inverted burners arranged through said flange; a globe; a globe-supporting ring or band carried by said chimney; mantles; supports therefor arranged through said flange of said chimneys; and means for securing said mantle-supports to said globe-supports; for the purpose specified.

9. In a gas-lamp, the combination of a chimney having an outwardly-projecting flange at its lower end; a gas-delivery ring arranged about said chimney; inverted burners arranged through said flange; a globe; and a globe-supporting ring or band carried by said chimney, for the purpose specified.

10. In a gas-lamp, the combination of a chimney having an outwardly-projecting flange at its lower end; a gas-delivery ring arranged about said chimney; inverted burners arranged through said flange; and mantles for said burner, for the purpose specified.

11. In a gas-lamp, the combination with a gas-delivery pipe of a chimney having an outwardly-projecting flange at its lower end; an inverted burner arranged through said flange; a mantle therefor; a globe; and a globe-supporting ring carried by said chimney, for the purpose specified.

12. In a gas-lamp, the combination with a gas-delivery pipe of a chimney having an outwardly-projecting flange at its lower end; an inverted burner through said flange; and a mantle for said burner, for the purpose specified.

13. In a gas-lamp, the combination with a gas-delivery pipe, of an unobstructed draft-chimney; an inverted burner arranged through the wall of said chimney, with its tip below and its valves outside of the same; a mantle for said burner; a globe adapted to inclose said burner; and a globe-supporting ring carried by said chimney, for the purpose specified.

14. In a gas-lamp, the combination with a gas-delivery pipe, of an unobstructed draft-chimney; an inverted burner arranged through the wall of said chimney, with its tip below and its valves outside of the same; and a mantle for said burner, for the purpose specified.

15. In a gas-lamp, the combination with a gas-delivery pipe, of a gas-delivery ring connected thereto; a chimney arranged through said ring; a group of inverted burners arranged through the wall of said chimney, connected to said ring; mantles for said burners; and a valve for said gas-supply pipe located adjacent to said ring, for the purpose specified.

16. In a gas-lamp, the combination with a gas-supply pipe, of a gas-delivery ring connected thereto; a chimney arranged through said ring; a group of inverted burners arranged through the wall of said chimney, connected to said ring; and mantles for said burners, for the purpose specified.

17. In a gas-lamp, the combination with a gas-delivery pipe, of a chimney having a flange at its lower end, of an inverted burner arranged through said flange; a mantle therefor; and a depending mantle-support arranged through said flange, for the purpose specified.

18. In a gas-lamp, the combination of a central draft-chimney provided with an outwardly-projecting flange at the bottom; a gas-supply; a plurality of inverted burners grouped about said chimney, arranged through said flange, with their tips below and their valves without the same, coacting for the purpose specified.

19. In a gas-lamp, the combination of a central chimney having a downwardly and outwardly projecting flange at the bottom; inverted burners, the tips of which are arranged beneath the said flange with their valves above the same outside of the chimney; mantles for said burners; and a supporting-ring secured to said flange for the attachment of the globe and perforated for the admission of air downwardly to the said burner-tips, coacting for the purpose specified.

20. In a gas-lamp, the combination with a gas-delivery pipe, of a central unobstructed draft-chimney; a plurality of inverted burners having mantles grouped about said chimney and arranged through the wall thereof, with the mantles beneath the bottom of the chimney and their controlling-valves outside thereof, coacting for the purpose specified.

21. In a gas-lamp, the combination with a gas-delivery

pipe of an unobstructed draft-chimney provided with an outwardly-projecting flange at its lower end; an inverted burner having a mantle arranged through said flange of said chimney, with its tip and mantle below the bottom of the chimney and the controlling-valve thereof arranged outside of the chimney, coacting for the purpose specified.

22. In a gas-lamp, the combination with a gas-delivery pipe, of an unobstructed draft-chimney; and an inverted burner arranged through the wall of the chimney, with its tip beneath the bottom of the chimney and the controlling-valve outside thereof, coacting for the purpose specified.

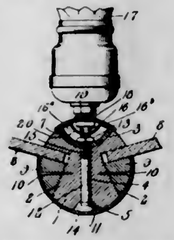
23. In a gas-lamp, the combination of a central chimney; a tubular ring surrounding the same for supplying gas; downwardly-projecting burners secured to said ring, the tips of which project beneath the bottom of the chimney; mantles for said chimney; a globe-supporting ring secured and carried by said chimney; and an outer casing around the upper part of said chimney and connections, coacting for the purpose specified.

24. In a gas-lamp, the combination of a chimney; a plurality of inverted gas-burners grouped about the same; an inverted pilot-burner having a laterally-directed tip; a gas-supply pipe to which said pilot is connected; and a valve for controlling the supply of gas to the burner, having a main passage and an auxiliary or pilot passage, said pilot-passage being arranged so that it delivers to the pilot during the opening movement of the main valve, whereby the pilot is flashed to ignite the main burners, for the purpose specified.

25. In a gas-lamp, the combination of the main burner; a pilot-light; a gas-supply valve having a main passage and an auxiliary passage arranged to deliver to the pilot only during the opening movement of the valve for opening the main passage, whereby the pilot is flashed; a by-pass for said pilot; a ratchet on said valve; a pivoted lever; a pawl on said lever arranged to coact with said ratchet; and a spring for returning said lever to its initial position, for the purpose specified.

26. In a gas-lamp, the combination with a depending gas-supply pipe; a chimney supported thereon; an inverted burner arranged through the wall of said chimney, with its tip below, and valves outside of the same; a mantle for said burner; and an outer casing suitably mounted on said gas-supply pipe, for the purpose specified.

841,324. CORNER-POST CONSTRUCTION FOR SHOW-WINDOWS. RALPH H. JONES, Pittsburg, Pa., assignor to James F. Burke, Pittsburg, Pa. Filed June 29, 1906. Serial No. 324,003.



Claim.—1. A support of the character described comprising a body portion, an outer trim therefor, a reinforcing member for said body portion, and means carried by the trim and extending through the body portion and said member for clamping the reinforcing member to the body portion and the body portion to the trim.

2. A support of the character described comprising a body portion, an outer trim therefor, a reinforcing member for said body portion, means carried by the trim and extending through the body portion and, said member for clamping the reinforcing member to the body portion and the body portion to the trim, an inner trim, and means for connecting the inner trim to said reinforcing member.

3. A support of the character described comprising a body portion having a plurality of bores with countersunk outer ends, an outer trim for the body portion, a reinforcing member for said body portion, headed bolts formed integral at one end with the inner face of the trim, extending through said bores, and reinforcing member and having the heads thereof seated in the countersunk ends of the bores, and means mounted upon the free end of said bolts for clamping the reinforcing member to said body portion and the said body portion to said trim.

4. A support of the character described comprising a body portion having a plurality of bores with countersunk outer ends, an outer trim for the body portion, a reinforcing member for said body portion, headed bolts formed integral at one end with the inner face of the trim, extending through said bores and reinforcing member and having the heads thereof seated in the countedsunk ends of the bores, means mounted upon the free end of said bolts for clamping the reinforcing member to said body portion and the same body portion to said trim, an inner trim, and means for connecting the inner trim to said reinforcing member.

5. A support of the character described comprising a body portion, an outer trim therefor, a reinforcing member for said body portion, means carried by the trim and extending through the body portion and said member for clamping the reinforcing member to the body portion and the body portion to the trim, an inner trim means for connecting the inner trim to said reinforcing member, said inner trim and said member constituting a pocket for leading-in wires, and means carried by the inner trim for coupling a lamp-socket thereto.

6. A support of the character described comprising a body portion having a plurality of bores with countersunk outer ends, an outer trim for the body portion, a reinforcing member for said body portion, headed bolts formed integral at one end with the inner face of the trim, extending through said bores and reinforcing member and having the heads thereof seated in the countersunk ends of the bores, means mounted upon the free end of said bolts for clamping the reinforcing member to said body portion and the said body portion to said trim, an inner trim, means for connecting the inner trim to said reinforcing member, said inner trim and said member constituting a pocket for leading-in wires and means carried by the inner trim for coupling a lamp-socket thereto.

7. A support of the character described comprising a body portion, an outer trim therefor, a reinforcing member for said body portion, means carried by the trim and extending through the body portion and said member for clamping the reinforcing member to the body portion and the body portion to the trim, an inner trim, means for connecting the inner trim to said reinforcing member, said inner trim and said member consituting a pocket for leading-in wires, and means carried by the inner trim for coupling a lamp-socket thereto, and an insulating material secured to the inner face of said inner trim.

8. A support of the character described comprising a body portion having a plurality of bores with countersunk outer ends, an outer trim for the body portion, a reinforcing member for said body portion, headed bolts formed integral at one end with the inner face of the trim, extending trough said bores and reinforcing member and having the heads thereof seated in the countersunk ends of the bores, means mounted upon the free end of said bolts for clampinng the reinforcing member to said body portion and the said body portion to said trim, an inner trim, means for connecting the inner trim to said reinforcing member, said inner trim and said member constituting a pocket for leading-in wires, and means carried by the inner trim for coupling a lamp-socket thereto, and an insulating material secured to the inner face of said inner trim.

9. A support of the character described comprising a body portion having a plurality of bores and a curved recess in its inner side, said bores having a countersunk outer end, an outer trim for the body portion, a reinforcing member seated in said recess, headed bolts formed integral at one end with the inner face of the trim, extending through said bores and member and having the heads thereof seated in the countersunk ends of the bores, and means mounted upon the free end of said bolts for clamping the member to the body portion and the body portion to said trim.

10. A support of the character described comprising a body portion having a plurality of bores and a curved recess in its inner side, said bores having a countersunk outer end, an outer trim for the body portion, a reinforcing member seated in said recess, headed bolts formed integral at one end with the inner face of the trim, extending through said bores and member and having the heads thereof seated in the countersunk ends of the bores, means mounted upon the free end of said bolts for clamping the member to the body portion and the body portion to said trim, an inner trim, and means for connecting the inner trim to said reinforcing members.

11. A support of the character described comprising a body portion having a plurality of bores and a curved recess in its inner side, said bores having a countersunk outer end, an outer trim for the body portion, a reinforcing member seated in said recess, headed bolts formed integral at one end with the inner face of the trim, extending through said bores and member and having the heads thereof seated in the countersunk ends of the bores, means mounted upon the free end of said bolts for clamping the member to the body portion and the body portion to said trim, an inner trim, and means for connecting the inner trim to said reinforcing member, said inner trim and said member constituting a pocket for leading-in wires, and means carried by the trim for coupling a lamp-socket thereto.

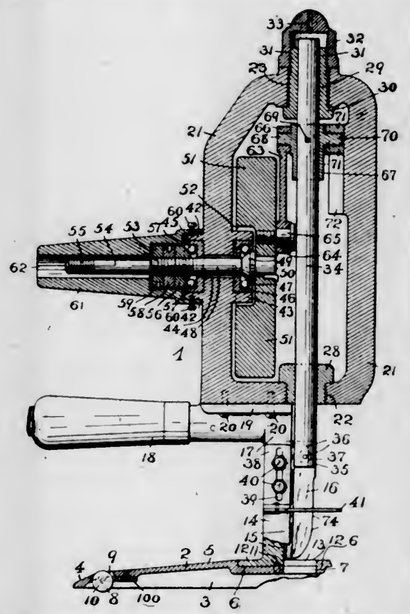
12. A support of the character described comprising a body portion having a plurality of bores and a curved recess in its inner side, said bores having a countersunk outer end, an outer trim for the body portion, a reinforcing member seated in said recess, headed bolts formed integral at one end with the inner face of the trim, extending through said bores and member and having the heads thereof seated in the countersunk ends of the bores, and means mounted upon the free end of said bolts for clamping the member to the body portion and the body portion to said trim, an inner trim, means for connecting the inner trim to said reinforcing member, said inner trim and said member constituting a pocket for leading-in wires, and means carried by the trim for coupling a lamp-socket thereto, and an insulating material secured to the inner face of said inner trim.

841,325. CLOTH-CUTTING MACHINE. WILLIAM H. KING, Newark, N. J., assignor to Simplex Cutting Machine Co., a Corporation of New Jersey. Filed Oct. 18, 1906. Serial No. 339,482.

Claim.—1. A cloth-cutting machine comprising a base, reciprocatory rod and knife-blade, a frame carried upon said base, a cross-head movably arranged in said frame, said cross-head being connected with said rod, a tubular element extending rearwardly from said frame, said element serving as a handle, ball-bearings connected with said frame, a spindle revolving within said element and said ball-bearings, said spindle having a portion extending from one of said ball-bearings, a crank-disk upon said end of the spindle, and a crank-arm between said disk and said cross-head, a rearwardly-projecting handle extending from said frame, and rollers connected with said base, substantially as and for the purposes set forth.

2. A cloth-cutting machine, comprising a base, a reciprocatory rod and knife-blade, a post on said base, a yoke-shaped frame upon said post, a side plate detachably secured upon each side of said yoke-shaped frame, said frame and side plates forming a chamber, mechanism concealed within said chamber for actuating said rod, a tubular element extending rearwardly from said frame, said element serving as a handle, a spindle revolving within said tubular element and said ball-bearings, said spindle having a portion extending from one of said ball-bearings, a crank-disk upon said end of the spindle, and a crank-arm between said disk and said cross-head, substantially as and for the purposes set forth.

3. A cloth-cutting machine, comprising a base, a reciprocatory rod and knife-blade, a post on said base, a yoke-shaped frame upon said post, a side plate detachably secured upon each side of said yoke-shaped frame, said frame and side plates forming a chamber, mechanism concealed within said chamber for actuating said rod, a tubular element extending rearwardly from said frame, said element serving as a handle, a spindle concealed and revolving within said tubular element for driving said rod-actuating mechanism, substantially as and for the purposes set forth.



4. A cloth-cutting machine, comprising a base, a reciprocatory rod and knife-blade, a post on said base, a yoke-shaped frame upon said post, a side plate detachably secured upon each side of said yoke-shaped frame, said frame and side plates forming a chamber, mechanism concealed within said chamber for actuating said rod, a tubular element extending rearwardly from said frame, said element serving as a handle, a spindle concealed and revolving within said tubular element for driving said rod-actuating mechanism, a rearwardly-projecting handle extending from said frame, and rollers connected with said base, substantially as and for the purposes set forth.

5. A cloth-cutting machine, comprising a base, a reciprocatory rod and knife-blade, a post on said base, a yoke-shaped frame upon said post, a side plate detachably secured upon each side of said yoke-shaped frame, said frame and side plates forming a chamber, tubular members in the lower and upper portions of said frame in which said rod reciprocates, a cross-head movably arranged within said chamber, said cross-head being connected with said rod, a tubular element extending rearwardly from said frame, said element serving as a handle, ball-bearings connected with said frame, a spindle revolving within said element and said ball-bearings, said spindle having a portion extending from one of said ball-bearings in to said chamber, a crank-disk upon said end of the spindle, and a crank-arm between said disk and said cross-head, all arranged that the movable parts of the machine are concealed within said chamber and within said tubular element, substantially as and for the purposes set forth.

6. A cloth-cutting machine, comprising a base, a reciprocatory rod and knife-blade, a post on said base, a yoke-shaped frame upon said post, a side plate detachably secured upon each side of said yoke-shaped frame, said frame and side plates forming a chamber, tubular members in the lower and upper portions of said frame in which said rod reciprocates, a cross-head movably arranged with-

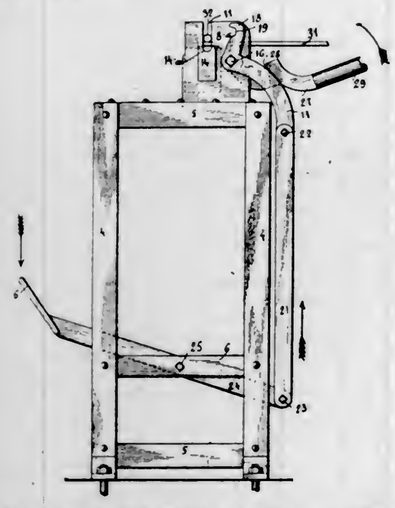
in said chamber, said cross-head being connected with said rod, a tubular element extending rearwardly from said frame, said element serving as a handle, ball-bearings connected with said frame, a spindle revolving within said element and said ball-bearings, said spindle having a portion extending from one of said ball-bearings into said chamber, a crank-disk upon said end of the spindle, and a crank-arm between said disk and said cross-head, all arranged that the movable parts of the machine are concealed within said chamber and within said tubular element, and a rearwardly-projecting handle extending from said frame, substantially as and for the purposes set forth.

7. A cloth-cutting machine, comprising a base, a reciprocatory rod and knife-blade, a post on said base, a yoke shaped frame upon said post, a side plate detachably secured upon each side of said yoke-shaped frame, said frame and side plates forming a chamber, tubular members in the lower and upper portions of said frame in which said rod reciprocates, a cross-head movably arranged within said chamber, said cross-head being connected with said rod, a tubular element extending rearwardly from said frame, said element serving as a handle, ball-bearings connected with said frame, a spindle revolving within said element and said ball-bearings, said spindle having a portion extending from one of said ball-bearings into said chamber, a crank-disk upon said end of the spindle, and a crank-arm between said disk and said cross-head, all arranged that the movable parts of the machine are concealed within said chamber and within said tubular element, a rearwardly-projecting handle extending from said frame, and rollers connected with said base, substantially as and for the purposes set forth.

8. The herein-described cloth-cutting machine comprising a base formed with a central depression, a plate secured in said depression, and a post extending upwardly from said plate, a yoke-shaped frame on said post, a side plate detachably secured upon each side of said frame, said frame and side plates forming a chamber, the upper and lower portions of said frame being provided with holes, a tubular member in the hole of the lower portion of said frame, and a tubular member in the hole of the upper portion of said frame, said last-mentioned tubular member being provided with a screw-threaded portion extending above the frame, a screw-socketed nut upon the screw-threaded portion of said last-mentioned tubular member, a reciprocatory rod arranged in said tubular members, said rod extending beneath said frame, a cutter-blade upon the lower end of said rod, a guiding portion within said chamber and connected with said frame, a cross-head movably arranged in said guiding portion, said cross-head being connected with said rod, tubular hubs on opposite sides of said frame, a ball-bearing in each hub, a tubular element extending rearwardly from one of said hubs, a spindle revolving within said element and said ball-bearings, said spindle having a portion extending into said chamber, a crank-disk upon said end of the spindle, and a crank-arm between said disk and said cross-head, all arranged that the movable parts of the machine are concealed within said chamber and within said tubular element, substantially as and for the purposes set forth.

9. The herein-described cloth-cutting machine comprising a base formed with a central depression, a plate secured in said depression, and a post extending upwardly from said plate, a yoke-shaped frame on said post, a side plate detachably secured upon each side of said frame, said frame and side plates forming a chamber, the upper and lower portions of said frame being provided with holes, a tubular member in the hole of the lower portion of said frame, and a tubular member in the hole of the upper portion of said frame, said last-mentioned tubular member being provided with a screw-threaded portion extending above the frame, a screw-socketed nut upon the screw-threaded portion of said last-mentioned tubular member, a reciprocatory rod arranged in said tubular members, said rod extending beneath said frame, a cutter-blade upon the lower end of said rod, a guiding portion within said chamber and connected with said frame, a cross-head movably arranged in said guiding portion, said cross-head being connected with said rod, tubular hubs on opposite sides of said frame, a ball-bearing in each hub, a tubular element extending rearwardly from one of said hubs, a spindle revolving within said element and said ball-bearings, said spindle having a portion extending into said chamber, a crank-disk upon said end of the spindle, and a crank-arm between said disk and said cross-head, all arranged that the movable parts of the machine are concealed within said chamber and within said tubular element, a rearwardly-projecting handle extending from said frame, and rollers connected with said base, substantially as and for the purposes set forth.

841,326. MACHINE FOR SHAPING WROUGHT-IRON. CARL E. KNUTSEN, New York, N. Y., assignor of one-half to Ole M. Knutsen, Brooklyn, N. Y. Filed June 4, 1906. Serial No. 320,168.



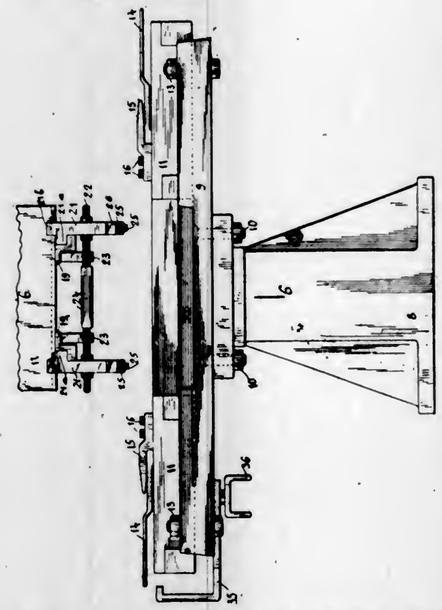
Claim.—1. An iron-shaping machine, comprising a frame, a grooved shaping-block and slotted flanges, one on each side of the shaping-block, set upon the frame; grip-jaws and a movable shaping-tool fulcrumed to the flanges; and means for operating the grip-jaws to close upon and to hold a pin when set in the slots of the flanges, substantially as herein shown and described.

2. An iron-shaping machine, comprising a frame, a flanged socket set upon the frame; a grooved shaping-block set in the socket, slots in the flanges in line with the groove of the shaping-block; grip-jaws and a shaping-block fulcrumed to the socket, and means for operating the grip-jaws to close upon and hold a pin when set in the slots of the flanges, substantially as herein shown and described.

3. An iron-shaping machine, comprising a frame, a flanged socket set upon the frame; a grooved shaping-block set in the socket, slots in the flanges in line with the groove of the shaping-block; grooved brackets set on the flanges underneath the slots, grip-jaws and a shaping-block fulcrumed to the socket, and means for operating the grip-jaws to close upon and hold a pin when set in the slots of the flanges, substantially as herein shown and described.

4. An iron-shaping machine, comprising a frame, a grooved shaping-block and slotted flanges, one on each side of the shaping-block, set upon the frame; grip-jaws and a shaping-tool fulcrumed to the flanges; a treadle, fulcrumed to the frame and a link pivoted to the treadle and to the grip-jaws, substantially as herein shown and described.

841,327. IRON-SHAPING MACHINE. CARL E. KNUTSEN and OLE M. KNUTSEN, New York, N. Y. Filed June 4, 1906. Serial No. 320,169.



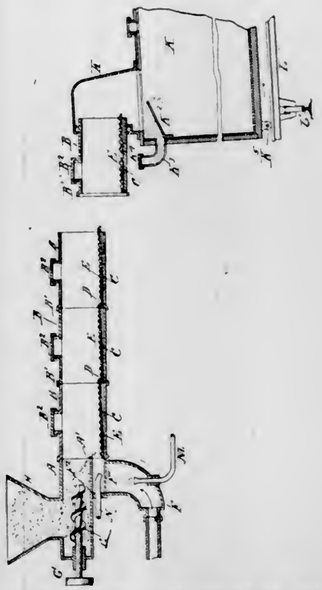
Claim.—1. A machine for twisting bridle-irons comprising a frame, a flanged bed, side blocks adjustably secured to the bed; the bed and the blocks being molded conformably to the shape into which the bridle-iron is to be twisted; means for firmly holding the iron to be twisted against the bed and against the side blocks; a plunger and a die-frame; means for movably supporting the die-frame on the plunger; dies affixed to the die-frame and means for operating the plunger; substantially as herein shown and described.

2. A machine for twisting bridle-irons comprising a frame, a flanged bed, side blocks adjustably secured to the bed; the bed and the blocks being molded conformably to the shape into which the bridle-iron is to be twisted; turn-bolts pivoted to the bed and catches secured to the side blocks in position to engage the turn-bolts; a plunger and a die-frame; means for movably supporting the die-frame on the plunger; dies affixed to the die-frame and means for operating the plunger; substantially as herein shown and described.

3. A machine for twisting bridle-irons comprising a frame, a flanged bed, side blocks adjustably secured to the bed; the bed and the blocks being molded conformably to the shape into which the bridle-iron is to be twisted; means for firmly holding the iron to be twisted, against the bed and against the side blocks; a plunger; brackets adjustably affixed to the plunger; a die-frame movably supported upon the brackets; dies affixed to the die-frame and means for operating the plunger; substantially as herein shown and described.

4. The combination in a machine for twisting bridle-irons, comprising a frame, a flanged bed, side blocks adjustably secured to the bed; the bed and the blocks being molded conformably to the shape into which the bridle-iron is to be twisted; a plunger and means for reciprocating the plunger, of means, substantially as herein shown and described, for movably connecting dies with the plunger.

841,328. ORE CHLORINATION. WINTWORTH V. LANDER, Newton, Mass. Filed Apr. 27, 1906. Serial No. 313,922.



Claim.—1. The process of ore chlorination, which consists in mingling a stream of ore with a stream of chlorinated water, conveying the ore and water as one stream, retarding the insoluble concentrates, collecting the solution and recovering the values therefrom.

2. The process of ore chlorination, which consists in mingling a stream of ore with a stream of chlorinated water, conveying the ore and water as one stream through an atmosphere of chlorin gas, retarding the insoluble concentrates, collecting the solution, and recovering the values therefrom.

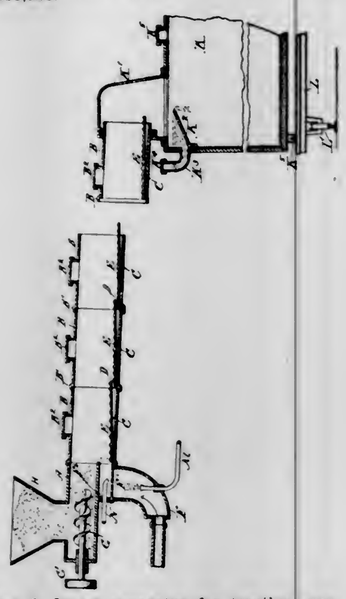
3. The process of ore chlorination, which consists in mingling a stream of ore with a stream of chlorinated water, conveying the ore and water as one stream, agitating the stream, retarding the insoluble concentrates, collecting the solution, and recovering the values therefrom.

4. The process of ore chlorination, which consists in mingling a stream of ore with a stream of chlorinated water, conveying the ore and water as one stream through an atmosphere of chlorin gas, agitating the stream, retarding the insoluble concentrates, collecting the solution, and recovering the values therefrom.

5. The process of ore chlorination, which consists in

mingling a stream of ore with a stream of chlorinated water, conveying the ore and water as one stream, rechlorinating the water during the progress of the combined stream, retarding the insoluble concentrates, collecting the solution, and recovering the values therefrom.

841,329. CHLORINATING APPARATUS. WINTWORTH V. LANDER, Newton, Mass. Filed Apr. 27, 1906. Serial No. 313,923.



Claim.—1. In an apparatus for treating ores, a riffle-pipe, riffles therein, a head-chamber, an ore-hopper communicating therewith, the head-chamber provided with an ore-delivering mouth communicating with the head of the riffle-pipe, a duct communicating with the head of the riffle-pipe, to deliver liquid to and upon the riffle, a receiving-tank into which the foot of the riffle-pipe delivers, said tank and pipe forming a gas-tight system, and said chamber adapted to be filled with ore and to be made gas-tight thereby.

2. In an apparatus for treating ores, a riffle-pipe composed of pipe-sections, a riffle in each section projecting therefrom at the foot thereof to overhang the head of the riffle of the next section, a head-chamber, an ore-hopper communicating therewith, the head-chamber provided with an ore-delivering mouth communicating with the head of the riffle-pipe, a duct communicating with the head of the riffle-pipe, to deliver liquid to and upon the riffle, a receiving-tank into which the foot of the riffle-pipe delivers, said tank and pipe forming a gas-tight system, and said head-chamber adapted to be filled with ore and to be made gas-tight thereby.

3. In an apparatus for treating ores, a riffle-pipe, riffles therein, a head-chamber, an ore-hopper communicating therewith, the head-chamber provided with an ore-delivering mouth communicating with the head of the riffle-pipe, a duct communicating with the head of the riffle-pipe, to deliver liquid to and upon the riffle, a receiving-tank, a hood thereon fitting the foot of the riffle-pipe, said tank, pipe, and hood forming a gas-tight system, and said head-chamber adapted to be filled with ore and to be made gas-tight thereby.

4. In an apparatus for treating ores, a riffle-pipe, riffles therein, a head-chamber, an ore-hopper communicating therewith, the head-chamber provided with an ore-delivering mouth communicating with the head of the riffle-pipe, a duct communicating with the head of the riffle-pipe, to deliver liquid to and upon the riffle, a receiving-tank into which the foot of the riffle-pipe delivers, said tank, pipe and head-chamber closed to form a continuous gas-tight system.

5. In an apparatus for treating ores, a riffle-pipe composed of pipe-sections, a riffle in each section projecting therefrom at the foot thereof to overhang the head of the riffle of the next section, a head-chamber, an ore-hopper communicating therewith, the head-chamber provided with an ore-delivering mouth communicating with the head of the riffle-pipe, a duct communicating with the head of the riffle-pipe, to deliver liquid to and upon the riffle, a receiving-tank, into which the foot of the riffle-pipe delivers, said tank, pipe-sections, and head-chamber closed to form a continuous gas-tight system.

6. In an apparatus for treating ores, a riffle-pipe composed of pipe-sections, a riffle in each section projecting therefrom at the foot thereof to overhang the head of the riffle of the next section, hand-holes and covers therefor in the pipe-sections, a head-chamber, an ore-hopper communicating therewith, the head-chamber provided with an ore-delivering mouth communicating with the head of the riffle-pipe, a duct communicating with the head of the riffle-pipe, to deliver liquid to and upon the riffle, a receiving-tank into which the foot of the riffle-pipe delivers, said tank and pipe forming a gas-tight system, and said head-chamber adapted to be filled with ore and to be made gas-tight thereby.

7. In an apparatus for treating ores, a riffle-pipe, riffles therein, a head-chamber, an ore-hopper communicating therewith, the head-chamber provided with an ore-delivering mouth communicating with the head of the riffle-pipe, a duct communicating with the head of the riffle-pipe, to deliver liquid to and upon the riffle, a receiving-pipe into which the foot of the riffle-pipe delivers, said tank and pipe forming a gas-tight system, and said head-chamber adapted to be filled with ore and to be made gas-tight thereby, the tank movably mounted to be removed from the foot of the riffle-pipe.

8. In an apparatus for treating ores, a riffle-pipe, riffles therein, a head-chamber, an ore-hopper communicating therewith, the head-chamber provided with an ore-delivering mouth communicating with the head of the riffle-pipe, a duct communicating with the head of the riffle-pipe, to deliver liquid to and upon the riffle, a receiving-tank, a hood thereon fitting the foot of the riffle-pipe, said tank, pipe and hood forming a gas-tight system, and said head-chamber adapted to be filled with ore and to be made gas-tight thereby, the tank movably mounted to be removed with its hood from the foot of the riffle-pipe.

9. In an apparatus for treating ores, a riffle-pipe, riffles therein, a head-chamber, an ore-hopper communicating therewith, a dry weir projecting into the head of the riffle-pipe from the head-chamber, to deliver ore to the riffles, means to feed ore through the head-chamber, a duct communicating with the riffle-pipe below the dry weir to deliver liquid to the riffle, a receiving-tank into which the foot of the riffle-pipe delivers, said tank, pipe and head-chamber closed to form a continuous gas-tight system.

10. In an apparatus for treating ores, a riffle-pipe, riffles therein, a head-chamber, an ore-hopper communicating therewith, a dry weir projecting into the head of the riffle-pipe from the head-chamber, to deliver ore to the riffles, means to feed ore through the head-chamber, a duct communicating with the riffle-tank into which the foot of the riffle-pipe delivers, said tank and pipe forming a gas-tight system, and said chamber adapted to be filled with ore and made gas-tight thereby.

841,330. ORE-CYANIDING. WINTWORTH V. LANDER, Newton, Mass. Filed Apr. 27, 1906. Serial No. 313,924.

Claim.—1. The process of cyaniding ores which consists in mingling a stream of ore with a stream of cyanid solution, conveying the cyanid solution and ore as one stream, reoxygenating the stream while in transit, retarding the insoluble solids, collecting the dissolved ore components and recovering the same.

2. The process of cyaniding ore which consists in mingling a stream of ore with a stream of cyanid solution, conveying the cyanid solution and ore as one stream, meanwhile forcing air into the mingled stream while it is in transit, retarding the insoluble solids, collecting the dissolved ore components and recovering the same.



3. The process of cyaniding ore which consists in mingling a stream of ore with a stream of cyanid solution, conveying the cyanid solution and ore as one stream, meanwhile agitating the stream in transit in contact with air, retarding the insoluble solids, collecting the dissolved ore components, and recovering the same.

841,331. CYANIDING APPARATUS. WINTWORTH V. LANDER, Newton, Mass. Filed Apr. 27, 1906. Serial No. 313,925.

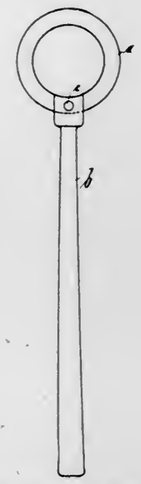


Claim.—1. In an apparatus for cyaniding ores, a riffle, means to deliver a stream of ore and a stream of cyanid solution upon the riffle, and means to mingle air with the mingled ore and cyanid solution.

2. In an apparatus for cyaniding ores, a riffle, means to deliver a stream of ore and a stream of cyanid solution upon the riffle, and air-pipes, to introduce air into the mingled stream of ore and cyanid solution.

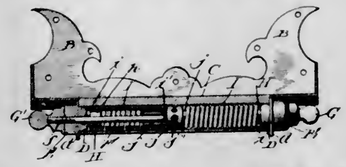
3. In an apparatus for cyaniding ores, a series of riffle-plates, the foot of each in the series overhanging the head of the next, means to deliver a stream of ore and a stream of cyanid solution upon the head riffle-plate, an air-pipe delivering into the cyanid solution in advance of the point where the ore and cyanid mingles, air-pipes, downwardly-directed on the stream on the riffles, and other air-pipes, directed across the gaps where the riffle-plates overhang.

841,332 SCRAPER FOR METAL-WORKING. CARL LEHNERT, Marxloh, Germany. Filed Oct. 15, 1906. Serial No. 338,968.



Claim.—A scraper for metal-working, comprising in combination, the scraper proper *a* shaped like a ring with narrower inner ring plane than the outer one, a handle *b* fork-shaped at one end, and a pivot *c* inserted through the fork-shaped end of said handle and through the body of said ring and thus adapted to support the latter on said handle, substantially as described and shown and for the purpose set forth.

841,333. HINGE. PATRICK J. MADDEN, Chicago, Ill. Filed July 11, 1904. Serial No. 216,141.



Claim.—1. In a device of the class described, the combination of a pair of springs pitched in opposite directions, a tubular hinge member containing the springs, a block engaging the inner ends of the springs, adjustable means for transmitting pressure from the block to the tubular hinge member, and a pair of independent brackets having cylindrical bearings for the outer ends of the tubular hinge member, against which brackets the outer ends of the springs react, substantially as described.

2. In a device of the class described, the combination of a pair of springs pitched in opposite directions, a tubular hinge member containing the springs, a block engaging the

inner ends of the spring, adjustable means for transmitting pressure from the block to the tubular hinge member, a pair of brackets having cylindrical bearings for the outer ends of the tubular hinge member and against which the outer ends of the springs react, and means including a rod extending through the tubular hinge member for connecting the bearings, substantially as described.

3. In a device of the class described, the combination of a pair of springs pitched in opposite directions, a tubular hinge member containing said springs, a block to which the inner ends of said springs are attached, said block being adjustable relatively to the tubular hinge member, means for transmitting pressure from the block to the tubular hinge member, a pair of independent brackets against which the outer ends of the springs react, said brackets having cylindrical bearings for the outer ends of the tubular hinge member and having also portions bearing against the extremities of the tubular hinge member, and means for forcing said brackets toward each other, substantially as described.

4. In a device of the class described the combination of a pair of springs pitched in opposite directions, a block to which the inner ends of the springs are attached, said block having a number of sockets, a barrel containing the springs and block and having an opening in its side, a device passing through said opening and adapted to engage any of said sockets, and cylindrical bearings upon which the outer ends of the barrel are mounted and against which the outer ends of the springs react, substantially as described.

5. In a device of the class described the combination of a pair of springs pitched in opposite directions, means to which the outer ends of the springs are secured, a perforated block to which the inner ends of the springs are secured, a rod passing through the perforation of the block, and supported by the means to which the outer ends of the springs are secured, a hinge member and means interposed between the block and hinge member for transmitting movement from one to the other, substantially as described.

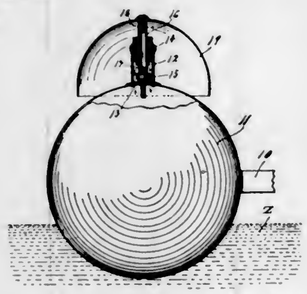
6. In a device of the class described the combination of a pair of springs pitched in opposite directions, a hinge member, means interposed between the inner ends of said springs and the hinge member for transmitting movement from one to the other, a pair of brackets to which the outer ends of said springs are connected, said brackets being perforated, and a rod passing through the perforations of the brackets and through the springs substantially as described.

7. In a device of the class described, the combination of a pair of springs pitched in opposite directions, a barrel containing the springs, a pair of brackets having spuds projecting into the ends of the barrel, means connecting the outer ends of the springs to the spuds and means for holding the spuds in place in the barrel, substantially as described.

8. In a device of the class described, the combination of a pair of springs pitched in opposite directions, a perforated block having bosses projecting into the inner ends of the springs, means for securing the inner ends of the springs to the block, a barrel containing the springs and block, means interposed between the block and the barrel for transmitting movement from one to the other, a pair of brackets having perforated spuds projecting into the ends of the barrel, said spuds having bosses entering the outer ends of the springs, means for securing the outer ends of the springs to the bosses, a tie-rod passing through the spuds and block, and means for holding the tie-rod in place, substantially as described.

841,334. NON-COLLAPSIBLE FLOAT. EUGENE B. MOWER and ELEAZER JOHNSON, Minneapolis, Minn. Filed Dec. 21, 1905. Serial No. 292,728.

Claim.—1. The combination with a hollow main float having a supplemental float that is open at its lower portion, and an air-vent affording communication between the upper interior portion of said supplemental float and the interior of said main float, whereby the air or steam caged in said supplemental float will prevent water from flowing into said main float, when the float is submerged, substantially as described.

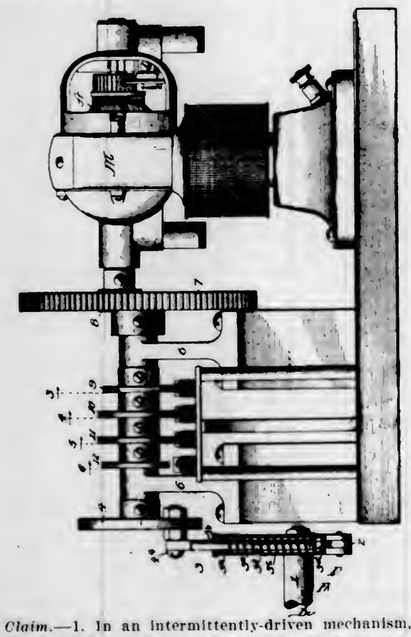


2. The combination with a hollow main float having a valved vent, of a supplemental float arranged to close said valved vent whenever said main float is submerged to or beyond a predetermined extent, substantially as described.

3. The combination with a hollow main float having a valved vent in its upper portion, of a supplemental float in the form of an inverted bell, attached to the movable member of said valve-vent and arranged to close the same when the float is submerged to or beyond a predetermined extent, substantially as described.

4. The combination with a main float 11, of a perforated thimble 12 attached to the upper portion thereof, a valve-seat in the upper end of said thimble, a valve cooperating with the lower end of said valve-seat and having a perforated hollow stem and a supplemental float 19 attached to the upper end of said valve-stem with its upper portion turned downward, substantially as described.

841,335. ADDING-MACHINE ATTACHMENT. FRANK R. MCBERTY, Evanston, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 24, 1906. Serial No. 302,681.



Claim.—1. In an intermittently-driven mechanism, the combination with a motor, of gear driven thereby, a series of independently-adjustable cams actuated by said gear, switching mechanism in the motor-circuit controlled by said cam mechanism, and a driving-shaft for said intermittently-driven mechanism operated by said gear.

2. The combination with an intermittently-driven shaft, of a motor and a circuit therefor, a short circuit of said motor, gear connection between said motor and shaft, and cam mechanism for automatically opening the motor-circuit and closing said short circuit at predetermined points in the operation of said gear.

3. The combination with an intermittently-driven shaft, of a gear-wheel for operating the same, a motor for driving said gear-wheel, a circuit for said motor including a source of current, a short circuit of the motor, and a series of cams for opening said first-named circuit and closing said short circuit when said gear-wheel has completed part of a revolution.

4. The combination with an intermittently-driven shaft, of a gear-wheel for operating the same, a motor for driving said gear-wheel, a circuit for said motor including a source of current, a local circuit for the motor, and adjustable cam mechanism for opening said first-named circuit and closing said second circuit when said gear-wheel has completed part of a revolution.

5. The combination with an intermittently-driven shaft, of a motor and a circuit therefor, a crank driven by the motor, gear connection between said crank and shaft, cam mechanism controlled by said gear, switching mechanism in the motor-circuit automatically opened by said cam mechanism after a partial rotation of the crank, and a local circuit through the motor-armature including a switch automatically closed after a partial rotation of the crank, whereby said local circuit acts as a dynamic brake.

6. The combination with an intermittently-driven shaft, of a motor and a circuit therefor, a short circuit of said motor, gear driven by the motor for driving said shaft, adjustable cam mechanism carried by said gear, and switching mechanism in said circuits adapted to be operated by said cam mechanism at predetermined points in the operation of said gear.

7. The combination with an intermittently-driven shaft, of a motor, a crank driven thereby, and a yielding connection between said crank and shaft, whereby the driving operation of the crank is not transmitted to the shaft when said shaft is locked.

8. The combination with an intermittently-driven shaft, of a motor, a crank driven thereby, a crank carried by said driven shaft, and a yielding connection between said cranks, whereby the driving operation of said motor-driven crank is not transmitted to said other crank when the driven shaft is locked.

9. In an intermittently-driven mechanism, a motor-armature and circuit therefor, a field-magnet and circuit therefor, a switch connecting the circuits of the armature and fields with a source of current, and a switch for closing a short circuit of the armature, said switch being operated by the shaft of the armature in its rotation.

10. In an intermittently-driven mechanism, a motor-armature and circuit therefor, a field-magnet and circuit therefor, a switch connecting the circuits of the armature and fields with a source of current, and switching mechanism operated by the shaft of the armature at predetermined points to disconnect the armature from the source of supply and short-circuit said armature.

11. In an intermittently-driven mechanism, a motor-armature and circuit therefor, a field-magnet and circuit therefor, a switch connecting the circuits of the armature and fields with a source of current, switch-contacts adapted to short-circuit the armature, means connected with the armature for closing the contacts to short-circuit said armature and bring it to rest, other switch-contacts adapted to break the field-circuit, and means connected with the armature to open both said contacts before the armature comes to rest.

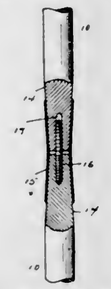
12. The combination with a shaft and a retractile spring therefor, of an electric motor, means for converting the rotating motion of the motor into a reciprocating motion of said shaft, a short-circuit switch for the armature, and means operated by the motor for closing said short-circuit switch during the retraction of said moving part by the spring; whereby the motor drives the shaft against the force of the spring and acts as a brake during the retraction of said spring.

13. In an intermittently-driven mechanism, the combination with a motor, of gear driven thereby, a series of switches in the motor-circuit, mechanism operated by said gear for controlling said switches, and a driving-shaft for said intermittently-driven mechanism operated by said gear.

14. The combination with an intermittently-driven shaft, of a motor and a circuit therefor, a short circuit of said motor, gear connection between said motor and said shaft, and mechanism operated by said gear for automatically opening the motor-circuit and closing said short circuit at predetermined points in the operation of the gear.

15. The combination with an intermittently-driven shaft, of gear for operating the same, a motor for driving said gear, a circuit for said motor including a source of current, a local circuit for the motor, and mechanism operated by said gear for opening said first-named circuit and closing said second circuit when said gear-wheel has completed part of a revolution.

841,336. GUN-CLEANING ROD. SAMUEL A. NORTH, Bridgeport, Conn., assignor to Bridgeport Gun Implement Company, Bridgeport, Conn., a Corporation of Connecticut. Filed June 2, 1906. Serial No. 319,914.



Claim.—1. A rod comprising sections having tapering ends, a double-tapering sleeve which receives the ends of the sections and a double-ended screw engaging the ends of the sections.

2. A rod comprising sections having tapering ends, a double-tapering sleeve of greatest diameter at the ends and whose greatest diameter is slightly less than the diameter of the sections, for the purpose set forth, and a double-ended screw engaging the ends of the sections.

3. A rod comprising sections having tapering ends, a double-tapering sleeve which receives the ends of the sections and a double-ended screw engaging holes in the ends of the sections, the sleeve fitting the ends of the sections closely and said sections remaining slightly separated.

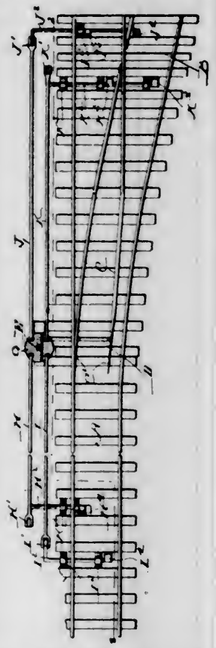
4. A rod comprising sections having tapering ends, a double-tapering sleeve which receives the ends of the sections and a double-ended screw engaging holes in the ends of the sections, one of said holes being slightly deeper than the length of the corresponding portion of the screw, substantially as described, for the purpose specified.

841,337. SWITCH. EDWARD L. NUGENT, Charleston, W. Va. Filed Apr. 21, 1906. Serial No. 313,069.

Claim.—1. In a device of the kind described, the combination with switch-points carrying a rod, of a crank-shaft connected to said rod, a plate fixed on said shaft, and shafts connected to said plate provided with arms, for the purpose described

2. In a device of the kind described, the combination with switch-points connected together by a rod, a crank-shaft connected to said rod, a disk fixed on said shaft, rods connected to said disk and crank-shafts connected to said rods provided with arms for the purpose described.

3. In a device of the kind described, the combination with a switch, of a rod carried by the points of said switch, a crank-arm connected to said rod, carried by a shaft, a disk mounted on the shaft, rods connected to said disk, shafts provided with arms connected to said rods and means carried by the engine for engaging said arms, for the purpose described.



4. In a device of the kind described, the combination with switch-points carrying a rod, of a shaft provided with a crank connected to said rod, a disk mounted on said shaft, shafts mounted between the tracks provided with arms at each end, rods connecting said arms to said disk, and tripping means carried by the engine, for the purpose described.

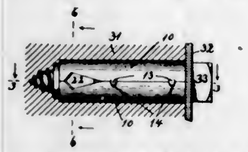
5. In a device of the kind described, the combination with switch-points carrying a rod, of crank-shafts mounted between the ties to each side of said points, arms projecting upwardly from each shaft between the ties, a crank-shaft mounted to one side of said points provided with a disk, and connected to the rod carried by the points, and rods connecting said disk to the crank-shafts arranged between the ties, for the purpose described.

6. In a device of the kind described, the combination with switch-points, of a crank-shaft connected to said points provided with a disk, crank-shafts provided with arms mounted to each side of said points, rods connecting said shafts to said disk, and a crank carrying a rod adapted to engage said arms, for the purpose described.

7. In a device of the kind described, the combination with a switch, of a rod carried by the points of said switch connected to a shaft arranged to one side, a disk mounted on said shaft, crank-shafts provided with arms at their ends arranged between the tracks to one side of said points, rods connecting said shafts to said disk, crank-shaft mounted between the rails and siding provided with upwardly-projecting arms, rods connecting said shafts to said disk, and tripping means carried by the engine adapted to engage said arms, for the purpose described.

841,338. BOLT-ANCHOR. FREDERICK C. PALMER, Springfield, Mass. Filed Oct. 10, 1905. Serial No. 282,101.

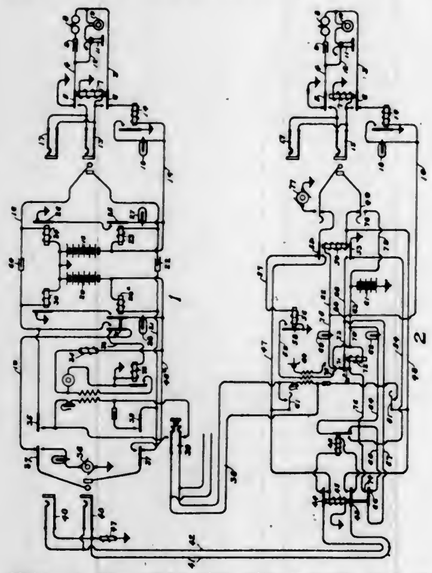
Claim.—1. A bolt-anchor comprising a plurality of shields, adapted, when assembled, to form a sleeve and a tubular bushing inclosed by the sleeve and provided internally with a plurality of threads cut to different gages, each thread extending from end to end of the bushing.



2. A bolt-anchor, comprising a plurality of shields adapted, when assembled, to form a sleeve and a tubular bushing inclosed by the sleeve and provided with a plurality of internal threads cut to different gages, the different threads being cut in the same length of the bushing.

3. A bolt-anchor, comprising a plurality of shields, adapted, when assembled, to form a sleeve and an internally-threaded tubular bushing inclosed by the sleeve, the threads within the bushing being cut to different gages, the gage of one thread being a simple multiple of the gage of another thread.

841,339. INCOMING TRUNK-LINE. HOWARD M. POST, Chicago, Ill., assignor to Kellogg Switchboard & Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 14, 1906. Serial No. 305,993.



Claim.—1. The combination with a trunk-line, of a cord-circuit at the A exchange to connect with the outgoing end thereof, and a called-subscriber's line terminating at the B exchange with which its incoming end is adapted to be connected, a supervisory relay associated with the cord-circuit energized over a circuit local to the A exchange when a connection is made with the trunk-line, a signal having its circuit closed by said relay, a second relay for controlling the circuit of said signal at another point, a trunk-relay in series with said second relay and of sufficiently high resistance to prevent its operation, and means when the called subscriber answers for substituting the called-subscriber's line in the circuit in place of said trunk-relay, whereby said second relay is actuated and said signal extinguished, substantially as described.

2. The combination with a trunk-line, of a cord-circuit at the A exchange to connect with the outgoing end thereof, and a called-subscriber's line terminating at the B exchange with which its incoming end is adapted to be connected, a supervisory relay associated with the cord-circuit energized over a circuit local to the A exchange when a connection is made with the trunk-line, a signal having its circuit closed by said relay, a second relay for controlling the circuit of said signal at another point, a trunk-relay in series with said second relay and of sufficiently high resistance to prevent its operation, and means when the called subscriber answers for substituting the called-subscriber's line in the circuit in place of said trunk-relay, whereby said signal is extinguished, and a path for direct current is closed from one exchange to the other including the called-subscriber's line, substantially as described.

3. The combination with a trunk-line, of a cord-circuit at the A exchange to connect with the outgoing end thereof, and a called-subscriber's line terminating at the B exchange with which its incoming end is adapted to be connected, a supervisory relay associated with the cord-circuit energized over a circuit local to the A exchange when a connection is made with the trunk-line, a signal having its circuit closed by said relay, a second relay for controlling the circuit of said signal at another point, a trunk-relay in series with said second relay and of sufficiently high resistance to prevent its operation, and means when the called subscriber answers for substituting the called-subscriber's line in the circuit in place of said trunk-relay, whereby said signal is extinguished, and a path for direct current is closed from one exchange to the other including the called-subscriber's line, substantially as described.

4. The combination with a trunk-line, of a cord-circuit at the A exchange to connect with the outgoing end thereof, and a called-subscriber's line terminating at the B exchange with which its incoming end is adapted to be connected, a supervisory relay associated with the cord-circuit energized over a circuit local to the A exchange when a connection is made with the trunk-line, a signal having its circuit closed by said relay, a second relay for controlling the circuit of said signal at another point, a trunk-relay in series with said second relay and of sufficiently high resistance to prevent its operation, and means when the called subscriber answers for substituting the called-subscriber's line in the circuit in place of said trunk-relay, whereby said signal is extinguished, and a path for direct current is closed from one exchange to the other including the called-subscriber's line, the path for voice-currents from the A exchange to the called-subscriber's station being coincident with said direct-current path, substantially as described.

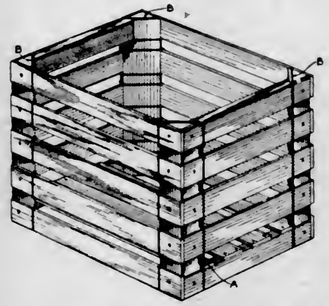
5. The combination with a trunk-line, of a cord-circuit at the A exchange to connect with the outgoing end thereof, and a called-subscriber's line terminating at the B exchange with which its incoming end is adapted to be connected, a supervisory signal associated with the outgoing end of the trunk, means for closing the circuit of said signal when a connection is made with the trunk, a supervisory relay for opening the circuit of said signal, a trunk-relay of sufficiently high resistance to prevent the operation of said supervisory relay when connected in series therewith, and means when the called subscriber answers for connecting the called-subscriber's line in the path of current from the A exchange and removing said trunk-relay therefrom to actuate said supervisory relay and extinguish said signal, substantially as described.

6. The combination with a trunk-line, of a cord-circuit at the A exchange to connect with the outgoing end thereof, and a called-subscriber's line terminating at the B exchange with which its incoming end is adapted to be connected, a supervisory signal associated with the outgoing end of the trunk, means for closing the circuit of said signal when a connection is made with the trunk, a supervisory relay for opening the circuit of said signal, a trunk-relay of sufficiently high resistance to prevent the operation of said supervisory relay when connected in series therewith, and means when the called subscriber answers for connecting the called-subscriber's line in the path of current from the A exchange and removing said trunk-relay therefrom, whereby said supervisory relay is energized and said signal is extinguished, and a path for voice-currents is closed between the A exchange and the called-subscriber's station coincident with the path for direct current, substantially as described.

7. The combination with a trunk-line, of a cord-circuit at the A exchange to connect with the outgoing end thereof, and a called-subscriber's line terminating at the B exchange with which its incoming end is adapted to be connected, a supervisory signal associated with the outgoing end of the trunk, means for closing the circuit of said signal when a connection is made with the trunk, a supervisory relay for opening the circuit of said signal, a trunk-relay of sufficiently high resistance to prevent the operation of said supervisory relay when connected in series therewith, and a relay energized over the called-subscriber's line for connecting said line in the path of current from the A exchange and for removing said trunk-relay therefrom, whereby the resistance of the path is reduced, and said supervisory relay actuated to extinguish said signal, substantially as described.

8. The combination with a trunk-line, of a cord-circuit at the A exchange to connect with the outgoing end thereof, and a called-subscriber's line terminating at the B exchange with which its incoming end is adapted to be connected, a supervisory signal associated with the outgoing end of the trunk, means for closing the circuit of said signal when a connection is made with the trunk, a supervisory relay for opening the circuit of said signal, a trunk-relay of sufficiently high resistance to prevent the operation of said supervisory relay when connected in series therewith, a relay energized over the called-subscriber's line for connecting said line in the path of current from the A exchange and for removing said trunk-relay therefrom, whereby the resistance of the path is reduced, and said supervisory relay actuated to extinguish said signal, and a disconnect-lamp having its circuit normally closed at the contacts of said trunk-relay, and at the contacts of said relay adapted to be energized over the called-subscriber's line, substantially as described.

841,340. CRATE. JOHN W. RECTOR, Savannah, N. Y. Filed Dec. 26, 1905. Serial No. 293,236.



Claim.—In a crate, the combination of slat sides and ends held to corner-posts by wires and nails, one wire being used for each corner and formed into loops which pass between the side slats and lock between the end slats, and the top and bottom of each corner grooved to hold the wire, and the ends of the wire fastened together in the bottom groove, in conjunction with corner-posts gained to receive the side and end slats, all substantially as set forth.

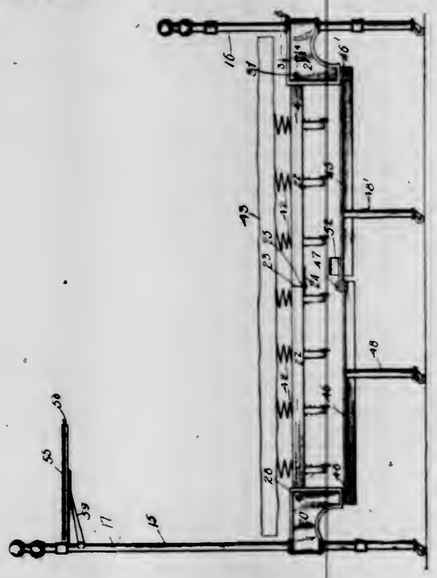
841,341. FOLDING BED. CHARLES T. RICE, Chicago, Ill. Filed Dec. 26, 1905. Serial No. 293,323.

Claim.—1. In a bed of the character described, a head member, a foot member, a side rail comprising two sections pivoted for vertical movement in folding, and a spring tending constantly to move said side rail to folded position.

2. In a bed of the character described, a head and a foot, a side rail pivoted at its ends to the head and foot, and centrally divided into two sections hinged together, said sections being arranged to aline longitudinally when the bed is opened, and a spring tending to break the alinement of said sections of the side rails in the direction wherein

the connected sections move in the closing operation of the bed.

3. In a bed of the character described, a head member, a foot member, a side rail comprising two sections at their outer extremities pivoted to the head and foot members respectively, a pivot-pin connecting the adjoining ends of the side rail, a spring carried by said pivot-pin and exerting an upward pressure on the rail-sections when the bed is open, tending to move the side-rail sections to closed or folded position.



4. In a bed of the character described, a head member, a foot member, two side rails each comprising two sections connected at their free ends respectively to the head and foot members, a pivotal connection for the adjoining ends of the sections of each side rail including a pivot-pin common to both joints, coiled springs mounted upon said pin and having their opposite ends secured to the opposite side-rail sections, whereby said springs exert tension, when the rails are in normal or open position, tending to force the side-rail sections to closed or folded position.

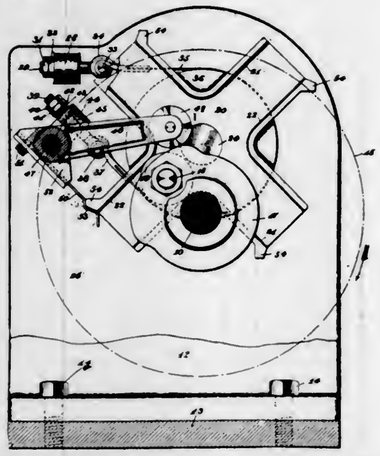
5. In a bed of the character described, a head member, a foot member, side rails each comprising two sections pivotally connected together at their adjoining ends and at their extremities pivoted to the head and foot structures respectively, springs tending constantly to move said side rails from pivoted position to folded position, and mattress-receiving springs supported from the side rails arranged to extend below the side rails when the bed is open, and disposed to overlap each other in interspaced relation when the bed is closed.

6. In a bed of the character described, a head member, a foot member, side-rail-supporting castings connected with said head and foot members on opposite sides, each of said castings having a hole therein tapering toward the outer side of the casting, side rails each comprising two sections, hinged joints for the adjoining ends of said sections, the free ends of said section having apertures therein for registry with the holes in the respective castings, means for spacing the opposite side rails apart and tapered pins taking through the apertures in the side rails into said holes in the casting.

7. In a bed of the character described, a head member, a foot member, side rails each comprising two sections hinged at their adjacent ends and pivotally secured to the head and foot members, an end bar extending between the side rails adjacent an end thereof, and means for truing the side rails comprising a divided rod connected to the side rails between the end bar and the extremities of the side rails, and a turnbuckle connecting the adjacent ends of the said rod-sections.

8. In a bed of the character described, a head member, a foot member, sectional side rails, whereof the sections of each rail are hinged together and respectively pivoted to the head and foot members to move vertically in folding, steadying-arms moving in a longitudinal plane, and a spacer carried by a steadying-arm arranged for interposition between the head and foot members when the bed is closed.

841,342. MECHANICAL MOVEMENT. FRANCIS H. RICHARDS, Hartford, Conn. Filed Mar. 23, 1900. Serial No. 9,855.



Claim.—1. The combination with a rotatable actuator, of a driven member provided with a number of pairs of opposed faces with which the actuator is adapted to engage in succession and thereby impart an intermittent movement to the driven member, a brake, and means operative in unison with said actuator for gradually applying and releasing of the brake, whereby the brake is gradually applied when the actuator is inoperative to operate the driven member and released when the actuator passes into operative engagement with the driven member.

2. The combination with a rotatable actuator, of a driven member provided with a number of pairs of faces with which the actuator is adapted to engage in succession and thereby impart an intermittent movement to the driven member, and a friction-brake for first retarding and then ultimately stopping the movement of the driven member as the actuator moves out of engagement with a face.

3. The combination with a rotatable actuator, of a driven member provided with a number of pairs of faces with which the actuator is adapted to engage in succession and thereby impart an intermittent movement to the driven member, a friction-brake for first retarding and then ultimately stopping the movement of the driven member as the actuator moves out of engagement with a face, and a resilient for positioning and holding the driven member when brought to rest.

4. The combination, with an intermittently-movable driven member and a rotary actuator for engaging said member during a partial rotation of the actuator, of a device controlled by the actuator for retarding the movement of the driven member near the end of such movement, and means for varying the efficiency of said device.

5. The combination, with an intermittently-movable driven member and a rotary actuator for engaging said member during a partial rotation of the actuator, of a device controlled by the actuator for retarding the movement of the driven member near the end of such movement, and

for subsequently locating said driven member relatively to the actuator.

6. The combination, with an intermittently-movable driven member and a rotary actuator for engaging said member during a partial rotation of the actuator, of a device controlled by the actuator for retarding, locating, and locking the driven member.

7. The combination, with an intermittently-movable driven member, and a rotary actuator for engaging said member during a partial rotation of the actuator, of a device for retarding, locating, and locking the driven member, and means controlled by the actuator for operating said device.

8. The combination, with an intermittently-movable driven member, and a rotary actuator for engaging said member during a partial rotation of the actuator, of a device for retarding, locating, and locking the driven member, and a cam carried by the actuator for operating said device.

9. The combination, with a driven member comprising a series of intersecting grooves, of a rotatable actuator for engaging with the walls of the grooves and comprising a crank-roll; a brake device for retarding the movement of the driven member preparatory to the assuming by it of an ineffective position; a cam for actuating the brake; and a detent device for locating the driven member relatively to the actuator during the ineffective movement of the actuator.

10. The combination with a rotatable actuator, of a driven member provided with a number of faces with which the actuator is adapted to engage in succession and thereby impart an intermittent movement to the driven member, a brake, means operative in unison with said actuator for controlling the operation of the brake, whereby the brake is applied when the actuator is inoperative to actuate the driven member and released when the actuator passes into operative engagement with the driven member, and a precisionizer for positioning the driven member when the actuator passes out of operative relation therewith.

11. The combination with a rotatable actuator, of a driven member provided with a number of faces with which the actuator is adapted to engage in succession and thereby impart an intermittent movement to the driven member, a friction-brake controlled by the actuator for first retarding and then ultimately stopping the movement of the driven member as the actuator moves out of engagement with a face, and a detent for positioning and holding the driven member when brought to rest.

12. The combination with a rotatable actuator, of a driven member provided with a number of faces with which the actuator is adapted to engage in succession and thereby impart an intermittent movement to the driven member, a friction-brake controlled by the actuator for retarding and ultimately stopping the movement of the driven member as the actuator moves out of engagement with a face, and a detent for positioning and holding the driven member when brought to rest.

13. The combination with a rotatable actuator, of a driven member provided with a number of faces with which the actuator is adapted to engage in succession and thereby impart an intermittent movement to the driven member, a friction-brake controlled by the actuator for applying a progressively-increasing retardant force and for ultimately stopping the driven member as the actuator moves out of engagement with a face, and a detent for positioning and holding the driven member when brought to rest.

14. The combination with a rotatable actuator, of a driven member provided with a number of faces with which the actuator is adapted to engage in succession and thereby impart an intermittent movement to the driven member, a brake for retarding and ultimately stopping the movement of the driven member as the actuator moves out of engagement with a face, and a spring-finger for positioning and holding the driven member when brought to rest.

15. The combination with a rotatable actuator, of a driven member provided with a number of faces with which the actuator is adapted to engage in succession and thereby impart an intermittent movement to the driven member, a brake for applying a progressively-increasing retardant force and for ultimately stopping the driven member as the actuator moves out of engagement with a face, and a spring-finger for positioning and holding the driven member when brought to rest.

16. The combination with a driven member comprising pairs of oppositely-disposed working faces, of a rotatable actuator for engaging with said working faces, a friction-brake controlled by the actuator for retarding the movement of the driven member preparatory to the assuming by it of an ineffective condition, a cam for actuating the brake, and a device for positioning and holding positioned the driven member when brought to rest.

17. The combination with a driven member comprising pairs of oppositely-disposed working faces, of a rotatable actuator for engaging with said working faces, a brake device for retarding the movement of the driven member preparatory to the assuming by it of an ineffective condition, a cam for actuating the brake, and a resilient detent for positioning and holding the driven member when brought to rest.

18. The combination with a driving member comprising pairs of oppositely-disposed working faces, of a rotatable actuator for engaging in succession with said pairs of working faces and comprising a pair of crank-rolls, and a device for checking the movement of the driven member as the actuator moves out of engagement with each pair of working faces.

19. The combination with a driving member comprising pairs of oppositely-disposed working faces, of a rotatable actuator for engaging in succession with said pairs of working faces and comprising a pair of crank-rolls, a device for retarding the movement of the driven member as the actuator moves out of engagement with each pair of working faces, and a device for positioning and holding the driven member when brought to rest.

20. The combination with a driven member comprising pairs of oppositely-disposed working faces, of a rotatable actuator for engaging in succession with said pairs of working faces and comprising a pair of crank-rolls, a brake device for retarding the movement of the driven member preparatory to the assuming by it of an ineffective condition, means effective to actuate the brake, and a detent device for positioning and holding the driven member when brought to rest.

21. The combination with a driven member comprising pairs of oppositely-disposed working faces, of a rotatable actuator for engaging in succession with said pairs of working faces and comprising a pair of crank-rolls, a brake device for retarding the movement of the driven member preparatory to the assuming by it of an ineffective condition, a cam effective to actuate the brake, and a detent device for positioning and holding the driven member when brought to rest.

22. The combination with a rotatable actuator, of a driven member provided with a number of faces with which the actuator is adapted to engage in succession and thereby impart an intermittent movement to the driven member, a friction-brake controlled by the actuator for retarding the movement of the driven member as the actuator moves out of engagement with a face, and a separate device for positioning and holding the driven member when brought to rest.

23. The combination with a rotatable actuator, of a driven member provided with a number of faces with which the actuator is adapted to engage in succession and thereby impart an intermittent movement to the driven member, a band-brake having one end fixed, a coöperative part mounted to move with said driven member and which is encircled by said brake, an oscillatable arm to which the free end of the brake is secured, a cam moving in unison with the driving member and effective to rock said oscillatable arm and thereby apply and release said brake, and means for holding said driven member in a predetermined position when the driven member is brought to rest.

24. The combination with a rotatable actuator, of a driven member provided with a number of faces with which the actuator is adapted to engage in succession and

thereby impart an intermittent movement to the driven member, a band-brake having one end fixed, a cooperative part mounted to move with said driven member and which is encircled by said band-brake, an oscillatable arm to which the free end of the brake is secured, a cam moving in unison with the driving member and effective to rock said oscillatable arm and thereby apply and release said brake, and a resilient detent moving in unison with said oscillatable arm for holding said driven member in a predetermined position when the driven member is brought to rest.

25. The combination with a rotatable actuator, of a driven member provided with a number of faces with which the actuator is adapted to engage in succession and thereby impart an intermittent movement to the driven member, and a friction-brake controlled by the actuator for stopping said driven member and holding the same in a predetermined position when the driven member is brought to rest.

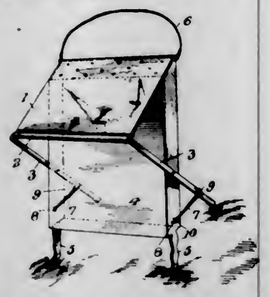
26. The combination of a shaft, a driven member attached thereto and provided with pairs of opposed faces, a crank-roll adapted to engage with such pairs of faces in succession and thereby impart an intermittent movement to the driving member and the attached shaft, a rock-lever, a brake-band one of whose ends is fixed to a stationary part and the other of whose ends is secured to said rock-lever, a cam moving in unison with said crank-roll and operative to rock the rock-lever, and a precisionizer carried by said lever for positioning said driven member when the brake-band is released.

27. The combination of a driven member provided with pairs of opposed drive-faces, a crank-roll adapted to engage in succession with said pairs of drive-faces and impart an intermittent movement to the driven member, a cam operative in unison with the roll, and a resilient precisionizer controlled by said cam for positioning said driven member as the crank-roll passes out of engagement with a drive-face thereof.

28. The combination with a rotatable member, of a rotary actuator for engaging said member and intermittently rotating the same, and friction means for stopping and positioning said rotatable member at the periods of its intermission of motion.

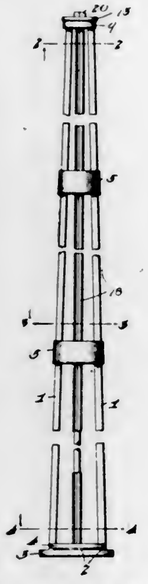
29. The combination with a rotatable member, of a rotary actuator for engaging said member and intermittently rotating the same, and friction means controlled by the actuator for stopping and positioning said rotatable member at the periods of its intermission of motion.

841,343. LIFE-PRESERVING STEAMER-CHAIR. ABRAHAM L. NICHOLSON, New York, N. Y. Filed Aug. 3, 1906. Serial No. 329,105.



Claim.—A device of the character described, comprising a flexible seat, a cross-bar to which one edge of said seat is secured, legs secured at their upper ends to the ends of said cross-bar, a buoyant box secured at its top to the other edge of said seat, the legs being pivotally connected to the sides of said box intermediate of their ends and provided below their pivot-points with hooks, a neckstrap secured to the top of the box, hooks secured to the sides of the box below the pivot-points of the legs, and flexible securing members attached at one end to one pair of hooks and provided at their other ends with loops, said securing members being adapted to be strapped fast around the user's body and be arranged for insertion through the other pair of hooks with their loops inserted over the first-named hooks, whereby they may form braces for the device, as specified.

841,344. SECTIONAL POLE FOR TELEPHONE, TELEGRAPH, AND TROLLEY WIRES. HENRY M. SCIPLE, San Francisco, Cal. Filed Feb. 10, 1906. Serial No. 300,409.



Claim.—1. A pole of the class set forth made up of a plurality of upwardly-extending, inwardly-converging members, a base to which the lower ends of said members are secured, tapering clamping-bands applied over the said members at intervals and provided with inwardly-projecting means equal in number to and engaging the said members, and a cap-plate fitting on the upper terminals of said members, the said cap-plate covering the upper end of the pole and providing means for the attachment of wires and the like.

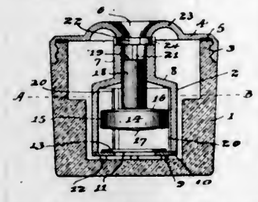
2. A pole of the class set forth comprising a plurality of members formed with angle-irons with the angular portions thereof projected inwardly, said members being converged in an upward direction and separated by intervening spaces, partitions arranged within the members and having angular seats to receive the inwardly-projecting angular portions of said members, and tapering clamping-bands applied over said members adjacent to and inclosing said partitions and provided with angular projections equal in number to and projecting into the said angular members.

3. A pole of the class set forth comprising a plurality of upwardly-converging members separated by intervening spaces and formed of angle-iron, the said members having their angular portions projected inwardly, partitions arranged between the members at intervals and having recesses to snugly receive said members, clamping-bands of tapering form fitted over the members and inclosing the partitions, said bands being provided with inwardly-extending angular projections to fit in the members, and a rod extending through the center of the pole and the partitions and secured to the base and the top of the pole.

4. A pole of the class set forth comprising a base, a plurality of upwardly-extending inwardly-converging members having their lower ends provided with feet secured to said base, the members being formed of angle-iron and having their angular portions projected inwardly, recessed partitions in which the members are fitted, clamping-bands having inwardly-extending angular projections engaging the members, the said bands inclosing the partitions, a cap-plate secured over the upper ends of the members, and a rod extending through the center of the pole and secured at its opposite extremities to the cap-plate and the base.

5. A pole of the class set forth comprising a base, a plurality of upwardly-projecting inwardly-converging members separated by intervening spaces, and having their lower ends secured to the base, a cover-plate engaging the lower extremities of the members, clamping-bands of tapering form applied over the members at intervals, a cap-plate on the upper ends of the members, and a rod extending through the center of the pole and secured at its opposite extremities to the cap-plate and the base.

841,345. INK-WELL. GUSTAV J. SENGBUSCH, Milwaukee, Wis. Filed Mar. 31, 1906. Serial No. 309,161.



Claim.—1. An ink-well having a main chamber, a closure for the upper end thereof provided with a dip-opening, a fountain-chamber arranged within the main chamber and having communication with the lower part of the latter through a passage, a check-valve controlling said passage, a tubular extension rising from the fountain-chamber to said top closure and at its upper end surrounding the dip-opening and having a passage affording communication between the upper part of the main chamber and the space normally occupied by the upper end of the float extension, a float within the fountain-chamber having an upper extension rising, when the float is natant, to the dip-opening and closing the latter, and means forming a passage leading from the fountain-chamber to the dip-opening.

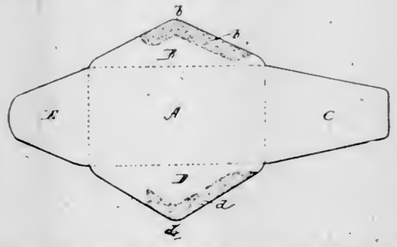
2. An ink-well having a main chamber, a closure for the upper end thereof provided with a dip-opening, a fountain-chamber arranged within the main chamber and having communication with the lower part of the latter through a passage, a check-valve controlling said passage, a tubular extension rising from the fountain-chamber to said top closure and at its upper end surrounding the dip-opening and having a passage affording communication between the upper part of the main chamber and the space normally occupied by the upper end of the float extension, a float within the fountain-chamber having an upper extention rising, when the float is natant, to the dip-opening and closing the latter, and means forming a passage leading from the fountain-chamber to the dip-opening and a deflector-stop arranged to overhang the delivery end of said passage.

3. In a fountain ink-well, the combination with a main body having a main chamber and a cover therefor provided with a dip-opening, of an upwardly-pressed feed-controller within the well normally closing said dip-opening, a stationary member surrounding the upper end of said feed-controller and forming therewith, when the feed-controller is depressed, a dip-recess, said surrounding member being provided with a passage affording communication between the dip-recess and the main chamber, a fountain-chamber having an inlet-passage inclosing said feed-controller, means forming one or more ducts leading from the fountain-chamber to said dip-recess whereby the ink is circulated from the fountain mechanism into the dip-recess and thence through the passage into the main chamber, and a valve operating to close the inlet to the fountain chamber by back pressure of the liquid therein.

4. In a fountain ink-well, the combination of a main body having a main chamber, a top cover therefor provided with a dip-opening, a fountain-chamber arranged within said main chamber provided with an inlet in its lower portion and having a tubular extension at its upper side extending to and surrounding said dip-opening, said fountain-chamber having a passage leading radially from the upper end of said tubular extension to said main chamber, a float having its main body arranged within said fountain-chamber and provided with an extension rising through the tubular extension of said fountain-chamber, said tubular extension having feed-ducts leading from the fountain-chamber upwardly alongside said float extension to the space above the latter, the lower surface of the body of said float being of different shape from that of the inner bottom surface of the fountain-chamber, whereby sticking of the float in its depressed position is avoided.

5. In a fountain ink-well, the combination with a main body having a main chamber and a top cover therefor provided with a dip-opening, a separately-formed fountain-chamber having a bottom wall arranged within the main chamber and an inlet-opening through said bottom wall, a flat seat surrounding said inlet-opening within the chamber, a gravity valve member resting upon said seat and normally closing the inlet and inlet-space leading from the main chamber beneath the bottom of the fountain-chamber to the inlet-valve, a tubular extension rising from the fountain-chamber to said top closure and at its upper end surrounding the dip-opening in the latter, and having a passage affording communication between the upper part of said tubular extension and the upper part of the main chamber, and a float within the fountain-chamber having an upper extension rising within the tubular extension of the fountain-chamber and adapted to engage the perimeter portions surrounding the dip-opening to seal the latter when the float is natant.

841,346. ENVELOP. JOHN A. SHERMAN, Worcester, Mass. Filed Dec. 19, 1901. Serial No. 86,476.



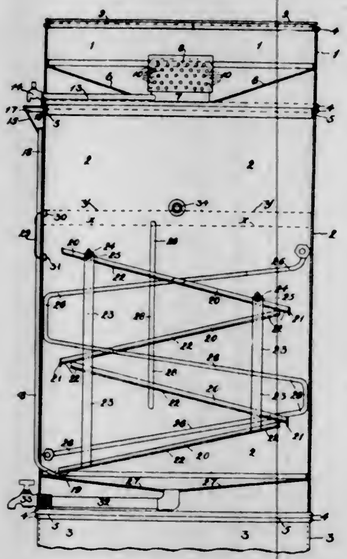
Claim.—An envelop having attached to the body thereof a back flap, a seal-flap, and two end flaps one of which end flaps is made considerably longer than the other and is adapted also to overlap the same in part, which back and seal flaps are adapted to lap over said end flaps and be permanently secured to the longer of said flaps, both said back flap and said seal-flap having gummed surfaces extending on both sides of their projecting points whereby said flaps may become permanently sealed to said longer end flap by seals extending to the extremity thereof.

841,347. APPARATUS FOR THE PURIFICATION OF WASTE OIL. NOAH W. SMITH, East Rand, Transvaal. Filed Aug. 27, 1906. Serial No. 332,132.

Claim.—1. In apparatus of the nature specified, in combination, a hot-water-containing vessel, a plurality of superimposed inclined plates or baffles and ribs subdividing said baffles into a plurality of sections and means for conducting the oil independently to each section.

2. In apparatus of the nature specified, in combination,

a hot-water-holding vessel, a plurality of superimposed inclined trays or baffles, projections or ribs dividing the lower surfaces of said baffles into a plurality of sections, and projections on the lower edges of the baffles, as set forth.

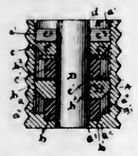


3. In apparatus of the nature specified, in combination, a vessel for receiving the impure liquid, means located in said vessel for removing the larger particles of matter, a water-holding vessel, a plurality of oppositely-superimposed inclined plates or baffles constructed on the under side with parallel ribs or projections dividing them into a plurality of parallel sections, a plurality of pipes for drawing off the impure oil from the receiver and conducting it to each of the sections of the baffles, means for heating the water in the water-holding vessel, means for drawing off the matter which accumulates in said latter vessel, a dry filter comprising a plurality of superimposed chambers, filtering matter in said chambers, means for drawing off the partially-purified oil from the water-holding vessel and conducting it to said dry filter, a storage vessel and means for drawing off the oil from the dry filter and conducting it to said storage vessel, as set forth.

4. In apparatus of the nature specified, a water-holding vessel, a plurality of superimposed oppositely-inclined trays or baffles constructed with parallel ribs or projections forming said plates or baffles into a plurality of sections on the under side, flanges along the lower edges of each baffle, means for introducing the oil to be purified below the bottom baffle, means for heating the water, and a dry filter comprising a plurality of superimposed compartments constructed with inclined bottoms, two perforated trays arranged in each compartment and filtering material between the trays.

5. In apparatus of the nature specified, a receiving vessel constructed with an inclined bottom, a receptacle in the bottom of said vessel and a perforated cover for said receptacle, a plurality of pipes and cocks for drawing off the liquid from said receptacle, a water-holding vessel, a coil for heating the water therein, a plurality of superimposed oppositely-inclined plates or baffles constructed to form a plurality of parallel sections on the under side, a subdivided hopper for receiving the oil from the receptacle, a plurality of pipes from the hopper for conducting the oil from each compartment to the sections of the baffles, means for maintaining a constant water-level in the water-holding vessel, a gage for indicating the water and oil levels, means for drawing off the sediment from the water-holding vessel, means for drawing off the oil above the water-level, a dry filter comprising a plurality of superimposed compartments constructed with inclined bottoms, two perforated trays in each compartment and filtering material between the trays, a storage-tank, and a pipe from the dry filter to the storage-tank, substantially as set forth.

841,348. BEER-BUNG. FRANK E. STAUFFER, Chicago, Ill. Filed July 20, 1904. Serial No. 217,416.



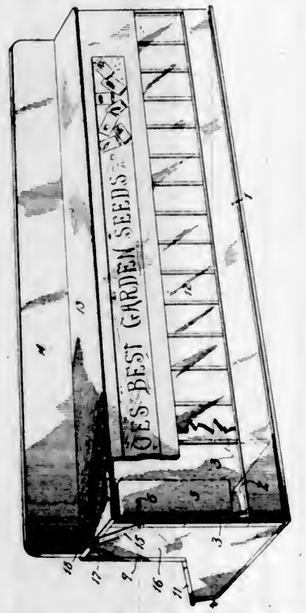
Claim.—1. In a beer-bung, the combination of a shell having an interior screw-thread and having its interior chamber open at the outer end and terminated at the inner end by a bottom wall having a central hole with an annular recess around the central hole in the inner face of the bottom wall, a packing-ring at the inner end of the chamber of the shell partly entered into the recess and projecting out from the face of the bottom wall, an inner follower located within the chamber of the shell and contacting the inner packing-ring and having a peripheral thread and engaging the interior thread of the shell for the advance of the follower to nominally compress the inner packing-ring around a closing-plug, a packing-ring within the chamber of the shell at its outer end and in contact with the inner follower, and a follower for the outer packing-ring located within the chamber of the shell and contacting the outer packing-ring and having a peripheral screw-thread engaging the interior screw-thread of the shell for the advance of the follower to tightly compress the outer packing-ring around the closing-plug, substantially as described.

2. In a beer-bung, the combination of a shell having an interior screw-thread and having its interior chamber open at the outer end and terminated at the inner end by a bottom wall having a central hole with an annular recess around the central hole in the inner face of the bottom wall, a packing-ring at the inner end of the chamber of the shell partly entered into the recess and projecting out from the face of the bottom wall, an inner follower located within the chamber of the shell and contacting the inner packing-ring and having a peripheral thread and engaging the interior thread of the shell for the advance of the follower to nominally compress the inner packing-ring around a closing-plug, a packing-ring within the chamber of the shell at its outer end and in contact with the inner follower, a follower for the outer packing-ring located within the chamber of the shell and contacting the outer packing-ring and having a peripheral screw-thread engaging the interior screw-thread of the shell for the advance of the follower to tightly compress the outer packing-ring around the closing-plug, and a closing-plug having its inner end entered through the central hole in the bottom wall of the shell and having its body passing through alining holes in the packing-rings and followers and around which the packing-rings are compressed for the inner packing-ring to nominally hold the plug in place and for the outer packing-ring to seal the plug, substantially as described.

3. In a beer-bung, the combination of a shell having an interior screw-thread and having its interior chamber open at the outer end and terminated at its inner end by a bottom wall having a central hole, a packing-ring located within the chamber and abutting against the bottom wall of the shell, a ring-follower located within the chamber of the shell and abutting against the inner packing-ring, an outer packing-ring located within the chamber of the shell and abutting against the ring-follower, a washer located within the chamber of the shell and resting on the outer packing-ring, and a ring-follower located within the chamber and abutting against the washer, each ring-follower having an exterior screw-thread engaging the interior screw-thread of the shell and adapted to be moved independently of the other to compress to a different degree around a closing-plug the respective packing-rings on which they operate, substantially as described.

4. In a beer-bung, the combination of a shell having an interior screw-thread and having its interior chamber open at the outer end and terminated at its inner end by a bottom wall having a central hole, a packing-ring located within the chamber and abutting against the bottom wall of the shell, a ring-follower located within the chamber of the shell and abutting against the inner packing-ring, an outer packing-ring located within the chamber of the shell and abutting against the ring-follower, a washer located within the chamber of the shell and resting on the outer packing-ring, a ring-follower located within the chamber and abutting against the washer, each ring-follower having an exterior screw-thread engaging the interior screw-thread of the shell and adapted to be moved independently of the other to compress to a different degree around a closing-plug the respective packing-rings on which they operate, substantially as described.

841,349. DISPLAY-CABINET. JOHN T. STINSON and WILLIAM F. HALL, Springfield, Mo., assignors to The Planters Seed Company, Springfield, Mo., a Corporation of Missouri. Filed Oct. 25, 1906. Serial No. 340,571.



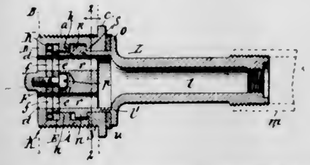
Claim.—1. A cabinet divided into a number of compartments and provided with a combined lid and display-panel consisting of two members rigidly connected together and arranged approximately at right angles to each other, and links pivotally connecting said combined lid and display-panel to the end walls of the cabinet; substantially as described.

2. A cabinet divided into a number of compartments and provided with a combined lid and display-panel consisting of two members rigidly connected together and arranged approximately at right angles to each other, links pivotally connecting said combined lid and display-panel to the end walls of the cabinet, and locking devices for holding said combined lid and display-panel in position; substantially as described.

3. A cabinet consisting of two end walls provided with rearwardly-extending portions, front and rear walls, partitions conforming in shape to said end walls and dividing the cabinet into a plurality of compartments, a slide for each compartment provided with a winged screw which extends through an elongated slot in the rear wall of the cabinet, a washer arranged between the wings of said screw and the rear wall of the cabinet, a combined lid and display-panel consisting of two members rigidly connected together and arranged at approximately right angles to each other, and means for pivotally connecting said combined lid and display-panel to the end walls of the cabinet whereby it can be so adjusted that the display is moved into or out of an operative position; substantially as described.

4. A cabinet divided into a number of compartments and provided with a combined lid and display-panel consisting of two members connected together and arranged approximately at right angles to each other, and links pivotally connecting said lid and display-panel to the end walls of the cabinet whereby said lid and panel can be so arranged that the display-panel extends downwardly over the front wall of the cabinet; substantially as described.

841,350. BARREL VALVE AND TAPPING DEVICE. ROBERT STOCK, Buffalo, N. Y., assignor to Buffalo Valve Company, Buffalo, N. Y., a Corporation of New York. Filed Feb. 16, 1906. Serial No. 301,397.



Claim.—1. A valve comprising a hollow body having a head provided with a port, a rotary valve-disk pivoted on the outer side of said head, a lug arranged on the periphery of said disk, and a detent-spring engaging with said lug, substantially as set forth.

2. A valve comprising a hollow body having a head provided with a port, a rotary valve-disk pivoted on the outer side of said head, two ribs arranged oppositely on the interior of said body and separated at their ends by intervening gaps or spaces and each rib having an inclined inner side, lugs arranged oppositely on the periphery of said disk and adapted to pass through said spaces and engage with the inclined sides of said ribs, and detent-springs secured to said head opposite said ribs and having shoulders adapted to engage with the sides of said lugs, substantially as set forth.

3. A valve comprising a hollow body having a head provided with a port, a valve-disk pivoted on the outer side of said head and provided with a port adapted to register with the port of said head, pins projecting outwardly from said disk on opposite sides of its pivot, and a coupling having a stem constructed to enter said body and having a passage adapted to register with the port of said disk and sockets adapted to receive said pins, a rib arranged on the interior of said body, and a lug arranged on the periphery of said stem and engaging with said rib, substantially as set forth.

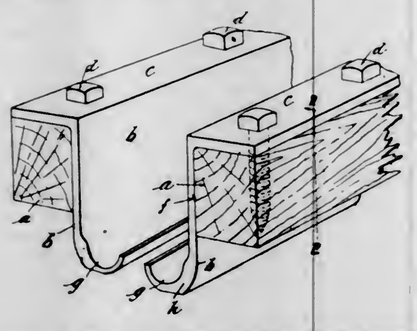
4. A valve comprising a hollow body having a head provided with a port, a valve-disk pivoted on the outer side of said head and provided with a port adapted to register with the port of said head, pins projecting outwardly from said disk on opposite sides of its pivot, and a coupling having a stem constructed to enter said body and having a passage adapted to register with the port of said disk and sockets adapted to receive said pins, a rib arranged on the interior of said body, a lug arranged on the periphery of said stem and engaging with said rib, and a packing-ring interposed between a shoulder on the coupling and the outer side of said body, substantially as set forth.

5. A valve comprising a hollow body having a head provided with a port, a rotary valve-disk pivoted on the outer side of said head and having a port adapted to register

with the port of said head, a rib arranged on the interior of said body and having an inclined inner side, a lug arranged on said disk and adapted to engage the inclined side of said rib, a rotary coupling having a stem for insertion into said body, means for operatively connecting said stem and disk, another rib arranged on the interior of said body and having an inclined inner side, and a lug arranged on said stem and adapted to engage the inclined side of said last-mentioned rib, the relative arrangement of said lugs and ribs being such that upon turning the coupling and disk in the direction for opening the valve the lug of the stem will engage its companion rib while upon turning these parts in the reverse direction for closing the valve the lug of the disk will engage with its respective rib, substantially as set forth.

6. A valve comprising a hollow body having a head provided with ports, a rotary disk pivoted on the outer side of said head and having ports adapted to register with the ports of said head, two internal ribs arranged on opposite sides of the inner part of said body and having their ends separated by gaps or spaces and their inner sides inclined, lugs arranged on opposite sides of said disk and adapted to pass through said spaces and engage with the inner sides of said ribs upon turning the disk in the direction for opening the valve, a coupling having a stem constructed to enter said body and having passages adapted to connect with said ports, coupling-pins arranged on the outer sides of said disk and adapted to engage with sockets in said stem, two internal ribs arranged on opposite sides of the outer part of said body and having their ends separated by spaces or gaps and their sides inclined, and lugs arranged on opposite sides of the stem and adapted to engage with the inclined sides of the last-mentioned ribs, the spaces between the inner ribs and between the outer ribs being in line and constructed to permit the passage of said lugs and the inner side of the inner ribs being inclined in a direction opposite to that of the corresponding side of the outer ribs, substantially as set forth.

841,351. TROLLEY-TRACK. WILLIAM J. SUMNER, Holyoke, Mass., assignor to Coburn Trolley Track Co., Holyoke, Mass. Filed Sept. 12, 1906. Serial No. 334,282.



Claim.—1. In a track of the class described, a supporting portion and a tread portion, the supporting portion being above the tread portion, said portions being located at diagonally opposite parts of the rail, a thickened portion interposed between the tread and supporting portion, and the tread portion being substantially circular in form.

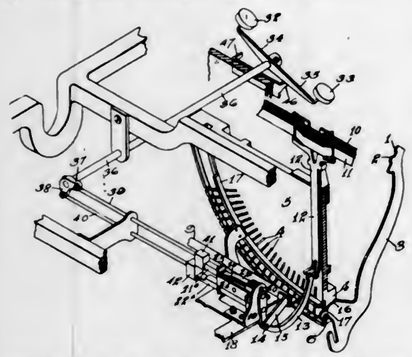
2. In a track of the class described, the same being substantially Z-shaped in cross-section, and comprising a supporting portion and a tread portion, the tread portion being substantially circular in form and a reinforcement of the rail in the part adjacent the tread portion thereof.

3. In a track of the class described, the same being substantially Z-shaped in cross-section, and comprising a supporting portion and a tread portion, the tread portion being substantially circular in form, and a reinforcement of the rail in the part adjacent the tread portion thereof, said reinforcement being located on the exterior side of the rail and at the point where the web portion merges into the tread portion.

4. A trolley-track having supporting and tread portions, the supporting portion being above the tread portions, a web connecting the same and including a thickened portion at the point where the web and tread portions merge into each other.

5. A trolley-track having a supporting portion and a tread portion extending in opposite directions, the same being connected by a vertical web, the section of the tread portion being substantially circular in form.

841,352. TYPE-WRITING MACHINE. GUSTAF SWENSON, Pittsburg, Pa., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 14, 1906. Serial No. 343,380.



Claim.—1. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination of an actuator connected to said universal bar and having a slot, a ribbon-vibrating lever, a pair of wrists at different distances from the fulcrum of said lever, means being provided upon said lever for guiding said wrists for axial movements, said wrists being mounted to work in said slot and being movable axially to connect said lever with said actuator, and means connecting said wrists to cause either wrist to shift to effectively position and the other wrist to become silenced by means of a movement thereof in the opposite direction.

2. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination of an actuator connected to said universal bar and having a slot, a ribbon-vibrating lever, a pair of wrists at different distances from the fulcrum of said lever, means being provided upon said lever for guiding said wrists for axial movements, said wrists being mounted to work in said slot and being movable axially to connect said lever with said actuator, and means connecting said wrists to enable either wrist, when shifted to effective position, to silence the other wrist, said connecting means including racks provided upon the wrists, a pinion between said racks and meshing therewith, and means supporting said pinion.

3. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination of an actuator connected to said universal bar, a ribbon-vibrating lever, a pair of wrists at different distances from the fulcrum of said lever, and means for moving said wrists simultaneously in opposite directions to silence either thereof, and cause the other to connect said lever to said actuator.

4. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination with a ribbon vibrator or carrier, of shiftable means for enabling said universal bar to vibrate said carrier different distances at the type-strokes, said vibrating means including a lever between the universal bar and the carrier, a pair of wrists mounted at different distances from the fulcrum of said lever, movement-transmitting means coöperating with said lever and said wrists, and means for shifting said wrists axially in opposite directions at the same time, to bring either into use and silence the other.

5. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination with a ribbon vibrator or carrier, of shiftable means for enabling said universal bar to vibrate said carrier different distances at the type-strokes, said vibrating means including a lever between the universal bar and the carrier, a pair of wrists mounted at different distances from the fulcrum of said lever, movement-transmitting means coöperating with said lever and said wrists, a device pivoted between said wrists and extending in opposite directions from its pivot to engage said wrists, and a finger-piece having means for shifting said wrists in axial direction, to bring either into use and silence the other.

6. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination with a ribbon vibrator or carrier, of shiftable means for enabling said universal bar to vibrate said carrier different distances at the type-strokes, said vibrating means including a lever between the universal bar and the carrier, a pair of wrists mounted at different distances from the fulcrum of said lever, movement-transmitting means coöperating with said lever and said wrists, means for shifting said wrists axially in opposite directions at the same time, to bring either into use and silence the other, and yielding means for detaining the wrists where adjusted.

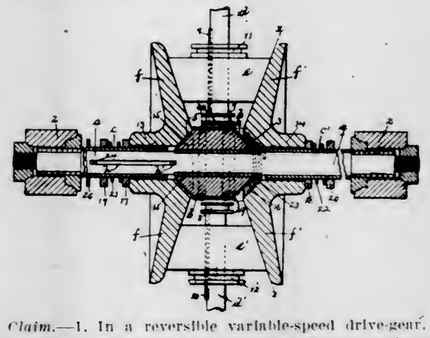
7. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination with a ribbon vibrator or carrier, of shiftable means for enabling said universal bar to vibrate said carrier different distances at the type-strokes, said vibrating means including a lever between the universal bar and the carrier, a pair of wrists mounted at different distances from the fulcrum of said lever, movement-transmitting means coöperating with said lever and said wrists, a finger-piece, and a pair of check-pieces controlled by said finger-piece, and mounted upon the framework for shifting said wrists axially, to bring either into use and silence the other.

8. In a type-writing machine having a platen shiftable up and down, type-operating keys and a universal bar reciprocated by said keys, the combination with a ribbon vibrator or carrier, of shiftable means for enabling said universal bar to vibrate said carrier different distances at the type-strokes, said vibrating means including a lever between the universal bar and the carrier, a pair of wrists mounted at different distances from the fulcrum of said lever, movement-transmitting means coöperating with said lever and said wrists, a finger-piece, and a pair of check-pieces controlled by said finger-piece, and mounted upon the framework for shifting said wrists axially, to bring either into use and silence the other; said lever shiftable up and down with said platen, and said check-piece of sufficient area to engage said wrists in all positions of the lever.

9. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination with a ribbon vibrator or carrier, of shiftable means for enabling said universal bar to vibrate said carrier different distances at the type-strokes, said vibrating means including a lever between the universal bar and the carrier, a pair of wrists mounted at different distances from the fulcrum of said lever, movement-transmitting means coöperating with said lever and said wrists, a device pivoted between said wrists and extending in opposite directions from its pivot to engage said wrists, a pair of check-pieces mounted upon the framework in position to engage said wrists, and a finger-piece having means for moving said check-pieces simultaneously in opposite directions.

10. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination with a ribbon vibrator or carrier, of shiftable means for enabling said universal bar to vibrate said carrier different distances at the type-strokes, said vibrating means including a lever between the universal bar and the carrier, a pair of wrists mounted at different distances from the fulcrum of said lever, movement-transmitting means coöperating with said lever and said wrists, a device pivoted between said wrists and extending in opposite directions from its pivot to engage said wrists, a pair of check-pieces mounted upon the framework in position to engage said wrists, and a rock-shaft having opposite arms, rods extending from said arms to said check-pieces and a finger-piece for turning said rock-shaft; means being provided upon the framework for guiding said check-pieces.

841,353. REVERSIBLE VARIABLE-SPEED DRIVING-GEAR. GEROME F. TADINI, New York, N. Y. Filed Feb. 8, 1906. Serial No. 300,034.



Claim.—1. In a reversible variable-speed drive-gear, a driven shaft, a device slidably mounted thereon and revoluble therewith, members loosely mounted on said shaft on both sides of the said device, means for turning said members on the shaft and means for causing the said device to normally engage one of the said members.

2. In a reversible variable-speed drive-gear, a driven shaft, a device slidably mounted thereon and revoluble therewith, members loosely mounted on said shaft on both sides of the said device, means for turning said members on the shaft, means for causing the said device to normally engage one of the said members and means for causing the said device to engage the other of the said members.

3. In a reversible variable-speed drive-gear, a driven shaft, a device slidably mounted thereon and revoluble therewith, members loosely mounted on said shaft on both sides of said device, means for turning said members on the said shaft, means for shifting the aforesaid means for varying the speed at which the said driven shaft is turned and means for causing the said device to normally engage one of the said members.

4. In a reversible variable-speed drive-gear, a driven shaft, a device slidably mounted thereon and revoluble therewith, members loosely mounted on said shaft on both sides of said device, means for turning said members on the said shaft, means for shifting the aforesaid means for varying the speed at which the said driven shaft is turned, means for causing the said device to normally engage one of the said members and means for causing the said device to engage the other of the said members.

5. In a reversible variable-speed drive-gear, a driven shaft, a device slidably mounted on the said shaft and revoluble therewith, members loosely mounted on said shaft on both sides of the said device, auxiliary shafts, drive-pulleys slidably mounted thereon, means for maintaining the said members in contact with the said drive-pulleys and means for maintaining the said device in contact normally with one of the said members.

6. In a reversible variable-speed drive-gear, a driven shaft, a device slidably mounted on the said shaft and revoluble therewith, members loosely mounted on said shaft on both sides of the said device, auxiliary shafts, drive-pulleys slidably mounted thereon, means for maintaining the said members in contact with the said drive-pulleys, means for maintaining the said device in contact normally

with one of the said members and means for causing the said device to engage the other of the said members.

7. In a reversible variable-speed drive-gear, a driven shaft, a device slidably mounted thereon and revoluble therewith, members loosely mounted on the said shaft on both sides of the said device, auxiliary shafts, drive-pulleys slidably mounted thereon, means for shifting the said drive-pulleys on the said auxiliary shafts, means for maintaining the said members in contact with the said drive-pulleys and means for maintaining the said device in contact normally with one of the said members.

8. In a reversible variable-speed drive-gear, a driven shaft, a device slidably mounted thereon and revoluble therewith, members loosely mounted on the said shaft on both sides of the said device, auxiliary shafts, drive-pulleys slidably mounted thereon, means for shifting the said drive-pulleys on the said auxiliary shafts, means for maintaining the said members in contact with the said drive-pulleys, means for maintaining the said device in contact normally with one of the said members and means for causing the said device to engage the other of the said members.

9. In a reversible variable-speed drive-gear, a driven shaft, driven members connected therewith, a device slidably mounted on the said driven shaft and revoluble therewith, members loosely mounted on the said shaft on both sides of the said device, means for turning the said members on the shaft and means for causing the said device to normally engage one of the said members.

10. In a reversible variable-speed drive-gear, a driven shaft, driven members connected therewith, a device slidably mounted on the said driven shaft and revoluble therewith, members loosely mounted on the said shaft on both sides of the said device, means for turning the last aforesaid members on the shaft, means for causing the said device to normally engage one of the said members and means for causing said device to engage the other of the said members.

11. In a reversible variable-speed drive-gear, a driven shaft, a device slidably mounted on the said shaft and revoluble therewith, friction-pulleys mounted loosely on the said driven shaft on both sides of said device, auxiliary shafts, drive-pulleys slidably mounted on said auxiliary shafts, springs for maintaining the said friction-pulleys in contact with the said drive-pulleys and means for maintaining the said device in contact normally with one of the said friction-pulleys.

12. In a reversible variable-speed drive-gear, a driven shaft, a device slidably mounted on the said shaft and revoluble therewith, drive-pulleys mounted loosely on the said driven shaft on both sides of said device, auxiliary shafts, drive-pulleys slidably mounted on said auxiliary shafts, springs for maintaining the said friction-pulleys in contact with the said drive-pulleys, a spring for normally maintaining the said device in contact with one of the said friction-pulleys and means for sliding the said device to cause the same to engage the other friction-pulley.

13. In a reversible variable-speed drive-gear, a driven shaft, a device slidably mounted on the said shaft and revoluble therewith, friction-pulleys loosely mounted on the said shaft on both sides of the said device, auxiliary-shafts, drive-pulleys slidably mounted thereon, means for maintaining the said friction-pulleys in contact with the said drive-pulleys, means for normally maintaining the said device in contact with one of the said friction-pulleys and means for shifting the said drive-pulleys on the auxiliary shafts for varying the speed at which the driven shaft is turned.

14. In a reversible variable-speed drive-gear, a driven shaft, a device slidably mounted on the said driven shaft and revoluble therewith, friction-pulleys loosely mounted on the said shaft on both sides of the said device, auxiliary shafts, drive-pulleys slidably mounted thereon, means for maintaining the said friction-pulleys in contact with the drive-pulleys, a spring for normally maintaining the said device in contact with one of the said friction-pulleys, a movable bar set longitudinally into the surface of the said driven shaft and bearing at one end against a side of the said slidable device and an arm and handle connected to the opposite end of the said movable bar for actuating the same to cause the said slidable device to engage the opposite friction-pulley.

15. In a reversible variable-speed drive-gear, a driven shaft, a device slidably mounted on the said driven shaft and revoluble therewith, friction-pulleys loosely mounted on the said shaft on both sides of the said device, auxiliary shafts, drive-pulleys slidably mounted thereon, means for maintaining the said friction-pulleys in contact with the drive-pulleys, a spring for normally maintaining the said device in contact with one of the said friction-pulleys, a movable bar set longitudinally into the surface of the said driven shaft and bearing at one end against a side of the said slidable device, an arm and handle connected to the opposite end of the said movable bar for actuating the same to cause the said slidable device to engage the opposite friction-pulley, bands surrounding the said slidable device, connecting-rods connected to the said bands at diametrically opposite points and extending between the same respectively and the drive-pulleys, and an arm and a handle connected to the said bands surrounding the slidable device through the operation of which the said drive-pulleys may be shifted to vary the speed at which the driven shaft is turned.

16. In a reversible variable-speed drive-gear, a driven shaft, a double-cone clutch slidably mounted thereon and revoluble therewith and whose opposite ends are screw-threaded, friction-pulleys mounted loosely on both sides of the said clutch, auxiliary shafts, drive-pulleys slidably mounted on the said auxiliary shafts, springs for maintaining the said friction-pulleys in contact with the said drive-pulleys and means for maintaining the said cone-clutch in contact normally with one of the said friction-pulleys.

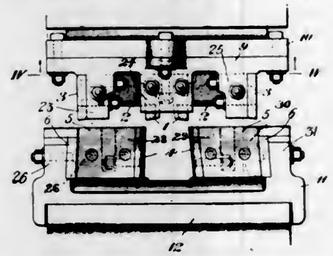
17. In a reversible variable-speed drive-gear, a driven shaft, a cone-clutch slidably mounted thereon and revoluble therewith and provided on its opposite ends with screw-threads, drive-pulleys mounted loosely on the said driven shaft on both sides of the said cone-clutch and provided in their inner hub portions with screw-threaded recesses adapted to receive and be engaged by the said screw-threaded ends of the cone-clutch, auxiliary shafts, drive-pulleys slidably mounted on the said auxiliary shafts, springs for maintaining the said friction-pulleys in contact with the drive-pulleys, a spring for normally maintaining one end of the cone-clutch in engagement with the screw-threaded recess in one of the said friction-pulleys and means for sliding the said cone-clutch to cause the opposite end of the same to engage the screw-threaded recess in the other friction-pulley.

18. In a reversible variable-speed drive-gear, a driven shaft, a cone-clutch slidably mounted thereon and revoluble therewith and provided on its opposite ends with screw-threads, friction-pulleys loosely mounted on said driven shaft on both sides of the said cone-clutch and whose inner hub portions are provided with conical screw-threaded recesses adapted to receive and engage the screw-threaded ends of the cone-clutch, auxiliary shafts, drive-pulleys slidably mounted thereon, means for maintaining the said friction-pulleys in contact with the drive-pulleys, means for normally maintaining one screw-threaded end of the said cone-clutch in engagement with the screw-threaded recesses in one of the said friction-pulleys, means for sliding the said cone-clutch to cause the opposite screw-threaded end to be engaged by the screw-threaded recess in the other friction-pulley and means for shifting the said drive-pulleys on the auxiliary shafts for varying the speed at which the driven shaft is turned.

19. In a reversible variable-speed drive-gear, a driven shaft, a cone-clutch slidably mounted thereon and revoluble therewith and provided at its opposite ends with screw-threads, friction-pulleys loosely mounted on the driven shaft on both sides of the cone-clutch, auxiliary shafts at right angles to the said driven shaft, drive-pulleys slidably mounted on the auxiliary shafts, means for maintaining the said friction-pulleys in contact with the drive-pulleys, a spring for normally maintaining the said cone-clutch in contact with one of the said friction-pulleys, a movable bar set longitudinally into the surface of the said driven shaft and bearing at one end against one side of the said cone-clutch, and an arm and a handle secured thereto connected to the opposite end of the said movable bar for actuating the same to cause the said cone-clutch to engage the opposite friction-pulley.

20. In a reversible variable-speed drive-gear, a driven shaft, a cone-clutch slidably mounted thereon, revoluble therewith and provided on its opposite ends with screw-threads, friction-pulleys loosely mounted on the said driven shaft on both sides of the said cone-clutch and whose inner hub portions are provided with conical screw-threaded recesses adapted to receive and engage the screw-threaded ends of the cone-clutch, auxiliary shafts at right angles to the said driven shaft, drive-pulleys slidably mounted on the auxiliary shafts, means for maintaining the said friction-pulleys in contact with the drive-pulleys, a spring for normally maintaining one screw-threaded end of the said cone-clutch in contact with the screw-threaded recess in one of the said friction-pulleys, a movable bar set longitudinally into the surface of the said driven shaft and bearing at one end against the end of the said cone-clutch, an arm and a handle connected to the opposite end of said movable bar for actuating the same to cause the screw-threads on the opposite end of the cone-clutch to come into engagement with the screw-threaded recess in the other friction-pulley, bands surrounding the said cone-clutch, bands connected to the said drive-pulleys, connecting-rods extending between the said bands surrounding the cone-clutch and the bands connected with the said drive-pulleys, and an arm and a handle connected to the said bands surrounding the clutch, through the operation of which, the said drive-pulleys may be shifted to vary the speed at which the driven shaft is turned.

841,354. APPARATUS FOR THE MANUFACTURE OF SPLICE-BARS. GEORGE E. THACKRAY, Westmont, Pa. Filed July 19, 1905. Serial No. 270,402.

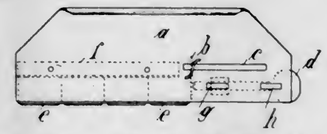


Claim.—1. In an apparatus for forming splice-bars of angular cross-section with lateral reinforcing projections, a movable head having transverse cutters for severing the edges of the reinforcing projections, longitudinal cutters for severing the edges of the splice member, and other transverse cutters for severing the ends of the splice member, combined with a support having an angular surface conforming to the angular section of the bar.

2. In an apparatus for forming splice-bars of angular cross-section with lateral reinforcing projections, a movable head having transverse cutters for severing the edges of the reinforcing projections, longitudinal cutters for severing the edges of the splice member, and other transverse cutters for severing the ends of the splice member, combined with a support for holding the stock-bar in proper relation to the cutters, the cutters having angular edges conforming to the section of the stock-bar.

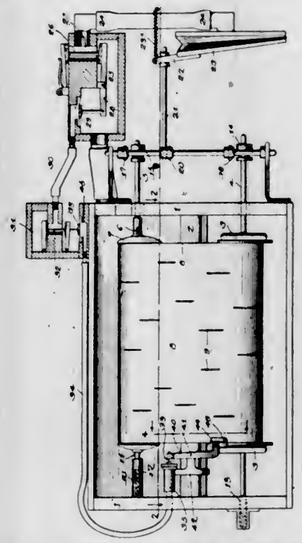
3. In an apparatus for forming splice-bars of angular cross-section with lateral reinforcing projections, a movable head having transverse cutters for severing the edges of the reinforcing projections, longitudinal cutters for severing the edges of the splice member, and other transverse cutters for severing the ends of the splice member, combined with a support for holding the stock-bar in proper relation to the cutters, said cutters being secured to lugs on the head that extend along the back of the cutters to near their edges to reinforce said cutters.

841,355. DEVICE FOR MARKING THE LENGTHS OF RAILS OR THE LIKE. WILHELM THOMAS, Duisburg-Meiderich, Germany. Filed June 8, 1906. Serial No. 320,920.



Claim.—Device for marking the length of rails or the like, comprising in combination a casing *a* provided at its side walls with a horizontal slot *c* and with opposite slots *g*, *g'* and *h*, *h'* respectively, a vertical plate *b* arranged adjustably in said casing and adapted to be guided in said slot *c* of said casing, types *e* placed in said casing, a screw *d* provided in said casing and adapted to act upon said vertical plate *b* and thus to fasten said types *e* in said casing, a removable guide-piece *i* for said screw adapted either to be set in said slots *g*, *g'* or in said slots *h*, *h'*, and ledges *f* provided in said casing and adapted to prevent said types from moving upward, substantially as described and shown.

841,356. MUSIC-SHEET-GUIDING DEVICE. ELIHU THOMSON, Swampscott, Mass., assignor to The Aeolian Company, New York, N. Y., a Company of Connecticut. Filed Feb. 9, 1906. Serial No. 300,236.



Claim.—1. A music-sheet-guiding device comprising means normally operative to move the sheet laterally in one direction, and means including a part bearing against an edge of the sheet and movable laterally thereby for governing said sheet-moving means.

2. A music-sheet-guiding device comprising pneumatically-actuated means for moving the sheet laterally, a movable part against which the sheet bears when laterally deflected from its path, and connections between said movable part and said moving means for controlling the latter said connections including a pneumatic valve moved by said part.

3. A music-sheet-guiding device comprising means normally operative to move the sheet laterally in one direction, a movable part against which the sheet bears when moved by said means from its path, and connections between said movable part and said sheet-moving means for controlling the latter.

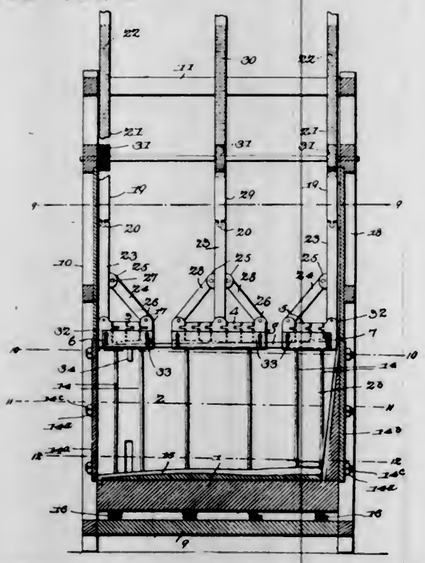
4. A music-sheet-guiding device comprising means in-

cluding an actuating-pneumatic and suitable connections for moving the sheet laterally, and means including a movable part against which the sheet bears when deflected from its path and a valve connected to said movable part, and pneumatic connections between said valve and said actuating-pneumatic for governing the latter.

5. A music-sheet-guiding device comprising a tracker, longitudinally-movable music-roll-supporting shafts at each side of said tracker, pneumatically-actuated means for longitudinally moving said shafts simultaneously and equally, a part bearing against an edge of the music-sheet and movable laterally thereby, and a pneumatic valve moved by said part for governing said shaft-moving means.

6. A music-sheet-guiding device comprising a tracker, longitudinally-movable music-roll-supporting shafts at each side of said tracker, springs for pressing said shafts longitudinally in the same direction, pneumatically-actuated means for longitudinally moving said shafts simultaneously and equally against the action of said springs, and means including a part bearing against an edge of the music-sheet and movable laterally thereby for governing said shaft-moving means.

841,357. MACHINE FOR BENDING SCYTHE-SNATHS. ALBERT TOWE, Charlotte, Mich. Filed May 27, 1904. Serial No. 210,136.



Claim.—1. In a machine for bending scythe-snaths, the combination with a former having a channel departing laterally from the plane of its opening, of a plunger embodying a horizontal series of sections articulated to each other to yield laterally in a horizontal plane by contact with the walls of the channel, and reciprocatory actuating-bars combined with the plunger.

2. In a machine for bending scythe-snaths, the combination with a former having a channel departing laterally from the plane of its opening, of a plunger embodying a horizontal series of sections articulated to each other to yield laterally in a horizontal plane by contact with the walls of the channel, reciprocatory actuating-bars, and means for yieldably connecting the sections and the actuating-bars.

3. In a machine for bending scythe-snaths, the combination with a former having a channel departing laterally from the plane of its opening, of a plunger embodying a horizontal series of sections articulated to each other to yield laterally in a horizontal plane by contact with the walls of the channel, and flexible shields combined with the sections and projecting in advance thereof in the plane of travel.

4. In a machine for bending scythe-snaths, a former having a channel departing laterally from the plane of its opening to impart all of the horizontal bends to a snath-blank, a form adapted to impart all of the vertical bends to the blank, and a plunger embodying a horizontal series of sections articulated to each other to yield laterally in a horizontal plane and coacting with the form to produce the finished blank.

5. In a machine for bending scythe-snaths, a former, a plunger coacting therewith and provided with a resilient hook to hold a snath-blank in operative relation to the plunger, and a blank-receiving form adapted to flex the hook to release the blank.

6. In a machine for bending scythe-snaths, a former having a channel departing laterally from the plane of its opening, a plurality of articulated plungers coacting with the former, means carried by one of the plungers to hold the snath-blank in coöperative relation thereto, and means to release the blank-holding device.

7. In a machine for bending scythe-snaths, a former comprising side and end plates, the side plates having their opposed faces, provided with spaced ribs and contoured to impart all the horizontal bends to a snath-blank, and an adjustable abutment combined with one end of the former.

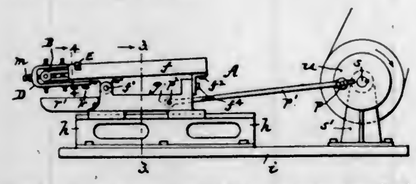
8. In a machine for bending scythe-snaths, a former having a channel departing laterally from the plane of its opening and provided with an angular abutment, and a plunger embodying a horizontal series of sections articulated to each other to yield laterally in a horizontal plane, and guards carried by the outer ends of the terminal sections.

9. A machine for bending scythe-snaths embodying in its construction, a former having a channel departing laterally from the plane of its opening, a form arranged beneath the channel, and a plunger embodying a horizontal series of sections articulated to each other to yield laterally in a horizontal plane by contact with the walls of the channel and coacting with the form to produce a finished snath, and means for imparting end pressure to the blank.

10. A machine for bending scythe-snaths comprising a former having a channel departing laterally from the plane of its opening, a plunger embodying a horizontal series of sections articulated to each other to yield laterally in a horizontal plane by contact with the walls of the channel, and a yieldable shield or jacket combined with each of the sections and extending beyond the faces thereof that engage the blank to contact with another face of the blank.

11. A machine for bending scythe-snaths comprising a former having a channel departing laterally from the plane of its opening, a plunger embodying a horizontal series of sections articulated to each other to yield laterally in a horizontal plane by contact with the walls of the channel, a yieldable shield carried by each of the sections, and guards carried by the outer ends of the terminal sections.

841,358. MACHINE FOR INSERTING COMBING-NEEDLES IN TEMPORARY HOLDERS OR BOOKS. THOMAS TOWNSEND, Providence, R. I. Filed Sept. 7, 1906. Serial No. 333,656.



Claim.—1. In a machine of the character described for automatically inserting needles or analogous members, the combination of a reservoir for containing the needles in a loose state, a needle-receiving device provided with holes arranged to receive needles therein direct from the reservoir without the intervention of a runway, and means for imparting a shaking movement to the said reservoir and needle-receiving device.

2. In a machine of the character described, the combination of a mechanically-movable reservoir for containing needles or analogous articles, a frame or holder secured to and movable in unison with the reservoir, a book adjustably mounted in said frame, and members fixed in said book provided with a row of holes arranged with respect to the reservoir, so that the action of the moving parts automatically positions the needles and causes them to enter the said holes of the book members.

3. In a machine of the character described, the combination with a suitably-mounted mechanically-movable reservoir for containing needles, of an adjustably-mounted book, so-called, removably secured to and movable in unison with said reservoir, gage-bars secured in said book having suitably-arranged holes therein positioned so as to receive needles direct from the reservoir, the latter and the book being so placed that a narrow space *r* extending longitudinally of said gage-bars is formed between the vertical face of the latter and the adjacent front edge of the bottom of the reservoir through which mispositioned needles may pass and fall by gravity.

4. In a machine of the character described, the combination of a movable needle-carrying pan, a correspondingly-movable needle-receiver provided with a row of alined holes arranged to automatically receive needles therein direct from the said pan, and a separator movable with the latter and provided with fingers extending downwardly into the reservoir to assist in segregating and positioning the needles.

5. In a machine of the character described, the combination with fixed ways and a cross-head intermittingly movable back and forth thereon, of a needle-carrying pan hinged to and movable with said frame, and means for tilting the said pan in angular planes with respect to the frame and securing it in such adjusted position.

6. In a machine of the character described, the combination of a needle-carrying reservoir open at its front end, a holder-frame D removably secured to said end portion of the reservoir, a book B adjustably mounted and secured in said frame and having a row of suitably-spaced holes or grooves in alinement with the bottom of the reservoir and located contiguous to the front end thereof, and means for imparting intermittent reciprocating rectilinear movements to the said reservoir, frame, and book members, substantially as described.

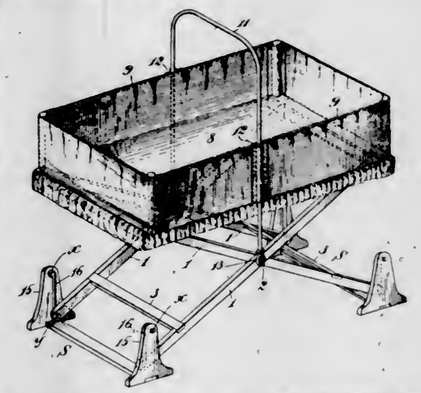
7. In a machine of the character described, fixed ways, a frame movably supported thereon, a receptacle movable with said frame for receiving mispositioned needles, and driving means for reciprocating the frame at a comparatively slow rate of speed, in combination with a needle-carrying reservoir secured to and movable in unison with said frame, and a device detachably secured to the front end of the reservoir provided with suitably formed and disposed holes arranged and adapted when the machine is in action to receive needles into said holes direct from the reservoir.

8. In a machine of the character described, the combination of a suitably-mounted needle-carrying reservoir, means operatively connected therewith for imparting to it a reciprocating rectilinear movement, a device for varying the length of stroke of said movement, and a device movable in unison with the reservoir and provided with openings registering with the bottom of the latter, constructed and arranged so that in action any needles when in proper position and in alinement with said openings may enter therein direct from the reservoir, substantially as described.

841,359. FOLDING CRIB. WARREN E. TROTT, New York, N. Y. Filed June 11, 1906. Serial No. 321,181.

Claim.—1. A folding crib, having two pairs of folding, crossed legs, two end bars hinged to the upper ends of the crossed legs of the respective pairs, and the fabric of the crib, comprising the bottom S, and the upright side 9, which engages the four upright posts.

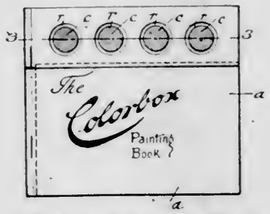
2. A folding crib, having two pairs of folding, crossed legs, two end bars hinged to the upper ends of the crossed legs of the respective pairs, the upright posts on the respective end bars, the fabric of the crib, comprising the bottom and the upright side 9, the light support 11, engaging pockets in the side 9, and sockets 13, which receive the extremities of the said support.



3. A folding crib, having two pairs of folding, crossed legs, two end bars hinged to the upper ends of the crossed legs of the respective pairs, the upright posts on the respective end bars, the fabric of the crib, and swinging means for supporting the legs of the crib.

4. A folding crib, having folding, crossed legs, and swinging devices for supporting the legs, each of said devices comprising two connected uprights, and two cranks mounted to swing in said uprights, the lower wrists or pins of the cranks engaging bearings in the respective legs of the crib.

841,360. COMBINED PAINTING-BOOK AND COLOR-BOX. GUSTAVE TUCK, London, England, assignor to Raphael Tuck & Sons Co., Ltd., New York, N. Y., a Corporation of New York. Filed Nov. 10, 1906. Serial No. 342,908.



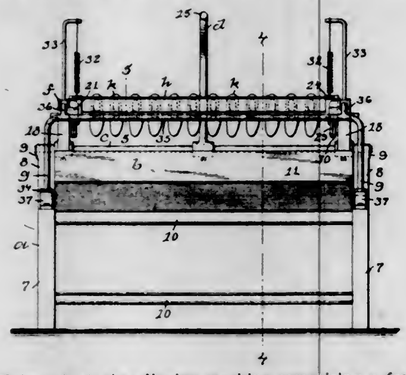
Claim.—1. A combined painting-book and color-box, consisting of a plurality of leaves provided with recesses at one or more edges, and a corresponding number of color-cakes applied to the non-recessed leaf or cover and arranged coincident with the recesses of the superposed leaves.

2. A combined painting-book and color-box, consisting of a plurality of leaves provided with illustrations and with recesses at one or more edges, and a non-recessed rear leaf or cover provided with flat color-cakes located coincident with the recesses in the superposed leaves and being of somewhat less diameter than the same.

3. A combined painting-book and color-box, consisting of a plurality of illustrated leaves provided with recesses at one or more edges, color-cakes located on the non-recessed back sheet or cover, said cakes being coincident with the recesses in the superposed leaves, and perforations extend-

ing along the back edge and below the color-box and alongside of the color-cakes so that the colored illustrations may be removed from the painting-book.

841,361. SHOE-DIPPING MACHINE. JOHN H. WALL, Bristol, R. I. Filed July 16, 1906. Serial No. 326,413.



Claim.—1. A shoe-dipping machine comprising a frame, a tank adapted to hold varnish or a similar liquid supported on the frame, a rock-shaft supported in bearings in the frame, a rotating mechanism, means for supporting the rotating mechanism on the rock-shaft, means for rotating the mechanism, a peg-bar, means in the rotating mechanism for detachably securing the peg-bar to the rotating mechanism, a plurality of lasts on the peg-bar adapted to hold a plurality of shoes, and means for partly rotating the rock-shaft, whereby a plurality of shoes are coated with varnish or a similar liquid in one operation of the machine.

2. A shoe-dipping machine comprising a frame, a tank adapted to hold varnish or a similar liquid supported on the frame, a rock-shaft supported in bearings in the frame, a lever on the rock-shaft, arms on the rock-shaft, a rotating mechanism supported on the arms over the tank, levers operatively connected with the rotating mechanism, a peg-bar, means in the rotating mechanism for detachably securing the peg-bar in the rotating mechanism, and a plurality of lasts on the peg-bar adapted to hold a plurality of shoes, whereby on operating the levers a plurality of shoes are coated with varnish or a similar liquid in one operation of the machine.

3. A shoe-dipping machine comprising a frame, a tank adapted to hold varnish or a similar liquid supported on the frame, a rock-shaft supported in bearings in the frame, a lever on the rock-shaft, arms on the rock-shaft, a rotating mechanism supported on the arms over the tank, levers operatively connected with the rotating mechanism, a peg-bar, means in the rotating mechanism for detachably securing the peg-bar in the rotating mechanism, means in the rotating mechanism for locking the peg-bar in the mechanism when in the reverse position, means for counterbalancing the rotating mechanism, and a plurality of lasts on the peg-bar adapted to hold a plurality of shoes, whereby on operating the levers a plurality of shoes are coated with varnish or a similar liquid in one operation of the machine.

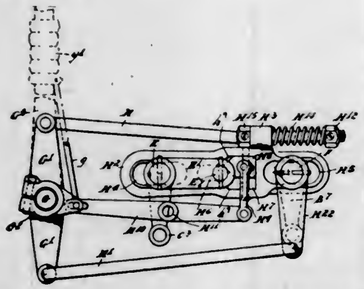
4. A shoe-dipping machine comprising a frame, a tank adapted to hold varnish or a similar liquid supported on the frame, a rock-shaft supported in bearings in the frame, a lever on the rock-shaft extending over the tank, arms on the rock-shaft extending over the tank, a rotating mechanism supported on the ends of the arms, levers operatively connected with the rotating mechanism, a peg-bar, means in the rotating mechanism for detachably securing the peg-bar in the mechanism, means in the rotating mechanism for locking the peg-bar in the mechanism when in the dipped position, means for counterbalancing the rotating mechanism, means for locking the rotating mechanism when in the normal position, and a plurality of lasts on the peg-bar adapted to hold a plurality of rubber shoes, whereby on operating the levers a plurality of rubber shoes are coated with varnish or a similar liquid in one operation, as described.

5. In a shoe-dipping machine the combination of a frame, a tank adapted to hold varnish or a similar liquid supported on the frame, a rock-shaft supported in bearings in the frame, a lever on the rock-shaft extending over the tank, arms on the rock-shaft extending over the tank, a rotating mechanism supported on the ends of the arms, levers operatively connected with the rotating mechanism, a peg-bar, means in the rotating mechanism for detachably securing the peg-bar in the mechanism, means in the rotating mechanism for locking the peg-bar in the mechanism when in the dipped position, means for counterbalancing the rotating mechanism, means for locking the rotating mechanism when in the normal position, a plurality of lasts on the peg-bar, a plurality of shoes on the lasts, and means for holding the shoes and lasts on the peg-bar when in the dipped position, as described.

6. In a shoe-dipping machine, the combination of a frame *a*, a tank *b* adapted to hold varnish or a similar liquid supported on the frame, a rock-shaft *c* supported in bearings in the frame, a lever *d* secured to the rock-shaft, weight-levers *e e* secured to the rock-shaft and having the arms 18 18 extending over the tank *b*, a rotating mechanism *f* comprising bearings 19 19 formed on the ends of the arms 18 18 and having the openings 20 20, semicircular lips 21 21 on the inner face of the arms 18 18, curved lips on the inner face of the arms forming stops 22 22, shafts 23 23 in the bearings on the inner ends of which are members 24 24 having the elongated recesses 25 25 with the closed ends 26 26 and the open ends 27 27, and the arms 29 29 extending downward from the members in a position to engage with the stops 22 22, arms 30 30 pivotally secured to the ends of the arms 29 29, a flat locking-bar 31 secured to the ends of the arms 30 30, coiled springs 32 32 secured to the locking-bar 31, and to upwardly-extending brackets 33 33 on the arms 18 18, levers *g g* connected to a cross-bar 35 having the arms 36 36 secured to the shafts 23 23, a peg-bar *h* having the pegs 39 39, a plurality of lasts *i i* on the peg-bar on which are a plurality of rubber shoes *k k*, and means for holding the rotating mechanism *f* in the normal position for the purpose, as described.

7. In a shoe-dipping machine, the combination of a frame *a*, a tank *b* adapted to hold varnish or a similar liquid supported on the frame, a rock-shaft *c* supported in bearings in the frame, a lever *d* secured to the rock-shaft over the tank, weight-levers *e e* secured to the rock-shaft and having the arms 18 18 extending over the tank, a rotating mechanism *f* supported on the ends of the arms 18 18, levers *g g* operatively connected with the rotating mechanism *f*, a peg-bar *h*, and a plurality of lasts *i i* on the peg-bar on which are a plurality of rubber shoes *k k*, substantially as shown and described.

841,362. LEVER MECHANISM. ALLIE R. WELCH and FRED S. WELCH, Pontiac, Mich. Filed June 5, 1905. Serial No. 263,723.



Claim.—1. Mechanism for producing various speed combinations, comprising a lever operatively connected with said mechanism, and a part adapted to slide along said lever and connected to said mechanism so as to adjust the same to make one or the other of said combinations.

2. The combination of a shifting crank, a slidable piece adapted to move in the direction of the length of said crank, a block carried by said piece having two cam-surfaces, one or the other of said cam-surfaces being adapted to act on said crank to shift the same accordingly to the position of said block.

3. The combination of a shifting crank, a piece adapted to slide in the direction of the length of said crank, said piece being provided with two opposing cam-surfaces extending in the direction of its movement and diverging toward their ends, a block upon said sliding piece having cam-surfaces parallel to said diverging portion of the cam-surfaces, said block being adjustable to form an opposing surface to one or the other of the diverging portions of said cam-surfaces.

4. The combination of an operating-lever, a shifting crank, a piece adapted to slide in the direction of the length of said crank, a block upon said sliding piece having two cam-surfaces, one or the other of said cam-surfaces being adapted to act upon the shifting crank according to the position of said block upon said piece, a lever fulcrumed approximately concentric with said operating-lever connected to said block so as to adjust the position of the same, and means for changing the position of the last-named lever.

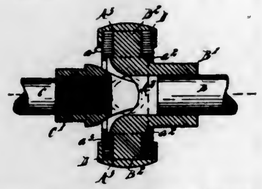
5. The combination of an operating-lever, a shifting crank, a piece adapted to slide in the direction of the length of said crank, a block upon said sliding piece having two cam-surfaces, one or the other of said cam-surfaces being adapted to act upon the shifting crank according to the position of said block upon said piece, a lever fulcrumed approximately concentric with said operating-lever connected to said block so as to adjust the position of the same, and a sliding part upon the operating-lever connected with the block-shifting lever so as to adjust the position of the same.

6. The combination of an operating-lever, two shifting cranks, one of said shifting cranks being connected to said operating-lever so as always to move in the same direction with the same movement of said lever, and means actuated by said operating-lever for turning the other of said shifting cranks in one way or the other with one motion of the operating-lever.

7. The combination of an operating-lever, a shifting crank, and means actuated by said lever for turning said shifting crank in one way or the other with one motion of the operating-lever.

8. The combination of an operating-lever, a shifting crank, means actuated by said operating-lever for turning said shifting crank in one way or the other with one motion of the operating-lever, and means for adjusting the turning means to turn the shifting crank in the direction desired.

841,363. UNIVERSAL JOINT. ALLIE R. WELCH and FRED S. WELCH, Pontiac, Mich. Filed Nov. 4, 1905. Serial No. 285,831.



Claim.—1. In a universal joint, a frame provided with bearings for the trunnions of the shafts, said frame being divided in a plane through the axis of one of said bearings and approximately parallel to the axis of said frame, the contiguous surfaces of the parts of said frame being provided with transverse interlocking ridges, and means for preventing the relative transverse movement of said surfaces and for holding the parts of the frame together.

2. In a universal joint, a frame provided with bearings for the trunnions of the shafts, one of said bearings having a cylindrical exteriorly-screw-threaded wall, said frame being divided in a plane through the axis of said bearing, the contiguous surfaces being formed to interlock, and a screw-cap having its threads engaging the screw-threads on the wall of said bearing.

3. In a universal joint, a frame provided with bearings for the trunnions of the shafts, one of said bearings having a cylindrical exteriorly-screw-threaded wall, said frame being divided in a plane through the axis of said bearing, the contiguous surfaces being provided with interlocking transverse grooves, and a screw-cap having its threads engaging the screw-threads on the wall of said bearing.

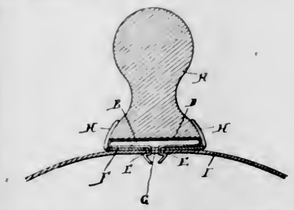
4. In a universal joint, a frame provided with bearings for the trunnions of the shafts, one of said bearings having a cylindrical exteriorly-screw-threaded wall, said frame being divided in a plane through the axis of said bearing, and a screw-cap having its threads engaging the screw-threads on the wall of said bearing.

5. In a universal joint, a frame open within its periphery and provided with bearings extending from the central opening, said frame being divided in a plane through the axis of a bearing, said bearing having outwardly-extending cylindrical walls screw-threaded exteriorly, the contiguous surfaces being adapted to interlock, and a screw-cap upon said cylindrical walls engaging the threads thereof, having its outer end closed and its inner end open, for the purpose described.

6. In a universal joint, a frame provided with a radially-extending two-part bearing, and a cap having its outer end closed, covering the outer end of said bearing and acting to hold the same together.

7. In a universal joint, a frame open within its periphery and provided with bearings extending from the central opening, said frame being divided in a plane through the axis of a bearing, said bearing having outwardly-extending cylindrical walls screw-threaded exteriorly, the contiguous surfaces being adapted to interlock, and a screw-cap upon said cylindrical walls engaging the thread thereof, having its outer end closed and its inner end open, there being inwardly-extending flanges at the ends of said opening, for the purpose described.

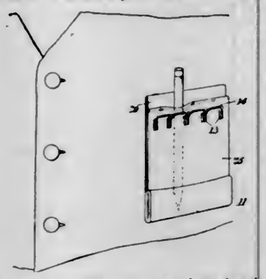
841,364. HANDLE OR KNOB FOR COOKING UTENSILS. ALFRED WICKWAR, Philadelphia, Pa. Filed Dec. 13, 1905. Serial No. 291,526.



Claim.—In a device of the character described, a knob or handle being flattened at the lower end, a transverse groove formed across the lower surface of the knob or handle, a spring-catch consisting of one piece of wire bent so as to form an elongated loop adapted to lie within the groove formed in the handle, the ends of the wire composing the loop approaching one another but not meeting near the center of the lower run of the loop, said ends then being bent downward vertically for a slight distance, each of said ends then being bent outward horizontally in opposite directions from one another to form shoulders, then being bent downward and inward toward one another, a plate adapted to fit over the lower end of the knob, said plate being provided with an opening formed through the center of the same through which the downwardly-extending ends of the spring-loop are adapted to extend, means for securing said plate to the knob or handle, the vertical portion of the downwardly-extending ends of the spring-loop extending a sufficient distance below the plate to al-

low the material composing the cover of the untensil to fit in between the shoulders of the catch and said plate, as specified.

841,365. PENCIL-HOLDER. JAMES H. WILLIAMS, Coeur d'Alene, Idaho. Filed May 24, 1906. Serial No. 318,596.



Claim.—1. In a pencil-holder, a plate having a receiver at one end for the pencil ends and transverse apertures near the other end, and spaced coils of resilient wire supported in said apertures and connected by yieldable loops to support the stocks of the pencils.

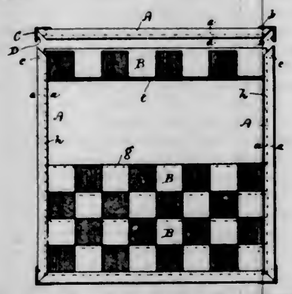
2. In a pencil-holder, a plate having a receiver at one end for the pencil ends and transverse apertures near the other end, spaced coils of resilient wire supported in said apertures and connected by yieldable loops to support the stocks of the pencils, and a rod connected at the ends to said plate and extending through said coils.

3. In a pencil-holder, a plate having a receiver at one end for the pencil ends and transverse apertures near the other end and with the side edges folded upon the body of the plate, a resilient wire formed into spaced coils with loops between the coils and disposed upon the plate with the coils within said apertures and the loops forming yieldable supports for the stocks of the pencils, the ends of said wire being supported in the sockets formed by the folded edges of the plate.

4. In a pencil-holder, a plate having a receiver at one end for the pencil ends and with transverse apertures near the other end and with the side edges folded upon the body of the plate, spaced coils of resilient wire supported in said apertures and with loops between the coils to form the supports for the stocks of the pencils, and a rod extending through said loops, the terminals of said rod and the terminals of said coils secured within the sockets formed by the folded edges of the plate.

5. In a pencil-holder, a plate provided with a transverse series of openings and side flanges, a connected series of spaced coils arranged respectively in said openings, the terminals of the outermost coils being engaged with said flanges, and a rod extending through the coils and terminally engaged with said flanges.

841,366. SECTIONAL CHECKER-BOARD. HORACE M. YORKE, Kennebunk, Me. Filed Sept. 21, 1906. Serial No. 335,550.



Claim.—1. A sectional checker-board consisting of sections alternately provided with the requisite squares and a suitable frame whereby the sides of the top and botttom sections and the ends of all the sections may be held in place and means whereby said frame may be locked, substantially as described.

2. A sectional checker-board combining eight sections provided with alternate white and black squares and means whereby said sections may, when arranged as a checker-board, be held in place, substantially as described.

3. A sectional checker-board consisting of eight sections in width equal to the width of the squares and each section carrying eight squares, an appropriate frame for holding the ends of the sections and the sides of the outer sections, when arranged as a checker-board, and means for locking together the parts of said frame, substantially as described.

841,367. RAILWAY ROAD-BED. LUTHER R. ZOLLINGER, Philadelphia, Pa. Filed Mar. 28, 1906. Serial No. 308,400.



Claim.—1. A railway road-bed comprising, in combination with a rail, an artificial-stone support extending substantially continuously between and along beneath said rail, and a metal stringer embedded in said stone and extending along the length of the rail, said stringer supporting said rail without the intervention of a cross-tie.

2. A railway road-bed comprising an artificial-stone floor, metal beams embedded in said floor, each beam being provided with a web and a flanged top, and rails extending along and supported by the respective beams, said rails being fixed directly to the flanged tops of the respective beams without the intervention of a cross-tie.

3. A railway road-bed comprising an artificial-stone support, I-beams embedded in said support, rails extending along and supported by said I-beams without the intervention of a cross-tie, and means for securing said rails in said positions said support extending continuously between the rails and along the whole or the greater part of the length thereof.

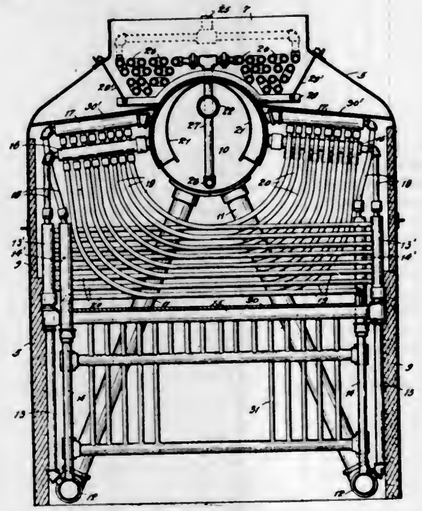
4. A railway road-bed comprising a continuous artificial-stone support with means therein for engaging a bolt, in combination with a rail, a clip for engaging said rail, a washer having an eccentric hole therein for engaging and adjusting said rail, and a bolt engaging said clip and washer to said bed.

5. A railway road-bed comprising an artificial-stone support provided with a socket having a metal thread set therein, in combination with a rail, a clip for holding said rail, a washer having an eccentric hole therein for engaging and adjusting said rail, and a bolt passing through said clip and washer into engagement with the thread in said socket.

6. A railway road-bed comprising a solid artificial-stone base extending along and between the rails, I-beams embedded in said base, rails extending along and supported by said I-beams, and reinforcing members embedded in said base beneath said I-beams and disposed transversely thereto.

7. A railway road-bed comprising an artificial-stone base, in combination with a stringer embedded therein for supporting the rail so that it is tilted to provide a bearing-surface conforming to the coning of the wheel.

841,368. PIPE-BOILER. JOHN L. ANDERSON, Seattle, Wash. Filed Jan. 17, 1906. Serial No. 296,510.



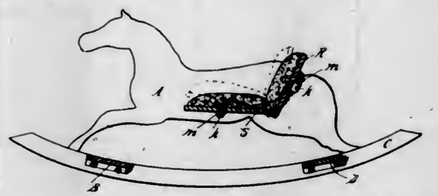
Claim.—1. The combination with the steam and mud drums connected by water-legs, of water-upflow pipes projecting from said mud-drums and terminating in enlarged portions, wing-pipes connected directly to said steam-drum, supporting connections between the said wing-pipes and the upflow-pipes, and steam-generating coils connecting the wing-pipes on one side of the boiler to the upflow-pipes on the other side of the boiler.

2. A pipe-boiler, comprising mud-drums, a steam-drum, water-legs connecting the mud and steam drums, two series of upflow-pipes connected to each of said mud-drums, one series of said upflow-pipes of one of the mud-drums being connected with those of like series upon the other mud-drum, a plurality of wing-pipes upon each side of said steam-drum and severally connected thereto, steam-generating coils connecting said upflow-pipes with said wing-pipes and the shield-plates within said steam-drum.

3. In a pipe-boiler, the combination with a steam-drum provided interiorly with shield-plates, said plates, a perforated dry pipe within the said drum, two mud-drums, connections between each of said mud-drums at its opposite ends with said steam-drum, upflow-pipes extending from said mud-drums, a plurality of steam-generating coils connecting said upflow-pipes with inclined wing-pipes disposed upon the opposite side of the steam-drum, and the said wing-pipes.

4. In a pipe-boiler, the combination with a steam-drum provided interiorly with shield-plates, said plates, of two mud-drums, connections between each of said mud-drums at its opposite ends with said steam-drum, upflow-pipes extending from said mud-drums, a plurality of steam-generating coils connecting the upflow-pipes upon one side of the drum with inclined wing-pipes disposed upon the other side of the steam-drum, and the said wing-pipes.

841,369. HOBBY-HORSE. GEORGE S. AXFORD, Northville, Mich. Filed Feb. 16, 1906. Serial No. 301,358.

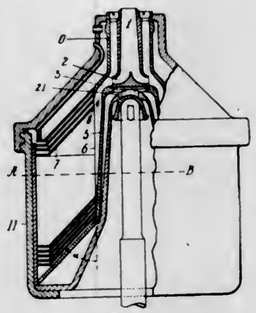


Claim.—1. In an article of the class described, in combination with side pieces and rocker members whereon the same are mounted, a removable back and seat portion adapted to be fixed therebetween, means fixed to the edges thereof and adapted to engage with complementary projections on each of said side pieces for rigidly securing said parts together, brace members extending from one rocker-piece to the other, and means whereby they may be similarly slipped into binding engagement with said rocker members, substantially as described.

2. In a hobby-horse, in combination with side pieces and rockers whereon the same are mounted, removable brace members extending from one of said rockers to the other and adapted to interlock therewith, a removable seat portion extending from the body portion of one side piece to the corresponding portion of the other side piece, and locking-clips rigidly attached to said seat portion and adapted to lock with complementary projections on said side pieces, substantially as described.

3. In a hobby-horse, in combination with side pieces provided with rocker-bases, independently-removable means whereby said side portions are engaged and kept spaced from one another, said means comprising a seat portion adapted to removably interlock with its edges against complementary parts of said side portions, and brace members similarly adapted to interlock with complementary portions of said rocker-bases, substantially as described.

841,370. CENTRIFUGAL SEPARATOR. NILS S. BÖK, Stockholm, Sweden. Filed Jan. 7, 1905. Serial No. 240,111.



Claim.—The combination with a separating-bowl having a liner therein consisting of superposed, conical plates, of a distributing-channel extending axially along the edges of the liner-plates and unobstructed at its side toward the liner and having its cross-section decreased in the direction of its length and the direction of the flow of the liquid.

841,371. AZO DYE AND PROCESS OF MAKING SAME. MELCHIOR BÖNIGER, Basel, Switzerland, assignor to Corporation of Chemical Works formerly Sandoy, Basel, Switzerland. Filed Apr. 12, 1906. Serial No. 311,263.

Claim.—1. The herein-described process for the manufacture of monoazo dyes by combining orthodiazophenol compounds with aryl-1.8 naphthylamin sulfonic acids, substantially as described.

2. The herein-described new monoazo dyes obtainable by combining orthodiazophenol compounds with aryl-1.8 naphthylamin sulfonic acids, which dyestuffs are in the form of their alkaline salts dark powders with metallic luster, dissolving in water and ethylic alcohol with blue-red to violet, in strong sulfuric acid with violet to blue color, the dyestuffs being deposited from the latter solution on addition of water in violet to blue flakes; dyeing unmordanted wool blue-red to violet shades, which turn into dark blue to black by subsequent chroming or treatment with bluestone; yielding upon reduction an orthoamidphenol compound and an aryl-1.4 naphthylenediamin S sulfonic acid, substantially as hereinbefore described.

841,372. ADJUSTABLE SUPPORT FOR MODELS, CARDS, &c. HUGO BUSCHMANN, Mülheim-on-the-Ruhr, Germany. Filed Apr. 27, 1906. Serial No. 314,089.

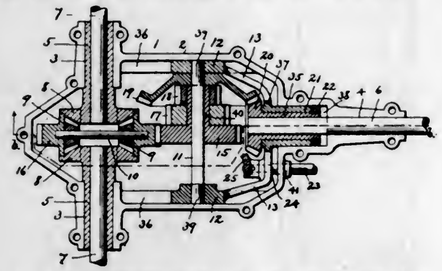


Claim.—Adjustable support for school demonstrating purposes, comprising in combination a rigid plate *c* painted quite white, a movable plate *d* also painted quite white and hinged to said rigid plate c and adapted either to be folded up so as to lie flat on said rigid plate c or to be unfolded so as to project at right angles to said rigid plate *c*, a hook *e* provided at the top of said rigid plate c, a rod *f* fixed to said rigid plate *c* and provided with a series of holes, an attachment *a* adapted to be fixed to a table or the like and to receive said rod *f* so that the latter can slide therein, and a pin *g* adapted to be inserted through one of the holes in said rod *f* so as to lie upon said attachment *a* and thus to fix said rigid plate c to any desired height, substantially as described and shown and for the purpose set forth.

841,373. TRANSMISSION-GEARING FOR MOTOR-VEHICLES. FORREST F. CAMERON and EVERETT S. CAMERON, Brockton, Mass. Filed Aug. 13, 1906. Serial No. 330,481.

Claim.—1. In a transmission-gearing, the combination of a casing; axle-tubes journaled therein and provided with a compensating gearing; a ring spur-gear carried by the compensating gearing; a driving-shaft journaled in said casing and disposed at right angles to the axle-tubes; a beveled gear fixed on the driving-shaft; a sliding frame mounted in the casing and embracing the driving-shaft; an intermediate shaft journaled in said frame; sliding spur-gears fast on last-mentioned shaft and adapted to mesh with the ring spur-gear; a second beveled gear fast on last-mentioned shaft and in mesh with first-mentioned beveled gear, and means for simultaneously actuating said sliding gears and frame.

2. In a speed-changing device of the character described the combination with the casing; axle-tubes journaled therein and provided with a compensating gearing; a ring spur-gear carried by the compensating gearing; a spider slidably mounted in said casing; a flat-sided shaft journaled in said spider; spur-gears slidably mounted on said shaft; a power-shaft; a beveled gear fast on last-mentioned shaft; a second beveled gear fast on first-mentioned shaft and engaging first-mentioned beveled gear; an operating-rod passing through said casing and said spider; a swinging arm secured upon said rod, and a saddle-block carried by said arm and arranged to straddle the peripheral portion of one spur-gear on first-mentioned shaft.



3. In a transmission-gearing, the combination with a casing; axle-tubes journaled therein and provided with a compensating gearing; a ring spur-gear carried by the compensating gearing; a driving-shaft; a beveled gear fast on said shaft and having an integral circular hub; a collar fast on the hub of said beveled gear; a spider having an integral block slidably mounted in said casing and embracing the hub of said beveled gear, and the block of said spider provided with notches; a flat-sided shaft journaled in said spider; spur-gears slidably mounted and fast on last-mentioned shaft; a second beveled gear fast on last-mentioned shaft and in mesh with first-mentioned beveled gear; a pawl pivoted to the casing and adapted to seat in the notches of said spider; a cam-lever pivoted on the casing and bearing on said pawl, and a pull-rod for operating said lever.

4. In a speed-changing and reversing gearing, the combination with the casing; axle-tubes journaled therein and provided with a compensating gearing; a ring spur-gear carried by the compensating gearing; a driving-shaft; a beveled gear fast on said shaft; a frame mounted in said casing; a flat-sided shaft journaled in said frame; a series of spur-gears slidably mounted fast on last-mentioned shaft; a beveled gear fast on last-mentioned shaft and in mesh with first-mentioned beveled gear; a bell-crank lever pivoted to the casing; a spur-gear carried thereby, and a rod connection from said lever to operate in carrying said last spur-gear into or out of engagement with the smaller spur-gear of the series on last-mentioned shaft.

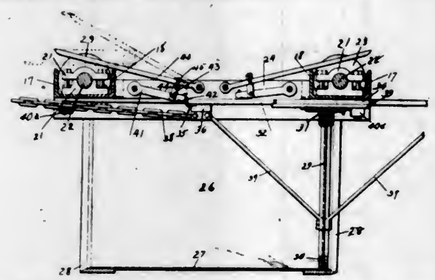
841,374. SELF-CLEANING DITCHING-SHOVEL. WILLIAM F. COOK, Des Moines, Iowa. Filed July 6, 1906. Serial No. 325,398.

Claim.—1. The combination of an open-ended ditching-shovel and a shovel-back slidingly supported within the shovel and capable of movement longitudinally of the shovel.

2. The combination of an open-ended ditching-shovel, earth-cutting edges at both ends of the shovel and a shovel-back slidingly supported within the shovel and capable of movement from one end of the shovel to the other.

3. A ditching-shovel, comprising a frame, shovel sides and bottom connected with the frame, earth-cutting blades at the ends of the shovel, also connected with said frame, a plate slidingly supported on the frame and a shovel-back fixed to said plate.

4. A ditching-shovel, comprising a frame, shovel sides and bottom connected with the frame, earth-cutting blades at the ends of the shovel, also connected with said frame, a plate slidingly supported on the frame, a shovel-back fixed to said plate and means carried by the frame for locking the sliding plate in position with the shovel-back adjacent to either end of the shovel.



5. In a ditching-shovel, the combination of a frame, shovel sides and bottom fixed to said frame, a sliding plate mounted in the frame, a shovel-back fixed to said plate and two locking-bars pivoted in the frame to engage the sliding plate and thereby hold the shovel-back in position at either end of the shovel.

6. In a ditching-machine, the combination of a track, an open-ended shovel slidingly mounted in the track, a shovel-back slidingly mounted in the shovel, a locking-bar for holding the shovel-back near one end of the shovel, a cable attached to the shovel-back to advance the shovel-back and shovel, means for limiting the movement of the shovel and means for releasing the locking-bar to permit the shovel-back to move after the shovel has been stopped.

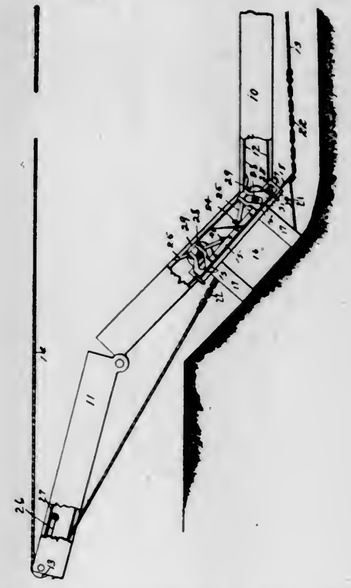
7. In a ditching-machine, the combination of a track, an open-ended shovel slidingly mounted in the track, a shovel-back slidingly mounted in the shovel, a locking-bar for holding the shovel-back near one end of the shovel, a cable attached to the shovel-back to advance the shovel-back and shovel, means for limiting the movement of the shovel, means for automatically releasing the locking-bar to permit the shovel-back to move after the shovel has been stopped, and stops for preventing the shovel-back from moving out of the shovel.

8. In a ditching-machine, the combination of a supporting-track, an open-ended shovel slidingly mounted in the track, a shovel-back slidingly mounted in the shovel, two locking-bars connected with the shovel for holding the shovel-back in position at either end of its movement, a trip-lever connected with each locking-bar, a rope or cable connected with the shovel-back for advancing the shovel-back and shovel, a stop for limiting the movement of the shovel and means for engaging the trip-levers to release the locking-bars to permit the shovel-back to move after the shovel has stopped.

9. In a ditching-machine, the combination of a supporting-track, an open-ended shovel slidingly mounted in the track, a shovel-back slidingly mounted in the shovel, two locking-bars connected with the shovel for holding the shovel-back in position at either end of its movement, a trip-lever connected with each locking-bar, a rope or cable connected with the shovel-back for advancing the shovel-back and shovel, a stop for limiting the movement of the shovel and adjustable means for engaging the trip-levers to release the locking-bars to permit the shovel-back to move after the shovel has stopped.

10. In a ditching-machine, a track, a roller adjustably supported at one end of the track, a shovel-supporting frame, wheels thereon to traverse said track, a plate slidingly mounted in the frame, a shovel-back connected with said plate, a locking-bar pivoted to the frame to engage one end of said plate, a slotted arm on the locking-bar, a trip-lever fulcrumed to the frame and provided with a bolt to enter the slot in said arm, said trip-lever designed to engage the adjustable roller, a stop adjacent to the adjustable roller to engage the shovel and a chain or cable attached to the shovel-back.

841,375. SELF-CLEANING DITCHING-SHOVEL. WILLIAM F. COOK, Des Moines, Iowa. Filed July 6, 1906. Serial No. 325,399.



Claim.—1. In a ditching-machine, a supporting-track, a shovel movable longitudinally of the track, means for firmly holding the front of the shovel in a certain position relative to the track, and means for permitting a limited movement of the rear of the shovel relative to the track.

2. In a ditching-machine, the combination of a track, shovel-supporting devices movable longitudinally of the track, a shovel, and means for adjusting the shovel relative to the shovel-supporting devices.

3. In a ditching-machine, the combination of a track, shovel-supporting devices movable longitudinally of the track, a shovel, and means for adjusting the shovel toward or away from the track.

4. In a ditching-machine, the combination of a track, shovel-supporting devices movable longitudinally of the track, a shovel, and means for adjusting the shovel in a longitudinal direction relative to the shovel-supporting devices.

5. In a ditching-machine, the combination of a track, shovel-supporting devices movable longtudinally of the track, a shovel, and means for adjusting either end of the shovel relative to the shovel-supporting devices.

6. In a ditching-machine, a track, a shovel-supporting device movable longitudinally of the track, a shovel capable of movement relative to the shovel-supporting device, and means for fixing one end of the shovel in a certain position relative to the shovel-supporting device.

7. In a ditching-machine, a track, a shovel-supporting device movable longitudinally of the track, a shovel having its ends capable of independent movement relative to the shovel-supporting device, and means for fixing either end of the shovel in a certain position relative to the shovel-supporting device.

8. In a ditching-machine, a track, a shovel-supporting device movable longitudinally of the track, a shovel capable of movement relative to the shovel-supporting device, and means for automatically fixing one end of the shovel at its limit of movement away from the track.

9. In a ditching-machine, a track, a shovel-supporting device movable longitudinally of the track, a shovel capable of movement relative to the shovel-supporting device, and means for automatically securing the forward end of

the shovel at its limit of movement away from the track when the shovel is moved in either direction.

10. In a ditching-machine, the combination of a track, a shovel-supporting device capable of sliding movement on the track, a shovel having its end portions each capable of independent movement relative to the shovel-supporting device, and a sliding locking-bar carried by the shovel to engage one end of the shovel-supporting device and to hold said end at its limit of movement away from the track.

11. In a ditching-machine, the combination of a track, a shovel-supporting device capable of sliding movement on the track, a shovel having its end portions each capable of independent movement relative to the shovel-supporting device, and a sliding locking-bar, in one position shaped to engage one end of the shovel-supporting frame and hold the shovel at its limit of movement away from the track, and at the same time to disengage from the other end of the shovel-supporting device to permit its free movement relative to the shovel-supporting device.

12. In a ditching-machine, the combination of a track, a shovel-supporting device capable of sliding movement on the track, a shovel having its end portions each capable of independent movement relative to the shovel-supporting device, and a sliding locking-bar, in one position shaped to engage one end of the shovel-supporting frame and hold the shovel at its limit of movement away from the track, and at the same time to disengage from the other end of the shovel-supporting device to permit its free movement relative to the shovel-supporting device and in its other position being released from the end of the shovel-supporting device previously engaged and engaging the end previously released to hold said latter end at its limit of movement away from the track.

13. In a ditching-machine, the combination of a track, two axles having their ends guided by said track, a shovel, bearing-boxes on the shovel, formed with slots to receive said axles, and an automatic locking-bar to engage one of said axles and hold it in the top of the slot.

14. In a ditching-machine, the combination of a track, two axles having their ends guided by said track, a shovel, bearing-boxes on the shovel, formed with slots to receive said axles, and an automatic locking-bar slidingly mounted in the shovel with its ends designed to successively engage said axles and hold them in the tops of the slots.

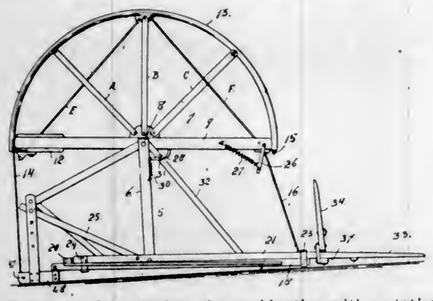
15. In a ditching-machine, the combination of a track, two axles having wheels thereon mounted in said tracks, a shovel, bearing-boxes carried by the shovel, having slots therein to receive said axles to permit a movement of the shovel relative to the track, and a sliding locking-bar carried by the shovels and shaped to lock one of the axles in the top of its slotted bearing, and at the same time to stand out of engagement with the other axle and also shaped to be capable of engaging the other axle in a similar manner and disengaged from the first axle.

16. In a ditching-machine, the combination of a track, a shovel-supporting device movable longitudinally of the track, a shovel on the shovel-supporting device and capable of movement toward or from the track, a sliding back in said shovel and a locking device actuated by the sliding back for locking one end of the shovel at its limit of movement away from the track.

17. In a ditching-machine, the combination of a track, two axles mounted for movement in the track, a shovel formed with slotted bearings to receive said axles and to permit the shovel to move toward or from the track, a sliding locking-bar carried by the shovel and capable of engaging either axle, a sliding shovel-back in the shovel, and means for moving said locking-bar actuated by the shovel-back.

18. In a ditching-machine, the combination of a track, two axles, wheels on the axles mounted in said tracks, an open-ended shovel having at each end bearing-boxes provided with slots to extend upwardly and toward the transverse center of the shovel, and having said axles therein, a slide-bar mounted in the shovel and having extensions capable of moving under either axle to hold the axle in the top of the slot, said extensions of such length that when one is in engagement with one axle, the other will be out of engagement with the other axle, a sliding back in the shovel, said back designed to engage a part of the sliding locking-bar when near either limit of its movement and to move the locking-bar to position engaging one of the axles.

841,376. HAY-STACKER. JOSEPH H. COPE, Windsor, Colo. Filed May 1, 1906. Serial No. 314,708.



Claim.—1. In a stacker, the combination with a stationary frame, and a stacker-head frame pivoted directly to the stationary frame, a revolving frame connected in operative relation with the stacker-head frame and having a centrally-located arc-shaped grooved member forming a bearing for the hoisting-cable during the operation of the machine, the curve of the arc-shaped member being struck from the center of motion of the revolving frame.

2. In a stacker, the combination with a stationary frame, and a stacker-head frame pivoted directly thereto, of a frame mounted to revolve on the stationary frame and connected in operative relation with the stacker-head frame, the revolving frame having a curved member forming a bearing for the hoisting-cable, the curve of the said member lying in the arc of a circle struck from the center of motion of the revolving frame.

3. The combination with a stationary frame, a stacker-head frame pivoted directly to the stationary frame, a frame mounted to revolve on the stationary frame and connected in operative relation with the stacker-head frame, the revolving frame being composed of a body member and a member curved to conform to an arc struck from its center of motion and forming a bearing for the hoisting-cable, the curved member and the body member being connected and firmly braced, substantially as described.

4. In a stacker, the combination with a stationary frame, of a frame provided with a stacker-head and pivotally connected with the stationary frame, a frame mounted to revolve on the stationary frame and connected to operate the pivoted frame, the revolving frame having an arc-shaped member, and a hoisting rope or cable connected with the revolving frame and engaging the arc-shaped member thereof, the curve of the arc-shaped member being struck from the center of motion of the revolving frame.

5. In a stacker, the combination with a stationary frame, of a stacker-head frame pivotally connected with the stationary frame, a third frame mounted to revolve on the stationary frame and connected in operative relation with the stacker-head frame, and yielding means mounted on the stationary frame and adapted to engage the revolving frame as the latter approaches the position corresponding with the lowermost position of the stacker-head frame, for the purpose set forth.

6. A stacker-head provided with pitcher teeth or fingers, means for inclining the same laterally in either direction from a central position, and means for adjusting the same to cause them to incline either forwardly or rearwardly from a vertical position.

7. In a stacker, the combination with a stationary frame, of a frame carrying a stacker-head, said stacker-head-carrying frame being pivoted directly to the stationary frame of a revolving frame connected with the pivoted frame and having an arc-shaped member, whose curve is struck from the center of motion of the revolving frame a hoisting-cable connected with the pivoted frame and bearing upon the arc-shaped member thereof, one extremity of the pivoted frame being weighted for the purpose set forth.

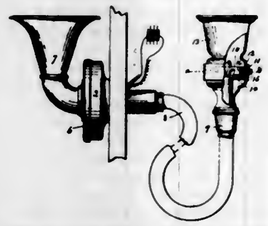
8. In a stacker, the combination with a stationary frame, and a stacker-head frame pivoted directly to the stationary frame, of a revolving frame connected in operative relation with the stacker-head frame and having a centrally-located arc-shaped member forming a bearing for the hoisting-cable during the operation of the machine.

9. In a stacker, the combination with a stationary frame, and a stacker-head frame pivoted directly thereto, of a frame mounted to revolve on the stationary frame and connected in operative relation with the stacker-head frame, the revolving frame having a curved member forming a bearing for the hoisting-cable.

10. The combination with a stationary frame, and a stacker-head frame pivoted directly to the stationary frame, of a frame mounted to revolve on the stationary frame and connected in operative relation with the stacker-head frame, the revolving frame being composed of a body member, and a centrally-located arc-shaped member forming a bearing for the hoisting-cable during the operation of the machine.

11. In a stacker, the combination with a stationary frame, and a stacker-head frame pivoted directly to the stationary frame, of a frame mounted to revolve on the stationary frame and connected with the stacker-head frame forward of the axes of both frames, the revolving frame being centrally located and having an arc-shaped member forming a bearing for the hoisting-cable during the operation of the machine.

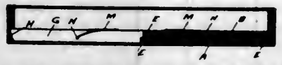
841,377. ELECTRIC SIGNAL FOR SPEAKING-TUBES. CHARLES M. A. COSTELLO and FRANK H. HART, New Haven, Conn., assignors to C. Cowles & Co., New Haven, Conn., a Corporation. Filed Aug. 24, 1906. Serial No. 331,859.



Claim.—1. The combination with a speaking-tube, of a box into which said tube extends, a trumpet opening from said box, an electric bell within said box, a mouthpiece at the opposite end of the tube, electric connection between said bell and mouthpiece, and means at the mouthpiece for closing the electric circuit and sounding said bell, substantially as described.

2. The combination with a speaking-tube, of a sound-box into which one end of a tube extends, a megaphone-trumpet opening from said box, a sleeve secured to the other end of said tube, a mouthpiece connected with said sleeve, an electric bell in said box, wires from said bell extending through said tube into said mouthpiece, and a push-button in said mouthpiece and adapted to close the electric circuit through said wires, substantially as described.

841,378. SLIDING-DOOR CONSTRUCTION. ARTHUR R. CURTIS, Golden, Colo. Filed June 12, 1905. Serial No. 264,759.



Claim.—1. The combination of a case having undivided top and bottom grooves or ways extending the entire length of the case, and a pair of interchangeable sliding doors whose top and bottom rails respectively enter said grooves, the door-space between the sides and the top and bottom of the case being entirely unobstructed, and the doors being of such width as to exactly fill said space, and means attached to the case and acting from the rear to automatically bring the doors into the same plane when properly adjusted.

2. The combination of a case having undivided top and bottom grooves or ways, and a pair of doors entering said ways, the latter being provided with a yielding rear guide and a rigid front guide, the doors being interchangeable and each door being adapted when at either side of the case, to move to the front of the case and into the same plane with the other door under the influence of the yielding guide.

3. A case having an undivided groove or way of sufficient width to accommodate two doors one in front of another, and a yielding rear guide attached to the case and adapted to protrude into the groove or way, two interchangeable doors adapted to engage the groove of the case and arranged to slide freely independently of each other, the door-space between the sides and the top and bottom of the case being entirely unobstructed, either door being adapted when on either side of the case to move automatically forwardly into position flush with the other door, under the influence of the yielding rear guide.

4. In a sliding-door construction, the combination with the case having upper and lower undivided grooves or ways, a pair of doors whose top and bottom rails respectively engage the said ways, the door-space between the sides of the case and between the top and bottom thereof being entirely unobstructed, and the doors being interchangeable whereby either may perform its function at either side of the case, and yielding means attached to the case and engaging the doors from the rear to cause them to assume automatically the same plane in the ways when one has completely passed the other.

5. The combination of a case having undivided top and bottom ways provided with yielding guides fixedly attached to the case in the rear and rigid guides in front, and a pair of doors whose upper and lower edges respectively engage the said ways and are acted on by the yielding guides to cause either door to assume automatically the same plane as the other door, as soon as it has stopped in an unobstructed door-space or opening, the two doors being interchangeable, and the door-space between the sides of the case and the top and bottom thereof being entirely unobstructed.

6. A case provided with upper and lower undivided grooves of sufficient width to accommodate two doors one in front of another, the vertical sides of the case adjacent the door-space being provided with grooves forming a part of the door-space and increasing in depth from front to rear, the depth in the rear making the door-space slightly wider than is necessary to accommodate two doors, while the space in front is just sufficient to accommodate the two doors when occupying the same plane, and yielding means engaging the doors from the rear whereby they are caused to move to their forward position, the side grooves causing the doors to have a slight movement toward the vertical center of the case simultaneously with the forward movement imparted by the yielding means.

7. A case provided with an unobstructed door-space in front and having undivided vertical side grooves or ways of sufficient width to accommodate a pair of doors, the said grooves increasing in depth from front to rear, interchangeable doors located in the door-space, and yielding means engaging the doors from the rear and causing them to move forwardly whereby they are flush with each other, the side grooves coöperating with the yielding means to cause the doors to approach the vertical center of the case simultaneously with their forward movement.

8. A case having grooved side abutments, the grooves increasing in depth from front to rear, the said case having an uninterrupted door-space both between the grooved side abutments and between the top and bottom of the case, interchangeable doors located within the space, and means located in the rear of the doors to cause them to move forwardly to the flush position when properly adjusted, the said grooves coöperating with the rearwardly-located actuating means, to cause the doors to approach the vertical

center of the case simultaneously with their forward movement.

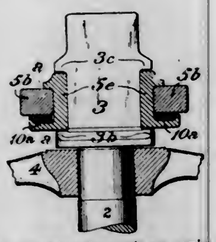
9. The combination with a case having top and bottom undivided grooves or ways, and an unobstructed door-space between the vertical sides of the case and the top and bottom thereof, interchangeable doors engaging said grooves and occupying said space, the said doors being provided with recesses in the rear, and yielding guides attached to the case and having projections adapted to engage the said recesses of the doors whereby the latter are temporarily locked in place when moved completely past each other.

10. The combination with a case having top and bottom undivided grooves or ways, doors slidingly mounted in said ways and adapted to move past each other, the doors having rollers or casters at their bottom rails to facilitate their front and backward movement in the grooves, the doors being interchangeable and the door-space in front of the case being entirely unobstructed between the vertical sides as well as between the top and bottom thereof, and means attached to the case and located in the rear of the doors for causing them to move forwardly automatically into the same plane when properly adjusted.

11. The combination with a case having grooves or ways, and doors engaging said grooves and provided with removable top strips held in place by fastening devices, the case having an opening above the strips to facilitate the removal of the strips by giving access to their fastening devices.

12. The combination with a case having undivided grooves or ways, interchangeable doors engaging said ways and adapted to slide past each other, the doors being reinforced on the front side of their lower groove-engaging rails to reduce friction, the door-space in front of the case being entirely unobstructed between the top and bottom of the case and between the vertical sides thereof, and means attached to the case, and located in the rear of the doors for causing them to move forwardly automatically into the same plane when properly adjusted.

841,379. CUSHIONING APPLIANCE FOR LOCOMOTIVES. WILLIAM DALTON, Schenectady, N. Y., assignor to American Locomotive Company, New York, N. Y., a Corporation of New York. Filed Aug. 31, 1906. Serial No. 332,735.

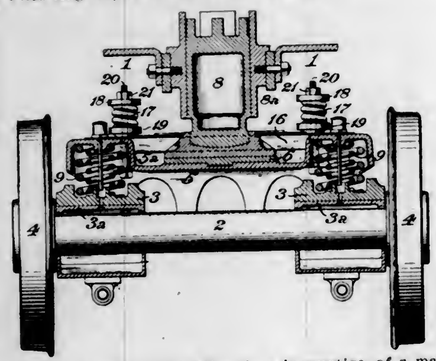


Claim.—1. The combination of an axle, axle-boxes in which said axle is journaled, shoes fitting lateral recesses in said axle-boxes, frame pedestal-jaws in which said shoes are fitted with the capacity of lateral movement, and plate-springs interposed vertically between the inner sides of the pedestal-jaws and the adjacent portions of the shoes.

2. The combination of an axle, axle-boxes in which said axle is journaled, pedestal-jaws located on opposite sides of the axle-boxes, shoes fitting in lateral recesses in the axle-boxes and having lateral flanges extending on opposite sides of the pedestal-jaws and providing space or clearance on the inner sides of said jaws, and springs interposed between and abutting on the inner sides of said jaws and the adjacent flanges of the shoes.

3. The combination of an axle, axle-boxes in which said axle is journaled, pedestal-jaws located on opposite sides of the axle-boxes, pedestal-shoes fitting in lateral recesses in the axle-boxes and having lateral flanges extending on opposite sides of the pedestal-jaws and providing space or clearance on the inner sides of said jaws, there being spring-seats formed in vertical recesses in the flanges of the shoes on the inner sides of the jaws, and springs bearing on said seats and on the adjacent sides of the jaws.

841,380. LOCOMOTIVE-TRUCK. WILLIAM DALTON, Schenectady, N. Y., assignor to American Locomotive Company, New York, N. Y., a Corporation of New York. Filed Aug. 31, 1906. Serial No. 332,736.



Claim.—1. The combination, in a locomotive, of a main frame, a truck-frame connected with the capacity of relative lateral movement thereto, abutting friction-faces connected to the main and truck frames respectively, and means for imparting additional frictional resistance to the relative lateral movement of the main and truck frames.

2. The combination, in a locomotive, of a main frame, a truck-frame connected with the capacity of relative lateral movement thereto, abutting friction-faces connected to the main and truck frames, respectively, and a clamping mechanism by which pressure is imposed upon said friction-faces.

3. The combination, in a locomotive, of a main frame, a truck-frame connected with the capacity of relative lateral movement thereto, abutting friction-faces connected to the main and truck frames respectively, and means for imparting frictional resistance in adjustable degree to the relative lateral movement of the main and truck frames.

4. The combination, in a locomotive, of a main frame, a truck-frame connected with the capacity of relative lateral movement thereto, abutting friction-faces connected to the main and truck frames respectively, a clamping mechanism by which pressure is imposed upon said friction-faces, and a friction-face in said clamping mechanism abutting on a friction-face connected to the main frame.

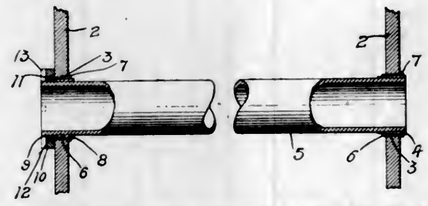
5. The combination, in a locomotive, of a main frame, a truck-frame connected with the capacity of relative lateral movement thereto, abutting friction-faces connected to the main and truck frames respectively, a secondary friction-face on a member connected to the main frame, a friction-face on a member connected to the truck-frame and abutting against said secondary friction-face, and mechanism for imposing pressure upon all of said abutting friction-faces.

6. The combination, in a locomotive, of a main frame, a truck-frame connected with the capacity of relative lateral movement thereto, a member connected to the main frame and having upper and lower friction-faces, members connected to the truck-frame and having, respectively, friction-faces abutting against the upper and the lower friction-faces of the main-frame member, and means for imposing pressure upon all of said abutting friction-surfaces.

7. The combination, in a locomotive, of a main frame, a truck-frame connected with the capacity of relative lateral movement thereto, a member connected to the main frame and having upper and lower friction-faces, and mechanism for clamping said friction-faces between friction-faces abutting thereon and connected to the truck-frame.

8. The combination, in a locomotive, of a main frame, a truck-frame connected with the capacity of relative lateral movement thereto, a friction-plate fixed to the upper portion of the truck-frame, a member connected to the main frame and having a lower friction-face abutting on said friction-plate, clamping-bars fitting against upper friction-faces on said member connected to the main frame, bolts connecting the clamping-bars and truck-frame, springs bearing on the clamping-bars, and adjusting-nuts engaging the bolts and bearing on the springs.

841,381. DETACHABLE BOILER-FLUE. JULIAN F. DRAKE, Tracy, Minn., assignor of one-half to Joseph Kemna, Ghent, Minn. Filed Oct. 4, 1906. Serial No. 337,335.



Claim.—1. In a boiler, the combination, with the flue-sheets spaced apart and in parallel relation with one another and having tapered flue-seats extending therethrough from one side to the other, said seats being tapered in the same direction, one from the inner toward the outer surface of its sheet and the other from the outer toward the inner surface of its sheet, a flue extending through said sheets, and having a threaded end, tapered sleeves provided on said flue and fitting within said seats, said sleeves being tapered to correspond with said seats, packing-rings interposed between said sleeves and seats and a lock-nut provided on the threaded end of said flue and whereby said sleeves and rings may be drawn snugly against said seats.

2. In a boiler, the combination, with the two flue-sheets having tapered flue-seats, of a flue extending through said sheets and having a threaded end, conical sleeves inclosing said flue and having tapered exterior surfaces corresponding to the taper of said seats, one of said sleeves being rigidly secured on said flue and the other being screw-threaded thereon, packing-rings of relatively soft material interposed between said sleeves and seats, and a lock-nut provided on the threaded end of said flue for the purpose specified.

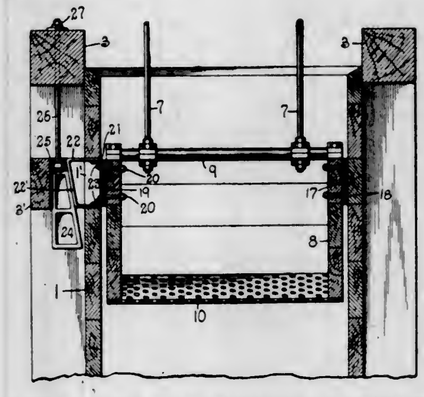
3. The combination with the flue-sheets having the tapered flue-seats, of a flue extending therethrough, sleeves inclosing said flue and having exterior surfaces tapered to correspond with the taper of said seats, packing-rings of comparatively soft material interposed between said sleeves and sheets, and a lock-nut provided on the threaded end of said flue and having a countersunk inner face and a packing-ring fitting within said countersunk face and bearing on the outer ends of the contiguous sleeve and packing-ring, substantially as described.

841,382. COAL-WASHER. WILLIAM M. DUNCAN, Alton, Ill. Filed Sept. 4, 1906. Serial No. 333,074.

Claim.—1. In a coal-washer the combination of a washing-tank having a wear-plate at one side and an aperture at the other side, a jig, having wear-plates, a laterally-movable carrying member having a wear-plate at its inner end, and slidable through the aperture in the tank, and means for adjusting said carrying member with its wear-plate substantially as set forth.

2. In a coal-washer the combination of a washing-tank having a wear-plate at one side and an aperture at the other side, a jig, wear-plates carried by said jig, a laterally-movable carrying member having a wear-plate at its inner end, and slidable through the aperture in the tank, and means for adjusting said carrying member with its wear-plate relatively to the adjacent jig-carried wear-plate, substantially as set forth.

3. In a coal-washer the combination of a washing-tank having a wear-plate at one side and an aperture at the other side, a jig, having wear-plates, a laterally-movable carrying member having a wear-plate at its inner end, and slidable through the aperture in the tank, a wedge-shaped adjustment member opposing the inclined portion of said carrying member, and means for adjusting said adjustment member, substantially as set forth.



4. In a coal-washer the combination of a washing-tank having a wear-plate at one side and an aperture at the other side, a jig, having wear-plates, a laterally-movable carrying member having a wear-plate at its inner end, opposing one of the wear-plates of said jig, and having an inclined portion at its outer end and slidable through the aperture in the tank, a wedge-shaped adjustment member opposing the inclined portion of said carrying member, and an adjustment-rod connected to said adjustment member, substantially as set forth.

5. The combination of a washing-tank having a wear-plate at one side and an aperture at the other side, a jig having wear-plates, a carrying member having an inclined portion at its outer end and slidable through the aperture of the tank, a wear-plate having angle-strips by which it is secured to the inner end of the carrying member, a frame member having a wear-plate, a wedge-shaped adjustment member located between the inclined portion of the carrying member and the wear-plate of the frame member, and means for adjusting the adjustment member.

841,383. AUTOMATIC PLAYING MECHANISM FOR MUSICAL INSTRUMENTS. CHARLES B. DUNOTT, Philadelphia, Pa., assignor to The Auto Manual Piano Action Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Sept. 15, 1905. Serial No. 278,559.

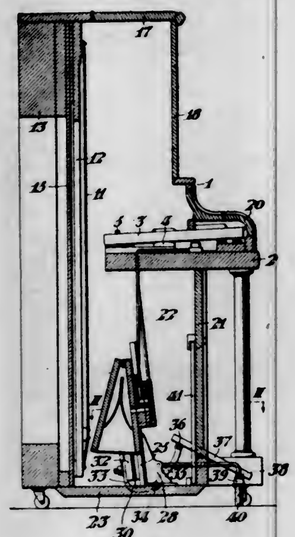
Claim.—1. The combination with the frame of a musical instrument; of a panel; brackets supporting said panel on said instrument-frame; a pump-bellows supported by said panel; and, a pedal in operative relation with said pump-bellows, supported by said bracket, substantially as set forth.

2. The combination with the frame of a musical instrument; of a panel; brackets supporting said panel on said instrument-frame; a pump-bellows supported by said panel; a pedal in operative relation with said pump-bellows; and, a frame pivotally connecting said pedal with said brackets, substantially as set forth.

3. The combination with the frame of a musical instrument; of a panel; brackets supporting said panel on said instrument-frame; a pump-bellows supported by said panel; a pedal in operative relation with said pump-bellows; and, a frame pivotally connecting said pedal with said brackets, arranged so that said pedal may be folded in inoperative position, substantially as set forth.

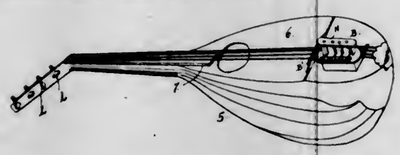
4. The combination with the frame of a musical instrument; of a panel; brackets supporting said panel on said

instrument-frame; a pump-bellows supported by said panel; a pedal connected to said brackets, in operative relation with said pump-bellows; a wind-trunk secured to



said panel; and, a reservoir-bellows supported by said wind-trunk, substantially as set forth.

841,384. TUNING DEVICE FOR STRINGED INSTRUMENTS. EMMETT E. ENGLAND, Denver, Colo. Filed Feb. 13, 1906. Serial No. 300,919.



Claim.—1. A tuning device for stringed instruments comprising tongues, movable bodies arranged to be acted on by the tongues, and guides for the said bodies during the tuning operation.

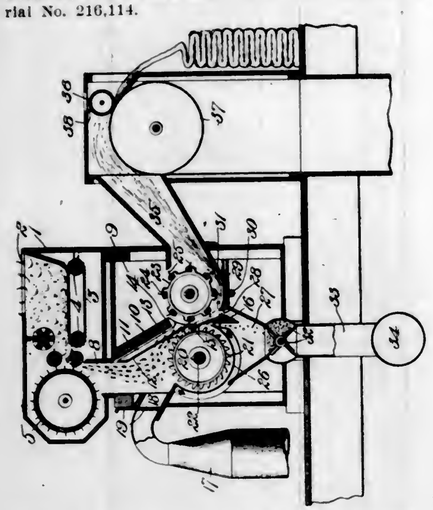
2. A tuning device comprising a suitable frame, tongues mounted on the frame, tubes supported above the tongues and having open lower extremities, and movable bodies located in the tubes and resting on the tongues whereby motion is imparted to the said bodies by the vibration of the tongues.

3. A tuning device for stringed instruments comprising tongues, movable bodies arranged to be acted on by the tongues for visually indicating the proper tuning of the strings, and guides for retaining the said bodies, said guides being adapted to expose the said bodies during the tuning operation.

4. A tuning device comprising a suitable frame, tongues, guides supported above the tongues, and movable bodies controlled by the guides, said bodies resting on the tongues whereby motion is imparted thereto by the vibration of the tongues.

5. A tuning device for stringed instruments, comprising tongues, a frame forming a support for the tongues, transparent tubes mounted on the frame and open at their lower extremities which occupy positions immediately above the respective tongues, and small balls located in the tubes and resting on the tongues whereby as the latter are vibrated the movement will be imparted to the balls.

841,385. METHOD OF GINNING COTTON. JOHN R. FORDYCE, Little Rock, Ark. Filed July 11, 1904. Serial No. 216,114.



Claim.—1. The herein-described method of ginning cotton which consists in subjecting locks of cotton to a gaseous blast while the seeds are prevented from moving with the blast whereby the fiber of each lock is caused to extend in a certain direction from the seed, and thereafter pulling the fiber and seed in opposite directions to separate them; substantially as described.

2. The herein-described method of ginning cotton which consists in subjecting locks of cotton to a gaseous blast while the seeds are prevented from moving with the blast whereby the fiber of each lock is caused to extend in a certain direction from the seed, and then subjecting the seeds to a beating action and the fiber to a brushing action to separate the same; substantially as described.

3. The herein-described method of ginning cotton which consists in subjecting locks of cotton to a continuous gaseous blast while the seeds of the locks are prevented from moving with the blast whereby the fibers are caused to extend in a certain direction from the seeds, and then pulling the seeds and fiber in opposite directions over a stationary member to separate them; substantially as described.

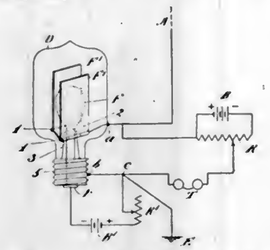
4. The herein-described method of ginning cotton which consists in tearing up a mass of cotton locks, separating the locks from each other, then subjecting the locks to a continuous gaseous blast while the seeds are prevented from moving with the blast whereby the fibers are caused to extend in a certain direction from the seeds, and then subjecting the seeds to a beating action and the fibers to a pulling action to separate them; substantially as described.

5. The method of ginning cotton which consists in tearing up and combing a mass of seed-cotton, then subjecting the cotton locks to a continuous blast while the seeds are prevented from moving with the blast whereby the fiber of each lock is caused to extend in a certain direction from the seed, then pulling the seeds and fiber in opposite directions over a stationary member to separate them, and thereafter forming the fiber into bats; substantially as described.

841,386. WIRELESS TELEGRAPHY. LEE DE FOREST, New York, N. Y. Filed Aug. 27, 1906. Serial No. 332,213.

Claim.—1. An electrical-oscillation-selecting device comprising a vessel, a filament sealed in said vessel, a source of electric current connected in series with said filament, means for varying the amplitude of said current, whereby said device is rendered selective of electrical oscillations having a given electrical frequency, a member of conducting material inclosed within said vessel and a circuit connecting said member with said filament.

2. An electrical-oscillation-selecting device comprising a vessel, a filament sealed in said vessel, a source of electric current connected in series with said filament, a member of conducting material inclosed within said vessel, a circuit connecting said member with said filament, a source of electromotive force associated with said circuit and means for varying said electromotive force, whereby said device is rendered selective of electrical oscillations having a given spark frequency.



3. An electrical-oscillation-selecting device comprising a vessel, a filament sealed in said vessel, a source of electric current connected in series with said filament, means for varying the amplitude of said current, whereby said device is rendered selective of electrical oscillations having a given electrical frequency, a member of conducting material inclosed within said vessel, a circuit connecting said member and said filament, a source of electromotive force associated with said circuit and means for varying said electromotive force, whereby said device is rendered selective of electrical oscillations having a given spark frequency.

4. An electrical-oscillation-selecting device comprising a vessel inclosing a gaseous medium maintained in a condition of molecular activity, two electrodes inclosed within said vessel, and means for varying the separation of said electrodes.

5. An electrical-oscillation-selecting device comprising a vessel inclosing a gaseous medium maintained in a condition of molecular activity, two electrodes inclosed within said vessel, and means outside said vessel for varying the separation of said electrodes.

6. An electrical-oscillation-selecting device comprising a vessel, a filament sealed in said vessel, a source of electric current connected in series with said filament, a member of conducting material inclosed within said vessel, a circuit connecting said filament and said member and means for varying the separation of said filament and said member.

7. An electrical-oscillation-selecting device comprising a vessel, a filament sealed in said vessel, a source of electric current connected in series with said filament, and means for varying the amplitude of said current, whereby said device is rendered selective of electrical oscillations having a given electrical frequency.

8. An electrical-oscillation-selecting device comprising a vessel, a filament sealed in said vessel, a source of electric current connected in series with said filament, a member of conducting material inclosed within said vessel, a circuit connecting said filament with said member, a source of electromotive force associated with said circuit, means for varying said electromotive force and means for varying the separation of said filament and said member.

9. An electrical-oscillation-selecting device comprising a vessel, a filament sealed in said vessel, a source of electric current connected in series with said filament, means for varying the amplitude of said current, whereby said device is rendered selective of electrical oscillations having a given electrical frequency, a conductor inclosed within said vessel, a circuit connecting said conductor and filament, a source of electromotive force associated with said circuit and means for varying said electromotive force, whereby said device is rendered selective of electrical oscillations having a given spark frequency.

10. An oscillation-detector and means whereby said detector *per se* is rendered selective of electrical oscillations having a given spark frequency.

11. An oscillation-detector, means whereby said detector *per se* is rendered selective of electrical oscillations having a given electrical frequency and means whereby said detector *per se* is rendered selective to electrical oscillations having a given spark frequency.

12. An electrical-oscillation-selecting device comprising a vessel containing a sensitive conducting gaseous medium, two electrodes within said vessel, a local circuit connecting said electrodes, a receiving-circuit having one terminal connected with one of said electrodes, a conducting member outside said vessel and movable with respect thereto, and an electrical connection from the other terminal of said receiving-circuit to said conducting member.

13. An electrical-oscillation-selecting device comprising a vessel inclosing a gaseous medium maintained in a condition of molecular activity, two electrodes inclosed within said vessel, means for impressing an electrical potential upon said electrodes, and means for varying said potential.

14. An electrical-oscillation-selecting device comprising a vessel inclosing a gaseous medium, an electrode within said vessel, means for heating said electrode, means for regulating the temperature thereof, a second electrode inclosed within said vessel and a circuit connecting said electrodes.

15. An electrical-oscillation-selecting device comprising a vessel inclosing a gaseous medium, an electrode within said vessel, means for heating said electrode, means for regulating the temperature thereof, a second electrode inclosed within said vessel, means for impressing an electrical potential upon said electrodes and means for varying said potential.

16. An electrical-oscillation-selecting device comprising a vessel inclosing a gaseous medium maintained in a condition of molecular activity, two electrodes inclosed within said vessel, a local circuit connecting said electrodes and means for varying the separation of said electrodes.

17. An electrical-oscillation-selecting device comprising a vessel inclosing a gaseous medium, an electrode within said vessel, means for heating said electrode, means for varying the temperature thereof, a second electrode inclosed within said vessel and means for varying the separation of said electrodes.

18. An electrical-oscillation-selecting device comprising a vessel inclosing a gaseous medium, an electrode within said vessel, means for heating said electrode, means for varying the temperature thereof, a second electrode inclosed within said vessel, a circuit connecting said electrodes, an adjustable source of electromotive force associated with said electrodes, and means for varying the separation of said electrodes.

19. An electrical-oscillation detector comprising a vessel inclosing a gaseous medium, means for maintaining said gaseous medium in a condition of molecular activity, a member in proximity to said vessel, and an oscillation-circuit electrically connected to said member and to said gaseous medium.

20. An electrical-oscillation-selecting device comprising a vessel inclosing a gaseous medium, means for heating said medium, and means for varying the temperature thereof, whereby said device is rendered selective of electrical oscillations having a given electrical frequency.

21. An oscillation-detector comprising two conductively-connected flat plates of conducting material inclosed within an evacuated vessel, an electrode sealed within said vessel and located between said plates, and means for heating said electrode.

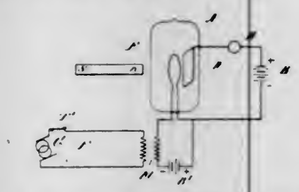
22. An oscillation-detector comprising two conductively-connected flat plates of conducting material inclosed within an evacuated vessel, a metallic filament sealed within said vessel and located between said plates, and means for heating said filament.

23. An oscillation-detector comprising two conductively-connected flat plates of conducting material inclosed within an evacuated vessel, a filament of tantalum sealed within said vessel and located between said plates, and means for heating said filament.

24. An oscillation-detector comprising two flat plates of conducting material inclosed within an evacuated vessel, an electrode sealed within said vessel and located between said plates, and means for heating said electrode.

25. An oscillation-detector comprising two flat plates of conducting material inclosed within an evacuated vessel, a filament sealed within said vessel and located between said plates, and means for heating said filament.

841,387. DEVICE FOR AMPLIFYING FEEBLE ELECTRICAL CURRENTS. LEE DE FOREST, New York, N. Y. Filed Oct. 25, 1906. Serial No. 340,467.



Claim.—1. In a device for amplifying electrical currents, an evacuated vessel inclosing a sensitive conducting gaseous medium maintained in a condition of molecular activity, two electrodes sealed within said vessel, a local receiving-circuit associated with said electrodes, and means whereby the separation of said electrodes may be varied by the currents to be amplified.

2. In a device for amplifying electrical currents, an evacuated vessel, two electrodes sealed within said vessel, means for heating one of said electrodes, a local receiving-circuit associated with said electrodes, and means whereby the separation of said electrodes may be varied by the currents to be amplified.

3. In a device for amplifying electrical currents, an evacuated vessel, two electrodes sealed within said vessel, a circuit including a source of electric energy connected in series with one of said electrodes, a local receiving-circuit associated with said electrodes, and means whereby the separation of said electrodes may be varied by the currents to be amplified.

4. In a device for amplifying electrical currents, an evacuated vessel, three electrodes sealed within said vessel, means for heating one of said electrodes, a local receiving-circuit including two of said electrodes, and means for passing the current to be amplified between one of the electrodes which is included in the receiving-circuit and the third electrode.

5. In a device for amplifying electrical currents, an evacuated vessel inclosing a gaseous medium, means other than the received energy for maintaining said gaseous medium in a condition of molecular activity, means for impressing the currents to be amplified upon said gaseous medium, and a local receiving-circuit having its electrodes sealed within said vessel.

6. In a device for amplifying electrical currents, an evacuated vessel, a heated electrode and two non-heated electrodes sealed within said vessel, the non-heated electrodes being unequally spaced with respect to said heated electrode, a local receiving-circuit including said heated electrode and that one of the non-heated electrodes which has the greater separation from the heated electrode, and means for passing the current to be amplified between the heated electrode and the other non-heated electrode.

841,388. PIPE-EXPANDING TOOL. JOHN GAPP, Scranton, Pa. Filed Jan. 23, 1906. Serial No. 297,497.

Claim.—1. A tool of the class described including a stem having one end formed for engagement with a pneumatic hammer and provided intermediate of its ends with a shoulder, a plunger-head reversible upon the other end portion of the stem with its opposite ends provided with working faces of different characters for successive engagement with the work, the shoulder on the stem constituting an abutment for engagement with the head to drive the latter under the action of the hammer.

2. A pipe-expanding tool including a stem having a shoulder intermediate of its ends, one end of said stem forming a reciprocatory drive member, and a tube-upsetting plunger-head reversibly carried by the other end of the stem for engagement with the shoulder, the opposite ends of the plunger-head having working faces of different character for successive engagement with the work.



3. A pipe-expanding tool of the class described, comprising a drive-stem arranged to receive reciprocatory movement, and a reversible plunger-head carried thereby and provided at its opposite ends with working faces for upsetting the ends of a tube, the working face of one end of the head differing from that of the other end of the head.

4. A tool of the class described comprising a stem, and a reversible head having an opening receiving the stem, one end of the head having a working face, and the other end of the head having a working face of different character.

5. A tool of the class described having a reversible plunger-head, one end of the head having a tapered working face, and the other end of the head having an annular shoulder with its radial working face provided with an annular groove.

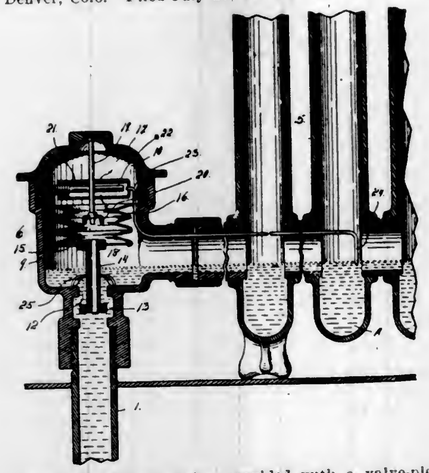
6. A tool of the class described comprising a reversible head having one end portion provided with a stepped series of conical portions, and the other end of the head being provided with a stepped series of annular shoulders having their radial working faces provided with annular grooves.

7. A tool of the class described comprising in combination a plunger-head having a work-face, and a work-holder provided at its forward end with a tubular core around which the work is to be upset, and provided in rear of the core with a shoulder for engagement with a vise.

8. A tool of the class described comprising in combination an upsetting-plunger, and a work-holder including hinged members having corresponding semicylindrical grooves constituting a work-receiving seat, the front ends of the members having semicylindrical flanges constituting a core around which the work is to be upset, and the members being provided in rear of the core with shoulders for engagement by a vise.

9. A tool of the class described comprising a stem, and a tubular expanding plunger-head reversibly embracing the stem, one end of the head having a working face, and the other end of the head having a working face differing from the first-mentioned face.

841,389. STEAM-HEATING SYSTEM. FRANK C. GOFF, Denver, Colo. Filed July 10, 1906. Serial No. 325,525.



Claim.—1. A motor-valve provided with a valve-piece, and a motor having a bellows-shaped portion for actuating the valve-piece, the motor being actuated by the differential pressures of the system acting directly on the opposite sides thereof.

2. A motor-valve provided with a casing, a motor-diaphragm separating the casing into two compartments, said diaphragm having a bellows-shaped portion, a valve-piece connected in operative relation with the said bellows portion, and means located in the compartment on the outer side of the motor and controlled by the conditions within the system for regulating the pressure on the outer side of the motor, whereby the valve is controlled by the differential pressure of the system acting directly on the opposite sides of the motor.

3. A motor-valve consisting of a casing, a diaphragm secured to the casing and separating the latter into two compartments, the said diaphragm being provided with a bellows portion connected with the valve-piece, and a temperature-controlled device located in the casing-compartment on the outer side of the motor, and a pipe leading from the system to the said device, the end of the pipe adjacent the said device being automatically opened and closed by the conditions within the system, and the motor being directly acted on by the pressures within the system.

4. In a heating system, the combination of a radiating device, a discharge-pipe, a valve interposed between the outlet of the radiating device and the discharge-pipe, a pressure-motor for operating said valve, said motor having its opposite sides directly acted upon by the pressures within the system, a passage connecting the fluid-pressure compartment on the outside only of the motor with a portion of the pressure system beyond or outside of the inlet side of the valve device, and means for controlling the pressure on the outer side of said motor, said means being adapted to be controlled by the fluid passing through said passage.

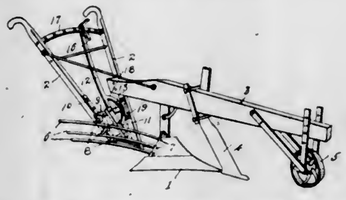
5. A motor-valve comprising a casing, a valve-piece, and a motor having a bellows-shaped portion for actuating the valve-piece, the motor being directly actuated by the pressure within the system.

6. A motor-valve comprising a casing having an outlet-port, a valve-piece for controlling said port, and a motor having a bellows portion directly connected with the stem of the valve-piece for actuating the latter, the motor being located within the casing and directly acted on by the pressure within the system.

7. In a heating system, the combination of a radiating device, a discharge-pipe, a valve interposed between the outlet of the radiating device and the discharge-pipe, a pressure-motor for operating said valve, said motor having its opposite sides acted upon by the pressures within the system, and having a bellows portion directly connected with the valve-piece, and an exhauster connected with the discharge-pipe, the motor being directly acted on by the pressure within the system.

8. In a heating system, the combination of a radiating device, a discharge-pipe, a valve interposed between the outlet of the radiating device and the discharge-pipe, a pressure-motor for operating said valve, said motor having its opposite sides directly acted upon by the pressures within the system, a passage connecting the fluid-pressure compartment on the outside only of the motor with a portion of the pressure system beyond or outside of the inlet side of the valve device, and means for controlling the pressure on the outer side of said motor, said means being adapted to be controlled by the fluid passing through said passage, and an exhauster connected with the discharge-pipe.

841,390. PLOW. ANDREW GULLICKSON, Gatzke, Minn. Filed Oct. 22, 1906. Serial No. 339,980.



Claim.—1. The combination with a plow, having an adjustable moldboard extension, of a lever pivotally supported by the plow handle-bars and connected to said adjustable moldboard extension, substantially as described.

2. The combination with a plow having a moldboard and handle-bars, of an adjustable moldboard extension made up of rods hinged to said moldboard, laterally-extended stems secured to said rods, a lever mounted on said handle-bars, and means for connecting said rods to said lever, substantially as described.

3. The combination with a plow having a moldboard and handle-bars, of an adjustable moldboard extension made up of rods independently pivoted to said moldboard, laterally-extended stems secured to said rods, bearings secured to one of said handle-bars for guiding said stems, a tie-bar secured to the projecting ends of said stems, a latch-lever pivoted between said handle-bars, and a link connecting said tie-bar with said latch-lever, substantially as described.

841,391. DESK COMPANION. GEORGE B. HALL, Rochester, N. Y. Filed June 3, 1906. Serial No. 323,940.



Claim.—1. In a device of the character described, a body portion serving as a paper-weight, and having a recess, and a frame removably held within said recess and carrying two independent cutting devices one of which is mounted to swing.

2. In a device of the character described, a body portion serving as a paper-weight, and a lead-pointing device carried by said body portion and mounted to swing.

3. In a device of the character described, a body portion

serving as a paper-weight and having a recess with depressions at the ends thereof upon the under face of said body portion, and a frame detachably held within said recess and having end portions seated in said depressions, said frame carrying pencil-sharpening devices.

4. In a device of the character described, a frame comprising sides and a bottom, with open ends and top, and a pencil-pointing device having pintles supported in said sides to allow said device to freely swing between said sides.

5. In a device of the character described, a frame comprising sides and a bottom and open at the top and ends, one of said sides having a stop stamped therefrom and a spring-pressed plate pivotally mounted between said sides and limited in its upward movement by said stop.

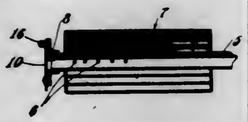
6. In a device of the character described, a frame comprising sides and a bottom, with open top and ends, one of said sides having a stop stamped therefrom, a spring-pressed plate pivotally mounted between said sides and limited in its upward movement by said stop, and a frame pivotally mounted between said sides and carrying a cutting-blade.

7. In a device of the character described, a frame comprising sides and a bottom, with open top and ends, one of said sides having a strop stamped therefrom, a spring-pressed plate pivotally mounted between said sides and limited in its upward movement by said stop, a frame pivotally mounted between said sides and carrying a cutting-blade, and a pivoted device on the inner face of one of said sides for holding down said pivoted frame.

8. In a device of the character described, a body portion serving as a paper-weight, and having a recess extending therethrough, a frame frictionally held in said recess, and having lugs stamped therefrom, a pivotally-mounted plate between the sides of said frame, a coöperating cutting-blade, and a spring held by said lugs and having a portion extended under said pivoted plate.

9. In a device of the character described, a lead-pointing cutter comprising members arranged to form a substantially V-shaped member each provided with a bifurcation to form cutting edges, and one member provided with lateral projections to form pivots.

841,392. CUT-OUT VALVE FOR MUFFLERS. ALLE S. HAMILTON, Los Angeles, Cal. Filed July 17, 1906. Serial No. 326,570.

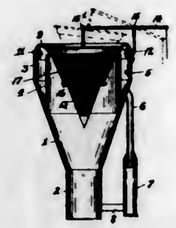


Claim.—1. A cut-out valve comprising a valve-seat having a centrally-disposed aperture therein adapted to be secured to an engine exhaust-pipe; a gate pivotally secured to and at one side of the opening in said valve-seat; retaining means secured to said valve and gate whereby the gate is held in its fully-open or completely-closed position; and means to control the movement of said gate.

2. A cut-out valve, comprising a valve-seat having a centrally-disposed aperture therein adapted to be secured to an engine exhaust-pipe; a gate pivotally secured to and at one side of the opening in said valve-seat; a coiled spring having its ends secured to said valve and gate whereby the gate is held in its fully-open or completely-closed position; and means to control the movement of said gate.

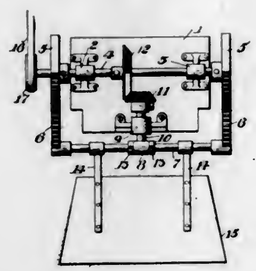
3. A cut-out valve, comprising a portable valve-seat having a centrally-disposed aperture therein adapted to be secured to the outer end of an engine exhaust-pipe; a valve-gate having a radial slot in its outer edge adapted to engage a pin on the valve-seat, said valve-gate being pivotally secured to and at one side of the opening in said valve seat; a coiled spring having its end secured to the valve-seat and to the valve-gate, whereby the valve-gate is held in its fully-open or completely-closed position; and means to control the movement of the gate.

841,393. SPARK-ARRESTER. ALBERT M. HARRIS, South Bend, Ind. Filed Oct. 6, 1906. Serial No. 337,746.



Claim.—A spark-arrester comprising a shell, a top member provided with a flue-opening, an annular guiding member of less diameter than the diameter of the flue-opening, an inverted-cone-shaped deflector guided to operative position by the guide member and seated upon the top member, and means for lifting the deflector from its operative position.

841,394. WING-OPERATING MECHANISM. ELISHA M. HARTMAN, South Bend, Ind. Filed Dec. 5, 1905. Serial No. 290,477.



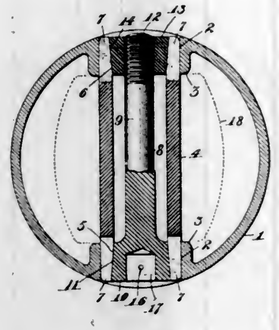
Claim.—1. A wing-operating mechanism embodying a continuously-rotated driving-shaft, a counter-shaft, a wing connected to the counter-shaft, gearing for rotating the counter-shaft on its longitudinal axis to cause the wing to move against the resistance of the air, and gearing connecting the driving-shaft and the counter-shaft for swinging the counter-shaft on its transverse axis.

2. A wing-operating mechanism embodying a driving-shaft, a wing, means operated by said shaft for swinging the wing in a direction at right angles to its flat faces against the resistance of the wind, and means on said shaft for swinging the wing at right angles to its first movement, and in a plane parallel with its flat faces, whereby the wing is feathered.

3. A wing-operating mechanism embodying a continuously-rotated driving-shaft, segmental gears on said shaft, a segmental beveled gear on said shaft, a spindle disposed at right angles to the driving-shaft, a gear on said spindle adapted to mesh with the said segmental beveled gear, a counter-shaft journaled in said spindle, segmental gears on said counter-shaft adapted to mesh with the segmental gears on the driving-shaft, the teeth of the segmental gears of the driving-shaft being arranged to mesh with the teeth of the gears of the counter-shaft when the teeth of the segmental beveled gear are out of mesh with the gear on the spindle, and a wing connected to the said counter-shaft.

4. The combination with a wing or blade, of mechanism for swinging said wing in the arc of a circle at right angles to its flat sides, and mechanism for swinging the wing in the arc of a circle parallel with its flat sides to restore it to its original position.

841,395. CROSS-HEAD PIN FOR EXPLOSION-ENGINES. EDWARD R. HEWITT, New York, N. Y. Filed Feb. 23, 1906. Serial No. 302,325.



Claim.—1. A pitman connection for explosion-engines, comprising a hollow pin adapted to be received within the piston and having longitudinal slots or recesses at each end, an expanding-wedge having a head with a conical surface, and a nut having a correspondingly-coned surface at the end opposite said head.

2. A pitman connection for explosion-engines, comprising a hollow pin adapted to be received within the piston, an expanding-wedge having a conical head within said pin, and having a nut with a coned surface opposite said head, said nut having diametrical slots by which it is turned.

3. A pitman connection for explosion-engines, comprising a hollow pin having internally-coned surfaces at its ends, said ends being longitudinally recessed or slotted, an expanding-wedge within said pin comprising a threaded shank having a head with a conical surface opposite one end of the pin, and a nut on said threaded shank having a coned surface opposite said other end of the pin, said nut and head having means by which they may be engaged to be relatively turned so as to expand the pin within the usual diametral holes of the piston.

4. In an explosion-engine, a piston having diametrally opposite holes in its walls, a hollow pin contained within said holes, and having slotted or recessed ends, and an expanding-wedge arranged to expand said ends into engagement with the holes in the piston.

5. A pitman connection for explosion-engines, comprising a hollow pin having slotted ends adapted to be received in the usual diametral holes of the piston, a circular expanding-wedge within said pin and having oppositely-coned heads, means for drawing said heads toward one another, and a pin adapted to be inserted through one of the heads for fixing it against rotation.

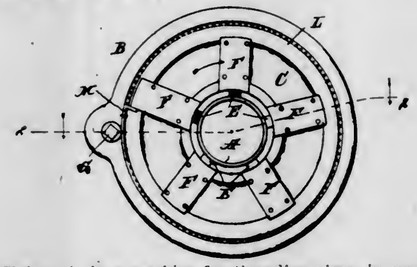
6. In an explosion-engine, a piston having diametrally opposite holes in its walls, a hollow pin contained within said holes and having slotted or recessed ends and formed with an inward taper at such ends, and an expanding-wedge arranged to bear against each of said tapered portions to expand said ends into engagement with the holes in the piston.

7. In an explosive-engine, a hollow wrist-pin tapered on the interior toward the center, taper-plugs at each end fitting the interior of said pin, and means for simultaneously drawing said taper-plugs toward each other.

8. In an explosive-engine, a hollow wrist-pin tapered on its interior circumference, and tapered plugs for increasing the exterior diameter, said plugs having means for drawing them into the tapered interior of the pin toward the center thereof.

9. In an explosive-engine, a hollow wrist-pin tapered on its interior and slotted diametrically on the ends of the pin, and tapered plugs for expanding the end diameter of the pin by drawing said plugs into the interior thereof.

841,396. MACHINE FOR THREADING PIPES. FREDERICK W. HOEFER, Freeport, Ill., assignor to Hoefer Manufacturing Company, Freeport, Ill. Filed Oct. 14, 1905. Serial No. 282,850.

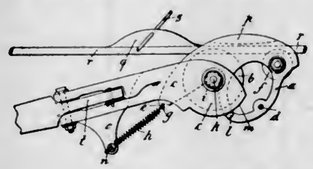


Claim.—1. In a machine for threading pipes, in combination, a peripherally-toothed die-head provided with threading-dies; a peripherally-toothed scroll cam-disk engaging said threading-dies, said cam-disk and said die-head having a different number of teeth; a drive-shaft; a pinion on said shaft for said die-head; and a pinion on said shaft for said cam-disk, said pinions being proportioned to rotate the die-head and scroll at different speeds.

2. In a machine for threading pipes, in combination, a frame; a die-head rotatably mounted in said frame and arranged to travel therein; threading-dies for said die-head; a scroll cam-disk mounted concentrically with said die-head and arranged to travel therewith, said cam-disk engaging said threading-dies; and means for rotating said die-head and cam-disk simultaneously at different speeds and in the same direction for giving them a traveling movement in said frame.

3. In a machine for threading pipes, in combination, a frame provided with an interiorly-threaded bearing; a die-head provided with threading-dies and with a sleeve-hub threaded exteriorly to correspond with the interiorly-threaded bearing in the frame; a scroll cam-disk rotatably mounted on the hub of the die-head concentrically therewith and engaging said threading-dies; and means for rotating said die-heads and cam-disk simultaneously at different speeds and in the same direction.

841,397. TROLLEY-HEAD. OTTO HOFFMANN, Berlin, Germany. Filed Aug. 22, 1905. Serial No. 275,213.



Claim.—1. In a device of the character described, the combination of a trolley-head, a yoke formed with a plurality of members, each of said members having a slot formed therein adapted to fit the axle of the trolley-wheel and spring-operated means for maintaining said slots in position on said axle.

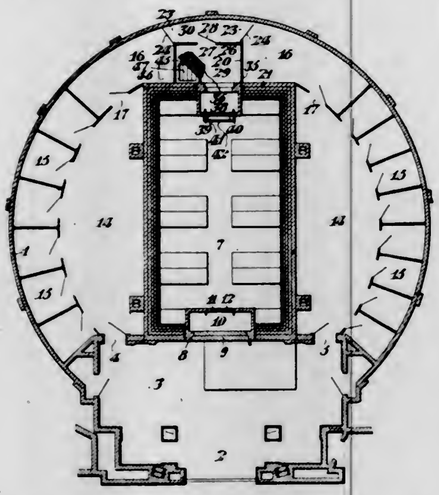
2. In a device of the character described, the combination of a forked member, a current-taking wheel mounted therein, a yoke formed of a plurality of members and provided with slots adapted to fit the axle of said current-taking wheel, spring-operated means for holding said slots in position on said axle, and means for limiting the movement of said yoke.

3. In a trolley-head, the combination of a forked member pivotally mounted on a suitable pole, a trolley-wheel mounted in said forked member, a clamp-like yoke provided with slots adapted to fit upon the axle of said trolley-wheel, an auxiliary wheel mounted in said yoke, springs connected to said yoke and said forked member and lugs on said yoke adapted to engage said forked member.

4. In a trolley-head, the combination of a forked member pivotally mounted on a suitable pole, a trolley-wheel mounted on said forked member, a yoke comprising two members, each member being provided with a downwardly-open slot adapted to fit upon the axle of said trolley-wheel, an auxiliary wheel mounted in said yoke, projections on said forked member, springs detachably secured to said projections and to said yoke and lugs on said yoke adapted to engage said forked member.

5. In a device of the character described, the combination of a forked member pivotally mounted on a suitable support, a trolley-wheel mounted therein, a yoke provided with slots adapted to rest upon and partly surround the axle of said trolley-wheel, springs for maintaining said slots in position on said axle, and means for limiting the movement of said yoke.

841,398. VAULT. WILLIAM H. HOLLAR, Philadelphia, Pa. Filed Oct. 13, 1906. Serial No. 338,697.



Claim.—1. The combination with a vault provided with a doorway, of a door arranged to hermetically seal said doorway; an auxiliary inclosure exterior to said doorway; and, a permanent ventilating-duct terminating in said inclosure, and connected with a ventilating system, substantially as set forth.

2. The combination with a vault provided with a doorway, of a door arranged to hermetically seal said doorway; an auxiliary inclosure exterior to said doorway; a permanent ventilating-duct terminating in said inclosure and connected with a ventilating system; and, means in said auxiliary inclosure arranged to control the port of said duct independently of said door, controlling said doorway in the vault-inclosure, substantially as set forth.

3. The combination with a vault provided with a doorway, of a pneumatic duct permanently located with respect to said vault and terminating in a port exterior thereto; an auxiliary inclosure, exterior to said vault, connecting said port with the doorway of said vault; and, a doorway provided with a door in said auxiliary inclosure, substantially as set forth.

4. The combination with a vault provided with a doorway, of a pneumatic duct permanently located with respect to said vault and terminating in a port exterior thereto; an auxiliary inclosure, exterior to said vault, connecting said port with the doorway of said vault; and, means in said auxiliary inclosure arranged to control said port, independently of said vault, substantially as set forth.

841,399. COMPOUND TELEPHONE. CARL G. F. HOLMGREN and AUGUST E. BRAHM, Stockholm, Sweden, assignors to Aktiebolaget L. M. Ericsson & Co., Stockholm, Sweden. Filed Aug. 24, 1906. Serial No. 331,936.

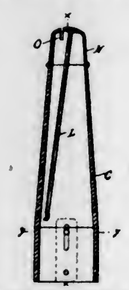


Claim.—1. The combination with a compound telephone comprising a receiver, a microphone, and a handle-bar connecting the receiver and the microphone, of an imperforate cover in front of the diaphragm of the microphone, and a flange extending from the said cover beyond openings provided in the side walls of the chamber between the cover and the diaphragm of the microphone, substantially as and for the purpose set forth.

2. The combination with a compound telephone comprising a receiver, a microphone, and a handle-bar connecting the receiver and the microphone, of an imperforate cover on the microphone-casing having openings in its side walls, the said openings being located in front of the diaphragm of the microphone, and a flange extending from the outer edge of the cover beyond the said openings and at a distance from the side walls of the cover, substantially as and for the purpose set forth.

3. The combination with a compound telephone comprising a receiver, a microphone, and a handle-bar connecting the receiver and the microphone, of an imperforate cover on the microphone-casing having openings in the portion of its side walls that faces the receiver, the other portion of the said side walls being imperforate, and a flange extending from the outer edge of the cover beyond the said openings and at a distance from the side walls of the cover, substantially as and for the purpose set forth.

841,400. GAS-BURNER AND AUTOMATIC CUT-OFF THEREFOR. LEO HOLTSCHNEIDER, Jefferson City, Mo. Filed Apr. 27, 1906. Serial No. 313,935.



Claim.—1. The herein-described combination of a base threaded for application to a gas-fixture, said base having an upper concave surface and an opening through said surface off the axial line, said base also having a groove around its circumference and a hole leading from the interior thereof to said groove, a pillar adjustably fitted to said base, means for holding said pillar in any adjustment, said pillar having a passage-way leading from the groove in the base to the interior of the pillar, a regulating-screw, the end of which crosses said passage, a ball adapted to normally close the opening in the concave surface, a tip secured to the pillar, said tip being of low-heat-conducting material, a plate of high-heat-conducting material secured to the tip and a thermostat consisting of two kinds of metal of different expanding qualities.

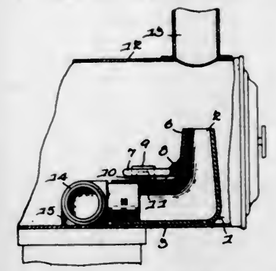
2. In combination with a burner of the character described, a thermostat consisting of a plate of high-heat-conducting qualities and two strips of metal of different expanding qualities extending side by side for a certain distance and then being reversed for the remainder of their length, as and for the purposes set forth.

3. In combination with a burner of the character described, a base having a concaved upper surface and a hole formed through the same, a ball adapted to rest upon the concaved surface and close the hole therethrough, a thermostat consisting of a high-heat-conducting plate secured to the tip of the burner and two metal strips extending downward from said plate lying side by side for a certain distance then crossing and lying side by side on the opposite sides of each other and means for adjusting the burner concentric with the base whereby the position of the hole through the concaved surface of the base will be varied relative to the strips of the thermostat, as specified.

841,401. DISTILLING APPARATUS. PHILLIP J. HOPE, Everett, Mass. Filed May 4, 1903. Renewed Oct. 23, 1906. Serial No. 340,186.

Claim.—The combination with a varnish-kettle, of a cover removably secured thereto, a cylindrical shell fixed water-tight at its lower edge to the upper surface of said cover, means for admitting water thereto and removing it therefrom, a tube fixed water-tight to said cover and rising centrally within said cylindrical shell, a shaft permanently but rotatably located in said tube and having a turning handle at its upper end and a clutch member at its lower end within said kettle, stirrers rotatably supported in said kettle and engaged by said clutch member, a worm located in said cylindrical shell concentric with said tube and communicating at its upper end with the interior of said kettle through said cover and at its lower end radially through said shell, and a pipe for the introduction of hydrocarbons through said cover into said kettle; said pipe having means for its closure.

841,402. EXHAUST-NOZZLE. PAUL B. HOUGHTON, Carpenter, S. D. Filed Feb. 9, 1906. Serial No. 300,339.



Claim.—1. An exhaust-nozzle having one tiltable section pivotally mounted in the end thereof, a controlling-arm rigidly connected with said tiltable section closely adjacent the pivot-point thereof, and means acting upon said controlling-arm for moving the tiltable section so as to close or open the nozzle.

2. An exhaust-nozzle having its discharge end open and provided with a longitudinal slot, a tiltable nozzle-section working in the slot and provided with an outwardly-directed arm, and a tapered slide working across the arm in frictional engagement therewith for controlling the tiltable nozzle-section.

3. An exhaust-nozzle including an elbow having its outlet branch open and provided with a slot intersecting its open end, a tiltable nozzle-section working in the slot, an arm carried by the tiltable section and lying across the inlet branch of the elbow, and a tapered slide working between the arm and the inlet branch in frictional engagement with said members to move the arm and tilt the tiltable nozzle-section.

4. An exhaust-nozzle including an elbow having its discharge end open and provided with a longitudinal slot intersecting said open end, a tiltable nozzle-section working in the slot and provided with an arm extending across the inlet branch of the nozzle, guide members upon the inlet branch at opposite sides of the arm and provided with longitudinal openings, and a tapered slide working in the openings between and in frictional engagement with the inlet branch of the nozzle and the arm.

841,403. AUTOMATIC STOP-SIGNAL SYSTEM. CALVIN L. IUNGERICH, Harrisburg, Pa., assignor of one-third to William S. Reel and one-third to Samuel O. Reel, Harrisburg, Pa. Filed Sept. 1, 1906. Serial No. 332,980.

Claim.—1. An air-brake apparatus including an engineer's brake-valve, a track device, means operable by the track device for moving the valve to brake position, and means for automatically shifting the valve to lap position when the valve-operating means is released.

2. An air-brake apparatus including an engineer's brake-valve, a track device, means operable by the track device for automatically moving the valve to brake position, and gravity-actuated means for shifting the valve to lap position when the valve-operating means is disengaged from the track device.

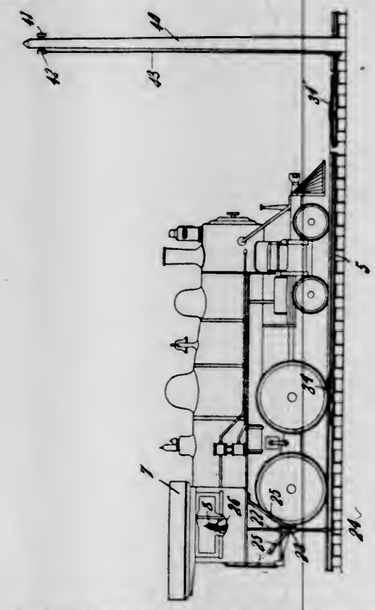
3. An air-brake apparatus including an engineer's brake-valve, a track device, means operable by the track device for automatically moving the valve to brake position, means for shifting the valve to lap position when the valve-operating means is released, and means for operating the valve independently of the automatic means.

4. An air-brake apparatus including an engineer's brake-valve, a track device, means operable by the track device for automatically moving the valve to brake position, means for shifting the valve to lap position when the valve-operating means is disengaged from the track device, and means for disconnecting the valve-operating means from said valve.

5. An air-brake apparatus including an engineer's brake-valve, a track device, a pawl operatively connected with

the valve and actuated by the track device for moving the valve to brake position, and means for shifting the valve to lap position.

6. An air-brake apparatus including an engineer's brake-valve, a track device, a pawl operatively connected with the valve, means depending from the pawl and extending in the path of movement of the track device for moving the valve to brake position, and means for moving the valve to lap position when the track-engaging means is released.



7. An air-brake apparatus including an engineer's brake-valve, a track device, a pawl operatively connected with the valve, a tappet carried by the pawl and adapted to engage the track device for moving the valve to brake position, said tappet being weighted thereby to shift the valve to lap position when the tappet is disengaged from the track device.

8. An air-brake apparatus including an engineer's brake-valve, a track device, a pawl operatively connected with the valve, a tappet depending from the pawl and adapted to engage the track device for moving the valve to brake position, gravity-actuated means for shifting the valve to lap position when the tappet is disengaged from the track device and means for disconnecting the pawl from the valve thereby to permit the valve to be operated independently of the automatic means.

9. An air-brake apparatus including an engineer's brake-valve, a guide secured to the casing of the valve, a cross-head slidably mounted in the guide and operatively connected with the valve, a track device, a tappet depending from the cross-head and adapted to engage the track device for moving the valve to brake position, and means for automatically shifting the valve to lap position when the tappet is disengaged from the track device.

10. An air-brake apparatus including an engineer's brake-valve, a track device, means operable by the track device for automatically moving the valve to service or emergency position, and gravity-actuated means for shifting the valve to lap position when the valve-operating means is disengaged from the track device.

11. An air-brake apparatus including an engineer's brake-valve, a guide, a cross-head slidably mounted on the guide, a pawl pivotally mounted on the cross-head and adapted to engage a slot in the valve, a track device, a tappet depending from the cross-head and adapted to engage the track device for shifting the valve to service or emergency position, said tappet being weighted thereby to automatically shift the valve to lap position when the tappet is disengaged from the track device.

12. An air-brake apparatus including an engineer's brake-valve, a plurality of track devices movable alternately to operative position, means operatively connected with the valve for moving the latter to service position when the valve-operating means engages one of the track devices, said valve being moved to emergency position when the operating means engages the opposite track device, and gravity-operating means for automatically returning the valve to lap position after being disengaged from the track device.

13. An air-brake apparatus including an engineer's brake-valve, a plurality of track devices movable successively to operative position, a pawl operatively connected with the valve, a tappet depending from the pawl and extending in the path of movement of the track devices for moving the valve to service position when the tappet engages one of said track devices, said valve being moved to emergency position when the tappet engages the opposite track device, and means carried by the tappet for automatically returning the valve to lap position after each application of the brakes.

14. An air-brake apparatus including an engineer's brake-valve, a signal, track devices operatively connected with the signal, means operated by the track device for moving the valve successively to service and emergency position when different signals are displayed, and gravity-actuated means for automatically returning the valve to lap position after each application of the brakes.

15. An air-brake apparatus including an engineer's brake-valve, spring-pressed track devices, a signal operatively connected with the track devices for successively moving the track devices to operative position when different signals are displayed, a pawl operatively connected with the brake-valve, a tappet depending from the pawl and adapted to engage the track devices for moving the brake-valve successively to service and emergency position, means for returning the valve to lap position when the tappet is disengaged from the track devices, and means for disconnecting the pawl and valve thereby to permit the operation of the valve independently of the automatic means.

16. An air-brake apparatus including an engineer's brake-valve, spring-pressed track devices having cam-faces, lifting-arms for moving the track devices to operative position, a signal, a flexible medium connecting the lifting device with the signal, means operatively connected with the valve and adapted to engage the track devices for moving the valve to brake position, and gravity-actuated means for automatically returning the valve to lap position after each application of the brakes.

17. An air-brake apparatus including an engineer's brake-valve, a yieldably-supported track device having operatively-disposed cam-faces, a stub-shaft having a crank-arm at one end thereof and lifting-arm at the other for elevating the track device to operative position, a signal, a connection between the signal and the crank-arm, means operatively connected with the valve and adapted to engage the track device for moving the valve to brake position, and means for automatically returning the valve to lap position when the valve-operating means is discharged from the track device.

18. An air-brake apparatus including an engineer's brake-valve, a pawl adapted to engage a slot in the valve, a track device, means connected with the pawl and adapted to engage the track device for moving the valve to brake position, means for automatically returning the valve to lap position, and a cam extending in the path of movement of the pawl for releasing the latter from the slot when the valve is returned to lap position.

19. An air-brake apparatus including an engineer's brake-valve, a pawl adapted to engage a slot in the valve, a track device, a tappet depending from the pawl and adapted to engage the track device for moving the valve to brake position, means for automatically returning the valve to lap position, a cam extending in the path of movement of the pawl for disengaging the pawl from the slot when the valve is shifted to lap position, and a finger-piece carried by the pawl for manually disengaging the pawl thereby to permit the valve to be operated independently of the automatic means.

20. An air-brake apparatus including an engineer's brake-valve, a guide, a cross-head slidably mounted in the guide, a pawl pivotally mounted on the cross-head and adapted to engage a slot in the valve, the free end of the pawl being provided with an inclined face, a track device, a tappet pivotally mounted on the cross-head and adapted to engage the track device for moving the valve to brake position, a cam yieldably supported in the path of movement of the pawl, means for automatically returning the valve to lap position, said cam being adapted to engage the inclined face of the pawl for disengaging the latter from the slot in the valve when the valve is moved to lap position.

21. An air-brake apparatus including an engineer's brake-valve, a guide, a cross-head slidably mounted in the guide, a pawl pivotally mounted on the cross-head and adapted to engage a slot in the valve, the free end of said valve being rounded and provided with an inclined face, a track device, a link pivoted to the cross-head, a tappet pivoted to the link and adapted to engage the track device for moving the valve to brake position, a yieldable arm provided with a cam-face adapted to engage the curved end of the pawl when the valve is moved to brake position, means for moving the valve to lap position, said cam being adapted to engage the inclined face of the pawl for disengaging the latter from the slot when the valve is moved to lap position.

22. An air-brake apparatus including an engineer's brake-valve, a flange extending laterally from the lever of the valve and provided with a slot, a guide, a cross-head slidably mounted in the guide, a pawl pivotally mounted on the cross-head and adapted to engage the slot, a track device, a tappet operatively connected with the cross-head and adapted to engage the track device for moving the valve to brake position, means for returning the valve to lap position, and a cam yieldably supported in the path of movement of the pawl for disengaging the latter from the slot in the flange when the valve is moved to lap position.

23. An air-brake apparatus including an engineer's brake-valve, a flange extending laterally from the valve and provided with a slot, a guide, a cross-head slidably mounted in the guide, a pawl pivotally mounted on the cross-head and having its free end rounded and provided with a depending lug adapted to engage a slot in the flange, said pawl being provided with an inclined face disposed at said lug, a track device, a tappet depending from the cross-head and adapted to engage the track device for moving the valve to brake position, a cam yieldably supported in the path of movement of the pawl and adapted to be moved laterally by engagement with the curved face of the pawl when the valve is moved to brake position, means for shifting the valve to lap position, said cam being adapted to engage the inclined face of the pawl for disengaging the lug from the slot in the flange when the valve is moved to lap position.

24. An air-brake apparatus including an engineer's brake-valve, a flange extending laterally from the operating-lever and provided with a slot, a guide, a cross-head slidably mounted in the guide, a pawl pivotally mounted on the cross-head and adapted to engage the slot, a track device, a link pivoted to the cross-head, a tappet pivoted to the link and adapted to engage the track device for moving the valve to brake position, said tappet being weighted thereby to automatically move the valve to lap position when the tappet is disengaged from the track device, and a finger-piece carried by the pawl for disengaging the latter from the slot in the flange.

25. An air-brake apparatus including an engineer's brake-valve, a flange extending laterally from the lever of the valve and provided with a slot, arms extending vertically from the valve-casing and connected by a detachable bar forming a guide, a cross-head slidably mounted in the guide, a pawl pivotally mounted on the cross-head and adapted to engage the slot, a link secured to the cross-head, a track device, a tappet secured to the opposite end of the link and adapted to engage the track device for moving the valve to brake position, said tappet being weighted thereby to automatically return the valve to lap position when the tappet is disengaged from the track device, and means for manually disengaging the pawl from the slot in the valve thereby to permit the latter to be operated independently of the automatic means.

26. An air-brake apparatus including an engineer's brake-valve, means for automatically moving the valve to brake position, and means for automatically shifting the valve to lap position when the valve-operating means is released.

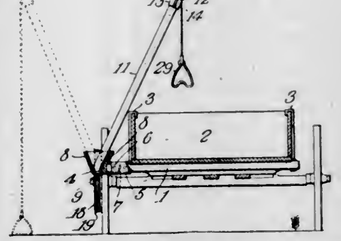
27. An air-brake apparatus including an engineer's brake-valve, means for automatically moving the valve to brake position, means for automatically shifting the valve to lap position when the valve-operating means is released, and means for operating the valve independently of the automatic means.

28. An air-brake apparatus including an engineer's brake-valve, means for automatically moving the valve to service or emergency position, and means for shifting the valve to lap position when the valve-operating means is released.

29. An air-brake apparatus including an engineer's brake-valve, a signal, means operatively connected with the signal for moving the valve to brake position when a signal is displayed, and means for automatically returning the valve to lap position after the valve-operating means is released.

30. An air-brake apparatus including an engineer's brake-valve, a signal, means operatively connected with the signal for moving the valve successively to service and emergency position when different signals are displayed, and means for automatically returning the valve to lap position after each application of the brakes.

841,404. DERRICK FOR LOADING WAGONS. WILLIAM N. JAY, Moscow, Idaho. Filed Oct. 31, 1906. Serial No. 341,442.



Claim.—1. In combination with a wagon-body, a socket attached thereto, means for adjusting said socket laterally with relation to the body, an upright resting in the socket and adapted to swing laterally with relation to the body, tackle and grapple carried by the upright and means for drawing the tackle.

2. In combination with a wagon, a beam extending transversely of the body thereof, hook-irons clamping said beam in position upon the body, a socket attached to the beam, an upright resting in the socket and adapted to swing transversely of the wagon-body, tackle and grapple carried by the upright and means for drawing the tackle.

3. In combination with a wagon, a beam secured to the body thereof and extending transversely of said body, a socket adjustably attached to said beam, an upright resting in the socket and adapted to swing transversely of the wagon-body, tackle and grapple carried by the upright and means for drawing the tackle.

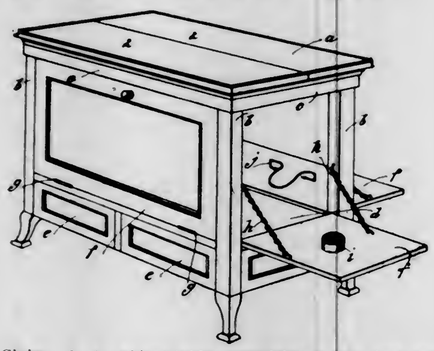
4. In combination with a wagon, a beam attached thereto, a socket having a sleeve which receives said beam, an upright resting in the socket and adapted to swing transversely of the wagon, tackle and grapple carried by the upright and means for drawing the tackle.

5. An attachment as described comprising a socket having parallel walls and oppositely-inclined walls and a support-receiving sleeve, said socket adapted to receive an upright.

6. An attachment as described comprising a socket having parallel walls and oppositely-inclined walls, said socket having an opening in its bottom and adapted to receive an upright.

7. An attachment as described comprising a socket having parallel walls and oppositely-inclined walls and an opening in its bottom, said socket having a support-receiving sleeve, said socket adapted to receive an upright.

841,405. CABINET-TABLE. NELLIE L. JEWELL, Buffalo, N. Y. Filed July 25, 1906. Serial No. 327,694.



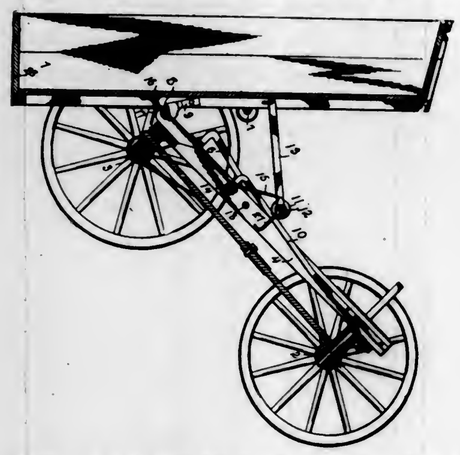
Claim.—1. A cabinet-table comprising a top, legs supporting the top, a bottom supported by the legs below the top, and separated from the latter by openings bounded by the top, legs and bottom, side pieces hinged to the bottom, and adapted to close said openings, and to swing downwardly and outwardly to form extensions of the bottom, means on the inner sides of the side pieces for supporting articles within the cabinet, when the side pieces are closed, the said articles being projected from the cabinet when the side pieces are adjusted to form bottom extensions, and means for supporting the side pieces in their bottom-extending positions.

2. A cabinet-table comprising a top, legs supporting the top, a bottom supported by the legs below the top, and separated from the latter by openings bounded by the top, legs and bottom, side pieces hinged to the bottom, and adapted to close said openings and to swing downwardly and outwardly to form extensions of the bottom, and braces connected with the inner sides of the legs and with the inner sides of the side pieces, and adapted to support said side pieces in their bottom-extending positions, said braces being concealed by the side pieces when the latter are raised.

3. A cabinet-table comprising a top, legs supporting the top, and connected at their upper ends by side and end bars, a bottom supported by the legs, hinged side pieces adapted to form the sides of the cabinet, the said top constituting a table and the top of the cabinet, and being composed of two sections slidingly engaged with the said end bars, so that they may be projected outwardly over the sides of the cabinet, and an intermediate top section adapted to be interposed between the projected sections to complete the top.

4. A cabinet-table comprising legs, horizontal side and end bars attached to the upper ends of the legs, a bottom attached to the legs, and separated from the side and end bars by spaces or openings, hinged side pieces adapted to close the said openings, and to be moved outwardly therefrom, the said side pieces having means for supporting articles within the cabinet, and a sectional top supported by the side and end bars and composed of two sections slidingly engaged with the end bars so that they may be projected outwardly over the sides of the cabinet, and an intermediate top section adapted to be interposed between the projected sections to complete the top.

841,406. DUMP-WAGON. CARL E. KAUFMAN, Rosedale, Kans. Filed June 30, 1905. Serial No. 267,782.



Claim.—1. In a dump-wagon, the combination with a bed-support having at its rear end two fulcrums and in front of the fulcrums two forwardly-inclined runways disposed one at each side of the support, of a bed movable horizontally rearward on the bed-support to a certain position and provided with means when in said certain position for engaging and swinging on said fulcrums to a rearwardly-tilted position, a brace pivoted at its rear end to the bed, two rollers mounted on the brace and running on the said runways respectively, a drum rotatively mounted on the bed-support, means for rotating the drum in two directions, releasable means for locking the drum against rotation in either direction, and two chains connected one to said brace and the other to the bed so as to move the bed in opposite directions when the chains are properly drawn by the drum, the chains being so connected to the drum that when one is wound thereon the other is unwound.

2. In a dump-wagon, the combination with the bed-support, of the bed movable forward and backward thereon, means by which when the bed has been moved rearwardly to a certain position it may be swung to a rearwardly-tilted position, a brace pivoted at its rear end to the bed and supported at its forward end upon the bed-support, a drum rotatively mounted on the bed-support, two chains connected to the drums so that when one is wound thereon the other is unwound therefrom, one chain being connected to the bed for moving it forward, and the other chain being connected to the brace for forcing the brace and bed rearwardly, a crank-shaft mounted on the bed-support, two ratchet-wheels mounted on the crank-shaft and having their teeth facing in opposite directions, two pawls pivoted to the bed-support and engaging respectively said ratchet-wheels, and gearing for imparting rotation from the crank-shaft to the drum.

3. In a dump-wagon, the combination with the bed-support having runways inclining forward, of the bed movable forward and backward on the support, means by which when the bed has been moved rearwardly to a certain position it may be rearwardly tilted on the support, a brace having rollers mounted on its forward end, the rollers being supported on said runways, said brace being pivoted to the bed at the rear end of the brace, the bed, brace and bed-support forming a triangle with the bed-support as a base when the bed is in the tilted position, a drum rotatively mounted on the bed-support, two chains connected to the drum so that one will be wound thereon when the other unwinds therefrom, the chains being connected one to the brace and the other to the bed for alternately moving the bed forward and backward and means for rotating the drum in both directions.

4. In a dump-wagon, the combination with the bed-support, having two pairs of forwardly and downwardly inclined runways, and two rollers located to the rear of said runways, of the bed supported at its rear end when in the horizontal position upon said rollers and having two rollers adapted to rest upon one pair of runways when the bed is in the horizontal position, means by which, when the bed is moved rearwardly to a certain position it will pivotally engage said support, a brace pivoted at its rear end to the wagon-bed and having at its forward end rollers mounted on the other pair of runways, means connected with the bed-support and said brace for forcing the brace rearwardly together with the bed until the bed has pivotally engaged the support, and then forcing the bed to swing into a tilted position, and means by which, when said brace-moving means is reversed in operation, the bed will be retracted to its original position.

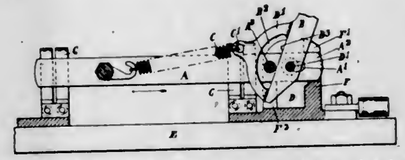
5. In a dump-wagon, the combination with a bed-support, of a bed movable rearwardly thereon, means by which, when the bed has been moved rearwardly to a certain position, it will pivotally engage the support, two chains movable simultaneously lengthwise of the support in opposite directions, means mounted on the support for so moving said chains, one chain being connected with the wagon-bed for drawing the bed forward on the support, and a brace connected to the other chain and rearwardly drawn thereby, the rear end of said brace being pivotally connected to the wagon-bed and the forward end of the brace movable forward and backward on said support, the arrangement of the parts being such that when the chain connected to the brace is drawn rearwardly the bed will be moved rearwardly into pivotal engagement with the support and then swung thereon into a tilted position, and when the chain-drawing means is oppositely operated, the bed will be retracted by the chain connected with it to its original horizontal position on the support, after it has been swung downward from its tilted position.

6. In a dump-wagon, the combination with the two axles, of the bed-support mounted thereon, means by which when the bed is rearwardly moved to a certain position on the bed-support it will pivotally engage and may be swung thereon to a tilted position, a brace pivoted at its rear end to the bed at a point in front of the place of pivotal engagement of the bed with the bed-support, the forward end of the brace being movable lengthwise upon and supported by the bed-support, a drum rotatively mounted on the bed-support, means for rotating the drum in two directions, means by which when the drum is rotated in one direction the brace will be forced rearwardly until the bed pivotally engages the bed-support and then forced to a position in which the bed will be tilted, the arrangement of the parts being such that when the bed is in the tilted position it will be supported wholly by the bed-support, and means by which when the drum is reversely rotated, the bed may be retracted to its original position.

7. In a dump-wagon, the combination with the two axles, of the bed-support mounted thereon, means by which when the bed is rearwardly moved it will pivotally engage the bed-support and may then be swung thereon to a tilted position, a brace pivoted at its rear end to the bed in front of where the bed pivotally engages the bed-support, the forward end of the brace being movable lengthwise upon and supported by the bed-support, a drum rotatively mounted on the bed-support, two chains adapted to be wound on the drum, one being wound while the other is unwinding, one chain being connected to the bed and the other to the brace in a manner such that when the drum is turned in one direction the bed will be forced rearwardly and tilted on the support and when the drum is oppositely turned, the bed will be retracted, the arrangement of the parts being such that when the bed is in the tilted position it will be supported wholly by the bed-support.

841,407. ELECTRICAL SWITCH. JOHN A. KENNEDY-MCGREGOR, Birmingham, and HARRY WREN, Bexhill, England, assignors to Harry William Cox, Nottingham, England. Filed Aug. 18, 1905. Serial No. 274,770.

Claim.—1. In an electrical switch, the combination of a pivoted bridge mounted so that it can be moved longitudinally, a bearing-bracket for the same adapted to engage with and hold the bridge, an operating-lever adapted to engage with and move the bridge longitudinally out of engagement with the bearing-bracket, and a spring connection between the bridge and operating-lever so disposed as to give a quick action and then return the bridge into engagement with the bearing-bracket, substantially as described.

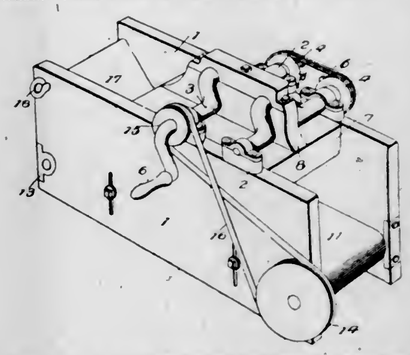


2. In an electrical switch, the combination of a bridge provided with a stud or cross-pin and a slot to admit the pivot-pin, a bearing-bracket for the same adapted to engage with the bridge, an operating-lever adapted to engage with the stud in the bridge and move it longitudinally out of engagement with the bearing-bracket, and a spring connected to the bridge and an arm of the operating-lever respectively so disposed as to give a quick action and then return the bridge into engagement with the bearing-bracket, substantially as described.

3. In an electrical switch, the combination of a pivoted bridge provided with a stud or cross-pin and mounted so that it can be moved longitudinally, a bearing-bracket for the same provided with notches to admit the stud in the bridge, an operating-lever adapted to engage with the stud and move the bridge longitudinally out of engagement with the bearing-bracket and a spring connected to the bridge and an arm of the operating-lever respectively so disposed as to give a quick action and then return the bridge into engagement with the bearing-bracket, substantially as described.

4. In an electrical switch, the combination of a pivoted bridge provided with a stud or cross-pin and a slot to admit the pivot-pin, a bearing-bracket for the same provided with notches to admit the ends of the stud in the bridge, an operating-lever adapted to engage with the stud in the bridge and move it longitudinally out of engagement with the bearing-bracket, and a spring connected to the bridge and an arm of the operating-lever respectively so disposed as to give a quick action and then return the bridge into engagement with the bearing-bracket, substantially as described.

841,408. BREAD KNEADING AND MOLDING MACHINE. CARL KRUSE and ERNST J. KRUSE, Seattle, Wash. Filed June 19, 1906. Serial No. 322,485.

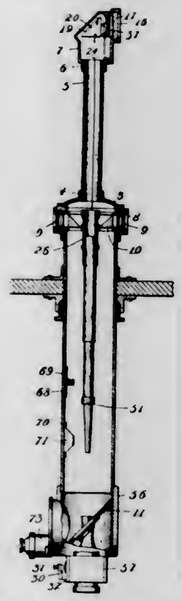


Claim.—1. A dough kneading and molding machine, comprising a framework embodying vertical side bars, crank-shafts journaled on said side bars and connected together for simultaneous operation, a kneading and molding board mounted between said side bars and provided with an upwardly-extending rib journaled on the cranks of said

shafts, the lower face of said board being formed with transverse corrugations, a bottom board underneath the first-named board, an apron designed to travel on said bottom board, an operative connection between the crank-shafts and said apron whereby they may be simultaneously actuated, and a freely-swinging feed-plate supported by said board and apron at one end of the machine, the free edge of said feed-plate resting upon the apron and thereby serving as a scraper therefor, in addition to feeding the dough into proper position for action thereupon by the corrugated board and bottom board.

2. A dough kneading and molding machine comprising a framework embodying vertically-extending side bars, a bottom board secured to said side bars between the same, said bottom board being vertically adjustable, a kneading and molding board provided on its lower face with corrugations and mounted between the side bars above the bottom board, crank-shafts journaled on said side bars and operatively supporting said corrugated board, an apron mounted to travel over said bottom board and an operative connection between one of said crank-shafts and said apron.

841,409. OPTICAL INSTRUMENT. SIMON LAKE, Bridgeport, Conn. Filed Oct. 5, 1905. Serial No. 281,373.



Claim.—1. In an optical instrument, the combination with a tubular casing carrying at one end an inclined reflector for receiving laterally an image of an external object and reflecting it longitudinally through said casing, of an objective comprising a member movable into and out of the visual range of said reflector, and means controlled exteriorly at the end of said casing opposite that carrying said reflector for shifting the movable member of said objective into and out of the visual range of said reflector.

2. In an optical instrument, the combination with a tubular casing carrying an inclined reflector for receiving laterally an image of an external object and reflecting it downwardly through said casing, independent magnifying members for producing images of said object upon different scales, and a common movable reflecting member in the visual range of said inclined reflector and adapted to bend the light-rays therefrom to either of said magnifying members.

3. In an optical instrument, the combination with a tubular casing provided at its lower end with an unobstructed lateral opening, of a plurality of divergently-inclined reflectors disposed at the upper end of said casing for receiving laterally images of differently-disposed external objects and reflecting them downwardly through the same, and an inclined reflector disposed in line with said lateral opening of the casing and adapted to direct through the same simultaneously images received through all of said divergently-inclined reflectors.

4. In an optical instrument, the combination with a tubular casing provided at its lower end with an unobstructed lateral opening, of a plurality of divergently-inclined reflectors disposed at the upper end of said casing for receiving laterally images of differently-disposed external objects and reflecting them downwardly through the same, an inclined reflector disposed in line with said lateral opening of the casing and adapted to direct through the same simultaneously images received through all of said divergently-inclined reflectors, an eyepiece directed into said lateral opening of the casing near its periphery, and a focusing-lens interposed between and in the visual range of the said eyepiece and adjacent reflector and one of the said divergently-disposed inclined reflectors.

5. In an optical instrument, the combination with a tubular casing provided at its lower end with an unobstructed lateral opening, of a plurality of divergently-inclined reflectors disposed at the upper end of said casing for receiving laterally images of differently-disposed external objects and reflecting them downwardly through the same, an inclined reflector disposed in line with said lateral opening of the casing and adapted to direct through the same simultaneously images received through all of said divergently-inclined reflectors, an eyepiece directed into said lateral opening of the casing near its periphery, and a focusing-lens and a double-reversing prism interposed between and in the visual range of the said eyepiece and adjacent reflector and one of the said divergently-disposed inclined reflectors.

6. An optical instrument comprising a casing, an eyepiece and means coöperating therewith within said casing for transmitting through the same an image of an object of known dimension, a pair of gage members interposed in the visual range of said eyepiece, shifting means for producing the relative movement of said gage members toward and from each other and in respect of the optical axis of the instrument, means movable in respect of said casing whereby said gage members may be trained upon the object, and a scale connected and movable proportionally with said shifting means whereby the measure of said object at a distance from said instrument will afford a basis of computation of such distance.

7. The combination with a rigid support, of an optical instrument constructed with a tubular casing mounted within said support and sustained in fixed angular relation therewith, said instrument comprising an eyepiece and means coöperating therewith for transmitting through the same an image of an object of known dimension, a pair of gage members interposed in the visual range of said eyepiece, shifting means for producing the relative movement of said gage members toward and from each other and in respect of the optical axis of the instrument, means independent of said fixed support whereby said gage members may be trained upon the object, and a scale connected and movable proportionally with said shifting means whereby the measure of said object at a distance from said instrument will afford a basis of computation of such distance.

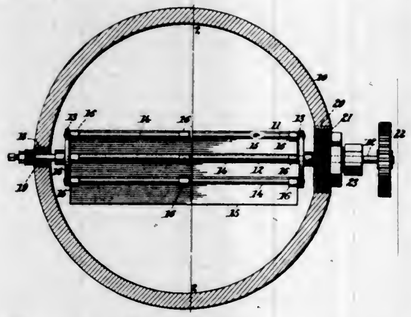
8. In an optical instrument, the combination with a tubular casing, an objective comprising fixed and movable members of which the latter is adapted to be shifted transversely out of range of the former, and an inclined reflector in the visual range of the fixed member of the objective and adapted to receive laterally an image of an external object and reflect it longitudinally through said casing, of independent means within said casing coöperating respectively with both and with one only of the component members of said objective whereby differently-magnified images of the same object may be produced.

9. In an optical instrument, the combination with a casing, a plurality of similarly-directed inclined reflectors each adapted to receive laterally an image of the same external object and reflect it longitudinally of said casing, and an objective in the visual range of each of said reflectors, of means, also within the visual range of one of said reflectors, for producing differently-magnified images of said object through the same objective simultaneously with the production of a reduced image through the other of said objectives.

10. In an optical instrument, the combination with a tubular casing carrying at one end a reflector for receiving laterally an image and reflecting it longitudinally through said casing, and two independent receiving-lenses or eyepieces disposed at the opposite end of said casing, of means whereby an image from the common reflector may be directed to either of said receiving-lenses or eyepieces.

11. In an optical instrument, the combination with a tubular casing carrying at one end a reflector for receiving laterally an image and reflecting it longitudinally through said casing, and two independent receiving-lenses or eyepieces of different powers disposed at the opposite end of said casing, of an objective comprising a member movable into and out of the visual range of said reflector, and means whereby the image from the common reflector may be directed to one of said receiving-lenses or eyepieces when the movable member of said objective is in operative position and may be directed to the other when said movable member of the objective is in inoperative position.

841,410. ROTARY WATER-METER. CHARLES A. LOCKWOOD, New York, N. Y. Filed Feb. 15, 1906. Serial No. 301,146.



Claim.—1. A rotary water-meter for measuring the quantity of water flowing through a pipe during any period of time, comprising a skeleton wheel mounted within said pipe and having its shaft projected through the side thereof, and means on the exposed end of said shaft for transmitting motion to a registering device, said wheel having a series of hinged blades which become effective as resisting members as their free ends successively turn inwardly and downwardly at the upper side of said shaft and hang freely, so as to swing in the direction of the flowing water, at the lower side of said shaft; substantially as set forth.

2. A rotary water-meter for measuring the quantity of water flowing through a pipe during any period of time, comprising a wheel mounted within said pipe and having its shaft projected through the side thereof, and means on the exposed end of said shaft for transmitting motion to a registering device, said wheel having a series of blades which become effective as resisting members as they successively reach one definite side of said shaft and hang freely at the other side of said shaft, and said pipe having at one side an orifice and a plug therein affording a bearing for one end of said shaft and at the other side an orifice and a plug therein affording a bearing for the other end of said shaft, the latter orifice being of sufficient size to admit the assembled wheel through it; substantially as set forth.

3. A rotary water-meter for measuring the quantity of water flowing through a pipe during any period of time, comprising a skeleton wheel mounted within the pipe-line and in the path of the flowing water and having on one end of its shaft means for transmitting motion to a registering device, said wheel comprising heads on said shaft and a series of blades hinged at their outer edges to said heads and each being in width about equal to one-half the diameter of the wheel, and said blades and pipe being proportioned to permit said blades to become effective resisting members as their free ends successively turn inwardly and downwardly at the upper side of said shaft and hang freely so as to swing in the direction of the flowing water, at the lower side of said shaft; substantially as set forth.

4. A rotary water-meter for measuring the quantity of water flowing through a pipe during any period of time, comprising a skeleton wheel mounted within the pipe-line and in the path of the flowing water and having on one end of its shaft means for transmitting motion to a registering device, said wheel comprising heads on said shaft, a series of rods secured at their ends to said heads, and a series of blades having at their outer edge the knuckle members and concave recess to pass on said rods and thereby become freely hinged thereto and each being in width about equal to one-half the diameter of the wheel, and said blades and pipe being proportioned to permit said blades to become effective resisting members as their free ends successively turn inwardly and downwardly at the upper side of said shaft and hang freely so as to swing in the direction of the flowing water, at the lower side of said shaft; substantially as set forth.

5. A rotary water-meter for measuring the quantity of water flowing through a pipe during any period of time, comprising a wheel mounted within said pipe and having its shaft projected through the side thereof, and means on the exposed end of said shaft for transmitting motion to a registering device, said wheel having a series of blades which become effective as resisting members as they successively reach one definite side of said shaft and hang freely at the other side of said shaft, and said pipe having at one side a bearing for one end of said shaft and at the other side an orifice and a plug therein affording a bearing for the other end of said shaft, said orifice being of sufficient size to admit the assembled wheel through it; substantially as set forth.

841,411. DUMP-WAGON. RICHARD H. MACCLERNAN, West Philadelphia, Pa., assignor to Contractors Wagon Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Apr. 17, 1906. Serial No. 312,089.

Claim.—1. A dump-wagon provided with a box, ribs secured to the sides of said box and having hooks and doors having strengthening means provided with eyes adapted to form in conjunction with said hooks hinges to connect said doors with said box.

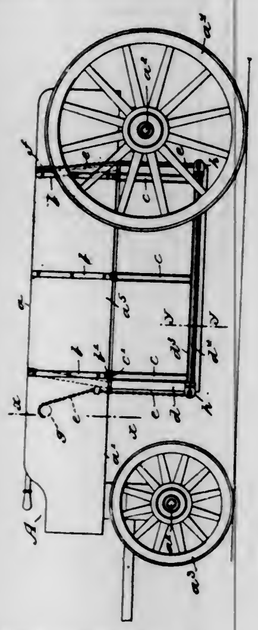
2. A dump-wagon provided with a box, ribs secured to the sides of said box and having hooks, doors having strengthening means provided with eyes adapted to form in conjunction with said hooks hinges to connect said doors with said box and means connected with said doors adapted to prevent bending and buckling of said doors at the meeting ends.

3. A dump-wagon provided with a box, a chain, doors pivotally secured to said box and adapted when closed by said chain to form the bottom thereof, trusses secured to said doors, said trusses consisting of channel-irons and pipes placed therein adapted as so arranged to resist bending and buckling of said doors at their meeting ends, and said pipes adapted to receive and guide said chain.

4. A dump-wagon provided with a box, ribs secured to the sides thereof having hooks, doors, channel-irons secured thereto and having eyes adapted to form in conjunction with said hooks hinges to connect said doors with said box, channel-irons and pipes secured to said doors, the ribs of said box adapted to strengthen the sides thereof and the ribs, channel-irons and pipes adapted to strengthen said doors so as to prevent bending and buckling thereof.

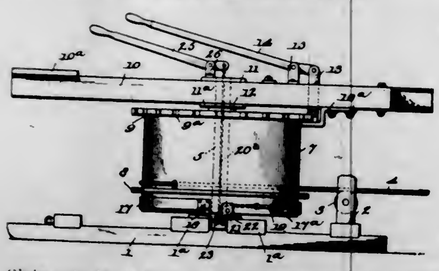
5. A dump-wagon provided with a box, ribs secured to the sides of said box and having hooks, doors having strengthening means provided with eyes adapted to form

in conjunction with said hooks hinges to connect said doors with said box, means connected with said doors adapted to prevent bending and buckling of said doors at the meeting ends and having guides forming extensions thereof and chains passing through said means and over said extensions.



6. A dump-wagon provided with a box, a chain, doors pivotally secured to said box and adapted to be held in a closed position by said chain, a shaft secured to said box and adapted to receive and tighten said chain to hold said doors closed, a ratchet-wheel secured to said shaft, a pawl adapted to engage said wheel and hold said chain in a tightened condition by said shaft, a treadle connected with said pawl, and a hand-lever loosely mounted on said shaft and having an extension, said lever adapted to rotate said wheel and shaft when operated in a certain position and when depressed to release said pawl by said extension, and said treadle adapted when operated to disengage said pawl from said wheel independently of said lever.

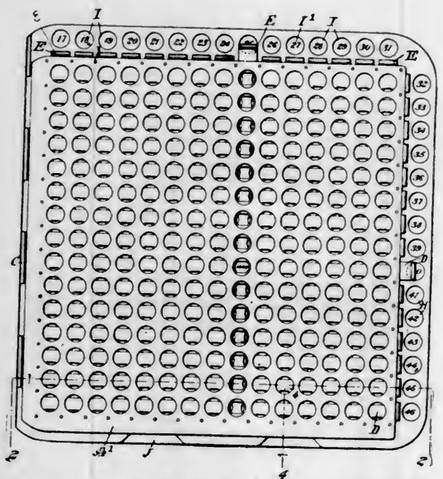
841,412. HORSE-POWER. JAMES MALLON, New Orleans, La. Filed Feb. 16, 1906. Serial No. 301,495.



Claim.—1. In a horse-power, the combination with a vertical hollow shaft, of a drum and sweep carried by said shaft and independently revoluble relatively to each other, means for interlocking and releasing said sweep and drum, a brake at the lower end of said drum, an operating-handle for said brake supported by said sweep, flexible means passing through said hollow shaft and connecting said handle with said brake, and means carried by said sweep for operating said interlocking means, substantially as described.

2. In a horse-power, the combination with a hollow vertical shaft, of a drum and a sweep mounted to revolve independently thereon, a peripherally-notched member carried by said drum, a locking-bolt carried by said sweep adjacent said peripherally-notched member and means for operating said bolt into and out of engagement therewith, a brake-band encircling the lower end of said drum, secured at one end to a rigid support, a system of pulleys disposed between the free end of said brake end and the lower end of said hollow shaft, an operating-lever carried by said sweep adjacent the upper end of said hollow shaft, and flexible means secured at one end to said operating-lever, thence passing around said system of pulleys and at its other end connected to the free end of said brake-band, substantially as described.

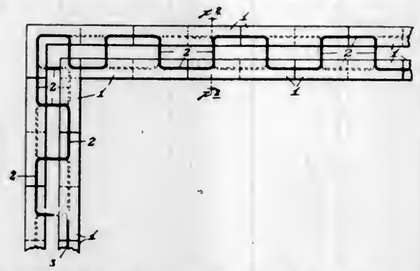
841,413. CALCULATOR. KARL H. J. MARCKWORDT, Guatemala, Guatemala. Filed Dec. 16, 1905. Serial No. 292,023.



Claim.—A calculating device, comprising a plate having calculation-apertures arranged in transverse and longitudinal rows for disclosing the product of the calculation, the plate also having marginal rows of factor-apertures for disclosing factors, sets of transverse and longitudinal slides for opening and closing the said apertures, the slides having apertures adapted to register with the calculation-apertures, and a table adapted to be placed and shifted on the rear face of the said plate and having sets of marginal factors, either of which is adapted to appear through the factor-apertures and sets of product calculations, either of which is adapted to register with the said calculation-apertures.

841,414. CONCRETE BLOCK AND WALL. FRANK D. MERCHANT, Minneapolis, Minn. Filed Mar. 23, 1906. Serial No. 307,606.

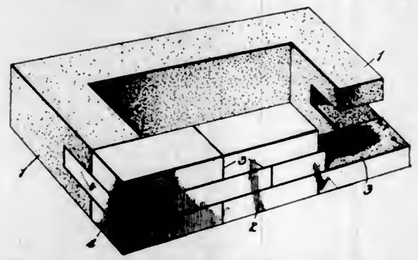
Claim.—1. A wall having a continuous air-space, and made up of blocks laid in laterally-spaced vertical courses, with the horizontally-alined blocks of the inner and outer courses overlapped with respect to each other, and a continuous metal binder and spacer following an alternately-looped line from the one vertical course to the other and extending across the joints between the ends of abutting blocks, said blocks having grooves that receive said binder and spacer, and the said binder and spacer being made up of duplicate sections having overlapping ends located in the grooves of said blocks, and the transverse dimensions of said binder and spacer being such as to hold the inner and outer courses of said wall spaced apart.



2. A wall having a continuous air-space, and made up of blocks laid in laterally-spaced vertical courses, with the horizontally-alined blocks of the inner and outer courses overlapped with respect to each other, and a continuous metal binder and spacer following an alternately-looped approximately rectangular line, from the one vertical course to the other and extending longitudinally across the joints between the ends of abutting blocks, said blocks having angular grooves that receive said metal binder and spacer, the transversely-extended portions of said binder and spacer being longer than the added distance between the inner or opposing faces of said two vertical courses and the longitudinally-extended portions of the grooves in the respective component blocks thereof, substantially as described.

3. A wall having a continuous air-space, and made up of blocks laid in laterally-spaced vertical courses, with the horizontally-alined blocks of the inner and outer courses overlapped with respect to each other, and a continuous metal binder and spacer following an alternately-looped approximately rectangular line from the one vertical course to the other and extending longitudinally across the joints between the ends of abutting blocks, said blocks having angular grooves that receive said binder and spacer, the said binder and spacer being made up of angular sections having overlapping end portions located in the grooves of said blocks, and the transversely-extended portions of said binder and spacer being longer than the added distance between the inner or opposing faces of said two vertical courses and the longitudinally-extended portions of the grooves in the respective component blocks thereof, substantially as described.

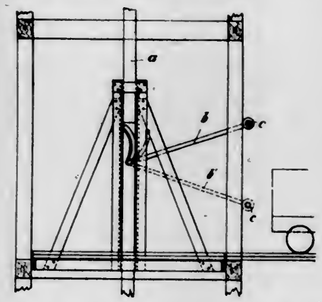
841,415. CONCRETE BLOCK. SETH D. MERTON, St. Louis, Mo. Filed July 30, 1906. Serial No. 328,390.



Claim.—1. A hollow building-block consisting of a side and end walls formed of concrete, a side wall consisting of a plurality of courses of fire-brick which are held together by material possessing sufficient adhesive strength to prevent said bricks from being dislocated during transportation, and means connected to the fire-brick wall and embedded in the concrete walls during the process of molding same for securely tying said fire-brick wall and concrete walls together; substantially as described.

2. A hollow building-block consisting of a side wall and end walls formed of concrete, a side wall consisting of a plurality of courses of fire-brick of standard size, and cement between said bricks for firmly holding them together, some of said bricks being arranged transversely of the fire-brick wall and being embedded in the concrete end walls during the process of molding the same, to tie said brick wall to the concrete walls; substantially as described.

841,416. MINE-SHAFT. JOSEF MIKA, Bottrop, Germany. Filed Apr. 4, 1906. Serial No. 309,951.



Claim.—In a mine-shaft, means for closing the opening of the shaft, comprising, in combination, a rod *c* destined to close the shaft-opening, and two rods *b*, *b'* pivotally mounted in the two track-ledges of the shaft and connected at their front ends by said rod *c* and provided at their rear ends with projections adapted to project, when the shaft-opening is held closed, beyond the track-ledges and to be pushed aside, when the shaft-opening is being opened, into slots provided in said track-ledges of the shaft, and thus to be lifted together with said rod *c* for opening the entrance to the shaft, substantially as described and shown.

841,417. STAIR-CARPET FASTENER. JEFFERSON D. MILLER, New York, N. Y. Filed Aug. 10, 1904. Serial No. 220,246.

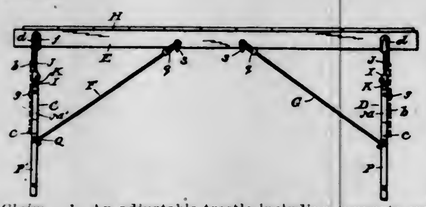


Claim.—1. A stair-carpet fastener comprising a bar angular in cross-section provided with oppositely-disposed teeth, a rod detachably connected to said bar, and threaded at one end and a sleeve adjustably arranged upon said threaded end.

2. A stair-carpet fastener comprising a bar angular in cross-section and having oppositely-disposed teeth, said bar being apertured, a rod adapted to engage the apertured portion of the bar, the opposite end of said rod being threaded and a sleeve adjustably arranged upon said threaded end.

3. A stair-carpet fastener comprising a bar angular in cross-section having oppositely-disposed teeth, said bar being apertured, a rod having one end shaped to pass through the apertured portion of the bar and bearing thereon, the opposite end of the rod being threaded and a sleeve adjustably arranged upon the threaded end of the rod as set forth.

841,418. ADJUSTABLE TRESTLE. WILLIAM L. MILNER, Indianapolis, Ind. Filed Apr. 12, 1906. Serial No. 311,278.



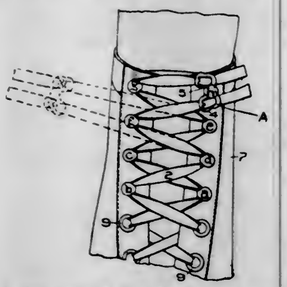
Claim.—1. An adjustable trestle including supports comprising each a guide having a guide-groove therein and provided with a pivoted loop and also a fixed loop, a pillar movable in the guide-groove and having notches to receive the pivoted loop, a brace connected detachably to the fixed loop, two pairs of arms secured to the guide, and a pair of legs attached to the arms.

2. An adjustable trestle including supports comprising each a guide having a guide-groove therein and provided with a pivoted loop, a pillar movable in the guide-groove and having notches to receive the loop, a pair of short arms secured to the guide, a pair of relatively long arms secured to the guide and having a loop attached thereto adjacent to the guide, a pair of legs attached to the arms and having adjustable parts connected therewith, and a brace connected detachably to the loop that is attached to the arms.

3. An adjustable trestle-support comprising a guide having a guide-groove therein and provided with a pivoted loop, a pillar movable in the guide-groove and having notches to receive the loop, two pairs of arms secured to the guide, a pair of legs attached to the arms and provided with latches and also with adjustable parts pivoted thereto and having sockets to receive the latches.

4. An adjustable trestle comprising a beam, supports comprising each a guide having a guide-groove therein and provided with a pivoted loop and also a fixed loop, a pillar movable in the guide-groove and having notches to receive the pivoted loop, two pairs of arms secured to the guide, a pair of legs attached to the arms and provided with latches and also with adjustable parts pivoted thereto and having sockets to receive the latches, a bifurcated head attached to the pillar to receive the beam, a binding-screw connected to the head, a brace having a hook connected detachably to the fixed loop, a recessed head swiveled to the brace, and a clamping-screw connected to the recessed head.

841,419. SHOE-LACE HOLDER. HENRY F. MOLKENBUR, St. Paul, Minn. Filed Feb. 10, 1905. Serial No. 245,027.



Claim.—1. In combination a shoe having lacing-studs and a double lacing, of a holder formed with two pairs of openings, said pairs of openings being so interspaced as to receive the two portions of the lacing and to hold them apart a distance greater than the width of one of said studs, said holder having means for engaging with one of said studs intermediate of said pairs of openings to hold the lacing taut.

2. In combination with a shoe having lacing-studs and a double lacing, of a holder formed with openings so interspaced as to hold the two portions of the lacings in substantial parallelism, said holder being formed in its inner edge between said openings with a recess 5, for the purpose set forth.

841,420. LOGGING DEVICE. GEORGE MOORE, Granite Falls, Wash. Filed Sept. 17, 1906. Serial No. 334,856.



Claim.—1. A logging device, comprising drums at the starting-point and delivery-point of the logs, respectively, a pull-cable winding on the drum at the delivery-point, a holdback-cable winding on the drum at the starting-point, and means controlled from the delivery-point for operating both drums.

2. A logging device provided with a holdback-cable for connection with a log to hold the latter back, a drum for the holdback-cable to wind on and to unwind, a brake mechanism for the said drum, the latter and the said brake mechanism being located at the starting-point of the log, and means located at the delivery end of the log and connected with the said drum for actuating the same to rewind the holdback-cable.

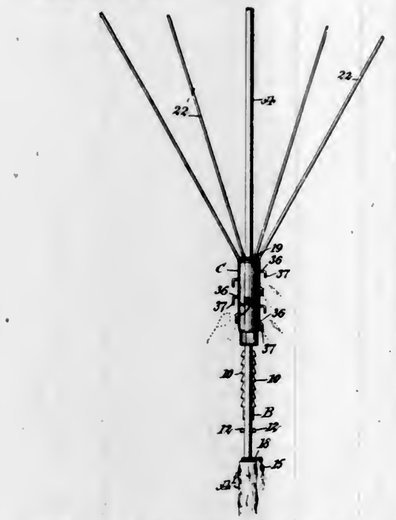
3. A logging device provided with a pull-cable for connection with a log for pulling the latter, a holdback-cable arranged for connection with the log and for holding the log back, means for winding the said pull-cable at the delivery end of the log, a brake mechanism, a drum for the said holdback-cable and adapted to be controlled by the said brake mechanism when unwinding the holdback-cable, and an actuating device for the said drum to rotate the drum for winding up the holdback-cable to return the pull-cable coupled to the holdback-cable.

4. A logging device provided with a pull-cable for pulling a log, a holdback-cable for holding back the log, a drum for the holdback-cable to wind on and to unwind and located at the starting-point of the log, means at the delivery end of the log for winding up the pull-cable, and an actuating device for the said holdback-cable drum to rotate the latter for rewinding the holdback-cable, the said actuating device being actuated at the delivery end of the log.

5. A logging device provided with a pull-cable for pulling a log, a holdback-cable for holding back the log, a drum for the holdback-cable to wind on and to unwind and located at the starting-point of the log, an auxiliary drum rotating with the said holdback-cable drum, an operating-cable winding and unwinding on the said auxiliary drum and in a direction opposite to that of the holdback-cable on its drum, and means located at the delivery-point of the log for winding up the said operating-cable.

6. A logging device provided with a pull-cable for pulling a log, a holdback-cable for holding back the log, a drum for the holdback-cable to wind on and to unwind and located at the starting-point of the log, an auxiliary drum rotating with the said holdback-cable drum, an operating-cable winding and unwinding on the said auxiliary drum and in a direction opposite to that of the holdback-cable on its drum, and a donkey-engine located at the delivery-point of the log, and having drums for the said pull-cable and the said operating-cable.

841,421. LOCKING DEVICE FOR UMBRELLAS. BERTRAM MOSES, Jennings, La., assignor of one-half to Andrew C. Brainard, Jennings, La. Filed Apr. 24, 1906. Serial No. 313,449.



Claim.—1. In an umbrella, an umbrella-rod, a toothed keeper-bar secured thereto, a runner having a casing adapted to slide over the keeper-bar, and latches mounted for movement in the casing to and from the keeper-bar to engage therewith and to be disengaged therefrom.

2. In umbrellas, an umbrella-rod, a keeper-bar having a series of teeth arranged in pairs, a runner having a casing attached, which casing is adapted to slide loosely over the keeper-bar, latches mounted to slide in the said casing, one latch for each pair of teeth, tension devices for the latches, the said latches being exteriorly operated in the same direction, the tension devices of one set of latches serving to hold said latches in position to engage the teeth of the keeper-bar and the tension devices of the other set of latches acting to hold their controlled latches out of locking engagement with the teeth of the keeper-bar.

3. In umbrellas, an umbrella-rod, a keeper-bar having a series of teeth arranged in pairs, a runner having a casing attached, which casing is adapted to slide loosely over the keeper-bar, latches mounted to slide in said casing, one latch for each pair of teeth, tension devices for the latches, the said latches being exteriorly operated in the same direction, the tension devices of one set of latches serving to hold said latches in position to engage with the teeth of the keeper-bar and the tension devices of the other set of latches acting to hold their controlled latches out of locking engagement with the teeth of the keeper-bar, and external means for operating the latches, which means are of the same type and of corresponding arrangement.

4. In an umbrella, an umbrella-rod, a toothed keeper-bar secured thereto, a runner adapted to slide over the keeper-bar, and latches mounted to slide in the runner, arranged for automatic engagement with the keeper-bar and to be manually released therefrom.

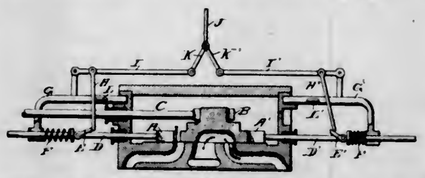
5. In umbrellas, an umbrella-rod, a toothed keeper-bar secured thereto, a runner adapted to slide over the keeper-bar, and tension-controlled latches mounted to slide in the runner, divided into a series of true latches and a series of baffle-latches, the latches of the two series being normally for engagement with the keeper-bar and being exteriorly and manually released therefrom, the latches of the baffle series being normally out of engagement with the keeper-bar and exteriorly and manually brought into engagement with the bar and the latches of both series being operated in the same direction by corresponding means.

6. The combination with the rod of an umbrella, and a keeper-bar secured to said rod, having its longitudinal edges projecting beyond opposite sides of the rod, said longitudinal edges having teeth produced therein in transverse alinement, the said teeth having inclined longitudinal edges and straight bottom edges, of a runner comprising a head and a casing, the casing being adapted to loosely slide over the keeper-bar, a guide member secured to said head, which guide member is provided with slots in opposing faces for the outward passage of the teeth of the keeper-bar, the guide member being adapted to slide loosely on the said rod, the said guide member having series of annular grooves therein corresponding in number and position to the number and position of the teeth on the keeper-bar, and a series of spring-controlled latches having sliding movement in said casing, one in each grooved portion of the guide member, the latches being exteriorly operated, one being provided for each pair of teeth, the latches being also in series, one series being normally in position for locking engagement with the teeth of the keeper-bar and the other series being held normally out of such engagement, as described.

7. The combination with the rod of an umbrella, and a keeper-bar secured to said rod, of a runner adapted to slide over the keeper-bar, tension-controlled latches carried by the said runner and adapted for locking engagement with the keeper-bar, a guard attached to the said rod, extensions from the keeper-bar, a keeper-plate attached to the free end of the guard and adapted for engagement with one of said projections from the keeper-bar, the said keeper-plate being prevented from leaving its position on the projection when the runner is over the keeper-bar, as described.

8. In an umbrella, an umbrella-rod, a keeper stationary upon the rod, provided with a multiple of retaining-points, a runner mounted to slide over the keeper, true and false latches carried by the runner, the true latches being adapted for automatic locking engagement with the keeper and to be manually released therefrom and the false latches being substantially free from locking engagement with said keeper.

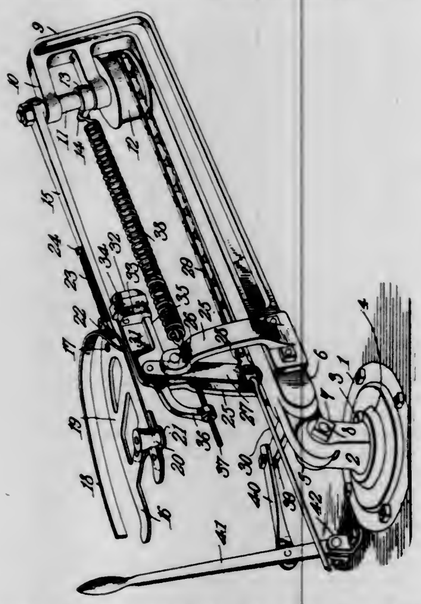
841,422. CUT-OFF VALVE. STEPHEN MUCSI, Douglas, Ariz. Filed Sept. 10, 1906. Serial No. 333,903.



Claim.—The combination of sliding expansion-valves A A′ for steam which are alike in form and placed on opposite sides of a main slide-valve, a main sliding valve B, a sliding rod C, sliding rods D D′ alike in form and placed on opposite sides, springs F F′ alike in form placed on op-

posite sides, catches E E' alike in form placed on opposite sides, catches H H' alike in form placed on opposite sides, supporting-arms G G' alike in form and placed opposite each other and fastened to the ends of steam-chest, and governor connections I I', K K', and J, whereby the holding and actuating device causes the springs F, F', to impart the proper movement to the cut-off valves as and for the purposes set forth.

841,423. TARGET-TRAP. ARTHUR M. MCCREA, Lamar, Mo. Filed Aug. 16, 1906. Serial No. 330,904.



Claim.—1. In a target-trap the combination with a body; of a shaft supported thereby, a throwing-arm movable with the shaft, a spring adapted to be tensioned by the movement of the arm in one direction, a keeper for holding the arm against movement in one direction, an actuating-rod, means operated by the movement of the rod in one direction for swinging the arm into engagement with the keeper and tensioning the spring, and means operated by the movement of the rod in the opposite direction for releasing the keeper and freeing the arm.

2. In a target-trap the combination with a body; of a keeper pivotally supported thereabove, a locking-arm for holding the keeper against movement in one direction, a lever for actuating said arm, a throwing-arm, a combined actuating and cushioning spring for said arm, means connected to the lever for tensioning the spring, and means for actuating said lever to alternately tension the spring and to release the keeper.

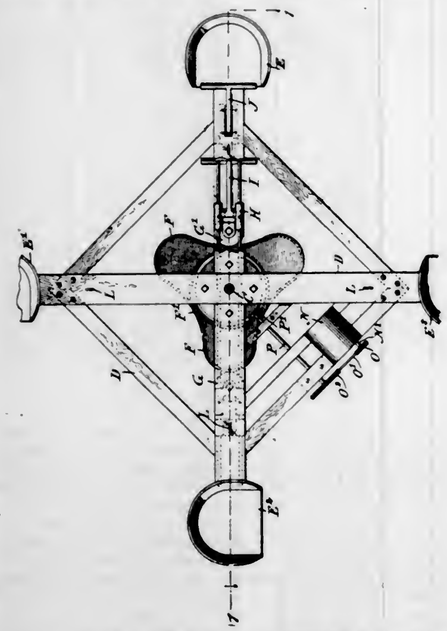
3. In a target-trap the combination with a body, and means for adjusting the same; of a shaft supported by the body, a throwing-arm secured to and movable with the shaft, a pulley secured to said shaft, an arm radiating from the shaft, a combined actuating and cushioning spring connected to said arm, a keeper in the path of the throwing-arm, a locking-bar for said keeper, a lever for withdrawing the locking-bar from engagement with the keeper, a flexible connection between said lever and the pulley, and means for actuating the lever.

4. In a target-trap the combination with a body, and means for adjusting the same; of a throwing-arm mounted to swing upon the body, a keeper pivotally supported above the body and in the path of the throwing-arm, a latch for holding the keeper against movement in one direction, a combined actuating and cushioning spring for the throwing-arm, and means movable in one direction for tensioning the spring and swinging the arm in engagement with the keeper and movable in an opposite direction for releasing the keeper.

5. In a target-trap the combination with a body; of a throwing-arm pivotally mounted to swing upon the body, a combined actuating and cushioning spring for said arm, a head supported above the body, a keeper pivotally connected thereto and normally extending into the path of the arm, a latch for normally holding the keeper against movement in one direction, and means movable in one direction for swinging the arm into engagement with the keeper and placing the spring under tension and movable in an opposite direction for withdrawing the latch from the keeper.

6. In a target-trap the combination with a body; of a throwing-arm mounted to swing thereon, a head rigidly supported above the body, a keeper pivotally mounted upon the head and normally projecting into the path of the throwing-arm, a combined actuating and cushioning spring for the arm, a latch normally holding the keeper in position to lock the arm against the tension of the spring, and means movable in one direction for swinging the arm into engagement with the keeper and tensioning the spring and movable in an opposite direction for withdrawing the latch from the keeper.

841,424. MERRY-GO-ROUND. GEORGE B. MCKINNEY, Barry, Ill. Filed Mar. 16, 1906. Serial No. 306,331.

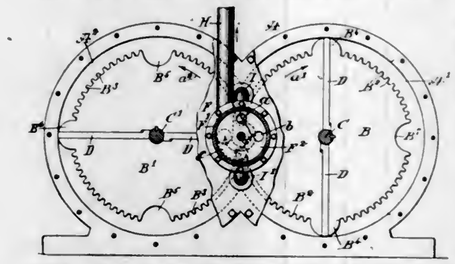


Claim.—1. A merry-go-round, comprising a rotatable platform carrying seats, a fixed cam, a slide on the platform, engaging opposite sides of the said cam, and means connected with the slide for operating the platform manually controlled by a passenger seated on a platform-seat.

2. A merry-go-round, comprising a standard, a platform mounted to turn on the said standard and provided with seats, a cam fixed on the said standard, a slide mounted on the said platform, having friction-rollers engaging the peripheral surface of the said cam at opposite sides thereof, and means connected with the slide for operating the platform controlled by a passenger seated on a platform-seat.

3. A merry-go-round, comprising a standard, a platform mounted to turn on the said standard and provided with seats, a cam fixed on the said standard, a slide mounted on the said platform, having friction-rollers engaging the peripheral surface of the said cam at opposite sides thereof, a lever fulcrumed on the platform in front of one of the said seats, and a link connecting the said lever with the said slide.

841,425. ROTARY ENGINE. FREDERICK NELSON, Driscoll, N. D. Filed Apr. 6, 1906. Serial No. 310,253.



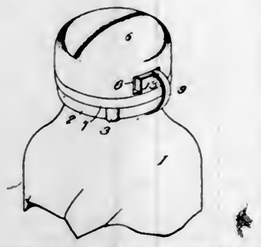
Claim.—1. A rotary engine comprising a cylinder having intersecting bores, rotators mounted to turn in the said bores and geared together to rotate in unison, each of the rotators having piston-heads fitting recesses in the other rotator, spring-pressed packing-plates between the ends of the cylinder and the rotators and means for controlling the motive agent to and from the said cylinder.

2. A rotary engine comprising a cylinder having intersecting bores, rotators mounted to turn in the said bores and geared together to rotate in unison, spring-pressed packing-plates between the ends of the cylinder and the rotators each of the rotators having piston-heads fitting recesses in the other rotator at the points of intersection of the said bores.

3. A rotary engine comprising a cylinder having intersecting bores, rotators mounted to turn in the said bores and geared together to rotate in unison, each of the rotators having piston-heads fitting recesses in the other rotator, and each rotator having spring-pressed packing-plates between the rotators and the ends of the cylinder, and means for controlling the motive agent to and from the said cylinder.

4. A rotary engine comprising a cylinder having intersecting bores, rotators mounted to turn in the said bores and geared together to rotate in unison, each of the rotators having piston-heads fitting recesses in the other rotator, and spring-pressed packing-plates in grooves in the cylinder-heads of the said cylinders pressing the faces of the said rotators between the shafts thereof.

841,426. BOTTLE-CLOSURE. JOHN P. NIKONOW, Pittsburg, Pa. Filed June 5, 1906. Serial No. 320,308.

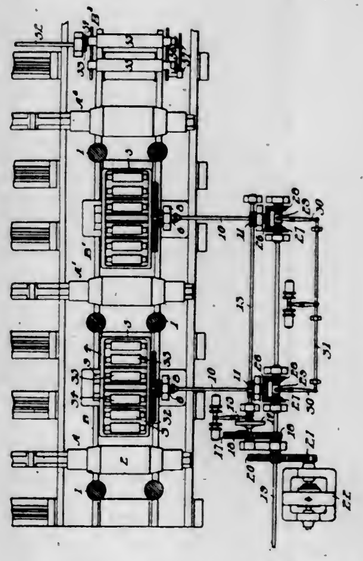


Claim.—1. A closure for bottles, packages and the like comprising a band, a cover having a rim to encircle said band, and a permanent connection between the band and cover comprising a bayonet-slot and a fastening of bow form having a member passed through said bayonet-slot.

2. A closure for bottles, packages and the like comprising a band, a cover having a rim to embrace said band and provided with a bayonet-slot, and a fastening of bow form secured to the band and having a member passed through said bayonet-slot, the cover adapted to have a threefold movement, a partial turning, a slip-joint and a swinging movement.

3. A closure for bottles, packages and the like comprising a strip adapted to be bent upon itself to form a band for encircling the neck or like portion of a bottle or kindred package, a cover having a rim to encircle said band and provided with a bayonet-slot, and a fastening of bow form secured to said band and having a member passed through the bayonet-slot.

841,427. WORK-REVERSING MECHANISM FOR ROLLING-MILLS. EDWIN NORTON, New York, N. Y., and VICTOR CHARTENER, Pittsburg, Pa. Filed Apr. 8, 1905. Serial No. 254,579.



Claim.—1. In a rolling-mill, two sets of rolls, a table arranged between them and capable of receiving the work alternately at opposite ends, stops arranged to limit the feed of the work from each end of the table, and means for reversing the table end for end, the stop at the feeding-in end of the table nearest the first set of rolls adapted to permit the entrance to the table of a second piece of work from said first set of rolls and the stop at the opposite end of the table being constructed to move so as to stop the incoming work after the discharge of the outgoing work.

2. A table arranged to receive work alternately at opposite ends, means carried by the table for feeding the work, means for reversing the table so that the work may be fed from the table from the feeding-in end thereof, means for reversing the feeding means, and means to limit the feed of the work on the table.

3. A vertically-reversible table having thereon feeding-rollers arranged to form a pass, means for reversing the rotation of said rollers, and gravity-stops at each end of the table arranged to enter the said pass from opposite sides.

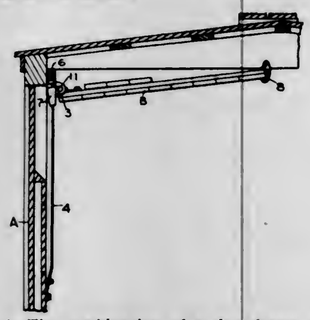
4. In a rolling-mill, a rotatable table having therein a work-feeding pass and a stop at each end of the pass, the stop normally at the feeding-out end of the table tending to close said pass but restrained from doing so by the work while therein.

5. In a rolling-mill, a table rotatable in a vertical plane having therein a work-feeding passage and a movable

gravity-stop for said passage at each end thereof, one mounted above and one below the same.

6. In a rolling-mill, a table rotatable in a vertical plane having therein a work-feeding passage, a pivoted gravity-stop for said passage at each end thereof, one mounted above and the other below the same.

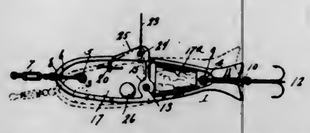
841,428. SLIDABLE HINGE-HANGER FOR GRAIN-DOORS. KISTEL OSEL, St. Paul, Minn. Filed Nov. 20, 1905. Serial No. 288,154.



Claim.—1. The combination of a door-frame and door fitted thereto, of vertical flat guides secured along the sides of the door-frame and provided with upwardly-opening sockets in their upper ends, slides embracing said guides and each having a horizontal pivotal support upon said door to permit them to tilt upon said guides, and outwardly and downwardly bent hooks carried by the upper ends of said slides for the purpose set forth.

2. The combination with a door-frame and a door fitted thereto, of vertical flat guides secured along the sides of the door-frame and provided with sockets in their upper ends, slides embracing said guides having upwardly-flaring sides to allow their being tilted upon said guides, hinge connection between said slides and door, and outwardly and downwardly bent hooks carried by the upper ends of said slides, for the purpose set forth.

841,429. ARTIFICIAL BAIT. HIRAM H. PASSAGE, Plymouth, Mich., assignor of one-half to George E. Van De Car, Plymouth, Mich. Filed May 9, 1906. Serial No. 315,862.



Claim.—1. An artificial bait, comprising concavo-convex body-sections detachably secured together, laterally-extending pins within the hollow body, hook-retaining devices secured to said pins and projecting beyond the ends of the body.

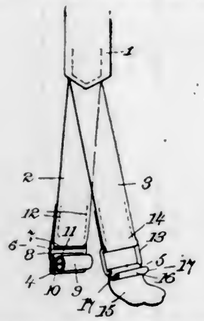
2. An artificial bait, comprising a hollow body composed of detachable sections, means for securing said sections together, and a buoyant material within said hollow body.

3. An artificial bait, composed of concavo-convex sections detachably joined together to form a chamber within the body, hook-retaining devices secured between the sections of the body at the ends, and a filling of buoyant material within said chamber.

4. An artificial bait, comprising detachable body-sections, hook-retaining devices projecting through the walls of said sections, hooks secured to said retaining devices, and projections upon the walls of the body-sections around said retaining devices to engage the shanks of the hooks.

5. An artificial bait, comprising detachable concavo-convex body-sections joined with their concaved sides together, forming a body with an inner chamber, hook-retaining devices projecting from said body, and a spherical weight within said chamber.

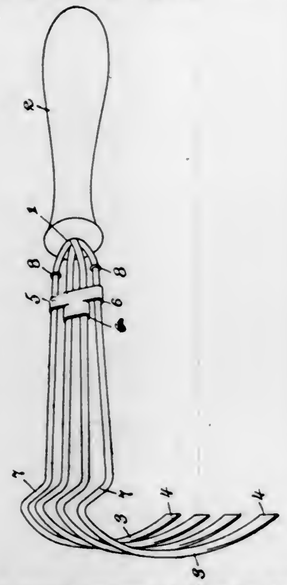
841,430. HOSE-SUPPORTER. EUGENE PEARL, Passaic, N. J. Filed Oct. 18, 1906. Serial No. 339,574.



Claim.—1. A hose-supporter comprising a spring member, a coacting member apertured to loosely engage the spring member, and a cam-lever for securing the members in locked relation.

2. A hose-supporter comprising an apertured member, a second member provided with a projection fitting loosely in the aperture of the first-mentioned member, and a lever hinged to the apertured member and movable into locked relation with the second member.

841,431. WEEDER. EUGENE PEARL, Passaic, N. J. Filed Nov. 20, 1906. Serial No. 344,222.



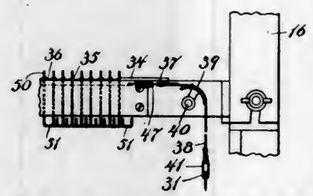
Claim.—1. A tool comprising a series of wires secured together at one end to form a shank and having straight portions extending outward from the shank and terminating in bent-up extremities, and means for varying the spacing of the free ends of the wires.

2. A tool comprising a series of wires twisted together at one end to form a shank and having straight portions extending outward from the shank and terminating in bent-up flattened extremities, and means for securing said flattened extremities, in such relation as to form a continuous cutting edge.

3. A tool comprising a series of spring-wires twisted together at one end to form a shank and having straight portions extending outward from the shank in different directions and terminating in bent-up extremities, and a spacing-bar engaging each of the wires and movable thereon to vary the distance separating their free ends.

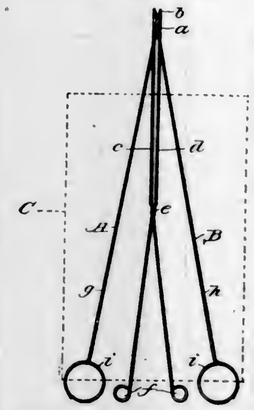
4. A tool comprising a handle having a series of wires extending outward therefrom in diverging relation and terminating in bent-up extremities, and a spacing-bar shaped to partly encircle each of the wires and movable thereon to vary the distance separating the bent-up ends thereof.

841,432. LOOM. CHARLES F. PERHAM, Lowell, Mass. Filed May 1, 1905. Serial No. 258,167.



Claim.—In a loom, the combination with means for disconnecting the power, of a reciprocatory member extending across and above the warp in a fixed guide, a plurality of detectors mounted in said guide and independently movable transversely with relation to said reciprocatory member, said detectors being adapted to engage either said member or the warp-threads and to be held out of engagement with said member by the warp-threads, power-actuated yielding means for moving said member in one direction, yielding means of relatively less strength for moving said member to normal position, a plurality of abutments on said member adapted to be engaged by said detectors and to be locked thereby against movement with said power-actuated yielding means, a bunter on the lay, a movable latch adapted to be engaged and moved by said bunter and to be moved out of the path of movement of said bunter by said power-actuated yielding means when said reciprocatory member is free to reciprocate, and means connected to said latch and movable therewith when moved by said bunter for effecting the actuation of said means for disconnecting the power.

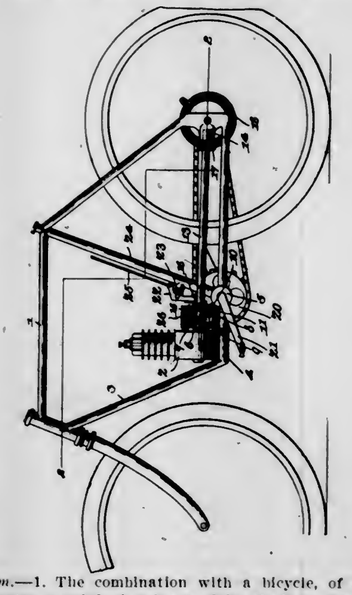
841,433. EASEL. HOWARD B. PERRY, Wakefield, R. I. Filed Feb. 6, 1905. Serial No. 244,504.



Claim.—1. As an article of manufacture, an easel consisting of two members of resilient wire connected together intermediate their ends and bent at an acute angle adjacent to the point of connection to form front and rear supports, the members constituting the rear support being separated at their ends, and the members constituting the front support being inclined downwardly and outwardly from the point of connection and having each of their free ends bent into a clasping-eye, the members of the front support adapted to be swung together and the separated ends of the rear support adapted to be engaged with the eyes of the front support to hold the parts substantially parallel.

2. As an article of manufacture, an easel consisting of two pieces of resilient material, each of which is bent at an intermediate point to provide front and rear supports which may be brought together or separated at their lower ends, the front supports being connected at the top near the bend and diverging therefrom when in use, the rear supports being connected at the top and at a point intermediate the top and lower ends and extending in parallelism between such connections with their lower ends diverging from the intermediate connection, whereby the front supports may be interlocked with the rear supports when the former are brought together, substantially as specified.

841,434. MOTOR-CYCLE. EDWARD L. PEQUEGNAT, FRANK A. PEQUEGNAT, and CHARLES W. MILAN, Riverside, Cal. Filed Mar. 12, 1906. Serial No. 305,672.

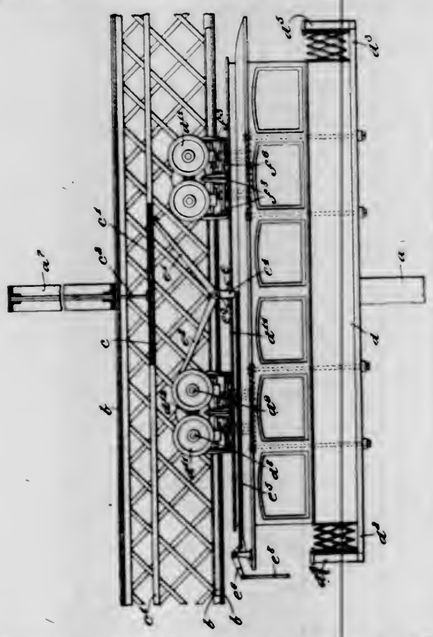


Claim.—1. The combination with a bicycle, of an impulse-motor carried thereby, a drive-shaft connected to the rear wheel of the bicycle, a clutch member carried by the power-shaft of the motor, another clutch element slidable upon the drive-shaft in frictional relation with the first-mentioned clutch member, and means mounted upon the frame of the bicycle and associated with the slidable clutch member to move the same with respect to the other clutch member.

2. The combination with a bicycle, of an impulse-motor carried thereby, a hollow clutch member carried by the power-shaft of the motor and provided with an internal annular beveled friction-face, a drive-shaft connected to the rear wheel of the bicycle in alinement with the power-shaft, a conical clutch member slidable upon the drive-shaft within the hollow clutch member in frictional relation with the friction-surface, a spring tending to normally force the slidable clutch member into engagement with the other clutch member, and means for moving the slidable clutch member against the tension of the spring.

3. The combination with a bicycle, of an impulse-motor carried thereby between the seat-post tube and the lower reach-bar of the frame with its power-shaft disposed longitudinally of the bicycle, a drive-shaft connected to the rear wheel of the bicycle in longitudinal alinement with the power-shaft, a hollow driving clutch member carried by the power-shaft between the motor and the seat-post tube, a conical clutch member slidably carried by the forward end of the drive-shaft within the hollow clutch member and in frictional relation therewith, a spring interposed between the two clutch members to yieldably maintain them in frictional engagement, and a bell-crank lever mounted upon the seat-post tube and associated with the slidable clutch member.

841,435. SWIVEL-TRUCK FOR ELECTRICALLY-PROPELLED CARS. DANIEL M. PEAUTZ, Germantown, Pa., assignor of one-half to William H. Tigerman, Philadelphia, Pa. Filed June 1, 1906. Serial No. 319,667.

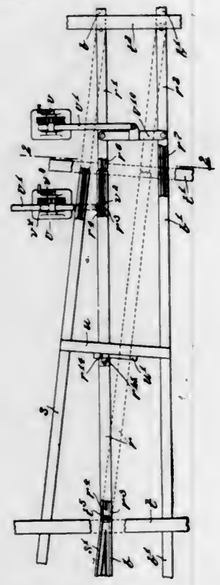


Claim.—1. In an elevated-railway system, a car having on its roof a swivel-truck, comprising two superposed disks, the upper disk adapted to carry the axles and driving-wheels of the car, and the lower disk adapted to carry the car and having brackets surrounding the upper disk and carrying rollers engaging said upper disk, said brackets and rollers in conjunction with said upper disk adapted to support the lower disk and car, substantially as and for the purposes described.

2. In an elevated-railway system, a car having on its roof a swivel-truck, comprising two superposed disks, the upper disk adapted to carry the axles and driving-wheels of the car, the lower disk adapted to carry the car and having brackets surrounding the upper disk and carrying rollers engaging said upper disk, a king-pin passing through the car and both of said disks, said king-pin, brackets and rollers in conjunction with said upper disk adapted to support the lower disk and car, substantially as and for the purposes described.

3. In an elevated-railway system, a car having on its roof a swivel-truck, comprising two superposed disks, the upper disk adapted to carry the axles, driving-wheels and motor of the car, and the lower disk having bolts and brackets carrying rollers, said bolts adapted to connect said lower disk with said car, and said brackets adapted to surround the upper disk and engage the same with its rollers, a king-pin passing through the car and said disks, said king-pin, brackets and rollers in conjunction with said upper disk and the bolts of the lower disk adapted to support said lower disk and car, substantially as and for the purposes described.

841,436. SWITCH FOR ELEVATED-RAILWAY STRUCTURES WITH SUSPENDED CARS. DANIEL M. PEAUTZ, Germantown, Pa., assignor of one-half to William H. Tigerman, Philadelphia, Pa. Filed June 2, 1906. Serial No. 319,810.



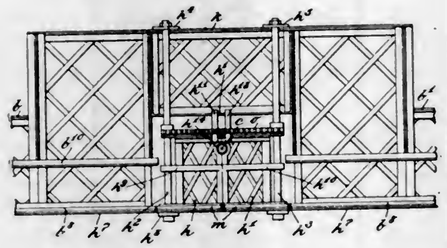
Claim.—1. In an elevated-railway system, a switch connection between a main line and converging main and branch line track structures, two parallel girders connected with each other and swinging at one end upon girders of the main-line structure, a single swinging girder pivoted at one end at a point where adjacent main and branch line girders meet and extending therefrom to the free ends of the parallel swinging girders, the remaining girders of the main and branch line structures projecting beyond said point to the free end of the swinging parallel girders, substantially as and for the purposes described.

2. In an elevated-railway system, a switch connection between a main line and converging main and branch line track structures, two parallel girders connected with each other and swinging at one end upon girders of the main-line structure, a single swinging girder pivoted at one end at a point where adjacent main and branch line girders meet and extending therefrom to the free ends of the parallel swinging girders, the remaining girders of the main and branch line structures projecting beyond said point to the free end of the swinging parallel girders, and means for operating said girders, substantially as and for the purposes described.

3. In an elevated-railway system, a switch connection between a main line and converging main and branch line track structures, two parallel girders connected with each other and swinging at one end upon girders of the main-line structure, a single swinging girder pivoted at one end at a point where adjacent main and branch line girders meet and extending therefrom to the free ends of the parallel swinging girders, the remaining girders of the main and branch line structures projecting beyond said point to

the free end of the swinging parallel girders, means for supporting said girders at both ends and intermediate thereof, and means for operating the same, substantially as and for the purposes described.

841,437. CROSSING FOR ELEVATED-RAILWAY STRUCTURES WITH SUSPENDED CARS. DANIEL M. PEAUTZ, Germantown, Pa., assignor of one-half to William H. Tigerman, Philadelphia, Pa. Filed June 6, 1906. Serial No. 320,377.



Claim.—1. In an elevated railway, wherein two sets of tracks cross each other at an angle, two sets of longitudinal girders, each girder supporting a track of a set and said girders intersecting, but not crossing each other, doors or wings pivoted at each intersecting corner and consisting of vertically-disposed girders carrying track-sections adapted to be operated to form a continuation of one or of the other set of crossing tracks, substantially as and for the purposes described.

2. In an elevated railway, wherein two sets of tracks cross each other at an angle, two sets of girders, each girder supporting a track of the set and said girders meeting, but not crossing each other, doors or wings pivoted at each intersecting corner and consisting of vertically-disposed girders carrying track-sections adapted to be operated to form a continuation of one or of the other set of crossing tracks, and means connected with each of the doors adapted to control the movement and position of the other doors, substantially as and for the purposes described.

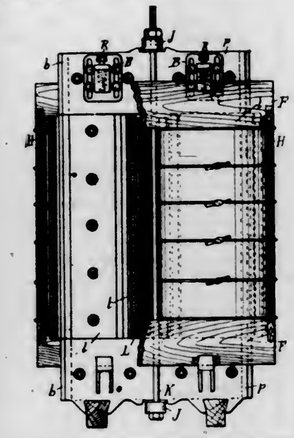
3. In an elevated railway, wherein two sets of tracks cross each other at an angle, two sets of longitudinal girders, each girder supporting a track of the set and said girders meeting, but not crossing each other, four doors or wings pivoted at each intersecting corner and consisting of vertically-disposed girders carrying track-sections adapted to be operated to form a continuation of one or of the other set of crossing tracks, gear-wheels connected with each of the four doors and meshing with each other to transmit the movement of one of the doors to the other doors and to hold the same in proper position with respect to each other, substantially as and for the purposes described.

4. In an elevated railway, a car having on its roof a buffer, comprising a housing, a rod movably located in said housing, at one end thereof, a roller secured to the free end thereof, and a spring engaging said rod and housing, substantially as and for the purposes described.

5. In an elevated railway, a car having on its roof a buffer, in combination with an elevated structure provided with doors or wings adapted to form the continuation of the main line and crossing of the intersecting line of said structure, substantially as and for the purposes described.

6. In an elevated railway, two sets of girders, each supporting a track of a set, and while intersecting not crossing each other, doors or wings connected with each intersecting corner and so arranged as to form a continuation of one or of the other of the sets of crossing tracks and a car having a buffer adapted to control the movement of said doors or wings, substantially as and for the purposes described.

841,438. ELECTROMAGNETIC APPARATUS. ARMIN H. PIKLER, Montclair N. J., assignor to Crocker-Wheeler Company, Ampere, N. J., a Corporation of New Jersey. Filed Apr. 30, 1906. Serial No. 314,350.

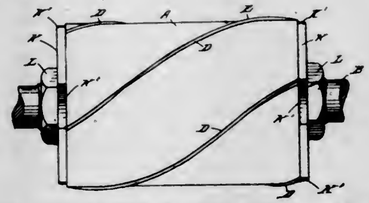


Claim.—1. In an electromagnetic apparatus, the combination with a core and windings thereon, of clamping-frames for the windings, connecting parts between the clamping-frames, and elastic devices interposed in said connecting parts, substantially as described.

2. In an electromagnetic apparatus, the combination with a core and windings thereon, of clamping-frames for the windings, brackets adjustably supported by the core, and connections between the brackets and clamping-frames, substantially as described.

3. In an electromagnetic apparatus, the combination with a core and windings thereon, of clamping-frames for the windings, brackets adjustably supported by the core, and elastic connections between the brackets and clamping-frames, substantially as described.

841,439. ROTARY WOOD-PLANING DEVICE. WILLIAM D. PLUE, Rainier, Oreg. Filed Mar. 23, 1906. Serial No. 307,639.



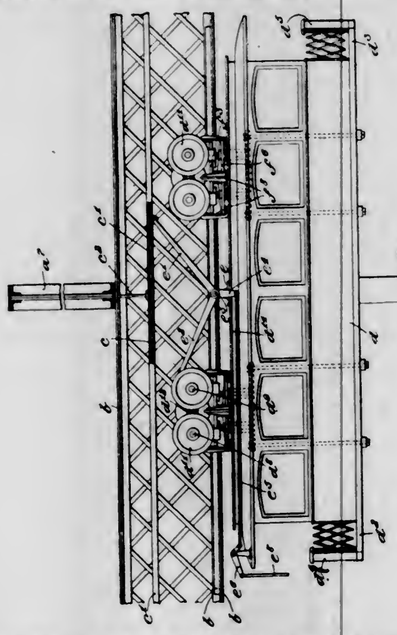
Claim.—1. The combination of a cutter-head provided in its periphery with a plurality of spirally-arranged slots, knives adapted to be seated in said slots, means to key the said knives in their respective slots, and covering-plates adapted to be secured against the ends of the head for preventing the displacement of the said knives and said means to key the knives.

2. The combination of a cutter-head provided in its periphery with a plurality of spirally-arranged slots, knives having oppositely-disposed cutting edges and adapted to be seated in said slots, means to key the said knives in their respective slots, and covering-plates adapted to be secured against the ends of the head for preventing the displacement of the said knives and said means to key the knives.

3. The combination of a cutter-head provided in its periphery with a plurality of spirally-arranged slots, knives adapted to be seated in said slots, a strip for each knife and adapted to secure the same by engaging in a groove therein and also in the opposing face of the respective

3. The combination with a bicycle, of an impulse-motor carried thereby between the seat-post tube and the lower reach-bar of the frame with its power-shaft disposed longitudinally of the bicycle, a drive-shaft connected to the rear wheel of the bicycle in longitudinal alinement with the power-shaft, a hollow driving clutch member carried by the power-shaft between the motor and the seat-post tube, a conical clutch member slidably carried by the forward end of the drive-shaft within the hollow clutch member and in frictional relation therewith, a spring interposed between the two clutch members to yieldably maintain them in frictional engagement, and a bell-crank lever mounted upon the seat-post tube and associated with the slidable clutch member.

841,435. SWIVEL-TRUCK FOR ELECTRICALLY-PROPELLED CARS. DANIEL M. PFAUTZ, Germantown, Pa., assignor of one-half to William H. Tigerman, Philadelphia, Pa. Filed June 1, 1906. Serial No. 319,667.

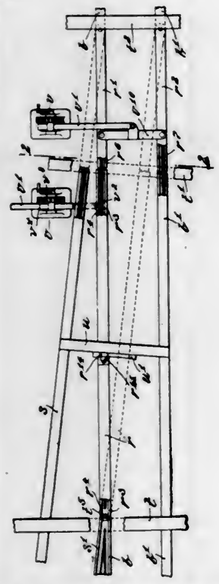


Claim.—1. In an elevated-railway system, a car having on its roof a swivel-truck, comprising two superposed disks, the upper disk adapted to carry the axles and driving-wheels of the car, and the lower disk adapted to carry the car and having brackets surrounding the upper disk and carrying rollers engaging said upper disk, said brackets and rollers in conjunction with said upper disk adapted to support the lower disk and car, substantially as and for the purposes described.

2. In an elevated-railway system, a car having on its roof a swivel-truck, comprising two superposed disks, the upper disk adapted to carry the axles and driving-wheels of the car, the lower disk adapted to carry the car and having brackets surrounding the upper disk and carrying rollers engaging said upper disk, a king-pin passing through the car and both of said disks, said king-pin, brackets and rollers in conjunction with said upper disk adapted to support the lower disk and car, substantially as and for the purposes described.

3. In an elevated-railway system, a car having on its roof a swivel-truck, comprising two superposed disks, the upper disk adapted to carry the axles, driving-wheels and motor of the car, and the lower disk having bolts and brackets carrying rollers, said bolts adapted to connect said lower disk with said car, and said brackets adapted to surround the upper disk and engage the same with its rollers, a king-pin passing through the car and said disks, said king-pin, brackets and rollers in conjunction with said upper disk and the bolts of the lower disk adapted to support said lower disk and car, substantially as and for the purposes described.

841,436. SWITCH FOR ELEVATED-RAILWAY STRUCTURES WITH SUSPENDED CARS. DANIEL M. PFAUTZ, Germantown, Pa., assignor of one-half to William H. Tigerman, Philadelphia, Pa. Filed June 2, 1906. Serial No. 319,810.



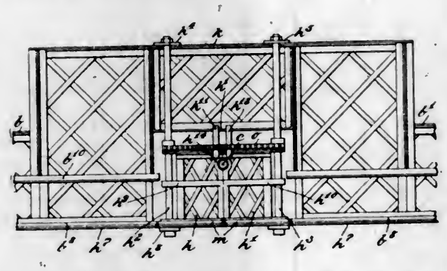
Claim.—1. In an elevated-railway system, a switch connection between a main line and converging main and branch line track structures, two parallel girders connected with each other and swinging at one end upon girders of the main-line structure, a single swinging girder pivoted at one end at a point where adjacent main and branch line girders meet and extending therefrom to the free ends of the parallel swinging girders, the remaining girders of the main and branch line structures projecting beyond said point to the free end of the swinging parallel girders, substantially as and for the purposes described.

2. In an elevated-railway system, a switch connection between a main line and converging main and branch line track structures, two parallel girders connected with each other and swinging at one end upon girders of the main-line structure, a single swinging girder pivoted at one end at a point where adjacent main and branch line girders meet and extending therefrom to the free ends of the parallel swinging girders, the remaining girders of the main and branch line structures projecting beyond said point to the free end of the swinging parallel girders, and means for operating said girders, substantially as and for the purposes described.

3. In an elevated-railway system, a switch connection between a main line and converging main and branch line track structures, two parallel girders connected with each other and swinging at one end upon girders of the main-line structure, a single swinging girder pivoted at one end at a point where adjacent main and branch line girders meet and extending therefrom to the free ends of the parallel swinging girders, the remaining girders of the main and branch line structures projecting beyond said point to

the free end of the swinging parallel girders, means for supporting said girders at both ends and intermediate thereof, and means for operating the same, substantially as and for the purposes described.

841,437. CROSSING FOR ELEVATED-RAILWAY STRUCTURES WITH SUSPENDED CARS. DANIEL M. PFAUTZ, Germantown, Pa., assignor of one-half to William H. Tigerman, Philadelphia, Pa. Filed June 6, 1906. Serial No. 320,377.



Claim.—1. In an elevated railway, wherein two sets of tracks cross each other at an angle, two sets of longitudinal girders, each girder supporting a track of a set and said girders intersecting, but not crossing each other, doors or wings pivoted at each intersecting corner and consisting of vertically-disposed girders carrying track-sections adapted to be operated to form a continuation of one or of the other set of crossing tracks, substantially as and for the purposes described.

2. In an elevated railway, wherein two sets of tracks cross each other at an angle, two sets of girders, each girder supporting a track of the set and said girders meeting, but not crossing each other, doors or wings pivoted at each intersecting corner and consisting of vertically-disposed girders carrying track-sections adapted to be operated to form a continuation of one or of the other set of crossing tracks, and means connected with each of the doors adapted to control the movement and position of the other doors, substantially as and for the purposes described.

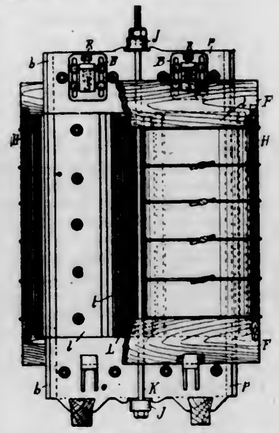
3. In an elevated railway, wherein two sets of tracks cross each other at an angle, two sets of longitudinal girders, each girder supporting a track of the set and said girders meeting, but not crossing each other, four doors or wings pivoted at each intersecting corner and consisting of vertically-disposed girders carrying track-sections adapted to be operated to form a continuation of one or of the other set of crossing tracks, gear-wheels connected with each of the four doors and meshing with each other to transmit the movement of one of the doors to the other doors and to hold the same in proper position with respect to each other, substantially as and for the purposes described.

4. In an elevated railway, a car having on its roof a buffer, comprising a housing, a rod movably located in said housing, at one end thereof, a roller secured to the free end thereof, and a spring engaging said rod and housing, substantially as and for the purposes described.

5. In an elevated railway, a car having on its roof a buffer, in combination with an elevated structure provided with doors or wings adapted to form the continuation of the main line and crossing of the intersecting line of said structure, substantially as and for the purposes described.

6. In an elevated railway, two sets of girders, each supporting a track of a set, and while intersecting not crossing each other, doors or wings connected with each intersecting corner and so arranged as to form a continuation of one or of the other of the sets of crossing tracks and a car having a buffer adapted to control the movement of said doors or wings, substantially as and for the purposes described.

841,438. ELECTROMAGNETIC APPARATUS. ARMIN H. PIKLER, Montclair N. J., assignor to Crocker-Wheeler Company, Ampere, N. J., a Corporation of New Jersey. Filed Apr. 30, 1906. Serial No. 314,350.

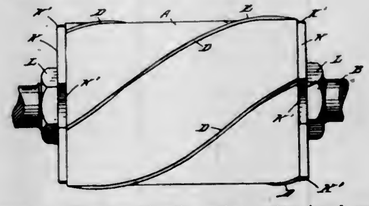


Claim.—1. In an electromagnetic apparatus, the combination with a core and windings thereon, of clamping-frames for the windings, connecting parts between the clamping-frames, and elastic devices interposed in said connecting parts, substantially as described.

2. In an electromagnetic apparatus, the combination with a core and windings thereon, of clamping-frames for the windings, brackets adjustably supported by the core, and connections between the brackets and clamping-frames, substantially as described.

3. In an electromagnetic apparatus, the combination with a core and windings thereon, of clamping-frames for the windings, brackets adjustably supported by the core, and elastic connections between the brackets and clamping-frames, substantially as described.

841,439. ROTARY WOOD-PLANING DEVICE. WILLIAM D. PLUE, Rainier, Oreg. Filed Mar. 23, 1906. Serial No. 307,639.



Claim.—1. The combination of a cutter-head provided in its periphery with a plurality of spirally-arranged slots, knives adapted to be seated in said slots, means to key the said knives in their respective slots, and covering-plates adapted to be secured against the ends of the head for preventing the displacement of the said knives and said means to key the knives.

2. The combination of a cutter-head provided in its periphery with a plurality of spirally-arranged slots, knives having oppositely-disposed cutting edges and adapted to be seated in said slots, means to key the said knives in their respective slots, and covering-plates adapted to be secured against the ends of the head for preventing the displacement of the said knives and said means to key the knives.

3. The combination of a cutter-head provided in its periphery with a plurality of spirally-arranged slots, knives adapted to be seated in said slots, a strip for each knife and adapted to secure the same by engaging in a groove therein and also in the opposing face of the respective

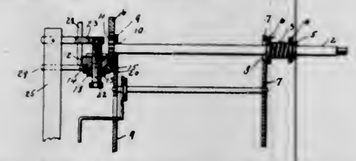
slot, and covering-plates provided with spaced cut-away portions adapted to register with the ends of said knives and strips and adapted to be secured against the ends of the head for preventing the displacement of the said knives and strips.

4. The combination with the cutter-head provided with spirally-arranged peripheral slots, of knives adapted to be seated in said slots and each provided with an aperture in proximity to one of its ends, means for securing said knives in place against accidental displacement, and means engageable in the said apertures for withdrawing the knives from their respective said slots.

5. A cutter-head having peripheral slots, knives seated in said slots, keys to secure said knives, plates secured against the head ends to engage the ends of the knives, said plates each having cut-away portions spaced at intervals whereby when said plates are rotated all of said knives will have their ends exposed.

6. A cutter-head having peripheral slots, an arbor for said head, knives seated in said slots, keys to secure the knives, plates having spaced notches about their periphery, said plates having their portions between said notches for engagement with the knife ends and adapted when rotated to have all of the knife ends register with said notches, and nuts on the arbor engaging said plates and retaining the same in engagement with the ends of the head.

841,440. REGULATOR FOR PENDULUM CLOCKS. WILSON E. PORTER, New Haven, Conn., assignor to New Haven Clock Co., New Haven, Conn., a Corporation. Filed Apr. 24, 1906. Serial No. 313,386.



Claim.—1. In a clock-movement, the combination with a movement-plate having a clearance-opening, of a regulator-shaft passing through the said opening, a friction-washer mounted upon the shaft and applied to the plate over the opening, a spring mounted upon the shaft for coaction with the washer which it presses against the plate, a suspension device mounted upon the movement for the suspension of the pendulum, and means for transmitting the rotary movement of the regulator-shaft to the said device, whereby the pendulum is raised and lowered.

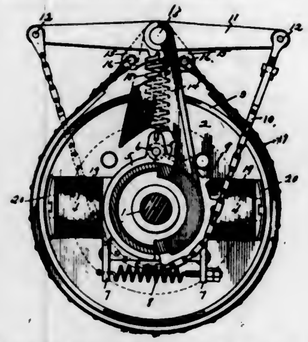
2. In a clock-movement, the combination with the front and rear movement-plates thereof, the former having a clearance-opening, of a regulator-shaft passing through the said clearance-opening, a friction-washer mounted upon the said shaft and applied to the said plate over the said opening therein, a spring mounted upon the shaft and applied to the washer, a suspension-plate for the pendulum, and means connecting the inner end of the shaft with the said plate whereby the pendulum is raised and lowered.

841,441. MACHINE-BRAKE. FRANK B. RAE, Detroit, Mich. Filed Feb. 24, 1906. Serial No. 302,676.

Claim.—1. In a brake system, the combination with a revoluble driven member, of electromagnetic means for retarding said member and mechanical means actuated by said electromagnetic means, substantially as described.

2. In a brake system, the combination with a revoluble driven member, of a mechanical and an electromagnetic means for retarding the movement of said member, said mechanical means acting with an intensity proportional to that of the electromagnetic means, substantially as described.

3. In a brake system, the combination with a revoluble driven member, of a mechanical and an electromagnetic means for retarding the rotation of said member, and an intermediate mechanical connection by which said electromagnetic means actuates said mechanical means at a greater power, substantially as described.



4. In a brake system, the combination with a revoluble driven member, of an independently-movable member, means for causing said members to react electromagnetically upon each other whereby to drag said movable member with said revoluble member, and a brake mechanism actuated by said movable member, substantially as described.

5. In a brake system, the combination with a revoluble driven member, of an independently-movable member, a mechanical brake for said driven member actuated by a rotation of said independently-movable member, and electromagnetic means for causing said members to move simultaneously, whereby said driven member is retarded in proportion to the drag between it and the other member, substantially as described.

6. In a brake system, the combination with a revoluble driven member, of a member independently movable about the same axis, and a mechanical brake for said driven member actuated by the rotation of said independently-movable member, means for producing a yielding magnetic drag between said members, and actuating connections for applying the brake, substantially as described.

7. In a brake system, the combination with a revoluble driven member, of a brake therefor, a brake-actuating member mounted to oscillate relatively to said driven member, magnetic means for yieldingly connecting said members, and brake connections controlled by the oscillation of said brake-actuating member, substantially as described.

8. In a brake system, the combination with a revoluble driven member, of a brake therefor, a brake-actuating member mounted to oscillate relatively to said driven member, magnetic means for yieldingly connecting said members, brake connections controlled by said oscillation of said brake-actuating member, and means for restoring said parts to release said brake, substantially as described.

9. In a brake system, the combination with a revoluble driven member, of a brake therefor, a brake-actuating member carrying an electromagnet mounted to oscillate relatively to said driven member, means for energizing said magnet to oscillate said member, and brake-actuating connections controlled thereby, substantially as described.

10. In a brake system, the combination with a revoluble driven member, of a brake therefor, a brake-actuating member having an electromagnet mounted thereon with projecting pole-pieces, an extension on said driven member adapted to rotate adjacent said pole-pieces, actuating connections for the brake, and means for producing an electromagnetic drag between said driven member and the brake-actuating member to apply the brake, substantially as described.

11. In a brake system, the combination with a revoluble driven member, of a brake therefor, a brake-actuating member having an iron-clad electromagnet mounted thereon with projecting pole-pieces, an extension on said driven member adapted to rotate adjacent said pole-pieces, actuating connections for the brake, and means for producing an electromagnetic drag between said driven member and the brake-actuating member to apply the brake, substantially as described.

12. In a brake system, the combination with a revoluble driven member, of a brake therefor, a part mounted on the framework so as to oscillate in either direction from a central position to apply the brake, a spring for restoring said part to central position, and an electromagnet for moving said part, substantially as described.

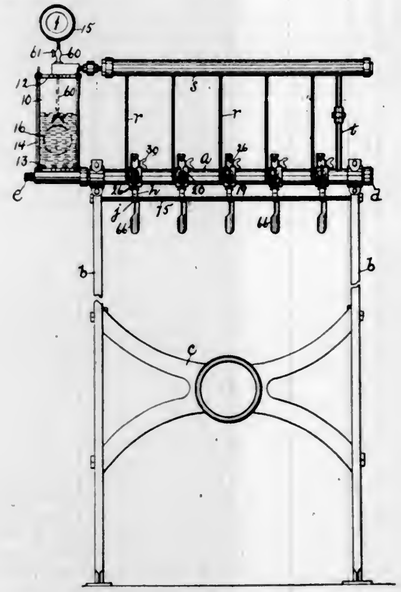
13. In a brake system, the combination with a revoluble driven member, of a brake therefor, a part mounted on the framework so as to oscillate in either direction from a central position to apply the brake, a spring for restoring said part to central position, and an electromagnet adapted to be oscillated by said driven member for moving said part, substantially as described.

14. In a brake system, the combination with a driven member, of a brake mechanism, mechanical connections for actuating said brake, and electromagnetic means acting on said driven member to retard the same, and connections whereby the said connections are actuated by said electromagnetic means, substantially as described.

15. In a brake system, the combination with a driven member, of a brake mechanism, a means for actuating said brake, a rotatable electromagnetically-actuated member, and actuating connections between said member and said means, effective upon rotation of said member, substantially as described.

16. In a brake system, the combination with a driven member, of a brake mechanism, means for actuating said brake, a rotatable electromagnetically-actuated member, and cam-actuating connections between said member and said means, and effective upon rotation of said member, substantially as described.

841,442. BOTTLE-FILLING MACHINE. JOHN RAMSEY, New York, N. Y., assignor, by mesne assignments, to Ramsey Manufacturing Company, Boston, Mass., a Corporation of Maine. Filed Dec. 26, 1903. Serial No. 186,534.



Claim.—1. In an apparatus of the class described, in combination, a liquid-supply tube provided with a port, a filler-tube, a carrier for said filler-tube rotatably mounted on said liquid-supply tube and adapted to be turned to connect said filler-tube with said port, a valve-chamber movable with said carrier, a source of supply of gas or air under pressure communicating with said valve-chamber, a valve in said chamber, and means for operating said valve, said means being actuated to open said valve by the bottle to be filled when the latter is being placed on said filler-tube, substantially as described.

2. In an apparatus of the class described, in combination, a filler-tube, a valve-chamber communicating therewith, a valve in said chamber controlling the admission of gas into said filler-tube, and means separate from the filler-tube for operating said valve, said means being automatically operated by the bottle to open said valve when the bottle is being placed upon said filler-tube, substantially as described.

3. In an apparatus of the class described, in combination, a gas-supply, a tube in communication therewith, a valve controlling the passage of gas from said supply into said tube, and means separate from the filler-tube and actuated by movement of the bottle to be filled longitudinally on said tube for opening said valve, substantially as described.

4. In an apparatus of the class described, in combination, a liquid-supply tube provided with an outlet-port, a filler-tube adapted to register with said port and normally disconnected therefrom, a carrier for said filler-tube rotatable on said liquid-supply tube, a gas-supply in communication with said filler-tube to admit gas into the bottle through said tube, a valve controlling communication between said gas-supply and said tube, and means for opening said valve while the said filler-tube is disconnected from the port in said liquid-supply tube, substantially as described.

5. In an apparatus of the class described, in combination, a liquid-supply tube provided with a fluid-outlet port, a filler-tube normally disconnected from the said outlet-port and adapted to have passed over it the bottle to be filled with liquid from said liquid-supply, a carrier for said filler-tube rotatably mounted on said liquid-supply tube, a gas-supply, means for connecting said gas-supply with the filler-tube to admit gas into said bottle through said filler-tube, and means for controlling the supply of gas to said bottle to admit gas therein through the filler-tube while the latter is disconnected from the said liquid-outlet port, substantially as described.

6. In an apparatus of the class described, in combination, a liquid-supply, a filler-tube adapted to have passed over it the bottle to be filled with liquid from said liquid-supply, a gas-supply, means for connecting said gas-supply with the filler-tube, and means separate from the filler-tube for controlling the supply of gas to the bottle, said means being actuated by the bottle when the latter is being placed on the filler-tube, substantially as described.

7. In an apparatus of the class described, in combination, a filler-tube provided with a gas-inlet, a rotatable carrier for said tube, a valve-chamber in said carrier having a port in communication with the gas-inlet of said filler-tube, a valve in said chamber to control the passage of gas from said chamber into said filler-tube through said port, a second port or passage to connect said chamber with said filler-tube, and a second valve controlling the passage of liquid from the filler-tube into said valve-chamber, substantially as described.

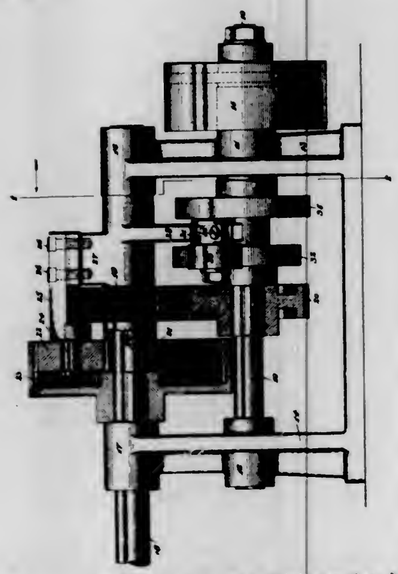
8. In an apparatus of the class described, in combination, a filler-tube provided with a gas-inlet, a gas-supply in communication with said gas-inlet, a valve controlling said supply, and a lever connected to said valve and extended to near the filler-tube to be actuated by the bottle while being placed on said filler-tube, for the purpose specified.

9. In an apparatus of the class described, in combination, a filler-tube provided with a transverse partition and with a longitudinal partition forming chambers in said tube, which is provided with ports leading to said chambers, a gas-supply in communication with one of said chambers, a valve controlling said supply, and means for operating said valve independent of said filler-tube, substantially as described.

10. In an apparatus of the class described, in combination, a liquid-supply tube provided with an outlet-port, a filler-tube provided within it with a gas-supply passage having an inlet and an outlet port and having a liquid-passage provided with an outlet-port, a carrier for said tube rotatably mounted on said liquid-supply tube to con-

nect and disconnect the liquid-passage of said filler-tube with the outlet-port in said liquid-supply tube, a gas-supply, a valve controlling the admission of gas into the gas-passage of said filler-tube, a lever connected to said valve and actuated by the bottle placed upon said filler-tube to open said valve and supply gas to the bottle through the gas-passage in said filler-tube, substantially as described.

841,443. MECHANICAL MOVEMENT. FRANCIS H. RICHARDS, Hartford, Conn. Filed Apr. 19, 1900. Serial No. 13,470.



Claim.—1. The combination of a driving and a driven member, relatively fixed supports on which said members are mounted with their respective axes of rotation disposed substantially parallel to each other, an intermediate for transmitting motion to the driven member, means between said intermediate and driving member for transmitting motion to the intermediate, and cam-actuated means controlled by the driving member for moving the intermediate to and fro while in its operative position.

2. The combination of a driving and a driven member, relatively fixed supports on which said members are mounted with their respective axes of rotation disposed substantially parallel to each other, an intermediate in mesh with the driven member, gearing between said intermediate and driving member for imparting motion to said intermediate, cam mechanism mounted on said driving member, and means actuated thereby for moving the intermediate to and fro.

3. The combination of a driving and a driven member, relatively fixed supports on which said members are mounted with their respective axes of rotation disposed substantially parallel to each other, an intermediate driven from the driving member and through which motion is transmitted to the driven member, and cam-controlled mechanism for moving the intermediate to and fro in a plane parallel with the plane of movement of the driven member.

4. The combination of a driving and a driven member, relatively fixed supports on which said members are mounted with their respective axes of rotation disposed substantially parallel to each other, an intermediate for transmitting motion to the driven member, means between said intermediate and driving member for imparting motion to the former, and a cam-actuated rocker for moving the intermediate to and fro in the plane of movement imparted to the driven member.

5. The combination of a driving-gear and a driven gear having their respective axes of rotation disposed substantially parallel to each other, relatively fixed supports for said gears, an intermediate driven from the driving-gear and in engagement with the driven gear, and cam-actuated means controlled by the driving-gear for moving the intermediate to and fro.

6. The combination of a driving-shaft, a gear fixed thereto, a driven shaft, an internal gear fast thereon, a gear in mesh with the gear on the driving-shaft a pinion carried thereby, an intermediate in mesh with said pinion and said driven gear, a rocker upon which the intermediate is mounted, and an actuator for oscillating the rocker to and fro.

7. The combination, with driving and driven members and relatively fixed supports in which said members are mounted, of an intermediate between said members; means for imparting motion to said intermediate a rocker supporting said intermediate and movable about the axis of one of said members; and a pair of actuators controlling the movements of the rocker in opposite directions.

8. The combination, with a driving member, a gear mounted thereon, a driven member, and a gear mounted thereon, of an intermediate between said gears; gearing in mesh with said intermediate and driving member for imparting motion to the intermediate a rocker supporting said intermediate and pivoted concentrically with one of said members; and a rocker-actuator carried by the other member.

9. The combination, with a driving member, a driven member, and relatively fixed supports in which said members are mounted, of an intermediate between said members; means for imparting motion to said intermediate from said driving member, a rocker supporting said intermediate and having a pair of actuating-arms; and means for engaging said arms at opposite sides and positively controlling the movement of the rocker.

10. The combination, with a driving member and with a driven member, of an intermediate between said members; means for imparting motion to said intermediate from said driving member, a rocker supporting said intermediate and having a pair of arms disposed on opposite sides of the driving member; and means carried by the driving member and engaging said arms at all points in the movement thereof.

11. The combination, with a driving member and with a driven member, of an intermediate between said members; means for imparting motion to said intermediate from said driving member, a rocker supporting said intermediate and having a pair of arms disposed on opposite sides of the driving member; and a pair of cams carried by the driving member and engaging said arms for positively governing the movement of said rocker at all points therein.

12. The combination with a driving member and a driven member and relatively fixed supports in which the driver and the driven member are mounted, of an intermediate driven from said driving member; a rocker supporting said intermediate and having a pair of arms disposed on opposite sides of the driving member; a pair of cam-rollers mounted on said arms; and a pair of cams carried by the driving member and engaging with said rollers for actuating said rocker and said intermediate.

13. The combination with a driving member and a driven member, of an intermediate driven from said driving member; a rocker supporting said intermediate and having a pair of arms disposed on opposite sides of the driving member; a pair of adjustable cam-rollers mounted on said arms; and a pair of cams carried by the driving member and engaging with said rollers for actuating said rocker and said intermediate.

14. The combination with a driving member and a driven member, of an intermediate driven from said driving member; a rocker supporting said intermediate and having a pair of arms disposed on opposite sides of the driving member; a pair of cam-rollers eccentrically mounted on said arms; and a pair of cams carried by the driving member and engaging with said rollers for actuating said rocker and said intermediate.

15 The combination with a driving-shaft, a gear-wheel fast upon it, of a driven shaft, a larger gear-wheel fast upon it, a gear in mesh with the gear on the driving-shaft and carrying a pinion, and a gear between the said pinion and the gear on the driven shaft, and means to rotate the said gear about the axis of said pinion.

16. The combination of a driving and a driven member, a gear fast on each, one of said gears having greater diameter than the other, a gear of a diameter equal to that of the smaller of said gears and in mesh therewith, a pinion fast therewith, a gear in mesh with said pinion and the larger of said gears, and means to reciprocate the gear in mesh with the pinion to neutralize the drive and to accelerate the same.

17. The combination of a driving and a driven member, with a pair of cams carried by one of them and having oppositely-disposed cam-faces, a pair of arms disposed on opposite sides of said cams and carried by the other of said members.

18. The combination with a driving and a driven member, of a pair of cams carried by one of said members, said cams having oppositely-disposed cam-faces, a pair of arms disposed on opposite sides of said cams and carried by the other of said members, and rollers eccentrically mounted on said arms for engaging said cams.

19. The combination with a driving and a driven member, of a pair of cams carried by one of them, a pair of arms carried by the other of them and disposed on opposite sides of said cams, and adjustable rolls on said arms for contacting with the cams.

20. In a mechanical movement the combination with a driven shaft of an internal gear fast thereon, a pinion loose on said shaft, a gear-wheel in mesh with said pinion and said internal gear, a gear-wheel fast with said pinion, a driving-shaft, a gear carried thereby and in mesh with said last-mentioned gear, a pair of cams upon said driving-shaft, and means connected to said intermediate gear and controlled by said cams for rocking the same about said pinion.

21. The combination of a driving-gear and a driven gear, a pair of shafts supported in parallelism and each carrying one of said gears, an intermediate driven from the driving-gear and in engagement with the driven gear, a rocker on which said intermediate is mounted, and an actuator comprising cam mechanism caried by the driving-shaft for oscillating the rocker to and fro.

22. The combination of a driving-gear and a driven gear, a pair of shafts supported in parallelism and each carrying one of said gears, an intermediate driven from the driving-gear and in engagement with the driven gear, a rocker on which said intermediate is mounted, and an actuator comprising cam mechanism carried by the driving-shaft for oscillating the rocker to and fro and formed to alternately neutralize the drive and accelerate the same.

23. The combination of a driving and a driven shaft, a gear carried by each of said shafts, an intermediate between said gears and in mesh with one of them and driven from the other, a rocker supporting said intermediate and movable about the axis of one of said shafts, and an actuator carried by the other of said shafts and comprising cam mechanism for controlling the movements of said rocker.

24. The combination of a driving-shaft, a driven shaft in parallelism therewith, a gear mounted on each of said shafts, a gear in mesh with the driving-gear and a gear rotatable therewith, an intermediate in mesh with said last-mentioned gear and with the driven gear, a rocker, and cam mechanism carried by the driving-shaft for actuating said rocker.

25. The combination of a driving-shaft, a driven shaft in parallelism therewith, a gear mounted on each of said shafts, a gear in mesh with the driving-gear and a gear rotatable therewith, an intermediate in mesh with said last-mentioned gear and with the driven gear, a rocker movable on the driven shaft, and cam mechanism carried by the driving-shaft for actuating said rocker.

26. The combination of a driving-shaft, a driven shaft in parallelism therewith, a gear mounted on each of said shafts, a gear in mesh with the driving-gear and a gear rotatable therewith, an intermediate in mesh with said last-mentioned gear and with the driven gear, a rocker supported in axial alinement with said pair of rotatable gears, and cam mechanism carried by the driving-shaft for actuating said rocker.

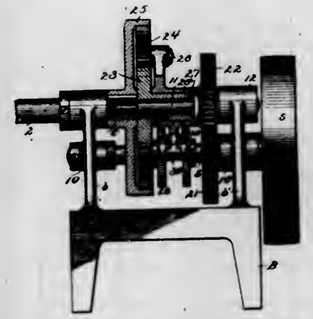
27. The combination of a driving-shaft, a driven shaft in parallelism therewith, a gear carried by each of said shafts, a pinion mounted on the driven shaft, a gear for transmitting motion from said driving-gear to said pinion, an intermediate for transmitting motion from said pinion to said driven gear, means for rolling the transmitter back and forth over said pinion while in mesh, therewith and comprising a rocker and cam mechanism, the latter carried by the driving-shaft.

28. The combination of a driving-gear and a driven gear supported with their axes in parallelism, an intermediate driven from the driving-gear and in mesh with the driven gear, a rocker carrying said intermediate, and cam mechanism supported in axial alinement with the driving-gear for actuating said rocker.

29. The combination of a driving-gear and a driven gear supported with their axes in parallelism, an intermediate driven from the driving-gear and in mesh with the driven gear, a rocker carrying said intermediate and-supported in axial alinement with the driven gear, and cam mechanism supported in axial alinement with the driving-gear for actuating said rocker.

30. The combination with a driving and a driven shaft, of an intermediate transmission-train, comprising a web secured to the driven shaft and carrying an internal gear, a pair of cams mounted on the driving-shaft and having oppositely-disposed faces, a pinion meshing with said internal gear, a gear in mesh with said pinion, a gear rotatable with said last gear, a gear-wheel fast on the driving-shaft and meshing therewith, and a rocker having a pair of cam-engaging faces in engagement respectively with said cam-faces and actuated by one of these and limited in its free movement by the other and carrying said pinion.

841,444. MECHANICAL MOVEMENT. FRANCIS H. RICHARDS, Hartford, Conn. Filed May 15, 1901. Serial No. 60,307.



Claim.—1. The combination of a driving-shaft and a driven shaft, a gear fixed on each of said shafts and one gear located within the other and each mounted for and confined to a rotary movement, of an intermediate driven from the driving member and mounted for combined rotary and translational movement; and a crank motion for oscillating the intermediate bodily to and fro in the plane of the driving member.

2. The combination with a driving-gear within a driven gear, said driven gear, and each mounted for and confined to a rotary movement, of an intermediate meshing with the driving member and with the driven member and mounted for combined rotary and translational movement; and a crank motion for oscillating the intermediate bodily to and fro.

3. The combination with a driving-gear within a driven

gear, said driven gear, and each mounted for and confined to a rotary movement, of an intermediate driven from the driving-gear and meshing with the driven gear and mounted for combined rotary and translational movement; a rocker on which said intermediate is mounted and which has a pivotal axis coinciding with the axis of the driving-gear; and a crank motion for oscillating the rocker and thereby oscillating said intermediate bodily to and fro.

4. The combination with inside driving and outside driven members each mounted for and confined to a rotary movement, of an intermediate for transmitting motion from the driving to the driven member, said intermediate being mounted for combined rotary and translational movement; a rocker supporting said intermediate and oscillatable in an arc about the axis of one of said members; and a crank motion for controlling the movements of the rocker

5. The combination with inside driving and outside driven members each mounted for and confined to a rotary movement, of an intermediate for transmitting motion from the driving to the driven member, said intermediate being mounted for combined rotary and translational movement; a shaft from which the driving member is operated; and a crank motion driven from said shaft and controlling the movements of the rocker.

6. The combination with an inside driving and an outside driven member each mounted for and confined to a rotary movement, of a gear mounted upon the driven member; an intermediate for transmitting motion from the driving to the driven member, said intermediate being mounted for combined rotary and translational movement; a rocker supporting said intermediate and pivoted concentrically with one of said members; and a crank motion for controlling the movements of the rocker.

7. The combination with a driving member and a driven member mounted one within the other, of a rotatable intermediate member peripherally engaging both the driving member and the driven member and oscillatable in a path which is concentric with both the driving member and the driven member; and a member which has a circular cross-section and is revoluble about an axis eccentric thereto and is adapted to oscillate the intermediate member.

8. The combination of a driving member; an intermediate member peripherally engaged thereby; a driven member which has an internal face engaged by the periphery of the intermediate member and surrounding the driving member; a rocker-arm on which the intermediate member is rotatably mounted; a member which has a circular cross-section and is revoluble about an axis eccentric thereto; and a connection from said eccentrically-rotatable member to the rocker-arm.

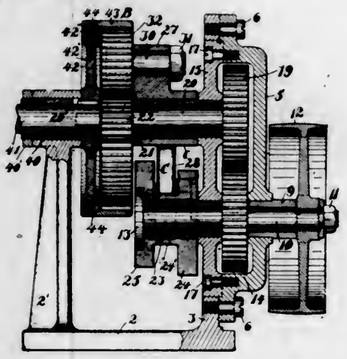
9. The combination with a driving gear-wheel within a driven internal gear-wheel, said internal gear, of an intermediate gear-wheel which is driven from the driving gear-wheel and is in engagement with the driven gear-wheel; a rocker upon which the intermediate is mounted; and a crank motion for oscillating the rocker to and fro.

10. The combination with an inside driving and an outside driven member having relatively fixed axes, of an intermediate rotatably mounted between said members; a rocker supporting said intermediate and movable about the axis of one of said members; and a crank motion which is operated from one of said members and controls the to-and-fro movements of the rocker.

11. The combination of a driving member and a driven member located one within the other and each of which is mounted for and confined to a rotary movement; a lever which is pivoted concentrically with one of said members; an intermediate which is mounted at one end of said lever and engages both the driving member and the driven member; and a crank motion operatively connected with the other end of said lever and adapted to rock the latter.

12. The combination of concentrically-disposed rotary movable driving and driven gears, the driven one of which has the form of an internal gear and both of which gears are in the same plane transverse to the axis of rotation; and a translationally oscillatory intermediate meshing with said internal gear for transmitting motion from one to the other.

841,445. DEVICE FOR CONVERTING MOTION. FRANCIS H. RICHARDS, Hartford, Conn. Filed Apr. 8, 1902. Serial No. 101,889.



Claim.—1. The combination with a driving and a driven shaft, of a removable part by which one of said shafts is carried, and a train of gears mounted in and incased by said removable part, the removal of said part serving to disconnect said gears and shafts from operative connection.

2. The combination with a driving and a driven shaft, of a double-walled removable plate by both of which walls one of said shafts is carried and the chamber between which constitutes an oil-bath for gears which may be mounted therein, and a train of gears mounted between said walls, the removal of said plate serving to disconnect said gears and shafts from operative connection with the other parts of the mechanism.

3. The combination with a driving and a driven shaft operatively connected by intermeshing gears, of said intermediate gears, a removable part by which the driving-shaft and gears are carried and the removal of which path serves to disconnect the two shafts from operative connection, and incasing instrumentalities for the gears carried by the removable part.

4. The combination with a driving and a driven shaft, of a removable plate by which the said driving-shaft is carried, a train of gears carried also by said plate, the removal of said plate serving to disconnect the two shafts from operative connection, and incasing means for the gears carried by said plate.

5. The combination with a driving and a driven shaft, of an intermediate train of planetary gears for transmitting power from one to the other of said shafts, and a removable part by which one of said shafts and a portion of said planetary gears are carried and the removal of which part serves to disconnect the supported shafts, and a portion of said planetary gears from operative connection with the other shaft, and protecting means for the gears carried by said plate.

6. The combination with a driving and a driven shaft, of an intermediate train of planetary gears for transmitting power from one to the other of said shafts, and a removable plate by which one of said shafts and a portion of said planetary gears are carried and the removal of which part serves to disconnect the supported shafts and a portion of said planetary gears from operative connection with the other shaft, and a cover for the gears carried by the plate.

7. The combination with a driving and a driven shaft, of an intermediate train of planetary gears for transmitting motion from one to the other, a member by which said driving-shaft and a portion of said planetary gears are supported, and a plate carrying the said driving-shaft and said planetary gears and which is removably secured to said member and over an opening therein, and by its removal serving to disconnect the supported shaft and the said train from operative connection with the other shaft.

8. The combination with a driving and a driven shaft, of a gear secured to one of the shafts, mechanism intermediate said gear and the other shaft, a member by which said gear-provided shaft and said mechanism is supported, a plate removably secured to said member and over an opening therein and having a journal-opening for the portion of said shaft, an auxiliary plate secured to the first-mentioned plate, and having a journal-opening for the position of said shaft on the opposite side of said gear.

9. The combination with a driving and a driven shaft, of a gear secured to said driving-shaft, mechanism intermediate said gear and the other shaft and embodying an intermediate shaft, a gear mounted on a portion of said intermediate shaft and meshing with said gear secured to the driving-shaft, a driving-pinion mounted on another portion of said intermediate shaft, a member by which said driving-shaft and intermediate mechanism are supported, a plate removably secured to said member and over an opening therein and having a journal-opening for the portion of the driving-shaft on one side of said gear, and an auxiliary plate secured to the first-mentioned plate and having a journal-opening for the portion of the driving-shaft on the opposite side of the gear and also a journal-opening for said intermediate shaft.

10. The combination with a driving and a driven shaft, of a gear secured to said driving-shaft, mechanism intermediate said gear on the other shaft and embodying an intermediate shaft, a gear at the end of said intermediate shaft and meshing with said gear secured to the driving-shaft, a driving-pinion at the opposite end of said intermediate shaft, a member by which said driving-shaft and intermediate mechanism are supported, a plate removably secured to said member and over an opening therein, and having a journal-opening for the portion of the driving-shaft on one side of said gear, and a plate secured to said first-mentioned plate and having a journal-opening for the portion of the driving-shaft on the opposite side of the gear and also a journal-opening for said intermediate shaft.

11. The combination in mechanism for transmitting and varying motion, of a driving-shaft having a flange, a gear mounted on said shaft, a train of gears operatively connected to said gear, a cam carried by said flange, and mechanism operated by said cam and designed to vary the velocity.

12. The combination in mechanism for transmitting and varying motion, of a driving-shaft having a flange at one end and combined with a gear secured to the shaft, an actuator secured to said flange, a member by which such shaft is supported, a plate removably secured to said member and over an opening therein and having a journal-opening for the portion of said shaft on one side of said gear and speed-changing mechanism operated by said actuator.

13. The combination with a driving and a driven shaft of a removable part by which one of said shafts is carried and the removal of which part serves to disconnect the two shafts from operative connection, a train of planetary gears mounted on and carried by said removable part and an auxiliary plate secured to the removable part.

14. The combination with a driving and a driven shaft, one whereof is provided with a flange and gear, of said gear, a removable part by which one of said shafts is carried and which removable part protects said gear and the removal of which part serves to disconnect the shafts from operative connection, and an auxiliary plate secured to said removable part and having a journal-opening for the encircling shaft between said cam and gear.

15. The combination with a driving-shaft of a member by which said shaft is supported, a gear secured to said shaft and inclosed by said member, a plate removably secured to said member and disposed on one side of the gear, an auxiliary plate secured to the member and disposed on the opposite side of the gear, and bushings secured in said plate and member and extending therebeyond and in which said shaft is journaled.

16. The combination with a driving-shaft, of a framing member, a gear secured to the shaft, a plate removably secured to said member, an auxiliary plate secured to the first-mentioned plate and with it incasing said gear, said plates having openings and bushings secured in said openings and extending beyond the respective plates, and in which bushings said shaft is journaled, a driving-pulley secured to one end of the shaft and an actuator secured to the opposite end, and an intermediate shaft, a gear thereon and housed between said plates, and a shaft and intermediate gear-train driven and controlled by said actuator and intermediate shaft coöperatively.

17. The combination with a driving-shaft, of a member by which such shaft is supported, a gear secured to the shaft, a plate removably secured to said member, an auxiliary plate secured to the first-mentioned plate and coöperative therewith for incasing the gear, said plate being provided with openings, bushings secured in said openings and extending beyond the respective plates and in which said shaft is journaled, a driving-pulley and a cam secured to said shaft, a driven shaft, an intermediate shaft, gearing connecting said shafts, and means controlled by said cam for shifting one of said gears for varying the motion imparted to the driven shaft.

18. The combination with a driving-shaft, of a member by which said shaft is supported, a train of gears, one gear of which is secured to the shaft, a plate removably secured to the member, an auxiliary plate secured to the first-mentioned plate, said plates inclosing the train of gears, bushings secured in openings in said plates and extending beyond the respective plates and in a set of which bushings said shaft is journaled, a driving-pulley fast on one end of the shaft and an actuator secured on the opposite end and journaled on one of the said bushings, a shaft for the other of said gears mounted in another of said bushings, and a driven shaft controlled by the combined action of said latter shaft and the actuator.

19. The combination with a driving-shaft, of a framing member, a train of gears, one of which is secured to the shaft, an actuator for one of said gears, an intermediate shaft to which another of said gears is secured, a driven shaft driven thereby, a plate removably secured to the said member, an auxiliary plate secured to the first-mentioned plate, both of said plates incasing the said gears, a bushing secured in an opening in one of said plates and in which bushing one of said shafts is journaled, a driving-pulley secured to the driving-shaft and a cam also carried thereby and coöperative with said actuator for modifying the action of the train of gears upon the driven shaft.

20. The combination with a driving-shaft of a member by which said shaft is supported, a gear secured to the shaft, a plate removably secured to the member, an auxiliary plate secured to the first-mentioned plate, both plates incasing the gear and a series of other gears also carried by said first-mentioned plate and adapted to be removable thereby, bushings secured in openings and extending beyond the respective plates and in which said shaft and a driven shaft are journaled, a driving-pulley secured to one end of the driving-shaft, and an actuator embodying a pair of alternating reciprocal actuating and retarding cams secured to the opposite ends, and means controlled by said actuators to modify the drive imparted to the driven shaft.

21. The combination with a driving and a driven shaft, of an intermediate transmission-train comprising a web secured to the driven shaft and carrying an internally-toothed shell, cams fast with said driving-shaft, an intermediate shaft, a pinion on the intermediate shaft, a gear fast on the intermediate shaft, a gear fast with the driving-shaft and in mesh therewith, a rocker actuated by said cams, and a pinion carried by said rocker and meshing with said toothed shell and with the pinion on said intermediate shaft.

22. The combination with a driving, a driven shaft, and an intermediate driven shaft, of a member in which the driving-shaft is journaled and an intermediate transmission-train comprising a web secured to the driven shaft and having a lateral sleeve-like extension reaching to the opposite side of said member, and in which the driven shaft is carried, a toothed shell secured to said web, an actuator secured to said driving-shaft, a rocking member, a pinion carried thereby and having operative connection with said toothed shell, said rocking member being oper-

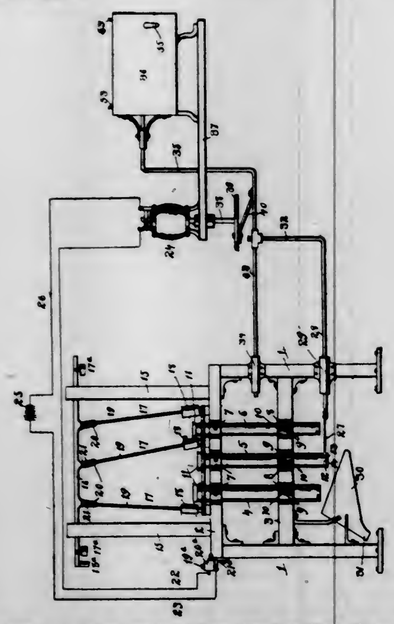
ated by said cam, said member being adapted to inclose and carry a portion of the intermediate transmission-train.

23. The combination with a driving and a driven shaft of a member by which the driving-shaft is supported, a plate removably secured to said member and having a journal-opening for the driving-shaft, an auxiliary plate secured to the first-mentioned plate, a gear secured to the driving-shaft, a gear meshing therewith and whose shaft is disposed in alinement with the said driven shaft, a driving-pinion secured to the shaft to which said second gear is secured, a gear secured to the driven shaft, an oscillatory gear for transmitting motion from said pinion to the gear secured to the driven shaft, a rocker for oscillating said oscillatory gear and an actuator secured to said driving-shaft for actuating the rocker.

24. The combination with a driving, a driven and an intermediate shaft, of a member by which said driving and intermediate shafts are supported, a plate removably secured to said member and having a journal-opening for the driving-shaft, an auxiliary plate secured to the first-mentioned plate and having journal-openings for the driving and the intermediate shafts; bushings secured in said journal-openings in which said shafts rotate, gearing for transmitting motion from the driving to the intermediate shaft, a pinion secured to the intermediate shaft, an internal gear secured to the driven shaft, an oscillatory intermediate gear meshing with said pinion and said internal gear, a rocker on which said intermediate gear is carried and which works on the bushing surrounding the intermediate shaft and a pair of actuators for effecting the oscillatory movement of said rocker.

25. The combination of a driving and a driven shaft, a gear on each of said shafts, a removable part by which one of these shafts is carried, and a train of gears in mesh with said driving and driven gears and one of which is together with the driving-gear mounted in and incased by said removable part.

841,446. COIN-COUNTING MACHINE. MARCUS B. RIGHTMAN, Chicago, Ill., assignor of one-half to Alexander B. Seelenfreund, Chicago, Ill. Filed Feb. 1, 1906. Serial No. 298,990.



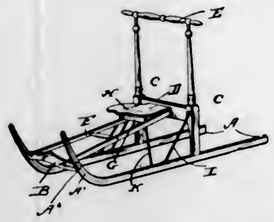
Claim.—1. In a device of the class described, the combination of a coin-chute having near its lower end a slot in its side adapted to discharge coins therefrom; a reciprocating striker adapted to enter the slot with each forward thrust and discharge the lowermost coin therefrom, a register, a connection between the striker and the register, and an electric motor adapted to operate the striker, and a circuit leading to the motor and adapted to be broken simultaneously with the discharge of the last coin, substantially as described.

2. In a device of the class described, the combination of a coin-chute provided with a discharge-slot in its side, a plunger entered into the chute, a slidable cross-rod to which the plunger is pivoted, a striker adapted to enter the discharge-slot and discharge therefrom the lowermost coin, and a register connected with the striker and adapted to be operated simultaneously therewith, substantially as described.

3. In a device of the class described, the combination of a coin-chute provided with a discharge-slot in its side, a plunger entered into the chute, a slidable cross-rod to which the plunger is pivoted, a striker adapted to enter the discharge-slot and discharge therefrom the lowermost coin, a register connected with the striker and adapted to be operated simultaneously therewith, an electric motor for operating the striker, and an electrical connection adapted to be broken by the fall of the cross-rod simultaneously with the discharge of the last coin, substantially as described.

4. In a device of the class described, the combination of a plurality of coin-chutes adapted for use with coins of different denominations, a support to which the chutes are simultaneously secured, each of the chutes having a slot in its side near its lower end, a striker adapted to be positioned to enter the slot of the selected coin-chute and discharge coins successively therefrom, means for reciprocating the striker, a register connected with the striker and adapted to be operated simultaneously therewith to register each discharge, an electric motor for operating the striker, and a circuit leading to the motor and adapted to be broken simultaneously with the discharge of the last coin, substantially as described.

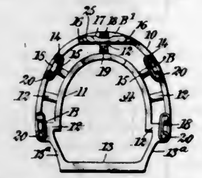
841,447. KICKING-SLEIGH. OSCAR A. RITZMAN, Superior, Wis. Filed Nov. 9, 1905. Serial No. 286,620.



Claim.—1. A sled of the kind described comprising the runners curved upwardly and split at their forward ends having recesses formed on the opposite faces of the split and connected by means of the cross-piece fitting in said recesses, the upright standards and cross-bar connecting the same, the beams extending from the cross-bar to the cross-piece, seat connected to the cross-bar and the block arranged upon the beams and beneath the forward end of the seat as set forth.

2. A sled of the kind described comprising the runners, standards, handle connecting the standards, cross-bar connecting the standards intermediate their ends, the cross-piece connecting the runners, the braces connecting the cross-piece and cross-bar and the seat supported thereon, the forward ends of the runners being split, the opposing faces of the split being recessed, said recess being arranged in such a manner that when the forward end of the runner is curved upwardly, the recesses are brought into alinement, the ends of the cross-piece fitting into the alining recesses as set forth.

841,448. HORSESHOE. JOHN F. ROBINSON, Rockaway, N. J. Filed Apr. 17, 1906. Serial No. 312,127.



Claim—1. In rubber horseshoes, a metallic skeleton frame of horseshoe shape, having nail-holes and guards therefor extending downwardly from the frame, and a rear tie-bar for strengthening the heel-section of the shoe, the tie-bar extending from side to side of the said frame.

2. In rubber horseshoes, a metallic skeleton frame of horseshoe shape, having nail-holes, and a rear tie-bar for strengthening the heel-section of the shoe, the tie-bar extending from side to side of the frame, guide-posts extending down from the toe portion of the frame, and a steel calk held between the posts.

3. In rubber horseshoes, a skeleton frame constructed of malleable or soft iron and comprising outer and inner concentric body-bars and connecting-bars therefor, a rear tie-bar connected with the end portions of the body-bars, and guards for nail-holes formed at the inner edge of the outer body-bar and extending downward therefrom.

4. In rubber horseshoes, a skeleton frame, constructed of malleable or soft iron and comprising outer and inner concentric body-bars, connecting-bars therefor, guards extending downward from the inner edge portion of the outer body-bar, said guards comprising posts and webs connecting them, nail-holes being formed opposite the webs of the guards, and a rear tie-bar connecting the end portions of the body-bars, the tie-bar having outwardly-inclined side sections.

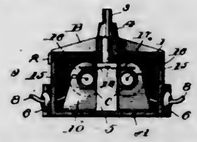
5. In rubber horseshoes, a skeleton frame constructed of malleable or soft iron and comprising outer and inner concentric body-bars, connecting-bars therefor, guards extending downward from the inner edge portion of the outer body-bar, said guards comprising posts and webs connecting them, nail-holes being formed opposite the webs of the guards, a rear tie-bar connecting the end portions of the body-bars, the tie-bar having outwardly-inclined side sections, steel points for the posts of the said guards, a rubber covering for the said frame, and a pad-section for the upper face of the covering of rubber, which pad-section is integral with the rear or heel portion of the shoe but is unattached to the remaining portion of the shoe, for the purposes described.

6. A rubber horseshoe provided with metal posts extending down from its toe portion and a metal calk held between said posts.

7. In a rubber horseshoe, an inner skeleton frame or core, a rubber covering therefor, posts attached to the said frame at the toe portion, which posts have their opposing faces provided with V-grooves, and a metal calk fitted to the space between the said posts and having its end portions V-shaped to enter the grooves of the posts, and likewise downwardly and inwardly inclined, whereby when the calk is in position between the posts the posts can be bent to locking engagement with the end portions of the calk, as specified.

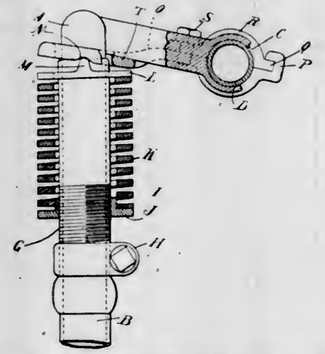
841,449. FUSE-BOX. CHARLES A. ROLFE, Chicago, Ill., assignor, by mesne assignments, to Rolfe Electric Co., Rochester, N. Y., a Corporation of New York. Filed Jan. 21, 1903. Serial No. 140,013.

Claim.—1. A fuse-box comprising a box structure having its bottom provided with a pair of supports, each of which is provided with two recesses, a pair of fuse-holding devices mounted upon said supports and fitted into said recesses, a pair of clips 16, 16 secured to said supports and resting upon said fuse-holding devices so as to hold the same in position, said fuse-holding devices being extended lengthwise of the box, and the side walls of the latter being provided near their upper ends with apertures for wires to connect with the upper ends of the fuse devices, and the bottom wall of the box being provided with two apertures for connecting-wires running to the lower ends of the fuse devices.



2. A fuse-box having its bottom provided with integrally-formed supports, in combination with inclosed fuses resting upon said supports and provided with collars 16, 16, and clips 17, 17, removably secured to said supports and extending across said inclosed fuses, the collars 16, 16, engaging the clips 17, 17, whereby the fuses are held against endwise movement, and a cover detachably secured to said box.

841,450. CUSHIONED HANDLE-BAR FOR VELOCIPEDES. MEYER ROSEN, Bloomington, Ill. Filed Jan. 15, 1906. Serial No. 296,170.



Claim.—1. A cushioned handle-bar comprising in combination, an L-shaped member mounted in the upper end of the stem of the fork of a velocipede and having a forwardly-projecting horizontal arm, a journal in the free end of said arm, a handle-bar journaled therein, a threaded sleeve on the other arm of said L-shaped member, a collar adjustably mounted thereon, a compression-spring resting on said collar and a U-shaped member rigidly secured to said handle-bar at the free ends of its arms at each side of said journal, said spring being adapted to normally hold said U-shaped member at the upper limit of its movement.

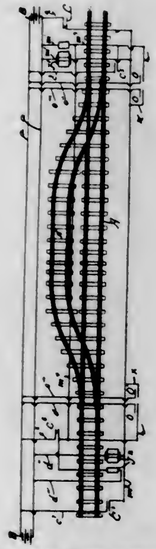
2. A cushioned handle-bar comprising in combination, an L-shaped member mounted in the upper end of the stem of the fork of a velocipede and having a forwardly-projecting horizontal arm, a journal in the free end of said arm, a handle-bar journaled therein, a threaded sleeve on the other arm of said L-shaped member, a collar adjustably mounted thereon, a compression-spring resting on said collar, and a U-shaped member rigidly secured at the free ends of its arms to said handle-bar at each side of said journal, and a bearing-plate resting upon the upper end of said spring and held thereby in engagement with the free end of said U-shaped member to hold the latter normally at the upper limit of its movement.

3. A cushioned handle-bar comprising in combination, an L-shaped member mounted in the upper end of the stem of the fork of a velocipede and having a forwardly-projecting horizontal arm, a journal in the free end of said arm, a handle-bar journaled therein, a threaded sleeve on the other arm of said L-shaped member, a collar adjustably mounted thereon, a compression-spring resting on

said collar, and a U-shaped member rigidly secured at the free ends of its arms to said handle-bar at each side of said journal, a bearing-plate resting on the upper end of said spring and diametrically oppositely disposed projections on the upper face of said bearing-plate entering recesses in the free end portion of said U-shaped member to fulcrum said plate therein, said spring being adapted to hold said U-shaped member normally at the upper limit of its movement.

4. A cushioned handle-bar comprising in combination, an L-shaped member mounted in the upper end of the stem of the fork of a velocipede and having a forwardly-projecting horizontal arm, a journal in the free end of said arm, a handle-bar journaled therein, a threaded sleeve on the other arm of said L-shaped member, a collar adjustably mounted thereon, a compression-spring resting on said collar, and a U-shaped member rigidly secured at the free ends of its arms to said handle-bar at each side of said journal, a bearing-plate resting on the upper end of said spring and diametrically oppositely disposed projections on the upper face of said bearing-plate entering recesses in the free end portion of said U-shaped member to fulcrum said plate therein, said U-shaped member being limited in its upward movement by said horizontal arm of L-shaped member, said spring being to hold said U-shaped member at the upward limit of its movement.

841,451. RAILWAY BLOCK SYSTEM. WILLIAM L. RUMMEL, South Sioux City, Nebr. Filed Aug. 16, 1905. Serial No. 274,466.



Claim.—1. In a railway block system, the combination of an electrical circuit along the line of road, electric batteries in said circuit, switches or circuit-closers at intervals on one side of the road having electric connection with the circuit and adapted to close and open the circuit, an arm on one side of the engines of the road adapted for contact with said switch whereby the electrical circuit is closed, trips at intervals on the other side of the road adapted for contact with a lever connected with a valve in the air-line of the engine when the train is moving in one direction and adapted to be thrown out of contact with said lever by a train going in the opposite direction, electric connection between said trips and the circuit whereby when the circuit is closed the levers are set for contact, a lever on the side of the engine connected with a valve in the air-line of the engine and adapted for contact with said trips whereby when said lever is turned the air is permitted to escape, and means under control of the engineer for closing the valve in the air-line, substantially as described.

2. In a railway block system, the combination with an electrical circuit along the line of road, electric batteries in said circuit, boxes C, having levers D, contact-plates *c c*, and springs *b*, for closing and opening the circuit, metallic connection between said contact-plates and the circuit, an arm on one side of the engines of the road adapted for contact with said levers D, whereby the plates are brought in contact and the circuit closed, trips having levers G, electromagnetic coils E'' and armatures F^2 therein on the other side of the road, metallic connection between said coils and the circuit whereby when the circuit is closed the levers G are set for contact, a lever on one side of the engine connected with a valve in the air-line of the engine and adapted for contact with the lever G when the train is going in one direction whereby when the lever is turned and the valve opened the air is permitted to escape and the train stopped, substantially as described.

3. In a railway block system, the combination of an electric circuit along the line of road, electric batteries in said circuit, switches or contacts at intervals on one side of the road having electric connection with the circuit and adapted to close the circuit, an arm or rail on one side of the engines of the road adapted for contact with said switches whereby the electric circuit is closed, trips at intervals on the other side of the road adapted for contact with a lever or arm connected with the air-line of the engine when the train is going in one direction, electric connection between said trips and the circuit whereby when the circuit is closed the levers are set for contact, a lever or arm on the side of the engine connected with a valve in the air-line of the engine and adapted for contact with said trips whereby when said lever is turned and the valve opened the air is permitted to escape, levers for the operation of switches on side tracks of the road, electric connection between said switches and said trips by which the circuit through the trips is closed and opened and said trips restored after being set for contact, by manual operation of the switch-levers when the switch is opened or closed, and means connected with said switch-levers for opening and closing the circuit through said electrical connection in the manual operation of the switch, substantially as described.

841,452. BOAT-PROPELLING MECHANISM. ROBERT RUTHERFORD, Montaville, Oreg. Filed Jan. 16, 1906. Serial No. 296,273.



Claim.—1. In a boat-propelling mechanism, the combination of a crank-shaft, a member extending longitudinally of the crank-shaft and rocking around an axis transverse thereto, and means connecting the ends of said member with the crank, said means having a vibratory movement on said member to accommodate the throw of the crank, and also having a vibratory movement longitudinal of the shaft to accommodate the arc in which the said member swings.

2. In a boat-propelling mechanism, the combination of a crank-shaft, a member arranged to swing around an axis transverse to the crank, a connecting-rod joined to the crank-shaft and having a ball-and-socket connection with said member, the connecting-rod also having a joint therein permitting a part of the rod to move in a plane extending longitudinally of the crank-shaft.

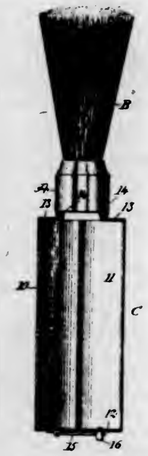
3. In a boat-propelling mechanism, the combination of a double crank-shaft, a walking-beam extending longitudinally of the crank-shaft, a handle secured to the walking-beam, and connecting-rods joining the ends of said beam respectively with the cranks of the shaft.

4. In a boat-propelling mechanism, the combination of a double crank-shaft, a walking-beam extending longitudinally of the crank-shaft and rocking around an axis transverse thereto, and connecting-rods joining the ends of the walking-beam respectively with the cranks, said connecting-rods having vibratory movement on the walking-beam to accommodate the throw of the cranks, and the portions of the rods in connection with the walking-beam having movement longitudinally of the crank-shaft to accommodate the swing of the ends thereof.

5. In a boat-propelling mechanism, the combination of a double crank-shaft, a walking-beam arranged to rock around an axis transverse thereto, said walking-beam having socket members at its ends, and connecting-rods having spherical ends working in the socket members, the connecting-rods being joined respectively to the cranks and having joints therein permitting the parts of the rods in connection with the walking-beam to move longitudinally of the shaft to accommodate the movement of the walking-beam.

6. In a boat-propelling mechanism, the combination of a double crank-shaft, a scaffold rising therefrom, a walking-beam extending longitudinally of the crank-shaft and mounted on the scaffold, connecting-rods joining the ends of the walking-beam to the crank-shaft, a tubular arm projecting from the walking-beam, and a handle member having a part adjustably fitted in the said tubular arm.

842,453. FOLDING SHAVING-BRUSH. HENRY M. RYNEHART, New York, N. Y. Filed Apr. 25, 1906. Serial No. 313,573.



Claim.—1. A shaving-brush and a handle therefor, which handle is in sections, and a hinged connection between each section of the handle and the body of the brush.

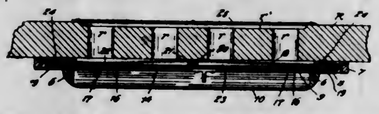
2. A shaving-brush and a handle for the same, which handle is constructed in two hollow sections, hinge connections between the sections of the handle and the body of the brush, whereby said sections may be folded upward around the bristles of the brush to protect the same, or be folded down below the body of the brush for use as a handle, and a locking device for the said handle-sections.

841,454. PRESSURE-GAGE. CHARLES E. SARGENT, Chicago, Ill. Filed Nov. 3, 1904. Serial No. 231,192.

Claim.—The combination with a bracket, a cylindrical reservoir rotatably secured thereto, said reservoir having an opening at its upper end adapted to be put in communication with the vapor whose pressure is to be measured and a body of liquid within the reservoir, of a tube wound spirally about the reservoir, said tube opening at its lower end at the bottom of the reservoir and having its upper end open to the air.



841,455. VENTILATOR. WILLIAM SCHARNWEBER, Seattle, Wash. Filed July 5, 1906. Serial No. 324,902.



Claim.—1. In a ventilator, the combination of a casing having a recess at its back and a forwardly-projecting portion open at its top and communicatively connected with said recess, a stationary partition within the recess and provided with a series of aperatures, a slidable shutter placed in juxtaposition with the partition and provided with a series of aperatures spaced to register with those of the partition when the shutter is correspondingly moved, a screen secured in said recess by devices attached to the ends of the casing, and devices, and a spring positioned between the screen and the partition.

2. The combination with a sash-rail, of a perforated outer covering-plate, of a ventilator having a cavity therein which is connected by an elongated hole with the open top inner projecting portion provided with an external concave wall, an apertured shutter slidably mounted within said cavity and provided with a handle for effecting the movements thereof, said handle, a stationary partition within said cavity and provided with apertures spaced so as to be registerable with those of the shutter when the latter is brought into a certain position, a screen positioned within the cavity of the casing, a spring intermediate of and acting against the screen and the partition centrally of their length and respectively pressing them against the sash-rail and the shutter, and means to reliably secure the ends of the screen to the casing and cause them to bear against the partition.

3. The combination with a sash-rail, of a perforated outer covering-plate, of a ventilator comprising a two-part casing which are fixedly connected together and having a cavity therein which is connected by an elongated hole with the open-top inner projecting portion provided with an external concave wall, an apertured shutter slidably mounted within said cavity and provided with a handle for effecting the movements thereof, said handle, a sta-

tionary partition within said cavity and provided with apertures spaced so as to be registerable with those of the shutter when the latter is brought into a certain position, a screen positioned within the cavity of the casing, a spring intermediate of and acting against the screen and the partition centrally of their length, and respectively pressing them against the sash-rail and the shutter, and means to reliably secure the ends of the screen to the casing and cause them to bear against the partition.

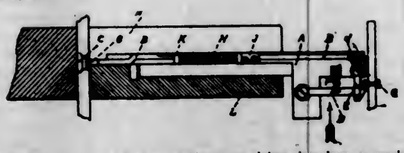
4. The combination with a sash-rail provided with a plurality of axially-inclined holes which are connected at their lower outer ends by a longitudinally-arranged channel, and a perforated outer covering-plate therefor, of a ventilator comprising a casing having a cavity therein which is connected by an elongated hole with the open-top inner projecting portion provided with an external concave wall, an apertured shutter slidably mounted within said cavity and provided with a handle for effecting the movements thereof, said handle, a stationary partition within said cavity and provided with apertures spaced so as to be registerable with those of the shutter when the latter is brought into a certain position, a screen positioned within the cavity of the casing, a spring intermediate of and acting against the screen and the partition centrally of their length and respectively pressing them against the sash-rail and the shutter, and means to reliably secure the ends of the screen to the casing and cause them to bear against the partition.

5. The combination with a sash-rail provided with a plurality of axially-inclined holes which are connected at their lower outer ends by a longitudinally-arranged channel, and a perforated outer covering-plate therefor, of a ventilator comprising a two-part casing which is fixedly connected together and having a cavity therein which is connected by an elongated hole with the open-top inner projecting portion provided with an external concave wall, an apertured shutter slidably mounted within said cavity and provided with a handle for effecting the movements thereof, said handle, a stationary partition within said cavity and provided with apertures spaced so as to be registerable with those of the shutter when the latter is brought into a certain position, a screen positioned within the cavity of the casing, a spring intermediate of and acting against the screen and the partition centrally of their lengths and respectively pressing them against the sash-rail and the shutter, and means to reliably secure the ends of the screen to the casing and cause them to bear against the partition.

841,456. PROCESS OF MAKING PHENYLGLYCIN. ROBERT SCHMIDLIN, Höchst-on-the-Main, Germany, assignor to Farbwerke, vrom. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed May 23, 1906. Serial No. 318,296.

Claim.—The here-described process for making aromatic phenylglycins, which consists in causing chloracetic acid to act in the heat on aromatic nitrohydrocarbons in presence of iron, transforming the iron glycinate thus obtained into alkali glycinate by means of alkalies, distilling off the excess of aromatic amin with steam and precipitating the glycin with dilute acids from the residue filtered from the iron oxid.

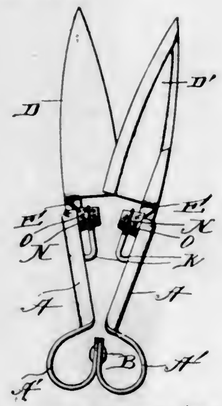
841,457. SINGLE-TYPE-CASTING MACHINE. LUDWIG SCHMIDT, Nuremberg, Germany, assignor to Elektrizitats-Aktiengeselischaft, vormals Schuckert & Co., Nuremberg, Germany. Filed June 17, 1905. Serial No. 265,817.



Claim.—1. In a type-casting machine having a mold, a main slide, and an auxiliary slide adapted to move therein, and yielding means between the two for shortening the mold to the space of the width of the auxiliary slide; in combination with a control device consisting of interlocking levers, yielding means between one of said levers, and the auxiliary slide and adjustable means for releasing the interlocking levers, substantially as described.

2. In a single-type-casting machine having an auxiliary slide B guided in a main slide A and adapted to advance toward the mold by spring action, in order to shorten the mold by the width of the auxiliary slide, the combination of said auxiliary slide with a controlling device consisting of locking-lever E, pawl D, spring F, and stop-screw G and adapted to operate substantially as described.

841,458. SHEEP-SHEARS. WILLIAM A. SCOTT, Laramie, Wyo., assignor of one-third to Jennie L. Griffin and one-third to Carl C. Miles, Laramie, Wyo. Filed June 27, 1906. Serial No. 323,708.



Claim.—A sheep-shears comprising two handles which are concaved and provided with resilient portions which are fastened together, blades, each having a concaved shank portion, means for fastening the shank portions of the handles, a curved arm fixed to each handle, a ring fixed to each arm, a buffer mounted in each ring, the inner end of each buffer being recessed away, a bolt securing the blade to said handle, and a nut over said bolt seated in said recess, as set forth.

841,459. WORK-REVERSING FEED-TABLE. HENRY C. SHAW, Glenshaw, and VICTOR CHARTENER, Pittsburg, Pa. Filed Apr. 8, 1905. Serial No. 254,578.

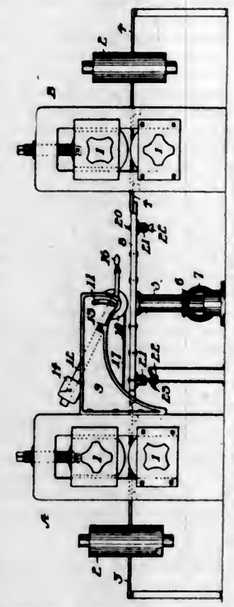
Claim.—1. In a rolling-mill, two sets of rolls, a horizontal table between said sets of rolls, means for rotating said table in a horizontal plane, and means operatively associated with, but distinct from, the table for feeding the work from one set of rolls before the rotation of the table, and from the table after its rotation into the other set.

2. In a rolling-mill, two sets of rolls, a horizontally-rotatable table between said sets of rolls to receive the work from said rolls, stops at opposite ends of the table to limit the feed of the work thereon, and means for withdrawing the stop from the path of the work at the feeding-in end thereof.

3. In a rolling-mill, two sets of rolls, a horizontally-rotatable table between said sets, a feeding-roller above the table, and means for bringing the work and the roller into and out of contact with each other, so as to feed the work to the table from the first set of rolls and after rotation of the table, from the latter to the second set of rolls.

4. In a rolling-mill, two sets of rolls, a horizontal feed-table between said sets of rolls, and means for rotating said table in a horizontal plane, a stop at each end of the table adapted to be projected into the path of an incoming piece of work, and means for withdrawing each stop so

that when at the end of the table nearest the first set of rolls it will be below the path of an incoming piece of work.



5. In a rolling-mill, two sets of rolls, a horizontally-rotatable table between the same, stops at opposite ends of the table to limit the feed of the work thereon, and a cam engageable with the stop nearest the feeding-in set of rolls to withdraw the stop from the path of the work.

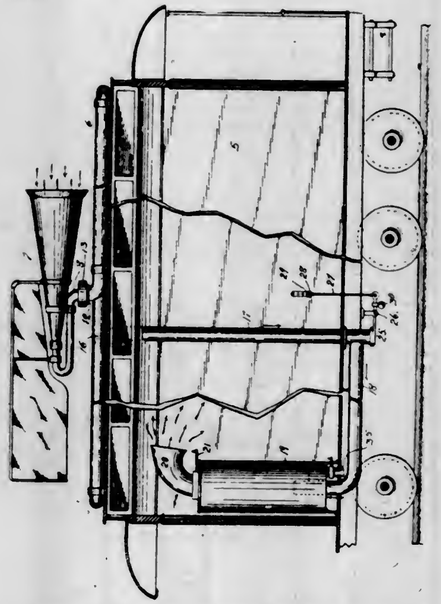
841,460. TRAIN-VENTILATING APPARATUS. JOSEPH A. SHIRES, Denver, Colo. Filed July 19, 1906. Serial No. 326,804.

Claim.—1. In apparatus for ventilating cars, the combination with the car, of a conduit mounted thereon exteriorly and extending longitudinally thereof, a filtering device located in the car, a connection between the conduit and the filtering device, and a funnel-shaped receiver mounted on the car and provided with a weather-vane, whereby the open end of the receiver is automatically caused to point in the direction from which the wind blows, the said receiver being connected with the conduit for the purpose set forth.

2. In train-ventilating apparatus, the combination of a conduit mounted on top of the car and extending longitudinally thereof, a pipe member passing downwardly through the car and communicating with the conduit above, an additional pipe member extending underneath the car and projecting upward thereinto, an air-filter into which the last-named conduit projects, an outlet communicating with the filter and opening into the car whereby the filtered air is delivered thereto, an open-ended receiver having a swiveled connection with the conduit on top of the car, and means connected with the said receiver whereby its open end is automatically directed toward the wind.

3. In a system for ventilating cars, the combination with a conduit having one extremity exposed outside of the car while its opposite extremity communicates with the interior of the car, the conduit being located entirely outside of the car whereby it is exposed to the atmosphere between its intake and discharge extremities, an open-ended receiver having a swiveled connection with the outer extremity of the conduit, and means for causing the open end of the receiver to point in the direction from which the wind is blowing for the purpose set forth.

4. In means for ventilating cars, the combination with the car, of a conduit mounted on top thereof and having a number of lengths extending longitudinally of the car, an open-ended receiver connected with one end of said conduit and swiveled thereon, the said receiver having a vane connection whereby its open end is automatically caused to point in the direction from which the wind blows, and a suitable connection between the conduit on the outside of the car and the interior of the car for the purpose set forth.



5. In means for ventilating cars, the combination of a conduit located on top of the car and wrapped with absorbent material adapted to be saturated with water for air-cooling purposes, an air-receiver having a swiveled connection with the conduit and provided with a weather-vane whereby the open end of the receiver is pointed in the direction from which the wind is blowing, a filtering device located inside the car, a suitable connection between the outside conduit and the filtering device, and means for conducting the air after leaving the filtering device into the interior of the car for the purpose set forth.

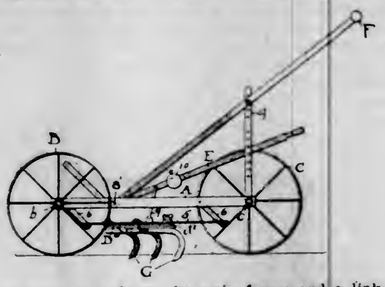
6. In a system for ventilating cars or other structures, the combination of a conduit mounted on the structure exteriorly and having an intake extremity for receiving atmospheric air, and a discharge extremity for delivering air to the car or other structure, the conduit being of such length as to cause the air to travel therethrough a considerable distance outside of the car while passing from the intake to the discharge extremity.

841,461. HAND-CULTIVATOR. BENJAMIN F. SHUART, Oberlin, Ohio. Filed Jan. 9, 1905. Serial No. 240,217.

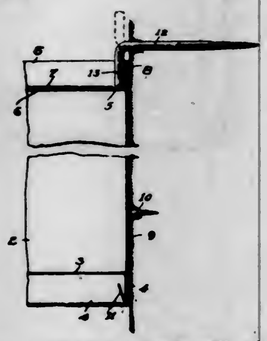
Claim.—1. In hand-cultivators, a rigid main frame of greater length than width and a single supporting-wheel at each end of said frame and on opposite sides thereof, and handles to balance said frame on the wheels, in combination with an independent carrying-frame for cultivating devices beneath said main frame, front and rear inclined trailing links of equal length connecting said carrying-frame with said main frame, said carrying-frame being free to play up and down on its links in respect to the main frame, and separate adjustable supports for the cultivating devices removably secured to said carrying-frame.

2. The main frame and a single supporting-wheel at

each end thereof and upon opposite sides, in combination with a carrying-frame for cultivator devices located between said wheels beneath the main frame, rearwardly-inclined draft-links suspending the carrying-frame front and rear from the main frame, a counterweight-lever pivoted between its ends on the main frame and a link connecting the same centrally to said carrying-frame, and a weight on said lever adapted to be shifted to either side of the pivot therefor, whereby the penetration of the cultivating devices is controlled.

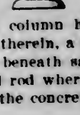


841,462. WATER-TANK-SUPPORTING MEANS. FRANK C. SMITH, Minneapolis, Minn. Filed Dec. 4, 1905. Serial No. 290,219.



Claim.—The combination, with a wall, of clips 9 secured thereon and having outwardly and upwardly turned lower ends, a hot-water expansion-tank having flanged edges at the top and bottom, and an opening in its top and a cover therefor, pipes removably attached to the bottom of said tank and the flange at the bottom of said tank being engaged by the hooks on said clips and supported thereby, but adapted to be separated therefrom when the tank is raised and screws inserted into the wall near the top of said tank and having their outer ends bent substantially at right angles to the main portion of the screw and adapted to be swung down and engage the flange at the top of said tank, whereby said tank will be securely held but may be readily disengaged from the wall upon reversing the position of said screws, substantially as described.

841,463. REINFORCED CONCRETE COLUMN. LAYTON F. SMITH, Baltimore, Md. Filed Oct. 3, 1906. Serial No. 337,188.



Claim.—1. A concrete column having a rod embedded and extending vertically therein, a flat base also embedded in said concrete column beneath said rod, and means engaging the base and said rod whereby the load of the rod may be distributed over the concrete through the base.

2. A concrete column having a rod embedded and extending vertically therein, a base also embedded in said concrete, said base having a socket to receive said rod whereby the load of the rod may be distributed over the concrete.

3. A concrete column having a vertical rod embedded therein, and a base of greater area than the area of the rod and having a tubular socket projecting therefrom, said socket serving to receive the end of the rod.

4. A concrete column having a plurality of vertical rods embedded therein, a single base having a plurality of sockets projecting vertically therefrom, said sockets being of greater diameter than the rods and serving to receive the latter.

5. A concrete column having a plurality of vertical rods embedded therein, a single base-plate having a greater area than the cross-sectional area of all the rods combined and also having an opening extending therethrough and a plurality of sockets projecting from said base-plate and serving to receive the ends of the rods.

6. A concrete column having a plurality of vertical rods, one above the other and said rods being embedded in said concrete and a plate resting on top of the lower rod and receiving the load of the upper rod and serving to concentrate the load from the concrete to the lower rod.

7. A concrete column having vertical rods arranged one above the other and said rods being embedded in said concrete and a plate interposed between the adjacent ends of said rods and having sockets projecting at opposite sides thereof whereby the upper end of the lower rod and the lower end of the upper rod may enter said sockets and the load of the concrete be concentrated on the rods.

841,464. PLASTER COMPOSITION. JAMES M. SNELUS, Niles, Ohio. Filed Apr. 17, 1906. Serial No. 312,245.

Claim.—1. The herein-described composition of matter comprising cement, plaster-of-paris, shavings, pig-hair, fiber, soap, salt and cow-manure.

2. The herein-described composition of matter comprising cement, plaster-of-paris, shavings, pig-hair, fiber, soap and cow-manure, all mixed in salt water.

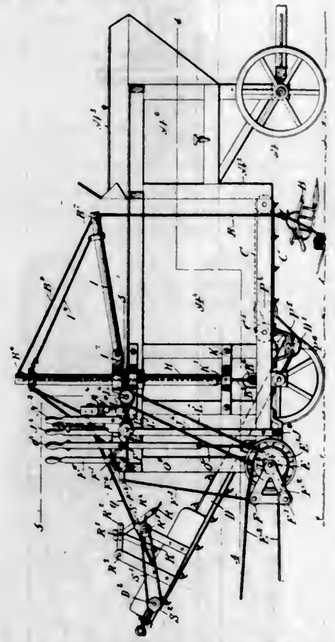
841,465. GRAIN-TRANSFERRING DEVICE. BENJAMIN B. STAUFFER, Wichita, Kans. Filed Oct. 23, 1905. Serial No. 284,097.

Claim.—1. In a grain-transferring device comprising a grain-receiving receptacle provided in its bottom with a conveyer, means for delivering the grain to the said receptacle, an inclined discharging-conveyer receiving the grain at its lower end from the said conveyer in the receptacle and discharging the grain, at its upper end, to the self-feeder of a threshing-machine, and a distributing device comprising a transverse series of longitudinally-oscillating forks on the inclined conveyer.

2. A grain-transferring device comprising a grain-receiving receptacle open at the top and at one end, an endless conveyer disposed horizontally in the bottom of the said receptacle and traveling with its upper run in the direction toward the said open end, a discharging-conveyer inclined upwardly from the discharge end of the said horizontal conveyer, and a distributing device comprising a series of longitudinally-oscillating forks arranged transversely of said discharging-conveyer.

3. A grain-transferring device comprising a grain-receiving receptacle open at the top and at one end, an endless conveyer disposed horizontally in the bottom of the said receptacle and traveling with its upper run in the direction toward the said open end, a discharging-conveyer inclined upwardly from the discharge end of the said horizontal conveyer, grain-carriers for carrying the grain from a stack into the said receptacle, a distributing device comprising a transverse series of oscillating forks on the discharging-conveyer, and means for oscillating said forks in opposition to the movement of the conveyer.

4. A grain-transferring device comprising a grain-receiving receptacle open at the top and at one end, an endless conveyer disposed horizontally in the bottom of the said receptacle and traveling with its upper run in the direction toward the said open end, a discharging-conveyer inclined upwardly from the discharge end of the said horizontal conveyer, and a distributing device near the upper end of the said inclined conveyer to assist in forming the grain into an even, uniform layer.



5. A grain-transferring device comprising a grain-receiving receptacle open at the top and at one end, an endless conveyer disposed horizontally in the bottom of the said receptacle and traveling with its upper run in the direction toward the said open end, a discharging-conveyer inclined upwardly from the discharge end of the said horizontal conveyer, a hollow post, a boom mounted thereon, a fork, a fork-rope engaging the said fork and passing over the said boom and through the said post, and mechanism for winding up and unwinding the said rope.

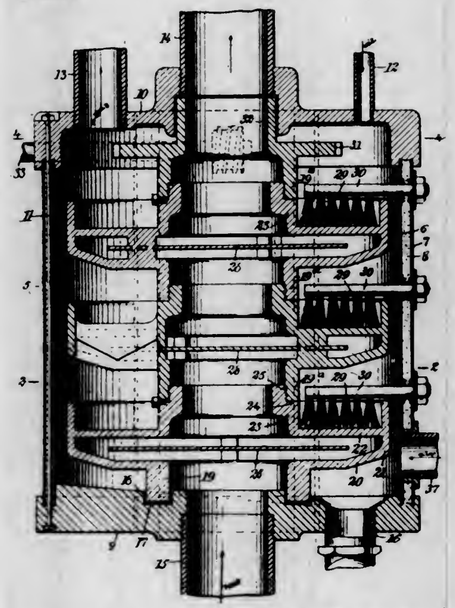
6. A grain-transferring device comprising a grain-receiving receptacle open at the top and at one end, an endless conveyer disposed horizontally in the bottom of the said receptacle and traveling with its upper run in the direction toward the said open end, a discharging-conveyer inclined upwardly from the discharge end of the said horizontal conveyer, means for adjusting the inclination of the said inclined conveyer and a transverse series of longitudinally-oscillating forks near the upper end of the discharging-conveyer.

7. A grain-transferring device comprising a grain-receiving receptacle open at the top and at one end, an endless conveyer disposed horizontally in the bottom of the said receptacle and traveling with its upper run in the direction toward the said open end, a discharging-conveyer inclined upwardly from the discharge end of the said horizontal conveyer, a hollow post, a boom mounted thereon, a fork, a fork-rope engaging the said form and passing over the said boom and through the said post, mechanism for winding up and unwinding the said rope, and means for turning the said post.

8. A grain-transferring device comprising a wheeled vehicle having a grain-receiving receptacle, a water-tank and a fuel-storage compartment, an endless conveyer in the bottom of the said receptacle, an inclined endless conveyer onto the lower end of which discharges the said horizontal conveyer, driving means for the said conveyers arranged to drive the horizontal conveyer at a lower rate of speed than the said inclined conveyer, oscillating distributing-forks on the upper portion of the said inclined conveyer, a boom mounted to swing on the said vehicle, means for imparting a swinging motion to the said boom, a fork-rope mounted on the said boom, means for operating the said fork-rope, and a fork hung on the said rope.

9. A grain-transferring device comprising a wheeled vehicle having a grain-receiving receptacle, a water-tank and a fuel-storage compartment, an endless conveyer in the bottom of the said receptacle, an inclined endless conveyer onto the lower end of which discharges the said horizontal conveyer, driving means for the said conveyers arranged to drive the horizontal conveyer at a lower rate of speed than the said inclined conveyer, oscillating distributing-forks on the upper portion of the said inclined conveyer, a boom mounted to swing on the said vehicle, means for imparting a swinging motion to the said boom, a fork-rope mounted on the said boom, means for operating the said fork-rope, a fork hung on the said rope, and manually-controlled devices for controlling the several means.

841,466. GAS-GENERATING RETORT. THOMAS L. STEWART, Oakland, Cal., assignor to Stewart & Cooley, Melrose, Cal., a Firm. Filed Sept. 6, 1906. Serial No. 333,433.



Claim.—1. In an apparatus of the class described, the combination of a casing having openings in its top and bottom, a column within said casing and having a passage therethrough communicating with said openings, a plurality of annular pans carried by said column, and means for rotating said column and pans.

2. An apparatus of the class described, comprising a casing, a hollow column, a plurality of annular pans carried by said column, each of said pans having a hollow bottom communicating with the hollow supporting-column and a passage through the bottom but independent of the column, and means for circulating a heating medium through said column and pan-bottoms.

3. A retort, comprising a casing having centrally-located openings in its top and bottom, respectively, a plurality of pans having hollow bottoms and arranged one above the other, hollow connections between said pans, and means for rotating said pans and hollow connections, the openings in the casing and the hollow connections constituting

means whereby the pans may be heated by the circulation of a heating medium.

4. A gas-generating retort, comprising a cylindrical casing, a sloping bottom member attached thereto, said bottom member being provided with an annular groove and a bearing-plate located therein, a pan having an annular collar adapted to fit within said groove, means for internally heating said pan, means for delivering thereto a material to be vaporized, and means for rotating said pan.

5. A gas-generating retort provided with a pan having a horizontal bottom, a wall below and spaced therefrom, a baffle-plate between said wall and said bottom, means for delivering a heating medium to said pan below the baffle and drawing it off above said baffle, and means for rotating said pan.

6. A gas-generating retort, comprising a casing, a plurality of pans mounted one above the other, hollow axial connections between said pans, means connected to one of said pans whereby all may be rotated, means for internally heating said pans, means for delivering a material to be vaporized to one of said pans, and means for admitting air to the casing and in contact with said pans.

7. A gas-generating retort, comprising a stationary casing, a hollow rotating body located therein and provided with an evaporating-surface and a hollow support, a plurality of brushes secured to said casing and arranged to agitate the material upon said evaporating-surface, and means whereby a heating medium may be delivered through the hollow support into said rotating body.

8. A gas-generating retort comprising a casing, having an inlet for the material to be vaporized, an opening for admitting air, an outlet for the gas produced and for the residue, a rotating body within said casing, and means whereby said rotating body may be internally heated.

9. A gas-generating retort, comprising a cylindrical casing having inner and outer walls and a layer of non-conducting material therebetween, a sloping bottom closing the lower end of the casing, said bottom having an inlet for a heating medium and an outlet for the residue, an annular groove surrounding the inlet for the heating medium, a pan located within said casing and having a collar within said groove and having a passage therethrough, a baffle located between said passage and adapted to bring the heating medium in more intimate contact with the walls of the pan, and means for rotating said pan.

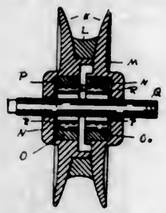
10. A gas-generating retort, comprising a cylindrical casing, an annular pan located therein and provided with a cylindrical outer wall, a cylindrical inner wall, and a hollow bottom, having a centrally-located inlet for delivering a heating medium to said bottom, means for rotating said pan, and means carried by the casing adapted to engage with the bottom of the pan for agitating the material located thereon.

11. A pan for a gas-generating retort, comprising a cylindrical outer wall, an annular bottom wall, an annular wall substantially parallel thereto and spaced therefrom, a cylindrical supporting-collar connected to said last-mentioned wall, a cylindrical wall carried by said first-mentioned bottom wall, a baffle located intermediate the two annular walls whereby a heating medium may be admitted to one side of said baffle and circulated to the outer cylindrical wall and around the edges of said baffle, the pan being provided with a discharge-passage extending through the two annular walls, and a downwardly-projecting lip surrounding said passage.

841,467. TROLLEY. JOSEPH TETLOW, Saco, Me., assignor of four-fifths to Herbert R. Jordan, Saco, Me. Filed Jan. 19, 1906. Serial No. 296,806.

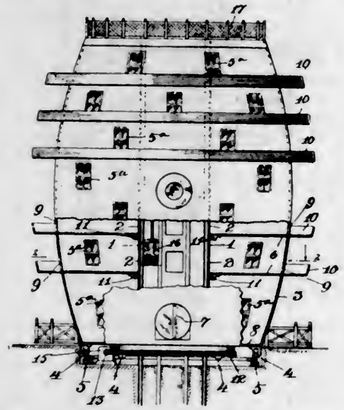
Claim.—1. A trolley-wheel comprising side members, the side members being provided with chambers, in combination with insulating-bushings in said chambers and a wheel-shaft passing through the side members and said bushings, the bushings being provided with oil-ducts leading to the bearing parts, the adjacent ends of the bushings being spaced apart forming a lubricator-containing chamber.

2. A trolley-wheel comprising side members, the side members being provided with chambers having insulating-bushings mounted therein and terminating above the bottoms of said chambers and having their adjacent ends spaced apart from each other, said bushings being provided



with oil-ducts leading from the spaces between their adjacent ends and the bottoms of the containing-chambers and opening radially to the bearing-surface.

841,468. AMUSEMENT DEVICE. PETER A. TILYOU, New York, N. Y. Filed Feb. 3, 1906. Serial No. 299,302.



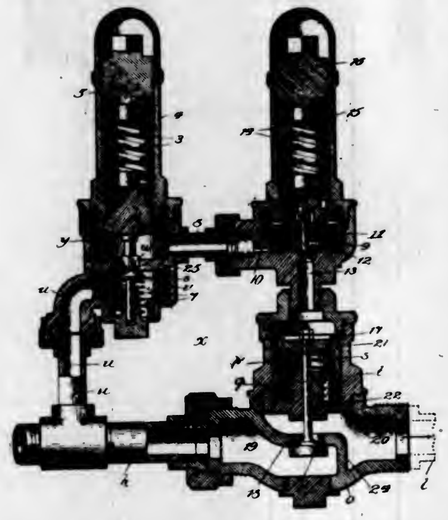
Claim.—1. In an amusement device, a vertically-disposed hollow fixed cylinder, a non-vertically-movable barrel-shaped shell surrounding said cylinder and revoluble therearound, floors in said shell, balconies surrounding said shell, doorways in said shell leading from the floors to the balconies, doors in said cylinder leading therefrom to the floors in the shell, rollers on the floors bearing against said cylinder, rollers on the bottom of said shell for revolubly supporting it, and means for revolving said shell, substantially as described.

2. In an amusement device, a vertically-disposed hollow fixed cylinder, elevators in said cylinder, a non-vertically-movable barrel-shaped shell surrounding said cylinder from end to end and revoluble therearound, floors in said shell, balconies surrounding said shell, doorways in said shell leading from the floors to the balconies, doors in said cylinder leading from the elevators to the floors in the shell, rollers on the floors bearing against said cylinder-rollers on the bottom of said shell for revolubly supporting it, and means for revolving said shell, substantially as described.

3. In an amusement device, a vertically-disposed hollow cylinder, a non-vertically-movable barrel-shaped shell surrounding said cylinder from end to end and revoluble thereabout, floors in said shell, balconies surrounding said shell doorways in said shell leading from the floors to the balconies, doors in said cylinder leading therefrom to the floors in the shell, rollers on the floors bearing against said cylinder, rollers on the bottom of said shell for revolubly supporting it, a rack on the bottom of said shell and means engaging said rack for revolving said shell, substantially as described.

4. In an amusement device, a vertically-disposed hollow cylinder, elevators in said cylinder, a non-vertically-movable barrel-shaped shell surrounding said cylinder from end to end and revoluble therearound, floors in said shell, balconies surrounding said shell doorways in said shell leading from the floors to the balconies, doors in said cylinder leading from the elevators to the floors in the shell, rollers on the floors bearing against said cylinder, rollers on the bottom of said shell for revolubly supporting it, a rack on the bottom of said shell and means engaging said rack for revolving said shell, substantially as described.

841,469. PRESSURE-CONTROLLING VALVE FOR AIR-BRAKE SYSTEMS. WALTER V. TURNER, Wilmerding, Pa., assignor, by direct and mesne assignments, to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed July 6, 1903. Renewed Mar. 31, 1906. Serial No. 309,052.



Claim.—1. In a fluid pressure controlling valve for air brake systems, the combination of a main valve for opening and closing a passage through the supply pipe leading to the supply reservoir, a piston attached to and operating the same, a supplementary diaphragm valve for opening and closing a by-passage leading from the supply pipe to the chamber in which said piston operates, and a main diaphragm valve for opening and closing the by-passage between the supply pipe and said supplementary diaphragm valve chamber, substantially as described.

2. In a fluid pressure controlling valve for air brake systems, the combination of a main valve for opening and closing a passage through the supply pipe leading to the supply reservoir, a piston of greater superficial area attached to and operating said valve, a supplementary diaphragm valve operating in a chamber connected with the chamber in which the said piston operates and opening and closing communication between the same, and a main diaphragm valve for opening and closing communication between the supply pipe and the chamber of the supplementary diaphragm valve, substantially as described.

3. In a fluid pressure controlling valve for air brake systems, the combination of a main valve body provided with a perforated partition forming chambers on each side of the same and connected with the supply pipe which leads to the supply reservoir, a valve in said perforation for opening and closing the same and thereby the main supply passage, a cap attached to said valve body provided with a cylinder, a piston operating in said cylinder and connected with the main valve for operating the same, a supplementary diaphragm valve operating in a chamber having communication with the cylinder above the operating piston and opening and closing communication between the same, a by-pipe or passage leading from the main supply-pipe to the supplementary diaphragm valve chamber, and a main diaphragm valve in such by-passage for opening and closing the same, substantially as described.

4. In a fluid pressure controlling valve for air brake systems, the combination of a main valve body provided with a perforated partition dividing the same into two chambers connected with the main supply passage leading to a supply reservoir, a valve seated in such perforation for opening and closing the same, a cylindrical cap provided with an equalizing perforation forming a closure for said valve body, a piston of greater superficial area than the main valve and connected therewith so as to operate the same and provided with an equalizing-perforation extending therethrough, a supplementary diaphragm valve body attached to said valve-cap and provided with a chamber and passage communicating with the chamber in the cylinder above the movable piston, a supplementary diaphragm valve therein for opening and closing communication between the above named chambers, a tension spring for operating said diaphragm in one direction, means for placing said spring under tension, a by-pipe or passage leading from the main supply pipe to the chamber of the supplementary diaphragm valve, a main diaphragm valve for opening and closing said by-passage, a tension spring for operating said main diaphragm valve in one direction, and means for placing such spring under tension, substantially as described.

5. In a fluid pressure controlling valve for air brake systems, the combination of a main valve body provided with a perforated dividing partition, a main valve seated in such perforation for opening and closing the same and thereby the main supply passage leading to a supply reservoir, a cap or closure for said valve body providing a cylindrical chamber having an equalizing passage connecting it with the chamber of the main valve body on the supply reservoir side, a piston in said cylinder chamber connected with the main valve for operating the same and provided with an equalizing passage connecting the cylinder chamber above and below said piston, a supplementary diaphragm valve body connected with the cap or closure of the main valve body and provided with a valve chamber and passage connecting it with the cylinder chamber above the movable piston, a supplementary diaphragm valve for opening and closing the last named passage, a tension spring for operating said valve in one direction, a by-pipe or passage connecting the supply pipe with the supplementary diaphragm valve chamber, a main diaphragm valve body provided with a partition dividing it into two chambers—a diaphragm chamber *y* and a valve chamber *v* having a perforation connecting the same, a diaphragm *z* provided with a valve 6 for opening and closing said perforation and thereby the by-passage, and tension spring mechanism for operating said diaphragm in one direction, substantially as described.

6. In combination, a supply pipe, a valve therein, a by-pass about the valve, a controlling piston for the valve located in the by-pass, a pair of valves in the by-pass, and a controlling diaphragm and spring for each valve, the spring and diaphragms being so arranged that one valve is spring-held open and the other spring held shut.

7. In combination, a supply pipe, a valve therein, a by-pass about the valve, a controlling piston for the valve located in the by-pass, a valve in the by-pass normally spring-held open, a controlling diaphragm therefor adapted to be acted upon by the air to close the valve when the desired pressure is obtained.

8. In combination, a supply pipe, a valve therein, a by-pass about the valve, a controlling piston for the valve located in the by-pass provided with spring means for normally holding it closed, and with a throttling passage, a valve in the by-pass normally spring-held open, and a controlling diaphragm therefor adapted to be acted upon

by the air to close the valve when the desired pressure is obtained.

9. In combination, a supply pipe, a valve therein, a by-pass about the valve, a controlling piston for the valve located in the by-pass provided with spring means for normally holding it closed; and with a throttling passage, a valve in the by-pass normally spring-held open, a controlling diaphragm therefor adapted to be acted upon by the air to close the valve when the desired pressure is obtained, and a second valve in the by-pass provided with spring means for normally keeping it closed, and a controlling diaphragm therefor adapted to be acted upon by the air to open the valve.

10. In combination, a supply pipe, a valve therein, a by-pass about the valve, a controlling piston for the valve located in the by-pass provided with spring means for normally holding it closed, and with a throttling passage, a valve in the by-pass normally spring-held open, a controlling diaphragm therefor adapted to be acted upon by the air to close the valve when the desired pressure is obtained, and a second valve in the by pass provided with spring means for normally keeping it closed, and a controlling diaphragm therefor adapted to be acted upon by air to open the valve, the springs for the two diaphragms being so adjusted that the pressure necessary to close the first by-pass valve is greater than that necessary to open the second by-pass valve.

11. In combination, a pipe comprising a supply section and a receiving section, means for supplying fluid pressure to the supply section, and governing means between the two sections comprising a means controlled by pressure from the supply section for preventing a flow of fluid from one section to the other until a predetermined pressure is obtained in the supply section, and an independent means controlled from the receiving section for cutting off the flow of pressure when a predetermined pressure is attained in such receiving section.

12. In combination, a supply pipe, a main valve therefor provided with means for normally closing it, a by-pass about the valve, a piston in the by-pass for opening the valve, a small connecting opening between the sides of the piston, and means in the by-pass for automatically preventing a back flow through the by-pass, and other means for automatically operating the piston to open the main valve when the pressure falls below a predetermined amount on the receiving side of such main valve.

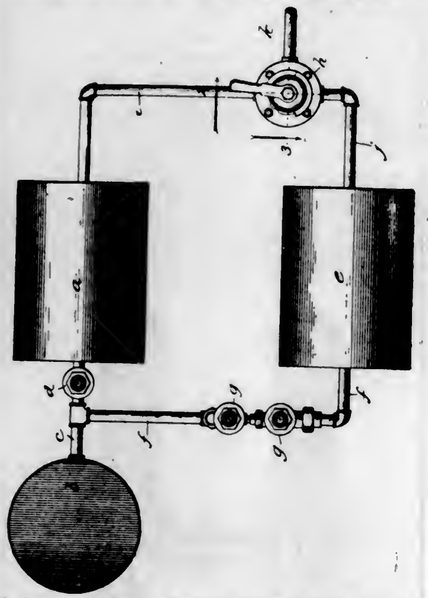
13. In combination in a pipe, a supply section and a receiving section, a connecting passage therebetween, and a pair of controlling valves therein each having an operating fluid pressure abutment and one valve being spring held open and the other spring held shut.

841,470. AIR-BRAKE MECHANISM. WALTER V. TURNER, Wilmerding, Pa., assignor, by direct and mesne assignments, to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed July 6, 1903. Renewed Apr. 23, 1906. Serial No. 313,280.

Claim.—1. In combination, a main reservoir for relatively high pressure, a supply reservoir for relatively lower pressure, means for maintaining the desired pressure in these reservoirs, a train pipe and an engineer's valve provided with service exhaust means and having connection with the two reservoirs and the train pipe and adapted to connect the main reservoir with the service exhaust means whereby such means are operated.

2. In combination, a main reservoir for relatively high pressure, a supply reservoir for relatively low pressure, means for maintaining the desired pressure in these reservoirs, a train pipe and an engineer's valve provided with service exhaust means normally held closed by pressure from the train pipe and having connections with the two reservoirs and the train pipe, and adapted to connect the supply reservoir with the train pipe and to connect the main reservoir with the service exhaust means thereby overcoming the train pressure and opening the exhaust.

3. In combination, a main reservoir for relatively high pressure, a supply reservoir for relatively lower pressure, means for maintaining the desired pressure in these reservoirs, a train pipe, and an engineer's valve having connection with the reservoirs and the train pipe and adapted to connect either of the reservoirs with the train pipe.



4. In combination, a main reservoir for relatively high pressure, a supply reservoir for lower pressure, means for maintaining the desired pressure in these reservoirs, a train pipe, and an engineer's valve having connection with the reservoirs and train pipe adapted to connect either of the reservoirs with the train pipe and to connect the train line pipe to the exhaust.

5. In combination, a main reservoir, for relatively high pressure, a supply reservoir for relatively lower pressure, an air pump connected to each reservoir, pressure regulating valves between the reservoirs and the pump, a train pipe, and an engineer's valve having connection with the reservoirs and the train pipe and adapted to connect either of the reservoirs with the train pipe.

6. In mechanism of the class described, the combination of an air-pump, a main reservoir for relatively high pressure fluid, a supply reservoir for relatively lower pressure directly connected with the main reservoir and with the air pump, a train pipe, an engineer's valve body provided with three main passages connected with the main and supply reservoirs and train pipe, a rotatable valve in such engineer's valve body provided with one passage to connect and disconnect the main reservoir and train pipe so as to supply main reservoir pressure or cut off the same from the train line, and a second passage to connect the supply reservoir directly with the train pipe and disconnect the same during the movements of such valve, substantially as described.

7. In mechanism of the class described, the combination of an air pump, a main reservoir for relatively high pressure connected therewith, a supply reservoir for relatively low pressure connected directly with the pump and main reservoir, a train pipe, an engineer's valve body provided with an emergency exhaust opening and with three main passages connected with the main and supply reservoirs and train pipe a rotatable valve in such valve body provided with a passage adapted to connect and disconnect the main reservoir with the train line, a second passage to connect and disconnect the supply reservoir with the train pipe, and a third passage to connect and disconnect the train pipe with the emergency exhaust opening, substantially as described.

8. In combination, a plurality of reservoirs, means for maintaining different pressures in these reservoirs, a train pipe and an engineer's valve provided with service exhaust means and having connections with the reservoirs and the train pipe, and adapted to connect the different reservoirs with the train pipe and to connect a high pressure reservoir with the service exhaust means whereby such means are operated.

9. In combination, a plurality of reservoirs, means for maintaining different pressures in these reservoirs, a train pipe and an engineer's valve provided with service exhaust means normally held closed by pressure from the train pipe and having connections with the reservoirs and the train pipe, and adapted to connect the different reservoirs with the train pipe and to connect a high pressure reservoir with the service exhaust means, thereby overcoming the train line pressure and opening the exhaust.

10. In an engineer's valve, means for governing the service exhaust comprising a valve chamber, a service exhaust port, a slide valve therein, a piston cylinder connected to the valve chamber, an operating piston therefor, a connection between the valve chamber and the train pipe whereby one side of the piston is continuously under pressure to hold the slide valve in closed position, and a connection for the other side of the piston from a high pressure reservoir controlled by the main valve.

11. In an engineer's valve, means for governing the service exhaust comprising a valve chamber, a service exhaust port of triangular shape, a slide-valve therein, a piston cylinder connected to the valve chamber, an operating piston therefor, a connection between the valve chamber and the train pipe whereby one side of the piston is continuously under pressure to hold the slide valve in closed position, and a connection for the other side of the piston from a high pressure reservoir controlled by the main valve.

12. In an engineer's valve, means for governing the service exhaust comprising a valve chamber, a service exhaust port, a slide valve therein, a piston cylinder connected to the valve chamber, an operating piston therefor, a connection between the valve chamber and the train pipe whereby one side of the piston is continuously under pressure to hold the slide valve in closed position, a connection for the other side of the piston from a high pressure reservoir controlled by the main valve, and a throttling passage between the latter side of the piston and the train pipe adapted to be opened when the piston is operated from the high-pressure reservoir.

13. In an engineer's valve, means for governing the service exhaust comprising a valve chamber, a service exhaust port, a spring held slide valve therein, a piston cylinder connected to the valve chamber, an operating piston therefor, a connection between the valve chamber and the train pipe whereby one side of the piston is continuously under pressure to hold the slide valve in closed position, and a connection for the other side of the piston from a high pressure reservoir controlled by the main valve.

14. In an engineer's valve, means for governing the service exhaust comprising a valve chamber, a service exhaust port, a slide valve therein, a piston cylinder connected to the valve chamber, an operating piston having a lost motion connection with the slide valve, a connection between the valve chamber and the train pipe whereby one side of the piston is continuously under pressure to hold the slide valve in closed position, and a connection for the other side of the piston from a high pressure reservoir controlled by the main valve.

841,471. FEEDER. EDWARD VALLENTINE, Florence, Mass. Filed Sept. 14, 1905. Serial No. 278,450.

Claim.—1. A chute, for a feeder, comprising a runway along the lower edge, such runway consisting in part of an upwardly-extending flange, and a finger or selector rising from said flange at a point remote from either end of the chute and projecting across the passage in the chute, the upper terminal of said selector being contiguous to the side wall of the chute.

2. A chute, for a feeder, comprising a runway along the lower edge, such runway consisting in part of an upwardly-extending flange, and a finger or selector rising from said flange at a point remote from either end of the chute and projecting across the passage in the chute, a portion of the flange back of the base of said selector being cut away so as to form a side opening in the runway but leaving the bottom of the runway intact.



3. The combination, in a feeder, with a stationary chute provided with a selector lying across the passage therein but not entirely obstructing the same, such selector being adapted to bar said passage to some objects and to afford no obstruction to others, which latter are permitted to pass between the side of said chute and said selector, according to the positions of the objects in the chute, of adjustable means of support for the chute.

4. The combination, in a feeder, with a rotary tumbler inclined axially downward from front to rear and provided with internal projections, of a chute inclined to the horizon and having its highest and receiving terminal tilted laterally and located within said tumbler.

5. The combination, in a feeder, with a rotary tumbler inclined axially and provided with internal projections, of an inclined chute having its higher terminal located within said tumbler and provided with a selector also located within the tumbler and lying across the passage in such chute but not entirely obstructing such passage, such selector being adapted to bar the passage to some objects and to afford no obstruction to others, which latter are permitted to pass between the side of the chute and said selector, according to the positions of the objects in said chute, the objects being delivered to the chute from the tumbler through the medium of said projections therein.

6. In a feeder, the combination of a rotating lifting device having an inwardly-projecting member to lift the articles being fed, said lifting device being inclined downwardly at its rear end, an adjustable support for the lifting device, and a chute projecting into such device and with its inner terminal arranged to receive the articles being fed as they fall from said inwardly-projecting member.

7. The combination, in a feeder, with a rotary tumbler inclined axially and provided with internal projections of less length than said tumbler, of an inclined chute having its higher terminal located within the tumbler and provided with a selector situated within and adjacent to parts of the tumbler which are clear of said projections and lying across the passage in such chute but not entirely obstructing such passage, such selector being adapted to bar the passage to some objects and to afford no obstruction to others, which latter are permitted to pass between the side of the chute and said selector, according to the positions of the objects in the chute, the objects being delivered to the chute from the tumbler through the medium of the projections therein.

841,472. IMPLEMENT FOR DRIVING SCREW HOOKS AND EYES. WILLIAM H. VANDERHERCHEN, Philadelphia, Pa. Filed Feb. 17, 1906. Serial No. 301,695.

Claim.—1. In an implement for driving screw eyes or hooks, the combination of a handle having a head and a cap, the latter having a slot elongated to permit of the

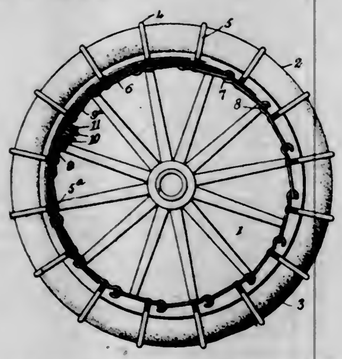
passage of an eye or hook and having its interior surface designed to conform to the shape of such an eye or hook, the portion of the head covered by the cap having an elongated recess shaped to hold a hook or eye from turning, one of the parts of the implement having a slot and the other a pin projecting into said slot and being rotatably mounted relatively to each other to permit of the slot in the cap and the recess of the head being brought into parallelism or placed at an angle to each other, substantially as specified.



2. In an implement for driving screw eyes or hooks, the combination of a head and cap for the end of the same, the cap being slotted for receiving an eye or hook and the head being provided with an elongated, transverse recess for holding the eye or hook from turning, said head having its engaging portion rotatably mounted within the cap, substantially as specified.

3. In an implement for driving screw eyes or hooks, the combination of a two-part head and a cap, the cap being slotted to receive an eye or hook, and the head having an elongated, transverse recess for holding the eye or hook from turning, one portion of the head being secured to the cap, and its hook and eye engaging portion rotatably mounted within the cap, substantially as specified.

841,473. TRACTION DEVICE FOR VEHICLE-WHEELS. HORACE S. WEAVER, Butler, Pa. Filed Jan. 17, 1906. Serial No. 296,479.



Claim.—1. A vehicle-wheel provided about the tread thereof with a series of traction devices, each having connecting members provided at one end with a hook and at the other end with an eye for coöperation with the hook of a companion member.

2. A traction device for vehicle-wheels comprising a series of arched members arranged transversely of the tire and having their legs extending toward the axis of the wheel, connecting members arranged upon each side of the wheel, each of said members being connected with the leg of an arched member, one end of each of said members being provided with an opening and the other with a hook for engaging the opening of an adjacent connecting member.

3. A traction device for vehicle-wheels comprising a series of arched members, the legs thereof embracing the tire, a connecting member upon each side of the tire into which the leg of the arched member is threaded, said connecting members having at one end a hook and at the other end an eye for engagement by the hook of the preceding member.

841,474. CHECK-VALVE. EDWARD F. WENDELKEN, Marietta, Ohio. Filed May 10, 1904. Serial No. 207,242.



Claim.—1. A check-valve comprising a body portion and a lateral inclined extension communicating therewith, a pair of ribs spaced apart from each other and extending diagonally across and on opposite sides of the bore of the body portion, the ribs being in alinement with and constituting a continuation of the shorter wall of the lateral extension and lying parallel with the opposite longer wall of the extension, the shorter wall and ribs together being of approximately the same length as the longer wall, and a ball-valve receivable in the bore of the body portion and adapted to ride up on the ribs into the lateral extension out of the path of liquid in the bore of the body portion.

2. A check-valve comprising a hollow body portion and a lateral inclined extension communicating therewith, a pair of ribs spaced apart from each other and extending diagonally across and on opposite sides of the bore of the body portion, the ribs being in alinement with and constituting a continuation of the shorter wall of the extension, the lateral extension provided with internal grooves lying approximately parallel with the ribs and a ball-valve receivable in the bore of the body portion and in the lateral extension.

3. A check-valve comprising a hollow body portion, a lateral extension integral therewith, the point of juncture between the two terminating in and being defined by the integral ribs 1, 1, which are parallel with the outer wall of the extension and the extension having oppositely-located chambered walls 2, 2, and means screwed to the ends of the body portion and extension for confining the ball-valve therein, said means having valve-seats ground at their inner ends.

4. A check-valve comprising four elements, namely, a hollow body portion externally threaded at one end and internally threaded at the opposite end, this body portion provided with a lateral extension integral therewith with inclined ways or ribs 1, 1, between the body portion and lateral extension, the bore of the body portion having internal recesses or grooves 2, 2, therein, a ball-valve adapted to operate within the body portion and lateral extension, plugs and couplings screwed to the ends of the body portion and lateral extension, said plug and one of the couplings having ground seats at their inner ends to receive the ball.

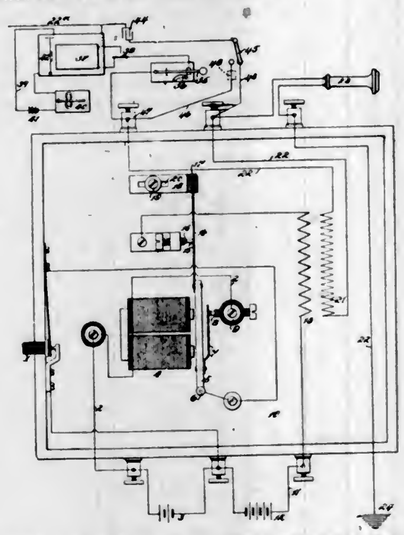
5. A check-valve comprising a hollow body portion, a lateral extension integral therewith, inclined ways or ribs formed integrally between the body portion and the lateral extension, and grooves or recesses formed in the wall of the lateral extension.

841,475. SELF-FILLING FOUNTAIN-PEN. PAUL E. WIRT, Bloomsburg, Pa. Filed Apr. 13, 1906. Serial No. 311,421.



Claim.—In a fountain-pen, the combination with the holder, of a filling device comprising a plunger-head consisting of opposite head-disks and an interposed packing-disk united together, one of the head-disks having an eccentrically-disposed keeper-hook, and a plunger-stem slidable through the head and provided with a terminal catch projection adapted to be turned into and out of engagement with said hook, the said packing being arranged to pack the head in the holder and also to pack the plunger-stem.

841,476. ELECTRIC CALLING APPARATUS FOR TELEPHONES. CHARLES ADAMS-RANDALL, New York, N. Y. Filed Dec. 22, 1903. Serial No. 186,254.



Claim.—1. In a telephonic calling apparatus, two independent local circuits, an automatic resilient vibrator arranged to make and break said local circuits alternately, an electromagnet connected in one of said local circuits attracting said vibrator in one direction, an induction-coil having the primary thereof connected in the local circuit unconnected with the electromagnet and having the secondary thereof connected in a line-circuit, and a suitable receiver connected in the line-circuit and arranged to control a local circuit at the receiving end, said local circuit including a suitable call-receiving apparatus.

2. In a telephonic calling apparatus, two independent local circuits, one of said circuits including an electromagnet and a resilient vibrator arranged to alternately make and break said local circuits, said vibrator comprising a pivoted armature adapted to be attracted by said electromagent when its circuit is closed, and a resilient extension from said armature having the end secured in such manner as to hold the armature out of contact with the magnet.

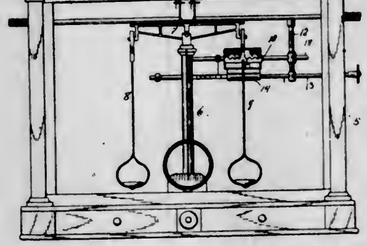
3. In a telephonic calling apparatus, two independent local circuits, an electromagnet connected in one of said circuits, an induction-coil having the primary thereof connected in the other local circuit and having the secondary thereof connected in the line-circuit, and a resilient vibrator arranged to make and break said local circuits alternately, said vibrator comprising a pivoted armature disposed adjacent to said electromagnet and having a spring extending from the free end thereof, said spring having its other end adjustably secured so as to hold the armature normally out of contact with said electromagnet.

4. In a telephonic calling apparatus, two independent local circuits, one of said circuits including an electromagnet and a resilient vibrator arranged to alternately make and break said local circuits, said vibrator comprising an armature pivoted at one end and adapted to be attracted by said electromagnet when its circuit is closed, and a resilient extension at the free end of said armature, said resilient extension being adjustably secured at the end remote from the armature in such manner as to hold the armature normally out of contact with the said electromagnet.

5. In a telephonic calling apparatus, two independent local circuits, one of said local circuits including an electromagnet, a resilient vibrator actuated by said electromagnet to make and break said local circuits alternately, and an induction-coil having its primary connected in the local circuit not including the electromagnet and having its secondary connected to line.

6. In a telephonic calling apparatus, two independent local circuits, one of said local circuits including an electromagnet, an induction-coil having its primary connected in the local circuit not including the electromagnet and having its secondary connected to line, and a resilient vibrator arranged to make and break said local circuits alternately, said vibrator comprising a pivoted armature and a resilient extension from said armature, the extension having its end fixed and bearing a contact-point for making the local circuit including the primary of the induction-coil.

841,477. ASSAY-BALANCE. ROBERT G. AINSWORTH, Denver, Colo. Filed May 8, 1905. Serial No. 259,380.



Claim.—1. In a balance of the class described, the combination with a balance-beam, of a hanger connected therewith and provided with a horizontal part adapted to hold weight-riders, a rider-carrying lever mounted in suitable proximity to said horizontal part, and means for manipulating said lever comprising a revoluble rod carrying fingers projecting on opposite sides of one arm of the lever whereby the latter may be moved in opposite directions by the manipulation of the rod.

2. In a device of the class described, the combination with a balance-beam, of a hanger connected therewith and provided with a part adapted to hold weight-riders, a rider-carrier composed of a number of levers mounted in suitable proximity to said horizontal part, and means for manipulating said levers comprising a rod mounted to have both revoluble and longitudinal movement, and equipped with means for actuating a single lever or any number of levers simultaneously according to the longitudinal adjustment of the rod.

3. In a balance, the combination with a balance-beam, of a hanger connected therewith and provided with a part adapted to hold weight-riders, a rider-carrier composed of a number of levers fulcrumed in suitable proximity to said horizontal part, and means for manipulating the said levers simultaneously, or separately, comprising a rod mounted to have both revoluble and longitudinal movement and equipped with means for actuating the levers.

4. In a balance of the class described, the combination of a hanger connected therewith and provided with a part adapted to hold weight-riders, a rider-carrier composed of levers mounted in suitable proximity to said horizontal part, and means for actuating said levers simultaneously or independently of one another comprising a single rod equipped with lever-actuating devices and mounted to have both revoluble and longitudinal movement.

5. In a balance of the class described, the combination of a hanger provided with a part adapted to hold weight-riders, a rider-carrier composed of a number of levers independently fulcrumed in suitable proximity to the rider-holder, and means for actuating said levers comprising a rod mounted to have both revoluble and longitudinal movement and equipped with means for actuating the levers either simultaneously or independently of one another as may be desired.

6. In a balance, the combination of a hanger provided with a part adapted to hold weight-riders, a number of levers independently fulcrumed in suitable proximity to the rider-holder, the said levers being adapted to carry weight-riders, and a manipulating device mounted in suitable proximity to the levers and consisting of a rod mounted to have both revoluble and longitudinal movement and carrying-fingers arranged to actuate one or more of the levers as the rod is turned, substantially as described.

7. In a balance, the combination with a balance-beam, of a hanger connected with the beam and provided with a rider-holding part, levers independently fulcrumed adjacent said part and having depending arms, a rod mounted to have both revoluble and longitudinal movement, the said rod being provided with a manipulating device composed of two sets of teeth normally occupying positions on opposite sides of the depending arms of the levers and adapted to actuate the levers by engaging the depending lever-arms from either side, the said fingers being adapted by the longitudinal movement of the rod to be brought into position to actuate all of the levers simultaneously, or any lever independently as circumstances may require.

8. In a balance of the class described, the combination of a hanger provided with a rider-holding part, a rider-carrier mounted in suitable proximity to said part and composed of a number of members mounted to move independently of one another, a rod mounted to have both revoluble and longitudinal movement, and a manipulating device carried by the rod and adapted to act on the members of the rider-carrier either simultaneously or separately according to the longitudinal adjustment of the rod, the latter being graduated, and a stationary pointer located in suitable proximity to the graduated part of the rod, the rod being graduated to correspond with the weight of the riders to be used.

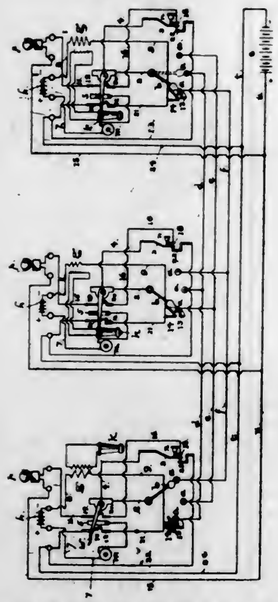
9. In a balance of the class described, the combination of a hanger provided with a rider-holding part having V-shaped notches located on opposite sides of the hanger proper, weight-riders adapted to engage the notches of the holder, a rider-carrier mounted in suitable proximity to the holder and consisting of a plurality of rider-carrying levers independently fulcrumed, a manipulating device consisting of a rod mounted to have both revolnble and sliding movement, the said rod having a part graduated in terms of the weights of the different riders, a pointer mounted in suitable proximity to the graduated part of the rod, a manipulating device mounted on the rod and composed of two sets of teeth normally occupying positions on opposite sides of the rider-carrying levers to be actuated, and means for normally returning the rod to its normal position after each revoluble act, substantially as described.

10. In a device of the class described, the combination with a balance-beam, of a hanger connected with the beam and provided with a rider-holding part, a number of bell-crank levers independently fulcrumed in suitable proximity to the rider-holder, the outer extremity of one arm of each lever being bent and notched to hold a weight-rider, the opposite arm of each lever extending downwardly, means for limiting both the upward and downward movement of the rider-carrying arms of the levers, and means adapted to act on the depending arms of the levers from either side whereby the rider-carrying arms may be raised or lowered as may be desired.

11. In a device of the class described, the combination of a hanger provided with a rider-holding part, a rider-carrier composed of a number of levers independently fulcrumed adjacent said part, and a manipulating device consisting of a rod mounted to have both revoluble and sliding movement, the said rod carrying two sets of fingers adapted by the longitudinal movement of the rod to be brought into proper alinement to act on all the levers simultaneously or upon each lever individually, substantially as described.

12. In a device of the class described, the combination of a rider-holder, a rider-carrier mounted in suitable proximity to the holder, and a manipulating device for the rider-carrier, consisting of a rod mounted to have both revoluble and longitudinally-sliding movement, the said rod having a longitudinal groove, a bearing through which the grooved portion of the rod passes, a sleeve journaled in said bearing and provided with a tooth fast in the sleeve but protruding into the groove of the rod, and a spring acting on the said tooth from opposite sides whereby as the rod is turned in either direction the tooth acts on the spring, and the recoil of the latter has a tendency to return the rod to its normal position after each revoluble movement.

841,478. SECRET-SERVICE TELEPHONE SYSTEM. ALBERT K. ANDRIANO, San Francisco, Cal., assignor, by mesne assignments, to Direct-Line General Telephone Company, San Francisco, Cal., a Corporation. Filed Aug. 30, 1901. Serial No. 73,801.



Claim.—1. In a telephone system, having the stations interconnected by line-wires and switching devices, the following instrumentalities in combination, viz., a source of electrical energy, a telephone instrument connected with one pole thereof, a switching device, means for connecting the telephone instrument with the switching device whenever such instrument is taken down for use, and means controlled by the switching device for making connection between the other pole of the source of energy and another line leading to the selected station, substantially as set forth.

2. In a telephone system having stations interconnected by line-wires that have terminal contacts at the stations, and switching devices that engage with such contacts, the following instrumentalities for each station, namely, a battery, a telephone instrument connected with one side of the battery, a switching device arranged by adjustment to be brought into connection with the contact of a line leading to another station, means connecting the said switching device with the telephone instrument when it is desired to use the latter, and means controlled by the switching device for connecting the other side of the battery with the contact of the line individual to the station when the switching device is removed therefrom, whereby when the switching devices at two stations are each connected respectively with the line individual to the other station a complete metallic circuit is established uniting the batteries at the local stations in series, substantially as set forth.

3. In a telephone system, stations each having a local circuit including a battery and a telephone instrument, a switching device, for connecting the station with another selected station, comprising contact-points that are terminals of the lines leading to other stations in the system and a movable contact to which one side or terminal of the local circuit of the station is connected when the parts are in position for talking, and circuit-closing means controlled by the movable contact of the switch and operating to connect the other side or terminal of the local circuit to the line individual to its own station when the movable contact has been moved away from its home contact to make connection with another station, substantially as set forth.

4. A telephone system having stations connected by line-wires and individual switching devices containing contact-points for said lines and a movable contact, a local circuit at each station including a battery, both sides or poles of which are normally disconnected from any of the line-wires when the parts of the apparatus at the station are in their normal positions of rest, circuit-closing means for connecting at will one side of the battery to the line of the station, and a second circuit-closing means adapted by adjustment to connect the other side of the battery to the line of another station through the switching device.

5. In a telephone system having stations connected through line-wires and switching devices, the combination, at each station, of a local circuit including a battery, a switching device to which one side of the local circuit is connected, and means for connecting the other side of the local circuit to the line of the station, comprising a circuit-closing device operated by the movement of the station switching device to disconnect such circuit from the line while the switching device is resting on the line terminal of the station, and to connect the circuit to the line whenever the switch is set to the line-terminal of another station.

6. In a telephone system, stations having each a local circuit including a transmitter, an induction-coil and a battery, a switching device containing stationary switch-points for the lines of all the stations and a movable contact to which one side of the local circuit of the station is connected, and circuit-closing means in the connection between the other side of the local circuit and the switching device, operating by the adjustment of the movable member thereof to connect that side of the local circuit to the line of the station, said connection being broken by the circuit-closing means when the switch is normally resting on its own line.

7. In an interconnecting system of transmitting and receiving telephone-stations, a local circuit including a battery, a transmitter connected to one side of the battery, and an induction-coil having its primary windings connected to the other side, a switching device containing stationary switch-points providing terminals for the lines of all the stations interconnected through said switch and a movable contact to which the transmitter side of the battery-circuit is connected, and a circuit-closing device adapted to connect the primary windings of the induction-coil to the line of its own station when the movable contact of the switch is set to the line of another station, said switching and circuit-closing devices being adapted by such adjustment to connect the local-battery circuit to the line of the station and to that of the other selected station in a metallic loop having the transmitter and the primary windings of the induction-coil at each station connected in series with those of the opposite station.

8. In a telephone system, the combination with a plurality of stations, each interconnected through line-wires and switching mechanism, of a talking-circuit at each station comprising a battery, an induction-coil, a telephone instrument, and means controlled by the switching mechanism for closing the talking-circuit to the line of the station when the switching mechanism is operated to connect with another station.

9. In a telephone system having stations connected through line-wires and switching devices, the combination of the local talking-circuit, and means for connecting one side of the local circuit to the line of that station, comprising a circuit-closing device operated by the movement of the station switching device to disconnect the said local circuit from the line while the switching device is resting on the line-terminal of the station, and to connect that circuit to the line when the switch is set to the line-terminal of another station.

10. In a telephone system having stations connected through line-wires and switching devices, the combination of the local talking-circuits, batteries, one for each local circuit, and means for connecting one side of the local circuit to the line of that station, comprising a circuit-closing device operated by the movement of the station switching device to disconnect the said local circuit from the line while the switching device is resting on the line-terminal of the station, and to connect that circuit to the line when the switch is set to the line-terminal of another station.

11. In a telephone system, line-wires terminating at stationary contacts at the local station, switching devices at the stations each having a movable contact adapted to engage with the said stationary contacts, the local talking-circuits each connected on one side with the movable contact of the switching device, and on the other with the individual line of that station, and a circuit-breaker in the last said connection arranged to be operated to open the circuit when the movable contact is on its home contact and to close the circuit when it is moved therefrom.

12. In a telephone system, line-wires interconnecting the stations, switching devices at the stations for connecting the local circuits with the line-wires, batteries one for each station, both sides or poles of which are normally disconnected from any of the line-wires when the parts of the apparatus at the station are in their normal positions of rest, and means at each station for connecting one side of the local circuit to one of the line-wires and the other side of the local circuit to the other line-wire between two selected stations when such stations are connected through their respective switching devices, whereby the line-wires of the two stations thus connected will complete a metallic circuit uniting them, the batteries for the stations being included in said circuit in series.

13. In a telephone system, wherein the stations are interconnected by means of line-wires having terminals at the stations, and switches at the stations for making contact with any selected one of the said terminals, the following instrumentalities at each station, namely, a local calling device or signal; means for connecting the signal with one side of the source of electric energy, a make-and-break device with one contact of which the signal is connected when the station is not connected for conversation, including the selecting-switch of the local station, and connections with the other side of the source of electric energy and the second contact of the make-and-break device, substantially as set forth.

14. In a telephone system, stations interconnected by means of line-wires and switches at the stations, a local calling and signaling circuit at each station connected on one side with a source of electric energy, and means for connecting the other side of such circuit with the remaining side of the source of energy through the movable mem-

ber of the switch of one of the connected stations, the line-wire individual to the other connected station and a connection at the latter station independent of the movable member of its switch, but controlled thereby, being open when the station is not busy and closed when connection is made with the line of another station.

15. In a telephone system, the line-wires between the stations terminating at contacts at the local stations, switching devices at the stations, each having a movable contact for engaging the terminal contacts, local calling and signaling circuits, each local circuit being normally connected with a movable contact of the switch of that station, and a connection between the line individual to each station and the source of energy for the calling-circuit, including a circuit making and breaking device that is opened when the movable contact is on the home terminal contact and is closed when it is moved off therefrom, substantially as set forth.

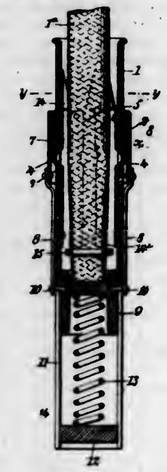
16. In a telephone system, individual line-wires connecting the stations, switching devices at each station arranged by adjustment to connect with a line individual to another station, a local signaling and calling circuit at each station, each circuit being connected on one side with a source of energy and on the other side connected with the movable member of the switch of its station, and connections at each station between the opposite side of the source of energy and the line individual to that station, the latter connections being controlled by the movable member of the switch, being opened or broken when the switch is on the contact of the line individual to that station and closed when the switch is moved off such contact, substantially as set forth.

17. In a telephone system, the line-wires between the stations terminating at stationary contacts at the local stations, switching devices at the stations each having a movable contact for engaging with the said stationary contacts, the local ringing-circuits, each normally connected on one side with the movable contact of the switching device and on the other with one side of the source of energy, a circuit making and breaking device in the first-mentioned connection, a connection between the opposite side of the source of energy and the movable contact arranged to be closed by the said circuit making and breaking device when it is operated to break the normal connection with the local calling-circuit, and another connection between such side of the source of energy and the line individual to the station arranged to be closed when the movable contact is moved off the home contact, but to be opened when the movable contact is at rest thereupon, whereby the station called can cause a second signal by moving the movable contact upon the stationary contact of the line of the calling-station.

841,479. WHIP-SOCKET. THOMAS ARMSTRONG, Saranac, N. Y. Filed June 14, 1906. Serial No. 321,643.

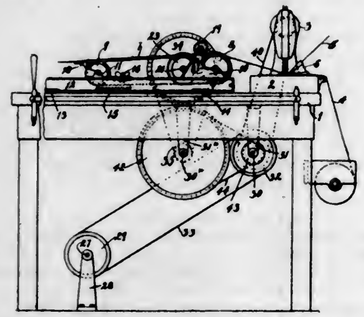
Claim.—1. A whip-socket comprising a tubular member slotted at its lower portion and having openings above said slots, spring yielding retaining devices arranged in the socket and having curved portions for passing into the said openings, a collar slidable on the socket and having an interior annular shoulder for engaging with said curved portions, a plunger in the socket, arms extended from the collar, pins passing through said slots for connecting the arms with the plunger, and a spring with which the plunger engages.

2. A whip-socket comprising a tubular member having opposite slots at its lower portion, and also having openings above said slots, retaining devices consisting of spring metal having curved portions for extending into said openings, a collar movable lengthwise on the socket and having an annular shoulder for engaging with said curved portions, the upper ends of said retaining devices having laterally-disposed wing portions, a plunger movable in the socket, arms extended downward from said collar, pins passing through the slots for connecting the arms with the plunger, a spring engaging with the plunger, a rack-bar attached to the collar and extended downward therefrom, and a spring-pressed locking-bolt for engaging with the teeth of the rack-bar.



3. A whip-socket comprising a socket member having openings near its upper end, spring members secured in the socket and having outwardly-extended portions for passing into said openings, a collar slidable lengthwise on the socket, the interior lower portion of said collar being enlarged, a spring-pressed plunger movable in the socket, arms extended downward from the collar and having connection with said plunger, a ring on the whip-stock, and means for locking the plunger and collar in lowermost position.

841,480. FABRIC WITHDRAWING OR FEEDING MEANS FOR SEWING-MACHINES. HENRY H. BATES, Newburg, N. Y. Filed May 13, 1904. Serial No. 207,726.



Claim.—In combination, a sewing-machine, an endless belt for leading the material therefrom, a common drive for the two, and a slip connection between the drive and belt comprising a friction drive-pulley and a friction driven pulley.

841,481. REVERSING-ECCENTRIC. ELLSWORTH BELKNAP, Polo, Ill. Filed Dec. 26, 1905. Serial No. 293,282.

Claim.—1. In a reversing-eccentric, the combination of a hollow driving-shaft, a slidable rod endwise movable in the hollow shaft, an eccentric-hub on the shaft, a cam-disk on the hub, a connection between the eccentric-hub and the endwise-slidable rod, and means for moving the rod, substantially as described.

2. In a reversing-eccentric, the combination of a hollow driving-shaft, a slidable rod endwise movable on the shaft, an eccentric-hub on the shaft and having in its body a spirally-curved slot, a cam-disk on the hub, a pin carried by the slidable rod and engaging the slot of the eccentric-hub, and means for moving the rod, substantially as described.

3. In a reversing-eccentric, the combination of a hollow driving-shaft, a slidable rod endwise movable on the shaft, an eccentric-hub on the shaft and having in its body a spirally-curved slot, a cam-disk on the hub, a pin carried by the slidable rod and engaging the slot of the eccentric-hub, and a lever connected with the slidable rod for moving the rod endwise in both directions, substantially as described.

4. In a reversing-eccentric, the combination of a hollow driving-shaft, a slidable rod endwise movable in the hollow shaft, an eccentric-hub on the shaft, a cam-disk on the hub, a connection between the eccentric-hub and the endwise-slidable rod, means for moving the rod, a disk fixedly attached to the driving-shaft, a crank-pin on the disk, a cylinder having a piston actuated by fluid-pressure, a valve controlling the induction and eduction of pressure, and a connection between the valve and the cam-disk for reversing the engine by changing the position of the eccentric-hub and cam-disk, substantially as described.

5. In a reversing-eccentric, the combination of a hollow driving-shaft, a slidable rod endwise movable in the hollow shaft, an eccentric-hub on the shaft, a cam-disk on the hub, a connection between the eccentric and the endwise-slidable rod, means for moving the rod, compound cylinders set at an angle, valves controlling the induction and eduction of pressure into and from the cylinders, a disk fixedly attached to the driving-shaft, a crank-pin on the disk, and a connection between the cam-disk and the valves of the cylinders, substantially as described.

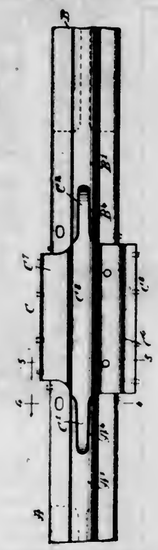
6. A reversing-eccentric, consisting of a hollow shaft adapted for connection with the piston of a fluid-pressure cylinder, a slidable rod endwise movable in the hollow shaft, an eccentric-hub on the shaft and having in its body a curved slot, a cam-disk on the hub, a pin carried by the slidable rod and entering the curved slot of the eccentric-hub, and means for moving the slidable rod endwise in both directions, substantially as described.

7. A reversing-eccentric, consisting of a hollow shaft adapted for connection with the piston of a fluid-pressure cylinder, a slidable rod endwise movable in the hollow shaft, an eccentric-hub on the shaft and having in its body a curved slot, a pin carried by the slidable rod and entering the curved slot of the eccentric-hub, and a lever connected with the slidable rod for moving the rod endwise in both directions and shifting the position of the eccentric, substantially as described.

841,482. RAIL-JOINT. ANNA E. BOMAN, Fargo, N. D. Filed July 25, 1906. Serial No. 327,662.

Claim.—1. A rail-joint, comprising adjacent rails having a portion of the tread thereof cut away, and having the tread recessed longitudinally adjacent to the cut-away portion, the web of one rail having a transverse dovetail opening and the other a dovetail tongue fitting loosely in the opening, and a connecting-piece having a tread fitting the cut-away portion of the rails, and provided at each end with tongues engaging the recesses, and downwardly-extending sides fitting on each side of the web of the rails, said sides having a flange fitting over the edge of the rail and provided with spike-receiving openings.

2. A rail-joint, comprising adjacent rails having portions of the tread thereof removed and having the tread adjacent to the cut-away portion recessed longitudinally, the web of one of the rails having a transverse opening at the end, and the web of the other rail having a tongue projecting from its end and loosely fitting the said recess, and a connecting-piece having a tread fitting in the cut-away portions, and sides depending upon each side of the webs of the rails and tongues extending from the ends of the tread and fitting the longitudinal recesses whereby to render the adjacent rails continuous.



3. A rail-joint, comprising adjacent rails having a portion of the tread thereof removed, the web of one rail having a dovetail transverse opening, and the web of the other rail having a transverse dovetail tongues fitting loosely in the opening whereby to prevent a longitudinal separation of the ends of the rails, and a connecting-piece having a tread fitting the cut-away portion of the rails and sides depending upon each side of the webs of the rails.

841,483. TURBINE. JOHN G. CALLAN, Lynn, Mass., assignor to General Electrical Company, a Corporation of New York. Filed Aug. 1, 1905. Serial No. 272,215.

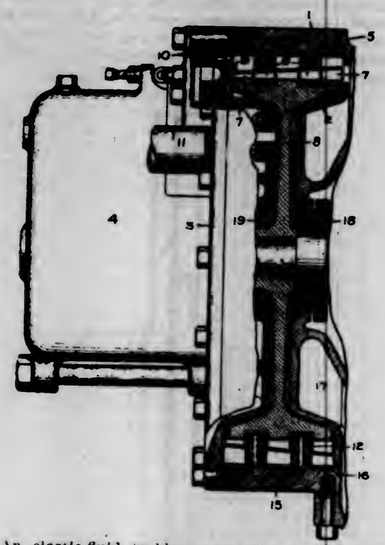
Claim.—1. In an elastic-fluid turbine, the combination of a set of moving buckets, a fluid-discharging device, a second set of buckets arranged in the form of a ring, a support for the ring, and a means for expanding the ring and causing it to engage the casing.

2. In an elastic-fluid turbine, the combination of a bucket-wheel, a casing therefor, one or more segmental rows of intermediate buckets which direct motive fluid against the wheel-buckets, one or more blank walls which connect the adjacent ends of the segmental rows to cut down rotation losses, and a removable drum that is located within and engages the wheel-casing to which the intermediate buckets and walls are secured.

3. In an elastic-fluid turbine, the combination of a bucket-wheel, a casing therefor, one or more rows of intermediate buckets which direct motive fluid against the wheel-buckets, a divided drum which carries the intermediate buckets, and means for securing the parts of the drum in place.

4. In an elastic-fluid turbine, the combination of a bucket-wheel, a casing therefor, one or more rows of intermediate buckets which direct motive fluid against the wheel-buckets a drum, means for attaching the intermediate buckets to the drum, and a device for expanding the drum to hold it in place within the casing.

5. An elastic-fluid turbine comprising a bucket-wheel, intermediate buckets, and an inclosing casing, in combination with a support for the intermediate buckets which is located between the periphery of the wheel and the casing, and a device for expanding the support to secure it in place.



6. An elastic-fluid turbine comprising a wheel having rows of peripheral buckets, intermediate buckets arranged in rows and located in the spaces between the wheel-buckets for conveying motive fluid from one to the other, an inclosing casing, a removable end for the casing, a split drum for the intermediate buckets, and a means for expanding the drum to hold it in place, the drum and casing being capable of relative axial movement to expose the wheel when the end is removed and the said means released.

7. An elastic-fluid turbine comprising a bucket-wheel, intermediate buckets arranged in one or more segmental rows and located in the spaces between the wheel-buckets for conveying motive fluid from one to the other, one or more blank walls which connect the adjacent ends of the segmental rows of intermediate buckets and are located in close proximity to the wheel-buckets to reduce rotation losses, and a removable support located within and separate from the casing which is common to the intermediate buckets and the blank wall or walls.

8. An elastic-fluid turbine comprising a bucket-wheel, intermediate buckets for conveying motive fluid from one to the other, one or more blank walls which connect the adjacent ends of the segmental rows of intermediate buckets and are located in close proximity to the wheel-buckets to reduce rotation losses, a split drum located within and separate from the casing which is common to the intermediate buckets and the blank wall or walls, and a means for expanding the drum.

9. An elastic-fluid turbine comprising wheel and intermediate buckets, an inclosing casing, in combination with, one or more blank walls which connect the intermediates, the said walls being separated from the wheel-buckets by a clearance substantially the same as that between the relatively rotating buckets, and a support common to the intermediates and walls which is independent of the casing.

10. An elastic-fluid turbine comprising wheel and intermediate buckets, in combination with one or more blank walls connectiong the ends of the intermediate buckets and located between adjacent rows of wheel-buckets to reduce rotation losses of the idle buckets, and an inclosing casing, the walls of which are situated in close proximity to the idle wheel-buckets to further reduce rotation losses.

11. An elastic-fluid turbine comprising wheel and intermediate buckets, in combination with one or more blank walls connecting the ends of the intermediate buckets and located between adjacent rows of wheel-buckets to reduce rotation losses of the idle buckets, and an inclosing casing, the walls of which are situated in close proximity to the idle wheel-buckets and also follow the contour of the body of the wheel to further reduce the rotation losses and cut down the free space within the casing to a minimum.

12. An elastic-fluid turbine comprising wheel and intermediate buckets, and a casing, in combination with a support for the intermediates that also acts as a device for separating moisture from the motive fluid.

13. An elastic-fluid turbine comprising a bucket-wheel, means for admitting motive fluid thereto to produce rotation, and an inclosing casing, in combination with a device for separating liquid particles from the motive fluid which comprises a curved perforated member located between the wheel and the walls of the casing.

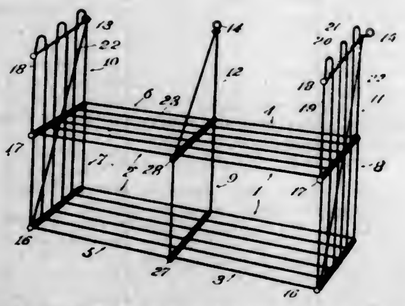
14. An elastic-fluid turbine comprising a bucket-wheel, means for admitting motive fluid thereto to produce rotation, and an inclosing casing, in combination with a device for separating liquid particles from the motive fluid which comprises a member which is curved to conform to the shape of the wheel and is provided with perforations registering with the clearances between the relatively movable buckets.

15. An elastic-fluid turbine comprising a bucket-wheel, intermediate buckets located between the wheel-buckets for directing motive fluid from one row to another, and an inclosing casing, in combination with a drum which carries the intermediates and is itself in frictional engagement with the casing so that when the relatively movable parts contact the buckets and the drum will be automatically adjusted.

16. An elastic-fluid turbine comprising a bucket-wheel, intermediate buckets located between the wheel-buckets for directing motive fluid from one row to another, and an inclosing casing, in combination with a drum which carries the intermediates and is itself in frictional engagement with the casing so that when the relatively movable parts contact the buckets will be automatically adjusted, and means for varying the amount of friction existing between the casing and drum.

17. An elastic-fluid turbine comprising a bucket-wheel, a means admitting motive fluid thereto to produce rotation, and an inclosing casing, in combination with intermediates arranged in rings and located between the wheel-buckets, and means for expanding the rings and causing them to assume a true circle in contact with an outside support.

841,484. COLLAPSIBLE WALL-SHELF. ELEANOR A. CAMPBELL, Hollywood, Cal. Filed Oct. 2, 1905. Serial No. 280,866.



Claim.—1. End and intermediate uprights and parallel horizontal shelf members hinged to and connecting the uprights, the hinge-pivots being at right angles to the uprights.

2. End and intermediate uprights, parallel horizontal shelf members hinged to said uprights, and means for suspending the uprights, the hinge-pivots being at right angles to the uprights.

3. Two sets of parallel shelves, an upright to which both sets of shelves are hinged at one end of said shelves on opposite sides of the upright, upright end members hinged to the shelf members, and means at the rear for suspending the uprights.

4. Two uprights, an intermediate upright, and two sets of parallel shelf members hinged to the intermediate upright on opposite sides thereof and folding downward, stops being provided to prevent the shelf members from folding upward, said two uprights being hinged respectively to the opposite ends of the said sets of shelf members.

5. Two sets of parallel shelf members; two end members extending across the ends of the shelf members, one end member being hinged to one end of one set and the other end member being hinged to one end of the other set: and an intermediate member extending across the other ends of both sets of shelf members and hinged thereto:

6. Two sets of parallel shelf members; two end members extending across the ends of the shelf members, one end member being hinged to one end of one set and the other end member being hinged to one end of the other set; and an intermediate member extending across the other ends of both sets of shelf members and hinged thereto, stops being provided for preventing the shelf members from folding upward at the intermediate member.

7. Two sets of parallel shelf members; two end members extending across the ends of the shelf members, one end member being hinged to one end of one set and the other end member being hinged to one end of the other set; an intermediate member extending across the other ends of both sets of shelf members and hinged thereto, and eyes connected with the end and intermediate members at one edge thereof.

8. Two sets of parallel shelf members; two end members extending across the ends of the shelf members, one end member being hinged to one end of one set and the other end member being hinged to one end of the other set, an intermediate member extending across the other ends of both sets of shelf members and hinged thereto, and eyes connected with the end and intermediate members at one edge thereof and extending transverse thereto.

9. Two sets of parallel shelf members; two end members extending across the ends of the shelf members, one end member being hinged to one end of one set and the other end member being hinged to one end of the other set, an intermediate member extending across the other ends of both sets of shelf members and hinged thereto, upward extensions being provided for the end and intermediate members, and means on said upward extensions for securing the same to a wall.

10. Wall-shelves comprising two end members, and shelf members hinged to the end members and connected together intermediately by a hinge-joint constructed to prevent the shelf members from folding upward toward each other.

11. Wall-shelves comprising two end members, shelf members hinged to the end members and connected together intermediately by a hinge-joint constructed to prevent the shelf members from folding upward toward each other, and supports connected with the end members and the intermediate joint.

12. Wall-shelves formed of wire and comprising pintles arranged in pairs; standards secured to one of said pairs; standards secured to another of said pairs; and wires provided with end coils and connected with the pintles to form shelves extending between the standards, the intermediate portion of the shelves being formed by pintles and end coils through which the pintles extend, said end coils being constructed for engagement with each other to prevent the shelf-wires from folding upward toward each other.

13. Wall-shelves formed of wire and comprising pintles arranged in pairs; standards secured to one of said pairs; standards secured to another of said pairs; wires provided with end coils and connected with the pintles to form shelves extending between the standards; the intermediate portion of the shelves being formed by pintles and end coils through which the pintles extend; and an intermediate upright connecting the intermediate pintles; said end coils being constructed for engagement with each other to prevent the shelf-wires from folding upward toward each other.

14. Wall-shelves formed of wire and comprising pintles arranged in pairs; standards secured to one of said pairs; standards secured to another of said pairs; wires provided with end coils and connected with the pintles to form shelves extending between the standards; the intermediate portion of the shelves being formed by pintles and end coils through which the pintles extend; and an intermediate upright connecting the intermediate pintles; said end coils being constructed for engagement with each other to prevent the shelf-wires from folding upward toward each other; said standards extending above the upper shelf.

15. Wall-shelves formed of wire and comprising pintles arranged in pairs; standards secured to one of said pairs; standards secured to another of said pairs; wires provided with end coils and connected with the pintles to form shelves extending between the standards; the intermediate portion of the shelves being formed by pintles and end coils through which the pintles extend; and an intermediate upright connecting the intermediate pintles; said end coils being constructed for engagement with each other to prevent the shelf-wires from folding upward toward each other; said standards extending above the upper shelf; an upward extension being provided for the intermediate upright.

16. Wall-shelves formed of wire and comprising pintles arranged in pairs; standards secured to one of said pairs; standards secured to another of said pairs; wires provided with end coils and connected with the pintles to form shelves extending between the standards; the intermediate portion of the shelves being formed by pintles, and end coils through which the pintles extend; an intermediate upright connecting the intermediate pintles; said end coils being constructed for engagement with each other to prevent the shelf-wires from folding upward toward each other; said standards extending above the upper shelf; and an extension of the intermediate upright hinged to the upper intermediate pintle.

841,485. SPINNING-SPINDLE AND BEARINGS THEREFOR. CHARLES H. CHAPMAN, Winchester, Mass. Filed July 22, 1904. Serial No. 217,686.

Claim.—1. A spindle, a bolster having a ball-bearing at its top and a ball-bearing step at its bottom to receive said spindle, and a sleeve in which said bolster is supported, and mounted to move laterally and vertically with the spindle.

2. A spindle, a bolster having a ball-bearing at its top and a ball-bearing step at its bottom to receive the spindle, and a sleeve in which said bolster is supported, and mounted to move laterally and vertically with the spindle, said sleeve engaging the bolster so as to prevent it from rotating with the spindle.

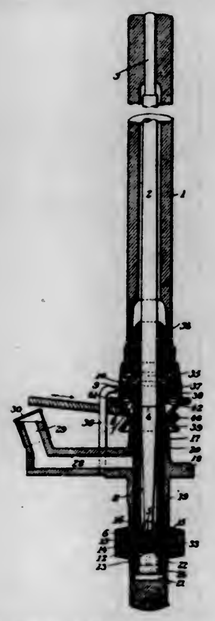
3. A spindle, having a ball-bearing bolster and a ball-bearing step therein, a contracted cylindrical sleeve-whirl extending below the bolster ball-bearing and encircling the bolster, the spindle, bearings, bolster and the sleeve-whirl all constructed to move together laterally and vertically, and means to limit their vertical movement.

4. A spindle, having a ball-bearing bolster and a ball-bearing step in said bolster, and a supporting-sleeve therefor, mounted to have a limited movement both laterally and vertically with the spindle, and means for adjusting the bolster and step bearings.

5. A spindle, having a ball-bearing bolster, a ball-bearing step in said bolster, a supporting-sleeve therefor, having a limited movement both laterally and vertically with the spindle, and means for adjusting the bolster and step bearings and positively locking the adjustment.

6. A spindle, having a contracted cylindrical sleeve-whirl, a bolster in which said spindle is stepped, and having a ball-bearing inclosed by said sleeve-whirl, and includ-

ing a cone on the spindle having a laterally-extending ledge adapted both to retain and lubricate the balls and to limit the upward flow of oil due to the centrifugal force of the spindle.



7. A spindle, a bolster, a ball-bearing step adjustably arranged in said bolster and supporting the lower end of the spindle, and a collar on the lower end of the spindle to facilitate the assembling of the step-bearing.

8. A bolster, a bolster-case, a spindle, a spindle-step in said bolster, and a spirally-wound sleeve suspended within said bolster-case and having its lower end combined with and adapted to receive and yieldingly hold the bolster and its contained spindle.

9. A bolster, a bolster-case, a spindle, a spindle-step in said bolster, and a spirally-wound spring-sleeve suspended within said bolster-case and capable of both vertical and lateral yielding movements, combined with and adapted to receive and yieldingly sustain the bolster and its contained spindle.

10. A spindle, a bolster, a bolster-case, ball-bearings adjustably arranged within said bolster, a surrounding sleeve in which the bolster is supported and adapted to move vertically up and down, said sleeve yieldingly held in the bolster-case, all combined substantially as described.

11. A spindle, having a contracted cylindrical sleeve-whirl, a ball-bearing bolster and a ball-bearing step in said bolster, and a bolster-supporting sleeve having a limited movement laterally and vertically with the spindle.

12. A sleeve-whirl, and a spindle, a ball-bearing bolster and a ball-bearing step in said bolster, and a sleeve supporting said bolster and adapted to move vertically and laterally, and means to limit the upward movement of the spindle.

13. A spindle, a bolster in which the spindle is supported, a bolster-case, and a bolster-support secured to the bolster-case and also engaging the bolster at its upper end and free from contact with the bolster-case at its lower end.

14. A spindle, a bolster in which the spindle is supported, a bolster-case, and a bolster-support secured to the bolster-case and also engaging the bolster at its upper end and at its lower end and free from contact with the bolster-case at its lower end.

15. A spindle, a bolster in which it is supported, a bolster-case, and a longitudinally-yielding sleeve surrounding the bolster and engaging the bolster-case at its upper end and clear of the walls of the bolster-case at its lower end.

16. A spindle, a bolster in which it is supported, a bolster-case, and a longitudinally-yielding sleeve surrounding the bolster and engaging the bolster-case at its upper end and clear of the walls of the bolster-case at its lower end and also engaging the bolster at its lower end.

17. A spindle, having a contracted cylindrical sleeve-whirl, a ball-bearing bolster whose upper end is inclosed by said sleeve-whirl, a sleeve supported at its upper end and free at its lower end and engaging the bolster at both ends, whereby the bolster is adapted to move laterally with its contained parts and is restrained from rotating with the spindle.

18. The bolster-base, provided with a flexible spring-sleeve, combined with a spindle, a ball-bearing bolster and a ball-bearing step therein.

19. The bolster-base, provided with a spirally-wound spring-sleeve, a ball-bearing bolster supported in said sleeve, and a step-bearing in said bolster, combined with a spindle.

20. A spindle, a bolster-base, provided with a laterally and longitudinally movable flexible sleeve, a ball-bearing bolster, and a step-bearing in said bolster, said bolster mounted in and supported by said sleeve, and means for preventing the bolster from rotating.

21. A spindle, a bolster-base, provided with a laterally and longitudinally movable flexible suspended sleeve, a bolster in said sleeve, and means to positively restrain said bolster from rotating, said bolster having a limited vertical movement.

22. A spindle, a cone fixed thereon and having an upwardly-flaring oil-feeding ledge, a bolster surrounding said spindle and cone loosely, a bolster-cup fixed to said bolster, and bearing-balls supported upon the cone above the ledge and interposed between the cone and the bolster-cup.

23. A spindle, having a conical end, a collar fixed above such end, a bolster for the spindle, a step fixed in the end of said bolster and adapted to receive the conical end of the spindle, and bearing-balls arranged in said step and surrounding said conical end.

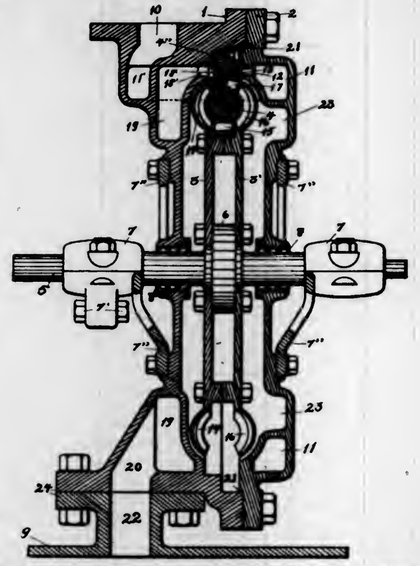
24. A spindle, a bolster-case, a sleeve suspended within said case, a bolster held within said sleeve against rotation and having a flaring upper end, a bolster-cup secured in said flaring upper end, a cone fixed on the spindle, bearing-balls interposed between the cone and the bolster-cup, a step in the lower end of said bolster, and bearing-balls in said step and surrounding the lower end of the spindle.

25. A spindle, a bolster-case, a sleeve suspended within said case, a bolster held within said sleeve and having a flaring upper end, a bolster-cup secured in said flaring upper end, a cone fixed on the spindle, bearing-balls interposed between the cone and the bolster-cup, a step in the lower end of said bolster, bearing-balls in said step and surrounding the lower end of the spindle, and means applied to said sleeve to positively restrain the step and bolster from rotating.

26. A spindle, a bolster therefor having a transverse nick in its bottom, a ball-bearing step in the bottom of said bolster provided with series of transverse nicks, a sleeve supporting said bolster, and a locking-clip fixed to said sleeve and adapted to engage any desired one of the nicks in the step and the nick in the bolster to prevent any change of the adjustment of the step or rotation of the bolster.

841,486. ELASTIC-FLUID TURBINE. CHARLES W. DAKE, Grand Rapids, Mich. Filed Nov. 29, 1905. Serial No. 289,658.

Claim.—1. In an elastic-fluid turbine, the combination of the casing 1, supported by a suitable flange 24 on a base 22, having an annular exhaust-chamber connected by passages 19, 20 and 22 with said base; a casing-cover 2, suitably joined to the said casing; an inlet-passage 10; a passage 11′ connecting to an annular supply-passage 11 in the casing-cover; a shaft 5 with a suitable flange axially arranged in said casing and supported in suitable bearings supported by a bracket 7″ to the said casing and casing-cover with means for longitudinally adjusting said shaft; a flange on the shaft; a turbine-wheel consisting of two halves bolted to the said flange and bolted to each other and having oppositely-faced rows of curved buckets formed to be actuated by the impact of a steam-jet and the reaction therefrom; nozzle and guide passage blocks 4 secured to the casing 1, and containing an inlet-passage 12 leading to a nozzle 13 delivering at the outer side of buckets 14; recurved passages 15 leading from the inner ends of the buckets 14 to the inner ends of the buckets 16; recurved passage 17 leading from the outer end of the buckets 16 to the outer ends of the buckets 14; a recurved guide-passage 15 leading to the inner sides of the buckets 16; an exit-passage 18′ leading from the outer sides of the buckets 16 to the exhaust-passage 19, coacting substantially as described and for the purpose specified.



2. In a turbine-engine, the combination of oppositely-faced curved rows of buckets curving in the same direction to receive impulse from the impact of a jet of steam and from the reaction thereof; an intermediate nozzle and guiding passage block provided with a nozzle leading to the outer end of one row of said buckets; recurved guide-passages connecting the inner sides of the opposite rows of said buckets; and recurved guide-passage connecting the outer sides of the said opposite rows of buckets; suitable exhaust-passages leading therefrom, all coacting as specified.

3. In an elastic-fluid turbine-engine, the combination of a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles 13 through the passages 12; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through the said casing with longitudinally-adjustable bearings, with a water seal at the sides of the casing for embracing the said shaft; a flange 6 on the said shaft; a turbine-wheel consisting of disks 3 3′ secured to the opposite sides of said flange, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side and is reacted upon by the exit of the fluid at the opposite side; fluid-chambers embracing the sides of said wheel, to insure even distribution of temperature and consequent even expansion; nozzle and guide passage blocks 4 secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozzle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 for conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16; a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14 whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheels; and an exhaust-passage 18 leading from the outer side of the bucket 16 to the exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13 sufficiently to permit one or more circulations through the buckets of the fluid before it exhausts from the engine, all coacting for the purpose specified.

4. In an elastic-fluid turbine-engine, the combination of a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through the said casing with longitudinally-adjustable bearings, with a water seal at the sides of the casing for embracing the said shaft, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side and is reacted upon by the exit of the fluid at the opposite side; fluid-chambers embracing the sides of said wheel; to insure even distribution of temperature and consequent even expansion; nozzle and guide passage blocks 4 secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozzle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 for conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16, a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14, whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheel; and an exhaust-passage 18 leading from the outer side of the bucket 16 to the exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13 sufficiently to permit one or more circulations through the buckets of the fluid before it exhausts from the engine, all coacting for the purpose specified.

5. In an elastic-fluid turbine-engine, the combination of a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles 13 through the passages 12; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through said casing with longitudinally-adjustable bearings, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side and is reacted upon by the exit of the fluid at the opposite side; fluid-chambers embracing the sides of said wheel, to insure even distribution of temperature and consequent even expansion; nozzle and guide passage blocks 4 secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozzle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 for conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16; a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14; a recurved guide-passage 15 leading from the outer side of the buckets 16 to the inner side of the buckets 14, whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheel; and an exhaust-passage 18 leading from the outer side of the bucket 16 to the exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13 sufficiently to permit one or more circulations through the buckets of the fluid before it exhausts from the engine, all coacting for the purpose specified.

6. In an elastic-fluid turbine-engine, the combination of a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through the said casing with longitudinally-adjustable bearings, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their

faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side and is reacted upon by the exit of the fluid at the opposite side; fluid-chambers embracing the sides of said wheel, to insure even distribution of temperature and consequent even expansion; nozzle and guide passage blocks 4 secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozzle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 for conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16; a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14 whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheel; and an exhaust-passage 18 leading from the outer side of the bucket 16 to the exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13 sufficiently to permit one or more circulations through the buckets of the fluid before it exhausts from the engine, all coacting for the purpose specified.

7. In an elastic-fluid turbine-engine, the combination of a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles 13 through the passages 12; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through the said casing with longitudinally-adjustable bearings, with a water seal at the sides of the casing for embracing the said shaft, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side and is reacted upon by the exit of the fluid at the opposite side; nozzle and guide passage blocks 4 secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozzle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16; a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14 whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheel; and an exhaust-passage 18 leading from the outer side of the bucket 16 to the exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13 sufficiently to permit one or more circulations through the buckets of the fluid before it exhausts from the engine, all coacting for the purpose specified.

8. In an elastic-fluid turbine-engine, the combination of a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through said casing with longitudinally-adjustable bearings, with a water seal at the sides of the casing for embracing the said shaft, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side and is reacted upon by the exit of the fluid at the opposite side; nozzle and guide passage blocks 4 secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozzle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 for conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16; a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14 whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheel; and an exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13 sufficiently to permit one or more circulations through the buckets of the fluid before it exhausts from the engine, all coacting for the purpose specified.

9. In an elastic-fluid turbine-engine, the combination of a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through the said casing with longitudinally-adjustable bearings, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side and is reacted upon by the exit of the fluid at the opposite side; nozzle and guide passage blocks 4 secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozzle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 for conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16; a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14 whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheel; and an exhaust-passage 18 leading from the outer side of the bucket 16 to the exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13, all coacting for the purpose specified.

10. In an elastic-fluid turbine-engine, the combination of a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles 13 through the passages 12; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through the said casing with longitudinally-adjustable bearings, with a water seal at the sides of the casing for embracing the said shaft, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side and is reacted upon by the exit of the fluid at the opposite side; fluid-chambers embracing the sides of said wheel, to insure even distribution of temperature and consequent even expansion; nozzle and guide passage blocks 4 secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozzle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 for conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16; a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14 whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheel; and an exhaust-passage 18 leading from the outer side of the bucket 16 to the exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13 sufficiently to permit one or more circulations through the buckets of the fluid before it exhausts from the engine, all coacting for the purpose specified.

11. In an elastic-fluid turbine-engine, the combination of a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through the said casing with longitudinally-adjustable bearings, with a water seal at the sides of the casing for embracing the said shaft, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side and is reacted upon by the exit of the fluid at the opposite side; fluid-chambers embracing the sides of said wheel, to insure even distribution of temperature and consequent even expansion; nozzle and guide passage blocks 4 secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozzle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 for conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16; a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14 whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheel; and an exhaust-passage 18 leading from the outer side of the bucket 16 to the exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13, all coacting for the purpose specified.

12. In an elastic-fluid turbine-engine, the combination of

a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles 13 through the passages 12; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through the said casing with longitudinally-adjustable bearings, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side and is reacted upon by the exit of the fluid at the opposite side; fluid-chambers embracing the sides of said wheel, to insure even distribution of temperature and consequent expansion; nozzle and guide passage blocks 4 secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozzle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 for conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16; a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14 whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheel; and an exhaust-passage 18 leading from the outer side of the bucket 16 to the exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13, all coacting for the purpose specified.

13. In an elastic-fluid turbine-engine, the combination of a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through the said casing with longitudinally-adjustable bearings, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side and is reacted upon by the exit of the fluid at the opposite side; fluid-chambers embracing the sides of said wheel, to insure even distribution of temperature and consequent even expansion; nozzle and guide passage blocks 4, secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 for conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16; a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14 whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheel; and an exhaust-passage 18 leading from the outer side of the bucket 16 to the exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13, all coacting for the purpose specified.

14. In an elastic-fluid turbine-engine, the combination of a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles 13 through the passages 12; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through the said casing with longitudinally-adjustable bearings, with a water seal at the sides of the casing for embracing the said shaft, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side and is reacted upon by the exit of the fluid at the opposite side; nozzle and guide passage blocks 4 secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozzle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 for conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16; a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14 whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheel; and an exhaust-passage 18 leading from the outer side of the bucket 16 to the exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13, all coacting for the purpose specified.

15. In an elastic-fluid turbine-engine, the combination of a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through the said casing with longitudinally-adjustable bearings, with a water seal at the sides of the casing for embracing the said shaft, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side; and is reacted upon by the exit of the fluid at the opposite side; nozzle and guide passage blocks 4 secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozzle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 for conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16; a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14 whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheel; and an exhaust-passage 18 leading from the outer side of the bucket 16 to the exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13, all coacting for the purpose specified.

16. In an elastic-fluid turbine-engine, the combination of a casing 1 with the cover 2; an annular inlet-passage 11 arranged within said casing and cover, connecting to the delivery-nozzles; an annular exhaust-chamber 19 on the opposite side of said casing; a shaft 5 arranged through the said casing with longitudinally-adjustable bearings, and having oppositely faced and curved buckets 14 and 16 on the two sides thereof, with annular grooves in their faces, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side and is reacted upon by the exit of the fluid at the opposite side; nozzle and guide passage blocks 4 secured to the said casing and arranged between the oppositely-faced buckets 14 and 16 and containing a nozzle-passage 13 delivering to the buckets 14; a recurved guide-passage 15 for conveying steam from the inner side of the buckets 14 to the inner side of the buckets 16; a guide-passage 17 delivering from the outer side of the buckets 16 to the outer side of the buckets 14 whereby the elastic fluid circulates and delivers a series of impacts to the buckets of the turbine-wheel; and an exhaust-passage 18 leading from the outer side of the bucket 16 to the exhaust-chamber in the casing, the same being arranged in advance of the inlet-passage 13, all coacting for the purpose specified.

17. In an elastic-fluid turbine, the combination of suitable casings; a shaft within the casings having suitable flanges; a turbine-wheel having disks 3 3' secured to the sides of said flange, and having oppositely faced and curved buckets 14 and 16, on the two halves thereof, with circular grooves in the face, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side, and is reacted upon by the exit of fluid at the opposite side, suitable exhaust-passages leading therefrom, for the purpose specified.

18. In a turbine-engine, the combination with a suitable casing with a shaft arranged therethrough of oppositely-faced U-shaped buckets 14 and 16 of the recurved type, whereby the jet imparts an impulse and a further impulse is imparted by the reaction of the fluid; a guide-block arranged between the oppositely-faced buckets, having nozzle-passages leading thereto and recurved guide-passages for passing the steam from the buckets of one side to the opposite side, and vice versa; and an exhaust-passage in advance of the nozzle-passage to secure the circulation of the steam through the buckets until its expansive force is utilized, coacting as specified.

19. In a turbine-engine, the combination with a suitable casing with a shaft arranged therethrough of oppositely-faced buckets 14 and 16 of the recurved type, whereby the jet imparts an impulse and a further impulse is imparted by the reaction of the fluid; a guide-block arranged between the oppositely-faced buckets, having nozzle-passages leading thereto and recurved guide-passages for passing the steam from the buckets of one side to the

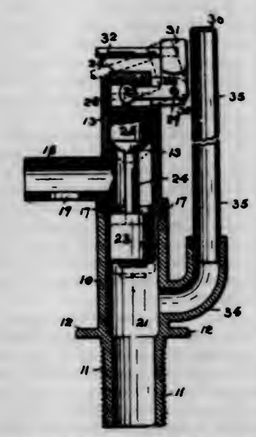
opposite side, and vice versa; and an exhaust-passage in advance of the nozzle-passage to secure the circulation of the steam through the buckets until its expansive force is utilized, coacting as specified.

20. In a turbine-engine, the combination with a suitable casing with a shaft arranged therethrough of oppositely-faced U-shaped buckets 14 and 16 of the recurved type, whereby the jet imparts an impulse and a further impulse is imparted by the reaction of the fluid; a guide-block arranged between the oppositely-faced buckets, having nozzle-passages leading thereto and recurved guide-passages for passing the steam from the buckets of one side to the opposite side, and vice versa; and an exhaust-passage in advance of the nozzle-passage to secure a circulation of the steam through the buckets, coacting as specified.

21. In a turbine-engine, the combination with a row of U-shaped recurved buckets of admission-nozzles delivering to the outer periphery thereof; and guide-passages from the inner sides thereof the discharge-outlets from the buckets being at an angle to the direction of the delivery-nozzles.

22. In an elastic-fluid turbine-engine, the combination of suitable casings; a shaft within the casings having suitable flanges, a turbine-wheel having disks 3 3' secured to the sides of said flange; and having oppositely faced and curved buckets 14 and 16 on the two halves thereof, with circular grooves in the face, each bucket being of the recurved type, whereby it receives an impact from a jet of fluid at one side, and is reacted upon by the exit of fluid at the opposite side, suitable exhaust-passages leading therefrom, a part projecting between the said buckets with recurved passages leading from the inner side of one bucket to the inner side of the opposite bucket and discharging from the outer side of said receiving-bucket, to the outer side of the opposite bucket, securing a circulation of steam which permits its expansion, as specified.

841,487. FLUSHING APPARATUS. CHARLES B. DAY, East Orange, N. J. Filed July 22, 1902. Serial No. 116,487.



Claim.—1. In a flushing apparatus, or the like, the combination, with a tank adapted to receive and contain water, said tank being provided with a tubular water-outlet movably connected with an opening in the bottom of the tank and extending to a point near the top of the tank, and means for lifting said tubular water-outlet for opening the opening in the bottom of the tank, of an inlet-valve in said casing, comprising, a tubular valve-casing having a single water-inlet at the bottom, a water-outlet near the top having a means of water connection with said tubular water-outlet of the tank, and being provided with an additional outlet for a quick delivery of water into the body of the tank, and provided with a valve-chamber between the said inlet and outlet, a valve-seat in said chamber at a point immediately below the outlet of said chamber, a valve or plug arranged against the under side of said valve-seat, a second outlet in the side of said valve-casing at a point below the said valve-seat and normally below the said valve or plug, and a tube having a closed end extending above the highest level of the water in the tank, said tube containing air and being connected at its lower end with the said second outlet for producing air-pressure upon the water against the under side of said valve or plug when in its closed relation against the under surface of the said valve-seat, substantially as and for the purposes set forth.

2. In a flushing apparatus, or the like, the combination, with a tank adapted to receive and contain water, said tank being provided with a tubular water-outlet movably connected with an opening in the bottom of the tank and extending to a point near the top of the tank, and means for lifting said tubular water-outlet for opening the opening in the bottom of the tank, of an inlet-valve in said casing, comprising, a tubular valve-casing having a single water-inlet at the bottom, a water-outlet near the top having a means of water connection with said tubular water-outlet of the tank, and being provided with an additional outlet for a quick delivery of water into the body of the tank, and provided with a valve-chamber between the said inlet and outlet, a valve-seat in said chamber at a point immediately below the outlet of said chamber, a valve or plug arranged against the under side of said valve-seat, a second outlet in the side of said valve-casing at a point below the said valve-seat and normally below the said valve or plug, and a tube having a closed end extending above the highest level of the water in the tank, said tube containing air and being connected at its lower end with the said second outlet for producing air-pressure upon the water against the under side of said valve or plug when in its closed relation against the under surface of the said valve-seat, a guide-plunger in the upper portion of the said valve-casing, above the main water-outlet in said casing, a stem connecting said plunger with the said valve, and means for causing a reciprocatory motion of said plunger and valve, substantially as and for the purposes set forth.

3. In a flushing apparatus, or the like, the combination, with a tank adapted to receive and contain water, said tank being provided with a tubular water-outlet movably connected with an opening in the bottom of the tank and extending to a point near the top of the tank, and means for lifting said tubular water-outlet for opening the opening in the bottom of the tank, of an inlet-valve in said casing, comprising, a tubular valve-casing having a single water-inlet at the bottom, a water-outlet near the top having a means of water connection with said tubular water-outlet of the tank, and being provided with an additional outlet for a quick delivery of water into the body of the tank, and provided with a valve-chamber between the said inlet and outlet, a valve-seat in said chamber at a point immediately below the outlet of said chamber, a valve or plug arranged against the under side of said valve-seat, a second outlet in the side of said valve-casing at a point below the said valve-seat and normally below the said valve or plug, and a tube having a closed end extending above the highest level of the water in the tank, said tube containing air and being connected at its lower end with the said second outlet for producing air-pressure upon the water against the under side of said valve or plug when in its closed relation against the under surface of the said valve-seat, a guide-plunger in the upper portion of the said valve-casing, above the main water-outlet in said casing, a stem connecting said plunger with the said valve, and means for causing a reciprocatory motion of said plunger and valve, consisting, essentially, of a float and a float-rod connected with said plunger, substantially as and for the purposes set forth.

4. In a flushing apparatus, or the like, the combination, with a tank adapted to receive and contain water, said tank being provided with a water-outlet having a valve-seat, a valve on said seat, and a tubular stem connected with said valve, of an inlet-valve in said casing, comprising, a tubular valve-casing having a single water-inlet at the bottom, a water-outlet near the top and provided with a valve-chamber between said inlet and outlet, said water-outlet consisting of a portion 18 provided with an opening 19 for quick delivery, and a pipe 20 connected at one end with said portion 18 and at the other end with said tubular stem of the outlet-valve in said casing, a valve-seat in the chamber of said tubular valve-casing, a valve or plug arranged against the under side of the said valve-seat, a second outlet in the side of said valve-casing at a point below the said valve-seat and normally below the said valve or plug, and a tube having a closed end extending above the highest level of the water in the tank, said tube containing air and being connected at its lower end with the said second outlet for producing air-pressure upon the water against the under side of said valve or plug when in its closed relation against the under surface of the valve-seat, substantially as and for the purposes set forth.

5. In a flushing apparatus, or the like, the combination, with a tank adapted to receive and contain water, said tank being provided with a water-outlet having a valve-seat, a valve on said seat, and a tubular stem connected with said valve, of an inlet-valve in said casing, comprising, a tubular valve-casing having a single water-inlet at the bottom, a water-outlet near the top and provided with a valve-chamber between said inlet and outlet, said water-outlet consisting of a portion 18 provided with an opening 19 for quick delivery, and a pipe 20 connected at one end with said portion 18 and at the other end with said tubular stem of the outlet-valve in the casing, a valve-seat in the chamber of said tubular valve-casing, a valve or plug arranged against the under side of the said valve-seat, a second outlet in the side of said valve-casing at a point below the said valve-seat and normally below the said valve or plug, and a tube having a closed end extending above the highest level of the water in the tank, said tube containing air and being connected at its lower end with the said second outlet for producing air-pressure upon the water against the under side of said valve or plug when in its closed relation against the under surface of the valve-seat, a guide-plunger in the upper portion of the said valve-casing, above the main water-outlet in said casing, a stem connecting said plunger with the said valve, and means for causing a reciprocatory motion of said plunger and valve, substantially as and for the purposes set forth.

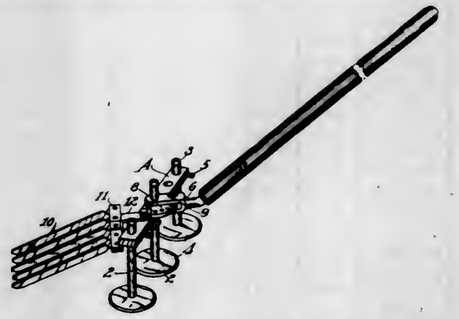
6. A flushing apparatus, or the like, comprising a tank, a water-outlet in the bottom of said tank, provided with a valve-seat, a valve-stem and a valve-disk on said stem, movably arranged above said valve-seat, a spring-clamp at one side of the tank, an oscillating spindle, having its ends arranged in the opposite sides of the tank, a lever connected with said spindle, and with said valve-stem for raising said stem and the valve-disk thereon, and a rod extending from said spindle adapted to be brought in holding engagement with said spring-clamp, for holding said stem in its raised position while the level of the water is being lowered, and means actuated by the receding water for releasing said rod from its holding engagement with said spring-clamp, consisting, of a float and a float-rod, and a link suspended from said lever having a large loop portion in which said float-rod moves and is adapted to be brought in engagement with the lower end thereof, substantially as and for the purposes set forth.

7. A flushing apparatus, or the like, comprising a tank, a water-outlet in the bottom of said tank, provided with a valve-seat, a valve-stem and a valve-disk on said stem, movably arranged above said valve-seat, a spring-clamp at one side of the tank, an oscillating spindle having its ends arranged in the opposite sides of the tank, a lever connected with said spindle, and with said valve-stem for raising said stem and the valve-disk thereon, and a rod extending from said spindle adapted to be brought in holding engagement with said spring-clamp, consisting of a float and a float-rod, and a link suspended from said lever having a large loop portion in which said float-rod moves and is adapted to be brought in engagement with the lower end thereof, substantially as and for the purposes set forth.

8. A flushing apparatus, or the like, comprising a tank, a water-outlet in the bottom of said tank, provided with a valve-seat, a valve-stem and valve-disk on said stem movably arranged above said valve-seat, a spring-clamp at one side of the tank, an oscillating spindle having its ends arranged in the opposite sides of the tank, a lever connected with said spindle and with said valve-stem for raising said stem and the valve-disk thereon, a rod extending from said spindle adapted to be brought in holding engagement with said spring-clamp, for holding said stem in its raised position while the level of the water is being lowered, means actuated by the receding water for releasing said rod from its holding engagement with said spring-clamp, consisting of a float and a float-rod, a link suspended from said lever having a large loop portion in which said float-rod moves and is adapted to be brought in engagement with the lower end thereof, and a water-inlet valve connected with said tank, the valve being connected with and operated by said float-arm, substantially as and for the purposes set forth.

9. A flushing apparatus, or the like, comprising a tank, a water-outlet in the bottom of said tank, provided with a valve-seat, a valve-stem and valve-disk on said stem movably arranged above said valve-seat, a spring-clamp, at one side of the tank, an oscillating spindle having its ends arranged in the opposite sides of the tank, a lever connected with said spindle, and with said valve-stem for raising said stem and the valve-disk thereon, a rod extending from said spindle adapted to be brought in holding engagement with said spring-clamp, for holding said stem in its raised position while the level of the water is being lowered, means actuated by the receding water for releasing said rod from its holding engagement with said spring-clamp, consisting of a float and a float-rod, a link suspended from said lever having a large loop portion in which said float-rod moves and is adapted to be brought in engagement with the lower end thereof, and a water-inlet valve connected with said tank, comprising, a casing having a valve-chamber, a slotted plunger in said casing, a valve-disk connected with said plunger, and a bell-crank pivotally connected with said casing, having one portion extending into the slotted part of said plunger, and having another portion connected with said float-rod, substantially as and for the purposes set forth.

841,488. GARDEN IMPLEMENT. WILLIAM C. DOIDGE, Lodi, Cal. Filed Apr. 5, 1906. Serial No. 310,018.



Claim.—1. A cultivator implement comprising a head, sleeves vertically adjustable therein, cutters having standards passing through the sleeves and fixed relative thereto, a handle pivoted to said head, and a rack and means whereby the angle of the head to the handle may be varied.

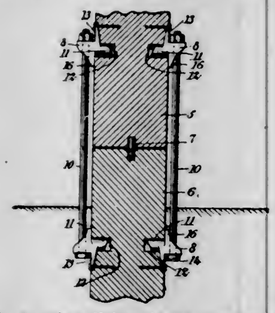
2. In an earth cultivating and clearing device, a head having vertical sleeves extending downwardly therefrom, shafts fixed within the head, and cutter-blades fixed to the lower end of the shafts to work in substantially horizontal planes, a curved segment formed upon the head, a slotted yoke and a handle secured thereto, and interlocking means whereby the head and its cutters may be set at different angles with the yoke and handle.

3. In an implement for cultivating and weeding the soil,

a head having vertically-disposed sleeves, shafts fixed within the sleeves having cutters fixed horizontally to their lower ends, means for independently adjusting the sleeves and cutters with relation to the head, a segmental rack fixed to the head, a forked yoke pivoted to the head to extend radially with relation to the rack, a handle fixed to the yoke, and means for locking the yoke to the segment at different angles with the head and its cutters.

4. In a device for cultivating and clearing the soil, a head having vertical adjustable sleeves, shafts extending therethrough with cutters fixed to the lower ends, a handle and means for varying its position with relation to the head, and a rake swiveled to said head adapted to follow the line of travel of the cutters.

841,489. POLE-SPLICING DEVICE. FRANK N. DRANE, Corsicana, Tex. Filed May 26, 1906. Serial No. 318,837.



Claim.—1. A pole-splicing device comprising clamping-blocks having bracket members provided with openings to receive bolts, lugs on said clamping-blocks for engaging in holes provided in the parts to be spliced, a bolt for passing through the upper and lower clamping-blocks, and plate-like extensions on the clamping-blocks for engaging with the members to be spliced.

2. A pole-splicing device comprising clamping-blocks having bracket members provided with openings, bolts for engaging in said openings, lugs on said blocks for engaging in holes formed in the members to be spliced, one of said members having a perforation through which a fastening-bolt or the like may pass.

3. The combination with a pole and butt, each having a hole formed in it, and a recess formed at an incline from the hole, of clamping-blocks having bracket members provided with openings, lugs for engaging in the holes in the parts to be spliced, the said lugs at the ends being inclined, plates extended from one side of the bracket portions, and inclined at the inner side to correspond to the incline of the recesses, plates extended from the opposite sides of the brackets, and bolts for passing through the openings in the brackets.

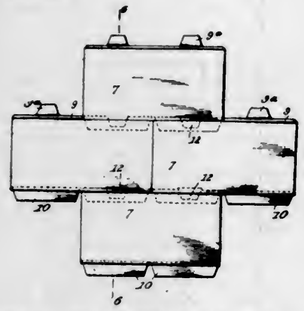
841,490. ORNAMENTAL METAL PLATE. ALFRED DU MONTIER, Washington, D. C., assignor to The American Loktile Company, Alexandria, Va. Filed Oct. 12, 1905. Serial No. 282,520.

Claim.—1. A metallic plate for the purpose stated formed at its opposite edges with straight inclined walls, one of which is inwardly inclined to extend under the plate and the other inclined downwardly and outwardly from the plate to form with adjacent plates a concealed clamping lock and joint.

2. A metallic plate for the purpose stated, formed upon opposite edges with tongues and at its opposite edges with inclined flanges one of which has its incline straight and extended under the plate as and for the purpose set forth.

3. A metallic plate for the purpose stated, formed with flanges about its different sides, the flange upon one side having straight inclined wall extended under the plate, and with tongues evenly spaced along said sides.

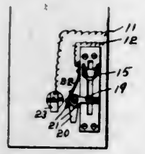
4. A metallic plate for the purposes stated, formed with flanges one of which has an inwardly-inclined straight wall extended under the plate and the other flange inclined straight downwardly and outwardly from the plate and with tongues projecting from said flanges and evenly spaced about the four sides thereof, with no two tongues directly adjacent.



5. A metallic plate formed with flanges, one of which has an inwardly-inclined straight wall extended under the plate and the other flange inclined straight outwardly from the plate and with tongues projecting therefrom and evenly spaced with a space between each two tongues, the opposite edges of said plate being constructed to form with adjacent plates under-inclined locking-joints.

6. As an improved article of manufacture, an enameled metallic plate formed at its opposite sides with flanges each having an inclined wall, one of which is under-inclined, and tongues projecting from the outer edges of said flanges to support and extend beneath the adjacent edge of an adjoining tile and to form therewith undercut engaging edges and a concealed clamping slide lock-joint with oppositely-disposed clings for the cement.

841,491. TELEPHONE. FRED EDWARDS, Jefferson, Iowa. Filed May 9, 1905. Serial No. 259,645.

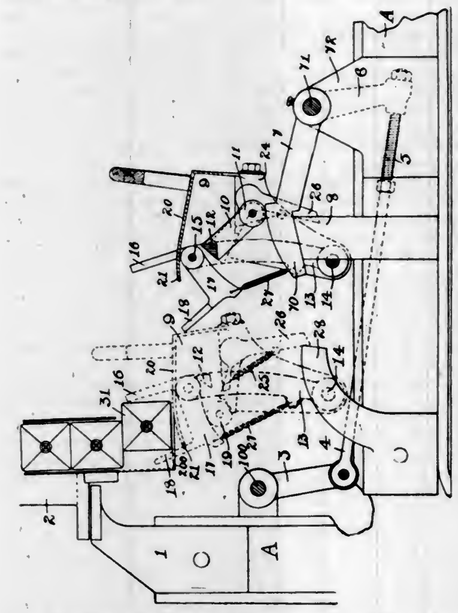


Claim.—1. In a telephone having an independent transmiting-circuit, the combination of a switch in said circuit automatically cut in when the receiver-lever is at its lower limit of movement and capable of being manually cut out when the receiver-lever is in its elevated position.

2. The combination with a telephone of the type known as the "bridging or party-line type" and including an independent transmitting-circuit and a pivoted lever for a receiver of a switch-lever pivotally supported adjacent to the receiver-lever and provided with an extension and with two lugs, a notched spring to successively engage said lugs, said notched spring electrically connected with the transmitter, a contact-plate electrically connected with the transmitter-battery and arranged in position to be engaged by the extension of the switch-lever when said switch-lever is in one position, said switch position arranged relative to the receiver-lever, so that it will be moved to position in engagement with its contact-plate when said receiver-lever is at its lower limit of movement.

841,492. MECHANISM FOR CHANGING SHUTTLES IN LOOMS. ERNEST J. ENTWISLE, Barnsley, England. Filed Feb. 5, 1906. Serial No. 299,407.

Claim.—1. In shuttle-changing mechanism for looms, a shuttle-magazine, a shuttle-box having its back and front plates movable relatively to its base part, said base part being of a width to support a shuttle during such movement, means for moving said back and front plates laterally relatively to the surface of the base part, one of said plates being mounted to swing under the lower shuttle in the magazine to engage said shuttle to transfer it, and devices for bringing said operating parts into action on the falling of the weft.



2. In shuttle-changing mechanism for looms, a shuttle-box formed by having its back and front parts movable over its base part, said base part, levers for supporting and operating said front and back parts, springs for operating said levers in one direction and lever and bunter devices for operating the same levers in the other direction, mechanisms for bringing said levers into action on the falling of the weft and a chamber or magazine for holding a supply of weft-charged shuttles substantially as herein specified.

3. In shuttle-changing mechanism for looms, a shuttle-box having a movable back part formed within an inclined or sloping guide-piece at its rear for deflecting the shuttle when same has to be discharged from the loom, a movable front part for said shuttle-box, means for operating said front and back parts, devices for bringing said means into use on the falling of the weft and a magazine for holding a supply of weft-charged shuttles substantially as herein specified.

4. In shuttle-changing mechanism for looms, a shuttle-box having movable back and front parts, lever-arms for supporting said back part and other lever-arms, said other lever-arms for supporting the front part of the shuttle-box, means whereby additional motion may be transmitted to the box front part as compared with the motion of its back part, devices for bringing the mechanism, which operates the box front and back parts, into use on the failing of the weft and a magazine for holding a supply of weft-charged shuttles substantially as herein specified.

5. In shuttle-changing mechanism for looms, a shuttle-box having movable back and front parts, spring-retracted lever-arms for actuating said parts, an adjustable incline part for actuating said lever-arms, means for placing said incline part in position on the falling of the weft and a magazine for holding a supply of weft-charged shuttles substantially as herein specified.

6. In shuttle-changing mechanism for looms, a shuttle-box having movable back and front parts, spring-retracted lever-arms for actuating said parts, means for moving said lever-arms to carry the box front and back parts forward over its base part, spring-actuated lever mechanism for locking said lever-arms and the parts they carry in their forward position, bunter devices for releasing said locking mechanism and a magazine for holding a supply of weft-charged shuttles substantially as herein specified.

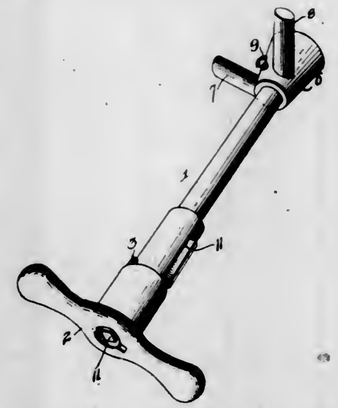
7. In shuttle-changing mechanism for looms, a shuttle-box having movable back and front parts, lever-arms for actuating said back and front parts, a base part for said shuttle-box having lateral slots to allow the movements of the lever-arms when actuating the back and front parts of the shuttle-box, means for operating the said lever-arms and devices from which the box front part may obtain a weft-charged shuttle substantially as herein specified.

8. In shuttle-changing mechanism for looms, a shuttle-magazine, a shuttle-box having movable back and front parts, one of said movable parts of the box being mounted to swing under the lower shuttle in the magazine when a fresh shuttle is to be taken from said magazine, lever-arms for supporting and operating these parts, inclined and bowl devices for actuating said lever-arms, and means for bringing said parts into action on the falling of the weft.

9. In shuttle-changing mechanism for looms, a shuttle-magazine, a shuttle-box having a movable front part, a movable back part arranged to operate in conjunction therewith, one of said movable parts of the box being mounted to swing under the lower shuttle in the magazine when a fresh shuttle is to be taken from said magazine, an inclined piece mounted in position relatively with said back part to deflect the shuttle when its discharge from the loom is desired, a receptacle for receiving said shuttle when discharged, and means for operating the front and back parts of the shuttle-box to cause the supply of a weft-charged shuttle thereto substantially as herein specified.

10. In shuttle-changing mechanism for looms, a shuttle-box having movable back and front parts, a deflector device arranged to be brought into position when the back part is moved over the base of the shuttle-box, means for operating said back and front parts and said deflector and devices for supplying a weft-charged shuttle to the shuttle-box on the discharging of the depleted shuttle substantially as herein specified.

841,493. DOOR OR GATE FASTENER. WILLIE J. FAIRBANK, Soldier, Kans. Filed Apr. 12, 1906. Serial No. 311,405.



Claim.—1. A fastener for doors or gates comprising a shank, a handle secured to said shank and provided with a lug, a collar having a segmental groove to accommodate the lug, a locking device secured to said shank and provided with right-angularly-extending bolts adapted to engage a keeper, substantially as described.

2. A fastening device comprising a shank, a handle provided with a lug, a collar provided with a groove and re-

cesses, a lock-bar mounted upon a spring within the shank and having means for engaging said recesses, a locking device secured to the shank by a set-screw and provided with angularly-extending bolts and a key adapted to be inserted to engage the end of the lock-bar and to disengage said bar from the collar, substantially as described.

3. In a locking device for doors or gates, a shank, a handle secured thereto and provided with a lug, a collar provided with a groove for said lug, a locking device provided with angular bolts secured to said shank and adjustable thereon, and means for locking said shank against rotation, substantially as described.

841,494. COLLAPSIBLE CORE-BARREL. GEORGE DU R. FAIRLEIGH, Chicago, Ill. Filed Aug. 22, 1905. Serial No. 275,195.



Claim.—1. A collapsible core-barrel comprising a barrel proper formed of a series of longitudinal sections having overlapping side edges, a rod extending centrally through the barrel, and a frame arranged intermediately of the rod and barrel proper, and comprising parallel bars and means for rigidly connecting them whereby they are adapted to slide on the rod, means for loosely but positively connecting the sections of the core-barrel with said bars, whereby the said sections are turned inward when said frame slides upward on the central rod and coacting inclines whose parts are applied to the frame and the barrel, whereby, when the said frame is adjusted on the rod, the sections of the barrel proper may be expanded in the manner described.

2. The improved collapsible core-barrel comprising a central rod, upper and lower cruciform heads adapted to slide thereon, a series of bars connecting said heads and rigidly attached thereto, and a core-barrel proper comprising a series of longitudinal sections which overlap at the sides, pivoted links connecting the sections with the bars of the frame, and means connected with the frame and sections, whereby, when the frame is forced downward, the sections are expanded and when drawn upward the sections are contracted substantially as described.

3. A collapsible core-barrel comprising a central rod, a bar-frame adapted to slide thereon, and the core-barrel proper inclosing said frame and consisting of a series of longitudinal plate-sections having overlapping side edges which are parallel to and adapted to slide one on the other, the said frame and sections having respectively guide-pieces E, E′, whose inclined edges are arranged to slide in contact, and means connecting the frame and sections at their ends to cause the required radial and sliding movements of the same, as described.

4. In a collapsible core-barrel of the character indicated, the combination, with a central rod and a series of longitudinal sections composing the barrel proper, a cruciform piece, or "bridge," secured to the upper portion of the rod and having parallel lateral arms provided with slots forming guideways, a frame which is slidable on the rod and includes bars passing through the said bridge, devices attached to the upper ends of the barrel-sections and arranged in the slots or guideways, rollers pivoted to such devices and adapted to run on the arms of the bridge, and links connecting said devices with the aforesaid frame, substantially as described.

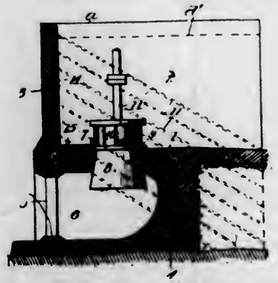
5. In a collapsible core-barrel of the character indicated, the combination, with a central rod and a rigid structure adapted to slide thereon, of a collapsible barrel formed of longitudinal sections, a horizontal support secured to the upper portion of the rod, and means connecting said support with the said sections whereby they are supported while being forced inward and outward, substantially as described.

6. In a collapsible core-barrel of the character described, the combination, with a central rod having one or more lateral projections at its upper end, a frame adapted to slide vertically on said rod, the collapsible core-barrel proper, connected with said frame, of a device for locking the core-barrel in the contracted or expanded position, the same being applied to the rod and slidable frame, whereby it slides with the latter and is adapted, when rotated, to engage with and disengage from the projections, substantially as described.

7. The combination, with the collapsible barrel comprising longitudinal sections, a central rod having near its upper end lateral projections and a frame adapted to slide on the rod and operatively connected with the barrel-sections, of a rotatable locking device applied to the upper portion of the frame and comprising a sleeve having opposite ribs which are separated vertically, whereby said sleeve is adapted for engaging the projections of the rod when rotated to a certain position and to be disengaged from and slide over the projections when adjusted in another position, substantially as described.

8. The combination, with the collapsible core-barrel, a central rod having lateral projections near its upper end, and a frame interposed between the barrel and rod and operatively connected with the barrel-sections and adapted to slide on said rod, and a locking device comprising a sleeve having internal ribs which are separated vertically and adapted to engage projections of the rod, said device having a lateral lever for rotating it, substantially as described.

841,495. PENSTOCK. WILLIAM G. FARGO, Jackson, Mich. Filed Feb. 20, 1906. Serial No. 302,143.



Claim.—1. A penstock having its walls reinforced near its outer faces, and a lining possessing flexibility covering those surfaces of the penstock subject to seepage.

2. A penstock comprising a stall, including a closed and

open end and side walls, the vertical walls of the stall being of concrete reinforced, the reinforcing elements lying in inclined planes and hooped through the closed wall of the penstock, the free ends of the reinforcing elements extending in a downward upstream direction.

3. A penstock comprising a stall composed of reinforced concrete, the reinforcing elements extending round one end of the stall.

4. A penstock comprising a stall composed of reinforced concrete, the reinforcing means including elements hooped through one end of the stall.

5. A penstock comprising a stall composed of reinforced concrete, the reinforcing elements strengthening the stall and anchoring it to its foundation.

6. A concrete penstock having its walls reinforced near their outer faces.

7. A concrete penstock having its walls reinforced near their outer faces, and a concrete lining covering those surfaces of the walls subject to seepage.

8. A concrete penstock having one of its walls reinforced near its outer face, and a flexible lining for said wall.

9. A concrete penstock comprising a stall having one of its walls reinforced near its outer face, and a flexible lining for said wall, the lining being free of the wall and held in contact therewith by internal pressure.

10. A concrete penstock comprising a stall having its end and side walls reinforced, the reinforcing elements of the side walls being directed upstream.

11. A penstock comprising a stall of reinforced concrete, and a reinforced-concrete lining for the stall, the lining having a reinforced-concrete foot portion for contact with the bottom of the stall.

12. A penstock comprising a stall of reinforced concrete, and a concrete lining for the stall, the lining having a foot portion for contact with the bottom of the stall.

13. A penstock comprising a stall of reinforced concrete, and a reinforced-concrete lining for the stall, the lining having a reinforced-concrete foot for contact with the bottom of the stall, the lining and its foot being free to move in different directions with respect to the stall and held in operative relation therewith by internal pressure.

14. A penstock comprising a stall of reinforced concrete, and a concrete lining therefor, the lining having a concrete foot for contact with the bottom of the stall, the lining and its foot being free to move in different directions with respect to the stall and held in operative relation therewith by internal pressure.

15. A penstock comprising a stall of reinforced concrete, and a flexible lining therefor, the lining having a foot for contact with the bottom of the stall, the lining and its foot being held in operative relation with respect to the stall by internal pressure.

16. A penstock comprising a stall, and a concrete lining therefor, the lining being held in place by hydrostatic pressure.

17. A penstock comprising a stall, and a reinforced-concrete lining held in operative relation to the stall by hydrostatic pressure.

18. A penstock comprising a stall, and a flexible lining therefor, the lining being held in place by hydrostatic pressure.

19. A penstock comprising a reinforced-concrete stall, provided with a draft-opening, a shaft journaled in said stall, turbine-wheels arranged within the stall with respect to said opening, and a concrete lining for the stall.

20. A penstock comprising a reinforced-concrete stall provided with a draft-opening, a shaft journaled in the stall, turbines upon the shaft within the stall and arranged with respect to said draft-opening, and a reinforced-concrete lining for the stall.

21. A penstock comprising a stall provided with a draft-opening, a shaft journaled in the stall, a turbine disposed upon the shaft and arranged with respect to the said opening, and a lining for the stall, the lining being free of the stall and held in operative relation thereto by internal pressure.

22. A penstock comprising a stall provided with a draft-opening, a shaft journaled in the stall, a turbine disposed upon the stall and arranged with respect to the said opening, and a reinforced-concrete lining for the stall, the lining being free of the stall and held in operative relation thereto by internal pressure.

23. A penstock comprising a stall provided with a draft-opening, a shaft, turbines disposed upon the shaft and arranged with respect to the said opening, and a reinforced-concrete lining for the stall, the lining being held in place by internal pressure.

24. A penstock comprising a stall, and a lining for the stall, the lining being free of the stall and held in operative relation therewith by pressure.

25. A penstock plant comprising stalls, each provided with a draft-opening, a shaft extending through the stalls, turbines in each stall mounted upon said shaft, the turbines of each stall being arranged with respect to the corresponding draft-opening, and a lining for each stall non-adherent with respect thereto.

26. A penstock comprising a stall composed of reinforced concrete, the reinforcing elements being hooped around one end of the stall and inclosed within the latter and its foundation to strengthen the stall and anchor it to its foundation.

27. A penstock comprising a stall composed of reinforced concrete, the reinforcing elements being inclosed within the stall and its foundation to anchor the former to the latter.

28. A penstock comprising a stall composed of reinforced concrete, the reinforcing elements being inclosed within the stall and its foundation to anchor the former to the latter and a lining for the stall non-adherent to the latter.

29. A penstock comprising a stall and a flexible lining therefor, the lining being movable under stress to transfer the stress to the stall.

30. A penstock comprising a stall and a lining therefor, the lining being movable under stress to transfer the stress to the stall.

31. A penstock comprising a reinforced-concrete stall, and a lining therefor, the reinforcing elements anchoring the stall to its foundation and the lining being movable under stress to transfer the stress to the stall.

32. A penstock comprising a reinforced-concrete stall, the reinforcements being directed upstream with portions embedded in the foundation of the stall to strengthen and anchor the latter.

33. A penstock comprising a reinforced-concrete stall, the reinforcements being directed upstream with portions embedded in the foundation of the stall to strengthen and anchor the latter, and a non-adherent lining for the stall.

34. A penstock comprising a stall, and a lining for the stall, the lining being non-adherent with respect to the stall and held in place by internal pressure.

35. A penstock comprising a stall, and a lining possessing flexibility covering those surfaces of the stall subject to seepage.

36. A penstock comprising a concrete stall having a closed end, the reinforcing elements, being hooped through the closed end of the stall and directed upstream.

37. A penstock comprising a stall of reinforced concrete, the reinforcing elements connecting the closed end, the sides of the stall and foundation of the latter to firmly anchor the stall.

38. A penstock comprising a stall of reinforced concrete, the reinforcing elements being hooped through the closed end of the stall and arranged to anchor the latter, and a flexible lining for the stall non-adherent thereto.

39. A penstock comprising a stall of reinforced concrete, the reinforcing elements being hooped through the closed end of the stall and having portions directed horizontally and upon an incline in an upstream direction to strengthen the walls of the stall and anchor the latter upon its foundation.

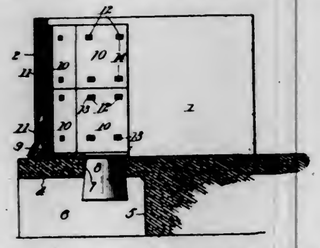
40. A penstock comprising a stall and means covering those surfaces of the stall subject to seepage said means being free of the stall.

41. A penstock comprising a stall, and flexible means

covering those surfaces of the stall subject to seepage, said means being arranged to transfer the stress to the stall only.

42. A penstock comprising a stall and means arranged with respect to the stall to prevent seepage and to transfer the stress to the stall.

841,496. PENSTOCK. WILLIAM G. FARGO, Jackson, Mich. Filed Feb. 20, 1906. Serial No. 302,144.



Claim.— 1. A penstock comprising a stall, and a sectionized lining therefor the sections being movable upon the stall.

2. A penstock comprising a stall, and a lining therefor, the lining being made up of flexible sections.

3. A penstock comprising a stall, and a lining therefor, the lining being made up of independent overlapping sections.

4. A penstock comprising a stall, a lining made up of adjoining sections, and means for slidably supporting the sections.

5. A penstock comprising a stall, a sectional lining therefor, and connections between the stall and sections to hold the latter against accidental displacement, the sections being held in engagement with the stall by internal pressure.

6. A penstock comprising a stall having projections extending inwardly thereof, and a lining, the lining having slotted plates embedded therein for engagement with said projections, and means engaging said projections to prevent accidental displacement of lining.

7. A penstock comprising a stall having projections, and a sectional lining mounted upon said projections.

8. A penstock comprising a stall having projections, and a lining mounted upon said projections.

9. A wall having projections, and a sectionized flexible lining mounted upon the projections.

10. A wall having projections, and a flexible lining made up of sections, each section being mounted upon projections of the wall.

11. A penstock comprising a stall having projections, and a reinforced concrete lining, the lining being made up of sections mounted upon said projections.

12. A penstock comprising a reinforced concrete stall having inwardly-directed projections, and a reinforced concrete lining, the lining being composed of sections mounted upon said projections.

13. A wall having projections, and a lining for the wall, the lining being composed of reinforced concrete sections slidably mounted upon said projections.

14. A wall having projections, and concrete sections mounted for movement upon said projections.

15. A wall having projections, and reinforced concrete sections mounted for movement upon said projections.

16. A penstock comprising a stall having projections, and concrete sections mounted for movement upon said projections.

17. A penstock comprising a reinforced concrete stall having projections, and a lining for the stall, the lining being composed of reinforcing concrete sections mounted for movement upon said projections.

18. A penstock comprising a reinforced concrete stall having inwardly-directed projections, and a reinforced concrete lining, the lining being composed of reinforced-concrete sections mounted movement upon said projections.

19. A penstock comprising a stall of reinforced concrete, and a reinforced concrete lining made up of sections carried by the stall.

20. A penstock comprising a stall and a sectionized lining possessing flexibility covering those surfaces of the penstock subject to seepage.

21. A penstock comprising a stall and a sectionized flexible lining therefor, the lining being acted upon by pressure.

22. A penstock comprising a stall and a sectionized, flexible lining therefor.

23. A penstock comprising a stall and a sectionized lining therefor, the sections being non-adherent to the stall.

24. A penstock comprising a stall and a sectionized, flexible lining therefor, the sections being non-adherent to the stall.

25. A penstock comprising a reinforced concrete stall, and a sectionized, flexible lining therefor, the sections being non-adherent to the stall.

26. A penstock comprising a stall and a sectionized flexible lining therefor, the sections overlapping one another.

27. A penstock comprising a stall and a sectionized flexible lining therefor, the sections overlapping and non-adherent to one another and to the stall.

28. A penstock comprising a stall, a lining composed of overlapping flexible sections, and means for supporting the sections slidably upon the stall.

29. A penstock comprising a stall and a lining composed of overlapping sections.

30. A penstock comprising body-walls and a sectional lining therefor, the sections being movable under stress to throw the stress upon the body-walls.

31. A penstock comprising body-walls, and a sectional lining therefor, the sections being movable under stress to throw the stress upon the body-walls and to prevent the accumulation of friction between the walls and sections during movement of the lining.

32. A penstock comprising body-walls and a lining therefor, and mechanical means connecting the walls and lining to hold the latter slidably against accidental displacement when relieved of pressure.

33. A penstock comprising body-walls, and a flexible lining therefor, and mechanical means connecting the walls and lining to hold the latter against displacement when relieved of pressure.

34. A penstock comprising a stall and a lining therefor the lining being composed of overlapping sections non-adherent with respect to one another and to the stall.

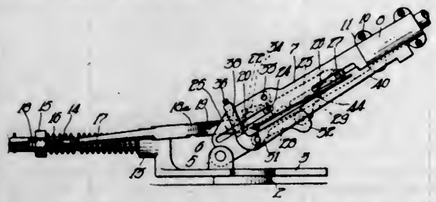
35. A penstock comprising a concrete stall and a lining therefor, the lining being composed of concrete sections non-adherent with respect to one another and to the stall.

36. A wall and a sectionized lining therefor, the sections being movable under stress to throw the stress upon the wall.

37. A wall and a sectionized lining therefor, the sections being movable under stress to throw the stress upon the wall and to prevent the accumulation of friction between the wall and sections during movement of the lining.

38. A wall and a lining therefor, and mechanical means connecting the wall and lining to hold the latter slidably against accidental displacement.

841,497. AUTOMATIC TROLLEY-BASE. HUGH W. FELLOWS, Cahuenga, and IRA A. CAMMETT, Hollywood, Cal. Filed Nov. 23, 1905. Serial No. 288,678.



Claim.—1. A pivoted trolley-pole support, a member slidable thereon, a dog for engaging the member, a controller comprising a lag-bar normally swinging in common with said support and operating by its inertia to drag behind said support to disengage the dog when said support starts an upward jerk, and a spring connected to the said member for holding the pole elevated when the member is engaged by the dog.

2. A pivoted trolley-pole support, a member slidable thereon, a dog for engaging the member, a controller comprising a lag-bar normally swinging in common with said support and operating by its inertia to drag behind said support to disengage the dog when said support starts an upward jerk, and a spring connected to the said member for holding the pole elevated when the member is engaged by the dog, and means for reëngaging the dog with the member when the pole is depressed below its dropped position.

3. A pivoted trolley-pole support, a member slidable thereon, a dog for engaging the member, a pair of toggle-levers one of which is connected to the slidable member, the other of which is connected to the support, a spring connected to the slidable member, and a swivel-plate supporting the trolley-pole support and against which the joint of said toggle-levers may be pressed for straightening the same when the trolley-pole is depressed below its dropped position.

4. A pivoted bifurcated supporting-arm, a slide-bar mounted thereon, a spring connected with the slide-bar, an abutment on the slide-bar, a dog pivoted to the supporting-arm and engaging the abutment, and a lag-bar normally swinging with the supporting-arm and operating by inertia to drag behind said supporting-arm when it starts an upward jerk to release the dog from the abutment.

5. A pivoted bifurcated supporting-arm, a slide-bar mounted thereon, a spring connected with the slide-bar, an abutment on the slide-bar, a dog pivoted to the supporting-arm and engaging the abutment, and means operating by inertia to release the dog from the abutment comprising a bifurcated controller pivoted to the supporting-arm and having feet adapted to bear against legs formed on the dog.

6. A swivel-plate, a bifurcated supporting-arm pivoted thereto, a slide-bar between the members of the arm, pins on the slide-bar which project into slots in the supporting-arm, a spring-guide on the swivel-plate, a spring-bar on the guide, a spring between the bar and swivel-plate, draw-bars connecting the spring-bar with the slide-bar, a pair of jointed toggle-levers one of which is connected to the slide-bar, the other of which is connected to the supporting-arm, a dog pivoted to the supporting-arm and normally engaging the slide-bar, and a bifurcated controller pivoted to the supporting-arm and adapted to raise the dog when the controller lags behind the pole.

7. A pivoted supporting-arm, a bar slidable thereon, a spring for restraining the bar, a dog pivoted to the arm and engaging the slidable bar, a controller pivoted to the supporting-arm, and a pair of flat springs connected with the controller and supporting-arm for yieldingly holding the controller against the supporting-arm.

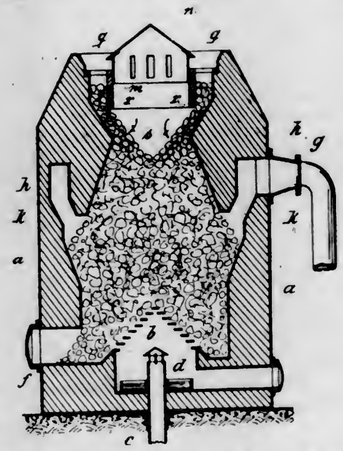
8. In combination, a pivoted trolley-pole, a supporting-spring, means intermediate the spring and pole embracing a toggle with means for normally holding the toggle straightened and the pole under the spring tension, and for flexing the toggle and removing the spring tension to allow the pole to drop immediately when the pole starts an upward jerk.

841,498. PROTECTED GRATE-BAR. JAMES C. FITZSIMMONS, San Francisco, Cal. Filed Nov. 23, 1905. Serial No. 288,685.



Claim.—An improved grate-bar having screw-threaded openings, removable nipples having threaded lower portions to fit said openings, and having their upper ends tapering, and a coating of refractory material upon said bar and inclosing the tapered ends of the nipples, and extending over said ends, said material having openings in line with the passage through the nipples.

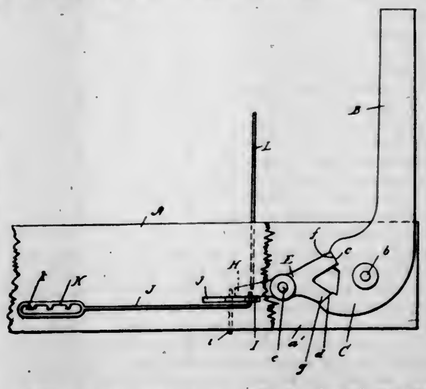
841,499. PROCESS OF MANUFACTURING POWER-GAS. EMIL FLEISCHER, Dresden-Strehlen, Germany, assignor to Jakob Eduard Goldschmid, Frankfort-on-the-Main, Germany. Filed Nov. 30, 1904. Serial No. 234,933.



Claim.—1. In the process of manufacturing power-gas from bituminous fuel and the like with top and bottom air-supply and exhaust of the gases at the mid-height of the charge, the auxiliary step of supplying an additional body of air below the point at which the top air-supply takes place and in or in the neighborhood of the vertical axis of the charge.

2. In the process of manufacturing power-gas from bituminous fuel and the like with top and bottom air-supply and exhaust of the gases at the mid-height of the charge, the auxiliary step of forming a free crater of the charge in the axis of the generator and beneath the upper surface of the charge and supplying air to this crater in addition to the main top and bottom supply.

841,500. CAR-STAKE. JOHN E. FLYNN, Medix Run, Pa. Filed May 23, 1906. Serial No. 318,342.



Claim.—1. The combination, with a pivoted car-stake provided with a heel having two bearings, of a pivoted retaining-catch having two projections for engaging the two said bearings respectively and having also a projecting member, means for moving the said retaining-catch pivot-

ally, connected direct to the said catch, and a retractible locking-catch engaging with the said projecting member.

2. The combination, with a pivoted car-stake provided with a heel having two bearings, of a pivoted retaining-catch having two projections for engaging the two said bearings respectively and having also a projecting member, a locking-catch pivoted to work in a horizontal plane under the said projecting member, and an operating device connected to the free end portion of the said locking-catch and provided with means for holding the said catch both in and out of engagement with the said projecting member.

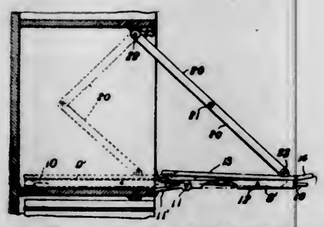
841,501. PROCESS OF MAKING FERTILIZER FROM LEATHER SCRAP. EDWARD J. FUCHS, Scranton, Pa. Filed Mar. 12, 1906. Serial No. 305,714.

Claim.—1. The method herein described of treating vegetable-tanned leather substances, which consists in removing therefrom the free tannin, then subjecting the residual leather substances to the action of a solvent, and finally pulverizing the resulting leather-substance fertilizer.

2. The method herein described of treating vegetable-tanned leather substances, which consists in extracting the free tannin therein contained, and subjecting the residual portions of said leather substances to the action of sulfuric acid so as to dissolve them.

3. The method herein described of preparing an ammoniate fertilizer, which consists in removing the soluble tannin from vegetable-tanned leather substances, subjecting the residual leather substances to the action of sulfuric acid, and finally concentrating and drying the resulting ammoniacal liquor.

841,502. CAKE-TIN SUPPORT. WILLIAM L. GALE, Louisville, Ky., assignor of one-half to William J. Imorde, Louisville, Ky. Filed Oct. 20, 1906. Serial No. 339,823.



Claim.—1. The combination with a display-stand, of a frame slidably mounted on the stand and movable to extended and retracted position, means for supporting the frame in operative position, a tray pivotally mounted on the frame, and a connection between the tray and stand.

2. The combination with a display-stand, of a frame slidably mounted on the stand and movable to extended and retracted position, means for supporting the inner end of the frame, a tray pivotally mounted on the frame, and a pivotal connection between the outer end of the tray and the stand.

3. In a display-stand, a supporting-rod, a frame slidably mounted on the stand and adapted to engage the rod when the frame is moved to extended position, a tray pivotally mounted on the frame, and a pivotal connection between the tray and stand.

4. In a display-stand, a supporting-rod, a frame slidably mounted on the stand and provided with recesses adapted to engage the rod when the frame is moved to extended position, a tray pivotally mounted on the frame, and a pivotal connection between the tray and stand.

5. In a display-stand, a supporting-rod, a tray slidably mounted on the stand and provided with oppositely-disposed recesses adapted to engage the rod when the frame is moved to extended position, a tray pivotally mounted on the frame, a pivotal connection between the tray and the stand, and a finger-piece carried by the tray for releasing the latter from engagement with the rod thereby to permit the frame to be moved to retracted position.

6. In a display-stand, a supporting-rod, a bracket secured to the stand and provided with an inclined face, a frame slidably mounted on the standard and movable in the path of the bracket to extended position, said frame being provided with oppositely-disposed recesses adapted to engage the rod for locking the frame in extended position, a tray pivotally mounted on the frame, and a pivotal connection between the tray and stand.

7. In a display-stand, a supporting-rod, a frame slidably mounted on the stand and provided with spaced recesses adapted to engage the rod for locking the frame in extended position, a tray pivotally mounted on the frame, and links pivotally connected to the tray and stand, respectively, and having their inner ends pivotally united.

8. In a display-stand, supporting-brackets, a rod carried by the brackets and spaced from one side of the stand, a frame slidably mounted on the stand and provided with oppositely-disposed recesses adapted to engage the rod for locking the frame in extended position, a tray pivotally mounted on the frame, links forming a pivotal connection between the tray and stand, respectively, and a finger-piece carried by the tray for tilting the latter thereby to disengage the tray from the rod to permit the frame to be moved to the retracted position.

9. In a display-stand, pivotally-united members slidably mounted on the stand and adapted to support a receptacle, a pivotal connection between one of said members and the stand, and means carried by the stand for supporting the adjacent member.

10. In a display-stand, a supporting-rod, a plurality of pivotally-united members slidably mounted on the stand and movable to extended and retracted position, one of said members being adapted to engage the rod, and a pivotal connection between the opposite member and the stand.

11. In a display-stand, a supporting-rod, pivotally-united members slidably mounted on the stand, one of said members being provided with spaced recesses adapted to engage the rod when said members are moved to extended position, a pivotal connection between the opposite member and the stand, and a finger-piece carried by the recessed member for tilting said member out of engagement with the rod when the members are moved to retracted position.

841,503. ATTACHMENT OF BLADES FOR TURBINES. VICTOR GELPKE, Lucerne, Switzerland, and PAUL KUGEL, Düsseldorf, Germany. Filed Dec. 4, 1905. Serial No. 290,283.



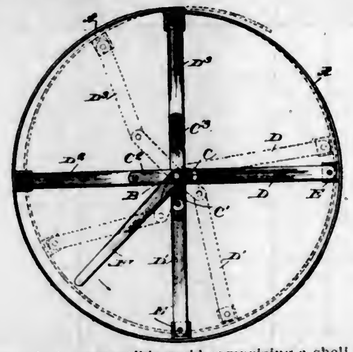
Claim.—1. In a turbine the combination with the blades and their carrying member, of means for securing the blades in place comprising a ring concentric with said carrying member and having openings to receive the blades, said blades having grooves in proximity to said ring, and pressure-rings seated in said grooves, substantially as described.

2. In a turbine the combination with the blades and their carrying member, of means for securing the blades in place comprising inner and outer rings concentric with said carrying member and having openings to receive the blades, said blades having grooves in their sides between the rings and pressure-rings seated in said grooves, substantially as described.

3. In a turbine the combination with the blades and their carrying member, of means for securing the blades in place comprising a ring concentric with said carrying member and having openings to receive the blades, said blades having grooves in proximity to said ring, and pressure-rings seated in said grooves and cleft tightening-rings carried by the free ends of said blades, substantially as described.

4. In a turbine the combination with the blades and their carrying member, of means for securing the blades in place comprising a ring concentric with said carrying member and having openings to receive the blades, said blades having grooves in proximity to said ring, and pressure-rings seated in said grooves, the free ends of said blades having projections, a ring having openings to receive said projections, and a two-part cleft tightening-ring clamped to the opposite edges of said last-named ring, substantially as described.

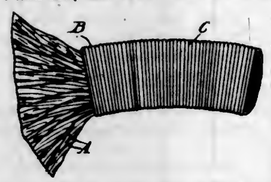
841,504. CONTRACTIBLE MOLD. GEORGE GEORGENSON and JOSEPH E. HENNEN, Fond du Lac, Wis. Filed Sept. 25, 1906. Serial No. 336,115.



Claim.—1. A contractible mold comprising a shell formed of sheet metal, a central shaft having a series of radial arms differing progressively in length, and a like series of links or bars connecting said arms with the shell and varying in length inversely as to the arms, substantially as described.

2. The improved contractible mold comprising a flexible shell, a central shaft having a lever adapted for rotating it, and a series of rigid arms which are fast on said shaft and differ progressively in length, a series of links or bars pivoted to the arms and at their outer ends to the shell and varying progressively in length but inversely as to the said arms, substantially as described.

841,505. VEHICLE-TIRE. FRIEDRICH M. GEORGI, Chicago, Ill. Filed May 25, 1906. Serial No. 318,641.



Claim.—1. A core for elastic vehicle-tires, comprising a plurality of loosely-twisted strands of wool surrounded by and compressed within a covering of cord wound about said strands.

2. A core for hollow elastic vehicle-tires, comprising a plurality of thick, loosely-twisted strands of wool disposed practically parallel with each other, all of said strands being compressed within a covering.

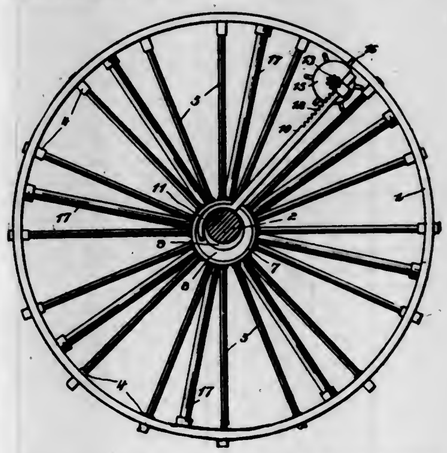
3. A core for hollow elastic vehicle-tires, comprising a plurality of thick, loosely-twisted strands of wool disposed practically parallel with each other, all of said strands being compressed within a covering, consisting of cord wound spirally tightly around said strands.

841,506. ARTIFICIAL BAIT. LORENZO P. GIBSON, Little Rock, Ark. Filed June 20, 1906. Serial No. 322,568.

Claim.—An artificial fly comprising a tubular body for revolving on a fish-hook, a head on the body having an aperture for the passage of the snell, a wrapping of fibrous material on the body, said wrapping securing the head to the body, feather-wings spirally arranged on the body, propeller-blades on the head, and beads on the snell between the body and the head whereby to space said body and head from each other.



841,507. TRACTION-WHEEL. ALFRED E. GLASCOCK, Washington, D. C., assignor, by mesne assignments, to Industrial Transportation Company, a Corporation of the District of Columbia. Filed June 8, 1904. Renewed June 22, 1906. Serial No. 322,951.



Claim.—1. In a rotating wheel, a series of tractors, a rotatable means for extending the tractors at one side of the wheel without extending them at all sides thereof, and for simultaneously bringing all of the tractors within the wheel-rim.

2. In a rotating wheel, a series of tractors, a means for extending the tractors at one side of the wheel without extending them at all sides thereof, and for simultaneously bringing all of the tractors within the wheel-rim, consisting of a rotatable eccentric surrounding an eccentric located upon the axle, and a means for operating the first said eccentric.

3. In a rotating wheel, a series of tractors, a means for extending the tractors at one side of the wheel without extending them at all sides thereof, and for simultaneously bringing all of the tractors within the wheel-rim, consisting of a rotatable eccentric surrounding an eccentric located upon the axle, a means for operating the first said eccentric, and a ring surrounding the first said eccentric and connected to said tractors.

4. A wheel having movable tractors, a means for moving said tractors consisting of an eccentric journaled upon an eccentric portion of the axle, and being connected with said tractors.

5. A wheel having movable tractors, a means for moving said tractors consisting of an eccentric journaled upon an eccentric portion of the axle, and being connected with said tractors, and an operating-lever attached to said eccentric.

6. A wheel having movable tractors, a means for moving said tractors consisting of an eccentric journaled upon an eccentric portion of the axle, and being connected with

said tractors, an operating-lever attached to said eccentric, and a revolving gear-wheel engaging said lever.

7. A wheel having movable tractors, a means for moving said tractors consisting of an eccentric journaled upon an eccentric portion of the axle, and being connected with said tractors, an operating-lever having a curved portion attached to said eccentric.

8. A wheel having movable tractors, a means for moving said tractors consisting of an eccentric surrounding an eccentric, and located upon the axle, said tractors being connected to one of the eccentrics.

9. A wheel having movable tractors, a means for moving said tractors consisting of an eccentric surrounding an eccentric, and located upon the axle, said tractors being connected to one of the eccentrics, an operating-lever attached to one of the eccentrics.

10. A wheel having movable tractors, a means for moving said tractors consisting of an eccentric surrounding an eccentric, and located upon the axle, a ring surrounding the outer eccentric, and being connected to the tractors.

11. A wheel having movable tractors, a means for moving said tractors consisting of an eccentric surrounding an eccentric, and located upon the axle, a ring surrounding the outer eccentric, and being connected to the tractors, and an operating-lever attached to one of the eccentrics.

12. A wheel having movable tractors, a means for moving said tractors consisting of an eccentric surrounding an eccentric, and located upon the axle and connected with the tractors, one of said eccentrics when moved to a certain position being concentric with the wheel, and when moved from such position being eccentric with the wheel.

13. A wheel having movable tractors, a means for moving said tractors consisting of a fixed eccentric within a movable eccentric, and located upon the axle, and connections between the eccentrics and the tractors.

14. A wheel having movable tractors, a means for moving said tractors consisting of a fixed eccentric within a movable eccentric, and located upon the axle, connections between said eccentrics and said tractors, said movable eccentric when moved to a certain position being concentric with the wheel, and when moved from such position being eccentric with the wheel.

15. A wheel having movable tractors, a means for moving said tractors consisting of an eccentric within an eccentric located upon the axle, and connected with the tractors, the outer eccentric being adapted to be brought concentric with the wheel and eccentric therewith.

16. A wheel having a movable tractor, a rod connecting said tractor with the moving means, and having a horizontal spring-section.

17. A wheel having a series of movable tractors connected together, rods connecting said tractors with the moving means, and having horizontal spring-sections.

18. A wheel having a movable tractor, a radially-extending rod connecting said tractor with the moving means, and having a horizontal spring-section.

19. A wheel having a movable tractor, a radially-extending rod connecting said tractor with the moving means, and having a horizontal spring-section extending axially with relation to the wheel.

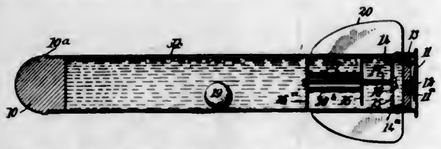
20. A wheel having a series of movable tractors, radially-extending rods connecting said tractors with the moving means, said rods each having a horizontal spring-section extending axially with relation to the wheel.

841,508. SHELL. CHARLES A. GLOVER, Bellport, N. Y. Filed Oct. 11, 1906. Serial No. 338,449.

Claim.—1. A shell adapted to contain a liquid and having a weighted outer end, an apertured diaphragm at its inner end, a valve adapted to be seated upon the diaphragm, and an object within the shell for operating said valve.

2. A shell consisting of a tubular body having a weighted outer end, a valve at its inner end adapted to control the outlet of the liquid contained in the body, and a rolling object within the body, adapted to automatically close the said valve in one position of the shell.

3. A shell consisting of a tubular body provided with a weight at its forward end, a removable stopper at its inner end, an apertured diaphragm located opposite the inner face of the stopper, a valve for said diaphragm, the stem of which valve is adapted for engagement with said stopper, and a movable object within the body, adapted to seat the valve and cause its stem to force the stopper out at one position of said shell.



4. A shell consisting of a tubular body provided with a weight at its forward end, a removable stopper at its inner end, an apertured diaphragm located opposite the inner face of the stopper, a valve for said diaphragm, the stem of which valve is adapted for engagement with said stopper, a movable object within the body, adapted to seat the valve and cause its stem to force the stopper out at one position of said shell, and fins exteriorly located at the inner end portion of the body of the shell.

5. A shell consisting of a tubular body, a weight at the outer end of said body, a stopper removably placed within the inner end of the stopper and normally closing said inner end, an apertured diaphragm secured within the body opposite the inner face of said stopper, a valve adapted to close the apertures in the diaphragm, a stem extending from the valve through said diaphragm, adapted when the valve is seated to engage with and dislodge said stopper, a movable weight located within said body, adapted to travel from end to end thereof and when at the inner end of the body to seat said valve, and fins exteriorly located at the inner end portion of the body.

6. A shell consisting of a tubular body, a weight at the outer end of said body, a stopper removably placed within the inner end of the stopper and normally closing said inner end, an apertured diaphragm secured within the body opposite the inner face of said stopper, a valve adapted to close the apertures in the diaphragm, a stem extending from said valve through said diaphragm, adapted when the valve is seated to engage with and dislodge said stopper, a movable weight located within said body, adapted to travel from end to end thereof and when at the inner end of the body to seat said valve, fins exteriorly located at the inner end portion of the body, a slip-cap for the inner end of the body, and a spring-cushion located between said spring-cap and the said stopper.

841,509. COMPOSITION OF MATTER. BYRON B. GOLDSMITH, New York, N. Y. Filed Jan. 24, 1903. Serial No. 140,420.

Claim.—1. A composition of matter comprising pyroxylin and an oil which has been vulcanized to the extent necessary to convert it into a caoutchouc-like mass, substantially as described.

2. A composition of matter comprising pyroxylin and a non-drying oil which has been vulcanized to the extent necessary to convert it into a caoutchouc-like mass, substantially as described.

3. A composition of matter comprising pyroxylin and vulcanized corn-oil which has been vulcanized to the extent necessary to convert it into a caoutchouc-like mass, substantially as described.

4. A composition of matter comprising pyroxylin and a drying-oil which has been vulcanized to the extent necessary to convert it into a caoutchouc-like mass, substantially as described.

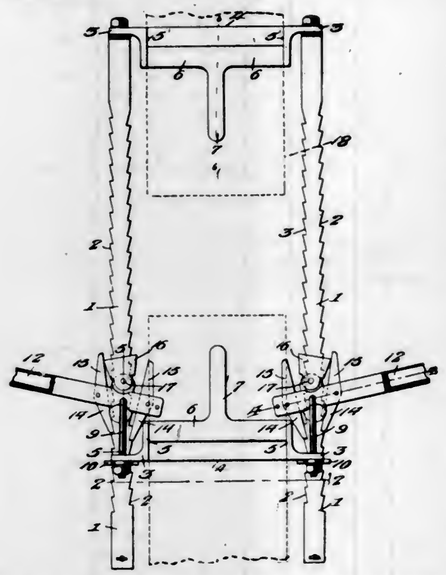
5. A composition of matter comprising vulcanized oil, pyroxylin and non-drying oil, substantially as described.

6. A composition of matter comprising vulcanized oil, pyroxylin and drying-oil, substantially as described.

7. A composition of matter comprising vulcanized oil, pyroxylin, non-drying oil and drying-oil, substantially as described.

8. A composition of matter comprising vulcanized drying-oil, vulcanized non-drying oil, pyroxylin, non-drying oil and drying-oil, substantially as described.

841,510. BELT-STRETCHER. WASHINGTON S. GREEN, St. Louis, Mo., assignor of one-half to Lockridge L. Green, St. Louis, Mo. Filed Nov. 21, 1905. Serial No. 288,482.



Claim.—1. In a device of the class described, a toothed longitudinal member, a pair of heads operatively connected therewith, clamping members carried by the heads, means, including an actuating-lever and pawls, for moving one of the heads relative to the other in a direction longitudinally of the toothed member, and a tripping member arranged between the pawls and with which the latter contact for movement to non-engaging position.

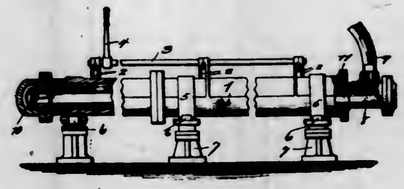
2. In a device of the class described, a pair of longitudinal toothed ratchet members, a pair of heads operatively connected with the members, means for engaging a belt with the heads, means, including actuating-levers and pawls, for moving one of the heads relative to the other longitudinally of the ratchet members, and a tripping member arranged between each pair of pawls and with which the latter contact for movement alternately to non-engaging position.

3. In a device of the class described, a pair of heads, clamping means carried thereby, a toothed ratchet member operatively and rotatively connected with the head and means, including an actuating-lever and pawls, connected with and for moving one of the heads relative to the other longitudinally of the ratchet member, said lever being rotatable with the toothed ratchet member to convenient position for operation.

841,511. APPARATUS FOR MANUFACTURING HOLLOW GLASSWARE. FRIEDRICH A. GROSSE, Bischofswerda, Germany. Filed June 16, 1904. Serial No. 212,855.

Claim.—1. A molding apparatus comprising a mold, a core, and a carriage supporting said core and for projecting the core into the mold, and means for rotating the core during its projection.

2. A molding apparatus for hollow ware, comprising a mold rotatably supported, a core, a carriage supporting the core, means for moving the carriage longitudinally to project the core into the mold, means for rotating the core during its entry into the mold, and means for supplying compressed air through the core to the mold.



3. A molding apparatus for hollow glassware, comprising a mold formed of a plurality of sections each made up of half-sections, means for separating the half-sections, means for permitting rotation of the mold, a core, flexible means for supplying compressed air to the core, valve-controlled means for allowing the air to escape from the core into the mold, means for moving the core longitudinally into and out of the mold, and means for rotating the core during such movement.

841,512. COMBINED HARROW-TOOTH AND WEEDER. FRANK S. GUNNING, The Dalles, Oreg. Filed Feb. 12, 1906. Serial No. 300,659.



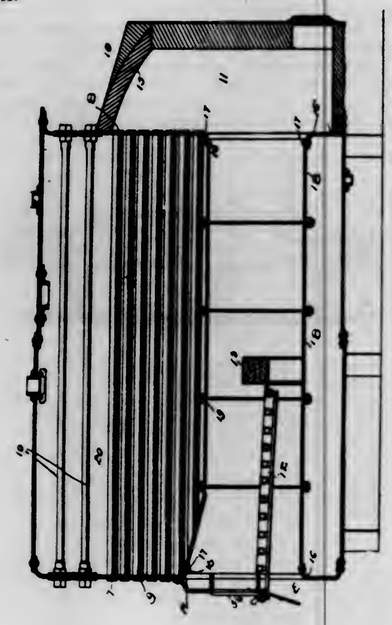
Claim.—A combined harrow-tooth and weeder comprising a shank of rectangular cross-section and adapted to be clamped to a harrow-frame, said shank being pointed at one end, and a weeder-disk mounted to rotate upon the opposite end, said shank adapted to be reversed in the frame to serve as a harrow-tooth or weeder, substantially as described.

841,513. STEAM-BOILER. ERNST R. GUSTAVUS, Oshkosh, Wis. Filed June 30, 1906. Serial No. 324,270.

Claim.—1. In a steam-boiler, an internal tubular furnace comprising in its construction sectional tubes having outwardly-turned circumferential flanges and means for joining said flanges, the front section being so constructed as to gradually diverge circumferentially toward the front, said section being upon the same line of base as the other sections, substantially as shown.

2. In a steam-boiler, an internal tubular furnace comprising in its construction sectional tubes having outwardly-turned circumferential flanges and means for joining said flanges, the front section being so constructed as to gradually diverge circumferentially toward the front, said section being upon the same line of base as the other section, said furnace being suspended from inwardly-turned flanges around front and rear openings in the boiler-heads, and removable means for attaching said furnace to said flanges, substantially as shown.

841,513.

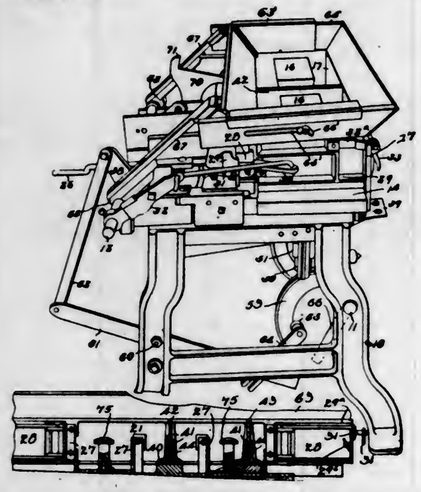


841,514. TROUSERS. THOMAS HALLIGAN, Salt Lake City, Utah. Filed Aug. 16, 1905. Serial No. 274,427.



Claim.—A pair of trousers comprising the waistband, a belt of a smaller diameter than the waistband and composed of flexible material having rectangular-shaped tabs with one of their ends secured centrally and longitudinally at suitable distances apart on one face of the belt, said tabs being arranged to extend below the lower edge of the belt and having their free ends secured to the waistband to permit of the belt having vertical adjustment, and securing means on the meeting ends of said belt, substantially as specified.

841,515. BLOCK-MOLDING MACHINE. JOHN I. HANCOCK, Lestershire, N. Y. Filed Dec. 18, 1905. Serial No. 292,337.



Claim.—1. In a block-molding machine, a mold having movable end walls, and slidable division-plates, and an operating means for simultaneously sliding the division-plates from the mold and opening the end walls of the mold.

2. In a block-molding machine, a mold-box having pivoted end walls, and provided with a slotted rear wall, division-plates movable through the slots, guiding means for said division-plates, and an operating means for simultaneously moving the division-plates and the end walls.

3. In a block-molding machine, a mold-box having a slotted rear wall, angle-bars arranged outside the rear wall, division-plates slidably mounted between said angle-bars, there being a rib-and-groove connection between the division-plates and angle-bars to maintain them in proper relative positions, and means for sliding said division-plates into and from the mold-box.

4. In a block-molding machine, a mold-box having a slotted rear wall, angle-bars arranged outside the rear wall, and in alinement with the walls of the slots, the angle-bars being grooved, division-plates slidable between the angle-bars and having ribs entering said grooves, and means for sliding said division-plates into and from the mold-box.

5. In a block-molding machine, a mold-box having pivoted end members, arms projecting therefrom, a rock-shaft having rocker-arms, links connecting the rocker-arms to the arms of said end walls, slidable division-plates, rocker-arms and links connecting the same to the rock-shaft, a pedal-lever, and means operatively connecting such pedal-lever to the rock-shaft.

6. In a block-molding machine, the combination with a frame, of a front mold-plate pivoted thereto, a slidable frame mounted on the main frame, a screw for adjusting the slidable frame in the manufacture of blocks of different width, a plate forming the rear wall of the mold and carried by the slidable frame, and end plates pivoted to said rear plate.

7. The combination in a block-forming machine, of a mold-box, a plurality of core-carrying rods, freely detachable cores carried by the rods, cross-heads secured to the lower ends of said rods, means for guiding said cross-heads, cams for elevating the cross-heads, a shaft carrying said cams, and means for detachably connecting one or more of the cams to said shaft.

8. In a block-molding machine, the combination with a mold-box, having movable end walls, of cores, core-carriers, a shaft, cams carried by said shaft and serving to elevate

the core-carriers, means for operating the shaft, and means operable from said shaft, after the starting of the core movement, for opening said end walls.

9. The combination in a block-molding machine, of a mold-box having movable end walls, a rock-shaft, means for connecting the rock-shaft to the end walls, a rocker-arm on said shaft, cores, vertically-movable core-carrying rods, a main shaft, cams carried by the shaft and adapted to raise said rods, an arm on said main shaft, a lever pivoted to the frame and having one end connected to the rocker-arm, an adjustable arm carried by the opposite end of the lever, an antifriction-roller supported by the adjustable arm and disposed in the path of movement of the arm of the main shaft, and means for actuating said main shaft.

10. The combination in a block-forming machine, of a mold-box, and a hopper having supporting-links connected to its rear edge and serving to support said hopper during its movement to and from operative position.

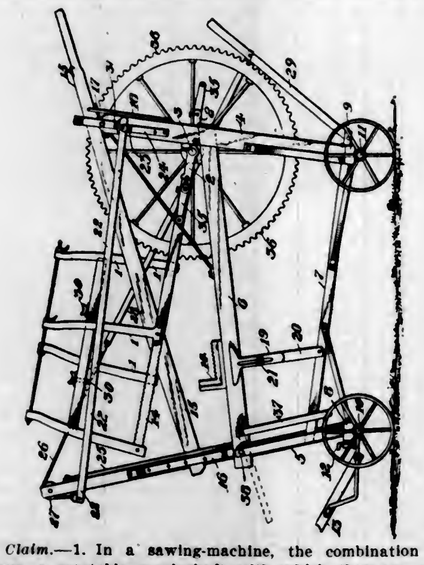
11. In a block-forming machine, a mold-box, a hopper formed of a plurality of adjustable sections, and a plurality of links forming a movable support for the rear portion of said hopper.

12. The combination in a block-molding machine, of a frame, slidable front and rear frames supported thereby, a front plate carried by the slidable front frame, a rear plate carried by the slidable rear plate, end plates pivoted on such rear plate, nuts on the slidable frames, and a screw having right and left hand threads entering such nuts to permit adjustment of the width of the mold-box.

13. The combination of a block-molding machine, of a main frame having grooved inner and outer walls, slidable front and rear frames having end arms fitting within said grooves, mold-walls carried by the slidable frames, nuts carried by said slidable frames, a screw-shaft having right and left hand threads engaging said nuts, the opposite ends of said shaft being arranged to receive an operating-crank to permit adjustment of either the front or rear of the machine.

14. In a block-molding machine, the combination with the front and rear walls, of end plates carrying arms, end plates having terminal lugs arranged to seat in recesses in the arms, and securing-screws for locking the end plates to said arms.

841,516. SAWING-MACHINE. BENJAMIN E. HARRELD, Eldon, Iowa. Filed May 5, 1906. Serial No. 315,312.



Claim.—1. In a sawing-machine, the combination of saws, a rotatable crank-shaft with which they are connected so as to reciprocate in opposite directions, saw-guides comprising parallel members between which the saw-frames are arranged, a rear support on which said members are pivoted and whereon they are laterally adjustable, means for clamping such rear portions on said support, a horizontal bar upon which the front ends of the saw-guides are supported, means for clamping the same thereon after lateral adjustment, and means for raising and lowering the front ends of the saw-guides, substantially as described.

2. In a sawing-machine, the combination, with a frame, of saws adapted to reciprocate in opposite directions, a crank-shaft with which they are suitably connected, saw-guides each composed of two parallel members between which the saws reciprocate, means by which the saw-guides are pivotally supported and adapted for lateral adjustment at their rear ends, front guides attached to the frame and having vertical portions whereon the saw-guides are adapted to slide vertically, the said front guides being laterally adjustable, substantially as described.

3. In a sawing-machine, the combination of saws and a crank-shaft with which they are connected so as to reciprocate in opposite directions, parallel saw-guides each comprising parallel bars, rear supports upon which the saw-guides are pivoted and adapted for lateral adjustment, means for clamping the guides on such supports, front guides upon which the saw-guides are adapted to slide vertically, the said front guides being laterally adjustable, a bar connecting the front ends of the saw-guides, means for clamping the latter adjustably thereto, and means for raising and lowering the front bar, substantially as described.

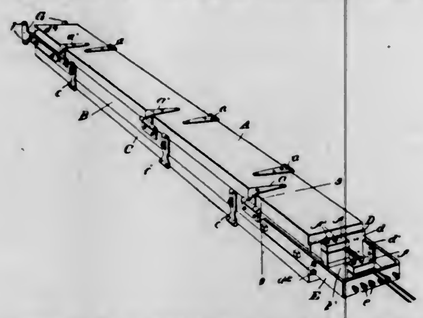
841,517. CHISEL. GILBERT J. HARRIS, Athol, Mass. Filed Aug. 11, 1906. Serial No. 330,200.



Claim.—A tool-handle provided with a reduced end having its lower surface externally beveled and formed with transverse slots arranged at right angles to each other, said slots opening through the upper edge of said reduced end and terminating below the base of said beveled portion, a ring or ferrule encircling said reduced portion and having its lower portion internally beveled to bear against the beveled surface thereof, and a spreader of cruciform shape driven into said slots, said spreader being coextensive in depth with the slots and terminating at its outer end flush with the outer end of the ferrule and providing a series of wings tapered to wedge form to spread the walls of the reduced end into binding engagement with the ferrule, the

latter being arranged to bear against said wings above the beveled surfaces.

841,518. TIRE-REPAIRING APPARATUS. JAMES HART, Washington, Pa. Filed Aug. 23, 1906. Serial No. 331,793.



Claim.—1. In an apparatus of the class set forth, the combination of a plurality of board-like members superposed and having a series of longitudinal tire-receiving grooves between them, these grooves having different diameters and running the full length of the members, means for removably locking the members together, a rigid abutment-plate at one end covering the ends of the tire-receiving grooves and provided with wire-passages coincidently with each groove, a wire-pulling device and means for mounting it on the end of the apparatus in front of said abutment-plate, said means being adjustable to permit the wire-pulling device to be adjusted across the end of the apparatus and thus alined with any one of the tire-receiving grooves, a brazing-clamp mounted on the rear end of the apparatus and means whereby this clamp is made adjustable across the end of the apparatus to bring it into line with any one of the tire-receiving grooves.

2. In an apparatus of the class set forth, the combination of three boards or members superposed and hinged together at their edges, tire-receiving grooves of various sizes being formed between the adjacent faces of the members, these grooves being formed in the two series in different planes, arms projecting from one end of the middle member, a reversible and laterally-adjustable wire-pulling device mounted on these arms, and an abutment-plate rigidly attached to the end of the middle member and having its edges overlap the outer members, these overlapping edges being provided with wire-passages coincident with the tire-receiving passages between the members.

3. In an apparatus of the class set forth, the combination of three superimposed board-like members and means for locking them together, tire-receiving grooves being formed in the adjacent faces of the members, these grooves being of different sizes and arranged in two different planes, wire-pulling devices at one end of the members, and a laterally-adjustable and reversible brazing-clamp at the other end of the apparatus, substantially as set forth.

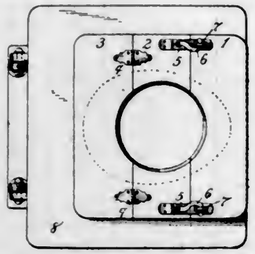
841,519. WATER-CLOSET SEAT. RUFUS B. HEPNER, New York, N. Y. Filed Aug. 17, 1905. Serial No. 274,549.

Claim.—1. A supplemental closet-seat embracing a number of parallel sections hinged together and provided with means on opposite sides from the hinges thereof for locking such sections in a common plane, substantially as described.

2. A supplemental closet-seat embracing three parallel sections two of which are hinged on opposite sides to the third; in combination with means for locking all of the sections rigidly in a common plane, substantially as described.

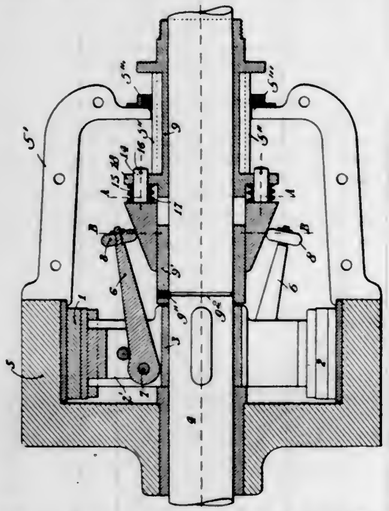
3. A supplemental closet-seat embracing three parallel sections hinged together and provided on opposite sides with locking means for locking them rigidly in a common plane, substantially as described.

4. A supplemental closet-seat having two sections hinged to an intermediate section and on opposite sides, and locking hooks and eyes located on opposite sides from the hinges for locking all of said sections in a common plane, substantially as described.



5. A supplemental closet-seat embracing three folding sections hinged together by two pairs of broad flat hinges located on opposite sides of the seat; in combination with two pairs of broad flat hinged locking parts secured on opposite sides of the middle section and each provided with a pivoted hook and an eye; together with two pairs of loops secured to the outside sections and adapted to pass respectively through the eyes of the locking parts in such manner that all of the sections of the seat may be secured in a rigid plane, substantially as described.

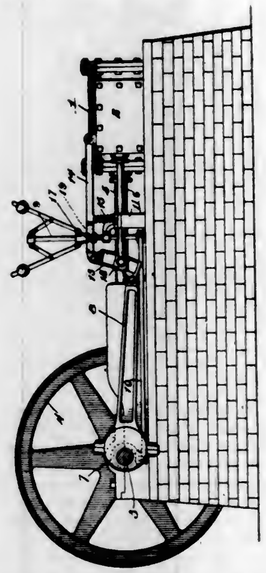
841,520. FRICTION-CLUTCH. ALBERT HÉRISSON, Nimes, France. Filed Nov. 7, 1905. Serial No. 286,302.



Claim.—1. A clutch-gear involving a rotatable cup-shaped element, a shaft for supporting the same, movable contact-shoes for engagement with said element, pivotal members coöperative therewith for actuating the same, rotatable means on the free terminals of the said members, a cone including independent sections, a slidable sleeve carried by the shaft and for supporting the sections, each section of the said cone adapted for engagement with the rotatable means for moving the members in a radial direction, and means for bringing the cone-sections into engagement with the rotatable means.

2. A clutch-gear having a rotatable element, a rotatable shaft having arms, movable shoes radially adjustable with respect to the longitudinal axis of said shaft for engagement with said element and supported by the arms, levers pivotally connected with said arms and the shoes for actuating the latter, a cone including a plurality of sections slidable longitudinally on the shaft, tension means associated with and acting directly upon each section of the cone, frictional means on the terminals of the said levers for engagement with the cone, a spring connected with the respective levers for holding the friction means in contact with the cone, the movement of said cones adapted to actuate the levers to bring the shoes in contact with the rotatable element, and means for bringing the cone into engagement with the frictional means.

841,521. GOVERNOR. JOHN A. HOAK, Sedalia, Mo. Filed Apr. 4, 1906. Serial No. 309,792.



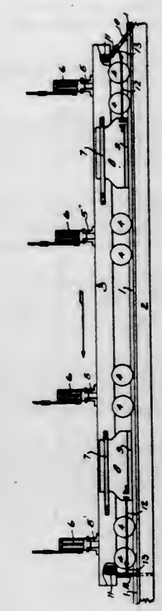
Claim.—In a governor mechanism for reciprocating steam-engines, an admission-valve having a sliding stem, an eccentric operated by the engine-shaft, a centrifugal governor driven by said shaft, a spring-supported lever actuated by the governor, and a shifting connection comprising a member pivotally connected with the valve-stem and a slotted link pivotally connected with the lever and eccentric-rod and slidably engaging said member.

841,522. SAWMILL TRACK-SWEEPER. EMMETT HOOPS, South Bend, Wash. Filed July 3, 1906. Serial No. 324,696.

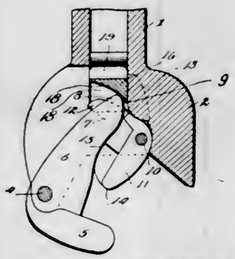
Claim.—1. In a sawmill track-sweeper, the combination with a reciprocating carriage, of a friction-block slidably mounted on said carriage and engaging the stationary rail, a swinging sweeper horizontally pivoted to said carriage, and connecting means joining said friction-block to said sweeper whereby said sweeper is elevated from the floor when the carriage is moving in one direction and is brought into sweeping contact with the floor when the carriage is moving in the opposite direction.

2. In a sawmill track-sweeper, the combination with a reciprocating carriage, of a friction-block slidably mounted on said carriage and engaging the stationary rail, a swinging sweeper horizontally pivoted to said carriage, a bar adjustably secured to the friction-block and extending forward therefrom, and a link joining said bar to said swinging sweeper whereby said sweeper is elevated from the floor when the carriage is moving in one direction and is brought into sweeping contact with the floor when the carriage is moving in the opposite direction.

841,522.



841,523. CAR-COUPLING. JORDAN M. HOWELL, Jr., Dallas, Tex., assignor of one-half to Abraham L. Walker, Dallas, Tex. Filed Oct. 21, 1905. Serial No. 283,795.



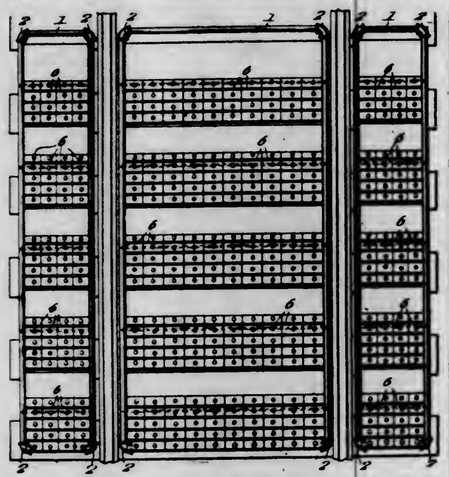
Claim.—In a car-coupler, a bar having a hollow head, a coupling-knuckle pivoted therein and provided with a rearwardly-extending arm, a pivoted operating member designed for engagement with said arm when the knuckle is in coupling position, said member having a rearwardly-projecting arm and the head being provided with a recess to receive said arm, a movable key adapted for engagement with the arm of the operating member to fix the latter and knuckle against movement, and means for moving the key to releasing position, said key and knuckle-arm having cam-faces adapted to coöperate through frictional engagement for holding the key in releasing position.

841,524. CATTLE-GUARD. CHARLES M. HOYT and MICHAEL J. MCNULTY, Atoka, Ind. Ter. Filed Aug. 29, 1906. Serial No. 332,553.

Claim.—1. A cattle-guard comprising a frame, supporting-flanges pivoted to said frame, plates secured to the flanged strips and provided with upwardly-projecting points or guards upon one side of said plate, substantially as described.

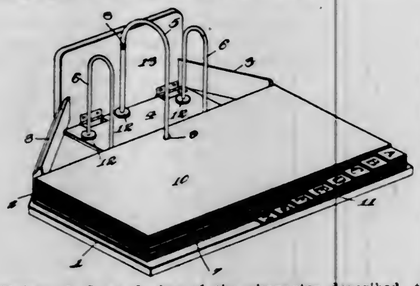
2. A cattle-guard comprising separate frames designed

to be secured between the track-rails and at opposite outer sides thereof, said frames each having pivotally connected thereto a series of supporting-flanges, plates secured to



the flanged strips and a series of pointed cattle-guards riveted to said plates upon one side thereof, for the purpose described.

841,525. ORDER-FILE. DAVID A. HUFFMAN, Paris, Ill. Filed Mar. 10, 1906. Serial No. 305,378.

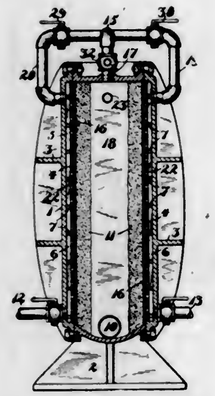


Claim.—1. In a device of the character described, the combination of a base, an arch secured to the base and provided with a break, a series of leaves provided with openings by which they are loosely mounted upon the arch, the said leaves being adapted to be placed in position or removed from the arch through the before-mentioned break therein, and a swinging member loosely connected to the base and adapted to be swung so as to prevent the leaves from coming into contact with the break in the arch.

2. In a device of the character described, the combination of a base, an arch secured to the base and provided with a break, guide members secured to the base upon each side of the arch, the said guide members being somewhat smaller than and having approximately the same shape as the arch, a series of leaves provided with openings by means of which they are loosely mounted upon the arch, said leaves being adapted to be placed in position or removed from the arch through the before-mentioned break therein, and a swinging member loosely connected to the base and adapted to be swung outwardly to prevent the leaves from coming into contact with the break in the arch.

3. In a device of the character described the combination of a base, a plate mounted upon the base, an arch secured to the plate and provided with a break, a guide member secured to the plate upon each side of the arch, said guide members being somewhat smaller than and having approximately the same shape as the arch so as to engage with the edge of the leaves and prevent the same from being disarranged, and a member hinged to the base and adapted to swing upwardly so as to prevent the leaves from coming into contact with the before-mentioned break in the arch.

841,526. FILTERING APPARATUS. BERTRAM HUNT, San Francisco, Cal. Filed Apr. 4, 1906. Serial No. 309,830.



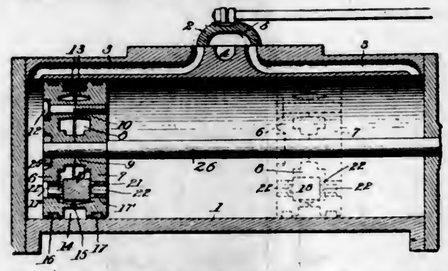
Claim.—1. In filtering apparatus, a closed vessel having removable outer walls, perforated plates within said walls with a closed central cavity between, said perforated plates being also separated from said outer walls respectively to form chambers, pervious filtering-webs on the inner surfaces of said perforated plates, inlet and outlet pipe connections to said central cavity at bottom, with controlling-valves, inlet-pipe connections to said cavity at top, with controlling-valves, outlet-pipe connections to said chambers respectively at bottom, with controlling-valves, and inlet-pipe connections to said chambers at top, with controlling-valves, substantially as specified.

2. In filtering apparatus, a series of closed vessels each having externally-ribbed removable walls, perforated plates within said walls, with a closed central cavity between, said plates also spaced from said walls to form external chambers, pervious filtering-webs on the inner surfaces of said perforated plates, inlet and outlet pipe connections to said central cavity at bottom, with controlling-valves, inlet-pipe connections to said cavity at top, with controlling-valves, outlet-pipe connections to said chambers respectively at bottom, with controlling-valves, and inlet-pipe connections to said chambers at top, with controlling-valves, substantially as specified.

3. In filtering apparatus, a main filtering vessel or chamber, a supply of fluid mineral pulp or other like material connected thereto, removable filter-plates forming double walls in this chamber, these inner filter-plates perforated and provided with ribs at their back to bear against the walls of the main chamber and form there a space or chamber to collect the liquid or filtrate forced through the plates and through filtering-webs thereon, substantially as specified.

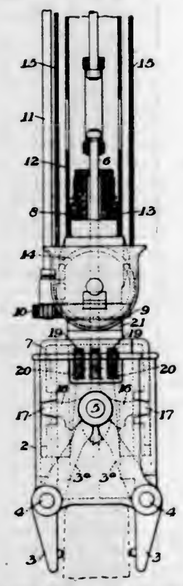
4. In filtering apparatus, an inclosed chamber connected to a fluid-supply under pressure of mineral pulp or other material to be filtered, a connected supply of water under pressure to flush out the inclosed chamber, also a connected air-supply under pressure to force back unfiltered material to the source of supply with valves and cocks to control the different fluids in these several operations arranged and operating substantially as specified.

841,527. PISTON. JOSEPH IMLER, Fort Wayne, Ind., assignor to Joseph H. Hoover, Garrett, Ind. Filed Oct. 11, 1904. Serial No. 228,045.



Claim.—A piston having a central chamber therein, and an outer balancing-chamber in its periphery, separated from the central chamber but in communication therewith, and having also a valve-opening in each of its end walls oppositely disposed; a bodily-movable valve provided with seating-surfaces, adapted respectively to close the corresponding openings; and two packing-rings arranged in the periphery of the piston, one upon either side of said outer annular chamber.

841,528. TONGS. HOMER W. ISRAEL and RAPHAEL S. KIRK, Alliance, Ohio, assignors to The Alliance Machine Company, Alliance, Ohio, a Corporation of Ohio. Filed Oct. 16, 1906. Serial No. 339,183.



Claim.—1. The combination of a tongs-carrying member or frame, a tongs-operating member or frame, tongs pivoted to the carrying member or frame and having lever-arms, and a pair of lever-arms fulcrumed on a common center carried by the tongs-carrying member or frame and engaging the lever-arms on the tongs and also engaging the tongs-operating frame; substantially as described.

2. The combination of a tongs-carrying frame, tongs pivoted thereto, and having upwardly-extending lever-arms, a vertically-movable tongs-operating frame, and levers carried by the tongs-carrying frame and having a toothed engagement with the tongs-operating frame, and also having an engagement with the lever-arms of the tongs; substantially as described.

3. The combination of a vertically-movable tongs-carrying frame, tongs pivoted thereto, and having lever-arms, a tongs-operating frame having an independent vertical movement, and levers carried by the tongs-carrying frame, and operated by the tongs-actuating frame to move the lever-arms of the tongs; substantially as described.

4. Tongs of the character described, having lever-arms formed with gear-teeth at their ends, tongs-actuating levers engaged by the said teeth, and a tongs-operating member also having a toothed engagement with the levers; substantially as described.

5. Tongs of the character described having a tongs-carrying frame, tongs pivoted thereto, and having lever-arms formed with a gear-tooth at the end, levers carried by said frame and having each a space to receive the tooth of one of the lever-arms, and also having a tooth at the end and an independently-movable operating member engaging the end teeth of the said levers; substantially as described.

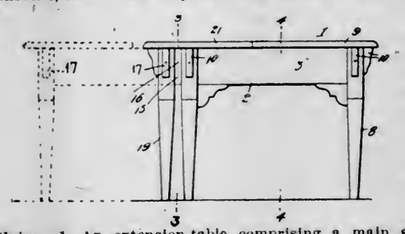
6. The combination of a tongs-carrying frame, tongs pivoted thereto, and having lever-arms, a pin or shaft carried by said frame, a vertical movable rod connected to said pin or shaft, a pair of toothed levers fulcrumed on said pin, and a vertically-movable operating member engaging teeth of the levers; substantially as described.

7. The combination of a hollow tongs-carrying frame, tongs pivoted thereto, and having lever-arms extending within the frame, a pin or shaft carried by said frame, toothed levers fulcrumed on said pin or shaft and engaged with the lever-arms of the tongs, means whereby said frame may be raised and lowered, and an operating frame or member vertically movable within the hollow frame and engaging said levers; substantially as described.

8. The combination of a tongs-carrying member, tongs pivoted thereto and having lever-arms, a pair of levers fulcrumed on the said member intermediately of the tongs-pivots, and extending in opposite directions from their fulcrum, and having a toothed engagement with the lever-arms of the tongs, and a vertically-movable tongs-operating member having an operating engagement with the lever; substantially as described.

9. The combination of a tongs-carrying frame, tongs pivoted thereto and having lever-arms extending within said frame, a pair of toothed levers fulcrumed on the frame intermediately of the tongs-pivots and engaged with the lever-arms of the tongs, and an operating frame or member vertically movable within the tongs-carrying frame and engaging the free end portions of the said lever; substantially as described.

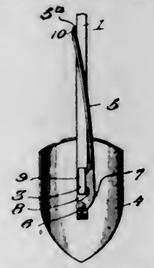
841,529. EXTENSION-TABLE. JOHN F. JACKSON, Higginsville, Mo. Filed July 26, 1906. Serial No. 327,844.



Claim.—1. An extension-table comprising a main stationary frame consisting of side pieces and an end piece, means to securely brace and connect said side and end pieces, a cross-bar arranged at the opposite end of said side pieces, and having its ends secured to said side pieces, guide-bars arranged in said main frame adjacent to the side pieces thereof, cross-bars to connect said guide-bars, supporting-legs arranged on the corners of said frame, a table-top portion secured thereto, an extension-frame having side bars adapted to slide between said guide-bars and the side bars of the main frame, a brace-bar to connect the inner ends of said extension-frame beneath said guide-bars, supporting-legs arranged on the opposite ends of said supporting-frame, and a table-top portion secured to the top of said extension-frame, substantially as described.

2. An extension-table comprising a main stationary frame consisting of side pieces and an end piece, means to securely brace and connect said side and end pieces, a metallic cross-bar arranged at the opposite end of said side pieces, said bar having upwardly-bent ends adapted to be secured to said side pieces, guide-bars arranged in said main frame adjacent to the side pieces thereof, cross-bars to connect said guide-bars, supporting-legs arranged on the corners of said frame, a table-top portion secured thereto, an extension-frame having side bars adapted to slide between said guide-bars and the side bars of the main frame, a metallic brace-bar to connect the inner ends of said extension-frame beneath said guide-bars, supporting-legs arranged on the opposite ends of said supporting-frame, and a table-top portion secured to the top of said extension-frame, substantially as described.

841,530. PLOW. THOMAS J. JOHNSON, Italy, Tex. Filed Sept. 22, 1906. Serial No. 335,756.



Claim.—1. In a plow, the combination of a standard having a slot therein, a plow-point having a loop upon its rear surface adapted to enter said slot and a lever pivoted to the foot of the standard and provided with a laterally-extending key to engage the loop on the plow-point and the upper end of said lever having a catch to engage the side of the standard, substantially as described.

2. A plow-point having a loop upon its rear surface, in combination with a standard provided with a slot through which said loop extends and a lever pivoted to the standard and provided with a laterally-projecting key to engage said loop, said lever being curved at its lower end and having a catch at its upper end to engage the side of the standard opposite to the curved portion of the lever, substantially as described.

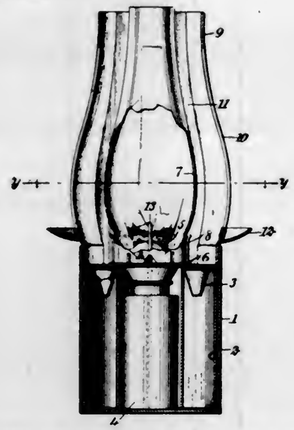
3. A plow-point having means upon its rear surface to engage an opening in the standard and a pivoted lever provided with a key for locking the point to the standard, said lever having a catch for engagement with said standard, substantially as described.

4. A plow-point having an integral loop extending from the rear surface of the same, in combination with a standard, and a lever pivoted to the lower end of the standard and provided with a laterally-extending key to engage the loop on the plow-point, and the upper end of said lever being bent to engage the standard at the side opposite to that at which the key enters the loop.

841,531. INSECT-TRAP. QUINCE R. JONES, Yosemite, Ky. Filed Oct. 26, 1906. Serial No. 340,732.

Claim.—1. An insect-trap comprising a cup-shaped body portion, an annular receptacle removably arranged in the body portion and having openings in its top through which insects may fall, a lamp-font removably arranged within the circle of the annular chamber, a chimney for the lamp, and a globe surrounding the chimney and having openings in its wall.

2. An insect-trap comprising a cup-shaped body portion, an annular receptacle removably arranged therein and having openings in its top, conical tubes extended downward from said openings, a lamp-font adapted to be arranged within the inner circle of the receptacle, a burner for the lamp extended above the plane of the receptacle, a chimney for the lamp, a globe surrounding the chimney and having longitudinal slots, and inwardly-extended partitions on the inner side of said globe adapted to engage a portion of their inner edges with the chimney.



3. An insect-trap comprising a cup-shaped body portion, a removable receptacle having openings in its top, the said receptacle being adapted to be placed in the body portion, a lamp having its burner arranged above the receptacle, a chimney for the burner, a globe surrounding the chimney and longitudinally slotted, and a trough-shaped flange extending around the lower portion of the globe.

4. An insect-trap comprising a cup-shaped body portion, an insect-receptacle removably arranged therein, a lamp body or font removably arranged in the receptacle and having its burner extended above the receptacle, a chimney for the lamp, the upper wall of said receptacle having a plurality of openings, conical tubes leading downward from the openings into the receptacle, a globe surrounding the chimney, the said globe being longitudinally slotted, inwardly-extended partitions arranged at intervals at the inner side of the globe and conforming, for a portion of their length, with the chimney, and a trough-shaped flange extending around the lower portion of the globe.

5. An insect-trap comprising a cup-shaped body portion, an annular insect-receptacle arranged therein and having openings in its top wall, the said receptacle being open at the bottom, a lamp-font adapted to be arranged within the receptacle and having its burner extended above the receptacle, a heating-wire carried by the burner and having a portion adapted to extend through the lamp-flame and portions for extending into the receptacle, a chimney for the lamp, and a longitudinally-slotted globe surrounding the chimney.

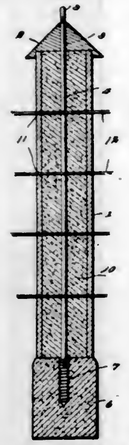
841,532. FENCE-POST. THOMAS E. JONES, Guinea, Va. Filed Jan. 23, 1906. Serial No. 297,496.

Claim.—1. A post embodying a concrete base, a metallic casing mounted on the base, a filling in said casing, a pyramidal cap on the upper end of the post, and a center bolt passing downward through the cap and filling and having its lower end anchored in the base.

2. A fence-post comprising a concrete base, a metallic casing mounted thereon a filling in said casing, a cap surmounting the post, and an eyebolt passing downward through the cap and the post proper and anchored in the base.

3. A post comprising a concrete base, a metallic casing mounted on said base a filling in said casing, a cap surmounting the post, a threaded bolt passing downward through the cap and post and entering the base, and means within the base for engaging the threaded portion of said eyebolt.

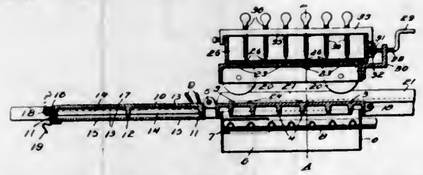
4. A post comprising a concrete base, a metallic casing mounted on said base a filling in said casing, a cap surmounting the post, a bolt passing downward through the cap and post and entering the base, a nut-holding cup in the base and an internally-threaded member within said cup engaging the threaded lower end of the eyebolt.



5. A post comprising a concrete base, a metallic post, jacket or casing mounted on said base, a concrete filling in said jacket, a cap surmounting the post, and a center bolt passing downward through the cap and filling of the post and having its lower end threaded and held in the base.

6. A post comprising a concrete base, a metallic jacket or casing mounted thereon and provided with keyholes, a concrete filling in said post having keys which enter said holes in the casing, a cap surmounting the post, and a center bolt passing downward through the cap and post and entering the base.

841,533. BISCUIT FORMING AND BAKING DEVICE. YASUKE KAWASAKI, Vancouver, British Columbia, Canada. Filed June 28, 1906. Serial No. 323,971.



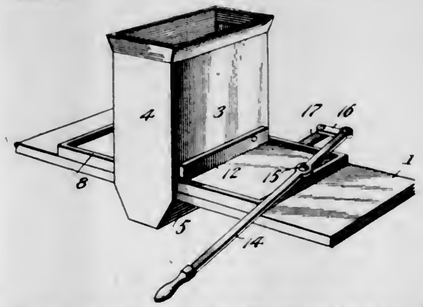
Claim.—1. As a means for forming and baking wafer biscuits of the class described; the combination with upper and lower plane-surfaced plates hinged together so that the plates may be laid open and their adjacent surfaces exposed, means for maintaining both plates at a constant temperature whether open apart, or closed one on the other, stops to regulate the distance apart of the plates when closed one on the other, means for securing the plates tightly together in the closed position, an open batter-containing box mounted on wheels and a track so as to be movable over one of the plates, the bottom of such box having a series of apertures through it, and means for simultaneously opening and closing said apertures.

2. As a means for forming and baking wafer biscuits; the combination with plane-surfaced plates hinged together so that one may be folded on the other, means for uniformly and uninterruptedly heating said plates, a batter-holding receptacle movable over one of said plates, said receptacle having a series of apertures through its bottom, and means for opening and closing said apertures.

3. As a means for forming and baking wafer biscuits; the combination with plane-surfaced plates hinged that the plane surfaces may be exposed upward or closed one on the other, means for uniformly and uninterruptedly heating said plates, a batter-holding receptacle having a series of apertures through its bottom said receptacle being movable on a carriage which itself is movable over one or other of the plates and has a plane surface provided with apertures corresponding with those in the bottom of the aforementioned receptacle, and means for moving the receptacle, in relation to its carriage so as to open or close the apertures in the bottom of the receptacle.

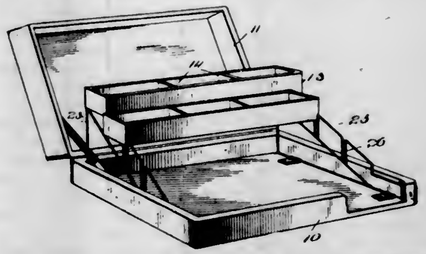
4. As a means for forming and baking wafer biscuits; the combination with plane-surfaced plates hinged that the plane surfaces may be exposed upward or closed one on the other, means for uniformly and uninterruptedly heating said plates, a batter-holding receptacle movable over one or other of the plates having a series of apertures in the bottom which may be opened or closed, bridge-bars across the receptacle having a series of screws threaded therethrough corresponding to the apertures in the bottom of the receptacle, said screws having conical lower ends which may be inserted in the apertures to regulate the flow of the batter through them.

841,534. ROOT-CUTTER. GEORGE W. KEELER, South Frankfort, Mich. Filed May 23, 1905. Serial No. 261,824.



Claim.—In a device of the class described, a table having an aperture, a hopper having side walls secured upon and extending beneath the side edges of the table and end walls terminating above the upper surface of the latter, cross-strips connecting the side walls below the table adjacent to the aperture, an operating-plate supported to slide upon the table beneath the lower edges of the end walls of the hopper, said plate having beads at the sides and ends thereof and a feed-aperture, a cutter secured upon the side beads of the plate above the feed-aperture and having depending splitting-blades, stripper-bars secured exteriorly upon the end walls of the hopper above and contacting loosely with the operating-plate which latter is thereby operatively assembled with the table and hopper, and a suitably-supported operating-lever pivotally connected with the bead at one end of the plate.

841,535. DISPLAY DEVICE. JOHN M. KELLEY, Rochester, N. Y. Filed Jan. 25, 1906. Serial No. 297,862.



Claim.—1. In a display apparatus, a case, a plurality of elongated trays proportioned for disposition within and to

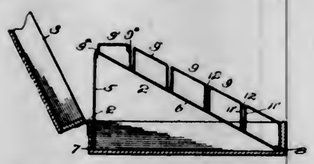
fill the area of the case and provided each with an opening at each end, a stepped support, hinges secured in the bottom of the case and to which the supports are hinged, and means carried by the support to engage within the openings in the ends of the trays.

2. In a display apparatus, a case, a plurality of elongated containing-trays proportioned for disposition within and to fill the area of the case and provided each with an opening at each end, a stepped support, hinges secured in the bottom of the case and to which the supports are hinged, and ears carried by the support for insertion within the openings of and to support the said trays.

3. In a display apparatus, a covered case, a plurality of elongated containing-trays proportioned for disposition within and to fill the area of the case and provided each with an opening at each end, an inclined support of sheet material provided with a plurality of vertically-disposed slots transecting the inclined edge and defining-ears proportioned to engage the openings in the case of the said trays.

4. In a display apparatus, a case, a plurality of elongated containing-trays proportioned for disposition within and to fill the area of the case and provided each with an opening at each end, a support formed of sheet material and provided with an inclined upper edge and with vertically-disposed slots transecting the inclined edge, and with shoulders formed within the slots and defining-ears proportioned to engage within the openings of the traps, and the shoulders to engage and support the side walls of the said trays.

841,536. DISPLAY-RECEPTACLE. JOHN M. KELLEY, Rochester, N. Y. Filed Jan. 25, 1906. Serial No. 297,863.



Claim.—1. In a device of the character described, the combination with a support, of a hinged, sectional tray-support carried thereby, each section comprising brackets, and yielding locking means for securing said brackets upon said support.

2. In a device of the character described, the combination with a receptacle, of hinged, tray-supporting sections positioned within said receptacle, each section comprising a body having spring-pressed locking means, and stepped brackets carried by said body.

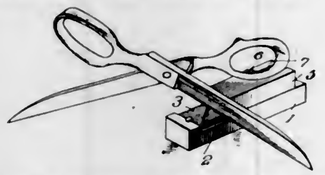
3. In a display device, a receptacle, and a resilient support having an inclined stepped upper edge, the said support being hinged adjacent the end of the receptacle and arranged to assume an upright position, and a folded position within and upon the bottom of the receptacle, and spaced brackets upstanding along the inclined edge of the support.

4. In a display device, a receptacle, a resilient support hinged adjacent the end of the receptacle, and arranged to assume an upright position, and a folded position within and upon the bottom of the receptacle, the said support having a stepped upper edge, spaced brackets upstanding along the edge of the support, and display-trays arranged to be positioned and supported upon the brackets.

5. In a display device, a receptacle, a support comprising resilient means whereby the support is removably hinged within and adjacent the end of the receptacle, and arranged to assume an upright position and to be folded within and upon the bottom of the receptacle, brackets spaced in stepped relation along the upper edge of the support, and trays each provided with an opening proportioned and positioned to receive one of the brackets.

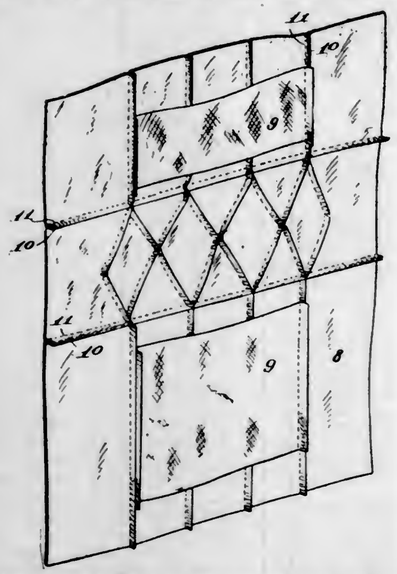
6. In a display device, a receptacle provided with sockets, a support comprising resilient arms provided with trunnions whereby the support is removably hinged within the sockets and adjacent the end of the receptacle and arranged to assume an upright position and to be folded within and upon the bottom of the receptacle, brackets spaced in stepped relation along the upper edge of the support, and trays each provided with an opening proportioned and positioned to receive one of the brackets and to be positioned within the receptacle when the support is folded.

841,537. SCISSORS-SHARPENER. WILLIAM M. KELLOGG, Pittsfield, Mass., assignor to The Yankee Novelty Company, a Corporation of Maine. Filed July 6, 1905. Renewed June 20, 1906. Serial No. 322,609.



Claim.—In a scissors-sharpener, the combination of a base-block having a recess extending transversely thereacross, an abrading-block removably secured within the recess, the outer face of said abrading-block lying in a plane somewhat below that of the face of the base-block, means for holding the abrading-block in position, a guide member having a beveled end which projects over and is spaced from the abrading-block and also having a slot running in a direction at approximately right angles to the beveled edge, and a clamping member passing through the slot and having connection with the base-block, the space between the guide member and the abrading-block serving as a trap to catch the filings and prevent them from interfering with the effective operation of the device.

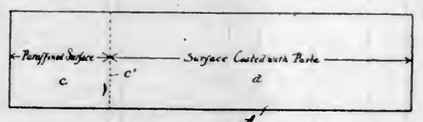
841,538. CHAIR. WILLIAM J. KELLY, Clinton, Iowa, assignor to J. A. Kelly & Bros., Clinton, Iowa, a Corporation of Iowa. Filed Sept. 19, 1906. Serial No. 335,306.



Claim.—1. In a device of the class described, the combination of a frame, a sheet of upholstering doubled on itself to produce folds, stitches extending transversely through the folds, a reinforcing-sheet on the inside of the upholstering-sheet and held in place thereto by said stitches, and means for connecting the two sheets to said frame.

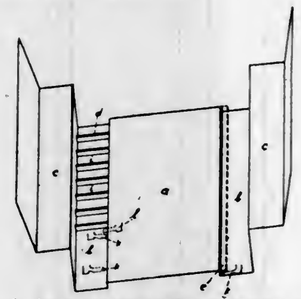
2. In a device of the class described, a composite sheet comprising a sheet of upholstering material doubled on itself to produce folds, stitches passed through said folds transversely thereof, and a reinforcing-sheet held to the upholstering-sheet by said stitches.

841,539. BLANK FOR PAPER TUBES. JAMES C. KIMSEY, Philadelphia, Pa., assignor to American Paper Bottle Company, Philadelphia, Pa., a Corporation of Delaware. Filed May 10, 1904. Serial No. 207,224.



Claim.—As a new article of manufacture, a blank for making paper tubes, said blank having a portion of its surface coated with paraffin equal in width to the inner diameter of the tube to be formed, substantially as described.

841,540. CAR FOR PROTECTING THE FEET OF PASSENGERS. BELA KLEIN, New York, N. Y. Filed Jan. 20, 1906. Serial No. 297,058.



Claim.—1. An arrangement for protecting the feet of passengers in cars, consisting of spaced and vertical projections on the floor, whereby the feet of seated passengers are protected from those standing, substantially as described.

2. Projections in the floors of cars, spaced and arranged to accommodate and protect separately each foot of the seated passengers.

3. The combination of projections in the floors of cars, arranged to protect separately each foot of the seated passengers, with other projections arranged to partly overlap them.

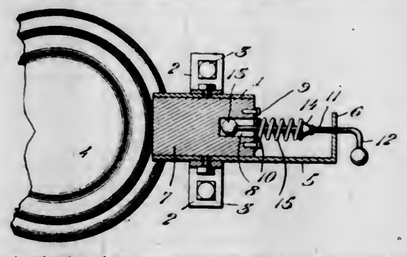
4. An arrangement for protecting the feet of passengers in cars, consisting of spaced and vertical projections on the floor, the central, raised floor portion, and horizontal projections in connection therewith to partly overlap the spaces allotted for the feet of seated persons.

841,541. GRINDING DEVICE. ALLINGTON H. KRAMER, Monte Vista, Colo. Filed June 2, 1906. Serial No. 319,889.

Claim.—1. A wheel-truing device comprising a movable grinding member, means for moving the member automatically to its work, and means for setting the member for and stopping the same upon completion of a predetermined movement.

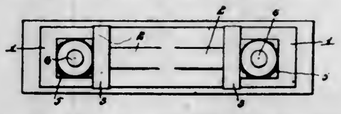
2. A wheel-truing device comprising a movable grinding member, a spring for pressing the member to its work, and means for setting the member for and stopping the same upon completion of a predetermined movement.

3. A wheel-truing device comprising a movable grinding member, means for moving the member automatically to its work, and a setting element connected with and for axial movement relative to the grinding member, said element and member being provided with coöperative devices for checking the movement of the member.



4. A wheel-truing device comprising a rectilineally-movable grinding member, a support for the member provided with a bearing portion, a setting-rod threaded through said portion and having slidable engagement with the member, means on the rod and member for limiting relative movement of the latter, and a spring arranged for pressing the member to its work.

841,542. NUT-LOCK. JOHN W. KREITZBURG, Allegany, Md. Filed Aug. 4, 1906. Serial No. 329,181.



Claim.—1. A nut-lock comprising a plate, oppositely-projecting spring-tongues on said plate and normally springing away from said plate at their ends, in combination with stops mounted to slide over the tongues on the plate, said stops being held up against the sides of the nuts by the terminal ends of said spring-tongues, substantially as described.

2. A nut-lock comprising a plate having oppositely-disposed spring-tongues, the ends of which are normally sprung away from the plane of the plate, stops mounted to slide over the tongues, and bear against the side edges of the nuts when said spring-tongues are sprung outward to hold the stops from sliding, said tongues bearing at their outer ends against said stops when in locking position, substantially as described.

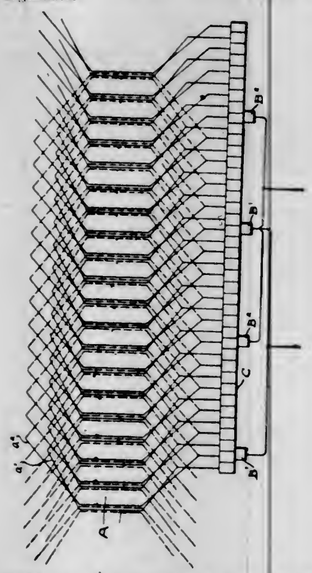
841,543. DYNAMO-ELECTRIC MACHINE. MARIUS C. A. LATOUR, Paris, France, assignor to General Electric Company, a Corporation of New York. Filed Jan. 21, 1905. Serial No. 242,088.

Claim.—1. In a dynamo-electric machine of the commutator type, a slotted armature-core, and two parallel windings carried in the slots at equal distances from the periphery of the armature-core, each winding being connected to alternate commutator-segments and said windings having coil widths differing from each other by the distance between adjacent slots.

2. In a dynamo-electric machine, a slotted armature-core provided with a commutator, two armature-windings carried in said slots at equal distances from the periphery of the armature-core and differing from each other in the slot-pitch of their coils, and connections from said windings to alternate commutator-segments.

3. In a dynamo-electric machine, a slotted armature-core provided with a commutator, two armature-windings equally distant from the armature-periphery composed of coils each of which has one side lying in the same slot with a coil of the other winding and has the other side lying in a different slot from that in which lies the other side of said coil of the other winding, and connections from said windings to alternate commutator-segments.

4. In a dynamo-electric machine, a slotted armature-core provided with a commutator, two armature-windings composed of coils, each of which has one side lying in the same slot as a coil of the other winding and has the other side lying in the same slot with a second coil of the other winding adjacent to the first, each coil of each winding having one side in the top and the other in the bottom of a slot, and connections from said windings to alternate commutator-segments.



5. In a dynamo-electric machine, a slotted armature-core provided with a commutator, two windings carried in the same slots at equal distances from the armature-periphery but having an effective relative phase displacement equal to half the distance between adjacent slots, and connections from said windings to alternate commutator-segments.

6. In a dynamo-electric machine, a slotted armature-core provided with a commutator, two windings carried in the same slots differing from each other in the slot-pitch of their coils, and connections from said windings to alternate commutator-segments, each coil of each winding having one side in the top and the other in the bottom of a slot and being arranged with its median line midway between the median lines of the two coils of the other winding which are connected to the segments on each side of the segment to which it is connected.

7. An alternating-current motor, comprising a slotted armature-core provided with a commutator, two parallel windings carried in the slots, each winding being connected to alternate commutator-segments and said windings having coil widths differing from each other by the distance between adjacent slots, and brushes bearing on said commutator of a width insufficient to bridge adjacent segments connected to the same winding.

8. An alternating-current motor, comprising a slotted armature-core provided with a commutator, two windings carried in the same slots but having an effective relative phase displacement equal to half the distance between adjacent slots, connections from said windings to alternate commutator-segments, and brushes bearing on said commutator of a width insufficient to bridge adjacent segments connected to the same winding.

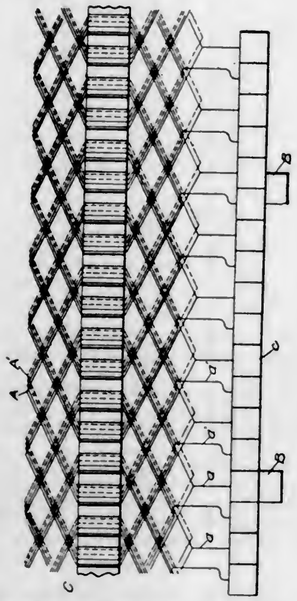
9. In a dynamo-electric machine, a slotted armature-core provided with a commutator, two windings carried in the same slots and differing from each other by one slot in the slot-pitch of their coils, each coil of the winding of the greater slot-pitch having its opposite sides arranged at the inner sides of the slots in which it is contained and each coil of lesser slot-pitch having its opposite sides arranged at the outer sides of the slots in which it is contained.

10. In a dynamo-electric machine of the "multiple" or "lap" type, a slotted armature-core, and two parallel windings carried in the slots at equal distances from the armature-periphery, each winding being connected to alternate commutator-segments and said windings having coil widths differing from each other by the distance between adjacent slots.

11. In a dynamo-electric machine of the "multiple" or "lap" type, a slotted armature-core provided with a commutator, two windings carried in the same slots but having an effective relative phase displacement equal to half the distance between adjacent slots, each coil of each winding having one side in the top and the other in the bottom of a slot, and connections from said windings to alternate commutator-segments.

12. An alternating-current motor, comprising a slotted armature-core provided with a commutator, two windings carried in the same slots at equal distances from the periphery of the armature-core but having a relative displacement equal to half the distance between adjacent slots, connections from said windings to alternate commutator-segments, and brushes bearing on said commutator of a width insufficient to bridge adjacent segments connected to the same winding.

841,544. ALTERNATING-CURRENT MOTOR. MARIUS C. A. LATOUR, Paris, France, assignor to General Electric Company, a Corporation of New York. Filed Aug. 25, 1905. Serial No. 275,745.



Claim.—1. In a dynamo-electric machine, a slotted armature-core, a commutator carried thereby, a plurality of independent windings distributed in said slots, each slot containing coils belonging to a plurality of said windings, and leads from said coils to successive commutator-segments, said leads being so connected to said coils that the phase of the induced voltage at each lead corresponds to the angular position of the commutator-segment to which it is connected.

2. In a dynamo-electric machine, a slotted armature-core, a commutator carried thereby, a plurality of independent windings distributed in said slots, each slot containing coils belonging to each of said windings, leads from said coils to successive commutator-segments, said leads being so connected to said coils that the induced voltages at adjacent leads differ in phase by an amount equal to the electrical angular displacement of adjacent commutator-segments.

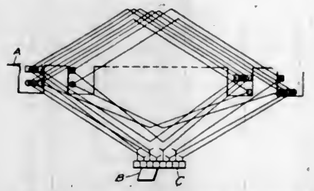
3. In a dynamo-electric machine, a slotted armature-core, a commutator carried thereby, a plurality of independent windings distributed in said slots, each slot containing coils belonging to a plurality of said windings, and leads from said coils to successive commutator-segments, adjacent leads being connected to their respective coils at points on the coils differing in position by a number of turns bearing the same ratio to the number of turns in a coil that unity bears to the number of independent windings in the slot.

4. In a dynamo-electric machine, a slotted armature-core, a commutator carried thereby, N independent windings distributed in said slots, each slot containing one or more coils of each winding, and leads from said coils to successive commutator-segments, adjacent leads being connected to their respective coils at points on the coils differing in position by a number of turns bearing to the number of turns in a coil the ratio $\frac{1}{N}$.

5. In a dynamo-electric machine, a slotted armature-core, a commutator carried thereby, a plurality of independent windings distributed in said slots, each slot containing coils belonging to a plurality of said windings, leads from said coils to successive commutator-segments, said leads being so connected to said coils that the induced voltages at adjacent leads differ in phase by an amount equal to the electrical angular displacement of adjacent commutator-segments, and brushes bearing on the commutator of a width insufficient to bridge two segments connected to the same winding.

6. In a dynamo-electric machine, a slotted armature-core, a commutator carried thereby, N independent windings distributed in said slots, each slot containing one or more coils of each winding, leads from said coils to successive commutator-segments, adjacent leads being connected to their respective coils at points on the coils differing in position by a number of turns bearing to the number of turns in a coil the ratio $\frac{1}{N}$, and brushes bearing on the commutator of a width not greater than (N—1) segments.

841,545. DYNAMO-ELECTRIC MACHINE. MARIUS C. A. LATOUR, Paris, France, assignor to General Electric Company, a Corporation of New York. Filed June 29, 1906. Serial No. 323,975.



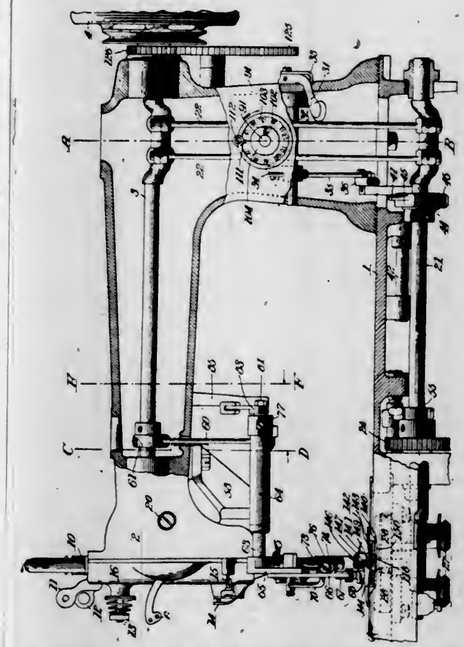
Claim.—1. In a dynamo-electric machine of the commutator type, a plurality of armature-windings carried in the same slots and connected to successive commutator-segments, at least one of said windings having its coils arranged with the conductors forming one side of a coil in a single slot and the conductors forming the other side of the coil distributed in a plurality of slots, whereby the phase of the induced voltage at each commutator-segment corresponds to the angular position of the segment.

2. In a dynamo-electric machine of the commutator type, a plurality of armature-windings carried in the same slots and connected to successive commutator-segments, at least one of said windings having its coils arranged with the conductors forming one side of a coil in a single slot and the conductors forming the other side of the coil distributed in a plurality of slots, whereby the phase of the induced voltage at each commutator-segment corresponds to the angular position of the segment, and brushes bearing on the commutator of a width insufficient to bridge adjacent segments connected to the same winding.

3. In a dynamo-electric machine of the commutator-type, four armature-windings carried in the same slots and connected to successive commutator-segments, two of said windings having their coils arranged with the conductors forming one side of a coil in a single slot and the conductors forming the other side of the coil divided between two adjacent slots, whereby the phase of the induced voltage at each commutator-segment corresponds to the angular position of the segment.

4. In a dynamo-electric machine of the commutator type, four armature-windings carried in the same slots and connected to successive commutator-segments, two of said windings having their coils arranged with the conductors forming one side of a coil in a single slot and the conductors forming the other side of the coil divided between two adjacent slots, whereby the phase of the induced voltage at each commutator-segment corresponds to the angular position of the segment, and brushes bearing on the commutator of a width insufficient to bridge adjacent segments connected to the same winding.

841,546. RUFFLING MECHANISM FOR SEWING-MACHINES. ALEXANDER LAUBSCHER, Bridgeport, Conn., assignor to Wheeler & Wilson Manufacturing Company, Bridgeport, Conn., a Corporation of Connecticut. Filed June 28, 1905. Serial No. 267,373.



Claim.—1. In a ruffling mechanism for sewing-machines, a stitch-forming mechanism, a cloth-feeding mechanism, a crimping-blade, means for operating the same and means for controlling said operating means, including a cam-disk provided with a cam portion, means to rotate said cam-disk, and means for connecting said cam-disk with and disconnecting it from its rotating means, for automatically controlling the action and inaction of the crimping-blade for forming a cluster of plaits or gathers at a predetermined point in the line of seam.

2. In a ruffling mechanism for sewing-machines, a stitch-forming mechanism, a cloth-feeding mechanism, a crimp-

ing-blade, means for operating the same and means for controlling said operating means, including a rotary cam, a shaft on which the cam is fixed and by which it may be adjusted manually and independently of the means for operating the crimping-blade to automatically determine the position of the plaits in the line of the seam.

3. In a sewing-machine, a stitch-forming and a cloth-feeding mechanism, a crimping-blade and connections between said stitch-forming mechanism and the crimping-blade for operating the same, and controlling means including a dial and an adjustably-mounted rotary cam connected with said dial for automatically controlling the action and inaction of the crimping-blade.

4. In a ruffling mechanism for sewing-machines, a stitch-forming mechanism, a cloth-feeding mechanism, a crimping-blade, means for operating the same and means for controlling said operating means, including a cam, means to rotate it and independent means for adjusting the cam relatively to its rotating means, the cam-adjusting mechanism being operable independently of the sewing elements to reset the cam for each new seam and thereby insure the proper location of the plaits or gathers.

5. In a sewing-machine, a needle-actuating shaft, and a dial, an adjustably-mounted cam with which said dial is connected, said cam carried by a disk, gearing connecting said disk and shaft, a crimping-blade, and means including an eccentric and an eccentric-strap for connecting said blade with the needle-actuating shaft, in combination with a slidable connection automatically controlled by said adjustably-mounted cam to effect or suspend the action of the crimping-blade at predetermined intervals.

6. The combination of stitch-forming and cloth-feeding mechanisms including a driving-shaft, a crimping-blade, means to drive it from said shaft including levers coupled by a shiftable coupling, a lever connected to said coupling, a spring-held rock-shaft on which said lever is fixed and means connected with the driving-shaft for positively rocking the rock-shaft periodically.

7. The combination of stitch-forming and cloth-feeding mechanisms including a driving-shaft, a crimping-blade, means to drive it from said shaft including levers coupled by a shiftable coupling, a lever connected to said coupling, a spring-held rock-shaft on which said lever is fixed, means connected with the driving-shaft for positively rocking the rock-shaft periodically, and means for varying the extent of the rocking movement.

8. The combination of stitch-forming and cloth-feeding mechanisms including a driving-shaft, a crimping-blade, means to actuate said blades from said shaft including crossed rock-levers having a shiftable coupling, and means for periodically suspending the movement of the blade while the driving-shaft is operating, same comprising a rock-shaft, a lever thereon connected with the shiftable coupling, means to actuate the rock-shaft from the driving-shaft, and means to control the actuation of the rock-shaft including a cam, a spring-held adjustable shaft on which it is mounted, and worm-gearing with which said cam is adapted to be connected at the will of the operator.

9. The combination of stitch-forming and cloth-feeding mechanisms including a driving-shaft, a crimping-blade, means to actuate said blade from said shaft including crossed rock-levers having a shiftable coupling, and means for periodically suspending the movement of the blade while the driving-shaft is operating, same comprising a rock-shaft, a lever thereon connected with the shiftable coupling a parallel rock-shaft, connecting-levers on said rock-shafts having an adjustable connection, a cam, a cam-arm on the parallel rock-shaft coöperating with the cam, gearing connecting the cam with the driving-shaft, and means to connect and disconnect the cam and gearing.

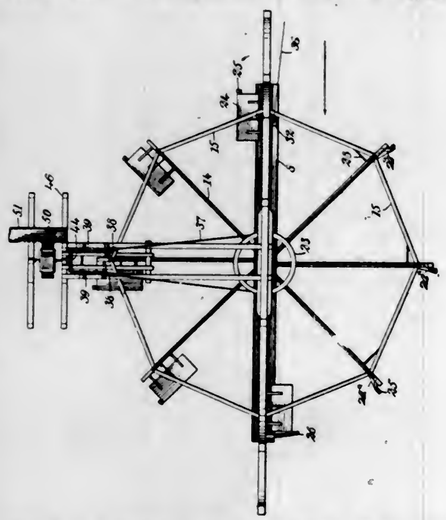
10. In a ruffling mechanism for sewing-machines, a stitch-forming mechanism, a cloth-feeding mechanism, a crimping-blade, means for operating the same and means for controlling said operating means, including a cam having two independently-operating rotating mediums whereby the cam is respectively rotated with the sewing elements and at pleasure rotarily adjusted with relation to its first-mentioned rotation to reset the cam for each new seam and thereby insure the proper location of the plaits or gathers.

11. In a sewing-machine, a stitch-forming mechanism and a cloth-feeding mechanism, a crimping-blade and connections between said stitch-forming mechanism and the crimping-blade whereby the width or fullness of the plaits or gathers is gradually increased as the crimping-blade is brought into action and gradually decreased as the crimping-blade is thrown out of action, and including means for automatically controlling the operation of the crimping-blade to determine the location of the plaits in the seam.

12. In a sewing-machine, a stitch-forming mechanism and a cloth-feeding mechanism, a crimping-blade and connections between said stitch-forming mechanism and the crimping-blade for operating the crimping-blade, and for determining the time of action and inaction of the crimping-blade, and the location of the plaits or gathers in the seam, said connections including a cam, means for rotating the same in one direction, means for maintaining said cam coupled with its rotating means throughout a complete rotation, and resetting devices for said cam.

13. In a sewing-machine, a stitch-forming mechanism including a needle-actuating shaft, a cloth-feeding mechanism, a crimping-blade and connections between it and the needle-actuating shaft for operating the crimping-blade and varying its throw to form a bunch of plaits or gathers of varying width or fullness and for controlling the time of operation of the crimping-blade, said connections including a rotary cam and adjusting devices therefor.

841,547. CURRENT-MOTOR. JOHN W. LAURENT, Spokane, Wash. Filed Aug. 24, 1905. Serial No. 275,554.



Claim.—1. A current-motor comprising a float, arms mounted to rotate on said float, transmission mechanism operated from said arms, blades having hinged connection with the arms, bars connecting the outer ends of the arms, flexible connections between the lower edges of said blades and the bars, springs having connection with the bars and with said flexible connections for drawing said flexible connections upward as the blades are moved to horizontal position, means for causing the blades to move to horizontal position, means for locking the blades in horizontal position at each revolution of the wheel, and means for automatically releasing the locking devices.

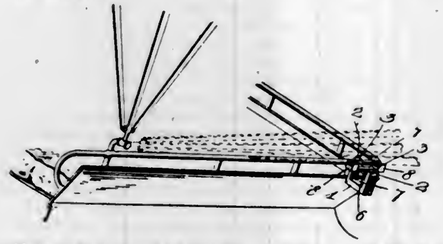
2. A current-motor, comprising a float, radial arms mounted to rotate on the float, transmission mechanism operated from said arms, and blades having swinging connection with the arms, the outer portions of said blades being inclined in a direction in which the blade is moving.

3. A current-motor, comprising a float, a frame in which the float is guided, radial arms mounted to rotate on the float, blades having swinging connection with the arms, rollers on the outer ends of said blades, an incline at one end of the float, with which said rollers are designed to engage to move the blades to horizontal position, means for locking the blades in said horizontal position, means at the opposite end of the float for releasing the locking devices and means for shifting said releasing means out of releasing position.

4. A current-motor comprising a float, arms mounted to rotate on the float, a shaft extended upward from the arms, rod connections between said shaft and the arms, a sheave arranged to rotate with the shaft, but through which the shaft is vertically movable by the rise and fall of water, swinging blades carried by the arms, means for locking the blades in inoperative position at each rotation of the wheel, and means for releasing the blades to move to operative position.

5. In a current-motor, a plurality of radial arms mounted to rotate in a horizontal plane, blades carried by the arms, a shaft extended upward from the arms, a sheave on said shaft, a tower, sprocket-wheels at the upper portion of said tower, sprocket-wheels at the lower portion of said tower, a sheave on the shaft of the upper sprocket-wheels, chains engaging with the sprocket-wheels, buckets carried by said chains, transmission-cable extending from the first-named sheave to the second-named sheave, idlers over which said transmission-cable passes, and tension-rollers with which the cable engages.

841,548. CARRIAGE-BOW SUPPORT. RUFUS C. LEDBETTER, Aspermont, Tex. Filed Mar. 8, 1906. Serial No. 304,941.

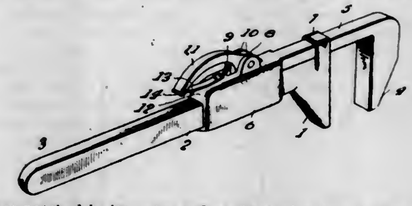


Claim.—1. A carriage-bow support comprising a frame having spaced arms, springs secured between said arms, a supporting-plate sustained upon said springs and adapted to rock thereon, a support secured to said plate and provided with end heads, curved to fit a carriage-bow, said heads being disposed upon opposite sides of the frame, substantially as described.

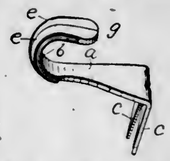
2. A carriage-bow support comprising a frame adapted to be secured to a rail-bolt and provided with spaced arms, springs secured between said arms to the frame, and a supporting-plate connected to the upper ends of the springs and adapted to rock between the arms, and a support secured to said plate and provided with a head at each end thereof, said head being lined with rubber or other cushioning material, substantially as described.

841,549. WRENCH. ROLAND H. LEGG, Carthage, Mo. Filed Apr. 4, 1906. Serial No. 309,893.

Claim.—The herein shown and described wrench comprising a main shank having an integral jaw and keeper at one end projected therefrom in opposite directions, the outer portions of the keeper and jaw being in the same plane, a second shank slidable upon the main shank through the keeper thereof and provided at its outer end with a jaw and at its inner end with a sleeve snugly embracing the main shank and coöperating with the aforesaid keeper to hold the said second shank in place, the sleeve having a slot in the side corresponding with the shank extended therefrom, and having lugs projected outward therefrom in line with the sides of the slot, an eccentric locking member pivoted between the lugs and operating in the slot of the sleeve and having a curved finger-piece notched in its outer end, and a spring attached to the rear end of the sleeve and seated in the notched end of the finger-piece and exerting a pressure thereon to hold the locking member in engagement with the main shank.



841,550. METALLIC HOOK. JOHN J. LEONARD, Springfield, Mass. Filed Oct. 9, 1906. Serial No. 338,152.

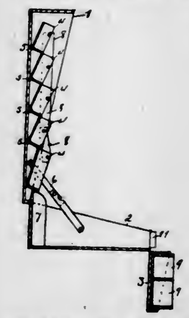


Claim.—1. As an improved article of manufacture, a hook formed of sheet metal with the hook portion doubled by bending side pieces down upon the plane of the hook and parallel therewith.

2. A sheet-metal hook formed of a blank, as shown in Fig. 1, having the head portion reinforced by bending the side portions over against the central portion and provided with spurs *c* at the opposite end thereof, substantially as shown.

3. A hook formed of sheet metal having engaging spurs *c* provided with recesses *f*, substantially as shown.

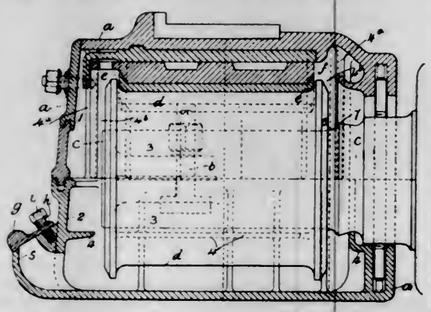
841,551. DISPLAY-CABINET. EDGAR J. LOOMIS, Cambridge, N. Y. Filed Mar. 2, 1906. Serial No. 303,912.



Claim.—1. A display-cabinet consisting of a plurality of sections hinged together, the upper or cover section carrying tipping trays arranged to automatically tip when the cover portion is raised and project their contents forward so as to be easily taken from their compartments, said trays also tipping back when the cabinet is closed, the bottom of each tray when so tipped back becoming a cover for the tray beneath it and having means for causing said tipping, the middle or body portion being box-like in form and having hinged thereto a portion that will hang at practically right angles with the middle or body portion when the cabinet is open, the hanging portion carrying compartments or trays substantially as described.

2. A display-cabinet being when closed box-like in form and suitable for shipping purposes with its contents, the cover portion containing automatic tipping trays or compartments when the cover is raised or lowered, and having means for tipping them, all arranged so that when the cabinet is opened the trays or compartments tip forward allowing their contents to be easily obtained and when tipped back the bottom of each tray or compartment becoming the cover for the one beneath it so the contents cannot spill out of said compartment, the body portion having a part thereof hinged thereto and arranged to swing into a position at practically right angles thereto and carrying compartments substantially as described.

841,552. AXLE-BOX. HAROLD E. LORD, Dukinfield, England. Filed Aug. 31, 1905. Serial No. 276,585.



Claim.—1. The combination with an axle-box having an oil-well of an axle having an improved journal passing into said box, said journal being larger than the adjacent portions of said axle and being provided at each of its ends with a flange adapted to feed oil onto the ends of the bearing of said journal, the lower portions of both said flanges and said journal dipping into said oil-well, substantially as set forth.

2. The combination with an axle-box having an oil-well of an axle having an improved journal passing into said box, said journal being larger than the adjacent portions of said axle and being provided at each of its ends with a flange that is coned on its outer face and adapted to spray the oil against the ends of the bearing-block of said journal, the oil rising up the cone through centrifugal force, the lower portions of both said flanges and said journal dipping into said oil-well, substantially as set forth.

3. The combination with an axle-box having an oil-well and inwardly-extending flanges, of an axle having a journal passing into said box, said journal being larger than the adjacent portions of said axle and being provided at each of its ends with a flange the lower portions of both said flanges and said journal dipping into said oil-well, the inwardly-extending flanges of said axle-box being arranged to form channels adapted to receive the superfluous oil lifted by said journal and thrown tangentially from the journal-flanges by centrifugal force and adapted to prevent the oil spraying toward the ends of the axle-box and guide it back to the oil-well, substantially as set forth.

4. The combination with an axle-box having an oil-well and inwardly-extending flanges adapted to control the splashing of oil therein of an axle having a journal passing into said box, said journal being larger than the adjacent portions of said axle and being provided at each of its ends with a flange that is coned on its outer face, the lower portions of both said flanges and said journal dipping into said oil-well, the inwardly-extending flanges of said axle-box being arranged to form channels adapted to receive the superfluous oil lifted by said journal and thrown tangentially from the journal-flanges by centrifugal force and adapted to prevent the oil spraying toward the ends of the axle-box and guide it back to the oil-well, substantially as set forth.

841,553. NUMBER-TRANSPARENCY FOR VEHICLES. DANIEL LYNCH, Chicago, Ill., assignor of one-half to Frederick H. Herhold, Chicago, Ill. Filed Nov. 3, 1905. Serial No. 285,788.



Claim.—1. A number-indicator for vehicles comprising a suitable rectangular metal box having one longitudinal side cut away; a door hinged at one side of and tightly closing said opening, said door comprising a metallic main frame D having the inner edges of its outer surface countersunk, a substantially L-shaped retaining-frame E removably secured to the front of said main frame and turned back over the edges of the same, and a number-transparency G secured in the seat formed by the countersunk portion of said main frame and the vertical portion of said retaining-frame; and means extending from the outside of said box for illuminating said transparency, substantially as described.

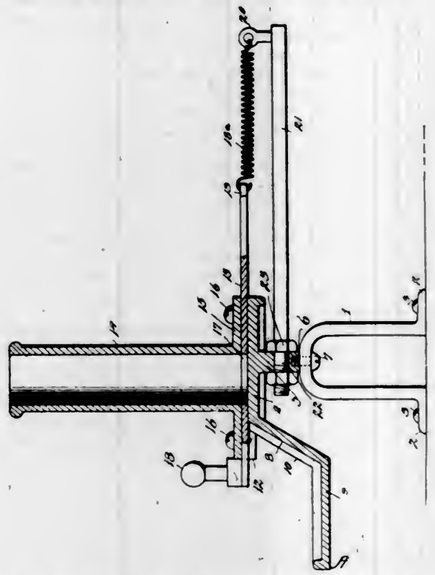
2. A number-indicator for vehicles comprising a suitable rectangular metal box having one longitudinal side cut away; a door hinged at one side of and tightly closing said opening, said door comprising a metallic main frame D having the inner edges of its outer surface countersunk and having a frustum-pyramidal reflector I secured to the inside of said main frame and projecting into said box, a substantially L-shaped retaining-frame E removably secured to the front of said main frame and turned back over the edges of the same, and a number-transparency G secured in the seat formed by the countersunk portion of said main frame and the vertical portion of said retaining-frame; and means extending from the outside of said box for illuminating said transparency, substantially as described.

841,554. COMBINED TURN-DESIGNATING APPARATUS AND COIN-COUNTER. AURELIUS W. MAHON, Richmond, Va. Filed Sept. 9, 1905. Serial No. 277,749.

Claim.—1. In a device of the character described, a support comprising a horizontal base, a horizontal tray, and an inclined guide integrally uniting the base and tray, said base being formed with an integrally-depending stud provided with a horizontal opening, a rearwardly-extending and horizontal arm having one of its ends threaded and passed through the opening in the stud, nuts mounted upon the arm and engaging the stud to secure the arm in position, a tube secured to the base, a slide mounted upon the base beneath the tube, and a spring having one of its ends secured to the slide and its other end to said arm.

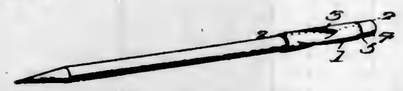
2. In a device of the character described, a support provided with a depending stud, said stud being provided with a horizontal opening, a rearwardly-extending and horizontal arm having one of its ends threaded and passed through the opening in the stud, nuts mounted upon the threaded end of the arm and engaging the stud to secure the arm in position, a tube secured to the support, a slide mounted upon the support beneath the tube, and a spring having one of its ends secured to the slide and its other end to the arm.

3. In a device of the character described, a support provided with a depending stud, said stud being provided with a vertical socket and a horizontal opening, a rearwardly-extending arm having one of its ends threaded and passed through the horizontal opening in the stud, said arm being provided at its rear end with an eyebolt, nuts mounted upon the threaded end of the arm and engaging the stud to secure the arm in applied position, a tube secured to the support, a slide mounted upon the support beneath the tube, and a spring having one of its ends secured to the slide and its other end to the eyebolt.



4. In a device of the character described, a support comprising a base formed with a depending stud provided with a vertical socket and a horizontal opening, a tray and an inclined guide integrally uniting the base and tray, said support being provided with marginal flanges, a rearwardly-extending and horizontal arm having one of its ends threaded and passed through the horizontal opening in the stud, said arm having its rear end provided with an eyebolt, nuts mounted on the threaded end of the arm and engaging the stud to secure the arm in position, a tube provided with a horizontally-disposed flange, means engaging the flanges of the tube and base to secure the tube in applied position, a slide mounted upon the base beneath the tube, and a spring having one of its ends secured to the slide and its other end to the eyebolt.

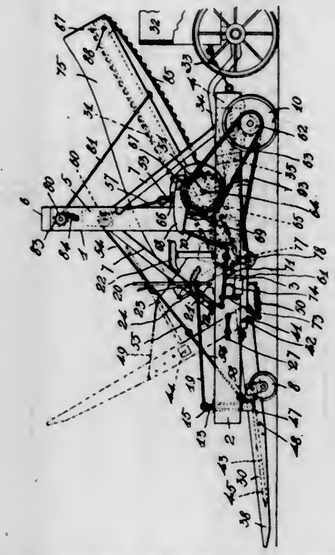
841,555. PENCIL-SHARPENER. PETER MAKIN, Sparrows Point, Md. Filed Apr. 5, 1906. Serial No. 309,781.



Claim.—1. A pencil-sharpener comprising a tubular member provided with a pair of diverging slits of comparatively different lengths to permit a portion of the member to be bent inwardly to provide a cutting-blade.

2. A pencil-sharpener comprising a tubular member provided with pairs of slits, the slits of each pair being of relatively different lengths and communicating with and diverging from each other to permit portions of the member to be bent inwardly to provide blades having their cutting edges arranged at an angle and in an annular plane with relation to the longitudinal axis of the member.

841,556. SHOCK-LOADER. FRANK MART, Wakonda, S. Dak. Filed Mar. 8, 1906. Serial No. 304,907.



Claim.—1. In a shock-loading machine, the combination of a body or frame, a shock-lifting fork disposed longitudinally with respect to the body or frame, projecting forwardly therefrom and having its rear end pivotally connected thereto, a crank-shaft, means to rotate said crank-shaft in one direction, connecting between a crank of said shaft and said fork to cause said crank-shaft at each rotation thereof to raise and lower said fork, and a conveyer disposed longitudinally with reference to the body or frame and having its front end in rear of the fork, substantially as described.

2. In a shock-loading machine, the combination of a body or frame, a shock-lifting fork disposed longitudinally with reference thereto, projecting forwardly therefrom and having its rear end pivotally connected thereto, a crank-shaft, means to rotate said crank-shaft in one direction, connections between a crank of said shaft and said fork to cause said crank-shaft at each rotation thereof to raise and lower said fork, a conveyer disposed longitudinally with reference to the body or frame, having its front end disposed in rear of the fork and pivotally connected to the body or frame, and means to raise and lower the rear end of said conveyer, substantially as described.

3. In a machine of the character described, the combination of a body or frame, a conveyer thereon, a shock-lifting fork pivotally mounted at its inner end to swing upwardly and rearwardly, a crank-shaft, means to rotate said crank-shaft in one direction and a connection between the crank of said shaft and said fork.

4. In a machine of the character described, the combination of a body or frame, a conveyer thereon, a shock-lifting fork pivotally mounted at its inner end to swing upwardly and rearwardly, a crank-shaft, a connection between the crank of said shaft and said fork, means for rotating said crank-shaft in one direction, and means for throwing said rotating means into and out of operation.

5. In a machine of the character described, the combination of a body or frame, a conveyer thereon, a shock-lifting fork pivotally mounted at its inner end to swing upwardly and rearwardly, an operating means for said fork comprising a crank-shaft, a driving-wheel upon said shaft, a pawl-and-ratchet device between said shaft and said driving-wheel, and a lever for controlling said pawl-and-ratchet device.

6. In a machine of the character described, the combination of a wheel-supported frame, a swinging fork, a crank-

shaft, connecting elements between the crank and the fork for raising and lowering said fork, a drive-wheel loosely mounted upon said shaft, driving connections between said wheel and one of the supporting-wheels of said frame, a ratchet-wheel attached to said drive-wheel, a plate or disk secured upon said shaft, a spring-actuated dog pivoted upon said plate and adapted to engage said ratchet-wheel, and a spring-actuated trip-lever to coact with said dog, substantially as described.

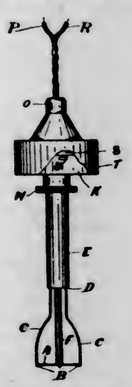
7. In a machine of the character described, the combination of a frame or body, a conveyer thereon, an upwardly and rearwardly swinging fork pivotally mounted in the front portion of said frame, a double crank-shaft, means to rotate said crank-shaft in one direction, guides upon said frame, and flexible connections engaged with said guides and secured to the cranks of said shafts and to said fork.

8. In a machine of the character described, the combination of a frame or body, a conveyer thereon, an upwardly and rearwardly swinging fork pivotally mounted in the front portion of said frame, a double crank-shaft, means to rotate said crank-shaft in one direction, guides upon said frame, flexible connections engaged with said guides and secured to the cranks of said shafts and to said fork, means for rotating said crank-shaft to elevate said fork, and a spring for starting said fork to its lowered position.

9. In a shock-loader, the combination of a main frame, a pivotally-mounted fork, a crank-shaft, means to rotate said crank-shaft, and connections between a crank of said shaft and said fork to cause the latter to be raised and lowered by the crank-shaft while the latter is making one revolution in one direction.

10. In a shock-loader, the combination of a main frame, a pivotally-mounted fork, a crank-shaft, means to rotate said crank-shaft, connections between a crank of said shaft and said fork to cause the latter to be raised and lowered by the crank-shaft while the latter is making one revolution in one direction, means to rotate said crank-shaft and means to prevent the rotation thereof without discontinuing the action of the rotating means.

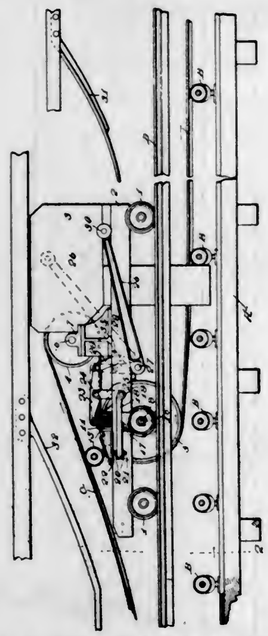
841,557. AUTOMATIC ELECTRIC FIRE-ALARM. WILLIAM G. MEDDINGS, Remuera, near Auckland, New Zealand. Filed Mar. 6, 1906. Serial No. 304,569.



Claim.—1. The combination in the automatic electric fire-alarm specified of the disk or piece of metal made of a mixture of bismuth tin and lead which will soften in a temperature of 150° Fahrenheit held in claw formation of three pieces of brass wire fixed to one end of small brass tube, small brass rod passed up center of said tube with lower end of said rod placed to press against middle of said disk or piece of metal, spiral spring around said rod held between nut fixed to said rod and lower case, upper end of said rod passing upwardly out of said tube into said lower case, electric contacts adjusted inside of said case one being a fixture and the other movable, upper end of said rod fitted to actuate said movable contact, insulated wires connected to said contacts upper case and bayonet-joints fitted therein and in lower case, cap on top of upper case, vulcanite fitted in said cap and top of upper case, nut fastened to under part of said lower case and upper end of said tube-screw fitted to said nut for the purpose set forth substantially as described and illustrated.

2. The combination in the automatic electric fire-alarm specified of the disk or piece of metal made of a mixture of bismuth tin and lead which will soften in a temperature of 150° Fahrenheit held in claw formation of three pieces of brass wire fixed to one end of small brass tube, small brass rod passed up center of said tube with lower end of said rod placed to press against middle of said disk or piece of metal, spiral spring around said rod held between nut fixed to said rod and lower case, upper end of said rod passing upwardly out of said tube into said lower case, electric contacts adjusted inside of said case one being a fixture and the other movable, upper end of said rod fitted to actuate said movable contact, insulated wires connected to said contacts and to source of electrical energy an upper and lower case provided with bayonet-joints, cap on top of upper case, vulcanite fitted in said cap and top of upper case, nut fastened to under part of said lower case and upper end of said tube-screw fitted to said nut for the purpose set forth substantially as described and illustrated.

841,558. TRIPPER OR DELIVERER FOR BELT CONVEYERS. EDWIN H. MESSITER, New York, N. Y. Filed Apr. 8, 1905. Serial No. 254,485.



Claim.—1. A tripper or deliverer for conveyers having a traction-wheel shiftable into and out of engagement with a track or support.

2. In a tripper or deliverer for conveyers, a shiftable traction-wheel and means for moving the traction-wheel into and out of engagement with the track or support.

3. In a tripper or deliverer for conveyers, a shiftable traction-wheel adapted for movement into and out of engagement with a track or support, and means for applying power continuously to said traction-wheel.

4. In a tripper or deliverer for conveyers, a shiftable traction-wheel, means for supplying power to said traction-wheel and means for moving said traction-wheel into and out of engagement with the track or support.

5. In a tripper or deliverer for conveyers, a shiftable traction-wheel driven by the conveyer and adapted for movement into or out of engagement with the track or support.

6. In a tripper or deliverer for conveyers, a traction-wheel shiftable into or out of engagement with the track or support, and a pulley or drum operatively connected with the traction-wheel and directly driven by the conveyer.

7. In a tripper or deliverer for conveyers, a shiftable traction-wheel adapted for movement into and out of engagement with a track or support, means for applying power to the traction-wheel, and a brake arranged to operate upon said traction-wheel when out of engagement with the track or support.

8. In a tripper or deliverer for conveyers, a shiftable traction-wheel adapted for movement into and out of engagement with a track or support, and a fixed brake with which the traction-wheel engages when out of engagement with the track or support.

9. In a tripper or deliverer for conveyers, a shiftable traction-wheel adapted for movement into and out of engagement with a track or support, a brake with which said traction-wheel contacts when not in engagement with the track or support, and means for holding the traction-wheel normally in contact with said brake.

10. In a tripper or deliverer for conveyers, a shiftable traction-wheel adapted for movement into and out of engagement with the track or support and an adjustable brake with which said traction-wheel contacts when not in engagement with the track or support.

11. In a tripper or deliverer for conveyers, a shiftable traction-wheel adapted for movement into or out of engagement with a track or support, and a spring by which said traction-wheel is normally held out of engagement with the track or support.

12. In a tripper or deliverer for conveyers, a shiftable traction-wheel normally held out of engagement with the track or support, and means for forcing said traction-wheel into engagement with the track and holding it in such engagement.

13. In a tripper or deliverer for conveyers, a bend-pulley over which the conveyer runs and a traction-wheel rigidly connected with said bend-pulley.

14. In a tripper or deliverer for conveyers, a shiftable bend-pulley over which the conveyer runs, and a traction-wheel rigidly connected with said bend-pulley.

15. In a tripper or deliverer for conveyers, a vertically-shiftable bend-pulley over which the conveyer runs, and a traction-wheel rigidly connected with said bend-pulley.

16. In a tripper or deliverer for belt conveyers, a shiftable traction-wheel adapted for movement into and out of engagement with a track or support and means for shifting said traction-wheel, said shifting means including a lever and a pair of toggle-links.

17. In a tripper or deliverer for conveyers, a shiftable traction-wheel and means for shifting the traction-wheel said shifting means including a lever, a pair of toggle-links, and a stop to limit the movement of said lever.

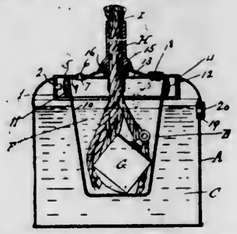
18. In a tripper or deliverer for conveyers, a shiftable traction-wheel adapted for movement into and out of engagement with a track or support, means for holding said traction-wheel normally out of engagement with the track or support, and means including a tripping-cam for overcoming said means for holding the traction-wheel normally out of engagement with the track or support and for forcing the traction-wheel into engagement with said track or support.

19. In a traveling tripper or deliverer for belt conveyers, means for obtaining a hold on the belt to cause the tripper to travel in a forward direction at the speed of the belt, a traction-wheel, and means for transmitting movement from the belt to the traction-wheel to cause the tripper to travel in the direction opposite to the travel of the belt.

20. In a traveling tripper for belt conveyers, means for automatically reversing the direction of travel of the tripper, said means comprising a shiftable traction-wheel driven in a direction adapted to impart movement to the tripper in the direction opposite to its direction of travel and means for moving said traction-wheel into engagement with a track and holding it in such engagement.

21. In a traveling tripper for belt conveyers, means for imparting movement to the tripper, said means comprising a belt-driven traction-wheel engaging a track or support, and means for reversing the direction of movement of said tripper, said reversing means including means for moving said traction-wheel out of engagement with the track or support and applying a brake thereto.

841,559. LAMP. PENROSE N. MILSTED, Newark, N. J. Filed Oct. 23, 1906. Serial No. 340,118.



Claim.—1. A lamp having an inner chamber with readily-frangible walls, and a surrounding chamber, in combination with means contained within the lamp for breaking said frangible walls of the inner chamber.

2. A lamp having an inner chamber with readily-frangible walls, and a surrounding chamber, in combination with means contained within the lamp for breaking said frangible walls of the inner chamber upon a shock to the lamp.

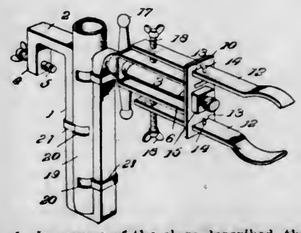
3. A lamp having an inner chamber with readily-frangible walls, and a surrounding chamber, in combination with a weight within said inner chamber.

4. A lamp having an outer chamber, a cap therefor provided with an opening, an inner chamber having readily-frangible walls, a wick leading thereto, means for detachably attaching said inner chamber to said cap, and means contained within the lamp for breaking the frangible walls of said inner chamber.

5. A lamp having an inner chamber with readily-frangible walls, an inflammable substance therein, a wick leading thereto, a surrounding chamber, a non-inflammable substance occupying the space between the walls of the inner and outer chambers, and means contained within the lamp for breaking the walls of the inner chamber.

6. A lamp having an inner chamber with readily-frangible walls, an inflammable substance therein, a wick leading thereto, a surrounding chamber, a non-inflammable substance occupying the space between the walls of the inner and outer chambers, and a weight within said inner chamber.

841,560. WHIP-HOLDER. EARL H. MORRIS, Ludlow, Ill., assignor of one-third to Frank Graham, Ludlow, Ill. Filed July 6, 1906. Serial No. 325,024.



Claim.—1. In means of the class described, the combination of a bracket, a whip-socket therefor, an arm projecting from the bracket, a plurality of clamp-members rota-

tably mounted on said arm, and means for effecting clamping action of said clamp members.

2. In means of the class described, the combination of a bracket, a whip-socket therefor, an arm projecting from the bracket, a yoke rotatably mounted on the arm, means for fixing the position of the yoke at a desired adjustment, and clamp members carried by said yoke.

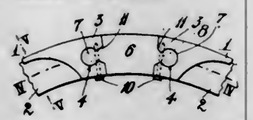
3. In means of the class described, the combination of a bracket, a whip-socket therefor, an arm projecting from the bracket, a yoke rotatably mounted on the arm, means for fixing the position of the yoke at a desired adjustment, clamp members connected intermediate of the ends thereof with the yoke for movement with the latter, and means at the inner ends of the clamp members for effecting clamping action thereof.

4. In means of the class described, the combination of a bracket, an arm projecting from the bracket, a yoke movably mounted on said arm, means for adjusting the yoke, and clamp members adjustably connected with the yoke.

5. In means of the class described, the combination of a bracket, an arm projecting from the bracket, a yoke movably mounted on said arm, means for adjusting the yoke, clamp members adjustably connected with the yoke, set-screws for effecting clamping action of the clamp members, and means at opposite ends of the yoke for fixing the position thereof relative to the arm.

6. Means of the class described embodying a bracket, clamping means for attaching the bracket to a support and including a yoke rotatably mounted upon the bracket, clamp members movably mounted on the yoke, means for fixing the adjustment of the yoke, and means for effecting clamping action of the clamping members.

841,561. ADJUSTABLE WHEEL-TIRE. SAMUEL F. MUDGE, Albury, New South Wales, Australia. Filed Mar. 5, 1906. Serial No. 304,341.



Claim.—1. An improved adjustable wheel-tire formed in sections, enlarged ends on said sections, dovetail recesses formed in said ends and tie-pieces formed with ends corresponding in shape to said recesses, in combination with a wheel having its rim formed in sections corresponding to the tire-sections.

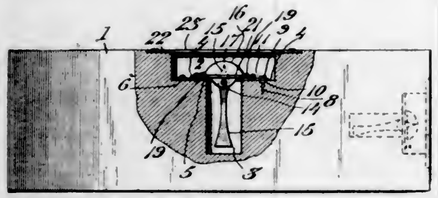
2. In a wheel-tire of the kind described enlarged ends on each section of the tire, dovetail recesses extending from the inside and partly through said enlarged ends, a shoulder formed at the end of each recess, a hole extending through said shoulder, in combination with a cambered tie-piece, dovetail ends thereon and lateral pins on said ends substantially as described.

3. In a wheel-tire of the kind described an enlargement on each end of the tire-sections corresponding in thickness with the rim of the wheel, dovetail recesses extending from the inside and partly through said enlarged ends, a shoulder formed at the ends of each recess, a hole extending laterally through said shoulder, a feather-edge flange on said sections of tires, in combination with a tie-piece, dovetail ends thereon, lateral pins on said ends and fastening-bolts extending through said dovetailed ends and through the enlarged end of the tire-sections substantially as set forth.

4. In a wheel-tire of the kind described a cambered tie-piece, rounded ends on said tie-piece, a lateral extension on each of said ends, a narrow neck connecting said ends to the body of the tie-piece, and radial holes through said neck substantially as described.

841,562. PLUMB-LEVEL. LEWIS B. NELSON, Clearmont, Mo. Filed May 9, 1906. Serial No. 315,910.

Claim.—1. In a device of the character described, the combination of a socket, a frame-plate arranged therein, said plate being provided with a slot, a pendulum-pointer pivoted to the plate and projecting upward through said slot, a transparent hood detachably secured to the plate and inclosing the pointer, and a plate extending across the top of the socket through which the hood and pointer may be observed.



2. In a device of the character described, the combination of a stock having a socket, a slotted frame-plate arranged therein, a pendulum-pointer pivoted to said plate and projecting through the slot therein, a transparent hood arranged above said slot and inclosing the pointer, and a holder detachably securing the hood to the frame plate.

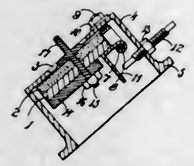
3. In a device of the character described, the combination of a stock having a socket, a plate extending across the top of the socket and having a sight-opening, a frame-plate arranged horizontally in the socket and having a slot, a pendulum-pointer pivoted to said plate and projecting upward through said slot, and a transparent hood detachably secured to the plate and inclosing the pointer and having a gage-mark, said hood and pointer being visible through said sight-opening.

4. In a device of the character described, the combination of a stock having a socket, a frame-plate arranged therein and provided with a slot and threaded bearing-sockets on opposite sides thereof, bearing-screws arranged in said sockets and having pointed inner ends, a pendulum-pointer projecting through the slot in the frame-plate and having bearing-sockets receiving the pointed ends of the screws, and a transparent gage-hood detachably secured to the frame-plate and receiving and coöperating with the pointer.

5. In a device of the character described, the combination of a stock having upper and lower sockets and shoulders at the point of intersection thereof, a slotted supporting-plate secured at one end to one of said shoulders and having a slot at its opposite end, a transparent hood carried by the plate and having a gage-mark, a pendulum-pointer projecting through the central slot in the plate and into the hood and pivoted to the plate, and a securing and truing screw engaging the slot in the end of the plate and adjustably fastening the same to the other shoulder.

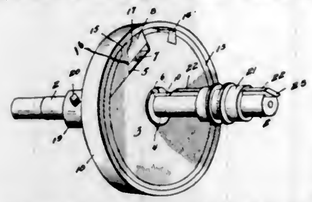
6. In a device of the character described, the combination of a stock having a socket, a frame-plate secured therein and having a slot, a pendulum-pointer pivoted to the plate and projecting upward through the slot, a holding-plate detachably secured to the frame-plate, and a transparent hood detachably connected with the holding-plate and receiving the pointer and provided with a gage-mark.

841,563. PULSATING VALVE FOR HYDRAULIC RAMS. JOHN NORTHEY, Christchurch, New Zealand. Filed Sept. 18, 1905. Serial No. 278,878.



Claim.—A pulsating valve for hydraulic rams comprising in combination, a casing having a discharge-opening, a metal disk valve hinged upon a screwed stud passing through said casing, a rubber face upon said valve adapted to close said opening, a tailpiece projecting from the hinge of the valve, a set-screw passing through the casing adapted to contact with said tailpiece, a balance-weight secured to the under side of the valve, and a stud passing through and securing together the valve the rubber face, and balance-weight and having an extension projecting beyond the casing by which the valve may be held substantially as specified.

841,564. FRICTION-CLUTCH. RICHARD C. NUGENT, Cincinnati, Ohio. Filed Aug. 28, 1906. Serial No. 332,357.



Claim.—1. In a friction-clutch, a rotatable shaft having a disk fixed thereto provided with a radial bore, a pin mounted in said bore, one terminal thereof having an enlarged portion, a wedge element carried at the other terminal of the pin and having an inclined face, a split expansible ring mounted at the periphery of the disk, a block carried by the ring and having an inclined surface for contact with the inclined face of the wedge element, a block fixed to the disk at the periphery thereof for forming an abutment for one terminal of the split ring, a shell-pulley surrounding the disk and the expansible ring for frictional engagement with the latter, a sleeve slidable on the shaft and having a key, said shaft provided with a key-guideway for receiving the key, and means for moving the sleeve to bring the key into engagement with the enlarged portion of the pin for actuating the wedge element to impart movement to the expansion-ring for frictional engagement with the shell-pulley to lock the same with the disk and cause corresponding movement therewith.

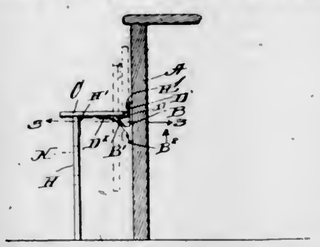
2. In a clutch, the combination with a shaft and a disk rigid thereon, of a spring-retracted pin radially mounted in the disk, a wedge-segment carried by the outer end of said pin abutting against a shoulder on the disk, an expansible ring mounted circumferentially on the disk, an abutment carried by the disk for engagement by the end of the expansible ring, a wedge carried by the opposite end of the ring to coöperate with the radial wedge, a shell-pulley inclosing the expansible ring, and a key to engage the inner end of the radial pin to force the same outward and cause expansion of the ring.

3. The combination with a shaft and a rigid disk thereon, a pin radially movable in the disk, a wedge element on the outer end of the pin engaged in a recessed portion in the periphery of the disk, of an expansible ring encircling the disk and having one of its ends engaging an abutment on the disk, a wedge element carried by the opposite end of the said ring adapted to be engaged by the radial wedge, a shell-pulley rotatively inclosing the disk and expansible ring, a slidable key to engage the radial pin to force the wedge radially outward.

841,565. AUTOMATICALLY-FOLDING STEP AND SEAT. SAMUEL ORR, Nashville, Tenn. Filed July 13, 1906. Serial No. 326,123.

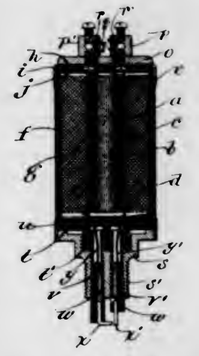
Claim.—1. In combination with a bracket member having outwardly-extending arms which are spaced apart, a spring supported by said bracket member, portions of said spring forming arms, a step to which said arms are fastened, said arms of the spring adapted to contact with the arms of the bracket member to prevent lateral movement of the step, and a hinged support fastened to the step, as set forth.

2. In combination with a bracket member having outwardly-flaring arms, a coiled spring having a central portion thereof bent to form a loop, a bolt secured to the bracket member, and upon which said loop is mounted, a



step to which the arms of said spring are fastened, and a hinged support for the step, as set forth.

841,566. SPARKING PLUG FOR EXPLOSION-ENGINES. ISRAEL C. ORSWELL, Amesbury, Mass., assignor to Orswell Igniter Company, Boston, Mass., a Corporation of Maine. Filed Jan. 25, 1906. Serial No. 297,791.



Claim.—1. A spark-plug carrying sparking electrodes and having a non-magnetic metallic casing containing an induction-coil, to the secondary of which said electrodes are connected, said casing having its walls cut away at separated intervals lengthwise the axis of the coil.

2. A spark-plug having insulated sparking electrodes projecting from the inner end of the plug, the insulation of one electrode being carried beyond the insulation of the other.

3. A spark-plug having insulated sparking electrodes, one of said electrodes being inclined or bent toward the other, the insulation of said electrode being carried approximately to the point of bend therein.

4. A spark-plug having a casing, a coil within said casing, insulated sparking electrodes, to which the secondary winding of said coil is connected, an insulating-plate at the end of said coil having an outer raised recessed portion and insulating-sleeves entering the recesses in said raised postion through which the secondary lead-wires pass to the sparking electrodes.

5. A spark-plug having a casing, and a coil within said casing, said plug being provided with one or more apertures at one end thereof through which a coil lead-wire passes, and provided also with a tapered retaining-wedge driven into the said aperture to retain the lead-wire in position.

6. A spark-plug having a casing, an induction-coil in said casing, a head closing the end of said casing, an insulating-plate between said head and said coil, a pair of insulating-sleeves passing through said head and into said insulating-plate, a conducting-plug in the end of each sleeve, sparking electrodes secured to said plugs, and insulated conductors connecting the said plugs with the

secondary of said coil and passing through said sleeves and insulating-plate.

7. A spark-plug having a casing, primary and secondary windings within the casing, a head having a threaded nipple closing one end of the casing, an insulating member within the casing between the windings and the said head and having openings through which the lead-wires from the secondary winding pass, a pair of insulating-sleeves passing through the said head and within the insulating member, said sleeves having each a tapered seat in the head, a tapered conducting-plug holding each of said sleeves to its seat, and sparking electrodes secured to the end of one of said plugs.

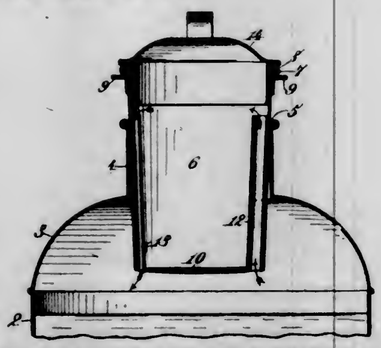
8. A spark-plug having a casing, primary and secondary windings therein, a head to which said casing is attached at one end, said head being provided with an attaching-nipple, insulation between said head and said windings, a pair of insulating-sleeves passing through said head and extending from said threaded nipple, a conducting-plug in the end of each sleeve, sparking electrodes secured each to the end of one of said plugs, and a pair of secondary lead-wires passing each from the secondary windings through the said insulation into the inner end of an insulating-sleeve and to the sparking electrode carried therein.

9. A spark-plug having a casing, an induction-coil in said casing, a head closing the end of said casing, a pair of insulating-sleeves passing through said head, sparking electrodes in the end of said head, and conductors connecting said electrodes with the secondary of said coil passing through said insulating-sleeves.

10. A spark-plug having a casing, a head provided with a threaded nipple closing the end of said casing, a pair of insulated tapered sleeves passing through the nipple, said sleeves having each a tapered seat therein, a tapered conducting-plug driven into the inner end of each sleeve to hold the same to its seat, a removable sparking electrode secured to the end of each plug, and a conductor connected to each electrode and passing out of said sleeve at its opposite end.

11. A spark-plug having a casing, primary and secondary windings therein, a head to which said casing is attached at one end, said head being provided with an attaching-nipple, insulation between said head and said windings, an insulating-sleeve passing through said head and extending from said threaded nipple, a conducting-plug in the end of said sleeve, a sparking electrode secured to the end of said plug, and a secondary lead-wire passing from the secondary windings through the said insulation into the inner end of said insulating-sleeve and to the sparking electrode carried therein.

841,567. REFRIGERATING ATTACHMENT FOR MILK-CANS. HARRY S. PARKER, Trenton, N. J. Filed Sept. 8, 1906. Serial No. 333,788.



Claim.—1. The combination with a shipping-can, of a refrigerating attachment consisting of a body tapering toward its lower reduced extremity and adapted to be frictionally wedged in the can-neck and readily removable from the latter, the attachment having opposite interior located pipes opening through the bottom thereof and terminating below the upper extremity of the same, and a single cover for closing the upper end of the attachment or the can-neck.

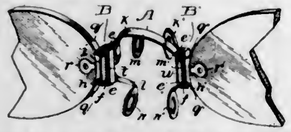
2. The combination with a shipping-can having a straight neck, of a refrigerating attachment consisting of a body tapering toward its lower reduced extremity and adapted to be removably wedged in the said can-neck, the interior of the attachment having oppositely-disposed pipes therein opening through the bottom of the same, the one pipe being larger in diameter than the other, and a single cover for closing the upper end of the attachment or the can-neck.

3. The combination with a shipping-can, of a refrigerating attachment adapted to be removably disposed in the can-neck, the attachment having interiorly-disposed pipes opening through the bottom thereof and communicating with the interior of the same, the one pipe being greater in diameter than the other, and a single cover for closing the upper end of the attachment or the can-neck.

4. The combination with a shipping-can, of a refrigerating attachment adapted to be removably disposed in the can-neck, and pipes disposed at opposite points in the interior of the attachment and opening through the bottom of the latter, the one pipe being greater in diameter than the other.

5. The combination with a shipping-can, of a refrigerating attachment adapted to be removably disposed in the can-neck, and pipes interiorly disposed in the attachment at diametrically opposite points and opening through the bottom of the same, the pipes communicating with the interior of the attachment, and a closing means removably applied to the attachment.

841,568. EYEGLASSES. FRED J. PECK, Ansonia, Conn. Filed May 26, 1905. Serial No. 262,358.



Claim.—1. In a pair of eyeglasses the combination with a rigid bridge terminating at each end in two apertured lugs the one superposed above the other, of rigid guard and lens pieces each having two apertured lugs, the one superposed above the other, each pair of the first-mentioned lugs being located between the last-mentioned lugs on the bridge-piece at its adjacent ends respectively, a journal-pin fixed between the superposed lugs at each end of the bridge respectively, spiral springs surrounding each pin between the lugs of the respective guard and lens pieces, the said springs being located in such a manner as to resist the swinging of the respective guard and lens pieces on their respective pins.

2. In a pair of eyeglasses the combination with a rigid bridge-piece terminating at each end in two vertically-disposed apertured lugs, of rigid guard and lens pieces, each having two vertically-disposed apertured lugs, each pair of lugs on one piece being located between the pair of lugs on the adjacent piece, a journal-pin extending through the superposed lugs at each end of the bridge and resilient means adapted to resist the swinging of the respective guard and lens pieces on their respective journaled connections.

3. In a pair of eyeglasses the combination with a rigid bridge-piece terminating at each end in two apertured lugs, the one superposed above the other, of rigid guard and lens pieces each having two apertured lugs the one superposed above the other, the apertures of each pair of lugs on the respective ends of the bridge-piece being in alinement with the apertures of the adjacent pair of lugs on the guard and lens pieces, a journal-pin extending through the apertures of the alined lugs at each end of the bridge respectively, spiral springs surrounding each pin between the innermost lugs the said springs being located in such a manner as to resist the swinging of the respective guard and lens pieces on their respective pins.

4. In a pair of eyeglasses the combination with a bridge having its extremities bent upon themselves forming rearwardly-extending loops or bends and flat vertical portions having outwardly-extending upper and lower apertured lugs, the said loops or bends terminating at and integral with the inner edges of said flat vertical portions, of rigid guard and lens pieces and means for yieldingly journaling said pieces to the apertured lugs on the bridge.

5. In a pair of eyeglasses the combination with a rigid bridge of rigid guard and lens pieces the said bridge having its ends terminating in one of the edges of vertical journal-plates respectively the said plates having upper and lower apertured lugs and means located on said guard and lens pieces for yieldingly journaling the same to the apertured lugs in the respective extremities of the bridge.

6. In a pair of eyeglasses the combination with a rigid bridge of rigid guard and lens pieces, the said bridge consisting of a saddle portion and vertical journal-plates having outwardly-extending upper and lower apertured lugs the ends of said saddle portion terminating in one of the edges of said vertical journal-plates respectively and the said saddle portion and vertical journal-plates being sheared, bent and twisted out of one flat or ribbon-like piece of metal and means located on said guard and lens pieces for yieldingly journaling the same to the apertured lugs in the respective extremities of the bridge.

7. In a pair of eyeglasses the combination with a rigid bridge, of a rigid guard and lens piece, the said bridge consisting of a saddle portion having its extremities bent upon themselves forming rearwardly and outwardly extending loops or bends the ends of which terminate in the respective edges of vertical journal-plates, the said journal-plates having upper and lower outwardly-extending lugs and the said saddle portion and vertical journal-plates being sheared, bent and twisted out of a single piece of flat ribbon-like metal, and means including a post located on each guard and lens piece, for yieldingly journaling the said pieces in the apertured lugs on the bridge.

8. In a pair of eyeglasses the combination with a rigid bridge-piece, of a lens-holder having rims and side arms, a vertical journal-arm having inwardly-extending upper and lower apertured lugs and rearwardly-extending guard-arms, the said vertical journal-arm, lugs and guard-arms being sheared, bent and twisted out of one flat or ribbon-like piece of metal and rigidly attached to said lens-holder, means for journaling the said apertured lugs to the adjacent ends of the bridge-piece and resilient means adapted to resist the swinging of the respective lugs on their respective journal connections.

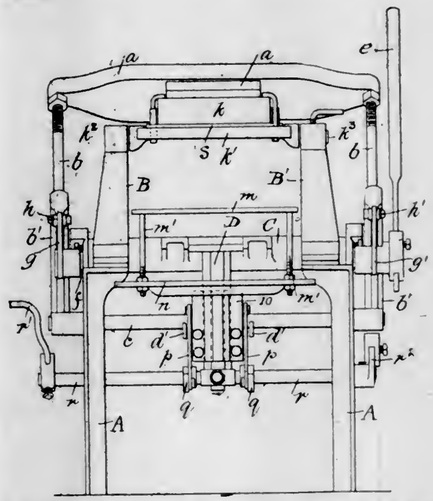
9. In a pair of eyeglasses the combination with a rigid bridge-piece, of a lens-holder having rims and side arms, a vertical journal-piece having inwardly-extending upper and lower apertured lugs and rearwardly-extending guard-arms the said vertical journal-piece, lugs and guard-arms being sheared, bent and twisted out of one flat or ribbon-like piece of metal, means including a post for journaling said apertured lugs to the adjacent ends of the bridge and resilient means including a spiral spring surrounding said post the said spring being located in such a manner as to resist the swinging of the lugs on the post.

10. In a pair of eyeglasses the combination with a rigid bridge-piece, of a lens-holder having rims and side arms, a flat vertical journal-piece having inwardly-extending upper and lower apertured lugs and from its rearward edge having rearwardly-extending guard-arms, the said vertical journal-piece, lugs and guard-arms being sheared, bent and twisted out of one flat or ribbon-like piece of metal, means for journaling the said apertured lugs to the adjacent portions of the bridge-piece, and resilient means adapted to resist the swinging of the respective lugs on their respective journal connections.

11. In a pair of eyeglasses the combination with a rigid bridge-piece, of a lens-holder having rims and side arms, a flat vertical journal-piece having inwardly-extending upper and lower apertured lugs and from its rearward edge having rearwardly-extending guard-arms, the said vertical journal-piece, lugs and guard-arms being sheared, bent and twisted out of one flat or ribbon-like piece of metal, means including a post for journaling said apertured lugs to the adjacent ends of the bridge and resilient means including a spiral spring surrounding said post the said spring being located in such a manner as to resist the swinging of the lugs on the post.

12. In a pair of eyeglasses, the combination with a rigid bridge-piece, of guard and lens pieces each consisting of rims and side arms, a flat vertical journal-piece having inwardly-extending upper and lower apertured lugs and guards terminating in said flat vertical journal-piece at their forward ends, the said journal-piece, lugs and guards being sheared, bent and twisted out of one flat or ribbon-like piece of metal, and rigidly attached to the lens-holder and means for yieldingly journaling the said apertured lugs to the adjacent portions of the bridge-piece.

841,569. SAND-MOLDING MACHINE. JAMES PICKLES, Bradford, England. Filed Oct. 18, 1905. Serial No. 283,228.

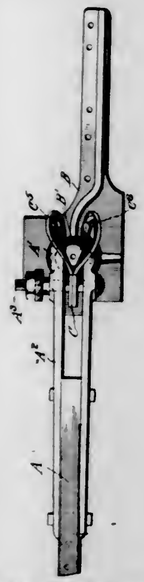


Claim.—A sand-molding machine comprising a supporting-frame formed of end standards and a cross-stay; a guide carried by said cross-stay and extending downwardly therefrom intermediate the end standards; a sliding frame carried by said guide, said sliding frame carrying a table; a revoluble table supported above said sliding table; a rammer movable from and to a position above said revoluble table, said rammer having its pivot end mounted within slots formed in said end standards, whereby a vertical limited movement may be imparted to said rammer; means for moving said rammer to its position above the revoluble table and then vertically in a downward direction; and means for moving said sliding table vertically to a point in juxtaposition to said revoluble table.

841,570. CUSHION FOR BALL-AND-SOCKET JOINTS. CARNOT B. PINCKNEY, Brunswick, Ga. Filed Oct. 5, 1906. Serial No. 337,553.

Claim.—1. The combination substantially as herein described of the ball, the socket-sections, the bolt connecting said sections adjacent to the ball, and the packing consisting of a plate of flexible material having a body portion and flaps extending longitudinally therefrom and having said body portion folded on a central line and provided on opposite sides of the said line with coincident openings receiving the bolt connecting the socket-sections, a rivet connecting the side wings above said bolt and a button on one of the flaps adjacent to its free end engaging a but-

tonhole on the other flap for connecting said flaps on the opposite side of the ball from the bolt connecting the socket-sections.



2. A ball and a socket therefor, combined with a cushion comprising a plate having a body portion and flaps extending longitudinally therefrom within the socket and on opposite sides of the ball and provided with fastening devices for detachably connecting the free end of the flaps when the cushion is folded about the ball, substantially as set forth.

3. The combination of a ball-socket, a ball therein, and a cushioning-packing in the form of flaps extended on opposite sides of the ball and beyond the same and interposed between the ball and the socket.

4. The combination with the ball and the socket-sections fitted thereto, of a cross-bolt connecting the socket-sections on one side of the ball, and a cushion having side flaps or wings fitting on opposite sides of the ball and between the same and the socket-sections and held on one side of the ball by the cross-bolt, and a detachable connection between said flaps or wings on the opposite side of the ball from the said cross-bolt, substantially as set forth.

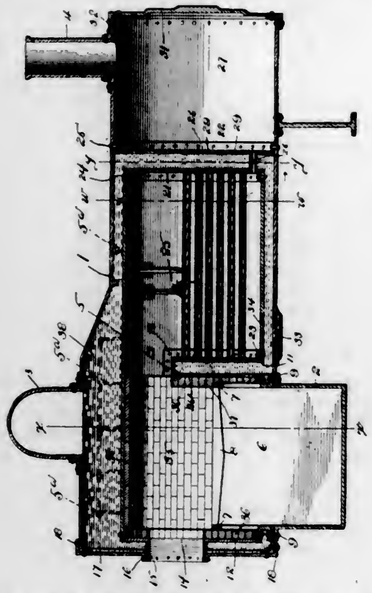
5. The combination of the ball, the socket receiving the ball, and the cushioning-plate folded on a central line forming the opposite wings fitting between the ball and the socket, substantially as set forth.

6. The combination of the ball, the socket receiving the ball, the cushioning-plate folded on a central line, the side wings extending along the opposite sides of the ball and between the same and the socket, and devices for connecting said side wings on the opposite side of the ball from the central fold of the cushion, substantially as set forth.

841,571. BOILER. JAMES RENSHAW, Point Marion, Pa. Filed May 22, 1906. Serial No. 318,177.

Claim.—1. In a boiler, the combination with a casing having a steam-dome, an ash-pan, an exhaust-stack, and heads, of an inner cylindrical shell mounted within said casing, and forming a water-jacket, said shell having a lined combustion-chamber formed at its rear end, a tubular-headed structure mounted in said shell and consisting of a bridge-wall, a tube-head and a water-jacket head, tubes arranged between said bridge-wall and said tube-head, draft-flues circumferentially arranged between said tube-head and said water-jacket head, and means to permit of easy access being had to the interior of said casing and said shell, substantially as described.

2. In a boiler, the combination with a casing, of a cylindrical shell mounted within said casing and forming a water-jacket, said shell having a combustion-chamber formed in its rear end, a headed tubular structure mounted in the opposite end of said shell, said structure consisting of a bridge-wall, tubes, and a head adapted to close said shell, draft-flues carried by said head, and establishing communication between the interior of said shell and the front end of said casing, substantially as described.



3. A boiler of the type described consisting of a casing, an inner cylindrical shell mounted in said casing and forming a water-jacket within said casing, said shell having a combustion-chamber formed therein, a headed tubular structure, mounted in said shell, said structure consisting of a bridge-wall, heads, tubes arranged between said heads, and means to permit of easy access being had to the interior of said casing and said shell, substantially as described.

4. A boiler consisting of a casing, a shell mounted within said casing and forming a water-jacket, said shell having a combustion-chamber formed therein, and a headed tubular structure mounted in said shell, said structure consisting of a bridge-wall, heads and tubes, substantially as described.

5. A boiler consisting of a casing, a shell within said casing forming a water-jacket, and having a combustion-chamber formed therein, a headed tubular structure consisting of a bridge-wall, heads, and tubes, and means for supporting said headed tubular structure.

6. A tubular boiler comprising an outer casing, and an inner shell supported within the casing to provide a water-jacket, in combination with a hollow bridge-wall forming a water-space in rear of the boiler-tubes, a head dividing the water-chamber from the smoke-box, and pipe connections between the combustion-chamber and smoke-box supported by said head, and by the head of the inner shell.

841,572. PROCESS OF PREPARING CARBON FOR ELECTRICAL RESISTANCES. EDWARD G. RIVERS, Richmond, England, assignor of one-half to The Electric and Ordnance Accessories Company Limited, Birmingham, England. Filed Dec. 22, 1905. Serial No. 293,039.

Claim.—1. The herein-described process of preparing carbon for electrical resistances, &c., consisting in mixing powdered carbon with an alkaline silicious agglutinate, and setting and hardening the resultant paste by subjecting the same to a high temperature.

2. The herein-described process of preparing carbon for electrical resistances, &c., consisting in mixing powdered carbon with an alkaline silicious agglutinate, setting and hardening the resultant paste by subjecting the same to a high temperature, and increasing the hardness by submitting the product to the action of a weak acid solution.

3. The herein-described process for forming electrical resistance elements for radiators and other uses, consisting in producing a paste from powdered carbon and a silicious agglutinate, applying this paste to tiles of fire-clay, stoneware or other refractory insulating material containing silica, and collectively heating the fire-clay, stoneware or other refractory material and paste applied thereto.

4. The herein-described electrical resistance material consisting of hardened powdered carbon and an alkaline silicious agglutinate.

841,573. ANTICORROSIVE COMPOSITION. JAMES A. RYAN, Ruffs Dale, Pa., assignor of one-third to Fred L. Keck and one-third to D. P. Ryan, Ruffs Dale, Pa. Filed Aug. 15, 1906. Serial No. 330,753.

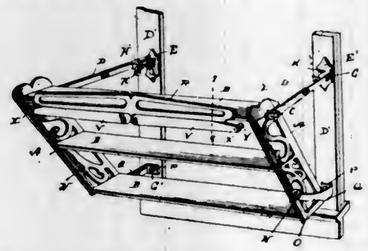
Claim.—1. An anticorrosive composition comprising copperas, gum-asphaltum, ivory-black, litharge, sulfate of zinc, a binding agent, and a liquid vehicle.

2. An anticorrosive composition comprising pulverized gum-asphaltum, linseed-oil, ground ivory-black, litharge, sulfate of zinc, copperas, dark gum-amber, gum-shellac, varnish, glue, drier, and turpentine.

3. An anticorrosive composition comprising pulverized gum-asphaltum twenty-four ounces, linseed-oil eight ounces, ground ivory-black twenty-four ounces, litharge one ounce, sulfate of zinc one ounce, copperas two ounces, dark gum-amber two ounces, gum-shellac one ounce, varnish thirty-two ounces, glue one ounce, drier twenty-four ounces, and turpentine eight ounces.

4. The herein-described process for producing a non-corrosive composition consisting in melting pulverized gum-asphaltum, to which is added linseed-oil, finely-ground ivory-black, litharge and sulfate of zinc in the order stated, boiling the mixture a determinate length of time, adding thereto the dark gum-amber, subjecting the mixture to further boiling and a partial cooling, adding gum-shellac and varnish during a continuous agitation of the mixture, adding glue, further heating the mixture and allowing it to cool, and finally adding drier and turpentine.

841,574. FLOWER-STAND. PAUL J. SANDHOFER, Flora, Ill. Filed Dec. 12, 1905. Serial No. 291,389.



Claim.—1. A flower-stand comprising side members, shelves secured between said members, supporting-arms connected to the side members, a pair of braces secured to the side members, and bars secured to one of the shelves adapted to engage the supporting-arms.

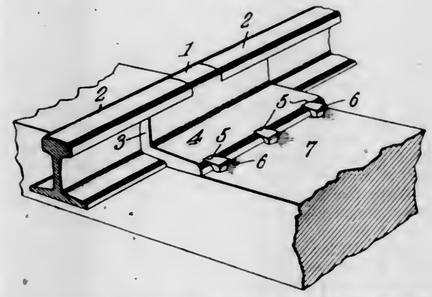
2. A flower-stand consisting of side members, shelves rigidly secured between said members, supporting-arms carrying casters secured to the side members, bars mounted on one of the shelves adapted to engage the supporting-arms, and braces secured to the side members adapted to engage the supporting-arms.

3. A flower-stand comprising side members, shelves rigidly secured between said members, supporting-arms connected to the side members, said arms adapted to form legs when used as a flower-stand, or horizontal supports when used as a window-bracket, bars carried by one of the shelves, and braces secured to the side members, the bars and braces adapted to form interlocking joints with the supporting-arms.

4. A flower-stand comprising shelves, members supporting said shelves, arms secured to said members and adapted to form supports or legs, braces pivotally connected to the supporting members, bars slidably secured to one of the shelves, said braces and bars engaging the supporting-arms at a common point and forming an interlocking joint.

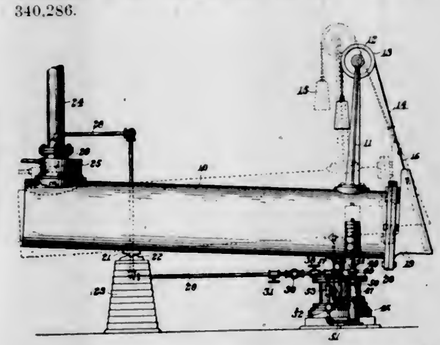
5. A flower-stand comprising side members and shelves capable of longitudinal extension secured to said members, supports pivotally secured to the members, braces carried by the side members, bars slidably secured to one of the shelves, the bars and braces forming an interlocking joint with the supports.

841,575. RAIL-JOINT. LOUIS M. SARTAIN, Tracy City, Tenn., assignor to William P. Stone, Tracy City, Tenn. Filed Sept. 8, 1906. Serial No. 333,860.



Claim.—A rail-joint comprising a transversely-extending web having beveled rail-meeting sides, flanges located at the vertical sides of said web and being spaced apart for the reception of track-rails, laterally-extending flanges located at the lower edges of the first said flanges, and track-rails having chamfered ends abutting against the beveled sides of said web.

841,576. SULFUR-BURNER. CHARLES E. SAVAGE, Groveton, N. H. Filed Oct. 24, 1906. Serial No. 340,286.



Claim.—1. In a sulfur-burner, the combination of an oven-casing; and hydraulic mechanism for tilting said casing.

2. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking connector between said support and casing; and hydraulic mechanism beneath said oven-casing for tilting it on said support.

3. In a sulfur-burner, the combination of an oven-cas-

ing; a support therefor at one end of said casing; means interposed between said support and oven permitting the tilting of the latter; a second support for said casing at another point; and mechanism for automatically moving said second support for effecting said tilting.

4. In a sulfur-burner, the combination of an oven-casing; a support therefor; means interposed between said support and oven permitting the tilting of the latter; and hydraulic means for automatically effecting said tilting.

5. In a sulfur-burner, the combination of an oven-casing; a support therefor; means interposed between said support and oven permitting the tilting of the latter; and means for automatically effecting said tilting and causing a halt in the movement of said oven in either direction before its return movement.

6. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking member interposed between said casing and said support; a cylinder; a piston therein supporting one end of said casing; and means for admitting motive force beneath said piston to raise that end of said casing.

7. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking member interposed between said casing and said support; a cylinder; a piston therein supporting one end of said casing; a pipe communicating with said cylinder beneath said piston for the passage of motive force to and from said cylinder; and a three-way valve in said pipe to control the flow therethrough.

8. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking member interposed between said casing and said support; a cylinder; a piston therein supporting one end of said casing; a pipe communicating with said cylinder beneath said piston for the passage of motive force to and from said cylinder; a three-way valve in said pipe to control the flow therethrough; and a device for automatically operating said valve.

9. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking member interposed between said casing and said support; a cylinder; a piston therein supporting one end of said casing; a pipe communicating with said cylinder beneath said piston for the passage of motive force to and from said cylinder; a three-way valve in said pipe to control the flow therethrough; a second cylinder; and a piston therein adapted to operate said valve.

10. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking member interposed between said casing and said support; a piston therein supporting one end of said casing; a pipe communicating with said cylinder beneath said piston for the passage of motive force to and from said cylinder; a three-way valve in said pipe to control the flow therethrough; a second cylinder; a piston therein adapted to operate said valve; and a weight upon said piston.

11. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking member interposed between said casing and said support; a cylinder; a piston therein supporting one end of said casing; a pipe communicating with said cylinder beneath said piston for the passage of motive force to and from said cylinder; a three-way valve in said pipe to control the flow therethrough and provided with a radial arm; and a movable member provided with shoulders adapted to engage said arm to operate said valve.

12. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking member interposed between said casing and said support; a cylinder; a piston therein supporting one end of said casing; a pipe communicating with said cylinder beneath said piston for the passage of motive force to and from said cylinder; a three-way valve in said pipe to control the flow therethrough and provided with a radial arm; and a movable member provided with adjustable shoulders adapted to engage said arm to operate said valve.

13. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking member interposed between said casing and said support; a cylinder; a piston therein supporting one end of said casing; a pipe communicating with said cylinder beneath said piston for the passage of motive force to and from said cylinder; a three-way valve in said pipe to control the flow therethrough and provided with a radial arm; and a movable member provided with adjustable shoulders said shoulders being adapted to move some distance in either direction before engaging with said arm.

14. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking member interposed between said casing and said support; a cylinder; a piston therein supporting one end of said casing; a pipe communicating with said cylinder beneath said piston for the passage of motive force to and from said cylinder; a three-way valve in said pipe to control the flow therethrough; a second cylinder; a piston therein adapted to operate said valve; a weight upon said piston; a pipe communicating with said second cylinder; a valve in said pipe; and a device for automatically operating said valve.

15. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking member interposed between said casing and said support; a cylinder; a piston therein supporting one end of said casing; a pipe communicating with said cylinder beneath said piston for the passage of motive force to and from said cylinder; a three-way valve in said pipe to control the flow therethrough; a second cylinder; a piston therein adapted to operate said valve; a weight upon said piston; a pipe communicating with said second cylinder; a valve in said pipe; and a longitudinally-movable member provided with means for controlling the operation of said valve.

16. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking member interposed between said casing and said support; a cylinder; a piston therein supporting one end of said casing; a pipe communicating with said cylinder beneath said piston for the passage of motive force to and from said cylinder; a three-way valve in said pipe to control the flow therethrough; a second cylinder; a piston therein adapted to operate said valve; a weight upon said piston; a pipe communicating with said second cylinder; a valve in said pipe; and an arm secured to said oven-casing provided with means for controlling the movement of said valve.

17. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking member interposed between said casing and said support; a cylinder; a piston therein supporting one end of said casing; a pipe communicating with said cylinder beneath said piston for the passage of motive force to and from said cylinder; a three-way valve in said pipe to control the flow therethrough; a second cylinder; a piston therein adapted to operate said valve; a weight upon said piston; a pipe communicating with said second cylinder; a valve in said pipe; a depending stem secured to said oven-casing; an arm on said valve; and collars on said stem adapted to engage said arm and control its operation.

18. In a sulfur-burner, the combination of an oven-casing; a support therefor; a rocking member interposed between said casing and said support; a cylinder; a piston therein supporting one end of said casing; a pipe communicating with said cylinder beneath said piston for the passage of motive force to and from said cylinder; a three-way valve in said pipe to control the flow therethrough; a second cylinder; a piston therein adapted to operate said valve; a weight upon said piston; a pipe communicating with said second cylinder; a valve in said pipe; a depending stem secured to said oven-casing; an arm on said valve; and adjustable collars on said stem adapted to engage said arm and control its operation.

19. In a sulfur-burner, the combination of an oven-casing provided with an outlet-passage; an outlet-pipe; and an annular water seal between said pipe and casing and surrounding the former.

20. In a sulfur-burner, the combination of an oven-casing adapted to rock and provided with an outlet-passage at a moving point; a fixed outlet-pipe; and a water seal between said pipe and casing.

21. In a sulfur-burner, the combination of an oven-casing adapted to rock and provided with an outlet-passage at a moving point; a fixed outlet-pipe; and a flexible connection between said pipe and casing.

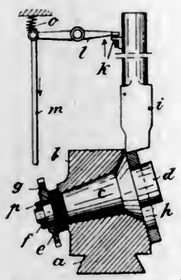
22. In a sulfur-burner, the combination of an oven-casing adapted to rock and provided with an outlet-passage at a moving point; a fixed outlet-pipe; and an annular ring surrounding said passage provided with a groove adapted to receive the lower end of said pipe and to hold a liquid adapted to seal the joint.

23. In a sulfur-burner, the combination of an oven-casing adapted to rock and provided with an outlet-passage at a moving point; a fixed outlet-pipe; an annular ring surrounding said passage provided with a groove adapted to receive the lower end of said pipe; and means for supplying liquid to said groove.

24. In a sulfur-burner, the combination of two oven-casings; means for tilting one of said casings; and means operated by the movement of the first casing for tilting the second casing.

25. In a sulfur-burner, the combination of two oven-casings; means for tilting one of said casings; a hydraulic cylinder for tilting the other; a valve for controlling the operation of said hydraulic cylinder; and an arm secured to the first casing adapted to operate said valve.

841,577. APPARATUS FOR PREPARING RINGS FOR BALL-BEARINGS. STEFAN SCHNEIDER, Charlottenburg, Germany. Filed July 10, 1905. Serial No. 269,010.



Claim.—1. Apparatus for preparing ball-bearing rings, comprising, in combination, a hammer, a carrier for the ring, ratchet mechanism for rotating the carrier intermittently, and lever connections between the hammer and the ratchet mechanism, as described.

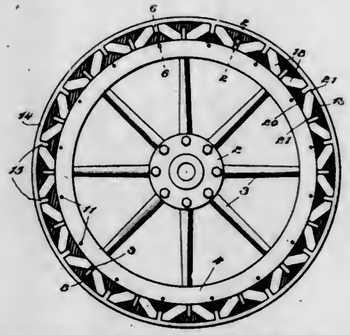
2. Apparatus for preparing ball-bearing rings, comprising, in combination, a hammer, a supporting-block having a pin rotatably mounted in said block, said pin having a fluted extremity for carrying the ring, pawl-and-ratchet mechanism operating at the other extremity of said pin, lever connections for actuating the pawl-and-ratchet mechanism and a projection on the hammer for communicating movement to said lever connections.

841,578. VEHICLE-WHEEL. WILLIAM E. SCHNEIDER, Washington, D. C. Filed Apr. 5, 1906. Serial No. 310,115.

Claim.—1. In a wheel of the character described, the combination with the felly of a wheel, of a tire, a series of radially-extending stops on said felly, a series of radially-extending stops on said tire, and a series of flexible struts having one end thereof in engagement with said stops on said felly and the other end thereof in engagement with said stops on said tire, substantially as described.

2. In a wheel of the character described, the combination with the felly of a wheel, of a tire, a face-plate arranged to be secured to the said felly, a series of stops associated with said felly and face-plate, a series of stops on said tire, and a series of flexible struts having one end thereof in engagement with the said stops associated with said felly and the other end thereof in engagement with said stops on said tire, substantially as described.

3. In a wheel of the character described, the combination with the felly of a wheel, of a tire, a series of radially-extending stops on said felly, a series of radially-extending stops on said tire, a web on the inner face of said tire arranged to enter said stops on said felly and a series of flexible struts interposed between said tire and said felly, substantially as described.



4. In a wheel of the character described, the combination with the felly of a wheel, of a tire, a series of stops associated with said felly, a series of stops associated with said tire, a web or extension on the inner face of said tire arranged to engage a stop associated with said felly, and a series of flexible struts interposed between said felly and said tire, substantially as described.

5. In a wheel of the character described, the combination with a felly of a wheel, of a tire, a series of flexible struts interposed between said felly and said tire, and a series of stops on said felly and tire for engagement with said flexible struts, said struts being so arranged as to compress longitudinally and bend laterally when the wheel is subjected to strain, substantially as described.

6. In a wheel of the character described, the combination with the felly of a wheel, of a tire, a series of radially-extending stops on said felly, a series of radially-extending stops on said tire, and a series of diagonal struts arranged between the said tire and the said felly, said diagonal struts having one end thereof in engagement with said stops on said felly and the other end thereof in engagement with said stops on said tire, substantially as described.

841,579. AERIAL TRANSPORTATION SYSTEM. GEORGE G. SCHROEDER, Washington, D. C. Filed May 16, 1904. Renewed June 25, 1906. Serial No. 323,343.

Claim.—1. A system of transportation consisting of an elevated track passing way-stations, and braking devices located at the way-stations below said track.

2. An electric system of transportation consisting of an elevated track passing way-stations and having a trolley-wheel guide located below the same, and braking devices located at the way-stations below said track and trolley-wheel guide.

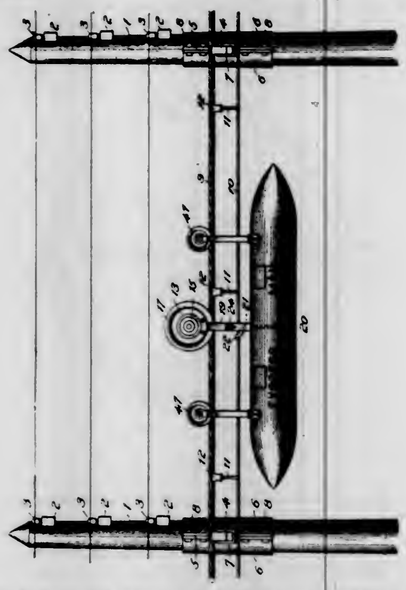
3. An electric system of transportation consisting of an elevated track passing way-stations and having an insulated trolley-wheel guide located below the same, and braking devices located at the way-stations below said track and trolley-wheel guide.

4. An electric system of transportation consisting of a track passing way-stations, a current-conductor extending parallel with said track, but passing around the stations out of parallel with the track, and braking devices located at the way-stations.

5. An electric system of transportation consisting of a track passing way-stations and a current-conductor extending parallel with said track, but passing around said stations out of parallel with the track, insulated sections connecting the ends of the current-conductor at the stations and passing through the stations parallel to said track, and braking devices located at the stations.

6. A system of transportation consisting of a track pass-

ing way-stations and having elevated portions at said stations, and braking devices located below said elevated portions.



7. An electric system of transportation consisting of a track passing way-stations and having elevated portions at said stations, and a current-conductor extending parallel with said track, but passing out of parallel with said track at said elevated portions thereof.

8. An electric system of transportation consisting of a track passing way-stations and having elevated portions at said stations, and a current-conductor extending parallel with said track, and insulated sections connecting the ends of said current-conductor at the stations and passing through the stations parallel to said track.

9. An electric system of transportation consisting of a track passing way-stations, and a current-conductor extending parallel with said track, but passing around said stations out of parallel with the track, insulated sections attached to the ends of said current-conductors and serving as an anchor to maintain the same taut and passing through the stations parallel to the track.

10. In a system such as described, a station, a track passing therethrough and adapted to support a car, and braking devices located in the station and adapted to receive and engage the body of the car and offer resistance thereto.

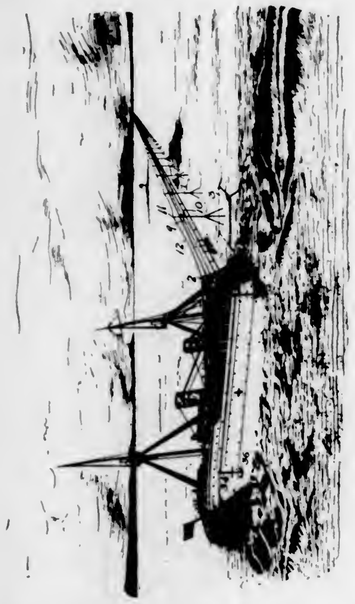
11. In a system such as described, a station, a track passing therethrough and adapted to support a car, a series of braking devices located in the station and adapted to engage the car and offer resistance thereto, the resisting power of said braking devices gradually increasing in intensity.

841,580. AERIAL TRANSPORTATION SYSTEM FOR VESSELS. GEORGE G. SCHROEDER, Washington, D. C. Filed June 15, 1904. Renewed June 25, 1906. Serial No. 323,344.

Claim.—1. A system of the character as described consisting of an elevated flexible trackway connecting a ship or boat with the shore, track-supports resting upon solid foundations and sustaining the track from a point near the ship or boat to the shore, and track-supports resting upon floating foundations near the ship.

2. A system of the character as described consisting of an elevated trackway connecting a ship or boat with the shore, track-supports located in or upon the water and extending from the ship to the shore, and a tension means applied to said track.

3. A system of the character as described consisting of an elevated trackway connecting a ship or boat with the shore, track-supports resting upon solid foundations and sustaining the track from a point near the ship to the shore, track-supports resting upon floating foundations near the ship or boat, and a tension means applied to said track.



4. A system of the character as described consisting of an elevated trackway connecting a ship or boat with the shore, track-supports extending from the ship or boat to the shore, and a tension means located upon the ship and applied to said track.

5. A system of the character as described consisting of an elevated trackway connecting a ship or boat with the shore, said track being fixed at its shore end, track-supports extending from the ship or boat to the shore, and a tension means located upon the ship or boat and applied to said track.

6. A system of the character as described consisting of an elevated trackway connecting a ship or boat with the shore, track-supports extending from the ship or boat to the shore, and a tension means applied to said track, said trackway-supports permitting the track to move horizontally with relation thereto.

7. A system of the character as described consisting of an elevated trackway connecting a ship or boat with the shore, track-supports extending from the ship or boat to the shore, and having journaled wheels upon which the track rests, and a tension means applied to said track.

8. A system of the character as described consisting of an elevated trackway connecting a ship or boat with the shore, track-supports extending from the ship or boat to the shore, and a guy-cable extending from the ship or boat to the shore, and connecting the said track-supports.

9. A system of the character as described consisting of an elevated trackway connecting a ship or boat with the shore, a current-wire extending from the ship or boat to the shore, and being supported by said track in parallel position thereto.

10. A system of the character as described consisting of an elevated trackway connecting a ship or boat with the shore, a tension means applied to said track, a current-wire extending from the ship or boat to the shore parallel to said track, and a tension means applied to said current-wire.

11. A system of the character as described consisting of an elevated trackway connecting a ship or boat with the shore, a tension means located upon the ship or boat and applied to said track, a current-wire extending from the ship or boat to the shore parallel to said track, and a tension means located upon the ship or boat and applied to said current-wire.

12. A system of the character as described consisting of an elevated trackway connecting a ship or boat with the shore, said track being fixed at the shore end, a tension means located upon the ship or boat and applied to said track, a current-wire extending from the ship or boat to the shore parallel to said track, and being fixed at its shore end, and a tension means located upon the ship or boat and applied to said current-wire.

13. A system of the character as described consisting of an elevated continuous trackway extending from a ship or boat to the shore, and back to the ship or boat, and a tension device located upon the ship or boat and entering the loop described by said track, and adapted to keep the same taut.

14. A system of the character as described consisting of an elevated continuous trackway extending from a ship or boat to the shore and back to the ship or boat, a tension device applied to said track, a continuous current-wire extending parallel to said track from the ship or boat to the shore, and back to the ship or boat, and a tension device applied to said current-wire.

15. A system of the character as described consisting of an elevated trackway extending from a ship or boat to the shore in substantially a horizontal line, superimposed trackways located at the shore and upon the ship or boat, and connecting with the first said trackway,

16. A system of the character as described consisting of an elevated trackway extending from a ship or boat to the shore in substantially a horizontal line, superimposed trackways located at the shore and upon the ship or boat, each of the last said trackways describing a loop which and connecting with the first said trackway.

17. A system of the character as described consisting of an elevated trackway, a superimposed trackway located over its terminals, both of the last said trackways describing loops and connecting at their ends with the first said trackway.

18. A system of the character as described consisting of two trackways, a superimposed trackway located over the terminal of the first said trackways, and describing a loop, one end of which connects with one of the first said trackways, and the other end of the loop with the other first said trackway.

19. A system of the character as described consisting of a trackway, a current-wire supported by said trackway and extending parallel therewith, a superimposed terminal trackway connecting with the first said trackway, a guide-wire extending parallel to the last said trackway, and connecting the current-wire, but being insulated therefrom.

20. In a system of the character as described, an elevated trackway, a trackway-support consisting of a pole or upright, a base therefor, arms hinged to said base and adapted to swing in alinement with the pole.

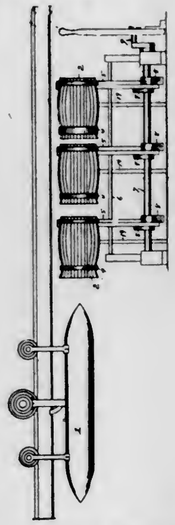
21. In a system of the character as described, an elevated trackway, a trackway-support consisting of a pole or upright, a base therefor, and arms hinged to said base.

22. In a system of the character as described, an elevated trackway, a trackway-support consisting of a pole or upright, a base therefor, and arms hinged to said base in such manner that they may swing down, but not up any higher than a substantially horizontal position.

23. In a system of the character as described, an elevated trackway, a trackway-support consisting of a pole or upright, a floating base therefor, and a means adapted to permit said floating base to rock and twist without rocking or twisting the pole.

24. In a system of the character as described, an elevated trackway, a trackway-support consisting of a pole or upright, a floating base therefor, and a means adapted to permit said floating base to rock or twist without rocking or twisting the pole consisting of a ball-and-socket joint, one member of which is attached to the pole, and the other member to the floating support.

841,581. BRAKE FOR AERIAL NAVIGATION. GEORGE G. SCHROEDER, Washington, D. C., assignor to Industrial Transportation Company, a Corporation of the District of Columbia. Filed Oct. 8, 1904. Renewed June 25, 1906. Serial No. 323,345.



Claim.—1. In combination with a track adapted to support a prime mover having a depending receptacle, a braking device located adjacent said track and adapted to engage said depending receptacle and offer resistance thereto.

2. In combination with a track adapted to support a prime mover having a depending receptacle, a braking device located adjacent said track and adapted to receive said receptacle and offer resistance thereto.

3. In combination with a track adapted to support a prime mover having a depending receptacle, a braking device located adjacent said track and adapted to receive said receptacle and offer resistance thereto, said braking device having an opening through which the hanger of the said receptacle may pass.

4. In combination with a track adapted to support a depending receptacle, a braking device located adjacent said track and adapted to engage said receptacle and offer resistance thereto.

5. In combination with a track adapted to support a depending receptacle, a braking device located under said track and adapted to engage said receptacle and offer resistance thereto.

6. In combination with a track adapted to support a depending receptacle, a braking device located adjacent said track and adapted to receive said receptacle and offer resistance thereto.

7. In combination with a track adapted to support a depending receptacle, a braking device located adjacent said track and adapted to receive said receptacle and offer resistance thereto, said braking device having an opening through which the hanger of the said receptacle may pass.

8. In a system such as described, a braking device consisting of a number of substantially parallel pivoted arms arranged substantially in a circle in cross-section, and a spring actuating said arms.

9. In a system such as described, a braking device consisting of a number of substantially parallel pivoted arms arranged substantially in a circle in cross-section with an

open space passing longitudinally through the braking device, and a spring actuating said arms.

10. In a system such as described, a braking device consisting of a number of pivoted arms, and a spring passing around said arms and actuating the same.

11. In a system such as described, a braking device consisting of a number of substantially parallel pivoted arms, and a spring passing around said arms and actuating the same.

12. In a system such as described, a braking device consisting of a number of substantially parallel pivoted arms arranged in the form of a circle in cross-section, a spring passing around said arms and actuating the same, said braking device having an open space passing longitudinally therethrough.

13. In a system such as described, a braking device consisting of a number of arms pivoted at an intermediate point, a spring actuating said arms at one end, and a means located at the opposite end for reacting upon said spring.

14. In a system such as described, a series of braking devices each consisting of a number of pivoted arms, and a spring actuating each set of arms, said spring gradually increasing in intensity throughout the series.

15. In a system such as described, a braking device consisting of a number of pivoted arms, each said arm describing along its longitudinal axis a sinusoidal curve, and a spring adapted to actuate said arms.

16. In a system such as described, a braking device consisting of a number of arms, each said arm describing along its longitudinal axis a sinusoidal curve, and having its middle portion bowed outwardly, and a spring adapted to actuate said arms.

17. In a system such as described, a braking device consisting of a number of arms, a pivotal support for said arms, each said arm being provided with a bearing independent of the bearing of the other arms, and a spring adapted to actuate said arms.

841,582. AERIAL SYSTEM FOR MINING PURPOSES. GEORGE G. SCHROEDER, Washington, D. C., assignor to Industrial Transportation Company, a Corporation of the District of Columbia. Filed Oct. 10, 1904. Renewed June 25, 1906. Serial No. 323,346.

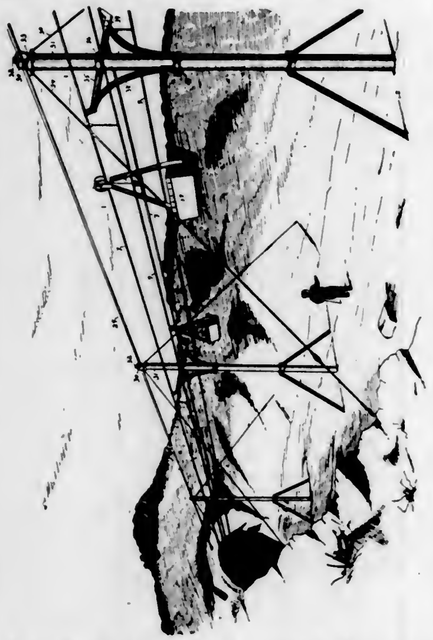
Claim.—1. A system such as described consisting of an elevated trackway which enters the mouth of a tunnel and turns therein, and extends out at the mouth of the tunnel, and a loop formed at the other end of the system, and a supplemental elevated trackway which also enters the mouth of the tunnel, and makes a turn therein, and extends out at the mouth of the tunnel, and forms a loop just outside the mouth of the tunnel.

2. A system such as described consisting of an elevated trackway entering the mouth of a tunnel, poles supporting said trackway and a guy-cable attached at one end to the ground above the mouth of the tunnel, and being connected to all of said supporting-poles, and being fixed at its other end.

3. A system such as described consisting of an elevated trackway entering the mouth of a tunnel and making a turn therein, and extending out at the mouth of the tunnel, a supplemental trackway also entering the tunnel and extending therein parallel to the first said trackway and formed in a loop just outside of the mouth of the tunnel.

4. A system such as described consisting of an elevated trackway entering the mouth of a tunnel and making a turn therein, and extending out at the mouth of the tunnel, a supplemental trackway also entering the tunnel and extending therein parallel to the first said trackway, hangers located within the tunnel and operating to support both said trackways, the last said trackway being formed in a loop just outside of the mouth of the tunnel.

5. A system such as described consisting of an elevated trackway entering the mouth of a tunnel and making a turn therein, and extending out at the mouth of the tunnel, a supplemental trackway also entering the mouth of the tunnel and extending therein parallel to the first said trackway, but being located between the incoming and outgoing sides thereof, said supplemental trackway forming outside of the mouth of the tunnel, a loop which extends laterally beyond the line of the first said trackway.



6. A system such as described consisting of an elevated trackway having a means for maintaining the same under tension, and a terminal framework connected said trackway and entering a tunnel and forming a loop therein.

7. A system such as described consisting of an elevated trackway having a means for maintaining the same under tension, a frame connected at both ends to said trackway and entering a tunnel and forming a loop, and a second frame located at the other end of the trackway and connected said trackway at both ends and forming a loop.

8. In a system such as described, an elevated trackway, a current-wire extending parallel to the same, a frame connected at both ends to the said trackway and forming a loop in a tunnel, a guide extending parallel to said frame, and being connected at both ends to said current-wire, and being insulated from the same at one end, and at a point within the tunnel.

9. A system such as described consisting of an elevated trackway, a current-wire extending parallel to said trackway, a frame connected at both ends to said trackway, and entering the mouth of a tunnel, a guide extending parallel to said frame and connected at its ends to said current-wire, and being insulated from the same near one end, and at a point within the tunnel, a supplemental trackway also entering said tunnel, and having a guide extending parallel therewith, said guide being insulated at a point outside the mouth of the tunnel, and at a point within the tunnel.

10. In a system such as described, a pole, arms extending from said pole, and having bifurcated ends which surround the pole, and are attached together, and braces engaging the pole at their lower ends, and said arms at their upper ends.

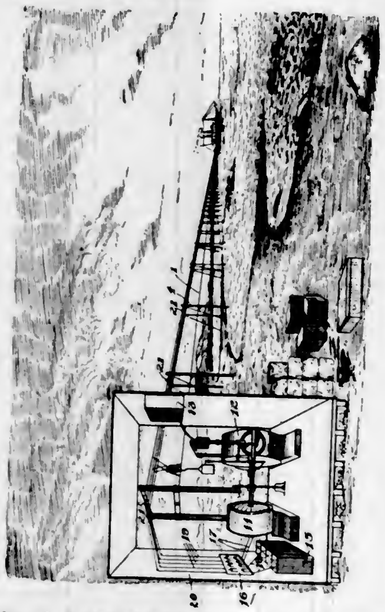
11. In a system such as described, a pole, arms extending from said pole and having bifurcated ends which surround the pole and lugs near their outer ends, braces passing behind said lugs at their upper ends and engaging the pole at their lower ends.

12. In a system such as described, a pole, arms extending from said pole and having bifurcated ends which surround the pole, and are bolted together, braces engaging said arms at their upper ends, and the pole at their lower ends.

13. In a system such as described, a pole, arms extending from said pole and having under lugs, braces engaging said arms behind said lugs, a ring attached to said pole and having recesses for the lower ends of said arms.

14. In a system such as described, a pole having arms extending therefrom, braces attached at their upper ends to said arms, a ring made in two halves and clamped together about said pole, each half of the ring having a recess for the reception of the lower end of said arm.

841,583. MARINE ELECTRIC WHARFAGE. GEORGE G. SCHROEDER, Washington, D. C., assignor to Industrial Transportation Company, a Corporation of the District of Columbia. Filed Feb. 28, 1905. Renewed June 25, 1906. Serial No. 323,347.

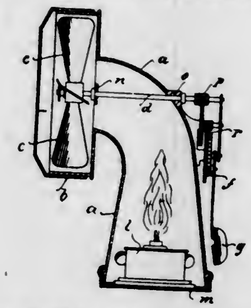


Claim.—1. A marine wharfage system such as described consisting of a track extending from the shore out over the water, and at its outer end extending at an angle to the general line of outward direction, a carrier adapted to travel upon said track, current-wires following the track along the major portion of its outward length, insulated guides attached to the ends of said current-wires, and extending along the track at an angular extension thereof, and a means located upon the shore for reversing the current over the wires.

2. A marine wharfage system consisting of a track extending from the shore out over the water, a carrier adapted to travel upon said track, current-wires following said track, and adapted to supply electric current to the carrier, a means for generating the current consisting of a rotary engine, a rotary generator connected at its shaft to the shaft of said engine, a storage battery and electrical connections between the generator, battery and current-wires and suitable switches.

841,584. HAIR-DRYING APPARATUS. PAUL SCHWIDEWSKI, Berlin, Germany, assignor to The Form of Arit and Fricke, Berlin, Germany. Filed Nov. 20, 1905. Serial No. 288,326.

Claim.—1. A hair-drying apparatus comprising a fan-wheel, a casing therefor means for rotating said wheel, a burner connected with the fan-casing, a handle for the apparatus and a controlling-lever for the operating means located adjacent said handle so that said lever may be operated by the same hand which holds the handle.



2. A hair-drying apparatus comprising a casing having its lower part of conical form and the upper portion thereof having a curved shape and a fan-case connected to said curved portion, a fan in said case, a lamp in the conical portion, means for rotating the fan, a lever controlling said means, the free end of said lever extending down adjacent to the conical portion of the casing.

841,585. MACHINE FOR BOLTING FLOUR AND GRADING GRAIN. HEINRICH SECK, Dresden, Germany. Filed Oct. 11, 1906. Serial No. 338,425.

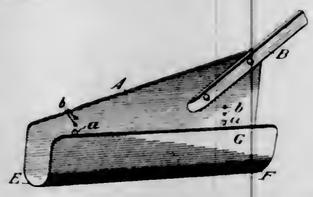
Claim.—1. A machine for bolting flour and grading grain, comprising a yieldingly-suspended chamber having laterally-arranged, trough-shaped feed-passages and vertical perforated walls forming a series of connected bolting-passages, deflectors stationarily secured in the bottom of said feed-passages and angularly arranged to distribute the material thereafong when said passages are transversely oscillated; deflectors in said bolting-passages arranged to throw the material against the walls, the deflectors in some of said passages being arranged to permit an intermittent downward feed of the material, and those in others of said passages being arranged to effect an intermittent upward feed therein, and means for oscillating said chamber.

2. A machine of the character described, comprising a movable chamber; a plurality of sieve-walls therein forming connected, vertical bolting-passages; deflectors in said passages; the deflectors in some of said passages being constructed and arranged to permit the slow downward feed of the material treated and the deflectors in others of said passages being constructed and arranged to effect

the upward feed of said material, and means for shaking said movable chamber.

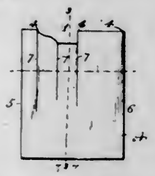
3. In a machine of the character described, a movable chamber; vertical, yielding, connected sieve-walls in said chamber forming bolting-passages; and pivotally-mounted, connected deflectors in said passages, some of said deflectors being mounted to contact with said sieve-wall connectors; whereby said walls are shaken to free them from the material treated.

841,586. WEED AND GRASS TRIMMER, &c. OBADIAH SHIDLER, Alliance, Ohio. Filed Mar. 3, 1905. Serial No. 248,352.



Claim.—A device of the character described comprising, in combination, a scoop-like head open and formed with cutting edges at the front and rear ends and constituting a continuous open passage from end to end, the material on one side of the head being extended upwardly, and a handle attached to said upwardly-extending portion; an adjustable guide attached to the side of said head whereby depth of cut of the device is controlled, said guide having upturned ends and being held in place by bolts passed therethrough and having adjustable engagement with said head, and rollers on said bolts and interposed between said guide and the side of said head, substantially as described.

841,587. BIT FOR ROTARY CUTTER-HEADS. ELMER S. SHIMER, Milton, Pa., assignor to Samuel J. Shimer and Sons, Incorporated, Milton, Pa. Filed Oct. 31, 1906. Serial No. 341,462.



Claim.—1. A bit for cutter-heads having a cutting edge of irregular contour and provided in the face thereof with scores or indentations leading back from the angles or offsets of the cutting edge.

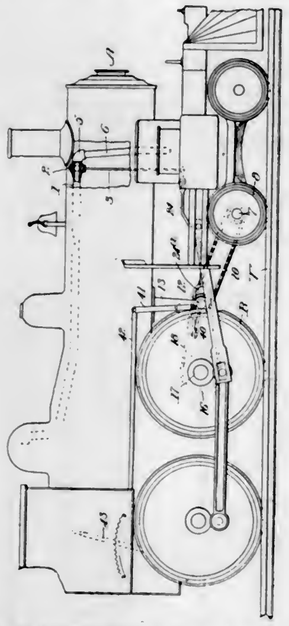
2. A bit for rotary cutter-heads having an irregular or interrupted cutting edge and provided in the face thereof with scores or indentations leading back from the angles or offsets of the cutting edge, said scores or indentations being parallel to each other and to the edges of the bit.

3. A bit for rotary cutter-heads having an irregular or interrupted cutting edge and provided in the face thereof with permanent lines or markers leading back from the angles or offsets of the cutting edge and forming guides for grinding or resharpening the cutting edge.

4. An edged tool having an irregular or interrupted cutting edge, the face of said tool being provided with scores or indentations parallel to each other and to the edges of the tool, and leading back from the angles or offsets of the cutting edge.

5. A bit consisting of a straight, flat piece of hard steel having a notch formed in its cutting end and having parallel scores formed on the face thereof, said scores leading back from the corners of the notch in alinement with the side walls of the latter.

841,588. MEANS FOR PREVENTING SLIPPAGE OF TRACTION-WHEELS. RALPH SHIPMAN, Sunbury, Pa. Filed May 3, 1906. Serial No. 315,011.



Claim.—1. In a motor-driven vehicle, a motor, a motor-controlling device, a trailing or truck wheel, a traction-wheel, and means operated by both of said wheels for actuating said device to decrease the power supplied to the motor when the traction-wheel slips.

2. In a motor-driven vehicle, means for preventing slippage of the traction-wheels comprising a controlling device for regulating the power of the motor, and a governor for actuating said device, said governor comprising two members independently driven by a traction and a trailer wheel respectively, and means operated by changes in the relative speeds of said members for actuating said controlling device.

3. In a motor-driven vehicle, means for preventing slippage of the traction-wheels comprising a controlling device for regulating the power of the motor, and a governor for actuating said device, said governor comprising two members independently driven at different speeds by a traction and a trailer wheel respectively, and means operated by changes in the relative speeds of said members for actuating said controlling device.

4. In a motor-driven vehicle, a motor, a motor-controlling device, a trailing or truck wheel, a traction-wheel, and a governor for said controlling device comprising a member driven by the trailer-wheel, a member independently driven by the traction-wheel, means for engaging said members when the relative speeds of said members are materially changed by slippage of the traction-wheel, and means connected with one of said members for actuating said controlling device.

5. In a motor-driven vehicle, a motor-controlling device, a traction-wheel, a trailing wheel, two rotatable members independently driven by the traction and trailing wheels respectively, the member driven by the trailing wheel being arranged to normally rotate faster than the member driven by the traction-wheel, said members comprising means operating by changes in the relative speeds of said members for actuating said controlling device.

6. In a motor-driven vehicle, a motor-controlling device, a traction-wheel, a trailing wheel, two rotatable members independently driven by the traction and trailing wheels respectively, the member driven by the trailing wheel being arranged to normally rotate faster than the member driven by the traction-wheel, one of said members comprising a positively-driven part and a yieldingly-driven part axially movable with respect to one another and having coöperating cam-surfaces, said yieldingly-driven part having means for interlocking with the other of said members when the speed of the slower moving member is accelerated by slippage, and connections between said positively-driven part and said motor-controlling device for operating the latter.

7. In a motor-driven vehicle, a motor-controlling device, a traction-wheel, a trailing wheel, two rotatable members independently driven by the traction and trailing wheels respectively, the member driven by the trailing wheel being arranged to normally rotate faster than the member driven by the traction-wheel, one of said members comprising two parts, axially and rotatably movable with respect to one another and having coöperating cam-surfaces, one of said parts being positively driven and the other being yieldingly driven, said latter part having means for interlocking with the other member when the speed of the slower moving member is accelerated by slippage, and one of said parts being operatively connected to the motor-controlling device.

8. In a motor-driven vehicle, a motor-controlling device, a traction-wheel, a trailing wheel, and means for actuating said device to decrease the power of the motor when the traction-wheel slips, comprising two coöperative clutch elements, one rotatable by the trailing wheel, and the other rotatable, at a lower speed, by the traction-wheel, one of said elements being yieldingly driven and the other positively driven, said elements being arranged to interlock when the slower-moving element tends, by reason of slippage of the traction-wheel, to exceed the speed of the faster-moving element, and means coacting with said yieldingly-driven element for actuating the motor-controlling device.

9. In a motor-driven vehicle, a motor-controlling device, a traction-wheel, a trailing wheel, and means for actuating said device to decrease the power of the motor when the traction-wheels slip comprising two coöperative clutch elements, one rotatable by the trailing wheel, and the other rotatable, at a lower speed, by the traction-wheel, one of said elements being yieldingly driven and the other positively driven, said elements being arranged to interlock when the slower-moving element tends, by reason of slippage of the traction-wheel, to exceed the speed of the faster-moving element, and a cam coacting with said yieldingly-driven element for actuating the motor-controlling device.

10. In a motor-vehicle, a motor-controlling device, a traction-wheel, a trailing wheel and means for actuating said device to decrease the power of the motor when the traction-wheels slip comprising a clutch element positively driven by one of said wheels, a cam positively driven by the other wheel, a clutch element yieldingly driven by said cam and having a cam-surface coöperating therewith, the parts driven by the trailing wheel being arranged to normally turn faster than the parts driven by the traction-wheel, said clutch elements being arranged to interlock when the slower-moving element, by reason of slippage of the traction-wheel, tends to run faster than the faster-driven element, and means, actuated by the relative movements of said cam and yieldingly driven member for actuating said motor-controlling device.

11. In a motor-driven vehicle, a motor-controlling device, a trailing wheel, a traction-wheel, a clutch element positively driven by the trailer-wheel, two coöperating cam devices driven by the traction-wheel at a lower rate of speed than said clutch element, one of said clutch devices being positively driven and the other yieldingly driven, the latter having means for engaging said clutch element when the speed of the devices driven by the traction-wheel tends to exceed the speed of the element driven by the trailing wheel and connections between one of said cam devices and the motor-controlling device for actuating the latter.

12. In a motor-driven vehicle, a motor-controlling device, a trailing wheel, a traction-wheel, a clutch element positively driven by one of said wheels, two coöperating cam devices driven by the other wheel, one of said cam devices being positively driven and the other yieldingly driven, the latter having means for engaging the clutch element on the shaft when the relative speeds of the trailing and traction wheels are materially changed by slippage of the latter wheel, and connections between one of said cam devices and the motor-controlling device for operating the latter.

13. In a motor-driven vehicle, a motor-controlling device, a trailing wheel, a traction-wheel, a clutch element positively driven by one of said wheels, two coöperating cam devices driven by the other wheel at a different speed from that of the clutch element, but in the same direction, one of said cam devices being positively driven and the other yieldingly driven, the latter having means for engaging the clutch element on the shaft when the relative speeds of the trailing and traction wheels are materially changed by slippage of the latter wheel, and connections between one of said cam devices and the motor-controlling device for operating the latter.

14. In a motor-driven vehicle, a motor-controlling device, a trailing wheel, a traction-wheel, a shaft positively driven by one of said wheels, a clutch element on said shaft, a sleeve journaled on said shaft, and positively driven by the other wheel, two coöperating cam devices driven by the sleeve, one being positively driven and the other yieldingly driven, the latter having means for engaging the clutch element on the shaft when the relative speeds of the shaft and sleeve are materially changed by the slippage of the traction-wheel, and connections between one of said cam devices and the motor-controlling device for operating the latter.

15. In a motor-driven vehicle, a motor-controlling device, a trailing wheel, a traction-wheel, two coacting cam devices driven by one of said wheels, one of said devices being positively driven and the other yieldingly driven, connections between one of said cam devices and the motor-controlling device, a member driven positively by the other of said wheels in the same direction as said cam devices but at a different speed, said member and said yieldingly-driven cam having coacting pawl-and-ratchet mechanism constituting a clutch, arranged to prevent the slower-moving part from exceeding the speed of the faster-moving part, when the traction-wheel slips.

16. In a motor-driven vehicle, a motor-controlling device a trailing wheel, a traction-wheel, two coacting cam devices driven by one of said wheels, one of said devices being positively driven and the other yieldingly driven, connections between one of said cam devices and the motor-controlling device, a member driven positively by the other of said wheels in the same direction as said cam devices but at a different speed, said member and said yieldingly-driven cam having coacting pawl-and-ratchet mechanism constituting a clutch arranged to prevent the slower-moving part from exceeding the speed of the faster part, when the traction-wheel slips, and means for reversing said ratchet mechanism when the motor is reversed.

17. In a motor-driven vehicle, a motor-controlling device, a trailing wheel, a traction-wheel, two coacting cam devices driven by one of said wheels, one of said devices being positively driven and the other yieldingly driven, connections between one of said cam devices and the motor-controlling device, a member driven positively by the other of said wheels in the same direction as said cam devices but at a different speed, said member and said yieldingly-driven cam having coacting pawl-and-ratchet mechanism, constituting a clutch arranged to prevent the slower-moving part from exceeding the speed of the faster-moving part, when the traction-wheel slips, a reversing-lever for the motor, and means operated by the reversing-lever for reversing the ratchet mechanism.

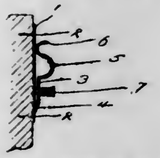
18. In a locomotive, a throttle-valve, a traction-wheel, a trailing or truck wheel and a governing device actuated by both of said wheels for moving said throttle-valve.

19. In a motor-driven vehicle, a motor-controlling device, a trailing wheel, a traction-wheel, two coacting cam

devices driven by one of said wheels, one cam device having a V-shaped notch and the other having a tapering end fitting in said notch, a spring normally pressing said cam devices toward one another, one of said cam devices being positively driven, and the other yieldingly driven, connections between one of said cam devices and the motor-controlling device, and a clutch member positively driven by the other of said wheels and adapted to engage said yieldingly-driven cam, when the relative speeds of the traction and trailing wheels change materially.

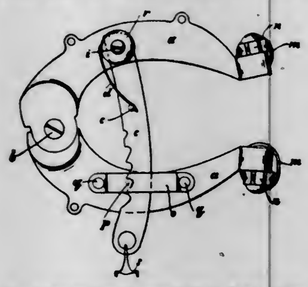
20. In a motor-driven vehicle, a motor-controlling device, a traction-wheel and a trailing wheel, a shaft positively driven by one wheel, a sleeve journaled on the shaft and positively driven by the other wheel, a cam splined on the sleeve, so as to rotate with and be movable longitudinally on the sleeve, a cam journaled on the shaft and engaging the cam on the sleeve, a spring normally pressing said cams together, connections between the cam on the sleeve and the motor-controlling device for operating the latter, and a reversible pawl-and-ratchet mechanism between the shaft and the cam which is journaled on the shaft.

841,589. LINE-HOLDER. JOSEPH SIMON, Cedar Rapids, Iowa. Filed Feb. 28, 1906. Serial No. 303,461.



Claim.—A line-holder consisting of a base-plate having means of attaching it to a support, combined with the line-holder proper, a headed stud connected therewith, a spiral spring surrounding said stud between the head and rein-holder proper, the line-holder being secured to the base-plate at one end and having its free end outturned and bearing against the base-plate.

841,590. HORSE-SPECULUM. JOHN SKLAR, Brooklyn, N. Y. Filed Apr. 24, 1906. Serial No. 313,495.

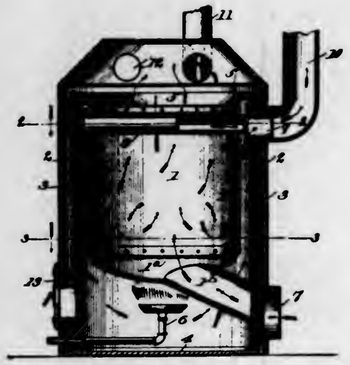


Claim.—1. A speculum comprising jaws, one of which has a pivot and a spring bracing-eye in proximity to one another, a rack having a pivot-hole of such size as to embrace or surround both said pivot and eye in the jaw, an engaging spring for the rack having an end seated in said bracing-eye, and a cap-piece on the pivot to conceal or cover the pivot-hole with the inclosed brace end of the spring.

2. A speculum comprising jaws and bits, said parts having slotted or keyhole-shaped engaging portions permitting disengagement in one position but securing the parts when the bits are in position for use.

841,591. AIR-HEATER. ELIJAH T. SLAUGHTER, Kansas City, Mo. Filed May 3, 1906. Serial No. 315,067.

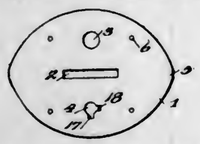
Claim.—1. The improved heater comprising the outer shell or casing having an air-inlet at the bottom and air-outlets at the top, the inner drum or air-heater proper, the middle drum from which the air-heater is suspended, these parts being concentric and spaced apart, and the air-heater suspended from the middle drum and made of less length than the latter and provided with a cup-shape bottom having an air-inlet pipe extended downward and laterally through the middle drum and communicating with the air-inlet of the casing whereby air may enter the air-heater proper and also the annular space between the casing and the middle drum, and a pipe for conveying the products of combustion arranged in the upper portion of the air-heater proper and its discharge end located adjacent to but separated from the pipe conveying off the products of combustion whereby an induced current of the products of combustion is formed, substantially as described.



2. In an air-heater, a drum and a base to which it is attached, an inner drum or air-heater proper, and means for suspending it from the inclosing drum, the bottom of said air-heater being cup shape and provided with a downwardly and laterally extended air-inlet, a pipe for conveying the products of combustion, the same arranged in and traversing the top portion of the air-heater, the outer drum having an alined pipe for conveying off the products of combustion, the two pipes being separated by a space as and for the purpose specified.

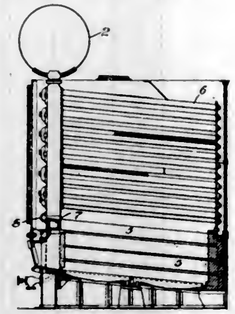
3. In an air-heater the combination with an inclosing drum 2 having a lateral pipe for conveyance of the products of combustion, of an inner drum or air-heater proper which is spaced from such outer drum, and means for closing the space at the top and suspending the inner drum, the latter having a bottom provided with a downwardly-extended air-inlet, a pipe for conveying the products of combustion which is arranged in and traverses the upper portion of the air-heating drum, its discharging end being separated from the pipe conveying off the products of combustion from the outer drum, as described.

841,592. LOCK-CASING. HENRY M. SMALL, Melrose, Mass. Continuation of application filed Nov. 7, 1904, Serial No. 231,922, forfeited May 25, 1906. This application filed July 19, 1905. Serial No. 270,387.



Claim.—A lock-casing comprising a blank of substantially elliptical form having a central bolt-opening and provided with a bearing-opening and a keyhole arranged respectively on opposite sides of said bolt-opening, said blank having truncated heads and being folded on lines parallel with its major access and in line with the side edges of the central opening.

841,593. BOILER. JAMES P. SNEDDON, Barberton, Ohio, assignor to The Stirling Consolidated Boiler Company, New York, N. Y., a Corporation of New Jersey. Filed Jan. 25, 1905. Serial No. 242,628.



Claim.—1. A steam-boiler furnace having front water-legs and inclined water-tubes leading rearwardly therefrom and defining a combustion-chamber, the rear ends of the tubes being closed, substantially as described.

2. A steam-boiler furnace having front water-legs and inclined water-tubes leading rearwardly therefrom and defining a combustion-chamber, the rear ends of the tubes being closed and unconnected, substantially as described.

3. A steam-boiler furnace having front headers, front water-legs extending below the headers, and inclined water-tubes leading rearwardly from the legs below the headers and defining a combustion-chamber, the rear ends of the tubes being closed, substantially as described.

4. A steam-boiler furnace having front headers, front water-legs extending below the headers, and inclined water-tubes leading rearwardly from the legs below the headers and defining a combustion-chamber, the rear ends of the tubes being closed and unconnected, substantially as described.

5. A steam-boiler furnace having front upright water-legs, a steam-drum supported thereon and in communication therewith, headers depending from the drum between the legs and terminating short of the bottoms of the legs, and inclined water-tubes leading rearwardly from the legs below the headers and defining a combustion-chamber, the water-tubes being in communication with the water-legs only and having their rear ends closed, substantially as described.

6. A steam-boiler furnace having a series of upright headers, a steam-drum upon the tops of the headers, certain of the headers extending below the remaining headers and forming water-legs for the support of the drum, and inclined water-tubes leading rearwardly from the legs below the headers and defining a combustion-chamber, the water-tubes being in communication with the water-legs only and having their rear ends closed, substantially as described.

7. A steam-boiler furnace having front upright water-legs, a steam-drum supported thereon and in communication therewith, headers depending from the drum between the legs and terminating short of the bottoms of the legs, inclined water-tubes leading rearwardly from the legs below the headers and defining a combustion-chamber, the water-tubes being in communication with the water-legs only and closed at their rear ends, and a water-lintel below and in communication with the headers, substantially as described.

8. A steam-boiler furnace having front upright water-legs, a steam-drum supported thereon and in communication therewith, headers depending from the drum between the legs and terminating short of the bottoms of the legs, water-tubes leading rearwardly from the legs below the headers and defining a combustion-chamber, the water-tubes being in communication with the water-legs only and closed at their rear ends, and a water-lintel below and in communication with the headers, at least one end of the lintel being closed, substantially as described.

9. A water-tube boiler having front headers with rearwardly-extending tubes connected thereto and having closed rear ends, front corner water-boxes in the plane of the headers extending below the headers and provided with rearwardly-extending tubes having closed rear ends forming at least a part of the sides of the furnace-chamber, and a transverse water-lintel extending below the headers and having water connection therewith, at least one end of the lintel being closed; substantially as described.

10. A water-tube boiler having front headers with rearwardly-extending tubes having closed rear ends connected thereto, front corner water-boxes, and an intermediate water-box extending below and supporting their front headers, rearwardly-extending tubes connected to the water-boxes, said tubes having closed rear ends and forming at least a part of the sides of the combustion-chambers, and water-lintels extending transversely between the water-legs and connected to the front headers, at least one end of each lintel being closed; substantially as described.

11. A water-tube boiler having front headers with rearwardly-extending tubes having closed rear ends connected thereto, front corner water-boxes, intermediate water-boxes extending below and supporting their front headers, rearwardly-extending tubes connected to the water-boxes, said tubes having closed rear ends and forming at least a part of the sides of the combustion-chambers, and water-lintels extending transversely between the water-legs and connected to the front headers, both ends of the water-lintels being closed; substantially as described.

12. A water-tube boiler having front vertically-extending headers connected at their upper ends to a steam and water drum, rearwardly-extending tubes having closed rear ends connected to the headers, front corner supporting water-boxes extending below the headers, rearwardly-extending tubes having closed rear ends connected to the corner water-boxes, a water-lintel extending below the headers and between the corner water-boxes, said lintel having at least one end closed and connected to the lower parts of the headers by U-shaped pipes; substantially as described.

13. A water-tube boiler having front headers provided with rearwardly-extending water-tubes, a transverse steam and water drum extending above the headers and connected directly to their upper ends, and a front water-lintel extending transversely below the headers and connected directly thereto, said water-lintel having at least one end closed, and being closed on its lower face; substantially as described.

14. A water-tube boiler having front headers with rearwardly-extending water-tubes connected thereto, a transverse steam and water drum extending over the headers and directly connected thereto, and a transverse water-lintel extending below the headers and connected thereto, said lintel having at least one end closed with its rear face closed and exposed directly to the furnace-chamber; substantially as described.

15. A water-tube boiler having front headers with rearwardly-extending water-tubes connected thereto, a transverse steam and water drum extending over the headers and directly connected thereto, and a transverse water-lintel extending below the headers and connected thereto, said lintel having both ends permanently closed with its rear face closed and exposed directly to the furnace-chamber; substantially as described.

16. A water-tube boiler having front headers with rearwardly-extending water-tubes connected thereto, and a transverse water-lintel extending below and connected to the headers, said water-lintel having at least one end closed and being closed on its bottom and rear faces; substantially as described.

17. A water-tube boiler having front headers with rearwardly-extending water-tubes connected thereto, corner water-boxes below the headers, and a water-lintel extending transversely below the headers and connected directly thereto, said lintel having at least one end closed and being closed on its bottom and rear faces; substantially as described.

18. A water-tube boiler having front headers with rearwardly-extending water-tubes, front corner water-boxes,

and an intermediate water-box extending below the headers, water-tubes extending rearwardly from the water-boxes, and forming at least a part of the sides of the combustion-chambers, and transverse lintels extending below the headers and connected thereto, said lintels having at least one end closed and being closed on their bottom and rear faces and exposed to the interior of the furnace; substantially as described.

19. A water-tube boiler having sinuous front headers with rearwardly-extending water-tubes, the corner-headers having depending supporting water-legs, rearwardly-extending water-tubes connected to the water-legs and forming the sides of the combustion-chamber, and a transverse water-lintel extending below the headers and connected thereto, said water-lintel having at least one end closed and being closed on its bottom face; substantially as described.

20. A water-tube boiler having front headers with rearwardly-extending water-tubes connected thereto, a transverse water-lintel extending below the headers and connected thereto, said lintel being closed on its bottom face, and corner water-boxes spaced apart slightly from the ends of the water-lintel said water-lintel having at least one end closed; substantially as described.

21. A water-tube boiler having front headers, and front corner water-boxes, a water-lintel extending transversely below the headers and connected thereto, both ends of the lintel being closed, and corner water-boxes spaced apart from the ends of the lintel and having rearwardly-extending water-tubes forming the sides of the combustion-chamber; substantially as described.

22. A water-tube boiler having front vertically-extending headers, front corner supporting water-boxes with rearwardly-extending tubes forming the sides of the combustion-chamber, a transverse steam and water drum extending over the headers and connected directly thereto, a water-lintel extending transversely below the headers and connected thereto, at least one end of the water-lintel being closed, the bottom and rear faces of the lintel being also closed; substantially as described.

23. A water-tube boiler having front vertically-extending headers, front corner water-boxes, and an intermediate supporting water-leg below an intermediate header, said boiler having water-lintels extending between the water-leg and the corner water-boxes, each of said water-lintels having at least one end closed, and being water-connected to the lower portions of the headers; substantially as described.

24. A water-tube boiler having front vertically-extending headers, front corner water-boxes, and an intermediate supporting water-leg below an intermediate header, said boiler having water-lintels extending between the water-leg and the corner water-boxes, each of said water-lintels having at least one end closed, and being water-connected to the lower portions of the headers, the corner water-boxes and intermediate water-leg having rearwardly-extending squared or elliptical tubes forming the sides of the combustion-chamber; substantially as described.

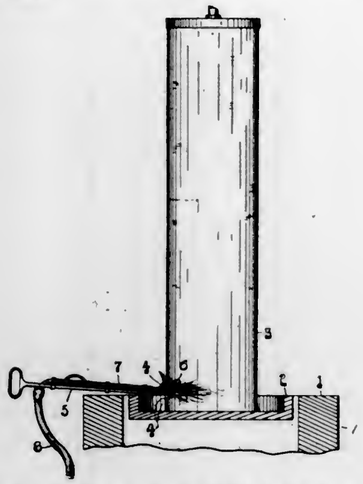
841,594. METHOD OF SEPARATING SHEETS OF GLASS FROM THEIR BATHS. JAMES R. SPEER, Pittsburg, and GEORGE H. HARVEY, Glenfield, Pa., assignors to Brownsville Glass Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Nov. 23, 1906. Serial No. 344,707.

Claim.—1. The method of separating a sheet of glass from the drawing-receptacle, which consists in making a puncture in the same and applying a flame to the puncture.

2. The method of separating a sheet of glass from the drawing-receptacle, which consists in making a puncture in the same, applying a flame in the puncture, and parting the sheet beginning at the puncture.

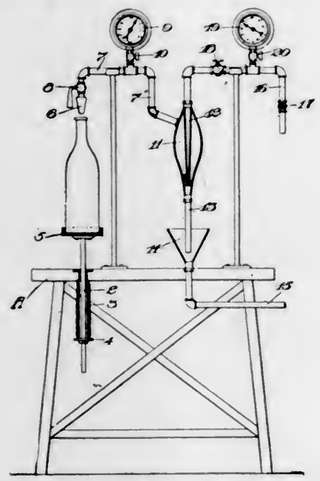
3. The method of separating a sheet of glass from the drawing-receptacle, making a puncture in the same, applying a flame to the puncture to sever the remaining portion of the sheet, and fire-finishing the glass adjacent to the severed edge thereof.

4. The method of separating a sheet of glass from the drawing-receptacle, making a puncture in the same, applying a flame to the puncture to sever the remaining portion of the sheet, parting the sheet beginning at the puncture, and fire-finishing the glass adjacent to the severed edge thereof.



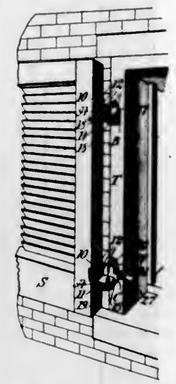
5. The method of treating drawn glass which consists in heating the glass at the level at which it is to be severed, puncturing the sheet where so heated, applying a flame to soften the edges of the puncture transversely of the sheet, applying a parting-tool to soften the edge of the glass, and fire-finishing the edge of the severed glass.

841,595. CRYSTALLIZING APPARATUS. GEORGE E. STADTEGGER, San Francisco, Cal. Filed Feb. 12, 1906. Serial No. 300,634.



Claim.—An apparatus for crystallizing a saccharine syrup in a bottle, said apparatus comprising a table, a cup upon which the bottle containing the syrup is seated, a stem fixed to the cup and slidably mounted in the table, a collar on the stem adapted to be adjusted vertically thereon to accommodate bottles of different heights, a spring connected with the collar and table adapted to elevate the stem and its cup, an air-exhaust pipe having a valve-controlled stopper fixedly supported in line above the bottle and adapted to be entered into the mouth of the latter, means for creating a suction through said pipe to exhaust the air contents of the bottle, and means for indicating the amount of suction through said pipe.

841,596. HINGE. SIDNEY N. STEVENS, North Chelmsford, and ELVERTON P. FLANDERS, Lowell, Mass. Filed Nov. 18, 1904. Serial No. 233,309.



Claim.—1. A hinge comprising pivoted members, one of which is provided with a plurality of contact-faces, and a locking member mounted upon the other hinge member and adapted to be moved between the member by which it is carried and the contact-faces of the other member.

2. A hinge comprising pivoted members, one of which is provided with a plurality of contact-faces, and a lever fulcrumed upon the other hinge member and adapted to be swung between the latter and one of said contact-faces.

3. A hinge comprising two angular members having coacting arms, one of which is provided with a pintle and the other with an opening to receive said pintle and with a plurality of contact-faces, and a locking member mounted upon the hinge member having the pintle and adapted to be moved between the pintle-carrying member and one of the said contact-faces.

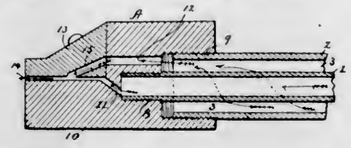
4. A hinge comprising two angular members having coacting arms, one of which is provided with a pintle and the other with an opening to receive said pintle and with contact-faces situated at opposite sides of the arm, and a locking member mounted upon the hinge member having the pintle and adapted to be moved between the pintle-carrying member and one of said contact-faces.

5. A hinge comprising two angular members having coacting arms, one of which is provided with a pintle and the other with an opening to receive said pintle and with contact-faces situated at opposite sides of the arm and converging from the pintle-opening, and a pivoted locking member mounted upon the hinge member having the pintle and adapted to be swung between the pintle-carrying member and one of the said contact-faces.

6. A hinge comprising two angular members having coacting arms, one of which is provided with a pintle and the other with an opening to receive said pintle and with contact-faces situated at opposite sides of the arm and at the end thereof, and a pivoted angle-lever mounted upon the hinge member having the pintle and adapted to be swung between the pintle-carrying member and one of the said contact-faces.

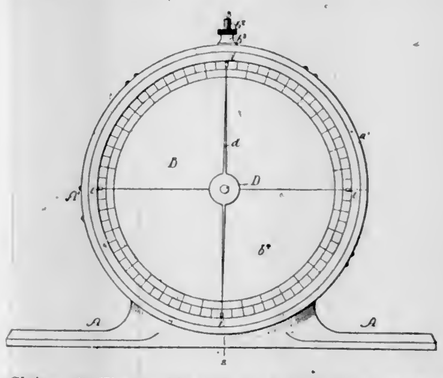
7. A hinge comprising two angular members pivoted together, the horizontal arm of one member having contact-faces on its side edges and at its end, the contact-faces on the edges of the arm converging inwardly and the faces at the end converging outwardly and meeting at an obtuse angle, and an angular lever pivoted to the vertical arm of the other member and adapted to be swung between the said arm and one of the said contact-faces.

841,597. OIL-BURNER. WILLIAM S. STEWART, Bisbee, Ariz., assignor of one-half to H. J. Day, Bisbee, Ariz. Filed May 19, 1906. Serial No. 317,800.



Claim.—In an oil-burner, the combination with an inner steam-pipe and an outer concentric oil-pipe of a burner-head formed with concentric threaded openings for the reception of said respective steam and oil pipes, said burner-head comprising a major section formed with a horizontal passage communicating with said oil-pipe, a flared recess extending to the front edge thereof and an inclined passage leading rearwardly from said recess to said steam-pipe and a section superimposed on said first-named section and formed throughout its lineal extent with a flared recess, adjacent to and coacting with said first-named flared recess to form a flared discharge-passage and formed with an inclined passage leading from a point within said flared recess to said horizontal passage in said first-named section.

841,598. LEVEL. CHARLES J. STRICKER, Bridgeport, Pa., assignor of one-half to Gehret Brothers, Bridgeport, Pa., a Firm. Filed May 19, 1906. Serial No. 317,051.



Claim.—1. The combination in a level, of a casing, a weighted hand, a circular dial fitting into the casing and free to be turned, said dial having its markings on a portion lying parallel to the plane of movement of the hand, with means for holding the dial in any adjusted position, said means including a threaded pin on the dial extending through a slot in the casing, substantially as described.

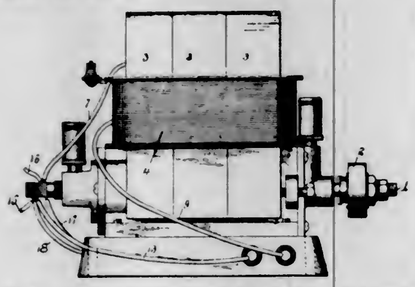
2. The combination in a level, of a casing, a dial mounted in the casing and free to be adjusted therein, means for locking the dial in any adjusted position, including a pin extending from the dial through a slot in the casing, a shaft mounted in the dial and having a hand arranged to travel over the face of the dial, and a weight suspended from the shaft within the dial, substantially as described.

3. The combination in a level, of a casing, a circular dial free to be adjusted within the casing and having a face at each side with the degree-marks indicated thereon, a shaft mounted on the dial and having a hand at each end, one hand traveling over one face of the dial and the other hand traveling over the other face of the dial, and having a central weight suspended from the shaft between the two faces of the dial, there being a slot in the casing substantially concentric with said shaft, a threaded pin projecting from the dial through said slot, and a nut for

said pin whereby said dial may be clamped in any adjusted position, substantially as described.

4. The combination in a level, of a circular casing, a circular dial mounted in the casing, the said casing having a slot, a pin on the dial projecting through the slot, a nut on the pin for confining the dial to the casing, a shaft mounted on the dial, a hand on the shaft, and a weight also on the shaft, substantially as described.

841,599. COMBINED DYNAMO-MAGNETO IGNITION DEVICE. JOSHUA A. STRUTHERS, Youngstown, Ohio, assignor of thirty-four one-hundredths to W. R. Beard, seventeen one-hundredths to J. Howard Parker, and twenty-four and five-tenths one-hundredths to C. F. Duchanois, Youngstown, Ohio. Filed Aug. 10, 1906. Serial No. 330,082.



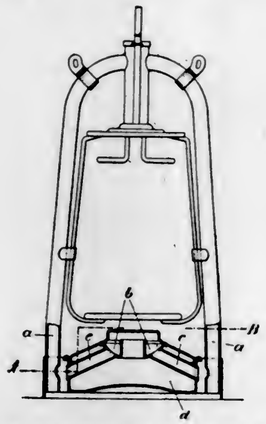
Claim.—1. In an electric-spark generator, the combination with permanent magnets and field-coils, of an armature revolubly supported within the generator-field, a circuit from the commutator-brushes to the igniter, a shunt-circuit from the brushes through the field-coils, an electric governor comprising an electromagnet and an armature, and electric connections between the terminals of said magnet-coil and the field-coils whereby when the strength of the current in said field-coils is increased, said magnet will be energized to attract its armature to break the circuit of said field-coils.

2. In an electric-spark generator, the combination with a dynamo comprising permanent magnets, field-coils and a revolving armature carrying a friction-disk, of a governor comprising an electromagnet and armature, and electrical connections, whereby a portion of the current generated passes directly to the igniter, while another portion is shunted through the field-coils, and electric connections between said magnet and the brushes, and between said magnet and the field-coils whereby the magnet will be energized when the current in the field-coils is unduly increased, to attract its armature and cut out said field-coils.

3. In an electric-spark generator, the combination with a shunt-wound dynamo, comprising permanent magnets, field-coils and a revoluble armature, of an electric governor comprising an electromagnet, and an armature carrying a contact-spring, and electric connections between the brushes of the dynamo, and the igniter, the brushes and the field-coils, the field-coils and said electromagnet, and the brushes and said electromagnet, whereby when the current is unduly increased by the speed of the revoluble armature, the field-coils will be automatically cut out to reduce the current.

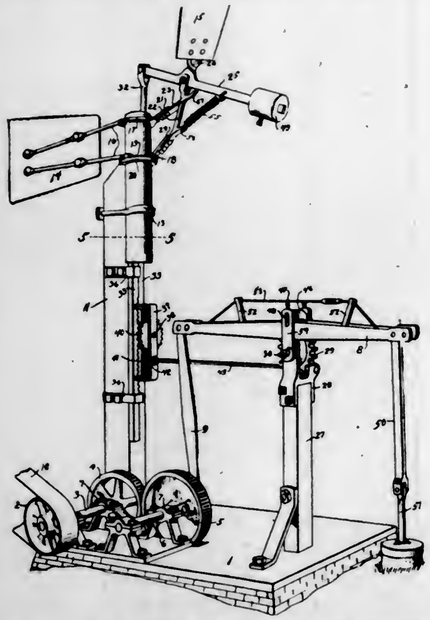
4. In an electric-spark generator, the combination with a shunt-wound dynamo, comprising permanent magnets, field-coils, and a revoluble armature, of an electric governor comprising an electromagnet, and an armature carrying a contact-spring, electrical connections between the brushes of the dynamo and the igniter, the brushes and the field-coils, the field-coils and said electromagnet, and the brushes and said electromagnet whereby when the current is unduly increased by the speed of the revoluble armature, the field-coils will be automatically cut out to reduce the current, and an adjusting device for said governor.

841,600. STORM-PROOF LAMP. GUSTAV STÜBGEN, Erfurt, Germany. Filed May 15, 1906. Serial No. 316,988.



Claim.—In a lamp of the class specified, the combination of air-supply pipes leading straight downwardly to the bottom of the lamp and having lower vertically-straight extremities formed with openings at their inner portions, a ring coöperating with the lower straight extremities of the pipe, and a petrol-tank and burner provided with opposite downwardly-inclined air-flues leading from the burner and passing through the tank, the lower ends of the flues being exterior of the tank and located adjacent to the openings at the inner portions of the lower straight extremities of the air-supply pipes.

841,601. PUMP-STROKE REGULATOR. JOHN C. SUMMERS, Millersburg, and HARRY G. MAST, Benton, Ohio. Filed July 9, 1906. Serial No. 325,240.



Claim.—1. In a pump-stroke regulator, the combination of a pump-rod, a walking-lever, a fulcrum-wheel for said walking-lever, a pitman adapted to actuate the walking-lever, a pivoted lever provided with a weight, a regulating-blade, secured to said lever, a rod connected to the weighted arm of said lever, and a rack-bar actuated by the lever carrying the regulating-blade, an intermediate gear located between the rack-bar and the fulcrum-wheel and the walking-lever, substantially as and for the purpose specified.

2. In a pump-stroke-regulating device, the combination of a regulating-blade, a pivoted lever adapted to carry said blade, and provided with a weight, a rod pivotally connected to the weighted lever, a rack-bar actuated by the blade carried by the pivoted lever, a fulcrum-wheel and a walking-lever located thereon, and movable longitudinally, means for actuating the walking-lever and a pump-rod connected to said walking-lever, substantially as and for the purpose specified.

3. In a pump-stroke-regulating device, the combination of a toothed wheel, a walking-lever mounted upon said toothed wheel, pivoted arms located upon opposite sides of the walking-lever, a roller located upon said walking-lever and carried by said pivoted arms, means for imparting a walking movement to said walking-lever, and means for imparting rotary movement to the toothed wheel carrying the walking-lever, substantially as and for the purpose specified.

4. In a pump-stroke-regulating device, the combination of a walking-lever, means for imparting walking movement to the walking-lever, and means for imparting reciprocating movement to said walking-lever, a regulating-blade, and a pivoted lever adapted to carry said regulating-blade, a weight connected to said pivoted lever, a spring secured at its top end to the pivoted lever and its lower end secured in fixed relative position to the pivoted lever and a stop-shoulder adapted for contact with the under side of the pivoted lever, substantially as and for the purpose specified.

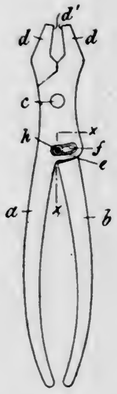
5. In a pump-stroke-regulating device a pivoted lever, a regulating-blade carried by said pivoted lever, a weight carried by the pivoted lever, rotatable members adapted to support said pivoted lever and regulating-blade and weight, a regulating-rod pivotally attached to the weighted lever, a rack-bar journaled at its top end to the regulating-rod, a pinion adapted to mesh with the rack-bar, a gear-wheel rotatable with the pinion meshing with the rack-bar, a shaft, a pinion fixed to said shaft, said pinion meshing with the gear driven by the rack-bar pinion, a worm-gear fixed to said shaft, a gear-wheel meshing with the worm-gear, a toothed wheel, a walking-lever fulcrumed upon the toothed wheel, said toothed wheel driven by the worm-gear and gear-wheel meshing therewith, and means for imparting walking movement to the walking-lever, and a pump-rod pivotally attached to said walking-lever, substantially as and for the purpose specified.

841,602. ADJUSTABLE SPANNER. ARTHUR G. TAYLOR, London, England. Filed June 23, 1905. Serial No. 266,622.

Claim.—1. An adjustable spanner comprising two members pivoted together each having a jaw and one of the members having an arcuate slot concentric with the pivot between the two members, the opposing faces of said jaws being in parallelism only when the jaws are opened substantially to their widest extent, a stud carried by the other member and extending through the arcuate slot, and means upon the stud for fastening the members in adjusted relations.

2. An adjustable spanner comprising two members pivoted together formed with jaws whose opposing faces are parallelly disposed only when opened to their widest extent; a stud fixed in one member passing through a slot in the other member, the sides of said slot being inclined; a conical block mounted loosely upon said stud and adapted to frictionally engage with the walls of said slot; and a thumb-nut screwing upon said stud to force said conical block into frictional contact with the walls of said slot, as set forth.

841,602.



841,603. COMPOSITION FOR COATING METALS. MAXIMILIAN TOCH, New York, N. Y. Filed Feb. 7, 1906. Serial No. 299,988.

Claim.—1. A composition for coating metal, consisting essentially of calcium silicate and a binder.

2. A composition for coating metal, consisting essentially of calcium silicate and a weak organic acid salt.

3. A composition for coating metal, consisting essentially of calcium silicate and a weak calcium salt.

4. A composition for coating metal, consisting essentially of calcium silicate and a calcium organic acid salt.

5. A composition for coating metal, comprising tricalcium silicate and calcium linoleate.

6. A composition for coating metal, comprising tricalcium silicate, calcium linoleate and a mineral diluent.

7. A composition for coating metal, comprising calcium silicate, calcium linoleate, a mineral diluent and a pigment.

8. A composition for coating metal, consisting essentially of a stable body material and calcium linoleate.

841,604. SEWING-MACINE ATTACHMENT. LUCIUS M. TYNES, Gloster, Miss. Filed Apr. 18, 1906. Serial No. 312,463.

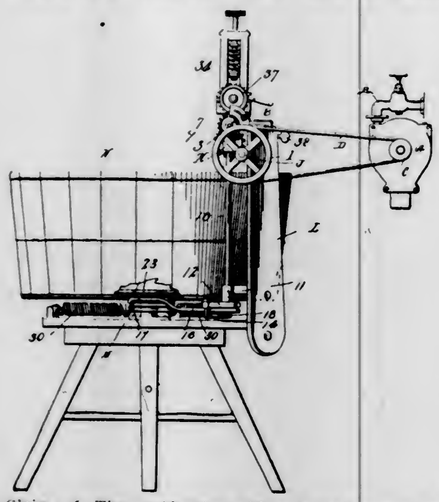


Claim.—1. An attachment for sewing-machines formed of a single length of spring metal and comprising an elongated loop constituting a foot and capable of movement laterally and longitudinally independently of a needle in position therein, a coil at one end of the loop, a bowed arm extending from the coil and overhanging the loop, a needle-receiving coil at one end of the arm and disposed substantially at right angles to the loop, and a resilient needle-bar engaging-arm extending from the needle-receiving coil.

2. An attachment for sewing-machines formed in a single length of spring metal and comprising an elongated loop constituting a foot and capable of movement laterally and longitudinally independently of a needle in posi-

tion therein, a coil at one end of the loop, a bowed arm extending from the coil and overhanging the loop, said arm being reinforced throughout its length, a needle-receiving coil at one end of the arm and disposed substantially at right angles to the loop, and a resilient needle-bar engaging-arm extending from the needle-receiving coil.

841,605. OPERATING MECHANISM FOR WASHING-MACHINES. THOMAS J. WINANS, Binghamton, N. Y., assignor to The Nineteen Hundred Washer Co., Binghamton, N. Y. Filed Dec. 1, 1904. Serial No. 235,028.



Claim.—1. The combination with a central support, reciprocating mechanism mounted on the support and provided with shock-absorbing means, of a reciprocating rod connected to said mechanism, and gear connections for operating the rod.

2. The combination with a central support, of yielding reciprocating mechanism mounted on said support, a reciprocating rod connected to said mechanism, a rotary shaft and crank connected thereto, and a series of gears to operate the shaft.

3. The combination with a central support, of a supporting-spider mounted to oscillate upon said support, springs located in the spider to absorb the jar of the oscillations, a reciprocating rod connected to the spider, rotary shaft and crank connected thereto, and means for operating said shaft.

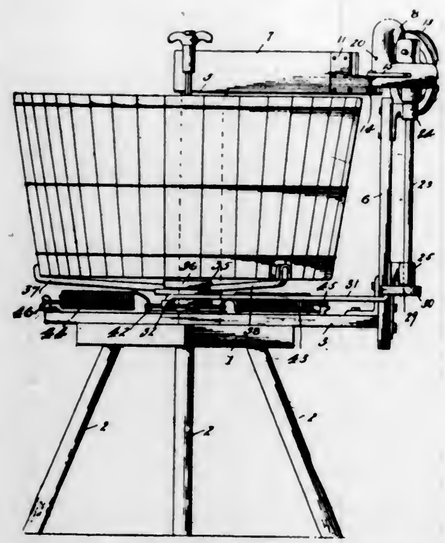
4. The combination with a supporting-post, of a spider adapted to oscillate with said post, shock-absorbing springs carried by the spider, a rod for oscillating the spider, and a series of gears for operating the shaft.

5. The combination with a support and a shaft mounted thereon, of a spider supported by said shaft, a lever loosely journaled on the shaft, springs connecting the lever to said spider, a rod and connections for reciprocating said lever, a collar journaled on the shaft and adapted to be contacted by the lever, and springs limiting the motion of the collar, so that the same forms a yielding abutment to the lever.

6. The combination with a support and a spider adapted to oscillate thereupon, a lever arranged on the support, flexible connections between the spider and lever, a rod for oscillating the lever, and a yielding abutment to limit the motion of the lever.

841,606. OPERATING MECHANISM. THOMAS J. WINANS, Binghamton, N. Y., assignor to The Nineteen Hundred Washer Company, Binghamton, N. Y. Filed Apr. 12, 1906. Serial No. 311,273.

Claim.—1. The combination in a mechanism as described of a supporting-frame, a post in said frame, a spider connected to and adapted to swing with said post as a center, a lever-arm connected with the swinging spider and a spring interposed between said spider and lever-arm.



2. The combination in a mechanism as described of a supporting-frame, a post in said frame, a spider connected with said post, a lever-arm and spring connection between said arm and spider, and means for absorbing the momentum in one direction and returning an impulse in the opposite direction as the spider is reversed in its movement.

3. The combination in a mechanism as described of a frame, a spider supported therein and adapted to swing in a horizontal plane, a lever-arm, a spring connecting said lever-arm with the spider, means for moving said lever-arm, and a pair of springs with connections to the spider for absorbing the momentum in one direction and returning an impulse in the opposite direction as the spider is reversed in its movement.

4. The combination in a mechanism as described, of a frame, a spider supported therein and adapted to swing in a horizontal plane, a lever-arm for operating said spider, and an elastic connection between said arm and spider; and means for absorbing the momentum in one direction and returning an impulse in the opposite direction as the spider is reversed in its movement.

5. The combination in a mechanism as described, of a spider suitably supported and adapted to swing in a horizontal plane, elastic connections for operating said spider; and elastic means for absorbing the momentum in one direction and returning an impulse in the opposite direction as the spider is reversed in its movement.

6. The combination with a frame, of a pintle supported therein, a spider clamped to said pintle by clamp-plates, a lever-arm, a spring connecting said lever-arm and spider, a plate having bearing on the pintle and springs connecting its ends with the frame, and means on the spider in connection with said last-named springs for absorbing the momentum and cushioning the movement of said spider.

7. The combination with a supporting-frame, of a post, a spider secured thereon, a lever-arm having elastic connection with said spider; an obstruction-plate, springs connecting the ends of said plate with the frame, the spider having a lug adapted to engage said obstruction-plate to absorb the momentum and cushion the movement of the spider.

8. The combination with a supporting-frame, of a post, a clamp-plate rigid with said post, an upper plate, spider-arms having their ends held between said plates and a clamping-nut for securing said spider ends; a lever-arm, and a spring connecting said lever-arm and one of the spider-arms, and means for operating said lever.

9. The combination with a frame, of a post supported and rotatable therein, a plate rigid with said post, a clamp-plate and spider-arms interposed between said plates and a clamping-nut for securing these members, a lever-operating arm having elastic connection with one of said spider-arms; means for operating said lever, and means to absorb the momentum and cushion the movement of the spider.

10. The combination with a frame, of a post rotatably supported therein, a plate rigid with the post, a clamp-plate, spider-arms interposed between said plates and a clamping-nut for securing these members, a lever-arm, and a spring connecting said arm and one of the spider-arms, an elastic obstruction-plate and means on the spider for engagement with said plate to absorb the momentum and cushion the movement of the spider.

11. The combination with a frame of a post rotatably supported therein, a plate rigid with the post, a clamp-plate on the post, spider-arms interposed between said plates and a clamping-nut for securing these members, a lever-arm, a spring connecting said arm and one of the spider-arms, an obstruction-plate, springs anchoring said plate to the frame, the spider having a lug for engagement with said obstruction-plate.

12. The combination with a supporting-frame, of a post rotatably mounted therein, a spider on said post, a lever-arm having elastic connection with said spider, a reciprocating rod connected with said lever-arm, a crank and shaft connected to said rod, and means for imparting a rotary motion to said shaft.

13. The combination with a supporting-frame, of a post rotatably mounted therein, a spider on said post, a lever-arm having elastic connection with said spider, a reciprocating rod connected with said lever, a crank and shaft connected to said rod; means for imparting a rotary motion to the shaft; and elastic means for absorbing the momentum and cushioning the movement of the spider.

14. The combination with a supporting-frame and a support adapted to swing about its center, of a rotary shaft and connections therefrom for transforming its rotary motion into a swinging motion of the support, a gear-wheel on said shaft, a transverse shaft having a worm-gear thereon meshing with said gear-wheel, and means for rotating said transverse shaft.

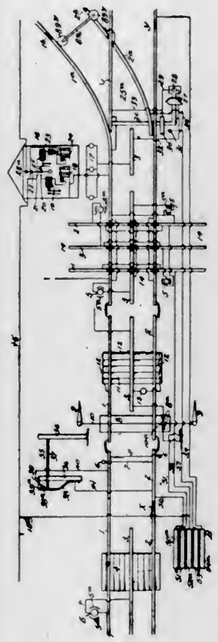
15. The combination with a supporting-frame and a support adapted to swing about its center, of a rotary shaft and connections therefrom for transforming its rotary motion into a swinging motion of the support, a gear-wheel on the shaft, a transverse shaft having a worm-gear thereon, and means for throwing said worm-gear and gear-wheel into and out of engagement.

16. The combination with a supporting-frame and a support adapted to rotate about its center, of a rotary shaft and connections therefrom to transform the rotary motion into a swinging motion of the support, a gear-wheel on the shaft, a transverse shaft having a worm-gear thereon, an eccentric-bearing for said transverse shaft, and a spring-pressed lever for throwing said worm-gear and gear-wheel into and out of engagement.

17. The combination with a supporting-frame and a support adapted to rotate, of a rotary shaft and connections therefrom for transforming its rotary motion into an alternating swinging motion of the support, a gear-wheel on the shaft, a transverse shaft and a worm-gear thereon, a bearing-sleeve, and said transverse shaft located eccentrically in said sleeve, and a spring-pressed lever for throwing said worm-gear and gear-wheel into engagement.

841,607. RAILWAY SIGNALING MECHANISM. EDWIN J. ADAMS, Waco, Tex. Filed May 3, 1906. Serial No. 315,636.

Claim.—1. In a system of the class described, the combination with suitable electric blocks including a plurality of circuit-controlling devices, of a plurality of train-carried indicator mechanisms controlled by said circuit-controllers, means for placing the blocks in electrical connection with the train at times, means controllable by the train-carried mechanism for stopping the train at predetermined times, said blocks including a portion of a telegraphic circuit and means carried by the train for coöperating with and completing the telegraph-circuit whereby telegraphic communication can be had with the train, substantially as shown and described.



2. In a system of the class described, the combination with a plurality of circuit-controlling devices arranged along a railway-track, a fixed contact-maker having a plurality of independent contacts in electrical connection with said controlling devices, of a plurality of train-carried annunciator mechanisms, a contact device carried by the train and having independent contact-plates in connection with the annunciator mechanism for coöperating with the fixed contact-makers, a local alarm-circuit carried by the train and controlled by the annunciator mechanism.

3. In a system of the class described, the combination with a plurality of circuit-controlling devices arranged along a railway-track, fixed contact-makers having a plurality of independent contacts in electrical connection with said controlling devices, of a plurality of train-carried annunciator mechanism, a contact device carried by the train and having independent contact-plates in connection with the annunciator mechanism for coöperating with the fixed contact-makers, a local alarm-circuit carried by the train and controlled by the annunciator mechanism, and means controlled by said annunciator mechanism for setting the brakes and closing the throttle-valve of the train.

4. In a system of the class described, the combination with train-carried mechanism, and suitable electric blocks having circuit-controlling mechanism, said train-carried mechanism and said electric blocks and circuit-controlling mechanism comprising means for indicating land-slides, means for indicating spread rails, means for indicating washouts, means for indicating broken or unsafe bridges, means for indicating approaching trains means for indicating whether the railway-crossing is occupied or not, means for telegraphically signaling from and with stations along the line, means for indicating open switches and cars too close to the main track or siding, and means

for lighting up road-crossing signals, and switch-lamp signals, substantially as shown and described.

5. The combination with a suitable electric block including a circuit-closing device, a fixed contacting member in electrical connection with the circuit-closing device, of a source of electric energy carried by the train, means for electrically connecting one pole of the source of electrical energy with one of the track-rails, and means connecting the circuit-controller with said track-rail, an engine-carried contacting device for coöperation with the fixed contact device, means for electrically connecting said engine-carried device with said source of electric energy, an electric lamp and an annunciator mechanism connected in circuit with said last-named connecting means, said annunciator mechanism including an operating-magnet, a drop and a catch device for holding said drop in its normal position, means controllable by said drop for closing the circuit through its respective lamp, an air-valve-operating magnet in electrical connection with said short-circuiting means and operable thereby, an air-valve operable by said air-valve-operating magnet, said air-valve being in communication with the train air-pipe, a piston and cylinder, connections between the cylinder and the air-valve to permit air passing through the air-valve to operate the piston, and means coöperatively connected with the piston for operating the throttle-lever to close the throttle-valve, substantially as shown and described.

6. The combination with a suitable electric block including a circuit-closing device, a fixed contact member in electrical connection with the circuit-closing device, of a source of electric energy carried by the train, means for electrically connecting one pole of the source of electrical energy with one of the track-rails, and means connecting the circuit-controller with said track-rail, an engine-carried contacting device for coöperating with the fixed contact device, means for electrically connecting said engine-carried device with said source of electric energy, an electric lamp and an annunciator mechanism connected in circuit with said last-named connecting means, said annunciator mechanism including an operating-magnet, a drop and a catch device for holding said drop in its normal position, means controllable by said drop for closing the circuit through its respective lamp an air-valve-operating magnet in electrical connection with said short-circuiting means, an air-valve operable by said air-valve-operating magnet, said air-valve being in communication with the train air-pipe, a piston and cylinder, connections between the cylinder and the air-valve to permit air passing through the air-valve to operate the piston, and means co-operatively connected with the piston for operating the throttle-lever to close the throttle-valve, and a local bell-circuit closable by said drop when it has fallen, substantially as shown and described.

7. In a system of the class described, the combination with blocked railway-track sections, circuit-controlling means coöperatively connected with said blocked sections, a fixed contact-maker having a plurality of independent contact-plates connected with said circuit-controlling means and arranged alongside of the track, of train-carried annunciator mechanisms for said circuit-controllers, a train-carried source of electrical energy coöperatively connected in circuit with said annunciators, indicating-lamps in circuit with said annunciators, a train-carried contact-maker having a plurality of independent contact-plates electrically connected with said annunciator mechanisms and operable with the fixed contact-makers at times, and means for electrically connecting the source of electric energy with the car-axle, substantially as shown and described.

8. In a system of the class described, the combination with blocked railway-track sections, circuit-controlling means coöperatively connected with said blocked sections, fixed contact-makers connected with said circuit-controlling means and arranged alongside of the track, of train-carried annunciator mechanisms for said circuit-controllers, a train-carried source of electrical energy co-operatively connected in circuit with said annunciators, indicating-lamps in circuit with said annunciators, a train-carried contact-maker electrically connected with said annunciator mechanisms and operable with the fixed contact-makers at times, means for electrically connecting the source of electrical energy with the car-axle, and means controllable by each annunciator mechanism for closing the circuit through its respective lamp to relight the train-carried signal-lamps after the train-carried contact member has moved out of electrical engagement with the fixed contact member, substantially as shown and described.

9. In a system of the class described, the combination with blocked railway-track sections, circuit-controlling means coöperatively connected with said blocked sections, fixed contact-makers connected with said circuit-controlling means and arranged alongside of the track, of train-carried annunciator mechanisms for said circuit-controllers, a train-carried source of electrical energy coöperatively connected in circuit with said annunciators, indicating-lamps in circuit with said annunciators, a train-carried contact-maker electrically connected with said annunciator mechanisms and operable with the fixed contact-makers at times, means for electrically connecting the source of electric energy with the car-axle, and a train-carried local signal-circuit controllable by said annunciator mechanisms substantially as shown and described.

10. In a system of the class described, the combination with blocked railway-track sections, circuit-controlling means coöperatively connected with said blocked sections, fixed contact-makers connected with said circuit-controlling means and arranged alongside of the track, of train-carried annunciator mechanisms for said circuit-controllers, a train-carried source of electrical energy coöperatively connected in circuit with said annunciators, indicating-lamps in circuit with said annunciators, a train-carried contact-maker electrically connected with said annunciator mechanisms and operable with the fixed contact-makers at times, means for electrically connecting the source of electrical energy with the car-axle, means controllable by the annunciator mechanisms for closing the circuit to relight the train-carried signal-lamps after the train-carried contact member has moved out of electrical engagement with the fixed contact member, and a train-carried local signal-circuit controllable by said annunciator mechanisms, substantially as shown and described.

11. In an electric signaling system, the combination with track-arranged circuit-controlling devices, electrically connected with the track, a fixed contact-maker arranged along the track and electrically connected with the circuit-controller, a train-carried annunciator, a train-carried contacting device for coöperating with the fixed contact device and electrically connected with the annunciator mechanism, a signal-lamp and a source of electric energy in circuit with the annunciator mechanism, said source of electric energy being electrically connected with the car-axle, a local alarm-circuit controllable by said annunciator mechanism, and means controlled by the annunciator mechanism for closing the circuit through its respective lamp at times and means controllable by said circuit-closing means for stopping the train, substantially as shown and described.

12. The combination with track-sections, of circuit-controllers electrically connected to said track-sections, a fixed contact member arranged adjacent the track and in electrical connection with the circuit-controllers, of a train-carried contact member for engaging the fixed contact member as the train passes, train-carried annunciator mechanisms electrically connected with the train-carried contact devices, a source of electric energy connected with the train car-axle, and with the annunciator mechanisms, signaling-lamps for said annunciator mechanisms, lightable by the current from the source of electric energy when the train-carried and fixed contact devices are in engagement, and means controllable by said annunciator mechanisms for relighting said annunciator signal-lamps after the train-carried contact device has passed the fixed contact devices and the annunciator mechanism has registered, substantially as shown and described.

13. The combination with suitable electric block-sections including track portions, circuit-controllers coöperating with each of said block-sections, a fixed contact device electrically connected with all of said circuit-controllers, and having independent contact members, of a train-carried contact device having correspondingly independent contact members, a plurality of train-carried annunciator mechanisms electrically connected with said train-carried contact device, a train-carried source of electrical energy electrically connected with said annunciator mechanisms and the train car-axle, of signaling-lamps electrically connected in circuit with said annunciator mechanisms and coöperating therewith, said signaling-lamps adapted to be lighted and said annunciators operated while the train-carried contact device passes the fixed contact device, and means controlled by the annunciator mechanisms for relighting the signal-lamps thereof when the train-carried contact device leaves the fixed contact device after the annunciator mechanism has been operated, substantially as shown and described.

14. The combination with suitable electric block-sections including track portions, circuit-controllers coöperating with each of said block-sections, a fixed contact device electrically connected with all of said circuit-controllers, and having independent contact members, of a train-carried contact device having correspondingly independent contact members, a plurality of train-carried annunciator mechanisms electrically connected with said train-carried contact device, a train-carried source of electrical energy electrically connected with said annunciator mechanisms and the train car-axle, of signaling-lamps electrically connected in circuit with said annunciator mechanisms and coöperating therewith, said signaling-lamps adapted to be lighted and said annunciators operated while the train-carried contact device passes the fixed contact device, means controlled by the annunciator mechanisms for relighting the signal-lamps thereof when the train-carried contact device leaves the fixed contact device after the annunciator mechanism has been operated, and a local alarm circuit closable by said annunciator mechanism at times, substantially as shown and described.

15. The combination with suitable electric block-sections including track portions, circuit-controllers coöperating with each of said block-sections, a fixed contact device electrically connected with all of said circuit-controllers, and having independent contact members, of a train-carried contact device having correspondingly independent contact members, a plurality of train-carried annunciator mechanisms electrically connected with said train-carried contact devices, a train-carried source of electrical energy electrically connected with said annunciator mechanisms and the train car-axle, of signaling-lamps electrically connected in circuit with said annunciator mechanisms and coöperating therewith, said signaling-lamps adapted to be lighted and said annunciators operated while the train-carried contact device passes the fixed contact devices, means controlled by the annunciator mechanisms for relighting the signal-lamps thereof when the train-carried contact device leaves the fixed contact device after the annunciator mechanism has been operated, and means controllable by some of said annunciator mechanisms for applying the air and closing the throttle-valve of the engine to stop the train, substantially as shown and described.

16. The combination with train-carried indicator mechanism and track-arranged circuit-controllers therefor, and means for electrically connecting the track-arranged circuit-controllers and the train-carried indicator mechanism at times, of electromagnetically-controlled means coöperatively connected with the train-carried indicator mechanisms and controlled thereby for operating the throttle-valve of the engine to close off the same, and means for locking said electromagnetically-controlled means after it has operated to close off the throttle-valve substantially as shown and described.

17. A contact-maker comprising an insulating-body having wedge-shaped ends, and a plurality of contact-strips carried by said body, said body having apertures to permit passage of conducting-wires, substantially as shown and described.

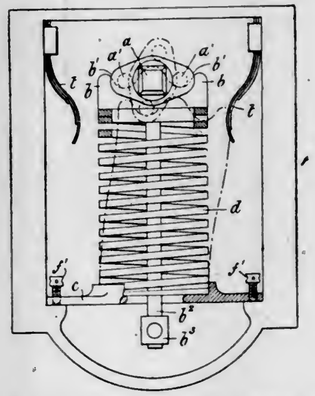
18. A contact member comprising an insulating-body, T-shaped in cross-section and provided with wedge-shaped ends, a plurality of contact-strips parallelly and longitudinally arranged on said body, and apertures in said body to permit passage of current-conducting wires, substantially as shown and described.

19. A contact member comprising an insulating-body of rectangular tubular shape, said body having beveled ends and a longitudinal slot in one wall thereof, a plurality of contact-strips carried by said insulating-body and spacing-lugs on the inner walls of said insulating-body, substantially as shown and described.

20. A contact member comprising an insulating-body of rectangular shape, said body having beveled ends and a longitudinal slot in one wall thereof, a plurality of contact-strips carried by said insulating-body, spacing-lugs on the inner walls of said insulating-body, and means for mounting said contact member for lateral adjustment, substantially as shown and described.

21. A contact member comprising a hollow rectangular insulating-body having a longitudinal slot in one wall, a plurality of contact-strips carried by the insulating-body and projecting into the interior thereof, beveled end pieces secured to said insulating-body, and means for mounting said insulating-body for lateral adjustment on a railway-car.

841,608. DOOR-CLOSER. ROBERT ADAMS, London, England. Filed June 28, 1904. Serial No. 214,524.



Claim.—1. In a door-closing appliance, the combination of a door-pivot, a fence-plate, a spring, means for fixing one end of said spring relatively to said fence-plate, a recessed plate fitted to the other end of said spring, means on said door-pivot engaging the recess of said recessed plate adapted to compress the spring and deflect the upper end thereof laterally when said pivot is rotated by the door, and an auxiliary spring to assist in starting the closing action, as set forth.

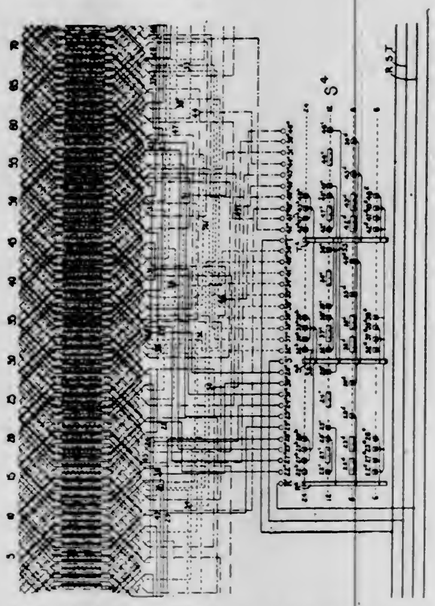
2. In a door-closing appliance, the combination of a door-pivot, a fence-plate, a spring, means for fixing one end of said spring relatively to said fence-plate, a recessed plate fitted to the other end of said spring, a pair of pins on said door-pivot adapted to engage the two recesses in said recessed plate, and a pair of auxiliary springs, as set forth.

3. The combination with a door-pivot provided with a pair of pins, a spring, a fence-plate fixed to said spring, a pair of auxiliary springs, and a recessed plate engaging said pins, of an adjusting device adapted to set the said recessed plate at an angular position, as set forth.

4. The combination with a door-pivot formed with a pair of pins, a spring, a fence-plate fixed to said spring, a recessed action-plate fixed to the other end of said spring, and a pair of auxiliary springs, of an adjusting device fitted in connection with said fence-plate whereby to set up said fence-plate with regard to its position in the box, as set forth.

5. The combination of a door-pivot, a spring, a fence-plate fixed to said spring, an action-plate secured to said spring, and an eccentrically-arranged engagement on said pivot meshing with a corresponding engagement on said action-plate adapted to continue the compression and distortion of the spring beyond the right-angled opening of the door, as set forth.

841,609. MOTOR-WINDING. ERNST F. W. ALEXANDERSON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 23, 1903. Serial No. 166,676.



Claim.—1. A phase-winding for a multispeed alternating-current motor, having its conductors connected so as to form a plurality of groups in a plurality of which the direction of current-flow is the same for a plurality of speeds of the motor, and means for changing the relative connections of the several groups for the different speeds.

2. A winding for a multispeed alternating-current motor, having its conductors connected so as to form a plurality of groups in each of which the direction of current-flow is the same for a plurality of speeds of the motor, and means for changing the relative connections of the several groups for the different speeds.

3. A winding for a multispeed alternating-current motor, having its conductors connected so as to form a plurality of groups in each of which the direction of current-flow is the same for a plurality of speeds of the motor and in some of which the current-flow is the same for the remaining speeds and in some of which it is reversed for the remaining speeds, and means for changing the relative connections of the groups for the different speeds.

4. A winding for a multispeed alternating-current motor, having its conductors connected so as to form three or more groups in one of which the direction of current-flow is the same for all speeds of the motor and in others of which the direction of current-flow is the same for some of the speeds and reversed for the remaining speeds, and means for changing the relative connections of the several groups for the different speeds.

5. A winding for a multispeed alternating-current motor, which consists of a plurality of sets of coils, each of which sets overlaps the adjoining set on either side so as to produce a chain-like arrangement of such sets, the conductors of said coils being connected so as to form a plurality of groups, and means for changing the relative connections of said groups for the different motor speeds.

6. In a multispeed alternating-current motor, the combination of a toothed or slotted core and a polyphase-winding thereon consisting of a distinct winding for each phase, each phase-winding consisting of a plurality of sets of coils each of which overlaps the adjoining set on either side so as to produce a chain-like arrangement of such sets, said phase-windings being so arranged that each slot or each corresponding portion of the core carries the same number of conductors of each phase-winding, leads extending from said windings, and means for changing the relative connections of said leads for the different motor speeds.

7. A multispeed alternating-current motor provided with primary drum-windings having their conductors connected together in groups and provided with terminals, the conductors of said windings being so associated with each other and said terminals that by changes of the coupling of said terminals the number of poles may be changed so as to give four speeds, and means for changing said coupling.

8. A multispeed alternating-current motor provided with primary drum-windings having their conductors connected in groups and provided with terminals, the conductors of said windings being so associated with each other and with said terminals that by changes of the coupling of said terminals the pole-numbers N, N/2, N/3 and N/4 are obtained, and means for changing said coupling.

9. A multispeed alternating-current motor provided with primary drum-windings having their conductors connected in groups and provided with terminals, the conductors of said windings being so associated with each other and with said terminals that by changes of the coupling of said terminals the pole-numbers N, N/2 and N/3 are obtained, and means for changing the coupling.

10. A multispeed alternating-current motor provided with primary drum-windings having their conductors connected in groups and provided with terminals, the conductors of said windings being so associated with each other and with said terminals that by changes of the coupling of said terminals the pole-numbers N, N/2 and N/4 are obtained, and means for changing said coupling.

11. A multispeed alternating-current motor provided with primary drum-windings having their conductors connected in groups and provided with terminals, the conductors of said windings being so associated with each other and with said terminals that by changes of the coupling of said terminals the pole-numbers N, N/3 and N/4 are obtained, and means for changing said coupling.

12. A multispeed alternating-current motor provided with primary drum-windings having their conductors connected in groups and provided with terminals, the conductors of said windings being so associated with each other and with said terminals that by changes of the coupling of said terminals the pole-numbers N/2, N/3 and N/4 are obtained, and means for changing said coupling.

13. A multispeed alternating-current motor provided with primary drum-windings having their conductors connected in groups and provided with terminals, the conductors of said windings being so associated with each other and with said terminals that by changes of the coupling of said terminals the pole-numbers N/2 and N/3 are obtained, and means for changing said coupling.

14. A multispeed alternating-current motor provided with primary drum-windings having their conductors connected in groups and provided with terminals, the conductors of said windings being so associated with each other and with said terminals that by changes of the coupling of said terminals the pole-numbers N/2 and N/4 are obtained, and means for changing said coupling.

15. A multispeed alternating-current motor provided with primary drum-windings having their conductors connected in groups and provided with terminals, the conductors of said windings being so associated with each other and with said terminals that by changes of the coupling of said terminals the pole-numbers N/3 and N/4 are obtained, and means for changing said coupling.

16. A two-speed alternating-current motor provided with primary drum-windings having their conductors connected in groups and provided with terminals, the conductors of said windings being so associated with each other and with said terminals that by changes of the coupling of said terminals the pole-numbers N and N/4 are obtained, and means for changing said coupling.

17. A two-speed three-phase alternating-current motor provided with primary drum-windings having their conductors connected in groups and provided with terminals, the conductors of said windings being so associated with each other and with said terminals that by changes of the coupling of said terminals the pole-numbers N and N/3 are obtained, and means for changing said coupling.

18. A multispeed alternating-current motor, provided with primary drum-windings having their conductors connected so as to form a plurality of groups, said groups being arranged in a plurality of branches provided with end terminals and a plurality of intermediate terminals, and means for changing the connections of said terminals to vary the direction of current-flow in the different groups and thereby change the number of poles.

19. A multispeed alternating-current motor, provided with primary drum-windings having their conductors connected so as to form a plurality of groups, said groups being arranged in two branches provided with end terminals and a plurality of intermediate terminals, and means for changing the connections of said terminals to vary the direction of current-flow in the groups to change the number of poles.

20. A multispeed alternating-current motor, provided with primary drum-windings having their conductors connected so as to form eight groups, said groups being arranged in two branches provided with two end terminals and three intermediate terminals per branch, and means for changing the connections of said terminals to vary the direction of current-flow in the groups and thereby change the number of poles.

21. A multispeed, three-phase alternating-current motor, provided with primary drum-windings having their conductors connected together in groups and provided with a maximum of ten terminals per phase, the conductors of said windings being so associated with each other and with said terminals that by changes of the couplings of said terminals the number of poles will be changed so as to give four speeds, and means for changing said couplings.

22. A multispeed, three-phase alternating-current motor provided with primary drum-windings having their conductors connected together in groups and provided with a maximum of ten terminals per phase, the conductors of said windings being so associated with each other and with said terminals that by changes of the couplings of said terminals the pole-numbers N' N/2, N/3 and N/4 are obtained, and means for changing said coupling.

23. A multispeed, alternating-current motor, provided with primary drum-windings having their conductors connected together in groups and provided with terminals, the conductors of said windings being so associated with each other and with said terminals that by changes of the coupling of said terminals the number of poles may be changed so as to give three speeds, and means for changing said coupling.

24. A multispeed, three-phase alternating-current motor provided with primary drum-windings having their conductors connected together in groups and provided with a maximum of twelve terminals, the conductors of said windings being so associated with each other and with said terminals that by changes of the coupling of said terminals the number of poles will be changed so as to give three speeds, and means for changing said coupling.

25. A multispeed, three-phase alternating-current motor provided with primary drum-windings having their conductors connected together in groups and provided with a maximum of twelve terminals, the conductors of said windings being so associated with each other and with said terminals that by changes of the coupling of said terminals the pole-numbers N/2, N/3 and N/4 are obtained, and means for changing said coupling.

26. A multispeed, three-phase alternating-current motor having primary windings, the windings of each phase being divided into groups which are connected in a closed circuit, terminals in each of said circuits between said groups, the conductors of each phase of said windings being so associated with each other and with said terminals that by changes of coupling of the said terminals the number of poles of the motor may be changed so as to give three speeds.

27. A multispeed three-phase alternating-current motor having primary windings, the winding of each phase being provided with four terminals, the conductors of each phase-winding being so associated with each other and with said terminals that by changes of the coupling of said terminals the number of poles of the motor may be changed so as to give three speeds.

28. A winding for a three-speed alternating-current motor having its conductors connected so as to form a plurality of groups, in one of which the direction of current-flow is the same for all speeds of the motor and in the others of which the direction of current-flow is the same for two speeds and reversed for the other speed, and means for changing the relative connections of the several groups for the different speeds.

29. A phase-winding for a multispeed alternating-current motor, which consists of a plurality of coils having their conductors connected so as to form a plurality of groups connected in a closed circuit, terminals located in said circuit at points between said groups, and switching means for changing the direction of current-flow through said groups.

30. A polyphase-winding for a multispeed alternating-current motor, consisting of a plurality of phase-windings each of which consists of a plurality of coils having their conductors connected so as to form a plurality of groups connected in a closed circuit, terminals located in said closed circuits at points between said groups, and switching means for changing the direction of current-flow through said groups.

31. In a multispeed-motor, a distributed winding having each phase formed of uniform overlapping coils connected in groups, and means for varying the connections of said groups.

32. In a multispeed-motor, a distributed winding having each phase formed of uniform overlapping coils, and means for varying the relative directions of current-flow in said coils.

33. In a multispeed-motor, a distributed winding having each phase formed of uniform overlapping coils connected in groups, said groups being connected in a closed circuit, and means for varying the points of connection from said circuit to the source of current.

34. In a multispeed-motor, a distributed winding having each phase formed of uniform overlapping coils connected in four groups, said groups being connected in series in a closed circuit, and means for varying the points of connection from said closed circuit to the source of current.

35. In a multispeed-motor, a distributed winding for each phase of the motor, each coil of said winding being overlapped on each side by a coil connected in the same phase.

36. In a multispeed-motor, a distributed winding for each phase of the motor, each coil of said winding being overlapping for one-third its width on each side by a coil connected in the same phase.

37. In a multispeed-motor, a slotted core, a winding arranged with three coils in each slot, said coils being connected in different phases to form a three-phase winding and the coils of each phase being connected in groups, and means for varying the connections to the groups to produce different pole-numbers.

38. In a multispeed-motor, a slotted core, a winding arranged with three coils in each slot, said coils being connected in different phases to form a three-phase winding and the coils of each phase being conected in groups,

and means for connecting said groups for different pole-numbers.

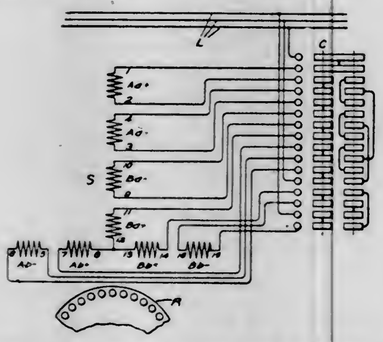
39. In a multispeed-motor, a slotted core, a three-phase winding carried in said slots, each phase being composed of uniform overlapping coils connected in groups and each slot containing three coils connected one in each phase, and means for varying the connections of the groups of each phase to connect the winding for different pole-numbers.

40. In a multispeed-motor, a slotted core, a three-phase winding carried in said slots, each phase being composed of uniform coils connected in groups and each slot containing three coils connected one in each phase, and means for varying the connections of the groups of each phase.

41. A winding for a multispeed alternating-current motor having the conductors of each phase connected in three or more groups, all the conductors in which the relative directions of current-flow are the same for all speeds of the motor being connected in the same group so that the number of poles of the motor may be varied by a simple change of coupling of the groups.

42. In a multispeed-motor, a winding having its conductors connected in a plurality of groups, said conductors being so arranged that by reversing the relative terminal connections of one or more groups a second speed may be obtained and by reversing the relative terminal connections of one or more other groups a third speed may be obtained.

841,610. ALTERNATING-CURRENT MOTOR. ERNST F. W. ALEXANDERSON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Nov. 9, 1905. Serial No. 286,510.



Claim.—1. The method of connecting for a given number of poles and phases a winding formed of a number of coils not a common multiple of the number of poles and the desired number of coils per pole, which consists in assigning the proper proportion of the total number of coils to each phase, dividing the number of coils for each phase by the number of poles, and distributing the coils forming the remainder from said division among the poles of that phase, so as to utilize all the coils and to approximate the desired number of coils per pole.

2. The method of connecting for a given number of poles and phases a winding formed of a number of coils not a common multiple of the number of poles and the desired number of coils per pole which consists in assigning the proper proportion of the total number of coils to each phase, and distributing the coils for each phase as uniformly as possible among the several poles of that phase, so as to utilize all the coils.

3. The method of connecting for a given number of poles and phases a winding having a number of coils for a phase, which, divided by the number of poles, gives a fractional number, which consists in forming the poles of that phase some of a greater and some of a smaller number of coils than said fractional number so as to utilize all the coils to approximate said fractional number at each pole.

4. The method of forming a T connection of a given number of poles with a winding which divided by the number of poles gives a number not divisible in the proper ratio for a T connection, which consists in dividing the total number of coils into two sets bearing to each other approximately the proper ratio for a T connection in respect to number of coils and distributing each set as uniformly as possible among the several poles.

5. The method of operating at a plurality of speeds a motor supplied with three-phase currents, which consists in selecting the proper coils for making a T connection for each number of poles corresponding to a desired speed, connecting in groups the coils which undergo similar changes in circuit connections in shifting from one number of poles to another, and varying the connections of said groups to obtain the desired speeds.

6. The method of operating at a plurality of speeds a motor supplied with three-phase currents, which consists in selecting the proper coils for making a T connection for each number of poles corresponding to a desired speed, and varying the connections of said coils to produce the proper T connections for the desired speeds.

7. In a dynamo-electric machine, a distributed winding having a number of coils in a phase which, divided by the number of poles gives a quotient having a remainder, the coils forming the remainder being distributed among a portion of said poles and all the coils being connected in circuit.

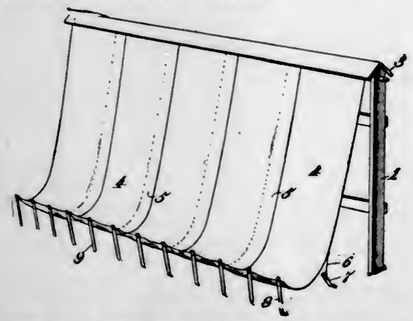
8. In a dynamo-electric machine, a distributed winding having a number of coils in a phase which divided by the number of poles gives a fractional number, the poles of the phase being formed some of a greater and some of a less number of coils than said fractional number.

9. In a dynamo-electric machine, a distributed winding arranged in T connection and formed of a number of coils which divided by the number of poles gives a number not divisible in the proper ratio for a T connection, the total number of coils being divided into two sets bearing to each other approximately the proper ratio for a T connection in respect to number of coils, and each set being distributed as uniformly as possible among the several poles.

10. In combination with an alternating-current motor, means for establishing a plurality of T connections of the motor-windings with different pole-numbers, the coils which undergo similar changes in circuit connections in shifting from one number of poles to another being permanently connected in a group.

11. In combination with an alternating-current motor having its primary winding connected in a plurality of coil groups, means for establishing a plurality of T connections of said winding with the groups arranged in varying relations to each other, said groups being arranged to produce different pole-numbers when their relative connections to each other are varied.

841,611. BACK-STOP AND RECEIVER FOR TARGET-SHOOTING. WILLIAM T. ALSOP, Owensboro, Ky. Filed July 2, 1906. Serial No. 324,480.

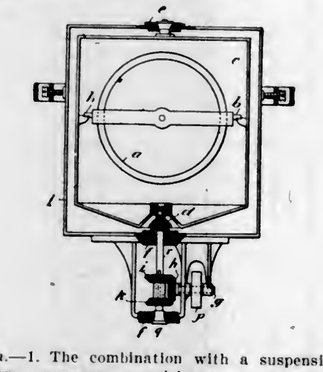


Claim.—1. A receiver and back-stop of the class specified, having a supporting-frame and a flexible sheet suspended from the upper portion and depending downwardly over the frame and provided with a trough at its lower extremity to receive shot or other projectiles striking the sheet and passing downwardly over the latter, the portion of the sheet depending over the frame being clear to receive the shot or projectiles.

2. A receiver and back-stop of the class set forth, having a supporting-frame, flexible sheets depending from the said frame and loosely overlapped at their edges to provide for passage of air between the sheets without perforating the latter, the lower extremities of the sheets being formed as a trough.

3. A receiver and back-stop of the class set forth, having a supporting-frame, a flexible sheet suspended from the frame, and securing devices attached to the lower extremity of the sheet in reverse positions to form a trough at the lower extremity of said sheet.

841,612. SUSPENSION OF ROTATING APPARATUS AND MAGNETIC COMPASSES. HERMANN ANSCHÜTZ-KAEMPFE, Kiel, Germany. Filed Oct. 16, 1905. Serial No. 283,061.



Claim.—1. The combination with a suspension device for rotary compasses comprising a supporting-bearing, of means for rocking the bearing about a vertical axis by a series of equal excursions and recessions.

2. The combination with a gyroscope system, of a bearing for supporting the same and rotatably supported in its axial direction, and occupying a position in axial coincidence with one of the axes of said system, and a train of gears for oscillating said bearing.

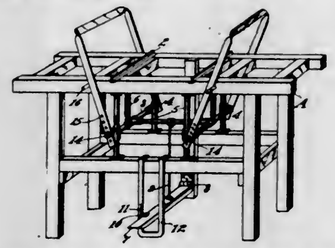
3. The combination with the frame of a gyroscope system, of a bearing member on which the frame is movable on a vertical axis, and means for oscillating such bearing member about said axis by a series of equal excursions and recessions.

4. The combination with the frame of a gyroscope system, of a bearing member on which the weight of the frame is supported and whereon it is movable about a vertical axis, and power-driven means for oscillating the bearing member about said axis by a series of equal excursions and recessions.

5. The combination of a supporting member, a vertical shaft mounted at the lower part of the member, a frame carrying a gyroscope and pivotally supported on the upper end of the said shaft, a bearing for laterally supporting the frame at the upper part of the supporting member, a pair of gears fast on said shaft, and a mutilated gear arranged for alternately engaging said gears when rotated for oscillating the shaft.

841,613. BOX-NAILING PRESS. HENRY A. BASSFORD and GEORGE S. BASSFORD, Vacaville, Cal. Filed Jan. 16, 1906. Serial No. 296,421.

Claim.—1. A box-nailing press comprising a table, a carriage movable at right angles to the plane of the table, vertically-adjustable clamping-balls pivoted to the carriage and movable to and from each other, means for reciprocating the carriage, and shiftable means on the table and forming fulcra for the balls to turn about in the vertical movements of the carriage.

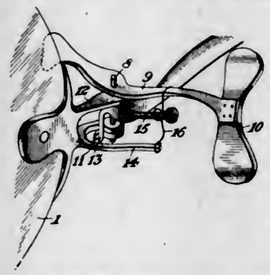


2. A box-nailing press comprising a table, a vertically-reciprocating carriage thereunder, clamping-balls extending across the table and having their legs straddling the outer sides thereof, said legs being pivoted to the carriage, and said table having a series of holes, and pins removably fitting said holes and forming shiftable fulcra for the balls to turn about in the vertical movements of the carriage.

3. In a box-nailing press, the combination of a table having suitable box-centering guides, a vertically-reciprocating carriage arranged below the table, said carriage composed of vertical and horizontal pipe-sections, clamping-balls extending across the table and down over the outer sides thereof and having their lower ends pivotally connected with the carriage, said table having a series of holes, pins removably fitting said holes and forming shiftable fulcra for the intermediate portions of the side arms of the balls, and means for reciprocating the carriage.

4. In a box-nailing press, the combination of a suitable box-support, a vertically-reciprocating carriage, balls extending across the support and pivoted to the carriage, said balls having longitudinal slots, and adjustable pins fitting said slots, and carried by the support and forming fulcra for the balls to turn about in the vertical movements of the carriage, and means for reciprocating the carriage.

841,614. EYEGLASSES. ROBERT S. BLAIR, New Rochelle, N. Y. Filed Oct. 26, 1906. Serial No. 340,645.



Claim.—1. In eyeglasses, in combination, a pair of lenses, a pair of nose-engaging members, a bridge, means connecting one lens with the corresponding nose-engaging member, a lever pivoted to said bridge leading from the same to the other of said nose-engaging members, a member holding the other of said lenses and journaled on said pivot, and a spiral spring having a horizontal axis and interposed between said last member and said lever and adapted upon said lens swinging outwardly to force said lever toward the nose.

2. In eyeglasses, in combination, a pair of lenses, a pair of nose-engaging members, a bridge, means connecting one lens with the corresponding nose-engaging member, a lever pivoted to said bridge leading from the same to the other of said nose-engaging members, a member holding the other of said lenses and journaled on said pivot, and a spiral spring having a horizontal axis and interposed be-

tween said last member and said lever and adapted upon said lens swinging outwardly to force said lever toward the nose, said connecting means comprising a member adapted to be bent to adjust the position of the corresponding nose-engaging member with relation to the bridge and maintain the same in adjusted position.

3. In eyeglasses, in combination, a bridge, a pair of lenses connected therewith, a lever pivoted with relation to said bridge and provided with a nose-engaging member, a spring tending to swing said lever to force said nose-engaging member toward the nose, a second nose-engaging member, and means connecting the same with said bridge whereby the same is adapted to be adjusted with relation thereto and maintained substantially rigidly in adjusted relation.

4. In eyeglasses, in combination, a bridge, a pair of lenses connected therewith, a lever pivoted with relation to said bridge and provided with a nose-engaging member, a spring tending to swing said lever to force said nose-engaging member toward the nose, a second nose-engaging member, and means connecting the same with said bridge whereby the same is adapted to be adjusted with relation thereto and maintained substantially rigidly in adjusted relation, said last-mentioned means comprising a member which is adapted to be bent to vary the position of said nose-engaging member.

5. In eyeglasses, in combination, a bridge, a pair of lenses connected therewith, a lever pivoted with relation to said bridge and provided with a nose-engaging member, a spring tending to swing said lever to force said nose-engaging member toward the nose, a second nose-engaging member, and means connecting the same with said bridge whereby the same is adapted to be adjusted with relation thereto and maintained substantially rigidly in adjusted relation, said nose-engaging members being of flexible, resilient character, and presenting to the nose a concave surface whereby the same are adapted to partially flatten against the nose.

6. In a pair of eyeglasses, in combination, a bridge, lens-holding means mounted upon the end of said bridge adjacent thereto and adapted to swing with reference thereto, means comprising a nose-engaging member connected with said end of said bridge and adapted to swing with reference thereto, and means interposed between said lens-holding means and said second means adapted upon the lens within said lens-holding means swinging away from the corresponding eye to tend to press said nose-engaging member toward the side of the nose upon which said means is mounted.

7. In a pair of eyeglasses, in combination, a bridge, lens-holding means mounted upon the end of said bridge adjacent thereto and adapted to swing with reference thereto, means comprising a nose-engaging member connected with said end of said bridge and adapted to swing with reference thereto, and means comprising a spring interposed between said lens-holding means and said second means adapted upon the lens within said lens-holding means swinging away from the corresponding eye to tend to press said nose-engaging member toward the side of the nose upon which said means is mounted.

8. In a pair of eyeglasses, in combination, a bridge, means comprising a nose-engaging member mounted upon said bridge and adapted to swing with reference thereto, lens-holding means mounted upon said bridge and adapted to swing with reference thereto, and means interposed between said first and second mentioned means adapted upon said lens-holding means being swung outwardly about its axis to tend to cause said first means to swing in the opposite direction about its axis.

9. In a pair of eyeglasses, in combination, a bridge, lens-holding means mounted upon the end of said bridge adjacent thereto and adapted to swing with reference thereto, means comprising a nose-engaging member connected with said end of said bridge and adapted to swing with reference thereto, means comprising a spring interposed between said lens-holding means and said second means adapted upon the lens within said lens-holding means swinging away from the corresponding eye to tend to press said nose-engaging member toward the side of the nose upon which said means is mounted, and means comprising a nose-engaging member connected with the opposite end of the bridge and adapted to engage the opposite side of the nose.

10. In a pair of eyeglasses, in combination, a bridge, means comprising a nose-engaging member mounted upon said bridge and adapted to swing or rotate with reference thereto, lens-holding means mounted upon said bridge and adapted to swing or rotate with reference thereto about a substantially parallel axis, and means interposed between said first and second mentioned means adapted upon said lens-holding means being rotated in one direction about its axis to tend to rotate said first means in the opposite direction about its axis.

11. In a pair of eyeglasses, in combination, a bridge, means comprising a nose-engaging member mounted upon said bridge and adapted to swing or rotate with reference thereto, lens-holding means mounted upon said bridge and adapted to swing or rotate with reference thereto about a substantially parallel axis, and means comprising a spring interposed between said first and second mentioned means adapted upon said lens-holding means being rotated in one direction about its axis to tend to rotate said first means in the opposite direction about its axis.

12. In a pair of eyeglasses, in combination, a bridge, means comprising a nose-engaging member mounted upon said bridge and adapted to swing or rotate with reference thereto, lens-holding means mounted upon said bridge and adapted to swing or rotate with reference thereto about a substantially parallel axis, means interposed between said first and second mentioned means adapted upon said lens-holding means being rotated in one direction about its axis to tend to rotate said first means in the opposite direction about its axis, lens-holding means mounted upon the opposite end of said bridge, a lens within each of said lens-holding means, and a stop adapted to limit the inward swinging of said first lens-holding means in a position in which said glasses are in the same plane.

13. In a pair of eyeglasses, in combination, a bridge, means comprising a nose-engaging member mounted upon one end of said bridge and adapted to swing with reference thereto, lens-holding means mounted upon the same end of said bridge and adapted to swing with reference thereto, a spring having a transverse axis interposed between said first and second mentioned means and adapted upon said lens-holding means being swung outwardly to tend to swing said nose-engaging member toward the adjacent side of the nose.

14. In a pair of eyeglasses, in combination, a bridge, a lens-holder pivoted to one end thereof, a nose-engaging member, a member pivoted to said end of said bridge and having mounted thereon said nose-engaging member, a spring operatively connected with said lens-holding means and with said second member mounted upon said bridge, said spring being adapted upon said lens-holding means being swung outwardly to force said nose-engaging member toward the adjacent side of the nose, and a stop adapted to arrest the inward swinging of said lens-holder in a predetermined position.

15. In a pair of eyeglasses, in combination, a bridge, a lens-holder pivoted to one end thereof, a nose-engaging member, a member pivoted to said end of said bridge and having mounted thereon said nose-engaging member, a spring operatively connected with said lens-holding means and with said second member mounted upon said bridge, said spring being adapted upon said lens-holding means being swung outwardly to force said nose-engaging member toward the adjacent side of the nose, and a stop adapted to arrest the inward swinging of said lens-holder in a predetermined position, a portion of said spring intermediate said second member and said lens-holding means being mounted upon said end of said bridge.

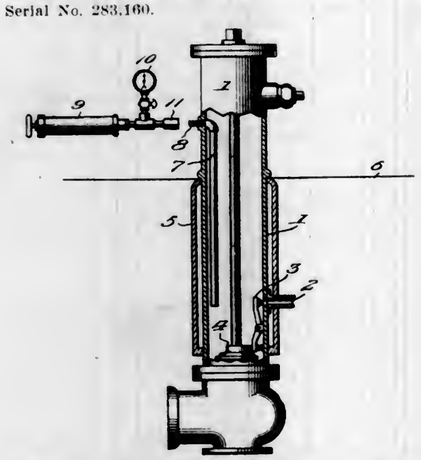
16. In a pair of eyeglasses, in combination, a bridge, a pair of nose-engaging members, a pair of lenses mounted upon said bridge, means connected with one of said nose-engaging members and mounted upon said bridge to permit said nose-engaging member to swing with reference thereto, and means connecting the other of said nose-engaging members to said bridge and holding the same in substantially rigid relation thereto whereby the glasses may be placed upon the nose by the outward swinging of a single nose-engaging member.

17. In a pair of eyeglasses, in combination, a bridge, a pair of nose-engaging members, a pair of lenses mounted upon said bridge, means connected with one of said nose-engaging members and mounted upon said bridge to permit said nose-engaging member to swing with reference thereto, and means connecting the other of said nose-engaging members to said bridge and holding the same in substantially rigid relation thereto whereby the glasses may be placed upon the nose by the outward swinging of a single nose-engaging member, said second-mentioned means being adapted to be bent to adjust the position of the corresponding nose-engaging member with reference to the other of said nose-engaging members.

18. In a pair of eyeglasses, in combination, a bridge, a pair of nose-engaging members, a pair of lenses mounted upon said bridge, means connected with one of said nose-engaging members and pivotally mounted upon said bridge to permit said nose-engaging member to swing with reference thereto, a spring tending to swing said nose-engaging member toward the nose, and means connecting the other of said nose-engaging members to the bridge and holding the same in substantially rigid relation thereto whereby the glasses may be placed upon the nose by the outward swinging of a single nose-engaging member.

19. In a pair of eyeglasses, in combination, a bridge, a pair of nose-engaging members, a pair of lenses mounted upon said bridge, means connected with one of said nose-engaging members and pivotally mounted upon said bridge to permit said nose-engaging member to swing with reference thereto, a spring tending to swing said nose-engaging member toward the nose, and means connecting the other of said nose-engaging members to the bridge and holding the same in substantially rigid relation thereto whereby the glasses may be placed upon the nose by the outward swinging of a single nose-engaging member, said second means being adapted to be bent to adjust the position of the corresponding nose-engaging member with reference to the other of said nose-engaging members.

841,615. FIRE-HYDRANT. FRED F. BROWN and GEORGE W. HAYCOCK, Lawrence, Mass. Filed Oct. 17, 1905. Serial No. 283,160.

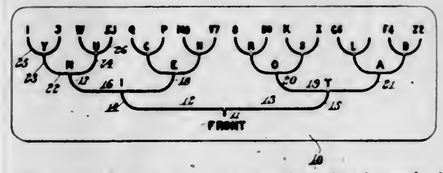


Claim.—1. A hydrant-shell having a drainage-outlet and provided with a channel opening at its lower end into the shell approximately on a line with said outlet, whereby air under pressure may be forced into the upper end of the channel to indicate by the pressure required the presence and quantity of water in the channel.

2. A hydrant-shell having a drainage-outlet and provided with a channel closed against the interior of the shell except at its lower end and terminating approximately on a line with the outlet, the upper end of the channel opening beyond the shell, in combination with means for forcing air under measurable pressure into the upper end of the channel.

3. A hydrant-shell having a drainage-outlet, and provided with a channel opening within the shell at its lower end and terminating approximately on a line with said outlet, the upper end of said channel extending from the wall of the casing and being in communication with a threaded nipple, in combination with a pressure apparatus including a gage and arranged for connection with said nipple.

841,616. SIGNAL-READING DEVICE. HAROLD H. BROWN, Boston, Mass. Filed Feb. 5, 1906. Serial No. 299,443.



Claim.—1. A device for interpreting signals made by motions in certain directions to represent characters, comprising a diagram made up of lines having a starting-point and running in directions corresponding to the directions of the motions made in transmitting the signal and having at the ends of said lines the characters represented by the motions.

2. A device for interpreting signals made by motions in certain directions to represent characters, comprising a diagram made up of raised lines having a starting-point and running in directions corresponding to the directions of the motions made in transmitting the signal and having at the ends of said lines the characters represented by the motions.

3. A device for interpreting signals made by motions in certain directions to represent characters, comprising a member having on opposite sides diagrams made up of raised lines having a starting-point and running in directions corresponding to the directions of the motions made in transmitting the signal and having at the ends of said lines the characters represented by the motions, one of said diagrams corresponding to the motions as viewed from the front and the other as viewed from the rear.

4. A device for interpreting signals made by motions in certain directions to represent characters, comprising a member having on opposite sides diagrams made up of lines having a starting-point and running in directions corresponding to the directions of the motions made in transmitting the signal and having at the ends of said lines the characters represented by the motions, one of said diagrams corresponding to the motions as viewed from the front and the other as viewed from the rear.

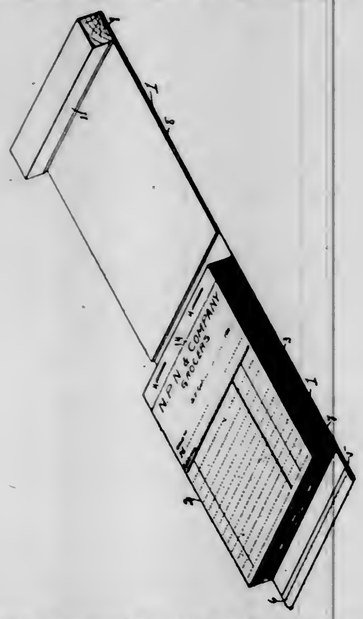
5. A device for interpreting visual signals consisting of a member provided with a plurality of characters so united together as to correspond with the movements made in transmitting signals, and a plurality of letters and figures each properly located at the extremity of such characters as would correspond with movements made in transmitting that particular letter or figure.

6. A device for interpreting visual signals consisting of a member provided with a plurality of raised characters so united together as to correspond with the movements made in transmitting signals, and a plurality of letters and figures each properly located at the extremity of such characters as would correspond with movements made in transmitting that particular letter or figure.

841,617. SALES-BOOK. HORACE P. BROWN, Alameda, Cal. Filed Aug. 28, 1905. Serial No. 276,093.

Claim.—1. A sales-book having a folding cover, a pad of leaves between the folds, and secured to one leaf of

the said cover; the pad of leaves being shorter than either leaf of the cover; and a block secured to the other leaf of the cover, which block substantially fills the space between the pad of leaves and both leaves of the cover when folded, substantially as and for the purposes set forth.



2. In a sales-book, a cover, a pad of leaves secured to one leaf of the cover and a block to the other, said block being secured to the free end of its leaf and adapted to rest at the front end of the pad when the book is closed.

3. In a sales-book, a cover, a pad of leaves secured to one leaf of the cover at a distance from the front end thereof, and a block secured to the front end of the other leaf and adapted to rest upon the projecting end of the other leaf when the book is closed.

4. In a sales-book, a cover, a pad secured to one leaf of the cover and being shorter than said leaf, and a block secured to the free end of the other leaf, said block being equal in thickness to the thickness of the pad and substantially as wide as the length of the projecting portion of said first-mentioned leaf of the cover.

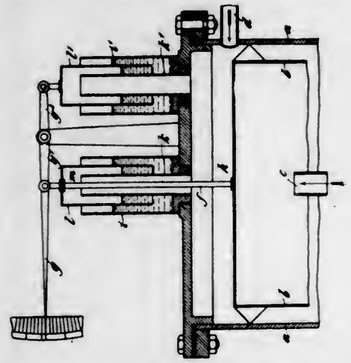
5. In a sales-book, a cover, a reinforce and a pad of leaves secured to one leaf of the cover, the reinforce extending in front of the pad and the cover being longer than the reinforce and folded over the end of the same and secured thereto, and a block secured to the free end of the other leaf and adapted to rest upon the projecting portion of said reinforce when the book is closed.

6. In a sales-book, a cover, a reinforce and a pad of leaves secured to one leaf of said cover and a reinforce and a block secured to the other leaf, each leaf of the cover and its reinforce extending beyond the forward end of the pad and the block being adapted to engage with the projecting end of the other leaf when the book is closed.

7. In a sales-book, a cover, a reinforce and a pad of leaves secured to one leaf of the cover and a reinforce and a block to the other leaf, each leaf of the cover being longer than its reinforce and folded back over its end, the end of the leaf having the pad being secured by a row of stitches to the reinforce and the end of the other leaf being wrapped around and secured to the block, and a sheet of carbon secured between the stitched end and its reinforce.

8. As a new article of manufacture, a cover for sales-books comprising a single piece of material folded substantially at its middle to form two leaves, a reinforce on each leaf terminating at a distance from the end and extending to the fold, a carbon-sheet secured to the free end of one leaf and a block to the other, the projecting end of the leaf having the carbon-sheet being folded over the end thereof and secured by means of a row of stitching and the end of the other leaf being folded over the block and secured thereto.

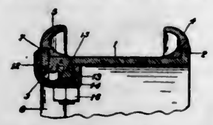
841,618. APPARATUS FOR MEASURING GAS-PRESSURES. PAUL DE BRUYN, Düsseldorf, Germany. Filed Nov. 26, 1906. Serial No. 345,154.



Claim.—1. In apparatus for measuring gas-pressures in which a rod is employed to transmit the measuring movement from within a pressure-chamber to an external indicating device, the combination with said pressure-chamber, of a liquid seal of the bell type for sealing the said rod, an idle similar liquid seal communicating with said pressure-chamber, and a lever connecting the bells of the two liquid seals one with the other, whereby the upward tendency of the bell of the idle seal will exactly counteract the upward tendency of the bell of the rod-seal, and thereby the error in the measurement due to the bell of the said rod-seal is obviated, as set forth.

2. In apparatus for measuring gas-pressures in which a rod is employed to transmit the measuring movement from within a pressure-chamber to an external indicating device, the combination with said pressure-chamber, of a liquid seal of the bell type for sealing the said rod, a separate pressure-chamber in which the pressure corresponds to the pressure in the first-mentioned pressure-chamber, an idle liquid seal of the bell type communicating with said separate pressure-chamber, and a lever connecting the bells of the two liquid seals one with the other, whereby the upward tendency of the bell of the idle seal will exactly counteract the upward tendency of the bell of the rod-seal, and thereby the error in the measurement due to the bell of the said rod-seal is obviated, as set forth.

841,619. LOCKING DEVICE FOR TIRE-RETAINING ATTACHMENTS. RICHARD S. BRYANT, Columbus, Ohio, assignor to The Bryant Steel Wheel and Rim Company, Columbus, Ohio. Original application filed Apr. 28, 1906, Serial No. 314,230. Divided and this application filed July 14, 1906. Serial No. 326,232.



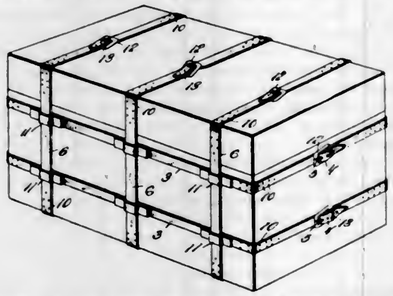
Claim.—1. A locking device for tire-retaining attachments comprising a rim-body, a downturned flange upon the outer edge thereof, a lug depending from said rim-body, a broken locking-ring having inner and outer radial flanges, the inner flange being cut away near the ends thereof whereby said locking-ring is positioned against said lug to prevent circumferential movement, a member adapted to be slipped upon said lug to embrace said locking-ring, and means for securing said member in place whereby the parts are securely locked in position.

2. A locking device for tire-retaining attachments comprising a rim-body, a downturned flange upon the outer edge thereof, a lug depending from said rim-body, a broken locking-ring adapted to be positioned upon said rim-body by self-expansion outwardly, and abutting circumferentially against said lug, a clasp member adapted to be slipped upon said lug to engage said locking-ring, and means for securing said clasp member in place.

3. A locking device for tire-retaining attachments comprising a rim-body, a downturned flange upon the outer edge thereof, a lug depending from said rim-body, a broken locking-ring adapted to be positioned upon said downturned flange by self-expansion outwardly, the ends of said locking-ring being beveled divergently from the upper side thereof, a clasp member adapted to be positioned upon said lug to engage the ends of said locking-ring, and means for securing said clasp member in place, whereby the parts are securely locked in position.

4. A locking device for tire-retaining attachments comprising a rim-body, a downturned flange upon the outer edge thereof, a lug depending from said rim-body, a broken locking-ring adapted to be positioned upon said downturned flange by self-expansion outwardly, the ends of said locking-ring being arranged to leave an open space between the same, and a clasp member adapted to be positioned upon said lug to enter said open space and engage said locking-ring ends, to force said ring into engagement with said rim-body, and means to secure said clasp member in place, whereby the parts are locked in position.

841,620. TRUNK-HARNESS. ELEANORA N. BUCHANAN, Portland, Oreg. Filed Apr. 5, 1906. Serial No. 310,072.

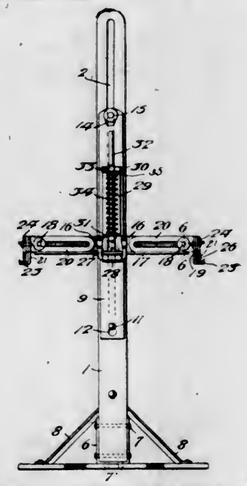


Claim.—A trunk-harness consisting of straps adapted to be secured around a trunk horizontally, said straps being provided at one end with buckles for connecting the ends of the straps, three straps adapted to extend around the trunk at right angles to the first-mentioned straps, keepers connecting the straps at points where they are crossed, buckling means at the ends of the three straps to connect said ends on the top of the trunk, and a transverse strap arranged to extend longitudinally and centrally on the bottom of the trunk and connected to the longitudinal straps.

841,621. BAG-HOLDER. JOHN A. CAMPBELL, Bower Mills, Mo. Filed Feb. 10, 1906. Serial No. 300,526.

Claim.—1. A bag-holder comprising a standard, a cross-bar adjustable up and down thereon and provided with a bottom flange, and L-shaped bag-supporting arms having straight slotted portions supported upon said flange and adjustably connected with said cross-bar and forwardly-extending portions provided with bag-holding devices.

2. A bag-holder comprising a standard, a cross-bar adjustable up and down on said standard and provided with a bottom flange, bag-holding arms having straight portions which overlap said cross-bar and are adjustable thereon, said bag-holding arms being supported upon said flange, substantially as described.



3. A bag-holder comprising a standard, a bracket adjustable up and down on the standard, a cross-bar having a stem slidable vertically in said bracket, a spring for permitting the cross-bar and stem to yield downwardly, and bag-supporting arms having straight portions which overlap said cross-bar and are adjustable thereon.

4. A bag-holder comprising a slotted standard, a plate and a friction-plate arranged on opposite sides of said standard and connected together, means for holding said plates at any desired elevation of the standard, a bracket carried by one of said plates, a cross-bar having a vertically-movable stem slidingly mounted in said bracket, an antifriction-roller journaled on the bracket against which the stem moves, and bag-holding arms carried by said cross-bar.

5. A bag-holder comprising a standard, a spring-supported cross-bar mounted thereon and adapted to yield downwardly, bag-supporting arms connected with said cross-bar, and bag-holders embodying horizontally-disposed flanges upon which the edge portion of the bag is adapted to rest, and clamping devices for holding the edge portion of the bag against said flanges.

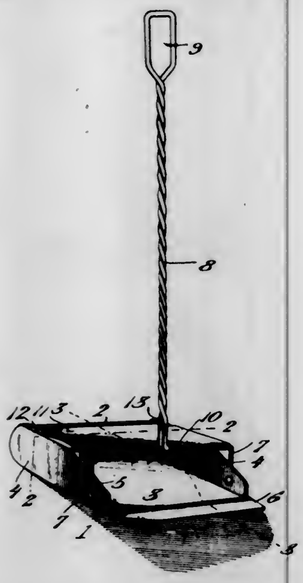
6. A bag-holder comprising a standard, spring-supported bag-holding arms mounted thereon and adapted to yield downwardly, and bag-holders having horizontally-disposed flanges with upturned and pointed end portions, and bag-clamps carried by said holders and adapted to clamp the edges of the bag against the flanges between the upturned pointed portions thereof.

7. A bag-holder comprising a standard, bag-supporting arms movable up and down thereon, and a supporting-base for said standard consisting of a metal bar bent to form a forwardly-extending loop upon which the bottom of the bag is adapted to rest, rearwardly-diverging terminal portions, and a stirrup firmly connected to the base and having the lower end of the standard secured thereto.

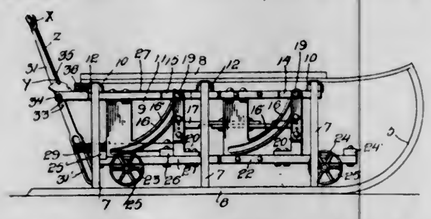
841,622. DUST-PAN. ARTHUR V. CASSAL, Rochester, N. Y. Filed Mar. 3, 1906. Serial No. 304,027.

Claim.—In a device of the class described, a box or receptacle open at its front and having its end walls provided at their upper edges with longitudinal guideways and inclined downwardly and upwardly in advance of the latter, a movable closure for the box having opposite offset engaging portions seated in the guideways, and a handle provided with a substantially U-shaped bail terminally pivoted in the end walls of the box at a point adjacent its forward open end, said closure being pivoted at its forward edge on the bail and adapted for movement

to open position through swinging movement of the handle and to close automatically when the box is lifted by the handle.



841,623. WHEEL-RUNNER FOR SLEDS. HARRY F. CASTLE, Utica, N. Y. Filed July 19, 1906. Serial No. 326,898.

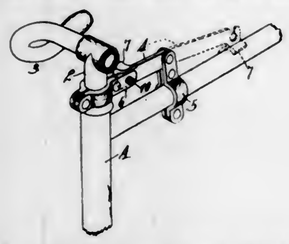


Claim.—1. An attachment of the class described comprising an extensible frame, attaching devices carried by the frame, guides adjustably connected with the frame, a second frame connected with the guides for movement diagonally toward and away from the first frame, wheels connected with the second frame, said frame being adjustable, a lever connected with the first frame for pivotal movement, and connections between the lever and the second frame for movement of said frame toward and away from the first frame when the lever is moved.

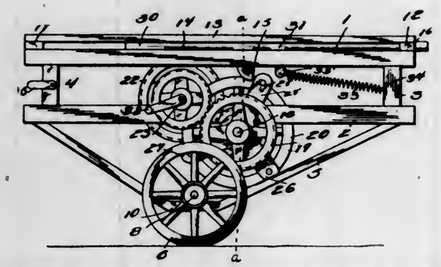
2. An attachment for sleds comprising an adjustable attaching-frame, guides carried by the frame, rollers engaged in the guides, an adjustable frame located below the attaching-frame, adjustable connections between the rollers and the lower frame, means for moving the lower frame longitudinally, said guides being arranged to move the lower frame upwardly when it is moved longitudinally, wheels connected with the lower frame, and means for holding the lower frame at different points of its movement.

841,624. BICYCLE-LOCK. ROBERT N. CAUGHELL, Colony Center, Cal. Filed July 18, 1906. Serial No. 326,707.

Claim.—In a bicycle, the combination with a top frame-bar and a steering-post, of a latch pivotally carried by one of said parts and a keeper member fixed to the other part, said latch member being formed rigid with a concaved transversely-extended portion at its free end adapted to substantially conform to the curved upper surface of the top bar of the frame when the latch member is disconnected from the keeper member and thrown back upon the frame-bar.



841,625. MINING-MACHINE. WILLIAM B. CHAPMAN, Wilburton, Ind. Ter. Filed June 27, 1905. Serial No. 267,226.



Claim.—1. In a mining-machine, the combination, with a vertically-tiltable frame, of a strip secured to the upper face of the frame in spaced parallel relation therewith; an endwise-movable plunger mounted in the space between said strip and frame; a retractile spring connected at opposite ends to said plunger and frame; means adapted to engage the plunger at successive intervals to force the same rearwardly within said space, against the action, of said spring; and means for operating said forcing means.

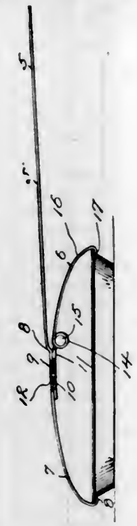
2. In a mining-machine, in combination, with a vertically-tiltable frame, a strip secured to the upper face of the frame in spaced parallel relation therewith; an endwise-movable plunger disposed in the space between said strip and frame; a retractile spring secured at one end to the forward end of the frame, and at its other end to said plunger; a shaft transversely mounted in said frame; a spider carried by said shaft and including a series of arms provided with laterally-extending rollers; a depending flange secured to said plunger intermediate the ends thereof, in the path of said rollers; and means for rotating said shaft, to cause said rollers to successively engage said flange, for forcing said plunger rearwardly within said space, against the action of said opening.

3. In a mining-machine, the combination, with a vertically-tiltable frame, of a strip spaced above the upper face of and disposed in parallel relation therewith, a plunger mounted in the space between the said strip and frame, and movable endwise therein, said plunger projecting beyond the forward end of the machine; a depending flange secured to said plunger intermediate the ends thereof; a retractile spring secured at one end to the forward end of the frame, and at the other end to said plunger; means for engaging said flange to force the plunger rearwardly within said space against the action of said spring; and means for operating said forcing means.

4. In a mining-machine, in combination with an axle and traction-wheels mounted upon opposite ends thereof, a vertically-tiltable frame pivoted upon said axle; a strip secured to the upper face of the frame in spaced parallel relation therewith; an endwise-movable plunger mounted

in the space between the said strip and frame; a retractile spring connected at opposite ends to said plunger and frame; means adapted to engage the plunger at successive intervals, to force the same rearwardly within said space, against the action of said spring; and means for operating said forcing means.

841,626. PLATE-LIFTER. WILLIAM H. CLARK, Sumpter, Oreg. Filed Feb. 28, 1906. Serial No. 303,458.



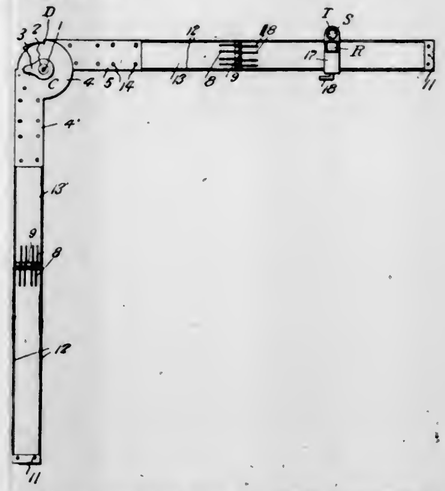
Claim.—A lifter comprising a metallic handle having divergent downwardly-curved fingers at its forward end, said fingers having their free ends turned rearwardly to form hooks, the handle being bent rearwardly of the fingers to offset it above the fingers, a plate secured to the handle rearwardly of the fingers and extending beneath the offset portion of the handle, and a jaw member hinged to the rearward portion of the plate, said jaw member including a pair of divergent downwardly-curved fingers having their free ends bent to form hooks directed toward the plate, said jaw member being arranged for engagement of the handle to limit its upward movement and to then lie with its forward portion in the plane of the plate.

841,627. RULE. NEWTON H. CLOUD, Jr., Wilmington, Del. Filed Mar. 24, 1906. Serial No. 307,908.

Claim.—1. A rule comprising arms or members connected by a rule-joint, oppositely-arranged protractor-heads connected to one arm, an indicator-head carried by the other arm and interposed between the protractor-heads, the said protractor-heads and indicator-head being provided with radially-projecting shoulders located ninety degrees apart, and a projecting radially-disposed indicating-shoulder on one of said heads, substantially as described.

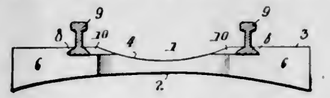
2. A rule comprising arms connected by a rule-joint embodying oppositely-arranged protractor-heads, a stop-pin connecting said heads and concealed between said heads, an indicator-head carried by the other arm and interposed and working between said protractor-heads and having a shoulder adapted to come in contact with said stop-pin when the arms are in line with each other, the protractor-heads and the indicator-head being provided with radially-extending shoulders located ninety degrees apart.

3. A rule comprising arms or members connected by a rule-joint, pointed studs or spurs extending outward from the axis of movement of said arms or members at both sides of the rule, and a compass attachment adjustable lengthwise of one of said arms and detachably mounted thereon, said compass attachment being provided with a scribing-aperture.



4. A rule comprising arms or members connected by a rule-joint, the pivot-clamp of which projects at one side, a pivot-lever mounted on said projecting end, and a pin extending centrally through the pivot and having its opposite ends pointed and projecting, substantially as and for the purpose described.

841,628. RAILROAD-TIE. CARL H. COLLINS, Sacred Heart, Minn. Filed Apr. 23, 1906. Serial No. 313,332.



Claim.—The herein-described hollow tie having the parallel-sided end portions, flat on their upper sides, provided at their inner portions with depressed rail-seats having shoulders to receive the outer base-flanges of the rails and detachable cleats on said seats to bear against the inner base-flanges of the rails, said tie having its lower side incurved from end to end and having its sides and top incurved between the said seats, substantially as specified.

841,629. BOTTLE-STOPPER FASTENER. CONRAD M. CONRADSON, New York, N. Y., assignor to Vernette E. Prentice, New York, N. Y. Filed Apr. 13, 1906. Serial No. 311,464.

Claim.—1. The combination with a bottle having an outwardly-expanding conical glass stopper-seat and an angularly-disposed glass reaction-face, of a stopper having a conical glass portion similar in angle to said seat and a glass locking portion for engaging said reaction-face.

2. The combination with a glass vessel having a glass closure-seat, of a glass closure having a glass face for seating on said seat, and said parts having coöperating glass locking means for clamping said glass face and glass seat together in sealing relation.

3. A bottle provided with a neck, such neck having a conical glass stopper-seat, the mouth of the bottle having a channel parallel with its axis and an offset from said channel disposed at a slight angle to the perpendicular of said axis, and a stopper having a conical glass portion corresponding with the angle of the seat in said neck and a protruding glass portion for traversing said channels and locking the stopper in sealing position upon said seat.

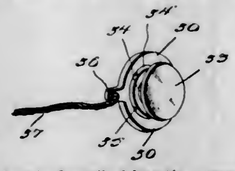
4. The combination with a glass vessel having an out-

wardly-expanding conical closure-seat, the face of which is of glass, of a glass closure having a conical portion, the face of which is of glass, seated directly upon said closure-



seat for sealing the said vessel, and coöperating locking members carried by said vessel and closure for locking said glass faces together in sealing relation.

841,630. BAG-TIE. WILLIAM F. CORUM, Alexandria, Minn. Filed Apr. 22, 1904. Serial No. 204,454.

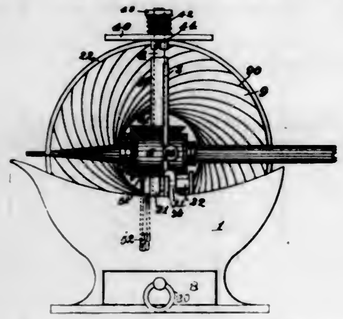


Claim.—The herein-described bag-tie, comprising the base for attachment to a bag, said base being provided with a projecting arm at one side having an eye for the attachment of one end of a cord, a centrally-disposed socket in its outer side, a thread-groove concentric with said socket, an opening communicating with the center of said socket, and thread-openings communicating with said groove, said outer side having the projecting central portion, in combination with the button having a neck projecting into said socket and having its end rounded, and the pivot-pin projecting from the rounded end of said neck through and angularly movable in the central opening in the base, having the enlarged head on the inner side of the base and adapting the button for angular movement with reference to the base, the said button having its inner side convex, substantially as specified.

841,631. PENCIL-SHARPENER. JOHN W. COVER, Tacoma, Wash. Filed July 8, 1904. Serial No. 215,711.

Claim.—1. A pencil-sharpener comprising a rotatable cutting or abrading disk, a pencil-holding device mounted to swing upon an axis substantially radial to the axis of the disk, a spring acting thereon to press the pencil against the disk with its point extending outward from the disk center, and means for automatically turning the pencil on its axis.

2. A pencil-sharpener comprising a rotatable cutting or abrading disk, a pencil-holding device mounted to swing upon an axis substantially radial to the axis of the disk, a shaft mounted to turn coincident with said radial axis, a friction-disk upon said shaft engaging by its face with the periphery of the cutting-disk, and means for turning the pencil-holding device from said radial shaft.



3. A pencil-sharpener comprising a rotatable cutting or abrading disk, a pencil-holding clamp mounted to swing upon an axis substantially radial to the axis of the disk, a shaft mounted to turn coincident with the center of said axis, a friction-disk on said shaft engaging by its face with the periphery of the cutting-disk, a spring yieldingly holding the said two disks in contact and means for turning the pencil-clamp from said radial shaft.

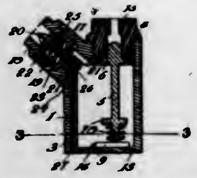
4. A pencil-sharpener comprising a rotatable cutting or abrading disk, a pencil-clamp mounted to swing upon an axis substantially radial to the axis of the said disk, a spring acting upon said clamp to press the pencil-point against the disk, a shaft mounted to turn coincident with said radial axis, a friction-disk on said shaft engaging by its face with the periphery of the cutting-disk and bevel-gears connecting said shaft and the pencil-clamp.

5. A pencil-sharpener comprising a rotatable cutting or abrading disk, a standard mounted to be adjusted toward and from the cutting-face of said disk, a shaft journaled in said standard and extending substantially radial with the axis of the cutting-disk, a friction-disk carried by said shaft and engaging the cutting-disk, a pencil-holder rotatably mounted on said standard and rotative connection between said pencil-holder and said shaft.

6. A pencil-sharpener comprising a rotatable cutting or abrading disk, a standard mounted to be adjusted toward and from the cutting-face of said disk, a shaft journaled in said standard and extending substantially radial with the axis of said disk, a friction-disk carried by said shaft and engaging the periphery of the cutting-disk, a pencil-holder rotatably mounted on said standard, and bevel-gears connecting said pencil-holder and shaft.

7. A pencil-sharpener comprising a rotatable cutting or abrading disk, a standard mounted to be adjusted toward and from the cutting-face of said disk, a shaft journaled in said standard and extending substantially radial with the axis of said disk, a friction-disk carried by said shaft and engaging the cutting-disk, a pencil-holder rotatably mounted on said standard, a spring acting on the pencil-holder to press the pencil-point against the cutting-disk and bevel-gears connecting said pencil-holder and said shaft.

841,632. LUBRICATOR. HERBERT H. CRAMER, Aspen, Colo. Filed May 24, 1905. Serial No. 261,970.



Claim.—1. A lubricator comprising a reservoir capable of being positioned at different angles and having a charging-opening at its highest point and an outlet-opening at its lowest point and means for equalizing pressure at both points.

2. A lubricator comprising a reservoir capable of being positioned vertically or horizontally and having a charging-opening at its highest point and an outlet-opening at its lowest point, and means for equalizing pressure at both points.

3. A lubricator comprising a reservoir capable of being positioned at different angles and having an outlet-opening in one wall, a valve controlling such outlet, and a fluid-duct leading from the outlet end of the reservoir and opening into the latter at the opposite end thereof.

4. A lubricator comprising a reservoir having a charging-opening and also an outlet-opening, a valve controlling such outlet, a fluid-duct leading from the outlet end of the reservoir and opening into the latter at the opposite end thereof, and means normally closing the charging-opening, such means when unseated closing said fluid-duct.

5. A lubricator comprising a reservoir having an outlet-opening in one wall, a valve controlling such outlet, a charging branch, a fluid-duct leading from the outlet end of the reservoir and opening into the latter at or near said charging branch, and means normally closing the latter comprising a spring-held device which when the reservoir is being charged closes said fluid-duct.

6. A lubricator comprising a reservoir having an outlet-opening at one end, a charging branch, a fluid-duct leading from the outlet end of the reservoir and opening into the latter at the other end thereof, and means for closing such charging branch comprising a spring-held piston a portion whereof effects the closing of said duct when the reservoir is being charged.

7. A lubricator comprising a reservoir having an outlet-opening at one end, a charging branch having a port leading into said reservoir, a fluid-duct leading from near such outlet-opening and opening into the reservoir at the other end thereof, a spring-pressed piston located in said branch and having a fluid passage-way normally coincident with said duct, and a valve for closing the inlet end of said charging branch, the rod of said piston closing the fluid-duct when the valve is unseated.

8. A lubricator comprising a reservoir having an outlet at one end, a charging branch having a central opening and a port or ports, a fluid-inlet duct leading from near such outlet into said opening, a valve, a piston-like member having its rod formed with a bore designed to coincide at one end with said fluid-duct and at the other end opening into the charging branch, and a spring for normally holding such valve to its seat, said rod when the valve is unseated cutting off said fluid-duct.

9. The reservoir having an outlet-opening in one end, a fluid-duct leading from such end, a charging branch extending diagonally from said reservoir and having a central opening intersecting said duct, and means for closing the charging branch comprising a movable rod formed with a central bore, an annular groove normally coincident with said duct, ports leading from said bore into said groove, and a port leading from the other end of said bore into said charging-opening.

10. The reservoir having an outlet-opening and a flange partly surrounding the same, a spring-held rod extended through one end of the reservoir, and a valve-disk engaged by said rod having opposite straight portions.

841,633. EXTENSIBLE BRACELET. ALFRED D. CROSBY, Attleboro, Mass., assignor to P. J. Cummings Company, Attleboro, Mass., a Corporation. Filed May 21, 1906. Serial No. 318,065.



Claim.—1. An expansible bracelet, comprising separate links each provided with a central stud, spring-controlled cranks pivoted to the studs, and arms held by the links and pivoted to the cranks in the adjacent links to flexibly connect the links.

2. An expansible bracelet, comprising separate links having their adjacent sides slotted and each having a central stud, spring-controlled cranks one pivoted to each end of each stud, and each having arms connected in pairs and held by the link and pivoted to the cranks in the adjacent link to flexibly connect the links.

3. In an expansible bracelet, the combination, with suitable links having slotted sides, and a stud in each link, of the cranks each pivoted on each stud with a space between them, a spring in said space to control the cranks, and the connecting-arms held by the links and pivoted to the cranks in the adjacent links and adapted to swing and slide in said slots.

4. In an expansible bracelet, the combination, with the hollow links each having a pair of slots in two sides thereof, a stud central of each link, and a spring surrounding each of the studs, of a pair of cranks pivoted on each stud and having prongs engaged by the free ends of the springs, and a pair of arms connected together at one end in each link and each having the other end pivoted to a prong in an adjacent link.

5. In an expansible bracelet, the combination, with suitable links having slotted sides, of a pair of cranks pivoted in each link with a space between the cranks of each pair, a prong projecting from each crank, a spiral spring in each space with its ends engaging the prongs, and a pair of connecting-arms held by each link and pivoted to the prongs in an adjacent link.

6. The combination, with the links each having a pivot-stud therein and slots or openings in their adjacent sides, of the connecting-arms working loosely through the slots and secured together at one end in pairs within the links to permit the latter to swing and to slide apart, a pair of cranks pivoted to each stud with a space between the cranks of each pair and each crank having a prong to which the other ends of the arms are pivoted, and a spiral spring held by each stud in each of said spaces and having ends engaging said prongs to retract the links.

7. The combination in a bracelet, of a series of connected links each having a pair of slots in two sides thereof, and a stud in each link, with a pair of cranks mounted on each stud and projecting therefrom in opposite directions, a spring located between the cranks of each pair and bearing thereon, and the arms having a swinging connection at one end with the links and pivoted at the other end to the cranks, substantially as set forth.

8. The combination, with a bracelet-link, a central stud in the link, and a pair of arms adapted to connect a like link to the said link, of two cranks loosely mounted one on each end of the stud and having said arms pivoted thereto, and a spring carried by the stud between the cranks and having its free ends engaging the said cranks, substantially as set forth.

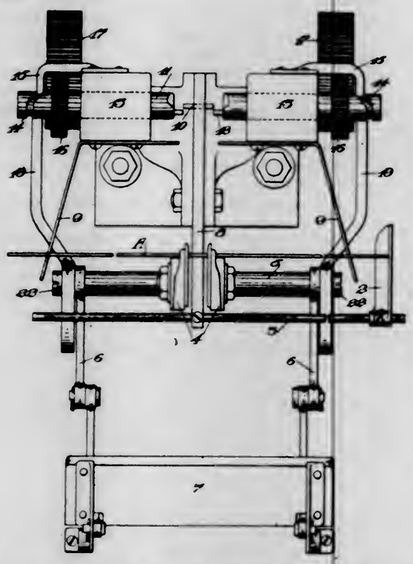
841,634. MATTRESS-WIRE-BENDING MACHINE. FRANK J. CHOUCH, San Francisco, Cal., assignor to John Hoey, San Francisco, Cal. Filed Mar. 5, 1906. Serial No. 304,306.

Claim.—1. An apparatus for bending wire, said apparatus comprising a support and gage, means for first bending the wire to form a central bight, and loops intermediate of its ends, said means including a wire-support, an oscillating folding cam-arm, and guides over which the ends of the wires are moved and approached while being folded.

2. An apparatus for bending wire, said apparatus consisting of a support and gage for placing the wire, a plate against which the center of the wire rests, and an oscillating cam engaging the wire upon each side of said plate whereby the ends are first folded upwardly to form a bight, and guides by which the ends of the wire are brought into contact with the loop-former.

3. An apparatus for bending wire, said apparatus consisting of a wire support and gage, a plate against which the center of the wire contacts, oscillating cams turnable to engage the wire and bend it over the plate to form a bight, and a guide whereby the ends of the wire are directed upward during the bending process, and stationary

and revoluble pins by which eyes or loops are subsequently formed.

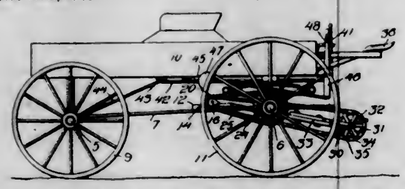


4. An apparatus for bending wire, said apparatus comprising a support and gage, a plate against which the center of the wire is held, cams and means for oscillating them in unison so as to bend the wire and form a central bight, guides by which the ends of the wire are directed during the bending process, and means engaging the wire between the bight and the ends and bending it to form loops.

5. In an apparatus for bending wire, a support and gage, cams and means for moving them to engage the wire upon each side of the central support, guides by which the ends of the wire are directed upwardly, projecting pins against which the upwardly-bent portions of the wire contact between the bight and the ends, other pins and means by which they are caused to engage the wire, and by which they are revolved to bend the wire into loops.

6. In an apparatus for bending wires, mechanism for first bending the wires to form a central bight, guides, pins against which the sides of the wires are caused to contact, shafts journaled in line with the said pins and slidable to and from them, said shafts having pins projecting from their ends eccentric to their axes, cams at the outer ends of the shafts, means for rotating the shafts whereby the cams first advance the shafts to engage the wires between themselves and the stationary pins, and subsequently to coil the wires about said pins.

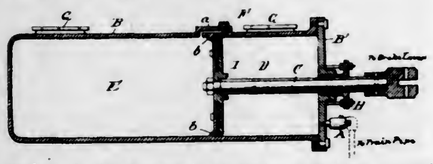
841,635. FOOT-PROPELLED VEHICLE. WILLIAM M. DAILEY, Chauncey, Ohio. Filed Feb. 28, 1906. Serial No. 303,467.



Claim.—1. In a vehicle of the class described, the combination with front and rear axles, of a body mounted upon the axles, connecting reach-poles for the axles, the front axle being arranged for pivotal movement in a horizontal plane, wheels for the front axle, wheels revolubly mounted upon the rear axle, a frame secured to the reach-poles, a counter-shaft journaled transversely of the vehicle in the frame, connections between the counter-shaft and the rear wheels, said connections being arranged to permit of independent forward rotation of the wheels, a longitudinally-adjustable rearwardly-extending bracket, a crank-shaft mounted in the rearward end of the bracket, pedals carried by the cranks of said shaft, operative connections between the crank-shaft and counter-shaft, said rearward axle being movable toward and away from the counter-shaft, means for holding the axle at different points of said movement, a seat located adjacent to the crank-shaft, means located adjacent to the seat and connected with the front axle for movement of the latter to steer the vehicle, and brake mechanism for the vehicle.

2. A vehicle of the class described comprising front and rearward axles, connections between said axles, a body surmounting the axles, a counter-shaft, means for driving the counter-shaft, wheels revolubly mounted upon the rear axle inwardly-directed clutch members carried by the outer ends of the counter-shaft, clutch members slidably mounted upon the counter-shaft inwardly of the first-named clutch members for movement into and out of co-operative relation with the first-named clutch-shaft, sprockets carried by the inner clutch members, sprockets carried by the wheels of the rear axle, chains engaged with the corresponding sprockets of the clutch members and wheels, the coöperating clutch members having mutually-engaging fingers beveled to permit of independent forward movement of the wheels, blocks mounted upon the counter-shaft inwardly of the clutch members, helical springs engaged with the counter-shaft between the blocks and the inner clutch members and arranged to hold said inner clutch members yieldably in engagement with the other clutch members, and wheels for the front axle.

841,636. AUTOMATIC AIR-BRAKE FOR CARS. WILLIAM J. DANKEL, Pittsburg, Kans. Filed Mar. 24, 1906. Serial No. 307,812.

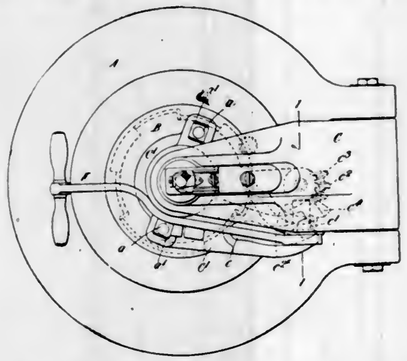


Claim.—1. An automatic air-brake apparatus, comprising a single cylinder with an interior stop projection marking the division-line of two air-chambers and having a by-pass with check-valve connecting the two chambers on opposite sides of the stop projections, one of said air-chambers being constructed as a smooth piston-barrel and having a detachable head with stuffing-box, a piston fitting said barrel and having its rod extending through the stuffing-box and adapted to connect with a brake-lever, and an inlet and discharge valve comprising a casing with a piston, one end of the casing being in open communication with the piston-barrel and the other with the train-pipe, and a discharge and cut-off device controlled by the movement of this piston and arranged to open one end of the casing to the atmosphere in one movement of the valve-piston and close it in the other movement, said casing having also a passage-way with check-valve opening around the piston from the outer end of the casing to the inner end of the same.

2. An air inlet and discharge valve for air-brakes, comprising a casing having one end provided with a connection for the brake-cylinder and the other end provided with a connection for the train-pipe and a passage-way with check-valve opening into the opposite ends of the casing, a piston within the casing having a central stem forming a valve, a concentric projection from the casing having a valve-seat receiving the said stem and an outlet passage-way to the atmosphere formed in said concentric projection.

3. An air inlet and discharge valve for air-brakes, comprising a casing having one end provided with a connection for the brake-cylinder and the other end provided with a connection for the train-pipe and a passage-way with check-valve opening into opposite ends of the casing, a piston within the casing having a central stem bearing a tapering valve end, a concentric projection from the casing having a valve-seat receiving the tapering valve and an outlet passage-way to the atmosphere arranged to have its discharge-opening increased by the progressive outward movement of the piston.

841,637. BREECH-LOADING ORDNANCE. ARTHUR T. DAWSON and GEORGE T. BUCKHAM, London, England, assignors to Vickers, Sons & Maxim Limited, Westminster, England. Filed Mar. 29, 1904. Serial No. 200,591.



Claim.—1. In gun-breech mechanism, the combination with the breech-screw rotatably mounted on a swinging carrier of an angularly-displaceable plate movable in a plane parallel with the rear face of the breech-screw and engaging with the latter at a plurality of points situated at equal distances from the axis of the breech-screw, an arm on said angularly-displaceable plate, and means for actuating said arm in the operation of opening and closing the breech for the purpose specified.

2. In gun-breech mechanism, the combination with a breech-screw rotatably mounted on a swinging carrier, of an angularly-displaceable plate mounted on the said carrier and engaging with the face of the breech-screw at two diametrically opposite points situated at equal distances from the axis of said breech-screw, an arm on said angularly-displaceable plate, gearing for actuating the said arm, and a hand-lever for operating said gearing and swinging the carrier substantially as described.

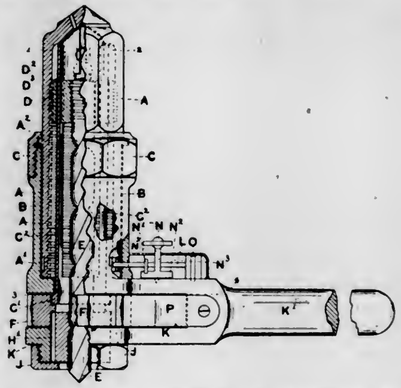
3. In a gun-breech mechanism, the combination with a breech-screw rotatably mounted on a swinging carrier, of an angularly-displaceable plate mounted on said carrier and engaging with the breech-screw at two diametrically opposite points situated at equal distances from the axis of the latter, an arm on said angularly-displaceable plate, a crank on said swinging carrier engaging with said arm, gearing for actuating said crank, and a hand-lever for operating said gearing and swinging the carrier substantially as described.

4. In gun-breech mechanism, the combination with a breech-screw rotatably mounted on a swinging carrier, of an angularly-displaceable plate mounted on said carrier parallel to the face of the breech-screw and engaging with the latter at two diametrically opposite points situated at equal distances from the axis of the breech-screw, a grooved arm on said angularly-displaceable plate, a crank mounted on said swinging carrier with its crank-pin engaging with said grooved arm, toothed gearing on the swinging carrier for actuating said crank, and a hand-lever for operating said toothed gearing and swinging the carrier substantially as described.

5. In gun-breech mechanism, the combination with a breech-screw rotatably mounted on a swinging carrier, of an angularly-displaceable plate loosely mounted on a sleeve carried by the swinging carrier, connecting-pieces coupling the said angularly-displaceable plate with the face of the breech-screw at two diametrically opposite points situated at equal distances from the axis of the breech-screw, an arm on said angularly-displaceable plate, and means for actuating said arm in the operation of opening and closing the breech substantially as described.

6. In gun-breech mechanism, the combination with a breech-screw rotatably mounted on a swinging carrier, of an angularly-displaceable plate mounted on said carrier at a point eccentric with respect to the axis of the breech-screw, lever-like connecting-pieces coupling the said angularly-displaceable plate with the face of the breech-screw at two diametrically opposite points situated at equal distances from the axis of the breech-screw, an arm on said angularly-displaceable plate, and means for actuating said arm in the operation of opening and closing the breech substantially as described.

841,638. RATCHET-BRACE. GEORGE DAWSON and WILLIAM A. DAWSON, Kingston-upon-Hull, England. Filed Feb. 24, 1906. Serial No. 302,724.



Claim.—1. In a ratchet-brace, the combination, with a support, and an internally-screw-threaded feed-box journaled in the said support; of an externally-screw-threaded pressure-disk for the tool engaging with the said feed-box and provided with a longitudinal driving-hole, a die for driving the tool also revoluble in the said support, a disk provided with a driving projection which engages slidably with the said driving-hole, driving devices for revolving the said die and disk simultaneously, and disengageable driving devices for revolving the said feed-box.

2. In a ratchet-brace, the combination, with a support provided with an operating-handle, and an internally-screw-threaded feed-box journaled in the said support; of an externally-screw-threaded pressure-disk for the tool engaging with the said feed-box and provided with a longitudinal driving-hole, a ratchet-wheel journaled in the said support, a die for driving the tool, and a disk provided with a projection which engages slidably with the said driving-hole, both said die and disk being operatively connected with the said ratchet-wheel, a pawl for revolving the said ratchet-wheel carried by the said support, and disengageable ratchet mechanism operatively connecting the said feed-box with the said support whereby said feed-box is revolved with the said die and disk or is allowed to remain stationary at will.

841,639. DRILLING-MACHINE. GEORGE DAWSON and WILLIAM A. DAWSON, Kingston-upon-Hull, England. Original application filed Feb. 24, 1906, Serial No. 302,724. Divided and this application filed July 12, 1906. Serial No. 325,958.

Claim.—1. In a drilling-machine, the combination, with a support, and an internally-screw-threaded feed-tube

journaled in the said support; of a guide secured at one end to the said support and projecting longitudinaly within the said feed-tube, a non-revoluble pressure-disk for the tool engaging with the said feed-tube and slidable on the said guide, a die for engaging the tool, driving mechanism for revolving the said die, and separate driving mechanism for revolving the said feed-tube and thereby moving the tool longitudinally within it.

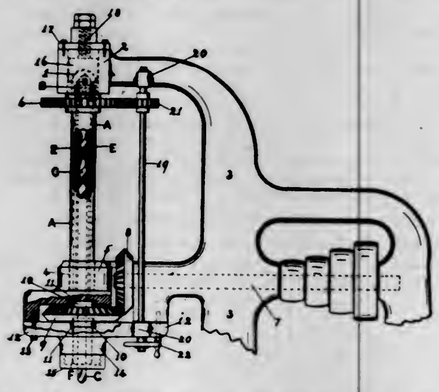
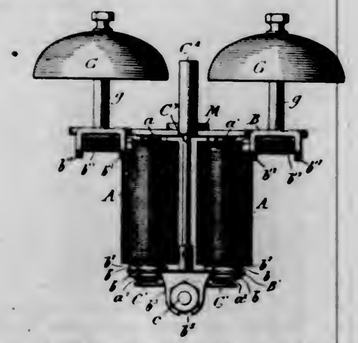


FIG. C

2. In a drilling-machine, the combination, with a support, and an internally-screw-threaded feed-tube journaled in the said support; of an externally-screw-threaded pressure-disk for the tool engaging with the said feed-tube and provided with a longitudinal guide-opening, a guide secured to the said support at one end and extending longitudinally within the said feed-tube and engaging with the said guide-opening, a die for revolving the tool also revoluble in the said support, driving mechanism for revolving the said die, and separate driving devices for revolving the said feed-tube.

3. In a drilling-machine, the combination, with a tool-shank provided with a circumferential groove, of a pressure-disk for feeding the tool, means for sliding the said pressure-disk longitudinally, spring-actuated levers pivoted to the said pressure-disk and provided with jaws for engaging with the said groove, and driving devices for revolving the said tool independent of the said pressure-disk.

841,640. METHOD OF HARMONIC SELECTIVE SIGNALING. WILLIAM W. DEAN, Elyria, Ohio, assignor to The Dean Electric Company, Elyria, Ohio, a Corporation of Ohio. Original application filed Apr. 17, 1905, Serial No. 255,961. Divided and this application filed Aug. 9, 1905. Serial No. 273,461.

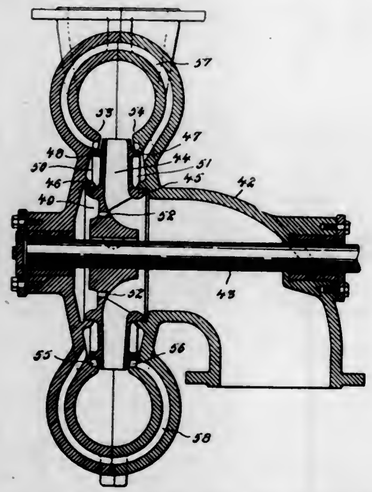


Claim.—1. The method of selectively operating electrical apparatus which consists in the following steps: first, tuning the movable parts of an electromagnet so that they will absorb energy when imparted at intervals of the proper frequency; second, initially moving said parts by means of their resonant response to the accumulative energy impulses received by said magnet; and lastly, exposing the parts when so moving to the strong and progressively-increasing magnetic forces of said magnet during their motion, substantially as described.

2. The method of selectively ringing telephone-bells, which comprises the following steps: first, tuning the mechanical parts of each bell to respond to a given frequency, and rendering them all inoperative for momentary current impulses through the magnet; second, by means of current of suitable frequency imparting initial motion to the parts of any desired ringer; and third, exposing the parts when so moving to the maximum magnetic effect of the magnet so as to insure proper actuation of the parts and to render reactive interferences negligible, substantially as described.

3. The method of selective signaling, which consists in tuning the movable parts of an electromagnet to respond to a given frequency, feeding a current of constant strength and proper frequency to said magnet to initially move said parts, and exposing said parts when so moving to the maximum magnetic effect of said magnet so as to insure proper actuation and to render reactive interference negligible.

841,641. MEANS FOR BALANCING CENTRIFUGAL PUMPS. JULIUS DEGEN, Trenton, N. J., assignor, by mesne assignments, to Lea-Degen Pump Company, Trenton, N. J., a Corporation of New Jersey. Filed June 29, 1905. Serial No. 267,497.



Claim.—1. In a centrifugal pump, the combination of a casing, a shaft, an impeller, and connected means operated by the jet issuing from the impeller for automatically introducing and varying a force for balancing and eliminating the end thrust.

2. In a centrifugal pump, the combination of a casing, a shaft, an impeller, inner and outer chambers formed between the impeller and the casing on both sides of the impeller, and ports connecting the outer chamber of one side with the inner chamber of the opposite side of the impeller.

3. In a centrifugal pump, the combination of a casing, a shaft, an impeller, inner and outer chambers formed between the impeller and the casing on both sides of the impeller, ports connecting the outer chamber of one side with the inner chamber of the opposite side of the impeller, and passages between the impeller and the casing for creating a suction in the outer chambers.

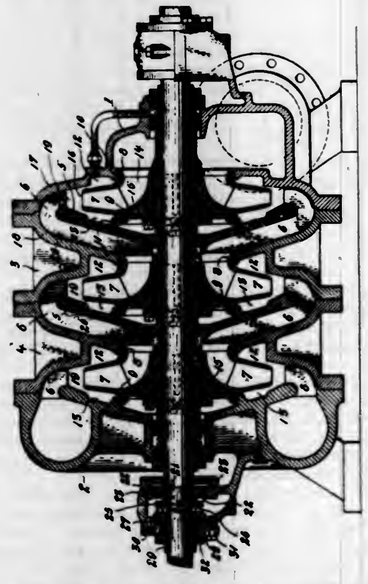
4. In a centrifugal pump, the combination of a casing, a shaft, an impeller, a passage-way in which the mouth of the impeller runs, the walls of said passage-way being contracted in the direction of flow of the water, outer chambers on each side of the impeller and connected with said passage-way, whereby suction is produced in said outer chambers, inner chambers formed between each side of the said impeller and the casing, and ports connecting the outer chamber on one side of the impeller with the inner chamber on the opposite side of the impeller.

5. In a means for balancing the impeller of a centrifugal pump, the combination with an impeller and a casing therefor, between the two of which are formed inner chambers the capacity of which is increasable and decreasable upon movement, laterally, of the impeller relatively to the casing, of peripheral chambers formed in the walls of said casing and which communicate with said first-named chamber through conduit, the latter-named chambers being subjected to enlarging and decreasing outlets as the impeller moves laterally, whereby to change the sucking action at the outlet, and whereby to change the pressure on either side of the impeller.

6. In a centrifugal pump, the combination with means for operating an impeller, said impeller and a casing therefor comprising and forming chambers whose capacity is increased and decreased alternately according to the axial movement of the impeller, means for changing the pressure in said chambers, and conduits whereby the change of pressure is transmitted from said means to said chambers.

7. In a means for balancing the runner of a centrifugal pump, the combination with a casing, of an impeller running therein, by the two of which chambers are formed, the capacity of which is increasable and decreasable according to the movement of the impeller laterally, and conduits leading from the mouths of the impeller to said chamber, whereby to change the pressure in said chambers.

841,642. METHOD OF BALANCING CENTRIFUGAL PUMPS. JULIUS DEGEN, Trenton, N. J. Filed Jan. 18, 1906. Serial No. 296,584.



Claim.—1. The method of balancing centrifugal pumps, consisting in shifting the impeller axially to a position in which the suction caused in front of and in the rear of the impeller by the water issuing from the impeller so controls the pressures upon the sides of the impeller that a resultant pressure is established equal and opposite to the end thrust.

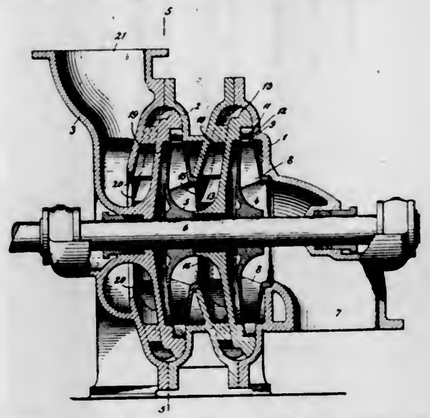
2. The method of balancing centrifugal pumps, consisting in shifting the impeller axially to a position in which the suction caused in front of and in the rear of the impeller by the water issuing from the impeller so controls the pressures upon the sides of the impeller that a resultant pressure is established equal and opposite to the end thrust, and fixing the impeller in such position.

3. The method of balancing centrifugal pumps, which consists in producing a suction on opposite sides of the impeller, and so governing said suctions by relatively positioning the impeller and the walls between which it runs as to produce a resultant force equal and opposite to the end thrust.

4. The method of balancing centrifugal pumps, consisting in producing variations of pressures on opposite sides of the impeller by the action of the jet issuing from the impeller, and governing the said variations by an axial movement of the impeller.

5. The method of balancing centrifugal pumps which consists in producing changes in the pressure on opposite sides of the impeller and so governing said changes in pressure by relatively positioning the impeller and the walls between which it runs, as to produce a resultant force equal and opposite to the end thrust.

841,643. CENTRIFUGAL PUMP. JULIUS DEGEN, Trenton, N. J. Filed Aug. 4, 1906. Serial No. 329,187.

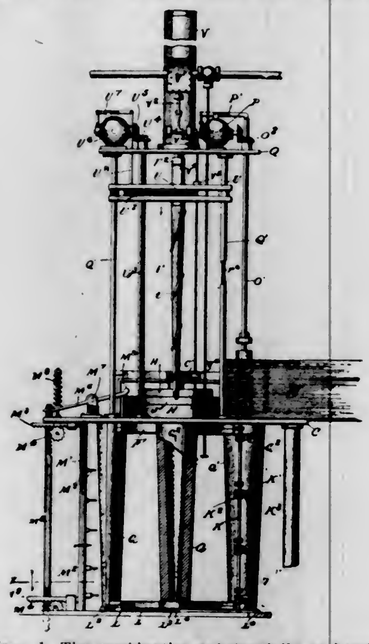


Claim.—1. In a centrifugal pump, the combination of a casing, an impeller and a series of diffusing-nozzles, said diffusing-nozzles extending from the exit of the impeller to a central delivery-opening in the casing, said nozzles being of a spiral form, and also of a gradually-increasing area in a direction from the impeller to the delivery-opening said increase in area being substantially continuous to said delivery-opening.

2. In a centrifugal pump, the combination of a casing, a series of impellers in said casing, said casing having a series of diffusing-nozzles formed therein, said nozzles starting from the delivery of the first impeller in a direction tangent to the direction of the fluid in leaving the impeller, said nozzles extending in a spiral direction to the entrance of the next impeller, and said nozzles gradually increasing in area from the first to the second impeller, so that the velocity of the fluid is gradually transformed into pressure.

3. In a centrifugal pump, the combination of a casing, a series of impellers therein, a partition on the delivery side of the first impeller, spiral ribs between said partition and the casing, said ribs extending from a delivery of the first impeller, in a direction tangent to the path of the fluid as it leaves the impeller, in a gradual spiral over said partition, and in toward the entrance of the second impeller, the passage-way between said ribs gradually increasing in area from the first to the second impeller, whereby the velocity of the fluid is transformed into pressure.

841,644. MACHINE FOR MAKING FENCE-POSTS. ROBERT L. DENNISON, Kansas City, Mo. Filed Apr. 24, 1905. Renewed Aug. 1, 1906. Serial No. 328,763.



Claim.—1. The combination substantially as herein described, of the foundation, the bed-plate above the same, the top plate above the bed-plate, posts supporting the bed-plate from the foundation, posts supporting the top plate from the bed-plate, the mold-boxes arranged between the bed-plate and foundation and having hinged sections or doors at their outer sides, locking devices for securing said doors, tripping devices for releasing the locking devices, a carrier movable between the bed-plate and foundation and supporting the mold-boxes, a lock for holding the carrier from movement, step-by-step devices for moving the carrier and including a rack-bar having a cam for releasing the carrier-lock, a cam or projection for operating the valve-rocker or bell-crank lever, and a piston and cylinder for operating said rack-bar, the valve for the cylinder and the rocking bell-crank lever for operating said valve having a spring-pressed pressure-bar, safety-bars for restraining the movement of said valve-rocker or bell-crank lever, a packer for filling the mold-boxes, a former for operating upon the material supplied to the said mold-boxes, intermediate devices between said packer and former and their safety-bars, whereby the movements thereof may operate the safety-bars for the valve-operating rocker, a device for piercing the molded article and intermediate devices between said piercing devices and the former whereby the movement of the piercing devices is timed relatively to the said former, substantially as and for the purposes set forth.

2. The combination with a suitable framing, of a carrier journaled vertically therein, vertically-disposed mold-boxes supported by said carrier, a packer extending into and filling said mold-boxes, a former for operating within said boxes upon material supplied thereto, a step-by-step feeding device for the said carrier, and intermediate mechanism whereby the former and the packer control the step-by-step movement of the carrier substantially as set forth.

3. A machine for molding plastic articles, comprising the mold-boxes, a carrier therefor, a former movable longitudinally within the mold-boxes, means for moving the former longitudinally, a cross-head supporting the former, gearing carried by the cross-head for turning the former, and means for operating said gearing to effect the turning of the former, substantially as and for the purposes set forth.

4. The combination of a mold-box having a laterally-opening door and a former revolving and moving longitudinally in said box, the diameter of the former being substantially smaller than that of the box whereby the former may pack the molded material laterally toward the mold-box.

5. A machine for molding plastic articles, comprising a mold-box, having a laterally-opening door and a tapered spiral former operating therein for boring out the center and building up the walls of a molded article in said box, the diameter of the spiral former being substantially smaller than that of the box whereby the former may pack the molded material laterally toward the mold-box.

6. The combination in a machine for molding plastic articles, of a carrier revolving on a vertical axis and having a series of mold-boxes comprising fixed inner sections and hinged outer sections or doors, locking devices for securing said doors and projecting downwardly below the carrier, tripping devices below the carrier for releasing the locking devices and a device along the outer side of the carrier in position to abut and open the hinged doors of the mold-boxes subsequent to the release of the locking device therefor, substantially as set forth.

7. The combination of a mold-box having an outer hinged section or door, means for locking the door, means for releasing the door, means for opening the door subsequent to the unlocking thereof, a piercing-bar extending longitudinally alongside the mold-box and movable toward and from the same, laterally-extending racks connected with the piercing-bar, pinions meshing with said racks, and means operating the pinions whereby to move the piercing-bar toward and from the mold-box, substantially as set forth.

8. In a machine for molding plastic articles comprising a bed-plate, a top plate supported from the bed-plate, mold-boxes arranged below the bed-plate and having hinged sections or doors at their outer sides, locking devices for securing said doors, tripping devices for releasing the locking devices, a device arranged alongside the path of the mold-boxes in position to engage and open the hinged doors thereof, and a perforating device arranged to pierce the molded article in the mold-box after the door thereof has been opened, substantially as set forth.

9. In a machine substantially as described, the combination of a mold-box having an inner fixed section and an outer movable section or door, means for opening the outer section of the mold-box, and a piercing device for piercing the molded article within said open mold-box and operating opposite the fixed mold-box section, substantially as set forth.

10. The combination with the mold-box having a movable section or door, a lock for the door, means for releasing the lock, a spring-actuated bar for opening the door, and a piercing device for piercing a molded article within said box when the door is opened.

11. The combination of a sectional mold-box, a piercing device including a bar extending longitudinally alongside the said mold-box, laterally-extending racks connected with said bar, an upright rack, pinions meshing with said upright and lateral racks, and means for operating the upright rack, substantially as set forth.

12. The combination with a mold-box, of a piercing device including a bar extending longitudinally parallel with the said mold-box, and provided with piercing projections, and racks and pinions for moving the said bar toward and from the mold-box, substantially as set forth.

13. The combination of a revolving carrier, mold-boxes supported thereby and having doors at their outer sides, means for locking the doors, means below the carrier for releasing said locking devices, and means along the outer side of the carrier for opening the doors, subsequent to said unlocking operation.

14. The combination of the mold-boxes divided longitudinally into sections, upright locking-bars for said sections, an abutment for engagement by said locking-bar, whereby to release the same, and a carrier for the mold-boxes whereby to bring the locking-bars thereof into engagement with the releasing-abutment.

15. The combination of the carrier provided with mold-boxes divided longitudinally into sections, means for feeding the said carrier step by step, locking-bars for the sections of the mold-boxes, an abutment for engagement by the said locking-bars to release the latter, an opening device for opening the mold-boxes, and a piercing device for piercing the molded article within the mold-box, the abutment, the opening device, and the piercing device being arranged in position succeeding each other, whereby the carrier will present the mold-boxes to the abutment, the opening device and the piercing device in the order named.

16. The combination with the horizontal bed-plate having openings for a packer and a former, and the carrier having vertically-disposed mold-boxes operating beneath the said bed-plate and registering with the said openings, of means for feeding the carrier step by step, a packer for filling the mold-boxes, and a former for operating upon the material within the said mold-boxes, substantially as set forth.

17. The combination with the revolving carrier and its mold-boxes, of the piercing device, means for operating said piercing device including an arm projecting into the path of a cross-head, a former for operating upon the material in the mold-boxes, and a reciprocating cross-head in connection with said former and arranged to engage and actuate the arm for operating the piercing device, substantially as set forth.

18. The combination with the carrier and its mold-boxes, of a packer for filling the boxes, a former for operating upon the material in the boxes, a piercing or perforating device for operating upon the molded articles, and means for moving the carrier step by step whereby to present the mold-boxes successively to the packing, former, and piercing devices, substantially as set forth.

19. The combination of suitable framing, a carrier having the mold-boxes and provided with an upwardly-projecting annular rib notched at intervals for the locking-bar, means for moving the carrier step by step including a reciprocating bar and connections between the same and the carrier, and means whereby the said reciprocating bar may release the locking-bar from engagement with the rib or flange of the carrier, substantially as set forth.

20. The combination in a machine for molding plastic articles, of a revolving carrier having mold-boxes, a packer for filling the said mold-boxes and adapted to be forced longitudinally by the material filled into said boxes, a motor device for operating said packer, and means whereby the movement of the packer by material filled in the box will throw the motor device out of gear, substantially as set forth.

21. The combination with a revolving carrier, and its mold-boxes, and a former for operating upon the material supplied to said mold-boxes, of means for moving the former longitudinally, means for turning the former, and means whereby the longitudinal movement of the former may control the operation of its turning and longitudinally-moving devices, substantially as set forth.

22. The combination in a machine for molding plastic articles, of the mold-boxes, a tapered spiral former movable longitudinally into said boxes, a cylinder above and having its piston-rod connected with the former for moving the said former longitudinally and means for turning the former, substantially as set forth.

23. The combination with the revolving carrier, and its mold-boxes, the packer and the former, of devices for moving the carrier step by step and including a rack-bar, a piston and cylinder and valve-operating devices in connection with said cylinder and including a bell-crank lever having a rocker provided with an arm and a pressure-bar overlying said arm, and arranged for operation by the rack-bar, safety-bars movable to and from a position beneath said arm and its overlying pressure-bar, and intermediate devices between said safety-bars and the former and packer, whereby they may be controlled respectively by the said packer and former, substantially as set forth.

24. The combination in a machine for molding plastic articles, of the carrier, means for moving said carrier step by step and including a rack-bar, a cylinder and valve-operating devices including a rocker having a bell-crank arm and a pressure-bar overlying the arm, and arranged for operation by a rack-bar, and a safety bar or bars movable to and from position beneath the arm of the bell-crank rocker, substantially as set forth.

25. The combination of a revolving carrier and its mold-boxes, a packer operating vertically in said boxes and arranged to drop by gravity into the boxes and to be fed upwardly by the accumulating material in said boxes, motor devices for revolving said packer, and means whereby said motor devices may be thrown out of operation by the packer when the latter reaches its upper position.

841,645. DRIVEN METALLIC GROUND-POST. JOHN H. DOWNS, New York, N. Y. Filed Mar. 12, 1906. Serial No. 305,503.



Claim.—1. An improved driven ground-post of the class described, comprising a metallic bar angular in cross-section and forming the driven post, and a solid one-piece base block or collar of vitrified material having a vertical slot extending through said one-piece body from top to bottom and corresponding to the angular cross-section of the metallic post and receiving the same, said solid one-piece block or collar being slidable upon the post after the latter is driven in the ground and forming a vitrified base entirely surrounding and inclosing the driven metallic post at the ground-line and protecting a surface length or section of the same below and above the ground-line, substantially as and for the purpose set forth.

2. An improved driven-ground-post of the class described, comprising a metallic bar forming the driven post, and a solid one-piece base block or collar of vitrified material having a vertical slot extending through said one-piece body from top to bottom and corresponding to the cross-section of the metallic post and receiving the same, said solid one-piece block or collar having its exterior side faces or planes provided with projecting portions and being slidable upon the post after the latter is driven in the ground and forming a vitrified base entirely surrounding and inclosing the driven metallic post at the ground-line and protecting a surface length or section of the same below and above the ground-line, substantially as and for the purpose set forth.

3. An improved driven ground-post of the class described, comprising a metallic bar forming the driven post, and a solid one-piece base block or collar of vitrified material having a vertical slot extending through said one-piece body from top to bottom and corresponding to the cross-section of the metallic post and receiving the same, said solid one-piece block or collar having its exterior side faces or planes provided with projecting portions extending vertically and being slidable upon the post after the latter is driven in the ground and forming a vitrified base entirely surrounding and inclosing the driven metallic post at the ground-line and protecting a surface length or section of the same below and above the ground-line, substantially as and for the purpose set forth.

4. An improved driven ground-post of the class described, comprising a metallic bar forming the driven post, and a solid one-piece base block or collar of vitrified material having a vertical slot extending through said one-piece body from top to bottom and corresponding to the cross-section of the metallic post and receiving the same, said solid one-piece block or collar being slidable upon the post after the latter is driven in the ground and forming a vitrified base entirely surrounding and inclosing the driven metallic post at the ground-line and protecting a surface length or section of the same below and above the ground-line, substantially as and for the purpose set forth.

5. An improved driven ground-post of the class described, comprising a metallic bar forming the driven post, and a solid one-piece base block or collar of vitrified material having a vertical slot extending through said one-piece body from top to bottom and corresponding to the cross-section of the metallic post and receiving the same, said solid one-piece block or collar having an angular horizontal cross-sectional contour and being slidable upon the post after the latter is driven in the ground and forming a vitrified base entirely surrounding and inclosing the driven metallic post at the ground-line and protecting a surface length or section of the same below and above the ground-line, substantially as and for the purpose set forth.

6. An improved driven ground-ost of the class described, comprising a metallic bar forming the driven post, and a solid one-piece base block or collar of vitrified material having a vertical slot extending through said one-piece body from top to bottom and corresponding to the cross-section of the metallic post and receiving the same, said solid one-piece block or collar having an angular horizontal cross-sectional contour and provided with projecting portions upon its exterior side faces or planes and being slidable upon the post after the latter is driven in the ground and forming a vitrified base entirely surrounding and inclosing the driven metallic post at the ground-line and protecting a surface length or section of the same below and above the ground-line, substantially as and for the purpose set forth.

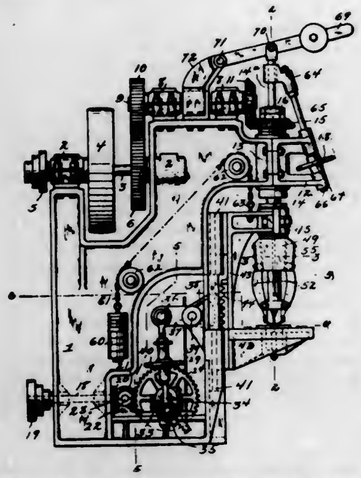
7. An improved driven ground-post of the class described, comprising a metallic bar forming the driven post, and a solid one-piece base block or collar of vitrified material having a vertical slot extending through said one-piece body from top to bottom and corresponding to the cross-section of the metallic post and receiving the same, said solid one-piece block or collar having an angular horizontal cross-sectional contour and provided upon its exterior side faces or planes with corrugations extending vertically and being slidable upon the post after the latter is driven in the ground and forming a vitrified base entirely surrounding and inclosing the driven metallic post at the ground-line and protecting a surface length or section of the same below and above the ground-line, substantially as and for the purpose set forth.

8. An improved driven ground-post of the class described, comprising a metallic bar angular in cross-section and forming the driven post, and a solid one-piece base block or collar of vitrified material having a vertical slot extending through said one-piece body from top to bottom and corresponding to the angular cross-section of the metallic post and receiving the same, said solid one-piece block or collar having an angular horizontal cross-sectional contour and having one wing of its vertical angular slot parallel to one of the sides of the angular cross-sectional contour of the block and being slidable upon the post after the latter is driven in the ground and forming a vitrified base entirely surrounding and inclosing the driven metallic post at the ground-line and protecting a surface length or section of the same below and above the ground-line, substantially as and for the purpose set forth.

9. As an improved article of manufacture, a solid one-piece base block or collar of vitrified material having a vertical slot extending through said one-piece body from top to bottom and adapted to receive a corresponding metallic post upon which said solid one-piece block or collar is slidable after the post is driven in the ground, to form a vitrified base entirely surrounding and inclosing the driven metallic post at the ground-line and protecting a surface length or section of the same below and above the ground-line, substantially as and for the purpose set forth.

10. As an improved article of manufacture, a solid one-piece base block or collar of vitrified material having a vertical slot extending through said one-piece body from top to bottom and provided upon its exterior side faces or planes with projecting portions, said solid one-piece block being adapted to be slidable upon a metallic post corresponding to and received by its vertical slot after the post is driven in the ground, to form a vitrified base entirely surrounding and inclosing the driven metallic post at the ground-line and protecting a surface length or section of the same below and above the ground-line, substantially as and for the purpose set forth.

841,646. CORK CUTTING AND TAPERING MACHINE. JOHN A. HELLSTROM, Pittsburg, and GEORGE W. EXLER, Allegheny, Pa., assignors of one-third to Thomas H. Flynn, Pittsburg, Pa. Filed Oct. 31, 1905. Serial No. 285,345.



Claim.—1. In a cork-cutting machine, a frame, a rotatable and vertically-movable shaft mounted on said frame, means for imparting rotary and vertical movement to said shaft, a vertically-movable blank-supporting table mounted upon the frame, means for imparting vertical movement to said table, a collar carried by said table and surrounding said shaft and rotatable therewith and slidable thereon, a guide-block carried by said collar, said guide-block being formed with inclined guides, knife-holders pivotally mounted upon said shaft, the ends of said knife-holders working in said guides, and knives carried by said knife-holders.

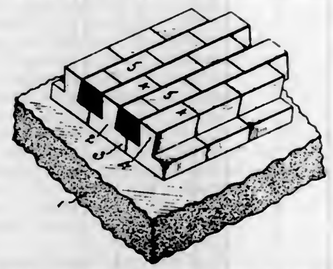
2. In a machine of the type described, a frame, a movable blank-holder mounted upon said frame, means for imparting movement to said blank-holder, a rotary shaft mounted in bearings carried by the frame, knife-holders pivotally attached to said shaft, knives carried by said holders, means carried by the blank-holder for moving the knife-holders on their pivotal points to move the knives toward and from one another simultaneously with the movement of said blank-holder.

3. A machine of the type described, embodying a frame, a blank-supporting means movably mounted on said frame, a rotatable shaft journaled in bearings carried by said frame, knife-holders pivotally attached to said shaft, means for imparting rotary movement to said shaft, simultaneously-operated means for imparting reciprocating movement alternately in opposite directions to said blank-supporting means, means carried by the blank-supporting means for adjusting the knife-holders, and adjusting means for regulating the length of the travel of said blank-supporting means.

4. A machine of the type described, embodying a frame, blank-supporting means movably mounted on said frame, means for moving said blank-supporting means, a rotary shaft mounted in bearings carried by said frame, knife-holders pivotally attached to said shaft, means for imparting rotary movement to said shaft, and means carried by said blank-supporting means and contacting with said knife-holders, said last-named means being adapted when the blank-supporting means is moved to move the free ends of the knife-holders gradually toward or from one another according to the direction of movement of the blank-supporting means.

5. A machine of the type described embodying a frame, blank-supporting means movably mounted thereupon, a rotary knife-supporting means mounted in bearings carried by said frame, means for imparting rotary movement to said knife-supporting means, knives carried by said knife-supporting means, simultaneously-operated means for imparting reciprocating movement to said blank-supporting means, alternately in opposite directions, and means carried by said blank-supporting means for moving the cutting-knives mounted upon the knife-supporting means in opposite directions with relation to one another.

841,647. PAVEMENT. EDWARD HEYLYN, Manchester, Conn. Filed Mar. 9, 1906. Serial No. 305,096.

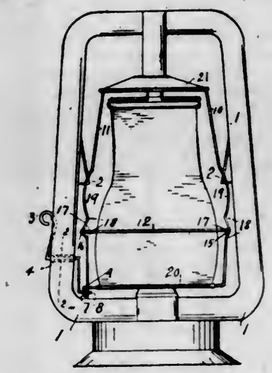


Claim.—A compound pavement formed of abutting blocks of hardened plastic compound, each block having a wide flat base and a dovetail wearing-rib narrower than the width but as long as the length of the base, extending upwardly from the middle thereof, and dovetail locking-strips of wood lying between the wearing-ribs and overlapping the longitudinal and the transverse joints so that each strip rests upon sections of the bases of four blocks, substantially as specified.

841,648. LANTERN. JAMES H. HILL, Rochester, N. Y. Filed June 4, 1906. Serial No. 320,078.

Claim.—1. A wire globe-frame and globe-ring guard consisting of two integral members, said guard consisting of parts of said members joined to each other by interlocking bends, the interlocking parts being extended part above and part below the interlocks to the bell and base plates.

2. A wire globe-frame and globe-ring guard consisting of two integral members, said guard consisting of parts of said members joined to each other by interlocking bends, the interlocking parts being extended part above and part below the interlocks to the bell and base plates, the wires having indentations 17 to prevent slipping of the guard and side wires.



3. A globe frame and guard consisting of two wires each comprising a vertical side portion integral with a transverse curved portion, said curved portions forming a globe-ring guard, the ends of said wires being above and below the portions forming the guard.

4. A globe frame and guard consisting of two members, each member being a single wire bent at a plurality of points in different horizontal planes into approximately semicircular form, said guard being intermediate upper and lower plate-connecting bends.

5. A globe frame and guard consisting of two members, each member being a single wire bent at a plurality of points in different horizontal planes into approximately semicircular form, the members interlocking.

6. In a globe frame and guard having single side wires, a connecting globe-ring consisting of parts integral with said side wires of the frame and intermediate the ends thereof, said ends being secured to the bell and the globe-supporting plate.

7. In a globe frame and guard having side members, a connecting globe-ring made integral with said members of the frame, and means consisting of bends in said members to prevent slipping of the parts at their connection.

8. In a globe-frame, a side wire provided with an integral ring or loop, in combination with a globe-lifter having an end adapted to be freely entered in or withdrawn from the loop, said ring comprising parts of a side wire and base-ring overlapped to prevent disengagement of the frame and lifter in operation.

9. The combination with a globe-frame, a globe-lifter, and the air-tube of a lantern, of a tubular bearing for the globe-lifter, said air-tube being indented to form a seat for said bearing, and the bearing soldered in said seat.

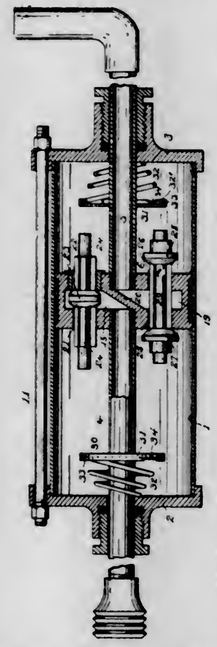
841,649. WATER-MOTOR. RALPH W. HOWE and EDWIN J. ORNOLD, Wheeling, W. Va. Filed May 7, 1906. Serial No. 315,678.

Claim.—1. In a water-motor, a cylinder, a stationary piston therein, piston-rods, valves in said piston for controlling the passage of fluid therethrough, and a yieldable buffer within the cylinder at each end thereof independent of the valves, whereby said valves are actuated to seat after being unseated, said buffer comprising a disk with a spring attached to the rear face thereof.

2. In a water-motor, the combination of a cylinder, a stationary piston therein, hollow piston-rods communicating with said piston, valves for controlling the passage of fluid through the piston, the operating fluid passing through one of said valves and the exhaust fluid through the other valve, and a yieldable buffer within each end of said cylinder, each buffer comprising a floating disk carrying a spring, substantially as described.

3. In a water-motor, a cylinder, a stationary piston therein, stationary pipes connected with the opposite sides of said piston through which the fluid passes for

reciprocating said cylinder with relation to the piston, fluid-inlet and fluid-exhaust valves carried by said piston for controlling and directing the flow of the fluid, and a yieldable buffer floating on each of said pipes within the cylinder whereby the valves are actuated to jump from balanced positions to their opposite seats when unseated from contact therewith, said buffers each comprising a flanged sheet-metal disk and a cone-spring secured to said disk.

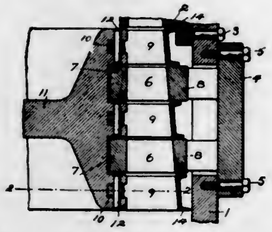


4. In a water-motor, a cylinder, a stationary piston therein, stationary pipes connected to the opposite sides of said piston through which the fluid passes for reciprocating said cylinder with relation to the piston, fluid-inlet and fluid-exhaust valves carried by said piston for controlling and directing the flow of the fluid, and a yieldable buffer floating on each of said pipes within the cylinder whereby the valves are actuated to jump from balanced positions to their opposite seats when unseated from contact therewith, said buffers each consisting of a circular sheet-metal disk adapted for contacting with the ends of the valve-stems, and a cone-spring encircling the pipe and fixedly attached to the rear side of said disk, substantially as described.

5. In a water-motor, the combination with a piston having fluid-controlling valves therein with outwardly-projecting stems, of yieldable buffers for contacting with said valve-stems and for imparting to said stems a final movement whereby said valves are thrown upon their opposite seats after having been unseated by contact therewith, said buffers each consisting of a sheet-metal disk carrying on its rear face a collapsible spring, substantially as described.

6. In a water-motor, the combination with a piston having fluid-controlling valves therein with outwardly-projecting stems, of yieldable buffers for contacting with said valve-stems and for imparting to said stems a final movement whereby said valves are thrown upon their opposite seats after having been unseated by forcible contact therewith, said buffers each consisting of a sheet-metal disk having a rearwardly-directed annular flange, and a cone-spring rigidly attached to the rear face of said disk by clenching a portion of the flange of the disk over the base member of the spring, substantially as described.

841,650. MEANS FOR DECREASING LEAKAGE IN TURBINES. OSCAR JUNGGREN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Original application filed Apr. 29, 1903, Serial No. 154,888. Divided and this application filed June 30, 1906. Serial No. 324,238.



Claim.—1. In an elastic-fluid turbine, the combination with a casing, of a wheel having buckets attached thereto, each bucket having an integrally-formed cover with outwardly-projecting flanges.

2. In an elastic-fluid turbine, the combination with a casing, of a wheel having buckets attached thereto, each bucket having an integrally-formed cover with outwardly-projecting flanges, and a stationary element having a surface in close proximity to one of said flanges.

3. In an elastic-fluid turbine, the combination with a casing, of a wheel having buckets attached thereto, each bucket having an integrally-formed cover with outwardly-projecting flanges, and an intermediate bucket-support situated in line with and in close proximity to one of said flanges.

4. In an elastic-fluid turbine, the combination with a casing, of a wheel having buckets attached thereto, each bucket having an integrally-formed cover with outwardly-projecting flanges, and a stationary element having surfaces in close proximity to the side and edge of one of said flanges.

5. In an elastic-fluid turbine, the combination with a casing, of a wheel having buckets attached thereto, each bucket having an integrally-formed cover with outwardly-projecting flanges, which are slightly wider than the buckets to protect the sharp edges of the latter from rubbing.

6. In an elastic-fluid turbine, the combination with a casing, of a wheel having buckets attached thereto, each bucket having an integrally-formed cover in the shape of a channel-beam.

7. In an elastic-fluid turbine, the combination with a casing, of a wheel having buckets attached thereto, each bucket having an integrally-formed cover in the shape of a channel-beam and stationary intermediate bucket-supports having flat surfaces situated in close proximity to the sides of said channel-beam cover.

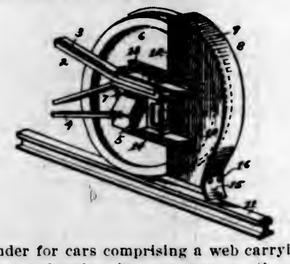
8. In an elastic-fluid turbine, the combination with a wheel having on its periphery a plurality of circumferentially-grooved projections, of a plurality of buckets, each having a shank that enters the groove, a retaining-pin for each bucket passing through the shank and a projection, and an integral cover for each bucket formed in the shape of a channel-beam.

9. In an elastic-fluid turbine, the combination with a wheel having on its periphery a plurality of circumferentially-grooved projections, of a plurality of buckets, each having a shank that enters the groove, a retaining-pin for each bucket passing through the shank and a projection, and an integral cover for each bucket formed in the shape of a channel-beam, said covers fitting closely together to form a smooth continuous surface around the entire wheel.

841,651. GUARD OR FENDER FOR CARS. WILLIAM T. LANE, Fostoria, Ohio. Filed Oct. 27, 1906. Serial No. 340,814.

Claim.—1. A fender for cars comprising a curved body conforming in curvature to the wheel with which it is to be employed and having at the lower end thereof a frangible shoe, substantially as specified.

2. A fender for cars comprising a curved body adapted to be applied in front of a car-wheel and having at its lower extremity a frangible shoe, said shoe being beveled or inclined from the inner edge toward the outer edge thereof, substantially as specified.



3. A fender for cars comprising a web carrying a flange, said flange conforming in curvature to the wheel with which it is to be employed, and said web carrying attaching means adapted to be applied to the truck above and below the journal-box of the wheel, substantially as specified.

4. The combination of a truck, a wheel having a journal-box, bolts for securing said journal-box to said truck, and a fender for said wheel having a pair of supporting members spaced apart to receive therebetween the ends of the truck and the journal-box and provided with holes for the reception of said bolts, substantially as specified.

5. The combination of a truck having upper and lower bars or members, a wheel having a journal-box, bolts connecting said journal-box to said bars or members, a wheel guard or fender having a flange projecting in front of the face of the wheel, and means for supporting said guard or fender, said means comprising an upper and a lower angle-iron, the horizontal flanges of which are spaced apart a distance substantially equal to the distance between the top of the upper truck member and the bottom of the lower truck member and having openings for the reception of the bolts by which the journal-box is secured to said members, substantially as specified.

6. A fender for car-wheels comprising a web having a flange projecting laterally therefrom, said flange conforming in curvature to the curvature of the wheel with which it is to be employed, and a pair of angle-irons riveted or otherwise suitably secured to said web, substantially as specified.

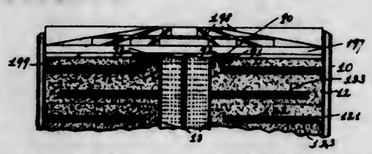
7. The combination of a truck having upper and lower bars or members, a wheel having a journal-box, bolts connecting said box to said bars or members, a fender for said wheel comprising a web having a flange projecting laterally therefrom, said flange conforming in curvature to the curvature of the wheel with which it is to be employed, and a pair of angle-irons having their vertical flanges riveted or otherwise suitably secured to said web and their horizontal flanges spaced apart a distance equal to the distance between the top of the upper and the bottom of the lower truck member and having holes for the reception of said bolts, substantially as specified.

8. A guard or fender for car-wheels comprising a heavy sheet-metal web having a laterally-projecting flange conforming in curvature to the curvature of the wheel with which the guard or fender is to be employed, means for supporting said guard or fender with the lower portion thereof a short distance above the rail, and a frangible shoe secured to the lower front end of said fender and having its lower edge projecting below the same, substantially as specified.

841,652. FILTERING ELEMENT. CHARLES H. LOEW, Lakewood, Ohio. Original application filed Apr. 16, 1906, Serial No. 311,880. Divided and this application filed Nov. 3, 1906. Serial No. 341,882.

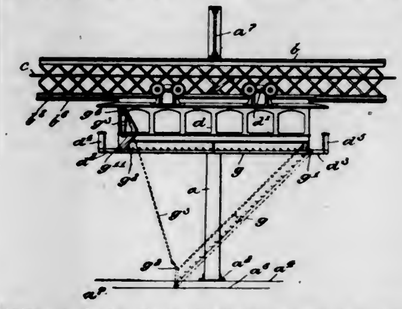
Claim.—1. In a filter adapted for the filtration of beer and similar liquids, a filter element comprising a layer of compressed cellulose and an inlet-conductor embedded therein, said layer having its upper surface compressed into ridges and grooves.

2. In a filter adapted for the filtration of beer and similar liquids, a filter element comprising a layer of compressed cellulose and an outlet-conductor embedded therein, said layer having its upper surface compressed into ridges and grooves.



3. In a filter adapted for the filtration of beer and similar liquids, a series of superimposed filter elements, each comprising a layer of compressed cellulose and each interlocked with its neighbor above and below by a series of ridges and grooves.

841,653. ADJUSTABLE STAIRWAY FOR SUSPENDED RAILWAY-CARS. DANIEL M. PFAUTZ, Germantown, Pa., assignor of one-half to William H. Tigerman, Philadelphia, Pa. Filed May 19, 1906. Serial No. 317,689.



Claim.—1. In an elevated-railway system, in combination with a car, a platform arranged at each end of said car and extending laterally beyond the body thereof, a stairway pivoted at one end to one of said platforms and resting in an inoperative position parallel to the body of said car and between said platforms, and means for connecting the free end of said stairway with the body of said car and for raising and lowering the same.

2. In an elevated-railway system, in combination with a car, a platform arranged at each end of said car and extending laterally beyond the body thereof, a stairway pivoted at one end to one of said platforms and resting in an inoperative position parallel to the body and between the platforms of said car, a bail secured to the free end of said stairway, a drum secured to said car, means connecting said bail with said drum, and means for actuating said drum.

3. In an elevated-railway system, in combination with a car, a platform arranged at each end of said car and extending laterally beyond the body thereof, a stairway pivoted at one end to one of said platforms and resting in an inoperative position parallel to the body and between the platforms of said car, a bail secured to said stairway, winding means for raising and lowering the free end of said stairway secured to said car, means for operating said winding means, and locking means for the operating means of said stairway.

REISSUES.

12,594. MANUFACTURE OF IMITATION-STONE PLATES, SLABS, OR TILES. LUDWIG HATSCHEK, Vöcklabruck, Austria-Hungary. Filed Aug. 20, 1906. Serial No. 331,407. Original No. 769,078, dated Aug. 30, 1904.

Claim.—1. The process of rendering hydraulic cement colloidal, which consists in working the same with a large bulk of water, that is to say, with sufficient water to

allow the particles of cement to be kept in motion and thus segregated, whereby the setting or hardening power of the cement is not destroyed, and, in the presence of other material, as well-divided asbestos, it is intimately associated with the latter, so that even if the weight of the cement be greater than that of the material with which it is mixed, no separation takes place, substantially as set forth.

2. The herein-described process of producing artificial-stone plates, consisting of first mixing fibrous material and hydraulic cement in the presence of a great bulk of water, then forming therefrom a series of thin layers of the mixed cement and fibrous material superposed on each other until the required thickness is secured, then pressing the same and allowing the material to set or harden.

3. The herein-described process of producing artificial-stone plates, consisting of first mixing asbestos fibers and hydraulic cement in the presence of a great bulk of water, then forming therefrom a series of thin layers of the mixed cement and asbestos superposed on each other until the required thickness is secured, then pressing the same and allowing the material to set or harden, substantially as set forth.

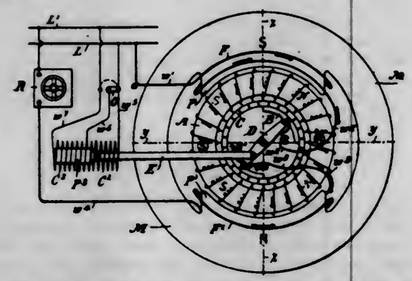
4. The herein-described process of producing artificial-stone plates, consisting in mixing fibrous material and hydraulic cement in a bulk of water sufficient to render the cement colloidal, then forming therefrom a series of thin layers of the mixed cement and fibrous material superposed on each other until the required thickness is secured, then pressing the same and allowing the material to set or harden.

5. The herein-described process of producing artificial plates, consisting of first mixing fibrous material and hydraulic cement in the presence of a great bulk of water, to render the cement colloidal, then forming therefrom a series of thin layers of the mixed cement and fibrous material superposed on each other until the required thickness is secured, then pressing the same and allowing the material to set or harden.

6. An artificial-stone product consisting of a major proportion of hydraulic cement and a minor proportion of fibrous material, the product being in layers and elastic, non-brittle and penetrable to nails, that is, capable of being nailed similar to paper building-board or wood, incombustible and water and frost resistant, of hardness, strength and durability, and having a certain quality of toughness which enables it to resist strains and shocks which would shatter ordinary brittle material, such as slate, and the product being, finally, easily cut and sawed into shape and capable of being presented thin enough to serve as a substitute for wooden shingle and slate tile, &c., substantially as described.

7. A product of the invention hereinbefore set forth, being a composition containing hydraulic cement which has been rendered colloidal.

12,595. ALTERNATING-CURRENT MOTOR. ROBERT LUNDELL, New York, N. Y. Filed Sept. 29, 1906. Serial No. 337,812. Original No. 782,863, dated Feb. 21, 1905.



Claim.—1. An alternating-current motor having a stationary field-magnet and an armature of the ring or drum type, the coils of which are connected to a commutator, means for causing said armature to rotate from the propelling effect (torque effect) of short-circuited induced currents in certain groups of armature-coils; in combination with additional means for combining therewith the propelling effect (torque effect) of outside currents introduced into the other groups of armature-coils not short-circuited.

2. An alternating-current motor comprising the combination of a stationary field-magnet connected with a source of alternating-current supply, an armature having a winding the coils of which are connected to a commutator and means for causing a united propelling effect of the applied currents and the induced currents in the said armature-winding.

3. An alternating-current commutator-motor having a field-magnet connected with a source of alternating-current supply, an armature of the ring or drum type provided with means for causing a united propelling effect of the applied currents and the induced currents therein; in combination with additional means for reversing the direction of rotation.

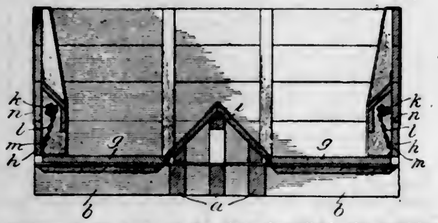
4. A single-phase alternating-current machine comprising the combination of a stationary field-magnet having an energizing-winding, an armature having its coils connected to a commutator, wide brushes extending about ninety electrical degrees for short-circuiting certain groups of armature-coils at an angle of about forty-five electrical degrees to the field flux (field-magnet poles), with means for including the other armature-coils not short-circuited in an outside circuit.

5. A single-phase alternating-current motor comprising the combination of a stationary field-magnet having an energizing-winding, an armature having its coils connected to a commutator, brushes for short-circuiting certain groups of armature-coils at an angle of about forty-five electrical degrees to the field-magnet poles, means for including the other armature-coils not short-circuited in an outside circuit, and additional means for reversing the direction of rotation.

6. An alternating-current machine having a stationary field-magnet with an energizing-winding therefor, an armature having its windings or coils connected to a commutator, wide brushes extending about ninety electrical degrees for causing induced currents to flow through certain groups of armature-coils; in combination with means for causing the currents in those armature-coils which are located at or near the leaving edges of the brushes to flow in the same direction.

7. An alternating-current motor having a field-magnet connected with a source of current-supply and an armature with a commutator and brushes for short-circuiting two or more groups of armature-coils while the remaining armature-coils are included in an alternating-current-supply circuit; in combination with means for changing the position of the brushes and thereby the direction of rotation.

12,596. DUMP-CAR. GEORGE B. MALTBY, Cleveland, Ohio, assignor, by mesne assignments, to National Dump Car Company, a Corporation of Maine. Filed Nov. 7, 1906. Serial No. 342,435. Original No. 739,894, dated Sept. 29, 1903.



Claim.—1. In a car of the class described, the combination of a supporting-frame portion, a drop-bottom therefor formed of swinging doors pivotally secured thereto at their inner edges and at each side of the longitudinal center, and foldable end portions on the free edges of the drop-bottom doors adapted to form a part of the discharging-apron when in open position and a part of the side boards of the car when in closed position, substantially as described.

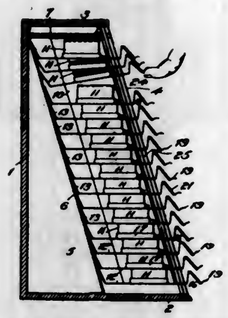
2. In a dump-car of the class described, the combination of a supporting-frame, a drop-bottom portion therefor formed of a plurality of swinging doors pivotally secured thereto at their inner edges and provided with outer foldable sections adapted to form a part of the discharging-apron when in open position and a part of the side boards of the car when in closed position, and chain mechanism secured to such foldable portions of the drop-bottom doors to bring the same to closed position, substantially as described.

3. In a dump-car of the class described, the combination of a supporting-framework, a drop-bottom portion therefor formed of a plurality of swinging doors pivotally secured thereto at their inner edges, foldable sections pivotally secured to the outer free edges of the drop-bottom doors and forming a discharging-apron in connection therewith when the parts are in open position and the lower part of the side boards of the car when the parts are in their closed position, rock-shaft mechanism rotatably mounted in the framework of the car, and chain mechanism secured to such rock-shaft mechanism and to the drop-bottom doors and foldable sections thereof to bring the parts to closed position, substantially as described.

4. In a car of the class described, the combination of a supporting-frame portion, a drop-bottom therefor formed of swinging doors pivotally secured thereto at their inner edges and at each side of the longitudinal center, and foldable end portions on the free edges of the drop-bottom doors adapted to form a part of the discharging-apron when in open position.

5. In a car of the class described, the combination of a supporting-frame portion, a drop-bottom therefor formed of swinging doors pivotally secured thereto at their inner edges and at each side of the longitudinal center, and end portions hinged to the free edges of the doors to swing into alinement with the doors when the doors are in discharging position.

12,597. ACCOUNT-CABINET. BERT C. MAXWELL, Canton, Ohio. Filed Nov. 10, 1906. Serial No. 342,920. Original No. 816,025, dated Mar. 27, 1906.



Claim.—1. An account-cabinet comprising a box having a downward-forward inclined back, flexible hangers removably suspended in the box and a series of trays suspended from the hangers by flexible supports, each tray being horizontally located with its forward end in advance of the one above and the rear ends of the trays normally resting against the inclined back.

2. An account-cabinet comprising a box having a downwardly-forward inclined back, flexible hangers removably suspended in the box and a series of trays suspended from the hangers by flexible supports, each tray being located with its forward end in advance of the one above and the rear ends of the trays normally resting against the inclined back.

3. An account-cabinet comprising a box with flexible hangers removably suspended therein and a series of trays suspended from the hangers by flexible supports.

4. An account-cabinet comprising a box having a downward-forward inclined back, flexible hangers removably suspended in the box and a series of trays attached to the hangers, each tray being horizontally located with its forward end in advance of the one above, and the rear ends of the trays normally resting against the inclined back.

5. An account-cabinet comprising a box having a downward-forward inclined back, flexible hangers removably suspended in the box and a series of trays attached to the hangers, each tray being located with its forward end in advance of the one above, and the rear ends of the trays normally resting against the inclined back.

6. An account-cabinet comprising a suitable casing, a series of superposed trays, each tray having individual collapsible supports attached to its side, and means within the casing to which said supports may be attached.

7. In an account-cabinet a series of trays suspended from flexible hangers by flexible supports, there being forward extensions on the trays bent upward and then downward in inverted-V-shape form, the apex of one extension being located approximately in the opening of the extension above.

8. In an account-cabinet a series of trays suspended from flexible hangers by flexible supports, there being forward and rear extensions on each tray inclined upward and outward so as to overlap the tray above.

9. In an account-cabinet a series of trays suspended from flexible hangers by flexible supports, the sides and ends of each tray being inclined outward so as to overlap the tray above.

10. In an account-cabinet a series of trays suspended from flexible hangers by flexible supports, there being upward-outward inclined side extensions on the tray to which the supports are attached.

11. In an account-cabinet a series of trays suspended from flexible hangers by flexible supports attached to the middle parts of the sides of the trays.

12. In an account-cabinet a series of trays suspended from flexible hangers by flexible supports.

13. In an account-cabinet, a series of trays severally suspended by individual collapsible supports, there being forward extensions on the trays bent upward and then downward in inverted-V-shaped form, the apex of one extension being located approximately in the opening of the extension above.

14. In an account-cabinet, a series of trays attached to flexible supports, there being forward and rear extensions on each tray inclined upward and outward so as to overlap the tray above.

15. In an account-cabinet a series of trays attached to flexible supports, the sides and ends of each tray being inclined outward so as to overlap the tray above.

16. In an account-cabinet, a collapsible series of superposed trays arranged to form a series of compartments, each tray having vertically-inclined walls arranged to overlap the corresponding walls of an adjoining tray, and means connecting the trays together to permit the collapsibility of the series.

17. In an account-cabinet, a series of flexibly-connected superposed trays, each tray having vertically-inclined walls arranged to overlap the corresponding walls of an adjoining tray.

18. In an account-cabinet, a series of superposed trays, each tray having an inclined front wall arranged to nest within the front wall of an adjoining tray, and the bottom of each tray forming a substantial closure for the tray beneath it, and means for tiltably supporting each of said trays in its position in said series.

19. In an account-cabinet, a series of superposed trays, each tray having a vertically-inclined front wall arranged to nest within the front wall of an adjoining tray, and the bottom of each tray forming a substantial closure for the tray beneath it, and flexible supports for each of said trays.

20. In an account-cabinet, a series of superposed trays, each tray having vertically-inclined walls arranged to overlap the corresponding vertically-inclined walls of an adjoining tray and the bottom wall of each tray forming a substantial closure for the tray beneath it, and means for tiltably supporting each of said trays.

21. In an account-cabinet, a series of superposed trays

forming a series of compartments, each tray having a bottom wall and a vertically-inclined front wall arranged to overlap the front wall of an adjoining tray, and means for tiltably supporting each of said trays in position in said series to permit the raising and lowering of the front end of each tray relative to the front end of the tray above it.

22. An account-cabinet comprising a collapsible series of superposed trays forming a series of compartments, each tray tiltably supported in working position in said series to permit the raising and lowering of its front end without raising or lowering any other tray in the series.

23. An account-cabinet comprising a series of flexibly-connected superposed trays forming a series of compartments, each tray tiltably supported in said series to permit the raising and lowering of its front end without raising or lowering any other tray in the series.

24. In an account-cabinet, a collapsible series of flexibly-connected tiltably-supported trays arranged to form a series of superposed compartments, each tray having vertically-inclined walls arranged to nest within the corresponding walls of an adjoining tray.

25. In an account-cabinet, a series of flexibly-connected superposed trays, each tray having a bottom wall and a front vertically-inclined wall arranged to overlap the front vertically-inclined wall of an adjoining tray, means for suspending said series in working position, and a downward-forward inclined back wall for the said series of trays.

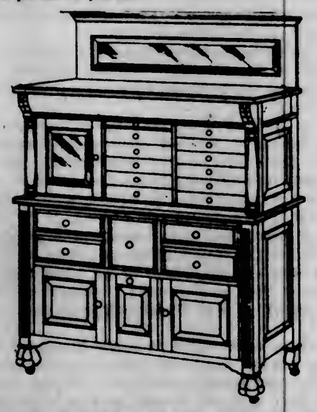
26. In an account-cabinet, a series of superposed sheet-metal tiltably-supported trays, each tray having a bottom wall and an upwardly and rearwardly extending rear wall, and a stationary back against which the upper edges of said rear walls of the tray are adapted to press.

27. In an account-cabinet, a collapsible series of superposed trays, each tray having a bottom wall and a rear wall arranged to normally overlap the rear wall of the tray above it, and means connecting the trays in series.

28. In an account-cabinet, a series of superposed trays forming a series of compartments, each tray having a bottom wall and a vertically-inclined front wall arranged to nest within the front wall of an adjoining tray, and means for tiltably supporting each of said trays in position in said series with its front wall in a downward-forward inclined plane common to the front walls of all of the trays in the series.

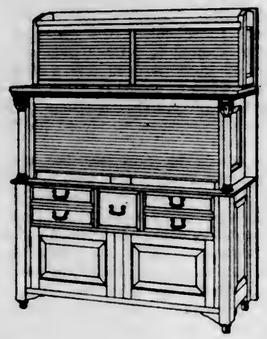
DESIGNS.

38,408. DENTAL CABINET. HARRY C. GOWRAN, Two Rivers, Wis. Filed Dec. 15, 1906. Serial No. 348,073. Term of patent 7 years.



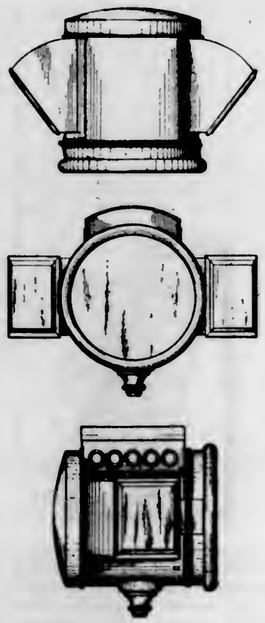
Claim.—The ornamental design for a dental cabinet, as shown.

38,409. DENTAL CABINET. HARRY C. GOWRAN, Two Rivers, Wis. Filed Dec. 15, 1906. Serial No. 348,074. Term of patent 7 years.



Claim.—The ornamental design for a dental cabinet, as shown.

38,410. LAMP-BODY. WILLIAM P. CRARY, New York, N. Y. Filed Dec. 15, 1906. Serial No. 348,089. Term of patent 7 years.



Claim.—The ornamental design for a lamp-body, as shown.

38,411. HANDLE-PLATE FOR CASKETS. FRANCIS K. ALLEN, Springfield, Ohio, assignor to The Springfield Metallic Casket Company, Springfield, Ohio, a Corporation of Ohio. Filed Dec. 17, 1906. Serial No. 348,371. Term of patent 7 years.

Claim.—The ornamental design for a handle-plate for caskets, as shown.

38,411.

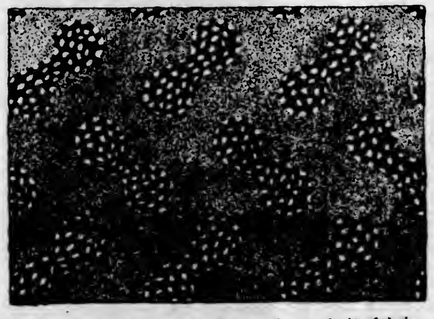


38,412. HAT-BAND. ISAAC LICHTENSTEIN, New York, N. Y. Filed Nov. 24, 1906. Serial No. 344,986. Term of patent 7 years.



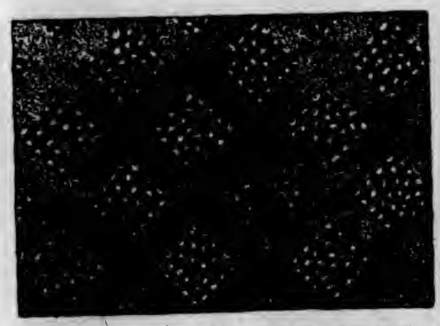
Claim.—The ornamental design for a hat-band, as shown.

38,413. KNIT FABRIC. EVERETT H. BROWN, Philadelphia, Pa. Filed Dec. 11, 1906. Serial No. 347,375. Term of patent 7 years.



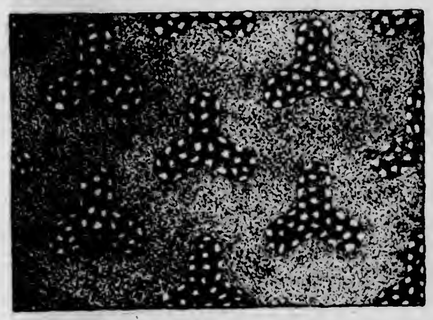
Claim.—The ornamental design for a knit fabric, as shown.

38,414. KNIT FABRIC. EVERETT H. BROWN, Philadelphia, Pa. Filed Dec. 11, 1906. Serial No. 347,376. Term of patent 7 years.



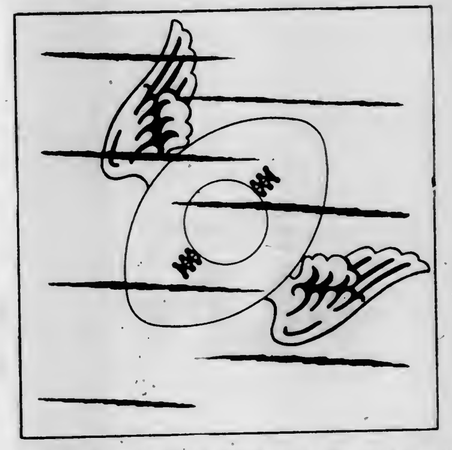
Claim.—The ornamental design for a knit fabric, as shown.

38,415. KNIT FABRIC. EVERETT H. BROWN, Philadelphia, Pa. Filed Dec. 11, 1906. Serial No. 347,377. Term of patent 7 years.



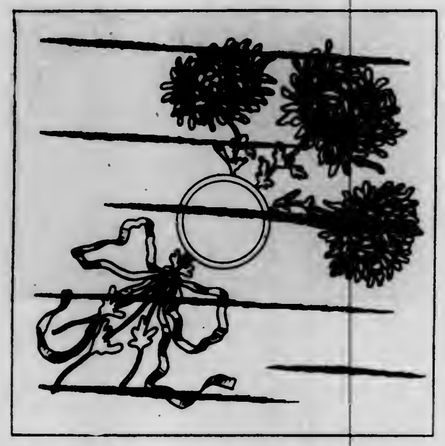
Claim.—The ornamental design for a knit fabric, as shown.

38,416. TEXTILE FABRIC. SAMUEL YOUNG, Newark, N. J. Filed Dec. 8, 1906. Serial No. 346,994. Term of patent 3½ years.



Claim.—The ornamental design for a textile fabric, as shown.

38,417. TEXTILE FABRIC. SAMUEL YOUNG, Newark, N. J. Filed Dec. 8, 1906. Serial No. 346,995. Term of patent 3½ years.



Claim.—The ornamental design for a textile fabric, as shown.

38,418. HAMMOCK-VALANCE. DANIEL W. SHOYER, New York, N. Y. Filed Dec. 13, 1906. Serial No. 347,735. Term of patent 3½ years.



Claim.—The ornamental design for a hammock-valance, as shown.

38,419. IDENTIFICATION-CHECK. ARTHUR S. WILY, New York, N. Y. Filed Dec. 10, 1906. Serial No. 347,234. Term of patent 7 years.



Claim.—The ornamental design for an identification-check as shown.

TRADE-MARKS

PUBLISHED JANUARY 15, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 545. (CLASS 19. BOATS AND ROAD-VEHICLES.) THE EBERHARD MANUFACTURING COMPANY, Cleveland, Ohio. Filed Apr. 6, 1905.

E

Particular description of goods.—Fifth-Wheels, Shaft-Plates, Seat-Handles, Steps, Clevises, Body-Hangers, Wagon-Brakes, Wear-Irons, Braces, and Corner-Irons and Miscellaneous Metal Parts Used in the Construction of Carriages and Wagons.

Ser. No. 4,403. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) ALFRED ADAM, Basel, Switzerland. Filed May 5, 1905.

LACTINOSE

Particular description of goods.—A Milky or Lacteous Meal for Children.

Ser. No. 6,127. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) ELECTROSE MANUFACTURING CO., Brooklyn, N. Y. Filed May 20, 1905.

ELECTROSE

Particular description of goods.—A Composition of Matter for Insulators and Electrical Fittings, Photographic Trays and Fixing-Boxes, Inkstands, and Pin-Boxes.

Ser. No. 6,692. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) H. F. WEBB COMPANY, Portland, Me. Filed May 26, 1905. Used ten years.

ORIENTAL

Particular description of goods.—Canned Corn, Canned Succotash, and Canned Beans.

Ser. No. 6,828. (CLASS 57. DENTAL MACHINES, APPARATUS, AND SUPPLIES.) EDW. F. ANDREWS, Chicago, Ill. Filed May 27, 1905.



Particular description of goods.—Plugs for Filling the Teeth.

Ser. No. 7,719. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE RED CROSS MFG. CO., Bluffton, Ind. Filed June 8, 1905.



The words and symbol being printed in red.
Particular description of goods.—Windmills, Windmill-Towers, Pumps, and Pump-Cylinders.

Ser. No. 7,848. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE FRANKLIN ELECTRIC MFG. CO., Hartford, Conn. Filed June 10, 1905.



Particular description of goods.—Incandescent Electric Lamps.

Ser. No. 8,173. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) WHITMAN GROCERY COMPANY, Orange, Mass. Filed June 15, 1905.

LIGHTNING

Particular description of goods..—Prepared Tapioca.

Ser. No. 8,662. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) LORD & TAYLOR, New York, N. Y. Filed June 21, 1905.



Particular description of goods.—Hosiery.

Ser. No. 9,040. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) SHERMAN, REID & CO., New York, N. Y. Filed June 26, 1905.



Particular description of goods.—Quilts.

Ser. No. 10,373. (CLASS 47. CONFECTIONERY.) WILLIAM H. BAKER, Winchester, Va. Filed July 15, 1905.



The background being in blue.
Particular description of goods.—Chocolate.

Ser. No. 10,441. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) THE SAWYER CRYSTAL BLUE COMPANY, Boston, Mass. Filed July 17, 1905. Used ten years.

CRYSTAL BLUE

Particular description of goods.—Washing-Blue.

Ser. No. 10,464. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) HERMANN BENSMANN, Bremen, Germany. Filed July 17, 1905.

Antidin

Particular description of goods.—Insecticides.

Ser. No. 10,671. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) ROGERS & THOMPSON, New York, N. Y., assignor to Rogers & Thompson, New York, N. Y., a Corporation of New Jersey. Filed July 21, 1905.



Particular description of goods.—Silk Dress Goods in the Piece.

Ser. No. 10,767. (CLASS 8. DETERGENTS.) MEXICAN AMOLE SOAP CO., Peoria, Ill. Filed July 24, 1905.

AMOLE DIAMOND KING

Particular description of goods.—Soap.

Ser. No. 10,769. (CLASS 8. DETERGENTS.) MEXICAN AMOLE SOAP CO., Peoria, Ill. Filed July 24, 1905.

Amolaine

Particular description of goods.—Soap.

Ser. No. 12,760. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) AMERICAN HORSE SHOE COMPANY, Phillipsburg, N. J. Filed Sept. 18, 1905. Used ten years.

AMERICAN HORSE SHOE CO.

Particular description of goods.—Horseshoes and Mule-Shoes.

Ser. No. 12,773. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE PATTERSON SARGENT CO., Cleveland, Ohio. Filed Sept. 18, 1905.



The central panel is printed in yellow.
Particular description of goods.—Varnishes.

Ser. No. 14,202. (CLASS 12. MASONRY MATERIALS.) CLIFFORD L. MILLER & CO., New York, N. Y. Filed Nov. 2, 1905.

MONARQUE

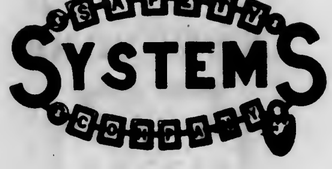
Particular description of goods.—Caen Stone Cement.

Ser. No. 14,727. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WENZEL SEDLITZKY, Salzburg, Austria. Filed Nov. 16, 1905.



Particular description of goods.—Medicated Tablets for Baths.

Ser. No. 15,000. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) SAFETY SYSTEMS CO., New York, N. Y. Filed Nov. 25, 1905.



Particular description of goods.—Blank Books, Ledgers, Day-Books, Account-Books, Stock-Books, Merchandise-Books, Journals, Cash-Books, Sales-Books, Note-Books, Inventories, and Filing-Cards.

Ser. No. 15,424. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) H. M. & S. ARMORED TIRE CO., Pittsburg, Pa. Filed Dec. 14, 1905.

H·M&S·Armored

Particular description of goods.—Rubber Tires for Automobiles.

Ser. No. 16,357. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) AMERICAN HOMINY COMPANY, Indianapolis, Ind. Filed Jan. 20, 1906.



Particular description of goods.—Hominy, Hominy-Grits, Hominy-Flakes, and Cornmeal.

Ser. No. 17,284. (CLASS 52. PACKING-HOUSE PRODUCTS.) SCHWARZSCHILD AND SULZBERGER CO., Chicago, Ill., and New York, N. Y. Filed Feb. 23, 1906.

HARRISON
NEW YORK
C.E.M.

Particular description of goods.—Beef Oil or Fat, Commonly Known as Oleo-Oil, Prepared for Use in the Manufacture of Oleomargarin or Artificial Butter, and Lard.

Ser. No. 17,951. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) LOUIS D. PIERCE, New York, N. Y. Filed Mar. 16, 1906.



Particular description of goods.—Medicinal Preparations for the Relief of Toothache.

Ser. No. 18,344. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) S. & C. WARDLOW, New York, N. Y. Filed Mar. 29, 1906. Used ten years.

WARDLOW'S
TOUGH
STEEL

Particular description of goods.—Steel in the Form of Billets, Rods, Blanks, Sheets, Coils, Bars, Parts, Strips, and Wire.

Ser. No. 18,836. (CLASS 47. CONFECTIONERY.) THE PHELPS CO., Meadville, Pa. Filed Apr. 16, 1906.

"Fluff - Eat - A."

Particular description of goods.—Chocolate - Covered Candy.

Ser. No. 19,735. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WILLIAM L. FIELDS, Norfolk, Va. Filed May 21, 1906. Used ten years.

FIELDS'
PRUNE

SYRUP

Particular description of goods.—A Laxative.

Ser. No. 19,947. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HEALALETTS CHEMICAL CO., New York, N. Y. Filed May 29, 1906.



Particular description of goods.—Face-Lotions.

Ser. No. 20,222. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) J. E. ATHANASSIADES SONS, New York, N. Y. Filed June 11, 1906.

SULTANA

Particular description of goods.—Olive-Oils.

Ser. No. 20,439. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE FATHER SCHUBERT RHEUMATIC CURE COMPANY, Chicago, Ill. Filed June 20, 1906.

FATHER SCHUBERT'S


Particular description of goods.—A Medicine for the Cure of Rheumatism.

Ser. No. 20,586. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CHARLES AMMEN, New Orleans, La. Filed June 26, 1906.

KAPAVRIN

Particular description of goods.—An Antipyretic, Stimulant, Analgesic, and Anodyne.

Ser. No. 20,698. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) LEVI STRAUSS & CO., San Francisco, Cal. Filed July 2, 1906.



Particular description of goods.—Stockings.

Ser. No. 20,835. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) THE NEW YORK MACKINTOSH COMPANY, New York, N. Y. Filed July 10, 1906. Used ten years.

Bestyette

Particular description of goods.—Women's Coats, Cloaks, Rain-Coats, Suits, and Outer Skirts.

Ser. No. 20,855. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BENJAMIN O. LAMPHEAR, Wheeling, W. Va. Filed July 11, 1906.

LAVENOLA

Particular description of goods.—A Preparation for External Use for the Treatment of Neuralgia, Sprains, Cuts, Lameness, Stiff Joints, Swellings, Pains in Back, Chest, and Side, Headache, Cold in Head, Asthma, Catarrh, Sore Throat, and All External Inflammation.

Ser. No. 20,873. (CLASS 8. DETERGENTS.) JAMES S. KIRK & COMPANY, Chicago, Ill. Filed July 12, 1906. Used ten years.

WHITE RUSSIAN

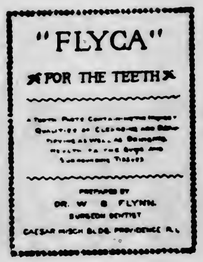
Particular description of goods.—Laundry Soap.

Ser. No. 21,073. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) WILLIAM S. JOHNSON, Putnam, Conn. Filed July 21, 1906.



Particular description of goods.—Leather Shoes.

Ser. No. 21,384. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WILLIAM B. FLYNN, Fall River, Mass., and Providence, R. I. Filed Aug. 8, 1906.



Particular description of goods.—Tooth-Paste.

Ser. No. 21,536. (CLASS 51. MALT LIQUORS.) EVANSVILLE BREWING ASS'N., Evansville, Ind. Filed Aug. 14, 1906.



Particular description of goods.—Beer.

Ser. No. 21,737. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) WILLIAM PRYM G. M. B. H., Stolberg, Germany. Filed Aug. 24, 1906.



Particular description of goods.—Press-Studs, Hooks, Eyes, Buckles, Safety-Pins, Toilet-Pins, and Metal Hair-Pins.

Ser. No. 21,748. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) M. SCHULZ CO., Chicago, Ill. Filed Aug. 25, 1906.



Particular description of goods.—Pianos and Organs.

Ser. No. 21,982. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) BOOTT MILLS, Lowell, Mass. Filed Sept. 7, 1906.

THE
DIAMOND
B

Particular description of goods.—Cotton Piece Goods.

Ser. No. 22,205. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) GEO. J. WEISENT, East Liverpool, Ohio. Filed Sept. 20, 1906.



Particular description of goods.—A Medicine for the Lungs.

Ser. No. 22,206. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BARCLAY & BARCLAY, New York, N. Y. Filed Sept. 20, 1906.



Particular description of goods.—Medicinal Syrup, Medicinal Pills, Liniment, Pain-Relief, Hair-Tonic, Hair-Dye, Tooth-Powder, Face-Lotion, and Perfumery.

Ser. No. 22,319. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) FRANK J. CURRIER, Lynn, Mass. Filed Sept. 25, 1906.

LIBERIS

Particular description of goods.—Leather Shoes.

Ser. No. 22,436. (CLASS 17. WOOD MANUFACTURES NOT OTHERWISE CLASSIFIED.) ARTHUR BLUMER, La Varenne St. Hilaire, France. Filed Oct. 2, 1906.

KING

Particular description of goods.—Corks.

Ser. No. 22,437. (CLASS 71. TOBACCO PRODUCTS.) CARLOWITZ & Co., New York, N. Y. Filed Oct. 2, 1906.



Particular description of goods.—Cigars, Cigarettes, Smoking and Chewing Tobacco.

Ser. No. 22,571. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) KNOLL & Co., Ludwigshafen, Germany. Filed Oct. 6, 1906.

SANTYL

Particular description of goods.—A Medical Preparation to be Used as an Antigonorrheic.

Ser. No. 22,636. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) WALLACE G. STARRY, Harrisburg, Pa. Filed Oct. 10, 1906.

"BROTHERHOOD"

Particular description of goods.—Woven Fabric Collars and Cuffs.

Ser. No. 22,676. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING.) THE B. F. GOODRICH COMPANY, Akron, Ohio. Filed Oct. 13, 1906.



Particular description of goods.—Belting, Hose, Machinery Packing, Gaskets, Tubes, Made Wholly or Partly of Rubber or Having Rubber Incorporated Therewith.

Ser. No. 22,740. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) GOTTLIEB W. FROELICH, St. Paul, Minn. Filed Oct. 17, 1906.

NEOSTYLE

Particular description of goods.—Washing-Machines, Washtubs, Wringers, Mangles, and Clothes-Driers.

Ser. No. 22,773. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) TAYLOR IRON & STEEL Co., High Bridge, N. J. Filed Oct. 19, 1906.

TISCO

Particular description of goods.—Machinery and Parts of Machinery Used for Crushing and Sizing; Flat and Revolving Screens, Centrifugal Pumps and Parts Thereof; Machinery and Parts of Machinery for Elevators, Dredges, Power-Shovels, Conveyers, Washers, Crushers, Screens, Mixers, and for Making Brick, Cement, and Concrete; Steam and Electric Shovel Dipper-Teeth, Lips, Gears, and Racks; Grinders for Grinding Feed, Bones, and Oyster-Shells.

Ser. No. 22,779. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) FRANK E. CHESTER, Providence, R. I. Filed Oct. 19, 1906.

CHAMPION
ASSORTMENT

Particular description of goods.—Fishing-Tackle, Comprising an Assortment of Hooks, Lines, Floats, Sinkers, and Reels.

Ser. No. 22,781. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) FRANK E. CHESTER, Providence, R. I. Filed Oct. 19, 1906.

FAVORITE
ASSORTMENT

Particular description of goods.—Fishing-Tackle, Comprising an Assortment of Hooks, Lines, Floats, and Sinkers.

Ser. No. 22,783. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) FRANK E. CHESTER, Providence, R. I. Filed Oct. 19, 1906.

IMPERIAL
FISHING TACKLE ASSORTMENT

Particular description of goods.—Fishing-Tackle, Comprising an Assortment of Hooks, Lines, Floats, and Sinkers.

Ser. No. 22,798. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) ROSENSTEIN BROTHERS INC., New York, N. Y. Filed Oct. 20, 1906. Used ten years.

ROYAL

Particular description of goods.—Canned Vegetables.

Ser. No. 22,805. (CLASS 17. WOOD MANUFACTURES NOT OTHERWISE CLASSIFIED.) C. N. DIETZ LUMBER COMPANY, Omaha, Nebr. Filed Oct. 20, 1906. Used ten years.



Particular description of goods.—Siding, Shingles, Flooring, Fencing, Ship-Lap, Lath, and Battens.

Ser. No. 22,846. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) NEUSS, HESSLEIN & Co., New York, N. Y. Filed Oct. 23, 1906.



Particular description of goods.—Sandpaper and Emery-Paper.

Ser. No. 22,894. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) VIRGINIA ETNA LITHIA SPRINGS Co., Jersey City, N. J., and New York, N. Y. Filed Oct. 24, 1906.



Particular description of goods.—Mineral Water.

Ser. No. 22,939. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) ALBERT W. AUSTIN, Pittsburg, Pa. Filed Oct. 27, 1906.

Denta-San

Particular description of goods.—An Antiseptic Cleanser for Artificial Teeth.

Ser. No. 22,993. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) PHILIP TOUSSAINT, New York, N. Y. Filed Oct. 29, 1906.

EXPANSO

Particular description of goods.—Finger-Cots Made of Leather.

Ser. No. 23,008. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) EDW. K. TRYON COMPANY, Philadelphia, Pa. Filed Oct. 30, 1906.



Particular description of goods.—Fish-Hooks, Fishing-Rods, Fishing-Reels, and Artificial Fishing-Bait.

Ser. No. 23,022. (CLASS 59. HOROLOGICAL INSTRUMENTS.) NEWMAN CLOCK CO., Chicago, Ill. Filed Oct. 31, 1906.

AETNA

Particular description of goods.—Time-Recorders, Clocks, and Watches.

Ser. No. 23,057. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) THE HOGGSON & PETTIS MANUFACTURING COMPANY, New Haven, Conn. Filed Oct. 31, 1906.



The cross being printed in red.

Particular description of goods.—Copying-Baths and Copying-Cloths.

Ser. No. 23,094. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BLANKE-BAER CHEMICAL COMPANY, St. Louis, Mo. Filed Nov. 3, 1906.

KAMNASALVE

Particular description of goods.—A Massage-Cream and Eczema Cure.

Ser. No. 23,098. (CLASS 71. TOBACCO PRODUCTS.) MASPERO FRÈRES, LIMITED, London, England. Filed Nov. 2, 1906.

BOUTON ROUGE

Particular description of goods.—Cigarettes.

Ser. No. 23,147. (CLASS 8. DETERGENTS.) BARCLAY & BARCLAY, New York, N. Y. Filed Nov. 7, 1906. Used ten years.

REUTER

Particular description of goods.—Soap for Toilet and Medicinal Purposes.

Ser. No. 23,175. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) L. JACOBSON'S SONS, New York, N. Y. Filed Nov. 8, 1906.

"Peter Pan"

Particular description of goods.—Boys' Coats, Vests, and Trousers and Girls' Coats.

Ser. No. 23,237. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906. Used ten years.



Particular description of goods.—Metal Dressings and Polish.

Ser. No. 23,239. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) S. M. BIXBY & Co., New York, N. Y. Filed Nov. 10, 1906. Used ten years.



Particular description of goods.—Metal Dressings and Polish.

Ser. No. 23,288. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) THE NATIONAL REFINING COMPANY, Cleveland, Ohio. Filed Nov. 12, 1906.



Particular description of goods.—Illuminating-Oil.

Ser. No. 23,323. (CLASS 71. TOBACCO PRODUCTS.) JOHN G. SAFFA, St. Louis, Mo. Filed Nov. 13, 1906.



Particular description of goods.—Cigarettes.

Ser. No. 23,368. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) SWANN ABRAM HAT CO., Louisville, Ky. Filed Nov. 15, 1906.



Particular description of goods.—Hats, Not Including Rubber Hats or Knitted Hats.

Ser. No. 23,425. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) UNIVERSAL CABLE GRIP COMPANY, Syracuse, N. Y. Filed Nov. 16, 1906.

UNIVERSAL

Particular description of goods.—Metal Grips for Cables, Ropes, Chains, and Rods.

Ser. No. 23,436. (CLASS 8. DETERGENTS.) ELLA GOLTZE, New York, N. Y. Filed Nov. 17, 1906.



Particular description of goods.—Soap for Cleansing Fine Linen and Embroidery.

Ser. No. 23,497. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) WILLIAM SCHEPPELMAN, New York, N. Y. Filed Nov. 20, 1906.



Particular description of goods.—Whisky.

Ser. No. 23,512. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) THE DAVIS MILLING COMPANY, St. Joseph, Mo. Filed Nov. 21, 1906. Used ten years.

DAVIS' No 1

Particular description of goods.—Wheat-Flour.

Ser. No. 23,547. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) FERNZ VALDES & Co., Havana, Cuba. Filed Nov. 23, 1906.

Fervier

Particular description of goods.—Men's, Youths', and Boys' Leather Boots, Shoes, and Oxfords.

Ser. No. 23,558. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) WALTER R. JOHNSTON MANUF'G. CO., New York, N. Y. Filed Nov. 23, 1906.



Particular description of goods.—Hand-Operated Fire-Extinguishing Engines or Devices, Including Hand-Operated Pumps, Syringe Devices, Cups, Dippers, and the Like for Throwing a Fire-Extinguishing Liquid.

Ser. No. 23,565. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOHN T. COOMBS, Boston, Mass. Filed Nov. 22, 1906.



Particular description of goods.—A Specific for Female Ailments, Nervous Troubles, Urinary Disorders, Purifying of the Blood, Opening of the Bowels, Colds, Toning the System, Alleviating Pain, Expelling Worms, Scattering Tumors, and for Liniments and Lotions.

Ser. No. 23,592. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE DETRICK & HARVEY MACHINE CO. OF BALTIMORE CITY, Baltimore, Md. Filed Nov. 26, 1906. Used ten years.

THE OPEN SIDE PLANER

Particular description of goods.—Open-Side Planers.

Ser. No. 23,631. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) ECLIPSE CEMENT & BLACKING COMPANY, Philadelphia, Pa. Filed Nov. 27, 1906.

UWANTA

Particular description of goods.—Shoe, Leather, and Harness Polishes, Blackings, and Dressings.

Ser. No. 23,701. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) NATIONAL COAL TAR COMPANY, Wilmington, Del., and Boston, Mass. Filed Dec. 1, 1906.

CREONOID

Particular description of goods.—Insecticides.

Ser. No. 23,729. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) THE CHAMPION ROLLER MILLING COMPANY, Richmond, Ind. Filed Dec. 3, 1906. Used ten years.

PRIDE OF RICHMOND

Particular description of goods.—Wheat-Flour.

Ser. No. 23,732. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) THE ENTERPRISE MANUFACTURING CO. OF PENNSYLVANIA, Philadelphia, Pa. Filed Dec. 3, 1906.

ENTERPRISE

Particular description of goods.—Bung-Hole Borers.

Ser. No. 23,746. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) EDWARD F. BEACH, St. Louis, Mo. Filed Dec. 3, 1906.

NoDust-O

Particular description of goods.—A Chemical Compound for Preventing Dust While Sweeping.

Ser. No. 23,763. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) U. S. INDUSTRIAL ALCOHOL CO., New York, N. Y. Filed Dec. 4, 1906.



Particular description of goods.—Denatured Alcohol.

Ser. No. 23,764. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) CLINTON CANNING CO., Rome, N. Y. Filed Dec. 5, 1906.

CLOVER CROFT

Particular description of goods.—Canned Vegetables.

Ser. No. 23,765. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) CLINTON CANNING CO., Rome, N. Y. Filed Dec. 5, 1906.

HONEYSUCKLE

Particular description of goods.—Canned Fruits and Vegetables.

Ser. No. 23,766. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) CLINTON CANNING CO., Rome, N. Y. Filed Dec. 5, 1906.



Particular description of goods.—Canned Vegetables.

Ser. No. 23,767. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) CLINTON CANNING CO., Rome, N. Y. Filed Dec. 5, 1906.



Particular description of goods.—Canned Vegetables.

Ser. No. 23,768. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) CLINTON CANNING CO., Rome, N. Y. Filed Dec. 5, 1906.

BELLE ROSE

Particular description of goods.—Canned Vegetables.

Ser. No. 23,769. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) ARNOLD, LOUCHHEIM & CO., Philadelphia, Pa. Filed Dec. 5, 1906.

ALCO

Particular description of goods.—Trousers, Coats, Vests, and Overcoats.

Ser. No. 23,774. (CLASS 51. MALT LIQUORS.) LEIDIGER BREWING CO., Merrill, Wis. Filed Dec. 5, 1906.

GESUNDHEIT

Particular description of goods.—Lager-Beer.

Ser. No. 23,782. (CLASS 12. MASONRY MATERIALS.) THE PLYMOUTH GYPSUM CO., Fort Dodge, Iowa. Filed Dec. 5, 1906.



Particular description of goods.—Wall-Plasters.

Ser. No. 23,810. (CLASS 8. DETERGENTS.) BARCLAY & BARCLAY, New York, N. Y. Filed Dec. 6, 1906.



Particular description of goods.—Soap.

Ser. No. 23,820. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) COLUMBIA PHONOGRAPH COMPANY, New York, N. Y. Filed Dec. 6, 1906. Used ten years.

COLUMBIA

Particular description of goods.—Talking-Machine Records, Talking-Machines, and Supplies Therefor.

Ser. No. 23,906. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE MAY COMPANY, Cleveland, Ohio. Filed Dec. 10, 1906.



Particular description of goods.—Leather Shoes.

Ser. No. 23,913. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) ALMA MANUFACTURING COMPANY OF BALTIMORE CITY, Baltimore, Md. Filed Dec. 10, 1906.



Particular description of goods.—Snap-Fasteners, Same Being Metallic Devices for Fastening Together Articles and Parts of Articles, Such as Gloves and other Articles of Wearing-Apparel.

Ser. No. 23,952. (CLASS 10. FERTILIZERS.) VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Filed Dec. 12, 1906. Used ten years.

NORFLK & CAROLINA CHEMICAL CO'S

SLAUGHTER-HOUSE BONE

GUANO

Particular description of goods.—Fertilizers.

Ser. No. 23,954. (CLASS 10. FERTILIZERS.) VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Filed Dec. 12, 1906.

CHAMPION CORN & WHEAT GROWER

Particular description of goods.—Fertilizers.

Ser. No. 23,960. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CHAS. L. DU ROCHER, Annapolis, Md. Filed Dec. 12, 1906.

"OUR NAVY"



Particular description of goods.—Hair-Tonic.

Ser. No. 23,965. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MANHATTAN MEDICINE CO., New York, N. Y. Filed Dec. 12, 1906. Ued ten years.

ATWOOD'S
VEGETABLE PHYSICAL
Jaundice Bitters.

Particular description of goods.—A Remedy for Diseased Conditions of the Blood, Liver, and Digestive Organs.

Ser. No. 23,967. (CLASS 71. TOBACCO PRODUCTS.) AUGUST SCHROER, Cincinnati, Ohio. Filed Dec. 12, 1906.

HOME RUN

Particular description of goods.—Scrap-Tobacco, Chewing-Tobacco, and Smoking-Tobacco.

Ser. No. 23,968. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE TILDEN COMPANY, New Lebanon, N. Y., and St. Louis, Mo. Filed Dec. 12, 1906. Used ten years.

ELIXIR
IODO-BROMIDE OF CALCIUM
COMP.

Particular description of goods.—An Alterative, Resolvent, Aperient Medicine.

Ser. No. 23,995. (CLASS 68. PUBLICATIONS.) FUNK & WAGNALLS COMPANY, New York, N. Y. Filed Dec. 13, 1906.

THE CIRCLE

Particular description of goods.—A Monthly Journal.

Ser. No. 24,002. (CLASS 52. PACKING-HOUSE PRODUCTS.) RICHMOND ABATTOIR CO., Richmond, Ind. Filed Dec. 13, 1906.



Particular description of goods.—Lard.

Ser. No. 24,003. (CLASS 59. HOROLOGICAL INSTRUMENTS.) BYRON L. STRASBURGER, New York, N. Y. Filed Dec. 13, 1906. Used ten years.

Marlboro

Particular description goods.—Watches, Watch-Movements, and Watchcases.

Ser. No. 24,005. (CLASS 71. TOBACCO PRODUCTS.) J. S. HAGGERTY CO., Fairmont, W. Va. Filed Dec. 13, 1906.



Particular description of goods.—Stogies.

Ser. No. 24,020. (CLASS 52. PACKING-HOUSE PRODUCTS.) THE CUDAHY PACKING COMPANY, Chicago, Ill., and South Omaha, Nebr. Filed Dec. 14, 1906.

MAGIC CITY

Particular description of goods.—Cured, Smoked, and Sweet-Pickled Meats.

Ser. No. 24,024. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) H. HERON JOHNSON CO., New York, N. Y. Filed Dec. 14, 1906.

PIL-PAX

Particular description of goods.—Pills for Diseases of the Stomach, Liver, and Bowels.

Ser. No. 24,037. (CLASS 51. MALT LIQUORS.) S. LIEBMANN'S SONS BREWING COMPANY, Brooklyn, N. Y. Filed Dec. 15, 1906.

·V·O·A·

Particular description of goods.—Ale.

Ser. No. 24,066. (CLASS 48. DAIRY PRODUCTS.) DAVID W. LEWIS & COMPANY, New York, N. Y. Filed Dec. 15, 1906. Used ten years.

ROCKDALE

Particular description of goods.—Butter.

Ser. No. 24,073. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE HOLLYWOOD COMPANY, New York, N. Y. Filed Dec. 15, 1906. Used ten years.

HOLLYWOOD

Particular description of goods.—Whisky.

Ser. No. 24,081. (CLASS 9. EXPLOSIVES.) HENRY J. PAIN, New York, N. Y. Filed Dec. 17, 1906. Used ten years.

PAIN'S FIREWORKS

Particular description of goods.—Fireworks.

Ser. No. 24,085. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) CENTRAL KANSAS MILLING COMPANY, Lyons, Kans. Filed Dec. 17, 1906.



The ribbon being colored red and the seal gold.
Particular description of goods.—Wheat-Flour.

Ser. No. 24,115. (CLASS 8. DETERGENTS.) HASKINS BROS. & CO., Sioux City, Iowa, and Omaha, Nebr. Filed Dec. 18, 1906.

THE SOAP FOR ALL WHO WORK

Particular description of goods.—Pumice-Soap.

Ser. No. 24,124. (CLASS 47. CONFECTIONERY.) GEORGE ZIEGLER CO., Milwaukee, Wis. Filed Dec. 18, 1906.

RAJAH

Particular description of goods.—Chocolates, Caramels, and All Kinds of Candies.

Ser. No. 24,154. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE KOHN DISTILLING CO., Montgomery, Ala. Filed Dec. 19, 1906.



Particular description of goods.—Whisky.

TRADE-MARKS

REGISTERED JANUARY 15, 1907.

59,590. SPARK-PLUGS. A. R. MOSLER & Co., New York, N. Y.
Filed October 27, 1906. Serial No. 22,948. PUBLISHED NOVEMBER 20, 1906.

59,591. CENTRIFUGAL LIQUID-SEPARATORS AND PARTS BELONGING THERETO. AKTIEBOLAGET SALENIUS' WERKSTÄDER, Stockholm, Sweden.
Filed January 30, 1906. Serial No. 16,619. PUBLISHED NOVEMBER 20, 1906.

59,592. INDIA-RUBBER AND GUTTA-PERCHA GUMS. GEO. A. ALDEN & Co., Boston, Mass.
Filed May 8, 1905. Serial No. 4,761. PUBLISHED NOVEMBER 20, 1906.

59,593. INDIA-RUBBER AND GUTTA-PERCHA GUMS. GEO. A. ALDEN & Co., Boston, Mass.
Filed May 8, 1905. Serial No. 4,762. PUBLISHED NOVEMBER 20, 1906.

59,594. SHOVELS, SPADES, AND SCOOPS. AMES SHOVEL AND TOOL COMPANY, Boston, Mass.
Filed August 10, 1906. Serial No. 21,454. PUBLISHED NOVEMBER 20, 1906.

59,595. SHOVELS, SPADES, AND SCOOPS. AMES SHOVEL AND TOOL COMPANY, Boston, Mass.
Filed August 10, 1906. Serial No. 21,455. PUBLISHED NOVEMBER 20, 1906.

59,596. FOLDING BOXES. ATLAS MANUFACTURING COMPANY, Hampton, N. H.
Filed October 18, 1906. Serial No. 22,752. PUBLISHED NOVEMBER 20, 1906.

59,597. LITTLE CIGARS. BUTLER-BUTLER (INCORPORATED), New York, N. Y.
Filed October 16, 1906. Serial No. 22,714. PUBLISHED NOVEMBER 20, 1906.

59,598. LITTLE CIGARS. BUTLER-BUTLER (INCORPORATED), New York, N. Y.
Filed October 16, 1906. Serial No. 22,716. PUBLISHED NOVEMBER 20, 1906.

59,599. TRUNKS MADE IN PART OF WOOD. C. A. TAYLOR TRUNK WORKS, Chicago, Ill.
Filed August 13, 1906. Serial No. 21,509. PUBLISHED NOVEMBER 20, 1906.

59,600. TRUNKS MADE IN PART OF WOOD. C. A. TAYLOR TRUNK WORKS, Chicago, Ill.
Filed August 13, 1906. Serial No. 21,510. PUBLISHED NOVEMBER 20, 1906.

59,601. SEALING-WAX. CIRCLEVILLE SEALING WAX CO., Circleville, Ohio.
Filed June 22, 1906. Serial No. 20,498. PUBLISHED NOVEMBER 20, 1906.

59,602. RUBBER BELTING, PACKING, HOSE, AND WOVEN COTTON AND RUBBER HOSE. THE DIAMOND RUBBER CO., Akron, Ohio.
Filed April 4, 1906. Serial No. 18,488. PUBLISHED NOVEMBER 20, 1906.

59,603. FOUNTAIN-PENS. EAGLE PENCIL COMPANY, New York, N. Y.
Filed October 25, 1906. Serial No. 22,904. PUBLISHED NOVEMBER 20, 1906.

59,604. MEASURING-FAUCETS AND MEASURING-PUMPS. THE ENTERPRISE MANUFACTURING CO. OF PENNSYLVANIA, Philadelphia, Pa.
Filed October 22, 1906. Serial No. 22,825. PUBLISHED NOVEMBER 20, 1906.

59,605. DRY BATTERIES. FRENCH BATTERY CO., Madison, Wis.
Filed October 24, 1906. Serial No. 22,883. PUBLISHED NOVEMBER 20 1906.

59,606. HAMMERS. THE GEORGE WORTHINGTON COMPANY, Cleveland, Ohio.
Filed October 26, 1906. Serial No. 22,919. PUBLISHED NOVEMBER 20, 1906.

59,607. LAWN-MOWERS. THE GEORGE WORTHINGTON COMPANY, Cleveland, Ohio.
Filed October 26, 1906. Serial No. 22,920. PUBLISHED NOVEMBER 20, 1906.

59,608. CERTAIN LEATHER MANUFACTURES. GRAY & DUDLEY HARDWARE CO., Nashville, Tenn.
Filed October 19, 1906. Serial No. 22,786. PUBLISHED NOVEMBER 20, 1906.

59,609. PASTE. ARTHUR S. HOYT, New York, N. Y.
Filed October 26, 1906. Serial No. 22,925. PUBLISHED NOVEMBER 20, 1906.

59,610. MONTHLY MAGAZINES. ELBERT HUBBARD, East Aurora, N. Y.
Filed August 13, 1906. Serial No. 21,517. PUBLISHED NOVEMBER 20, 1906.

59,611. CORSETS. KOPS BROS., New York, N. Y.
Filed June 23, 1906. Serial No. 20,515. PUBLISHED NOVEMBER 20, 1906.

59,612. CORSETS. JEANNE MARGAINE LACROIX, Paris, France.
Filed April 28, 1905. Serial No. 3,507. PUBLISHED NOVEMBER 20, 1906.

59,613. INSULATING COMPOUNDS. MASSACHUSETTS CHEMICAL COMPANY, Walpole, Mass.
Filed October 12, 1906. Serial No. 22,664. PUBLISHED NOVEMBER 20, 1906.

59,614. CHUCKS, ARBORS, AND MANDRELS. MORSE TWIST DRILL & MACHINE COMPANY, New Bedford, Mass.
Filed June 23, 1906. Serial No. 20,532. PUBLISHED NOVEMBER 20, 1906.

59,615. CAR-SEALS AND SEALS FOR DOORS AND WINDOWS. NATIONAL CAR PROTECTION COMPANY, Chicago, Ill.
Filed May 10, 1905. Serial No. 4,952. PUBLISHED NOVEMBER 20, 1906.

59,616. COTTON PIECE GOODS AND BLANKETS. NEUSS HESSLEIN & Co., New York, N. Y.
Filed August 9, 1906. Serial No. 21,415. PUBLISHED OCTOBER 9, 1906.

59,617. COTTON PIECE GOODS AND BLANKETS. NEUSS HESSLEIN & Co., New York, N. Y.
Filed August 9, 1906. Serial No. 21,416. PUBLISHED OCTOBER 9, 1906.

59,618. PLOWS. THE OHIO CULTIVATOR CO., Bellevue, Ohio.
Filed October 27, 1906. Serial No. 22,949. PUBLISHED NOVEMBER 20, 1906.

59,619. WINDOW-PRISMS, VAULT, SIDEWALK, DOOR, AND WINDOW LIGHTS. ARTHUR PRIDDLE, San Francisco, Cal.
Filed March 22, 1906. Serial No. 18,136. PUBLISHED NOVEMBER 20, 1906.

59,620. BUGGIES AND CARRIAGES. THE ROCK HILL BUGGY CO., Rockhill, S. C.
Filed October 23, 1906. Serial No. 22,849. PUBLISHED NOVEMBER 20, 1906.

59,621. BUGGIES AND CARRIAGES. THE ROCK HILL BUGGY COMPANY, Rockhill, S. C.
Filed October 23, 1906. Serial No. 22,850. PUBLISHED NOVEMBER 20, 1906.

59,622. BUGGIES AND CARRIAGES. THE ROCK HILL BUGGY COMPANY, Rockhill, S. C.
Filed October 23, 1906. Serial No. 22,851. PUBLISHED NOVEMBER 20, 1906.

59,623. HOSIERY. N. SNELLENBURG & Co., Philadelphia, Pa.
Filed June 13, 1906. Serial No. 20,247. PUBLISHED NOVEMBER 20, 1906.

59,624. BUTTER. WILLIAM P. SUMNER, Jacksonville, Fla.
Filed May 1, 1905. Serial No. 3,889. PUBLISHED APRIL 3, 1906.

59,625. SHOE AND GLOVE LEATHER. SURPASS LEATHER Co., Philadelphia, Pa.
Filed October 5, 1906. Serial No. 22,547. PUBLISHED NOVEMBER 20, 1906.

59,626. SPARK-PLUGS. A. R. MOSLER & Co., New York, N. Y.
Filed October 24, 1906. Serial No. 22,876. PUBLISHED NOVEMBER 20, 1906.

59,627. LEATHER SHOES. HARRY T. ANDERSON, Baltimore, Md.
Filed May 22, 1906. Serial No. 19,779. PUBLISHED NOVEMBER 20, 1906.

59,628. CIGARS, CHEROOTS, AND CIGARETTES MADE OF CIGAR-TOBACCO. CAYEY-CAGUAS TOBACCO COMPANY, New York, N. Y., and Caguas, Porto Rico.
Filed October 24, 1906. Serial No. 22,874. PUBLISHED NOVEMBER 20, 1906.

59,629. PLASTICS COMPOSED IN PART OF PYROXYLIN OR SOLUBLE COTTON. THE CELLULOID COMPANY, New York, N. Y., and Newark, N. J.
Filed July 1, 1905. Serial No. 9,552. PUBLISHED NOVEMBER 20, 1906.

59,630. CEMENT FOR LEATHER AND WOOD. BARRON CALVIN COOK, Rockhill, S. C.
Filed September 15, 1906. Serial No. 22,116. PUBLISHED NOVEMBER 20, 1906.

59,631. CERTAIN LINEN GOODS. DAYTON DRY GOODS Co., Minneapolis, Minn.
Filed July 2, 1906. Serial No. 20,697. PUBLISHED NOVEMBER 20, 1906.

59,632. RUBBER BELTING, PACKING, HOSE, AND WOVEN COTTON AND RUBBER HOSE. THE DIAMOND RUBBER Co., Akron, Ohio.
Filed April 4, 1906. Serial No. 18,484. PUBLISHED NOVEMBER 20, 1906.

59,633. RUBBER BELTING, PACKING, HOSE, AND WOVEN COTTON AND RUBBER HOSE. THE DIAMOND RUBBER Co., Akron, Ohio.
Filed April 4, 1906. Serial No. 18,485. PUBLISHED NOVEMBER 20, 1906.

59,634. RUBBER BELTING, PACKING, HOSE, AND WOVEN COTTON AND RUBBER HOSE. THE DIAMOND RUBBER Co., Akron, Ohio.
Filed April 4, 1906. Serial No. 18,487. PUBLISHED NOVEMBER 20, 1906.

59,635. WOODEN BOXES. E. B. ESTES & SONS, New York, N. Y.
Filed August 30, 1905. Serial No. 12,092. PUBLISHED NOVEMBER 20, 1906.

59,636. DIES AND DIE-STOCKS. THE HART MANUFACTURING COMPANY, Cleveland, Ohio.
Filed March 23, 1906. Serial No. 18,181. PUBLISHED NOVEMBER 20, 1906.

59,637. COATS, VESTS, AND TROUSERS. KAHN WERTHEIMER & SMITH Co., New York, N. Y.
Filed May 21, 1906. Serial No. 19,718. PUBLISHED NOVEMBER 20, 1906.

59,638. BOYS' SUITS. KAHN WERTHEIMER & SMITH Co., New York, N. Y.
Filed May 21, 1906. Serial No. 19,719. PUBLISHED NOVEMBER 20, 1906.

59,639. SHIRT-WAISTS. THE LADYWARE Co., New York, N. Y.
Filed July 28, 1906. Serial No. 21,239. PUBLISHED NOVEMBER 20, 1906.

59,640. HARNESS-LEATHER. CHARLES F. PAULI & SON, Cincinnati, Ohio.
Filed July 7, 1906. Serial No. 20,777. PUBLISHED NOVEMBER 20, 1906.

59,641. CERTAIN NAMED CASTINGS. THE PENNSYLVANIA STEEL Co., Philadelphia, Pa.
Filed May 1, 1906. Serial No. 19,211. PUBLISHED NOVEMBER 20, 1906.

59,642. GLOBES FOR LAMPS AND LANTERNS. R. E. DIETZ COMPANY, New York, N. Y.
Filed September 14, 1906. Serial No. 22,096. PUBLISHED NOVEMBER 20, 1906.

59,643. KNITTED SHIRTS, DRAWERS, AND VESTS. REINS & MEISS, Cincinnati, Ohio.
Filed February 8, 1906. Serial No. 16,825. PUBLISHED NOVEMBER 20, 1906.

59,644. COTTON PIECE GOODS. RICE, STIX DRY GOODS COMPANY, St. Louis, Mo.
Filed June 29, 1906. Serial No. 20,658. PUBLISHED NOVEMBER 20, 1906.

59,645. CERTAIN CLOTH AND PIECE GOODS. MORRIS ROSENBAUM'S SONS, New York, N. Y.
Filed May 29, 1906. Serial No. 19,930. PUBLISHED NOVEMBER 20, 1906.

WITHDRAWN.

59,647. CERTAIN HATS AND CAPS. FRANK SCHOBLE & Co., Philadelphia, Pa.
Filed December 14, 1905. Serial No. 15,407. PUBLISHED NOVEMBER 20, 1906.

59,648. DYED COTTON PIECE GOODS, EXCEPTING SILESIAS. W. SIMPSON, SONS & Co., Philadelphia, Pa.; New York, N. Y.; Baltimore, Md.; Chicago, Ill., and St. Louis, Mo.
Filed August 14, 1905. Serial No. 11,636. PUBLISHED NOVEMBER 20, 1906.

59,649. OPERA-GLASSES, FIELD-GLASSES, AND BINOCULARS. ADOLF TAUSSIG, New York, N. Y.
Filed March 5, 1906. Serial No. 17,626. PUBLISHED NOVEMBER 20, 1906.

59,650. AMPLIFYING-HORNS AND SUPPORTS THEREFOR. THE TEA TRAY COMPANY OF NEWARK, N. J., Newark, N. J.
Filed June 7, 1906. Serial No. 20,137. PUBLISHED NOVEMBER 20, 1906.

59,651. CERTAIN ARTICLES OF STATIONARY. TOWER M'F'G & NOV. Co., New York, N. Y.
Filed June 8, 1906. Serial No. 20,161. PUBLISHED NOVEMBER 20, 1906.

59,652. COTTON PIECE GOODS. GRINNELL WILLIS & Co., New York, N. Y.
Filed August 14, 1906. Serial No. 21,533. PUBLISHED NOVEMBER 20, 1906.

59,653. ACETYLENE-GENERATORS. ACETYLENE APPARATUS MANUFACTURING COMPANY, Chicago, Ill.
Filed September 12, 1906. Serial No. 22,038. PUBLISHED NOVEMBER 20, 1906.

59,654. SPOOL-COTTON AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed October 5, 1906. Serial No. 22,519. PUBLISHED NOVEMBER 20, 1906.

59,655. SPOOL-COTTON AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed October 5, 1906. Serial No. 22,518. PUBLISHED NOVEMBER 20, 1906.

59,656. CHEWING-GUM. F. J. BANTA & SON, Lima, Ohio.
Filed December 7, 1905. Serial No. 15,251. PUBLISHED MARCH 27, 1906.

59,657. CLEANING AND POLISHING COMPOUND. CHARLES J. BARRENPOHL, New York, N. Y.
Filed September 11, 1906. Serial No. 22,018. PUBLISHED NOVEMBER 20, 1906.

59,658. QUILTS. THE CHAS. A. MAISH Co., Cincinnati, Ohio.
Filed June 16, 1906. Serial No. 20,356. PUBLISHED NOVEMBER 20, 1906.

59,659. HEATING AND VENTILATING REGISTERS AND FACES AND BORDERS THEREFOR. THE COLUMBIAN HARDWARE COMPANY, Cleveland, Ohio.
Filed October 12, 1906. Serial No. 22,661. PUBLISHED NOVEMBER 20, 1906.

59,660. SOLE-LEATHER AND PRODUCTS FROM THE SAME. J. M. DELANEY & Co., New York, N. Y.
Filed September 14, 1906. Serial No. 22,078. PUBLISHED NOVEMBER 20, 1906.

59,661. HIGH EXPLOSIVES. THE EASTERN DYNAMITE COMPANY, Kenvil, N. J.
Filed October 4, 1906. Serial No. 22,483. PUBLISHED NOVEMBER 20, 1906.

59,662. LAWNS. THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa.
Filed September 21, 1906. Serial No. 22,221. PUBLISHED NOVEMBER 20, 1906.

59,663. WHISKY. EDW. B. BRUCE Co., Baltimore, Md.
Filed August 13, 1906. Serial No. 21,499. PUBLISHED NOVEMBER 20, 1906.

59,664. CIGARS, CHEROOTS, AND LITTLE CIGARS. ESBERG-GUNST COMPANY, New York, N. Y.
Filed July 10, 1906. Serial No. 20,829. PUBLISHED NOVEMBER 20, 1906.

59,665. CIGARS, CHEROOTS, AND LITTLE CIGARS. ESBERG-GUNST COMPANY, New York, N. Y.
Filed July 10, 1906. Serial No. 20,830. PUBLISHED NOVEMBER 20, 1906.

59,666. ELECTRIC HEATING STOVES AND IRONS. BELLE GOLDMAN, San Francisco, Cal.
Filed July 16, 1906. Serial No. 20,955. PUBLISHED NOVEMBER 20, 1906.

59,667. WHISKY. GREEN RIVER DISTILLING COMPANY, Owensboro, Ky.
Filed October 2, 1906. Serial No. 22,429. PUBLISHED NOVEMBER 20, 1906.

59,668. WHISKY. GREEN RIVER DISTILLING COMPANY, Owensboro, Ky.
Filed October 2, 1906. Serial No. 22,430. PUBLISHED NOVEMBER 20, 1906.

59,669. WHISKY. GREEN RIVER DISTILLING COMPANY, Owensboro, Ky.
Filed October 2, 1906. Serial No. 22,431. PUBLISHED NOVEMBER 20, 1906.

59,670. WATCH-HANDS, BALANCE-STAFFS, WATCH-JEWELS. HAMMEL, RIGLANDER & Co., New York, N. Y.
Filed August 8, 1905. Serial No. 11,415. PUBLISHED NOVEMBER 20, 1906.

59,671. STIFF FUR HATS. S. C. HOLLEY & Co., Danbury, Conn.
Filed October 13, 1905. Serial No. 13,549. PUBLISHED NOVEMBER 20, 1906.

59,672. CERTAIN NAMED CUTLERY. JOSEPH ALLEN & SONS LIMITED, Sheffield, England.
Filed February 12, 1906. Serial No. 16,943. PUBLISHED NOVEMBER 20, 1906.

59,673. WHISKY. JAMES E. MORONEY, Philadelphia, Pa., executor of James Moroney, deceased.
Filed October 2, 1906. Serial No. 22,443. PUBLISHED NOVEMBER 20, 1906.

59,674. SURGICAL GAUZE FOR DRESSING WOUNDS. PERUFORM MANUFACTURING COMPANY, Mountain View, Cal.
Filed October 29, 1906. Serial No. 22,989. PUBLISHED NOVEMBER 20, 1906.

59,675. CERTAIN HATS AND CAPS. FRANK SCHOBLE & Co., Philadelphia, Pa.
Filed June 14, 1905. Serial No. 8,112. PUBLISHED NOVEMBER 20, 1906.

59,676. FERTILIZERS. THE SCOTT FERTILIZER CO. OF CECIL COUNTY, Elkton, Md.
Filed July 20, 1905. Serial No. 10,612. PUBLISHED NOVEMBER 20, 1906.

59,677. WHISKY. PETER JOSEPH SERWAZI. Philadelphia, Pa.
Filed May 5, 1906. Serial No. 19,314. PUBLISHED NOVEMBER 20, 1906.

59,678. LEATHER BOOTS, SHOES, AND SLIPPERS. THE SLATER SHOE COMPANY, Montreal, Quebec, Canada.
Filed July 24, 1906. Serial No. 21,121. PUBLISHED NOVEMBER, 20, 1906.

59,679. FINE POTTERY AND CERAMIC PRODUCTS OF ALL KINDS. SOCIÉTÉ ANONYME POUR LA FABRICATION DES FAIENCES FINES ET PRODUITS CÉRAMIQUES, Maestricht, Netherlands.
Filed July 31, 1906. Serial No. 21,275. PUBLISHED NOVEMBER 20, 1906.

59,680. EXPLOSIVES USED FOR LOADING PROJECTILES AND TORPEDOES. SPRENGSTOFF A.-G. CARBONIT, Hamburg, Germany.
Filed February 23, 1906. Serial No. 17,282. PUBLISHED NOVEMBER 20, 1906.

59,681. VALVES, STRAINERS, AND COCKS. THE UNITED INJECTOR Co., New York, N. Y.
Filed August 19, 1905. Serial No. 11,820. PUBLISHED NOVEMBER 20, 1906.

59,682. SMALL FIREWORKS FOR SPECTACULAR EFFECTS. EDWARD H. WAGNER, New York, N. Y.
Filed September 24, 1906. Serial No. 22,309. PUBLISHED NOVEMBER 20, 1906.

59,683. SHERRY. JULIUS WILE, SONS & Co., New York, N. Y.
Filed October 8, 1906. Serial No. 22,598. PUBLISHED NOVEMBER 20, 1906.

59,684. BENDING, SHAPING, AND FORGING MACHINES. WILLIAMS, WHITE & COMPANY, Moline, Ill.
Filed August 2, 1906. Serial No. 21,310. PUBLISHED NOVEMBER 20, 1906.

59,685. SOAPS. A. & F. PEARS LIMD., London, England.
Filed January 17, 1906. Serial No 16,238. PUBLISHED NOVEMBER 20, 1906.

59,686. SPOOL-COTTON AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed October 5, 1906. Serial No. 22,512. PUBLISHED NOVEMBER 20, 1906.

59,687. SPOOL-COTTON, SEWING-COTTON, AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed October 5, 1906. Serial No. 22,513. PUBLISHED NOVEMBER 20, 1906.

59,688. SPOOL-COTTON, SEWING-COTTON, AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed October 5, 1906. Serial No. 22,514. PUBLISHED NOVEMBER 20, 1906.

59,689. SPOOL-COTTON, SEWING-COTTON, AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed October 5, 1906. Serial No. 22,515. PUBLISHED NOVEMBER 20, 1906.

59,690. SPOOL-COTTON, SEWING-COTTON, AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed October 5, 1906. Serial No. 22,516. PUBLISHED NOVEMBER 20, 1906.

59,691. SPOOL-COTTON, SEWING-COTTON, AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed October 5, 1906. Serial No. 22,517. PUBLISHED NOVEMBER 20, 1906.

59,692. STEAM-BOILERS. ATLAS ENGINE WORKS, Indianapolis, Ind.
Filed October 26, 1906. Serial No. 22,921. PUBLISHED NOVEMBER 20, 1906.

59,693. BRONZE-POWDERS. BAER BROS., New York, N. Y.
Filed October 16, 1906. Serial No. 22,718. PUBLISHED NOVEMBER 20, 1906.

59,694. ALUMINIUM-BRONZE POWDER. BAER BROS., New York, N. Y.
Filed October 16, 1906. Serial No. 22,719. PUBLISHED NOVEMBER 20, 1906.

59,695. PERIODICAL. FRANK BRADY, Denver, Colo.
Filed September 26, 1906. Serial No. 22,338. PUBLISHED NOVEMBER 20, 1906.

59,696. WHISKY. CHICAGO DISTILLING CO., Chicago, Ill.
Filed July 11, 1905. Serial No. 10,046. PUBLISHED NOVEMBER 20, 1906.

59,697. WHISKY. DOWLING BROS., INC., Burgin, Ky.
Filed October 15, 1906. Serial No. 22,712. PUBLISHED NOVEMBER 20, 1906.

59,698. HOSIERY. F. A. PATRICK & CO., Duluth, Minn.
Filed October 3, 1906. Serial No. 22,458. PUBLISHED NOVEMBER 20, 1906.

59,699. WHISKY, GIN, BRANDY, AND RUM. J. H. FRIEDENWALD & CO., Baltimore, Md.
Filed May 11, 1906. Serial No. 19,441. PUBLISHED NOVEMBER 20, 1906.

59,700. MOUTH-HARMONICAS. FIRM OF M. HOHNER, New York, N. Y.
Filed September 29, 1906. Serial No. 22,384. PUBLISHED NOVEMBER 20, 1906.

59,701. PLAYING-CARDS. HOME GAME COMPANY, Chicago, Ill.
Filed April 10, 1906. Serial No. 18,671. PUBLISHED NOVEMBER 20, 1906.

59,702. LEATHER BOOTS AND SHOES. HOYT, ROWE & CO., Lynn, Mass.
Filed September 24, 1906. Serial No. 22,293. PUBLISHED NOVEMBER 20, 1906.

59,703. FOUNTAIN-PENS, FEEDS, CAPS, AND BARRELS THEREFOR. L. E. WATERMAN COMPANY, New York, N. Y.
Filed August 2, 1906. Serial No. 21,300. PUBLISHED NOVEMBER 20, 1906.

59,704. BOYS' BLOUSES AND WAISTS. LUBELL BROS., New York, N. Y.
Filed September 19, 1906. Serial No. 22,194. PUBLISHED NOVEMBER 20, 1906.

59,705. SOAP. HERMAN C. G. LUYTIES, St. Louis, Mo.
Filed July 16, 1906. Serial No. 20,961. PUBLISHED NOVEMBER 20, 1906.

59,706. FERTILIZERS FOR COTTON-PLANTS. NEW ORLEANS ACID AND FERTILIZER COMPANY, Union township, N. J.
Filed August 30, 1906. Serial No. 21,825. PUBLISHED NOVEMBER 20, 1906.

59,707. CERTAIN JEWELRY AND SOLID AND PLATED PRECIOUS-METAL WARE. ONEIDA COMMUNITY LIMITED, Kenwood, N. Y.
Filed November 21, 1905. Serial No. 14,873. PUBLISHED NOVEMBER 20, 1906.

59,708. LEATHER BOOTS, SHOES, AND SLIPPERS. PARKER HOLMES & COMPANY, Boston, Mass.
Filed September 26, 1906. Serial No. 22,334. PUBLISHED NOVEMBER 20, 1906.

59,709. LEATHER BOOTS, SHOES, AND SLIPPERS. PARKER HOLMES & COMPANY, Boston, Mass.
Filed September 26, 1906. Serial No. 22,335. PUBLISHED NOVEMBER 20, 1906.

59,710. HORN, RUBBER, AND CELLULOID HAIR-PINS AND HAIR ORNAMENTS. RICE & HOCHSTER, New York, N. Y.
Filed April 21, 1905. Serial No. 2,623. PUBLISHED NOVEMBER 20, 1906.

59,711. TORTOISE-SHELL HAIR-PINS AND HAIR ORNAMENTS. RICE & HOCHSTER, New York, N. Y.
Filed October 9, 1905. Serial No. 13,437. PUBLISHED NOVEMBER 20, 1906.

59,712. WHISKY. WILLIAM A. ROSS, New York, N. Y.
Filed July 20, 1905. Serial No. 10,631. PUBLISHED NOVEMBER 20, 1906.

59,713. DRAWING-PAPER AND TRACING-PAPER. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,493. PUBLISHED NOVEMBER 20, 1906.

59,714. DRAWING-PAPER AND TRACING-PAPER. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,494. PUBLISHED NOVEMBER 20, 1906.

59,715. DRAWING-PAPER. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,497. PUBLISHED NOVEMBER 20, 1906.

59,716. DRAWING-PAPER. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,498. PUBLISHED NOVEMBER 20, 1906.

59,717. TRACING-PAPER. EDWARD G. SOLTMANN, New York, N. Y.
Filed October 5, 1906. Serial No. 22,501. PUBLISHED NOVEMBER 20, 1906.

59,718. GRAIN CLEANERS AND SEPARATORS. SPERRY MANUFACTURING COMPANY, Owatonna, Minn.
Filed September 24, 1906. Serial No. 22,305. PUBLISHED NOVEMBER 20, 1906.

59,719. SOAP. ARTHUR COLLINS STEWART, Boston, Mass.
Filed September 21, 1906. Serial No. 22,231. PUBLISHED NOVEMBER 20, 1906.

59,720. SUBSTITUTE FOR TURPENTINE. BLIVEN & CARRINGTON, INCORPORATED, New York, N. Y.
Filed June 29, 1906. Serial No. 20,647. PUBLISHED NOVEMBER 20, 1906.

59,721. CHAMPAGNE. BLONDEAU, BERQUE & CO., Rheims, France.
Filed June 15, 1906. Serial No. 20,315. PUBLISHED NOVEMBER 20, 1906.

59,722. FERTILIZERS. COWETA FERTILIZER COMPANY, Newnan, Ga.
Filed June 15, 1906. Serial No. 20,296. PUBLISHED NOVEMBER 20, 1906.

59,723. FERTILIZERS. COWETA FERTILIZER COMPANY, Newnan, Ga.
Filed June 15, 1906. Serial No. 20,298. PUBLISHED NOVEMBER 20, 1906.

59,724. CERTAIN JEWELRY AND SILVER-METAL WARE. FISHEL, NESSLER & CO., New York, N. Y.
Filed September 19, 1906. Serial No. 22,190. PUBLISHED NOVEMBER 20, 1906.

59,725. STOVE-POLISH. WILLIAM HALLEMAN, Newark, N. J.
Filed July 10, 1906. Serial No. 20,839. PUBLISHED NOVEMBER 20, 1906.

59,726. WHISKY. EUGENE LYNCH, Boston, Mass.
Filed May 8, 1905. Serial No. 4,729. PUBLISHED JULY 18, 1905.

59,727. WHISKY. PICKEL & HAND, Slidell, La.
Filed June 19, 1905. Serial No. 8,505. PUBLISHED NOVEMBER 20, 1906.

59,728. CERTAIN BEVERAGES. PUREOXIA COMPANY, Boston, Mass.
Filed May 8, 1905. Serial No. 4,685. PUBLISHED NOVEMBER 20, 1906.

59,729. WHISKY. WILLIAM A. ROSS, New York, N. Y.
Filed July 1, 1905. Serial No. 9,559. PUBLISHED NOVEMBER 20, 1906.

59,730. CERTAIN METAL MANUFACTURES. THOMAS DEVLIN MANUFACTURING CO., Burlington, N. J., and Philadelphia, Pa.
Filed June 28, 1906. Serial No. 20,623. PUBLISHED NOVEMBER 20, 1906.

59,731. FERTILIZERS. VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn.
Filed June 15, 1906. Serial No. 20,291. PUBLISHED NOVEMBER 20, 1906.

59,732. WASHING-POWDERS. JOHN M. WILSON, New York, N. Y.
Filed July 7, 1906. Serial No. 20,771. PUBLISHED NOVEMBER 20, 1906.

59,733. BEER. AURORA BREWING COMPANY, Aurora, Ill.
Filed August 9, 1906. Serial No. 21,427. PUBLISHED NOVEMBER 20, 1906.

59,734. PASTE USED FOR FILLING DEFECTS IN LEATHER ARTICLES. HENRY C. BEE, Lowell, Mass.
Filed September 17, 1906. Serial No. 22,134. PUBLISHED NOVEMBER 20, 1906.

59,735. WHEAT-FLOUR. BRAGDON-JONES CO., Boston, Mass.
Filed September 18, 1906. Serial No. 22,179. PUBLISHED NOVEMBER 20, 1906.

59,736. CHEMICAL COMPOUND FOR PRESERVING WOOD. SAM' CABOT, Boston, Mass.
Filed August 15, 1906. Serial No. 21,578. PUBLISHED NOVEMBER 20, 1906.

59,737. COLIC AND KIDNEY CURE FOR MULES AND HORSES. E. H. DUNLAP MFG. CO., Como, Miss.
Filed September 25, 1906. Serial No. 22,320. PUBLISHED NOVEMBER 20, 1906.

59,738. BREAD. FLEISCHMANNS VIENNA MODEL BAKERY, New York, N. Y.
Filed October 6, 1906. Serial No. 22,569. PUBLISHED NOVEMBER 20, 1906.

59,739. CARD GAMES. FLINCH CARD CO., Kalamazoo, Mich.
Filed April 18, 1905. Serial No. 2,138. PUBLISHED JULY 11, 1905.

59,740. CANNED FRUITS AND VEGETABLES. HENRY L. FORHAN, Portland, Me.
Filed October 5, 1906. Serial No. 22,522. PUBLISHED NOVEMBER 20, 1906.

59,741. BEER. FRED KRUG BREWING COMPANY, Omaha, Nebr.
Filed September 4, 1906. Serial No. 21,878. PUBLISHED NOVEMBER 20, 1906.

59,742. REMEDY FOR INFANTILE DISORDERS. J. A. E. GAUVIN, Montreal, Quebec, Canada.
Filed April 19, 1905. Serial No. 2,295. PUBLISHED NOVEMBER 20, 1906.

59,743. CERTAIN CUTLERY. GRAY & DUDLEY HARDWARE CO., Nashville, Tenn.
Filed October 2, 1906. Serial No. 22,433. PUBLISHED NOVEMBER 20, 1906.

59,744. EYE REMEDIES. THE HALEY-LAYBOURN EYE INFIRMARY, St. Louis, Mo.
Filed August 17, 1906. Serial No. 21,648. PUBLISHED NOVEMBER 20, 1906.

59,745. REMEDY FOR CERTAIN NAMED DISEASES. ROBERT L. HAMMOND, Woodsboro, Md.
Filed July 16, 1906. Serial No. 20,959. PUBLISHED NOVEMBER 20, 1906.

59,746. WHEAT-FLOUR. HUEGELY MILLING COMPANY, Nashville, Ill.
Filed August 23, 1906. Serial No. 21,723. PUBLISHED OCTOBER 2, 1906.

59,747. WHEAT-FLOUR. HUEGELY MILLING COMPANY, Nashville, Ill.
Filed August 23, 1906. Serial No. 21,724. PUBLISHED NOVEMBER 20, 1906.

59,748. COMPOSITE SHEET ROOFING. HUGH HUNTINGTON & SON, Cleveland, Ohio.
Filed October 2, 1906. Serial No. 22,441. PUBLISHED NOVEMBER 20, 1906.

59,749. BALSAM. DR. D. JAYNE & SON, Philadelphia, Pa.
Filed April 10, 1905. Serial No. 1,040. PUBLISHED NOVEMBER 20, 1906.

59,750. ORGANIC SALTS OF SILVER. JOHN WYETH AND BROTHER, INCORPORATED, Philadelphia, Pa.
Filed August 15, 1906. Serial No. 21,543. PUBLISHED NOVEMBER 20, 1906.

59,751. GRANULAR EFFERVESCING HEADACHE-SALTS. JOHN WYETH AND BROTHER, INCORPORATED, Philadelphia, Pa.
Filed August 15, 1906. Serial No. 21,548. PUBLISHED NOVEMBER 20, 1906.

59,752. LAXATIVE MEDICINES. FREDERICK AUGUST LUYTIES, St. Louis, Mo.
Filed October 6, 1906. Serial No. 22,566. PUBLISHED NOVEMBER 13, 1906.

59,753. WHEAT-FLOUR. DWIGHT L. MARSHALL, Boston, Mass.
Filed September 17, 1906. Serial No. 22,156. PUBLISHED NOVEMBER 20, 1906.

59,754. CHILL-TONIC. G. B. MARTIN, Naples, Tex.
Filed September 8, 1906. Serial No. 21,992. PUBLISHED NOVEMBER 20, 1906.

59,755. TEAS. MCCORMICK & CO., Baltimore, Md.
Filed September 18, 1906. Serial No. 22,165. PUBLISHED NOVEMBER 20, 1906.

59,756. SPICES AND MUSTARDS. MCCORMICK & CO., Baltimore, Md.
Filed September 18, 1906. Serial No. 22,168. PUBLISHED NOVEMBER 20, 1906.

59,757. MEDICINAL PREPARATION FOR PURIFYING AND TREATING THE BLOOD. MCKESSON & ROBBINS, New York, N. Y.
Filed May 10, 1905. Serial No. 4,890. PUBLISHED NOVEMBER 20, 1906.

59,758. SOAP. THE N. K. FAIRBANK COMPANY, Chicago, Ill.
Filed August 2, 1905. Serial No. 11,157. PUBLISHED NOVEMBER 20, 1906.

59,759. CANNED VEGETABLES. NEW HOLSTEIN CANNING COMPANY, New Holstein, Wis.
Filed October 5, 1906. Serial No. 22,526. PUBLISHED NOVEMBER 20, 1906.

59,760. CANNED VEGETABLES. NEW HOLSTEIN CANNING COMPANY, New Holstein, Wis.
Filed October 5, 1906. Serial No. 22,527. PUBLISHED NOVEMBER 20, 1906.

59,761. CANNED VEGETABLES. NORTHERN MAINE PACKING COMPANY, Corinna, Me.
Filed October 20, 1906. Serial No. 22,793. PUBLISHED NOVEMBER 20, 1906.

59,762. CANNED VEGETABLES. NORTHERN MAINE PACKING COMPANY, Corinna, Me.
Filed October 20, 1906. Serial No. 22,794. PUBLISHED NOVEMBER 20, 1906.

59,763. CANNED VEGETABLES. NORTHERN MAINE PACKING COMPANY, Corinna, Me.
Filed October 20, 1906. Serial No. 22,795. PUBLISHED NOVEMBER 20, 1906.

59,764. CANNED VEGETABLES. NORTHERN MAINE PACKING COMPANY, Corinna, Me.
Filed October 20, 1906. Serial No. 22,796. PUBLISHED NOVEMBER 20, 1906.

59,765. REMEDY FOR RHEUMATISM, NEURALGIA, AND GOUT. J. N. W. OTTO & SON, New Orleans, La.
Filed September 17, 1906. Serial No. 22,151. PUBLISHED NOVEMBER 20, 1906.

59,766. MEDICINAL MALT EXTRACTS. PARAGON MALT EXTRACT CO., New York, N. Y.
Filed October 5, 1906. Serial No. 22,544. PUBLISHED NOVEMBER 20, 1906.

59,767. REMEDY FOR LIVER TROUBLES. WILLIAM H. PETERS, Madison, Ind.
Filed August 20, 1906. Serial No. 21,685. PUBLISHED NOVEMBER 20, 1906.

59,768. DEPILATORIES. THE SHAVING POWDER COMPANY, Savannah, Ga.
Filed September 26, 1906. Serial No. 22,346. PUBLISHED NOVEMBER 20, 1906.

59,769. WATERPROOFING FABRICS USED FOR BUILDING PURPOSES. THE SICILIAN ASPHALT PAVING CO., New York, N. Y.
Filed October 13, 1906. Serial No. 22,687. PUBLISHED NOVEMBER 20, 1906.

59,770. TALCUM POWDER. THE SUMMIT CITY SOAP WORKS, Fort Wayne, Ind.
Filed August 13, 1906. Serial No. 21,507. PUBLISHED NOVEMBER 20, 1906.

59,771. CERTAIN MEDICINAL PREPARATIONS. WILLIAM R. WARNER & CO., Philadelphia, Pa.
Filed April 14, 1905. Serial No. 1,497. PUBLISHED NOVEMBER 20, 1906.

59,772. CERTAIN VEGETABLE FIBER AND ARTICLES MADE THEREFROM. AMERICAN VULCANIZED FIBRE COMPANY, Wilmington, Del.
Filed October 24, 1906. Serial No. 22,880. PUBLISHED NOVEMBER 20, 1906.

59,773. LAXATIVE SALTS. BODY BUILDERS MEDICINE CO., Binghamton, N. Y.
Filed August 8, 1906. Serial No. 21,383. PUBLISHED NOVEMBER 20, 1906.

59,774. BREWER'S PITCH. THE BRITISH-AMERICAN CO., Cincinnati, Ohio.
Filed October 28, 1905. Serial No. 14,016. PUBLISHED NOVEMBER 20, 1906.

59,775. OINTMENT. KATE M. BROWN, New York, N. Y.
Filed May 24, 1906. Serial No. 19,837. PUBLISHED NOVEMBER 20, 1906.

59,776. TOILET POWDER. THE COMFORT POWDER COMPANY, Hartford, Conn.
Filed July 17, 1906. Serial No. 20,963. PUBLISHED NOVEMBER 20, 1906.

59,777. CERTAIN NAMED FOODS. CURTICE BROTHERS COMPANY, Rochester, N. Y.
Filed October 19, 1905. Serial No. 13,757. PUBLISHED NOVEMBER 20, 1906.

59,778. CHEWING-GUM. DAYTON SPECIALTY CO., Dayton, Ohio.
Filed April 20, 1906. Serial No. 18,945. PUBLISHED NOVEMBER 20, 1906.

59,779. BEER. F. A. POTH & SONS, INC., Philadelphia, Pa.
Filed April 3, 1905. Serial No. 310. PUBLISHED NOVEMBER 20, 1906.

59,780. LUBRICATING-OIL. GALENA-SIGNAL OIL COMPANY, Franklin, Pa.
Filed July 25, 1905. Serial No. 10,782. PUBLISHED NOVEMBER 20, 1906.

59,781. LIQUID DRESSING OR POLISH FOR BLACK LEATHER SHOES. RAY B. HAMMOND, Chicago, Ill.
Filed August 8, 1906. Serial No. 21,389. PUBLISHED NOVEMBER 20, 1906.

59,782. LINIMENT OR COUNTER-IRRITANT. DR. D. JAYNE & SON, Philadelphia, Pa.
Filed April 10, 1905. Serial No. 1,038. PUBLISHED NOVEMBER 20, 1906.

59,783. ALTERATIVE. DR. D. JAYNE & SON, Philadelphia, Pa.
Filed April 10, 1905. Serial No. 1,039. PUBLISHED NOVEMBER 20, 1906.

59,784. CERTAIN MEDICINAL PREPARATION. JNO. M. SCOTT & CO., Charlotte, N. C.
Filed June 16, 1906. Serial No. 20,354. PUBLISHED NOVEMBER 20, 1906.

59,785. BAKING-POWDER. THE KENTON BAKING POWDER CO., Cincinnati, Ohio.
Filed June 25, 1906. Serial No. 20,550. PUBLISHED NOVEMBER 20, 1906.

59,786. **WITHDRAWN.**

59,787. CERTAIN NAMED MEDICINAL PREPARATION. EMIL M. J. MAHR, Boston, Mass.
Filed June 23, 1906. Serial No. 20,520. PUBLISHED NOVEMBER 20, 1906.

59,788. CERTAIN ANTISEPTIC PREPARATIONS. MCKESSON & ROBBINS, New York, N. Y.
Filed May 10, 1905. Serial No. 4,893. PUBLISHED NOVEMBER 20, 1906.

59,789. NON-ALCOHOLIC TONIC BEVERAGES. MOST COMPANY INCORPORATED, Pittsburg, Pa.
Filed May 4, 1906. Serial No. 19,282. PUBLISHED NOVEMBER 20, 1906.

59,790. BEER. MUNCIE BREWING CO., Muncie, Ind.
Filed July 20, 1906. Serial No. 21,031. PUBLISHED NOVEMBER 20, 1906.

59,791. MALT EXTRACTS. PARAGON MALT EXTRACT CO., New York, N. Y.
Filed December 29, 1905. Serial No. 15,748. PUBLISHED NOVEMBER 20, 1906.

59,792. FLAVORING EXTRACTS. CHARLES H. PARRISH, Baltimore, Md.
Filed October 13, 1906. Serial No. 22,684. PUBLISHED NOVEMBER 20, 1906.

59,793. ARTIFICIAL ENAMEL FOR DENTAL PURPOSES. THE PINCHES DENTAL MANUFATNG CO., New York, N. Y.
Filed October 16, 1906. Serial No. 22,728. PUBLISHED NOVEMBER 20, 1906.

59,794. CANNED FRUITS AND VEGETABLES. PRESSING & ORR CO., Circleville, Ohio.
Filed July 26, 1906. Serial No. 21,175. PUBLISHED NOVEMBER 20, 1906.

59,795. WHEAT-FLOUR. THE REA-PATTERSON MILLING COMPANY, Coffeyville, Kans.
Filed October 13, 1905. Serial No. 13,569. PUBLISHED SEPTEMBER 25, 1906.

59,796. COFFEE. S. MILLS ELY CO., Binghamton, N. Y.
Filed August 11, 1906. Serial No. 21,496. PUBLISHED NOVEMBER 20, 1906.

59,797. CERTAIN FOODS. SEATTLE PURE FOOD CO., INC., Seattle, Wash.
Filed February 16, 1906. Serial No. 17,097. PUBLISHED NOVEMBER 20, 1906.

59,798. URIC-ACID SOLVENT. THE SOLUROL (THYMIC ACID) COMPANY, LIMITED, London, England.
Filed September 24, 1906. Serial No. 22,304. PUBLISHED NOVEMBER 20, 1906.

59,799. CANNED FRUITS AND VEGETABLES. WILLIAM P. SUMNER, Jacksonville, Fla.
Filed August 22, 1905. Serial No. 11,914. PUBLISHED OCTOBER 30, 1906.

59,800. CHEWING-GUM. FREDRICK M. SWITZER, St. Louis, Mo.
Filed June 29, 1906. Serial No. 20,659. PUBLISHED NOVEMBER 20, 1906.

59,801. NUTRITIVE, RESTORATIVE, STIMULATIVE, AND ANTISEPTIC COMPOUND. THE TILDEN COMPANY, New Lebanon, N. Y., and St. Louis, Mo.
Filed March 5, 1906. Serial No. 17,509. PUBLISHED NOVEMBER 20, 1906.

59,802. GERMICIDES AND DISINFECTANTS. THE TILDEN COMPANY, New Lebanon, N. Y., and St. Louis, Mo.
Filed March 5, 1906. Serial No. 17,511. PUBLISHED NOVEMBER 20, 1906.

59,803. GUN AND PISTOL CARTRIDGES AND PARTS THEREOF. THE UNION METALLIC CARTRIDGE COMPANY, Bridgeport, Conn.
Filed July 26, 1905. Serial No. 10,817. PUBLISHED APRIL 10, 1906.

59,804. CERTAIN NAMED COOKING-OIL. UNION OIL COMPANY, Providence, R. I.
Filed March 20, 1906. Serial No. 18,065. PUBLISHED NOVEMBER 20, 1906.

59,805. RADIATORS. UNITED STATES RADIATOR COMPANY, Dunkirk, N. Y.
Filed November 17, 1905. Serial No. 14,779. PUBLISHED NOVEMBER 20, 1906.

59,806. TONIC, ALTERATIVE, LAXATIVE, AND DIURETIC MEDICINES. WELLS & RICHARDSON COMPANY, Burlington, Vt.
Filed June 16, 1906. Serial No. 20,329. PUBLISHED NOVEMBER 20, 1906.

59,807. CERTAIN ELECTRIC APPARATUS AND SUPPLIES. THE ARKNOT CO., Hartford, Conn.
Filed June 16, 1906. Serial No. 20,342. PUBLISHED OCTOBER 30, 1906.

59,808. PORK-SCRAPS, SAUSAGES, SAUSAGE-MEAT, AND BACON. ROBERT M. BURNETT, Southboro, Mass.
Filed February 2, 1906. Serial No. 16,682. PUBLISHED NOVEMBER 20, 1906.

59,809. COFFEE. CHARLES H. CONRAD, Chicago, Ill.
Filed September 29, 1906. Serial No. 22,380. PUBLISHED NOVEMBER 20, 1906.

59,810. OLIVE-OIL. EMILIA L. CORAZZINI, Providence, R. I.
Filed July 19, 1906. Serial No. 21,014. PUBLISHED NOVEMBER 20, 1906.

59,811. SALVE, OINTMENT, OR POULTICE. GY-ZO-CHEMICAL CO., Phœnix, Ariz. Ter., and Los Angeles, Cal.
Filed December 21, 1905. Serial No. 15,575. PUBLISHED NOVEMBER 20, 1906.

59,812. CERTAIN CEREAL FOODS. JIREH DIABETIC FOOD CO., New York, N. Y.
Filed January 26, 1906. Serial No. 16,556. PUBLISHED NOVEMBER 20, 1906.

59,813. MILK, CREAM, BUTTER, AND CHEESE. HENRY JOHN NIETERT, Walker, Iowa.
Filed July 18, 1906. Serial No. 21,009. PUBLISHED NOVEMBER 20, 1906.

59,814. PAINT AND VARNISH BRUSHES. RENNOUS KLEINLE & CO. OF BALTIMORE CITY, Baltimore, Md.
Filed June 24, 1905. Serial No. 8,966. PUBLISHED NOVEMBER 20, 1906.

59,815. PAINT AND VARNISH BRUSHES. RENNOUS KLEINLE & CO. OF BALTIMORE CITY, Baltimore, Md.
Filed June 24, 1905. Serial No. 8,967. PUBLISHED NOVEMBER 20, 1906.

59,816. AROMATIC SCHIEDAM SCHNAPPS. UDOLPHO WOLFE CO., New York, N. Y.
Filed August 24, 1905. Serial No. 11,978. PUBLISHED NOVEMBER 20, 1906.

59,817. SODA, SALERATUS, BAKING-POWDER, AND SAL-SODA. CHURCH & DWIGHT CO., New York, N. Y.
Filed September 18, 1906. Serial No. 22,172. PUBLISHED NOVEMBER 20, 1906.

59,818. CERTAIN GAMES AND TOYS. FRIEDRICH ADOLF RICHTER, Rudolstadt, Germany, and New York, N. Y.
Filed April 18, 1905. Serial No. 2,191. PUBLISHED NOVEMBER 20, 1906.

LABELS

REGISTERED JANUARY 15, 1907.

13,307.—*Title:* "P. & T. ENGLISH BREAKFAST-TEA." (For English Breakfast Tea.) PARK & TILFORD, New York, N. Y. Filed December 17, 1906.

13,308.—*Title:* "P. & T. ORANGE PEKOE CEYLON TEA." (For Orange Pekoe Ceylon Tea.) PARK & TILFORD, New York, N. Y. Filed December 17, 1906.

13,309.—*Title:* "P. & T. FORMOSA OOLONG TEA." (For Formosa Oolong Tea.) PARK & TILFORD, New York, N. Y. Filed December 17, 1906.

13,310.—*Title:* "ROYAL TEA COMPANY." (For Teas, Spices, Extracts, Baking-Powder, and Coffees.) ROYAL TEA COMPANY, Chicago, Ill. Filed December 24, 1906.

13,311.—*Title:* "DEEP SEA CAVIAR." (For Caviar.) FERDINAND HANSEN, New York, N. Y. Filed December 21, 1906.

13,312.—*Title:* "ROMANOFF CAVIAR." (For Caviar.) RUSSIAN CAVIAR COMPANY, New York, N. Y. Filed December 21, 1906.

13,313.—*Title:* "ROMANOFF CAVIAR." (For Caviar.) RUSSIAN CAVIAR COMPANY, New York, N. Y. Filed December 21, 1906.

13,314.—*Title:* "CROWN-O." (For a Beverage.) ALEXANDER FELDMAN, Houston, Tex. Filed September 28, 1906.

13,315.—*Title:* "CORDON ROUGE." (For Champagne-Wine.) G. H. MUMM & Co., Rheims, France. Filed December 22, 1906.

13,316.—*Title:* "CORDON ROUGE, G. H. MUMM & CO." (For Champagne-Wine.) G. H. MUMM & Co., Rheims, France. Filed December 22, 1906.

13,317.—*Title:* "FEAHNEY'S CHIEF." (For Whisky.) GRACE BENNETT, New Orleans, La. Filed December 18, 1906.

13,318.—*Title:* "MEDRONA, ESSENCE OF MILDNESS CIGARS." (For Cigars.) THE CENTRAL LITHOGRAPH CO., Cleveland, Ohio. Filed September 12, 1906.

13,319.—*Title:* "KLEAN-ALL." (For a Cleaning-Powder.) R. L. TAYLOR, Emporia, Kans. Filed November 9, 1906.

13,320.—*Title:* "LA PRINCESSE THÉRÉSE." (For Talcum and Toilet Powder.) CLARA TETLOW, Philadelphia, Pa. Filed December 18, 1906.

13,321.—*Title:* "HY-AIFA." (For Hair Discovery.) JOSEPH S. PATTON, South Boise, Idaho. Filed November 12, 1906.

13,322.—*Title:* "LORELEY HAIR TONIC." (For Hair-Tonic.) CLARA SCHNEPF, St. Louis, Mo. Filed November 12, 1906.

13,323.—*Title:* "PARAMOUNT MASSAGE CREAM AND SKIN FOOD." (For a Massage-Cream and Skin Food.) OTTO J. WALLBER, Milwaukee, Wis. Filed November 26, 1906.

13,324.—*Title:* "ELECTRIC BRAND BITTERS." (For Medicine.) H. E. BUCKLEN & COMPANY, Chicago, Ill. Filed December 20, 1906.

13,325.—*Title:* "PARIDE'S TREASURE." (For Medicine.) PARIDE GRASSO, New York, N. Y. Filed December 12, 1906.

PRINTS

REGISTERED JANUARY 15, 1907.

1,883.—*Title:* "WILCUT KNIVES." (For Cutlery.) THE WILKINSON SHEAR & CUTLERY CO., Reading, Pa. Filed December 22, 1906.

1,884.—*Title:* "FROM HUMBLE COT TO PALACE GRAND, THE FINEST DRINKS IN ALL THE LAND." (For Ginger-Ale.) THE STANDARD BOTTLING CO., Denver, Colo. Filed November 10, 1906.

1,885.—*Title:* "THE FOOD YOU NEVER TIRE OF." (For a Cereal Breakfast Food.) CREAM OF WHEAT COMPANY, Minneapolis, Minn. Filed December 17, 1906.

1,886.—*Title:* "ELLIOTT'S CREAM OF MAPLE." (For Maple Table Syrup.) SAMUEL K. ELLIOTT, Los Angeles, Cal. Filed December 19, 1906.

1,887.—*Title:* "OXZYN BALM." (For a Balm for the Complexion.) OXZYN COMPANY, New York, N. Y. Filed December 17, 1906.

1,888.—*Title:* "CERTIFICATE OF ORIGIN GENUINE AVENARIUS CARBOLINEUM." (For a Wood-Preserving Compound.) THE CARBOLINEUM WOOD PRESERVING COMPANY, Milwaukee, Wis. Filed December 24, 1906.

1,889.—*Title:* "MEN'S APPAREL." (For Men's Apparel.) L. ADLER, BROS. & Co., Rochester, N. Y. Filed December 17, 1906.

1,890.—*Title:* "THE ELWELL BRIDGE PAD." (For Bridge-Pads.) E. P. DUTTON & COMPANY, New York, N. Y. Filed December 17, 1906.

1,891.—*Title:* "SECRET SERVICE." (For Automatic Telephones.) CHICAGO PHOTOGRAVURE COMPANY, Chicago, Ill. Filed December 19, 1906.

1,892.—*Title:* "CAVENDISH HOYLE AND WHEELOCK BACKS, U. S. WHIST FACES." (For Playing-Cards.) THE UNITED STATES PLAYING CARD COMPANY, Norwood, Ohio. Filed December 18, 1906.

1,893.—*Title:* "MOTORETTE AND AUTOBIKE BACKS, BICYCLE PLAYING CARDS." (For Playing-Cards.) THE UNITED STATES PLAYING CARD COMPANY, Norwood, Ohio. Filed December 18, 1906.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

GREENAWALT v. MARK.

Decided November 17, 1906.

1. INTERFERENCE—PRIORITY—BASED ON OPERATIVENESS OF DEVICE.

Where the Examiner of Interferences awarded priority of invention to one party on the ground that the application of his opponent fails to show an operative device, *Held* that the operativeness of an applicant's device affects his right to make the claim and that the action of the Examiner of Interferences was in accord with the rules and decisions.

2. SAME—SAME—DECISION OF EXAMINER OF INTERFERENCES.

The decision of the Examiner of Interferences is not a rejection of the claims under section 4903, Revised Statutes, although it may form a basis for such rejection by the Primary Examiner under Rule 132.

ON PETITION.

ROASTING-FURNACE.

Mr. A. J. O'Brien and *Messrs. Spear, Middleton, Donaldson & Spear* for Greenawalt.

Mr. C. C. Bulkley and *Mr. Eugene A. Byrnes* for Mark.

ALLEN, *Commissioner:*

This is a petition by Mark that—

the Commissioner direct the Examiner of Interferences to vacate the judgment of priority entered by said Examiner.

It appears that the Examiner of Interferences awarded priority of the interference *Greenawalt* v. *Mark*, No. 25,291, on August 23, 1906, to Greenawalt on the ground that the application of Mark fails to show an operative device. Petitioner contends that the Examiner of Interferences in basing an award of priority upon this ground instead of calling it to the attention of the Commissioner under Rule 126 has violated said rule and also section 4903 of the Revised Statutes.

The action of the Examiner of Interferences is in accord with present Rule 130 and with the decision of the Court of Appeals of the District of Columbia in *Podlesak and Podlesak* v. *McInnerney*, (120 O. G., 2127,) which held that the right of a party to make a claim may be considered as a basis for awarding priority of invention. The operativeness of an applicant's device affects his right to make the claims.

The decision of the Examiner of Interferences is not a rejection of the claims under section 4903, Revised Statutes, although it may form a basis for such rejection by the Primary Examiner under Rule 132. It is not, therefore, contrary to the provisions of said statute. (*Ex parte Lyon*, 124 O. G., 2905.)

The petition is denied.

BIGBIE BROTHERS & COMPANY v. BLUTHENTHAL & BICKART v. THE J. & H. BUTLER COMPANY.

Decided November 26, 1906.

1. TRADE-MARK INTERFERENCE—PRIORITY—OWNERSHIP OF MARK.

Where the claim of Bigbie Brothers & Company to ownership of the mark of the issue through transfer from Joseph Lawson & Son in 1887 is questioned, but neither of the other parties to the interference claims title from the Lawsons, *Held* that said other parties' claims to registration are defeated by the use of the mark in issue by Bigbie Brothers & Company in 1887 and subsequently, irrespective of whether Bigbie Brothers & Company's use was based upon ownership, and that Lawson's right to the mark after the transfer in 1887 is only of consequence, therefore, in determining whether Bigbie Brothers & Company shall be denied registration, notwithstanding their position as the first to adopt and use the mark among those before the Office seeking registration.

2. TRADE-MARKS—TO ACQUIRE RIGHTS NAME MUST BE PHYSICALLY APPLIED TO GOODS.

The mere adoption of a name for its goods does not vest in the company trade-mark rights. To acquire such rights, the name must be physically applied to the goods in trade, as by brands or labels on the packages sold.

3. SAME—RIGHTS ACQUIRED ONLY BY PRESENCE OF MARK UPON GOODS AFTER PASSING FROM HANDS OF ORIGINATOR.

There is no liability to confusion of the origin of goods which are sold only on the premises of the originator. The utility of a trade-mark does not come into existence until the goods have passed from the hands of the originator, and it is only by the presence of the mark upon the goods after they have so passed that rights to the same as a trade-mark are believed to become established.

APPEAL from Examiner of Interferences.

TRADE-MARK FOR WHISKY.

Messrs. Mason, Fenwick & Lawrence for Bigbie Bros. & Co.

Mr. Joseph L. Atkins for Bluthenthal & Bickart.

Mr. Arthur E. Wallace for The J. & G. Butler Co.

ALLEN, *Commissioner:*

This case is before me upon appeals by Bluthenthal & Bickart and The J. & G. Butler Company from the decision of the Examiner of Interferences awarding priority of adoption and use of the trade-mark "Velvet" or "Old Velvet" for whisky to Bigbie Brothers & Company.

The Examiner of Interferences found Bigbie Brothers & Company entitled to a date of adoption and use as early as the year 1868. He found that Bluthenthal & Bickart have continuously used the mark since 1888 and that The J. & G. Butler Company and their predecessors have used it since 1882. Bluthenthal & Bickart do not claim any earlier date than 1888, but contend that neither of the other parties to the interference has succeeded in proving a date

earlier than this. The J. & G. Butler Company contends that it is entitled to the year 1851 as its date of adoption and use.

I agree with the conclusion of the Examiner of Interferences that Bigbie Brothers & Company are entitled to prevail; but in reaching this conclusion I have taken a somewhat different view of the evidence from that taken by him. It is believed that The J. & G. Butler Company has failed to establish any earlier date than 1890 for the adoption and continuous use of the mark. As Bluthenthal & Bickart do not claim a date prior to 1888, continuous use by Bigbie Brothers & Company from 1887, when they went into the whisky business, would negative the claims of Bluthenthal & Bickart and The J. & G. Butler Company to registration and would entitle Bigbie Brothers & Company to register, unless it appear that the ownership of the mark at the time of its supposed adoption by Bigbie Brothers & Company in 1887 was in and continued in others not parties to this proceeding. It is believed that continuous use of the mark by Bigbie Brothers & Company since 1887 is established and that the contentions of Bluthenthal & Bickart of ownership of the mark then and thereafter by one Lawson are not established.

It is settled by the testimony of Bluthenthal & Bickart's witness Withers that Bigbie Brothers & Company bought out Joseph Lawson & Son's wholesale and retail whisky business and started in business as their successors upon May 1, 1887. (Qs. 8, 27, and 28.) Bigbie, testifying for Bigbie Brothers & Company, states that all the whiskies, brands, labels, and stencils of Joseph Lawson were transferred to Bigbie Brothers & Company on that date, (Q. 11,) as well as the formula for making "Old Velvet whisky." (Q. 19.) It appears that whisky was shipped in a barrel bearing the brand "Old Velvet" by predecessors of Joseph Lawson & Son in 1872 or 1873. (Bigbie, Q. 21; Thurman, Q. 10; Humbles, Qs. 23, 24.) There were a few barrels of "Old Velvet" whisky in the stock which Bigbie Brothers & Company obtained from Lawson (Bigbie, Q. 18) and also an "Old Velvet Rye Whisky" stencil, Bigbie Brothers & Company's Exhibit E, (Bigbie, Q. 14,) which has been used by Bigbie Brothers & Company for branding their half barrels and kegs. (Bigbie, Qs. 15, 17.) Bigbie states that Bigbie Brothers & Company have used the brand "Old Velvet" on whisky continuously since May 1, 1887, (Q. 28,) and that they made sales and shipments of whisky so branded in 1887 and continuously thereafter up to the present time. (Qs. 34–37.) He gives the names of parties to whom such sales were made and the towns in which they resided. (Qs. 38–41.)

Bigbie Brothers & Company used Lawson's labels until they could get their own, which were not received until October. (Bigbie, Q. 43.) Bigbie Brothers & Company's Exhibit G contains a bill for labels bearing the date October 15, 1887, and containing an item of "2,000 Old Velvet Whisky Labels, lith'd." "Old Velvet" labels of Bigbie Brothers & Company are in evidence as Bigbie Brothers & Company's Exhibits L and M. Bigbie states that after buying out Joseph Lawson they bottled and barreled "Old Velvet" whisky, applying the labels "Bigbie Bros. & Co., Successors to Jos. Lawson & Son, Old Velvet Whiskey" to the bottles and a similar stamp on the barrels. (Qs. 43–49.) Bigbie also identifies a print (Exhibit K) as one made from a stencil which his firm has used since the fall of 1887, (Qs. 70–72,) and states that prior to the use of this stencil and since the first of May, 1887, they branded barrels with the "Old Velvet" stencil which they got from Lawson. (Qs. 73 and 74.)

Bigbie's testimony is supported to some extent by that of Bigbie Bros. & Co.'s witnesses, Broyles, Frye, and Humbles, to the effect that whisky was sold under the brands and labels "Old Velvet" by the various predecessors in business of Bigbie Brothers & Company, as well as by Bigbie Brothers & Company. (Bigbie Bros. & Co.'s record, pp. 14–16; pp. 35, 36, Qs. 2–10; pp. 42, 43, Qs. 22–34.) The evidence is regarded as ample to establish use of the words "Old Velvet" by Bigbie Brothers & Company as a trade-mark for whisky in the year 1887 and continuously thereafter.

It appears that Lawson entered the liquor business in Roanoke, Va., after selling out his business in Lynchburg to Bigbie Brothers & Company in 1887 and that he opened business again in Lynchburg in 1889. It does not appear what whisky was sold in the Roanoke business prior to 1889; but Bluthenthal & Bickart's witness Withers states that "Old Velvet" was among his brands in both the Roanoke and Lynchburg houses subsequent to May 1, 1889. (Qs. 39, 40.) Bluthenthal & Bickart urge that Bigbie Brothers & Company have not, in view of this evidence, established such transfer of business from Joseph Lawson & Son to them as would carry the rights in the trade-mark "Old Velvet." Bigbie Brothers & Company's Exhibit B purports to be the agreement between Joseph Lawson & Son and Bigbie Brothers & Company upon which the transfer of business on May 1, 1887, was effected. This exhibit was objected to by Bluthenthal & Bickart on the ground that it was not properly proved. The objection was well taken, and the paper is therefore not in evidence as proof of anything for either party. Bigbie, however, testifies that an agreement in accordance with the terms of this exhibit was consummated May 1, 1887. (Bigbie Bros. & Co.'s record, p. 52, Qs. 9–12.) That Bigbie Brothers & Company purchased the stock of Joseph Lawson & Son and rented his place of business upon that date is established by Bluthenthal & Bickart's witness Withers. (Qs. 27, 28.) That Bigbie Brothers & Company regarded themselves as the successors in business of Joseph Lawson & Son subsequent to that purchase appears from the conduct of Bigbie Brothers & Company immediately upon their entrance into business in the matter of brands and labels, as shown by the testimony of Bigbie, to which reference has already been made. It is not testified by any witness that Joseph Lawson & Son did not make such transfer of business to Bigbie Brothers & Company as would carry the right to the trade-mark "Old Velvet." Neither Bluthenthal & Bickart nor The J. & G. Butler Company claim title from the Lawsons, and it is believed that their claims to registration are defeated by the use of the mark in issue by Bigbie Brothers & Company in 1887 and subsequently, irrespective of whether Bigbie Brothers & Company's use was based upon ownership. Lawson's right to the mark after the transfer in 1887 is only of consequence, therefore, in determining whether Bigbie Brothers & Company shall be denied registration, notwithstanding their position as the first to adopt and use the mark among those before the Office seeking registration thereon. It is believed that they should not be denied registration under such circumstances unless the ownership by outsiders is proved. Such proof is wanting in this case. The

proper inference from all the evidence is believed, on the contrary, to be that the whisky business of Joseph Lawson & Son, including the trade-mark rights in the words "Old Velvet," passed to Bigbie Brothers & Company in 1887 and that the subsequent use of this mark by Lawson was probably an infringement of their ownership thereof.

Bluthenthal & Bickart contend that Bigbie Brothers & Company have been guilty of laches in the enforcement of their rights; but the evidence cited in support of this contention is entirely insufficient to support the rejection of Bigbie Brothers & Company's application on that ground.

That The J. & G. Butler Company is entitled to no earlier date of adoption and use of the words "Velvet" or "Old Velvet" as a trade-mark for whisky than 1890 is believed to be clear. The only witnesses who testify definitely to the use of brands or labels in commerce are Fred W. Butler and George S. Butler. Fred W. Butler proves the Butler exhibit "Later Formula Book" and the formula entitled therein "Velvet Rye" as written by him on December 20, 1883. (Qs. 8 and 9.) He also testifies to continuous sale, handling, or preparation of "Old Velvet" rye whisky by the company since 1882, (Q. 12;) but the mere adoption of a name for its goods did not vest in the company trade-mark rights. To acquire such rights, the name must be physically applied to the goods in trade, as by brands or labels on the packages sold. As to the application of the mark to the goods Fred W. Butler was asked and answered as follows:

> Q. 15. I hand you three labels which are marked, respectively, "Butler Exhibit, 1871 Label," "Butler Exhibit, 1890 Label" and "Butler Exhibit, Present Label," and ask you if you are familiar with these labels and if you can do so, tell us when and how they are used or have been used?
>
> (Objection by counsel for Bluthenthal & Bickart, on the ground that the question is rendered indefinite and obscure by presenting three different labels to the witness at the same time and that the question is grossly leading in respect to the dates which have been applied to the several labels as descriptive of them respectively.)
>
> (Same objection by counsel for Bigbie Bros. & Co. and further objected to if it seeks to obtain from the witness testimony as to facts outside of his personal knowledge.)
>
> A. Yes, I can. This label, marked "1871 Label," was used, I am told by members of the firm at that time, from 1871 and know them to be used until 1890. From 1890 until 1900 we used the "1890 Label." From 1900 until the present time we use the "Present Label."

It appears to have been upon this answer that the Examiner of Interferences gave The J. & G. Butler Company the date 1882, when Fred W. Butler entered the business, as its date of adoption of the mark. It is very possible, however, that the witness had no personal knowledge of the use of the labels to which he refers when he entered the business or until shortly before the year 1890. He does not state that he did, and it is not believed that this crucial point, which if true could have been stated and should have been stated by the witness, should be inferred from the statements made. In failing to produce more definite evidence of an earlier date than 1890 for the use of the mark as a trade-mark in the business The J. & G. Butler Company clearly failed to prove its case.

George S. Butler became connected with the company in 1894 or 1895 (Q. 4) and does not claim any knowledge of the business, except by hearsay, prior to 1888, when he was about the store more or less as a fourteen-year-old school-boy. (X-Qs. 42–44.) He offered no admissible statements of the application of the mark in trade prior to 1890. The witness Riley fixes nothing concerning the trade-mark in issue. Samuel H. Davis bought "Old Velvet" whisky from the Butlers in 1851; but he does not establish that the name was applied as a trade-mark. His nearest approach is in answer to question 20; but this unsupported reference to the indication of the brand on a card attached to a jug is regarded as entirely insufficient to prove that the title was so habitually attached to the goods sold as to have become a trade-mark. Marion Davis, referring to the year 1861, or thereabout, states that his father bought "Old Velvet" whisky from J. & G. Butler in jugs which were not labeled, as he remembers. (Qs. 16–18.) He states that whisky was kept in the store in barrels and that the kind of whisky was indicated on the barrel in chalk. No sale of labeled or branded barrels or packages appears. Fuller's testimony covers the period from 1862 to 1890 more or less fully, but is defective in the matter of sales of marked packages. He states that there was only one barrel marked "Velvet Rye" in the store. (X-Q. 33.)

The indication of a name in chalk upon a single barrel from which whisky is sold is not believed to establish a trade-mark right, though continued through a long period of years. There is no liability to confusion of the origin of goods which are sold only upon the premises of the originator. The utility of a trade-mark does not come into existence until the goods have passed from the hands of the originator, and it is only by the presence of the mark upon the goods after they have so passed that rights to the same as a trade-mark are believed to become established.

In *Columbia Mill Co.* v. *Alcorn* (150 U. S., 460, 463) Justice Jackson said of a trade-mark:

> It must be designed, as its primary object and purpose, to indicate the owner or producer of the commodity, and to distinguish it from like articles manufactured by others.

In *McLean* v. *Fleming* (96 U. S., 245, 254) Justice Clifford stated:

> Stamps or trade-marks of the kind are employed to point out the origin, ownership, or place of manufacture or sale of the article to which it is affixed, or to give notice to the public who is the producer, or where it may be purchased.

In *Dennison Mfg. Co.* v. *Thomas Mfg. Co.* (94 F. R., 651, 656) it was said:

> The function of a trade-mark is to indicate to the public the origin, manufacture or ownership of articles to which it is applied, and thereby secure to its owner all benefit resulting from his identification by the public with the articles bearing it.

In *Larrabee* v. *Lewis* (67 Ga., 561) it was said:

> A trade-mark is defined to be the name, symbol, figure, letter, form, or device, used by a manufacturer or merchant to designate the goods he manufactures or sells, to distinguish them from those manufactured or sold by another, to the end that they may be known *in the market* as his, and to secure such profits as result from a reputation for superior skill, industry, or enterprise. (Italics mine.)

The only use of the words "Old Velvet" by the Butlers, so far as proved, seems to have been merely as a name for a certain kind of whisky—a mere matter of convenience in the store or of advertisement. This name does not appear to have served, to have been intended to serve, or to have been so used that it might serve as a means of distinguishing in the market the goods of the Butlers from those of others.

The decision of the Examiner of Interferences awarding priority of adoption and use of the trade-mark in issue to Bigbie Brothers & Company is affirmed.

BEHREND *v.* LAMME.

Decided November 26, 1906.

INTERFERENCE—SHIFTING CLAIMS FROM ONE APPLICATION TO ANOTHER—TRANSMISSION AT REQUEST OF PRIMARY EXAMINER.

Where a party having two applications involved in companion interferences presents amendments canceling the interfering

claims from one application and adding them to the other for the purpose of withdrawing one application from interference and concealing its subject-matter. *Held* that the request of the Primary Examiner that the interference be transmitted to him for the purpose of considering these amendments should be granted, as the other party will not be seriously inconvenienced by the slight delay caused by taking the desired action.

ON PETITION.

DYNAMO-ELECTRIC MACHINE.

Mr. Charles E. Lord and *Mr. Thomas Howe* for Behrend.

Mr. Wesley G. Carr for Lamme.

ALLEN, *Commissioner:*

This is a petition by Behrend from the refusal of the Examiner of Interferences to grant the Primary Examiner's request that the interference papers be transmitted to him for the purpose of considering certain amendments.

It appears from the record that this interference is one of a series of three involving related subject-matter. The preliminary statements have not been opened and the parties have not had access to their opponent's applications. Behrend has two applications, one involved in this interference and the other in interferences No. 26,071 and No. 26,072. In all of the interferences Behrend's opponent is the Westinghouse Electric & Manufacturing Company, as assignee of the applications involved. Behrend has filed amendments canceling from his application involved in this interference the claims in issue and inserting those claims in his other application. His purpose in doing so is to withdraw one of the applications from the interference proceedings, thus withholding it from the view of his opponents. If Behrend's application contains matter which he desires to keep secret, there appears to be no reason why he should not be permitted to do so in the manner suggested.

While, as stated by the Examiner of Interferences, Behrend did not file the amendments referred to above as promptly as he might have done, it is not thought that this is a sufficient reason for refusing to enter them, especially as it does not appear that the other party to the interference will be seriously inconvenienced by the slight delay that will be caused by taking the desired action.

The petition is granted.

EX PARTE HEYLMAN.

Decided November 20, 1906.

APPLICATION—DESCRIPTION—LAUDATORY STATEMENTS.

An applicant should under no circumstances be allowed in his specification to make derogatory statements as to the inventions of others; but within reasonable limits he may in pointing out the advantages of his invention indicate also what he regards as the defects or deficiencies common to structures representing the unimproved art, and the fact that in making this distinction he states that his device is superior to preceding forms in certain respects wherein it differs from them is not a matter of importance. (Citing *ex parte Shaw*, C. D., 1890, 31; *ex parte Schoshusen*, 116 O. G., 2008.)

ON PETITION.

CULTIVATOR.

Mr. George Wetmore Colles for the applicant.

ALLEN, *Commissioner:*

This is a petition from the requirement of the Primary Examiner that certain passages in the specification be canceled or revised. The Examiner is of the opinion that the passages referred to consist of laudatory statements of the character condemned in certain decisions, which he cites. The matter objected to is as follows:

> While former cultivators have been provided with a joint permitting of these movements, the joint or articulation herein shown is of a novel and improved form and constitutes an important element of my invention. * * *
>
> The form of articulation thus described offers advantages over the form previously used, both in the case of construction and of adjustment, and in the manner of removing and replacing the same, because the gang can be disconnected by withdrawing either the bolt 96 or the bolt 102, and withdrawn from the machine without disturbing any other parts of the apparatus. * * *
>
> This construction is superior to old forms not only in the fact that a lateral movement of the treadle is produced by a vertical movement of the foot, which is easiest for the operator to exert, but also in the fact that the link 117 is independent of the axle-arm 28, consequently is removed from the axle-arm along with the shovel-gang by removing the bolt 96; and when the position of the piece 90 is movably adjusted upon the sleeves 82, the link 117 does not require separate adjustment, as is the case in a former construction.

The rule to be followed in determining the limit to which an applicant may go in comparing his invention with the prior art was well stated in the case of *ex parte Shaw*, (C. D., 1890, 31,) from which the following passage is quoted:

> I am very clear that under no circumstances whatever should applicants be allowed in their specifications to make derogatory statements as to the inventions of others; but, on the other hand, I am equally convinced that the Office cannot assume the duty of determining when language of general criticism may be employed, as in the present case. It may be difficult to draw the line; but the line must be drawn, and it must be held that within reasonable limits an applicant may, in pointing out the advantages of his invention, point out also what he regards as the defects or deficiencies common to the structures representing the unimproved art.

The language used by the applicant to which exception has been taken does not seem to exceed the bounds of propriety either in the way of hostile criticism of the inventions of others or objectionable praise of his own device. Rule 36 of the Rules of Practice requires that the specification must distinguish between what is old and is claimed as new. The fact that the applicant in making this distinction states that his device is superior to preceding forms in certain respects wherein it differs from them is not a matter of importance. It is probable that in all cases applicants regard their inventions as having some points of superiority over prior devices.

The language objected to in this case seems to distinguish between what is new and what is old, as required by the rule, and, as stated in *ex parte Schoshusen*, (116 O. G., 2008,) should be distinguished from statements which are mere laudatory and are inserted for advertising purposes.

The petition is granted.

EX PARTE LEICH.

Decided November 20, 1906.

1. ABANDONED APPLICATION—SUFFICIENCY OF AMENDMENT.

Where the first amendment made by applicant five days before the expiration of the year from the Examiner's first action rejecting all the claims consisted of a few corrections to the specification, an argument as to the patentability of the claims, and the addition of a new claim, and the Examiner in admitting this amendment and rejecting the claims warned applicant that it was not such an action as the condition of the case required and that the added claim was so broad as to be met in nearly all selective signaling systems, and where, following this, applicant filed an amendment two days before the expiration of a year from the last action of the Examiner in which he amended all of the claims except the broad claim added by the previous amendment, which claim he neither canceled nor amended nor presented any reasons why he considered it allowable, *Held* that the latter amendment was not entirely responsive to the Examiner's rejection and was not sufficient to save the application from abandonment.

2. SAME—REPEATED DELAYS—RIGHTS STRICTLY CONSTRUED.

Where an applicant attempts to excuse the delay in the prosecution of his case on the ground that its subject-matter is dominated by certain claims in a copending application and that he considered it advisable to press the broad application to allowance before letting this application go to issue, *Held* that the conduct of applicant in the prosecution of his case has not been

such as to entitle him to leniency in the application of the rule that amendments must be such as the condition of the case requires and that in electing to prosecute his application in this manner he must assume all risk as to the sufficiency of his actions.

ON PETITION.

SELECTIVE SIGNALING SYSTEM.

Messrs. Bulkley & Durand for the applicant.

ALLEN, *Commissioner:*

This is a petition from the action of the Primary Examiner holding this application to be abandoned.

The record of this application shows that applicant's first amendment was filed April 10, 1905, five days before the expiration of the year from the Examiner's first action rejecting all the claims. This amendment made a few corrections in the specification, argued the patentability of the claims over the references, and added a new claim. This amendment was admitted by the Examiner; but in his letter rejecting all of the claims he warned applicant that his amendment was not such an action as the condition of the case required and that the added claim was so broad as to be met in nearly all of the many selective signaling systems. It thus appears that the Examiner is of the opinion that this claim was inserted merely to prevent him from finally rejecting the claims in his next action, and thereby closing the prosecution of the case before him.

The Examiner's action of May 2, 1905, following this amendment, rejected all the claims. On April 30, 1906, two days before the expiration of a year from the Examiner's action, applicant filed an amendment in which all of the claims were amended except the broad claim added by the previous amendment. This claim 11 was neither amended nor canceled by applicant, nor did he present any reasons why he considered it allowable. The Examiner held this amendment not to be such an amendment as the case required and that the case was abandoned. Following this action of the Examiner, applicant filed an amendment on June 7, 1906, canceling claim 11, which amendment the Examiner refused to enter and repeated his action holding the case abandoned. Applicant thereupon brought this petition.

Accompanying the brief in behalf of applicant is the affidavit of one of his attorneys that—

> * * * in the preparation of the amendment dated April 28, 1906, it was applicant's intention to cancel claim 11, as this claim was clearly met by the references; that the failure to do so was a mere clerical error, and an oversight in the preparation of the said amendment.

The amendment of April 30, 1906, was clearly not entirely responsive to the Examiner's rejection, since no action whatever was taken as to claim 11. (*Ex parte Schmitt and Tanody*, 121 O. G., 688.)

Applicant's conduct in the prosecution of the case has not been such as to entitle him to leniency in the application of the rule that the amendment must be such as the condition of the case requires. (*Ex parte Ries*, 113 O. G., 1147; *ex parte Naef*, 115 O. G., 2135.)

Petitioner attempts to excuse the delay in the prosecution of his case on the ground that the subject-matter of this application is dominated by certain claims in a copending application and that he has "considered it advisable to press the broad application to allowance before letting this application go to issue." In electing to prosecute his application in this manner, however, the applicant must assume all risk as to the sufficiency of his actions. (*Ex parte Morrison*, 99 O. G., 2969.)

Under the circumstances of this case it is held that applicant's amendment is not sufficient to save the case from abandonment.

The petition is denied.

EX PARTE HIETT.

Decided November 16, 1906.

REISSUE—LONG DELAY IN FILING APPLICATION EXCUSED.

H. filed an application on September 16, 1896, upon which a patent was granted on April 20, 1897. In 1898 H. instructed his attorneys to prepare a reissue application, but before such application was filed F. obtained a patent dated July 4, 1899, on an application filed May 31, 1898, covering mechanism of the character covered by H.'s patent. In looking over the record of the F. patent H. found an affidavit filed to overcome the rejection of his claims, the oath stating that the invention had been made "many months prior to September 16, 1896," the filing date of H.'s application. In view of this affidavit H. considered it useless to apply for a reissue. In a suit brought in 1904 by the assignee of the F. patent against the assignee of the H. patent it was brought out that the machine to which the affidavit referred as having been made "many months" before H. filed his application had, in fact, been made in 1889 or 1890, and the court held that said machine was either inoperative and impracticable or abandoned by laches. *Held* that under the circumstances a reissue applied for promptly after the decision of the court should not be refused on the ground of delay in applying therefor.

APPEAL from Examiners-in-Chief.

CALCULATING-MACHINE.

Mr. Thomas F. Sheridan for the applicant.

MOORE, *Acting Commissioner:*

This case comes before me on appeal from the decision of the Examiners-in-Chief affirming the rejection by the Primary Examiner, on the ground of laches, of claims 55, 56, and 57 of Hiett's application for a reissue patent.

Hiett filed his original application September 16, 1896, and his patent was granted April 20, 1897. On May 31, 1898, Dorr E. Felt applied for a patent on mechanism of the character covered by the Hiett patent, and in order to overcome the rejection of his claims he filed an affidavit containing allegations of fact which, if true, were a sufficient compliance with Rule 75 of the Rules of Practice. In this affidavit Felt stated that he made the invention covered by the rejected claims—

> many months prior to September 16, 1896, which is the filing application date of Patent No. 580,863, to D. J. K. T. Hiett.

Felt's patent was granted July 4, 1899.

In his affidavit accompanying his reissue application Hiett alleges that in the year 1898 he instructed his attorneys to prepare an application for reissue and that during the investigation necessary for this action the Felt patent was issued. Hiett states that the record of this patent was then examined and that in view of the fact that Felt had, as stated in his affidavit, made the invention "many months prior to September 16, 1896," he, Hiett, realized that it would be useless for him to apply for a reissue.

It appears that on April 18, 1904, the Comptograph Company, assignee of Felt's patent, filed a bill in equity against the Universal Adding Machine Company, assignee of Hiett's patent, for infringement of claims 1, 2, and 4 of the Felt patent, which are identical with claims 55, 56, and 57 of Hiett's reissue application. In the final adjudication of this case by the Circuit Court of Appeals for the Seventh Circuit it was found that the machine which Felt in his patent application made oath that he constructed many months

prior to September 16, 1896, was, in fact, made many years prior to that date—namely, in the year 1889 or 1890. The court further found upon the evidence that this machine was either inoperative and impracticable or, if operative and practical, it was abandoned and lost through the eight years of inaction that followed its construction. In accordance with these findings the decree of the circuit court was reversed, with instructions to enter a decree dismissing the bill for want of equity. Promptly thereafter Hiett filed his application for reissue, upon which this appeal is based.

It is contended on behalf of Hiett that he is not chargeable with laches on account of accepting Felt's sworn statement as true; that Felt in alleging that he made the invention many months prior to September 16, 1896, conveyed a false impression and prevented either the Patent Office or Hiett from entertaining the idea that his machine was built eight or nine years prior to the filing of his application and from raising the question of abandonment upon which the circuit court of appeals based its decision. This contention is considered sound, and there appears to be no good reason for charging Hiett with laches for attaching the same significance to Felt's affidavit that was given to it by this Office at the time of granting Felt's patent. The expression "many months" naturally excluded the idea that Felt had made the machine eight or nine years prior to the filing of his application and had since abandoned it. As soon as the true state of facts was revealed by the proceedings in the infringement suit provoked by Hiett's assignees he promptly filed his reissue application. To hold that his inaction prior to that time worked a forfeiture of his right to a reissue patent would have the effect of enabling Felt to profit by the misleading statement made in his affidavit. Under these circumstances the precise length of the delay in applying for a reissue is thought to have no bearing on the rights of the reissue applicant.

So far as known no case has ever arisen involving a state of facts identical with that existing in the present case. In the cases of *Dunbar* v. *Eastern Elevator Company* (75 Fed. Rep., 570) and *Thomson-Houston Electric Company* v. *Black River Traction Company* (135 Fed. Rep., 759) the facts were somewhat similar, and in both cases the reissued patents were held valid.

The decision of the Examiners-in-Chief is reversed.

Disclaimer.

11,992.—(Reissue.)—*John O'Leary*, Cohoes, N. Y. CONVERTIBLE CAR. Patent dated May 20, 1902. Disclaimer filed January 7, 1907, by inventor and assignee.

Enter their disclaimer—

"To that part of the claim in said specification which is in the following words, to wit:

"7. In a convertible open and closed car, the combination of the sliding window sashes and panels, one of said parts being formed with an abutment for the other to bear against and for sustaining one part from the other as they are raised, and means for supporting the sashes and panels in the space between the chamber-walls in the top of the car, substantially as described.

"8. In a convertible open and closed car, the combination of the sliding window sashes and panels, one of said parts being formed with an abutment for the other to bear against and for sustaining one part from the other when they are raised, and means for supporting the sashes and panels in the space between the ceiling and roof of the car, substantially as described.

"9. In a convertible open and closed car, the combination of the sliding window sashes and panels, one of said parts being formed with an abutment having a recess to receive a portion of the other, so that the parts may be moved together and one be supported from the other when stored in the space between the ceiling and roof of the car, substantially as described."

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 2, 1907.

Lyman F. Palmer and H. H. Wetherbee & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Crescent Manufacturing Company, of Seattle, Wash., for registration of a trade-mark, a trade-mark registered to Lyman F. Palmer, of Topeka, Kans., and a trade-mark registered to H. H. Wetherbee & Company, of Boston, Mass. The notices of declaration mailed by the Patent Office in the usual manner to the said Lyman F. Palmer and H. H. Wetherbee & Company have been returned by the Post-Office Department undelivered, and it appears of record in the interference that both of said parties are probably out of business.

Notice is therefore hereby given to the said Lyman F. Palmer and to H. H. Wetherbee & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 2, 1907.

Charles A. Raymond, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for registration of a trade-mark filed by the Bay State Shoe & Leather Company, of Worcester, Mass., a registered trade-mark to the same company, and a trade-mark registered to Charles A. Raymond, of Boston, Mass., and New York, N. Y. The notice of declaration of said interference mailed by the Patent Office in the usual manner to the said Charles A. Raymond, 195 Congress street, Boston, Mass., has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said Charles A. Raymond, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 8, 1906.

Gustave Bossange, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the American Cement Company, of Philadelphia, Pa., for registration of a trade-mark and a trade-mark registered to Gustave Bossange, of New York, N. Y., whose known address is No. 54 Worth Street, in said city. The notice of declaration of said interference and also subsequent communications mailed by the Patent Office in the usual manner to the said Gustave Bossange have been returned by the Post-Office Department with the statement that he cannot be found.

Notice is therefore hereby given to the said Gustave Bossange his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

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[BY AUTHORITY OF CONGRESS.]

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Patents	504	No. 841,654 to No. 842,157, inclusive.
Designs	8	No. 38,420 to No. 38,427, inclusive.
Trade-Marks	237	No. 59,819 to No. 60,055, inclusive.
Labels	6	No. 13,326 to No. 13,331, inclusive.
Prints	3	No. 1,894 to No. 1,896, inclusive.
Reissues	3	No. 12,598 to No. 12,600, inclusive.
Total issue	761	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	1	1	New Hampshire	8	1
Alaska, District of	.....	.....	New Jersey	20	15
Arizona Territory	1	.....	New Mexico Ter't'y	.....	.....
Arkansas	.....	.....	New York	59	64
California	17	3	North Carolina	3	.....
Colorado	3	3	North Dakota	2	.....
Connecticut	16	2	Ohio	34	12
Delaware	1	.....	Oklahoma Territ'y	.....	.....
District of Columbia	7	.....	Oregon	6	1
Florida	2	1	Pennsylvania	47	19
Georgia	7	.....	Philippine Islands	.....	.....
Hawaii Territory	.....	.....	Porto Rico	.....	.....
Illinois	46	19	Rhode Island	4	5
Indian Territory	3	.....	South Carolina	.....	1
Indiana	14	9	South Dakota	1	1
Iowa	5	.....	Tennessee	3	6
Kansas	6	1	Texas	5	1
Kentucky	4	4	Utah	2	.....
Louisiana	6	1	Vermont	1	2
Maine	2	2	Virginia	8	1
Maryland	7	5	Washington	7	.....
Massachusetts	38	30	West Virginia	2	.....
Michigan	12	2	Wisconsin	11	4
Minnesota	11	5	Wyoming	.....	.....
Mississippi	1	.....	U. S. Army	.....	.....
Missouri	21	9	U. S. Navy	.....	.....
Montana	3	.....			
Nebraska	2	2	Total to citizens of the United States	460	232
Nevada	1	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Natal	.....	.....
Austria-Hungary	3	.....	Netherlands	.....	.....
Belgium	.....	.....	Newfoundland	1	.....
Brazil	.....	.....	New South Wales	.....	.....
British West Indies	.....	.....	New Zealand	.....	.....
Canada	6	.....	Norway	.....	.....
Cape Colony	.....	.....	Persia	.....	.....
Chile	.....	.....	Queensland	.....	.....
China	.....	1	Roumania	.....	.....
Costa Rica	.....	.....	Russia	2	.....
Cuba	.....	.....	Scotland	2	2
Denmark	.....	.....	South Australia	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	6	5	Sweden	2	.....
France	8	.....	Switzerland	1	3
Germany	18	3	Transvaal, South Africa	.....	.....
Haiti	.....	.....	Victoria	.....	.....
Ireland	1	.....	Western Australia	1	.....
Italy	1	.....			
Japan	.....	.....			
Java	.....	.....	Total to citizens of foreign countries	52	14
Mexico	.....	.....			

Interference Notice.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 2, 1907.

Lyman F. Palmer and H. H. Wetherbee & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Crescent Manufacturing Company, of Seattle, Wash., for registration of a trade-mark, a trade-mark registered to Lyman F. Palmer, of Topeka, Kans., and a trade-mark registered to H. H. Wetherbee & Company, of Boston, Mass. The notices of declaration mailed by the Patent Office in the usual manner to the said Lyman F. Palmer and H. H. Wetherbee & Company have been returned by the Post-Office Department undelivered, and it appears of record in the interference that both of said parties are probably out of business.

Notice is therefore hereby given to the said Lyman F. Palmer and to H. H. Wetherbee & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

Renewal of Forfeited Cases.

RULE 175. When the patent has been withheld by reason of nonpayment of the final fee, any person, whether inventor or assignee, who has an interest in the invention for which such patent was ordered to issue may file a renewal of the application for the same invention; but such second application must be made within two years after the allowance of the original application. * * *

RULE 176. In such renewal the oath, petition, specification, drawing, and model of the original application may be used or the second application; but a new fee ($15) will be required. * * *

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business January 15, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Jan. 9	Jan. 9	75
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Jan. 7	Dec. 17	94
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Jan. 3	Dec. 22	200
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Jan. 3	Dec. 20	95
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	Jan. 2	Dec. 26	149
321	I. Tillage, etc., Fences, and Railway Draft Appliances.	Jan. 2	Dec. 22	111
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	Jan. 2	Dec. 19	143
109	XVI. Telegraphy and Telephony..	Jan. 2	Dec. 19	121
167	V. Bookbinding, Harvesters, Jewelry, and Music.	Jan. 2	Dec. 19	236
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Jan. 2	Dec. 19	138
327	XVIII. Steam-Engineering, etc ...	Jan. 2	Dec. 19	146
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Jan. 2	Dec. 19	162
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Jan. 2	Dec. 19	169
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Jan. 2	Dec. 19	231
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Jan. 2	Dec. 18	319
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Jan. 2	Dec. 17	175
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Jan. 2	Dec. 17	190
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Jan. 2	Dec. 17	173
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Jan. 2	Dec. 17	176
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Jan. 2	Dec. 17	162
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Signals, Time Controlling Mechanism.	Dec. 29	Dec. 17	267
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Dec. 28	Dec. 17	190
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	Dec. 28	Dec. 17	203
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Dec. 27	Dec. 19	148
122	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Dec. 26	Dec. 19	296

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Dec. 24	Dec. 19	173
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Dec. 24	Dec. 18	260
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Dec. 22	Dec. 17	300
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Dec. 19	Dec. 19	443
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	Dec. 19	Dec. 19	402
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Dec. 18	Dec. 17	325
382	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	Dec. 17	Dec. 17	276
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Dec. 17	Dec. 17	290
343	XXXIX. Cushion and Pneumatic Tires, Fine Arts, and Water Distribution.	Dec. 17	Dec. 17	505
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	Dec. 17	Dec. 17	241
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Dec. 15	Dec. 3	343
175	III. Annealing and Tempering, Coating with Metal, Electro-chemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Dec. 14	Dec. 18	274
332	X. Carriages and Wagons.....	Dec. 10	Dec. 10	465
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Dec. 3	Dec. 3	617
	Total number of applications awaiting action			9,283
159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Trade-Marks	Jan. 14	Jan. 11	77
	Designs	.....	Jan. 7	11
	Labels and Prints	.....	.....	.....

Interference Notice.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.
Washington, D. C., January 9, 1907.

Charles B. Hull, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of The J. F. Zahm Tobacco Company, of Toledo, Ohio, for registration of a trade-mark, and a trade-mark registered to the said company, and also a trade-mark registered to Charles B. Hull, of Detroit, Mich. It has been impossible to locate said Hull, and his attorney of record is no longer in business.

Notice is therefore hereby given to the said Charles B. Hull, his assigns or legal representatives that if they or any of them desire to contest the said interference, they should immediately put themselves in communication with the Commissioner of Patents.

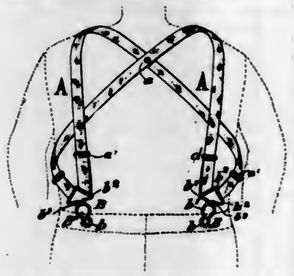
This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

PATENTS

GRANTED JANUARY 22, 1907.

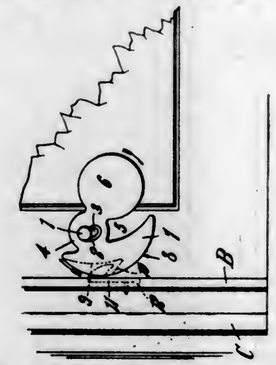
841,654. SUSPENDERS. JOEL U. ADAMS, Cincinnati, Ohio. Filed Mar. 17, 1906. Serial No. 306,581.



Claim.—1. A suspender-fitting made of a continuous piece of wire which is shaped so as to form midway between its ends a spring-curl which constitutes the upper part of the fitting; the two branches of wire diverging outwardly then inwardly again, forming substantially a triangle, the lateral members of which are adapted to receive each a suspender-strap end; the wire branches crossing each other in the base-line of the triangle, after which they are bent downwardly to form a button-loop below the triangle; the wire terminating in the lower part of the loop and the ends crossing each other to close the same, and a ring through which the wire branches pass.

2. In a suspender-fitting, the combination of a single piece of wire shaped at its lower end to form a button-loop and at its upper part to form strap-attaching bars; the wire above the button-loop bent outwardly in opposite directions and then upwardly and inwardly forming a triangular-shaped strap-attaching piece, a band passing around the wires at the juncture of the button-loop and the base of the triangular-shaped piece, substantially as shown and described.

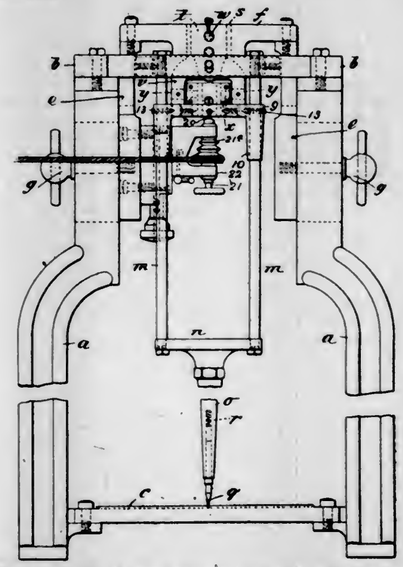
841,655. SASH-FASTENER. GEORGE W. ADAMSON, Crider, Ky. Filed Oct. 6, 1906. Serial No. 337,806.



Claim.—1. A sash fastener and support comprising a plate, a hooked extension projecting therefrom, a pivot, a movable member having a curved slot therein constituting a seat for the pivot, oppositely-arranged weight and cam portions integral with the movable member, the working face of said cam portion and the walls of the slide being formed along converging curves, the working face of said cam having a recess therein adapted to receive and engage the hooked extension.

2. A sash-support comprising an intermediate portion having a curved slot therein, a weight portion extending from one end of said intermediate portion and a combined wedge and cam portion extending from the opposite end thereof, the working face of said cam portion being disposed eccentrically in relation to the slot and adapted to bear upon a structure to support a sash in raised position.

841,656. ENGRAVING-MACHINE. WALTER ARMSTRONG, Chicopee, Mass. Filed Sept. 3, 1904. Serial No. 223,219.



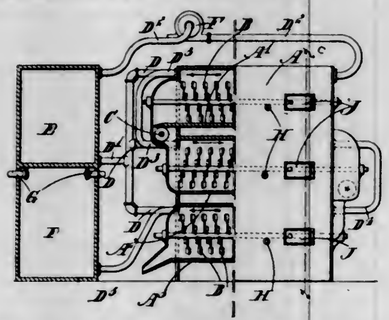
Claim.—1. In an engraving-machine, a suitable frame, a pattern, a stylus arranged in operative relation to the pattern and supported to have its tip swing in a horizontal plane, a cutting-tool, a work-holder carrier having a pivotal support, a work-holder having a pivotal connection with said carrier at right angles to the axis of said pivotal support, an operative connection between the work-holder and the stylus, and means for lengthening or shortening the radius on which the work-holder carrier swings in one direction.

2. In an engraving-machine, a frame, a pattern, a stylus operatively arranged to the pattern and having a gimbal-joint support, a cutting-tool, a work-holder carrier having a vertically-adjustable pivotal support, a work-holder having pivotal connections with said carrier at right angles to the axis of said pivotal support, and a gimbal-joint connection between the stylus and the work-holder below said pivotal connections.

3. In an engraving-machine, a suitable frame, a pattern, a stylus-carrying frame having a gimbal-joint support, a vertically-adjustable work-holder carrier supported to swing in one plane, a rotary cutting-tool having a support

correspondingly adjustable to that of the work-holder carrier, a work-holder having a pivotal mounting on the carrier at right angles to the axis of said swinging movement, and a gimbal-joint connection between the work-holder, and the stylus-carrying frame.

841,657. PROCESS OF TREATING REFRACTORY ORES. LESLIE V. ATKINSON, Carshalton, England. Filed Mar. 26, 1906. Serial No. 308,159.



Claim.—1. A process for the treatment of refractory sulfid ores consisting in roasting the ore, returning the gases given off by it into the furnace and alternating the admission of such gases into the furnace with air substantially as and for the purpose set forth.

2. A process for the treatment of refractory sulfid ores consisting in roasting the ore, returning the gases given off by it into the furnace, alternating the admission of such gases with air and spraying weak acid upon the ore in the furnace substantially as and for the purpose set forth.

3. A process for the treatment of refractory sulfid ores consisting in roasting the ore, returning the gases given off by it into the furnace, alternating the admission of such gases with air, spraying weak acid upon the ore in the furnace and removing the sulfated metals from the roasted ore together in an acid solution substantially as and for the purpose set forth.

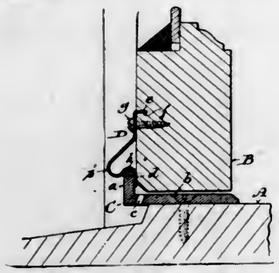
4. A process for the treatment of refractory sulfid ores consisting in roasting the ore in a furnace having a plurality of hearths, moving the ore mechanically from one hearth to the other, grinding it during its passage to expedite the sulfation of the metals and returning the gases given off by the ore into the furnace substantially as and for the purpose set forth.

5. A process for the treatment of refractory sulfid ores consisting in roasting the ore in a furnace having a plurality of hearths, moving the ore mechanically from one hearth to the other, grinding it during its passage to expedite the sulfation of the metals, returning the gases given off by the ore into the furnace and alternating the admission of such gases with air substantially as and for the purpose set forth.

6. A process for the treatment of refractory sulfid ores consisting in roasting the ore in a furnace having a plurality of hearths, moving the ore mechanically from one hearth to the other, grinding it during its passage to expedite the sulfation of the metals, returning the gases given off by the ore into the furnace, alternating the admission of such gases with air and spraying weak acid upon the ore in the furnace substantially as and for the purpose set forth.

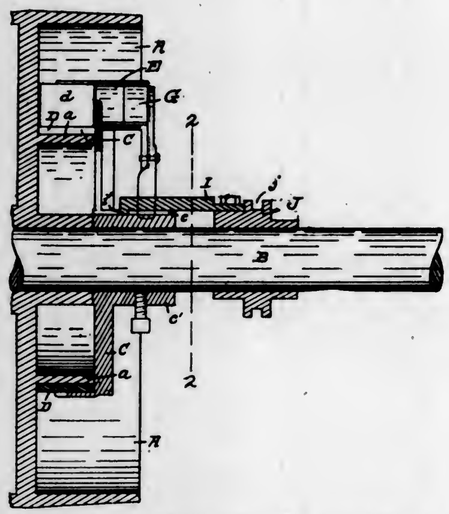
7. A process for the treatment of refractory sulfid ores consisting in roasting the ore in a furnace having a plurality of hearths, moving the ore mechanically from one hearth to the other, grinding it during its passage to expedite the sulfation of the metals, returning the gases given off by the ore into the furnace, alternating the admission of such gases with air, spraying weak acid upon the ore in the furnace and removing the sulfated metals from the roasted ore together in an acid solution substantially as and for the purpose set forth.

841,658. METALLIC WEATHER-STRIPPING. FRANK L. BADER, Milwaukee, Wis. Filed Nov. 17, 1906. Serial No. 343,788.



Claim.—A metallic weather-strip comprising a swinging door or sash member having a flared extension terminating in an ogee curve, a lip depending from the ogee curve, in combination with a stop-rail provided with a flange for engagement with the lip and ogee-curved portion of the strip.

841,659. FRICTION-CLUTCH. NICHOLAS W. BAECHLE, Cincinnati, Ohio. Filed Mar. 23, 1906. Serial No. 307,580.



Claim.—1. In a friction-clutch, the combination of a friction-rim; a friction-ring adapted to contact therewith and free to move radially and circumferentially; means for applying force to both ends of the ring; and means for actuating the ring-operating means, said means being movable toward either ring-operating means, and away from the other, substantially as specified.

2. In a friction-clutch, the combination of a friction-rim; a friction-ring adapted to contact therewith; shafts provided with arms; means on the shafts for applying force to both ends of the ring; and means for actuating the shaft-arms, said means being adjustable toward either shaft-arm and away from the other, substantially as specified.

3. In a friction-clutch, the combination of a friction-rim; a friction-ring adapted to contact therewith and free to move radially and circumferentially; shafts provided with arms; means on the shafts for applying force to both ends of the ring; and common means for actuating the shaft-arms, said means being adjustable toward either shaft-arm and away from the other, substantially as specified.

4. In a friction-clutch, the combination of a friction-rim; a friction-ring adapted to contact therewith and free to move radially and circumferentially; lugs on the ends of the ring; shafts carrying operative means adapted to contact with the lugs; arms on the shafts; and means for actuating the arms to force the ring into engagement with the friction-surface, substantially as specified.

5. In a friction-clutch, the combination of a friction-rim; a loose friction-ring adapted to contact therewith; lugs on the ends of the ring having bearing-surfaces inclined toward each other; and means for applying force to the lugs simultaneously to force them upwardly and inwardly, substantially as specified.

6. In a friction-clutch, the combination of a friction-rim; a loose friction-ring adapted to contact therewith; lugs on the ends of the ring; shafts carrying operative means adapted to contact with the lugs; arms on the shafts; and a nose for actuating the arms to force the ring into engagement with the friction-surface, substantially as specified.

7. In a friction-clutch, the combination of a friction-rim; a friction-ring adapted to contact therewith; lugs on the ends of the ring; shafts carrying operative means adapted to contact with the lugs; arms on the shafts; and a nose for actuating the arms to force the ring into engagement with the friction-surface, the nose being free to move laterally relatively to either arm, substantially as specified.

8. In a friction-clutch, the combination of a friction-rim; a friction-ring adapted to contact therewith; lugs on the ends of the ring; shafts carrying operative means adapted to contact with the lugs; arms on the shafts; and a nose, carrying friction-rollers, for actuating the arms to force the ring into engagement with the friction-surface, substantially as specified.

9. In a friction-clutch, the combination of a friction-rim; a friction loose ring adapted fo contact therewith; lugs on the ends of the ring; shafts having flattened ends adapted to bear on the lugs; operative arms on the shafts; and means for operating the arms, substantially as specified.

10. In a friction-clutch, the combination of a friction-rim; a friction loose ring adapted to contact therewith; lugs on the ends of the ring; shafts having flattened ends adapted to bear on the lugs; operative arms on the shafts; and a nose for operating the arms, substantially as specified.

11. In a friction-clutch, the combination of a friction-rim; a friction-ring adapted to contact therewith; lugs on the ends of the ring; shafts having flattened ends adapted to bear on the lugs; operative arms on the shafts; and a nose carrying antifriction-rollers, for operating the arms, substantially as specified.

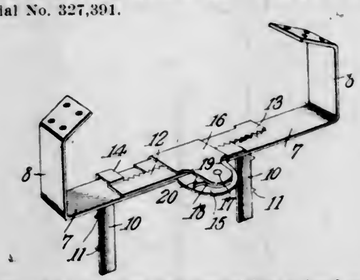
12. In a friction-clutch, the combination of pulley A carrying friction-flange *a;* casing C encompassing flange *a;* friction-ring D supported by the casing and adapted to contact with flange *a;* bearings E on casing C; shafts F in bearings E and having operative connections with the ends of rings D; and means for operating shafts F, substantially as specified.

13. In a friction-clutch, the combination of pulley A carrying annular friction-flange *a;* casing C encompassing flange *a;* friction-ring D having lugs *d* on its ends; shafts F mounted in bearings E on casing C and having flattened ends *f* contacting with lugs *d;* and means for operating shafts F, substantially as specified.

14. In a friction-clutch, the combination of pulley A carrying annular friction-flange *a;* casing C encompassing flange *a;* friction-ring D having lugs *d* on its ends; shafts F mounted in bearings E on casing C and having flattened ends *f* contacting with lugs *d;* arms C on shafts F; and nose I, carrying rollers *i*, for operating arms G, substantially as specified.

15. As a means for operating friction-clutches, a friction-ring, a shaft having a larger flattened portion adapted to bear on the ring and a smaller portion adapted to carry the operative means; and a strengthening-shoulder between the two portions of the shaft, substantially as specified.

841,660. ADJUSTABLE FLUE OR CHIMNEY CAP. JESSE M. BARNES, Sarcoxie, Mo. Filed July 23, 1906. Serial No. 327,391.



Claim.—1. A chimney-cap comprising a hood provided with a plurality of depending arms adapted to engage the interior walls of the chimney, said arms being provided with laterally-extending mortar-engaging spurs.

2. A chimney-cap comprising a hood provided with a plurality of laterally-adjustable depending arms adapted to engage the interior walls of the chimney, said arms being provided with mortar-engaging spurs.

3. A chimney-cap comprising a hood, bars secured to the hood and extended transversely across the top of the chimney, arms slidably mounted on the bar and adapted to engage the interior walls of the chimney, and means for locking the arms in adjusted position.

4. A chimney-cap comprising a hood, bars secured to the hood and extended transversely across the top of the chimney, depending arms slidably mounted on the bars and adapted to engage the interior walls of the chimney, mortar-engaging spurs carried by the arms, and means for locking the latter in adjusted position.

5. A chimney-cap comprising a hood, bars secured to the hood and extended transversely across the top of the chimney, arms depending from the bars and provided with lateral extensions slidably mounted on said bars, and means for locking the extensions in engagement with each other.

6. A chimney-cap comprising a hood, bars secured to the hood and extended transversely across the top of the chimney, arms slidably mounted on the bar and provided with lateral extensions the adjacent edges of which are serrated, and a clamping member for locking the serrated edges of the extensions in engagement with each other.

7. A chimney-cap comprising a hood, bars secured to the hood and extended transversely across the top of the chimney, depending arms slidably mounted on the bars and provided with lateral extensions, and a cam pivotally mounted on the bars and adapted to engage the extensions.

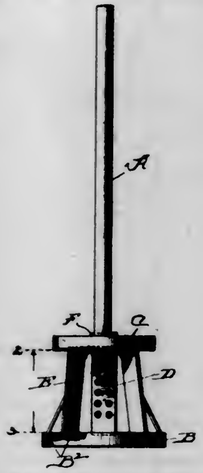
8. A chimney-cap comprising a hood, bars extending transversely across the chimney and having their opposite ends bent upwardly and secured to the hood, said bars being provided with intermediate housings, depending arms slidably mounted on the bars and provided with lateral extensions the adjacent edges of which are slidably mounted within the housings and provided with teeth, and a cam pivotally mounted in the housings and adapted to bear against the extensions for locking the latter in engagement with each other.

9. A chimney-cap comprising a hood, bars extending transversely across the top of the chimney and having their opposite ends bent upwardly and secured to the hood, depending arms slidably mounted on the bars and adapted to engage the interior walls of the chimney said arms being provided with lateral extensions one of which is formed with an offset portion to permit longitudinal movement of the adjacent extension, and a cam pivotally mounted on the bars and adapted to bear against the extensions for locking the same in engagement with each other.

10. A chimney-cap comprising a conical-shaped hood, bars secured to the hood and extending transversely across the top of the chimney, arms slidably mounted on the bars and provided with depending extensions having

lateral mortar-engaging spurs, and means for clamping the arms in adjusted position.

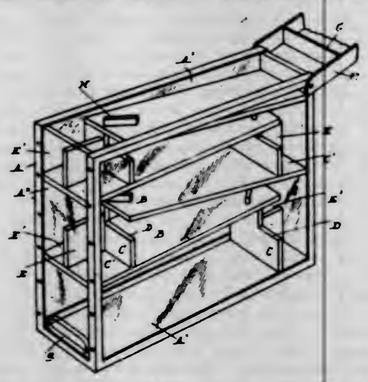
841,661. CHURN-DASHER. JOHN F. BERTRAM, St. Louis, Mo. Filed Nov. 9, 1905. Serial No. 286,618.



Claim.—1. A churn-dasher comprising a dash-rod, a disk fixed to the lower end of the rod, a disk slidable on the rod, a plurality of strips resting loosely on the fixed disk and supporting the slidable disk, and means for locking the slidable disk upon the upper ends of the strips.

2. A churn-dasher comprising a dash-rod, two concentric disks carried by the rod, said disks being perforated, the opposing faces of said disks having alternately-arranged radial and tangential grooves, and upwardly and inwardly inclined strips adapted to space the disks apart, the ends of the strips engaging said grooves.

841,662. FISH-LADDER. THOMAS BRANCH, Otisville, Mich. Filed Sept. 22, 1906. Serial No. 335,699.



Claim.—1. In a fish-ladder, the combination with an open-top casing having an opening through the lower end of one wall, of a series of superposed inclined planes in said casing, for the purpose described.

2. In a fish-ladder, the combination with an open-top casing having transparent panels and an opening through the lower end of one wall, of a series of superposed inclined planes in said casing, for the purpose described.

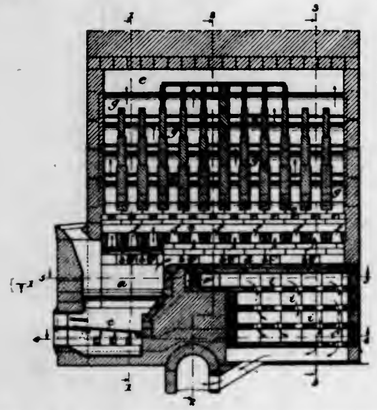
3. In a fish-ladder, the combination with an open-top casing having an opening through the lower end of one wall, of a series of inclined planes connecting the sides of said casing and extending from alternate ends of said casing to points adjacent to the opposite ends, for the purpose described.

4. In a fish-ladder, the combination with an open-top casing having an opening through the lower end of one wall, of a series of inclined planes connecting the sides of said casing and extending from alternate ends of said casing to points spaced from the opposite ends, and transverse partitions below the spaced end of each plane, for the purpose described.

5. In a fish-ladder, the combination with an open-top casing having an opening through the lower end of one wall, of a series of inclined planes connecting the sides of said casing and extending from alternate ends thereof to points spaced from the opposite ends, transverse partitions below the spaced end of each plane, the partitions extending from intermediate points on said transverse partition to the adjacent ends of the casing, for the purpose described.

6. In a fish-ladder, the combination with an open-top casing having an opening through the lower end of one wall, of a series of superposed inclined planes in said casing, and means for leading water to the top of said casing, substantially as described.

841,663. RECUPERATIVE FURNACE. FREDERICK BREDEL, Milwaukee, Wis. Filed Oct. 11, 1905. Serial No. 282,253.



Claim.—1. In a recuperative furnace two generator or fire chambers arranged side by side, and communicating with each other through openings in the wall between them, a combustion-chamber located above and communicating with both generator or fire chambers through passages in the upper walls thereof, and retorts mounted in said combustion-chamber, substantially as described.

2. In a recuperative furnace two generator-chambers having extension-flues in the gas zone arranged side by side, a combustion-chamber located above said flues, a wall between the flues and combustion-chamber which communicates with both flues through passages in the intervening wall, and retorts in said combustion-chamber, substantially as described.

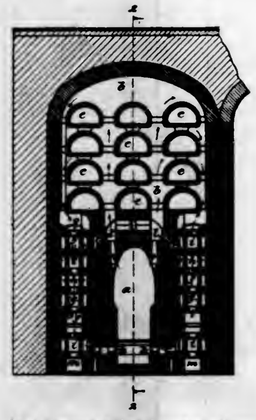
3. In a recuperative furnace two generator-chambers having horizontal extension-flues in the gas zone arranged side by side and communicating with each other through openings in the wall between them, a combustion-chamber communicating with both of said flues through passages in the intervening walls, and retorts in said combustion-chamber, substantially as described.

4. In a recuperative furnace two generator or fire chambers arranged side by side and communicating with each other adjacent to their gas zone through openings in the wall between them, a combustion-chamber communicating through openings with the generator-chambers, retorts mounted in said combustion-chamber, and recuperators having primary air-flues leading into the generator-chambers and secondary air-flues leading into the combustion-chamber, substantially as described.

5. In a recuperative furnace two generator or fire chambers arranged side by side, a combustion-chamber communicating with said generator-chambers, retorts mounted in said combustion-chamber, and recuperators having primary air-ducts leading into the generator-chambers, and a plurality of independent secondary air-ducts leading into different parts of the combustion-chamber, substantially as described.

6. In a recuperative furnace two generator or fire chambers arranged side by side and communicating with each other through openings in the wall between them, a combustion-chamber located above and communicating with said generator-chambers, retorts mounted in said combustion-chamber, and recuperators having primary air-flues leading into the generator-chambers, secondary air-flues leading into the combustion-chamber, and gas escape-flues leading from the combustion-chamber and adjoining the air-flues, said chambers and recuperators being inclosed together, substantially as described.

841,664. RECUPERATIVE FURNACE. FREDERICK BREDEL, Milwaukee, Wis. Filed Dec. 29, 1905. Serial No. 293,736.



Claim.—1. In a recuperative furnace, a recuperator comprising a continuous series of solid partition-tiles dividing the recuperator-chamber into air and gas flues, and separator-blocks grooved to receive the edges of said partition-tiles and to prevent lateral displacement thereof and bearing against and bracing opposite walls of the recuperator-chamber, substantially as described.

2. In a recuperative furnace, a recuperator comprising walls which inclose a chamber, a continuous series of vertically-disposed solid partition-tiles dividing said chamber into air and gas flues, and horizontally-disposed separator-blocks grooved to receive the adjoining edges of said partition-tiles and projecting on one side beyond their outer faces and bearing against and bracing opposite walls of said chamber, substantially as described.

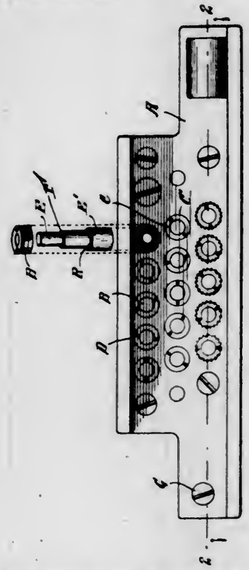
3. In a recuperative furnace, a recuperator comprising walls inclosing a flue chamber or space, a continuous series of solid vertically-disposed partition-tiles dividing said chamber into air and gas flues, and horizontally-disposed separator-blocks grooved to receive the upper and lower edges of said partition-tiles and extending on one side beyond the outer faces thereof and bearing against and bracing opposite walls of said chamber, substantially as described.

4. In a recuperative furnace, a recuperator comprising walls inclosing a flue space or chamber, solid partition-tiles dividing said space into air and gas flues, and separator-blocks extending across said chamber and bearing on opposite sides against the walls of said chamber, said separator-blocks being grooved between and parallel with said walls to receive the upper and lower edges of said partition-tiles and having openings through them in the gas-flue space between the partition-tiles, substantially as described.

5. In a recuperative furnace, a recuperator comprising walls inclosing a flue-chamber, continuous series of solid partition-tiles dividing said chamber into air and gas flues, and separator-blocks having interlocking projections at their adjoining ends and longitudinal grooves in the under and upper sides to receive the upper and lower edges of the partition-tiles beyond which they project and bear against opposite side walls of said chamber, substantially as described.

6. In a recuperative furnace, a recuperator comprising walls inclosing a flue chamber or space, vertically-disposed partition-tiles dividing said space into air and gas flues, separator-blocks grooved to receive the upper and lower edges of said partition-tiles beyond which they project against opposite walls of said chamber, and bridge-blocks covering joints between adjoining ends of the separator-blocks, substantially as described.

841,665. BUSHING FOR AIR-PIN PLATES. JONATHAN F. CHAMBERS, Washington, D. C., assignor of one-half to Uriel C. Hays, Jr., Washington, D. C. Filed Oct. 26, 1906. Serial No. 340,751.



Claim.—1. The combination with an air-pin plate of a monotype casting-machine, a series of detachable bushings carried by the plate adapted to receive a series of pins extending therethrough, as set forth.

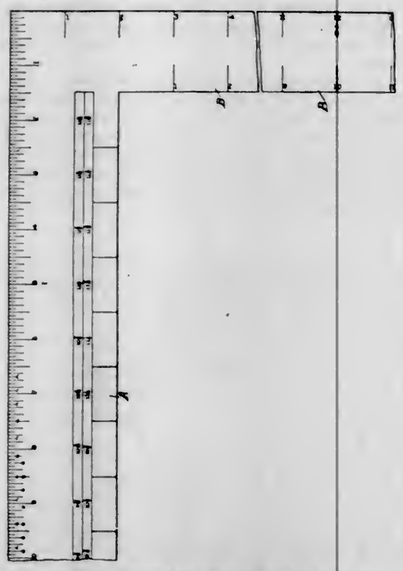
2. The combination with an air-pin plate of a monotype casting-machine, a series of detachable bushings carried by the plate, and air-pins extending through said bushings and held in place thereby, as set forth.

3. The combination with an air-pin plate of a monotype casting-machine, a series of detachable bushings carried by the plate, each having threaded conpection with the threads in the margins of apertures in said pin-plate, and air-pins extending through said bushings and retained in place thereby, as set forth.

4. The combination with an air-pin plate of a monotype casting-machine, a series of bushings having their outer surfaces threaded and engaging threads in the apertures of said plate, the opening in each bushing being threadless, pins each passing through a bushing and provided each with a shoulder adapted to contact with the inner end of

the bushing to limit the throw of the pin in one direction, and springs for returning the pins to their normal positions, as set forth.

841,666. CARPENTER'S SQUARE. LLEWELLYN W. COLE, South Shaftsbury, Vt., assignor to Eagle Square Manufacturing Company, South Shaftsbury, Vt., a Corporation of Vermont. Filed June 22, 1905. Serial No. 266,369.

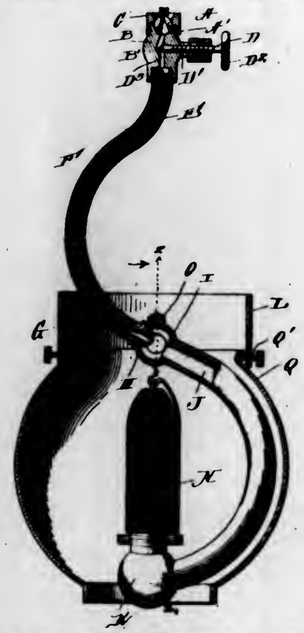


Claim.—1. A carpenter's square having, along the edge of its body, scale-marks indicating inches and fractional parts thereof, said inch-marks being numbered consecutively, and having associated with said respective inch-numbers one set of integral and fractional numbers based upon the relationship of said respective inch-numbers to the units of rise per unit of run of the main rafters and indicating different distances in inches and fractional parts thereof from the corner of the square to points in said scale to be used in connection with a common point on the tongue of the square to direct the proper placing of the square so that one of its members shall coincide with the proper lines of side cut for certain rafters for different pitches of roof, a plurality of said scale-marks at the indicated distances from the corner of the square having severally associated therewith similar distinguishing signs or characters, and having associated with said respective inch-numbers another set of integral and fractional numbers based upon the relationship of said respective inch-numbers to the unit of rise per unit of run of the main rafters and indicating different distances in inches and fractional parts thereof from the corner of the square to points in said scale to be used in connection with a common point on the tongue of the square to direct the proper placing of the square so that one of its members shall coincide with the proper lines of side cut for certain other rafters for different pitches of roof, a plurality of said scale-marks at the last-mentioned indicated distances from the corner of the square having severally associated therewith similar distinguishing signs or characters differing from said first-mentioned signs or characters.

2. A carpenter's square having along the edge of its body scale-marks indicating inches and fractional parts thereof, said inch-marks being numbered consecutively, and having associated with said respective numbers integral and fractional numbers based upon the relationship of said respective inch-numbers to the unit of rise per unit of run of the main rafters and indicating different distances in inches and fractional parts thereof from the corner of the square to points in said scale to be used in connection with a common point on the tongue of the square to direct the proper placing of the square so that one of its members shall coincide with the proper lines of side cut for rafters for different pitches of roof, a plurality of said scale-marks at the indicated distances from the corner of the square having severally associated therewith similar distinguishing signs or characters.

3. A carpenter's square having along the edge of its body scale-marks indicating inches and fractional parts thereof, said inch-marks being numbered consecutively, and having associated with said respective inch-numbers integral and fractional numbers based upon the relationship of said respective inch-numbers to the unit of rise per unit of run of the main rafters and indicating different distances in inches and fractional parts thereof from the corner of the square to points in said scale to be used in connection with a common point on the tongue of the square to direct the proper placing of the square so that one of its members shall coincide with the proper lines of cut for rafters for different pitches of roof, a plurality of said scale-marks at the indicated distances from the corner of the square having severally associated therewith similar distinguishing signs or characters.

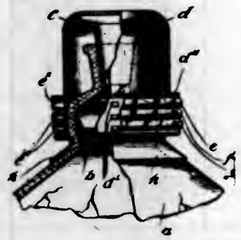
841,667. GASOLENE-LAMP. WILLIAM C. COLEMAN, Wichita, Kans. Filed May 7, 1906. Serial No. 315,584.



Claim.—A gasolene-lamp comprising a curved generating-tube, the ends of which are in vertical alinement, a globe-supporting band, a cross-piece secured to said band, an open-ended shell fixed to said cross-piece and provided with an aperture therein, the lower end of said generating-tube terminating in a threaded flanged jet engaging a threaded aperture in said shell, a filter and screen within said generating-tube, a semicircular outlined Bunsen having threaded connection with the walls of an aperture in said shell and in direct alinement with said jet and spaced apart therefrom, and a burner underneath said shell, as set forth.

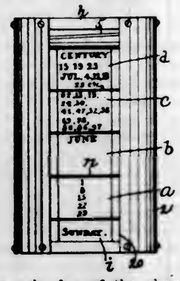
841,668. BOTTLE-CLOSURE. ALFRED A. COWLES, New York, N. Y. Filed Sept. 7, 1906. Serial No. 333,661.

Claim.—1. In a locking-closure for bottles, flasks and other receptacles, the combination with the receptacle, a cap or cover therefor, a ring mounted to turn annularly upon but secured to one of these parts, a second ring mounted to turn annularly upon but secured to the first said ring, the other of said parts, to which the said rings are not so secured, being provided with lock members and the said rings being provided with coöperating combination-lock members, thereby constituting a combination-lock for the said receptacle and cap or cover.



2. In a locking-closure for bottles, flasks and other receptacles, the combination with the neck, of a cap or cover therefor, one of said parts being provided with a plurality of movable rings, secured to said part and to each other, the other part being provided with lock members and the rings also being provided with coöperating combination-lock members, thereby constituting a combination-lock for the said receptacle and cap or cover.

841,669. PERPETUAL CALENDAR. OLE W. DAHL, Malden, Mass., assignor of one-third to Hans Ludwig Christiansen and one-third to Harald Tidemand, Boston, Mass. Filed Dec. 19, 1905. Serial No. 292,510.



Claim.—1. In a calendar of the character described, in combination, a plurality of superimposed rotatable rings or disks having their circumferences subdivided into seven spaces, there being characters on two of said disks or rings in said spaces indicative of the centuries and years respectively, there being characters on another ring indicative of the months, there being characters on another ring indicative of the days of the month, and the names of the week-days on another ring or disk, and means for connecting the disk or ring bearing the names of the week-days with the other rings or disks, whereby the week-day disk is caused to rotate with each of the other rings or disks, substantially as described.

2. In a calendar of the character described, in combination, a plurality of superimposed disks or rings having their circumferences subdivided into seven spaces and provided with characters, one of said rings or disks having numerals arranged in sequence of seven to indicate centuries in the Julian calendar and having other numerals arranged in sequence of four to indicate centuries in the Gregorian calendar, and another disk coöperating with the century-disk and having numerals arranged in each space in the sequence "6, 5, 6, 11," the other rings or disks having the names of the months, days of the week, and numerals indicative of the days in a month, substantially as described.

3. In a calendar of the character described, in combination, a plurality of devices movable with relation to each other and having their surfaces subdivided into seven spaces, the spaces on one device being provided with numerals arranged in sequence of seven to indicate the centuries in the Julian calendar, and having other numerals in sequence of four to indicate centuries in the Gregorian calendar, another device having its spaces provided with numerals indicative of years and arranged in sequence of "6," "5," "6" and "11," another device having its spaces provided with the name of the months, another device havings its spaces provided with numerals in sequence of seven to indicate the days of the month, and another device having its spaces provided with the names of the week-days, substantially as described.

4. In a calendar of the character described, in combination, a plurality of rings or disks having their circumference subdivided into seven spaces, one of said rings or disks having its spaces provided with numerals arranged in sequence of "6," "5," "6" and "11," to indicate years in a century, another disk or ring having the names of the months in its spaces, another disk or ring having its spaces provided with numerals arranged in sequence of seven to indicate the days of the month, and another disk having its spaces provided with the days of the week, means for supporting said disks, and means for effecting rotation of the day-disk with each of the other disks and of the said other disks independently of each other.

5. In a calendar of the character described, in combination, a shaft, a hub or sleeve loose thereon and provided with seven ratchet-teeth on its circumference, a disk fast to said hub or sleeve to revolve therewith, a plurality of rings loosely mounted on said hub or sleeve and provided with pawls to engage the said ratchet-teeth, washers separating said rings, said disk and rings having their circumferences subdivided into seven spaces which contain legends or characters for the purpose specified.

841,670. MAGAZINE REPEATING FIREARM. EDWARD DEHM, Fruita, Colo. Filed Dec. 7, 1905. Serial No. 290,730.



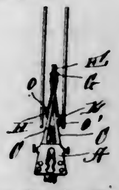
Claim.—1. In a firearm, a firing-chamber, a magazine, a breech-bolt longitudinally movable at the rear of the chamber and provided at its side with a slot substantially straight to a point near its end and then deflected, a carrier pivoted intermediate its length at the rear of the magazine below the bolt, a pin connecting the rear end of the carrier with the slot in the bolt, a sliding fore-arm, an action-bar extending from the fore-arm to the side of the

bolt, and a link connection between the bar and bolt to allow a slight movement of the fore-arm independent of the bolt.

2. In a firearm, a firing-chamber, a magazine, a breech-bolt longitudinally movable at the rear of the chamber and provided at its side with a slot substantially straight to a point near its end and then deflected, a carrier pivoted intermediate its length at the rear of the magazine below the bolt, a pin connecting the rear end of the carrier with the slot in the bolt, a sliding fore-arm, an action-bar extending from the fore-arm to the side of the bolt, a bolt-lock pivoted to the side of the bolt and provided with an oblique slot, and a pin fixed to the action-bar and engaging in the slot.

3. In a firearm, a firing-chamber, a magazine, a breech-bolt longitudinally movable at the rear of the chamber and provided at its side with a slot substantially straight to a point near its end and then deflected, a carrier pivoted intermediate its length at the rear of the magazine below the bolt, a pin connecting the rear end of the carrier with the slot in the bolt, a sliding fore-arm, an action-bar extending from the fore-arm to the side of the bolt, a bolt-lock pivoted to the side of the bolt and provided with an oblique slot, a pin fixed to the action-bar and engaging in the slot, a firing-pin longitudinally movable in the bolt and provided at its rear end with a head, a spring pressing the pin forward in its slot, a spring-pressed detent to catch the head of the firing-pin in the forward movement of the bolt and retain the same against the tension of its spring, a trigger-lever controlling the detent, a trigger arranged to tilt the lever to withdraw the detent, a recess in the trigger, and a safety-slide mounted in the gun-frame and arranged to engage the recess to prevent unintentional discharge.

841,671. FILE-HOLDER FOR FILING-MACHINES. JOSEPH A. DENNIS, Ardmore, Ind. Ter. Filed Apr. 28, 1906. Serial No. 314,244.

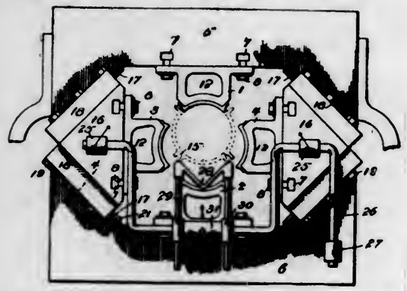


Claim.—1. A device for holding files, comprising a grooved arm having its end outwardly bent and flattened with an aperture through said bent portion, a spring seated in said groove, a cam pivotally mounted in projections upon the said walls of said groove and adapted to swing within the groove and engaging the handle of a file, whereby the latter may be held against the said spring and the bottom of the groove intermediate the spring and said flattened portion, as set forth.

2. A file-holding apparatus, comprising an arm having a groove or channel running longitudinally thereof, a spring countersunken in the bottom of said channel, the outer end of the arm being bent at an angle and flattened at the extreme end, the bent portion having an aperture therein, the lower marginal edge of said aperture being in alinement with the bottom of the channel, said aperture adapted to receive the tip of a file, the end of which bears against the flattened end thereof, the side walls of the channel having lugs, a pin mounted in said lugs, a cam pivotally mounted upon said pin and adapted to bear against the handle of the file and hold the same in contact with the said spring and against the bottom of the channel intermediate the fixed end of the spring and flattened end of the arm, as set forth.

841,672. WOOD-ORNAMENTING MACHINE. ELMER C. DITTMAR, Williamsport, Pa. Filed Dec. 7, 1905. Serial No. 290,844.

Claim.—1. A device for ornamenting wood comprising an expansible and contractible series of ornamenting-dies completely inclosing the periphery of the work when contracted and all acting mutually to sustain the pressure of each other, the movable dies all moving toward a common center, and means for equalizing this movement.



2. A device for ornamenting wood comprising an expansible and contractible series of ornamenting-dies completely inclosing the periphery of the work when contracted and all acting mutually to sustain the pressure of each other, a part of said series of dies being movable toward a common center and toward a relatively fixed die, and means for equalizing this movement.

3. In a wood-ornamenting machine, a movable die member, a work-holder supported thereon, means to prevent a movement of said work-holder laterally of the die and to permit rectilinear movement therewith, and means to permit a travel of said die laterally on the work-holder.

4. In an ornamenting-machine, a plurality of dies adapted when in contact to inclose the peripheral surface of the article to be ornamented thereby, a work-holder supported upon two of said dies to travel therewith toward an intermediate die, and means to permit the travel of the supporting-dies toward and from each other upon said work-holder.

5. In an ornamenting-machine, opposite dies carried by supporting-frames, intermediate dies disposed upon carriages contacting with oppositely-inclined faces of the supporting-frames, means for adjusting said dies laterally and longitudinally of their supporting means, and a work-holder mounted upon the intermediate dies for vertical movement therewith.

6. In an ornamenting-machine, opposite dies carried by supporting-frames, intermediate dies disposed upon carriages contacting with oppositely-inclined faces of the supporting-frames, means for adjusting said dies laterally and longitudinally of their supporting means, a work-holder mounted upon the intermediate dies for vertical movement therewith, and means upon the frame of one of the opposite dies to prevent lateral movement of the work-holder.

7. In a wood-ornamenting machine, a die-holder provided with a curved face, a die having radial ribs extending therefrom and adapted to be secured to said holder at each side of said face, a lateral flange upon the holder at opposite sides of said die, and means for adjustably securing said flange upon a support.

8. In a wood-ornamenting machine, a die-holder provided with a curved face, a die having radial ribs extending therefrom and adapted to be secured to said holder at each side of said face, a lateral flange upon the holder at opposite sides of said die, an undercut slotted support, and a securing-bolt extending through a lateral slot in said flange from said support.

9. In a wood-ornamenting machine, a stationary member, an opposite movable member each provided with oppositely-inclined faces, triangular carriages at opposite sides of said members engaging said faces, dies supported upon said members and carriages to travel toward and from each other, an open socket extending from said carriages, a work-holder having horizontally-disposed portions to rest in said sockets a depending rod extending from said work-holder, and a sleeve carried by one of the members through which said rod passes to resist lateral movement thereof.

10. In a wood-ornamenting machine, die-supports, a work-holder mounted thereon and provided with a depending U-shaped portion, a sleeve mounted upon said portion for adjustment longitudinally thereon, sockets provided upon said sleeve, a work-rest, and depending standards from said rest adjustably mounted in said sockets.

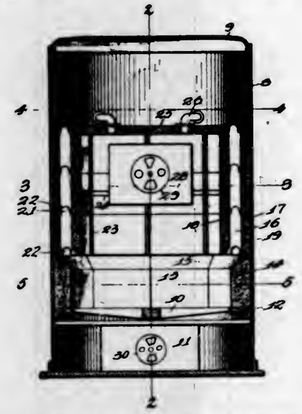
11. In a wood-ornamenting machine, die-supports, a work-holder mounted thereon and provided with a depending U-shaped portion, a sleeve mounted upon said portion for adjustment longitudinally thereon, sockets provided upon said sleeve, a work-rest, depending standards from said rest adjustably mounted in said sockets, horizontally-disposed arms at the upper portion of said holder, and a depending rod at the end of one of said arms.

12. In an ornamenting-machine, a fixed die, a movable die adapted to travel directly toward the same, opposite side dies constructed and arranged for diagonal movement toward the fixed die, and a work-holder constructed and arranged to travel upward with the side dies at a less speed than the movement of the remaining die.

13. In an ornamenting-machine, a fixed die, a movable die adapted to travel directly toward the same, opposite side dies constructed and arranged for diagonal movement toward the fixed die, a work-holder constructed and arranged to travel upward with the side dies at a less speed than the movement of the remaining die, and means for resisting the lateral movement of the work-holder during the travel of said dies thereon.

14. In an ornamenting-machine, a fixed die, a movable die adapted to travel directly toward the same, opposite side dies constructed and arranged for diagonal movement toward the fixed die, a work-holder constructed and arranged to travel upward with the side dies at a less speed than the movement of the remaining die, means for resisting the lateral movement of the work-holder during the travel of the side dies thereon, and means for adjusting a work-rest upon said holder relative to the fixed die.

841,673. SMOKE-BURNING FIRE-BOX FOR STOVES, FURNACES, AND BOILERS. JAMES J. DOCKERY, St. Louis, Mo. Filed Nov. 14, 1905. Serial No. 287,337.



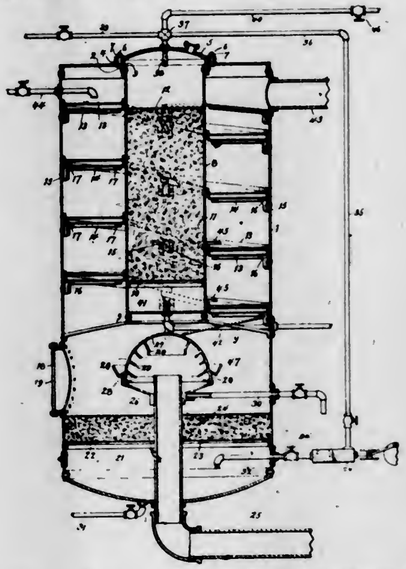
Claim.—1. A smoke-burning fire-box composed of blocks having a tapered upper edge forming the base of the fire-box, a plurality of hollow blocks built upon the blocks forming the base and arranged together forming direct passage-ways from the top to the bottom the tapered upper edge establishing communication between the passage-ways and the interior of the fire-box, and a cover located upon the top of the fire-box, substantially as specified.

2. A device of the class described, comprising a casing, a plurality of fireproof blocks located within said casing, said blocks so constructed that when joined together passage-ways are formed, establishing communication between the fire-box and the upper portion of the casing, an interlocking device formed on the blocks to support one block upon the cover, and a cover inclosing the space between the blocks forming the fire-box, substantially as specified.

3. A smoke-burning fire-box comprising a plurality of fireproof blocks arranged together to form the fire-box, the upper ends being beveled, a plurality of blocks provided with channels built upon the blocks forming the fire-box, said blocks composed of two sections adapted to form a passage when joined together, the beveled ends establishing communication between the passages and interior of the fire-box, lugs formed on the upper ends of the blocks, and recesses formed on the lower ends of said blocks, said lugs and recesses acting as a locking means to support said blocks in position, a slab located upon the top of said blocks and held in position by the lugs on the upper blocks, pipes passing downwardly through the slab acting as air-passages from the atmosphere to the fire-box, substantially as specified.

4. A device of the class described comprising a fire-box composed of solid and hollow fireproof blocks, a cover formed upon the top of the fire-box, the hollow blocks when joined together form passages through which the heat and draft passes to the smoke-stack, suitable draft-passages leading to the top of the fire-box supplying air to mix with the particles of combustion, substantially as specified.

841,674. FEED-WATER HEATER. JOHN DODGE, Milwaukee, Wis. Filed Mar. 31, 1906. Serial No. 309,038.



Claim.—1. In a feed-water heater, the combination with inner and outer casings, and a waterway between the two and encircling the inner casing and adapted to discharge the water from the lower end thereof, means for feeding water into the casing and onto the waterway, means for heating the water in its passage along the waterway, a filter through which the water percolates after being discharged from the waterway, a pipe connecting the outer casing with the inner casing, and adapted to conduct the filtered and heated water into said inner casing, a filter in the inner casing, and a pipe leading from the inner casing and adapted to conduct the water after its second filtration to the boiler.

2. In a feed-water heater, the combination with inner and outer casings and a waterway between the two and encircling the inner casing, and adapted to discharge the water from the lower end thereof, means for feeding water into the casing and onto the waterway, means for heating the water in its passage along the waterway, a filter through which the water percolates after being discharged from the waterway, a pipe connecting the outer

casing with the inner casing and adapted to conduct the filtered and heated water into said inner casing, a live-steam pipe having communication with the inner casing and adapted to discharge live steam therein, a filter in the inner casing and a pipe leading from the inner casing and adapted to conduct the water, after its second filtration, to the boiler.

3. In a feed-water heater, the combination of an outer jacket or casing, an inner casing suspended in said outer casing, a waterway within the outer casing and encircling the inner casing, means for introducing water into the outer casing so as to flow along the waterway and off the lower end of said waterway, means for introducing a heating agent into the outer casing, so that it shall circulate in the space above and below the waterway, a discharge for said heating agent, a filter in the lower portion of the outer casing but arranged above the bottom of said casing so as to form a hot-water chamber below the filter, a pipe leading from said chamber and to and into the inner casing, means for drawing the water from the hot-water chamber into said pipe and forcing the same along the pipe and into the inner casing, a filter within the inner casing, and a pipe leading from said inner casing and adapted to conduct the filtered feed-water to the boiler.

4. In a feed-water heater, the combination of an outer jacket or casing, an inner casing suspended in said outer casing, a waterway within the outer casing and encircling the inner casing, means for introducing water into the outer casing so as to flow along the waterway and off the lower end of said waterway, an exhaust-steam pipe leading and adapted to discharge into the outer casing, so that the steam discharged from said pipe shall circulate in the spaces above and below the waterway, an exhaust-steam discharge, a filter in the lower portion of the outer casing, but arranged above the bottom of said casing so as to form a hot-water chamber below the filter, a pipe leading from said chamber to and into the inner casing, means for drawing the water from the hot-water chamber into said pipe and forcing the same along the pipe and into the inner casing, and a pipe leading from said inner casing and adapted to conduct feed-water to the boiler.

5. In a feed-water heater, the combination of an outer jacket or casing, an inner casing suspended in said outer casing and terminating at a point a distance above the bottom of the outer casing, a waterway within the outer casing and encircling the inner casing, means for introducing water into the outer casing so as to flow along the waterway and off the lower end of said waterway, an exhaust-steam pipe leading into the space of the outer casing below the lower end of the inner casing, so that the steam discharged from said pipe shall circulate in the space above and below the waterway, a hood above the upper end of the exhaust-steam pipe, a pan below said hood, a drain-pipe leading from the pan, an exhaust-steam discharge leading from the outer casing, a filter in the lower portion of the casing, but arranged above the bottom of said casing so as to form a hot-water chamber below the filter, a pipe leading from said chamber to and into the inner casing, means for drawing water from the hot-water chamber into said pipe and forcing the same along the pipe and into the inner casing, a filter within the inner casing, and a pipe leading from the inner casing and adapted to conduct the feed-water to the boiler.

6. In a feed-water heater, the combination of an outer jacket or casing, a waterway within said casing, means for feeding water into the casing so as to flow along the waterway and off the lower end of said waterway, a steam-pipe leading into the space of the outer casing below the waterway, so that the steam discharged from said pipe shall circulate in the space above and below the waterway, a hood above the upper end of the steam-pipe, and adapted to have the water discharged on the outer surface thereof, a pan below said hood, a drain-pipe leading from the pan, a steam-discharge leading from the casing, and means for conducting the water from out the casing to the boiler.

7. In a feed-water heater, the combination of a jacket or casing, a waterway within said casing, means for introducing water into the casing so as to flow along the waterway and off the lower end of said waterway, a steam-pipe leading into the space of the casing below the waterway, so that the steam discharged from said pipe shall circulate in the space above and below the waterway, a hood above the upper end of the exhaust-pipe, and adapted to have the water discharged onto the outer surface thereof, the under side of said hood provided with a series of downwardly-extending projections, a pan below said hood, a drain-pipe leading from the pan, a steam-discharge leading from the casing, and means for conducting the water from the casing to the boiler.

8. In a feed-water heater, the combination of a jacket or casing, a waterway within the casing, means for introducing water into the casing so as to flow along the waterway and off the lower end of said waterway, a steam-pipe leading into the space of the casing below the waterway, so that the steam discharged therefrom shall circulate in the space above and below the waterway, a hood above the upper end of the steam-pipe, the water adapted to be discharged onto the outer surface thereof, and the under side of the said deflector provided with a series of downwardly-extending ring projections, a pan below the deflector, a drip-pipe leading from the pan, a steam-discharge leading from the casing, and means for conducting the water from the casing to the boiler.

9. In a feed-water heater, the combination of a jacket or casing having means therein for the circulation of water therethrough, a steam-pipe entering the interior space of the casing and adapted to discharge steam into said casing, a steam-discharge pipe leading from the casing, a hood arranged over the discharge end of the steam-pipe, said hood adapted to have the water discharged onto the outer surface thereof, a pan below the hood, a drain-pipe leading from the pan, and means for conducting the water out of the casing to the boiler.

10. In a feed-water heater, the combination of an outer jacket or casing, an inner casing suspended in said outer casing, a waterway within the outer casing and encircling the inner casing, the side edges of said waterway being slightly removed from contact with the inner side of the outer casing and the outer side of the inner casing, means for introducing water into the outer casing so as to flow along the waterway and off the lower end of said waterway, means for introducing a heating agent into the outer casing, so that said heating agent shall circulate in the space above and below the waterway, a discharge for said heating agent, a pipe for conducting the said heated water to and into the inner casing a filter within the inner casing, and a pipe leading from said inner casing and adapted to conduct the feed-water to the boiler.

11. In a feed-water heater, the combination of an outer jacket or casing, an inner casing suspended in said outer casing, a waterway within the outer casing and encircling the inner casing, means for introducing water into the outer casing so as to flow along the waterway and off the lower end thereof, means for introducing a heating agent into the outer casing, so that said heating agent shall circulate in the space above and below the waterway, a discharge for said heating agent, a filter in the lower portion of the outer casing through which the heated water percolates, a pipe for conducting the water after its first filtration to and into the inner casing, a filter within the inner casing, and a pipe leading from said inner casing and adapted to conduct the feed-water to the boiler.

12. In a feed-water heater, the combination of a jacket or casing, a spiral waterway within said casing, and consisting of a series of separate pans overlapping each other at adjacent ends, the under sides of said pans provided with downwardly-projecting lugs, lugs on the inner wall of the jacket or casing and provided with vertical openings, rods beneath the overlapping ends of the pans and against which the downwardly-projecting lugs of the pans bear, the outer ends of said rods being bent downwardly and fitted in the vertical openings of the lugs of the jacket or casing, and the portion of each rod which is in advance of the downwardly-turned end being seated in a notch in the upper edge of each jacket-lug, means for introducing water into the inner casing so as to flow along the waterway and off the lower end thereof, means for introducing a heating agent in the casing, so that said heating agent shall circulate in the space above and below the waterway, a discharge for said heating agent, and means for conducting the heated water to the boiler.

13. In a feed-water heater, the combination of a jacket or casing, having a manhole-opening provided with a removable cover, a waterway within the casing, means for introducing water into the casing so as to flow along the waterway and off the lower end of said waterway, a steam-pipe entering the space of the casing below the waterway, a pan at the upper end of said pipe, a hood removably supported above the upper end of the pipe and above the pan, a discharge for said steam, and means for conducting the heated water to the boiler.

14. In a feed-water heater, the combination of an outer jacket or casing having an opening in its top, an inner casing secured to the edge of the top opening of the outer casing and extending downwardly a desired distance into said outer casing, a removable cover for said opening of the outer casing and the upper open end of the inner casing, a waterway within the outer casing and encircling the inner casing, means for introducing water into the outer casing so as to flow along the waterway and off the lower end of said waterway, means for introducing a heating agent into the outer casing, so that it shall circulate in the space above and below the waterway, a discharge for said heating agent, a filter in the lower portion of the outer casing through which the heated water is adapted to percolate, a pipe adapted for conducting said heated and filtered water into the inner casing, a filter within the inner casing, and a pipe leading from said inner casing and adapted to conduct the feed-water to the boiler.

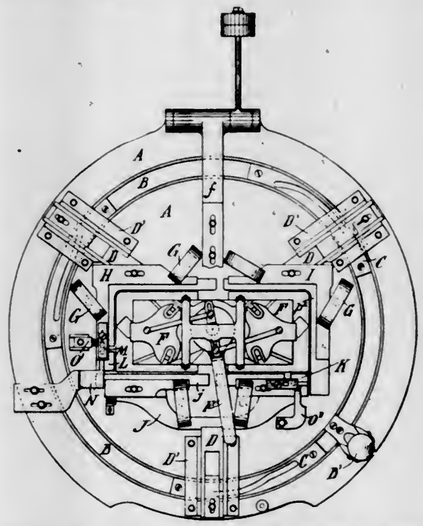
15. In a feed-water heater, the combination of an outer jacket or casing, an inner casing suspended in said outer casing, a waterway within the outer casing and encircling the inner casing, means for introducing water into the outer casing so as to flow along the waterway and off the lower end of said waterway, means for introducing a heating agent into the outer casing, so that it shall circulate in the space above and below the waterway, a discharge for said heating agent, a filter in the lower portion of the outer casing through which the heated water percolates, a pipe leading from the space of the casing below the filter to and into the inner casing, means for drawing water from said space into said pipe and forcing the same along the pipe and into the inner casing, a live-steam pipe connecting with said water-pipe, a filter within the inner casing, and a pipe leading from said inner casing and adapted to conduct the feed-water to the filter.

16. In a feed-water heater, the combination of an outer jacket or casing, an inner casing suspended in said outer casing, a waterway within the outer casing and encircling the inner casing, means for introducing water into the outer casing so as to flow along the waterway and off the lower end of said waterway, means for introducing a heating agent into the outer casing, so that it shall circulate in the space above and below the waterway, a discharge for said heating agent, a filter in the lower portion of the outer casing, a pipe leading from the space below the filter and to and into the inner casing, means for drawing the water from the said space into the said pipe and forcing the same along the pipe and into the inner casing, a filter within the inner casing, a pipe leading from said inner casing and adapted to conduct the feed-water to the boiler, and a valve-controlled blow-off pipe communicating with the water-pipe at a point outside of the casing.

17. In a feed-water heater, the combination of a jacket or casing, a waterway within said casing, means for feeding water into the casing so as flow along the waterway and off the lower end of said waterway, a steam-pipe leading into the space of the casing below the waterway, so that the discharged steam therefrom shall circulate in the space above and below the waterway, a hood above the upper end of the steam-pipe, and adapted to have the water discharged on the outer surface thereof, a trough around the outer side of the hood and at the lower portion thereof, a pan below the hood, a drain-pipe leading from the pan, a steam-discharge leading from the casing, and means for conducting the water from out of the casing to the boiler.

18. In a feed-water heater, the combination with inner and outer casings, and a waterway between the two and encircling the inner casing and adapted to discharge the water from the lower end thereof, means for feeding water into the casing and onto the waterway, means for heating the water in its passage along the waterway, a pipe connecting the outer casing with the inner casing, and adapted to conduct the heated water into said inner casing, a filter in the inner casing, and a pipe leading from the inner casing and adapted to conduct the water to the boiler.

841,675. INFOLDING-MACHINE. GARRY J. DORMANDY, Troy, N. Y., assignor to United Shirt and Collar Company, Troy, N. Y., a Corporation. Filed Nov. 24, 1902. Serial No. 132,669.



Claim.—1. In a folding-machine, a support for a blank to be folded, infolders for folding adjacent sides of the blank, means for moving said infolders successively inward, the infolder that has prior movement having a separately-movable fold-defining edge portion over which the infolder having later movement infolds the blank, means for moving said fold-defining edge portion out of operative position, and means for locking said edge portion in its moved position.

2. In a folding-machine, a support for a blank to be folded, infolders for folding adjacent sides of the blank, means for moving said infolders successively inward, the infolder that has prior movement having a fold-defining edge portion over which the infolder having later movement infolds the blank, means for moving said fold-defining edge portion out of operative position during the movement of the later-actuated infolder, and means for locking said edge portion in its moved position.

3. In a folding-machine, a support for a blank to be folded, infolders for folding adjacent sides of the blank, means for moving said infolders successively inward, the infolder that has prior movement having a fold-defining edge portion over which the infolder having later movement infolds the blank, means on said later-actuated infolder for moving said fold-defining edge portion out of operative position, and means for locking said edge portion in its moved position.

4. In a folding-machine, a support for a blank to be folded, infolders for folding adjacent sides of the blank, means for moving said infolders successively inward, the infolder that has prior movement being provided with a separately-movable portion having a fold-defining edge over which the infolder having later movement infolds the blank, means for moving said movable portion out of

operative position, and means for locking said movable portion in its moved position.

5. In a folding-machine, a support for a blank to be folded, infolders for folding adjacent sides of the blank, means for moving said infolders successively inward, the infolder that has prior movement being provided with a separately-movable portion having a fold-defining edge over which the infolder having lateral movement infolds the blank, means on said later-actuated infolder for moving said movable portion out of operative position, and means for locking said movable portion in its moved position.

6. In a folding-machine, a support for a blank to be folded, a fold-defining templet, a plurality of infolders, means for moving said infolders successively inward, the prior actuated of said infolders having a separately-movable portion, which during the movement of said infolder coöperates therewith to fold an edge of the blank over said templet, and which has a fold-defining edge over which a portion of the adjacent edge of the blank is folded by the inward movement of the later-actuated infolder, means for moving said movable portion out of operative position, and means for locking said movable portion in its moved position.

7. In a folding-machine, a support for a blank to be folded, a fold-defining templet, a plurality of infolders, means for moving said infolders successively inward, the prior actuated of said infolders having a portion separately movable thereon transversely to the line of movement of said infolder, which portion during the movement of said infolder coöperates therewith to fold the edge of the blank over said templet, and which portion has a fold-defining edge over which a portion of the adjacent edge of the blank is folded by the inward movement of the later-actuated infolder, means for moving said movable portion out of operative position, and means for locking said movable portion in its moved position.

8. In a folding-machine, a support for a blank to be folded, a fold-defining templet, a plurality of infolders, means for moving said infolders successively inward, the prior actuated of said infolders having a separately-movable portion, means for moving said portion on said infolder after the latter has completed its infolding operation, and means for locking said movable portion in its moved position.

9. In a machine for infolding the edges of blanks for cuffs or like articles, the combination of a plurality of infolders movable inwardly and outwardly, one infolder being provided with a portion fitted to slide relatively thereto, means for operating said infolder to produce an infold, and means for thereafter moving an adjacent infolder to produce an overlapping infold, for sliding said detachable or separated portion and for locking same with reference to its main portion.

10. In a machine for infolding the edges of blanks for cuffs or like articles, the combination of a support for the blanks to be infolded, a templet having edge portions capable of being retracted from the infolds formed thereover, infolders for infolding two edge portions of the blank which meet at an angle, over the edge portions of the templet, means for actuating the said infolders in succession, the one that first produces an infold being provided with a detachable or separated infolding portion capable of sliding to permit withdrawal from the fold thereafter produced by the second infolder, means for sliding said portion whereby a sharp fold may be produced, means for locking said separated portion in its moved position, and means for pressing the infolds between the support and the infolders before the latter are moved outwardly, but after the retraction of the templet edges.

11. In a machine for infolding the edges of blanks for cuffs or like articles, the combination of a plurality of infolders and actuating mechanism therefor, one infolder comprising near its end a detachable or separated portion fitted to slide relatively to the main portion thereof from its normal position, means for effecting such sliding motion and means to catch said portion in its removed position.

12. In a machine for infolding the edges of blanks for cuffs or like articles, the combination of a plurality of infolders and actuating mechanism therefor, one infolder comprising near its end a detachable or separated portion fitted to slide relatively to the main portion thereof from its normal position, means for effecting such sliding motion, means to catch said portion in its removed position, and means for returning the same to normal position after said infolder is moved outwardly.

13. In a machine for infolding the edges of blanks for cuffs or like articles, the combination of a plurality of infolders and actuating mechanism therefor, one infolder comprising near its end a detachable or separated portion fitted to slide relatively to the main portion thereof from its normal position, means for effecting such sliding motion, means to catch said portion in its removed position, a spring for returning the same to normal position, and means for releasing the same.

14. In a machine for infolding the edges of blanks for cuffs or like articles, the combination of a plurality of infolders and actuating mechanism therefor, one infolder comprising near its end a detachable or separated portion fitted to slide relatively to the main portion thereof, means for sliding said portion from its normal position, means for locking said portion in its inward position, and means operating when the infolder is in outward position for effecting a return of said portion to normal.

15. In a machine for infolding cuff-blanks or like articles, the combination of a support for the blanks to be infolded, a templet adapted to bear directly upon the blanks upon said support, infolders fitted to move inwardly and outwardly for infolding edge portions of the blanks over edge portions of the templet, one infolder comprising a detachable or separated portion fitted to slide relatively to the main portion, means whereby such sliding is effected and the adjacent infolder operated, after an infold is produced by the first-named infolder, means to catch said detachable or separated portion in removed position, and means to bring about the return of the same to normal after the infolder is in outward position.

16. In a machine for infolding cut-off blanks or like articles, the combination of a support for the blanks to be infolded, an expanding and contracting templet adapted to bear directly upon the blanks upon said support, infolders fitted to move inwardly and outwardly for infolding edge portions of the blanks over edge portions of the templet, one infolder comprising a detachable or separated portion fitted to slide relatively to the main portion, means whereby such sliding is effected and the adjacent infolder operated, after an infold is produced by the first-named infolder, means to catch said detachable or separated portion in removed position, means to bring about the return of the same to normal after the infolder is in outward position, and means for pressing the folds of the blanks between the support and infolders after the contraction of the templet and before the infolders are moved outwardly.

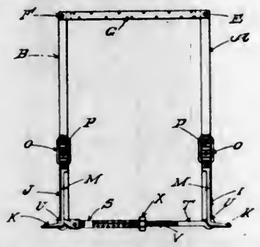
17. An infolding-machine in which one of the movable infolders comprises a detachable or separated portion fitted to slide relatively to the main portion, having a spring-catch to retain the same in removed position, a spring for returning the same to normal, and a fixed part adapted to automatically effect the release of said catch when the infolder is in initial position.

18. An infolding-machine in which one of the movable infolders comprises a detachable or separated portion fitted to slide relatively to the main portion, having a spring means to retain the same in removed position, a spring for returning the same to normal, and a fixed means for releasing said spring means.

19. In combination in an infolding-machine and as a means for forming two sharp overlapping folds at the corner of the article to be folded, infolding means for infolding one of said folds in advance of the other, a second infolding means for folding the second fold across the first-named fold and in coöperation with said first-named means, means for withdrawing the coöperating edge of said first-named means from the second fold and before the outward movement of said first-named infolding means, means for locking said coöperating edge in its withdrawn position, and positively-actuated means acting through said infolding means for pressing said overlapping folds.

20. In combination in an infolding-machine and as a means for forming two sharp overlapping folds at the corner of the article to be folded, infolding means for infolding one of said folds in advance of the other, a second infolding means for folding the second fold across the first-named fold and in coöperation with said first-named means, means for withdrawing the coöperating edge of said first-named means from the second fold in a path of motion entirely within the line of said fold, means for locking said coöperating edge in its withdrawn position, and positively-actuated means acting through said infolding means for pressing said overlapping fold.

841,676. WINDOW-STAGE. BENJAMIN F. EARL, Boston, Mass., assignor of one-half to Frederick W. Tirrell, Quincy, Mass. Filed Dec. 15, 1905. Serial No. 291,866.



Claim.—1. In a window-stage, in combination, two side bars, a cross tie-bar pivotally connected to both of said bars at the outer ends, an extensible connection between said side bars at their forward ends, said extensible connection consisting of two bars, one of which is pivotally connected with one of said side bars and the other of which is pivotally connected with the other of said side bars, the inner ends of said two members having telescopic connection with each other, means for moving said two members longitudinally with relation to each other in opposite directions, and holding them in their adjusted position, the axis of the pivotal connection between each of said members and its respective side bar being at right angles with the side bar, whereby when said telescopic members are disengaged from connection with each other, each may be swung parallel with its respective side bar, and means for securing the inner ends of the side bars to a window-casing.

2. In a window-stage, in combination, two side bars, a cross tie-bar pivotally connected with both of said side bars at the outer ends, each of said side bars having secured at its inner end a vertical arm which extends above the forward end of the side bar, a hook which extends laterally outward from the upper end of said vertical arm and is adapted to engage a window-casing, an extensible connection between said side bars at the forward ends, said extensible connection consisting of two bars, one of which is pivotally connected with the vertical arm of one of said side bars and the other of which is pivotally connected with the vertical arm of the other of said side bars, the inner ends of said two pivoted bars having telescopic connection with each other, means for moving said two pivoted bars longitudinally with relation to each other in opposite directions, each of said pivoted bars when they are disengaged from each other being adapted to swing around parallel with its respective side bar, and means coöperating with said hooks to secure the stage to a window-casing.

3. In a window-stage, the combination of two side bars, a cross-bar pivotally connected to the outer ends of both of said side bars, an extensible connection between said side bars at the forward ends pivotally connected therewith, each of said side bars having secured at its inner end a vertical arm which extends above the forward end of the side bar, a hook which extends laterally outward from the upper end of said vertical arm and is adapted to engage a window-casing, a ratchet-plate secured to the upper side of the side bar at some distance back from the end thereof, an inclined arm connecting the upper end of said vertical arm with said ratchet-plate, a stepped bolster on the under side of the side bar and a link connection between said bolster and said ratchet-bar, said bolster being adapted to engage the window-sill while said hooks engage the window-casing.

841,677. APPARATUS FOR GRINDING AND SEPARATING FINE MATERIALS. THOMAS A. EDISON, Llewellyn Park, Orange, N. J. Filed Jan. 29, 1903. Serial No. 140,983.



Claim.—1. Apparatus for separating and grinding material in bulk, comprising in combination a stock-house for containing the material in bulk, a separator which includes means for separately recovering the finer particles, a grinding apparatus, means for conveying the tailings from the separator to the grinding apparatus, and means for conveying material from both the stock-house and grinding apparatus to the separator, substantially as set forth.

2. Apparatus for separating and grinding material in bulk, comprising in combination a stock-house for containing the material in bulk, a separator which includes means for separately recovering the finer particles, a grinding apparatus, means for conveying the tailings from the separator to the grinding apparatus, means for returning to the stock-house the tailings from the separator in excess of the capacity of the grinding apparatus, and means for conveying material from both the stock-house and grinding apparatus to the separator, substantially as set forth.

3. Apparatus for separating and grinding material in bulk, comprising in combination a stock-house for containing the material in bulk, a separator which includes means for separately recovering the finer particles, a grinding apparatus, a conveyer connecting the tailings-discharge of the separator with the stock-house for returning the tailings from the separator to the stock-house, means for removing material from the tailings-conveyer to the grinding apparatus, and means for conveying material from both the stock-house and grinding apparatus to the separator, substantially as set forth.

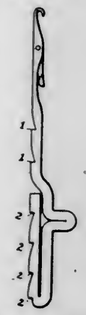
4. Apparatus for separating and grinding material in bulk, comprising in combination a stock-house for receiving the material in bulk, a separating apparatus, a conveyer connecting the bottom of the stock-house with the

separating apparatus for supplying material to the separating apparatus, a conveyer connecting the tailings-discharge of the separating apparatus with the top of the stock-house, a plurality of grinding apparatus, and means for deflecting material from the tailings-conveyer to the grinding apparatus, substantially as and for the purposes set forth.

5. Apparatus for separating and grinding material in bulk, comprising in combination a stock-house for receiving the material in bulk, a separating apparatus, a conveyer connecting the bottom of the stock-house with the separating apparatus for supplying material to the separating apparatus, a conveyer connecting the tailings-discharge of the separating apparatus with the top of the stock-house, a plurality of grinding apparatus, means for deflecting material from the tailings-conveyer to the grinding apparatus, and connections between the grinding apparatus and the first conveyer for returning material to the separator, substantially as and for the purposes set forth.

6. In a grinding apparatus, the combination with a suitable receptacle for receiving the material to be ground, and a plurality of sets of grinding-rolls, of means for conveying from the bottom of the receptacle a sufficient bulk of material to furnish all of the sets of grinding-rolls with the maximum load, means for deflecting the material to the several sets of grinding-rolls, means for returning to the top of the receptacle any surplus material in excess of the capacity of the grinding-rolls, and an independent feed for each of the grinding-rolls arranged to stop the feed of material to any set when desired, substantially as and for the purposes set forth.

841,678. KNITTING-MACHINE NEEDLE. WILLIAM S. ELDER, Philadelphia, Pa., assignor to Julius Hirsh, Philadelphia, Pa. Filed May 22, 1906. Serial No. 318,150.



Claim.—1. A groove-guided and reciprocated knitting-machine member having, in its rear face, notches separated by a distance less than the extent of reciprocation of said member for engaging and progressively moving foreign matter in the bottom of the groove.

2. A groove-guided and reciprocated knitting-machine member, having, in its rear face, notches, each having one face more abrupt than the other.

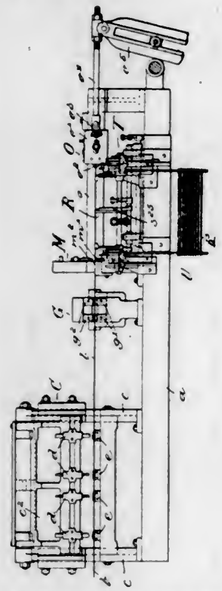
3. A groove-guided and reciprocated knitting-machine member, having, in its rear face, notches, each with one face more abrupt than the other, one or more of the notches having the abrupt face disposed reversely to such disposition in the other notch or notches.

4. A knitting-machine needle having notches in the rear face of its stem or shank, said notches being so disposed as to overlap each other's paths of movement when the needle is reciprocated in knitting, whereby they will engage and progressively move foreign matter in the bottom of the needle-groove.

5. A knitting-machine needle having notches in the rear face of its stem or shank, each of said notches having one face more abrupt than the other.

6. A knitting-machine needle having notches in the rear face of its stem or shank, each notch having one face more abrupt than the other, one or more of the notches having the abrupt face disposed reversely to such disposition in the remaining notch or notches.

841,679. MACHINE FOR THE MANUFACTURE OF HEDDLES. WILLIAM FEHR, Philadelphia, Pa. Filed Jan. 20, 1906. Serial No. 296,982.



Claim.—1. In a machine of the character described, rotary means for receiving a heddle, means for imparting to said rotary means a step-by-step movement in one direction, said rotary means adapted to form offsets in the heddle.

2. In a machine of the character described, rotary means for receiving heddles, means for imparting to said rotary means a step-by-step movement in one direction, said rotary means adapted to form during each of its movements, offsets of varying outline in the heddle.

3. In a machine of the character described, means for collecting and retaining heddles, and means for receiving heddles and for forming offsets therein, during delivery to said retaining means.

4. In a machine of the character described, means having a plurality of members, each of said members adapted to receive a heddle and to form offsets therein, and means adapted to engage and to deliver the heddles to each of the members of said offset-forming means.

5. In a machine of the character described, means for receiving heddles and for forming offsets therein, means for engaging and delivering the heddles to said offset-forming means, and means for collecting and retaining heddles delivered thereto by said offset-forming means.

6. In a machine of the character described, means for punching a metal strip to form slots therein, means for cutting the strip to form heddles by the severed portion of said strip, means for receiving the heddles and for forming offsets therein to complete the heddles, and means for engaging and conducting the heddles to said offset-forming means.

7. In a machine of the character described, means for punching a metal strip to form slots therein, means for cutting the strip to form heddles by the severed portions of said strips, means for retaining and collecting the heddles, means for receiving the heddles and for forming offsets therein to complete the heddles during delivery of the heddles to said retaining means, and means for engaging and conducting the heddles to said offset-forming means.

8. In a machine of the character described, means for punching a metal strip to form slots therein, means for cutting the strip to form heddles by the severed portions of said strip, means for retaining and collecting the heddles, means for receiving and forming offsets of varying outline therein to complete the heddles, during delivery to said retaining means, and means for engaging and conducting the heddles to said offset-forming means.

9. In a machine of the character described, rotary means having sets of dies for receiving heddles, means for imparting to said rotary means a step-by-step movement in one direction to bring each set of dies successively into an operative position, and means for bringing said dies into and out of engagement with each other, to form offsets in the heddles.

10. In a machine of the character described, rotary means having sets of dies for receiving heddles, means for imparting to said rotary means a step-by-step movement in one direction to bring each set of dies successively into an operative position, means for bringing said dies into and out of engagement with each other to form offsets in the heddles, and means carried by said rotary means for holding the heddles in position between said dies.

11. In a machine of the character described, rotary means having a plurality of members, each of said members having sets of dies differing from each other, means for imparting to said rotary means a step-by-step movement in one direction to bring the dies of each of said members into a position to receive a heddle, and means for bringing said dies into and out of engagement with each other, to form offsets in the heddles.

12. In a machine of the character described, means having sets of dies, differing in outline from each other, each set arranged to receive a heddle, means for bringing said dies into and out of engagement with each other to form offsets in the heddles, and means for bringing each set of dies into a position to receive a heddle.

13. In a machine of the character described, means having sets of dies, differing in outline from each other, each set arranged to receive a heddle, means for bringing said dies into and out of engagement with each other to form offsets in the heddles, means for bringing each set of dies into a position to receive a heddle, and means for holding the heddle in position between said dies.

14. In a machine of the character described, means having sets of dies, each set arranged to receive a heddle, means for bringing said dies into and out of engagement with each other, to form offsets in the heddles, means for bringing a set of dies into a position to receive the heddles, and a gripping mechanism for engaging and delivering a heddle to each set of said dies.

15. In a machine of the character described, means having sets of dies, each set arranged to receive a heddle, means for bringing said dies into and out of engagement with each other, to form offsets in the heddles, means for imparting to said die-carrying means a step-by-step movement in one direction to bring each set of dies, successively, into a position to receive a heddle, a gripping mechanism for engaging and delivering a heddle to each set of said dies, and a retaining mechanism for receiving the heddles.

16. In a machine of the character described, means for punching a metal strip to form slots therein, means for cutting the strip to form by the cut portion a heddle, means having sets of dies arranged to receive a heddle by engaging the same at or near its ends to form offsets therein, to complete the heddle, means for imparting to said die-carrying means a step-by-step movement in one direction, to bring each set of dies, successively, into a position to receive a heddle, a gripping mechanism for engaging and delivering a heddle to each set of dies, and a retaining mechanism, for receiving and removing the heddles from said dies.

17. In a machine of the character described, an offset-forming mechanism, comprising two series of arms, each arm having a lever-arm pivotally connected therewith, a die carried by each of said arms and lever-arms forming sets of dies, and means for actuating said arms to bring each set of said dies, successively, into a position to receive and form offsets in the heddle.

18. In a machine of the character described, an offset-forming mechanism, comprising two series of arms, each arm having a lever-arm pivotally connected therewith, a die carried by each of said arms and lever-arms forming sets of dies, means carried by said arms to hold a heddle in position between said dies, and means for actuating said arms to bring each set of said dies, successively, into a position to receive and form offsets in the heddle.

19. In a machine of the character described, an offset-forming mechanism, comprising two series of radial arms, each arm having a lever-arm pivotally connected therewith, a die carried by each of said arms and lever-arms forming sets of dies, means for imparting a step-by-step movement to said radial arms to bring each set of said dies into a position to receive a heddle, and means for forcing said lever-arms and their dies against the dies of said radial arms and for holding the same out of engagement therewith to form offsets in the heddle by said dies and to permit of a disengagement of the heddle therefrom.

20. In a machine of the character described, an offset-forming mechanism, comprising two series of radial arms, each arm having a lever-arm pivotally connected therewith, a die carried by each of said arms and lever-arms forming sets of dies, means for imparting a step-by-step movement to said radial arms to bring each set of said dies into a position to receive the heddle, a plate carried by said lever-arms for holding the heddle in position between the open dies, and means for forcing said lever-arms and their dies against the dies of said radial arms and for holding the same out of engagement therewith to form offsets in the heddle by said dies and to permit of disengagement of the heddle therefrom.

21. In a machine of the character described, an offset-forming mechanism, comprising two series of radial arms, each arm having a lever-arm pivotally connected therewith, a die carried by each of said arms and lever-arms forming sets of dies, means for imparting a step-by-step movement to said radial arms to bring each set of said dies into a position to receive a heddle, a plate carried by said lever-arms and by said radial arms for holding the heddle in position between the dies, and means for forcing said lever-arms and their dies against the dies of said radial arms and for holding the same out of engagement therewith to form offsets in the heddle by said dies and to permit of disengagement of the heddle therefrom.

22. In a machine of the character described, an oscillating gripping and delivering mechanism, comprising gripping-fingers, connected with each other, means for supporting and oscillating said fingers, means for normally holding said fingers in a closed position, means for raising and lowering said supporting means and by the same said fingers, and means for opening said fingers to permit of the engagement of the same and removal of the heddle from said finger.

23. In a machine of the character described, an oscillating gripping and delivering mechanism, comprising fingers having jaws, a shaft having arms for supporting said fingers and a heddle introduced between the jaws of the same, means for normally holding said fingers in a closed position, means for opening said fingers to permit of the entrance and removal of the heddle from the same, means for raising and lowering said supporting-arms and fingers to permit the latter to engage the heddle held above the same and means for rocking said shaft to oscillate said supports and fingers.

24. In a machine of the character described, a collecting and retaining mechanism, comprising bars for receiving and retaining heddles, brackets, means separated from each other for engaging said bars at different portions to hold the same in engagement with said bracket and means for bringing said engaging means successively out of engagement with said bars to permit the same to clear the brackets and said bars adapted when freed from said brackets to permit of descent of heddles thereon.

25. In a machine of the character described, a collecting and retaining mechanism, comprising bars for receiv-

ing heddles, brackets, means separated from each other for holding said bars at their upper ends and portion adjacent thereto in engagement with said brackets, means for bringing said engaging means successively out of engagement with said bars to permit the same to clear said brackets, said bars adapted when released at their upper ends to receive the heddles and when released below the ends to permit of the descent of the heddles thereon.

26. In a machine of the character described, means for punching and cutting a metal strip to form a heddle, two series of radial arms having lever-arms, each of said radial arms and lever-arms having a die, bars, oscillating fingers for engaging and delivering the heddles to said dies, said dies arranged to form offsets in the heddle, introduced between the dies and to deliver the heddle to said bars.

27. In a machine of the character described, means for punching and cutting a metal strip to form a heddle, two series of radial arms having lever-arms, each of said radial arms and lever-arms having a die, bars, oscillating fingers for engaging and delivering the heddle to said dies, said dies arranged to form offsets in the heddle introduced between the dies and to deliver the heddle to said bars, and said bars arranged to remove the heddle from said dies.

28. In a machine of the character described, means for punching, feeding and cutting a metal strip to form heddles, two series of radial arms having lever-arms, a die carried by each of said radial arms and lever-arms, means for imparting to both series of radial arms a step-by-step rotary movement, bars arranged adjacent to the dies of both series of radial arms, when the same assume periodically certain positions, oscillating fingers for engaging and delivering the heddle between said dies, said dies arranged to form offsets in the heddle and to deliver the same to said bars.

29. In a machine of the character described, means for punching, feeding and cutting a metal strip to form heddles, two series of radial arms having lever-arms, a die carried by each of said radial arms and lever-arms, means for imparting to both series of radial arms a step-by-step rotary movement, bars arranged adjacent to the dies of both series of radial arms, when said dies assume periodically certain positions, oscillating fingers for engaging and delivering the heddle between said dies, said dies arranged to form offsets in the heddle and to deliver the same to said bars, and said bars arranged to remove the heddle from said dies and retain the same.

30. In a machine of the character described, means for punching, feeding and cutting a metal strip to form heddles, two series of radial arms and lever-arms, a die carried by each of said radial arms and lever-arms, two oppositely-arranged dies forming a set of dies, bars arranged adjacent to the sets of dies of both series of arms, when the same assume periodically certain positions, oscillating fingers for engaging and delivering the heddle between the sets of dies occupying a certain operative position, means for bringing the sets of dies, successively, into the operative position by imparting to said radial arms a step-by-step rotary movement, said dies arranged to form offsets in the heddle and to deliver the same to said bars and said bars arranged to remove the heddles from said dies and retain the heddle.

31. In a machine of the character described, means for punching, feeding and cutting a metal strip to form heddles having mortises, two series of radial arms and lever-arms, a die carried by each of said radial arms and lever-arms, two oppositely-arranged dies forming a set of dies, means carried by said arms and lever-arms to support the heddle between the dies, bars arranged adjacent to the sets of dies of both series of arms, when the same assume periodically certain positions, oscillating fingers for engaging and delivering the heddle between the sets of dies occupying a certain operative position, means for bringing the sets of dies, successively, into the operative position by imparting to said radial arms a step-by-step rotary movement, said dies arranged to form offsets in the heddle and to thread the same with its mortises onto said bars and said bars arranged to remove the heddle from said dies and to retain the heddle.

841,680. DRIVING-BELT. JOHN A. FERGUSON, Brookline, Mass. Filed Feb. 20, 1904. Serial No. 194,495.

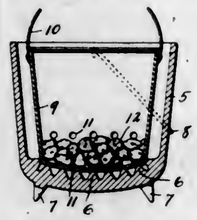


Claim.—1. A belt comprising a ply of friction material and a ply made up of parallel strips of laterally-pliable but longitudinally-non-stretchable fiber-board.

2. A belt comprising a ply of friction material and a ply of non-stretchable material, the latter arranged in a plurality of lengths leaving transverse spaces between the ends of adjacent lengths.

3. A belt comprising a ply of friction material and a ply of non-stretchable material, the latter arranged in a plurality of lengths leaving transverse spaces between the ends of adjacent lengths, and a filler for said spaces.

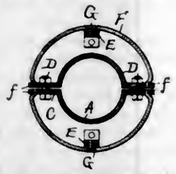
841,681. KETTLE. MARY E. FRENCH, Clyde, Ohio. Filed Nov. 16, 1906. Serial No. 343,769.



Claim.—1. In a device of the character described, the combination with an outer kettle, the body of which is composed of a plurality of ribs which extend across the bottom of said kettle, of a perforated inner kettle, the perforations of which are formed only in the lower part of said inner kettle, said inner kettle being supported upon said ribs.

2. In a device of the character described, the combination with an outer kettle having a plurality of ribs, some of which extend across the bottom of the kettle and others of which extend across the sides of the kettle, of a perforated inner kettle, the perforations of which are formed only in the lower portion of the kettle, the ribs which extend across the bottom of the outer kettle supporting said inner kettle and the ribs which extend across the sides of the kettle spacing said inner kettle from the outer kettle.

841,682. PULLEY. GEORGE A. GILBERT, Chicago, Ill. Filed Mar. 8, 1904. Serial No. 197,078.



Claim.—1. A pulley made in halves, each comprising a hub portion having end and side flanges, and an outer shell having interlocking connection with said side flanges.

2. A pulley made in halves, each comprising a hub portion having side flanges, an outer shell concentric with the hub portion and having interlocking connection with said flanges, and semicircular flanges B arranged at the ends of said hub and shell.

3. A pulley made in halves, each comprising a hub portion having end and side flanges, and an outer shell concentric with the hub portion and having interlocking connection as to its longitudinal edges with the hub portion.

4. A pulley made in halves, each comprising a hub portion A, end flanges B and side flanges C, clamping-bolts D passed through the flanges C, and the two-part outer shell F having interlocking connection with the side flanges C.

5. A pulley made in halves, each comprising a hub portion A, end flanges B and side flanges C, clamping-bolts D passed through the flanges C, and the two-part outer shell F having interlocking connection as to its longitudinal edges with the side flanges.

6. A pulley made in halves, each comprising a hub portion A and side flanges C, having a series of holes *c*, clamping-bolts passed through the flanges C, and the two-part outer shell F having a series of tongues *f* projecting from its longitudinal edges and arranged to enter said holes *c*.

7. A pulley made in halves, each comprising a hub portion A, and side flanges C having a series of holes *c*, clamping-bolts passed through the flanges C, the two-part outer shell F having a series of tongues *f* projecting from its longitudinal edges and arranged to enter said holes *c*, and a longitudinal bar E secured to each hub portion, said outer shell being secured to said bars E.

8. A pulley made in halves, each comprising a hub portion having end and side flanges, an outer shell fitting over said end flanges, and means for securing the longitudinal edges of such outer shell to said side flanges.

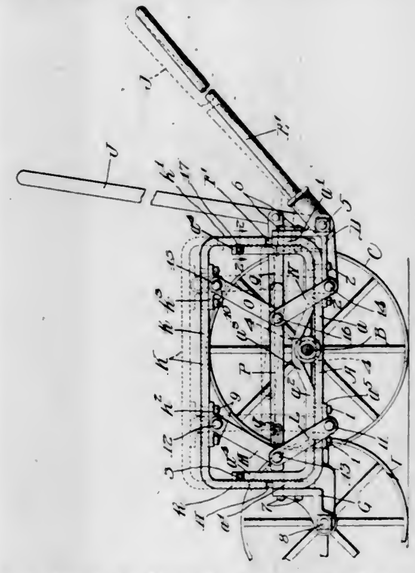
9. A pulley made in halves, each comprising a hub portion having side flanges, an outer shell, means for securing the longitudinal edges of such outer shell to said side flanges against lateral displacement and a longitudinal bar E to which the outer shell is secured along the line intermediate its said edges.

10. A pulley made in halves, each comprising a hub portion having end and side flanges, an outer shell fitting over said end flanges, and means for securing the longitudinal edges to the side flanges against both inward and outward movement.

11. A pulley made in halves, each comprising a hub portion having end and side flanges, an outer shell having its longitudinal edges interlocked with the hub portion, and means for preventing lateral movement of such edges, and a bar E which connects the end flanges and to which the outer shell is secured along the line intermediate its said edges.

841,683. VEHICLE FOR CARRYING BRICK. JOHN J. GLEDHILL, St. Louis, Mo. Filed Sept. 9, 1905. Serial No. 277,788.

Claim.—1. A vehicle for carrying brick, comprising a rigid body-frame mounted on wheels, a bail-shaped handle rigidly secured to one end of said body-frame, a brick-support mounted to slide up and down on said body-frame, a plurality of toggle connections connecting the brick-support to the body-frame, said toggle connections being adapted to break joint away from the handle in order to lower the brick-support, and adapted to break joint in a direction toward the handle for the purpose of retaining the brick-support in a raised position, and a hand-lever associated with said pushing-handle and connected for operating said toggles.



2. A vehicle for carrying brick, comprising a body-frame mounted on wheels, a brick-support mounted to slide up and down on said body-frame, a plurality of toggles arranged at one side of the vehicle and adapted for connecting the body-frame to the brick-support, a plurality of similar toggles arranged at the other side of the vehicle and also adapted for connecting the brick-support with the body-frame, a bar at one side of the vehicle for connecting the toggles at that side, a bar for connecting the toggles at the other side of the vehicle, a handle rigidly connected with the body-frame, and a pivoted hand-lever associated with said handle and connected with said bars, whereby the brick-support can be raised and lowered by operating said hand-lever, said toggles being adapted to break joint in a direction away from the handle and hand-lever when the brick-support is lowered.

3. A vehicle for carrying brick, comprising a body-frame composed of parallel and longitudinally-arranged channel-irons, one channel-iron being arranged on top of the other at each side of the vehicle, an axle extending across and secured between the said upper and lower channel-irons, said channel-irons having their front and rear ends upturned and provided with vertical guides, wheels mounted on said axle, a brick-support composed of parallel and longitudinally-disposed channel-irons having their end portions bent down and adapted to slide up and down on said guides, toggles connecting the brick-support with the body-frame, a handle rigid with the body-frame, and a swinging hand-lever connected for operating said toggles, whereby the brick-support can be raised and lowered by operating the hand-lever.

4. A vehicle for carrying brick, comprising a body-frame, an axle extending transversely of the body-frame, vehicle-wheels mounted on the ends of the axle, a pair of castings secured to the forward end of said body-frame, a bolt or tie-rod connecting said castings, a third wheel mounted upon said bolt or tie-rod, castings secured to the other end of the body-frame, another bolt or tie-rod connecting said last-mentioned castings, a bail-shaped handle rigidly secured to said last-mentioned castings, a hand-lever ful-

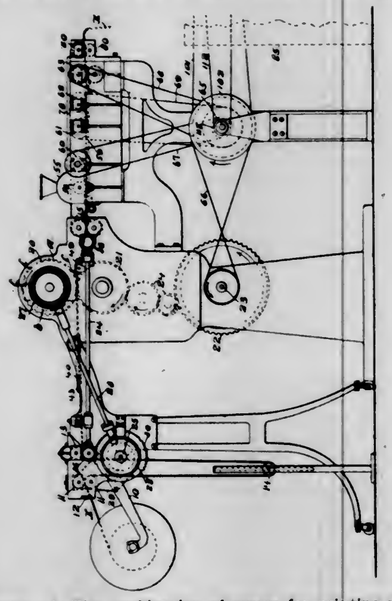
crumed on said last-mentioned bolt or tie-rod, and a brick-support mounted to slide up and down upon the body-frame and suitably connected to be operated by said hand-lever.

841,684. DROP-FLASK. WALTHER H. GREIFENHAGEN, Munich, Germany. Filed Feb. 16, 1906. Serial No. 301,474.



Claim.—A medicinal drop-flask having a large orifice at one end and a small orifice at the other end and a constricted passage-way intermediate of its ends adapted to permit passage of liquid drop by drop only, the body of the flask toward the smaller end being tapered to the small orifice at the end thereof for the purpose described.

841,685. PRINTING AND BRONZING MACHINE. FRED R. HARRIS, New York, N. Y., assignor to The American Tobacco Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 1, 1904. Serial No. 230,898.



Claim.—1. The combination of means for printing with adhesive material on a strip of paper or other material, means for applying powder to the printed strip, and a plurality of distributing-rolls for distributing the powder on the printed surface of the strip having their axes inclined relatively to each other in the direction of movement of the strip, substantially as described.

2. The combination of means for printing with adhesive material on a strip of paper or other material, means for applying powder to the printed strip, and a pair of distributing-rolls for distributing the powder on the printed surface of the strip having their axes oppositely inclined to the direction of movement of the strip, substantially as described.

3. The combination of means for printing with adhesive material on a strip of paper or other material, means for applying powder to the printed strip, a plurality of distributing-rolls for distributing the powder on the printed surface of the strip having their axes inclined relatively to each other in the direction of movement of the strip, and cleaning mechanism beyond said distributing-rolls for cleaning the powder from the unprinted portions of the strip, substantially as described.

4. The combination of printing mechanism for printing on a continuous strip of material, mechanism for applying powder to the printed surface of the strip, cleaning mechanism for cleaning the powder from the unprinted portions of the surface of the strip, said powder-applying mechanism and said cleaning mechanism being separated so as to permit the strip to fall slack between them, means for operating the printing and powder applying mechanisms to advance the strip at a uniform speed, means for operating the cleaning mechanism to advance the strip at a greater speed, and means for automatically interrupting the operation of the cleaning mechanism controlled by the slack of the strip between the powder-applying and the cleaning mechanisms, substantially as described.

5. The combination of printing mechanism for printing on a continuous strip of material, mechanism for applying powder to the printed surface of the strip, cleaning mechanism for cleaning the powder from the unprinted portions of the surface of the strip, said powder-applying mechanism and said cleaning mechanism being separated so as to permit the strip to fall slack between them, means for operating the printing and powder applying mechanisms to advance the strip at a uniform speed, rewinding mechanism for drawing the strip past the cleaning mechanism at a greater speed, and means for automatically interrupting the operation of the rewinding mechanism controlled by the slack of the strip between the powder-applying and the cleaning mechanisms, substantially as described.

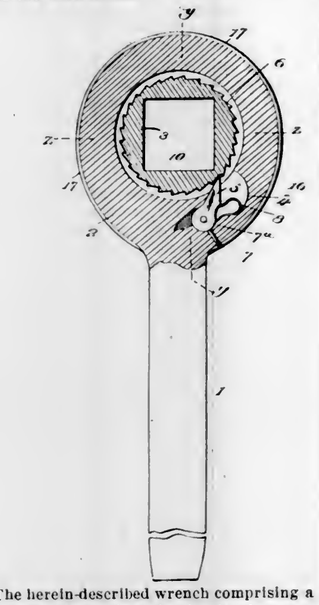
6. The combination of printing mechanism for printing on a continuous strip of material, mechanism for applying powder to the printed surface of the strip, cleaning mechanism for cleaning the powder from the unprinted portions of the surface of the strip, said powder-applying mechanism and said cleaning mechanism being separated so as to permit the strip to fall slack between them, rewinding mechanism for drawing the strip past the cleaning mechanism, and means whereby the drawing of the strip past the cleaning mechanism by the rewinding mechanism is automatically interrupted to prevent breaking of the strip between the powder-applying and the cleaning mechanism, substantially as described.

7. The combination of printing mechanism for printing on a continuous strip of material, mechanism for applying powder to the printed surface of the strip, rewinding mechanism, means for operating the rewinding mechanism to take up the strip faster than it is advanced from the powder-applying mechanism, and means for automatically interrupting the operation of the rewinding mechanism controlled by the slack of the strip between the powder-applying mechanism and the rewinding mechanism, substantially as described.

8. The combination with printing mechanism for printing on a continuous strip of material, and mechanism for applying powder to the printed surface of the strip, of a drum, a plurality of cleaning-rolls arranged about the periphery of the drum, and rewinding mechanism for drawing the strip about the drum and winding it into a roll, substantially as described.

841,686. WRENCH. JOHN N. HATFIELD, Birdell, Pa. Filed Nov. 20, 1906. Serial No. 344,322.

Claim.—1. In a tool of the character specified, the combination of a handle having a head provided with a circular opening therein, said opening being enlarged at one end, a work-holder fitted within the opening of the head and having an end portion enlarged to snugly fit the enlarged end portion of the opening in said head, an annular enlargement near the opposite end of said work-holder, ratchet-teeth in the annular space formed between the end annular enlargements, the sides of the work-holder being cut away for a short distance from their outer edges, retainers secured to opposite sides of the head and overlapping the joint formed between said head and the work-holder and having their inner edge portions entering the outer cut-away portions of said work-holder and a pawl fitted within a recess of the head and coöperating with the teeth of the work-holder.



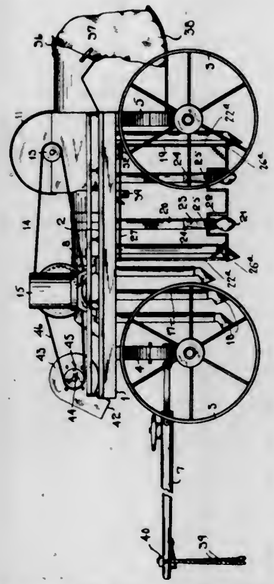
2. The herein-described wrench comprising a handle having a head of approximately circular form provided with a circular opening enlarged at one end and having a recess extended into the head from the opening, a work-holder having sockets in opposite sides of different sizes and having the marginal portions of its sides cut away and having spaced annular enlargements near opposite ends and an annular recess between said enlargements, ratchet-teeth being provided in said annular recess, retainers secured to opposite sides of the aforesaid head and overlapping the joint formed between said head and work-holder, a cap-piece fitted about the edge of the head and having its end portions inwardly bent to extend over the outer edges and sides of the retainers, and a spring-actuated pawl fitted in the recess of the head and adapted to coöperate with the teeth of the work-holder.

841,687. COTTON-PICKER. NATHANIEL M. HENDERSON, Henderson, N. C. Filed Sept. 13, 1906. Serial No. 334,527.

Claim.—1. In a machine of the character described, a wheeled support, a vacuum-chamber thereon having a discharge at its rear end, an exhaust-fan in said chamber, oppositely-disposed, transversely-swinging frames upon said support, flexible tubes depending from said support and in communication with said chamber, some of said tubes being attached to said frames, funnels upon the lower ends of said tubes, a shaft, a crank-disk thereon, pitman-rods connecting said crank-disk and said frames, and means for rotating said shaft and the shaft of said fan.

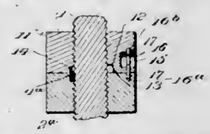
2. In a machine of the character described, a support adapted to be moved through a cotton-field over rows of plants, flexible strands depending from said support to travel through the cotton-plants and loosen the dead leaves and trash, means for directing a blast of air through the cotton-plants to remove the loosened leaves and trash, and means for picking the cotton from the plants.

3. In a machine of the character described, a movable support, a vacuum-chamber thereon, a longitudinally-yieldable frame pivoted to swing transversely upon said support, a flexible tube attached to said frame and in communication with said chamber, and a funnel carried by said tube.



4. In a machine of the character described, a wheeled support, a vacuum-chamber thereon, laterally-swinging frames, each comprising loosely-pivoted side bars, and a connecting-bar pivoted to said side bars, flexible tubes attached to said frames and in communication with said chamber, and funnels carried by said tubes.

841,688. NUT-LOCK. AMOS J. HODGES, El Paso, Tex. Filed Feb. 6, 1906. Serial No. 299,784.

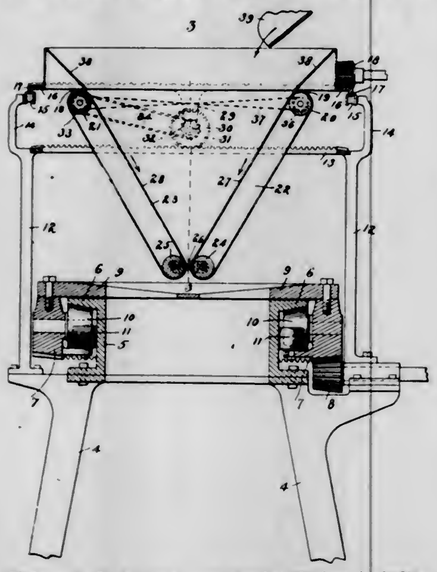


Claim.—1. In a nut-lock, the combination of a bolt, nuts mounted thereon, the innermost of said nuts being provided at its outer side with a catch arranged to engage the bolt and having a projection extending outwardly therefrom, the outermost of said nuts being formed with a recess upon its inner side to receive the projection of the catch, said recess terminating in a cam-shoulder adapted to engage the projection of the catch and to force said catch into engagement with the bolt on rotation of the last-mentioned nut, and means for locking the nuts together when the catch has been operated, as above specified.

2. In a nut-lock, the combination of a bolt, nuts mounted thereon, the innermost of said nuts being provided at its outer side with a catch arranged to engage the bolt and having a projection extending outwardly therefrom, the outermost of said nuts being formed with a recess upon its inner side to receive the projection of the catch, said recess terminating in a cam-shoulder adapted to engage the projection of the catch and to force said catch into engagement with the bolt on rotation of the last-mentioned nut,

the outer nut being formed with a recess in one of its sides, and a locking member arranged in said recess, one end of said locking member projecting from the inner side of the outer nut and engaging with the innermost nut to lock the two nuts together, as specified.

841,689. PRESS FOR COTTON, WOOL, HAY, AND THE LIKE, AND FEEDING DEVICE THEREFOR. WATSON M. HOLMES, Hoosick Falls, N. Y., assignor, by mesne assignments, to Planters Compress Company, a Corporation of Maine. Filed Feb. 3, 1900. Serial No. 3,771.



Claim.—1. In a press, compressing devices including a slotted head-plate or cap, in combination with a feed-hopper, revolubly mounted, and means for feeding the material through said hopper and delivering the same in line with the slot in said head-plate or cap, as and for the purpose set forth.

2. In a press, compressing devices, including a slotted head-plate or cap, in combination with a feed-hopper mounted to revolve relatively to said head-plate or cap, feed-aprons mounted in said hopper and arranged to deliver the material through said hopper and to said head-plate or cap, as and for the purpose set forth.

3. In a press, a feeding device comprising a feed-hopper, a rack connected thereto, a pinion for revolving said rack, a stationary rack, a pinion carried by said hopper and engaging said stationary rack, and means actuated by said last-mentioned pinion for feeding the material through said feed-hopper, as and for the purpose set forth.

4. In a press, a feed-hopper, feeding-aprons carried thereby, means for rotating said hopper, and means for actuating said feeding-aprons, as and for the purpose set forth.

5. In a press, a feed-hopper, feeding-aprons carried thereby, means for rotating said hopper, and means operated by the rotating movement of said hopper for actuating said feeding-aprons, as and for the purpose set forth.

6. In a press, a feed-hopper, means for rotating the same, feeding-aprons carried by said hopper, said aprons being inclined downwardly and toward each other, and means for actuating said aprons, as and for the purpose set forth.

7. In a press, a feed-hopper, means for rotating the same, rollers journaled upon said hopper, and carrying-arms, coöperating rollers carried by said arms, feeding-aprons carried by said rollers, and means for actuating said rollers, as and for the purpose set forth.

8. In a press, a feed-hopper, means for rotating the same, rollers journaled upon said hopper and carrying-arms, coöperating rollers carried by said arms, means for yieldingly holding said coöperating rolls in proximity to each other, feeding-aprons carried by said rollers, and means for actuating said rollers, as and for the purpose set forth.

9. In a press, a feed-hopper, means for rotating the same, feeding-aprons carried by said hopper, a pinion also carried by said hopper, a stationary rack engaged by said pinion, and gearing actuated by said pinion for operating said feeding-aprons, as and for the purpose set forth.

10. In a press, means to hold the compressed material, including a moving feeding-abutment at one end of the material, said abutment having passages therethrough for the uncompressed material; in combination with means to deliver the uncompressed material to the feeding-abutment and distribute it with respect to the end of the mass of compressed material.

11. In a press, means to hold the compressed material, including a moving feeding-abutment at one end of the material, said abutment having passages therethrough for the uncompressed material; in combination with a movable condensing device arranged to deliver the uncompressed material to the feeding-abutment; means to actuate the condensing device and means to move the delivery end thereof relatively to the compressed mass, to distribute the uncompressed material toward different parts of the adjacent surface of said mass of compressed material.

12. In a press, means to hold the compressed material, including a moving feeding-abutment at one end of the material, said abutment having passages therethrough for the uncompressed material; in combination with a feeding device movably mounted adjacent to the feeding-abutment and arranged to traverse near to all parts of said end of the mass of compressed material in succession, and means to actuate the same.

13. In a press, means to hold the compressed material, including a moving feeding-abutment at one end of the material, said abutment having passages therethrough for the uncompressed material; in combination with a feeding device movably mounted adjacent to the feeding abutment, said feeding device being arranged to concentrate its delivery upon a limited area of the feeding-abutment, and means to shift the line of delivery to positions adjacent successively to different portions of the end of the mass of compressed material.

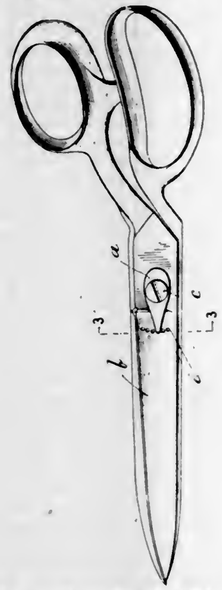
14. In a press, means to hold the compressed material, including a moving feeding-abutment at one end of the material, said abutment having passages therethrough for the uncompressed material; in combination with a pair of converging feeding-aprons arranged to deliver material to the feeding-abutment at their converging end, and means to shift the position of said feeding-aprons with respect to the adjacent surface of compressed material.

15. In a press, means to hold the compressed material, including a moving feeding-abutment at one end of the material, said abutment having passages therethrough for the uncompressed material; in combination with a pair of converging feeding-aprons rotatively mounted with respect to the compressed mass and arranged to deliver material to the feeding-abutment, and means to actuate the feeding-aprons and to rotate the pair of them with respect to the adjacent surface of compressed material.

16. In a press, means to hold the compressed material, including a moving feeding-abutment at one end of the material, said abutment having passages therethrough for the uncompressed material, said compressed material being held in a stationary position; in combination with a traveling feeding device arranged to deliver the uncompressed material to the feeding-abutment at positions successively adjacent to different portions of the surface of the mass of compressed material on the other side of the abutment, and means to drive the feeding device in its path.

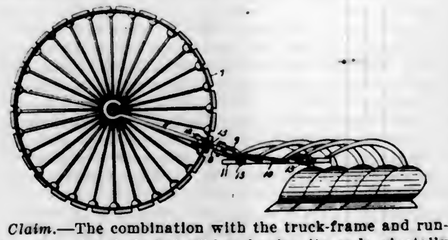
17. In a press, means to hold the compressed material, including a moving feeding-abutment at one end of the material said abutment having passages therethrough for the uncompressed material, said compressed material being held in a stationary position; in combination with a feeding device arranged to deliver uncompressed material to the feeding-abutment, said feeding device being rotatively mounted with respect to the mass of compressed material, and means to rotate the feeding device to bring the delivery of the same successively to different portions of the adjacent surface of said mass.

841,690. SCISSORS. ERNST HOLTGRAVE, Brooklyn, N. Y. Filed Oct. 11, 1906. Serial No. 338,383.



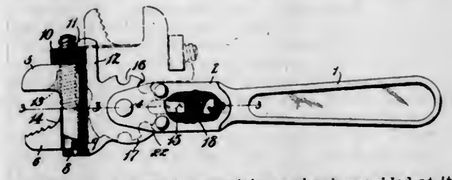
Claim.—The combination with scissors, of a spring-plate arranged on one of the blades and rotatively borne on the joint of the latter, said plate having a nose portion directed toward the respective blade, a plurality of equally deep impressions arranged in an arch around the joint on the slanting surface of the blade and adapted to engage the nose of the spring-plate, substantially as and for the purpose set forth.

841,691. MOTOR-TRUCK. FRANK B. JOHNSON, Hays, Kans., and JOHN C. CAPS, Kansas City, Mo., assignors to The Farmers Auto Motor Company, a Corporation of Kansas. Original application filed June 19, 1905, Serial No. 265,852. Divided and this application filed Jan. 30, 1906. Serial No. 298,594.



Claim.—The combination with the truck-frame and running-gear of a forked draft-bar having its ends pivotally mounted on the truck-axle, a follower having a central draft-yoke connected with said draft-bar and adapted for vertical or horizontal movement in relation thereto, and adjustable draft means connected with said bar at the sides of said yoke connection, substantially as and for the purpose set forth.

841,692. WRENCH. FREDERICK H. KANNING, East St. Louis, Ill. Filed July 25, 1906. Serial No. 327,707.



Claim.—1. A wrench comprising a shank provided at its upper end with a longitudinally-extending bore, plates connected to said shank and projecting beyond the upper end thereof, a head carrying jaws and having a disk-shaped portion arranged between said plates, a pin carried by said plates and extending through the disk-shaped portion of said head, a threaded plunger mounted in the bore in the shank for engaging the disk-shaped portion of the head to lock it in position, and an adjusting-nut mounted on said plunger and extending through openings in the plates; substantially as described.

2. A wrench comprising a shank having a pair of plates connected thereto and projecting beyond the upper end thereof, a movable head having a disk-shaped part arranged between the projecting portions of said plates and pivotally connected thereto, said head being provided with a rigid jaw and an open-sided slot, an adjustable jaw having a threaded shank mounted in said slot and extending through an opening in said rigid jaw, an adjusting-nut mounted on said shank and bearing against the outer side of said rigid jaw, a laterally-extending portion 12 on the head provided with a lug 11 which holds said adjusting-nut in position, and means carried by said plates and coöperating with the disk-shaped part of the head for locking the head in its adjusted position; substantially as described.

3. A wrench comprising a shank, a pair of plates connected to said shank and projecting beyond the upper end thereof, a pivotally-mounted head arranged between said plates and provided with a straight-face rigid jaw having a recess formed at the lower end of the engaging face, a coöperating adjustable jaw carried by said head, said jaw being provided with a curved face which at its lower end merges into an extension that projects into the recess of the rigid jaws when said jaws are closed, and means carried by said plates for locking the head in position; substantially as described.

4. A wrench comprising a bifurcated shank, a head provided with a disk-shaped portion arranged in the bifurcation of said shank on a fixed pivot, a notch or shoulder formed in the periphery of said disk-shaped portion which is adapted to coöperate with a shoulder formed at one side of the upper end of the shank when the head is in one position, a laterally-extending member on said head arranged above the disk-shaped portion thereof for coöperating with the other side of the shank when the head is in a different position, and an adjustable jaw carried by the head; substantially as described.

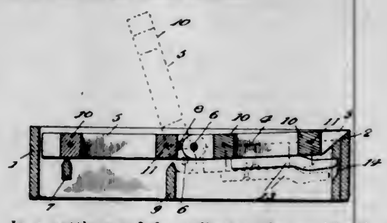
5. A wrench comprising a shank, plates connected to the sides of the upper end of said shank, a head arranged between said plates and pivotally connected thereto, said head being provided with a rigid jaw and a disk-shaped portion through which the pivot for the head extends, a plunger mounted in a slot in the upper end of the shank for engaging the disk-shaped portion of the head to hold it in adjusted position, and an adjusting-nut mounted on a threaded portion of said plunger and extending through openings in said plates; substantially as described.

841,693. CATTLE-GUARD. JOSEPH KNOWLES, Edmonds, Wash. Filed Oct. 15, 1906. Serial No. 339,028.

Claim.—1. In a cattle-guard for railways, the combination of an elevating-section pivoted near one end, a depressible section pivoted at its inner end to the projecting end of the elevating-section a short distance from its pivotal support, the outer end of the depressible section be-

ing inclined, and a correspondingly inclined support for the outer end of the depressible section.

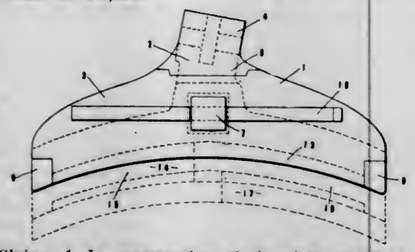
2. In a cattle-guard, the combination of similarly-formed sections, each comprising a series of spaced bars, the inner ends of the bars of said sections overlapping and having pivotal connection, a pivot-support for one of the sections located a short distance from the pivot connection of the two sections, and an inclined support for the outer end of the other section.



3. In a cattle-guard for railways, the combination of a rectangular frame, having the upper edge of an end piece beveled or inclined, cross-bars supported at their ends in the side pieces of the said frame and having their upper edges oppositely inclined, the intermediate cross-bar having its top edge spaced a short distance from the bottom side of the guard-sections when in horizontal position, guard-sections having knuckles at their inner ends and pivotally connected, the outer end of the depressible section being beveled to correspond to the inclination of the beveled edge of the inclined end piece of the frame, and a rod pivotally supporting the elevating-section a short distance from its pivoted connection with the depressible section.

4. In a cattle-guard, the combination of a frame having an end piece provided with a notch, elevating and depressible guard-sections pivotally connected and having pivotal connection with said frame, and a lock-bar applied to the outer end of the depressible section and normally extending into the said notch to interlock with the frame and adapted to be withdrawn when the depressible section is lowered.

841,694. BRAKE. VAN BUREN LAMB, New Haven, Conn., assignor to Keystone Brake-Shoe Company, New York, N. Y., a Corporation of New York. Filed May 26, 1906. Serial No. 318,809.



Claim.—1. In construction of the class described, in combination, a brake-shoe having upon its rear surface a projecting portion the lateral walls of which are undercut, a second brake-shoe fitted about said projecting portion and provided upon its rear surface with a similar projecting portion, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of the lateral walls of said last-mentioned projecting portion adjacent each end thereof, one of the portions of said brake-head being provided with a projection extending through the other portion of said head, and means adapted to hold the portions of said head in assembled relation.

2. In construction of the class described, in combination, a brake-shoe having upon its rear surface a projecting portion of decreasing thickness toward the ends of the shoe and the lateral walls of which are undercut, a second brake-shoe fitted about said projecting portion and provided upon its rear surface with a similar projecting portion, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of the lateral walls of said last-mentioned projecting portion adjacent each end thereof, one of the portions of said brake-head being provided with a projection extending through the other portion thereof, and means adapted to hold the portions of said head in assembled condition.

3. In construction of the class described, in combination, a brake-shoe having upon its rear surface a projecting portion the lateral walls of which are undercut and converge toward the ends of the shoe, a second brake-shoe fitted about said projecting portion and provided upon its rear surface with a similar projecting portion, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of the lateral walls of said last-mentioned projecting portion adjacent each end thereof, one of the portions of said brake-head being provided with a projection extending through the other portion of said head, and means adapted to hold the portions of said head in assembled relation.

4. In construction of the class described, in combination, a brake-shoe provided upon its rear surface with a projecting portion the lateral walls of which are undercut and converge toward each end of the shoe, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of the lateral walls of said projecting portion adjacent each end thereof, one portion of said brake-head being provided with a projection passing through the other portion thereof, and means adapted to hold the portions of said head in assembled condition.

5. In construction of the class described, in combination, a brake-shoe provided upon its rear surface with a projecting portion of decreasing thickness toward the ends of the shoe and the lateral walls of which are undercut and converge toward each end of the shoe, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of the lateral walls of said projecting portion adjacent each end thereof, one portion of said brake-head being provided with a projection passing through the other portion thereof, and means adapted to hold the portions of said head in assembled condition.

6. In construction of the class described, in combination, a brake-shoe provided upon its rear surface with a projecting portion of decreasing thickness toward the ends of the shoe and the lateral walls of which are undercut, a brake-head comprising two laterally-separable portions respectively fitting said lateral walls adjacent each end thereof, one of said portions of said head being provided with a projection extending through the other portion of said head, and means holding the portions of said head in assembled condition.

7. In construction of the class described, in combination, a brake-shoe having upon its rear surface a projecting portion the lateral walls of which are undercut, a second brake-shoe fitted about said projecting portion and provided with a similar projecting portion upon its rear surface, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of the undercut surfaces adjacent each end thereof, one of the portions of said head being provided with laterally-extended ends between which the other portion of said head is fitted, and means adapted to hold the portions of said head in assembled condition.

8. In construction of the class described, in combination, a brake-shoe having upon its rear surface a projecting portion the lateral walls of which are undercut and converge toward each end of the shoe, a second brake-shoe fitted about said projecting portion and provided with a similar projecting portion upon its rear surface, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of said undercut surfaces adjacent each end thereof, one of the portions of said head being provided with laterally-extended ends between which the other portion of said head is fitted, and means adapted to hold the portions of said head in assembled condition.

9. In construction of the class described, in combination, a brake-shoe provided upon its rear surface with a projecting portion the lateral walls of which are undercut and converge toward each end of the shoe, a brake-head comprising two laterally-separable portions adapted respectively to fit said undercut surfaces adjacent each end thereof, one portion of said head being provided with laterally-extending ends and a laterally-extending central portion, and the other portion of said head being adapted to fit between said ends and under said central portion, and means adapted to hold the portions of said head in assembled condition.

10. In construction of the class described, in combination, a brake-shoe provided upon its rear surface with a projecting portion the lateral walls of which are undercut, a brake-head comprising two laterally-separable portions adapted respectively to fit said undercut walls adjacent each end thereof, one of said portions of said head being provided with a projection extending through the other portion thereof, and means adapted to hold the portions of said head in assembled condition.

11. In construction of the class described, in combination, a brake-shoe provided upon its rear surface with a projecting portion the lateral walls of which are undercut, a brake-head comprising a pair of laterally-separable portions adapted respectively to fit said undercut walls adjacent each end thereof, one of the portions of said head being provided with laterally-extended ends between which the other portion is adapted to fit, and means adapted to hold the portions of said head in assembled condition.

12. In construction of the class described, in combination, a brake-shoe provided upon its rear surface with a projecting portion the lateral walls of which are undercut, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of said undercut surfaces adjacent each end thereof, one portion of said head being provided with laterally-extended ends and a laterally-extended central portion, and the other portion of said head being adapted to fit between said ends and under said central portion, and means adapted to hold the portions of said head in assembled condition.

13. In construction of the class described, in combination, a brake-shoe provided upon its rear surface with a projecting portion the lateral walls of which are undercut, a brake-head comprising two laterally-separable portions adapted respectively to fit said undercut walls adjacent each end thereof, one of said portions of said head being provided with a projection extending through the other portion thereof, and a key passing through said projection and adapted to hold the portions of said head in assembled condition.

14. In construction of the class described, in combination, a brake-shoe provided upon its rear surface with a projecting portion the lateral walls of which are undercut, a brake-head comprising two laterally-separable portions adapted respectively to fit said undercut walls adjacent each end thereof, one of said portions of said head being provided with a projection extending through the other portion thereof, and a spring-key passing through said projection and spaced from said head and resting against the lateral surfaces thereof adapted to hold the portions in assembled condition.

15. In construction of the class described, in combination, a brake-shoe having upon its rear surface a projecting portion the lateral walls of which are undercut, a second brake-shoe fitted about said projecting portion and provided upon its rear surface with a similar projecting portion, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of the lateral walls of said last-mentioned projecting portion adjacent each end thereof, one of the portions of said brake-head being provided with a projection extending through the other portion of said head and one portion of said head being provided with laterally-extended ends between which the other portion is adapted to fit, and means adapted to hold the portions of said head in assembled condition.

16. In construction of the class described, in combination, a brake-shoe provided upon its rear surface with a projecting portion the lateral walls of which are undercut and converge toward each end of the shoe, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of the lateral walls of said projecting portion adjacent each end thereof, one portion of said brake-head being provided with a projection passing through the other portion thereof and one portion of said head being provided with laterally-extended ends between which the other portion is adapted to fit, and means adapted to hold the portions of said head in assembled condition.

17. In construction of the class described, in combination, a brake-shoe provided upon its rear surface with a projecting portion of decreasing thickness toward the ends of the shoe and the lateral walls of which are undercut and converge toward each end of the shoe, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of the lateral walls of said projecting portion adjacent each end thereof, one portion of said brake-head being provided with a projection passing through the other portion thereof and one portion of said head being provided with laterally-extended ends between which the other portion is adapted to fit, and means adapted to hold the portions of said head in assembled condition.

18. In construction of the class described, in combination, a brake-shoe having upon its rear surface a projecting portion the lateral walls of which are undercut, a second brake-shoe fitted about said projecting portion and provided upon its rear surface with a similar projecting portion, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of the lateral walls of said last-mentioned projecting portion adjacent each end thereof, one of the portions of said brake-head being provided with a projection extending through the other portion of said head and one portion of said head being provided with laterally-extended ends and a laterally-extended central portion, the remaining portion of said head being adapted to fit between said ends and under said central portion, and means adapted to hold the portions of said head in assembled condition.

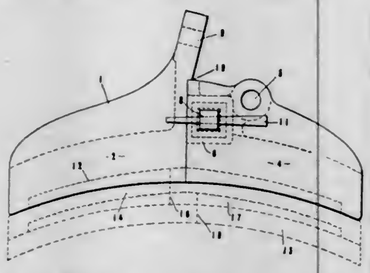
19. In construction of the class described, in combination, a brake-shoe having upon its rear surface a projecting portion the lateral walls of which are undercut, a second brake-shoe fitted about said projecting portion and provided upon its rear surface with a similar projecting portion, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of the lateral walls of said last-mentioned projecting portion adjacent each end thereof, one of the portions of said brake-head being provided with a projection extending through the other portion of said head and one portion of said head being provided with laterally-extended ends and a laterally-extended central portion, the remaining portion of said head being adapted to fit between said ends and under said central portion, and a key passing through said projection adapted to hold the portions of said head in assembled condition.

20. In construction of the class described, in combination, a brake-shoe having upon its rear surface a projecting portion the lateral walls of which are undercut, a second brake-shoe fitted about said projecting portion and provided upon its rear surface with a similar projecting portion, each of said shoes being transversely divided into two parts, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of the lateral walls of said last-mentioned projecting portion adjacent each end thereof, one of the portions of said brake-head being provided with a projection extending through the other portion of said head, and means adapted to hold the portions of said head in assembled relation.

21. In construction of the class described, in combination, a brake-shoe having upon its rear surface a projecting portion the lateral walls of which are undercut, a second brake-shoe fitted about said projecting portion and provided upon its rear surface with a similar projecting portion, each of said shoes being transversely divided into two parts on lines offset with respect one to another, a brake-head comprising two laterally-separable portions each of which is adapted to fit one of the lateral walls of said last-mentioned projecting portion adjacent each end thereof, one of the portions of said brake-head being pro-

vided with a projection extending through the other portion of said head, and means adapted to hold the portions of said head in assembled relation.

841,695. BRAKE. VAN BUREN LAMB, New Haven, Conn., assignor to Keystone Brake-Shoe Company, New York, N. Y., a Corporation of New York. Filed May 26, 1906. Serial No. 318,810.



Claim.—1. In brake construction, in combination, a brake-shoe provided with a projection upon its rear surface, a second brake-shoe interchangeable therewith coacting with said projection and provided with a similar projection upon its rear surface, and a brake-head comprising a pair of longitudinally-separable portions adapted to fit about said projection.

2. In brake construction, in combination, a brake-shoe provided with a projecting portion adjacent each end of its rear surface, a second brake-shoe provided with similar projecting portions upon its rear surface, a brake-head comprising a pair of longitudinally-separable portions, each of said last-mentioned portions being adapted to fit about said projecting portions upon the rear surface of said second brake-shoe, and means adapted to hold the portions of said head in assembled condition.

3. In brake construction, in combination, a brake-shoe provided with a projecting portion adjacent each end of its rear surface, a second brake-shoe provided with similar projecting portions upon its rear surface, a brake-head comprising a pair of longitudinally-separable portions, each of said last-mentioned portions being adapted to fit about said projecting portions upon the rear surface of said second brake-shoe, and means adapted to hold the portions of said head in assembled condition, said brake-shoes being transversely divided upon lines offset with respect one to another.

4. In a brake construction, in combination, a brake-shoe provided with a projecting portion adjacent each end of its rear surface, a second brake-shoe provided with similar projecting portions upon its rear surface, a brake-head comprising a pair of longitudinally-separable portions, each of said last-mentioned portions being adapted to fit about said projecting portions upon the rear surface of said second brake-shoe, and means adapted to hold the portions of said head in assembled condition, one of said brake-shoes being transversely divided on a line offset with respect to the line of division of said brake-head.

5. In brake construction, in combination, a brake-shoe provided with a projecting portion adjacent each end of its rear surface, a second brake-shoe provided with similar projecting portions upon its rear surface, the lateral walls of said projections being undercut, a brake-head comprising a pair of longitudinally-separable portions, each of said last-mentioned portions being adapted to fit about said projecting portions upon the rear surface of said second brake-shoe, and means adapted to hold the portions of said head in assembled condition.

6. In brake construction, in combination, a brake-shoe provided with a projecting portion adjacent each end of its rear surface, a second brake-shoe provided with similar projecting portions upon its rear surface, the lateral walls of said projections being undercut and converging toward the ends of the members upon which they are positioned, a brake-head comprising a pair of longitudinally-separable portions, each of said last-mentioned portions being adapted to fit about said projecting portions upon the rear surface of said second brake-shoe, and means adapted to hold the portions of said head in assembled condition.

7. In brake construction, in combination, a brake-shoe provided with a projecting portion adjacent each end of its rear surface, a second brake-shoe provided with similar projecting portions upon its rear surface, the lateral walls of said projections being undercut, a brake-head comprising a pair of longitudinally-separable portions, each of which is adapted to fit about one of said projecting portions upon the rear surface of said second brake-shoe, and means adapted to hold the portions of said head in assembled condition, one of said brake-shoes being transversely on a line offset with respect to the line of division of said brake-head.

8. In brake construction, in combination, a transversely-divided brake-shoe, a transversely-divided brake-head the portions of which are longitudinally separable, means adapted to hold the portions of said shoe upon said head, and means adapted to hold the portions of said head in assembled condition, the lines of division of said head and of said shoe being offset with respect one to another.

9. In brake construction, in combination, a transversely-divided brake-shoe, each portion of which is provided with a projection, a transversely-divided brake-head the portions of which fit the corresponding projections and are longitudinally separable, and means adapted to hold the portions of said head in assembled condition.

10. In brake construction, in combination, a transversely-divided brake-shoe, each portion of which is provided with a projection the lateral walls of which are undercut, a transversely-divided brake-head the portions of which fit the corresponding projections and are longitudinally separable, and means adapted to hold the portions of said head in assembled condition.

11. In brake construction, in combination, a transversely-divided brake-shoe, each portion of which is provided with a projection, the lateral walls of said projections being undercut, a transversely-divided brake-head the portions of which fit the corresponding projections and are longitudinally separable, and means adapted to hold the portions of said head in assembled condition, the lines of division of said shoe and said head being offset with respect one to another.

12. In brake construction, in combination, a brake-shoe provided with a projecting portion the lateral walls of which converge toward each end of the shoe, a brake-head comprising two longitudinally-separable portions respectively adapted to fit over the ends of said projection, and means adapted to hold the portions of said head in assembled condition.

13. In brake construction, in combination, a brake-shoe provided with a projecting portion the lateral walls of which are undercut and converge toward each end of the shoe, a brake-head comprising two longitudinally-separable portions respectively adapted to fit over the ends of said projection, and means adapted to hold the portions of said head in assembled condition.

14. In brake construction, in combination, a brake-shoe having upon its rear surface a projection the thickness of which decreases toward the ends of the shoe, a brake-head comprising two longitudinally-separable portions respectively adapted to fit over the ends of said projection, and means adapted to hold the portions of said head in assembled condition.

15. In brake construction, in combination, a brake-shoe having upon its rear surface a projection the thickness of which decreases toward the ends of the shoe and the lateral walls of which are undercut, a brake-head comprising two longitudinally-separable portions respectively adapted to fit over the ends of said projection, and means adapted to hold the portions of said head in assembled condition.

16. In brake construction, in combination, a brake-shoe provided with a projecting portion adjacent each end of its rear surface, a second brake-shoe provided with similar projecting portions upon its rear surface, a brake-head comprising a pair of longitudinally-separable portions, each of said last-mentioned portions being adapted to fit about said projecting portions upon the rear surface of said second brake-shoe, and means adapted to hold the portions of said head in assembled condition.

17. In brake construction, in combination, a brake-shoe provided with a projecting portion adjacent each end of its rear surface, a second brake-shoe provided with similar projecting portions upon its rear surface, the lateral walls of said projections being undercut, a brake-head comprising a pair of longitudinally-separable portions, each of which is adapted to fit about one of said projecting portions upon the rear surface of said second brake-shoe, a projection formed upon one portion of said head and fitting within the other portion of said head, and means passing through said projection and the head portion within which it fits adapted to hold said head in assembled condition.

18. In brake construction, in combination, a brake-shoe provided with a projecting portion adjacent each end of its rear surface, a second brake-shoe provided with similar projecting portions upon its rear surface, the lateral walls of said projections being undercut and converging toward the ends of the members upon which they are positioned, a brake-head comprising a pair of longitudinally-separable portions each of which is adapted to fit about one of said projecting portions upon the rear surface of said second brake-shoe, a projection formed upon one portion of said head and fitting within the other portion of said head, and means passing through said projection and the head portion within which it fits adapted to hold said head in assembled condition.

19. In brake construction, in combination, a transversely-divided brake-shoe, each portion of which is provided with a projection the lateral walls of which are undercut, a transversely-divided brake-head the portions of which fit the corresponding projections and are longitudinally separable, a projection formed upon one portion of said head and fitting within the other portion of said head, and means passing through said projection and the head portion within which it fits adapted to hold said head in assembled condition.

20. In brake construction, in combination, a brake-shoe provided with a projecting portion, a brake-head adapted to fit about said projecting portion and secure said shoe thereon, said head comprising two portions, a tapering projection formed upon one portion of said head adapted to rest within a corresponding recess in the other portion thereof, a tapering key passing through said last-mentioned projection and the head portion within which it rests, and means adapted to hold said key in position.

21. In brake construction, in combination, a brake-shoe provided with a projecting portion, a brake-head adapted to fit about said projecting portion and secure said shoe thereon, said head comprising two portions, a tapering projection formed upon one portion of said head adapted to rest within a corresponding recess in the other portion thereof, a tapering key passing through said last-mentioned projection and the head portion within which it rests, and a key passing through said tapering key and holding the same in position.

22. In brake construction, in combination, a brake-shoe provided with a projecting portion the lateral walls of which are undercut, a brake-head adapted to fit about said projecting portion and secure said shoe thereon, said head comprising two portions, a tapering projection formed upon one portion of said head adapted to rest within a corresponding recess in the other portion thereof, a tapering key passing through said last-mentioned projection and the head portion within which it rests, and means adapted to hold said key in position.

23. In brake construction, in combination, a brake-shoe provided with a projecting portion the lateral walls of which are undercut and converge toward the ends of the shoe, a brake-head adapted to fit about said projecting portion and secure said shoe thereon, said head comprising two portions, a tapering projection formed upon one portion of said head adapted to rest within a corresponding recess in the other portion thereof, a tapering key passing through said last-mentioned projection and the head portion within which it rests, and means adapted to hold said key in position.

841,696. DOOR. FRANK A. LANG, borough of Queens, N. Y. Filed Mar. 22, 1906. Serial No. 307,381.



Claim.—1. A door structure including in combination a casing, said casing comprising two opposed segmental members, two separated, symmetrically-arranged door members mounted for rotation within the said casing, each of said door members being constructed and arranged so as to form with the adjacent segmental member a passage-way between the said door member and segmental member as the door member rotates past the segmental member and also so that the said door members shall contact at their vertical edges with the said segmental members, and an intermediate door member constructed and arranged to close the space between said separated door members.

2. A door structure including in combination a casing, said casing comprising two opposed segmental members, two separated, symmetrically-arranged door members, mounted for rotation within the said casing, each of said door members being constructed and arranged so as to form with the adjacent segmental member a passage-way between the said door member and segmental member as the door member rotates past the segmental member and also so that the said door members shall contact at their vertical edges with the said segmental members, an intermediate door member constructed and arranged to close the space between said separated door members and to also form with the said separated door members and said segmental members two additional passage-ways as the door member rotates, and means for rotatably supporting the entire door in position within the casing.

3. A door structure including in combination a casing, said casing comprising two opposed segmental members, two separated door members mounted for rotation within the casing and symmetrically arranged with respect to the said casing and with respect to each other, each of said door members being constructed and arranged so as to form with the adjacent segmental member a passage-way between the said door member and segmental member as the door member rotates past the segmental member and also so that the said door members shall contact at their vertical edges with the said segmental members, and a swinging door member constructed and arranged to close the space between the said separated door members.

4. A door structure including in combination a casing, said casing comprising two opposed segmental members, two separated door members mounted for rotation within the casing and symmetrically arranged with respect to the said casing and with respect to each other, each of said door members being constructed and arranged so as to form with the adjacent segmental member a passage-way between the said door member and segmental member as the door member rotates past the segmental member and also so that the said door members shall contact at their vertical edges with the said segmental members, connections between the said symmetrically-arranged door members for holding them in position, and a swinging door member constructed and arranged to close the space between the said separated door members.

5. A door structure including in combination a casing, said casing comprising two opposed segmental members, two separated, curved or bent door members mounted for rotation within the casing and symmetrically arranged with respect to the casing and with respect to each other,

said door members being arranged so as to be reversely positioned with reference to each of the segmental members, and also to have their vertical edges contact therewith, as they rotate past it, and an intermediate door member for closing the space between the said two door members.

6. A door structure including in combination a casing, said casing comprising two opposed segmental members, two separated, curved or bent door members mounted for rotation within the casing and symmetrically arranged with respect to the casing and with respect to each other, said door members being arranged so as to be reversely positioned with reference to each of the segmental members, and also to have their vertical edges contact therewith, as they rotate past it, and an intermediate swinging door member for closing the space between the said two door members.

7. A door structure including in combination a casing, said casing comprising two opposed segmental members, two separated, curved or bent door members mounted for rotation within the casing and symmetrically arranged with respect to the casing and with respect to each other, said door members being arranged so as to be reversely positioned with reference to each of the segmental members, and also to have their vertical edges contact therewith, as they rotate past it, fixed connections between the two separated door members for holding them in position, and a swinging door member for closing the space between the said two members.

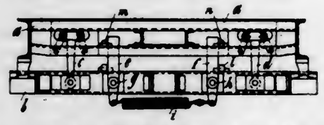
8. A door structure including in combination a casing, said casing comprising two opposed segmental members, two separated, curved or bent door members mounted for rotation within the casing and symmetrically arranged with respect to the casing and with respect to each other, said door members being arranged so as to be reversely positioned with reference to each of the segmental members, and also so as to have their vertical edges contact therewith as they rotate past it, centrally-located, rigid connections between the said members at their tops and bottoms, and a swinging door mounted between the said members and the said connections so as to close the space between the said members.

9. A door structure including in combination a casing, said casing comprising two opposed segmental members, a door constructed and arranged to rotate within the said casing, a swinging door member constituting a part of the said rotatable door, means which may be set to hold the swinging door member fixed with reference to the other members of said rotatable door and to permit the door as a whole to rotate within the casing, or to permit the said swinging door member to swing with reference to the other members of the said rotatable door and to hold the door as a whole from rotation within its casing, and a member for setting the said settable means.

10. A door structure including in combination a casing, said casing comprising two opposed segmental members, a door constructed and arranged to rotate within the said casing, a swinging door constituting a part of the said rotatable door, a bolt mechanism mounted upon another part of the rotatable door, said bolt mechanism having a part constructed and arranged to engage the swinging door and another part constructed and arranged to engage the casing and having also means for simultaneously actuating the said parts so that as one part is moved into the engaging position the other of said parts is moved into the disengaging position.

11. A door structure including in combination a casing, said casing comprising two opposed segmental members, two separated door members mounted for rotation within the casing and symmetrically arranged with respect to the said casing and with respect to each other, each of said door members being constructed and arranged so as to form with the adjacent segmental member a passage-way between the said door member and segmental member as the door member rotates past the segmental member and also so that the said door members shall contact at their vertical edges with the said segmental members, connections between the said symmetrically-arranged door members for holding them in position, a swinging door member constructed and arranged to close the space between the said separated door members, and a bolt mechanism constructed and arranged to be moved into position to bolt the swinging door member to the separated door members or to be moved into position to bolt the separated door members to the casing and to free the swinging door member.

841,697. APPARATUS FOR TRUCKS OF RAILWAY-CARRIAGES. WILHELM LAUTENSCHLÄGER, Pinerolo, near Turin, Italy. Filed Oct. 19, 1906. Serial No. 339,709.

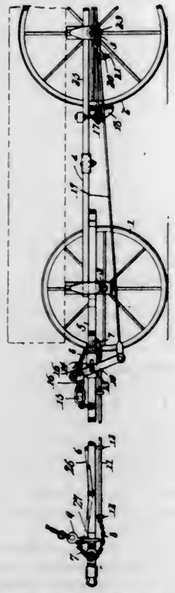


Claim.—1. The combination with a truck or bogie for railway-carriages and the like of arms arranged to rotate on the frame of said truck or bogie, checks on the frame of said truck or bogie within the throw of said arms, and means for keeping said arms in positive contact with said checks.

2. The combination with a truck or bogie for railway-carriages and the like of arms arranged to rotate on the frame of said truck or bogie, checks on the frame of said truck or bogie within the throw of said arms, checks on the car-body and means for keeping said arms in positive contact with both the checks on the truck or bogie frame and the car-body.

3. The combination with a truck or bogie for railway-carriages and the like of arms arranged to rotate on the frame of said truck or bogie, checks on the frame of said truck or bogie within the throw of said arms, checks on the car-body and a coiled spring for keeping said arms in positive contact with both the checks on the truck or bogie frame and the car-body.

841,698. AUTOMATIC BRAKE. JOHN N. LAWRENCE, Nevada, Mo. Filed June 19, 1906. Serial No. 322,455.



Claim.—1. The combination with the running-gear of a vehicle, and a draft device comprising a tongue, a neck-yoke, and a doubletree, of a brake mechanism for the vehicle comprising brake-shoes, a lever mounted on the tongue, means carried by the tongue for actuating the lever by the neck-yoke, a pivotal connection between the lever and doubletree for permitting the latter to move up and down independently of the lever and tongue, and a connection between the lever and brake-shoes for setting and releasing the latter.

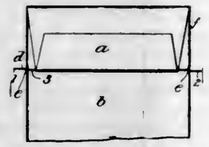
2. A draft device for a vehicle comprising a tongue, a neck-yoke, and a doubletree, in combination with a brake mechanism comprising a lever on the tongue to which the doubletree is attached, a fulcrum for the doubletree-supporting lever movably mounted on the tongue, a flexible connection extending from the neck-yoke to the lever, sheaves on the tongue for the flexible connection, brake-shoes adapted to engage the wheels of the vehicle, and a connection between the lever and the brake-shoes.

3. A draft device for a vehicle comprising a tongue, a neck-yoke, and a doubletree, in combination with a brake mechanism comprising a lever, means for supporting the doubletree on the lever at one side of its fulcrum and arranged to permit the doubletree to move up and down independently of the tongue, a connection between the neck-yoke and the lever on the same side of its fulcrum and comprising a rod guided on the tongue and flexible elements connecting the ends of the rod to the neck-yoke and doubletree, brake-shoes, and a connection between the brake-shoes and the lever on the side of its fulcrum opposite from the doubletree.

4. The combination with a running-gear of a vehicle, brake-shoes, and a draft device comprising a tongue, a neck-yoke, and a doubletree, of a mechanism for actuating the brakes, said mechanism comprising a rod, staples for movably mounting the rod on the under side of the tongue, sheaves mounted on the ends of the tongue, flexible elements between the ends of the rod and passing over the sheaves, hook connections between the flexible elements and the yoke and doubletree, a lever on the tongue, means for supporting the doubletree on the lever, a sector-rack on the tongue, a latch mechanism on the lever for holding the lever in fixed position with respect to the rack, and means for holding the latch mechanism out of engagement with the said rack to permit the lever to move freely.

5. A draft device for a vehicle comprising a tongue, a neck-yoke, and a doubletree, in combination with a brake mechanism comprising a forked lever straddling and pivoted on the tongue, sheaves arranged one on each side of the lever, a flexible connection extending between the neck-yoke and lever and passing over the sheaves, hooks on the neck-yoke and lever for attachment with the flexible connection, means for hanging the doubletree on the lever and permitting the former to move up and down independently of the tongue, brake-shoes, and means for connecting the brake-shoes with the lever.

841,699. CLOSURE FOR ENVELOPS AND PACKAGE-WRAPS. ROBERT R. LAWSON, New York, N. Y. Filed Sept. 9, 1904. Serial No. 223,918.



Claim.—1. A closure for envelops and package-wraps comprising a main flap integral with the body of the envelop or wrap and arranged to fold down on the back of the envelop or wrap, a free-ended cord extending around the envelop or wrap or a sufficient portion thereof parallel with the fold of said main flap and doubled across the face of the envelop or wrap with its ends protruding in opposite directions, said main flap being interlocked with said cord by doubling the flap on itself and around the cord and securing the same in this shape, and a paster of thin paper or the like affixed to the front of the envelop or wrap and serving to cover and secure the doubled portion of said cord and to provide for opening the closure by pulling the cord and thereby tearing it free from said paster.

2. A closure for envelops and package-wraps comprising a self-sealing gummed main flap integral with the body of the envelop or wrap and arranged to fold down on the back of the envelop or wrap and to be doubled upon itself with its gummed surface inside, a free-ended cord extending around the envelop or wrap or a sufficient portion thereof parallel with the fold of said main flap and doubled across the face of the envelop or wrap with its ends protruding in opposite directions, said main flap being interlocked with said cord by doubling and sealing the flap around the cord, and a paster of thin paper or the like affixed to the front of the envelop or wrap and serving to cover and secure the doubled portion of said cord and to provide for opening the closure by pulling the cord and thereby tearing it free from said paster.

3. A closure for envelops or package-wraps comprising a main flap integral with the body of the envelop or wrap and arranged to fold down on its back and to be doubled upon itself, a free-ended cord extending around the envelop or wrap or a sufficient portion thereof parallel with the fold of said main flap forming a keeper on the back of the envelop or wrap to interlock with said main flap and doubled across the face of the envelop or wrap with its ends protruding in opposite directions, and a paster of thin paper or the like affixed to the face of the envelop or wrap and arranged to cover and secure the doubled portion of the cord and to provide for opening the envelop or wrap by pulling the cord and thereby tearing it free from said paster.

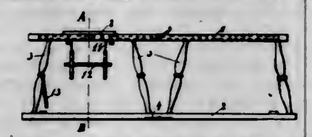
4. A closure for envelops or package-wraps comprising a main flap adapted to be folded down on the back of the envelop or wrap and to be doubled upon itself, a free-ended cord extending around the envelop or wrap or a sufficient portion thereof parallel with the fold of said main flap and forming a keeper at the back of the envelops or wrap beneath which said main flap may be passed and around which said main flap is folded and permanently secured, said cord being also doubled across the front of the envelop or wrap with its respective ends protruding in opposite directions, a paster of thin paper or the like affixed to said front of the envelop or wrap so as to cover and secure said doubled portion of the cord and to provide for opening the envelop or wrap by pulling the cord and thereby tearing it free from said paster, and a supplemental paster of thin paper or the like for resealing the envelop or wrap in like manner after rearranging the cord beneath the same.

5. A closure for envelops or package-wraps comprising a main flap adapted to be folded down on the back of the envelop or wrap and to be doubled upon itself, a free-ended cord extending around the envelop or wrap or a sufficient portion thereof parallel with the fold of said main flap and forming a keeper at the back of the envelop or wrap beneath which said main flap may be passed and around which said main flap is folded and permanently secured, said cord being also doubled across the front of the envelop or wrap with its respective ends protruding in opposite directions, a paster of thin paper or the like affixed to said front of the envelop or wrap so as to cover and secure said doubled portion of the cord and to provide for opening the envelop or wrap by pulling the cord and thereby tearing it free from said paster, and a supplemental paster of thin paper or the like for resealing the envelop or wrap in like manner after rearranging the cord beneath the same; such resealing-paster being affixed to the paster first named on one side of the cord and adapted to have its free portion or tab gummed fast over the cord to reseal the envelop or wrap, substantially as hereinbefore specified.

841,700. CHILD'S CHAIR. HEINRICH LINDEN, Bensberg, Germany. Filed Sept. 5, 1905. Serial No. 277,043.

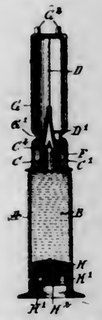
Claim.—In a child's chair the combination of upper ledges with lower ledges 2, hooks and eyes 5 between the

upper ledges, hinges 4 between the lower ledges, stays 3 between the upper and lower edges, a foot-board 13 fastened to some of said stays 3, guiding-grooves in the upper ledges 1, a table-board 6 having a circular notch and guided in



said grooves of the upper ledges 1, ball-bearings 9 fastened on the lower side of said table-board 6, a ring 10, and a seat 12 fastened to said spring 11, substantially as shown and described.

841,701. HYPODERMIC SYRINGE. JUSTIN DE LISLE, New York, N. Y. Filed Mar. 16, 1906. Serial No. 306,423.



Claim.—1. A hypodermic syringe, comprising a barrel provided with a discharge-nozzle normally sealed, a piston in the barrel for confining serum in the barrel and for forcing the serum out of it and through the said nozzle when opened, a cap, and a needle, provided with a base engaged by the said nozzle and closing the end of the said cap, the latter inclosing the needle and forming a means for pushing the piston in the barrel for the discharge of the serum from the barrel and through the needle.

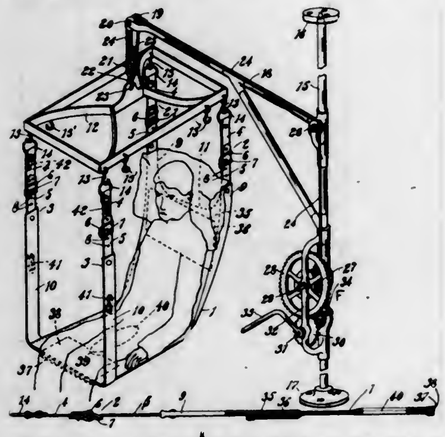
2. A hypodermic syringe, comprising a barrel provided with a discharge-nozzle normally sealed and having screw-threads, a piston in the barrel for confining serum therein and for forcing the serum out of the barrel and through the said nozzle when the latter is opened, a cap, and a needle screwing on the said threaded nozzle and provided with a base forming a stopper for the said cap, the latter inclosing the needle and forming a means for pushing the piston in the barrel for the discharge of the serum from the barrel and through the said nozzle and the needle.

3. A hypodermic syringe, comprising a barrel provided with a discharge-nozzle normally sealed and having screw-threads, a piston in the barrel for confining serum therein and for forcing the serum out of the barrel and through the said nozzle when the latter is opened, a cap having means for engaging the said piston to turn the latter in the barrel, and a needle screwing on the said threaded nozzle and provided with a base forming a stopper for the said cap, the latter inclosing the needle and forming a means for pushing the piston in the barrel for the discharge of the serum from the barrel and through the said nozzle to the needle.

4. A hypodermic syringe, comprising a barrel provided with a discharge-nozzle normally sealed and having screw-threads, a piston in the barrel for confining serum therein and for forcing the serum out of the barrel and through the said nozzle when the latter is opened, a cap having lugs at its outer end for engagement with recesses in the outer face of the said piston to turn the latter in the barrel, and a needle screwing on the said threaded nozzle and provided with a base forming a stopper for the said cap, the latter inclosing the needle and forming a means for pushing the piston in the barrel for the discharge of the serum from the barrel and through the said nozzle and the needle.

5. A hypodermic syringe, comprising a barrel provided with a discharge-nozzle, having a removable sealing-cap for normally sealing the nozzle, a piston in the barrel for confining serum in the barrel and for forcing the serum out of it and through the said nozzle when opened, a cap, and a needle, provided with a base engaged by the said nozzle and closing the end of the said cap, the latter inclosing the needle and forming a means for pushing the piston in the barrel for the discharge of the serum from the barrel and through the needle.

841,702. DEVICE FOR HANDLING, LIFTING, OR SUPPORTING INVALIDS OR THE LIKE. THOMAS A. MARTIN, Covington, Ky. Filed Nov. 6, 1905. Serial No. 286,117.



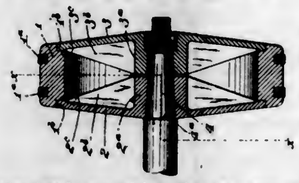
Claim.—1. In a device of the character described, the combination of a flexible sheet having comparatively short straps extending therefrom at its head end and comparatively long straps extending therefrom at its foot end, a supporting-frame, means for releasably securing said straps to said supporting-frame, a hook and eye on each of said long straps for instantly reducing them to substantially the length of said short straps, and means for raising and lowering said supporting-frame, substantially as described.

2. In a device of the character described, the combination of a flexible sheet having comparatively short straps extending longitudinally therefrom at its head end and having a pocket at its head end opening toward its head edge, a removable stiffening-plate received by said pocket, said flexible sheet having comparatively long straps extending laterally therefrom at its foot end, and a pocket at its foot end opening toward its foot edge, said flexible sheet further having an opening 40, a removable stiffening-plate received by said last-named pocket, a supporting-frame, means for releasably securing said straps to said supporting-frame, and means for raising and lowering said supporting-frame, substantially as described.

841,703. PISTON. SAMUEL W. MILLER, Philadelphia, Pa. Filed July 9, 1906. Serial No. 325,241.

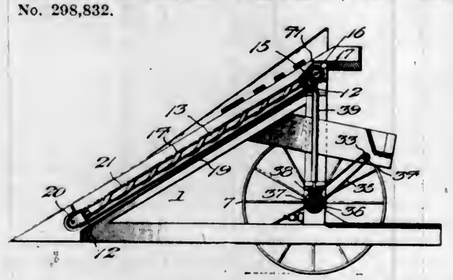
Claim.—1. A piston-head comprising the two side plates, in combination with an integral bull-ring, the bull-ring being rabbeted at its inner corners to receive the edges of the side plates.

2. A piston-head comprising the two side plates provided with tapering seating-openings, in combination with the bull-ring, the bull-ring being rabbeted to receive the edges of the side plates, and the side plates normally separated at their centers before application to the piston-rod and adapted to be sprung together when secured on the rod.



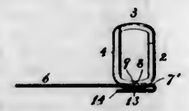
3. A piston-head comprising the two side plates each provided with a tapered opening, a bull-ring rabbeted to receive the edges of the side plates and the side plates normally separated at their centers before application to the piston-rod and adapted to be sprung together when secured on the rod, in combination with a rod having a taper seat on which the plates fit at their aforesaid openings and means for springing said plates together on the rods.

841,704. CORN-HARVESTING MACHINE. ROBERT C. E. MOORE, Boonville, Ind. Filed Jan. 31, 1906. Serial No. 298,832.



Claim.—In a corn-harvesting machine, a main frame, a pair of forwardly and downwardly inclined coöperating harvesting and conveying rollers mounted in the frame, a hopper arranged for receiving material from said rollers, two sets of downwardly and rearwardly inclined husking-rollers sustained in the frame respectively at opposite sides of the hopper and having their forward ends disposed at a point in advance of and remote from the rear ends of the harvesting-rollers, a pair of downwardly and forwardly inclined chutes leading from the hopper respectively to the sets of husking-rollers, said hopper having its bottom inclined from its center downward toward the chutes and the latter being arranged to deliver material at the forward upper ends of the sets of husking-rollers, a main drive-shaft, transporting-wheels connected for operating the same, and operative connections between said shaft and the conveying and husking rollers.

841,705. TEMPORARY BINDER. LUCENA M. MORDEN, Waterbury, Conn. Filed Mar. 22, 1902. Serial No. 99,399.



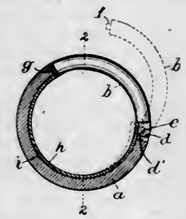
Claim.—1. In a loose-leaf binder, the combination, with a supporting plate or base having a series of seats 13 extended below its flat upper surface transverse to the edge of the plate with a pair of eyepieces 8 one at each side of and above the bottom of each seat, of a rod 9 fitted movably to the eyepieces and across the said seats, and a series of file-rings secured in the said seats, and having each an upper hinged section and a hole 10 through the body of the ring at the bottom thereof adapted to engage the rod 9 and to hold the ring rigidly in an upright position upon the plate.

2. In a loose-leaf binder, the combination, with a supporting plate or base having a series of seats 13 extended below its flat upper surface transverse to the edge of the plate with a pair of eyepieces 8 one at each side of and above the bottom of each seat, and the groove 12 in the plate in line with the eyepieces as set forth, of a rod 9 fitted movably to the groove 12 and eyepieces and extended across the said seats, and a series of file-rings secured in the said seats and having each an upper hinged section and a hole 10 through the body of the ring at the bottom adapted to engage the rod 9 and to hold the ring rigidly in an upright position upon the plate.

3. In a loose-leaf binder, the combination, with a plurality of paper-holding rings formed with an upper hinged section, of the file-board 6 having the metallic plate 7 made in folded form and fitted to the edge of the board as a clasp, the folded metal plate being provided with a seat for each of the said rings and means for securing the rings rigidly in an upright position in the said seats.

4. In a loose-leaf binder, the combination, with a supporting-plate 7 having a seat 13 extended below its flat surface transverse to the edge of the plate, with a pair of eyepieces 8 at each side of and above the bottom of such seat, of the rod 9 fitted movably to the eyepieces and across the said seats, and a file-ring secured in the said seat and having an upper hinged section and the hole 10 through the body of the ring at the bottom thereof, adapted to engage the rod 9 and to hold the ring rigidly in an upright position upon the plate.

841,706. BOOK-RING WITH SPRING-HINGED JOINT. LUCENA M. MORDEN, Waterbury, Conn. Filed May 5, 1904. Serial No. 206,490.



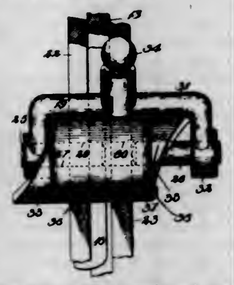
Claim.—1. A book-ring having body *a* with opening in one side, and the movable section *b* hinged upon the body at one side of the opening, the hinge being formed with a tongue and fork, a groove upon the inner side of the ring extending past the said tongue, the tongue having a corner *d'* alining with the groove, and the leaf-spring concealed wholly within the groove and having a free end pressed normally upon the said tongue, and its opposite end secured in the groove to retain it in an operative position.

2. A book-ring having body *a* with opening in one side, and the movable section *b* hinged upon the body at one side of the opening, by a tongue and fork pivoted together, the groove *i* extended around the entire inner side of the body *a* and past the tongue upon the movable section *b*, the leaf-spring *h* fitted to the groove and just filling the same upon the entire inner side of the body, and having a free end pressed normally upon the said tongue, and its opposite end secured in the groove to retain it in an operative position, the spring being wholly concealed and the ring free from projecting portions of any description, whereby the perforated leaves may be turned thereon without obstruction.

841,707. PUMP-COUPLING. GUY B. MURRAY, Nankin, Ohio. Filed Jan. 15, 1906. Serial No. 296,123.

Claim.—1. The combination with a pump piston-rod, a pump-handle, and a windmill-rod, of a coupling-head secured to the piston-rod, and having parallel vertical openings through one of which openings the windmill-rod extends, a coupling-rod connected to the handle and extending through the other opening in the coupling-head, said

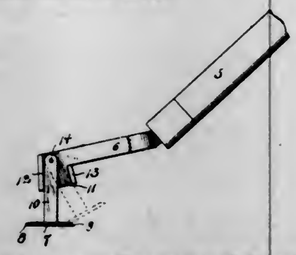
coupling-rod and windmill-rod having openings, and the coupling-head having openings on opposite sides which register with the openings in the coupling-rod and windmill-rod, pins slidably mounted in the openings in the coupling-head, and extensible alternately into the openings in the windmill-rod and the coupling-rod, a yoke connecting said pins, and means for shifting the yoke sidewise in either direction to actuate the pins.



2. The combination with a pump piston-rod, a pump-handle, and a windmill-rod, of a coupling-head secured to the piston-rod, and having parallel vertical openings through one of which openings the windmill-rod extends, a coupling-rod connected to the handle and extending through the other opening in the coupling-head, said coupling-rod and windmill-rod having openings, and the coupling-head having openings on opposite sides which register with the openings in the coupling-rod and windmill-rod, pins slidably mounted in the openings in the coupling-head, and extensible alternately into the openings in the windmill-rod and the coupling-rod, a yoke connecting said pins, and cam-surfaces formed on opposite sides of the coupling-head, and engageable by the yoke for shifting it sidewise in either direction to actuate the pins.

841,708. WEEDING-HOE. JOHN MCCLURE, Weatherby, Mo. Filed Dec. 13, 1906. Serial No. 347,625.

Claim.—1. In a hoe, a pivotally-mounted blade, and stops between which the blade swings.



2. In a hoe, a vertically-swinging blade, and stops to limit the swing of the blade in either direction.

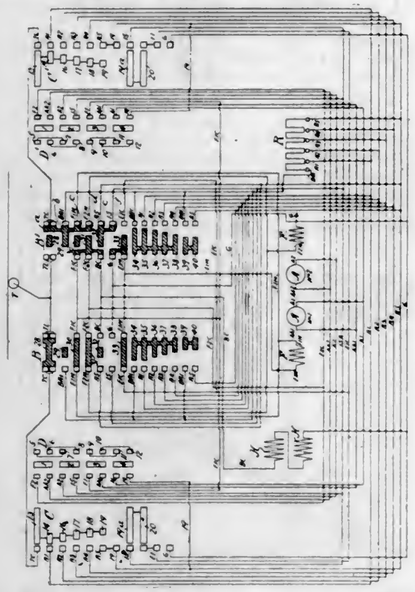
3. In a hoe, a blade-support, a blade having at its ends upstanding arms pivotally connected to the support, and stops for the arms to limit the swing of the blade.

4. In a hoe, a forked blade-support having stop projections, and a blade having at its ends upstanding arms pivotally connected to the fork between the stops.

841,709. ELECTRIC BRAKE. FRANK C. NEWELL, Wilkinsburg, Pa., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 3, 1900. Serial No. 15,348.

Claim.—1. The combination, on an electrically-operated car, of a running-controller, and a braking-controller which is adapted to apply the brakes and to connect the running-controller with the braking-circuit whereby the brakes may be controlled either by the running-controller or the braking-controller.

2. The combination, on an electrically-operated car, of a motor, a local braking-circuit, a braking-controller adapted to connect the motor to act as a generator for the braking-circuit and also adapted to control the current in said braking-circuit, and a running-controller for the motor which is also adapted to control the current in the braking-circuit by the same movements as in running.



3. The combination, on an electrically-operated car, of a motor, a running-controller, a local braking-circuit, and a braking-controller adapted, by one movement, to cut out the running-controller from the main line and to connect the motor and running-controller in the braking-circuit, and adapted by a further movement to control the current in the braking-circuit.

4. The combination, on an electrically-operated car, of a running-controller, a reversing-switch, and a braking-controller which is adapted to apply the brakes, when the reversing-switch is in the position for running ahead or for running backward, and to connect the running-controller in the braking-circuit, whereby the brakes after being applied may be controlled by the running-controller or by the braking-controller.

5. In an electric controller, the combination, of a switch and a resistance-controlling device mounted on a shaft, and means whereby the switch and controlling device may be moved together or the resistance device may be moved independently of the switch by rotation of the shaft.

6. In an electric controller for a braking-circuit, the combination, of a braking-switch and a resistance-controlling device mounted on the same shaft, and means whereby the brakes may be applied by a single movement of the braking-switch and shaft, and the resistance-controlling device operated to vary the resistance in the braking-circuit without moving the braking-switch.

7. In an electric controller, the combination, of a switch mounted on an operating-shaft which is rotatable independently of the switch, a resistance-controlling device rotatable with the shaft and means for locking the switch to cause it to rotate with the shaft and unlocking it to permit independent rotation of the shaft.

8. The combination, in a controller for electric circuits, of an operating-shaft, a resistance-controlling device secured to and movable with the shaft, a switch mounted on the shaft, and means for automatically locking and unlocking the switch and shaft, whereby they may be moved together or the shaft and resistance-controlling device may be moved independently of the switch.

9. The combination, in a controller for electric circuits, of an operating-shaft a resistance-controlling device secured to and movable with the shaft, a switch mounted on the shaft, a pawl adapted to lock the shaft and switch together, and means for automatically effecting engagement and disengagement of the pawl, whereby the shaft and switch may be operated together or the shaft and resistance device may be operated independently of the switch.

10. In an electrical controlling device, the combination, of a rotatable carrier, contact-bars secured thereon and adapted to rotate in different planes, stationary contact-fingers located in corresponding planes, one of the contact-bars being adapted to cross-connect two of the stationary contact-fingers in the same plane of rotation, and another bar having an extension overlapping the said cross-connecting bar.

11. In an electrical controlling device, the combination, of a rotatable carrier having contact-bars adapted to rotate in different planes, stationary contact-fingers located in corresponding planes, one of the contact-bars adapted to connect two stationary fingers in the same plane of rotation, the said bar having an extension adapted to make contact with another stationary finger in a different plane of rotation when the carrier is rotated to a different position.

12. In an electrical controlling device, the combination, of a rotatable carrier, having contact-bars adapted to rotate in different planes, a plurality of sets of stationary contact-fingers, one of the contact-bars being adapted to connect fingers of opposite sets in the same plane of rotation, and an extension from one of the bars overlapping another bar whereby the same stationary finger may make contact with either bar by the rotation of the carrier.

13. In an electrical controlling device, the combination, of a rotatable carrier, having contact-bars adapted to rotate in different planes, a plurality of sets of stationary contact-fingers located in corresponding planes, and extensions from some of the bars overlapping other bars whereby fingers of different sets will be connected when the carrier is in one position and fingers of the same set will be connected together when the carrier is in another position.

14. In an electrical controlling device, the combination, of a rotatable carrier, two contact-bars mounted thereon in different planes of rotation and each having an extension which projects into the same common plane of rotation, and stationary contact points or fingers adapted to be engaged by the contact-bars and their extensions.

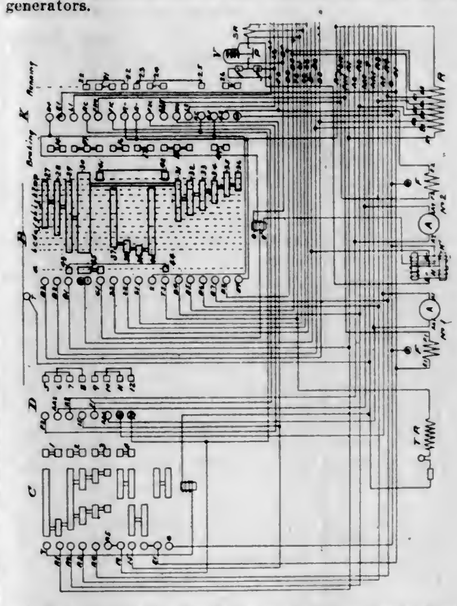
15. In an electrical controlling device, the combination of a rotatable carrier having contact-bars adapted to revolve in different planes, stationary fingers for the contact-bars located in corresponding planes, and an extension from one of the bars overlapping another bar, whereby the same stationary finger may be connected with another stationary finger in the same plane of rotation or with another finger in a different plane of rotation.

841,710. ELECTRIC BRAKE. FRANK C. NEWELL, Wilkinsburg, and EDWARD H. DEWSON, Edgewood Park, Pa., assignors to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 11, 1904. Serial No. 202,529.

Claim.—1. The combination with one or more generators adapted to be driven by the momentum of the car, of a braking-controller for connecting up the generator or generators in a local brake-circuit, and having contact-points for controlling a shunt around the fields of the generators.

2. The combination with one or more generators adapted to be driven by the momentum of the car, of a braking-controller for connecting up the generator or generators in a local brake-circuit, a main resistance for the brake-circuit, a shunt-circuit containing a variable resistance around the fields of the generators, and contact-points on the braking-controller for varying the resistance in both the main brake-circuit and the shunt.

3. The combination on an electric car of one of more motors, a running-controller, a braking-controller for connecting up the motors to act as generators in a local brake-circuit, said braking-controller being provided with contact-points adapted in one position to supply line-current to the fields of the motor-generators and in another position to close a shunt around the fields of the generators.



4. The combination with one or more motor-generators, of a braking-controller having contact-points adapted in one position to supply current from the line to the fields of the generators, and in further positions to close a shunt of variable resistance around the fields of the generators and to control the resistance in said shunt.

5. The combination with one or more motors and a running-controller of a braking-controller for connecting up said motors to act as generators in a local brake-circuit, a brake-magnet and a variable resistance in said local circuit, the braking-controller having contact-points for controlling said resistance and other contact-points in the extreme position for supplying line-current to the brake-magnet.

6. The combination of one or more generators adapted to be driven by the momentum of the car, a local brake-circuit, a braking-controller having contact-points for controlling a shunt around the fields of the motors, and an automatic voltage-regulator located in the local circuit for closing the shunt when the strength of the generated current is sufficient to operate the brake.

7. The combination of one or more generators adapted to be driven by the momentum of the car, a local brake-circuit, a main resistance and a brake-magnet in said circuit, a shunt containing a variable resistance around the fields of the generators, a braking-controller having contact-points for controlling the resistance in both the main circuit and in the shunt, and an automatic voltage-regulator operated by the current in the local circuit for closing the shunt when the current is of sufficient strength to operate the brake-magnet.

8. The combination of two or more generators adapted to be driven by the momentum of the car, a braking-controller adapted to connect said generators up in parallel in a local brake-circuit with an equalizer connection across the field-leads, and a shunt around said fields connected to said equalizer, said braking-controller having contact-points for controlling said shunt.

9. The combination of two or more generators adapted

to be driven by the momentum of the car, a braking-controller adapted to connect said generators up in parallel in a local brake-circuit with an equalizer connection across the field-leads, and a shunt around said fields connected to said equalizer, fuse-blocks located in said equalizer on each side of the shunt connection, said braking-controller having contact-points for controlling said shunt.

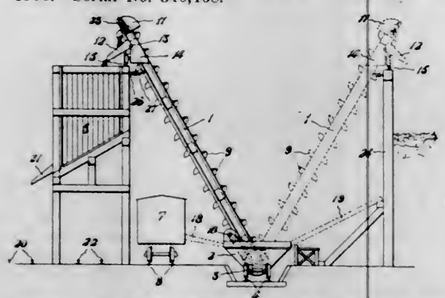
841,711. REFUSE-CART. JAKOB OCHSNER, Zurich, Switzerland. Filed May 19, 1905. Serial No. 261,196.



Claim.—1. In means for receiving refuse the combination of a receptacle having a sliding cover and a fixed bar, with a bin having two of its edges that are parallel to each other outwardly flanged and a bin-cover having returned edges to slidably engage said flanges and having abutments adapted to engage said bar.

2. In means for receiving refuse the combination of a receptacle having a sliding cover with a lug on one end, a fixed bar attached to said receptacle, a bin having two of its edges that are parallel to each other outwardly flanged, a bin-cover having returned edges to slidably engage said flanges, abutments on the bin-cover adapted to engage the aforesaid bar and means on the bin to engage the aforesaid lug.

841,712. TRAVELING CONVEYER-CRANE. JOHN W. ORROCK, Montreal, Quebec, Canada. Filed Oct. 25, 1906. Serial No. 340,468.



Claim.—1. In a conveyer device, the combination with a surface track of a truck mounted thereon, a boot or hopper mounted on said truck, a mast carried by said boot, an elevated track, a carriage supporting the upper end of the mast upon said elevated track, means for delivering material into both sides of said boot or hopper, and a bucket-chain adapted to discharge said material from the upper end of the mast.

2. In a conveyer device, the combination with a track of a truck mounted on said track, a boot carried by said truck, a mast mounted on said boot, an endless bucket-chain traveling over said mast, and means for discharging material upon both sides of said track.

3. In a conveyer device, the combination with a track of a truck mounted on said track, a boot or hopper carried by said truck, a mast carried by said boot, an endless bucket-chain traveling over said mast, a carriage supporting the upper end of said mast, means for driving said bucket-chain, and means for discharging material upon both sides of said track.

4. In a device of the class described, in combination with a series of pockets, a stock-pile, and a track located between said pockets and stock-pile, a conveyer-boot running on said track, means for supplying material to said boot, and means for alternately discharging material into said pockets and stock-pile.

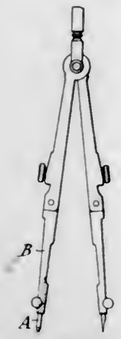
5. In a device of the class described, the combination with a series of pockets, a stock-pile and a track located therebetween, of a conveyer-boot traveling on said track, means for supplying material to said conveyer-boot, a mast pivotally mounted upon said boot, a bucket-chain traveling over said mast, means for driving said bucket-chain, and means for delivering material alternately to said pockets and stock-pile.

6. In a coal or ore handling device, a series of pockets, a stock-pile, a depressed track therebetween, a conveyer-boot traveling on said track, a mast pivotally mounted in said boot, an endless bucket-chain mounted on said mast, means for delivering coal or ore to said boot, a track located above said pockets and stock-pile, means for supporting the upper end of said mast upon said track, and means for delivering material alternately to said pockets or stock-pile.

7. In a coal or ore handling device, a series of pockets, a stock-pile, a depressed track therebetween, a conveyer-boot traveling on said track, a turn-table in said track, a mast pivotally mounted in said boot, an endless bucket-chain mounted on said mast, means for delivering coal or ore to said boot, a track elevated above said pockets and stock-pile, means for supporting the upper end of said mast upon said track, and means for controlling the supply of material from said stock-pile to said boot.

8. In a coal or ore handling device, a plurality of pockets, a stock-pile, an elevated track connecting said pockets and stock-pile, a second track located between said pockets and stock-pile, a truck running on the second track, a conveyer-mast carried by said truck, and means for operating said conveyer to discharge material into either the pockets or the stock-pile.

841,713. CENTER FOR DIVIDERS. GEORGE E. PERRY, Jersey City, N. J. Filed Aug. 26, 1905. Serial No. 275,888.



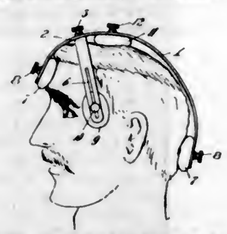
Claim.—1. A center for dividers, having a needle at the base of which is a concave shoulder forming an adjacent support which is at a fixed distance above the point of the needle, and which is adapted to limit the penetration of the needle to a distance less than its full length and at the same time to permit rotation of the needle.

2. A center for dividers, having a needle C at the base of which is a concave shoulder E forming a surrounding edge D above the point of the needle, the whole being made of a single integral piece of metal.

841,714. HEAD-TRUSS. WALTER D. PETERS, Minneapolis, Minn. Filed Jan. 18, 1906. Serial No. 296,632.

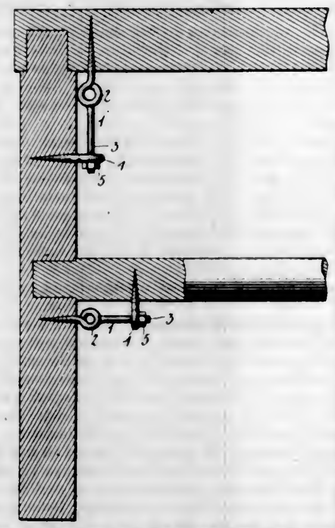
Claim.—1. A head-truss comprising a pair of bowed spring members extended transversely the one of the other, and secured at their intersecting portions, and pads applied to the ends of said bowed spring members and adapted to engage the head of the wearer, substantially as described.

2. A head-truss comprising a pair of bowed spring members extended transversely the one of the other and adjustably secured together at their cross portions, and pads adjustably secured to the ends of the said bowed spring members for engagement with the sides, front and back of the head, substantially as described.



3. A head-truss comprising the bowed spring members 1 and 2 having respective end slots 5 and 6, one of said members having the intermediate slot 4, the clamp-screw 3 working in the said slot 4 and screwed into the said member 2, the pads 7, 9 and 11, the clamp-screws 8 working in said slots 5 and securing said pads 7 to the ends of said member 1, the clamp-screws 10 working in said slot 6 and securing the said pads 9 to the ends of said member 2, and the clamp-screw 12 working in said slot 4 and securing said pad 11 to the intermediate portion of said member 1, substantially as described.

841,715. CHAIR-LEG FASTENER. WILLIAM L. PLAYMAN, Stevens Point, Wis. Filed July 20, 1905. Serial No. 270,522.

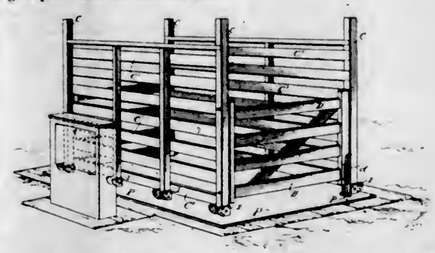


Claim.—A fastener of the class described comprising a tension member having its intermediate portion bent into a plurality of coils constituting draft-exerting elements and its terminals provided, respectively, with bolt and gimlet threads, an eyed draft-resisting member through which the bolt-threaded terminal of the member projects, and a nut to engage the bolt-threads and bear against the draft-resisting member, whereby to contract the said coils and thus cause them to exert a draft on the object to which the member is attached and also to lock the nut against loosening.

841,716. BRACKET. ROSCOE H. QUICK, Flatt, Ill. Filed Feb. 20, 1906. Serial No. 302,117.

Claim.—1. A bracket comprising a base portion adapted to be secured to a fixed member, a side portion, a pivotal member detachably secured to the side portion, and an adjustable stop adapted to detachably project from the side portion parallel to the pivotal member.

2. In combination with a base or platform, and an upright, of a U-shaped bracket having means for securing its bottom to the platform or base, the side members of the bracket having each a centrally-disposed aperture and a series of apertures at one edge, a detachable pivot-bolt for hinging the lower end of the upright in the bracket, and a detachable bolt for engaging with any set of the edge apertures in the bracket.

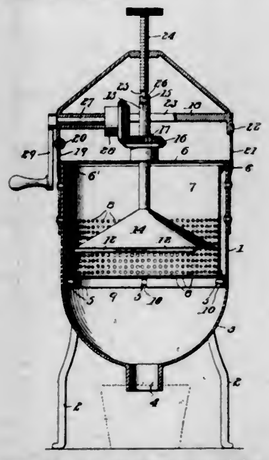


3. The combination with a base and an upright having a transverse hinged aperture, the lower end of which at one edge cut away; of a U-shaped bracket mounted on the base member, having registering apertures in its sides, a hinge-bolt for engaging said apertures and the aperture in the upright, said upright being hinged with its lower flat edge in close relation to the bottom of the bracket, and a means detachably mounted in the sides of the brackets for engaging that edge of the upright mounted at the lower end, as set forth.

4. As a new article; a U-shaped bracket whose two side members each have a hinge-aperture midway thereof and a series of registering apertures in one edge, and an aperture in the upper end intermediate the edge apertures and the pivot-apertures, a pivot-bolt for detachably fitting the pivot-apertures, and a combined lock and sustaining-bolt for fitting either set of the other apertures, for the purposes described.

5. A U-shaped bracket having its bottom constructed to be readily secured to a supporting-base, means coöperatively connecting with the bracket for pivotally supporting the lower end of a rack or bar and another means also coöperatively connected therewith for sustaining the said bar to its adjusted positions and for locking it to its vertical position.

841,717. FRUIT SEEDER AND STRAINER. MARY E. RICKMAN, Waverly, Kans., assignor of one-half to Elizabeth Sponseller, Emporia, Kans. Filed July 15, 1905. Serial No. 269,827.



Claim.—A seeder and strainer comprising a casing provided with interior lugs and a discharge-opening, a closure

for the casing, a perforated receptacle removably disposed within the casing and having notches which receive said lugs, a cover for said receptacle, a shaft horizontally journaled in the casing-closure, a gear-wheel fixed to said shaft, a shaft passing vertically through the center of the receptacle-cover and adapted to rotate and move longitudinally therein, a gear-wheel supported by the receptacle-cover and receiving said vertical shaft and adapted to rotate with the same, said shaft being capable of endwise movement through the last of said gear-wheels, said gear-wheels meshing with each other and a screw threaded in the center of the casing-closure and bearing at its lower end upon the upper ends of said vertical shafts.

841,718. BRIQUET AND PROCESS OF MAKING THE SAME. JACOB S. ROBESON, Camden, N. J., assignor to Robeson Process Company, Camden, N. J., a Corporation of New Jersey. Filed June 9, 1906. Serial No. 320,991.

Claim.—1. As a new article of manufacture, a briquet of inorganic material, bonded by a composition of matter consisting of sulfite liquor, and the liquid residue from the destructive distillation of woody tissue.

2. As a new article of manufacture, a briquet of inorganic material, bonded by a composition of matter consisting of sulfite liquor and wood-tar.

3. As a new article of manufacture, a briquet of inorganic material, bonded by a composition of matter consisting of concentrated sulfite liquor, and the liquid residue from the destructive distillation of woody tissue.

4. As a new article of manufacture, a briquet of inorganic material, bonded by a composition of matter consisting of concentrated sulfite liquor and wood-tar.

5. As a new article of manufacture, an iron ore briquet, bonded by a composition of matter consisting of sulfite liquor, and the liquid residue from the destructive distillation of woody tissue.

6. As a new article of manufacture, an iron ore briquet, bonded by a composition of matter consisting of sulfite liquor and wood-tar.

7. As a new article of manufacture, an iron ore briquet, bonded by a composition of matter consisting of concentrated sulfite liquor, and the liquid residue from the destructive distillation of woody tissue.

8. As a new article of manufacture, an iron ore briquet, bonded by a composition of matter consisting of concentrated sulfite liquor and wood-tar.

9. The process of making briquets of inorganic material, which consists in mixing the material to form the briquets with a binder comprising sulfite liquor and the liquid residue from the destructive distillation of woody tissue, and then subjecting such material to pressure to form the desired shapes or masses.

10. The process of making briquets of inorganic material, which consists in mixing the material to form the briquets with a binder comprising sulfite liquor and wood-tar in a heated condition, and then subjecting such material to pressure to form the desired shapes or masses.

11. The process of making ore briquets, which consists in mixing the ore with a binder comprising sulfite liquor and the liquid residue from the destructive distillation of woody tissue, subjecting such material to pressure to form the desired shapes or masses, and then heating said briquets to a degree sufficient to expel a portion of the sulfur carried by the bonding agent.

12. The process of making ore briquets, which consists in mixing the ore with a binder comprising sulfite liquor and wood-tar in a heated condition, subjecting such material to pressure to form the desired shapes or masses, and then heating said briquet to a degree sufficient to expel a portion of the sulfur carried by the bonding agent.

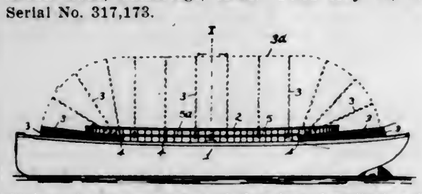
13. The process of making briquets of inorganic material, which consists in making the material to form the briquets with a binder comprising concentrated sulfite liquor and the liquid residue from the destructive distillation of woody tissue, and then subjecting such material to pressure to form the desired shapes or masses.

14. The process of making briquets of inorganic material, which consists in mixing the material to form the briquets with a binder comprising concentrated sulfite liquor and wood-tar in a heated condition, and then subjecting such material to pressure to form the desired shapes or masses.

15. The process of making ore briquets, which consists in mixing the ore with a binder comprising concentrated sulfite liquor and the liquid residue from the destructive distillation of woody tissue, subjecting such material to pressure to form the desired shapes or masses, and then heating said briquet to a degree sufficient to expel a portion of the sulfur carried by the bonding agent.

16. The process of making ore briquets, which consists in mixing the ore with a binder comprising concentrated sulfite liquor and wood-tar in a heated condition, subjecting such material to pressure to form the desired shapes or masses, and then heating said briquet to a degree sufficient to expel a portion of the sulfur carried by the bonding agent.

841,719. COLLAPSIBLE AWNING FOR BOATS. ALEXANDER ROSS, Cambridge, Mass. Filed May 16, 1906. Serial No. 317,173.



Claim.—1. An apparatus of the class described and in combination with a boat, a plurality of rods along the length thereof, and a series of loop or ring ended frames slidably positioned thereon, said frames adapted to be spaced from the fore and after portion of the boat to amidship.

2. An apparatus of the class described and in combination with a boat and its coaming, of a series of U-shaped frames having rings at their ends, a plurality of curve-ended rods secured to the deck and upon both sides of the coaming for slidably mounting said frames, said frames adapted to be extended toward the longitudinal center of the boat and to close together at the fore and after portion thereof.

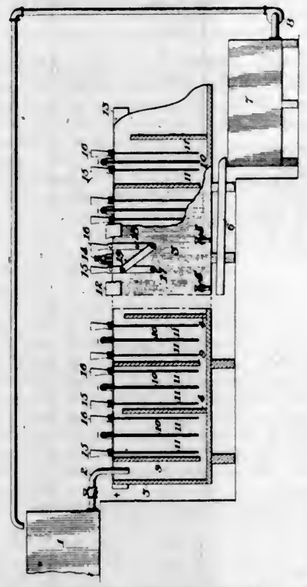
3. An apparatus of the class described and in combination with a boat and its cockpit and coaming, of curve-ended rods on each side of the said cockpit and coaming, said rods having straight ends in abutting relation at the center or amidship portion of the boat, a sleeved standard or support for holding two free or straight ends of a set of the rods, a plurality of arched frames having their ends bent into a loop or eye, said frames adapted to slide from both ends of the boat to the amidship portion thereof.

4. An apparatus of the class described and in combination with a boat and its cockpit and coaming, of a plurality of rods or rails having a straight and a curved end, a plurality of ring-ended U-shaped detachable frames adapted to slide upon said rods to the amidship portion of the boat and to close together and have a fulcrum upon the curved ends of the rods at the ends of the cockpit and coaming, screw means for fastening said curved portions to the deck, and a centrally-disposed screw-fastened standard adapted to secure two free or straight ends of the rods, said standard secured to the deck on each side of the cockpit and coaming.

841,720. ELECTROLYTIC APPARATUS. JOHN H. RYAN, Portland, Oreg. Filed Mar. 1, 1906. Serial No. 303,663.

Claim.—1. An electrolytic apparatus comprising a trough adapted for conveying a stream of electrolyte, electrodes therein connected electrically in multiple, and means operating simultaneously on a plurality of said electrodes to adjust their positions, substantially as described.

2. An electrolytic apparatus comprising a tank having inlet and outlet for electrolyte, means for directing the electrolyte in a tortuous path therethrough, electrodes therein connected electrically in multiple, and means operating simultaneously on a plurality of said electrodes to adjust their positions, substantially as described.



3. An electrolytic apparatus comprising a tank, inlet and outlet for electrolyte at opposite ends thereof, and electrodes therein connected electrically in multiple and progressively more closely spaced in the general line of flow of the electrolyte, substantially as described.

4. An electrolytic apparatus comprising a tank, inlet and outlet for electrolyte at opposite ends thereof, means for directing the electrolyte in a tortuous path therethrough, and electrodes in said tank connected electrically in multiple and progressively more closely spaced in the general line of flow of the electrolyte, substantially as described.

5. An electrolytic apparatus comprising a trough adapted for conveying a stream of electrolyte, partitions therein dividing the tank into a plurality of independent but communicating compartments, anodes and cathodes in each of said compartments, and separate outlets for said compartments, substantially as described.

6. An electrolytic apparatus comprising a trough adapted for conveying a stream of electrolyte, partitions therein dividing the tank into a plurality of independent but communicating compartments, anodes and cathodes in each of said compartments connected electrically in multiple, and separate outlets for said compartments, substantially as described.

7. An electrolytic apparatus comprising a leaching-tank, a continuous-flow depositing-tank, a sump-tank, connections between said tanks, partitions in the depositing-tank dividing the same into independent but communicating compartments, anodes and cathodes in each of said compartments, and means in connection with said compartments for discharging the contents thereof into said sump-tank, substantially as described.

841,721. PROCESS OF TREATING ORES. JOHN H. RYAN, Portland, Oreg. Filed Mar. 1, 1906. Serial No. 303,664.

Claim.—1. The process of treating ore preparatory to leaching which consists in roasting the ore in successive stages at progressively higher temperatures, the ore being heated at each stage for an optional time, and maintaining it in agitation throughout the roasting operation, substantially as described.

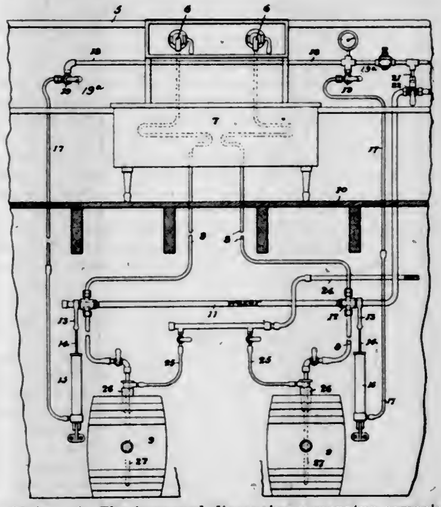
2. The process of treating ore preparatory to leaching which consists in reducing the ore to a fine state of division, then roasting the ore in successive stages at progressively higher temperatures, the ore being heated at each stage for an optional time, and maintaining it in agitation throughout the roasting operation, substantially as described.

3. The process of treating ore preparatory to leaching which consists in mixing therewith sodium chlorid, and then roasting the ore in successive stages at progressively higher temperatures, the ore being heated at each stage for an optional time, substantially as described.

4. The process of treating ore containing nickel or cobalt preparatory to leaching which consists in mixing therewith sodium chlorid, then roasting the ore in successive stages at progressively higher temperatures, the ore being heated at each stage for an optional time, and maintaining the ore in agitation throughout the rosting operation, substantially as described.

5. The process of treating sulfid ore which consists in grinding the ore to the degree of fineness requisite for leaching, then roasting the ore in successive stages at progressively higher temperatures, the ore being heated at each stage for an optional time, maintaining the ore in agitation throughout the roasting operation, converting the roaster-gases into a solvent solution, and discharging the roasted ore while still in a heated state into the solution so prepared, substantially as described.

841,722. PIPE-CLEANSING APPARATUS. ALBERT T. SCHLICHTING, Newark, N. J. Filed Dec. 20, 1905. Serial No. 292,645.

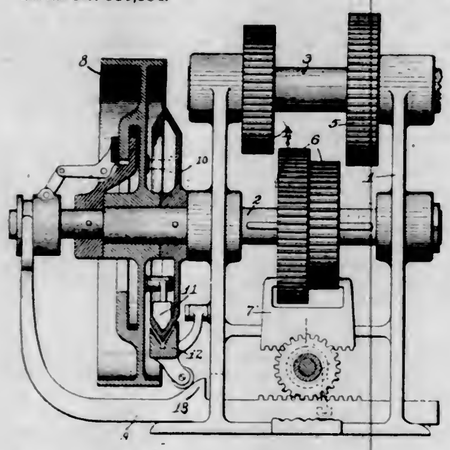


Claim.—1. The improved dispensing apparatus comprising a dispensing-faucet, a dispensing-pipe extending to said faucet and having means at its lower end for attachment to the package, a water-pipe connecting with said dispensing-pipe and adapted to supply the same with cleansing-water, a valve controlling the flow of water to said dispensing-pipe, a pneumatic cylinder and a piston therein connected with the said valve, and means stationed near said faucet and extending to said cylinder for controlling the flow of air into said cylinder, and an air-pipe connecting with said water-pipe and adapted to permit the flow of air to force the water out of said pipe after the cleansing operation.

2. An improved dispensing apparatus comprising a dispensing-pipe leading from a package, a faucet on the end of the pipe, a cleansing-pipe leading into the dispensing-pipe,

a two-way valve at the juncture of the dispensing-pipe and the cleansing-pipe, a weighted lever for operating the valve, a cylinder pivoted at one end to a support and having a piston and its projecting rod, the piston-rod being pivoted to the valve-lever, an air-pipe leading to the cylinder, and a manually-operated valve in the air-pipe having a vent for venting the cylinder when the air-supply to the cylinder is cut off.

841,723. POWER-TRANSMISSION DEVICE. WILLARD T. SEARS, Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Sept. 28, 1906. Serial No. 336,584.



Claim.—1. Power-transmission apparatus comprising a pair of toothed members, supports for said toothed members, means for shifting one of said toothed members into and out of engagement with its mate, a rotary driving part loose relative to said members, a friction-clutch for causing said rotary driving part to transmit power to the toothed members when engaged, a friction-disk turning positively in unison with one of said toothed members, and a centrifugal weight driven by said rotary driving part and engaging said friction-disk, combined substantially as set forth, whereby one of said toothed members is under the rotative influence of the centrifugal weight after the main power is unclutched from it.

2. Power-transmission apparatus comprising a pair of toothed members, supports for said toothed members, means for shifting one of said toothed members into and out of engagement with its mate, a rotary driving part loose relative to said members, a friction-clutch for causing said rotary driving part to transmit power to the toothed members when engaged, a friction-disk turning positively in unison with one of said toothed members, a centrifugal weight driven by said rotary driving part and engaging said friction-disk, a brake-shoe coöperating with said friction-disk, and a clutch-operating part coöperating with the brake-shoe and adapted to apply it after the friction-clutch is released, combined substantially as set forth.

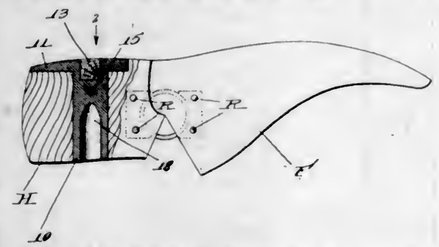
3. Power-transmission apparatus comprising a member to be rotated by power selectively at full power or minor power, a rotary driving part loose relative to said member, a friction-disk fast with said member, a centrifugal weight carried by the driving part and engaging the disk to transmit minor power, and a friction-clutch connected with said member and driving part for transmitting full power, combined substantially as set forth.

841,724. PRODUCTION OF ALKALI METALS. GEORGE O. SEWARD and FRANZ VON KÜGELGEN, Holcombs Rock, Va. Filed Apr. 23, 1906. Serial No. 313,130.

Claim.—1. The production of an alkali metal by the electrolysis of the chlorid of the alkali metal sought, with the addition of fluorid of the same metal and chlorid of an earth-alkali metal.

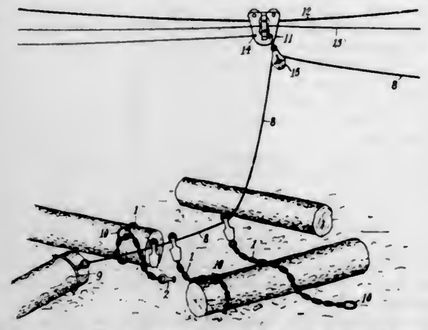
2. The production of sodium by the electrolysis of a fused mixture of sodium chlorid, sodium fluorid, and a chlorid of an earth-alkali metal, substantially as described.

841,725. LAST. ALFRED F. SEYMOUR, Campello, Mass. Filed Nov. 15, 1905. Serial No. 287,390.



Claim.—As an article of manufacture, a last having a metal heel-plate and an integral projection extending therefrom, said heel-plate and projection being embedded in the heel of the last, said projection having a conical socket, said plate having a recess located opposite said socket, a block of relatively soft material in the recess for receiving the lasting-tack, said projection being solid between the plate and end of said socket, and a fastening-pin extending through said solid portion between the socket and recess and into the heel of the last.

841,726. LOGGING DEVICE. WILLIAM M. SHAW, Greenville, Me. Filed Dec. 30, 1904. Serial No. 239,022.



Claim.—1. In a logging apparatus, the combination of an elevated support, a block movable on said support and carrying a sheave, a cable passing over the said sheave and a chain-holder or connecting device loosely receiving said cable.

2. In a logging apparatus, in combination, a hauling-line, a series of eyes in running connection therewith each carrying a socket and a series of log chains or ropes each provided with a device adapted to engage said socket.

3. In a logging apparatus, in combination, a hauling-line, a series of eyes in running connection therewith each provided with a socket having a lateral opening and a series of log ropes or chains provided with devices adapted to engage said sockets by being placed therein laterally.

4. In a logging apparatus in combination, a hauling-line, a socket having a head through which the hauling-line passes transversely, such socket containing a lateral entrance-opening and a log line or rope carrying a device adapted to enter said socket laterally.

5. In a logging apparatus, in combination, the hauling-line, a socket forming a running engagement therewith, a device adapted to engage a log and means whereby said device may be engaged with said socket.

6. In a logging apparatus, in combination, the hauling-line, a socket movably connected therewith, a device for engaging a log and means whereby said device may be detachably secured to said socket.

7. In a logging apparatus, in combination, the hauling-line, a series of sockets adapted to move along the line, a series of devices for engaging logs and means whereby each of said devices is detachably secured to one of said sockets.

8. In a logging apparatus, in combination, the hauling-line, a series of sockets movably connected thereto by anti-friction connections, a series of devices for engaging logs and means whereby each of said devices is detachably secured to one of said sockets.

9. A body 5 containing a longitudinal socket and a lateral entrance thereto, in combination with an eye 6^a provided with an antifriction-roller 7.

10. The body 5 containing the longitudinal constricted socket-opening 2^a and the rabbeted socket-opening 4^a and a lateral entrance to the same, in combination with means whereby said socket may be secured.

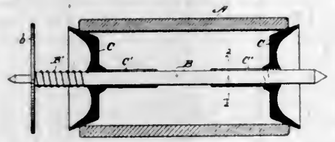
11. The body 5, containing the constricted socket 2^a, the rabbeted socket-opening 4^a, the stop 16 and a lateral entrance to said socket-opening, in combination with means whereby said socket may be secured.

12. In a logging apparatus, in combination a hauling-line, a log-engaging device, and a running connection between the hauling-line and the log-engaging device.

13. In a logging apparatus, in combination a hauling-line, a log-engaging device, and a separable coupling having one member in running engagement with the hauling-line, and a second member permanently secured to the log-engaging device.

14. In a logging apparatus in combination the hauling-line, a log-engaging device, and a coupling having one member provided with a roller adapted to ride on said line, and a second member secured to the log-engaging device and adapted to be coupled with the first-mentioned member.

841,727. MANDREL FOR PHONOGRAPHIC RECORDS. CYRUS C. SHIGLEY, Hart, Mich., assignor to The Multi Phonograph Company Incorporated, Grand Rapids, Mich. Filed Feb. 17, 1905. Serial No. 246,147.



Claim.—1. The combination of a shaft having a friction-wheel thereon; a pair of inwardly-facing conical heads; carrying-sleeves for said heads adapted to receive said shaft; a coiled spring arranged on said shaft between said friction-wheel and the inner head, adapted to hold the inner head yieldingly outward; and an indentation on the carrying-sleeve of the outer head adapted to hold said sleeve in frictional engagement with the said shaft, for the purpose specified.

2. The combination of a shaft; a pair of inwardly-facing conical heads; carrying-sleeves for said heads adapted to receive said shaft; a spring adapted to hold one of the heads yieldingly toward the other; and an indentation in the carrying-sleeve of the other head adapted to hold said sleeve in frictional engagement with the said shaft, for the purpose specified.

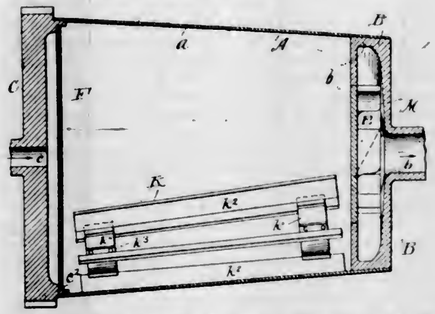
3. The combination of a shaft having a friction-wheel thereon; a pair of inwardly-facing conical heads; carrying-sleeves for said heads adapted to receive said shaft; and a coiled spring arranged on said shaft between said friction-wheel and the inner head, adapted to hold the inner head yieldingly outward, for the purpose specified.

4. In a mandrel for phonographic records, the combination of a shaft; a pair of inwardly-facing conical heads sleeved upon said shaft; means for holding one of said heads yieldingly in position; and means for holding the other of said heads in frictional engagement with said shaft, for the purpose specified.

5. The combination of a shaft; a pair of inwardly-facing conical heads; carrying-sleeves for said heads adapted to receive said shaft; a spring adapted to hold one of the heads yieldingly toward the other, the sleeve of the other of the heads having a frictional engagement with the said shaft, for the purpose specified.

6. In a mandrel for phonographic records, the combination of a shaft; a pair of inwardly-facing conical heads of uniform taper slidably mounted on said shaft; means for retaining one of said heads in its adjusted position on said shaft; and a spring for holding the other head yieldingly in position, for the purpose specified.

841,728. CINDER-MILL. WILLIAM W. SLY, Cleveland, Ohio, assignor to The W. W. Sly Manufacturing Company, Cleveland, Ohio, a Corporation of Ohio. Filed Mar. 21, 1905. Serial No. 251,248.



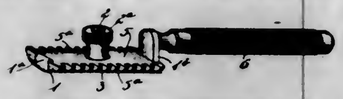
Claim.—1. In a cinder-mill, the combination of a rotatable drum which has an axial inlet-opening through one head C and an axial discharge-opening through the other head B, with a flange projecting into the drum from the head B around said discharge-opening, a plate fast to said flange and forming, with it and the head B, a chamber E, and means for forming a series of pockets in the annular space between said flange and the wall of the drum, which pockets communicate with the interior of the drum, the said flange having openings through it at the bottoms of said pockets.

2. In a cinder-mill, the combination of a rotatable drum, which is in the form of a truncated cone and which has an axial inlet-opening through the larger head C and an axial discharge-opening through the smaller head B, with a flange projecting into the cylinder from head B around said discharge-opening, a plate fast to said flange and forming, with it and the head, a chamber E, a plurality of blocks secured in the space between said flange and the wall of the drum in contact with head B and extending therefrom at an acute angle, thereby forming pockets which communicate with the interior drum, said flange having openings through it at the bottoms of said pockets, whereby communication is established between the bottoms of said pockets and chamber E.

3. In a cinder-mill, the combination of a rotatable drum, which is in the form of a truncated cone and which has an axial inlet-opening through the larger head C and an axial discharge-opening through the smaller head B, a flange projecting into the cylinder from head B around said discharge-opening, a plate fast to said flange and forming, with it and the head, a chamber E, a plurality of blocks secured in the annular space between said flange and the wall of the drum in contact with head B and extending therefrom at an acute angle, thereby forming pockets which communicate with the interior drum, said flange having openings through it at the bottoms of said pockets, whereby communication is established between the bottoms of said pockets and chamber E, with a crusher which is of gradually-increasing diameter from one end to the other and has a series of longitudinal outwardly-projecting blades, said crusher being placed loosely within the drum with its larger end adjacent to the smaller end of the drum.

4. In a cinder-mill, the combination of a rotatable drum which is in the form of a truncated cone and which has an axial inlet-opening through the smaller head and an axial discharge-opening through the larger head, with a crusher which is of gradually-increasing diameter from one end to the other and has a plurality of longitudinal outwardly-projecting blades, said crusher being placed loosely in the drum with its larger end adjacent to the smaller end of the drum.

841,729. SAFETY-RAZOR. CHARLES F. SMITH, New Britain, Conn. Filed Jan. 17, 1905. Serial No. 241,446.



Claim.—1. A safety-razor comprising a base member having a smooth bearing area with substantially parallel edges, a handle rigidly secured to said base member extending longitudinally thereof and in a line substantially parallel with the edges of said base member, a detachable backing member having guard-teeth on its opposite edges, and having a central perforation and a screw stump or post passing through said perforation and secured to said base member, and provided with an adjusting-nut, the axis of said stump being substantially at right angles to the axis of the handle.

2. In a device of the character described, a supporting-base having a smooth unbroken contact or bearing surface on its lower side, a blade supported on the upper side thereof, one edge of said blade projecting beyond one side edge of said supporting-base, means for holding said blade in place comprising an independently-movable backing member arranged above said blade and a spring arranged between said backing member and said blade, and a handle connected to one end edge of said base and projecting longitudinally thereof.

3. In a device of the character described, a base having a smooth unbroken bearing or contact surface on its lower side, a blade supported on the upper side of said base, one edge of said blade projecting beyond one side edge of said base, a backing member arranged above said blade, a spring arranged between said backing member and said blade, means for adjusting said backing member relatively to said blade, guard-tongues carried by said backing member at one edge thereof and overstanding the sharpened edge of the blade, and a handle secured to said base at one end edge thereof and arranged to project longitudinally of said base.

4. In a device of the character described, a base having a smooth rounded bearing or contact surface on its lower side, a blade supported upon the upper side, the opposite edges of said blade being sharpened and projecting beyond the side edges of said base, an adjustable backing member arranged above said blade, a spring arranged between said blade and said backing member, guard-tongues arranged at each edge of said backing member and overstanding both edges of said blade and a handle secured to one end edge of said base and projecting longitudinally thereof.

5. In a safety-razor, a base, a blade, a detachable backing member, a stump passing through said blade and backing member, a clamp-nut therefor, an upturned portion at one end of said base, a handle secured to said upturned portion, the axis of the handle extending longitudinally of the base and in a plane above the base and said blade.

6. In a safety-razor, a base, a blade, a detachable backing member, a stump passing through said blade and backing member, a clamp-nut therefor, an upturned portion at one end of said base, a handle connected thereto, the axis of said handle being arranged in a plane above said base and blade and parallel thereto.

7. A safety-razor comprising a base member having a smooth bearing area and substantially parallel opposite edges, a handle member secured rigidly to one end of said base member, and extending longitudinally therefrom, with its axis substantially parallel to the edges of said base member, a blade centered and supported on said base member having oppositely-disposed cutting edges, a detachable backing member having oppositely-disposed guard-teeth arranged along its edges and adjustable means independent of the handle for clamping said backing member to said base member.

8. In a safety-razor, a base, an upwardly-projecting handle connection at one end edge thereof, a handle attached thereto, a removable blade supported by said base and means to hold the same in place and guard the edge thereof, said means including a spring member independent of the blade.

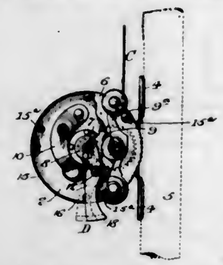
9. A safety-razor comprising a base member having a smooth bearing area and substantially parallel opposite edges, a handle member secured rigidly to one end of said base member, and extending longitudinally therefrom, with its axis substantially parallel to the edges of said base member, a blade centered and supported on said base member having oppositely-disposed cutting edges, a detachable backing member having oppositely-disposed guard-teeth arranged along its edges and means independent of the handle for clamping said backing member to said base member.

10. A safety-razor, comprising a backing member, a toothed guard member, a handle rigidly secured to the end of one of said members and extending in a direction substantially parallel therewith, a blade detachably secured between said backing and guard members, and a post independent of said handle passing through said blade, and a clamp-nut for clamping said blade between said backing and guard members.

11. A safety-razor, comprising backing and guard members having substantially parallel opposite edges, a handle rigidly secured to one of said members between the edges and extending substantially parallel with the edges, a double-edged blade, and means independent of said handle for clamping said blade between said guard and backing members.

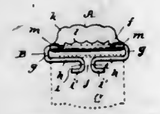
12. In a safety-razor, a base member, a backing member, a blade between said members, an upturned portion at one end of one of said first and second members, a handle secured to said upturned portion and having its axis extending longitudinally of said members in a plane above both of them, a screw-stump passing through one of said members and secured to the other, and a clamp-nut therefor whereby the blade may be clamped between said members.

841,730. FISHING-LINE REEL. CHARLES W. SMITH, Chicago, Ill. Filed Dec. 18, 1905. Serial No. 292,192.



Claim.—In a fishing-line reel, the combination with the frame comprising connected end plates, of the revoluble line-spool mounted in the frame and having a small cylindrical pivot or journal 7 extending through and projecting from the outer side of one of the end plates; and a drag-lever pivoted upon said end plate with its short arm arranged for engaging the pivot 7 and having its portion which thus engages the pivot formed as an edge which is tangential to the pivot when engaging the same, said short arm and a portion of the long arm of the drag-lever being alongside the plane of the end plate, and the long arm being bent at a point beyond the circumference of the end plate to form a transversely-extending arm portion relatively lower than the spool-axis and in position to be engaged by the thumb of a person using the reel in casting, said lever when engaging said journal having an extent of frictional contact therewith sufficient under manual pressure to arrest the momentum of the spool but insufficient under such pressure to lock or positively hold the spool against rotation.

841,731. BUCKLE. DWIGHT L. SMITH, Waterbury, Conn.; Albert D. Smith and James A. Peasley, administrators of said Dwight L. Smith, deceased, assignors to Waterbury Buckle Company, Waterbury, Conn., a Corporation of Connecticut. Filed May 25, 1903. Serial No. 158,588.



Claim.—1. In a rustless suspender-buckle, the combination with a loop comprising an upper bar, end portions, and a lower bar, the ends of the lower bar extending inwardly toward each other, then being rebent to project in opposite directions and lying substantially parallel with the lower bar, of a lever pivoted to the upper side of said loop and comprising a clamping-arm and an operating-arm set at an angle to each other, and a web attached to the lower side of said loop, the upper reach of said web being passed from front to rear through said loop to be engaged by the clamping-arm of said lever, whereby said web is deflected over or approximately over the top of the lower side of the loop and brought into or approximately into line with the lower reach of the web when the web is under draft as in use.

2. In a rustless suspender-buckle, the combination with a loop comprising an upper bar, end portions, and a lower bar, the ends of the lower bar extending inwardly toward each other, then being rebent at a point substantially midway the length of the loop to project in opposite directions and lying substantially parallel with the lower bar, of a lever pivoted to the upper side of said loop and comprising a clamping-arm and an operating-arm set at an angle to each other, and a web attached to the lower side of said loop, the upper reach of said web being passed from front to rear through said loop to be engaged by the clamping-arm of said lever, whereby said web is deflected over or approximately over the top of the lower side of the loop and brought into or approximately into line with the lower reach of the web when the web is under draft as in use.

3. In a rustless suspender-buckle, the combination with a loop comprising an upper bar, end portions and a lower bar, the latter having an opening formed at a point intermediate its ends through which the suspender-web is attached to the loop, the extremities of the loop adjacent to said opening being bent in opposite directions to form a projection at the lower side of the loop, of a lever pivoted to the upper side of said loop and comprising a clamping-arm and an operating-arm set at an angle to each other, and a web attached to the lower side of said loop, the upper reach of said web being passed from front to rear through said loop to be engaged by the clamping-arm of said lever, whereby said web is deflected over or approximately over the top of the lower side of the loop and brought into or approximately into line with the lower reach of the web when the web is under draft as in use.

4. In a rustless suspender-buckle, the combination with a loop comprising an upper bar, end portions and a lower bar, the latter having an opening formed at a point intermediate its ends through which the suspender-web is attached to the loop, the extremities of the loop adjacent to said opening being bent in opposite directions and lying substantially parallel with the lower bar of the loop to form a projection at the lower side of the loop, of a lever pivoted to the upper side of said loop and comprising a clamping-arm and an operating-arm set at an angle to each other, and a web attached to the lower side of said loop, the upper reach of said web being passed from front to rear through said loop to be engaged by the clamping-arm of said lever, whereby said web is deflected over or approximately over the top of the lower side of the loop and brought into or approximately into line with the lower reach of the web when the web is under draft as in use.

5. In a rustless suspender-buckle, the combination with a loop formed of wire and comprising an upper bar, end portions and a lower bar, the ends of the wire forming the lower bar being spaced from each other to provide an opening in said bar through which the suspender-web is attached to the loop, said ends extending at right angles to the loop to form a projection at the lower side of the loop, the extremities of said ends then extending in opposite directions and lying substantially parallel with the lower bar, of a lever pivoted to the upper side of said loop and comprising a clamping-arm and an operating-arm set at an angle to each other, and a web attached to the lower side of said loop, the upper reach of said web being passed from front to rear through said loop to be engaged by the clamping-arm of said lever, whereby said web is deflected over or approximately over the top of the lower side of the loop and brought into or approximately into line with the lower reach of the web when the web is under draft as in use.

6. In a rustless suspender-buckle, the combination with a loop formed of wire and comprising an upper bar, end portions and a lower bar, the ends of the wire forming the lower bar being spaced from each other to provide an opening in said bar through which the suspender-web is attached to the loop, said ends being bent in opposite directions and lying substantially parallel with the lower bar of the loop to form a projection at the lower side of the loop, of a lever pivoted to the upper side of said loop and comprising a clamping-arm and an operating-arm set at an angle to each other, and a web attached to the lower side of said loop, the upper reach of said web being passed from front to rear through said loop to be engaged by the clamping-arm of said lever, whereby said web is deflected over or approximately over the top of the lower side of the loop and brought into or approximately into line with the lower reach of the web when the web is under draft as in use.

7. In a buckle of the class described, the combination of the frame and the locking piece or lever, the latter having teeth to engage the web as explained and spaced fingers upon the frame extending inwardly toward each other and jointly adapted to secure the web as set forth.

8. The combination in a buckle, of a frame and a locking member provided with web-engaging teeth as shown, the frame having spaced fingers arranged to receive and retain a closed loop of a web and to press the web against the engaging teeth, as and for the purposes set forth.

9. The combination in a buckle, of a frame, and a locking member pivoted thereto, as shown, the said frame having a centrally-divided locking-bar whose ends are spaced apart providing an entrance, with a web having a closed loop engaging the said locking-bar.

10. The combination in a buckle, of a locking member having loops and web-engaging teeth, as shown, and a frame having a bar journaled in the loops of the locking member and provided with spaced fingers adapted to act as a presser-bar for the teeth, as and for the purposes set forth.

11. The combination of the buckle having a locking member and a frame provided with spaced fingers, with a web having a closed loop engaging with said spaced fingers as and for the purposes set forth.

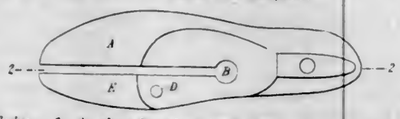
12. A web having a closed loop at its end formed by stitching as shown, in combination with a buckle having a frame member and a locking member journaled to each other, the frame member having spaced fingers which are inserted in the closed loop of the shoulder-strap and operate in connection with the said closed loop of the shoulder-strap as explained.

13. The combination in a buckle, of a locking member constructed substantially as shown and described, and a frame member formed of wire and having a bar with

transverse ends and spaced fingers extending inwardly from said transverse ends and having turned-over terminal points parallel with the bar, all constructed and adapted to operate substantially as and for the purposes set forth.

14. In a buckle of the class described, the combination of the frame and the locking piece or lever journaled to each other, the said frame member being formed of wire and having a bar with transverse ends and fingers extending inwardly from said transverse ends and having turned-over terminal points.

841,732. LAST. JOSEPH J. SMITH, New York, N. Y. Filed Feb. 17, 1906. Serial No. 301,580.



Claim.—1. A shoe-forming last with permanently-connected fore and heel parts, said last being larger at the ball than at the waist and transversely collapsible at the ball, and provided with means for maintaining the fore part unyieldingly in its normal shape during the shaping process, said means controllable without removal of the last from its position in the shoe.

2. A shoe-forming last with heel part and one side of the fore part integral with each other, said last being divided longitudinally to make it laterally collapsible at the ball, and provided with a filler intervening between the divided parts and conforming to the sectional outline of the last so as to preserve an unbroken lasting-surface when the filler is in position between the parts, said filler being removable by sliding it between the divided parts while the last is in the shoe.

3. A shoe-forming last larger at the ball than at the waist and divided longitudinally at the ball to provide a lateral yield, said last having an unyielding filler intervening between the parts of the last and removable from the last through the shoe-opening.

4. A filler-section for a divided shoe-last shaped to correspond to a longitudinal vertical section of the fore part of the last and of such shape and dimensions as to permit its removal from the last through the shoe-opening.

5. A shoe-last divided longitudinally at the ball and provided with an intervening part adapted to maintain an unyielding separation of the two halves of the ball, said part being adjustable without removing the body of the last from the shoe.

6. A shoe-last of fore and heel parts, divided longitudinally at the forward end and provided with a longitudinal filler intervening between the divided forward portions of the last to maintain them separated, said filler removable without removing the body of the fore and heel parts from the shoe.

7. A shoe-last divided longitudinally at the forward end and provided with a flat filling-strip corresponding in shape at its forward end to the sectional outline of the divided last and removable from the last through the shoe-opening.

8. A shoe-last divided longitudinally at its forward end, and provided with an instep-block having on its under side a projecting part intervening between the divided forward parts of the last to maintain them separated but removable from the last together with the instep-block through the shoe-opening.

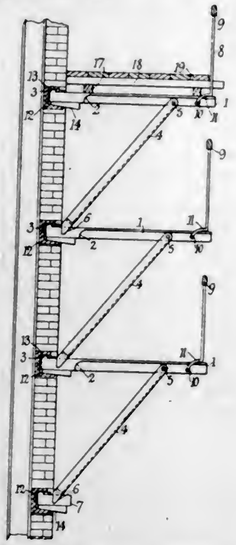
9. A shoe-last divided longitudinally at the ball, and means for unyieldingly separating or collapsing the divided parts at will, said means being operable while the entire last is in position in the shoe.

10. A shoe-forming last collapsible transversely at the ball, a filler for separating the collapsing portions and removable therefrom while the last is in the shoe, and an instep-block attached to said filler and overlying the collapsing part so as to give vertical support thereto.

11. A shoe-forming last having an entire heel part, one side of a fore part integral therewith, the other side of the fore part being a separate piece transversely movable with respect to the integral side, and adjustable means for unyieldingly separating said sides.

12. A shoe-forming last having an entire heel part, one side of a fore part integral therewith, and the other side of the fore part hinged to the body of the last on an upright axis, combined with a removable unyielding filler intervening between said sides for holding them separated.

841,733. FOLDING SCAFFOLDING-BRACKET. WILLIAM A. SMYRK, New Malden, England. Filed Oct. 6, 1906. Serial No. 337,768.

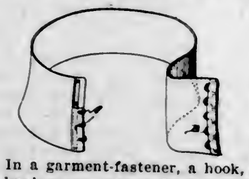


Claim.—1. A folding scaffolding-bracket comprising in combination a horizontal limb with an inner stud, a pivoted diagonal strut, and a foldable vertical guard-post and a socket to engage the said limb, as set forth.

2. In a folding scaffolding-bracket, the combination of the horizontal limb of T-iron disposed with its web downward, a channel-iron strut hinged to the web of said limb, an upright bifurcated guard-post pivoted with its forked end to said rail near the free end of same and a wall-socket for the retention of the horizontal limb, as described.

3. In a scaffolding-bracket, a horizontal limb of T-iron a solid inner end and stud on said T-iron, a channel-iron strut hinged with its flanges to the web of said T-iron, a bifurcated lower end formed to said strut, and a foldable vertical guard-post above the flanges of the T-iron.

841,734. GARMENT-FASTENER. FRANCES J. SPENCER, Detroit, Mich. Filed May 31, 1906. Serial No. 319,436.



Claim.—1. In a garment-fastener, a hook, and a pouch-shaped clasp having one open end adapted to receive the bill of the hook, one wall of said pouch being of greater length than the other to serve as a guide for the hook.

2. In a garment-fastener, a pouch-shaped clasp having one open end designed to receive a hook, one of the walls of said clasp being longer than the other to serve as a guide for the hook, the walls of said clasp being perforated

whereby it may be engaged to the garment, substantially as described.

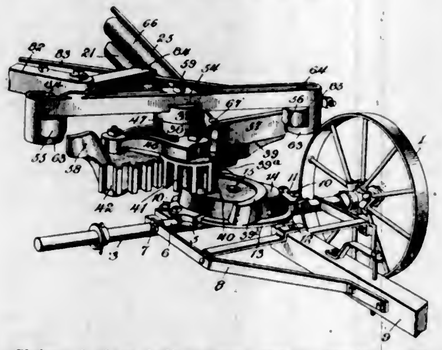
3. In a garment-fastener, a pouch-shaped clasp formed of sheet metal, one of the walls of which is longer than the other to serve as a guide for the engaging hook, and arms extending from the sides of said clasp, the construction being such that they will telescope with adjacent clasps similarly constructed, substantially as described.

4. A garment-fastener comprising a clasp and a hook, the former having opposite walls concavo-convex to form a pocket, one of said walls being longer than the other to provide a guide to receive the bill of said hook.

5. In a garment-fastener, a hook, and a pouch-shaped clasp formed of sheet metal adapted to receive the bill of the hook, the clasp having oppositely-disposed concavo-convex walls, one of the walls being provided with a shoulder designed to secure the hook against accidental disengagement when inserted in the clasp, substantially as described.

6. In a garment-fastener, a plurality of hooks, each having a relatively long bill provided with a dip or depression, a plurality of pouch-shaped clasps adapted to receive the bills of said hooks, each clasp having oppositely-disposed concavo-convex walls, one of the walls of each of said clasps having a shoulder, said dip or depression of the bills of the hooks engaging said shoulders of the corresponding clasps to secure the hooks against accidental displacement with respect to the clasps, and a linked bar secured to the garment adjacent the hooks to stiffen the edge of the garment and assist in securing the hooks against accidental displacement.

841,735. BALING-PRESS. HILLYARD A. STARR, East Chattanooga, Tenn., assignor to Chattanooga Implement and Manufacturing Company, East Chattanooga, Tenn. Filed Oct. 13, 1904. Serial No. 228,298.



Claim.—1. In a baling-press, the combination with a frame structure including a press-box, a supporting-casting, and an intermediate reach, said supporting-casting having a trunco-conical socket formed therein, of front and rear trucks, the front truck including an axle, a bolster secured thereto and a tapered stud extended from the bolster and rotating within the trunco-conical socket of the supporting-casting, a plunger in the press-box, and plunger-operating mechanism mounted on the supporting-casting.

2. In a baling-press, the combination with a frame structure including a press-box, a supporting member, and an intermediate reach, said supporting member being formed with a socket and a stud, of a front truck having a bearing member extended into the socket, a driving-arm mounted on the stud, a rotary head coöperating with the driving-arm, a pitman connected to said arm, and a plunger located in the press-box and operated by the pitman.

3. In a baling-press, the combination with a frame structure including a press-box, a supporting member, and an intermediate reach, said supporting member being formed with a stud and a socket member both projecting upwardly therefrom, of a driving-arm mounted on the stud, a rotary head coöperating with the driving-arm and provided with a bearing member extended into the socket member, a pitman connected to the driving-arm, and a plunger operated by the pitman.

4. In a baling-press, the combination with a frame structure including a press-box, a supporting member, and an intermediate reach, said supporting member being formed with a socket, a stud and a vertically-disposed socket member, of a front truck having a bearing member extended into the socket to effect a swivel connection between the truck and the supporting member, a driving-arm mounted to swing from the stud, a double-ended rotary head arranged to operate the driving-arm and having a depending bearing member engaging the socket member, a pitman connected with the driving-arm, and a plunger operated by the pitman.

5. In a baling-press, the combination with a press-box, a supporting member, and an intermediate reach, said supporting member being provided with a stud and a socket member, of a driving-arm mounted to swing from the stud, a cap-plate disposed above the driving-arm and connected to the stud and socket member respectively, a head arranged to operate the driving-arm and having a bearing in the socket member, a pitman connected to the driving-arm, and a plunger operated by the pitman.

6. In a baling-press, the combination with a press-box, a supporting member, and an intermediate reach, said supporting member having a pair of vertical studs, of a driving-arm mounted on one stud, a retractor mounted on one stud and geared to the driving-arm, a cap-plate connected to the upper ends of the studs to retain the driving-arm and retractor, a rotary head arranged to move the driving-arm and retractor in opposite directions, a pitman connected to the driving-arm, and a plunger operated by the pitman.

7. In a baling-press, the combination with a press-box, a reach extending therefrom, and a supporting member at the front end of the reach, of a detachable cap-plate located above the supporting member, an oscillatory driving-arm and an oscillatory retractor interposed between the cap-plate and the supporting member and geared together, a double-ended rotary head located above the cap-plate and arranged to engage and operate the driving-arm and retractor, a plunger, and a pitman connecting the driving-arm and plunger.

8. In a baling-press, the combination with a press-box and a supporting member having a reach-socket at its rear end, of a reach extended from the press-box and having its front end retained in the reach-socket, a truck carrying the supporting member and having swiveled connection therewith at a point in advance of the reach, a driving-arm and a retractor geared together and mounted on the supporting member in advance of the reach, a rotary head arranged to engage and operate the driving-arm and retractor, and a plunger operatively connected to the driving-arm.

9. In a baling-press, the combination with a press-box, a supporting member, and an intermediate reach, said supporting member being provided with a socket member, of an oscillatory driving-arm and an oscillatory retractor geared thereto and mounted on the supporting member, a cap-plate disposed above the driving-arm and retractor and connected to the socket member, a rotary head having a bearing in the socket member and arranged to engage and operate the driving-arm and retractor in succession, a pitman connected to the driving-arm, and a plunger operated by the pitman.

10. In a baling-press, the combination with a press-box, a supporting member, and an intermediate reach, said supporting member being provided with a pair of studs and with a socket member, of a driving-arm and a retractor mounted on the studs and geared together, a cap-plate engaging the upper ends of the studs and socket member respectively, a rotary head having a depending bearing member extended into the socket member, rollers carried by the head and arranged to engage and operate the driving-arm and retractor, a pitman connected to the driving-arm, and a plunger operating the pitman.

11. In a baling-press, the combination with a press-box, a supporting member, and an intermediate reach, of an

oscillatory driving-arm, an oscillatory retractor, and a rotary head, all mounted on the supporting member and cooperatively related, the connection between each of said elements and the supporting member including a tapered bearing member engaging a correspondingly-formed socket or opening, a pitman connected to the driving-arm, and a plunger operated by the pitman.

12. In a baling-press, the combination with a press-box, a supporting member, and an intermediate reach, of a plunger in the press-box and plunger-operating mechanism mounted on the supporting member and including a driving-arm, a retractor, and a head, each of said elements having a bearing including a tapered stud formed with an axial oil-chamber and having a duct leading from said chamber to the outer face of the stud at the upper end thereof.

13. In a baling-press, the combination with a press-box, a supporting member, and an intermediate reach, of a plunger in the press-box and plunger-operating mechanism mounted on the supporting member and including a driving-arm, a retractor, and a head, each of said elements having a bearing including a tapered stud, an oil-tube located axially in said stud, and a duct leading from the oil-tube to the outer surface of the stud.

14. In a baling-press, the combination with a press-box, a plunger and pitman, of an oscillatory driving-arm connected at a point intermediate of its ends to the pitman, and a head arranged to engage the driving-arm and to move along the latter to the outer end thereof, whereby the point of contact between the head and the arm moves beyond the connection between the arm and the pitman to compound the leverage.

15. The combination with a press-box, a plunger and pitman, of an oscillatory driving-arm provided with a hub at one end and having a roller-flange extending from the hub to the outer end of the arm, a connection between the driving-arm and the pitman, said connection being located at a point intermediate of the ends of the roller-flange, and a head provided with a terminal roller arranged to move along the flange and to finally pass beyond the outer end thereof as the plunger completes its stroke.

16. In a baling-press, the combination with a press-box, a plunger and pitman, of an oscillatory driving-arm having a toothed hub and a roller-flange extending from the hub to the outer end of the arm, a toothed oscillatory retractor meshing with the toothed hub of the driving-arm and having a roller-flange, a pivotal connection between the outer end of the pitman and the driving-arm at a point intermediate of the ends of the flange thereof, and a rotary double-ended head provided with terminal rollers disposed to engage the roller-flanges of the driving-arm and retractor.

17 A single-piece supporting-casting for the power mechanism of presses including the following features: to wit, a vertical socket, an arcuate flange concentric therewith at the lower edge of the casting, a pair of tapered vertical lugs and a tapered socket member extended above the main portion of the casting, said socket member having a downwardly-tapered socket, and a horizontally-disposed reach-socket extended rearwardly from the body portion of the casting.

18. In a baling-press, the combination with a press-box and a plunger therein, of a reach extended from the press-box, a truck, a supporting-casting serving as a coupling between the truck and the reach and having swiveled connection with the truck at a point in advance of the reach, and plunger-operating mechanism mounted on the supporting-casting in advance of the reach and independently of the truck connection and having operative connection with the plunger.

19. In a baling-press, the combination with a press-box and a pitman provided with vertically-disposed trunnions, of a plunger having a pair of horizontal plates, one having an opening and the other a slot for the reception of the pitman-trunnions, whereby the attachment of the pitman to the plunger or its detachment therefrom is facilitated.

20. In a baling-press, the combination with a press-box and a plunger therein, of spring-plates extended forwardly from the plunger and engaging the walls of the press-box to retain said plunger in its proper position during the plunger-stroke.

21. In a baling-press, the combination with a press-box and a reach-casting secured thereto, of a plunger within the press-box, spring-plates carried by the plunger and engaging the side walls of the box, and a bar extending between the plates to brace the latter and disposed to rest upon the reach-casting to form a rest for the plunger when the latter is withdrawn from the box.

22. In a baling-press, the combination with a press-box, of a hollow transverse frame-bar disposed above the same, and a folder housed within said bar.

23. In a baling-press, the combination with a press-box, a hollow transverse frame-bar disposed above the same, an axle located below the press-box, hooked bolts engaging the axle and frame-bar respectively and located at opposite sides of the box, and a folder housed in the transverse frame-bar.

24. In a baling-press, the combination with a press-box, of a folder disposed transversely thereof, a transverse frame-bar disposed above the box in position to protect the folder, an axle located below the press-box, and means connecting the transverse frame-bar and the axle.

25. In a baling-press, the combination with a frame structure, including a press-box, a supporting-casting, and an intermediate reach, of a front truck having swiveled connection with the supporting-casting, a driving-arm mounted to swing from the casting, a rotary head coöperating with the driving-arm, and a plunger operated by said arm, the connection between the casting and the truck including a stud formed integral with one member and rotatably received by a socket in the other, and the connection between the driving-arm and the casting likewise including a stud formed integral with one element and rotatably received by a socket formed in the other element.

26. In a baling-press, the combination with a press-box, a plunger, and a pitman, of an oscillatory driving-arm connected at a point intermediate of its ends to the pitman, and a head arranged to engage the driving-arm and to move along the latter from the inner to the outer side of the pitman connection to compound the leverage.

27. A single-piece supporting-casting for the power mechanism of presses, including the following features: to wit, a vertical socket, an arcuate flange concentric therewith at the lower edge of the casting, a vertical lug and a socket member extended above the main portion of the casting, said socket member having a socket, and a reach-socket extended laterally from the main body of the casting.

28. A single-piece supporting-casting for the power mechanism of presses, including the following features: to wit, a vertical socket, an arcuate flange concentric therewith at the lower edge of the casting, a pair of vertical lugs and a socket member extended above the main portion of the casting, said socket member having a socket, and a reach-socket extended from the body portion of the casting.

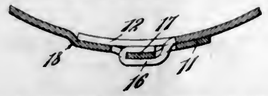
29. In a baling-press, the combination with a press-box and plunger, of plunger-operating mechanism including a rotary head cast in a single piece with right-angular drop-flanges at its opposite ends, the horizontal portions of the flanges extending inwardly toward the axis of the head from the vertical portions of the flanges, rollers carried by the head and located between the under side of the body portion thereof and the horizontal portions of the drop-flanges, and a driving-arm disposed to be engaged by the rollers said rollers having an orbital travel outside of or beyond the driving-arm.

30. In a baling-press, the combination with a press-box, and a hopper located above the same and open at one end, of a transverse frame-bar disposed above the press-box and across the open end of the hopper, means for rigidly connecting said frame-bar to the opposite side walls of the hopper to prevent spreading thereof, an axle located below the press-box, and bolts connecting the ends of the transverse frame-bar with the axle.

31. In a baling-press, the combination with a press-box and a supporting member having a reach-socket at its rear end, of a reach extended from the press-box and having its front end retained in the reach-socket, a truck carrying the supporting member and having swiveled connection therewith, a plunger in the press-box, a pitman connected thereto, and plunger-operating mechanism, said operating mechanism including a driving-arm and a coöperating sweep both mounted on the supporting member independently of the truck connection.

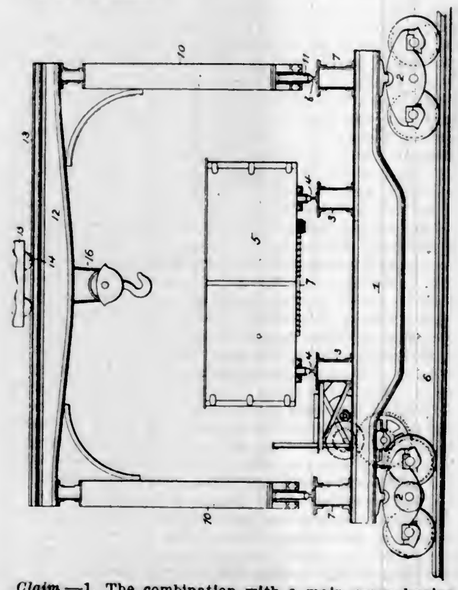
32. In a baling-press, the combination with a press-box, a reach extended therefrom, and a truck, of a supporting member directly and detachably connected to both the reach and truck, a plunger in the press-box, a pitman connected to the plunger, and plunger-operating mechanism mounted directly and exclusively on the supporting member and independently of both the reach and truck connections, whereby the supporting member and the plunger-operating mechanism may be detached as a unit from the truck and reach without disturbing the mounting of said operating mechanism.

841,736. STOVEPIPE-THIMBLE. JOSEPH STUBER, Peoria, Ill., assignor to Stuber & Kuck, Peoria, Ill. Filed July 9, 1903. Serial No. 164,893.



Claim.—A stovepipe-thimble formed of a single rectangular sheet of metal having opposite portions overlapped, the outer portion of the lap being outstruck and having parallel slots, and a tongue formed with the inner portion of the lap and extending outward through one of the slots and inward through the other slot, the end of said tongue being folded against the outstruck portion and snugly between the overlapping portions of the thimble.

841,737. OVERHEAD TRAVELING CRANE. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed May 3, 1906. Serial No. 315,027.



Claim.—1. The combination with a main crane having a traveling trolley therein, of a gauntree-crane mounted to travel on the main crane parallel with the travel of the main-crane trolley.

2. The combination with a main crane having four parallel rails therein, of a trolley mounted to travel on the two inner rails and a gauntree-crane mounted to travel on the two outer rails.

3. The combination with a main crane having four parallel girders, of a trolley mounted to travel on the two inner girders and a gauntree-crane mounted to travel on the two outer girders.

4. The combination with a traveling bridge having two inner rails and two outer rails, of a main trolley mounted to travel on the two inner rails, a gauntree-crane mounted to travel on the two outer rails and a trolley mounted to travel on a trackway on the gauntree-crane, the travel of the trolley on the latter crane being at right angles to the direction of travel of the main trolley.

5. The combination with a traveling bridge having four parallel rails, of a crane mounted to travel on the two outer rails, a main trolley traveling on the two inner rails and an auxiliary trolley mounted on the crane carried by the outer tracks and adapted to travel in a plane at right angles to the trolley on the inner rails, the said auxiliary trolley being in a plane above the main trolley.

841,738. BORACIC-ACID ESTERS. HEINRICH THRON, Frankfort-on-the-Main, Germany, assignor to Vereinigte Chininfabriken Zimmer & Co., G. M. B. H., Frankfort-on-the-Main, Germany. Filed May 31, 1906. Serial No. 319,564. (Specimens.)

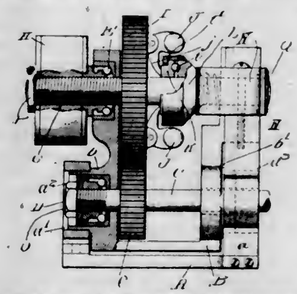
Claim.—1. The herein-described method of manufacturing boracic-acid esters in the form of a dry crystalline powder by heating a mixture of boracic acid and a terpene alcohol substantially as and for the purpose described.

2. The herein-described method of manufacturing boracic-acid esters in the form of a dry crystalline powder by heating a mixture of boracic acid and menthol substantially as and for the purpose described.

3. As an article of manufacture boracic-acid ester of terpene alcohols having the properties of being in the form of dry crystalline powders which are tasteless, soluble with difficulty in alcohol but readily soluble in benzene and in benzin and in ether substantially as described.

4. As an article of manufacture a boracic-acid menthol ester having the properties of being in the form of a dry crystalline powder which has a slight odor of menthol, is tasteless, soluble with difficulty in alcohol, but readily soluble in benzene and in benzin and in ether, and decomposes into menthol and boracic acid when boiled with dilute acid or alkali substantially as set forth.

841,739. POWER-TRANSMITTING AND SPEED-GOVERNING DEVICE. BURLEIGH E. TRITT, South Bend, Ind. Filed July 2, 1904. Serial No. 215,195.



Claim.—1. A combined power-transmitting and self-regulating device comprising a suitably-mounted shaft, a supporting member mounted to swing about said shaft as an axis, a spindle carried by said member, a friction-pulley on said spindle, gearing between said spindle and shaft, and means including governor-balls carried by the spindle for automatically causing lateral movement of the latter upon an increase of speed.

2. A combined power-transmitting and speed-governing device comprising a member to be driven, a friction-pulley, a speed-up connection between the pulley and the member to be driven, and means including a centrifugal device for causing movement of said pulley in a direction at right angles to its axis upon an increase of speed.

3. A combined power-transmitting and speed-regulating device comprising a rotary shaft, a movable support, a spindle mounted for rotation in said movable support, and a friction-pulley secured to said spindle, a speed-up connection between the spindle and the shaft, and centrifugally-operated means for automatically causing a lateral shift of said spindle upon an increase of speed.

4. A combined power-transmitting and speed-governing device comprising a U-frame with trunnions, bearings for said trunnions, a shaft extending through and axially alined with said trunnions, a spindle mounted in the swinging end portion of said U-frame, a friction-pulley secured to the spindle, a speed-up connection between the spindle and shaft, governor-balls carried by the spindle, a stationary portion, and suitable connection between the governor-balls and the said stationary portion whereby the spindle is automatically shifted laterally upon an increase of speed.

5. A combined power-transmitting and speed-governing device comprising a U-frame provided with trunnions, bearings in which said trunnions are supported for oscillation, a shaft supported for rotation in one of said trunnions, a spindle mounted for rotation in the freely-swinging end portion of the U-frame, a friction-pulley secured to the spindle at a point outside of the U-frame, a pinion secured to the shaft at a point inside of the U-frame, a gear-wheel secured to the spindle at a point inside the U-frame and engaging said pinion, a stationary portion, governor-balls carried by the spindle, and suitable connection between the governor-balls and said stationary portion whereby the spindle is automatically shifted laterally upon an increase of speed.

6. The combination of a fly-wheel, a stationary or rigidly-mounted machine to be operated, and a combined power-transmitting and speed-governing device intermediate of such fly-wheel and machine; said combined power-transmitting and speed-governing device comprising a friction-pulley adapted to engage said fly-wheel, and comprising also centrifugally-operated means whereby said pulley-automatically shifts more or less out of contact with said fly-wheel upon an increase of speed.

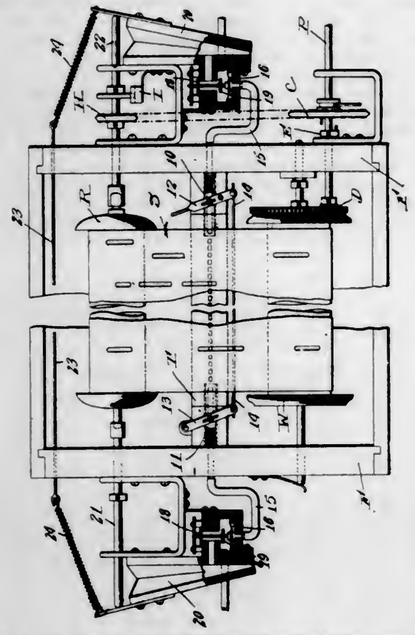
841,740. REGISTERING MECHANISM FOR THE TRACKER-BOARDS OF MUSICAL INSTRUMENTS. WILLIAM B. TUNSTALL, Worcester, Mass. Filed Mar. 9, 1905. Serial No. 249,157.

Claim.—1. The combination of a tracker-board, means for maintaining registration between a perforated strip and the tracker-board, said tracker-board having movable means located near each end for controlling the first-named means, and means for simultaneously moving the controlling means toward or from the center of the tracker-board.

2. The combination of a tracker-board having near each end a movable piece provided with a perforation, means for maintaining registration between a perforated strip and the tracker-board controlled by said perforations, and means for simultaneously moving both perforated pieces either inwardly or outwardly along the tracker-board.

3. In a construction of the class described, the combination of the winding-rolls for a perforated strip, a tracker-board having pieces provided with marginal perforations, means for simultaneously adjusting the pieces having said marginal perforations to coöperate with strips of different widths, and pneumatically-operating means controlled from said marginal perforations for maintaining registration between the perforated strip and tracker-board.

4. In a construction of the class described, the combination of winding-rolls for a perforated strip, a tracker-board having marginal perforations, and two sets of relatively, oppositely acting pneumatic operating means, one of which tends constantly to shift the perforated strip in one direction, and the other of which tends constantly to shift the music-sheet in the opposite direction while the instrument is in operation, said means being controlled by the marginal perforations.



5. In an apparatus of the class described, the combination of winding-rolls for a perforated strip, a tracker-board, a piece movably mounted near each end of the tracker-board and having a marginal perforation therein, a hand-lever and connections for moving said marginal perforations toward each other to coöperate with narrow strips, and for separating the marginal perforations to coöperate with wider strips, and two sets of relatively, oppositely acting pneumatic connections controlled from said marginal perforations, each set comprising a primary pneumatic, an operating-pneumatic, valves controlled by the primary pneumatic for normally connecting the operating-pneumatic with the exhaust, and springs normally assisting the operation of the pneumatics, said parts being arranged so that whenever one of the marginal perforations is uncovered, the operating connections at the other side of the apparatus will act to shift the perforated strip back to registered position.

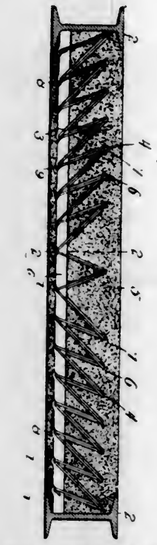
6. In an apparatus of the class described, the combination of winding-rolls for a perforated strip, a tracker-board, a piece movably mounted near each end of the tracker-board and having a marginal perforation therein, a lever, and connections for simultaneously moving both of said pieces having marginal perforations toward each other to coöperate with narrow strips and for separating the marginal perforations to coöperate with wider strips.

7. In an apparatus of the class described, the combination of winding-rolls for a perforated strip, a tracker-board having adjustable pieces provided with marginal perforations, and two sets of relatively oppositely acting pneumatic connections controlled from said marginal perforations, each set comprising a primary pneumatic, an operating-pneumatic, valves controlled by the primary pneumatic for normally connecting the operating-pneumatic with the exhaust, and springs normally assisting the operation of the pneumatics, whereby whenever one of the longitudinal perforations is uncovered, the operating connections at the other side of the apparatus act to shift the perforated strip back to registering position.

8. In an apparatus of the class described, the combination of a pair of winding-rolls for a perforated strip, a reciprocable support having bearings for one of said winding-rolls, a tracker-board having marginal perforations, and two pneumatics, one connected with each end of the reciprocable support, said pneumatics being normally under tension when said perforations are closed and tending to force the reciprocable support in opposite directions, said pneumatics being controlled from said marginal perforations.

9. In an apparatus of the class described, the combination of a pair of winding-rolls for a perforated strip, a reciprocable support having bearings for one of said winding-rolls, a tracker-board having marginal perforations, two pneumatics, one connected with each end of the reciprocable support, said pneumatics being under tension when said perforations are closed and tending to force the reciprocable support in opposite directions, said pneumatics being controlled from said marginal perforations, and resilient means for assisting in the operation of the pneumatics.

841,741. REINFORCING-BAR. GEORGE E. VANDENBURGH, Washington, D. C. Filed May 9, 1906. Serial No. 315,959.



Claim.—1. In a reinforcing-bar, a spiral coil rigidly secured thereto at two points in each convolution thereof and extended beyond and free of said bar at the opposite side therefrom to the securing-point.

2. In a reinforcing-bar, a spiral coil rigidly secured thereto at two points in each convolution thereof and extended beyond and free of said bar at the opposite side therefrom to the securing-point, said coils being deflected in opposite directions from the center of the bar toward the ends thereof.

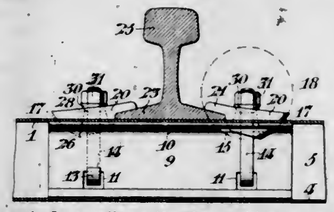
3. A reinforcing-bar provided upon one end with a series of kerfs each having an integral overlapping spur, and a coil disposed in said kerfs, each convolution thereof being retained beneath one of said spurs.

4. A reinforcing-bar provided upon one edge with a series of kerfs disposed diagonally to the length of the bar each having an overlapping integral spur projected toward the center of the bar, and a coil disposed in said kerfs and retained beneath said spurs.

5. A reinforcing-bar provided with a spirally-disposed coil secured thereto and extended free of said bar, and a secondary spirally-disposed coiled strand secured to the bar and extending in the opposite direction to the first-mentioned coil.

6. A reinforcing-bar provided at opposite sides of its center with spiral coils secured thereto and deflected in opposite directions from the center of the bar, and a secondary spiral coil secured to the bar and extended in the opposite direction to the first-mentioned coil throughout the length thereof.

841,742. RAILWAY-TIE. CHARLES B. VAN HORN and DAVID TOWNSEND, Philadelphia, Pa., assignors to Commercial Engineering Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Mar. 14, 1906. Serial No. 305,936.



Claim.—1. In a railway-tie, the combination with a metallic tubular shell; of a brace-frame extending vertically in said shell, connecting the top and bottom walls thereof; a slot in said top wall; a slot in said frame in registry with said wall-slot; said registered slots forming a socket; a clamp-block fitted in said socket; and, a bolt extending through said block; whereby said bolt is maintained in adjusted position with respect to the length of the tie, substantially as set forth.

2. In a railway-tie, the combination with a metallic tubular shell; of a brace-frame extending vertically in said shell, connecting the top and bottom walls thereof; a slot in said top wall; a slot in said frame in registry with said wall-slot; said registered slots forming a socket; an oscillatory clamp-block fitted to said socket; and, a bolt extending through said block; whereby said bolt is maintained in adjusted position with respect to the length of the tie; said adjustment being determined by oscillatory movement of said block, substantially as set forth.

3. In a railway-tie, the combination with a metallic tubular shell having slots extending longitudinally in said shell; of bolts in said slots; and, means distinct from said bolts, arranged to adjustably determine the position of said bolts with respect to the length of the tie, comprising clamp-blocks fitted in said slots, substantially as set forth.

4. In a railway-tie, the combination with a metallic tubular shell having slots extending longitudinally in said shell; of bolts in said slots; and means distinct from said bolts, arranged to adjustably determine the position of said bolts with respect to the length of the tie, comprising oscillatory clamp-blocks fitted in said slots; said adjustment being determined by oscillatory movement of said blocks, substantially as set forth.

5. In a railway-tie, the combination with a metallic tubular shell having slots extending longitudinally in said shell; of bolts in said slots; and means distinct from said bolts arranged to adjustably determine the position of said bolts with respect to the length of the tie, comprising clamp-blocks fitted in said slots and having spheroidal seats; washers fitted to said seats and respectively encircling said bolts; and, nuts on said bolts holding said washers and blocks in adjusted position in said slots, substantially as set forth.

6. In a railway-tie, the combination with a metallic tubular shell provided with a slot; of a clamp-block fitted to said slot and comprising a bolt-hole terminating in a spheroidal seat; a bolt provided with a washer fitted to said seat; and, a nut on said bolt arranged to engage said washer; whereby the position of said bolt with respect to the length of the tie may be adjustably determined in accordance with the angular position of said block, substantially as set forth.

7. In a railway-tie, a metallic tubular shell whose top

wall is thicker than its side wall, substantially as set forth.

8. In a railway-tie, a metallic tubular shell whose top wall is thicker than its side wall; the extra thickness of metal of said top wall being in unitary relation with said side wall, substantially as set forth.

9. In a railway-tie, the combination with a metallic tubular shell having slots extending longitudinally in said shell; of bolts in said slots, and, means distinct from said bolts arranged to fill said slots and adjustably determine the position of said bolts with respect to the length of the tie, substantially as set forth.

10. A railway-tie comprising a tubular shell of bent sheet metal whose opposite edges are brought together at the medial longitudinal line of the tie, and form a vertical web extending in said tube; said edges terminating within said tube beneath the upper wall thereof; said upper wall being narrower than the lower wall of said tube, and the side walls comprising convexly-curved portions having shoulders at their junctions with said upper wall, substantially as set forth.

11. A railway-tie comprising a tubular shell of bent sheet metal whose opposite edges are brought together at the medial longitudinal line of the tie; the upper wall being narrower than the lower wall of said tube, and the side walls comprising convexly-curved portions having shoulders at their junctions with said upper wall, substantially as set forth.

12. In a railway-tie, the combination with a metallic tubular shell; of a brace-frame, separate from said shell, extending vertically in said shell in contact with the top and bottom walls thereof, substantially as set forth.

13. In a railway-tie, the combination with a tubular shell formed of bent sheet metal; of a brace comprising a vertical web extending longitudinally in said tube and terminating wholly within the latter, substantially as set forth.

14. In a railway-tie, the combination with a tubular shell formed of bent sheet metal and comprising a bottom wall which is continuous throughout its length; a brace comprising a vertical web extending longitudinally in said tube and terminating wholly within said tube, substantially as set forth.

15. In a railway-tie, the combination with a metallic tubular shell having slots in its upper wall; of rail-engaging means arranged to fill said slots and adjustably determine the position of the rails with respect to the length of the tie, substantially as set forth.

16. In a railway-tie, the combination with a metallic tubular shell; of a brace comprising a vertical web extending longitudinaly in said tube; and rail-retaining bolts having hooked ends engaged with said vertical web, substantially as set forth.

17. In a railway-tie, the combination with a metallic tubular shell; of a brace comprising a vertical web extending longitudinally in said tube; and rail-retaining bolts having hooked ends extending transversely through holes in said vertical web, substantially as set forth.

18. In a railway-tie, the combination with a metallic tubular shell; of a brace-frame, separate from said shell, extending vertically in said shell; and means securing said frame and shell in rigid relation, substantially as set forth.

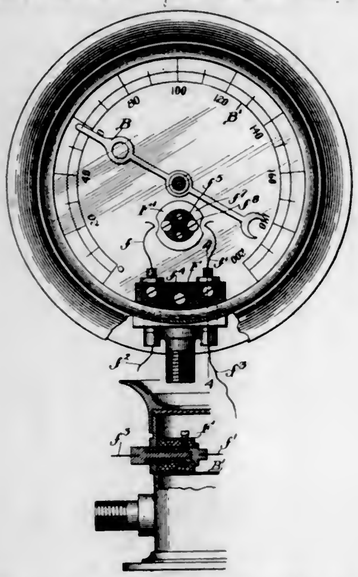
19. In a railway-tie, the combination with a metallic tubular shell; of a brace-frame separate from said shell extending vertically in said shell; and rail-retaining means securing said frame and shell in rigid relation, substantially as set forth.

20. In a railway-tie, the combination with a metallic tubular shell; of a brace-frame, separate from said shell, extending vertically in said shell and having horizontal flanges in contact with the top and bottom walls thereof, substantially as set forth.

21. In a railway-tie, the combination with a metallic tubular shell; of a brace-frame, separate from said shell, extending vertically in said shell and a projection extending inwardly from said shell determining the position of said brace-frame, substantially as set forth.

22. In a railway-tie, the combination with a metallic tubular shell; of a brace-frame, separate from said shell, extending vertically in said shell; and projections extending inwardly from said shell at the opposite walls thereof, determining the position of said brace-frame, substantially as set forth.

841,743. ALARM-GAGE. GEORGE A. WALL, Providence, R. L. and JOHN H. DERBY, Brookline, Mass., assignors, by direct and mesne assignments, to Boston Automatic Fire Alarm Company, Boston, Mass., a Corporation of Maine. Filed Feb. 17, 1904. Serial No. 194,014.



Claim.—1. In combination a pressure-gage; an alarm-circuit; its electrodes; a bridge-conductor between the electrodes and being substantially circular except at one or more portions which are recessed; and means connecting the gage and conductor to operate the conductor and thereby break the alarm-circuit when the recess is opposite either electrode and to make the circuit at other times.

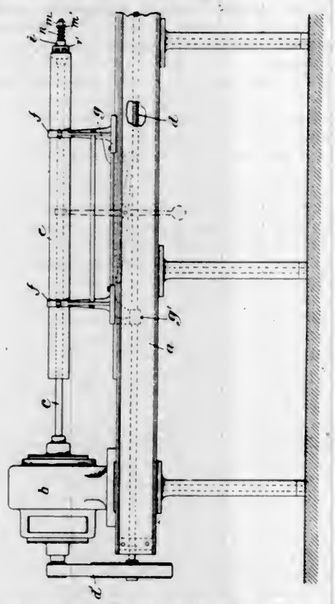
2. In combination a pressure-gage; an alarm-circuit; its electrodes; a bridge-conductor between the electrodes and being substantially circular except at portions normally opposite the electrodes where it is recessed; and means connecting the gage and conductor to operate the conductor and thereby break the alarm-circuit when the recesses are opposite the electrodes and to make the circuit at other times.

3. In an alarm-gage the combination of a pressure-gage; its tube; a shaft carrying the index-finger of the gage; means connecting the tube and shaft to operate the shaft; a pinion mounted on that shaft; a second shaft; electrodes; a bridge-conductor mounted on that second shaft to connect the electrodes; and a second pinion mounted on the second shaft and meshing with the first pinion, substantially as, and for the purpose, described.

841,744. LINING-TUBE. FRANK W. WALQUIST, New York, N. Y., assignor to Schneible Company, Weehawken, N. J., a Corporation of New Jersey. Filed May 4, 1906. Serial No. 315,252.

Claim.—1. A machine for lining tubes with expansible tubes comprising a holder for the tube and its lining, an expander adapted to act internally upon the lining from end to end, means to rotate one of said parts with respect to the other and means to traverse one of said parts longitudinally with respect to the other simultaneously with the action of the expander upon the lining.

2. A machine for lining tubes with expansible tubes comprising a holder for the tube and its lining, a spring-actuated expander adapted to act internally upon the lining, means to rotate one of said parts with respect to the other and means to traverse one of said parts longitudinally with respect to the other.



3. A machine for lining tubes with expansible tubes comprising a holder for the tube and its lining, an expander consisting of a plurality of rollers and devices to press such rollers yieldingly outward, means to rotate one of said first-named parts with respect to the other and means to traverse one of said first-named parts longitudinally with respect to the other.

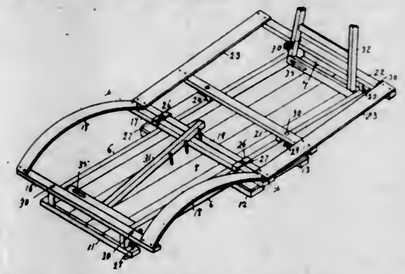
4. A machine for lining tubes with expansible tubes comprising a holder for the tube and its lining, an expander consisting of a plurality of rollers, sleeves with tapered ends forming seats for said rollers and means to press one of said sleeves yieldingly toward the other, means to rotate one of said first-named parts with respect to the other and means to traverse one of said parts longitudinally with respect to the other.

5. A machine for lining tubes with expansible tubes comprising a carriage having clamps for the tube and its lining, means to traverse said carriage longitudinally simultaneously with the action of the hereinafter-mentioned expander, a driving-head, a shaft carried thereby and an expander mounted on said shaft to act internally upon the lining from end to end.

6. A machine for lining tubes with expansible tubes comprising a carriage having clamps for the tube and its lining, means to traverse said carriage longitudinally, a driving-head, a shaft carried thereby and an expander comprising sleeves with tapered ends mounted on said shaft, one of said sleeves being movable yieldingly toward and from the other, and rollers seated upon the tapered ends of said sleeves.

7. A meachine for lining tubes with expansible tubes comprising a carriage having clamps for the tube and its lining, means to traverse said carriage longitudinally, a driving-head, a shaft carried thereby and an expander comprising sleeves with tapered ends mounted on said shaft, one of said sleeves being movable longitudinally toward the other, a spring and nut for forcing said longitudinally-movable sleeve yieldingly toward the other, and rollers seated upon the tapered ends of said sleeves.

841,745. COMBINATION HAY-RACK AND WAGON-BODY. JAY T. WARWICK, Hamilton, Ohio. Filed Oct. 23, 1905. Serial No. 284,023.

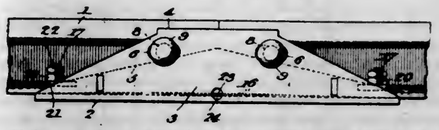


Claim.—1. The combination of a stone-bed consisting of cross-bars provided with a bottom and with side rails adapted to rest directly on the bolsters of a wagon, a rear member of a hay-rack consisting of cross-pieces registering with corresponding cross-bars and connected near their ends by means of bows, a front member of a hay-rack consisting of similar cross-pieces registering with corresponding cross-bars and connected near their ends by means of seat-boards, yokes adapted to removably secure adjacent cross-pieces of the respective members together, hooked bolts depending from the yokes and from the opposite cross-pieces, and other hooked bolts adapted to respectively and detachably engage therewith being adjustably secured to one side of the line thereof and in corresponding cross-bars.

2. The combination of a stone-bed consisting of cross-bars having side rails and a bottom secured thereon, a hay-rack consisting of front and rear members, yokes adapted to separably connect said members together, hooked bolts adapted to removably clamp said members on the side rails, and ladders provided with sliding bolts, whereby they may be removably hinged between the respective end portions of the side rails said ladders being limited in their outward movement by contact with adjacent cross-bars of the hay-rack.

3. The combination of a stone-bed consisting of side rails and a bottom secured on cross-bars, a hay-rack comprising two members and means adapted to separably connect them together, the one of said members consisting of seat-boards secured on cross-pieces, the other member consisting of bows secured on other cross-pieces, hooked bolts depending from the cross-pieces of both members, a wagon-body consisting of independent side-boards and front and tail gates, means for removably securing the said parts of the wagon-body together, hooked bolts depending from the said side-boards, and a series of hooked clamping-bolts adjustably secured in said cross-bars and adapted to detachably engage with the corresponding hooked bolts depending from the cross-pieces or from the side-boards, whereby, said hay-rack or said wagon-body may be removably secured on the stone-bed.

841,746. RAIL-JOINT. JOHN W. WEBB, Columbus, Miss. Filed Apr. 14, 1906. Serial No. 311,693.



Claim.—1. In a rail-joint, the combination with a rail, of a chair composed of the base-plate having formed integrally therewith vertically-extending strengthening side

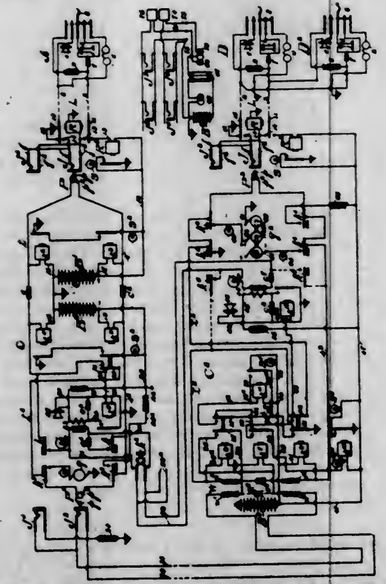
flanges, one of which has a laterally-extending flange bearing against the side of the rail-head along the meeting ends of the rail-sections, and means for clamping together said chair and rail-sections, substantially as described.

2. In a rail-joint, the combination with a rail, of a chair having a base-plate extending under the meeting ends of the rail-sections, filling-plates resting on the base-plate beneath the meeting ends of the rail-sections for vertical adjustment of the rails at their meeting ends, and bolts extending through the base-plate and the rail-base at opposite sides of the meeting ends of the rail-sections, substantially as described.

3. In a rail-joint, the combination with a rail, of a chair composed of a base-plate having formed integrally therewith vertically-extending strengthening side flanges, one of which has a laterally-extending flange bearing against the side of the rail-head, along the meeting ends of the rail-sections, means for clamping together said chair and rail-sections, filling-plates resting upon the base-plate of the chair beneath the meeting ends of the rail-sections, and means for clamping together the base of the rail and the base-plate of the chair, substantially as described.

4. In a rail-joint, the combination with a rail, of a chair having a base-plate extending under the meeting ends of the rail-sections, filling-plates resting on the base-plate beneath the meeting ends of the rail-sections for adjustment of the rails at their meeting ends, and provided with lips fitting in apertures in the chair to prevent slipping of the plates, and means clamping the base of the rails to the base-plate, substantially as described.

841,747. TELEPHONE TRUNKING CIRCUITS. HARRY G. WEBSTER, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed July 3, 1902. Serial No. 114,175.



Claim.—1. The combination with a trunk-circuit adapted to be united to a calling-telephone line at its outgoing end and a called-telephone line at its incoming end, of a plurality of relays at the latter end of the trunk, a signaling-circuit controlled by said relays, a source of current and a signaling device in said circuit, means whereby said circuit may be void of current when no signal is displayed, a portion of the said signaling-circuit on one side of the said source being used only for signaling purposes whereby it and the said source may be common to a plurality of such trunk signaling-circuits, and a pilot signaling device in said portion, substantially as described.

2. The combination with a trunk-circuit adapted to be united to a calling-telephone line at its outgoing end and a called-telephone line at its incoming end; of a plurality of relays at the latter end of the trunk, one adapted to be actuated by current over the outgoing end of the trunk and another over the incoming end; a signaling-circuit for the trunk having alternate branches controlled by said relays and closed thereby whenever the first or second named relay is energized alone, a source of current included in said circuit, a signal actuated whenever the circuit is closed over either branch, a portion of the said signaling-circuit on one side of the source of current being used in said circuit only whereby said portion and said source may be common to a plurality of such trunks, and a pilot signaling device located in such portion, substantially as described.

3. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end, and a called-subscriber's line having only two wires extending throughout the multiple switchboard with which its incoming end may be connected, a disconnect-signal for said incoming end, means operated by current flowing over a portion of the talking-circuit when connection is made with the called line for closing the circuit of said signal at one point, and further means operated by and during the connection of said cord-circuit with the trunk for opening the circuit of said signal at another point, one terminal of said signal being free under said latter condition, substantially as described.

4. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end, and a called-subscriber's line having only two wires extending throughout the multiple switchboard with which its incoming end may be connected, a disconnect-signal for said incoming end, means operated by current flowing over a portion of the talking-circuit when connection is made with the called line for closing the circuit of said signal at one point, and further means controlled by current sent over the trunk-circuit when the cord is connected therewith for opening the circuit of said signal at another point, whereby said signal can only be operated when the cord-circuit is disconnected from the trunk, one terminal of said signal being free in said latter position, substantially as described.

5. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end, and a called-subscriber's line having only two wires extending throughout the multiple switchboard with which its incoming end may be connected, a disconnect-signal for said incoming end, means actuated by current flowing over a part of the talking-circuit when connection is established with the called line for closing the circuit of said signal at one point to place it in condition to operate, and further means operated by the connection of said cord-circuit with the trunk for opening the circuit of said signal at another point, rendering the same inoperative without placing a shunt about said signal, substantially as described.

6. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end, and a called-subscriber's line having only two wires extending throughout the multiple switchboard with which its incoming end may be connected, a disconnect-signal for said incoming end, a relay actuated by current flowing over a portion of the talking-circuit for closing the circuit of said signal at one point and placing it in condition to operate, and a trunk-relay at the incoming end of the trunk adapted to be actuated when a connection is established between the cord-circuit and the trunk to open the circuit of said signal at a second point, rendering the same inoperative without placing a shunt about said signal, substantially as described.

7. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end and a called-subscriber's line having only two wires extending throughout the multiple switchboard with which its incoming end may be connected a disconnect-signal for said incoming end, a relay actuated over a portion of the talking-circuit when connection is made with the called line for closing the circuit of said signal at one point, and a trunk-relay at the incoming end of the trunk actuated by current from the cord-circuit when the cord is connected with the trunk to open the circuit of said signal at another point, one terminal of said signal being left free under said latter condition, and a pilot-relay adapted to be actuated in series with said signal, substantially as described.

8. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end, and a called-subscriber's line having only two wires extending throughout the multiple switchboard with which its incoming end may be connected, a disconnect-signal for said incoming end having its circuit closed by current flowing over a portion of the talking-circuit when a trunk is connected with the called line, and means depending upon the connection of the cord with the trunk to again open the circuit of said signal at another point, the contacts in the circuit of said signal being both on the same side of the signal, and a pilot-relay connected in series with a plurality of said signals, substantially as described.

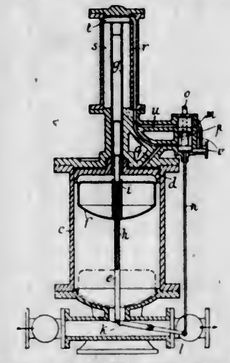
9. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end, and a called-subscriber's line having only two wires extending throughout the multiple switchboard with which its incoming end is connected, a disconnect-signal for the incoming end of the trunk, and a pilot-relay in series with said disconnect-signal, means operated over one side of the talking-circuit to close the circuit of said signal when the trunk is connected with the called line, a trunk-relay also at the incoming end of the trunk actuated when the cord-circuit is connected with the trunk, the said trunk-relay serving to open the circuit of said signal at a second point when the cord is connected with the trunk, and to close the same when the cord-circuit is disconnected therefrom, the contacts of said signal-circuit being both on the same side of the signal, whereby a plurality of said signals associated with different trunk-circuits may be connected in series with said pilot-relay, substantially as described.

10. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end, and a called-subscriber's line with which its incoming end is adapted to be connected, a guard-signal for the incoming end of the trunk, means to close the circuit of said signal by current flowing over the two limbs of the trunk-line in series when the cord-circuit is connected with the trunk, and further means actuated by current sent over a portion of the talking-circuit when the trunk is connected with a called line for opening the circuit of said signal at another point, the said points being located in the signal-circuit on the same side of said signal, and a pilot-relay permanently connected in series with said signal, substantially as described.

11. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end, and a called-subscriber's line with which its incoming end is adapted to be connected, a guard-signal for the incoming end of the trunk, a relay adapted to close the circuit of said signal at one point, and adapted to be actuated over a portion of the talking-circuit when the incoming end of the trunk is connected with the called-subscriber's line, said relay having its coil out of the path of voice-currents, a trunk-relay connected with the outgoing end of the trunk and adapted to be actuated by current flowing over the two limbs of the trunk-line in series when the cord-circuit is connected with the trunk, and adapted to close the circuit of said signal at a second point, and means for actuating said signal when the first-named relay is deënergized and the trunk-relay is energized, the contacts in the circuit of said signal being both on the same side of the signal, and a pilot-relay permanently connected in series with said signal, substantially as described.

841,748. MEANS FOR RETURNING CONDENSATION-WATER TO THE GENERATOR. WILHELM WECKERLE, Stuttgart, Germany. Filed Oct. 15, 1906. Serial No. 338,990.

Claim.—In steam-cookers, the arrangement of an automatic reversing-valve between the cooker and the steam-generator and comprising in combination a large cylinder, a piston, an outwardly-projecting piston-rod, a small piston at the end a float in the large cylinder, an internal rod operated by said float in one direction and by said small piston in the opposite direction, a two-armed lever pivoted to said rod, an external rod pivoted to the lever, a piston-valve mounted on said external rod and a valve-box containing said piston-valve with ports therefrom into the two cylinders, and ports for alternately bringing said cylinders in communication with the steam-space of the cooker.



841,749. METHOD OF MAKING FIREPROOF MATERIAL. JAMES R. WELLS and ALBERT WELLS, Kenton, Ohio. Filed Sept. 19, 1906. Serial No. 335,287.



Claim.—1. The method of making fireproof material, which consists in sustaining the wire screen in a flatwise condition and then temporarily covering one side of the said wire screen and then permanently covering the other side of the said screen with fireproof plastic compound, then removing said temporary covering and covering the exposed side of the wire screen with a coating of plastic fireproof material.

2. The method of making fireproof material, which consists in sustaining a metallic body to lie in a plane with and against a base, pressing the coating of plastic fireproof substance, such as asbestos and clay against the metallic body, then sustaining the plastic and metallic body against and in a plane with the base with the metal portion facing outward and then applying a coating of plastic fireproof material, such as asbestos and clay against the said metallic-facing body, as set forth.

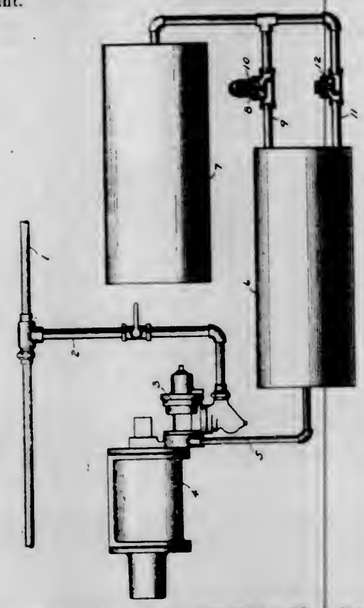
3. The herein-described method of preparing fireproof material, which consists in taking a screen-wire section and supporting it flatwise to lie in a plane with and on a suitable base, then applying on top of the said wire a coating of plastic fireproof material of even thickness, and when said coating is set, supporting the said coating upon a suitable base with the wire facing outermost and then applying another and second coating of fireproof material on top of the other and wire-covered coating, as set forth.

841,750. AIR-BRAKE. HENRY H. WESTINGHOUSE, New York, N. Y., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 16, 1904. Serial No. 203,467.

Claim.—1. In an air-brake, the combination with a train-pipe, auxiliary reservoir, triple valve, and brake-cylinder, of an additional source of pressure, and means operated by a reduction in the auxiliary-reservoir pressure to the equalizing-point for supplying air from the additional source to the auxiliary reservoir.

2. In an air-brake, the combination with a train-pipe, auxiliary reservoir, triple valve and brake-cylinder, of an additional source of pressure, such as a supplemental reservoir, and means for supplying air from the supple-

mental reservoir to the auxiliary reservoir when the pressure in the latter is reduced to substantially the equalizing-point.



3. In an air-brake, the combination with a train-pipe, auxiliary reservoir, triple valve and brake-cylinder, of a supplemental reservoir, means for charging the same to a degree of pressure substantially equal to the normal pressure of the auxiliary reservoir, and means for establishing communication from the supplemental reservoir to the auxiliary reservoir when the pressure in the latter falls to a predetermined point.

4. In an air-brake, the combination with a train-pipe, auxiliary reservoir, triple valve and brake-cylinder, of a supplemental reservoir, a passage for supplying air to the same, and a valve device operated by a reduction in the auxiliary-reservoir pressure to substantially the equalizing-point, for opening communication from the supplemental reservoir to the auxiliary reservoir.

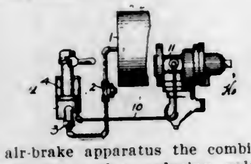
5. In an air-brake, the combination with a train-pipe, auxiliary reservoir, triple valve and brake-cylinder, of an additional source of pressure, such as a supplemental reservoir, a passage leading from the supplemental reservoir to the auxiliary reservoir, and a reducing-valve device having a diaphragm governed by the auxiliary-reservoir pressure for controlling said passage.

6. In an air-brake, the combination with a train-pipe, auxiliary reservoir, triple valve and brake-cylinder, of a supplemental reservoir, means for supplying air from the auxiliary reservoir to the supplemental reservoir, a passage leading from the supplemental reservoir to the auxiliary reservoir, and a reducing-valve device having a diaphragm governed by the auxiliary-reservoir pressure for controlling said passage.

841,751. AIR-BRAKE. HENRY H. WESTINGHOUSE, New York, N. Y., assignor to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Oct. 6, 1904. Serial No. 227,374.

Claim.—1. In an air-brake apparatus the combination with a train-pipe and triple valve, of a feed-valve, a brake-valve having ports for supplying air through the feed-valve to the train-pipe in one position and means operated by the movement of the brake-valve to this position for closing the exhaust from the triple valve.

2. In an air-brake apparatus the combination with a main reservoir, train-pipe, reducing-valve, and triple valve, of a brake-valve having ports for supplying air from the main reservoir through the feed or reducing valve to the train-pipe in one position, and means operating upon the movement of the brake-valve to this position for holding the triple-valve exhaust closed.



3. In an air-brake apparatus the combination with a main reservoir, train-pipe, reducing-valve, and triple valve, of a brake-valve having ports for supplying air from the main reservoir through the feed or reducing valve to the train-pipe in two positions, and means operating upon the movement of the brake-valve to one of said positions for holding the triple-valve exhaust closed and to the other of said positions for opening said triple-valve exhaust.

4. In an air-brake apparatus the combination with a main reservoir, train-pipe, reducing-valve and triple valve, of a brake-valve having ports adapted in one position to open communication from the main reservoir through the feed-valve to the train-pipe, and to close the triple-valve exhaust.

5. In an air-brake apparatus the combination with a main reservoir, train-pipe, reducing-valve and triple valve, of a brake-valve having ports adapted in one position to open communication from the main reservoir through the feed-valve to the train-pipe, and to close the triple-valve exhaust, and in another position to maintain the communication open from the main reservoir through the feed-valve to the train-pipe and open the exhaust from the triple valve.

6. In an air-brake apparatus, the combination with a reservoir, a train-pipe, and a triple valve, of a brake-valve provided with a seat having ports communicating respectively with the train-pipe and the triple-valve exhaust, and a centrally-located exhaust-port, a rotary valve mounted on said seat and having a cavity communicating with said exhaust-port and adapted in one position of the valve to connect with the train-pipe, and in another position with the triple-valve exhaust.

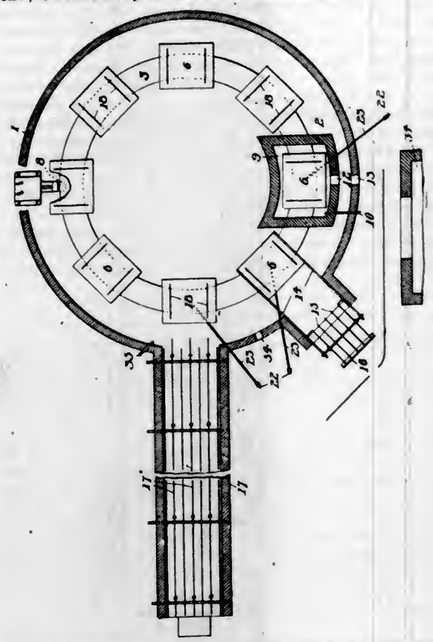
7. A brake-valve comprising a valve-seat having ports communicating with the train-pipe, the triple-valve exhaust and the main reservoir respectively, and an exhaust-port leading to the atmosphere, a rotary valve mounted on said seat and having an exhaust-cavity adapted in one position to connect the train-pipe with the exhaust-port, and in another position to connect the triple-valve exhaust with the exhaust-port.

841,752. MANUFACTURE OF SHEET-GLASS. JOSEPH WHARTON, Monongahela, Pa. Filed Aug. 1, 1906. Serial No. 328,662.

Claim.—1. In a device of the character described, a water-cooled pan having a central recessed portion to conform to any desired size, shape, or thickness of glass; means for reversing the sheet of glass molded in the pan and for reheating the same to a uniform brilliancy; substantially as described and shown.

2. In a device of the character described, a water-cooled pan having a central recessed portion to conform to any desired size, shape, or thickness of glass; overhead means for suspending and manipulating said pan; cutting means for trimming the edges of the glass sheet; means for reversing the sheet of glass molded in the pan and means for reheating the same to a uniform brilliancy; substantially as described and shown.

3. In a device of the character described, a water-cooled pan having a central recessed portion to conform to any desired size, shape, or thickness of glass; overhead means for suspending and manipulating said pan; cutting means for trimming the edges of the glass sheet; means for reversing the sheet of glass molded in the pan; carrier means for introducing said glass sheet into a reheating-compartment; substantially as described and shown.



4. In a device of the character described, a dipping-pan having a cored-out compartment formed therein; means for introducing water to and from said compartment; a recess formed in the top of said pan to conform to any desired size, shape, or thickness of glass; and a suitable handle on said pan; as and for the purpose set forth.

5. In a device of the character described; a suitable heating-kiln; a turn-table operatively seated in a covered passage-way inside said kiln; a reheating-compartment formed in a portion of said covered passage-way; a leer communicating with the kiln; tracks entering the covered passage-way above the table upon which is mounted a buggy and means for rotating said table; as and for the purpose set forth.

6. In a device of the character described, a suitable heating-kiln having a circular covered passage-way formed therein; a turn-table operatively mounted on tracks inside the covered passage-way; suitable stones mounted on said table; a reheating-compartment formed in a portion of said passage-way; tracks entering the passage-way above the table upon which is mounted a buggy; a leer communicating with the kiln and passage-way; means for rotating said table and means for regulating the heat throughout said kiln; as, and for the purpose set forth.

7. In a device of the character described, a water-cooled dipping-pin having a central recessed portion to conform to any size, shape, or thickness of glass; a suitable heating-kiln having a circular covered passage-way formed therein; a turn-table operatively mounted on tracks inside the passage-way; means for rotating said table; suitable stones mounted on said table; a reheating-compartment formed in a portion of said passage-way; tracks entering the passage-way above the table upon which is mounted a buggy; means for reversing the sheet of glass molded in the pan onto the buggy and conveying same to the reheating-compartment; as, and for the purpose set forth.

8. In a device of the character described, a water-cooled dipping-pan having a central recessed portion to conform to any size, shape, or thickness of glass; overhead means for suspending and manipulating said pan; a suitable heating-kiln having a circular covered passage-way formed therein; a turn-table operatively mounted on tracks inside the passage-way; means for rotating said table; suitable stones mounted on said table; a reheating-compartment formed in a portion of said passage-way; tracks entering the passage-way above the table on which is mounted a buggy; means for reversing the sheet of glass molded in the pan onto the buggy; means connected with the revolving table and passing up through each stone mounted thereon for lifting the sheet of glass clear of the buggy and for elevating said sheet of glass above the stone; as, and for, the purpose set forth.

9. In a device of the character described, a water-cooled dipping-pan having a central recessed portion to conform to any size, shape, or thickness of glass; overhead means for suspending and manipulating said pan; cutting means for trimming the edges of the glass sheet; a suitable heating-kiln having a circular covered passage-way formed therein; a turn-table operatively mounted on tracks inside the passage-way; means for rotating said table; suitable stones mounted on said table; a reheating-compartment formed in a portion of said passage-way; tracks entering the passage-way above the table on which is mounted a buggy; means for reversing the sheet of glass molded in the pan onto the buggy; means connected with the revolving table and passing up through each stone mounted thereon for lifting the sheet of glass clear of the buggy and for elevating said sheet of glass above the stone; as, and for, the purpose set forth.

10. In a device of the character described, a water-cooled dipping-pan having a central recessed portion to conform to any size, shape, or thickness of glass; overhead means for suspending and manipulating said pan; cutting means for trimming the edges of the glass sheet; a suitable heating-kiln having a circular covered passage-way formed therein; a turn-table operatively mounted on tracks inside the passage-way; means for rotating said table; suitable stones mounted on said table; a reheating-compartment formed in a portion of said passage-way; tracks entering the passage-way above the table on which is mounted a buggy; means for reversing the sheet of glass molded in the pan onto the buggy; means connected with the revolving table and passing up through each stone mounted thereon for lifting the sheet of glass clear of the buggy and for elevating said sheet of glass above the stone; and a leer communicating with the kiln and passage-way; as, and for, the purpose set forth.

11. In a device of the character described, a mold and means for elevating and reversing the glass molded therein and for reheating the same.

12. In a device of the character described, a mold, means for suspending and manipulating said mold, means for reversing the glass in the mold, and means for reheating said glass.

13. In a device of the character described, a heating-kiln, a table rotatable therein, means for depositing glass upon the table, and means for elevating the glass deposited thereon.

14. In a device of the character described, a heating-kiln, a table rotatable therein, means for depositing glass upon the table, and means operative from the exterior of the kiln for elevating the glass deposited thereon.

15. In a device of the character described, a heating-kiln, a table rotatable therein, means for depositing glass upon the table, and means movable through the table for elevating the glass deposited thereon.

16. In a device of the character described, a heating-kiln, a table rotatable therein, means for depositing glass upon the table, elevating means for the glass carried by the table and mechanism for operating the elevating means.

17. In a device of the character described, a mold, means for trimming the glass molded therein and means for reheating the same.

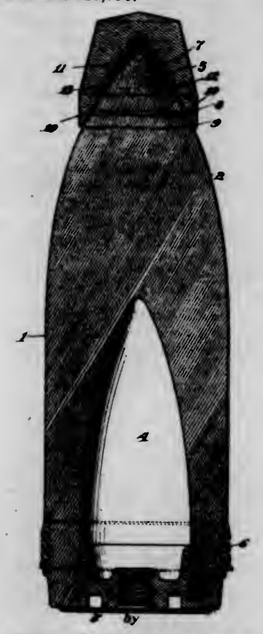
18. In a device of the character described, a mold, and means for trimming the edges of the glass molded therein.

19. In a device of the character described, a mold, and means for simultaneously trimming the edges of the glass molded therein.

20. In a device of the character described, a mold, and means for simultaneously trimming the sides and ends of the glass molded therein.

21. In a device of the character described, a heating-kiln, a glazing-compartment therein, a table movable in the kiln and through the compartment, means for depositing glass upon the table and means for elevating the glass within the compartment.

841,753. PROJECTILE. CHARLES VAN CISE WHEELER and ALEXANDER G. MCKENNA, Pittsburg, Pa. Filed July 26, 1906. Serial No. 327,796.



Claim.—1. A capped projectile having an inner cap of relatively soft metal interposeed between the tip of the shell and the outer cap, the wall of said inner cap being of substantial thickness.

2. A pointed projectile comprising a body, an inner cap of relatively soft metal, the walls of which are of substantial thickness, and an outer cap covering said inner cap and secured to the point of the body.

3. A pointed projectile comprising a hardened-steel body, an outer cap of soft steel, and an inner cap of relatively soft metal interposed between the tip of the body and the inner wall of the outer cap.

4. A pointed projectile comprising a hardened-steel body, an outer cap of soft metal, and an inner cap of metal not harder than lead interposeed between the tip of the body and the inner wall of the cap.

5. A pointed projectile comprising a hardened-steel body, an outer cap of soft metal, and an inner cap of soft lead interposed between the tip of the body and the inner wall of the outer cap.

6. A capped projectile having an inner cap of relatively soft metal interposed between the tip of the shell and the outer cap, the maximum thickness of said inner cap being approximately at the extreme tip of the body.

7. A pointed projectile comprising a body, an inner cap of relatively soft metal, and an outer cap covering said inner cap and secured to the point of the body, said outer cap extending rearwardly a substantially greater distance than said inner cap.

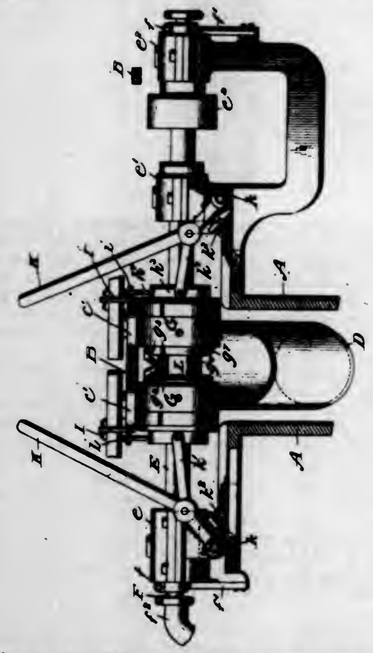
8. A pointed projectile comprising a body, an inner cap of relatively soft metal, an outer cap covering said inner cap and secured to the point of the body, said outer cap extending rearwardly a substantially greater distance than said inner cap, and means for securing said outer cap on said body located rearwardly of said inner cap.

9. A pointed projectile comprising a body, an inner cap of relatively soft metal, an outer cap covering said inner cap and secured to the point of the body, said outer cap extending rearwardly a substantially greater distance than said inner cap, and means including coöperating grooves on said outer cap and said body and a rod filling said grooves for securing said outer cap on said body, said means being located rearwardly of said inner cap.

10. A pointed projectile having a cap provided with a relatively soft-metal lining within the cap and secured to the interior of the cap, the said cap being secured independently thereof to the point of the shell.

11. A projectile cap of steel having an inner lining or cap of softer metal, the two being secured together by coöperating projections and recesses and adapted to be applied to the point of a projectile.

841,754. TOBACCO-STEMMING MACHINE. JESSE H. WHITAKER and LOUIS P. WHITAKER, Washington, D. C., assignors to The Pneumatic Tobacco Stemmer Company, Washington, D. C. Filed Apr. 16, 1903. Serial No. 152,939.



Claim.—1. A rotary cutter for tobacco-stemming machines, comprising a shaft, a series of pairs of blades arranged around said shaft, and extending substantially radially therefrom, the blades of each pair being movable longitudinally of the shaft away from and toward each other, and mechanism for reciprocating said blades, substantially as described.

2. A rotary cutter for tobacco-stemming machines comprising a shaft, a series of pairs of blades arranged around said shaft, and extending substantially radially therefrom, the blades of each pair being movable longitudinally of the shaft away from and toward each other, each of said blades having a cam-engaging portion, and cams on said shaft engaging the cam-engaging portions of said blades for reciprocating the same, said cams and said blades being movable with respect to each other, substantially as described.

3. A rotary cutter for tobacco-stemming machines comprising a shaft, a series of pairs of blades arranged around said shaft, and extending substantially radially therefrom, the blades of each pair being movable longitudinally of the shaft away from and toward each other, each of said blades having a cam-engaging portion, cams on said shaft engaging said blades, means for rotating said shaft, and means for holding said cams stationary, substantially as described.

4. A rotary cutter for tobacco-stemming machines comprising a shaft, a series of pairs of blades arranged around said shaft, and extending substantially radially therefrom, the blades of each pair being movable longitudinally of the shaft away from and toward each other, each of said blades having a cam-engaging portion, cams on said shaft engaging said blades, means for rotating said shaft, means for holding said cams stationary, and means for adjusting said cams in a direction around the shaft, substantially as described.

5. A rotary cutter for a tobacco-stemming machine, comprising a rotary shaft, two opposite hubs mounted thereon, and rotating therewith, longitudinally-movable blades mounted in said hubs, and a cam for each hub for reciprocating said blades, and retracting them entirely within the hubs, during a portion of their rotary movement, substantially as described.

6. A rotary cutter for a tobacco-stemming machine comprising a shaft, hubs thereon, movable blades fitted in said hubs, cams for operating said blades, and means for adjusting said hubs and cams at different distances apart to vary the distance between the cutting edges of opposing blades, substantially as described.

7. A rotary cutter for a tobacco-stemming machine comprising a shaft, hubs thereon, movable blades fitted in said hubs, cams for operating said blades and mechanism for moving said hubs and cams apart, longitudinally of the shaft to permit the removal and insertion of the blades, substantially as described.

8. A rotary cutter for a tobacco-stemming machine comprising a shaft, hubs thereon, movable blades mounted in said hubs, cams for operating said blades, devices for moving said hubs and cams longitudinally of said shaft, and adjustable stops for engaging said devices and limiting the movement of said hubs inwardly toward each other, substantially as described.

9. A rotary cutter for a tobacco-stemming machine, comprising a shaft, hubs thereon, movable blades fitted to slide in said hubs, cams for operating said blades, levers operatively connected with said cams and hubs for moving them longitudinally of said shaft, adjustable stops located in position to engage said levers, and devices for locking said levers rigidly in position, substantially as described.

10. A rotary cutter for tobacco-stemming machines comprising a shaft, a pair of opposing hubs mounted on said shaft and rotatable therewith, a series of blades mounted in each hub and adapted to reciprocate longitudinally of the shaft, cams on said shaft engaging portions of said blades for reciprocating them, means for adjusting said cams in a direction around the shaft and holding them stationary in their adjusted positions, substantially as described.

11. A rotary cutter for tobacco-stemming machines comprising a shaft, hubs mounted thereon, blades mounted in said hubs, and arranged concentrically to but at a distance from said shaft, and a stationary shoe encircling a portion of said shaft, and lying between the shaft and the inner edges of said blades, substantially as described.

12. A rotary cutter for a tobacco-stemming machine comprising a shaft, hubs thereon, movable blades fitted in said hubs, cams for operating said blades and a stationary shoe engaging said shaft, between said hubs, said blades being arranged to pass outside of said shoe, substantially as described.

13. A rotary cutter for tobacco-stemming machines comprising a rotary shaft, a pair of hubs adapted to rotate therewith, a plurality of yielding blades carried by each hub and cams for operating said blades, substantially as described.

14. A rotary cutter for tobacco-stemming machines, comprising a rotary shaft, a pair of hubs adapted to rotate therewith, a cam on said shaft adjacent to each of said hubs, a plurality of yielding blades each formed of two parts having a spring between said parts, one of said parts being provided with a cutting edge and the other part with a portion to engage one of said cams, substantially as described.

15. A rotary cutter for tobacco-stemming machines, comprising a pair of hubs, opposing blades carried thereby, each blade being provided with a portion having a cutting edge, and constructed to yield in a direction away from its opposing blade, substantially as described.

16. A rotary cutter for tobacco-stemming machines, comprising a hollow shaft provided with a plurality of air-discharging apertures, a circular series of blades arranged on said shaft on each side of said apertures, said blades being arranged in opposing pairs, and being movable longitudinally of the shaft, stationary cams on said shaft for reciprocating said blades, and means for supplying air to said air-discharging apertures, substantially as described.

17. A rotary cutter for tobacco-stemming machines, comprising a hollow shaft provided with a plurality of air-discharging apertures, a circular series of blades arranged on said shaft on each side of said apertures said blades being arranged in opposing pairs, and being movable longitudinally of the shaft, stationary cams on said shaft for reciprocating said blades, and an air-supply tube extending into said hollow shaft and having a single discharge-aperture adapted to register successively with the apertures in said shaft, substantially as described.

18. A rotary cutter for tobacco-stemming machines comprising a hollow shaft provided with a plurality of air-discharging apertures, a circular series of blades arranged on said shaft on each side of said apertures said blades being arranged in opposing pairs, and being movable longitudinally of the shaft, stationary cams on said shaft for reciprocating said blades, a stationary shoe mounted on said shaft between it and the inner edges of said blades and having a portion cut away, and an air-tube extending into said hollow shaft, and provided with a discharge-aperture in line with the cut-away portion of the shoe, said aperture being arranged to register successively with the apertures in said shaft, substantially as described.

841,755. SPECTACLE-TEMPLE. THOMAS A. WILLSON, Reading, Pa. Filed Jan. 11, 1906. Serial No. 295,526.



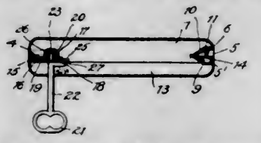
Claim.—1. A spectacle-temple comprising a separately-formed sheet-metal pivot-piece having shaft-clamping ears, and a shaft having a resiliently-formed end portion inclosed by said clamping-ears, the resilience of the clamped shaft portion serving to secure a rigid connection between the parts.

2. A spectacle-temple comprising a separately-formed sheet-metal pivot-piece having shaft-clamping ears, and a shaft having a deflected end portion the bend of which is inclosed by said clamping-ears to insure the rigid clamping of the parts.

3. A spectacle-temple comprising a separately-formed

sheet-metal pivot-piece having shaft-clamping ears, and a shaft having a corrugated end portion inclosed by said clamping-ears.

841,756. COIN-RECEPTACLE. WILLIAM H. WOOLUMS, Chicago, Ill., assignor to Home Security Vault and Pocket Bank Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 2, 1906. Serial No. 341,714.



Claim.—1. In a coin-receptacle, the combination of a body part stamped integral from sheet material and having an entrance-opening through one end, a cover part stamped integral from sheet material and having a tongue at one end for engaging in the entrance-opening when the cover is applied to lock the parts together at the entrance end, and locking means for locking together the parts at their other end.

2. In a coin-receptacle, the combination of a body part stamped integral from sheet material and having an entrance-opening through one end, a cover part stamped integral from sheet material and having a tongue at one end for engaging in the entrance-opening when the cover is applied to lock the parts together at the entrance end, locking means for locking together the parts at their other end, and a coin detent-frame formed integral from sheet material secured within the cover part about the entrance-opening.

3. In a coin-receptacle, the combination of a body part, a locking-plate extending inwardly from one end of the body part, an entrance-opening at the other end of the body part, said body part with the locking-plate and entrance-opening being stamped integral from sheet material, a cover part of substantially the same shape as the body part, a locking-tongue extending inwardly from one end of the cover part for engaging in the entrance-opening at the body part to lock the body and cover parts together at the entrance end, a supporting-shelf extending inwardly from the other end of the cover part, and locking mechanism mounted on said shelf to be brought into engagement with the locking-plate when the body and cover parts are brought together, said cover part with the locking-tongue and supporting-shelf being stamped integral from sheet material.

4. In a coin-receptacle, the combination of a body part in the form of a rectangular box, a locking-plate extending inwardly from one end of the body part, an entrance-opening through the other end of the body part, a cover part, a locking-tongue extending inwardly from one end of the cover part for engaging in the entrance-slot to lock the body and cover parts together at the entrance end, a supporting-shelf extending inwardly from the other end of the cover part to register with the locking-plate in the body part when the parts are brought together, and locking mechanism supported by the locking-shelf adapted to be operated to lock the shelf to the locking-plate, thereby locking the cover and body parts together.

5. In a coin-receptacle, the combination of a body part in the form of a rectangular box having an entrance-slot through one end wall, a cover part similar in shape to the body part, a locking-tongue extending inwardly from one end wall of the cover part for engaging in the entrance-slot to lock the cover and body parts together at the entrance end, and locking mechanism for locking together the cover and body parts at the other end.

6. In a coin-receptacle, the combination of a rectangular body part having an entrance-slot through one end wall, a cover part similar in shape to the body part, a locking-tongue extending inwardly from one end wall of the cover part for engaging in the entrance-slot to lock the cover part to the body part at the entrance end, and locking means for locking together the other ends of the parts, said body and cover parts being stamped integral from sheet material.

7. In a coin-receptacle, the combination of a rectangular body part having an entrance-slot through one end wall, a cover part similar in shape to the body part, a locking-tongue extending inwardly from one end wall of the cover part for engaging in the entrance-slot to lock the cover part to the body part at the entrance end, locking means for locking together the other ends of the parts, said body and cover parts being stamped integral from sheet material, and a coin-retaining frame stamped integral from sheet material and surrounding the entrance-slot at the interior of the body part.

8. In a coin-receptacle, the combination of a body part in the form of a rectangular box having an entrance-slot through one end wall, a locking-plate extending inwardly from the edge of one end wall, a cover part similar in shape to the body part, a supporting-shelf extending inwardly from the edge of one end wall of the cover part, and locking mechanism supported by said shelf adapted to be actuated to engage with the locking-plate of the body part and to lock the cover part to the body part.

9. In a coin-receptacle, the combination of a body part in the form of a rectangular box having an entrance-opening through one end wall, a locking-plate extending inwardly from the edge of one end wall of the body part, a cover part similar in shape to the body part, a supporting-shelf extending inwardly from the edge of one end wall of the cover part, a locking-bar pivoted on said shelf, and means for moving said locking-bar into engagement with the locking-plate when the cover and body parts have been brought together.

10. In a coin-receptacle, the combination of a body part in the form of a rectangular box having an entrance-opening through one end wall, a locking-plate extending inwardly from the edge of one end wall of the body part, a cover part having a shape similar to the body part, a locking-tongue extending inwardly from the edge of one end wall of the cover part for engaging in the entrance-slot of the body part when the parts are brought together, and locking mechanism supported from the other end wall of the cover part for engaging with the locking-plate of the body part when these parts are brought together.

11. In a coin-receptacle, the combination of a body part in the form of a rectangular box having an entrance-slot through one end wall, a locking-plate extending inwardly from the edge of one end wall of the body part, a cover part having a shape similar to the body part, a locking-tongue extending inwardly from the edge of one end wall of the cover part for engaging in the entrance-slot, a supporting-shelf extending inwardly from the edge of the other end wall of the cover part, a locking-bar pivoted to the supporting-shelf, and means for rotating said locking-bar whereby said bar may be brought into locking engagement with the locking-plate on the body part when the parts are brought together, said locking mechanism and said locking-tongue serving to lock the cover and body parts together.

12. In a coin-receptacle, the combination of a body part in the form of a rectangular box having an entrance-slot through one end wall, a locking-plate extending inwardly from the edge of the other end wall, a cover part having a shape similar to that of the body part, a locking-bar supported from one end wall of the cover part, and actuating mechanism connected with the locking-bar and adapted to be actuated by a key to cause movement of the locking-bar into engagement with the locking-plate when the cover and body parts are brought together.

13. In a coin-receptacle, the combination of a body part in the form of a rectangular box having an entrance-slot through one end wall, a locking-plate extending inwardly from the edge of the other end wall, a cover part similar in shape to the body part, a supporting-shelf extending inwardly from the edge of one end wall of the cover part, a locking-bar pivoted at one side of said supporting-shelf, a locking-plate at the other side of said supporting-shelf connected with the locking-bar, and means adapting said locking-plate to be turned by a key whereby said locking-bar may be brought into locking engagement with the locking-plate on the body part when the cover is applied thereto.

14. In a coin-receptacle, the combination of a body part in the form of a rectangular box having an entrance-slot through one end wall, a locking-plate extending inwardly from the edge of the other end wall, a cover part similar in shape to the body part, a supporting-shelf extending inwardly from the edge of one end wall of the cover part, a locking-bar pivoted at one side of said supporting-shelf, a locking-plate at the other side of said supporting-shelf connected with the locking-bar, and means adapting said locking-plate to be turned by a key whereby said locking-bar may be brought into locking engagement with the locking-plate on the body part when the cover is applied thereto, said body part with the locking-plate and entrance-slot being stamped integral from sheet material and said cover part with the supporting-shelf being also stamped integral from sheet material.

15. In a coin-receptacle, the combination of a body part in the form of a rectangular box having an entrance-slot through one end wall, a locking-plate extending inwardly from the edge of the other end wall, a cover part similar in shape to the body part, a supporting-shelf extending inwardly from the edge of one end wall of the cover part, a locking-bar pivoted at one side of said supporting-shelf, a locking-plate at the other side of said supporting-shelf connected with the locking-bar, means adapting said locking-plate to be turned by a key whereby said locking-bar may be brought into locking engagement with the locking-plate on the body part when the cover is applied thereto, and a locking-tongue extending inwardly from the edge of the wall of the cover part opposite the supporting-shelf, said tongue being slid into the entrance-slot of the body part when the parts are brought together whereby the entrance end of the parts are locked together.

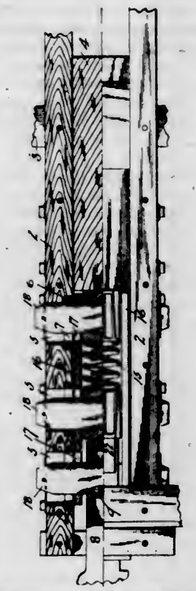
16. In a coin-receptacle, the combination of a body part in the form of a rectangular box having an entrance-slot through one end wall, a locking-plate extending inwardly from the edge of the other end wall, a cover part similar in shape to the body part, a supporting-shelf extending inwardly from the edge of one end wall of the cover part, a locking-bar pivoted at one side of said supporting-shelf, a locking-plate at the other side of said supporting-shelf connected with the locking-bar, means adapting said locking-plate to be turned by a key whereby said locking-bar may be brought into locking engagement with the locking-plate on the body part when the cover is applied thereto, and a locking-tongue extending inwardly from the edge of the wall of the cover part opposite the supporting-shelf, said tongue being slid into the entrance-slot of the body part when the parts are brought together whereby the entrance ends of the parts are locked together, the body part with the locking-plate and entrance-slot being stamped integral from sheet material, and the cover part with the supporting-shelf and locking-tongue being also stamped integral from sheet material.

17. In a coin-receptacle, the combination of a body part having an entrance-slot through one wall, a cover part of a similar shape as the body part, the material at the ends of the entrance-slot being curled inwardly to form supporting-eyelets, and a retaining-frame secured in said eyelets and disposed about the entrance-slot.

18. In a coin-receptacle, the combination of a body part having an entrance-slot through one wall, a cover part of a similar shape as the body part, the material at the ends of the entrance-slot being curled inwardly to form supporting-eyelets, and a retaining-frame secured in said eyelets and disposed about the entrance-slot, said body part and cover part being each stamped integral from sheet material.

841,757. DRAFT AND BUFFING GEAR FOR CARS. IRA O. WRIGHT and JOHN H. FARLOW, Baltimore, Md., assignors to Farlow Draft Gear Company, Baltimore, Md., a Corporation of Delaware. Filed Mar. 22, 1905. Serial No. 251,526.

Claim.—1. The combination in a draft and buffing gear, of a coupler and draw-bar; a front follower-block; a rear follower-block; a spring or springs between the blocks; slotted links; and keys, all of which are movable within the slots of the links and the gear; said links taking the strains and being movable relative to one of the keys in drawing.



2. The combination in a draft and buffing gear, of a coupler and draw-bar; a front follower-block with a perforation; a rear follower-block; a spring or springs between the blocks; slotted links which latter take the strains; and keys one of said keys being passed through the front follower-block and movable with said block; the slots in the links being adapted to move over one of the keys in drawing and the links during the act of buffing to remain stationary.

3. The combination in a draft and buffing gear, of a coupler and draw-bar; a front movable follower-block; a rear movable follower-block; a spring or springs between the blocks; links each having two elongated slots, said links taking the strains in drawing; keys; and slotted supports for the keys; the front and middle keys only being adapted to move within slots in the act of buffing, and one of the elongated slots in each link to move a key during the act of drawing.

4. The combination in a draft and buffing gear, of a draw-bar and coupler; supports having three elongated slots; three keys movable in the slots; two slotted links, the central slots being elongated one side of the key; a front follower-block; a rear follower-block; and a spring or springs between the follower-blocks; said draw-bar being provided with a perforation and within which is located a key, and said links imparting motion to the rear key and taking the strains in drawing.

5. The combination in a draft and buffing gear, of a coupler and draw-bar; a perforated follower-block in the rear of the end of the draw-bar; a rear follower-block; a spring or springs between the blocks; slotted supports or draft-timbers; slotted links; and keys within the perforations of the draw-bar, blocks, links and supports; the front slots in the supports being elongated each side of the front key and the other slots one side of a key, and the links taking the strains in drawing.

6. The combination in a draft and buffing gear, of supports, each having three slots; a draw-bar with a perforation; a front follower-block in contact with the end of the draw-bar and having a perforation; a perforated rear follower-block; a spring or springs between the follower-blocks; two links, each having three slots, the central and

front ones elongated; and three keys within the perforations of the several elements; the keys being movable and the rear and middle keys, when the parts are assembled, occupying the rear and front portions of the elongated slots in the supports.

7. The combination in a draft and buffing gear, of slotted supports; perforated follower-blocks located between the supports; a spring or springs between the follower-blocks; two slotted links located between the supports and one on each side of the follower-blocks; keys; and a coupler and draw-bar; the front key being located in the center of the slots in the supports and movable with the draw-bar, and the other keys each being movable in one direction only from normal position.

8. The combination in a draft and buffing gear, of slotted supports, all the slots being elongated; a rear follower-block with a perforation; slotted links between the supports, two of said slots being elongated; a spring or springs in front of the follower-block; a movable key passed through the rear slots in the supports, the follower-block, and the rear slots in the links said key being movable from its normal position in a forward direction only; a movable key located within the slots of the supports and the slots of the links in front of the spring or springs; and a draw-bar and coupler; the front ends of the links being secured to the draw-bar, and said links being movable relative to the movable key located in front of the spring or springs, in drawing.

9. The combination in a draft and buffing gear, of a draw-bar; links which take the strains in drawing; means including springs for holding the draw-bar in normal position; and three movable keys for arresting the inward and outward travel of the draw-bar when moved from its normal position in either direction the rear key being movable from its normal position in a forward direction only; in substance as set forth.

10. The combination in a draft and buffing gear provided with supports having slots, of a coupler and draw-bar; a front follower-block; a rear follower-block; a spring or springs between the blocks; slotted links which take the strains in drawing; and keys; the front and middle keys only being adapted to move rearwardly in buffing, and the front and rear keys only to move forwardly in drawing.

11. The combination in a draft and buffing gear having slots, of a coupler and perforated draw-bar; a front follower-block with a hole; a rear follower-block; a spring or springs between the blocks; links; and keys; the front and middle keys and the front follower-block being adapted to move rearwardly during the act of buffing, and the rear key to remain stationary.

12. The combination in a draft and buffing gear, of a coupler and draw-bar; a front follower-block; a rear movable follower-block; a spring or springs between the blocks; links which take the strains in drawing, each having elongated slots; keys; and slotted supports for the keys; all said keys being adapted to move within slots, the rear key movable in a forward direction only, and the central elongated slots of the links adapted to move over a key during the act of drawing.

13. The combination in a draft and buffing gear, of a draw-bar and coupler; supports each having three elongated slots; three movable keys in the slots; two slotted links which take the strains in drawing, the said slots being elongated so the front and middle keys may move within the slots; a front follower-block; a rear follower-block movable from its normal position in a forward direction only; and a spring or springs between the follower-blocks; said draw-bar being provided with a perforation and within which is located a key.

14. The combination in a draft and buffing gear, of a coupler and draw-bar; a front follower-block at the rear of the end of the draw-bar; a rear follower-block; a spring or springs between the blocks; slotted supports or draft-timbers; slotted links; and keys; the central key and front follower-block being movable together, and the slotted links transmitting motion to the rear key when the draw-bar is advanced in drawing.

15. The combination in a draft and buffing gear, of a coupler and draw-bar; slotted supports; follower-blocks; springs between the follower-blocks; slotted links; and keys supporting the links, front and rear follower-blocks and springs, the front follower-block and key passing through the same being united so that they will travel together; said links being located between the slotted supports and the follower-blocks and serving to transmit motion from the draw-bar to the rear key in drawing.

16. The combination in a draft and buffing gear, of a coupler and draw-bar; slotted supports; follower-blocks; slotted links; keys which support the links; and springs; the front key being movable in two directions and the other keys being each movable in one direction from its normal position.

17. The combination with a draft and buffing gear, constructed substantially as set forth, of a draw-bar; springs; follower-blocks; two slotted links; slotted supports; keys, all of which are movable, the front follower-block and the key passed through the same being movable together; and said links being located between the slotted supports and the draw-bar and spring or springs.

18. The combination with a draft and buffing gear, constructed substantially as described, of draft timbers and plates, each having three elongated slots for the reception of movable keys; one of said slots being elongated on both sides of a key and the other slots on one side of a key only when the keys are in operative positions.

19. The combination in a draft and buffing gear, of slotted supports, all of said slots being elongated; follower-blocks located between the supports; a spring or springs between the follower-blocks; two slotted links located between the supports and one on each side of the follower-blocks; keys; and a coupler and draw-bar; the front follower-block and the key passing through the same being movable together.

20. The combination in a draft and buffing gear, of slotted supports, all the slots being elongated; a rear follower-block with a hole therethrough; slotted links between the supports and one link on each side of the follower-block; a spring or springs in front of the follower-block; a movable key passed through the rear slots in the supports, the follower-block, and the rear slots in the links, said key being movable in one direction only from its normal position; a movable key located within slots of the supports and slots of the links and in front of the spring or springs; and a draw-bar and coupler; the front ends of the links being secured to the draw-bar, and said links being movable relative to the said movable key..

21. The combination in a draft and buffing gear, of supports having slots, a coupler and draw-bar; a front follower-block; a rear follower-block; slotted links; keys supporting the draw-bar and follower-blocks and located within the slots of the supports; and two springs located side by side one above the other in a vertical plane between the follower-blocks; the front key and the middle key only being movable in buffing and the front and rear keys only in drawing.

22. The combination in a draft and buffing gear, constructed substantially as described, of two slotted follower-blocks of identical construction, and provided with lugs 13 and lugs 14 for entering the coils of springs so that they may be interchangeable; a draw-bar and coupler; links; and keys, said keys being located within the slots of the follower-blocks.

23. The combination in a draft and buffing gear, of slotted supports; a draw-bar and coupler; front and rear follower-blocks; slotted links; keys supporting the movable parts of the gear; springs located between the follower-blocks; and a fixed block located between the supports in the rear of the rear follower-block and against which the rear follower-block bears in buffing.

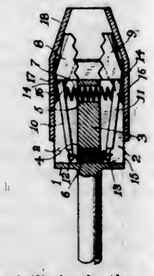
24. The combination in a draft and buffing gear, of a coupler and draw-bar with a slot; supports with elongated slots; keys within the slots and one of said keys passed through the slot in the draw-bar; a rear follower-block having a bearing against the rear key; a front follower-block bearing against the end of the draw-bar; means for limiting the forward movement of the front follower-block; a spring or springs between the follower-blocks; and links uniting the keys; the said links taking the strains in drawing and having elongated slots within which the front key moves in the act of buffing.

25. The combination in a draft and buffing gear, of a coupler and draw-bar with a slot; supports with elongated slots; keys within the slots and one of said keys passed through the slot in the draw-bar; a rear follower-block having a bearing against the rear key which key is movable from its normal position in one direction only; a front follower-block bearing against the end of the draw-bar; means for limiting the forward movement of the front follower-block in drawing; cushioning means between the follower-blocks; and links uniting the keys; said links taking the strains in drawing and being disconnected from the cushioning means and each having an elongated slot where it engages the rear key.

26. The combination with a draft and buffing gear having a draw-bar, slotted supports, front, middle and rear keys, and links which take the strains and advance the rear key and follower-block in drawing, of two follower-blocks; and two springs located side by side in a vertical plane between the follower-blocks; said follower-blocks being provided with means for engaging and holding the springs in place, and said rear key being movable only in drawing and said middle key movable only in buffing.

27. The combination in a draft and buffing gear, of a coupler and draw-bar; a front follower-block; a rear follower-block; a spring or springs between the blocks; slotted links; and keys; the rear key being movable from its normal position in a forward direction only; the key passed through the front follower-block being movable from its normal position in a rearward direction only; the two rear slots in each link being elongated; and the front follower-block and the key which supports it being movable together.

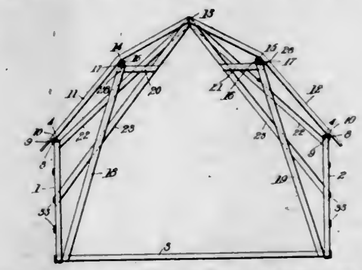
841,758. DRILL-CHUCK. WALTER H. ADAMS, Sound Beach, Conn. Filed Aug. 6, 1906. Serial No. 329,472.



Claim.—1. In a drill-chuck, the combination of the exteriorly-threaded body having upper and lower channels, whereby a central web is formed which latter has perforations extending therethrough at the rear and front ends thereof, the coil-springs within said perforations, the jaws within said channels and comprising head and tail portions the free ends of the tail portions being hooked within the opposite ends of the rear coil-springs which latter have a resilient energy which tends to draw together the extreme ends of said tail portions, while the front portions of these tails are always in contact with the front coil-springs which latter have a resilient energy that tends to spread the jaws apart, the head portions having a shoulder engagement with the chuck-body, and the interiorly-threaded sleeve having a conical front end and adapted to be driven on said body.

2. In a drill-chuck, the combination of the exteriorly-threaded body having upper and lower channels cut therein whereby a central web is formed which latter has perforations extending therethrough at the rear and front ends thereof, the forward part of said body terminating in a reduced cone-shaped portion, the coil-springs within said perforations the rear spring having a contractile energy while the front spring has an expansive energy, the jaws within said channels and comprising beveled head portions confined by the chuck-body as against backward movement and rearwardly-extending tail portions, the free ends of the tail portions being engaged with the opposite ends of the rear coil-springs beyond the web while the front portions of these tails are always in contact with the forward springs, and the interiorly-threaded conical-nosed sleeve capable of being driven on said body against said jaws.

841,759. WOODEN BUILDING. HARRY H. BAKER, Urbana, Ohio. Filed Apr. 5, 1906. Serial No. 310,058.



Claim.—1. A building comprising an end frame and an intermediate frame, the intermediate frame including side posts, purlin-posts, rafter-beams, brace connections between the side posts and the rafter-beams, and a brace between each purlin-post and the aforesaid brace connections.

2. A building comprising an end frame and an intermediate frame, the intermediate frame including side posts each made up of a pair of spaced members, purlin-posts each made up of a pair of spaced members, rafters arranged above the side posts and purlin-posts, diagonal braces arranged upon each side of the structure with corresponding ends between the members forming the side posts and passed through the members forming the purlin-posts, and a brace connecting each purlin-post and each of the aforesaid diagonal braces.

3. A building comprising an end frame and an intermediate frame, the intermediate frame including side posts comprising spaced members, purlin-posts comprising spaced members, a beam arranged upon each side post, a beam arranged above each purlin-post, the latter beams each comprising a pair of spaced members, rafters mounted upon said beams, diagonal braces each having its corresponding end secured between the members of the corresponding side posts and passed upwardly between the members forming the purlin-posts, braces each having one end fitting between the members forming the corresponding purlin-posts and connected to the corresponding diagonal braces, each of the second-mentioned braces having a seat for the reception of the members forming the beams above the purlin-posts, both sets of beams connecting the intermediate frame and the end frame, and other connections between the end frame and the outer posts of the intermediate frame.

841,760. SYSTEM OF REGULATION FOR GENERATORS AND BURNERS. AUGUSTUS A. BALL, Jr., Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Sept. 9, 1901. Serial No. 74,742.

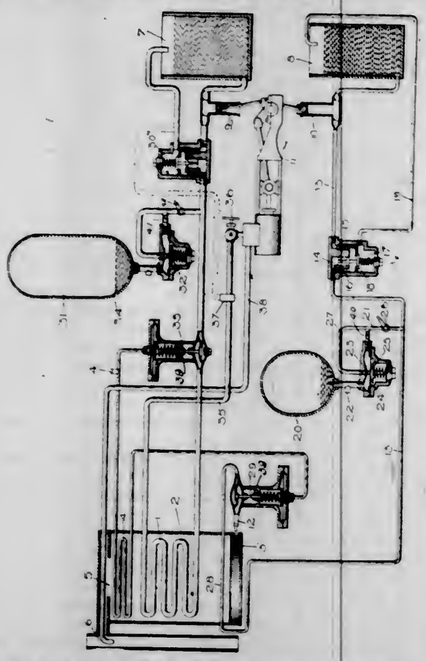
Claim.—1. In combination, a generator, a fire-chamber, a source of water-supply, a regulating-valve therefor, means tending at all times to close the valve, a source of fuel-supply, a regulating-valve therefor, means tending at all times to open the valve, and means for controlling the action of the valves.

2. In combination, a valve, a spring tending at all times to open the valve, a second valve, a spring tending at all times to close the second valve, and a means common to both valves for opposing their actions.

3. In combination, a motive-power agency that has a

tendency at all times to move in a given direction, a second motive-power agency that also has a tendency to move in a given direction, a sealed fluid-containing chamber provided with a diaphragm adjacent to and acting on each motive-power agency, and a thermostat for controlling the movements of said diaphragm.

4. In a system of regulation, the combination of a generator, a fire-chamber, sources of water and fuel supply, a thermostat located in the fire-gases beyond the generator, a pair of differentially-acting valves controlling the water and fuel supplies, and diaphragms acted upon by the thermostat for differentially moving the valves.



5. In a system of regulation the combination of a generator, a burner, a water-supply, a fuel-supply, pumps for increasing the pressure of the water and fuel supplies, a by-pass regulator for each pump, an accumulator for the water-supply, an accumulator for the fuel-supply, and means for controlling the action of the by-pass regulators and the accumulators.

6. In combination, a generator, a burner, a thermostat comprising a closed vessel containing an elastic medium, and located in such manner that it is acted upon by the heat from the generator and by the fire-gases after they have passed the generator, and a pair of differentially-acting valves for regulating the supply of water to the generator and fuel to the burner, the said valves being under the control of the thermostat.

7. In combination, a thermostat arranged to operate with an elastic medium under pressure, motors controlled by the thermostat, and a pair of differentially-acting valves, each valve being operatively connected to a motor.

8. In a system of regulation, the combination of a generator, a fire-chamber, a source of liquid-fuel supply, a valve for admitting water to the generator which is initially closed, a valve for admitting fuel to the chamber which is initially open, a thermostat operating simultaneously on both valves, and a second valve acting on the fuel-supply to cut it off when the system is idle.

9. In a system of regulation, the combination of a generator, a burner, a valve for admitting water to the generator, which is initially closed, a valve for admitting fuel to the burner which is initially open, means for adjusting the valves so that different pressures are required to operate them, and means for simultaneously acting on the valves in a manner to open one and close the other.

10. In combination, a generator, a burner, a water-pump, a fuel-pump, a by-pass regulator for the water-pump, a by-pass regulator for the fuel-pump, and a single thermostatic means which controls the action of both regulators and through them the delivery of the pumps.

11. In combination, a generator, a burner, a source of water-supply, a source of fuel-supply, a normally closed valve controlling the water-supply, a normally open valve controlling the fuel-supply, springs for the valves, and a thermostat adapted to exert a pressure to overcome the tension of the valve-springs only after it has been raised to the predetermined temperature by the fire-gases.

12. In a system of regulation, the combination of water and fuel supplies, individually-adjustable valves for regulating the supplies, and a means common to the valves for actuating them.

13. In combination, a boiler, a burner, pumps for supplying liquid to the boiler and fuel to the burner, means for imparting simultaneous movements to the pumps, by-pass valves for the pumps, and a thermostatic means co-operating with the by-pass valves for varying the deliveries of the pumps.

14. In combination, a boiler, a burner, pumps for supplying liquid to the boiler and fuel to the burner, means for imparting simultaneous movements to the pumps, by-pass valves for pumps, and a pressure device acting on the valves for causing corresponding differential variations in the liquid and fuel supplies.

15. In a vapor-generating system, the combination of a receptacle, a means for supplying liquid to the receptacle, a primary regulator responding to temperature changes, a secondary regulator acted upon by the primary, and a tertiary regulator which varies the effective delivery of said means.

16. In a system of supply, the combination of a receptacle, a means for supplying liquid to the receptacle, a primary regulator, a secondary regulator under the control of the primary, which throttles the fluid-supply to a greater or less extent, an accumulator, and a tertiary regulator which may act at about the same time as the secondary regulator to vary the effective fluid-supply delivered to the receptacle.

17. In a vapor-generating system, the combination of a generator, a fire-chamber, a means for supplying liquid to the generator and fuel to the fire-chamber, a primary regulator, secondary regulators controlled by the primary regulator, and tertiary regulators which coact with the secondary regulators to vary the supplies from said means in response to changes of the primary regulator.

18. In a system of supply, the combination of a fluid-receiving receptacle, a regulator for controlling the admission of fluid to the receptacle, an accumulator containing an elastic medium which compensates for small changes of the regulator, and another regulator which may act when the pressure in the accumulator exceeds a certain amount to compensate for greater changes of the regulator.

19. In combination, a boiler, means containing a supply of fluid for the boiler under an initial pressure, means for storing an additional pressure in said means, as the fluid-pressure in the boiler increases, and controllable means for controlling the delivery of fluid to the boiler.

20. In combination, a boiler, a receptacle containing a supply of fluid under an initial pressure for the boiler, a valve for storing additional fluid under an increased pressure in the receptacle as the pressure in the boiler increases, and a second valve for regulating the delivery of fluid from the receptacle to the boiler.

21. The combination with the steam-generator having pipes in which steam is generated, of a water-supply pipe having a pressure-cylinder in communication therewith and with the steam-pipes, a check-valve, and a valve adapted to be operated by an attendant interposed between said cylinder and steam-pipe, and a relief-valve in communication with said pressure-cylinder, substantially as set forth.

22. The combination with the steam-generator having pipes in which steam is generated, of a water-supply pipe having a pressure-cylinder in communication therewith and with the steam-pipes, a check-valve interposed between said cylinder and steam-pipe, and a relief-valve in communication with said pressure-cylinder, substantially as set forth.

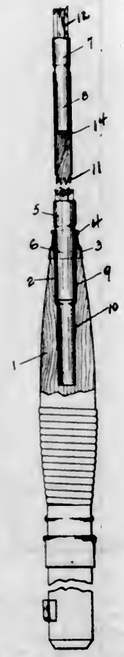
23. The combination of a generator, a fire-chamber, means for supplying liquid to the generator including a pressure-controlled regulator, means for supplying fuel to the fire-chamber including a regulating device, and means for exerting a differential control over the water-regulator and the fuel-regulating device.

24. The combination of a generator, a fire-chamber, means for supplying water to the generator comprising a pump and a pressure-controlled regulator, means for supplying fuel to the generator including a fuel-regulating device, and a means responsive to changes of temperature in a portion of the system which exerts a differential control over the water-regulator and the fuel-regulating device.

25. The combination of a generator, means for supplying water to the generator including a by-pass regulator, means for supplying fuel to the generator including a regulating device, and means responsive to changes of temperature in a portion of the system which exerts a differential control over the by-pass regulator and the fuel-regulating device.

26. The combination of a flash-boiler, means for supplying water to the boiler including a regulating device, means tending to decrease the flow through the water-regulating device, a fire-chamber, means for supplying fuel to the chamber including a regulating device, means tending to increase the flow through the fuel-regulating device, and means for controlling the action of said regulating devices.

841,761. FISHING-ROD. LEANDER L. BARTLETT, Montague City, Mass. Filed Aug. 2, 1906. Serial No. 328,852.



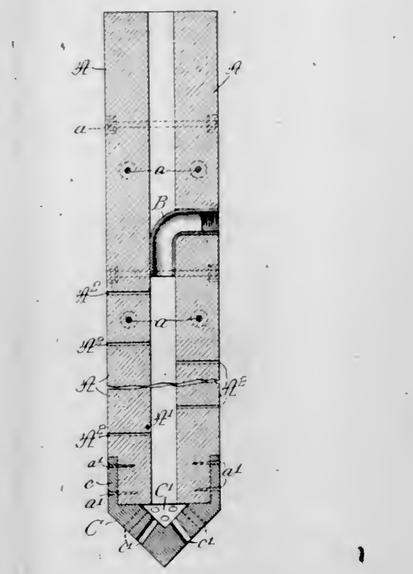
Claim.—1. A fishpole-butt in combination with a plurality of rod-sections having butt-ends of different diameter, said fishpole-butt having at least two open-ended sockets of different diameters and in line with each other.

2. A fishpole-butt in combination with a plurality of rod-sections having butt-ends of different diameter, said fishpole-butt having at least two open-ended sockets one behind the other of different diameters and in line with each other, the socket nearest the open end being of greater diameter than the innermost socket.

3. A fishpole-butt in combination with a plurality of rod-sections having butt-ends of different diameter, said fishpole-butt having at least two open-ended sockets of different diameters and in line with each other, the outermost socket being substantially of the diameter of the butt-end of the butt-section of the rod; the innermost socket being of substantially the diameter of the butt-end of a different section of the rod.

4. A fishpole-butt in combination with a plurality of rod-sections having butt-ends of different diameter, said fishpole-butt having at least two open-ended integral sockets of different diameters and in line with each other, one of the rod-sections having a socket of the diameter of the innermost socket in the butt, the outermost socket being of the diameter of the butt-end of the butt-rod section.

841,762. PILE. ONWARD BATES, Chicago, Ill. Filed Sept. 26, 1905. Serial No. 280,143.



Claim.—1. A pile made of sections each of which is shaped to form a part of a longitudinal jetting-passage, said sections having lateral jet-openings along their length.

2. A pile made of sections, each of which is shaped to form a part of a longitudinal jetting-passage, terminating at its lower end in a series of radiating jet-openings, said sections having lateral jet-openings along their length.

3. A pile having a longitudinal jet-passage and a shoe arranged at the lower end of such pile and having a chamber C′ communicating with the jet-passage, said shoe also having a series of radiating jet-openings communicating with said chamber.

4. A pile composed of a series of longitudinal sections secured together to form the complete pile and having a longitudinal jet-passage formed at the junction of all of said sections.

5. A pile composed of a series of longitudinal sections secured together to form the complete pile and having a longitudinal jet-passage formed at the juncture of all of said sections, and a shoe fitting the lower end of the pile and having radiating jet-openings communicating with said jet-passage.

6. A pile composed of a series of longitudinal sections secured together to form the complete pile and having a longitudinal jet-passage formed at the junction of all of said sections and an elbow communicating with the jet-passage near the upper end of the pile and extending laterally thereof for connection with the sources of jetting fluid.

7. A pile composed of a series of longitudinal sections or members which are equal parallelograms in cross-section and are so arranged and secured together as to form a longitudinal jet-passage around the central longitudinal axis of the pile.

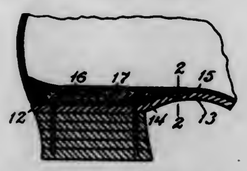
8. A pile formed of a plurality of sections secured together and having a jetting-passage and a shoe or point on the lower end thereof provided with jet-openings communicating with said passage and at that side of the shoe toward which it is desired to draw the pile in the sinking operation.

9. A pile made in sections each of which is shaped to form a part of a longitudinal jetting-passage, and a pointed shoe provided on a sloping side with jet-openings communicating with said passage.

10. A pile made in sections each of which is shaped to form a part of a longitudinal jetting-passage, and a pointed shoe provided with jet-openings communicating with said passage and distributed evenly on the sloping sides of said shoe.

11. A pile made in sections each of which is shaped to form a part of a longitudinal jetting-passage and lateral passages extending therefrom to the sides of the pile, and a shoe having a series of radially-directed jetting-passages communicating with said passage.

841,763. SHOE. GILBERT C. BEMIS, Lynn, Mass. Filed July 28, 1906. Serial No. 328,167.



Claim.—1. A shoe having an internal cushion-pocket formed by an offset in the heel portions of its outer and inner soles, and a cover for said pocket provided at its forward end with means for engaging the edges of the inner sole.

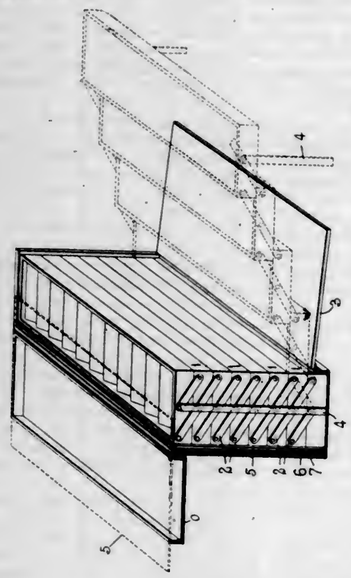
2. A shoe having an internal cushion-pocket formed by an offset in the heel portions of its outer and inner soles, and a cover for said pocket provided at its forward end with ears engaged with the edges of the inner sole.

3. A shoe having an internal cushion-pocket formed by an offset in the heel portions of its outer and inner soles, and a cover for said pocket provided at its forward end with ears integral with the cover and secured by inseam stitches.

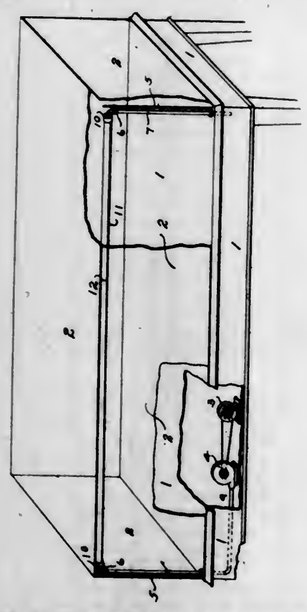
841,764. SAMPLE-TRUNK. GEORGE F. BIGGS, St. Louis, Mo. Filed May 31, 1906. Serial No. 319,548.

Claim.—A sample-trunk comprising a lid, a table arranged inside of the trunk adjacent the rear wall thereof and being adapted to be drawn out of the trunk and arranged in a horizontal position on the lid when it is opened, a rod connected to the table, and an eye in the back of the trunk through which said rod extends; substantially as described.

841,764.



841,765. ILLUMINATING APPARATUS. NORMAN D. BISHOP, Los Angeles, Cal., assignor to Donald G. Bishop, Los Angeles, Cal. Filed Aug. 24, 1904. Serial No. 222,004.



Claim.—1. An illuminating apparatus provided with an inclosing portion, a plurality of adjustable illuminating devices therein and connection between the latter and the source of electrical supply.

2. An illuminating apparatus having a tubular portion, illuminating devices slidably mounted therein and electrical connection between said devices and the source of electrical supply.

3. An illuminating apparatus provided with a tubular portion, guide-rods therein, illuminating devices on said rods and connection between said rods and the source of electrical supply.

4. An illuminating apparatus provided with a translucent tube or cylinder, illuminating devices slidably mounted therein, and electrical connections between said devices and the source of electrical supply.

5. An illuminating apparatus provided with a tube, guide-rods therein, illuminating devices slidably mounted on said rods and electrical connection between said rods and the source of electrical supply.

6. An illuminating apparatus provided with a tube, illuminating devices therein having electrical connection and means for ventilating said tube.

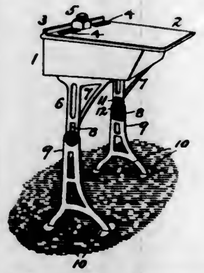
7. An illuminating apparatus having illuminating devices provided with electrical connections inclosed in tube or casing, pipes in each end of said tube or casing and means for effecting the circulation or air through said pipes and tube or casing.

8. An illuminating apparatus provided with a tube, caps for the ends thereof, illuminating devices in the tube for the electrical connection and means of engaging said caps to support the tube.

9. An illuminating apparatus provided with a tube, illuminating devices mounted therein, guide-rods carrying said devices, electrical connections between said rods and the source of electrical supply and means for supporting the tube.

10. An illuminating apparatus provided with a tube, illuminating devices mounted therein, guide-rods carrying said devices, electrical connections between said rods and the source of electrical supply and means for supporting and effecting the ventilation of said tube.

841,766. SCHOOL-DESK. LEONARD H. CAMPBELL, Providence, R. I. Filed June 11, 1906. Serial No. 321,180.



Claim.—1. In a school-desk, the combination of a desk-body, two pivots or pins mounted inside the desk-body on opposite sides thereof, a cover for said desk-body, and two flanges on the cover on opposite sides thereof projecting into the desk-body and each having a V-shaped slot whose upper part is parallel to said cover, said flanges being provided with means for engaging the said pivots or pins respectively.

2. In a school-desk, the combination of a desk-body, two pivots or pins mounted inside the desk-body on opposite sides thereof, a cover for said desk-body, and two flanges on the cover on opposite sides thereof projecting into the desk-body and each having a V-shaped slot with locking-seats in said slots, the upper portion of each of said slots being parallel to the top of said cover and said flanges being adapted by their slots and locking-seats to engage said pivots or pins respectively.

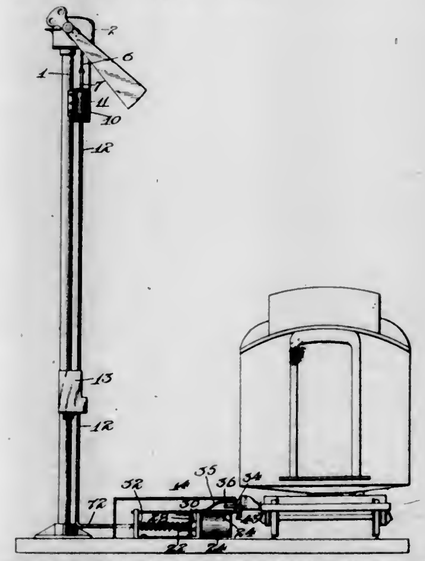
3. In a school-desk, the combination of a desk-body having the pivots 28, 28, in the sides thereof projecting inwardly, a cover for the desk-body having the two flanges 13, 13, each of which flanges is provided with an approximately V-shaped slot 14 and with locking-sockets 15, 16, 17 and 18, the upper part of each of said slots being parallel with the top of said cover, and a washer 29 on each pivot, which washers are adapted to be seated in any of the corresponding sockets of said flanges respectively.

4. In a school-desk, the combination of a desk-body, two pivots extending therefrom inwardly, a cover for said desk-body having on each of two opposite sides thereof a circular socket with a central perforation through the bottom thereof, a locking-flange on each side of said cover adapted to engage with said pivots respectively and having an integral bend or angle-piece with a perforation through it, a washer in the bottom of each of said sockets, a headed bolt passing through said perforated bend or angle-piece and cover perforation and washer into each of said sockets, a nut on the end of each of said bolts, and a wooden plug mounted in and filling each of said sockets.

5. In a school-desk, the combination of a desk-body, two pivots extending therefrom inwardly, a cover for the desk-body, two flanges on each of two opposite sides of the cover and adapted to engage with said pivots respectively, in slots thereof, a strip extending along each of two opposite sides of the desk-body parallel with the adjacent sides thereof to form a passage in which passages said flanges are inserted and movable, each of said strips being provided with a circular opening about midway the length thereof, a metallic washer in each of said openings, a leather washer in each of said openings in contact with said metallic washer, and a washer on each of said pivots and in contact with the adjacent leather washer aforesaid, which pivot-washers are inserted loosely in the slots of said flanges respectively.

6. In a school-desk, the combination of a desk-body, two pivots 28, 28, extending therefrom inwardly on opposite sides, two braces, 30, 30, pivotally mounted on the desk-body within the same, a cover for the desk-body, two flanges 13, 13, extending from the cover on opposite sides thereof, and having V-shaped slots 14, 14, which engage said pivots respectively, locking-sockets 17, 18, on the edges of said slots, and a washer 29 on each of said pivots engageable at will with either the socket 17, or 18.

841,767. SIGNAL. EDWARD J. CONDON, Dixon, Ill. Filed Nov. 13, 1905. Serial No. 287,208.



Claim.—1. In a device of the character described, the combination with a semaphore-arm, of a lock for holding said arm in its thrown position, a switch member carried by said lock, a second switch member having a tendency to move toward said first-mentioned switch member, means

carried by said arm to normally hold said switch members apart and to permit the same to momentarily engage when the arm is thrown.

2. In a device of the character described, the combination with a semaphore-arm, having a rearwardly-extending projection carried thereby, a latch for engaging said projection when the arm is thrown, a switch member carried by said latch, and a second switch member having a tendency to move toward said first member, said projection being arranged to hold said members apart and to permit the same to momentarily engage when the arm is thrown.

3. In a device of the character described, the combination with a signal of a motor operated by fluid-pressure for actuating said signal and carried by the support for said signal, a compressor, a spring for operating said compressor, means operated by the passage of the train for storing energy in said spring, and a connection extending between said compressor and said motor for transmitting the fluid under pressure to said motor.

4. In a device of the character described, the combination with a semaphore-arm, of a gravity-catch for retaining said arm in its thrown position, an electromagnet in a normally open circuit for causing the release of said arm, and a switch operated by the next succeeding semaphore-arm for momentarily closing the circuit through said magnet.

5. In a device of the character described, the combination with a series of signals each having means operated by fluid under pressure for throwing the same to the danger-point means operated by the passage of the train for supplying fluid under pressure, means for retaining said signals in their danger position, means for releasing said signal when another of said series of signals is operated, and means for rendering any one of said signals inoperative without rendering the remaining signals inoperative.

6. In a device of the character described, the combination with a plurality of signals arranged in series each having means operated by fluid-pressure for throwing the same to the danger-point and means operated by the passage of the train for supplying fluid under pressure, means for retaining each signal in its thrown position, means operated by the passage of the train past another of the signals in series for releasing the signal, means for cutting out any one of said signals and means whereby when one of said signals is cut out the signal immediately preceding the same will be so connected with the signal immediately succeeding the same that the operating of the succeeding signal by the passage of the train will release the preceding signal.

7. In a device of the character described, the combination with a plurality of signals arranged in series each having means operated by fluid-pressure for throwing the same to the danger-point, and means operated by the passage of the train for supplying fluid under pressure, means for retaining each signal in its thrown position, means operated by the passage of the train past another of the signals in series for releasing the signal, means for cutting out any one of said signals, and electrically-controlled means whereby when one of said signals is cut out the signal immediately preceding the same will be so connected with the signal immediately succeeding the same that the operating of the succeeding signal by the passage of the train will release the preceding signal.

8. In a device of the character described, the combination with a plurality of signals arranged in series each having means operated by fluid-pressure for throwing said signals, means operated by the passage of the train for supplying fluid under pressure means for retaining said signal in a thrown position, an electrically-controlled means for releasing said signal arranged to be operated by the throwing of another of the signals in the series, means for rendering any one of the signals in the series inoperative, and means operated by said last-mentioned means whereby when the signal immediately preceding the same is thrown, it will remain thrown until the signal immediately succeeding the same is operated by the passage of the train.

9. In a device of the character described, the combination with a signal, of a cylinder having a spring-actuated piston and arranged in proximity to the tracks, an auxiliary cylinder having a tubular connection with said first-mentioned cylinder and arranged in proximity to said signal and a connection between said auxiliary cylinder and the signal.

10. In a device of the character described, the combination with a signal, of a pair of cylinders one arranged in proximity to said signal and the other arranged in proximity to the tracks; the cylinder in proximity to the tracks having a spring-actuated piston-rod having means operated by the passing of the train for causing said piston to be actuated for placing fluid under pressure means whereby the fluid-pressure will be delivered to the other cylinder, and means whereby said first-mentioned cylinder will operate the signal.

11. In a device of the character described, the combination with a plurality of semaphore-arms arranged in series each having means for rocking the same upon the passage of the train, means for retaining the same in a substantially horizontal position, an electromagnet for operating said retaining means to release said arms, and means operated by the rocking of the arm of said signals for closing the circuit through the electromagnet of the preceding signal.

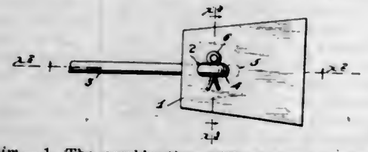
12. In a device of the character described, the combination with a plurality of semaphore-arms arranged in series, means for operating each one of said arms as the train passes the same, means for retaining said arms in their operated position, electrically-operated means for releasing said signals, and means operated by the next preceding arm for closing the circuit of said electrically-operated means of the arm previously passed by the train.

13. In a device of the character described, the combination with a plurality of signals arranged in series of means operated by fluid under pressure for throwing said signals, means for retaining said signals in their thrown position, a releasing-magnet for each of said signals in a normally open circuit, means for rendering any one of said signals inoperative, and means operated by said means for connecting the next preceding releasing-magnet in a circuit including the releasing-magnet of the next succeeding signal.

14. In a device of the character described, the combination with a signal, of means operated by fluid under pressure for throwing said signal, a fluid-compressor for supplying fluid to said means, comprising a cylinder, a piston, a spring for moving said piston in a direction to compress the fluid, a reciprocating arm connected with said piston and means carried by the train for operating said arm to move the piston in an opposite direction.

15. In a device of the character described, the combination with a signal, of means operated by fluid under pressure for throwing said signal, a compressor for supplying said means with fluid under pressure, and comprising a cylinder, a piston operating in said cylinder, a spring for moving said cylinder in one direction a reciprocating arm connected wth said piston for moving the same in the opposite direction, and an inclined arm carried by the rolling-stock for engaging said reciprocating arm for operating the same.

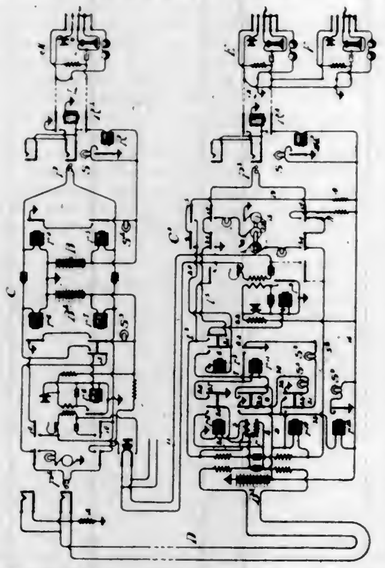
841,768. SCRAPER FOR DISK DRILLS. SPENCER E. DAVIS, Minneapolis, Minn., assignor to Monitor Drill Company, St. Louis Park, Minn., a Corporation of Minnesota. Filed Oct. 1, 1906. Serial No. 336,817.



Claim.—1. The combination with a supporting arm or rod bent in the vicinity of its free end to form a U-shaped yoke, of a scraper-blade having a perforation adapted to receive the said yoke, and a key or lock device passed through the crotch of said yoke and bearing against the adjacent face of said blade, substantially as described.

2. The combination with a supporting arm or rod 3 bent at its free end to form the U-shaped yoke 4 and stop-lug or projection 5, of a scraper-blade 1 having a perforation 2 adapted to receive said yoke 4, and a split key or cotter 6 passed through the crotch of said yoke 4 and bearing against the adjacent face of said blade, substantially as described.

841,769. TELEPHONE TRUNKING SYSTEM. WILLIAM W. DEAN, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 6, 1903. Serial No. 142,114.



Claim.—1. In a telephone trunking system, the combination with a testing outfit at the incoming end, a relay to control the connection of said outfit with said end of the trunk, means to control said relay from the outgoing end of the trunk and from the called-subscriber's line, and means to initially energize said relay in calling the wanted subscriber, substantially as described.

2. In a telephone trunking system, the combination with a telephone-line, of testing apparatus to determine the idle or busy condition of the line, a relay to control said testing apparatus, means to initially energize said relay in the actuation of the ringing-key, and means to control the further actuation of said relay from the outgoing end of the trunk, substantially as described.

3. In a telephone trunking system, the combination with a telephone-line, of a testing apparatus associated with the incoming end of the trunk, a relay to disconnect the testing apparatus from the incoming end of the trunk during conversation, means to initially operate said relay, and further means to control its actuation from the outgoing end of the trunk, substantially as described.

4. In a telephone trunking system, the combination with a telephone-line, of testing apparatus associated with the incoming end of the trunk, a relay to control said testing apparatus, means to first operate said relay, and further means to control the actuation of said relay from the outgoing end of the trunk and a called-subscriber's station, substantially as described.

5. In a telephone trunking system, the combination with a telephone-line, of testing apparatus associated with the incoming end of the trunk, a relay to control said apparatus, said relay being initially operated in the act of calling the wanted subscriber and thereafter controlled by the connection with the outgoing end of the trunk and by the called subscriber, substantially as described.

6. In a telephone trunking system, the combination with a telephone-line, of testing apparatus at the incoming end of the trunk-line, a relay at said end, means associated with the ringing-key for operating said relay for disconnecting said apparatus when the wanted party is called, and further means for maintaining the actuation of said relay until the answering subscriber has replaced his receiver upon the hook and the connection has been severed with the outgoing end of the trunk, substantially as described.

7. The combination with a telephone trunk-circuit adapted to connect lines together for conversation, of a relay the actuation of which completes the tip-strand of said trunk-circuit for talking purposes, a locking-circuit for said relay, a signal-circuit, a second relay the actuation of which opens said signal-circuit, a locking-circuit for said second relay, and a trunk-relay the demagnetization of which breaks each of said locking-circuits, substantially as described.

8. In a telephone system, the combination with a telephone-line, of a trunking circuit, a testing system for said line, a relay with normal contacts connecting said testing system with the trunking circuit and means not associated with said line for actuating said relay to disconnect said testing system, and means associated with the line for reconnecting said testing system, substantially as described.

9. In a telephone system, the combination with a telephone-line, of a trunking circuit, a testing system for said line, a relay with normal contacts connecting said testing system with the trunking circuit, means to actuate said relay, a locking-circuit for said relay, and means actuated over both ends of said trunking circuit for severing the locking-circuit of said relay, substantially as described.

10. In a telephone system, the combination with a telephone-line, of a trunking circuit, a testing system for said line, a relay with normal contacts connecting said testing system with the trunking circuit, means to actuate said relay, a locking-circuit for said relay, and means for severing said locking-circuit without disconnecting the trunk from the called telephone-line, substantially as described.

11. In a telephone system, the combination with a telephone-line, of a trunking circuit, a testing system for said line, a relay with normal contacts connecting said testing system with the trunking circuit, means to actuate said relay, a locking-circuit for said relay, and means depending upon the condition of the called-subscriber's telephone for severing said locking-circuit, substantially as described.

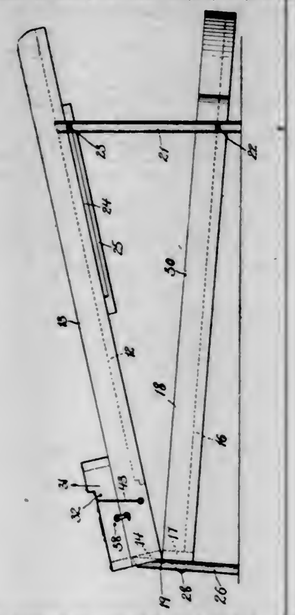
12. In a telephone system, the combination with a cord-circuit and a telephone-line, of a trunking circuit adapted to connect the two for conversation, a testing system for said line, a relay with normal contacts connecting said testing system with the trunking circuit, means to actuate said relay to sever said connection, a locking-circuit for said relay, and means depending upon the condition of the called-subscriber's telephone and the connection of said cord-circuit with the trunk for severing said locking-circuit, substantially as described.

13. In a telephone system, the combination with a cord-circuit and a telephone-line, of a trunking circuit adapted to connect the two for conversation, a testing system for said line, a relay with normal contacts connecting said testing system with the trunking circuit, means to actuate said relay to sever said connection, a locking-circuit for said relay, and a trunk-relay actuated both by current over the outgoing end of the trunk and by current in the called-subscriber's line to maintain the continuity of said locking-circuit, substantially as described.

841,770. GAME APPARATUS. JOHN S. DEARBORN, Lynn, Mass. Filed July 11, 1906. Serial No. 325,638.

Claim.—1. A game apparatus comprising a board, a series of arms pivoted above the board and carrying targets which swing therewith, and adapted to occupy either a displayed or a concealed position, said arms being free to swing to vertical position to display the targets, and detents located below the arms, and adapted to normally hold the arms in their concealed position, said detents

being displaceable by balls moved over the board to permit the arms to move to their displayed position.



2. A game apparatus comprising a board, a series of arms pivoted above the board and carrying targets which swing therewith, and adapted to normally project upwardly from the board, said arms being free to swing to vertical position to display the targets, and a series of detents adapted to lock the arms in a depressed position, said detents standing in position to be displaced by balls moved over the board.

3. A game apparatus comprising a board, a series of arms pivoted above the board and carrying targets which swing therewith, each having a weight and a detent-engaging member, said arms being free to swing to vertical position to display the targets, and a series of detents adapted to engage the said members and hold the arms depressed, the detents being arranged to be displaced by balls moved over the board.

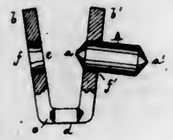
4. A game apparatus comprising a board, a series of arms pivoted above the board and carrying targets which swing therewith, and adapted to normally project upwardly from the board, said arms being free to swing to vertical position to display the targets, a series of detents adapted to lock the arms in a depressed position, said detents standing in position to be displaced by balls moved over the board, a laterally-movable rod 42, adapted to move the arms to their depressed positions, and means for moving said rod.

5. A game apparatus comprising two boards, each having side pieces and an end piece, the end pieces of the two boards being connected by hinges, and the end piece of the upper board being provided with a recess 29, a pair of legs 21 pivoted to the lower board, and connected at their upper portions by a cross-rod 23, which supports and is slidingly engaged with the upper board, and a slotted leg 26 pivoted to the end piece of the lower board, and adapted to enter the recess 29.

841,771. PIN-JOINT. FRANK E. FARNHAM, Providence, R. I. Filed July 8, 1905. Serial No. 268,861.

Claim.—1. As a new article of manufacture, the jeweler's finding herein described, consisting of a hinge-joint member having ears each of which is provided with a pivot-hole, and a pivot secured only at one end in the pivot-hole of only one ear.

2. As a new article of manufacture, the jeweler's finding herein described, consisting of a hinge-joint member having ears each of which is provided with a pivot-hole, and a pivot held at only one end in the pivot-hole of only one ear solely by friction.



3. As a new article of manufacture, the jeweler's finding herein described, consisting of the combination of a hinge-joint member having an ear provided with a pivot-hole, and a pivot temporarily secured in said pivot-hole but capable of a sliding movement therein under pressure.

4. As a new article of manufacture, the jeweler's finding herein described consisting of the combination of a hinge-joint member having an ear provided with a pivot-hole, and a pivot secured temporarily in said pivot-hole at one of its ends and having its opposite end protruding from and beyond the outer side of said ear, said pivot being capable of a sliding movement through said pivot-hole by the application of a sufficient force.

5. As a new article of manufacture, the jeweler's finding herein described, consisting of the combination of a hinge-joint member having ears arranged opposite each other and in divergent angular positions, each of which ears has a pivot-hole, a pivot held at one end in the pivot-hole of one of said ears by frictional pressure and having its opposite end protruding out from the outer side of said one of the ears, said pivot being capable of a sliding movement through said first-named pivot-hole to and into the pivot-hole of the opposite ear by the application of a sufficient force.

6. As a new article of manufacture, the jeweler's finding herein described, consisting of the combination of a hinge-joint member having two ears arranged opposite each other in divergent angular positions, each of which has a tubular pivot-hole extending from the inner side thereof to the center of said ear and a conical pivot-hole in line with and continuous with said tubular hole and extending from said center of the ear to the outer side of said ear, and a pivot mounted and held in the tubular pivot-hole of one of said ears but capable of a sliding movement to and into the tubular pivot-hole of the other ear under sufficient pressure, with the ends of said pivot extending into the conical pivot-holes of said ears respectively.

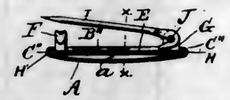
7. As a new article of manufacture, the jeweler's finding herein described, consisting of the combination of two ears arranged opposite each other in divergent angular positions, each of which ears has a tubular pivot-hole extending from the inner side of said ear to the center and a conical pivot-hole in line with and continuous with said tubular hole and extending from said center to the outer of said ear, and a pivot having conical ends and mounted near one end in the tubular pivot-hole of one of said ears but capable of a sliding movement to and into the tubular pivot-hole of the other ear under sufficient pressure with said conical ends of the pivot extending into the conical pivot-holes of said ears respectively.

8. As a new article of manufacture, the jeweler's finding herein described, consisting of the combination of a hinge-joint member having two ears arranged opposite each other each of which has a pivot-hole through it whose diameter is greater on the outer side of said ear than on the inner side of said ear, and a pivot mounted and held in the smaller end of the pivot-hole of one of said ears and extending out from the outer side of said ear but capable of a sliding movement under sufficient pressure into the smaller end of the pivot-hole of the other ear.

9. As a new article of manufacture, the jeweler's finding herein decribed, consisting of the combination of a hinge-joint member having two ears arranged opposite each other each of which has a pivot-hole through it whose diameter is greater on the outer side of said ear than on the inner side of said ear, and a pivot having conical ends and mounted near one end thereof in the smaller end of the pivot-hole of one of said ears and extending out from the outer side of said ear but capable of a sliding movement under sufficient pressure into the smaller end of the pivot-hole of the other ear.

10. As a new article of manufacture, the jeweler's finding herein described, consisting of the combination of a hinge-joint member having two ears arranged opposite each other each of which ears has a pivot-hole through it, a pin-tongue placed between said ears and having a flat head provided with a pivot-hole whose diameter slightly exceeds that of the pivot-holes of said ears, and a conically-pointed pivot mounted and held near one end thereon in the pivot-hole of one of said ears, but capable of a sliding movement under sufficient pressure along said last-named pivot-hole in said one of the ears and through the pivot-hole of the head of said pin-tongue and into engagement with the pivot-hole of the other of said ears.

841,772. CUFF-PIN. FRANK E. FARNHAM, Providence, R. I. Filed Apr. 6, 1906. Serial No. 310,361.



Claim.—1. The improved cuff-pin herein described, consisting of the combination of a lining-plate having earpieces at one end each provided with a pivot-hole and a pin-catch at the opposite end, a pin-tongue engageable with said pin-catch, a pivot on which said pin-tongue is mounted and which extends through said pivot-holes in the earpieces, a cupped-up ornamental front plate in the concave portion of which said lining-plate fits, two integral flanges on opposite sides of said front plate which are rolled over throughout their entire extent into close contact with the outer surface of said lining-plate each of which flanges abuts at one end the pin-catch and at its opposite end one of said earpieces, and two integral points or projections on the opposite ends of said front plate which are bent over into close contact with the tip ends of the lining-plate respectively.

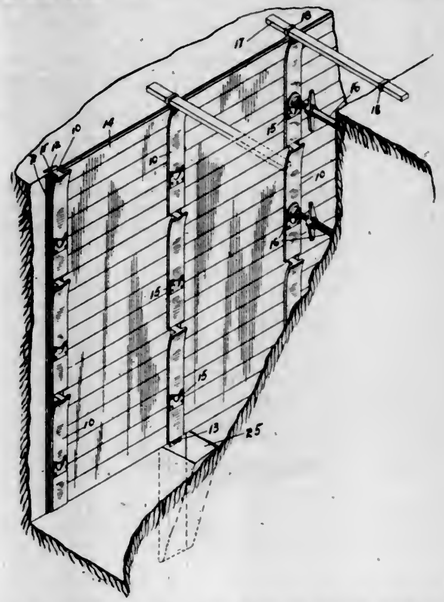
2. The improved cuff-pin herein described, consisting of the combination of a lining-plate having earpieces at one end each provided with a pivot-hole and a pin-catch at the opposite end, a pin-tongue engageable with said pin-catch, a pivot on which the pin-tongue is mounted and which extends through the pivot-holes in the earpieces, a cupped-up ornamental front plate in the concave portion of which said lining-plate fits, two integral points at opposite ends of the front plate bent over into close contact with the ends of the lining-plate so as to abut respectively the pin-catch and the earpieces, and means adapted to secure the lining-plate to the front plates along the portions of the lining-plate which extend between said earpieces and pin-catch.

3. The improved cuff-pin herein described, consisting of a lining-plate having earpieces at one end provided with a pivot-hole and a pin-catch at the opposite end, a pin-tongue engageable with said pin-catch, a pivot on which the pin-tongue is mounted and which extends through the pivot-holes in the earpieces, a cupped-up ornamental front plate having four flanged portions with four intermediate recesses or spaces, which flanged portions are bent over into close contact with the outer surface of the lining-plate the whole being so arranged and combined that the pin-catch and the earpieces extend through said recesses or spaces at the contiguous ends of said flanged portions.

841,773. TRENCH-SHEETING. ALBERT W. FITZGERALD, Terre Haute, Ind. Filed Mar. 15, 1906. Serial No. 306,125.

Claim.—1. A post-section for trench-sheeting having sheeting-receiving grooves formed in opposite edges thereof, and an inwardly-open mouth leading thereto.

2. A post-section for trench-sheeting having sheeting-receiving grooves formed in opposite edges thereof, an inwardly-open mouth leading thereto, and means carried by the opposite ends of said post for interengagement with an adjacent post.



3. A post-section for trench-sheeting having sheeting-engaging portions along the vertical sides with a receiving-mouth below the top thereof so arranged so as to permit introduction of sheeting from the inner face of the post.

4. A post-section for trench-sheeting having sheeting-engaging portions along opposite edges thereof, and means carried at opposite ends of the posts for interengagement with a similar section end to end.

5. A trench-sheeting comprising a plurality of post-sections, each having sheeting-engaging portions along opposite edges and means at opposite ends by which they may be connected in vertical series; and a plurality of horizontal sheeting members adapted to bridge the space between adjacent vertical series of post-sections.

6. A trench-sheeting comprising a plurality of post-sections, each having sheeting-receiving means capable of receiving sheeting from opposite sides, and means at opposite ends by which they may be connected in vertical series; and a plurality of horizontal sheeting members adapted to bridge the spaces between adjacent vertical series of post-sections.

7. A trench-sheeting comprising a plurality of post-sections, means carried by each post-section for successive endwise engagement with another, a plurality of sheeting members, and means carried by the post-sections for engaging the ends of sheeting members.

8. A trench-sheeting comprising a plurality of post-sections, means carried by each post-section for successive endwise engagement with another, a plurality of sheeting members, means carried by the post-sections for engaging the ends of sheeting members, said means being such as to permit the placing of sheeting members at points intermediate the total length of a series of post-sections.

9. A post-section for trench-sheeting having a series of vertically-arranged inwardly-opening sheeting-pockets for the reception of sheeting members.

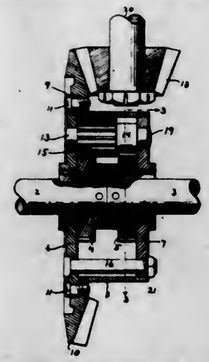
10. A post section for trench-sheeting having a series of sheeting-pockets for the reception of sheeting members, and means carried by the ends of each post-section for endwise connection with another post-section.

11. A trench-sheeting comprising a plurality of vertical

series of post-sections detachably connectible by hinge connections, and horizontal sheeting members engaging adjacent vertical series of post-sections and bridging the space therebetween.

12. A trench-sheeting comprising a plurality of vertical series of post-sections detachably connectible by hinge connections, and horizontal sheeting members engaging adjacent vertical series of post-sections and bridging the space therebetween, the engagement between the post-sections and sheeting members being such as to permit application of sheeting members at points intermediate the total length of a series of post-sections.

841,774. EQUALIZING-GEARING. ARTHUR A. FULLER, Providence, R. I., assignor to Providence Engineering Works, Providence, R. I., a Corporation of Rhode Island. Filed Mar. 22, 1906. Serial No. 307,506.

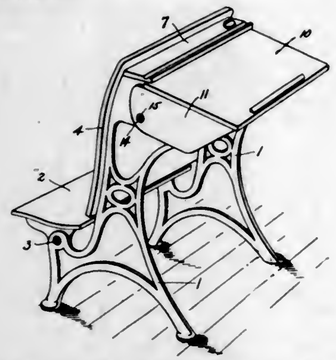


Claim.—1. In an equalizing-gearing, the combination of two alining shafts, a gear-wheel secured to each shaft, a casing surrounding said wheels, free to turn relative thereto and constituting a member through which power is transmitted and comprising an end wall 6 carrying a peripheral rim 8 and a flange or rim 9, and a separable end wall 7, pinions mounted in the said casing by which the said gear-wheels are connected, transverse bolts binding together the end walls of the casing and situated radially inside of the circles described by the outermost parts of the pinions, locking devices supplemental to the transverse bolts interposed between the end walls of the casing and arranged to prevent rotative movement of one end wall relative to the other, and a gear-ring attached to the rim 9 of the casing, substantially as set forth.

2. In an equalizing-gearing, the combination of two alining shafts, a gear-wheel secured to each shaft, a casing 5 surrounding the wheels and comprising an end wall 6 formed with a peripheral rim 8 and a separable end wall 7, the latter end wall and the peripheral rim 8 having interlocking engagement to prevent rotative movement of one end wall relative to the other, pinions within the casing for connecting the aforesaid gear-wheels, and transverse bolts supplemental to the interlocking devices binding together the end walls of the casing, the bolts being at a radial distance from the center of the gearing less than the radial distance of the circle described by the outermost parts of the pinions, substantially as set forth.

841,775. SCHOOL-DESK. JOHN P. GARBER, Ridley Park, Pa. Filed Oct. 14, 1905. Serial No. 282,864.

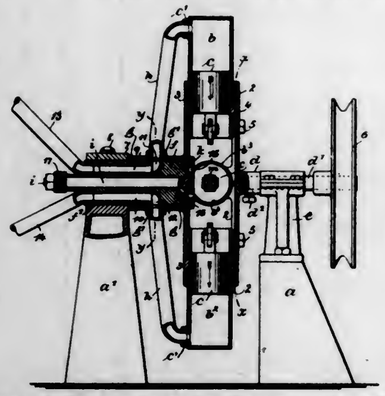
Claim.—1. In a school-desk, side standards having a horizontal upper portion and an inclined portion extending forward therefrom, a top formed of two portions, a rigid horizontal portion secured to the horizontal upper face of the side standards and extending forward beyond its point of attachment, a movable portion of top pivoted to the side standards and adapted to swing in the arc of a circle from a horizontal position to an inclined position limited by the inclination of the forward portion of the side standards, the forward edge of the movable portion of top moving at all times beneath the free end of the rigid portion of top, and means for securing the movable portion of top in an adjusted position.



2. In a school-desk, side standards having serrated rear edges, a top pivotally secured to the standards at a point below the upper surface of the top and substantially in alinement with the rear edge of the top, side plates carried by the top, a rod pivotally secured in the side plates near the front edge having a catch at each end in alinement with the serrations in the standards, and a lever carried by the rod for actuating the catches.

3. In a school-desk, side standards, a top formed of two portions, a rigid horizontal portion and a movable portion, side plates secured to the movable portion having side flanges, a rod pivotally secured in the side flanges having a catch at each end housed between the body of the plate and the side flanges, a lever for rocking the rod and moving the catches, and serrations upon the standards with which the catches normally engage.

841,776. ROTARY ENGINE. CHARLES GRAESICKE, Glendale, N. Y. Filed May 24, 1906. Serial No. 318,456.



Claim.—1. In a rotary engine, the combination with a base and a revoluble frame, of cylinders mounted in said frame, pistons in said cylinders, a drvie-shaft at one side of said frame, a bearing for the same, a hub fixed at the other side of said frame and having steam and exhaust ports therein, a sleeve secured on the other side of said frame and adapted to fit over said hub, connections between said steam and exhaust ports and the end of each cylinder, a fixed crank-pin and a connecting-rod extending between said crank-pin and each of said pistons.

2. In a rotary engine, the combination with a base and a revoluble frame, of cylinders mounted in said frame, pistons in said cylinders, a drive-shaft at one side of said frame, a bearing for the same, a hub fixed at the other side of said frame and having steam and exhaust ports therein, a sleeve secured on the opposite side of said frame and adapted to fit over said hub, connections between said steam and exhaust ports and the end of each cylinder, a fixed crank-pin and means for shifting the position of said crank-pin to reverse the direction of rotation of the engine.

3. In a rotary engine, the combination with a base and a revoluble frame, of cylinders fixed in the said frame, pistons for the said cylinders, a drive-shaft secured to one side of the said frame, a bearing for the same, a hub fixed at the opposite side of said frame and having steam and exhaust ports therein, a sleeve secured on the opposite side of said frame and adapted to fit over said hub, connections between said steam and exhaust ports and the end of each cylinder, a crank-pin plate at the inner end of said hub, a crank-pin fixed in said plate and connecting-rods extending between the said crank-pin and the said pistons.

4. In a rotary engine, the combination with a base and a revoluble frame, of cylinders fixed in the said frame, pistons for the said cylinders, a drive-shaft secured to one side of said frame, a bearing for the same, a hub fixed at the opposite side of said frame and having steam and exhaust ports therein, a sleeve secured on the opposite side of said frame and adapted to fit over said hub, connections between said steam and exhaust ports and the end of each cylinder, a crank-pin plate at the inner end of said hub, a crank-pin fixed in said plate and means for turning the said crank-pin plate to shift the position of the crank-pin to reverse the direction of rotation of the engine.

5. In a rotary engine, the combination with a base and a revoluble frame, of cylinders fixed in the said frame, pistons for the said cylinders, a drive-shaft secured to one side of the said frame, a bearing for the same, a hub fixed at the opposite side of said frame and having steam and exhaust ports therein, a sleeve secured on the opposite side of said frame and adapted to fit over said hub, connections between said steam and exhaust ports and the end of each cylinder, a crank-pin plate at the inner end of said hub, a crank-pin fixed in said plate, means for turning the said crank-pin plate to shift the position of the crank-pin to reverse the direction of rotation of the engine, and means for limiting the shifting movement of the said crank-pin plate.

6. In a rotary engine, the combination with a base and a revoluble frame, of cylinders fixed in equidistant radial positions in the said frame, pistons in the said cylinders, a drive-shaft secured to one side of the said frame, a bearing for the same, a hub fixed at the opposite side of said frame and having steam and exhaust ports therein, a sleeve secured on the opposite side of the said frame and having ports therein adapted to register with said steam and exhaust ports in the said hub, connections between said ports in the said sleeve and the ends of the said cylinders, a fixed crank-pin and a connecting-rod extending between the said crank-pin and each of the said pistons.

7. In a rotary engine, the combination with a base and a revoluble frame, of cylinders fixed in equidistant radial positions in the said frame and each having a port at its outer end, pistons in said cylinders, a drive-shaft secured to one side of said frame, a bearing for the same, a hub fixed at the opposite side of the said frame and having steam and exhaust ports therein running longitudinally and terminating in oppositely-disposed transverse peripheral grooves, a sleeve secured on the opposite side of said frame and adapted to fit over the said hub and provided with ports adapted to register with said transverse peripheral grooves in the said hub, connections between the ports in the said hub and the ports in the said cylinders, a fixed crank-pin and a connecting-rod extending between the said crank-pin and each of the said pistons.

8. In a rotary engine, the combination with a base and a revoluble frame, of cylinders fixed in the said frame, pistons within the said cylinders, a drive-shaft secured to one side of the said frame, a bearing for the same, a hub fixed at the opposite side of the said frame and having steam and exhaust ports therein, a sleeve on the opposite side of said frame and adapted to fit over the said hub, connections between said steam and exhaust ports in the said hub and the end of each cylinder, a crank-pin plate having a semicircular slot therein, a stop-pin secured in the said hub and extending into the said semicircular slot on the crank-pin plate, a crank-pin fixed in said crank-pin plate, a connecting-rod extending between the said crank-pin and each of the said cylinders and means for turning the said crank-pin plate to shift the position of the crank-pin to reverse the direction of rotation of the engine.

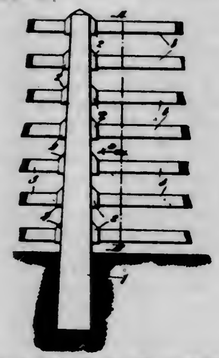
9. In a rotary engine, the combination with a base and a revoluble frame, of cylinders fixed in the said frame, pistons within the said cylinders, a drive-shaft secured to one side of the said frame, a bearing for the same, a hub fixed at the opposite side of the said frame and having steam and exhaust ports therein, a sleeve on the opposite side of said frame and adapted to fit over the said hub, connections between said steam and exhaust ports in the said hub and the end of each cylinder, a rod extending longitudinally through the said hub, a crank-pin plate secured to the inner end of the said rod and having a semicircular slot therein, a stop-pin secured in the said crank-pin plate and extending into the said semicircular slot to limit the movement of the said crank-pin plate and determine the position thereof, a crank-pin fixed in the said crank-pin plate, a connecting-rod extending between the said crank-pin and each of the said pistons and means for turning the said rod extending through the said hub a partial revolution to shift the said crank-pin plate and crank-pin to reverse the direction of rotation of the engine.

10. In a rotary engine, the combination with a base and a revoluble frame, of cylinders fixed in the said frame, pistons within the said cylinders, a drive-shaft secured to one side of the said frame, a bearing for the same, a hub fixed at the opposite side of said frame and having steam and exhaust ports therein, a sleeve on the opposite side of said frame and adapted to fit over the said hub, connections between said steam and exhaust ports in the said hub and the end of each cylinder, a rod extending longitudinally through the said hub, a crank-pin plate secured to the inner end of said rod and having a semicircular slot therein, a stop-pin secured in the said crank-pin plate and extending through the said semicircular slot to limit the movement of the said crank-pin plate and determine the position thereof, a crank-pin fixed in the said crank-pin plate, a connecting-rod extending between the said crank-pin and each of the said pistons, a pinion fixed at the outer end of the said rod which extends through the said hub and a pivotally-mounted segmental rack meshing with said pinion whereby said rod may be given a partial revolution to shift the crank-pin plate and crank-pin to reverse the direction of rotation of the engine.

11. In a rotary engine, the combination with a series of revoluble cylinders, their pistons and connecting-rods, of a crank-pin and crank, a shaft to one end of which the crank is secured, a support therefor, a pinion on the opposite end of the shaft and a manually-actuated toothed segment meshing with said pinion for turning the same, the shaft and crank to change the position of the crank-pin and for positively holding the crank-pin as placed to control the direction of rotation and effect the reversal thereof.

12. In a rotary engine, the combination with a series of revoluble cylinders, their pistons and connecting-rods, of a fixed member having fluid-pressure and exhaust ports on opposite sides thereof, a revoluble member surrounding the fixed member and associated with the aforesaid series of revoluble parts and means interposed for opening up communication progressively between said ports and the respective outer ends of the cylinder for conveying the fluid-pressure and the exhaust, a shaft passing axially through the fixed member, a crank and fixed crank-pin on one end of said shaft to which pin the connecting-rods are coupled and manually-actuated devices associated with the opposite end of said shaft for holding the same in a predetermined position and for turning the same and the crank-pin for effecting a reversal of the direction of rotation.

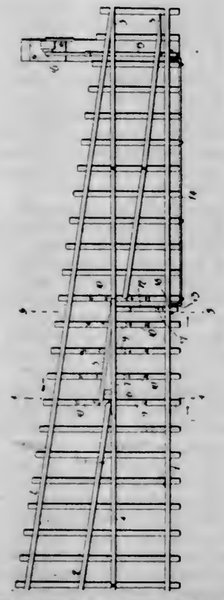
841,777. FENCE-POST. JAMES W. HAMILTON and WILLIAM GWINNUP, Indianapolis, Ind. Filed Oct. 19, 1905. Serial No. 283,558.



Claim.—1. In a rail fence, the combination with a fence-post composed of artificial stone or cement, of a series of rail-supporting pockets or hangers composed of single strips of metal bent and folded into form, said pockets or hangers removably secured to the opposite sides of said post and arranged in vertical alinement at suitable intervals apart.

2. In a rail fence, the combination with a fence-post composed of artificial stone or cement, of a series of rail-supporting pockets or hangers composed of a single strip of metal bent and folded into rectangular form, said pockets or hangers arranged in opposing pairs and securing-bolts passing through said post to project from the opposite sides thereof and each bolt situated to support a single opposing pair of pockets or hangers.

841,778. FROGLESS RAILWAY-SWITCH. THOMAS W. HARBER, Springfield, Mo. Filed May 3, 1906. Serial No. 315,099.

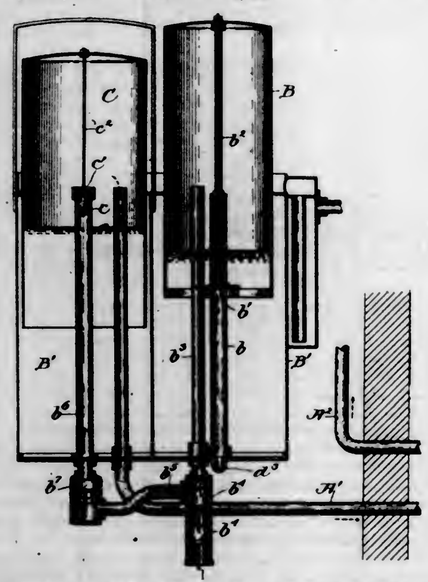


Claim.—1. In a frogless switch, the combination with the main and side track rails, of a movable section arranged in the inner rail of the main track, a spur-rail connected to said movable section, a connecting-plate secured to the under side of said spur and movable rail sections, a wedge-block arranged between and rigidly bolted to said spur and movable rail sections, a throw-rod pivotally connected to the outer end of the latter, stops arranged on said throw-rod to engage the opposite sides of the main-track rail, and means whereby said movable sections of the rails are shifted simultaneously with the throwing of the switch-points, substantially as described.

2. In a frogless switch, the combination with the main and side track rails, of a movable section arranged in the inner rail of the main track, a spur-rail connected to said movable section, a connecting-plate secured to the under side of said spur and movable rail section, a wedge-block arranged between and rigidly bolted to said spur and movable rail sections, wear-plates arranged on the ties beneath said connecting-plate, stop-blocks arranged on the ties at each side of said movable section and spur-rail, a throw rod or bar pivotally connected to the latter, adjustable stop-blocks arranged on the outer ends of said throw-bars, an operating-rod, a crank formed on the outer end thereof to engage said throw-bar, and means whereby said operating-rod is actuated by the throw of the switch-points, substantially as described.

3. In a frogless switch, the combination with the main and side track rails, of a movable section arranged in the inner rail of the main track, a spur-rail connected to said movable section, a connecting-plate secured to the under side of said spur and movable rail section, a wedge-block arranged between and rigidly bolted to said spur and movable rail sections, a throw-bar pivotally connected to the outer end of the latter, serrations formed on the outer end of said throw-bar, serrated stop-blocks adapted to be adjustably engaged with said serrated end of the throw-bar, means to secure said blocks in their adjusted positions, an operating crank-shaft connected to the outer end of said throw-bar, and means whereby said bar is actuated simultaneously with the throwing of the switch-point, substantially as described.

841,779. GAS APPARATUS. CHARLES W. HINMAN, Boston, and WALTER F. WELLMAN, Cambridge, Mass. Filed Apr. 13, 1905. Serial No. 255,321.



Claim.—1. A gas apparatus having in combination a carbureter, an independent gasolene-reservoir, a conduit leading to the carbureter, a gasolene-carrying device arranged to carry uniformly-measured quantities of gasolene from the reservoir to the conduit, an air-supplying device for supplying measured quantities of air to the carbureter, means for operating the air-supplying device, a motor connected to operate the measuring device, and means for controlling the motor from the air-supplying device.

2. A gas apparatus having in combination a carbureter, a measuring device for supplying measured quantities of hydrocarbon liquid thereto, a motor connected to operate said measuring device, an air-supplying device, a motor connected to operate said air-supplying devices, and devices for controlling the operation of said motors from the air-supplying device.

3. A gas apparatus having in combination a carbureter, a measuring device for supplying measured quantities of hydrocarbon liquid thereto, a fluid-motor connected to operate said measuring device, an air-supplying device, a fluid-motor connected to operate said air-supplying device, and devices for controlling the exhaust and supply for said fluid-motors from the air-supplying device.

4. A gas apparatus having in combination a carbureter, an independent gasolene-reservoir, a conduit leading to the carbureter, a gasolene-carrying device arranged to move between the gasolene-reservoir and the conduit, a fluid-motor connected to operate said gasolene-carrying device, an air-supplying device constructed to deliver measured quantities of air to the carbureter, a fluid-motor connected to operate said air-supplying device, and devices for controlling the exhaust and supply for said fluid-motors from the air-supplying device.

5. A gas apparatus having in combination a carbureter, an independent gasolene-reservoir adjacent to the carbureter, a conduit leading to the carbureter, a gasolene-carrying device arranged to travel between the gasolene-reservoir and the conduit for transferring measured quantities of gasolene to the conduit, a fluid-motor adjacent to the measuring devices and connected to operate the same, an air-supplying device remote from the carbureter, a motor for operating the same, a valve adjacent to the air-supplying device for controlling the supply and exhaust for the measuring-device motor, and pipe connections between the air-supplying device and carbureter and between the valve and said measuring-device motor.

6. A gas apparatus having in combination a carbureter, a measuring device for supplying hydrocarbon liquid thereto, a fluid-motor connected to operate said measuring device, an air-supplying device, a fluid-motor connected to operate said air-supplying device, a controlling-valve for said motors, and connections between the valve and air-supplying device for operating the valve from the air-supplying device.

7. A gas apparatus having in combination a carbureter, a measuring device for supplying hydrocarbon liquid thereto, a fluid-motor connected to operate the measuring device, a controlling-valve for said motor, pipe connections between the valve and motor, an air-supplying bell, a fluid-motor connected to operate the bell, and means for controlling said valve from the air-bell.

8. A gas apparatus having in combination a carbureter, a measuring device for supplying hydrocarbon liquid thereto, a fluid-motor connected to operate the measuring device, an air-supplying bell, a fluid-motor connected to operate the bell, a controlling-valve for said motors, and devices for operating said valve through the movement of the air-bell.

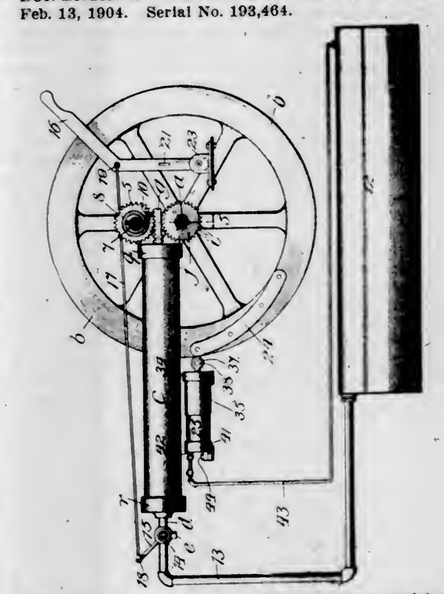
9. A gas apparatus having in combination a carbureter, a gasolene-carrying device for supplying a uniformly-measured charge of gasolene thereto, an air-supplying bell, means for operating the bell, a fluid-motor for operating the gasolene-carrying device, a valve for controlling the supply and exhaust for the motor, and connections between the air-bell and valve for operating the valve.

10. A gas apparatus having in combination, a carbureter, a conduit leading thereto, a gasolene-reservoir, a measuring-bucket arranged to travel between the reservoir and conduit, a cylinder, a piston therein, connections between the piston and measuring-bucket, a conduit leading to the cylinder, an air-bell, a motor for operating the bell, a valve for controlling the supply and exhaust of motive fluid through the cylinder-conduit operated by the air-bell.

11. A gas apparatus having in combination a carbureter, a conduit leading thereto, a gasolene-reservoir, a measuring-bucket E arranged to travel between the reservoir and conduit, a cylinder G, a piston G' therein, a shaft H provided with pulleys H' and H², cords connecting the pulley H' with the bucket and pulley H² with the piston, a conduit leading to the cylinder, an air-supplying device connected with the carbureter, and a controlling-valve in the cylinder-conduit operated by the air-supplying device.

12. A gas apparatus having in combination a carbureter, a conduit leading thereto, a gasolene-reservoir, a measuring-bucket arranged to travel between the reservoir and conduit, a cylinder, a piston therein, a shaft arranged over the cylinder and reservoir, connections between the shaft and piston and between the shaft and bucket for communicating motion to the bucket from the piston and in the opposite direction, a conduit leading to the cylinder, an air-supplying device connected with the carbureter, and a controlling-valve in the cylinder-conduit operated by the air-supplying device.

841,780. MECHANISM FOR STARTING HYDROCARBON-ENGINES. JOHN O. HOBBS, Chicago, Ill. Filed Feb. 13, 1904. Serial No. 193,464.



Claim.—1. A gas-engine-starting device, comprising a starting-shaft, an auxiliary cylinder, a piston therein, a piston-rod connected to the piston and to the starting-shaft, means for admitting compressed fluid to the cylinder, and means operated by the movement of the piston-rod to regulate the amount of fluid delivered to the cylinder.

2. A gas-engine-starting device, comprising a starting-shaft, an auxiliary cylinder, a piston therein, a piston-rod connected to the piston and to the starting-shaft, means for admitting compressed fluid to the cylinder, means operated by the movement of the piston-rod to regulate the amount of fluid delivered to the cylinder, and means also controlled by the movement of the piston-rod to open the cylinder to the atmosphere.

3. A gas-engine-starting device, comprising a cylinder, a piston therein, a piston-rod connected to the piston, hand-operated means for admitting motive fluid to the cylinder, and means automatically operated by the movement of the piston-rod to regulate the amount of motive fluid delivered to the cylinder.

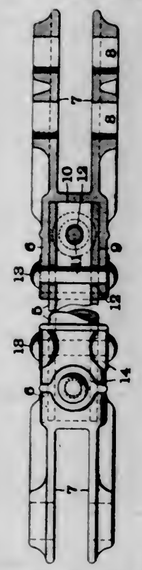
4. A gas-engine-starting device, comprising a cylinder, a piston therein, a piston-rod connected to the piston, an in-

let at one end of the cylinder connected to a compressed-fluid supply and having an opening to the atmosphere, a three-way valve controlling the inlet and the opening, a lever suitably connected to the valve to operate the valve, and projections on the piston-rod engaging the lever during the movement of the rod to operate the valve at predetermined times.

5. A gas-engine-starting device, comprising a starting-shaft, an auxiliary cylinder, means for admitting compressed fluid to the cylinder, a piston mounted in the cylinder, a piston-rod connected with the piston and provided with rack-teeth, a pinion connected with the starting-shaft and having teeth in engagement with the rack-teeth upon the piston-rod, means for opening the inlet-passage to the auxiliary cylinder, automatically-operated means to control the amount of fluid admitted to the cylinder to move the piston in one direction, and means for moving the piston in the opposite direction.

6. A gas-engine-starting device, comprising a starting-shaft, an auxiliary cylinder provided with an inlet-passage, a source of compressed-fluid supply, a piston mounted in the cylinder, means for connecting the piston with the starting-shaft, means for opening the inlet-passage to admit compressed fluid to the cylinder, automatically-operated means for regulating the amount of fluid delivered to the piston to move the piston in one direction, automatically-operated means for opening the cylinder to the atmosphere, and means for moving the piston in the opposite direction, substantially as described.

841,781. BRAKE-ROD. LOUIS A. HOERR, St. Louis, Mo. Filed June 16, 1906. Serial No. 322,005.

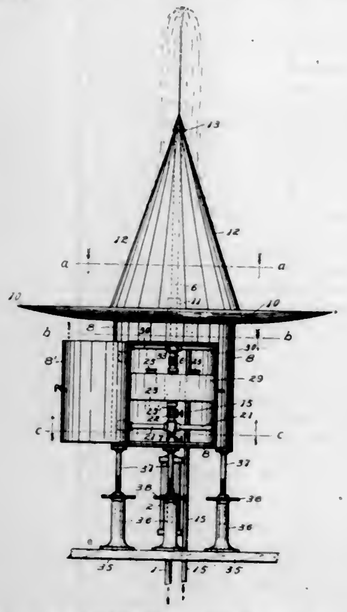


Claim.—1. The combination with a tubular brake-rod, of a jaw having a socket to receive said rod and bear against the end thereof, and fastening means for securing said jaw and rod together, said fastening means allowing relative movement between the rod and jaw.

2. The combination with a tubular brake-rod, of a jaw having a socket to receive said rod and bear against the end thereof, and a pin passing through jaw and through elongated openings in said rod.

3. The combination with a tubular brake-rod, of a jaw for each end of said rod, each of said jaws having a socket to receive said rod and bear against the end thereof, and pins passing through said jaws and through elongated openings in said rod.

841,782. APPARATUS FOR THE TREATMENT OF LUNG AND THROAT DISEASES. CHARLES S. JAMES, Los Angeles, Cal. Filed June 25, 1906. Serial No. 323,406.



Claim.—1. An apparatus for treating lung, throat and other diseases, comprising compartments for holding medicinal material, pipes for conveying fluids to said compartments said pipes having valves or stop-cocks therein, pipes for conveying said medicated fluid from said compartments, means for spraying the said medicated fluid into living and sleeping apartments of persons affected with said diseases.

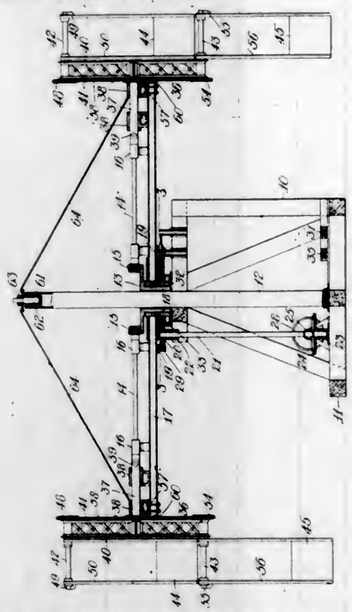
2. An apparatus for the treatment of diseases of the respiratory organs, comprising one or more compartments provided with individually-controlled inlet-pipes for conveying water to said compartments, individually-controlled outlet-pipes for conveying the water having soluble medicated constituents therein from said compartments, means for spraying the said medicated water into living and sleeping rooms of persons affected with said diseases and means for conveying the waste water from said rooms.

3. An apparatus for the treatment of diseases comprising one or more compartments adapted to hold medicinal preparations soluble in water, pipes individually controlled whereby the medicinal preparations contained in one or more of said compartments may be used at the same time, pipes having individually-controlled valves or stop-cocks therein, and means for spraying the soluble medicated water into living and sleeping apartments of persons affected with pulmonary diseases and means for having the waste medicated water conveyed from said apartments into the sewer-pipes.

4. An apparatus comprising compartments adapted to temporarily retain medicinal preparations, inlet-pipes for conveying water to said compartments, outlet-pipes for conveying medicated water from said compartments, a spray-pipe for distributing the said medicated solution into living and sleeping apartments of persons affected with pulmonary and other diseases, a cone for collecting the waste medicated water after having been sprayed into said apartments and means for conducting the said waste water from said apartments.

5. An apparatus containing one or more compartments for temporarily holding medicinal preparations, a charcoal-filter having screen-filters in the ends thereof and provided with inlet and outlet pipes, compartments having inlet and outlet pipes provided with valves or stop-cocks, a spray-pipe having a spray-cap secured to the end thereof, means for collecting and conveying the waste and used medicated solution from the living and sleeping apartments of persons affected with pulmonary and other diseases.

841,783. AMUSEMENT APPARATUS. LOUIS A. JONES, Cambridge, Mass., assignor to American Novel Machine Company, a Corporation of Massachusetts. Filed Feb. 10, 1906. Serial No. 300,366.



Claim.—1. In an amusement apparatus a vertical shaft, a plurality of radial shafts arranged with their axes in a substantially horizontal plane, mechanism for rotating said radial shafts in unison, a rotary frame on which said radial shafts are journaled to rotate, a motor, mechanism operatively connecting said motor and said frame, a plurality of crank-arms provided with crank-pins, said crank-arms journaled on said frame and operatively connected to said horizontal shafts respectively, a plurality of cars suspended from said crank-pins respectively, and means for holding each of said cars with its lateral median line in a substantially vertical plane.

2. In an amusement apparatus, a vertical shaft, a plurality of radial shafts arranged with their axes in a substantially horizontal plane, a rotary frame on which said radial shafts are journaled to rotate, a plurality of crank-arms provided with crank-pins, said crank-arms journaled to rotate on said frame and operatively connected to said radial shafts, respectively, a plurality of cars suspended from said crank-pins, respectively, a motor operatively connected to said rotary frame, means for rotating said radial shafts, and means for holding each of said cars with its lateral median line in a substantially vertical plane.

3. In an amusement apparatus, a rotary frame arranged with its axis of rotation substantially vertical, a substantially horizontal shaft journaled to rotate on said frame, a second horizontal shaft of relatively larger diameter arranged with its axis substantially coincident with the axis of said first-named horizontal shaft, a coupling connecting said first-named and said second-named horizontal shafts together, a crank-arm fast to said second-named shaft, a plurality of crank-pins fast to said crank-arm, and a plurality of cars suspended from said crank-pins, respectively.

4. In an amusement apparatus, a stationary vertical shaft, a plurality of radial shafts arranged with their axes in a substantially horizontal plane, a rotary frame on which said radial shafts are journaled to rotate, a plurality of bevel-pinions fast to said radial shafts, respectively, a bevel-gear meshing into said bevel-pinions, said gear journaled to rotate on said vertical shaft, a plurality of crank-arms provided with crank-pins, said crank-arms journaled to rotate on said frame and operatively connected to said radial shafts, respectively, a plurality of cars suspended from said crank-pins, and means for holding each of said cars with its lateral median line in a substantially vertical plane.

5. In an amusement apparatus a rotary frame arranged with its axis of rotation substantially vertical, a substantially horizontal shaft journaled to rotate on said frame, a motor, mechanism for rotating said frame and shaft about their respective axes, said mechanism operatively connected to said motor, a crank-arm journaled on said frame operatively connected to said horizontal shaft, a plurality of crank-pins fast to said crank-arm, a plurality of cars suspended from said crank-pins, respectively, and means for preventing oscillatory movement of said cars on said crank-pins.

6. In an amusement apparatus, a stationary vertical shaft, a bevel-gear journaled to rotate on said shaft, a plurality of radial shafts arranged with their axes in a substantially horizontal plane, a plurality of bevel-pinions fast to said radial shafts, respectively, said pinions meshing into said gear, a brake-drum fast to said bevel-gear, a brake-band surrounding said brake-drum, mechanism for operating said brake-band, a frame on which said radial shafts are journaled to rotate, a motor, mechanism operatively connecting said motor and said frame, a plurality of crank-arms provided with crank-pins, said crank-arms journaled on said frame and operatively connected to said radial shafts, respectively, and a plurality of cars suspended from said crank-pins, respectively.

7. In an amusement apparatus, a stationary vertical shaft, a bevel-gear journaled to rotate on said shaft, means for holding said gear stationary, a frame journaled to rotate on the hub of said bevel-gear, a motor operatively connected to said frame, a plurality of horizontal shafts journaled on said frame radial to said vertical shaft, a plurality of crank-arms provided with crank-pins, said crank-arms journaled to rotate on said frame and operatively connected to said radial shafts, respectively, a plurality of cars suspended from said crank-pins, respectively, and a plurality of bevel-pinions fast to said horizontal shafts, respectively, said bevel-pinions meshing into said bevel-gear.

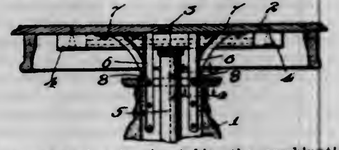
8. In an amusement apparatus, a vertical shaft, a plurality of cars, mechanism for moving said cars in an undulatory path about said vertical shaft, said path concentric with said shaft, and means for holding each of said cars with its lateral median line in a substantially vertical plane.

9. In an amusement apparatus a rotary frame arranged with its axis of rotation substantially vertical, a substantially horizontal shaft journaled to rotate on said frame, a motor, mechanism for rotating said frame and shaft about their respective axes, said mechanism operatively connected to said motor, a crank-arm journaled on said frame operatively connected to said horizontal shaft, a plurality of crank-pins fast to said crank-arm, a plurality of cars suspended from said crank-pins, respectively, a sprocket-wheel fast to said frame, a plurality of sprocket-wheels fast to said cars, respectively, and a chain operatively connecting all of said sprocket-wheels together.

841,784. EXTENSION-TABLE. WILLIAM M. JOST, Chicago, Ill. Filed Sept. 23, 1905. Serial No. 279,845.

Claim.—1. In a pedestal extension-table, the combination with the separable members of the table-top and the separable pedestal members pertaining thereto, respectively; of brackets having vertical portions which extend down within said pedestal-sections and are secured to the interior thereof, and also having horizontal portions which extend along and are secured to the under surfaces of the respective top sections, and means on said brackets and

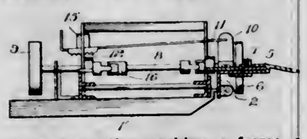
engaging said pedestal-sections for spacing the top sections above the top of the pedestal-sections.



2. In a pedestal extension-table, the combination with the separable members of the table-top and the separable pedestal members pertaining thereto, respectively; of brackets having vertical portions which extend down within said pedestal-sections and are secured to the interior thereof, and also having horizontal portions which extend along and are secured to the under surfaces of the respective top sections, and projections 8 projecting laterally from the vertical portions of said brackets for engaging said pedestal-sections for spacing the top sections above the top of the pedestal-sections.

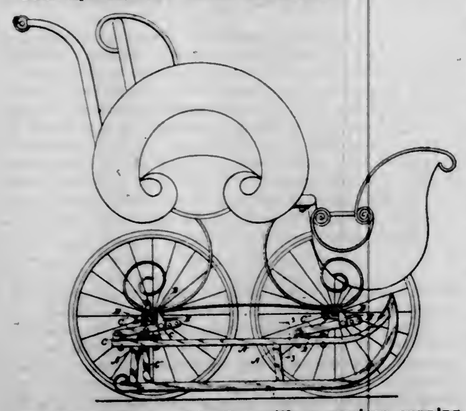
3. A bracket for extension-tables, consisting of horizontal and vertical arms 7 and 6, connected together whereof the vertical arm 6 is provided with a projection 8 located below the arm 7 and adapted to engage the top of a table-pedestal.

841,785. HARVESTER. GEORGE A. KAHL, Plainsberg, Cal. Filed May 1, 1906. Serial No. 314,725.



Claim.—In a harvesting-machine, a frame, a finger-bar L-shaped in section hingedly connected therewith and having an upstanding arm, a shaft supported in bearings upon the frame and the finger-bar and including a plurality of universal joints, means for driving said shaft, a reciprocatory cutter-bar supported upon the finger-bar, a crank-wheel upon the shaft, a pitman connecting the crank-wheel with the cutter-bar, a toothed bar connected pivotally with the upstanding arm of the finger-bar and having a weight near the free end thereof, and a slotted member upon the main frame guiding the weighted end of the toothed bar and engaged by the teeth of the latter.

841,786. SLEIGH ATTACHMENT FOR CHILDREN'S CARRIAGES. WILLIAM E. KIDDER, Kalamazoo, Mich. Filed Apr. 22, 1905. Serial No. 256,897.



Claim.—1. The combination with a carriage running-gear having front and rear axles, of a skeleton sleigh comprising runners, knees, benches, and side rails, the said side rails having longitudinal slots therein toward their forward ends; plates having projecting ears thereon, secured toward the rear ends of said rails; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said rails by bolts arranged through the said slots therein; inwardly-inclined links pivotally secured to said plates, the said links having a plurality of holes in their upper ends; axle-clips comprising pivotally-connected members, said members coacting to engage the said axles and having projecting body portions to which said links are pivoted; forwardly and downwardly projecting arms or braces pivoted to the said rear links, arranged through suitable slots in said rear plates; catches adapted to engage said braces when said sleigh is in its operative position, pivoted on said rear plates; suitable springs for said catches; and a spring for elevating the said sleigh connected thereto and to the said running-gear, all coacting for the purpose specified.

2. The combination with a carriage running-gear having front and rear axles, of a skeleton sleigh comprising runners, knees, benches, and side rails, the said side rails having longitudinal slots therein toward their forward ends; plates having projecting ears thereon, secured toward the rear ends of said rails; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said rails by bolts arranged through the said slots therein; inwardly-inclined links pivotally secured to said plates, the said links having a plurality of holes in their upper ends; axle-clips comprising pivotally-connected members, said members coacting to engage the said axles and having projecting body portions to which said links are pivoted; forwardly and downwardly projecting arms or braces pivoted to the said rear links, arranged through suitable slots in said rear plates; catches adapted to engage said braces when said sleigh is in its operative position, pivoted on said rear plates; and a spring for elevating the said sleigh connected thereto and to the said running-gear, all coacting as specified.

3. The combination with a carriage running-gear having front and rear axles, of a skeleton sleigh comprising runners, knees, benches, and side rails, the said side rails having longitudinal slots therein toward their forward ends; plates having projecting ears thereon, secured toward the rear ends of said rails; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said side rails by bolts arranged through the said slots therein; links pivotally secured to said plates; axle-clips comprising pivotally-connected members, said members coacting to engage the said axles, and having projecting body portions to which said links are pivoted; forwardly and downwardly projecting arms or braces pivoted to the said rear links, arranged through suitable slots in said rear plates; catches adapted to engage said braces when said sleigh is in its operative position, pivoted on said rear plates; and a spring for elevating the said sleigh connected thereto and to the said running-gear, all coacting for the purposes specified.

4. The combination with a carriage running-gear having front and rear axles, of a skeleton sleigh comprising runners, knees, benches, and side rails, the said side rails having longitudinal slots therein toward their forward ends; plates having projecting ears thereon, secured toward the rear ends of said rails; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said rails by bolts arranged through the said slots therein; inwardly-inclined links pivotally secured to said plates, the said links having a plurality of holes in their upper ends; axle-clips comprising pivotally-connected members, said members coacting to engage the said axles, and having projecting body portions to which said links are pivoted; forwardly and downwardly projecting arms or braces pivoted to the said rear links, arranged through suitable slots in said rear plates; catches adapted to engage said braces when said sleigh is in its operative position, pivoted on said rear plates, all coacting for the purpose specified.

5. The combination with a carriage running-gear having front and rear axles, of a skeleton sleigh comprising runners, knees, benches, and side rails, the said side rails having longitudinal slots therein toward their forward ends; plates having projecting arms thereon, secured toward the rear ends of said rails; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said rails by bolts arranged through the said slots therein; links pivotally secured to said plates; axle-clips comprising pivotally-connected members, said members coacting to engage the said axles, and having projecting body portions to which said links are pivoted; forwardly and downwardly projecting arms or braces pivoted to the said rear links, arranged through suitable slots in said rear plates; catches adapted to engage said braces when said sleigh is in its operative position, pivoted on said rear plates, all coacting for the purpose specified.

6. The combination with a carriage running-gear having front and rear axles, of a skeleton sleigh comprising runners, knees, benches, and side rails, the said side rails having longitudinal slots therein toward their forward ends; plates having projecting ears thereon, secured toward the rear ends of said rails; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said rails by bolts arranged through the said slots therein; inwardly-inclined links pivotally secured to said plates, the said links having a plurality of holes in their upper ends; axle-clips comprising pivotally-connected members, said members coacting to engage the said axles, and having projecting body portions to which said links are pivoted; means for locking said sleigh in its operative position; and a spring for elevating the said sleigh connected thereto and to the said running-gear, all coacting for the purpose specified.

7. The combination with a carriage running-gear having front and rear axles, of a skeleton sleigh comprising runners, knees benches, and side rails, the said side rails having longitudinal slots therein toward their forward ends; plates having projecting ears thereon, secured toward the rear ends of said rails; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said rails by bolts arranged through the said slots therein; links pivotally secured to said plates; axle-clips comprising pivotally-connected members, said members coacting to engage the said axles and having projecting body portions to which said links are pivoted; means for locking said sleigh in its operative position; and a spring for elevating the said sleigh connected thereto and to the said running-gear, all coacting for the purpose specified.

8. The combination with a carriage running-gear having front and rear axles, of a skeleton sleigh comprising runners, knees, benches, and side rails, the said side rails having longitudinal slots therein toward their forward ends; plates having projecting ears thereon, secured toward the rear ends of said rails; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said rails by bolts arranged through the said slots therein; inwardly-inclined links pivotally secured to said plates, the said links having a plurality of holes in their upper ends; axle-clips comprising pivotally-connected members, said members coacting to engage the said axles, and having projecting body portions to which said links are pivoted; means for locking said sleigh in its operative position, all coacting for the purpose specified.

9. The combination with a carriage running-gear having front and rear axles, of a skeleton sleigh comprising runners, knees, benches, and side rails, the said side rails having longitudinal slots therein toward their forward ends; plates having projecting ears thereon, secured toward the rear ends of said rails; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said rails by bolts arranged through the said slots therein; links pivotally secured to said plates; axle-clips comprising pivotally-connected members, said members coacting to engage the said axles, and having projecting body portions to which said links are pivoted; means for locking said sleigh in its operative position, all coacting for the purpose specified.

10. The combination with a carriage running-gear having front and rear axles, of a sleigh having longitudinal slots therein toward its forward end; plates having projecting ears thereon, secured toward the rear end of said sleigh; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said sleigh by bolts arranged through the said slots therein; inwardly-inclined links pivotally secured to said plates, the said links having a plurality of holes in their upper ends; and axle-clips comprising pivotally-connected members, said members coacting to engage the said axles, and having projecting body portions to which said links are pivoted, for the purpose specified.

11. The combination with a carriage running-gear having front and rear axles, of a sleigh having longitudinal slots therein toward its forward end; plates having projecting ears thereon, secured toward the rear end of said sleigh; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said sleigh by bolts arranged through the said slots therein; links pivotally secured to said plates, the said links having a plurality of holes in their upper ends; and axle-clips comprising pivotally-connected members, said members coacting to engage the said axles, and having projecting body portions to which said links are pivoted, for the purpose specified.

12. The combination with a carriage running-gear having front and rear axles, of a sleigh having longitudinal slots therein toward its forward end; plates having projecting ears thereon, secured toward the rear end of said sleigh; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said sleigh by bolts arranged through the said slots therein; inwardly-inclined links pivotally secured to said plates; and axle-clips comprising pivotally-connected members, said members coacting to engage the said axles, and having projecting body portions to which said links are pivoted, for the purpose specified.

13. The combination with a carriage running-gear having front and rear axles, of a sleigh having longitudinal slots therein toward its forward end; plates having projecting ears thereon, secured toward the rear end of said sleigh; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said sleigh by bolts arranged through the said slots therein; links pivotally secured to said plates; and axle-clips comprising pivotally-connected members, said members coacting to engage the said axles, and having projecting body portions to which said links are pivoted, for the purpose specified.

14. The combination with a carriage running-gear having front and rear axles, of a sleigh having longitudinal slots therein toward its forward end; plates having projecting ears thereon, secured toward the rear end of said sleigh; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said sleigh by bolts arranged through the said slots therein; inwardly-inclined links pivotally secured to said plates, the said links having a plurality of holes in their upper ends; and axle-clips to which said links are pivoted, for the purpose specified.

15. The combination with a carriage running-gear having front and rear axles, of a sleigh having longitudinal slots therein toward its forward end; plates having projecting ears thereon, secured toward the rear end of said sleigh; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said sleigh by bolts arranged through the said slots therein; links pivotally secured to said plates, the said links having a plurality of holes in their upper ends; and axle-clips to which said links are pivoted, for the purpose specified.

16. The combination with a carriage running-gear having front and rear axles, of a sleigh having longitudinal slots therein toward its forward end; plates having projecting ears thereon, secured toward the rear end of said

sleigh; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said sleigh by bolts arranged through the said slots therein; inwardly-inclined links pivotally secured to said plates; and axle-clips to which said links are pivoted, for the purpose specified.

17. The combination with a carriage running-gear having front and rear axles, of a sleigh having longitudinal slots therein toward its forward end; plates having projecting ears thereon, secured toward the rear end of said sleigh; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said sleigh by bolts arranged through the said slots therein; links pivotally secured to said plates; and axle-clips to which said links are pivoted, for the purpose specified.

18. The combination with a carriage running-gear having front and rear axles, of a sleigh having longitudinal slots therein toward its forward end; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said sleigh by bolts arranged through the said slots therein; links pivotally secured to said plates, the said links having a plurality of holes in their upper ends; and axle-clips comprising pivotally-connected members, said members coacting to engage the said axles, and having projecting body portions to which said links are pivoted, for the purpose specified.

19. The combination with a carriage running-gear having front and rear axles of a sleigh having longitudinal slots therein toward its forward end; plates having laterally-projecting arms thereon, which arms are provided with laterally-projecting ears, adjustably secured to the said sleigh by bolts arranged through the said slots therein; links pivotally secured to said plates; and axle-clips comprising pivotally-connected members, said members coacting to engage the said axles, and having projecting body portions to which said links are pivoted, for the purpose specified.

20. The combination with a carriage running-gear having front and rear axles, of a sleigh; links pivotally secured to said sleigh; and axle-clips comprising pivotally-connected members, said members coacting to engage the said axles, and having projecting body portions to which said links are pivotally secured, for the purpose specified.

21. The combination with a carriage running-gear having front and rear axles, of a sleigh; links pivotally connected to said sleigh; axle-clips comprising pivotally-connected members, said members coacting to engage the said axles and having projecting body portions to which said links are pivoted; forwardly and downwardly projecting arms or braces pivoted to the rear links; inwardly-projecting lever-like catches adapted to engage said braces when said sleigh is in its operative position; and a spring for elevating the said sleigh, connected thereto and to the said running-gear, for the purpose specified.

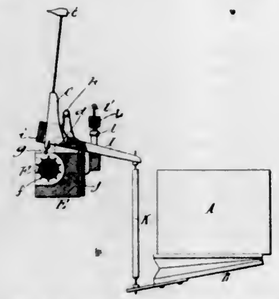
22. The combination with a carriage running-gear having front and rear axles, of a sleigh; links pivotally connected to said sleigh; axle-clips comprising pivotally-connected members, said members coacting to engage the said axles and having projecting body portions to which said links are pivoted; forwardly and downwardly projecting arms or braces pivoted to the rear links; inwardly-projecting lever-like catches adapted to engage said braces when said sleigh is in its operative position, for the purpose specified.

23. The combination with a carriage running-gear having front and rear axles, of a sleigh; links pivotally connected to said sleigh and to said axles; forwardly and downwardly projecting arms or braces pivoted to the rear links; catches adapted to engage said braces when said sleigh is in its operative position; and a spring for elevating the said sleigh, connected thereto and to the said running-gear, for the purpose specified.

24. The combination with a carriage running-gear having front and rear axles, of a sleigh; links pivotally connected to said sleigh and to said axles; forwardly and downwardly projecting arms or braces pivoted to the rear links; catches adapted to engage said braces when said sleigh is in its operative position, for the purpose specified.

25. The combination of a carriage; an operating-handle therefor arranged at the rear; a sleigh arranged beneath said carriage; links pivotally connecting said sleigh to said carriage whereby said sleigh may be swung upwardly and rearwardly out of operative position; a spring arranged to hold said sleigh normally upward; and an automatic catch for locking said sleigh in its operative position, having a foot-lever arranged to be engaged by the foot of the operator whereby the operator may release said catch and retain his hold upon the handle to ease the carriage onto its wheels, said sleigh being arranged so that the operator may press downwardly thereon with his foot and at the same time lift upwardly on the carriage-handle to draw said sleigh into its operative position, substantially as described.

841,787. AUTOMATIC PIANO. EUGENE DE KLEIST, North Tonawanda, N. Y. Filed Nov. 16, 1905. Serial No. 287,636.



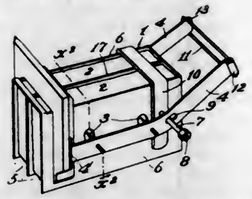
Claim.—1. In a musical instrument of the character described, the combination of a vibrating device, a hammer-lever pivoted adjacent to said device and having a projection adapted to be engaged thereby for swinging said lever in one direction, a controlling-lever movable toward and from said vibrating device and having a part which engages the hammer-lever for withdrawing said projection out of engagement with the vibrating device, a spring acting to swing the hammer-lever in the opposite direction and arranged on the upper side of the controlling-lever, means for normally withdrawing the controlling-lever from the vibrating device, and means for moving the last-named lever toward said device, substantially as set forth.

2. In a musical instrument of the character described, the combination of a vibrating device, a hammer-lever arranged above said device and provided with a projection adapted to be engaged thereby for swinging said lever in one direction, a vertically-swinging controlling-lever also arranged above said vibrating device and having a part arranged to bear against the rear side of the hammer-lever to cause the same to swing upward with the controlling-lever, a spring acting to swing the hammer-lever in the opposite direction and arranged on the upper side of the controlling-lever, means for normally withdrawing the controlling-lever from the vibrating device, and means for moving the last-named lever toward said device, substantially as set forth.

3. In a musical instrument of the character described, the combination of a vibrating device, a hammer-lever arranged above said device and provided with a projection adapted to be engaged thereby for swinging said lever in one direction, a vertically-swinging controlling-lever also arranged above said vibrating device and having a part arranged to bear against the rear side of the hammer-lever to cause the same to swing upward with the controlling-lever, a coil-spring arranged on the upper side of the controlling-lever and having its branches connected to the latter and the hammer-lever, means for normally withdrawing the controlling-lever from the vibrating device, and means for moving the last-named lever toward said device, substantially as set forth.

4. In a musical instrument of the character described, the combination of a vibrating device, a hammer-lever pivoted above said device and having a projection adapted to be engaged thereby for swinging said lever in one direction, a spring for swinging the hammer-lever in the opposite direction, a controlling-lever also arranged above said vibrating device and having a part which engages the hammer-lever and compels the same to move away from the vibrating device with the controlling-lever, a spring for normally withdrawing the controlling-lever from the vibrating device, and a motor-pneumatic connected with the controlling-lever to move the same toward the vibrating device, substantially as set forth.

841,788. MEANS FOR MAKING STONE-FACED BRICK. WILLIAM LAMMERSEN, Los Angeles, Cal. Filed Feb. 23, 1906. Serial No. 302,398.



Claim.—1. A frame adapted to receive a brick or like body, means mounted on the frame to engage said body and hold it in determined position therein; an edge of said frame being open to receive plastic material for application to said body, the sides of said frame being adapted to give form to the edges of the plastic material when applied to said body.

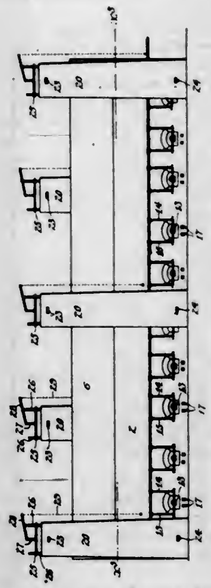
2. A frame open at an edge to receive one or more bricks, means connected with the frame to hold the bricks in determined position in the frame, means for spacing the bricks at a determined distance from the open edge thereof.

3. A frame provided with a longitudinal partition and with an opening at an edge and provided with openings in its sides, handles fastened to the frame and provided with adjustable points projecting through said openings, and means for fastening said handles together.

841,789. KILN. GUSTAV LARSON, Los Angeles, Cal., assignor to Los Angeles Pressed Brick Company, Los Angeles, Cal., a Corporation of California. Filed Feb. 21, 1906. Serial No. 302,178.

Claim.—1. A kiln comprising a top, floor, and walls, means for maintaining a plurality of heat-currents having opposite directions of movement under the floor, means for conducting currents of one direction vertically on one side and for conducting currents having the other direction vertically on the other side, means for causing all currents to descend through the floor, and means for conducting currents after passing through the floor, successively in opposite directions and parallel with the adjacent currents so that each outgoing current passes by the adjacent currents, all of the heat-currents under said floor being in contact therewith.

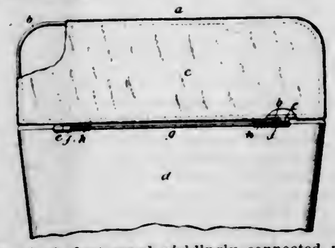
2. A kiln comprising a top, floor, and walls, chimneys on both sides, a plurality of sets of horizontal flues under the floor, vertical flues in the interior against the walls, the vertical flues on one side communicating with alternate sets of horizontal flues, means on the same side of the kiln for producing heat for the other horizontal flues, vertical flues on the other side communicating with the other horizontal flues, and means on the same side of the kiln for producing heat for the intermediate horizontal flues, other horizontal flues under the floor, chimneys on both sides, the chimneys on one side communicating with certain of the latter flues, the chimneys on the other side communicating with the other of the latter flues, the floor of the kiln having openings into said latter flues, all of the flues being parallel, said floor forming the upper wall of all the flues.



3. A kiln comprising a top, floor, and walls, chimneys on both sides, a plurality of sets of horizontal flues under the floor, vertical flues in the interior against the walls, the vertical flues on one side communicating with alternate sets of horizontal flues, means on the same side of the kiln for producing heat for the other horizontal flues, vertical flues on the other side communicating with the other horizontal flues, means on the same side of the kiln for producing heat for the intermediate horizontal flues, other horizontal flues under the floor, chimneys on both sides, the chimneys on one side communicating with certain of the latter flues, the chimneys on the other side communicating with the other of the latter flues, the floor of the kiln having openings into said latter flues, and draft-regulating means on each chimney comprising a horizontal damper-plate vertically adjustable above the top of each chimney.

4. A kiln comprising a top, floor, and walls, the side walls having fireplaces, horizontal flues under the floor communicating with the fireplaces, injector-burners at the fireplaces, vertical flues inside the kiln communicating with the horizontal flues, other flues under the floor for carrying off the heat-current, the floor having openings into the latter flues, and chimneys communicating with the latter flues.

841,790. DUST-GUARD FOR AUTOMOBILES. NICOLAUS LEIDGEN, Milwaukee, Wis. Filed Jan. 22, 1906. Serial No. 297,165.



Claim.—1. A dust-guard yieldingly connected with the back of a vehicle and comprising means adapted to nor-

mally hold it in an upright position and when relieved of wind-pressure to automatically return it to that position, substantially as described.

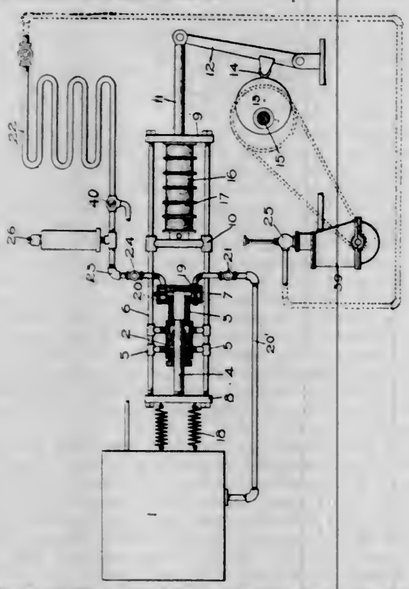
2. A dust-guard hinged to the back of a vehicle and having a yielding connection therewith tending to hold it in an upright position and permitting it to be automatically swung backward more or less toward a horizontal position by wind-pressure, substantially as described.

3. A dust-guard hinged to the back of a vehicle and a spring tending to hold it in an upright position, substantially as described.

4. A yielding dust-guard hinged at its lower edge to the upper part of the back of a vehicle and a spring tending to hold the guard in an upright position, substantially as described.

5. In combination with a vehicle, a dust-guard connected by hinges at its lower edge to the upper part of the vehicle-back, the members of the hinges being connected by a pivot-rod, and springs coiled around said rod and engaged at one end with fixed parts and at the other with said guard which is yieldingly and normally held thereby in an upright position, substantially as described.

841,791. ACCUMULATOR FOR FLASH-BOILERS. HERMANN LEMP, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed July 27, 1901. Serial No. 69,902.



Claim.—1. In combination, a flash-boiler, a pump for continually forcing water into the boiler when steam is being withdrawn therefrom, an accumulator for supplying the boiler which is located between the same and the pump to receive water from either under certain conditions as to pressure, said accumulator containing a permanent weight of gas compressed to a normal predetermined pressure before the accumulator is placed in service, and means for decreasing the effective delivery of the pump when the pressure on the boiler and accumulator increases and for increasing said delivery when the water-pressure decreases.

2. In combination, a flash-boiler, an accumulator containing a permanent weight of gas compressed to a predetermined normal pressure before the accumulator is placed in service, means confining said gas under pressure, a pump which continually supplies water to the boiler when the system is in operation, means for varying the effective delivery of the pump in inverse ratio with the boiler-pressure, and a connection permitting an unobstructed flow of water from the boiler to the accumulator.

3. In combination, a flash-boiler, a water-pump which continually forces water directly to the boiler when steam is being withdrawn, an accumulator which is in free communication with the pump and boiler and is adapted to receive water from either, the said accumulator containing a confined body of gas compressed to a normal predetermined pressure, means for varying the effective delivery of the pump inversely with the boiler-pressure, and a movable element in said accumulator separating said body of gas from the water.

4. In combination, a flash-boiler, a pump which delivers water to the boiler at all times when steam is being withdrawn therefrom, means for decreasing the effective delivery of the pump when the pressure in the boiler increases, and vice versa, an accumulator provided with means whereby it can be supplied with a body of gas under permanent pressure, connections between the accumulator and the pump and the boiler whereby the accumulator will receive water from the boiler when the steam-pressure exceeds a predetermined amount and will deliver water when the pressure falls again, and means for confining said gas under pressure and also separating it from the water.

5. In combination, a receptacle, an accumulator in constant open communication therewith whereby fluid may flow from one to the other in accordance with relative changes in pressure, and means for supplying fluid directly to the receptacle.

6. In combination, a receptacle, an accumulator therefor, a constantly-open connection between them which permits fluid to flow from one to the other as the pressure vary, and means for discharging fluid to the connection between the receptacle and accumulator.

7. In combination, a receptacle, an accumulator therefor maintained under elastic-fluid pressure, a constantly-open connection between them which permits fluid to flow from the receptacle to the accumulator when the pressure in the former tends to exceed that of the latter, and to return when the pressure in the receptacle falls, and means for supplying fluid directly to the receptacle.

8. The combination of a flash-boiler, an accumulator therefor maintained under a permanent initial pressure, and a connection between them whereby the pressure in the accumulator varies substantially in correspondence with that of the boiler due to fluid being relieved to the former or returned therefrom to the latter.

9. The combination of a flash-boiler, an accumulator therefor maintained permanently under an initial pressure, a connection which permits fluid to pass freely between them due to relative difference of pressure, and a pump for supplying fluid directly to the boiler under normal conditions, and in conjunction with the accumulator when the pressure is below normal.

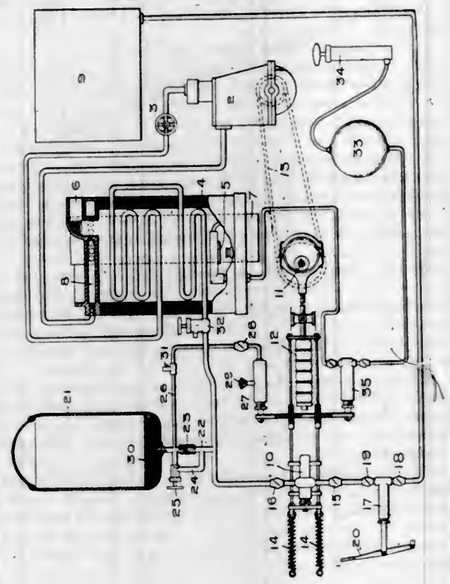
10. The combination of a flash-boiler, an accumulator therefor maintained under a permanent initial pressure, a source of water-supply, a connection leading from the source to the boiler and to the accumulator, which permits water to pass in either direction between the accumulator and boiler, and a variable-stroke pump delivering water to said connection at a point between the accumulator and boiler.

11. The combination of a source of water-supply, a flash-boiler, a supply-pipe between them, a variable-stroke pump connected with said pipe and adapted to deliver water directly to the boiler, an accumulator, and a branch supply-pipe extending from said pipe at a point between the boiler and the pump whereby water may enter the accumulator either from the pump or boiler when the pressure therein is below a certain point or flow therefrom to the boiler when the boiler-pressure is below that of the accumulator.

841,792. FLASH-BOILER. HERMANN LEMP, Lynn, Mass., assignor, by mesne assignments, to General Electric Company, a Corporation of New York. Filed Oct. 2, 1902. Serial No. 125,670.

Claim.—1. In combination, a receptacle adapted to receive a fluid, an accumulator therefor potentially energized by the pressure of the fluid in the receptacle and means for maintaining the accumulator in the energized state.

2. In combination, a receptacle adapted to receive a fluid under pressure, a source of fluid-supply therefor, and a controllable accumulator for delivering fluid to the receptacle under certain conditions, the same being potentially energized by the combined action of the fluid-pressure in the receptacle and the fluid-supply thereto.



3. In combination, a boiler, a pneumatic means controlling a supply of fluid thereto, means dependent upon the fluid-pressure in the boiler for potentially energizing the pneumatic means, and means controlling the supply of fluid to the boiler.

4. In combination, a boiler, a source of water-supply, an accumulator that is connected to the boiler, an automatic means for maintaining the accumulator under pressure, and a controllable means for subjecting the boiler to the accumulator-pressure when the pressure on the latter exceeds that of the former.

5. In combination, a fluid-receptacle, an accumulator connected therewith, a means between the receptacle and accumulator which admits fluid to the latter and retains it therein, and a controllable means which is adapted to coöperate with the first means for retaining fluid delivered to the accumulator and operates independently of said means for permitting fluid to be discharged from the accumulator to the receptacle under certain conditions.

6. In combination, a fluid-receptacle, an accumulator which is connected to the receptacle, a valve which permits fluid to enter the accumulator when the pressure on the receptacle rises above a certain point and to retain the fluid therein, and a controllable valve which coöperates with the first valve to retain the fluid in the accumulator or permits the fluid to return to the receptacle when the pressure of the latter is below that of the accumulator.

7. In combination, a source of liquid-supply, a flash-boiler, an accumulator which is connected to the boiler, a valve which permits fluid to enter the accumulator from the boiler but prevents it from returning, and a second valve which normally prevents fluid from passing in either direction and is adapted to control the passage of fluid from the accumulator to the boiler.

8. In combination, a flash-boiler, an accumulator, a connection from the boiler to the accumulator, a pump arranged to deliver water to the boiler and the accumulator, a pump for maintaining the accumulator under an initial air-pressure, a valve which permits water to be discharged from the boiler into the accumulator, and a manually-actuated valve for admitting water to the boiler from the accumulator when the pressure on the latter exceeds the former.

9. In combination, a flash-boiler, an accumulator which is connected to the boiler and is under pressure, an engine, a controlling-valve therefor, and a manually-actuated valve for regulating the discharge of water from the accumulator to the boiler when the engine-controlling valve has reduced the boiler-pressure to a point below that of the accumulator.

10. In combination, a flash-boiler, an elastic cushioning device connected therewith which stores up energy from the boiler under certain conditions and gives it back at others, and a controllable means for regulating the return of energy from said device to the boiler, substantially as described.

11. In combination, a flash-boiler, a source of fluid-supply, and an accumulator for the boiler adapted to receive fluid from the source of supply or the boiler and having controlled communication with the boiler for supplying fluid thereto whereby the boiler may be supplied independently from the source or from the accumulator.

12. In combination, a flash-boiler, separate sources of fluid-supply thereto, one being constantly under pneumatic pressure and the pressure thereof being varied by the pressure of the fluid in the boiler, and manually-controlled means whereby the fluid-supply under pressure may be delivered to the boiler.

13. In combination, a flash-boiler, separate sources of fluid-supply therefor, one being constantly under air-pressure and adapted to be supplied either singly or conjointly from the other source and the boiler, and means for controlling the delivery of fluid from the source thereof under pressure to the boiler.

14. In combination, a flash-boiler, separate sources of liquid-supply therefor, one of the sources being under air-pressure and rendered potentially operative by the fluid-pressure in the boiler, and means whereby the liquid under air-pressure may be supplied to the boiler either independently of or conjointly with the other source of supply.

15. In combination, a flash-boiler, an accumulator therefor, an air-supplying means tending to maintain a constant initial pressure of air therein, and a plurality of means which may act independently or conjointly to vary the pressure in the accumulator.

16. In combination, a flash-boiler, a source of liquid-supply therefor, a separate controllable source of liquid-supply connected with the boiler, and automatically-actuated means whereby the latter source becomes a relief and storage-reservoir for heated liquid and vapor from the boiler under certain conditions.

17. In combination, a flash-boiler, an automatic relief device for receiving fluid from the boiler, and a normally closed means adapted to be manually operated whereby the relieved fluid may return to the boiler when the pressure of the latter becomes lower than that of the relief device.

18. In combination, a flash-boiler, a pump for supplying liquid to the boiler under a high pressure, an automatic relief device for receiving fluid from the boiler through a wide range of pressure, and manually-controlled means for storing the relieved fluid and for returning the same to the boiler independent of the pump.

19. In combination, a flash-boiler, a source of liquid-supply therefor, an automatic relief device for receiving and storing up fluid under pressure from the boiler, and controllable means for returning the relieved fluid simultaneously with the liquid being supplied to the boiler to meet abnormal demand or for returning the same independently.

20. In combination, a boiler, an accumulator therefor consisting of a body of air which constitutes the potentially-active agent and a body of water which constitutes the accumulative medium, means for augmenting the energy of the potentially-active agent by the pressure of the boiler, means whereby the accumulative medium is automatically maintained under the augmented pressure of the potentially-active agent, and manually-actuated means for controlling the supply of the accumulative medium to the boiler.

21. In combination, a boiler, and an accumulator operatively connected therewith and adapted to receive fluid from the boiler under certain conditions and automatically to retain the same therein independently of change in the conditions of the boiler.

22. In combination, a boiler, an accumulator, a source of water-supply, means for delivering water separately to the boiler or accumulator or to both, and a means automatically varying the quantity of water delivered by said means according to the variations in the pressure of the boiler.

23. In combination, a boiler, a source of water-supply, a variable-stroke pump capable under certain conditions of supplying water directly to the boiler and varying its output according to the pressure in the boiler, and an accumulator for the boiler and operatively connected with the pump whereby the range of effective operation of the latter is augmented.

24. In combination, a boiler, a water-supply system therefor, a pump having an automatically-varying stroke according to the pressure in the system, and accumulator for the boiler whose pressure rises correspondingly with that of the boiler and falls independently thereof.

25. In a steam-generating system, the combination of a boiler, a burner, a source of water-supply, a source of fuel-supply, automatic means for delivering fuel and water respectively to the burner and boiler in definite proportionate quantities, a means controlled by the boiler-pressure whereby the deliveries may vary in definite relation to each other, and controllable means independent of the automatic means for varying the quantity of water delivered to the boiler.

26. In a steam-generating system, the combination of a boiler, a burner, a source of water-supply, a source of fuel-supply, an automatic means for delivering fuel and water respectively to the burner and boiler in definite proportionate quantities, means controlled by the boiler-pressure whereby the deliveries may vary in definite relation to each other, and controllable means for supplying water to the boiler independently of that delivered by the automatic means or simultaneously therewith under abnormal demands for water.

27. In a steam-generating system, the combination of a generator, an accumulator therefor, a burner, a source of water-supply, a source of fuel-supply, means for supplying water to the generator and accumulator, means for supplying fuel to the burner, and a means controlled by the variations in the pressure of the generator for varying the quantitative relation between the supplies of water and fuel.

28. In a steam-generating system, the combination of a generator, an accumulator therefor, a burner, a source of water-supply, a source of fuel-supply, means for supplying water to the generator and accumulator, means for supplying fuel to the burner, means controlled by the pressure in the generator for regulating proportionately the supplies of water and fuel, and manually-operated means for controlling the accumulator whereby the quantity of water supplied to the boiler may be varied respecting its proportionate relation to the fuel-supply.

29. In combination, a boiler, a main source of water-supply at atmospheric pressure, an auxiliary source of water-supply maintained under air-pressure, automatic means which tend to supply water from the main source to the boiler and to the auxiliary source at substantially constant pressure, and means for maintaining a supply of air on the auxiliary source.

30. In combination, a water-supply system, an accumulator therein, and a generator adapted to receive water independently from either, said accumulator being in controlled communication with the generator respecting the delivery of water to the latter and in open communication with the generator for receiving water therefrom.

31. In combination, a water-supply system, an accumulator therein, a generator, a single conduit connecting the generator with said system and accumulator, means whereby the accumulator may store up and retain fluid received from the generator during abnormally high pressure thereof, and manually-controlled means for returning the fluid to the generator.

32. In the water-supply system for steam-generators, the combination of the generator, an accumulator, a single conduit connecting the two and automatically controlled for permitting the passage of water solely from the former to the latter, and a manually-controlled means coöperating with said conduit whereby the accumulator may supply the generator.

33. In a water-supply system, the combination of a generator, a water-supply pipe therefor, an accumulator connected with the water-supply pipe, an automatic inlet-valve whereby the accumulator may receive water from the generator or supply pipe, and a controlled by-pass shunting the valve whereby the accumulator may supply the generator.

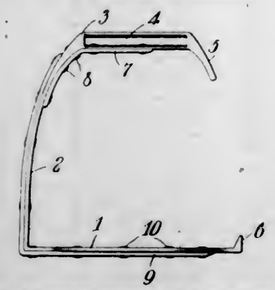
34. In a water-supply system, the combination of an accumulator adapted to receive water from separate sources through a single inlet, a valve for preventing the delivery of water from the accumulator, a by-pass shunting the valve, and a manually-actuated means controlling the by-pass.

35. In a combination, an accumulator, a T-pipe connection, a valve therein controlling the passage of liquid through the same solely in the direction to the accumulator, connection with a source of air-supply between the valve and the accumulator, a by-pass extending around the valve, and a manually-actuated valve in the by-pass.

36. As an article of manufacture, an accumulator comprising a hermetically-sealed tank, a single pipe connection therefor, an automatic inwardly-opening check-valve in the connection, a by-pass extending around the check-valve, and a hand-valve in the by-pass.

37. As an article of manufacture, an accumulator comprising a tank, a single pipe connection therefor, an inwardly-opening check-valve in the connection, a by-pass extending around the check-valve, a hand-valve in the by-pass, and a connection for a supply of air intermediate the check-valve and tank.

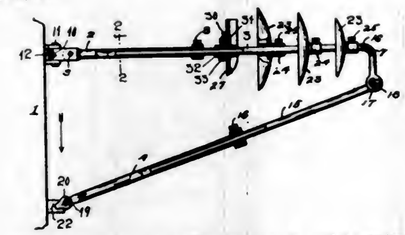
841,793. STIRRUP. JOHN V. LEVY, Galveston, Tex. Filed Sept. 11, 1906. Serial No. 334,188.



Claim.—1. A stirrup comprising a foot-plate, a retainer upstanding from one end thereof, a side strip upstanding from the other end thereof, a top bar extending from the side strip and overhanging the foot-plate, a downturned guard-finger extending from the top bar, a reinforce extending from the inner face of the top bar to the inner face of the adjoining portion of the side strip, and a reinforce extending from the outer face of the side strip and under the foot-plate.

2. A stirrup comprising a foot-plate, a retainer upstanding from one end thereof, a side strip upstanding from the other end thereof, a top bar extending from the side strip and overhanging the foot-plate, a downturned guard-finger extending from the top bar, a reinforce extending from the inner face of the top bar to the inner face of the adjoining portion of the side strip, and a reinforce extending from the outer face of the side strip and under the foot-plate, said last-mentioned reinforce being formed of spring metal adapted to exert a constant upward pressure upon the foot-plate.

841,794. WEED-CUTTING ATTACHMENT. CHARLES H. LINE, Vermillion, S. D. Filed Aug. 16, 1906. Serial No. 330,809.



Claim.—1. The combination with a car, of an extensible frame projecting from one side of said car, and a plurality of rotary cutting-disks adjustably mounted upon said frame.

2. The combination with a car, of arms connected together at their outer ends and to said car at their inner ends to swing vertically, and cutters adjustably mounted upon one of said arms.

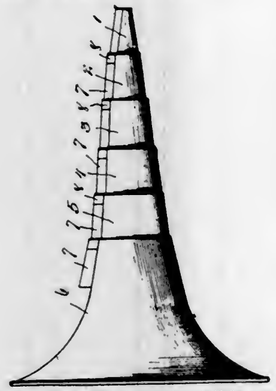
3. The combination with a car, of extensible arms loosely connected at their outer ends, couplings connecting the inner ends of said arms to said car, and a cutter upon one of said arms.

4. The combination with a car, of arms each consisting of telescoping sections, the outer sections being loosely connected, universal couplings connecting the inner sections to said car, and a cutter carried by the outer section of one of said arms.

5. An attachment of the character described comprising extensible arms loosely connected at their outer ends, couplings at their inner ends, and a cutter upon one of the arm-sections.

6. An attachment of the character described comprising extensible arms each consisting of telescoping sections, the outer sections being loosely connected, couplings carried by the inner sections of the arms and a cutter adjustably mounted upon the outer section of one of the arms.

841,795. DELIVERING-HORN FOR TALKING-MACHINES. WILLIS J. LITTS, Jaynesville, Wis. Filed Aug. 22, 1905. Serial No. 275,268.

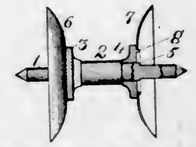


Claim.—1. A collapsible horn for talking-machines composed of a plurality of sections having interengaging dovetailed depressions whereby said sections are held in close engagement when the horn is collapsed.

2. A collapsible horn for talking-machines composed of a plurality of sections having interengaging dovetailed depressions forming tongue-and-groove connections for adjacent sections; said depressions being provided with terminal offsets forming stops.

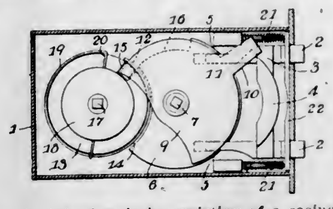
3. A collapsible horn for talking-machines composed of a plurality of sections having interengaging dovetailed depressions forming tongue-and-groove connections for adjacent sections; said depressions being provided with terminal offsets forming stops, said offsets being provided with depressions or indentations adapted to interlock and to secure the sections of the horn against extending when collapsed.

841,796. FISHING-REEL. THOMAS J. LLEWELLYN and JOSEPH E. PFLUEGER, Akron, Ohio, assignors to The Enterprise Manufacturing Company, Akron, Ohio, a Corporation of Ohio. Filed Oct. 25, 1906. Serial No. 340,536.



Claim.—A reel-drum comprising a side flange provided with an annular projecting ridge capable of being upset and a perforated disk fitting over said annular ridge arranged to be clamped against the side of said flange when said ridge is upset, whereby said disk is fixedly secured in position.

841,797. KEYLESS LOCK. ADAM LOCHNER, Jefferson City, Mo. Filed July 10, 1906. Serial No. 325,522.



Claim.—1. A keyless lock consisting of a casing, a bolt slidably located in the casing, a shaft extending transversely through the casing, an arm attached to said shaft and adapted to engage the bolt to hold the same in withdrawn position, a lug attached to the shaft, a plate having a recess adapted to receive said lug, and a rotatable member adapted to move over said lug to retain the same in said recess.

2. A keyless lock consisting of a casing, a bolt slidably located therein, a rotatable shaft carrying means for engaging and disengaging the bolt and having an attachment provided with a lug, a recessed plate located in the casing and adapted to receive said lug, a rotatable shaft passing through said plate, and carrying attachments which are adapted to pass over the said lug and retain the same in said recess.

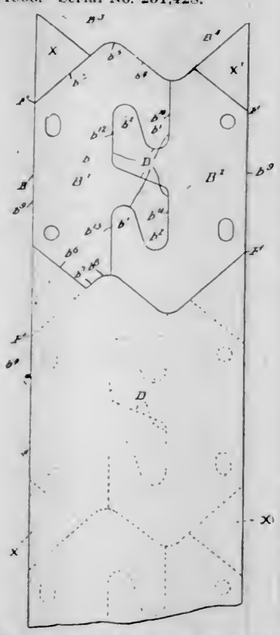
3. A keyless lock consisting of a casing, a bolt slidably located in said casing, a plate having a recess which serves as a guide for the bolt, said plate having a cut-away portion, a shaft rotatably located in the casing, said shaft having a means provided with a lug, and an extending arm, said arm being adapted to engage the bolt and hold the same in withdrawn position, said lug being adapted to move at the cut-away portion of said plate, a second plate located within the casing in proximity to the first said plate, said second plate having a recess located opposite the cut-away portion of the first said plate, a shaft passing through the second said plate, and means carried by said shaft for retaining the said lug in the recess of the second said plate.

4. A keyless lock consisting of a plurality of bolts, a casing receiving the same, springs actuating said bolts, a cross-bar attached to the bolts and having an intermediate arc portion, a rotatable shaft-carrying means adapted to engage the arc portion of said bar and hold the bolts in withdrawn position.

5. A keyless lock consisting of a casing, bolts slidably located therein, means connected with the bolts and main-

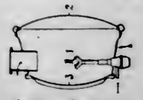
taining the same normally in extended position, a shaft journaled in the casing, a carrying means for withdrawing the bolts, said means having a lug, a plate having a recess adapted to receive said lug, a second shaft journaled in the casing, and a carrying means adapted to be moved over said lug and retain the same within the recess of said plate.

841,798. ART OF MANUFACTURING DOUBLE-HOOK SHEET-METAL BED-FASTENERS. JAMES E. MACMURRAY, Chicago, Ill., assignor to Acme Flexible Clasp Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 22, 1905. Serial No. 251,428.



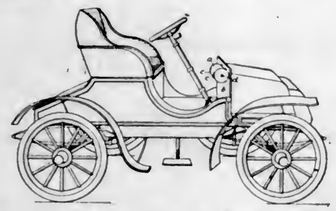
Claim.—The improved method of forming a series of multiple-hook bed-fasteners from plate metal, which consists in severing a strip or sheet of such metal which is greater in width than one but less than two fasteners into two equal parts by a continuous line having a general longitudinal direction, the said line being curved to form four interlocking hooks b^2, b', b' b^2, wholly within the interior of such blank, the hooks of the fastener at the right hand lying within and at the left of the hooks of the fastener at the left hand; and also severing the metal on transverse lines so arranged that the top end and the bottom end of one pair of fasteners, so longitudinally separated, are severed from the bottom end and from the top end respectively of the next pair of fasteners, substantially as set forth.

841,799. LAMP, &c. GEORGES MARIS, Paris, France, assignor to La Société Besnard, Maris & Antoine, Paris, France. Filed Apr. 10, 1905. Serial No. 254,733.



Claim.—A light-projector for automobiles and the like, distinguished by the combination of a hyperbolic reflector with a converging lens having a focus in common with the external focus of the reflector, the source of light being placed in the internal focus of the hyperbolic reflector between the reflector and the lens, for the purpose described.

841,800. ROAD-MAP EXHIBITOR. HENRY METCALFE, Cold Spring, N. Y. Filed Oct. 28, 1905. Serial No. 284,806.



Claim.—1. A map-exhibitor for automobiles comprising a transparent tube, heads in the end of the tube one of said heads being removable, means for securing the removable head, a map within the tube, a spring within the map, and hangers for supporting the exhibitor in the vehicle.

2. In combination with the front board of a vehicle, a map-exhibitor comprising a transparent tube with a fixed head in one end and a removable head in the other end, means for securing the removable head, a map within the tube, a spring within the map, and means for attaching the exhibitor to the said front board, said means admitting of the revolving of the exhibitor.

3. In combination with the front board of a vehicle, a map-exhibitor comprising a transparent tube with a fixed head in one end of the tube, a removable head in the other end, a rod through the head with a removable nut on one end, a spring within the tube, and means for attaching the exhibitor to the said front board, said means admitting of the revolving of the exhibitor.

841,801. WHEEL-RIM. THOMAS MIDGLEY, Hartford, Conn., assignor to The Hartford Rubber Works Company, a Corporation of Connecticut. Filed Apr. 29, 1905. Serial No. 258,128.



Claim.—1. A tubular wheel-rim of much greater width than thickness formed of a piece of sheet metal folded longitudinally upon itself to present separate thicknesses for the wheel-face and tire-face and having the edges of the material joined in a longitudinal lock-seam upon the wheel-face of the rim, the thicknesses of material forming the wheel-face and tire-face being spaced apart to present a chamber in the interior of the rim and the wheel-face of the rim being flattened so that the seam projects into the chamber within the rim.

2. A tubular wheel-rim having the ends joined by means of a solid filling-piece inclosed in the interior of the rim and extending into both ends thereof, the filling-piece being secured in position by means of rivets passing through the filling-piece and the material inclosing it, and the metal of the rim being forced into countersunk rivet-holes in the filling-piece.

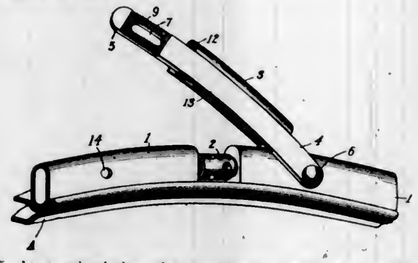
841,802. WHEEL-RIM. THOMAS MIDGLEY, Hartford, Conn., assignor to The Hartford Rubber Works Company, a Corporation of Connecticut. Filed July 1, 1905. Serial No. 267,998.

Claim.—1. In a wheel-rim, a removable side flange having a joint therein and a clip or cover for said joint secured to said side flange and provided with means for fastening it in position.

2. In a wheel-rim, a removable side flange having a joint, and a clip or cover for said joint pivotally mounted on the side flange.

3. In a wheel-rim, a removable side flange having a joint therein, and a clip or cover for said joint pivoted at one end upon the side flange and provided at the other end with means for positively fastening the clip in position.

4. In a wheel-rim, the combination with a side flange having a joint therein, of a clip or cover for the joint comprising an arched portion extending over the joint and oppositely-extending arms having openings for the reception of fastening devices.



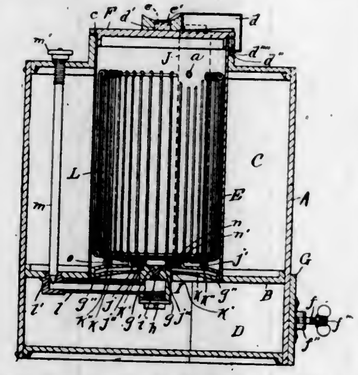
5. In a wheel-rim, the combination with a side flange having a joint therein, of contracting and expanding means disposed in said joint, and a clip or cover for said joint, said clip or cover being provided with means for positively securing it in position.

6. In a wheel-rim, a side flange transversely divided at one point, and a pivoted clip or cover positively attached to said side flange adjacent to one end and provided at the other end with means for fastening it to the other end of the side flange.

7. In a wheel-rim, a side flange having a joint therein, a clip or cover for said joint having a portion of its outer surface serrated, a locking-plate having a serrated face for engagement with the serrated portion of the surface of the clip or cover, and means for forcing the locking-plate into engagement with the clip or cover.

8. In a wheel-rim, a side flange having a joint therein, a clip or cover pivoted at one end to said side flange adjacent to the joint and having at the other end a longitudinal slotted arm, said arm being serrated on its outer surface, a locking-plate having a serrated face adapted to cooperate with the serrations on said arm, and a screw extending through said locking-plate and through the slot in said arm.

841,803. ACETYLENE-GAS APPARATUS. FRANK M. MOORE, Westfield, Mass. Filed July 1, 1905. Serial No. 267,879.



Claim.—1. The combination, in an acetylene-gas apparatus, of a casing, a partition B arranged therein dividing the interior into a water-reservoir and an ash-receptacle, a gas-chamber in said reservoir, such chamber opening above said casing, a cap E to close said chamber at the top, a stand-pipe in the reservoir, such stand-pipe having a gas-outlet, and a tube connecting said stand-pipe with the gas-chamber.

2. The combination, in an acetylene-gas apparatus, with a casing divided by a diaphragm into a water-reservoir and an ash-receptacle, of a gas-chamber and a stand-pipe in said reservoir, said chamber and said stand-pipe opening into said receptacle, the stand-pipe having a gas-outlet, a connection between said chamber and said stand-pipe, and a removable ash-pan in said receptacle.

3. A water-feed device, for an acetylene-gas apparatus, comprising a pipe constructed to be connected with a water-supply and provided with an enlargement at its delivery end, such enlargement opening at the top and having a valve-seat, a valve on said seat, and a flanged seat surrounding the valve-seat, a channel being formed around the top of the valve-seat and between it and said flanged seat.

4. A water-feed device, for an acetylene-gas apparatus, comprising a pipe constructed to be connected with a water-supply and provided with an enlargement at its delivery end, such enlargement opening at the top and having a valve-seat, a valve on said seat, a flanged seat surrounding the valve-seat, a channel being formed around the top of the valve-seat and between it and said flanged seat, a trough outside of the flanged seat, and means of support for such trough, passages being formed in such means of support between said channel and said trough.

5. The combination, in an acetylene-gas apparatus, with a casing divided by a horizontal diaphragm into a water-reservoir above and an ash-receptacle below, such diaphragm having an opening therein, and a gas-generating chamber in said water-reservoir over such opening, of a water-feed device comprising a pipe entirely within said casing under said diaphragm provided with an enlargement at its delivery end, said pipe opening at its inlet end above the diaphragm into the water-reservoir and said enlargement opening into said gas-generating chamber above, and a valve for said inlet end of the pipe having a stem extending through to the outside of the casing.

6. A water-feed device, for an acetylene-gas apparatus, comprising a pipe constructed to be connected with a water-supply and provided with an enlargement at one end, such enlargement having a valve-seat, a valve for said seat, a bibulous ring mounted on said enlargement, and a bibulous disk on such ring, the latter being in communication with the enlarged end of the water-supply pipe.

7. A water-feed device, for an acetylene-gas apparatus, comprising a pipe constructed to be connected with a water-supply and provided with an enlargement at one end, such enlargement having a valve-seat, a valve for said seat, a flanged seat outside of the valve-seat, a ring of absorbent material on said flanged seat, and a bibulous disk on said ring, the latter being in communication with the enlarged end of the water-supply pipe.

8. A water-feed device, for an acetylene-gas apparatus, comprising a pipe constructed to be connected with a water-supply and provided with an enlargement at one end, such enlargement having a valve-seat, a valve for said seat, a flanged seat outside of the valve-seat, for absorbent material, a trough outside of said flanged seat, also for absorbent material, and suitable supporting means for the flanged seat and trough, passages being formed in such supporting means to convey water from the valve-seat opening to said trough.

9. A water-feed device or water-grate, for an acetylene-gas apparatus, comprising a cup having a valve-seat in the top, a valve for said seat, a flanged seat surrounding the valve-seat, for absorbent material, arms extending laterally from said cup, a trough supported by said arms, also for absorbent material, passages being formed in the latter to convey water from the valve-seat opening to said trough, and a pipe adapted to be connected with a water-supply and opening into the cup.

10. The combination, in an acetylene-gas apparatus, with a gas-generating chamber opening at the bottom, of a water-feed device, at the base of said chamber, comprising a chambered member *g* provided with a valve-seat and valve and with a support for absorbent material, a clean-out plug *h* for such member, and a pipe opening into said member and constructed to be connected with a water-supply.

11. The combination, in an acetylene-gas apparatus,

with a gas-generating chamber open at the bottom, of a water-feed open-grate device, at the base of said chamber partially closing the opening, comprising a cup provided with a valve-seat and valve and arms projecting therefrom to support absorbent material, and a water-conduit arranged substantially parallel with the base of said cup opening into said cup and constructed to be connected with a water-supply.

12. The combination, in an acetylene-gas apparatus, with a water-reservoir, and a gas-chamber therein opening through the bottom thereof, of a water-feed device, at the base of said chamber, comprising a cup provided with a valve-seat and valve and arms projecting therefrom, with openings therebetween to permit the residuum to fall to the ash-receptacle, constructed to support absorbent material, a pipe communicating with both the cup and reservoir, and means for admitting water from said reservoir into said pipe.

13. The combination, in an acetylene-gas apparatus, of a water-reservoir, a gas-chamber therein opening through the bottom thereof, an ash-receptacle below the gas-chamber, a water-feed device, at the base of said chamber but not completely closing or filling the opening, comprising a cup provided with a valve-seat and valve and having projecting members constructed to support absorbent material, a pipe communicating with both the cup and reservoir, and means for admitting water from said reservoir into said pipe.

14. The combination, in an acetylene-gas apparatus, of a water-reservoir, a gas-chamber therein opening through the bottom thereof, a water-feed device, at the base of said chamber, comprising a cup provided with a valve-seat and a valve, constructed to support absorbent material, and having arms extending therefrom to be fastened to the sides or edges of the bottom opening of the gas-chamber, a chambered member below the valve-opening, a clean-out plug in the lower face of said member, a conduit connected at one end with the wall of the chambered member and at the other with the reservoir, and means for admitting water from said reservoir into said conduit.

15. The combination, in an acetylene-gas apparatus, of a water-reservoir; a gas-chamber in said reservoir, opening through the bottom thereof; an ash-chamber below the gas-chamber; a water-feed device, at the base of said gas-chamber, comprising a grid having a cup and arms projecting therefrom, the cup provided with a valve-seat and valve, all constructed to support absorbent material, and a pipe connected at one terminal with said cup and at the other terminal with the reservoir and located in the upper portion of the ash-chamber, a valve-seat being provided in said pipe at the reservoir-terminal; and a valve or gate adapted to open and close said opening.

16. The combination, in an acetylene-gas apparatus, of a water-reservoir; a gas-chamber therein opening through the bottom thereof; a water-feed device or water-grate, at the base of said chamber, comprising a cup having a valve-seat in the top, a valve for said seat, a flanged seat surrounding the valve-seat, absorbent material on said flanged seat, arms extending laterally from said cup, a trough supported by said arms, absorbent material in said trough, passages being formed in the arms to convey water from the valve-seat opening to the trough, and a pipe communicating with both the cup and reservoir; and a carbid-holder supported by the trough.

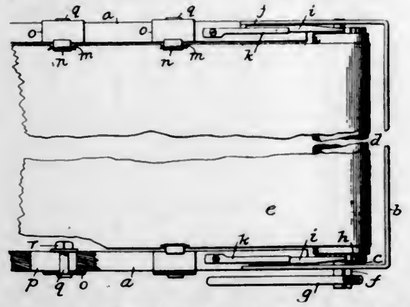
17. The combination, in an acetylene-gas apparatus, of a water-reservoir, a gas-chamber and a stand-pipe in said reservoir, said stand-pipe opening at the base through the bottom of the reservoir and having a gas-outlet above, and a tube connecting said chamber with the stand-pipe.

18. The combination, in an acetylene-gas apparatus, of a water-reservoir, a gas-chamber and a stand-pipe in said reservoir, said stand-pipe having a gas-outlet, a tube connecting said chamber with the stand-pipe, and a governor in the stand-pipe between the gas inlet and outlet.

19. The combination, in an acetylene-gas apparatus, of a water-reservoir, a gas-chamber and a stand-pipe in said reservoir, said stand-pipe having a gas-outlet, a tube connecting said chamber with the stand-pipe, and a governor in the stand-pipe between the gas inlet and outlet, such governor comprising two perforated diaphragms with a filling between which will permit gas to pass through.

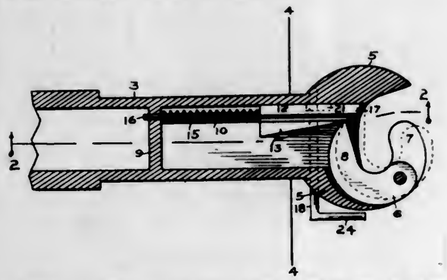
20. The combination, in an acetylene-gas apparatus, of a suitable casing, a water-reservoir and gas-chamber therein, a filling-opening leading to the water-reservoir, a plug, for the filling-opening in the water-reservoir, having a vent-passage in the top thereof and provided with a bottom chamber having a vent-hole therein in line with such passage, and a vent-pipe in said passage opening through the top of the plug and having its lower terminal turned to one side and arranged out of line with said vent-hole.

841,804. BED-SPRING TIGHTENER. GEORGE W. McCALL, Price, Utah. Filed June 30, 1906. Serial No. 324,246.



Claim.—The combination with a pair of slotted side rails, of a yoke which connects said side rails at one end thereof; a shaft journaled in said yoke, one end of said shaft projecting from said yoke and having a squared end; a wrench which engages said squared end; a roller mounted fast upon said shaft; a pair of ratchet-wheels, one of which is secured to each end of said roller; a pawl for each of said ratchet-wheels, said pawl being pivoted on the end of one of said side rails; a spring secured to one of said side rails and controlling said pawl; a bed-bottom formed with loops and secured to said roller; a series of plates having hook ends which engage in said loops; and bolts which pass through the slots in said side rails for adjustably securing said plates to said side rails.

841,805. CAR-COUPLING. JOHN F. McCARTHY, Indianapolis, Ind., assignor of two-thirds to Patrick F. Moriarty and John L. Kamsay, Indianapolis, Ind. Filed Sept. 18, 1906. Serial No. 335,098.



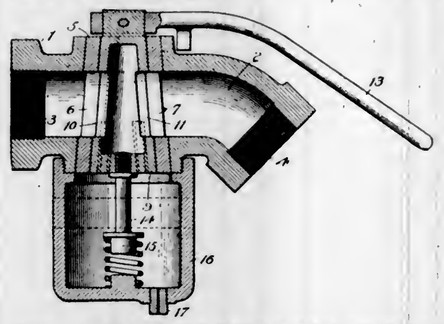
Claim.—1. The combination with a car-body, a draw-bar attached thereto, a coupling-piece of elbow form pivoted to said bar, and a wedge-shaped locking-plate fitted to slide lengthwise within and longitudinally of said bar to engage with said coupling-piece and lock it against movement and a spring to press the locking-plate constantly toward the coupling-piece.

2. The combination with a car-body, a draw-bar attached thereto, a coupling-piece of elbow form pivoted to said bar, a wedge-shaped locking-plate fitted to slide lengthwise within and longitudinally of said bar to engage with said coupling-piece and lock it against movement and a spring to press the locking-plate constantly toward the coupling-piece, and a rock-shaft having an arm for moving said locking-plate in opposition to the spring.

3. The combination with a car-body, a hollow draw-bar attached thereto having a transverse partition within its rear part, and longitudinal ribs or flanges extending forward from said partition to form guides, a forwardly-tapering locking-plate having grooves to fit said guides, a spring between the locking-plate and partition to press the plate normally outward, and a coupling-piece of elbow form pivoted to said draw-bar in the path of said locking-plate and adapted to be locked by the wedging of the locking-plate between the coupling-piece and the side of the draw-bar.

4. The combination with a car-body, a hollow draw-bar attached thereto having a transverse partition within its rear part longitudinal ribs or flanges extending forward from said partition to form guides, a forwardly-tapering locking-plate grooved to fit said guides, a bolt carried by said locking-plate, a spring wrapped around said bolt and bearing at one end against the locking-plate and at the other against said partition, a rock-shaft mounted under the draw-bar having an arm which terminates in a recess in said locking-plate and a coupling-piece in elbow form pivoted to said draw-bar in the path of said locking-plate and adapted to be locked by the wedging of the locking-plate between the coupling-piece and the side of the draw-bar.

841,806. ANGLE-COCK. EDWARD McCORMICK and HENRY C. ROGGENKAMP, Chicago, Ill. Filed Aug. 6, 1906. Serial No. 329,376.



Claim.—1. An angle-cock having a casing provided with a conduit, a valve adapted to close the conduit in said casing, and an exhaust-chamber which is placed in communication with the casing-conduit by an operative movement of said valve.

2. An angle-cock having a casing provided with a conduit, a valve adapted to close the conduit in said casing, and an exhaust-chamber which communicates with the casing-conduit when the valve is in an intermediate position but not when the said valve is either fully opened or fully closed.

3. An angle-cock having a casing provided with a conduit, a valve adapted to close the conduit in said casing, means whereby a reduction of fluid-pressure in the casing-conduit is permitted during a closing movement of said valve and a reduction of pressure is prevented after the valve is closed, and means for limiting the reduction of pressure in said conduit.

4. An angle-cock having a casing provided with a conduit, a valve adapted to close the conduit in said casing, and an exhaust-chamber which is placed in communication with the casing-conduit during a closing movement of the valve and which is placed in communication with the atmosphere when the valve is opened.

5. An angle-cock having a casing provided with a conduit, an exhaust-chamber adapted to be dissimultaneously placed in communication with the casing-conduit and with the atmosphere, and means for dissimultaneously placing the exhaust-chamber in communication with the casing-conduit and with the atmosphere.

6. An angle-cock having a casing provided with a conduit, a valve adapted to close the conduit in said casing, means whereby a reduction of fluid-pressure in the casing-conduit is permitted during a closing movement of said valve and a reduction of pressure is prevented after the valve is closed, and means for causing a retarded reduction of pressure during the closure of said valve.

7. An angle-cock having a casing, a valve, a valve-bushing, and an exhaust-chamber, said valve and said valve-bushing having train-pipe ports, and said bushing having an auxiliary port which opens into the exhaust-chamber and which is adapted to communicate with a train-pipe port of the valve when the latter is in an intermediate position but not when said valve is either fully opened or fully closed.

8. An angle-cock having a casing provided with a conduit, a valve, and a valve-bushing, said valve and valve-bushing each having train-pipe ports, and said bushing having an auxiliary port which communicates with the casing-conduit through a train-pipe port of the valve when the latter is in an intermediate position but not when said valve is either fully opened or fully closed.

9. An angle-cock having a casing provided with a conduit, a valve, a valve-bushing, and an exhaust-chamber, said valve having train-pipe ports and an auxiliary port which communicates with the atmosphere, and said bushing having train-pipe ports and an auxiliary port which opens into the exhaust-chamber and which is adapted to dissimultaneously communicate with a train-pipe port of the valve and with the auxiliary port thereof.

10. An angle-cock having a casing provided with a conduit, a valve, and a valve-bushing, said valve and bushing each having train-pipe ports, and said bushing having a plurality of auxiliary ports which communicate with the casing-conduit through the train-pipe ports of the valve when the latter is in an intermediate position but not when said valve is either fully opened or fully closed.

11. An angle-cock having a casing provided with a conduit, a valve, a valve-bushing, and an exhaust-chamber, said valve having train-pipe ports and an auxiliary port, and said bushing having train-pipe ports and a plurality of auxiliary ports which open into the exhaust-chamber, one of said auxiliary ports of the bushing being adapted to dissimultaneously communicate with a train-pipe port of the valve and with the auxiliary port thereof.

12. An angle-cock having a casing provided with a conduit, a valve, a valve-bushing, and an exhaust-chamber, said valve and said bushing each having train-pipe ports, and said bushing having a plurality of auxiliary ports which open into the exhaust-chamber and which are adapted to communicate with the casing-conduit through the train-pipe ports of the valve when the latter is in an intermediate position but not when said valve is either fully opened or fully closed.

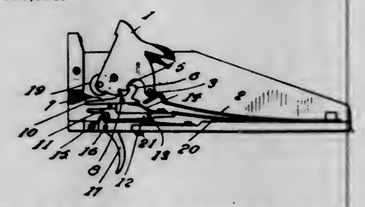
13. An angle-cock having a casing provided with a conduit, a valve provided with train-pipe ports and an auxiliary port, a valve-bushing provided with train-pipe ports and an auxiliary port which opens into the exhaust-chamber and has a constricted portion, and an exhaust-chamber, said auxiliary port of the bushing being adapted to communicate with the casing-conduit through a train-pipe port of the valve when the latter is in an intermediate position but not when said valve is either fully opened or fully closed, and being adapted through its constricted portion to communicate with the auxiliary port of the valve when the latter is fully opened.

14. An angle-cock having a casing provided with a conduit, a conical valve adapted to close said conduit, a conical valve-bushing, an exhaust-chamber, and a spring housed within the exhaust-chamber and forming a support for the said valve, said conical valve having train-pipe ports and an auxiliary port which communicates with the atmosphere, said bushing having train-pipe ports and a plurality of auxiliary ports which open into the exhaust-chamber, the said auxiliary ports of the bushing being adapted to communicate with the casing-conduit through

the train-pipe ports of the valve when the latter is in an intermediate position but not when said valve is either fully opened or fully closed, and the auxiliary port of said valve being adapted to communicate with one of the auxiliary ports of the bushing when the valve is fully opened.

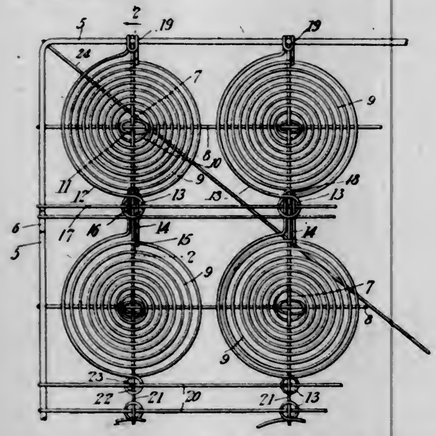
15. An angle-cock having a casing provided with a train-pipe conduit, a valve adapted to close said train-pipe conduit of the casing, said valve having train-pipe ports therein, means whereby air is permitted to escape from the said conduit through the train-pipe ports of said valve during the movement of said valve from open to closed position but no air is permitted to escape after said valve is closed, and means for retarding the escape of the air.

841,807. SET-LOCK FOR FIREARMS. JOHN J. MCGILLIVRAY, Gillespieville, Ohio. Filed Mar. 9, 1906. Serial No. 305,190.



Claim.—In a set-lock for firearms, the combination of a hammer, a sear coacting therewith, a trip for actuating said sear, a trigger governing the operation of the trip, and a sear-spring applied to the trip.

841,808. BED-SPRING. JAMES MCPHERSON and RENZY HOOKER, Carthage, Mo. Filed Nov. 10, 1906. Serial No. 342,861.



Claim.—1. A device of the class described including spaced supporting-frames, coiled springs interposed between said frames and each provided with a laterally-extending loop, connecting-stems carried by adjacent springs and extending beneath the loops, and rods for locking the stems in engagement with the loops.

2. A device of the class described including spaced supporting-frames, springs interposed between said frames, loops extending laterally from one side of each spring, a connecting-stem projecting from the opposite side of each spring and adapted to engage the loop of an adjacent spring, and means intersecting the loops and stems for locking the same in engagement with each other.

3. A device of the class described including spaced supporting-frames, coiled springs interposed between said frames, loops extending laterally from one side of each spring, a connecting-stem projecting from the opposite side of each spring and bearing beneath the adjacent loop, and locking members intersecting the loops and connecting-stems and bearing against the upper surface of said loops.

4. A device of the class described including spaced supporting-frames, coiled springs interposed between the frames, loops extending laterally from one side of each spring, stems projecting from the opposite sides of the springs and having their intermediate portions bowed upwardly and extended within the loops of adjacent springs, and locking members engaging the bowed portions of the stems and bearing against the upper surface of the loops.

5. A device of the class described including spaced supporting-frames, coiled springs interposed between the frames, loops extending laterally from one side of each spring, connecting-stems projecting from the opposite sides of said springs and bearing against the lower surface of the loops, said connecting-stems having their free ends bent upwardly in engagement with one of the convolutions of the adjacent spring and its intermediate portion bowed laterally, and locking-rods engaging the bowed portions of the connecting-stems and bearing against the upper surface of the loops.

6. A device of the class described including spaced supporting-frames, coiled springs interposed between said frames and each provided with a laterally-extending loop, longitudinal tie-wires extending beneath said loops, and transverse tie-wires intersecting the longitudinal tie-wires and bearing against the upper surface of said loops.

7. A device of the class described including spaced supporting-frames, coiled springs interposed between the frames and each provided with a laterally-extending loop, longitudinal tie-wires extending beneath the loops and having their opposite ends bent upwardly, and transverse tie-wires secured to one of the supporting-frames and extending beneath the bowed portion of the longitudinal tie-wires and bearing against the upper surface of the loops.

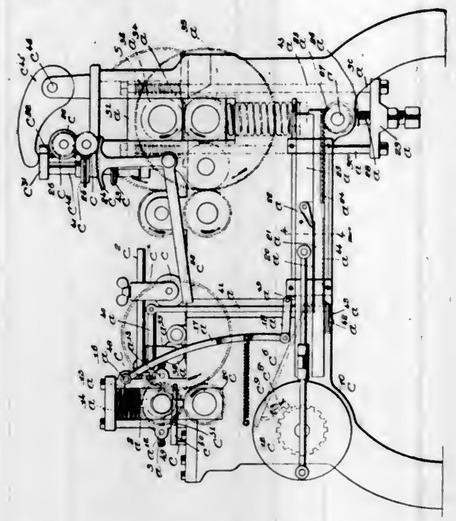
8. A device of the class described including spaced supporting-frames, longitudinal and transverse brace-wires connecting the walls of one of the supporting-frames, spring-coils secured to the lower frame and disposed at the juncture of the brace-wires, loops extending laterally from one side of each spring at the upper frame, connecting-stems projecting laterally from the opposite sides of said springs and adapted to engage the loops of adjacent springs, and means intersecting the loops and stems for locking the same in engagement with each other.

9. A device of the class described including spaced supporting-frames one of which is provided with longitudinal and transverse brace-wires, coiled springs interposed between the frames and each having its lower reduced convolution extended beneath one of the brace-wires and over the adjacent brace-wire and bent to form an elongated loop disposed at the juncture of said brace-wires, loops extending laterally from the upper ends of the springs, connecting-stems carried by adjacent springs and bearing beneath the loops, and locking members intersecting the stems and loops.

841,809. EVENING AND GRADING MACHINE. ELMER P. NICHOLS, Manchester, N. H., assignor to Lacene Manufacturing Company, Manchester, N. H., a Corporation of Maine. Filed Mar. 9, 1903. Serial No. 146,817.

Claim.—1. A machine of the kind described, comprising leather-engaging mechanism for operating upon the leather pieces, detecting mechanism arranged and operating to ascertain the thinnest spot in a considerable portion of the length of the stock, and automatic means controlled by the detecting mechanism for regulating said leather-engaging mechanism with reference to the said ascertained thinnest spot of the predetermined length of stock.

2. A machine of the kind described, comprising grade-indicating means to indicate the grade of an uneven piece of leather, means for detecting a plurality of the thin spots of a prescribed area of said leather, means for predetermining and varying the extent of the stock on which said detecting means shall operate, and automatic means constructed and operating to adjust said grade-indicating means to the thinnest of the plurality of thin spots detected in said area.



3. A machine of the kind described, comprising grade-indicating mechanism to indicate the grade of an uneven piece of leather, provided with means for indicating the grade of successive pieces of leather according to the thickness of an extended length of each leather piece, and automatic mechanism for automatically detecting as the stock is being fed the thinnest spot, throughout a considerable portion of the length of the leather, over which said mechanism passes and for adjusting said grade-indicating mechanism according to the thinnest of the thin spots detected by said automatic detecting mechanism.

4. A machine of the kind described, comprising grade-indicating mechanism to indicate the grade of an uneven piece of leather, adjusting devices for adjusting said mechanism, said devices including means for detecting thin spots throughout a considerable portion of the length of the leather being fed through the machine, and setting mechanism for thereafter operating said adjusting devices according to the thinnest of the aforesaid thin spots detected by said detecting means.

5. In a machine of the kind described, mechanism to operate on the stock, means for feeding the stock thereto, and automatic means for adjusting said mechanism, including separate feelers independently movable according to the thickness of the stock, and means for locking said automatic means to correspond to the extreme position assumed at any time by either of said feelers.

6. A machine of the kind described, comprising leather-engaging means, detecting mechanism constructed and operating to detect thin spots at a plurality of points at each of the edges only of a died piece, and mechanism responsive to said detecting mechanism constructed and operating for adjusting said leather-engaging means to the thinnest of the plurality of thin spots detected by said detecting mechanism.

7. A machine of the kind described, comprising grade-indicating mechanism to indicate the grade of an uneven piece of leather, and automatic means for adjusting said mechanism, including detecting means for engaging the leather at the edges thereof constructed and operating to maintain said edge engagement irrespective of variations in contour of said edges.

8. A machine of the kind described, comprising grade-indicating mechanism to indicate the grade of an uneven piece of leather, and automatic means for adjusting said mechanism, including detecting means for engaging the leather at the edges thereof constructed and operating to maintain said edge engagement irrespective of variations in contour of said edges, and means responsive to said edge engagement for adjusting said grade-indicating mechanism according to the thinnest of the thin spots detected by said detecting means.

9. A machine of the kind described, comprising grade-indicating mechanism to indicate the grade of an uneven piece of leather, automatic means for adjusting said mechanism, including detecting means for engaging the leather along the entire length of the edges of the piece, and means for adjusting said grade-indicating mechanism according to the thinnest spot of the plurality of thin spots detected in said engagement.

10. A machine of the kind described, comprising stock-engaging mechanism for operating upon the stock, automatic mechanism including edge-thickness-detecting means constructed to detect along a crooked edge, for governing said stock-engaging mechanism with reference to the thinness of the edge portions of the stock.

11. A machine of the kind described, comprising grade-indicating mechanism to indicate the grade of an uneven piece of leather, and automatic means for adjusting said mechanism, including detecting means for engaging the leather at the edges thereof, and mechanism for causing said detecting means to follow the contour of said edges.

12. A machine of the kind described, comprising grade-indicating mechanism to indicate the grade of an uneven piece of leather, and detecting means for engaging the leather at the edges thereof, constructed and operating to maintain said edge engagement irrespective of variations in contour of said edges, and mechanism governed by said detecting means for adjusting said grade-indicating mechanism to the thickness of the thinnest portion detected thereby.

13. A machine of the kind described, comprising grade-indicating mechanism to indicate the grade of an uneven piece of leather, and detecting means for engaging the leather at the edge thereof, mechanism for causing said detecting means to follow the contour of said edges, and mechanism governed by said detecting means for adjusting said grade-indicating mechanism to the thickness of the thinnest portion detected thereby.

14. In a machine of the kind described, feeding mechanism for feeding stock, opposite feelers for engaging the opposite edges of the stock being fed, mechanism to operate on the stock, connections between said feelers and said mechanism for setting the latter by the former, and means constructed and operating to maintain said edge engagement irrespective of variations in contour of said edges.

15. A machine of the kind described, comprising a grade-marker, detecting means constructed and operating to detect a plurality of spots of varying thickness of a leather piece, and gaging mechanism responsive only to the movement of said detecting means to the thinnest of said spots detected, said gaging mechanism being constructed and operating to set said grade-marker in accordance only with the thickness of said thinnest spot of the leather piece.

16. A machine of the kind described, comprising means for marking the grade on a leather piece, detecting means constructed and operating to detect a plurality of spots of varying thickness of said leather piece, and gaging mechanism responsive to said detecting means, constructed and operating to retain a plurality of successive increments of detected thinness as each successively-thinner spot is detected and to set said marking means to mark the leather piece in accordance with the thinnest of said plurality of spots detected by the detecting means.

17. A machine of the kind described, comprising grade-marking means for marking the grade of uneven leather pieces, means for detecting the thin spots at a plurality of distinct, separated places in a prescribed area of said leather, and automatic means responsive to said detecting means for adjusting said grade-marking means with relation to the thinnest of said plurality of spots detected in said entire area.

18. A machine of the kind described, comprising grade-marking means for operating upon the stock, and a gaging mechanism for automatically adjusting said grade-marking means, including thickness-detectors and automatic means for transmitting and retaining a plurality of suc-

cessive increments of detected thinness as each successively-thinner spot is detected in said stock.

19. A machine of the kind described, comprising means for marking the grade on a leather piece, means for detecting a plurality of thin spots in a prescribed area of said leather, means for predetermining and varying the extent of the stock on which said detecting means shall operate, and automatic means constructed and operating to adjust said marking means to the thinnest of the plurality of thin spots detected in said area.

20. A machine of the kind described, comprising a marking device, provided with means for marking successive pieces of leather according to the thickness of an extended length of the leather, and automatic mechanism for automatically detecting as the stock is being fed the thinnest spot throughout a considerable portion of the length of the leather over which said mechanism passes and gaging mechanism for retaining each successive increment of thinness as it is detected and for adjusting said marking device according to the thinnest of the thin spots detected by said automatic detecting mechanism.

21. A machine of the kind described, comprising means for marking the grade on a leather piece, adjusting devices for adjusting said means, said devices including means for detecting thin spots throughout a considerable portion of the length of the leather being fed through the machine, and setting mechanism for retaining the successive increments of thinness measurements and for thereafter operating said adjusting devices according to the thinnest of the aforesaid thin spots detected by said detecting means.

22. A machine of the kind described, comprising stock-feeding mechanism, a marking device, and automatic gaging mechanism for setting said marking device, said gaging mechanism including means for holding it set to the thinnest portion determined thereby as the stock is fed.

23. A machine of the kind described, comprising grade-marking means for marking the grade of uneven died-out leather, and automatic means constructed and operating to adjust said grade-marking means to the thinnest edge portion of the leather.

24. A machine of the kind described, comprising grade-marking means for marking the grade of a died-out piece of stock, and automatic mechanism including means for determining the thickness of said stock at a plurality of distinct, separated places for a given portion of the edge of the stock length, and means for setting said marking means with relation to the thinnest spot of said given portion at its longitudinal edges.

25. A machine of the kind described, comprising mechanism for marking the grade on a leather piece, and automatic means for adjusting said grade-marking mechanism, including detecting means for engaging the leather at the edges thereof, constructed and operating to maintain said edge engagement irrespective of variations in contour of said edges.

26. A machine of the kind described, comprising mechanism for marking the grade on a leather piece, and automatic means for adjusting said grade-marking mechanism, including detecting means for engaging the leather at the edges thereof, constructed and operating to maintain said edge engagement irrespective of variations in contour of said edges, and means responsive to said edge engagement for adjusting said grade-indicating mechanism according to the thinnest of the thin spots detected by said detecting means.

27. A machine of the kind described, comprising mechanism for marking the grade on a leather piece, and automatic means for adjusting said mechanism, including detecting means whose position is regulated in accordance with the contour of the leather piece, constructed and operating to maintain its relative position irrespective of variations in contour of the pieces being graded.

28. A machine of the kind described, comprising mechanism for evening or cutting off the thicker portions of uneven leather, means for detecting the thin spots at a plurality of distinct, separated places in a prescribed area of said leather, and automatic means responsive to said detecting means for adjusting said mechanism with relation to the thinnest of said plurality of spots detected in said entire area.

29. A machine of the kind described, comprising mechanism for operating upon the stock, said mechanism including means for cutting off the thicker portions thereof, and gaging mechanism for automatically adjusting said operating mechanism, including thickness-detectors and automatic means for transmitting and retaining a plurality of successive increments of detected thinness as each successive thinner spot is detected in said stock.

30. A machine of the kind described, comprising mechanism for evening or cutting off the thicker portions of uneven leather, means for detecting a plurality of thin spots in a prescribed area of said leather, means for predetermining and varying the extent of the stock on which said detecting means shall operate, and automatic means constructed and operating to adjust said mechanism to the thinnest of the plurality of thin spots detected in said area.

31. A machine of the kind described, comprising leather-engaging mechanism for operating upon the stock, automatic mechanism including detecting means constructed and operating to govern said mechanism with reference to the relative thinness of a plurality of different places over an extended area of the stock, and means for preventing said automatic mechanism from operating for a given portion of the length of the stock.

32. A machine of the kind described, comprising means for evening or cutting off the thicker portions of uneven leather, provided with means for evening successive pieces of leather according to the thickness of an extended length of each leather piece, and automatic mechanism for automatically detecting as the stock is being fed the thinnest spot throughout a considerable portion of the length of the leather over which said mechanism passes and for adjusting said evening means according to the thinnest of the thin spots detected by said automatic detecting mechanism.

33. A machine of the kind described, comprising mechanism for evening or cutting off the thicker portions of uneven leather, adjusting devices for adjusting said mechanism, said devices including means for detecting thin spots throughout a considerable portion of the length of the leather being fed through the machine, and setting mechanism for thereafter operating said adjusting devices according to the thinnest of the aforesaid thin spots detected by said detecting means.

34. A machine of the kind described, comprising stock-feeding mechanism, mechanism for evening or cutting off the thicker portions of uneven leather, and automatic gaging mechanism for setting said evening or cutting mechanism, said gaging mechanism including means for holding it set to the thinnest portion determined thereby as the stock is fed.

35. A machine of the kind described, comprising mechanism for evening or cutting off the thicker portions of uneven died-out leather, and automatic means constructed and operating to adjust said mechanism to the thinnest edge portion of the leather.

36. A machine of the kind described, comprising feeding mechanism for feeding a died-out piece of stock, and automatic mechanism for reducing said stock to an even thickness for a given portion of its length, said mechanism including means for automatically gaging said thickness with relation to the thinnest of a plurality of distinct, separated spots throughout a predetermined extent of each of its longitudinal edges.

37. A machine of the kind described, comprising mechanism for evening or cutting off the thicker portions of uneven leather, and automatic means for adjusting said mechanism, including detecting means for engaging the leather at the edges thereof, constructed and operating to maintain said edge engagement irrespective of variations in contour of said edges.

38. A machine of the kind described, comprising mechanism for evening or cutting off the thicker portions of an uneven piece of leather, and automatic means for adjusting said mechanism, including detecting means whose position is regulated in accordance with the contour of the leather piece.

39. A machine of the kind described, comprising mechanism for evening or cutting off the thicker portions of uneven leather, and automatic means for adjusting said mechanism, including detecting means for engaging the leather at the edges thereof, and mechanism for causing said detecting means to follow the contour of said edges.

40. A machine of the kind described, comprising mechanism for evening or cutting off the thicker portions of uneven leather, and detecting means for engaging the leather at the edges thereof constructed and operating to maintain said edge engagement irrespective of variations in contour of said edges, and mechanism governed by said detecting means for adjusting said evening or cutting mechanism to the thickness of the thinnest portion detected thereby.

41. A machine of the kind described, comprising mechanism for evening or cutting off the thicker portions of uneven leather, and detecting means for engaging the leather at the edges thereof, mechanism for causing said detecting means to follow the contour of said edges, and mechanism governed by said detecting means for adjusting said evening or cutting mechanism to the thickness of the thinnest portion detected thereby.

42. A machine of the kind described, comprising feeding mechanism for feeding a died-out piece of stock, automatic mechanism for reducing said stock to an even thickness at its longitudinal edges, and means for preventing said automatic mechanism from operating for a given length of the stock, said mechanism including means for operating it for the remaining length of the stock.

43. In a machine of the kind described, feeding mechanism for feeding stock, a feeler for engaging said stock as it is being fed, mechanism to operate on said stock, connections between said feeler and said mechanism for setting the latter by the former, and means causing said feeler to follow the edge of the stock.

44. In a machine of the kind described, feeding mechanism for feeding stock, opposite feelers for engaging the opposite edges of the stock being fed, mechanism to operate on the stock, connections between said feelers and said mechanism for setting the latter by the former, and means for causing said feelers to follow the contour of the stock.

45. In a machine of the kind described, mechanism to operate on the stock, means for feeding the stock thereto, including an upper roll, a feeler mounted coaxially of said roll and freely movable below the same, but normally held down on the stock thereby, mechanism for operating on the stock, and connections from said feeler to said mechanism for setting the latter according to the position of the feeler.

46. In a machine of the kind described, means for flattening a piece of stock being fed thereto, a feeler for detecting thin spots in said stock, said feeler engaging the stock at the point where it is flattened, mechanism for operating on said stock, and connections between said feeler and said mechanism for setting the latter according to the position of the former.

47. In a machine of the kind described, mechanism for operating on a piece of stock, adjusting means for adjusting said mechanism, said means including a pawl and ratchet, a guard for controlling the point of engagement of said pawl with said ratchet, and means operated by the passage of said stock for limiting said guard to movement in one direction for said adjustment.

48. In a machine of the kind described, feeding mechanism for feeding stock, feelers for detecting thin portions in said stock, mechanism for operating upon the stock, gaging mechanism for adjusting said operating mechanism according to the determination of said feelers, and intermittingly-operating feed-permitting means for causing the dissimultaneous feeding of the stock and the operating of said operating mechanism.

49. A machine of the kind described, comprising grade-indicating mechanism to indicate the grade of an uneven piece of leather, mechanism for detecting the thinner portions of the stock passing through the machine, and feed-controlling means for regulating the time of feeding of the successive pieces of stock to the machine.

50. A machine of the kind described, comprising grade-indicating mechanism to indicate the grade of an uneven piece of leather, automatic means for adjusting said mechanism, said means including devices for detecting the thinner portions of the stock passing through the machine, setting mechanism for operating said automatic means according to the thickness detected by said detecting means, and means for preventing the feeding of a succeeding piece of stock to the machine to interfere with the operation of said setting mechanism for a preceding piece of stock.

51. A machine of the kind described, comprising means for marking the grade on a leather piece, automatic means for adjusting said mechanism, said means including devices for detecting the thinner portions of the stock passing through the machine, setting mechanism for operating said automatic means according to the thickness detected by said detecting means, and means for preventing the feeding of a succeeding piece of stock to the machine to interfere with the operation of said setting mechanism for a preceding piece of stock.

52. A machine of the kind described, comprising a marking device, feeding mechanism for feeding stock thereto, means for detecting thin portions of said stock, and setting mechanism for setting said marking device by said detecting means, a gate for normally preventing the feeding of stock to the machine, and means for operating said gate and marking device in synchronism.

53. A machine of the kind described, comprising mechanism for evening or cutting off the thicker portions of uneven leather, mechanism for detecting the thinner portions of the stock passing through the machine, and feed-controlling means for regulating the time of feeding of the successive pieces of stock to the machine.

54. A machine of the kind described, comprising mechanism for evening or cutting off the thicker portions of uneven leather, automatic means for adjusting said mechanism, said means including devices for detecting the thinner portions of the stock passing through the machine, setting mechanism for operating said automatic means according to the thickness detected by said detecting means, and means for preventing the feeding of a succeeding piece of stock to the machine to interfere with the operation of said setting mechanism for a preceding piece of stock.

55. A machine of the kind described, comprising a marking device, tension means tending to move said device for forcibly marking, automatic gaging mechanism for setting said marking device according to the thickness of stock being fed, and means for releasing said tension means for moving said marking device with a hammer-like blow when set.

56. In a machine of the kind described, feeding mechanism for feeding stock to the machine, feelers for detecting thin portions in said stock, a die, automatic adjusting mechanism for said die connected with and operated by said feelers, and means for actuating said die, including a lifter passing into lifting connection with said die for positively lifting the same, and passing suddenly out of said connection when the die is lifted to permit the die to descend upon the stock.

57. In a machine of the kind described, feeding mechanism for feeding stock to the machine, feelers for detecting thin portions in said stock, a die, automatic adjusting mechanism for said die connected to and operated by said feelers, and a rotary lifter passing into lifting connection with said die for lifting the same, and passing out of said connection when the die is lifted, and means for forcibly depressing said die when released by said lifter.

58. A machine of the kind described, comprising mechanism for evening or cutting off the thicker portion of uneven leather, said mechanism including an adjustable part, and automatic means for adjusting said part according to the thickness of the leather being fed, said adjusting means including a device having an inclined surface movable into position between said part and the supporting-frame thereof, and unyielding connections for transmitting the strain directly to said frame.

59. In a machine of the kind described, cutting mechanism, a gage device movable toward and from said cutting mechanism, rods supporting said gage device and carrying a bearing, a cam journaled between said gage device and said bearing and engaging the latter, and automatic means

operated by the passage of stock to said cutting mechanism for rotating said cam and thereby adjusting said gage device.

60. In a machine of the kind described, feeler mechanism for feeling the thickness of a piece of leather at a plurality of places, grade-indicating means, gaging mechanism responsive to said feeler mechanism and constructed and operating to adjust said grade-indicating means to indicate the thinnest of all of said plurality of places felt of, and means for determining the particular portion of the leather piece for which said gaging mechanism shall be responsive.

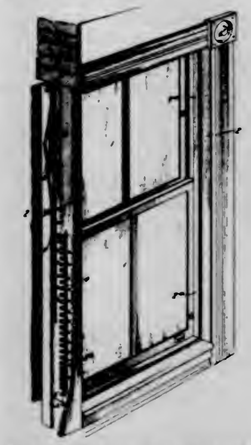
61. In a machine of the kind described, feeler mechanism for feeling the thickness of a piece of leather at a plurality of places, grade-indicating means, gaging mechanism responsive to said feeler mechanism and constructed and operating to adjust said grade-indicating means to indicate the thinnest of all of said plurality of places felt of, and means to vary the extent of the effective responsiveness of said gaging mechanism to said feeler mechanism.

62. In a machine of the kind described, feeler mechanism for feeling the thickness of a piece of leather at a plurality of places, grade-indicating means, gaging mechanism responsive to said feeler mechanism and constructed and operating to adjust said grade-indicating means to indicate the thinnest of all of said plurality of places felt of, and means actuated by the leather piece for controlling the effective responsiveness of said gaging mechanism to said feeler mechanism.

63. In a machine of the kind described, feeler mechanism for feeling the thickness of a piece of leather at a plurality of places, grade-indicating means, gaging mechanism responsive to said feeler mechanism and constructed and operating to adjust said grade-indicating means to indicate the thinnest of all of said plurality of places felt of, said gaging mechanism being normally in a non-responsive condition, and means actuated by the passage of the leather piece for rendering the same thereafter responsive.

64. In a machine of the kind described, feeler mechanism for feeling the thickness of a piece of leather at a plurality of places, grade-indicating means, gaging mechanism responsive to said feeler mechanism and constructed and operating to adjust said grade-indicating means to indicate the thinnest of all of said plurality of places felt of, said gaging mechanism being normally in a non-responsive condition, and means actuated by the passage of the leather piece for rendering the same thereafter responsive during a predetermined travel of the leather piece.

841,810. SASH RAISING AND LOCKING DEVICE. PATRICK J. O'BRIEN, Mobile, Newfoundland. Filed June 19, 1906. Serial No. 322,412.



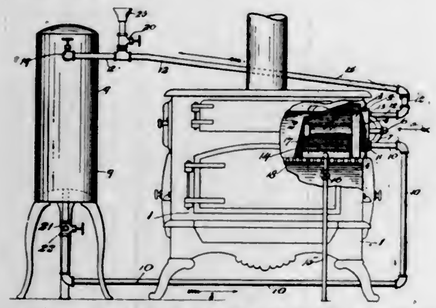
Claim.—1. The combination with a window-frame and windows therein, said window-frame having a box portion, of plates having grooves secured to the window-frame, tension-spring held within the window-frame and secured at one end to the window-frame, stud-bolts carried by the window and projecting through said plate-grooves and secured to the other end of the springs, and means carried by the window and coöperating with said plate for locking the window in various positions substantially as shown and described.

2. The combination with a window-frame and windows therein, said window-frame having a box portion, of plates having grooves secured to the window-frame, tension-springs held within the window-frame and secured at one end to the window-frame, stud-bolts carried by the window and projecting through said plate-grooves and secured to the other end of the springs, and means carried by the window and coöperating with said plate for locking the window in various positions, said last-named means comprising a latch member carried by the window, said plates having latch-receiving apertures for coöperating with the latch member, substantially as shown and described.

3. The combination with a window-frame, of windows held therein, spring devices within the window-frame and secured at one end to the frame, slotted plates secured to the window-frame, stud-bolts carried by the window and projecting through said slotted plates and into the window-frame and connected with said springs, said plates having latch-receiving apertures, and latch devices carried by the window for engaging said latch-apertures of the plates, substantially as shown and described.

4. The combination with a window-frame, and windows mounted therein, of a plate secured to the window-frame, said plate having an elongated aperture and a transverse aperture merging therewith and latch-engaging apertures, a stud-bolt secured to the window and projecting through said slotted plate, a coil-spring within the window-frame and secured at one end of said bolt, a second stud-bolt secured to the window-frame and to the other end of said spring, a latch member carried by the window and comprising a face-plate and a key guard-plate secured to the window-sash, a latch-bolt having a spring portion secured to said face-plate and projecting through an aperture therein to engage the latch-apertures of said first-mentioned plate, said latch-bolt having an apertured head, an operating-key adapted to be inserted into said apertured head through said elongated aperture of said key guard-plate to release said latch from said first-mentioned plate-latch aperture, substantially as shown and described.

841,811. WATER-HEATER FOR COOKING-STOVES. FRED PELTON, Indianapolis, Ind. Filed Aug. 28, 1905. Serial No. 276,094.

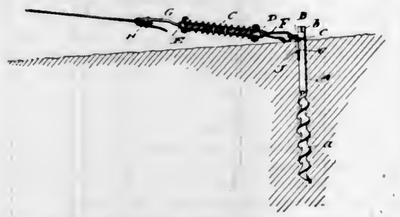


Claim.—1. In a water-heating attachment, the combination with the fireplace of a cooking-stove, an inner water-heating end-liner having an outer door-closing portion, the outer hollow door-closing integral portion of said liner provided with a hand-hole opening situated centrally of its outer face, of a horizontally-projecting inner tube connected to said inner heating end-lining and situated directly opposite said hand-hole opening, a water-boiler, a cold-water pipe extending from said boiler and connected to the outer bottom portion of said closing integral portion of said end-liner, and a hot-water pipe extending from the top of the outer portion of said liner to connect to the top of said boiler.

2. In a water-heating attachment, the combination with the fireplace of a cooking-stove, an inner water-heating end-liner having an outer door-closing portion, the outer hollow door-closing portion of said liner provided with a hand-hole opening situated centrally of its outer face, of a horizontally-projecting inner tube connected to said inner heating end-liner and situated directly opposite said hand-hole, a water-boiler, a cold-water pipe extending from the bottom of said boiler and connected to the outer bottom portion of said outer door-closing portion of the heater, a hot-water pipe extending from the top side of said door-closing portion of said heater to connect to the top of said boiler, a heating-burner situated within said fireplace under said heating-tube and a deflecting-hood inclosing said tube and said burner.

3. In a water-heating attachment, the combination with the fireplace of a cooking-stove, an inner water-heating end-liner having an outer door-closing portion, the outer door-closing integral portion of said liner provided with a hand-hole opening situated centrally of its outer face, of a horizontally-projecting inner tube connected to said inner heating end-liner and situated directly opposite said hand-hole, a water-boiler, a cold-water pipe extending from the bottom of said boiler and connected to the outer bottom portion of the outer door-closing portion of said heater, a hot-water pipe extending from the top side of the outer door-closing portion of said heater and connected to the top of the boiler, suitable cut-off valves on said upper and lower water-circulating pipes, means for draining said lower pipes; and a funnel on said upper circulating-pipe whereby a deposit or scale removing fluid is supplied to the heater.

841,812. TENT-STAKE. PHILEMON PEMENT, Chicago, Ill. Filed Sept. 5, 1906. Serial No. 333,372.

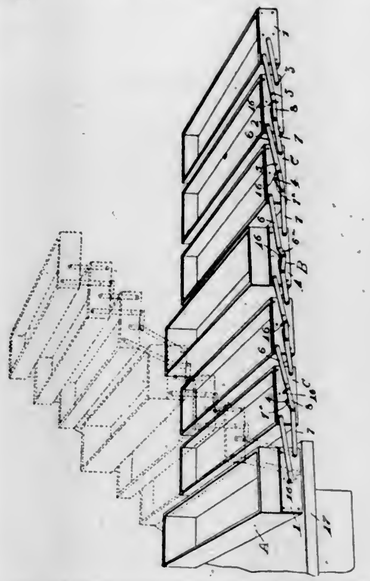


Claim.—A device for the purpose described comprising a stake having a screw and also having an upper end shaped for the application of a lever to be used in turning the screw into the ground, a ring pivotally connected with the upper portion of the stake and arranged to assume a position at an angle thereto, a spring, and means detachably connecting the spring to the ring.

841,813. DISPLAY DEVICE. LLOYD W. PLUMMER, Bloomington, Ill. Filed Mar. 31, 1906. Serial No. 309,183.

Claim.—1. A display device including a series of superimposed trays one of which is deeper than the other, a lazy-tong connection between the series of trays said lazy-tong connection having deflected portions adjacent said deep tray, and a stop carried by each tray for engagement with an adjacent portion of the lazy-tong connection to limit the movement thereof and render the same self-supporting.

2. A display device comprising superimposed trays one of which is deeper than the others, links pivotally depending from the front portion of each end of each tray and pivoted intermediate of its ends to the next-below tray, another link pivotally depending from each tray in rear of the first-mentioned link and terminally pivoted to the next-below tray part of said links having deflected portions, and a substantially horizontal link connecting the lowermost end of the first-mentioned link of each tray with an intermediate portion of the second-mentioned link of the next-below tray.



3. A display device comprising a series of superimposed trays one of which is deeper than the others, a link pivotally depending from the front portion of each end of each tray and pivoted intermediate of its ends upon the next-below tray, another link pivotally depending from each tray and pivotally connected to the next-below tray, and a substantially horizontal link pivotally connecting the lower end of the first-mentioned link with an intermediate portion of the second-mentioned link of the next-below tray, the lower portion of the first-mentioned link which is connected to the deep tray being deflected into substantial parallelism with the next-below second-mentioned link, and the upper portion of the second-mentioned link of the deep tray being deflected into substantial parallelism with the next-above first-mentioned link.

841,814. CLAMPING-RING FOR PIPE-COUPLINGS. WILLIAM W. PRICE, Dayton, Ohio. Filed June 28, 1906. Serial No. 323,927.



Claim.—1. A clamping-ring for pipe-couplings, consisting of two members formed from sheet metal, one of said members having two parallel annular walls which inclose a third annular wall formed from the other member of the ring.

2. A clamping-ring for pipe-couplings consisting of two members formed from sheet metal, one of said members having two circumferential walls and the other of said members having a single circumferential wall inclosed by the two circumferential walls of the other member, and all of said walls being in parallelism and constituting a triple reinforced annular wall of the clamping-ring.

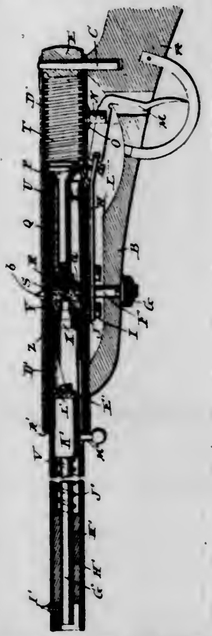
3. In a clamping-ring for pipe-couplings, a major portion forming the main annular body of the ring, one end of said body extending annularly in the direction of the axis of the ring, and the other end of said body terminating in an

outward wall lying parallel with the body of the ring, a minor portion forming the reinforcing member of the ring, said minor portion engaged between the annular parallel walls of the major portion, and said major and minor portions terminating in outwardly-lying annular flanges, one overlapping the other, and said flanges having a suitable number of bolt-holes therein.

4. In a clamping-ring for pipe-couplings, a member having two parallel walls forming an intervening pocket, a flange extending inwardly from the inner wall and reducing the opening of the ring, the outer wall extending outwardly in a marginal flange, and a reinforcing member having a portion projected into the annular pocket between said parallel walls and forming a third parallel wall, said reinforcing member having an outturned flange overlapping the marginal flange of the outer wall of the ring and inclosing the circumference of said marginal flange.

5. In a clamping-ring for pipe-couplings, a body member having two parallel annular walls with an intervening pocket, the inner wall terminating inwardly at right angles and reducing the opening of the ring, and the outer wall extending outwardly at right angles, a reinforcing member having a portion projected into the pocket between said parallel walls of the body member and forming a third annular reinforcing-wall, said reinforcing member terminating in an outwardly-extending flange, the margin of which incloses the circumferential edge of the outwardly-extending flange of the outer wall of the body member.

841,815. AIR-GUN. PAUL H. QUACKENBUSH, Herkimer, N. Y., assignor to Henry M. Quackenbush, Herkimer, N. Y. Filed Sept. 27, 1906. Serial No. 336,503.



Claim.—1. In an air-gun, the combination of a housing; a false barrel; a compression-cylinder connected to the false barrel and slidably mounted within and wholly inclosed by the housing; a piston working in the cylinder; an impelling-spring for the piston inclosed within the rear portion of the housing; and a true barrel communicating with the compression-cylinder.

2. In an air-gun, the combination of a barrel; a compression-cylinder forming a rearward extension of the barrel; a housing wholly inclosing the cylinder and serving to limit the forward movement of the cylinder therein; a piston; and a spring for the piston, said spring being adapted and arranged to be placed under compression by a rearward movement of the false barrel and cylinder.

3. In an air-gun, the combination of a barrel; a compression-cylinder forming a rearward extension thereof; a piston working in the cylinder; a spring serving normally to force the piston forwardly; a sear for holding the piston against the action of its impelling-spring; and a housing wholly inclosing the cylinder and its attendant parts and serving to limit the forward movement of the cylinder.

4. In an air-gun, the combination of a barrel; a cylinder forming a rearward extension thereof; a piston working in the cylinder; a spring-pressed plunger connected to the piston; a housing wholly inclosing the cylinder, plunger and spring; and a sear for engaging the plunger.

5. In an air-gun, the combination of a barrel; a cylinder formed as a rearward extension thereof; a piston working in said cylinder; a spring-pressed plunger connected by a stem to said piston; a spring located in rear of the plunger; and a housing wholly inclosing the cylinder, plunger and spring.

6. In an air-gun, the combination of a cylindrical housing provided at its forward end with an annular inwardly-projecting flange; a barrel; a cylinder forming a rearward extension of the barrel and movable to and fro in the housing, said cylinder likewise having a shoulder which coacts with the flange to prevent withdrawal of the cylinder from the housing; a piston working in the cylinder; and a spring for impelling the piston.

7. In an air-gun, the combination of a false barrel; a compression-cylinder connected to the rear end of the false barrel and movable therewith; a piston working in the cylinder; a housing wholly inclosing the cylinder and piston; a spring mounted within and inclosed by the housing, one end of the spring bearing against the piston while the opposite end thereof bears against the rear portion of the housing; and a true barrel communicating with the forward end of the cylinder.

8. In an air-gun, the combination of a stock; a housing; a block mounted in the rear end of the housing; a pin secured in the housing and block and having its lower end seated in an opening formed in the stock; a combined trigger-spring and sear; means for securing the forward end of the spring to the housing; a stem secured to said spring and extending through an opening formed in the forestock; a nut mounted on said stem; an air-compression mechanism mounted in the housing; and a barrel in communication with the compression mechanism.

9. In an air-gun, the combination of a housing; a false barrel; a compression-cylinder forming a rearwardly extension of said barrel and slidably mounted in the housing; a piston; a spring for actuating said piston; a true barrel slidably mounted in said false barrel but normally movable therewith; and means for arresting the movement of the true barrel and locking it in such arrested position as the false barrel is moved to the full extent of its rearward movement in the act of placing the spring under compression.

10. In an air-gun, the combination of a false barrel; a true barrel slidably mounted therein; a spring serving normally to press said true barrel rearwardly; and a lock serving to hold the true barrel forwardly with the spring under compression.

11. In an air-gun, the combination of a false barrel provided with a breech-opening; a true barrel slidably mounted therein; a spring acting to move said true barrel rearwardly; and a lock serving to hold the true barrel forwardly against the action of the spring, with the inner end of the true barrel in line with the breech-opening, whereby the charge may be readily introduced into said inner end of the true barrel through the breech-opening.

12. In an air-gun, the combination of a false barrel provided with a breech-opening; a true barrel slidably and rotatably mounted therein; a spring serving normally to move the true barrel rearwardly and thereby to close the breech-opening; and means to rotate and lock the true barrel when its inner end is in line with the breech-opening, whereby a charge may be readily introduced into said true barrel through said breech-opening.

13. In an air-gun, the combination of a housing; a false barrel having a breech-opening; a compression-cylinder formed as a rearward extension of said barrel and slidably mounted in the housing; means for securing a rectilinear movement of said cylinder within the housing; a piston; an impelling-spring therefor arranged to be placed under compression by and upon a rearward movement of the cylinder; a true barrel slidably mounted in the false barrel; a spring acting to force said true barrel rearwardly; and a handle secured to the true barrel and projecting through a slot formed in the false barrel, said slot having a cam-face and a locking-shoulder, the slot being located adjacent to the inner or rear end of the false barrel, whereby when the false barrel and cylinder are moved inwardly to compress the piston-spring, the endwise movement of the true barrel will be arrested and it will be locked with its inner end in line with the forward end of the breech-opening.

14. In an air-gun, the combination of a housing; a false barrel formed with a breech-opening; a cylinder formed as an extension of the false barrel and slidably mounted in the housing; lugs extending inwardly from the housing into a way or channel formed in the side of the cylinder; a piston; a spring for actuating the piston and adapted to be placed under compression by the inward movement of the cylinder; a true barrel provided with a breech-block; a spring acting to move the block beneath the breech-opening and to bring the true barrel into operative relation with the cylinder; and a handle extending outwardly from the breech-block through a slot formed in the false barrel adjacent to its inner end, said slot having a cam-face and a locking-shoulder.

15. In an air-gun, the combination of a false barrel provided with a breech-opening and with an aperture in its end wall; a true barrel slidably mounted within the false barrel; a breech-block carried by the true barrel adjacent to its inner end; a washer also carried by the true barrel and bearing at one side against the breech-block; and a spring serving to move the true barrel rearwardly and thereby to project the rear end of the true barrel into the aperture aforesaid, to close the breech-opening, and to effect a tight joint between the washer and the end wall of the false barrel.

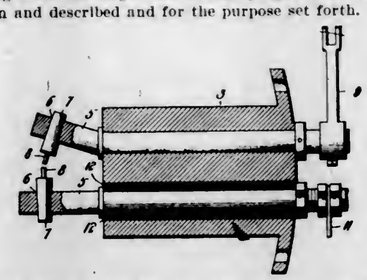
16. In an air-gun, the combination of a false barrel provided with a breech-opening; a true barrel mounted therein; a breech-block secured to the inner end of the true barrel, said block being of such a diameter as to properly position the true barrel; a bearing-block mounted within the forward end of the false barrel and serving as a support for the forward end of the true barrel; a spring encircling the true barrel and bearing at its opposite ends against the blocks aforesaid; and a sight extending through the false barrel, the inner end of the sight standing in front of the bearing-block and serving thereby to hold said block in place.

17. In an air-gun, the combination of a barrel; a compression-cylinder; a piston working in the cylinder; and a packing member secured to the forward end of the piston, said packing member having an annular cut or incision in its forward face, whereby a peripheral lip is formed, while the main body of the washer is kept intact.

18. In an air-gun, the combination of a barrel; a compression-cylinder; a piston; and a packing-washer of flexible material secured to the forward face of the piston, said washer having an annular cut or incision made in its forward face adjacent to its periphery.

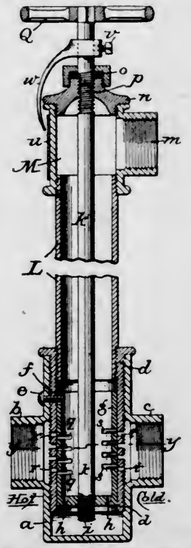
841,816. ELECTRIC SPARKER FOR GAS-ENGINES. REUBEN P. RALSTON, Woodsfield, Ohio. Filed Mar. 6, 1905. Serial No. 248,483.

Claim.—1. In an article of manufacture, an electrode for electric sparkers, comprising a cone-shaped plug having flat ends and a longitudinally-extending aperture formed therein, and a metallic contact-point removably secured in said aperture and having one of its ends projecting from the larger end of said plug, substantially as shown and described and for the purpose set forth.



2. An electric sparker for gas-engines, comprising a frame or body having longitudinally-extending bores or apertures of unequal diameters formed therein and an integral, apertured, attaching-flange at one of its ends, a sleeve of insulating material in the bore of larger diameter, a stationary stem fixed in said sleeve and having its inner, projecting end formed with a transversely-extending tapered opening, an oscillatory stem mounted to turn in the bore of smaller diameter and having its inner end bent angularly and formed with a transversely-extending, tapered opening, means upon the outer end of said oscillatory stem for rocking the same, cone-shaped plugs or electrodes removably wedged in the tapered openings in the inner ends of said stems and having longitudinally-extending apertures formed therein, and metallic contact-points removably secured in the apertures of said plugs and projecting out of the larger ends of the same, substantially as shown and described and for the purpose set forth.

841,817. REGULATOR FOR AUTOMATICALLY CONTROLLING THE FLOW AND TEMPERATURE OF LIQUIDS. WILLIAM C. RICKETTS, Dayton, Ohio. Filed July 13, 1905. Serial No. 269,451.



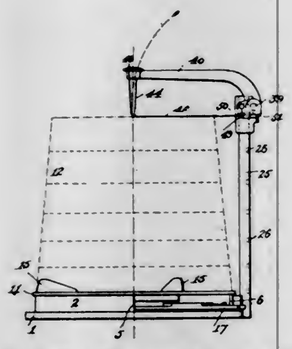
Claim.—1. In a regulator for automatically controlling the flow and temperature of liquids, the combination with a body portion having the ends adapted to receive water; of a sleeve adapted to rest within said body portion, and provided with ports; a sliding valve provided with ports and adapted to move within said sleeve; an expanding stem connected to said sleeve; a discharge end having a discharge or mouth; means for conducting the water from

said sleeve to said discharge end; means for operating said stem; and means for indicating the degree of temperature of the water desired; all substantially as and for the purposes described.

2. The combination in a regulator for liquids; of a body having receiving ends; a valve-sleeve provided with ports, those on one side being on the same horizontal plane with those on the other side, and adapted to rest securely within said body portion; a sliding valve provided with ports on opposite sides, the ports on one side being staggered with reference to those on the other side thereof, and also provided with means for utilizing the waste water; a stem sensitive to heat for supporting said valve by means of its screw-threads and adapted to work automatically by reason of contraction and expansion, a connecting-pipe; a discharge end having a discharge or mouth and a dial and indicating hand or pointer; all substantially as and for the purposes and in the manner described.

3. The combination in the herein-referred-to water-regulator, of a body provided with receiving ends; a valve-sleeve provided with slotted ports and adapted to rest within said body; a valve provided with slotted ports and waste-water openings and adapted to have a slight sliding movement within said sleeve; a stem sensitive to heat attached to the valve and provided with a hand-wheel or handle; a connecting pipe; a discharge end provided with a mouth a dial and indicating hand; all substantially as and for the purposes described.

841,818. MACHINE FOR CUTTING BUTTER OR THE LIKE MATERIAL. CHARLES E. ROBERTS and OWEN W. ROBERTS, Chicago, Ill. Filed Sept. 6, 1906. Serial No. 333,489.



Claim.—1. A machine for cutting butter or the like material, comprising a supporting-base, a rotary platform supported thereby, an upright standard, a carriage adjustable to successive positions upon said standard, a cutting member carried by said carriage, and a stationary dividing-plate and means carried by the carriage and cooperating with said dividing-plate for determining successive positions of the carriage and cutting member such that horizontal planes through the cutting member when in its successive positions will divide a butter cake resting upon the platform into a series of layers of equal weight.

2. A machine for cutting butter or the like material, comprising a supporting-base, a rotary platform supported thereby, an upright standard secured to said base, a carriage adjustable to successive positions upon said standard, a cutting member carried by said carriage, a stationary dividing-plate and means carried by the carriage and cooperating with said dividing-plate for determining successive positions of the carriage and cutting member such that horizontal planes through the cutting member when in its successive positions will divide a cake of butter resting upon the platform into a series of layers of equal weight, and means for rotating said rotary platform.

3. A machine for cutting butter or the like material, comprising a supporting-base, a rotary platform supported thereby, an upright standard secured to said base, a carriage adjustable to successive positions upon said standard, a cutting member carried by said carriage, a stationary dividing-plate and means carried by the carriage and cooperating with said dividing-plate for determining successive positions of the carriage and cutting member such that horizontal planes through the cutting member when in its successive positions will divide a butter cake resting upon the platform into a series of layers of equal weight, means for rotating the said rotary platform, and means for determining the angular distance through which said platform is rotated.

4. A machine for cutting butter or the like material, comprising a supporting-base, a rotary platform supported thereby, an upright standard secured to said base, a carriage movable upon said standard, a cutting member carried by said carriage, a stationary dividing-plate provided with a series of inclined grooves, a pin carried by the carriage and adapted to engage said grooves, means whereby the pin may be disengaged from said grooves, means for moving said pin in a horizontal direction to thereby adjust the cutting member, and means for rotating said rotary platform.

5. A machine for cutting butter or the like material, comprising a supporting-base, a rotary platform supported thereby, an upright standard secured to said base, a carriage movable upon said standard, a cutting member carried by said carriage, a stationary dividing-plate provided with a series of inclined grooves, a horizontal slot in said carriage, a hollow bolt adjustable in said slot, a nut for securing the bolt in its adjusted position, a pin movable in said hollow bolt and adapted to engage said grooves, and means for rotating said rotary platform.

6. A machine for cutting butter or the like material, comprising a supporting-base, a rotary platform supported thereby, an upright combined standard and dividing-plate secured to said base and comprising side flanges and a web connecting said flanges, said web being provided with a series of inclined surfaces, a carriage movable upon and guided by said flanges, a cutting member carried by said carriage, means carried by said carriage for engaging said inclined surfaces, said means being movable in a horizontal direction to thereby adjust the cutting member, and means for rotating said rotary platform.

7. A machine for cutting butter or the like material, comprising a supporting-base, a rotary platform supported thereby, an upright combined standard and dividing-plate secured to said base and comprising side flanges and a web connecting said flanges, said web being provided with a series of inclined grooves, a carriage movable upon and guided by said flanges, a cutting member carried by said carriage, a pin carried by said carriage, and adapted to engage said grooves, means whereby the pin may be disengaged from said grooves, means for moving said pin in a horizontal direction to thereby adjust the cutting member, and means for rotating said rotary platform.

8. A machine for cutting butter or the like material, comprising a supporting-base, a rotary platform supported thereby, an upright combined standard and dividing-plate secured to said base and comprising side flanges and a web connecting said flanges, said web being provided with a series of grooves, a carriage movable upon and guided by said flanges, a cutting member carried by said carriage, a horizontal slot in said carriage, a hollow bolt adjustable in said slot, a nut for securing said bolt in its adjustable position, a pin movable in said hollow bolt and adapted to engage said grooves, and means for rotating said rotary platform.

9. A machine for cutting butter or the like material, a supporting-base, a rotary platform supported thereby, an upright standard secured to said base, a carriage movable upon said standard, a horizontal shaft supported in bearings in said carriage, a cutting member carried by said shaft, a stationary dividing-plate provided with a series of inclined grooves, a pin carried by the carriage and adapted to engage said grooves, means whereby the pin may be disengaged from said grooves, means for moving said pin in a horizontal direction to thereby adjust the cutting member, and means for rotating said rotary platform.

10. A machine for cutting butter or the like material, comprising a supporting-base, a rotary platform supported thereby, an upright combined standard and dividing-plate secured to said base and comprising side flanges and a web connecting said flanges, said web being provided with a series of inclined surfaces, a carriage movable upon and guided by said flanges, a horizontal shaft supported in bearings in said carriage, a cutting member carried by said shaft and capable of oscillatory movement about the axis thereof, stops for limiting the downward movement of said cutting member, means carried by said carriage for engaging said inclined surfaces, said means being movable in a horizontal direction to thereby adjust the cutting member, and means for rotating said rotary platform.

11. A machine for cutting butter or the like material, comprising a supporting-base, a rotary platform supported thereby, an upright combined standard and dividing-plate secured to said base and comprising side flanges and a web connecting said flanges, said web being provided with a series of grooves, a carriage movable upon and guided by said flanges, a horizontal shaft supported in bearings in said carriage, a cutting member carried by said shaft and capable of oscillatory movement about the axis thereof, stops for limiting the downward movement of said cutting member, a horizontal slot in said carriage, a hollow bolt adjustable in said slot, a nut for securing said bolt in its adjusted position, a pin movable in said hollow bolt and adapted to engage said grooves, and means for rotating said rotary platform.

12. In a machine for cutting butter or the like material, a supporting-base, a rotary index-plate supported by said base, a rotary platform of circular form located above said index-plate, means extending upward from said base and contacting with said rotary platform near the periphery thereof to support said platform, a projection upon said index-plate adapted to engage said platform to drive it, and means for rotating said index-plate.

13. In a machine for cutting butter or the like material, a supporting-base, a rotary index-plate supported by said base, a rotary platform of circular form located above said index-plate, a supporting member extending upwardly from said base and contacting with said rotary platform near its periphery to thereby support said platform, a projection upon said index-plate adapted to engage said platform to drive it, and means for determining the angular distance through which said index-plate is rotated.

14. In a machine for cutting butter or the like material, a supporting-base, a rotary plate supported by said base, a rotary platform of circular form located above said plate, means extending upwardly from said base and contacting with said rotary platform near its periphery thereof to support said platform, a projection upon said plate adapted to engage said platform to drive it, and means for rotating said plate.

15. In a machine for cutting butter or the like material, a supporting-base having an upwardly-extending rim annular in form but cut away for a part of its length, a rotary platform of circular form supported at its periphery by said rim, a rotary index-plate beneath said platform and supported on said base, means for connecting the index-plate and platform and means operable in the space left by the cut-away portion of said rim for rotating said plate and platform.

16. In a machine for cutting butter or the like material, a supporting-base having an upwardly-extending rim annular in form but cut away for a part of its length, a rotary platform of circular form supported at its periphery by said rim, a rotary index-plate located beneath said platform and supported by said base, a projection upon said index-plate adapted to engage said platform to drive it, and an operating member located between the platform and index-plate and operable in the space left by the cut-away portion of said rim for rotating said plate.

17. In a machine for cutting butter or the like material, a supporting-base having an upwardly-extending rim annular in form but cut away for a portion of its length, a circular rabbet formed in said base, a rotary platform of circular form supported at its periphery by said rim, a rotary index-plate supported at its periphery in said rabbet, a projection upon said index-plate adapted to engage said platform to drive it, and an operating member for said plate located between the platform and index-plate and operable in the space left by the cut-away portion of said rim, said operating member comprising a ring portion surrounding the said projection and a lever portion extending beyond the periphery of the rotary platform.

18. In a machine for cutting butter or the like material, supporting-base having an upwardly-extending rim annular in form but cut away for a part of its length, a circular rabbet formed in said base adjacent the lower limit of said rim, a rotary platform of circular form supported at its periphery by said rim, a rotary index-plate supported at its periphery in said rabbet, an annular flange provided with a notch in its upper surface and extending upwardly from said index-plate, a downwardly-depending annular flange upon said platform engaging said upwardly-extending flange and provided with a lug adapted to enter the notch aforesaid, and an operating member for said plate located between the platform and index-plate and operable in the space left by the cut-away portion of said rim, said operating member comprising a ring portion surrounding the flange on the index-plate and a lever portion extending beyond the periphery of the rotary platform.

19. In a machine for cutting butter or the like material, a supporting-base, a rotary index-plate supported by said base, a rotary platform of circular form located above said index-plate, a supporting member extending upwardly from said base and contacting with said rotary platform near its periphery to thereby support said platform, means for rotating said index-plate, and a driving connection through which rotary motion of the index-plate is transmitted, to the platform.

20. In a machine for cutting butter or the like material, a supporting-base having an upwardly-extending rim annular in form but cut away for a part of its length, a rotary platform of circular form supported at its periphery by said rim, a rotary index-plate located beneath said platform and supported by said base, an operating member for rotating said index-plate located between said platform and index-plate and operable in the space left by the cut-away portion of said rim, and a driving connection through which rotary motion of the index-plate is transmitted to the platform.

21. In a machine for cutting butter or the like material, a rotary plate circular in form having a plurality of series of holes arranged in circles concentric with the axis of said plate, the holes in each series being spaced equally and the space between adjacent holes in the several series increasing from the inner to the outer series, an upwardly-extending annular flange formed integral with said plate, an operating member comprising a ring portion surrounding said flange and a lever extending beyond the periphery of said plate, a slide adjustable in guides upon said lever and provided with a pin adapted to engage the holes in said plate, means for securing said slide against accidental displacement, a scale for indicating the position of said slide, and stops for limiting the movement of said operating member.

22. In a machine for cutting butter or the like material, a rotary plate having a series of holes arranged in a circle concentric with the axis of said plate, the holes being equally spaced, an operating-lever supported at its inner end upon said plate and extending beyond the periphery thereof, a pin carried by said lever and adapted to engage the holes in said plate, and stops for limiting the movement of said lever.

32. In a machine for cutting butter or the like material, a supporting-base having an upwardly-extending rim annular in form but cut away for a part of its length, a rotary platform supported by said rim, a rotary index-plate beneath said platform and supported on said base, means for connecting the index-plate and platform, and means operable in the space left by the cut-away portion of said rim for rotating said plate and platform.

24. In a machine for cutting butter or the like material, a supporting-base having an upwardly-extending rim annu-

lar in form but cut away for about one-fourth of its length, a circular rabbet formed in said base adjacent the lower limit of said rim, a rotary platform supported by said rim, a rotary index-plate beneath said platform and supported on said rabbet, means for connecting the index-plate and platform, and means operable in the space left by the cut-away portions of said rim for rotating said plate and platform.

25. In a machine for cutting butter or the like material, a supporting-base annular in form and having an upwardly-extending rim annular in form but cut away for a portion of its length, a rotary platform supported on said base, a projection 4 upon said base, an upright combined standard and dividing-plate secured to said projection and comprising side flanges and a web connecting said flanges, said web being provided with a series of grooves, a carriage movable upon and guided by said flanges, a cutting member carried by said carriage, a horizontal slot in said carriage, a hollow bolt adjustable in said slot, a nut for securing said bolt in its adjustable position, a pin movable in said hollow bolt and adapted to engage said grooves, and means for rotating said rotary platform.

26. In a machine for cutting butter or the like material, a supporting-base, a platform supported thereby, an upright standard having a series of grooves and attached to the base, a carriage movable on said standard and comprising guides and a web portion connecting said guides, horizontally-arranged bearings in said carriage, a cutting member supported in said bearings, a horizontal slot in said web portion, a hollow bolt adjustable horizontally in said slot, a nut for securing said bolt in its adjustable position, a pin slidable in said hollow bolt and adapted to engage the grooves of the standard.

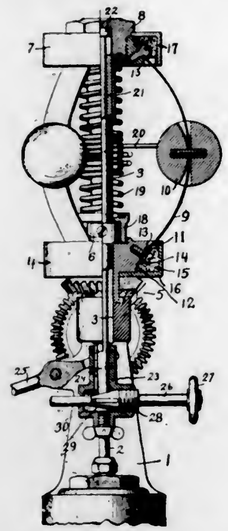
27. In a machine for cutting butter or the like material, a supporting-base, a platform supported thereby, an upright standard attached to the base, a carriage adjustable on said standard, a suporting-shaft on said carriage, a cutter-arm supported at its inner end by said shaft, a wire support at the outer end of said cutter-arm, a groove extending along said wire support, a split bearing adjacent the inner end of said cutter-arm, a rotary pin in said bearing, a screw for compressing said bearing to thereby secure the pin against rotation, and a wire secured to the cutter-arm and lying in said groove and extending to said pin.

28. In a machine for cutting butter or the like material, a supporting-base, a platform supported thereby, a combined supporting-standard and dividing-plate attached to the base and comprising guiding-flanges, a web portion between the flanges and a series of inclined grooves in said web portion, a carriage movable on said standard and comprising guides and a web portion connecting said guides, horizontally-arranged bearings in said carriage, a horizontal slot in said web portion, a hollow bolt adjustable horizontally in said slot, a nut for securing said bolt in its adjustable position, a pin slidable in said hollow bolt, and adapted to engage the grooves of the standard.

29. In a machine for cutting butter or the like material, a supporting-base, a platform supported thereby, a combined supporting-standard and dividing-plate attached to the base and comprising guiding-flanges, a web portion connecting the flanges and a series of grooves inclined at progressively-increasing angles formed in said web portion, a carriage movable on said standard and comprising guides and a web portion connecting said guides, horizontally-arranged bearings in said carriage, a cutting member supported in said bearings, a horizontal slot in said web portion, a hollow bolt adjustable horizontally in said slot, a nut for securing said bolt in its adjustable position, a pin slidable in said hollow bolt, and adapted to engage the grooves of the standard.

841,819. GOVERNOR. WILLIAM N. RUMELY and CHARLES N. WALSH, Laporte, Ind. Filed Mar. 16, 1906. Serial No. 306,350.

Claim.—1. A governor comprising a disk provided with a peripheral notch having its inner wall formed with concave and convex portions, a spring having its end fitted in said notch against the concave portion of said wall and free of its convex portion, and a screw drawing the end of the spring to the wall, combined substantially as set forth.



2. A governor comprising a peripherally-notched disk, springs having ends seated in the notches, a cup covering the periphery and one face of the disk, and means for holding the cup against the disk, combined substantially as set forth.

3. A governor comprising a hollow fixed stud, a whirl mounted to turn on the base thereof, a collar fixed on the stud above the whirl, a cup inclosing the collar and resting on the whirl, and a helical spring surrounding the stud and resting on the cup, combined subtantially as set forth.

4. A governor comprising a valve-stem, a coupling secured thereto and having an axial socket, a governor-rod sliding in said socket, a cone fitted for endwise motion in the coupling at right angles to the governor-rod and supporting the same, and means for adjusting the cone endwise, combined substantially as set forth.

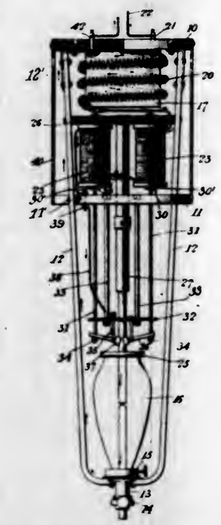
5. A governor comprising a valve-stem, a coupling secured thereto and having an axial socket, a governor-rod feathered in said socket, a cone fitted for endwise motion in the coupling at right angles to the governor-rod and supporting the same, and means for adjusting the cone endwise, combined substantially as set forth.

6. A governor comprising a valve-stem, a coupling secured thereto and having an axial socket, a governor-rod sliding in said socket, a cone fitted for endwise motion in the coupling at right angles to the governor-rod and supporting the same, and a screw connected with the cone for adjusting the cone endwise, combined substantially as set forth.

7. A governor comprising a valve-stem, a coupling secured thereto and having an axial socket, a governor-rod sliding in said socket, a cone fitted for endwise motion in the coupling at right angles to the governor-rod and supporting the same and provided with a series of facets to receive the foot of the rod, and a screw connected with the cone for adjusting the cone endwise, combined substantially as set forth.

8. A governor comprising a coupling having an upper and a lower socket, a valve-stem screwed into the lower socket, a governor-rod feathered in the upper socket, a spindle screwed into the socket at right angles to the rod; a handle on the spindle, and a facetted cone carried by the spindle and receiving the foot of the rod, combined substantially as set forth.

841,820. ELECTRIC-ARC LAMP. BRAXTON L. SCOTT, Washington, D. C. Filed Sept. 6, 1905. Serial No. 277,188.



Claim.—1. In an arc-lamp, a frame including upper and lower disks, the lower disk being provided with a pair of diametrically opposed notches, a pair of side bars extending through said notches and secured to the disk, the upper ends of said bars being secured to the upper disk, the lower ends of said bars converging and forming a support for the lower carbon and globe, a casing connecting the upper and lower disks, an insulating cross-bar arranged at a point between the upper and lower disks and connected to and supported by the side bars, a steadying resistance arranged in the space between the cross-bar and the upper disk, a pair of series magnets supported by and depending from the cross-bar, and a carbon-clutch under the control of said magnets.

2. In an arc-lamp, the combination with electromagnets, of a pair of rigid bars or rods provided with stops at their lower ends, a cross-bar having openings for the passage of said bars or rods and also provided with an opening for the passage of the upper carbon, hanger-rods depending from the cross-bar and disposed in parallel relation, carbon-clutch members pivoted to the hanger-rods, vertically-guided armature-carrying rods, the lower ends of which extend through openings formed in the cross-bar and in the clutching members, and electromagnets adjacent to the armature.

841,821. CABLE-TRACTION DEVICE. ISAAC D. SMEAD, Cincinnati, Ohio. Filed Oct. 9, 1906. Serial No. 338,157.

Claim.—1. In combination with an endless cable; means for driving the same, the upper and lower stretches of the cable being in substantial vertical alinement; a series of trucks secured to the cable; a track for supporting the trucks carried by the lower stretch of the cable; a track for supporting the trucks upon the upper stretch of the cable; and a third track to prevent upward displacement of the trucks on the upper stretch of the cable.

2. In combination with a conduit provided with a slot; an endless cable mounted therein; a series of supporting-trucks secured to the cable; means for driving the cable; tracks for supporting said trucks; a fixed hook or member carried by each of the trucks, said hook standing at all times within the conduit; an engaging hook passing into the conduit and adapted to engage one or another of the hooks carried by the trucks; and means for automatically shifting the engaging hook and disengaging the same when the hooks have reached a predetermined point in the course of travel of the cable.

3. In combination with an endless cable; a series of trucks secured thereto; a hook carried by each of said trucks, the hook being provided with an engaging face inclined toward one side; and a second hook provided with a complemental face, said second hook being arranged to pass through a slot above the upper stretch of the cable, the slot being inclined to one side at a predetermined point of travel of the cable, whereby said hooks will be disengaged.



4. In combination with an endless cable; means for driving the same; a conduit in which said cable is placed; a series of trucks secured to said cable; supporting-tracks for said trucks mounted in the conduit; a hook formed upon each of said trucks, said hook being provided with an inclined face; and an engaging member arranged to cooperate with said hooks, the engaging member being provided with a reversely-inclined face and arranged to pass into the curved portion of a slot formed above the conduit, whereby said parts will be disengaged when the engaging member reaches said curved portion, substantially as described.

5. In combination with an inclined way or road; a conduit located beneath said road; an endless cable mounted within said conduit; means for driving said cable; a series of trucks secured to said cable; tracks adapted to support the wheels of the trucks upon the lower stretch of the cable; a second pair of tracks arranged to support the wheels of the trucks upon the upper stretch of the cable; a third pair of tracks extending inwardly over the wheels of the trucks of the upper stretch of the cable; a hook carried by each of said trucks; and an engaging member arranged to coöperate with said hooks, the faces of said hooks and engaging member being reversely inclined, whereby when the engaging member reaches the curved portion of a slot formed above the conduit it will move to one side and out of engagement with a hook.

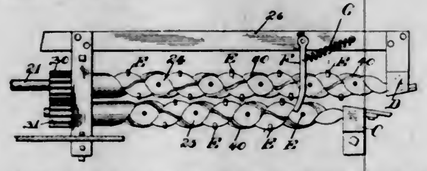
6. In combination with an endless cable; a series of combined engaging and supporting members secured thereto, each of said members being formed of two parts arranged to clamp the cable, one portion carrying a hooked member while the other portion is provided with laterally-extending axles; wheels arranged upon said axles; and means for

supporting said wheels throughout the various stretches of the cable.

7. In combination with an inclined roadway; a conduit arranged beneath the same; an endless cable mounted in said conduit; hooks carried by said cable; an engaging member arranged to coöperate with said hooks and to be thrown out of engagement therewith when said member reaches the upper end of the roadway; and a reversely-inclined roadway arranged adjacent to the upper end of the first inclined roadway, whereby the draft upon the engaging member will be relieved when it is moved out of engagement with a hook.

8. In combination with a conduit provided with a slot having a laterally-deflected portion adjacent to one end thereof; an endless cable mounted in the conduit; means for maintaining the cable in its proper course of travel within the conduit; a hook carried by the cable; a second hook passing down through the slot and arranged to engage the hook on the cable; and means for driving the cable.

841,822. CORN HARVESTING AND HUSKING MECHANISM. HENRY STEINER, Homewood, Ill., assignor to August Steiner, Homewood, Ill. Filed Jan. 3, 1902. Serial No. 88,350.



Claim.—1. In a machine of the class described, snapping-rolls having rounded spirally-corrugated surfaces adapted to mesh one with the other, in combination with adjustable pins mounted in the raised parts of said spirally-corrugated surfaces of one or the other or both of said rolls, as and for the purpose set forth.

2. In a machine of the class described, snapping mechanism comprising rolls having rounded spirally-corrugated surfaces and spiral ribs projecting therefrom, in combination with pins or projections arranged in the raised parts of said surfaces, as and for the purpose set forth.

3. In a machine of the class described, snapping-rolls having spirally-corrugated surfaces and spiral ribs, in combination with pins or projections arranged in the raised parts of said corrugated surfaces and in rows substantially parallel with said ribs, as and for the purpose set forth.

4. In a machine of the class described, snapping-rolls, in combination with shield-plates arranged thereover, and means for adjusting one of said plates toward and from the other to vary the inclination thereof, as and for the purpose set forth.

5. In a machine of the class described, snapping-rolls for detaching ears of corn from the stalks, a conveyer for receiving the detached ears, and shield-plates arranged over said snapping-rolls to prevent the stalks from falling upon said conveyer, one of said shield-plates being adjustable toward and from the other to vary the inclination thereof, as and for the purpose set forth.

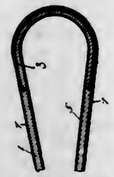
6. In a machine of the class described, the combination with solid, corrugated snapping-rolls arranged longitudinally with respect to the direction of motion of the machine and being of different lengths, and means for rotating said rolls in opposite directions, of a rigid abutment arranged opposite the operative face of the longer one of the rolls and contiguous to the end of the shorter roll for receiving the impact of an ear which might become lodged between the rolls, and thereby serving to crush such ear.

7. In a machine of the class described, the combination with solid, ribbed snapping-rolls arranged longitudinally with respect to the direction of motion of the machine, and projecting one in advance of the other at their forward ends, and means for rotating said rolls in opposite directions, of a rigid abutment arranged opposite the operative face of the longer one of the rolls and contiguous to the end of the shorter roll for receiving the impact of an ear which might become lodged between the rolls, and thereby serving to crush such ears, one of said rolls being tapered contiguous to said abutment.

8. In a machine of the class described, the combination with snapping-rolls arranged longitudinally with respect to the direction of motion of the machine and projecting one in advance of the other at their forward ends, and means for rotating said rolls in opposite directions, of a rigid abutment arranged opposite the operative face of the longer one of the rolls and contiguous to the end of the shorter roll for receiving the impact of an ear which might become lodged between the rolls, and thereby serving to crush such ear, said abutment being inclined with respect to the length of the rolls with its forward end deflected outwardly from the line of movement of the machine.

9. In a machine of the class described, the combination with solid, corrugated snapping-rolls arranged longitudinally with respect to the direction of motion of the machine and projecting one in advance of the other at their forward ends, the forward ends of both of said rolls being tapered, and means for rotating said rolls in opposite directions, of a rigid outwardly-deflected abutment arranged opposite the operative face of the longer one of the rolls and contiguous to the end of the shorter roll for receiving the impact of an ear which might become lodged between the rolls, and thereby serving to crush such ear.

841,823. BINDER OR HOLDER FOR CARDS, &c. FRED C. STORRS, Chicago, Ill. Filed May 1, 1905. Serial No. 258,399.



Claim.—1. As a new and useful article of manufacture a device for the purpose described comprising in combination a continuous strip of pasteboard bent into approximately U shape with its ends converging, springs secured to the outside of the pasteboard around the bend thereof and complementary in shape thereto, and a cover cemented to the sides or end portions of the pasteboard and extending around the said bend but uncemented at the bend.

2. As a new and useful article of manufacture a device for the purpose described comprising in combination a strip of pasteboard bent into approximately U shape with its ends converging, U-shape springs fitted around the outside of the bend of said board and embedded in the outer face thereof flush therewith, and a cover secured over the outer side of the pasteboard from end to end and covering said springs.

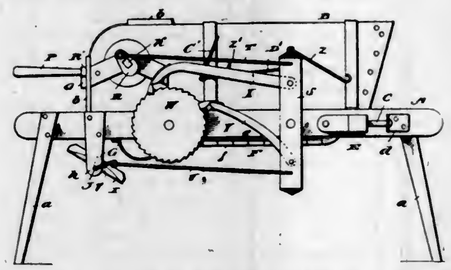
3. As a new and useful article of manufacture a device for the purpose described comprising in combination a single strip of pasteboard bent into approximately U shape with its end converging, U-shape springs secured around the bend of the board on the outer side thereof, a continuous cover extending from end to end of the board around said bend and over said springs, said cover being cemented to the board from its ends to the bend and free from the board around the bend.

841,824. OVERALLS. CLINTON W. SWEET, Yonkers, N.Y., assignor to Sweet, Orr & Company, Newburgh, N. Y., a Firm. Filed July 2, 1904. Serial No. 215,120.

Claim.—Full-fashioned overalls, having legs constructed of front and back leg-sections of substantially equal width from crotch to bottoms and united by side seams, the outside seams extending only to a point just below the knees, the front leg-sections extending straight down from said point to the bottom, the back leg-sections having triangular portions extending from a point just below the knees to the bottoms turned back and secured to the inner side of said back leg-sections to form normally open triangular gaps in the bottoms of the legs, facings secured to the inner free edges of the front leg-sections, and complemental fastenings on the free edges of the gaps to secure said edges when drawn together to close the gaps about the wearer's feet.



841,825. GIN-FEEDER. STEPHEN E. THOMAS, Hagan, Ga. Filed Dec. 28, 1905. Serial No. 293,641.

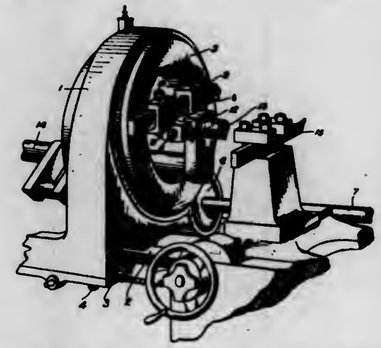


Claim.—1. In a gin-feeder, the combination of a receiving box or hopper, a feed-cylinder mounted in said box or hopper and having a crank, an apron, rollers supporting the said apron; one of said rollers being provided with a ratchet-wheel, a vertical lever, a connection intermediate the crank on the feed-cylinder and one arm of said lever, a gravitating dog arranged to engage the teeth of the ratchet-wheel and pivoted to the said lever, a vertically-rocking chute arranged in one position to receive cotton from the apron and immediately discharge the cotton in one direction and in another position to receive cotton from the apron and immediately discharge the cotton in the opposite direction, and a connection between the lever and the chute for operating the latter by the former.

2. In a gin-feeder, the combination of a receiving box or hopper having a discharge, means in the receiving box or hopper for moving cotton toward said discharge, a vertically-rocking chute arranged in one position to receive cotton as the same drops from the discharge of the receiving box or hopper and immediately discharge the cotton in one direction and in another position to receive cotton as the same drops from the discharge of the receiving box or hopper and immediately discharge the cotton in the opposite direction, and means for rocking the chute.

3. In a gin-feeder, the combination of a receiving box or hopper, a feed-cylinder mounted in said box or hopper, and having a crank, an apron, rollers supporting the said apron; one of the said rollers being provided with a ratchet-wheel, a vertical lever, a connection intermediate the crank on the feed-cylinder and one arm of said lever, a gravitating dog arranged to engage the teeth of the ratchet-wheel and pivoted to the said lever, a rocking chute arranged to receive cotton from the apron and discharge the same first in one direction and then in another direction; said chute having a crank, and a connection between the lever and the crank of the chute.

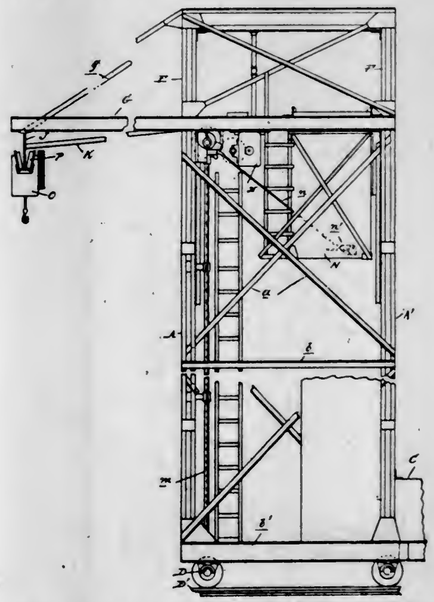
841,826. MECHANISM FOR HOLDING CRANK-SHAFT PINS IN TURNING-LATHES. ADAM TINDEL, Philadelphia, Pa., assignor to Tindel Morris Company, Eddystone, Pa., a Corporation of Pennsylvania. Filed Nov. 20, 1905. Serial No. 288,166.



Claim.—1. A revoluble carrier with an opening therethrough, a bar fixed to said carrier and disposed across said opening, jaws adjustable on and fixable to said bar, and means for clamping said jaws to the work.

2. A yoke, a toothed ring revoluble in said yoke, a pinion engaging and revolving said ring, a bar extending across and fixed to said ring, a pair of jaws sleeved on said bar and fixable thereto, and means for clamping said jaws to the work.

841,827. GAUNTREE-CRANE. GEORGE A. TRUE, Detroit, Mich., assignor to Northern Engineering Works, Detroit, Mich., a Corporation of Michigan. Filed May 14, 1906. Serial No. 316,873.



Claim.—1. In a gauntree-crane, the combination with pairs of legs, each of said pairs being cross-connected, wheeled trucks on the legs, girders connecting the pairs of legs and knee-braces therefor, of a plurality of transverse bridge-arms projecting from the girders, a bridge-beam carried by the projecting ends of said arms, a hoist

traveling on said bridge-beam, and counterweights on said legs for the purpose described.

2. In a gauntree-crane, the combination with pairs of legs, each of said pairs being cross-connected, wheeled trucks on the legs, girders connecting said pairs of legs and knee-braces therefor, of a plurality of transverse bridge-arms carried by and projecting from said girders, a bridge-beam carried by the projecting ends of said arms, braces connecting the ends of said arms with the tops of said girders, a hoist traveling on said bridge-beam, and counterweights on said legs, for the purpose described.

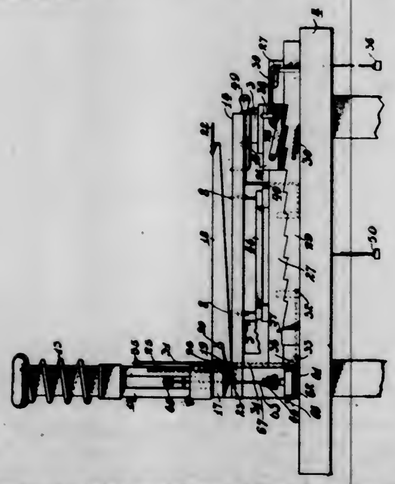
3. In a gauntree-crane, the combination with pairs of legs, each of said pairs being cross-connected, wheeled trucks on the legs, girders connecting said pairs of legs and knee-braces therefor, of a plurality of transverse bridge-arms carried by and projecting from said girders, braces connecting the ends of said arms with the tops of said girders, a bridge-beam carried by the projecting ends of said arms, a hoist traveling on said bridge-beam, a cab below said girders, and counterweights on said legs for the purpose described.

4. In a gauntree-crane, the combination with a track, of spaced legs arranged for travel on said track, span-girders connecting the legs, and a bridge outside of the vertical plane of the legs, supported by said girders, and extending transversely to said track, whereby said bridge may project beyond the end of said track, for the purpose described.

5. In a gauntree-crane, the combination with a track, of legs arranged for travel thereon, span-girders connecting the legs, a bridge outside of the vertical plane of the legs, supported on said girders, and extending transversely of said track, and a hoist mounted for travel longitudinally of said bridge whereby the course of travel may be transverse to and beyond the end of said track.

6. In a gauntree-crane, the combination with a track, of legs arranged to travel thereon, span-girders connecting the legs, a bridge supported by said girders and extending longitudinally thereof and transverse to said track outside of the vertical plane of the legs, and a traveling hoist mounted on said bridge and moving parallel with said span-girders outside of the vertical plane of the legs, whereby said hoist may project beyond the end of said track.

841,828. STAMP-AFFIXING MACHINE. WILLIAM C. VAN VLIET, Brooklyn, N. Y. Filed Apr. 9, 1904. Serial No. 202,326.



Claim.—1. In a stamp-affixing machine, a flat table composed of two parts separated to form a space between them to receive a sheet of stamps, means operating in said space for intermittently feeding the stamps forward, an auxiliary table composed of two parts, separated to form a space parallel and in a plane with the first-named table, means operating in said space of the last-mentioned table for feeding a row of stamps forward at right angles to the movement of the stamps on the first-named table, a cutter operating between the adjacent edges of the said tables, a plunger for applying the stamps located at one end of the said auxiliary table and means for moistening the stamps, substantially as described.

2. In a stamp-affixing machine a flat table adapted to hold a row of stamps and composed of two stationary parts, one above the other, one of said parts being formed with a longitudinal slot, a feeding device arranged to operate in said slot and means for operating said feeding device for intermittently feeding the row of stamps forward from end to end of said table, substantially as described.

3. In a stamp-affixing machine a flat main table, an auxiliary table parallel and in a plane with the said main table and composed of two parts separated to form a space open at the edge adjacent to said main table to receive a row of stamps from said main table, a feeding device located in said space and means for moving said feeding device forward step by step from end to end of said space, substantially as described.

4. In a stamp-affixing machine a table adapted to receive a row of stamps, a feeding-finger for moving the stamps forward, a carriage upon which said feeding-finger is mounted, a rack-bar, means for reciprocating said rack-bar, a pawl on said carriage adapted to engage with the teeth of the rack-bar, and means for holding the carriage in stationary position during the backward movement of the rack-bar substantially as described.

5. In a stamp-affixing machine a main flat table having one or more slots in the bottom thereof, a rack-bar, means for reciprocating said rack-bar, a carriage operated by said rack-bar, feeding devices mounted on said carriage, means for holding the carriage during the backward movement of the rack-bar in combination with an auxiliary table arranged to receive rows of stamps from a sheet of stamps on the main table and means for feeding the rows of stamps endwise on said auxiliary table, substantially as described.

6. In a stamp-affixing machine a main flat table composed of two parts separated to form a space to receive a sheet of stamps one of the parts of the table being formed with one or more slots, a traveling carriage having feed-fingers entering said slots, and a reciprocating rack-bar for intermittently moving said carriage, substantially as described.

7. In a stamp-affixing machine a flat table 5 having one or more slots 7 therein, a plate 9 spaced from said table 5, a flat table 14 parallel with the table 5 and spaced therefrom, a cutting device operating between the adjacent edges of the table 5 and table 14 and feeding devices applied to said tables and operating horizontally and intermittently at right angles to each other substantially as described.

8. In a stamp-affixing machine a table composed of two parts between which the stamps are held one of said parts having one or more slots therein, another table composed of two parts one of which is slotted at right angles to the slots in the first-named table, a cutting device for severing the stamps between said tables, a feeding device for each of said tables operating at right angles to each other, a plunger for applying the stamps, a cutting device for severing the stamps between the plunger and the last-mentioned table substantially as described.

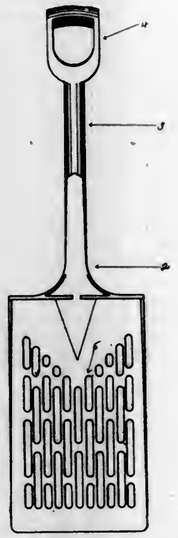
9. In a machine for affixing stamps a table having a space in which the stamps are held flat, a plunger for applying the stamps, a reciprocating rack-bar, a carriage intermittently operated the width or length of a stamp by said rack-bar and a feeding-finger carried by said carriage, substantially as described.

10. In a machine for affixing stamps a rack-bar, a plunger, means connecting the plunger with the said rack-bar for moving the latter in one direction, means for moving the rack-bar in the opposite direction, a carriage provided with a pawl arranged to engage the notches of the rack-bar, feed-fingers attached to said carriage and a table having a space for holding the stamps in flat position, substantially as described.

11. In a machine for affixing stamps a rack-bar, a plunger, means connecting the plunger to said rack-bar for moving it in one direction, means for moving the rack-bar in the opposite direction, a carriage having a pawl arranged to engage with the teeth of the rack-bar, means for disengaging the pawl from the rack-bar and means for engaging the pawl with the rack-bar, means for returning the carriage to its starting-point, feeding devices attached to said carriage, a table having a space for holding stamps in flat condition and means for preventing the carriage from moving backward with the backward movement of the rack-bar substantially as described.

12. In a machine for affixing stamps a main table having a space for holding stamps in flat condition, a carriage provided with a feeding device for said stamps, a reciprocating rack-bar 47, a pawl on the carriage arranged to engage with the notches of the rack-bar and means for preventing the carriage from moving backward with the backward movement of the rack-bar, substantially as described.

841,829. METHOD OF CONSTRUCTING CONCRETE WALLS. VINCENT S. VAUGHAN, Chicago, Ill. Filed Oct. 12, 1906. Serial No. 338,601.



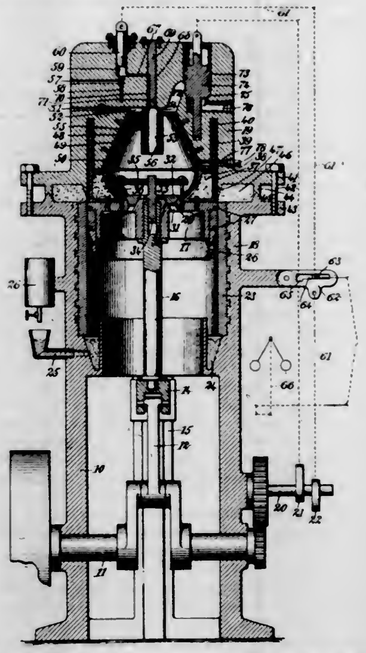
Claim.—1. The method of forming concrete walls consisting in separating the different particles of the mass after the same has been placed in position.

2. The method of forming concrete walls consisting in separating the different particles of the mass after the same has been placed in position and forcing the coarser particles away from the front of the wall.

841,830. INTERNAL-COMBUSTION ENGINE. FREDERICK WACKENHUTH, Newark, N. J. Filed Apr. 19, 1905. Serial No. 256,339.

Claim.—1. An internal-combustion engine having a liquid-fuel pump arranged to discharge such liquid fuel into the working cylinder, a working piston operating in the working cylinder, and means for driving the pump in synchronism with the working piston to cause the pump and working pistons to exert their suction-strokes simultaneously.

2. An internal-combustion engine having a working cylinder, a working piston operating therein, a pump-chamber having valveless communication with the working cylinder, a plunger operating in the cylinder, and means for driving the plunger, said means causing the pump-plunger to exert its suction-stroke simultaneously with the suction-stroke of the working piston.



3. An internal-combustion engine having a combustion-tube therein adapted to receive the fuel at one end, and to discharge it into the working cylinder at the other end, said tube having an air-inlet opening adjacent to the receiving end, the tube also having an interior prong adjacent to its discharge end.

4. An internal-combustion engine using a liquid fuel, having a fuel-inlet passage and a plug in the passage, the plug having a longitudinal groove leading to the discharge end, and an annular groove communicating with the first-named groove and located adjacent to said discharge end, the end of the plug beyond the annular groove being reduced and spaced from the walls of the passage, for the purpose specified.

5. An internal-combustion engine having a cylinder and cylinder-head, one of said parts having an annular rib, and the other of said parts having an annular rib with a groove in the edge receiving the edge of the first-named rib.

6. An internal-combustion engine having a cylinder and cylinder-head, one of said parts having an annular rib, and the other of said parts having an annular rib with a groove in the edge receiving the edge of the first-named rib, whereby to join the head and cylinder, and the head having a second annular rib inwardly of the first-named rib forming a space adapted to receive a non-conducting material.

7. An internal-combustion engine having a piston with an annular metallic case attached to the face thereof and adapted to receive a non-conducting material, and an annular shell projecting from the case and adapted to enter the annular cavity in the cylinder-head.

8. An internal-combustion engine having a combustion-tube in its working chamber, adapted to receive fuel at one end and discharge it from the other end, said tube having interior metallic prongs, for the purpose specified.

9. An internal-combustion engine having a combustion-tube in its working chamber adapted to receive fuel at one

end and discharge it from the other end, said tube having interior metallic prongs, for the purpose specified, located directly adjacent to the discharge end of the tube.

10. An internal-combustion engine using a liquid fuel, having a fuel-inlet passage, and a plug in said passage, said plug having a groove therein leading to the end of the plug adjacent to the working cylinder of the engine, and said end of the plug being reduced to space it from the walls of said passage.

11. An internal-combustion engine having a cylinder, a cylinder-head formed with a combustion-chamber therein, and with an annular cavity outward from the combustion-chamber and communicating with the cylinder, a working piston operating in the cylinder, an annular metallic shell fastened to the piston and adapted to enter said annular cavity of the cylinder-head when the piston is in its inner position, a non-conducting material lining the walls of the combustion-space of the cylinder-head, and a sheet-metal covering for retaining said non-conducting material.

12. An internal-combustion engine having a cylinder, a cylinder-head formed with a combustion-chamber therein, and with an annular cavity outward from the combustion-chamber and communicating with the cylinder, a working piston operating in the cylinder, an annular metallic shell fastened to the piston and adapted to enter said annular cavity of the cylinder-head when the piston is in its inner position, a non-conducting material lining the walls of the combustion-space of the cylinder-head, a sheet-metal covering for retaining said non-conducting material, and an ignition-tube located in said combustion-space and adapted to receive the fuel as it is entered thereinto, said ignition-tube being sustained by the said sheet-metal covering.

13. An internal-combustion engine having a working cylinder and head, the head having a combustion-chamber, a non-conducting material lining said chamber, a sheet-metal covering engaging the non-conducting material to retain it in place, and an ignition-tube located in the working chamber and sustained by said metallic covering.

14. An internal-combustion engine having a working cylinder and head, the head having a combustion-chamber therein, and an annular cavity outward from the combustion-chamber, a non-conducting material lining the combustion-chamber, a sheet-metal covering holding said material in place, an ignition-tube located in the combustion-chamber and sustained by said sheet-metal covering, an annular metallic case attached to the face of the piston and adapted to contain a non-conducting material, and an annular metallic shell projecting from the case and adapted to enter the said annular cavity of the cylinder-head.

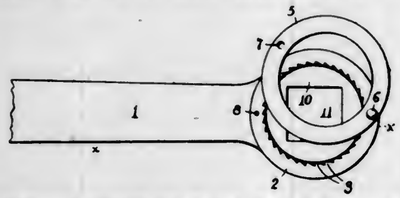
15. An annular combustion-engine having a working cylinder and head, the head having a combustion-chamber therein, an annular cavity outward from the combustion-chamber, a non-conducting material lining, the combustion-chamber, a sheet-metal covering holding said material in place, an ignition-tube located in the combustion-chamber and sustained by said sheet-metal covering, an annular metallic case attached to the face of the piston and adapted to contain a non-conducting material, an annular metallic shell projecting from the case and adapted to enter the said annular cavity of the cylinder-head, the piston having a port therein inward of said annular metallic case, and an automatic valve commanding the port and opening into the combustion-chamber.

16. An internal-combustion engine having a cylinder, a piston operating therein, an annular metallic case attached to the face of the piston and adapted to contain a non-conducting material, the piston having a port therein inward of said annular case, and an automatic valve commanding the port and opening into the combustion-chamber of the engine.

17. An internal-combustion engine having a cylinder, a piston operating therein, an annular metallic case attached to the face of the piston and adapted to contain a non-conducting material, the piston having a port therein inward of said annular case, an automatic valve commanding the port and opening into the combustion-chamber of the engine, a perforate shield located opposite the valve of the piston, and means for attaching said shield to the piston.

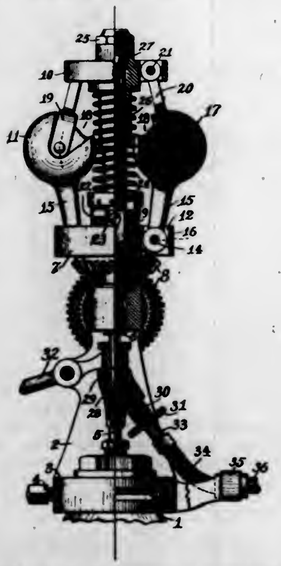
18. An internal-combustion engine having a working cylinder and piston, the cylinder having admission and exhaust ports, and also having a starting air-admission port to permit heating the interior of the cylinder and an auxiliary exhaust-port for the gases of combustion during the heating of the cylinder, and a valve commanding the main exhaust-port.

841,831. WRENCH. FREDERICK E. WALDEN, Worcester, Mass. Filed Feb. 21, 1906. Serial No. 302,167.



Claim.—In combination with a wrench-handle, having an annular internally-toothed head, a socket-piece in said head having an opening formed therethrough, and having a recess in its periphery with seats merging into said recess at the outer portions of said recess and at one end thereof, a pawl having integral ears at one end engaging in said seats and having its back abutting the end wall formed by said recess, and a spring bearing against the back of said pawl for normally retaining the opposite end thereof beyond the periphery of said socket-piece.

841,832. CENTRIFUGAL GOVERNOR. CHARLES N. WALSH and WILLIAM N. RUMELY, Laporte, Ind. Filed Apr. 7, 1906. Serial No. 310,405.



Claim.—1. A governor comprising a governor-ball with an arm to engage a pivot and having its periphery provided with a gap, a yoke arranged for swinging motion in said gap and provided with an arm for a pivot and having an exterior surface corresponding substantially with the spherical exterior of the ball, and a pivot uniting the extremities of the yoke to the ball, combined substantially as set forth.

2. A governor comprising a rotary disk provided with radial notches and with notches to the side thereof, a pivot crossing each radial notch and presenting an end in the notch to the side thereof and engaging the partition between the two notches, and a band encircling the disk and forming outer walls for the notches, combined substantially as set forth.

3. A governor comprising a stud, a whirl and governor-head mounted thereon, a collar on the stud above the whirl, a hollow screw inclosing the collar and threaded into the whirl, and a helical spring compressed between the governor-head and hollow screw and adjustable by means of said screw, combined substantially as set forth.

4. A governor comprising a valve-stem, a coupling secured thereto and provided with a socket in upward prolongation of the axis of the valve-stem, a governor-rod having its foot fitted to slide in said socket, and a speeder-screw threaded diagonally upward into said coupling and having its upper end engaging under the foot of the governor-rod, combined substantially as set forth.

5. A governor comprising a valve-stem, a coupling secured thereto and provided with a socket in upward prolongation of the axis of the valve-stem, a governor-rod having its foot fitted to slide in said socket, and a speeder-screw threaded diagonally upward into said coupling and having its upper end engaging under the foot of the governor-rod, the foot of the valve-rod being beveled at right angles to the axis of the speeder-screw, combined substantially as set forth,

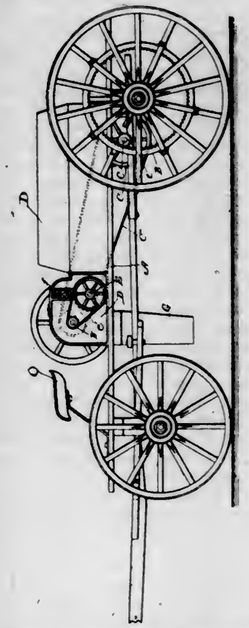
6. A governor comprising a valve-stem, a coupling secured thereto and provided with a socket in upward prolongation of the axis of the valve-stem, a governor-rod having its foot fitted to slide in said socket, and a speeder-screw threaded diagonally upward into said coupling and having its upper end engaging under the foot of the governor-rod, the foot of the governor-rod being beveled at right angles to the axis of the speeder-screw, and the engaging ends of the governor-rod and speeder-screw having concave and convex interengagements, combined substantially as set forth.

7. A governor comprising a valve-stem, a coupling secured thereto and provided with a socket in upward prolongation of the axis of the valve-stem, a governor-rod having its foot fitted to slide in said socket, and a speeder-screw threaded diagonally upward into said coupling and having its upper end engaging under the foot of the governor-rod, and an adjusting-shaft flexibly connected with the speeder-screw and projecting outwardly from the general governor structure, combined substantially as set forth.

8. A governor comprising a valve-body, a valve-stem projecting upwardly therefrom, a housing having separable and swiveling connection with the top of the valve-body, rotary governor parts carried by the housing, a governor-rod extending downward from the rotary parts toward the valve-stem, a coupling separably secured to the valve-stem and connecting it with the governor-rod, and speeder-adjusting mechanism carried by the coupling.

481,833. ROOT-PLANTING MACHINE. ROE P. WARNER, Decatur, Mich. Filed May 25, 1906. Serial No. 318,737.

Claim.—1. In a root-planting machine, the combination with a four-wheeled running-gear—comprising axles, wheels and reach, one of the forward wheels having a V-shaped tire acting as a furrow-opener, the rear wheel on the same side following in the furrow, acting as a press-wheel—of a gear secured to one of the rear wheels; a shaft mounted on suitable bearings arranged on the reach; a gear on said shaft arranged to mesh with the gear on said wheel; a body; a feed-hopper arranged thereon; a feed-apron in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; means for holding said feed-roller yieldingly toward said feed-apron; a rotary cutter arranged to act on the roots while the same are held by said feed apron and roller; a delivery-spout for said cutter, arranged to deliver to the furrow in front of the rear furrow-wheel; driving connections for said shaft and cutter; driving connections for said cutter and feed-apron; a balance-wheel for said cutter; a coverer arranged to deliver into the furrow behind the rear furrow-wheel; and an adjustable connection for said coverer to the rear axle, substantially as described.



2. In a root-planting machine, the combination with a four-wheeled running-gear—comprising axles, wheels and reach, one of the forward wheels having a V-shaped tire acting as a furrow-opener, the rear wheel on the same side following in the furrow, acting as a press-wheel—of a gear secured to one of the rear wheels; a shaft mounted on suitable bearings arranged on the reach; a gear on said shaft arranged to mesh with the gear on said wheel; a body; a feed-hopper arranged thereon; a feed-apron in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; means for holding said feed-roller yieldingly toward said feed-apron; a rotary cutter arranged to act on the roots while the same are held by said feed apron and roller; a delivery-spout for said cutter, arranged to deliver to the furrow in front of the rear furrow-wheel; driving connections for said shaft and cutter; driving connections for said cutter and feed-apron; a balance-wheel for said cutter; and a coverer arranged to deliver into the furrow behind the rear furrow-wheel, substantially as described.

3. In a root-planting machine, the combination with a four-wheeled running-gear—comprising axles, wheels and reach, one of the forward wheels having a V-shaped tire acting as a furrow-opener, the rear wheel on the same side following in the furrow, acting as a press-wheel—of a gear secured to one of the rear wheels; a shaft mounted on suitable bearings arranged on the reach; a gear on said shaft arranged to mesh with the gear on said wheel; a body; a feed-hopper arranged thereon; a feed-apron in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; means for holding said feed-roller yieldingly toward said feed-apron; a rotary cutter arranged to act on the roots while the same are held by said feed apron and roller; a delivery-spout for said cutter, arranged to deliver to the furrow in front of the rear furrow-wheel; driving connections for said shaft and cutter; driving connections for said cutter and feed-apron; a coverer arranged to deliver into the furrow behind the rear furrow-wheel; and an adjustable connection for said coverer to the rear axle, substantially as described.

4. In a root-planting machine, the combination with a four-wheeled running-gear—comprising axles, wheels and

reach, one of the forward wheels having a V-shaped tire acting as a furrow-opener, the rear wheel on the same side following in the furrow, acting as a press-wheel—of a gear secured to one of the rear wheels; a shaft mounted on suitable bearings arranged on the reach; a gear on said shaft arranged to mesh with the gear on said wheel; a body; a feed-hopper arranged thereon; a feed-apron in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; means for holding said feed-roller yieldingly toward said feed-apron; a rotary cutter arranged to act on the roots while the same are held by said feed apron and roller; a delivery-spout for said cutter, arranged to deliver to the furrow in front of the rear furrow-wheel; driving connections for said shaft and cutter; driving connections for said cutter and feed-apron; and a coverer arranged to deliver into the furrow behind the rear furrow-wheel, substantially as described.

5. In a root-planting machine, the combination with a four-wheeled running-gear—comprising axles, wheels and reach, one of the forward wheels having a V-shaped tire acting as a furrow-opener, the rear wheel on the same side following in the furrow, acting as a press-wheel—of a gear secured to one of the rear wheels; a shaft mounted on suitable bearings arranged on the reach; a gear on said shaft arranged to mesh with the gear on said wheel; a body; a feed-hopper arranged thereon; a feed-apron in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; a rotary cutter arranged to act on the roots while the same are held by said feed apron and roller; a delivery-spout for said cutter, arranged to deliver to the furrow in front of the rear furrow-wheel; driving connections for said shaft and cutter; driving connections for said cutter and feed-apron; a coverer arranged to deliver into the furrow behind the rear furrow-wheel; and an adjustable connection for said coverer to the rear axle, substantially as described.

6. In a root-planting machine, the combination with a four-wheeled running-rear—comprising axles, wheels and reach, one of the forward wheels having a V-shaped tire acting as a furrow-opener, the rear wheel on the same side following in the furrow, acting as a press-wheel—of a gear secured to one of the rear wheels; a shaft mounted on suitable bearings arranged on the reach; a gear on said shaft arranged to mesh with the gear on said wheel; a body; a feed-hopper arranged thereon; a feed-apron in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; a rotary cutter arranged to act on the roots while the same are held by the said feed apron and roller; a delivery-spout for said cutter, arranged to deliver to the furrow in front of the rear furrow-wheel; driving connections for said shaft and cutter; driving connections for said cutter and feed-apron; and a coverer arranged to deliver into the furrow behind the rear furrow-wheel, substantially as described.

7. In a root-planting machine, the combination of a four-wheeled running-gear, comprising axles, wheels and reach, one of the forward wheels having a V-shaped tire acting as a furrow-opener, the rear wheel on the same side following in the furrow, acting as a press-wheel; a feed-hopper; a feed-apron in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; a cutter arranged to act on the roots while the same are held by said feed apron and roller; a delivery-spout for said cutter, arranged to deliver to the furrow in front of the rear furrow-wheel; driving means for said feed-apron; and a coverer arranged to deliver into the furrow behind the rear furrow-wheel, substantially as described.

8. In a root-planting machine, the combination of a four-wheeled running-gear, comprising axles, wheels and reach, one of the forward wheels having a V-shaped tire acting as a furrow-opener, the rear wheel on the same side following in the furrow, acting as a press-wheel; a feed-hopper; a root-cutter; a delivery-spout for said cutter, arranged to deliver to the furrow in front of the rear furrow-wheel; and a coverer arranged to deliver into the furrow behind the rear furrow-wheel, for the purpose specified.

9. In a root-planting machine, the combination of a four-wheeled running-gear, comprising axles, wheels and reach, one of the forward wheels having a V-shaped tire acting as a furrow-opener, the rear wheel on the same side following in the furrow, acting as a press-wheel; a delivery-spout arranged to deliver to the furrow in front of the rear furrow-wheel; and a coverer arranged to deliver into the furrow behind the rear furrow-wheel, for the purpose specified.

10. In a root-planting machine, the combination with a furrow-opener, of a feed-hopper; a feed-apron arranged in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; means for holding said feed-roller yieldingly toward said feed-apron; a rotary cutter arranged to act on the roots while the same are held by said feed apron and roller; a delivery-spout for said cutter, arranged to deliver to the furrow; a press-wheel arranged to run in the furrow at the rear of the delivery-spout; driving means for said cutter; driving connections for said cutter and feed-apron; a balance-wheel for said cutter; and a coverer arranged to deliver into the furrow behind the press-wheel, substantially as described.

11. In a root-planting machine, the combination with a furrow-opener, of a feed-hopper; a feed-apron arranged in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; a rotary cutter arranged to act on the roots while the same are held by said feed apron and roller; a delivery-spout for said cutter, arranged to deliver to the furrow; a press-wheel arranged to run in the furrow at the rear of the delivery-spout; driving means for said cutter and feed-apron; and a coverer arranged to deliver into the furrow behind the press-wheel, substantially as described.

12. In a root-planting machine, the combination with a furrow-opener, of a feed-hopper; a feed-apron arranged in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; a rotary cutter arranged to act on the roots while the same are held by said feed apron and roller; a delivery-spout for said cutter, arranged to deliver to the furrow; a press-wheel arranged to run in the furrow at the rear of the delivery-spout; driving means for said cutter; and driving connections for said cutter and feed-apron, substantially as described.

13. In a root-planting machine, the combination with a furrow-opener, of a feed-hopper; a feed-apron arranged in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; a rotary cutter arranged to act on the roots while the same are held by said feed apron and roller; a delivery-spout for said cutter, arranged to deliver to the furrow; driving means for said cutter; and driving connections for said cutter and feed-apron, substantially as described.

14. In a root-planting machine, the combination with a furrow-opener, of a feed-hopper; a feed-apron arranged in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; a cutter arranged to act on the roots while the same are held by said feed apron and roller; a delivery-spout for said cutter, arranged to deliver to the furrow; a press-wheel arranged to run in the furrow at the rear of the delivery-spout; and a coverer arranged to deliver into the furrow behind the press-wheel, substantially as described.

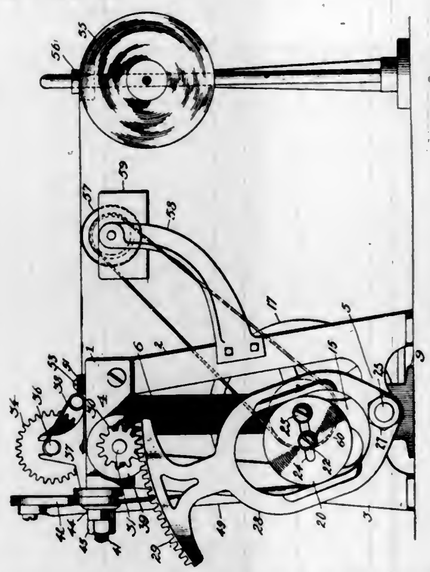
15. In a root-planting machine, the combination with a furrow-opener, of a feed-hopper; a feed-apron arranged in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; a cutter arranged to act on the roots while the same are held by said feed apron and roller; a delivery-spout for said cutter, arranged to deliver to the furrow; and a press-wheel arranged to run in the furrow at the rear of the delivery-spout, substantially as described.

16. In a root-planting machine, the combination with a furrow-opener, of a feed-hopper; a feed-apron arranged in the bottom of said hopper; a feed-roller arranged at the delivery end of said apron to coact therewith; a cutter arranged to act on the roots while the same are held by said feed apron and roller; and a delivery-spout for said cutter, arranged to deliver to the furrow, substantially as described.

17. In a root-planting machine, the combination with a furrow-opener, of a feed-hopper; a root-cutter; a delivery-spout for said cutter, arranged to deliver to the furrow; a press-wheel arranged to run in the furrow at the rear of the delivery-spout; and a coverer arranged to deliver into the furrow behind the press-wheel, for the purpose specified.

18. In a root-planting machine, the combination with a furrow-opener, of a delivery-spout arranged to deliver to the furrow; a press-wheel arranged to run in the furrow at the rear of the delivery-spout; and a coverer arranged to deliver into the furrow behind the press-wheel, for the purpose specified.

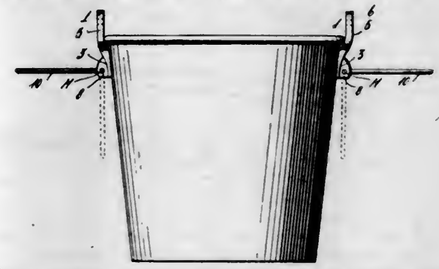
841,834. STRIP-SEVERING MACHINE. OAKMAN A. WEBBER, Manchester, N. H. Filed Mar. 21, 1906. Serial No. 307,290.



Claim.—1. In a strip-severing machine, the combination with strip-severing means, of a pair of strip-feeding rolls, one of said rolls being mounted in open bearings and a spring for holding said last-mentioned roll in contact with the other roll, gears carried by the rolls and adapted to intermesh, a shaft on which one of said rolls is mounted, a ratchet-wheel fixed to said shaft, a pinion loose on said shaft and carrying a pawl in engagement with said ratchet in one direction of rotation of the pinion, a pivoted arm carrying a curved segment meshing with said pinion, a drive-shaft, an eccentric adjustably connected to said drive-shaft and means for adjusting the eccentric on the drive-shaft whereby its throw may be varied, a slot in said pivoted arm into which said eccentric extends, an arm pivoted to the frame and connected to said severing means, and a cam on the drive-shaft for operating said arm.

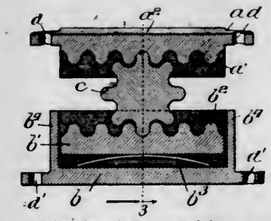
2. In combination with an intermittently-operated strip-severing means, a pair of geared-together strip-feeding rolls, a shaft fixed to one of said rolls, a pinion loose on the shaft, pawl-and-ratchet means between the pinion and shaft to rotate the rolls in one direction of rotation of the pinion, a pivoted arm carrying a curved segment meshing with said pinion, a drive-shaft, an eccentric on said drive-shaft and adapted to engage a slot formed in the arm, an elongated recess formed in the eccentric, a head formed on the drive-shaft and set-screws entering the elongated recess to engage the head whereby the eccentric may be adjusted and held in adjustable position.

841,835. VESSEL-SUPPORT. PETER H. WEIDEMAN, Port Byron, Ill. Filed Oct. 4, 1906. Serial No. 337,470.



Claim.—A vessel-support comprising an approximately inverted-V-shaped ear-plate formed from a single piece of metal having its reduced end offset and perforated to receive a bail and with its enlarged end upstruck intermediately of its sides and having the lower edge of said upstruck portion cut out to form a stop and oppositely-disposed side lugs, said lugs having apertures therein, and a U-shaped metal loop having lateral arms to project through the apertures in said lugs from the inner side thereof and with the lugs of said loop adapted to engage the lower edge of the cut-out portion of the plate.

841,836. SIDE BEARING FOR RAILWAY-CARS. WILLIAM WHITE, Chicago, Ill. Filed Apr. 2, 1906. Serial No. 309,404.



Claim.—1. A side bearing comprising upper and lower bearing members, a circular roller interposed between them, and positive means for compelling the roller to travel upon its bearings to correspond with the relative movement of the car truck and body.

2. A side bearing comprising an upper member having a toothed bearing-face, a lower member having a correspondingly-toothed bearing-face, and a toothed roller interposed between the upper and lower members and engaging both the toothed bearing-faces.

3. A side bearing comprising an upper member having a toothed bearing-face, a lower member having a correspondingly-toothed bearing-face, a toothed roller interposed between the upper and lower members and engaging both the toothed bearing-faces, and means for yieldingly supporting the lower member.

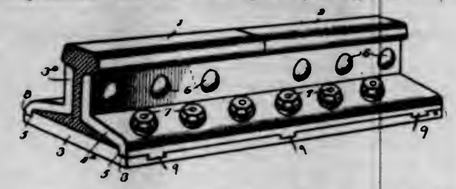
4. A side bearing having an upper or body member comprising a bearing-face and flanges surrounding the bearing-face, a lower or truck member comprising a box-like portion, a bearing portion therein, means for yieldingly supporting the bearing portion, and a roller interposed between the upper and lower members.

5. A side bearing having an upper or body member comprising a toothed bearing-face and flanges surrounding the bearing-face, a lower or truck member comprising a box-like portion, a toothed bearing portion therein, means for yieldingly supporting the bearing portion, and a roller interposed between the upper and lower members.

841,837. RAIL-CHAIR. GEORGE W. WILLIAMS, Arkansas City, Kans. Filed Aug. 11, 1906. Serial No. 330,243.

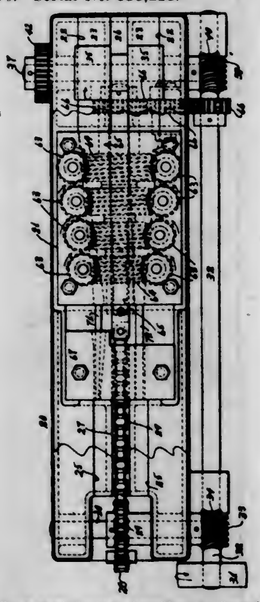
Claim.—A device of the class described, comprising a plate arranged beneath the abutting ends of a pair of rails,

longitudinal recesses formed in each side of said plate, fish-plates engaging the sides and flanges of said rails, and having longitudinally-downturned portions engaging said longitudinal recesses for holding said plate against lateral



movement, said downturned portions being provided with projections adapted to engage recesses arranged below said longitudinal recesses, whereby said plate is held against longitudinal movement, substantially as described.

841,838 METAL-PLATE BENDING OR FORMING MACHINE. JOHN R. WILLIAMS, East Orange, N. J. Filed Oct. 10, 1906. Serial No. 338,213.



Claim.—1. In a metal-plate bending or forming machine, a die through which the plate is to be passed for shaping the same, and a grip device for engaging the upper and lower surfaces of said plate at the entrance end of said die and pulling the plate through said die, said die having a longitudinal groove extending above and below the passage through it for the plate through which the grip may travel; substantially as set forth.

2. In a metal-plate bending or forming machine, a die through which the plate is to be passed for shaping the same, and a grip device for engaging the plate and pulling it through said die, said die having a groove through it through which the grip may be moved, combined with means for keeping said groove filled during the travel of the plate so that the latter may not crowd therein; substantially as set forth.

3. In a metal-plate bending or forming machine, a die through which the plate is to be passed for shaping the same, and a grip device for engaging the plate and pulling it through said die, said die having a groove through it through which the grip may be moved, and said grip device being adapted to engage the full length of the plate and keep said groove filled during the travel of the plate; substantially as set forth.

4. In a metal-plate bending or forming machine, a die through which the plate is to be passed for shaping the same, and a grip device for engaging the plate and pulling it through said die, said die having a groove through it through which the grip may be moved, and said grip comprising a lower member having an extended tail portion, an upper member having means for engaging the plate, and a hinged member over said tail portion; substantially as set forth.

5. In a metal-plate bending or forming machine, a die through which an initially flat metal plate is to be passed for shaping the same and which die has a matrix adapted to coil the opposite edges of said plate and preserve that portion of same between the coiled edges flat, means for moving the plate through said die, and a finishing-block through which the plate is passed after leaving said die, a free space being left between said die and block for said coiled edges of the plate to spring from the shape intended for them if they should be so inclined; substantially as set forth.

6. In a metal-plate bending or forming machine, a die through which the plate is to be passed for shaping the same, means for pulling the plate through said die, and a finishing-block through which the plate is pulled after leaving said die, said block being separated by a space from said die, and said die and block having a groove through them through which the means for pulling the plate may pass; substantially as set forth.

7. In a metal-plate bending or forming machine, a die through which the plate is to be passed for shaping the same, means for pulling the plate through said die, and a finishing-block through which the plate is pulled after leaving said die, said block being separated by a space from said die, and said die and block having a groove through them through which the means for pulling the plate may be passed for engaging the plate at the entrance end of said die, combined with means for keeping said groove filled during the travel of the plate so that the latter may not crowd therein; substantially as set forth.

8. In a metal-plate bending or forming machine, a bed, a die mounted thereon through which the plate is to pass for becoming shaped, and a grip device for engaging the plate and pulling it through said die, said die having a groove through it through which the grip may be moved for engaging the plate at the entrance end of said die, and said bed having longitudinal alined grooves for said grip device at opposite ends of said die, a recess of the width of the plate to be treated at the entrance end of said die and a recess of the width of the finished product at the delivery end of the machine; substantially as set forth.

9. In a metal-plate bending or forming machine, a die through which an initially flat metal plate is to be passed for shaping the same and which die has a matrix adapted to coil the opposite edges of said plate and preserve that portion of same between the coiled edges flat, and a grip device for engaging the upper and lower surfaces of said plate at the entrance end of said die and pulling the plate through said die, said die having a longitudinal groove extending above and below the passage through it for the plate through which the grip device may travel; substantially as set forth.

10. In a metal-plate bending or forming machine, a die through which an initial flat metal plate is to be passed for shaping the same and which die has a matrix adapted to turn the opposite side edges of the plate in a direction from the face of the plate and coil said edges into tubular form, while preserving that portion of the plate between the coiled edges flat, and a grip device for engaging the upper and lower surfaces of said plate at the entrance end of said die and pulling the plate through said die, said die having a longitudinal groove extending above and below the passage through it for the plate through which the grip device may travel; substantially as set forth.

11. In a metal-plate bending or forming machine, a die through which an initially flat metal plate is to be passed for shaping the same and which die has a matrix adapted to gradually turn the opposite edges of the plate in a direction from the face of the plate and coil the same into tubular form, while preserving that portion of the plate between the coiled edges flat, one of said coils being turned inwardly over upon the surface of the plate, while the other projects outwardly beyond the edge of the body portion of same, combined with a grip device for engaging the upper and lower surface of said plate and pulling the same through the die; substantially as set forth.

12. In a metal-plate bending or forming machine, a die through which an initially flat metal plate is to be passed for shaping the same and which die has a matrix possessing converging forming-surfaces at its sides to gradually coil the opposite edges of said plate, while preserving that portion of the plate between the coiled edges flat, combined with wheels mounted within said die with their peripheral edges in line with and constituting portions of the said forming-surfaces, and a grip device for engaging the metal plate at the entrance end of said die and pulling the plate through said die, said die having a longitudinal groove extending above and below the passage through it for the plate through which the grip may travel; substantially as set forth.

13. In a metal-plate bending or forming machine, a die through which the plate is to be passed for shaping the same, the matrix portion of said die having converging forming-surfaces to act upon said plate, combined with wheels mounted within said die with their peripheral edges constituting a portion of the die-forming surfaces, means for rotating said wheels, and means for moving the plate through the die; substantially as set forth.

14. In a metal-plate bending or forming machine, a die through which an initially flat metal plate is to be passed for shaping the same and which die has a matrix possessing converging concave forming-surfaces at its sides to gradually coil the opposite edges of said plate, while preserving that portion of the plate between the coiled edges flat, combined with wheels having concave peripheries mounted within said die with their peripheral edges in line with and constituting portions of the said forming-surfaces, and a grip device for engaging the metal plate at the entrance end of said die and pulling the plate through said die, said die having a longitudinal groove extending above and below the passage through it for the plate through which the grip may travel; substantially as set forth.

15. In a metal-plate bending or forming machine, a die through which the plate is to be passed for shaping the same, the matrix portion of said die having converging concave forming-surfaces to act upon said plate, combined with wheels having concave peripheries mounted within said die to form parts of said forming-surfaces, means for rotating said wheels, and means for moving the plate through the die; substantially as set forth.

16. In a metal-plate bending or forming machine, a die through which an initially flat metal plate is to be passed for shaping the same and which die has a matrix possessing forming-surfaces at its sides to act upon the opposite edges of said plate, while preserving that portion of the plate between the edges flat, combined with wheels mounted within said die with their peripheral edges constituting portions of said forming-surfaces, and a grip device for engaging the metal plate at the entrance end of said die and pulling the plate through said die, said die having a longitudinal groove extending above and below the passage through it for the plate through which the grip may travel; substantially as set forth.

17. In a metal-plate bending or forming machine, a die through which the plate is to be passed for shaping the same, the matrix portion of said die having forming-surfaces to act upon said plate in shaping the same, combined with wheels mounted within said die with their peripheries constituting a portion of said surfaces, means for rotating said wheels, and means for moving the plate through the die; substantially as set forth.

18. In a metal-plate bending or forming machine, a die through which an initially flat metal plate is to be passed for shaping the same and which die has a matrix possessing at its opposite sides converging forming-grooves whose surfaces engage and shape the edge portions of the plate and which grooves gradually increase in depth toward the exit end of the die, and said die being adapted to preserve that portion of the plate between the coiled edges flat, combined with the grip device for engaging the upper and lower surfaces of said plate at the entrance end of said die and pulling the plate through said die; substantially as set forth.

19. In a metal-plate bending or forming machine, a die through which an initially flat metal plate is to be passed for shaping the same and which die has a matrix possessing at its opposite sides converging forming-grooves whose surfaces engage and shape the edge portions of the plate and which grooves gradually increase in depth toward the exit end of the die, and said die being adapted to preserve that portion of the plate between the coiled edges flat, combined with a second die set in advance of said first-mentioned die and having matrix forming-surfaces to further act upon an edge portion of the plate, and a grip device adapted to engage the upper and lower surfaces of the plate at the entrance end to the first-mentioned die and pull the plate through both of said dies, said dies having a longitudinal groove extending above and below the passage through them for the plate through which the grip may travel; substantially as set forth.

20. In a metal-plate bending or forming machine, a die through which the plate is to be passed for shaping the same, the matrix portion of said die having converging forming-grooves whose surfaces engage and shape the edge portions of the plate and which grooves gradually increase in depth toward the exit end of the die, combined with a second die set in advance of said first-mentioned die and having matrix forming-surfaces to further act upon the edge portions of the plate, rods bridging the space between said dies within the outline of the curved portions of the matrices of same so as to receive and guide the coiled edge portions of the plate during the travel of the latter, and means for moving the plate through said dies; substantially as set forth.

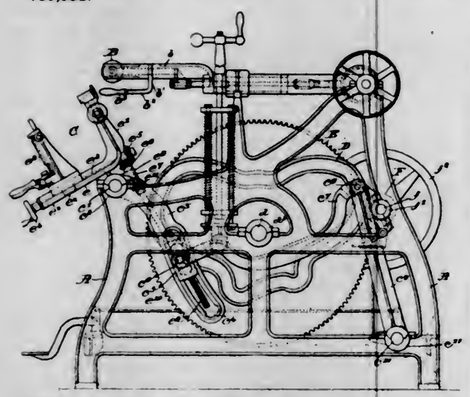
21. In a metal-plate bending or forming machine, a die through which an initially flat metal plate is to be passed for shaping the same and the matrix portion of which die has its opposite sides converging forming-grooves which gradually increase in depth to shape the edge portions of the plate, while preserving that portion of the plate between the coiled edges flat, one of said grooves being extended outwardly and thence laterally inwardly on a curved line to coil one edge of the plate over upon the body of same, and the other groove being extended outwardly and thence laterally beyond the body of the plate and thence inwardly on a curved line to coil the other edge of the plate and carry the outer portion of the coil beyond the edge of the flat portion of the plate, combined with means for moving the plate through said die; substantially as set forth.

22. In a metal-plate bending or forming machine, a die through which the plate is to be passed and whose matrix portion at its opposite edges has converging forming-grooves to shape the edge portions of the plate, said grooves gradually increasing in depth and one of said grooves being extended upwardly and inwardly on a curved line and the other downwardly and inwardly on a curved line, combined with a second die set in advance of said first die and having at the opposite edges of its matrix curved surfaces to receive the edge portions of the plate, the surfaces at one edge of said matrix being on converging lines to further coil the edge of the plate, and means for moving the plate through said dies; substantially as set forth.

23. In a metal-plate bending or forming machine, a die through which the plate is to be passed and whose matrix portion at its opposite edges has converging forming-grooves to shape the edge portions of the plate, said grooves gradually increasing in depth and one of said grooves being extended upwardly and inwardly on a curved line and the other downwardly and inwardly on a curved line, combined with a second die set in advance of said first die and having at the opposite edges of its matrix curved surfaces to receive the edge portions of the plate, the surfaces at one edge of said matrix being on converging lines and encompassing a core to further coil the edge of the plate, and the surfaces at the other edge of said matrix being substantially straight and extending around

a core, and means for moving the plate through said dies; substantially as set forth.

841,839. SOLE-LEVELING MACHINE. ERASTUS E. WINKLEY, Lynn, Mass. Filed Nov. 6, 1899. Serial No. 735,952.



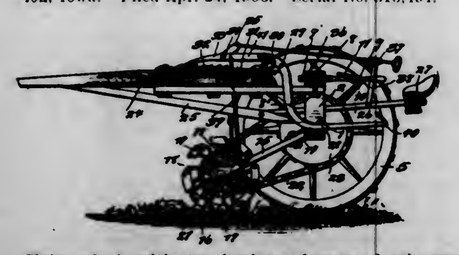
Claim.—1. In a sole-leveling machine, the combination with a jack having toe and heel supports adjustable for lasts of different length, of means for oscillating said jack with relation to a tool for acting upon a shoe supported thereby, and suitable shafts and connected mechanism for simultaneously adjusting the jack and its oscillating mechanism, substantially as described.

2. In a sole-leveling machine, the combination with a sole-leveling device, of a shoe-supporting jack comprising a toe-support and a heel-support adjustable toward and from the toe-support, a threaded shaft for adjusting the heel-support, means for oscillating the jack and adjustable connections between the jack and its oscillating means, a threaded shaft for adjusting said connection and gearing connecting the heel-support-adjusting shaft with the shaft which adjusts the said connection, substantially as described.

3. In a sole-leveling machine, the combination with a jack having toe and heel supports adjustable for lasts of different lengths, of means for oscillating said jack with relation to a tool for acting upon a shoe supported thereby, and means for adjusting the jack and for simultaneously adjusting the jack-oscillating mechanism, substantially as described.

4. In a sole-leveling machine, the combination with a jack adjustable for lasts of different lengths, of means for oscillating said jack with relation to a tool for acting upon a shoe supported thereby, mechanism for adjusting the jack, mechanism for adjusting the jack-oscillating means, and connections between said mechanisms for actuating one mechanism from the other, substantially as described.

841,840. CULTIVATOR. FRIEDRICH W. ZASTROW, Clarion, Iowa. Filed Apr. 24, 1906. Serial No. 313,494.

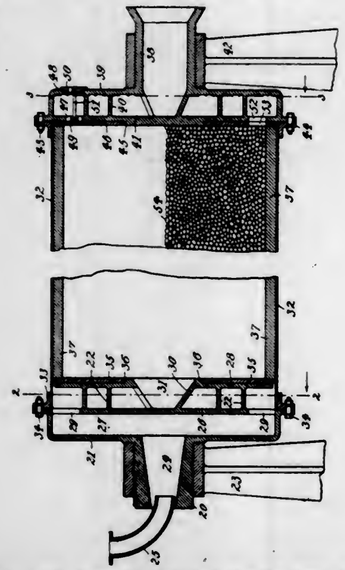


Claim.—1. A cultivator, having a frame and axle, supporting-wheels mounted on said axles, said wheels also having sprocket-wheels, frames pivotally mounted on said axles and having rotary cutters mounted in their lower ends, said rotary cutters having sprocket-wheels, chains for rotating said cutters, and means for raising said pivotally-mounted frames, substantially as described.

2. A cultivator having a frame mounted on wheels, rotary cutters, mounted on a frame and having means for receiving motion from said first-named wheels, a lever having a lower portion adapted to be engaged by the foot for raising said cutters, a dog fulcrumed on the upper end of said lever, and adapted to engage ratchet-teeth, and a horizontally-disposed hand-operated rod, for releasing said dog.

3. A cultivator having a U-shaped axle, with wheels mounted thereon, said wheels being adapted to actuate rotary cutters, a lever for raising and lowering said cutters and having a dog mounted on the upper end thereof, a ratchet-plate adapted to be engaged by said dog, said lever having a downturned portion, and a horizontal portion passing under the said U-shaped portion of the axles and adapted to be engaged by the foot, and a rod for releasing said dog.

841,841. TUBULAR BALL-MILL. MAX F. ABBE, New York, N. Y. Filed Sept. 21, 1906. Serial No. 335,557.

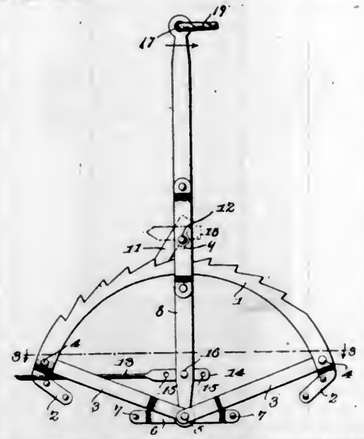


Claim.—1. In a tubular ball-mill, a head composed of a flanged end plate, an integral hollow trunnion extending outwardly therefrom, a spiral conveyer extending inwardly therefrom, an inner plate having a beveled flange, and beveled sector-shaped liners engaging said flange, substantially as specified.

2. In a tubular ball-mill, an ingress-head composed of flanged end plate, an integral hollow trunnion, an inner plate, a perforated partition between end plate and inner plate, a feed-chamber between end plate and partition, and a spiral conveyer between partition and inner plate, substantially as specified.

841,842. BRAKE-LEVER. ERASTUS M. AKERS, Ione, Oreg. Filed Dec. 29, 1905. Serial No. 293,863.

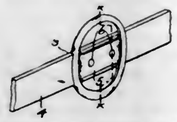
Claim.—1. A ratchet-lever including an arcuate rack having its ends offset and formed into attaching-brackets, braces radiating from the center of the arc of the rack and secured to the ends of the rack, a bracket separate from the rack a lever fulcrumed upon the last-mentioned bracket, and a dog carried by the lever and pivoted between its ends at a point adjacent but in front of the center thereof, whereby a sudden jerk upon the lever will cause the dog to fly out of engagement with the rack, and remain disengaged therefrom long enough to permit backward movement of the lever.



2. A ratchet-lever including an arcuate rack having its ends offset and formed into attaching-brackets, braces converged from the ends of the rack and overlapping at the center of the arc from which the rack is struck, a bracket to which the overlapped ends of the braces are connected, a lever fulcrumed upon the connection between said bracket and the braces, and a dog carried by the lever and engaging the rack.

3. A ratchet-lever including an arcuate rack having its ends offset and formed into attaching-brackets, braces converged from the ends of the rack and overlapping at the center of the arc from which the rack is struck, a bracket to which the overlapped ends of the braces are connected, a lever fulcrumed upon the connection between said bracket and the braces, a dog carried by the lever and engaging the rack, and a connecting-rod secured to the lever and working between one of the braces and the adjacent terminal bracket of the rack.

841,843. REIN CHECK OR STOP. SEVERIN B. ANDERSON, Seattle, Wash., assignor of one-half to Nels Nelson, Seattle, Wash. Filed Oct. 23, 1905. Serial No. 284,082.



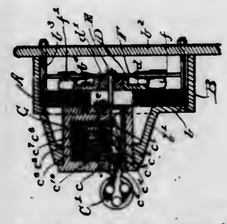
Claim.—1. A device of the type set forth comprising a rim portion formed with opposite sockets, and means projecting through the device for securing the same to a rein.

2. A device of the type set forth comprising a rim portion and a transverse depressed bar or web formed with apertures, the rim having an edge flange which is cut out to form sockets or seats, substantially as and for the purpose specified.

3. In combination with a rein and a guide through which said rein passes, a check or stop removably secured to said rein and having extensions engaging and projecting beyond the side edges of the rein, whereby twisting of the said check or stop is prevented, said check or stop being arranged to engage said guide for limiting movement of the rein in one direction.

4. In combination with a rein and a guide therefor, of a rein-check or stop comprising an element removably attached to one face of the rein and having downwardly and outwardly projecting portions engaging the side edges of the rein to prevent twisting of the check or stop, said check or stop being arranged to engage said guide for limiting movement of the rein in one direction.

841,844. KEY-OPERATED LOCKING-SWITCH. JOHN BERNET, Chicago, Ill. Filed Feb. 10, 1905. Serial No. 245,117.



Claim.—1. In an electrical switch comprising a plurality of sets of oppositely-disposed clamping contact-points, a key-operated transverse bar adapted to be clamped at its ends in said oppositely-disposed contact-points, a laterally-projecting plate rigidly engaged to said transverse bar, a cylindric sleeve and a centrally-apertured cylindric hub therein adapted to receive said plate therethrough.

2. In a switch the combination with a lock, of a transverse bar rigidly engaged on the inner end of the locking-bolt and oppositely-disposed contact-plates adapted to engage the ends of said bar.

3. In an electrical switch the combination with a lock, having a rotary locking-bolt therein of a transverse bar on the inner end of said bolt and contact-plates having hooked ends adapted to engage over the ends of said bar.

4. An electrical switch comprising a casing, a sheet of insulating material rigidly fastened therein and having a central aperture therethrough, oppositely-disposed pairs of contact-points rigidly engaged to said sheet of insulating material, a sleeve engaged to said insulator and having its bore in alinement with the aperture therein, a cylindric hub in said sleeve, a switch-bar rigidly engaged to the bottom of said hub and adapted to engage the oppositely-disposed contact-points and means for rotating the bar.

5. In a device of the class described a casing having an aperture in the top thereof, a fixed cylindric body therein, a rotatable bolt in said cylindric body, an insulator rigidly engaged to said cylindric body and having an aperture therethrough in alinement with the rotatable bolt, a sleeve rigidly engaged to said insulator, a slotted cylindric hub rotatable in said sleeve, a downwardly-projecting plate rigidly engaged to said bolt and projecting through the slot in said hub, a bar rigidly engaged on said hub and oppositely-disposed contact-plates adapted to receive the ends of said bar.

6. The combination with a casing of a lock having a revoluble locking-bolt; an inwardly-directed plate rigidly engaged on the end of said bolt, a transverse bar engaged on said plate, oppositely-disposed contact-points positioned in said casing to receive the ends of said bar, an insulator engaged to the casing below said bolt and having an aperture in alinement therewith, a sleeve rigidly engaged to said insulator and a rotatable hub therein having an aperture therethrough adapted to receive said plate.

7. In a device of the class described, the combination with a casing of an apertured insulator dividing the same, a locking-bolt on one side of said insulator and registering with the aperture in said insulator, a sleeve rigidly engaged on said insulator opposite from said bolt, a rotative hub therein, means rigidly connecting said hub with said bolt, a transverse bar rigidly engaged on said hub and a plurality of resilient contacts arranged in oppositely-disposed pairs and having their outer ends bent to retain the ends of the bar therein against vibration.

8. The combination in an electrical switch of a lock therefor, a transverse contact-bar on said lock and oppositely-disposed spring clamping-plates adapted to engage the ends of said bar and form an electrical contact therewith.

9. In a device of the class described the combination

with a casing of a transverse switch-bar therein, a key-operated bolt engaged to said bar, an insulator rigidly engaged to said casing, oppositely-disposed contacts fastened to said insulator and each contact having a resilient loop on its upper end adapted to hold the switch-bar therein and means whereby said transverse bar is held from rotation with respect to said bolt.

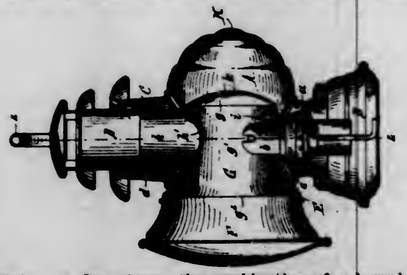
10. In an electrical switch, a closed casing, a transverse knife-bar and oppositely-disposed hooked contacts therein, a key-operated lock carried on the knife-bar and adapted to hold the same normally out of engagement with the contacts and an individual key for said lock whereby the knife-bar may be thrown into engagement with the contacts.

11. An electric switch embracing a closed metallic casing insulated oppositely-disposed hooked contacts therein, a transverse switch-bar adapted for engagement in said contacts, a lock set in the casing and comprising a fixed body and a rotatable bolt, a plate rigidly engaging the bolt and switch-bar whereby the bolt must be operated to operate the switch and means for holding said switch-bar in operative position.

12. The combination with a closed casing, of an insulating-tablet therein, a plurality of pairs of contact-plates on one side of said tablet, a transverse knife-bar adapted to engage said contact-plates in pairs, a lock set in said casing on the side of said tablet opposite from the contacts, a revoluble element therein positively connected with the knife-bar and acting to control the adjustment thereof and an individual key for said lock.

13. In a lock in switch, the combination with a casing, of a central lock therein, a knife-bar connected therewith centrally and rotated thereby, spring-contacts disposed in pairs around the knife-bar and adapted to be engaged by its ends and means for attaching the switch adapted to prevent unauthorized removal.

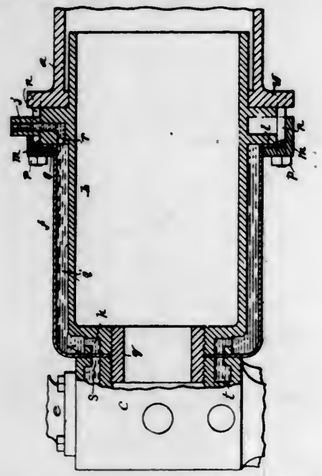
841,845. VEHICLE-LAMP. CHARLES L. BETTS, New York, N. Y., assignor to R. E. Dietz Company, New York, N. Y. Filed Nov. 20, 1905. Serial No. 288,205.



Claim.—1. In a lamp, the combination of a lamp-body having a shoulder around its open front, a front glass frame which is movable toward and from said shoulder, an air-inlet sleeve secured upon said body and provided with an internal chimney, and a reflector which is removably arranged in said lamp-body and provided with an external front flange which is held against said shoulder by said front frame and with a chimney which connects with said chimney in said air-inlet sleeve, substantially as set forth.

2. In a lamp, the combination of a body open at the front, a top comprising an external air-inlet sleeve and an internal chimney secured to said sleeve and separated therefrom by an air-passage which delivers the air to said lamp-body, and a reflector removably secured at its front edge to said lamp-body, said reflector comprising a rear portion which has a shallow curvature, an approximately cylindrical body provided in front of said rear portion with a lower opening for the burner and an upper opening for the escape of the products of combustion, and a chimney secured to the body of the reflector around said upper opening and making connection with said chimney of the lamp-top, substantially as set forth.

841,846. JACKETING SYSTEM FOR ENGINE-CYLINDERS. ALANSON P. BRUSH, Detroit, Mich. Filed Dec. 15, 1902. Serial No. 135,205.



Claim.—1. The combination with an engine provided with a cylinder and a valve-chamber of a water-jacket wall having flanges at its opposite extremities forming a water-chamber between the jacket-wall and the cylinder, one end of the cylinder formed with a flange against which the flange of the corresponding end of the jacket-wall seats, means to secure the corresponding flange upon its seat on the flange of the cylinder, the flange at the opposite end of the jacket-wall seating against the head of the cylinder, and separate means to clamp the adjacent flange of the jacket-wall upon the end of the cylinder, said cylinder-flange provided with a channel communicating with the water-chamber and the end of the cylinder provided with channels communicating with the water-chamber.

2. The combination with an engine provided with a frame, a cylinder, and a valve-chamber of a water-jacket wall constructed with a flange at one end and clamped between the end of the cylinder and the valve-chamber, and forming a water-chamber between the jacket-wall and the cylinder, the opposite end of the water-jacket wall formed with a flange seating against the adjacent end of the cylinder, a separate clamping-ring to clamp the adjacent flange of the jacket-wall against the adjacent end of the cylinder, the frame of the engine provided with means to clamp the said ring in place and to engage the adjacent end of the cylinder with the engine-frame.

3. The combination with an engine provided with a frame, a cylinder and a valve-chamber of a water-jacket wall flanged at its opposite extremities, the flange at one extremity of the jacket-wall clamped between the valve-chamber and the end of the cylinder, a ring to clamp the flange on the opposite end of the jacket-wall between the ring and the adjacent end of the cylinder, and means to secure the ring, the jacket-wall and the cylinder upon the frame of the engine, the means for engaging the flanges at the opposite ends of the jacket-wall being independent one of another.

4. The combination with an engine and its cylinder of a metal water-jacket wall provided with flanges at its opposite extremities and means to engage said flanges and hold the jacket-wall in place, one of said flanges being of a length sufficient to yield and allow for inequalities of lengths due either to inaccuracies of construction or differences of expansion and contraction, the means for engaging the flanges at the opposite ends of the jacket-wall being independent one of another.

5. The combination with an engine provided with a frame, a cylinder provided with an outwardly-projecting flange toward one end thereof, and with a valve-chamber, of a water-jacket wall constructed with a flange at one end and clamped between the end of the cylinder and the valve-chamber, and forming a water-chamber between the jacket-wall and the cylinder, the opposite end of the jacket-wall formed with a flange seating against the adjacent flange on the cylinder, a separate clamping-ring to clamp the adjacent flange of the jacket-wall against the adjacent flange of the cylinder, the frame of the engine provided with means to clamp the said ring in place, and to engage the adjacent end of the cylinder with the engine-frame, the means used to clamp the outwardly-turned flange of the water-jacket to the flange on the cylinder simultaneously clamping the cylinder to the frame of the engine.

6. The combination with an engine provided with a frame, a cylinder provided with an outwardly-projecting flange toward one end thereof, and a valve-chamber, of a water-jacket wall constructed with a flange at one end and clamped between the end of the cylinder and the valve-chamber and forming a water-chamber between the jacket-wall and the cylinder, the opposite end of the water-jacket wall formed with a flange seating against the adjacent flange of the cylinder, a separate clamping-ring to clamp the adjacent flange of the jacket-wall against the adjacent flange of the cylinder, the frame of the engine provided with means to clamp the said ring in place and to engage the adjacent end of the cylinder with the engine-frame, the means which clamp the inwardly-turned end of the water-jacket to the cylinder simultaneously clamping the valve-chamber to the cylinder.

7. The combination of an engine provided with a frame, with a cylinder provided with an outwardly-extending flange toward one end thereof, and with a valve-chamber, of a water-jacket wall oppositely flanged at its extremities, the flange at one extremity of the jacket-wall clamped between the valve-chamber and the end of the cylinder, and a separate ring exterior to the jacket-wall to clasp the flange on the opposite end of the jacket-wall upon the adjacent flange of the cylinder.

8. In an engine of the described class, a water-jacket consisting of sheet metal, an inwardly-turned portion at one end of the jacket which forms a gasket between the cylinder and the cylinder-head, a ring upon the cylinder at the opposite end of the water-jacket and means for securing the ring and the extremity of the water-jacket hermetically in fixed relation.

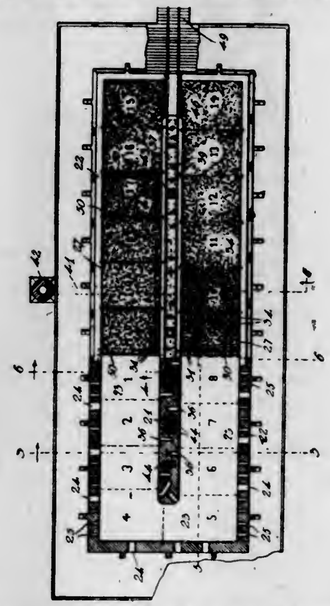
9. The combination with an engine and its cylinder, of a water-jacketed valve-chamber, a water-jacket forming a water-chamber about the cylinder and having an inwardly-turned flange at one end of the jacket forming a gasket between the end of the cylinder and the valve-chamber, said gasket provided with water-passages through which the water-jacket of the valve-chamber communicates with the water-chamber about the cylinder, and means to seal the other end of the water-jacket upon the cylinder.

10. The combination with an engine and its cylinder of a water-jacketed valve-chamber, and a flexible sheet-metal water-jacket forming a water-chamber about the cylinder and having an inwardly-turned flange at one end of the jacket forming a gasket between the end of the cylinder and the valve-chamber, said flange having water-passages therethrough whereby the water-chamber about the valve-chamber communicates with the water-chamber about the cylinder, said flange forming a gasket both outside and inside of the water-passage therethrough.

11. In an engine of the described class the combination of a cylinder, a water-jacketed valve-chamber, a water-jacket for the engine-cylinder consisting of flexible sheet metal having an inwardly-turned flange at one end of the jacket which forms a gasket between the ends of the cylinder and the valve-chamber, and means to hermetically seal the other end of the water-jacket to the cylinder, a portion of said flange extending outside the adjacent ends of the valve-chamber and the cylinder to allow for contraction and expansion of the jacket.

12. The combination, with the cylinder and its head having alined apertures, of a ring arranged in said apertures, positively engaging one of said parts to prevent withdrawal and threaded into the other part to clamp the two parts together.

841,847. KILN. PAUL CHMELEWSKI, Helsingfors, Russia, assignor to Anna Mathilda Chmelewski, Helsingfors, Finland, Russia. Filed Aug. 23, 1906. Serial No. 331,761.



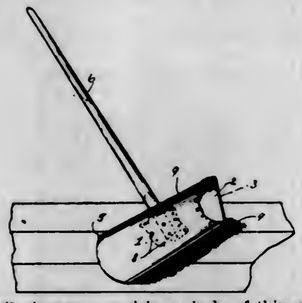
Claim.—1. A kiln of the character described, comprising an inner wall, an outer wall surrounding the same and spaced therefrom to form a continuous chamber, said outer wall having filling-openings and fire-openings, removable partitions between said walls for dividing said continuous chamber into separate compartments, temporary tops supported upon brick masses or the like in said chamber and having outlet-openings formed therein, said inner wall having a smoke-passage communicating with the compartments of said chamber, valves for controlling the communication between said passage and said compartments, fire-passages in said temporary tops, and removable closures for said fire-passages, substantially as described.

2. A kiln of the character described, comprising a center wall having formed therein a longitudinally-extending smoke-flue located also under this center wall, and inlet-passages adjacent to its bottom communicating with said flue, valves for controlling said inlet-passages, an outer surrounding side wall spaced from the center wall to form a continuous chamber, said side wall having filling-openings and fire-openings adjacent to its bottom, vertically-removable temporary partitions between said center and side walls to divide said chamber into separate compartments, temporary tops for the compartments of said chamber supported upon the brick masses or the like therein, said tops having outlet-openings, fire-passages mounted in said tops, and removable caps or closures for said fire-passages, substantially as described and for purpose set forth.

841,848. WALK-CLEANER. GEORGE F. CONNER, Port Huron, Mich. Filed Apr. 17, 1906. Serial No. 312,221.

Claim.—1. A walk-cleaner comprising a body of thin sheet material, in form the segment of a cylinder, whose length from end to end is considerably greater than its width, one of whose side margins is adapted to bear on its extreme edge and throughout its length, on the convex face, along the ground, one of the ends being closed by a thin sheet cross-partition secured at its margins to the end margin, and the other end being provided with an out-

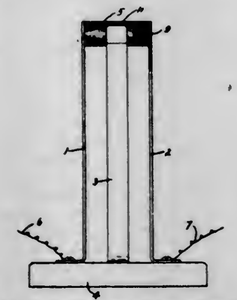
wardly-flaring margin, and a handle secured at its lower end tangentially against the convex side of the body by a shield.



2. A walk-cleaner comprising a body of thin sheet material, in form the segment of a cylinder, whose length from end to end is considerably greater than its width, one of whose side margins is adapted to bear on the convex side and at its extreme edge on the surface of the ground, and a handle secured tangentially against the convex side of the body between the ends, in a plane approximately parallel to the planes of the ends, oblique to the bearing edge, said body being stiffened by a thin sheet cross-wall closing the forward end of the body, by ribs rolled transversely in the body, and by a shield pressed to conform to the lower end of the handle and the convex side of the body and permanently secured thereto.

3. A walk-cleaner comprising a shallow, sheet-metal body, in form a segment of a cylinder, having a handle secured at its lower end tangentially against its lower, convex side between the ends of the body, said body being set obliquely across the handle, and being secured thereto by a shield molded to conform closely to the lower end of the handle and to the convex side of the body, the lower side margin of the body being adapted to bear on its edge only on the surface of the ground, the forward end of the body being closed by a thin, sheet-metal cross-partition within the body and the other end being stiffened by an outwardly-rolled margin, said body being provided with a series of parallel, spirally-disposed flutes struck up in the sheet, extending back and up from the bearing edge.

841,849. ELECTROTHERMAL PROTECTOR. FRANK B. COOK, Chicago, Ill. Filed Apr. 16, 1906. Serial No. 311,991.



Claim.—1. An electrothermal protector comprising a heating element and having a switching member normally held therefrom by heat-susceptible insulating material and adapted to make electrical connection therewith upon heating.

2. An electrothermal protector comprising a heating element permanently held in circuit, means for grounding a portion of the circuit through a portion of the heating element under abnormal current conditions, and heat-susceptible insulating material normally holding the grounding means out of electrical connection with the heating element.

3. An electrothermal protector comprising a heating element permanently held in circuit, means for switching a portion of the circuit off through a portion of the heating element, under abnormal current conditions, and heat-susceptible insulating material normally holding the switching means away from the heating element.

4. Electrical protective apparatus comprising a pair of spring members, a heat-producing element held between the spring members by the tension thereof, a switching-spring member adapted to engage the heating element under abnormal current conditions, and heat-susceptible insulating material normally holding the switching-spring member out of contact with the heating element.

5. Electrical protective apparatus comprising a pair of spring members, a heating element held in place between the spring members, a switching member arranged to make electrical connection with the heating element under abnormal current conditions so as to switch the objectionable current off through any desired portion of the heating element, and heat-susceptible insulating material normally holding the switching member out of electrical connection with the heating element.

6. Electrical protective apparatus comprising a pair of conducting members, a heating element permanently soldered in circuit with the conducting members, switching means for making electrical connection with the heating element under abnormal current conditions, and heat-susceptible insulating material normally holding the switching means out of electrical connection with the heating element.

7. A heat-producing member normally held in the circuit which it is to protect, means for making electrical connection with the heat-producing member for establishing a circuit from the first-mentioned circuit to ground, and heat-susceptible insulating material normally restraining the circuit-establishing means from establishing the grounded circuit.

8. A heat-producing member normally held in the circuit which it is to protect, a normally open circuit from the heat-producing member to earth, adapted to be closed under abnormal current conditions, and heat-susceptible insulating material for normally holding the normally open circuit open and arranged to be effected by the heat-producing member.

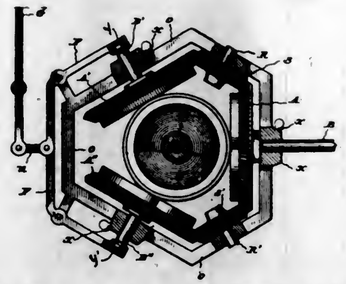
9. A pair of spring members suitably mounted and each provided with a projecting point near the free end thereof, a heat-producing element normally held between the said spring members near their free ends, each end of the heating element being provided with a recess adapted to fit the said projecting points, a circuit-controlling spring adapted to make electrical connection with the heating element under abnormal electrical conditions, and heat-susceptible insulating material normally holding the circuit-controlling spring out of contact with the heating element.

10. A pair of metallic supports, one being a spring member and each being provided with a projecting point thereon, a heat-producing member connected in circuit with the metallic supports and provided with recesses to accommodate the said points, means for grounding the circuit through a portion of the heating element, and heat-susceptible material normally holding the grounding means out of electrical connection with the heating element.

11. A pair of metallic suports, one being a spring member and each being provided with a projecting point thereon, a heat-producing member connected in circuit with the metallic supports and provided with recesses to accommodate the said points, means for switching a portion of the said circuit to another path through a portion of the heat-producing member under abnormal current conditions, and heat-susceptible material normally holding the switching means from switching the said circuit.

841,850. VARIABLE FRICTION-GEAR. JOSEPH R. CRABILL, Carthage, Ill. Filed Mar. 26, 1906. Serial No. 307,987.

Claim.—1. Variable-speed and reversible friction-gearing comprising a roller-wheel E, the main friction disk-wheel A with toothed gearing on its periphery, two auxiliary friction disk-wheels A′ and A″ with toothed gearing on their periphery, all of said friction disk-wheels having axes lying in the same plane and pointing approximately to one common center, with the plane of their faces lying at angles with one another and forming the sides of a triangular figure surrounding and in contact with the friction roller-wheel E, toothed idler-wheels S and S′ located one on either side of and meshing into the main friction disk-wheel and between it and one of the auxiliary friction disk-wheels A′ A″ gearing the three friction disk-wheels A, A′ and A″ together for rotating them in unison whereby each of the wheels A, A′ and A″ act upon the wheel E with the same power and in the same direction.



2. Variable-speed and reversible friction-gearing comprising a friction roller-wheel E, a main disk-wheel A with toothed gearing on its periphery, a plurality of auxiliary friction disk-wheels with toothed gearing on their periphery, all of them having axes lying in the same plane and pointing approximately to one common center, with the plane of their faces lying at angles with one another and forming the sides of an angular figure surrounding and in contact with the friction roller-wheel; said friction disk-wheels geared together by suitable toothed idler-wheels alternated between them and rotating them in unison whereby each of the several friction disk-wheels act upon the friction roller-wheel with the same power and in the same direction, as set forth.

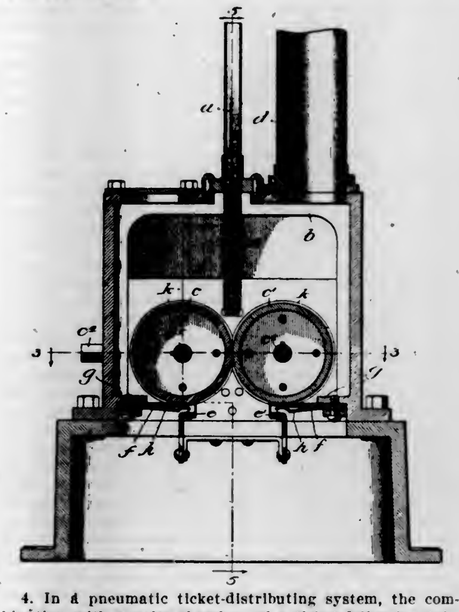
3. In a variable-speed and a reversible frictional driving mechanism a friction roller-wheel, a main friction disk-wheel and a plurality of auxiliary friction disk-wheels surrounding the friction roller-wheel; the several friction disk-wheels arranged with faces at angles with one another, located in such positions that their faces form some of the sides of an irregular polygon surrounding and each in contact with said friction roller-wheel; the auxiliary friction disk-wheels, located on suitable framework and boxes with their shafts journaled therein, means of controlling the same so as to increase or decrease the radii of the said polygonal figure by moving them in a direction of their axes toward the friction roller-wheel to increase the contact and from it to decrease the contact on the friction roller-wheel as described.

841,851. PNEUMATIC TICKET-DISTRIBUTING SYSTEM. HENRY M. CRANE, New York, N. Y., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 19, 1906. Serial No. 312,716.

Claim.—1. In a pneumatic ticket-distributing system, the combination with a ticket-delivering tube, of an exhaust-tube, and a rotary valve connected with said tubes and adapted to receive a ticket from said delivering-tube and discharge the same.

2. In a pneumatic ticket-distributing system, the combination with an air-tight valve-chamber, of a ticket-delivering tube communicating with said chamber, an exhaust-tube connected with said chamber, and a pair of rotating rolls adapted to discharge a ticket from said chamber.

3. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a pair of oppositely-rotating rolls engaging each other and forming one wall of said chamber, a tube adapted to deliver a ticket between said rolls, said rolls being thereupon adapted to discharge a ticket from the chamber, and an exhaust-tube connected with said chamber.



4. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a ticket-delivering tube opening into said chamber, an exhaust-tube connected with said chamber, and a pair of oppositely-rotating discharge-rolls in an opening in said chamber, one of said rolls being yieldingly mounted in engagement with the other roll to permit a ticket to pass between said rolls.

5. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a ticket-delivering tube opening into said chamber, an exhaust-tube connected with said chamber, a pair of oppositely-rotating discharge-rolls in an opening in said chamber, laterally-movable bearings for one of said rolls, and springs engaging said bearings to maintain said roll in yielding engagement with the other roll.

6. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a ticket-delivering tube projecting within the chamber, an exhaust-tube connected with said chamber, the portion of said tube within the chamber having slits therein to prevent a ticket from adhering to the side of said tube, and means for discharging a ticket from said chamber.

7. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a pair of oppositely-rotating engaging rolls forming one wall of said chamber, a tube projecting within the chamber adapted to deliver a ticket between said rolls, and an exhaust-tube connected with said chamber, the portion of said tube within said chamber having slits in its walls to cause the delivering-tube to exhaust evenly and prevent a ticket from adhering to said tube.

8. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a ticket-delivering tube opening into said chamber, an exhaust-tube connected with said chamber, a pair of oppositely-rotating contacting rolls forming one wall of said chamber and adapted to discharge tickets therefrom, and deflecting-strippers engaging the rolls outside the chamber to prevent tickets from adhering to said rolls.

9. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a ticket-delivering tube opening into said chamber, an exhaust-tube connected with said chamber, a pair of rotating rolls in an opening of said chamber adapted to discharge tickets therefrom, and means for rendering said opening air-tight.

10. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a ticket-delivering tube opening into said chamber, an exhaust-tube connected with said chamber, a pair of oppositely-rotating contacting rolls in an opening in said chamber adapted to discharge a ticket therefrom, sealing-strips secured to the walls of the chamber and engaging said rolls to maintain said opening air-tight, and springs engaging said strips to force them against said rolls.

11. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a ticket-delivering tube opening into said chamber, an exhaust-tube connected with said chamber, a pair of ticket-discharge rolls engaging each other and forming one wall of said chamber, and gearing for rotating said rolls in opposite directions.

12. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a ticket-delivering tube opening into said chamber, an exhaust-tube connected with said chamber, a pair of ticket-discharge rolls engaging each other and forming one wall of said chamber, shafts for said rolls projecting through openings in the walls of said chamber, means for rendering said openings air-tight, gears connected with said shafts outside the chamber, and right and left worms engaging said gears to rotate said rolls in opposite directions.

13. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a ticket-delivering tube communicating therewith, an exhaust-tube connected with said chamber, a pair of ticket-discharge rolls in an opening in said chamber, shafts for said rolls projecting through openings in the walls of said chamber, plates secured to the inner walls of said chamber, sealing-disks in openings in said plates, said disks engaging the ends of the rolls and having holes therein through which said shafts pass, and flexible gaskets secured between said plates and the walls of said chamber and to said disks.

14. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a ticket-delivering tube connected therewith, an exhaust-tube connected with said chamber, a pair of ticket-discharge rolls in an opening in said chamber, shafts for said rolls projecting through openings in the walls of said chamber, plates secured to the inner walls of said chamber, fiber disks in openings in said plates, said disks engaging the ends of said rolls and having central openings therein through which said shafts pass, flexible gaskets secured between said plates and chamber-walls and to said disks, and springs carried by said plates and bearing against the gaskets over said disks.

15. In a pneumatic ticket-distributing system, the combination with a ticket-delivering tube, of an exhaust-tube acting on said delivering-tube, and an automatic valve adapted to receive a ticket from said delivering-tube and discharge the same.

16. In a pneumatic ticket-distributing system, the combination with an air-tight valve-chamber, of a ticket-delivering tube communicating with said chamber, an exhaust-tube connected with said chamber, and a pair of rotating rolls forming a sealed wall for said chamber and adapted to receive a ticket from said delivering-tube and discharge the same.

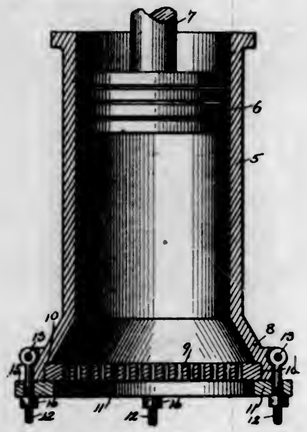
17. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a ticket-delivering tube opening into said chamber, an exhaust-tube connected with said chamber and adapted to exhaust the air from said ticket-delivering tube, a pair of rotating rolls in an open wall of said chamber adapted to discharge tickets therefrom, and means for rendering said opening air-tight.

18. In a pneumatic ticket-distributing system, the combination with a valve-chamber, of a ticket-delivering tube opening into said chamber, means for exhausting air from said chamber, a rotary valve for discharging a ticket from said chamber, and means for rendering the chamber air-tight.

841,852. CYLINDER FOR MACARONI-MACHINES. NICOLA D'AGOSTINO, Chicago, Ill. Filed Nov. 24, 1903. Serial No. 182,509.

Claim.—1. A macaroni-cylinder provided with a flat perforated forming-die, the perforated area of which is materially greater than the cross-sectional area of said cylinder.

2. A macaroni-cylinder provided with a flat perforated die through which the macaroni is delivered, the perforated area of said die being materially greater than the piston within said cylinder.



3. In a macaroni-press, a cylinder, a piston fitted in said cylinder, an enlarged mouth on said cylinder and a perforated forming-die secured in the extreme delivery end of said mouth, the perforated area of said die being materially greater than the cross-sectional area of said cylinder.

4. In a macaroni-press, a small cylinder, a piston fitted to move in said chamber, a large chamber provided with an exit, and a perforated forming-die secured in the extreme delivery end of said exit; the perforated area of said die being materially greater than said piston.

5. A macaroni-cylinder provided with a perforated forming-die, the combined cross-sectional area of said perforations being materially greater than the cross-sectional area of said cylinder.

6. A macaroni-cylinder provided with a perforated die through which the macaroni is delivered, the combined cross-sectional area of said perforation being materially greater than the piston within said cylinder.

7. In a macaroni-press, a cylinder, a piston fitted in said cylinder, an enlarged mouth on said cylinder and a die provided with a plurality of perforations secured in said mouth; the combined cross-sectional area of said perforations being materially greater than the cross-sectional area of said cylinder.

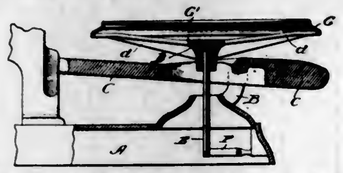
8. In a macaroni-press, a small chamber, a piston fitted to move in said chamber, a large chamber communicatively connected to said small chamber provided with an exit, and a die provided with a plurality of perforations secured in said exit; the combined cross-sectional area of said perforations being materially greater than said piston.

841,853. COMMUTATION RAILWAY-TICKET. HARRY N. DELANO, Chicago, Ill. Filed Feb. 10, 1906. Serial 300,506.



Claim.—A commutation-ticket provided along its margin with a plurality of spaces of equal width and having a portion of its said margin removed at one or more places to form one or more notches dividing the said spaces into two or more groups; said value-indicating spaces bearing a series of numbers arranged successively in regular order.

841,854. SCALE. ALLEN DE VILBISS, Jr., Toledo, Ohio, assignor to The Toledo Scale & Cash Register Company, Toledo, Ohio, a Corporation of Ohio. Filed Jan. 25, 1902. Serial No. 91,189.



Claim.—1. A scale-platform provided with a weighing-surface surrounded by a marginal portion, said portion being so inclined as to constitute a non-weighing surface.

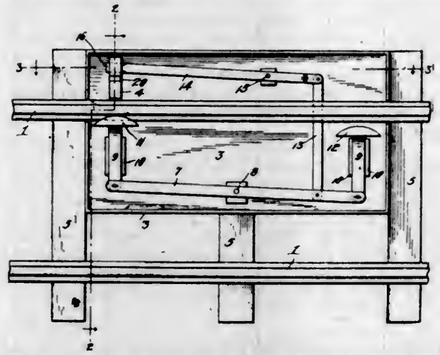
2. A rectangular scale-platform provided with a central raised weighing-surface having a curved periphery and a depressed marginal portion surrounding the same and so inclining away therefrom as to constitute a non-weighing surface; substantially as described.

3. In a scale, the combination, with the scale-beam and the platform-supporting frame mounted at two points thereon, of a weighing-platform supported upon said frame and provided with a raised weighing-surface occupying a portion only of the area of said platform within a surrounding marginal portion thereof so inclined as to constitute a non-weighing surface; substantially as described.

4. In a scale, the combination, with the scale-beam and a platform-supporting frame mounted at two points thereon, of a weighing-platform supported upon said frame and provided with a raised weighing-surface and a depressed marginal portion inclining outwardly and downwardly from the raised weighing-surface and surrounding the same its inclination being such as to make it constitute a non-weighing surface; substantially as described.

5. In a scale, the combination with the scale-beam and the platform-supporting frame mounted at two points thereon and provided with four supporting-arms radiating from its center toward the four corners of the platform, of a rectangular weighing-platform mounted at its four corners upon said arms and provided with a raised weighing-surface having an oval periphery located within the rectangular area of the platform within its points of support upon said frame the portion of said platform surrounding said raised surface being so inclined as to constitute a non-weighing surface; substantially as described.

841,855. ELECTRIC SIGNAL. WILLIAM F. DREER, Coulters, Pa. Filed Oct. 27, 1906. Serial No. 340,803.



Claim.—1. An electric signal for railways comprising track-rails, an electric trolley or conductor, electric signaling devices, pairs of contacts, one contact of each pair being electrically connected to one of the track-rails and the other contact of each pair being electrically connected with one of said signaling devices and with said trolley or conductor, a circuit-closing lever mounted to alternately engage said pairs of contacts, a lever extending longitudinally of the track and carrying trips to be engaged by the wheels of passing cars, and a connection between said longitudinal lever and said circuit-closing lever.

2. An electric signal for railways comprising track-rails, an electric trolley or conductor, different-colored electric lights, pairs of contacts arranged adjacent to one of the track-rails, one contact of each pair being electrically connected with said track-rail, the other contact of each pair being electrically connected with one of said lights and with said trolley or conductor, a circuit-closing lever pivoted intermediate its ends and adapted to complete electric circuits through said pairs of contacts, a lever extending longitudinally of the track and pivoted at its center, a link connecting said levers, and cam-shaped trips carried by the ends of said longitudinally-extending lever and adapted to be engaged by the flanges of the wheels of cars or trains passing over said track, substantially as described.

3. An electric signal for railways comprising track-rails, an electric trolley or conductor, an electric signaling device, a pair of contacts, one of the latter being electrically connected to one of the track-rails and the other to said signaling device and said trolley or conductor, a circuit-closing lever for completing the circuit through said contacts, a lever extending longitudinally of the track-rails and carrying trips for engagement with the wheels of a passing car and a connection between said levers.

4. The combination with a track-rail, of a circuit-closing device comprising electrical contacts, a circuit-closing lever to coact therewith and a second lever operatively connected with said circuit-closing lever and carrying trips to be operated by the wheels of a car passing over said track-rail.

5. The combination with a track-rail, of a circuit-closing device comprising electrical contacts, a circuit-closing lever to coact therewith, a lever extending longitudinally of the track-rail, a connection between said levers, and cam-shaped trips carried by said longitudinally-extending lever, and adapted to be actuated by the flanges of the wheels of a car passing over said track-rail.

6. The combination with a track-rail, of a circuit-closing device comprising electrical contacts, a circuit-closing lever to coact therewith, a lever extending longitudinally of said track-rail, a link connecting said levers, slidably-mounted bars connected to said longitudinally-extending lever and trip-blocks carried by said bars and adapted to be actuated by the flanges of the wheels of a car passing over said track-rail.

7. The combination with a track-rail, of a support or casing, opposing pairs of electrical contact-plates, a circuit-closing lever pivoted intermediate its ends and adapted to have one of its ends alternately engaging the contacts of said pairs, a lever extending longitudinally of the track-rail, a link connecting said levers and trips carried by said longitudinally-extending lever and adapted to be actuated by the wheels of cars passing over said track-rail.

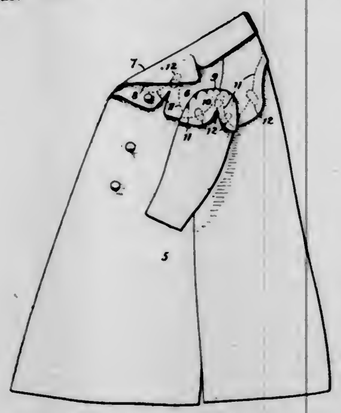
841,856. GARMENT. BARNETT FREEDMAN, Boston, Mass. Filed Mar. 14, 1906. Serial No. 306,026.

Claim.—1. A garment having the upper part of its outer material cut away to form an opening, a cape attached to the garment and covering said opening, and a yoke inside of the garment and underneath the cape, said yoke having an opening therethrough at a point opposite a portion of the outer garment material.

2. A garment having the upper part of its outer material cut away to form openings, a cape attached to the garment and covering the openings, a yoke inside of said garment and underneath of said cape, said yoke having an

opening therethrough, and a piece of gauze covering the yoke-opening.

3. A garment having the upper part of its outer material cut away to form openings, a cape attached along its upper edge to the garment and along its bottom edge at intervals to the garment, said cape covering said openings, and a yoke inside of said garment and underneath said cape, said yoke having an opening therethrough and being attached to the garment along its outer edges, around the armpits, and along a line from each armpit to the collar.



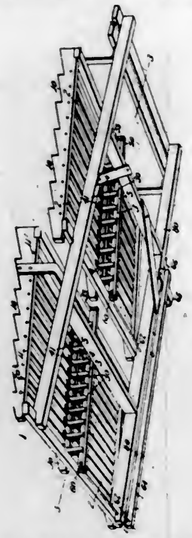
4. A garment having the upper part of its outer material cut away to form openings, a main cape attached to the garment along its upper and side edges and along the armpits, and attached to the garment along its lower edge at intervals, a cape over the crown of each sleeve having its upper edge attached along the armpit and its lower edge attached at intervals, a yoke inside of said garment and underneath the main cape, said yoke having openings therethrough at points opposite portions of the garment material, a yoke across the crown of each sleeve and underneath the sleeve-cape, said sleeve-yoke having an opening therethrough at a point opposite a portion of the garment material, and pieces of gauze covering the openings in said yokes.

5. A garment having the upper part of its outer material cut away to form an opening, a cape attached to the garment and covering said opening, and a yoke inside of said garment and underneath of said cape and having ventilating means therein coöperating with the opening in the outer material.

841,857. ADJUSTABLE STRAW-RACK. WILLIAM A. GARLITS and THOMAS WOODARD, Caldwell, Kans. Filed Sept. 4, 1906. Serial No. 333,198.

Claim.—1. As an improvement in straw-racks for separators, the combination with the main supporting-frame; of a series of fish-back sections mounted thereon, comprising two outer and a central member, the central member having a series of seats in its lower edge, a series of cross-slats rockably mounted on the several fish-back members to lap each other, the ends of the slats having short journals for engaging apertured bearings in the end fish-back members, and reduced centrally whereby to form journals for engaging the seats of the central fish-back member, means for holding the said central slat-journals in the said seats, U-shaped brackets that straddle the central fish-back member and have their ends secured to the slats at opposite sides of the central journal thereof, a bar connecting all of the U-shaped brackets and a means for shifting and holding the said bar, the brackets and the slats to their adjusted position, as set forth.

2. The hereinbefore-described improved straw-rack for separators, which comprises in combination, a supporting-frame, a series of fish-back sections mounted thereon, a series of cross-slats for each set of fish-back sections, rockably mounted in the fish-back frames to lap upon each other, a shifting lever for each set of slats in each fish-back section, an adjusting-bar, crank-levers connecting said bar and the shifting bar, each of said shifting bars



having sockets, a U-shaped bracket secured to each slat and having its cross portion fitted in the shifting bar sockets, and a cap-strip detachably fitted over the socketed edge of the shifting bar, as set forth.

841,858. CABLE CONVEYER. ULYSSES A. GARRED, Anaconda, Mont., assignor to Anaconda Copper Mining Company, Anaconda, Mont., a Corporation of Montana. Filed May 28, 1906. Serial No. 319,204.

Claim.—1. In a cable conveyer, a main cable or way, a suitable traveling carriage, a bucket suspended therefrom, and devices supported independently of the cable adjustable along the path of travel of said carriage for effecting a discharge of the bucket when the carriage has reached a given point, substantially as set forth.

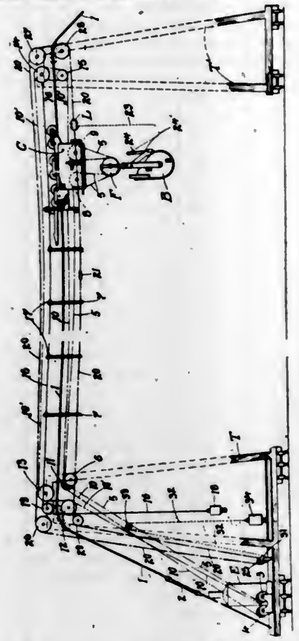
2. In a cable conveyer, a main cable or way, a carriage traveling along the same, a bucket suspended from the carriage, a dumping-rope disposed contiguous to the cable, and a button on the rope for effecting the discharge of the bucket when the carriage has reached a given point in its travel, substantially as set forth.

3. In a cable conveyer, a main cable or way, a carriage traveling along the same, a bucket suspended from the carriage, a dumping-rope disposed contiguous to the cable, a button on the rope, means coupled to the bucket and traversing the button-rope adapted by impact against the button to effect discharge of the bucket, and means coupled to the rope for cushioning such impact, substantially as set forth.

4. In a cable conveyer, a main cable or way, a carriage traveling along the same, a bucket suspended from the carriage, a dumping-rope disposed contiguous to the cable, a button on the rope adapted to be positioned at any convenient point along the path of travel of the carriage, a trolley traversing the dumping-rope and adapted to impinge against the button thereon, connections between the trolley and bucket for effecting discharge of the bucket upon impact of the trolley with the button, substantially as set forth.

5. In combination with a main cable, a carriage having a body portion depending below the cable, suitable members at opposite ends of the carriage pivotally secured between their opposite ends to the body portion and having

their inner adjacent ends movably coupled to one another whereby said members are susceptible of a limited oscillation in a vertical plane, trucks pivoted at points intermediate of their length, carried respectively at the outer ends of said oscillating members and at their adjacent inner ends, and sheaves mounted on the trucks and traveling over the cable, substantially as set forth.



6. In a cable conveyer, a main cable, a dumping-rope provided with a button disposed contiguous thereto, a carriage traveling on the cable and having a passage-way for the dumping-rope, a bucket suspended from the carriage, a trolley traversing the dumping-rope and adapted to impinge against the button, a latch and trigger for the bucket, and a cable connection between the trolley and trigger for releasing the latch and dumping the bucket upon impact of the trolley with the button, substantially as set forth.

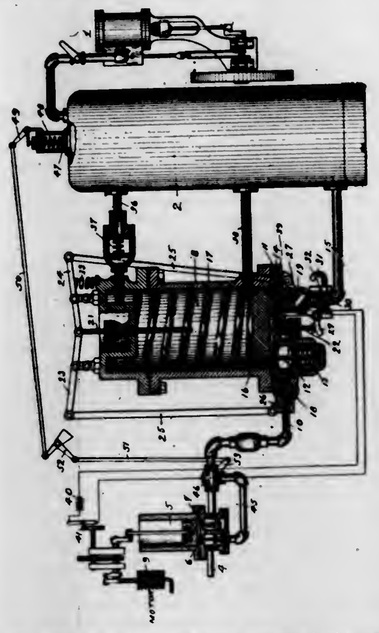
7. In a cable conveyer, a suitable carriage, a bucket suspended therefrom, a trigger-controlled latch for the bucket, a dumping-rope, a button thereon, a trolley traversing the dumping-rope and adapted to be intercepted by the button, intermediate connections between the trolley and latch, and an inhaul and outhaul rope for the carriage, substantially as set forth.

8. In a cable conveyer, a dumping-rope, a drum over which the same is wound, a second drum clutched to the first drum, and a weight connected to the second drum for taking up the impact to which the rope is subjected, substantially as set forth.

841,859. GAS-EXPLOSIVE DEVICE AND COMPRESSOR FOR REVERSIBLE ENGINES. CASSIUS M. GAY, Allegheny, Pa. Filed Feb. 6, 1904. Serial No. 192,305.

Claim.—1. In apparatus of the character specified, the combination of an explosion-cylinder, an imperforate piston therein, inlet and outlet ports into said cylinder, valves in said ports operated from said piston, igniting means in said cylinder, means for delivering the exploded gases from said cylinder at substantially the initial pressure of each explosion, and an equalizing-passage between the two ends of the cylinder.

2. In apparatus of the character described, the combination of an explosion-cylinder, an imperforate piston therein, an equalizing-passage between the two ends of said cylinder whereby a previously-exploded charge holds said piston normally at one end of said cylinder, means for forcing gas into the cylinder between the piston in its normal position and the adjacent head of the cylinder, igniting means in said cylinder, and means for delivering the exploded gases from said cylinder at substantially the initial pressure of each explosion.



3. In apparatus of the character described, the combination of an explosion-cylinder having no communication to the atmosphere, a piston therein, means for normally holding said piston against one head of said cylinder, an inlet-port arranged to deliver gas between said head and piston when in its normal position, igniting means adjacent to said head arranged to explode the charge of gas when said piston is in its normal position, an outlet from the cylinder adjacent to said head, whereby exploded gas is delivered from the cylinder at substantially the initial pressure of each explosion, and connections arranged to equalize the pressure on opposite sides of said piston.

4. In apparatus of the character described, the combination of an explosion-cylinder having no communication to the atmosphere, a piston therein, means for normally holding said piston against one head of said cylinder, an inlet-port arranged to deliver gases between said head and piston when the latter is in its normal position, means arranged to ignite the charge of gas with the piston in its normal position, an outlet from the cylinder adjacent to said head, and a pipe and valve arranged to admit the pressure of prior explosions into the cylinder on the opposite side of the piston.

5. In apparatus of the character described, the combination of an explosion-cylinder having no communication to the atmosphere, a piston therein, means for normally holding said piston at one end of said cylinder, means for exploding successive charges of gases between said piston and the head of the cylinder with which it is normally in contact, and a pipe arranged to admit the pressure of prior explosions into the cylinder on the opposite side of said piston.

6. In apparatus of the character described, the combination of an explosion-cylinder, a piston therein, means for normally holding said piston at one end of said cylinder, valve-controlled inlet and outlet ports to the same end of said cylinder, igniting means in said cylinder, and a pipe

and valve arranged to admit the pressure of prior explosions into the cylinder on the opposite side of the piston.

7. In apparatus of the character described, the combination of a single explosion-cylinder having no communication to the atmosphere, a piston contained within said cylinder, valve-controlled inlet and outlet ports to said cylinder, said valves being so arranged that when one is open the other is closed, means controlled from said piston for operating said valves, means for normally holding said piston against one head of said cylinder, means for exploding a charge of gas between said head and said piston, and means for delivering the exploded gases from said cylinder at substantially the initial pressure of each explosion.

8. In apparatus of the character described, the combination of a single explosion-cylinder, having no communication to the atmosphere, an imperforated piston therein, igniting means in said cylinder, inlet and discharge valves for said cylinder so arranged that when one is open the other is closed, means controlled by the piston when moving in both directions for shifting said valves, means for moving the piston against the force of an explosion, a pressure-tank, and pipe connections between the same and cylinder so arranged that the exploded gases are delivered to the pressure-tank at substantially the initial pressure of each explosion.

9. In apparatus of the character described, the combination of a single explosion-cylinder having one communication to the atmosphere, an imperforate piston therein, an igniter in said cylinder, inlet and discharge valves for said cylinder, said valves being so arranged that when one is open the other is closed, means projecting into the cylinder into the path of the piston and arranged to operate said valves, means for moving the piston against the force of an explosion, a pressure-tank, and pipe connections between the same and cylinder so arranged that the exploded gases are delivered to the pressure-tank at substantially the initial pressure of each explosion.

10. In a device of the character described, the combination with an explosion-cylinder, a piston therein, igniting means in said cylinder, inlet and discharge valves for the cylinder so arranged that when one is open the other is closed, a rod projecting into the cylinder into the path of the piston and connected directly to the valves and arranged to shift them in one direction, a spring for returning the valves to their normal position, a lock for restraining said spring against action, and releasing means for said lock arranged to be actuated from the piston in the cylinder.

11. In apparatus of the character described, the combination with a single explosion-cylinder, an imperforate piston therein, means for normally holding said piston at one end of the cylinder, means for forcing an explosion charge between said cylinder end and the piston, means for igniting the gas in the cylinder, between said cylinder end and piston, inlet and discharge valves for said cylinder so arranged that when one is open the other is closed, means operated by the piston when moving in both directions to shift said valves, a pressure-tank, and pipe connections between the same and the cylinder so arranged that the exploded gases are delivered to the pressure-tank at substantially the initial pressure of each explosion.

12. In apparatus of the character described, the combination of an explosion-cylinder, an imperforate piston therein, means for normally holding said piston against one head of the cylinder, means for forcing an explosive charge between said piston and said cylinder-head, igniting means, and a normally open outlet from the cylinder on the opposite side of the piston when in its normal position.

13. In apparatus of the character described, the combination of an explosion-cylinder, a piston therein, means for normally holding said piston at one end of the cylinder, a valve-controlled inlet-port to the cylinder, means for igniting the gas in said cylinder on one side of the piston, a pressure-tank, and a normally open passage from the tank to the cylinder on the opposite side of the piston when in its normal position.

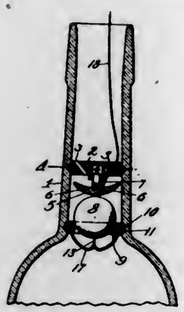
14. In apparatus of the character described, the combination of an explosion-cylinder, a piston therein, means for normally holding said piston at one end of the cylinder, a valve-controlled inlet-port into the same end of said cylinder, means for igniting the gas in said cylinder on one side of the piston, a pressure-tank, and a normally open passage from the tank to the cylinder on the opposite side of the piston when in its normal position.

15. In apparatus of the character described, the combination of an explosion-cylinder, a piston therein, means for normally holding the same at one end of the cylinder, a valve-controlled inlet-port in the same end of said cylinder, means for exploding gases in said cylinder, a pressure-tank, a pipe connecting the same with the end of the cylinder opposite that at which the piston normally rests, a check-valve in said pipe arranged to prevent gases from passing from the cylinder to the tank, and a pipe connecting the inlet end of the cylinder with said tank.

16. In apparatus of the character described, the combination of an explosion-cylinder, a piston therein, means for normally holding the piston at one end of the cylinder, a valve-controlled inlet-port in the same end of the cylinder, means for exploding the gas in said cylinder, a pressure-tank, a normally open pipe connecting said tank with said cylinder and entering the latter in close proximity to the piston when in its normal position, a pipe connecting the opposite end of the cylinder with the pressure-tank, and a check-valve in said last-named pipe arranged to prevent the gas from passing from the cylinder to the tank.

17. In apparatus of the character described, the combination of an explosion-cylinder, a piston therein, means for normally holding said piston at one end of said cylinder, valve-controlled inlet and outlet ports entering the cylinder at the same end, means for igniting gases in said cylinder, a pressure-tank, a pipe connecting the same to the outlet-port of the cylinder, a pipe connecting the tank with the opposite end of the cylinder, a check-valve in said last-named pipe arranged to prevent gas from passing from the cylinder to said tank, and a normally open pipe connecting the tank with the cylinder and opening into the latter in close proximity to the piston when in its normal position.

841,860. NON-REFILLABLE BOTTLE. JOHN T. GILMER, Pensacola, Fla., assignor of one-half to T. A. Jennings, Pensacola, Fla. Filed June 11, 1906. Serial No. 321,239.



Claim.—1. A non-refillable bottle having a bottle-neck provided with a valve-seat therein, a ball seated on said valve-seat and closing the same, a concavo-convex disk of smaller diameter than the interior diameter of the bottle-neck having its convex side resting on said ball and having an upwardly-projecting stud, and a fixed guard-disk secured in the bottle-neck above said concavo-convex disk and having a bottom socket in which said stud is loosely fitted, said fixed disk having inclined holes or perforations therein for passage of liquid, said concavo-convex disk being movable up and down between the limits allowed by the ball and the depth of said socket, substantially as described.

2. In a non-refillable bottle, the combination of a bottle-neck having a valve movable up and down, a stationary perforated guard-disk above the valve, the perforations of which are downwardly inclined from the peripheral portion toward the center of said disk, and a concavo-convex disk of smaller diameter than the interior of the bottle-neck arranged between said guard-disk and valve and having its convex under side seated on said valve.

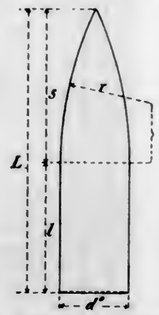
3. In a non-refillable bottle, the combination of a bottle-neck having a valve therein operating to allow egress and prevent ingress of liquid, a guard-disk above said valve having liquid passages or perforations therein slanting downwardly toward the center of said disk, and a subjacent disk of smaller diameter than the interior diameter of the bottle-neck and having a concaved upper side.

4. In a non-refillable bottle, the combination of a bottle-neck having a valve therein operating to allow egress and prevent ingress of liquid, a guard-disk above said valve having radially-arranged liquid-passages therein similarly inclined with respect to the center of said disk, and a subjacent disk whose upper side is curved or inclined with respect to its center in the same general direction as the slant of said passages, there being also means for passage of the liquid past said subjacent disk.

5. In a non-refillable bottle, the combination of a bottle-neck having a valve therein, a stationary perforated guard-disk above said valve, the perforations of which are of pronounced slant or incline, and an intermediate movable disk bearing on said valve and having perforations therein slanting oppositely to those in the upper disk.

6. In a non-refillable bottle, the combination of a bottle-neck having a valve therein, a stationary perforated guard-disk above said valve, the perforations of which slant downwardly from the peripheral portion toward the center of said disk, an intermediate movable disk bearing on said valve and having a concave upper surface, said movable disk being of smaller diameter than the interior of the bottle-neck, and means for guiding said movable disk.

841,861. PROJECTILE FOR HAND-FIREARMS. ARTHUR GLEINICH, Königs-Wusterhausen, Germany, assignor to Deutsche Waffen-und Munitionsfabriken, Berlin, Germany. Filed Feb. 20, 1905. Serial No. 246,549.



Claim.—1. A projectile having a pointed head of substantially one-half the total length of the projectile, and having its other dimensions substantially as set forth.

2. A projectile having a pointed head formed by lines curved upon a radius of four to nine fold the caliber, and having its other dimensions substantially as set forth.

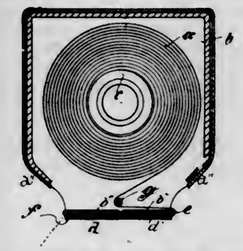
3. A projectile having a pointed head of substantially one-half the total length of the projectile and curved upon a radius of four to nine fold the caliber, and having its other dimensions substantially as set forth.

4. A projectile having a body part substantially 1.85 calibers in length, and a pointed head substantially 2.19 calibers long, and having its other dimensions substantially as set forth.

5. A projectile having a body part substantially 1.85 calibers in length, and a pointed head substantially 2.19 calibers long, the lines of the pointed head being curved upon a radius of from 4.7 to 8.2 calibers.

6. A projectile having a body part substantially 1.85 calibers in length, and a pointed head substantially 2.19 calibers long, the lines of the pointed head being curved upon a radius of from 4.7 to 8.2 calibers, and the head terminating in a point curved upon a radius of substantially .5 millimeters.

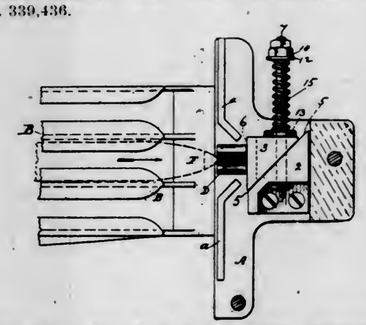
841,862. CONTAINER FOR ROLLS OF PERFORATED LABELS. CARL GRUNDIG, Sorau, Germany. Filed Oct. 27, 1903. Serial No. 178,704.



Claim.—1. A container for strips of perforated labels comprising a receptacle having an open end, and having its bottom extended below said open end and bent up to form a wall, and a removable holder for labels of the length of a single label, made of a plate of metal having its ends bent back parallel to the main body thus forming a space to receive the wall, the bottom and top edges of the holder-plate being respectively bent back forming an open-ended receptacle through which to draw the labels, substantially as described.

2. A container for strips of perforated labels comprising a receptacle for a roll of labels, a friction-pin erected therein around which the label-strips may be drawn, and a label-holder securable upon a wall thereof, said holder being of the length of a single label between the lines of perforations, and formed with a friction-surface at one end over which the label being withdrawn is bent, and at its opposite end with a tearing edge, an open-ended channel being provided in the holder for the passage of the label, substantially as described.

841,863. SHUTTLE-CHECK FOR LOOMS. WARREN B. HARRIS, Millbury, Mass. Filed Oct. 18, 1906. Serial No. 339,436.



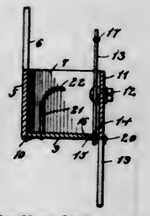
Claim.—1. A shuttle-check mechanism, comprising a stationary member having a bearing-surface the plane of which is oblique in relation to the line of the shuttle movement, a contact-receiving member having an inclined seating-face supported and slidable upon said bearing-surface, a spring-holding means, and a spring pressing said contact member toward said inclined bearing-surface in a direction approximately perpendicular to the line of shuttle movement.

2. A shuttle-check for looms, comprising a stationary body block or member having an inclined bearing-surface, a longitudinally-slotted slide-block having a contact-face and an inclined seating-face slidably supported upon the inclined bearing-surface of said body member, a projecting

spring-guiding bolt arranged transversely through said blocks, and a spring disposed for pressing upon said slide-block in a direction oblique to the plane of said bearing-surface.

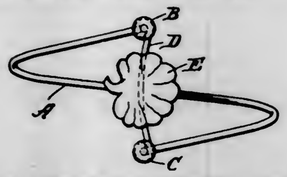
3. The combination with the lathe, shuttle-box, and picker, in a loom; of a check-body fixed on the lathe and having an inclined bearing-surface oblique to the axis of the shuttle-box, a movable contact member having a perpendicular contact-face and an inclined seating-face supported upon the bearing-surface of said check-body, a bolt passing through said body and contact member approximately perpendicular to the line of shuttle-box axis, a coil-spring arranged on said bolt and exerting pressure to impel said contact member toward its primal position, and means for regulating the tension of said spring.

841,864. STOCK-FEEDING DEVICE. ALBERT W. HARVEY, Rockwall, Tex. Filed Oct. 13, 1906. Serial No. 338,761.



Claim.—A stock-feeding device comprising a bin having a hinged bottom, a latch for holding the bottom closed, and fingers carried by said bottom and extending into the bin when the bottom is closed.

841,865. BRACELET. FRANCIS G. HODGES, Attleboro, Mass., assignor to Sidney O. Bigney, Attleboro, Mass. Filed July 24, 1906. Serial No. 327,492.

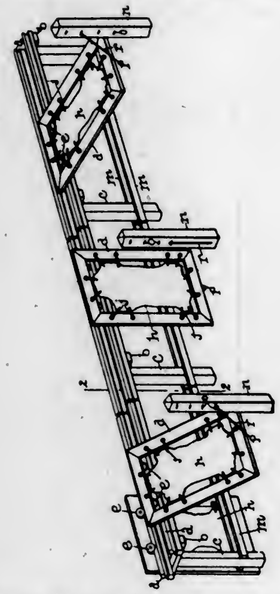


Claim.—In a bracelet the combination with a ring of springy material having overlapping ends, of balls upon the extremities of the overlapping ends, and a bar provided with an opening in each end to receive the overlapping ends adjacent the balls.

841,866. DRYING APPARATUS FOR HIDES, &c. GEORGE W. HOLLIS, Boston, Mass., assignor to Swift and Company, Chicago, Ill., a Corporation. Filed May 23, 1906. Serial No. 318,329.

Claim.—1. In an apparatus of the class described, in combination, an elevated rail, uprights or posts to support said rail, a drying-frame to which a skin is secured, trolley-wheels carried by said frame and engaging said rail to support the said frame thereon, a guard-bar secured to said uprights or posts below the said rail to prevent said drying-frame from entering the space between adjacent posts and be thereby arrested in its travel on said rail, and means to render the said frame stationary on said rail and to secure the same in an inclined position with relation thereto, substantially as described.

2. In an apparatus of the class described, in combination, an elevated rail, uprights or posts to support said rail, a drying-frame to which a skin is secured, trolley-wheels carried by said frame and engaging said rail to support the said frame thereon, a guard-bar secured to said uprights or posts below the said rail, means on said rail to prevent said trolley-wheels being disengaged therefrom when said frame is in an inclined position, and means to secure the said frame in a stationary inclined position with relation to said rail, substantially as described.



3. In an apparatus of the class described, in combination, an elevated rail, means to support said rail in its elevated position, a drying-frame provided with means for engaging said rail to move thereon, and means to render said frame stationary on said rail and to secure the same in an inclined position with relation thereto, to adjust said frame and the skin thereon to different positions of the sun, substantially as described.

4. In an apparatus of the class described, in combination, a substantially continuous support, a drying-frame to which a skin is secured sustained by said support, and means to position said drying-frame on said support at an incline, substantially as described.

5. In an apparatus of the class described, in combination, an elevated rail, means to support said rail in its elevated position, a drying-frame provided with means for engaging said rail to move thereon, and means to secure said frame in different stationary inclined positions with relation to said rail, substantially as described.

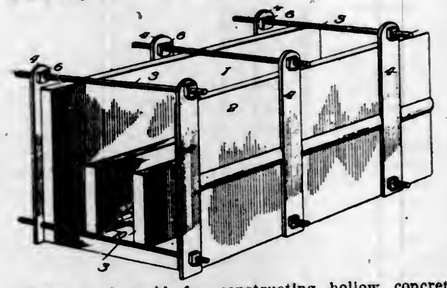
6. In an apparatus of the class described, in combination, an elevated rail, uprights or posts to support said rail, a drying-frame to which a skin is secured, trolley-wheels carried by said frame and engaging said rail to support the said frame thereon, a guard extended longitudinally of said rail between said posts or uprights to prevent said frame engaging the same as the said frame is moved on said rail, substantially as described.

7. In an apparatus of the class described, in combination, an elevated rail, means to support said rail in its elevated position, a drying-frame suspended from said rail and movable thereon longitudinally and into a position inclined outwardly with relation to the path of longitudinal movement, and means to render said frame stationary on said rail and to secure it in an inclined position with relation thereto.

8. In an apparatus of the class described, in combination, a drying-frame to which a hide, skin or leather is secured, a support to sustain said frame while the latter is moved from one position to another, and means to render said frame stationary on said rail and to secure it in an inclined position while on said support, substantially as described.

9. In an apparatus of the class described, in combination, a drying-frame to which a hide, skin or leather is secured, an inclined support to sustain said frame while the latter is automatically moved by gravity from one position to another, and means coöperating with said frame to render the same stationary on its support and hold the same in an inclined position with relation to said support, substantially as described.

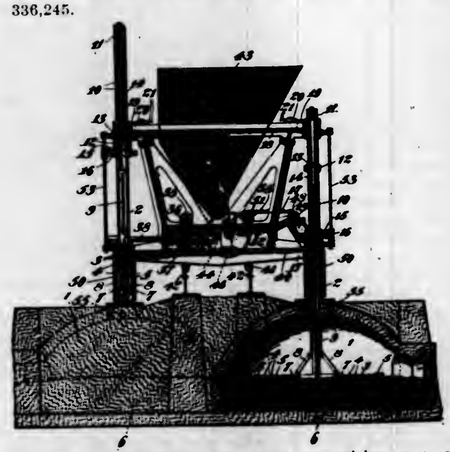
841,867. MOLD FOR CONSTRUCTING HOLLOW CONCRETE WALLS. HENRY J. HOUPT, Leesburg, Va. Filed May 10, 1906. Serial No. 316,138.



Claim.—1. A mold for constructing hollow concrete walls consisting of an outer portion comprising parallel sides having vertical stays extending above the upper edges thereof; adjustable screw-bolts passing through the parallel sides and the vertical stays near the bottom edge; adjustable screw-bolts passing through the vertical stays above the upper edges of the sides; and a collapsible core consisting of two parallel side pieces and toggle-hinges secured to the side pieces in alternate inverse relation, substantially as hereinbefore set forth.

2. In a mold such as described, a collapsible core comprising parallel side pieces and four-part toggle-hinges connecting said side pieces; said hinges secured to the side pieces in alternate reverse relation, a portion of said hinges having their secured extremities extending from the top to the bottom edges of the side pieces and constituting braces, substantially as set forth.

841,868. LEVELING APPARATUS. CHARLES L. HOWER, Vintondale, Pa. Filed Sept. 26, 1906. Serial No. 336,245.



Claim.—1. A leveling apparatus comprising one or more arms pivotally mounted on a shaft, means for lowering and raising said shaft and for lowering and raising the inner ends of said arms relative to said shaft, thus extending or collapsing the arms aforesaid and means for revolving said shaft and the arms mounted thereon.

2. A leveling apparatus comprising one or more collapsible arms pivotally mounted on a shaft, means for lowering and raising said shaft, means for automatically extending or collapsing said arms concurrent with the downward or upward movement of the shaft aforesaid and means for revolving said shaft and the arms pivoted thereto.

3. The combination with a coke-oven, of a leveling apparatus comprising one or more arms pivotally mounted on a shaft, means for lowering and raising said shaft and for lowering and raising the inner ends of said arms relative to said shaft, thus extending or collapsing the arms aforesaid, means for revolving said shaft and the arms pivoted thereto, the said apparatus being comprised in small compass when the arms are collapsed or folded to admit their introduction into the coke-oven through a small opening in the top thereof, and after their introduction said arms being extended to accomplish the leveling of the coal in the oven by their revolution as desired.

4. In a leveling apparatus, one or more collapsible arms, grooves or ways in said arms, connecting-links pivoted at one end to slides mounted in said ways and at their other ends to a hollow revoluble shaft, the inner ends of said arms being pivoted to a sliding bar mounted within said shaft, means for withdrawing said sliding bar within the hollow shaft thereby collapsing said arms and retracting them within said hollow shaft and means for operating said sliding bar in the reverse direction to extend said arms.

5. In a leveling apparatus comprising one or more arms pivotally mounted on a revoluble shaft, means for lowering and raising said shaft and for lowering and raising the inner ends of said arms relative to said shaft, thus extending or collapsing the arms aforesaid; a gear-wheel secured on said shaft and means for revolving said gear and its attachments as desired.

6. The combination with a lorry of a leveling apparatus mounted thereon, said apparatus comprising one or more arms pivotally mounted on a shaft, means for lowering and raising said shaft and for lowering and raising the inner ends of said arms relative to said shaft, thus extending or collapsing the arms aforesaid and means for revolving said shaft and the arms mounted thereon.

7. In a leveling apparatus a revoluble shaft, one or more arms pivotally mounted on the lower end thereof, means for extending or collapsing the arms aforesaid, said means including a sliding bar mounted within the hollow shaft and pivoted at its lower end to the inner ends of the arms aforesaid, a flexible connection attached to the other end of said sliding bar, passing thence over a pulley and secured to a sliding ring mounted on the exterior of said shaft, a slot in said shaft through which said flexible connection is attached to the external ring, all so arranged that the arms aforesaid are collapsed or extended by the upward or downward movement of the shaft aforesaid.

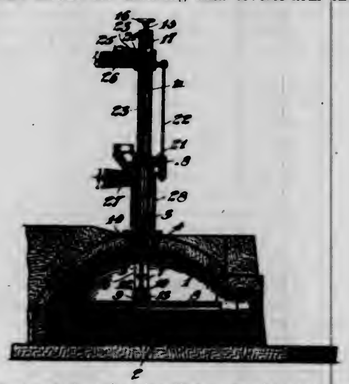
8. In a leveling apparatus comprising one or more arms pivotally mounted on a revoluble shaft, means for lowering and raising said shaft and for lowering and raising the inner ends of the said arms relative to said shaft, thus extending or collapsing the arms aforesaid, inclined ribs on the lower surfaces of said arms to assist in spreading and leveling the material to be operated upon by the plow-like action of said ribs.

9. A leveling apparatus comprising one or more collapsible arms mounted on a hollow shaft, means for lowering and raising said shaft and for extending or collapsing said arms by the downward or upward movement of the shaft aforesaid, means for revolving said shaft and the arms pivoted thereto, said apparatus being mounted on a car whereby it may operate within any one of a series of coke-ovens as desired.

841,869. APPARATUS FOR LEVELING. CHARLES L. HOWER, Vintondale, Pa. Filed Oct. 6, 1906. Serial No. 337,682.

Claim.—1. An apparatus for leveling comprising a revoluble shaft, a leveler-arm removably secured within a

socket or opening provided in the lower end of said shaft, means for lowering, raising and revolving said shaft and means for securing said leveler-arm thereto.



2. An apparatus for leveling comprising a revoluble shaft, a leveler-arm removably mounted within an opening arranged near the lower end of said shaft, means for clamping said arm to and for unclamping same from said shaft; means for lowering and raising the shaft and for revolving the same.

3. An apparatus for leveling comprising a vertical shaft provided with an opening at its lower end, a leveler-arm removably mounted within said opening, a locking-block mounted in said opening and provided with means for clamping said arm to and unclamping same from said shaft, and means for lowering, raising and revolving the shaft with its attached leveler-arm.

4. In a leveling apparatus a substantially vertical shaft, an opening in the lower end of said shaft, a leveler-arm removably mounted within said opening, a locking-block slidably arranged in said opening, a locking-rod one end of which is revolubly secured to said locking-block, the other end of said rod being provided with a screw or other means for longitudinally moving said rod in either direction to clamp or unclamp said leveler-arm, and means for lowering, raising and revolving the shaft aforesaid.

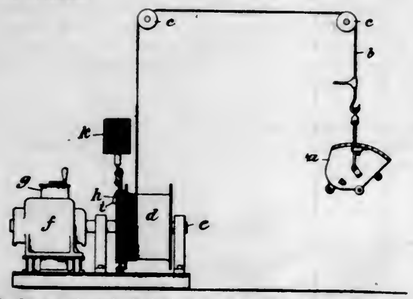
5. The combination with a lorry of an apparatus for leveling mounted thereon, comprising a revoluble shaft, a leveler-arm removably mounted in an opening provided at the lower end of said shaft, means for clamping said arm to and unclamping the same from said shaft, and means for lowering, raising and for revolving the shaft aforesaid.

6. The combination with a coke-oven of an apparatus for leveling, comprising a vertical shaft provided with an opening in its lower end, a leveler-arm removably mounted within said opening, means for temporarily securing said arm to said shaft, and means for lowering, raising and revolving the shaft aforesaid together with the attached leveler-arm.

7. In a leveling apparatus, a revoluble shaft, an opening in the lower end of said shaft, a leveler-arm removably mounted within said opening, a locking-block slidably arranged in said opening, a locking-rod one end of which is revolubly secured to said locking-block, the other end of said rod being provided with a screw or other means for moving said rod in either direction to clamp or unclamp said leveler-arm, a worm-wheel mounted on said shaft and meshing with a worm provided with means for revolving same, a flexible connection secured to a ring mounted within a groove in the collar or hub of said wheel, said flexible connection passing over suitable pulleys to a winding-drum provided with a motor for raising and lowering said shaft and its connections.

841,870. HOISTING APPARATUS. CHARLES H. HUNT, New York, N. Y. Filed July 24, 1906. Serial No. 327,487.

Claim.—1. In an electric hoisting apparatus, the combination of a motor, a hoisting-drum, a mechanical brake, means to decrease the resistance of the mechanical brake, and means to increase the resistance of the motor to backward rotation.



2. In an electric hoisting apparatus, the combination of a motor, a hoisting-drum, a mechanical brake, means to progressively decrease the resistance of the mechanical brake, and means to progressively increase the resistance of the motor to backward rotation.

3. In an electric hoisting apparatus, the combination of a motor, a hoisting-drum, a mechanical brake for said drum, means to decrease progressively the resistance of said brake and permit the load to descend, and means acting to cause said motor to operate with progressive force as a progressive resistance to the descent of the load when running backward during the descent of the load.

4. In an electric hoisting apparatus, the combination of a motor, a hoisting-drum, a friction-brake for said drum, electromagnetic devices to control said brake, means to actuate said devices to release the brake progressively and means acting to cause said motor to operate with progressive force as a resistance to the descent of the load when running backward during the descent of the load.

5. In an electric hoisting apparatus, the combination of a motor, a hoisting-drum, a mechanical brake, means to decrease the resistance of the mechanical brake progressively, variable resistances included in the field-circuit of the motor, and means whereby the circuit is closed through said resistances to increase the resistance of the motor to backward rotation as the brake is progressively released.

6. In an electric hoisting apparatus, the combination of a motor, a hoisting-drum, an electrically-controlled mechanical brake for said drum, variable resistances included respectively in the field-circuit of the motor and in the circuit of said electrical controlling devices, and means whereby the circuit is closed through said resistances to release the brake and to cause the motor to operate as a resistance to the descent of the load when running backward during the descent of the load, the respective resistances being progressively reduced.

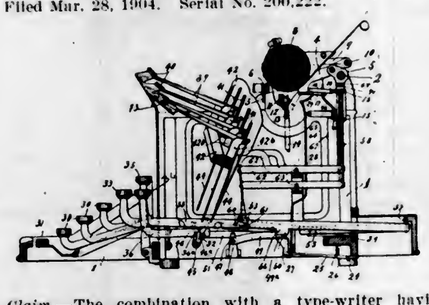
7. In an electric hoisting apparatus, the combination of a motor, a hoisting-drum, a mechanical brake, means to decrease the resistance of the mechanical brake, electrical connections for driving said motor in hoisting and electrical connections for increasing the resistance of the motor to backward rotation during the descent of the load, the whole of the field of the motor being included in the connections for hoisting and a portion only of the field of the motor being included in the connections for increasing the resistance of the motor to backward rotation.

8. In an electric hoisting apparatus, the combination of a motor, a hoisting-drum, a mechanical brake for said drum, means to release said brake and permit the load to descend, electrical connections for driving said motor in hoisting, electrical connections for increasing the resistance of the motor to backward rotation and variable resistances included in the field-circuit of the motor, the whole of the field of the motor being included in the connections for hoisting and a portion only of the field of the motor being included in the connections to increase the resistance of the motor to backward rotation.

9. In an electric hoisting apparatus, the combination of a motor, a hoisting-drum, a mechanical brake for said drum, electromagnetic devices for controlling said brake, electrical connections whereby said devices are actuated to release the brake, electrical connections for driving said motor in hoisting, and electrical connections for increasing the resistance of the motor to backward rotation, the whole of the field of the motor being included in the connections for hoisting and a portion only of the field of the motor being included in the connections for increasing the resistance of the motor to backward rotation.

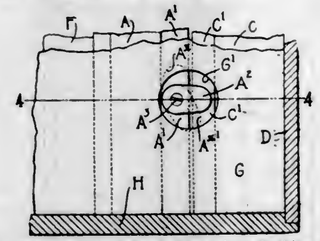
10. In an electric hoisting apparatus, the combination of a motor, a hoisting-drum, a mechanical brake for said drum, electromagnetic devices for controlling said brake, electrical connections whereby said devices are actuated to release the brake, electrical connections for driving said motor in hoisting, and electrical connections for causing said motor to operate as a generator when running backward during the descent of the load, the whole of the field of the motor being included in the connections for hoisting and a portion only of the field of the motor being included in the connections to cause the motor to operate as a resistance when running backward.

841,871. TYPE-WRITER WITH TABULATING MECHANISM. FREDERICK W. HUNT, Minneapolis, Minn. Filed Mar. 28, 1904. Serial No. 200,222.



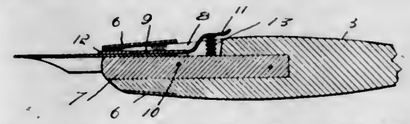
Claim.—The combination with a type-writer having numeral and character keys, and key-actuated carriage-escapement mechanism, of a depressible and laterally-adjustable escapment-actuating rod, said numeral-keys having depressing-lugs that always overlie said depressing-rod, and said character-keys having depressing-lugs which overlie said rod only under one adjustment thereof, a plurality of carriage-intercepting tabulating-stops, stop-actuating connections having coupling-heads for coupling them to certain of the said character-keys, means for throwing the carriage-escapement out of action when one of said stops is rendered operative, a rock-shaft having reversely-beveled arms, switch-keys operative on said cam-arms, to rock the same in reverse directions, and connections from said rock-shaft to said coupling-heads and to said depressing-rod arranged to simultaneously move the latter into coupling positions and to move said depressing-rod from under the depressing-lugs of said character-keys, substantially as described.

841,872. INTERCHANGEABLE FURNITURE UNIT. DAVID E. HUNTER, Cambridge, Mass., assignor to Library Bureau, Boston, Mass., a Corporation of New Jersey. Filed May 2, 1905. Serial No. 258,488.



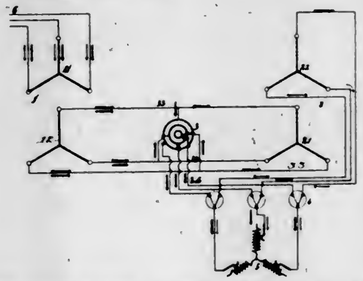
Claim.—The combination of two interlocking furniture-sections comprising the interengaging rabbeted slats at top and bottom, respectively, the fastening-button operating in said rabbeted portions and a false bottom covering said slats and having an aperture therein for access to the fastening-button.

841,873. PENHOLDER. JOSEPH C. JOHNSON, Fort Ransom, N. D. Filed May 14, 1906. Serial No. 316,829.



Claim.—A penholder consisting of a pen-stock, a short ferrule on its forward end, a core inserted in the forward end covered by the ferrule, said pen having a chamber formed in the upper side of the forward end, a lever arranged in said recess and having its forward end fitting over said core, a cross-pin extended through the sides of the pen-stock and said lever, forming a fulcrum for the latter, an outstanding thumb-piece from the rear end of the lever, and a spring sustained under the rear end of the lever and operating to normally press the same upwardly.

841,874. ROTARY CURRENT-MOTORS CONNECTED IN CASCADE SYSTEM. COLOMAN DE KANDÓ, Budapest, Austria-Hungary, assignor to Westinghouse Machine Company, a Corporation of Pennsylvania. Filed Oct. 14, 1903. Serial No. 177,085.



Claim.—In a system of electric traction a plurality of rotary current-motors with their rotors on the same driving-axle, and a single set of collector-rings located outside the motors, to which rings the windings of both motors are connected, and connections leading through one of the motors to said collector-rings.

841,875. MANUFACTURE OF AN IMPERMEABLE MASS. EUGENE KOLBASSIEFF, St. Petersburg, Russia. Filed Aug. 31, 1905. Serial No. 276,651.



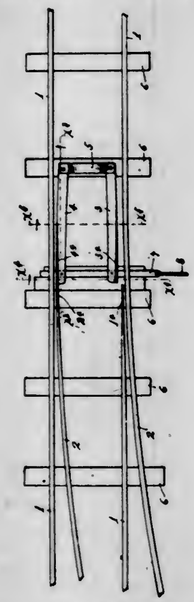
Claim.—1. An impermeable mass composed of cork plates, cemented together from thin cork sheets and coated with layers of a composition made of molten colophony at 100° to 200° centigrade, and a small amount of asphaltum and paraffin, and of ordinary paper impregnated with the said composition and fat and placed on the said cork plates.

2. An impermeable mass composed of thick cork plates cemented from thin cork sheets and coated with layers of a composition made of molten colophony at 100° to 200° centigrade, and a small amount of asphaltum and paraffin, fat being rubbed in the said layers, and of ordinary paper placed on the cork plates and impregnated with the composition and fat being rubbed in the cork plates, the aforesaid composition being mixed with liquid hydrocarbons con-

taining no volatile parts for cementing the cork plates together.

3. A method of manufacturing the improved impermeable mass from cork consisting in uniting together thin cork sheets by means of glue, dipping said united cork sheets for five or ten seconds in a bath made of molten colophony at 100° to 200° centigrade and of a small amount of asphaltum and paraffin, then rubbing fat in the layers of the composition, placing sheets of ordinary paper on the thus-treated cork plates, cementing several cork plates together by means of the aforesaid composition with the addition of a small amount of linseed-oil, cutting them into sections, coating the said sections, arranging them in cases and filling them in with a composition consisting of colophony, fat, linseed-oil and paraffin.

841,876. RAILWAY-SWITCH. CHARLES LAROCQUE, Olga, N. D. Filed Sept. 20, 1906. Serial No. 335,383.



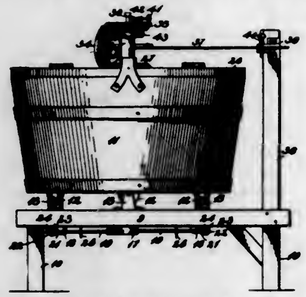
Claim.—The combination with adjoining rails of a main line 1 and a branch line 2, the inside members of said rails 1 and 2 having the reduced terminal portions 1^a and 2^a, of a switch made up of the switch rails or bars 3 4 pivoted at one end and located inside of the adjacent rails 1, the said rails 3 and 4 being reduced from the intermediate portions toward their free ends and having respectively the supplemental rail-flanges 3^a and 4^a, and the tie-bar 7 pivotally connecting the free ends of said rails 3 and 4, and so spacing the same that their supplemental rail-flanges 3^a and 4^a will be moved alternately into alinement with the said terminal rail portions 1^a and 2^a, substantially as described.

841,877. BLUE SULFUR DYE AND PROCESS OF MAKING SAME. AUGUST L. LASKA and GEORG LIST, Offenbach-on-the-Main, Germany, assignors to Chemische Fabrik Griesheim Elecktron, Frankfort-on-the-Main, Germany, a Corporation. Filed Mar. 21, 1906. Serial No. 307,272. (Specimens.)

Claim.—1. The process of producing blue sulfur dyestuffs by heating monoalkyl para 1-amido-meta 1 chlor-para-oxydiphenylamins with polysulfids substantially as described.

2. The blue sulfur dyes obtained from monoalkyl para 1-amido-meta 1 chlor-para-oxydiphenylamins by heating with alkaline polysulfids which in a dry state are dark-violet powders almost insoluble in pure water, alcohol, benzene and glacial acetic acid; easy soluble in hot glycerin and concentrated sulfuric acid with a dark-blue color and in water containing alkaline sulfids with a violet tint; dyeing cotton from such a solution blue shades being very fast to washing light and acids.

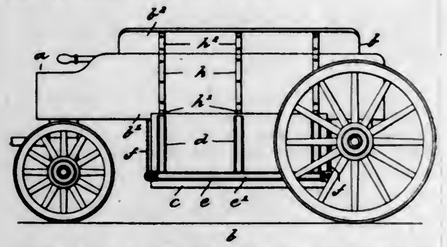
841,878. WASHING-MACHINE. CLAUDE LUSK, Wapakoneta, Ohio. Filed Jan. 22, 1906. Serial No. 297,324.



Claim.—1. In a washing-machine, a platform, a rotatable vertical shaft journaled in the platform, and having a squared portion, a tub, a socket-piece depending from the bottom of the tub, and receiving the aforesaid squared portion, a cam on the shaft, levers pivoted to the platform, each having one of its ends extending into the path of the cam, and springs connected to the other ends of the levers to start the tub on its return movement.

2. In a washing-machine, a platform, a rotatable tub mounted thereon, a miter-gear fastened to the lid of the tub, and having a central opening, a rotatable tubular stem extending through the aforesaid opening, a miter-gear made fast to the stem, a sleeve loosely mounted on the stem, and carrying a miter-gear meshing with the aforesaid gears, a vertically-adjustable shaft extending through the aforesaid stem, and rotatable therewith, a rubbing-disk at the end of the shaft, an arm extending from the aforesaid sleeve, and a standard rising from the platform, and having means for locking the free end of the arm, whereby the sleeve is held against rotation.

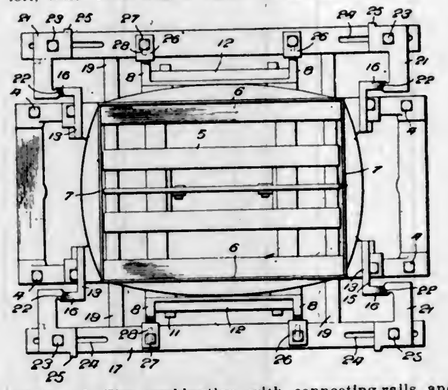
841,879. DUMP-WAGON. RICHARD H. MACCLERNAN, Philadelphia, Pa., assignor to Contractors Wagon Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 29, 1906. Serial No. 319,250.



Claim.—1. In a dump-wagon, a wagon-box, doors forming the bottom of said box and having flanges provided with openings therein and flat strips secured to the sides of said wagon-box and extending the entire width thereof, and said strips at their lower ends bent into hooks to pass through the openings in the flanges of said doors, substantially as and for the purposes described.

2. In a dump-wagon, a wagon-box, flaring boards forming extensions of the sides of said box, doors forming the bottom of said box and having flanges provided with openings therein and flat strips secured to said flaring boards and sides of said box and the lower ends of said strips bent into hooks to pass through the openings in the flanges of said doors, substantially as and for the purposes described.

841,880. MOLDING-MACHINE. FRANK F. MARTIN, Beloit, Wis. Filed Aug. 6, 1906. Serial No. 329,481.



Claim.—1. The combination with connecting-rails and supporting-brackets therefor; of a platform, side and end walls disposed around said platform, arms rigid with the side walls and pivoted to the said rails, said arms having tapered faces, arms rigid with the end walls and pivotally secured to said rails, locking-bars on said arms; plates paralleling the side walls, means on said plates to engage said first-mentioned arms and the locking-bars, and means to raise and lower said plates whereby the end and side walls will be raised or lowered.

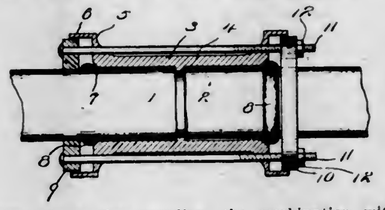
2. The combination with connecting-rails and supports therefor; of a table slidably mounted on said supports, a platform on said rails, side and end walls around and above said platform, arms secured to said side walls and pivotally mounted upon the connecting-rails, said arms having tapered faces, arms secured to said end walls, locking-bars at right angles to said arms, plates carried by said table and means adjustably secured to said plates adapted to engage the tapered faces of said arms and locking-bars, and means to raise and lower said table whereby the end and side walls may be raised or lowered.

3. The combination with connecting-rails having end supports therefor; of plates, a platform, walls surrounding said platform, arms secured to said walls, said arms having tapered faces, means adjustably mounted upon said plates adapted to engage the tapered faces of said arms, a hopper disposed in sections, links disposed between said arms and the sections of the hopper whereby said hopper may be disposed from off said walls and means to raise and lower said plates whereby said walls will be operated.

4. The combination with a supporting-frame; of a table slidably mounted on said frame, a platform rigid with said frame, end and side walls disposed around said platform to form a mold, arms pivotally secured to said supporting-frame and rigid with the side walls, said arms having tapered faces, additional arms pivoted to said supporting-frame, lateral extensions on said arms, locking-bars at right angles to said extensions, the face of said locking-bars being tapered and laterally inclined, plates carried by said table blocks adjustably secured to said plates and adapted to engage the first-mentioned arms whereby the movement of the side walls will be controlled, laterally-extending arms adjustably secured to said plates, extensions upon each of said arms having beveled faces adapted to engage the tapered faces of the locking-bars and means to hold said laterally-extending arms rigid with said plates and means to raise and lower said plates whereby the side and end wall will be actuated.

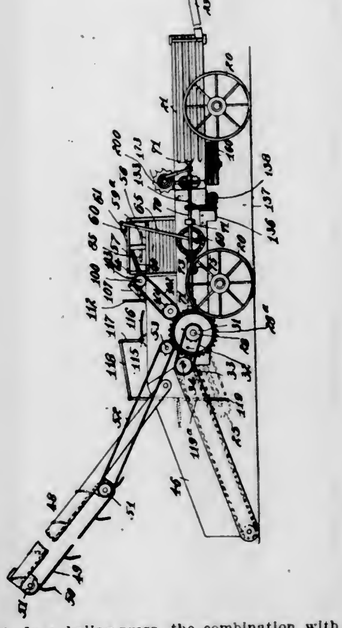
5. A mold of the class described comprising a supporting-frame, walls pivotally secured to said supporting-frame, a table slidably mounted on said supporting-frame, plates on said table, means on said plates adapted to engage said walls to actuate the same and means to raise and lower said plates whereby said walls will be assembled or separated.

841,881. PIPE-COUPLING. JOHN H. MONTIE, Turtle Creek, Pa. Filed Oct. 2, 1905. Serial No. 281,047.



Claim.—In a pipe-coupling, the combination with a sleeve having outwardly-directed portions at its ends and annular flanges at the outer edges of said outwardly-directed portions and extending beyond the ends of the sleeve, said outwardly-directed portions having alining openings therein, of pipe-sections engaged within the sleeve, said sleeve having a shoulder therewithin for the reception of the ends of the pipe-sections thereagainst, said sleeve having its inner surface beveled outwardly at its ends, washers engaged with the pipe-sections for contact of the beveled surfaces, collars engaged with the pipe-sections and lying within the annular flanges of the sleeve, said collars having openings therein alining with the openings of the outwardly-directed portions of the sleeve, and bolts engaged in the alining openings and operable to draw the collars against the washers to clamp the latter against the beveled portions of the sleeve.

841,882. HAY-PRESS. AUGUST E. MÜLLER, Chicago, Ill., assignor of one-half to Thomas J. Heuby, Chicago, Ill. Filed Apr. 9, 1906. Serial No. 310,325.



Claim.—1. In a baling-press, the combination with the baling-chamber, the receiving-chamber and the plunger, of a hopper located above the receiving-chamber, a feedway

arranged centrally of the machine and opening into the hopper, a conveyer for continuously feeding material to be baled through said feedway to the hopper, a hinged retarding-arm mounted on a pivot located above the feedway in front of the hopper and means for swinging said retarding-arm downwardly into the feedway in the path of the material through said feedway for the purpose set forth.

2. In a baling-press, the combination with the baling-chamber, the receiving-chamber, the plunger, a rack-bar pivoted to the plunger and extending forwardly therefrom, and a pinion engaging the rack-bar to reciprocate the plunger, of a hopper located above the receiving-chamber, a feedway arranged centrally of the machine and opening into the hopper, a conveyer for continuously feeding material to be baled through said feedway, a hinged retarding device mounted above the feedway and means operated by the rack-bar when the plunger is in its retracted position for swinging said retarding device into the feedway for the purpose set forth.

3. In a baling-press, a hopper provided with flexible side walls, the latter provided with lower terminal parts which constitute the bottom of the chamber, and are adapted to be separated to open the hopper-bottom by movement of the flexible walls upwardly, means for moving the side walls upwardly and guides for said flexible walls and terminal parts thereof.

4. In a baling-press, the combination with a baling-chamber, a receiving-chamber and a plunger, of a hopper located above said receiving-chamber and provided with a bottom to temporarily close the hopper comprising two members arranged to slide horizontally away from each other to open the hopper, horizontal guides for said members, and means for actuating the members to slide the same away from each other.

5. In a baling-press, the combination with the baling-chamber, the receiving-chamber and the plunger, of a hopper located above said receiving-chamber and provided with a movable bottom to close the lower end of the hopper, means for feeding material to be baled into said hopper, and means controlled by the plunger for moving the bottom wall of the hopper outwardly for opening the hopper to the receiving-chamber.

6. In a baling-press, the combination with the baling-chamber, the receiving-chamber and the plunger, of a hopper located above said receiving-chamber provided with flexible side walls having guiding engagement with the frame of the hopper, said flexible side walls having terminal parts which constitute the bottom of the hopper and mechanism for raising said side walls and thereby shifting the terminal parts thereof to open the hopper to the receiving-chamber.

7. In a baling-press, the combination with the baling-chamber, the receiving-chamber and the plunger, of a hopper located above said receiving-chamber provided with flexible side walls having guiding engagement with the frame of the hopper, said flexible side walls having terminal parts which constitute the bottom of the hopper, mechanism for raising said side walls and thereby shifting the terminal parts thereof to open the hopper to the receiving-chamber, and means for forcing the material from the hopper to the receiving-chamber when the hopper is open.

8. In a baling-press, the combination with the baling-chamber, the receiving-chamber and the plunger, of a hopper located above said receiving-chamber provided with flexible side walls having guiding engagement with the frame of the hopper, said flexible side walls having terminal parts which constitute the bottom of the hopper, mechanism for raising said side walls and thereby shifting the terminal parts thereof to open the hopper to the receiving-chamber, and a plunger operatively connected with said wall-raising mechanism and designed to be lowered into the hopper when said walls are raised.

9. In a baling-press, the combination with a horizontal baling-chamber and its plunger, of a rack-bar loosely connected at its rear end with the plunger and having a rising-and-falling movement at its forward end, and a pinion engaging the rack for reciprocating said plunger in both directions of its movement.

10. In a baling-press, the combination with a horizontal baling-chamber and its plunger, of means for reciprocating the plunger comprising a bar loosely connected at its rear end with the plunger and having rising-and-falling movement at its forward end, said rack-bar being provided with upper and lower rows of teeth which are connected at the ends of the bar by curved connecting series of teeth, and a rotative pinion meshing with said teeth and designed a rotative pinion meshing with said teeth and designed for engagement alternately with said upper and lower rows.

11. In a baling-press, the combination with a horizontal baling-chamber and its plunger, of means for reciprocating the plunger comprising a bar loosely connected at its rear end with the plunger and having a rising-and-falling movement at its forward end, said bar being provided with upper and lower rows of gear-teeth connected at their ends by curved series of teeth, a rotative pinion meshing with said teeth and designed for engagement alternately with said upper and lower rows, and curved guides for maintaining the pinion in mesh with said gear-teeth to guide the same from one row thereof to the other.

12. In a baling-press, the combination with the baling-chamber, the receiving-chamber and the plunger, of a hopper located above the receiving-chamber, a centrally-located feedway leading to the hopper and a rack located beneath the feedway and loosely connected with the plunger for reciprocating the latter, and a pinion engaging said rack.

13. In a self-binding baling-press, means for forming the bale, means for forming the binding-wire about the bale as it is being formed, and means for twisting the wire ends together comprising an apertured rotative disk, means for holding the wire ends engaged with the disk at the aperture thereof, and a notched rotative twisting-plate located laterally inside of said disk for twisting one end of the wire upon the other.

14. In a self-binding baling-press, means for forming the bale, means for forming the binding-wire about the bale as it is being formed, and means for twisting the wire ends together comprising an apertured rotative disk, means for holding the wire ends engaged with the disk at the aperture thereof, a notched rotative twisting-plate located laterally inside of said disk for twisting one end of the wire upon the other, and means for severing the twisted parts of the wire.

15. In a self-binding baling-press, means for forming the bale, means for forming the binding-wire about the bale as it is being formed, and means for twisting the wire ends together comprising a rotative apertured plate, means for holding the wire ends engaged with said plate at the aperture thereof, and a rotative twisting-plate located laterally inside of said disk and provided with a notch adapted to receive one of the wire ends for the purpose set forth.

16. In a self-binding baling-press, means for forming the bale, means for forming the binding-wire about the bale as it is being formed including a rotative apertured disk through which a loop of the tying-wire is passed, means carried by the disk for holding the ends of the binding-wire, a threading-bar for threading the wire through the aperture of said disk, means for holding the threaded wire passed by said bars laterally outside of the disk, means located laterally inside of said apertured disk for twisting the looped threaded wire with the fast end of the wire, and means for severing the twisted part of the wire.

17. In a self-binding baling-press, means for forming the bale, an apertured rotative disk located at one side of the baling-chamber, means for threading a looped wire across the path of a forming bale comprising a threading-bar having a notch at its end engaging said wire and which passes through the aperture of said disk, a detent outside of said disk for holding the looped portion of the wire after the threading-bar has retired, means carried by the rotative disk for holding fixed one end of the tying-wire, means for twisting one member of the threaded loop portion, and the fixed end of the wire, and means for severing the wire at the twisted portion thereof.

18. In a self-binding baling-press, means for forming the bale, a rotative apertured disk located at one side of the baling-chamber and provided with oppositely-disposed notches at the aperture thereof, means carried by the disk for holding fixed one end of the wire, means for threading a looped portion of the wire across the path of the bale through said aperture in the disk, means whereby one member of said loop is held engaged with said disk at its aperture, means for twisting one member of the loop with the fast end of the wire, and means for thereafter severing the wire at the twist thereof.

19. In a self-binding baling-press, means for forming the bale in the baling-chamber, a rotative apertured disk located at one side of the baling-chamber and provided with oppositely-disposed notches or recesses, a dog carried by said disk and operating to hold one end of the wire fast in one of said notches, means for threading a looped portion of the slack end of the wire through the aperture of the disk, a second dog acting to hold one member of said loop fixed to the rotative disk in the other notch, a twisting device for twisting one member of the loop with the fast end of the wire, and means for severing the wire at the twist thereof.

20. In a baling-press, the combination with a baling-chamber, an inclined conveyer for conveying the material to be baled to said chamber, and a plunger in the baling-chamber, of a rack loosely connected with the plunger for reciprocating the plunger in both directions, and a pinion engaging said rack, said conveyer being inclined downwardly and rearwardly from the press, and the rack when swung backwardly extending at its rear end below said conveyer.

21. In a baling-press, the combination with the baling-chamber and its plunger, of a shaft extending transversely of the press in rear of said chamber, a drive-shaft operatively connected with said first shaft at its end outside of the frame of the press for rotating the latter, a pinion carried centrally by said first shaft and a rack-bar hinged to the plunger and provided with two sets of teeth adapted for alternate engagement by said rack for reciprocating the plunger.

22. In a baling-press, the combination with a baling-chamber, a receiving-chamber and a plunger, of a hopper located above the receiving-chamber, a feedway arranged centrally of the machine and opening into the hopper, a rack hinged to the plunger and located centrally of the machine below said feedway, a shaft extending across the machine in front of the baling-chamber and a pinion on the shaft engaging said rack.

23. In a self-binding baling-press, means for forming the bale in the bale-chamber thereof, a rotative apertured disk located at one side of the bale, means for holding one end of the binding-wire fast to said disk at the aperture thereof, means for threading the slack portion of the wire in the form of a loop through the aperture of the disk, means for engaging one member of said loop to hold it fast to said disk, a rotative twisting-plate located between the baling-chamber and said apertured disk provided with a notch for engaging said fast end of the wire and one of the members of said loop for twisting the wire, and means for severing the wire at the twist thereof.

24. In a self-binding baling-press, means for forming the bale in the baling-chamber thereof, means for making fast one end of the binding-wire extending across the path of the forming bale, a threading-bar provided at its end with a horizontal and a vertical notch adapted to engage the slack end of the binding-wire to thread the wire in looped form through the chamber, a swinging detent located at the side of the chamber for engaging the looped part of the wire to hold the same after the threading-bar has retired, means for twisting the fast end of said wire to one member of the loop, and means for severing the twisted portion of the wire.

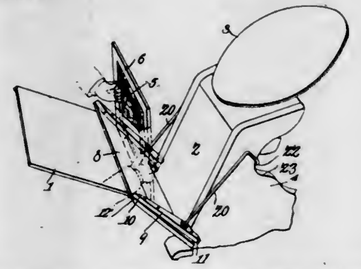
25. In a baling-press, a baling-chamber which is reduced between its ends, combined with a reciprocating plunger that has a rigidly united reduced advance end that extends into the reduced portion of the chamber.

26. In a baling-press, a baling-chamber which is reduced between its ends, combined with a reciprocating plunger that has a reduced advance end that extends into the reduced portion of the chamber, and rollers located in said chamber at the reduced portions thereof for the purpose set forth.

841,883. PROCESS OF PHOTOMECHANICAL COLOR-PRINTING. FRANZ MÜNCH, Wilsdruff, Germany. Filed May 20, 1905. Serial No. 261,289.

Claim.—The process of color-printing, consisting in first producing a photographic negative of the scene to be reproduced, second, making from said negative a number of positive prints graduated in depth or strength by varying the time of exposure and corresponding in number to the number of colors to be printed, third, touching up these prints in white to decrease and in black to increase the intensity thereof, fourth, reproducing these worked up positives on printing plates or films by means of the camera, and fifth, printing from these in a well-known manner, substantially as and for the purpose set forth.

841,884. BRIDGE FOR PRESSES. WILLIAM H. H. MUSICK, Hartville, Mo. Filed June 19, 1906. Serial No. 322,422.



Claim.—1. The combination with a printing-press having a press-bed and a platen, of a removable bridge arranged and adapted to form a temporary support for receiving a chase during the placing and removal thereof.

2. The combination with a printing-press having a press-bed and platen, of a removable bridge having one end located adjacent the press-bed and the other end located adjacent the platen.

3. The combination with a printing-press having a press-bed and a platen, of a removable bridge arranged and adapted to form a temporary support for a chase to rest on during the placing or removal thereof, and guides on the bridge for the chase.

4. The combination with a printing-press having a press-bed and platen, of a removable bridge having converging form or chase guides.

5. The combination with a printing-press having a press-bed and platen, of a removable bridge having converging form or chase guides provided with beveled upper ends.

6. The combination with a printing-press having a platen and a press-bed, of a bridge adapted to be placed over the platen only during the positioning or removal of the chase and having chase-guides provided with projections adapted to engage the sides of the press-bed.

7. The combination with a printing-press having a platen and a press-bed, of a removable bridge forming a temporary support for a chase and mounted between the platen and the press-bed and having a type-slot in its lower end.

8. The combination with a printing-press having a platen and a press-bed, of a removable bridge forming a temporary support for a chase and mounted between the platen and the press-bed and having a type-slot in its lower end and a type-channel in its upper surface.

9. The combination with a printing-press having a platen and a press-bed, of a bridge forming a temporary support for a chase and located between the platen and the press-bed, and means for holding the bridge in proper position.

10. The combination with a printing-press having a platen and a press-bed, of a bridge forming a temporary

support for a chase and located between the platen and the press-bed, and supporting devices connected with the bridge and engaging the sides of the press-bed.

11. The combination with a printing-press having a platen and a press-bed, of a bridge located between the platen and the press-bed, said bridge having combined guides and braces on its upper surface, bearing-blocks on its under surface, a type-slot in its lower edge, a type-channel in its upper surface, and hook-rods extending through the combined braces and guides and through the bridge.

12. As an article of manufacture, a press-bridge forming a temporary support for a chase during the positioning thereof in a press or removal of the chase therefrom, chase-guides on the upper surface of the bridge, and a type-slot at the lower edge of the latter.

841,885. TELEGRAPH CODE. CHARLES W. MCDONALD, San Francisco, Cal. Filed July 26, 1905. Serial No. 271,367.

TRANSFER Z

SHIFT	A	E	I	O	U
A					
B	1/2		NUMBER	TIME	SHIP IMMEDIATELY
C	1/3		FOOT OR FEET	YEARS	
D	1/16		INCH OR INCHES	MONTHS	
F	1/8		INSIDE DIAMETER	DAYS	
G	1/4			HOURS	QUOTE PRICE F.O.B.
H	1/5	PETITION FOR PATENT DOES NOT INFRINGE		JANUARY	
J	1/6			FEBRUARY	
K	1				
L	2				
M	3				
N	4				
P	5				
Q	6				
R	7				
S	8				
T	9				WHEN CAN YOU SHIP
V	0			DECEMBER	
W	00				
X	000				
Y	0000				

Claim.—1. A telegraph code comprising a series of sheets or pages each divided into sections or spaces arranged in intersecting columns, each space adapted to contain one or more figures, numerals, words or sentences, each column and each page having a distinguishing character and a transfer character to denote transfer from one page to another.

2. A telegraph code comprising a series of sheets or pages each having a distinguishing or identifying character, and each divided into sections adapted to contain one or more numerals, words or sentences, said sections being arranged in intersecting horizontal and vertical columns, an identifying or distinguishing character, associated with each column at one end thereof, and a transfer character to denote a change or transfer from one sheet or page to another.

3. A telegraph code comprising a series of sheets or pages respectively distinguished by letters of the alphabet, each sheet or page having sections or spaces arranged in intersecting columns, the columns running in one direction being respectively distinguished by certain letters of the alphabet and those running in the opposite direction being distinguished by other letters of the alphabet, each section or space adapted to contain one or more numerals, words or sentences, and a character differing from those employed to distinguish the sheets or pages and columns to denote transfer from one page to another.

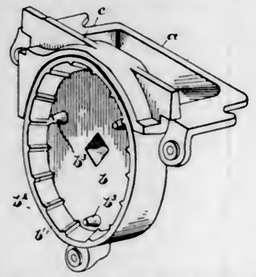
4. A telegraph code comprising a series of sheets or pages respectively distinguished by identifying characters, each sheet or page having sections or spaces arranged in intersecting columns, the columns running in one direction being respectively identified by the vowels of the alphabet, and the columns running in the opposite direction being distinguished by consonants, each section or space adapted to contain one or more numerals, words or sentences, and a transfer character to denote transfer from one page or sheet to another.

841,886. MANUFACTURE OF NITROGLYCERIN. FREDERIC L. NATHAN, JAMES M. THOMSON, WILLIAM RINTOUL, and ANDREW SCOTT, Waltham Abbey, England. Filed June 5, 1906. Serial No. 320,336.

Claim.—1. The process of manufacture of nitroglycerin which consists in treating glycerin with a mixture of Nordhausen sulfuric acid and nitric acid, substantially as described.

2. The process of manufacture of nitroglycerin which consists in adding ten parts of glycerin to a mixture containing twenty-eight parts of nitric acid of which about 91.5 per cent. is HNO_3, and thirty-four parts of Nordhausen sulfuric acid containing about twenty per cent. of SO_3, substantially as described.

841,887. DISTRIBUTING DEVICE FOR GRAIN-DRILLS. FRANK R. PACKHAM and GEORGE P. OATES, Springfield, Ohio, assignors to The American Seeding Machine Company, Springfield, Ohio, a Corporation of Ohio. Filed Aug. 3, 1906. Serial No. 328,985.



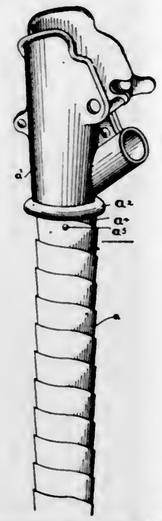
Claim.—1. In a distributer for grain-drills, a hopper, a revoluble distributer-wheel, a flange on said wheel and ribs formed on the interior of said flange, the said ribs and flanges extending up within the hopper during the revolution of the wheel, the studs projecting from said wheel located between the flange and the center of the wheel, and upon the revolution thereof adapted to agitate the grain within the hopper, substantially as specified.

2. In a distributer for grain-drills, a hopper, a flanged distributer-wheel, ribs on the interior side of the flange, said wheel and flange being located so that part of the wheel and the flange will extend up within the hopper, studs projecting from the web of said wheel and also located to extend within the hopper during the revolution of the wheel, for the purpose specified.

3. In a distributer for grain-drills, the combination of a hopper with a distributer-wheel, a flange on said wheel, a plurality of ribs on the interior of the flange, studs projecting outwardly from the web of the wheel located on the web in such manner that they will extend up into the hopper, whereby the grain will be agitated by the studs to insure the proper carrying of the grain by the flange, substantially as specified.

4. In a distributer for grain-drills, a hopper member, a revoluble distributer-wheel, studs projecting from the web of said distributer-wheel, a measuring-channel formed in said hopper member through which said studs, upon the revolution of the distributer-wheel, will pass from the hopper member, and a groove or channel formed in the wall of said hopper member through which, upon continued rotation of the distributer-wheel, said studs will reënter the hopper, substantially as specified.

841,888. GRAIN-DRILL TUBE. FRANK R. PACKHAM and GEORGE P. OATES, Springfield, Ohio, assignors to The American Seeding Machine Company, Springfield, Ohio, a Corporation of Ohio. Filed Nov. 10, 1906. Serial No. 342,795.

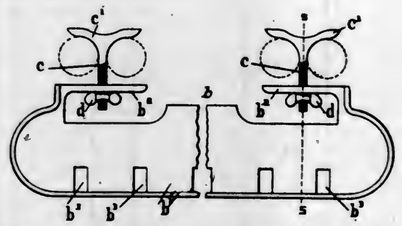


Claim.—1. The combination of a flexible spiral ribbon tube, means for reinforcing the upper whirls of said tube, with the tube-top, and means for internally connecting the tube to said top, substantially as described.

2. The combination of a flexible endless ribbon tube comprising a plurality of whirls, each whirl having a smooth engaging surface for the next succeeding whirl, and each whirl flexibly connected to the next succeeding whirl, a projecting part on the upper whirl, a tube-top, and means for securing the projecting part of the upper whirl within the tube-top.

3. The combination of a ribbon tube comprising a plurality of whirls, means for reinforcing the upper part of the tube, and means for maintaining uniform the diameter of the tube at its upper part, a tube-top, and a loose internal connection between the tube-top and the tube whereby the diameter of the tube is maintained throughout its length, for the purpose specified.

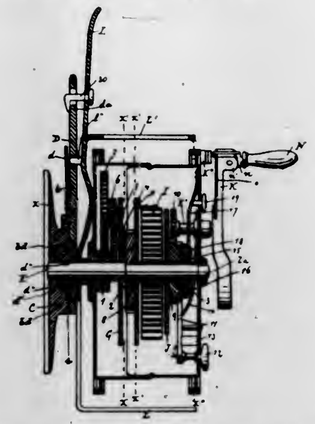
841,889. COMBINED FOOT-REST AND TOWEL-RACK. FRANK H. PATRICK, Norwich, Conn. Filed Aug. 2, 1905. Serial No. 272,320.



Claim.—1. A combined foot-rest and towel-rack comprising a metallic shell having vertically-disposed slots and formed upon its inner face with integral slotted plates projecting toward each other, detachable towel-supporting means coöperating with said vertically-disposed slot and means passed through the slots of said plates and adjustable therein and having heads to engage behind the pipes of a radiator.

2. A combined foot-rest and towel-rack comprising a shell having vertically-disposed slots and inwardly-projecting slotted end plates, means adjustably engaged in the slots of said end plates to engage the pipes of a radiator and bars detachably engaged in the slots of the shell.

841,890. FISH-REEL. JOHN PEPPER, Jr., Utica, N. Y. Filed July 25, 1904. Serial No. 217,902.



Claim.—1. In a reel, the combination with a spool of a spring therein with a separate attachment for each end, sleeves each mounted to actuate one end of the spring and operative on the one hand by the handle of the reel and on the other by turning the spool to wind the spring, means to hold the spool from turning, and means for connecting the sleeves to turn together, substantially as described.

2. In a reel comprising an arbor or spindle and a spool revolubly mounted thereon; a spring mounted in the reel with operative connection at one end with the spool, a sleeve revolubly mounted about the spindle having the other end of the spring connected therewith, and means for locking said sleeve from turning whereby the spring may be wound by turning of the spool and the unwinding of the line, substantially as described.

3. In a reel comprising a fixed base and a spool revoluble thereon, a spring operatively connected for winding at one end by the turning of the spool and at the other end by a handle, a brake to hold at will one end of the spring fixed by contact of the brake with the spool, means to hold at will the tension of the spring when applied by the use of the handle and means operative at will to secure the latter end of the spring in fixed connection with the other end and adapted to release it, substantially as described.

4. In a device of the character described comprising a reel member, sleeves supported within the same, a spring with operative connection at each end between said end and one of said sleeves, separate means mounted in operative connection with each sleeve for holding each of them at will whereby the adjacent end of the spring is held in a given position, means operatively connected with each of said sleeves whereby the spring may be wound from either end, substantially as described.

5. In a device of the character described comprising a spool member and a base member, sleeves supported within the reel member, a spring having fixed operative connection at each end with one of said sleeves, a handle for actuating one of said sleeves to wind the spring from its inner end and turn the sleeve supporting the other end of the spring to wind the reel, substantially as described.

6. In a device of the character described comprising a spool member and a base member, a spring mounted

within the spool on sleeves revoluble therein, said, sleeves, means for connecting the sleeves to revolve together, a handle for actuating one of the said sleeves to revolve the spring, and gear connections between the spring and the spool to revolve the latter as a multiple reel, substantially as described.

7. In a device of the character described, a base portion and a reel portion, the latter comprising a spool and an arbor, a spring mounted within the reel operatively connected at one end to the spool and at the other end operatively connected to the handle, means for holding the spool against rotation on the arbor, and means for winding the spring and placing it under the desired degree of tension together with means for holding the spring under such tension and instantly releasing the same, substantially as described.

8. A reel comprising a fixed spindle and a spool revolubly mounted thereon, a spring mounted within the spool, operatively connected at one end to the spool and at the other end to the handle of the reel, means for placing and holding the reel under any degree of tension, and means whereby the tension is independently held and instantly released, substantially as shown.

9. In a reel comprising a spindle and a spool revolubly mounted thereon, a spring operatively connected at one end to turn the spool and operatively connected to the other end with a handle for transmitting the power for the revolution of the spool, means for securing the spool fixedly, and means for placing the spring under tension and securing the same but permitting instant release of the tension, substantially as shown.

10. In a reel, the combination with a spool of a spring therein attached at each end to a revoluble sleeve, sleeves each mounted to actuate its connected end of the spring, one being operative by the handle of the reel and the other by turning the spool, to wind the spring, a handle, means to hold at will the spool from turning and means to hold at will the handle end of the spring, substantially as shown.

11. In a reel, the combination with a spool of a spring therein attached at each end to a revoluble sleeve, sleeves mounted to wind the spring at each connected end, the one being operated by the handle of the reel and the other by the spool, means to hold at will the spool from turning and means operative at will to connect the sleeves to turn them together, substantially as shown.

12. In a reel, a spool, a spring, revoluble sleeves supporting the spring, operative means connected with one of said sleeves to wind the spring, means to secure and retain the tension applied to the spring and a brake adapted to hold the spool from turning, substantially as shown.

13. In a reel, a spool, a spring, sleeves supporting the spring, gears connecting one sleeve with the spool, gears connecting the other sleeve with the handle of the reel, said handle, means for connecting the sleeves to turn together and operate the reel as a multiple reel.

14. In a reel, a spool, a spring, separate operative means to wind the spring at either end, operative connections between one end of the spring and the spool, and a dog mounted on a fixed portion of the reel and adapted to hold the other end of the spring when being wound by turning of the spool by engagement of the dog with the spring-winding means connected with the latter end of the spring, said dog being adapted to permit release of the spring, substantially as shown.

15. In a reel, a spring, a spool, a handle, connections operative to wind the spring from each end, in one case by turning the spool and in the other case by the handle, a brake adapted to hold the spool means adapted to hold the other end of the spring, the said brake and the said holding means being each adapted instantly to release the spring at its own end.

16. In a reel, a base portion, a pillar mounted therein, said pillar being provided with a plate fixed thereon, the said plate bearing gears to engage with the reel-casing, a sleeve on the pillar provided with a plate fixed thereon, the said plate supporting a gear engaging with a train on the former plate and supporting one end of a spring, a sleeve mounted on the former sleeve provided with a plate fixed thereon, the said plate supporting a gear and a ratchet-wheel, operative connections for operating the latter gear, means for fixidly holding relative to the pillar the said ratchet-wheel, and means for separably connecting the two sleeves in combination, substantially as shown.

17. In a reel comprising a base portion and a spool portion, a brake-arm mounted on the base under tension of a spring to engage the spool portion, means for securing the brake free from the spool, said means comprising a sliding dog to engage the base portion of the reel, substantially as described.

18. In a reel of the character described, a base portion provided with a spring thereon, a brake-arm mounted on the opposite side of the base portion in engagement to receive the tension of the spring, a button mounted on the brake-arm provided with means for engaging the base in combination, substantially as shown.

19. In a device of the character described, a base and a reel removably mounted thereon, the said base comprising a socket for the reel member and a spring having an edge normally intersecting the socket with means for pressing the edge out of such position, and a member on the reel portion adapted to be inserted in said socket and having grooves to receive the edge of the spring in its normal position, sustantially as described.

20. In a device of the character described, a base and a reel removably mounted thereon, the said base comprising a socket for the reel member and a spring having an edge normally intersecting the socket with means for pressing the edge out of such position, and a member on the reel portion adapted to be inserted in such socket and having grooves to receive the edge of the spring in its normal position on either side of said base portion supporting the reel in reversible position on the base.

21. In a reel, a base portion and a reel portion, a spring-lock therebetween adapted to permit manual unlocking of the parts for removal of the reel and the parts supported on the base and the locking of the same to hold them in reversed position on the base, substantially as shown.

22. In a reel, a spindle and a spool revolubly mounted thereon, operative means within the reel for turning the spool by the operation of the handle, and a handle removably mounted on the outer face of the reel, and a separate stud on the periphery of the face of the reel for mounting the handle thereon, substantially as shown.

23. In a reel comprising a fixed base and a spool revoluble thereon, a removable handle, a stud on the outer face of the reel and a stud on the periphery of the face of the reel each adapted for mounting the handle thereon, substantially as shown.

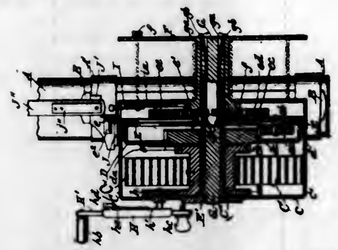
24. In a reel comprising a base and a spool, line-clips extending outwardly from the base portion across the circumference of the spool, the said clips provided with overlapping tips and their outer ends separable to allow the slipping of the line between the ends and into the line-clips, substantially as shown.

25. In a reel comprising a fixed face-plate, a spring and a spool, a handle mounted on the said plate to operate the spring and its connected parts and removable therefrom for mounting on the spool, and a stud on the spool for the mounting of the handle, substantially as described.

841,891. REEL. JOHN PEPPER, Jr., Utica, N. Y. Filed June 15, 1905. Serial No. 265,333.

Claim.—1. A fish-reel comprising a fixed case, a stud fixedly mounted in the case and adapted to revolubly support a spool, a spring within the case being fastened at one end to the case and at the other end to operative connections between the spring and the spool, and means for holding the tension applied to the spring.

2. In a reel comprising a case and a spool with seperative operative connections therebetween, a spring fixedly mounted at one end within the case and at the other end attached to a sleeve in engagement with a member of the said operative connections, a sleeve, a lever, a gear mounted on the lever and adapted to be moved by the lever to disconnect the said operative connections from the spool, substantially as described.



3. A reel comprising a case adapted to be fixedly supported on a pole and having an arbor centrally mounted thereon, a sleeve mounted to revolve about the arbor, a spring connected to the case at one end and to the sleeve at the other end, handle means for winding the spring, means for engaging the sleeve to hold the spring under tension, and a spool revolubly mounted on the arbor and operatively connected with the said sleeve by means of gears, one of said gears being adjustably mounted to permit its being swung in or out of engagement with the train.

4. In a reel, a case adapted to be fixedly supported on a pole, an arbor mounted in the case, a sleeve mounted to revolve on the arbor, a spring connected at one end to the case and at the other end to the arbor, a plate provided with means to engage the said sleeve, means to hold the plate against turning under the tension of the spring, a spool revolubly mounted on the arbor, gears operatively connecting the plate with the spool, said gears comprising a member mounted to be swung in or out of engagement to make or break the connection between the spring connections and the spool.

5. In a reel comprising an arbor, a spool revolubly mounted thereon and a case, a spring mounted in the reel with operative connections at one end with the case, a sleeve revolubly mounted about the arbor having the other end of the spring connected therewith and means for turning said sleeve whereby the spring may be wound by the turning of the spool and the unwinding of the line, and operative connections between the spool and the sleeve.

6. In a reel comprising a fixed case, an arbor and a spool revolubly mounted thereon, a spring attached to the case at one end and at the other end attached to a sleeve revolubly mounted on the arbor, said sleeve, operative connections between the sleeve and the spool whereby the spring may be wound by the turning of the spool, the said operative connections having a movable member adapted to make or break the connection between the spool and the sleeve.

7. In a device of the character described, a fixed case and a reel portion, the latter comprising a spool and an arbor, a sleeve mounted on the arbor, a spring operatively connected at one end to the case and at the other end to the sleeve, handle means for turning the sleeve whereby to wind the spring, operative connections between the reel and the sleeve whereby to wind the spring, and means intermediate the spring and the spool to engage said connecting means to hold the tension of the spring.

8. In a reel, an arbor and a spool revolubly mounted thereon, operative connections within the reel for turning the spool by the operation of the handle, and a handle removably mounted on the outer face of the reel, and a separate stud on the spool for the mounting of the handle thereon.

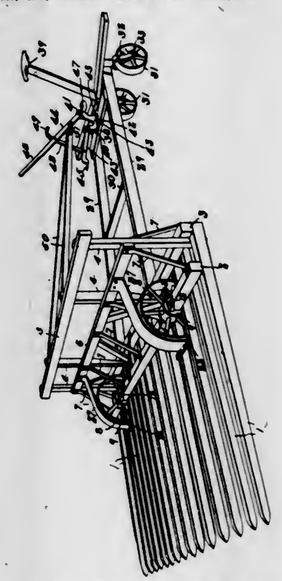
9. In a reel comprising a fixed case, an arbor mounted thereon and a spool mounted on the arbor, a spring member mounted on the arbor to engage the spool but adapted upon its compression to permit the removal of the spool from the arbor.

10. In a reel, an arbor or shaft fixedly mounted and adapted to revolubly support a spool, means normally holding the spool on the shaft but manually operative to release the spool whereby it may be removed from the reel, substantially as described.

11. In a reel comprising a case member with a central shaft mounted therein, a spool revolubly mounted on the shaft, a spring and means for winding the spring, means normally holding the spool in operative position on the shaft and manually operative to permit the removal of the spool, substantially as described.

12. In a reel comprising a case, a spool, a spring, and operative connections between the spring and the spool with means for disconnecting the spool from operative connection with the spring members of the reel, an extensible handle adapted to be interchangeably mounted either on the case to operate the spring-connected parts or on the spool to operate it, substantially as described.

841,892. HAY-RAKE. DAVID PLATTNER, Denver, Colo. Filed Jan. 29, 1906. Serial No. 298,500.



Claim.—1. A hay-rake consisting of a series of tines, a cross-bar attached to said tines near the ends thereof, laterally-adjustable sleeves located upon the cross-bar at points between the tines, and supporting-wheels journaled upon said sleeves.

2. A hay-rake consisting of a series of tines, a cross-bar attached to said tines near the ends thereof and being of uniform breadth and thickness throughout its length, laterally-adjustable sleeves located upon the cross-bar at points between the tines, and supporting-wheels journaled upon said sleeves.

3. A hay-rake consisting of a series of tines, a cross-bar attached to said tines near the ends thereof and being of uniform breadth and thickness throughout its length, laterally-adjustable sleeves located upon the cross-bar at points between the tines, supporting-wheels journaled upon said sleeves, and fenders mounted upon the tines in advance of said wheels.

841,893. AUTOMATIC CLOSURE FOR RECEPTACLES. AMANDUS PRIEBE, St. Louis, Mo. Filed Sept. 24, 1906. Serial No. 336,056.

Claim.—1. An automatic closure for receptacles comprising a pair of bell-crank members composed of basal and vertical legs pivoted a suitable distance apart to receive the article to be inserted between them, means for automatically opening said members to receive the article, the latter engaging the basal legs of the members for its lowest position and oscillating the vertical legs against

the sides of the article, and means automatically engaging the article at a point above the bell-crank members and preventing its withdrawal, substantially as set forth.



2. An automatic closure for receptacles comprising a pair of bell-crank members pivoted a suitable distance apart to receive an article between them, the respective legs of each member being disposed at an acute angle whereby upon forcing the end of the article against the corresponding legs of the members, the opposite legs will be forced into engagement with the sides of the article, means for automatically engaging the article at a point beyond the bell-crank members for the closed or engaging position of the said members, and springs for automatically forcing the engaging legs of the members apart, upon withdrawal of the article, substantially as set forth.

3. In combination with a receptacle having a lid at one end provided with an opening, spring-controlled wings hinged to the inside of the lid and opening inwardly and having concave inner edges for the free passage of a bottle, a pair of bell-crank frames having basal and vertical legs hinged on opposite sides of the bottom of the receptacle, the legs of the frames being disposed opposite the bottom, and side walls of the receptacle respectively, springs for forcing or oscillating the vertical legs against the side walls, the basal legs being disposed at an acute angle to the planes of the contiguous legs of the frames, collars formed at points contiguous to the free ends of the vertical legs, the ends of the vertical legs beyond the collars engaging suitable openings formed in the wings in case of an unauthorized attempt to abstract the bottle, the parts operating substantially as, and for the purpose set forth.

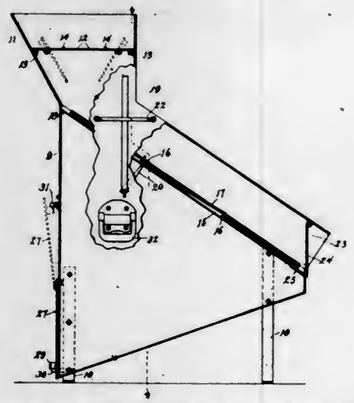
4. In an automatic closure for receptacles, a pair of hinged bell-crank frames spaced a suitable distance apart for the reception of an article between them and adapted to have their opposite legs oscillated toward the article by a pressure of said article against the adjacent legs of the frames, substantially as set forth.

5. In an automatic closure for receptacles, a pair of bell-crank frames hinged a suitable distance apart with contiguous legs crossing each other at an intermediate point of their length, a spring for forcing the opposite legs sufficiently apart to permit the introduction of an article between them, the pressure of the article against the contiguous legs forcing the opposite legs into engagement with the sides of the article whereby the latter is embraced, and means for locking said opposite legs in their engaging position, substantially as set forth.

6. In an automatic closure for bottle-receptacles, a lid having an opening for the free passage therethrough of an article into the receptacle, spring-controlled inwardly-opening wings hinged on the inside of the lid, and having cut-away portions to admit the bottle and pass snugly around the neck thereof, and means located in the receptacle for arresting the wings in an undue inward oscillation, in the event of attempted abstraction of the bottle by unauthorized persons, substantially as set forth.

841,894. ASH-SIFTER. MICHAEL W. QUIRK, Jr., Milwaukee, Wis. Filed Nov. 27, 1905. Serial No. 289,275.

Claim.—1. In an ash-sifter, a casing, inclined angle-iron strips forming guideways therein, a screen slidable in the guideways and comprising a rectangular frame with transverse cross-bars arranged horizontally and longitudinal rods extending through the ends of the frame and the cross-bars and being bent reversely where they pass through the cross-bars, a lever pivotally mounted in the casing, an arm connected therewith and passing through an opening in one of the cross-bars of the screen, and a guide-frame on the casing in which the lever is adapted to be moved for sliding the screen in the guideways by means of the arm, said casing having an inlet-opening at the upper end of the screen and an outlet-opening at the lower end of the screen, and an ash-receiver formed beneath the screen.

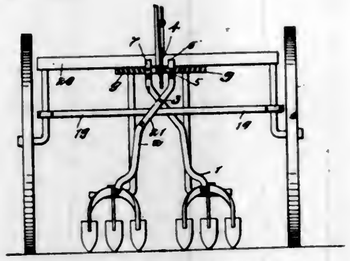


2. In an ash-sifter, a triangular casing with a vertical front wall and inclined top and bottom walls, a hopper formed at the upper end of the casing, weighted flap-valves in the hopper normally closing the same, inclined guideways comprising angle-iron strips secured to the side walls of the casing, a removable screen slidable in the guideways and comprising a rectangular frame with transverse cross-bars arranged horizontally and parallel longitudinal rods extending through the ends of the frame and through the cross-bars and being bent reversely where they pass through the cross-bars, a hand-lever pivoted in the side of the casing, an arm connected therewith on the inside of the casing and passing through an opening in one of the cross-bars of the screen, a guide-frame on the side of the casing in which the hand-lever may be oscillated for reciprocating the screen in the guideways by means of the arm, there being an outlet-opening in the casing at the lower end of the screen, a swinging door closing the outlet-opening, a guard formed at the lower part of the outlet-opening and extending beneath the lower end of the screen, U-shaped strap-metal legs for supporting the casing, a pivotally-mounted clean-out door at the lower end of the front wall of the casing, a locking-bar slidably mounted thereon and having a handhold bent therein, cam-shaped notched catches on the casing with which the locking-bar engages, and a pivotal catch on the front wall of the casing adapted to engage the handhold of the locking-bar when the clean-out door is open.

3. In an ash-sifter, a casing, an inclined screen therein, said casing having an inlet-opening at the upper end of the screen and an outlet-opening at the lower end of the screen, an ash-receiver formed beneath the screen with an inclined bottom, a pivotally-mounted clean-out door located at the lower end of the bottom of the ash-receiver, a locking-bar slidably mounted thereon, and cam-shaped notched catches in the path of the ends of the locking-bar to be engaged thereby for locking the clean-out door closed.

4. In an ash-sifter, a casing, an inclined screen therein, said casing having an inlet-opening at the upper end of the screen and an outlet-opening at the lower end of the screen, an ash-receiver formed beneath the screen and having an inclined bottom, a pivotally-mounted clean-out door located at the lower end of the bottom of the ash-receiver, a locking-bar slidably mounted thereon, a handhold formed on the locking-bar, cam-shaped notched catches in the path of the ends of the locking-bar to be engaged thereby for locking the clean-out door closed, and a pivoted catch adapted to engage the handhold of the locking-bar when the clean-out door is open.

841,895. CULTIVATOR-HOPPLE. WILLIAM H. REEVES, Midlothian, Tex. Filed Sept. 29, 1906. Serial No. 336,714.

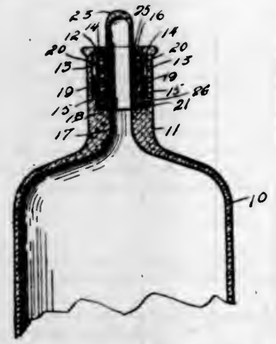


Claim.—1. A hopple for cultivators comprising a pair of adjusting-arms, pivotally connected together at their crossing, screw-threaded bearings carried by said arms, a right-and-left screw-shaft operating in said bearings, a rack carried by one of said arms, a portion of said shaft between said bearings being square in cross-section, a lever having a fork engaging said shaft whereby said lever is fulcrumed for turning said shaft, and means for holding said lever at any adjustment relative to said rack.

2. A hopple for cultivators comprising a pair of plow-adjusting arms pivotally connected together at their crossings, screw-threaded bearings carried by said arms, said arms being bent to form carriers for said bearings, said bearings being elliptical in cross-section and having lugs projecting through the sides of said carriers, a right-and-left screw-shaft operating in said bearings for adjusting said arms, a rack carried by one of said carriers, a lever for operating said screw-shaft, and means for holding said lever in operative relation to said rack.

3. A hopple for cultivators comprising a pair of plow-adjusting arms pivotally connected together at their crossings, said arms being bent at the upper parts thereof to form carriers, screw-threaded bearings mounted in said carriers, a right-and-left screw-shaft operating in said bearings, a rack, brackets attaching said rack to one of said carriers, a portion of said shaft being square in cross-section, a lever having a fork at the lower end thereof engaging said shaft, and a dog carried by said lever for holding said lever at various adjustments on said rack.

841,896. BOTTLE. ANSEL W. RICHARDSON, Hadley, Mass. Filed June 27, 1906. Serial No. 323,642.



Claim.—1. In a bottle, the combination with its neck, a spring-chamber therein, a ledge at the top, a stopple having an opening through it, and expansible springs in its sides, a glass tube having a dome-closed top cemented in the opening in the stopple and made one with the latter, the said stopple being inserted in the bottle-neck with the springs expanded in the spring-chamber below the ledge.

2. In a bottle, the combination with its neck, a spring-chamber therein, a ledge at the top, a stopple having an opening through it, and expansible springs in its sides, a glass tube having a dome-closed top cemented in the opening in the stopple and made one with the latter, the said stopple being inserted in the bottle-neck and cemented therein with the springs expanded in the spring-chamber below the ledge, and a ledge below the stopple and a packing-washer thereon on which the stopple is seated.

3. A stopple for bottles having an opening through its center, springs in its sides adapted to expand at one end beyond the normal bounds of the stopple, and a glass tube having a closed dome-shaped top securely cemented in the opening and made as one integrally with the stopple.

841,897. MATERIAL FOR DEADENING SOUNDS. AUGUST V. RINGSTRÖM, Stockholm, Sweden. Filed Apr. 21, 1905. Serial No. 256,820.



Claim.—1. A material for deadening sounds and the like comprising a long, thin, strip of hard material bent zigzag, substantially as described.

2. A material for deadening sounds and the like comprising a plurality of long, thin, superposed strips bent zigzag, substantially as described.

3. A material for deadening sounds and the like comprising a plurality of thin superposed strips of different material bent zigzag, substantially as described.

4. A material for deadening sounds and the like comprising a thin strip bent zigzag, the bends thereof at an angle to the longitudinal direction of the strips, substantially as described.

5. A material for deadening sounds and the like comprising a plurality of thin superposed strips bent zigzag and the bends being at an angle to the longitudinal direction of the strips, substantially as described.

6. A material for deadening sound and the like comprising a plurality of thin superposed strips of different material bent zigzag the bends thereof being at an angle to the longitudinal direction of the strips, substantially as described.

7. A material for deadening sound and the like comprising a thin strip of steel bent zig zag, substantially as described.

8. A material for deadening sound and the like comprising a plurality of thin superposed strips of steel bent zigzag, the bends thereof at an angle to the longitudinal direction of the strips, substantially as described.

9. A material for deadening sound and the like comprising a thin strip of metal bent zigzag and softer material interposed between the bends, substantially as described.

10. A material for deadening sound and the like comprising a thin strip of metal bent zigzag and another strip of material bent transversely in and out between the bends thereof, substantially as described.

11. A material for deadening sound and the like comprising a thin strip of metal bent zigzag, the bends thereof at an angle to the longitudinal direction of the strip, and a strip of another material bent transversely in and out between the bends thereof, substantially as described.

12. A material for deadening sound and the like comprising thin superposed strips of steel, the bends thereof at an angle to the longitudinal direction of the strip and a strip of another material bent transversely in and out between the bends thereof, substantially as described.

13. A material for deadening sounds and the like com-

prising a strip of hard material bent zigzag and having lateral grooves, substantially as described.

14. A material for deadening sound and the like comprising a thin strip of steel bent zigzag having grooves cut in the sides thereof, substantially as described.

841,898. LEDGER-PLATE FASTENER. FRANK B. ROGERS, Maddux, Mont. Filed July 11, 1906. Serial No. 325,613.



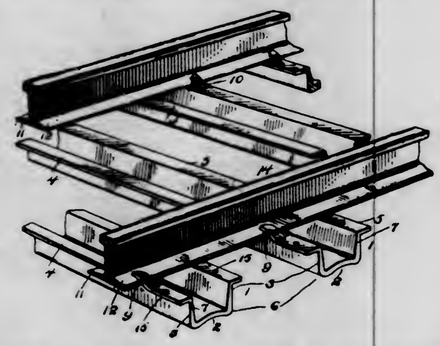
Claim.—1. The combination with the guard-finger and ledger-plate of a mowing-machine, of a spring-pressed latch engaging the ledger-plate.

2. The combination with the guard-finger and ledger-plate of a mowing-machine, said guard-finger having a recess in which the ledger-plate fits, of a spring-pressed latch engaging the ledger-plate, to hold the same in place.

3. The combination with a guard-finger and ledger-plate of a mowing-machine, said ledger-plate having a depression in its rear end, of a spring-pressed latch engaging the depressed portion of the ledger-plate.

4. The combination with a guard-finger and ledger-plate of a mowing-machine, said ledger-plate having at its front end a tongue, and the guard-finger having a recess to receive the tongue, and a shoulder on the guard-finger engaged by the rear end of the ledger-plate, of a spring-pressed latch bearing on the ledger-plate.

841,899. METALLIC TIE. JOHN C. SCHAFER, McKeesport, Pa. Filed Mar. 14, 1906. Serial No. 306,010.



Claim.—1. A railroad-tie consisting of a single straight piece of metal, having at each end a pair of integral lugs overhanging the top surface of the tie, the two lugs of each pair being arranged to project inwardly toward each other and being spaced on the tie so as to be on opposite sides of the tie and also on opposite sides of the rail-seat, said tie being adapted to be applied to the rail by being first adjusted obliquely to receive the full width of the rail between the lugs and then be turned to cause said lugs to overhang and lock down the rail-flanges as described.

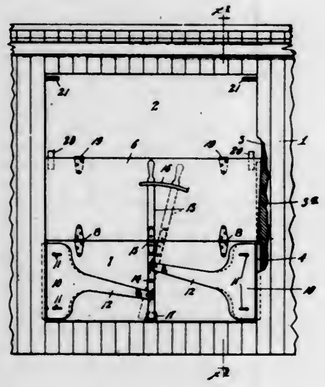
2. A railroad-tie consisting of a single straight piece of metal having struck up from its body-plate at each end a pair of integral obliquely-arranged overhanging lugs, the lugs of each pair projecting toward each other as described.

3. A railroad-tie consisting of a single straight piece of metal having integral locking devices at opposite ends forming a unitary tie and lock adapted to hold the rail by a deflection of the tie without spikes, bolts or other separable parts, as described.

4. A metallic tie consisting of a channel-bar having a curved base, side walls, outwardly-extending flanges carried by said side walls, and integral obliquely-arranged overhanging lugs struck up from said flanges, the lugs on one flange projecting toward the lug on the opposite flange.

841,900. GRAIN-DOOR FOR CARS. LOUIS W. SCHREIBER, Bee, Nebr. Filed May 23, 1906. Serial No. 318,356.

Claim.—1. A grain-door made up of sections connected by hinges and adapted to be folded together, in combination with a pair of stop-plates slidably mounted on the ends of one of the said door-sections, a lever pivoted to one of said sections and connected to said two stop-plates, said lever having a hinge in line with or approximately in line with the hinges of said sections adapting it to be folded and permitting the door-sections to be folded, substantially as described.



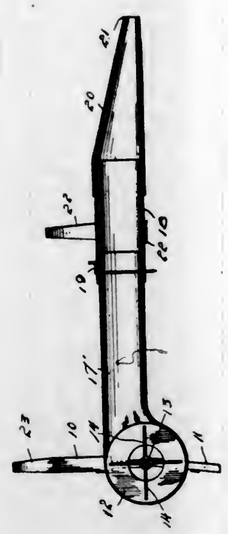
2. A grain-door made up of sections 6 and 7 connected by hinges 8, said sections 7 being shorter than said sections 6, in combination with a pair of stop-plates 10 slidably mounted on the ends of said door-sections 7, a lever 13 pivoted at 14 to said section 7 and connected to said two stop-plates 10, said lever having a hinge 15 in line with or approximately in line with the hinges of said sections adapting it to be folded, and permitting the door-sections 6 and 7 to be folded together, a device holding the upper end of said lever close to said door-section 6, and means for holding the two ends of said lever together, substantially as described.

3. A grain-door made up of sections connected by hinges, in combination with means for locking the lower door-section in an operative position, comprising a lever pivoted to the lower section and provided with a hinge in line with or approximately in line with the hinges of said section permitting the lower door-section to swing, with respect to the upper door-section, the upper section of said lever being held close to the upper door-section but free for oscillatory movement with respect thereto, substantially as described.

841,901. SQUIRREL-SMOKER. GEORGE F. SHIRROD, Uniontown, Wash. Filed Sept. 20, 1906. Serial No. 335,488.

Claim.—In an animal-exterminator, the combination with the drum, a blower, and legs for supporting them in raised position, of a spout leading from the drum, a fire-cylinder into which the end of the spout is adapted to slide, a rod passed transversely through the connected ends of the spout and fire-cylinder and made removable to disconnect the said ends and reconnect them and a nozzle connected with the other end of the fire-cylinder.

841,901.



841,902. TRAVELING-RECEPTACLE. MALNOR A. SHUMARD, New Orleans, La. Filed Aug. 23, 1905. Serial No. 275,494.



Claim.—1. A traveling-receptacle, comprising a sheet of flexible material adapted to be folded medially, and end flaps and side flaps adapted to fold upon said sheet, and means for carrying the receptacle comprising on the outer end of each division of the sheet a handle adjustably secured to said respective divisions of the sheet.

2. A traveling-receptacle, comprising a sheet of flexible material adapted to be folded medially, and end flaps and side flaps adapted to fold upon said sheet, and means for carrying the receptacle comprising on the outer end of each division of the sheet a U-shaped hand-grip each having strap ends adapted to be adjustably secured in buckles fast to the respective divisions of the sheet.

3. A traveling-receptacle comprising a sheet of flexible material adapted to be folded medially, end flaps and side flaps, and fold-guards covering the adjacent parts of sheet and flaps.

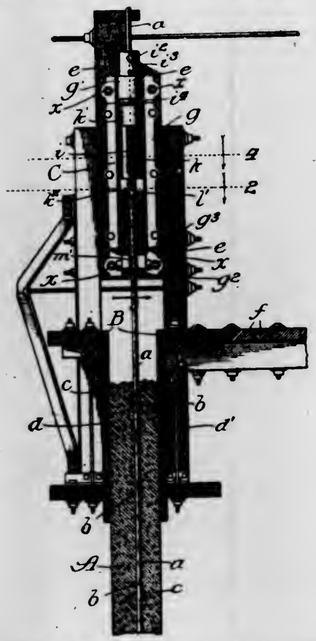
4. A traveling-receptacle comprising a sheet of flexible material adapted to be folded medially, end flaps and side flaps connected to the sheet, and a piece connecting adjacent parts of the sheet and flaps, and serving as a guard at the points of folding thereof.

5. A traveling-receptacle comprising a sheet of flexible material adapted to be folded medially, end flaps and side flaps adapted to be folded inwardly upon the sheet, the side flaps being cleft or slit in line with the median folding-crease of said sheet to a point near the folding-creases of said side flaps.

841,903. COMPOSITION FOR GRINDING AND POLISHING. CHARLES H. SNYDER, Baltimore, Md. Filed Mar. 21, 1906. Serial No. 307,294.

Claim.—An abrading-tool formed of pulverized rock, red lead, sodium silicate and sawdust mixed together and subjected to heat sufficient to burn out the sodium silicate and the sawdust.

841,904. MEANS FOR USE IN ERECTING METAL-CONCRETE STRUCTURES. JAMES SPELMAN, Chicago, Ill., assignor to John S. Metcalf Company, a Corporation of Illinois. Filed Nov. 6, 1906. Serial No. 342,171.



Claim.—1. In a structure of the character described, the combination with an upright metal bar thereof, of a mold, a frame movable on said bar and fastened to the mold and provided with frame-supporting means releasably engaging said bar, and a second frame movable on said bar and adjustably connected with said first-named frame and provided with frame-supporting means releasably engaging said bar, for the purpose set forth.

2. In a structure of the character described, the combination with an upright metal bar thereof, of a mold, a frame movable on said bar and fastened to the mold and provided with a pawl releasably engaging said bar, a second frame movable on said bar and provided with a pawl releasably engaging it, and a screw device connecting said frames, for the purpose set forth.

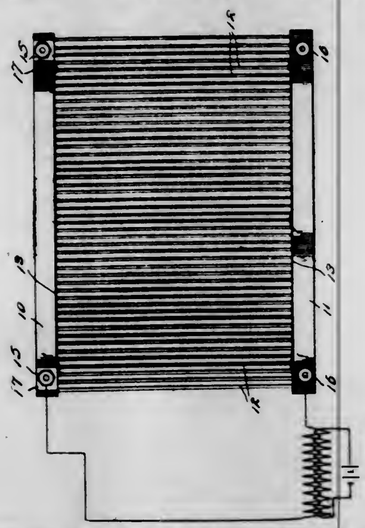
3. In a structure of the character described, the combination with an upright metal bar thereof, of a mold, a frame movable on said bar and presenting thereto a bearing-point and fastened to the mold, a pawl journaled on the frame to releasably engage said bar adjacent to a bearing-point, a second frame movable on said bar and presenting thereto a bearing-point and having journaled upon it a pawl releasably engaging the bar adjacent to said last-named bearing, and a screw device connecting said frames, for the purpose set forth.

4. In a structure of the character described, the combination with an upright metal bar thereof, of a mold, a frame movable on said bar and fastened to the mold and provided with upper and lower heads, a pawl journaled on the lower head to releasably engage said bar, a second

frame movable on said bar, provided with upper and lower heads and with a pawl urnaled on the lower head to releasably engage the bar, and a screw device having a stem rotatably supported and confined against longitudinal movement in the upper head of said first-named frame, with its threaded portion working in the upper head of said second frame.

5. In a structure of the character described, the combination with an upright metal bar thereof, of a mold, a frame movable on said bar and fastened to the mold and provided with upper and lower heads, a pawl journaled on the lower head to releasably engage said bar, a second frame movable on said bar, having a guiding connection with said first-named frame and provided with upper and lower heads and with a pawl journaled on the lower head to releasably engage the bar, and a screw device having a stem rotatably supported and confined against longitudinal movement in the upper head of said first-named frame, with its threaded portion working in the upper head of said second frame.

841,905. INSECT-EXTERMINATOR. JERRY SULLIVAN, Buffalo, N. Y. Filed June 9, 1906. Serial No. 321,038.



Claim.—1. An electric fly-trap consisting of parallel bars, a lure-grid composed of parallel strips of bright metal formed by removing portions of metal between them and leaving broad transverse strips at their ends, the said transverse strips being turned up at a right angle to the grid-strips and secured to the inner faces of the bars, the grid-strips alternating but not touching, binding-posts and their wires, and angular extensions from the transverse strips bent over on the outer faces of the bars with which extensions the binding-posts are electrically connected.

2. An electric fly-trap consisting of parallel bars, a lure-grid composed of parallel strips of bright metal formed by removing portions of metal between them and leaving broad transverse strips at their ends, the said transverse strips being turned up at a right angle to the grid-strips and secured to the inner faces of the bars, the grid-strips interlocking but not touching and throughout their lengths bent into substantially half-round form in cross-section, the binding-posts and their wires, and angular extensions from the transverse strips bent over on the outer faces of the bars, with which extensions the binding-posts are electrically connected.

3. An electric fly-trap comprising parallel non-conducting bars, a lure-grid disposed between the bars and consisting of parallel strips of bright metal formed in two sets from separate plates, the strips of the two sets being disposed in alternate spaced relation and having connecting portions at their ends, said connecting portions being bent to lie against the inner faces of the bars and secured thereto, and binding-posts carried by the bars and electrically connected one with each set of strips.

4. An electric fly-trap consisting of parallel bars, a lure-grid composed of parallel strips of bright metal formed by removing portions of metal between them and leaving broad transverse strips at their ends, the said transverse strips being turned up at a right angle to the grid-strips and secured to the inner faces of the bars, the grid-strips alternating but not touching, and binding-posts electrically connected with the strips.

841,906. BUCKLE. CHARLES E. ST. CLAIR, Star City, Ind. Filed May 3, 1906. Serial No. 315,038.



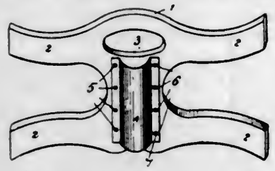
Claim.—1. In combination, a strap part, a buckle comprising a frame connected with said strap part, a member pivotally connected with the strap part aforesaid, a link receiving an end of the frame and operatively connected with the pivoted member above mentioned, said link having a tongue extending therefrom, and a second strap part engaged by said tongue.

2. In combination, a strap part, a buckle comprising a frame connected with said strap part, a keeper pivoted to the strap part and having a lateral loop extending therefrom, said keeper embodying a cross-bar provided with an offstanding extension, a link receiving an end of the frame aforesaid and attached at one end to the extension above mentioned, a tongue projecting from said link, and a second strap part passing through the frame and engaged by the tongue above mentioned, said second strap part passing beneath the keeper and over the lateral loop thereof for the purpose specified.

3. In combination, a strap part, a buckle comprising a frame connected with said strap part, a second strap part, a tongue for the buckle engaging the second strap part, and a keeper pivoted to the first strap part and having an extension connected with the tongue to effect disengagement of the same from the second strap part.

4. In combination, a buckle comprising a frame, a strap part connected with said frame, a second strap part looped through the frame, a tongue engaging said second strap part, a keeper applied to the first strap part to receive the free end of the second strap part, an extension projecting from said keeper, a link connected with the extension of the keeper and formed integrally with the tongue, said link receiving an end of the frame aforesaid and a loop projecting from the keeper to hold the same in a predetermined position.

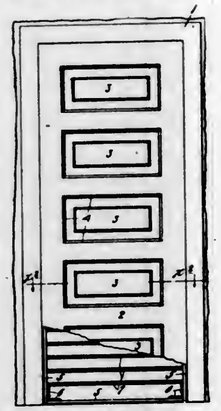
841,907. CLOTHES-LINE REEL. JOHN P. THORN, Chicago, Ill. Filed May 18, 1905. Serial No. 260,945.



Claim.—1. In a clothes-line reel, a body portion provided with radial extending arms, semicylindrical resilient plates each rigidly secured at one edge to said body portion and loosely secured thereto at its opposite edge, substantially as described.

2. In a clothes-line reel, a body portion having radial extending arms, semicylindrical resilient plates each provided with elongated slots in one side edge and rigidly secured to the body portion by its opposite edge, and fastening means passing through the slots.

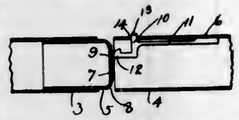
841,908. SHEET-METAL DOOR. JOSEPH TYRA, Minneapolis, Minn. Filed Mar. 10, 1906. Serial No. 305,269.



Claim.—1. A sheet-metal door having a rectangular marginal reinforcing-frame placed therein, and having parallel bars serving as a barrier applied to said marginal frame between the inner and outer plates thereof, substantially as described.

2. A sheet-metal door having a rectangular marginal reinforcing-frame placed therein, and having a metal barrier applied to said marginal frame and extending transversely of the door from the top to the bottom thereof, between the inner and outer plates thereof, substantially as described.

841,909. CATCH FOR BRACELETS. WALFRID WALLENTHIN, Attleboro, Mass., assignor to S. O. Bigney and Company, Attleboro, Mass., a Firm. Filed July 30, 1906. Serial No. 328,319.



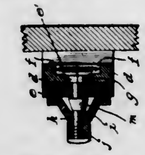
Claim.—1. A bracelet comprising two resilient tubular sections, means for pivotally uniting adjacent ends of said sections to permit the sections to swing laterally in either direction, and a catch for detachably uniting the free ends of said sections.

2. A bracelet comprising two resilient tubular sections, a pintle secured in the end of one section and projecting into the adjacent end of the other section, whereby said sections may swing laterally in either direction, and a catch for detachably uniting the free ends of said sections.

3. A bracelet comprising two resilient tubular sections, means for pivotally uniting adjacent ends of said sections to permit the sections to swing laterally in either direction, a cup-shaped locking-piece secured in the free end of one of said members, the other member having an opening to receive said locking-piece, and a spring-catch in said opening arranged to engage said locking-piece.

4. A bracelet comprising two resilient tubular sections, a pintle secured in the end of one section and projecting into the adjacent end of the other section, whereby said sections may swing laterally in either direction, a cup-shaped locking-piece secured in the free end of one of said members, the free end of the other member being provided with an opening to receive said locking-piece, and a spring-catch in said opening arranged to engage said locking-piece.

841,910. SLIDING-DOOR FASTENER. LEE A. WEST, Darvills, Va. Filed May 26, 1905. Serial No. 262,482.



Claim.—1. An automatic car-door fastener comprising an arrow-head keeper, a latch member consisting of a pair of pivoted hooks, a hook-supporting plate provided with an extension, a bracket secured to the extension, means for opening the hooks embodying a shaft journaled in the extension of the supporting-plate and the bracket, and a cam and a thumb-piece secured to the opposite ends of the shaft, and means upon the shaft between the bracket and the extension of the supporting-plate to retain the opening means in an operative position.

2. An automatic car-door fastener comprising an arrow-head keeper, a latch member consisting of a pair of pivoted hooks, a hook-supporting plate provided with an extension, a bracket secured to the extension, means for opening the hooks embodying a shaft journaled in the extension of the supporting-plate and the bracket having a cam and a thumb-piece secured to the opposite ends thereof, means upon the shaft between the bracket and the extension of the supporting-plate to retain the opening means in an operative position, and means for holding the hooks normally in a closed position.

841,911. RECIPROCATING-CYLINDER WEB-PRINTING MACHINE. HENRY A. W. WOOD, New York, N. Y., assignor by mesne assignments, to Detroit Trust Co., trustee, Detroit, Mich., a Corporation of Michigan. Filed Jan. 13, 1899. Renewed Apr. 9, 1906. Serial No. 310,740.

Claim.—1. The combination of a bed, a reciprocating cylinder coöperating therewith, web-manipulating mechanism moving with the cylinder for bringing the web into harmony with the impression-cylinder during impression, continuously running or acting web-feeding mechanism, and web-guiding mechanism arranged so that the web moves continuously to and from said web-manipulating mechanism.

2. The combination of two beds, a reciprocating impression-cylinder coacting with each bed, a web-manipulating mechanism moving with each cylinder for bringing the web into harmony with the impression-cylinder during impression, continuously acting or running web-feeding devices, and a web-guiding device arranged so that the web passes continuously to and from said web-manipulating mechanism.

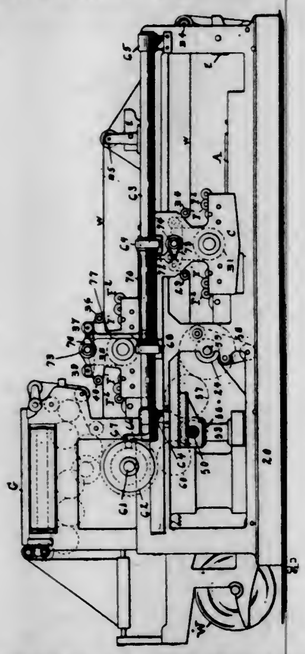
3. The combination of a stationary bed, a reciprocating cylinder coöperating therewith, web-manipulating mechanism moving with the cylinder for bringing the web into harmony with the impression-cylinder during impression, and web-feeding mechanism.

4. The combination of two stationary beds, a reciprocating impression-cylinder coacting with each bed, web-manipulating mechanism moving with each cylinder for bringing the web into harmony with the impression-cylinder during impression, and web-feeding devices.

5. The combination of a bed, a reciprocating impression-cylinder coöperating therewith, web-manipulating mechanism moving with the cylinder arranged to bring the web into harmony with the surface of the impression-cylinder during impression, and to shift the web forward around the surface of the impression-cylinder during non-impression, and web-feeding mechanism.

6. The combination of two beds, a moving impression-cylinder coacting with each bed, web-manipulating mechanism moving with each cylinder arranged to bring the

web into harmony with the surface of the impression-cylinder during impression, and to shift the web forward around the surface of the impression-cylinders during non-impression, and web-feeding devices.



7. The combination of a bed, a reciprocating cylinder coöperating therewith, means for feeding the web continuously into and out of the press, and manipulating devices moving with the cylinder adapted to hold the section of web around the cylinder in harmony with the periphery of the impression-cylinder during impression, and to shift the same during non-impression.

8. The combination of a bed, a reciprocating impression-cylinder coöperating therewith, means for feeding a web continuously into and out of the press, and manipulating devices moving with the cylinder adapted to hold the section of web around the cylinder in harmony with the periphery of the impression-cylinder during impression, and to shift the same around the impression-cylinder when the impression-cylinder is off the form in either direction.

9. The combination of a bed, reciprocating carriers, an impression-cylinder mounted therein, means for feeding the web continuously into and out of the press, and manipulating devices mounted in the carriers adapted to hold the section of web around the cylinder in harmony with the periphery of the impression-cylinder during impression, and to shift the same during the non-impression period.

10. The combination of a bed, a reciprocating impression-cylinder coöperating therewith, a looper arranged at each side of the impression-cylinder and moving therewith, means for operating the loopers, and means for continuously feeding the web to and from the loopers.

11. The combination with a bed, of a reciprocating impression-cylinder coöperating therewith, a looper arranged at each side of the impression-cylinder and moving therewith around which the web is looped in the same direction, means for oppositely moving the loopers, and means for continuously feeding the web into and out of the machine.

12. The combination with two beds, of a reciprocating impression-cylinder coöperating with each bed, a looper arranged at each side of each impression-cylinder, means for operating the loopers at each side of each impression-cylinder in opposite directions, and means for continuously feeding the web into and out of the machine.

13. The combination of two beds, a reciprocating impression-cylinder coöperating with each bed, web-guides adapted to lead a web in opposite directions around the impression-cylinders, a looper arranged at each side of each impression-cylinder and moving therewith, means for operating the loopers at each side of each impression-cylinder in opposite directions and for operating the two sets of loopers oppositely relatively to each other, and means for continuously feeding the web into and out of the press.

14. The combination of a bed, reciprocating carriers, an impression-cylinder mounted therein, a guide arranged in said carriers at each side of the impression-cylinder, loopers mounted in said carriers around which the web is looped between said guides and impression-cylinder, and means for continuously feeding the web to and from the loopers.

15. The combination in a printing-press of a bed, reciprocating carriers, a cylinder journaled in said carriers, a shaft journaled in said carriers, loopers mounted in arms fixed on said shaft, means for oscillating said shaft, and means for feeding the web continuously to and from said loopers.

16. The combination in a printing-press of two stationary beds, a reciprocating impression-cylinder coöperating with each bed, means for continuously feeding the web into and out of the machine, a looper moving with the first impression-cylinder and arranged in the path of the web between the feeding-in device and the first impression-cylinder, a looper moving with the second impression-cylinder, and arranged in the path of the web between the second impression-cylinder and the feeding-out device, and means for operating said loopers.

17. The combination of two beds, a reciprocating impression-cylinder coöperating with each of said beds, a looper arranged at each side of each impression-cylinder and moving therewith, and means for continuously feeding the web into and out of the press.

18. The combination of the side frames, a bed arranged between said frames, reciprocating carriers fitted on said side frames, an impression-cylinder journaled in said carriers, loopers at each side of said impression-cylinder arranged in said carriers, a longitudinal shaft journaled in bearings on one of the side frames, connections from this shaft to actuate the loopers, and means for feeding the web continuously to and from the loopers.

19. The combination of the two side frames, two beds arranged between said side frames, reciprocating carriers mounted on said side frames, an impression-cylinder for each of said beds journaled in said carriers, loopers arranged in said carriers at each side of each of said impression-cylinders, a shaft journaled in brackets secured to one of said side frames, connections from this shaft to operate the loopers, and means for continuously feeding the web into and out of the press.

20. The combination of the two side frames, reciprocating carriers mounted thereon, an impression-cylinder journaled in said carriers, loopers carried by said carriers at each side of the impression-cylinder, a shaft journaled upon one of said side frames, a cam for operating said shaft, connections extending from said shaft to operate the loopers, and means for continuously feeding the web to and from the loopers.

21. The combination of the side frames, reciprocating carriers fitted thereon, an impression-cylinder journaled in said carriers, loopers carried by said carriers at each side of the impression-cylinder, a shaft journaled on one of said side frames, a cam for oscillating said shaft, a sleeve keyed to said shaft and moving with the carriers, connections from this sleeve to operate the loopers, and means for feeding the web to and from the loopers.

22. The combination of the side frames, two beds arranged between the side frames, carriers fitted on said side frames, an impression-cylinder for each of said beds journaled in said carriers, a shaft journaled in said carriers above each of the impression-cylinders, arms secured to said shafts carrying loopers arranged at each side of each impression-cylinder, a cam-actuated shaft journaled in bearings secured to one of the side frames, a bush or sleeve keyed to said shaft and moving with the carriers, connections from said bush to operate the loopers, and means for feeding the web into and out of the press.

23. The combination in a printing-press of two beds, a reciprocating impression-cylinder coöperating with each bed, a guide arranged at each side of each impression-cylinder and moving therewith, a looper arranged between each of these guides and the reciprocating impression-cylinders and moving with the guides and impression-cylinders, means for continuously feeding the web into and out of the machine, guides as 34 and 35 arranged to direct the web through the machine, and means for continuously feeding the web into and out of the machine, whereby the web will run continuously from the feeding-in device to one looper, continuously from the next looper around said guides to a looper moving with the other impression-cylinder, and continuously from the last looper to the feeding-out device.

24. The combination in a printing-press of two beds, a reciprocating impression-cylinder coacting with each bed, a looper arranged at each side of each impression-cylinder, means for actuating the loopers, means for continuously feeding the web into and out of the machine, and continuously-driven guides as 34 and 35 arranged to direct the web from one impression-cylinder to the other.

25. The combination in a printing-press of two beds, a reciprocating impression-cylinder coöperating with each bed, a guide arranged at each side of each impression-cylinder and moving therewith, a looper arranged between each of these guides and the respective cylinders and moving with the cylinders, means for actuating the loopers, guides arranged in line with the guides moving with the cylinders for directing the web through the machine, and means for feeding the web into and out of the press.

841,912. VEHICLE-WHEEL. HENRY W. WÜRTH, Leeds, Mo. Filed Oct. 18, 1904. Serial No. 228,979.



Claim.—1. In a vehicle-wheel, the combination with the sleeve adapted to be mounted on the axle, of a cone adjustable longitudinally on the sleeve, a member carried by the sleeve and having a plurality of radially-swinging arms provided with recesses, the spokes resting upon said arms and in said recesses, the tire, and a plurality of felly-sections mounted in the tire and supported by the spokes.

2. In a vehicle-wheel, the combination with the sleeve adapted to be mounted on the axle, of a cone adjustable lengthwise on the sleeve, a member carried by the sleeve and having a plurality of swinging arms having each a recess adapted to rest on the cone, the spokes resting upon said arms in said recesses, a tire having an inner peripheral groove, and a plurality of felly-sections mounted in said groove and supported by the spokes.

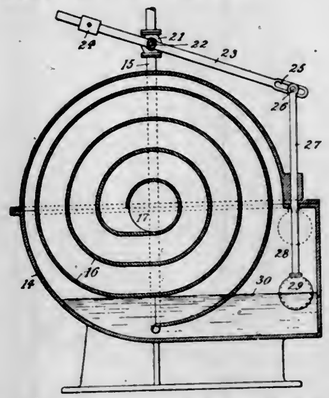
3. In a vehicle-wheel, the combination with the externally-screw-threaded sleeve adapted to be mounted on the axle, of a cone having a longitudinal hole provided with threads fitted to the threaded part of the sleeve, a member carried by the sleeve and having a plurality of swinging arms resting upon the cone and having each a recess, the spokes resting upon said arms and in said recesses, a tire having an inner groove and a plurality of felly-sections mounted in said groove and supported by the spokes.

4. In a vehicle-wheel, the combination with the sleeve adapted to be mounted on the axle, of a cone longitudinally movable on the sleeve, a member carried by the sleeve having a plurality of swinging arms having each a recess, the spokes supported by said arms and in said recesses, the tire, and a plurality of felly-sections mounted in the tire, having a tongue-and-groove connection with each other and supported by the spokes.

5. In a vehicle-wheel, the combination with the sleeve adapted to be mounted on the axle, of a cone longitudinally adjustable on the sleeve, a member carried by the sleeve having a plurality of radially-swinging arms resting upon the cone and having each a recess, the spokes resting upon said arms and in said recesses, the tire, and a plurality of felly-sections having overlapping ends, each felly-section end being cut at an angle to a diametrical line intersecting said end, the felly-sections being located in the tire and supported by the spokes.

6. In a vehicle-wheel, the combination with the sleeve adapted to be mounted on the axle, of a cone longitudinally adjustable on the sleeve, a member carried by the sleeve and having a plurality of radially-swinging arms resting upon the cone and having each a recess, the spokes resting upon said arms and in said recesses, a tire having an inner peripheral groove, and a plurality of felly-sections mounted in said groove and supported by said spokes, the felly-sections having a tongue-and-groove connection with each other, and the abutting ends of two of said felly-sections being cut at an angle to a diametrical line intersecting said abutting ends.

841,913. PEBBLE-MILL. MAX F. ABBÉ, New York, N. Y. Filed May 2, 1906. Serial No. 314,791.



Claim.—1. A pebble-mill provided with a reducing-cylinder having a hollow trunnion, a stationary feed-chamber exterior to the cylinder, a spiral conveyer rotatable within said chamber and having convolutes of gradually-decreasing diameter, a discharge-tube extending from the innermost convolute out of said chamber, and means for connecting said tube to the outer end of the trunnion, substantially as specified.

2. A pebble-mill provided with a reducing-cylinder having a hollow trunnion, a feed-chamber exterior to the cylinder, an inclosed rotatable spiral conveyer, means for connecting said conveyer to the hollow trunnion, a feed-pipe entering the feed-chamber, a cock controlling said pipe, a float in the feed-chamber, and means for operatively connecting said float to the cock, substantially as specified.

841,914. CABLE-HOLDING CLIP. AUGUSTUS ANDREWS, Gulfport, Miss., and LAWRENCE M. GALLIHER, New Orleans, La. Filed Nov. 3, 1906. Serial No. 341,954.

Claim.—1. A clamping-plate designed to embrace a cable and bent to form a shell, lugs projecting from one end of the plate and adapted to engage over the ends of the flattened portions of the plate, and means for holding said lugs in locking relation, as set forth.

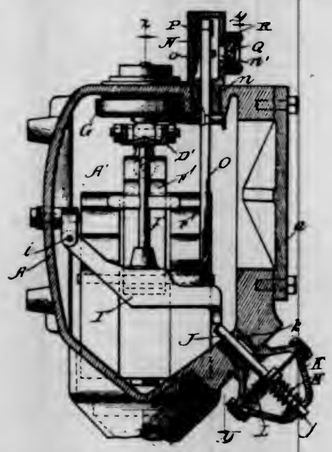
2. A clamping-plate designed to embrace a cable and

bent to form a shell, lugs projecting from one end of the plate and adapted to engage over the ends of flattened portions of the plate, one end of the plate adapted to be bent upon itself and against the bent lugs, as set forth.



3. A clamping-plate which is bent to form a cylindrical shell and provided with laterally-projecting lugs at one end thereof, the shank portion of said plate being bent to form a cable-engaging portion with flattened parts which are adapted to be clamped together by said lugs, the end of the plate being designed to engage said lugs to hold the same in locked relation, as set forth.

841,915. VALVE FOR AUTOMATIC FIRE-EXTINGUISHERS. MARTIN ANDREWS, Chicago, Ill., assignor to Phoenix Fire Extinguisher Co., Chicago, Ill., a Corporation. Filed June 5, 1906. Serial No. 320,259.



Claim.—1. In a device of the class described, the combination with a valve and a main valve-holding device, of a temporary valve-holding device, means for tripping it, and an indicator, the temporary valve-holding device and indicator having parts movable in a common path whereby each, until displaced, interferes with the movement of the other, substantially as described.

2. In a device of the class described, the combination with a valve and a main valve-holding device, of a temporary valve-holding device, means for tripping it, and an indicator, the temporary valve-holding device having a part occupying a path in which a part of the indicator moves in setting the indicator, substantially as described.

3. In a device of the class described, the combination with a valve and a main valve-holding device, of a temporary valve-holding device having a trigger and a displaceable part interposed between the trigger and the main valve-holding device, means for tripping the trigger and releasing said displaceable part, and an indicator controlled by said displaceable part, substantially as described.

4. In a device of the class described, the combination with a valve and a main valve-holding device, of a temporary valve-holding device, means for tripping it, and a quick-acting indicator controlled by the temporary valve-holding device, substantially as described.

5. In a device of the class described, the combination with a valve and a main valve-holding device, of a temporary valve-holding device, means for tripping it, and a gravity-operating indicator controlled by the temporary valve-holding device, substantially as described.

6. In a device of the class described, the combination with a valve and a main valve-holding device, means for tripping it, and an indicator controlled by the temporary valve-holding device, said indicator having a movable part adapted to fall by gravity when released, substantially as described.

7. In a device of the class described, the combination with a valve and a main valve-holding device of a temporary valve-holding device having a displaceable part and a trigger for holding it in operative position, means for tripping the trigger, and an indicator having a part controlled by said displaceable part, substantially as described.

8. In a device of the class described, the combination with a valve and a main valve-holding device, of a temporary valve-holding device having a displaceable part and a trigger for holding it in operative position, means for tripping the trigger and an indicator having a part engaged and controlled by said displaceable part and adapted to fall by gravity when released, substantially as described.

9. In a device of the class described, the combination with a valve and a main valve-holding device, of a temporary valve-holding device, means for tripping it, and an indicator having a vertically-movable rod engaged by a movable part of the temporary valve-holding device and adapted to fall by gravity when released, substantially as described.

10. In a device of the class described the combination with a valve and a main valve-holding device; of a temporary valve-holding device, means for tripping it, and an indicator controlled by the temporary valve-holding device, of an air-tight inclosure containing the valve, valve-holding devices and indicator, substantially as described.

11. In a device of the class described, the combination with a valve, a main valve-holding device, and an air-tight casing containing them, of a temporary valve-holding device, means for tripping it and an indicator controlled by the temporary valve-holding device, said indicator having a target and an air-tight box containing the target, said box having internal communication with the interior of the casing, and having a transparent pane, substantially as described.

12. In a device of the class described, the combination with a valve and a main valve-holding device, of a temporary valve-holding device having a trigger and a displaceable part interposed between the trigger and the main valve-holding device, means controlled by the pressure in the system for tripping the trigger, and an indicator controlled by said displaceable part, substantially as described.

841,916. SAFETY-RAZOR. FREDERICK H. ARNOLD, Reading, Pa. Filed Sept. 15, 1906. Serial No. 334,787.

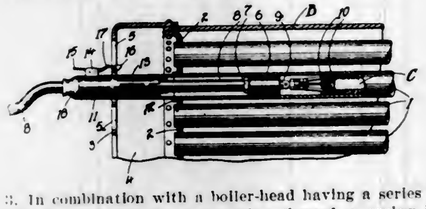


Claim.—In a safety-razor, a holder having a guard formed integral therewith and having a rectangular slot near either end, a spring secured to the upper face of said guard, depending legs formed on the extremities of said spring, said legs passing through said slots, feet formed on the lower ends of said legs in combination with a blade of thin sheet metal having rectangular openings adapted to register with said feet.

841,917. GUIDE-CASING FOR BOILER-TUBE CLEANERS. MICHAEL ASSEN and FREDERICK P. EIKMANN, Jr., St. Louis, Mo. Filed Mar. 19, 1906. Serial No. 306,820.

Claim.—1. In combination with a boiler-head having a series of band-holes opposite the water-tubes thereof, a casing inserted through a given hole and against the end of the tube, a cutter with a stem or shaft freely passing through said casing, the wall of the casing being provided with peripheral openings discharging into the space between the boiler-head and the plate in which the water-tubes terminate, substantially as set forth.

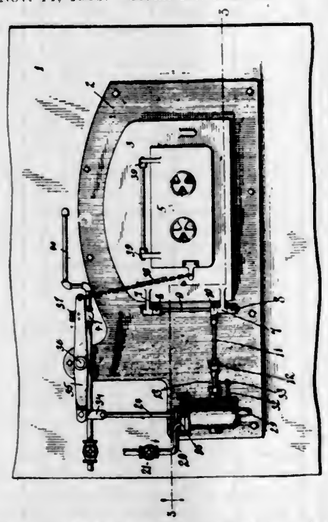
2. In combination with a boiler-head having a series of hand-holes opposite the water-tubes thereof, a casing inserted through a given hole and against the end of the tube, a cutter with a stem or shaft freely passing through said casing, the wall of the casing being provided with peripheral openings discharging into the space between the boiler-head and the plate in which the water-tubes terminate, and a latch on the casing engaging the wall of an adjacent hole, substantially as set forth.



3. In combination with a boiler-head having a series of hand-holes opposite the water-tubes thereof, a casing inserted through a given hole and against the end of the tube, a cutter with a stem or shaft freely passing through the casing and a spring-controlled latch on the casing engaging the wall of an adjacent hole, substantially as set forth.

4. A tubular casing having an outer contracted hollow nipple for the passage of a hose, and having a rear perforated portion for the discharge of waste waters, the rear end of the casing terminating in a flange for engaging the end of a boiler-tube, a cutter with a stem or shaft freely passing through the casing and a spring-controlled latch mounted at the forward portion of the casing for engaging the wall of a hand-hole formed in a boiler-head opposite a tube contiguous to that with which the casing is in temporary engagement, substantially as set forth.

841,918. SMOKE-CONSUMER. OCTAVE AUBÉ and LOUIS M. TREMBLAY, Montreal, Quebec, Canada, assignors of one-sixth to Joseph Augustin Odilon Labadie and one-sixth to Ovide Papineau, Montreal, Canada. Filed Nov. 11, 1905. Serial No. 286,806.



Claim.—1. In a furnace, the combination of a combustion-chamber, a fire-door therefor, a pipe for supplying steam to the combustion-chamber, a fluid-operated cylinder and piston for controlling said steam-supply, an inlet-chamber, an exhaust-chamber, a valve-casing provided with ports communicating with said cylinder and with ducts communicating with said inlet and exhaust chambers, a shiftable valve in said casing for controlling communication between said ports and ducts, adjustable means for regulating one of said exhaust-ducts, and operative connections between said valve and fire-door, substantially as described.

2. In a furnace, the combination of a combustion-chamber, a pivotally-supported fire-door therefor, a pipe for supplying steam to the combustion-chamber, a fluid-operated cylinder and piston for controlling said steam-supply, an inlet-chamber, an exhaust-chamber, a valve-casing provided with ports communicating with said cylinder and with ducts communicating with said inlet and exhaust chambers, adjustable means for regulating one of said exhaust-ducts, a shiftable valve in said casing for controlling communication between said ports and ducts, a cam on said pivotal support of the fire-door, and a link connection between said cam and valve, substantially as described.

3. In a furnace, the combination of a combustion-chamber, a fire-door therefor, a draft-door on said fire-door, a pipe for supplying steam to the combustion-chamber, a fluid-operated cylinder and piston for controlling said draft-door and steam-supply, an inlet-chamber, an exhaust-chamber, a valve-casing provided with ports communicating with said cylinder and with ducts communicating with said inlet and exhaust chambers, a shiftable valve in said casing provided with peripheral grooves for controlling communication between said ports and ducts, adjustable means for regulating one of said exhaust-ducts, and connecting means operated by said fire-door for shifting said valve, substantially as described.

4. In a furnace, the combination of a combustion-chamber, a fire-door therefor, a pipe for supplying steam to the combustion-chamber, a fluid-operated cylinder and piston for controlling said steam-supply, an inlet-chamber, an exhaust-chamber, a valve-casing provided with ports communicating with said cylinder and with ducts communicating with said inlet and exhaust chambers, a shiftable valve in said casing for controlling communication between said ports and ducts, adjustable means for regulating one of said exhaust-ducts, means for maintaining free communication between said exhaust-chamber and valve-casing at points beyond the valve travel, and operative connections between said valve and fire-door, substantially as described.

5. In a furnace, the combination of a combustion-chamber, a fire-door therefor, a pipe for supplying steam to the combustion-chamber, a fluid-operated cylinder and piston for controlling said steam-supply, an inlet-chamber, an exhaust-chamber, a cylindrical valve-casing provided with ports communicating with said cylinder and with ducts communicating with said inlet and exhaust chambers, a shiftable valve in said casing provided with peripheral grooves for controlling communication between said ports and ducts, said ports formed of sufficient axial dimension to be maintained in communication with the peripheral grooves of the valve during the entire travel of the latter, adjustable means for regulating one of said exhaust-ducts, and connecting means operated by said fire-door for shifting said valve, substantially as described.

6. In a furnace, the combination of a combustion-chamber, a fire-door therefor, a draft-door on said fire-door, a pipe for supplying steam to the combustion-chamber, a regulating-valve in said pipe, a lever for controlling said regulating-valve, a connection between said lever and draft-door, a fluid-operated cylinder and piston for actuating said lever, an inlet-chamber, an exhaust-chamber, a valve-casing provided with ports communicating with said cylinder and with ducts communicating with said inlet and exhaust chambers, adjustable means for regulating one of said exhaust-ducts, a shiftable valve in said casing for controlling communication between said ports and ducts, and operative connections between said valve and fire-door, substantially as described.

7. In a furnace, the combination of a combustion-chamber, a fire-door therefor, a draft-door on said fire-door, a pipe for supplying steam to the combustion-chamber, a regulating-valve in said pipe, a lever arranged to engage

said regulating-valve, a flexible connection between said lever and draft-door, a fluid-operated cylinder and piston for actuating said lever, an inlet-chamber, an exhaust-chamber, a valve-casing provided with ports communicating with said cylinder and with ducts communicating with said inlet and exhaust chambers, adjustable means for regulating one of said exhaust-ducts, a shiftable valve in said casing for controlling communication between said ports and ducts, and operative connections between said valve and fire-door, substantially as described.

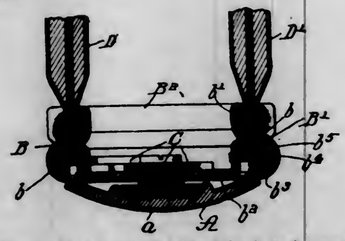
841,919. EYEGLASS-MOUNTING. NELSON M. BAKER, Worcester, Mass., assignor to American Optical Company, Southbridge, Mass., a Corporation of Massachusetts. Filed July 12, 1905. Serial No. 269,308.



Claim.—1. In an eyeglass-mounting, the combination with the outer end or head of the post, having a smooth inner surface to receive the bow-spring and nose-guard, of a bow-spring, having an opening through its end for the attaching-screw, and also having an opening therethrough above and below said opening, and connected with said opening, and a nose-guard having an opening therethrough for the attaching-screw, and having a grooved portion or recess therein above and below said opening, forming a projection on the inner side of the attaching end of the nose-guard, to extend into the slotted end in the bow-spring, and a screw for attaching said parts together.

2. In an eyeglass-mounting, the combination with the outer end or head of the post, having a smooth inner surface to receive the bow-spring and nose-guard, of a bow-spring, having an opening through its end for the attaching-screw, and a central longitudinal recess therein connected with said opening, and a nose-guard having an opening therein for the attaching-screw, and having a central groove or recess therein above and below said opening, forming a central longitudinal projection on the inner side of the nose-guard-attaching arm, to extend into the recess in the bow-spring-attaching arm, and a screw to secure the parts together.

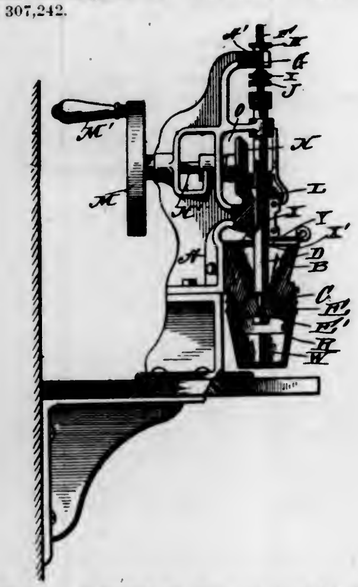
841,920. LOOSE-LEAF BINDER. WILLIAM M. BARSACHS, Chicago, Ill., assignor to William Gifford Jones and Harray S. Jones. Filed Apr. 2, 1906. Serial No. 309,354.



Claim.—1. In a ledger having a back and transversely-movable clamping members of substantially angular form with outwardly-presented lateral enlargements, the combination with said clamping members of bindings, and resilient pads confined between the bindings and the outer lateral surfaces of the clamping members, for the purpose set forth.

2. A binder comprising a back and transversely-movable clamping members of angular form mounted thereon, each clamping member having an outwardly-presented lateral enlargement with a cut-away portion and with end flanges, strips of rubber applied to the clamping members at the cut-away portions and having curved outer surfaces, and bindings inclosing the clamping members and strips of rubber, the bindings having edges terminating substantially flush with the end flanges specified, for the purpose set forth.

841,921. COMBINED PULVERIZER AND SAMPLER. OSCAR C. BEACH and ARTHUR L. BUZZELL, Los Angeles, Cal., assignors, by mesne assignments, to Frederick W. Braun, Los Angeles, Cal. Filed Mar. 21, 1906. Serial No. 307,242.



Claim.—1. An apparatus for pulverizing and dividing frangible materials, comprising a frame having a laterally-extending arm which is provided with an open slot, a stationary grinding-plate having an opening therein, a screw positioned in said slot and provided with a head at its lower end, a nut mounted upon said screw and resting upon said slotted arm, a vertically-mounted shaft swiveled to said head, a grinding-plate fixed to the bottom of said shaft, and means for rotating the latter, as set forth.

2. An apparatus for pulverizing and dividing frangible materials, comprising a frame, a stationary grinding-plate having an opening therein, a hopper, a vertically-adjustable shaft, means for supporting the same, a grinding-plate fixed to the bottom of said shaft, screws projecting from the flange of said hopper, a receptacle having ears with oppositely-disposed slots therein adapted to receive said screws, nuts upon said screws for holding the receptacle in place, and dividing-cups within said receptacle, as set forth.

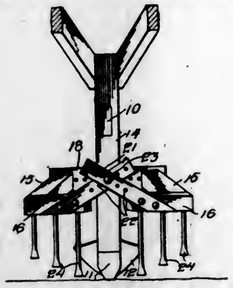
841,922. HARROW. WARREN G. BEATY, Denmark, Tenn. Filed Oct. 13, 1906. Serial No. 338,745.

Claim.—1. The combination, with the beam, the two standards, and the runner, of the two side harrows, hingedly connected with the standards, and adjustable to narrower or wider work and to work deeper or shallower in the ground.

2. The combination, with the beam, the front and rear standards, the latter extending appreciably above the beam, and the runner, of the two side harrows, each provided with a row of teeth, and hingedly connected with the standards adjustable to narrower or wider work and to work deeper or shallower in the ground, and the teeth being graded as to length being longer at the inner side and shorter at the outer side.

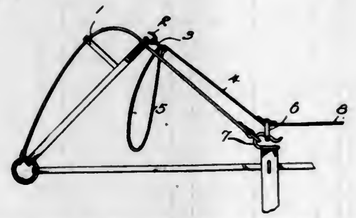
3. The combination with the beam, the standards and

the runner, of the side harrows, strips provided with a series of perforations secured to the front standard and extending laterally therefrom pins in the front ends of the side harrows adapted to be adjusted in either of the perforations of said strips, perforated strips secured to the



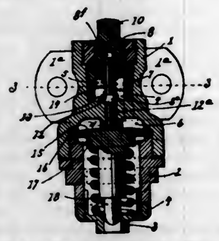
rear ends of the side harrows and extending up obliquely therefrom and crossing each other on the rear face of the rear standard, and a bolt adapted to be passed through either of the perforations of the said two strips to secure them to the rear standard.

841,923. BRIDLE-STRANGLER. FERDINAND BEYLE, Colorado City, Colo. Filed Oct. 2, 1905. Serial No. 281,097.



Claim.—The combination, with a harness including a bridle portion and a back-band, of a hook secured to the upper end of the bridle, and a hook secured to the back-band; a ring detachably engaged with said bridle-hook; and a rearwardly-extending strap secured at one end to said ring and passed therethrough to form a loop for encircling the throat of the animal, said strap being provided intermediate its ends with a ring normally in engagement with said back-band hook, said last-mentioned ring being adapted to be disengaged from said back-band hook upon a backward pull upon said strap, to bind the loop against the throat of the animal.

841,924. VALVE. JOHN H. BLEOO, New York, N. Y., assignor to Abraham B. Levy, New York, N. Y. Filed Apr. 6, 1906. Serial No. 310,225.



Claim.—1. In a valve, the combination of a casing provided with chambers, and an inlet to one chamber, an outlet from the other chamber and means to limit the pressure of fluid flowing from said outlet, with a plug in the inlet-chamber provided with means to at will permit more or less fluid to flow into said chambers from said inlet.

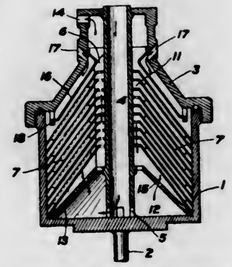
2. In a valve, the combination of a casing having chambers, a passage between them, a valve to control said passage, and means to operate said valve in accordance with a predetermined pressure of fluid in said chambers, with a plug in the inlet-chamber provided with means to vary the volume of fluid admitted to said chambers.

3. In a valve, the combination of a casing having chambers, a passage between them, a valve to control said passage, and means to operate said valve in accordance with a predetermined pressure of fluid in said chambers, with a plug provided with ports of varying size to control the volume of fluid admitted to said chambers.

4. In a valve, the combination of a casing having chambers and a communicating-passage between them, a valve to control said passage, an inlet into one chamber and an outlet from the other chamber, a diaphragm on one side of the last-named chamber, a spring and plunger to act with said diaphragm against pressure in said chamber, said diaphragm acting with said valve, and a plug in the inlet-chamber provided with means to regulate the volume of fluid admitted to said chamber.

5. In a valve, the combination of a casing having chambers and a communicating-passage between them, a valve to control said passage, an inlet into one chamber and an outlet from the other chamber, a diaphragm on one side of the last-named chamber, a spring and plunger to act with said diaphragm against pressure in said chamber, said diaphragm acting with said valve, and a plug in the inlet-chamber, said plug having ports of varying size to regulate the volume of fluid admitted to the inlet-chamber.

841,925. CENTRIFUGAL SEPARATOR. EDGAR W. BROOMALL, Rochester, N. Y. Filed Nov. 4, 1905. Serial No. 285,924.

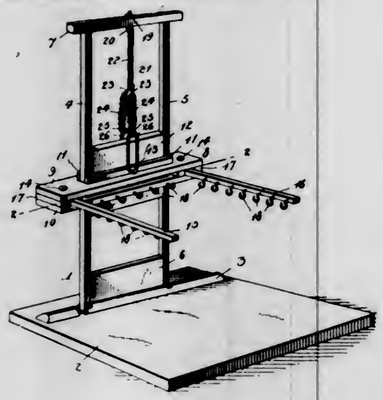


Claim.—A centrifugal separator comprising, a rotary bowl having outlets for the cream and blue milk respectively, a central vertical tube within the bowl and having apertures in its lower end opening into the bowl and provided thereabove with integral longitudinal ribs, a conical partition in the bottom of the bowl provided with apertures and having a central opening of greater diameter than the said tube, a series of spaced conical separator-plates above the partition, having their central openings of greater diameter than the tube and notched to receive its flanges; the said plates having radial slots in staggered relation to each other to form a tortuous passage through the series, and spacing-tongues alongside the said slots, substantially as described.

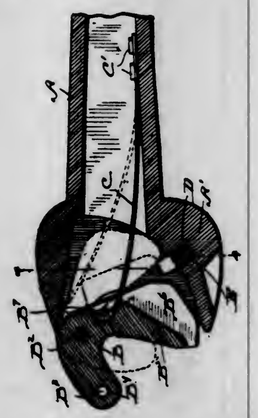
841,926. BAG-HOLDER. JOHN BROWN, Chicago, Ill. Filed May 3, 1906. Serial No. 315,014.

Claim.—A bag-holder comprising a standard, and a bag-holding frame slidable up and down thereon, said frame comprising upper and lower spaced plates having an opening at the middle through which the standard extends, a detachable yielding support for the frame, arms having enlarged heads pivoted between the ends of said plates, and

bag-hooks set along the inner edges of the arms and along the front edge of one of the said plates.



841,927. CAR-COUPLING. MARK A. BROWN, Savannah, Ga., assignor of one-half to Daniel G. Purse, Jr., Savannah, Ga. Filed July 24, 1905. Serial No. 271,066.

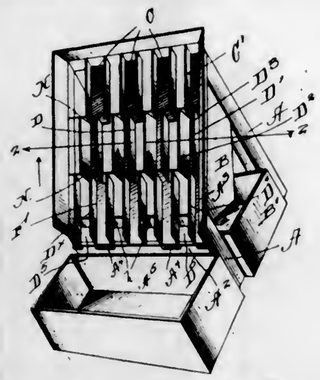


Claim.—1. A coupling device comprising a hollow draw-bar, provided with a coupling-head, at one end, a knuckle pivoted to one side of the head provided with an arm having a cam-surface, a flat spring secured in the draw-head, the front end of which rests in a recess in said arm, a spring-actuated locking-pin provided with a beveled shoulder working through an opening in the other side of the coupling, and a shaft provided with outwardly-extending arms, one of the arms being connected to the locking-pin, and the other to the coupling-head, and a handle for rotating the shaft, for the purpose described.

2. In a device of the kind described, the combination with a draw-bar, having a coupling-head at one end, of a spring-actuated knuckle provided with a cam-arm, secured to one side of the head, a spring-actuated pin provided with a beveled shoulder, working in an opening in the other side of the head, and a shaft carried by the car connected to said pin and head, for the purpose described.

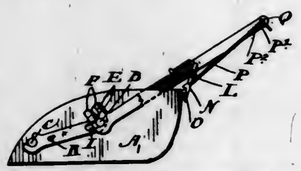
841,928. MULTIPLE RIFFLE-SAMPLER. EVANS W. BUSKETT, Coffeyville, Kans. Filed July 20, 1906. Serial No. 327,070.

Claim.—1. A multiple riffle-sampler, comprising a frame set at an inclination, a series of riffles at the upper part of the frame alternating with openings, whereby the ore may be divided into equal parts, a second series of riffles beneath the first-mentioned series and adapted to equally subdivide the samples from the first series and a third series of riffles beneath the second series designated to further subdivide the samples from the second series into equal parts, the alternate partitions in said second series being at inclinations and overhanging spaces intermediate the second series of riffles, as set forth.



2. A multiple riffle-sampler, comprising a frame set at an inclination, a series of riffles at the upper part of the frame alternating with openings, whereby the ore may be divided into equal parts, a second series of riffles beneath the first-mentioned series and adapted to equally subdivide the samples from the first series and a third series of riffles beneath the second series designated to further subdivide the samples from the second series into equal parts, the alternate partitions in said second series being at inclinations and overhanging spaces intermediate the second series of riffles, partitions across the spaces between the partitions in the third series of riffles and dividing the openings between the same, as set forth.

841,929. REVOLVING DRAG-SCRAPER. JAMES BUTLER, St. Catharines, Ontario, Canada. Filed May 16, 1906. Serial No. 317,248.



Claim.—1. In a drag-scraper the combination with the body, the handles, and means operated by the handles for changing the line of draft from a point near the mouth of the scraper to a central point.

2. In a drag-scraper the combination with the body having two pins located on the side of the scraper, one near the mouth of the scraper and the other centrally located between the mouth and the top of the back, of means operated by and connecting the handles to the pins whereby the line of draft may be changed from the forward pin to the pin centrally located between the mouth and the top of the back of the scraper, as and for the purpose specified.

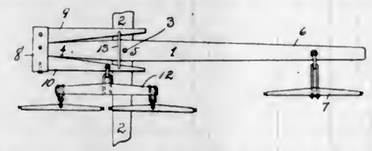
3. In a drag-scraper, the combination with the body provided with central and front pins and the handles swung on the pins and having at their lower ends projections at right angles provided with lugs on the inner faces of the same, levers having lock-jaws and provided with fingers projecting at right angles and coacting with the lugs of the projections, as and for the purpose specified.

4. In a drag-scraper the combination with the body, provided with central and front pins the handles swung on the pins and having at their lower ends projections at right angles provided with lugs on the inner faces of the same, of slotted levers having lock-jaws and provided with fingers projecting at right angles and coacting with the lugs of the projections of the handles, as and for the purpose specified.

5. In a drag-scraper the combination with the body provided with central and front pins, and handles, of levers connected to the body, by the centrally-located pins and provided with slots through which the centrally-located pins extend; and having jaw-shaped projections at the front ends to catch the forward pins, as and for the purpose specified.

6. In a drag-scraper the combination with the body and handles and levers connected to the same and provided with key-slots having enlarged openings at the inner ends, of the bails having L-shaped ends and shoulders adapted to abut the sides of the levers so as to make the L-shaped ends flush with the inner surfaces of the levers, as and for the purpose specified.

841,930. DRAFT-EQUALIZER. WILLIAM R. CAMPBELL, Little York, Ill. Filed Oct. 25, 1906. Serial No. 340,562.



Claim.—1. A draft-equalizer including a single equalizer-bar, a strap, said bar pivoted thereto, a compensating arm also pivoted thereto, and a second compensating arm, the latter fixed to said strap.

2. A draft-equalizer including a single equalizer-bar, a strap, said bar pivoted thereto, a compensating arm also pivoted thereto, a second compensating arm, the latter fixed to said strap, and means for connecting the distal ends of said arms.

3. A draft-equalizer including a single equalizer-bar, a strap, said bar pivoted thereto, a second compensating arm, the latter fixed to said strap, means for connecting the distal ends of said arms, a doubletree secured to said last-named arm and a swingletree to said bar.

4. A draft-equalizer including a single equalizer-bar, compensating arms at one end thereof, a strap to which said bar and arms are secured, and means for connecting the distal ends of said arms.

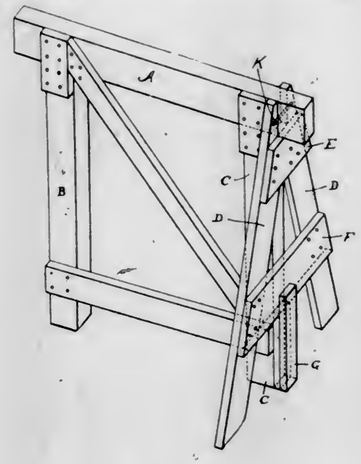
5. The combination with a vehicle-tongue, of a single equalizer-bar fulcrumed thereon transversely thereof, compensating arms at one end of said bar and lying along its sides, a strap to which said bar and arms are secured, a hammer-strap connecting the distal ends of said arms, a doubletree secured to one of them, and a swingletree to said bar.

6. In a draft-equalizer, a single bar comprising a longer and a shorter arm, compensating arms at the sides of the shorter arm, and means for uniting said bar and arms.

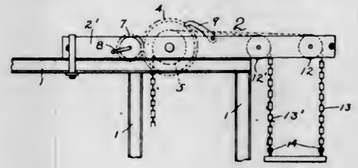
841,931. TRESTLE. DENISON P. CHESEBRO, New York, N. Y. Filed Apr. 17, 1906. Serial No. 312,093.

Claim.—1. A knockdown trestle consisting of a main frame comprising a horizontal beam and permanently attached and braced perpendicular supporting-posts for the same, and a removable transverse leg-frame located at one end of said beam.

2. In a trestle, the combination of a main frame comprising a horizontal beam, and permanently attached and braced perpendicular supporting-posts at each end of said beam, a transverse leg-frame at one end of said beam and a socket in said transverse leg-frame in which one end of said beam rests.



841,932. SCAFFOLD. DENISON P. CHESEBRO, New York, N. Y. Filed Apr. 17, 1906. Serial No. 312,094.

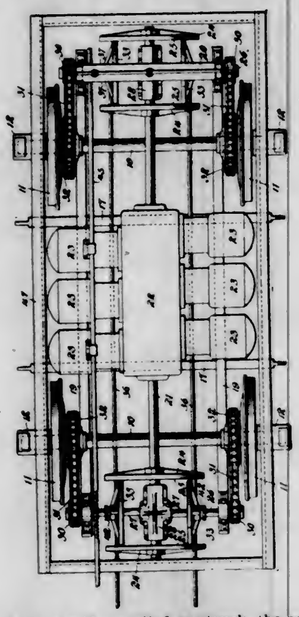


Claim.—1. In a device of the character described, the combination of string-pieces bolted together, means for securing them to the framework of a building, a drum consisting of a pair of parallel sprocket-wheels mounted in said string-pieces in the inboard portion thereof, pulleys mounted out of line with one another in the overhang or outboard portion of the framework, chains passing over said sprocket chain-wheels and said pulleys, a platform hung at its opposite sides respectively from said chains, means for winding said drum to take up the chains at the same rate and means for preventing backward movement of the drum, as and for the purpose described.

2. In a hanging scaffold, the combination of a frame consisting of parallel string-pieces secured together, means for attaching said frame to the framework of a building, a drum consisting of a pair of sprocket-wheels mounted to rotate within said frame at the inboard portion thereof, pulleys mounted in the overhanging or outboard portion of the framework upon horizontal shafts connecting the two string-pieces, chains passing over said chain-wheels and pulleys respectively, a platform hung at its opposite sides respectively from said chains, a gear-wheel carrying said drum, and a pinion engaging said drum and mounted on a crank-shaft on the inboard portion of the frame, as and for the purpose described.

3. In a hanging scaffold, the combination of a framework adapted to project from a building, means for securing the frame to the building, a platform hung from chains depending from the projecting or outboard portion of the framework, hoisting mechanism common to said chains mounted on the inboard portion of the frame, and pulleys mounted on horizontal shafts connecting the two sides of the frame at the outboard portion thereof and at different distances from the building, as and for the purpose described.

841,933. SELF-PROPELLED CAR-TRUCK. JAMES K. COCHRAN, Chicago, Ill. Filed Aug. 9, 1906. Serial No. 329,910.



Claim.—1. In a self-propelled car-truck, the combination with traction-wheels, and axles, of a main frame supported thereon, a subframe carried by the main frame, a motor mounted on the subframe and having a driving-shaft projecting beyond its opposite sides, a plurality of friction drive-disks mounted on each end of the shaft, and a plurality of friction devices associated with the disks and having driving connections with the adjacent shaft and wheel.

2. In a self-propelled car-truck, the combination with a main frame, of axles, and traction-wheels supporting the same, a body-supporting frame yieldingly mounted on the main frame, a subframe carried by the main frame, a motor arranged on the subframe and having a driving-shaft extending on both sides thereof, a plurality of opposing disks mounted on each end of the driving-shaft and having inner friction-surfaces, a plurality of counter-shafts located between each set of opposing disks, a plurality of driving connections between the counter-shafts and the adjacent axle and wheels, friction-wheels slidably mounted on the counter-shafts, and means for moving said counter-shafts laterally and for moving the wheels longitudinally of the counter-shafts.

3. In a self-propelled car-truck, the combination with axles and traction-wheels mounted thereon, of journal-boxes for the axles, hanger-links suspended from the journal-boxes, springs located in the hanger-links, a main frame mounted on the springs, a sub or motor frame carried by said main frame, springs mounted on the main frame, a body-supporting frame mounted on the latter springs, pedestals carried by the motor-supporting frame and slidably engaging the journal-boxes, a motor mounted on the sub or motor frame, and including a driving-shaft extending on opposite sides of said motor, and gearing connecting the opposite ends of the driving-shaft to the axles and traction-wheels, said gearing being carried by the motor-supporting frame.

4. In self-propelled car-truck, the combination with spaced sets of spaced sweels of a motor located between the sets and having a driving-shaft projecting beyond its opposite sides, sets of spaced and opposed friction-faced driving-disks mounted on the driving-shaft on opposite sides of the motor, a plurality of counter-shafts located between the faces of the different sets of driving-disks and having friction-wheels coöperating therewith, and connections between the counter-shafts and the adjacent sets of traction-wheels.

5. In a self-propelled car-truck, the combination with front and rear sets of wheels, of a motor located between the sets and having a driving-shaft projecting beyond its opposite sides, disks secured to the shaft on opposite sides of the motor, a plurality of separate counter-shafts disposed on each side of the motor and having friction-wheels coöperating with the disks, and a driving connection between each counter-shaft and one of the car-wheels.

6. In a self-propelled car-truck, the combination with spaced axles having wheels fixed thereto, of a motor located between the axles and having a shaft disposed transversely thereof, friction mechanism associated with the shaft and located on opposite sides of the motor, each mechanism including counter-shafts having a plurality of driving connections with each adjacent axle and wheel.

7. In a self-propelled car-truck, the combination with spaced axles and their wheels, of a motor-supporting frame carried by the axles and projecting beyond the outer sides thereof, a motor mounted centrally of the frame between the axles, said motor including a driving-shaft that projects beyond the axles transversely thereof, and a plurality of cylinders disposed on opposite sides of the motor-shaft, sets of spaced disks carried by the driving-shaft on opposite sides of the motor and having inner opposed friction-faces, a plurality of counter-shafts located between each set of disks and having friction-wheels coöperating with the opposed friction-faces thereof, and driving connections between the various counter-shafts and the adjacent axles and wheels.

8. In a self-propelled car-truck, the combination with spaced axles, and traction-wheels, of a main frame yieldingly supported thereon, a motor-supporting or sub frame carried by the main frame and including trusses, a motor mounted on the subframe between the trusses and having a driving-shaft extending beyond its opposite sides, oppositely-disposed friction-faced driving-disks mounted on each end of the shaft on opposite sides of the trusses, a hanger-bearing suspended from the central portion of each truss and disposed between the driving-disks, oppositely-disposed eccentrics journaled in the hanger-bearings and in the end portions of the subframe, means connected to the eccentrics for rotating the same, counter-shafts journaled in the eccentrics and having sprocket-wheels on their outer ends, sprocket-gearing between the said sprocket-wheels and the traction-wheels, friction-wheels slidably mounted on the counter-shafts and coöperating with the friction-faces of the driving-disks, and means for moving said wheels toward and from the driving-shaft.

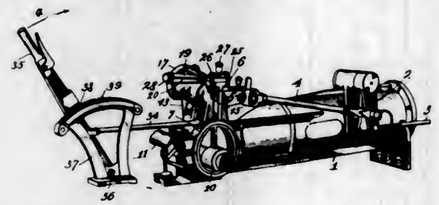
9. In a self-propelled car-truck, the combination with traction-wheels, and axles, of a main frame yieldingly supported thereon, a subframe carried by the main frame, a motor mounted on the subframe, a separate friction drive-gearing connection between the motor and each of the wheels, and a body-supporting frame yieldingly mounted on the main frame.

10. In a self-propelled car-truck, the combination with traction-wheels, axles, journal-boxes, and main truck-frame in which said parts are mounted, a subframe arranged within the main frame, a motor carried by the subframe and having a shaft disposed longitudinally of the truck, a friction driven-gearing between the shaft and each of the wheels, and the body-frame arranged above the main frame and subframe and having depending pedestals which embrace and are slidable upon the journal-boxes.

11. In a self-propelled car-truck, the combination with traction-wheels, axles, journal-boxes, springs, and a main truck-frame in which said parts are mounted, of a subframe or motor-supporting frame carried by the main frame, a motor mounted on said subframe and having friction drive-gearing connections with all the wheels, a body-supporting frame independent of the main and sub frames, and telescoping guide-casings with springs for yieldingly supporting the body-frame.

12. In a self-propelled car-truck, the combination with traction-wheels, axles, journal-boxes, and springs, and a main truck-frame in which said parts are mounted, a subframe mounted on and carried by the main frame and arranged within the latter, friction drive-gearing carried by the subframe at each end and having chain-and-sprocket connections with all the wheels, and a motor carried by the subframe and connecting with the said friction-gearing.

841,934. SINGLE-ECCENTRIC REVERSING-GEAR FOR STEAM-ENGINES. SAMUEL M. COFFMAN, Braymer, Mo. Filed July 11, 1905. Serial No. 269,187.



Claim.—1. In a reversing-gear for engines, the combination with a valve mechanism, of gearing for transmitting motion from the crank-shaft of the engine to said valve mechanism, a member for adjusting said gearing, said member being arranged to oscillate on its transverse axis and rock on its longitudinal axis, and means for rocking said member.

2. In a reversing-gear for engines, the combination with a valve mechanism, of gearing actuated by the crank-shaft of the engine and including a rod connected to said valve mechanism for operating the same, a member for adjusting said rod, said member being arranged to oscillate on its transverse axis and rock on its longitudinal axis, and means for rocking said member.

3. In a reversing-gear for engines, the combination with a valve mechanism, of gearing actuated by the crank-shaft of the engine and including a rod connected to said valve mechanism for operating the same, a yoke loosely connected at one end to said rod and pivotally mounted at its opposite end, and means for partially rotating said yoke.

4. A reversing-gear for steam-engines consisting of an eccentric having a crowned periphery, an eccentric-strap encircling said eccentric and provided with an inner surface snugly fitting its crowned periphery, an eccentric-rod secured to the eccentric-strap and the valve mechanism of the engine an oscillating member for adjusting the opposite end of said eccentric-rod, and means for controlling the oscillating member.

5. A reversing-gear for steam-engines consisting of an eccentric, an eccentric-rod suitably mounted thereon for transmitting motion to the valve mechanism of the engine a yoke pivotally mounted at one end and loosely connected at its opposite end to the eccentric-rod, and means for partially rotating said yoke in either direction.

6. A reversing-gear for steam-engines consisting of an eccentric, an eccentric-rod suitably mounted thereon for transmitting motion to the valve mechanism of the engine an oscillating member jointed at its swinging end to said eccentric-rod for the purpose of adjusting the same, a rocker-shaft to which said oscillating member is pivotally secured, and means for partially rotating said rocker-shaft in either direction.

7. A reversing-gear for steam-engines consisting of an eccentric, an eccentric-rod suitably mounted thereon for transmitting motion to the valve mechanism of the engine an oscillating member jointed at its swinging end to said eccentric-rod for the purpose of adjusting the same, a rocker-shaft upon which said oscillating member is pivotally mounted, a crank-arm secured to said rocker-shaft, and a reversing-lever suitably secured to said crank-arm.

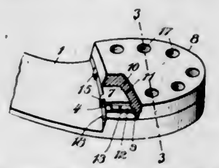
8. A reversing-gear for steam-engines consisting of an eccentric, an eccentric-rod suitably mounted thereon for transmitting motion to the valve mechanism of the engine an oscillating member for adjusting said eccentric-rod, a rocker-shaft, a shoulder formed integral therewith, a transverse pin extending through said shoulder and carrying the oscillating member, a block slidingly arranged in the rocker-shaft, an adjusting-screw also arranged in said rocker-shaft and adapted to force the block into contact with the transverse pin, and means for controlling said rocker-shaft.

9. In a reversing-gear for engines, the combination with a valve mechanism, of gearing actuated by the crank-shaft of the engine and including a rod connected to said valve mechanism for operating the same, an oscillating member for adjusting said rod, a rocker-shaft, a transverse pin extending loosely through said rocker-shaft and carrying the oscillating member, means for taking up lost motion occasioned by wear on said pin and its bearing in the rocker-shaft, and means for operating said rocker-shaft.

10. In a reversing-gear for engines, the combination with a valve mechanism, of gearing actuated by the crank-shaft of the engine and including a rod connected to said valve mechanism for operating the same, a member for adjusting said rod and connected thereto by a ball-and-socket joint, said member being arranged to oscillate on its transverse axis and rock on its longitudinal axis, and means for rocking said member.

11. In a reversing-gear for engines, the combination with a valve mechanism, of gearing for transmitting motion from the crank-shaft of the engine to said valve mechanism, a yoke for adjusting said gearing, said yoke being arranged to oscillate on its transverse axis and rock on its longitudinal axis, and means for rocking said yoke.

841,935. HEEL FOR BOOTS AND SHOES. HEINRICH M. COLDITZ, Milwaukee, Wis. Filed May 17, 1905. Serial No. 260,911.



Claim.—The combination with a shoe and a plate secured thereto with its body portion lying flat upon the under side of the heel portion of the shoe with its side edges provided with turned-up flanges with the rear end of the plate cut away at opposite sides and the extreme rear end between such cut-away portions having a turned-up flange, of a detachable heel, a plate secured thereto within a recess in the upper face of the heel and provided with a recess and a subrecess with flanges with an intervening space closed at its rear end and its front end provided with integral bendable lugs bent up against and directly engaged with the front of the heel portion of the sole, substantially as and for the purpose specified.

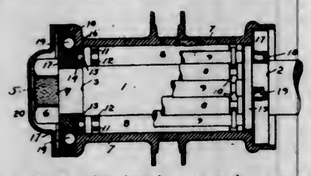
841,936. GAME APPARATUS. JOHN H. COLE, Innishannon, Ireland. Filed Jan. 15, 1906. Serial No. 296,118.



Claim.—1. In a game apparatus of the class described, a plurality of movable devices having weighted bases adapted to rest loosely on a table or other support, said devices being provided above their weighted bases and independent thereof with annular cushions which project beyond said bases.

2. In a game apparatus of the class described, a wicket the sides of which are provided with weighted bases adapted to rest on a table or other support, the sides of said wicket being also provided above the weighted bases with annular cushions which project beyond said bases.

841,937. ROLLER-BEARING. MAHLON S. CONLY, Los Angeles, Cal. Filed Nov. 27, 1905. Serial No. 289,303.



Claim.—1. In a roller-bearing, a casing, an axle within said casing, a plurality of bearing-rollers contacting with both casing and axle, intermediate rollers each having a reduced portion, retaining-rings contacting with the sides of said reduced portions remote from the axle and retaining-rings contacting with the sides of said reduced portions adjacent to the axle; neither sets of rings contacting with the bearing-rollers.

2. In a roller-bearing, a casing, an axle within said casing, a plurality of bearing-rollers contacting with both casing and axle, intermediate rollers each having reduced portions near the ends thereof, retaining-rings contacting with the side of said reduced portions adjacent to the axle, and retaining-rings contacting with the side remote from the axle, said rings being out of contact with the bearing-rollers.

841,938. ROLLER-BEARING. MAHLON S. CONLY, Los Angeles, Cal. Filed Dec. 27, 1905. Serial No. 293,480.



Claim.—1. A plain cylindrical shaft, a surrounding casing, bearing-rollers within said casing, having beveled ends, intermediate rollers having enlarged ends forming beveled shoulders contacting with the ends of said bearing-rollers being also beveled at their ends, and collars on said shaft, having grooves therein with beveled portions adapted to engage the ends of said intermediate rollers.

2. A plain cylindrical shaft, a surrounding casing, bearing-rollers between said shaft and casing, intermediate rollers having enlarged ends forming shoulders contacting with the ends of said bearing-rollers, and collars on said shaft having grooves therein to engage the ends of the intermediate rollers.

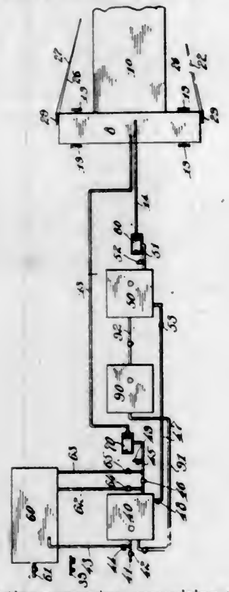
841,939. DESICCATING PLANT. ERNEST W. COOKE, New York, N. Y., assignor, by mesne assignments, to The Coke Company, a Corporation of New Jersey. Filed May 20, 1904. Serial No. 208,957.

Claim.—1. A dehydrating apparatus, comprising a plurality of chambers adapted to receive trays containing the products to be treated, an independent air-mixing box for each of said chambers, a hot-air duct and a cold-air duct each leading to said mixing-boxes and means to control the admission of air from each of said ducts to said mixing-boxes.

2. A dehydrating apparatus, comprising a chamber, guideways in said chamber along which trays containing the products to be treated are adapted to be moved, an air-mixing box for said chamber, a hot-air duct and a cold-air duct and means to control the admission of air from each of said ducts to said mixing-box.

3. A dehydrating apparatus, comprising a plurality of chambers adapted to receive the products to be treated, independent means to progressively move trays containing the materials to be treated through each of said chambers, and means to independently control the supply of air to each chamber.

4. A dehydrating apparatus, comprising a plurality of independent chambers, means to feed trays containing the material to be treated through each chamber from one end thereof, means to supply hot and cold air at the other end thereof, including a mixing-box for each chamber and means to independently control the admission of the hot and cold air to each of said mixing-boxes.



5. A dehydrating apparatus, comprising a chamber having an aperture for the admission of air thereto near one end thereof, and constructed and arranged to receive the products to be treated, and a door for said chamber having a cut-off plate rigidly attached thereto to close said aperture when the door is open.

6. A dehydrating apparatus comprising a chamber, a passage to supply air thereto, a door at the end of the chamber and a perforated plate connected to said door and adapted to close said passage when the door is open.

7. A dehydrating apparatus, comprising a plurality of chambers adapted to contain the material to be treated, a mixing-box for each chamber, means to convey currents of air of different qualities into said boxes, a passage leading from each mixing-box into the corresponding chamber, a door for each chamber through which the products can be passed and a cut-off plate connected to each door and provided with an aperture adapted and arranged to coincide with the passage into the mixing-box when the door is closed, said cut-off plates closing said passages when the doors are opened.

8. A dehydrating apparatus, comprising a plurality of independent chambers, guideways in said chambers to receive trays containing the products to be treated, hot and cold air ducts for conveying air to said chambers, air-mixing boxes for each chamber communicating with each of said ducts, each mixing-box having a passage leading into the corresponding chamber, a door at the end of each chamber adjacent to said mixing-boxes, and cut-off plates connected to said doors to close said passages when said doors are opened, said plates having apertures which coincide with said passages when the doors are closed.

9. A dehydrating apparatus, comprising a chamber provided with guideways to receive trays containing the products to be treated, an air-mixing box at one end of said chamber; means to force independent currents of air into said box, independent valves to regulate the admission of said currents of air, a pusher at the other end of said chamber, and means at the first-mentioned end of said chamber to actuate said pusher to intermittently feed the trays through the chamber.

10. A dehydrating apparatus, comprising a tier of superimposed chambers provided with guideways for trays containing the material to be treated, an air-receiving casing surrounding said tier of chambers near one end thereof, means to convey hot and cold air to said casing, an air-mixing box for each chamber communicating with said casing, independent means to regulate the admission of the hot and of the cold air to each of said mixing-boxes, and independent means at the other end of said tier of chambers to feed fresh trays into the chambers.

11. A dehydrating apparatus, comprising a tier of superimposed chambers provided with guideways for trays containing the material to be treated, an air-receiving casing surrounding said tier of chambers near one end thereof, means to convey hot and cold air to said casing, an air-mixing box for each chamber communicating with said casing, independent means to regulate the admission of the hot and of the cold air to each of said mixing-boxes, pushers at the other end of said tier of chambers to feed trays into the latter and independent means at the first-mentioned end of the chambers to actuate said pushers.

12. A dehydrating apparatus comprising a chamber, means to force air into said chamber at one end thereof, a pusher at the other end thereof to progressively feed trays containing the material to be treated through said chamber, means at the first-mentioned end of the chamber to operate said pusher, said means comprising a pair of levers, a cord attached to each lever on one side of its fulcrum and to said pusher, a pair of rollers journaled on the rear end of said chamber and another cord attached to each lever on the other side of its fulcrum, passing around one of said rollers and attached to said pusher.

13. A dehydrating apparatus comprising a tier of superimposed chambers, an air-receiving casing surrounding said tier of chambers near one end thereof, means to convey hot and cold air to said casing, an air-mixing box for each chamber communicating with said casing, independent means to regulate the admission of the hot air and of the cold air to each of said mixing-boxes, a pusher for each chamber adapted and arranged to feed fresh trays thereinto from the other end thereof, independent means at the first-mentioned end of said tier of chambers to independently actuate said pushers, said means consisting of pairs of levers, connected on one side of their fulcrums directly to said pushers, a pair of rollers for each pusher mounted on the end of the corresponding chamber, and connections running from said pushers around said rollers to said levers on the other side of their fulcrum.

14. A dehydrating apparatus comprising a chamber, two air-receiving ducts at one end of said chamber, an air-egress at the other end thereof, means to supply hot and cold air respectively to said air-receiving ducts, a mixing-box communicating therewith and with said chamber, means to independently control the admission of the hot air and of the cold air to said mixing-box from said ducts, and means in said air-egress to control the egress of the air from said chamber.

15. A dehydrating apparatus, comprising a tier of superimposed chambers, guideways in each chamber for trays containing the products to be treated, a pusher at one end of each chamber to feed the trays forward, means at the other end of said tier of chambers to actuate said pushers, two air-ducts surrounding said tier of chambers near said last-mentioned end thereof, means to supply air of different qualities to said ducts, a mixing-box for each of said chambers on each side thereof provided with passages leading into said ducts, and independent valves to control said passages, each of said mixing-boxes having a passage leading into the adjacent chamber.

16. A dehydrating apparatus, comprising a tier of superimposed chambers, guideways in each chamber for trays containing the products to be treated, a pusher at one end of each chamber to feed the trays forward, means at the other end of said tier of chambers to actuate said pushers, two air-ducts surrounding said tier of chambers near said last-mentioned end thereof, means to supply air of different qualities to said ducts, a mixing-box for each of said chambers on each side thereof provided with passages leading into said ducts, independent valves to control said passages, each of said mixing-boxes having a passage leading into the adjacent chamber and independent means near said first-mentioned end to control the egress of the air from each chamber.

17. In a dehydrating plant, the combination with a chamber in which the material is to be treated provided with an air-mixing box, of an air-drier, an air-heater and an air-refrigerator, means to convey one current of air through said drier and heater to said mixing-box and means to convey another current of air through said drier and refrigerator to said box.

18. In a dehydrating plant, the combination with a chamber in which the material is to be treated provided with an air-mixing box, of an air-drier, and an air-refrigerator, means to convey a current of air through said drier and refrigerator to said box, or through said refrigerator alone.

19. In a dehydrating plant, the combination with a chamber in which the material is to be treated, provided with an air-mixing box, of an air-drier, an air-heater and an air-refrigerator, means to convey a current of air through said refrigerator and drier to said mixing-box, or through said drier and refrigerator to said box.

20. In a dehydrating plant, the combination with a chamber in which the material is to be treated provided with an air-mixing box, of an air-drier, an air-heater and an air-refrigerator, means to convey one current of air through said heater to said mixing-box, and means to convey another current of air through said drier and refrigerator to said box.

21. In a dehydrating plant the combination with a chamber in which the material is to be treated, provided with an air-mixing box, of an air-drier, an air-heater, and an air-refrigerator, means to convey one current of air through said drier to said mixing-box and means to convey another current of air through said drier and refrigerator to said box.

22. In a dehydrating plant the combination with a chamber in which the material is to be treated, provided with an air-mixing box, of an air-drier, an air-heater, and an air-refrigerator, means to convey one current of air through said drier to said mixing-box and means to convey another current of air through said refrigerator to said box.

23. In a dehydrating plant the combination with a chamber in which the material is to be treated, provided with an air-mixing box, of an air-drier, an air-heater and an air-refrigerator, means to convey one current of air through said refrigerator, drier and heater to said mixing-box, and means to convey another current of air through said refrigerator to said box.

24. In a dehydrating plant, the combination with a chamber in which the material is to be treated provided with an air-mixing box, of an air-drier, an air-heater and an air-refrigerator, means to convey one current of air through said refrigerator and drier to said mixing-box, and means to convey another current of air through said refrigerator to said box.

25. In a dehydrating plant, the combination with a chamber in which the material is to be treated provided with an air-mixing box, of an air-heater and an air-refrigerator, means to convey one current of air through said heater to said mixing-box, and means to convey another current of air through said refrigerator to said box.

26. In a dehydrating plant the combination with a chamber in which the material is to be treated provided with an air-mixing box, of an air-drier, an air-heater, and an air-refrigerator, means to convey one current of air through said drier to said mixing-box and means to convey another current of air through said refrigerator to said box.

27. In a dehydrating plant, the combination with a chamber in which the material is to be treated provided with an air-mixing box, of an air-drier, an air-heater and an air-refrigerator, means to convey one current of air through said drier and heater to said box and means to convey an independent current of air through said refrigerator to said box.

28. In a dehydrating plant, the combination with a

chamber in which the material is to be treated provided with an air-mixing box, of an air-drier, an air-heater and an air-refrigerator, means to convey one current of air through said drier and heater to said mixing-box, and means to convey atmospheric air directly into said box.

29. In a dehydrating plant, the combination with a chamber in which the material is to be treated provided with an air-mixing box, of an air-drier, an air-heater and an air-refrigerator, means to convey one current of air through said refrigerator, drier and heater to said mixing-box, and means to convey atmospheric air directly into said box.

30. In a dehydrating plant, the combination with a chamber in which the material is to be treated provided with an air-mixing box, of an air-drier, an air-heater and an air-refrigerator, means to convey one current of air through said refrigerator and drier to said mixing-box and means to convey atmospheric air directly into said box.

31. In a dehydrating plant, the combination with a chamber in which the material is to be treated provided with an air-mixing box, of an air-drier, an air-heater and an air-refrigerator, means to convey one current of air through said heater to said mixing-box, and means to convey atmospheric air directly into said box.

32. In a dehydrating plant the combination with a chamber in which the material is to be treated provided with an air-mixing box, of an air-drier, an air-heater, and an air-refrigerator, means to convey one current of air through said drier to said mixing-box and means to convey atmospheric air directly into said box.

33. In a dehydrating plant, the combination with a chamber in which the material is to be treated, provided with an air-mixing box, of an air-drier, an air-heater and an air-refrigerator, a cold-air pipe leading into said box, a blower in said pipe, a pipe leading to said blower from said drier, pipes connecting said drier and refrigerator, a pipe connecting said refrigerator and blower, a hot-air pipe leading into said box, a blower in said pipe, a pipe leading to said blower from said heater, a pipe leading from said drier to said heater, and valves in said pipes whereby warm air of different temperatures and degrees of humidity can be conveyed to said box at the same time as cool air of different temperatures and degrees of humidity.

34. In a dehydrating plant, the combination with a chamber in which the material is to be treated provided with an air-mixing box of an air-drier, an air-heater and an air-refrigerator, pipe connections leading from said refrigerator to said drier, and from said drier to said mixing-box, a pipe leading from said drier to said refrigerator and a pipe leading from said refrigerator to said pipe, connections leading from said drier to said heater, and from said heater to said mixing-box, and valves in said pipes whereby one current of air may be caused to pass through the refrigerator, drier and heater, to the mixing-box, while another current of air is passed through the refrigerator or through the drier and refrigerator to said mixing-box.

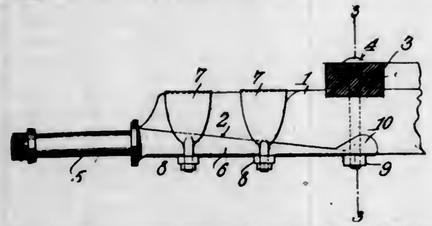
841,940. HOSE-SUPPORTER. HERMAN E. CRANDALL, New Britain, Conn. Filed July 20, 1906. Serial No. 327,032.



Claim.—1. In a hose-supporter or analogous article, a button member comprising a button-base having eyes therein and a webbing having its end imbued with hardening material to form a tip, said webbing being threaded through the eyes of the button-base with the tip in position to prevent the tipped end of the webbing from being drawn through the eye.

2. In a hose-supporter or analogous article, the combination of a plate having an eye therein, a soft and flexible webbing formed of threads passing through said eye and having one end imbued with hardening material to form a tip which acts as a stop to prevent the webbing from being drawn through the eye.

841,941. AXLE. BENAJAH M. CROWLEY, Omaha, Ga. Filed Oct. 11, 1906. Serial No. 338,469.



Claim.—The combination of a wooden axle having a reach or hound attached thereto by means of a bolt passing through the axle, a metallic spindle having a shank provided with a plane inclined upper side, said axle having a plane inclined under side which faces the inclined side of the shank, said shank having at its rear end a perforation which receives the bolt, said shank having at its rear end and at its opposite sides vertically-disposed lugs which are embedded in the axle at opposite sides of the bolt perforation and clips embracing said axle and spindle-shank.

841,942. SAFETY-RAZOR. JAMES R. CURLEY, New York, N. Y. Filed Oct. 11, 1905. Serial No. 282,260.



Claim.—1. A safety-razor, comprising a casing provided with a blade-holder, a handle pivoted to the casing and adapted to be moved into an angular or longitudinal right or left hand position relative to the casing, and a spring on the casing, said handle being provided with means coöperating with the spring for retaining said handle in its adjusted position.

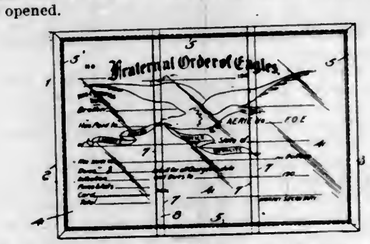
2. A safety-razor comprising a casing having an integral guard, a curved carrier secured at one end of the casing adjacent to the said guard, a blade-holder for carrying the blade mounted to swing on the free end of the carrier, and means for varying the curve of the carrier whereby to adjust the blade with respect to the guard.

3. A safety-razor comprising a casing having an integral guard, a curved spring-carrier secured at one end to the casing adjacent to the said guard, a blade-holder for carrying the blade mounted to swing on the free end of the carrier, and set-screws on the casing engaging the free end of the carrier for varying the curve of the same whereby to adjust the blade relative to the guard.

4. A safety-razor comprising a casing for supporting the razor-blade, a handle fulcrumed on the said casing and having a plurality of bearing-faces at its heel, and a spring on the said casing adapted to engage the said heel-bearing faces of the said handle.

841,943. RECEIPT-HOLDING CASE. JOHN S. DODSWORTH, Leavenworth, Kans. Filed Oct. 5, 1906. Serial No. 337,611.

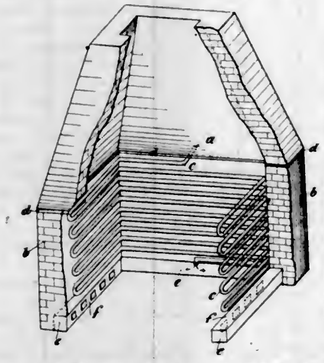
Claim.—1. A receipt-holding case having central flexible portion flanked by flexible flap-covering portions, the central portion having a panel of transparent flexible material stitched at each end to the edges of the center portion, the longitudinal edges of the transparent panel being parallel with the folding-lines of the flaps and unattached, whereby the receipt can be inserted beneath the panel at either unattached edge and held in place at the middle of its length to expose the receipt when the flaps are opened.



2. As a new article of manufacture, a receipt-holding case comprising three equal flexible portions, two of which form flanking cover-flaps to the center portion, a panel of celluloid attached at each end to the edges at the inner side of the center portion the longitudinal edges of said panel being parallel with the folding-lines of the flaps and unattached, whereby a receipt is held in the middle of its length and retained for exhibition when the flanking flaps are opened.

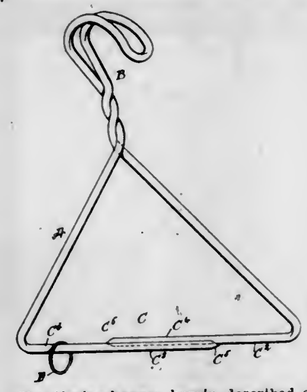
3. As a new article of manufacture, a receipt-holding case comprising three equal flexible portions two of which form flanking cover-flaps to the center portion, the inner side of each portion being supplemented with a thin facing-panel of celluloid each panel being separately attached at each end to the edge of the case, the center celluloid panel being unattached at its longitudinal edges and the celluloid panel of each flap unattached at its inner longitudinal edge, the open edges of each supplemental panel being adjacent the unattached edges of the center panel and the receipt held mediately of its length and at both ends so that it can be removed by drawing it out from either side of the center panel.

841,944. FURNACE. LUCIEN A. DOLLFUS, Paris, France. Filed July 17, 1905. Serial No. 270,076.



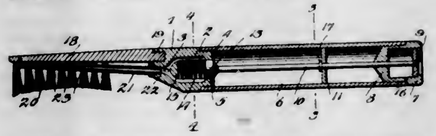
Claim.—In a furnace made of brickwork and provided with the usual grate and ash-pit, a flue supported by said brickwork, a pipe, *c*, covering the brick walls of the ash-pit under the grate, said pipe formed of a plurality of regular and narrow-spaced returns, the uppermost return formed at its end with a bend passing through the brickwork under and near the grate and communicating with the atmosphere, box-like chambers, *e*, provided with outlet-openings, *f*, toward the ash-pit and arranged in the lower part of said ash-pit, the lowermost return of said pipe, *c*, being formed at its end with a bend communicating with the said chambers *e*.

841,945. DISPLAY-HANGER. RALPH O. DOUGHTY, Mount Pleasant, Mich. Filed Dec. 12, 1905. Serial No. 291,373.



Claim.—The display-hanger herein described comprising a frame having at its upper end a suspending-hook and provided at the said end with diverging side bars and at the lower end of said side bars with members extending inward toward each other and overlapping at their meeting portions thus producing at the middle of the bottom of the frame a doubled portion, the sections of which at said middle extend approximately on straight lines and parallel with each other, and a ring of such thickness that it may be forcibly passed between the overlapping sections, the said ring being adapted for connection with an article of merchandise, substantially as set forth.

841,946. TOOTH-BRUSH. FRED DOWNING, Decatur, Ill. Filed Oct. 19, 1905. Serial No. 283,488.

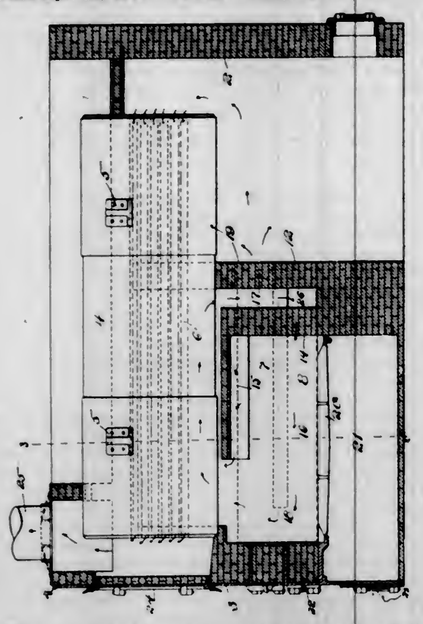


Claim.—1. A tooth-brush comprising a body portion, a dentrifice-chamber removably connected therewith, a bristle-back connected to the body portion, and a supply-tube removably connected to and in connection with the body portion, said tube projecting among the bristles and being formed with openings to permit the material within said tube to reach the bristles.

2. A tooth-brush comprising a hollow body portion, a dentrifice-chamber removably connected with said body portion and in communication therewith, a valve normally closing said communication, means for operating said valve, a bristle-back connected with the body portion, and a tube removably connected with the body portion and in open communication therewith, said tube projecting among the bristles of the back and formed with openings to permit the material passing through the tube to reach the bristles.

3. A tooth-brush comprising a body portion formed with a plurality of longitudinally-arranged channels, a dentrifice-chamber removably connected with the body portion, a cap closing the end of the dentrifice-chamber, a valve normally closing the communication between said chamber and body portion, a valve-stem connected with the valve and projecting within the cap, a push-button operative within the cap and connected with said stem, a bristle-back removably connected with the body portion, and a supply-tube removably connected with the body portion and in open communication with all the channels therein, said tube being arranged beneath the bristle-back and projecting among the bristles carried thereby, the supply-tube being formed with a series of outlets.

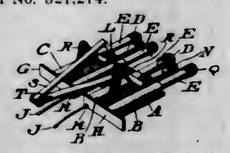
841,947. FURNACE. JAMES DOWNING, Jeannette, Pa. Filed Apr. 11, 1906. Serial No. 311,104.



Claim.—1. In a furnace, the combination with a boiler, of side walls supporting said boiler, a transverse wall arranged between said side walls and engaging said boiler, said transverse wall having a transverse passage-way formed therein, each side wall having two longitudinally-disposed conduits formed therein, said conduits communicating at their forward ends, one of said conduits terminating in said passage-way, while the other of said conduits terminates upon the rear side of said transverse wall, said wall having ports formed therein each communicating with one of the passages in each side wall, substantially as described.

2. In a furnace, the combination with a boiler, of side walls supporting said boiler, a transverse wall arranged between said side walls, and supporting an arch, said transverse wall having a passage-way formed therein, said side walls having conduits formed therein, one of said conduits terminating in said passage-way, and another of said conduits extending through and terminating at the rear side of said transverse wall and communicating with the space at the rear of said transverse wall.

841,948. PRINTING-GAGE. WILLIAM DUKE, Sr., and WILLIAM DUKE, Jr., Philadelphia, Pa. Filed July 23, 1906. Serial No. 327,274.



Claim.—1. In a gage of the character stated, a primary pressure device, a secondary pressure device, and depressible means for actuating each of the pressure devices one after the other by direct engagement therewith of a movable member of a press.

2. In a gage of the character stated, a primary pressure device, a secondary pressure device, depressible means for actuating each of the pressure devices one after the other by direct engagement therewith of a movable member of a press, and means for returning said devices to their normal positions.

3. In a gage of the character stated, a registering-bar, a toggle-lever having one limb connected therewith with its joint in position to be directly engaged by a movable member of a press, members telescopically fitted to each other, the movable member thereof being connected with said limb, means for returning said movable member and consequently said bar to its normal position, a primary pressure device, and an actuating member therefor independent of said toggle-lever.

4. In a gage of the character stated, a primary pressure device, a registering-bar independent thereof, a toggle-lever connected with said bar, a guided member connected with said lever, and means independent of the said pressure device for guiding said bar.

5. In a gage of the character stated, a primary pressure device, a registering-bar independent thereof, a toggle-lever connected with said bar, a guided member connected with said lever, means independent of the said pressure device for guiding said bar, and means for returning said lever and consequently said bar to normal positions.

6. In a gage of the character stated, a registering-bar, a lever connected therewith, a movable piece with which a limb of said lever is connected, a tubular guide for said piece and a plunger on said piece, said plunger being adapted to pass freely through an end of said guide.

7. In a gage of the character stated, a registering-bar, a lever connected therewith, and disposed in position to be directly engaged by a movable member of a press, means for guiding said bar and lever, an endwise-compressible spring for returning said lever to its normal position, means for adjusting the tension of said spring and means permitting movement of the lever after the movement of the bar ceases.

8. In a gage of the character stated, a registering-bar, a toggle-lever pivotally connected therewith and disposed in position to be directly engaged by a movable member of a press, a movable piece attached to a limb of said lever and a guide for said piece.

9. In a gage of the character stated, a registering-bar, a toggle-lever pivotally connected therewith and disposed in position to be directly engaged by a movable member of a press, members telescopically fitted to each other, one limb of said lever being attached to one of said members, a spring engaging said members to return said lever and bar to their normal positions.

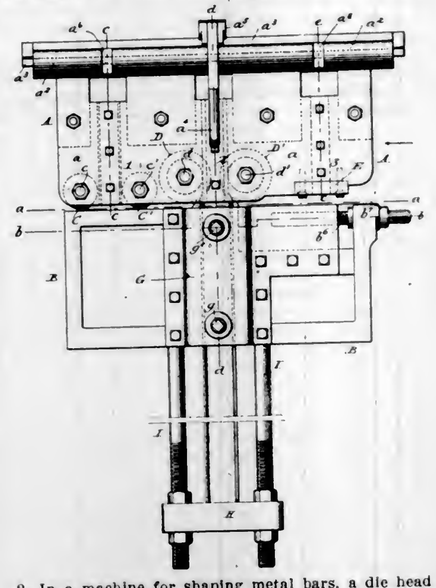
10. In a gage of the character stated, a primary side pressure device and a secondary pressure device parallel therewith and arranged to be directly engaged by a movable member of a press after said member has engaged and actuated the primary side pressure device, the latter independent of and on the side of said primary pressure device.

11. In a gage of the character stated, a registering-bar, a toggle-lever connected therewith, means for operating said lever to lower the same, a movable piece with which a limb of said lever is connected, a guide for said piece, a resilient resistance device for said piece and an abutment for said device whereby when said bar is moved to operative position, said piece and connected parts are adapted to continue their motions in the direction opposite to that of said bar.

12. In a gage of the character stated, a primary pressure device, a secondary pressure device independent thereof, and independent actuating means for said devices arranged in different vertical planes to be independently directly engaged in succession by a movable member of a press.

841,949. APPARATUS FOR SHAPING METAL BARS. EMIL EINFELDT, Davenport, Iowa, assignor to Bettendorf Metal Wheel Company, a Corporation of Iowa. Filed Nov. 9, 1904. Serial No. 232,054.

Claim.—1. In a mechanism for shaping bars having longitudinal flanges and a central connecting-web, a bending-die comprising opposing concave faces adapted when the flanged bar is entered therein to bend the opposing flanges inward toward each other; in combination with fixed mandrels extending inward toward each other into the space bounded by the concave faces of the die, said mandrels having their inner faces flat, and adapted to bear at the opposite sides respectively of the web of the bar, and having their side faces convex and adapted to bear respectively against the inner curved faces of the bent flanges.



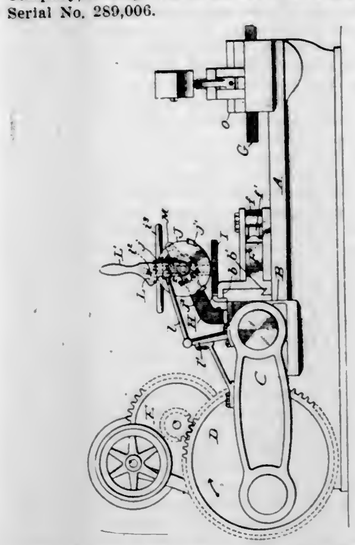
2. In a machine for shaping metal bars, a die head or frame comprising opposing frame-plates; in combination with pressure-rollers mounted between the frame-plates and separated to form a pass for the bar to be acted on; and opposing mandrels, fixed to the inner sides of the frame-plates respectively and extending inward toward each other between the rollers and with a space between their adjacent faces.

3. In a machine for shaping bars, the combination of a transversely-extending guiding-bar, a die-head sustained by said bar and movable transversely thereon and comprising upper and lower frame-plates with a space between them, a plurality of shaping-dies arranged side by side between said plates, the said die-head being formed with a plurality of notches, a locking device carried by the guiding-bar and adapted to engage the said notches, and a clamping-head adapted to hold the bar to be shaped.

4. In a machine for shaping metal bars, the combination of a die-head, a clamping-head adapted to hold a flanged bar, said head provided with a longitudinally-extending bearing-surface against which one flange of the bar bears, a coacting clamping-plate adapted to bear against the opposite flange of the bar, means for urging said clamping-plate against the bar, a longitudinally-extending block sustained by the head and projecting upwardly between the inner sides of the flanges of the bar and bearing against the web of the same, a coöperating opposing longitudinal block extending downwardly between the inner sides of the flanges of the bar and bearing against the upper side of the web, and means for binding the last-named block against said web.

5. In a machine for shaping metal bars, the combination of a die-head having a die adapted to receive the end of the bar to be shaped, a clamping-head formed with opposing surfaces adapted to act on the outer sides of the flanges of the bar, said clamping-head being provided with an inclined surface, a block b^4 provided on its under side with an inclined surface coöperating with that on the head, the said block extending upwardly between the inner sides of the flanges of the bar and bearing against the web of the same, and an upper coöperating block g^2 carried by the head and extending downwardly between the inner sides of the flanges of the bar against the upper side of the web of the same.

841,950. DIE-FEEDING MECHANISM. EMIL EINFELDT, Davenport, Iowa, assignor to Bettendorf Metal Wheel Company, a Corporation of Iowa. Filed Nov. 25, 1905. Serial No. 289,006.



Claim.—1. In a machine of the type described, the combination of means for holding the work, a reciprocating head, means for reciprocating said head, a die-carriage mounted on the head and movable relatively to the same transversely, a plurality of dies on the carriage, a rack on the carriage, a driving-pinion sustained by the head and in constant engagement with the rack-teeth, and intermediate mechanism actuated by the head-actuating means and operating to impart motion to the driving-pinion.

2. In a machine of the type described, the combination of a bed-frame, means for holding the work fixedly thereon, a reciprocating head, actuating mechanism for reciprocating the same, a die-carriage provided with a plurality of dies and mounted on said head to move transversely, a rack on the carriage, a pinion engaging the rack-teeth and sustained by the head, a driving-shaft operatively connected with the pinion, a driving-disk on the shaft, and mechanism, controlled by the said head-actuating mechanism, for imparting to said driving-disk a step-by-step movement.

3. In a machine of the type described, the combination of a movable die-carriage, a plurality of dies thereon spaced apart and adapted by the movement of the carriage to be positioned relatively to the work, a rotary driving-disk operatively connected with the carriage, a driving-dog adapted to engage and rotate the disk, means for operating the dog, and means for tripping the dog when the carriage has moved a distance corresponding to that between the dies.

4. In a machine of the type described, the combination of means for holding the work, a reciprocating head movable to and from the work, a carriage on the head movable horizontally in a transverse direction and provided with a plurality of dies arranged in a horizontal line, a horizontal rack on the carriage, a horizontal pinion mounted on the head and engaging the rack, a horizontal bevel-wheel connected with the pinion, a vertical bevel-wheel engaging the horizontal bevel-wheel, a horizontal transversely-extending shaft mounted in bearings on the head and connected with the vertical bevel-wheel, a driving-disk fixed to said shaft, and means for imparting an intermittent motion to the driving-disk; whereby as the head is

reciprocated, the horizontal pinion will impart to the rack on the carriage an intermittent transverse movement.

5. In a machine of the type described, the combination of means for holding the work, a reciprocating head movable to and from the work, a transversely-movable carriage mounted on the head and provided with a plurality of dies, a horizontal transversely-arranged shaft mounted in bearings on the head, a pinion carried by the head and operatively connected with said shaft, a rack on the carriage engaged by said pinion, a driving-disk fixed to the shaft and provided with a number of driving-lugs, a vibratory lever mounted on the shaft, a driving-dog carried by the lever and adapted, when the latter is vibrated, to engage the lugs on the disk, and means for vibrating said lever.

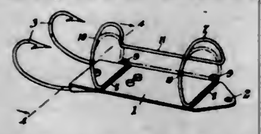
6. In a machine of the type described, the combination of a movable die-carriage, a driving-disk provided with lugs and operatively connected with the carriage, a vibratory lever sustained adjacent said disk, a driving-dog carried by the lever and adapted to engage the lugs on the disk, an adjustable tripping device arranged in the path of the driving-dog; whereby when the latter engages said tripping device, it will be disengaged from the driving-lug and permit the disk to come to rest, and means for vibrating the lever.

7. In a machine of the type described, the combination of means for holding the work, a reciprocating head movable to and from the work, an operating mechanism for the reciprocating head, a vibrating link C connecting the operating mechanism with the reciprocating head, a die-carriage mounted on the head and movable transversely, a rotary driving-disk carried by the head, an actuating mechanism between said link C and the driving-disk adapted by the vibratory motion of the link to impart to the disk an intermittent motion, and operative connections between the disk and the die-carriage; whereby the intermittent motion of the disk will be imparted to the carriage.

8. In a machine of the type described, the combination of means for holding the work, a reciprocating head movable to and from the work, operating mechanism for the head, a vibratory link connecting said operating mechanism with the head, an arm fixed rigidly to said link, a transversely-movable die-carriage mounted on the head, a rotary driving-disk mounted on the head, operative connections between said disk and die-carriage for moving the latter transversely, a vibratory lever mounted adjacent the driving-disk, a dog on said lever adapted to engage and drive the disk, and a connection between said lever and the arm on the link.

9. In a machine of the type described, the combination of a reciprocating head movable to and from the work, driving mechanism therefor, a transversely-movable die-carriage mounted on the head, a horizontal transverse rack on the die-carriage, a vertical shaft mounted in bearings on the head, a pinion on the shaft engaging the rack, a bevel-pinion also on the shaft, a horizontal shaft mounted in bearings on the head, a bevel-pinion on the horizontal shaft engaging the bevel-pinion first mentioned, and means controlled by the head-driving mechanism for operating the horizontal shaft.

841,951. FISH-HOOK. WILLIAM J. EVANS, Minneapolis, Minn. Filed Aug. 11, 1906. Serial No. 330,256.



Claim.—1. In combination, a hook, a flat support on which the bait may rest, a plurality of bands rigidly secured to the support at one side thereof and adapted to bind the bait to said support, and means for detachably securing the ends of said bands to the opposite side of said flat support, whereby the bait may be firmly secured to said support.

2. In combination, a plate, a hook attached to one end of said plate, and a spring-wire clamp secured to one side of said plate and adapted to surround the bait and means on the opposite side of said plate to which the clamp may be fastened.

3. In combination, a plate, a hook secured to one end of said plate, a wire bow secured to said plate adjacent each end thereof and adapted to surround the body of the bait, and means whereby the free end of said bow may be secured to the plate.

4. In combination, a plate adapted to have a line secured to one end thereof, hooks secured to the opposite end of said plate, and a spring-wire clamp having the ends thereof extending across said plate and soldered thereto, said ends terminating in hooks, and the intermediate portion of said clamp bent to form two bows adapted to surround the body of the bait to fasten same to the plate, said intermediate portion connecting said bows and adapted to be secured beneath the said hooks.

5. In combination, a plate having fish-hooks secured to one end thereof, and means for securing a frog to said plate, said means comprising two spring-wire bows having one end of each secured to one side of the plate, and means for securing the opposite ends of said bows to the other side of the plate, one of said bows being adapted to surround the body of the frog in front of the hind legs and the other adapted to surround the body of the frog back of the fore legs.

841,952. TELEGRAPHIC CODE. ALEXANDER M. FISHER, New York, N. Y. Filed Aug. 11, 1905. Serial No. 273,760.

TABULATION No. 1

TRANSLATION NUMERALS D				1	2	3	1	2	3	1	2	3
				ab	bu	ef	ge	ip	oh	ri	ub	
				ar	by	eg	gi	ir	el	re	uc	
		5		ad	cu	eh	go	is	op	ru	ud	
			6	af	ce	el	gu	il	or	ry	uf	
			7	ag	ci	ep	ha	ix	os	sa	ug	
	4	5		ah	cc	en	he	iz	ol	se	ub	
	4		6	al	cu	er	hi	lu	ox	si	ul	
	4		7	ap	cy	et	ho	le	ox	so	up	
		5	6	ar	du	ex	hu	li	pu	su	ur	
		5		7	as	de	ed	hy	lo	pe	sy	us
			6	7	at	di	fu	ib	lu	pi	ta	ut
	4	5	6		az	de	fe	ic	ly	po	te	ux
	4	5		7	az	du	fi	id	rb	pu	ti	uz
	4		6	7	be	dy	fo	if	cc	py	tc	za
		5	6	7	bc	eb	fu	ig	ed	ra	tu	ze
	4	5	6	7	bi	cc	fy	ih	of	re	ty	zi
Substitute for Repeated Syllables					be	ed	go	il	oy			

Claim.—1. A telegraphic code comprising a plurality of tables, one for each syllable of an artificial code-word, each table containing syllables each formed by a vowel and a consonant, and translation-numerals and combinations of the same for determining the syllables on each table, the translation-numerals representing subject-matter to be telegraphed, the quantities of the subject-matter being consecutive numbers of the geometrical progression of a given number.

2. A telegraphic code comprising a plurality of tables, one for each syllable of an artificial code-word, each table containing syllables each formed by a vowel and a consonant, and translation-numerals and combinations of the same for determining the syllables on each table, the translation-numerals representing subject-matter to be telegraphed, the quantities of the subject-matter being consecutive numbers of the geometrical progression of two.

3. A telegraphic code comprising syllables, and translation-numerals for determining the syllables, the numerals representing the subject-matter, the quantities of which being derived from the geometrical progression of a number.

4. A telegraphic code comprising translation-numerals representing subject-matter, the quantities of which being derived from the geometrical progression of the numeral two, and syllables determined by the said numerals and each consisting of a vowel and a consonant.

5. A telegraphic code comprising a plurality of tables, one for each syllable of the code-word, each table being divided into vertical and horizontal intersecting rows of syllables, and translation-numerals for the said rows.

6. A telegraphic code comprising a plurality of tables, one for each syllable of the code-word, each table being divided into vertical and horizontal intersecting rows of syllables, and translation-numerals for the said rows, the translation-numerals for the vertical rows of syllables being less in value than for those of the horizontal rows.

7. A telegraphic code comprising a translation-key having consecutive translation-numerals and subject-matter assigned to the said numerals, a plurality of tables, one for each syllable of the code-word to be telegraphed, each table containing a portion of the same translation-numerals given in the said key, the numerals being arranged singly and in combinations of twos, threes, and fours, and table-syllables arranged in rows on the table and determined by the said translation-numerals in the table.

8. A telegraphic code comprising a translation-key having consecutive translation-numerals and subject-matter assigned to the said numerals, a plurality of tables, one for each syllable of the code-word to be telegraphed, each table containing a portion of the same translation-numerals given in the said key, the numerals being arranged singly and in combinations of twos, threes, fours, &c., and table-syllables arranged in rows on the table and determined by the said translation-numerals in the table, the said table-syllables being arranged in vertical and horizontal rows headed by the said single translation-numerals and their combinations.

9. A telegraphic code comprising a translation-key having consecutive translation-numerals and subject-matter assigned to the said numerals, a plurality of tables, one for each syllable of the code-word to be telegraphed, each table containing a portion of the same translation-numerals given in the said key, the numerals being arranged singly and in combinations of twos, threes, fours, &c., and table-syllables arranged in rows on the table and determined by the said translation-numerals in the table, the said table-syllables being arranged in vertical and horizontal rows headed by the said single translation-numerals and their combinations, each table also having a blank syllable.

10. A telegraphic code comprising a translation-key having consecutive translation-numerals and subject-matter assigned to the said numerals, a plurality of tables, one for each syllable of the code-word to be telegraphed, each table containing a portion of the same translation-numerals given in the said key, the numerals being arranged singly and in combinations of twos, threes, fours, &c., and table-syllables arranged in rows on the table and determined by the said translation-numerals in the table, the said table-syllables being arranged in vertical and horizontal rows headed by the said single translation-numerals and their combinations, each table also having substitute syllables for consecutively repeated syllables of the code-word.

11. A telegraphic code having translation-numerals indicating a subject and the quantity thereof in a number of the geometrical progression of a given number.

12. A telegraphic code having translation-numerals indicating a subject and the quantity thereof in a number of the geometrical progression of two.

13. A telegraphic code having translation-numerals indicating quantity or dimensions in numbers of the geometrical progression of a number.

14. A telegraphic code having consecutive translation-numerals of which some indicate a subject, some indicate quantity or dimensions in successive numbers of the geometrical progression of a number, and some indicate a subject and quantities or dimensions in successive numbers of the geometrical progression of a number.

15. A telegraphic code having translation-numerals in consecutive order and indicating quantity or dimensions in consecutive numbers of the geometrical progression of a number.

16. A telegraphic code having translation-numerals in consecutive order and representing quantities or dimensions in the consecutive numbers of the geometrical progression of two.

17. A telegraphic code having a table containing syllables, and translation-numerals arranged singly and in combinations of twos, threes, fours, &c., to identify the said syllables.

18. A telegraphic code having a table containing syllables arranged in vertical and horizontal rows, and consecutive translation-numerals of which a portion heads the said vertical rows singly and in combinations, and the remaining portion heads the horizontal rows singly and in combinations.

19. A telegraphic code having a table containing syllables arranged in vertical and horizontal rows, and consecutive translation-numerals of which a portion heads the said vertical rows singly and in combinations, and the remaining portion heads the horizontal rows singly and in combinations, the same numerals heading the vertical rows appearing in horizontal alinement and the same numerals heading the horizontal rows appearing in vertical alinement.

20. A telegraphic code provided with a translation-key having consecutive translation-numerals and subject-matter for each translation-numeral, the quantity or dimensions of the said subject-matter being in the consecutive numbers of the geometrical progression of a given number.

21. A telegraphic code provided with a translation-key having consecutive translation-numerals, subject-matter for each translation-numeral, the quantity or dimensions of the said subject-matter being in the consecutive numbers of the geometrical progression of a given number, and a series of tables, one for each syllable of an artificial code-word to be formed, each table containing syllables each formed by a vowel and a consonant and translation-numerals of the same value as the ones in the said translation-key, the said table translation-numerals being arranged to determine the syllables on each table.

22. A telegraphic code provided with a translation-key having consecutive translation-numerals, subject-matter for each translation-numeral, the quantity or dimensions of the said subject-matter being in the consecutive numbers of the geometrical progression of a given number, and a series of tables, one for each syllable of an artificial code-word, each table containing vertical and horizontal intersecting rows of syllables and translation-numerals of the same value as the ones on the said translation-key, the said table translation-numerals being arranged to determine the syllables on each table.

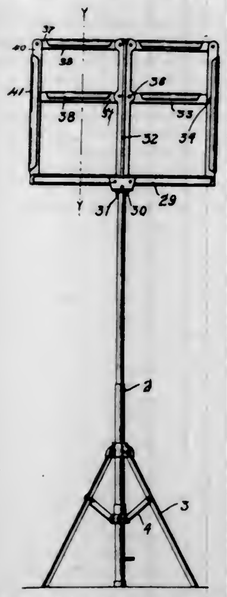
23. A telegraphic code provided with a translation-key having consecutive translation-numerals, subject-matter for each translation-numeral, the quantity or dimensions of the said subject-matter being in the consecutive numbers of the geometrical progression of a given number, and a series of tables, one for each syllable of an artificial code-word, each table containing vertical and horizontal intersecting rows of syllables and translation-numerals of the same value as the ones on the said translation-key, the said table translation-numerals forming headings for the said rows of syllables and the said table translation-numerals being arranged singly and in combinations of twos, threes, and fours.

24. A telegraphic code provided with translation-numerals indicating subject-matter comprising consecutive numerals and groups of numerals arranged between two consecutive single numerals.

25. A telegraphic code provided with translation-numerals indicating subject-matter comprising consecutive numerals, and groups of numerals arranged between two consecutive single numerals, the numerals in each group being in sequence.

26. A telegraphic code provided with translation-numerals indicating subject-matter comprising consecutive numerals, and groups of numerals arranged between two consecutive single numerals, the numerals in each group being in sequence and composed of numerals which precede the highest numeral of the said two consecutive numerals between which the group is located.

841,953. MUSIC-STAND. JAY F. FITZ SIMMONS, Minneapolis, Minn. Filed July 31, 1905. Serial No. 272,042.



Claim.—1. In a music-stand, the combination with a hollow standard having a curved upper end, of a rod within said standard having a flexible extension at its upper end, a music-rack mounted on said extension, and means for rotating said rod and rack.

2. The combination, with a hollow standard, of a rod arranged therein and locked against longitudinal movement and having a spiral groove in its periphery, a second rod having hooks to enter said groove and locked against rotation and having a vertical movement in said standard, a spring normally holding said second rod in its raised position, means arranged to be depressed by the foot of the musician for actuating said rods, and a music rest or support connected with the upper end of said first-named rod and adapted to make a half-revolution therewith, substantially as described.

3. In a music-stand, the combination, with a hollow standard having a curved upper end, of a rod within said standard having a flexible extension at its upper end, a music-rack mounted on said flexible extension, means arranged to be operated by the foot of the musician for rotating said rod, and means for returning said rod to its normal position when released.

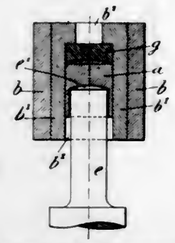
4. A music-rack consisting of side and middle bars, and cross-bars connecting the ends of said side bars, and an intermediate cross-bar 33 pivoted to one of said side bars and detachably connected to said middle bar, substantially as described.

5. In a music-rack, the combination, with the side and middle bars and the top and bottom cross-bars, of an intermediate cross-bar 33 connecting said side and middle bars and detachable at one end, and a bar 37 pivoted at one end and having a flange to overhang said intermediate cross-bar, for the purpose specified.

6. In a music-stand, the combination with a hollow standard having a curved upper end, of a rod arranged therein and having a flexible shaft extension at its upper end, said rod being locked against longitudinal movement but free to rotate within said standard, a music-rack supported on the flexible extension of said rod, and means for rotating said rod.

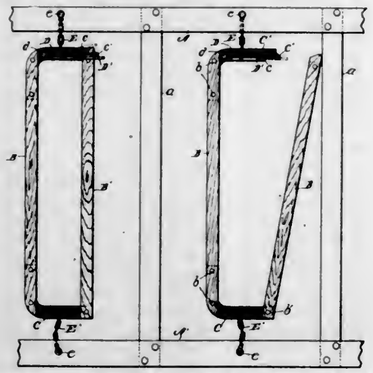
7. In a music-stand, the combination with a hollow standard having a curved upper end, of a rod arranged within said standard and having a flexible extension at its upper end and capable of rotating in said standard but locked against longitudinal movement, a music-rack attached to said flexible extension, means adapted to be operated by the foot of the musician for rotating said rod, and a spring device for returning said rod to its normal position when released, substantially as described.

841,954. APPARATUS FOR MANUFACTURING TUBES AND THE LIKE. SALOMON FRANK, Frankfort-on-the-Main, Germany. Filed Sept. 22, 1904. Serial No. 225,423.



Claim.—In an apparatus for manufacturing metal tubes without the application of heat, the combination of a press-block having a bore, a bottom block fixed in said bore and provided with a slightly concave working surface, and a plunger movable in said bore and provided with an enlarged convex working end, the convexity of which corresponds to the concavity of said bottom block, said plunger being cut away sharply and reduced in diameter immediately at the rear of its forward edge which forms the opening or bore of the tube.

841,955. STANCHION. FRED W. FRANKLIN, Kalamazoo, Mich. Filed Apr. 5, 1906. Serial No. 310,091.



Claim.—1. The combination with a frame of a relatively fixed side bar of wood slotted at each end; L-shaped top and bottom cross-pieces formed of iron arranged in said slots and rigidly secured to said bar by rivets arranged therethrough; a swinging side bar of wood, slotted at each end to receive said top and bottom pieces, pivotally secured to said bottom piece by a rivet arranged therethrough, said swinging bar being beveled off on the inside at its upper end; a loop-like latch for said swinging bar, pivoted to said top piece; a rest on said top piece for said latch; a guard arranged below said catch on the inside of said top piece; and chains secured to said top and bottom pieces and to said frame, substantially as described.

2. The combination with a frame of a relatively fixed side bar of wood slotted at each end; L-shaped top and bottom cross-pieces formed of iron arranged in said slots and rigidly secured to said bar by rivets arranged therethrough; a swinging side bar of wood, slotted at each end to receive said top and bottom pieces, pivotally secured to said bottom piece by a rivet arranged therethrough, said swinging bar being beveled off on the inside at its upper end; a loop-like latch for said swinging bar, pivoted to said top piece; a stop on said top piece for said swinging bar; a rest on said top piece for said latch; and chains secured to said top and bottom pieces and to said frame, substantially as described.

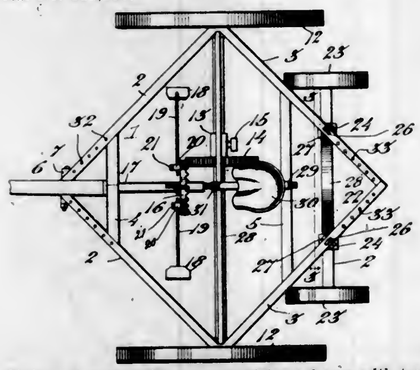
3. The combination with a frame of a relatively fixed side bar of wood slotted at each end; L-shaped top and bottom cross-pieces formed of iron arranged in said slots and rigidly secured to said bar by rivets arranged therethrough; a swinging side bar of wood, slotted at each end to receive said top and bottom pieces, pivotally secured to said bottom piece by a rivet arranged therethrough, said swinging bar being beveled off on the inside at its upper end; a loop-like latch for said swinging bar, pivoted to said top piece; a stop on said top piece for said swinging bar; a rest on said top piece for said latch; and chains secured to said top and bottom pieces and to said frame, substantially for the purpose specified.

4. The combination with a frame of a side bar of wood; L-shaped top and bottom cross-pieces formed of iron rigidly secured to said bar; a swinging side bar of wood; pivotally secured to said bottom piece, said swinging bar being beveled off on the inside at the upper end; a loop-like pivoted latch for said swinging bar; a stop on said top piece for said swinging bar; a rest on said top piece for said latch; a guard arranged below said catch on the inside of said cross-piece; and chains secured to said top and bottom pieces and to said frame, substantially as described.

5. The combination with a frame of a side bar of wood; L-shaped top and bottom cross-pieces formed of iron rigidly secured to said bar; a swinging side bar of wood; pivotally secured to said bottom piece, said swinging bar being beveled off on the inside at the upper end; a loop-like pivoted latch for said swinging bar; a stop on said top piece for said swinging bar; a rest on said top piece for said latch; and chains secured to said top and bottom pieces and to said frame, substantially as described.

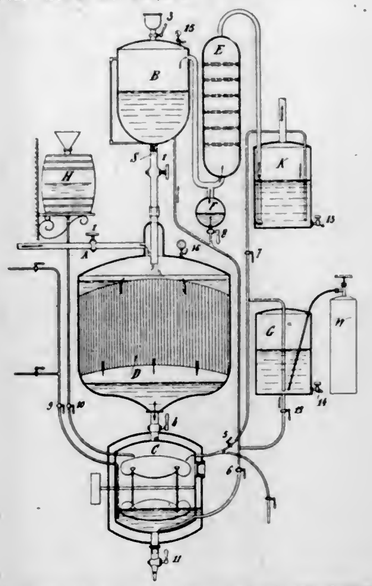
6. The combination with a frame of a side bar of wood; L-shaped top and bottom cross-pieces formed of iron rigidly secured to said bar; a swinging side bar of wood, pivotally secured to said bottom piece, said swinging bar being beveled off on the inside at the upper end; a loop-like pivoted latch for said swinging bar; a guard arranged below said latch on the inside of said top piece; and chains secured to said top and bottom pieces and to said frame, substantially as described.

841,956. COTTON CHOPPER AND CULTIVATOR. JOHN FRANKLIN, Greenville, Ala. Filed Apr. 17, 1906. Serial No. 312,150.



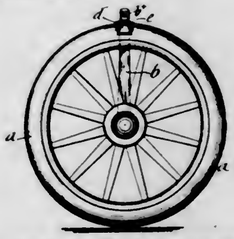
Claim.—A cotton-chopper comprising a frame with transverse cross-bars secured thereto, a transverse squared shaft having a gear-wheel with a sleeve slidably mounted on said shaft, said sleeve being provided with a set-screw for adjusting said wheel, a longitudinal shaft journaled in said cross-bars and having a gear-wheel loosely mounted thereon, meshing with the gear-wheel on the transverse shaft, said gear-wheel on the longitudinal shaft having lugs radially arranged on its outer face portion, chopping-blades having arms mounted in the lugs having set-screws in connection therewith serving to adjust the arms of the chopping-blades, substantially as specified.

841,957. PROCESS OF MAKING VANILLIN. EDOUARD L. FROGER-DELAPIERRE, Courbevoie, France. Filed June 26, 1902. Serial No. 113,270.



Claim.—The method herein described of manufacturing vanillin and similar aromatic aldehydes containing a free phenol group, which consists in subjecting bivalent phenols to the action of oxygen in the presence of terpins as described.

841,958. CLEARING DEVICE FOR PNEUMATIC TIRES. WILLY R. FROMMATER, New York, N. Y. Filed Sept. 29, 1906. Serial No. 336,686.



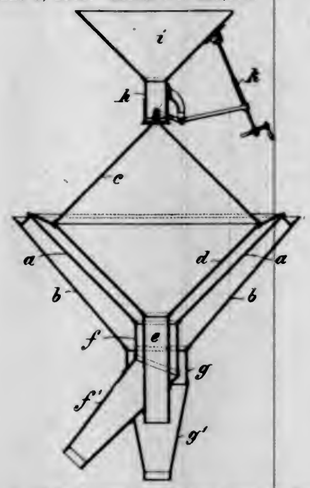
Claim.—1. A clearing device for pneumatic tires for automobiles and other vehicles, which comprises an arc-shaped clearing-bar provided with teeth at both sides, means for suspending said clearing-bar in proximity to the tire, and serrated and spring-actuated clearing-plates guided below the teeth of the main clearing-bar.

2. A clearing device for pneumatic tires for automobiles and other vehicles, which comprises a stationary arc-shaped clearing-bar provided with beveled teeth at both edges, means for suspending said clearing-bar in proximity to the upper part of the tire, a number of serrated and spring-actuated plates arranged below the teeth of the

main clearing-bar, and springs connecting said clearing-plates in pairs, said springs extending through slots of the clearing-bar.

3. In a clearing device for tires of automobiles and the like, the combination, with a suspension-arm attached to the axle, of an adjustable bracket-rod on said arm, adjustable suspension-arms applied to said bracket-rod, means for attaching said suspension-arms to the bracket-rod, an arc-shaped clearing-bar connecting the lower ends of said suspension-arms, said bar being provided with teeth at both edges, and spring-actuated clearing-plates guided along the teeth of the stationary clearing-bar.

841,959. SIFTING OR SCREENING APPARATUS. JOSEF GENTRUP, Brochterbeck, near Münster, Germany. Filed June 5, 1905. Serial No. 263,855.



Claim.—1. In a sifting apparatus the combination of a stationary perforated distributing-cone, receiving-hopper beneath the distributing-cone, stationary funnel-shaped sieve, annular channel between the base of the distributing-cone and the upper part of the funnel-shaped sieve, receiving-hopper around said funnel-sieve and discharge-conduits for the fine and coarse material, substantially as and for the purpose set forth

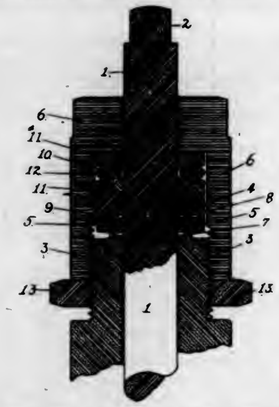
2.. In a sifting apparatus the combination with a feed-hopper, a stationary perforated distributing-cone, receiving-hopper beneath the distributing-cone, stationary funnel-shaped sieve, annular channel between the base of the distributing-cone and the upper part of the funnel-shaped sieve, receiving-hopper around said funnel-sieve and discharge-conduits for the fine and coarse material, substantially as and for the purpose set forth.

841,960. PACKING FOR ROTARY STEMS. ARTHUR W. GRAY, Berkeley, Cal. Filed July 23, 1906. Serial No. 327,393.

Claim.—1. A packing for a rotating stem comprising a wall through which the stem passes, a collar on the stem beyond the wall end, a substantially solid washer seated between the collar and the wall end, and a pressure device for forcing the wall and collar together to clamp the washer between them.

2. A packing for a rotating stem comprising a wall through which the stem passes, a collar on the stem beyond the wall end, a substantially solid washer seated between the collar and the wall end, and a pressure-nut engaging both wall and collar to force them together to clamp the washer between them.

3. A packing for a rotating stem comprising a wall through which the stem passes, a collar on the stem beyond the wall end leaving a space between itself and said end, a ridge projecting into said space concentric with the stem, a substantially solid washer seated in said space upon said ridge, and a pressure device for forcing the wall and collar together to clamp the washer between them.

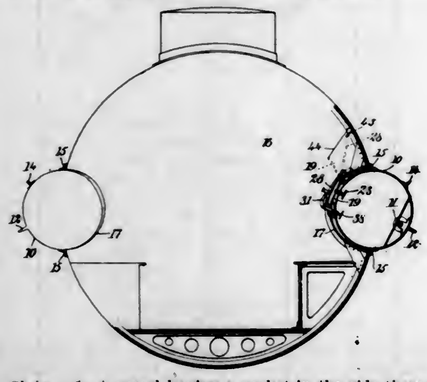


4. A packing for a rotating stem comprising a wall through which the stem passes, a collar on the stem beyond the wall end leaving a space between itself and said end, a ridge projecting into said space concentric with the stem, a substantially solid washer seated in said space upon said ridge, and a pressure-nut engaging both wall and collar to force them together to clamp the washer between them.

5. A packing for a rotating stem comprising a wall through which the stem passes, a collar on the stem beyond the wall end, a substantially solid washer seated between the collar and wall end, a pressure-nut engaging the wall and the stem-collar to force them together to clamp the washer between them, and a ball-bearing disposed between the pressure-surfaces of the nut and collar.

6. A packing for a rotating stem comprising a wall through which the stem passes, a collar on the stem beyond the wall end leaving a space between itself and said end, a ridge projecting into said space concentric with the stem, a substantially solid washer seated in said space upon said ridge, a pressure-nut engaging the wall and the stem-collar to force them together to clamp the washer between them, and a ball-bearing disposed between the pressure-surfaces of the nut and collar.

841,961. MARINE VESSEL. JOHN F. GRAY, Portsmouth, N. H. Filed Mar. 27, 1906. Serial No. 308,233.



Claim.—1. A vessel having a pocket in the side thereof, an inclined life-boat adapted to be nested in the pocket, the vessel and life-boat having registering ports or manholes, and means for closing said manholes, said means comprising hinged doors, devices for removably holding the doors closed and means operable within the vessel or life-boat for holding the vessel-port cover in place.

2. A vessel having a port therein, an inclosed life-boat adapted to engage the vessel and having a port registering with a port in the vessel, a cover for the port in the life-boat, means operative from the interior of the life-boat for clamping the cover in closed position, a cover for the port in the vessel, and means operative from within both the vessel and life-boat for holding the second-named cover in closed position.

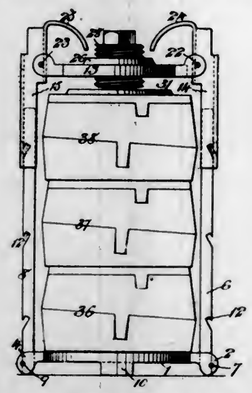
3. A vessel having a port therein, an inclosed life-boat adapted to engage the vessel and having a port registering with a port in the vessel, a cover for the port in the life-boat, means operative from the interior of the life-boat for clamping the cover in closed position, a cover for the port in the vessel, and means operative from within both the vessel and life-boat for holding the second-named cover in closed position, the last-named means comprising a swivel strong-back adapted to engage the inner side of the second-named cover, and an operating device therefor located within the life-boat.

4. A marine vessel having a port therein, an inclosed life-boat adapted to engage the vessel and having a port registering with the port in the vessel, a coaming located between the life-boat and vessel and surrounding the said ports, a cover for each port and means operable within the life-boat or vessel for closing the cover of the vessel-port.

5. A marine vessel having a port therein, a cover for the port, a swivel strong-back located within the vessel and adapted to engage the cover, the strong-back having a shank projecting outside of the vessel, an inclosed life-boat having a port therein adapted to register with the port in the vessel, a cover for the port in the life-boat, means for locking the cover in closed position, and an operating device extending through the shell of the life-boat and adapted to engage the said shank of the strong-back.

6. A marine vessel having a pocket in the side thereof, said pocket being substantially semicircular in cross-section, and a life-boat lying partially within the pocket, said life-boat having flanges on the sides thereof for engaging the outer side of the vessel at the edges of the pocket, and means for forming a communication between the vessel and the life-boat.

841,962. DENTAL FLASK-PRESS. JAMES F. HARDY, New York, N. Y., assignor to Consolidated Dental Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Oct. 28, 1905. Serial No. 284,799.



Claim.—1. A dental flask-press comprising a base, uprights connected therewith, a cross-head carrying a screw and links adapted to form extensions of the uprights and serving to connect the cross-head with the uprights, the said uprights being provided with means for attaching the links thereto at different distances from the base.

2. A dental flask-press comprising a base for supporting a flask, or flasks, uprights connected with the opposite sides of the base and provided with retaining-notches on their outer faces, a cross-head carrying a screw and links constructed to embrace the uprights and serving to connect the cross-head with said notches on the uprights at different distances from the base.

3. A dental flask-press comprising a base, notched uprights connected therewith, a cross-head carrying a screw and vertically-sliding links hinged to the cross-head and adapted to embrace the uprights, the said links being provided with projections for engaging the notches in the uprights at different distances from the base.

4. A dental flask-press comprising a base, uprights connected therewith, a cross-head, a screw carried by the cross-head and upright-extending links connecting the cross-head with the upright, the said links being provided with horns for receiving a hook in handling the press.

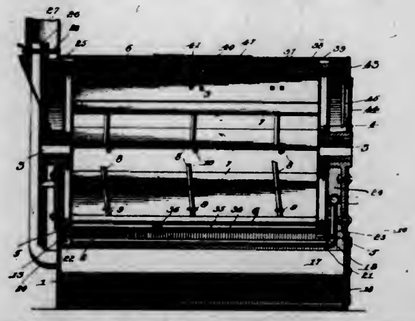
5. A dental flask-press comprising a base, uprights connected therewith and provided with notches at intervals on their outer faces, a cross-head, a screw carried by the cross-head and links for connecting the cross-head with the uprights, the said links being constructed to embrace the uprights and provided with inwardly-turned tongues on their outer sides for engaging the notches on the outer faces of the uprights.

841,963. BLACKING-DAUBER. EDWARD J. HEBERT, Zwolle, La. Filed May 22, 1906. Serial No. 318,180.



Claim.—A device of the class described comprising a body having a plurality of longitudinal open-ended passages, a stem extended for sliding movement through the body and having at its inner end a substantially U-shaped portion forming a guide-arm arranged in one of the passages, a valve carried at the inner end of the stem for closing the passages, a dauber fixed on the outer end of the stem, and a spring acting on the latter to maintain the valve in closed condition.

841,964. COFFEE-DRIER. CONSTANTINE A. HEGE, Salem, N. C., assignor to C. A. Hegé & Co., Salem, N. C., a Firm. Filed Apr. 27, 1898. Serial No. 679,029.



Claim.—1. In a coffee-drier, the rotatable cylinder formed with perforations or apertures for the escape of moistened air and having within it longitudinally-extending lifting-bars located in proximity to the inner surface of the cylinder, in combination with a shelf or casing for heated air, said cylinder lying partly above and partly below the upper portion of said shell and a closed heater

lying below the rotating cylinder and inclosed within the lower portion of the chamber into which said rotating cylinder projects and adapted by radiation of heat from its walls to heat the air in the casing between said heater and rotating cylinder, substantially as described.

2. A coffee-drier comprising a shell or casing, a closed heater inclosed within the lower part of said shell, a retatable apertured cylinder fitting in said casing or shell above the heater and lying partly above and partly below the upper portion, of said shell, the lower portion of the cylinder projecting into the chamber occupied by the heater, a movable cover fitted to the casing or shell around the portion of the rotating cylinder lying above the shell and spaced from the latter, and a flue communication at one end between the chamber of the shell and the space between the cylinder and cover so as to permit heated air to pass from the casing or shell around the upper portion of the cylinder, substantially as described.

3. In a coffee-drier, the combination with a shell or casing for heated air and a heater located in the lower portion of the shell or casing and adapted by heat radiating from its surface to heat the air in the casing or shell, of the rotatable cylinder fitting in said casing or shell above the heater therein and composed of the cylindrical body, reticulated or apertured heads to said body, rims provided with teeth and having radiating arms fitting across the apertured or reticulated heads of the body, and tie-rods extending longitudinally through the cylindrical body and at their opposite ends secured to said rims so as to clamp the body, the arms and the heads together, substantially as and for the purposes described.

4. A coffee-drier, comprising a shell or casing, a closed heater located in the lower part thereof, a rotatable apertured cylinder fitting in said casing or shell above the heater and lying partly above and partly below the upper portion for the shell and formed with inlet and exit openings for the coffee-berries, said cylinder having one end close to one end of the shell and the opposite end set back from the adjacent end of the shell to form a flue for the passage of heated air and a cover fitted to the casing or shell around the portion of the rotating cylinder above the casing and spaced from the cylinder so as to permit heated air to pass from the casing or shell to and around the upper portion of the cylinder, substantially as and for the purposes described.

5. In a coffee-drier, the combination with a shell or casing, and a heater located in said shell or casing and adapted by radiation of heat from its surface to heat the air in said shell or casing, of a rotatable cylinder fitting in said casing or shell, and lifters secured inside of the rotating cylinder, said lifters having portions extending laterally therefrom along their edges nearest the axis of the cylinder and in the direction of rotation of the cylinder and at a distance from the inner face of the cylinder so as to serve as a support for the berries and permit the latter to be gradually discharged therefrom in the rotation of the cylinder, substantially as and for the purposes described.

6. In a coffee-drier, the combination with a shell or casing, and a closed heater located in said shell or casing for heating the air therein, of a rotating cylinder in said casing formed with apertures for the escape of heated air and moisture therefrom, lifters secured inside of the rotating cylinder, said lifters having portions extending laterally therefrom along their edges nearest the axis of the cylinder and in the direction of rotation of the cylinder and at a distance from the inner face of the cylinder, an exhaust-chamber in communication with the shell or casing at one end of the rotating cylinder to facilitate the escape of heated air and moisture from the cylinder, and means for regulating the inflow of fresh air into the portion of the casing below the cylinder containing the heater, substantially as and for the purposes described.

7. In a coffee-drier, the combination of a shell or casing, a closed heater located therein for heating the air in the same, a rotating apertured cylinder in said casing or shell and lying partly within and partly above the portion of the casing containing the closed heater, an exhaust-chamber in communication with the shell or casing at one end of the rotating cylinder, an ejector in communication with said exhaust-chamber to increase the exhaust through the exit-chamber, and a removable cover constituting the top portion of the casing and spaced from the upper projecting portion of the cylinder, substantially as and for the purposes described.

8. In a coffee-drier, the combination of a shell or casing, a closed heater located therein to heat the air in the same, a rotating apertured cylinder within the shell or casing and lying partly within and partly above the portion of the casing containing the closed heater, an exhaust-chamber in communication with the shell or casing at one end of the rotating cylinder, an ejector for increasing the exhaust through the exhaust-chamber, a valve for regulating the exhaust therefrom, and a removable cover constituting the top portion of the casing and spaced from the upper projecting portion of the cylinder, substantially as and for the purposes described.

9. In a coffee-drier, the combination of a shell or casing, a closed heater therein for heating the air in the same, a rotating apertured cylinder located in said shell or casing and lying partly within and partly above the portion of the casing containing the closed heater, an exhaust-chamber in communication with the shell or casing at one end of the rotating cylinder and having an exit-flue, a pipe leading from the heater in the lower part of the casing and in communication with the exit-chamber, and a removable cover constituting the top portion of the casing and spaced from the upper projecting portion of the cylinder, substantially as and for the purposes described.

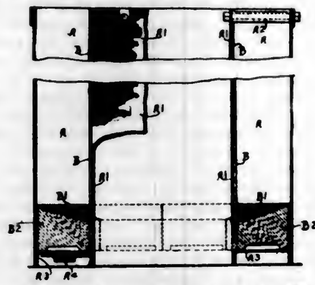
10. In a coffee-drier, the combination of a shell or casing, a closed heater located therein for heating the air in the same, a rotating cylinder in the shell or casing formed with openings in its heads for the admission and escape of heated air, said cylinder having one end close to one end of the shell or casing and the opposite end set back from the adjacent end of the shell or casing to form a flue for the passage of the heated air from beneath the cylinder through said flue and into the cylinder, means at the opposite end of the cylinder for the escape of heated air and moisture from the cylinder, and means for regulating the inflow of fresh air into the portion of the casing below the cylinder, containing the heater, substantially as and for the purposes described.

11. A coffee-drier comprising a shell or casing, a closed heater located therein for heating the air in the same, a rotating cylinder inside the shell or casing having one end close to one end of the shell or casing and the opposite end set back from the adjacent end of the shell or casing to form a flue, an exhaust-chamber communicating with the shell or casing at one end of the rotating cylinder, means for increasing the exhaust through said exhaust-chamber, means for controlling the exhaust, and means for regulating the inflow of fresh air into the portion of the casing below the cylinder containing the heater, substantially as described.

12. In a coffee-drier, the combination of a shell or casing, a rotating cylinder located in said shell or casing, means for heating the air in the casing around the cylinder, means for conducting heated air from the casing to within the cylinder, means for regulating the exhaust of moistened air from the cylinder and also from the upper portion of the casing and means for exhausting the air through the cylinder, substantially as and for the purposes described.

13. In a coffee-drier, the combination of a shell or casing, a rotating apertured cylinder lying partly within and partly above a portion of the shell or casing, a removable cover constituting the top portion of the casing and spaced from the upper projecting portion of the cylinder, means for heating the air in the casing around the cylinder, and means for conducting heated air from the casing to within the cylinder so that heated air will be applied both inside and outside of the rotating cylinder, and means for regulating the inflow of fresh air into the portion of the casing below the cylinder, substantially as and for the purposes described.

841,965. APPARATUS FOR TREATING PARAFFIN-WAX. NORMAN M. HENDERSON, Broxburn, Scotland. Filed Feb. 21, 1906. Serial No. 302,308.

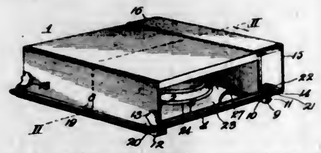


Claim.—1. An apparatus for treating paraffin-wax, having a cell of a height which is great compared to its sectional area, with its more exposed side unscreened, a vertical draining-screen on the less-exposed side thereof, and a false bottom of permeable material therein, and a discharge beneath said bottom, whereby the wax may be solidified and sweated in the same cell as described.

2. An apparatus for treating paraffin-wax, having a vertical cell, a permeable screen on one vertical surface of the cell, and the other vertical surface being unscreened whereby draining takes place by the pressure developed by the superincumbent weight of the column of wax, the screens acting as draining-wicks, and the solidification of the wax taking place first at the unscreened surface of the cells, as described.

3. An apparatus for treating paraffin-wax, having a cell circular in cross-section, of a height which is great compared to its sectional area, a central cylindrical partition therein, a permeable screen at the outside of said partition, a permeable false bottom inclined downward toward the screen, and a discharge beneath said bottom, as described.

841,966. CARD-DEALING DEVICE. ALBERT G. HIGGINS, Kansas City, Mo. Filed Mar. 31, 1906. Serial No. 309,024.



Claim.—1. A card-dealing device, comprising an open-bottom box, ledges underlying and spaced from opposite sides of the box and adapted to support cards therein, and means for applying downward pressure on the cards.

2. A card-dealing device, comprising an open-bottom box, ledges underlying and spaced from opposite sides of the box and adapted to support cards therein, means for applying downward pressure on the cards, means for pushing the undermost card edgewise until it clears one of said ledges, and means for reversing the movement of said card until its opposite edge clears the other ledge.

3. A card-dealing device, comprising an open-bottom box, ledges underlying and spaced from opposite sides of the box, the rear ledge having its lower surface beveled forward and upward, means for applying downward pressure on cards bridging the space between the ledges, means for pushing the undermost card forward until it clears the beveled ledge, and means for reversing the movement of said card until its opposite edge clears the other ledge.

4. A card-dealing device, comprising an open-bottom box, ledges underlying and spaced from opposite sides of the box, the rear ledge having its lower surface beveled forward and upward, means for applying downward pressure on cards bridging said space between the ledges, means for pushing the undermost card forward until it clears the beveled ledge, and means for imparting reverse movement to the card, of greater length than its original movement.

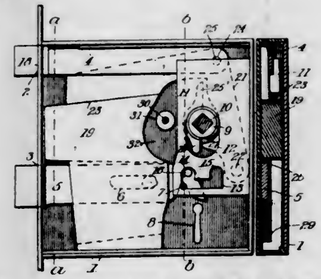
5. A card-dealing device, comprising an open-bottom box, ledges underlying and spaced from opposite sides of the box and adapted to support cards therein, means for applying downward pressure on the cards, a reciprocatory frame embodying a pressure-plate projecting into the space between the box and one of the ledges, rearward and lying wholly in the plane of the undermost card and an ejector-plate in the corresponding space above the other ledge and underlying the undermost card.

6. A card-dealing device, comprising an open-bottom box, ledges underlying and spaced from opposite sides of the box and adapted to support cards therein, means for applying downward pressure on the cards, a reciprocatory frame embodying a presser-plate projecting into the space between the box and one of the ledges, rearward and lying wholly in the plane of the undermost card, and an ejector-plate in the corresponding space above the other ledge and underlying the undermost card, means for moving the ejector-plate forward until it is withdrawn from below the cards and for then causing the presser-plate to advance the undermost card until its rear edge clears the corresponding ledge.

7. A card-dealing device, comprising an open-bottom box, ledges underlying and spaced from opposite sides of the box and adapted to support cards therein, means for applying downward pressure on the cards, a reciprocatory frame embodying a presser-plate projecting into the space between the box and one of the ledges, rearward and lying wholly in the plane of the undermost card, and an ejector-plate in the corresponding space above the other ledge and underlying the undermost card, and means for moving the ejector-plate forward until it is withdrawn from below the cards and then causing the presser-plate to advance the undermost card until its rear edge clears the correspond ing ledge.

8. A card-dealing device comprising an open-bottom box, ledges underlying and spaced from opposite sides of the box and adapted to support cards therein, and means for ejecting the undermost card through the open bottom of the box.

841,967. COMBINED LOCK AND LATCH. GEORGE W. HIMLER, Latrobe, Pa. Filed Dec. 12, 1905. Serial No. 291,471.



Claim.—1. A lock having a roll-back, and a tumbler supported thereon, the roll-back being rotatable independently of the tumbler.

2. A lock having a roll-back, and a slidable tumbler supported thereon, the roll-back being rotatable independently of the tumbler.

3. A lock having a roll-back provided with a cylindrical hub, and a slotted tumbler receiving the roll-back through the slot with one end wall of the slot supported upon the roll-back, said roll-back being capable of rotation within the slot without imparting movement to the tumbler, and the tumbler capable of sliding in the direction of its slot upon the roll-back.

4. A lock having a lock-bar, a latch-bar, a roll-back for

the latch-bar, and a tumbler for locking the lock-bar, said tumbler being supported on the roll-back in a manner to prevent movement thereof by rotation of the roll-back and capable of moving upon the roll-back for locking and releasing the lock-bar.

5. A combined lock and latch comprising lock and latch bars, a swinging gravity-weight operatively engaged with the latch-bar, a roll-back for the weight, and a slidable locking-tumbler for the lock-bar, the lock-bar and tumbler being arranged for control by a key, and the tumbler being supported upon the roll-back in a manner to permit movement of the roll-back without movement of the tumbler.

6. A combined lock and latch comprising substantially parallel endwise-movable latch and lock bars, a swinging gravity-weight recessed in opposite sides and having the latch and lock bars working in the respective recesses, said weight being provided with an opening, a roll-back working in the opening in coöperative relation with its walls for swinging the weight, said roll-back having a cylindrical hub projecting at one side thereof, and a slidable tumbler having a slot receiving the hub of the roll-back which is rotatable in the slot without affecting the tumbler, the tumbler being provided with a branched slot, and the lock-bar having a projection for alternate engagement with the branches of the slot to lock the bar in open and closed positions, the lock-bar and the tumbler being arranged for actuation by a key.

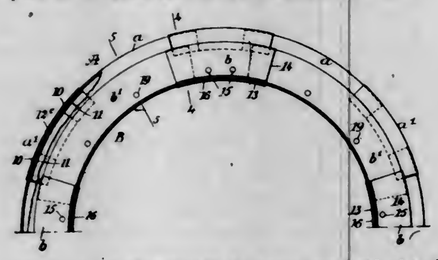
7. A combined lock and latch comprising a casing having lock and latch bar openings, lock and latch bars mounted to slide through the corresponding openings, a gravitating weight provided with an angular extension and pivoted within the casing at the free extremity of its angular extension, the latch-bar being pivoted to the weight, the lock-bar having a projection at one end, a roll-back disposed between the weight proper and its angular extension, and a sliding tumbler supported upon the roll-back and provided with means for interchangeable interlocking engagement with the projection of the lock-bar to hold the latter against accidental displacement at either end of its movement, the movement of the tumbler and its interchangeable interlocking engagement with the lock-bar being controlled by the key of the lock.

8. A lock having a roll-back provided with a cylindrical hub integral therewith, and a tumbler supported upon the hub, the roll-back being rotatable independently of the tumbler.

9. A lock having a roll-back provided with an integral cylindrical hub, and a slidable tumbler supported upon the hub, the roll-back being rotatable independently of the tumbler.

10. A lock having a roll-back, a latch-bar, a roll-back for the latch-bar, the roll-back having an integral cylindrical hub, and a tumbler for locking the lock-bar, said tumbler being supported upon the hub of the roll-back in a manner to prevent movement thereof by rotation of the roll-back and capable of moving upon the roll-back for locking and releasing the lock-bar.

841,968. VEHICLE-TIRE. FRED HITCHCOCK, Freeport, N. Y., assignor of one-half to Frank H. Stevens, Freeport, N. Y. Filed Mar. 3, 1906. Serial No. 304,070.



Claim—1. In vehicle-tires, an armor composed of a plurality of series of telescopically-connected members, the series lying alongside of each other, and each member of each series being telescopically connected with the adjacent members of the adjacent series.

2. In a vehicle-tire, an armor consisting of a tread-section and side sections engaging with the tread-section, the side sections being made to converge at their lower portions and to have their lower edges upwardly and outwardly inclined.

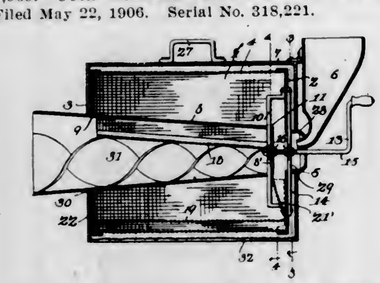
3. In a vehicle-tire, an armor consisting of a continuous tread-section constructed of telescopically-connected members, and side sections telescopically connected with each other and with the members of the tread-section.

4. In vehicle-tires, a continuous tread-section constructed of members having telescopic connection with each other, and side sections the members whereof have telescopic connection with each other and telescopic and slidable connection with the members of the tread-section.

5. In vehicle-tires, a continuous tread-section constructed of members having telescopic connection with each other, and side sections the members whereof have telescopic connection with each other and telescopic and slidable connection with the members of the tread-section, the side sections having their lower portions curved inward in direction of each other and their lower edges curved outward or away from each other.

6. In a vehicle-tire, an armor for the inner tube thereof, consisting of a tread-section the members whereof have sliding relation to each other, side sections the members whereof have slidable relation to each other and to the tread-section, a covering for the inner and the outer faces of the said armor, and a shoe fitted to the outer contour of the armor.

841,969. CORN-POPPER. JAMES HODGE, Berkeley, Cal. Filed May 22, 1906. Serial No. 318,221.



Claim.—1. A corn-popper comprising a casing having central openings at its ends, a drum mounted in the casing and having a feed-mouth extending into one of the openings of the casing to form a journal for the drum, a hopper supported on the casing and arranged with its lower end extending into the mouth of the drum, a discharge-cone supported in the drum and extending outwardly therefrom through the opening of the casing opposite from that having the feed-mouth, cross-arms rigidly connected with the drum and cone, and a crank-shaft rigidly connected with the cross-arm and extending outwardly through the feed-mouth.

2. A corn-popper comprising a casing having an opening, a drum having a tubular central feed-mouth in its front head extending into the opening of the casing to form a journal, a hopper arranged to discharge into said mouth, a cone for discharging the popped corn which at one end is supported by the rear head of the drum, a frame supported on the interior of the drum at the front head thereof, means for connecting the front end of the cone with said frame, and a crank-shaft connected with said frame for rotating the drum and cone and located wholly exterior to the drum.

3. A corn-popper comprising a drum having a central mouth in its front head, a hopper arranged to discharge into said mouth, a discharge-cone supported at one end by the rear head of the drum and provided with slots in its front end, and cross-arms extending inwardly from the inner surface of the front head of the drum, and engaging

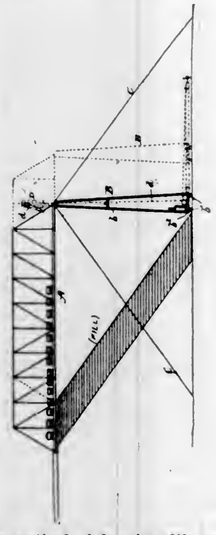
in said slots, a crank-shaft, means for connecting the shaft to the arms, cross-arms secured to the front head of the drum which are independent of the first-mentioned cross-arms, and means for connecting the crank-shaft with the last-mentioned cross-arms.

4. A corn-popper comprising a drum, a discharge-cone axially mounted therein with its front end spaced apart from the adjacent end of the drum, a separating-screen extending between the cone and drum and disposed axially of the latter, and a deflector extending between the adjacent ends of the cone and drum for deflecting the popped corn into the former.

5. A corn-popper comprising a drum having a central mouth in its front head, a hopper arranged to discharge into said mouth, a cone for discharging the popped corn which has its front end spaced apart from the front head of the drum, and a screen extending between the drum and cone and provided with an inwardly-extending portion between the said head and front end of the cone for deflecting the popped corn into the latter.

6. A corn-popper comprising a drum provided with an opening at its front end, an outwardly-extending cylindrical member at said opening which forms a mouth and a journal, a discharge-cone in the drum which extends beyond the opposite end of the latter to form a journal, means for rotating the drum, and means for supporting the front end of the cone in the drum, in combination with an inclosing casing provided with openings which serve as journal-bearings for receiving the said cylindrical member and the projecting end of the discharge-cone.

841,970. METHOD OF AND APPARATUS FOR MAKING FILLS, EMBANKMENTS, &c. WM. M. HOOVER, Cuba, N. Y. Filed Nov. 5, 1906. Serial No. 342,123.



Claim.—1. The method of forming fills or embankments or the like, which consists in supporting a bridge by the fill or embankment and by a tower beyond the fill or embankment and rising from the bottom of the ravine or place to be filled, and shifting the positions of the bridge and tower during the progress of the work crosswise of the fill.

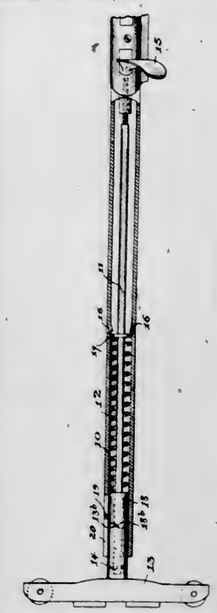
2. As an improvement in the art of constructing fills or embankments, the combination of a bridge supported at one end by the fill or embankment, and means supporting it at a point beyond the fill or embankment, independent of the latter and from the bottom of the ravine or place to be filled.

3. As an improvement in the art of constructing fills or embankments, the combination of a bridge supported at one end by the fill or embankment, and a portable tower supporting it at a point beyond the fill or embankment, said bridge resting directly upon said tower.

4. As an improvement in the art of constructing fills or embankments, the combination of a vertically-adjustable bridge supported at one end by the fill or embankment, and a tower supporting it at a point beyond the fill or embankment, said bridge resting directly upon said tower.

5. As an improvement in the art of constructing fills or embankments, the combination of a vertically-adjustable bridge supported at one end by the fill or embankment, and a horizontally-movable tower supporting it at a point beyond the fill or embankment, said bridge resting directly upon said tower.

841,971. CURTAIN-FIXTURE. CHARLES L. HOPKINS, Chicago, Ill., assignor to The Curtain Supply Company, Newark, N. J., a Corporation of New Jersey. Filed Oct. 30, 1905. Serial No. 285,029.



Claim.—1. In a curtain-fixture, the combination of a tubular stick, a rod slidably arranged in the stick, a head on the end of the rod having a stem fast with said head projecting into the stick, screw means for lengthening or shortening the fixture by rotating the head, means on the rod adapted to engage the stem of the head to prevent rotation of the head and consequent change in the length of the fixture, and means for preventing rotation of said stem-engaging means.

2. In a curtain-fixture, the combination with a tubular stick, a rod slidably arranged in the stick, a head on the end of the rod, screw means on the rod for lengthening or shortening the fixture by rotating the head, a clutch-sleeve on the rod adapted to engage the head to prevent rotation thereof, and means for preventing rotation of the clutch-sleeve relatively to the stick.

3. In a curtain-fixture, the combination of a tubular stick, a rod in the stick adapted to have endwise movement therein, a head at the end of the rod, a clutch-sleeve on the rod, means for preventing rotation of the clutch-sleeve relatively to the stick, and a spring adapted to hold the clutch-sleeve in engagement with the head, for the purpose set forth.

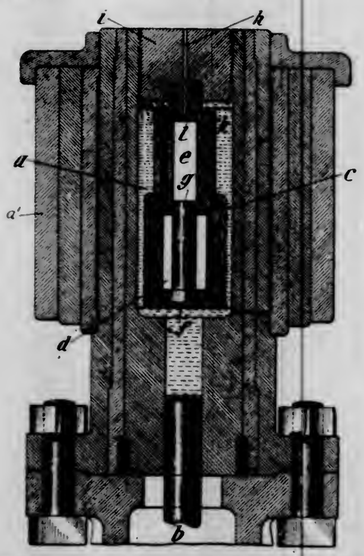
4. In a curtain-fixture, the combination of a tubular

stick, a head at the end of the stick, means for adjusting the length of the fixture by rotating the head, a clutch member in the stick adapted to engage the head, means for preventing rotation of the clutch member relatively to the stick, and spring means within the stick for moving the clutch member toward the head.

5. In a curtain-fixture, the combination of a tubular stick, a head at the end of the stick, a member in the stick normally engaging the head and preventing rotation of the head, a pin carried by the said member, a slot in the stick through which the pin projects, and a spring for pressing said member against the head.

6. In a curtain-fixture, the combination of a tubular stick, a head at the end of the stick, a clutch member in the stick adapted to engage the head and normally prevent rotation of the head, and a slot-and-pin connection between the clutch member and the stick to prevent rotation of the clutch member and permit movement of the same lengthwise of the stick, for the purpose set forth.

841,972. HYDRAULIC-PRESS MULTIPLICATOR. CARL HUBER, Berlin, Germany. Filed Dec. 27, 1905. Serial No. 293,511.



Claim.—1. In a hydraulic press, the combination of a casing, cylinders within said casing having piston areas of varying diameters, coöperative pistons in said cylinders, and means for producing pressure in the casing.

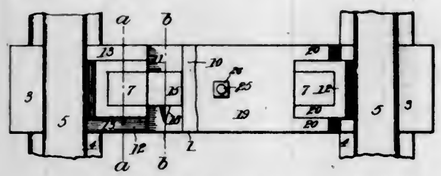
2. In a hydraulic press, the combination of a casing inclosing main and auxiliary cylinders, the said cylinders having piston areas of varying diameters, coöperative pistons in said cylinders, and means for producing pressure in the casing.

3. In a hydraulic press, the combination of a casing inclosing main and auxiliary cylinders, the said cylinders having piston areas of varying diameters, coöperative pistons in said cylinders, and means for producing pressure in the casing and relieving the pressure in the main and auxiliary cylinders.

4. In a hydraulic press, the combination of a casing inclosing main and auxiliary cylinders, the said cylinders having piston areas of varying diameters, means for producing pressure in the casing, and coöperative pistons in said cylinders, the said auxiliary cylinder being totally surrounded by liquid under pressure.

5. In a hydraulic press, the combination of a casing inclosing main and auxiliary cylinders, said auxiliary cylinder having a reduced bore, pistons in said cylinders arranged in opposition to each other, and means for producing pressure in the casing.

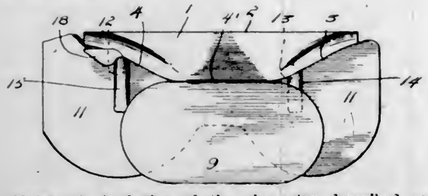
841,973. METALLIC TIE. JUDD W. HULBERT, Hartford, Ohio. Filed May 19, 1906. Serial No. 317,777.



Claim.—1. A metallic tie comprising a body having a rail-engaging lip at each end, spaced slots arranged adjacent the corresponding lips, a standard arranged to slide in each slot, and clamping members disposed at the upper end of each standard for coöperation with the corresponding lip to prevent displacement of the rails with respect to each other, a wedging-block arranged in each slot for coöperation with the corresponding standard and clamping member and a top plate.

2. A metallic tie comprising a body having a rail-engaging lip at each end and a raised portion intermediate its ends and also having a slot between each lip and said raised portion, each slot having oppositely-disposed grooves, a standard mounted in each slot and provided with a foot for sliding engagement in said grooves, a clamping member carried at the upper end of each standard for coöperation with the corresponding lip to prevent displacement of the rails with respect to each other, a wedging-block mounted in each of said slots to force the corresponding standard and clamping member toward the corresponding lip, a top plate upon the tie having its opposite ends bifurcated to fit upon the clamping members, and a bolt passed through the body of the tie to prevent accidental displacement of the top plate.

841,974. SWIMMING-MACHINE. GEORGE T. HUNNEWELL, Great Falls, Mont. Filed Feb. 28, 1906. Serial No. 303,402.

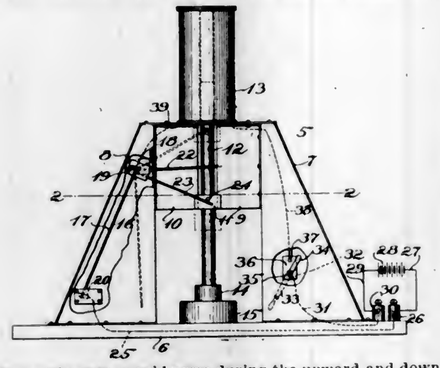


Claim.—1. A device of the character described comprising a foot-piece having a longitudinal recess in its under face, a rod mounted in the recess, wings mounted on the rod, and a keel member secured to the under face of the foot-piece and arranged between said wings.

2. A device of the character described comprising a recess in its under face, a rod arranged in said recess, a pair of wings constructed of a single piece of material and supported upon said rod, forward and rearward posts depending from the under face of the foot-piece at opposite ends of the said recess, and a keel member secured to said posts and extending between said wings.

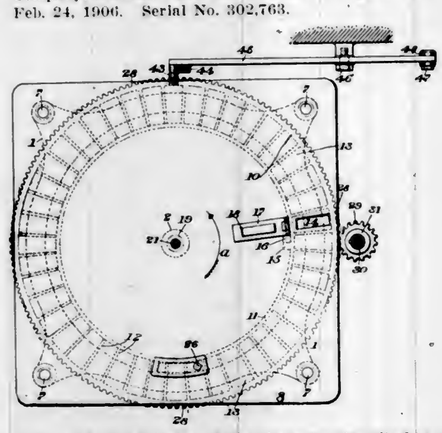
841,975. ELECTRICALLY-OPERATED HAMMER. RONALD P. IRVING, Quincy, Mass. Filed May 21, 1906. Serial No. 317,897.

Claim.—In a device of the character described, a frame consisting of a base formed of insulating material, two hollow standards of sheet metal fast thereto, two guide-blocks constituting ways of sheet metal fast to said standards, a slide-block adapted to slide on said ways, a magnet, a core slidable therein constituting a hammer and fast to said slide-block, a lever in electric circuit with said magnet, a contact-plate with which said lever is adapted to contact, two arms fast to said lever and insulated therefrom, and means fast to said core adapted to



alternately engage said arms during the upward and downward movement thereof, respectively, whereby said lever is alternately brought out of and into contact with said plate.

841,976. RECEIVER FOR COIN-CONTROLLED VENDING-MACHINES. HENRY O. JACKSON, Norfolk, Va., assignor to Southern Savings Life and Accident Insurance Company, Norfolk, Va., a Corporation of Virginia. Filed Feb. 24, 1906. Serial No. 302,763.



Claim.—1. In a device of the character described, a receiver having a plurality of chambers arranged successively therein, a base for said receiver and chambers, the latter being open at their top and adapted to coact with a cover and a sealing device, and a cover for said chambers having a slot beneath which said chambers are successively brought.

2. In a device of the character described, an annular receiver, having a plurality of chambers arranged successively therein, a base for said receiver and chambers, the latter being open at their top and adapted to coact with a cover and a sealing device, and a cover for said chambers having a slot beneath which said chambers are successively brought.

3. In a device of the character described, a chambered coin and coupon receiver, a cover therefor having a slot beneath which the chambers of said receiver are successively brought, a sealing device for preventing the improper removal of said cover, and means for rotating said receiver.

4. In a device of the character described, a base, a chambered coin and coupon receiver mounted thereon, standards rising from said base, a cover for said receiver carried by said standards and having a slot beneath which the chambers of said receiver are successively brought, means for sealing said cover with respect to said receiver, and means for rotating said receiver.

5. In a device of the character described, a chambered coin and coupon receiver, a cover stationary with respect thereto having a slot beneath which the chambers of said receiver are successively brought, a sealing device for preventing the removal of said cover, means for preventing the improper rotation of said receiver, and means for intermittently rotating said coin and coupon receiver.

6. In a device of the character described, a chambered coin and coupon receiver, a cover stationary with respect thereto, a sealing device for preventing improper removal of said cover, a slot in said cover, and means for intermittently rotating said receiver to bring one of the chambers thereof into register with the slot in said cover.

7. In a device of the character described, a chambered coin and coupon receiver, a cover stationary with respect thereto, a sealing device for preventing improper removal of said cover, a slot in said cover, a chute for said slot, means for preventing improper rotation of said receiver, and means for intermittently rotating said receiver to bring one of the chambers thereof into register with said slot.

8. In a device of the character described, a chambered coin and coupon receiver, a cover stationary with respect thereto, a sealing device for preventing improper removal of said cover, a slot in said cover, a coin and coupon receiving chute discharging into said slot, means carried by said cover for preventing the improper rotation of said receiver, means for intermittently rotating said receiver, and means adapted to be actuated by said receiver to close the coin-slot of the machine when said receiver is full.

9. In a device of the character described, a chambered coin and coupon receiver, a cover stationary with respect thereto, a sealing device for preventing improper removal of said cover, a coin and coupon slot in said cover, a chute registering with said slot, means carried by said cover to engage said receiver and prevent improper rotation of the same, a lever, and means intermediate said lever and said receiver for intermittently rotating the latter to bring the different chambers therein into register with said slot.

10. In a device of the character described, a base, a coin and coupon receiver rotatably mounted on said base and having a plurality of chambers, standards rising from said base, a cover for said rotatable receiver carried by said standards, means carried by said cover and engaging the sides of said chambers for preventing the improper rotation of said receiver, a sealing device for preventing improper removal of said cover from said receiver, a coin and coupon slot in said cover, a chute registering with said slot, a lock hinged to said cover in proximity to the slot thereon, means actuated by said receiver for closing said slot, and means for intermittently rotating said receiver to bring a chamber thereof into register with said slot.

11. In a device of the character described, a base, a coin and coupon receiver rotatably mounted on said base and having a plurality of chambers, standards rising from said base, a cover for said receiver carried by said standards, means carried by said cover and engaging the sides of said chambers for preventing improper rotation of said receiver, a sealing device for preventing the improper removal of said cover from said receiver, a coin and coupon slot in said cover, a chute registering with said slot, a lock hinged to said cover in proximity to the slot thereon, means actuated by said receiver for closing said slot, means for intermittently rotating said receiver to bring a chamber into register with said slot in said cover, and means for preventing rotation of said receiver when the chambers therein have been filled.

12. In a device of the character described, a bed, a receiver having chambers therein rotatably mounted on said bed, means for actuating said receiver, means for locking said receiver so as to prevent improper rotation thereof, a stationary cover for said receiver, said cover having a slot

therein beneath which said chambers are successively brought, and means for locking and sealing said cover with respect to said receiver.

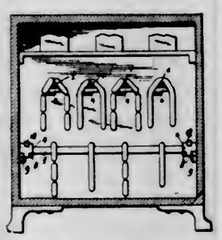
13. In a device of the character described, a rotatable chambered receiver having gear-teeth thereon, a pinion meshing with said teeth, means for actuating said pinion, a post carried within said receiver, a threaded stem on said post, a nut on said stem, an opening through said nut and stem, a sealing device for said nut and stem, a stationary cover for said receiver having a slot therein in radial relation to the chambers of said receiver, a stop for said receiver and a locking device for preventing improper rotation thereof.

14. In a device of the character described, a chambered coin and coupon receiver, a cover therefor, a sealing device for preventing access to said receiver, and locking devices intermediate said cover and receiver, the latter being adapted to be rotated when in assembled position, said cover being non-rotatable.

15. In a device of the character described, a coin and coupon receiver, a cover therefor, a slot in said cover and a locking device carried by said cover and having means adapted to engage the walls of said slot and a chamber of said receiver.

16. In a device of the character described, a coin and coupon receiver, a cover therefor, a slot in said cover and a spring-actuated locking device carried by said cover and having a tongue adapted to engage the walls of said slot and a chamber of said receiver.

841,977. RACK. STANLEY JAKUBOWSKI, Pittsburg, Pa. Filed July 8, 1905. Renewed Nov. 24, 1906. Serial No. 344,981.



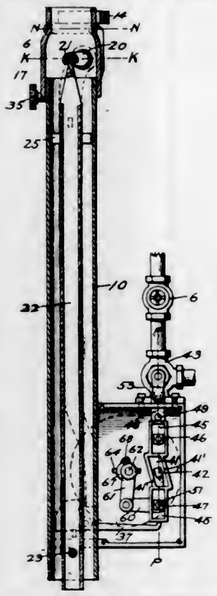
Claim.—1. A rack of the character described consisting of bars in substantially the form of a triangular prism, brackets adapted to support said bars, said brackets having angularly-disposed sides, plates pivotally connected to said brackets and adapted to engage said sides, and means to lock said plates in engagement with said sides, substantially as described.

2. A rack of the character described consisting of a bar in substantially the form of a triangular prism, brackets adapted to support the ends of said bar, said brackets consisting of body portions having depending pierced lugs, plates pivotally connected to said body portions, and means to lock said plates in engagement with said brackets, substantially as described.

3. A rack of the character described consisting of a bar in substantially the form of a triangular prism, brackets adapted to support the ends of said bar, and means to lock the ends of said bar in engagement with said brackets, substantially as described.

841,978. AUTOMATIC HEAT-CONTROLLER. JAMES JESSEN, Minneapolis, Minn. Filed Nov. 22, 1904. Serial No. 233,822.

Claim.—1. The combination, with a suitable receptacle, means for supplying thereto a fluid, to be tempered, and means for supplying thereto a tempering fluid, of a valve controlling the admission of said tempering fluid, an eccentric, connections between the said eccentric and the said valve, and means controlled by the temperature of the fluid in said receptacle for causing said eccentric to move the valve to an extent proportioned to the degree said temperature varies from the temperature desired.



2. The combination, with a pasteurizer and means for supplying a heating fluid thereto, of a valve controlling the admission of said heating fluid, means for admitting a fluid to be treated, a controller-bar provided with a slot having inclined walls, a connection between said controller-bar and said valve, a thermostatic column acted upon by the temperature of the fluid being treated, a connection between the thermostatic column and the controller-bar, and an oscillating lng engaging the slot in the controller-bar.

3. The combination, with a fluid-tempering receptacle, means for supplying a tempering fluid thereto and means for supplying thereto a fluid to be treated, of a valve controlling the flow of the fluid under treatment, a controller provided with inclined planes, an oscillating part engaging the said planes, connections between the said oscillating part and the said valve, a thermostatic column acted upon by the temperature of the fluid under treatment and connections between the said column and the said controller.

4. The combination, with a pasteurizer and means for supplying a heating fluid thereto, of a valve controlling the admission of said heating fluid, a power-operated oscillating device for moving said valve, a connection between the said valve and the said oscillating device, and a thermostatic column controlling the connection between said valve and said device.

5. The combination, with a pasteurizer and means for supplying a heating fluid thereto, of a valve controlling the admission of said heating fluid, power-operated mechanism for moving said valve, an inclined controller-bar forming a connection between said mechanism and said valve, and a thermostatic column governing the position of said controller-bar.

6. The combination, with a pasteurizer, and means for supplying a heating fluid thereto, of a valve controlling the admission of said heating fluid, a controller-bar provided with an inclined slot connected with said valve, a power-operated oscillating lug engaging said slot, and a thermostatic column governing the position of said bar.

7. The combination, with a suitable receptacle and means for supplying a tempering fluid and a fluid to be tempered to the said receptacle of valves controlling the flow of fluids within the said receptacle, a power-driven oscillating device and means controlled by the temperature of the contents of said receptacle to cause the said oscillating device to move the said valves in either direction to an extent proportional to the degree the temperature of said contents varies from the temperature desired.

8. The combination, with a fluid-tempering receptacle and means for supplying thereto a tempering fluid and a fluid to be tempered, of a thermostatic column acted upon by the tempered fluid, a valve controlling the flow of fluid, within the receptacle, an oscillating device, a controller-cam acted upon by the said device, means controlled by the thermostatic column and coöperating with the said oscillating device and the said cam to gradually move the valve in either direction and means for adjusting the extent of the movement of the said valve.

9. The combination with a pasteurizer or other fluid-treating machine and means for supplying thereto a tempering fluid, of columns of unequal expansive power, exposed to the tempered fluid, a valve for controlling the admission of the fluid to be tempered, means for supplying a fluid to be treated, an inclined plane, a moving body adapted to come in contact with the said plane, connections between the said columns and the said inclined plane, and between the said moving body and the said admission-valve whereby the difference in expansion and contraction of the said columns operates to vary the relative positions of the said moving body and the said inclined plane and to move the said admission-valve.

10. The combination, with a pasteurizer or other fluid-treating machine and means for supplying thereto a tempering fluid and means for supplying a fluid to be treated, of columns of unequal expansive power, means for exposing the said columns to the heating or cooling influences of the treated fluid, an inclined plane, means for moving the said plane by the said columns, a moving body adapted to come in contact with the said plane, valves to control the admission of the fluids and connections between the said inclined plane, the said moving body and the said admission-valves whereby the said valves are operated when the inclined plane is moved.

11. The combination, with a fluid-tempering receptacle and means for supplying thereto a tempering fluid and a fluid to be tempered, of a thermostatic column acted upon by the tempered fluid, a valve controlling the flow of the fluid, within the receptacle, an oscillating device, means controlled by the thermostatic column and coöperating with the said oscillating device and the said cam to gradually move the valve in either direction and an indicator adjustably connected to said cam.

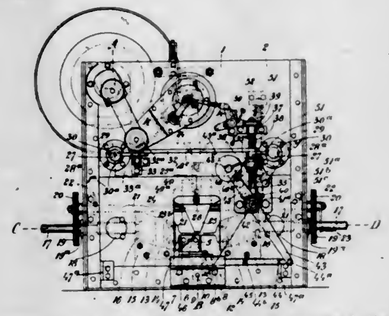
12. The combination, with a fluid-tempering receptacle and means for supplying thereto a tempering fluid and means for supplying a fluid to be treated, of a thermostatic column acted upon by the tempered fluid, a valve controlling the flow of the tempering fluid within the receptacle, a driving-wheel, an oscillating device connected to the said wheel, a controller-cam provided with inclined and parallel planes and acted upon by the said oscillating device, connections between the said device and the said valve, and connections between the said controller-cam and the thermostatic column.

13. The combination, with a fluid-tempering receptacle and means for supplying a tempering fluid and a fluid to be tempered, of a thermostatic column acted upon by the tempered fluid, a valve controlling the flow of the fluid within the receptacle, a driving-wheel, an oscillating device connected to the said wheel, and to the said valve, a cam controlled by the thermostatic column and provided with inclined and parallel planes, said oscillating device acting upon the said planes, an indicator, adjustable connections of the said indicator to the said cam and an adjusting-pointer for adjusting the temperature of the contents of the receptacle to the degree desired.

14. The combination, with a fluid-tempering receptacle and means for supplying thereto a tempering fluid and a fluid to be tempered, of a thermostatic column acted upon by the tempered fluid, a controlling-cam provided with inclined and parallel planes, adjustable connections between the said cam and the said thermostatic column, a power-driven oscillating device acting upon the said cam, a valve, and connections between the said valve and the said oscillating device.

15. In a heat-controller, the combination with a pipe 10, of a column 22, having a different coefficient of expansion, supported within the pipe 10 by means of the pin 23 and cranked spindle 21, bearings in the pipe 10 for the spindle 21, an annular shoulder 27 provided on the said spindle and seated against the pipe 10, an arm 32 extending from the spindle 21 and engaging the adjusting-screw 35 of the lever 34, a cam 41', an oscillating lug 42, a valve 43 and connections between the said valve, the said cam and the said lever.

841,979. METAL-CUTTING MACHINE. HUGO JOHN, Erfurt, Germany. Filed Apr. 12, 1906. Serial No. 311,376.



Claim.—1. In a machine of the class described, the combination with a movable cutter-head provided with cutting means to operate upon different portions of the stock, a movable shearing device, and means coöperative with the head and shearing device for causing the movement of the latter to bring it into position to coöperate with said cutting means on each action of the said head.

2. In a machine of the class set forth, the combination with an oscillatory head carrying cutting means, coöperating movable shearing devices, and means coöperative with the head and shearing device for causing a movement of one on the action of the other.

3. In a machine of the class described, the combination with a cutter-head having cutting means and two distinct stages of operation, a shearing device, and connections between the cutting-head and shearing device for causing the movement of the shearing device to bring it into position to coöperate with said cutting means on each stage of the operation of the cutter-head.

4. In a machine of the class set forth, the combination of an oscillatory cutter-head, pressure mechanism, and coöperative shearing devices, the said cutter-head being movable about a plurality of pivots.

5. In a machine of the class set forth, the combination of an oscillatory cutter-head, pressure mechanism, and coöperative shearing devices, the said cutter-head being movable about a plurality of detachable pivots.

6. In a machine of the class set forth, the combination of an oscillatory cutter-head, pressure mechanism, and coöperative shearing devices, the said cutter-head being alternately movable about a plurality of pivots.

7. In a machine of the class set forth, the combination of an oscillatory cutter-head, pressure mechanism, and coöperative shearing devices, the said cutter-head being movable about a plurality of alternately-detachable pivots.

8. In a machine of the class set forth, the combination of a cutter-head, pressure mechanism, coöperative shearing devices, the said cutter-head being movable about a plurality of pivots, one of said pivots adapted to be withdrawn while the other forms a pivot-pin for the said cutter.

9. In a machine of the class set forth, the combination of a cutter-head, pressure mechanism, coöperative shearing devices, the said cutter-head being movable about a plurality of pivots, and connecting means for engaging the said pivots and alternately changing the bearing of the cutter-head.

10. In a machine of the class set forth, the combination

of a cutter-head, pressure mechanism, coöperative shearing devices, the said cutter-head being rotatable about a plurality of slotted pivots, and a connecting member having terminally-disposed bell-crank levers adapted to engage the slots in said pivots and alternately change the bearing of the cutter-head.

11. In a machine of the class set forth, the combination with a cutter-head, pressure mechanism and coöperative shearing devices, of means for automatically controlling the return of said cutter-head comprising a pressure-spring and a weighted lever.

12. In a machine of the class set forth, the combination of a cutter-head, pressure mechanism and coöperative shearing devices, the said cutter-head being rotatable about a plurality of pivots and provided with a guide-groove extending upwardly and merging at the bottom into the perforations of said pivot-pin.

13. In a machine of the class set forth, the combination with an oscillatory head carrying a cutter, of shearing devices comprising simultaneously-adjustable side members, and a movable and adjustable bottom member, the latter adapted to form a cutting-abutment.

14. In a machine of the class set forth, the combination with an oscillatory head carrying a cutter, of shearing devices comprising adjustable side members, and a movable and adjustable bottom member, the latter being of a width at least equal to one-half of the inside depth of the girder and adapted to alternately form a cutting-abutment.

15. In a machine of the class set forth, the combination of a cutter-head, pressure mechanism and a movable shearing device, the said cutter-head being rotatable about a plurality of pivots, a member connecting said pivot-points, a rotary shaft having a toothed gear adapted to coöperate with said connecting member, and a weighted lever geared to said shaft and connected to the shearing device.

16. In a machine of the class set forth, the combination of a cutter-head, pressure mechanism and a rotatable shearing device, the said cutter-head being rotatable about a plurality of pivot-points, a member connecting said pivot-points, a rotary shaft having a toothed gear adapted to coöperate with said connecting member, a weighted lever geared to said shaft and connected to the shearing device, and stops for limiting the oscillation of the said lever.

17. In a machine of the class set forth, the combination with an oscillatory cutter-head, of a rotatable shearing device and opposing holders mounted on screw-threaded spindles and carrying cutters, pinions on the respective spindles, and a power-transmitting shaft with correspondingly-engaging pinions adapted to simultaneously adjust the cutters laterally.

18. In a machine of the class set forth, the combination with an oscillatory cutter-head, of a rotatable shearing device and lateral cutters, and inclined means on which the cutters slide.

19. In a machine of the class set forth, the combination with an oscillatory cutter-head, of a rotatable shearing device and lateral cutters, and inwardly-inclined means on which the cutters slide.

20. In a machine of the class set forth, the combination of an oscillatory cutter-head, of a rotatable shearing device and opposing holders mounted on screw-threaded spindles and carrying cutters, pinions on the respective spindles, inclined blocks, and a power-transmitting shaft engaging said pinions thereby adjusting them simultaneously, the holders sliding on the inclined blocks.

21. In a machine of the class set forth, the combination with an oscillatory cutter, coöperative rotatable cutters, and pressure mechanism, of a spindle in operative relation therewith and adapted to be controlled by the operation of the pressure mechanism.

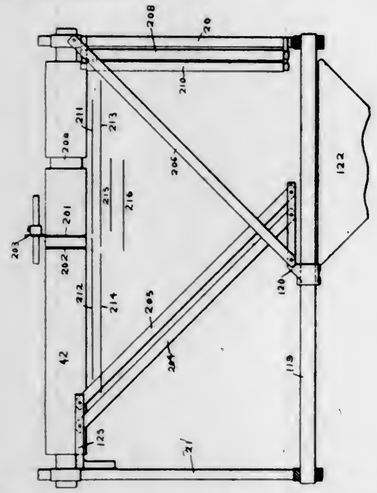
22. In a machine of the class set forth, the combination with an oscillatory cutter, coöperative rotatable cutters and pressure mechanism, of a spindle carrying a notched disk, a locking projection, levers connecting the pressure mechanism with the said projection and adapted to be simultaneously operated with the pressure mechanism.

23. In a machine of the class set forth, the combination of an oscillatory head having a cutter, of a plurality of shearing cutters, and a hinged stripping-off device having an upturned terminal and adapted to support the work when the upper cutter is removed.

24. In a machine of the class set forth, the combination with an oscillatory head carrying a cutter, of a rotatable shearing device and means for causing the action of one upon the movement of the other.

25. In a machine of the class set forth, the combination with an oscillatory head carrying a cutter, of a rotatable and adjustable shearing device and means for causing the action of one upon the movement of the other.

841,980. PRINTING-PRESS. ROBERT T. JOHNSTON, Plainfield, N. J., assignor, by mesne assignments, to Detroit Trust Co., trustee, Detroit, Mich., a Corporation of Michigan. Filed Jan. 13, 1899. Renewed Apr. 23, 1906. Serial No. 313,141.



Claim.—1. The combination in a web-associating mechanism of an adjustable slitting mechanism, a longitudinal former, three turner-bars, and web-directing rolls arranged so that the plicated product can be made of different widths.

2. The combination in a web-associating mechanism of two parallel turner-bars, and another turner-bar arranged so that two sections of web can be associated together and the plicated product made either one of two widths and registered on the same center line.

3. The combination in a web-associating mechanism of a web-forwarding roll, two grooves therein, a slitter which may be set to coöperate with either groove, two turner-bars, a third turner-bar, and a longitudinal former, the whole so arranged that a wide web can be slit into two sections and the sections associated and advanced to the longitudinal former with the central line of the plicated product coinciding with the apex or nose of the former, and said plicated sections made either one of two widths.

4. The combination in a web-associating mechanism of web-forwarding roll 42, having grooves 200, 201, 202, adjustable slitter 203, turner-bars 204 and 205, a third turner-bar, and a longitudinal former having its apex arranged in the same vertical plane as groove 200.

5. The combination in a web-associating mechanism of a device for slitting a web into two sections, a longitudinal former, guiding-rolls for directing one of said sections directly to the former, an adjustable slitting mechanism, two turner-bars, and a third turner-bar, the whole arranged so that a double section of web may be formed from a wide web and led to the longitudinal former with its central line registering with the apex thereof and said double section made either one of two ways.

6. The combination of turners 204 and 205, suitable parallel rolls and turner 206 arranged so that two sections of web can be associated and said sections made of either one of two widths.

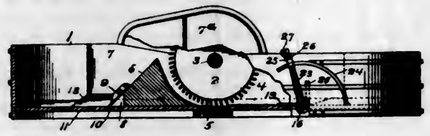
7. The combination of turners 204 and 205, parallel rolls 207 and 208, 209 and 210, and turner 206.

8. The combination of a slitting mechanism, whereby a wide web can be slit into two sections, said slitting mechanism being adjustable so that different widths of web can be used, turners 204 and 205, suitable parallel rolls and turner 206.

9. The combination of roll 42 having slitting-grooves 201 and 202, a suitable adjustable slitter coöperating therewith, turners 204 and 205, parallel rolls 207 and 208, and 209 and 210, and turner 206.

10. The combination of a web-forwarding roll as 42, suitable adjustable slitting mechanism, web-guides arranged so that one section of web can be led directly to a longitudinal folder, turners 204 and 205, suitable parallel rolls and turner 206 arranged so that different width sections of web can be associated and brought to register both transversely and longitudinally without adjustment of any of the turners or parallel rolls.

841,981. BEATING-ENGINE. EDWARD A. JONES, Pittsfield, Mass. Filed May 16, 1906. Serial No. 317,068.



Claim.—1. The combination in an engine of the kind described having a discharge-outlet, of means for supplying water thereto under pressure to cause the stock to flow readily to the discharge-outlet, and means for retarding the flow of water and stock to cause the same to pass into the outlet.

2. The combination in an engine of the kind described having a discharge-outlet, of means for supplying water thereto under pressure to cause the stock to flow readily to the discharge-outlet, and means movable to operative and inoperative positions, for retarding the flow of water and pulp to cause the same to pass into the outlet.

3. The combination in an engine of the kind described having a discharge-outlet, of means for supplying water thereto under pressure to cause the stock to flow readily to the discharge-outlet, and a plate, movable to operative and inoperative positions for retarding the flow of water and pulp to cause the same to pass into the outlet.

4. The combination in an engine of the kind described having a discharge-outlet, of means for supplying water thereto under pressure to cause the stock to flow readily to the discharge-outlet, and a swinging plate, movable to operative and inoperative positions for retarding the flow of water and pulp to cause the same to pass into the outlet.

5. The combination in an engine of the kind described having a discharge-outlet, of means for supplying water thereto under pressure to cause the stock to flow readily to the discharge-outlet, a swinging plate for retarding the flow of water and stock to cause the same to pass into the outlet, and a lever for swinging the plate to raise and lower the same.

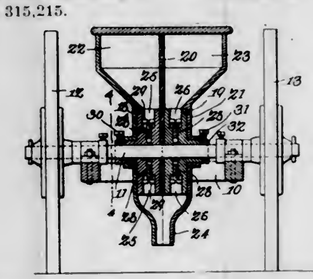
6. The combination in an engine of the kind described having a discharge-outlet, of means for supplying water thereto under pressure to cause the stock to flow readily to the discharge-outlet, a swinging plate for retarding the flow of water and stock to cause the same to pass into the outlet, a lever for swinging the plate to raise and lower the same, and connections for locking the lever to hold the plate in a raised or lowered position.

7. The combination in an engine of the kind described having a vat, of a discharge-outlet in the vat, means for suplying water thereto under pressure to cause the stock to flow readily to the discharge-outlet, and a movable plate for retarding the flow of water and stock to cause the same to pass into the outlet, said plate being positioned between the mid-feather and the side of the vat.

8. The combination in an engine of the kind described having a discharge-outlet, of means for supplying water thereto under pressure to cause the stock to flow readily to the discharge-outlet, a swinging plate for retarding the flow of water and stock to cause the same to pass into the outlet, a lever for raising and lowering the plate, and stops for limiting the movement of the plate when raised.

9. The combination in an engine of the kind described having a discharge-outlet, of means for supplying water thereto under pressure to cause the stock to flow readily to the discharge-outlet, a swinging plate for retarding the flow of water and stock to cause the same to pass into the outlet, a lever for raising and lowering the plate, stops for limiting the movement of the plate when raised, and connections for locking the lever to hold the plate in a raised or lowered position.

841,982. CORN-PLANTER. JOSEPH R. JORDAN and CLAUD B. PATE, Salemburg, N. C. Filed May 4, 1906. Serial No. 315,215.



Claim.—In an apparatus of the class described, a supporting-frame including spaced longitudinal members and spaced transverse members, an axle mounted for rotation upon said frame and having spaced ground-wheels, a dividing-plate through which said axle passes and extending above and below the same, drums each having a plurality of pockets in its outer face and rotative upon said axle at opposite sides of the plate and bearing against the plate, sleeves extending from said drums in opposite directions and engaging said axle, set-screws operating through said sleeves and providing means for independently adjusting the drums upon the axle, casings inclosing said drums and bearing at their inner edges against said plate, feed-hoppers extending above said casings and communicating with said drums, tubular conductors leading from said casings, means for connecting said feed-hoppers to said plate, and means for connecting said casings to said transverse frame members.

841,983. PROCESS OF TREATING GOLD AND GOLD-SILVER ORES. JOHN A. JUST, Syracuse, N. Y., assignor to The Just Mining & Extraction Co., Syracuse, N. Y., a Corporation of New York. Filed Jan. 27, 1906. Serial No. 298,187.

Claim.—1. A process of recovering precious metals from ores or materials containing said metals, which consists in first treating said ores and materials with sulfuric acid in the presence of an oxygen salt to form salts with the baser substances which substances would retard the extraction and consume the extracting material in the subsequent cyaniding treatment.

2. A process of recovering precious metals from ores or materials containing said metals, which consists in first treating said ores and materials with sulfuric acid and a saltable chlorid in order to remove the silver naturally alloyed with the gold, and then cyaniding the residue.

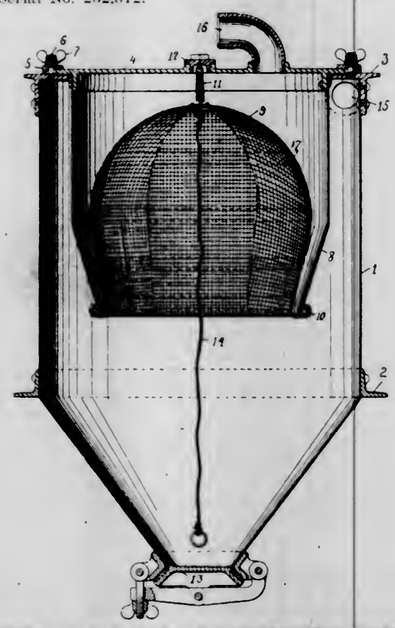
3. A process of recovering precious metals from ores or materials containing said metals, which consists in first treating said ores or materials with sulfuric acid and a saltable chlorid in the presence of an oxygen salt, in order

to remove the silver naturally alloyed with the gold, and then cyaniding the residue.

4. A process of recovering precious metals from ores or materials containing said metals, which consists in first treating the ores or materials with an acid capable of forming salts with the baser substances which would retard the extraction and consume the extracting material in the subsequent cyaniding treatment, then removing the free acid containing said salts and finally cyaniding the remaining sands for the recovery of precious metals.

5. A process of recovering precious metals from ores or materials containing said metals, which consists in first treating the ores or materials with an acid capable of forming salts with the baser substances which would retard the extraction and consume the extracting material in the subsequent cyaniding treatment, then removing the free acid containing said salts, washing the residue and rendering the same alkaline, and finally subjecting the alkaline sands to cyanidation, withdrawing the cyanid liquor and recovering the metals.

841,984. SEPARATOR FOR APPARATUS FOR REMOVING DUST. DAVID T. KENNEY, North Plainfield, N. J., assignor to Vacuum Cleaner Company, North Plainfield, N. J., a Corporation of New Jersey. Filed May 26, 1905. Serial No. 262,312.



Claim.—1. A separator for dust-removing apparatus, consisting of a casing, a downwardly-opening throat within the casing forming an annular chamber between the exterior walls of the throat and the casing, a strainer-bag through which the air to be purified passes located within the throat, having its edge connected to the peripheral wall of the throat, an inlet connecting to the annular chamber, and an outlet from the throat, substantially as described.

2. A separator for dust-removing apparatus, consisting of a casing, a throat downwardly opening into the casing, a cloth strainer-bag through which the air to be purified passes located within the throat having its edge connected to the peripheral wall of the throat, a suspension for the strainer-bag, and means for agitating the strainer-bag, substantially as described.

3. A separator for dust-removing apparatus, consisting of a casing, a throat downwardly opening into the casing, a cloth strainer-bag through which the air to be purified passes located within the throat having its edge connected to the peripheral wall of the throat, and a removable suspension for the strainer-bag, substantially as described.

4. A separator for dust-removing apparatus, consisting of a casing, a downwardly-opening throat within the casing forming an annular chamber between the exterior wall of the throat and the casing, a cloth strainer-bag through which the air to be purified passes located within the casing having its edge connected to the lower edge of the peripheral wall of the throat, an elastic suspension for the strainer-bag, and means for agitating the strainer-bag, substantially as described.

5. A separator for dust-removing apparatus, consisting of a casing with an annular top plate, a throat downwardly opening within the casing forming a downwardly-opening annular chamber below the annular top plate and between the exterior walls of the throat and the casing, a removable top plate from which the throat is suspended, an inlet connecting to the annular chamber, and an outlet from the throat, substantially as described.

6. A separator for dust-removing apparatus, consisting of a casing, a downwardly-opening throat within the casing forming an annular chamber between the throat and casing, a strainer-bag through which the air to be purified passes located within the casing having its edge connected to the lower edge of the peripheral wall of the throat, an inlet connected to the annular chamber, and an outlet from the throat above the point of attachment of the strainer-bag to the throat.

7. A separator for dust-removing apparatus, consisting of a casing with an annular top plate, a removable top plate fitting upon the annular top plate, a throat closed at its upper end by the removable plate and extending downwardly within the casing with a lower open end and forming an annular chamber between its side walls and the walls of the casing, a strainer-bag supported by the throat, an inlet connected to the annular casing and an outlet in the removable top plate connected to the throat.

8. A separator for dust-removing apparatus, consisting of a casing, a downwardly-opening throat within the casing forming an annular chamber between the throat and casing, an inverted strainer-bag through which the air to be purified passes located within the casing, having the edge of its mouth connected to the lower edge of the peripheral wall of the throat, an inlet connected to the annular chamber and an outlet from the throat above the point of attachment of the strainer-bag to the throat.

841,985. RADIATOR. WILLIAM R. KINNEAR, New York, N. Y. Filed Feb. 27, 1904. Serial No. 195,637.



Claim.—1. In a radiator, the combination of units having ribs thereon, and supports comprising a pair of sections each section provided with a groove in which a portion of one of the ribs fits and the two sections when fitted together forming an endless groove.

2. In a radiator, the combination of a unit having a rib extending completely around the lower end of the same, and a support comprising a pair of sections each provided with a groove which sections when fitted together form an endless groove in which the endless rib fits.

3. The combination of the radiator having a rib on the lower end thereof, and a support comprising a pair of sections each grooved to engage above and below the rib and provided with one-half of a foot at each end.

4. The combination of radiator units having endless ribs which extend completely around the ends thereof and downwardly from each side of the radiator to the center, and a support comprising a pair of sections each provided with a groove engaging a portion of one of the ribs above and below, said sections, when fitted together forming an endless groove.

5. A joint for connecting opposed walls of sheet-metal radiators comprising struck-up tapering open bosses having flanges extending from the tapering portions outwardly throughout their length and lapping over one another.

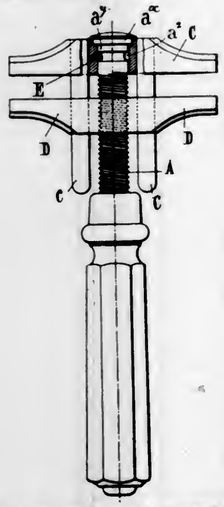
6. A joint for connecting opposed walls of sheet-metal radiators comprising struck-up tapering open bosses having flanges extending from the tapering portions outwardly throughout their length, lapping over one another, and curved outwardly in interlocking relation throughout their length.

7. A joint for connecting opposed walls of sheet-metal radiators comprising a pair of struck-up bosses held in interlocking relation, the outer boss being under strains of tension and the inner one under strains of compression.

8. A joint for connecting opposed walls of sheet-metal radiators comprising a pair of tapering bosses having interlocked flanges, the outer one of which is under strains of tension and the inner of which is under strains of compression.

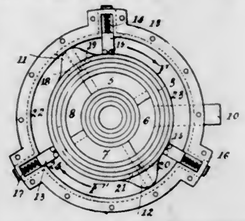
9. A joint for connecting opposed walls of sheet-metal radiators comprising a pair of tapering bosses having outwardly-extending bosses curving into interlocking relation, the outer boss being under strains of tension and the inner boss being under strains of compression.

841,986. WRENCH. EMILE LACHÈZE, Dijon, France. Filed Sept. 7, 1905. Serial No. 277,419.



Claim.—A wrench comprising a threaded shank having a smooth head provided with a peripheral groove, a movable jaw threaded on said shank, a fixed jaw rotatable about said head, a pin passing through said fixed jaw and entering said groove to prevent the displacement of said jaw longitudinally of the shank, and a smooth cylindrical enlargement formed on said head within said fixed jaw and serving to receive the turning strain between the jaw and shank when the wrench is turned in use and to relieve said pin from such strain.

841,987. ROTARY ENGINE. CONSTANT LECAIME, Ambarès, France. Filed Apr. 27, 1905. Serial No. 257,631.



Claim.—1. In a rotary engine the combination with a cylinder having inlet and exhaust chamber, of a piston rotatably mounted in the cylinder and having upon opposite faces concentric rings which engage the sides of the cylinder contiguous thereto, projections extending radially from the periphery of the piston to the surrounding cylinder, interior chambers formed within the piston, ports connecting the chambers of the piston with the registering peripheral cylinder-spaces, ports connecting opposite chambers of the piston with the inlet-chamber of the cylinder, ports connecting the other opposed chambers of the piston with the exhaust-chamber of the cylinder and spring-pressed abutment-blocks supported by the cylinder and having rollers which engage the periphery of the piston.

2. A rotary piston comprising peripheral ring, side walls, a hub, projections extending radially outward from the ring, partitions extending radially from the hub to the peripheral ring, ports extending from the chambers formed by the partitions through the peripheral ring, ports extending from certain of the chambers formed by the partitions through one side of the piston, and ports extending from the other chambers through the other side of the piston.

3. A rotary piston comprising a peripheral ring, a hub, side walls having concentric rings projecting therefrom, outwardly-extending radial projections each composed of curved side plates and a connecting-web, diametrically-opposed partitions extending radially from the hub to the peripheral ring and forming chambers within the piston, ports located at each side of the radial projections and extending from the interior chambers through the peripheral ring, ports extending from diametrically-opposed chambers through one side of the piston and ports extending from the other diametrically-opposed chambers through the other side of the piston.

841,988. ARTIFICIAL EAR-DRUM. ABRAHAM LEERS, Atlanta, Ga. Filed Apr. 28, 1906. Serial No. 314,222.



Claim.—1. In a device of the character described, the combination of an artificial ear-drum provided with a thread, a tube by which the ear-drum may be inserted into the meatus externus and placed against the membrana tympani, and means for engaging said thread to retain the ear-drum applied to the tube for application.

2. In a device of the character described, the combination of an artificial ear-drum provided with a thread, a tube by which the ear-drum may be inserted into the meatus externus and placed against the membrana tympani, and a spring means for engaging the thread to retain the ear-drum upon the tube for application.

3. In a device of the character described, the combination of an artificial ear-drum provided with a thread, a tube provided with a shorter tube, a longer tube being adapted to insert the ear-drum into the meatus externus and place it against the membrana tympani, and a member comprising spring-arms, one of said arms being inserted

into longer tube and engaging the thread to retain the ear-drum upon the longer tube for application, the other of said spring-arms being inserted into the shorter tube.

4. In a device of the character described, the combination of an artificial ear-drum, and a transparent tube for inserting said ear-drum into the meatus externus and against the membrana tympani.

5. In a device of the character described, the combination of an artificial ear-drum consisting of a disk of animal skin or membrane, and a transparent tube by which the ear-drum may be inserted into the meatus externus and placed against the membrana tympani.

6. In a device of the character described, the combination with an artificial ear-drum, of a tube by which the ear-drum may be inserted into the meatus externus and placed against the membrana tympani, a thread secured to the ear-drum, said thread being shorter than the tube, and means adapted to engage the thread to retain the ear-drum applied to the tube for application.

841,989. MEANS FOR SECURING WIRE TO OTHER OBJECTS. ERNEST P. LEHMANN, Brandenburg-on-the-Havel, Germany. Filed Oct. 21, 1903. Serial No. 177,952.



Claim.—1. The combination, with a wire having its normal cross-section deformed for a portion of its length, of a handle comprising two halves placed in opposition to each other, said halves provided at their extremities with openings of a cross-section suited for receiving the deformed portion of the wire, and means carried by one of the halves arranged to engage the wire to secure the same against withdrawal from said openings.

2. The combination, with a wire having its normal cross-section flattened or deformed for a portion of its length, of a handle comprising two halves placed in opposition to each other, said halves provided at each extremity with openings of a contour suited for receiving the deformed portion of the wire, one of the halves having a clamp forming part of said handle arranged to engage the undeformed wire to secure the same against withdrawal from said openings.

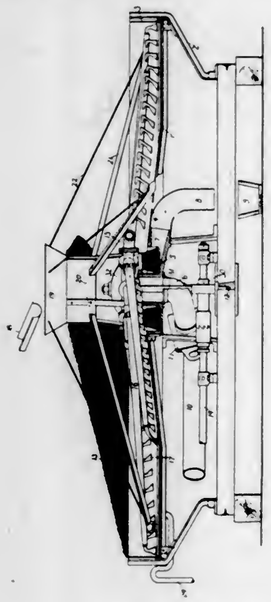
3. The combination, with a wire having its normal cross-section flattened or deformed for a portion of its length, of a handle comprising two oppositely-disposed halves integral with each other and provided with a bearing-aperture for receiving the deformed portion of the wire, one of the halves being provided with a flap forming a clamp to embrace the wire and secure the same against being withdrawn from the said aperture.

4. The combination, with a wire having its normal cross-section flattened or deformed for a portion of its length, of a handle comprising two oppositely-disposed halves integral with each other and provided at opposite sides with bearing-apertures of registering contour for receiving the deformed portion of the wire, one of the halves having a flap or strip projecting therefrom to engage the normal portion of the wire for securing the same against being withdrawn from the apertures.

5. The combination, with a wire having its normal cross-section flattened for a portion of its length, of a handle comprising oppositely-disposed halves integral with each other and connected by a neck provided with an elongated aperture arranged as a bearing for the flattened portion of the wire, the opposite inturned edge of one half provided with a similar aperture, and the opposite edge of the other half provided with ears arranged to embrace the normal portion of the wire.

841,990. AMALGAMATOR. HENRY L. LIGHTNER, San Francisco, Cal., assignor of one-third to William Priest and one-third to Henry Feige, San Francisco, Cal. Filed Feb. 23, 1906. Serial No. 302,336.

Claim.—1. In an apparatus of the character described, the combination of an amalgamating-table having in the middle portion thereof a channel, and a chute leading therefrom, an air-chamber, hollow arms extending from said air-chamber, nozzles connected with said arms and discharging downward and inward on said table, and means for feeding material to the periphery of the table, substantially as described.



2. In an apparatus of the character described, the combination of a table having a peripheral wall, a central air-conduit, a channel around said conduit into which the material is discharged from the table, an air-chamber revolving above the end of the conduit and means for supplying compressed air thereto, a hopper above the air-chamber, a launder leading from the hopper to the peripheral portion of the table, air-conduits leading from the air-chamber, and nozzles connected with said conduits and discharging compressed air against the material upon the table, said nozzles being directed inwardly or toward the center of the table, substantially as described.

3. In an apparatus of the character described, the combination of an amalgamating-table having in the middle portion thereof a channel, and a launder leading therefrom, the outer portion of the table being substantially horizontal and covered with mercury while the inner portion slopes slightly upward from said horizontal portion, a revolving air-chamber, hollow arms extending from said air-chamber, nozzles connected with said arms and discharging downward and inward on said table, substantially as described.

4. In an apparatus of the character described, the combination of an amalgamating-table having in the middle portion thereof a channel, and a launder leading therefrom, a revolving air-chamber, hollow arms extending from air-chamber, substantially tangential to said air-chamber, nozzles connected with said arms and discharging downward and inward on said table, and means for feeding material to the periphery of the table, substantially as described.

5. In an apparatus of the character described, the combination of an amalgamating-table having in the middle portion thereof a channel, and a launder leading therefrom, a revolving air-chamber, hollow arms extending from said chamber, nozzles connected with said arms and discharging downward and inward on said table, said nozzles being flattened at their discharge ends so as to be narrow vertically and wide horizontally, and means for feeding material to the periphery of the table, substantially as described.

6. In an apparatus of the character described, the combination of an amalgamating-table having in the middle portion thereof a channel, and a launder leading therefrom, the table having pockets containing mercury to catch platinum and other metals of greater specific gravity, a revolving air-chamber, hollow arms extending from said air-chamber, nozzles connected with said arms and discharging downward and inward on said table, and means for feeding material to the periphery of the table, substantially as described.

7. In an apparatus of the character described, the combination of an amalgamating-table having in the middle portion thereof a channel, and a launder leading therefrom, a revolving air-chamber, a brush revolving in said channel with the air-chamber, hollow arms extending from said air-chamber, nozzles connected with said arms and discharging downward and inward on said table, and means for feeding material to the periphery of the table, substantially as described.

8. In an apparatus of the character described, the combination of an amalgamating-table, an air-chamber over the center of said table, an air-conduit leading upward through the center of said table to said air-chamber, air-conducting arms leading from said chamber over the table, nozzles carried by said arms and discharging downward onto said table, and means for feeding the material to be treated onto said table, and means for revolving said air-chamber and arms, substantially as described.

9. In an apparatus of the character described, the combination of a table, an air-chamber at the center thereof, an air-conduit beneath the table and leading to said air-chamber, air-pipes leading outward from said air-chamber, downwardly-directed nozzles carried by said pipes, substantially as described.

10. In an apparatus of the character described, the combination of an amalgamating-table, an air-chamber over the center of said table, an air-conduit leading upward through the center of said table to said air-chamber, tapered air-conducting arms leading from said chamber over the table, nozzles carried by said arms and discharging downward onto said table, and means for feeding the material to be treated onto said table, and means for revolving said air-chamber and arms, substantially as described.

11. In an apparatus of the character described, the combination of a table, an air-chamber, hollow arms extending therefrom, nozzles carried by said arms and directed downward upon the table, and means for revolving said arms located beneath said table, substantially as described.

12. In an apparatus of the character described, the combination of a table, an air-chamber, hollow arms extending therefrom, nozzles carried by said arms and directed downward upon the table, means for conducting compressed air to said chamber first beneath the table and then upward through the center thereof, and means for revolving said arms located beneath said table, substantially as described.

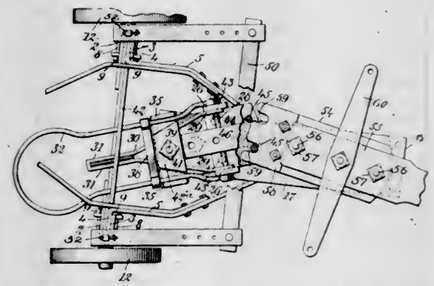
13. In an apparatus of the character described, the combination of a table, an air-chamber, hollow arms extending therefrom, nozzles carried by said arms and directed downward upon the table, a conduit leading beneath said table and upward through the center thereof into said chamber, a shaft leading upward through said conduit and connected to said chamber to rotate the hollow arms, and means located beneath the table for revolving said shaft, substantially as described.

14. In an apparatus of the character described, the combination of a table, a shaft arranged vertically through the center of said table, means beneath the table for revolving said shaft, an air-chamber and a hopper carried by said shaft, hollow arms extending outward from the air-chamber, chutes extending outward from the hopper, nozzles carried by the arms and discharging downwardly upon the table, and an air-conduit leading to said air-chamber upward through the center of the table, substantially as described.

15. In an apparatus of the character described, the combination of a table, a shaft arranged vertically through the center of said table, means beneath the table for revolving said shaft, an air-chamber and a hopper carried by said shaft, hollow arms extending outward from the air-chamber, chutes extending outward from the hopper, nozzles carried by the arms and discharging downwardly upon the table, and an air-conduit leading to said air-chamber, substantially as described.

16. In an apparatus of the character described, the combination of a table, a revolving air-chamber, hollow arms extending from said air-chamber, nozzles connected with said arms and discharging downward on said table, said nozzles being flattened at their discharge ends so as to be narrow vertically and wide horizontally, and means for feeding material to the table, substantially as described.

841,991. STEERING DEVICE FOR WHEELED VEHICLES. JOHN W. LOVE, Truby, Tex. Filed Aug. 5, 1905. Serial No. 272,851.



Claim.—1. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a laterally-movable tongue, of a frame extending rearwardly from the timber, an axle connecting the rearward ends of the frame, hanger-loops secured to the ends of the axle, vertically-disposed sleeves secured thereto, spindles turnable in the sleeves and carrying wheels for the vehicle, and means intermediate of the tongue and spindles for turning the wheels in correspondence with movements imparted to the tongue in either direction.

2. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a laterally-movable tongue, of a frame extending rearwardly from the timber, an axle connecting the rearward ends of the frame, hanger-loops secured to the ends of the axle, vertically-disposed sleeves secured thereto, spindles turnable in the sleeves and carrying wheels for the vehicle, and means intermediate of the tongue and spindles for turning the wheels in correspondence with movements imparted to the tongue in either direction, embodying swing-plates and movable fulcra between the two.

3. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a laterally-movable tongue, of a frame extending rearwardly from the timber, an axle connecting the rearward ends of the frame, hanger-loops secured to the ends of the axle, vertically-disposed sleeves secured thereto, spindles turnable in the sleeves and carrying wheels for the vehicle, and means intermediate of the tongue and spindle for turning the wheels in correspondence with movements imparted to the tongue in either direction, embodying swing-plates and a middle plate between the two, one of said swing-plates carrying pins, and the middle plate having notches receiving the pins.

4. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a laterally-movable tongue, of a frame extending rearwardly from the timber, an axle connecting the rearward ends of the frame, hanger-loops secured to the ends of the axle, vertically-disposed sleeves secured thereto, spindles turnable in the sleeves and carrying wheels for the vehicle, and means intermediate of the tongue and spindles for turning the wheels in correspondence with movements imparted to the tongue in either direction, embodying swing-plates and

movable fulcra between the two, both of said swing-plates being pivotally supported with reference to the timber, and one of them being rigid with the rearward portion of the tongue.

5. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a laterally-movable tongue, of a frame extending rearwardly from the timber, an axle connecting the rearward ends of the frame, hanger-loops secured to the ends of the axle, vertically-disposed sleeves secured thereto, spindles turnable in the sleeves and carrying wheels for the vehicle, and means intermediate of the tongue and spindles for turning the wheels in correspondence with movements imparted to the tongue in either direction, embodying a pivoted transverse bar and links connecting the ends of the same with said spindles.

6. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a laterally-movable tongue, of a frame extending rearwardly from the timber, an axle connecting the rearward ends of the frame, hanger-loops secured to the ends of the axle, vertically-disposed sleeves secured thereto, spindles turnable in the sleeves and carrying wheels for the vehicle, and means intermediate of the tongue and spindles for turning the wheels in correspondence with movements imparted to the tongue in either direction, embodying a pivoted transverse bar and links connecting the ends of the same with said spindles, said bar being adjustable longitudinally of the timber and said links having means for adjusting them as to length, with reference to the bar.

7. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a laterally-movable tongue, of a frame extending rearwardly from the timber, an axle connecting the rearward ends of the frame, hanger-loops secured to the ends of the axle, vertically-disposed sleeves secured thereto, spindles turnable in the sleeves and carrying wheels for the vehicle, and means intermediate of the tongue and spindles for turning the wheels in correspondence with movements imparted to the tongue in either direction, embodying a pivoted transverse bar and links connecting the ends of the same with said spindles, the upper ends of the spindles each being squared and having transverse holes therein, and provided with a fastening-pin for one of the links, whereby the height of the links relatively to the spindles may be varied.

8. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a tongue pivoted thereon to have lateral movement in either direction, of a frame extending rearwardly from the timber, a swing-plate above the rearward portion of the timber, a forward yoke and a rearward yoke, each rigid with the swing-plate, a vertically-movable frame supported by the forward yoke, a vertically-swinging frame pivoted to members of this yoke, a horizontal member rigid with and extending rearwardly from the forward yoke, a transverse bar pivoted upon the forward yoke, supporting-wheels and vertical spindles therefor, links movably connecting said spindles with said bar, a transverse member disposed between the wheels, and having notches therein, for receiving portions of said vertically-swinging frame, and means for exerting pressure upon this frame, tending to force such portions into the notches.

9. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a tongue pivoted thereon to have lateral movement in either direction, of a frame extending rearwardly from the timber, a swing-plate above the rearward portion of the timber, a forward yoke and a rearward yoke, each rigid with the swing-plate, a vertically-movable frame supported by the forward yoke, a vertically-swinging frame pivoted to members of this yoke, a horizontal member rigid with and extending rearwardly from the forward yoke, a transverse bar pivoted upon the forward yoke, supporting-wheels and vertical spindles therefor, links movably connecting said spindles with said bar, a transverse member disposed between the wheels, and having notches therein, for receiving portions of said vertically-swinging frame, and means for exerting pressure upon this frame, tending to force such portions into the notches, embodying a screw-pin supported by the rearward yoke, a vertically-slidable block thereon, notched to receive portions of the said screw-pin, and a nut and a plate for regulating the tension thereof.

10. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a tongue pivoted thereon to have lateral movement in either direction, of a frame extending rearwardly from the timber, a swing-plate above the rearward portion of the timber, a forward yoke and a rearward yoke, each rigid with the swing-plate, a vertically-movable frame supported by the forward yoke, a vertically-swinging frame pivoted to members of this yoke, a horizontal member rigid with and extending rearwardly from the forward yoke, a transverse bar pivoted upon the forward yoke, supporting-wheels and vertical spindles therefor, links movably connecting said spindles with said bar, a transverse member disposed between the wheels, and having notches therein, for receiving portions of said vertically-swinging frame, and means for exerting pressure upon this frame, tending to force such portions into the notches, said horizontal member having holes therein for varying the pivotal support of the transverse bar, and said links having holes therein for varying the operative length thereof correspondingly with changes made in the position of said transverse bar.

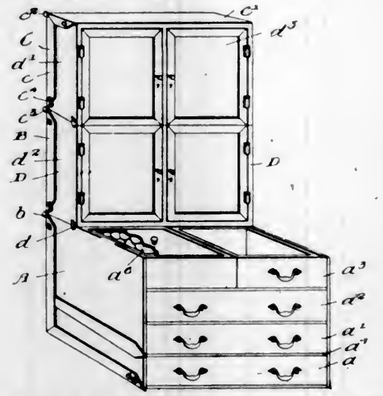
11. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a laterally-movable tongue, of a frame extending rearwardly from the timber, an axle connecting the rearward ends of the frame, hanger-loops secured to the ends of the axle, vertically-disposed sleeves secured thereto, spindles turnable in the sleeves and carrying wheels for the vehicle, and means intermediate of the tongue and spindles for turning the wheels in correspondence with movements imparted to the tongue in either direction, portions of said sleeves being partially received between the outer edges of said hanger-loops to prevent forward or rearward tilting of the sleeves.

12. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a laterally-movable tongue, of a frame extending rearwardly from the timber, two swing-plates, each mounted to turn laterally in either direction with reference to the timber, and one of them being bolted to the tongue, vertical spindles carrying supporting-wheels, a pivoted transverse bar, links movably connecting the same with said spindles, movable fulcra between the swing-plates, whereby the turning of the wheels may be effected by turning the tongue in either direction, and means in connection with the swing-plates whereby to manually turn the wheels.

13. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a laterally-movable tongue, of a frame extending rearwardly from the timber, two swing-plates, each mounted to turn laterally in either direction with reference to the timber, and one of them being bolted to the tongue, vertical spindles carrying supporting-wheels, a pivoted transverse bar, links movably connecting the same with said spindles, movable fulcra between the swing-plates, whereby the turning of the wheels may be effected by turning the tongue in either direction, and means in connection with the swing-plates whereby to manually turn the wheels.

14. In steering devices for vehicles, of the character specified, the combination with a longitudinal timber, and a laterally-movable tongue, of a frame extending rearwardly from the timber, two swing-plates, each mounted to turn laterally in either direction with reference to the timber, and one of them being bolted to the tongue, vertical spindles carrying supporting-wheels, a pivoted transverse bar, links movably connecting the same with said spindles, movable fulcra between the swing-plates, whereby the turning of the wheels may be effected by turning the tongue in either direction, and means in connection with the swing-plates whereby to manually turn the wheels comprising a notched member, a vertically-swinging frame, and pressure devices for the latter.

841,992. TRANSFORMABLE TRUNK. JOHAN A. LUNDSTROM, Truro, Nova Scotia, Canada. Filed Feb. 10, 1906. Serial No. 300,495.



Claim.—1. A transformable trunk comprising a suitable body portion, a cover hinged thereto, a front portion hinged to said cover, and formed in two parts hinged together, the end portion of which is adapted to form the top of a wardrobe and removable means adapted to form a closet with said cover and front portions as and for the purpose specified.

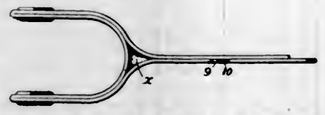
2. A transformable trunk comprising a suitable body portion, a cover hinged thereto, vertically-extending removable side members, doors formed in two horizontally-divided sections each section being independently movable in relation to the other section, said doors being hinged to the side members and forming with the cover and side members a closet as and for the purpose specified.

3. A transformable trunk comprising a suitable body portion, a cover hinged thereto, a front portion hinged to said cover and formed in two parts hinged together, the end part of which is adapted to form the top of the wardrobe, vertically-extending removable side members forming the sides of the wardrobe and doors hinged thereto forming a closet as and for the purpose specified.

4. A transformable trunk comprising a body portion, a cover hinged to the back edge of the trunk and intermediate of its length and adapted when the trunk is closed to extend around the top and front of the trunk and when the trunk is open to extend upwardly at the back at right angles to the trunk and partially horizontally forwardly to form the supporting back and top of a closet as and for the purpose specified.

5. A transformable trunk comprising a body portion, a cover hinged to the back edge of the trunk and intermediate of its length and adapted when the trunk is closed to extend around the top and front of the trunk and when the trunk is open to extend upwardly at the back at right angles to the trunk and partially horizontally forwardly to form a supporting back and top of a closet and the top drawers extending backwardly such a distance as to leave a space to form a downward extension of the closet as and for the purpose specified.

841,993. TELEPHONE SWITCH-HOOK. RAY H. MANSON, Elyria, Ohio, assignor to The Dean Electric Company, Elyria, Ohio, a Corporation of Ohio. Filed Dec. 2, 1905. Serial No. 290,039.



Claim.—1. A telephone switch-hook stamped from a single integral sheet of metal and having prongs and a shank, said prongs and shank being folded along their length to make the device of double thickness, and a pivotal connection at the end.

2. A telephone switch-hook constructed from a single integral sheet-metal blank bent and folded into shape to provide a shank or body and a hook or supporting prong of double thickness, and a pivotal connection of single thickness at the end of the shank.

3. A telephone switch-hook constructed from a blank having a main body portion adapted to be folded longitudinally and having end portions also folded longitudinally, said end portions being spread apart to form the prongs of the completed switch-hook, together with a rear portion extending longitudinally from the main body portion and constituting a pivotal connection.

4. As an article of manufacture, a sheet-metal blank adapted to be converted into a telephone switch-hook, said blank having a body portion and legs adapted to be folded longitudinally, said legs being spread apart and curved suitably to provide the completed switch-hook with prongs, together with a portion extending longitudinally to the rear of said body, and notched to form a pivotal connection for the completed switch-hook.

5. A telephone switch-hook formed from one sheet of metal having a body portion and separated legs constituting prongs, said body portion and said prongs being folded throughout their length to double thickness, a pivotal connection at one end of the shank, and a bracing portion at the junction of the prongs with the body.

6. A telephone switch-hook formed from one sheet of metal and comprising a body portion and separated legs constituting prongs, said body portion and said prongs being folded throughout their length to double thickness, a notched pivotal portion extending to the rear of said body portion, and projecting ears on the shank forming an operating connection.

7. A telephone switch-hook formed from one sheet of metal and comprising a body portion and separated legs constituting prongs, said body portion and said prongs being folded throughout their length to double thickness, a notched pivotal portion extending to the rear of said body portion, and projecting ears defining a notch which forms an operating connection, one of said ears having a camface.

8. A telephone switch-hook formed from one sheet of metal and comprising a body portion and separated legs constituting prongs, said body portion and said prongs being folded throughout their length to double thickness, a notched pivotal portion extending to the rear of said body portion, projecting ears on the shank forming an operating connection, and a brace formed in folding the hook at the junction of the prongs with the shank.

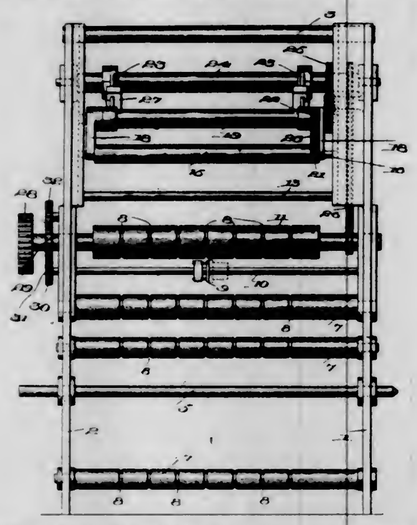
9. A telephone switch-hook stamped from an integral sheet of metal and comprising a shank and prongs, said shank and prongs being folded throughout their entire length to double thickness, hollow rivets holding the ends of the prongs together, a pivotal connection of single thickness at the end of the shank, an operating connection comprising projecting ears intermediate the length of the shank, and a brace formed by folding the metal at the junction of the prongs with the shank.

841,994. WEB-GUIDE FOR REWINDING-MACHINES, &c. ROBERT MASON, Dover, N. H., assignor to Kidder Press Company, Dover, N. H., a Corporation of West Virginia. Filed July 16, 1903. Serial No. 165,790.

Claim.—1. In a web-guide, in combination, means for feeding a web, and means for preserving the alinement thereof, said means comprising an idler-roller interposed in the path of travel of said web at right angles thereto and provided with a circumferential groove or grooves at right angles to its axis.

2. In a winding-machine, in combination, a winding-shaft upon which a web is adapted to be wound, and a guide-roller interposed in the path of travel of the web, said roller having a plurality of circumferential grooves therein at right angles to its axis, and being free from coacting parts fitting said grooves.

3. In a winding-machine, in combination, a winding-shaft upon which a web is adapted to be wound, means interposed in the path of said web for slitting or dividing the web longitudinally and a roller interposed in the path of travel of said web having a circumferential groove therein at right angles to its axis, said roller being free from coacting parts fitting said grooves.



4. In a winding-machine, in combination, a winding-shaft upon which a web is adapted to be wound, means interposed in the path of said web for slitting or dividing the web longitudinally and a roller interposed in the path of travel of said web having a plurality of circumferential grooves therein at right angles to its axis, said roller being free from coacting parts fitting said grooves.

5. In a machine for slitting and rewinding a web of paper or other fabric, in combination with the delivery-shaft and the rewinding-shaft, the means for slitting and dividing the web into narrower webs, and a winding-drum upon the outer surface of which the rewound roll is adapted to rest and by which it is driven, said winding-drum having a circumferential groove or grooves in said outer surface, said grooves being parallel to the line of travel of the web and also being interposed between the edges of the cut portions of the same.

6. In a machine for slitting and rewinding a web of paper or other fabric, in combination with the delivery-shaft, the rewinding-shaft and a slitting means, an idler-roller interposed in the path of travel of the web between the delivery-shaft and the rewinding-shaft, said idler-roller having grooves therein which are parallel to the line of travel of the web.

7. In a machine for slitting and rewinding a web of paper or other fabric, in combination with the delivery-shaft and the means for slitting the web into a number of narrower webs, a circumferentially-grooved idler-roller located between the delivery-shaft and the slitting means and a circumferentially-grooved winding-drum upon which the rewound roll rests and by which it is adapted to be driven.

8. In a machine of the class described, in combination, a supply-roll, cutting mechanism, and a guide-roller interposed between said mechanism and said supply-roll the surface of which is provided with a plurality of annular grooves substantially parallel to the direction of travel of material from said supply-roll over the same.

9. In a machine of the class described, in combination, a supply-roll, cutting mechanism, and an independent guide-roller interposed between said cutting mechanism and said supply-roll the surface of which is provided with a plurality of annular grooves substantially parallel to the direction of travel over the same of material from said supply-roll.

10. In a machine of the class described, in combination, a supply-roll, cutting mechanism, and an independent idler guide-roller interposed between said cutting mechanism and said supply-roll the surface of which is provided with a plurality of annular grooves substantially parallel to the direction of travel over the same of material from said supply-roll.

11. In a machine of the class described, in combination, cutting mechanism, means adapted to supply a sheet of material thereto, and a roller over which the parts of said sheet pass from said cutting mechanism, that part of the surface of which over which each part of said sheet passes is grooved in a direction substantially parallel to the direction in which said material passes over the same.

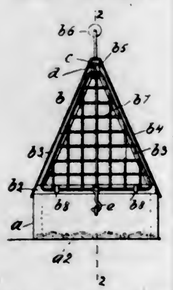
12. In a machine of the class described, in combination, cutting mechanism, means adapted to supply a sheet of material thereto, and an independent roller over which the parts of said sheet pass from said cutting mechanism, the portions of the surface of which over which each part of said sheet passes are grooved in a direction substantially parallel to the direction in which said material passes over the same.

13. In a machine of the class described, in combination, a supply-roller, cutting mechanism, a guide-roller interposed between said cutting mechanism and said supply-roller the surface of which is provided with a plurality of annular grooves substantially parallel to the direction of travel of material from said supply-roller over the same, and a roller over which the parts of said sheet pass from said cutting mechanism, the portions of the surface of which over which each part of said sheet passes are grooved in a direction substantially parallel to the direction in which said material passes over the same.

14. In a machine of the class described, in combination, a supply-roller, cutting mechanism, an independent guide-roller interposed between said supply-roller and said cutting mechanism the surface of which is provided with a plurality of annular grooves substantially parallel to the direction in which material passes from said supply-roller over the same, and an independent roller over which the parts of said material pass from said cutting mechanism, the portions of the surface of which over which each part passes are grooved in a direction substantially parallel to the direction in which said material passes over the same.

15. In a machine of the class described, in combination, a supply-roller, a winding-roller, and a guide-roller interposed between the same the surface of which is grooved in a direction at right angles with the axis thereof.

841,995. HEN'S NEST AND HATCHING-COOP. HORACE J. MIER and DAVID BEAMES, Rutherford, N. J. Filed June 28, 1906. Serial No. 323,853.



Claim.—1. A hen's nest and hatching-coop, comprising a box-shaped base portion having an open-work bottom and a roof portion provided with open-work gable end members which are hinged to the base of the roof portion.

2. A hen's nest and hatching-coop, comprising a box-shaped base portion having an open-work bottom and a roof portion provided with open-work gable end members which are hinged to the base of the roof portion, said roof portion being detachably connected with the base portion.

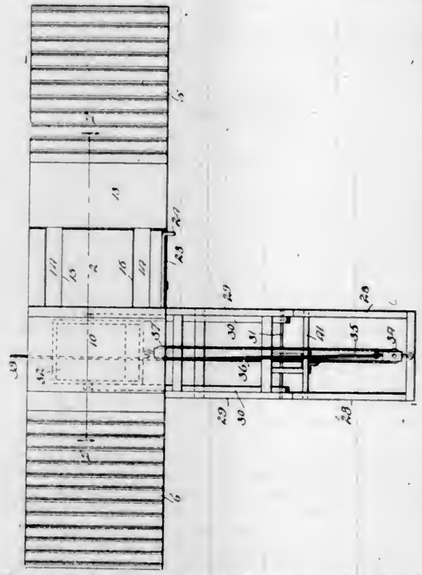
3. A hen's nest and hatching-coop, comprising a box-shaped base portion having an open-work bottom and a roof portion provided with open-work gable end members which are hinged to the base of the roof portion, said roof portion being detachably connected with the base portion, and the roof portion being provided at the top with a handle.

4. A hen's nest and hatching-coop, comprising a box-shaped portion having a roof-shaped top portion, said top portion being composed of a frame having inclined water-proof side and open-work gable ends, said gable ends being hinged at the base of the top portion and provided with means for locking them in the closed position.

5. A hen's nest and hatching-coop, comprising a box-shaped base portion and a top roof portion, said roof portion being provided with inclined sides and gable ends, and the gable ends being composed of open-work material and being hinged to the base of the top portion.

6. A hen's nest and hatching-coop, comprising a box-shaped base portion and a top roof portion, said roof portion being provided with inclined sides and gable ends, and the gable ends being composed of open-work material and being hinged to the base of the top portion, said top portion being detachably connected with the base portion.

841,996. UNLOADING APPARATUS. ULYSSES G. MIGNERET, Julian, Nebr. Filed Aug. 1, 1906. Serial No. 328,801.



Claim.—1. An unloading apparatus comprising a platform having an opening therein, a door forming a portion of the platform for closing said opening, a trap or dumping device adapted to be automatically operated by the vehicle, whereby the latter may be tilted to discharge its contents through said opening, means for holding the platform in normal position and releasing it, a receptacle disposed below the opening in the platform, and a swinging elevator carrying said receptacle and movable through the opening.

2. An unloading apparatus comprising a frame having a platform or runway provided with an opening, a door for normally closing said opening, a tilting trap or dumping device forming part of the platform and adapted to be automatically actuated by the vehicle, whereby the latter may be tilted to discharge its contents through said opening, spring means for tilting the trap, means for normally holding the trap in normal position and releasing it for operation, a receptacle below the opening in the platform, and means for elevating said receptacle through said opening.

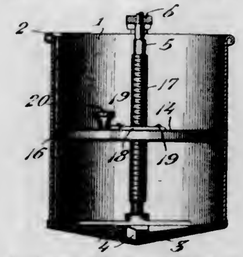
3. A device for unloading wagons and delivering the contents thereof, comprising a frame having a platform provided with an opening therein, a door for normally closing said opening, a trap or vehicle-tilting device upon the platform, means for normally holding said trap in closed position, means for tilting it upon the release of said holding means, a swinging elevator movable through said opening, a dumping-receptacle pivotally mounted upon the elevator, and means for swinging said elevator and controlling the action of said receptacle.

4. An apparatus for unloading vehicles and conveying the contents thereof to a desired point, comprising a frame having a platform or runway provided with an opening therein, a door for normally closing said opening, a tilting platform-section adapted to support the vehicle when the latter is in discharging position, means for holding said action in normal position, means for tilting said section when said holding means is released, a receptacle arranged below the opening in the platform and movable through the same, a swinging elevator carrying said receptacle and movable through said opening, and means for controlling the action of said elevator and receptacle.

5. An apparatus for unloading vehicles and conveying the contents thereof to a desired point, comprising a frame having a platform provided with an opening therein, a door for normally closing said opening for the passage of the vehicle thereover, means upon the platform for tilting the vehicle so that its contents may discharge by gravity through said opening, a swinging elevator movable through the opening, a bucket carried by said elevator, and means for controlling the action of the elevator and bucket.

6. An apparatus for unloading vehicles and conveying the contents to a desired point of discharge, comprising a frame having a platform provided with an opening therein, a door for normally closing said opening for the passage of the vehicle thereover, a tilting platform-section adapted to support the vehicle when the latter is arranged in discharging position, said section comprising a main portion and arms, a rock-shaft having operating means and provided with members movable under said arms to maintain said tilting platform-section in normal position, means for tilting the platform when said operating elements are thrown out of the path of movement of the arms, a receptacle arranged below the opening in the platform, and an elevator for swinging said receptacle through the opening to a desired point.

841,997. CHEESE-MILL. ELMER E. MILLER, Sacramento, Pa. Filed May 2, 1906. Serial No. 314,812.

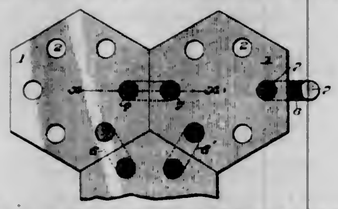


Claim.—1. A cheese-mill comprising a cylindrical body provided with a conical sieve-bottom, a rotary shaft extending into said body portion, a grinding-head fast on said rotary shaft, said grinding-head consisting of crossed arms which conform in contour to the form of the sieve, a presser-head or follower provided with means for preventing its rotation and movable up and down within the body and having a threaded engagement with said shaft through the medium of a threaded plate secured to said presser-head, a cross-bar in which the shaft is journaled, said cross-bar provided with holes in the opposite ends thereof, posts extending upward from the opposite edges of the

body and pivoted latches mounted on said cross-bar and adapted to be moved into and out of engagement with said posts for locking the cross-bar to the body of the mill.

2. A cheese-mill comprising a cylindrical body portion provided with a conical sieve-bottom, a rotary shaft working in said body, said shaft being threaded, a grinding-head fast on said rotary shaft and conforming in contour to said sieve-bottom, a presser-head or follower movable up and down within the body and having a threaded engagement with said shaft, said presser-head having a notch at one side and a guide secured to the inner wall of the body to engage said notch to guide the presser-head, substantially as described.

841,998. TILE FLOORING. LOGAN W. MULFORD, Philadelphia, Pa. Filed Feb. 20, 1906. Serial No. 302,003.



Claim.—1. A tile for flooring and the like, of a shape adapted to coincide edgewise when assembled in series, having an aperture extending through the body portion thereof in the direction of its thickness, a filling in said aperture of a harder material than the body portion of the tile, and with means integral therewith adapted to interlock a body of such tiles in series.

2. A tile for flooring and the like, adapted to coincide edgewise when assembled in series, and having an aperture extending through the body portion thereof in the direction of its thickness, in combination with means to interlock a body of such tiles in series, said means consisting of a bar having angularly-disposed studs adapted to engage and fill said apertures in adjacent tiles, whereby the upper end of each stud operates to provide a tread-surface substantially flush with the tread-surface of the tile.

3. In a device of the character described, tiles having apertures therethrough, the walls of said apertures being serrated, and a locking member having projections thereon adapted to be seated in apertures of different tiles, the upper end of said locking member being substantially flush with the upper surface of the tiles.

4. A tile for flooring and the like adapted to be assembled edgewise in series, having a longitudinal recess on the under face thereof extending to one edge of the tile in the direction of its width and another recess extending transversely therefrom in the direction of the thickness of the tile, in combination with an interlocking member comprising a bar adapted to rest in said recess and having angularly-disposed studs at each end thereof adapted to engage said transverse recesses in adjacent tiles.

5. In a device of the character described, tiles having apertures therethrough, and a recess extending from each aperture to the side nearest thereto, a locking member, comprising a bar adapted to be seated in said recess and having studs extending angularly therefrom, said studs engaging said apertures and the upper face of said studs being substantially flush with the upper surface of the tiles.

6. In a device of the character described, tiles having apertures therethrough, and a recess extending from each aperture to the side nearest thereto, a locking member comprising a bar adapted to be seated in said recess and having studs extending angularly therefrom, said studs engaging said apertures and the upper face of said studs being substantially flush with the upper surface of the tiles and means on said studs for preventing their disengagement with the tiles coacting therewith.

7. A tile for flooring, adapted to be assembled edgewise in series, provided with a plurality of vertical openings extending through the body of the tile, in combination with a metallic locking member having a plurality of upright studs adapted to fill said openings in the tile and operating as well to bind together adjacent tiles as to provide a wear-resisting surface flush with the tread-surface of the tile.

8. As a new article of manufacture, a flooring composed of a series of tiles, coinciding edgewise, each tile having an aperture extending through the body portion in the direction of its thickness, with means to simultaneously interlock the several tiles in the series and to resist wear of the tread-surface thereof, said means consisting of a series of locking members, each comprising a bar having a plurality of studs extending angularly therefrom and adapted to engage and fill the respective apertures in the adjacent tiles and form a flush tread-surface.

841,999. PROCESS OF MAKING FORMALDEHYDE SULFOXYLATES. RUDOLF MÜLLER and WOLDEMAR WOLLENBERG, Höchst-on-the-Main, Germany, assignors to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed Mar. 20, 1906. Serial No. 307,032. (Specimens.)

Claim.—1. The herein-described process for the manufacture of formaldehyde sulfoxylates, which consists in treating the sulfoxylates of ketones having the formula CH_3COX, wherein X means methyl or ethyl, with formaldehyde.

2. The herein-described process for the manufacture of formaldehyde sulfoxylates, which consists in treating the sulfoxylates of acetone with formaldehyde.

842,000. SAFETY-RAZOR. JAMES T. MCCANN, Greensburg, Pa. Filed May 5, 1906. Serial No. 315,314.



Claim.—1. In safety-razors, a shield and a blade having the same transverse curvature to conform to each other, teeth formed on the longitudinal edges of said shield, a guard formed on each corner-tooth to receive the corners of said blade, the two corner-teeth of one longitudinal edge being extended beyond the remainder of the teeth of said edge, a roller journaled in said two projecting teeth, and end lugs carried by the shield to engage in notches provided therefor in the ends of the blade.

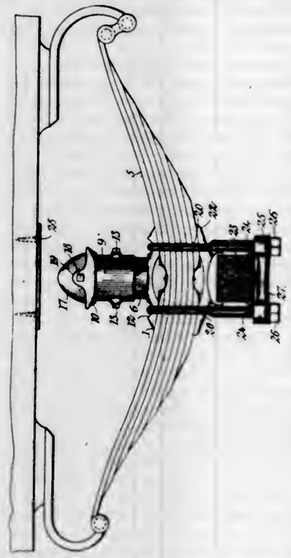
2. In safety-razors, a shield member and a blade member having the same transverse curvature to conform to each other, end lugs formed on one of said members to engage in notches provided therefor in the other of said members, teeth carried by the longitudinal edges of the shield member and having the two corner or end teeth of one edge projecting beyond the remainder of the teeth of said edge, and a roller journaled in said two projecting teeth.

3. In safety-razors, a shield member and a blade member transversely curved in the same manner to conform to each other, centrally-disposed end lugs carried by one member to engage in notches formed in the other member, teeth formed on the longitudinal edges of said shield member, the end teeth of one longitudinal edge being extended beyond the remainder of the teeth on the same edge, a roller journaled in said extended teeth, and guard-flanges carried by the end teeth of each edge to receive the corners of said blade member.

4. In safety-razors, a transversely-curved shield having teeth on both longitudinal side edges and having the end teeth on one longitudinal side edge projecting beyond the remainder of the teeth on the same edge, a roller journaled in said two projecting teeth, and a transversely-curved blade fitting on the shield the blade and shield having the same transverse curve, whereby the inner face of the blade contacts throughout its surface with the shield.

5. In safety-razors, a toothed shield longitudinally concaved centrally of its upper face and reversely curved at each side of the concave portion, a blade conforming in curvature to the shield and closely fitting on the upper face thereof, and means for securing the blade and shield together.

842,001. VEHICLE-SPRING BUFFER. PETER MCKAY, Day Dawn, Western Australia, Australia, assignor of one-fourth to Candido Ribatto and one-fourth to John A. Osborn, Day Dawn, Western Australia, Australia. Filed Nov. 6, 1905. Serial No. 286,005.



Claim—1. A vehicle-spring buffer comprising tubular telescopic members, a cap-plate on the upper member having upwardly-extended tapped lugs, a rubber cushion seated on said cap, and screws engaging in said tapped lugs and engaging against said cushion.

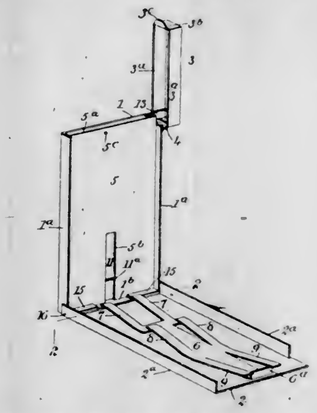
2. A vehicle-spring buffer comprising a plate, designed to be secured to the upper side of a vehicle-spring, a tube extended upward from said plate and having opposite slots, the upper member comprising an inner tube and an outer tube engaging respectively against the inner and outer sides of the first-named tube, screw-bolts passing through the said outer tube and through the slots of the first-named tube, a cap-plate on the upper member, and a cushion mounted on said cap-plate.

3. A vehicle-spring buffer comprising a plate adapted to rest on the upper side of a vehicle-spring, a tube extended upward from said plate and having opposite slots, upper tubes having sliding movement on the first-named tube, a metal plate carried by said upper tubes, a rubber cushion in the first-named tube and adapted to be engaged by said metal plate, and a rubber cushion carried by the upper tubes.

4. In a vehicle-spring buffer, a plate adapted to be placed on the upper side of a vehicle-spring and having transverse grooves, a telescopic buffer mounted on said plate, a plate for engaging against the under side of the vehicle-spring and having cam-shaped ends, clip-yokes through which the spring passes, the upper portions of said yokes engaging in said grooves of the first-named plates, while the lower portions engage with the cam-surfaces of the lower plates, threaded extensions on said yokes, and a bar engaging against the under side of the vehicle-axle, and to which said threaded extensions are connected.

842,002. CARD-CASE. MAGNUS NIELL, New York, N. Y. Filed July 16, 1906. Serial No. 326,372.

Claim.—1. A card-case comprising two members hinged together, and provided with interlocking flanges, a series of springs and a spring-lip secured to one member and adapted to bear against the face of the opposite member, a shield connected to the opposite member and provided with a longitudinal slot, a cover hinged to one of said sections, and a slide pivotally connected to said cover and provided with a lip adapted to engage the slot of said shield.



2. A card-case comprising two members hinged together and provided with longitudinal interlocking flanges, a slide provided with a lip having an offset end, a cover hinged to one of said sections and provided with an arm fixedly secured thereto, a link pivoted to said arm and slide, a spacing-block secured to the inside of one member, and a shield bearing against said spacing-block and provided with a longitudinal slot adapted to receive the lip of said slide.

3. A card-case comprising two members provided with longitudinal side flanges adapted to interlock with each other, a slide provided with a lip having an offset end mounted on one of said sections, a cover hinged to one of said sections and provided with an arm rigidly secured thereto, a link pivotally connected with said arm and said slide, a shield spaced from one of said sections and provided with a longitudinal slot adapted to receive the lip of said slide, and provided also with an offset upper end adapted to close the space between said shield and section.

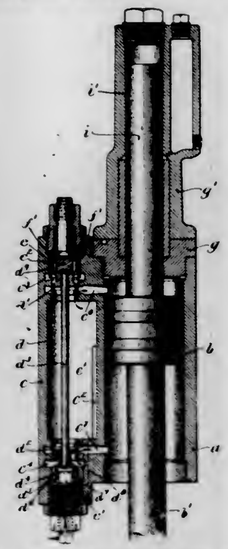
4. A card-case comprising two members hinged together and provided with interlocking longitudinal flanges, a cover hinged to one of said members provided with an arm fixedly secured thereto, a slide mounted upon one of said members and provided with a lip having an offset end, a link pivotally connected with said arm and slide, a shield adapted to cover said slide, link and arm, and provided with a longitudinal slot adapted to receive the ends of said lip, a series of springs secured to the opposite member, and a spring-lip having an offset end adapted to bear at its edge against said shield when the case is closed.

5. A card-case comprising two members hinged together, and provided with interlocking lateral flanges, a spacing-block secured to the upper end of one member, a slide secured to said member below said spacing-block, and provided with a lip having an offset end, a cover hinged to the section supporting said slide, and provided with an arm rigidly secured thereto, a link pivoted to said arm and slide, and a shield supported upon said spacing-block and provided with an offset upper end adapted to bear against the inner face of one of said members.

6. A card-case comprising two members hinged together, and provided with interlocking flanges, a cover hinged to one of said members and provided with an arm fixedly attached thereto, a slide provided with a lip having an offset end, a link pivotally connected with said arm and slide, a spacing-block adapted to serve as a stop secured to one of said members above said slide, a shield supported upon said spacing-block and provided with a slot adapted to receive the lip of said slide, spacing-blocks secured to the inner end of one of said members outside of said shield

on the opposite side of said slot, and a retaining-lip secured to the opposite member and adapted to bear against the face of said shield when the case is closed.

842,003. PRESSURE-ACTUATED VALVE FOR ENGINES. THOMAS OFFICER and HENRY H. MERCER, Claremont, N. H., assignors to Sullivan Machinery Company, Claremont, N. H., a Corporation of Maine. Filed Oct. 30, 1905. Serial No. 284,991.



Claim.—1. An engine having a cylinder, a piston, a main valve controlling the same said valve being constantly pressed in one direction, pressure means for moving said main valve in the opposite direction, an auxiliary valve controlling said pressure means, said auxiliary valve being constantly pressed in one direction, and means connected with the piston for moving the said valve in the opposite direction.

2. An engine having a cylinder, a piston therein, a main controlling-valve therefor constantly pressed in one direction, fluid-pressure means for moving said main valve in the opposite direction, an auxiliary valve for controlling said pressure means, said auxiliary valve being constantly forced in one direction by fluid-pressure means connected with the tail-rod of the piston for moving the auxiliary valve in the opposite direction against the constantly-acting pressure.

3. An engine having a cylinder, a piston, a controlling-valve therefor constantly pressed in one direction, pressure means for moving the main valve in the opposite direction, an auxiliary valve for controlling said pressure means, said auxiliary valve being constantly pressed in one direction, a tail-rod connected to the piston, and oscillating means acted upon by said tail-rod for moving the auxiliary valve in the opposite direction.

4. An engine having a cylinder, a piston therein, a main controlling-valve therefor, pressure means for actuating said main valve, an auxiliary valve for controlling said pressure means, a tail-rod connected to the piston, an oscillating device for the auxiliary valve lying within the path of the tail-rod when the latter is retracted to be engaged by the tail-rod on its return to move said auxiliary valve, and constantly-acting means to move the latter in an opposite direction on the retraction of the tail-rod.

5. An engine having a cylinder, a piston therein, a main controlling-valve therefor, pressure means for actuating the same, an auxiliary valve for controlling said pressure means, and a pivoted actuating member for said auxiliary valve lying within the path of said tail-rod and adapted for intermittent engagement therewith.

6. An engine having a cylinder, a piston therein, a main controlling-valve therefor constantly pressed in one direction, pressure means for moving the same, an auxiliary piston-valve for controlling said pressure means having pressure constantly admitted against one area thereof, a valve-stem protruding from the auxiliary-valve chamber, valve-actuating means adapted for engagement with said stem, said means being intermittently moved by the piston for moving the auxiliary valve against the constantly-acting pressure.

7. An engine having a cylinder, a piston therein, a main controlling-valve, an auxiliary piston-valve having pressure constantly admitted against one area thereof, a passage leading from the main-valve to the auxiliary-valve chamber and said passage normally maintained in communication with the live pressure by constantly-acting pressure against the valve, and actuating means intermittently moved by the piston and adapted to move the auxiliary valve against the constantly-acting pressure to place the said passage in communication with the exhaust.

8. An engine having a cylinder, a piston therein, a main controlling-valve, an auxiliary piston-valve having pressure constantly admitted against one area thereof, a passage leading from the main-valve to the auxiliary-valve chamber and normally maintained by the constantly-acting pressure against the latter in communication with the live pressure a valve-stem, a pivoted finger adapted to press against the same, and a tail-rod connected to the piston, said finger being moved by the tail-rod in one position of the piston to move the auxiliary valve against the constantly-acting pressure and place said passage in communication with the exhaust or in any other position of the piston being free to permit opposite movement of the auxiliary valve under said constantly-acting pressure.

9. An engine having a cylinder, a piston, a main valve, a pressure-actuated differential piston for actuating the main valve, an auxiliary valve for controlling the admission of pressure to and the exhaust from said differential piston, said auxiliary valve being constantly pressed in one direction, and means actuated through piston movement, to move the said valve in the opposite direction.

10. An engine having a cylinder, a piston, a main controlling-valve therefor, a pressure-actuated differential piston for actuating the main valve, an auxiliary valve having pressure constantly admitted against one area thereof, said valve controlling admission to and exhaust from said differential piston, a tail-rod connected with the engine-piston, and means alternately engaged and disengaged by said tail-rod for moving the said auxiliary valve.

11. An engine having a cylinder, a piston therein, a main controlling-valve therefor, a differential piston for actuating the said valve, the said piston having constant pressure upon the smaller differential area thereof, an auxiliary valve adapted to move to admit pressure to or exhaust it from the larger area of said differential piston, said auxiliary valve being constantly pressed in one direction, and means connected to the piston for moving said auxiliary valve in the opposite direction.

12. A direct-acting engine having a cylinder, a piston adapted for direct connection to a tool, a main controlling-valve constantly pressed in one direction, means for admitting pressure to or exhausting the same from said valve to move the same in the opposite direction, an auxiliary valve for controlling said pressure admission or exhausting means, means for constantly acting upon the auxiliary valve to press the same in one direction, and means for actuating said auxiliary valve to move the same in the opposite direction, said means being dependent upon the linear position of the piston, and independent of the displacement thereof about its axis.

13. An engine, having a cylinder, provided with a valve-chamber, a valve, a differential piston connected to control said valve, said piston having a smaller pressure area at one end constantly exposed to the pressure of the live-pressure chamber of the valve, and a larger pressure area at the opposite end, the latter exposed to an intermittent pressure, relatively adjustable abutments to limit the extent of the valve movement, an intermittent-pressure port leading to the larger pressure area, an auxiliary-valve chamber, a piston-valve working therein, a live-pressure passage leading to the auxiliary-valve chamber and to a pressure area of the auxiliary valve whereby the latter is constantly pressed in one direction, a passage leading from the auxiliary-valve chamber to the exhaust, said auxiliary valve normally connecting the intermittent-pressure port with the live-pressure passage thereby to cause admission of pressure to the larger area of the main valve and movement of the latter in one direction, a piston tail-rod and a pivoted actuator within the path of the tail-rod, the latter adapted, when engaged by the tail-rod, to move the auxiliary valve against the constantly-acting pressure, thereby connecting the intermittent-pressure port with the exhaust, and permitting the constantly-acting pressure upon the smaller piston area to move the main valve in the opposite direction.

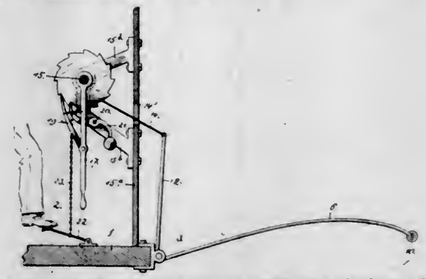
14. An engine, having a cylinder, provided with a valve-chamber, a valve, a differential piston connected to control said valve, said piston having a smaller pressure area at one end constantly exposed to live pressure and a larger pressure area at the opposite end the latter exposed to an intermittent pressure, and intermittent-pressure port leading to the larger area, an auxiliary-valve chamber, a piston-valve working therein, a live-pressure passage leading to the auxiliary-valve chamber and to a pressure area of the auxiliary valve, tending constantly to press the latter in one direction, a passage leading from the auxiliary-valve chamber to the exhaust, said auxiliary valve normally connecting the intermittent-pressure port with the live-pressure passage, thereby causing admission of pressure to the larger area of the main valve and movement of the latter in one direction, a piston tail-rod and a pivoted actuator within the path of the tail-rod, the latter adapted, when engaged by the tail-rod, to move the auxiliary valve against the constantly-acting pressure, thereby connecting the intermittent-pressure port with the exhaust, and permitting the constantly-acting pressure upon the smaller piston area to move the main valve in the opposite direction.

15. An engine, having a cylinder, provided with a valve-chamber, a valve, a differential piston connected to control said valve, said piston having a smaller pressure area at one end constantly exposed to live pressure and a larger pressure area at the opposite end, the latter exposed to intermittent pressure, an intermittent-pressure port leading to the said chamber, an auxiliary valve-chamber, a piston-valve working therein, a live-pressure passage leading to the auxiliary-valve chamber and to a pressure area of the auxiliary valve tending constantly to press the latter in one direction, a passage leading from the auxiliary-valve chamber to the exhaust, said auxiliary valve normally connecting the intermittent-pressure port with the live-pressure passage, thereby causing admission of pressure to the larger area of the main valve and movement of the latter in one direction, and auxiliary-valve-actuating means adapted to be intermittently actuated by the piston movement to move the auxiliary valve against the constantly-acting pressure, thereby to connect the intermittent-pressure port with the exhaust and permit movement of the main valve in the opposite direction.

16. An engine, having a cylinder provided with a valve-chamber, a valve, a differential piston controlling said valve said piston being constantly pressed in one direction, an intermittent-pressure port to which a pressure area of the valve is exposed, an auxiliary valve constantly pressed in one direction and normally connecting the intermittent-pressure port with the live pressure, and piston-actuated means for intermittently moving the auxiliary valve in the opposite direction to connect said port with the exhaust.

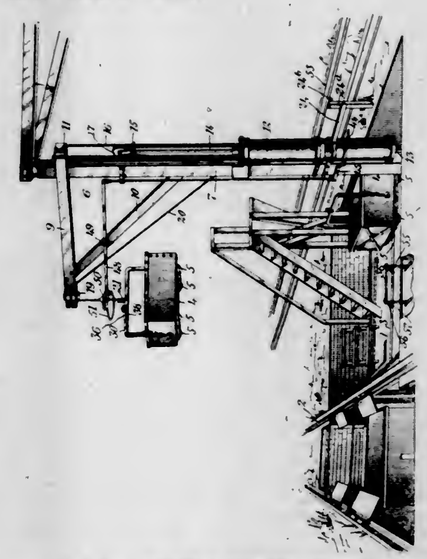
842,004. FENDER. SAMUEL D. OHARRA, West Washington, Pa. Filed May 3, 1906. Serial No. 314,992.

Claim.—1. In a fender, the combination with the dashboard and platform of a car, of brackets carried by said platform and said dashboard, a fender-frame pivotally mounted between the brackets of said platform, rollers journaled upon the forward edge of said frame and adapted to travel upon the track over which the car passes, angularly-disposed arms carried by said frame, a shaft journaled in the brackets of said dashboard, cables wound upon said shaft and connecting with said arms, a ratchet-wheel carried by said shaft, an operating-lever loosely mounted upon said shaft, a pawl carried by said lever and engaging said wheel, a weighted pawl engaging said wheel, and means to simultaneously release both of said pawls, substantially as described.



2. In a fender, the combination with the platform of a car, of a fender-frame carried by said platform, a shaft journaled above said platform, cables wound upon said shaft and connecting with said frame, means to rotate said shaft to elevate said fender-frame, and means to release the last-named means, substantially as described.

842,005. ASH-HANDLING CRANE. CRAVEN R. ORD, McAdam, New Brunswick, Canada. Filed Mar. 13, 1906. Serial No. 305,846.



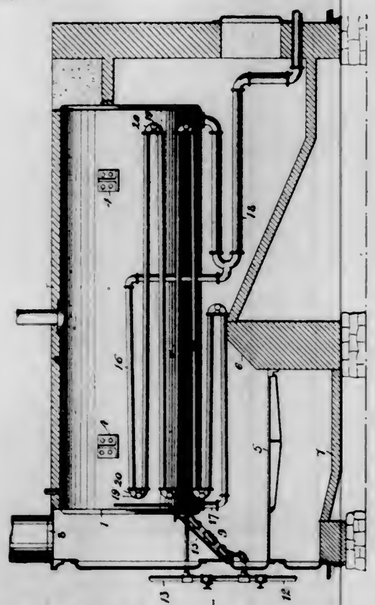
Claim.—1. In apparatus of the class described, in combination, a boom, a bucket, a spring-pressed latch maintaining the same in an upright position, a cable supporting said bucket from said boom, a ring surrounding said cable, a lever pivotally attached to said ring and pivotally attached to said boom, and means for actuating said lever to force said ring against said latch.

2. In apparatus of the class described, in combination, a bucket having a bail, a latch attached to said bail, a

catch on said bucket engaging said latch, a cable attached to said ball and supporting said bucket, a lever, a ring surrounding said cable and pivotally attached to said lever at diametrically opposite points, and means for moving said ring to engage said latch whereby said bucket may be dumped.

3. In apparatus of the class described, in combination, a boom, a bucket, a spring-pressed latch maintaining the same in an upright position, a cable supporting said bucket from said boom, a ring surrounding said cable, a lever pivotally attached to said ring and pivotally attached to said boom, a post carrying said boom, and a link attached to said post and connected to said lever for actuating the same.

842,006. HORIZONTAL BOILER. JEREMIAH C. PARKER, Red Bank, N. J. Filed Aug. 18, 1906. Serial No. 331,130.



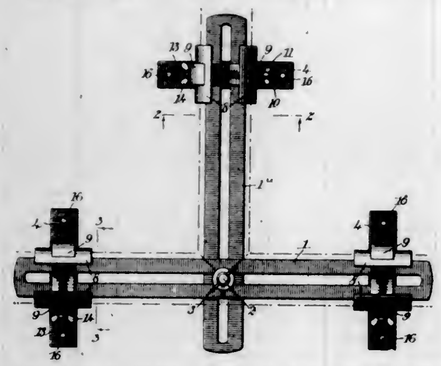
Claim.—1. In combination with a horizontal boiler, a casing therefor, a coil of pipe having both ends thereof connected to the boiler, said coil being inclined and extending from the front end of the boiler to the front of the casing, and an inclined sheet of asbestos resting upon the said coil and preventing the escape of gases.

2. In combination with a horizontal boiler, a casing therefor, a coil of pipe having the ends thereof entering said boiler, said coil lying in an inclined plane between the front end of the boiler and the casing, and a sheet of asbestos supported on said coil and completely preventing the passage of gases beyond said coil.

3. In combination with a horizontal boiler, side walls supporting the same, coils of pipe supported by said side walls and having their ends connected to said boiler, said coils lying entirely out of the normal passage of the combustion-gases, and water-lugs carried by said coils and entering recesses in said side walls.

4. In combination with a horizontal boiler, side walls supporting the same, a casing connected to said side walls and spaced from the end of the boiler, coils supported on said side walls and having their ends connected with said boiler, a coil lying between the front end of said boiler and the front of said casing and having its ends connected with the end of the boiler, and a sheet of asbestos resting on the said coil and preventing the passage of combustion-gases.

842,007. PIPE-CLAMP. RALPH PARKER, Lakewood, N. J. Filed Nov. 8, 1906. Serial No. 342,473.



Claim.—1. A clamp comprising two slotted strips, means passing through the slots of the strips adjustably connecting them together, and a clamp member adjustably connected to each strip through their respective slots.

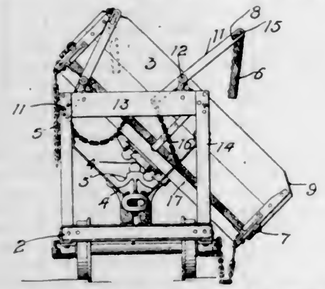
2. A clamp comprising clamping-jaws pivotally connected together through the intermediary of curved arms, a support having its upper end shaped to conform to and form a bearing for one of said arms, and means for adjustably connecting this arm and the support together.

3. A clamp comprising two slotted devices pivotally and slidably connected together, clamping members adjustably connected to one of said devices through its slot, and a clamping member likewise connected to the other device.

4. A clamp comprising jaws pivotally connected together through the intermediary of curved arms, a base-plate, a support rising from the base-plate having its upper end shaped to conform to the outer face of one of said arms, and means slidably connecting this arm and the support together.

5. A clamp comprising a plurality of clamping members, each comprising a base-plate having a support rising therefrom and clamping-jaws pivotally connected together through the intermediary of curved arms carried by said support, slotted strips, means passing through the slots of said strips adjustably connecting them together, and means passing through the slots of said strips adjustably connecting the base-plate of each clamping member thereto.

842,008. DUMPING-CAR. FRANCIS PETELER, Minneapolis, Minn. Filed Sept. 29, 1906. Serial No. 336,775.



Claim.—1. A dumping-car comprising a frame, a car-body having central and eccentric pivots thereon and capable of dumping toward either side, doors for said car-body, bars pivoted on said frame and engaging said doors to lift them vertically one at a time according to the direction in which the car-body is tilted, and means connecting said bars with said car-body whereby the tilting of the body toward one side will oscillate the bars on that side to lift the door, substantially as described.

2. A dumping-car comprising a frame, a car-body having central and eccentric pivot-bearings thereon and adapted to dump upon either side, doors for said car-body, bars pivotally supported intermediate to their ends on said frame at each end of the car and having slotted outer ends, said doors having gudgeons slidable within said slots, said gudgeons normally resting on the sides of the car and the weight of the door on the upper side of the car being utilized to aid in returning it to its horizontal position after dumping, and means connecting the inner ends of said bars with the car-body at one side of the center, whereby when the car is tilted toward one side, the door on that side will be lifted a sufficient distance above the bottom and sides of the car to allow the load to dump without obstruction, substantially as described.

3. In a dumping-car, the combination, with a frame, of standards mounted on each end thereof, a car-body pivotally supported between said standards and adapted to dump on either side, doors for said car-body, bars pivoted at points intermediate to their ends on said standards and having slotted outer ends wherein said doors are mounted, said slots allowing the doors to bear on the sides of the car-body except when raised in dumping, means connecting the inner ends of said bars with the car-body at one side of its center, whereby the weight of both doors will be utilized to return the car-body to its horizontal position after dumping, substantially as described.

4. A dumping-car comprising a frame, a car-body having central and eccentric pivots thereon, doors for said car having gudgeons at each end adapted to rest upon the ends of the car-body, bars pivotally supported at points intermediate to their ends upon said frame and having bearings at their outer ends for said gudgeons, and means connecting said bars with said car-body at one side of its center whereby when said car-body is tilted in either direction, the door on the dumping side will be lifted automatically above the bottom and sides of the car and the outer door will be raised, resting upon the upper side of the car and the weight of both doors will be utilized to return the car-body to its horizontal position after dumping, substantially as described.

5. A dumping-car comprising a frame, a car-body pivoted thereon and capable of dumping toward either side, doors for said car-body, bars pivoted at points intermediate to their ends on said frame above the level of said car-body, pivots, said bars engaging said doors to lift them vertically one at a time according to the direction in which the car-body is tilted, and means connecting said bars with said car-body whereby the tilting of the body toward either side will oscillate the bars on the dumping side to lift the door on that side, substantially as described.

6. A dumping-car comprising a frame, a car-body pivoted thereon, and capable of dumping toward either side, doors for said car-body, bars pivoted at points intermediate to their ends independently of said car-body and engaging said doors, and means connecting said bars with said car-body, whereby the tilting of the body toward one side will oscillate the bars on that side to lift the door a sufficient distance above the bottom and sides of the car to allow the load to dump without obstruction.

7. A dumping-car comprising a frame, a car-body having central and eccentric pivots thereon and capable of dumping toward either side, doors for said car-body, bars pivotally supported on said frame at points intermediate to their ends above the level of said car-body pivots, said bars having short and long arms, said long arms engaging said doors, and flexible means connecting said short arms with the car-body at one side of the center thereof, whereby the tilting of said car-body will lift the door on the dumping side, and stops for limiting the oscillating movement of said bars in one direction, substantially as described.

8. A dumping-car comprising a frame, a car-body pivoted thereon, a door for said car-body, bars pivoted on said frame and engaging said door to lift it vertically, and means connecting said bars with said car-body whereby the tilting of the body to dump the car will oscillate the bars to lift the door out of the path of the load, substantially as described.

9. A dumping-car comprising a frame, a car-body pivoted thereon, a door for said car-body, bars pivoted at points intermediate to their ends on said frame and engaging said door, and means connecting said bars with the car-body at one side of the center whereby when the car-body is tilted to discharge the load, the door will be lifted out of the path of the load and its weight will be utilized to aid in returning the car-body to its normal position.

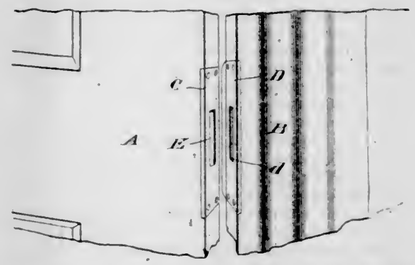
10. In a dumping-car, the combination, with a frame, of a car-body pivoted thereon and adapted to dump on either side, doors for said car-body, bars pivoted on said frame and having slotted upper ends wherein said doors are mounted, said slots allowing the doors to bear on the sides of the car-body except when raised in dumping, and means connecting said bars with the car-body whereby the weight of both doors will be utilized to return the car-body to its horizontal position after dumping.

11. In a dumping-car, a door arranged to move vertically when the car is dumped to allow the unobstructed discharge of the load, and means supported independently of the car-body and connected to said door and also to the car-body whereby when the car is tilted the door will be raised, substantially as described.

12. A dumping-car adapted to tilt toward either side having doors and means supporting them independently of the car-body, and means connecting said supporting means with the car-body at one side of its center, whereby when the car-body is tilted in either direction the door on that side toward which the body is tilted will be raised and the other door will remain in its normal position and the weight of both doors will be utilized to aid in returning the car to its horizontal position.

13. A dumping-car comprising a truck-frame and a car-body pivoted thereon, doors for said car-body, means connected with said doors and whereby when the car-body is tilted in either direction the door on the side toward which the car-body is tilted will be raised out of the path of the load, and means connecting said raising means eccentrically with the car-body, whereby the weight of the elevated door will aid in returning the car-body to its normal horizontal position after dumping, substantially as described.

842,009. ROLLER-LATCH. GEORGE J. RECORD, Conneaut, Ohio. Filed Nov. 5, 1906. Serial No. 342,007.



Claim.—1. In a roller-latch, a plate provided with a slot, in combination with a roller protruding in part through said slot and a pair of bent flat springs attached to said plate and having their free ends turned to bear against it, the said ends being also perforated to afford bearings for the trunnions of said roller substantially as set forth.

2. In a roller-latch a plate provided with a slot, in combination with a roller protruding in part through said slot but of diameter greater than the width of the latter, and a pair of bent flat springs attached to said plate and having their free ends turned to bear against it, the said ends being perforated to afford bearings for the trunnions of said roller and permit them to slip readily out of the same at will, the said trunnions being also of sufficient length to extend beyond the ends of the slot substantially as set forth.

842,010. SOAP. LUDWIG H. REUTER, New York, N. Y., assignor to Basic Chemical Company, New York, N. Y., a Corporation. Filed Feb. 24, 1906. Serial No. 302,738.

Claim.—The method herein described, which consists in adding to alkali soap a quantity of a salt of zinc sufficient to neutralize the free alkaline in the soap, heating the liquid, and converting the liquid into dry soap.

842,011. PROCESS OF MAKING ALKYL ETHERS OF MORPHIN. LUDWIG H. REUTER, New York, N. Y. Filed Mar. 19, 1906. Serial No. 306,909.

Claim.—1. A process of manufacturing anhydrous alkyl ethers of morphin, which comprises treating a solution of anhydrous morphin with an anhydrous alkylizing agent all materials and products being anhydrous.

2. A process of making alkyl ethers of morphin, which comprises the treatment of a solution of anhydrous morphin with an alkylizing agent in the presence of an organic ester of an alkyl, all materials and products being anhydrous.

3. A process of making alkyl ethers of morphin, which comprises the treatment of a solution of anhydrous morphin with an alkylizing agent in the presence of methyl oxalate, all materials and products being anhydrous.

4. The process of manufacturing alkyl ethers of morphin, which comprises treating anhydrous morphin dissolved in an anhydrous alcohol with an anhydrous inorganic acid ester of an alkyl and an anhydrous neutral organic oxygen acid ester of an alkyl.

5. A process of manufacturing alkyl ethers of morphin, which comprises treating anhydrous morphin dissolved in an anhydrous alcohol with an anhydrous neutral alkyl ester of sulfuric acid and an anhydrous alkyl ester of oxalic acid in the presence of sodium.

6. A process of manufacturing alkyl ethers of morphin, which comprises treating with a mixture of methyl oxalate and an alkyl sulfate, a solution of anhydrous morphin in an anhydrous alcohol in the presence of a substance containing alkali metal.

7. A process of manufacturing alkyl ethers of morphin, which comprises dissolving anhydrous morphin in an anhydrous alcohol in the presence of a substance containing sodium, and then acting on that solution with a mixture of anhydrous methyl oxalate and anhydrous dimethyl sulfate.

8. A process of manufacturing alkyl ethers of morphin, which comprises dissolving anhydrous morphin in an anhydrous alcohol in the presence of a substance containing an alkali metal, and then acting on that solution with anhydrous dimethyl sulfate in the presence of a substance for preventing the oxidation of the morphin.

9. A process of manufacturing alkyl ethers of morphin, which comprises the addition of an anhydrous alkyl oxalate to an anhydrous alkylizing agent and treating anhydrous morphin therewith.

10. A process of manufacturing alkyl ethers of morphin, which comprises the treatment of a solution of anhydrous morphin with an alkylizing agent in the presence of a substance for preventing the oxidation of the morphin, all materials and products being anhydrous.

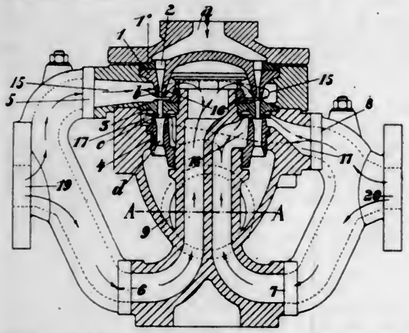
11. A process of manufacurting alkyl ethers of morphin, which comprises the treatment of a solution of anhydrous morphin with an alkylizing agent in the presence of a substance for preventing the oxidation of the morphin and for assisting in the alkylizing action all materials and products being anhydrous.

12. A process of manufacturing alkyl ethers of morphin, which comprises the treatment of a solution of anhydrous morphin with dimethyl sulfate in the presence of a substance for preventing the oxidation of the morphin all materials and products being anhydrous.

13. A process of manufacturing alkyl ethers of morphin, which comprises the treatment of anhydrous morphin dissolved in an anhydrous alcohol with an anhydrous substance containing an alkali metal in the presence of an alkylizing agent, consisting of an inorganic acid ester of an alkyl, and a neutral organic acid ester of an alkyl.

14. A process of preparing alkyl ethers of morphin, which comprises acting upon anhydrous morphin by an anhydrous alkylizing agent in the presence of an anhydrous organic reducing agent.

842,012. APPARATUS FOR FORCING FLUIDS. EMIL RICHTER, Zabrze, Germany. Filed June 15, 1906. Serial No. 321,853.

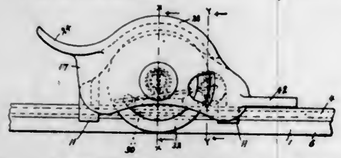


Claim.—1. An apparatus of the character described comprising a casing and a plurality of pressure-nozzles arranged in series therein, having annular openings and separated from each other, the spaces between adjacent nozzles forming inner and outer suction-chambers separated by the jet of fluid passing through the nozzles, substantially as described.

2. An apparatus of the character described comprising a casing and a plurality of pressure-nozzles arranged in series therein, having annular openings and separated from each other, the spaces between adjacent nozzles forming inner and outer suction-chambers separated by the jet of fluid passing through the nozzles, and suitable sources of supply for said suction-chambers, substantially as described.

3. An apparatus of the character described comprising a casing and a plurality of pressure-nozzles arranged in series therein having annular openings and separated from each other, the spaces between adjacent nozzles forming inner and outer suction-chambers separated by the jet of fluid passing through the nozzles, and suitable separate sources of supply for said inner and outer suction-chambers, substantially as described.

842,013. CUTTING-TOOL. CHARLES T. RIDGELY, Springfield, Ohio, assignor to The Standard Trimmer Company, Springfield, Ohio, a Corporation of Ohio. Filed May 19, 1906. Serial No. 317,745.



Claim.—1. A straight-edge provided with a guide having parallel horizontal flanges extending toward each other, in combination with a cutting-tool provided with a guide-block having corresponding horizontal grooves on its outer sides to receive said flanges, the space between the lower side of said groove and the bottom of said guide-block being less than the space between said flange and the bottom of said guide, substantially as described.

2. A straight-edge provided with a guide consisting of a metallic strip secured thereon and having its edges bent first upward and then horizontally inward to form guiding-flanges, in combination with a cutting-tool comprising a gage having a guide-block laterally grooved to receive said guiding-flanges, substantially as described.

3. A cutting-tool comprising a gage, a head pivotally connected therewith, and a cutting-disk rotatably mounted on the head, the distance between the axis of rotation of the cutting-disk and the axis of the pivot connecting the head and gage being less than the radius of the cutting-disk, substantially as described.

4. A cutting-tool comprising a gage provided with a bearing-aperture, in combination with a head provided with a revoluble cutting-disk thereon, said head being provided with a bracket extending over the margin of said cutting-disk and a pivot-stud carried by that portion of said bracket beyond the cutting-disk and engaging the bearing-aperture of the gage, substantially as described.

5. A cutting-tool of the character described comprising a gage and a head, the meeting faces whereof are provided with opposed bearing-surfaces, one of said members having a bearing-aperture, the other member having a pivot-stud extending through and beyond said aperture, a washer mounted on said extension, and a removable pin passing through said extension and bearing against the washer when the bearing-surfaces of the meeting faces of the head and gage are in contact with each other, substantially as described.

6. A cutting-tool comprising a gage, and a head carrying a revoluble cutting-disk, the gage having a boss provided with a bearing-aperture, the head having a pivot-stud fitting said aperture and extending through the same beyond the boss, the meeting faces of the gage and head having opposed bearing-surfaces, a washer fitting on the projecting portion of the pivot-stud and bearing against the boss, and a removable pin extending through the pivot-stud and bearing against the washer when the bearing-surfaces of the gage and head are in contact, substantially as described.

7. A cutting-tool comprising a gage, a bearing-aperture, a head, a bracket carried thereby having a stud at one end thereof, said bracket having an aperture therethrough, a stud carried by said gage and having an open slot or notch, and a spring having one end held in the aperture in said bracket and extending across the space between the head and gage and having its opposite end held in the notch of said stud on the gage, substantially as described.

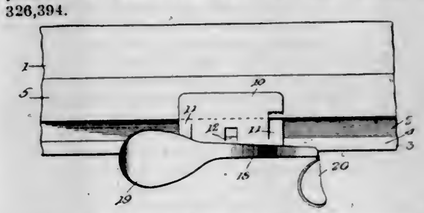
8. A cutting-tool comprising a gage, and a head pivotally connected therewith and carrying a cutting-disk, said head having at its forward end, in front of the pivot, a forwardly-extending member, at its other end, back of the pivot, a thumb-piece or hand-rest, and between said extremities a lateral extension or handle, substantially as described.

9. In a cutting-tool of the character described, a head having a bearing-sleeve, in combination with an arbor mounted to rotate therein and provided at one end with a cutting-disk which bears against one end of the sleeve, the other end of said arbor projecting beyond the sleeve and being provided with a washer bearing against said end of the sleeve, and a removable pin bearing against the washer, substantially as described.

10. In a cutting-tool of the character described, a head having a bearing-sleeve, in combination with an arbor mounted to rotate therein and provided at one end with a cutting-disk which bears against one end of the sleeve, the other end of said arbor projecting beyond the sleeve and being provided with a washer bearing against said end of the sleeve, and a removable pin bearing against the washer, said end of the sleeve being externally threaded, and a screw-cap fitting said threaded end and inclosing the fastening devices of the arbor, substantially as described.

11. In a cutting-tool of the character described, a head provided with a bearing-sleeve, in combination with an arbor mounted to rotate therein and provided at one end with a cutting-disk bearing against the corresponding end of the sleeve, the other end of said arbor projecting beyond the sleeve and being provided with fastening devices, said end of the sleeve being of reduced diameter and said reduced portion being threaded, in combination with a screw-cap fitting said threaded portion, being substantially flush with the body of the sleeve, and inclosing the projecting end of the arbor and its fastening devices, substantially as described.

842,014. CUTTING-TOOL. CHARLES T. RIDGELY and JOHN PFIEFER, Springfield, Ohio, assignors to The Standard Trimmer Company, Springfield, Ohio, a Corporation of Ohio. Filed July 16, 1906. Serial No. 326,394.



Claim.—1. In a cutting-tool of the character described, a guide member having an aperture therein, a body portion having a lug struck therefrom and adapted to enter said aperture and form a pivot for said body portion, and a cutting-blade between said body portion and guide member, substantially as described.

2. A cutting-tool of the character described comprising a guide member having apertures therein, a body portion, lugs struck from said body portion and engaging said apertures, one of said lugs forming a pivot for said body portion and the other lug forming a guide for the same, and a cutting-blade confined between said guide member and said body portion, substantially as described.

3. A cutting-tool of the character described comprising a guide member having apertures therein, one of greater length than the other and forming a guideway, a body portion, lugs struck from said body portion and engaging said apertures, a spring for supporting said body portion in its elevated position, and a cutting-blade confined between said guide member and said body portion, substantially as described.

4. A cutting-tool of the character described comprising a guide member having apertures therein, a body portion having lugs adapted to engage said apertures, a cutting-blade confined between said guide member and said body portion, and a spring adapted to engage said lugs and retain said body portion and guide member in their assembled positions and to hold said body portion in its elevated position, substantially as described.

5. A cutting-tool of the character described comprising a guide member having a vertically-extending portion, apertures near the opposite ends of said guide member, an upwardly-extending hook near the center thereof, a body member having hooks struck therefrom and engaging said apertures, a cutting-blade confined between said members, and a spring having its central portion engaging the hook on said guide member and its opposite ends engaging beneath the hooks on said body member, substantially as described.

6. In a cutting-tool of the character described, the combination, with a straight-edge having a groove therein, and oppositely-extending flanges over the opposite edges of said groove, of a guide member comprising downwardly-extending portions adapted to engage the outer face of said straight-edge, a horizontal portion, lips on said horizontal portion adapted to engage beneath said flanges, a body member pivotally connected to said guide member and a cutting-blade secured between said members, substantially as described.

7. In a cutting-tool of the character described, the combination, with a straight-edge having a groove therein and oppositely-facing flanges extending over the edges of said groove, of a guide member comprising a vertical portion engaging the face of said straight-edge, a horizontal portion engaging the upper surface of said straight-edge, oppositely-facing lips struck from said horizontal portion and engaging the oppositely-facing flanges of said groove, a lug struck from said horizontal portion and bearing against one of said flanges, a body member pivotally connected to said guide member, and a cutting-blade confined between said members, substantially as described.

8. In a cutting-tool of the character described, the combination, with a straight-edge having a groove therein and

oppositely-facing flanges extending over the edges of said groove, of a guide member comprising a vertical portion having apertures therein, downwardly-extending portions in substantially the same plane as said vertical portion and adapted to engage the face of said straight-edge, a horizontal portion, lips struck from said horizontal portion and adapted to engage the flanges of said groove, inwardly-extending flanges at the opposite ends of said vertical portion, a body member, hooks struck from said body member and engaging the apertures in said guide member, a bearing-lug carried by said body member, an inwardly-extending flange at the upper edge of said body member, thumb and finger supports thereon, a cutting-blade carried by said bearing-lug, and means for retaining said members in their assembled position, substantially as described.

9. A cutting-tool of the character described comprising a guide member having apertures near the opposite ends thereof, one of said apertures being of greater length than the other, vertical and horizontal guides struck from said guide member, an upwardly-extending hook between said apertures, a body member, inwardly-extending hooks struck from said body member and engaging said apertures and extending beyond the face of said guide member, a cutting-blade mounted between said members, and a resilient bar resting upon the upwardly-extending hook of said guide member and having its ends confined beneath the inwardly-extending hooks of said body member, substantially as described.

842,015. TRIMMER AND ROLLER. CHARLES T. RIDGELY, Springfield, Ohio, assignor to The Standard Trimmer Company, Springfield, Ohio, a Corporation of Ohio. Filed Sept. 24, 1906. Serial No. 335,855.



Claim.—1. In a device of the character described, the combination, with a supporting member, a stud-shaft mounted on one side thereof and extending at substantially right angles thereto, and a cutter mounted on said stud-shaft, of a second stud-shaft on the opposite side of said supporting member extending in a direction opposite to that of the first-mentioned stud-shaft, and a roller carried by said first-mentioned stud-shaft, substantially as described.

2. In a device of the character described, the combination, with a substantially T-shaped supporting member, a disk cutter mounted on one arm of said supporting member, and a roller mounted on the other arm of said supporting member on the side opposite that on which said cutter is mounted, substantially as described.

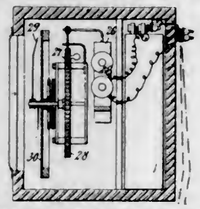
3. In a device of the character described, the combination, of a supporting member, oppositely-extending arms carried by said supporting member, a disk cutter mounted on one of said arms, and a roller mounted on the other arm of said supporting member and having its working surface extending beyond the rear edge of said disk cutter, substantially as described.

4. In a device of the character described, the combination, of a supporting member, arms carried thereby and extending in opposite directions, screw-threaded apertures in said arms, bearing-lugs having screw-threaded portions adapted to engage said screw-threaded apertures, a rotary disk cutter mounted on one of said bearing-lugs, and a roller mounted on the other of said lugs, substantially as described.

5. In a device of the character described, the combination, of a supporting member, a cutter mounted on one side of said supporting member, and a roller mounted on the opposite side of said supporting member and having its outer face recessed, substantially as described.

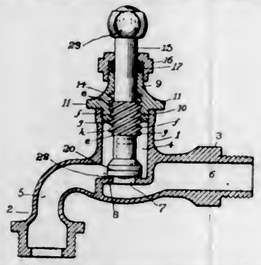
6. In a device of the character described, the combination, of a supporting member, a rotary disk mounted on one side of said supporting member, a bearing-screw mounted on the opposite side of said supporting member, and a roller mounted on said bearing-screw and having its outer face recessed to receive the head thereof, substantially as described.

842,016. MEASURING, DELIVERING, AND REGISTERING TAP FOR LIQUIDS. CHARLES ROBINSON, Dunoon, Scotland. Filed Sept. 19, 1905. Serial No. 279,132.



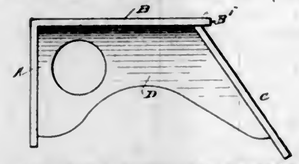
Claim.—In a measuring and registering tap for fluids, a measuring vessel with inlet and outlet cocks arranged so that when one is opened the other is closed, and lever means for operating both said cocks simultaneously in combination with an electric registering device, a single contact to close the operating-circuit and means whereby said contact is made by the lever before the delivery of any liquid from the tap.

842,017. WATER-FAUCET. WILLIAM G. ROWELL, Bridgeport, Conn. Filed June 23, 1905. Serial No. 266,611.



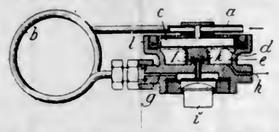
Claim.—In a faucet, the combination of a body portion having an interiorly-threaded upper end, a threaded cap engaging said end and provided with a shoulder seating directly on said end, said cap being formed adjacent its bottom with a recess and with a reduced opening extending from said recess through the top of said cap, the junction of said recess and opening forming a shoulder, a valve-seat, a valve-spindle, the wall of said recess of the cap being formed throughout its length with a number of threads each of which completes the circuit of the wall from a point at the top of the wall to a point at the bottom thereof, said valve-spindle being formed with like threads of the same number corresponding in pitch thereto, said valve-spindle having a portion thereof projecting beyond said threads and having a socket formed in its bottom and a side vent at a point directly at the top of said socket, a valve-stem extending in said socket having free rotary and vertical movement therein, and of less length than said socket, an enlarged base on said valve-stem having a tapered upper face, a removable valve rigidly secured to the under face of said base, and a handle for rotating said spindle, said cap-shoulder at the junction of the recess and opening restricting said spindle in its upward movement to a quarter-turn, and said valve-seat likewise restricting said spindle in its downward course to a quarter-turn, said valve-stem being of greater length than the greatest movement of said valve-spindle resulting from a quarter-turn thereof, said valve being raised by the pressure of water when said valve-spindle is raised and being rotated by the action of the water whereby said tapered face of the valve will be subjected to equal wear throughout its bearing-face with respect to the lower edge of said valve-spindle.

842,018. LAP-DESK. FRANCIS C. RUSSELL, Chicago, Ill. Filed Aug. 8, 1906. Serial No. 329,741.



Claim.—A lap-desk comprising a base member, a writing-desk member affixed to the base member substantially at a right angle therewith, and a reading-desk member affixed to the writing-desk member at an obtuse angle with the latter.

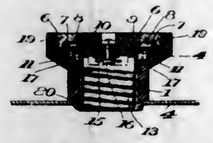
842,019. AUTOMATIC CHECK-VALVE FOR GAS AND LIQUID CONDUITS. FRANS J. H. RUSTIGE, Stockholm, Sweden. Filed July 17, 1905. Serial No. 270,035.



Claim.—1. An automatic check-valve for gas and liquid conduits comprising a casing, a diaphragm dividing said casing into separate chambers, an inlet for establishing communication between one of said chambers and a supply, a conduit for establishing communication between the other of said chambers and the supply, an outlet for said last-mentioned chamber, and a valve within one of said chambers for closing said conduit, said valve connected to the diaphragm and adapted to be shifted thereby when the pressure in the two chambers becomes different thereby closing the conduit and shutting off communication from the supply to the outlet.

2. An automatic check-valve for gas and liquid conduits comprising a casing, a diaphragm dividing said casing into separate chambers, one of said chambers communicating with a source of supply, an outlet for the other of said chambers, means for establishing communication between that chamber which communicates with the supply and with the other chamber having the outlet, and a valve arranged in that chamber having an outlet and connected to the diaphragm and adapted when the pressure in the two chambers becomes different to shut off the communication between the two chambers.

842,020. RECEPTACLE FOR INCANDESCENT ELECTRIC LAMPS. BERT E. SALISBURY, Syracuse, N. Y., assignor to Pass & Seymour, Incorporated, Solvay, N. Y., a Corporation of New York. Filed Aug. 16, 1905. Serial No. 274,459.



Claim.—1. In an electric receptacle, the combination with a porcelain base, having a cylindrical central portion, opposite side extensions on the back part of the receptacle and parallel grooves in said extensions on the rear, wire-terminals having their outer ends arranged in said grooves and their inner ends extending into a mouth on the front of the base, an outer lamp-terminal arranged in said mouth and secured on the inner end of one wire-terminal, and a single screw forming a central lamp-terminal arranged in said mouth and engaging with the opposite wire-terminal to secure the same in position, said base being also provided with integral, perforated securing-ears, substantially as described and shown.

2. In a device of the character described, the combination with a receptacle having a porcelain base formed with a front annular shoulder and with parallel grooves on its rear face, and having lamp-terminals secured on the base, and wire-terminals secured on the base to extend into the respective cross-grooves and connected to the respective lamp-terminals, of a supporting-plate fitted to said annular shoulder, wires arranged in the grooves and secured to the respective wire-terminals, and insulating-cement in the grooves covering the wires secured to the wire-terminals therein.

3. In an electric receptacle, the combination with a porcelain base, having a cylindrical central portion, opposite, imperforate side extensions at the back of the receptacle and parallel cross-grooves in the rear faces of said extensions, wire-terminals having their outer ends arranged in said grooves, and their inner ends extending into a mouth formed in said cylindrical portion, an outer lamp-terminal arranged in said mouth and connected to the inner end of one wire-terminal, a single screw forming a central lamp-terminal arranged in said mouth and engaging with the opposite wire-terminal to secure the same in position, and integral, opposite ears on the base adjacent to the front end for securing the receptacle in position.

4. In an electric receptacle, the combination with a porcelain base, having a cylindrical central portion, opposite side extensions at the back of the receptacle and parallel cross-grooves in the rear faces of said extensions, wire-terminals having their outer ends arranged in said grooves, and their inner ends extending into a mouth formed in said cylindrical portion, an outer lamp-terminal arranged in said mouth and connected to the inner end of one wire-terminal, a single screw forming a central lamp-terminal arranged in said mouth and engaging with the opposite wire-terminal to secure the same in position, and means arranged adjacent to the front end of the cylindrical portion to secure the receptacle in place.

5. In a device of the character described, an electric sign-plate having a circular hole to receive the front end of an electric receptacle, and the receptacle having in combination a porcelain base formed with a substantially cylindrical main portion, a shoulder or shoulders on the front end of said main portion to engage with the rear face of the sign-plate, a substantially cylindrical short, front end, projecting forwardly from the main portion into the hole in the sign-plate, opposite side extensions on the rear end of the main portions, cross-grooves on the rear surface of the base and of the extensions and with a front-opening mouth in the main portion, lamp-terminals secured in said mouth, wire-terminals extending from the respective lamp-terminals into the respective cross-grooves, and means adjacent to the front end of the receptacle to secure it to the sign-plate.

6. In a device of the character described, an electric sign-plate having a circular hole to receive the front end of an electric-lamp receptacle, and the receptacle having in combination a porcelain base formed with a substantially cylindrical main portion, a shoulder or shoulders on the front end of said main portion to engage with the rear face of the sign-plate, opposite, imperforate, side extensions on the rear end of the main portions, parallel cross-grooves for the line-wires on the rear surface of the base, and with a front-opening mouth in the main portion, lamp-terminals secured in said mouth, wire-terminals extending from the respective lamp-terminals into the respective cross-grooves, and means adjacent to the front end of the receptacle to secure it to the sign-plate with substantially the whole of the receptacle extending rearwardly of the sign-plate, substantially as described and shown.

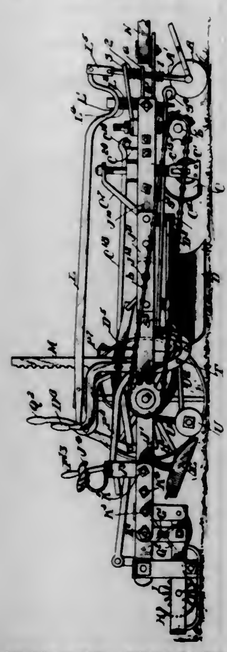
7. In an electric receptacle for an electric sign, the combination with a porcelain base, having a cylindrical central portion, opposite side extensions on the back of the receptacle and parallel cross-grooves in the rear faces of said

extensions, wire-terminals having their outer ends arranged in said grooves, and their inner ends extending into a forwardly-opening mouth formed in said cylindrical portion, suitable lamp-terminals arranged in said mouth, wire-terminals extending from the respective lamp-terminals into the respective grooves, and means adjacent to the front end of the base to secure the receptacle to the sign and to carry the wires in the cross-grooves on the rear of the receptacle and at a distance from the sign.

8. As a new article of manufacture, a one-piece base of insulating material for an electric-sign receptacle, having in combination a substantially cylindrical body, a shoulder on the front end of said body to engage with the rear surface of the sign-plate, a substantially cylindrical short, front end extending beyond said shoulder to enter the hole in the sign-plate, and imperforate side extensions at the rear end of the base, the front faces of said extensions being inclined away from said body, and the rear surface of the base being formed with cross-grooves to receive the parallel line-wires.

9. As a new article of manufacture, a one-piece porcelain base for an electric-sign receptacle, having in combination a substantially cylindrical body, a shoulder on the front end of said body to engage with the rear surface of the sign-plate, a substantially cylindrical, short, front end extending beyond said shoulder to enter the hole in the sign-plate, and imperforate side extensions at the rear end of the base, the rear surface of the base being formed with cross-grooves to receive the parallel line-wires, and a substantial portion of said grooves being arranged in the extensions beyond the side edges of the body.

842,021. BEET-HARVESTER. JOSEPH F. SANDBERG, Smithfield, Utah. Filed May 28, 1906. Serial No. 319,069.



Claim.—1. A beet-harvester substantially as herein described, comprising a framing, a rotary cutter at the front end thereof, a topper in rear of said cutter and having blades at its lower end, a roller above the blades, and means for adjusting the roller relatively to the blades, a scraper in rear of the topper and adapted to gather the tops and to discharge the same to one side of the machine, the plows arranged in rear of the scraper and in alinement with the blades of the topper, means whereby the plows may be adjusted relatively to the adjustment of the topper, a rake arranged in rear of the plows, a transverse trough in rear of the rake and in position to receive the beets discharged by said rake, means operating in connection with the rake for discharging the beets to the trough, and a conveyer in the trough, substantially as set forth.

2. The combination in a beet-harvester with the framing, of means for digging the beets, topping devices in advance of the digging means, and means between the topping devices and digging means for discharging the tops at one side of the machine, said discharging means comprising a scraper disposed diagonally from side to side of the machine, a bar or shaft carrying said scraper and pivoted at its ends and having a limited movement in the direction of its length, and a spring for resisting said endwise movement and for holding the scraper yieldingly in position to engage and discharge the toppings, substantially as set forth.

3. A beet-harvester comprising the framing, means supporting the framing above the ground, a topper having blades adapted to operate close to the surface of the ground, means supporting the topper from the main frame, and a cutter in advance of said topper and adapted to cut off the very rank tops, substantially as described.

4. The combination in a beet-harvester with the framing and the topping devices, of a scraper in rear of the topping devices and inclined rearwardly toward one end whereby it may discharge the tops to one side of the machine, said scraper being pivotally supported whereby it may be tilted and having a limited longitudinal movement, and spring devices for resisting said longitudinal movement of the scraper, substantially as set forth.

5. The combination in a beet-harvester with the framing and the topping devices, of a scraper in rear thereof and having a lower blade-like portion and an upper grating portion, substantially as set forth.

6. The combination with the framing and the topping devices, of a scraper pivoted at its upper end to the framing whereby it may be adjusted at its lower edge toward and from the ground, and means for tilting the scraper on said pivot, substantially as set forth.

7. The combination in a beet-harvester with the framing and the topping devices, of the scraper in rear thereof and pivoted at its upper edge and movable longitudinally in the direction of said pivot whereby it may operate with a shearing action, means for tilting the scraper on said pivot, and a spring for normally pressing the scraper in one direction, substantially as set forth.

8. In a beet-harvester, the combination with the framing and the topping devices, of the scraper in rear of the topping devices and pivoted at its upper edge and having a limited longitudinal movement in alinement with its pivot, and a spring pressing the scraper longitudinally in one direction and adapted to press the edge of the scraper normally toward the ground, substantially as set forth.

9. The combination with the framing and the scraper pivoted at its upper end, of a coil-spring suitably secured at one end, extending thence along the rear side of the scraper below the pivot thereof, and secured at its other end in connection with the framing whereby the spring may exert a tension on the scraper in the direction of its pivotal axis and also may tilt the scraper on said pivot, substantially as set forth.

10. The combination in a beet-harvester with devices for digging the beets from the ground and means in advance of said digging devices for topping the beets and discharging the tops to one side of the machine, of a rake in rear of the digging devices, a trough in rear of the rake in position to receive the beets, and a conveyer for discharging the beets from the trough, substantially as set forth.

11. In a beet-harvester, the combination of the framing, the topping-blades for the beets a roller above the topping-blades for varying the operating position of the blades, means for adjusting said rollers, digging devices in rear of the topping devices, and means for adjusting the digging devices, substantially as set forth.

12. The combination in a beet-harvester with the framing and means for topping and digging the beets, of a rake arranged in rear of the digging means, a trough in rear of the rake and in position to receive the beets therefrom, and means operating above the rake for discharging the beets into the trough, substantially as set forth.

13. The combination in a beet-harvester of the framing, topping devices supported thereby, digging devices in rear of the topping devices and comprising the beams, the shovels supported thereon, disks supported from the beams and operating in connecting with the shovels and the bars projecting rearwardly from the shovels and spaced apart whereby to disintegrate the soil and separate the beets therefrom, substantially as set forth.

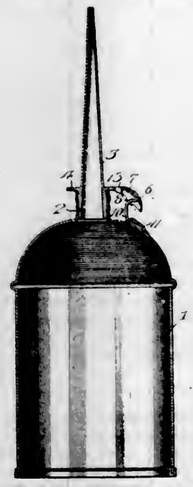
14. In a beet-harvester substantially as herein described, the combination with the framing, the topping devices, and the gathering devices, of digging devices located between the topping and gathering devices and comprising the pivoted beams, means engaging with the beams between their ends for adjusting the same vertically, the shovels and disks carried by the beams and the disintegrating-bars projecting rearwardly from the shovels and spaced apart, substantially as set forth.

15. The combination substantially as herein described, of the framing, the topping devices supported at the front end of the framing, means in rear of the topping devices for discharging the tops to one side of the machine, the digging devices in rear of said top-discharging means, and drag-bars connected with the digging devices and extending thence forwardly and adapted for connection with the draft devices, substantially as set forth.

16. The combination in a beet-harvester with the main frame and a cross-shaft connected therewith, of the beams connected at their front ends with the said shaft and provided at their rear ends with the devices for digging the beets, draft-rods connected with said beams and extending forwardly and adapted for connection with the draft devices, substantially as set forth.

17. In a beet-harvester the combination with the main frame and means carried thereby for topping, digging and gathering the beets, of a steering-wheel having an upright shaft journaled to the main frame, spring devices for resisting the endwise movements of said shaft, a lever for moving the said shaft vertically relative to the main frame, a tongue, and means connecting the tongue with the steering-wheel, substantially as set forth.

842,022. OIL-CAN. CHARLES SCHAAF, Washington Heights, Ill. Filed Mar. 3, 1906. Serial No. 304,047.

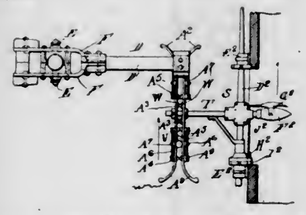


Claim.—1. An oil-can embodying a nozzle having a threaded connection therewith and provided with a notched flange, in combination with a locking device mounted on the can and embodying an arm connected with the can, a button or detent pivotally mounted on said arm and having a projection which engages the notched flange of the nozzle, and means for holding said button or detent in or out of engagement with said notched flange.

2. The combination with an oil-can having a screw-nozzle with a notched flange, of a locking device embodying an arm projecting from the can, a dished detent pivotally mounted on the end of said arm and provided with means for engaging the notched flange of the nozzle, and a spring carried by said detent and coöperating with the extremity of the supporting-arm to hold the detent either in or out of engagement with said notched flange.

3. The combination with an oil-can having a screw-nozzle and a notched flange on the nozzle, of a nozzle-locking device embodying an arm projecting from the can and provided with oppositely-projecting pintles, a concavo-convex button or detent having inwardly-extending notched lugs arranged within the hollow side of the button or detent and bearing against the extremity of the supporting-arm, the relation between said spring and supporting-arm being such that the detent is held either in or out of locking engagement with the notched flange.

842,023. MAIL-BAG-DELIVERY DEVICE. PETER J. A. SCHNOOR, Holstein, Iowa Filed Nov. 21, 1906. Serial No. 344,386.



Claim.—1. In mail-bag-delivery devices for cars, a derrick at the station of delivery, comprising a horizontally-adjustable arm, a vertically-adjustable arm, means adapted to hold the arms in bag-supporting position, means effecting vertical adjustment of one arm when it is released, means adapted to hold the vertically-adjustable arm drawn down to bag-holding position, means adapted to secure both the arms at bag-holding position, and means providing support for said arms.

2. The combination in a mail-bag delivery for cars, of a derrick comprising a post, an arm at the upper end of the post, said arm having pivotal support on the post providing it with vertical adjustment, a counterweight at one end of said vertically-adjustable arm, a lower arm on the post, the lower arm having horizontal adjustment, oppositely-projecting arms at the bag-suspending ends of said adjustable arms, means for attachment to a bag, adapting the bag to be suspended on the derrick-arms, and removed therefrom, and a crane on a car adapted to deliver a bag to supported position on the derrick-arms, and also adapted to take up a bag from supported position on the derrick-arms.

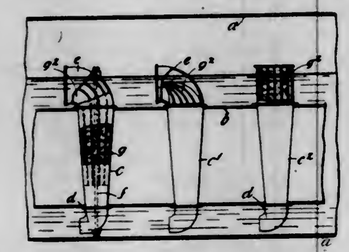
3. The combination with a derrick, comprising horizontally and vertically adjustable bag-supporting arms, and means adapted for suspending the bag, of a crane carried by a car, the crane being adapted for adjustment to deliver and take up bags, a take-up device at the outer end of the crane, the take-up device being constructed with oppositely-projecting bag-engaging arms and dogs on said arms adapted to secure the bags at suspended position.

4. A mail-bag-delivery device, comprising a post, horizontally and vertically adjustable arms on the post, the vertical arm having pivotal support, and counterweighted at one end, a shoulder on the post having a projection on its upper side, the inner end of the horizontally-adjustable arm being provided with a recess adapted to receive said projection on the shoulder, and stop devices whereby to limit movement of the horizontally-adjustable arm.

5. A derrick constructed with upper and lower supporting-arms, jaws on the upper arm, parallel transversely-

arranged projecting arms on the lower derrick-arm, dogs and a stop device on the parallel arms, and projecting pins on the lower derrick-arm, said pins being located projecting from one side of the lower derrick-arm.

842,024. STEAM-BOILER. HARRY SCHOFIELD, London, England, assignor of one-third to Sidney John Ross and one-third to Oliver Prescott Macfarlane, London, England. Filed Dec. 15, 1905. Serial No. 291,984.



Claim.—1. In a steam-boiler, the combination of a longitudinal flue, cross-tubes for water arranged transversely of the said flue and open at top and bottom, and filling means extending approximately from the top to near the bottom of the cross-tube for confining the water to the circumference of such cross-tubes, so as to form a thin annular body of circulating water inside said cross-tubes, substantially as described.

2. In a steam-boiler, the combination of a flue, a cross-tube containing water, and means extending approximately from the top to near the bottom of the cross-tube for forming an obstructed annular space inside said cross-tube through which the water can flow directly upward from the space below the flue to the space above it.

3. In a steam-boiler, a water-tube, means inside said tube extending approximately from the top down to near the bottom of the latter for forming an annulus of circulating water, and a hood at the top of said tube for directing the outflow of water therefrom, substantially as described.

4. In a steam-boiler, the combination of a cross-tube, means extending from the top down to near the bottom of the tube for forming an annular water-passage in same, and means for discharging the water from said tube into the water in the boiler, in a horizontal direction, substantially as described.

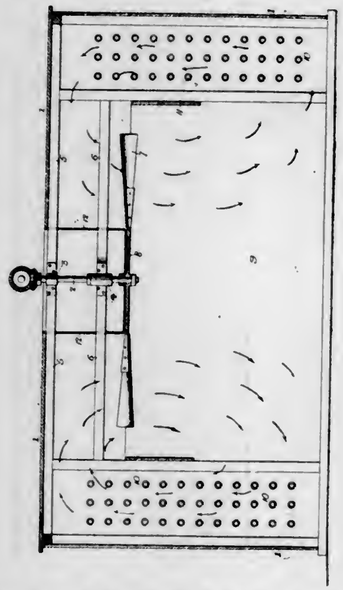
5. In a steam-boiler, the combination of a cross-tube, a core inside same extending from the top thereof down to near the bottom of said tube through which water cannot pass, such core having an annular space between itself and the cross-tube, and means for directing the water which flows out of the top of the tube and causing it to flow away in a horizontal direction, substantially as described.

6. In a steam-boiler, the combination of a cross-tube, a core inside same extending from the top down to near the bottom of the tube through which water cannot pass, such core having an annular space between itself and the cross-tube, and an elbow-shaped hood at each end of said cross-tube, substantially as described.

7. In a boiler, the combination of a longitudinal flue, a circulation-tube extending across said flue, a filling-core within said tube, forwardly-directed nozzles extending within the boiler and carried by opposite ends of the tube, and a tie-rod extending through the interior of the said core and exterior of the nozzles for retaining the latter in position on the tube.

8. In a steam-boiler, the combination of a longitudinal flue, a circulation-tube fitted across the ends of said flue, a filling-core within said tube, forwardly-directed nozzles at the upper and lower ends of said tube, and adapted to extend within the boiler for directing the flow of water, and a tie-rod passing through the core and nozzles for maintaining the same in position with respect to the flue.

842,025. DRIER. CHARLES W. SCHWARTZ, Jr., Philadelphia, Pa., assignor to The Philadelphia Textile Machinery Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Apr. 25, 1906. Serial No. 313,646.



Claim.—1. The combination in a drying-machine, of a casing having a drying-chamber and a heating-chamber, a shaft leading from the outer side of the casing into the drying-chamber, a fan on said shaft, bearings for the shaft, and a shield extending from the outer side of the casing to the fan and inclosing the shaft and its bearings, substantially as described.

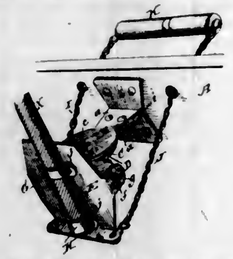
2. The combination in a drying-machine, of a casing having a drying-chamber and an air-heating chamber, a vertical shaft in the upper portion of the drying-chamber, a horizontal fan secured to the lower end of the shaft, and a shield mounted above the fan and protecting the shaft from the heated air, substantially as described.

3. The combination in a drying-machine, of a casing having a drying-chamber and an air-heating chamber, a vertical shaft extending through the upper portion of the casing and into the drying-chamber, a horizontal fan mounted on the shaft and having a solid center, bearings for the shaft above the fan, a shield surrounding the shaft and bearings, the space inclosed by the shield being open to the atmosphere at the top and closed by the solid portion of the fan, substantially as described.

4. The combination in a drying-machine, of a casing having a central drying-chamber and side heating-chambers, said heating-chambers being connected to the drying-chamber, a vertical shaft in the upper portion of the heating-chambers and extending through the casing, a fan secured to the lower portion of the shaft and having a hollow center, a casing mounted between the fan and the outer shell of the drier, of the same diameter as the solid portion of the fan inclosing the bearings and the shaft, substantially as described.

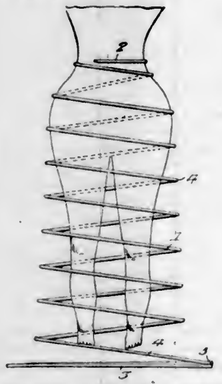
842,026. WHIP-ACTUATING DEVICE. GEORGE W. SCOTT and JOHN DEADY, Troy, Ohio; said Deady assignor to said Scott. Filed Aug. 13, 1906. Serial No. 330,433.

Claim.—A whip-actuating device comprising stationary bracket-plates having right-angle clips for attaching to the closed front or other portion of a vehicle, a bracket located between the plates and pivoted thereto, a spring-actuated whip-holder pivotally connected to the bracket, said holder having a supporting-flange for the handle of the whip and spring-clamps for securing it to the holder, and suitable



means for operating the holder, substantially as and for the purpose described.

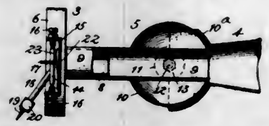
842,027. TOY. JOHN H. SHARRETT, Benhams, Va. Filed Aug. 8, 1906. Serial No. 329,757.



Claim.—1. A supporting device for dolls comprising a doll, a coiled spring secured at one end to the body of the doll, and the coils of the spring surrounding the lower portion of the doll and having an enlarged lower coil lying in a horizontal plane to hold the doll upright, substantially as described.

2. A supporting device for dolls comprising a doll, a spiral spring, the upper coil of which surrounds the waist of the doll and engages the same by spring action, said spring having a series of coils surrounding the lower portion of the doll, and an enlarged lower coil disposed in a horizontal plane and connected to an adjacent coil by a clip, substantially as described.

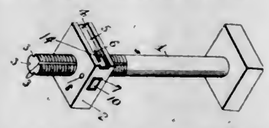
842,028. SOUND RECORDING AND REPRODUCING MECHANISM. EDWARD F. SHUE, Washington, D. C. Filed Sept. 18, 1905. Serial No. 278,968.



Claim.—1. In a sound recording and reproducing mechanism, a sound-box, a vertically-disposed diaphragm mounted therein, a stylus-lever pivotally mounted upon said sound-box and having its pivotal axis in the same plane as that of the diaphragm, one arm of said lever connected to said diaphragm and the other or stylus arm of said lever projecting downwardly at an acute angle to the axis of said pivot and having its free end nearer to said pivotal axis than the free end of the first-mentioned arm of said lever.

2. In a sound recording and reproducing mechanism, a sound-box, a vibratory diaphragm therein, a vertical pivot lying in the plane of said diaphragm, a stylus-lever mounted on said pivot, one arm of which lever is attached to the diaphragm, the other and shorter arm carrying a stylus, and a centering-spring attached at one end to said sound-box and bearing at its other end against a flattened portion on the pivot.

842,029. NUT-LOCK. JOHN M. SIAS, Myra, W. Va. Filed June 12, 1906. Serial No. 321,308.



Claim.—1. In a nut-lock, the combination of a threaded bolt having a series of longitudinal grooves; a nut, having a longitudinal recess in one end and an elbow-opening near one corner communicating with the recessed end and one of the adjacent ends thereof; said nut adapted to screw on the threaded end of said bolt; an elongated spring, secured at one end in the recessed end of said nut and having a longitudinal slot in its opposite end, and a pawl, terminating at its inner end in a tapering toe and having a vertical part having shoulders and terminating at its upper end in a vertical neck provided with a transverse head, pivoted in said elbow-opening of said nut, the neck of said pawl passing through the longitudinal slot in said spring, the toe of said pawl being adapted to be held in interlocking engagement with one of the grooves of said bolt by the action of said spring and hold the nut against rotatable displacement, substantially as shown and described and for the purposes set forth.

2. In a nut-lock, the combination of a threaded bolt having one or more longitudinal grooves; a nut, provided with a longitudinal recess in one end and an elbow-opening communicating with the recessed end and one of the adjacent ends thereof, said nut adapted to screw on the threaded end of said bolt; a spring, secured in the recessed end of said nut at one end and provided in its free end with a longitudinal slot, and a pawl, terminating at its inner end in a tapering toe and having an upper vertical part provided with shoulders and terminating at its upper end in a vertical neck having a transverse head, pivoted in said elbow-opening of said nut, the neck of said pawl passing through the longitudinal slot of said spring and the toe of said pawl being adapted to be thrown in interlocking engagement with one of the grooves of said bolt, by said spring and hold the nut against rotatable displacement, substantially as shown and described and for the purposes set forth.

842,030. WITHDRAWN.

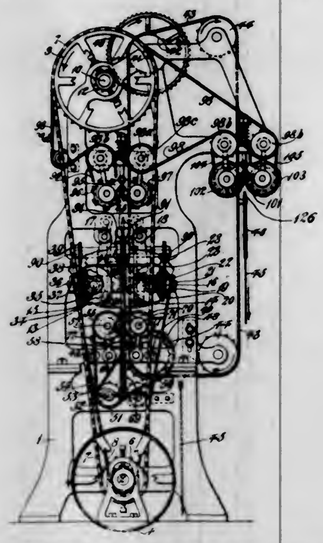
842,031. LEATHER SEASONING AND FINISHING MACHINE. FRANK F. SLOCOMB, Wilmington, Del., assignor to F. F. Slocomb & Co., Incorporated, a Corporation of Delaware. Filed June 16, 1905. Serial No. 265,603.

Claim.—1. In a leather-finishing machine, as an improved article of manufacture, a table adapted to support a skin and composed of an integral piece of material and having at its upper edge converging walls terminating so as to form substantially a knife-edge.

2. In a machine for treating leather, a table adapted to support a skin and means for actuating said table, an edge of said table being provided with converging walls, whereby substantially a knife-edge is obtained at such edge of said table.

3. In a machine for treating leather, a table adapted to support a skin, means for actuating said table, an edge of

the latter being provided with converging walls, whereby substantially a knife-edge is obtained at such edge of said table and a roll coacting with each side of said table and provided with yielding, rubbing or wiping projections thereon.



4. In a machine for treating leather, a vertically-movable table, carried edgewise and having a knife-edge and adapted to support a skin, a pair of rolls rotating in opposite directions between which said table is movable and flexible rubbing or wiping devices secured on said rolls and overlapping from each side the upper edge of said table, whereby the entire surface of the skin is operated upon.

5. In a machine for treating leather, a vertically-movable table carried edgewise and adapted to support a skin, the upper edge of said table having converging side walls and a knife-edge, a pair of rolls rotating in opposite directions between which said table is movable, devices for treating leather secured thereon and means whereby said devices may be caused to intermesh so as to overlap from each side the upper edge of said table.

6. In a leather-finishing machine, the combination of a table adapted to support a skin, means for actuating said table, an edge of the latter being provided with converging walls and a knife-edge, and a plurality of overlapping yielding, rubbing or wiping devices located in the path of said table and between which said table passes, whereby every portion of the skin resting over the edge of the table is thoroughly operated upon.

7. In a machine for treating leather, a table adapted to support a skin having an edge formed of converging walls terminating so as to form substantially a knife-edge, in combination with a pair of cylinders carrying flexible rubbing or wiping projections and means whereby said projections are caused to intermesh so as to overlap from each side the said table edge.

8. In a machine for treating leather, a table adapted to support a skin and composed of an integral piece of material having its forward edge narrowed to substantially a line in combination with a pair of cylinders rotating in opposite directions and carrying flexible rubbing or wiping projections, and means whereby said projections are caused to intermesh so as to overlap from each side the path of said table.

9. In a leather-finishing machine, the combination of a table having a knife-edge, means for actuating said table, a pair of cylinders carrying yielding, rubbing devices overlapping from each side, the upper edge of the table and arranged to operate on opposite sides of said table, and means for causing the pressure or rubbing action of each cylinder against said table to be always substantially equal to that of the other.

10. In a leather-finishing machine, the combination of a table having its acting edge formed with walls converging upon opposite sides of a median line, forming a knife-edge, and adapted to support a skin, a pair of cylinders between which said table passes, said cylinders carrying flexible rubbing or wiping projections adapted to operate on opposite sides of said table, swinging toggle-arms upon which said cylinders are supported, and a spring common to both toggle-arms, whereby the action or pressure of one cylinder is caused to always be equal to that of the other.

11. In a leather-finishing machine, a table adapted to support a skin and having its upper extremity terminating in substantially a knife-edge, a plurality of cylinders carrying suitable rubbing-surfaces thereon and arranged to operate on opposite sides of said table, swinging toggle-arms supporting said cylinders, a bolt common to said toggle-arms and a spring intermediate the ends of said bolt and a fixed point and common to said toggle-arms, whereby the pressure or rubbing action of one cylinder must always be equal to that of the other.

12. In a leather-finishing machine, the combination of a table adapted to support a skin, means for actuating said table, a pair of cylinders carrying flexible rubbing or wiping projections arranged to operate on opposite sides of said table, a lever-holder on either side of said table and adapted to exert pressure against the latter and means for adjusting said pressure.

13. In a leather-finishing machine, a table, the upper extremity of the latter terminating in substantially a knife-edge and adapted to support a skin, means for actuating said table, a plurality of cylinders carrying suitable rubbing devices and adapted to coöperate on opposite sides of said table, a plurality of skin-holders located above and below said brushes and adapted to also press against opposite sides of said table and means for adjusting said pressure, whereby the latter is applied so as to hold the skin in its natural position by pressing it against the table and thereby prevents any portion of said skin from being doubled over.

14. In a leather-finishing machine, a pan adapted to contain a seasoning or finishing liquid, a vertically-adjustable stem for supporting said pan and means for moving said stem horizontally, whereby the position of said pan is adjustable both with respect to the brush-cylinder and the table carrying the skin.

15. In a leather-finishing machine, the combination of a table, means for actuating said table, a plurality of cylinders provided with suitable rubbing devices adapted to coact with said table, a pan adapted to contain a seasoning or finishing liquid, a support for said pan, a vertically-adjustable stem to which said support is attached and a supporting-piece to which said stem is secured, said piece being provided with a slot whereby the parts may be moved horizontally, thereby making said pan adjustable both with respect to the brush-cylinder and to the table bearing the skin.

16. In a leather-finishing machine, a table adapted to support a skin, means for actuating the latter, means for enabling said table to always hang in a vertical position and a depending wiping device composed of suitable material so disposed as to hang normally across the path or plane of said table, so that by the action of the ascending table, the skin lying upon the same is subjected to the action of said wiping device.

17. In a leather-finishing machine, a table adapted to support a skin, means for actuating the latter and a wiping device composed of suitable material so disposed as to hang normally across the path or plane of said table, so that by the action of the ascending table, the skin lying upon the same is subjected to the action of said wiping device, in combination with means for enabling said wiping device after the passage of one table to fall into position again across the path of the next table.

18. In a leather-finishing machine, a plurality of tables, means for causing said tables to ascend and a wiping device composed of suitable material so disposed as normally to hang across the path or plane of the table carrying the skin so that by the action of the ascending table, the skin carried thereby is subjected to the action of said wiping device, the latter after the passage of one table being adapted to fall into position again across the path of the next.

19. In a leather-finishing machine, the combination of an endless carrier, a plurality of tables actuated thereby and adapted to support a skin, means for actuating said tables, a plurality of rubbing devices, a wiping device composed of suitable textile or other material so disposed as to normally hang across the path or plane of the tables carrying the skins so that by the action of the ascending table, the skin lying upon the same is subjected to the action of said wiping device which after the passage of one table falls into position again across the path of the next, and a shield supporting said wiping device, said shield being adapted to catch the drip from one of said rubbing devices.

20. In a leather-finishing device, a table adapted to support a skin, a rubbing-plunger carrying a rotating disk, the face of said disk being adapted to bear against said skin, and a series of spirally-radiating projections on the face of said disk, whereby the skin is spread during treatment in all directions from the center of said disk.

21. As an improved article of manufacture, a rubbing-plunger having a rotating disk, the face of said disk being adapted to bear against a skin and said disk being provided with a series of spirally-radiating projections adapted to spread a skin in all directions from the center of said disk.

22. In a leather-finishing machine, a rotating disk provided with an inwardly-projecting rigid flange or tongue on one face thereof and a piece of soft material inserted in said flange for the purpose of treating a skin, the outer portion of said disk inclosing a portion of said soft material and the latter extending continuously across the face of said disk.

23. In a leather-finishing machine, the combination of a plurality of rubbing and pressing devices, a frame supporting the latter, a table adapted to support a skin, a pair of cylinders carrying flexible rubbing or wiping projections arranged to operate on opposite sides of said table, and a series of spreading and holding strips secured to said frame and extending at an oblique angle in opposite directions from the center line of said frame.

24. In a leather-finishing machine, the combination of a suitable frame, rubbing and pressing devices carried thereby and a series of adjustable spring-pressed spreading and holding strips secured to said frame and extending at an oblique angle in opposite directions to each other, the central strips meeting at or near the center line of said frame.

25. In a leather-finishing machine, a table, a rubbing-plunger carrying a rotating disk adapted to bear against said table, and mounted at an angle inclined from the plane of motion of said table, so that one segment of said disk may be made to bear harder on the work than the opposite side of the same.

26. In a leather-finishing machine, the combination of a table and rubbing-plungers carrying a rotating disk adapted to bear against the work and mounted in a frame at an angle inclined from the plane of motion of said table, said angle of inclination being adjustable, whereby one segment of said disk may be made to bear harder on the work than the opposite side of the same.

27. In a machine for treating leather, a table adapted to support a skin, means for supporting said table and permitting the same to always hang in a vertical position and means for actuating said table, the latter being provided at its upper edge with converging walls, whereby substantially a knife-edge is obtained at said edge of said table.

28. In a machine for treating leather, a table adapted to support a skin, means for actuating said table, means for causing said table to always hang in substantially a vertical position, an edge of said table being provided with converging walls, whereby substantially a knife-edge is obtained at the upper edge of said table and a rotary working member at a side of said table provided with yielding, rubbing or wiping projections thereon, whereby the entire surface of the skin is operated upon without necessitating any shifting thereof.

29. In a machine for treating leather, a table having an edge provided with converging walls and a knife-edge adapted to support a skin, means for actuating said table and for permitting the latter to always hang in a vertical line, a pair of rotary working members rotating in opposite directions between which said table is adapted to travel, a flexible rubbing or wiping device secured on said members and overlapping from each side of the upper edge of said table, whereby the entire surface of the skin is operated upon without necessitating shifting of the latter.

30. In a machine for treating leather, a table adapted to support a skin, means for actuating and for permitting said table to always hang in a vertical line, the upper edge of said table having converging side walls and a knife-edge, a pair of rolls rotating in opposite directions between which said table is movable, devices secured to said rolls for treating the leather, and means whereby said devices may be caused to intermesh so as to overlap from each side, the upper edge of the vertically-moving table, whereby any necessity for shifting the skin on said table is avoided.

31. In a leather-finishing machine, the combination of a table adapted to support a skin, means for actuating said table, the upper edge of the latter being provided with converging walls and a knife-edge, means for permitting the table to always hang in a vertical line, a plurality of overlapping, yielding, rubbing or wiping devices located in the path of said table and between which said table passes, whereby every portion of the skin resting upon or over the edge of said table is thoroughly operated upon without the necessity of shifting the skin.

32. In a leather-finishing machine, the combination of a table having its upper edge provided with converging walls, terminating in substantially a knife-edge, means for actuating said table and for permitting the latter to hang in substantially a vertical line, a pair of rotary wiping members having yielding or rubbing devices operating on opposite sides of said table and means for causing the pressure or rubbing action of each rotary member against said table to be always substantially equal.

33. In a leather-finishing machine, the combination of a table adapted to support a skin, said table having converging walls forming a knife-edge at its upper portion, means for actuating said table and for permitting the latter to hang in a vertical line, a pair of rolls between which said table passes, said rolls carrying flexible rubbing or wiping devices adapted to operate on opposite sides of said table, swinging toggle-arms upon which said rolls are supported, and a spring common to said toggle-arms, whereby the action or pressure of one roll is caused to always be equal to that of the other.

34. In a device of the character described, a table having its forward-acting edge tapered in the direction of its length in opposite directions upon opposite sides of a median line and brought to a knife-edge.

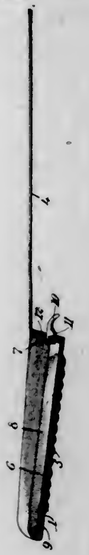
842,032. SHOVEL. CHARLES F. SMITH, New York, N. Y. Filed Nov. 17, 1906. Serial No. 343,849.

Claim.—1. A shovel having a screen-blade, a member for covering said blade having one end bent upon itself to embrace the forward edge of the blade, and a device passing through the rear end of the shovel for detachably securing said blade in place.

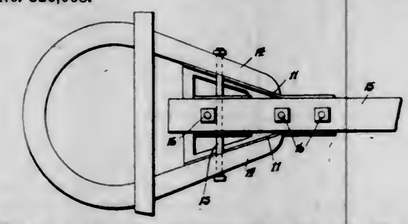
2. A shovel having a screen-blade, a bottom for covering said blade having one end bent upon itself to form a pocket embracing the forward edge of the blade, said bottom having its rear end upwardly turned, and means carried by said upwardly-turned end for detachably securing the bottom in place.

3. A shovel comprising a blade having a cut-out portion therein, a screen in said cut-out portion, a bottom for covering said blade having an upwardly-turned rear end with the opposite and forward end bent upon itself to form a pocket adapted to inclose and embrace the forward end of

the blade, and a finger secured to the upwardly-turned end of the bottom having a curved under face with a projection at one end thereof adapted to be passed through the rear end of the shovel and engage the same, detachably securing the bottom in place.



842,033. WAGON-TONGUE HOUND. CHRISTIAN P. SMITH, South Bend, Ind. Filed July 13, 1906. Serial No. 326,068.

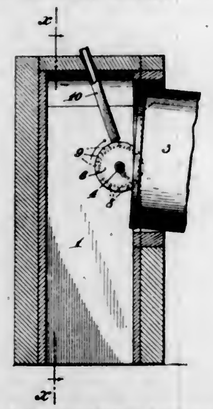


Claim.—1. A connecting member of the class described having upstanding flanges extending entirely along its side edges, and also having upstanding wings inclosed by the side flanges, said flanges and said wings being struck up from the blank of which the member is constructed.

2. As a new article of manufacture, a connecting member for hounds and tongues of vehicles embodying a sheet-metal blank having its side edges bent at right angles to the body portion of the blank and extending the entire length thereof and a pair of wing members struck up from the body of the blank.

3. The combination with hounds, and the tongue of a vehicle, of a connecting member having a V-shaped portion adapted to fit between the free ends of the hounds and also a narrow neck portion projecting beyond the end of the hound, the side edges of the V-shaped portion and the neck portion being provided with upstanding flanges, said flanges having a plurality of apertures, said member also having a pair of upstanding wings struck from the V-shaped end of the blank and disposed in alinement with the flanges of the neck portion thereof, the end of the tongue being adapted to fit between the wings and also between the flanges of the neck portion of the blank, and a pivot extending through the hounds and apertures in the flanges, substantially as specified.

842,034. DEVICE FOR FEEDING COMMINUTED MATERIAL TO FURNACES. CLEMENT G. SMITH, Lebanon, Pa., assignor to The Pennsylvania Steel Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Oct. 12, 1906. Serial No. 338,633.



Claim.—1. In a furnace-feeding apparatus, the combination, with the roasting-furnace having an open end, of a wheel journaled adjacent the opening in said furnace, said wheel comprising a series of peripheral open pockets, and means for feeding material to said pockets; said wheel being rotatable to cause material fed to said pockets to be ejected therefrom into the open end of said furnace, substantially as set forth.

2. In a furnace-feeding apparatus, the combination, with the rotary roasting-furnace having an open end, of a wheel journaled adjacent the opening in said furnace; said wheel being provided with a series of peripheral open pockets; and means for feeding material to said pockets; said wheel being so mounted as to be rotatable in a plane substantially at right angles to the major axis of said rotary furnace, whereby material fed to said pockets is ejected therefrom into the open end of said furnace, substantially as set forth.

3. In a furnace-feeding apparatus, the combination, with the stack-chamber, of the rotary roasting-furnace having an open end communicating therewith; the horizontal rotary shaft extending through the stack-chamber substantially at right angles to the major axis of said furnace; the wheel provided with the series of peripheral open pockets, said wheel being mounted upon said shaft and extending into the open end of said furnace; together with the chute whose upper end extends exterior to said stack-chamber, and whose lower end is above and adjacent the periphery of said wheel, whereby material fed to the upper end of said chute will be delivered into the successive pockets of said wheel in its rotation, substantially as set forth.

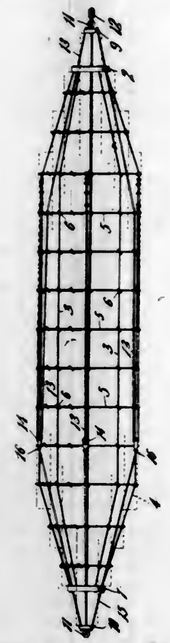
842,035. LOG-RAFT GEAR. BENJAMIN S. SPAULDING, Arcata, Cal. Filed July 30, 1906. Serial No. 328,459.

Claim.—1. The herein-described raft-gear comprising binding-cables, ring-like heads, longitudinal cables connecting the heads and secured to the binding-cables, a bow-plate, means for connecting a towing device thereto, and means operated by the movement of said plate for drawing the heads toward each other.

2. The herein-described raft-gear consisting of log-engaging heads, binding-cables interposed between the heads, cables connecting the heads and secured to the binding-cables, a bow-plate, a stern-plate, said plates adapted to bear against opposite ends of a log, and means operated by the movement of one of the plates for pulling the heads toward each other.

3. The herein-described raft-gear consisting of ring-like heads, cables connecting the heads, binding-cables secured

to the first-mentioned cables, pulleys connected to said cables near one end of the gear, a bow-plate, and cables secured at one end to the bow-plate and at their other end to the raft-gear adjacent the plate, said cables extending over the pulleys.



4. A raft comprising a central core, layers of timber arranged around the core, ring-like heads upon the core, flexible connections therebetween, means for binding the layers upon the core, plates upon the ends of the core, pulleys connected to the raft adjacent one end, cables secured to one of the plates and to the ends of the raft adjacent thereto, said cables extending over the pulleys, and flexible connections between the other plate and the raft.

5. The combination with a raft comprising a core, and concentric series of timber therearound; of gear comprising binding devices, heads engaging the core, flexible connections between the heads and secured to the binding devices, plates bearing on the ends of the core, flexible connections between said plates and the adjoining ends of the raft-gear, said connections extending through the heads, and pulleys secured to the binding means adjacent one end of the gear, the connections of one of the gears being looped over the pulleys.

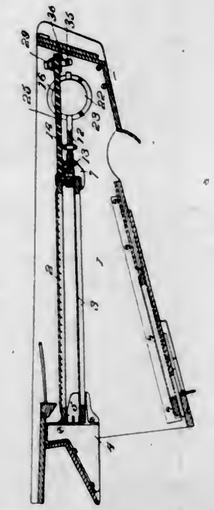
842,036. SIEVE-HOLDER. EDWARD J. VRAALSTAD, Buffalo, N. Y., assignor of one-half to Buffalo Pitts Company, Buffalo, N. Y., a Coporation of New York. Filed Apr. 11, 1906. Serial No. 311,168.

Claim.—1. A sieve-holding device comprising a supporting-plate for a plurality of sieves, a longitudinally-movable lock-bar, and means connecting said bar to said plate, forming a pivot for the latter.

2. A sieve-holding device comprising a supporting-plate for a plurality of sieves, said plate having an opening therein, and a longitudinally-movable lock-bar having a boss fitting in said opening and forming a pivot for said plate.

3. A sieve-holding device comprising a supporting-plate for a plurality of sieves, said plate having an opening therein, and a guide-lug, a slotted plate for said guide-lug, and a longitudinally-movable lock-bar having a boss fitted in said opening.

4. The combination with the sieve-holding plate for engaging a plurality of sieves, of the lock-bar engaging with said plate, and a rotary lock for moving and holding said bar in different positions.



5. The combination with the sieve-holding plate, of the longitudinally-movable lock-bar engaging therewith, and a lock for engaging and moving said bar, said lock being rotatable at right angles to the plane of movement of the bar.

6. The combination with a plurality of sieves, and a holding-plate for engaging therewith, of the lock-bar with one end of which said plate has a pivotal connection, said bar having a series of rack-teeth, a rotary lock having a disk carrying a spiral thread or flange engaging said teeth, and detachable means for engaging and turning said disk.

7. The combination with the sieve-holding plate, of the lock-bar engaging therewith, and having a series of rack-teeth, a lock having a disk carrying a spiral thread or flange for engaging said teeth, said disk having a hub projecting therefrom by which it may be axially rotated, and means detachably engaging said hub for effecting such rotation.

8. The combination with the shoe having an opening in its side, of the sieve-holding plate, the longitudinally-movable bar engaging said plate and having a series of rack-teeth, and a lock comprising a disk having a spiral thread for engaging with said teeth and a hub extending through said opening of the shoe, and a cap-plate for retaining the bar and disk in place.

9. The combination with the sieve-holding plate, and the longitudinally-movable bar engaging therewith having a series of rack-teeth, of the lock comprising a plate having a hollow boss, a disk having a hub fitted in said boss and also having a spiral thread or flange for engaging said rack-teeth, a cap-plate having opposite openings to accommodate said bar, and means for securing said cap-plate, said means also retaining the lock in position.

10. The combination with the shoe having an opening in its side, and a slotted plate fitted in said opening, of the sieve-holding plate having a lug fitted in said slotted plate, the longitudinally-movable lock-bar engaging with said sieve-holding plate, and means for moving and retaining said lock-bar in different positions.

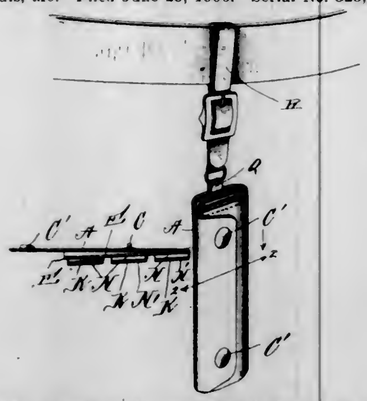
11. The combination with the scive-holding plate having a seat therein, of the tail-rack having at one end a lug fitted in said seat, and at its other end having a slotted plate, a retaining-plate having a T-head with which said slotted plate is designed to engage, and a spring for holding said head and said latter plate together.

12. The combination with the shoe and the sieve-holding plate having a seat and a flange overhanging such seat, of

a tail-rack having at one end a shouldered lug fitting in said seat, and at its other end a U-shape plate, a plate secured to the shoe having a T-head for interlocking with said U-shape plate, and a spring-plate for holding the latter in engagement with said T-head.

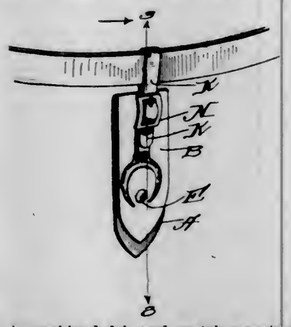
13. The combination with the shoe and the sieve-holding plate having a seat and a flange overhanging such seat, of a tail-rack having at one end a shouldered lug fitting in said seat, and at its other end a U-shape plate formed with oppositely-extended flanges having grooves near their upper ends, a plate having a T-head formed with nibs for entering said groove, and a spring-plate for holding said U-shape plate in engagement with said T-head.

842,037. COIN-PURSE. CHARLES F. WALLERSTEDT, St. Louis, Mo. Filed June 25, 1906. Serial No. 323,301.



Claim.—A coin-purse comprising a front and a back piece, forming intermediate the same a pocket, a series of strips fastened to said front piece and forming open-ended loops which are in alinement with each other in rows, each loop having upon corresponding edges a cut-away portion, said cross-pieces adapted to fold one upon another, with the folds forming closures for the open ends of the loops, as shown and described.

842,038. COMBINED WATCH-FOB AND MATCH-RECEPTACLE. CHARLES F. WALLERSTEDT, St. Louis, Mo. Filed July 17, 1906. Serial No. 326,551.



Claim.—A combined fob and match-receptacle comprising a single piece of fabric adapted to be bent upon itself, substantially one-half of said flap serving as a closure, a pocket fastened to the surface of said fabric, a supporting-strap, socket members fastening said strap to the flap of said piece of fabric, and a stud fastened to the pocket-carrying portion of the fabric and adapted to engage one or another of said socket members, the outer surface of the pocket being roughened and adapted to bear against the inner surface of the flap, as set forth.

842,039. RATCHET-WRENCH. WARREN B. WALT, Port Providence, Pa. Filed Oct. 31, 1906. Serial No. 341,480.



Claim.—1. A reversible ratchet-wrench provided with a plurality of clamping-rings to engage nuts of different sizes, said clamping-rings being provided with coincidently-arranged ratchet-teeth, pawls to engage said ratchet-teeth, and an adjustable detent for holding one of the pawls out of engagement with the ratchet-teeth, substantially as described.

2. A ratchet-wrench comprising a handle, a wrench-head, a plurality of nut-clamping rings mounted to rotate in the wrench-head, said rings having ratchet-teeth arranged to register, pawls mounted upon the wrench-head and a detent for holding one of said pawls out of engagement with the ratchet-teeth.

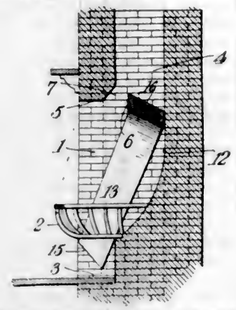
3. A ratchet-wrench comprising a handle, a wrench-head secured to said handle and comprising oppositely-arranged face-plates, a plurality of nut-engaging rings having openings therethrough of different sizes, a central partition-ring, said rings each provided with peripheral ratchet-teeth, means for securing said rings together with the teeth in register, pawls pivoted to the face-plates, springs for throwing said pawls into engagement with the ratchet-teeth, and a rotating holding-ring mounted on the handle and provided with a detent to engage one of the pawls and hold it out of engagement with the ratchet-teeth.

4. A reversible ratchet-wrench provided with a series of nut-clamping rings secured together and adapted to rotate simultaneously within the wrench-head, a pair of pawls to engage the coincidently-arranged ratchet-teeth on the clamping-ring and a detent for holding one of said pawls out of engagement with said ratchet-teeth.

5. In a reversible ratchet-wrench, the combination of a plurality of nut-engaging rings, a central partition-ring, said rings having coincidently-arranged ratchet-teeth upon their peripheries, and means for engaging said ratchet-teeth at two points to permit the wrench to be reversed, substantially as described.

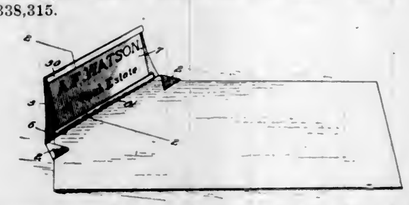
842,040. CROWN TOP FOR GRATES. JOHN E. WARD, Hill City, Tenn. Filed July 12, 1906. Serial No. 325,963.

Claim.—The combination of a fireplace provided with a grate, with a crown top removably supported over the grate and extending horizontally the full length of the fireplace and comprising a hollow open-ended body provided with apertures at its top and arranged with its bottom inclined forwardly from the rear wall of the fireplace, and upright air-ducts supported at each end of the grate and



connected with the open ends of the crown top and open at their lower ends for receiving relatively cool air and discharging it through the crown top.

842,041. BLOTTER-HOLDER. ARTHUR F. WATSON, Cheboygan, Mich. Filed Oct. 10, 1906. Serial No. 338,315.



Claim.—1. A holder of the purpose stated, formed of a sheet-metal body provided with an integral tongue bent diagonally therefrom to form a brace, an inwardly-bent base portion at the lower end, the said body having means for detachably receiving and gripping the end of a blotter.

2. A holder formed of a sheet-metal body having a transverse slot to receive the end of a blotter and a rearwardly and downwardly extended brace adapted to be pressed down against the ends of the blotter that projects through the slot for the purposes set forth.

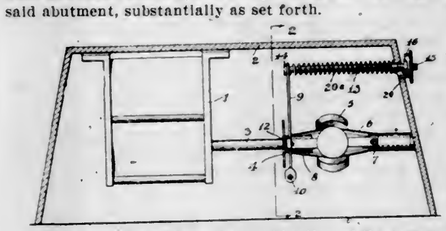
3. A holder for the purposes stated, which comprises a sheet-metal plate having its lower end bent substantially at right angles to the body, the body having a transverse slot in the plane of the base and provided with a rearwardly and downwardly extending tongue, the base portion having its end folded over to form clips for engaging the edges of the blotter, as set forth.

4. As a new article, a blotter-holder formed of a single piece of sheet metal, bent up to rest in a vertical position, on a desk and having means at the lower end to detachably receive and hold a blotter, and having means above the blotter-holding means for receiving an advertising-card.

5. A holder for the purposes described, formed of a single piece of spring metal bent up to provide a vertical or body portion, the upper edge of which is bent over to form a cleat, a brace projected rearwardly from the body, a base portion bent inwardly at an angle to the body, the ends of which are bent over to form clips, the body portion having a transverse slot, at a point in line with the base, and having a cleat above said slot parallel with the upper cleat for the purposes set forth.

842,042. SPEED-REGULATOR. PETER WEBER, Orange, N. J., assignor to New Jersey Patent Company, West Orange, N. J., a Corporation of New Jersey. Filed Sept. 27, 1905. Serial No. 280,392.

Claim.—1. In a speed-regulator, the combination of the governor-shaft and disk slidable thereon, a friction-piece for engaging said disk and means for varying the position of said friction-piece comprising an axially-movable cam, a fixed abutment and a spring for pressing said cam against said abutment, substantially as set forth.

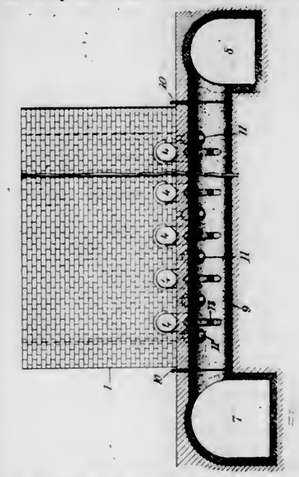


2. In a speed-regulator, the combination of the governor-shaft and disk slidable thereon, a friction-piece for engaging said disk and means for varying the position of said friction-piece comprising an axially-movable cam having a stepped face, a fixed pin and a spring for pressing the face of said cam against said pin, substantially as set forth.

3. In a speed-regulator, the combination of a governor-shaft and disk slidable thereon, a lever carrying a friction-piece for engaging said disk, a spring-pressed rod pivoted to said lever for varying the position thereof and a stepped cam secured to said rod for determining the position of said rod, substantially as set forth.

4. In a speed-regulator, the combination of the governor-shaft and disk slidable thereon, a friction-piece for engaging said disk and means for varying the position of said friction-piece comprising an axially-movable cam having a sloping surface, a stop at each end thereof, an abutment, and a spring for pressing said surface against said abutment, substantially as set forth.

842,043. BRICK-KILN. CHARLES K. WELLER, Atlanta, Ga. Filed July 24, 1906. Serial No. 327,538.



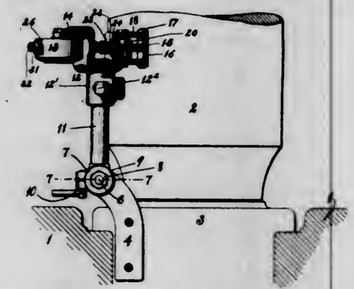
Claim.—1. A brick-kiln having suitable walls, a plurality of furnaces in two of the oppositely-disposed walls, a grate in each of said furnaces, an air-supply pipe, branch pipes connected to said supply-pipe and delivering to each of the furnaces beneath the grate thereof, a damper in each of said pipes, a trap in each of said pipes, and a hood over the delivery end of each pipe and serving to prevent the entrance of foreign matter thereto.

2. A brick-kiln having a floor, suitable walls, one of said walls having a plurality of furnaces located therein and the floor having a plurality of open-ended troughs alternately arranged in respect to said furnaces, an air-supply pipe located beneath the floor and at one side thereof, branch pipes connecting said supply-pipe with each of said troughs, branch pipes connecting said supply-pipe with

each of said furnaces, and dampers in each of said branch pipes, whereby air may be delivered to the furnaces or to the troughs.

3. A brick-kiln having a floor provided with a plurality of open-ended troughs, suitable walls having furnaces located therein and alternately disposed in respect to said open-ended troughs, a grate in each of said furnaces, an air-supply pipe beneath said floor and to one side thereof, branch pipes connecting said supply-pipe with each of said troughs, branch pipes connecting said supply-pipe with each of said furnaces beneath the grate thereof, a trap and a hood in each of the last-mentioned branch pipes, and a damper in all of said branch pipes.

842,044. MACHINE FOR GAGING THE THICKNESS OF MATERIAL. MINA C. WELLS and ALFRED WELLS, New York, N. Y.; said Alfred Wells assignor to said Mina C. Wells. Filed July 17, 1906. Serial No. 326,560.



Claim.—1. The combination, with a pivoted frame having an angular extension, of a roller journaled in said frame; an antifriction device carried by the angular extension of the frame at a point opposite the roller; an indicator; and means actuated by said antifriction device for operating said indicator.

2. The combination, with a support having means, whereby said support may be turned in an arcuate path, and then secured in position, of an indicator carried by the support; mechanism for actuating the pointers of the indicator; a rod for operating said mechanism; a swinging frame; a roller journaled in said frame; and an antifriction device carried by the swinging frame and adapted to actuate the rod.

3. The combination, with a support, and with an indicator carried by said support, of gearing for actuating the pointers of the indicator; a movable rod; a rack carried by said rod, and engaging with an element of said gearing; a frame pivoted to the support; a roller journaled in said frame, and adapted to bear against the material to be gaged; and means carried by said frame, and engaging the rod to actuate the same when variations in the thickness of the material undergoing operation occur.

4. The combination, with a support, of means whereby it may have an arcuate movement; means for securing said support in position when arcuately adjusted; an indicator carried by the support; a rod also carried by the support, and serving to actuate the indicator; a frame pivoted to the support; a roller carried by said frame; and means also carried by the frame for operating the rod.

5. The combination, with a swinging support, and with an indicator secured thereto, of mechanism for actuating the pointers of the indicator; a slide; a rod for operating said mechanism; a frame pivoted to the support, and having an angular extension; a roller journaled in said frame; and an antifriction-roller journaled in the angular extension of the frame, and bearing against the rod.

6. The combination, with a support, and with means whereby it may be swung into and out of operative position and then secured in place, of a swinging frame; a roller journaled in said frame; an indicator; means actuated by the swinging frame for operating the indicator; and means for preventing the dropping action of the swinging frame when the support is removed from its operative position.

7. The combination, with a U-shaped support having a pair of arms, one arm projecting from each end of said support, of an indicator carried by one of the arms; a swinging frame carried by the other arm; a roller journaled in said swinging frame; and means operated by the swinging frame for actuating the indicator.

8. The combination, with a support having a pair of arms, one arm projecting from each end, of a bracket secured to one of the arms; a swinging frame pivoted to one of the arms; a device carried by said frame, and engaging the bracket; a roller journaled in the swinging frame; an antifriction-roller journaled in an extension of said swinging frame; an indicator; and means operated by said antifriction-roller for operating the indicator.

9. The combination, with a swinging frame, and with a roller journaled therein, of a rod; an adjustable abutment on the end of said rod; an antifriction device carried by the swinging frame, and bearing against said adjustable abutment; an indicator; and means operated by the rod for actuating the indicator.

10. The combination, with a swinging two-armed frame, having an extension at one end, of a roller journaled in the frame below the extension; an antifriction-roller journaled in the extension; a rod having an abutment for receiving the thrust of said antifriction-roller; and an indicator operated by the rod.

11. The combination, with a roll over which material passes, of a support; an indicator carried by said support; a frame pivoted to the support; a roller journaled in the frame; and means actuated by the frame as it rises and falls for operating the indicator.

12. The combination, with a roll over which material passes, of a support; a swinging frame pivoted to the support; a roller journaled in the support; an indicator carried by the support; means operated by the roller for actuating the indicator; means whereby the support may be swung into or out of position; and means for preventing the dropping of the swinging frame and its roller when the swinging support is out of its operative position.

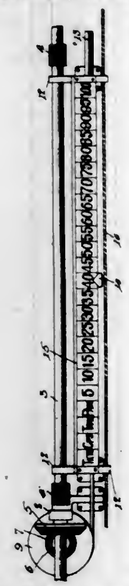
842,045. OPERATING MECHANISM FOR FARE REGISTERS AND RECORDERS. DAVID B. WHISTLER, Dayton, Ohio, assignor to The Recording and Computing Machines Company, Dayton, Ohio, a Corporation of Ohio. Filed Sept. 19, 1906. Serial No. 335,243.

Claim.—1. An operating mechanism for fare-registers comprising a rotatable shaft adapted for connection with the setting mechanism of a register, winding wheels or drums driven from said shaft, and an indicator extending substantially parallel to said shaft and comprising flexible end portions wound on said wheels or drums, and an intermediate portion provided with an index or pointer, and an indicating-scale coöperating with said index or pointer, substantially as described.

2. An operating mechanism for fare-registers comprising a rotatable shaft adapted for connection with the setting mechanism of a register, winding wheels or drums driven from said shaft, and an indicator extending substantially parallel to said shaft and comprising flexible end portions wound on said wheels or drums, and an intermediate portion provided with a plurality of indices or pointers, and a corresponding plurality of indicating-scales coöperating with said indices or pointers, substantially as described.

3. An operating mechanism for fare-registers comprising a rotatable shaft adapted for connection with the setting mechanism of a register, winding wheels or drums driven from said shaft, and an indicator extending substantially parallel to said shaft and comprising flexible end portions wound on said wheels or drums, and an intermediate index-bar provided with an index or pointer, means for supporting and guiding said index-bar, and an indicating-scale coöperating with said index or pointer, substantially as described.

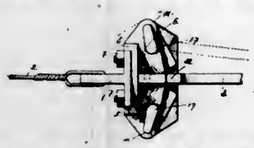
4. An operating mechanism for fare-registers comprising a rotatable shaft adapted for connection with the setting mechanism of a register, winding wheels or drums driven from said shaft, and an indicator extending substantially parallel to said shaft and comprising flexible end portions wound on said wheels or drums, and an intermediate index-bar provided with a plurality of indices or pointers, a corresponding plurality of indicating-scales coöperating with said indices or pointers, and brackets supporting and guiding said index-bar, and carrying the indicating-scales, substantially as described.



5. In an operating mechanism for fare-registers, a rotatable setting-shaft, in combination with end brackets supporting said shaft, winding wheels or drums also supported on said end brackets, gearing connecting said shaft and wheels to cause them to rotate in unison, and an indicator extending substantially parallel to said shaft and comprising flexible end portions wound on said wheels or drums, and an intermediate rigid portion provided with an index or pointer, and an indicating-scale coöperating with said index or pointer, substantially as described.

6. In an operating mechanism for fare-registers, a rotatable setting-shaft, in combination with end brackets supporting said shaft, winding-wheels also supported on said end brackets, gearing connecting said shaft and wheels to cause them to rotate in unison, and an indicator extending substantially parallel with said shaft and comprising flexible end portions wound on said wheels or drums, and an intermediate index-bar provided with a plurality of indices or pointers, a corresponding plurality of indicating-scales coöperating with said indices or pointers, and intermediate brackets supporting said shaft and indicating-scales and also supporting and guiding the index-bar, substantially as described.

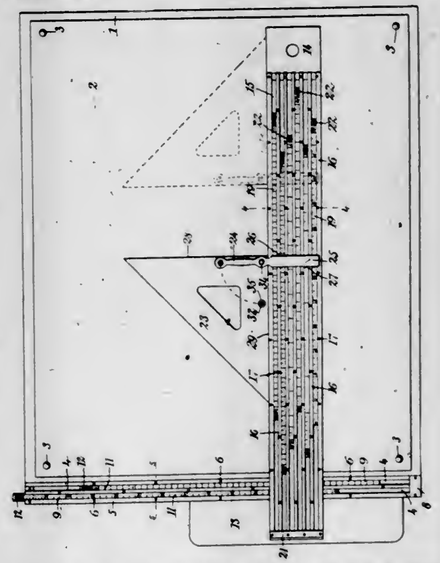
842,046. GATE-LATCH. CHARLES E. WILLIAMS, Monessen, Pa. Filed Oct. 16, 1906. Serial No. 339,206.



Claim.—1. The combination with a fence-post, of a latch-housing secured to said post, outwardly-extending flanges carried by said housing, one of said flanges being beveled and protruding beyond the other of said flanges, latch members pivotally mounted between the ends of said flanges and having beveled surfaces, pins extending through said latch members and adapted to rotate therewith, handles carried by said pins, rearwardly-extending flanges carried by said latch members and adapted to limit the outward movement of the latch members, and a spring detachably secured in said housing and having its ends bearing against the rear faces of said latch members, substantially as described.

2. In a gate-latch, the combination of a latch-housing embodying a back plate and two forwardly-projecting flanges spaced from each other and the lower of which is provided with beveled surfaces converging toward the center of the flange, pins revolubly mounted in said flanges, latch members hung on said pins between the flanges to be moved as the pins are operated, and provided with stops for limiting the movement of the latch members in one direction, and means for holding the latch members normally projected so that their stops engage said back plate.

842,047. DRAFTING APPARATUS. THOMAS F. WILLIAMS, New Bethlehem, Pa. Filed May 15, 1906. Serial No. 316,904.



Claim.—1. In a device of the class described, the combination of a drafting-board having a scale slidably mounted thereon with a T-square having a scale slidably mounted on the blade thereof, and a triangle having an extending member adapted to project over said second scale, an edge of said member being adapted to aline with an edge of said triangle, said scales being normally at substantially right angles.

2. In a device of the class described, the combination with a drafting-board, of a T-square having a scale slidably mounted on the blade thereof, and a triangle having an extending member adapted to project over the said scale, and means whereby to aline the edge of said member with either of the legs of said triangle.

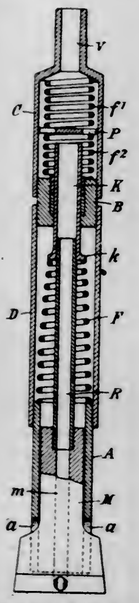
3. In a device of the class described the combination with a drafting-board, of a T-square having a scale slidably mounted on the blade thereof, a triangle provided with buttons adjacent to the edges of the legs thereof, and an extending member having eyes for receiving the buttons, whereby to aline the edges of said member with the edge of either leg of said triangle.

4. In a device of the class described the combination with a drafting-board, of a T-square having a scale slidably mounted on the blade thereof, and a triangle for coöperating with the T-square, said triangle having an extending member, and means for attaching said extending member to the triangle with its edge in alinement with the edge of either leg of said triangle.

842,048. RED TETRAZO DYE. HUGO WITTER, Leverkusen, near Cologne, Germany, assignor to Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Oct. 15, 1906. Serial No. 339,024.

Claim.—The herein-described tetrazo dyestuff obtainable by combining tetrazotized benzidin with one molecule of 2-naphthylamin-3.6-disulfonic acid and in acid solution with one molecule of 2-amino-8-naphthol-6-sulfonic acid, which dyestuff is, after being dried and pulverized, in the shape of its sodium salt a dark powder soluble in water with a bluish-red color and in concentrated sulfuric acid with a greenish-blue color; dyeing cotton bluish-red shades; and yielding upon reduction with stannous chlorid and hydrochloric acid para-para-diaminodiphenyl, 1.2-diamino-8-naphthol-6-sulfonic acid and 1.2-naphthylen-diamin-3.6-disulfonic acid, substantially as hereinbefore described.

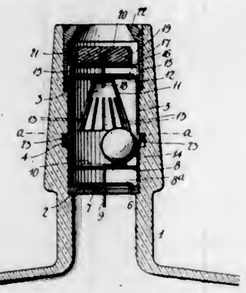
842,049. HYDRAULIC DRILL. WACLAW WOLSKI, Lemberg, Austria-Hungary. Filed June 22, 1906. Serial No. 322,806.



Claim.—1. In a hydraulic drill, the combination with a tubular casing adapted to be connected with a hollow pump-rod and to be suspended therefrom, of a stuffing-box in said tubular casing forming two chambers therein, one above and one below said stuffing-box, a piston guided in said stuffing-box and formed as a tube, a drill guided in the lower part of said tubular casing and having a bore for the rinsing-water, a tube connecting said drill with said piston, a helical spring in the lower chamber of said tubular casing and bearing with its upper end on said piston and with its lower end on a shoulder of said tubular casing, a plate with a plurality of arms guided in the upper chamber of said tubular casing and adapted to periodically close as a valve the cavity of said piston, two helical springs in the upper chamber of said tubular casing on both sides of said plate and adapted to normally hold the latter at a height above said piston.

2. In a hydraulic drill, the combination with a cylindrical vessel having a neck which is adapted to be connected with a hollow pump-rod and to be suspended therefrom, of a stuffing-box screwed into the lower end of said cylindrical vessel, a piston vertically guided in said stuffing-box and formed as a tube with a flange at the lower end, a plate with a plurality of arms guided in said cylindrical vessel and adapted to periodically close as a valve the cavity of said piston, a first helical spring inserted between said plate and the shoulder of said cylindrical vessel, a second helical spring inserted between said plate and said stuffing-box, a vertical tube screwed on said stuffing-box, a vertical guiding-tube screwed into the lower end of said vertical tube, a helical spring tapering upward and inserted between the flange of said piston and the upper face of said vertical guiding-tube, a drill guided in said vertical guiding-tube and having a bore for the rinsing-water, and a tube screwed at its upper end into said piston and at its lower end into said drill, said first helical spring and said second helical spring being adapted to normally hold said plate at a height above said piston.

842,050. NON-REFILLABLE BOTTLE. JOSEPH W. WOODARD, Washington, D. C., assignor of one-half to Louis Cohen, Washington, D. C. Filed Apr. 23, 1906. Serial No. 313,292.



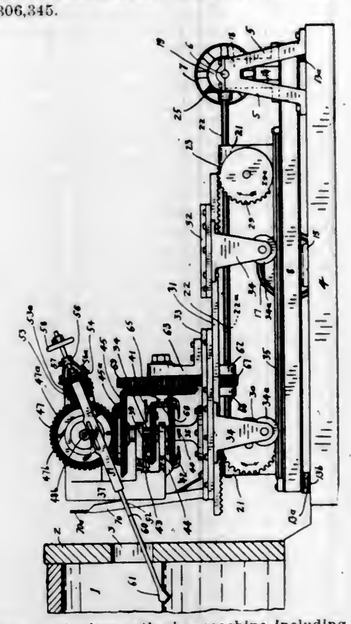
Claim.—1. A bottle having the neck provided with an annular shoulder near its inner end, a similar shoulder near its outer end and an annular groove at a point between said shoulders, in combination with a valve-casing in the neck, with its inner end bearing against the inner shoulder, said casing having spring locking devices engaging the annular groove, and a cap on the outer end of the said casing, and bearing against the outer shoulder, substantially as described.

2. A bottle having the neck provided with an annular shoulder near its inner end, a similar shoulder near its outer end and an annular groove at a point between said shoulders, in combination with a valve-casing in the neck, with its inner end bearing against the inner shoulder, said casing having spring locking devices engaging the annular groove, and a cap on the outer end of the casing, bearing against the outer shoulder and having an outwardly-contracting bore, substantially as described.

3. A non-refillable bottle having a valve-casing in the neck thereof, a disk valve, a guide for said disk valve, and a float-disk spaced from the outer side of said disk, and connected thereto to operate the same, substantially as described.

4. A non-refillable bottle having an inner valve, a weight element to close said inner valve when the bottle is in an upright, inclined, or horizontal position, an outer disk valve, a guide therefor, a float-disk spaced from the outer side of the disk valve and connected thereto to operate the same, and a cap in the neck of the bottle, inclosing the float-valve, and having an outwardly-contracted bore, substantially as described.

842,051. MACHINE FOR GATHERING GLASS. WILLIAM ALLES, Muncie, Ind. Filed Mar. 16, 1906. Serial No. 306,345.



Claim.—1. A glass-gathering machine including a foundation, a movable base thereon, means for laterally adjusting the position of said movable base, glass-gathering mechanism on said base, driving mechanism mounted transversely on said base, and means laterally movable on said driving mechanism for transmitting power to said glass-gathering mechanism in its various adjusted positions.

2. A glass-gathering machine including a base, a carriage reciprocable upon said base, a glass-gathering machine on said carriage, a continuously-rotating driving-shaft, and means driven thereby for intermittently reciprocating said carriage and maintaining the same stationary between the movements thereof.

3. A glass-gathering machine including a base, a carriage reciprocable on said base provided with a pair of racks, a glass-gathering machine on said carriage, mutilated gear-wheels for engaging said racks and means for driving said gear-wheels continuously in opposite directions.

4. A glass-gathering machine including a base, a carriage reciprocable upon said base provided with a pair of racks, a glass-gathering machine on said carriage, mutilated gear-wheels for engaging said racks, shafts for said mutilated gears, worm-wheels thereon, a continuously-rotative driving-shaft, oppositely-formed worms on said shaft that engage said worm-gears.

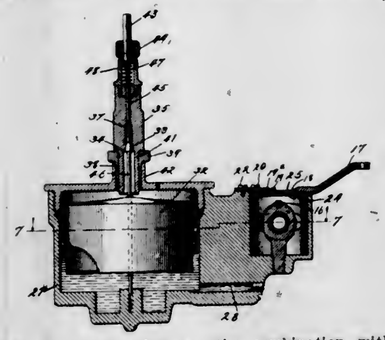
5. A glass-gathering machine including a punty, a holder therefor that is longitudinally slotted between its ends, a vertically-disposed gear-wheel with a pin extending from the face thereof through said slot adapted to vertically oscillate said punty-holder, a horizontally-revoluble means on which said gear is mounted, means mounted upon one end of said punty-holder provided with a pinion meshing with said gear-wheel for revolving said punty, and means for throwing said punty-revolving gear out of operation.

6. A glass-gathering machine including a carriage, a post extending upward therefrom, a horizontally-revoluble arm mounted on said post and extending above said post, a horizontal gear-wheel mounted on the upper end of said post, a gear-wheel mounted on said arm that meshes with the gear on said post, means for driving the gear on the post, a punty, a punty-holder pivotally, slidingly and eccentrically supported on said vertical gear, and means engaging said gear and mounted on the punty-holder for revolving the punty-rod whereby the punty may be continuously normally revolved, and the punty-holder may be vertically oscillated in any position it may assume during the horizontal oscillation thereof.

7. A glass-gathering machine including a carriage, a post extending upwardly therefrom, a horizontally-revoluble arm mounted on said post and extending above said post, means mounted on said post for horizontally oscillating said arm, a horizontal gear on the upper end of said post, means for driving said gear and the means for oscillating said arm, a gear-wheel mounted on said arm that meshes with the gear on said post, a punty, a punty-holder pivotally, slidingly and eccentrically supported on said vertical gear, and means engaging said gear and mounted on the punty-holder for revolving the punty-rod whereby the punty may be continuously normally revolved and the punty-holder may be vertically oscillated in any position it may assume during the horizontal oscillation thereof.

8. A glass-gathering machine including a vertical post, a punty, means for carrying said punty that is mounted on said post by two parallel portions thereof, so that said means will be horizontally oscillatory, a pair of horizontal bevel-gears mounted on said post, means for continuously driving said gears in opposite directions, means for transmitting power from said bevel-gears to said punty-supporting means, and stationary trips arranged to alternately connect said bevel-gears and punty-supporting means so that the same will have an oscillatory movement and for disconnecting said bevel-gears and punty-supporting means at the limits of said oscillatory movement.

842,052. CARBURETER. LARS ANDERSON, Chicago, Ill., assignor, by direct and mesne assignments, to Triplex Gas Engine Company, New York, N. Y., a Corporation of New Jersey. Filed Dec. 8, 1904. Serial No. 235,912.



Claim.—1. In a carbureter, the combination with a valve-housing having a central passage therethrough of cylindrical valve members arranged within said housing extending transversely across said passage, said valve members being telescoped, the one within the other, and having registrable openings, means for relatively displacing said valve members to vary the area of the openings therethrough, and a fuel-supply passage delivering into said housing-passage.

2. In a carbureter, the combination with a valve-housing having a passage therethrough, cylindrical telescope valve members arranged within said housing and extending transversely across said passage, said valve members having registrable openings therethrough, and connections between said valve members whereby when one of said members is moved the other is moved relatively thereto to vary the area of the openings therethrough, and means for delivering a fuel-supply centrally with respect to said passage.

3. In a carbureter the combination with a valve-housing having an inlet and an outlet, and a fuel-supply passage

leading thereinto, of telescoped cylindrical valve members arranged in said housing and having registrable passages, and means for rotating said valve members in opposite directions for causing said passages to more or less overlap or register.

4. In a carbureter, the combination with a valve-housing having a passage therethrough, a tube arranged within said passage and extending longitudinally thereof, cylindrical telescope valve members arranged within said housing and extending transversely across the passage therethrough, said valve members having registrable openings, said tube extending through said openings, means for rotatively displacing said valve members relatively to each other to vary the area of the openings therethrough, and means for delivering a fuel-supply into said tube.

5. In a carbureter the combination with a valve-housing having an inlet and an outlet, and a fuel-supply passage thereinto, of two cup-shaped valve members telescoped together and arranged within said valve-housing and having registrable passages, a lever pivotally fixed at one end and having sliding pivotal connection at the other end with one of said members and pivotal connection at an intermediate point with the other of said members, said latter pivot being eccentric to said members, and means for rotating one of said members.

6. In a carbureter, the combination with a valve-housing having a passage therethrough, a tube arranged within said housing and extending longitudinally of said passage, valve members aranged within said housing and extending transversely across the passage therethrough, said valve members having registrable openings through the side walls thereof, said tube extending through said openings, an operating-lever for one of said valve members and a lever connection intermediate said valve members whereby when one is rotatively moved in one direction, the other is correspondingly moved in the opposite direction, and means for delivering a fuel-supply into the passage in said housing.

7. In a carbureter, the combination with a valve-housing having a passage therethrough, cylindrical valve members telescoping, the one within the other, and arranged within said housing to extend across said passage, said valve members having registrable openings through the side walls thereof, a lever connection between said valve members whereby when one of said members is rotatively moved in one direction, the other member is correspondingly moved in the opposite direction, and means for delivering a fuel-supply to the passage inside the housing.

842,053. STRAW MATTING. FREDRICK E. ARBOUQUIER, Westbrook, Me., assignor, by mesne assignments, to Goodall Matting Company, a Corporation of Maine. Filed Aug. 13, 1903. Serial No. 169,323.



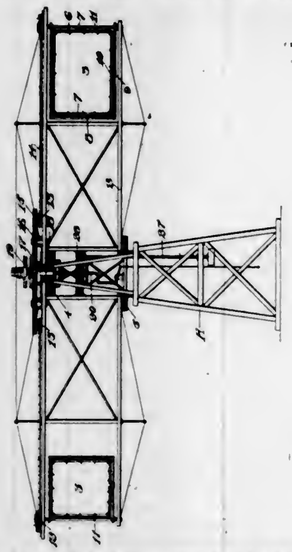
Claim.—1. A straw matting comprising filling-straws and the usual warp cords or threads, an auxiliary or supplemental thread or cord parallel to and between the selvage and next adjacent warp cord or thread, and a turn-in thread parallel to the auxiliary or supplemental thread or cord, the smaller ends of the filling-straws being passed around and under the selvage warp cord or thread and under and over the auxiliary and turn-in thread respectively, and protruding outwardly from the body of the matting between the turn-in thread and the next adjacent body-warp.

2. A straw matting comprising filling-straws and the usual warp cords or threads, an auxiliary or supplemental thread or cord parallel to and between the selvage and next adjacent warp cord or thread, and a turn-in thread parallel to the auxiliary or supplemental thread or cord, the smaller ends of the filling-straws being passed around and under the selvage warp cord or thread and under and over the auxiliary and turn-in threads, respectively, and being left with a set in the direction of the selvage-cord.

3. A straw matting comprising filling-straws and the usual warp cords or threads, an auxiliary or supplemental thread or cord parallel to and between the selvage and the next adjacent warp cord or thread, and a turn-in thread parallel to the auxiliary or supplemental thread or cord, the smaller ends of the filling-straws being passed around and under the selvage warp cord or thread and under and over the auxiliary and turn-in thread, respectively, the said turned-in end being bound and held in place by the next succeeding pick of straw, and being left with a set in the direction of the selvage-cord.

4. A straw matting comprising filling-straws and the usual warp cords or threads, an auxiliary or supplemental thread or cord between the selvage and next adjacent warp cord or thread, and a turn-in thread parallel to and adjacent the auxiliary or supplemental thread or cord, the smaller ends of the filling-straws being passed around and under the selvage warp cord or thread and under and over the auxiliary and turn-in thread, respectively, the turned-in end of the filling-straw being free from interweaving with the usual warp cords or threads between the selvages, and being left with a set in the direction of the adjacent selvage-cord.

842,054. WINDMILL. JOSEPH BARKER, Carson City, Nev. Filed Nov. 15, 1905. Serial No. 287,423.



Claim.—1. A power-windmill comprising a frame mounted to rotate on a vertical axis, vertical shafts carried by said frames, vanes fixed to said shafts, coacting clutch members on the shafts and frame, a rotatable part mounted on the fixed support, means for locking said rotatable part against turning, and connections between said shafts and said rotatable part to govern the rotative movements of the vanes on their axes.

2. A power-windmill comprising a frame suitably supported to rotate on a vertical axis, pivotally-supported vanes carried by the frame, means including a pawl-and-ratchet mechanism for holding the vanes in operative position relative to the wind, and drive connections between the vanes and a stationary part of the apparatus to rotate the vanes.

3. A power-windmill comprising a suitably-supported rotatable frame, pivotally-supported vanes on the frame, drive connections between the vanes and a stationary part of the apparatus, to rotate the vanes on their pivots and means including a pawl-and-ratchet mechanism for causing the vanes to present themselves in operative position to the wind.

4. In a windmill, the combination of a rotary support, a vane mounted to rotate on a vertical axis on said support, pawl-and-ratchet mechanism permitting a rotative movement of the vane independent of the support and means acting through said pawl-and-ratchet mechanism to rotate the vane on the rotation of the support.

5. In a windmill, the combination of a rotary frame, a vane pivoted thereon, a pawl carried by the vane, a ratchet on the frame engageable by said pawl, a guide to lift the pawl, and disengage the latter from the ratchet and chain, and sprocket connections between the vane and a fixedly-supported part of the apparatus.

6. In a windmill, the combination of a main frame mounted to rotate on a vertical axis, vertical pivot-shafts on said frame, sail-frames fixed to said shafts, sails pivoted in said sail-frames to turn on horizontal pivots, means for maintaining the sails in operative position in said sail-frames, pawl-and-ratchet connections between the shafts and main frame to permit the shafts to turn freely in one direction, and means connected with the shafts to rotate the latter in a direction opposite to the rotation of the main frame.

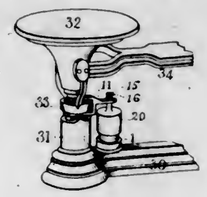
7. In a windmill, the combination of a rotary support, a series of vertical shafts pivotally mounted on said support, vanes fixed to said shafts, sprockets loose on the shafts, ratchets rigid with the sprockets, pawls suitably supported to rotate with the shafts and engageable with the ratchets, other sprockets arranged centrally of the support, chains passing around the first-named sprockets and around corresponding of said inner sprockets, and means actuating the inner sprockets to rotate the vanes in a direction opposite to the direction of rotation of the frame on the engagement of said pawls with said ratchets.

8. In a windmill, the combination of a rotary support, a series of vertical shafts pivotally mounted on said support, vanes fixed to said shafts, sprockets loose on the shafts, ratchets rigid with the sprockets, pawls suitably supported to rotate with the shafts and engageable with the ratchets, other sprockets arranged central of the support, chains passing around the first-named sprockets and around corresponding of said inner sprockets, means actuating the inner sprockets to rotate the vanes in a direction opposite to the direction of rotation of the frame on the engagement of said pawls with said ratchets, and means in the path of the pawls to disengage the latter from their respective sprockets and permit the vanes to swing freely on their pivots.

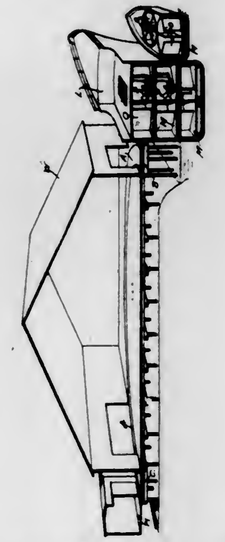
9. In a windmill, the combination of a rotary support, a series of vertical shafts pivotally mounted on said support, vanes fixed to said shafts, sprockets loose on the shafts, ratchets rigid with the sprockets, pawls suitably supported to rotate with the shafts and engageable with the ratchets, other sprockets arranged central of the support, chains passing around the first-named sprockets and around corresponding of said inner sprockets, means actuating the inner sprockets to rotate the vanes in a direction opposite to the direction of rotation of the frame on the engagement of said pawls with said ratchets, means in the path of the pawls to disengage the latter from their respective sprockets to permit the vanes to swing freely on their pivots, and means acting through the pivots of the vanes to absorb shock on the sudden turning of the vanes on their pivots.

842,055. DASH-POT. ARTHUR W. BARNARD, Newton Center, Mass., assignor to The Barnard Company, Boston, Mass., a Corporation of Massachusetts. Filed May 4, 1905. Serial No. 258,885.

Claim.—In a dash-pot, the combination of a piston-rod, a piston mounted thereon and a cylinder within which said piston moves and which is unattached and free to be moved laterally by the movement of said piston.



842,056. CIRCULAR FLOOR CONVEYER. JOHN C. BARR, Tacoma, Wash. Filed Jan. 16, 1906. Serial No. 296,418.



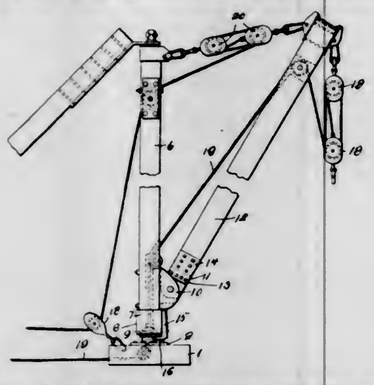
Claim.—1. A circular floor conveyer, comprising a circular traveling floor set level with a floor or deck, said floor constructed with stringers and truss-rods, and said stringers mounted to travel on fixed rollers, guide-rollers at the side of the outer stringers and a pinion-gear engaging a fixed gear on one of said stringers for turning said circular floor conveyer substantially as described and set forth.

2. A circular floor conveyer comprising a circular non-flexible platform located and capable of traveling within a way on opposite sides of which, both within and outside of the circle described by the way, is a fixed flooring adapted to receive on either side of the platform a load carried by the same, substantially as described.

3. A circular floor conveyer comprising a circular non-flexible platform located and capable of traveling within a way on opposite sides of which both within and outside of the circle described by the way is a fixed flooring adapted to receive on either side of the platform a load carried by the same, said platform being adapted to travel in opposite directions as desired, substantially as set forth.

4. A circular floor conveyer, comprising a circular platform adapted to travel in opposite directions as desired, and composed of metal-faced stringers, flooring secured to said stringers and forming a rigid, non-flexible surface to the platform, truss-rods connecting and bracing the stringers, and fixed rollers suitably located to have said stringers travel thereon, substantially as described.

842,057. HOISTING-DERRICK. JOHN BASS, McKees Rocks, Pa. Filed Nov. 15, 1906. Serial No. 343,504.

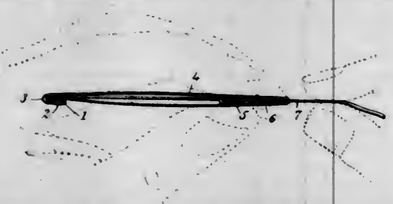


Claim.—1. In a hoisting-derrick, the combination with a base, of a bearing consisting of a plate secured to the base, a conical standard projecting from said plate, and surmounted by a mushroom-head, a socket-casting fitting said head, a mast supported by said casting, a boom pivotally secured to said mast, and a brace secured to said casting and provided with a flange to engage below said head.

2. In a hoisting-derrick, the combination with a base, of a bearing consisting of a plate secured to said base, a conical standard projecting from said plate and surmounted by a mushroom-head, a socket fitting said head, a mast supported by said casting, a boom pivotally secured to said mast, and a brace secured to said casting comprising a vertically-disposed plate, and a horizontally-extending flange curved along its inner edge to fit said conical standard.

3. In a hoisting-derrick, the combination with a base, a bearing secured thereon comprising a securing-plate, a conical standard, and a mushroom-head, a socket-casting fitting said bearing, a mast supported by said casting, a boom, a socket for said boom pivotally secured to said mast, and a reinforcing device comprising a plate bolted to said casting, and having an inwardly-projecting flange engaging below said mushroom-head.

842,058. AMUSEMENT DEVICE. HERMAN S. BASSETT, Edwall, Wash. Filed Nov. 8, 1906. Serial No. 342,514.



Claim.—1. In a device of the class described, the combination of two flexible strips secured together at one end, a vibrating member secured to said strips at the closed end, and means whereby the tension of the vibrating member may be varied at will.

2. In a device of the class described, the combination of two metal strips secured together at one end, a vibrating strip having one end inclosed between the secured ends of the strips and having its opposite end free, and means whereby when the free ends of the strips are brought together, the vibrating strip may be held in place but free to have its tension varied at will.

3. In combination, two flexible metal strips, and a vibrating device, all secured together at one end and having their opposite ends free, the end of one of the metal strips being so constructed that when the free ends of the metal strips are brought together, the vibrating device may be extended and cantracted at will.

4. In combination, two metal strips, and a vibrating device, all secured together at one end, having their opposite ends free, one of said metal strips being provided with projections adapted to contact with the free end of the opposite strip and form a passage through which the vibrating device may be drawn in and out.

5. In combination, two flexible metal strips, and a rubber band, all secured together at one end and having their opposite ends free, the free end of one of said strips being provided with two longitudinal slits, and having the portions on the outer sides of said slits bent at an angle and adapted to contact with the other metal strip, whereby a passage is formed between said side portions to receive the rubber band.

6. In combination, two metal strips, and an extensible vibrating member, all secured together at one end and having their opposite ends free, the free end of one of said metal strips having its edge portions bent out of alinement and adapted to contact with the free end of the other strip to form a passage, whereby the tension of the extensible vibrating member may be varied at will.

842,059. PHONOGRAPH. HENRY G. BAUMAN, Pittsburg, Pa. Filed Feb. 26, 1906. Serial No. 302,988.



Claim.—1. The combination with the slide-rest and speaker-arm of a phonograph, of a depending needle detachably connected to said speaker-arm, a graduated plate connected to said slide-rest and in circuit with a battery and sounder, substantially as described.

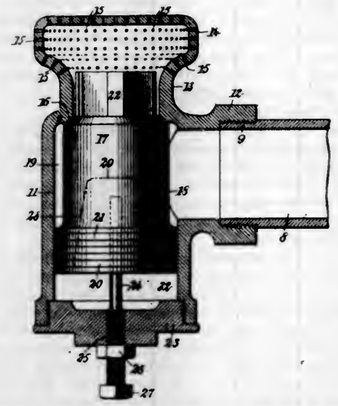
2. In an indicator, the combination with the slide-rest and speaker-arm of a phonograph, of a depending needle detachably connected to said arm, an indicator-plate connected to said slide-rest and having notches formed therein, and graduations arranged thereon adapted to indicate the movement of said needle, substantially as described.

3. In an indicator, the combination with the speaker-arm and slide-rest of a phonograph, of a graduated plate detachably connected to said slide-rest a depending needle detachably connected to said speaker-arm and adapted to engage said plate, and means to sound an alarm when said needle reaches certain graduations, substantially as described.

4. In an indicator, the combination with the slide-rest and speaker-arm of a phonongraph, of a plate connected to said slide-rest and having graduations arranged thereon, means carried by said speaker-arm to designate upon said plate the rapidity at which said arm is traveling, substantially as described.

842,060. RELIEF-VALVE FOR LOCOMOTIVES. THOMAS E. BEAGHAN, HUBERT B. REID, and JACOB H. BEST, Shenandoah, Va. Filed Feb. 3, 1906. Serial N. 299,318.

Claim.—1. In combination, an engine-cylinder, a relief-valve having a body with a seat formed therein, a plug movably mounted in said body and adapted to rest against said seat, said valve having a chamber beyond said plug, means for admitting live steam to said chamber, and means for opening communication from said cylinder to said body between said seat and said chamber whereby when said plug is unseated the interior of said cylinder may communicate with the atmosphere.



2. A relief-valve consisting of a body having a seat, a plug movably mounted in said body and having a substantially cylindrical body with a shoulder normally resting against said seat, said body having an inlet-hub adapted to admit steam to the space around said plug, said body having a steam-chamber beyond the end of said plug whereby steam-pressure in said chamber will hold said plug against said seat.

3. An engine-cylinder in combination with a relief-valve having a body in communication with the interior of said cylinder, said valve-body having a seat formed therein, a plug having a substantially cylindrical body mounted in said valve-body, said plug having a shoulder normally resting against said seat, said valve-body having a chamber adapted to receive steam-pressure to hold said plug on said seat.

4. In combination, an engine-cylinder, relief-valves mounted in the heads thereof and communicating with the interior of said cylinder, said relief-valves having reduced necks in the upper portions thereof and expanded perforated heads therebeyond, plugs mounted respectively in said valves and having guide-rings received in said necks, said valves presenting seats in the lower portion of said necks to receive said plugs, said plugs having heads guided in said valves, means for admitting steam to the under side of said plugs, and adjustable stops for limiting the downward movement of said plugs.

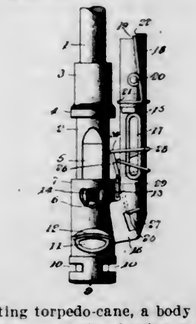
5. A relief-valve for a locomotive-cylinder, having a substantially cylindrical body with a hub communicating with the interior thereof, said body having a contracted neck and an expanded perforated nozzle therebeyond, a plug having a head guided in the lower portion of said body and adapted to come upon said seat, said plug having guide-rings formed at the upper extremity thereof lying within said neck, a head for said body, an adjustable stem passing through said head and constituting a stop for limiting the movemnt of said plug, said body having means for admitting steam to the interior thereof.

842,061. TORPEDO-CANE. ROSCOE BEAN, Berea, Ohio. Filed Oct. 19, 1905. Serial No. 283,393.

Claim.—1. In a repeating torpedo-cane, a magazine having an outlet-passage to the detonating devices, and a resilient cut-off working within said passage near its junction with said magazine and moving at an acute angle to the direction of travel of the torpedoes as they approach said cut-off, substantially as described.

2. In a repeating torpedo-cane, a magazine having a passage leading to the detonating devices, said passage being deflected below the magazine proper, and a resilient cut-off working at an acute angle to said passage at the point of deflection from said magazine and in the direction of movement of the torpedoes as they approach said cut-off, substantially as described.

3. In a repeating torpedo-cane, a magazine having at its lower end a laterally-curved discharge-passage leading to the detonating devices, and a resilient cut-off working in said passage at the bend or angle thereof in a direction forming an angle to the longitudinal axis of the magazine, substantially as described.



4. In a repeating torpedo-cane, a body having a detonating-chamber, and a magazine having a discharge-passage opening into said chamber at the side thereof, in combination with a detonating-plunger adapted to reciprocate in said chamber and to close the discharge-mouth of the magazine-passage when depressed and open the same when raised, and a cut-off working in said discharge-passage back of the discharge-mouth and closing said passage when the plunger is lifted, the space in said passage between the cut-off and discharge-mouth accommodating a single torpedo only, substantially as described.

5. In a repeating torpedo-cane, a body having a detonating-chamber, and a magazine having a discharge-passage opening into said chamber at the side thereof, in combination with a detonating-plunger adapted to reciprocate in said chamber and to close the discharge-mouth of the magazine-passage when depressed and open the same when raised, and a spring-controlled cut-off normally closing said discharge-passage at a distance back of the discharge-mouth sufficient to accommodate a single torpedo only, said cut-off closing said passage when the plunger is lifted to open the discharge-mouth, said plunger actuating said cut-off to open said passage when the plunger is depressed so as to close the discharge-mouth, substantially as described.

6. In a repeating torpedo-cane, a body having a detonating-chamber, and a magazine having a discharge-passage leading to said chamber, in combination with a plunger reciprocating in said chamber and controlling the discharge-mouth of said passage, said plunger having a shoulder or projection, and a resilient wire coiled around the magazine, having a part located in the path of the shoulder or projection of the plunger, and a downwardly-extending connecting part, the extremity whereof is bent to form a cut-off arm extending across the magazine discharge-passage, the walls of said passage being slotted to permit the movement of said cut-off arm, substantially as described.

7. A repeating torpedo-cane, comprising a body of malleable iron or steel, or other material capable of bending, said body having a detonating-chamber formed therein, and tongues formed in the opposite side walls of said chamber, separated therefrom except at their bases, and downwardly directed, in combination with a plunger fitting said chamber and flattened or cut away on its opposite sides for a portion of its length, said flattened or cut-away portions terminating in stop-shoulders at their lower ends, whereby said tongues may be bent inward after the plunger is introduced into the chamber so as to engage said stop-shoulders and limit the movement of the plunger, substantially as described.

8. In a repeating torpedo-cane, a magazine having an open upper end forming a receiving-mouth and provided with a lateral projection, in combination with a resilient wire coiled around said projection, engaging the magazine at one end, and having its other end bent to form a closure

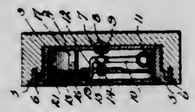
for the receiving-mouth of the magazine, across which it extends when in normal position, substantially as described.

9. In a repeating torpedo-cane, a magazine having an open upper end forming a receiving-mouth and provided with a lateral projection, in combination with a resilient wire coiled around said projection, engaging the magazine at one end, and having its other end bent to form a closure for the receiving-mouth of the magazine, across which it extends when in normal position, said magazine having a stop to position said arm, substantially as described.

10. In a repeating torpedo-cane, a magazine having an outlet-passage leading to the detonating devices, and a resilient cut-off working in said passage at an angle to the direction of travel of the torpedoes as they approach said cut-off, and a plunger working past the outlet-passage to alternately stop and release the explosives after they have passed said cut-off.

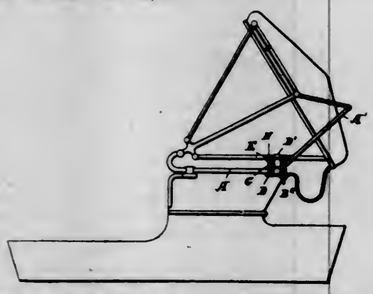
11. In a torpedo-cane, a body having a detonating-chamber, and a magazine having a discharge-passage opening into said chamber at the side thereof, in combination with a detonating-plunger adapted to reciprocate in said chamber and to close the discharge-mouth of the magazine-passage when depressed and open the same when raised, and a cut-off working in the discharge-passage back of the discharge-mouth closing said passage when the plunger is lifted, substantially as described.

842,062. LEVEL. ADOLPH G. BECKMAN and JACOB S. SCHELL, Baltimore, Md. Filed Sept. 5, 1906. Serial No. 333,404.



Claim.—The herein-described level consisting of a stock, a casing fitted within said stock and provided with a bearing-screw which passes through the rear wall of said casing and is concealed by said stock, a dial-plate secured within the casing, a combined pendulum and pointer provided with a double-pointed pivot mounted to turn in the bearing-screw and in a recess in the dial-plate, an offset on the pendulum and pointer-shaft, said offset extending through a semicircular opening in the dial-plate, and a glass cover for the casing.

842,063. CARRIAGE-BOW SUPPORT. EVERETT W. BEDINGER, Jr., Anchorage, Ky., assignor to John J. Barret and H. Otto Hausgen, Anchorage, Ky. Filed Sept. 21, 1906. Serial No. 335,617.



Claim.—1. A carriage-bow support comprising a main plate having a base and end uprights, a supporting-plate mounted on the uprights, guiding-rods secured to the supporting-plate and passing through openings in the base-plate, and springs surrounding said rods.

2. In a carriage-bow support, a main plate comprising an extended base portion, and uprights projecting from the base portion, one of the uprights being offset.

3. In a carriage-bow support, a main plate comprising an extended base portion having upright ends extending therefrom, the ends having rectangular openings provided with flanged sides.

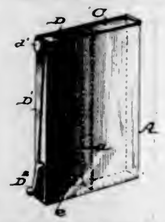
4. A carriage-bow support comprising a main plate having uprights, a supporting-plate having openings in its ends for said uprights, guide-rods secured to the supporting-plates and passing through the base portion of the main plate, having enlarged heads, and springs surrounding the guide-rods.

5. In a carriage-bow support, the combination with the main plate having a base portion provided with openings and upright extensions, of a supporting-plate having openings for said extensions, guide-rods secured to said supporting-plate and passing through the openings in the base-plate, and cushions mounted on the base-plate and surrounding the rods.

6. In a carriage-bow support, the combination with the squared rail-bolt, of a main plate comprising a base portion and upright extensions, the said extensions having squared and flanged openings fitting the rail-bolt, and means for securing the parts together.

7. In a carriage-bow support, the combination with the squared rail-bolt, of a spool mounted thereon, a main plate having a base portion and uprights, the latter being provided with squared openings fitting the rail-bolt, a supporting-plate mounted on the uprights, guide-rods connected to the supporting-plate and passing through openings in the base portion, springs surrounding the uprights, and means for securing the parts together.

842,064. TOBACCO-BOX. MARCUS B. BEHRMAN, Baltimore, Md. Filed Apr. 4, 1906. Serial No. 309,821.



Claim.—1. The combination, with a tobacco-box proper, of a cutting attachment comprising a blade adapted to sever a projecting portion of a plug, an arm D′ to whose upper end the said blade is attached, the arm being pivoted to the box and having a lever member D^2 curved outwardly from the pivot of the lever, so that it may be pressed inward for moving the other portion of the arm outward and thus withdrawing the blade from the box, as shown and described.

2. An improved tobacco-box comprising the box proper having a central partition dividing it into two compartments, the outer portion of such partition being left free and constructed of spring material, and a cover for one of the compartments which is pivoted adjacent to the free end of the partition and adapted to be held closed or open thereby, and a blade adapted to traverse the adjoining compartment substantially as described.

3. The improved tobacco-box comprising a box proper having a central partition which divides it into two compartments, one for temporary storage of a plug and the other for containing a plug for immediate use, a pivoted lid or cover for the storage-compartment, the free spring end of the partition abutting the pivot end of said lid, and a cutting attachment including a blade adapted to traverse the mouth of the adjacent compartment whose inner side is formed by said partition, substantially as described.

842,065. TOBACCO-BOX. MARCUS B. BEHRMAN, Baltimore, Md. Filed July 31, 1906. Serial No. 328,525.

Claim.—1. The improved tobacco-box having a central longitudinal partition by which the box is divided into two compartments, one for storage of a plug and the other for holding a plug from which portions may be severed as required, a cutter adapted to form a constant closure for one of the compartments and to be adjusted for cutting off a chewing-piece from the plug in the other compartment, and form a closure for the same, substantially as described.

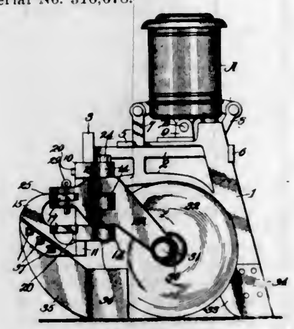


2. An improved tobacco-box having a central longitudinal partition whereby it is divided into two compartments for storage and dispensing purposes, a cutter adapted to slide in guides formed at the mouth of the box and provided with a stop which limits its withdrawal so that it forms a constant closure for the storage-compartment but is adapted to alternately uncover and close the dispensing-compartment, substantially as described.

3. An improved tobacco-box having a central longitudinal partition, dividing it into storage and dispensing compartments, a cutter consisting of a blade aranged in suitable guides in the mouth of the box, and adapted to slide through a slot formed in one of the narrow sides of said box and provided with a spring-stop which normally arrests the cutter when partly withdrawn, but may be compressed to the position required to allow complete detachment of the cutter, substantially as described.

4. An improved tobacco-box comprising a storage-compartment and a dispensing-compartment, and an intervening partition, the storage-compartment having a door at one end, and the opposite end of the box being provided with a cutter adapted to slide in suitable guides, whereby it may be withdrawn to uncover the mouth of the dispensing-compartment, but forms a constant closure for the adjacent end of the storage-compartment, substantially as described.

842,066. FURROW-OPENER FOR SEED-PLANTERS. ADELBERT S. BEYMER, Kansas City, Mo. Filed May 14, 1906. Serial No. 316,678.



Claim.—1. A frame having a front runner having rearwardly-projecting arms, and a pair of forwardly-converging disks having their front edges disposed between the arms of the runner.

2. A frame having a front runner having rearwardly-projecting arms, a pair of forwardly-converging disks having their front edges disposed between the arms of the runner, and a rear runner in longitudinal alinement with the front runner.

3. A frame having a front runner having rearwardly-projecting arms, a pair of forwardly-converging disks having their front edges between the arms of the runner, a tubular shank rearward of and in longitudinal alinement with the front runner, and a runner for said shank.

4. A frame having a front runner having rearwardly-projecting arms, a pair of arms pivoted to the frame at opposite sides of the runner, and forwardly-converging disks carried by said arms and having their front edges adjacent each other and between the pivotal points of said arms and rearward of and in longitudinal alinement with the runner.

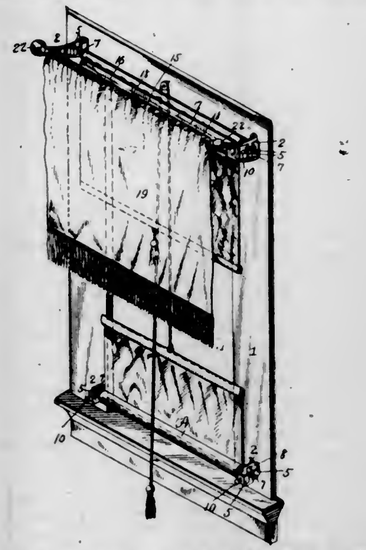
5. A frame having a front runner having rearwardly-projecting arms, a pair of arms pivoted to the frame at opposite sides of the runner, forwardly-converging disks carried by said arms and having their front edges adjacent each other and between the pivotal points of said arms and rearward of and in longitudinal alinement with the runner, laterally-projecting arms rigid with said frame, and means for securing the disk-carrying arms forward of their pivotal points, to said laterally-projecting arms.

6. A suitable frame provided with a runner, a vertically-adjustable bracket secured to said frame and equipped with a depending runner in longitudinal alinement with and forward of the first-named runner, arms pivoted to said frame for movement laterally, forwardly-converging disks carried by said arms between said runners, and means for adjustably securing said disk-carrying arms forward of their pivotal points, to said bracket.

7. A frame having a tubular shank provided with a runner, forwardly-converging disks forward of said runner, and a vertically-adjustable runner in front of said disks.

8. A frame having a shank provided with a furrow-opener, a vertically-adjustable runner forward thereof, and vertically and laterally adjustable disks between said runner and furrow-opener.

842,067. COMBINED SHADE-ROLL BRACKET AND CURTAIN-POLE SUPPORT. HENRY A. BIERLEY, Portsmouth, Ohio. Filed Sept. 17, 1906. Serial No. 334,994.



Claim.—1. A device of the character described, employing a bracket having opposite alining vertical slots therein; a bearing or arm for a shade-roll stud or gudgeon passing through said slots, one of the edges of one of said slots having serrations for engagement with said bearing or arm, and a common means effective for the vertical adjustment of said bearing or arm, and also for its longitudinal or horizontal adjustment comprising a clamp en-

gaging said bearing or arm, a slide arranged in connection with said bracket and carrying said clamp, and means effective for the retention of said clamp in engagement with said arm and the latter in its adjusted position in said bracket.

2. A device of the character described, employing a bearing or arm for a shade-roll, a bracket equipped with a vertically-movable slide and having opposite alining vertical slots therein, one of the edges of one of said slots having serrations for engagement with said bearing or arm, a manually-actuated clamp carried by and loosely passing through said slide and provided with a foot or shoe engaging said bearing or arm, and means arranged upon said clamp for the automatic retention of said bearing or arm in engagement with said bracket-adjusting means.

3. A device of the character described, employing a bearing or arm for the support of the shade-roll, having a longitudinal slot or groove, a slide, a clamp carried by and loosely passing through said slide and equipped with a shoe or foot engaging said bearing or arm, and a bracket having a slot for controlling the movement of said slide and a slot through which extends said bearing to the shade-roll, said latter slot having one wall equipped with a projection engaging a longitudinal groove in said bearing or arm.

4. A device of the character described, employing a bearing or arm, having a longitudinal groove or slot therein, rings or stops fixed to said bearing or arm transversely of said groove, near the ends of the former, and a bracket equipped with a vertically-movable slide, a manually-actuated clamp having screw-threaded connection with said slide, and equipped with a shoe or foot laterally engaging said bearing or arm, said bracket also having a vertical slot through which extends said bearing or arm, and said slot having one of its walls equipped with a series of projections effective for engagement with the groove or slot of said bearing or arm.

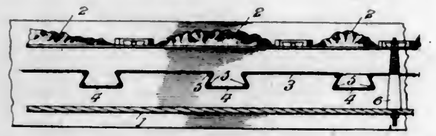
5. A device of the character described, employing a bearing or arm having a longitudinal slot or groove and rings encompassing said bearing or arm transversely of said groove or slot near its ends, said bearing being effective for the support of a shade-roll at one end, a bracket having outstanding or offset therefrom opposed right-angled wings with their outer vertical edges spaced apart to form a vertical slot, one of the walls of the latter being equipped with a series of projections adapted for engagement with the groove or slot of said bearing or arm, a slide movable in said vertical slot and a manually-actuated clamp carried by and loosely passing through said slide, said rod also having a shoe or jaw member adapted to laterally engage said bearing or arm.

6. A device of the character described, employing a bearing or arm for one end of a shade-roll and having a longitudinal groove, a bracket having opposed offset portions or wings with their outer vertical edges spaced apart and one of the walls of the space or slot provided with a series of projections for engagement with said groove, a slide arranged in a lateral slot in one of said wings, a manually-actuated clamp carried by and passing loosely through said slide and provided with a shoe or foot member at one end for laterally engaging said bearing or arm, said bracket having at its upper end an outward extension provided with a notch having a slot in its bottom and effective to form a support for the opposed end of a curtain-pole.

7. A device of the character described, employing a shade-roll bracket having a vertical slide, a spring-pressed clamp or stem carried by said slide and equipped with a foot or shoe having a roughened or serrated surface, and a bearing or arm arranged in said bracket for the support of one end of the shade-roll, and having a lateral roughened or serrated surface, and means providing for the endwise movement and vertical adjustment of said bearing or arm, said shoe or foot engaging said bearing or arm.

842,068. METHOD OF CONSTRUCTING COMPOSITE OR CONCRETE WALLS. DAVID W. BOYLE, Waterloo, Iowa. Filed Aug. 12, 1905. Serial No. 273,996.

Claim.—1. The herein-described method of constructing a cement wall with a layer of waterproof material between the outer and inner surfaces the same consisting in arranging a dovetailed sheet of waterproof paper vertically between the outer and inner walls of the mold-sections and placing the composition in plastic state on each side of said waterproof material for interlocking the inner and outer portions of the wall.



2. The herein-described method of constructing a cement wall with a layer of waterproof material between the outer and inner surfaces of the same, consisting in arranging a sheet of waterproof paper between the outer and inner walls of the mold-sections and placing the composition in plastic state on each side of said waterproof material for interlocking the inner and outer portions of the wall.

3. The herein-described method of constructing a cement wall with a layer of waterproof material between the outer and inner surfaces of the same, consisting in arranging a sheet of waterproof material vertically between the inner and outer walls of the mold-sections, and said sheet having dovetail depressions therein, and placing the composition in plastic state on each side of the said waterproof material for interlocking the inner and outer portions of the wall.

4. The herein-described method of constructing a cement wall with a layer of waterproof material between the outer and inner surfaces of the same, consisting in arranging vertical rods with a sheet of waterproof material arranged around the rods in a dovetail position and placing the composition in a plastic state on each side of the said waterproof material for interlocking the inner and outer portions of the wall.

5. The herein-described method of constructing a cement wall with a layer of waterproof material between the outer and inner surfaces of the same, consisting of arranging a corrugated sheet of waterproof paper vertically between the outer and inner walls of the mold-sections, and placing the composition in a plastic state on each side of said waterproof material for interlocking the inner and outer portions of the wall.

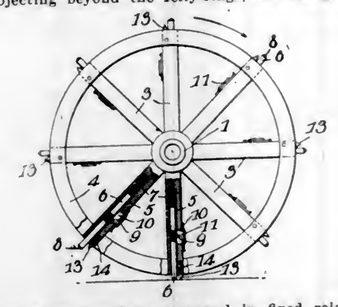
6. The herein-described method of constructing a cement wall with a layer of waterproof material between the outer and inner surfaces of the same, consisting in arranging vertical rods with a sheet of waterproof material arranged around the rods in a dovetail position, placing the composition in a plastic state on each side of the said waterproof material for interlocking the inner and outer portions of the wall and removing the vertical rods while the composition is in a plastic state.

842,069. DRIVE-WHEEL FOR AUTOMOBILES. JAMES C. BRENNAN, Powers, Mich. Filed July 19, 1906. Serial No. 326,899.

Claim.—1. A wheel comprising a hub, spokes provided with longitudinally-extending bores, felly-rings extending along the opposite sides of the spokes, cushioned surface-engaging members arranged in the bores of the spokes, and fixed surface-engaging members disposed on the outer ends of the spokes and adjacent to the cushioned surface-engaging members.

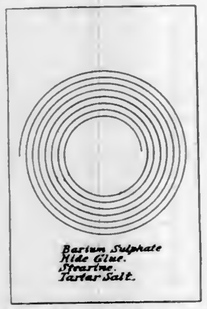
2. A wheel comprising a hub, spokes provided with longitudinally-extending bores and transversely-extending slots communicating with the bores, cushioned surface-engaging members in the bores, stops connected with the members and disposed in the slots to engage the end walls of the latter, and a spring-closed cover on each of the spokes to cover the slot thereof.

3. A wheel comprising a hub, spokes provided with longitudinally-extending bores, felly-rings connected with the spokes, cushion surface-engaging members in the bores of the spokes arranged with their outer ends located between and projecting beyond the felly-rings, and wedge-shaped



surface-engaging members arranged in fixed relation on the outer ends of the spokes and between the felly-rings.

842,070. COMPOSITION FOR SOUND-RECORDS. EMILIEN J. B. BROCHERIOUX, PAUL J. TOCHON, ALFRED FORTIER, and LEON V. MAROTTE, Paris, France. Filed Oct. 12, 1905. Serial No. 282,498.



Claim.—1. The herein-described composition of matter, consisting of permanent white, zinc-white, stearin, salt of tartar, glue and water admixed into a paste.

2. The composition herein described, consisting of permanent white and encaustic zinc-white and glue.

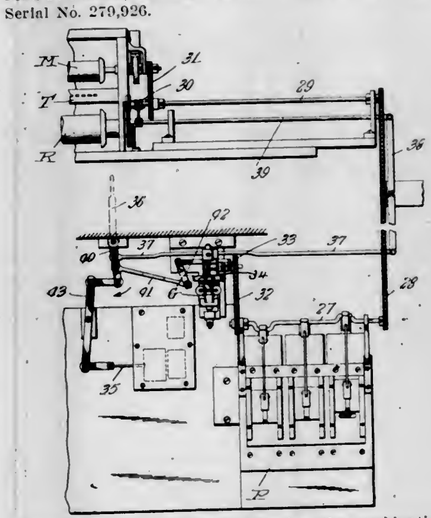
842,071. CAR-COUPLING. MARK A. BROWN, Savannah, Ga., assignor of one-half to D. G. Purse, Jr., of Savannah, Ga. Filed Dec. 30, 1905. Serial No. 293,966.



Claim.—1. A coupler of the kind described comprising a coupling-head, lugs carried by said head in vertical alinement and recessed upon their opposing faces, a knuckle comprising a knuckle-head, a knuckle-arm, curved wedge-shaped shoulders formed on opposite sides of said arm and extending lengthwise thereof adapted to work in the recesses of the lugs, an outwardly-extending shoulder formed within the coupler-head, an outwardly and inwardly extending finger carried by the knuckle-arm and adapted to engage and lock with the shoulder of the coupling-head when the knuckle is in a closed position, and means for pivoting the knuckle to the coupler-head.

2. In a car-coupler, a coupler having an interior shoulder arranged upon one side, lugs arranged upon the same side and in vertical alinement, said lugs being perforated to receive a pivoted pin, recesses having curved end walls being formed upon the opposing faces of said lugs, a knuckle having an arm adapted to fit between said lugs, a pivoted pin passing through the lugs and arm, wedge-shaped shoulders formed on the upper and lower faces of the arm and adapted to move within the recesses of the lugs and to slide upon the curved walls of said recesses when the knuckle swings into open position, the outer faces of said shoulders being continuous with the outer face of the knuckle, and a finger downwardly and inwardly inclined carried by the inner faces of the knuckle-arm, said finger terminating in a shoulder adapted to engage the rear face of the shoulder formed in the coupler-head when the knuckle is in closed position.

842,072. REVERSING AND REWINDING MECHANISM FOR AUTOMATIC MUSICAL INSTRUMENTS. THEODORE P. BROWN, Worcester, Mass. Filed Sept. 25, 1905. Serial No. 279,926.



Claim.—1. In a music-playing device, the combination of a motor, a tracker-board, winding-rolls, a pneumatic action, a governor for the motor, a reversing-lever, a link operated by said lever for connecting the motor with the winding-rolls to rewind the music-sheet, a second link operated by said lever for cutting off the pneumatic action when the motor is so connected, and a third link operated by said lever for relieving the motor of the restraint of its governor when the lever is in such position as to connect the motor to rewind the sheet.

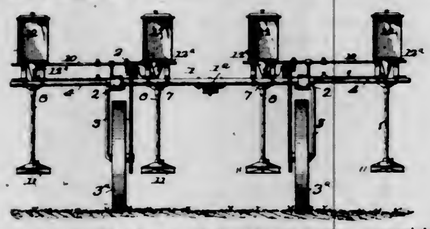
2. In an automatic playing attachment for a musical instrument, the combination of a motor, a crank-shaft therefor, a winding and rewinding mechanism, a second shaft, a clutch connection between the winding mechanism and second shaft, a sprocket-chain connection from one end of the crank-shaft to the second shaft for operating the winding and rewinding mechanism, a governor, a reversing-lever, operating means for relieving the motor of the restraint of its governor during the rewinding, a third shaft capable of connection with the governor, and a sprocket-chain connection thereon from the other end of the crank-shaft to the third shaft.

3. In a music-playing device, the combination of a governor, a motor, a crank-shaft for the motor, a second shaft, a sprocket-chain connection from one end of said crank-

shaft to said second shaft, a winding and rewinding mechanism, a clutch for connecting said second shaft with the winding and rewinding mechanism, a third shaft, a sprocket-chain connection from the other end of the crank-shaft to the third shaft, a clutch connection between the third shaft and the governor, a pneumatic action, a valve for cutting off the pneumatic action, a reversing-lever, and operating means for closing the valve and relieving the motor of the restraint of its governor during rewinding.

4. In a music-playing device, the combination of a motor, a crank-shaft therefor, a winding and rewinding mechanism, a second shaft, a clutch for connecting the winding and rewinding mechanism with the second shaft, means for transmitting power from the crank-shaft to the second shaft, a governor, a reversing-lever, operating means for relieving the motor of the restraint of its governor during rewinding, a third shaft capable of connection with the governor, and means for transmitting power from the crank-shaft to the third shaft.

842,073. SEED-SOWING MACHINE. MELVIN H. BROWNING, Perry, Ill. Filed Sept. 15, 1906. Serial No. 334,779.



Claim.—1. The improved broadcast sower, comprising a frame made of telescopic parts, seed-hoppers mounted and supported upon the main frame and telescopic portions, running-wheels upon which the main frame is supported, seed-tubes pivoted beneath the hoppers and adapted to swing forward and back, seed-distributers attached to the lower ends of said seed-tubes, and gearing operatively connecting the running-wheels with the seed-tubes, whereby the seed-tubes and their attached distributers are rotated as the machine advances, as described.

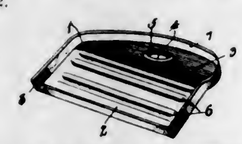
2. In a broadcast seed-sower of the type indicated, the combination, with the frame and wheel-supports, of hoppers secured upon the frame, seed-tubes pivoted beneath the hoppers and having distributers at their lower ends, funnels pendent from the hoppers and alined with the seed-tubes for discharging thereinto, and gearing which operatively connects the seed-tubes with the running-wheels, as shown and described.

3. In a broadcast seed-sower of the type indicated, the main frame comprising parallel tubes 1, and wheel-supports therefor, connecting members whereby the said tubes are held rigidly spaced apart, supplemental frames comprising smaller tubes adapted to slide in those of the main frame and supported thereby, seed-hoppers mounted upon the supplemental frame and also upon the main frame, seed-distributing devices connected with each of the hoppers, rotary shafts for driving the seed-distributers, and means which operatively connect said shafts with the running-wheels whereby the shafts are driven as the machine advances, as shown and described.

4. In a broadcast seed-sower of the type indicated, the combination, with the supporting-frame and hoppers arranged thereon and provided with pendent seed-discharge tubes, of seed-tubes 8 and stirrups in which they are held rotatably, brackets pendent from the hoppers, the aforesaid stirrups being pivotally connected therewith, a driving-shaft alined with the pivot of the stirrups, and gearing connecting the shaft with the seed-tubes, substantially as described.

5. The combination, with the frame, and hoppers having a pendent seed-discharge tube, of seed-tubes 8, and means for rotating the same, said tubes having at their lower ends a seed-distributer comprising two plates arranged one over the other and spaced apart, radial wings arranged between the plates, a space being left between their inner ends into which the seed is received preliminary to its lateral discharge, as shown and described.

842,074. SCRAPER FOR COOKING UTENSILS. HARRY E. BRYAN, Cadiz, Ohio. Filed Mar. 26, 1906. Serial No. 308,112.



Claim.—1. A scraper for cooking utensils having a rectangular body portion, and a segmental body portion set at an angle thereto and provided with a scraping-flange extending entirely around the body.

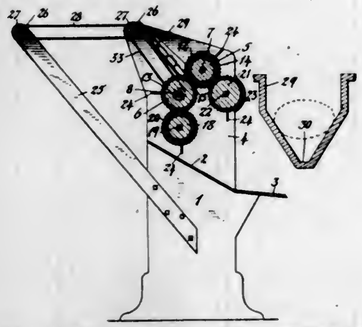
2. A scraper for cooking utensils consisting of a metallic plate having a rectangular end portion and a segmental end portion, the blank being bent to dispose the end portions of the blank in angular relation, and a scraping-flange extending around the blank.

3. A scraper for cooking utensils consisting of a metallic blank having a rectangular end portion and an opposite segmental end portion, one of the end portions being corrugated, and the blank having a peripheral scraping-flange.

4. A scraper for cooking utensils comprising a metallic blank having a rectangular end portion, a segmental end portion, and a peripheral scraping-flange, one of the end portions being corrugated, and the other end portion having a suspending-eye.

5. A scraper for cooking utensils comprising a metallic plate having a rectangular end portion and an opposite segmental portion, the plate being bent along the line between the two end portions to dispose the same in angular relation, the edges of the blank being bent to form a peripheral scraping-flange, the segmental portion having an opening constituting a suspending-eye, and the rectangular portion being corrugated to stiffen the same.

842,075. MACHINE FOR SHAPING PRUNES. ALBERT C. BURDICK, Portland, Oreg. Filed Aug. 28, 1906. Serial No. 332,343.

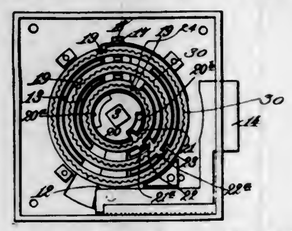


Claim.—1. The combination of two coacting rolls for shaping prunes, one of which is provided with a series of annular grooves in its periphery, means for detaching the prunes after passing between the rolls from the periphery thereof, comprising a roll in contact with, and driven from each of said first-named rolls, and a scraper for each of the rolls.

2. The combination of two coacting rolls for shaping prunes, one of which is provided with a series of annular grooves in its periphery, a roll intergeared with and positively driven by each of said rolls, and a scraping-plate contacting with the periphery of each roll.

3. The combination of two coacting rolls for shaping prunes, one of which is provided with an annular groove in its periphery, a roll positively driven from and contacting with the periphery of each of said coacting rolls, and scraping means for said driven rolls.

842,076. COMBINATION-LOCK. BUELL S. BURNETT, Atlanta, Ga., assignor of one-fourth to Harry C. Harvey, Atlanta, Ga. Filed Nov. 4, 1905. Serial No. 285,886.



Claim.—1. A combination-lock comprising a plurality of concentric rings each adapted to operate another and having peripheral notches, an automatically-operated key having projections to enter the respective peripheral notches when the latter are in registration radially of the rings, and a bolt coöperative with said key.

2. A combination-lock comprising a plurality of revoluble concentric rings arranged one within the other and each adapted to operate another, each ring having a peripheral notch, an automatically-slidable key having projections to enter the respective notches when the same are in registration radially of the rings, and a bolt controlled by said key.

3. A combination-lock comprising a plurality of revoluble concentric rings each adapted to operate another and each having a peripheral notch, an arm mounted for rocking motion about the same axis as that of the rings, a key supported for swinging motion with and slidable motion by said arm, said key having projections to enter said notches when the same are in registration radially of the rings, and a bolt coöperative with the key.

4. A combination-lock comprising a plurality of revoluble rings each adapted to operate another, an automatically-operative key to lock the rings together, a bolt, oppositely-disposed arms mounted for oscillation, one of said arms carrying said key, and the other being connected with the bolt to operate it, and manually-operable means for turning one of the rings.

5. A combination-lock comprising a plurality of revoluble concentric rings each including two sections, one of said sections of each ring being adjustable circumferentially with respect to the companion section of said ring, an automatically-operable key to lock the rings together, and a bolt controlled by said key.

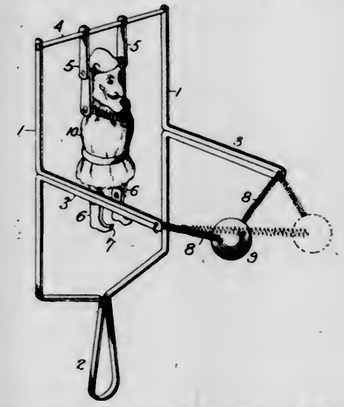
6. A combination-lock comprising a plurality of revoluble concentric rings each adapted to operate another and each having a peripheral slot, a slotted arm oscillatory about the axis of said ring, a key movable in said slot and having projections to enter said notches when the same are in registration radially of the rings, and a bolt controlled by said arm.

7. A combination-lock involving a plurality of revoluble rings each adapted to operate another and consisting of sections, each of which sections is circumferentially adjustable with respect to a companion section, an automatically-operable key to lock the rings together, a bolt, and a carrier for the key connected with the bolt for operating the same.

8. A combination-lock involving a plurality of revoluble rings arranged in concentric relation one within the other, each ring adapted to operate an adjacent ring, and each consisting of complemental sections having meshing teeth, an automatically-operable key to lock the rings together, a bolt, and means for carrying the key and adapted also for actuating the bolt when the rings are locked together by said key.

9. A combination-lock comprising a plurality of revoluble concentric rings one within the other, each ring being adapted to operate an adjacent ring and each consisting of complemental sections having meshing teeth, an automatically-operable key to lock the rings together, and a bolt governed by said key.

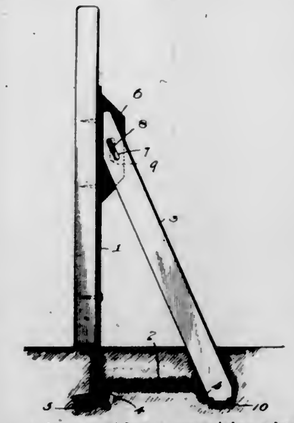
842,077. TOY. GEORGE M. BURNETT, Brooklyn, N. Y. Filed May 19, 1906. Serial No. 317,771.



Claim.—1. In a toy, the combination with a frame having a horizontal bar, of a figure hung thereon, and a ball attached to the frame by resilient means and adapted to be sprung so as to strike the figure and cause it to turn about the horizontal bar.

2. In a toy, the combination with a frame having a handle and horizontal arms, of the horizontal bar, a figure hung on the horizontal bar and a ball attached to the outer ends of the horizontal arms by means of springs and adapted to strike the figure and cause it to turn upon the bar.

842,078. FENCE-POST BRACE. ALBERT A. CALLAIS, Plaquemine, La. Filed Nov. 15, 1906. Serial No. 343,610.



Claim.—1. A fence-post brace comprising a base adapted to be embedded in the ground, an upright connected thereto and adapted to have a post fastened thereto, a rigid bracket extension on said upright, and an inclined brace member fastened at one end to the base and having at its other end a slotted and adjustable connection with said bracket extension, whereby the angle of the upright may be adjusted without disturbing the base.

2. A fence-post brace comprising a base adapted to be

embedded in the ground and provided with one or more offsets or shoulders, an upright connected to said base and adapted to have a post fastened thereto, and an inclined brace member having one end secured to the base and the other end adjustably connected with the upright.

842,079. COVERING FOR ROOFS AND THE LIKE. EMERSON B. CAMPBELL, Bakersfield, Cal. Filed May 18, 1906. Serial No. 317,554.



Claim.—1. A waterproof covering for roofs or other structures comprising, as an exclusive base or foundation, a coarse, open-meshed fabric, and a cementitious paint on the upper side and in the meshes of the fabric, cementing the fabric directly to the roof or other structure to be covered, substantially as described.

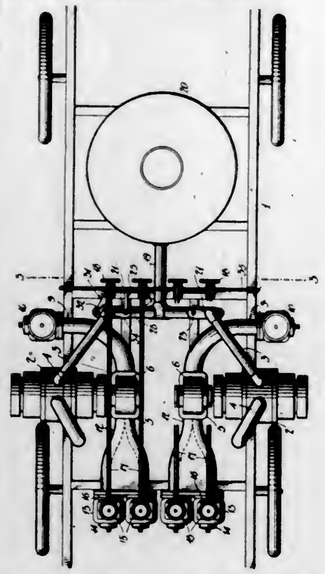
2. A waterproof covering for roofs or other structures comprising, as an exclusive base or foundation, a coarse, open-meshed fabric, a cementitious paint on the upper side and in the meshes of the fabric, cementing the fabric directly to the roof or other structure to be covered, and a thin coating of sand on said paint, substantially as described.

842,080. PUMP AND VALVE-CONTROLLING MECHANISM THEREFOR. SIDNEY C. CARPENTER, West Hartford, Conn. Filed May 10, 1906. Serial No. 316,216.

Claim.—1. In an apparatus of the character described, the combination with an engine, of a pump operated thereby, valved discharge-pipes connected with said pump, pipe-line connections arranged on said valved discharge-pipes, an operating device connected to the valve in each of said discharge-pipes, a steam-supply pipe for said engine, a throttle-valve arranged in said pipe, an operating mechanism for said valve, and means actuated by the operating devices of said discharge-valves to close said throttle-valve when both of the discharge-valves are closed, substantially as described.

2. In an apparatus of the character described, the combination with an engine, of a pump operated thereby, valved discharge-pipes connected with said pump, pipe-line connections arranged on said valved discharge-pipes, an operating device connected to the valve in each of said discharge-pipes, a steam-supply pipe for said engine, a throttle-valve arranged therein, a spring to hold said valve open, a closing-lever connected to the stem of said valve, and means actuated by the operating devices of said discharge-valves to operate said closing-lever and thereby shut off said throttle-valve when both said discharge-valves are closed, substantially as described.

3. In an apparatus of the character described, the combination with an engine, of a pump operated thereby, valved discharge-pipes connected with said pump, pipe-line connections arranged on said valved discharge-pipes, operating-shafts connected to the valve in each of said discharge-pipes, a steam-supply pipe for said engine, a throttle-valve arranged in said pipe, a spring arranged on the stem of said throttle-valve to open the same, a closing-lever pivotally mounted on the upper end of said throttle-valve stem, plunger-pins loosely pivoted on the ends of said lever, pivotally-mounted segmental worm-gears, cams arranged on said gears to engage said plunger-pins thereby forcing said closing-lever down, and worms arranged on the operating-shafts of said discharge-valves to engage said segmental worm-gears, substantially as described.

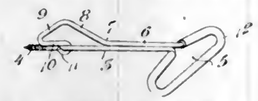


4. In an apparatus of the character described, the combination with an engine, of a pump operated thereby, said pump comprising a casing, a rotary piston arranged therein and mounted on the extended end of said engine-shaft, radially-projecting blades or wings arranged on said piston, a water-supply pipe and water-discharge pipes connected to said pump-casing, cut-off valves arranged in said discharge-pipes, hose-line connections formed on the casings of said valves, bevel gear-pinions mounted on the stems of the latter, valve-operating shafts, bevel-pinions mounted thereon to engage the pinions on said valve-stems, a throttle-valve to control the admission of steam to said engine, a spring to open said valve, a closing-lever pivotally connected to the stem of the same, slidably-mounted plunger-pins, links to connect the latter to each end of said lever, pivotally-mounted worm-gears, cams formed on the latter to engage said plunger-pins and thereby actuate said closing-lever, and worms arranged on the operating-shafts of said discharge cut-off valves, whereby when both of said valves are closed said throttle-valve will also be closed, substantially as described.

5. In a wheeled fire-service apparatus, the combination with engines arranged thereon, of pumps operated by said engines, water supply and discharge pipes connected to said pumps, each of said discharge-pipes having one or more discharge-passages, a valve-casing connected with each of said passages, cut-off valves arranged in said casings, pipe-line connections formed on the latter, a bevel gear-pinion secured to the stem of each of said valves, valve-operating shafts, gear-pinions mounted thereon to engage the pinions on said valve-stems, a steam-supply pipe having branches leading to each of said engines, a throttle-valve casing arranged in each of said branch steam-pipes, a throttle-valve, and a relief-valve arranged

in said casings, a spring arranged on the stem of each of said throttle-valves to open the same, a closing-lever pivotally mounted on each of said stems, plunger-pins loosely connected to the ends of said levers, guide-brackets to slidingly support said pins, pivotally-mounted worm-gears, cams formed thereon to engage said pins, worms arranged on the operating-shafts of said discharge-valves to engage said worm-gears, a fender-plate or dash, and doors arranged therein to permit of access to said throttle-valve-controlling mechanism, substantially as described.

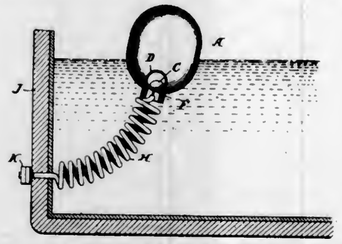
842,081. DOOR-OPENER. HERVEY D. CLARK, Decatur, Ill. Filed Sept. 22, 1906. Serial No. 335,758.



Claim.—1. A door-opener comprising a threaded shank, a downwardly-extending toe-engaging loop projecting at opposite sides of said shank, a bearing-arm extending backward from the loop to bear against the door above the shank, and a protecting-shield on said toe-engaging loop.

2. A door-opener adapted to be secured to a screen-door at a point near the bottom edge of the same and near the swinging side of the door at a height sufficient to permit the tilted end of the foot to engage said opener, and said opener comprising a laterally-extended toe-engaging loop, a shank extending from said loop, and provided with a threaded end to engage the door, an inclined brace, and a horizontal bearing-arm to bear against the door above the shank, said bearing-arm extended and formed into a hook to engage the shank, substantially as described.

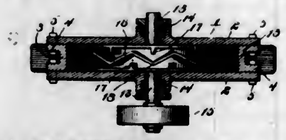
842,082. CIRCUIT-CLOSER. ERNEST S. CLAYTON, Newark, N. J. Filed Dec. 16, 1905. Serial No. 292,031.



Claim.—1. A circuit maker and breaker comprising a closed receptacle having terminals and a movable contact-piece within the receptacle and flexible spring electric connections between the terminals and a source of electric energy, whereby the electric circuit is controlled by changes in position of the receptacle, permitted by the flexible spring connections.

2. The combination of a receptacle provided with separated terminals in electrical connection with a generator and containing a movable contact-piece, and a float inclosing said receptacle, substantially as and for the purpose set forth.

842,083. STEAM-TURBINE. SIMON COOK, East Akron, Ohio. Filed Nov. 14, 1906. Serial No. 343,425.

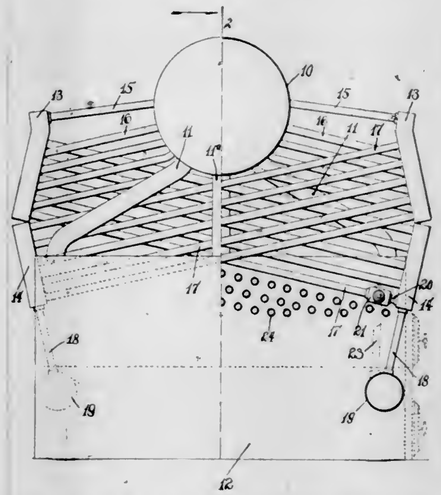


Claim.—1. In a turbine-wheel, a casing, a piston adapted to rotate therein, said piston being provided with a radially-extending zigzag centrally-disposed flange, and inwardly-extending alternately-arranged abutments.

2. A turbine-wheel comprising a casing, an intermediate rim extending around said casing between the cylinder-heads, and provided with outwardly-converging openings, a branch pipe fitted to said openings, an inlet-pipe, and an intermediate valve for placing the inlet-pipe into communication with either of said diverging openings, a rotary piston mounted in said casing, said piston provided with a zigzag flange, and oppositely-located inwardly-extending alternately-arranged abutments.

3. A rotary turbine-wheel comprising a cylinder or casing consisting of cylinder-heads, and an intermediate flanged rim bolted to said cylinder-head and provided with diverging inlet-openings, and a piston in said cylinder provided with a zigzag flange, and abutments extending inwardly and arranged alternately, said abutments being disposed in transverse alinement of the apices of the zigzag flange, substantially as described.

842,084. WATER-TUBE BOILER. HARRY DEL MAR, New York, N. Y., assignor to Boilers and Engineering Company, Jersey City, N. J., a Corporation of New Jersey. Filed June 26, 1906. Serial No. 323,428.



Claim.—1. In a boiler of the kind described the manifolds having means for opening the ends, and forming a part of the circulation system and connected together end to end.

2. In a boiler such as described, the manifolds included in the boiler circulation and connected together by nipples said manifolds having means for opening the ends.

3. In a boiler such as described the combination of the side water-legs, the headers between the legs, the mud-drum below the headers, and the manifolds between the side water-legs, said manifolds being connected to the water-legs, the headers, and the mud-drum.

4. In a boiler such as described the combination of the water-legs forming the boiler sides, and the manifolds arranged end to end between the water-legs and connected therewith, said manifolds having means for opening the ends.

5. A cross-tube sectional boiler comprising opposed headers, a steam-drum and mud-drums, inclined cross-tubes connecting the headers, side water-legs, and tubes connecting the water-legs and arranged in the space formed by the incline of the cross-tubes.

6. The combination with the cross-tube sectional boiler having opposed and inclined cross-tubes, of a series of tubes

included in the circulation system and arranged in the space formed by the incline of the cross-tubes.

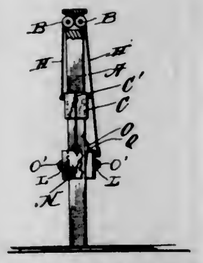
7. In a sectional cross-tube boiler, the combination with the cross-tubes of opposite pitch, of the water-legs forming the boiler sides and included in the circulation system, and tubes connecting the opposed water-legs in the space formed by the incline of the aforesaid cross-tubes.

8. In a cross-tube steam-boiler characterized by opposed headers and inclined opposed cross-tubes, the combination with such boiler of tubes included in the circulation and arranged at right angles to and below the said cross-tubes.

9. A boiler of the kind described comprising a steam-drum, water-legs forming the boiler sides and connected to the steam-drum by downflow-pipes, upper and lower opposed series of headers connected to the steam-drum and by cross-tubes with each other, tubes arranged below the cross-tubes and connecting the side headers, manifolds connected together and connected with the side water-legs, and mud-drums arranged between the water-legs, the said drums being connected to the water-legs and to the lower headers.

10. In a boiler such as described the combination of the manifold running above the fire-door, and a mud-drum arranged below the fire-door, the manifold and drum being connected together, and also included in the circulation system of the boiler.

842,085. CLOTHES-LINE APPARATUS. GEORGE A. DEMAREST, Berwick, La., assignor of one-half to Justice Hanson, Berwick, La. Filed June 28, 1906. Serial No. 323,945.



Claim.—1. A clothes-line apparatus, comprising a central post, a shell movably held upon said post, a weighted member having a central opening to receive said post upon which it is vertically movable, a wedge-shaped member fixed to the face of the post, an antifriction-roller journaled upon the weight and projecting over one of the walls of the central opening therein and adapted to contact with said wedge-shaped member, sheaves mounted upon said post, a rope passing over said sheaves and connected to said weighted member and also to said shell and clothes-lines secured at their inner ends to said shell and fixed at their outer ends, as set forth.

2. A clothes-line apparatus, comprising a central post, a shell movably held thereon, line-wires connected to said shell, sheaves at the top of the post, a rope passing over said sheaves and secured to said shell, a vertically-movable weighted member upon said post and to which said rope is connected, a hook pivotally connected to the shell and adapted to engage an eye upon said weighted member, and lever mechanism for raising said weight, as set forth.

3. A clothes-line apparatus, comprising a central post, a shell movably held thereon, line-wires connected to said shell, sheaves at the top of the post, a rope passing over said sheaves and secured to said shell, a vertically-movable weighted member upon said post and to which said rope is connected, a hook pivotally connected to the shell and adapted to engage an eye upon said weighted member, lever mechanism for raising said weight, comprising a pivotal lever having a forked end, the arms of said forked end being longitudinally slotted, and pins projecting from said weight and engaging said slots, as set forth.

842,086. LIQUID-SEPARATOR. GEORGE W. DIXON, Chicago, Ill. Filed Jan. 20, 1906. Serial No. 297,072.



Claim.—1. The combination with a liquid-receptacle, of a receiver for light liquid adapted to fit in the mouth of the receptacle, coacting means between said receptacle and receiver for supporting the receiver, as it may be variously adjusted in the receptacle, the said receiver having an opening in the lower portion, and a valve for said opening.

2. The combination with a liquid-receptacle having a lug formed in its neck portion, of a receiver for cream or like material, adapted to engage in the neck, and having exterior channels for receiving said lug, the said channels being of different lengths, the said receiver having an opening in its bottom, and a valve for closing said opening.

3. The combination with a bottle or the like having a lug in its neck portion, of a receiver for light liquid, adapted to engage in the neck of the bottle, the said receiver having an opening in its bottom, and also having exterior channels, in any one of which said lug is designed to engage, the channels being of different lengths, a scale on the receiver, and a valve for closing the opening in the bottom of the receiver.

4. A separator comprising a receiver adapted to engage in the opening of a bottle or the like, the said receiver having a double concave bottom provided with an opening, a removable cap for the receiver, a nut secured to the inner side of said cap, a screw-rod engaged with said nut, a valve on the lower end of the rod for engaging in the bottom opening, the said cap having openings, a swinging plate for closing said openings, and an annular bead on the exterior of the receiver.

842,087. DRESS-SHIELD FASTENER. SYLENA A. DUNCAN, Neshanic Station, N. J. Filed Feb. 5, 1906. Serial No. 299,555.



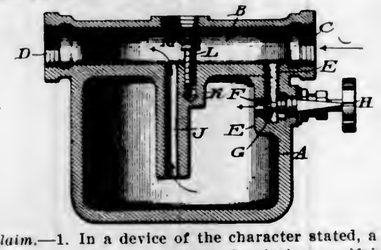
Claim.—1. A device of the character described, comprising a body portion, a tongue bent backwardly against the body portion and coöperating therewith to form a means for securing the device in position, an end of the body portion being returned upon itself so as to fit against the before-mentioned tongue, and a pair of gripping-jaws formed in connection with the body portion.

2. A device of the character described, comprising a body portion, a tongue bent backwardly against the body portion and coöperating therewith to form a means for securing the device in position, and a pair of oppositely-disposed jaws formed in conjunction with the body portion, and provided with penetrating members.

3. A device of the character described, comprising a body portion provided with a penetrating member, a tongue bent backwardly against the body portion and coöperating with the penetrating member to form a means for securing the device in position, an end of the body portion being returned upon itself so as to fit against the tongue, and a pair of oppositely-disposed jaws formed in conjunction with the body portion and provided with means for engagement with a garment.

4. A device of the character described, formed from a cruciform blank and comprising an elongated body portion, a tongue at one end of the body portion and adapted to be bent backwardly thereagainst and coöperate therewith to form a means for securing the device in position, and a pair of oppositely-disposed gripping-jaws which are bent at angles to the body portion and are provided upon their adjacent faces with penetrating means for engagement with a garment.

842,088. DEVICE FOR SUPPLYING A FILTER OR OTHER RECEIVER WITH CHEMICALLY-TREATED FLUID. JACOB R. ELFRETH, Philadelphia, Pa. Filed June 22, 1906. Serial No. 322,870.



Claim.—1. In a device of the character stated, a vessel adapted to receive a coagulant, chemical or purifying material, a conveyer or way for water or other fluid to a place of reception adapted to be placed in communication with said vessel, a discharge-pipe depending within the vessel and communicating with said way, said vessel having a filling-opening, and means in said way for retarding the flow of a portion of said water or fluid entering said way and directing or diverting a certain definite predetermined amount of said water or other fluid into said vessel, said depending tube and retarding means both being accessible through said filling-opening.

2. In a device of the character stated, a vessel adapted to receive a coagulant, chemical or purifying material, a conveyer or way for water or other fluid to a place of reception adapted to be placed in communication with said vessel, a discharge-pipe depending within the vessel and communicating with said way, said vessel having a filling-opening, means in said way for retarding the flow of a portion of said water or fluid entering said way and directing or diverting a certain definite, predetermined amount of said water or other fluid into said vessel, said depending tube and retarding means both being accessible through said filling-opening, a by-pass from said way to said vessel, and a valve independent of said retarding means and located within said vessel.

3. In a device of the character stated, a vessel adapted to receive a coagulant, chemical or other purifying material and having formed integral therewith a curved way for water or other fluid, a discharge-pipe depending within said vessel and communicating with said way, an adjustable retarding device supported within the vessel and extending into said way, a by-pass intermediate of the entrance end of the conveyer and the vessel and located within the latter, and a valve disposed within the vessel and independent of said retarding device for controlling the outlet from said by-pass into the vessel.

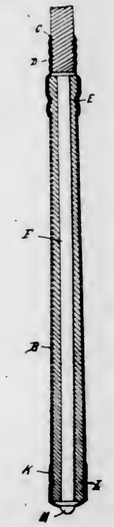
4. In a device of the character stated, a vessel adapted to receive a coagulant, chemical or other purifying material and having formed integral therewith a curved way for water or other fluid, a discharge-pipe depending within said vessel and communicating with said way, an adjustable retarding device supported within the vessel and extending into said way, a by-pass intermediate of the entrance end of the conveyer and the vessel and located within the latter, and a valve disposed within the vessel and independent of said retarding device for controlling the outlet from said by-pass into the vessel, said valve being disposed within the vessel outside of said way and operable independently of the retarding device.

5. In a device of the character stated, a vessel having a filling-opening, a conveyer for a liquid adapted to be placed in communication with said vessel, a valve within the communication between said vessel and conveyer and outside of said conveyer, an adjustable device in said conveyer for retarding the flow of liquid entering said conveyer and directing or diverting a certain predetermined amount of said liquid into said vessel through said communication the head of said device being accessible through said opening, and an outlet from said vessel into said conveyer upon the opposite side of said retarding device.

6. In a device of the character stated, a vessel formed with a supply-passage, a depending tube leading therefrom into the vessel, a retarding device in said passage, a by-pass independent of said tube, and a valve in said by-pass within the vessel and out of said passage said device being adjustably supported on the base-wall of said passage intermediate of the ends thereof and having its head occupying part of said passage.

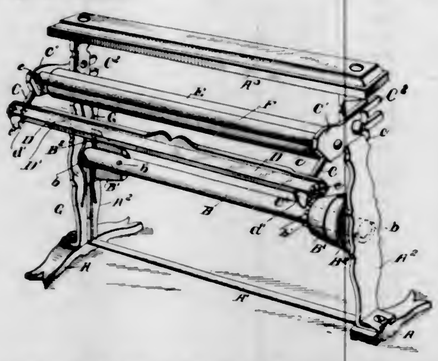
7. In a device of the character stated, a vessel formed with a supply-passage, a depending tube leading therefrom into the vessel, a boss integral with said tube within the vessel, a retarding device in said passage and adjustable in said boss, a by-pass independent of said tube, and a valve in said by-pass, within the vessel and out of said passage.

842,089. WHIP. MELANCHTHON O. FELKER, Chicora, Pa. Filed Oct. 19, 1905. Serial No. 283,369.



Claim.—In a whip, the following devices: a load-rod, a strip of material for building up a filling on said load-rod composed of a sheet having one edge substantially straight throughout its length, and the other edge substantially parallel thereto for a part of its length and thence running obliquely toward the first-named edge, whereby when said strip is wound on said rod the filling to the extent of a portion of its thickness will be equally built up over the whole length of the rod, and thence will be built up and finished in a tapering form, a rigid thin-walled tubular covering fitted over said built-up filling, and a coupling having one end secured upon said covering and the other end extending beyond the same for attachment to a whip-body.

842,090. PAPER-ROLL HOLDER AND CUTTER. JOHN F. FINAN, Cumberland, Md. Filed Apr. 4, 1906. Serial No. 309,824.



Claim.—1. A paper-cutter for a paper-roll holder, comprising standards arranged to support a roll of paper and two arms connected to the standards above the roll, said arms having their free outer ends projecting downwardly and outwardly and having stops on their ends, and a freely-sliding cutter-bar arranged on the arms to descend from gravity, said cutter-bar having a space through which the free edge of the paper passes and being arranged to be slid upwardly on the arms to expose said free edge of the paper.

2. A paper-cutter for a paper-roll holder, comprising hanger-arms bearing at their outer ends downwardly-inclined guides, a cutter-bar sliding on said inclined guides, and a roller above the cutter-bar sustained between the hanger-arms.

3. A paper-cutter for a paper-roll holder, comprising hanger-arms bearing at their outer ends downwardly-inclined guides, a cutter-bar sliding on said inclined guides, a roller above the cutter-bar sustained between the hanger-arms, and a paper-holding rod arranged to press the paper against the roller.

4. A paper-cutter for a paper-roll holder, comprising hanger-arms having near their middle portions inclined seats and bearing at their outer ends downwardly-inclined guides, a cutter-bar sliding on said inclined guides, a roller journaled between the enlarged middle portion of the arms, and a tension-rod arranged in the inclined seats and gravitating against the roller.

5. A paper-cutter for a paper-roll holder, comprising hanger-arms whose outer ends bear downwardly-inclined guides, a cutter-bar sliding on said guides, and pinching devices for the paper arranged above the cutter-bar and sustained between the two hanger-arms.

6. A paper-cutter for a paper-roll holder, comprising hanger-arms having a slot and set-screw at their inner ends for attachment to a support and having their outer ends formed with downwardly-inclined guides, a cutter-bar sliding on said guides, and pinching devices for the paper arranged above the cutter-bar and sustained between the hanger-arms.

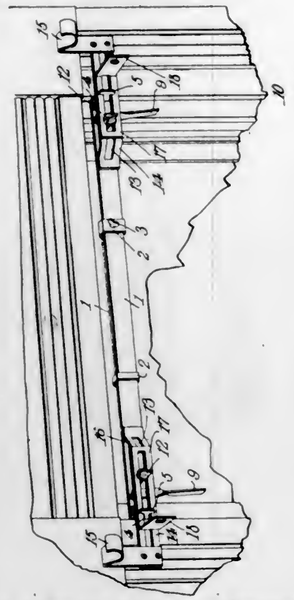
7. A paper-cutter for a paper-roll holder, comprising hanger-arms with downwardly-inclined outer ends formed with stop projections, a cutter-bar made in two sections, one above and the other below the inclined ends of the hanger-arms, and means for connecting them together without binding the hanger-arms.

8. A paper-cutter for a paper-roll holder, comprising hanger-arms with downwardly-inclined outer ends formed with stop projections, a cutter-bar made in two sections loosely connected together so as to turn slightly about longitudinal axes and sliding on the inclined outer ends of the hanger-arms.

9. A paper-cutter and roll-holder comprising an upright frame bearing a core-rod between them for holding the paper-roll, hanger-arms attached to the upright members of the frame and having downwardly-inclined outer ends with stop projections, a cutter-bar gravitating freely on said outer inclined ends, and means for holding the paper on a line above the cutter-bar.

10. A paper-cutter comprising two loosely-attached and gravitating bars, and guides having cam-surfaces to cause said bars to pinch the paper at the end of their downward movement.

842,091. SHADE-ROLLER BRACKET. ALLISON H. FLEMING, Fairmont, W. Va. Filed June 28, 1906. Serial No. 323,772.



Claim.—1. A device of the character described comprising adjustably-connected strips, arms extending therefrom, guide-lugs upon the arms, brackets, longitudinally-slotted bases integral therewith, and bearing on the arms and strips, said lugs extending into the slots, means for adjustably securing the bases upon the strips, and means movably mounted upon the strips and within the arms for engaging a casing.

2. The combination with longitudinally-adjustable strips, arms extending therefrom, and brackets adjustably carried by the arms and strips; of a slide upon each strip, prongs extending therefrom and through the arms, and means for actuating the slides.

3. The combination with longitudinally-adjustable strips, arms extending therefrom, and brackets adjustably carried by the arms and strips; of a slide upon each strip, prongs extending therefrom and through the arms, and a lever for actuating the slides.

4. In a device of the character described the combination with longitudinally-adjustable strips, arms extending therefrom, and guide-lugs upon the arms; of a base slidably mounted on each arm and strip and engaged by the lug on the arm, a bracket carried by said base, a slotted plate movably mounted on the base and lug, a shade-roller-supporting arm extending from the plate, means for clamping the plates and bases upon the strips and arms, and means for fastening the strips to a casing.

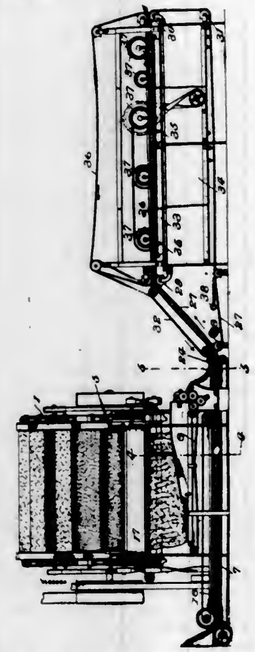
842,092. COMPASS-LIGHT. ARTHUR C. GLOVER, Ipswich, and WILLIAM E. HADLOCK, Wenham, Mass. Filed May 28, 1906. Serial No. 319,153.

Claim.—1. The combination with the compass mounted on gimbals; of a casing supported upon the said compass; an electric lamp inclosed in said casing; and an opening through the wall of said casing to permit the light to fall upon the compass-dial, substantially as described.



2. The combination with a compass; of an opaque casing mounted on the compass above the dial; an electric lamp contained in said casing; an opening through the wall of said casing adjacent to the compass-dial; a shutter provided with a smaller registering opening and movable with relation to the main opening in the casing, substantially as and for the purpose described.

842,093. APPARATUS FOR MAKING GARMENT-PADS. GUSTAV GOLDMAN, Baltimore, Md. Filed Sept. 27, 1904. Serial No. 226,227.



Claim.—1. In an apparatus of the character described, the combination of means for laying the fibers down in a light, fluffy condition, with means for introducing dry finely-divided binding material between the fibers.

2. In an apparatus of the character described, the combination of means for laying the fibers down in a light fluffy condition, with means for evenly distributing dry finely-divided binding material between the fibers.

3. In an apparatus of the character described, the combination of means for laying the fibers down in a light fluffy condition, with means for introducing dry finely-divided binding material between the fibers, and means subsequently converting said binding material into an active binder for the fibers.

4. In an apparatus of the character described, the combination of means for separating the fibers into a light fluffy mass, means introducing dry finely-divided binding material into said mass, and means supplying heat and moisture to said mass.

5. In an apparatus of the character described, the combination of means for separating the fibers into a light fluffy mass, means introducing dry finely-divided binding material into said mass, and means subjecting said mass to heat, moisture and pressure.

6. In an apparatus of the character described, the combination of means laying the fibers down in a plurality of superimposed films or layers, and means introducing dry finely-divided binding material between the fibers.

7. In an apparatus of the character described, the combination of means laying the fibers down in a plurality of superimposed films or layers, and means introducing dry finely-divided binding material between the fibers of each film or layer as the same is laid down.

8. In an apparatus of the character described, the combination of means laying the fibers down in a plurality of superimposed films or layers, means introducing dry finely-divided binding material between the fibers of each film or layer, and means converting said binding material into an active binder for the fibers.

9. In an apparatus of the character described, the combination of means laying the fibers down in a plurality of superimposed films or layers, means introducing dry finely-divided binding material between the fibers of each film or layer, and means subjecting said superimposed films or layers to heat and pressure.

10. In an apparatus of the character described, the combination of means laying the fibers down in a plurality of superimposed films or layers, means introducing dry finely-divided binding material between the fibers of each film or layer, and means introducing moisture between the fibers of said superimposed films or layers.

11. In an apparatus of the character described, the combination of means laying the fibers down in a plurality of superimposed films or layers, means introducing dry finely-divided binding material between the fibers of each film or layer, and means introducing moisture between the fibers of said films or layers and simultaneously subjecting said fibers to heat and pressure.

12. In an apparatus for making garment-pads of fibrous material, the combination of means laying the fibers down in a continuous strip or layer, means introducing binding material between the fibers, and means cutting the pads from said strip or layer.

13. In an apparatus of the character described, the combination of means laying the fibers down in a continuous strip or layer, means introducing dry finely-divided binding material between said fibers, and means subjecting the said strip or layer to heat and pressure.

14. In an apparatus for making garment-pads of fibrous material, the combination of means laying the fibers down in a continuous strip or layer, means introducing dry finely-divided binding material between said fibers, means subjecting the said strip or layer to heat and pressure, and means cutting the pads from said strip or layer.

15. In an apparatus of the character described, the combination of means forming the fibers into a strip or layer, means introducing dry finely-divided binding material between the fibers, means converting the dry binder into an active binder for the fibers, and means finishing or smoothing the surfaces of the strip or layer.

16. In an apparatus of the character described, the combination of means forming the fibers into a strip or layer, means introducing dry finely-divided binding material between the fibers, means converting the binding material into an active binding material, and means forming or shaping the sheet in cross-section.

17. In an apparatus of the character described, the combination of carding mechanism, a dusting device, and forming means for imparting the desired cross-sectional form to the sheet or layer of fibers.

18. In an apparatus of the character described, the combination of carding mechanism for forming the fibers into a strip or layer, a dusting device for introducing binding material between the fibers, and a moisture-carrying device for converting the binding material into an active binder.

19. In an apparatus of the character described, the combination of carding mechanism for forming the fibers into a strip or layer, a dusting device for introducing binding material between the fibers, and a heat and pressure device for treating said strip or layer.

20. In an apparatus of the character described, the combination of a carding mechanism for forming the fibers into a strip or layer, a dusting device for introducing binding material between the fibers, a moisture-carrying device and a heating and pressing means for treating said strip or layer.

21. In an apparatus of the character described, the combination of a carding mechanism for forming the fibers into a strip or layer, a binder-distributing device for introducing binding material between the fibers, a source of heat and pressure for treating said strip or layer, and means skiving out or removing transverse segments or parts from one surface of the formed strip or layer.

22. In an apparatus for making garment-pads, the combination of a carding mechanism, a binder-distributing device, a source of moisture, heat and pressure, means skiving out or removing transverse segments or parts from one surface of the formed strip or layer, and a die-press for cutting the pads from said skived strip or layer.

23. In an apparatus of the character described, the combination of a carding mechanism, a continuous carrier moving parallel with the doffer of the carder, and a continuous distributing-belt moving at an angle across the carrier and receiving the fibers from the doffer and depositing them upon the carrier.

24. In an apparatus of the character described, the combination of a carding mechanism, a continuous carrier moving parallel with the doffer of the carder, a continuous distributing-belt interposed between the doffer and carrier and moving in a line at an angle to said doffer and carrier, and receiving the fibers from the doffer and depositing them upon the carrier.

25. In an apparatus of the character described, the combination of a carder, a continuous carrier moving parallel with the doffer of the carder, a distributing-belt receiving the fibers from the carder and distributing them in the form of a sheet or layer across the carrier, and means regulating the width of said sheet or layer.

26. In an apparatus of the character described, the combination of a carder, a continuous carrier, and a distributing-belt receiving the fibers from the carder and distributing them across the carrier.

27. In an apparatus of the character described, the combination of a carder, a carrier, an apron-belt receiving the fibers from the carder, and a duster or binder-distributing device above the apron-belt.

28. In an apparatus of the character described, the combination of a carder, a carrier, an apron-belt in front of the doffer of the carder, a duster above said apron-belt, and means receiving the fibers from said apron-belt and distributing them across the carrier.

29. In an apparatus of the character described, the combination of a carder, a carrier, an apron-belt in front of the doffer of the carder, a duster above said apron-belt, means receiving the fibers from said apron-belt and distributing them across the carrier, and means regulating width of the layer of fibers thus deposited on the carrier.

30. In an apparatus of the character described, the combination of a carder, a carrier receiving the fibers in sheet or layer form from the carder, and forming means for shaping the sheet into the desired form in cross-section.

31. In an apparatus of the character described, the combination of a carder, a carrier receiving the fibers in sheet or layer form from the carder, and a pair of conical rollers acting on one surface of said sheet or layer to give it a substantially triangular form in cross-section.

32. In an apparatus of the character described, the combination of a fiber-distributing mechanism, a carrier, and a pair of conical revolving rollers extending toward each other above the carrier.

33. In an apapratus for making garment-pads, the combination of a carder, a duster for introducing binding material between the fibers, means supplying heat, moisture and pressure to the fibers, a die-press for cutting the pads from the matted or felted strip, and means for smoothing or finishing the surfaces of the pads.

34. In an apparatus for making garment-pads, the combination of a carder, means introducing and setting binding material between the fibers, means finishing the surfaces of the strip or sheet, means skiving out sections from one of the surfaces thereof, a cutter for cutting the pads from the skived strip, and means for smoothing or finishing the surfaces of the pads.

35. In an apparatus for making garment-pads, the combination of means laying down a strip or sheet of fibers, means introducing binding material between the fibers whereby the same are united into a sheet, and means automatically cutting the pads from said sheet.

36. In an apparatus for making garment-pads, the combination of means forming a sheet of fibers tapering from its intermediate portion toward its edges, means transversely skiving one side of said sheet at regular intervals, and means cutting or stamping out pads from said sheet.

37. In an apparatus for making garment-pads, means forming a fibrous sheet of uneven thickness in cross-section, with means automatically stamping or cutting pads from said sheet.

38. In an apparatus for making garment-pads, the combination of means forming a fibrous sheet tapering toward both of its edges from an intermediate thicker portion, with means stamping or cutting pads from said sheet.

39. In an apparatus for making garment-pads, the combination of means for forming a fibrous sheet tapering from an intermediate portion toward its edges, means for sizing the surfaces of said sheet when formed, with means for automatically cutting the pads from said sheet.

40. In an apparatus for forming garment-pads, the combination of means for forming a fibrous sheet of material, means automatically cutting or stamping the pads therefrom, with an automatic device for smoothing or finishing the surfaces of the pads.

41. In an apparatus for forming garment-pads, the combination of means laying down a sheet of fibrous material, means for subjecting said sheet to heat and pressure, and means automatically cutting the pads from said sheet.

42. In an apparatus for making garment-pads, the combination of means laying down a sheet of fibrous material, means for introducing a dry binder between the fibers of said material, means for imparting the desired shape in cross-section to said sheet, means for converting the dry binder into an active binding agent for the fibers, and means automatically cutting the pads from the sheet.

43. In an apparatus for forming garment-pads from fibrous materials, the combination of sheet-forming mechanism, skiving mechanism and pad-cutting mechanism.

44. In an apparatus for forming garment-pads from fibrous materials, the combination of means for forming a sheet of fibers, with pad-cutting mechanism.

45. In an apparatus for forming garment-pads from fibrous material, the combination of means for forming a sheet of fibers, with pad-cutting mechanism, and pad-finishing devices.

46. In an apparatus for forming garment-pads from fibrous material, the combination of means for forming a sheet of fibers, with skiving mechanism, pad-cutting mechanism, and a pad-finishing device.

47. In an apparatus of the character described, the combination of means for laying the fibers down in sheet form, with means for subjecting said sheet to heat and pressure, said means including a moisture-carrying device.

48. In an apparatus of the character described, the combination of means for laying the fibers down in sheet form, a plurality of belts between which said sheet is conveyed, one of which is a moisture-carrying belt, and means subjecting the sheet to heat and pressure while between said belts.

49. In an apparatus of the character described, the combination of means laying the fibers down in sheet form, means subjecting said sheet to heat and pressure, forming devices for giving the sheet the desired cross-sectional shape, and surface-finishing means for smoothing the surface of the sheet.

50. In an apparatus of the character described, the combination of means laying the material down in sheet form, forming devices for giving the sheet the desired shape in cross-section, means subjecting the sheet to heat and pressure, and means for sizing the surfaces of the sheet.

842,094. UMBRELLA. PAYTON GREEN, Wytheville, Va. Filed Sept. 22, 1906. Serial No. 335,714.



Claim.—1. In an umbrella the combination substantially as described, of the stick provided near its tip and handle ends with shoulders facing toward their respective ends, the combined notch and runner having a notch and a sleeve or thimble secured thereto and sliding upon the stick and the intermediate enlarged portion forming a receptacle for a latch, and a spring-latch arranged within said enlarged portion of the thimble and secured at one end thereto, and having its other end free and provided midway between its ends with a head projecting toward the stick and forming an engaging portion for engaging the shoulders of the stick, a spring within the thimble or sleeve, and pressing the latch toward the stick, and a loop or eye within the thimble or sleeve and forming a guide in which the free end of the latch is longitudinally movable, substantially as set forth.

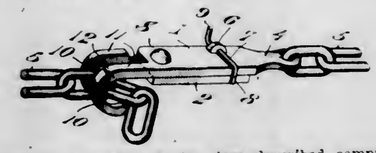
2. In an umbrella the combination of the stick having seats for engagement by a latch and a runner-sleeve or thimble having the tubular end portions sliding upon the stick and the intermediate or central enlarged portion forming a receptacle for a latch, and a spring-latch contained within the sleeve or thimble and having midway between its ends and within the enlarged portion of said sleeve or thimble an engaging portion springing toward the stick to engage with the seats thereof, substantially as set forth.

3. A runner thimble or sleeve for umbrellas having tubular end portions to fit and slide along an umbrella-stick and an intermediate or central enlarged portion to receive a latch, and a latch extending along within said central enlarged portion and secured at one end to the thimble and free at its other end, said latch being provided midway between its ends with an engaging portion within the central enlarged portion of the thimble for engagement with the seats on the umbrella-stick, substantially as set forth.

4. An umbrella-stick having adjacent to its tip and handle ends shoulders facing toward their respective ends of the stick, a runner sleeve or thimble sliding along the stick, and a spring extending longitudinally within said runner sleeve and thimble and provided midway between its ends with an engaging portion in the form of a head projecting toward and bearing against the stick and adapted to spring into engagement with the shoulders thereof whereby to hold the umbrella open or closed, substantially as set forth.

5. A runner-thimble for umbrellas adapted to fit and slide along an umbrella-stick, and a latch extending longitudinally within said thimble and provided midway between its ends with an engaging portion to coöperate with a seat or seats on an umbrella-stick, substantially as set forth.

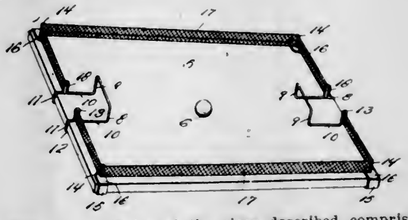
842,095. HOOK. EDWARD J. HEBERT, Zwolle, La. Filed May 22, 1906. Serial No. 318,183.



Claim.—1. A device of the class described comprising a pair of crossed pivoted members provided at their forward ends with coöperating engaging hooks spaced relatively in a transverse direction, and a locking member carried by the first-named members and adapted for engagement by the other to lock the device in engaging condition.

2. A device of the class described comprising a pair of crossed pivoted members provided at their forward ends with rearwardly-disposed coöperating engaging hooks spaced relatively in a transverse section, and a transverse locking-bar journaled on one of the members and having an engaging portion adapted to engage the other member for locking the members in engaging position.

842,096. GAME. HUGH T. HUGHES, Frankfort, N. Y. Filed Apr. 13, 1906. Renewed Dec. 14, 1906. Serial No. 347,856.



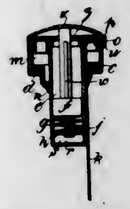
Claim.—1. A device of the class described comprising goal members arranged for clamping engagement with a board or the like, and a net engaged at its end with said goal members, and means detachably associated with the board for engagement with the net intermediate its ends.

2. In a device of the class described, the combination with a board, of a goal member detachably engaged upon said board at opposite sides thereof, posts associated with said board at the corners thereof, and nets engaged with said posts and having their ends detachably engaged with said goal members.

3. In a device of the class described, the combination with a board, of goal members carried by the board, corner-posts detachably associated with the board, and a net connected at its ends with said goal members and engaged around said corner-posts.

4. In a device of the class described, the combination with a board, of goal members arranged for clamping engagement with the board, said goal members including spaced arms bent intermediate their ends upon themselves, posts carried by the board at its corners, and a net engaged at its ends with the said bent portions of said arms of the goal members and around the said post.

842,097. ATOMIZER OR PUMP-SPRAYER. ERNEST A. JAHN, London, England. Filed July 16, 1906. Serial No. 326,501.



Claim.—1. An atomizer or pump-spray comprising a pump of ordinary construction the lower end of the cylinder of which opens into a chamber closed at the bottom, such chamber communicating by means of a passage or passages in the wall of the cylinder with an annular chamber around the said cylinder which in turn communicates by suitable apertures with the receptacle containing the scent to be sprayed and also when desired with the nozzle of the pump all for the purposes set forth.

2. The combination with an atomizer or pump-spray of a flanged hood attached to the top of the piston or plunger rod, such hood being preferably so formed as to cover and lock over the nozzle of the pump when the hood is in the closed position for the purposes set forth.

3. In an atomizer or pump-spray, the combination with the cylinder, of a plunger operating therein, an apertured plate arranged at the upper end of said cylinder and forming a guide for said plunger, a flanged hood attached to the top of said plunger, locking means carried by said cap and locking means carried by said plunger, substantially as described.

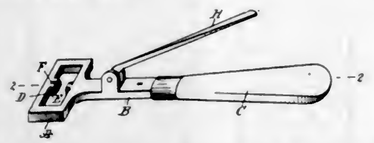
4. In an atomizer or pump-spray, the combination with the cylinder, of a plunger operating therein, an apertured plate arranged at the upper end of said cylinder and forming a guide for said plunger, a flanged hood attached to the top of said plunger, a fluid-discharge tube, a nozzle arranged at the discharge end of said tube, said hood being provided with a recessed portion adapted to be thrust over and to lock upon said nozzle, substantially as described.

5. In an atomizer or pump-spray, the combination with the cylinder, of a plunger operating therein, an apertured plate arranged at the upper end of said cylinder and forming a guide for said plunger, a flanged hood attached to the top of said plunger, a fluid-discharge tube, a nozzle arranged at the discharge end of said tube, said hood being provided with a recessed portion adapted to be thrust over and to lock said nozzle, and locking means carried by said plunger, substantially as described.

6. In an atomizer or pump-spray, the combination with the cylinder, of a plunger operating therein, said cylinder opening into a closed chamber at the lower end thereof, an annular air-chamber formed around the upper end of said cylinder, air-passages leading from said air-chamber to the liquid-container, an air-duct formed in the wall of said cylinder and communicating between said closed chamber and said air-chamber, a fluid-discharge pipe having its discharge end located in said air-chamber, a nozzle formed on said discharge end, a flanged hood attached to the upper end of said plunger, said hood being provided with a recessed portion adapted to be thrust over said nozzle and locked thereon, substantially as described.

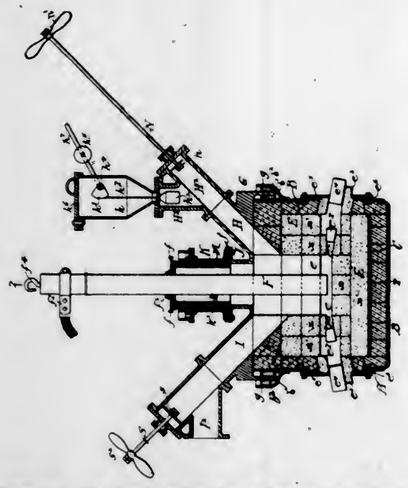
842,098. TOOL. JOHN B. KRAUS, Puyallup, Wash. Filed Aug. 4, 1906. Serial No. 329,193.

Claim.—1. A tool of the class described, comprising a rectangular frame having at one side an outwardly-projecting shank provided with a longitudinal opening and having on the inner face of the opposite side an inwardly-projecting boss provided with a longitudinal opening in alinement with the opening in the shank, said boss having recesses above and below the opening for receiving the roller-jewel of a roller-table, the aperture of the table being adapted to register with the opening through the boss, a punch slidably mounted in the opening of the shank, said punch being provided with a vertical slot, a spring normally retaining the punch in its retracted position, and a lever pivoted on the shank and having one end engaging the slot whereby to manipulate said punch.



2. A tool of the class described, comprising a rectangular frame, having at one side an outwardly-projecting shank provided with a longitudinal opening, and having on the other side an inwardly-projecting boss provided with a longitudinal opening in alinement with the opening in the shank, said boss having recesses above and below the opening for receiving the roller-jewel of a roller-table, the aperture of the table being adapted to register with the opening through the boss, and a punch in the opening of the shank and movable toward and from the boss.

842,099. ELECTRIC MELTING OR REDUCING FURNACE. GILBERT C. LANDIS, Carlisle, Pa., assignor to American Phosphorous Company, Camden N. J., a Corporation of New Jersey. Filed Sept. 21, 1904. Serial No. 225,361.



Claim.—1. The combination in an electric furnace, of a body portion, a top plate, a neck projecting from the top plate, an extension on said neck forming one portion of a fluid seal, insulating material between the neck and the extension, a movable element of said sealing device, means by which said element is secured to the electrode which passes through the neck into the body of the furnace, and a receptacle on the extension above said insulation for receiving the overflow of sealing fluid from the sealing device, substantially as described.

2. The combination in an electric furnace, of a body portion, a top plate having a flange so as to hold a body of water to cool the said top plate, a neck extending above the water-line, an extension on said neck through which the electrode passes, a seal-joint between said extension and the electrode, and insulation between the neck and the extension above the water-line, substantially as described.

3. The combination in an electric furnace, of a casing having a non-absorbent outer lining, an inner lining comprising inner and outer portions both made of carbon blocks, the inner portion being removable independently of the outer portion, substantially as described.

4. An electric furnace having a carbon lining comprising inner and outer portions, each provided with a plugged tapping-opening, substantially as described.

5. An electric furnace having a carbon lining comprising inner and outer portions, the inner portion having a plugged tapping-opening and the outer portion having a projecting tapping-spout, substantially as described.

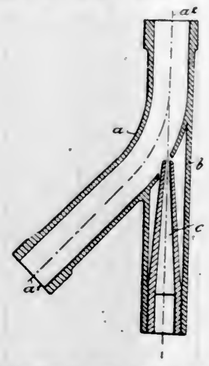
6. The combination in an electric furnace, of a metallic casing and a body portion of non-conducting material, a lining of conducting material, a retaining-plate secured to the metallic casing and having an opening, a tapping-spout of conducting material extending through said plate, and insulating material between the plate and the casing, said material also insulating the spout from the casing, substantially as described.

7. The combination in an electric furnace, of a body portion having a conducting-lining, an electrode extending into the furnace, a top plate, an inclined passage therein, said passage extending through the upper portion of the furnace and communicating with the reducing-chamber, said passage being so arranged that a tool may be passed through the inclined passage into the reducing-chamber to break the arch of material being treated above the bath, substantially as described.

8. The combination in an electric furnace, of a casing having a non-conducting lining, an electrode vertically arranged within the furnace, a top plate secured to the body of the furnace having a neck through which the electrode extends, two inclined passages extending through the top plate of the furnace, a feed-hopper connected to one passage and a gas-discharge pipe communicating with the other passage, a scraper in each passage, each scraper having a rod, and a stuffing-box at the end of each passage through which the rod extends, whereby the said passages can be cleaned and the crust over the material to be treated can be broken, substantially as described.

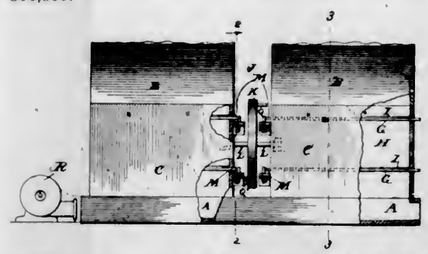
9. The combination in an electric furnace, of a body portion having a carbon lining, a top plate made in a single casting secured to the said body portion, a gas-tight joint between the body portion and the top plate, said top plate having a central neck and two side inclined passages, a flange whereby a body of water may be held on the top plate, an extension above the neck, insulating material between the extension and the neck above the water-line, a carbon extending through the central passage, a seal-joint between the carbon and the extension of the neck, a feed-hopper connected with one of the inclined passages, the other inclined passage being the gas-outlet, and scrapers in each passage, substantially as described.

842,100. FLUID-PRESSURE SUCTION APPARATUS. EMIL S. E. VON LINDENSTAMM, Vienna, Austria-Hungary. Filed Sept. 26, 1906. Serial No. 336,357.



Claim.—In combination with a knee-shaped suction-conduit a nozzle adapted to admit fluid under pressure into such conduit and entering the same at the convex side of the knee, such nozzle practically not projecting into the interior of the said conduit, substantially as and for the purpose described.

842,101. COTTON-GIN ATTACHMENT. GEORGE W. LONG, Lindsay, Ind. Ter. Filed Mar. 5, 1906. Serial No. 304,300.

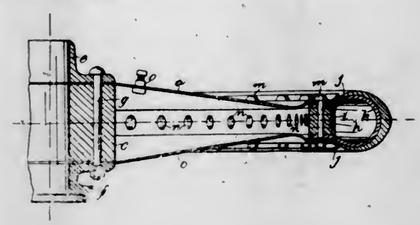


Claim.—1. A cotton-gin seed-conveyer, having a passage-way located below the gin, means adapted for producing drafts of air through the passage-way, a case providing open communication between the gin and said passage-way, a series of valves in the case, means adapted to hold the valves yieldingly seated, and closing the passage-way through said case, and means adapted in operation, for step by step separate adjustment of the valves, to open position.

2. The combination with the seedbox of a gin, of an air passage-way, means adapted for producing drafts of air through said passage-way, a case located below the gin-seedbox having intermittently open communication between the air passage-way and seedbox, upper and lower upwardly-seating valves in said case, means adapted for holding the valves yieldingly seated, engaging devices fixedly connected with the valves, and means adapted in operation, for step by step separate adjustment of the valves to open adjustment.

3. The combination with the seedbox of a gin, of an air passage-way, means for producing drafts of air through said passage-way, a case located below the gin-seedbox having intermittently open communication between the air passage-way and said seedbox, upper and lower upwardly-seating valves in the case, rods providing support for the valves, the rods projecting outside of the case, weighted arms on the projecting ends of said rods, noses at the supported ends of the arms, and a suitably-supported revoluble device having a tappet thereon, adapted for step-by-step engagement with said noses and thereby effecting separate adjustment through the connecting means, of the respective upper and lower said valves.

842,102. DISK-WHEEL FOR ROAD-VEHICLES. EDWARD MARTIN, Battersea, England. Filed May 7, 1906. Serial No. 315,660.



Claim.—1. A disk-wheel, comprising a pair of side disks securely spaced apart centrally and converging outwardly, and an apertured spacing-ring disposed between said disks at their peripheral edges, said ring adapted to have

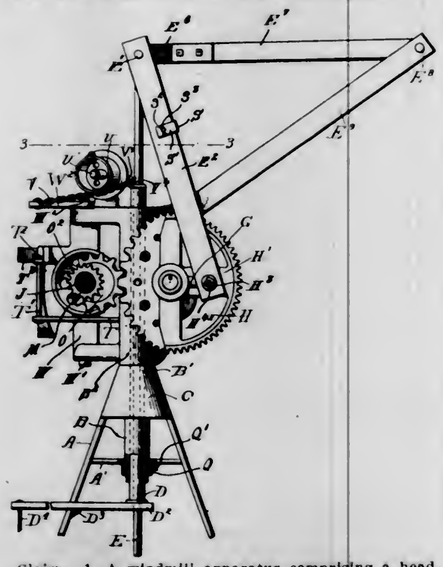
a pneumatic tire secured thereto, with said apertures in communication with the interior of the tire, the whole constructed to form an air-tight chamber within said wheel, in communication with the interior of the pneumatic tire, substantially as described.

2. A pneumatic disk-wheel comprising two disks bolted together with an inner middle portion at the hub of the wheel and a circumferential ring portion provided with radial holes, in combination with a pneumatic tire, the cover of which is bolted between the edges of the disks and the circumferential ring portion so that the interior of the disk-wheel and the interior of the pneumatic tire may form one air-tight chamber in connection with one another for the purposes set forth.

3. The combination with a disk-wheel, comprising two disks bolted together with an inner middle portion at the hub of the wheel and a circumferential ring portion of a tire provided with a U-shaped cover, such cover being bolted between the disks and the circumferential ring portion substantially as described.

4. In a disk-wheel, the combination with a pair of side disks disposed parallel centrally and provided with an internal spacing member, hub members, and means for securely holding same together, said disks converging outwardly from said central spacing member and terminating at their peripheral edges in an annular recess, a ring member disposed within said recess and provided with a plurality of radially-disposed apertures adapted to form communicating passages between the interior of a pneumatic tire and the interior of said wheel, and means for securing the cover of said tire between said disks and annular ring, substantially as described.

842,103. WINDMILL. BENJAMIN F. MOHR, Mifflinburg, Pa. Filed Sept. 11, 1906. Serial No. 334,165.



Claim.—1. A windmill apparatus comprising a head, a shell projecting therefrom, a piston-hoisting rod passing through said shell and head, a hub mounted upon suitable bearings upon the head and to which a wind-wheel is adapted to be fixed, a pinion and an eccentric gear-wheel fixed to the hub and adjacent to each other, a gear-wheel having a portion of its circumference on the arc of a circle and provided with gear-teeth and the balance of the circumference of the wheel being on the arc of an ellipse and provided with gear-teeth in a plane parallel with the plane in which the teeth of the circular-outlined portion of the wheel are disposed, said teeth in the two planes designed to mesh alternately with said pinion and eccentrically-mounted gear-wheel to cause an accelerated movement upon the downward throw of the piston and a slow movement upon the upward movement of the latter, a cross-head to which said piston-actuating rod is adjustably held, pitmen pivotally connected to said cross-head, a wrist-pin carried by the pinion and having a bearing in said gear-wheel which has a portion of its circumference circular outlined and a portion elliptical outlined, and means for holding said pitmen upon the cross-head and the wrist-pin carried thereby in its bearing, as set forth.

2. A windmill apparatus comprising a head, a shell projecting therefrom, a pipe extending through said shell, a piston-rod having a vertical play through said shell and pipe, a cross-head secured to said rod, a gear-wheel mounted in suitable bearings upon the head and provided with a circumference, a portion of which is formed on the arc of a circle and provided with gear-teeth, the remaining circumference of the wheel being upon the arc of an ellipse and provided with teeth at right angles which are in a plane parallel with the plane in which the teeth upon the circular-outlined portion of the gear-wheel are positioned, a hub mounted in suitable bearings and adapted to carry a wind-wheel, a concentric pinion and an eccentrically-mounted gear-wheel rotating with said hub and adapted to alternately mesh, respectively, with the teeth upon the circular-outlined portion of said gear-wheel with the teeth upon the elliptical part of its circumference, a vane-carrying yoke pivotally mounted upon the head, a drum mounted upon said head, chain connections between said yoke and drum and between the latter and said pipe, whereby as the pipe is raised, the drum may be rotated and the yoke turned upon its pivot to throw the wind-wheel edgewise into the wind, and brake mechanism operated by said yoke, as set forth.

3. A windmill apparatus comprising a head, a shell projecting therefrom, a pipe extending through said shell, a piston-rod having a vertical play through said shell and pipe, a cross-head secured to said rod, a gear-wheel mounted in suitable bearings upon the head and provided with a circumference, a portion of which is formed on the arc of a circle and provided with gear-teeth, the remaining circumference of the wheel being upon the arc of an ellipse and provided with teeth at right angles which are in a plane parallel with the plane in which the teeth upon the circular-outlined portion of the gear-wheel are positioned, a hub mounted in suitable bearings and adapted to carry a wind-wheel, a concentric pinion and an eccentrically-mounted gear-wheel rotating with said hub and adapted to alternately mesh, respectively, with the teeth upon the circular-outlined portion of said gear-wheel with the teeth upon the elliptical part of its circumference, a vane-carrying yoke pivotally mounted upon the head, a drum mounted upon said head, chain connections between said yoke and drum and between the latter and said pipe, whereby as the pipe is raised, the drum may be rotated and the yoke turned upon its pivot to throw the wind-wheel edgewise into the wind, a friction-wheel rotating with the hub, an angle-lever pivoted upon the head, and a brake-bar projecting from the head and connected to said lever, one end of the latter being positioned in the path of said swinging yoke, as set forth.

4. A windmill apparatus comprising a head, a shell projecting therefrom, a pipe extending through said shell, a piston-rod having a vertical play through said shell and pipe, a cross-head secured to said rod, a gear-wheel mounted in suitable bearings upon the head and provided with a circumference, a portion of which is formed on the arc of a circle and provided with gear-teeth, the remaining circumference of the wheel being upon the arc of an ellipse and provided with teeth at right angles which are in a plane parallel with the plane in which the teeth upon the circular-outlined portion of the gear-wheel are positioned, a hub mounted in suitable bearings and adapted to carry a wind-wheel, a concentric pinion and an eccentrically-mounted gear-wheel rotating with said hub and adapted to alternately mesh, respectively, with the teeth upon the circular-outlined portion of said gear-wheel with the teeth upon the elliptical part of its circumference, a vane-carrying yoke pivotally mounted upon the head, a drum mounted upon said head, chain connections between said yoke and drum and between the latter and said pipe, whereby as the pipe is raised, the drum may be rotated and the yoke turned upon its pivot to throw the wind-wheel edgewise into the wind, a friction-wheel rotating with the hub, an angle-lever pivoted upon the head, a brake-bar projecting from the head and connected to said lever, one end of the latter being positioned in the path of said swinging yoke, and a spring fastened at one end to the vane-carrying bar and its other end secured to said head and designed to return the vane to its normal position after having been swung to throw the wheel out of gear, as set forth.

5. A windmill apparatus comprising a head, a shell projecting therefrom, a pipe extending through said shell, a piston-rod having a vertical play through said shell and pipe, a cross-head secured to said rod, a gear-wheel mounted in suitable bearings upon the head and provided with a circumference, a portion of which is formed on the arc of a circle and provided with gear-teeth, the remaining circumference of the wheel being upon the arc of an ellipse and provided with teeth at right angles which are in a plane parallel with the plane in which the teeth upon the circular-outlined portion of the gear-wheel are positioned, a hub mounted in suitable bearings and adapted to carry a wind-wheel, a concentric pinion and an eccentrically-mounted gear-wheel rotating with said hub and adapted to alternately mesh, respectively, with the teeth upon the circular-outlined portion of said gear-wheel and with the teeth upon the elliptical part of its circumference, a vane-carrying yoke pivotally mounted upon the head, a drum mounted upon said head, chain connections between said yoke and drum and between the latter and said pipe, whereby as the pipe is raised, the drum may be rotated and the yoke turned upon its pivot to throw the wind-wheel edgewise into the wind, a friction-wheel rotating with the hub, an angle-lever pivoted upon the head, a brake-bar projecting from the head and connected to said lever, one end of the latter being positioned in the path of said swinging yoke, and yielding means positioned in the path of said yoke and adapted to prevent jar of the same when returning to its normal position under the influence of said spring, as set forth.

6. A windmill apparatus comprising a head, a shell projecting therefrom, a pipe extending through said shell, a piston-rod having a vertical play through said shell and pipe, a cross-head secured to said rod, a gear-wheel mounted in suitable bearings upon the head and provided with a circumference, a portion of which is formed on the arc of a circle and provided with gear-teeth, the remaining circumference of the wheel being upon the arc of an ellipse and provided with teeth at right angles which are in a plane parallel with the plane in which the teeth upon the circular-outlined portion of the gear-wheel are positioned, a hub mounted in suitable bearings and adapted to carry a wind-wheel, a concentric pinion and an eccentrically-mounted gear-wheel rotating with said hub and adapted to alternately mesh, respectively, with the teeth upon the circular-outlined portion of said gear-wheel and with the teeth upon the elliptical part of its circumference, a vane-carrying yoke pivotally mounted upon the head, a drum mounted upon said head, chain connections between said yoke and drum and between the latter and said pipe, whereby as the pipe is raised, the drum may be rotated and the yoke turned upon its pivot to throw the wind-wheel edgewise into the wind, a friction-wheel rotating with the hub, an angle-lever pivoted upon the head, a brake-bar projecting from the head and connected to said lever, one end of the latter being positioned in the path of said swinging yoke, a spring fastened at one end to the vane-carrying bar and its other end secured to said head and designed to return the vane to its normal position after having been swung to throw the wheel out of gear, and a resilient bar fixed to the head and provided with a hooked end adapted to be positioned in the path of said yoke to take up vibration as the yoke returns under the influence of said spring to its normal position, as set forth.

8. A windmill apparatus comprising a head, a shell projecting therefrom, a pipe extending through said shell, a piston-rod having a vertical play through said shell and pipe, a cross-head secured to said rod, a gear-wheel mounted in suitable bearings upon the head and provided with a circumference a portion of which is formed on the arc of a circle and provided with gear-teeth, the remaining circumference of the wheel being upon the arc of an ellipse and provided with teeth which are in a plane parallel with the plane in which the teeth upon the circular-outlined portion of the gear-wheel are positioned, a hub mounted in suitable bearings and adapted to carry a wind-wheel, a concentric pinion and an eccentrically-mounted gear-wheel rotating with said hub and adapted to alternately mesh, respectively, with the teeth upon the circular-outlined portion of said gear-wheel and with the teeth upon the elliptical part of its circumference, a vane-carrying yoke pivotally mounted upon the head, a drum mounted upon said head, chain connections between said yoke and drum and between the latter and said pipe, whereby as the pipe is raised, the drum may be rotated and the yoke turned upon its pivot to throw the wind-wheel edgewise into the wind, a friction-wheel rotating with the hub, an angle-lever pivoted upon the head, a brake-bar projecting from the head and connected to said lever, one end of the latter being positioned in the path of said swinging yoke, a spring fastened at one end to the head, an eye upon the bar of the vane, an eyebolt passing through said eye and connected to said spring, and a nut fitted upon the threaded end of said eyebolt, as set forth.

9. A windmill apparatus comprising a head, a shell projecting therefrom, a pipe mounted to have a vertical play through said shell and head, a hook secured to the upper end of said pipe, a piston-rod passing through said pipe, a cross-head secured to the upper end of the rod, a gear-wheel having a portion of its circumference formed on the arc of a circle and provided with teeth, the balance of the circumference of the wheel being on the arc of an ellipse and provided with teeth which are in a plane parallel to the plane on which the teeth upon the circular-outlined portion of the wheel are disposed, a hub mounted in suitable bearings, a concentrically-mounted pinion-wheel and an eccentrically-mounted gear rotating with said hub and adapted to mesh alternately and respectively, with the teeth upon the circular-outlined portion of said wheel and those upon the elliptical portion of the circumference, a vane-carrying yoke pivotally mounted upon said head, a friction-wheel rotating with the hub, a bar adapted to contact with said friction-wheel, an angle-lever pivoted upon the head, connections between said lever and bar, one end of the lever being positioned in the path of said yoke, a drum rotating in suitable bearings upon the head, a chain fastened at one end to said hook upon the pipe and adapted to wind upon said drum to which its other end is attached, a second chain also fixed to the circumference of the drum and adapted to wind thereon in an opposite direction to said first-mentioned chain and fastened at its other end to a projecting arm of said yoke, and means for raising said pipe, as set forth.

10. A windmill apparatus comprising a head a shell pro-

jecting therefrom, a pipe mounted to have a vertical play through said shell and head, a hook secured to the upper end of said pipe, a piston-rod passing through said pipe, a cross-head secured to the upper end of the rod, a gear-wheel having a portion of its circumference formed on the arc of a circle and provided with teeth, the balance of the circumference of the wheel being on the arc of an ellipse and provided with teeth which are in a plane parallel to the plane on which the teeth upon the circular-outlined portion of the wheel are disposed, a hub mounted in suitable bearings, a concentrically-mounted pinion-wheel and an eccentrically-mounted gear rotating with said hub and adapted to mesh alternately and respectively, with the teeth upon the circular-outlined portion of said wheel and those upon the elliptical portion of the circumference, a vane-carrying yoke pivotally mounted upon said head, a friction-wheel rotating with the hub, a bar adapted to contact with said friction-wheel, an angle-lever pivoted upon the head, connections between said lever and bar, one end of the lever being positioned in the path of said yoke, a drum rotating in suitable bearings upon the head, a chain fastened at one end to said hook upon the pipe and adapted to wind upon said drum to which its other end is attached, a second chain also fixed to the circumference of the drum and adapted to wind thereon in an opposite direction to said first-mentioned chain and fastened at its other end to a projecting arm of said yoke, and a pivotal lever adapted to bear against the lower end of said pipe, as set forth.

11. A windmill apparatus comprising a head, a shell projecting therefrom, a pipe passing through said shell and head, a piston-actuated rod having a vertical play through said pipe, a cross-head in which the upper end of said rod is adjustably held, a plurality of gear-wheels mounted in suitable bearings upon said head, each of said wheels having a portion of its circumference on the arc of a circle and provided with gear-teeth, the balance of the circumference being on the arc of an ellipse and provided with gear-teeth which are in a plane parallel to the plane on which the teeth upon the circular-outlined portion of the circumference are disposed, a hub to which the windmill is adapted to be attached, concentrically-mounted pinion-wheels upon the hub, and eccentrically-mounted gears adapted to mesh respectively, with the teeth upon the circular-outlined portion of said wheel and those upon the elliptical part of the wheel, pitmen pivotally connected at their upper ends to said cross-head, pitmen carried by the lower ends and adapted to have bearings each in one of said wheels which are provided with the circular and elliptically outlined circumferences, means for holding the pitmen in place, a swinging vane-carrying yoke, a friction-wheel rotating with said hub, a bar, and connections between the same and said yoke, whereby as the vane swings, the brake may be applied, as set forth.

12. A windmill apparatus comprising a head, a shell projecting therefrom, a pipe passing through said shell and head, a piston-actuated rod having a vertical play through said pipe, a cross-head in which the upper end of said rod is adjustably held, a plurality of gear-wheels mounted in suitable bearings upon said head, each of said wheels having a portion of its circumference on the arc of a circle and provided with gear-teeth, the balance of the circumference being on the arc of an ellipse and provided with gear-teeth which are in a plane parallel to the plane on which the teeth upon the circular-outlined portion of the circumference is disposed, a hub to which the wind-wheel is adapted to be attached, concentrically-mounted pinion-wheels upon the hub, and eccentrically-mounted gears adapted to mesh respectively, with the teeth upon the circular-outlined portion of said wheel and those upon the elliptical part of the wheel, pitmen pivotally connected at their upper ends to said cross-head, pitmen carried by the lower ends and adapted to have bearings each in one of said wheels which are provided with the circular and elliptical outlined circumferences, a bar having angled ends which are apertured and adapted to fit over the two pitmen and hold the same in place, a swinging vane-carrying yoke, and means for throwing the wheel edgewise into the wind and applying a brake, as set forth.

13. A windmill apparatus comprising a head, a shell projecting therefrom, a pipe passing through said shell and head, a piston-actuating rod having a vertical play through said pipe, a cross-head in which the upper end of said rod is adjustably held, a plurality of gear-wheels mounted in suitable bearings upon said head, each of said wheels having a portion of its circumference on the arc of a circle and provided with gear-teeth, the balance of the circumference being on the arc of an ellipse and provided with gear-teeth which are in a plane parallel to the plane on which the teeth upon the circular-outlined portion of the circumference is disposed, a hub, to which the wind-wheel is adapted to be attached, concentrically-mounted pinion-wheels upon the hub, and eccentrically-mounted gears adapted to mesh respectively, with the teeth upon the circular-outlined portion of said wheel and those upon the elliptical part of the wheel, pitmen pivotally connected at their upper ends to said cross-head, pitmen carried by the lower ends and adapted to have bearings each in one of said wheels which are provided with the circular and elliptical outlined circumferences, a bar having angled ends which are apertured and adapted to fit over the two pitmen and hold the same in place, a yoke secured to the ends of the cross-head, and a brace secured to the head and having pivotal connection with said yoke-carrying bar, as set forth.

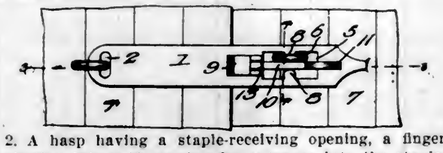
14. A windmill apparatus comprising a head, a pipe movably mounted within the head, a piston-actuating rod having a play therein, plates adjustably held upon said head, a stub-shaft projecting from each of said plates, a gear-wheel journaled upon each of said stub-shafts, a cross-head connected to said rod, pitmen connections between said head and gear-wheel, a rotatable hub adapted to carry a wind-wheel, gear-wheels upon the hub adapted to mesh with the gear-wheels which are mounted upon said stub-shafts, a vane-carrying yoke, a drum mounted in suitable bearings upon the head, a chain fastened at one end to said pipe and its other end fixed to the drum upon which it winds, a second chain fastened at one end to the circumference of the drum and adapted to wind in the opposite direction from the other chain and connected to said yoke, as set forth.

15. A windmill apparatus comprising a head, a pipe movably mounted therein, a piston-actuating rod passing through said pipe, adjustably-mounted plates upon said head, a stub-shaft projecting from each of said plates, a gear-wheel journaled upon each of said shafts, a hub adapted to carry a wind-wheel, gear-wheels rotating with said hub and in mesh with said gear-wheels upon the stub-shafts, a cross-head fixed to the upper end of said rod, a pitman having bearings upon said cross-head, wrist-pins carried by the lower ends of said pitman and having bearings in said wheels upon the stub-shaft, a swinging vane-carrying yoke mounted upon the head, brake mechanism, and means for throwing the wind-wheel edgewise into the wind as the yoke is swung upon its pivot, and applying said brake mechanism, as set forth.

16. A windmill apparatus comprising a head having a projection with elongated slots therein, a pipe movably mounted therein, a piston-actuating rod passing through said pipe, apertured plates having each a stub-shaft projecting therefrom, bolts passing through registering apertures in said plates and through elongated slots in the projection of said head, a lug projecting from one of the edges of each of said plates, a bolt having a head seated in a slot in the projecting part of said head and a nut adapted to bear against the ends of said lugs upon the plates, gear-wheels journaled one upon each of said stub-shafts, a hub adapted to carry a wind-wheel, gear-wheels rotating with the hub and in mesh with the gear-wheels upon the stub-shafts, swinging vane-carrying yoke mounted upon the head, and means for swinging said yoke, whereby the wind-wheel may be thrown edgewise with the wind, as set forth.

842,104. HASP. JACK C. MORGAN, Frankfort, Ky. Filed Nov. 10, 1906. Serial No. 342,852.

Claim.—1. A hasp having a staple-receiving opening, a finger projecting into said opening for entrance into the staple, a latching member pivoted on the hasp and adapted to seat at the end of the finger for preventing escape of the latter from the staple, and a spring for maintaining the latch member in latching position.

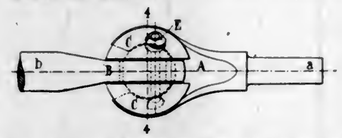


2. A hasp having a staple-receiving opening, a finger projecting into said opening for entrance into the staple, and a movable latch member carried by the hasp and adapted to seat at the end of the finger for preventing escape of the latter from the staple.

3. A hasp having a staple-receiving opening, a finger projecting into said opening for entrance into the staple, a latch member movably mounted on the hasp and adapted for seat at the end of the finger for preventing escape of the latter from the staple, and a spring for maintaining the latch member in latching position.

4. A hasp having a staple-receiving opening, a pair of fingers projecting into said opening and having their inner ends spaced relatively, a latch member movably mounted on the hasp and adapted to seat between the ends of the fingers, and a spring for maintaining the latch member in latching position.

842,105. UNIVERSAL JOINT. EMILE L. P. MORS, Paris, France, assignor to The Société Anonyme d'Electricité et d'Automobiles Mors, Paris, France. Filed Aug. 21, 1906. Serial No. 331,472.



Claim.—1. A joint device of the Hooke or universal type, formed of two forks with circular arms attached to the two shafts to be connected, of two spherical caps provided along a great circle with a groove by which they are engaged upon one of the forks and of a kernel inserted between the arms of the other fork engaged between the flat faces of the two spherical caps before-mentioned, in combination with means to retain the parts in operative position.

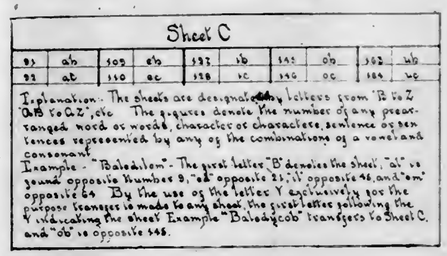
2. A universal joint comprising a forked member secured to the one shaft, a second forked member secured to the second shaft, said second fork being in a plane at right angles to that of the first, a washer arranged between the forks of one forked member, a cap arranged about each fork end of the other member, said caps bearing upon opposite faces of said washer, and means for maintaining the parts in position.

3. A universal joint comprising a forked member, a second forked member which is at right angles to the plane of the first, a washer located between the forks of one of the said members, a cap arranged about each fork end of the other forked member, said caps bearing upon opposite faces of said washer, and a security-bolt passing through said caps and central washer.

842,106. CODE OR CIPHER SYSTEM. CHARLES W. MCDONALD, San Francisco, Cal. Filed Oct. 16, 1905. Serial No. 282,956.

Claim.—1. A code or cipher system comprising a series of sheets or pages having distinguishing characters, each sheet or page having couplets of characters, adapted to be assembled to form pronounceable words, each couplet being distinguished by one or more numerals, each numeral distinguishing one or more words, numbers or sentences and a transfer character denoting transfer from one sheet or page to another.

2. A code or cipher system comprising a series of sheets, each having a distinguishing character, each sheet containing a series of couplets of letters of the alphabet, each couplet containing a vowel and a consonant, and being distinguished by a number, the couplet-distinguishing numbers being consecutive throughout all the pages, and each representing one or more words, numerals or sentences and a transfer character denoting transfer from one page or sheet to another.



3. A code or cipher system comprising a series of sheets or pages having distinguishing characters, each sheet or page containing a series of vowels and consonants of the alphabet arranged in couplets containing a vowel and a consonant, each couplet having a distinguishing number, the couplet-distinguishing numbers representing one or more words, numerals or sentences, and a transfer character denoting transfer from one sheet or page to another.

842,107. REMOVABLE-BLADE SCREW-DRIVER. SELDEN G. NORTH, Philadelphia, Pa., assignor to North Brothers Manufacturing Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Jan. 8, 1906. Serial No. 295,109.



Claim.—1. The combination in a tool, of a shank grooved at each side leaving a central web, a flat blade forked at the inner end, the forked portions of the blade being out of line with the grooves in the shank so that the blade when forced into the shank will be held to the shank by friction, substantially as described.

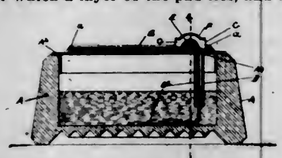
2. The combination in a tool, of a shank grooved at each side leaving a central web, a detachable blade forked at the inner end, the forked portions being bent one out of line with the other so that the blade will be held to the shank by friction, substantially as described.

3. The combination in a tool, of a shank having a transverse slot at the end and grooved at each side leaving a central web uniting the two portions of the shank, a blade having forks at one end, said forked portions adapted to the grooves in the sides of the shank, the body portion of the blade being adapted to the transverse slot in the end of the shank, the two forks being bent one out of line with the other, substantially as described.

842,108. MOISTENER-PAD. HERBERT N. NORTHROP, Somerville, Mass. Filed Feb. 5, 1906. Serial No. 299,627.

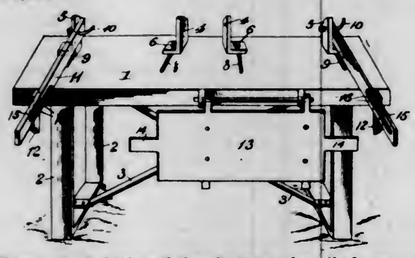
Claim.—A moistener-pad composed of a water-reservoir, a water absorbent and retaining pad on the top of said

water-reservoir in superimposed layers, one of which has a strip continuous therewith and which enters into said reservoir, in combination with a raised portion of the pad-bed, on and over which a layer of the pad lies, and a spring and



yielding presser-foot above said pad fixed at one side or portion and open at all of its other sides or portions, substantially as described.

842,109. BLOCK-MOLDING MACHINE. PAUL OLSON, Stoughton, Wis. Filed Sept. 24, 1906. Serial No. 335,939.



Claim.—1. A device of the character described, comprising a table or support provided with a hinged or pivoted member at one edge and adapted to be movable in a vertical plane, uprights adjustable along said table with relation to the rear mold members, and lateral lever-arms adapted to pivot upon certain of said uprights and movable vertically and laterally relatively to the lateral mold members for engagement therewith, said lever-arms having pendent lugs effective for the retention of said hinged member in operative position.

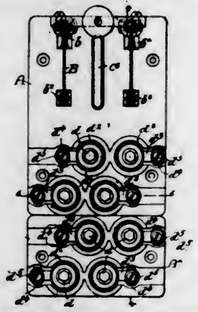
2. A device of the character described, comprising a table or support provided with a hinged at one edge or pivoted board member, uprights applied to said table or support, one being adapted to hold in position the rear mold member and two of which are equipped with pivot-forming bolts, and lateral lever-arms, adapted to engage the lateral mold members and each having one end adapted to be connected to said pivot-forming bolts, and having its other end provided with a pendent lug effective for the retention of said hinged or pivoted board member in operative position.

3. A device of the character described, comprising a table or support provided at its relatively rear portion with adjustable uprights, two of which are equipped with hooked pivot-bolts, a hinged or pivoted board member at one edge of said table having end extensions or studs, and lateral lever-arms effective for connection with said pivot-bolts and adapted to engage the lateral mold members and provided with pendent lugs adapted to engage said studs.

4. A device of the character described, comprising a table or support, means adjustable thereon with relation to, and for aiding the retention in place of a mold member, a hinged board member applied to one edge of said support or table and lateral lever-arms supported in place from said adjustable means and adapted to engage the lateral mold members and having adjustable pendent lugs effective for engagement with end studs of said hinged board member.

5. A device of the character described, comprising a table or support, means for aiding the holding of the mold members in position at the rear, upon said table, a hinged board member at the forward edge of said table, a pivoted or articulated end section or member applied to said hinged board member, and lever members or arms having a pivotal or swinging movement upon said mold-holding means upon the rear of said table, and equipped with means effective for the retention of said forward-edge-hinged board in place, together with said articulated end section or member.

842,110. MULTIPLE-CIRCUIT PANEL. HENRY T. PAISTE, Philadelphia, Pa. Filed Apr. 12, 1906. Serial No. 311,287.



Claim.—1. A multiple-circuit panel consisting of a plurality of sections of insulating material, a plurality of metallic connections all on one face of said panel, and a plurality of fuse-plug sockets on the other face thereof, each socket having one terminal engaging one of said metallic connections and the other terminal formed for the attachment of a conductor, said metallic connections serving to hold together the sections of the panel, substantially as described.

2. A multiple-circuit panel consisting of a plurality of sections of insulating material, a plurality of metallic connections and a plurality of fuse-plug sockets, each socket having one terminal engaging one of said metallic connections and a second terminal for the attachment of a conductor, and said sockets being staggered relatively to each other, substantially as described.

3. A multiple-circuit panel consisting of a plurality of sections of insulating material, a plurality of metallic connections on one face of said panel and a plurality of fuse-plug sockets on the other face thereof, each socket having one terminal engaging one of said metallic connections and a second terminal for the attachment of a conductor, said metallic connections serving to hold together the sections of the panel, and said sockets being staggered relatively to each other, substantially as described.

4. A multiple-circuit panel consisting of a plurality of sections of insulating material, a plurality of metallic connections on one face of said panel and a plurality of fuse-plug sockets on the other face thereof, each socket having one terminal engaging one of said metallic connections and a second terminal for the attachment of a conductor, said metallic connections serving to hold together the sections of the panel, and said sockets being staggered relatively to each other, with a switch carried by one of said sections and connected in circuit with the socket-terminals, substantially as described.

5. A multiple-circuit panel consisting of a plurality of sections of insulating material, a plurality of fuse-plug sockets on one face of the panel, each having a terminal for the attachment of a conductor, there being channels in the opposite face of the panel and metallic connections therein, said metallic connections being engaged by the second terminals of the fuse-plug sockets and serving to hold together the sections of the panel, the terminals for the attachment of conductors being arranged to cause said conductors to extend from the panel in lines at right angles to the general lines of the metallic connections thereof, substantially as described.

6. A multiple-circuit panel consisting of a plurality of sections of insulating material, a series of fuse-plug sockets on one face of said panel, a plurality of series of metallic strips extending on the opposite face of the panel, means for connecting each series to one branch of a feeder-

circuit, means for connecting one terminal of each fuse-plug socket to a conductor and the remaining terminal to one of said connections, said sockets being arranged in pairs attached to metallic connections of opposite polarity, the sockets being staggered relatively to each other, substantially as described.

7. A multiple-circuit panel consisting of a plurality of sections of insulating material, a plurality of substantially straight channels extending longitudinally of the panel, a series of lateral branches extending from each channel toward the other, a series of metallic strips in each channel, fuse-plug sockets on the face of the panel opposite that having said channels, one terminal of each socket being connected through the insulating material of the panel to one of the metallic strips, the connections being arranged so that successive plugs along the sides of the panel are of opposite polarity, substantially as described.

8. A multiple-circuit panel consisting of a plurality of sections of insulating material, metallic conductors extending on one face of the panel, means for connecting said conductors to electroreceptive devices, and other means for connecting the various conductors to a source of current-supply, certain of the conductors being slotted at their points of connection to permit of the expansion or contraction of the parts of the panel, substantially as described.

9. A multiple-circuit panel consisting of a plurality of sections of insulting material, a series of fuse-plug sockets on one face of said panel, each having a terminal extending through the panel, a plurality of series of metallic strips extending on the opposite face of the panel having main and laterally-extending portions and serving to mechanically connect the sections of the panel, said strips being engaged and held together by the said terminals of the fuse-plug sockets, and each of said sockets having a second terminal for the attachment of branch-circuit conductors, substantially as described.

10. A multiple-circuit panel consisting of a plurality of sections of insulating material, a plurality of fuse-plug sockets on said sections each having one terminal for the attachment of a branch-circuit conductor extending substantially at right angles to the general line of the panel, said sockets being arranged in pairs along the sides of the panel, a switch on one of the sections, a plurality of series of metallic conductors extending in the general line of the panel and all on the side thereof opposite that having the sockets, certain of the second terminals of the fuse-plug sockets being connected to one of said series of conductors and the remainder to the other series, substantially as described.

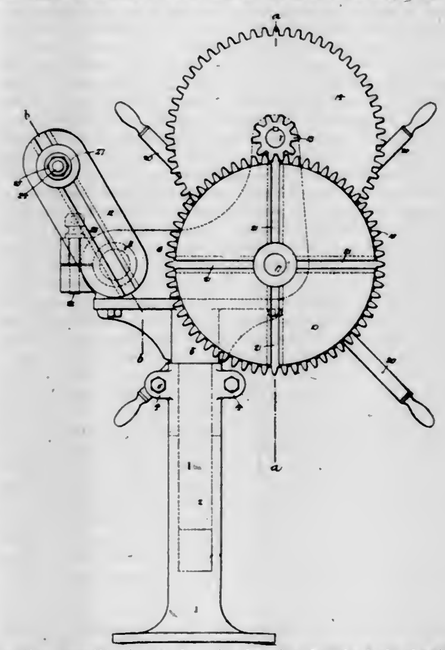
11. As a new article of manufacture, a section for a multiple-circuit panel consisting of a block of insulating material having on one face a fuse-plug socket or sockets and provided with an open-ended recess or recesses formed in its other face, said recess or recesses being provided with transverse slots adjacent to said open end or ends and containing conductors, with a piece in each set of said slots for closing the open end of each recess, substantially as described.

842,111. PIPE-BENDING MACHINE. HOWARD A. PEDRICK and CHARLES A. SMITH, Philadelphia, Pa., assignors to said Smith. Filed Mar. 1, 1906. Serial No. 303,650.

Claim.—1. In a pipe-bending machine, the combination of a hollow post split at its upper end to form a clamp, a head having a stem rotatably mounted in the post, a face-plate and its operating gearing carried by the head, and means for causing the split portion of the post to clamp the stem, substantially as specified.

2. The combination, in a pipe-bending machine, of a face-plate having peripheral teeth thereon and a hub having a spindle projecting rearwardly therefrom, a pinion rotatably mounted on said spindle and having a capstan thereon, a shaft having a spur-wheel engaging said pinion and a pinion meshing with the spur-teeth of the face-plate, and bearings for said shaft and for the hub of the face-plate, substantially as specified.

3. The combination, in a pipe-bending machine, of a rotatable face-plate, a swinging arm having a bearing for the pipe which is to be bent, and a frame having a split



portion constituting a clamping-bearing for the hub of said arm, substantially as specified.

842,112. DENTAL PLUGGER. SAFFORD G. PERRY, New York, N. Y. Filed Jan. 7, 1901. Serial No. 42,358.



Claim.—1. In an angle dental plugger, the combination with a handpiece, of a spindle mounted to rotate therein, a dustproof chamber within which a portion of said spindle is exposed, a rotary hammer upon the spindle within said chamber, a laterally-extending socket leading out from said chamber, a plugging-tool having cylindric portions seated to slide in said socket and an annular intervening portion of reduced diameter, and a spring-pressed controller coöperating with said plugging-tool to limit its extent of reciprocation under the action of the cam.

2. In an angle dental plugger, the combination with a handpiece, of a spindle journaled to rotate therein, a rotary hammer upon said spindle located at a point intermediate of the length of said spindle, and provided at its

periphery with a hammer projection, a plugging-tool mounted in a socket arranged to extend at an abrupt angle to the axis of the spindle and radially opposite said hammer, whereby its inner end is adapted to be brought into bearing engagement with the latter by pressure upon the acting end of the tool, a spring-pressed controller extending through said tool-socket and operatively engaging said tool, and a detachable end cap for the handpiece provided with a central bearing-recess receiving and supporting the end of the spindle, substantially as described.

3. In an angle dental plugger, the combination of a handpiece, a spindle extending longitudinally through the handpiece, a chamber formed within the handpiece at the tool end thereof, an end cap forming a closure for one side of said chamber, a rotary hammer mounted upon said spindle within said chamber, a socket communicating with said chamber and extending in radial relation to the hammer, said socket being of uniform internal diameter throughout its length, a plugging-tool provided with a cylindric body portion around the inner end seated within said socket and engaging said hammer and having an annular groove formed in the body of said plugging-tool intermediate its length, a spring-pressed stop extending through the side of the socket and engaging the groove of the plugging-tool, the engaging end of said stop being of less diameter than the width of the groove, and a thumb-piece operatively connected with said stop for retracting the latter.

4. In combination, the handpiece 2, the spindle 4 mounted to rotate therein, the closed chamber 5 formed in the handpiece and provided with the end closing-cap 8 threaded therein concentrically with the spindle, the bearing 9 in which the end of the spindle is engaged, the rotary hammer 10 upon said spindle within the chamber 5, the radially-disposed socket extension communicating with said chamber and of uniform internal diameter throughout its length, the spring-pressed stop protruding into said socket, and the plugging-tool operatively seated within said socket, substantially as described.

5. In an angle dental plugger, the combination of an outer casing forming a handpiece, a spindle journaled to rotate therein, a radially-disposed tool-socket extension upon said outer casing, a hammer member upon the spindle radially opposite said tool-socket extension, a plugging-tool within said extension, and a tool-limiting device comprising a band-spring constructed to partially encircle and closely embrace a portion of the exterior of said handpiece radially opposite the tool extension, one end of said spring being rigidly secured to the exterior of the handpiece, a stop-stud rigidly connected with the opposite end of said spring, and extending into said socket extension and operatively engaging the tool therein.

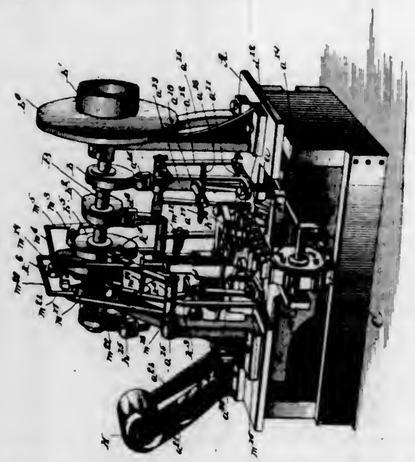
6. In an angle dental plugger, the combination with a handpiece provided with a radially-disposed tool-socket extension, and a spindle journaled to extend longitudinally within said handpiece, of a stop-spring mounted to extend circumferentially around the exterior of the handpiece and deflected outwardly at its free end to extend alongside of said socket extension, and a stop-pin carried by the free end of said spring extending into said socket, substantially as described.

842,113. NUT-LOCK. EDWARD L. PITTS, Phœnix, Ariz., assignor of one-half to George W. Kane, Phœnix, Ariz. Filed Jan. 11, 1906. Serial No. 295,589.



Claim.—The combination, with the shear-blades and a pivot-screw which is freely rotatable in one of them but is locked to, and thus rotates with, the other, the blade thus locked with the screw having a circular ratchet member 4, of a rotatable member comprising a ratchet-disk, 6, and opposite lateral projections 9, which are adapted to serve as thumb-pieces for rotating the said member, the same being provided interiorly with vertical grooves 12, a nut applied to the screw-pivot and having opposite lateral wings, 11, adapted to enter and slide freely in the aforesaid grooves, and a spring interposed between the nut and the rotatable ratchet member, as stated and described.

842,114. WRAPPING-MACHINE. ALFRED H. POTBURY, Portland, Oreg., assignor to Pacific Coast Biscuit Company, Portland, Oreg., a Corporation of Oregon. Filed Sept. 5, 1906. Serial No. 333,351.



Claim.—1. A wrapping-machine comprising a base, rails secured to the base and projecting therebeyond, said rails being spaced apart from each other, shafts journaled in the ends of the rails, wheels secured to the shafts, an endless carrier supported on the wheels, said carrier comprising links for supporting the articles to be wrapped, said links having flanged ends and open sides, wrapping devices, a segmental trackway having one of its ends adjacent to the carrier and its other end adjacent to the wrapping devices, an arm pivoted to the base, the pivot of the arm representing the center of the circle upon which the segmental trackway is struck, said arm having a lug moving in the trackway, means for intermittently moving the endless carrier whereby to bring the open sides of the links opposite the end of the trackway, means for swinging said arm upon its pivot, whereby to cause the lug to sweep through the link and the trackway to move the article to the wrapping devices, and a guide-pad adjacent to the wrapping devices for engaging the article to be wrapped and supporting it above the folding-box.

2. A wrapping-machine comprising a base, shafts supported by the base and spaced apart from each other, an endless carrier supported on the shafts and comprising links for supporting the articles to be wrapped, said links having flanged ends and open sides, wrapping devices, a segmental trackway having one end adjacent to the carrier and the other end adjacent to the wrapping devices, an arm pivoted to the base, the pivot of the arm representing the center of the circle upon which the track is formed, means for moving the endless carrier to bring the links in succession opposite the end of the trackway, and means for swinging the arm to move the articles from the links and along the trackway to the wrapping devices.

3. A wrapping-machine comprising a base, wrapping devices supported by the base, an endless carrier comprising a plurality of links having flanged ends and open sides, a segmental trackway supported on the base and having one end adjacent to the carrier and the other end adjacent to the wrapping devices, an arm pivoted to the base, the pivot of the arm representing the center of the circle upon which the track is formed, means for intermittently moving the endless carrier to place the links in succession opposite the end of the trackway, and means for swinging the arm whereby to move the articles from the links and along the trackway to the wrapping devices.

4. A wrapping-machine comprising a base, wrapping devices supported on the base, an endless carrier comprising a plurality of links for receiving the articles to be wrapped, a segmental trackway having one end adjacent to the carrier and the other end adjacent to the wrapping devices, an arm pivoted to the base, the pivot of the arm representing the center of the circle upon which the track is formed, means for intermittently moving the carrier to bring the links in succession opposite the end of the trackway, and means for swinging the arm whereby to move the articles from the links and along the trackway to the wrapping devices.

5. A wrapping-machine comprising a base, wrapping devices supported on the base, an endless carrier comprising a plurality of links for supporting the articles to be wrapped, a segmental trackway having one end adjacent to the carrier and the other end adjacent to the wrapping devices, means for intermittently moving the endless carrier to bring the links in succession opposite the end of the trackway, and means for moving the articles from the links and along the trackway to the wrapping devices.

6. In a wrapping-machine, wrapping devices, an endless carrier comprising a plurality of links for supporting the articles to be wrapped, a segmental trackway having one end adjacent to the carrier and the other end adjacent to the wrapping devices, an arm pivoted to the base, the pivot of the arm representing the center of the circle upon which the track is formed, means for intermittently moving the endless carrier to bring the links in succession opposite the end of the trackway, and means for swinging the arm whereby to move the articles from the links along the trackway to the wrapping devices.

7. A wrapping-machine comprising a base, an endless carrier comprising links for supporting the articles to be wrapped, said links having flanged ends and open sides, wrapping devices, a trackway having one of its ends adjacent to the endless carrier and the other adjacent to the wrapping devices, and means for moving the articles from the links along the trackway to the wrapping devices.

8. In a wrapping-machine, wrapping devices, an endless carrier comprising a plurality of links for supporting the articles to be wrapped, a trackway leading from the carrier to the wrapping devices, means for intermittently moving the carrier whereby to bring the links in succession opposite the end of the trackway, and means for moving the articles from the links along the trackway to the wrapping devices.

9. A wrapping-machine comprising a base having an opening therethrough, a folding-box having open ends above the opening, a casing supported above the folding-box, means for placing a strip of paper over the folding-box, means for placing an article to be wrapped on the paper, a plunger movable in the casing, means for moving the plunger to force the article into the folding-box whereby to fold the paper up against the sides of said article, means for folding the sides of the paper down upon the article, end-folders movable along the sides of the plunger, means for operating said end-folders, corner-folders, means for operating said corner-folders, and a chute through which the article is forced by the succeeding movement of the plunger, whereby to complete the folding operation.

10. A wrapping-machine comprising a base having an opening therethrough, a folding-box having open ends above the opening, means for placing a strip of paper over the folding-box, means for placing an article on the paper, a plunger, means for moving the plunger to force the article into the folding-box, means for folding the paper over the article, end-folders movable alongside the plunger for folding the ends of the paper, corner-folders, and means for operating the same, and a chute through which the article is forced by the succeeding movement of the plunger, whereby to complete the folding operation.

11. In a wrapping-machine, a folding-box, means for placing a strip of paper over the folding-box, means for placing an article on the paper, a plunger, means for moving the plunger whereby to force the article and the paper into the folding-box, a side-folder for folding one of the upstanding sides of the wrapper down upon the article, a second side-folder for folding the second side down upon the article, end-folders, corner-folders, means for operating said folders, a connection between the end-folders and the second side-folder for operating said end-folders at the completion of the forward movement of said side-folders, and a chute leading from the folding-box through which the article is forced by the succeeding movement of the plunger.

12. In a wrapping-machine, a folding-box, means for placing a strip of paper over the folding-box, means for placing an article to be wrapped on the paper, a plunger, means for moving the plunger whereby to force the article to be wrapped and the wrapper into the folding-box, a side-folder for folding one of the upstanding sides of the wrapper down upon the article, a second side-folder for folding the other upstanding side, end-folders, means for operating the side-folders in sequence, means for operating the end-folders before the return movement of the second side-folder, corner-folders, and a chute leading from the folding-box through which the article is forced by the succeeding movement of the plunger.

13. In a wrapping-machine, wrapping devices comprising side-folders, and end-folders, means for moving one of said side-folders over the article to be wrapped, means for moving the second side-folder over the article to be wrapped, and a connection between the end-folders and the second side-folders whereby to operate said end-folders at the completion of the forward movement of the second side-folder.

14. In a wrapping-machine and in combination, wrapping devices, an endless carrier for supplying articles to the wrapping devices, means for feeding a strip of paper to the wrapping devices, comprising feed-rolls engaging the strip, a ratchet-wheel connected with one of the rolls, a pawl for moving the ratchet-wheel, a normally active stop-arm for restraining the movement of the pawl, a feeler connected with the stop-arm, and adapted to be engaged by the articles on the carrier whereby to restrain the operation of the stop-arm.

15. In a wrapping-machine and in combination, a folding box having wrapping devices in connection therewith, an endless carrier comprising a plurality of links, a segmental track having one end adjacent to the carrier, and the other end adjacent to the folding-box, an arm pivoted to the machine, the pivot of the arm representing the center of the circle upon which the track is formed, means for moving the endless carrier to place the links in succession opposite the end of the track, means for swinging the arm to move the articles from the links and along the track to the folding-box, and a yielding guide-pad for engaging the article to be wrapped, said pad normally resting partially over the folding-box and adapted to be moved from thereover by the article.

16. In a wrapping-machine and in combination, a folding-box having wrapping devices in connection therewith, an endless carrier comprising a plurality of links, a segmental track having one end adjacent to the carrier, and the other end adjacent to the folding-box, an arm pivoted to the machine, the pivot of the arm representing the center of the circle upon which the track is formed, means for moving the endless carrier to place the links in succession opposite the end of the track, means for swinging the arm to move the articles from the links and along the track to the folding-box, a yielding guide-pad for engaging the article to be wrapped, said pad normally resting partially over the folding-box and adapted to be moved from thereover by the article, and means in connection with the carrier and the pad for moving said pad from over the folding-box in the absence of an article on the carrier.

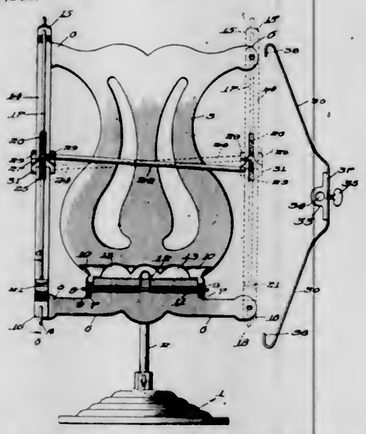
17. In a wrapping-machine, and in combination, wrapping devices, means for feeding a strip of paper to the wrapping devices, comprising feed-rolls engaging the strip, means for intermittently actuating the rolls, means for restraining said actuating means, an endless carrier for supplying articles to be wrapped to the wrapping devices,

and means controlled by the presence of an article on the carrier for preventing the operation of the said restraining means.

18. In a wrapping-machine and in combination, wrapping devices, means for intermittently feeding a strip of paper to the wrapping devices, normally operative means for restraining the feeding means, an endless carrier for supplying articles to be wrapped to the wrapping devices, and means controlled by the presence of an article on the carrier for preventing the operation of said restraining means.

19. A wrapping-machine having an intermittently-operating paper-feed device, restraining means for the paper-feed, a carrier for supplying articles to be wrapped, and means controlled by the presence of an article upon the carrier for preventing the operation of the said restraining means.

842,115. STENOGRAPHER'S COPY-HOLDER. ARTHUR B. REID, Chicago, Ill. Filed Jan. 22, 1904. Serial No. 190,160.



Claim.—1. In a copy-holder, the combination with a suitable supporting plate or frame, of a longitudinally-movable line-indicator, a clamp on the face of said plate and additional supporting means carried by said clamp whereby the copy may be supported without the use of the clamp.

2. In a copy-holder, the combination with a suitable supporting plate or frame, of a line-indicator and means operative to permit said line-indicator to move a predetermined distance longitudinally of said plate, said line-indicator and means being removably mounted upon said frame, and adapted to be secured upon either side thereof.

3. In a copy-holder, the combination with a suitable supporting plate or frame having laterally-projecting arms on both sides thereof, of a line-indicator adapted to be mounted upon said arms on either side of the plate.

4. In a line-indicator for copy-holders, the combination with a suitable support, of a reciprocating rod, a line-indicator frictionally engaging said rod, a clutch adapted to slide upon said support and engage the same to prevent the upward movement of said line-indicator when the rod is raised while permitting the downward movement of said line-indicator when the rod descends and a lever for reciprocating said rod.

5. In a line-indicator for copy-holders, the combination with a suitable support, of a reciprocating rod, means for supporting said rod at its lower end, a line-indicator supported by said rod, and means to cause said line-indicator to move with said rod in one direction and for preventing movement of the line-indicator with the rod in the opposite direction.

6. In a line-indicator for copy-holders, the combination with a suitable support, of a reciprocating rod, means for adjustably supporting said rod at its lower end, a line-indicator supported by said rod, and means to cause said line-indicator to move with said rod in one direction and for preventing the movement of the line-indicator with the rod in the opposite direction.

7. In a line-indicator for copy-holders, the combination with a suitable support, of a reciprocating rod having its lower end turned up, means carried by said upturned portion for supporting said rod, a line-indicator supported by said rod, and means for causing the line-indicator to move with said rod in one direction and for preventing the movement of the line-indicator with the rod in the opposite direction.

8. In a line-indicator for copy-holders, the combination with a suitable support, of a reciprocating rod having its lower end turned up, adjustable means carried by said upturned portion for supporting said rod, a line-indicator supported by said rod, and means for causing the line-indicator to move with said rod in one direction, and for preventing movement of the line-indicator with the rod in the opposite direction.

9. In a line-indicator for copy-holders, the combination with a suitable support, of a reciprocating rod having its lower end turned up, said upturned portion having means for supporting the rod, a line-indicator frictionally engaging said rod, a clutch adapted to slide upon said support and engage the same to prevent the upward movement of said line-indicator when the rod is raised while permitting the downward movement of said line-indicator when the rod descends.

10. In a line-indicator for copy-holders, the combination with a suitable support, of a reciprocating rod having its lower portion turned up, adjustable means mounted upon said upturned portion for supporting the rod, a line-indicator frictionally engaging said rod, a clutch adapted to slide upon said support and engage the same to prevent the upward movement of said line-indicator when the rod is raised while permitting the downward movement of said line-indicator when the rod descends.

11. In a line-indicator for copy-holders, the combination with a suitable support, of a reciprocating rod having its lower end turned up, a nut mounted upon said upturned portion for supporting the rod, and means to prevent said nut from turning, a line-indicator frictionally engaging said rod, a clutch adapted to slide upon said support and engage the same to prevent the upward movement of said line-indicator when the rod is raised while permitting the downward movement of said line-indicator when the rod descends.

12. In a line-indicator for copy-holders, the combination with a suitable support, of a reciprocating rod, means for supporting said rod at its lower end, a lever fulcrumed upon said support and having its inner end engaging said support, means to reciprocate said rod, a line-indicator supported by said rod, and means for causing the line-indicator to move with said rod in one direction and for preventing movement of the line-indicator with the rod in the opposite direction.

13. In a line-indicator for copy-holders, the combination with a suitable support, of a reciprocating rod, adjustable means for supporting said rod at its lower end, a lever fulcrumed upon said support and having its inner end engaging said support, means to reciprocate the rod, a line-indicator supported by said rod, and means for causing the line-indicator to move with said rod in one direction, and for preventing movement of the line-indicator with the rod in the opposite direction.

14. In a line-indicator for copy-holders, the combination with a suitable support, of a reciprocating rod having its lower end turned up, means carried by said upturned portion for supporting the rod, a lever fulcrumed upon said support and having its inner end engaging said supporting means, a line-indicator supported by said rod, and means to cause said line-indicator to move with said rod in one direction and for preventing movement of the line-indicator with the rod in the opposite direction.

15. In a line-indicator for copy-holders, the combination with a suitable support, of a reciprocating rod having its lower end turned up, means upon said upturned portion for supporting the rod, a lever fulcrumed on said support and having its inner end engaging said supporting means to reciprocate the rod, a line-indicator frictionally engaging said rod, a clutch adapted to slide upon said support and engage the same to prevent the upward movement of said line-indicator when the rod is raised while permitting the downward movement of said line-indicator when the rod descends.

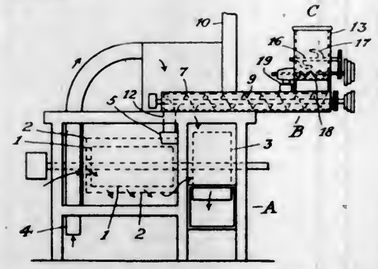
16. In a line-indicator for copy-holders, the combination with a suitable support, of a reciprocating rod, having its lower end upturned, a nut carried by said upturned portion for supporting the rod, a lever for reciprocating said rod and having a squared slot in which said nut is adapted to rest to prevent the same from turning, a line-indicator frictionally engaging said rod, a clutch adapted to slide upon said support and engage the same and prevent an upward movement of said line-indicator, when the rod is raised, while permitting a downward movement of said line-indicator when the rod descends.

17. In a line-indicator, the combination with a suitable support, of a reciprocating rod having its lower end upturned, means for reciprocating said rod, a line-indicator operated by said rod, and means carried by the upturned portion of said rod for adjusting the movement of the same whereby the distance between the successive steps of the line-indicator may be adjusted.

18. In a line-indicator, the combination with a suitable support, of a reciprocating rod having its lower end upturned, means for reciprocating said rod, a line-indicator frictionally engaging said rod, a clutch adapted to slide upon said support and engage the same to prevent upward movement of said line-indicator when the rod is raised, while permitting a downward movement of said line-indicator when the rod descends, and means carried by said upturned portion of the rod for adjusting the movement of the same, whereby the distance between the successive steps of the line-indicator may be adjusted.

19. In a line-indicator, the combination with a suitable support, of a reciprocating rod having its lower end upturned, means for reciprocating said rod, a line-indicator frictionally engaging said rod, a clutch adapted to slide upon said support and engage the same to prevent upward movement of said line-indicator when the rod is raised, while permitting a downward movement of said line-indicator when the rod descends, and a nut carried by said upturned portion of the rod for supporting the rod and adjusting the movement thereof, whereby the distance between the successive steps of the line-indicator may be adjusted.

842,116. PROCESS OF CLEANING GRAIN. WILLIAM R. REID, Sleepy Eye, Minn. Filed Dec. 30, 1905. Serial No. 294,032.



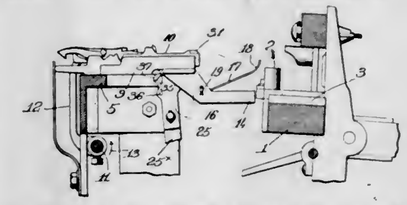
Claim.—1. The method of removing from grain smut and other impurities, which consists essentially in commingling with a mass of grain while continuously advancing and under mutual attrition, a dry finely-powdered material, adapted to coat the berries, and subjecting such advancing mass to the action of a scourer, and of an air-current adapted to carry away the detached fine particles.

2. The method of removing from grain smut and other impurities, which consists essentially in commingling with a mass of grain while continuously advancing and under mutual attrition, dry finely-powdered slaked lime, and subjecting such advancing mass to the action of a scourer, and of an air-current adapted to carry away the detached fine particles.

3. The step in the process of removing from grain smut and other impurities, which consists in commingling with a mass of grain while continuously advancing and under mutual attrition, a dry finely-powdered material adapted to coat the berries.

4. The steps in the process of removing from grain smut and other impurities, which consists in commingling with a mass of grain while advancing and under mutual attrition, a dry finely-powdered material, and advancing and agitating the commingled mass of grain and powder until the berries are coated with the powder.

842,117. FILLING-DETECTING MECHANISM FOR LOOMS. CHARLES F. ROPER, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed June 18, 1906. Serial No. 322,133.



Claim.—1. In filling-detecting means for looms, a stationary member to intermittingly project beneath the path of and temporarily support intact filling, a detector to detect presence or absence of the filling at such time, and means governed by the detector to effect a change in the operation of the loom upon detection of filling absence.

2. In a loom, a lay having a transverse recess in the shuttle-raceway, a stationary grid to enter the recess below and temporarily support intact filling, a detector to detect presence or absence of filling when the grid is so positioned, and means governed by the detector to effect a change in the operation of the loom upon detection of filling absence.

3. In a loom, a lay, a shuttle to lay the filling across it, a stationary member to intermittingly pass under and temporarily support intact filling on the beat-up of the lay, a detector having a stationary fulcrum, to detect presence or absence of filling when said member is in operative position, and means actuated upon detection of filling absence by the detector to effect a change in the operation of the loom.

4. In a loom, a lay having a transverse recess in the shuttle-raceway, a stationary grid to enter the recess below and temporarily support intact filling, a detector fulcrumed on the grid and adapted to detect presence or absence of the filling when the grid is operatively positioned, and means to effect a change in the operation of the loom upon detection of filling absence.

5. In a loom, a lay, stationary means to intermittingly pass under and support intact filling at a plurality of adjacent points as the lay beats up, a detector fulcrumed on said means and adapted to detect presence or absence of filling when said means is operatively positioned, and means to effect a change in the operation of the loom upon detection of filling absence.

6. In a loom, a lay having a transverse recess in the shuttle-raceway, a substantially horizontal grid to enter the recess as the lay beats up and support intact filling when laid across the raceway, a detector fulcrumed on the grid and adapted to detect presence or absence of filling when the grid is operatively positioned, and means to effect a change in the operation of the loom upon detection of filling absence.

7. In a loom, a lay, a detector having a movement to detect presence or absence of filling, a stationary device to sustain intact filling at a plurality of adjacent points dur-

ing detecting action, both the detector and said device being independent of the lay, and means independent of said stationary device to control the movement of said detector.

8. In a loom, a filling-detector, a stationary device to intermittingly extend beneath and sustain intact filling, means to control movement of the detector to detect presence or absence of filling, and a device to relieve the filling from pressure of the detector when the latter has detected presence of filling.

9. In a loom, a lay, a pivotally-mounted filling-detector, a device independent of the lay to intermittingly sustain intact filling, and means to automatically engage and hold the detector up after detection of filling presence, to relieve such filling from pressure by the detector.

10. In a loom, a lay, a fixed grid to intermittingly pass beneath and sustain intact filling, a pivoted filling-fork, a controller to govern movement thereof to detect presence or absence of filling, a device to immediately sustain the fork after detection of filling presence, and means, operated by or through the fork when the filling is absent, to effect a change in the operation of the loom.

11. In a loom, means to change the operation thereof, including a slide, a vibrating actuator provided with a hook to at times engage and move the slide, a filling-fork and a grid, both independent of the lay and the slide, means to control movement of the fork by or through said actuator, and a device to operatively position the hook relatively to the slide when the fork detects filling absence.

12. In a loom, a lay, a grid independent thereof to intermittingly sustain intact filling, a pivotally-mounted filling-fork, a vibrating controller to govern movement of the fork to detect presence or absence of filling, and an operating-cam for the vibrating controller.

13. In a loom, a pivoted filling-fork having a tail, a vibrator having a hook, a slide engaged and moved thereby upon filling failure, a hook-controller, and means to control movement of the fork, both mounted on the vibrator, movement thereof in one direction causing said means to permit detecting movement of the fork, the fork-tail engaging the hook-controller on such movement if filling is absent and acting therethrough to effect coöperation of the hook and slide on return movement of the vibrator.

14. In a loom, a pivoted filling-fork having a tail, a vibrator having a hook, a slide engaged and moved thereby upon filling failure, a hook-controller having an abutment, and means to control movement of the fork, both mounted on the vibrator, movement of the latter in one direction causing said means to permit detecting movement of the fork, the tail thereof engaging the abutment on such movement if filling is absent and acting therethrough to cause the controller to effect engagement of the hook and slide upon return movement of the vibrator, said abutment acting through the tail to prevent undue pressure of the fork upon the filling when presence thereof is detected.

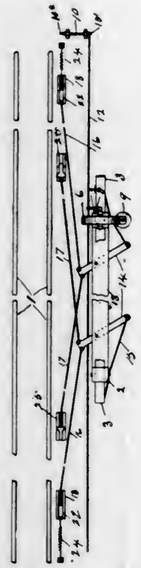
15. In a loom, a pivotally-mounted filling-fork, a vibrator, means thereon to control movement of the fork to detect presence or absence of filling, and a device on said vibrator to prevent undue pressure of the fork upon the filling when presence thereof is detected and to cause the vibrator to effect a change in the operation of the loom when the fork detects absence of filling.

16. In a loom having a lay, in combination, a detector, a grid to sustain the filling during detecting action of the detector, said detector and grid being independent of the lay, a vibrator, and a device thereon to prevent undue pressure of the detector on the filling when presence thereof is detected, and to cause the vibrator to effect a change in the operation of the loom when absence of filling is detected.

17. In a loom, in combination, a stationary grid, a filling-fork pivotally mounted thereon, a vibrator, means thereon to control movement of the fork to detect presence or absence of filling, and a member movable with and also relatively to the vibrator to prevent undue pressure of the fork on the filling when sustained by the grid, and to cause the vibrator to effect a change in the operation of the loom when the fork detects absence of filling.

18. In a loom, in combination, a lay, a grid to pass under the shuttle-path on the lay on alternate picks and sustain intact filling, a filling-fork fulcrumed on the grid, a vibrator, means thereon to control detecting movement of the fork, and a rocking member on said vibrator to coöperate with the fork and prevent undue pressure thereof upon the filling when sustained by the grid, and to be moved by or through the fork when the filling is absent to cause the vibrator to effect a change in the operation of the loom.

842,118. AUTOMATIC RAILWAY-CROSSING GATE. ARVILLO M. SANDERS and STEPHEN VAN DUSEN, Butler, Ind., assignors of one-half to John B. Hawkins and Robert A. Haverstock. Filed Apr. 9, 1906. Serial No. 310,593.

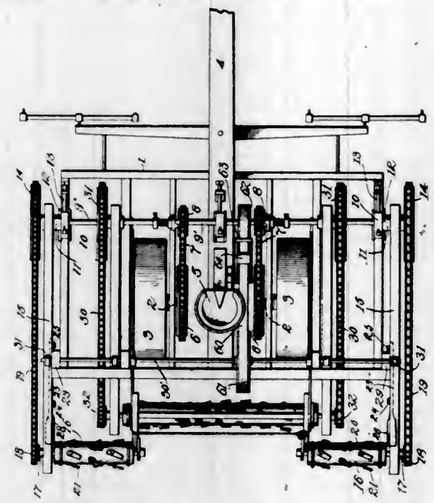


Claim.—1. An automatic railway-crossing gate, consisting of a pair of oppositely-pivoted gate-bars; a pair of horizontal levers fulcrumed near their inner ends; means for operatively connecting the outer ends of the said levers to the outer ends of the respective gate-bars; duplicate trip mechanism; and trigger mechanism on opposite sides of the gate, the duplicate trip mechanism normally holding up the gate-bars through the medium of said levers, but adapted when actuated by an approaching train, to permit the proximate gate to close by gravity, and at the same time to set the remote trigger mechanism, the latter being adapted when actuated in its turn to release said levers, and permit the trip mechanism to open the gate.

2. Mechanism for automatically raising and lowering railway-crossing gates consisting of a pair of horizontal levers pivotally fulcrumed near their inner ends; means for operatively connecting the outer ends of these levers to the outer ends of the said gates; duplicate trip mechanism; and trigger mechanism on opposite sides of the gate, the duplicate trip mechanism normally holding up the gate-bars through the medium of said levers, but adapted when actuated by an approaching train, to permit the proximate gate to close by gravity, and at the same time to set the remote trigger mechanism, the latter being adapted when actuated in its turn to release said levers, and permit the trip mechanism to open the gate.

3. Means for automatically lowering a railway-crossing gate upon the approach of a train, and for elevating it by the receding train, consisting of a pair of horizontal levers pivotally fulcrumed near their inner end, and adapted to be actuated by a passing train one at a time; means for operatively connecting the outer ends of these levers with the respective gates; duplicate trip mechanism located in the path of an approaching train; and trigger mechanism on opposite sides of the gate, the duplicate trip mechanism normally holding up the gate-bars through the medium of said levers, but adapted when actuated by an approaching train, to permit the proximate gate to close by gravity, and at the same time to set the remote trigger mechanism, the latter being adapted when actuated in its turn to release said levers, and permit the trip mechanism to open the gate.

842,119. WEED-CUTTER. HERMON C. SCOTT, Ritzville, Wash., assignor of one-half to W. W. Zent, Ritzville, Wash. Filed May 7, 1904. Serial No. 206,866.



Claim.—1. In a weeding-machine, the combination of vertically-swinging frame members and a plurality of roller-sections carried by the swinging ends of such members, each of said roller-sections carrying offset knife members, and the central roller-section being arranged in advance of the others.

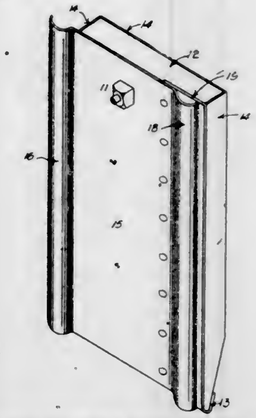
2. In a weeding-machine, the combination of vertically-swinging frame members, a pair of transversely-opposite roller-sections carried by certain frame members at opposite sides of the machine, and a central roller-section carried by other frame members and arranged in advance of the side roller-sections, all of said roller-sections carrying offset cutting-knives.

3. In a weeding-machine, a frame, a driven shaft journaled in the frame, a plurality of frame members pivotally swung on said driven shaft, and a plurality of roller-sections carried by said frame members and geared with said shaft, one of said roller-sections being arranged in advance of the others, and all of the roller-sections carrying cutting-knives.

4. In a weeding-machine, a frame, a driven shaft journaled transversely in the frame, a plurality of vertically-swinging frame members pivotally hung on said shaft, means for raising and lowering the frame members, transversely-opposite side roller-sections journaled in the frame members and carrying cutting-knives, and a central roller-section likewise carrying cutting-knives but arranged in advance of the side roller-sections.

842,120. PILING. FRANK W. SKINNER, New York, N. Y. Original application filed Aug. 3, 1905, Serial No. 272,465. Divided and this application filed Nov. 25, 1905. Serial No. 289,049.

Claim.—1. The combination of a section of sheet-piling, and a removable external reinforcing-backing adapted to penetrate the earth and to be applied to the pile before driving and removed therefrom after driving, substantially as described.

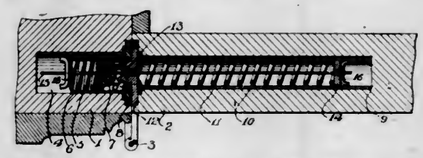


2. The combination of a sheet-metal pile provided at opposite edges with members of a lock adapted to engage corresponding lock members of adjacent piles, and removable backing for said sheet-metal pile, substantially as described.

3. The combination of a sheet-metal pile provided with lock members adapted to interlock with corresponding lock members of adjacent piles, removable backing therefor, and a cap for the lower end of said pile adapted to permit of the withdrawal of the driving-bar, substantially as described.

4. The combination of a sheet-metal pile, a driving-bar therefor, and a cover-plate for said driving-bar, substantially as described.

842,121. DOOR-CHECK. ROBERT R. SMITH, Philadelphia, Pa. Filed Apr. 1, 1905. Serial No. 253,249.



Claim.—1. In apparatus of the class described, a stationary part, a swinging part, a tie-spring, means for securing said tie-spring to said parts, said means comprising a coiled spring which acts to draw said swinging part toward said stationary part, and a second coiled spring and means coacting therewith to check the movement of said swinging part toward said stationary part, substantially as specified.

2. In apparatus of the class described, a plunger, a bumper, a coiled spring actuating said plunger in one direction, a second coiled spring, mechanism comprising a tie-spring whereby said second coiled spring presses said plunger and bumper together, and means for supporting said springs, plunger and bumper in operative relation to each other, substantially as specified.

3. In apparatus of the class described, a stationary part, a swinging part, a bumper fixed to one of said parts, a plunger engaged in reciprocating relation to the other of said parts, a coiled spring actuating said plunger, and mechanism comprising a second coiled spring and a tie-spring for drawing said parts together, substantially as specified.

4. In apparatus of the class described, a jamb, a door hinged thereto, a bumper fixed to one of said parts, a plunger having a movable connection with the other of said parts, means for cushioning the movement of said plunger,

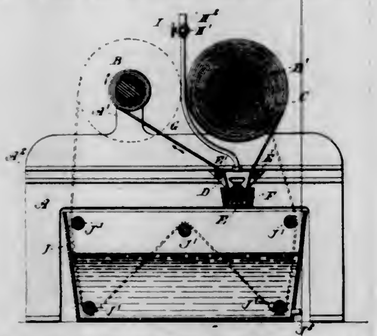
a tie member and a coiled spring connected with said door and jamb, substantially as specified.

5. In apparatus of the class described, a movable part, a stationary part, an apertured plate and a plunger connected to one of said parts, a plate having a bumper thereon fixed to the other of said parts, a coiled spring for actuating said plunger, and mechanism comprising a second coiled spring and a tie-spring for drawing said movable part toward said stationary part, substantially as specified.

6. In apparatus of the class described, a stationary part, a movable part hinged thereto, a recess in each of said parts, a coiled spring in each of said recesses, mechanism connected with one of said coiled springs and with the stationary part to draw said movable part toward said stationary part, and mechanism connected with the other of said springs to check the action of said movable part, substantially as specified.

7. In apparatus of the class described, a stationary object provided with a socket, a movable object provided with a socket, a spring supported in one of said sockets, a plunger movable in said last-named socket, and actuated in one direction by said spring, a closing-spring supported in one of said sockets, a bumper secured to one of said objects, a tie-spring and means to connect the same to the fixed object and the closing-spring of the movable object to draw said plunger and bumper together.

842,122. PROCESS OF DYEING TEXTILE FABRICS. ERNST SPATZ, Hackensack, N. J., assignor to United Piece Dye Works, Lodi, N. J., a Corporation of New Jersey. Filed Dec. 26, 1905. Serial No. 293,231.



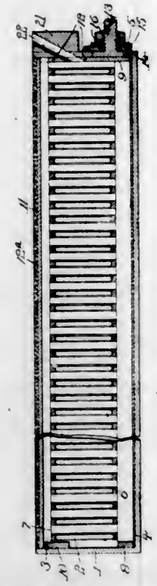
Claim.—The herein-described improvement in the dyeing of fabrics, which consists in causing the fabric to travel first in one direction and then in the opposite direction through a constantly renewed and overflowing bath of dyeing liquor, collecting the overflow, and then passing the fabric back and forth through the collected overflow.

842,123. CONTAINING-CELL FOR BATTERIES. GEORGE H. STOUT, Chicago, Ill., assignor, by mesne assignments, to Automobile Parts and Equipment Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 13, 1903. Serial No. 169,354.

Claim.—1. A cell comprising a casing or cell proper, having a series of slots or grooves on opposite sides, a series of elements received in said slots to form one electrode, and a plate arranged in the bottom of the cell to form the other electrode.

2. A cell comprising a casing or cell proper, strips arranged at two opposite sides of the cell and provided with a series of upwardly-projecting fingers, a series of elements received between said fingers to form one electrode, and a plate arranged in the bottom of the cell to form the other electrode.

3. A cell comprising a casing or cell proper, a plate arranged in the bottom of the cell to form one electrode, strips arranged at two opposite sides of the cell and resting upon said plate, said strips having a series of upwardly-projecting fingers, and a series of elements received and supported between said fingers to form the other electrode.



4. A cell comprising a casing or cell proper, strips secured to two opposite sides of the cell and having their lower portions entire as to a part of their height and provided with upwardly-extending fingers thereabove, a series of elements received between said fingers and supported above the bottom of the cell to form one electrode, and a plate arranged in the bottom of the cell to form the other electrode.

5. A cell comprising a casing or receptacle 1, strips 6 having fingers 7 and secured to opposite sides of the cell in the interior thereof, end cleats 8 and 9 in the cell, a plate 4 in the bottom of the cell to form one electrode, and a series of grids 2 received and supported between said fingers to form the other electrode.

6. A cell comprising a casing or cell proper, strips secured to two opposite sides of the cell and having their lower portions entire as to a part of their height and provided with upwardly-extending fingers thereabove, a series of elements received between said fingers and supported above the bottom of the cell, to form one electrode, a plate arranged in the bottom of the cell to form the other electrode, and a lid or cover resting upon the upper ends of such strips.

7. A cell comprising a casing or cell proper, strips secured to two opposite sides of the cell and having their lower portions entire as to a part of their height and provided with upwardly-extending fingers thereabove, a series of elements received between said fingers and supported above the bottom of the cell, to form one electrode, a plate arranged in the bottom of the cell to form the other electrode, a lid or cover resting upon the upper ends of such strips, and sealing material disposed on top of such cover.

8. A cell comprising a receptacle or cell proper having the battery elements and having a terminal consisting of a bolt having a corresponding angular opening to receive said bolt-head, insulating-strips for insulating the opposite sides of said head, and means for connecting one of the electrodes with said bolt.

9. A cell comprising a receptacle or cell proper having a plate 4 forming one electrode and provided with a tongue or extension 5 passing through the terminal end wall of the cell, said end wall having an angular opening, a bolt projecting laterally from said end wall and having a head received by said opening, strips for insulating the opposite sides of the bolt-head, said bolt being connected with the tongue 5, a series of grids arranged in said cell and forming the other electrode.

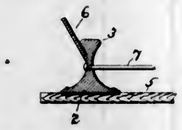
10. A cell comprising a receptacle or cell proper having a plate 4 forming one electrode and provided with a tongue or extension passing through the terminal end wall of the cell, a series of grids arranged in said cell, a bar for connecting the same, said end wall having two angular openings, one for each terminal, two bolts having heads received by said openings respectively, means for insulating said heads, and means for connecting said bar and said tongue respectively to the bolts.

11. A cell comprising a casing or cell proper having batery elements, strips 6 having fingers 7 and secured to opposite sides of the cell in the interior thereof but below its top plane, to support one set of said elements, end cleats 8 and 9 in the cell, said cleat 9 having an upward extension 12, a top end cleat 10, and a cover arranged to rest upon said fingers and upon the top cleat 10 and extension 12.

12. A cell comprising a receptacle or cell proper having battery elements, a support and insulator device arranged within the cell for one set of said elements and comprising transversely-grooved strips on opposite sides of the cell, a lid or cover resting on said support or insulator device, and a plastic material for sealing said cover onto the cell.

842,124. RAILROAD-RAIL. MARK W. TRIMBLE, Idabel, Ind. Ter. Filed May 8, 1905. Serial No. 259,454.

Claim.—A railway-rail having a base, a head, a web



uniting the base and head, and a straight, upwardly and outwardly projecting guard-flange extending longitudinally from end to end of the rail, said guard-flange being formed integral with the web of the rail and projecting angularly from one side of the web at a point below the head of the rail, substantially as shown and described.

842,125. MANUFACTURE OF ARTIFICIAL SILK AND OTHER SILK GOODS. HENRI E. A. VITTENET, Villefrance-sur-Saône, France. Filed July 19, 1905. Serial No. 270,426.

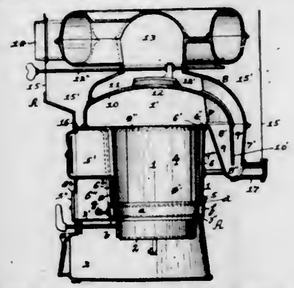
Claim.—1. The improvement in the art of producing filaments from a viscous solution of pyroxylin and acetone, which consists in forming the said filaments in the presence of sulfurous acid.

2. The improvement in the art of producing filaments from a viscous solution of pyroxylin and acetone, which consists in adding sulfurous acid to the acetone to be used in making the solution, for the purpose specified.

3. The improvement in the art of producing filaments from a viscous solution of pyroxylin in acetone, which consists in adding sulfurous acid to the acetone, then dissolving the pyroxylin therein, and then producing filaments from the solution in an atmosphere containing sulfurous acid.

842,126. WARM-AIR FURNACE. OLIVER L. BADGER, Bellevue, Pa., assignor to United States Furnace & Foundry Company, Darlington, Pa., a Corporation of West Virginia. Original application filed Mar. 3, 1905, Serial No. 248,236. Divided and this application filed Oct. 20, 1905. Serial No. 283,588.

Claim.—1. A warm-air furnace comprising a fire-pot, an inner casing or shell in said pot for forming a chamber within and around said pot and having escape-openings at the top of the same, and a separate hollow ring fitting under the fire-pot wall and said shell for supporting the same and supplying gaseous fuel to said chamber.



2. A warm-air furnace comprising a fire-pot, an ash-pan having a seat in the top of the same, an inner casing or shell in said pot for forming a chamber within and around said pot and having escape-openings at the top of the same, and a separate hollow ring under said chamber for supplying gaseous fuel to the same, said ring having a flange on the bottom thereof for fitting within said seat to hold said ring in place.

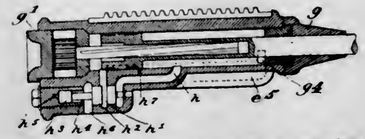
3. A warm-air furnace comprising a fire-pot, an inner casing or shell in said pot for forming a chamber within and around said pot and having escape-openings at the top of the same, and a separate hollow ring under said chamber for supplying gaseous fuel to the same and having a seat in its upper face for the lower ends of said shell and fire-pot wall to support the same in place.

4. A warm-air furnace comprising a fire-pot, an inner casing or shell in said pot for forming a chamber within and around said pot and having escape-openings at the top of the same, a separate hollow ring fitting under the fire-pot wall and said shell for supporting the same and supplying gaseous fuel to said chamber, and means for supplying air to said chamber to produce secondary combustion.

5. A warm-air furnace comprising a fire-pot, an ash-pan having a seat in the top of the same, an inner casing or shell in said pot for forming a chamber within and around said pot and having escape-openings at the top of the same, a separate hollow ring under said chamber for supplying gaseous fuel to the same, said ring having a flange on the bottom thereof for fitting within said seat to hold said ring in place, and means for supplying air to said chamber to produce the secondary combustion.

6. A warm-air furnace comprising a fire-pot, an inner casing or shell in said pot for forming a chamber within and around said pot and having escape-openings at the top of the same, a separate hollow ring under said chamber for supplying gaseous fuel to the same and having a seat in its upper face for the lower ends of said shell and fire-pot wall to support the same in place, and means for supplying air to said chamber to produce secondary combustion.

842,127. ENGINE. ALBERT BALL and THOMAS OFFICER, Claremont, N. H., assignors to Sullivan Machinery Company, Claremont, N. H., a Corporation of Maine. Filed Mar. 6, 1905. Serial No. 248,509.



Claim.—1. An engine provided with a cylinder and a piston movable therein, one side of said piston being in constant communication with the source of fluid-pressure supply, and a valve-controlled port in the cylinder-walls communicating with the other side of said piston, said port being opened by the piston to admit pressure to the rear end of the cylinder on rearward movement of the

piston and closed thereby in its movement in the other direction.

2. A differential engine having constantly-admitted pressure at one side of the piston and a differential valve having constant pressure upon a pressure area thereof, but adapted to be moved by pressure admitted from the constant-pressure end of the cylinder and under control of the piston for admitting pressure to the opposite side of the piston.

3. A differential engine having a constantly-admitted pressure at one end of the cylinder, a piston-controlled port at the admission end thereof and communicating with the opposite end thereof, a differential valve in said port and an exhaust-port for the opposite cylinder end, said piston-controlled port and exhaust-port being separated by a space at least as great as the length of the piston.

4. An engine provided with a cylinder and a piston movable therein, a cylinder-port controlled by said piston means for admitting fluid-pressure to one side thereof, an exhaust-passage for the opposite piston side, and a differentially-controlled valve for alternately connecting said opposite side to said cylinder-port and said exhaust-passage.

5. A direct-acting engine provided with a differential piston, the smaller area of which is subject to a constantly-acting pressure, a pressure-passage leading from the constant-pressure end of said cylinder to the opposite end thereof, a differential valve controlling said passage, the smaller area of said valve being exposed to a constant pressure and tending to move the valve to a position exhausting pressure from the larger piston area and closing the same to the pressure-passage, and the larger area of said valve being exposed to the pressure admitted to said pressure-passage.

6. A direct-acting engine having a differential piston provided with a relatively large area at the head end of the cylinder and a relatively small area at the tool end thereof and having a constantly-admitted pressure acting upon the smaller area, a port adapted to be opened to the pressure on rearward piston movement and closed thereto on forward movement thereof, a passage connecting said port with the head end of the cylinder, a differential valve controlling said passage and presenting its larger area to the pressure intermittently entering said passage and having its smaller area subjected to a constant pressure, and an exhaust-passage also connected with the head end of said cylinder, said valve being normally held by the constant pressure to open the head end of said cylinder to said exhaust-passage and close the same to said connecting-passage, but intermittently moved to close the said exhaust and admit pressure to the head end of said cylinder.

7. An engine having a differential piston, means for constantly admitting pressure to the smaller area thereof, a pressure-passage connecting the constant-pressure cylinder end with the opposite end thereof, said passage being opened or closed to pressure by movement of the piston, a differential valve controlling said passage, an exhaust-passage for said opposite cylinder end, and means dependent upon the expansion of the pressure on movement of the piston toward the constant-pressure cylinder end for opening the said exhaust-passage.

8. A direct-acting engine provided with a cylinder having a differential piston, means for constantly admitting pressure to the smaller area of said piston, a passage formed in the cylinder-wall and connecting the opposite ends of said cylinder, and a differential valve in said passage, said piston upon its stroke in one direction being adapted to open said passage to the pressure and move said valve to admit motive fluid to the opposite cylinder end, and upon its opposite movement to cut off fluid-pressure from said passage and permit said valve to be shifted to open said opposite cylinder end to the exhaust.

9. A direct-acting engine provided with a differential piston having pressure constantly admitted to the smaller area thereof, a passage connecting the opposite ends of the cylinder for the intermittent admission of pressure to the larger piston area, and a valve in said passage, said piston on movement in one direction being adapted to open said passage to pressure and to move said valve to admit pressure to the intermittent-pressure end of said cylinder, and on movement in the opposite direction to close said passage to pressure and permit movement of the valve in the opposite direction to open the said intermittent-pressure cylinder end to the exhaust.

10. A direct-acting engine provided with a differential piston, the smaller area of which is subjected to a constantly-acting pressure, a pressure-passage leading from the constant-pressure end of said cylinder to the opposite end thereof, a differential valve controlling said passage and constantly pressed toward a position where it acts to exhaust pressure from the larger piston area while closing the same to said pressure-passage, the larger area of said valve being exposed to the pressure admitted to said pressure-passage.

11. A direct-acting engine having a differential piston provided with a relatively large area at the head end of the cylinder and a relatively small area at the tool end thereof, and having a constantly-admitted pressure acting upon the smaller area, a port adapted to be opened to the pressure on rearward piston movement and closed thereto on forward movement thereof, a passage connecting said port with the head end of the cylinder, a differential valve controlling said passage and presenting its larger area to the pressure intermittently entering said passage, and an exhaust-passage also connected with the head end of said cylinder, said valve being constantly pressed to open the head end of said cylinder to said exhaust-passage and to close the same to said connecting-passage, but intermittently moved through the pressure admitted to said connecting-passage to close the said exhaust and admit pressure to the head end of said cylinder.

12. A direct-acting engine provided with a cylinder having a differential piston having a constant-pressure area, a passage formed in the cylinder-wall and connecting the opposite ends of said cylinder, a differential valve in said passage, said piston on movement in one direction being adapted to open said passage and move said valve to admit fluid-pressure through the valve and passage to one end of said cylinder and upon its opposite movement to cut off fluid-pressure from said passage and permit said valve to be shifted to open said cylinder end to the exhaust.

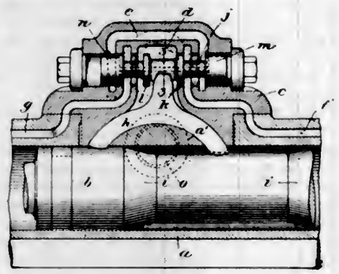
13. An engine having a differential piston and provided with means for constantly admitting pressure against the smaller piston area, a port adapted to be opened to the pressure on piston movement in one direction, but closed thereto on movement in the opposite direction, a passage connecting said port with the opposite end of the cylinder, a differential valve controlling said passage and presenting its larger area to the pressure intermittently entering said passage and having its smaller area subjected to a constant pressure, and an exhaust-passage also normally held by the constant pressure to open said cylinder end to the exhaust-passage and close the same to said connecting-passage, but intermittently moved to close the said exhaust and admit pressure to the said same cylinder end.

14. An engine provided with a cylinder, a piston, means for constantly admitting pressure to one end of said cylinder, a pressure-passage connecting said constant-pressure cylinder end with the opposite cylinder end for the intermittent admission of pressure thereto, a valve controlling said passage and having a pressure area alternately exposed to the constant-pressure side of the piston and the intermittent-pressure side thereof.

842,128. ENGINE. ALBERT BALL, Claremont, N. H., assignor to Sullivan Machinery Company, Claremont, N. H., a Corporation of Maine. Filed Aug. 9, 1905. Serial No. 273,381.

Claim.—1. A direct-acting engine having a cylinder, a piston, a valve-chamber, a balanced piston-valve slidably mounted in the valve-chamber, a segmental tappet having a toothed portion directly engaging the piston-valve and slidably mounted in suitable guiding-walls in the cylinder, suitable inclines upon the piston for moving the tappet outwardly in opposite directions and thereby imparting

initial reciprocatory movement to the valve, admission and exhaust passages for the cylinder controlled by the valve, separate admission and exhaust passages leading to opposite ends of the piston-valve, said valve being constructed to open said passages one to the exhaust and the other to the admission on initial tappet-actuated movement of the valve simultaneously with the opening of the cylinder-passages to the exhaust and admission, acting thereby to insure the completion of the valve movement.



2. A direct-acting engine having a cylinder and piston, a valve-chamber, a balanced piston-valve slidably mounted in the valve-chamber, a segmental tappet slidably mounted in suitable guide-walls in the cylinder and directly engaging the piston-valve, suitable inclines upon the piston for moving the tappet alternately in opposite directions and thereby imparting an initial reciprocatory movement to the valve, admission and exhaust passages for the cylinder controlled by the valve, and separate admission and exhaust passages leading to opposite ends of the valve, said latter passages being also controlled by the initial tappet-actuated movement of the valve to cause completion of the valve movement.

3. A direct-acting engine having the cylinder *a*, the piston *b*, the valve-chamber *c*, the tappet *h*, valve *j*, and pressure-passages *p* and *q*.

4. A direct-acting engine having a piston, a cylinder, a valve-chamber, a valve for controlling the piston, a tappet directly connected to move the valve longitudinally immediately on engagement of the tappet by the piston, cylinder-ports controlled by the longitudinal valve movement, and separate ports opened or closed by the tappet-actuated valve movement after its commencement for admitting or exhausting pressure to or from suitable pressure areas upon the valve to assist in moving the latter.

5. An engine having a cylinder, a piston, pressure-ports, a balanced piston-valve controlling said ports, a slidable segmental tappet engaging said valve intermediate its ends, and supplemental pressure means for insuring the full travel of the valve.

6. A direct-acting engine having a cylinder, a piston, pressure-passages for the cylinder, a slidably-mounted controlling-valve, a tappet engaging said valve-body for imparting initial longitudinal sliding movement to said valve, and supplemental pressure means set in operation on the initial longitudinal sliding movement of the valve for insuring completion of said sliding valve movement.

7. A direct-acting engine having a cylinder, a piston, pressure-passages, a valve controlling said passages, a tappet located in said cylinder and adapted to impart directly longitudinal sliding movement to the valve, and means set in operation by said initial longitudinal sliding valve movement for admitting pressure to or exhausting it from opposite ends of said valve to insure completion of the tappet-actuated valve movement.

8. A direct-acting engine having a cylinder, a piston, a slidably-mounted controlling-valve, pressure-passages for the cylinder, a tappet located in said cylinder and engaging said valve-body and adapted to be actuated by contact with said piston to impart longitudinal sliding movement to the valve, and supplemental pressure means set in operation on the initial longitudinal sliding movement of the valve for insuring completion of the sliding valve movement.

9. An engine having a cylinder, a piston, pressure-passages, a valve-chamber, a valve slidably mounted in said chamber, said chamber being provided with an exhaust-space and a live-pressure space, a tappet for imparting initial sliding movement to said valve, and separate pressure-passages leading to the ends of said valve and adapted to be placed in communication with the pressure and exhaust spaces respectively of the valve-chamber on initial tappet-actuated valve movement.

10. An engine having a cylinder, a piston, pressure-passages, a valve-chamber, a valve slidably mounted in said chamber, said chamber being provided with an exhaust-space and a live-pressure space, a tappet for imparting initial sliding movement to said valve, and separate pressure-passages leading through the valve to opposite ends thereof and adapted to be placed in communication with the pressure and exhaust spaces respectively of the valve-chamber on initial tappet-actuated valve movement.

11. An engine having a cylinder, pressure-passages, a piston, a tappet actuated by said piston, a valve-chamber, a balanced piston-valve in said valve-chamber, pressure-chambers at opposite ends of said valve, reduced portions provided for said valve to which pressure is alternately admitted and exhausted from opposite ends of the cylinder, and pressure-passages leading from the opposite ends of the valve through the valve-stem, each of said passages opening through a reduced portion of the valve.

12. An engine having a cylinder, a piston, pressure-passages, a valve-chamber, a valve slidably mounted in said chamber, said chamber being provided with an exhaust-space and a live-pressure space, a tappet for imparting initial sliding movement to the valve and passages leading to the ends of the valve and adapted to be placed in communication with the pressure and exhaust spaces respectively of the valve-chamber after initial tappet-actuated valve movement.

13. An engine having a cylinder, a piston, pressure-passages, a piston-valve controlling said passages, a tappet working in the cylinder and adapted to impart initial longitudinal sliding movement to the valve and means set in operation by the initial longitudinal sliding movement of the valve in one direction for admitting pressure to the rear of the piston-valve and exhausting it from the front end thereof to cause the completion of the valve movement under the influence of the pressure.

842,129. PRESSURE-ACTUATED VALVE FOR ENGINES. ALBERT BALL and THOMAS OFFICER, Claremont, N. H., assignors to Sullivan Machinery Company, Claremont, N. H., a Corporation of Maine. Filed Oct. 30, 1905. Serial No. 284,992.

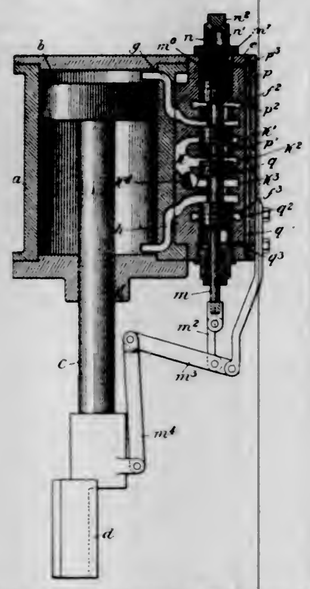
Claim.—1. A direct-acting engine having a piston, a valve, a reciprocating actuator positively connected to said piston to be moved therewith at a proportionate rate, said actuator being loosely connected to said valve to move the same on initial movement of the piston, and pressure means controlled by initial valve movement to advance said valve relatively to the actuator, and place the same in position to be moved thereby at the beginning of the return movement thereof.

2. A direct-acting engine having a piston, a valve, a reciprocating actuator loosely connected to the valve, positively-connected means for reciprocating said actuator through movement of the piston to give initial movement to the valve and pressure means controlled by initial valve movement quickly to advance the valve for reversal of the engine and to move the valve relatively to the actuator, thereby leaving it in relation thereto to be moved by the actuator on initial reverse piston movement.

3. An engine having a piston, a valve, positively-connected means between the valve and the piston initially to move the valve at the beginning of the piston-stroke and in response to piston movement and pressure means brought into operation on initial valve movement quickly to advance the valve for reversal of the piston.

4. An engine having a piston-valve, positively-connected means between the valve and the piston initially to move the valve in response to piston movement, pressure means

controlled by the initial valve movement quickly to advance the valve for reversal of the piston and means for varying the extent of the pressure-actuated valve movement.



5. A direct-acting engine having a main valve, a reciprocating actuator loosely connected to the valve, means for reciprocating said actuator through movement of the piston to give initial movement to the valve, pressure positively-connected means controlled by the initial valve movement quickly to advance the valve for reversal of the engine and to move the valve relatively to the actuator, thereby leaving it in position to be initially moved by the actuator on reverse movement thereof, and means to vary the extent of the pressure-actuated valve movement relatively to the actuator.

6. An engine having a piston, a reciprocating valve, a valve-actuator, said actuator having two abutments adapted for engagement one or the other with said valve, said valve being adapted for relative movement between said abutments, positively-connected means to reciprocate said actuator from and with the piston, thereby initially to move said valve by engagement between the same and one of the said abutments, pressure means controlled on the initial valve movement to advance the valve relatively to the actuator and throw the same against the other abutment to reverse the engine, said valve being thereby placed in relation to said actuator to be moved reversely on reverse movement thereof.

7. An engine having a piston, a reciprocating valve, a valve-actuator, said actuator having two abutments adapted for engagement one or the other with said valve, said valve being adapted for relative movement between said abutments, connecting means to reciprocate said actuator from and with the piston, thereby initially to move said valve by engagement between the same and one of the said abutments, pressure means controlled on the initial valve movement to advance the valve relatively to the actuator and throw the same against the other abutment to reverse the engine, said valve being thereby placed in relation to said actuator to be moved reversely on reverse movement thereof, and means for adjusting one of said abutments lengthwise the actuator to vary the movement of the valve relatively thereto.

8. A direct-acting engine having a cylinder, a piston, a piston-rod, a piston-valve controlling the admission of pressure to and exhaust from said cylinder, a valve-stem passing loosely through said piston-valve and at the outside of the valve-chamber connected to be moved with and by said piston-rod, an abutment upon said valve-stem at each end of said piston-valve and adapted each for engagement therewith but permitting relative movement between the valve and the stem, piston-heads at each end of said piston-valve provided in conjunction with the valve-chamber, pressure-chambers at each end thereof, an auxiliary pressure-port opening into each pressure-chamber, said ports each having passages adapted to be connected either with the exhaust or with the pressure, said passages being so controlled by the valve movement produced by engagement between the valve and an abutment upon the stem as to raise the pressure in one chamber and lower it in the opposite chamber, thereby to advance the valve relatively to and upon the stem.

9. An engine having a piston, a valve controlling the same, a reciprocating actuator moving said valve, abutments upon said actuator between which said valve has relative movement, one of said abutments having threaded adjustment upon said actuator and means exterior to the valve-chamber for adjusting the position of said abutments upon said actuator.

10. An engine having a piston-valve, connecting means between the valve and the piston initially to move the valve in response to piston movement, pressure means controlled by the initial valve movement quickly to advance the valve for reversal of the piston and means for varying the extent of the pressure-actuated valve movement while the engine is running.

11. A direct-acting engine having a cylinder, a piston, a piston-rod adapted for direct attachment to a tool, a valve controlling said engine, a reciprocating valve-actuator loosely connected to the valve, a reducing mechanism positively connecting said actuator to said piston-rod to cause the same to reciprocate at a proportionate rate with said piston, pressure means also for controlling said valve, said valve being actuated partly by said actuator and partly by said pressure-controlling means.

12. An engine having a piston, a reciprocating valve, a valve-stem positively connected for reciprocation with and from the piston, a valve loosely mounted on said valve-stem, abutments between said valve and stem for causing initial movement of the valve, and pressure means controlled by initial valve movement quickly to advance said valve relatively to the stem.

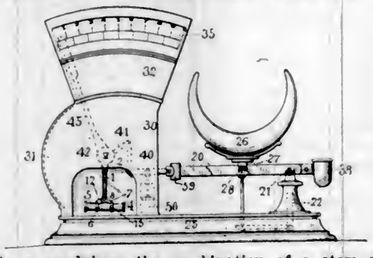
13. An engine having a piston, a reciprocating valve, a valve-stem to which said valve is loosely connected, abutments between said valve and valve-stem permitting relative movement between the same, positively-connected piston-operated means therefor, pressure-chambers in which said valve is movable, pressure-passages controlled by the initial movement of the valve for admitting or exhausting pressure from said chambers to permit pressure-actuated movement of said valve upon said stem.

14. An engine having a cylinder, a piston, a piston-rod, a piston-valve controlling the admisison of pressure to and exhausting it from said cylinder, piston-heads at each end of said piston-valve, pressure-chambers in which said ends operate, pressure-ports opening into said pressure-chambers and controlled by initial movement of the valve, an actuator loosely connected to permit relative movement of the valve, said actuator being positively connected to said piston to move the valve and thereby admit pressure to or exhaust the same from said pressure-chambers to advance the valve relatively to the actuator.

15. An engine having a piston, a valve controlling the same, the reciprocating actuator moving said valve, abutments upon said actuator between which said valve has relative movement and means exterior to the valve-chamber for adjusting the relative position of said abutments.

842,130. PENDULUM. ARTHUR W. BARNARD, Newton Center, Mass., assignor to The Barnard Company, Boston, Mass., a Corporation of Massachusetts. Filed Aug. 21, 1905. Serial No. 274,991.

Claim.—1. In a pendulum, the combination of a stem and a hollow receptacle adapted to contain mercury or other suitable liquid; said receptacle being mounted on, and transversely adjustable in relation to, said stem.



2. In a pendulum, the combination of a stem and a hollow cylinder transversely adjustable in relation to said stem and pivotally mounted on the lower end of said stem; said cylinder being adapted to contain mercury or other suitable liquid.

3. In a pendulum, the combination of a stem and a hollow receptacle transversely adjustable in relation to said stem and pivotally mounted on the lower end of said stem.

4. In a pendulum, the combination of a stem, a hollow receptacle mounted on the lower end of said stem and adapted to contain mercury or other liquid and means to adjust said receptacle horizontally.

5. In a pendulum, the combination of a stem, a hollow receptacle pivotally mounted on the lower end of said stem and means for adjusting said receptacle horizontally.

6. In a pendulum, the combination of a stem, a yoke pivotally mounted on the lower end of said stem, a hollow cylinder supported by said yoke, and means for adjusting said cylinder horizontally.

7. In a pendulum, the combination of a stem, a yoke pivotally mounted on the lower end of said stem, and provided with bands, a hollow cylinder held in said bands and means whereby said cylinder may be adjusted horizontally in relation to said stem.

842,131. WEIGHING-SCALE. ARTHUR W. BARNARD, Newton Center, Mass., assignor to The Barnard Company, Boston, Mass., a Corporation of Massachusetts. Filed Dec. 8, 1905. Serial No. 290,902.

Claim.—1. A scale, having in combination, a scale-pan, a pendulum-counterbalance and a correcting device connected therewith to cause said pendulum to move through arcs proportional to the weight on the scale-pan; said correcting device comprising a receptacle containing liquid and a submersible member.

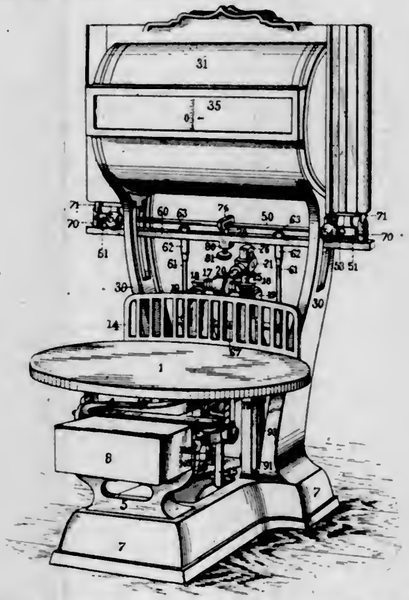
2. In a scale, the combination of a scale-pan, an automatic counterbalancing device, and a plunger device to cause said counterbalancing device to move a distance proportional to the weight on the scale-beam; said plunger device consisting of a receptacle containing liquid and a submersible member.

3. In a scale, the combination of a scale-beam, counterbalancing means operatively connected to said scale-beam, and a plunger device to cause said counterbalancing means to move in equal steps when equal increments of weight are placed on the scale-beam; said plunger device comprising a receptacle containing liquid and a submersible member.

4. In a scale, the combination of a scale-beam, a pendulum operatively connected thereto, and a plunger device whereby the pendulum is caused to move a distance proportional to the weight on the scale-beam; said plunger device comprising a receptacle containing liquid and a submersible member.

5. In a scale, the combination of a pendulum, weight-indicating means, and a plunger device to cause said pendulum to move a distance proportional to the weight applied; said plunger device comprising a receptacle containing liquid and a submersible member.

6. In a scale, the combination of a scale-beam, a pendulum operatively connected thereto, indicating means, and a plunger device to cause said pendulum to move a distance proportional to the weight on the scale-beam; said plunger device comprising a receptacle containing liquid and a submersible member.



7. The combination of a scale-beam, a pendulum operatively connected to said beam, an indicator, means whereby said indicator is operated by said beam, and a plunger device to cause said pendulum to move a distance proportional to the weight on the scale-beam; said plunger device comprising a receptacle containing liquid and a submersible member.

8. In a scale, the combination of a scale-beam, a pendulum, means connecting said pendulum and said scale-beam whereby the weight on the scale-platform is counterbalanced by said pendelum, and a plunger device to cause said pendulum to move in proportion to the weight on the said scale-platform; said plunger device comprising a receptacle containing liquid and a submersible member.

9. The combination of a scale-beam, a pendulum operatively connected to said scale-beam, a rotatable drum provided with a dial, means to operate said drum, and a plunger device to cause said pendulum to move in proportion to the weight; said plunger device comprising a receptacle containing liquid and a submersible member.

10. In a scale, the combination of a scale-beam, a pendulum operatively connected to said scale-beam, a rotatable drum provided with a suitable dial, means whereby said drum is operated by the scale-beam, and a plunger device to compensate for the otherwise variable movement of said pendulum and to cause it to move uniformly; said plunger device comprising a receptacle containing liquid and a submersible member.

11. In a scale, the combination of a scale-beam, a pendulum operatively connected to said scale-beam, a drum carrying a dial, means whereby said drum is operated by said scale-beam to indicate the weight and price of the object being weighed, and a plunger device to compensate for the otherwise variable movement of said pendulum; said plunger device comprising a receptacle containing liquid and a submersible member.

12. In a scale, the combination of a scale-beam, a pendulum operatively connected to said scale-beam, a rotatable drum to indicate weight and price, a frame supported on the end of said scale-beam and provided with means to operate said drum, and a plunger device to regulate the movement of said pendulum.

13. In a scale, the combination of a scale-beam, a pendulum operatively connected to said scale-beam, a rotatable drum to indicate weight and price, means supported on the end of said scale-beam to operate said drum, and means to compensate for the otherwise variable movement of said pendulum and to cause said pendulum to move in equal steps when equal increments of weight are placed upon the scale.

14. In a scale, the combination of a scale-beam, a pendulum, means connecting said pendulum to said scale-beam, a drum, a frame supported on said scale-beam and provided with means to operate said drum, and means to compensate for the otherwise variable movement of said pendulum and to cause said pendulum to move in equal steps when equal increments of weight are placed upon the scale.

15. In a scale, the combination of a scale-beam, a pendulum fixedly mounted upon a spindle which rotates in suitable bearings, a lever also mounted upon said spindle and having its free end connected to the scale-beam, a drum rotatably mounted on a shaft and suitably marked to indicate weight and price, said shaft, a spindle mounted on each end of said shaft, rack-bars enmeshing with said spindles, a rod connecting said rack-bars, a frame supported on said scale-beam, adjustable means connecting said rod and said frame, and means to compensate for the otherwise variable movement of said pendulum and to cause said pendulum to move in equal steps when equal increments of weight are placed upon the scale.

16. In a scale, the combination of a scale-beam, a pendulum operatively connected thereto, a rotary drum carrying a dial to indicate weight and price, operating means, a frame supported on the end of said scale-beam and carrying said operating means, means for adjusting the relation of said operating means and said frame to each other, a vertically-adjustable cylinder adapted to contain mercury or other suitable liquid, and a plunger suspended from said frame and adapted to be immersed in said liquid when the scale-beam is depressed, the configuration of said plunger being such that it compensates for the variation in the movement of said pendulum and causes it to move in equal steps when equal increments of weight are placed upon the scale.

17. In a scale, the combination of a scale-beam, a pendulum device operatively connected to the said scale-beam to counterbalance the load thereon, a rotary indicator provided with pinions, rack-bars enmeshing with said pinions, a frame supported on the end of said scale-beam, adjustable means connecting said rack-bars to said frame and a plunger device to cause said pendulum device to move in equal steps when equal increments of weight are placed upon the scale.

18. In a scale, the combination of a scale-beam, a pendulum mounted in suitable bearings and operatively connected to said scale-beam, a rotary indicator, pinions on the shaft of said indicator, rack-bars enmeshing with said pinions, a frame supported on knife-edge bearings upon the end of said scale-beam, said knife-edge bearings and adjustable means connecting said rack-bars and said frame.

19. In a scale, the combination of a scale-beam, counterbalancing means operatively connected to said scale-beam, and means to cause said counterbalancing means to move in equal steps when equal increments of weight are placed on the scale; said means consisting of a cylinder containing mercury or other suitable liquid, a plunger, and means to adjust said cylinder in relation to said plunger.

20. In a scale, the combination of a pendulum and a plunger device to cause said pendulum to move in equal steps when equal increments of weight are placed upon the scale; said plunger device comprising a receptacle containing mercury or other suitable liquid and a plunger, having a variable cross-section, suspended from above and adapted to move up and down in said liquid.

21. In a scale, the combination of a scale-beam, a pendulum operatively connected thereto, and a plunger device to cause said pendulum to move in equal steps when equal increments of weight are placed upon the scale; said plunger device consisting of a receptacle containing mercury or other suitable liquid and a submersible member, having a variable cross-section and suspended from the said scale-beam.

22. In a scale, the combination of a pendulum and a plunger device to cause said pendulum to swing uniformly: said plunger device consisting of a cylinder containing mercury or other suitable liquid, and a plunger suspended from the scale-beam and adapted to move up and down in said liquid; the configuration of said plunger being such that the resistance of the liquid exactly compensates for the variation in the movement of the said pendulum and causes it to move in equal steps when equal increments of weight are placed upon the scale.

23. In a scale, the combination of a scale-beam, a pendulum operatively connected thereto, a cylinder containing mercury or other suitable liquid, and a plunger suspended from said scale-beam and of such configuration that when immersed in said liquid by the movement of said scale-beam, the resistance offered by said liquid compensates for the tendency to irregularity in the movement of the said pendulum and causes it to move in arcs proportional to the weight placed upon the scale.

24. In a scale, the combination of a pendulum adapted to counterbalance the load on the scale-beam and a plunger device operatively connected to said pendulum to cause it to move in equal steps when equal increments of weight are placed upon the scale; said plunger device comprising a vertically-adjustable cylinder containing mercury or other suitable liquid, a plunger suspended from above and so arranged as to be immersed in said liquid, and a hood mounted on said plunger and inclosing said cylinder.

25. In a scale, the combination of a scale-beam, a pendulum operatively connected thereto, a vertically-adjustable cylinder, a plunger depending from said scale-beam and adapted to be immersed in mercury or other suitable liquid contained in said cylinder whenever said scale-beam is depressed, and a hood mounted on said plunger and inclosing the upper end of said cylinder.

26. In a scale, the combination of a scale-beam, a pendulum operatively connected thereto, a weight-indicating device, means to operate said device, a frame supported on said scale-beam and carrying said operating means, and a plunger device to cause said pendulum to move in equal steps when equal increments of weight are placed upon the scale; said plunger device comprising a receptacle containing mercury or other suitable liquid and a submersible member having a variable cross-section.

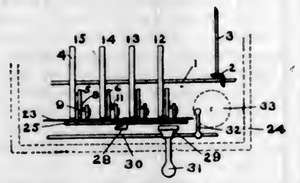
27. In a scale, the combination of a scale-beam, a pendulum, a drum rotatably mounted on a shaft and marked to indicate weight, said shaft, a spindle mounted on each end of said shaft, rack-bars enmeshing with said spindles, connecting means between said rack-bars, a frame supported on said scale-beam, means for adjusting said rod and said frame, and a plunger device to cause said pendulum to move a distance proportional to the weight on the scale-beam; said plunger device comprising a receptacle containing liquid and a submersible member having a varying cross-section.

28. The combination of a pendulum and a plunger device; said plunger device consisting of a receptacle containing liquid and a submersible member having a variable cross-section whereby the variable counterpoising effect of said submersible member when partially immersed in said liquid tends to compensate for the variability otherwise existing in the increment in counterpoising effect of the pendulum for equal increments in movement.

842,132. RECORDING APPARATUS. ROBERT S. BLAIR, New York, N. Y. Filed Feb. 2, 1906. Serial No. 299,160.

Claim.—1. In a workman's time-recorder, in combination, clockwork, means connected with said clockwork adapted at a given point of time to record by a single impression upon a blank record-receiving member the elapsed time between said point and the time of commencement of a predetermined period of labor, and means adapted to bring a record-receiving member into operative relation thereto.

2. In a workman's time-recorder, in combination, clockwork, means connected with said clockwork adapted at a given point of time to record the amount of time between said point and the time of ending of a predetermined period of labor, and means adapted to bring a record-receiving member into operative relation thereto.



3. In a workman's time-recorder, in combination, clockwork, means connected with said clockwork adapted at a given point of time to record by a single impression upon a blank record-receiving member a function of the time elapsed between said point and the time of commencement of a predetermined period of labor, and means adapted to bring a record-receiving member into operative relation thereto.

4. In a workman's time-recorder, in combination, clockwork, means connected with said clockwork adapted at a given point of time to record the amount of time between said point and the time of ending of a regular predetermined period of labor, means adapted to bring a record-receiving member into operative relation therewith, and means adapted to render said first means inoperative during a period of each day.

5. In a workman's time-recorder, in combination, clockwork, means connected with said clockwork adapted at a given point of time to record the elapsed time between said point and the time of commencement of a predetermined period of labor, means connected with said clockwork adapted at a given point of time to record the amount of time between said point and the time of ending of a predetermined period of labor, and means adapted to bring a record-receiving member into operative relation with either of said first and second mentioned means.

6. In a workman's time-recorder, in combination, clockwork, means connected with said clockwork adapted at a given point of time to record a function of the elapsed time between said point and the time of commencement of a predetermined period of labor, means connected with said clockwork adapted at a given point of time to record a function of the amount of time between said point and the time of ending of a predetermined period of labor, and means adapted to bring a record-receiving member into operative relation with either of said first and second mentioned means.

7. In a workman's time-recorder, in combination, clockwork, record-forming means connected therewith adapted upon actuation by a workman upon entry and exit to record directly the time of absence of said workman with respect to a predetermined period of labor, and means adapted to bring a record-receiving member into operative relation to said first-mentioned means.

8. In a workman's time-recorder, in combination, clockwork, record-forming means connected therewith adapted upon actuation by a workman upon entry and exit to record directly a function of the time of absence of said workman with respect to a predetermined period of labor, and means adapted to bring a record-receiving member into operative relation to said first-mentioned means.

9. In a time-recorder, in combination, a time-controlled recording device, means adapted to bring a record-receiving member into operative relation thereto, and means adapted to render inoperative said first-mentioned means during a period of each day.

10. In a workman's time-recorder, in combination, clockwork, means connected with said clockwork adapted upon actuation to record the elapsed time between the time of actuation and the time of commencement of the regular daily period of labor, and means adapted to bring a record-receiving member into operative relation therewith, said recording means being formed and driven to automatically be in condition to perform its functions upon successive days and to accomplish its functions upon a blank record-receiving member.

11. In a workman's time-recorder, in combination, a clockwork, means connected with said clockwork adapted upon actuation to record directly in Arabic numerals the time elapsed between the time of actuation and the time of commencement of a regular daily period of labor, a record-card holder, a movable stop or abutment adapted to limit the depth of insertion of the record-card within said holder at different points and space the records thereon in the desired positions, printing means adapted to record upon a member within said card-holder the day of actuation thereof, and means adapted to bring a record-receiving member within said card-holder into operative relation to said first-mentioned means.

12. In a time-recorder, in combination, a time-controlled printing-wheel, means adapted to cause a relative movement of said printing-wheel and a record-receiving member toward one another, and means adapted during a predetermined period of each day to prevent said printing-wheel and said record-receiving member coming into operative relation one with another upon said movement taking place.

13. In a time-recorder, in combination, a printing device, means adapted to cause a relative movement of the same and a record-receiving member toward one another, and means adapted during a predetermined period of the day to limit said relative movement at one point and during another period of the day to limit the same at another point.

14. In a time-recorder, in combination, a printing device, means adapted to cause a relative movement of said printing device and record-receiving member toward one another, and means controlled from said printing device adapted to limit said movement during a predetermined period of the day at a certain point and during another period of the day at another point.

15. In a time-recorder, in combination, a rotary printing device, means adapted to cause a relative movement of said printing device and a record-receiving member toward one another, and means positioned upon said printing device at different distances from its axis of rotation adapted to limit said relative movement at different points.

16. In a time-recorder, in combination, a printing device, a second printing device adjacent thereto, means adapted to cause a relative movement of said printing devices and a record-receiving member toward one another, means adapted during a predetermined period of the day to limit said relative movement in a position in which said record-receiving member is in operative relation to both of said printing devices, and means adapted during another period of the day to limit the said relative movement in a position in which said record-receiving member is in operative relation to one only of said printing devices.

17. In a time-recorder, in combination, a printing device, a second printing device adjacent thereto, means adapted to cause a relative movement of said printing devices and a record-receiving member toward one another, means adapted during a predetermined period of the day to limit said relative movement in a position in which said record-receiving member is in operative relation to both of said printing devices, and means adapted during another period of the day to limit the said relative movement in a position in which said record-receiving member is in operative relation to one only of said printing devices, said last means comprising a part mounted upon said first printing device and projecting beyond said second printing device.

18. In a time-recorder, in combination, a rotary printing device having parts positioned at unequal distances from its axis of rotation, a second printing device mounted adjacent thereto, spring-pressed means adapted to hold said second printing device in alinement with the parts upon said first printing device at the extreme distance from its axis of rotation, said last-mentioned means being adapted to permit said second printing device to fall into alinement with the parts upon said first printing device at the lesser distance from its axis of rotation, and means adapted to

bring a record-receiving member into operative relation to said printing devices.

19. In a time-recorder, in combination, a printing-wheel having two type at unequal distances from its axis, a second printing-wheel adjacent thereto, and resilient means adapted to press said second printing-wheel into a position even with the type at the greater distance from the axis and to permit it to swing into a position even with the type at the lesser distance from the axis.

20. In a time-recorder, in combination, a printing device, a second printing device, means adapted to cause a relative movement between a record-receiving member and said printing devices in a direction toward one another, means adapted during a predetermined period of the day to limit said relative movement in a position in which said record-receiving member is in operative relation to both of said printing devices, means adapted during another period of the day to limit said relative movement to the position in which said record-receiving member is in operative relation to one only of said printing devices, and a third printing device resiliently pressed into a position in which it is adapted to coact with said record-receiving member throughout the entire day.

21. In a workman's time-recorder, in combination, a card-holder, a movable stop or abutment adapted to limit the depth of insertion of a card within said holder at different points and space the daily records in transverse columns, a plurality of printing mechanisms each adapted independently to form a record in said transverse columns whereby the records of each of said printing mechanisms are substantially in vertical columns, and means adapted to bring a card in said card-holder into operative relation with any of said printing mechanisms.

22. In a time-recorder, in combination, a plurality of time-controlled printing devices, means adapted to hold a record-receiving member and means adapted to bring a record-receiving member in said holding means into operative relation with any of the same, each of said printing devices being adapted to record time with reference to a different regular daily period of labor.

23. In a time-recorder, in combination, a plurality of time-controlled printing devices, means adapted to hold a record-receiving member, means adapted to bring a record-receiving member in said holding means into operative relation with any of the same, each of said printing devices being adapted to record time with reference to a different predetermined point of time, and means adapted automatically to render one of said printing devices inoperative during a period of each day.

24. In a time-recorder, in combination, a plurality of time-controlled printing devices, means adapted to bring a record-receiving member into operative relation with any of the same, each of said printing devices being adapted to record time with reference to a different predetermined point of time, and means adapted automatically to render each of said printing devices inoperative during a different period of each day.

25. In a time-recorder, in combination, a plurality of printing devices, a card-receiver mounted adjacent thereto, movable means adapted to limit the depth of insertion of a record-card therein, and a laterally-movable platen adapted to bring said record-card into operative relation with any of said printing devices.

26. In time-recording apparatus, in combination, printing means, means adapted to take an impression therefrom upon a record-receiving member, and means adapted to actuate said printing means to cause said impression to represent directly and typographically the time of absence during working hours of the workman using the same upon each arrival and each departure.

27. In a workman's time-recorder, in combination, clockwork, printing mechanism comprising an hour-wheel and a wheel for decimal fractions of an hour driven from said clockwork, the type upon said wheels being so disposed and driven as to be in position for printing in effect zero at the beginning of each regular daily period of labor, and during the time following the same to be in condition to print in hours and decimal fractions of hours the total elapsed time between the beginning of said period of labor and the time of actuation.

28. In a workman's time-recorder, in combination, clockwork, printing mechanism driven from said clockwork and provided with type so formed and disposed as upon actuation subsequent to the beginning of a regular period of labor to print the elapsed time between the time of actuation and the time of beginning of said period of labor, printing mechanism driven from said clockwork and provided with type so formed and disposed as upon actuation prior to the time of ending of the regular daily period of labor to print the amount of time between the time of actuation and said time of ending of the regular daily period of labor, and means adapted to bring a single record-receiving member into operative relation with either of said printing mechanisms.

29. In a workman's time-recorder, in combination, clockwork, printing mechanism driven from said clockwork provided with type so formed and disposed as upon actuation by a workman upon entry and exit to record directly in Arabic numerals the time of absence of said workman with respect to the regular daily period of labor, and means adapted to bring a record-receiving member into operative relation to said first-mentioned means.

30. In a workman's time-recorder, in combination, a card-holder, a stop or abutment adapted to limit the depth of insertion of a record-receiving member at different points and space the daily records in transverse columns, a plurality of printing mechanisms mounted upon the same shaft, each of which is adapted independently to form a record upon one of said transverse columns whereby the records of each of said printing mechanisms form substantially vertical columns, and means adapted to bring a record-receiving member within said card-holder into operative relation with any of said printing mechanisms.

31. In a time-recorder, in combination, a plurality of time-controlled printing devices, means adapted to hold a record-receiving member, and means adapted to bring a record-receiving member within said holding means into operative relation with any of said printing devices, one of said printing devices being adapted to record time directly with reference to the beginning of a regular daily period of labor as zero, and another of said printing devices being adapted to record time inversely with reference to the ending of said period of labor as zero.

32. In a time-recorder, in combination, a plurality of time-controlled printing devices, means adapted to hold a record-receiving member, means adapted to bring a record-receiving member within said holding means into operative relation with any of said printing devices, one of said printing devices being adapted to record time directly with reference to the beginning of a regular daily period of labor as zero and another of said printing devices being adapted to record time inversely with reference to the ending of said period of labor as zero, and means adapted automatically to render each of said devices inoperative during a period of each day.

33. In a workman's time-recorder, in combination, clockwork, printing mechanism driven therefrom provided with time-printing type, means adapted to support a record-receiving member, and means adapted to bring together said type and said record-receiving member and form an impression upon said member, said type being so disposed as at any point of time in a period following the beginning of the regular working hours to bring to the printing-point type representing the elapsed time between said point and the time of beginning of said regular working hours, whereby the impression formed indicates directly the tardiness of actuation of the recorder with reference to the regular daily hours of labor.

34. In a workman's time-recorder, in combination, clockwork, printing mechanism driven therefrom provided with time-printing type, means adapted to support a record-receiving member, and means adapted to bring together said type and said record-receiving member and form an impression upon said member, said type being so disposed as at any point of time during a period preceding the ending of a regular daily period of labor to bring to the printing-point type representing the amount of time between said point of time and said time of ending of the regular daily period of labor, whereby upon actuation upon leaving the impression formed indicates directly the deficiency of the hours of labor with respect to the regular daily period.

35. In a workman's time-recorder, in combination, clockwork, printing mechanism driven therefrom provided with time-printing type, means adapted to support a record-receiving member, and means adapted to bring together said type and said record-receiving member and form an impression upon said record-receiving member, certain of said type being so disposed as upon actuation in a period following the beginning of the regular working hours to bring to the printing-point type representing the elapsed time between said time of actuation and said time of beginning of the regular working hours whereby the impression formed is directly indicative of the tardiness of actuation, and certain of said type being so disposed as upon actuation at any time in a period preceding the time of ending of the regular working hours to bring to the printing-point type representing the amount of time between said time of actuation and said time of ending, whereby the impression formed is directly indicative of the deficiency of the workman with respect to said regular working hours.

36. In a workman's time-recorder, in combination, time-printing mechanism provided with type adapted to print hours and type adapted to print portions of an hour, means adapted to support a record-receiving member, and means adapted to bring together said type and said record-receiving member and form an impression upon said record-receiving member, said type being so disposed as upon actuation at any time in a period following the beginning of the regular working hours to bring to the printing-point type representing the elapsed time between said time of actuation and said time of beginning of the regular working hours.

37. In a workman's time-recorder, in combination, clockwork, printing mechanism driven therefrom provided with time-printing type, means adapted to support a record-receiving member, and means adapted to bring together said type and said record-receiving member and form an impression upon said record-receiving member, certain of said type being so disposed as upon actuation in a period following the beginning of the regular working hours to bring to the printing-point type representing the elapsed time between said time of actuation and said time of beginning of the regular working hours whereby the impression formed is directly indicative of the tardiness of actuation, and certain of said type being so disposed as upon actuation at any time in a period preceding the time of ending of the regular working hours to bring to the printing-point type representing the amount of time between said time of actuation and said time of ending, whereby the impression formed is directly indicative of the deficiency of the workman with respect to said regular working hours, and a plurality of members of said printing mechanism being mounted directly upon the same shaft.

38. In a workman's time-recorder, in combination, clockwork, printing mechanism driven therefrom provided with time-printing type, means adapted to support a record-receiving member, and means adapted to bring together said type and said record-receiving member and form an impression upon said record-receiving member, certain of said type being so disposed as upon actuation in a period following the beginning of the regular working hours to bring to the printing-point type representing the elapsed time between said time of actuation and said time of beginning of the regular working hours whereby the impression formed is directly indicative of the tardiness of actuation, and certain of said type being so disposed as upon actuation at any time in a period preceding the time of ending of the regular working hours to bring to the printing-point type representing the amount of time between said time of actuation and said time of ending, whereby the impression formed is directly indicative of the deficiency of the workman with respect to said regular working hours, and means adapted to place a record-receiving member in said supporting means in operative relation with either of said sets of type.

39. In a workman's time-recorder, in combination, clockwork, printing mechanism driven thereby, and means adapted to bring a record-receiving member into operative relation with said printing mechanism and form a record thereon, said printing mechanism being adapted throughout a period of time preceding the regular daily hours of labor to form a substantially constant impression.

40. In a workman's time-recorder, in combination, clockwork, printing mechanism driven therefrom provided with time-printing type, means adapted to support a record-receiving member, and means adapted to bring together said type and said record-receiving member and form an impression upon said member, certain of said type being so disposed as at any point of time in a period following the beginning of the regular working hours to bring to the printing-point type representing the elapsed time between said point and the time of beginning of said regular working hours whereby the impression formed indicates directly the tardiness of actuation of the recorder with reference to the regular daily hours of labor, and certain of said type being so disposed as upon any actuation in a period preceding the regular working hours to form a substantially constant impression.

41. In a workman's time-recorder, in combination, clockwork, printing mechanism driven therefrom provided with time-printing type, means adapted to support a record-receiving member, and means adapted to bring together said type and said record-receiving member and form an impression upon said member, certain of said type being so disposed as at any point of time in a period following the beginning of the regular working hours to bring to the printing-point type representing the elapsed time between said point and the time of beginning of said regular working hours whereby the impression formed indicates directly the tardiness of actuation of the recorder with reference to the regular daily hours of labor, and certain of said type being so disposed as upon any actuation in a period preceding the regular working hours to form the impression 0.

42. In a workman's time-recorder, in combination, clockwork, printing mechanism driven therefrom provided with time-printing type, means adapted to support a record-receiving member, and means adapted to bring together said type and said record-receiving member and form an impression upon said member, certain of said type being so disposed as at any point of time in a period following the beginning of the regular working hours to bring to the printing-point type representing the elapsed time between said point and the time of beginning of said regular working hours whereby the impression formed indicates directly the tardiness of actuation of the recorder with reference to the regular daily hours of labor, and certain of said type being so disposed as upon any actuation in a period preceding the regular working hours to form an impression free from significant Arabic numerals.

43. In a workman's time-recorder, in combination, printing mechanism provided with type, means adapted to support a record-receiving member, and means adapted to bring together said type and said record-receiving member and form an impression upon said record-receiving member, said type being so disposed as upon actuation during the regular daily noon intermission of labor to bring to the printing-point type adapted to form a substantially constant impression.

44. In a workman's time-recorder, in combination, printing mechanism provided with type, means adapted to support a record-receiving member, and means adapted to bring together said type and said record-receiving member and form an impression upon said record-receiving member, certain of said type being so disposed as upon actuation during the regular daily noon intermission of labor to bring to the printing-point type adapted to form an impression free from significant Arabic numerals, and certain of said type being so disposed as upon actuation during the regular working hours to bring to the printing-point type representing time in Arabic numerals.

45. In a workman's time-recorder, in combination, clock-

work, printing mechanism driven therefrom, and means adapted to bring a record-receiving member into operative relation to said printing mechanism and form a record thereon, said printing mechanism comprising type formed to print a record free from significant Arabic numerals and so disposed as to be in position for printing upon actuation of the recorder out of hours of labor whereby such actuation is recorded and the record thereof is free from significant Arabic numerals, and said printing mechanism comprising type formed to print time in Arabic numerals and so disposed as to be in position upon actuation of the recorder during a period of labor for printing in Arabic numerals time with reference to a terminal point of said period of labor.

46. In a workman's time-recorder, in combination, clockwork, printing mechanism driven therefrom, and means adapted to bring a record-receiving member into operative relation to said printing mechanism and form a record thereon, said printing mechanism comprising type formed to print a record having a single character and so disposed as to be in position for printing upon actuation of the recorder out of the hours of labor whereby such actuation is recorded in single figures or characters, and said printing mechanism comprising type adapted to print time in a plurality of characters so disposed as to be in position for printing upon action of the recorder during the hours of labor.

47. In a workman's time-recorder, in combination, clockwork, printing mechanism driven therefrom comprising an hour-wheel and a wheel adapted to print portions of an hour, and means adapted to bring a record-receiving member into operative relation to said printing mechanism and form a record thereon, the type upon said wheels being so disposed and driven as upon actuation of the recorder during a period preceding the regular morning hours of labor to be in position to form a substantially constant impression, and upon actuation of the recorder in a period following the beginning of the regular hours of labor to print time with reference to said time of beginning of the hours of labor, whereby the impression is directly indicative of the tardiness of actuation of the recorder.

48. In a workman's time-recorder, in combination, clockwork, a plurality of printing mechanisms driven therefrom, and means adapted to bring a record-receiving member into operative relation to said printing mechanisms and form a record thereon, the type upon one of said printing mechanisms being so disposed as upon actuation in a period following the beginning of the regular hours of labor to print time directly indicative of the time elapsed between said time of actuation and said time of beginning of the hours of labor, the type upon another of said mechanisms being so disposed as upon actuation in a period preceding the ending of the morning hours of labor to form a record directly indicative of the amount of time between said time of actuation and the time of ending of the regular morning hours of labor, the type upon another of said mechanisms being so disposed as upon actuation in a period following the time of beginning of the regular afternoon hours of labor to form a record directly indicative of the elapsed time between the beginning of said afternoon hours of labor and the time of actuation, and the type upon another of said mechanisms being so disposed as upon actuation in a period preceding the time of ending of the afternoon hours of labor to form a record directly indicative of the amount of time between said time of actuation and said time of ending of the afternoon hours of labor.

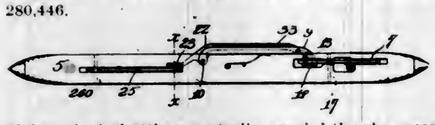
49. In a workman's time-recorder, in combination, clockwork, a plurality of printing mechanisms driven therefrom, and means adapted to bring a record-receiving member into operative relation to said printing mechanisms and form a record thereon, the type upon one of said printing mechanisms being so disposed as upon actuation in a period following the beginning of the regular hours of labor to print time directly indicative of the time elapsed between said time of actuation and said time of beginning of the hours of labor, the type upon another of said mechanisms being so disposed as upon actuation in a period preceding the ending of the morning hours of labor to form a record directly indicative of the amount of time between said time of actuation and the time of ending of the regular morning hours of labor, the type upon another of said mechanisms being so disposed as upon actuation in a period following the time of beginning of the regular afternoon hours of labor to form a record directly indicative of the elapsed time between the beginning of said afternoon hours of labor and the time of actuation, and the type upon another of said mechanisms being so disposed as upon actuation in a period preceding the time of ending of the afternoon hours of labor to form a record directly indicative of the amount of time between said time of actuation and said time of ending of the afternoon hours of labor, a member of each of said printing mechanisms being mounted upon a common shaft.

50. In a workman's time-recorder, in combination, clockwork, a plurality of printing mechanisms driven therefrom, and means adapted to bring a record-receiving member into operative relation to said printing mechanisms and form a record thereon, the type upon one of said printing mechanisms being so disposed as upon actuation in a period following the beginning of the regular hours of labor to print time directly indicative of the time elapsed between said time of actuation and said time of beginning of the hours of labor, the type upon another of said mechanisms being so disposed as upon actuation in a period preceding the ending of the morning hours of labor to form a record directly indicative of the amount of time between said time of actuation and the time of ending of the regular morning hours of labor, the type upon another of said mechanisms being so disposed as upon actuation in a period following the time of beginning of the regular afternoon hours of labor to form a record directly indicative of the elapsed time between the beginning of said afternoon hours of labor and the time of actuation, and the type upon another of said mechanisms being so disposed as upon actuation in a period preceding the time of ending of the afternoon hours of labor to form a record directly indicative of the amount of time between said time of actuation and said time of ending of the afternoon hours of labor, a card-holder, and means adapted to throw a record-card within said card-holder into operative relation to any of said printing mechanisms.

51. In a workman's time-recorder, in combination, clockwork, a plurality of printing mechanisms driven therefrom, the type upon one of said printing mechanisms being so disposed as upon actuation in a period following the beginning of the regular hours of labor to print time directly indicative of the time elapsed between said time of actuation and said time of beginning of the hours of labor, the type upon another of said mechanisms being so disposed as upon actuation in a period preceding the ending of the morning hours of labor to form a record directly indicative of the amount of time between said time of actuation and the time of ending of the regular morning hours of labor, the type upon another of said mechanisms being so disposed as upon actuation in a period following the time of beginning of the regular afternoon hours of labor to form a record directly indicative of the elapsed time between the beginning of said afternoon hours of labor and the time of actuation, and the type upon another of said mechanisms being so disposed as upon actuation in a period preceding the time of ending of the afternoon hours of labor to form a record directly indicative of the amount of time between said time of actuation and said time of ending of the afternoon hours of labor, a card-holder, movable means adapted to limit the depth of insertion of a record-card at different points whereby the daily records thereon are spaced in separate transverse columns, said several printing mechanisms being positioned to form their several records in substantially vertical columns upon a card within said card-holder, and means adapted to throw a record-card within said card-holder into operative relation to any of said printing mechanisms.

52. In a workman's time-recorder, in combination, clockwork, a plurality of printing mechanisms driven therefrom, the type upon one of said printing mechanisms being so disposed as upon actuation in a period following the beginning of the regular hours of labor to print time directly indicative of the time elapsed between said time of actuation and said time of beginning of the hours of labor, the type upon another of said mechanisms being so disposed as upon actuation in a period preceding the ending of the morning hours of labor to form a record directly indicative of the amount of time between said time of actuation and the time of ending of the regular morning hours of labor, the type upon another of said mechanisms being so disposed as upon actuation in a period following the time of beginning of the regular afternoon hours of labor to form a record directly indicative of the elapsed time between the beginning of said afternoon hours of labor and the time of actuation, and the type upon another of said mechanisms being so disposed as upon actuation in a period preceding the time of ending of the afternoon hours of labor to form a record directly indicative of the amount of time between said time of actuation and said time of ending of the afternoon hours of labor, a pivoted retainer provided with a head normally occupying the throat of said hook-shaped end, a locking-pawl carried by the retainer and adapted to engage the controller, and a releasing-lever for actuating said pawl.

842,133. LOOM-SHUTTLE. JOHN C. BROOKS, Paterson, N. J., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Sept. 28, 1905. Serial No. 280,446.



Claim.—1. A shuttle, a controller carried thereby, means to hold the controller normally in inoperative position, and means to release the controller whenever the weft in the shuttle is substantially exhausted, or whenever a float occurs in the warp-threads.

2. A shuttle, a controller carried thereby, and means actuated either by the exhaustion of the filling or the existence of a float to actuate the controller.

3. A shuttle, a controller carried thereby, a lock to hold said controller in inopernative position, and means to release the lock when the weft is substantially exhausted or a float occurs.

4. A shuttle, a controller carried thereby, a retainer to hold the controller normally in inoperative position, and means to actuate said retainer thereby to release the controller whenever a float occurs.

5. In a shuttle, a controller, a retainer to hold said controller normally in inoperative position, and means to actuate said retainer thereby to release the controller either whenever a float occurs or whenever the weft is substantially exhausted.

6. In a shuttle, a controller, a retainer to hold said controller normally in inoperative position, a locking-pawl to hold said retainer from movement, and means to actuate said pawl thereby to release the retainer whenever a float occurs.

7. In a shuttle, a controller, a retainer to hold said controller normally in inoperative position, a locking-pawl to hold said retainer from movement, and means to actuate the pawl to release the retainer by occurrence of a float or the exhaustion of the weft.

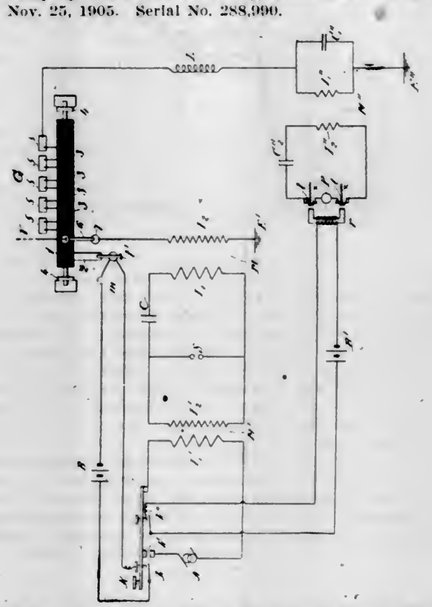
8. In a shuttle, a controller, a retainer to hold said controller normally in inoperative position, a locking-pawl to hold said retainer from movement, and means set in motion either by the existence of a float or the exhaustion of the weft to actuate the pawl thereby to release the retainer.

9. In a shuttle, a controller, a retainer to hold said controller normally in inoperative position, a locking-pawl pivoted to the retainer and adapted to engage the controller, and a releasing-lever to actuate said pawl.

10. In a shuttle, a controller having a hook-shaped end and a pivoted retainer provided with a head to normally occupy the throat of said hook-shaped end.

11. In a shuttle, a controller having a hook-shaped end,

842,134. SPACE TELEGRAPHY. SEWALL CABOT, Brookline, Mass., assignor to Stone Telegraph and Telephone Company, Boston, Mass., a Corporation of Maine. Filed Nov. 25, 1905. Serial No. 288,990.



Claim.—1. In a space-telegraph system, a transmitting system, a receiving system, an elevated conductor, a sending-key, a high-potential switch constructed and arranged to alternately connect said elevated conductor to said transmitting and receiving systems, said switch comprising means for augmenting the gap in the circuit beyond an air-gap formed between two contacts, and means controlled by said sending-key for operating said switch.

2. In a space-telegraph system, a transmitting system, a receiving system, an elevated conductor, a sending-key, a switch comprising a number of series contact members constructed and arranged to alternately connect said elevated conductor to said transmitting and receiving systems, and means controlled by said sending-key for operating said switch.

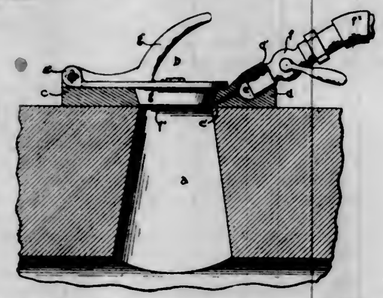
3. In a space-telegraph system, a transmitting system, a receiving system, an elevated conductor, a sending-key, a switch normally connecting said elevated conductor to said receiving system through a number of series contact members, a contact carried by said switch constructed and arranged normally to disconnect said elevated conductor from said transmitting system, and means controlled by said sending-key for operating said switch.

842,135. POKE-HOLE VALVE FOR FURNACES. GRANT CAMPION and MOTT WYANT, Anderson, Ind., assignors to James L. Burson, Venito, Va. Filed Aug. 23, 1906. Serial No. 331,774.

Claim.—1. A poke-hole valve for furnaces, formed in two parts, namely, a seat-plate provided with a valve-seat and a single oblique passage at one side, opening at the bottom of the valve-seat and below the valve-plug, said passage having a steam-pipe connection, and a valve-plug constructed to fit said valve-seat.

2. A poke-hole valve for furnaces formed in two parts,

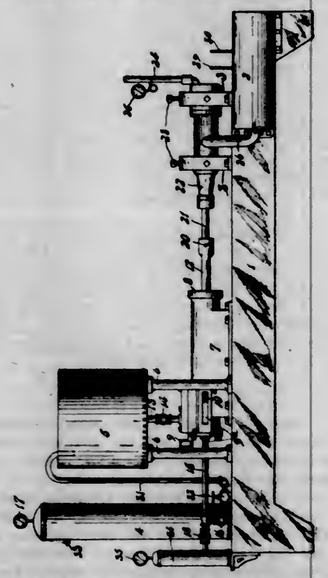
namely, a seat-plate provided with a valve-seat and an oblique passage at one side opening at the bottom of the valve-seat and below the valve-plug and being directed toward the center of the poke-hole, said passage consisting of two portions of different diameters, and having a steam-pipe connection, and a valve-plug constructed to fit said valve-seat.



3. A poke-hole valve for furnaces formed in two parts, namely: a seat-plate provided with a valve-seat and an oblique extension at one side provided with a passage consisting of two portions of different diameters, the larger of which portions has a steam-pipe connection, said passage opening at the bottom of the valve-seat and below the valve-plug, said seat-plate having upward-projecting lugs at its opposite side and laterally-projecting lugs at right angles to the oblique extension and upward-projecting lugs and perforated for bolts, and a valve-plug hinged to said upward-projecting lugs.

4. A poke-hole for furnaces having a seat-plate provided with a valve-seat and an oblique passage directed toward the center of the hole and opening below the valve-plug, said passage consisting of two portions of different diameters, the larger of which portions has a steam-pipe connection, and a valve-plug constructed to fit said valve-seat.

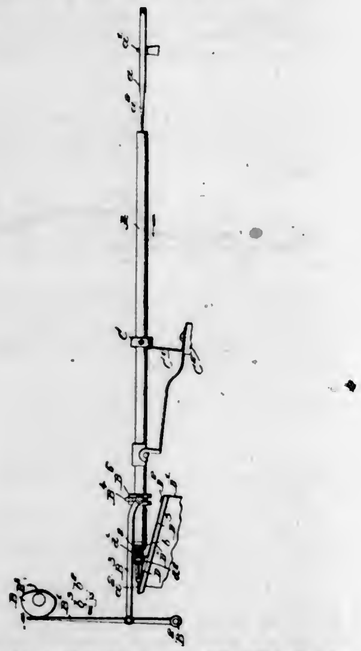
842,136. METHOD OF TESTING PNEUMATIC TOOLS. ROBERT A. CHAMBERS, New Glasgow, Novia Scotia, Canada. Filed July 23, 1906. Serial No. 327,293.



Claim.—1. A method of testing pneumatic tools and the like which consists in connecting said tool to a reciprocating piston, operating said piston to impinge against a body of water to compress a column of air, and measuring the air thus compressed in comparison with the energy consumed by the tool.

2. A method of testing pneumatic tools and the like which consists in connecting the tool to a reciprocating piston, operating said piston to strike a series of impinging blows against a volume of water, registering the forward stroke of said piston by means of a compression-tank, registering the return stroke of said piston by means of a vacuum-tank, and measuring the sum of both forces in comparison with the energy supplied to said tool.

842,137. FEEDING MECHANISM FOR TACK-CUTTING MACHINES. GEORGE N. COOPER, Haverhill, Mass., assignor of one-half to George Frederick Soule, Plymouth, Mass. Filed Nov. 13, 1905. Serial No. 287,035.

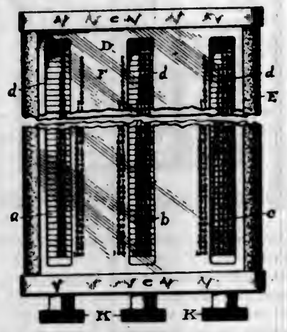


Claim.—1. In an apparatus of the class described, a tube having feeding-dogs secured thereto, a nose secured to and extending from said tube, holding-dogs, means independent of the tube for sustaining the same between the nose and feeding-dogs, and means to move said tube and feeding-dogs forwardly positively to feed a ribbon or strip between the holding-dogs from the nose, said holding-dogs preventing the movement backwardly of the ribbon or strip with the tube or feeding-dogs in their backward movement.

2. In an apparatus of the class described, a tube through which a ribbon or strip is to be fed, a bushing disposed at one end of the tube, feeding-dogs pivotally sustained by said bushing beyond the end of the tube, means to move said tube, bushing, and feeding-dogs positively forward to feed a ribbon or strip, and holding-dogs disposed beyond the feeding-dogs for preventing backward movement of the ribbon or strip, and a spring for returning the tube, bushing and feeding-dogs to their original position.

3. In apparatus of the class described, a tube, a bushing carried by said tube, feeding-dogs pivotally sustained by said bushing, a nose extended from said tube to sustain a ribbon or strip at a distance from said feeding-dogs, a stationary collar intermediate said nose and feeding-dogs, holding-dogs pivoted on said collar, means to move the tube forwardly positively to feed the strip, and means to prevent longitudinal movement of said collar, said parts operating substantially as described.

842,138. COMPUTING-MACHINE. ADOLPHUS S. DENNIS, Cleveland, Ohio, assignor, by mesne assignments, to The Calulus Company. Filed Sept. 25, 1905. Renewed Dec. 22, 1906. Serial No. 349,161.



Claim.—1. In a computing-machine, a casing having visual openings, two or more pairs of rollers in axial alinement, the rollers of each pair being superposed one above the other, whereby the top rollers may be brought close together, and each pair being independently operative, in combination with an index-strip fixed between each pair of rollers and having in each instance the same series of index-numbers thereupon, the same numbers in each series being in horizontal alinement, and a separate sheet for each pair of rollers having columns of figures in parallel alinement adapted to show through said visual openings, said openings being adjacent to and parallel with said index-strips, and the corresponding numbers on the sheets and index-strips being also in horizontal alinement.

2. In a computing-machine, a casing having visual openings, two or more pairs of rollers in axial alinement, the rollers of each pair being superposed one above the other, whereby the top rollers may be brought close together, and each pair being independently operative, in combination with an index-strip fixed between each pair of rollers and having in each instance the same series of index-numbers, running from 1 to 100 thereupon, the same numbers in each series being in horizontal alinement, and a separate sheet for each pair of rollers having columns of figures in parallel alinement adapted to show through said visual openings, said openings being adjacent to and parallel with said index-strips, and the corresponding numbers on the sheets and index-strips being also in horizontal alinement.

3. In a computing-machine of the kind described, a casing, a series of pairs of rollers, each pair carrying a sheet, a gear-wheel at one end of each roller, a driving-gear for each pair of gear-wheels, a division-wall separating the ends of the rollers proper from said gear-wheels and driving-gear and forming a guide for said sheets and also an inner journal for the driving-gear, and a washer upon the end of each roller fitting within an opening in said division-wall.

842,139. METHOD OF TREATING ORES. CHARLES A. DIEHL and WILLIAM KOEHLER, Cleveland, Ohio. Filed Mar. 28, 1906. Serial No. 308,580.

Claim.—1. The method of treating ores containing metals whose chlorids are decomposed under oxidizing conditions at substantially different temperatures, which consists in fully chloridizing the ore, and then heating the chloridized ore under oxidizing conditions to a temperature sufficient to decompose the more readily decomposable chlorids with evolution of chlorin or hydrochloric acid, while leaving the chlorid of the remaining metal or metals substantially undecomposed, substantially as described.

2. The method of treating ores containing metals whose chlorids are decomposed under oxidizing conditions at substantially different temperatures, which consists in first converting the metals of the ore into chlorids, and then heating the chloridized ore in the presence of water-vapor to a temperature sufficient to decompose the more readily decomposable chlorids, while leaving the chlorid of the remaining metal or metals substantially undecomposed, substantially as described.

3. The method of treating ores containing nickel, together with metals whose chlorids are more readily decomposed under oxidizing conditions than nickel chlorid, which consists in first converting the metals of the ore into chlorids and then heating the ore under oxidizing conditions to a temperature sufficient to decompose the more readily decomposable chlorids, while leaving the chlorid of nickel substantially undecomposed, substantially as described.

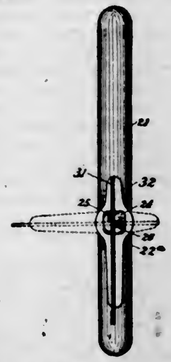
4. The method of treating ores containing divalent and trivalent metals, which consists in fully chloridizing the ore and then heating the ore under oxidizing conditions to a temperature sufficient to effect the decomposition of the more readily decomposable chlorids and the formation of an oxidized compound, while leaving the chlorid of the remaining metal or metals substantially undecomposed, substantially as described.

842,140. ORGANIC IODIN PREPARATION. EMIL FISCHER, Berlin, Germany. Original application filed Dec. 16, 1905, Serial No. 292,053. Divided and this application filed Oct. 23, 1906. Serial No. 340,159.

Claim.—1. The herein-described salts of magnesium of the mono-iodin-substituted derivatives of high-molecular fatty acids obtained from the corresponding high-molecular acids of the oleic series which are solid, stable bodies, tasteless, colorless and insoluble in water, substantially as hereinbefore described.

2. The herein-described magnesium salt of mono-iodobehenic acid $[(C_{22}H_{42}IO_2)_2Mg]$ obtained from mono-iodobehenic acid, which is a solid, stable body, tasteless, colorless and insoluble in water, substantially as hereinbefore described.

842,141. DETACHABLE SAW-HANDLE. CASSIUS F. FRAZEE, Portland, Oreg., assignor to E. C. Atkins & Co., Indianapolis, Ind., a Corporation. Filed Oct. 16, 1905. Serial No. 282,958.

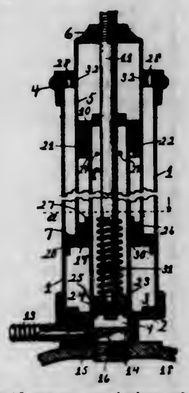


Claim.—1. In a saw-handle, the combination of a shank made with a threaded head having squared sides, a tang as 24, projecting from one corner of such head, and made with two faces, disposed at right angles to each other and provided with locking-studs 25, 26, respectively, arranged to interlock with the end of a saw-blade, a movable bearing-head, adapted to engage with the edge of the saw-blade end, and made with an opening which fits said squared portion of the shank, and a jam-nut to force the bearing-head against the saw end.

2. In a saw-handle, the combination of a shank made with a threaded head having right-angular, cut-away side

faces, a tang as 24, projecting from one corner of such head, and made with two faces disposed at right angles to each other and provided with locking-studs 25, 26, respectively, arranged to interlock with the end of a saw-blade; a movable bearing-head adapted to engage with the edge of the saw-blade end, and made with an opening adapting such bearing-head to be placed on said shank-head in either one of the two positions at right angles to each other; and a jam-nut to force the bearing-head against the saw end.

842,142. PNEUMATIC PUMP. JACOB FUNCK, Rochester, N. Y., assignor to Judd & Leland Manufacturing Company, Clifton Springs, N. Y. Filed Oct. 3, 1906. Serial No. 337,297.



Claim.—1. A fluid-pump consisting of a series of concentric barrels of graded diameters, and an axial plunger-rod with handle, there being a piston for each barrel, the middle barrel and the plunger-rod being rigidly joined and together movable, and the outer and the inner barrels being rigidly connected and stationary.

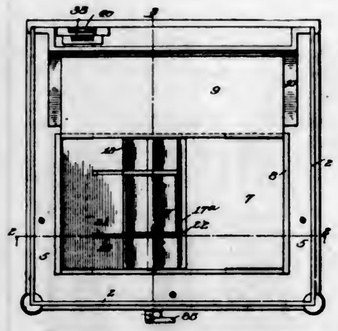
2. A fluid-pump, such as described, having three concentric cylindrical barrels and an axial plunger-rod within, a base-piece rigid with the outer and the inner barrels, the plunger-rod piercing the head of the middle barrel and rigid therewith, the middle barrel having an outer and an inner packing-ring there being a packing-ring for the inner barrel and a packing-ring for said plunger-rod.

3. A device of the kind described, having a circular base-piece with large and small concentric chambers, a barrel held in said large chamber and an inner barrel held in the small chamber, a third barrel between said outer and inner barrels independent of the base-piece and having a plunger-head for said outer barrel, and an axial rod with plunger-head for the inner barrel and a plunger-head on the inner barrel for the middle barrel, said barrels and the rod being coaxial.

842,143. CIGAR-VENDING MACHINE. ISAAC H. GARSON, Rochester, N. Y., assignor to The Garson Vending Machine Company, a Corporation of New Jersey. Filed Dec. 16, 1904. Serial No. 237,138.

Claim.—1. In a device for vending cigars and similar articles, the combination with a hopper, of a carrier mounted in coöperative relation with the hopper having receptacles for receiving the articles from the hopper, and a device mounted to coöperate with the article in its corresponding receptacle during the operation of the carrier for controlling the locking of the carrier.

2. In a device for vending cigars and similar articles, the combination with a hopper, of a carrier mounted in coöperative relation with the hopper having receptacles for receiving the articles from the hopper, controlling means for locking and unlocking the carrier, and a device mounted to coöperate with an article in its corresponding pocket during the operation of the carrier and coöperating with the controlling means for controlling the locking of the carrier.



3. In a device for vending cigars and similar articles, the combination with a hopper, of a delivery-carrier having pockets therein for receiving the articles from the hopper, operating means capable of being connected and disconnected from the carrier, and a device mounted to coöperate with an article in its respective pocket during the operation of the carrier for controlling the delivery operation of the carrier.

4. In a device for vending cigars and similar articles, the combination with a hopper, of a carrier having pockets therein for receiving the articles from the hopper, operating means for actuating the carrier, and a device mounted to coöperate with an article in its respective pocket of the carrier for controlling operative connection between the latter and the operating means.

5. In a device of the character described, the combination with a receptacle for the articles to be vended, of a rotatable carrier having pockets therein for receiving the articles from the receptacle, operating means having devices coöperating therewith to control the operation of the carrier, and an arm disposed transversely of the carrier and arranged to coöperate with an article in its respective pocket for controlling the delivery operation of the carrier by the controlling means.

6. In a vending-machine, the combination with a hopper or receptacle for the articles to be vended, of a delivery device mounted in coöperative relation with the receptacle for discharging the articles therefrom, operating means for actuating the delivery device capable of being connected and disconnected therefrom, and repeating mechanism for maintaining the operating means and the delivery mechanism in operative connection to permit the latter to be successively operated to deliver a predetermined number of articles.

7. In a vending-machine, the combination with a receptacle for the articles to be vended, and a delivery device coöperatively arranged therewith, of operating means capable of being connected and disconnected from the delivery device for actuating the latter, and repeating mechanism for maintaining the operating means and the delivery device in operative connection to permit the latter to be successively operated a predetermined number of times.

8. In a vending-machine, the combination with a receptacle for the articles to be vended, and a delivery device coöperatively arranged therewith, of operating means normally disconnected from the delivery device, controlling means for establishing an operative connection between the operating means and the delivery device, and means actuated by a coin for operating the controlling means to connect the operating means and delivery device, and means controlled by the discharge of articles from the machine for disconnecting the operating means and the delivery device.

9. In a vending-machine, the combination with a receptacle for the articles to be vended, and a delivery device coöperatively arranged therewith, of operating means for the delivery device, and separately-released devices coöperating with the operating means and controlled by the

articles discharged for causing a different number of operations of the delivery device.

10. In a vending-machine, the combination with a receptacle for the articles to be vended, and a delivery device coöperatively arranged therewith, of operating means capable of being connected and disconnected from the delivery device, a device for connecting the operating means to the delivery device to cause a single operation of the latter, and a repeating device capable of maintaining the connection between the operating means and the delivery device to permit a predetermined number of operations of the latter.

11. In a vending-machine, the combination with a receptacle for the articles to be vended, and a delivery device coöperatively arranged therewith, of operating means arranged to coöperate with the delivery device for actuating it, means for controlling the relation between the delivery device and the operating means, a member operating upon the controlling means to permit actuation of the delivery device, means for resetting said member, and devices controlled by the said member for restoring the controlling means to normal position to render the delivery device inoperative.

12. In a vending-machine, the combination with a receptacle for the articles to be vended, and a delivery device coöperatively arranged therewith, of operating means for the delivery device, a controlling device for connecting and disconnecting the operating means and the delivery device, a member operating upon the controlling means to establish operative connections between the operating means and delivery device, and means controlled by the discharge of an article from the latter for resetting the controlling means.

13. In a vending-machine, the combination with a receptacle for the articles to be vended, and a delivery device therefor, of operating means for actuating the delivery device, controlling means for connecting and disconnecting the operating means and the delivery device, and a repeating device acting upon the controlling means for maintaining operative connection between the operating means and the delivery device to permit a predetermined number of successive operations of the latter.

14. In a vending-machine, the combination with a receptacle for the articles to be vended, and a delivery device therefor, of operating means normally disconnected from the delivery device, a controlling device for establishing connection between the operating means and the carrier, a member operating upon the controlling means for connecting the operating means and the delivery device to permit operation of the latter, a second member also operating upon the controlling device, and a repeating device set into operation by the second member for maintaining an operative connection between the operating means and the delivery device for permitting a predetermined number of successive operations of the latter.

15. In a vending-machine, the combination with a receptacle for the articles to be vended, of an operating-shaft carrying an actuating-arm, a normally inoperative carrier mounted in coöperative relation with the receptacle, an actuating device for transmitting motion from said arm to the carrier to actuate the latter, and a controlling device embodying an arm substantially concentric with said shaft and normally retaining the actuating devices and the carrier out of coöperative relation.

16. In a vending-machine, the combination with a receptacle for the articles to be vended, of an operating-shaft carrying an actuating-arm, a normally inoperative carrier mounted in coöperative relation with the receptacle, a pawl carried by said arm and arranged to coöperate with a ratchet-wheel connected to the carrier, and a controlling-arm having a portion thereon substantially concentric with said shaft and coöperating with the said pawl for disengaging it from the ratchet.

17. In a vending-machine, the combination with a receptacle for the articles to be vended, of an operating-shaft, a carrier mounted in coöperative relation with the receptacle, means for controlling the connection between the operating-shaft and carrier, a repeating device, an actuating device for the repeating device connected to the operating-shaft, locking means for normally retaining the repeating device inactive, and means operated by the repeating device and coöperating with the controlling device for permitting a predetermined number of successive operations of the carrier.

18. In a vending-machine, the combination with a receptacle for the articles to be vended, and a delivery-carrier coöperatively arranged therewith, of an operating-shaft, means for controlling the connection between the latter and the carrier, a rotatable disk, a locking device for normally retaining the disk inoperative, a pawl controlling the rotation of the disk when unlocked, an operative connection between the locking device and the controlling means, and an actuating device for the disk connected to the operating-shaft.

19. In a vending-machine, the combination with a receptacle for the articles to be vended, and a delivery device coöperatively arranged therewith, of an operating-shaft, devices for connecting and disconnecting the shaft and delivery device, a controlling device for the connecting devices, a repeating-disk, a locking device for normally retaining the disk inoperative, and an actuating device for the said disk embodying a flexible connection between the latter and the shaft for permitting operation of the latter while the disk is locked.

20. In a vending-machine, the combination with a receptacle for the articles to be vended, and a rotatable carrier for delivering the articles therefrom, of operating means for actuating the carrier, a repeating device operatively connected to the operating means to receive successive operations therefrom, and means controlled by the discharge of an article from the carrier for locking and unlocking the repeating device at each successive operation.

21. In a vending-machine, the combination with a suitable article-delivery device, an operating member therefor normally disconnected therefrom, a coin-actuated member, and means controlled by the operation of the coin-actuated member for placing the delivery device and said operating member in coöperative relation for delivering the articles, of means controlled by the discharge of the articles for causing the coin-actuated member to return to normal position, and prevent operation of the delivery device.

22. In a vending-machine, the combination with a suitable article-delivery device, operating means therefor, a coin-actuated member having a coin-receptacle thereon, and means controlled by the coin-actuated member for operatively connecting and disconnecting the delivery device and its operating means, of means controlled by the discharge of the articles for disengaging the coin from the coin-actuated member.

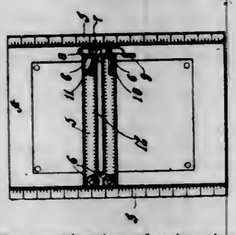
23. In a vending-machine, the combination with a suitable article-delivery device, operating means therefor, a lever having a receptacle thereon adapted to hold a coin the weight of which serves to actuate the lever, and means controlled by said lever for coupling and uncoupling the delivery device and its operating means, of a movable arm arranged to disengage the coin from its receptacle on said lever, and means operated only when an article is delivered, for actuating said arm.

24. In a vending-machine, the combination with a suitable article-delivery device, and a handle for operating said device to deliver the articles, and a shaft supporting said device and handle, of means for operatively connecting and disconnecting said device and handle embodying a ratchet on one of the parts, a pawl connected to the other part adapted to coöperate with said ratchet, and a controlling device having a portion concentric with the shaft and arranged to coöperate with said pawl and thereby control its relation with the ratchet.

25. In a vending-machine, the combination with a suitable article-delivery device, and operating means therefor, of step-by-step repeating mechanism for retaining the machine in condition to permit a predetermined number of successive operations of the delivery device, devices operated by said mechanism after the latter has been advanced a given number of steps for preventing operation of the delivery device, and means actuated by the articles delivered for advancing the repeating mechanism one step for each article actually delivered.

26. In a vending-machine, the combination with a suitable article-delivering device, operating means therefor, and a coin-actuated member for placing the article-delivery device in condition for operation to vend the articles therefrom, of means operated by the discharge of the articles for preventing subsequent discharging operation of the delivery device, and serving to retain the coin-actuated member in actuated position to permit subsequent delivery operation of the delivery device by the customer should the delivery device fail to vend an article therefrom.

842,144. DRAFTING INSTRUMENT. CHARLES A. GEE, Casa Blanca, Cal., assignor of one-fourth to R. Brinsmead, one-fourth to H. P. B. Vaughan, and one-fourth to F. G. Hall, Riverside, Cal. Filed Apr. 17, 1906. Serial No. 312,142.



Claim.—1. The combination of a board, guide-strips at the sides of the board and rising above the top thereof, and having undercut channels in their inwardly-presented edges, a plate extending across the board between said guides, rollers on the ends of the plate engaging the channels of the strips, and a spring-pressed member carrying the rollers at one end of the plate whereby the rollers at that end disengageably connect with their guide-strip.

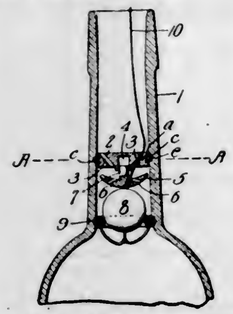
2. The combination of a board or like support having opposed parallel guides, said guides having channels on their adjacent edges, a cross-bar extending between the guides and movable across the board, said cross-bar having flanged rollers mounted on axes perpendicular to the plane of the board, the flanges of said rollers engaging the channels in said guides, a fulcrumed spring-pressed carriage member supporting the rollers at one end of said bar by which said rollers may be disengaged from the guides to allow the cross-bar to be removed.

3. The combination of a flat base or board, a standard, channeled guides upon the sides of the base, a plate extending across between the guides having rollers journaled upon one end to fit the grooves of one of the guides, and a lever fulcrumed to the other end of the plate having rollers journaled to itself engaging the channel of the other guide, said lever being turnable to engage or disengage the roller-flanges with the guide.

4. The combination of a flat base or board, a standard upon which it is adjustably mounted, means fixed to the upper end of the base to hold the upper edges of papers, a plate extending transversely between the sides of the base, channeled guides fixed to said sides, rollers journaled upon one end of the plate having flanges engaging the channels of the guide upon that side, a lever fulcrumed upon the opposite end of the plate having a guide and a handle by which the lever may be moved about its pivot, rollers journaled in said lever having flanges engaging the guide upon that side, and a spring by which the rollers are normally held in engagement with the guide.

5. The combination of a base having channeled guides fixed upon opposite sides, means fixed to the upper end of the base to hold the upper ends of papers, a plate extending from side to side between the guides and having an open centrally-disposed slot, flanged rollers journaled at opposite ends of the plate adapted to engage the grooves or channels of the guides, a fulcrumed spring-pressed movable lever from which one set of said rollers is carried and by which they may be disengaged to allow the plate to be removed, and a second bar or plate extending across the lower end of the base and adapted to travel in the channeled guides, said bar adapted to press upon the paper beneath it and hold it in position.

842,145. BOTTLE-CLOSURE. JOHN T. GILMER, Pensacola, Fla., assignor of one-half to T. A. Jennings, Pensacola, Fla. Original application filed June 11, 1906, Serial No. 321,239. Divided and this application filed Sept. 27, 1906. Serial No. 336,489.



Claim.—1. In a bottle-closure, the combination of a bottle-neck, a guard member in said bottle-neck having a peripheral groove, the bottle-neck having a confronting groove registering therewith, and balls or beads engaging in said grooves and holding the guard member in place, the groove in the guard member having sockets or recesses in which the beads are inserted before the guard member is inserted in the bottle-neck, substantially as described.

2. In a bottle-closure, the combination of a bottle-neck, and a guard member in said bottle-neck, the said guard member having a peripheral groove and the bottle-neck having an internal confronting groove, balls or beads engaging in said grooves, the groove in the guard member having sockets or recesses in which the balls are placed before the guard member is inserted in the bottle-neck, and said groove in said guard member having a rigid bottom to prevent tendency of the balls from returning into such sockets.

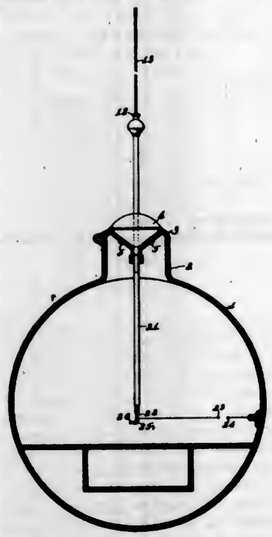
3. In a bottle-closure, the combination of a bottle-neck, a guard member therein having confronting grooves, and balls engaging in said grooves, the guard member having sockets in its groove to receive the balls before said guard member is inserted in the bottle-neck, and said guard member having partitions in its said groove dividing the same into sections, there being one or more balls and sockets in each of said sections.

842,146. SUBMARINE BOAT. RICHARD H. GOLDSBOROUGH, Washington, D. C. Filed Nov. 30, 1906. Serial No. 345,684.

Claim.—1. In a submarine boat provided with means for submerging the same, the combination of a vertical conductor, means for supporting said conductor above the surface of the water of flotation at any depth of submergence of the boat, a wireless-system apparatus within the boat, and means insulated from the water of flotation for maintaining said wireless-system apparatus in electrical connection with said vertical conductor, substantially as described.

2. In a submarine boat, the combination of a vertical conductor, a float for supporting said conductor above the surface of the water of flotation at any depth of submergence of the boat, a wireless-system apparatus within the boat, and means for maintaining said wireless-system apparatus in electrical connection with said vertical conductor in all positions of the latter, substantially as described.

3. In a submarine boat, the combination of tubular means for maintaining the boat in free communication with the external air at any depth of submergence of the boat, a vertical conductor carried by said tubular means, a wireless-system apparatus within the boat, and means within said tubular conductor for electrically connecting said apparatus to said vertical conductor in all positions, thereof, substantially as described.



4. In a submarine boat, the combination of adjustable means for maintaining the boat in free communication with the external air at any depth of submergence of the boat, and automatic means for closing said communication when submerged and opening it when emerged, substantially as described.

5. In a submarine boat, the combination of adjustable means for maintaining the boat in free communication with the external air at any depth of submergence of the boat, a vertical conductor carried by said adjustable means, a wireless-system apparatus within the boat, and means for electrically connecting said apparatus to said vertical conductor in all positions of said adjustable means, substantially as described.

6. In a submarine boat, the combination of adjustable means for maintaining the boat in free communication with the external air at any depth of submergence of the boat, automatic means for closing said communication when submerged and opening it when emerged, a vertical conductor carried by said adjustable means, a wireless-system apparatus within the boat, and means for electrically connecting said apparatus to said vertical conductor in all positions of said adjustable means, substantially as described.

7. In a submarine boat, the combination of a hollow mast comprising independent conduits provided with external openings, means for supporting said mast above the water of flotation, means for maintaining the independent conduits of said mast in communication with the interior of the boat, at any depth of submergence of the latter, and automatic means controlling said openings for maintaining them closed when submerged and open when emerged, substantially as described.

8. In a submarine boat, the combination of a hollow mast comprising independent conduits provided with external openings, means for supporting said mast above the water of flotation, means for maintaining the independent conduits of said mast in communication with the interior of the boat at any depth of submergence of the latter, and means within the boat for producing a continuous interchange through said independent conduits of the air-supply within the boat and the external air, substantially as described.

9. In a submarine boat, the combination of a hollow mast comprising independent conduits provided with external openings spaced apart along the length of said mast, and a common means for automatically controlling said openings for maintaining them closed when submerged and open when emerged, substantially as described.

10. In a submarine boat, the combination of a hollow mast comprising an outer tube and an inner tube of electrical conductive material insulated from said outer tube, means for establishing free communication through said tubes between the external air and the interior of the boat at any depth of submergence of the latter, a vertical conductor carried by said inner tube, a wireless-system apparatus within the boat, and means for electrically connecting said wireless apparatus to said inner tube in all positions of said hollow mast.

11. In a submarine boat, the combination of a float detachably secured to the boat, a hollow mast slidably extending outboard through said float, means for securing said float at any point along the length of said mast, means for detaching said float from the boat, and means for renewing the air-supply in the interior of the boat through said mast when the latter is supported above the water of flotation by the detached float, substantially as described.

12. In a submarine boat, the combination of a float detachably secured to the boat, a hollow mast carried thereby, said mast comprising independent conduits provided with external openings, means for sealing such openings during their submergence, and for maintaining the openings in communication with the external air while emerged, means for detaching said float from the boat, and means for simultaneously supplying air to, and discharging foul gases from, the interior of the boat through said conduits when the mast is supported above the water of flotation by the detached float, substantially as described.

13. In a submarine boat, the combination of a float detachably secured to the boat, a hollow mast slidably extending outboard through said float, locking means engaging said boat for securing the float thereto, and means for adjusting said locking means to shift it from engagement with the boat and to simultaneously secure said float to said hollow mast, substantially as described.

14. In a submarine boat, the combination of a float detachably secured to the boat, a hollow mast carried by said float, means for detaching said float from the boat, a conduit for maintaining said hollow mast in communication with the interior of the boat, and means for attaching auxiliary floats at desired points along said conduit, substantially as described.

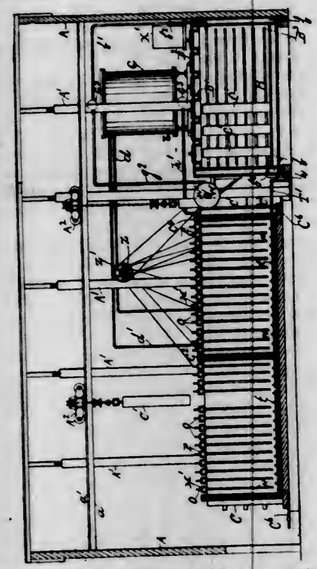
842,147. ICE-MAKING APPARATUS. DAVID J. HAVENSTRITE, Newark, N. J. Filed May 25, 1905. Serial No. 262,210.

Claim.—1. An apparatus for making plate-ice comprising a tank, a plurality of separated and independent freezing-plates each of which plates consists of a series of separated simple depending pipes, and adapted to be supported free from the side and end walls and bottom of the tank, means for circulating a freezing medium through the pipes of said plates whereby may be formed on each freezing-plate a separate and distinct plate of ice surrounding the sides, ends and bottom of the freezing-plate and attached thereto and free from the tank, and means for independently raising the separated and independent freezing-plate with ice plate attached thereto.

2. An apparatus for making plate-ice comprising a tank, a plurality of separated and independent freezing-plates, each of which plates consists of a series of separated simple vertical depending pipes, and adapted to be supported free from the side and end walls and bottom of the tank, and means for circulating a freezing medium through the pipes of said plates whereby may be formed on each freezing-plate a separate and distinct plate of ice surrounding the sides, ends and bottom of the said pipes and attached thereto and free from the tank.

3. An apparatus for making plate-ice comprising a tank, a plurality of separated and independent freezing-plates, each of which plates consists of a series of separated simple depending pipes, and adapted to be removably sup-

ported in said tank and having the ends, sides and bottom of the freezing-plate free from the sides, ends and bottom of the tank, means for independently circulating and cutting off a freezing medium through each of the said freezing-plates whereby an independent plate of ice may be formed on each of the freezing-plates separated from the tank and each other, and means adapted to be independently connected to each of the freezing-plates for supplying a thawing medium thereto for separately detaching the same from the plates of ice.

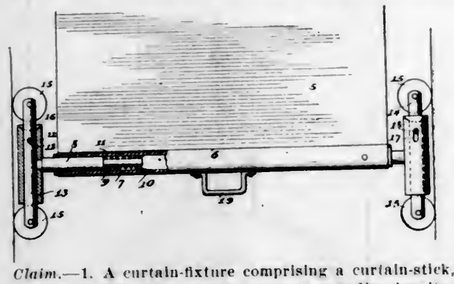


4. An apparatus for making plate-ice comprising a tank, a freezing-plate consisting of a series of separated simple depending pipes and adapted to be removably supported in said tank and having the ends, sides and bottom of the freezing-plate entirely free from the sides, ends and bottom of the tank, means for circulating a freezing medium through the pipes of said plate, thereby freezing a plate of ice entirely around the sides, ends and bottom of said freezing-plate and attached thereto and free from the tank, means for removing said freezing-plate and attached plate of ice from the tank, and means adapted to be connected to the freezing-plate for supplying a thawing medium thereto and detaching the same from the attached plate of ice.

5. A plant for making plate-ice comprising a tank, a plurality of separate and independent freezing-plates, each of which plates consists of a series of separated simple depending pipes and adapted to be removably supported in said tank and having the ends, sides and bottom of the freezing-plate entirely free from the sides, ends and bottom of the tank, means for independently circulating and cutting off a freezing medium through each of the said freezing-plates whereby an independent plate of ice may be formed on each of the freezing-plates and separated from the tank and each other, means for independently removing each of the freezing-plates with its attached plate of ice from the tank, and means adapted to be independently connected to each of the freezing-plates for supplying a thawing medium thereto and separately detaching the same from the plates of ice.

6. In a freezing-plate the combination of a main pipe, a second pipe within the same, collars between the said pipes, fitting the inner surface of the main pipe and the outer surface of the second pipe, dividing the main pipe in sections, plugs at the ends and at different points of the inner pipe dividing the latter into sections, pipes with their outer ends closed extending from the different sections of the main pipe, pipes open at both ends extending from the different sections of the second pipe, and leading into the pipes extending from the sections of the main pipe, and means to couple the ends of the freezing-plate with other appurtenances.

842,148. CURTAIN-FIXTURE. IRVING L. HOTALING, Riverton, N. J. Filed Feb. 10, 1906. Serial No. 300,434.



Claim.—1. A curtain-fixture comprising a curtain-stick, a head carried thereby, a roller-support extending longitudinally of and carried by said head, and a roller carried by said support, said head and roller-support having relative sliding movement whereby braking engagement between the head and the roller is established under the upward pull of the curtain, substantially as described.

2. A curtain-fixture comprising a curtain-stick, a tubular head carried thereby, a roller-support slidably mounted in said tubular head, and a roller carried by said support and peripherally engaged by said head under the upward pull of the curtain, substantially as described.

3. A curtain-fixture comprising a curtain-stick, a tubular head carried thereby, a roller-support slidably mounted in said tubular head, rollers mounted in the upper and lower ends of said roller-support, and means limiting the relative sliding movement between said roller-support and head, substantially as described.

4. A curtain-fixture comprising a curtain-stick, a tubular head carried thereby, a roller-support slidably mounted in said tubular head, and a roller carried by the upper end of said roller-support, said tubular head having its upper end transversely recessed conformably to the periphery of said roller whereby to act as a brake on the latter under the upward pull of the curtain, substantially as described.

5. A curtain-fixture comprising a curtain-stick, a spring-pressed rod carried thereby, a head on the end of said rod, a roller-support slidably carried by said head, and a roller mounted on the upper end of said support, substantially as described.

6. A curtain-fixture comprising a tubular curtain-stick, a spring-pressed rod slidably mounted therein, a tubular head on the end of said rod, a roller-support slidably mounted in said head, and a roller mounted in the upper end of said roller-support, substantially as described.

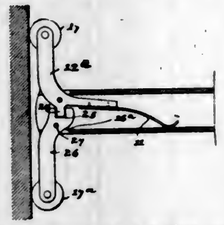
7. A curtain-fixture comprising a tubular curtain-stick, a spring-pressed rod slidably mounted therein, a tubular head on the end of said rod, a roller-support slidably mounted in said head, and rollers mounted on the upper and lower ends of said roller-support, substantially as described.

8. A curtain-fixture comprising a tubular curtain-stick, a spring-pressed rod slidably mounted therein, a tubular head on the end of said rod, a roller-support slidably mounted in said head, rollers mounted in the upper and lower ends of said roller-support, and means limiting the relative sliding movement between said roller-support and head, substantially as described.

842,149. CURTAIN-FIXTURE. IRVING L. HOTALING, Riverton, N. J. Filed Feb. 10, 1906. Serial No. 300,435.

Claim.—1. A curtain-fixture comprising a curtain-stick, and an elbow-lever having substantially horizontal and vertical arms pivoted to the end of said stick, the horizontally-extending arm of said lever being elastic and bearing at its end on said stick, and the vertically-extending arm being adapted to bear at its end on a guide of the casing, substantially as described.

2. A curtain-fixture comprising a hollow curtain-stick, and an elbow-lever having inwardly and outwardly extending arms relatively to the stick pivoted in the end of said stick, the inwardly-extending arm of said lever being elastic and bearing upon the stick, and the outwardly-extending arm being adapted to contact a guide of the window-casing, substantially as described.

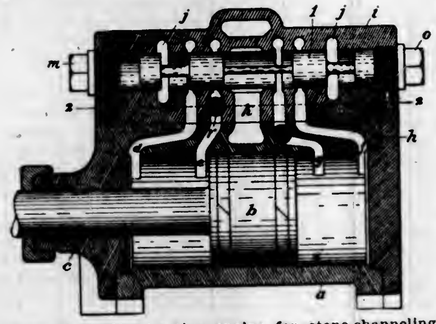


3. A curtain-fixture comprising a hollow curtain-stick, and an elbow-lever having inwardly and outwardly extending arms relatively to the stick pivoted in the end of said stick, the inwardly-extending arm of said lever terminating in a spring bearing upon the stick, and the outwardly-extending arm terminating in a friction-tip adapted to engage a guide of the casing, substantially as described.

4. A curtain-fixture comprising a curtain-stick, an elbow-lever pivoted to the end of the stick and having an inwardly-extending elastic arm bearing upon the stick, and an auxiliary lever pivoted to the same end of the stick and connected with said elbow-lever by a toothed connection, the outer ends of said levers being adapted to contact a guide of the casing, substantially as described.

5. A curtain-fixture comprising a hollow curtain-stick, an elbow-lever pivoted in the end of the stick and having an inwardly-extending spring-arm bearing upon the stick, and an auxiliary lever pivoted in the same end of the stick and connected with said elbow-lever by a toothed connection, the outer ends of said levers being adapted to contact a guide of the casing, substantially as described.

842,150. DIRECT-ACTING ENGINE. GEORGE D. HUNTER, Bloomington, Ind., assignor to Sullivan Machinery Company, Claremont, N. H., a Corporation of Maine. Filed Sept. 1, 1904. Serial No. 222,974.

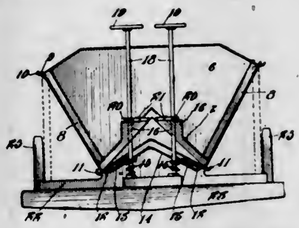


Claim.—1. A direct-acting engine for stone-channeling machines or the like, comprising a cylinder, a piston movable therein, a piston-rod adapted to be connected directly to a drill or other tool, admission and exhaust passages independently communicating with the steam chest and exhaust and with the head end and tool end of said cylinder, valved means for controlling the admission to and exhaust from both ends of said cylinder, a valve for varying the area of the exhaust-passage in the head end of the cylinder, mounted for movement transversely of the exhaust-passage to regulate the exhaust independently of the admission-passage and its controlling-valve to thereby control the inward stroke of the piston after release of the tool, and an adjustable gate in the exhaust-passage in the tool end of the cylinder, to regulate the exhaust in said tool end independently of the admission-passage and its controlling-valve to thereby control the working or outward stroke of the piston.

2. A direct-acting engine for stone-channeling machines or the like, comprising a cylinder, a piston movable therein, a piston-rod adapted to be connected directly to a drill or other tool, admission and exhaust passages independently communicating with the steam chest and exhaust and with the head end and tool end of said cylinder, valved means for controlling the admission to and exhaust from both ends of said cylinder, a valve mounted for movement transversely of the exhaust-passage in the head of the cylinder to regulate the exhaust independently of the admission-passage and its controlling-valve to thereby control the inward stroke of the piston after release of the tool, and an adjustable gate in the exhaust-passage in the tool end of the cylinder, to regulate the exhaust in said tool end independently of the admission-passage and its controlling-valve to thereby control the working or outward stroke of the piston.

3. A direct-acting engine for stone-channeling machines or the like, comprising a cylinder, a piston movable therein, a piston-rod adapted to be connected directly to a drill or other tool, admission and exhaust passages independently communicating with the steam chest and exhaust and with the head end and tool end of said cylinder, valved means for controlling the admission to and exhaust from both ends of said cylinder, a regulating-screw mounted for longitudinal movement transversely of the exhaust-passage in the head of the cylinder to vary the area thereof, whereby the exhaust may be regulated independently of the admission-passage and its controlling-valve to thereby control the inward stroke of the piston after release of the tool, and an adjustable gate in the exhaust-passage in the tool end of the cylinder, to regulate the exhaust in said tool end independently of the admission-passage and its controlling-valve to thereby control the working or outward stroke of the piston.

842,151. DUMPING MECHANISM FOR WAGONS. REINHOLD JOHNSON, Cahuenga, Cal. Filed Aug. 13, 1906. Serial No. 330,344.

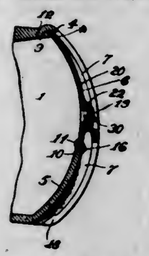


Claim.—1. In a device of the class described, a double-inclined bottom, said bottom inclining downwardly and outwardly from the center thereof; end-boards secured to said bottom; swinging sides hinged to said end-boards; and mechanism attached to said swinging sides and to the body whereby the movement of the sides is controlled.

2. In a device of the class described, a double-inclined bottom; end-boards secured to said bottom; sides hinged to said end-boards; side-board-controlling means secured to one of said end-boards; and flexible connections between said side-boards and said controlling means whereby the movement of the sides is controlled.

3. In a device of the class described, a double-inclined bottom; end-boards secured to said bottom; sides hinged to said end-boards; vertical shafts having hand-wheels on their outer ends mounted in bearings secured to one of the end-boards; flexible connections secured to the lower ends of said shafts and to the side-boards; and locking means secured to said shafts and to one of said end-boards.

842,152. JOURNAL BOX AND LID. SINCLAIR J. JOHNSON, Montclair, N. J. Original application filed Dec. 3, 1900, Serial No. 38,382. Divided and this application filed Oct. 28, 1903. Serial No. 178,831.



Claim.—1. The combination with a journal-box having a curved front provided with an opening, of a curved sliding lid therefor, and means for securing the lid in its upper position to close the box, the box having extended walls provided with ways for the lid on their interior faces and having two portions of a maximum and a minimum width, and an intermediate gradually-inclined portion.

2. The combination with a journal-box having an opening, of a spring-pressed sliding lid therefor adapted to be released and lowered to open the box, said box being provided with ways for the lid in the interior of the extended side walls of the box, said ways having two portions of a maximum and a minimum width, and an intermediate gradually-inclined portion.

3. The combination with a journal-box provided with a curved end and having an opening, of a sliding lid therefor and a spring to control the lid, said box being provided with ways for the lid in the interior of the extended side walls thereof, and which gradually decrease in width toward the top of said opening so as to offer the most resistance to movement at the instant of closing the lid, and the least resistance as the lid is opened.

4. The combination with a journal-box having an opening, of a sliding lid therefor movable downward to uncover the opening, and means for securing the lid in its closed position, the inner portions of the extended walls of the box being provided with ways for the lid and means, said ways having two portions of a maximum and a minimum width for offering most resistance to the movement of the means and lid when the lid is in a raised position, and least resistance while it is being lowered, said ways also having an intermediate gradually-inclined portion effective upon the securing means during the releasing and engagement of the lid.

5. The combination with a journal-box provided with a curved end having an opening, of a spring-pressed curved lid therefor, the inner portion of the extended interior walls of said box having ways for the lid provided with walls curved upon arcs having different centers, and an intermediate inclined portion.

6. The combination with a journal-box provided with a curved end having an opening, of a spring-pressed curved lid therefor the inner portion of the extended walls of the box having ways for the lid provided with walls curved upon arcs having different centers.

7. The combination with a journal-box having an opening and a sliding lid therefor adapted to close the same when the latter is raised, and which is movable upon ways on the interior of extended side walls of the box, said ways having two portions of different widths, and an intermediate inclined portion, of a spring secured to the lid and contacting with the walls of the ways to force the lid against the edge of the opening.

8. The combination with a journal-box provided with a curved end having an opening, of a spring-pressed curved lid therefor, the box having channels for the lid to slide in, said channels being provided in the interior of the extended side walls of the box and having walls curved upon arcs having different centers, and an intermediate inclined portion.

9. The combination with a journal-box provided with a curved end having an opening, of a spring-pressed curved lid therefor, the box having channels for the lid to slide in, said channels being provided in the interior of the extended side walls of the box and having walls curved upon arcs having different centers.

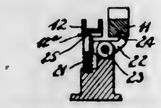
10. The combination with a journal-box provided with a curved end having an opening, of a spring-pressed curved lid therefor, said box having ways for the lid, said ways being provided in the interior of the extended side walls of the box, and having walls curved upon arcs having different centers, and an intermediate inclined portion, and a stop to arrest the movement of the lid.

11. The combination with a journal-box provided with a curved end having an opening, of a spring-pressed curved lid therefor, said box having ways for the lid, said ways being provided in the interior of the extended side walls of the box and having walls curved upon arcs having different centers, and a stop to arrest the movement of the lid.

12. The combination with a journal-box having an opening and a sliding lid therefor movable upon ways on the interior of extended side walls of the box and adapted to be lowered in the ways to open the box, said ways having two portions of different widths and an intermediate inclined portion, of a spring secured to the lid and which contacts with the ways to force the lid against the edge of the opening, and a stop to arrest the movement of the lid.

13. The combination with a journal-box having a curved end and an opening therein, and ways on the interior of the extended side walls of said box, a lid movable in said ways and a spring carried by said lid and contacting with said ways, and adapted to close the box when in a raised position.

842,153. LOCKING MECHANISM FOR DRAW-BARS. ARTHUR N. MANROSS, New Britain, Conn., assignor to Corbin Motor Vehicle Company, New Britain, Conn., a Corporation of Connecticut. Filed May 16, 1906. Serial No. 317,131.



Claim.—1. In combination, a plurality of draw-bars, means to be operated thereby, a single means to move said draw-bars alternately and independently, a lock comprising a tilting latch member arranged to lock and unlock one of said bars, a spring for moving said latch in one direction, said latch being movable in the opposite direction by another of said bars.

2. In combination, a plurality of draw-bars, means to be operated thereby, a single means to independently and alternately reciprocate said bars, a latch for locking and unlocking one of said bars, a spring for moving said latch in one direction, said latch being movable in the opposite direction by the movement of the other bar when the latter is moved out of its idle position.

3. In combination, a plurality of draw-bars, means to be operated thereby, a single shiftable lever to move either of said draw-bars, an independent positive latch for each of said bars, each of said latches being independently controlled and operated by the movement of one of said bars to lock the other bar.

4. In combination, a plurality of draw-bars, means to be operated thereby, a single operating device arranged to positively move one or the other of said bars, a latch for each of said bars, the latch for the bar that is to remain idle being positively operated and controlled by the bar to be moved, and a spring to return said latch to the unlocking position.

5. In combination, a plurality of draw-bars, means to be operated thereby, a single means to move said bars independently, a spring-pressed tilting latch for each bar, each latch being operated against the action of the spring by the bar that is not arranged to lock.

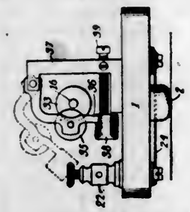
6. In combination, a plurality of draw-bars arranged side by side, means to be operated thereby, a single operating device arranged to be moved into engagement with one or the other of said bars independently, a latch for each of said bars, one of said latches being operated by one of said bars to lock the other, the other latch being operated by the other bar to lock the first-mentioned bar, said latches being operated independently.

7. A locking device for draw-bars comprising in combination, two independent bars arranged side by side and substantially parallel, means to be operated thereby, a single draw-bar-operating mechanism arranged to be shifted into operative engagement with one or the other of said bars, two tilting latches arranged transversely of said bars, one of said latches being adapted to lock one bar, the other the other bar, spring mechanism for normally holding said latches out of the locking position, one of said latches being operable against the action of the spring by one of said bars when the same is moved out of its normal position to lock the other bar, the other latch being in turn operable by the other bar when the latter is moved out of its normal position.

8. In combination, a plurality of draw-bars arranged side by side, means to be operated thereby, and means to move said bars independently, a tilting latch for each bar, an inclined recess in one of said bars having oppositely-inclined walls, one end of one of the latches arranged to project therein, a recess in the other bar having abrupt-sided walls, the opposite end of said latch being arranged to project therein, and a spring coöperating with the latch and arranged to move it in a direction to seat the latch in the recess having the inclined walls when the draw-bar having said inclined recess is in the idle position.

9. In a device of the character described, draw-bars, means for operating said bars independently, locking devices for said bars comprising independent latch-like devices, each of said latch-like devices being arranged when in one position to positively lock one bar when the other is moved out of the idle position and to frictionally lock the latter when the same is restored to its idle position.

842,154. TELEGRAPH-TRANSMITTER. HORACE G. MARTIN, New York, N. Y. Filed Apr. 16, 1906. Serial No. 311,832.



Claim.—1. In a telegraphic transmitter, the combination of a key-lever, a vibrator carried and actuated by the key-lever, and a pair of contacts constituting terminals of an electric circuit, one of said contacts being carried by the vibrator and the other being in position to be engaged by the first, as set forth.

2. In a telegraphic transmitter, the combination of a key-lever, a vibrator, a spring between the key-lever and the vibrator whereby the latter may be set in vibration by the key-lever, and a pair of contacts constituting terminals of an electric circuit, one of said contacts being carried by the vibrator and the other being located in position to be engaged by the first, as set forth.

3. In a telegraphic transmitter, the combination of a key-lever, a vibrator carried and actuated by the key-lever, a pair of contacts constituting terminals of an electric circuit, one of said contacts being carried by the vibrator and the other being located in position to be engaged by the first, and means for making and breaking the circuit independently of the vibrator, as set forth.

4. In a telegraphic transmitter, the combination of a key-lever, a vibrator carried by the key-lever and adapted to be set in vibration by movement of the key-lever from its normal position, a pair of contacts constituting terminals of an electric circuit, one of said contacts being carried by the vibrator and the other being located in the path of the first, and means for checking the movement of the vibrator when the key-lever is in its normal position, as set forth.

5. In a telegraphic transmitter, the combination of a key-lever, a pair of stops on opposite sides of the key-lever, a spring holding the key-lever yieldingly against one of said stops, a spring-supported vibrator carried by the key-lever, and a pair of contacts constituting terminals of an electric circuit, one of said contacts being carried by the vibrator and the other being located in the path of the first, as set forth.

6. In a telegraphic transmitter, the combination of a two-part key-lever adapted to be moved as a unit in one direction, part of said key-lever being adapted to be moved independently in the other direction, a vibrator carried by the key-lever and adapted to be set in vibration by the movement of the key-lever as a unit, a pair of contacts constituting terminals of an electric circuit, one of said contacts being carried by the vibrator and the other being located in the path of the first, and means actuated by the independently-movable part of the key-lever for making and breaking the circuit independently of the vibrator, as set forth.

7. In a telegraphic transmitter, the combination of a two-part key-lever movable as a unit in one direction, part of the key-lever being movable independently in the other direction, a stop to limit the movement of the key-lever as a unit, a spring-supported vibrator carried by the key-lever, whereby the vibrator will be set in vibration when the key-lever strikes the said stop, a pair of contacts constituting terminals of an electric circuit, one of said contacts being carried by the vibrator and the other being located in the path of the first, and means actuated by the independently-movable part of the key-lever for making and breaking the circuit independently of the vibrator, as set forth.

8. In a telegraphic transmitter, the combination of a key-lever consisting of two parts pivoted together and yieldingly held to move as a unit in one direction, a stop limiting the movement of the key-lever in one direction, whereby part of the key-lever may be moved independently in the other direction, a vibrator carried by the key-lever and adapted to be set in vibration by the movement of the key-lever as a unit, a pair of contacts constituting terminals of an electric circuit, one of said contacts being carried by the vibrator and the other being located in the path of the first, and means actuated by the independently-movable part of the key-lever to make and break the circuit independently of the vibrator, as set forth.

9. In a telegraphic transmitter, the combination of a key-lever, a pair of stops between which the key-lever is movable, a vibrator spring-supported by and in line with the key-lever, and a pair of contacts constituting terminals of an electric circuit, one of said contacts being carried by the vibrator and the other being located in the path of the first, as set forth.

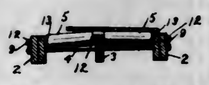
10. In a telegraphic transmitter, the combination of a key-lever, a stop against which the key-lever is yieldingly held, a second stop limiting the movement of the key-lever away from the first stop, a vibrator spring-supported by the key-lever, adapted when vibrating to make and break an electric circuit, and means for checking the movement of the vibrator when the key-lever is resting against the first-mentioned stop, as set forth.

11. In a telegraphic transmitter, the combination of a key-lever, a stop for limiting the movement of the key-lever, a spring projecting from one end of the key-lever, and a vibrator carried by the spring and in line with the key-lever, adapted when vibrating to make and break an electric circuit, as set forth.

12. In a telegraphic transmitter, the combination of a key-lever, a stop for limiting the movement of the key-lever from its normal position, a vibrator spring-supported on the key-lever, whereby throwing the latter against its

stop will set the vibrator in motion, means whereby the movement of the vibrator will make and break an electric circuit, and a dampener for checking the vibrator consisting of a weight loosely supported in position to be struck by the vibrator when the key-lever is in its normal position, as set forth.

842,155. GRAVITY-CARRIER. RUFUS P. MATHEWS and CHARLES H. LISTER, St. Paul, Minn., assignors to Mathews Gravity Carrier Company, St. Paul, Minn., a Corporation of Minnesota. Filed May 12, 1905. Serial No. 260,102.



Claim.—1. A gravity merchandise-carrier comprising side and middle rails and antifriction idle rollers journaled therein, the journals of the inner ends of said rollers being on a different level than journals of their outer ends, substantially as described.

2. In a gravity-carrier, the combination, with the rails, of antifriction-rollers of substantially the same diameter at each end journaled at the sides of the carrier and near the middle thereof, the inner ends of said rollers being above the level of their outer ends.

3. In a gravity-carrier, the combination, with the side and middle rails, of antifriction-rollers journaled in said rails, the journals of the inner ends of said rollers being higher than the journals of their outer ends, for the purpose specified.

4. In a gravity-carrier, the combination, with the side and middle rails, of antifriction-rollers journaled in said rails alternately upon each side of said middle rail, the inner ends of said rollers being journaled in the rear slightly of their outer ends, for the purpose specified.

5. In a gravity-carrier, the combination, with the side and middle rails, of antifriction idle rollers journaled in said rails, the inner ends of said rollers being in the rear slightly of their outer ends, substantially as described.

6. A gravity-carrier composed of portable separable sections, each section having side and middle rails, antifriction-rollers journaled in said rails upon each side of the middle line of the carrier, the inner ends of said rollers being on a higher level than their outer ends and the bearings of said rollers being set at an angle or obliquely with respect to the plane of said rails whereby the articles passing over said rollers will work toward the center of the carrier, substantially as described.

7. In a gravity-carrier, a series of antifriction-rollers journaled in each side of the carrier and near the middle thereof, the inner ends of said rollers being in the rear slightly of their outer ends and on a different plane.

8. In a gravity-carrier, antifriction idle rollers provided on each side of the middle line of the carrier and having their inner ends journaled near said middle line and their outer ends journaled in the sides of the carrier, and the inner ends of said rollers being in the rear slightly of their outer ends whereby merchandise moving over said rollers will work toward the center of the carrier, substantially as described.

9. In a gravity-carrier, idle rollers provided on each side of the middle line of the carrier and having their inner ends journaled near said middle line and their outer ends journaled in the sides of the carrier, said rollers being of substantially the same diameter at each end and their inner ends being on a different level than their outer ends, substantially as described.

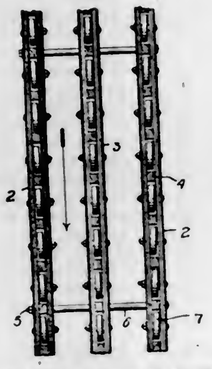
10. In a gravity-carrier, idle rollers arranged on each side of the middle line of the carrier and having their inner ends journaled near said middle line and their outer ends journaled in the sides of the carrier, said rollers being of substantially the same diameter at each end and their inner ends being on a higher level than their outer ends, substantially as described.

11. In a gravity-carrier, idle rollers provided on each side of the middle line of the carrier and having their inner ends journaled near said middle line and their outer ends journaled in the sides of the carrier, the rollers on one side of said middle line alternating in position with those on the other side and the inner ends of said rollers being in the rear slightly, of their outer ends, whereby articles moving thereover will work toward the center of the carrier.

12. In a gravity-carrier, idle rollers provided on each side of the middle line of the carrier and having their outer ends jounaled at the sides of the carrier, the inner ends of said rollers being in the rear slightly of their outer ends whereby articles moving over said rollers will work toward the center of the carrier.

13. In a gravity-carrier, idle rollers arranged on each side of the middle line of the carrier and having their outer ends journaled at the sides of the carrier, said rollers being of substantially the same diameter at each end and their inner ends being on a higher level than their outer ends.

842,156. GRAVITY-CARRIER. RUFUS P. MATHEWS and CHARLES H. LISTER, St. Paul, Minn., assignors to Mathews Gravity Carrier Company, St. Paul, Minn., a Corporation of Minnesota. Filed Nov. 6, 1905. Serial No. 285,969.



Claim.—1. A gravity-carrier having outside rails and a middle rail between them, a series of antifriction-wheels mounted in said rails, the wheels of the outside rails being tilted or inclined slightly toward the middle rail, for the purpose specified.

2. A gravity-carrier comprising outside rails and a middle rail between them, antifriction-wheels mounted in said rails, the wheels of the middle rail being above the level slightly of the wheels of the outer rails, substantially as described.

3. A gravity-carrier comprising side and middle rails and antifriction-wheels mounted therein, the wheels of the side rails being tilted or inclined slightly toward the middle rail, and the wheels of the middle rail being above the level slightly of those on the outside, substantially as described.

4. A gravity-carrier having side and middle rails each composed of parallel bars with spaces between them, and rods connecting the said rails and holding them in parallel relation with one another, antifriction-wheels having bearings in said rails between the pairs of bars respectively, the wheels of the outer rails being tilted or inclined slightly toward the middle rail, for the purpose specified.

5. A gravity-carrier comprising side rails, and rods connecting them, a middle rail having recesses in its lower edge to receive said rods, said middle rail being slidable lengthwise of said rods between said side rails, and a series of narrow-faced antifriction-wheels mounted in said side and middle rails.

6. A gravity-carrier comprising side and middle rails and antifriction bearing-wheels mounted therein, the wheels of said side rails being tilted or inclined slightly in their axes with respect to the wheels of the middle rail, and said middle rail being adjustable toward either side rail, substantially as described.

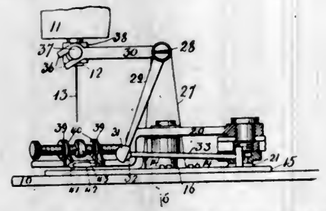
7. A gravity-carrier having rails and narrow-faced idle wheels mounted therein, said wheels being tilted or inclined on their axes to direct articles passing thereover toward the center of the carrier.

8. A gravity-carrier having rails and narrow-faced antifriction carrying-wheels mounted therein, the bearings of said wheels being below the tops of said rails and the axes of said wheels being tilted or inclined to direct articles passing thereover toward the center of the carrier.

9. A gravity-carrier having side rails and carrying-wheels mounted therein, the wheels of one rail being oppositely applied or inclined on their axes with respect to the corresponding wheels of the other rail, whereby articles passing thereover will be directed toward the center of the carrier.

10. A gravity-carrier having rails and idle wheels journaled therein, said wheels being tilted or inclined on their axes to direct articles passing thereover toward the center of the carrier, and the wheels of each rail being sufficiently near together to prevent said articles from dropping down between the wheels and contacting with the rails.

842,157. BUTTON-SEWING ATTACHMENT FOR SEWING-MACHINES. CHARLES E. OSGLEY, New York, N. Y., assignor, by mesne assignments, to Button Sewing Attachment Company, a Corporation of Maine. Filed Jan. 30, 1906. Serial No. 298,615.



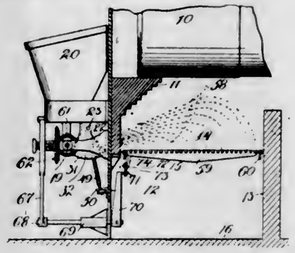
Claim.—1. In a button-sewing attachment for a sewing-machine the combination of a plate, a link journaled on the plate, a ratchet-wheel journaled on the plate, a pin adjustably connected with the ratchet-wheel, a swinging arm fulcrumed to the said link, one end of the arm journaled to the pin connected with the ratchet-wheel, adjustable jaws connected to the other end of the arm, and means to turn the ratchet-wheel.

2. In a button-sewing attachment for sewing-machines the combination of a plate, means to fasten the plate in position on the sewing-machine, a link journaled on the plate, a ratchet-wheel journaled to the plate, a pin adjustably connected with the ratchet-wheel, a swinging arm fulcrumed to said link, one end of the arm journaled on the pin extending from the ratchet-wheel, adjustable jaws extending from the other end of the arm, a lug extending from the plate, a bell-crank journaled from the upper end of the lug, one arm of the bell-crank connected with the needle-bar, the other end of the bell-crank carrying a pawl and the pawl arranged to engage with the ratchet-wheel.

3. In a button-sewing attachment for a sewing-machine the combination of a bottom plate attached to the bed of the machine, a link journaled to the bottom plate, a swinging arm fulcrumed to the said link, a ratchet-wheel journaled to the bottom plate, guides extending from the ratchet-wheel, a nut located in the said guide, a pin secured into the nut to clamp the nut in different positions in the guides, one end of the swinging arm journaled on the pin extending from the said nut, jaws arranged to be adjustably held on the other end of the arm, a support extending from the arm between the latter jaws, a screw with a right-handed and a left-handed thread held in said support, the screw engaging threads in the adjustable jaws on the arm, spring-jaws connected with the said adjustable jaws to hold a button, a lug extending up from the bottom plate, a bell-crank journaled to the latter lug, an arm of the bell-crank having a forked end connected with the needle-bar of the machine, the second arm having a pawl connected therewith, a ball-and-socket joint connecting the arm of the bell-crank and pawl, a spring attached to the pawl, and a guide for the spring, to maintain the pawl in engagement with the ratchet-wheel.

REISSUES.

12,598. MECHANICAL STOKER. JOHN A. CALDWELL, Montclair, N. J. Filed Nov. 28, 1906. Serial No. 345,577. Original No. 812,635, dated Feb. 13, 1906.



Claim.—1. In a mechanical stoker, the combination with a shovel, of a cam, a cam-tappet adapted to engage with said cam, mechanism interposed between said cam-tappet and the shovel for actuating said shovel, and differential means for producing movement of said cam-tappet with reference to the cam.

2. In a mechanical stoker, the combination with a shovel, of a cam, a cam-tappet, adapted to engage with said cam, mechanism interposed between said cam-tappet and the shovel for actuating said shovel, and differential means embodying a gear-wheel for producing relative movements between said cam and said tappet.

3. In a mechanical stoker, the combination with a shovel, of a shaft, a gear-wheel mounted on said shaft, a cam-tappet adjusted to revolve with said gear-wheel, a second gear-wheel mounted on said shaft, a cam adjusted to revolve with said second gear-wheel and adapted to engage with said cam-tappet, means interposed between said gear-wheels for imparting differential movement from the first to the second wheel, one of said gear-wheels being fixedly and the other being revolubly mounted upon said shaft, and means for imparting movement from said tappet to said shovel.

4. In a mechanical stoker, the combination with a shovel, of mechanism comprising a cam and a shovel-tappet, and a shaft upon which said tappet and said shovel are mounted, and means for actuating said cam for imparting movement to said shovel-tappet, said tappet being constructed in sections adjustably in their relative positions.

5. In a mechanical stoker the combination with a shovel, of mechanism comprising a cam, a shaft, and a shovel-tappet mounted upon said shaft and adapted to receive movement from said cam for actuating said shovel, said tappet being constructed in sections provided with serrated surfaces engaging with each other, and means for varying the relative positions of said serrated surfaces.

6. The combination with a furnace, of an oscillating shovel, means for actuating said shovel, the free edge of the shovel being provided with teeth extending at different angles with respect to the face of the shovel.

7. A mechanical stoker comprising a shovel, a tension means for moving said shovel in one direction, means by which said shovel may be moved in opposition to the tension device and then suddenly released, and means for automatically adjusting the said moving means, whereby the shovel will be moved varying distances against the tension device.

8. A mechanical stoker comprising a shovel, tension means for moving said shovel in one direction, means for moving said shovel in opposition to the tension means and then releasing it, and means for giving said shovel-moving means a movement in addition to its shovel-actuating mo-

tion and thereby automatically adjusting it to vary the length of the movements of the shovel in opposition to the tension device.

9. A mechanical stoker comprising a shovel, a tension means for moving said shovel in one direction, a rotative element, means operated by said rotative element to move the shovel in opposition to the tension device, and means for automatically adjusting said shovel-actuating means to vary the throw of the shovel.

10. A mechanical stoker comprising a shovel, a tension means for moving it in one direction, a rotative element, means carried by said rotative element for moving the shovel in opposition to the tension device, and means for automatically radially adjusting said means, whereby the shovel will be moved varying distances in opposition to the tension device.

11. A mechanical stoker comprising a shovel, a tension device for moving it in one direction, a rotating actuating element, a series of outwardly-moving devices adapted to be moved by the rotative element, and means for automatically moving said devices outward to the limit of their movement, and then dropping them back to the inner limit of their movement, whereby the movement of the shovel in opposition to the tension device will be gradually increased to its maximum and will then be dropped back to its minimum movement.

12. A mechanical stoker comprising a shovel, a tension means for moving it in one direction, a rotative element, means carried thereby to move the shovel in opposition to the tension device, and means for automatically adjusting said means to gradually increase the shovel movement from a minimum to a maximum and to then return it to a minimum.

13. A mechanical stoker comprising a shovel, a tension means for moving said shovel in one direction, a plurality of actuating devices adapted to move said shovel in opposition to the tension device, and means for automatically varying the positions of said actuating devices to vary the throw of the shovel.

14. A mechanical stoker comprising a shovel, a tension means for moving said shovel in one direction, a plurality of actuating devices adapted to move said shovel in opposition to the tension means, means to automatically and simultaneously vary the positions of said devices to vary the throw of the shovel.

15. A mechanical stoker comprising a shovel, a tension device for moving said shovel in one direction, a rotative element carrying a plurality of devices for moving said shovel in opposition to the tension device, and means for automatically varying the position of said devices.

16. A mechanical stoker comprising a shovel, a tension device for moving said shovel in one direction, a rotative element carrying a plurality of outward-moving devices for moving said shovel in opposition to the tension device, means for automatically moving said devices outward on the rotative element.

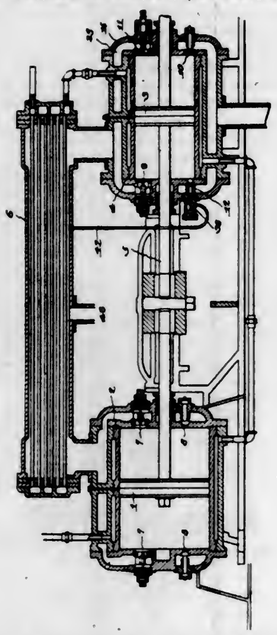
17. A mechanical stoker comprising a shovel, a tension means for moving said shovel in one direction, a rotative element, shovel-actuating devices carried by said element which in succession move the shovel in opposition to the tension device, and rotatable means for automatically varying the position of the shovel-operating devices, whereby the throw of the shovel will be varied.

18. A mechanical stoker comprising a shovel, a tension means for moving said shovel in one direction, a rotative element, shovel-actuating devices carried by said element, which, in succession, move the shovel in opposition to the tension device, and rotatable means having a differential movement with respect to the rotative element for automatically varying the positions of the shovel-operating devices, whereby the throw of the shovel will be varied.

19. A mechanical stoker comprising a shovel, a tension means for moving it in one direction and automatically-adjusted means for moving the shovel varying distances against the tension means.

20. A mechanical stoker comprising a shovel, a tension means for moving it in one direction, rotative means for moving the shovel in opposition to the tension device, and means for giving said shovel-moving means a movement in addition to its rotative movement and thereby automatically adjusting it to vary the length of the movements of the shovel in opposition to the tension means.

12,599. AIR-COMPRESSOR. EBENEZER HILL, South Norwalk, Conn. Filed May 15, 1906. Serial No. 317,004. Original No. 700,927, dated May 27, 1902.



Claim.—1. A compound air-compressor having cylinders, pistons, inlet and discharge valves and cylinder-interduct, means for opening a valve of the second cylinder, and a passage so connecting said interduct with the valve-opening means that the pressure in the cylinder-interduct controls the operation of the valve-opening means, substantially as specified.

2. A compound air-compressor having cylinders, pistons, inlet and discharge valves and cylinder-interduct, means tending to open an inlet-valve of the second cylinder, a passage so connecting said interduct with the chamber of said inlet-valve that the normal pressure in the cylinder-interduct is exerted oppositely to and holds in check the means tending to open said inlet-valve, substantially as specified.

3. In a compound air-compressor having cylinders, pistons, inlet and discharge valves and cylinder-interduct, a valve-piston, means for moving the valve-piston, so it will open a valve of the second cylinder, and a passage so connecting said interduct with the valve-piston chamber that the normal pressure in the cylinder-interduct is exerted oppositely to and holds the means for moving the valve-piston, substantially as specified.

4. A compound air-compressor having cylinders, pistons, inlet and discharge valves and cylinder-interduct, a valve-piston, a spring for moving the valve-piston so it will open a valve of the second cylinder, and a passage so connecting said interduct with the valve-piston chamber that the normal pressure in the cylinder-interduct is exerted oppositely to and holds the means for moving the valve-piston, substantially as specified.

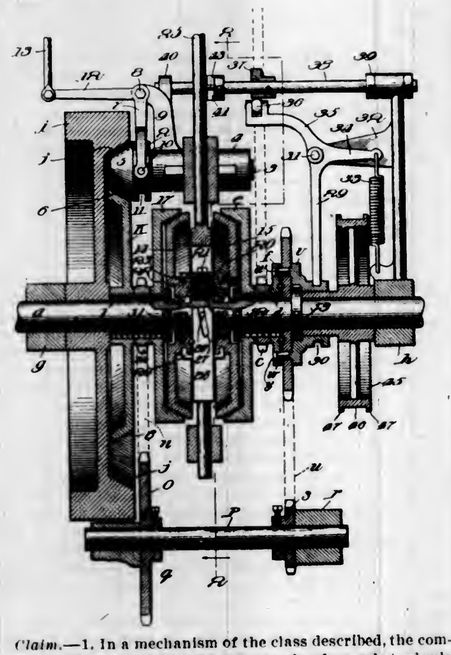
5. A compound air-compressor having cylinders, pistons, inlet and discharge valves and cylinder-interduct, a valve-piston, a spring for moving the valve-piston into contact with a portion of a valve of the second cylinder, and a passage so connecting said interduct with the valve-piston chamber that the normal pressure in the cylinder-interduct is exerted oppositely to and overcomes the spring, substantially as specified.

6. In an air-compressor, apparatus for effecting an initial compression, an interduct for containing the initially-compressed air, apparatus supplied by the interduct for effecting a further compression of the initially compressed air, and means for regulating the effective action of the apparatus for effecting the further compression actuated by the variations in pressure in the interduct.

7. A compound air-compressor for supplying air at two different but practically constant pressure, having means actuated by the pressure between the cylinders for controlling the effective action of the high-pressure piston.

8. An apparatus for compressing air having means in which an initial compression is effected, means for subsequently further compressing air initially compressed, and means for regulating the action of the means for effecting the further compression by the variation in pressure of the air which has been initially compressed.

12,600. REVERSING AND VARIABLE-SPEED GEAR. JOHN O. HOBBS, Chicago, Ill. Filed July 14, 1906. Serial No. 326,297. Original No. 778,859, dated Jan. 3, 1905.



Claim.—1. In a mechanism of the class described, the combination of a main driving-shaft, a pair of sprocket-wheels mounted upon and rotatable with relation to such driving-shaft, gear mechanism connected with one of such sprocket-wheels and adapted to be connected to and disconnected from the other sprocket-wheel, a friction clutch member connected to each of such sprocket-wheels and rotatable therewith independently of each other, two friction clutch members splined to the driving-shaft between such sprocket-wheels and their attached friction clutch members, a sliding block mounted upon the shaft between such splined friction clutch members rotatable with relation to the shaft and slidable longitudinally thereof, and means for moving such sliding block and thereby the splined clutch members in either direction longitudinally of the shaft, substantially as described.

2. In a mechanism of the class described, the combination of a main driving-shaft, a pair of sprocket-wheels mounted upon and rotatable with relation to such driving-shaft, gear mechanism connected with one of such sprocket-wheels and adapted to be connected to and disconnected from the other sprocket-wheel, a friction clutch member connected to each of such sprocket-wheels and rotatable therewith independently of each other, two friction clutch members splined to the driving-shaft between such sprocket-wheels and their attached friction clutch members, a sliding block mounted upon the shaft between such splined friction clutch members rotatable with relation to the shaft and slidable longitudinally thereof, laterally-extending pins mounted on such sliding blocks, and an operating-rod provided with a looped portion in sliding engagement with the sliding block and having diagonal slots in each side of such looped portion for admitting the pins of the sliding block, substantially as described.

3. In a mechanism of the class described, the combination of a main driving-shaft, a pair of sprocket-wheels mounted upon and rotatable with relation to such driving-shaft, gear mechanism connected with one of such sprocket-wheels and adapted to be connected to and disconnected from the other sprocket-wheel, a friction clutch member connected to each of such sprocket-wheels and rotatable therewith independently of each other, two friction clutch members splined to the driving-shaft between such sprocket-wheels and their attached friction clutch members, a sliding block mounted upon such shaft between such splined clutch members rotatable with relation to the shaft and movable longitudinally thereof, ball-bearings mounted between such sliding block and the adjacent splined clutch members, means for connecting such splined clutch members, a pin mounted upon each side of the sliding block, and an operating-rod provided with a looped portion in sliding engagement with such sliding block and having diagonal slots in each side of such looped portion for admitting the pins of the sliding block, substantially as described.

4. In a mechanism of the class described, the combination of a main driving-shaft, a pair of sprocket-wheels mounted upon and rotatable with relation to such driving-shaft, a friction clutch member connected to each of such sprocket-wheels and rotatable therewith independently of each other, two friction clutch members splined to the driving-shaft between such sprocket-wheels and their attached friction clutch members, a sliding block mounted upon the shaft between such splined friction clutch members rotatable with relation to the shaft and slidable longitudinally thereof, means for moving such sliding block and thereby the splined clutch members in either direction longitudinally of the shaft, reducing-gear mechanism connected with one of such sprocket-wheels at all times and adapted to be connected to and disconnected from the other sprocket-wheel, and pin-clutch mechanism for connecting the last-mentioned sprocket-wheel with the reduction-gear mechanism and disconnecting it therefrom, substantially as described.

5. In a mechanism of the class described, the combination of a main driving-shaft, a pair of sprocket-wheels mounted upon and rotatable with relation to such driving-shaft, a friction clutch member connected to each of such sprocket-wheels and rotatable independently of each other when desired, friction clutch mechanism splined to the driving-shaft, and movable into and out of engagement with either of such independently-rotatable friction clutch members as desired, reducing-gear mechanism connected with one of such sprocket-wheels at all times and adapted to be connected to and disconnected from the other sprocket-wheel, and means for connecting the last-mentioned sprocket-wheel with the reduction-gear mechanism and diconnecting it therefrom, substantially as described.

6. In a mechanism of the class described, the combination of a main driving-shaft, a pair of sprocket-wheels mounted upon and rotatable with relation to such driving-shaft, a friction clutch member connected to each of such sprocket-wheels and rotatable independently of each other when desired, friction clutch mechanism splined to the driving-shaft and movable into and out of engagement with either of such independently-rotatable friction clutch members as desired, reducing-gear mechanism connected

with one of such sprocket-wheels at all times and adapted to be connected to and disconnected from the other sprocket-wheel, and pin clutch mechanism for connecting the last-mentioned sprocket-wheel with the reduction-gear mechanism and disconnecting it therefrom, substantially as described.

7. In a mechanism of the class described, the combination of a main driving-shaft, a pair of sprocket-wheels mounted upon and rotatable with relation to such driving-shaft, a friction clutch member connected to each of such sprocket-wheels and rotatable independently of each other, friction clutch mechanism splined to the driving-shaft and movable into and out of engagement with either of such independently-rotatable friction clutch members as desired, reducing-gear mechanism connected with one of such sprocket-wheels at all times adapted to be connected to and disconnected from the other sprocket-wheel, means for moving either of such splined friction-gear members into engagement with the adjacent independently-rotatable friction clutch member as desired, a pin-clutch for connecting the reduction-gear mechanism with one of such sprocket-wheels and disconnecting it therefrom, and means for operating such pin-clutch, substantially as described.

8. In a mechanism of the class described, the combination of a main driving-shaft, a pair of sprocket-wheels mounted upon and rotatable with relation to such driving-shaft, a friction clutch member connected to each of such sprocket-wheels and rotatable independently of each other, friction clutch mechanism splined to the driving-shaft and movable into and out of engagement with either of such independently-rotatable friction clutch members as desired, reducing-gear mechanism connected with one of such sprocket-wheels at all times and adapted to be connected to and disconnected from the other sprocket-wheel, means for moving either of such splined friction clutch members into engagement with the adjacent independently-rotatable friction clutch member as desired, a pin-clutch for connecting the reduction-gear mechanism to one of such sprocket-wheels and disconnecting it therefrom, and means for operating the splined clutch members and simultaneously and automatically operating the pin-clutch, substantially as described.

9. In a mechanism of the class described, the combination of a main driving-shaft, a pair of sprocket-wheels mounted upon and rotatable with relation to such driving-shaft, a friction clutch member connected to each of such sprocket-wheels and rotatable independently of each other when desired, reducing-gear mechanism connected with one of such sprocket-wheels at all times and adapted to be connected to and disconnected from the other sprocket-wheel, a pair of friction clutch members splined to the driving-shaft and movable into and out of engagement with either of such independently-rotatable friction clutch members as desired, a sliding block mounted intermediate the splined clutch members, means for connecting such splined clutch members and permitting their rotation on opposite sides of such sliding block, an operating-rod provided with a loop in sliding engagement with such sliding block and having a diagonal slot in each side of such loop, a pin mounted upon each side of the sliding block in engagement with one of such diagonal slots, and means for automatically connecting such reducing-gear mechanism with one of such sprocket-wheels and disconnecting it therefrom as desired, substantially as described.

10. In a mechanism of the class described, the combination of a main driving-shaft, a pair of sprocket-wheels mounted upon and rotatable with relation to such driving-shaft, a friction clutch member connected to each of such sprocket-wheels and rotatable independently of each other when desired, friction clutch mechanism splined to the driving-shaft and movable into and out of engagement with either of such independently-rotatable friction clutch members as desired, reducing-gear mechanism connected with one of such sprocket-wheels at all times and adapted to be connected to and disconnected from the other sprocket-wheel, means for connecting the last-mentioned sprocket-wheel with the reduction-gear mechanism and disconnecting it therefrom, a fly-wheel mounted upon such main driving-shaft rotatable therewith and provided upon one side with a friction-surface, a friction-wheel mounted adjacent to and rotatable independently of such fly-wheel and connected with one of such sprocket-wheels, and means for operatively connecting such friction-wheel and fly-wheels, substantially as described.

11. In a mechanism of the class described, the combination of a main driving-shaft, a pair of sprocket-wheels mounted upon and rotatable with relation to such driving-shaft, a friction clutch member connected to each of such sprocket-wheels and rotatable independently of each other when desired, friction clutch mechanism splined to the driving-shaft and movable into and out of engagement with either of such independently-rotatable friction clutch members as desired, reducing-gear mechanism, connected with one of such sprocket-wheels at all times and adapted to be connected to and disconnected from the other sprocket-wheel, means for connecting the last-mentioned sprocket-wheel with the reduction-gear mechanism and disconnecting it therefrom, a fly-wheel mounted upon such main driving-shaft rotatable therewith and provided upon one side with a friction-surface, a friction-wheel mounted adjacent to and rotatable independently of such fly-wheel and connected with one of such sprocket-wheels, a slotted friction-wheel movable into and out of engagement with the last-mentioned friction-wheel and fly-wheel for causing such parts to rotate in opposite directions, and means for operating such slotted friction-wheel, substantially as described.

12. In a mechanism of the class described, the combination of a main driving-shaft, a pair of sprocket-wheels mounted upon and rotatable with relation to such driving-shaft, a friction clutch member connected to each of such sprocket-wheels and rotatable therewith, reducing-gear mechanism connected with one of such sprocket-wheels at all times and adapted to be connected to and disconnected from the other sprocket-wheel, clutch mechanism for connecting such reduction-gear mechanism with the last-named sprocket-wheel and disconnecting it therefrom, two friction clutch members splined to the driving-shaft between the friction clutch members of the sprocket-wheels, a sliding block mounted upon the shaft between such splined friction clutch members rotatable with relation to the shaft and slidable longitudinally thereof, and an operating-rod provided with a looped portion in sliding engagement with such sliding block for moving the sliding block and thereby the splined friction clutch members in the desired direction longitudinally of the shaft whereby when the operating-rod is moved in one direction the reduction-gear mechanism is thrown into operative connection with the driving-shaft and driving-wheels of the vehicle and when such operating-rod is moved in the opposite direction such reduction-gear mechanism is thrown out of operative connection with the driving-shaft and driving-wheels of the vehicle and such driving-shaft and driving-wheels are operatively connected independently of such reduction-gear mechanism, substantially as described.

13. In a transmission mechanism, the combination with a driving-shaft, of a pair of clutch members surrounding the driving-shaft one member locked to rotate with said shaft and the other member loosely mounted thereon, a driven element loosely mounted on said shaft, speed-reducing mechanism interposed between the loose member of said clutch and the driven element, a second pair of clutch members on said shaft, one member locked to rotate with said shaft and the other member rigidly connected to said driven element, means for engaging and disengaging the members of the first clutch, means for engaging and disengaging the members of the second clutch, and means for disconnecting the driven element from said speed-reducing mechanism prior to the engagement of the members of said second clutch.

14. In a transmission mechanism, the combination with a driving-shaft, of a pair of clutch members surrounding the driving-shaft one member locked to rotate with said shaft and the other member loosely mounted thereon, a driven element loosely mounted on said shaft, speed-reducing mechanism interposed between the loose member of said pair of clutches and the driven element, a second pair of clutch members on said shaft, one member locked to rotate with said shaft and the other member rigidly connected to said driven element, means for engaging and disengaging the members of the first pair of clutches, means for engaging and disengaging the members of the second pair of clutches, means for disconnecting the driven element from said speed-reducing mechanism prior to the engagement of the members of said second clutch, and means for driving said speed-reducing mechanism in a reverse direction.

15. In a transmission mechanism, the combination with a driving-shaft, of two clutches mounted thereon, one member of each of said clutches being loosely mounted on said shaft and the other member of each clutch being locked to rotate with said shaft, a gear-wheel rigidly secured to the loosely-mounted member of one of said clutches, a counter-shaft, a driven element rigidly attached to the loosely-mounted member of said second clutch, means for engaging and disengaging the members of each of said clutches, means for connecting said counter-shaft with said driven element when the members of the first clutches are engaged and for disengaging said counter-shaft from said driven element when the members of the second clutches are engaged, and means for transmitting reverse motion to said counter-shaft when the members of both of said clutches are disengaged.

16. In a transmission mechanism, the combination with a driving element, of a member loosely mounted on said element, a driven element, speed-reducing mechanism interposed between said member and the driven element, means for clutching said member to the driving element to rotate therewith, means for clutching said driven element to the driving element to rotate therewith, and means for disconnecting the driven element from said speed-reducing mechanism prior to clutching said driven element to the driving element.

17. In a transmission mechanism, the combination with a driving element, of a member loosely mounted on said element, a driven element, speed-reducing mechanism interposed between said member and the driven element, means for clutching said member to the driving element and simultaneously unclutching said driven element from the driving element and for unclutching said member from the driving element and simultaneously clutching the driven element to the driving element, and means for disconnecting the driven element from said speed-reducing mechanism prior to clutching said driven element to the driving element.

18. In a transmission mechanism, the combination with a driving element, of a member loosely mounted on said element, a driven element, a counter-shaft, means connecting said member to the counter-shaft for rotating said shaft, means connecting said counter-shaft and driven element for rotating the latter, and means for rotating said member by the driving element in either direction.

19. In a transmission mechanism, the combination with element, a driven element, a counter-shaft, means connect-element, a driven element, a counter-shaft, means connecting said member to the counter-shaft for rotating said shaft at less speed than said member, means connecting said counter-shaft and driven element for rotating the latter at less speed than said shaft, means for clutching said member to the driving element to rotate therewith, and means for rotating said member by the driving element in an opposite direction to that of the driving element.

20. In a transmission mechanism, the combination with a driving element, of a member loosely mounted on said element, a driven element, a counter-shaft, means connecting said member to the counter-shaft for rotating said shaft, means connecting said counter-shaft and driven element for rotating the latter, means for rotating said member by the driving element in either direction, means for clutching said driven element to the driving element to rotate therewith, and means for disconnecting the driven element from said counter-shaft prior to clutching said driven element to the driving element.

21. In a transmission mechanism, the combination with a driving element, of a member loosely mounted on said element, a driven element, a counter-shaft, means connecting said member to the counter-shaft for rotating said shaft at less speed than said member, means connecting said counter-shaft and driven element for rotating the latter at less speed than said shaft, means for clutching said member to the driving element, and simultaneously unclutching said driven element from the driving element and for unclutching said member from the driving element and simultaneously clutching the driven element to the driving element, means for rotating said member by the driving element in opposite direction to that of the driving element, and means for disconnecting the driven element from said counter-shaft prior to clutching said driven element to the driving element.

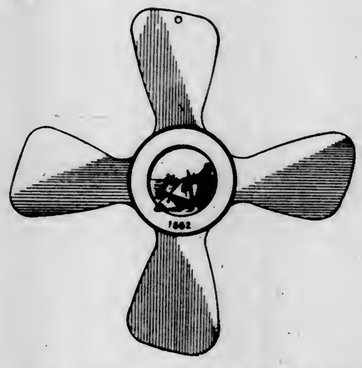
DESIGNS.

38,420. BADGE OR SIMILAR ARTICLE. HARRY G. FROBY, Buffalo, N. Y. Filed Dec. 24, 1906. Serial No. 349,366. Term of patent 7 years.



Claim.—The ornamental design for a badge or similar article as shown.

38,421. BADGE. CHARLES H. WILKINS, Norfolk, Va. Filed Dec. 19, 1906. Serial No. 348,658. Term of patent 3½ years.



Claim.—The ornamental design for a badge as shown.

38,422. CUT-GLASS VESSEL. HARRY H. BUCKLEY, Chicago, Ill., assignor to Pitkin & Brooks, Chicago, Ill., a Corporation of Illinois. Filed Nov. 23, 1906. Serial No. 344,790. Term of patent 7 years.



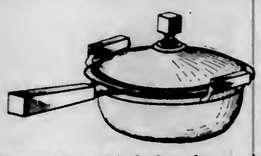
Claim.—The ornamental design for a cut-glass vessel, as shown.

38,423. STAND FOR CHAFING-DISHES. EDWARD A. GUTERMANN, Meriden, Conn., assignor to Manning, Bowman & Company, Meriden, Conn., a Corporation of Connecticut. Filed Oct. 26, 1906. Serial No. 340,778. Term of patent 7 years.



Claim.—The ornamental design for a stand for chafing-dish as shown.

38,424. CHAFING-DISH. EDWARD A. GUTERMANN, Meriden, Conn., assignor to Manning, Bowman & Company, Meriden, Conn., a Corporation of Connecticut. Filed Oct. 26, 1906. Serial No. 340,779. Term of patent 7 years.



Claim.—The ornamental design for a chafing-dish, as shown.

38,425. KITCHEN-CABINET. JAMES H. COUPER, Atlanta, Ga., and WILLIAM L. ALBRIGHT, Cincinnati, Ohio. Filed Dec. 18, 1906. Serial No. 348,482. Term of patent 14 years.



Claim.—The ornamental design for kitchen-cabinet, as shown.

38,426. COOKING-STOVE. JAFEW S. VAN BUREN, Albany, N. Y., assignor to Rathbone, Sard & Company, Albany, N. Y., a Corporation of New York. Filed Dec. 21, 1906. Serial No. 348,989. Term of patent 3½ years.



Claim.—The ornamental design for a cooking-stove, as shown.

38,427. WALL-COVERING. LUDWIG PRONBERGER, Berlin, Germany, assignor to Alfred Peats Company, New York, N. Y., a Corporation of New York. Filed Oct. 24, 1906. Serial No. 340,414. Term of patent 7 years.

Claim.—The ornamental design for a wall-covering as shown.

TRADE-MARKS

PUBLISHED JANUARY 22, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 51. (CLASS 8. DETERGENTS.) THE N. K. FAIRBANK COMPANY, Chicago, Ill. Filed Apr. 1, 1905. Used ten years.

BLUE BELL

Particular description of goods.—Laundry Soap.

Ser. No. 1,735. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) THE AMERICAN GLOVE CO., Chicago, Ill. Filed Apr. 15, 1905.



The shield and the word "Porpoise" being red.

Particular description of goods.—Gloves, Mittens, and Gauntlets Made of Horsehide.

Ser. No. 3,141. (CLASS 7. CORDAGE NOT INCLUDED IN CLASS 13.) THE OVERMAN & SCHRADER CORDAGE CO., Cincinnati, Ohio. Filed Apr. 26, 1905.



Particular description of goods.—Twines.

Ser. No. 5,912. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOHN C. MILLS, Duke Center, Pa. Filed May 17, 1905.

Galvanic
OIL

Particular description of goods.—A Liniment for External Application.

Ser. No. 6,765. (CLASS 47. CONFECTIONERY.) RUSS SUCHARD & CIE., Neufchatel, Switzerland, assignors to Suchard Societe Anonyme. Filed May 27, 1905.



Particular description of goods.—Chocolate, Cocoa, and Chocolate Candles.

Ser. No. 7,006. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) R. M. ROSE CO., Atlanta, Ga. Filed May 29, 1905. Used ten years.

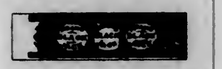


Particular description of goods.—Corn Whisky.

Ser. No. 8,158. (CLASS 47. CONFECTIONERY.) AMERICAN CHICLE CO., New York, N. Y. Filed June 15, 1905. Used ten years.

Particular description of goods.—Chewing-Gum.

Ser. No. 8,159. (CLASS 47. CONFECTIONERY.) AMERICAN CHICLE CO., New York, N. Y. Filed June 15, 1905. Used ten years.



Particular description of goods.—Chewing-Gum.

Ser. No. 8,282. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) RICHARD MONARCH, Louisville, Ky. Filed June 15, 1905. Used ten years.

R
R.MONARCH
M

Particular description of goods.—Whisky.

Ser. No. 8,398. (CLASS 3. VEGETABLE.) THE ALBERT DICKINSON COMPANY, Chicago, Ill. Filed June 17, 1905.



Particular description of goods.—Grass-Seeds, Grain-Seeds, Timothy-Seed, and Clover-Seed.

Ser. No. 8,402. (CLASS 3. VEGETABLE.) THE ALBERT DICKINSON COMPANY, Chicago, Ill. Filed June 17, 1905.



Particular description of goods.—Grass-Seed, Grain-Seed, Timothy-Seed, and Clover-Seed.

Ser. No. 8,678. (CLASS 47. CONFECTIONERY.) RUSS-SUCHARD ET CIE., Neufchatel, Switzerland, assignors to Suchard Societe Anonyme. Filed June 21, 1905.



Particular description of goods.—Chocolate, Cocoa, and Chocolate Candles.

Ser. No. 9,816. (CLASS 51. MALT LIQUORS.) ACTIEN-GESELLSCHAFT PAULANERBRÄU (ZUM SALVATORKELLER), München, Germany. Filed July 6, 1905.



Particular description of goods.—Beer.

Ser. No. 11,294. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ANNA MARIE ELIZABETH WANDKA, New York, N. Y. Filed Aug. 5, 1905. Used ten years.

VELARO

Particular description of goods.—Creams to Soften the Skin, Liquid Compositions for Cleansing the Skin, Perfumed Toilet Water, Preparations for Removing Atmospheric Discolorations, Tan, &c., and for Whitening and Bleaching the Skin, Pastes for Coloring the Eye Brows and Lashes, Powder for Polishing the Finger-Nails, Eye Brow and Lash Stimulant, Hair-Wash, Hair-Tonic, Hair-Curling Fluid, Hair-Dyes, Face-Powders, Dry and Submerged in Liquid, and Liquids and Powders for Coloring and Tinting the Cheeks.

Ser. No. 11,338. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) DUNHAM, CARRIGAN & HAYDEN COMPANY, San Francisco, Cal. Filed Aug. 7, 1905.

C◇C

Particular description of goods.—Hatchets, Axes, Chisels, Gouges, Drawing-Knives, Cold-Chisels, Auger-Bits, Saws, Pruning-Shears, Tinners' Snips, Mattocks, Scythes, Bush-Hooks, Files, and Rasps.

Ser. No. 11,343. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) DUNHAM, CARRIGAN & HAYDEN CO., San Francisco, Cal. Filed Aug 7, 1905.

SEQUOIA

Particular description of goods.—Hatchets, Axes, Chisels, Gouges, Drawing-Knives, Cold-Chisels, Auger-Bits, Saws, Pruning-Shears, Tinners' Snips, Mattocks, Scythes, Bush-Hooks, Files, and Rasps.

Ser. No. 11,344. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) DUNHAM, CARRIGAN & HAYDEN COMPANY, San Francisco, Cal. Filed Aug. 7, 1905. Used ten years.

COMSTOCK

Particular description of goods.—Hatchets, Axes, Chisels, Gouges, Drawing-Knives, Cold-Chisels, Auger-Bits, Saws, Pruning-Shears, Tinners' Snips, Mattocks, Scythes, Bush-Hooks, Files, and Rasps.

Ser. No. 11,345. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) DUNHAM, CARRIGAN & HAYDEN CO., San Francisco, Cal. Filed Aug. 7, 1905.

SUNSET

Particular description of goods.—Hatchets, Axes, Chisels, Gouges, Drawing-Knives, Cold-Chisels, Auger-Bits, Saws, Pruning-Shears, Tinners' Snips, Mattocks, Scythes, Bush-Hooks, Files, and Rasps.

Ser. No. 12,055. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich. Filed Aug. 28, 1905. Used ten years.

Universal

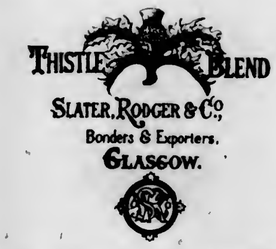
Particular description of goods.—Carpet-Sweepers.

Ser. No. 12,319. (CLASS 33. GLASSWARE NOT OTHERWISE CLASSIFIED.) PENN-AMERICAN PLATE GLASS CO., Pittsburg, Pa. Filed Sept. 7, 1905.

NOVUS

Particular description of goods.—Glass Slabs, Sheets, Plates, Tiles, and Opaque-Glass Shapes Used in Building Construction and in Building Fixtures, Fittings, and Ornamentation Thereof.

Ser. No. 13,163. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) SLATER, RODGER & CO., LTD., Kinning Park, near Glasgow, Scotland. Filed Sept. 30, 1905. Used ten years.



Particular description of goods.—Scotch Whisky.

Ser. No. 14,376. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) KING, BRINSMADE MERCANTILE COMPANY, St. Louis, Mo. Filed Nov. 6, 1905. Used ten years.



Particular description of goods.—Silk Piece Goods and Silk Ribbon.

Ser. No. 15,732. (CLASS 19. BOATS AND ROAD-VEHICLES.) S. L. ALLEN & CO., Philadelphia, Pa. Filed Dec. 28, 1905. Used ten years.

FLYER

Particular description of goods.—Sleds.

Ser. No. 15,733. (CLASS 19. BOATS AND ROAD-VEHICLES.) S. L. ALLEN & CO., Philadelphia, Pa. Filed Dec. 28, 1905. Used ten years.

FLEXIBLE

Particular description of goods.—Sleds.

Ser. No. 15,824. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) ROMM & COMPANY, New York, N. Y. Filed Jan. 2, 1906.

The Diana Waist

Particular description of goods.—Dress and Shirt Waists for Women.

Ser. No. 16,590. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) EARLE G. HARRELL, Camilla, Ga. Filed Jan. 29, 1906.

INDIAN



PLANT

Particular description of goods.—A Remedy for Female Disease, Diabetes, Bladder Troubles, Bright's Disease, Catarrh of the Kidneys, Rheumatism, Catarrh, Skin Diseases, Dyspepsia, Constipation, Torpid Liver, Loss of Appetite, Indigestion, Sour Stomach, Jaundice, Liver Diseases, and Kidney Complaint.

Ser. No. 16,624. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) AMERICAN MICA COMPANY, Newton, Mass. Filed Jan. 30, 1906.

MICABESTON

Particular description of goods.—Mica Manufactured or Used for the Purposes of Insulation. Said Manufactured Mica Consists of Plates from which are Cut Insulating-Segments for Commutators and Other Insulating Purposes; Also, Insulation for Winding Armatures; Also, Insulating Cloth and Paper, Washers, Tubes.

Ser. No. 16,934. (CLASS 9. EXPLOSIVES.) JÖNKÖPINGS OCH VULCANS TÄNDSTICKSFABRIKSAKTIEBOLAG, Jönköping, Sweden. Filed Feb. 12, 1906. Used ten years.



Particular description of goods.—Safety-Matches.

Ser. No. 17,889. (CLASS 10. FERTILIZERS.) BIRMINGHAM FERTILIZER COMPANY, Birmingham, Ala. Filed Mar. 15, 1906.



Particular description of goods.—Fertilizers.

Ser. No. 18,062. (CLASS 17. WOOD MANUFACTURES NOT OTHERWISE CLASSIFIED.) CHARLES ESTE, Philadelphia, Pa. Filed Mar. 20, 1906.



Particular description of goods.—Lumber, Manufactured or Otherwise, and Timber in the Rough or Sawed and Planed, or Either.

Ser. No. 18,429. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) EMILE KOHLMAN, Seattle, Wash. Filed Apr. 2, 1906.

Elixir of Life

Particular description of goods.—Remedies for the Diseases of the Liver, Kidneys, Stomach, and Intestines.

Ser. No. 18,531. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ALBERT L. FIELD, Lowell, Mass. Filed Apr. 5, 1906. Used ten years.



Particular description of goods.—Remedies for Headache, Neuralgia, Nervous Diseases, Sleeplessness, Feverishness, and Colds.

Ser. No. 18,868. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WORLDS DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y. Filed Apr. 17, 1906. Used ten years.



Particular description of goods.—Remedies for Biliousness, Catarrh, Female Complaints, Diarrhea, Dysentery, Summer Complaint, Cholera, Cholera Morbus, Cholera Infantum, Colic, Cramps, Colds, Stomach and Intestinal Disorders, Rheumatism, Neuralgia, Febrile and Inflammatory Attacks, Sprains, Bruises, Frost-Bites, Chilblains, Felons, Scalds, Burns, Cuts, Pain in the Back, Soreness or Stiffness of Joints, Stings and Bites of Poisonous Insects and Reptiles, Caked Breast, Enlarged Glands, Coughs, Bronchitis, Weak Lungs, Bleeding from Lungs, Sore Throat, Hoarseness and Suppression or Loss of Voice, Liver Complaint, Constipation, Indigestion, Dyspepsia, Nervous Debility or Prostration, Blood-Purifier, Scrofula and other Blood Diseases, Skin Diseases, Eruptions, Pimples, Rashes, Blotches, Boils, Ulcers, Sores, and Swellings.

Ser. No. 18,930. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) ANTON REICHE, Dresden, Germany. Filed Apr. 19, 1906.

Plattinol

Particular description of goods.—Chocolate-Molds.

Ser. No. 18,970. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) WROUGHT IRON RANGE COMPANY, St. Louis, Mo. Filed Apr. 21, 1906.

HOME

COMFORT

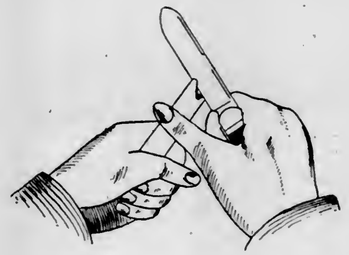
Particular description of goods.—Ranges and Stoves.

Ser. No. 19,057. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) NEWTON MACHINE TOOL WORKS, INCORPORATED, Philadelphia, Pa. Filed Apr. 25, 1906. Used ten years.

NEWTON

Particular description of goods.—Milling-Machines, Planing-Machines, Drilling and Boring Machines, Slotting-Machines, Cold-Sawing Machines, Gear-Cutting Machines, Shaping-Machines, and Worm-Wheel-Cutting Machines.

Ser. No. 19,236. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) TOM RAY CUTLERY COMPANY, Kansas City, Mo. Filed May 2, 1906.



Particular description of goods.—Pocket-Knives.

Ser. No. 19,698. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) CHARLES C. COPELAND & CO., New York, N. Y. Filed May 19, 1906.



Particular description of goods.—Cotton Piece Goods Finished in Imitation of Taffeta Silk Used for Dress-Linings.

Ser. No. 19,842. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) CHAS. H. MONTANYE, New York, N. Y., assignor to W. H. Montanye & Company, a Corporation of New York. Filed Oct. 11, 1905.



Particular description of goods.—Black Pepper, White Pepper, Red Pepper, Cinnamon, Cassia, Ginger, Allspice, Cloves, Mustard, Mace, Nutmegs, Celery Salt, Tapioca, Paprica, Sage, Thyme, Savory, Marjoram, Poultry-Seasoning, Mixed Spice.

Ser. No. 20,185. (CLASS 68. PUBLICATIONS.) THE CONFECTIONERS' JOURNAL PUBLISHING CO., Philadelphia, Pa. Filed June 9, 1906.

CONFECTIONERS' JOURNAL

Particular description of goods.—A Periodical.

Ser. No. 20,244. (CLASS 61. JEWELRY, AND SOLID AND PLATED PRECIOUS-METAL WARE.) TOWLE MFG. COMPANY, Newburyport, Mass. Filed June 13, 1906.

Particular description of goods.—Solid and Plated Silver Knives Forks, Spoons, Dishes, and Condiment-Receptacles.

Ser. No. 20,252. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE SMITH DRUG COMPANY, Baldwinsville, N. Y. Filed June 13, 1906.

URIC-O

Particular description of goods.—A Remedy for Rheumatism.

Ser. No. 20,254. (CLASS 53. SACCHARINE FOODS NOT INCLUDED IN CLASS 47.) P. DUFF & SONS, Pittsburg, Pa. Filed June 14, 1906.

Ginger-Bread-Man

Particular description of goods.—Molasses.

Ser. No. 20,255. (CLASS 53. SACCHARINE FOODS NOT INCLUDED IN CLASS 47.) P. DUFF & SONS, Pittsburg, Pa. Filed June 14, 1906.



Particular description of goods.—Molasses.

Ser. No. 20,596. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) HARRY E. RUGER, La Fayette, Ind. Filed June 27, 1906.

AMERICAN METAL POLISH

Particular description of goods.—Metal-Polish.

Ser. No. 20,670. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) H. JACQUIN & COMPANY, New York, N. Y. Filed June 30, 1906.

SALUS

Particular description of goods.—Knitted Shirts and Drawers.

Ser. No. 20,741. (CLASS 51. MALT LIQUORS.) FRANK JONES BREWING COMPANY, LIMITED, London, England, and Portsmouth, N. H. Filed July 5, 1906.

FRANK JONES PORTSMOUTH ALES

The shield being printed in red.

Particular description of goods.—Ale.

Ser. No. 21,062. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) BOSTON WINE & SPIRITS CO., Boston, Mass. Filed July 21, 1906.



Particular description of goods.—Whisky, Brandy, Gin, Rum, Punch, Cocktails, and Grain Alcohol.

Ser. No. 21,319. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) HOME SILK MILLS, New York, N. Y. Filed Aug. 3, 1906.

HOME SILK

Particular description of goods.—Silk Piece Goods.

Ser. No. 21,322. (CLASS 71. TOBACCO PRODUCTS.) DANIEL C. HITT, Indianapolis, Ind. Filed Aug. 3, 1906.



Particular description of goods.—Cigars.

Ser. No. 21,474. (CLASS 71. TOBACCO PRODUCTS.) HYMAN RIPPEN, Perth Amboy, N. J. Filed Aug. 10, 1906.



Particular description of goods.—Smoking-Tobacco.

Ser. No. 21,487. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) DAVIS AND DAY ENGINEERING COMPANY, Muscatine, Iowa. Filed Aug. 11, 1906.

SCALEX

Particular description of goods.—A Boiler-Cleaning Compound in Liquid Form.

Ser. No. 21,599. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING.) CHAS. A. SCHIEREN & CO., New York, N. Y. Filed Aug. 16, 1906.

DUXBAK BELTING

Particular description of goods.—Leather Belting.

Ser. No. 21,710. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HOWARD MOUNTAIN, San Francisco, Cal. Filed Aug. 22, 1906.



Particular description of goods.—Face-Powder, Face-Cream, and Hair-Tonic.

Ser. No. 21,747. (CLASS 19. BOATS AND ROAD-VEHICLES.) J. H. RUSHTON, INCORPORATED, Canton, N. Y. Filed Aug. 25, 1906.

Rushton

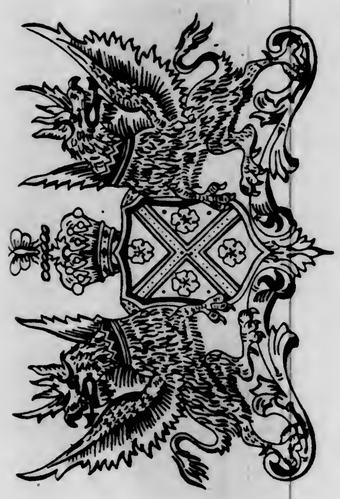
Particular description of goods.—Canoes, Row-Boats, and Sail-Boats and Parts Thereof, and Oars and Paddles.

Ser. No. 21,938. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CHARLES W. DAVIS, Allegheny, Pa. Filed Sept. 6, 1906.

LOTURA

Particular description of goods.—Lotions.

Ser. No. 21,965. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) BOOTT MILLS, Lowell, Mass. Filed Sept. 7, 1906.



Particular description of goods.—Cotton Piece Goods.

Ser. No. 21,971. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) BOOTT MILLS, Lowell, Mass. Filed Sept. 7, 1906.

BIA

Particular description of goods.—Cotton Piece Goods.

Ser. No. 21,973. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) BOOTT MILLS, Lowell, Mass. Filed Sept. 7, 1906.



MANDARIN

Particular description of goods.—Cotton Piece Goods.

Ser. No. 21,974. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) BOOTT MILLS, Lowell, Mass. Filed Sept. 7, 1906.



Particular description of goods.—Cotton Piece Goods.

Ser. No. 21,975. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) BOOTT MILLS, Lowell, Mass. Filed Sept. 7, 1906.

MANDARIN

Particular description of goods.—Cotton Piece Goods.

Ser. No. 21,976. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) BOOTT MILLS, Lowell, Mass. Filed Sept. 7, 1906.



Particular description of goods.—Cotton Piece Goods.

Ser. No. 21,977. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) BOOTT MILLS, Lowell, Mass. Filed Sept. 7, 1906.



DRAGON BOAT

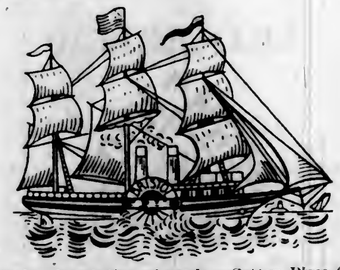
Particular description of goods.—Cotton Piece Goods.

Ser. No. 21,978. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) BOOTT MILLS, Lowell, Mass. Filed Sept. 7, 1906.

DRAGON BOAT

Particular description of goods.—Cotton Piece Goods.

Ser. No. 21,979. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) BOOTT MILLS, Lowell, Mass. Filed Sept. 7 1906.



Particular description of goods.—Cotton Piece Goods.

Ser. No. 22,077. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) WILLIAM E. SCHEI, Minneapolis, Minn. Filed Sept. 13, 1906.



Particular description of goods.—Pancake-Flour and Cereal Foods Made of Wheat.

Ser. No. 22,148. (CLASS 51. MALT LIQUORS.) FRED MILLER BREWING CO., Milwaukee, Wis. Filed Sept. 17, 1906.



Particular description of goods.—Beer.

Ser. No. 22,195. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THOMPSON AND TRIMBEE, Plattsburg, Mo. Filed Sept. 19, 1906.

Trimbleite.

Particular description of goods.—A Pharmaceutical Preparation Used for the Treatment of Eczemas and Skin Eruptions.

Ser. No. 22,220. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) WILLIAM E. AUGHINBAUGH, Hackensack, N. J., and New York, N. Y. Filed Sept. 21, 1906.

OSCO

Particular description of goods.—Hydrogen Peroxid.

Ser. No. 22,292. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) GERHARD MENNEN CHEMICAL CO., Newark, N. J. Filed Sept. 24, 1906.

BOROFOAM

Particular description of goods.—Tooth-Powder.

Ser. No. 22,352. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) C. F. CUTLER, Deep River, Iowa. Filed Sept. 27, 1906.



Particular description of goods.—Medicines for Blood Diseases of Horses, Mules, and Cattle.

Ser. No. 22,356. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) ANTONIO MUSICA, New York, N. Y. Filed Sept. 27, 1906.



Particular description of goods.—Macaroni.

Ser. No. 22,407. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) PAULSON BROTHERS COMPANY, Pittsburg, Pa. Filed Oct. 1, 1906. Used ten years.



Particular description of goods.—Silk, Felt, Straw, Fur, Cloth, and Leather Hats and Caps, Women's Hats and Bonnets, Fur Garments and Robes, Leather and Fur Gloves, and Waterproof Coats Formed of Woven Material.

Ser. No. 22,639. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) THOMAS THORKILDSEN, & COMPANY, Chicago, Ill. Filed Oct. 10, 1906.

BORSALITE

Particular description of goods.—Food-Preservatives.

Ser. No. 22,704. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) THE EDDYSTONE MANUFACTURING COMPANY, Eddystone and Philadelphia, Pa. Filed Oct. 15, 1906.

NONFLAMO

Particular description of goods.—Textile Draperies.

Ser. No. 22,744. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) KERFOOT, MILLER AND COMPANY, Oklahoma, Okla. Filed Oct. 16, 1906.

MISTLETOE

Particular description of goods.—Shirts Made of Sections of Non-Knitted Materials, Overalls, Trousers, Pants, and Underwear Made of Sections of Non-Knitted Materials.

Ser. No. 22,800. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) ROSENSTEIN BROTHERS INC., New York, N. Y. Filed Oct. 20, 1906. Used ten years.

MORNING GLORY

Particular description of goods.—Canned Vegetables.

Ser. No. 22,807. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) THE PRUDENTIAL HEATING COMPANY, Akron, Ohio. Filed Oct. 20, 1906.

PRUDENTIAL

Particular description of goods.—Steam and Hot-Water Boilers.

Ser. No. 22,821. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) CHAS. CHIPMANS SONS, Easton, Pa. Filed Oct. 22, 1906.

COUNTESS

Particular description of goods.—Hosiery.

Ser. No. 22,841. (CLASS 52. PACKING-HOUSE PRODUCTS.) THE TAYLOR PROVISION CO., Trenton, N. J. Filed Oct. 22, 1906.

JOHN TAYLOR'S SUGAR CURED PORK ROLL THE TAYLOR PROVISION CO. TRENTON, N. J. NO SALTY TASTE

The wreath being gold and the background red.
Particular description of goods.—Pork-Roll.

Ser. No. 22,863. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) OMNIA CHEMICAL CO., New York, N. Y. Filed Oct. 23, 1906.

KILLS'EM DEAD

GERM-I-CIDE ELECTRIC

Particular description of goods.—A Liquid Insecticide.

Ser. No. 22,884. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) FELIX HAMBURGER, New York, N. Y. Filed Oct. 24, 1906.

JUPITER

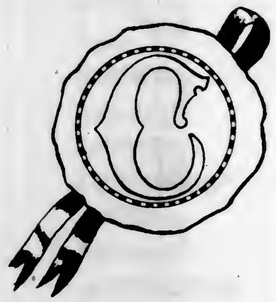
Particular description of goods.—Electric-Arc Lamps.

Ser. No. 23,049. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) JONES BROS. & CO. INC., Louisville, Ky. Filed Nov. 2, 1906.

BLUE GRASS BELLE

Particular description of goods.—Vinegar, Pickles, Catsup, Pepper-Sauce, Worcestershire Sauce, Mustard, Lilly Hot, Sweet Chop, Chow-Chow, and Gherkins.

Ser. No. 23,107. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FREDERICK COLBERT, Butte, Mont. Filed Nov. 5, 1906.



The letter "C" being printed in gold.
Particular description of goods.—Lung and Throat, Stomach, Bile, and Bowel, Rheumatic, Neuralgia, and Gout, Kidney and Bladder, Blood and Tissue Medicines.

Ser. No. 23,156. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) ROBERT A. CHILDS, Syracuse, N. Y. Filed Nov. 7, 1906. Used ten years.



Particular description of goods.—Accordions, Autoharps, Banjos, Brass Musical Instruments, Clarinets, Drums, Dulcimers, Fifes, Flutes, Graphophones, Guitars, Harmonicas, Harps, Mandolins, Musical Boxes, Organs, Pianos, Piano-Playing Instruments, Piccolos, Roller-Organs, Violins, Zithers, and Automatic Figures with Music-Boxes or other Musical Attachments.

Ser. No. 23,216. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) S. M. BINBY & CO., New York, N. Y. Filed Nov. 10, 1906. Used ten years.



Particular description of goods.—Leather and Shoe Blackings, Paste, Polish, and Leather and Shoe Varnish.

Ser. No. 23,260. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) ROTHGIESSER BROS., St. Louis, Mo. Filed Nov. 10, 1906.

YALE

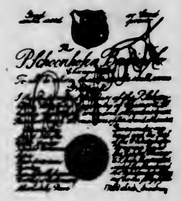
Particular description of goods.—Men's and Boys' Coats, Vests, Pants, Jackets, and Overcoats.

Ser. No. 23,348. (CLASS 51. MALT LIQUORS.) JOHANN HOFF, New York, N. Y. Filed Nov. 14, 1906. Used ten years.

HOFF'S

Particular description of goods.—Malt Extracts.

Ser. No. 23,454. (CLASS 51. MALT LIQUORS.) THE PETER SCHOENHOFEN BREWING COMPANY, Chicago, Ill. Filed Nov. 19, 1906.



The seal is red.
Particular description of goods.—Lager-Beer.

Ser. No. 23,482. (CLASS 22. FIREARMS, AND EQUIPMENTS AND PROJECTILES NOT OTHERWISE CLASSIFIED.) THE LYMAN GUN SIGHT CORPORATION, Middlefield, Conn. Filed Nov. 20, 1906.



Particular description of goods.—Gun-Sights.

Ser. No. 23,523. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WHORTON SONS DRUG Co., Gadsden, Ala. Filed Nov. 21, 1906.

TEREMOL

Particular description of goods.—An Internal Remedy for the Treatment of Typhoid Fever.

Ser. No. 23,549. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) FERNZ VALDES & Co., Havana, Cuba. Filed Nov. 23, 1906.

THE FERVALD

Particular description of goods.—Women's, Misses', and Children's Leather Boots and Shoes.

Ser. No. 23,554. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) AUGUST DIETZ, Richmond, Va. Filed Nov. 23, 1906.



Particular description of goods.—Envelops for Advertising Purposes.

Ser. No. 23,566. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DR. RAINEY MEDICINE Co., Chicago, Ill. Filed Nov. 24, 1906.

Kof-O-Lene

Particular description of goods.—Remedy for Bronchial, Asthmatic, Laryngial, and Dyspeptic Coughs.

Ser. No. 23,574. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE E. Z. SHOE COMPANY, Hornell and Buffalo, N. Y. Filed Nov. 24, 1906.



Particular description of goods.—Leather Boots and Shoes.

Ser. No. 23,579. (CLASS 71. TOBACCO PRODUCTS.) MARY E. PALMER, New York, N. Y. Filed Nov. 24, 1906.



Particular description of goods.—Cigars in Boxes.

Ser. No. 23,580. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE RISDON IRON & LOCOMOTIVE WORKS, San Francisco, Cal. Filed Nov. 24, 1906. Used ten years.

Johnston

Particular description of goods.—Ore-Concentrators.

Ser. No. 23,634. (CLASS 8. DETERGENTS.) MICHAEL MCMAHON, Brooklyn, N. Y. Filed Nov. 27, 1906.



Particular description of goods.—Cleansers for Glassware and Porcelain.

Ser. No. 23,666. (CLASS 48. DAIRY PRODUCTS.) THE LACTOBACILLINE COMPANY, New York, N. Y. Filed Nov. 30, 1906.

BACILLAC

Particular description of goods.—Milk.

Ser. No. 23,667. (CLASS 48. DAIRY PRODUCTS.) THE LACTOBACILLINE COMPANY, New York, N. Y. Filed Nov. 30, 1906.



Particular description of goods.—Milk.

Ser. No. 23,685. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) SIDNEY G. HIRSCHBERG, New York, N. Y. Filed Nov. 30, 1906.

VICTOR

Particular description of goods.—Boys', Children's, Ladies', and Men's Felt, Fur, Fur-Felt, Straw, Silk, Wool, and Cloth Hats and Caps.

Ser. No. 23,735. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) GUSTAV E. PEETZ, New York, N. Y. Filed Dec. 3, 1906.

Gustav E. Peetz

Particular description of goods.—Corsets, Bust-Forms, and Supporters.

Ser. No. 23,741. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) FRANCES S. KOLB, Columbus, Ohio. Filed Dec. 3, 1906.



Particular description of goods.—Muslin Undergarments for Women.

Ser. No. 23,747. (CLASS 47. CONFECTIONERY.) HAWLEY & HOOPS, New York, N. Y. Filed Dec. 4, 1906.

TEDDY

Particular description of goods.—Candy, Chocolates, and Bonbons.

Ser. No. 23,748. (CLASS 47. CONFECTIONERY.) HAWLEY & HOOPS, New York, N. Y. Filed Dec. 4, 1906.

TEDDY BEARS

Particular description of goods.—Candy, Chocolates, and Bonbons.

Ser. No. 23,759. (CLASS 51. MALT LIQUORS.) S. LIEBMANN'S SONS BREWING COMPANY, Brooklyn, N. Y. Filed Dec. 4, 1906.



Particular description of goods.—Lager-Beer, Ale, Stout, and Malt Extract.

Ser. No. 23,762. (CLASS 55. WINES.) W. A. ROSS & BROTHER, INCORPORATED, New York, N. Y. Filed Dec. 4, 1906.



Particular description of goods.—Sherry.

Ser. No. 23,805. (CLASS 48. DAIRY PRODUCTS.) W. S. MOORE & Co., Chicago, Ill. Filed Dec. 6, 1906.

DELICIA

Particular description of goods.—Butter, Milk, and Cheese.

Ser. No. 23,879. (CLASS 17. WOOD MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE HARTMANN TRUNK COMPANY, Racine, Wis. Filed Dec. 8, 1906.



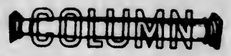
Particular description of goods.—Trunks.

Ser. No. 23,881. (CLASS 68. PUBLICATIONS.) ARTHUR D. HOSTERMAN, Springfield, Ohio. Filed Dec. 8, 1906.

POULTRY SUCCESS

Particular description of goods.—A Monthly Magazine Devoted to the Interests of Poultry.

Ser. No. 23,884. (CLASS 17. WOOD MANUFACTURES NOT OTHERWISE CLASSIFIED.) MEMPHIS COLUMN COMPANY, Benton Harbor, Mich., and Memphis, Tenn. Filed Dec. 8, 1906.



Particular description of goods.—Wooden Columns.

Ser. No. 23,885. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) CHARLES MUNTER, New York, N. Y. Filed Dec. 8, 1906.

NULIFE

Particular description of goods.—Body-Braces and Conformer-Corsets.

Ser. No. 23,908. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) NOAKE-WHEELER-CLOUGH COMPANY, Chicago, Ill. Filed Dec. 10, 1906.



Particular description of goods.—Varnishes.

Ser. No. 23,909. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JABEZ B. TANNEHILL, Wilzetta, Okla. Filed Dec. 10, 1906.



Particular description of goods.—Salve.

Ser. No. 23,939. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE COUGHLET COMPANY, Reading, Pa. Filed Dec. 11, 1906.

COUGHLETS

Particular description of goods.—Sugar-Coated Tablets for the Throat and Voice.

Ser. No. 23,958. (CLASS 68. PUBLICATIONS.) THE BROWNING PRESS, Collinwood, Ohio. Filed Dec. 12, 1906.

THE INDUSTRIAL MAGAZINE

Particular description of goods.—Periodical Publications.

Ser. No. 23,966. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) NATIONAL STARCH CO., Jersey City, N. J., and Oswego, N. Y. Filed Dec. 12, 1906. Used ten years.

OSWEGO

Particular description of goods.—Laundry Starch.

Ser. No. 23,980. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) HARGADINE-MCKITTRICK DRY GOODS COMPANY, St. Louis, Mo. Filed Dec. 13, 1906.



Particular description of goods.—Fur Garments.

Ser. No. 23,982. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) HARGADINE-MCKITTRICK DRY GOODS COMPANY, St Louis, Mo. Filed Dec. 13, 1906.



Particular description of goods.—Pants, Coats, Overcoats, Overalls, Jackets, Creepers, (or Children's Overalls,) Skirts, Waists, Shirt-Waists, and Muslin Underwear.

Ser. No. 23,988. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) WEISS MANUFACTURING COMPANY, New York, N. Y. Filed Dec. 13, 1906.



Particular description of goods.—Leather Fobs of All Kinds.

Ser. No. 24,010. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) EAGLE LAMP COMPANY, Danvers, Mass. Filed Dec. 14, 1906.

EAGLE

Particular description of goods.—Incandescent Lamps.

Ser. No. 24,011. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) EAGLE LAMP COMPANY, Danvers, Mass. Filed Dec. 14, 1906.



Particular description of goods.—Incandescent Lamps.

Ser. No. 24,030. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) SCHWABACHER BROS. & CO., INC., Seattle, Wash. Filed Dec. 14, 1906.



Particular description of goods.—Tea.

Ser. No. 24,036. (CLASS 51. MALT LIQUORS.) S. LIEBMANN'S SONS BREWING COMPANY, Brooklyn, N. Y. Filed Dec. 15, 1906.

·V·O·S·

Particular description of goods.—Stout.

Ser. No. 24,097. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) NEWARK PARAFFINE & PARCHMENT PAPER CO., New York, N. Y. Filed Dec. 17, 1906.

ACME

Particular description of goods.—Waxed Paper and Butter-Wrappers.

Ser. No. 24,114. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) THE HANSON & VAN WINKLE CO., Newark, N. J. Filed Dec. 18, 1906.

H. & V. W.

Particular description of goods.—Metal-Polishes.

Ser. No. 24,118. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) MISTROT BROS. & CO., Galveston, Tex. Filed Dec. 18, 1906.

Clematis

Particular description of goods.—Leather Shoes.

Ser. No. 24,119. (CLASS 68. PUBLICATIONS.) NATIONAL SPORTSMAN, INCORPORATED, Boston, Mass. Filed Dec. 18, 1906.

NATIONAL SPORTSMAN

Particular description of goods.—A Monthly Magazine.

Ser. No. 24,129. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) WILLIAM B. NEWSON, New York, N. Y. Filed Dec. 18, 1906.



Particular description of goods.—Tea.

Ser. No. 24,158. (CLASS 25. LOCKS AND SAFES.) EAGLE LOCK CO., Terryville, Conn. Filed Dec. 20, 1906.



Particular description of goods.—Padlocks, Trunk-Locks, Cabinet-Locks, and Door-Locks.

Ser. No. 24,161. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) HIBBARD, SPENCER, BARTLETT & COMPANY, Chicago, Ill. Filed Dec. 20, 1906.

H.S.B.&CO. REV-O-NOC

Particular description of goods.—Varnishes, Enamels, Roughstuffs, Paint-Oil, and Pigments Used for Paint.

Ser. No. 24,162. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) HIBBARD, SPENCER, BARTLETT & COMPANY, Chicago, Ill. Filed Dec. 20, 1906. Used ten years.

OVB OUR VERY BEST

Particular description of goods.—Varnishes, Enamels, Stains, Roughstuffs, Paint-Oil, and Pigments Used for Paint.

Ser. No. 24,167. (CLASS 10. FERTILIZERS.) VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Filed Dec. 20, 1906.



Particular description of goods.—Fertilizers.

Ser. No. 24,168. (CLASS 10. FERTILIZERS.) VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Filed Dec. 20, 1906.



Particular description of goods.—Fertilizers.

Ser. No. 24,186. (CLASS 68. PUBLICATIONS.) WARE BROS. COMPANY, Philadelphia, Pa. Filed Dec. 21, 1906.

EXPORT IMPLEMENT AGE

Particular description of goods.—A Periodical.

Ser. No. 24,187. (CLASS 68. PUBLICATIONS.) WARE BROS. COMPANY, Philadelphia, Pa. Filed Dec. 21, 1906. Used ten years.

THE CARRIAGE MONTHLY DAILY

Particular description of goods.—A Periodical.

Ser. No. 24,193. (CLASS 71. TOBACCO PRODUCTS.) DUNCAN L. JACOWAY, Denver, Colo. Filed Dec. 21, 1906.

Old Smoke House

Particular description of goods.—Smoking-Tobacco.

Ser. No. 24,195. (CLASS 57. DENTAL MACHINES, APPARATUS, AND SUPPLIES.) LOUISVILLE DENTAL LABORATORY & MFG. CO., Louisville, Ky. Filed Dec. 21, 1906.

ODONTOID

Particular description of goods.—A Dental Alloy.

Ser. No. 24,198. (CLASS 71. TOBACCO PRODUCTS.) PARK & TILFORD, New York, N. Y. Filed Dec. 21, 1906.

P&T

Particular description of goods.—Cigars and Cigarettes.

Ser. No. 24,199. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) UTZ & DUNN, Rochester, N. Y. Filed Dec. 21, 1906.

The Little Wanderer.

Particular description of goods.—Leather Boots and Shoes.

TRADE-MARKS

REGISTERED JANUARY 22, 1907

59,819. INKS, TYPE-INKING RIBBONS, AND CARBON-PAPER. SUMMERS BROWN, New York, N. Y.
Filed July 9, 1906. Serial No. 20,798. PUBLISHED NOVEMBER 27, 1906.

59,820. WHITE LEAD. CARTER WHITE LEAD COMPANY, Omaha, Nebr.
Filed October 5, 1906. Serial No. 22,532. PUBLISHED NOVEMBER 27, 1906.

59,821. MAGAZINE. THE CONSTRUCTION NEWS COMPANY, Chicago, Ill.
Filed November 2, 1906. Serial No. 23,045. PUBLISHED NOVEMBER 27, 1906.

59,822. PAPER PATTERNS FOR GARMENTS. THE CROWELL PUBLISHING COMPANY, New York, N. Y.
Filed July 16, 1906. Serial No. 20,954. PUBLISHED NOVEMBER 27, 1906.

59,823. PRINTED BOOKS. DODGE PUBLISHING COMPANY, San Francisco, Cal., and New York, N. Y.
Filed August 30, 1906. Serial No. 21,805. PUBLISHED NOVEMBER 27, 1906.

59,824. ICE-CREAM FREEZERS. GRAY & DUDLEY HARDWARE CO., Nashville, Tenn.
Filed October 6, 1906. Serial No. 22,570. PUBLISHED NOVEMBER 27, 1906.

59,825. ILLUMINATING AND LUBRICATING OILS. KANSAS CITY OIL AND GAS COMPANY, Kansas City, Kans.
Filed July 6, 1906. Serial No. 20,760. PUBLISHED NOVEMBER 27, 1906.

59,826. NARRATIVE AND STORY BOOKS. L. C. PAGE & COMPANY (INC.), Boston, Mass.
Filed September 24, 1906. Serial No. 22,299. PUBLISHED NOVEMBER 27, 1906.

59,827. WRITING-PAPER. HENRY LINDENMEYR & SONS, New York, N. Y.
Filed October 1, 1906. Serial No. 22,423. PUBLISHED NOVEMBER 27, 1906.

59,828. WRITING-PAPER. HENRY LINDENMEYR & SONS, New York, N. Y.
Filed October 1, 1906. Serial No. 22,424. PUBLISHED NOVEMBER 27, 1906.

59,829. REFINED PETROLEUM AND BURNING OILS. PURE OIL COMPANY, Philadelphia, Pa.
Filed October 4, 1906. Serial No. 22,490. PUBLISHED NOVEMBER 27, 1906.

59,830. LEATHER AND HARNESS DRESSING AND BELT-PASTE AND BELT-SYRUP. PURE OIL COMPANY, Philadelphia, Pa.
Filed October 13, 1906. Serial No. 22,678. PUBLISHED NOVEMBER 27, 1906.

59,831. LUBRICATING-OILS. CHARLES F. STANNARD, Philadelphia, Pa., assignor to C. Harold Reich, London, S. W., England.
Filed November 1, 1906. Serial No. 23,037. PUBLISHED NOVEMBER 27, 1906.

59,832. CERTAIN MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS. THE TECHNICAL SUPPLY COMPANY, Scranton, Pa.
Filed May 17, 1906. Serial No. 19,637. PUBLISHED NOVEMBER 27, 1906.

59,833. ILLUMINATING-OILS AND LUBRICATING OILS AND GREASES. KATE F. YOUNG, Newark, N. J.
Filed June 9, 1906. Serial No. 20,181. PUBLISHED NOVEMBER 27, 1906.

59,834. PAPER DRINKING-CUPS. THE ASEPTIC DRINKING CUP CO., Cambridge, Mass.
Filed May 24, 1906. Serial No. 19,825. PUBLISHED NOVEMBER 27, 1906.

59,835. NON-ALCOHOLIC CARBONATED BEVERAGES AND SYRUPS FOR MAKING THE SAME. FRANK D. BAUME, Philadelphia, Pa.
Filed October 2, 1906. Serial No. 22,446. PUBLISHED NOVEMBER 27, 1906.

59,836. MALT-LIQUOR TONIC. THE C. A. LAMMERS BOTTLING CO., Denver, Colo.
Filed June 4, 1906. Serial No. 20,032. PUBLISHED NOVEMBER 27, 1906.

59,837. CIGARS, CHEROOTS, AND CIGARETTES. CAYEY-CAGUAS TOBACCO COMPANY, New York, N. Y., and Caguas, Porto Rico.
Filed October 24, 1906. Serial No. 22,875. PUBLISHED NOVEMBER 27, 1906.

59,838. BEER, ALE, PORTER, AND EXTRACT OF MALT. DULUTH BREWING & MALTING COMPANY, Duluth, Minn.
Filed September 22, 1906. Serial No. 22,238. PUBLISHED NOVEMBER 27, 1906.

59,839. BEER, ALE, PORTER, AND EXTRACT OF MALT. DULUTH BREWING & MALTING COMPANY, Duluth, Minn.
Filed September 22, 1906. Serial No. 22,239. PUBLISHED NOVEMBER 27, 1906.

59,840. BEER, ALE, PORTER, AND EXTRACT OF MALT. DULUTH BREWING & MALTING COMPANY, Duluth, Minn.
Filed September 22, 1906. Serial No. 22,240. PUBLISHED NOVEMBER 27, 1906.

59,841. BEER, ALE, AND PORTER. DULUTH BREWING & MALTING COMPANY, Duluth, Minn.
Filed September 22, 1906. Serial No. 22,241. PUBLISHED NOVEMBER 27, 1906.

59,842. LEATHER BOOTS AND SHOES. N. B. THAYER & CO., INC., Milton, N. H.
Filed May 22, 1906. Serial No. 19,769. PUBLISHED NOVEMBER 27, 1906.

59,843. SPEED-INDICATING DEVICES. THE R. H. SMITH MANUFACTURING COMPANY, Springfield, Mass.
Filed October 8, 1906. Serial No. 22,597. PUBLISHED NOVEMBER 27, 1906.

59,844. DENTAL CHAIRS. THE RITTER DENTAL MFG. CO., Rochester, N. Y.
Filed October 3, 1906. Serial No. 22,462. PUBLISHED NOVEMBER 27, 1906.

59,845. LEATHER SHOES. G. EDWIN SMITH, Columbus, Ohio.
Filed September 17, 1906. Serial No. 22,161. PUBLISHED NOVEMBER 27, 1906.

59,846. SPOOL-COTTON, SEWING-COTTON, AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed October 10, 1906. Serial No. 22,625. PUBLISHED NOVEMBER 27, 1906.

59,847. SPOOL-COTTON AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed October 20, 1906. Serial No. 22,803. PUBLISHED NOVEMBER 27, 1906.

59,848. CANDY KISSES WITH NUTS IN THEM. BRADFORD M. COLLINS, Providence, R. I.
Filed September 26, 1906. Serial No. 22,340. PUBLISHED NOVEMBER 27, 1906.

59,849. APPLE-JACK, OTHERWISE KNOWN AS CIDER BRANDY. WILLIAM A. FRENCH, Red Bank, N. J.
Filed May 3, 1905. Serial No. 4,228. PUBLISHED NOVEMBER 27, 1906.

59,850. FELT SHOES AND SLIPPERS. HENRY O. GARDNER, Worcester, Mass.
Filed August 7, 1906. Serial No. 21,375. PUBLISHED NOVEMBER 27, 1906.

59,851. LUBRICATING-OILS AND LUBRICATING COMPOUNDS. ABRAHAM WALTER HARRIS, Providence, R. I.
Filed September 17, 1906. Serial No. 22,143. PUBLISHED NOVEMBER 27, 1906.

59,852. TABLETS FOR WASHING AND CLEANSING PURPOSES. H. KAUFFMAN HOTTENSTEIN, Philadelphia, Pa.
Filed September 17, 1906. Serial No. 22,146. PUBLISHED NOVEMBER 27, 1906.

59,853. CERTAIN PAPER MANUFACTURES. LEVEY BROTHERS & COMPANY, Indianapolis, Ind.
Filed April 29, 1905. Serial No. 3,542. PUBLISHED NOVEMBER 27, 1906.

59,854. SILVER-PLATED TABLEWARE. MANCHESTER MFG. CO., Providence, R. I.
Filed April 23, 1906. Serial No. 19,018. PUBLISHED NOVEMBER 27, 1906.

59,855. SOAP. THE N. K. FAIRBANK COMPANY, Chicago, Ill.
Filed April 1, 1905. Serial No. 54. PUBLISHED NOVEMBER 27, 1906.

59,856. NATURAL MINERAL WATER. PULASKI SPRINGS HOTEL COMPANY, Pittsburg, Pa.
Filed June 19, 1906. Serial No. 20,418. PUBLISHED NOVEMBER 27, 1906.

59,857. WHISKY. SCHNEIDER & KLEIN, Omaha, Nebr.
Filed September 13, 1906. Serial No. 22,071. PUBLISHED NOVEMBER 27, 1906.

59,858. BLACK PRINT-PAPER. EDWARD G. SOLTMANN, New York, N. Y.
Filed April 6, 1905. Serial No. 534. PUBLISHED NOVEMBER 27, 1906.

59,859. DRAWING PAPER. EDWARD G. SOLTMANN, New York, N. Y.
Filed April 6, 1905. Serial No. 540. PUBLISHED NOVEMBER 27, 1906.

59,860. PLIABLE RUBBER ERASERS. EDWARD G. SOLTMANN, New York, N. Y.
Filed August 14, 1906. Serial No. 21,541. PUBLISHED NOVEMBER 27, 1906.

59,861. WHEAT-FLOUR. STODDARD GILBERT & CO., New Haven, Conn.
Filed October 10, 1906. Serial No. 22,637. PUBLISHED NOVEMBER 27, 1906.

59,862. RUBBER HOSE. UNITED & GLOBE RUBBER MANUFACTURING COMPANIES, Trenton, N. J.
Filed August 15, 1906. Serial No. 21,589. PUBLISHED NOVEMBER 27, 1906.

59,863. COFFEE. ROSS W. WEIR & COMPANY, New York, N. Y.
Filed October 4, 1906. Serial No. 22,475. PUBLISHED NOVEMBER 27, 1906.

59,864. TEA. ROSS W. WEIR & COMPANY, New York, N. Y.
Filed October 4, 1906. Serial No. 22,474. PUBLISHED NOVEMBER 27, 1906.

59,865. TEA. ROSS W. WEIR & COMPANY, New York, N. Y.
Filed October 4, 1906. Serial No. 22,476. PUBLISHED NOVEMBER 27, 1906.

59,866. SPOOL-COTTON, SEWING-COTTON, AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed October 17, 1906. Serial No. 22,733. PUBLISHED NOVEMBER 27, 1906.

59,867. SPOOL-COTTON AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed October 17, 1906. Serial No. 22,735. PUBLISHED NOVEMBER 27, 1906.

59,868. PAINTS, ENAMELS, AND BRONZE-POWDERS. BAER BROS., New York, N. Y.
Filed October 16, 1906. Serial No. 22,720. PUBLISHED NOVEMBER 27, 1906.

59,869. REED-ORGANS. THE CARPENTER COMPANY, Brattleboro, Vt.
Filed September 5, 1906. Serial No. 21,932. PUBLISHED NOVEMBER 27 1906.

59,870. CIGARS. CHAPIN & GORE INC., Chicago, Ill.
Filed June 24, 1905. Serial No. 8,915. PUBLISHED NOVEMBER 27, 1906.

59,871. CERTAIN BEVERAGES. JOHN GRAF, Milwaukee, Wis.
Filed July 10, 1906. Serial No. 20,836. PUBLISHED NOVEMBER 27, 1906.

59,872. WHEAT-FLOUR. THE HIGGINSVILLE MILLING COMPANY, Higginsville, Mo.
Filed October 18, 1906. Serial No. 22,747. PUBLISHED NOVEMBER 27, 1906.

59,873. WHEAT-FLOUR. THE HIGGINSVILLE MILLING COMPANY, Higginsville, Mo.
Filed October 18, 1906. Serial No. 22,748. PUBLISHED NOVEMBER 27, 1906.

59,874. WHEAT-FLOUR. THE HIGGINSVILLE MILLING COMPANY, Higginsville, Mo.
Filed October 18, 1906. Serial No. 22,749. PUBLISHED NOVEMBER 27, 1906.

59,875. WHISKY. KLEIN BROS., Cincinnati, Ohio.
Filed July 3, 1905. Serial No. 9,709. PUBLISHED NOVEMBER 27, 1906.

59,876. HARNESS AND LEATHER DRESSINGS. W. A. LOVETT & CO., Cape May, N. J.
Filed November 2, 1906. Serial No. 23,051. PUBLISHED NOVEMBER 27, 1906.

59,877. STRINGS FOR MUSICAL INSTRUMENTS. LYON & HEALY, Chicago, Ill.
Filed August 7, 1905. Serial No. 11,356. PUBLISHED NOVEMBER 27, 1906.

59,878. MEDICATED AND PERFUMED SOAP. POTTER DRUG & CHEMICAL CORPORATION, Portland, Me., and Boston, Mass.
Filed October 13, 1906. Serial No. 22,670. PUBLISHED NOVEMBER 27, 1906.

59,879. MEDICATED AND PERFUMED SOAP. POTTER DRUG & CHEMICAL CORPORATION, Portland, Me., and Boston, Mass.
Filed October 13, 1906. Serial No. 22,671. PUBLISHED NOVEMBER 27, 1906.

59,880. GIN. WICHMAN, LUTGEN & CO., INC., San Francisco, Cal.
Filed July 10, 1906. Serial No. 20,833. PUBLISHED NOVEMBER 27, 1906.

59,881. RUBBER ERASERS. AMERICAN LEAD PENCIL COMPANY, New York, N. Y.
Filed December 15, 1905. Serial No. 15,434. PUBLISHED NOVEMBER 27, 1906.

59,882. OLIVES AND OIL MADE THEREFROM. AMERICAN OLIVE COMPANY, Los Angeles, Cal.
Filed August 17, 1906. Serial No. 21,632. PUBLISHED NOVEMBER 27, 1906.

59,883. WHEAT-FLOUR. DULUTH-SUPERIOR MILLING CO., Duluth, Minn.
Filed September 17, 1906. Serial No. 22,138. PUBLISHED NOVEMBER 27, 1906.

59,884. HARD AND SOFT CANDY. GEORGE MILLER & SON COMPANY, Philadelphia, Pa.
Filed April 24, 1905. Serial No. 2,913. PUBLISHED NOVEMBER 27, 1906.

59,885. WATCHSPRINGS. HAMMEL, RIGLANDER & CO., New York, N. Y.
Filed August 8, 1905. Serial No. 11,410. PUBLISHED NOVEMBER 27, 1906.

59,886. ALE, STOUT, AND PORTER. J. & R. TENNENT LTD., Glasgow, Scotland.
Filed July 17, 1906. Serial No. 20,976. PUBLISHED NOVEMBER 27, 1906.

59,887. ALE, STOUT, AND PORTER. J. & R. TENNENT LTD., Glasgow, Scotland.
Filed July 17, 1906. Serial No. 20,977. PUBLISHED NOVEMBER 27, 1906.

59,888. CARBONATED TONIC BEVERAGES. NAPOLEON LODOR, Chattanooga, Tenn.
Filed July 31, 1906. Serial No. 21,270. PUBLISHED NOVEMBER 27, 1906.

59,889. CERTAIN PAINTS AND PAINTERS' MATERIALS. JOHN LUCAS & CO., Philadelphia, Pa.
Filed August 16, 1906. Serial No. 21,602. PUBLISHED NOVEMBER 27, 1906.

59,890. WHITE LEAD AND WHITE PAINT. JOHN LUCAS & CO., Philadelphia, Pa.
Filed August 16, 1906. Serial No. 21,603. PUBLISHED NOVEMBER 27, 1906.

59,891. BEER. THE MUESSEL BREWING CO., South Bend, Ind.
Filed July 21, 1906. Serial No. 21,053. PUBLISHED NOVEMBER 27, 1906.

59,892. COTTON THREAD. NEW ENGLAND COTTON YARN CO., Boston, Mass.
Filed September 5, 1906. Serial No. 21,912. PUBLISHED NOVEMBER 27, 1906.

59,893. COTTON THREAD. NEW ENGLAND COTTON YARN CO., Boston, Mass.
Filed September 5, 1906. Serial No. 21,913. PUBLISHED NOVEMBER 27, 1906.

59,894. COTTON THREAD. NEW ENGLAND COTTON YARN CO., Boston, Mass.
Filed September 5, 1906. Serial No. 21,914. PUBLISHED NOVEMBER 27, 1906.

59,895. CANNED FRUITS AND VEGETABLES. PRESSING & ORR CO., Circleville, Ohio.
Filed July 26, 1906. Serial No. 21,174. PUBLISHED NOVEMBER 27, 1906.

59,896. CANNED FRUITS AND VEGETABLES. PRESSING & ORR CO., Circleville, Ohio.
Filed July 26, 1906. Serial No. 21,176. PUBLISHED NOVEMBER 27, 1906.

59,897. CANNED FRUITS AND VEGETABLES. PRESSING & ORR CO., Circleville, Ohio.
Filed July 26, 1906. Serial No. 21,177. PUBLISHED NOVEMBER 27, 1906.

59,898. INKS AND STAMP-PADS. THADDEUS DAVIDS COMPANY, New York, N. Y.
Filed July 10, 1906. Serial No. 20,831. PUBLISHED NOVEMBER 27, 1906.

59,899. LUBRICATING-OILS. VALVOLINE OIL COMPANY, Edgewater, N. J., and New York, N. Y.
Filed July 17, 1906. Serial No. 20,988. PUBLISHED NOVEMBER 27, 1906.

59,900. MARASCHINO CHERRIES. A. BRESLAUER COMPANY, Milwaukee, Wis.
Filed June 24, 1905. Serial No. 8,891. PUBLISHED NOVEMBER 27, 1906.

59,901. COFFEE. C. W. ANTRIM & SONS, Richmond, Va.
Filed September 13, 1906. Serial No. 22,061. PUBLISHED NOVEMBER 27, 1906.

59,902. CANDIES, CHOCOLATES, AND BONBONS. D. AUERBACH & SONS, New York, N. Y.
Filed April 7, 1905. Serial No. 731. PUBLISHED NOVEMBER 27, 1906.

59,903. WITHDRAWN.

59,904. LUBRICATING-OILS, LUBRICATING-GREASES, AND LUBRICATING COMPOUNDS. THE IRONSIDES COMPANY, Columbus, Ohio.
Filed September 14, 1905. Serial No. 12,624. PUBLISHED NOVEMBER 27, 1906.

59,905. CANNED SALMON. M. J. KINNEY, Portland, Oreg.
Filed August 9, 1906. Serial No. 21,436. PUBLISHED NOVEMBER 27, 1906.

59,906. CANDIES. NATIONAL CANDY COMPANY, Jersey City, N. J., and St. Louis, Mo.
Filed August 31, 1906. Serial No. 21,836. PUBLISHED NOVEMBER 27, 1906.

59,907. STERILIZED MILK AND CONDENSED MILK. NESTLÉ & ANGLO-SWISS CONDENSED MILK CO., Cham, Switzerland.
Filed July 28, 1906. Serial No. 21,245. PUBLISHED NOVEMBER 27, 1906.

59,908. COTTON THREAD. NEW ENGLAND COTTON YARN CO., Boston, Mass.
Filed September 5, 1906. Serial No. 21,910. PUBLISHED NOVEMBER 27, 1906.

59,909. COTTON THREAD. NEW ENGLAND COTTON YARN CO., Boston, Mass.
Filed September 5, 1906. Serial No. 21,911. PUBLISHED NOVEMBER 27, 1906.

59,910. PERFUMED SOAP. A. & F. PEARS LIMD., London, England.
Filed January 17, 1906. Serial No. 16,227. PUBLISHED NOVEMBER 27, 1906.

59,911. PERFUMED SOAP. A. & F. PEARS LIMD., London, England.
Filed January 17, 1906. Serial No. 16,237. PUBLISHED NOVEMBER 27, 1906.

59,912. BUTTER. THE A. R. DUNCAN JR. CO., Cleveland, Ohio.
Filed May 16, 1906. Serial No. 19,605. PUBLISHED NOVEMBER 27, 1906.

59,913. YEAST. AKTIENBRAUEREI ZUM LÖWENBRAU IN MÜNCHEN, Munich, Germany.
Filed October 4, 1905. Serial No. 13,281. PUBLISHED NOVEMBER 27, 1906.

59,914. WHITE LEAD. BRANDRAM BROS. & CO. LD., London, England.
Filed July 17, 1906. Serial No. 20,982. PUBLISHED NOVEMBER 27, 1906.

59,915. FLAVORING COMPOUND. JOHN Z. DAVIDSON, Baltimore, Md.
Filed March 22, 1906. Serial No. 18,154. PUBLISHED NOVEMBER 27, 1906.

59,916. WHEAT-FLOUR. M. FORCHHEIMER & CO., Mobile, Ala.
Filed May 16, 1906. Serial No. 19,594. PUBLISHED NOVEMBER 27, 1906.

59,917. COOKED ROLLED OATS. THE H-O (HORNBY'S OATMEAL) COMPANY, New York and Buffalo, N. Y.
Filed May 17, 1906. Serial No. 19,623. PUBLISHED NOVEMBER 27, 1906.

59,918. BUTTER. CHARLES C. MARTIN, Denver, Colo.
Filed March 13, 1906. Serial No. 17,782. PUBLISHED NOVEMBER 27, 1906.

59,919. EGGS. CHARLES C. MARTIN, Denver, Colo.
Filed March 13, 1906. Serial No. 17,783. PUBLISHED NOVEMBER 27, 1906.

59,920. WEEKLY AND MONTHLY PERIODICAL. MCGRAW PUBLISHING CO., New York, N. Y.
Filed July 18, 1906. Serial No. 20,999. PUBLISHED NOVEMBER 27, 1906.

59,921. SOAP. THE N. K. FAIRBANK COMPANY, Chicago, Ill.
Filed July 13, 1905. Serial No. 10,200. PUBLISHED NOVEMBER 27, 1906.

59,922. SOAP. THE N. K. FAIRBANK COMPANY, Chicago, Ill.
Filed August 2, 1905. Serial No. 11,162. PUBLISHED NOVEMBER 27, 1906.

59,923. POTATO-CHIPS. NEW ENGLAND SUPPLY CO., Providence, R. I., and Philadelphia, Pa.
Filed July 10, 1906. Serial No. 20,820. PUBLISHED NOVEMBER 27, 1906.

59,924. POTATO-CHIPS. NEW ENGLAND SUPPLY CO., Providence, R. I., and Philadelphia, Pa.
Filed July 10, 1906. Serial No. 20,821. PUBLISHED NOVEMBER 27, 1906.

59,925. SEASONING PREPARATION. NEW ORLEANS IMPORT COMPANY, LIMITED, New Orleans, La.
Filed June 8, 1906. Serial No. 20,165. PUBLISHED NOVEMBER 27, 1906.

59,926. MALT EXTRACT. PARAGON MALT EXTRACT CO., New York, N. Y.
Filed July 20, 1906. Serial No. 21,033. PUBLISHED NOVEMBER 27, 1906.

59,927. COFFEE SUBSTITUTE OF BLENDED CEREALS. URIAH W. REED, Topeka, Ind.
Filed July 12, 1906. Serial No. 20,896. PUBLISHED NOVEMBER 27, 1906.

59,928. DRIED FRUITS. REISS & BRADY, New York, N. Y.
Filed September 7, 1905. Serial No. 12,315. PUBLISHED APRIL 10, 1906.

59,929. ALL KINDS OF CANDIES AND BONBONS. RUNKEL BROTHERS, INCORPORATED, New York, N. Y.
Filed July 11, 1906. Serial No. 20,858. PUBLISHED NOVEMBER 27, 1906.

59,930. SEASONING-SAUCE FOR FOODS. AUGUST. SCHRADER, New York, N. Y.
Filed October 13, 1905. Serial No. 13,555. PUBLISHED NOVEMBER 27, 1906.

59,931. CERTAIN OLEAGINOUS FOOD SUBSTANCES, SCHWARZSCHILD AND SULZBERGER COMPANY, Kansas City, Kans.; Chicago, Ill., and New York, N. Y.
Filed October 14, 1905. Serial No. 13,617. PUBLISHED NOVEMBER 27, 1906.

59,932. CHEESE OF THE LIMBURGER TYPE. M. UHLMANN, Chicago, Ill.
Filed May 14, 1906. Serial No. 19,542. PUBLISHED NOVEMBER 27, 1906.

59,933. PORK SAUSAGE. M. UHLMANN, Chicago, Ill.
Filed May 25, 1906. Serial No. 19,866. PUBLISHED NOVEMBER 27, 1906.

59,934. COFFEE. ROSS W. WEIR & COMPANY, New York N. Y.
Filed October 4, 1906. Serial No. 22,473. PUBLISHED NOVEMBER 27, 1906.

59,935. CLEANING COMPOUNDS. THE WHITE & BAGLEY CO., Worcester, Mass.
Filed July 10, 1905. Serial No. 9,957. PUBLISHED NOVEMBER 27, 1906.

59,936. CHUCKS AND HEAD-STOCKS OF LATHES. AMERICAN WATCH TOOL COMPANY, Waltham, Mass.
Filed August 17, 1905. Serial No. 11,719. PUBLISHED NOVEMBER 27, 1906.

59,937. CHUCKS AND HEAD-STOCKS OF LATHES. AMERICAN WATCH TOOL COMPANY, Waltham, Mass.
Filed August 17, 1905. Serial No. 11,720. PUBLISHED NOVEMBER 27, 1906.

59,938. HORSESHOE-NAILS. HOOPESTON HORSE NAIL CO., Hoopeston, Ill.
Filed July 18, 1906. Serial No. 21,002. PUBLISHED NOVEMBER 27, 1906

59,939. HOT-WATER HEATERS AND STEAM-BOILERS FOR HEATING PURPOSES. MODEL HEATING COMPANY, Philadelphia, Pa.
Filed September 9, 1905. Serial No. 12,414. PUBLISHED NOVEMBER 27, 1906.

59,940. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,231. PUBLISHED NOVEMBER 27, 1906.

59,941. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,232. PUBLISHED NOVEMBER 27, 1906.

59,942. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,233. PUBLISHED NOVEMBER 27, 1906.

59,943. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,234. PUBLISHED NOVEMBER 27, 1906.

59,944. BOXES OF BLOCKS OR BRICKS. KARL MAX SEIFERT, Dresden, Germany.
Filed August 13, 1906. Serial No. 21,529. PUBLISHED NOVEMBER 27, 1906.

59,945. BENDING, SHAPING, AND FORGING MACHINES. WILLIAMS, WHITE & COMPANY, Moline, Ill.
Filed June 30, 1906. Serial No. 20,674. PUBLISHED NOVEMBER 27, 1906.

59,946. INCANDESCENT ELECTRIC LAMPS AND APPLIANCES AND DEVICES FOR MOUNTING SAME. ALFRED W. BEUTTELL, London, England.
Filed October 16, 1906. Serial No. 22,724. PUBLISHED NOVEMBER 27, 1906.

59,947. STRANDED INSULATED WIRE. JOHN A. ROEBLING'S SONS CO., Trenton, N. J.
Filed February 12, 1906. Serial No. 16,919. PUBLISHED NOVEMBER 27, 1906.

59,948. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,237. PUBLISHED NOVEMBER 27, 1906.

59,949. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,239. PUBLISHED NOVEMBER 27, 1906.

59,950. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,240. PUBLISHED NOVEMBER 27, 1906.

59,951. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,241. PUBLISHED NOVEMBER 27, 1906.

59,952. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,242. PUBLISHED NOVEMBER 27, 1906.

59,953. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,243. PUBLISHED NOVEMBER 27, 1906.

59,954. CULINARY UTENSILS MADE OF TIN-PLATE. REED MANUFACTURING CO., Newark, N. Y.
Filed June 5, 1905. Serial No. 7,458. PUBLISHED NOVEMBER 27, 1906.

59,955. BLACKBOARDS. EDWARD G. SOLTMANN, New York, N. Y.
Filed September 11, 1906. Serial No. 22,024. PUBLISHED NOVEMBER 27, 1906.

59,956. FERTILIZERS. ASHEPOO FERTILIZER COMPANY, Charleston, S. C.
Filed October 27, 1906. Serial No. 22,956. PUBLISHED NOVEMBER 27, 1906.

59,957. HORSE-NAILS. AUSABLE HORSE NAIL COMPANY, Keeseville, N. Y.
Filed July 10, 1906. Serial No. 20,825. PUBLISHED NOVEMBER 27, 1906.

59,958. HAND-OILERS. THE CUSHMAN & DENISON MANUFACTURING COMPANY, New York, N. Y.
Filed October 22, 1906. Serial No. 22,831. PUBLISHED NOVEMBER 27, 1906.

59,959. HAND-OPERATED WASHING-MACHINES. HORTON MANUFACTURING COMPANY, Fort Wayne, Ind.
Filed July 19, 1906. Serial No. 21,015. PUBLISHED NOVEMBER 27, 1906.

59,960. CERTAIN SPORTING GOODS. NEW YORK SPORTING GOODS CO., New York, N. Y.
Filed April 17, 1905. Serial No. 2,065. PUBLISHED NOVEMBER 27, 1906.

59,961. PIG-LEAD. PICHER LEAD COMPANY, Joplin, Mo.
Filed October 29, 1906. Serial No. 22,974. PUBLISHED NOVEMBER 27, 1906.

59,962. BROOMS, BRUSHES, AND DUSTERS. PREVENTUM TOOTH BRUSH CO., New York, N. Y.
Filed October 2, 1906. Serial No. 22,444. PUBLISHED NOVEMBER 27 1906.

59,963. RAZOR-STROPS. THE RADIUMITE COMPANY, Chicago, Ill.
Filed July 12, 1906. Serial No. 20,895. PUBLISHED NOVEMBER 27, 1906.

59,964. MANTLES FOR INCANDESCENT GAS-LAMPS. WILLIAM C. SCHEU, New York, N. Y.
Filed September 28, 1906. Serial No. 22,369. PUBLISHED NOVEMBER 27, 1906.

59,965. SAFES, VAULTS, AND LOCKS, AND PARTS THEREOF. TAYLOR IRON & STEEL CO., High Bridge, N. J
Filed October 19, 1906. Serial No. 22,775. PUBLISHED NOVEMBER 27, 1906.

59,966. HORSE-NAILS. UNION HORSE NAIL COMPANY, New Haven, Conn., and Chicago, Ill.
Filed June 20, 1905. Serial No. 8,608. PUBLISHED NOVEMBER 27, 1906.

59,967. STRAINERS AND VALVES. THE UNITED INJECTOR CO., New York, N. Y.
Filed August 19, 1905. Serial No. 11,821. PUBLISHED NOVEMBER 27, 1906.

59,968. CLEANING AND POLISHING COMPOUNDS FOR METALS. THE WHITE & BAGLEY CO., Worcester, Mass.
Filed July 10, 1905. Serial No. 9,958. PUBLISHED NOVEMBER 27, 1906.

59,969. HORSE-NAILS. AUSABLE HORSE NAIL COMPANY, Keeseville, N. Y.
Filed July 10, 1906. Serial No. 20,824. PUBLISHED NOVEMBER 27, 1906.

59,970. INCANDESCENT LAMPS. THE BUCKEYE ELECTRIC COMPANY, Cleveland, Ohio.
Filed November 2, 1906. Serial No. 23,043. PUBLISHED NOVEMBER 27, 1906.

59,971. DENTAL PLASTER. SAMUEL H. FRENCH & CO., Philadelphia, Pa.
Filed November 5, 1906. Serial No. 23,100. PUBLISHED NOVEMBER 27, 1906.

59,972. MORTAR-COLORINGS. SAMUEL H. FRENCH & CO., Philadelphia, Pa.
Filed November 5, 1906. Serial No. 23,103. PUBLISHED NOVEMBER 27, 1906.

59,973. COMPOUND FOR CLEANING AND POLISHING METAL AND PLATED WARE. JOHN C. PAUL, Chicago, Ill.
Filed November 3, 1906. Serial No. 23,090. PUBLISHED NOVEMBER 27, 1906.

59,974. CERTAIN FIRE-FIGHTING APPARATUS AND SUPPLIES THEREFOR. THE REX FIRE EXTINGUISHER CO., New York, N. Y.
Filed October 15 1906. Serial No. 22,707. PUBLISHED NOVEMBER 27, 1906.

59,975. INCANDESCENT LAMPS. THE SHELBY ELECTRIC COMPANY, Shelby, Ohio.
Filed November 2, 1906. Serial No. 23,054. PUBLISHED NOVEMBER 27, 1906.

59,976. INJECTORS AND EJECTORS. THE UNITED INJECTOR CO., New York, N. Y.
Filed October 26, 1906. Serial No. 22,917. PUBLISHED NOVEMBER 27, 1906.

59,977. ICE-CREEPERS. FRANK W. WHITCHER, Boston, Mass.
Filed November 3, 1906. Serial No. 23,075. PUBLISHED NOVEMBER 27, 1906.

59,978. KNITTED WOOLEN GOODS. JAKOB CUNZ, Bürglen, Switzerland.
Filed June 28, 1906. Serial No. 20,625. PUBLISHED NOVEMBER 27, 1906.

59,979. TOILET POWDER AND TOILET CREAM. STEWART W. EAMES. New York, N. Y., assignor to The H. B. Claflin Company, New York, N. Y., a Corporation of New Jersey.
Filed May 8, 1906. Serial No. 19,363. PUBLISHED NOVEMBER 27, 1906.

59,980. CERTAIN HAND-TOOLS. GRAY & DUDLEY HARDWARE CO., Nashville, Tenn.
Filed October 2, 1906. Serial No. 22,432. PUBLISHED NOVEMBER 27, 1906.

59,981. HOSIERY. HIBBEN, HOLLWEG & CO., Indianapolis, Ind.
Filed October 12, 1906. Serial No. 22,659. PUBLISHED NOVEMBER 27, 1906.

59,982. HOSIERY. HIBBEN, HOLLWEG & CO., Indianapolis, Ind.
Filed October 12, 1906. Serial No. 22,660. PUBLISHED NOVEMBER 27, 1906.

59,983. TOILET CREAMS OR LOTIONS. HENRY C. KARPENSTEIN, New York, N. Y.
Filed October 6, 1905. Serial No. 13,361. PUBLISHED NOVEMBER 27, 1906.

59,984. CERTAIN PROPRIETARY OR PHARMACEUTICAL PREPARATION. KRIEGER BROS., Louisville, Ky.
Filed October 1, 1906. Serial No. 22,403. PUBLISHED NOVEMBER 27, 1906.

59,985. WITHDRAWN.

59,986. HOSIERY. THE MILEY COMPANY, Portland, Me.
Filed June 13, 1906. Serial No. 20,236. PUBLISHED NOVEMBER 27, 1906.

59,987. SWITCH-STANDS. PETTIBONE, MULLIKEN & CO., Chicago, Ill.
Filed June 8, 1906. Serial No. 20,148. PUBLISHED NOVEMBER 27, 1906.

59,988. SHEETINGS, DRILLS, JEANS, SHIRTINGS, AND HANDKERCHIEFS. REUTER, BRÖCKELMANN & CO., Shanghai, China.
Filed May 2, 1906. Serial No. 19,239. PUBLISHED NOVEMBER 27, 1906.

59,989. REMEDY FOR CERTAIN NAMED DISEASES. E. SCHMIDT & CO., Baltimore, Md.
Filed October 3, 1906. Serial No. 22,463. PUBLISHED NOVEMBER 27, 1906.

59,990. MEDICATED STOCK FOOD. SAMUEL K. STRICKLER, Mifflinburg, Pa.
Filed June 15 1906. Serial No. 20,277. PUBLISHED NOVEMBER 27, 1906.

59,991. RAT, VERMIN, AND INSECT DESTROYERS AND EXTERMINATORS. EPHRAIM S. WELLS, Jersey City, N. J.
Filed September 12, 1906. Serial No. 22,049. PUBLISHED NOVEMBER 27, 1906.

59,992. SILK PIECE GOODS. YORK SILK MANUFACTURING COMPANY, York, Pa.
Filed October 20, 1906. Serial No. 22,812 PUBLISHED NOVEMBER 27, 1906.

59,993. CERTAIN CUTLERY AND EDGE-TOOLS. GRAY & DUDLEY HARDWARE CO., Nashville, Tenn.
Filed April 16, 1906. Serial No. 18,855. PUBLISHED NOVEMBER 27, 1906.

59,994. CERTAIN HAND-TOOLS. GRAY & DUDLEY HARDWARE CO., Nashville, Tenn.
Filed September 17, 1906. Serial No. 22,141. PUBLISHED NOVEMBER 27, 1906.

59,995. CERTAIN NAMED TEXTILE FABRICS. HENRY E. FRANKENBERG COMPANY, New York, N. Y.
Filed August 21, 1905. Serial No. 11,844. PUBLISHED NOVEMBER 27, 1906.

59,996. CERTAIN NAMED TEXTILE FABRICS. HENRY E. FRANKENBERG COMPANY, New York, N. Y.
Filed August 21, 1905. Serial No. 11,845. PUBLISHED NOVEMBER 27, 1906.

59,997. CERTAIN NAMED TEXTILE FABRICS. HENRY E. FRANKENBERG COMPANY, New York, N. Y.
Filed August 21, 1905. Serial No. 11,848. PUBLISHED NOVEMBER 27, 1906.

59,998. CERTAIN NAMED TEXTILE FABRICS. HENRY E. FRANKENBERG COMPANY, New York, N. Y.
Filed August 21, 1905. Serial No. 11,849. PUBLISHED NOVEMBER 27 1906.

59,999. CERTAIN NAMED SURGICAL INSTRUMENTS. PETER C. LORENZ, New York, N. Y.
Filed June 22, 1905. Serial No. 8,793. PUBLISHED NOVEMBER 27, 1906.

60,000. LICORICE AND LICORICE-PASTE. MACANDREWS & FORBES COMPANY, New York, N. Y.
Filed September 24, 1906. Serial No. 22,296. PUBLISHED NOVEMBER 27, 1906.

60,001. CARPENTERS' PINCERS AND BLACKSMITHS' SHOE-PINCERS. SIMMONS HARDWARE COMPANY, St. Louis, Mo.
Filed April 20, 1906. Serial No. 18,954. PUBLISHED NOVEMBER 27, 1906.

60,002. MEDICINAL PLASTER. ST. JACOBS OIL, LIMITED, London, England, and Baltimore, Md.
Filed April 14, 1906. Serial No. 18,819. PUBLISHED NOVEMBER 27, 1906.

60,003. BITTERS. A. BRESLAUER COMPANY, Milwaukee, Wis.
Filed June 24, 1905. Serial No. 8,886. PUBLISHED NOVEMBER 27, 1906.

60,004. POROUS PLASTERS. ALLCOCK MANUFACTURING CO., New York, N. Y.
Filed August 12, 1905. Serial No. 11,559. PUBLISHED NOVEMBER 27, 1906.

60,005. REMEDIES FOR CERTAIN NAMED DISEASES. THOMAS E. ANDERSON, Fulton, Ky.
Filed September 26, 1906. Serial No. 22,336. PUBLISHED NOVEMBER 27, 1906.

60,006. BICYCLES AND PARTS THEREOF. AURORA AUTOMATIC MACHINERY COMPANY, Aurora, Ill.
Filed April 23, 1906. Serial No. 19,022. PUBLISHED NOVEMBER 27, 1906.

60,007. CORSETS. BESTEN & LANGEN, Louisville, Ky.
Filed September 17, 1906. Serial No. 22,158. PUBLISHED NOVEMBER 27, 1906.

60,008. LADIES' HOODS. BOEHM & LEVINE, New York, N. Y.
Filed September 11, 1906. Serial No. 22,019. PUBLISHED NOVEMBER 27, 1906.

60,009. MEN'S WOOL, FELT, AND STRAW HATS. BOOCHER FORCE AND GOODBAR HAT COMPANY, St. Louis, Mo.
Filed October 22, 1906. Serial No. 22,870. PUBLISHED NOVEMBER 27, 1906.

60,010. INHALING COMPOUNDS AND DRUGS. THE BUTCHER DIRECT CONTACT METHOD COMPANY, New York, N. Y.
Filed August 4, 1906. Serial No. 21,328. PUBLISHED NOVEMBER 27, 1906.

60,011. CERTAIN TEXTILES. CHINA AND JAPAN TRADING COMPANY, LIMITED, New York, N. Y.
Filed November 18, 1905. Serial No. 14,796. PUBLISHED NOVEMBER 27, 1906.

60,012. HOSIERY. CHAS. CHIPMAN'S SONS, Easton, Pa.
Filed October 22, 1906. Serial No. 22,822. PUBLISHED NOVEMBER 27, 1906.

60,013. CORSETS. CORSET H COMPANY, Worcester, Mass.
Filed September 13, 1906. Serial No. 22,056. PUBLISHED NOVEMBER 27, 1906.

60,014. CORSETS. CORSET H COMPANY, Worcester, Mass.
Filed September 13, 1906. Serial No. 22,057. PUBLISHED NOVEMBER 27, 1906.

60,015. CIGARS. CUESTA, REY & CO., West Tampa, Fla.
Filed October 6, 1905. Serial No. 13,392. PUBLISHED APRIL 3, 1906.

60,016. CERTAIN NAMED MEDICINE. DR. B. J. KENDALL COMPANY, Enosburg Falls, Vt.
Filed October 6, 1906. Serial No. 22,578. PUBLISHED NOVEMBER 27, 1906.

60,017. WOVEN UNDERSHIRTS AND WOVEN DRAWERS. EARL & WILSON, Troy, N. Y.
Filed July 5, 1906. Serial No. 20,738. PUBLISHED NOVEMBER 27, 1906.

60,018. ANTISEPTICS. THE ELI LILLY & COMPANY, Indianapolis, Ind.
Filed May 29, 1905. Serial No. 6,943. PUBLISHED NOVEMBER 27, 1906.

60,019. TOILET POWDER. EDWARD DORSEY ELLIS, Baltimore, Md.
Filed June 18, 1906. Serial No. 20,360. PUBLISHED NOVEMBER 27, 1906.

60,020. CERTAIN NAMED CHEMICALS. FARBENFABRIKEN VORM. FRIEDR. BAYER & CO., Elberfeld, Germany.
Filed April 11, 1906. Serial No. 18,705. PUBLISHED NOVEMBER 27, 1906.

60,021. BLEACHED AND UNBLEACHED TEXTILE FABRICS. EVAN J. FRASER-CAMPBELL, New York, N. Y.
Filed April 3, 1906. Serial No. 18,455. PUBLISHED NOVEMBER 27, 1906.

60,022. BLEACHED AND UNBLEACHED TEXTILE FABRICS. EVAN J. FRASER-CAMPBELL, New York, N. Y.
Filed April 3, 1906. Serial No. 18,460. PUBLISHED NOVEMBER 27, 1906.

60,023. BLEACHED AND UNBLEACHED TEXTILE FABRICS. EVAN J. FRASER-CAMPBELL, New York, N. Y.
Filed April 3, 1906. Serial No. 18,462. PUBLISHED NOVEMBER 27, 1906.

60,024. BASE-BALLS. M. GROPPER & SONS, New York, N. Y.
Filed October 29, 1906. Serial No. 22,986. PUBLISHED NOVEMBER 27, 1906.

60,025. WORSTED DRESS GOODS AND SUITINGS. HALL & CO., Jamestown, N. Y.
Filed October 3, 1906. Serial No. 22,468. PUBLISHED NOVEMBER 27, 1906.

60,026. PIVOT-DRILLS. HAMMEL, RIGLANDER & CO., New York, N. Y.
Filed August 8, 1905. Serial No. 11,417. PUBLISHED NOVEMBER 27, 1906.

60,027. GRAVERS. HAMMEL, RIGLANDER & CO., New York, N. Y.
Filed August 8, 1905. Serial No. 11,419. PUBLISHED NOVEMBER 27, 1906.

60,028. ANTISEPTIC LIQUOR OR SOLUTION OF EUCALYPTUS. JOHN WYETH AND BROTHER, INCORPORATED, Philadelphia, Pa.
Filed August 15, 1906. Serial No. 21,549. PUBLISHED NOVEMBER 27, 1906.

60,029. CERTAIN GARMENTS. JONES DRY GOODS CO., Kansas City, Mo.
Filed September 22, 1906. Serial No. 22,235. PUBLISHED NOVEMBER 27, 1906.

60,030. ANTISEPTIC SALVE. KAS MO REMEDY CO., Kansas City, Mo.
Filed September 22, 1906. Serial No. 22,256. PUBLISHED NOVEMBER 27, 1906.

60,031. HAIR-DRESSING. GEORGE S. KIRKLEY, Baltimore, Md.
Filed October 4, 1906. Serial No. 22,487. PUBLISHED NOVEMBER 27, 1906.

60,032. COATS, PANTS, OVERALLS, AND BLOUSES. LARNED CARTER & CO., Detroit, Mich.
Filed August 11, 1906. Serial No. 21,491. PUBLISHED NOVEMBER 27, 1906.

60,033. WITHDRAWN.

60,034. INSECTICIDES AND DISINFECTANTS. THE E. F. LEWIS COMPANY, Madrid, N. Y.
Filed October 2, 1906. Serial No. 22,442. PUBLISHED NOVEMBER 27, 1906.

60,035. UTERINE TONIC. FREDERICK AUGUST LUYTIES, St. Louis, Mo.
Filed October 6, 1906. Serial No. 22,595. PUBLISHED NOVEMBER 27, 1906.

60,036. WITHDRAWN.

60,037. ANTISEPTIC POWDERS AND OINTMENTS. WILLIAM J. MCNALLY, Charlestown, Mass.
Filed March 7, 1906. Serial No. 17,635. PUBLISHED NOVEMBER 6, 1906.

60,038. REMEDIES FOR CERTAIN NAMED DISEASES. LOUISE M. MENTELE, Epiphany, S. D.
Filed July 19, 1906. Serial No. 21,016. PUBLISHED NOVEMBER 27, 1906.

60,039. COTTON PIECE GOODS. MISTROT BROS. & CO., Galveston, Tex.
Filed June 16, 1905. Serial No. 8,371. PUBLISHED NOVEMBER 27, 1906.

60,040. DISINFECTANT FOR DESTROYING ROACHES, BUGS, INSECTS, RATS, AND MICE. JULIUS MUENCH, Louisville, Ky.
Filed July 19, 1906. Serial No. 21,017. PUBLISHED NOVEMBER 27, 1906.

60,041. SELF-LUBRICATING AXLES. NEW YORK DASH & AXLE MANUFACTURING COMPANY, New York, N. Y.
Filed August 7, 1905. Serial No. 11,395. PUBLISHED November 27, 1906.

60,042. REMEDY FOR THE CURE OF CATARRH. MILES H. PASCO, Grand Rapids, Mich.
Filed October 1, 1906. Serial No. 22,406. PUBLISHED NOVEMBER 27, 1906.

60,043. CULTIVATORS. PRINCEVILLE MFG. CO., Princeville, Ill.
Filed October 1, 1906. Serial No. 22,428. PUBLISHED NOVEMBER 27, 1906.

60,044. CORSETS. ROYAL WORCESTER CORSET COMPANY, Worcester, Mass.
Filed October 1, 1906. Serial No. 22,414. PUBLISHED NOVEMBER 27, 1906.

60,045. RIBBONS. WM. SARASIN & CO., Basel, Switzerland.
Filed May 28, 1906. Serial No. 19,898. PUBLISHED NOVEMBER 27, 1906.

60,046. CERTAIN CHEMICAL PREPARATION. THE SUMMIT CITY SOAP WORKS, Fort Wayne, Ind.
Filed August 13, 1906. Serial No. 21,508. PUBLISHED NOVEMBER 27, 1906.

60,047. NON-EXPLOSIVE PROJECTILES AND SHIELDS AND PARTS FOR GUN-CARRIAGES. TAYLOR IRON & STEEL CO., High Bridge, N. J.
Filed October 19, 1906. Serial No. 22,774. PUBLISHED NOVEMBER 27, 1906.

60,048. CENSERS, VAPORIZERS, AND VOLATILIZERS FOR MEDICAL COMPOUNDS. THE VAPO-CRESOLENE COMPANY, New York, N. Y.
Filed September 24, 1906. Serial No. 22,280. PUBLISHED NOVEMBER 27, 1906.

60,049. CENSERS, VAPORIZERS, AND VOLATILIZERS FOR MEDICAL COMPOUNDS. THE VAPO-CRESOLENE COMPANY, New York, N. Y.
Filed September 24, 1906. Serial No. 22,279. PUBLISHED NOVEMBER 27, 1906.

60,050. CENSERS, VAPORIZERS, AND VOLATILIZERS FOR MEDICAL COMPOUNDS. THE VAPO-CRESOLENE COMPANY, New York, N. Y.
Filed September 24, 1906. Serial No. 22,281. PUBLISHED NOVEMBER 27, 1906.

60,051. CENSERS, VAPORIZERS, AND VOLATILIZERS FOR MEDICAL COMPOUNDS. THE VAPO-CRESOLENE COMPANY, New York, N. Y.
Filed September 24, 1906. Serial No. 22,282. PUBLISHED NOVEMBER 27, 1906.

60,052. CENSERS, VAPORIZERS, AND VOLATILIZERS FOR MEDICAL COMPOUNDS. THE VAPO-CRESOLENE COMPANY, New York, N. Y.
Filed September 24, 1906. Serial No. 22,283. PUBLISHED NOVEMBER 27, 1906.

60,053. CERTAIN PARTS OF MOWERS AND REAPERS. THE WHITMAN & BARNES MANUFACTURING COMPANY, Summit, Ohio.
Filed July 2, 1906. Serial No. 20,701. PUBLISHED NOVEMBER 27, 1906.

60,054. CERTAIN NAMED MEDICINES. WRIGHT'S RAPID RELIEF CO., Peebles, Ohio.
Filed March 22, 1906. Serial No. 18,135. PUBLISHED NOVEMBER 27, 1906.

60,055. SHOVELS, SPADES, AND SCOOPS. THE WYOMING SHOVEL WORKS, Wyoming, Pa.
Filed May 5, 1905. Serial No. 19,819. PUBLISHED NOVEMBER 27, 1906.

LABELS

REGISTERED JANUARY 22, 1907.

13,326.—*Title:* "ABBOTT'S BITTERS." (For Bitters.) C. W. ABBOTT & Co., Baltimore, Md. Filed December 26, 1906.

13,327.—*Title:* "PINEOZONE." (For a Medicinal Paste.) STUTLEY I. HENDERSON, West Allis, Wis. Filed December 26, 1906.

13,328.—*Title:* "DANDER-OFF." (For a Hair-Tonic and Dandruff Cure.) CLARENCE HUGHEL, Indianapolis, Ind. Filed December 26, 1906.

13,329.—*Title:* "RAMON PINTO." (For Cigars.) ALEXANDER & ZENN, New York, N. Y. Filed December 28, 1906.

13,330.—*Title:* "DELICATESS." (For Flour.) GEORGE URBAN MILLING CO., Buffalo, N. Y. Filed December 28, 1906.

13,331.—*Title:* "LAVA—A REMEDY FOR ALL TREE AND PLANT DISEASES." (For Plant-Fertilizers.) JOHN J. RUEGG, Clifton, N. J. Filed December 26, 1906.

PRINTS

REGISTERED JANUARY 22, 1907.

1,894.—*Title:* "HAVE A TASTE." (For Liquors.) THE MEYERCORD COMPANY, INC., Chicago, Ill. Filed November 17, 1906.

1,895.—*Title:* "GEORGE WASHINGTON BACKS, CONGRESS PLAYING CARDS." (For Playing-Cards.) THE UNITED STATES PLAYING CARD COMPANY, Norwood, Ohio. Filed December 29, 1906.

1,896.—*Title:* "YOU ALWAYS HEAR GOOD REPORTS FROM FRICTIONLESS METAL." (For Frictionless Metal.) FRICTIONLESS METAL CO., Chattanooga, Tenn. Filed December 28, 1906.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

TOWNSEND *v.* COPELAND *v.* ROBINSON.

Decided January 11, 1907.

1. INTERFERENCE—CLAIMS PRESENTED UNDER RULE 109—PRACTICE.

The reasons which led to the change in Rule 124, set forth in *Newcomb* v. *Thomson*, (122 O. G., 3012,) apply with nearly the same force to motions under Rule 109. The purpose of Rule 109 is to avoid a second interference. If a party wishes to appeal from an adverse decision on the merits of his claims presented under Rule 109, he should be permitted to do so to the full extent provided by law in order that the necessity for a subsequent *ex parte* appeal and the possibility of a second interference may be avoided.

2. SAME—SAME—SAME.

The practice concerning motions to add claims under Rule 109 should follow the procedure set forth in Rule 124 relative to motions for dissolution. The amendment accompanying the motion made under Rule 109 should be entered in the application, and if the Examiner holds that the claims are not allowable to the party bringing the motion he will reject the claims. Following Rule 124, the Examiner will also set a time for reconsideration, and if after reconsideration he adheres to his original decision he will finally reject the claims and fix a limit of appeal.

APPEAL on motion.

ON PETITION.

BICYCLE.

Mr. T. Hart Anderson and *Mr. Melville Church* for Townsend.

Mr. Gales P. Moore for Copeland.

Mr. William Robinson pro se.

ALLEN, *Commissioner:*

This case comes up on appeals by Townsend and Copeland from the decision of the Primary Examiner denying their motions to amend their applications under Rule 109, also on petitions by the same parties that—

* * * the Primary Examiner's action refusing to permit your petitioner to amend his application and to include his amended claims in the interference, be revised and reversed, or that the Examiner be directed to reconsider his action and if, on such reconsideration, he is still of the opinion that your petitioner's motion should be denied, that he be directed to set a limit of appeal in order that your petitioner's right of appeal to the Board of Examiners-in-Chief may be perfected.

Motions by Townsend and Copeland to amend their applications under Rule 109 so as to include as additional counts of the interference twelve claims made by Robinson were denied by the Primary Examiner on the ground that said claims are not patentable to either Townsend or Copeland in view of Robinson's patent, No. 723,408. Townsend and Copeland thereupon requested a reconsideration of the Examiner's action. This request was denied by the Primary Examiner, who held that the rules do not provide for a reconsideration of motions brought under Rule 109 and that the reconsideration provided for in Rule 124 applies only to motions for dissolution.

It is well established that no appeal lies to the Commissioner in the first instance from the action of the Primary Examiner denying motions on grounds involving the merits of the claims. The appeal and so much of the petition as asks that the decision of the Examiner be revised and reversed are accordingly dismissed.

It remains to consider that portion of the petition which asks that the Primary Examiner be directed to reconsider his actions and, if of the same opinion, to set a limit of appeal in order that appeal may be taken to the Board of Examiners-in-Chief.

That the denial of a motion under Rule 109 on grounds involving the merits of the claims is appealable in the first instance to the Examiners-in-Chief is well settled. (*Berry* v. *Fitzsimmons*, 99 O. G., 862; *Hillard* v. *Fisher*, 101 O. G., 2290; *Hillard* v. *Eckert*, 101 O. G., 1831; *O'Connor* v. *Vanderbilt*, 102 O. G., 1782.) The only question for determination is the procedure to be followed in taking the appeal to the Examiners-in-Chief.

Formerly in case of motions under Rule 109, as well as in motions for dissolution, if the matter was an appealable one the case was in condition for appeal after the first decision of the Examiner. A different course of procedure was established by Rule 124 as amended June 12, 1906, (122 O. G., 2690,) in the case of motions for dissolution. The petition presents the question whether this course of procedure is also applicable to motions under Rule 109. The reasons which led to the change in Rule 124, set forth in my decision in the case of *Newcomb* v. *Thomson*, (122 O. G., 3012,) apply with nearly the same force to motions under Rule 109. As stated in the case of *ex parte Sutton, Steele, and Steele*, (121 O. G., 1012,) the purpose of Rule 109 is to avoid a second interference. If the claims presented under Rule 109 are to become the issue of an interference proceeding, they should be included in the pending interference and not in a second interference subsequently declared. If a party wishes to appeal from an adverse decision on the merits of his claims presented under Rule 109, he should be permitted to do so to the full extent provided by law in order that the necessity for a subsequent *ex parte* appeal and the possibility of a second interference may be avoided.

No difficulty is anticipated in applying the procedure of Rule 124 to motions under Rule 109. In the case of motions for dissolution the claims are already in the applica-

tions. Under Rule 109 the claims are presented by a proposed amendment which accompanies the motion, and the practice will require the entry first of the amendment in the application. The rejection of the claims and subsequent procedure will then follow the practice indicated in Rule 124. If the Examiner holds that the claims are not allowable to the party bringing the motion, under the former practice the amendment was refused admission, while under the practice announced in this decision the amendment will be entered and the claims rejected. In neither case would the claims be added as counts to the interference unless the decision of the Examiner is reversed on appeal. The practice indicated above is not believed to be inconsistent with the present wording of Rule 109. The rule states that—

on the admission of such amendment the intervention shall be included in the interference.

The entry and rejection of claims is not such admission of the amendment as the rule contemplates in order that the claims may be added to the interference.

The Examiner is directed to enter the amendments of Copeland and Townsend in their applications and, in view of his decision of record, to reject the claims, also to set a time for reconsideration, and if after reconsideration he adheres to his original decision, to finally reject the claims and fix a limit of appeal in accordance with the provisions of Rule 124.

The petition is granted to the extent indicated.

MACMULKIN *v.* BOLLÉE.

Decided November 3, 1906.

1. INTERFERENCE—PRIORITY—INSUFFICIENCY OF DISCLOSURE IN APPLICATION.

Where M., a patentee, who is junior party in an interference, did not take testimony, but relied upon the insufficiency of the disclosure of B.'s application, which was pending at the time M.'s application was filed, and his patent issued, and it subsequently appears that B.'s original application did, in fact, disclose the invention in issue, *Held* that priority of invention should be awarded to B., the senior party.

2. SAME—SAME—SAME.

Where in his original drawing B. showed a valve controlling communication between several chambers and a passage leading to the cylinder of an engine and in his specification referred to the chambers as "carbureters" supplying sprayers with mixtures varying in proportion of hydrocarbon contained in the several chambers, *Held* that the use of the word "carbureter" was a sufficient disclosure of the idea of providing "hydrocarbon-inlets" in which air and hydrocarbon were to be supplied separately to each of the passages controlled by the valve, as called for by the issue.

3. SAME—DECLARATION—SUGGESTION OF CLAIMS NEGATIVES PRESUMPTION OF NEW MATTER IN SUBSTITUTE SPECIFICATION.

Where the Examiner stated in a letter to B. suggesting the claims in interference that the interference was not declared during the pendency of M.'s application for the reason that B.'s original specification so obscurely presented his invention that it could not be understood at that time, *Held* that the Examiner's action in admitting a substitute specification and drawing was, in effect, a ruling on his part that the substitute specification and drawing did not contain new matter.

APPEAL from Examiners-in-Chief.

CARBURETER.

Messrs. Howson & Howson for MacMulkin.

Mr. Wm. E. Boulter for Bollée.

MOORE, *Acting Commissioner:*

This case comes before me on appeal from the decision of the Examiners-in-Chief reversing the decision of the Examiner of Interferences and awarding priority of invention to the senior party, Bollée.

The invention in issue is an improvement in carbureters for internal-combustion engines. The object of the invention is to provide means for varying the quantity of explosive mixture supplied to the cylinder without altering the proportion of air to gas in the mixture. This object is accomplished by providing a plurality of carbureters, together with a valve, by means of which one or more of the carbureters can be placed in communication with the cylinder. The subject-matter in issue is defined in the following counts:

1. A vaporizer for liquid hydrocarbons, comprising a number of hydrocarbon-inlets, a separate air-inlet to each hydrocarbon-inlet, a common outlet-pipe and means for cutting off one or more of the pairs of hydrocarbon-inlets and air-inlets simultaneously, as described.

2. A vaporizer for liquid hydrocarbons, comprising a number of inlets for hydrocarbon and means at all times to supply a constant flow to each inlet, an air-supply to each said inlet, an outlet for the vaporized mixture and a throttle-valve between the individual inlets and the outlet adapted to cut off or open more or fewer of the combined air and hydrocarbon inlets, substantially as described.

3. A vaporizer for liquid hydrocarbons, comprising an outlet-pipe, a throttle-valve opening thereto, a body part containing a plurality of chambers, a separate passage from each chamber to the throttle-valve and an air-supply and a hydrocarbon-supply to each chamber, the throttle-valve being adapted to cut off more or fewer of the chambers from the outlet-pipe, substantially as described.

MacMulkin, the junior party, has taken no testimony, but contends that the invention in issue was not disclosed in Bollée's application as originally filed and that no amendment embodying the invention was filed until subsequently to the filing of MacMulkin's application. Bollée's application was filed August 3, 1903. On September 3, 1903, the Examiner stated that the invention was not sufficiently explained or illustrated and declined to act on the merits of the claims. MacMulkin filed his application December 3, 1903, and his patent was granted May 10, 1904. On July 14, 1904, Bollée filed a substitute specification, and on August 22, 1904, he filed a substitute drawing. The Examiner on October 1, 1904, directed Bollée's attention to MacMulkin's patent and suggested to him for the purpose of declaring an interference the claims now in issue. The Examiner informed Bollée in the letter suggesting these claims that interference proceedings were not instituted at the time MacMulkin's application was pending, for the reason that Bollée's original specification so obscurely presented his invention that it could not be understood therefrom. The Examiner's action in admitting the substitute specification and drawing was, in effect, a ruling on his part that the substitute specification and drawing did not contain new matter and that there was a foundation in Bollée's original application for the claims which he suggested to him. The Examiner of Interferences, however, ruled to the contrary; but the Examiners-in-Chief found that the invention was disclosed in Bollée's original application and accordingly awarded priority of invention to him. I am of the opinion that the conclusions reached by the Examiners-in-Chief were correct.

In the drawing of his original application Bollée showed a valve controlling communication between several chambers, which he termed "carbureters," and a passage leading to the cylinder of the engine. The primary purpose of a carbureter for an internal-combustion engine is to form a mixture of air with hydrocarbon. There can be no question, therefore, that the mere use of the term "carbureter" was a sufficient disclosure of the idea of providing "hydrocarbon-inlets," as specified in the issue. It is contended

by MacMulkin that from all that appears in Bollée's application he might have intended to supply carbureted air from a reservoir, or if he intended to use an oil-supply he might have used a common mixer leading to the various passages controlled by the valve. Bollée, however, in his original specification stated that he proposed to use a number of carbureters, and he referred to the several chambers controlled by the valve as "carbureters." He furthermore stated that practically perfect results could be secured by the use of two carbureters. In this connection the following passage occurs on page 3 of his original specification:

The size of two carbureters is calculated so that at low speeds the proper mixture is supplied by the small carbureter alone, while at high speeds it is insured by the two carbureters acting together, the carburation in the small one becoming too rich while in the large one it is a little too poor.

In claim 2 as originally filed Bollée also referred to the use of several carbureters supplying mixtures containing different proportions of air and hydrocarbon.

The language referred to conclusively shows that Bollée did not intend to supply carbureted air from a reservoir or to use a common mixer communicating with the several passages controlled by the valve. If he had done either of these things, he would not have had, as he states, a mixture from one carbureter too rich in hydrocarbon and from another too poor in hydrocarbon, but would have had a mixture of the same strength coming from all of the openings controlled by the valve. Furthermore, the mere fact that he described the use of several carbureters negatives MacMulkin's contention that from all that appears in the specification Bollée might have intended to supply carbureted air from a reservoir or might have used a common mixer. If he had proceeded in either of these ways, he would not have had a plurality of carbureters, as described in his original specification, but would have had a single carbureter.

Bollée's original specification not only shows that he intended each of the passages governed by the valve to be provided with an air-inlet and a hydrocarbon-inlet, as specified in the issue, but that he intended to use a hydrocarbon-inlet of the specific character shown in his amended drawings—*i. e.*, a "sprayer"—for in lines 17 to 26 of page 3 he referred to the escape of the liquid fuel from the sprayer.

I am of the opinion that it would be impossible for any one skilled in the art to read Bollée's original specification in connection with the drawing accompanying it without perceiving that air and hydrocarbon were to be supplied separately to each of the passages controlled by the valve. In the original specification a plurality of carbureters is referred to, and the drawing shows a plurality of chambers referred to as "carbureters." The specification refers to the use of sprayers and contains a statement to the effect that the several chambers or carbureters supply mixtures varying in the proportion of hydrocarbon contained therein. Such a result could be secured only by providing each of the chambers controlled by the valve with means for supplying air and hydrocarbon. In other words, each chamber must be what Bollée called it in the original specification—a "carbureter" containing the elements common to the carbureters which were old and well known long before the filing of either of the applications involved in this interference.

The decision of the Examiners-in-Chief is affirmed.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

DURYEA AND WHITE *v.* RICE, JR.

Decided December 4, 1906.

1. INTERFERENCE—PRIORITY—APPEAL TO COURT—OPERATIVENESS.

The Court of Appeals of the District of Columbia will not consider the operativeness of a device disclosed by one of the interfering parties as incident to the main question of priority where that question has been settled in favor of such party by the Patent Office in accordance with the practice of that Office.

2. SAME—SAME—CONSTRUCTIVE REDUCTION TO PRACTICE—DIVISIONAL APPLICATION ENTITLED TO DATE OF ORIGINAL.

An application was filed on June 8, 1895, covering an igniter and an engine. The claims to the engine were erroneously rejected, were canceled, the application was allowed, and subsequently became forfeited. On July 16, 1898, the application was renewed, and additional claims to the engine were included. Division was required between the claims to the igniter and the engine. On March 28, 1899, applicant canceled the claims to the engine, and on April 25, 1899, the Office acted on the remaining claims to the igniter. Subsequently applicant reinstated the claims to the engine, and the Office again permitted him to elect which of the inventions he would prosecute in the application, but afterward informed him that he was bound by the previous cancellation of the claims to the engine, and applicant thereupon, on October 30, 1900, canceled the engine claims, and after several communications between the Office and applicant the application matured into a patent, dated January 12, 1904. On April 16, 1903, applicant filed a divisional application covering the engine. *Held* that the divisional application is entitled to the date of the original application of June 8, 1895, as a constructive reduction to practice.

3. CONTINUING APPLICATION—DIVISIONAL APPLICATION COPENDING WITH ORIGINAL.

A divisional application filed while the original application is pending in the Office covering matter carved out of the original is a continuation of the latter and is entitled to its date as a constructive reduction to practice, even though such divisional application was filed more than two years after an action by the Office on claims which applicant elected to retain in response to a requirement of division.

Mr. F. M. Phelps and *Mr. Frederick S. Lyon* for the appellants.

Mr. Fred. E. Tasker and *Mr. John A. Saul* for the appellee.

SHEPARD, *J.*:

This is an interference proceeding between rival applicants for the invention of an improved gas-engine, the issue in which has been defined in twenty-two counts, as follows:

1. A plurality of compressing-chambers and separate explosion-chambers, free connected piston-heads in the explosion-chambers, and means for supplying explosive charges from the compressing to the explosion chambers and firing the same to propel said piston-heads reciprocally in both directions.

2. A plurality of compressing and explosion chambers, free piston-heads therein, positively connected for mutual reciprocation, means for supplying explosive charges to the compressing-chamber, transferring the charge to the explosion-chamber and firing the same therein to propel the piston-heads reciprocally in both directions.

3. A plurality of explosion-chambers each having inlet and exhaust ports, free piston-heads in said chambers positively connected for mutual reciprocation to open and close said ports, and to supply explosive charges to said chambers through said inlet-ports, means for firing said charges and a free power-transmitting element actuated by the piston-heads.

4. Separate charge compressing and explosion chambers in pairs, free piston-heads, one for each pair, means positively connecting the piston-heads for mutual reciprocation, a free power-transmitting element connected with the piston-head, and means for causing the compression and explosion of a charge by and against each piston-head at each complete reciprocation.

5. The combination with separate charge-compressing and explosion chambers arranged in pairs, of free piston-heads, one for each pair, means positively connecting said piston-heads and means for causing the compression and explosion of a charge by and against each piston-head at each complete reciprocation.

6. In an explosion-engine, a body provided with separate charge compressing and explosion chambers, a free piston between said chambers, and a free power-transmitting element connected with the piston.

7. A body having separate charge compressing and explosion chambers in pairs, supply-ports, each connecting a compression-chamber with an explosion-chamber, an inlet for each compression-chamber and an exhaust-port for each explosion-chamber; free piston-heads for said pairs respectively, positively connected for mutual reciprocation, each closing the supply and exhaust ports of its explosion-chamber during compression and explosion; means for causing explosions for propelling the piston-heads respectively, and a free power-transmitting element connected with the piston-head.

8. A body provided with a plurality of separate charge-compressing chambers and explosive-chambers respectively, free pis-

ton-heads therein, positively connected for mutual reciprocations, and free power-transmitting element connected with the piston-heads.

9. A body provided with a plurality of alined separate charge-compressing chambers and explosion-chambers respectively, axially-alined free piston-heads in said chambers, positively connected for mutual reciprocation, and a free power-transmitting element connected with the piston-heads and arranged in axial alinement with the chambers.

10. A body provided with a plurality of alined separate charge-compressing chambers and explosion-chambers respectively and a bearing; free piston-heads in the chambers, an axially-movable element in the bearing and means for positively connecting the element with the piston-heads.

11. Separate charge compressing and explosion chambers, piston-heads therefor, positively connected for mutual reciprocation and having variable termination of stroke at both ends; means for supplying explosive charges to said explosion-chambers through said compression-chambers, and means for firing the charges in each explosion-chamber when the piston-head therefor is within the zone of its stroke termination.

12. A plurality of axially-alined close-ended separate charge compressing and explosion chambers in pairs, a free piston-head for each pair, a connector positively connected with said piston-heads, and a free power-transmitting element connected with the connector.

13. Explosion-chambers, means for supplying unignited explosive charges of gas or vapor to and firing the same in said chambers, free piston-heads in said chambers rigidly connected for mutual reciprocation, a free power-transmitting element connected with said piston-heads and a guide for said element.

14. A casing, a cylinder, a piston therein, a second cylinder, a piston therein, a piston-rod connecting said pistons, means for holding a tool connected to said piston-rod, means to cause an explosion of gases against first one and then another of said pistons to reciprocate the same, said cylinders being connected to said casing, said casing being slidably mounted in a frame, and means to slide said casing along said frame.

15. A plurality of cylinders, each of said cylinders containing a piston, said pistons being connected, means for connecting a drill or other tool to said pistons, means for causing an explosion of gases against first one of said pistons and then against another of said pistons to reciprocate the same, a casing, said cylinders being mounted in said casing, a frame, said casing being slidably mounted in said frame, and means to move said casing along said frame.

16. A plurality of cylinders, each of said cylinders containing a piston, said pistons being connected, means for connecting a drill or other tool to said pistons, means for causing an explosion of gases against first one of said pistons and then against another of said pistons, means for cushioning said pistons throughout the length of their stroke, a casing, said cylinders being mounted in said casing, a frame, said casing being slidably mounted in said frame, and means to move said casing along said frame.

17. Two pistons connected by a piston-rod and arranged in their respective cylinders, means for connecting a drill or tool to said piston-rod, means to cause an electric spark and explode a gas alternately against each piston at the end of each stroke, a casing, said cylinders being mounted in said casing, a frame, said casing being slidably mounted in said frame, and means to move said casing along said frame.

18. A plurality of oppositely-arranged cylinders, a piston in each cylinder, said pistons being connected, a charge-receiving chamber in each cylinder, each piston sliding in one of said charge-receiving chambers, an explosion-chamber opposite each charge-receiving chamber, but separated therefrom by a piston, means for causing an electric spark alternately in each explosion-chamber to explode a gas therein to propel the adjacent piston, a casing, said cylinders being mounted in said casing, a frame, said casing being slidably mounted in said frame, and means to move said casing along said frame.

19. A rear-compression internal-combustion motor having a double-acting unignited charge-compressing free piston, and a free power-transmitting element connected therewith.

20. A motor having a self-balanced piston situated between chambers for confined compressed explosive charges of gas or vapor, and power-transmitting means connected with such piston.

21. Explosion-chambers, means for supplying unignited explosive charges of gas or vapor to and firing the same in said chambers, free piston-heads in said chambers positively connected for mutual reciprocation, an axially-moving free power-transmitting element connected with said piston-heads and a guide for said element.

22. Explosion-chambers, means for supplying unignited explosive charges of gas or vapor to and firing the same in said chambers, free piston-heads to said chambers rigidly connected for mutual reciprocation, a free power-transmitting element connecting with said piston-heads and a guide for said element.

The interfering applications bear the following filing dates: Duryea and White, March 27, 1902; Rice, April 16, 1903. It appears, however, that Rice had filed his original application for the invention on June 8, 1895, of which this is a division; and this having been regarded as a continuation of the former, he was considered the senior party. For the reason that the preliminary statement of Duryea and White had failed to overcome the *prima facie* case of Rice made by the filing of said two applications, the Primary Examiner cited them to show cause on or before October 10, 1904, why a decision against them should not be rendered on the record. They did not amend their statement, and in reply to the rule to show cause filed a motion to dissolve the interference on the following grounds: 1. That no interference in fact exists: 2. That there has been irregularity in declaring the interference: 3. That Rice has no right to make the claims in issue: 4. That the structure disclosed by Rice is inoperative. It was also moved that Rice be declared the junior party and the burden of proof shifted to him.

This motion was referred to the Primary Examiner who overruled it on all points in an elaborate decision. An appeal therefrom was taken to the Examiners-in-Chief who dismissed the same on the ground that they had no jurisdiction thereof. This action of the Examiners-in-Chief was in turn affirmed on appeal to the Commissioner.

They then renewed their motion to shift the burden of proof, before the Examiner of Interferences, who denied the same, and on the same day, July 8, 1905, awarded priority to Rice, no attempt having been made by Duryea and White to amend their preliminary statement. Appeal from this decision was taken to the Examiners-in-Chief who affirmed it, holding that Rice was entitled to the filing date of his original application and was therefore the senior party. Under authority conferred by Rule 126 they examined a number of affidavits presented by Duryea and White, and one by Rice, relating to the operativeness of Rice's device; and coming to the conclusion that it was not operative, they called the attention of the Commissioner to the fact as provided in said rule. Pending appeal to the Commissioner from their decision affirming the award of priority to Rice, the latter referred the question of operativeness back to the Primary Examiner for reëxamination and decision. The latter, with a number of expert affidavits before him, reviewed the alleged grounds of inoperativeness at length, and again decided that the device was an operative one. Duryea and White then petitioned the Commissioner to refer the case to the Examiners-in-Chief for rehearing, and were denied. The Commissioner then affirmed the decision of the Examiners-in-Chief awarding priority to Rice. From that decision this appeal was taken.

But two questions for determination are presented by the elaborate statement of the reasons of appeal: 1. Is the device described in Rice's application an operative one? 2. Is Rice the senior party in interference; or, in other words, is he entitled to date back to the filing of his original application on June 8, 1895?

The question of the operativeness of the device described in the application of the senior party to an interference has been presented to this court twice in different appeals in the same case. (*Dodge* v. *Fowler*, 82 O. G., 595; 11 App. D. C., 592; *Fowler* v. *Dodge*, 87 O. G., 895; 14 App. D. C., 477.) In the first of those appeals, the Commissioner awarded priority to Fowler, and that decision was reversed on the ground that Fowler, though the first to conceive the invention, had failed to exercise due diligence in the matter of reduction to practice prior to the time that Dodge entered the Office. Dodge was given the benefit of the application as a constructive reduction to practice, but as the Commisisoner had incidentally expressed the opinion that Dodge's disclosed device was inoperative, the opinion of the court concluded with these words:

We do not desire it to be understood by our decision that Dodge

is entitled to a patent for his alleged invention. What we decide is simply that, assuming that Fowler and Dodge have made the same invention independently of each other, and that Dodge has been the first to reduce it to constructive reduction to practice by his first application for a patent, we think the question of due diligence should be settled in his favor as against Fowler. From the statements of the Commissioner and the Board of Examiners, the inference to be drawn would seem to be that Dodge's device is found to be wanting in patentability, and therefore that the declaration of interference was based upon mistake or inadvertence. It is true that no motion was made on behalf of Fowler to dissolve the interference; but if under the law and the rules of the Patent Office, it is not improper, after adjudication of priority, to refuse a patent to the successful party in the interference proceedings upon grounds that have first been developed in those proceedings, or upon grounds manifested at any time after the declaration of interference, we are not to be understood by this decision as precluding such action by the Office.

Upon the return of the case to the Patent Office a motion was made by Fowler to dissolve the interference on the ground that Dodge's device was inoperative. The Commissioner referred the question to the determination of the expert Primary Examiner in the department to which the art belonged, who decided that the device was operative. This decision was treated by the Commissioner as finally settling the question of operativeness in Dodge's favor, and in obedience to the determination of the court on the first appeal, he awarded priority to Dodge. On Fowler's appeal therefrom the question of operativeness was again raised. In its consideration we then said:

Under the special circumstances of this case, we will assume that the appeal fully brings before us for determination the whole question of the operativeness of the Dodge device and its patentability.

Patentability it is obvious had reference solely to the matter of operativeness. The decision was then affirmed.

Whether a device is operative is a question that necessarily presents itself in every application for a patent referred, in due course of proceeding under the rules of the Office, to the expert Examiner of the class to which the alleged invention belongs. For that reason he is required to be skilled in the particular art. The decision of this Examiner in respect of operativeness and other questions affecting patentability, if favorable to the applicant, is subject to the supervising power of the Commissioner only. It is only where the application is rejected for any reason, that an appeal regularly lies to this court in the last resort.

When an application has been allowed as patentable, and an interference declared, each party may raise the question of the operativeness of his opponent's device by a motion to dissolve the interference as was done in this case. The question goes again to the Primary Examiner for his reconsideration, but no appeal from his decision, at the time it was rendered in this case, lay to the Examiners-in-Chief. The Commissioner alone could review it. The Examiners-in-Chief have the power, under Rule 126, to report to the Commissioner in the course of their decision in an interference case, that the device of either party is, in their opinion, inoperative, or unpatentable for any other reason. The Commissioner may then, and his general practice has been to, refer the question back to the Primary Examiner for further inquiry and determination. As the statement of the case shows, that practice was followed in this proceeding.

In adopting the conclusion of the Primary Examiner in respect of the operativeness of Dodge's device in *Fowler* v. *Dodge*, *supra*, the question was merely assumed as being before the court by reason of the peculiar conditions of the case.

As the question of the operativeness of one of the devices of the application now in interference is directly presented to us as an incident of the main question, of priority, we hold that it is not one for our consideration. It is, as we have before indicated, a preliminary question determinable, in the first instance, in the case of every application for a patent; and when determined in favor of the applicant is not appealable. When determined in his favor, and an interference is declared thereon with another similarly-allowed application, the same rule applies. Priority of invention is the issue to be determined in an interference proceeding the final decision of which is appealable to this court. The question of operativeness having been settled in accordance with the practice of the Patent Office, cannot again be raised as incidental to the issue of priority, and brought up therewith for review.

This brings us to the consideration of the remaining question: Is Rice entitled to date back to June 8, 1895, when his original application was filed, and thereby become the senior party to the interference? If so entitled, the decision in his favor must be affirmed on the record.

Duryea and White filed no preliminary statement; and are, therefore, confined by the record to the filing of their application, on March 27, 1902. It is stated by the Primary Examiner in his decision upon the motion of Duryea and White to dissolve the interference, and shift the burden of proof, that Rice's original application contained claims to both an igniter and an engine; and that—

the disclosure therein is identical, so far as the issue is concerned, with that of the pending case.

Neither of these statements has been controverted. We adopt the following extract from his decision as stating correctly the proceedings had in regard to that application, and the conclusions deducible therefrom:

Rice's original application was filed June 8, 1895, No. 552,163, and contained claims, both to the engine and to the igniter, a fact at that time not regarded as necessitating division. The engine claims were rejected erroneously, it must be held in view of the subsequent decision by the Examiners-in-Chief on the appeal taken by Duryea and White, allowing certain claims now in issue. After prosecution in the usual course, Rice's application was passed for issue June 18, 1897; was allowed to forfeit, and was renewed July 16, 1898, with additional claims to the engine, which as is not denied, it was entirely within the applicant's legal right to present. These additional claims were overlooked by the Office, and the case passed for issue, July 22, 1898, but almost at once, July 27, 1898, withdrawn, and the engine claims were then rejected on references after several actions. On Dec. 30, 1898, the engine claims were rejected and for the first time division was required between them and claims to the igniter. In responding to this action on March 28, 1899, Rice canceled the engine claims, not it is to be observed as anticipated, but in response to the requirement of division; and upon the case so limited, the Office took action April 25, 1899. It was by acceptance of this action only that Rice completed his election of the igniter, and not as stated by Duryea and White, by his cancellation on March 28, 1899. (*Ex parte Preston*, C. D., 1880, 125; 17 O. G., 853; *Johnston*, C. D., 1887, 64; 40 O. G., 574; *Zabel*, C. D., 1888, 35; 43 O. G., 627; *Maxim* C. D., 1888, 27; 43 O. G., 506.) At any time up to April 25, 1899, Rice could have reinstated his claims to the engine as a matter of course, and for prosecution by appeal if necessary; after that date he could not do so, unless perhaps by a clear showing of mistake in the cancellation, or by such acquiescence of the Office as actually occurred. He did in fact again present claims to the engine in his amendment of Sept. 28, 1899, responding to the Office action of April 25, 1899. In the Office action (of Nov. 2, 1899) upon the amendment of Sept. 28, 1899, Rice was erroneously informed that he might elect whichever invention he chose, and it was not until Oct. 25, 1900, in the Office letter replying to his amendment of Oct. 12, 1900, that he was informed to the contrary. Upon being so informed, he promptly complied with the Examiner's ruling, viz: Oct. 31, 1900, by canceling the engine claims. It is to be observed that this action by Rice was less than two years from the date of the Office action of April 25, 1899; so that even if he be held to have been concluded by his election in accepting the action of that date, he nevertheless took such proper action as the case required within two years from the date of the last Office action thereon. In other words, he prosecuted his case in good faith by doing all that the law and the rules required up to Oct. 30, 1900, and in view of the Office actions, it was on that date only that he was finally concluded by his election from reinserting claims to the engine. Duryea and White are therefore wholly in error, as well as obscure, in their statement that "since Dec. 30, 1898, John V. Rice has had no right to include in his original or renewed application any claim to the

engine structure," since on Dec. 30, 1898, the original application was no longer in being, having been superseded by the renewal, and as to the latter no final election took effect until Oct. 30, 1900.

Although Rice's action of Oct. 30, 1900, canceled the claims to the igniter, certain formal defects remained uncured and being noted in the Office letters of Oct. 31, 1902, and May 13, 1903, were disposed of by amendments April 30, and May 18, 1903, putting the case in condition for allowance, and it matured into the Patent No. 749,324, above referred to.

There is nothing in the foregoing recital tending to show an abandonment of the claim of invention of the engine of the issue, disclosed in Rice's original application.

When the claims therefor were rejected, for the reasons given, he had his election to insist thereon and appeal from a second rejection, or to accept the action of the Patent Office, take his patent for the igniter, and then file another application for a patent for the invention of the engine. Electing to pursue the latter course, he filed the new application, which is substantially a division of the former application, on which the interference was declared with Duryea and White, and while that original application was still depending in the Office awaiting final action. There is no express limitation in respect of the time within which a divisional application shall be filed in order to relate to, and constitute a continuation of the original application. The rule that seems to prevail in the Patent Office is, that to maintain this continuity, it must be filed while the original is depending in the Office. When filed within that time, it has been repeatedly held by different Commissioners of Patents, that the second application stands in lieu of the first to the extent of the matter subtracted from the other. (*Forbes* v. *Thompson*, C. D., 1890, 61; 51 O. G., 297, and cases cited; *Forbes* v. *Thompson*, C. D., 1890, 185; 53 O. G., 2042; *Bundy* v. *Rumbarger*, C. D., 1900, 143; 92 O. G., 2002; *Hoyfelt* v. *Read*, C. D., 1903, 319; 106 O. G., 767.) In the decision last cited, Mr. Commissioner Allen, after stating the rule that a complete application warranting the issue of a patent, and unabandoned, is in law a constructive reduction to practice, said:

This is so when two applications are pending contemporaneously and the first is not abandoned, whether the claims are presented in the original application itself or in a later application filed as a division or a continuation of the original application, as in the second place the application dates back to the earlier one. It is only necessary that the description in both applications shall be sufficient to support the claims. The fact that the Office practice may prohibit the prosecution and allowance of the claims in an earlier application does not prevent the applicant from availing himself of the earlier date of filing as his date of constructive reduction to practice when he files a later application containing the same description and the claims based upon the same.

This court has heretofore held that where an application has been forfeited for failure to pay the fee on allowance of the claims, and the applicant had filed a new application within the prescribed period permitted in such cases, he was entitled to the benefit of his original application as a constructive reduction to practice of the invention set forth therein and afterward embodied in the second application. (*Cain* v. *Park*, 86 O. G. 797; 14 App. D. C., 42, 46.)

For a stronger reason, we think that a divisional application, filed while the original application is depending in the Office, must be held a continuation of the latter, and, therefore, to relate back to its filing date.

The situation is not governed by section 4894, Revised Statutes, as contended on behalf of the appellants. That section requires that all applications for patents shall be completed within two years after filing—and in default, or upon failure of the applicant to prosecute the same within two years after any action therein, of which notice shall have been given to the applicant, they shall be regarded as abandoned by the parties thereto, unless it be shown to the satisfaction of the Commissioner of Patents that such delay was unavoidable.

The section has been held to apply to a case where more than two years had been permitted to elapse between the final rejection of the application and the date of filing a bill in equity to compel issue under section 4915, Revised Statutes. (*Gandy* v. *Marble*, 39 O. G., 1423; 122 U. S., 432, 440.)

Let it be granted that the section applies, likewise, in a case where the divisional application shall have been filed after the lapse of two years from the time of final action in the Office upon the original; still the facts of this case do not warrant its application. Two years did not elapse after such final action on the original application before the divisional application was filed. Until all the objections to the final application had been met and overcome, and the same had been finally allowed for patent, Rice was not put finally upon his election to accept the action necessitating the division of his application. When the time arrived for him to take final action, he filed the divisional application with the required diligence, and thereby preserved the continuity of the first for his protection as the inventor of the engine of the issue.

We are of the opinion that the decision appealed from was right, and it will be affirmed. It is so ordered, and the clerk will certify this decision to the Commissioner of Patents as the statute provides. Affirmed.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 2, 1907.

Charles A. Raymond, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for registration of a trade-mark filed by the Bay State Shoe & Leather Company, of Worcester, Mass., a registered trade-mark to the same company, and a trade-mark registered to Charles A. Raymond, of Boston, Mass., and New York, N. Y. The notice of declaration of said interference mailed by the Patent Office in the usual manner to the said Charles A. Raymond, 195 Congress street, Boston, Mass., has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said Charles A. Raymond, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., December 8, 1906.

Gustave Bossange, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the American Cement Company, of Philadelphia, Pa., for registration of a trade-mark and a trade-mark registered to Gustave Bossange, of New York, N. Y., whose known address is No. 54 Worth Street, in said city. The notice of declaration of said interference and also subsequent communications mailed by the Patent Office in the usual manner to the said Gustave Bossange have been returned by the Post-Office Department with the statement that he cannot be found.

Notice is therefore hereby given to the said Gustave Bossange his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

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[BY AUTHORITY OF CONGRESS.]

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Patents	691	No. 842,158 to No. 842,848, inclusive.
Designs	11	No. 38,428 to No. 38,438, inclusive.
Trade-Marks	193	No. 60,056 to No. 60,248, inclusive.
Labels	9	No. 13,332 to No. 13,340, inclusive.
Prints	4	No. 1,897 to No. 1,900, inclusive.
Reissues	3	No. 12,601 to No. 12,603, inclusive.
Total issue	911	

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	3	1	New Hampshire	2	.....
Alaska, District of	.....	.....	New Jersey	29	17
Arizona Territory	.....	.....	New Mexico Ter't'y	.....	1
Arkansas	1	1	New York	73	43
California	24	4	North Carolina	2	.....
Colorado	8	.....	North Dakota	6	.....
Connecticut	21	4	Ohio	57	14
Delaware	1	.....	Oklahoma Territ'y	4	.....
District of Columbia	2	2	Oregon	5	.....
Florida	1	3	Pennsylvania	52	14
Georgia	3	.....	Philippine Islands	.....	.....
Hawaii Territory	1	.....	Porto Rico	.....	.....
Idaho	1	.....	Rhode Island	6	.....
Illinois	68	14	South Carolina	1	.....
Indian Territory	2	.....	South Dakota	3	.....
Indiana	19	3	Tennessee	7	2
Iowa	16	3	Texas	17	2
Kansas	10	2	Utah	5	1
Kentucky	3	3	Vermont	1	.....
Louisiana	3	2	Virginia	8	2
Maine	6	1	Washington	10	.....
Maryland	5	12	West Virginia	7	.....
Massachusetts	42	15	Wisconsin	13	5
Michigan	17	5	Wyoming	1	.....
Minnesota	12	1	U. S. Army	.....	.....
Mississippi	.....	.....	U. S. Navy	.....	.....
Missouri	3	7			
Montana	.....	.....	Total to citizens of the United States	613	185
Nebraska	3	1			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Natal	.....	.....
Austria-Hungary	3	.....	Netherlands	.....	2
Belgium	.....	.....	Newfoundland	.....	.....
Brazil	.....	.....	New South Wales	.....	.....
British West Indies	.....	.....	New Zealand	.....	.....
Canada	10	.....	Norway	1	.....
Cape Colony	1	.....	Persia	.....	.....
Chile	.....	.....	Queensland	.....	.....
China	.....	.....	Roumania	.....	.....
Costa Rica	.....	.....	Russia	.....	.....
Cuba	1	2	Scotland	1	.....
Denmark	1	.....	South Australia	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	16	3	Sweden	2	.....
France	9	5	Switzerland	3	3
Germany	36	5	Transvaal, South Africa	1	.....
Haiti	.....	.....	Victoria	.....	.....
Ireland	1	.....	Western Australia	.....	.....
Italy	1	1			
Japan	1	.....	Total to citizens of foreign countries	89	21
Java	.....	.....			
Mexico	1	.....			

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 22, 1907.

Francis Sedziak, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for patent filed by Joseph M. Bosenbury, of Decatur, Ill., and an application for patent filed by Francis Sedziak, of St. Louis, Mo. It appears from the record of the case that the present address of the said Francis Sedziak is unknown, and it has been impossible to notify him of the interference.

Notice is therefore hereby given to the said Francis Sedziak, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 22, 1907.

Alexander Speer & Sons, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Star Manufacturing Company, of Carpentersville, Ill., for registration of a trade-mark and a trade-mark registered to Alexander Speer & Sons, of Pittsburg, Pa. It has been found impossible to locate the said Alexander Speer & Sons, and their attorneys of record are dead.

Notice is therefore hereby given to Alexander Speer & Sons, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

APPLICATIONS UNDER EXAMINATION.

Condition at the Close of Business January 22, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Jan. 17	Jan. 18	60
321	I. Tillage, etc., Fences, and Railway Draft Appliances.	Jan. 14	Dec. 31	121
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Jan. 10	Jan. 3	201
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Jan. 10	Dec. 27	96
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Jan. 10	Dec. 27	110
327	XVIII. Steam-Engineering, etc ...	Jan. 10	Dec. 26	152
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Jan. 10	Dec. 22	178
109	XVI. Telegraphy and Telephony..	Jan. 9	Dec. 26	130
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Jan. 9	Dec. 26	205
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Jan. 9	Dec. 26	165
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Jan. 9	Dec. 24	150
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Jan. 9	Dec. 20	189
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Jan. 8	Dec. 26	182
167	V. Bookbinding, Harvesters, Jewelry, and Music.	Jan. 8	Dec. 26	240
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Jan. 8	Dec. 24	188
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Jan. 8	Dec. 24	177
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	Jan. 7	Jan. 3	141
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	Jan. 7	Dec. 26	162
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Jan. 7	Dec. 22	173
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Jan. 7	Dec. 21	215
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Jan. 5	Dec. 18	348
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Signals, Time Controlling Mechanism.	Jan. 4	Dec. 22	279
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Jan. 2	Dec. 27	224
122	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Jan. 2	Dec. 26	301
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Dec. 29	Dec. 26	378
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Dec. 29	Dec. 24	341
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	Dec. 29	Dec. 19	235
329	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Dec. 28	Dec. 26	255
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Dec. 28	Dec. 26	272
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Dec. 28	Dec. 24	195
382	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	Dec. 26	Dec. 26	271
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	Dec. 26	Dec. 26	390
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	Dec. 24	Dec. 24	242
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Dec. 22	Dec. 22	289
332	X. Carriages and Wagons.....	Dec. 20	Dec. 20	422
343	XXXIX. Cushion and Pneumatic Tires, Fine Arts, and Water Distribution.	Dec. 19	Dec. 19	537
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Dec. 19	Dec. 14	382
175	III. Annealing and Tempering, Coating with Metal, Electro-chemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Dec. 18	Dec. 19	268
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Dec. 15	Dec. 15	544

Applications Under Examination—Continued.

Total number of applications awaiting action 9,408

Room No.	Trade-Marks, Designs, Labels and Prints.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
159	Trade-Marks	Jan. 19	Jan. 18	113
	Designs	Jan. 15	Jan. 14	29
	Labels and Prints	.....	.....	....

Notice.

(ORDER NO. 1,698.)

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.
Washington, D. C., January 18, 1907.

Acting with the approval of the Secretary of the Interior, Rule 203 of the Rules of Practice of this Office is amended by substituting the following for the two lines following the words "THE OFFICIAL GAZETTE:"

Annual subscriptions, $5.00.

For postage upon foreign subscriptions, except those from Canada and Mexico, $5.00 or more as required.

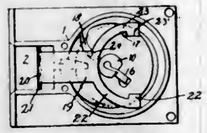
Moneys received from foreign subscribers in excess of the subscription price of $5.00 will be deposited to the credit of the subscriber and applied to postage upon the subscription as incurred.

F. I. ALLEN,
Commissioner.

PATENTS

GRANTED JANUARY 29, 1907.

842,158. LOCK. HJALMAR AAE, Aarhus, Denmark, assignor to Aaes Laas Verdens-Patent Limited, Strandvej, Denmark. Filed Mar. 29, 1905. Serial No. 252,751.



Claim.—1. In a lock, a series of rotatable annular tumblers adapted to be rotated to varying extents from an unlocking to a locking position, and each of said tumblers having means adapted to engage a key during its unlocking movement, and to disengage it when such tumbler reaches the unlocking position, and having means adapted to engage the key during its locking movement, and to disengage it at the completion thereof.

2. In a lock, a series of annular tumblers adapted to be rotated about a fixed axis to bring them into and out of their registering positions, such tumblers being adapted to be turned by the key both from their unlocking to their locking positions, and from their locking to their unlocking positions, and each tumbler being adapted to be disengaged from the key when turned thereby to a predetermined extent during the unlocking movement.

3. In a lock, a series of annular tumblers, each formed with a recess the sides of which are engaged by the key during its locking and unlocking movements, such tumblers being rotated by the key to varying extents to bring them to registering position, and being reversely rotated by the key to bring them to locking positions.

4. In a lock, a series of annular tumblers mounted to rotate about a common fixed axis, and adapted to be rotated in the same direction as the key during the unlocking movement of the latter and by such rotation to be brought to a common registering position, such tumblers being successively disengaged as they reach such position.

5. In a lock, a series of annular tumblers mounted to rotate about a common fixed axis, and adapted to be rotated in the same direction as the key during the unlocking movement of the latter and by such rotation to be brought to a common registering position, such tumblers being successively disengaged as they reach such position, such tumblers being adapted to be reëngaged by the key during its locking movement, and moved by the key to their locked position, such reëngagement of such tumblers being in inverse order of their disengagement.

6. In a lock, a series of rotary tumblers of substantially annular shape, each having means for coacting with a bolt, and means for engaging a key during its unlocking movement, said engaging means and said coacting means being differently spaced in the several tumblers, and said tumblers being mounted eccentrically to the key, so that they are disengaged from the latter at different positions, and said tumblers each having means for engaging the key during its locking movement, whereby the tumblers are returned to their locked position by the key.

7. The combination with a key having bits of different degrees of extension, of a lock having a series of annular tumblers mounted to rotate around the key eccentrically to the latter, said tumblers having slots engaged by said key-bits, and being rotated by the latter to varying extents in accordance with the lengths of said bits, said key engaging said tumblers and moving them both into and out of registering positions, and a series of annular disks interposed between said tumblers.

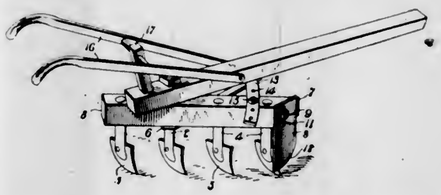
8. In a lock, a series of tumblers adapted to be moved to different extents by the key and to be disengaged therefrom in registering positions, said tumblers being adapted to remain in their registering positions until engaged directly by the key and moved therefrom.

9. In a lock, a series of tumblers adapted to be moved to different extents by the key and to be disengaged therefrom in registering positions, and means for locking said tumblers in their locking positions, said means comprising a key-plug adapted to rotate into engagement with said tumblers.

10. In a lock, a bolt, a series of rotary tumblers of substantially annular shape, each having a slot adapted to coact with the bolt, said slots having a side which forms an angle with a radius of the tumbler, and said bolt being adapted to coact with such side to turn the tumbler beyond the position to which it is moved by the key.

11. A lock having annular tumblers 4, eccentrically encircling the key, and each having a slot 11, with corners 12 and 13, of which the latter 13 may be nearer to the key-axis than the former 12, and serves to catch the key-bit during its motion toward the locked position, while the former corner 12 serves to adjust the tumblers, so as to allow the bolt to be retracted.

842,159. COTTON-CULTIVATOR. GEORGE W. ABERNETHY, Lowell, N. C. Filed Nov. 13, 1906. Serial No. 343,222.



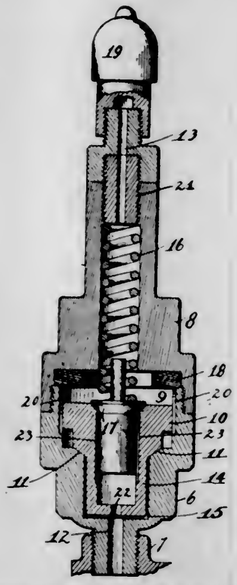
Claim.—In a cultivator the combination with a beam, a cross-beam pivotally connected thereto and having a beveled end and means for adjustably securing the beam at a desired angle to the first-mentioned beam; of a longitudinally-slotted blade upon the beveled end of the cross-beam and depending therefrom, said blade constituting a fender, and non-rotatable means secured within the cross-beam and extending through the slot for clamping the blade in adjusted position thereon, the lower end of said blade being rounded and sharpened.

842,160. PNEUMATIC-VALVE MECHANISM. BERT AIKMAN, Chicago, Ill., assignor of one-half to John S. Hamlin, Chicago, Ill. Filed Oct. 21, 1905. Serial No. 283,834.

Claim.—1. A structure of the class described including in its formation a slide, a casing within which the slide travels and through which passage of air is prevented or permitted by said slide, two seats or ports of different sizes alternately engaged by the slide, said slide presenting a comparatively large area to the air-pressure, when in engagement with one seat, and a smaller area, when in engagement with the other seat, mechanical means tending to press the slide toward the latter seat and operating substantially throughout the extent of travel of the slide, and a guarding device operated by the air that is permit-

ted to escape by the slide when passing from the larger to the smaller seat.

2. A structure of the class described including in its formation a slide, a casing within which the slide travels and through which passage of air is prevented or permitted by said slide, two seats or ports of different sizes alternately engaged by the slide, said slide presenting a comparatively large area to the air-pressure, when in engagement with one seat, and a smaller area, when in engagement with the other seat, a spring tending to press the slide toward the latter seat and operating substantially throughout the extent of travel of the slide, and a guarding device operated by the air that is permitted to escape by the slide when passing from the larger to the smaller seat.



3. A structure of the class described including in its formation a slide, a casing within which the slide travels and through which passage of air is prevented or permitted by said slide, two seats or ports of different sizes longitudinally engaged by the slide, said slide presenting a comparatively large area to the air-pressure, when in engagement with one seat, and a smaller area, when in engagement with the other seat, mechanical means tending to press the slide toward the latter seat and operating substantially through out the extent of travel of the slide, regulating means for adjusting the action of said means, and a guarding device operated by the air that is permitted to escape by the slide when passing from the larger to the smaller seat.

4. A structure of the class described including in its formation a slide, a casing within which the slide travels and through which passage of air is prevented or permitted by said slide, two seats or ports of different sizes alternately engaged by the slide, said slide presenting a comparatively large area to the air-pressure, when in engagement with one seat, and a smaller area, when in engagement with the other seat, a spring tending to press the slide toward the latter seat and operating substantially throughout the extent of travel of the slide, regulating means for adjusting the action of said spring, and a guarding device operated by the air that is permitted to escape by the slide when passing from the larger to the smaller seat.

5. A structure of the class described including in its formation a piston, a casing within which the piston travels and through which passage of air is prevented or permitted by said piston, two seats of different sizes, one at each limit of the travel of the piston, said piston presenting a comparatively large area to the air-pressure, when in engagement with one seat, and a smaller area, when in engagement with the other seat, mechanical means tending to press the piston toward the latter seat and operating substantially throughout the extent of travel of the slide, a supplemental piston or valve 17 carried by the piston and operable upon excessive pressure to permit the escape of air through said casing, and a guarding device operated by the air that is permitted to escape by the piston when passing from the larger to the smaller seat.

6. A structure of the class described including in its formation a piston, a casing within which the piston travels and through which passage of air is prevented or permitted by said piston, two seats of different sizes, one at each limit of the travel of the piston, said piston presenting a comparatively large area to the air-pressure, when in engagement with one seat, and a smaller area, when in engagement with the other seat, a spring tending to press the piston toward the latter seat and operating substantially throughout the extent of travel of the slide, a supplemental piston or valve 17 carried by the piston and operable upon excessive pressure to permit the escape of air through said casing, and a guarding device operated by the air that is permitted to escape by the piston when passing from the larger to the smaller seat.

7. A structure of the class described including in its formation a slide, a casing within which the slide travels and through which passage of air is prevented or permitted by side slide, two seats or ports of different sizes alternately engaged by the slide, said slide presenting a comparatively large area to the air-pressure, when in engagement with one seat, and a smaller area, when in engagement with the other seat, mechanical means tending to press the slide toward the latter seat and operating substantially throughout the extent of travel of the slide, and a signal operated by the air that is permitted to escape by the slide when passing from the larger to the smaller seat.

8. A structure of the class described including in its formation a slide, a casing within which the slide travels and through which passage of air is prevented or permitted by said slide, two seats or ports of different sizes alternately engaged by the slide, said slide presenting a comparatively large area to the air-pressure; when in engagement with one seat, and a smaller area, when in engagement with the other seat, a spring tending to press the slide toward the latter seat and operating substantially throughout the extent of travel of the slide, and a signal operated by the air that is permitted to escape by the slide when passing from the larger to the smaller seat.

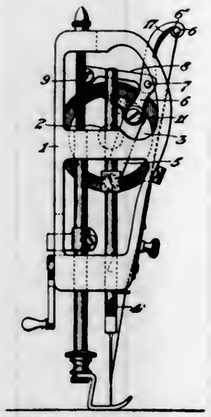
9. A structure of the class described including in its formation a slide, a casing within which the slide travels and through which passage of air is prevented or permitted by said slide, two seats or ports of different sizes alternately engaged by the slide, said slide presenting a comparatively large area to the air-pressure, when in engagement one seat, and a smaller area when in engagement with the other seat, mechanical means tending to press the slide toward the latter seat and operating substantially throughout the extent of travel of the slide, regulating means for adjusting the action of said means, and a signal operated by the air that is permitted to escape by the slide when passing from the larger to the smaller seat.

10. A structure of the class described including in its formation a slide, a casing within which the slide travels and through which passage of air is prevented or permitted by said slide, two seats or ports of different sizes alternately engaged by the slide, said slide presenting a comparatively large area to the air-pressure, when in engagement with one seat, and a smaller area, when in engagement with the other seat, a spring tending to press the slide toward the latter seat and operating substantially throughout the extent of travel of the slide, regulating means for adjusting the action of said spring, and a signal operated by the air that is permitted to escape by the slide when passing from the larger to the smaller seat.

11. A structure of the class described including in its formation a piston, a casing within which the piston travels and through which passage of air is prevented or permitted by said piston, two seats of different sizes, one at each limit of the travel of the piston, said piston presenting a comparatively large area to the air-pressure, when in engagement with one seat, and a smaller area, when in engagement with the other seat, mechanical means tending to press the piston toward the latter seat and operating substantially throughout the extent of travel of the slide, a supplemental piston or valve 17 carried by the piston and operable upon excessive pressure to permit the escape of air through said casing, a signal operated by the air that is permitted to escape by the slide when passing from the larger to the smaller seat, and a guarding device operated by the air that is permitted to escape by the piston when passing from the larger to the smaller seat.

12. A structure of the class described including in its formation a piston, a casing within which the piston travels and through which passage of air is prevented or permitted by said piston, two seats of different sizes, one at each limit of the travel of the piston, said piston presenting a comparatively large area to the air-pressure, when in engagement with one seat, and a smaller area, when in engagement with the other seat, a spring tending to press the piston toward the latter seat and operating substantially throughout the extent of travel of the slide, a supplemental piston or valve 17 carried by the piston and operable upon excessive pressure to permit the escape of air through said casing, a signal operated by the air that is permitted to escape by the slide when passing from the larger to the smaller seat, and a guarding device, operated by the piston when passing from the larger to the smaller seat.

842,161. TAKE-UP FOR SEWING-MACHINES. WILLIAM M. AMMERMAN, New Haven, Conn., assignor to The Edwin J. Toof Company, New Haven, Conn., a Corporation of New Jersey. Filed May 4, 1904. Serial No. 206,291.



Claim.—1. A sewing-machine take-up mechanism, comprising a rotary crank, a take-up lever pivotally connected at one end to said crank, means for adjusting said take-up lever bodily in a direction radially relative to the axis of said crank, and means coöperating with said crank for controlling the movement of said take-up lever.

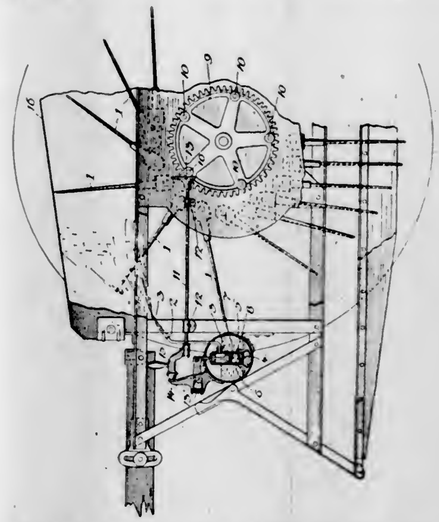
2. A sewing-machine take-up mechanism, comprising a rotary crank, a take-up lever, a pivot carried by said crank to which one end of said take-up lever is connected and being adjustable to adjust the take-up lever bodily in a direction radially relative to the axis of the crank, and means coöperating with said crank for controlling the movement of the take-up lever.

3. A sewing-machine take-up mechanism, comprising a rotary crank, a pin rotatably mounted on said crank and carrying an eccentrically-supported pivot, a take-up lever connected only at one end to said pivot and being bodily adjustable thereby in a direction radially relative to the axis of said crank, and a link coöperating with said crank for controlling the movement of the take-up lever.

4. A sewing-machine take-up mechanism, comprising a rotary crank-disk having an opening therein, a pin rotatably seated within said opening and carrying an eccentrically-supported pivot, a take-up lever connected at one end only with said pivot and being bodily adjustable thereby in a direction radially relative to the axis of the said crank, and a pivoted link coöperating with said crank for controlling the movement of the take-up lever.

5. In a sewing-machine, the combination with a take-up mechanism comprising a rotary crank, an adjustable pivot carried by said crank, a clamping-screw located at the periphery of the crank for securing said pivot in adjusted position, a take-up lever connected at one end to said pivot, and means coöperating with said crank for controlling the movement of said take-up lever, of the frame of the machine supporting and partially inclosing said take-up mechanism and having an opening in a position opposite the path of movement of said clamping-screw of the take-up mechanism, for the purpose set forth.

842,162. COTTON-HARVESTING MACHINE. JOHN F. APPLEBY, Chicago, Ill. Filed Aug. 11, 1906. Serial No. 330,126.



Claim.—1. A cotton-picking machine including cotton-picking fingers, and a spraying device for applying material to the fingers.

2. A cotton-picking machine including cotton-picking fingers, and means out of contact with the fingers for dropping material upon the fingers.

3. A cotton-picking machine including cotton-picking fingers, a receptacle for holding material to be applied to the fingers, having a pipe or duct portion having a free bore affording unobstructed passage for the material to direct such material to the fingers.

4. A cotton-picking machine including cotton-picking fingers, a spraying device for applying material to the fingers, and means for forcibly effecting the passage of said material through said spraying device.

5. A cotton-picking machine including cotton-picking fingers, a receptacle for holding material to be applied to the fingers, having a pipe or duct portion having a free bore affording unobstructed passage for the material to direct such material to the fingers, and means for effecting the forcible discharge of said material through said duct portion.

6. A cotton-picking machine including cotton-picking fingers, a spraying device for applying material to the

fingers, and pumping mechanism forcibly effecting the passage of said material through said spraying device.

7. A cotton-picking machine including cotton-picking fingers, a receptacle for holding material to be applied to the fingers, having a pipe or duct portion to direct such material to the fingers, and pumping mechanism for effecting the forcible discharge of said material through said duct portion.

8. A cotton-picking machine including cotton-picking fingers, a receptacle for holding material to be applied to the fingers, and means for effecting the forcible discharge of material from said receptacle.

9. A cotton-picking machine including cotton-picking fingers, a receptacle for holding material to be applied to the fingers, and pumping mechanism for effecting the forcible discharge of material from said receptacle.

10. A cotton-picking machine including cotton-picking fingers, a receptacle for holding material to be applied to the fingers, and means for projecting said material upon the fingers.

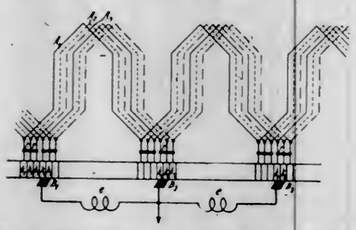
11. A cotton-picking machine including cotton-picking fingers, a receptacle for holding material to be applied to the fingers, and pumping mechanism for projecting said material upon the fingers.

12. A cotton-picking machine including cotton-picking fingers, and intermittently-operating means for applying material carried by the machine to said fingers.

13. A cotton-picking machine including cotton-picking fingers, and means intermittently operated by mechanism of the machine for applying material carried by the machine to said fingers.

14. A cotton-picking machine including cotton-picking fingers, means for applying material carried by the machine to said fingers, and means for arbitrarily throwing the aforesaid means out of action.

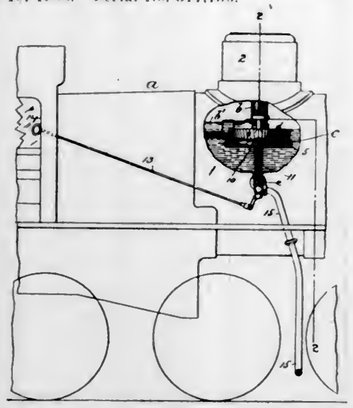
842,163. COMMUTATION OF CURRENTS IN ARMATURES OF DYNAMOS. ENGELBERT ARNOLD, Karlsruhe, Germany, and JENS L. LA COUR, Edinburgh, Scotland. Filed Dec. 16, 1904. Serial No. 237,157.



Claim.—1. The combination with an armature-winding, consisting of a plurality of parallel sections, of a commutator, the said sections being connected to adjacent segments of said commutator, resistances connecting the said sections, and brushes of a width not greater than the combined widths of a number of commutator-segments equal to one less than the number of armature-sections, bearing upon said commutator, substantially as described.

2. The combination with a wave-winding for an armature, said winding consisting of a plurality of parallel sections, of a commutator, the said sections being connected to adjacent segments of said commutator, resistances connecting the said sections, brushes of a width not greater than the combined widths of a number of commutator-segments equal to one less than the number of armature-sections, bearing upon said commutator, connections external to the armature between brushes of like polarity, and coils inserted in said connections, said coils being adapted to have generated in them electromotive forces of the same values as are generated in the corresponding coils of the armature between the brushes, substantially as described.

842,164. SCUMMER AND BLOW-OFF FOR STEAM-BOILERS. JOSHUA B. BARNES, Springfield, Ill. Filed May 19, 1906. Serial No. 317,756.



Claim.—1. In a device of the character described, the combination with a steam-boiler, of an endless pipe, arranged horizontally therein, a trough located above the said pipe adjacent to the steam-outlet from the boiler, and having openings through the bottom into the said pipe, the said trough having its upper edge on a level or thereabout with the surface of the water in the boiler, a suitable blow-off valve fixed to the outside of the boiler and in communication with the said pipe, means for supporting the said pipe within the boiler, and for operating the said valve, substantially as described and for the purpose set forth.

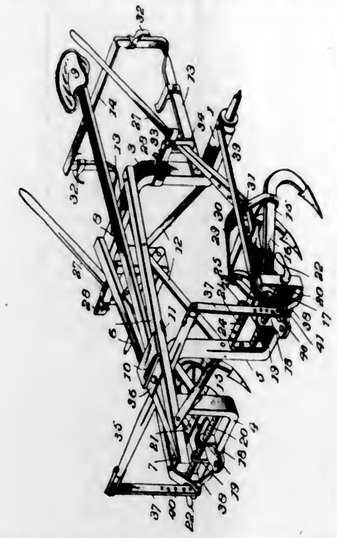
2. In a device of the character described, the combination with a steam-boiler, of an endless pipe arranged horizontally circularwise within the boiler adjacent to the steam-outlet therefrom, and having perforations through its wall along the top, a trough having its bottom formed by the perforated portion of the said pipe and having its upper edge on a level or thereabout with the surface of the water in the boiler, a suitable blow-off valve fixed to the outside of the boiler and in communication with the said pipe, means for supporting the said pipe within the boiler, and for operating the said valve, substantially as described and for the purpose set forth.

3. In a device of the character described, the combination with a steam-boiler, of a pipe arranged horizontally therein, and having perforations through its wall along the top, a trough having its bottom formed by the perforated portion of the said pipe, and having its upper edge on a level or thereabout with the surface of the water in the boiler, and a suitable blow-off valve in communication with the said pipe substantially as described.

842,165. PLOW. HOWARD A. BEHAM, Renfrow, Okla. Filed May 21, 1906. Serial No. 318,024.

Claim.—1. In a device of the character described, the combination of a frame comprising an axle, a bar spaced from the axle, and connecting means between the bar and the axle, means for supporting the frame, a gang of cultivators connected to each end of the bar by means of a suitable coupling, and means for moving the coupling longitudinally upon the bar to effect a lateral adjustment of the cultivating-teeth.

2. In a device of the character described, the combination of a frame comprising a bar, a means for supporting the frame, a gang of cultivators loosely connected to the bar by means of a coupling comprising a sleeve, said sleeve being provided with a projection, a rod having a spiral formation and extending along the bar so as to engage with the before-mentioned projection upon the sleeve, whereby the sleeve may be moved longitudinally upon the bar, and means for securing a draft connection for the frame.



3. In a device of the character described, the combination of a frame comprising a bar, means for supporting the frame, a gang of cultivators loosely connected to the bar by means of a coupling comprising a sleeve, and a rod extending along the bar and engaging with the before-mentioned sleeve whereby the latter can be moved longitudinally upon the bar.

4. In a device of the character described, the combination of an axle, a bar spaced from the axle, connecting means between the bar and the axle, wheels mounted upon the axle, a gang of cultivator-teeth mounted upon the bar, a bracket projecting from the axle, a lever adjustably fulcrumed upon the bracket and engaging with the gang of cultivators whereby the latter can be moved from side to side.

5. In a device of the character described, the combination of a frame comprising two cross-pieces and connecting means between the cross-pieces, supporting means for the frame mounted upon one of the cross-pieces, a gang of cultivators mounted upon the opposite cross-piece, a bracket projecting from the first-mentioned cross-piece, an adjustable fulcrum member connected to the bracket, and a lever pivoted upon the fulcrum member and engaging with the gang of cultivators, whereby the latter can be moved from side to side.

6. In a device of the character described, the combination of an axle having an arched formation, a bar spaced from the axle and also having an arched formation, a pair of beams connecting the arched portions of the two members and projecting forwardly beyond the beam, draft means connected to the forwardly-projecting portions of the beams, an intermediate beam extending between the two arches and projecting rearwardly beyond the rear arch, a seat mounted upon the rearwardly-projecting portion of the intermediate beam, wheels mounted upon the axle, and a gang of cultivator-teeth mounted upon the bar.

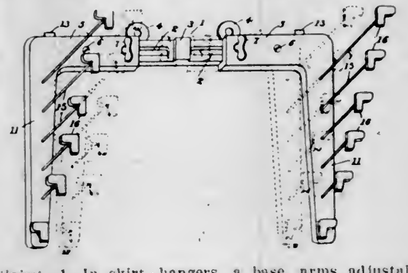
7. In a device of the character described, the combination of an axle having an arched formation, a bar spaced from the axle and also having an arched formation, the upper portion of the arch upon the bar being provided with a projection, spaced beams connecting the arched portions of the two members and fitting against the projection upon the arched portion of the bar, the said beams projecting beyond the bar, draft means secured to the projecting portion of the beams, an intermediate beam resting upon the arched portion of the axle and connected to the before-mentioned pair of beams, the said intermediate beam projecting beyond the axle, a seat mounted upon the projecting portion of the intermediate beam, wheels mounted upon the axle, and a gang of cultivators mounted upon the bar.

8. In a device of the character described, the combination of an axle, having an arched formation, a bar spaced from the axle, connecting means between the two members, a beam supported upon the arched portion of the axle and projecting to the rear of the same, bars projecting rearwardly from the arched portion of the axle and connected by a cross-piece secured to the rearwardly-projecting portion of the before-mentioned beam, a seat mounted upon the said rearwardly-projecting portion of the beam, supporting-wheels mounted upon the axle, a gang of cultivators mounted upon the bar, and a lever fulcrumed upon the axle and loosely connected to the gang of cultivators, whereby the latter can be adjusted both laterally and vertically.

9. In a device of the character described, the combination of a frame comprising a bar, means for supporting the frame, a gang of cultivators trailing from the bar, a bracket projecting from the frame, a fulcrum member adjustably mounted upon the bracket, and a lever pivoted upon the fulcrum member and engaging with the gang of cultivators whereby the latter can be moved from side to side.

10. In a device of the character described, the combination of an axle having an arched formation, a bar located in front of the axle, connecting means between the axle and bar, wheels mounted upon the axle, a gang of cultivators trailing from the bar, a beam projecting rearwardly from the arched portion of the axle, a seat supported by the beam, bars projecting rearwardly from the axle and coöperating with the beam to support the seat, and means for securing a draft connection for the frame.

842,166. SKIRT-HANGER. MATTIE BEITMAN, Cincinnati, Ohio. Filed Oct. 17, 1906. Serial No. 339,281.



Claim.—1. In skirt-hangers, a base, arms adjustably mounted thereon, brackets secured to said arms, supports upon said brackets, and clamps upon said supports.

2. In skirt-hangers, a base, arms on said base adapted to be adjusted with relation thereto, a bracket on each arm adapted to be adjusted with relation thereto, and supports upon each bracket each provided with a clamp.

3. In skirt-hangers, a base, arms adjustably secured thereto, a bracket adjustably secured to each arm, and each bracket provided with graduated supports each having a clamp.

4. In skirt-hangers, a base, arms secured thereto, brackets adjustably secured to said arms, supports upon said brackets, and a clamp upon each support.

5. In skirt-hangers, a base, arms on said base, a bracket pivoted to each arm and a spring-actuated pin in each arm adapted to engage a socket in the adjustable bracket to hold the latter in the position desired.

6. In skirt-hangers, a base, ears on said base each comprising a right-angle member, the horizontal part of which

extends beyond the rear side of said base, arms on said base, and means to adjust said arms longitudinally of said base.

7. In skirt-hangers, a base having longitudinal slots therein, a stop upon the front side of said base, an arm secured to said base upon each side of said stop, and means for adjusting said arms toward and from each other upon said base.

8. In skirt-hangers, a base having slots therein, a sliding plate having lugs adapted to engage the walls of said slots and be moved lengthwise therein, an arm adapted to engage the front side of said base, a set-screw adapted to take through said arm into one of said lugs to hold said arm in sliding engagement with said base, and a thumb-screw adapted to take through said arm into the other lug of said sliding plate to secure said arm in adjusted position upon said base.

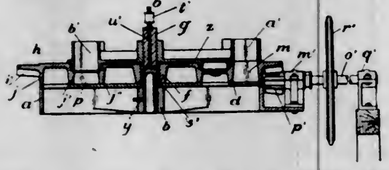
9. In skirt-hangers, a slotted base, a stop on said base between said slots, an arm on said base having the part cut away adjacent the base, a shoulder on said arm adapted to engage the lower edge of said base, and means for holding said arm in sliding relation with, and in adjusted position on said base.

10. In skirt-hangers, a base, arms thereon, brackets on said arms, graduated supports on said brackets, and clamps upon said supports.

11. In skirt-hangers, a base 1 having slots 2 and stop 3, ears 4 fixed on said base, sliding plates 10, each having lugs 8 and 9 adapted to engage the walls of said slot, arms 5, set-screw 6 and thumb-screw 7 engaging said arm and lugs to hold said arm and base in fixed and movable relation respectively to each other, brackets 11 each adjustably secured to arm 5 by pivot 12, spring-actuated pin 13 adapted to engage socket 14, graduated supports 15, and clamps 16 having handles 16', all combined and arranged substantially as and for the purposes set forth.

12. In skirt-hangers, a base 1 having slots 2 and stop 3, ears 4 fixed on said base, sliding plates 10, each having lugs 8 and 9 adapted to engage the walls of said slot, arms 5 each having shoulders 17, set-screw 6 and thumb-screw 7 engaging said arm and lugs to hold said arm and base in fixed and movable relation respectively to each other, brackets 11 each adjustably secured to arm 5 by pivot 12, spring-actuated pin 13 adapted to engage socket 14, graduated supports 15, and clamps 16 having handles 16', all combined and arranged substantially as and for the purposes set forth.

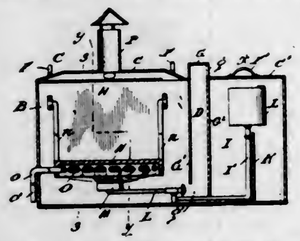
842,167. MEASURING-MACHINE. JOHN BERG, Anderson, Ind. Filed Mar. 21, 1906. Serial No. 307,195.



Claim.—1. A measuring-machine comprising a stationary bed consisting of an open framework with a centrally-located hub connected by arms to the sides thereof, a plate stationarily supported upon the top of the bed having a centrally-located aperture registering with the bore of the hub, a post stationarily contained in the bore of the hub and extending through said aperture and above said plate, a measuring means mounted to revolve upon said plate and having a centrally-located hub, through the bore of which extends said post, said measuring means comprising a unitary casting consisting of a surface plate, a series of flanges projecting downwardly from the surface plate and arranged concentrically with the hub of the measuring means and laterally-arranged ribs connecting the flanges at selected places to form the measures, said measuring means having apertures through the surface plate forming entrances to the measures, a stationary covering-plate for the measuring means having a hub centered on said post and apertures opposed to the paths of said measures to register therewith as the measures revolve, and the first-mentioned plate having apertures to register with said measures as the latter revolve, said apertures being out of line with the corresponding apertures of the covering-plate.

2. A measuring-machine comprising a stationary bed consisting of an open framework with a centrally-located hub connected by arms to the sides thereof, a plate stationarily supported upon the top of the bed having a centrally-located aperture registering with the bore of the hub, a post stationarily contained in the bore of the hub and extending through said aperture and above said plate, a measuring means mounted to revolve upon said plate and having a centrally-located hub, through the bore of which extends said post, said measuring means comprising a unitary casting consisting of a surface plate, a series of flanges projecting downwardly from the surface plate and arranged concentrically with the hub of the measuring means and laterally-arranged ribs connecting the flanges at selected places to form the measures, said measuring means having apertures through the surface plate forming entrances to the measures, a stationary covering-plate for the measuring means having a hub centered on said post and apertures opposed to the paths of said measures to register therewith as the measures revolve, the first-mentioned plate having apertures to register with said measures as the latter revolve, said apertures being out of line with the corresponding apertures of the covering-plate, adjustable gates for one of said sets of measures comprising arc-shaped plates slidable over the entrances to said measures, slots in the surface plate of the measuring means intermediate said measures and set-screws inserted through said slots to enter the arc-shaped plates and adjustably connect them to the surface plate.

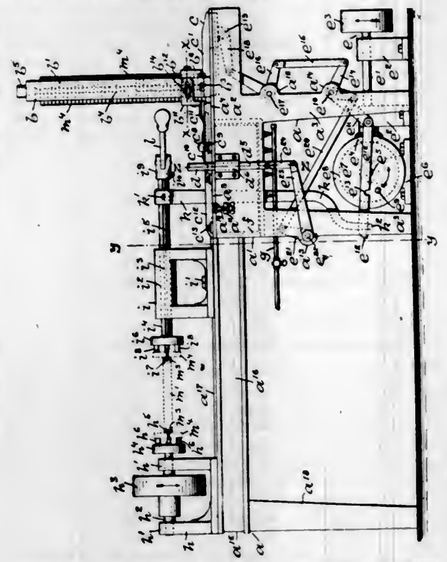
842,168. TANK-HEATER. CHARLES W. BLAKE, Wesley, Iowa. Filed July 3, 1905. Serial No. 268,100.



Claim.—1. A tank-heater comprising a receptacle, a draft arrangement of a box-like form dividing the receptacle into two distinct compartments, a tank within one of said compartments, a pipe leading from the tank through the draft arrangement and into the other compartment, a burner pivotally mounted upon said pipe, a hood above said pipe, a coil beneath the hood and having its ends extending out through one side of the compartment, the end of said pipe turned downwardly, a removable cover above the compartment carrying the burner and provided with a ventilator, and a removable cover for the compartment carrying the tank.

2. A tank-heater comprising a receptacle, an oil-tank within one end, a burner within the opposite end and in communication with the oil-tank, a draft arrangement of a width equal to that of the heater intermediate the oil-tank and burner and completely dividing the receptacle into two distinct compartments, a hood above the burner, a coiled pipe within the hood and extending out through one side of the receptacle, and the ends of the said pipe on the outside of the receptacle turned downwardly nearly to the bottom of the receptacle.

842,169. SPOOL GLUING AND ASSEMBLING MACHINE. IRA A. BLOOD, Methuen, Mass., assignor to U. S. Bobbin and Shuttle Co., Providence, R. I., a Corporation of New Jersey. Filed May 18, 1905. Serial No. 261,061.



Claim.—1. In a spool gluing and assembling machine, a hopper adapted to feed spool-heads by gravity, a gluing mechanism adapted to glue a hole in the spool-heads automatically, a feed mechanism adapted to feed two spool-heads simultaneously from the hopper to the gluing mechanism, means for operating the feeding and the gluing mechanism, means for assembling a spool, and a lever for operating said last-named means, as described.

2. A spool gluing and assembling machine having a hopper for feeding spool-heads by gravity, a gluing mechanism adapted to glue a hole in two spool-heads simultaneously, a feeding mechanism consisting of two slides adapted to feed two spool-heads simultaneously from the hopper to the gluing mechanism, means for operating the gluing mechanism and the feeding mechanism consisting of an actuating mechanism having an actuating-arm operatively connected to the gluing and feeding mechanism, a release-arm adapted to hold the actuating-arm in its inoperative position, means for assembling a spool by screwing the heads onto the cylinder of the spool, and an operating-lever operatively connected with the release-arm and the assembling mechanism, as described.

3. A spool gluing and assembling machine having a hopper adapted to feed two spool-heads simultaneously by gravity, means for adjusting the hopper for different sizes of spool-heads, a gluing mechanism consisting of a glue-pot, a frame having glue-cups adapted to be raised and lowered into the glue-pot, means for heating the glue to the required temperature, a feeding mechanism consisting of two sides adapted to feed two spool-heads simultaneously from the hopper to the gluing mechanism, adjustable guides adapted to guide the spool-heads from the hopper to the gluing mechanism, means for operating the gluing and the feeding mechanism, means for assembling a spool by screwing the spool-heads onto the ends of the spool-cylinder, and an operating-lever operatively connected with the gluing, feeding, and the assembling mechanism, whereby the spool-heads are fed and glued automatically and a spool assembled in one operation of the operating-lever, as described.

4. In a spool gluing and assembling machine, an adjustable hopper adapted to feed spool-heads by gravity, consisting of an inverted-U-shaped frame having two openings in the top, means for securing the lower ends of the frame to the frame of the machine, two rods having enlarged heads suspended from the top of the inverted-U-shaped frame through the openings in the top and extending downward through holes in the spool-heads, the ends of the rods entering the next to the bottom heads, a cross-bar having slots secured to the back of the inverted-U-shaped frame adjacent the bottom, wings adjustably secured to the inner face of the cross-bar by bolts through the slots in the cross-bar, a bar having L-shaped ends in which are slots adjustably secured on the front of the frame opposite the cross-bar by bolts through the slots in the L-shaped end of the bar, whereby the spool-heads are fed downward on the rods by gravity, and the hopper made adjustable for different sizes of spool-heads, as described.

5. In a spool gluing and assembling machine, a gluing mechanism, an automatic feed mechanism consisting of two slides adapted to reciprocate in ways through openings in the top of the machine, each slide having forwardly-extending tongues bearing on the top of the machine and steps forming shoulders on the slide, a yoke secured transversely above the forward ends of the slides to the top of the machine, bow-springs secured to the yoke, guides adjustably secured to the top of the machine, and means for operating the feed mechanism, whereby two spool-heads are fed simultaneously from the hopper to the gluing mechanism of the machine, as described.

6. In a spool gluing and assembling machine, an automatic gluing mechanism consisting of a glue-pot, means for holding the glue-pot under the top of the machine, means for heating the glue to the required temperature, a frame constructed to have a cross-bar with two bosses placed under the top of the machine in the glue-pot, ends on the cross-bar extending upwardly through apertures in the top of the machine, then outwardly and downwardly to form downwardly-extending arms guided by straps on the sides of the machine, glue-cups secured to the bosses on the cross-bar, each glue-cup having a cup-shaped head, apertures in the side of the head, a circular flange and a downwardly-extending stem, a removable cover for filling the glue-pot with glue, and means for operating the gluing mechanism to lower the glue-cups into the glue and raise the glue-cups filled with glue through holes in the top of the machine and into the holes in the spool-heads, whereby two spool-heads are glued simultaneously as described.

7. In a spool gluing and assembling machine having a feeding and gluing mechanism, means for operating the same consisting of an actuating mechanism having a driving-shaft supported in bearings, a pulley on the outer end of the shaft, a bevel-gear pinion on the inner end of the shaft, a shaft supported in bearings at right angles to the driving-shaft, a disk on the shaft, a bevel-gear on the back of the disk meshing with the bevel gear-pinion on the driving-shaft, an eccentric-pin on the face of the disk, a rock-shaft supported in bearings on the machine, an arm secured to the inner end of the rock-shaft, an actuating-arm pivotally secured to the free end of the arm on the rock-shaft and having a notch in its lower edge in a position

to engage with the pin on the disk, means for holding the actuating-arm in its inoperative position and for releasing the same when required, a lower bell-crank lever secured to the rock-shaft, a link pivotally connecting the outer arm of the lower bell-crank lever to the outer arm of an upper bell-crank lever secured to a rock-shaft supported in bearings on the frame, means for connecting the upper bell-crank lever with the feed mechanism, a bar pivotally connecting the lower bell-crank lever with an arm secured to a rock-shaft supported in bearings on the frame, arms secured to each end of the rock-shaft, and means for connecting the arms to the gluing mechanism, as described.

8. In a spool gluing and assembling machine, an assembling mechanism consisting of a bed supported on legs, a head-stock screwed to the bed and forming bearings for a spindle, a pulley on the spindle between the bearings, a face-plate having a central pin and chisel-shaped points secured to the inner end of the spindle, a tail-stock adjustably secured to the bed and having a longitudinal bore in which is a spline, a reciprocating spindle in the bore of the tail-stock having a longitudinal groove for the spline, a face-plate on the inner end of the spindle having a central pin and chisel-shaped points, an operating-lever pivotally secured to the outer end of the spindle and to a link which is pivotally secured to a bracket on the tail-stock, whereby a spool is assembled by screwing the spool-heads onto the ends of the spool-cylinder through a forward movement of the operating-lever and the rotating of the face-plate on the head-stock spindle, as described.

9. In a spool gluing and assembling machine, the combination of the frame *a*, the adjustable hopper *b* for feeding spool-heads by gravity, the spool-head-feed mechanism *c*, the spool-head-gluing mechanism *d*, the actuating mechanism *e*, the glue-pot *f*, the heating device *g*, an assembling mechanism consisting of the head-stock *h* having the spindle h^2, the pulley h^3, the face-plate h^4 with the central pin h^5 and the chisel-shaped points h^6 h^6, and the tail-stock *i* having the bore i^2 with the spline i^3, the reciprocating spindle i^4 with the longitudinal groove i^5 in the bore i^2, the face-plate i^6 with the central pin i^7 and the chisel-shaped points i^8 i^8, the release-arm *k* adjustably secured to the spindle i^4 and having the L-shaped lower end k^2, the operating-lever *l* pivotally secured to the outer end of the spindle i^4 and a link *l'* pivotally secured to the end of the operating-lever and to a bracket on the tail-stock *i*, as described.

10. In a bobbin gluing and assembling machine, gluing mechanism, means for feeding spool-heads to said mechanism, assembling mechanism, and means for operating said assembling mechanism, said last-named means upon the inception of its movement operating said gluing mechanism and said feeding means.

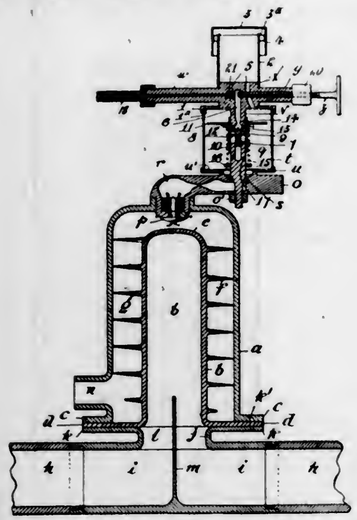
11. In a bobbin gluing and assembling machine, gluing mechanism, means for feeding spool-heads to said mechanism, connected means for operating said gluing mechanism and said feeding means, means for assembling a spool by screwing the heads onto the cylinder of the spool, and means for operating said assembling mechanism, said last-named means having connection with said connected means whereby the latter will be operated upon inception of movement of said means for operating the assembling mechanism.

12. In a bobbin gluing and assembling mechanism, gluing mechanism, means for feeding spool-heads to said mechanism, means connected to said mechanism and said means for operating the same in unison, assembling mechanism, and means for operating said assembling mechanism, said last-named means being connected to said means for controlling the operation of the gluing mechanism and the feeding means.

13. In a bobbin gluing and assembling machine, gluing mechanism, means for feeding spool-heads to said mechanism, assembling mechanism means for operating said gluing mechanism and said feeding means in unison, and a pivoted element for controlling the operation of said assembling mechanism, said element having connection with said means for operating the gluing mechanism and feeding means whereby each of the latter will be brought into action when said element is operated to actuate the assembling mechanism.

14. In a bobbin gluing and assembling machine, a gluing mechanism, means for feeding spool-heads to said mechanism, connected means for operating the gluing mechanism and feeding means in unison, assembling mechanism, a movable part which controls the operation of said assembling mechanism, and means connected to said assembling mechanism and operated by the movements of said part and connected to said connected means of the gluing mechanism and feeding means, whereby each of the latter will be operated upon inception of movement of said movable part to bring the assembling mechanism into action.

842,170. CARBURETER. CHARLES H. BRYANT, Twickenham, and ARTHUR WATLING, London, England. Filed May 10, 1905. Serial No. 259,830.



Claim.—1. In combination with an internal-combustion motor an inner and an outer casing having a spiral passage between communicating with the combustion-space, a tube for the mixture of air and oil discharging over the top of the inner casing, a stepped cone-shaped opening leading to said tube and means for delivering oil and air to said opening, substantially as described.

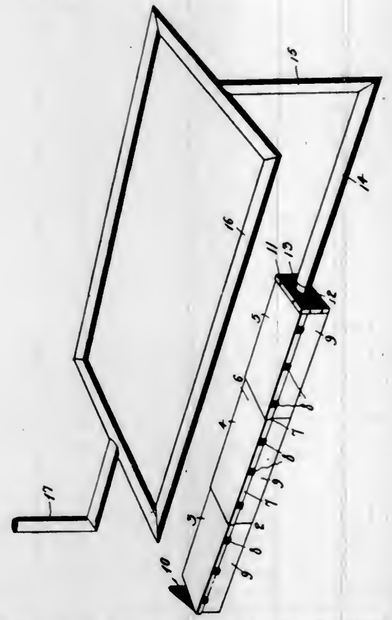
2. In combination with an internal-combustion motor, an inner and an outer casing having a spiral passage between, communicating with the combustion-space, a tube having a series of restrictions and enlargements of its bore for the mixture of air and oil discharging over the top of the inner casing, a stepped cone-shaped opening leading to said tube and means for delivering air and oil to said opening, substantially as described.

3. An apparatus for preparing ordinary paraffin or other like inflammable fluids for explosion in internal-combustion motors, said apparatus comprising a pair of casings one situated within the other, and having a spiral passage formed therebetween connecting the upper and lower interior portions of the outer casing, which latter at its lower end is provided with an outlet for connecting the apparatus to the combustion-chamber of motor, and its upper end is provided with a tube having a series of enlargements and restrictions of its bore, said tube opening at one end into the outer casing and being provided with a delivery-nozzle and at the other end leading by way of a stepped cone-shaped opening into a chamber wherefrom air and oil are supplied to said tube, the admixtnre of air and oil formed in passing through the apparatus being adapted to be heated by the exhaust-gases from the motor after starting, substantially as herein described.

4. In an apparatus for preparing ordinary paraffin or other like inflammable fluids for explosion in internal-combustion motors, the combination of a pair of casings one

situated within the other and having a spiral passage formed therebetween connecting the upper and lower interior portions of the outer casing, which latter at its lower end is provided with an outlet for connecting the apparatus to the combustion-chamber of motor, and at its upper end is provided with a tube having a series of enlargements and restrictions of its bore, said tube opening at one end into the outer casing and being provided with a delivery-nozzle, and at the other end leading by way of a stepped cone-shaped opening into a valve-chamber, centrally of which latter is situated a vertical tube passing down through the said stepped cone-shaped opening and fixed to the horizontal tube and provided at its upper portion with an oil-supply tube having an enlarged portion or boss and an extension carrying a screw in valve, said boss, in which a number of air-passages are formed, carrying an air-supply tube with or without being provided with a cap according to its length, and having a flange corresponding to a flange provided on the horizontal tube referred to, which flanges are adapted to retain between suitable packing a preferably transparent casing surrounding the vertical tube said vertical tube containing an oil-supply valve connecting to and adapted to be opened and closed by a spring-controlled sleeve provided with a disk or diaphragm arranged to be operated at starting by a spring-controlled pin and subsequently by the air drawn in by the suction of motor, the admixture of air and oil formed in passing through the apparatus being adapted to be heated by the exhaust-gases from the motor after starting, by connecting the apparatus to the exhaust-pipe and directing the flow of heated gas into the interior of the inner casing by suitable deflecting means, substantially as herein described and shown by the appended drawings.

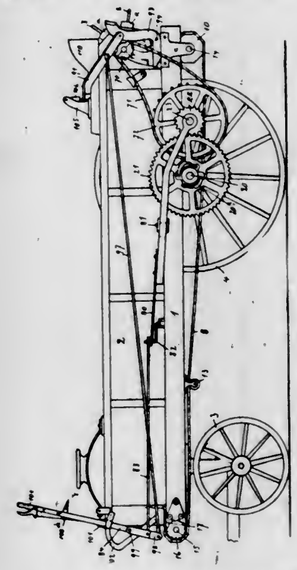
842,171. TOBACCO-CURING APPARATUS. JOHN L. BULLOCK, Hester, N. C. Filed May 19, 1906. Serial No. 317,820.



Claim.—1. A furnace of the character described, comprising a plurality of knockdown sections arranged in end-to-end alinement with their adjacent ends telescoping or overlapping, each of said sections comprising side plates, top plates, and detachable fastenings connecting said top and side plates, a door closing the outer end of one of the endmost sections, and a cap or end plate closing the outer end of the other endmost section and provided with a thimble for the reception of a smoke-flue.

2. A furnace of the character described, comprising a plurality of knockdown sections arranged in end-to-end alinement with their adjacent ends telescoping or overlapping, each of said sections comprising parallel rectangular side plates having apertures adjacent to their upper edges, a rectangular top plate having integral, longitudinally-extending flanges depending from its side edges and formed with apertures to aline with the apertures in said side plates, fastening-bolts passed through said alining apertures and detachably securing the top plate upon said side plates, a door closing the open outer end of one of the endmost sections, and a cap or end plate arranged upon the outer end of the other endmost section and having integral flanges detachably secured to said section and an integral thimble for the reception of a smoke-pipe, substantially as shown and for the purposes set forth.

842,172. MANURE-SPREADER. GEORGE E. CAMP, Utica, N. Y., assignor to Standard Harrow Company, Utica, N. Y. Filed Nov. 14, 1904. Serial No. 232,642.



Claim.—1. In a spreader, the combination with the box and movable apron-bottom thereof, of a feeding mechanism consisting of a gear-wheel having internal ratchet-teeth, a pair of pawls operating on said teeth, ratchet-levers carrying said pawls respectively, means for operating the ratchet-levers, and adjustable means for holding the pawls out of engagement with the internal ratchet gear-teeth during more or less of the movement of the ratchet-levers, substantially as set forth.

2. In a spreader and in combination with the box and the movable apron, of a feeding mechanism for the apron, consisting of a wheel having internal ratchet-teeth mounted to turn on a fixed pivot, a pair of swinging levers mounted on the same pivot, means for vibrating the swinging ends of the levers, pawls on the levers respectively for engaging the ratchet-wheel, and adjustable means for throwing out and holding out of engagement with the ratchet-wheel the said pawls, substantially as set forth.

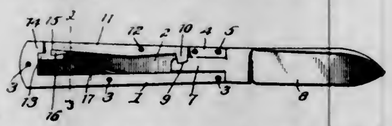
3. The combination in a spreader of a load-holding box, having a movable bottom, a tail-gate for the rear end of the box arranged to present a plain flat face to the load when in closed position, means for mounting the said tail-gate to permit it, first, to be retired laterally away from

the load, and then turn circularly into a position above the plane of the load, and means for operating said tail-gate, substantially as set forth.

4. The combination in a manure-spreader of a load-holding box, a movable bottom therefor, means for moving the bottom toward the rear in discharging the load, a rotary beater mounted at the rear end of the box, means for driving the beater, a flat, plain tail-gate adapted to present a flat face to the load when in closed position, mounted to move from a vertical position in the rear end of the box to a substantially horizontal position over the beater, and a comb supported over the rear end of the box and adapted to swing into engagement with the edge of the tail-gate when in open position, substantially as and for the purposes set forth.

5. The combination in a manure-spreader of a load-holding box, having a movable bottom, a rotary beater at the rear of the box, a tail-gate for the rear end of the box formed and arranged to present a plain flat face to the load when in closed position, and mounted to be retired laterally away from the load and toward the beater, and then turned circularly into position above the plane of the load and over the beater, and means for holding and operating the tail-gate, substantially as set forth.

842,173. TOOL-HOLDER. WILLIAM CARMAN, Napanock, N. Y. Filed Apr. 13, 1906. Serial No. 311,485.



Claim.—1. In a structure of the class described, the combination with a handle comprising a main frame section having a projecting end, side plates secured to said frame, an auxiliary frame-piece secured between said side plates, a locking-arm pivotally secured between said plates, a detent at one end of said locking-arm, a ledge at the opposite end of said locking-arm, said locking-arm also having a groove therein, a spring seated in said groove and having its opposite end disposed against the frame; of a blade, a shank integral with said blade and having a notch therein adapted to be engaged by the detent when the shank is inserted in the way between the main frame and auxiliary frame.

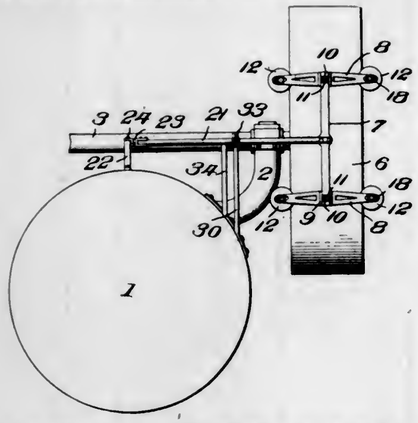
2. In a device of the class described, a handle-section comprising a main frame, plates secured to said main frame, a projection upon said main frame, a locking-arm pivotally mounted between said plates, a ledge on said arm adapted to engage the projecting end of said main frame and limit the movement of said arm in one direction, a detent at one end of said arm, and means at the opposite end to direct said detent into engagement with a blade.

3. In a device of the class described a handle-section comprising a substantially L-shaped main frame, plates secured to said main frame, a projection upon said main frame, a locking-arm pivotally mounted between said plates, a ledge on said arm adapted to engage the projecting end of said main frame and limit the upward movement of said arm, a detent at the opposite end of said arm, a spring disposed between said locking-arm and main frame, said spring having one of its ends dovetailed to fit a dovetailed groove in said locking-arm, the free end of said spring being directed against said main frame whereby tension will be exerted upon the locking-arm and the detent directed into engagement with a blade.

842,174. BELT GUIDE AND HOLDER. AARON J. CHAFFIN, Ripon, Wis. Filed Oct. 4, 1906. Serial No. 337,378.

Claim.—1. The combination with a belt-wheel and a belt on said wheel; of guide-wheels at each edge of said belt and wheel, a beam, a cross-head at each end of said beam, means to adjustably secure said guide-wheels to the cross-heads and additional means to move said guide-wheels into or out of engagement with said belt and belt-wheel.

2. The combination with a belt-wheel and a belt thereon; of a shaft, means to support said shaft, a beam at one end of said shaft, a cross-head at each end of said beam having elongated slots therein, guide-wheels carried by said cross-heads adapted to engage the edges of said belt and wheel, and means disposed through said slots to adjustably secure said guide-wheels to the cross-heads.



3. A device of the class described comprising the combination with a belt-wheel and a belt disposed thereon; of a shaft, a bracket at one end of said shaft, means to yieldingly secure said shaft to the bracket, a beam at the opposite end of said shaft, cross-heads on said beam, guide-wheels adjustably secured to said cross-heads and means secured to said shaft to adjustably secure said guide-wheels into or out of engagement with said belt and belt-wheel.

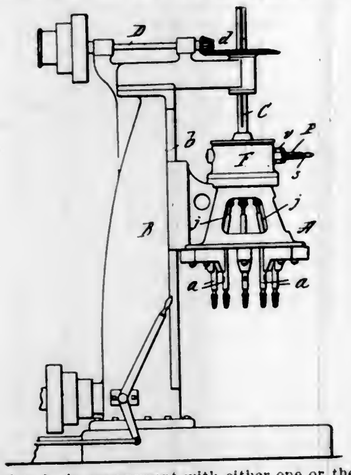
4. A belt-guide of the class described comprising a beam, cross-heads on said beam, guide-wheels adjustably secured to said cross-heads, a shaft supporting said beam, means to yieldingly support said shaft, a rod secured to said shaft, and means to secure said rod whereby the shaft and parts carried thereby will be held in its adjusted position.

5. A guide of the class described comprising a shaft, a supporting-bracket at one end of said shaft, means to yieldingly secure said shaft to the bracket, a beam at the opposite end of said shaft, guide-wheels, means to secure said guide-wheels to said beam, a rod adjustably secured to said shaft, means to limit the longitudinal movement of said rod, and additional means to hold said rod in its adjusted position.

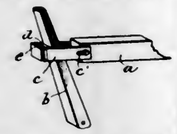
6. A guide of the class described comprising a shaft, a bracket at one end of said shaft, means to pivotally secure said shaft to the bracket, a supporting-arm for said shaft, a beam at the free end of said shaft, cross-heads at each end of said beam, guide-wheels adjustably secured to said cross-heads, a clamp on said shaft, a rod, means to adjustably secure said rod to the clamp and additional means to limit the longitudinal movement of said rod.

842,175. MULTIPLE-SPINDLE DRILLING-MACHINE. EDGAR W. CLEVELAND, Springfield, Mass. Filed Mar. 27, 1906. Serial No. 308,277.

Claim.—In a drilling-machine, the combination with a drill-spindle-driving shaft, having a gear-wheel provided with a clutch member, affixed thereon, a spur gear-wheel having a tubular hub loosely surrounding said driving-shaft, a series of spur gear wheels or pinions, in circular arrangement surrounding, and in mesh with, said spur gear-wheel, and a series of tool-spindles having connection with, and to be driven by, said pinions, another gear-wheel, having a clutch member, opposite said first-named gear-wheel, and loose on said spur gear-wheel hub, an idler gear-wheel in constant mesh with both said opposed gear-wheels, a clutch-sleeve axially slidable along, but non-rotative relatively to, said spur gear-wheel hub, and adapted to be free from both said gear-wheel clutch members, and to be in engagement with either one or the other of such clutch members, and means for positioning the clutch-sleeve.



842,176. LUG-STRAP FOR LOOMS. GEORGE G. COLBY, Medford, Mass. Filed Dec. 20, 1905. Serial No. 292,663.



Claim.—A lug-strap comprising side arms and a connecting-neck, a cushion or buffer interposed between the arms and bearing upon the neck, and upon adjacent portions of the inner sides of the arms, and a flexible securing-strip extending across the upper side of the cushion and the upper edges and outer sides of the arms, its end portions being bent to form hooks engaging the lower edges of the arms, the said hooks projecting upwardly between the inner sides of the arms and the corresponding sides of the cushion, and engaging the latter to prevent the dropping of the cushion from the strap.

842,177. BUTTON-HOLDER. ALBERT H. CUSHMAN, Chicago, Ill., assignor to Morley Manufacturing Company, Boston, Mass., a Corporation of Maine. Filed Aug. 9, 1906. Serial No. 329,874.



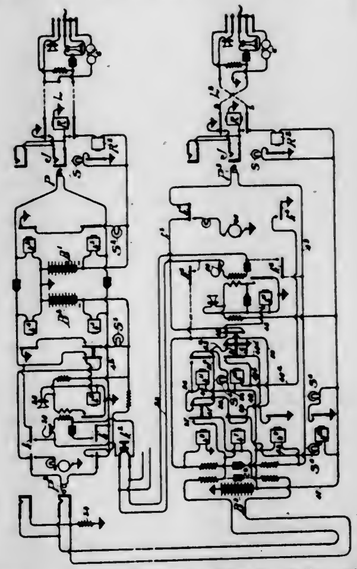
Claim.—1. A button-holder comprising a button-support having a recess adapted to receive a button-head, and a pair of U-shaped resilient wire clips, the ends of each of which are upturned and anchored within the button-support, and the loops of which are normally in position to overlie the edges of the recess and to retain the button-head in the recess, and are yieldingly movable to admit of the insertion or withdrawal of the button-head into or from the recess.

2. A button-holder comprising a cylindrical button-support having a recess or pocket in the end thereof to receive a button-head, a projection upon said support at either side of said recess, a pair of U-shaped resilient wire clips the ends of which are secured to said button-support, and the loops of which normally overlie the edges of the recess and bear against said projections and are adapted to retain a button-head in the recess, and are yieldingly movable to admit of the insertion or withdrawal of the button-head into or from the recess.

3. A button-holder comprising a button-support having in the end thereof a recess to receive a button-head bordered by a peripheral wall, a part of said wall on either side of said recess being extended to form a pair of ears, and a pair of U-shaped resilient wire clips, the ends of which are anchored to the support, and the loops of which normally overlie the edges of the recess and abut against said ears, substantially as described.

4. A button-holder comprising the cylindrical button-support 1, having in the end thereof the recess 2 to receive a button-head, the projections 3, 3, one on either side of the recess, and the U-shaped resilient wire clips 4, 4, the ends of which are secured to the support 1, and the loops of which normally overlie the edges of the recess and bear against the projections 3, 3, substantially as and for the purposes described.

842,178. TELEPHONE TRUNKING SYSTEM. WILLIAM W. DEAN, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 22, 1903. Serial No. 140,166.



Claim.—1. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end and a called-subscriber's line to connect with its incoming end, a retardation-coil legged to ground from one side of the talking-circuit established by the connection of the cord with the trunk, a supervisory signal associated with the cord-circuit and placed in operative condition when the cord is connected with the trunk, a trunk-relay at the other end of the trunk actuated when the cord is first connected with the trunk by current over one side of the same with suitable return, a trunk-signal actuated by the energization of said relay, a second relay associated with the incoming end of the trunk, said relay being actuated by current

flowing over a local circuit closed by the ringing-key when the operator is calling the wanted subscriber, said second relay when operated being adapted to extinguish said trunk-signal, a locking-circuit for said latter relay, and a third relay energized during connection of the trunk and line to control said locking-circuit, and means under the control of the called subscriber for extinguishing said supervisory signal, substantially as described.

2. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end and a called-subscriber's line with which its incoming end is connected, a ringing-signal for the incoming end of the trunk, a source of current at said end to actuate said signal and to energize the transmitter of the called-subscriber's line, a relay actuated over a local circuit closed by the actuation of the ringing-key when the operator is calling the wanted subscriber, said relay serving to direct current through said signal to operate the same when the subscriber has been called but before his response, a second relay adapted to deprive said relay of operating-current when the subscriber responds, and a locking-relay for locking out said signal during the remainder of the connection, substantially as described.

3. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end and a called-subscriber's line with which its incoming end is connected, a disconnect-signal for said incoming end, a source of current for said signal and adapted to energize the transmitter of the called-subscriber's line, means operated by current flowing over a local circuit closed by the ringing-key when the operator is calling the wanted subscriber, to place said signal in condition to operate, and further means controlled by the connection of said cord-circuit with the trunk for rendering said signal inoperative, substantially as described.

4. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end and a called-subscriber's line with which its incoming end is adapted to connect, a signal associated with said incoming end, a source of current for said signal and adapted to energize the transmitter of the called-subscriber's line, a relay also at the incoming end adapted to be operated by current sent over the trunk-circuit, a second relay at said incoming end operated by current flowing over a local circuit independent of the connecting-plug and closed by the operation of the ringing-key in calling the wanted subscriber, said relays jointly controlling said signal so as to operate the same to give a guard indication when the cord-circuit is connected with the trunk-circuit and the trunk-circuit is disconnected from said line, or to place said signal in condition to operate so as to give a disconnect indication when the cord-circuit is disconnected from the trunk and the trunk is connected with said line, substantially as described.

5. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end and a called-subscriber's line with which its incoming end is adapted to connect, a guard-signal for the incoming end of the trunk, means to actuate said signal by current sent over the trunk when the cord-circuit is connected with the trunk, and further means actuated by current over a local circuit independent of the connecting-plug and closed when a called subscriber is ring for rendering said signal inert, substantially as described.

6. The combination with a trunk-line and a called-subscriber's line, of a relay associated with said trunk-line and adapted to be operated over a local circuit independent of the connecting-plug and closed by the operator in ringing the called subscriber, a second relay adapted to open said local circuit, a testing-circuit completed over one strand of the trunk cord-circuit and including the normal contacts of said relay, an operator's telephone-circuit connected with said testing-circuit and provided with order-wire leads whereby the operator may receive a test-signal without the use of a manual switch, and whereby the testing-circuit is disconnected by the ringing of the called subscriber, substantially as described.

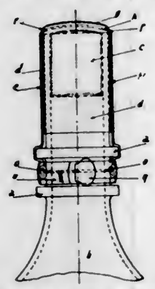
7. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end and a called-subscriber's line with which its incoming end is to connect, of signaling apparatus associated with the incoming end of the trunk, a relay actuated over a local circuit independent of the connecting-plug and closed in ringing the wanted subscriber, a second relay adapted to open said local circuit, a testing-circuit completed through the normal contacts of said relay, and means for placing said signaling apparatus in condition to operate and for disconnecting the testing-circuit when the said relay is actuated, substantially as described.

8. The combination with a telephone trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of two signals associated with the incoming end of said trunk-circuit and adapted by their condition to impart information to facilitate the utility of the trunk-circuit, a source of direct current associated with the trunk-circuit, a relay associated with said source and controlling contacts in the circuit of each of said signals, the circuit of said relay being first controlled by means independent of the talking-circuit and thereafter by current flowing over a portion of the talking-circuit, substantially as described.

9. The combination with a trunk-circuit, of a cord-circuit adapted to be connected therewith at its outgoing end, and a telephone-line with which the incoming end is adapted to connect, a signal associated with the incoming end of the trunk, a relay to control the circuit of said signal energized by the actuation of the ringing-key in calling the wanted subscriber, a second relay actuated when the connection is established with the called telephone-line to place said first relay in condition to actuate, a third relay actuated upon the response of the calling subscriber to efface said signal, locking-circuits for said first and third relays, and contacts of said second relay controlling said locking-circuits, whereby the relays will all be deënergized when the trunk is removed from its connection with the line, substantially as described.

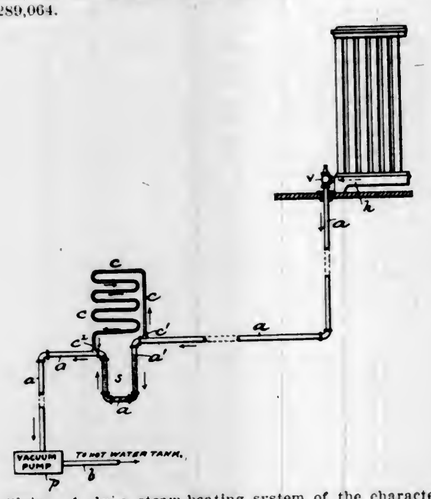
10. In a telephone system, the combination with a trunk-line, of a cord-circuit adapted to be connected with said line at its outgoing end, and a telephone-line with which the incoming end of said trunk may be connected, a signal for the incoming end of the trunk, a relay actuated over a local circuit including contacts of the ringing-key to display said signal, and a relay actuated over a portion of the talking-circuit when the connection is established with the called line to place said first relay in condition to operate, a third relay actuated when the called subscriber answers his call to efface said signal, a locking-circuit for said first and third relays, the locking-circuit of the third relay being controlled by contacts of said first relay, and the locking-circuit of said first relay being controlled by contacts of said second relay, substantially as described.

842,179. CLOSING DEVICE FOR RECEPTACLES WITH CAPSULE AND WIRE. BINDO P. DE MEDICI, Florence, Italy. Filed Aug. 15, 1906. Serial No. 330,750.



Claim.—In combination with a bottle having two annular enlargements on its neck, a capsule covering the end of the bottle-neck, a wire loop having a portion extending between the bottle-mouth and the top of the capsule and two arms extending downwardly on two sides of the bottle-neck and outside of the capsule, said arms having eyes at their extreme ends, said eyes lying in the space between the annular enlargements, a fastening means passing around the bottle-neck between the enlargements and through the eyes, and a covering-strip for said fastening means having means for locking its ends together.

842,180. STEAM-HEATING SYSTEM. THOMAS F. DEXTER, Providence, R. I. Filed Nov. 25, 1905. Serial No. 289,064.



Claim.—1. In a steam-heating system of the character described, a heater or radiator having a controlled outlet and a circulating-pump, in combination with a continuously-open return-main interposed between and uniting said radiator and pump members, a water seal located in said main, and a condenser or coil tapped into and being in continuous open communication with the main and bridging said seal, so that all the water of condensation in said main and coil flows to the pump by gravity, the open coil also permitting the free passage of air to the pump to prevent the latter from breaking the seal, substantially as hereinbefore described.

2. In a steam-heating system, the combination of a radiator, a circulating-pump, a return-main connected with said radiator and pump, a water seal located in said main, and a surface condenser or coil connected with the main at each end of said seal and being in open communication therewith, constructed and arranged so that the water of condensation flows to said pump by gravity, substantially as described.

842,181. NOSE-PIECE FOR EYEGLASSES. HENRY L. DE ZENG, Philadelphia, Pa. Filed Jan. 7, 1905. Serial No. 239,999.

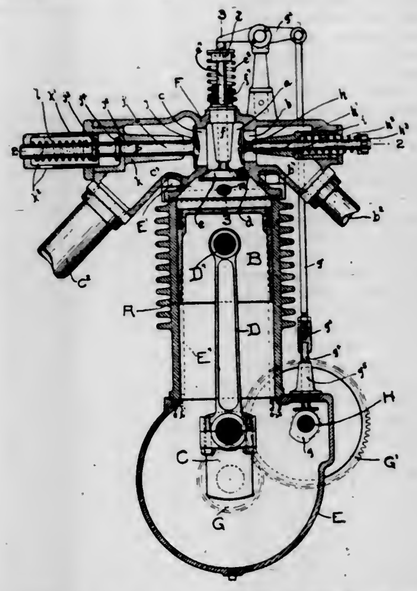


Claim.—1. An eyeglass guard or nose-piece having an open supporting-frame and a wire mesh or netting fixed flatly upon the face thereof substantially as described.

2. An eyeglass guard or nose-piece comprising an open-frame backing faced with a wire gauze or netting, the said facing lying in a plane or planes parallel with the said backing.

3. An eyeglass guard or nose-piece comprising an open supporting-frame, a connecting-arm and a flat facing of wire-cloth substantially as described.

842,182. INTERNAL-COMBUSTION ENGINE. WILLIAM DIETER, New York, N. Y. Filed Apr. 17, 1905. Serial No. 255,910.



Claim.—1. In an internal-combustion engine, the combination with a main cylinder having a dome-like cylinder-head the walls of which within said cylinder decline from a substantially central port to the walls of the cylinder, said head comprising a casing forming a supplemental chamber above said dome, and a port establishing communication between said chamber and said cylinder whereby the charge is introduced to said cylinder, and the exhaust is discharged therefrom, through said chamber, a loosely-mounted bearing projecting into said chamber, a compression-valve having its stem mounted in said bearing, for said port, a spring acting on said stem and said bearing to normally close said valve, means whereby the exhaust may pass from, and fuel is introduced to, said chamber through an exhaust-port and an intake-port in said chamber, a valve mechanism for each of said ports, and means controlling said valve mechanisms, of a piston moving in said cylinder, and a crank and connecting-rod mechanism.

2. In an internal-combustion engine, the combination with a main cylinder having a casing forming a supplemental chamber and an exhaust-chamber, ports respectively establishing communication between said supplemental chamber and said cylinder and said supplemental chamber and said exhaust-chamber whereby the charge is introduced to said cylinder, and the exhaust is discharged therefrom, through said supplemental chamber, a compression-valve for said port into said cylinder, a bearing projected into said exhaust-chamber, a valve mounted in said bearing and movable in said exhaust-chamber, a spring normally closing said valve whereby the exhaust will automatically open said valve, a perforated casing inclosing the stem of said valve and said spring, a plunger-ring on said stem, means whereby fuel is introduced to said supplemental chamber by means of an intake-port therein, a valve mechanism for said intake-port, and means controlling said valve mechanisms, of a piston moving in said cylinder and a crank and connecting-rod mechanism.

3. In an internal-combustion engine, the combination with a main cylinder having a casing forming a supplemental chamber and an exhaust-chamber, ports respectively establishing communication between said supplemental chamber and said cylinder and said supplemental chamber

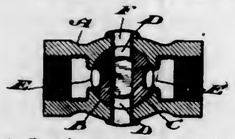
and said exhaust-chamber, whereby the charge is introduced to said cylinder and the exhaust is discharged therefrom, through said supplemental chamber, a compression-valve for said port into said cylinder, a bearing projecting into said exhaust-chamber, a valve mounted in said bearing and movable in said exhaust-chamber, a bipart stem for said valve, a spring acting on one of said parts to normally close said valve, means controlling said spring whereby the part of the stem carrying said valve will have slight movement independently of said spring, whereby the exhaust will automatically open said valve, means whereby fuel is introduced to said supplemental chamber by means of an intake-port therein, a valve mechanism for said intake-port, and means controlling said valve mechanisms, of a piston moving in said cylinder and a crank and connecting-rod mechanism.

4. In an internal-combustion engine, the combination with a main cylinder having a casing forming a supplemental chamber and an exhaust-chamber, ports respectively establishing communication between said supplemental chamber and said cylinder, and said supplemental chamber and said exhaust-chamber whereby the charge is introduced to said cylinder, and the exhaust is discharged therefrom, through said supplemental chamber, a compression-valve for said port into said chamber, a bearing projecting into said exhaust-chamber, a valve mounted in said bearing and movable in said exhaust-chamber, a bipart stem for said valve, a spring acting on one of said parts to normally close said valve, means controlling said spring whereby the part of the stem carrying said valve will have slight movement independently of said spring, whereby the exhaust will automatically open said valve, a perforated casing inclosing the stem of said valve and said spring, a plunger-ring on said stem, means whereby fuel is introduced to said supplemental chamber by means of an intake-port therein, a valve mechanism for said intake-port, and means controlling said valve mechanisms, of a piston moving in said cylinder and a crank and connecting-rod mechanism.

5. In an internal-combustion engine, the combination with a main cylinder having a dome-shaped cylinder-head, the walls of which within said cylinder decline from a substantially central port to the walls of the cylinder, said head comprising a casing forming a supplemental chamber, a vapor-chamber and an exhaust-chamber above said dome, and having ports establishing communication between said supplemental chamber and said cylinder, and between said supplemental chamber and said vapor-chamber, and said exhaust-chamber respectively, whereby the charge is introduced to said cylinder, and the exhaust is discharged therefrom through said chamber, a loosely-mounted bearing projecting into said supplemental chamber, a compression-valve having its stem mounted in said bearing, for said port, a spring acting on said stem and said bearing to normally close said valve, a bearing projecting into said exhaust-chamber, a valve mounted in said bearing closing the port establishing communication between said supplemental chamber and said exhaust-chamber, and movable in said last-mentioned chamber, a bipart stem for said valve, a spring acting on one of said parts tending to normally close said valve, means controlling said spring whereby the part of the stem carrying the valve will have slight movement independently of said spring, whereby the exhaust will automatically open said valve, a perforated casing inclosing the stem of said valve, and said spring, a plunger-ring on said stem, a bearing projecting into said vapor-chamber, a valve mounted in said bearing and movable in said supplemental chamber and a spring normally closing said valve whereby the piston suction will automatically open said valve, of a piston moving in said cylinder and a crank and connecting-rod mechanism.

842,183. CUT-OFF VALVE. IRVIN P. DOOLITTLE, Toronto, Ontario, Canada. Filed Aug. 7, 1905. Serial No. 273,185.

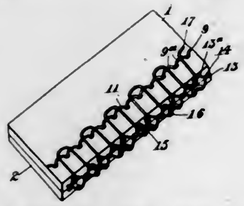
Claim.—1. In a cut-off valve a valve-plug having a passage through it in combination with a valve-body having valve-seats at each side of its passage-way the valve-plug having those portions of its surface which are exposed between the valve-seats when the valve is closed, cut away or recessed so that they cannot contact with the valve-seats when the valve is closed, substantially as described.



2. In a cut-off valve a valve-plug having a passage through it in combination with a valve-body having valve-seats at each side of its passage-way; vertical slots being formed through the seats corresponding substantially in shape and size to the passage of the valve-plug and recesses being formed in the sides of the plug intermediate of the ends of its passage and also corresponding substantially in shape and size thereto, substantially as described.

3. In a cut-off valve a valve-body provided with valve-seats, a passage-way between the seat; and slots cut through the valve-seats in combination with a plug having a passage through it and recessed in its sides intermediate the passage-way; the passage-way and slots of the body and the recesses and ends of the passage in the plug being substantially similar in size and shape one to another, substantially as described.

842,184. SEAM FOR SEWED ARTICLES. JAMES T. DOWDALL, New York, N. Y. Filed Dec. 21, 1905. Serial No. 292,725.

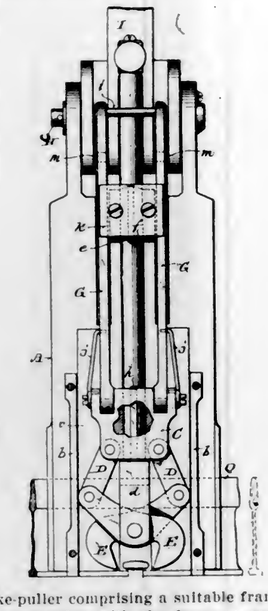


Claim.—1. A seam for sewed articles comprising the work and a plurality of threads, said seam being characterized by having on the top surface of the work two parallel lines of straight stitching joined by a thread zigzagged between the two lines of stitching, and on the bottom surface of the work two lines of straight stitching joined by a thread zigzagged between the two said lines of stitching, and the several zigzagged threads on the respective surfaces of the work being extended in parallelism, thus presenting the same appearance on both surfaces of the work.

2. A seam for sewed articles comprising the work and a plurality of threads, said seam being characterized by having on each surface of the work a thread zigzagged from the edge to a point distant therefrom, said zigzagged threads being extended in parallelism and joined at the edge of the work by a stitch passing through corresponding loops thereof and also being joined at a distance from the edge by a stitch passing through corresponding loops of said thread.

842,185. SPIKE-PULLER. ALBERT DUDLY, Sr., Menominee, Mich., assignor to The Dudly Tool Company, Menominee, Mich. Filed May 7, 1906. Serial No. 315,494.

Claim.—1. A spike-puller comprising a suitable frame, a rod having sliding connection with the frame, a spring arranged to hold the rod in any position of vertical adjustment, a slide on the rod, a spring of less strength than the one aforesaid arranged to hold the slide in adjusted position with respect to said rod, jaws in pivotal connection with the aforesaid rod and having crossed shanks in link connection with the slide, a rack-yoke in pivotal spring-controlled connection with said slide, and an oscillative lever-socket engageable with said yoke to impart step-by-step lift to same with the slide and rod as well as independent downward movement to the slide subsequent to the last lift, the initial lift of the slide serving to close the jaws and its independent downward movement to open the same.



2. A spike-puller comprising a suitable frame, a rod having sliding connection with the frame, a spring arranged to hold the rod in any position of vertical adjustment, a slide on the rod, a spring of less strength than the one aforesaid arranged to hold the slide in adjusted position with respect to said rod, jaws in pivotal connection with the aforesaid rod and having crossed shanks in link connection with the slide, a rack-yoke in pivotal spring-controlled connection with said slide, an oscillative lever-socket engageable with said yoke to impart step-by-step lift of the same with the rod and a downward movement thereto subsequent to the last lift, an anchor-hook in swing suspension, and means for gripping the hook in connection with a track-rail against yielding resistance.

3. A spike-puller comprising a suitable frame, a rod having sliding connection with the frame, a spring arranged to hold the rod in any position of vertical adjustment, a slide on the rod, a spring of less strength than the one aforesaid arranged to hold the slide in adjusted position with respect to said rod, jaws in pivotal connection with the aforesaid rod and having crossed shanks in link connection with the slide, a rack-yoke in pivotal spring-controlled connection with said slide, an oscillative lever-socket engageable with said yoke to impart step-by-step lift of the same with the rod and a downward movement thereto subsequent to the last lift, a vertically-adjustable in opposition to flanges of the aforesaid slide-plates against controlled slide-plates parallel to the vertical flanges of the former plate and provided with corresponding slots, an anchor-hook suspended on a pin engaging the slots of said plate-flanges and slide-plates, and a cam-lever on said pin opposition to flanges of the aforesaid slide-plates against resistance of the springs controlling same.

4. A spike-puller comprising a suitable frame, a rod having sliding connection with the frame, a spring arranged to hold the rod in any position of vertical adjustment, a slide on the rod, a spring of less strength than the one aforesaid arranged to hold the slide in adjusted position with respect to said rod, jaws in pivotal connection with the aforesaid rod and having crossed shanks in link connection with the slide, a rack-yoke in pivotal spring-controlled connection with the slide, an oscillative lever-socket engageable with said yoke to impart step-by-step lift of the same with the rod and a downward movement thereto subsequent to the last lift, a vertically-adjustable plate having an upper horizontal recessed flange and longitudinally-slotted vertical flanges, spring-controlled slide-plates parallel to the vertical flanges of the former plate and provided with corresponding slots, spring-jaws on the horizontal flange of said adjustable plate, an anchor-hook suspended on a pin engaging the slots of said plate-flanges, and a cam-lever on said pin in opposition to flanges of the aforesaid slide-plates against resistance of the springs controlling same, said lever being adjustable to engage the recessed flange and spring-jaws aforesaid under the elevated lever-socket and against the shank of said hook to swing and hold the latter out of working position.

5. A spike-puller comprising a suitable frame, a rod in friction-grip connection with the frame, a slide in similar connection with the rod, the friction on the rod being stronger than that on the slide whereby the two are at times movable together, the slide being at other times movable independent of the rod; jaws in pivotal connection with the rod and in link connection with the slide, and a rack and-lever mechanism for lifting the rod, slide, jaws and a gripped spike, as well as for imparting independent movement to the slide to effect release of the spike.

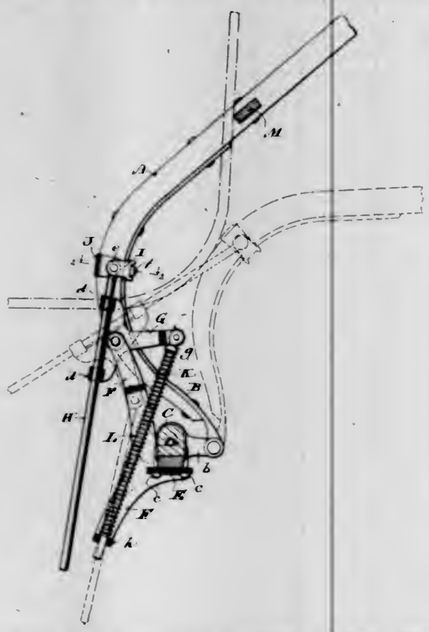
6. A spike-puller comprising a suitable frame, a rod in friction-grip connection with the frame, a slide in similar connection with the rod, the friction on the rod being stronger than that on the slide whereby the two are at times movable together, the slide being at other times movable independent of the rod; jaws in pivotal connection with the rod and in link connection with the slide, a rack-and-lever mechanism for lifting the rod, slide, jaws and a gripped spike, as well as for imparting independent movement to the slide to effect release of the spike, a pivotally-hung anchor-hook, and means for gripping the hook in connection with a track-rail against yielding resistance.

7. A spike-puller comprising a suitable frame, a rod in friction-grip connection with the frame, a slide in similar connection with the rod, the friction on the rod being stronger than that on the slide whereby the two are at times movable together, the slide being at other times movable independent of the rod; jaws in pivotal connection with the rod and in link connection with the slide, a rack-and-lever mechanism for lifting the rod, slide, jaws and a gripped spike, as well as for imparting independent movement to the slide to effect release of the spike, a pivotally-hung vertically-adjustable anchor-hook, and means for gripping the hook in connection with a track-rail against yielding resistance.

8. A spike-puller comprising a suitable frame, a rod in friction-grip connection with the frame, a slide in similar connection with the rod, the friction on the rod being stronger than that on the slide whereby the two are at times movable together, the slide being at other times movable independent of the rod; jaws in pivotal connection with the rod and in link connection with the slide, a rack-and-lever mechanism for lifting the rod, slide, jaws and a gripped spike, as well as for imparting independent movement to the slide to effect release of the spike, and a catch-bolt for holding the lever of said mechanism in lifted position.

9. A spike-puller comprising a suitable frame, a rod in friction-grip connection with the frame, a slide in similar connection with the rod, the friction on the rod being stronger than that on the slide whereby the two are at times movable together, the slide being at other times movable independent of the rod; jaws in pivotal connection with the rod and in link connection with the slide, a rack-and-lever mechanism for lifting the rod, slide, jaws and a gripped spike, as well as for imparting independent movement to the slide to effect release of the spike, a catch-bolt for holding the lever of said mechanism in lifted position, and a pivotally-hung lever-controlled anchor-hook, a yielding resistance to throw off the hook-controlling lever in one direction, and means for clutching said hook-controlling lever at full throw of same in the opposite direction under the former lever.

842,186. THILL-SUPPORT. ALBERT DUDLY, Sr., Menominee, Mich. Filed June 9, 1906. Serial No. 320,940.



Claim.—1. A thill-support comprising a bracket having a base attachable to a vehicle-axle, a lever fulcrumed in connection with the upper end of the bracket, another bracket attachable to a thill, a rod in pivotal connection with the thill-bracket and guided in connection with the rear end of the lever, another rod in pivotal connection with the forward end of said lever and guided in a foot portion of the axle-bracket, and a spiral spring under tension on the latter rod against the foot portion of said axle-bracket.

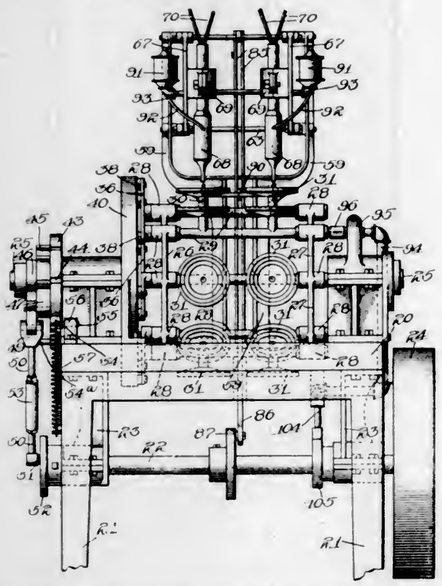
2. A thill-support comprising a bracket having a base attachable to a vehicle-axle and parallel sides in rear of the base inclined therefrom in opposite directions, a lever in trunnion connection with the upper ends of the bracket sides, another bracket attachable to a thill, a rod in pivotal connection with the thill-bracket and guided in connection with the rear end of the lever, another rod in pivotal connection with the forward end of said lever and guided in a foot connecting the sides of the bracket, and a spiral spring under tension on the latter rod against the foot of said axle-bracket.

3. A thill-support comprising a bracket having a base attachable to a vehicle-axle, a lever fulcrumed in connection with the upper end of the bracket, another bracket attachable to a thill and provided with ears, a rod in pivotal connection with the ears of the thill-bracket and guided in connection with the rear end of the lever, another rod in pivotal connection with the forward end of said lever and guided in a foot portion of the axle-bracket, and a spiral spring under tension on the latter rod against the foot portion of said axle-bracket.

4. A thill-support comprising a bracket, having a base attachable to a vehicle-axle, a cross-head lever fulcrumed in connection with the upper end of the bracket, another bracket attachable to a thill, a rod in pivotal connection with the thill-bracket and for which rod the cross-head of the lever is provided with guides, another rod in pivotal connection with the forward end of said lever and guided in a foot portion of the axle-bracket, and a spiral spring under tension on the latter rod against the foot portion of said axle-bracket.

5. A thill-support comprising a bracket having a base attachable to a vehicle-axle, a lever fulcrumed in connection with the upper end of the bracket, another bracket attachable to a thill, a rod in pivotal connection with the thill-bracket and guided in connection with the rear end of the lever, another rod in pivotal connection with the forward end of said lever and guided in a foot portion of the axle-bracket, and a tension-spring in conjunction with the axle-bracket and the other end of the lever to hold the thill and said lever in one position of their adjustment.

842,187. MACHINE FOR APPLYING SOLDER TO CAN-TOPS. HOLTON EACHUS, Chicago, Ill., assignor to Fairbank Canning Company, Chicago, Ill., a Corporation of Illinois. Filed July 5, 1906. Serial No. 324,798.



Claim.—1. The combination with a carrier adapted to receive can-tops and discharge the same from the carrier, of means for affixing drops of solder to the can-tops adjacent to vent-holes therein, and means for forcing the solder out of said vent-holes before the solder sets, substantially as described.

2. The combination with a carrier adapted to receive can-tops and discharge the same from the carrier, of means for affixing drops of solder to the can-tops adjacent to vent-holes therein, and means for forcing a current of air through said vent-holes before the solder sets, substantially as described.

3. The combination with a carrier adapted to receive can-tops and discharge the same from the carrier, of means for affixing drops of solder to the can-tops adjacent to vent-holes therein, and means mounted on said carrier adapted to automatically open the vent-holes in the can-tops before the solder sets, substantially as described.

4. The combination with a carrier adapted to receive can-tops and discharge the same from the carrier, of means for affixing drops of solder to the can-tops adjacent to vent-holes therein, and means mounted on said carrier and adapted to force a blast of air through said vent-holes before the solder sets, substantially as described.

5. The combination with a series of can-top supports and means for rotating them around a horizontal axis, of means for intermittently stopping their rotation, means for affixing during such stoppage a drop of solder to a can-top held on one of such supports, and other means for preventing such drop of solder from closing a vent-hole in such can-top, substantially as described.

6. The combination with a series of can-top supports and means for rotating them around a horizontal axis, of means for intermittently stopping their rotation, means for affixing during such stoppage a drop of solder to a can-top held on one of such supports, and means for forcing a blast of air through a vent-hole in the can-top before the solder hardens to prevent such solder from closing the vent-hole, substantially as described.

7. The combination with a series of can-top supports and means for rotating them around a horizontal axis, of means for intermittently stopping their rotation, means for affixing during such stoppage a drop of solder to a can-top held on one of such supports, and means for forcing a blast of air through a vent-hole in a second can-top on another of said supports to prevent a drop of solder previously deposited on such can-top from closing the vent-hole, substantially as described.

8. The combination with a series of can-top supports and means for rotating them around a horizontal axis, of means for intermittently stopping their rotation, means for bringing and holding three of said supports to a substantially horizontal position with the intermediate one of said three supports elevated above the other two, means for automatically applying a drop of solder to a can-top carried by said intermediate support, and other means for preventing a drop of solder previously affixed to a can-top carried by one of the other horizontally-held supports from closing a vent-hole in said last-named can-top, substantially as described.

9. The combination with a rotatable carrier comprising two wheels set a distance apart and a series of shafts connecting the said wheels, of means for intermittently stopping the rotation of the carrier, a can-top support mounted between the wheels on each of said shafts, means for independently rotating the shafts to bring one of the said supports to a substantially horizontal position when the rotation of the carrier is stopped, and means for depositing a drop of solder on a can-top carried by said horizontally-disposed support, substantially as described.

10. The combination with a rotatable carrier comprising two wheels set a distance apart and a series of shafts carried by said wheels, of means for intermittently stopping the rotation of the carrier, a can-top support mounted on each of said shafts, means for independently rotating the shafts to bring one of the said supports to a substantially horizontal position when the rotation of the carrier is stopped, means for depositing a drop of solder on a can-top carried by said horizontally-disposed support, and other means for preventing a drop of solder previously affixed to a can-top carried by another of said supports from closing a vent-hole in said last-named can-top, substantially as described.

11. The combination with a rotatable carrier comprising two wheels set a distance apart and a series of shafts carried by said wheels, of means for intermittently stopping the rotation of said carrier, a can-top support mounted on each of said shafts, means for independently rotating the shafts to bring a plurality of said supports to a substantially horizontal position when the rotation of the carrier is stopped, means for depositing a drop of solder on a can-top carried by one of said horizontally-disposed supports, and other means for preventing a drop of solder previously affixed to a can-top carried by another of said horizontally-disposed supports from closing a vent-hole in said last-named can-top, substantially as described.

12. The combination with a rotatable carrier comprising two wheels set a distance apart and a series of shafts carried by said wheels, of means for intermittently stopping the rotation of said carrier, a can-top support mounted on each of said shafts, an arm on one end of each shaft, a cam with which said arm engages to cause an independent rotation of the shaft so as to bring the support on the shaft to a substantially horizontal position, and means for depositing a drop of solder on a can-top carried by such horizontally-disposed support, substantially as described.

13. The combination with a rotatable carrier comprising two wheels set a distance apart and a series of hollow shafts carried by said wheels, of means for intermittently stopping the rotation of the carrier, a can-top support mounted on each shaft and having a passage communicating with the interior of the shaft, and means for automatically connecting one of said hollow shafts with an air-blast device during the stoppage of the carrier, substantially as described.

14. The combination with a movable carrier comprising a hollow shaft, a can-top support mounted on said shaft and having a passage communicating with the interior of the shaft, means operated by the movement of the shaft for connecting it with an air-blast pipe and means for holding a can-top on said support when air is forced through said shaft, substantially as described.

15. The combination with a movable carrier comprising a hollow shaft, of a can-top support mounted on said shaft and having a passage communicating with the interior of the shaft, means for automatically connecting and disconnecting it with an air-blast pipe and means for holding a can-top on said support when air is forced through said shaft, substantially as described.

16. The combination with a movable carrier comprising a hollow shaft, of a can-top support mounted on said shaft and having a passage communicating with the interior of the shaft, an air-blast pipe, and a connection on the end of said pipe adapted to be moved by said shaft to connect said shaft and pipe, substantially as described.

17. The combination with a movable carrier comprising a hollow shaft, of a can-top support mounted on said shaft and having a passage communicating with the interior of the shaft, an air-blast-pipe, and a spring-actuated sliding connection on the end of said pipe adapted to be moved by said shaft to connect said shaft and pipe, substantially as described.

18. The combination with a movable carrier comprising a hollow shaft, of a can-top support mounted on said shaft and having a passage communicating with the interior of the shaft, an air-blast pipe, a movable connection between said pipe and shaft, a valve in said pipe, and means for opening said valve when said pipe and shaft are joined by said connection, substantially as described.

19. The combination with a can-top support, of means for applying material to a can-top held thereon, and other means for thereafter forcing a blast of air through a vent-hole in said can-top to prevent said material from closing said vent-hole, substantially as described.

20. The combination with a can-top support, of means for applying material to a can-top held thereon, means for moving said support, and other means for forcing a blast of air through a vent-hole in said can-top to prevent said material from closing said vent-hole, substantially as described.

21. The combination with a can-top support, of means for applying material to a can-top held thereon, means for moving said support, other means for forcing a blast of air through a vent-hole in said can-top to prevent said material from closing said vent-hole, and a device for preventing such can-top from being forced by the blast of air out of contact with said support, substantially as described.

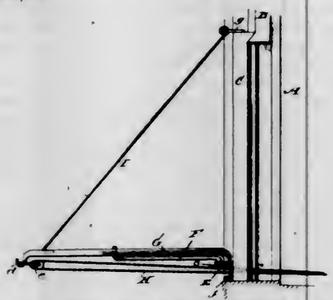
22. The combination with a can-top support, of means for applying material to a can-top held thereon, means for moving said support, other means for forcing a blast of air through a vent-hole in said can-top to prevent said material from closing said vent-hole, a device for preventing such can-top from being forced by the blast of air out of contact with said support, and cam-actuated means for turning said support to discharge such can-top, substantially as described.

23. The combination with a rotatable carrier mounted on a horizontal shaft, of a disk and a ratchet-wheel secured to said shaft, an arm pivoted on said shaft adjacent to said disk and wheel, a pawl on said arm adapted to engage said ratchet-wheel, a lever engaging said disk and acting to normally hold it and the shaft on which it is mounted against rotation, a device carried by said pivoted arm for bearing against said lever to release it from engagement with said disk, and means for rocking said arm, substantially as described.

24. The combination with a solder-iron, of a frame for supporting said solder-iron, such frame comprising two pivoted parallel bars, a connection between said parallel bars, pulleys journaled in said connection and adapted to grip a strip of solder, and means for rotating said pulleys

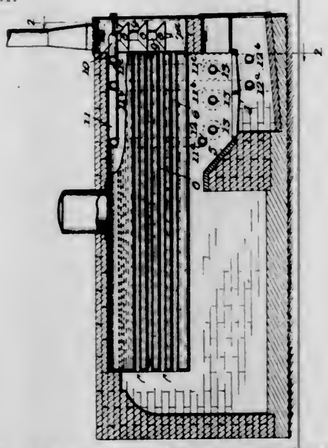
to feed said strip toward the solder-iron, substantially as described.

842,188. CLOTHES-LINE SUPPORT. CHARLES A. ENGGREN, Brooklyn, N. Y. Filed June 8, 1906. Serial No. 320,875.



Claim.—A clothes-line support comprising a bracket having an L-shaped slot therein, a clothes-line-carrying arm pivotally connected to the bracket, a locking-rod pivotally connected to the arm and engaging the slot in the bracket, and a brace-rod suitably connected to the sash and detachably engaging the arm, substantially as and for the purpose specified.

842,189. SMOKE-CONSUMING FURNACE. WILLIAM B. ESTES, Danville, Ill. Filed Oct. 26, 1906. Serial No. 340,661.



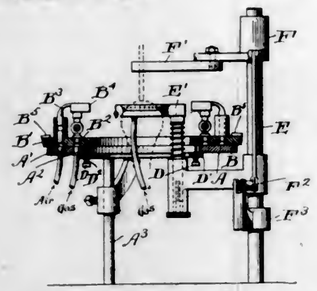
Claim.—In a boiler-furnace, a return-pipe for smoke and gases, having an inlet end depending vertically within the breeching and provided with a series of inlet-openings at various heights opposite the rows of flues in the boiler, a series of hoods above said openings, said pipe extending rearwardly and downwardly to the fire-box, in combination with a steam-jet pipe discharging into the pipe.

842,190. COMPOSITION FOR WOOD-FILLING. JESSE R. FITZGERALD, Toronto, Ontario, Canada. Filed July 9, 1906. Serial No. 325,402.

Claim.—1. A composition for wood filling and surfacing purposes consisting of a mixture of benzin, turpentine, silica, alumina, brown japan, and varnish.

2. A composition for wood filling and surfacing purposes consisting of a mixture of thirty-five parts benzin, two and three-sixths parts turpentine, eleven and four-sixths parts powdered silica, ten and five-sixths parts alumina, fifteen parts brown japan and twenty-five parts varnish.

842,191. ROTATING HEATING DEVICE FOR TUBULATING GLASS BULBS. ROBERT B. FLATHER, Oakland, Cal., assignor to Bryan-Marsh Company, New York, N. Y., a Corporation of New York. Filed Apr. 21, 1906. Serial No. 312,944.



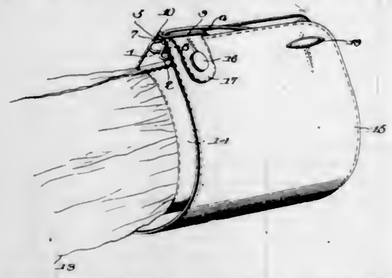
Claim.—1. Mechanism for securing an even application of heat to tubes, comprising means for maintaining a tube in a given axial alinement and means for rotating a burner concentrically thereabout.

2. Means for securing an even application of heat to tubes, comprising means for holding a tube in a given axial alinement, a support carrying a plurality of burners and connections whereby it may be mechanically rotated, and means for maintaining a constant supply of gas to said burner during rotation.

3. In combination a bed-plate, a flame-plate mounted thereagainst, a gas-duct between the faces of said plate, a burner carried by the flame-plate and connected with the gas-duct, means for rotating the flame-plate so that the burner shall move in a circle about a given axis, and means for holding a tube in alinement with said axis.

4. In combination, means for holding a tube in a given axial alinement, a bed-plate, a flame-plate bearing on said bed-plate, a gas-duct between said plates, burners on said flame-plate communicating with said duct, means for rotating said flame-plate, and elastic means adapted to maintain close contact between the surfaces of said plates.

842,192. CUFF-HOLDER. JAMES L. FORBES, Pine Apple, Ala. Filed Sept. 12, 1904. Serial No. 224,198.



Claim.—1. A cuff-holder comprising a pair of substantially parallel elastically-yieldable ratchet stem members separated by a longitudinal open-ended interspace forming a guideway for the reception of the shank of the sleeve-button and mutually connected between their ends, and means carried by the holder between its ends for connection with a cuff, the said stem members at each end of the device being diverged outwardly and unconnected to permit spreading of the stem members by the introduction of the thumb and a finger into the opposite ends of the guideway.

2. A cuff-holder comprising a pair of substantially parallel ratchet stem members separated by an open-ended interspace forming a guideway for the reception of the shank of a sleeve-button, the opposite ends of each stem member being rebent across the top thereof, the correspond-

ing rebent portions at each end of the device being connected at points inwardly from the respective ends of the holder, one pair of said connected ends being formed into a cuff-engaging element, and each pair of stem ends at opposite ends of the device being diverged outwardly and unconnected to permit spreading of the stem members by the introduction of a thumb and finger into the opposite ends of the guideway.

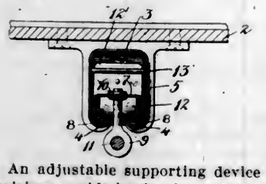
3. A cuff-holder comprising a pair of substantially parallel ratchet stem members separated by an open-ended longitudinal interspace forming a guideway for the reception of the shank of a sleeve-button, each stem member having its ends rebent across the same, corresponding rebent end portions at one end of the holder being connected at a point inwardly from the adjacent end of the device and formed into a cuff-engaging element, the rebent ends at the other end of the holder being connected at a point inwardly from the adjacent end of the holder and formed into a spring latch-arm for engagement with the cuff-engaging element, the ends of the stem members at opposite ends of the device being diverged outwardly and unconnected to permit spreading of the stem members by the introduction of a thumb and finger into the open ends of the guideway.

4. A cuff-holder comprising a pair of spaced ratchet stem members having alternating long and short wall members, and a cuff-engaging element carried thereby, the long ratchet-walls being converged away from the cuff-engaging element, and the short walls being set at greater obtuse angles than the long walls and diverged away from the cuff-engaging element.

5. A cuff-holder comprising a pair of ratchet stem members having alternating long and short wall portions, said ratchet stem members being separated by a longitudinal interspace which is open at opposite ends of the cuff-holder and forms a guideway for the reception of the shank of a sleeve-button, and a cuff-engaging element carried by the stem members between the ends of the holder and forming a connection between the members, the long walls of the ratchet members being converged away from the cuff-engaging element and the short walls being set at greater obtuse angles than the long walls and diverged away from the cuff-engaging element, and the stem members at each end of the holder being unconnected and diverged outwardly for the reception of a thumb and finger into the open ends of the guideway to permit spreading of the stem members.

6. A cuff-holder comprising a pair of substantially parallel ratchet stem members separated by an open-ended longitudinal interspace forming a guideway for the reception of the shank of a sleeve-button, the ends of each stem member being rebent across the top thereof, the rebent portions at one end of the holder being again rebent outwardly between one another and connected to form a tongue, said tongue being provided with an eye, the rebent portions of the stem members at the other end of the holder being connected at a point inwardly from the adjacent end of the holder and formed into a spring-arm terminating at its free end in a hook disposed for engagement with the eye, the ends of the stem members at opposite ends of the device being diverged outwardly and unconnected to permit spreading of the stem members by the introduction of a thumb and finger into the open ends of the guideway.

842,193. CLOTHES-HANGER SUPPORT. CHARLES FRANKEL, New York, N. Y. Filed Mar. 23, 1906. Serial No. 307,729.



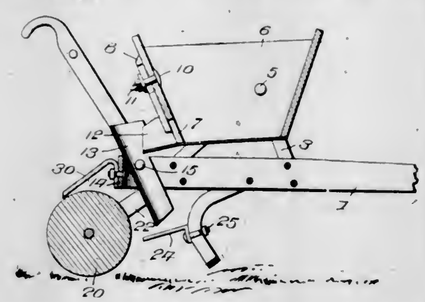
Claim.—1. An adjustable supporting device for clothes-hangers comprising a guide having inwardly-turned bottom flanges with a space between the same, a carriage formed of sheet metal and having inwardly-turned side flanges supported on said guide-flanges, members projecting downward from said carriage through the slot in the guide, and a rod supported by said members.

2. In a support for clothes-hangers, a stationary guide having inwardly-turned bottom flanges with a slot between the same, a carriage having inwardly-turned side flanges mounted to slide within said guide, and supported on said bottom flanges, a plurality of independent members connected to said carriage and projecting downwardly through said slot, and a rod supported by said members.

3. In a support for clothes-hangers, a stationary guide having inwardly-turned bottom flanges, with a slot between the same, a carriage having inwardly-turned side flanges mounted to slide within said guide and supported on said bottom flanges, a plurality of independent members connected to said carriage, and projecting downwardly through said slot, a rod supported by said members, and stops for limiting the outward pull of said carriage.

4. A support for clothes-hangers and the like, comprising a guide having a slot in the bottom and inturned flanges, a carriage member having inwardly-turned side flanges adapted to slide on said bottom flanges, a roller mounted on the inner end of said carriage member for operation upon both of the flanges of said guide, and a rod supported from said carriage member.

842,194. FERTILIZER-DISTRIBUTER. WILLIAM A. FREEMAN, Sycamore, Ga. Filed June 22, 1906. Serial No. 322,919.



Claim.—1. A device of the class described comprising a beam, a hopper having an opening at one end thereof pivotally mounted upon said beam and means to intermittently tilt and jar said hopper whereby the contents thereof will be directed through said opening and additional means to distribute the contents of the hopper at each side of a furrow.

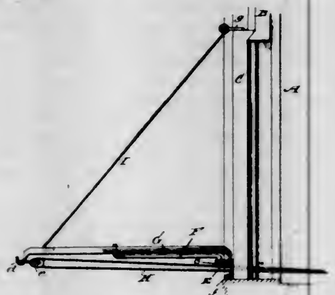
2. A device of the class described comprising the combination with a supporting-beam a hopper on said beam, a chute, means to direct the contents of said hopper into said chute and a shank secured to said beam, of a plate adjustably secured to said shank and below said chute whereby the contents of the hopper will be distributed to each side of a furrow.

3. A device of the class described comprising a supporting-beam, a hopper pivotally mounted upon said beam, a chute adjustably secured to said beam adapted to convey the contents of said hopper into a furrow, a shank secured to said beam, a plate adjustably mounted upon said shank and extending below the month of said chute whereby the contents of the hopper will be distributed at each side of the furrow, and means to tilt said hopper whereby the contents thereof will be caused to flow into the chute.

4. A device of the class described comprising a supporting-beam, standards on said beam, a hopper pivotally secured between said standards, said hopper having an opening in one end thereof, a spout around said opening, a chute adjustably secured to said beam and in the path of said spout, means at the lower end of said spout to direct the contents of the hopper to each side of a furrow, an

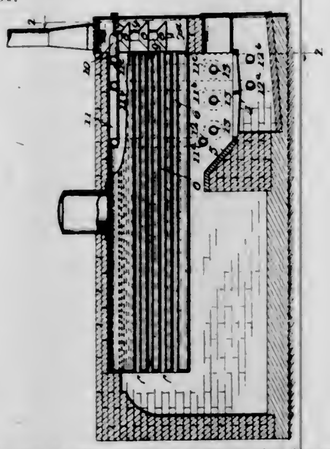
to feed said strip toward the solder-iron, substantially as described.

842,188. CLOTHES-LINE SUPPORT. CHARLES A. ENGGREN, Brooklyn, N. Y. Filed June 8, 1906. Serial No. 320,875.



Claim.—A clothes-line support comprising a bracket having an L-shaped slot therein, a clothes-line-carrying arm pivotally connected to the bracket, a locking-rod pivotally connected to the arm and engaging the slot in the bracket, and a brace-rod suitably connected to the sash and detachably engaging the arm, substantially as and for the purpose specified.

842,189. SMOKE-CONSUMING FURNACE. WILLIAM B. ESTES, Danville, Ill. Filed Oct. 26, 1906. Serial No. 340,661.



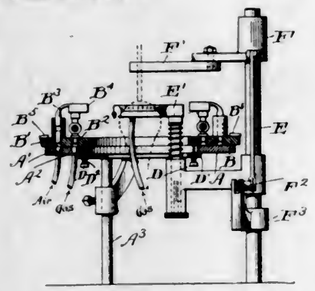
Claim.—In a boiler-furnace, a return-pipe for smoke and gases, having an inlet end depending vertically within the breeching and provided with a series of inlet-openings at various heights opposite the rows of flues in the boiler, a series of hoods above said openings, said pipe extending rearwardly and downwardly to the fire-box, in combination with a steam-jet pipe discharging into the pipe.

842,190. COMPOSITION FOR WOOD-FILLING. JESSE R. FITZGERALD, Toronto, Ontario, Canada. Filed July 9, 1906. Serial No. 325,402.

Claim.—1. A composition for wood filling and surfacing purposes consisting of a mixture of benzin, turpentine, silica, alumina, brown japan, and varnish.

2. A composition for wood filling and surfacing purposes consisting of a mixture of thirty-five parts benzin, two and three-sixths parts turpentine, eleven and four-sixths parts powdered silica, ten and five-sixths parts alumina, fifteen parts brown japan and twenty-five parts varnish.

842,191. ROTATING HEATING DEVICE FOR TUBULATING GLASS BULBS. ROBERT B. FLATHER, Oakland, Cal., assignor to Bryan-Marsh Company, New York, N. Y., a Corporation of New York. Filed Apr. 21, 1906. Serial No. 312,944.



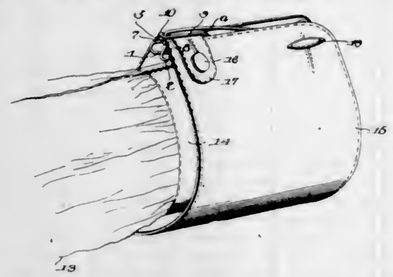
Claim.—1. Mechanism for securing an even application of heat to tubes, comprising means for maintaining a tube in a given axial alinement and means for rotating a burner concentrically thereabout.

2. Means for securing an even application of heat to tubes, comprising means for holding a tube in a given axial alinement, a support carrying a plurality of burners and connections whereby it may be mechanically rotated, and means for maintaining a constant supply of gas to said burner during rotation.

3. In combination a bed-plate, a flame-plate mounted thereagainst, a gas-duct between the faces of said plate, a burner carried by the flame-plate and connected with the gas-duct, means for rotating the flame-plate so that the burner shall move in a circle about a given axis, and means for holding a tube in alinement with said axis.

4. In combination, means for holding a tube in a given axial alinement, a bed-plate, a flame-plate bearing on said bed-plate, a gas-duct between said plates, burners on said flame-plate communicating with said duct, means for rotating said flame-plate, and elastic means adapted to maintain close contact between the surfaces of said plates.

842,192. CUFF-HOLDER. JAMES L. FORBES, Pine Apple, Ala. Filed Sept. 12, 1904. Serial No. 224,198.



Claim.—1. A cuff-holder comprising a pair of substantially parallel elastically-yieldable ratchet stem members separated by a longitudinal open-ended interspace forming a guideway for the reception of the shank of the sleeve-button and mutually connected between their ends, and means carried by the holder between its ends for connection with a cuff, the said stem members at each end of the device being diverged outwardly and unconnected to permit spreading of the stem members by the introduction of the thumb and a finger into the opposite ends of the guideway.

2. A cuff-holder comprising a pair of substantially parallel ratchet stem members separated by an open-ended interspace forming a guideway for the reception of the shank of a sleeve-button, the opposite ends of each stem member being rebent across the top thereof, the corresponding rebent portions at each end of the device being connected at points inwardly from the respective ends of the holder, one pair of said connected ends being formed into a cuff-engaging element, and each pair of stem ends at opposite ends of the device being diverged outwardly and unconnected to permit spreading of the stem members by the introduction of a thumb and finger into the opposite ends of the guideway.

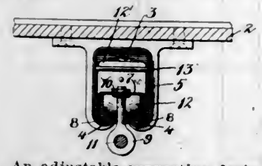
3. A cuff-holder comprising a pair of substantially parallel ratchet stem members separated by an open-ended longitudinal interspace forming a guideway for the reception of the shank of a sleeve-button, each stem member having its ends rebent across the same, corresponding rebent end portions at one end of the holder being connected at a point inwardly from the adjacent end of the device and formed into a cuff-engaging element, the rebent ends at the other end of the holder being connected at a point inwardly from the adjacent end of the holder and formed into a spring latch-arm for engagement with the cuff-engaging element, the ends of the stem members at opposite ends of the device being diverged outwardly and unconnected to permit spreading of the stem members by the introduction of a thumb and finger into the open ends of the guideway.

4. A cuff-holder comprising a pair of spaced ratchet stem members having alternating long and short wall members, and a cuff-engaging element carried thereby, the long ratchet-walls being converged away from the cuff-engaging element, and the short walls being set at greater obtuse angles than the long walls and diverged away from the cuff-engaging element.

5. A cuff-holder comprising a pair of ratchet stem members having alternating long and short wall portions, said ratchet stem members being separated by a longitudinal interspace which is open at opposite ends of the cuff-holder and forms a guideway for the reception of the shank of a sleeve-button, and a cuff-engaging element carried by the stem members between the ends of the holder and forming a connection between the members, the long walls of the ratchet members being converged away from the cuff-engaging element and the short walls being set at greater obtuse angles than the long walls and diverged away from the cuff-engaging element, and the stem members at each end of the holder being unconnected and diverged outwardly for the reception of a thumb and finger into the open ends of the guideway to permit spreading of the stem members.

6. A cuff-holder comprising a pair of substantially parallel ratchet stem members separated by an open-ended longitudinal interspace forming a guideway for the reception of the shank of a sleeve-button, the ends of each stem member being rebent across the top thereof, the rebent portions at one end of the holder being again rebent outwardly between one another and connected to form a tongue, said tongue being provided with an eye, the rebent portions of the stem members at the other end of the holder being connected at a point inwardly from the adjacent end of the holder and formed into a spring-arm terminating at its free end in a hook disposed for engagement with the eye, the ends of the stem members at opposite ends of the device being diverged outwardly and unconnected to permit spreading of the stem members by the introduction of a thumb and finger into the open ends of the guideway.

842,193. CLOTHES-HANGER SUPPORT. CHARLES FRANKEL, New York, N. Y. Filed Mar. 23, 1906. Serial No. 307,729.



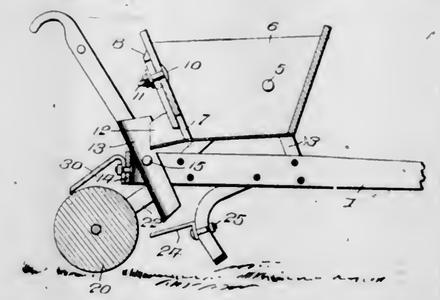
Claim.—1. An adjustable supporting device for clothes-hangers comprising a guide having inwardly-turned bottom flanges with a space between the same, a carriage formed of sheet metal and having inwardly-turned side flanges supported on said guide-flanges, members projecting downward from said carriage through the slot in the guide, and a rod supported by said members.

2. In a support for clothes-hangers, a stationary guide having inwardly-turned bottom flanges with a slot between the same, a carriage having inwardly-turned side flanges mounted to slide within said guide, and supported on said bottom flanges, a plurality of independent members connected to said carriage and projecting downwardly through said slot, and a rod supported by said members.

3. In a support for clothes-hangers, a stationary guide having inwardly-turned bottom flanges, with a slot between the same, a carriage having inwardly-turned side flanges mounted to slide within said guide and supported on said bottom flanges, a plurality of independent members connected to said carriage, and projecting downwardly through said slot, a rod supported by said members, and stops for limiting the outward pull of said carriage.

4. A support for clothes-hangers and the like, comprising a guide having a slot in the bottom and inturned flanges, a carriage member having inwardly-turned side flanges adapted to slide on said bottom flanges, a relief mounted on the inner end of said carriage member for operation upon both of the flanges of said guide, and a rod supported from said carriage member.

842,194. FERTILIZER-DISTRIBUTER. WILLIAM A. FREEMAN, Sycamore, Ga. Filed June 22, 1906. Serial No. 322,919.



Claim.—1. A device of the class described comprising a beam, a hopper having an opening at one end thereof pivotally mounted upon said beam and means to intermittently tilt and jar said hopper whereby the contents thereof will be directed through said opening and additional means to distribute the contents of the hopper at each side of a furrow.

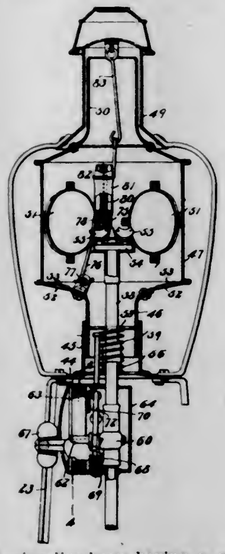
2. A device of the class described comprising the combination with a supporting-beam a hopper on said beam, a chute, means to direct the contents of said hopper into said chute and a shank secured to said beam, of a plate adjustably secured to said shank and below said chute whereby the contents of the hopper will be distributed to each side of a furrow.

3. A device of the class described comprising a supporting-beam, a hopper pivotally mounted upon said beam, a chute adjustably secured to said beam adapted to convey the contents of said hopper into a furrow, a shank secured to said beam, a plate adjustably mounted upon said shank and extending below the mouth of said chute whereby the contents of the hopper will be distributed at each side of the furrow, and means to tilt said hopper whereby the contents thereof will be caused to flow into the chute.

4. A device of the class described comprising a supporting-beam, standards on said beam, a hopper pivotally secured between said standards, said hopper having an opening in one end thereof, a spout around said opening, a chute adjustably secured to said beam and in the path of said spout, means at the lower end of said spout to direct the contents of the hopper to each side of a furrow, an

arm secured to said hopper, a tapered head at the lower end of said arm, a wheel carried by said beam, a plurality of pins on said wheel and in the path of said head whereby when the wheel is rotated the hopper will be tilted and the contents thereof caused to flow through the opening therein, and means to remove the head from the path of the pins.

842,195. MARINE TORCH. PAUL FUCHS, Baltimore, Md. Filed Oct. 12, 1905. Serial No. 282,469.



Claim.—1. A signaling-buoy having a gas-supply, and mechanically-actuated means operable by the shock or jar resulting from the contact of the buoy with the water for igniting the gas.

2. The combination with a signaling-buoy, having a gas-supply and provided with a plurality of burner-tips, of an automatic frictional igniting device mounted for swinging movement over said tip.

3. The combination with a signaling-buoy having a gas-supply, and provided with a plurality of burner-tips, of a frictional igniting device arranged to swing freely over the burner, and means for automatically igniting said lighting device.

4. A signaling-buoy having a gas-supply, a burner including a pair of tips, a lamp-casing surrounding the burner, a frictional lighting device arranged within the casing at a point above the burner and free to swing over all the tips, and means for automatically igniting said lighting device.

5. A signaling-buoy having a frame, a gas-supply, a burner, a lamp-casing surrounding the burner and movable independently of the burner and frame when the descent of the buoy is checked by contact with the water, and a two-part igniting device, one of the parts being carried by a stationary portion of the buoy, and the other by the lamp-casing, the downward movement of the latter serving to separate the parts of the igniting device.

6. A signaling-buoy having a gas-supply, a burner, a valved connection between the gas-supply and burner, and mechanism operable by the shock or jar resulting from contact between the buoy and the water for effecting opening movement of the valve.

7. The combination with a signaling-buoy, having a gas-supply, of a burner, a valved connection between the gas-supply and burner, a lamp-casing surrounding the burner, said casing being free to move independently of the buoy, and means operable by movement of the casing for opening the valve when the buoy strikes the water.

8. The combination with a signaling-buoy, having a gas-supply, of a frame, a burner having a valved connection with the gas-supply, a lamp-casing guided by the frame and movable independently thereof, a spring serving to hold said casing in elevated position, a spring tending to open the valve, a catch for retaining the valve in closed position, and a trip-rod movable by said casing to permit opening movement of said valve.

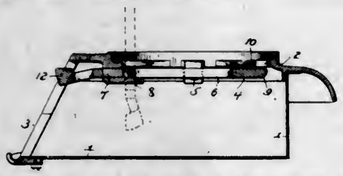
9. In a signaling-buoy, the combination with a frame, of a gas-supply, a burner, a pipe extending between the gas-supply and burner, a valve in said pipe, a spring tending to move the valve to open position, a catch for locking the valve in closed position, a trip-rod connected to said catch, and a spring-elevated burner-casing surrounding the lamp, said casing being moved downward when the buoy strikes the water, and serving by engagement with the trip-rod to release the catch and permit opening movement of the valve.

10. The combination with a signaling-buoy, of a frame, a gas-supply, a burner, a pipe extending between the gas-supply and the burner, a valve within said pipe, a valve-stem, a pair of arms projecting from the stem, a spring engaging one of said arms and tending to move the valve to open position, a spring-pressed catch engaging the other arm and locking the valve in closed position, a trip-rod connected to the catch, a burner-hood supported by the frame, a lamp-casing surrounding the burner and partly guided by the hood, a spring normally maintaining the casing in elevated position, said spring being compressed as the casing descends when the buoy strikes the water, the casing serving by engagement with the trip-rod to release the catch and permit opening movement of the valve.

11. In a signaling-buoy having a gas-supply, a frame, a flanged collar supported by the frame, guard-arms extending upward from said flanged collar, a burner-hood carried by said arms, a burner arranged below the hood, a pipe extending between the gas-supply and the burner, a lamp-casing surrounding the burner, and guided between the flanged collar and the hood, a spring tending to maintain said casing in elevated position, a valve in the pipe, a valve-stem, a pair of arms projecting from the stem, a spring connected to one of said arms and tending to open the valve, a catch engaging the second arm and holding the valve in closed position, a trip-rod connected to the catch and arranged within the path of downward movement of the lamp-casing, and a casing surrounding the valve and trip mechanism, and to which the outer end of the valve-opening spring is secured.

12. The combination with a signaling-buoy having two members, movable relatively to each other, of an igniting device comprising a lower cap having roughened partition-walls, means for connecting said cap to one of the parts of the buoy, matches having their heads arranged between said roughened partitions, a cover or casing formed of a combustible waterproof material surrounding the matches and secured to the cap, and means for connecting the cover or casing to the second part of the buoy.

842,196. STOVE. CHARLES L. GOHMANN, New Albany, Ind., assignor of one-third to Edmund G. Gohmann and one-third to Joseph Kahler, New Albany, Ind. Filed Mar. 21, 1906. Serial No. 307,234.



Claim.—1. The combination of a base having an open top and side, of a cast-metal grate-support mounted upon said base and having a part extending over the open side of the base and a grate sustained by said grate-support.

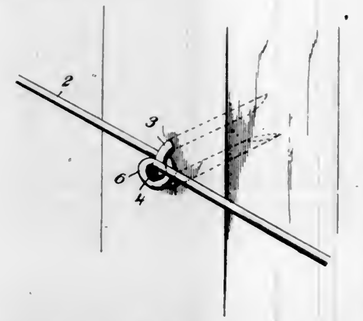
2. The combination of a base open at its top and one side, a cast-metal grate-support mounted upon said base, and a grate sustained by said support and removable through the open side of the base.

3. The combination with a stove-base having an opening in one side and also having an opening in its top, and inwardly-projecting lugs in said last-mentioned opening, of a grate comprising a single casting supported on said lugs, and means permitting the grate to be shaken, drawn outward, or entirely removed through the open side of the base.

4. The combination with a grate-support having inwardly-projecting lugs, of a grate, comprising a single casting supported on the lugs, a depending lug on the support having a platform at its lower end, a slot in the grate to receive the lug and support the grate on the platform, an opening in the grate to permit the latter to be removed from the platform when the grate is drawn outward and tilted, a flange on the support, and a lug on the grate beneath the flange to prevent tilting of the grate in normal position.

5. A removable grate for stoves, comprising a single integral casting having a lug at one end, a shaking-prong at its other end, longitudinal slots in the grate and an opening in the grate communicating with the central slot.

842,197. FENCE. HIND T. HARPER, Footville, Wis. Original application filed Jan. 14, 1904, Serial No. 189,004. Divided and this application filed Feb. 23, 1906. Serial No. 302,587.

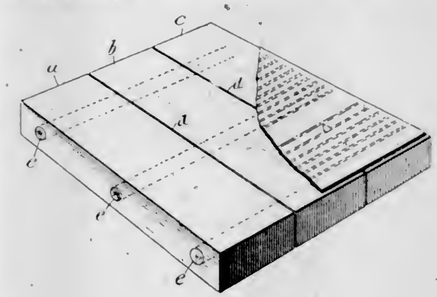


Claim.—The combination with a fence-post; of a staple secured therein and formed with a neck extending from the arch of the staple, and a fence-wire having one end passed between the arch of the staple and the post and securely held by said arch against the post and its other end twisted around said neck beyond the arch of the staple and extended in the opposite direction to an adjacent post, said wire bearing in different planes on the inner faces of said arch with the twisted portions of the wire independently held around said neck whereby the wire is held tight by the pressure of the arch of the staple and additionally held by its twist about said neck, permitting removal of any portion of the wire between posts without disturbing its connection with other posts.

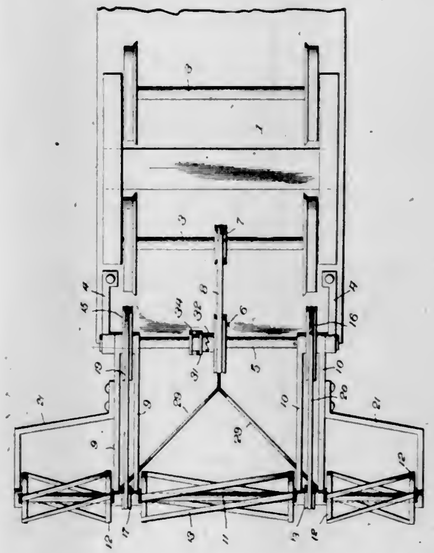
842,198. MOUNTING-BLOCK FOR PRINTING-PLATES. ALBERT W. HARRISON, Baltimore, Md. Filed Mar. 24, 1906. Serial No. 307,847.

Claim.—1. A wood mounting-block for a printing-plate, which consists of a multiplicity of lateral unattached sections, connected only by dowel-pins which are driven through, without being secured to, all the sections, the ends of the dowel-pins being flush with the lateral edges of the block, and against which the furniture bears independently of the sections in locking up the form, as and for the purpose specified.

2. A wood mounting-block for a printing-plate, which consists of a multiplicity of lateral sections connected by dowel-pins which are driven through, without attachment to, all the sections, and extending from one side of the block to the other, there being spaces between the adjacent edges of the said sections, substantially as, and for the purpose specified.



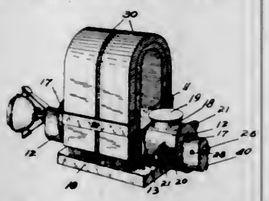
842,199. GRASS-CUTTER. BERT H. HERRICK and FRANK CLEARY, Rugby, N. D. Filed May 22, 1906. Serial No. 318,211.



Claim.—1. The combination with the running-gear of a car, and a floor mounted on said running-gear; of a shaft, means to secure said shaft to the floor of the car, arms arranged in pairs and mounted at one end upon said shaft, a shaft at the outer ends of said arms and extending beyond each side of said arms, brackets to support the outer ends of said shaft, cutting-blades disposed upon said shaft, means to rotate said shaft and cutting-blades, and additional means to raise or lower said arms and parts carried thereby.

2. In a device of the class described, the combination with the running-gear of a car, and a floor mounted upon said running-gear; of a shaft, brackets to secure said shaft to the floor of the car, arms secured to said shaft and disposed in pairs, a shaft at the outer ends of said arms, disks disposed in pairs upon said shaft, cutting-blades secured to each pair of disks, wheels on said shaft and between each pair of arms, similar wheels upon the first-mentioned shaft, driving-belts disposed around said wheels, means interposed between the running-gear and the first-mentioned shaft to rotate the same, and additional means to raise or lower said arms and parts carried thereby

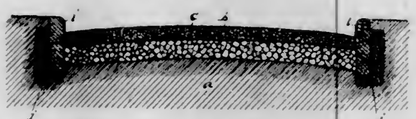
842,200. MAGNETO. HERMAN HESS, Indianapolis, Ind. Filed June 15, 1906. Serial No. 321,787.



Claim.—1. In a magneto, the combination of the main hollow single piece non-magnetic body having pole-openings formed through opposite sides thereof, magnetic pole-pieces forced into said openings, magnetic fastening members passing through said non-magnetic body into the poles, a pair of heads, having shafting-bearings formed therein, said heads closing the opposite ends of the main body and forming bearings for the armature-shaft, the armature-shaft and armature, and a collecting member coöperating with said armature, all substantially as and for the purpose set forth.

2. In a magneto, the combination of the main hollow single piece non-magnetic body having pole-openings formed through opposite sides thereof, magnetic pole-pieces forced into said openings, fastening members passing through said non-magnetic body into the poles, a pair of heads having shafting-bearings formed therein, said heads closing the opposite ends of the main body and forming bearings for the armature-shaft, the armature-shaft and armature, and a collecting member coöperating with said armature, all substantially as and for the purpose set forth.

842,201. COMPOSITE ROADWAY AND THE PROCESS OF CONSTRUCTING THE SAME. SOLON G. HOWE, Detroit, Mich. Filed Aug. 15, 1906. Serial No. 330,693.



Claim.—1. A composite roadway comprising a foundation seepy layer composed of a mixture of coarsely-crushed stone gravel and sand spread over and compressed upon the bed of the roadway, and seepy wearing-body or upper surface layer composed of a mixture of more finely crushed stone and clay mortar spread over and compressed upon the foundation body or layer, whereby water will seep through the entire roadway, substantially as described.

2. A composite roadway comprising a foundation seepy layer composed of a mixture of coarsely-crushed stone gravel and sand spread over and compressed upon the bead of the roadway, and a seepy wearing-body or upper surface layer composed of a mixture of more finely crushed stone and clay mortar spread over and compressed upon the foundation body or layer, the gravel and sand of the foundation layer filling the interstices between the crushed stone, and the clay mortar coating the crushed stone of the upper layer and filling the interstices therebetween, whereby water will seep through the entire roadway, substantially as described.

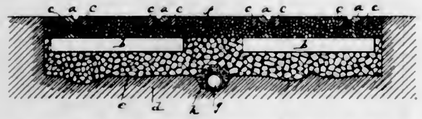
3. A composite roadway comprising a foundation layer composed of a mixture of coarsely-crushed stone gravel and sand spread over and compressed upon the bed of the roadway in a dry condition, and a wearing-body or upper surface layer composed of a mixture of more finely crushed stone and clay mortar spread over and compressed upon the foundation layer, the layers of said roadway being pervious to moisture, the gravel and sand of the foundation layer forming a seepy cushion, and the clay mortar of the upper layer forming a bond, whereby water will seep through the entire roadway, substantially as described.

4. The process of constructing a composite roadway consisting of first mixing coarsely-crushed stone gravel and sand in a dry condition, spreading the mixture over and compressing the same upon the road-bed to form a seepy foundation layer, and then spreading upon the foundation layer a mixture of more finely crushed stone and clay mortar and compressing the same upon the foundation layer to form an upper seepy course or wearing-surface, whereby water will seep through the entire roadway, substantially as described.

5. The process of constructing a composite roadway consisting of first excavating a trench, compressing the soil and filling soft places therein with a previously-prepared mixture of crushed stone gravel and sand compressed thereinto, then spreading thereupon a seepy foundation layer consisting of a previously-prepared mixture of crushed stone gravel and sand, and compressing the same in place, and then spreading upon the foundation layer an upper seepy layer consisting of a previously-prepared mixture of more finely crushed stone and clay mortar and compressing the same in place upon the foundation layer, whereby water will seep through the entire roadway, substantially as described.

6. A two-course composite roadway or pavement comprising a foundation layer composed of a previously-prepared mixture of coarsely-crushed stone gravel and sand spread over and compressed upon the bed of the roadway, and a wearing-body or upper surface layer composed of a previously-prepared mixture of crushed stone and clay mortar spread over and compressed upon the foundation body or layer, the said layers being pervious to moisture whereby water will seep through the entire roadway.

842,202. RAILROAD-TRACK CONSTRUCTION. SOLON G. HOWE, Detroit, Mich. Filed Sept. 4, 1906. Serial No. 333,070.

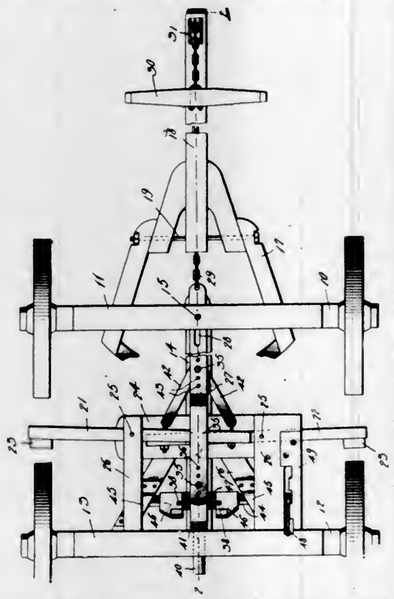


Claim.—1. The process of constructing a railway-track road-bed consisting of first compacting the subgrade of the road-bed and firmly filling the soft places therein with a mixture of crushed stone, sand and gravel, then laying thereupon tile drain-pipes and covering the same with sand, and spreading and compacting upon the subgrade and drain-pipes a foundation-bed of crushed stone with coarse sand and gravel to form a cushioned foundation-bed, finally locating upon said foundation-bed railroad-ties and securing railway-rails upon said ties, then adding an additional course of foundation mixture composed of crushed stone, sand and gravel and compacting the same upon the underlying bed to a height equal to the upper surface of the ties, then superimposing upon said foundation-bed a top layer of crushed stone mixed with clay mortar and compacting the same thereupon, locating against the sides of the rails a lining to prevent rutting, and adding between the linings another course of the top-layer mixture composed of crushed stone mixed with clay mortar and compacting the same in place.

2. The process of constructing a railway-track road-bed consisting of first compacting the subgrade of the bed and firmly filling the soft spots in the subgrade with a mixture of crushed stone, sand and gravel, then digging and laying in a trench in this subgrade drain-tile located upon a thin layer of coarse sand, and properly covered at the joints, surrounding and covering the tiles with coarse sand or gravel, spreading and compacting thereupon a foundation course composed of crushed stone mixed with coarse sand and gravel and firmly compacting the same to form a cushion-bed, placing the railroad-ties upon said bed, and the railway-rails upon said ties, then adding an additional layer of foundation mixture composed of crushed stone, mixed with sand and gravel compacted upon the underlying bed to a height, when compacted, equal to the upper surface of the ties, then superimposing upon said layer a top mixture of crushed stone mixed with clay mortar and compacting the same upon the underlying course, placing a suitable lining against the sides of the rails to prevent rutting, and adding upon the foundation so formed, between the linings, a layer of top mixture composed of crushed stone mixed with mortar and compacting the same into place.

3. A railway-track road-bed and bonded surface comprising a cushioned foundation layer composed of coarsely-crushed stone, gravel and sand mixed together and compacted upon the subgrade of the roadway, railway ties and rails supported upon said bed, and a wearing-body or surface layer composed of a mixture of more finely crushed stone and clay mortar compressed upon the underlying bed, substantially as described.

842,203. VEHICLE-BRAKE. JOHN B. HOWERTON, Burke, Ky. Filed July 28, 1906. Serial No. 328,236.



Claim.—The combination with a vehicle running-gear and neck-yoke, of a brake, a slide-bar connected to the brake and the neck-yoke, a shoulder and projecting pins on the slide-bar, a rock-shaft extending under the slide-bar and having projections which extend into the path of the pins, and a catch on the rock-shaft engageable with the aforesaid shoulder.

842,204. MACHINE FOR MAKING MOPS AND BRUSHES. CYRUS KEHR, Knoxville, Tenn., assignor to Ernest Koella, Rockford, Tenn. Filed Jan. 12, 1905. Serial No. 240,793.

Claim.—1. In a machine for making mops and brushes, a cord-guide having radial and axial passage-ways, substantially as described.

2. In a machine for making mops and brushes, a two-section annular cord-guide the sections whereof have a central aperture of sufficient diameter to permit the simultaneous passage of a handle and cords, substantially as described.

3. In a machine for making mops and brushes, the combination of a two-section annular cord-guide, the sections whereof have a central aperture of sufficient diameter to permit the simultaneous passage of a handle and cords, and radial guide members surrounding the axis of said cord-guide, substantially as described.

4. In a machine for making mops and brushes, a cord-guide having radial and axial passage-ways, and a handle-support at each side of said guide, substantially as described.



5. In a machine for making mops and brushes, a two-section annular cord-guide the sections whereof have a central aperture of sufficient diameter to permit the simultaneous passage of a handle and cords, and a handle-support at each side of said guide, substantially as described.

6. In a machine for making mops and brushes, the combination of a two-section annular cord-guide, the sections whereof have a central aperture of sufficient diameter to permit the simultaneous passage of a handle and cords, radial guide members surrounding the axis of said cord-guide, and a handle-support at each side of said guide, substantially as described.

7. In a machine for making mops and brushes, a cord-guide having radial and axial passage-ways, and a handle-gage at each side of said guide, substantially as described.

8. In a machine for making mops and brushes, a two-section annular cord-guide the sections whereof have a central aperture of sufficient diameter to permit the simultaneous passage of a handle and cords, and a handle-gage at each side of said guide, substantially as described.

9. In a machine for making mops and brushes, the combination of a two-section annular cord-guide, the sections whereof have a central aperture of sufficient diameter to permit the simultaneous passage of a handle and cords, and radial guide members surrounding the axis of said cord-guide, and a handle-gage at each side of said guide, substantially as described.

10. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide, and a handle-support at each side of said guide, said handle-supports and said annular guide being relatively shiftable, substantially as described.

11. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide, and a handle-clamp at each side of said guide, said handle-clamps and said annular guide being relatively shiftable, substantially as described..

12. In a machine for making mops and brushes, the combination with a frame, of a stationary annular cord-guide, a carriage, and a handle-support upon said carriage at each side of said guide, substantially as described.

13. In a machine for making mops and brushes, the combination with a frame, of a stationary annular cord-guide, a carriage, and a handle-clamp upon said carriage at each side of said guide, substantially as described.

14. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide, radial cord-guides, a handle-support at each side of said annular guide, said handle-supports and said annular guide being relatively shiftable, substantially as described.

15. In a machine for making mops and brushes, the combination with a frame, of an annular guide, radial guide members, and a handle-clamp at each side of said guide, said handle-clamps and said annular guide being relatively shiftable, substantially as described.

16. In a machine for making mops and brushes, the combination with a frame, of a stationary annular cord-guide, radial guide members, a carriage, and a handle-support mounted upon said carriage at each side of said annular guide, substantially as described.

17. In a machine for making mops and brushes, the combination with a frame, of a stationary annular cord-guide, radial guide members, a carriage, and a handle-clamp mounted upon said carriage at each side of said annular cord-guide, substantially as described.

18. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide comprising two sections, S, radial guide members located between said sections, a handle-support at each side of said annular guide, said handle-supports and said annular guide being relatively shiftable, substantially as described.

19. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide comprising two sections, S, radial guide members located between said sections a handle-clamp at each side of said annular guide, said handle-clamps and said annular guide being relatively shiftable, substantially as described.

20. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide comprising sections, S, radial guide members located between said sections, shafts extending through said guide members and said sections, a handle-support at each side of said annular guide, said handle-supports and said annular guide being relatively shiftable, substantially as described.

21. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide comprising sections, S, radial guide members located between said sections, shafts extending through said guide members and said sections, a handle-clamp at each side of said annular guide, said handle-clamps and said annular guide being relatively shiftable, substantially as described.

22. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide, and a handle-support at each side of said guide, said handle-supports and said annular guide being relatively shiftable, and locking mechanism, substantially as described.

23. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide, and a handle-clamp at each side of said guide, said handle-clamps and said annular guide being relatively shiftable, and locking mechanism, substantially as described.

24. In a machine for making mops and brushes, the combination with a frame, of a stationary annular cord-guide, a carriage, and a handle-support upon said carriage at each side of said guide, and locking mechanism, substantially as described.

25. In a machine for making mops and brushes, the combination with a frame, of a stationary annular cord-guide, a carriage, and a handle-clamp upon said carriage at each side of said guide, and locking mechanism substantially as described.

26. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide, and a handle-support at each side of said guide, said handle-supports and said annular guide being relatively shiftable, and pawl locking mechanism, substantially as described.

27. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide, and a handle-clamp at each side of said guide, said handle-clamps and said annular guide being relatively shiftable, and pawl locking mechanism, substantially as described.

28. In a machine for making mops and brushes, the combination with a frame, of a stationary annular cord-guide, a carriage, and a handle-support upon said carriage at each side of said guide, and pawl locking mechanism, substantially as described.

29. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide, and a handle-support at each side of said guide, said handle-supports and said annular guide being relatively shiftable, and driving mechanism for relatively shifting said supports and said guide, substantially as described.

30. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide, and a handle-clamp at each side of said guide, said handle-clamps and said annular guide being relatively shiftable, and driving mechanism for relatively shifting said clamps and said guide, substantially as described.

31. In a machine for making mops and brushes, the combination with a frame, of a stationary annular cord-guide, a carriage, and a handle-support upon said carriage at each side of said guide, and driving mechanism for relatively shifting said supports and said guide, substantially as described.

32. In a machine for making mops and brushes, the combination with a frame, of a stationary annular cord-guide, a carriage, and a handle-clamp upon said carriage at each side of said guide, and driving mechanism for relatively shifting said clamps and said guide, substantially as described.

33. In a machine for making mops and brushes, the combination with a frame, of a stationary annular cord-guide, a carriage, and a handle-support upon said carriage at each side of said guide, and rack-and-gear driving mechanism applied to said carriage, substantially as described.

34. In a machine for making mops and brushes, the combination with a frame, of a stationary annular cord-guide, a carriage, and a handle-clamp upon said carriage at each side of said guide, and rack-and-gear driving mechanism applied to said carriage, substantially as described.

35. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide, a handle-support at each side of said guide, said handle-supports and said annular guide being relatively shiftable, and a relatively stationary handle-gage at each side of said annular guide, substantially as described.

36. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide, a handle-clamp at each side of said guide, said handle-clamps and said guide being relatively shiftable, and a relatively stationary handle-gage at each side of said annular guide, substantially as described.

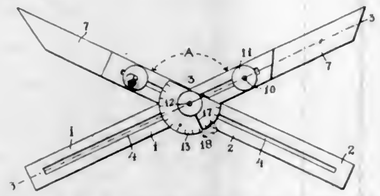
37. In a machine for making mops and brushes, the combination with a frame, of a stationary annular cord-guide, a carriage, a handle-support upon said carriage at each side of said guide, and a relatively stationary handle-gage at each side of said cord-guide, substantially as described.

38. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide, a handle-support at each side of said guide, said handle-supports and said annular guide being relatively shiftable, and a relatively stationary adjustable handle-gage at each side of said annular guide, substantially as described.

39. In a machine for making mops and brushes, the combination with a frame, of an annular cord-guide, a handle-clamp at each side of said guide, said handle-clamps and said guide being relatively shiftable, and a relatively stationary adjustable handle-gage at each side of said annular guide, substantially as described.

40. In a machine for making mops and brushes, the combination with a frame, of a stationary annular cord-guide, a carriage, a handle-support upon said carriage at each side of said guide, and a relatively stationary adjustable handle-gage at each side of said cord-guide, substantially as described.

842,205. BEVEL-PROTRACTOR. PATRICK KELLY, Worcester, Mass., assignor of one-half to John J. Power, Worcester, Mass. Filed May 14, 1906. Serial No. 316,609.

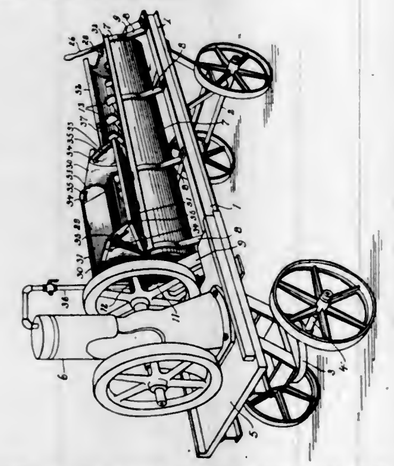


Claim.—1. In a bevel-protractor, the combination with pivoted blades, of offset blades attached to corresponding ends of said pivoted blades, movable longitudinally on said pivoted blades but incapable of rotation with relation thereto.

2. In a bevel-protractor, the combination with a pair of pivoted blades, of means for indicating the angle between said blades consisting of a dial concentric with the pivot of said blade and rotatable with one of said blades, and a pointer rotatable with the other of said blades, and a pair of offset blades attached to the corresponding ends of said pivoted blades, said offset blades being movable longitudinally on said pivoted blades but incapable of rotation thereon.

3. In a bevel-protractor, the combination of a pair of pivoted blades, means carried by said blades for indicating the angle between them, a pair of offset blades attached and movable longitudinally on said pivoted blades but incapable of rotation thereon.

842,206. CONCRETE-MIXER. JOHN E. KENISELL and CLARENCE C. LOWRY, Detroit, Mich. Filed Sept. 18, 1905. Serial No. 278,910.



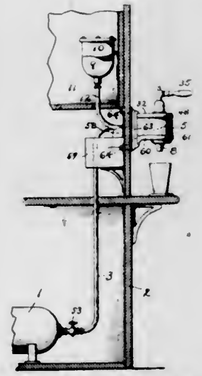
Claim.—1. In a mixing-machine, the combination with a supporting-frame, of a trough secured to said frame, mixing and conveying arms in said trough, means for actuating said arms, and a hopper consisting of ends secured to the trough and provided with openings and sides hinged at their lower edges to the trough and formed with inwardly-extending end flanges having curved slots, and bolts extending through the openings in the ends and the slots in the flanges.

2. In a mixing-machine, the combination with a receptacle within which the material is mixed, a shaft in said receptacle, and means for actuating said shaft, of a series of agitating-arms on said shaft consisting of a sleeve portion adapted to be secured to the shaft, a shank portion extending outward from said sleeve, a head, a shank portion on the head, teeth on the adjacent sides of the shanks adapted to interlock and means for securing the shanks together.

3. In a mixing-machine, the combination with a receptacle within which the material is mixed, a shaft in said receptacle, and means for actuating said shaft, of a series of agitating-arms secured on said shaft each consisting of a sleeve portion, a shank portion formed integral with the sleeve and provided with parallel longitudinal grooves in one face, and a hole, a rib or tooth in each groove, a head portion, a shank on said head provided with a longitudinal slot, two parallel rows of teeth on said shank to engage the grooves and teeth on the other shank portion, and a bolt extending through the said hole and slot.

4. In a concrete-mixer, the combination with a suitable supporting-frame supported upon wheels, of a trough secured to the frame and provided with closed ends and open at its top, angle-irons secured to the trough along its edges, a hopper consisting of stationary ends secured to the trough and sides hinged to the angle-iron at their lower edges, flanges on said sides having curved slots, bolts extending through said slots and ends, bearings at the ends of the trough, a shaft in said bearings, agitating and conveying arms on said shaft, a gear on the forward end of said shaft, a motor, a gear on the motor-shaft engaging the other gear, a door in the rear end of the trough hinged thereto at its upper edge, a lever pivoted to the frame, a link pivoted at one end to the door and at its opposite end to the lever intermediate its ends, a catch on the lever to engage the upper edge of the end wall of the trough, and a water-pipe extending past the hopper and provided with a perforated end portion extending longitudinally within the open top of the trough rearwardly from the hopper.

842,207. FLUID-VENDING MACHINE. JAMES A. KEYES, New York, N. Y., assignor to John Mulholland, New York, N. Y. Filed May 13, 1904. Serial No. 207,764.



Claim.—1. The combination of a casing, a handle mounted for a turning movement, a coin-carrier within the casing and connected to said handle to turn therewith, a lock pivoted upon said carrier and releasable by the insertion of a coin, and a fluid-controlling valve controlled by said handle.

2. The combination of a casing, a handle mounted for a turning movement, a carrier within the casing and rigid with said handle and provided with a coin-pocket, a lock pivoted upon said carrier and releasable by the insertion of a coin into said pocket, means for discharging said coin from said pocket, a coin-receptacle, and a fluid-controlling valve controlled by said handle.

3. The combination of a casing, a handle mounted for rotation, a carrier fixed to said handle and within said casing and provided with a coin-pocket, and a lock pivoted upon said carrier and provided with a spring and releasable by the insertion of a coin into said pocket.

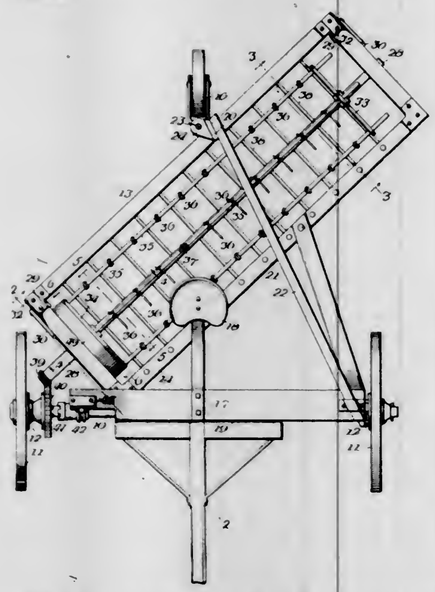
4. The combination of a casing, a handle mounted for

turning movement, a carrier within the casing and connected to the handle and provided with a coin-pocket, a lock movable upon said carrier and having a tongue projecting into said pocket, said tongue being so formed that it can be operated only by a coin of predetermined thickness and diameter, and a fluid-dispensing valve controlled by said handle.

5. The combination of a casing, a handle, a stem fixed to said handle, a coin-carrier fixed to said stem, a lock releasable by the insertion of a coin, and a coin-ejecting spring-finger mounted to engage the coin and eject the same during the return of the carrier to normal position, and a spring for returning said carrier.

6. The combination of a casing, a handle, a stem for said handle, a coin-carrier provided with a coin-pocket and mounted upon said stem within the casing, a lock pivoted upon the carrier and having a thin tongue projecting into said pocket, and a coin-ejector in the form of a spring-hook which rides over the face of the coin during the initial movement of said handle, and upon the return movement thereof falls behind the coin and ejects the same from the pocket.

842,208. SIDE-DELIVERY HAY-RAKE. FRED L. KIRKMAN, Glenwood, Mo. Filed Oct. 29, 1906. Serial No. 341,039.

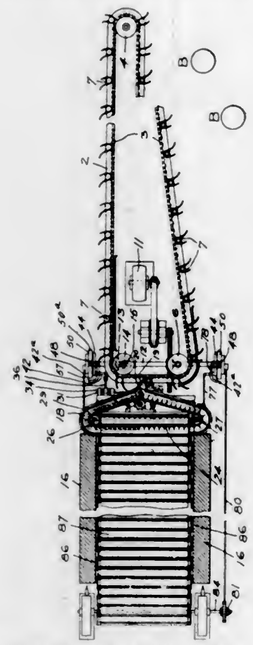


Claim.—1. In a side-delivery hay-rake, a wheeled main frame, stirrups extending therefrom, a rake-supporting frame hinged at one end to the main frame and extending at the other end into the stirrups, and means for raising and lowering the rake-supporting frame.

2. In a side-delivery hay-rake, a wheel-driven shaft, a frame mounted on the shaft and carrying stop-pins, rock-shafts journaled in the frame, and having cranks at one end spring-pressed against the stop-pins, rake-teeth on the rock-shafts, and a cam engageable by the cranks for actuating the rock-shafts.

842,209. DEVICE FOR INTRODUCING GLASS TO LEERS. CHARLES R. KNAPP and VERGIL MULHOLLAND, Pittsburg, Pa., assignors to Heyl & Patterson Incorporated, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Apr. 8, 1905. Serial No. 254,576.

Claim.—1. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, mechanism for transferring the ware from said ware-carrier to said movable carrier, and means for operating said transfer mechanism in the path of the ware into bodily contact with which the ware comes in moving from said ware-carrier to said movable carrier.



2. The combination with a leer, of a movable carrier arranged within said leer, ware-carrier adapted to convey the ware to said leer, mechanism adapted to transfer the ware from said ware-carrier into said leer by a step-by-step movement, and means for operating said transfer mechanism in the path of the ware into bodily contact with which the ware comes in moving from said ware-carrier to said movable carrier.

3. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to receive the ware from said ware-carrier and deposit the same on said movable carrier, mechanism for imparting an intermittent movement to said conveyer, and means for operating said mechanism in the path of the ware into bodily contact with which the ware comes in moving from said ware-carrier to said movable carrier.

4. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, mechanism for transferring the ware from said ware-carrier to said movable carrier, and a guide in the path of said ware-carrier adapted to feed the ware to said transfer mechanism.

5. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, and a guide in the path of said ware-carrier adapted to transfer the ware to said conveyer, and means for imparting an intermittent movement to said conveyer.

6. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, a guide-arm in the path of said ware-carrier adapted to engage the ware and transfer it to said conveyer, and means for imparting an intermittent movement to said conveyer.

7. The combination with the leer, of a movable carrier

arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer triangular in outline adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer at its apex, and means for imparting an intermittent movement to said conveyer.

8. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, mechanism for transferring the ware from said ware-carrier to said conveyer, mechanism for imparting an intermittent movement to said conveyer, and means for operating said transfer mechanism in the path of the ware into bodily contact with which the ware comes in moving from said ware-carrier to said movable carrier.

9. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyor adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyor, mechanism for imparting an intermittent movement to said conveyor, a tripper-arm directly in the path of said ware, and connections between said tripper-arm and said mechanism.

10. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring said ware from said ware-carrier to said conveyer, mechanism for imparting an intermittent movement to said conveyer, a tripper-arm in the path of the ware, a power-shaft, clutch mechanism on said power-shaft, and connections between said arm and said clutch mechanism for operating same.

11. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, mechanism for imparting an intermittent movement to said conveyer, a tripper-arm in the path of the ware, a shaft on which said arm is mounted, a notched disk on said shaft, a bell-crank, a pin on said bell-crank engaging the periphery of said disk, means for throwing said pin into said notch, and connections between said bell-crank and said mechanism for imparting intermittent movement to said conveyer.

12. The combination with a leer of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, mechanism for imparting an intermittent movement to said conveyer, a tripper-arm in the path of the ware, a shaft on which said arm is mounted, a notched disk on said shaft, a weighted bell-crank, and connections between said weighted bell-crank and said mechanism for imparting an intermittent movement to said conveyer.

13. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, mechanism for imparting an intermittent movement to said conveyer, a tripper-arm in the path of the ware, a shaft on which said tripper-arm is mounted, a notched disk on said shaft, a bell-crank, a pin on said bell-crank engaging the periphery of said disk, a power-driven shaft, a clutch on said shaft, connections between said clutch and said mechanism for imparting an intermittent movement to said conveyer, and connections between said bell-crank and said clutch mechanism for throwing the same into engagement with said shaft.

14. The combination with the leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, mechanism for imparting an intermittent movement to said conveyer, a tripper-arm in the path of the ware, a shaft on which said tripper-arm is mounted, a notched disk on said shaft, a weighted crank-arm, a pin on said arm engaging the periphery of said disk, a power-shaft, a gear-wheel on said shaft, a clutch-disk loosely mounted on said shaft, a vertically-movable lug in said disk adapted to engage said gear-wheel, a pin adapted to engage said lug to normally hold the same out of engagement with said gear-wheel, connections between said bell-crank and said pin for withdrawing same, and connections between said clutch-disk and said mechanism for imparting an intermittent movement to said conveyer.

15. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, mechanism for imparting an intermittent movement to said conveyer, a power-driven shaft, a gear-wheel on said shaft, a clutch-disk loosely mounted on said shaft, a gravity-operated block in said disk, said block having teeth adapted to engage said gear-wheel, means for holding said block out of engagement with said gear-wheel, means for releasing said block by the movement of the ware, and connections between said clutch-disk and the mechanism for imparting an intermittent movement to said conveyer.

16. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, mechanism for imparting an intermittent movement to said conveyer, a power-shaft, a gear-wheel on said shaft, a clutch-disk loosely mounted on said shaft, a gravity-operated block in said disk having teeth adapted to engage said gear-wheel, a pin engaging said block to hold it out of engagement with said gear-wheel, means for withdrawing said pin by the movement of the ware, and connections between said clutch-disk and said mechanism for imparting an intermittent movement to said conveyer.

17. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, mechanism for imparting an intermittent movement to said conveyer, a power-shaft, a gear-wheel on said shaft, a clutch-disk loosely mounted on said shaft, a gravity-operated block in said disk having teeth adapted to engage said gear-wheel, a pin engaging said block to hold it out of engagement with said gear-wheel, means for withdrawing said pin by the movement of the ware, means for returning said pin to place, and connections between said clutch-disk and said mechanism for imparting an intermittent movement to said conveyer.

18. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, mechanism for transferring the ware from said ware-carrier to said conveyer, mechanism for imparting an intermittent movement to said conveyer, a power-shaft, clutch mechanism on said shaft, means for operating said clutch mechanism in the path of the ware into bodily contact with which the ware comes in moving from said ware-carrier to said movable carrier, and connections between said clutch mechanism and the mechanism for imparting intermittent movement to said conveyer.

19. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, mechanism for imparting an intermittent movement to said conveyer, and means for operating said mechanism by the contact of the ware.

20. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, mechan-

ism for imparting an intermittent movement to said conveyer, a power-shaft, a gear-wheel on said shaft, a clutch-disk, a gravity-block in said disk, a lug on said block having teeth adapted to engage the teeth of said gear-wheel, means for holding said block out of engagement with said gear-wheel, means for releasing said block by the movement of the ware, means for holding said block in engagement with said gear-wheel, and connections between said clutch-disk and said mechanism for imparting an intermittent movement to said conveyer.

21. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, mechanism for imparting an intermittent movement to said conveyer, a power-shaft, a gear-wheel on said shaft, a clutch-disk loosely mounted on said shaft, a gravity-operated block in said disk, a toothed lug on said block adapted to engage said gear-wheel, means for holding said block out of engagement with said gear-wheel, means for releasing said block by the movement of the ware, a cam-guide adapted to engage said block and hold the same in contact with said gear-wheel, means for disengaging said lug from said gear-wheel, and connections between said clutch-disk and mechanism for imparting intermittent movement to said conveyer.

22. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, mechanism for imparting an intermittent movement to said conveyer, a power-shaft, a gear-wheel on said shaft, a clutch-disk loosely mounted on said shaft, a gravity-operated block in said disk, said block having teeth adapted to engage said gear-wheel, means for holding said block out of engagement with said gear-wheel, means for releasing said block by the movement of the ware, means for holding said block in engagement with said gear-wheel, means for throwing the same out of engagement with said gear-wheel, and connections between said clutch-disk and the mechanism for imparting an intermittent movement to said conveyer.

23. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, mechanism for imparting an intermittent movement to said conveyer, a power-shaft, a gear-wheel mounted on said shaft, a clutch-disk loosely mounted on said shaft, a gravity-operated block having teeth adapted to engage said gear-wheel, a pin adapted to hold said block out of engagement with said gear-wheel, means for releasing said pin by the movement of the ware, means for holding said block in engagement with said gear-wheel, said block having a cam-face adapted to be engaged by said pin to lift said block out of engagement with said gear-wheel, and connections between said clutch-disk and mechanism for imparting an intermittent movement to said conveyer.

24. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, a power-shaft, a clutch-disk on said shaft, means for throwing said disk into engagement with the shaft by the movement of the ware, a pitman connected to said disk, a shaft, a crank-arm on said shaft with which said pitman is connected, a pawl on said crank, a ratchet-wheel on said last-named shaft, and connections between said shaft and said endless conveyer.

25. The combination with the leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring said ware from said ware-carrier to said conveyer, a shaft, mechanism for imparting an intermittent rotary movement to said shaft, connections between said shaft and said conveyer, a gear-wheel on said shaft, a second gear-wheel having a predetermined number of teeth with which said first-named gear-wheel engages, a shaft on which said last-named gear-wheel is mounted, connections between said shaft, and means for driving said movable carrier.

26. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, a shaft, mechanism for imparting an intermittent rotary movement to said shaft by the movement of the ware, connections between said shaft and said conveyer, a gear-wheel on said shaft, a second shaft, a gear-wheel on said second shaft having a predetermined number of teeth with which said first gear-wheel meshes, a notched disk on said second shaft, a bell-crank having a lug engaging the periphery of said disk, means for throwing said lug into the notch in said disk, and connections between said bell-crank and the mechanism for advancing said movable carrier.

27. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel adjacent to the receiving end of said leer, trays on said ware-carrier arms extending out from said trays, a conveyer, a guide-arm in the path of the ware to transfer said ware from the tray to said conveyer, and mechanism for imparting an intermittent movement to said conveyer.

28. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel adjacent to the receiving end of said leer, trays on said ware-carrier, a conveyer, a guide-arm in the path of the ware to transfer said ware from the pan to said conveyer, mechanism for imparting an intermittent movement to said conveyer and curved arms extending out from said ware-carrier.

29. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel adjacent to the receiving-opening of said leer, trays on said ware-carrier, an arm carried by said ware-carrier, a transfer device, and a guide-arm in the path of the ware to guide said ware to said transfer device.

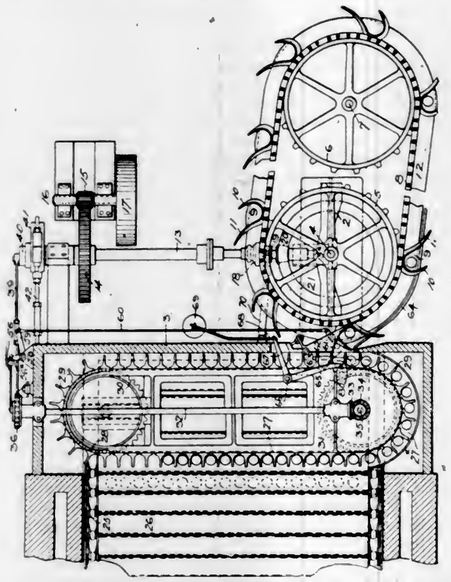
30. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to travel adjacent to the receiving-opening of said leer, trays on said ware-carrier, arms carried by said ware-carrier, a transfer device, a guide-arm in the path of the ware to move said ware into engagement with said transfer mechanism, said guide-arm passing between said arms.

31. The combination with a leer, of a movable carrier arranged within said leer, a ware-carrier adapted to convey the ware to said leer, intermittently-operated mechanism for transferring the ware from said ware-carrier to said movable carrier, a ratchet-wheel, connections between said ratchet-wheel and said transfer mechanism, a pawl adapted to engage said ratchet-wheel, and means for operating said pawl in the path of the ware into bodily contact with which the ware comes in moving from said ware-carrier to said movable carrier.

842,210. DEVICE FOR CONVEYING GLASSWARE TO LEERS. CHARLES R. KNAPP, Pittsburg, and VERGIL MULHOLLAND, Allegheny, Pa., assignors to Heyl & Patterson Incorporated, Pittsburg, Pa., a Corporation of Pennsylvania. Filed June 14, 1906. Serial No. 321,734.

Claim.—1. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, a shaft, connections between said shaft and said conveyer for driving the same, a ratchet-wheel on said shaft, a pawl adapted to engage said ratchet-wheel, mechanism for holding said pawl out of engagement with said ratchet-wheel, means for withdrawing said mechanism by the movement of the ware into said conveyer, and mechanism for reciprocating said pawl.

2. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, a shaft, connections between said shaft and said conveyer to operate same, a ratchet-wheel on said shaft, a pawl adapted to engage said ratchet-wheel, a movable guard adapted to hold said pawl out of engagement with said ratchet-wheel, means for throwing said guard out of way by the movement of the ware onto said conveyer, and mechanism for reciprocating said pawl.



3. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, a shaft, connections between said shaft and said conveyer for operating same, a ratchet-wheel on said shaft, a pawl adapted to engage said ratchet-wheel, a swinging quadrant adapted to hold said pawl out of engagement with said ratchet-wheel, means for throwing said quadrant out of the way by the movement of the ware onto said conveyer, and mechanism for reciprocating said pawl.

4. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, a shaft, connections between said shaft and said conveyer for operating same, a ratchet-wheel on said shaft, a pawl adapted to engage said ratchet-wheel, means for holding said pawl out of engagement with said ratchet-wheel, tripping mechanism operated by the movement of the ware to said conveyer, connections between said tripping mechanism and withholding means whereby said withholding means is thrown out of the way, and mechanism for reciprocating said pawl.

5. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, a shaft, connections between said shaft and said conveyer to operate same, a ratchet-wheel on said shaft, a pawl adapted to engage said ratchet-wheel, means for holding said pawl out of engagement with said ratchet-wheel, a trip-finger in the path of the ware, connections between said trip-finger and said withholding means to withdraw same, and mechanism for reciprocating said pawl.

6. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, a shaft, connections between said shaft and said conveyer for operating same, a ratchet-wheel on said shaft, means for turning said ratchet-wheel operated by the movement of the ware on said conveyer, a leer-conveyer shaft, a ratchet-wheel on said shaft, a pawl adapted to engage said ratchet-wheel, means for withholding said pawl from engagement with said ratchet-wheel, means for withholding said withholding means upon the complete rotation of said first-named ratchet-wheel, and mechanism for reciprocating said pawl.

7. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, a shaft, connections between said shaft and said conveyer to operate the same, a ratchet-wheel on said shaft, means for rotating said ratchet-wheel actuated by the movement of the ware on said conveyer, a leer-conveyer shaft, a ratchet-wheel on said shaft, a pawl adapted to engage said ratchet-wheel, a swinging guard to hold said pawl out of engagement with said ratchet-wheel, a cam-lug on said first-named ratchet-wheel, connections operated by said cam-lug to throw said guard out of the way, and mechanism for reciprocating said pawl.

8. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, and a rotary guard above said conveyer.

9. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, and a rotary guard having a series of guard-rails thereon.

10. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, and a rotary spider above said conveyer.

11. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, a leer-conveyer carrying pans, an endless conveyer adapted to deposit the ware on the leer-pans, a rotary guard above said conveyer, and means for rotating said guard and moving said leer-conveyer simultaneously.

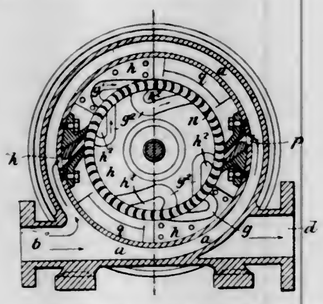
12. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, a safety device in the path of said ware, mechanism for stopping said movable carrier, and connections between said safety device and said mechanism.

13. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, a leer-conveyer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, an arm in the path of said ware, mechanism for stopping said movable carrier, and connections between said arm and said mechanism.

14. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, an arm in the path of the ware, clutch mechanism on the shaft driving said movable carrier, and connections between said arm and said clutch mechanism for stopping said movable carrier.

15. The combination with a leer, of a movable carrier adapted to convey the ware to said leer, an endless conveyer adapted to deposit the ware on the leer-pans, means for transferring the ware from said ware-carrier to said conveyer, mechanism for imparting an intermittent movement to said conveyer, a plate having an opening therein over which said conveyer travels, said opening being adjacent the leer-opening.

842,211. ELASTIC-FLUID TURBINE. OTTO KOLB, Karlsruhe, Germany. Filed Mar. 2, 1904. Serial No. 196,171.



Claim.—1. In an elastic-fluid turbine of the class described, the combination with a turbine-wheel having a crown of scoops, of a casing, an annular channel in said casing in the plane of and concentric with the crown of said turbine-wheel, an inlet communicating with said annular channel, a primary nozzle communicating with said annular channel and adapted to fully expand the compressed fluid before discharging it to the external periphery of the crown of said turbine-wheel, a plurality of consecutive secondary nozzles of increasing areas arranged in said casing alternately on the external and internal peripheries of the crown of said turbine-wheel and adapted to receive and to turn the fluid on the latter in the direction of the revolution of the same, a space in said casing and adapted to receive the spent fluid from the crown of said turbine-wheel, a second annular channel in said casing near and concentric with said annular channel and communicating with said space by an opening, and an outlet communicating with said second annular channel.

2. In an elastic-fluid turbine of the class described, the combination with a turbine-wheel having a crown of scoops, of a casing, an annular channel in said casing in the plane of and concentric with the crown of said turbine-wheel, an inlet communicating with said annular channel, a plurality of primary nozzles communicating with said annular channel and adapted to fully expand the compressed fluid before discharging it to the external periphery of the crown of said turbine-wheel, a plurality of series each comprising a plurality of consecutive secondary nozzles of increasing areas arranged in said casing alternately on the external and internal peripheries of the crown of said turbine-wheel and adapted to receive and to turn the fluid on the latter in the direction of the revolution of the same, a plurality of spaces in said casing and adapted to receive the spent fluid from the crown of said turbine-wheel, a second annular channel in said casing near and concentric with said annular channel and communicating with said plurality of spaces by a plurality of openings, and an outlet communicating with said second annular channel.

3. In an elastic-fluid turbine of the class described, the combination with a turbine-wheel having crowns of scoops on both sides, of a plurality of primary nozzles each adapted to fully expand the compressed fluid before discharging it to the one periphery of either crown of said turbine-wheel, a plurality of series each comprising a plurality of consecutive secondary nozzles of increasing areas arranged alternately on the two peripheries of either crown of said turbine-wheel and adapted to receive and to turn the fluid on the latter in the direction of the revolution of the same.

4. In an elastic-fluid turbine of the class described, the combination with a turbine-wheel having crowns of scoops on both sides, of a casing, two annular channels in said casing in the planes of and concentric with the two crowns of said turbine-wheel, two inlets communicating with said two annular channels, two primary nozzles communicating with said two annular channels and adapted to fully expand the compressed fluid before discharging it to the external peripheries of the two crowns of said turbine-wheel, two series each comprising a plurality of consecutive secondary nozzles of increasing areas arranged in said casing alternately on the external and internal peripheries of each of the two crowns of said turbine-wheel and adapted to receive and to turn the fluid on the latter in the direction of the revolution of the same, two spaces in said casing and adapted to receive the spent fluid from the two crowns of said turbine-wheel, an annular exhaust-channel in said casing between and concentric with said two annular channels and communicating with said two spaces by two openings, and an outlet communicating with said annular exhaust-channel.

5. In an elastic-fluid turbine of the class described, the combination with a turbine-wheel having crowns of scoops on both sides, of a casing, two annular channels in said casing in the planes of and concentric with the two crowns of said turbine-wheel, two inlets communicating with said two annular channels, a plurality of primary nozzles communicating with said two annular channels and adapted to fully expand the compressed fluid before discharging it to the external peripheries of the two crowns of said turbine-wheel, a plurality of series each comprising a plurality of consecutive secondary nozzles of increasing areas arranged in said casing alternately on the external and internal peripheries of each of the two crowns of said turbine-wheel and adapted to receive and to turn the fluid on the latter in the direction of the revolution of the same, a plurality of spaces in said casing and adapted to receive the spent fluid from the two crowns of said turbine-wheel, an annular exhaust-channel in said casing between and concentric with said two annular channels and communicating with said plurality of spaces by a plurality of openings, and an outlet communicating with said annular exhaust-channel.

6. In an elastic-fluid turbine of the class described, the combination with a primary nozzle adapted to fully expand the compressed fluid before discharging it to the one periphery of the turbine-wheel, of a plurality of consecutive secondary nozzles of increasing areas arranged alternately on the two peripheries of the turbine-wheel and adapted to receive and to turn the fluid on the latter in the direction of the revolution of the same, a movable tongue in said primary nozzle and adapted to simultaneously vary its several areas while retaining their relative proportions, a governor on the turbine-shaft and having a moving sleeve, and means for transmitting the movement from the sleeve of said governor to said movable tongue.

7. In an elastic-fluid turbine of the class described, the combination with a primary nozzle adapted to fully expand the compressed fluid before discharging it to the one periphery of the turbine-wheel, of a plurality of consecutive secondary nozzles of increasing areas arranged alternately on the two peripheries of the turbine-wheel and adapted to receive and to turn the fluid on the latter in the direction of the revolution of the same, a tongue mounted in said primary nozzle to swing around an axis at the inlet and adapted to simultaneously vary its several areas while retaining their relative proportions, said tongue being arranged to normally close said primary nozzle, a shaft mounted in the casing to turn, a lever fastened on said shaft, a link inserted between said tongue and said lever, and a hand-lever fastened on said shaft without the casing.

8. In an elastic-fluid turbine of the class described, the combination with a primary nozzle adapted to fully expand the compressed fluid before discharging it to the one periphery of the turbine-wheel, of a plurality of consecutive secondary nozzles of increasing areas arranged alternately on the two peripheries of the turbine-wheel and adapted to receive and to turn the fluid on the latter in the direction of the revolution of the same, a tongue mounted in said primary nozzle to swing around an axis at the inlet and adapted to simultaneously vary its several areas while retaining their relative proportions, said tongue being arranged to normally close said primary nozzle, a shaft mounted in the casing to turn, a lever fastened on said shaft, a link inserted between said tongue and said lever, a second lever fastened on said shaft without the casing, a governor on the turbine-shaft and having a moving sleeve, and means for transmitting the movement from the sleeve of said governor to said second lever.

9. In an elastic-fluid turbine of the class described, the combination with a plurality of primary nozzles adapted to fully expand the compressed fluid before discharging it to the peripheries of the turbine-wheel, of a plurality of tongues mounted in said plurality of primary nozzles to swing around axes at the inlet and adapted to simultaneously vary their several areas while retaining their relative proportions, a plurality of shafts mounted in the casing to turn, a plurality of levers fastened on said plurality of shafts, a plurality of links inserted between said plurality of tongues and said plurality of levers, a plurality of external levers fastened on said plurality of shafts without the casing, a governor on the turbine-shaft and having a moving sleeve, and means for transmitting the movement from the sleeve of said governor to said plurality of external levers.

10. In a primary nozzle of the class described, the combination with a block adapted to be secured on a wall in the turbine-casing and having a tapering hole, of a nozzle proper tightly fitted into the tapering hole of said block and having an open channel of rectangular cross-section and of varying area, an elastic tongue fitted into the open channel of said nozzle proper for varying its areas and secured with its one end on said block at the inlet and arranged to normally close said nozzle proper, a shaft mounted in said block to turn, a lever fastened on said shaft within a recess of said block, a link inserted between said elastic tongue and said lever, and means for turning said shaft from without.

11. In a primary nozzle of the class described, the combination with a block adapted to be secured on a wall in the turbine-casing and having a tapering hole, of a nozzle proper tightly fitted into the tapering hole of said block and having an open channel of rectangular cross-section and of varying area, a tongue fitted into the open channel of said nozzle proper for varying its areas and mounted to turn around an edge of said block at the inlet, a shaft mounted in said block to turn, a lever fastened on said shaft within a recess of said block, a link inserted between said tongue and said lever, and means for turning said shaft from without.

12. In an elastic-fluid turbine, the combination with the primary nozzle, of buckets adapted to receive the fluid therefrom, and a secondary nozzle adapted to receive the fluid from the buckets, the said secondary nozzle consisting in a detachable cast portion having a channel, and a plurality of partition-walls extending longitudinally of said channel, the said partitions being formed of sheet metal cast into the said detachable portion, whereby a plurality of channels of nearly uniform width is formed.

13. In an elastic-fluid turbine of the class described, a secondary nozzle comprising a plurality of partitions of sheet metal, each suitably bent and provided with four lugs on the corners which engage in suitable recesses whereby they are secured and a plurality of channels of nearly uniform width is formed.

14. In a turbine-wheel of the class described the combination with a disk having a locking-rib on its periphery, of a plurality of pieces cut from rods of a cross-section of a general shape corresponding to the finished piece and so cut out and turned, that their full parts can be closely assembled to a ring on the periphery of said disk and be locked by the locking-rib of the disk engaging in their recesses, and that their projecting parts are partly shaped as scoops, so that closed channels between them are formed, and a peripheral ring securing said plurality of pieces on said disk.

15. In a turbine-wheel of the class described, the combination with a disk having a central dividing-rib and locking-ribs on both sides along the periphery, of a plurality of pieces cut from rods of a cross-section of a general shape corresponding to the finished piece and so cut out and turned, that their full parts can be closely assembled to two rings on the periphery of said disk on both sides of its central dividing-rib and locked by its two locking-ribs engaging in their recesses, and that their projecting parts are partly shaped as scoops, so that closed channels between them are formed, and a ring securing said plurality of pieces on said disk.

842,212. MATERIAL FOR PROTECTING SHEETS, &c., IN TINNING. JOHN A. KYLE, Chicago, Ill. Filed Apr. 4, 1906. Serial No. 309,894.

Claim.—1. A material for use in coating sheets with metal consisting of a fatty acid, a glycerid, and a solvent for such fatty acid and glycerid, said acid and glycerid being non-oxidizable at the temperature of the metal-coating bath; substantially as described.

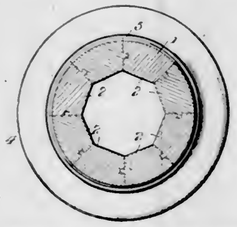
2. A material for use in coating sheets with metal consisting of a fatty acid, a petroleum product, and a glycerid, said acid and glycerid being non-oxidizable at the temperature of the metal-coating bath; substantially as described.

3. A material for use in coating sheets with metal consisting of a fatty acid solidifying at a temperature of substantially 68° Fahrenheit, a petroleum product, and a glycerid non-oxidizable at the temperature of the metal-coating bath; substantially as described.

4. A material for use in coating sheets with metal consisting of a fatty acid, castor-oil, and a solvent for such fatty acid and castor-oil, said acid being non-oxidizable at the temperature of the metal-coating bath; substantially as described.

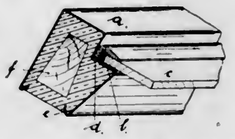
5. A material for use in coating sheets with metal consisting of a fatty acid, castor-oil, and a petroleum product, said acid being non-oxidizable at the temperature of the metal-coating bath; substantially as described.

842,213. COLUMN. CHARLES F. LINSENMEYER, Port Washington, Ohio. Filed Apr. 27, 1906. Serial No. 314,088.



Claim.—In combination with a column composed of sections joined together at the longitudinal edges thereof, and rings applied to the upper and lower ends of the column and so embracing the same as to prevent separation of the sections aforesaid, the lowermost of said rings overlapping the lower extremities of the sections of the column and being provided with an annular vertical flange receiving the lower extremities of the sections and engaging the same.

842,214. HOT-BED FRAME. WILHELM H. LUCKAU, Magdeburg, Germany. Filed June 7, 1906. Serial No. 320,721.



Claim.—1. In hot-bed frames the rims and cross-bars made of thin metal, which are open at one side and with edges bent in, a cement-like substance filling up said hollow rims and bars except for a means, in the midst of the filled-in mass, said means comprising a poor conductor of heat, all as described and shown.

2. In hot-bed frames the rims and cross-bars made of thin metal, which are open at one side and with the

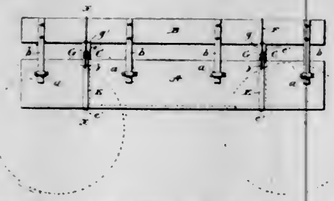
edges bent in, a cement-like substance filling up said hollow rims and bars, a tube of thin metal forming by its hollow space a poor conductor of heat lying in the midst of that filled-in mass, all as and for the purpose set forth.

842,215. SAIL-HANK. MAGNUS MÅNSSON, Helsingborg, Sweden. Filed Sept. 20, 1904. Serial No. 225,275.



Claim.—A sail-hank consisting of a part having the form of a numeral 3, the upper or smaller section of which comprising an arc of about two hundred and seventy degrees, and the lower or larger section comprising an arc of about two hundred and eighty degrees and a second part hinged to the extremity of the lower section of said first part, said second part comprising an arm completing the circle of said lower section and a portion forming a sister hook with said upper section of the said first part.

842,216. ATTACHMENT FOR WAGON-BODIES. OTTIS MARK, Ainsworth, Neb. Filed June 13, 1906. Serial No. 321,556.



Claim.—1. An attachment of the character described, comprising a bar having an offset part at its lower end, a rod having offset portions at its upper end and having sliding engagement with said bar, and means for securing said bar and rod in adjusted position, in combination with a standard spaced from said bar and arranged substantially parallel therewith, and means for connecting said standard and bar.

2. An attachment of the character described, comprising a bar having an offset part at its lower end, a rod having offset portions at its upper end and having sliding engagement with said bar, and means for securing said bar and rod in adjusted position, in combination with a standard spaced from said bar and arranged substantially parallel therewith, means for connecting said standard and bar, and an adjustable supporting-block intermediate said standard and bar.

842,217. METHOD OF FORMING INNER TUBES FOR TIRES. ARTHUR H. MARKS, Akron, Ohio. Filed Feb. 15, 1905. Serial No. 245,783.

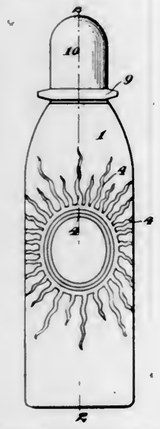


Claim.—1. The improved method of forming inner tubes for pneumatic tires consisting in placing a slowly-vulcanizing rubber compound about a mandrel, partially vulcanizing the same while on the mandrel, then placing one or more layers of rubber compound so compounded as to vulcanize in the time necessary to complete the vulcanization of said inner layer upon the latter, then removing the tube thus formed from the mandrel, then approximating the ends of the tube, and finally vulcanizing the whole.

2. The improved method of forming inner tubes for pneumatic tires consisting in placing a layer of rubber compound about a mandrel wrapped with a retaining material, such as cloth, partially vulcanizing the same while on the mandrel, then removing from the mandrel, turning inside out, then approximating the ends of the tube, then placing in a mold, and finally completing the vulcanization.

3. The improved method of forming inner tubes for pneumatic tires consisting in placing a layer of rubber compound about a mandrel wrapped with a retaining material, such as cloth, partially vulcanizing the same while on the mandrel, then removing from the mandrel, turning inside out, then approximating the ends of the tube, then placing the tube in a mold, and finally completing the vulcanization.

842,218. VITREOUS ARTICLE AND PROCESS OF TREATING SAME. CAROLINE F. MARSH, New York, N. Y. Filed Feb. 2, 1906. Serial No. 299,103.



Claim.—1. A vitreous article having a portion of its surface depressed and roughened, such depressed portion being filled with a metal, the contacting surface of which is fired onto the vitreous article.

2. A vitreous article having a portion of its surface depressed and roughened, said depressed portion being formed with undercut edges and being filled with a metal, the contacting surface of which is fired onto the vitreous article.

3. A vitreous article having a portion of its surface depressed and artificially roughened, said depressed portion being covered with a composition fired thereon, and a filling of metal intimately united with said covering.

4. A vitreous article having a portion of its surface depressed and artificially roughened, said depressed portion being covered with a composition fired thereon, and a filling of metal intimately united with said covering, the meeting edges of said depressed portions and of said metal filling being flush with each other.

5. A process of treating vitreous articles having portions of their surfaces depressed and roughened, comprising the filling of such depressed portion by a mass of metal, the contacting surface of which is fired onto the vitreous article.

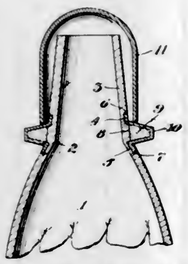
6. A process of treating vitreous articles having portions of their surfaces depressed and roughened, comprising the filling of such depressed portions by a mass of metal, the contacting surface of which is fired onto the vitreous surface, the meeting edges of the depressed portion and of the metal being flush with each other.

7. A process of treating vitreous articles having portions of their surfaces depressed, comprising the roughening of the surfaces of said depressed portion, the application to such depressed portions of a composition containing a metal and a flux, the firing of the article to fuse such composition, and the deposition upon the fused composition of a metal.

8. A process of treating vitreous articles comprising the removal of portions of the surfaces of such articles to form depressions, the application to such depressed portions of a composition containing a metal and a flux, the firing of the article to fuse such composition, and the deposition upon the fused composition of a metal of sufficient thickness to fill said depressed portions.

9. A process of treating vitreous articles comprising the removal of portions of the surfaces of such articles, the undercutting of the article at the edges of such depressed portion, the application to the depressed portion of a composition containing a metal and a flux, the firing of the article to fuse such composition, and the deposition upon the fused composition of a metal.

842,219. BOTTLE OR LIKE ARTICLE. CAROLINE F. MARSH, New York, N. Y. Filed May 24, 1906. Serial No. 318,496.



Claim.—1. A non-metallic vessel, an independent non-metallic part on the outer surface of said vessel, and a metal covering extending over said part and the adjacent surface of said vessel and permanently secured by adhesion to said vessel and to said part, substantially for the purposes specified.

2. A non-metallic vessel, an independent annular flange, and a metal covering extending over said flange and the adjacent surface of said vessel and permanently secured to the latter, substantially for the purposes specified.

3. A non-metallic vessel formed with an annular depression, an independent flange on said vessel adjacent said depression, and a metal covering extending over said flange and into said depression and permanently united to the latter, substantially for the purposes specified.

4. A bottle or the like having an exterior annular depression in its neck, an annular flange surrounding said neck adjacent said depression, and a metal covering extending over said flange and the depressed annular portion of said neck and permanently united to the latter for securing said flange in position.

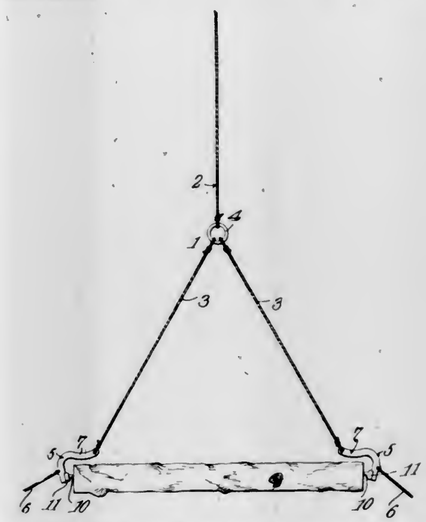
5. A bottle or the like having two exterior annular depressions adjacent its shoulder and spaced apart from each other, an annular flange surrounding said bottle between said depressions, and a metal covering extending over said flange and filling said depressions for securing said flange in position.

6. A bottle or the like having two exterior annular undercut depressions adjacent its shoulder and spaced apart from each other, an annular flange surrounding said bottle between said depressions, and a metal covering extending over said flange and filling said depressions for securing said flange in position.

7. The process of securing a flange on a vessel of vitreous or like material comprising: forming an annular depression in said vessel, fitting an annular flange on the surface of said vessel adjacent said depression, covering said depressed surface and said flange with a composition containing a metal and a flux, firing said vessel and said flange to fuse such composition, and depositing on such fused composition a metal covering.

8. The process of securing a flange on a bottle comprising: forming two annular depressions on the exterior surface of said bottle adjacent its shoulder and spaced apart from each other, fitting an annular flange on the surface between said depressions, covering said depressed surfaces and said flange with a composition containing a metal and a flux, firing said vessel and said flange to fuse such composition, and depositing on such fused composition a metal covering.

842,220. GRIP-HOOK FOR LOG-LOADERS. DANIEL W. MARTIN, Broaddus, Tex. Filed Oct. 15, 1906. Serial No. 339,019.



Claim.—1. In a device of the class described, a crotched draft-line, and hooks attached to the line, each hook comprising a shank, a spur, and means at the root of the spur for forming an auxiliary means for gripping a log.

2. In a device of the class described, a gripping-hook provided with a spur forming the main gripping means, and a device associated with the spur forming the auxiliary gripping means.

3. In a device of the class described, a gripping-hook comprising an L-shaped structure, a spur disposed at right angles to one portion of the structure, and a biting means on the structure at the base of the spur and independent of the latter.

4. In a device of the class described, a gripping-hook comprising an L-shaped structure having an aperture at one end for receiving a draft-line and an aperture adjacent the other end for receiving a hand-line, a spur adjacent the last-mentioned end, and a biting edge on the structure associated with the spur and arranged to engage in an object after the spur.

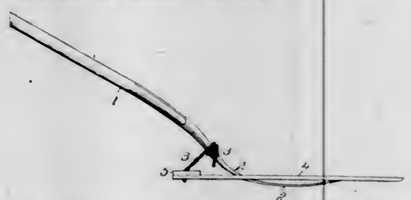
5. In a device of the class described, a gripping-hook comprising a suitably-shaped structure, a spur thereon, and an annular biting edge around the base of the spur.

6. In a device of the class described, a gripping-hook comprising a suitably-shaped structure, and separate gripping means arranged adjacent each other and adapted to bite in a successive order.

842,221. SNOW-SHOVEL ATTACHMENT FOR PITCHFORKS. FENTON N. MARTIN, Virden, Ill. Filed May 4, 1906. Serial No. 315,260.

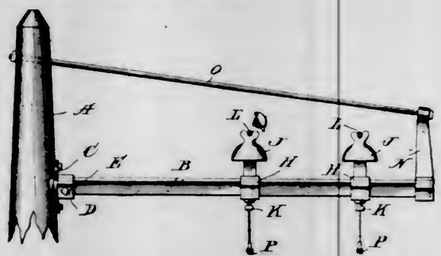
Claim.—1. In a snow-shovel, the combination of a shovel-board having slots between its ends, cut through the board, a pitchfork having curved tines inserted through the slots of the board, from the back to the front

of the board, and a connection between the rear end of the board and the handle of the fork.



2. In a snow-shovel, the combination of a pitchfork having curved tines, a shovel-board having slots between its ends through which the tines of the fork are inserted and also having a cleat across its rear end, and a connection between the rear end of the board and the handle extending obliquely with relation to the board and at approximately right angles with the handle.

842,222. CATENARY SUSPENSION FOR TROLLEY-WIRES. GEORGE A. MEAD, Mansfield, Ohio. Filed Nov. 23, 1904. Serial No. 233,938.



Claim.—1. In a catenary suspension for trolley-wires, an arm of irregular shape in cross-section, a casting sleeved thereon, an insulator carried by said casting at a point above said arm, a messenger-wire supported by said insulator, a trolley-wire, and means for suspending said trolley-wire from said messenger-wire.

2. In a catenary suspension for trolley-wires, an arm, an insulator supported thereon, a guard for said insulator, a messenger-wire supported by said insulator, a trolley-wire, and means for suspending said trolley-wire from said messenger-wire.

3. In a catenary suspension for trolley-wires, an arm, a casting mounted thereon, an insulator supported by said casting at a point above said arm, a guard to protect said insulator from injury, a messenger-wire supported by said insulator, a trolley-wire, and means for suspending said trolley-wire from said messenger-wire.

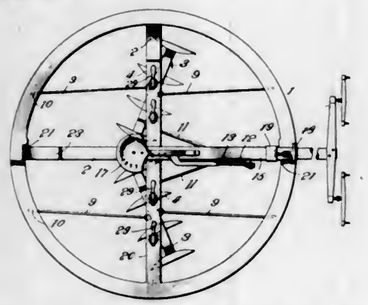
4. In a device of the class described, the combination of a support, an arm, an insulator adjustably mounted on the arm, and at a point above said arm, a messenger-wire supported by the insulator, a conductor-wire, means for supporting said conductor-wire from the messenger-wire, and a brace passing over the insulator and engaging the arm and the support.

5. In a device of the class described, the combination of a support, a horizontal arm, a casting adjustably mounted on said arm, an insulator mounted on the casting above the arm, a suspension-cable supported by the insulator, a conductor suspended from the cable, and a brace spaced from and passing over the insulator, one end of the brace being connected with the free end of the arm and the other end being connected to the support.

6. In a device of the class described, the combination of a support, a horizontal arm, an insulator located above the arm and adjustably mounted thereon, means for securing the insulator in its adjusted position, a brace located above the insulator and with one end secured to the support, and means for connecting the free end of the brace to the arm beyond the insulator.

7. In a device of the class described, the combination of a support, a horizontal arm irregular in cross-section, an insulator located above said arm and adjustably mounted thereon, means for securing the insulator in its adjusted position, a brace, one end of which is secured to the support above the insulator, and means operatively related to the free end of the arm, and extending to a point above the insulator, to which the free end of the brace is secured.

842,223. REVERSIBLE HARROW. LEONARD B. METCALF, Spartanburg, S. C. Filed June 15, 1906. Serial No. 321,925.



Claim.—1. In a harrow of the class described, the combination of a supporting-frame, a tongue connected therewith and reversible relative thereto, disk gangs mounted on the frame, a lever pivoted between its ends to the frame, connecting means between one end of the lever and the disk gangs, and connecting means between the other end of said lever and the tongue, whereby said gangs will be reversed upon reversal of the tongue.

2. In a harrow of the class described, the combination of a supporting-frame, a tongue pivoted at one end to the central portion of said frame, a plurality of disk gangs mounted on the frame, a lever pivoted to the frame, adjustable connecting means between one end of the lever and the disk gangs, adjustable connecting means between the other end of the lever and the tongue, whereby on reversal of the tongue with regard to the main supporting-frame, the disk gangs will be reversed, and means for holding the tongue in an adjusted position on the frame.

3. In a harrow, the combination of a main supporting-frame, disk-gang frames mounted thereon, bolsters connecting said gang-frames with the main frame, adjustable pivotal fastenings connecting the bolsters between the ends thereof with the main frame and permitting of adjustment of the disk-gang frames toward and from one another, and springs interposed between the opposite ends of the bolsters and the main frame.

4. In a harrow of the type described, the combination of a supporting-frame, a reversible tongue mounted thereon, disk gangs mounted on the frame, means admitting of reversal of the tongue with reference to the frame, and a lever operatively connecting the tongue with the disk gangs for automatically reversing the gangs when the tongue is reversed.

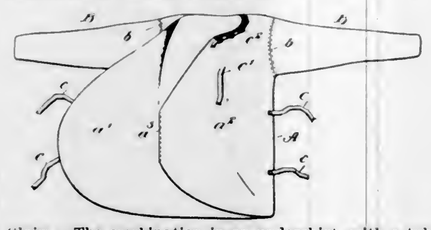
5. In a harrow of the type described, the combination of a supporting-frame, a reversible tongue mounted thereon, disk gangs mounted on the frame, means admitting of reversal of the tongue with reference to the frame, and a lever adjustably connected with the tongue and connected also with the gangs for effecting automatic reversal of the latter when the tongue is reversed.

6. In a harrow of the type described, the combination of a frame, disk gangs mounted thereon, draft mechanism connected with the frame and reversible with reference thereto, and adjustable means connecting the draft mechanism with the disk gangs for effecting automatic reversal of the gangs when the draft mechanism is reversed.

7. In a harrow of the type described, the combination of a main supporting-frame yieldably-mounted bolsters carried by said frame, disk-gang frames pivotally connected with said bolsters, and disks mounted in the disk-gang frames.

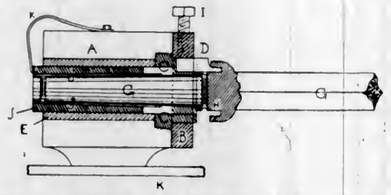
8. In a harrow of the type described, the combination of a main supporting-frame, yieldably-mounted bolsters pivotally connected with the supporting-frame and movable about a horizontal axis, disk-gang frames, king-bolt connection between the gangs and the bolsters aforesaid, and disk gangs mounted in the disk-gang frames.

842,224. UNDERSHIRT. WILLIAM S. MILLS, Bridgeport, Conn., assignor to The W. S. Mills Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Oct. 1, 1906. Serial No. 336,871.



Claim.—The combination in an undershirt, with a tubular body provided with a welt around its upper edge, and a loose reinforcing-flap for coöperating therewith, of a string for engaging with such welt for drawing up such upper edge, and a plurality of pairs of strings disposed at proper distances apart on the front of the garment for securing the reinforcing-flap in proper position over such front, substantially as described.

842,225. AXLE-MACHINE. JOSEPH L. MONKHOUSE, Guelph, Ontario, Canada. Filed Apr. 26, 1906. Serial No. 313,895.



Claim.—A lathe-tool for finishing axles, comprising a body having a cylindrical bore, a turning cutter eccentrically located at the entrance end of the body, a sleeve fitting slidably and rotatably within said bore and provided with a conical centering-opening having its larger end directed toward the entrance of the body, and a spring arranged to press the centering-sleeve toward the entrance, substantially as described.

842,226. METALLIC RAILWAY-TIE AND FASTENING. ANDREW MORRISON, Pittsburg, Pa. Filed Feb. 12, 1906. Serial No. 300,582.

Claim.—1. A metallic railway-tie of uniform I-beam section having its upper flanges of full width throughout the length of the tie, and having lower flanges cut away through the intermediate parts; substantially as described.

2. A metallic railway-tie of uniform I-beam section except at the center where the base-flanges are reduced in width, said base-flanges being elsewhere of greater width than the top flange; substantially as described.

3. A metallic tie consisting of a rolled I-beam having the intermediate portions of its lower flanges cut away and its top flanges of uniform width throughout; substantially as described.

4. A metallic tie of I-beam form having its lower flanges cut away through their intermediate parts, and lips turned down from the inner ends of the flanges at each side of the central web; substantially as described.

5. A metallic tie of I-beam form with the lower flanges reduced in width at the central part, said flanges having turned-down lips at each side of the central web to reduce endwise movement; substantially as described.



6. In a metallic tie-fastening, a bolt, and a clip through which the bolt extends, said clip having a rearwardly and downwardly inclined spring-tongue with its end portion bearing on the outer part of the rail-base; substantially as described.

7. In a metallic tie-fastening, a bolt, a collar surrounding the bolt, and a spring-clip between the nut and the collar; substantially as described.

8. In a metallic tie-fastening, a spring-clip having a bent tongue arranged to coact with a face of the nut to prevent turning thereof; substantially as described.

9. In a metallic tie-fastening, a spring-clip arranged to bear on the rail-base and having a hole therethrough for the bolt, said clip having a tongue of more malleable material arranged to be bent up against the face of the nut after the nut is turned to position; substantially as described.

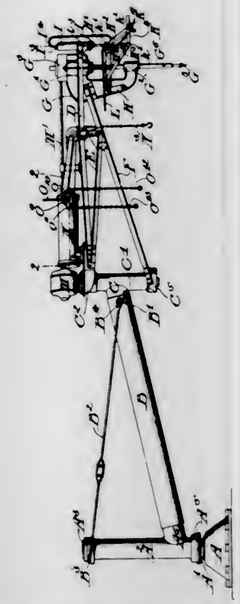
10. A metallic tie of I-beam form, having its lower flanges cut away through their intermediate parts, and lips turned down from the flanges at their inner ends, said lips being tapered from the outside inwardly toward the web and outwardly curved; substantially as described.

11. A metallic tie of I-beam form, the lower flanges thereof being of reduced width throughout the intermediate portion of the beam, and separate downwardly-turned lips at the junction of the narrower and wider portions of said flanges upon opposite sides of the central web of the beam; substantially as described.

842,227. DRILLING-MACHINE. MARY K. MORSE, Philadelphia, Pa., executrix of Henry G. Morse, deceased, assignor to New York Shipbuilding Company, Camden, N. J., a Corporation of New Jersey. Filed July 13, 1903. Serial No. 165,271.

Claim.—1. In a drilling-machine, the combination with a drill-actuating spindle, means for rotating the same and connections by means of which the drill-spindle is moved longitudinally, of a feed-cylinder having a piston and rod connected to the mechanism for moving the spindle longitudinally, a conduit for fluid under pressure leading to said feed-cylinder, a valve-casing situated in said conduit.

having ports leading to the supply and delivery sections of the conduit and to exhaust, a valve working in said casing, means whereby said valve is normally held in the position connecting the cylinder with the exhaust, a yielding connection whereby the valve is moved to connect the cylinder with the supply of pressure fluid and means whereby the valve is moved to cut off the supply from the cylinder actuated by the pressure in the cylinder.



2. In a drilling-machine, the combination with a drill-actuating spindle, means for rotating the same and connections by means of which the drill-spindle is moved longitudinally, of a feed-cylinder having a piston and rod connected to the mechanism for moving the spindle longitudinally, a conduit for fluid under pressure leading to said feed-cylinder, a valve-casing situated in said conduit, having a cylindrical chamber J^4 with a ports opening into the sides thereof from the supply and delivery conduits and from the exhaust, said valve-casing having also a chamber J^2 extending over the end of the chamber J^4 and in permanent connection with the feed-cylinder, a piston-valve working in the cylindrical chamber J^4 having its head exposed to the pressure in chamber J^2 means whereby said valve is normally held in the position connecting the feed-cylinder with the exhaust, and a yielding connection whereby said valve is shifted to connect the feed-cylinder with the supply and which connection permits the valve to move automatically to position to close the supply when the pressure in chamber J^2 attains a determined amount.

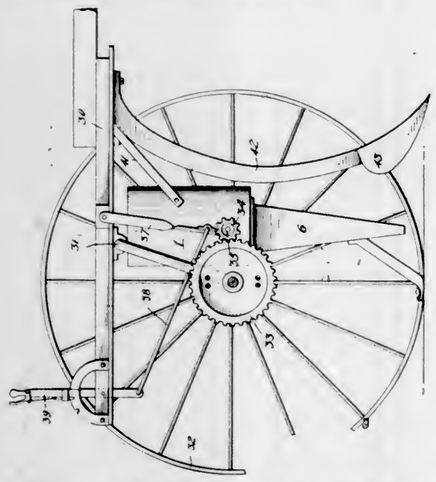
3. In a drilling-machine, the combination with a drill-actuating spindle, means for rotating the same and connections by means of which the drill-spindle is moved longitudinally, of a feed-cylinder having a piston and rod connected to the mechanism for moving the spindle longitudinally, a valve-casing connected to and moving with the spindle said casing having a cylindrical valve-chamber provided with lateral ports one connecting with a pressure-fluid supply, one with an exhaust and the third with the feed-cylinder through a flexible conduit, and said casing having also a chamber situated over one end of the valve-chamber and in permanent connection with the port leading to the feed-cylinder, a piston-valve moving in the valve-chamber, a valve-actuating connection having the capacity to yield for a definite distance under determined pressure said connection also moving with the spindle and acting normally to hold the valve in position to connect the feed-cylinder and exhaust-port.

4. In a drilling-machine, the combination with a guiding-head, a drill-actuating spindle and means supported on said head for rotating and means for elastically supporting the spindle, of a feed-cylinder for moving the spindle downward, a pressure-conduit leading to the feed-cylinder, a valve-casing situated in said conduit having in addition to the ports connecting it in the conduit, an exhaust-port, a valve moving in said casing to connect the feed-cylinder with the supply or exhaust and automatic means actuated by the pressure in the feed-cylinder acting to cut off the supply to said cylinder.

5. In a drilling-machine, a support having a capacity of universal movement in a horizontal plane, having in combination a drill-spindle supported thereon in suitable guides, a motor for rotating said spindle also supported thereon and suitably connected to the spindle, a feed-cylinder and piston connected to move the spindle longitudinally, a guiding-frame connected to actuate the supporting device and connected also to the spindle and piston and adapted to move in all directions with the spindle and the piston of the feed-cylinder, a valve-casing secured to and moving with said frame having ports connecting with a flexible conduit for fluid under pressure, with the feed-cylinder and with an exhaust, a valve working in said casing and a valve-actuating rod connected to the guiding-frame and having a fixed relation to the frame.

6. In a drilling-machine, a support having a capacity of universal movement in a horizontal plane, having in combination a drill-spindle supported thereon in suitable guides, a motor for rotating said spindle also supported thereon and suitably connected to the spindle, a feed-cylinder also supported on the movable support and having a piston connected to move the spindle longitudinally, a guiding-frame connected to actuate the movable support and connected to the spindle and piston of the feed-cylinder and moving in all directions with the spindle, a valve-casing and valve-actuating rod connected to the guiding-frame, said casing having admission, delivery and exhaust ports, a conduit for fluid under pressure connecting through the casing with the feed-cylinder, and a valve working in the casing and actuated by the rod aforesaid.

842,228. SEEDER. ROBERT H. MOUSER, Jr., Crown, Tex. Filed Oct. 20, 1906. Serial No. 339,848.

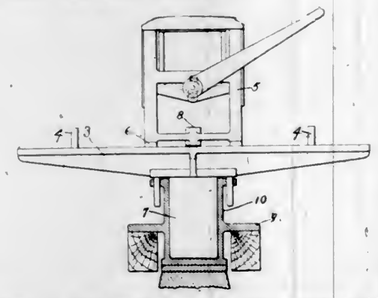


Claim.—1. A seed-dropping mechanism comprising a hopper having spaced upper and lower bottom plates formed with discharge-openings, a spring-controlled apertured feed-plate pivotally mounted between said bottom plates and having a projected arm, an agitator-shaft mounted in said hopper, a detent projecting from said shaft for operating the arm of said feed-plate, and a spring-actuated ejector mounted in said upper plate for ejecting the seed from the aperture in said feed-plate.

2. A seed-dropping mechanism comprising a hopper having spaced upper and lower bottom plates formed with discharge-openings, a spring-controlled apertured feed-plate pivotally mounted between said bottom plates and having a projected arm, an agitator-shaft mounted in said hopper, a second agitator-shaft in said hopper, sprocket-wheels secured upon the projecting ends of said agitator-shafts, a sprocket-chain connecting said sprocket-wheels, a detent-arm projecting from the first-mentioned agitator-shaft and adapted to operate the arm of said feed-plate, a spring-actuated ejector pivoted in a recessed portion of said upper plate and having a curved portion to enter the aperture in said feed-plate, and a shoe or chute depending from the bottom of said hopper.

3. The combination of a frame, an arched axle mounted thereon, supporting-wheels upon said axle, a gear fixed to one of said wheels, a seed-hopper mounted upon the arched portion of said axle, spaced upper and lower bottom plates in said hopper having disalined apertures, an apertured feed-plate pivoted between said bottom plates, a spring for actuating said feed-plate, an arm projecting from said feed-plate, an agitator-shaft mounted in said hopper, a detent projecting from said shaft for actuating the arm of said feed-plate, a swinging hanger depending from said frame, a shaft journaled in said hanger, a universal coupling between said agitator-shaft and the last-mentioned shaft, a pinion upon the last-mentioned shaft to coact with said gear, means for operating said swinging hanger for throwing said pinion into and out of mesh with said gear, an arm depending from said frame, a shovel upon said arm and a shoe depending from said hopper and arranged in rear of said arm and shovel.

842,229. MOLDING-MACHINE. EDGAR H. MUMFORD, Newtown township, Delaware county, Pa. Filed Feb. 19, 1906. Serial No. 301,842.



Claim.—1. The combination of a jolt ramming table provided with a releasable holding means, and a pattern drawing machine provided with means for being held evenly supported and means for engaging the releasable holding means.

2. The combination of a vertically movable jolt ramming table provided with a dowel pin and a pattern drawing machine provided with a socket for engaging the dowel pin.

3. In combination, a vertically movable jolt ramming table and a plurality of pattern drawing machines adapted to be secured thereto.

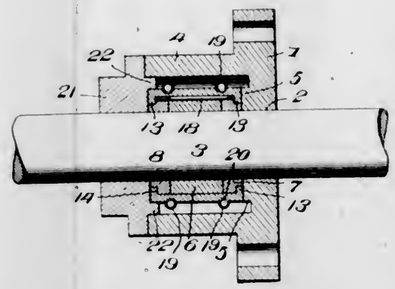
4. In combination, a vertically movable jolt ramming table and a plurality of different sized pattern drawing machines adapted to be secured thereto.

5. In combination a vertically movable jolt ramming table and a plurality of pattern drawing machines adapted to be secured removably thereto.

6. In combination, a vertically movable jolt ramming table provided with dowel pins and a plurality of pattern drawing machines having sockets for the reception of said dowel pins.

7. In combination, a vertically movable jolt ramming table, and a pattern drawing machine secured thereto.

842,230. PACKING. FELIX MCCARTHY, Pottstown, Pa. Filed Oct. 23, 1906. Serial No. 340,178.



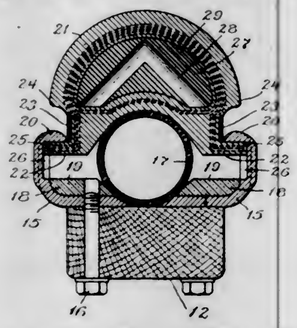
Claim.—1. A packing of the class described comprising the combination with a gland having a collar therein and a shaft extending therethrough; of a packing comprising a plurality of segments adapted to be disposed around said shaft in series, the meeting ends of each series of segments being spaced apart, a shoulder formed on a portion of said segments, a keeper adapted to surround said segments, said keeper being formed in sections, a tongue at one edge of each section and adapted to interlock with a groove in the opposite section, the meeting edges of said sections being spaced apart, means to hold said keeper in position around said segments and direct pressure thereagainst whereby the segments and keeper will be automatically contracted when worn, a cap for the outer end of said gland and a ledge on said cap adapted to surround one end of the packing.

2. A packing of the class described comprising a gland, a housing on said gland, a collar surrounding an opening in said gland, a shaft disposed through said opening, a plurality of segments grouped in series around said shaft, a portion of the series of segments having shoulders, a keeper for said segments, said keeper being formed in sections and having flanges at each end thereof adapted to engage the shoulders on the segments, the meeting edges of said segments and keeper being spaced apart and staggered with relation to each other, a tongue upon each section of said keeper adapted to enter a groove in the opposite keeper, springs disposed around said keeper adapted to draw the sections of the keeper and segments together when worn and means to close the end of said housing.

3. In a packing the combination with a gland and a shaft disposed therethrough; of a plurality of segments disposed around said shaft and within the gland, shoulders on a portion of said segments, a keeper for said segments, said keeper being formed in two sections, flanges at each end of said sections adapted to engage said shoulders and hold the segments into coöperation with each other, the meeting edges of the keeper-sections and the segments being spaced apart and the meeting-points staggered with relation to each other, springs disposed around the keeper and adapted to exert tension thereon whereby the segments will be held into engagement with the shaft and the wear thereon compensated for and means to retain the segments and keeper within the gland.

4. In a packing, the combination with a shaft, of a plurality of segments disposed around said shaft; shoulders on the end segments, a keeper for said segments said keeper being formed in two sections, flanges at each end of said sections adapted to engage said shoulders and hold the segments together, means disposed around said keeper to hold the same in engagement with the segments, a locking-bar extending longitudinally of the keeper and seated in the flanges thereon and adapted to enter alining channels in the segments whereby rotation of the segments independently of the keeper will be prevented.

842,231. PNEUMATIC TIRE. VALENTINE H. MCDOWELL, Lynn, Mass. Filed Dec. 4, 1905. Serial No. 290,060.



Claim.—1. A vehicle-wheel comprising a rigid rim having a groove forming a peripheral air-tube seat, lateral tire-seats at opposite sides of the tube-seat, and inwardly-projecting rigid flanges overhanging the said lateral seats, a practically inextensible air-tube supported by the tube-seat, and adapted to bulge laterally therefrom toward the tire-seats, and an elastic tire yieldingly supported by the air-tube, and having a groove in its inner side adapted to receive the outer portion of the air-tube, and outwardly-projecting flanges adapted to play between the flanges and the lateral seats of the rim, and to abut against said seats, the sides of the grooves of the rim and tire being flared or inclined to form spaces which prevent the laterally-bulging portions of the tube from being crushed between the contacting portions of the tire-seats and flanges.

2. A vehicle-wheel comprising a rigid rim having a peripheral air-tube seat, lateral tire-seats at opposite sides of the tube-seat, and inwardly-projecting rigid flanges overhanging the tire-seats, an air-tube supported by the tube-seat, and an elastic tire yieldingly supported by the air-tube and having lateral outwardly-projecting shoulders overhanging the rigid flanges, and inwardly-projecting flanges adapted to play between the said rigid flanges and lateral tire-seats, the said tire being free from clamping engagement with the rim.

3. A vehicle-wheel having a rigid rim, comprising a felly having an air-tube seat and annular clencher-plates bearing on the felly at opposite sides of the seat, said plates having inwardly-projecting rigid flanges, means for detachably securing the said plates to the felly, an air-tube supported by the tube-seat and adapted to expand laterally between the clencher-plates, and an elastic tire yieldingly supported by the air-tube and having outwardly-projecting flanges adapted to play within the flanges of the clencher-plates, the said tire being free from clamping engagement with the rim.

4. A vehicle-wheel having a rigid rim comprising a felly having an air-tube seat and annular clencher-plates at opposite sides of the seat, said plates having inwardly-projecting rigid flanges, an air-tube supported by the tube-seat, and an elastic tire yieldingly supported by the air-tube and having outwardly-projecting shoulders overhanging the clencher-plate flanges and outwardly-projecting flanges adapted to play within the clencher-plate flanges, said tire-flanges and the clencher-plates having interlocking members to prevent the tire from creeping.

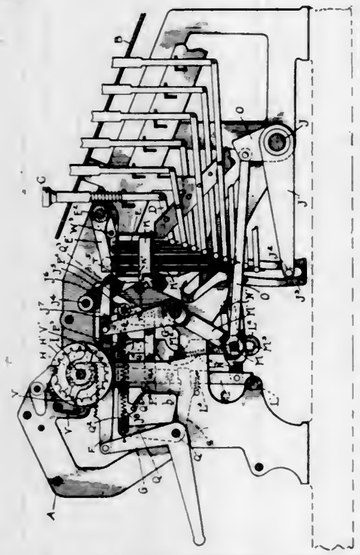
5. A continuous yieldingly-supported elastic tire having outwardly-projecting flanges provided with outwardly-projecting tenons adapted to engage mortises in a wheel-rim, and outwardly-projecting shoulders overhanging said flanges, the said shoulders and flanges being separated by spaces adapted to receive clenchers at opposite edges of the tire, the width of said spaces exceeding the thickness of the clenchers, whereby inward and outward play of the tire, independently of the clenchers, is permitted.

6. A continuous elastic tire having outwardly-projecting clencher-engaging flanges, and wear-resisting facing-pieces between said flanges and the tread portion of the tire, said facing-pieces being separated from each other by intermediate portions of the elastic body of the tire, and composed of a material which is free from liability to crush the body portions of the tire bearing on the edges of the said facing-pieces.

7. A continuous elastic tire having outwardly-projecting flanges, outwardly-projecting shoulders overhanging said flanges and separated therefrom by clencher-receiving spaces or grooves, and wear-resisting facing-pieces at the bottoms of said grooves, said facings being separated from each other by intermediate portions of the elastic body of the tire.

8. An elastic tire having hermetically-closed cells or chambers containing heat-absorbing bodies of air, each chamber having two oppositely-inclined branches which meet at the central portion of the tire in relatively close proximity to the median line of the tread, and diverge from said meeting-point toward the edges of the tire.

842,232. ADDING-MACHINE. CHARLES N. MCFARLAND, Dorranceton borough, Pa., assignor to The Adder Machine Company, Kingston borough, Pa., a Corporation of Pennsylvania. Filed May 14, 1906. Serial No 316,827.



Claim.—1. In an adding-machine the combination with a reciprocatory rack-bar, a register-wheel, an associated pinion in the plane of said rack and a vertically-adjustable shaft upon which said pinion and register-wheel are mounted, of means for automatically engaging and disengaging said pinion and rack-bar comprising a detent for holding said shaft in its raised position, means for disengaging said detent between the forward and return movements of said rack, and means for lifting said shaft and reëngaging said detent after the completion of the return movement; an independent optionally-operable means controlling the engagement and disengagement of said rack and pinion comprising a single operating-lever, a connection to said lever for releasing said detent, a lever for raising the shaft to reengage said detent, and a connection between said first and last mentioned lever for operating the latter upon the return movement of the former.

2. In an adding-machine the combination with a reciprocatory rack-bar, a register-wheel, an associated pinion in the plane of said rack-bar and a vertically-movable shaft on which said pinion and wheel are mounted, of automatically-operating mechanism for engaging and disengaging said rack and pinion comprising timed mechanism for raising and lowering said shaft respectively before and after the reciprocation of said rack-bar, a detent for holding said shaft from lowering and means for automatically disengaging said detent between the forward and return movements of said rack; a single optionally-operable lever for independently controlling engagement and disengagement of said rack and pinion, a connection to said lever for disengaging said detent, a lever for lifting said shaft to reengage said detent, and means operating upon the movement of said first-mentioned lever in one direction and the lowering of said shaft, for effecting a coupling between said first and last mentioned levers, whereby the latter may be operated by the return movement of the former, and means for disengaging said coupling upon the raising of said shaft.

3. In an adding-machine the combination with a reciprocatory rack-bar and a register-wheel and pinion, of a vertically-movable shaft on which said wheel and pinion are mounted, a vertical rod for supporting said shaft in raised position, a bearing upon which the lower end of said rod rests, means for disengaging said rod from its bearing to permit the lowering of said shaft, timed to operate between the forward and return movements of said rack-bar, means for lifting said shaft and reëngaging said rod with said bearing after the completion of the movement of said rack, an optionally-operable lever, a connection between said lever and rod, whereby the latter is disengaged from its supporting-bearing upon the movement of the former in one direction, a lever for lifting said rod to permit reëngagement of the same with said-supporting-bearing and a link or pawl extending between said first and last mentioned levers for automatically coupling the same upon the said movement of said first-mentioned lever in one direction and the lowering of said shaft, whereby the return movement of said lever will effect the raising of said shaft.

4. In an adding-machine the combination with a reciprocatory rack-bar and a pinion, of timed automatically-operating mechanism for engaging and disengaging said rack and pinion, an optionally-operable lever, a connection whereby the movement of said lever in one direction will advance the time of engagement of said rack and pinion, automatically-operating means for temporarily preventing the return movement of said lever, a lever for independently disengaging said pinion and a normally disconnected coupling between said first and last mentioned levers, adapted to be engaged during the interval in which said first-mentioned lever is locked, whereby the return movement of said lever will effect the disengagement of said rack and pinion.

5. In an adding-machine the combination with a reciprocatory rack and a register-pinion, of timed automatically-operating mechanism for engaging and disengaging said rack and pinion, an independent optionally-operable means for effecting said engagement and disengagement, comprising a lever which when moved in one direction advances the time of engagement and when moved in the opposite direction advances the time of disengagement, automatic controlling means whereby said lever can only be actuated in one direction in advance of the operation of said automatic mechanism, whereby the return movement is timed.

6. In an adding-machine the combination with item-registering keys and a totalizing-key, of means for automatically locking said keys when depressed and means whereby the operation of said totalizing-key will release previously-locked item-registering keys and the operation of the latter will release the former.

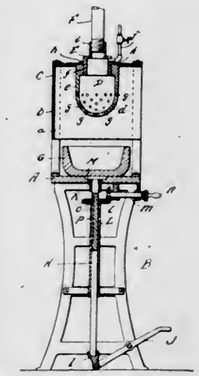
7. In an adding-machine the combination with item-registering keys and a totalizing-key, of means for locking said keys when depressed and a correcting-key operating to release either the item-registering keys or said totalizing-key.

8. In an adding-machine the combination with a reciprocatory rack-bar and a register-pinion, of timed automatic mechanism for engaging and disengaging said rack and pinion, an optionally-operable lever for independently effecting said engagement and disengagement upon movement thereof in opposite directions and a cam operating after the initial movement of said lever for supplying the power to complete the movement thereof and actuate the mechanism operated thereby.

9. In an adding-machine the combination with a series of reciprocatory racks and a series of coöperating pinions, of a vertically-movable shaft upon which said pinions are mounted, automatically-operating timed mechanism for raising and lowering said shaft to engage and disengage said racks and pinions, an optionally-operable lever for independently effecting said engagement and disengagement, the former upon its operation in one direction and the latter upon the return movement, and power-actuating means operating after the initial return movement of said lever for furnishing the power to complete the movement thereof.

10. In an adding-machine the combination with a series of reciprocatory rack-bars and a series of coöperating pinions, of a vertically-movable shaft upon which said pinions are mounted, reciprocatory automatic mechanism for raising and lowering said shaft to effect the engagement and disengagement of said racks and pinions respectively upon the forward and return movements, an optionally-operable lever for independently raising said shaft to effect the disengagement of said pinions, a cam for mechanically actuating said lever and means for storing power upon the forward movement of said automatic reciprocatory mechanism for operating said cam and lever to effect the raising of said shaft.

842,233. ART OF MAKING GLASS ARTICLES. JOSEPH A. MCLANE, Grafton, W. Va., assignor to John B. Hart, Harrison county, W. Va., Joseph Fuccy, Lewis county, W. Va., and Charles R. Durbin and George H. A. Kunst, Taylor county, W. Va. Filed Apr. 16, 1906. Serial No. 311,980.



Claim.—1. The herein-described improvement in the art of making glass articles which comprises shaping the molten glass to the desired form, chilling the plain surface thereof, and then revolving the article with its plain surface exposed to a melting-flame to produce a smooth surface.

2. The herein-described process of polishing or smoothing the plain surfaces of pressed glass articles which comprises molding molten glass to the desired shape, chilling the plain surface thereof to cause it to retain its shape, and then exposing its plain surface to the action of a melting heat.

3. The herein-described process of making glass articles which comprises molding the molten glass to the desired shape, then cooling the article, the covering the design or pattern on the article, and then subjecting its exposed surface to the action of a heating-flame.

4. The herein-described process of making glass articles which comprises molding the molten glass into the desired shape, then placing the same in a holder, then causing the former or holder to approach a burner, and then directing the heating medium in jets into the interior of the article.

5. The herein-described process of making glass articles which comprises molding the molten glass into the desired shape, then supporting it by a former or holder, then causing the holder to approach a burner, then revolving the

holder, and then directing the heating medium in jets onto the article.

6. The herein-described process of making glass articles which comprises molding or pressing the molten glass into the desired shape, then removing the same from the mold, and placing it in a holder, then causing the holder to approach a burner, then directing the heating medium onto the article, and then causing the former or holder to revolve.

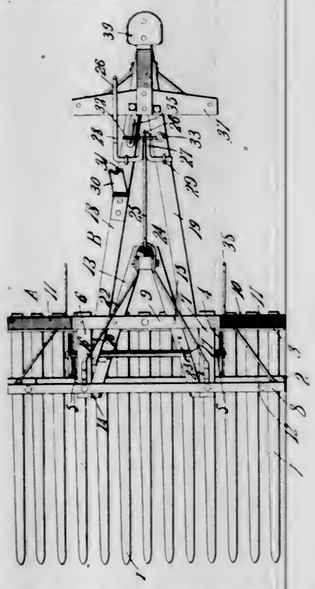
7. The herein-described process of making glass articles which comprises the shaping of the molten glass to the form desired, then cooling the article, and then subjecting the surface of the cooled article to a reheating agent while the same is being revolved.

8. The herein-described process of making glass articles which comprises the shaping of the molten glass to the desired form, then cooling the same, then applying heat to that surface of the article it is desired to reheat while the article is being revolved.

9. The herein-described process of making glass articles which comprises shaping the molten glass into the article desired and cooling the same, then subjecting the cooled article while held in the holder to the action of heated gases to melt out imperfections in the surface of the same.

10. The herein-described process of glazing or polishing glass articles which comprises supporting the article in a holder, then inserting the holder into a closed chamber and subjecting the exposed surface of the article to the direct action of heated gases.

842,234. HAY-RAKE. JACOB H. NEEB, Unionville, Mo. Filed Aug. 9, 1906. Serial No. 329,928.



Claim.—1. A device of the character described comprising a rake-frame having wheels supporting the same, a supporting-frame, a pivotal connection between the supporting-frame and the rake-frame at points adjacent the wheels, a rearward extension upon the rake-frame and projecting into the supporting-frame, an upwardly-projecting portion upon the rearward extension, braces between said portion and the rake-frame, an operating-lever upon the supporting-frame, and means for transmitting motion from the lever to the upwardly-projecting portion.

2. A device of the character described comprising a rake-frame having carrying-wheels, an approximately V-shaped structure connected at its forward ends to said rake-frame and extending rearwardly therefrom, an upright connected with the rear end of said V-shaped structure, a supporting-frame pivotally connected with said rake-frame, and an operating-lever mounted upon said supporting-frame and having a link connection with said upright for rocking the said rake-frame.

3. A device of the character described comprising a rake-frame consisting of a plurality of rake-teeth, a forward cross-bar, a rear cross-bar, longitudinally-extending spacing-blocks connected with said cross-bars, a V-shaped structure located between said spacing-blocks and connected therewith at its forward ends, the rear end of said V-shaped structure extending rearwardly from said rake-frame, an upright connected with the rear end of said V-shaped structure, a supporting-frame pivotally connected with said spacing-blocks, and an operating-lever mounted upon said supporting-frame and having a link connection with said upright.

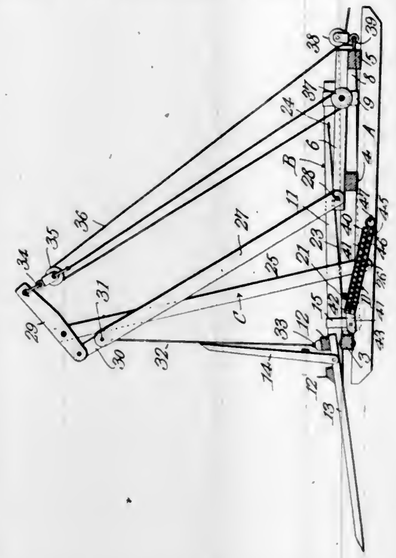
4. A device of the character described comprising a rake-frame having rake-teeth, forward and rear cross-bars connecting said rake-teeth, longitudinally-extending spacing-blocks mounted upon said cross-bars, forward and rear bracing members connecting the upper ends of said spacing-blocks, a V-shaped structure connected at its forward ends with said spacing-blocks and at the intermediate portion with said rear cross-bar, the rear end of said V-shaped structure extending rearwardly from said rake-frame, an upright connected with the rear end of said V-shaped structure, brace-rods connected at their rear ends with said upright and at their forward ends with said spacing-blocks, a ball pivotally connected with the upper end of said upright, a V-shaped supporting-frame having beveled ends extending into the spaces between the said V-shaped structure and said spacing-blocks, a pivot-rod extending through said spacing-blocks and supporting-frame and fitting into semicylindrical grooves in said V-shaped structure, an operating-lever mounted upon said supporting-frame and comprising a bar bent to form a crank portion, a link connecting said crank portion with the ball on said upright, a notched rest member for limiting the forward movement of said lever, a latch member pivotally mounted on said supporting-frame for engaging said crank portion and holding it in rearmost position, means for guiding the free end of said latch member, a guiding-wheel connected with said supporting-frame, and carrying-wheels connected with said rake-frame.

842,235. HAY-STACKER. JACOB H. NEEB, Unionville, Mo. Filed Aug. 20, 1906. Serial No. 331,359.

Claim.—1. A hay-stacker comprising a ground-frame, an extensible lifting-frame, and a derrick-frame comprising a rear derrick member, a forward derrick member, a rocking arm mounted on the forward derrick member and having a link connection with the rear derrick member, and means for operating said rocking arm and derrick-frame for elevating the lifting-frame.

2. A hay-stacker comprising a ground-frame, an extensible lifting-frame pivotally connected with said ground-frame and having rake-teeth, a derrick-frame comprising a forward derrick member, a rear derrick member and a rocking arm pivotally mounted upon said forward derrick member and having a link connection with said rear derrick member, connecting-rods extending between said rear derrick member and said lifting-frame, and a flexible element connected with said rocking arm for operating the said derrick-frame and raising said lifting-frame.

3. A hay-stacker comprising a ground-frame consisting of longitudinal sills, forward, intermediate and rear cross-bars and parallel bracing members connecting said intermediate and rear cross-bars, stud-shafts connected with said rear cross-bar, a lifting-frame pivotally mounted upon said stud-shafts and comprising upper and lower side bars slidably connected with each other, clamps for locking said side bars in adjusted position, a shaft having flexible elements for moving the upper side bars upon the lower side bars to extend the lifting-frame, rake-teeth carried by said lifting-frame, a derrick-frame consisting of a forward derrick member pivotally mounted upon the longitudinal sills of the ground-frame, a rear derrick member pivotally mounted between the parallel bracing members of the ground-frame, a rocking arm mounted upon the forward derrick member and having a link connection with the rear derrick member, connecting-rods extending between the rear derrick member and the lifting-frame, a pulley connected with the rear end of the rocking arm, a second pulley mounted between the parallel bracing members of the ground-frame, a third pulley connected with the rear cross-bar of the ground-frame, a flexible element connected with the first-mentioned pulley and extending through said second pulley, then through said first pulley and then through said third pulley for raising the lifting-frame, and a resilient device connected with the forward cross-piece of the ground-frame and having flexible elements attached to said lifting-frame for easing the rearward movement thereof and for imparting an initial forward movement thereto.

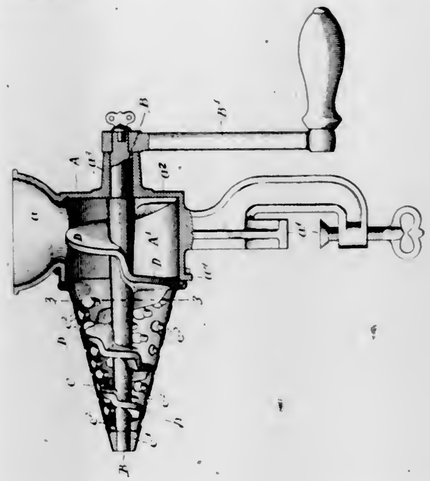


842,236. VEGETABLE-CUTTER. JEAN NEUKIRCHEN, Cologne, Germany, assignor to Peter Neukirchen, Chicago, Ill. Filed June 26, 1905. Renewed July 2, 1906. Serial No. 324,462.

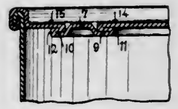
Claim.—1. In a device of the class described, the combination with a frame, of a conical grater secured thereto said grater having a suitable perforation in its side through which the material can be forced, a cutting edge on one side of said perforation, a spiral conveyer adapted to conduct material through said grater and means for retarding the forward movement of the material from time to time as it passes through said grater, whereby the material is reduced in size by contact with the walls of the grater before passing onward.

2. In a device of the class described, the combination with a suitable frame, of a conical grater secured thereto, said grater having a perforation in its wall, a cutting edge on one side of said perforation, a spiral conveyer adapted to advance the material through said grater, the spiral of said conveyer being formed with a plurality of steps of high pitch, whereby the advance of the material through the grater is arrested periodically.

3. In a device of the class described, the combination with a frame, of a hollow conical grater detachably secured thereto, having a perforation in its wall, a cutting edge on one side of the perforation, a spiral conveyer within said grater, said conveyer being constructed with a plurality of steps of steep pitch, whereby the forward movement of the material through the grater is arrested periodically.



842,237. OPENING DEVICE FOR PRESERVE-BOXES. SÖREN OPSAL and LEONOR A. MYDLAND, Stavanger, Norway. Filed Feb. 14, 1905. Serial No. 245,633.



Claim.—1. A metallic box provided with an integral part having along its edge an inwardly-extending or an outwardly-extending fold comprising three adjacent and zigzag plies, which define an integral part to be torn away, and a short projecting tongue connected with said part.

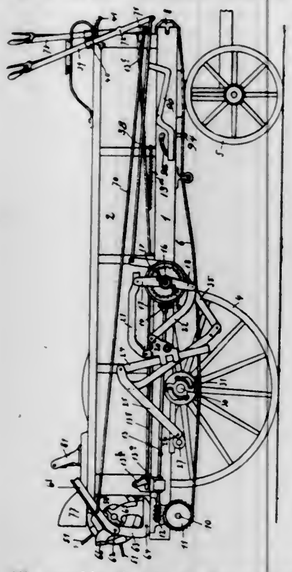
2. A metal box provided with an integral removable part having opposite side edges and along each of its said edges an inwardly-extending or an outwardly-extending fold comprising three adjacent and zigzag plies, the whole defining the integral part to be torn away, and a short projecting tongue connected with said part and broader at the point of connection than the distance between the opposite edges referred to.

3. A metal box provided with an integral removable strip having along its edge an inwardly-extending or an outwardly-extending fold comprising three adjacent and zigzag plies, which define an integral part to be torn away, and a short projecting tongue passing through the metal of said can and connected with said strip at the interior of the can and broader at the point of connection than the contacting portions of the plies.

4. A metal box provided with an integral removable part having its side edges parallel and along each of said edges an inwardly-extending or an outwardly-extending fold comprising three adjacent and zigzag plies, the whole defining a continuous integral strip to be torn away, and a short projecting tongue connected with said part and broader at the point of connection than the strip to be removed.

5. A metal box provided with an integral removable part having along its edge an inwardly-extending or an outwardly-extending fold comprising three adjacent and directly-contacting zigzag plies, which define an integral part to be torn away, and a tongue considerably shorter than and connected with the part to be removed and broader at the point of connection than the contacting portions of the plies.

842,238. MANURE-SPREADER. EDWIN H. PARK, Millbury, Mass., assignor to Standard Harrow Company, Utica, N. Y. Filed Nov. 14, 1904. Serial No. 232,651.



Claim.—1. The combination in a manure-spreader of a load-holding box, a tail-board therefor, mountings for the tail-board arranged to provide for an initial movement thereof longitudinally of the box to become freed from the load and then up out of the way of the load, substantially as set forth.

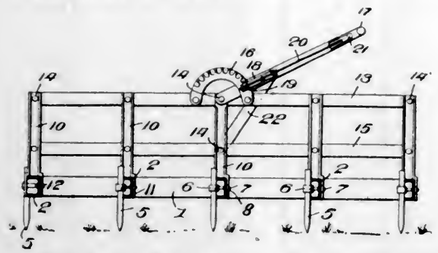
2. The combination in a manure-spreader of a load-holding box, a tail-board therefor, movable hangers by means of which the tail-board is mounted, and means for moving the tail-board first longitudinally of the box to free it from the load, and then up out of the way of the load, substantially as set forth.

3. The combination in a manure-spreader of a load-holding box having a movable bottom, a beater provided at the rear end of the box to distribute the load, a tail-board arranged forward of the beater and adapted to close the rear end of the box and to be moved to a position over the beater to act as a shield, and means for moving the tail-board first longitudinally of the box toward the rear to free it from the load, and then up out of the way of the load in passing to the beater, substantially as set forth.

4. The combination in a manure-spreader of a load-holding box having a movable bottom, a beater arranged at the rear end of the box, a tail-board adapted to close the rear end of the box in advance of the beater and be moved to a position over the beater to act as a shield, and mountings for the tail-board arranged to provide for an initial movement to the rear to become freed from the load, and then up out of the way of the load in its passage to the beater, substantially as set forth.

5. The combination in a manure-spreader of a load-holding box having a movable bottom, and means for feeding the bottom toward the rear, a rotary beater arranged at the rear end of the box with means for driving the same, a tail-board adapted to close the rear end of the box in advance of the beater and mouuted to provide for a limited movement longitudinally of the box and up over the rear end of the box, rods extending along the sides of the box and connected with the tail-board, a rock-shaft at the forward end of the box having crank-arms to which the said rods are attached respectively, means for holding said crank-arms secured with the tail-board in closed forward position, and manually-operatable means for moving the tail-board through the medium of said rock-shaft and connecting-rods, substantially as set forth.

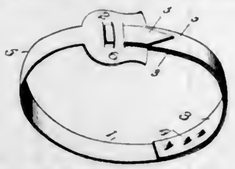
842,239. CONTROLLING MEANS FOR HARROWS. EARL A. PARRETT, North Manchester, Ind. Filed Sept. 5, 1906. Serial No. 333,295.



Claim—1. In a device of the class described, the combition with a harrow-frame having bars rotatably mounted therein, and teeth on said bars; of standards secured to said bars, plates pivotally secured to said standards, a rack-bar rigid with one of said plates, a lever pivotally secured to one of said standards, a latch on said lever adapted to engage said rack-bar, and means interposed between one of said standards and lever whereby when the lever is moved, the bars 2 will be rotated and the pitch of the teeth varied.

2. In a device of the class described, the combination with a harrow-frame having bars movably mounted therein, and teeth on said bars; of standards on said bars, plates connecting all of said standards and pivotally secured thereto, a rack-bar on one of said plates, a lever pivotally secured to one of said standards, a latch on said standard and adapted to engage said rack-bar, means to control the movement of said latch and a link disposed between said lever and one of the standards and interchangeably secured thereto whereby the slant of the teeth may be regulated and the cutting edges of the teeth reversed.

842,240. PACKAGE-TIE. FERDINAND S. PECK, Petoskey, Mich., assignor of one-half to Will Z. Searle, Petoskey, Mich. Filed Mar. 26, 1906. Serial No. 308,122.

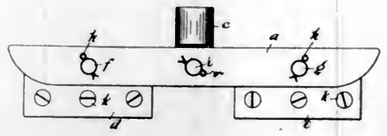


Claim.—1. A package-tie comprising an encircling band having an enlarged portion at an intermediate portion thereof, the portion of the band upon one side of the enlarged portion being provided with means for preventing the band from slipping upon the package when being drawn in position around the same, while the end of the opposite portion of the band is adapted to interlock with the before-mentioned intermediate enlarged portion.

2. A package-tie comprising an encircling band having an enlarged portion at an intermediate point therein, the portion of the band upon one side of the enlarged portion being formed with a series of spurs for preventing the band from slipping upon the package when being drawn in position around the same, while the end of the opposite portion of the band is adapted to interlock with the before-mentioned intermediate enlarged portion.

842,241. MECHANICAL EAR FOR TROLLEY-WIRES. THOMAS E. R. PHILLIPS, London, England. Filed Aug. 1, 1905. Serial No. 272,273.

Claim.—1. A mechanical ear for electric conductors said ear comprising an inverted-U-shaped frame, a number of pairs of plates held in pivotal and removable connection within said frame, said plates being adapted at their lower ends to embrace and retain an electric conductor, and means for connecting up said frame to a span-wire, substantially as herein described.



2. A mechanical ear for electric trolley-wires, said ear comprising an inverted-U-shaped frame, a number of pairs of plates pivotally held within said frame by bolts, said plates having spacing-ribs at their upper ends and adapted at their lower ends to engage and hold a trolley-wire, and means for connecting up said frame to a span-wire substantially as herein described.

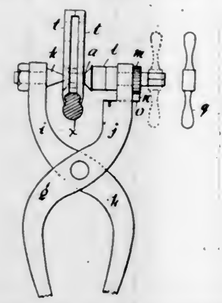
3. A mechanical ear for electric trolley-wires, said ear comprising a frame; a number of pairs of plates pivotally held to said frame by bolts removably secured in place by cotter-pins; said plates having spacing-ribs at their upper ends and adapted at their lower ends to engage and hold a trolley-wire, means for drawing and holding said plates tightly together and means for connecting up said frame to a span-wire substantially as herein described.

4. A mechanical ear for electric trolley-wires, said ear comprising a frame; a number of pairs of plates removably and pivotally held to said frame by bolts and cotter-pins; spacing-ribs at the upper ends of said plates, screws for drawing and holding said plates tightly together to hold a trolley-wire therebetween, and a boss pivoted and removably secured to said frame for connecting the latter to a span-wire substantially as herein described.

5. A mechanical ear for electric trolley-wires, said ear comprising a frame; a number of pairs of plates pivotally held to said frame as to be movable in relation therewith, and a boss pivoted to said frame whereby said frame is movable with relation to said boss, substantially as herein described.

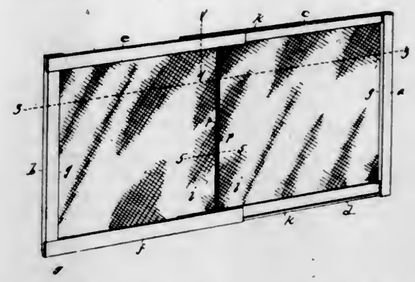
6. A mechanical ear for electric trolley-wires, said ear comprising a frame having pivoted and removably connected thereto by means of bolts secured by cotter-pins, a number of pairs of plates having spacing-ribs at their upper ends, and being grooved and beveled at their lower ends for engaging and holding a grooved trolley-wire, screws for drawing and holding said plates tightly together, and a boss pivoted and removably secured to said frame substantially as and for the purposes described.

842,242. SCREW. THOMAS E. R. PHILLIPS, London, England. Filed Aug. 19, 1905. Serial No. 274,937.



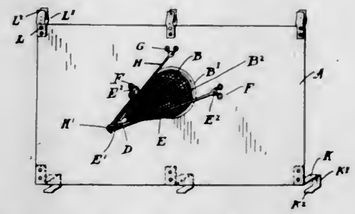
Claim.—A riveting-tool for use in connecting and riveting two or more portions of work by means of a screw and nut of the kind described, said tool comprising a pair of pivotally-connected members, engaging devices mounted in the one end of said devices for engaging the screw and nut and means for controlling one of said devices consisting of a ratchet-wheel *m* pawl *n* and a spring *o* substantially as described.

842,243. ADJUSTABLE WINDOW-SCREEN. WINFIELD B. PHILLIPS, Fenton, Mich. Filed Oct. 14, 1904. Serial No. 228,428.



Claim.—A window-screen embodying two frames each having a top and bottom bar and a connecting-bar at one end, the top and bottom bars of each of said frames being grooved on their outer edges, a cap or slide secured to each of the top and bottom bars of one of said frames and disposed within the groove thereof and projecting laterally from said bars to slidably engage with the groove of the top and bottom bars of the adjacent frame, said caps extending from the end bar of the frame to which they pertain to the inner extremities of the top and bottom bars thereof and having their outer, lateral faces lying substantially flush with the outer faces of the top and bottom bars of the adjacent frame, whereby the space between the end bars of one frame and the ends of the top and bottom bar of said adjacent frame is closed against the entrance of insects when the window-screen is flush against the rail of the sash, substantially as specified

842,244. INSECT-TRAP. WILL C. PIKE, Muncie, Ind. Filed Aug. 26, 1905. Serial No. 275,933.

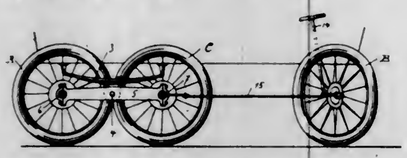


Claim.—1. An insect-trap comprising an opaque flexible base adapted to be retained against an open window, said base having an aperture therein, a transparent flexible cage communicating with the aperture and secured to the base, the aperture being of a diameter smaller than that of the cage, a support for said sage detachably secured thereto.

2. An insect-trap comprising an opaque flexible base adapted to be retained against an open window, said base having an aperture therein, a transparent flexible cage communicating with the aperture and secured and supported to the base, a shutter secured to the base adjacent the aperture therein whereby the aperture may be closed.

3. In an insect-trap of the kind described, the combination with a flexible opaque base provided at its lower edge with a series of clips K having return-bends therein whereby same may be detachably secured to the window-sill and provided at its upper edge with a series of spring-clamps L whereby same may be secured to the window-blind, said base having an aperture therein provided with a shutter and a flexible transparent cage secured to the base and communicating with said aperture, of a spring-wire truss and brace hingedly secured to the base substantially as and for the purposes described.

842,245. RUNNING-GEAR FOR AUTOMOBILES. CHARLES T. PRATT, Frankfort, N. Y. Filed Aug. 15, 1905. Serial No. 274,255.



Claim.—1. The combination in a running-gear for automobiles of six carrying-wheels, one pair of which carries one end of the body and the other four of which carry a truck carrying intermediate of the two pairs of wheels said body, and means for applying more weight to a given pair of the truck-wheels, substantially as set forth.

2. The combination in a running-gear for automobiles of a body and a flexible truck consisting of two axles and wheels, truck-frame side bars flexibly connected to the axles, and springs between said frame-bars and the body, substantially as set forth.

3. The combination in a running-gear for automobiles of a flexible truck consisting of two axles with wheels, truck-frame side bars flexibly connected to the axles and means for supporting the body from said side bars, substantially as set forth.

4. The combination in a running-gear for automobiles of a body, a pair of steerable wheels supporting one end of the body, two pairs of wheels supporting the other end of the body, one pair of which latter wheels are steerable and the other non-steerable and driving, and a common steering mechanism connected to the several steerable wheels and arranged to cause their angular adjustment in different degrees substantially proportionable to their distance from the non-steerable wheels, substantially as set forth.

5. The combination in an automobile of a body, a pair of steerable wheels supporting one end of the body, two pairs of wheels supporting the other end of the body, the inner pair of which are steerable wheels and the outer pair non-steerable driving-wheels, and a common steering mechanism connected with all steerable wheels and arranged to turn in the same direction, all steerable wheels to different degrees of angularity to the body substantially according to their distance from a non-steerable pair, substantially as set forth.

842,246. HYDROCARBON ROCK-DRILL. JOHN V. RICE, Jr., Bordentown, N. J. Filed May 27, 1904. Serial No. 210,112.

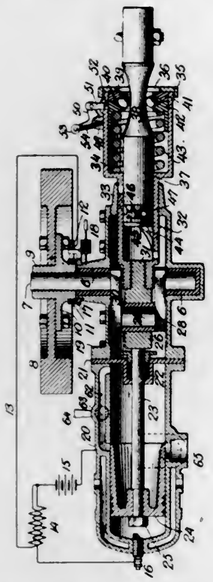
Claim.—1. In a rock-drill, the combination with a cylinder, of a piston in said cylinder, a piston-rod, a fly-wheel, means actuated by said piston-rod for actuating said fly-wheel, a tube carried by said rod, and a drill-carrier mounted in said tube.

2. In a rock-drill, the combination with a cylinder, of a piston in said cylinder a yoke at the forward end of the piston-rod, a tube carried by said rod, a drill-carrier yieldably mounted in said tube, crank-arms with cross-pin playing in the yoke and a fly-wheel.

3. In a rock-drill, the combination of a cylinder a piston carried by the cylinder, a piston-rod with a yoke, crank-arms with cross-pin and block playing in the yoke, a slotted tube carried by the yoke, and a drill-carrier yieldably mounted in the tube.

4. In a rock-drill, the combination of a cylinder, a piston therein, a yoke, crank-shaft with arms and cross-pin, a drill-carrier, a tube carrying same, an extension to the cylinder inclosing the crank-arms, shaft, yoke and tube, and a head to the tube with yielding means between the tube and the drill-carrier.

5. In a rock-drill, the combination of a cylinder, a piston therein, a piston-rod, a drill-carrier, an extension secured to the cylinder; a yoke secured to the piston-rod, crank-arms, crank-shafts and a tube for the drill-carrier contained within the extension, a fly-wheel, a head on the tube, resilient means for coupling the head and drill-carrier the drill-carrier, and means for relieving the drill-carrier of the control of the resilient means.



6. In a rock-drill, the combination of a cylinder, a piston therein, an extension secured to the cylinder, a crank-shaft journaled in the extension, a piston-rod playing in the cylinder and extension, a yoke secured to the front end of the piston, crank-arms with cross-pin and block playing in the slot of the yoke, a tube secured to the front of the yoke, a bell-shaped head to the tube, coöperating rings carried within the head, a spring pressing on one of the rings, a drill-carrier with reduced portion, ball-bearings playing on the reduced portion of the drill-carrier and between the rings, a bolt adapted to be inserted between the coöperating rings when separated to hold them apart, and rotating means connecting the tube with the drill-carrier.

842,247. PANTOGRAPHIC MILLING-MACHINE. FRANCIS H. RICHARDS, Hartford, Conn., assignor, by mesne assignments, of one-half to American Typographic Corporation, a Corporation of New Jersey. Filed Dec. 20, 1900. Serial No. 40,571.

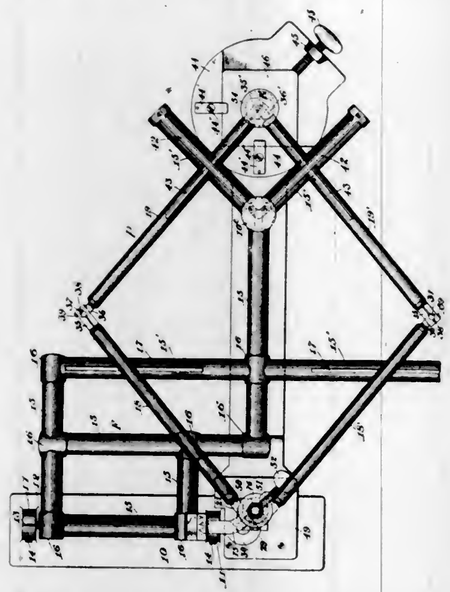
Claim.—1. The combination with a pivotally-mounted articulated pantograph system comprising a large and a small cell, of a supporting-frame in contact with a member of which each member of the large cell is adapted to slide, and which frame is adapted to oscillate about an axis transverse to the pivotal axis of the system; and a tool and a tracer carried by the system.

2. The combination with a pantograph system comprising a large and a small cell and which is pivotally mounted to swing about a vertical axis, of a supporting-frame in contact with a member of which each member of the large cell is adapted to slide, and which frame is adapted to oscillate about a horizontal axis; a tool carried by one cell of the system; and a tracer carried by the other cell.

3. The combination with a pantograph system comprising a large and a small cell, and which is pivotally mounted to swing about a vertical axis, of a supporting-frame in contact with a member of which each member of the large cell is adapted to slide, and which frame is adapted to oscillate about a horizontal axis; a rotative tool carried by one cell of the system; and a tracer carried by the other cell.

4. The combination with a pantograph system comprising a large and a small cell and which is pivotally mounted

to swing about a vertical axis, of a supporting-frame in contact with a member of which each member of the large cell is adapted to slide, and which frame is adapted to oscillate about a horizontal axis; a rotative tool carried by one cell of the system; and a tracer carried by the other cell and having a conical operative surface.



5. The combination with a pantograph system comprising a large and a small cell and which is pivotally mounted to swing about a vertical axis, of a supporting-frame in contact with a member of which each member of the large cell is adapted to slide, and which frame is adapted to oscillate about a horizontal axis; a rotative tool carried by one cell of the system; a tracer mounted on the other cell and adjustable toward and away from the plane of the system and having a conical operative surface.

6. The combination with a support for the members of a pantograph system and which support is oscillatory about an axis disposed substantially parallel to the plane of the system, of a pantograph system slidably mounted thereon and pivotally connected therewith; a tool and a tracer carried by the system; and retaining-bars secured to said support and between which and the support the pantograph system is adapted to slide.

7. The combination with an oscillatory frame, of a pantograph system pivotally mounted thereon and having a pivotal axis between two of its jointed members coincident with the pivotal axis of its connection with said frame.

8. The combination with an oscillatory supporting-frame having a pair of projecting arms, of a pantograph system comprising a member having a bifurcated end located between the said projecting arms and a member projecting into the space between the limbs of said bifurcation; and a pair of pivot-pins secured to said limbs and each engaging at one end with an arm of the supporting-frame and at the other end with the end portion of the second-mentioned member of the pantograph system.

9. The combination with an oscillatory supporting-frame having a pair of projecting arms provided with cylindrical bearing parts adjustably secured to the arms, of a pantograph system comprising a member having a bifurcated end located between the said projecting arms and a member projecting into the space between the limbs of said bifurcation; and a pair of cylindrical pivot-pins adjustably secured to said limbs, the outer ends of said pins being conical and entering sockets in the said bearing parts of said arms and the inner ends of said pins being likewise conical and entering sockets in the end portion of the second-mentioned member of the system.

10. An articulated pantograph system comprising pairs of jointed members, one of which members is bifurcated and the other of which enters the space between the limbs of such bifurcation; and a pair of cylindrical pivot-pins adjustably clamped in cylindrical openings in the limbs of the bifurcation and having conical ends entering sockets in the end portion of the member entering the bifurcation.

11. The combination of an oscillatory frame, an articulated pantograph system pivotally mounted thereon and comprising pairs of jointed members, one of which members is bifurcated and the other of which enters the space between the limbs of such bifurcation; a pair of cylindrical pivot-pins adjustably clamped in cylindrical openings in the limbs of the bifurcation and having conical ends entering sockets in the end portion of the member entering the bifurcation; a tool carried by said system adjacent to its point of pivotal connection with the frame; a driving-pulley mounted on the frame; and an adjustable driving connection between the pulley and the tool.

12. The combination of an oscillatory frame, an articulated pantograph system pivotally mounted thereon and comprising pairs of jointed members one of which members is bifurcated and the other of which enters the space between the limbs of such bifurcation; a pair of cylindrical pivot-pins adjustably clamped in cylindrical openings in the limbs of the bifurcation and having conical ends entering sockets in the end portion of the member entering the bifurcation; a tool carried by said system adjacent to its point of pivotal connection with the frame; a driving-pulley mounted on the frame; and a pin-and-slot driving connection between the pulley and the tool.

13. The combination with a movably-mounted articulated pantograph system embodying a large and a small cell, of a supporting-frame coöperating with a member of which each member of the large cell is adapted to slide, and which frame is adapted to move about an axis transverse to a pivotal axis of the system, and a tool and tracer carried by the system.

14. The combination with a pantograph system comprising a large and small cell and which is movably mounted to swing about a vertical axis, of a supporting-frame coacting with a member of which each member of the large cell is adapted to slide, and which frame is adapted to move about a horizontal axis, a work-performing member carried by one cell of the system, and a guide for said work-performing member carried by the other cell.

15. The combination with a pantograph system comprising a large and a small cell, and which is suitably mounted to be carried about a vertical axis, of a supporting frame coöperating with a member of which each member of the large cell is adapted to move, and which frame is adapted to turn about a horizontal axis; a rotative work-performing member carried by one cell of the system, and a guide for said work-performing member carried by the other cell.

16. The combination with a pantograph system comprising a pair of cells and which is mounted to swing about an axis, of a supporting-frame coacting with a member of which each member of one of the cells is adapted to slide, and which frame is adapted to move about another axis; a rotative work-performing member carried by one cell of the system, and a guide for said work-performing member carried by the other cell and having a suitable operative surface.

17. The combination with a pantograph system comprising a large and a small cell and which swings about a vertical axis, of a supporting-frame in contact with the members of which the members of the large cell are adapted to slide, and which frame is adapted to move in a horizontal axis; a rotative work-performing member carried by one cell of the system; a guide for said work-performing member mounted on the other cell and adjustable toward and away from the plane of the system and having a conical operative surface.

18. The combination with a support for the members of a pantograph system and which support is movable about an axis disposed substantially parallel to the plane of the system, of a pantograph system movably mounted thereon

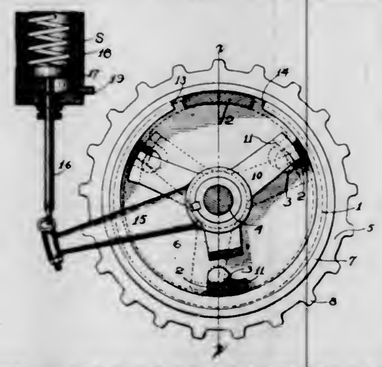
and movably connected therewith; a work-performing member, and means for guiding said work-performing member carried by said system; and retaining-bars secured to said support and between which and the support the pantograph system is adapted to move.

19. The combination with a movable frame, of a pantograph system pivotally mounted thereon and having an axis of movement between two of its jointed members coincident with the axis of its connection with said frame.

20. The combination with a movably-mounted supporting-frame having a pair of projecting arms, of a pantograph system comprising a member having a bifurcated end located between the said projected arms, a member projecting into the space between the limbs of said bifurcation, and a pair of members secured to said limbs and each engaging at one end with the arm of a supporting-frame, and at the other end with the end portion of the second portion of the pantograph system.

21. The combination with a mounted articulated pantograph system comprising a large and a small cell, of a supporting-frame in contact with a member of which each member of the large cell is adapted to slide, and which frame is adapted to move about an axis transverse to the axis of the system, and a tool and tracer carried by the system.

842,248. BRAKE MECHANISM. ALBERT F. ROCKWELL, Bristol, Conn., assignor to The New Departure Manufacturing Company, Bristol, Conn., a Corporation of Connecticut. Filed Oct. 30, 1905. Serial No. 285,210.



Claim.—1. In a device of the class described, the combination with a rotatable part, of a braking element having an inherent expansive tendency to engage the rotatable part, and means for normally retracting the expansive element away from the rotatable part.

2. In a device of the class described, the combination with a rotatable element having a braking-face, of an expansive ring for engaging the braking-face, and means for normally retracting the expansive ring.

3. In a device of the class described, the combination with a gear having a circumferential flange, of a shaft for supporting said gear, a hub on said shaft, an expansive ring, and means connected to said hub and said ring for normally retracting said ring away from the flange on the gear which it is adapted to engage.

4. In a device of the class described, the combination with a gear having a circumferential flange, of a shaft for supporting said gear, a hub on said shaft, an expansive ring within the flange, connections between hub and ring, and means for partially rotating said hub on said shaft.

5. In a device of the class described, the combination with a rotative element having a circumferential flange, of an expansive ring within the flange and having a split portion providing two spaced ends, a rigid abutment between the spaced ends of the ring, and means for normally retracting said ring.

6. The combination with a movable element adapted to be braked, of a brake element which itself acts as a brake and has inherent in itself the tendency to move into braking position, and means for holding said brake element in retracted position.

7. The combination with a movable element, of a braking element therefor which itself acts as a brake and has inherent in itself the tendency to move into braking position, one of said elements lying about the other thereof, and means for holding said brake element in retracted position.

8. The combination with a movable element, of a brake element therefor which itself acts as a brake and has inherent in itself the tendency to move into braking position, one of said elements lying about the other, means for limiting the movement of the brake element in either of two directions, and means for holding said brake element in retracted position.

9. The combination with a rotative element having a braking-face, of an expansive ring for engaging said braking-face and having a split portion providing spaced ends, an abutment between the spaced ends of the ring, and means for normally retracting said ring.

10. In a device of the class described, the combination with a rotatable element having a braking-face, of an expansive ring for contacting with the braking-face to retard the movement of the rotatable element in either of two directions, and means for normally retracting the expansive ring.

11. In a device of the class described, the combination with a rotatable element having a braking-face, of an expansive ring for contacting with the braking-face, means for normally retracting the expansive ring, and means for controlling the resistance offered by the ring to the braking-face when the ring is released by the retracting means.

12. The combination with a movable element adapted to be braked, of a brake element which itself acts as a brake and has inherent in itself the tendency to move into braking position, means for holding said element in retracted position, and means for controlling the application of the brake element while it is applied.

13. The combination with a movable element adapted to be braked, of a brake element which itself acts as a brake and has inherent in itself the tendency to move into braking position, and a fluid-controlled means for holding said brake element in retracted position.

14. In a device of the class described, the combination with a rotatable element having a braking-face, of a shaft for supporting said rotatable element, a hub on said shaft, an expansive ring, and means connected to the said hub and said ring for normally retracting said ring away from the braking-face on the rotatable element which it is adapted to engage.

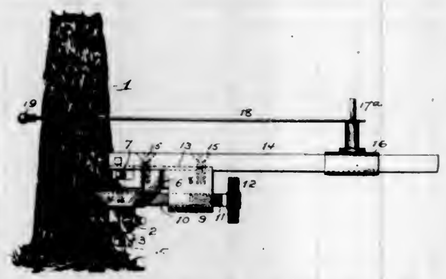
15. In a device of the class described, the combination with a rotatable element having a braking-face, of a shaft for supporting said rotatable element, a hub on said shaft, an expansive ring, and means carried by the hub for retracting said ring away from the braking-face on the rotatable element which it is adapted to engage.

16. In a device of the class described, the combination with a rotatable element having a braking-face, of a hub concentric with said rotatable element and having movement independent thereof, a ring for contact with the braking-face on the rotatable element, and means carried by the hub and having movement to retract the ring from engagement with the braking-face or permit it to engage said braking-face to brake the rotatable element in either of two directions of movement.

842,249. TREE-FELLING MACHINE. JOHN O. ROLLINS, Tuolumne, Cal. Filed July 28, 1905. Serial No. 271,664.

Claim.—1. In a tree-felling machine, the combination with a bracket having a curved peripheral face and means for securing said bracket to a tree, of a block adjustably supported upon the bracket, means mounted in the block to engage the curved face of the bracket for clamping the block at various positions relatively to the bracket, a bar secured to the block, and a sliding saw-carrier mounted on the bar.

2. In a felling-machine, the combination with a bracket having a curved peripheral face, of a bar pivotally mounted upon the bracket, a locking device supported by the bar to engage the curved face of the bracket and clamp the bar at various positions, a sliding saw-carrier on the bar maintaining the saw parallel to the plane of the swing of the bar, and means connected with said bracket and bar for forcing the latter to one side when the locking device is released.



3. In a tree-felling machine, the combination with a bracket and means for securing the same to a tree, of a bar pivotally mounted upon said bracket and projecting outwardly therefrom, a sliding saw-carrier mounted upon said bar, and means connected with said bar and bracket tending to turn the bar laterally on its pivotal connection with the bracket.

4. In a tree-felling machine, the combination with a support to be driven into a tree, of a bracket on said support having a curved peripheral face, a bar pivotally mounted on the bracket, means carried by the bar to engage the curved peripheral face of the bracket and clamp the bar in various positions, a sliding saw-carrier on the bar and movable throughout the full length thereof and means connected with the bar and bracket exerting lateral pressure on the bar when the clamping means is released.

5. A tree-felling machine, comprising a bracket, means for securing the bracket to a tree, a bar pivotally mounted upon the bracket, means carried by the bar for locking the latter at various positions against pivotal movement, a sliding saw-carrier on the bar, said saw-carrier being movable throughout the full length of the bar, and a pin on the saw-carrier to receive one end of a saw.

6. A tree-felling machine, comprising a saw, a laterally-curved guide-bar, means for attaching the guide-bar to a tree, and a sliding connection between said laterally-curved bar and one end of the saw.

7. A tree-felling machine, comprising a support, means for securing the support to a tree, a laterally-curved bar attached at one end to said support and projecting outwardly therefrom, a carrier mounted to travel from end to end of said laterally-curved bar and a saw attached at one end to said carrier.

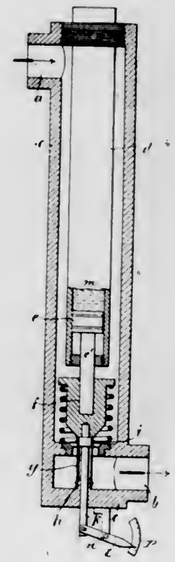
8. In a tree-felling machine, the combination of a bracket to be secured to a tree and having a beveled peripheral edge, a block pivotally mounted upon said bracket and provided with a set-screw-locking device to engage the beveled edge of the bracket and clamp the block to the bracket, and a guide-bar secured to the block, all substantially as and for the purpose set forth.

9. A tree-felling machine, comprising a guide-bar, means for supporting the same, a saw-carrier comprising a shell to clasp the guide-bar and movable the length of the latter and a pin on said shell, and a saw pivotally connected with said pin.

842,250. STEAM-TRAP. HERMANN SANDVOSS, Neuss, Germany. Filed Feb. 21, 1906. Serial No. 302,181.

Claim.—A steam-trap comprising a casing, an inclosed cylinder, a piston and a liquid within the cylinder, a valve controlled by the piston, a rod passing through the casing and connected to the valve, a flexible hose surrounding the rod, and an indicator operatively connected to the rod, substantially as specified.

842,250.



842,251. ROLLER-BLIND SHUTTER FOR PHOTOGRAPHIC CAMERAS. CARL SASSE, Dresden, Germany. Filed Oct. 25, 1905. Serial No. 284,339.



Claim.—1. A roller-blind shutter for photographic cameras with a variable exposure-slot comprising, in combination, a motor-roller and a motor-blind secured thereto; a resetting-roller and a resetting-blind secured thereto, the exposure-slot being formed between the adjacent exposure edges of the two blinds; a bar secured to the exposure edge of the resetting-blind; an exposure-slot-regulating roller secured to the exposure edge of the motor-blind upon which said blind may wind and unwind; tapes or cords secured to said bar and winding and unwinding upon said exposure-slot-regulating roller oppositely to the way the motor-blind winds and unwinds thereon; and stops to engage the exposure-slot-regulating roller and stop its travel, both following the exposing and in resetting; whereby the rotation of the resetting-roller after the onward travel of the exposure-slot-regulating roller has been stopped rotates the exposure-slot-regulating roller, thereby winding the motor-blind thereon and increasing the size of the exposure-slot.

2. A roller-blind shutter for photographic cameras with a variable exposure-slot comprising, in combination, a motor-roller and a motor-blind secured thereto; a resetting-roller and a resetting-blind secured thereto, the exposure-slot being formed between the adjacent exposure edges of the two blinds; an exposure-slot-regulating roller secured to the exposure edge of the motor-blind upon which said blind may wind and unwind; tapes or cords secured to said resetting-blind and winding and unwinding upon said exposure-slot-regulating roller oppositely to the way the

motor-blind winds and unwinds thereon; and stops to engage the exposure-slot-regulating roller and stop its travel, both following the exposing and in resetting; whereby the rotation of the resetting-roller after the onward travel of the exposure-slot-regulating roller has been stopped rotates the exposure slot-regulating roller, thereby winding the motor-blind thereon and increasing the size of the exposure slot.

3. A roller-blind shutter for photographic cameras with a variable exposure-slot comprising, in combination, a motor-roller and a motor-blind secured thereto; a resetting-roller and a resetting-blind secured thereto, the exposure-slot being formed between the adjacent exposure edges of the two blinds; an exposure-slot-regulating roller secured to the motor-blind and upon which said blind may wind and unwind; tapes or cords secured to said resetting-blind and winding and unwinding upon said exposure-slot-regulating roller; and stops to engage the exposure-slot-regulating roller and stop its travel, both following the exposing and in resetting; whereby the rotation of the resetting-roller after the onward travel of the exposure-slot-regulating roller has been stopped rotates the exposure-slot-regulating roller, thereby winding the motor-blind thereon and increasing the size of the exposure-slot.

842,252. TRUSS. JOHN SAULT, Queensbury, N. Y. Filed Oct. 9, 1906. Serial No. 338,179.

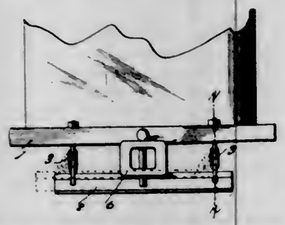


Claim.—1. In a hernia-truss, a pad comprising sections hinged together and free to swing with relation to each other in the opposite direction to their bearing-surfaces and means for holding the sections in their normal relative positions.

2. In a hernia-truss, a pad composed of sections hinged together and free to swing with relation to each other in the opposite direction to their bearing-surfaces and an elastic flexible material connecting the sections together at the opposite sides thereof from the hinge.

3. In a hernia-truss, a pad composed of sections hinged together, an elastic fabric connecting said sections together and being located at the side thereon opposite the hinge, the lower section having at its lower outer side a vertically-disposed channel open along its entire length and adapted to retain the truss-breeching.

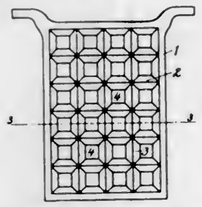
842,253. HANGER FOR DRAW-HEADS. HARLEY G. SAVAGE, Fort Worth, Tex. Filed June 30, 1906. Serial No. 324,215.



Claim.—1. In combination, a car, a hanger applied to the car, and a draw-head attached to the car and supported by the hanger for movement with the hanger and for lateral movement upon the hanger independently of movement of the latter.

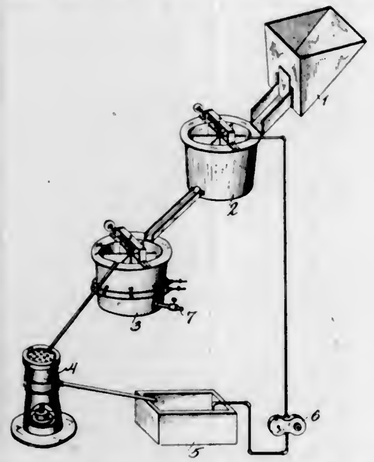
2. In combination, a car, a hanger attached to the car, and comprising a horizontal beam, and flexible connections securing opposite ends of said beams to the car, and a draw-head attached to the car and resting upon the beam of the hanger for movement with said beam, and lateral movement of the beam independently of movement of said beam.

842,254. PROCESS FOR THE ELECTROLYTIC REFINING OF METALS. ALFRED SCHWARZ, New York, N. Y. Filed Feb. 6, 1904. Serial No. 192,444.



Claim.—The process of depositing a metal from its ore consisting in compressing the concentrates of the ore to be treated into solid masses or cakes and supporting such masses in a framework of an insoluble conductive material, and then subjecting said anodes to the action of a current in an electrolytic bath.

842,255. PROCESS OF CONCENTRATING ORES. ALFRED SCHWARZ, New York, N. Y., assignor to Schwarz Ore Treating Company, Phœnix, Ariz., a Corporation of Arizona. Filed July 19, 1905. Serial No. 270,340.



Claim.—1. The method of concentrating ores consisting in mixing with the pulverized ore rosin-oil, then separating said agent with its entrapped values from the tailings, and finally recovering the values from said agent.

2. The method of concentrating ores consisting in mixing with the pulverized ore rosin-oil, then treating the mass with water to separate said agent with its entrapped values from the tailings, and finally recovering the values from said agent.

3. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a mixture of a hydrocarbon and rosin-oil, then separating said agent with its entrapped values from the tailings, and finally recovering the values from said agent.

4. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a mixture of rosin-oil and a normally solid hydrocarbon, then separating said agent with its entrapped values from the tailings, and finally recovering the values from said agent.

5. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a mixture of rosin-oil and a normally solid hydrocarbon, then treating the mass with water to separate said agent with its entrapped values from the tailings, and finally recovering the values from said agent.

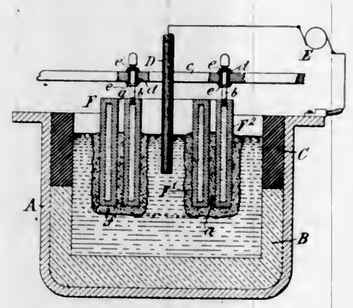
6. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a mixture of rosin-oil and a normally solid fatty matter, then separating said agent with its entrapped values from the tailings, and finally recovering the values from said agent.

7. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a mixture of rosin-oil and a non-resinous hydrocarbon, then separating said agent with its entrapped values from the tailings, and finally recovering the values from said agent.

8. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a melted mixture of rosin-oil and a normally solid hydrocarbon which mixture is solid at normal temperatures, then separating said agent with its entrapped values from the tailings, and finally recovering the values from said agent.

9. The method of concentrating ores which consists in mixing with the pulverized ore an agent to which the metallic constituents will adhere consisting of a mixture of rosin-oil and paraffin, then separating said agent with its entrapped values from the tailings, and finally recovering the values from said agent.

842,256. ELECTROLYTIC CELL. GEORGE O. SEWARD and FRANZ VON KÜGELGEN, Holcombs Rock, Va. Filed July 17, 1905. Serial No. 269,942.

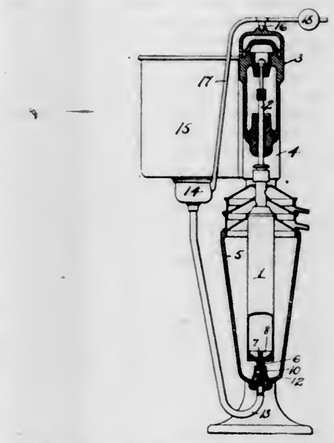


Claim.—1. A non-conductive partition for an electrolytic cell, comprising a plurality of separated water-cooled curtains insulated from one another, and the space between them filled with insulating material.

2. A non-conductive partition for an electrolytic cell, comprising a plurality of separated water-cooled curtains insulated from one another and adapted to maintain the space between them filled with a chilled and solidified layer of the electrolyte.

3. An electrolytic cell having a central and an outer annular electrode, and an intervening tubular non-conductive partition, comprising a plurality of tubular water-cooled curtains arranged concentrically one within another, insulated from one another, and having the space between them filled with insulating material.

842,257. CENTRIFUGAL SEPARATOR. DAVID T. SHARPLES, West Chester, Pa. Filed Oct. 17, 1905. Serial No. 283,079.



Claim.—1. In a centrifugal liquid-separator the combination with a vertically-mounted rotary vessel having an end feed-opening and an axial steadying-bearing adjacent thereto, of a non-rotating spindle extending axially through said feed-opening into said steadying-bearing.

2. In a centrifugal liquid-separator the combination with a vertically-mounted rotary vessel having an end feed-opening and an axial steadying-bearing adjacent thereto, of an annular feed-nozzle for said vessel provided with a non-rotating spindle extending axially through said feed-opening into said steadying-bearing to form an annular feed-passage between said non-rotating spindle and the rotary feed-opening wall.

3. In a centrifugal liquid-separator the combination with a vertically-mounted rotary vessel having an end feed-opening and an axial steadying-bearing adjacent thereto, of an annular feed-nozzle for said vessel provided with a non-rotating spindle extending axially through said feed-opening into said steadying-bearing to form an annular feed-passage between said non-rotating spindle and the rotary feed-opening wall, said spindle being laterally yielding to swaying movement of the vessel.

4. In a centrifugal liquid-separator the combination with a rotary separator vessel having an end feed-opening, of an annular feed-nozzle for said vessel having an axial guide-stem projected through said opening and centered in the latter to form an annular feed-passage around the stem, said nozzle being adapted to swing approximately concentrically with the swing of the free end of the vessel.

5. In a centrifugal liquid-separator the combination with a vertically-mounted rotary vessel having a carrier mechanism adjacent one end thereof and provided with an axial steadying-bearing adjacent the opposite free end, of a non-rotating movable spindle entered in said bearing and serving to restrict swaying movement of the vessel.

6. In a centrifugal liquid-separator the combination with a vertically-mounted rotary vessel having a carrier mechanism adjacent one end thereof and provided with an axial steadying-bearing adjacent the opposite free end, of a non-rotating swinging spindle entered in said bearing and serving to restrict swaying movement of the vessel.

7. In a centrifugal liquid-separator the combination with a vertically-mounted rotary vessel having a carrier mechanism adjacent one end thereof and provided with an axial steadying-bearing adjacent the opposite free end, of a non-rotating swinging spindle entered in said bearing and so hung as to tend toward the normal axis of rotation of the vessel.

8. In a centrifugal machine the combination with a vertically-mounted separator vessel of a carrier mechanism adjacent one end of said vessel and a non-rotating swing-

ing spindle for the other end so hung as to tend toward the normal axis of rotation of the vessel.

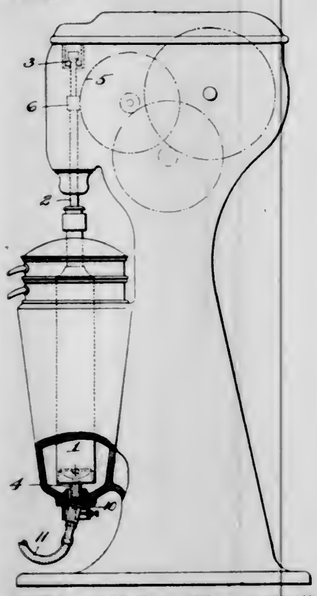
9. In a centrifugal liquid-separator the combination with a vertically-mounted separator vessel having an end feed-opening at one end, of a laterally-movable feed-nozzle and a non-rotating steadying-spindle for said vessel, substantially as set forth.

10. In a centrifugal liquid-separator the combination with a rotary separator vessel having an end feed-opening, of a non-rotating feed-nozzle arranged to move laterally with the swaying of the vessel.

11. In a centrifugal liquid-separator the combination with a vertically-mounted separator vessel having an end feed-opening at one end, of a laterally-movable feed-nozzle carrying a non-rotating steadying-spindle for said vessel.

12. In a centrifugal liquid-separator the combination with a vertically-mounted separator vessel having an end feed-opening at one end, of a laterally-movable feed-nozzle carrying a flexible non-rotating steadying-spindle for said vessel.

842,258. CENTRIFUGAL MACHINE. DAVID T. SHARPLES, West Chester, Pa. Filed Oct. 18, 1905. Serial No. 283,208.



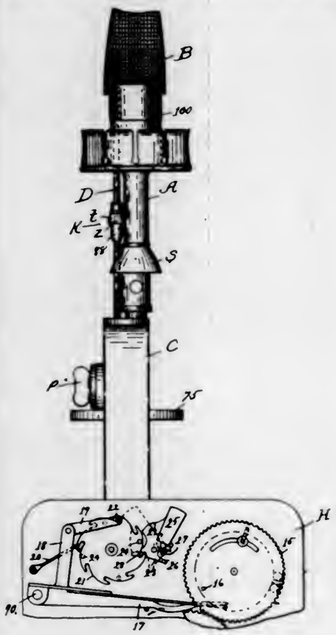
Claim—1. The combination with a vertically-mounted centrifugal liquid-separator vessel having one end thereof free to swing laterally and said end provided with an axial feed-inlet, of a relatively fixed feed-nozzle adjacent to said feed-inlet and arranged at an incline thereto whereby the inflowing jet is adapted to exert a lateral pressure in determined direction upon the free end of the vessel.

2. The combination with a vertically-mounted centrifugal liquid-separator vessel having one end thereof free to swing laterally and said end provided with an axial feed-inlet, of a feed-nozzle and means for adjustably securing the same in determined inclined position relative to said feed-inlet substantially as and for the purpose set forth.

842,259. AUTOMATIC GAS LIGHTING AND EXTINGUISHING APPARATUS. NATHANIEL H. SHAW, Boston, Mass. Filed June 24, 1904. Serial No. 213,987.

Claim—1. A gas-burner comprising a member, having a gas-conduit and a laterally-extending filter-chamber communicating with the conduit, a filter within the chamber, a removable plug to close the open end of the chamber, and a burner connected with the gas-conduit.

2. A gas-burner, a gas-conduit leading thereto and provided with a valve-seat, a valve on the outlet side of said valve-seat and having a stem extending loosely through an aperture in the wall of the conduit on the outer side of the valve-seat, said valve having two faces one to coöperate with said valve-seat and the other to close the aperture through which the stem extends when the valve is open.



3. A gas-burner, a conduit leading thereto and provided with a valve-seat, an automatically-closing valve on the outlet side of said valve-seat, said valve having a stem extending loosely through an aperture in the wall of the conduit on the outlet side of the valve-seat, and having a face to close said aperture when the valve is open.

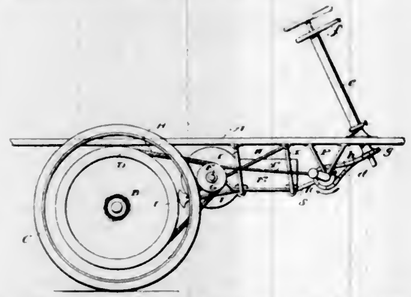
4. A gas-burner, a conduit feeding thereto and provided with a valve-seat, an automatically-closing valve on the outlet side of said valve-seat, said valve having a stem extending loosely through an aperture in the wall of the conduit on said outlet side of the valve-seat, and having a face to close said aperture when the valve is open, and means to act on the end of the stem to open the valve.

5. A main gas-burner, a gas-conduit leading thereto and provided with a valve-seat, a valve on the outlet side of said valve-seat, said valve having a stem extending loosely through an aperture in the wall of the conduit on said outlet side of the valve-seat, and having a face to close said aperture when the valve is open, a pilot-burner, a continuously-open pilot-tube connecting said pilot-burner to the gas-conduit between the gas-supply and said valve.

842,260. MOTOR-VEHICLE. EUGENE SHEEN, Lincoln, Ill. Filed March 20, 1906. Serial No. 307,030.

Claim.—1. In a motor-vehicle, the combination of a frame, a traction-wheel mounted on a stationary support, hanging means connected to and depending from the frame and arranged to swing fore and aft, a motor carried by said hanging means and arranged to swing as a whole fore and aft therewith, a driving connection intermediate the motor and the traction-wheel, and means connected with the motor for enabling the driver of the vehicle to swing the motor forward and hold the same against swinging rearward.

2. In a motor-vehicle, the combination of a frame, a traction-wheel mounted on a stationary support, hanging means connected to and depending from the frame and arranged to swing as a whole fore and aft therewith, means connected with the motor for enabling the driver of the vehicle to swing the motor forward and hold the same against swinging rearward, and a driving connection intermediate the motor and the traction-wheel comprising a belt and means for automatically taking up slack of the belt when the motor is swung rearward.



3. In a motor-vehicle, the combination of a frame, a traction-wheel mounted on a stationary support and having a sheave thereon, a motor carried by the frame and movable fore and aft with respect thereto and having a sheave the diameter of which is variable, a belt connecting the said sheaves, and means for increasing the diameter of the sheave synchronously with rearward movement of the motor.

4. In a motor-vehicle, the combination of a frame, a traction-wheel mounted on a stationary support and having a sheave thereon, a motor carried by the frame and mounted to swing fore and aft thereon and having a sheave the diameter of which is variable, a belt connecting the said sheaves, and means for increasing the diameter of the sheave when the motor swings rearwardly.

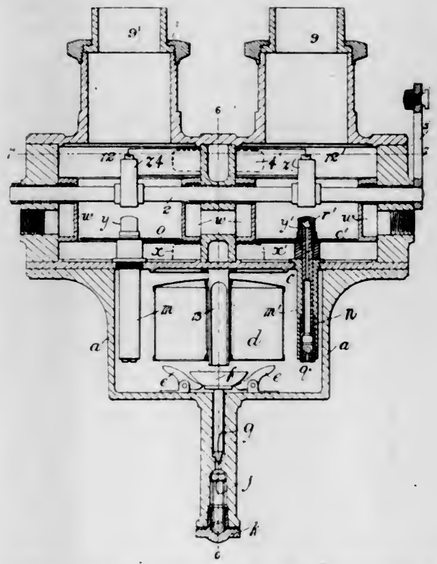
5. In a motor-vehicle, the combination of a frame, a traction-wheel mounted on a stationary support and having a sheave thereon, a motor carried by the frame and movable fore and aft with respect thereto and having a sheave the diameter of which is variable, a belt connecting the said sheaves, means for enlarging the diameter of the motor-sheave, a shaft having cranks one of which is connected to the said means and the other of which is connected to the motor, and means for turning the said shaft.

6. In a motor-vehicle, the combination of a frame, a traction-wheel mounted on a stationary support and having a sheave thereon, a fore and aft swinging motor carried by the frame and having a shaft, a sheave comprising sections the opposed faces of which are conical, one of the said sections being movable toward and from the other, means for moving one of the sheave-sections, a belt connecting the two sheaves, a shaft having cranks, a connection between one crank and the motor for swinging the latter, a connection between the other crank and the means for moving one sheave-section, and means for turning the said shaft.

7. In a motor-vehicle, the combination of a frame, a traction-wheel mounted on a stationary support and having a sheave thereon, a motor mounted to swing fore and aft on the frame and having a sheave, a friction-disk arranged to engage the traction-wheel, and a brake arranged to engage the sheave on said traction-wheel precedent to the engagement of the friction-disk with the wheel, a belt connecting the said sheaves, and means for swinging the motor fore and aft.

8. In a motor-vehicle, the combination of a frame, a traction-wheel mounted on a stationary support and having a sheave thereon, a motor mounted to swing fore and aft on the frame and having a sheave, a friction-disk arranged to engage the traction-wheel, a brake connected with the frame and the engine and arranged to engage the sheave on the traction-wheel and be moved from the engine, a belt connecting the sheaves, and means for swinging the motor fore and aft.

842,261. MEANS FOR CONTROLLING THE SUPPLY OF VAPOR TO INTERNAL-COMBUSTION ENGINES. FREDERICK H. SMITH, Datchet, England. Filed Dec. 20, 1904. Serial No. 237,679.



Claim.—1. A carbureter for internal-combustion engines having in combination, a spraying-chamber, a member reciprocated by the engine suction and by gravity unassisted by a spring, a spraying-pump operated by said member, substantially as described.

2. A carbureter having in combination, a spraying-chamber, a suction-operated member, a spraying-nozzle carried on the engine side of said member and a pump actuated by said suction-operated member.

3. A carbureter having in combination a spraying-chamber, a disk, a spraying-nozzle carried on the engine side of said disk, a pump operated directly by the disk.

4. A carbureter having in combination a spraying-chamber, a loosely-fitting disk, in said chamber a spraying-nozzle carried on the engine side of said disk a pump operated directly by the disk.

5. A carbureter having in combination, a spraying-chamber, a loosely-fitting perforated disk in said chamber, a spraying-nozzle carried on the engine side of said disk, a pump operated directly by the disk.

6. A carbureter for an internal-combustion engine having in combination on the engine induction-pipe, a spraying-chamber, a loosely-fitting disk in said chamber, said chamber having air ports or openings therein on the side of the disk remote from the engine, a centrally-disposed nozzle on the engine side of said disk and discharging oil across the path of thin streams of inflowing air, and a pump actuated by the disk.

7. A carbureter for internal-combustion engines having in combination on the engine induction-pipe, a cylindrical chamber, a jacket round said chamber, a loosely-fitting disk in said chamber, a pump-plunger operatively connected to said disk, a centrally-disposed nozzle discharging on the engine side of the disk, said chamber being provided with air ports or openings on the side of the disk remote from the engine, substantially as described.

8. A carbureter for internal-combustion engines having in combination on the engine induction-pipe, a cylindrical chamber, a jacket round said chamber, a loosely-fitting

disk in said chamber, said disk having perforations therein for splitting the incoming air into fine streams, a pump-plunger operatively connected to said disk, a centrally-disposed nozzle discharging on the engine side of the disk, said chamber being provided with air ports or openings on the side of the disk remote from the engine, substantially as described.

9. A carbureter for internal-combustion engines having in combination on the engine induction-pipe, a heated spraying-chamber, a loosely-fitting disk in said chamber a pump operated by said disk, spring-controlled auxiliary air-inlet means disposed above the heated chamber.

10. A carbureter for an internal-combustion engine comprising on the engine induction-pipe, a heated chamber, a loosely-fitting disk within said chamber a pump operated by the motions of said disk, a cam-stop controlling the motions of said disk, said chamber being provided with air-openings situated below said disk, substantially as described.

11. A carbureter for an internal-combustion engine comprising on the engine induction-pipe, a cylindrical chamber, a heating-jacket round said chamber, a loosely-fitting disk within said chamber, a centrally-disposed pump discharging above the disk, an eccentric cam for controlling the motions of said disk, said chamber being provided with air-openings situated below said disk, substantially as described.

12. A carbureter having in combination a spraying-chamber, a loosely-fitting disk in said chamber, a spraying-nozzle carried on the engine side of said disk, an oil-pump plunger carried by the disk, said chamber being provided with air-ports located on the side of the disk remote from the engine-cylinder, an oil-pump cylinder in which said oil-pump plunger works, substantially as described.

13. A carbureter having in combination on the engine induction-pipe, a spraying-chamber, a suction-operated member, a pump operated by said member, said pump having a cylindrical barrel, a hollow plunger of two diameters having ports therein, a foot-valve carried by the plunger at its lower end, a spraying-nozzle at the upper end on the engine side of the disk, all arranged for the purpose of spraying the oil on the upstroke of the pump, substantially as described.

14. A carbureter having in combination on the engine induction-pipe, a spraying-chamber, a suction-operated member, a fixed pump-cylinder *m* bored out to two diameters, a hollow plunger *n*, having ports *s* therein leading into the annular space *t* between the fixed cylinder and the plunger-head, a foot-valve *q*, a head-valve *r* arranged on the engine side of said suction-operated member, substantially as described.

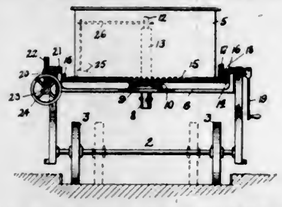
15. A carbureter for internal-combustion engines with multiple cylinders having in combination on the engine induction-pipe, a plurality of spraying-chambers, suction-operated members, pumps operated by said members, substantially as described.

16. A carbureter for internal-combustion engines with multiple cylinders having in combination on the engine induction-pipe, a plurality of spraying-chambers, disks in said chambers, free passages, between the disk on the side remote from the engine, and pumping means operated by said disks, substantially as and for the purpose described.

17. A carbureter for internal-combustion engines with multiple cylinders having in combination on the engine induction-pipe, a plurality of spraying-chambers, disks in said chambers, nozzles carried on said disks and discharging on the engine side thereof, pumps connected directly to said disks, common air-admission ports to all said chambers, said ports being arranged on the side of the disk remote from the engine, substantially as and for the purposes hereinbefore described.

18. A carbureter for use with multiple-cylinder internal-combustion engines comprising a plurality of liquid-fuel-spraying pumps disposed in the charging-pipes to the cylinders, disks carried by the plungers of said pumps, heated chambers into which the liquid fuel is sprayed by the pumps, main and auxiliary air-openings in said heated chamber, a liquid-fuel storage-chamber and means for maintaining a practically-constant level of liquid fuel in said chambers, substantially as described.

842,262. MIXING-MACHINE. RANSOM Z. SNELL, South Bend, Ind. Filed Oct. 24, 1905. Serial No. 284,151.

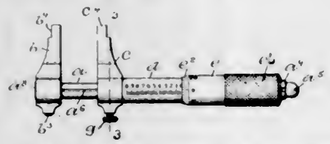


Claim.—1. A concrete-mixer embodying standards, a supporting cross-bar connected at each end with the top of the standards, a mixing-tank rotatably mounted on the cross-bar and having a rack therearound, a shaft journaled in the upper end of one standard, constituting a trunnion for one end of the supporting cross-bar, and having a gear thereon adapted to engage with the rack on the tank, means for rotating said shaft, a spindle journaled in the upper end of the other standard and having one end secured to the other end of the cross-bar to constitute the other trunnion for the latter, and means connected with said spindle for rotating the latter to tilt the tank, whereby the tank may be rotated on both its vertical and horizontal axis.

2. The combination with a pair of standards, of a cross-bar pivotally supported by the standards, a mixing-tank rotatably mounted on the cross-bar and having a projecting marginal flange provided with a rack upon its upper face, a shaft journaled in one of the standards, and pivotally supporting one side of the cross-bar, and a gear-wheel on the shaft, meshing with the rack on the mixing-tank.

3. A concrete-mixer embodying standards, a supporting cross-bar pivotally hung from the upper ends of said standards, an axle-shaft secured to said cross-bar and projecting upwardly, a mixing-tank having a bearing on said cross-bar and also provided with a sleeve which has a bearing on said axle-shaft, a scraper supported from said axle-shaft, means for rotating the mixing-tank on the axle-shaft, and means for rotating the tank on the pivots of the supporting cross-bar, substantially as specified.

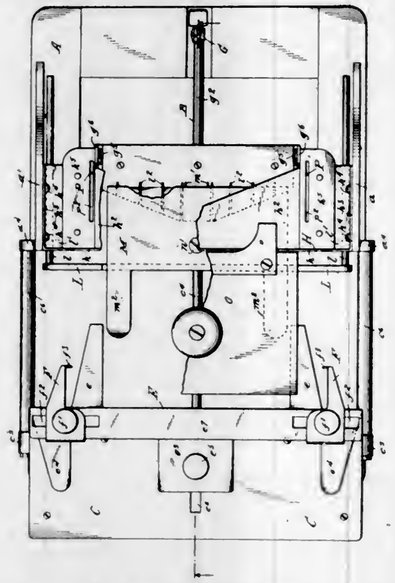
842,263. MICROMETER-CALIPERS. FRANK SPALDING, Providence, R. I., assignor to Brown & Sharpe Manufacturing Company, Providence, R. I. Filed June 23, 1905. Serial No. 266,552.



Claim.—1. An inside micrometer-caliper comprising a spindle, a fixed jaw on the spindle, a sliding jaw on the spindle, an internally-screw-threaded sleeve on the sliding jaw, a barrel rotatably secured to the spindle, an externally-screw-threaded tube in the barrel adapted to engage with the internally-screw-threaded sleeve on the sliding jaw, means for adjusting the fixed jaw on the spindle, and means for locking the sliding jaw to the spindle, as described.

2. In an inside micrometer-caliper, the combination of a spindle *a* having the reduced portion *a'* forming the shoulder a^2, the screw-threaded end a^3, the collar a^4 and the lock-nut a^5 on the end a^3, the longitudinal grooves a^6 a^6, the screw-threaded hole a^7, the adjusting-screw a^8 in the hole a^7, a fixed jaw *b* having the hole *b'* with the countersunk portion b^2, the set-screw b^3 and the shouldered end b^4, a sliding jaw *c* having the hole *c'*, the ribs c^2 c^2 in the hole *c'* adapted to engage with the grooves a^6 a^6 in the spindle, the screw-threaded hole c^3 and the shouldered end c^4, an internally-screw-threaded sleeve *d* formed integral with the sliding jaw *c* and having the split and tapered screw-threaded end *d'*, a nut d^2 on the end *d'*, and the usual scale on the exterior of the sleeve, a barrel *e* having the knurled portion *e'*, the tapered end e^2 on which are graduations, an externally-screw-threaded tube *f* formed integral with the barrel *e* and having the central bore *f'* for the reduced portion *a'* of the spindle *a*, and a locking-screw *g* in the screw-threaded hole c^3 in the sliding jaw *c*, whereby the jaw b is adjustable on the spindle *a*, the jaw *c* is reciprocated on the spindle *a* and locked to the spindle by the locking-screw *g* and wear is compensated for between the sleeve *d* and the tube *f* and between the barrel *e*, the shoulder a^2 on the spindle and the collar a^4, as described.

842,264. ENVELOP-SEALING MACHINE. WILLIAM B. SPENCER, Chicago, Ill., assignor to A. B. Dick Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 15, 1905. Serial No. 278,605.



Claim.—1. In an envelop-sealing machine, the combination with means for supporting an envelop with its flap outermost, of a reciprocating feeder coacting with said envelop between the body and flap thereof, a member against which said envelop may be pressed, a presser-plate pivotally mounted below said member and coacting with said envelop and said member and a receiver for the sealed envelops, substantially as set forth.

2. In an envelop-sealing machine, the combination with means for supporting an envelop with its flap outermost, of a reciprocating feeder coacting with said envelop between the body and flap thereof, a member against which said envelop may be pressed, a presser-plate underlying said member and adapted to coact with said feeder and member and the envelop between the same, a receiver for the sealed envelops below said member and plate, and mechanism for simultaneously operating said feeder and said presser-plate, substantially as set forth.

3. In an envelop-sealing machine, the combination with means for supporting an envelop with its flap outermost, of a reciprocating feeder underlying said supporting means and a moistening device carried thereby, a member against which said envelop may be pressed, a presser-plate pivotally mounted below said member, mechanism for simultaneously operating said feeder and presser-plate, and a receiver into which the sealed envelops may fall by gravity when released by said presser-plate, substantially as set forth.

4. In an envelop-sealing machine, the combination of means for supporting an envelop with its flap outermost, a reciprocating feeder coacting with said envelop between the body and flap thereof, a flap-moistener carried thereby, a pivotally-mounted pressing member, means for operating said feeder to move an envelop forward and press its flap into contact with said pressing member, a second pressing member and means for turning said pivotally-mounted pressing member on its pivot toward the other member to press the body and flap of the envelop together between them, substantially as set forth.

5. In an envelop-sealing machine, the combination of an unsealed-envelop receptacle, a reciprocating feeder, a sealing device, means within said receptacle for supporting an envelop-pile, and a device mounted stationarily with respect to said receptacle and forming a stop to prevent backward movement of an envelop fed to sealing position by said feeder, substantially as set forth.

6. In an envelop-sealing machine, the combination of means for supporting an envelop with its flap outermost, a reciprocating feeder coacting with said envelop between the body and flap thereof, a flap-moistener carried thereby, a pivotally-mounted pressing member, means for operating said feeder to move an envelop forward and press its flap into contact with said member, a second pressing member, means for turning said pivotally-mounted pressing member on its pivot toward the other member to press the body and flap of the envelop together, means for preventing backward movement of the envelop when moved against said pressing member by the feeder, and a spring against the tension of which the feeder is operated, substantially as set forth.

7. In an envelop-sealing machine, the combination with a receptacle and means for supporting an envelop-pile therein, of an underlying reciprocating feeder and a flap-moistener carried thereby, a spring against the tension of which the envelops of said pile may be successively fed by said feeder, means for preventing backward movement of an envelop with said feeder after it has been moved to sealing position by the feeder, and means for sealing said envelops, substantially as set forth.

8. In an envelop-sealing machine, the combination with a receptacle and means for supporting an envelop-pile therein, of an underlying feeder coacting successively with said envelops between the bodies and flaps thereof to move the same forward, means for preventing backward movement of an envelop with said feeder after it has been moved to sealing position by the feeder, a moistening device, a member against which said envelops may be successively pressed, a movable presser device for pressing said envelops against said member, means dependent upon the movement of said feeder for successively releasing said envelops after the same have been fed and sealed, and connections for simultaneously operating said feeder and presser device, substantially as set forth.

9. In an envelop-sealing machine, the combination with a receptacle and means for supporting an envelop-pile therein, of an underlying feeder coacting successively with said envelops between the bodies and flaps thereof to move said envelops forward, means for preventing backward movement of an envelop with said feeder after it has been moved to sealing position by the feeder, a pivotally-mounted presser-plate into contact with which said envelops are successively moved by said feeder, a member overlying said presser-plate and into contact with which said envelops may be moved thereby, means for operating said presser-plate simultaneously with said feeder, and a spring for discharging the fed and sealed envelops, said spring being moved to operative position by the feeding movement of said feeder, substantially as set forth.

10. In an envelop-sealing machine, the combination with an unsealed-envelop receptacle and means for supporting an envelop-pile therein, of an underlying sealed-envelop receptacle, a feeder reciprocating between said receptacles and coacting with the under side of the envelop-

pile between the flap and body of the lowermost envelop to feed the same forward, means for moistening and sealing the envelop so fed, and mechanism dependent upon the movement of said feeder for discharging the sealed envelop into said sealed-envelop receptacle, substantially as set forth.

11. In an envelop-sealing machine, the combination with an unsealed-envelop receptacle and means for supporting an envelop-pile therein, of an underlying sealed-envelop receptacle, a feeder reciprocating between said receptacles and coacting with the under side of the envelop-pile between the flap and body of the lowermost envelop to feed the same forward, a moistening device carried by said feeder, a movable presser-plate and a coacting member between which and said presser-plate the flap-moistened envelop is pressed, and mechanism thrown to operative position by the movement of said feeder for discharging the sealed envelop into said sealed-envelop receptacle after the same has been released from coaction with said presser-plate and member, substantially as set forth.

12. In an envelop-sealing machine, the combination of an unsealed-envelop receptacle, an underlying sealed-envelop receptacle, a feeder reciprocating between said receptacles and engaging the lowermost envelop in said unsealed-envelop receptacle between the body and flap thereof to feed the same forward, means for moistening the envelop-flap, a movable device for sealing the envelop and then releasing it to permit it to drop into said sealed-envelop receptacle, and operating mechanism for said feeder and said movable device, substantially as set forth.

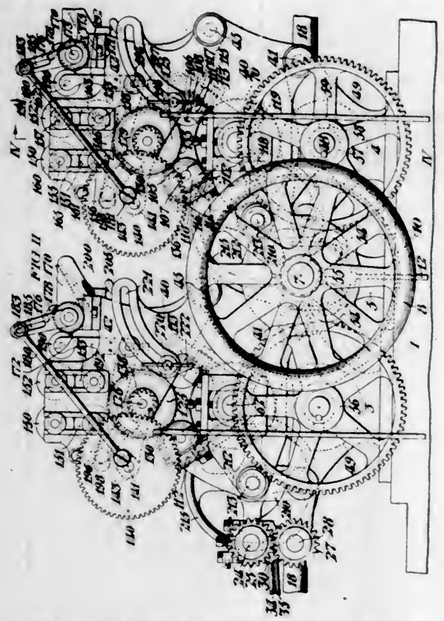
13. In an envelop-sealing machine, the combination of an unsealed-envelop receptacle, an underlying sealed-envelop receptacle, a feeder reciprocating between said receptacles and engaging the lowermost envelop in said unsealed-envelop receptacle between the body and flap thereof to feed the same forward, means for preventing backward movement of the envelop with said feeder, means for moistening the envelop-flap, a movable device for sealing the envelop and then releasing it to permit it to drop into said sealed-envelop receptacle, and operating mechanism for said feeder and said movable device, substantially as set forth.

14. In an envelop-sealing machine, the combination of an unsealed-envelop receptacle, an underlying sealed-envelop receptacle, a feeder reciprocating between said receptacles and engaging the lowermost envelop in said unsealed-envelop receptacle between the body and flap thereof to feed the same forward, means for moistening the envelop-flap, a pivotally-mounted presser-plate and a member coacting therewith, and operating mechanism for reciprocating said feeder, for turning said plate on its pivot to seal an envelop between it and said member and for retracting said plate to release the envelop and permit it to drop into said sealed-envelop receptacle, substantially as set forth.

15. In an envelop-sealing machine, the combination of an envelop-receptacle, a reciprocating feeder adapted to engage the lowermost envelop in said receptacle between the flap and body thereof and move the same forward, a moistening device carried by said feeder, a sealing-plate into engagement with which the flap of the envelop is carried by said feeder, a second sealing-plate, one of said plates being movably mounted, and operating mechanism for reciprocating said feeder and for moving said movable plate to press the flap and body of the envelop together between said plates, substantially as set forth.

16. In an envelop-sealing machine, the combination of an unsealed-envelop receptacle, a reciprocating feeder, a moistener carried thereby, a sealed-envelop receptacle below the feeder, a pair of sealing-plates one of which is pivotally mounted, means for reciprocating said feeder to engage the lowermost envelop in the unsealed-envelop receptacle between the body and flap thereof, carry said envelop forward, press the flap thereof against one of said plates and moisten the flap, and means for turning said pivotally-mounted plate on its pivot to press the body and flap of the envelop together between said plates and then release the envelop, substantially as set forth.

842,265. PRINTING MECHANISM. GEORGE W. SWIFT, Jr., Bordentown, N. J. Filed May 3, 1905. Serial No. 258,615.



Claim.—1. In a printing device arranged to print a moving web, the combination with an impression-cylinder; of a type-cylinder geared to said impression-cylinder; inking mechanism; means comprising an eccentric arranged to separate said cylinders, whereby the disengagement of the gears is prevented; and means arranged to secure the inking mechanism in any desired position with respect to the type-cylinder, substantially as set forth.

2. In a printing device arranged to print a moving web, the combination with supporting-brackets; of an impression-cylinder journaled in said brackets; type-cylinder frames pivoted to said brackets; a type-cylinder journaled in said frames; means arranged to rock said type-cylinder frames to separate said cylinders; inking-mechanism frames pivoted to said type-cylinder frames; inking mechanism carried by said inking-mechanism frames; and means arranged to secure the inking mechanism in any desired position with respect to the type-cylinder, substantially as set forth.

3. In a printing device arranged to print a moving web, the combination with supporting-brackets; of an impression-cylinder journaled in said brackets; type-cylinder frames pivoted to said brackets; a type-cylinder journaled in said frames; inking-mechanism frames pivoted to said type-cylinder frames; inking mechanism carried by said inking-mechanism frames; means arranged to oscillate said type-cylinder frames with respect to said brackets; and means arranged to secure said inking-mechanism frames in idle position with respect to said type-cylinder frames, substantially as set forth.

4. In a printing device arranged to print a moving web, the combination with supporting-brackets; of an impression-cylinder having a shaft journaled in said brackets; a gear loosely mounted on said shaft; a clutch-collar carried by said shaft and arranged for axial movement thereon; means arranged to shift said collar into and out of engagement with said gear; type-cylinder frames pivoted to said bracket; a type-cylinder journaled in said frames; inking-mechanism frames pivoted to said type-cylinder frames; inking mechanism carried by said inking-mechanism frames; means arranged to oscillate said type-cylinder frames with respect to said brackets; and means arranged to secure said inking-mechanism frames in idle position, with respect to said type-cylinder, substantially as set forth.

5. In a printing device arranged to print a moving web, the combination with a type-cylinder; of a shaft for said cylinder; bearings for said shaft; brackets adjustably secured to said bearings; bearing-blocks adjustably secured to said brackets; and inking-rollers journaled in said blocks, substantially as set forth.

6. In a printing device arranged to print a moving web, the combination with a type-cylinder; of a shaft for said cylinder; bearings for said shaft; brackets adjustably secured to said bearings; bearing-blocks adjustably secured to said brackets; inking-rollers journaled in said blocks; an impression-cylinder; means arranged to slightly separate said cylinders; and gearing between said cylinders, arranged to effect their rotation in definite relation to the travel of the web when separated, substantially as set forth.

7. In a printing device, the combination with an impression-cylinder; of means arranged to rotate said cylinder; a gear on said cylinder; a type-cylinder arranged to print a moving web; a gear on said type-cylinder arranged to mesh with the gear on said impression-cylinder; means comprising an eccentric arranged to separate said cylinders, whereby the disengagement of said gears is prevented; a pivoted inking mechanism arranged to deposit ink on the type-cylinder and to be swung free therefrom; and means arranged to secure said inking mechanism in any adjusted position, substantially as set forth.

8. In a printing device, the combination with an impression-cylinder; of supporting-brackets for said cylinder; a type-cylinder comprising type adjustably arranged to cooperate with said impression-cylinder to print a moving web; frames for said impression-cylinder pivoted to said brackets and comprising a sector; means arranged to oscillate said frames with respect to said brackets; inking-mechanism frames for said inking mechanism pivoted to the type-cylinder frames; a set-screw carried by said inking-mechanism frames arranged to engage said sector, to secure the inking mechanism away from the type-cylinder, substantially as set forth.

9. In a printing device, the combination with an impression-cylinder; of supporting-brackets for said cylinder; a type-cylinder; type-cylinder frames pivoted to said brackets; bearings for said type-cylinder adjustably secured in said frames; an eccentric-shaft journaled in said frames; eccentrics on said shaft; links pivoted to said brackets and to said eccentrics, whereby the rotation of said shaft oscillates said frames on the pivots, substantially as set forth.

10. In a printing device, the combination with a driving-shaft; of an impression-cylinder arranged to be rotated by said shaft; a type-cylinder geared to said impression-cylinder, and arranged to print a moving web; means arranged to separate said cylinders sufficiently to prevent the printing of the web, but not to disengage the gears; a roller distinct from the type-cylinder and the impression-cylinder, positively driven by said driving-shaft, disks arranged to coöperate with said roller to engage the edges of the printed web and progress it in definite relation to the rotation of said cylinders, substantially as set forth.

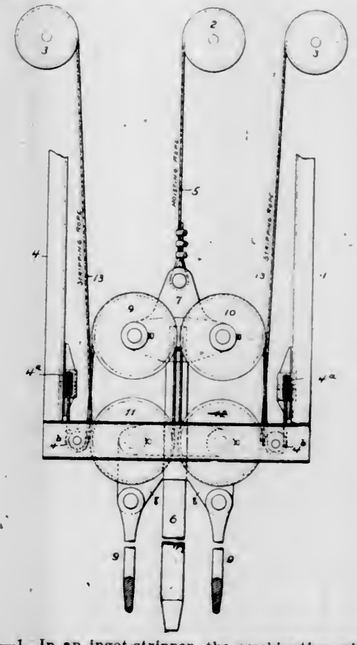
11. In a printing device, the combination with a type-cylinder; of a shaft for said cylinder; bearings for said shaft; brackets adjustably secured to said bearings; inking-rollers journaled in said brackets and arranged to deposit ink on type carried by said cylinder; an impression-cylinder, having a resilient facing; a shaft for said impression-cylinder; a gear loosely mounted on said shaft; a clutch-collar keyed to said shaft, arranged for axial movement; and, means arranged to shift said collar into and out of engagement with said gear, substantially as set forth.

12. In a printing device, the combination with supporting-brackets; of an impression-cylinder journaled in said brackets; frames pivoted to said brackets; a type-cylinder journaled in said frames, arranged to print a moving web; an eccentric-shaft journaled in said frames; eccentrics on said shaft; links connecting said eccentrics with said brackets; means on said shaft whereby it may be rotated to separate said cylinders; a roller arranged to rotate in definite relation to the rotation of the type-cylinder; and, disks arranged to coöperate with said roller, to carry the web from said cylinder, substantially as set forth.

13. In a printing device, the combination with a plurality of printing mechanisms, arranged in definite relation to each other, to print a moving web of fabric, each comprising supporting-brackets; frames pivoted to said brackets; an impression-cylinder, whose shaft is journaled in said brackets; a type-cylinder whose shaft is journaled in said frames; an eccentric-shaft journaled in said frames; eccentrics on said shaft; links connecting said eccentrics with said brackets, whereby the rotation of said shafts separates said cylinders; a driving-shaft, common to all of said printing mechanisms; gears loosely mounted on the respective impression-cylinder shafts of said printing mechanisms, arranged to be driven in the same direction by said driving-shaft; a clutch-collar arranged to connect said gears to said shaft; and, means arranged to shift said collar, substantially as set forth.

14. In a printing device, the combination with an impression-cylinder; of a shaft for said cylinder; a gear on said shaft; a type-cylinder; type carried by said cylinder; means arranged to adjust said type in an axial direction relatively to the cylinder; a shaft for said type-cylinder; and, a gear adjustably secured on said type-cylinder shaft, arranged to mesh with the gear on said impression-cylinder shaft, whereby said type-cylinder may be rotated with respect to said gear to adjust said type in a circumferential direction, substantially as set forth.

842,266. INGOT-STRIPPER. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed Apr. 18, 1906. Serial No. 312,468.

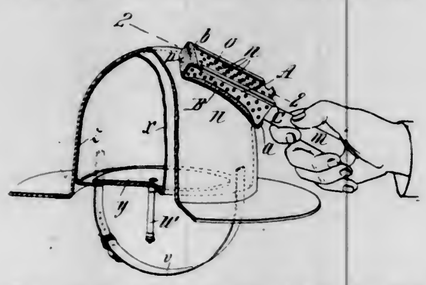


Claim.—1. In an ingot-stripper, the combination with a frame carrying a plunger, a frame carrying mold-grasping arms and sheaves carried by said frames, of a stripping-drum, stripping ropes or chains secured thereto, passing around the sheaves on the two frames and secured to fixed parts.

2. In an ingot-stripper, the combination with a frame carrying a plunger, a hoist-rope and drum therefor, a frame carrying mold-grasping arms, and sheaves on the two frames, of stripping ropes or chains passing around the sheaves on the two frames and secured to parts fixed with relation to the movable parts of the stripping mechanism, and means for operating said ropes or chains.

3. The combination with a trolley and supports depending therefrom, of a frame carrying a plunger, a frame carrying mold-grasping arms, sheaves on said frames, stripping ropes or chains secured at their lower ends to said supports, and passing around said sheaves, means on the trolley for actuating said stripping ropes or chains, a hoist-drum and a hoist-rope carried thereby and carrying the stripping mechanism.

842,267. LURE FOR HATS. SAMUEL L. TAYLOR, Springfield, Mass. Filed Jan. 8, 1906. Serial No. 295,047.



Claim.—1. In a device of the character described, a chambered body or receptacle externally of one of the walls of which is provided a layer, or layers, of cloth, on which luring-grease may be applied, means for holding the cloth-supporting receptacle, and means for establishing a combustion, for heating, within the receptacle.

2. In a device of the character described a chambered body or receptacle at a side of which is supported a layer of cloth, means for establishing a combustion, for heating, within the receptacle, and a handle connected with said receptacle and relatively to which the latter is rotatable.

3. In a device of the character described, a chambered body or receptacle constructed with a recessed or hollowed side, said receptacle externally carrying a layer of cloth which extends across the hollowed portion thereof, means for establishing a combustion, within the receptacle, and for heating the same, and means for holding the said receptacle.

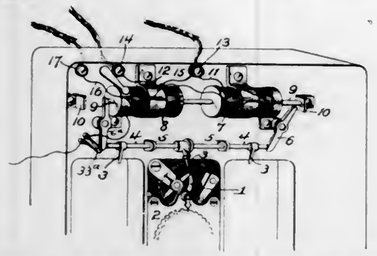
4. In a device of the character described, a chambered body or receptacle externally of one of the walls of which is supported a layer or layers of grease-receiving cloth, and a handle connected to, and for holding said receptacle, made hollow and having a burner extension projecting into the chamber in said receptacle and serving as a holder and conduit for a combustible fluid.

5. In a device of the character described, a chambered body or receptacle externally of one of the walls of which is supported a layer of cloth, a handle comprising a chambered portion, to constitute the handle proper, and a tubular, apertured extension within the receptacle to constitute a burner, said receptacle being rotatable relatively to the handle.

6. A device of the character described, consisting of a chambered body having a hollowed or concaved bottom, a handle, and means for heating said chambered body.

7. A device of the character described consisting of a hollow body or casing provided with air-apertures, and having a concaved bottom, a layer of cloth secured to said body and arranged across the concaved bottom thereof, a tubular shaft closed at the forward end, open, and screw-threaded at its rearward portion, and intermediately perforated, and on which shaft the said body is mounted for rotative movement, and a hollow handle, to constitute a container for a fuel fluid, screw-engaged with said tubular shaft, for the purposes set forth.

842,268. DOGGING MECHANISM FOR TIME AND OTHER LOCKS. WARREN H. TAYLOR, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed May 5, 1906. Serial No. 315,326.



Claim.—1. In a dogging device for locks, the combination with automatically-operating unlocking mechanism, of a dogging device and electrical means for moving said dogging device into and out of contact with a part of said unlocking mechanism.

2. In a dogging device for locks, the combination with automatically-operating unlocking mechanism of a lock, of a dogging device, an electromagnet for positively moving said dogging device into and out of the path of movement of a part of said unlocking device, and an electric circuit including said magnet.

3. In a dogging device for locks, the combination with automatically-operating unlocking mechanism of a lock, of a dogging device adapted to be positively moved into and out of the path of movement of a part of said unlocking means, electromagnetic devices adapted to move said dogging device positively in opposite directions, and means for energizing said electromagnetic devices.

4. In a dogging device for locks, the combination with automatically-operating unlocking mechanism of a lock, of a dogging device adapted to be positively moved into and out of the path of movement of a part of said unlocking means, an electromagnet for moving the dogging device and means for controlling the magnet.

5. In a dogging device for locks, the combination with automatically-operating unlocking mechanism of a lock, of a dogging device adapted to be positively moved into and out of the path of movement of a part of said unlocking means, magnets for moving the dogging device positively in opposite directions and means for separately energizing said magnets.

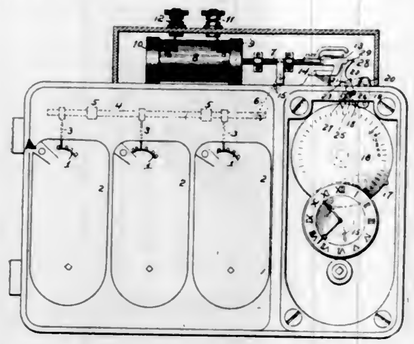
6. The combination with the time mechanism of a lock, of a dogging device adapted to engage a part of said time mechanism and interrupt the movement of same, a solenoid having a movable core, means for energizing said solenoid and means actuated by said core for positively moving the dogging device into and out of contact with the time mechanism.

7. The combination with the time mechanism of a lock, of a dogging device adapted to engage a part of said time mechanism and interrupt the movement of same, a solenoid having a movable core, means for energizing said solenoid, and levers located adjacent to the two ends of the core and actuated by the movements of the latter for actuating the dogging device positively in both directions.

8. The combination with the time mechanism of a lock, of an endwise-movable bar having a finger adapted to engage a part of said time mechanism and interrupt the movement of same, pivoted levers for engaging the opposite ends of said movable bar and move the latter endwise in opposite directions, a solenoid comprising two helices and a movable core, the latter adapted to rock said levers, and means for energizing either helix of the solenoid.

842,269. DOGGING MECHANISM FOR TIME-LOCKS. WARREN H. TAYLOR, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed June 7, 1906. Serial No. 320,674.

Claim.—1. In a dogging device for locks, the combination with bolt-unlocking mechanism and means actuated by electromagnetic devices for dogging same, of mechanical devices for moving said dogging mechanism to an inoperative position.



2. In a dogging device for locks, the combination with bolt-unlocking mechanism, and devices actuated by a magnet for dogging said unlocking mechanism, of mechanical devices actuated by a time-movement for releasing said dogging mechanism and moving same to an inoperative position.

3. In a dogging mechanism for locks, the combination with the unlocking mechanism of a lock, a dogging device, electromagnetic devices for moving said dogging device into the path of movement of a part of the unlocking device and means for locking the dogging device in such position, of mechanical devices actuated by a time-movement for releasing the dogging device, and moving the latter out of the path of movement of the unlocking mechanism.

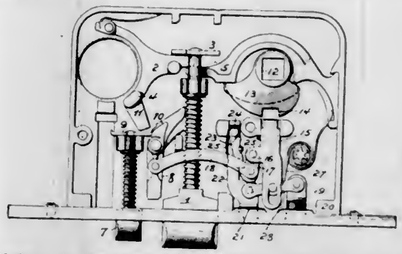
4. The combination with the time mechanism of a lock, a dogging device adapted to engage a part of said time mechanism and interrupt the movement of same, and electromagnetic devices for moving said dogging device into a position to engage said time mechanism, of mechanical means actuated by time mechanism for moving the dogging device in a reverse direction.

5. The combination with the time mechanism of a lock, a dogging device adapted to engage a part of said time mechanism and interrupt the movement of same, electromagnetic devices for moving said dogging device into position to dog the time mechanism, and means for locking said dogging device in its operative position, of mechanical means actuated by an auxiliary time mechanism for releasing and moving the dogging device to its inoperative position.

6. The combination with the time mechanism of a lock, of a dogging device adapted to engage a part of said time mechanism and interrupt the movement of same, a magnet and movable core therein, means for energizing the magnet, a latch on the core for holding the latter against reverse movement, means connecting the core and dogging device, and mechanical means actuated by an auxiliary time-movement for releasing the latch on the core and moving the latter in a direction to disengage the main time mechanism.

7. The combination with the time mechanism of a lock, of a dogging device adapted to engage a part of said time mechanism and interrupt the movement of same, a magnet, a core movable within the magnet, a latch carried by the core and adapted to engage a stop and prevent reverse movement of the core, means connecting the core and dogging device, an auxiliary time-movement, a dial actuated by said auxiliary movement and provided with a projection, a pivoted plate having a projection adapted to be engaged by the projection on the dial, a pivoted lever having a lug engaged by a lug on the pivoted plate, the said lever resting adjacent to the latch when the latter is in engagement with its stop, and a spring for forcing the lever forwardly and against the latch, when the lug on the plate passes out of the plane of movement of the lug on the lever.

842,270. MORTISE-LOCK. WARREN H. TAYLOR, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed Aug. 18, 1906. Serial No. 331,186.



Claim.—1. The combination with a latch-bolt, and knob mechanism for retracting said bolt, of deadlocking means for the outer-knob mechanism, means accessible from the outside of the latch-casing for actuating said deadlocking means, and means actuated by the closing of the door for disconnecting said deadlocking means from its actuating means when said deadlocking means is in its deadlocking position.

2. The combination with a latch-bolt and knob mechanism for retracting same, of a deadlocking-slide for the outer knob, mechanism accessible from the outside of the casing for moving said slide into its deadlocking position, a deadlocking-lever for the main bolt, means operated by the closing of the door for moving said lever into a position to deadlock the main bolt, and means actuated by the movement of the lever during the opening of the door for connecting the deadlocking-slide and its actuating mechanism, and for disconnecting the deadlocking-slide and its actuating mechanism during the closing movement of the door and when the slide is deadlocking the outer knob.

3. The combination with a latch-bolt, of a lever for deadlocking the bolt when the door is closed, knob and key actuated mechanisms for retracting said bolt and also for withdrawing the deadlocking-lever out of the path of the bolt, a deadlocking-slide for the outer knob, means accessible from the outside of the casing for actuating said slide, and means actuated by the movement of the bolt, deadlocking-lever for disconnecting the deadlocking-slide-actuating means from the slide when the latter is deadlocking the knob.

4. The combination with a latch-bolt and knob mechanism for retracting same, of a slide for deadlocking the outer knob, means for actuating said slide, and means actuated by engagement with the strike-plate of the door for disconnecting the slide from its actuating means when the slide is in its deadlocking position.

5. The combination with a latch-bolt and knob mechanism for retracting same, of a slide for deadlocking the outer knob, push-button mechanism, a device pivoted to the slide and detachably connecting the latter to the push-button mechanism, and means actuated by the strike-plate of the latch for moving said pivoted device on the deadlocking-slide, out of the path of movement of the coöperating parts of the push-button mechanism when the slide is in its deadlocking position.

6. The combination with a latch-bolt and knob mechanism for retracting same, of a slide for deadlocking the outer knob, push-button mechanism, a spring-pressed finger carried by said push-button mechanism, a hook pivoted to the slide and adapted to be engaged by said spring-pressed finger, and means actuated by the strike-plate of the lock for moving the hook out of the path of the finger on the push-button mechanism.

7. The combination with a latch-bolt, of independently-operable inner and outer roll-backs, means of connection between said roll-backs and said bolt, mechanism for dogging one of said roll-backs, manually-operable means accessible from the outside of the lock for actuating said dogging mechanism and means for disconnecting said dogging means from its operating means when the door is closed.

8. The combination with a bolt and independent oper-

ating devices for said bolt, of a dogging device for one of said operating devices, means manually operable from the outside of the door for actuating said dogging device, and means automatically operable upon the closing of the door for disconnecting said dogging device from its operating means, whereby an unlocking movement of the dogging means is prevented when the door is closed.

9. The combination with a bolt, a roll-back and means connecting the roll-back and bolt, of means for dogging the roll-back, manually-operable means for actuating said dogging means and automatically-operated means for disconnecting the dogging means from its actuating means whereby an unlocking movement of said dogging means is prevented when the door is closed.

10. The combination with a bolt and means for retracting same, of a dogging device for said retracting means, manually-operable means accessible from the outside of the lock for moving said dogging means into and out of its dogging position and means actuated by the closing of the door for disconnecting the dogging means from the means by which it is moved, whereby an unlocking movement of said dogging means is prevented when said door is closed.

842,271. VEHICLE-BRAKE. GEORGE S. TEBBETTS, St. Louis, Mo., assignor to L. B. Tebbetts & Sons Carriage Company, St. Louis, Mo., a Corporation of Missouri. Filed June 30, 1906. Serial No. 324,198.



Claim.—A vehicle brake comprising a sleeve provided at its opposite ends with enlarged portions which project above the upper surface of the sleeve, brake-shoe shafts projecting into said sleeve and provided at their inner ends with flat faces, wedge-shaped keys arranged in horizontally-disposed keyways in the enlarged portions of said sleeve and engaging the flat faces of said shafts, said keys being rectangular in cross-section, threaded projections on the ends of said keys and of less diameter than the body portion of the keys, nuts mounted on said projections and bearing against flat faces on the enlarged portions of the sleeve, a crank-arm mounted on one of said shafts and provided with an enlarged portion which receives a horizontally-disposed wedge-shaped key that engages a flat face on the upper side of the shaft, a lock-nut on a threaded projection on said key, brackets for supporting said shafts and being provided with elongated slots through which fastening devices extend, and pointed projections on said brackets adapted to sink into the members to which the brackets are connected; substantially as described.

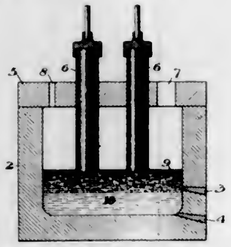
842,272. PICTURE-MAT. JAMES A. THOMAS, Callaway, Va. Filed Feb. 24, 1906. Serial No. 302,725.

Claim.—1. A picture-mat comprising a front mat having an opening therein, a rear mat, a body portion disposed between said mats and curved or shaped to give a scroll or mold effect, said body portion being secured to the front mat, and a binding-strip inclosing the body portion and fixed to the rear mat.



2. A picture-mat comprising a front mat-section having an opening therein, a rear mat-section conforming in size to said opening, a body portion curved to give a scroll or mold effect and having its forward outturned edge secured to the rear of the front mat-section and its rear edge abutting against the front of the rear mat-section inside the edges thereof, and a binding-strip inclosing the outer rear edge of the body portion and secured thereto and to the projecting edge of the rear mat-section.

842,273. PROCESS OF REDUCING COMPOUNDS. FRANK J. TONE, Niagara, Falls, N. Y. Filed Dec. 16, 1905. Serial No. 292,038.



Claim.—1. The method of reducing silicon compounds, consisting in forming a fused bath of the compound, together with a reducing agent and a flux, interposing the fused bath as a resistance-conductor between electrodes, and reducing the compound; substantially as described.

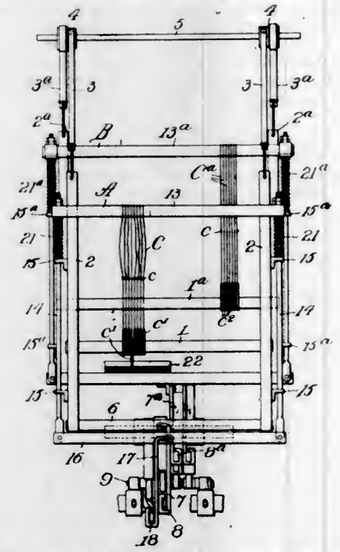
2. The process of forming silicids, consisting in forming a fused bath containing a silicon compound, metalliferous material, a reducing agent and a flux, interposing such bath as a resistance-conductor between the electrodes of an electrical furnace, passing sufficient current through the bath to reduce the compounds and form a silicid, and collecting the silicid; substantially as described.

3. The process of making manganese silicids, which consists in interposing as a resistance-conductor between the electrodes of an electric furnace a fused bath composed of a silicon compound, manganese ore, a reducing agent and a flux, passing sufficient current through said bath to reduce the silicon and manganese compounds to form a manganese silicid, and collecting said silicid; substantially as described.

4. The process of making silicid of manganese and iron, which consists in interposing as a resistance-conductor between the electrodes of an electric furnace a fused bath composed of a silicon compound, ferromanganese, a reducing agent and a flux, passing sufficient current through said bath to reduce the silicon compound and cause it to unite with the ferromanganese, thereby forming a silicid of iron and manganese, and collecting said silicid; substantially as described.

5. The method of reducing silicon compounds, consisting in forming a fused bath of a mixture of the compound with a reducing agent and a flux, interposing the fused bath as a resistance-conductor between electrodes, passing sufficient current through the bath to reduce the compound and form a silicid without substantial volatilization, and collecting said silicid; substantially as described.

842,274. WEAVING-MACHINE. SASUKE TOYODA, Nagoya, Japan. Filed May 13, 1905. Serial No. 260,349.



Claim.—1. In a weaving-machine the combination of a reciprocating heddle-frame comprising upper and lower independently-movable heddle-bars, heddle-cords connecting said bars, and mechanism reciprocating the bars in unison and serving at a predetermined point to momentarily move one of the bars toward the other to slacken said cords.

2. In a weaving-machine the combination of a reciprocating heddle-frame comprising upper and lower independently-movable heddle-bars, heddle-cords connecting said bars, cams operating said upper and lower bars in unison, said cams serving to bring one of said bars toward the other and slacken said cords at a predetermined point.

3. In a weaving-machine the combination of a reciprocating heddle-frame comprising upper and lower independently-movable heddle-bars, heddle-cords connecting said bars, yieldingly-acting mechanism for said bars normally holding the cords taut, and mechanism reciprocating the bars in unison and serving at a predetermined point to momentarily move one of said bars toward the other to slacken said cords.

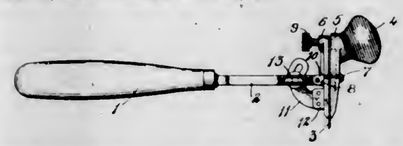
4. In a weaving-machine the combination of a reciprocating heddle-frame comprising upper and lower independently-movable heddle-bars, heddle-cords connecting said bars, springs interposed between said bars serving to stretch said cords, cams operating said upper and lower bars in unison, said cams being formed to bring one of said bars toward the other and slacken the cords at a predetermined point.

5. In a weaving-machine the combination with a reciprocating heddle-frame comprising lower and upper heddle-bars, heddle-cords connecting said bars, a cam for operating said lower bar, a cam for operating said upper bar, springs normally holding said bars apart to tighten said cords, said cams being formed to reciprocate the bars in unison and cause the upper bar to move toward said lower bar at a predetermined point.

6. A weaving-machine provided with a reciprocating heddle-frame comprising independently-movable heddle-bars, heddle-cords connecting said bars and means for operating said bars in unison.

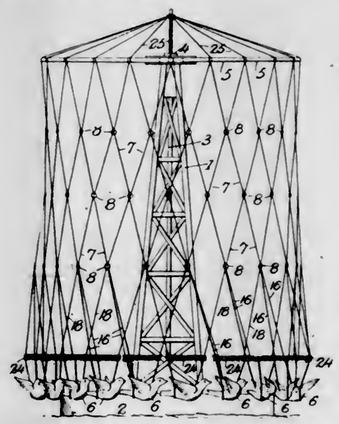
7. A weaving-machine provided with a reciprocating heddle-frame comprising independently-movable heddle-bars, and means for operating said bars in unison, said means serving at predetermined points to vary the operation of said bars.

842,275. SCRAPER. JUSTUS A. TRAUT, New Britain, Conn., assignor to Stanley Rule & Level Company, New Britain, Conn., a Corporation of Connecticut. Filed Mar. 8, 1906. Serial No. 304,937.



Claim.—A scraper comprising a head portion formed of two parts, means for adjustably connecting the same at an intermediate point, said connection permitting said parts to swing, jaws formed by the edges of said parts at one side of said connection, a clamp-screw at the opposite side of said connection, said clamping-screw passing through one part and bearing against the other, and adjustable stop-screws at the opposite side edges of said parts, and a handle hinged to one of said parts and means for adjusting the angle of said handle relatively thereto.

842,276. AMUSEMENT APPARATUS. HARRY G. TRAVER, New York, N. Y., assignor to Traver Circle Swing Company, New York, N. Y., a Corporation of New York. Filed July 22, 1905. Serial No. 270,839.



Claim.—1. In an amusement apparatus, the combination with a series of radial rotating arms and means for driving them, of a series of passenger-carriers, and means for suspending the carriers from the arms consisting of a network of intersecting cables, said network being connected to all the carriers.

2. The combination with a vertical shaft and radial arms carried thereby, of a series of passenger-carriers, and an approximately cylindrical webbing depending from and connecting the arms and supporting the carriers.

3. The combination with a vertical shaft and a series of horizontal arms projecting therefrom, of a series of passenger-carriers, each having a canopy, a network depending from the arms and sustaining the said carriers, said network consisting of inclined cables and rings to which they are fastened.

4. The combination with a vertical revolving shaft and a series of radially-projecting arms thereon, a series of bird-cars designed to carry passengers, and means for supporting the cars from the arms consisting of a network of cables connected to rings which are arranged in horizontal series, each car being immediately held by a pair of rear cables and a single front cable.

5. The combination with a vertical shaft and a series of radial arms projecting therefrom, of a series of passenger-carriers each having a canopy, a network depending from the arms, and sustaining the carriers, said network consisting of intersecting cables, and means at the intersections to which they are attached.

6. In an amusement apparatus, the combination with a vertical rotating shaft of radial arms on said shaft, carriers suspended from said arms, and a means connecting said carriers and supporting them.

7. In combination with a vertical rotating shaft, radial arms carried by said shaft, carriers depending from said arms, and a means of connecting and supporting said carriers consisting of a network of cables approximately cylindrical in shape.

8. In combination with a vertical rotating shaft, a series of horizontal radial arms carried by said shaft, carriers depending from said arms, supports for said arms consisting of cables fastened to the top of said shaft and to the extremities of the arms, and a network of intersecting cables, supporting the carriers, depending from said arms.

9. In combination with a vertical rotating shaft, radial arms supporting carriers carried by said shaft, and cables or strands attached to said carriers and depending from each arm and attached to other cables at crossing-points intermediate between the arms and carriers.

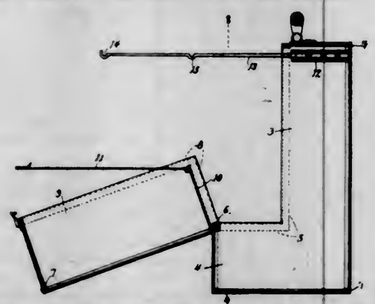
10. In combination with a vertical rotating shaft radial arms carried by said shaft, a network of intersecting cables depending from said arms, strands of cable supported by each arm and extending downwardly at an angle to each other, and carriers supported by said cables.

11. In combination with a vertical rotating shaft, radial arms carried by said shaft, a network of intersecting cables depending from said arms, said network being of approximately cylindrical shape and consisting of cables extending downwardly at an angle to each other, and carriers supported by said cables.

12. In combination with a vertical rotating shaft, radial arms carried by said shaft, cables depending from said arms and extending downwardly at an angle to each other and intersecting each other, forming figures of approximately diamond shape, means for fastening said cables together at each intersection, and carriers supported by said cables.

13. In an amusement apparatus, the combination with a series of radial rotating arms, and means for driving them, of a series of passenger-carriers, and means for suspending them consisting of an approximately cylindrical network encircling the device.

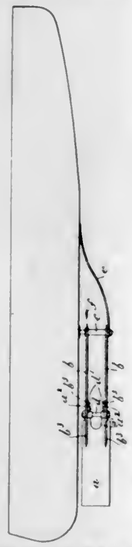
842,277. SUIT-CASE. JOHN A. H. VILLMOW, Milwaukee, Wis. Filed Dec. 30, 1904. Serial No. 238,032.



Claim.—1. A receptacle for clothing and the like, comprising a body portion having an open-front upright section and a laterally-extending open-top base-section communicating with each other, means in the upright section for supporting clothes and the like so that they extend through the upright section and into the base-section without folding, and a tray pivotally mounted on the base-section and adapted to swing closed against the upright section.

2. A receptacle for clothing and the like, comprising a body portion having an open-front upright section and a laterally-extending open-top base-section in communication with each other, a tray pivotally mounted on the base-section and adapted to close the body portion by swinging against the upright section, and a pivoted hanger-bracket in the upright section adapted to support clothing in the upright section so that it may extend into the base-section without folding, said hanger-bracket being adapted to swing to the front of the body portion with the clothing thereon, the open tray serving as a brace to prevent the body portion being tilted.

842,278. OSCILLATING-BLADE OR FISH-TAIL PROPELLER. GEORGE E. WADE, London, England. Filed May 7, 1906. Serial No. 315,623.

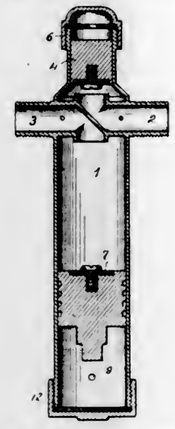


Claim.—1. An oscillating or fish-tail propeller consisting of a flexible propelling portion, the ineffective portion of which is cut away so as to reduce its resistance to the lateral movement of the propeller through the water, a blade-carrying portion so shaped as to offer but slight resistance to the water, and curved fork-like projections provided at the free end of the blade-carrying portion for limiting the movement of the flexible propelling portion substantially as described.

2. An oscillating or fish-tail propeller consisting of a flexible laminated propelling portion, the ineffective portion of which is cut away so as to reduce its resistance to the lateral movement of the propeller through the water, a blade-carrying portion so shaped as to offer slight resistance to the water, and fork-like projections provided at the free end of the blade-carrying portion for limiting the movement of the flexible laminated blade substantially as described.

842,279. AUTOMATICALLY-CLOSING VALVE. THOMAS H. WALKER, Kansas City, Mo. Filed Oct. 18, 1905. Serial No. 283,269.

Claim.—1. The combination with a conductor for conveying fluid under pressure and having an inlet-valve opening and an outlet-valve opening, of two valves located intermediate said valve-openings, one valve being movable toward the inlet-valve opening by gravity and movable away from said opening by pressure of the incoming fluid entering through the inlet-valve opening, the other valve being movable by gravity away from the outlet-valve opening, the side of the outlet-valve adjacent the outlet-opening being exposed to the pressure of the incoming fluid, and a by-pass connected at its ends with said conductor at points located outside respectively of said inlet and outlet valve openings and having communicating with it a passage which communicates with the conductor adjacent the side of the outlet-valve distant from the outlet-valve opening.



2. The combination with a conductor for conveying fluid under pressure and having an inlet-valve opening and an outlet-valve opening, of two valves located intermediate said valve-openings, one valve being movable toward the inlet-valve opening by gravity and movable away from said opening by pressure of the incoming fluid entering through the inlet-valve opening, the other valve being movable by gravity away from the outlet-valve opening, the side of the outlet-valve adjacent the outlet-opening being exposed to the pressure of the incoming fluid, a by-pass connected at its ends with said conductor at points located outside respectively of said inlet and outlet valve openings and having communicating with it a passage which communicates with the conductor adjacent the side of the outlet-valve distant from the outlet-valve opening, and adjustable means for controlling the passage of fluid from the conductor into said by-pass.

3. The combination with a conductor for conveying fluid under pressure and having an inlet-valve opening and an outlet-valve opening, of two valves located intermediate said valve-openings, one valve being movable toward the inlet-valve opening by gravity and movable away from said opening by pressure of the incoming fluid entering through the inlet-valve opening, the other valve being movable by gravity away from the outlet-valve opening, the side of the outlet-valve adjacent the outlet-opening being exposed to the pressure of the incoming fluid, a by-pass connected at its ends with said conductor at points located outside respectively of said inlet and outlet valve openings and having communicating with it a passage which communicates with the conductor adjacent the side of the outlet-valve distant from the outlet-valve opening, and two valves disposed one at each side of said passage for controlling the passage of fluid through said by-pass.

4. The combination with a conductor for conveying fluid under pressure and having an inlet-valve opening and an outlet-valve opening, of two valves located in said conductor, one being movable by gravity toward and adapted to close the inlet-valve opening the other valve being disposed below the outlet-valve opening and movable therefrom by gravity the upper side of the outlet-valve being exposed to the pressure of fluid entering the inlet-opening, and a conductor connected to the first-named conductor at a point below the outlet-valve and at points outside of the said two openings respectively.

5. The combination with a conductor for conveying fluid under pressure and having an inlet-valve opening and an outlet-valve opening and provided with a valve-chamber embracing said openings, of two valves in said chamber, one valve being normally held in position closing the inlet-opening, the other valve being movable in the chamber to a position closing the outlet-opening but normally held in the open position and having the side adjacent the outlet-opening exposed to the pressure of the fluid entering the chamber through the inlet-opening, and a conductor connected to the first-named conductor at points outside the said inlet and outlet openings respectively and connected to the said chamber at a point adjacent the side of the outlet-valve distant from the outlet-opening.

6. The combination with a conductor for conveying fluid under pressure and having an inlet-valve opening and an outlet-valve opening and provided with a valve-chamber embracing said openings, of two valves in said chamber, one valve being normally held in position closing the inlet-opening, the other valve being movable in the chamber to a position closing the outlet-opening but normally held in the open position and having the side adjacent the outlet-opening exposed to the pressure of the fluid entering the chamber through the inlet-opening, a by-pass connected at its ends with said conductor at points located outside respectively of said openings and having a passage between its ends communicating with said chamber at a point adjacent the side of the outlet-valve distant from the outlet-valve opening, and adjustable means disposed at each side of said passage for controlling the passage of fluid through said by-pass.

7. The combination with a conductor for conveying fluid under pressure and having an upwardly-facing inlet-opening and a downwardly-facing outlet-opening and provided with a vertical valve-chamber embracing said openings, of two valves vertically movable in said chamber, one being disposed above and movable by gravity downward to a position closing the inlet-opening, the other valve being disposed below and movable upwardly to a position closing the outlet-opening and movable downward therefrom by gravity, both sides of the upper valve being exposed to the pressure of the fluid entering the chamber through the inlet-opening, the upper side only of the lower valve being exposed to the fluid entering the chamber through the inlet-opening, and a conductor having its lower end connected to said chamber below the lower valve and having a bifurcated upper end connected to the first-named conductor upon opposite sides respectively of the said two openings.

8. The combination with a conductor for conveying fluid under pressure and having an upwardly-facing inlet-opening and a downwardly-facing outlet-opening and provided with a vertical valve-chamber embracing said openings, of two valves vertically movable in said chamber, one being disposed above and the other below said openings respectively, the valve above the inlet-opening being movable to a position closing said opening by gravity, and the valve below the outlet-opening being movable downward from said opening by gravity, the outlet-valve being exposed to the pressure of the fluid entering the chamber through the inlet-opening on its upper side only, the inlet-valve having its upper and lower sides both exposed to the fluid entering the chamber through the inlet-opening, a by-pass connecting with the conductor upon opposite sides respectively of said openings and having a passage communicating with the chamber below the outlet-valve, and adjustable means disposed at each side of said passage for controlling the passage of fluid through said by-pass.

9. The combination with a conductor for conveying fluid under pressure having an inlet-opening and an outlet-opening, of means located in said conductor intermediate said openings for creating a back pressure upon the fluid passing through said inlet-opening, a valve movable in said conductor to a position closing said outlet-opening, the side of said valve adjacent said outlet-opening being exposed to the pressure of the fluid passing through the

inlet-opening, and a by-pass connected at its ends to said conductor upon opposite sides respectively of said openings and having a passage communicating with the conductor at a point adjacent the side of the valve distant from the outlet-opening.

10. The combination with a conductor for conveying fluid under pressure having an inlet-opening and an outlet-opening, of means located in said conductor intermediate said openings for creating a back pressure upon the fluid passing through said inlet-opening, a valve movable in said conductor to a position closing said outlet-opening, the side of said valve adjacent said outlet-opening being exposed to the pressure of the fluid passing through the inlet-opening, a by-pass connected at its ends to said conductor upon opposite sides respectively of said openings and having a passage communicating with the conductor at a point adjacent the side of the valve distant from the outlet-opening, and adjustable means for controlling the passage of fluid in said by-pass.

11. The combination with a conductor for conveying fluid under pressure having an inlet-opening and an outlet-opening, of means located in said conductor intermediate said openings for creating a back pressure upon the fluid passing through said inlet-opening, a valve movable in said conductor to a position closing said outlet-opening, the side of said valve adjacent said outlet-opening being exposed to the pressure of the fluid passing through the inlet-opening, a by-pass connected at its ends to said conductor upon opposite sides respectively of said openings and having a passage communicating with the conductor at a point adjacent the side of the valve distant from the outlet-opening, and adjustable means for controlling at each side of said passage the flow of fluid through said by-pass.

12. The combination with a conductor for conveying fluid under pressure having an inlet-opening and an outlet-opening, of gravity- actuated means located in said conductor for resisting the passage of the fluid through said inlet-opening, a valve in said conductor movable to a position closing said outlet-opening and having gravity and the pressure of the fluid passing through the inlet-opening opposing its closing movement, and a by-pass connected to the conductor upon opposite sides respectively of said openings and having a passage communicating with the conductor at a point where the fluid flowing through said passage will exert a pressure tending to move the valve to the closed position.

13. The combination with a conductor for conveying fluid under pressure having an inlet-opening and an outlet-opening, of means located in said conductor for resisting the inward flow of the fluid through said inlet-opening, a valve movable in said conductor to and from a position closing said outlet-opening, the closing movement of said valve being opposed by the fluid entering through the inlet-opening, a by-pass connected to the conductor upon opposite sides respectively of said openings and having a passage communicating with the conductor at a point where the fluid flowing through said passage will exert a pressure for forcing the valve to the closed position, and adjustable means for regulating the admission of fluid from the conductor into the by-pass.

14. The combination with a conductor for conveying fluid under pressure having an inlet-opening and an outlet-opening, of means located in said conductor for resisting the inward flow of the fluid through said inlet-opening, a valve movable in said conductor to and from a position closing said outlet-opening, the closing movement of said valve being opposed by the fluid entering through the inlet-opening, a by-pass connected to the conductor upon opposite sides respectively of said openings and having a passage communicating with the conductor at a point where the fluid flowing through said passage will exert a pressure for forcing the valve to the closed position, and adjustable means for regulating the discharge of fluid from the by-pass into the discharge portion of the conductor.

15. The combination with a chamber having an inlet and an outlet passage having valve-seats facing upwardly and downwardly respectively, of a valve vertically movable in said chamber and movable downward by gravity against the valve-seat of the inlet-passage, said valve having a passage for conveying the fluid from the lower to the upper side thereof, a valve located in said chamber below the outlet-passage and movable upwardly against the seat of said outlet-passage and movable downward by gravity, the upper side of the second-named valve being exposed to the pressure of the fluid entering the chamber through the inlet-passage, and a by-pass having its ends connected to the inlet and outlet passages at opposite sides respectively of said valve-seats and having a passage connecting with said chamber at a point below the valve which closes the outlet-passage.

16. The combination with a chamber having an inlet and an outlet passage having valve-seats facing upwardly and downwardly respectively, of a valve vertically movable in said chamber and movable downwardly by gravity against the valve-seat of the inlet-passage, said valve having a passage for conveying the fluid from the lower to the upper side thereof, a valve located in said chamber below the outlet-passage and movable upwardly against the seat of said outlet-passage and movable downwardly by gravity, the upper side of the second-named valve being exposed to the pressure of the fluid entering the chamber through the inlet-passage, a by-pass having its ends connected to the inlet and outlet passages at opposite sides of the said valve-seats respectively and having a passage connecting with the chamber at a point below the valve which closes the outlet-passage, and adjustable means for regulating at each side of said passage the flow of fluid through said by-pass.

17. The combination with a chamber having an inlet-passage and an outlet-passage, of two valves movable respectively in said chamber to and from positions closing said passages, the valve for the inlet-passage normally being in the closed position, and the valve for the outlet-passage resting normally in the open position, one side of the valve adjacent the outlet-passage being exposed to the pressure of the fluid entering the chamber through the inlet-passage, and means for conveying fluid from the inlet-passage to the chamber at a point adjacent the side of the outlet-valve distant from the outlet-passage.

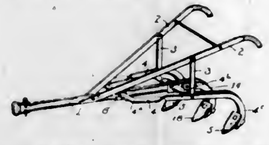
18. The combination with a chamber having two open-ends, of two removable closures for said open ends respectively, the chamber having an inlet-passage and an outlet-passage facing said open ends respectively, two valves mounted in said chamber adjacent said ends respectively, said valves being movable toward and from said passages respectively, the valve for the inlet-passage normally being in position closing the inlet-passage, and the other valve normally resting in the open position, the side of the outlet-valve adjacent the outlet-passage being exposed to the pressure of fluid entering the chamber through the inlet-passage, a by-pass connected at its ends to said passages upon opposite sides respectively of the inner ends of said passages, and a passage connecting said by-pass and the chamber at a point adjacent the side of the outlet-valve distant from the outlet-passage.

19. The combination with a vertical chamber having open upper and lower ends and provided with an inlet-passage and an outlet-passage, the inner ends of which face respectively upwardly and downwardly, of two removable closures one for each open end of the chamber, a by-pass connected at its ends to the said two passages upon opposite sides respectively of the inner ends of said passages, a conductor connected at one end to said by-pass and at the other end to the chamber, a valve vertically movable in said chamber below the inner end of the outlet-passage and adapted to close said inner end of said passage and disposed above the end of the conductor which is connected with the chamber, the side of the valve adjacent the inner end of the outlet-passage being exposed to the pressure of fluid entering the chamber through the inlet-passage, and a valve in said chamber vertically movable to and from a position closing the inner end of the inlet-passage.

20. The combination with a vertical chamber having open upper and lower ends and provided with an inlet and an outlet passage the inner ends of which face upwardly and downwardly respectively, of two removable closures for said open ends of the chamber, two valves in said chamber disposed respectively one above the inlet-passage and the other below the outlet-passage, and movable to and from positions respectively closing said passages, the valve for the outlet-passage having the side adjacent the outlet-passage exposed to the pressure of fluid entering the chamber through the inlet-passage, the inlet-valve being normally movable by gravity to a position closing the inlet-passage, the other valve being normally movable by gravity to a position away from the outlet-passage, a by-pass connected at its ends to said passages upon opposite sides respectively of the inner ends of said passages, a conductor connecting said by-pass with the chamber at a point below the outlet-valve, and adjustable means for controlling the admission of fluid into said by-pass.

21. The combination with a vertical chamber having open upper and lower ends and having an inlet-passage and an outlet-passage the inner ends of which face upwardly and downwardly respectively, of two removable closures for said open ends respectively, two valves both movable in said chamber downwardly by gravity, one valve being disposed above and adapted to close the inner end of the inlet-passage, the other valve being disposed below and adapted when upwardly moved to close the inner end of the outlet-passage, the upper side of the outlet-valve being exposed to the pressure of fluid entering the chamber through the inlet-passage, a by-pass connecting said passages upon opposite sides respectively of the inner ends of said passages, a conductor connected to the chamber below the outlet-valve and also connected to the by-pass, and adjustable means for regulating at each side of the said conductor the flow of fluid through said by-pass.

842,280. PLOW. ROBERT M. WARREN, Bearden, Tenn. Filed Apr. 4, 1906. Serial No. 309,812.



Claim.—1. In a plow, the combination with a beam, of two one-piece shovel-supporting members located at opposite sides of the beam and each comprising a shovel-leg and horizontal, transverse front and rear arms overlapping each other, and means for binding said arms adjustably to said beam, substantially as described.

2. In a plow, the combination with a beam, of two one-piece shovel-supporting members located at opposite sides of the beam and each comprising a shovel-leg and horizontal, transverse front and rear arms overlapping each other and extending through the beam, and means for binding said arms adjustably to said beam, substantially as described.

3. In a plow, the combination with a beam having horizontal apertures and reinforcing-plates at said apertures, of two one-piece shovel-supporting members located at opposite sides of the beam and each comprising a shovel-leg and horizontal, transverse front and rear arms overlapping each other and extending through the beam and said plates, and means for binding said arms adjustably to said beam, substantially as described.

4. In a plow, the combination with a beam having horizontal apertures and reinforcing-plates at said apertures, ears on said plates, set-bolts seated in said ears, of two one-piece shovel-supporting members located at opposite sides of the beam and each comprising a shovel-leg and horizontal, transverse front and rear arms overlapping each other and extending through the beam and said plates, substantially as described.

5. In a plow, the combination with a beam having horizontal apertures and reinforcing-plates at said apertures, of two one-piece shovel-supporting members located at opposite sides of the beam and each comprising a shovel-leg and horizontal, transverse front and rear arms overlapping each other and extending through the beam and said plates, means for binding said arms adjustably to said beam, and a third shovel-leg applied to the rear end of said beam by bolts extending through said beam and the plates at said end of the beam, substantially as described.

6. In a plow, the combination with a beam of two shovel-supporting members located at opposite sides of the beam and comprising horizontal, transverse front and rear arms overlapping each other, means for binding said arms adjustably to said beam, blocks, 14, bolts, 17, braces, 3, and handles, 2, substantially as described.

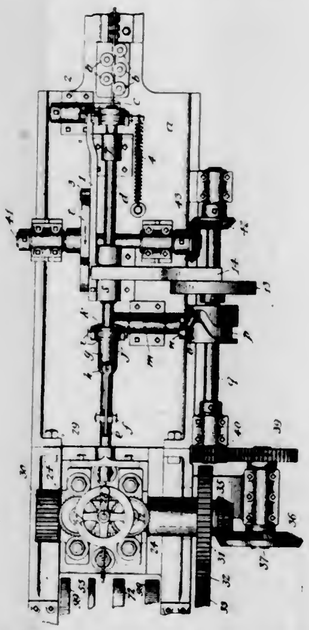
7. In a plow, the combination with a beam, of two shovel-supporting members located at opposite sides of the beam and comprising horizontal, transverse front and rear arms overlapping each other, means for binding said arms adjustably to said beam, blocks, 14, having lips, 15 and 16, bolts, 17, braces, 3, and handles, 2, substantially as described.

8. In a plow, the combination with a beam, of two one-piece shovel-supporting members located at opposite sides of the beam and each consisting of a single bar folded upon itself, each member comprising a shovel-leg and the ends of said bar extending sidewise to constitute arms, the arms of one member overlapping the arms of the other member, and means for binding said arms to the beam, substantially as described.

842,281. CATTLE FOOD. WILLIAM F. WARREN, Ardmore, Ind. Ter. Filed Feb. 15, 1906. Serial No. 301,281.

Claim.—A stock-food composition in the form of a coarse powder comprising cotton-seed hulls in relative quantity sufficient to produce the requisite bulk, wheat-bran, comminuted cornstalks, cotton-seed meal, alfalfa-meal and salt mixed with the bulk of hulls substantially in the proportions stated to provide a perfect food ration, as set forth.

842,282. SCREW-MACHINE. GEORGE T. WARWICK, Springfield, Mass. Filed July 16, 1901. Serial No. 68,557.



Claim.—1. The combination, with the blank-holder, of a head-shaping die, a pair of finishing-dies disposed at opposite sides thereof, and means for shifting the blank-holder alternately into alinement with the head-shaping dies and the finishing-dies.

2. The combination, with the head-shaping die and a pair of finishing-dies, of a blank-holder slide, and means for actuating said slide to bring the blank-holder alternately into alinement with said dies, respectively.

3. The combination, with means for feeding a blank-strip, an intermittently-movable slide having a plurality of blank-holders, a device for cutting off successive blanks from the strip and bringing them into alinement with said holders, means for removing the blanks from the cutting device into said holders, successively, a die for shaping the head of the blank, and means for moving said die into co-operation with one of said holders, of a pair of finishing-dies coöperative with the blank-holders, a reciprocatory slide for supporting said finishing-dies, and independent means for actuating both, the blank-holder slide and the die-slide, to bring the blank-holders and dies successively into alinement, alternately.

4. The combination, with a slide comprising a blank-holder, and a primary slide movable toward and away from the holder, of a secondary slide movable on the primary slide right-angularly to its longitudianl movement, and having thereon a slot-forming die, and also a head-contracting die, means for moving the primary slide toward and away from the blank-holder; means for imparting, successively, movement to the secondary slide, whereby the dies thereon are presented in succession opposite the blank-holder for the respective operations thereon, a finishing-die located at a distance from the line of movement of the double die-carrying slide, means for moving the same toward and away from the blank-holder slide, and means for sliding the blank-holder slide, substantially as and for the purposes set forth.

5. The combination, with a blank-holder, comprising a plurality of movable sections and springs for normally contracting said sections, of means operable on one side of said holder for forcing a headed blank between and through the holder-sections, and means coöperative with the other side of said holder and for shaping the head of the severed blank.

6. The combination, with blank-feeding means, a blank-holder, comprising a pair of movable sections, and means for normally contracting said sections; of abutments for locating said sections normally in alinement with an advancing headed blank, means operable at one side of the holder for positioning the blank in alinement with the holder, a device for forcing a blank through and between the holder-sections, and means coöperative with the other side of the holder for shaping the head of the blank.

7. The combination, with feeding means, and a device for cutting off a blank, of a pair of rollers for rolling a thread on the blank, and a mechanism for removing the cut-off blank from the cutting device to the threading-rollers and for supporting the cut-off blank during the action of the threading-rollers on the blank.

8. The combination, with feeding means, a mechanism for reducing the blank-body, and a device for cutting off a blank, of a pair of threading-rollers having flanges for guiding the head of the blank during the thread-rolling operation, and a mechanism for removing the cut-off blank from the cutting device, and for positioning the blank between the threading-rollers.

9. The combination, with feeding means, a mechanism for forming a blank-strip, and a device for cutting off a blank, of a pair of threading-rollers having flanges for guiding the head of the blank during the thread-rolling operation, and having members for shaping the end of the threaded blank-body, and a mechanism for removing the cut-off blank from the cutting device, and for positioning the blank between the threading-rollers.

10. The combination, with a blank-holder, of a thread-rolling device, and a mechanism comprising a pair of oppositely-movable slides, and opposed blank-engaging fingers carried thereby, means for removing the blank from the holder into position to be received by the fingers and means for actuating said slides and fingers for receiving and transferring a headed blank from the holder to the thread-rolling device.

11. The combination, with a blank-holder, of a thread-rolling device, a mechanism comprising a pair of oppositely-movable slides, fingers carried thereby and for receiving and transferring a headed blank from the holder to the thread-rolling device, means for moving one of said slides by the movement of the other, and means for removing the blank from the holder into position to be received by said fingers.

12. The combination, with a blank-holder, of threading-rollers, a mechanism comprising a pair of oppositely-movable slides carrying fingers for transferring a headed blank from the holder to the threading-rollers, means for removing the blank from the holder into position to be received by the fingers, means for moving one of said slides by the movement of the other, and for causing said fingers to engage the blank, and means for shifting both of the slides, bodily, for bringing said fingers with the blank into position between the threading-rollers.

13. The combination, with a blank-holder, and means for removing the blank therefrom, of threading-rollers, a mechanism comprising a pair of oppositely-movable slides, carrying fingers for transferring a headed blank from the holder to the threading-rollers, means for moving one of said slides by the movement of the other, and for causing said fingers to engage the blank, means for shifting both slides, together, in one direction, to bring the blank into position between the threading-rollers, and means for shifting the primary slide in the other direction to release said fingers from the blank.

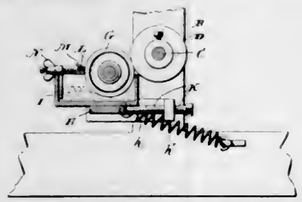
14. The combination, with a blank-holder, of a thread-rolling device, a mechanism for transferring the blank from the holder to the threading device, and comprising a pair of oppositely-movable finger-slides each of which is provided with rack-teeth, and a pinion in engagement therewith, and for causing said slides to move toward each other to engage the blank.

15. The combination, with a blank-holder, of a thread-rolling device, a mechanism for transferring the blank from the holder to the threading device, and comprising a pair of oppositely-movable finger-slides each of which is provided with rack-teeth, and a pinion in engagement therewith and having its axis mounted for movement in parallelism with the movement of said slides.

16. The combination, with a blank-holder, of a thread-rolling device, a pair of oppositely-movable finger-slides for transferring a blank from the holder to the threading device, a pinion in engagement with both of said slides and having its axis mounted for movement in parallelism with the slide movement, and means for frictionally retaining said axis in position and for causing said finger-slides to engage the blank.

17. The combination, with a blank-holder, of a thread-rolling device, a pair of oppositely-movable finger-slides, means for actuating one of said slides to cause both finger-slides to engage the blank at opposite sides thereof, and subsequently to move both slides in unison with the blank for transferring the same from the holder to the thread-rolling device.

842,283. APPARATUS FOR APPLYING ADHESIVES. JAMES WEST, Brooklyn, N. Y., assignor, by mesne assignments, to United States Envelope Company, Springfield, Mass., a Corporation of Maine. Filed Aug. 12, 1904. Serial No. 220,524.



Claim.—1. In an apparatus of the class described, means for applying adhesive material, a removable pan, a roller in said pan adapted to supply adhesive material to said applying means, stops against which said pan is adapted to rest to determine the distance of the roller from the said applying means, and springs for holding said pan against said stops.

2. In an apparatus of the class described, means for applying adhesive material, a removable pan, a roller in said pan adapted to supply adhesive material to said applying means, adjustable stops against which said pan is adapted to rest to determine the distance of the roller from the said applying means, and springs for holding said pan against said stops.

3. In an apparatus of the class described, the combination of glue-applying rollers, a glue-pan, a glue-transfer roller, a support for said roller and said pan, guides on the frame upon which said support is adapted to rest, screws to engage said support and adjust said transfer-roll with reference to the glue-applying rollers, and springs engaging a fixed part and said support and pressing the latter toward said screws.

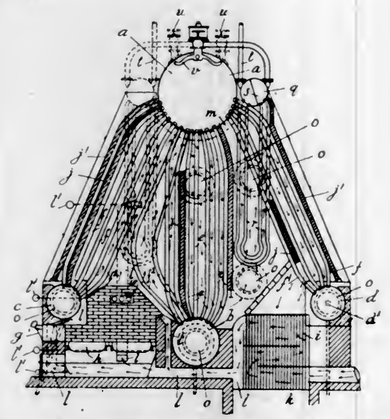
4. In an apparatus of the class described, the combination with a glue-pan, a transfer-roll mounted therein and a scraper-bar applied to said transfer-roll, of springs pivoted at one end to allow them to be rocked to release the scraper-bar and having their free ends applied to said scraper to move it away from said transfer-roll.

5. In an apparatus of the class described, the combination with a glue-pan, a transfer-roll mounted therein, of a scraper-bar having its ends supported on said glue-pan and capable of sliding thereon, adjusting-screws bearing against said scraper-bar and springs applied to said scraper-bar with their line of pressure forming an oblique angle with the top of said glue-pan and also with the axes of said adjusting-screws, whereby said scraper-bar is pressed by said springs against the ends of said screws and the top of said glue-pan.

6. In an apparatus of the class described, the combination with a glue-pan and a transfer-roll mounted therein, of a scraper-bar having its ends supported on said glue-pan and capable of sliding thereon, screws held by said glue-pan and bearing against said scraper-bar to adjust its position relatively to said transfer-roll, and springs bearing on said scraper-bar and arranged to crowd it away from said transfer-roll and toward the supporting-surface of said glue-pan.

7. In an apparatus of the class described, the combination of a glue-pan and a transfer-roll mounted therein, of a scraper-bar resting on the upper edges of said glue-pan, springs with their free ends applied to said scraper-bar to press it toward the glue-pan, said springs being pivoted at their opposite ends to enable them to be rocked in order to release the scraper-bar.

842,284. STEAM-GENERATOR. WALTER R. WILLS, Sheffield, England. Filed July 28, 1905. Serial No. 271,656.

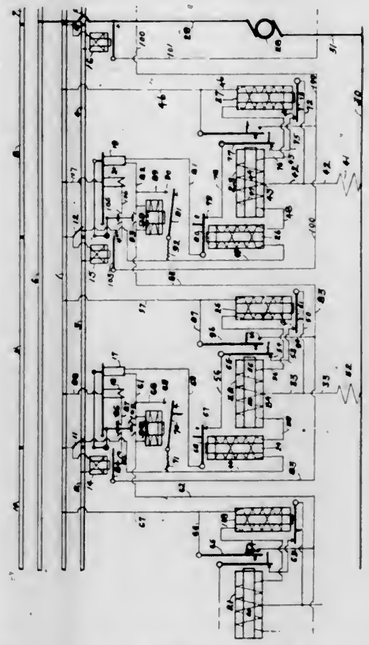


Claim.—1. In steam-generators of the water-tube type, the combination with an upper steam-drum, *a*, three lower or water drums, *b*, *c*, *d*, the central and lowest water-drum, *b*, being connected to the steam-drum by tubes, *e*, and tubes, f^2, respectively, the front water-drum being connected to the steam-drum, *a*, by tubes, *f*, and f^2, respectively, and the back water-drum, *d*, by the tubes, *f'*, of a fire-grate, *h*, placed and arranged transversely between the front and middle water-drums, an outlet for the products of combustion arranged between the rear and middle water-drums and baffles, *j*, placed and arranged for directing the course of the gases, in the manner and for the purposes substantially as herein described.

2. In steam-generators of the water-tube type, the combination with an upper steam-drum, three lower parallel water-drums, tubes connecting the three water-drums with the steam-drum, and suitable baffle-plates between the drums, a fire-grate arranged between the front and middle water-drums, an outlet for the products of combustion arranged between the middle and rear water-drums, and an air-heater in the said outlet and a passage leading from the air-heater to beneath the grate.

3. In steam-generators of the water-tube type, the combination with an upper steam-drum, three lower parallel water-drums, tubes connecting the three water-drums with the steam-drum, and suitable baffle-plates between the drums, a fire-grate arranged between the front and middle water-drums, a fuel-door beneath the front drum, an outlet for the products of combustion arranged between the middle and rear water-drums, and an air-heater in the said outlet and a passage leading from the air-heater to beneath the grate.

842,285. BLOCK-SIGNALING SYSTEM FOR RAILWAYS. ADONIRAM J. WILSON, Westfield, N. J., assignor to The Hall Signal Company, a Corporation of Maine. Filed Aug. 21, 1906. Serial No. 331,426.



Claim.—1. In a block-signaling system, the combination of a circuit having two multiple branches; a magnetic device with two opposing windings, one associated with each branch; each branch including the rails of a separate track side; said branches having a normal operative effect upon said magnetic device which is changed by train bridging said rails; a signal normally indicating danger; and local means operable by an approaching car in a second preced-

ing block to throw said signal to safety when said branches have their normal operative effect.

2. In a block-signaling system for railways, the combination with the block of a circuit having two multiple branches; a magnetic device with two opposing windings, one winding in each branch; each branch including the rails of a separate track side; said branches having a normal operative effect upon said magnetic device; a train in the block being capable of changing said normal operative effect of said branches; a signal associated with said block; and means associated with a preceding block and operable by a car in that block to control said signal when said branches have their normal operative effect, and a track-relay in a second preceding block also for controlling the signal.

3. In an electric block-signaling system; a plurality of blocks; a train-controlled electromagnetic device for each block normally holding a circuit-closer closed and a circuit-breaker open; a home and a distant signal for each block; a track-relay for each block; a home-signal circuit; a distant-signal circuit; a shunting-relay for said circuits; said home-signal circuit being controlled by the electromagnetic device of the block associated with the home signal, and by that of the preceding block and also by the track-relay of the second preceding block; said distant-signal circuit being controlled by the electromagnetic device and by the shunting-relay of the succeeding block and by the home signal of the associated block.

4. In an electric block-signaling system; a plurality of blocks; a train-controlled electromagnetic device for each block; a home and a distant signal for each block; a track-relay for each block; a home-signal circuit; a distant-signal circuit; a shunting-relay for said circuits; said home-signal circuit being controlled by the electromagnetic device of the block associated with the home signal, and by that of the preceding block and also by the track-relay of the second preceding block; said distant-signal circuit being controlled by the electromagnetic device and by the shunting-relay of the succeeding block and by the home signal and by the electromagnetic device both of the associated block.

5. In an electric block-signaling system; a plurality of blocks; a train-controlled electromagnetic device for each block; a home and a distant signal for each block; a track-relay for each block; a home-signal circuit; a distant-signal circuit; a shunting-relay for said circuits; said home-signal circuit being controlled by the electromagnetic device of the block associated with the home signal and by that of the preceding block and also by the track-relay of the second preceding block; said distant-signal circuit being controlled by the electromagnetic device and by the shunting-relay of the succeeding block and by the home signal of the associated block; a portion of the distant-signal circuit of one block operating as clearing-circuit for the home-signal circuit of the succeeding block through the medium of the shunting-relay of said succeeding block so as to necessitate the use of only one through-wire between blocks.

6. In an electric block-signaling system; a plurality of blocks; a train-controlled electromagnetic device for each block; a home and a distant signal for each block; a track-relay for each block; a home-signal circuit; a distant-signal circuit; a shunting-relay for said circuits; said home-signal circuit being controlled by the electromagnetic device of the block associated with the home signal, by that of the preceding block and also by the track-relay of the second preceding block; said distant-signal circuit being controlled by the electromagnetic device and by the shunting-relay both of the block in advance, and by the home signal and by the electromagnetic device of the associated block; a portion of the distant-signal circuit of one block operating as a clearing-circuit for the home-signal circuit of the succeeding block through the medium of the shunting-relay of said succeeding block so as to necessitate the use of only one through-wire between blocks.

7. In a block-signaling system, a plurality of blocks; a distant signal for one block; a home signal for a distant or succeeding block; a track-controlled device for said succeeding block; an actuating device preceding said distant signal; a shunting-relay for said succeeding block; a clearing-circuit for said home signal; including said shunting-relay; a signal-circuit for said distant signal; both of said circuits employing but a single through-wire between said block and said succeeding block; both of said circuits being controlled by said actuating device and said track-controlled device for the said succeeding block; and a signal-circuit for said home signal controlled by said shunting-relay.

8. In a block-signaling system; a plurality of blocks, each comprising a portion of a continuous return-rail and an insulated rail-section; a source of electric energy; a differential relay with each of its two opposing windings connected between said source of energy and a separate rail of the block so that said windings have a combined inductive effect when the block is clear and no combined inductive effect when the block is occupied by a train; a track-relay and a shunting-relay for each block; a single through-wire-controlling circuit for the home signal of one block and for the distant signal of the preceding block; said controlling-circuit being controlled by said relays.

9. In a block-signaling system; three blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a source of electric energy; a branched track-circuit, each branch connecting an opposite rail of each of said blocks with the source of electric energy; one coil of a different relay included in each of said branches; a track-relay at the first block; a shunting-relay at the third block; a home and a distant signal at the second block; a home signal at the third block; a circuit for the home signal of the second block and controlled by the differential relay of the first block and by the differential relay of the second block including the shunting-relay of the third block and controlled by the track-relay at the first block.

10. In a block-signaling system; three blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a source of electric energy; a branched track-circuit, each branch connecting an opposite rail of one of said blocks with the source of electric energy; a separate coil of a differential relay included in each of said branches; a track-relay at the first block; a shunting-relay at the third block; a home and a distant signal at the second block; a home signal at the third block; a circuit for the home signal of the second block and controlled by the differential relay of the first block and by the differential relay of the second block; a clearing-circuit for the home signal of the third block and the distant signal of the block, the second block including the shunting-relay of the third and controlled by the track-relay at the first block; a local circuit for the home signal at the third block; said shunting-relay operating to increase the current strength first through said local circuit for the home signal at the third block and then, after said home signal is thrown, through a circuit for the distant signal of the second block.

11. In a block-signaling system; a plurality of blocks; a signal at each of two separate blocks; a shunting-relay associated with one of said signals; a clearing-circuit for both of said signals including said shunting-relay and a source of electric energy; means for closing said circuit; said shunting-relay operating to increase the current strength first for one signal and then, after said signal has been thrown, for the other signal.

12. In a block-signaling system, a block comprising a portion of a continuous return-rail and an insulated rail-section; a branched track-circuit, each branch including a separate track side of said block; a separate coil of a differential relay included in each of said branches; a signal for said block; a local circuit for said signal controlled by said differential relay; a clearing-circuit controlled by a track device preceding said block and in parallel with a portion of said local signal-circuit; and a shunting-relay for said local circuit and included in said clearing-circuit to increase the current in said local circuit when said clearing-circuit is energized.

13. In a block-signaling system, a block comprising a portion of a continuous return-rail and an insulated rail-section; a track resistance connected between said insulated rail-section and said return-rail; a branched track-circuit normally energized; each branch including a separate track side of said block; a separate coil of a differential relay included in each of said branches; a signal for said block; a local circuit for said signal controlled by said differential relay; a clearing-circuit controlled by a track device preceding said block and in parallel with a portion of said local signal-circuit; and a shunting-relay for said local circuit and included in said clearing-circuit to increase the current in said local circuit when said clearing-circuit is energized.

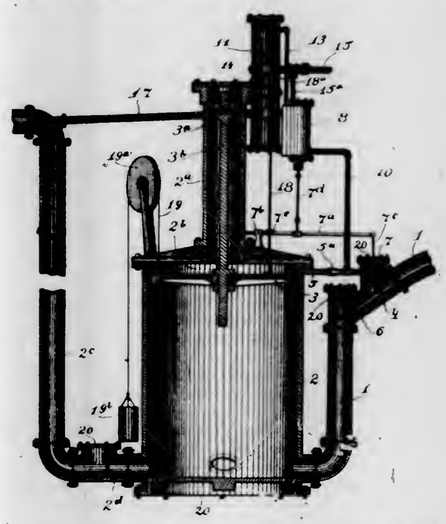
14. In a block-signaling system, a block comprising a portion of a continuous return-rail and an insulated rail-section; a track resistance connected between said insulated rail-section and said return-rail; a branched track-circuit normally energized, each branch including a separate track side of said block; a separate coil of a differential relay and a separate relay included in each of said branches; a signal for said block; a local circuit for said signal controlled by said differential relay and each of said separate relays; a clearing-circuit controlled by a track device preceding said block and in parallel with a portion of said local signal-circuit; and a shunting-relay for said local circuit and included in said clearing-circuit to increase the current in said local circuit when said clearing-circuit is energized.

15. In a block-signaling system, a plurality of blocks, each comprising a portion of a continuous return-rail and an insulated rail-section; a branched track-circuit, each branch including a separate track side of a block; a separate coil of a differential relay included in each of said branches; a signal for a block; a circuit for said signal controlled by the differential relay of the associated block; a signal for a preceding block; a circuit for said latter signal controlled by the differential relay of said preceding block and by a portion of the track succeeding said first-mentioned signal so as to overlap the same.

16. In a block-signaling system, a plurality of blocks, each comprising a portion of a continuous return-rail and an insulated rail-section; a branched track-circuit, each branch including a separate track side of a block; a separate coil of a differential relay included in each of said branches; a signal for a block; a circuit for said signal controlled by the differential relay of the associated block and by a portion of the preceding track; a signal for a preceding block; a circuit for said latter signal controlled by the differential relay of said preceding block, by a portion of the preceding track, and by a portion of the track succeeding said first-mentioned signal so as to overlap the same.

642,286. SEWAGE ELEVATING AND DISCHARGING APPARATUS. ERIC A. WILSON and CHARLES RIGDON, Duluth, Minn., assignors of one-fourth to Daniel D. Murray and one-fourth to Thomas F. McGilvray, Duluth, Minn. Filed May 1, 1905. Serial No. 258,412.

Claim.—1. The combination of a cylinder or tank, a conduit for a flowing power-supply discharging intermittently into one end of said tank, a conduit for a liquid or flowing substance to be acted upon, discharging intermittently into the opposite end of said tank, a piston in said tank positioned at all times between the points of discharge into said tank of said power-supply and of the liquid or flowing substance to be acted upon, valvular means adapted to govern the discharge of the power-supply into said tank and adapted to be operated by the said power-supply, secondary valvular means adapted to govern the power-supply to the first said valvular means, mechanical means for operating said secondary valvular means and adapted to be actuated by the said liquid or flowing substance to be acted upon, mechanical means including said piston for retracting said secondary valvular means and adapted to be actuated by said power-supply, an exhaust-conduit extending from the said opposite end of said tank upwardly and away from said tank, a check-valve adapted to prevent the return of matter ejected from said opposite end of said tank through said exhaust-conduit, a check-valve adapted to prevent the return of matter to its source after entering said opposite end of said tank, and an exhaust-conduit governed by the first said valvular means, adapted to convey away the exhaust of the said power-supply.

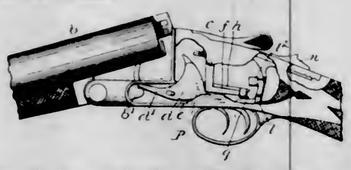


2. The combination of a power-tank divided into separate compartments by a piston, a conduit for a power-supply for operating said piston in one direction, a conduit for a liquid or flowing substance to be acted upon for operating said piston in the opposite direction, valvular means adapted to govern the action of said power-supply with respect to said piston and to be operated by the said power-supply, a second valvular means adapted to govern the action of the said power-supply with relation to the first said valvular means and to be operated by mechanical means actuated by the liquid or flowing substance to be acted upon.

3. The combination of a tank divided into compartments by piston means, a conduit connecting with one end of said tank for a water-power supply adapted to operate intermittently upon one end of said piston means, a conduit connecting with the other end of said tank, for a sewerage-supply to be acted upon adapted to operate intermittently upon the other end of said pistonal means, valvular means adapted to be operated by said water-power supply and to govern the water-power supply to said piston means, a secondary valvular means adapted to govern the water-power supply to the first said valvular means, a float adapted to be operated by said sewerage, means connecting said float with said secondary valvular means for transmitting power for operating said secondary vulvular means, means adapted to retract said secondary valvular means before the completion of the movement of said piston means under the impulse of said water-power, means for conveying away the exhaust water-power from said tank and valvular means, and means for conveying away the exhaust-sewerage from said tank.

4. The combination of a tank, a piston dividing said tank into separate compartments a conduit adapted to discharge into one of said compartments a flowing power-supply for moving said piston in one direction, means for moving said piston in the opposite direction, a conduit adapted to discharge into the other of said compartments a flowing or mobile substance or liquid to be acted upon by said piston, means governing the flow of said power-supply to said tank and governing the flow of the exhaust therefrom, said means being actuated in part by said power-supply and in part by said substance or liquid to be acted upon, and a conduit for carrying away from said tank the substance or liquid acted upon by said piston.

842,287. FIREARM. GEORGE E. WITHERELL, Hartford, Conn., assignor to Remington Arms Company, Ilion, N. Y., a Corporation of New York. Filed May 24, 1902. Serial No. 108,828.



Claim.—1. In combination with the firing mechanism of a firearm, a trigger, and means mounted upon the trigger and automatically actuated by the firing of the piece for locking the trigger before its return movement after having operated the firing mechanism.

2. In combination with the firing mechanism of a firearm, a trigger, means carried by the trigger, and automatically actuated by the firing of the piece for locking the trigger before its return movement after having operated the firing mechanism, and means for automatically unlocking it.

3. In combination with the firing mechanism of a firearm, a trigger, and means mounted upon the trigger automatically actuated by the firing of the piece for locking the trigger through the recoil of said piece and unlocking the trigger through the counter-recoil of the piece.

4. In combination with the firing mechanism of a firearm, a trigger, a counterpoise-lock mounted on the trigger to operate by the action of the recoil and counter-recoil of the piece.

5. In combination with the firing mechanism of a firearm, a trigger, a lever pivoted on the trigger and weighted at its upper end, and a stop to engage the lever.

6. In combination with the firing mechanism of a firearm, a trigger, a lever pivoted on the trigger and weighted at its upper end, a cam-surface on the opposite end of the lever, and a stop having a cam-surface to engage the cam-surface on the lever.

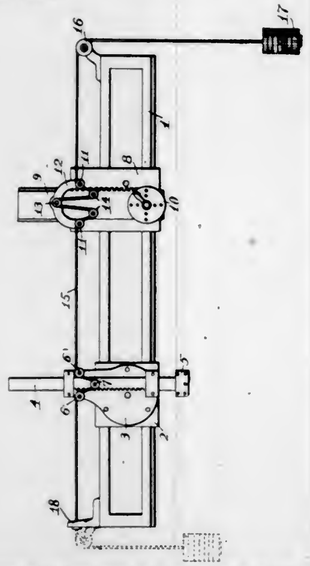
7. In combination in a firearm having a plural number of firing mechanisms, means for coupling said firing mechanisms whereby both may be operated by a single trigger, a trigger to operate said mechanism, and a lock mounted on the trigger to act through the action of the recoil to lock said trigger and operate on the counter-recoil to unlock the trigger.

8. In combination in a firearm having a plural number of firing mechanisms with means for coupling the mechanisms together, a trigger to operate both mechanisms through the medium of the coupling means, a lever pivoted on the trigger and weighted at its upper end, and a stop to engage the lower end of the lever.

9. In combination in a firearm having a plural number of firing mechanisms, means for coupling the mechanisms together, a trigger to operate either of said mechanisms through the medium of the coupling means, a lever pivoted on the trigger and weighted at its upper end, a cam-surface on the opposite end of the lever, and a stop having a cam-surface to engage the cam-surface on the lever.

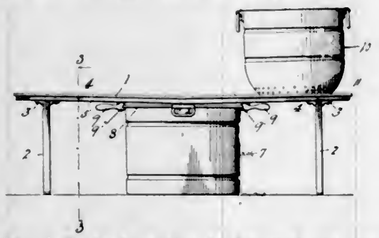
842,288. BORING-MILL. AUGUSTUS WOOD, Hamilton, Ohio, assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Dec. 3, 1906. Serial No. 346,038.

Claim.—1. A boring-mill comprising a rail, a first saddle mounted to slide thereon, a first tool-carrying bar and accessories mounted for vertical movement thereat, a pair of sheaves supported by said saddle, a sheave carried by said bar below the first-mentioned sheaves, a counterbalancing rope or chain passing over the first-mentioned sheaves and under the last-mentioned sheave, a second saddle mounted to slide on the rail, a second tool-carrying bar and accessories mounted for vertical movement at the second saddle and having a weight substantially double that of the first tool-carrying bar and its accessories, a pair of sheaves carried by the second saddle and engaging under the counterbalance rope or chain, a sheave supported by the second saddle and engaging below the rope or chain, a pair of sheaves carried by the second tool-carrying bar and accessories, a counterbalance-weight at the end of the rope or chain, a sheave supported by the rail between said counterbalance-weight and the saddle nearest to it, and an anchorage at the opposite end of the rope or chain, combined substantially as set forth.



2. A boring-mill comprising a rail, a first saddle mounted to slide thereon, a first tool-carrying bar and accessories mounted for vertical movement thereat, a pair of sheaves supported by said saddle, a sheave carried by said bar below the first-mentioned sheaves, a counterbalancing rope or chain passing over the first-mentioned sheaves and under the last-mentioned sheave, a second saddle mounted to slide on the rail, a second tool-carrying bar and accessories mounted for vertical movement at the second saddle and having a weight substantially double that of the first tool-carrying bar and its accessories, a pair of sheaves carried by the second saddle and engaging under the counterbalance rope or chain, an arch or bridge supported by the second saddle, a sheave supported by the arch or bridge and engaging below the rope or chain, a pair of sheaves carried by the second tool-carrying bar and engaging over the rope or chain, a counterbalance-weight at the end of the rope or chain, a sheave supported by the rail between said counterbalance-weight and the saddle nearest to it, and an anchorage at the opposite end of the rope or chain, combined substantially as set forth.

842,289. DEVICE FOR TREATING GRAIN. CHESTER D. WOOLVERTON, Minot, N. D. Filed July 6, 1905. Renewed Dec. 15, 1906. Serial No. 348,030.



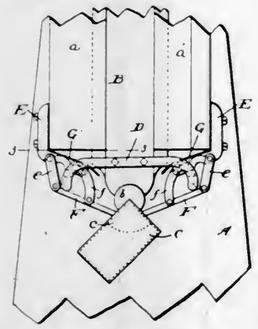
Claim.—1. In an apparatus as described, the combination with a table having its ends inclined toward the center, an opening in the center of the table, a chemical-containing vessel located under said opening and means for detachably connecting said vessel with the table, and a grain-containing perforated tank or basket adapted to be immersed into said chemical-containing vessel and placed on the table-top to drain back into said vessel.

2. The combination with a supporting-table having an opening at its center and having its top inclined toward said opening, a vessel containing a cleansing liquid, pivoted cam-lugs on the table adapted to frictionally engage and hold said vessel below said opening, and a perforated tank containing grain adapted to be immersed into said liquid and placed on the table to drain back into said vessel.

3. The combination with a table having its top inclined from the ends toward the center, a central opening in said table having a flared downwardly-projecting edge, a series of grooves leading to the central opening and foldable legs to said table, of a vessel containing a cleansing fluid located under said flared edge, and a perforated grain-tank adapted to be immersed in said vessel and placed on the table-top to drain the liquid back into said vessel.

4. The combination with a table having its top corrugated and inclined from the ends toward the center, a central opening in the table, and a flared annular edge to said opening, of a vessel containing a cleansing liquid located under said opening, and a perforated grain-containing tank adapted to be immersed in said vessel and located on the table to drain the liquid back into the vessel.

842,290. GRIPPING ATTACHMENT FOR BOX-MACHINES, &c. HENRY M. WRIGLEY and JOHN ASPENLEITER, Cincinnati, Ohio. Filed Dec. 22, 1905. Serial No. 292,960.



Claim.—1. A gripping attachment for stay-attaching machines and the like, comprising a pair of pivotally-mounted gripper-bars or fingers, a pair of links pivotally secured to said bars or fingers, while the other ends of said links have a fixed pivotal point, a striker-bar adapted to reciprocate and control the action of the gripper-bars.

2. A gripping attachment for stay-attaching machines and the like, comprising a pair of pivotally-mounted gripper-bars or fingers, a pair of links the one ends of which are pivotally secured to the gripper-bars and the other ends having a fixed pivotal point, means adapted to reciprocate and engage with said pivotally-secured links and the gripper-bars or fingers, whereby the latter are thrown into or out of operative position.

3. A gripping attachment for stay-attaching machines and the like, comprising a pair of pivotally-mounted gripper-bars or fingers, a pair of links pivotally secured at their one ends to the gripper-bars or fingers, while their other ends have a fixed pivotal point, a striker-bar adapted to reciprocate and engage with the gripper-bars, and means for retaining the gripping-bars in the positions resulting from the action of the striker-bar.

4. A gripping attachment for stay-attaching machines and the like, comprising a pair of gripper-bars or fingers, a pair of links the one ends of which are pivotally secured to the gripper-bars, and the other ends having a fixed pivotal point, a striker-bar adapted to reciprocate intermediate of the gripper-bars or fingers and the ends of the pivoted links, and to engage therewith, whereby, upon the reciprocation of the striker-bar, the grippers will be thrown into or out of operative position.

5. A gripping attachment for stay-attaching machines and the like, comprising a pair of pivotally-mounted gripper-bars or fingers, a pair of hooked links the one ends of which are pivotally mounted to the gripper-bars, said hooked links also having a fixed pivotal point with the hooked portion extending to the side thereof, a striker-bar adapted to reciprocate intermediate of the hooked ends of the links and the gripper-bars, whereby upon its reciprocation the gripper-bars will be pressed into operative position, or the links oscillated on their fixed pivotal point and the gripper-bars thrown out of operative position.

6. A gripping attachment for stay-attaching machines and the like, comprising a pair of gripper-bars or fingers, a pair of links having a fixed pivotal point at their one end and pivotally secured at the other end to the gripper-bars or fingers, and a striker-bar adapted to reciprocate and control the action of the gripper-bars.

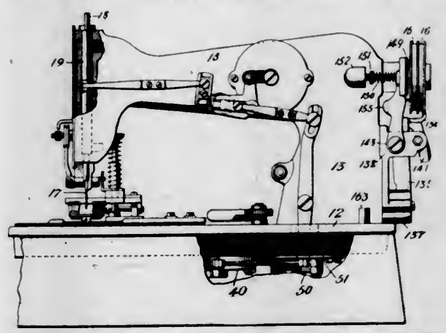
7. A gripping attachment for stay-attaching machines and the like, comprising a pair of gripper-bars or fingers, a pair of links having a fixed pivotal point at their one end, and pivotally secured at their other end to the gripper-bars or fingers, said links provided with an extension protruding beyond the fixed pivotal point, and a striker-bar adapted to reciprocate intermediate of the gripper-bars or fingers, and the extension on said links.

8. A gripping attachment for stay-attaching machines and the like, comprising a pair of gripper-bars or fingers, a pair of links, the one ends of which have a fixed pivotal point, while the other ends are pivotally secured to the gripper-bars or fingers, a striker-bar adapted to reciprocate intermediate of the fixed pivotal points of said links and the gripper-bars or fingers, and means for retaining the gripper-bars or fingers in the positions resulting from the action of said striker-bar.

9. An attachment for stay-attaching machines and the like comprising a pair of engaging members, links having pivotal attachment with said members and the frame of the machine whereby the movement of said members is controlled, and mechanism for throwing said members into or out of engagement with the object to be held.

10. An attachment for stay-attaching machines and the like, comprising a pair of engaging members, links having pivotal attachment with said members and the frame of the machine whereby the movement of said members is controlled, mechanism for throwing said members into or out of engagement, and means for holding said members in engagement with the object to be held.

842,291. STOP-MOTION DEVICE FOR SEWING-MACHINES. EDWARD B. ALLEN, Elizabeth, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Jan. 29, 1906. Serial No. 298,435.



Claim.—1. In a stop-motion device, the combination with a rotary shaft having fast and loose pulleys thereon,

of a belt-shifter, holding means for retaining said belt-shifter in position so that the driving-belt will run on said fast pulley, automatic means for tripping the said holding means and for moving said belt-shifter, to transfer the driving-belt from said fast pulley to said loose pulley, a positive stopping device for said shaft, and a friction-pad which is operated independently of the said positive stopping device and which is released when the said belt-shifter is moved to transfer the said driving-belt to said loose pulley, the said friction-pad being so arranged that when thus released it will be forced against said fast pulley to arrest or retard the rotation thereof before the said positive stopping device comes into operation, so as to soften the jar or shock of the final stop.

2. In a stop-motion device, the combination with a rotary shaft having fast and loose pulleys thereon, of a belt-shifter, holding means for retaining said belt-shifter in such position that the driving-belt will run on said fast pulley, automatic means for tripping said holding means and for moving said belt-shifter, to transfer the driving-belt from said fast pulley to said loose pulley, a positive stopping device for said shaft comprising a stopping-lever, a friction-pad which is operated independently of the said stopping-lever and which is released when the said belt-shifter is moved to transfer said driving-belt to said loose pulley, a spring which serves to force said friction-pad against said fast pulley, and adjusting means for varying the stress of said spring to cause more or less arresting or retarding action to be exerted by said friction-pad before the said positive stopping device comes into operation; whereby the jar or shock of the final stop may be softened to any desired degree.

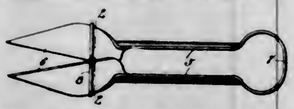
3. A stop-motion device comprising a driven shaft, a positive stopping device therefor, an independently-mounted and independently-operated arresting or retarding device for said shaft, and common means for tripping said arresting or retarding and positive stopping devices into action to effect their successive operation upon the driven shaft.

4. A stop-motion device comprising a driven shaft, a positive stopping device therefor, an independently-mounted and independently-operated arresting or retarding device for said shaft, common means for tripping said arresting or retarding and positive stopping devices into action to effect their successive operation upon the driven shaft, and a cushioning device for the said positive stopping device.

5. A stop-motion device comprising the combination with a driven shaft and a wheel or pulley fixed thereto, of a positive stopping device for said shaft comprising a stopping-lever, an arresting or retarding device separate from and operated, for its retarding function, independently of said stopping-lever and consisting of a spring-pressed pad arranged to press against said wheel or pulley, and common means for bringing said arresting or retarding and positive stopping devices into action to effect their successive operation upon the said driven shaft.

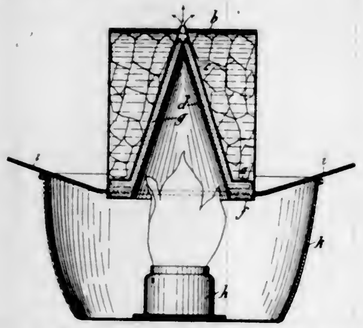
6. A stop-motion device comprising the combination with a driven shaft and a wheel or pulley fixed thereto, of a positive stopping device for said shaft comprising a stopping-lever, an arresting or retarding device separate from and operated, for its retarding function, independently of said stopping-lever and consisting of a spring pressed pad arranged to press against said wheel or pulley, common means for bringing said arresting or retarding and positive stopping device into action to effect their successive operation upon the said driven shaft, and cushioning means for the said stopping-lever.

842,292. SHEARS. JOHN E. ALLEN, Yolcalla, Oreg. Filed Oct. 16, 1906. Serial No. 339,198.



Claim.—The combination with a shears, of a hook extending over the back edge of one of the blades and along the outside thereof, and having a parallel shank extending along the opposite side of said blade, and secured to the other blade.

842,293. PRESERVED-FOOD TIN. JOSEF AMTMANN, Melk, Austria-Hungary, assignor of one-half to Zdenko von Puteani, Melk, Austria-Hungary. Filed Oct. 11, 1905. Serial No. 282,285.

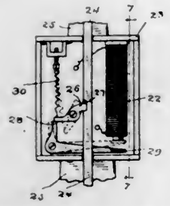


Claim.—1. In a preserved-food tin, the combination with lateral sides and a top having the usual form, of a double-sided bottom having a central recess, a sealed extension of the upper side of the recess protruding through the top of the tin, and a water filling in the hollow space between the double sides, substantially as and for the purpose described.

2. In a preserved-food tin, the combination with lateral sides and a top having the usual form, of a double-sided bottom having a central recess, a sealed extension of the upper side of the recess protruding through the top of the tin, a water filling in the hollow space between the double sides, and a fuel-receptacle inserted into the recess, substantially as and for the purpose set forth.

3. In a preserved-food tin, the combination with lateral sides and a top having the usual form, of a double-sided bottom having a central recess, a sealed extension of the upper side of the recess protruding through the top of the tin, a water filling in the hollow space between the double sides, and pliable wires secured to the lateral sides, substantially as and for the purpose described.

842,294. SAFETY-STOP FOR ELEVATORS. HERBERT Y. BALDWIN, Seymour, Conn. Filed June 2, 1906. Serial No. 319,907.



Claim.—1. A safety-stop for elevators comprising a weight having housed within it an electromagnet, a pivoted armature therefor and locking means controlled by the armature, electrical connections, contacts adapted to close the circuit lying in the path of anything projecting from an elevator-car and connections between the runs of a controlling-rope and the weight, so that when the circuit is closed the armature will release the weight which will operate the controlling-rope to stop the car.

2. The combination with an elevator-car and the runs of a controlling-rope, of a weight, a connection between the weight and the controlling-rope whereby the latter is operated to stop a car, contacts adapted to be placed in engagement by anything projecting from the car, electrical connections extending to the weight and an electromagnet, a pivoted armature and locking means for the weight controlled by the armature and housed within the weight, substantially as described, for the purpose specified.

3. The weight 23 having housed within it an electromagnet, a pivoted armature having an arm extending therefrom and a locking-dog adapted to be retained in the locking position by said arm and released by the armature when the magnet is energized, substantially as described, for the purpose specified.

4. The weight 23 having housed within it an electromagnet, a pivoted armature having an arm extending therefrom, a locking-dog adapted to be engaged by said arm, for the purpose set forth, and a spring for retaining the dog in the locking position.

5. The combination with an elevator-car, a controlling-rope and a weight connected to both runs of said rope, of an electromagnet, a pivoted armature and a locking-dog adapted to be engaged thereby, all housed within the weight.

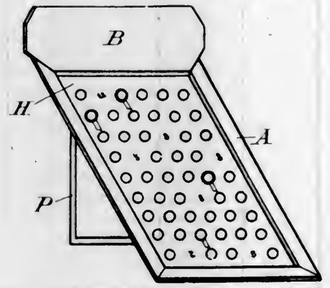
6. The combination with an elevator-car, a controlling-rope and a weight connected to both runs of said rope, of a rod upon which said weight is adapted to slide and which is provided with a locking-recess, a locking-dog in said weight adapted to engage the recess, an electromagnet and an armature adapted to engage the dog to retain it in the locking position.

7. The combination with an elevator-car, a controlling-rope and a weight connected to both runs of said rope, of a vertical rod upon which the weight slides, a standard by which the rod is supported, a locking-dog in said weight, an electromagnet, an armature having an arm extending therefrom and adapted to engage the dog to retain it in the locking position and a spring for retaining the dog in operative position.

8. The combination with an elevator-car, a controlling-rope, a weight and chains connected to the sides of the weight and to the controlling-rope, of an electromagnet, a pivoted armature having an arm extending therefrom and a locking-dog adapted to be engaged by said arm, all housed within the weight.

9. The combination with an elevator-car, a controlling-rope and a weight connected to both runs of said rope, of an electromagnet, a pivoted armature and a locking-dog engaged thereby, all housed within the weight, electrical contacts in position to be engaged by anything projecting from the car and electrical connections including the contacts and the electromagnets, substantially as described, for the purpose specified.

842,295. DEVICE FOR SELLING GOODS. HENRY H. BLISH and GEORGE C. SILZER, Dubuque, Iowa, assignors to Harger & Blish, Dubuque, Iowa, a Corporation of Iowa. Filed Oct. 9, 1906. Serial No. 338,098.



Claim.—1. In a device for selling goods, an index-plate having indices thereon, a transparent plate over the index-plate, and coverings secured to the index-plate over indices on the index-plate.

2. In a device for selling goods, an index-plate, indices secured to the plate, a transparent plate over the index-plate, coverings secured to the transparent plate over the indices, and means for removing the coverings to expose the indices.

3. In a device for selling goods, an index-plate having indices thereon, a transparent plate, coverings secured to the transparent plate over the indices, and releasing means secured to the covering for removing and exposing the indices on the index-plate beneath the transparent plate.

4. In a device of the character described, an index-plate having indices thereon, a transparent plate over the index-plate, coverings secured to the transparent plate over the indices, means for removing the coverings to disclose the indices, and a supporting-frame inclosing the back and edges of the plates.

5. In a device for selling goods, a transparent plate, indices secured to one side of said plate, and coverings for said indices placed upon the opposite side of said transparent plate over the indices.

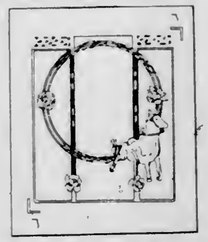
6. In a device for selling goods, a transparent plate, indices secured to one side of said plate, seals secured to said plate opposite the indices, and means for removing the seals and exposing the indices.

842,296. CARRIER-HANDLE FOR BASKETS AND CRATES. JESSE J. BLEE, Montpelier, Ohio. Filed June 29, 1904. Serial No. 214,616.



Claim.—A device of the kind described comprising a cylindrical receptacle having two strands of wires secured upon its bottom and substantially parallel to each other and spaced apart, said wires passing up opposite sides of the receptacle and being twisted upon each other intermediate the top and bottom of the receptacle, the twisted portions being secured to the sides of the receptacles, the upper free ends of the wires diverging and terminating in eyes, and a bail secured upon each side of the receptacle to the said eyes.

842,297. METHOD OF PRODUCING A COMBINED LINE AND HALF-TONE PRINTING PLATE. CHARLES A. BONFILS and HORACE G. BRADT, Denver, Colo. Filed Nov. 28, 1906. Serial No. 345,521.



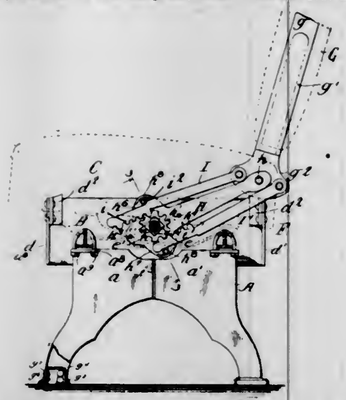
Claim.—1. The method of producing combined line and half-tone printing plates, consisting in making a negative bearing the reversed image of a photograph or tint-drawing and the reversed outline reproduction of a line-drawing covering the image of the line-drawing on the said negative with an opaque substance, producing a second negative bearing a reversed image of the line-drawing, successively producing prints of the two negatives upon a sensitized metal plate, and etching the latter.

2. The method of producing combined line and half-tone printing plates consisting in skeletonizing a line-drawing, making a reversed negative of the latter and the original photograph or tint-drawing, covering the image of the said skeleton upon the negative with opaque substance, producing a second, reversed negative of the line-drawing.

successively producing prints of the two negatives upon the sensitized surface of a metal plate, and etching the latter.

3. The method of producing combined line and half-tone printing plates consisting in skeletonizing a line-drawing, making a reversed negative of the latter and the original photograph or tint-drawing, covering the image of the said skeleton upon the negative with opaque substance, producing a second, reversed negative of the line-drawing, producing a print of the last-named negative upon the sensitized surface of a metal plate, developing and resensitizing the latter, producing a print thereon from the first negative, and etching the plate.

842,298. CAR-SEAT. EDWARD G. BUDD and CHARLES A. CONDÉ, Philadelphia, Pa., assignors to Hale-Kilburn Metal Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 25, 1905. Serial No. 262,190.



Claim.—1. In a seat, the combination with a frame, a cushion and a reversible back having a back-arm, of means for supporting and effecting the proper inclination of said back in its movement from one position to the other including a back-supporting lever pivotally connected to said back and said frame and formed to provide a housing and a stationarily-mounted pinion within said housing, substantially as described.

2. In a seat, the combination with a frame, a cushion and a reversible back having a back-arm, of means for supporting and effecting the proper inclination of said back in its movement from one position to the other including a back-supporting lever pivotally connected to said back and said frame and formed to provide a housing having an opening to the interior thereof, a pinion mounted within said housing and a rack entering the housing through said opening and coacting with said pinion, substantially as described.

3. In a seat, the combination with a frame, a cushion and a reversible back having a back-arm, of means for effecting the inclination of said back in its movement from one position to the other, and a back-supporting lever pivoted to said frame and to said back-arm, said lever being formed in two substantially similar sections and said sections being secured together side by side throughout the major portion of their lengths but separated adjacent to the point of connection with said frame, substantially as set forth.

4. In a seat, the combination with a frame, a cushion and a reversible back having a back-arm, of a sectional back-supporting lever pivoted at one end to said frame and at the other end to said back-arm, a pinion supported in said frame between the sections of said back-supporting lever, and guide-racks coacting with said pinion and pivoted at their ends to said back-arm, substantially as set forth.

5. In a seat, the combination with a frame, a cushion and a reversible back having a back-arm, of a back-supporting lever pivoted to said back-arm and to said frame and formed to provide a housing, a pinion supported in said frame and lying within said housing, guide-racks pivoted to said back-arm and coacting with said pinion, and means for maintaining said guide-racks in coaction with said pinion, substantially as set forth.

6. In a seat, the combination with a frame, a cushion and a reversible back having a back-arm, of a back-supporting lever pivoted to said back-arm and to said frame and formed to provide a housing, a pinion supported by said frame within said housing, guide-racks entering said housing and coacting with said pinion and pivoted at their upper ends to said back-arm, and means carried by said back-supporting lever for maintaining said guide-racks in coaction with said pinion, substantially as set forth.

7. In a seat, the combination with a frame, a cushion and a reversible back having a back-arm, of means for effecting the proper inclination of said back during its movement of reversal, and a back-supporting lever pivoted to said back-arm and to said frame, said lever being formed in two sections secured together intermediate of their ends, and one of said sections being provided with lips coacting with the other section, substantially as set forth.

8. In a seat, the combination with a frame, a cushion and a reversible back having a back-arm, of means for effecting the proper inclination of said back during its movement of reversal, such means including a pinion carried by said frame, and a back-supporting lever pivoted at one end to said back-arm and at the other end to said frame, said lever being formed in two sections secured together, said sections inclosing said pinion, substantially as set forth.

9. In a seat, the combination with a frame, a cushion and a reversible back having a back-arm, of means for effecting the proper inclination of said back during its movement of reversal, said means including a pinion carried by said frame and racks coacting therewith, and a back-supporting lever pivoted at one end to said back-arm and at the other end to said frame, said lever being formed in two sections secured together and said sections inclosing said pinion and said racks at their point of coaction with said pinion, substantially as set forth.

10. In a seat, the combination with a frame, a cushion and a reversible back having a back-arm, of means for effecting the proper inclination of said back during its movement of reversal, said means including a pinion carried by said frame and racks coacting therewith, a back-supporting lever pivoted at one end to said back-arm and at the other end to said frame, said lever being formed in two sections secured together and said sections inclosing said pinion and said racks at their point of coaction with said pinion, and means carried by one of said sections for maintaining said racks in position, substantially as set forth.

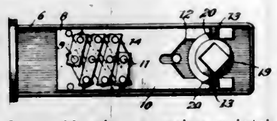
11. In a seat, the combination of a cushion, a reversible back, means for supporting and guiding said back, and a frame for said cushion, said back and said means comprising two hollow sections each having a body portion and a leg portion integral therewith, and means securing said sections together, said sections each constituting substantially half of the frame and the division between them being transverse to the general plane of the frame, substantially as set forth.

12. A seat-frame comprising two hollow sections, each having a body portion and a leg portion integral therewith, means securing said sections together, and angularly-extending flanges for the support of superposed seat and frame elements, said sections each constituting substantially half of the frame and the division between them being transverse to the general plane of the frame, substantially as set forth.

13. A seat-frame including a supporting member forked at its upper portion and having two separated supporting-surfaces for overlying frame members in alinement lengthwise of the seat, substantially as set forth.

14. A seat-frame including a supporting member forked at its upper portion and having two separated supporting-surfaces, and a connecting-rail carried upon said supporting-surfaces and having a rocker-run intermediate of its points of support, substantially as set forth.

842,299. LATCH. OSCAR CASSITY, Sturgeon, Mo. Filed July 21, 1906. Serial No. 327,170.

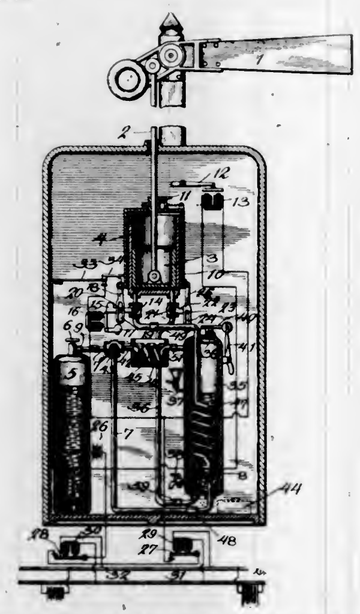


Claim.—1. In combination, a casing, a latch therein, a slide within the casing, a lazy-tong pivoted at one end to the casing, the opposite end engaging the latch, said lazy-tong being pivoted intermediate its length to the slide, said lazy-tong being positioned between the slide and the latch.

2. In combination, a casing, a latch therein, a slide in the casing, a lazy-tong secured to the casing and slide and engaging the latch, said lazy-tong being positioned intermediate the slide and latch, said slide being bifurcated at one end and having shoulders on its bifurcated portion and a barrel extending through the casing and the bifurcated portion of the slide, said barrel having shoulders for engaging the shoulders of the slide.

3. In combination, a casing, a latch having a slot, a slide in the casing, means for moving the slide, a lazy-tong secured to the casing and the slide and having a projection extending within the slot of the latch, said lazy-tong being positioned intermediate the slide and the latch.

842,300. RAILWAY-SIGNAL. CLYDE J. COLEMAN, New York, N. Y., assignor to The Hall Signal Company, a Corporation of Maine. Filed Mar. 9, 1903. Serial No. 146,853.



Claim.—1. In a railway signal apparatus, the combination of a signal; a supply-tank for liquefied gas; a gas-pressure-applying device in operative connection with said signal and in controllable communication with said supply-tank; and a non-expansible low-pressure receiving-chamber connected with said pressure-applying device and adapted to receive therefrom the exhaust-gas.

2. In a railway signal apparatus, the combination of a signal; a deportable and replaceable supply-tank for liquefied gas; a gas-pressure-applying device in operative connection with said signal and in controllable communication with said supply-tank; and a non-expansible low-pressure receiving-chamber connected with said pressure-applying device and adapted to receive therefrom the exhaust-gas.

3. In a railway signal apparatus, the combination of a signal; a supply-tank for liquefied gas; a gas-pressure-applying device in operative connection with said signal and in controllable communication with said supply-tank; a receiving-chamber connected with said pressure-applying device and adapted to receive therefrom the exhaust-gas; and a valved connection between said receiving-chamber and said supply-tank.

4. In a railway signal apparatus, the combination of a signal; a supply-tank for liquefied gas; a gas-pressure-applying device in operative connection with said signal and in controllable communication with said supply-tank; a receiving-chamber connected with said pressure-applying device and adapted to receive therefrom the exhaust-gas; a valved connection between said receiving-chamber and said supply-tank; and a condenser in said connection.

5. In a railway signal apparatus, the combination of a signal; a supply-tank for liquefied gas; a gas-pressure-applying device in operative connection with said signal and in controllable communication with said supply-tank; and a deportable and replaceable non-expansible low-pressure receiving-chamber connected with said pressure-applying device and adapted to receive therefrom the exhaust-gas.

6. In a railway signal apparatus, the combination of a signal; a gas-pressure-applying device in operative connection with said signal; a receiving-chamber connected with said gas-pressure-applying device and adapted to receive therefrom the exhaust-gas and containing an absorbent medium for said gas; a supply-tank for liquefied gas; and a supply-pipe leading from said supply-tank to said gas-pressure-applying device and passing through said receiving-chamber.

7. In a railway signal apparatus, the combination of a signal; a gas-pressure-applying device in operative connection with said signal; a receiving-chamber connected with said gas-pressure-applying device and adapted to receive therefrom the exhaust-gas and containing an absorbent medium for said gas; a supply-tank for liquefied gas; and a supply-pipe leading from said supply-tank to said gas-pressure-applying device and passing through said receiving-chamber, said pipe including a reducing-valve located in the receiving-chamber.

8. In a railway signal apparatus, the combination of a signal; a gas-pressure-applying device in operative connection with said signal; a receiving-chamber connected with said gas-pressure-applying device and adapted to receive therefrom the exhaust-gas and containing an absorbent medium for said gas; a supply-tank for liquefied gas; a supply-pipe leading from said supply-tank to said gas-pressure-applying device and passing through said receiving-chamber; and a valved connection between said receiving-chamber and said supply-tank.

9. In a railway signal apparatus, the combination of a signal; a gas-pressure-applying device in operative connection with said signal; a receiving-chamber connected with said gas-pressure-applying device and adapted to receive therefrom the exhaust-gas and containing an absorbent medium for said gas; a supply-tank for liquefied gas; a supply-pipe leading from said supply-tank to said gas-pressure-applying device and passing through said receiving-chamber; a valved connection between said receiving-chamber and said supply-tank; and a condenser in said connection.

10. In a railway signal apparatus, the combination of a signal; a gas-pressure-applying device in operative connection with said signal; a receiving-chamber connected with said gas-pressure-applying device and adapted to receive therefrom the exhaust-gas and containing an absorbent medium for said gas; a supply-tank for liquefied gas; a supply-pipe leading from said supply-tank to said gas-pressure-applying device and passing through said receiving-chamber, said pipe including a reducing-valve located in the receiving-chamber; and a valved connection between said receiving-chamber and said supply-tank.

11. In a railway signal apparatus, the combination of a signal; a supply-tank for liquified gas; a gas-pressure-applying device in operative connection with said signal

and in controllable communication with said supply-tank; supply and exhaust valves therefor; train-operated means for controlling said valves; and a non-expansible low-pressure receiving-chamber connected with said pressure-applying device and adapted to receive therefrom the exhaust-gas.

12. In a railway signal apparatus, the combination of a signal; a gas-pressure-applying device in operative connection with said signal; supply and exhaust valves therefor; train-operated means for controlling said valves; a receiving-chamber connected with said gas-pressure-applying device and adapted to receive therefrom the exhaust-gas and containing an absorbent medium for said gas; a supply-tank for liquefied gas; and a supply-pipe leading from said supply-tank to said gas-pressure-applying device and passing through said receiving-chamber.

13. In a signal apparatus, the combination of a signal; a supply source for liquefied gas; a gas-pressure-applying device in operative connection with the signal; and means for raising the temperature of the vapor-gas.

14. In a signal apparatus, the combination of a signal; a supply source for liquefied gas; a gas-pressure-applying device in operative connection with the signal; and means for raising the temperature of the vapor-gas before it is admitted to the pressure-applying device.

15. In a signal apparatus, the combination of a signal; a supply source for liquefied gas; a gas-pressure-applying device in operative connection with the signal; and means for raising the temperature of the vapor-gas, said means consisting of a chemical-heat generator.

16. In a signal apparatus, the combination of a signal; a supply source for liquefied gas; a gas-pressure-applying device in operative connection with the signal; an expansion-chamber interposed between said supply source and said pressure-applying device; and means for raising the temperature of the vapor-gas.

17. In a signal apparatus, the combination of a signal; a supply source for liquefied gas; a gas-pressure-applying device in operative connection with the signal; an expansion-chamber interposed between said supply source and said pressure-applying device; a reducing-valve between the expansion-chamber and supply source; and means for raising the temperature of the vapor-gas.

18. In a signal apparatus, the combination of a signal; a supply source for liquefied gas; a gas-pressure-applying device in operative connection with the signal; an expansion-chamber interposed between said supply source and said pressure-applying device; a reducing-valve between the expansion-chamber and supply source; and means for applying heat to said expansion-chamber and reducing-valve.

19. In a signal apparatus, the combination of a signal; a supply source for liquefied gas; a gas-pressure-applying device in operative connection with the signal; an expansion-chamber interposed between said supply source and said pressure-applying device; a reducing-valve between the expansion-chamber and supply source; and means for applying heat to said expansion-chamber and reducing-valve, said means consisting of a chemical-heat generator.

842,301. INSULATING-RING AND BRACKET. FRANK B. COOK, Chicago, Ill. Filed Dec. 28, 1905. Serial No. 293,662.

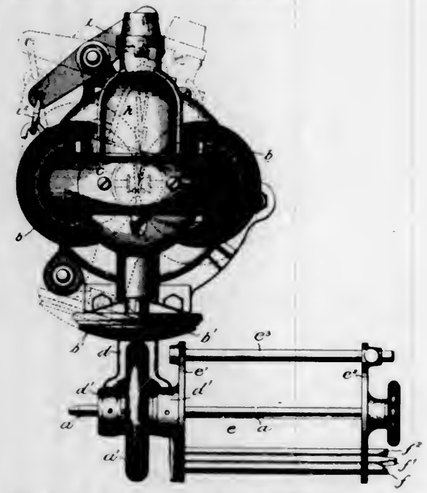


Claim.—1. In combination, a distributing block or strip, a piece of sheet metal formed as a bracket and ring and attached to the said block, an insulating-covering for the ring, and a supporting-arm for the whole to which the bracket is attached.

2. A sheet-metal bracket formed as a channel to fit a supporting-arm and a ring for carrying electrical conductors, and insulation conformed to the ring to insulate the inner portion thereof.

3. A sheet-metal bracket formed as a channel and a ring at right angles to the channel, and a piece of hard rubber conformed to the ring so as to insulate the inner portion and each side thereof.

842,302. BANDAGE-WINDING MACHINE. JOHN G. CRAWFORD, La Grange, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 25, 1905. Serial No. 252,055.



Claim.—1. In a bandage-winding machine, the combination with a rotatable winding-spindle, of a motor for operating said spindle, mechanism for controlling the coöperation of said motor and spindle to regulate the speed of the spindle, and a common standard supporting all of said parts.

2. In a bandage-winding machine, the combination with a rotatable winding-spindle, of a driving-wheel therefor, a motor mounted to oscillate and carrying on its driving-shaft a friction-disk bearing against said driving-wheel to operate the same, mechanism for oscillating said motor to regulate the speed of the driving-wheel without varying the speed of the motor, and a common standard supporting all of said parts.

3. In a bandage-winding machine, the combination in a unitary structure, of a rotatable winding-spindle, a supporting-standard, an arm carried thereby supporting said spindle, a driving-wheel for said spindle supported by said arm, an electric motor mounted upon said standard having a friction-disk engaging said driving-wheel to operate the same, said motor being movably mounted to vary the coöperation of said disk and driving-wheel to regulate the speed of said wheel, and mechanism carried by said standard for moving said motor.

4. In a bandage-winding machine, the combination with a rotatable winding-spindle, of a supporting-frame therefor comprising united end plates in which the spindle is rotatably and removably mounted, a supporting-standard for the machine, a forked arm carried thereby to which one of said end plates is secured, a driving-wheel for said spindle journaled in the forked members, said spindle passing through said end plates and the axis of the wheel to rotate with said wheel, an electric motor supported by said standard having a friction-disk engaging said driving-wheel to operate the same, said motor being movably mounted to vary the speed of the driving-wheel, and a treadle mounted at the lower portion of said standard and adapted to move said motor to vary the speed of the driving-wheel.

5. In a bandage-winding machine, the combination with a rotatable winding-spindle, of a driving-wheel for said spindle to which said spindle is removably connected, a hollow supporting-standard for the machine, an electric motor carried by said standard, a friction-disk carried by the driving-shaft of said motor, an arm carried by said standard supporting said driving-wheel in operative relation to said friction-disk, said motor being mounted to turn on a vertical axis, a controlling-arm for the motor adapted to turn the same to vary the speed of the driving-wheel, a chain passing through the interior of said standard and connected with said controlling-arm, and a treadle pivoted at the lower portion of the standard and connected with said chain to operate said controlling-arm.

6. In a bandage-winding machine, the combination with a winding-spindle, of a supporting-frame therefor comprising end plates in which the spindle is rotatably mounted and cross-bars uniting said end plates, one of said end plates being adjustable upon said bars to adapt the frame to the width of the bandage to be wound, a hollow supporting-standard for the machine, a forked arm carried thereby to which the stationary end plate of the frame is secured, a driving-wheel for said spindle journaled in the forked members of said arm, the spindle being of square cross-section and passing through said arms and the axis of said wheel to rotate with said wheel, an electric motor mounted upon said standard having a frictional disk engaging said driving-wheel to operate the same, said motor being mounted to turn on a vertical axis to vary the speed of the driving-wheel, a controlling-arm for the motor adapted to turn the same on its axis, a lever pivoted to the standard and connected at one end with the controlling-arm, a chain passing through the interior of said standard and connected with the other end of said lever, and a treadle pivoted at the lower portion of the standard and connected with said chain to effect a movement of said motor to vary the speed of the driving-wheel.

7. In a bandage-winding machine, the combination with a rotatable winding-spindle, of a supporting-frame therefor, comprising united end plates in which the spindle is rotatably and removably mounted, and fingers supported at the edges of said end plates for guiding a bandage to the spindle, said fingers projecting beyond one of said end plates, which engages only the outer fingers; whereby a bandage may be slipped over the middle or free finger outside the frame and moved along the finger to the interior of the frame and fastened to the spindle ready to be wound.

8. In a bandage-winding machine, the combination with a rotatable winding-spindle, of a supporting-frame therefor comprising end plates in which the spindle is mounted and cross-bars uniting said end plates, one of said end plates being movable on said cross-bars to adjust the frame to the width of the bandage to be wound, and three fingers extending between the peripheries of said end plates and secured to the stationary end plate, the fingers projecting beyond the adjustable end plate which is cut away to engage the outer fingers only, the middle or free finger projecting beyond the ends of the outer fingers; whereby a bandage may be slipped over said middle finger outside the frame and moved along said finger to the inside of the frame and fastened to the spindle ready to be wound without disturbing the adjustable end plate.

9. In a bandage-winding machine, the combination with a rotatable spindle, of a motor for operating said spindle, a standard supporting said motor and spindle, a chain carried by the standard for moving said motor to control its coöperation with said spindle, and a treadle carried by said standard for operating said chain.

10. In a bandage-winding machine, the combination with a rotatable spindle, of a supporting-frame therefor, a motor carrying a friction-disk for driving said spindle, and a standard supporting said parts, said frame comprising united end plates in which the spindle is rotatably and removably mounted, and fingers supported at the edges of said end plates for guiding the bandage to the spindle, said fingers projecting beyond one of said end plates, which is free from engagement with one of said fingers; whereby a bandage may be slipped over said free finger outside the frame and moved along the finger to the interior of the frame and fastened to the spindle ready to be wound.

842,303. LEUCO PRODUCTS FROM GALLIC COMPOUNDS AND ALKYL-DIAMIDO-ARYLTHIOSULFONIC ACIDS, &c. CHARLES DE LA HARPE and RUDOLF BURCKHARDT, Basel, Switzerland, assignors to Dye-Works formerly L. Durand, Huguenin & Co., Basel, Switzerland. Filed Oct. 25, 1906. Serial No. 340,494.

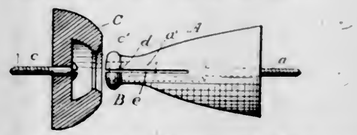
Claim.—1. The described process for the manufacture of new leuco compounds suitable for dyeing and printing, by reacting with an alkyl-diamido-arylthiosulfonic acid on a gallic compound, in presence of alkali with exclusion of air.

2. The described process for the manufacture of new leuco compounds suitable for dyeing and printing, by reacting with a dialkylparaphenylendiaminthiosulfonic acid on gallamic acid, in presence of alkali with exclusion of air.

3. As new products the described leuco compounds suitable for dyeing and printing, derived from an alkyl-diamido-arylthiosulfonic acid and a gallic compound, which constitute in the form of salts and in dry state greenish powders soluble in sulfuric acid with red coloration becoming violet-black on addition of an oxidizing agent and yield, by oxidation on chromium-mordanted fibers, blue-violet shades fast to light and washing.

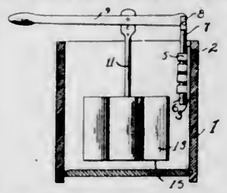
4. As a new article of manufacture the described leuco compound suitable for dyeing and printing derived from a dialkylparaphenylendiaminthiosulfonic acid and gallamic acid, which constitutes in the form of its hydrochlorid and in dry state a greenish powder slightly soluble in water, yields by oxidation on chromium-mordanted fibers, blue-violet shades fast to light and washing, dissolves in sulfuric acid with red coloration becoming pale violet on addition of water or violet-black on addition of an oxidizing agent.

842,304. DOOR-CHECK. CHARLES G. DEMING, Kingston, N. Y. Filed Dec. 30, 1905. Serial No. 293,919.



Claim.—In a door stop and fastener having a socket and a bumper to engage said socket, longitudinal slits in the outer portion of said bumper, a longitudinal central hole in said outer portion of said bumper and an elastic cylinder in said hole, for the purpose specified.

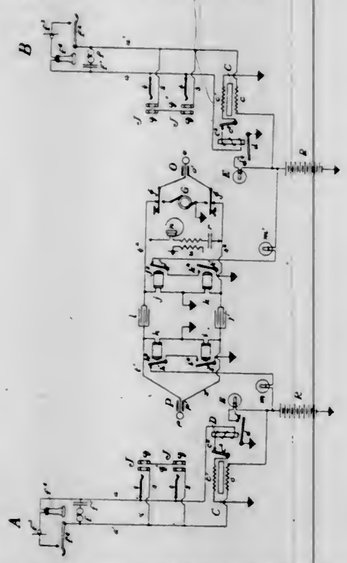
842,305. WASHING-MACHINE. WILLIAM M. DIGHT, Pittsburg, Pa. Filed Mar. 22, 1905. Serial No. 251,372.



Claim.—In a washing-machine, the combination of a receptacle, a supporting-plate secured within the receptacle near the top thereof, said supporting-plate being provided with a series of curved adjusting-lugs providing spaces therebetween, a vertical support provided with a projecting

lug adapted to fit in the spaces between the projecting lugs to hold the support in adjusted position, a lever pivotally secured to the upper end of said vertical support, a pounder-rod adjustably secured to said lever intermediate of its length and projecting into the receptacle, and a pounder carried by the lower end of said rod, said pounder consisting of a series of cylinders provided with open bottoms.

842,306. TELEPHONE SYSTEM. FRANCIS W. DUNBAR, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed May 8, 1901. Serial No. 59,193.



Claim.—1. In a telephone system, the combination with a line-circuit, of a cut-off relay having two differentially-wound coils in said line, a battery and a line-relay associated in said line, a cord-circuit for making connections with the line for conversation, a supervisory relay of comparatively low resistance associated with the cord-circuit, and means when a connection is established with the line for shunting one of the coils of said cut off relay through said supervisory relay, whereby said cut-off relay is actuated and said line-relay is cut out of circuit, substantially as described.

2. In a telephone system, the combination with a line-circuit, of a cut-off relay having two differentially-wound coils in said line, a battery and a line-relay also in said line, a cord-circuit for making connections with the line for conversation, a supervisory relay of comparatively low resistance associated with the cord-circuit, and means when connection is established with the line for shunting one of the coils of said cut-off relay and said line-relay through the winding of said low-resistance supervisory relay, whereby said cut-off relay is actuated and said line-relay is cut out of circuit, substantially as described.

3. In a telephone system, a line-circuit, a cut-off relay having two differentially-wound coils in the line, a battery and a line-relay also in the line, a cord-circuit for making connection with the line for conversation, a supervisory relay of comparatively low resistance associated with the cord-circuit, and means when a connection is established with the line for shunting one of the coils of said cut-off relay and said line-relay through the winding of said low-resistance supervisory relay, whereby said cut-off relay is actuated and the shunted winding thereof and the line-relay are cut out of circuit, substantially as described.

4. In a telephone system, a line-circuit, a cut-off relay having two windings in the line, a line-relay, one winding of said cut-off relay and said line-relay being connected in series with the tip side of the line, a cord-circuit for making connections with the line for conversation, a supervisory relay of comparatively low resistance associated with the tip-strand of the cord-circuit, and means when a connection is established for conversation for shunting the tip-winding of said cut-off relay and said line-relay through said low-resistance supervisory relay, substantially as described.

5. In a telephone system, a metallic-circuit line, a cut-off relay having two differential windings, a line-relay, one winding of said cut-off relay and said line-relay being connected in series with the tip side of the line, the other winding of said differentially-wound relay being included in series with a battery in the sleeve side of the line, a cord-circuit for making connections with the line for conversation, a supervisory relay of comparatively low resistance associated with the tip-strand of the cord-circuit, and means for connecting the tip-winding of the cut-off relay and said line-relay in shunt with said low-resistance supervisory relay when a connection is established with the line, whereby said cut-off relay is actuated and the line-relay is cut out of circuit, substantially as described.

6. In a telephone system, a line-circuit, a differentially-wound cut-off relay having one winding connected in series with a battery in the sleeve side of the line, the other winding of said cut-off relay being connected with the tip side of the line, a suitably-controlled line-signal for the line, a cord-circuit for making connections with the line for conversation, a supervisory relay of comparatively low resistance associated with the tip-strand of the cord-circuit, and means when a connection is established with the line for connecting the tip-winding of the cut-off relay in shunt with said supervisory relay, whereby the line-signal is effaced, substantially as described.

7. In a telephone system, a metallic-circuit line connected for conversation, a source of current bridged between one limb of said circuit and ground, two relays bridged across said circuit, each having one terminal connected to ground, whereby one of said relays is constantly actuated and means at the subscriber's station for closing the metallic circuit, whereby the other of said relays is actuated and a supervisory signal having its circuit controlled by said relays, substantially as described.

8. In a telephone system, a metallic-circuit line connected for conversation, a source of current bridged between one of the limbs of said line and ground, two relays connected in series across the metallic circuit, one terminal of one of said relays being grounded, whereby said relay is constantly actuated, means at the subscriber's station for closing circuit of said line, whereby the other of said relays is actuated, a local circuit containing a signal controlled by the mutual action of both of said relays, substantially as described.

9. In a telephone system, a metallic-circuit line and a source of current connected between one of its limbs and ground, a cord-circuit adapted to connect with said line, having two relays bridged across its two strands, a ground connection for one of said relays, whereby said relay is actuated, while connection is made with the line to close a local circuit, means at the subcriber's station for closing the metallic circuit, whereby the other of said relays is actuated to open said local circuit, and a signal included in said local circuit, substantially as described.

10. In a telephone system, a line-circuit, a cut-off relay having two windings in the line, one of said windings being connected in series with a battery in the sleeve side of the line, a line-relay, the other winding of said cut-off relay being connected in series with said line-relay in the tip side of the line, a line-signal having its circuit controlled by said line-relay, a cord-circuit for making connection with the line for conversation, a low-resistance supervisory relay associated with the tip-strand of the cord-circuit, and means when a connection is established with the line for shunting said line-relay and the tip-winding of said cut-off relay through said supervisory relay, whereby the line-signal is effaced, substantially as described.

11. In a telephone system, a line-circuit, a cut-off relay having two windings in the line, a battery and a line-relay also in the line, a cord-circuit for making connections with the line for conversation, a pair of supervisory relays for the cord-circuit and means when connection is established with the line for unbalancing said cut-off relay by current through one of said supervisory relays, whereby the line-relay is cut out of circuit the other of said supervisory relays being under the control of the subscriber and a supervisory signal controlled by said pair of supervisory relays, substantially as described.

12. In a telephone system, the combination with a plurality of telephone-lines, of a cord-circuit to connect said lines for conversation, a central source of current, a differential cut-off relay for each of said lines, a high and low resistance supervisory relay bridged in series across said cord-circuit and each connected to the same pole of said central source, means upon the connection of said cord-circuit with a line to include said high-resistance relay in a local circuit in series with one coil of said cut-off relay to actuate each and upon the response of the called subscriber to include said low-resistance relay in the path of current over the line, a signal controlled by said cord-relays, and the normal path of current to the line controlled by said cut-off relay, substantially as described.

842,307. TUNING-HAMMER. WILLIAM B. ELLSWORTH, Hudson, Ohio. Filed Sept. 11, 1906. Serial No. 334,169.

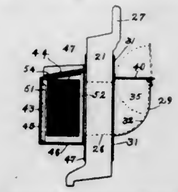
Claim.—1. In a tuning-hammer, the combination of a handle embodying a suitable shank provided with a socket member, said socket member being formed with a socket or opening tapering toward an end thereof, a turning head mounted in the socket of the socket member, a cap for closing the larger end of the tapering socket to prevent displacement of the turning head from the shank, and a dog carried by the handle to engage the turning head for rotating the latter.

2. In a tuning-hammer, the combination of a handle embodying a shank provided at one end with a socket member having a tapering socket, a turning head mounted in said socket member and having a tapering portion snugly fitting in the socket thereof, a cap or closure for the larger end of the socket of the socket member to prevent displacement of the turning head therefrom, and a dog mounted on the handle and arranged to engage the turning head for rotation of the latter.

3. In a tuning-hammer, the combination of a handle embodying a shank of tubular formation, said shank having a socket member at its lower end provided with a tapering socket or opening, a turning head having an end portion thereof tapering so as to snugly fit in the socket of the socket member the larger end of the socket aforesaid being threaded, a screw or cap screwed into the threaded portion of the socket to prevent displacement of the turning head therefrom, a sliding dog mounted in the tubular portion of the shank of the handle to engage the turning head for rotation of the latter, and means for actuating said dog.

4. In a tuning-hammer, the combination of a handle, a shank of tubular form having an end portion thereof received in the handle, a turning head mounted in the outer end of the shank, a sliding dog mounted on the handle and having an end portion thereof movable through the shank to engage with the turning head, a pin-and-slot connection between the dog and the shank of the handle, and means for actuating the dog in the manner specified.

842,308. VENTILATOR. CHARLES E. ERBY, Chicago, Ill. Filed Apr. 6, 1906. Serial No. 310,224.



Claim.—1. In a ventilator, the combination with a body portion having a transvere opening therethrough, of an inner box secured around said opening and having at its top a hinged lid to regulate the passage of air, an outer box secured to the outer surface of the body portion and provided in its top near each of its ends with a transverse slot, parallel flanges on the inner surface of the outer wall of the outer box near each of its ends and in vertical alinement with said slots, and a screened frame removably located in each of said slots and guide-flanges, substantially as described.

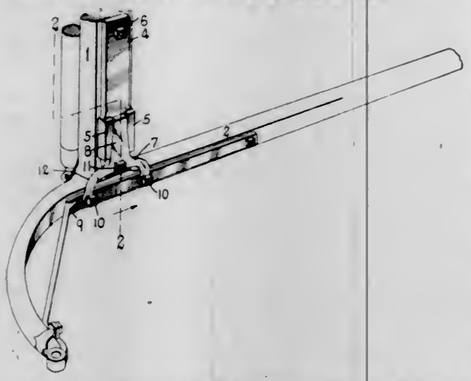
2. In a ventilator, the combination with a body portion having one of its ends downwardly and outwardly inclined and provided with a transverse opening, of a block tapered from its upper to its lower end and having means to engage the inclined end of the body portion, an inner box secured around said opening on the inner surface of the body portion and having at its top a hinged lid to regulate the passage of air, an outer box secured to the outer surface of the body portion around the opening therein and having detachable and screened end frames, substantially as described.

3. In a ventilator, the combination with a body portion, having one of its ends downwardly and outwardly inclined and provided with a transverse opening, of a block tapered from its upper to its lower end and provided with means to engage the inclined end of the body portion, an inner box secured to the inner surface of the body portion and having an opening to register with the opening therein and provided in its upper portion with inwardly-extending perimetral flanges, a screen horizontally located on said flanges, a lid to close the upper portion of the box and hinged thereto, an outer box secured to the outer surface of the body portion around the opening therein, and detachable and screened end frames mounted on said box, substantially as described.

842,309. KNOCKDOWN VEHICLE SHAFT. FREDERICK C. FERRIS and GEORGE S. TEBBETTS, St. Louis, Mo., assignors to L. B. Tebbetts & Sons Carriage Company, St. Louis, Mo., a Corporation of Missouri. Filed June 25, 1906. Serial No. 323,323.

Claim.—1. A pair of vehicle-shafts comprising two shafts and a removable cross-bar provided with tongues which enter openings in said shafts and terminate short of the outer side faces of said shafts, members permanently connected to the shafts, coöperating members permanently

connected to the cross-bar, and removable devices extending through the cross-bar and the members which are connected to the shafts; substantially as described.

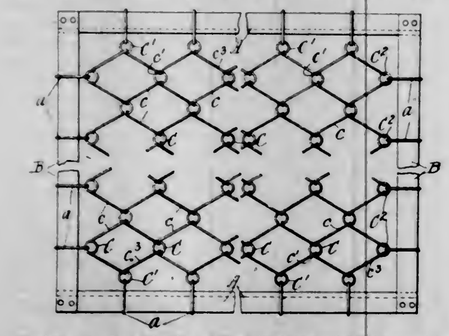


2. A pair of vehicle-shafts comprising two shafts and a removable cross-bar, members connected to the underneath face of the cross-bar, said members being provided with shoulders having inclined faces, devices permanently connected to the shafts and provided with tapered shanks which engage the shoulders on the members connected to the cross-bar, and removable bolts extending through the cross-bar and the shanks of said devices; substantially as described.

3. A pair of vehicle-shafts comprising two shafts and a removable cross-bar, devices connected to the upper and lower faces of each shaft and having laterally-extending portions which engage the upper and lower faces of the cross-bar, members connected to the cross-bar and provided with shoulders which coöperate with the laterally-extending portions of one of said pair of devices, and removable bolts extending through the cross-bar and through said laterally-extending portions; substantially as described.

4. A pair of vehicle-shafts consisting of two shafts and a removable cross-bar, heel-brace irons connected to the underneath faces of said shafts, devices connected to the shafts beneath said irons and provided with shanks, members connected to the cross-bar and provided with shoulders which coöperate with said shanks, and removable bolts extending through the cross-bar and through said shanks; substantially as described.

842,310. WIRE-CLOTH FABRIC. MATTHEW W. FLOTO, Chicago, Ill. Filed July 24, 1905. Serial No. 270,924.

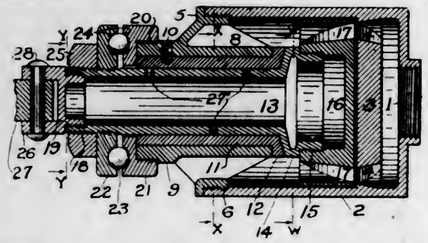


Claim.—1. In a device of the class described the combination with a frame of unit members comprising coiled springs having divergent arms, each provided with a hook on the end thereof said members being engaged together and to said frame, half-unit members comprising a coiled spring having an arm, a hook integral with the end thereof and adapted to engage the coils of the unit members along one side of the frame, rings engaged to the hooks of the unit and half-unit members at one side of the frame and means engaging said hooks and half-unit members to the frame.

2. In a device of the class described the combination with a frame of unit members comprising coiled springs having a plurality of divergent arms, a hook on the end of each arm bent back upon the arm and then downwardly therefrom, a plurality of half-unit members each comprising a coiled spring having an arm, a hook integral with the end of said arm, said unit and half-unit members being arranged in such a manner that the coils are adjacent the frame, coils engaged to the members adjacent one end of the frame and hooks engaging each of said coils to the frame.

3. The combination with frame members of a plurality of springs having a spiral coil and divergent arms, a plurality of marginal springs having a coil and an arm, integral hooks on the end of each of said arms and bent back upon the arm and outwardly therefrom to firmly engage said coils, a plurality of coils adapted to be engaged to one end of the frame and the hooks of said arms and means for fastening the coils adjacent the frame to said frame.

842,311. BOILER-TUBE CLEANER. CHRISTIAN GOTTWALD, Cleveland, Ohio. Filed Feb. 1, 1906. Serial No. 299,030.

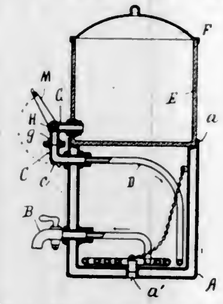


Claim.—1. In a boiler-tube cleaner, the combination with a non-rotating part having a transvere diaphragm provided with inclined passages, said non-rotating part having a chamber which extends forward from said diaphragm, a removable journal-bearing mounted on the outer end of said chamber, a removable bushing secured within said journal-bearing, its rear face provided with an enlarged flange, a hollow shaft rotatably mounted within said bushing and enlarged at its rear end to conform to the enlarged flange on said bushing, a threaded rear extension on said hollow shaft to receive the rotary part of the motor, and a threaded forward extension to receive a centrifugally-acting cutting-tool, substantially as described.

2. In a boiler-tube cleaner, the combination with a non-rotating part having a transverse diaphragm provided with inclined passages, said non-rotating part having a chamber which extends forward from said diaphragm, a removable journal-bearing mounted on the outer end of said chamber, a removable bushing secured within said journal-bearing, its rear face provided with an enlarged flange, a hollow shaft rotatably mounted within said bushing and enlarged at its rear end to conform to the enlarged flange on said bushing, a threaded rear extension on said hollow shaft to receive the rotary part of said motor, and a threaded forward extension to receive a centrifugally-acting cutting-tool, said hollow shaft forming an oil-chamber, having communicating openings to the bearings, substantially as described.

3. In a boiler-tube cleaner, the combination with a non-rotating part having a transverse diaphragm provided with inclined passages, said non-rotating part having a chamber which extends forward from said diaphragm, a removable journal-bearing mounted on the outer end of said chamber, provided at its outer end with a removable ball-bearing cup, a removable bushing secured within said journal-bearing, its rear face provided with an enlarged flange, a hollow shaft rotatably mounted within said bushing, a threaded rear extension on said hollow shaft to receive the rotary part of the motor, a threaded forward extension to receive a removable and adjustable ball-bearing cup, a locking-nut, and a centrifugally-acting cutting-tool, substantially as described.

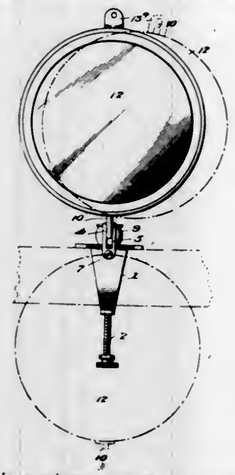
842,312. WATER-COOLER. JULIUS GREYER, Cincinnati, Ohio., assignor to W. T. Wagner's Sons, Cincinnati, Ohio, a Firm. Filed Sept. 13, 1906. Serial No. 334,377.



Claim.—1. In a water-cooler, the combination of a water vessel, an ice vessel having a seat in its upper edge for the water vessel, a faucet, and a member of a pipe-coupling in the side of the ice vessel, a pipe within the ice vessel connecting the faucet and said member, a second member of the pipe-coupling in the water vessel, and adapted to engage the member in the ice vessel, and a means of closing the second member when the water vessel is disconnected from the ice vessel.

2. In a water-cooler the combination of a water vessel, an ice vessel having a seat in its upper edge for the water vessel, a faucet, and a member of the pipe-coupling in the side of the ice vessel, a pipe within the ice vessel connecting the faucet and said member, the second member of the pipe-coupling in the water vessel, and adapted to engage the member in the ice vessel, a valve in the second member for regulating its opening and closing, and an arm connected to the valve and adapted to lock the members of the pipe-coupling together when turned to open the valve and to disconnect them when the valve is closed.

842,313. MIRROR-SUPPORT. HENRY W. HARRISON, Clinton, Iowa. Filed June 28, 1906. Serial No. 323,885.



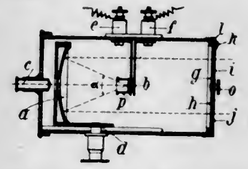
Claim.—1. In a mirror-support, the combination with a mirror-standard, of a mirror having eyes which are slidable and rotatable on said mirror-standard, and a friction-clamp on said mirror-standard comprising a spring coiled around and frictionally engaging the standard between said eyes which permits the mirror to be rotated or shifted lengthwise of the mirror-standard and is adapted to hold said mirror where positioned.

2. In a mirror-support, the combination with a mirror-standard, of a mirror having eyes which are slidable and rotatable on said standard, and a friction-clamp comprising a resilient strip coiled around and frictionally embracing the mirror-standard between the eyes and provided with projecting ends to bear against the mirror, said friction-clamp holding the mirror where adjusted.

3. In a mirror-support, the combination with a base-plate having a ball-seat, of a bracket having a part substantially parallel to the base-plate and provided with a ball-seat and another part provided with a slot which lies substantially at right angles to the base-plate, a mirror-support having a neck bent at an angle to its length and passing freely through the slot aforesaid, and a ball on the end of the neck which is frictionally held in said seats.

4. In a mirror-support, the combination with a clamp and a clamping-screw for securing the clamp to an object, said clamp having a ball-seat, of a bracket having a ball-seat and provided with a slot, means securing the bracket to the clamp, a mirror support or standard having a neck bent at an angle to its length and passing through the slot aforesaid, and a ball secured to said neck and frictionally held in said seats.

842,314. PYROMETER. GEORGE HEELEY and CHARLES FÉRY, Paris France; said Heeley assignor to La Compagnie pour la Fabrication des Compteurs et Materiel d' Usines à Gaz, Paris, France. Filed Nov. 11, 1905. Serial No. 286,923.



Claim.—1. The combination with a casing, of an eyepiece arranged at one end of the casing, a mirror within the casing, a second mirror within the casing adapted to receive reflected rays from the first mirror and reflect said rays into the eyepiece, a thermo-electric pile the solder joint of which is within the casing close to the said second mirror, and an adjustable diaphragm arranged at the other end of the casing.

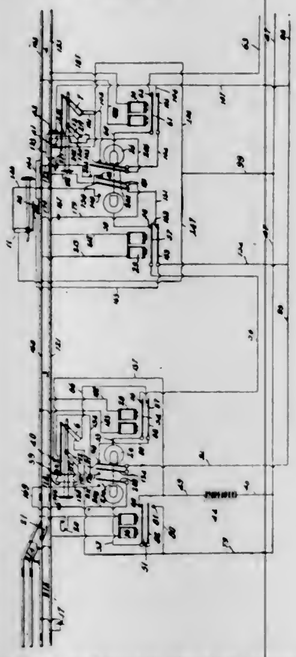
2. The combination with a casing, of an eyepiece arranged at one end of the casing, a mirror adjustably arranged within the casing, a second mirror within the casing adapted to receive reflected rays from the first mirror and reflect said rays into the eyepiece, thermo-electric pile the solder joint of which is within the casing close to the said second mirror, and an adjustable diaphragm arranged at the other end of the casing.

3. The combination with a casing, of an eyepiece arranged at one end of the casing, a mirror within the casing a second mirror within the casing adapted to receive reflected rays from the first mirror and reflect said rays into the eyepiece, a thermo-electric pile the soldered joint of which is within the casing close to the said second mirror, and an adjustable diaphragm arranged at the other end of the casing, said diaphragm comprising fixed and rotatable sectors arranged relatively to each other as described, and an indicator-scale.

4. The combination with a casing, of an eyepiece arranged at one end of the casing, an adjustable mirror within the casing, a second mirror within the casing adapted to receive reflected rays from the first mirror and reflect said rays into the eyepiece, a thermo-electric pile the soldered joint of which is within the casing close to the said second mirror, and an adjustable diaphragm arranged at the other end of the casing.

5. A pyrometric telescope comprising a casing, an eyepiece *c*, a thermo-electric pile *b*, a mirror-cylinder *p*, an adjustable mirror *a*, and an adjustable diaphragm *g h i j*, substantially as set forth.

842,315. SINGLE-TRACK SIGNALING SYSTEM. ROBERT J. HEWETT, Westfield, N. J., assignor to The Hall Signal Company, a Corporation of Maine. Filed Aug. 22, 1906. Serial No. 331,549.



Claim.—1. In a single-track signaling system; a block provided with a set of one or more inrunning signals and a set of one or more outrunning signals; and a track-controlled magnetic device normally maintaining one of said sets at safety and the other of said sets at danger, so as to prevent useless delay to traffic.

2. In a single-track signaling system; a block provided with a set of one or more inrunning signals and a set of one or more outrunning signals; and track-controlled means normally maintaining one of said sets at safety and the other of said sets at danger, so as to prevent useless delay to traffic; said track-controlled means being responsive to the first train, either inrunning or outrunning, to approach said block to cause the set of signals corresponding to said first approaching train to indicate safety and to cause the other set of signals to indicate danger.

3. In a single-track signaling system; a block provided with a set of one or more inrunning signals and a set of one or more outrunning signals; a selector-circuit normally maintaining one of said sets at safety and the other of said sets at danger; means near each end of said block operable by a train to control said selector-circuit and cause one of said sets of one or more signals to indicate safety and to cause the other said sets of one or more signals to indicate danger.

4. In a single-track signaling system; a block provided with an inrunning and an outrunning signal; a plurality of dead-beat polarized electromagnetic devices for controlling said signals; a selector-circuit including said electromagnetic devices in series and normally maintaining one of said signals at safety and one of said signals at danger; means near each end of said block operable by a train to energize said selector-circuit with a characteristic polarity and cause one of said signals to indicate safety and cause the other of said signals to indicate danger.

5. In a single-track signaling system; a block provided with a set of one or more inrunning signals and a set of one or more outrunning signals; a selector-circuit; a plurality of electromagnetic devices included in said selector-circuit; each of said electromagnetic devices comprising one or more dead-beat polarized armatures; signal-circuits controlled by said armatures; train-controlled means near each end of said block for energizing said selector-circuit with a characteristic polarity positively to shift said armatures to a characteristic position.

6. In a single-track electric signaling system; a set of inrunning signals and a set of outrunning signals; said sets interchangeably normally at safety and at danger respectively according to the last train movement; a signal-circuit containing two polarized magnetic devices in series which are adapted to control the operation of said signals; a generator in series with said magnetic devices; and means for controlling said magnetic devices in a selective manner.

7. In a single-track electric signaling system, the combination of inrunning and outrunning signals; a signal-circuit containing two polarized electromagnetic devices adapted to control the operation of said signals and each comprising one or more armatures positively movable in two directions according to the polarity of said circuit; opposing sources of electric energy; means controlled by a train in the rear of the inrunning signal for cutting out one of said sources of electric energy and cause the other source to energize said electromagnetic devices to cause the inrunning signals to indicate safety and cause the outrunning signal to indicate danger; and means controlled by a train in the rear of said outrunning signal for cutting out the other of said sources of electric energy so that that remaining will energize said electromagnetic devices to cause the outrunning signal to indicate safety and cause the inrunning signal to indicate danger.

8. In a single-track electric signaling system, the combination of inrunning and outrunning signals; a signal-circuit containing two polarized electromagnetic devices adapted to control the operation of said signals and each comprising one or more armatures positively movable in two directions according to the polarity of said circuit; opposing sources of electric energy; means controlled by a train in the rear of the inrunning signal for cutting out one of said sources of electric energy and cause the other source to energize said electromagnetic devices to cause the inrunning signal to indicate safety and cause the outrunning signal to indicate danger; and means controlled by a train in the rear of said outrunning signal for cutting out the other of said sources of electric energy so that that remaining will energize said electromagnetic devices to cause the outrunning signal to indicate safety and cause the inrunning signal to indicate danger and means controlled by a train between said signals for holding both signals at danger.

9. In a single-track electric signaling system, the combination of inrunning and outrunning signals; a signal-circuit containing two polarized electromagnetic devices adapted to control the operation of said signals and each comprising one or more armatures positively movable in two directions according to the polarity of said circuit; opposing sources of electric energy; means controlled by a train in the rear of the inrunning signal for cutting out one of said sources of electric energy and cause the other source to energize said electromagnetic devices to cause the inrunning signals to indicate safety and cause the outrunning signal to indicate danger; and means controlled by a train in the rear of said outrunning signals for cutting out the other of said sources of electric energy so that that remaining will energize said electromagnetic devices to cause the outrunning signal to indicate safety and cause the inrunning signal to indicate danger; said two train-controlled means, when simultaneously actuated, operating to hold one signal at safety and the other signal at danger.

10. In a single-track electric signaling system, the combination of inrunning and outrunning signals; a signal-circuit containing two polarized electromagnetic devices adapted to control the operation of said signals and each comprising one or more armatures positively movable in two directions according to the polarity of said circuit; opposing sources of electric energy; means controlled by a train in the rear of the inrunning signal for cutting out one of said sources of electric energy and cause the other source to energize said electromagnetic devices to cause the inrunning signal to indicate safety and cause the outrunning signal to indicate danger; and means controlled by a train in the rear of said outrunning signal for cutting out the other of said sources of electric energy so that that remaining will energize said electromagnetic devices to cause the outrunning signal to indicate safety and cause the inrunning signal to indicate danger; said two controlled means, when simultaneously actuated, operating to hold one signal at safety and the other signal at danger and means controlled by a train between said signals for holding both signals at danger.

11. In a single-track signaling system; a block comprising a plurality of subsections; inrunning home and distant signals for one subsection; outrunning home and distant signals for a second subsection; track-controlled means at a distant subsection for controlling each distant signal; one set of home and distant signals normally at safety and the other set normally at danger; train-controlled means near the inrunning end of said block to cause the inrunning home and distant signals to indicate safety and to cause the outrunning home and distant signals to indicate danger; and train-controlled means near the outrunning end of said block to cause the outrunning home and distant signals to indicate safety and to cause the inrunning home and distant signals to indicate danger.

12. In a single-track signaling system; a block comprising a plurality of subsections; inrunning home and distant signals for one subsection; outrunning home and distant signals for a second subsection; track-controlled means at a distant subsection for controlling each distant signal; one set of home and distant signals normally at safety and the other set normally at danger; train-controlled means near the inrunning end of said block to cause the inrunning home and distant signals to indicate safety and to cause the outrunning home and distant signals to indicate danger; and train-controlled means near the outrunning end of said block to cause the outrunning home and distant signals to indicate safety and to cause the inrunning home and distant signals to indicate danger; train-controlled means between said inrunning and outrunning signals to cause both the inrunning and the outrunning signals to indicate danger.

13. In a single-track signaling system; a block comprising a plurality of subsections; inrunning home and distant signals for one subsection; outrunning home and distant signals for a second subsection; track-controlled means at a distant subsection for controlling each distant signal; one set of home and distant signals normally at safety and the other set normally at danger; train-controlled means near the inrunning end of said block to cause the inrunning home and distant signals to indicate safety and to cause the outrunning home and distant signals to indicate danger; and train-controlled means near the outrunning end of said block to cause the inrunning home and distant signals to indicate safety and to cause the inrunning home and distant signals to indicate danger; said two train-controlled means near the ends of the block, when simultaneously actuated, operating to maintain all signals at normal position.

14. In a single-track signaling system; a block comprising a plurality of subsections; inrunning home and distant signals for one subsection; outrunning home and distant signals for a second subsection; track-controlled means at a distant subsection for controlling each distant signal; one set of home and distant signals normally at safety and the other set normally at danger; train-controlled means near the inrunning end of said block to cause the inrunning home and distant signals to indicate safety and to cause the outrunning home and distant signals to indicate danger; and train-controlled means near the outrunning end of said block to cause the outrunning home and distant signals to indicate safety and to cause the inrunning home and distant signals to indicate danger; said two train-controlled means near the ends of the block, when simultaneously actuated, operating to maintain all signals at normal position; and train-controlled means between said inrunning and outrunning signals to cause both the inrunning and the outrunning signals to indicate danger.

15. In a single-track electric signaling system; a block comprising a plurality of subsections; a set of inrunning home and distant signals for one subsection; a set of outrunning home and distant signals for a second subsection; a plurality of electromagnetic selectors each comprising one or more polarized armatures positively movable in two directions by the said selectors; local circuits controlled by said polarized armatures, and normally maintaining one or the other of said sets of signals at safety and the other set at danger according to the direction of the last train movement; a signal-circuit including said electromagnetic selectors in series; means actuated by a train in the rear of the inrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said inrunning signals to indicate safety and to cause said outrunning signals to indicate danger; and train-controlled means for a distant subsection for controlling the distant signal at a subsection remote from said distant subsection.

16. In a single-track electric signaling system; a block comprising a plurality of subsections; a set of inrunning home and distant signals for one subsection; a set of outrunning home and distant signals for a second subsection; a plurality of electromagnetic selectors, each comprising one or more polarized armatures positively movable in two directions; local circuits, controlled by said polarized armatures, and normally maintaining one or the other of said sets of signals at safety and the other set at danger according to the direction of the last train movement; a signal-circuit including said electromagnetic selectors in series; means actuated by a train in the rear of the inrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said inrunning signals to indicate safety and to cause said outrunning signals to indicate danger; means actuated by a train in the rear of said outrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said outrunning signals to indicate danger and to cause said inrunning signals to indicate danger; and train-controlled means for a distant subsection for controlling the distant signal at a subsection preceding said distant subsection, said distant signal also being controlled by its associated home signal.

17. In a single-track electric signaling system; a block comprising a plurality of subsections; a set of inrunning home and distant signals for one subsection; a set of outrunning home and distant signals for a second subsection; a plurality of electromagnetic selectors, each comprising one or more dead-beat polarized armatures positively movable in two directions; local circuits controlled by said polarized armatures, and normally maintaining one or the other of said sets of signals at safety and the other set at danger according to the direction of the last train movement; a signal-circuit including said electromagnetic selectors in series; means actuated by a train in the rear of the inrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said inrunning signals to indicate safety and to cause said outrunning signals to indicate danger; means actuated by a train in the rear of said outrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said outrunning signals to indicate safety and to cause said inrunning signals to indicate danger; and train-controlled means at a distant subsection for controlling the distant-signal at a subsection preceding said distant subsection.

18. In a single-track electric signaling system; a block comprising a plurality of subsections; a set of inrunning home and distant signals for one subsection; a set of outrunning home and distant signals for a second subsection; a plurality of electromagnetic selectors each comprising one or more polarized armatures positively movable in two directions by the said selectors; local circuits controlled by said polarized armatures, and normally maintaining one or the other of said sets of signals at safety and the

other set at danger according to the direction of the last train movement; a signal-circuit including said electromagnetic selectors in series; means actuated by a train in the rear of the inrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said inrunning signals to indicate danger and to cause said outrunning signals to indicate danger; means actuated by a train in the rear of said outrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said outrunning signals to indicate safety and to cause said inrunning signals to indicate danger; and train-controlled means at a distant subsection for controlling the distant signal at a subsection preceding said distant subsection; and train-controlled means within said blocks to cause all of said signals to indicate danger.

19. In a single-track electric signaling system; a block comprising a plurality of subsections; a set of inrunning home and distant signals for a second subsection; a plurality of electromagnetic selectors each comprising one or more polarized armatures positively movable in two directions; local circuits controlled by said polarized armatures, and normally maintaining one or the other of said sets of signals at safety and the other set at danger according to the direction of the last train movement; a signal-circuit including said electromagnetic selectors in series; means actuated by a train in the rear of the inrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said inrunning signals to indicate safety and to cause said outrunning signals to indicate danger; means actuated by a train in the rear of said outrunning signals to energize said signal-circuit with a polarity so as to cause said outrunning signals to indicate safety and to cause said inrunning signals to indicate danger; and train-controlled means at a distant subsection for controlling the distant signal at a subsection preceding said distant subsection; said two means in the rear of the inrunning and the outrunning signals, when actuated simultaneously, operating to maintain one set of home and distant signals at safety and the other set at danger so as to avoid useless delay to traffic.

20. In a single-track electric signaling system; a block comprising a plurality of subsections; a set of inrunning home and distant signals for one subsection; a set of outrunning home and distant signals for a second subsection; a plurality of electromagnetic selectors each comprising one or more polarized armatures positively movable in two directions; local circuits controlled by said polarized armatures, and normally maintaining one or the other of said sets of signals at safety and the other set at danger according to the direction of the last train movement; a signal-circuit including said electromagnetic selectors in series; means actuated by a train in the rear of the inrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said inrunning signals and to cause said outrunning signals to indicate danger; means actuated by a train in the rear of said outrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said outrunning signals to indicate safety and to cause said inrunning signals to indicate danger; and train-controlled means at a distant subsection for controlling the distant signal at a subsection preceding said distant subsection, said distant signal also being controlled by its associated home signal; said two means in the rear of the inrunning and the outrunning signals, when actuated simultaneously, operating to maintain one set of home and distant signals at safety and the other set at danger so as to avoid useless delay to traffic.

21. In a single-track electric signaling system; a block comprising a plurality of subsections; a set of inrunning home and distant signals for one subsection; a set of outrunning home and distant signals for a second subsection; a plurality of electromagnetic selectors each comprising one or more dead-beat polarized armatures positively movable in two directions; local circuits controlled by said polarized armatures, and normally maintaining one or the other of said sets of signals at safety and the other set at danger according to the last train movement; a signal-circuit including said electromagnetic selectors in series; means actuated by a train in the rear of the inrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said inrunning signals to indicate safety and to cause said outrunning signals to indicate danger; means actuated by a train in the rear of said outrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said outrunning signals to indicate safety and to cause said inrunning signals to indicate danger; and train-controlled means at a distant subsection for controlling the distant signal at a subsection preceding said distant subsection, said distant signal also being controlled by its associated home signal; said two means in the rear of the inrunning and the outrunning signals, when actuated simultaneously, operating to maintain one set of home and distant signals at safety and the other set at danger so as to avoid useless delay to traffic; and train-controlled means within said block to cause all of said signals to indicate danger when actuated by a train.

22. In a single-track electric signaling system; a block comprising a plurality of subsections; a set of inrunning home and distant signals for a second subsection; a plurality of electromagnetic selectors each comprising one or more polarized armatures positively movable in two directions by the said selectors; local circuits controlled by said polarized armatures, and normally maintaining one or the other of said sets of signals at safety and the other set at danger according to the last train movement; a signal-circuit including said electromagnetic selectors in series; means actuated by a train in the rear of the inrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said inrunning signals to indicate safety and to cause said inrunning signals to indicate danger; means actuated by a train in the rear of said outrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said outrunning signals to indicate safety and to cause said inrunning signals to indicate danger; and train-controlled means for a distant subsection for controlling the distant signal at a subsection preceding said distant subsection; said two means in the rear of the inrunning and the outrunning signals, when actuated simultaneously, operating to maintain one set of home and distant signals at safety and the other set at danger so as to avoid useless delay to traffic; and train-controlled means within said block to cause all of said signals to indicate danger when actuated by a train.

23. In a single-track electric signaling system; a block comprising a plurality of subsections; a set of inrunning home and distant signals for one subsection; a set of outrunning home and distant signals for a second subsection; a plurality of electromagnetic selectors each comprising one or more polarized armatures positively movable in two directions by the said selectors; local circuits controlled by said polarized armatures, and normally maintaining one or the other of said sets of signals at safety and the other set at danger according to the last train movement; a signal-circuit including said electromagnetic selectors in series; means actuated by a train in the rear of the inrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said inrunning signals to indicate safety and to cause said inrunning signals to indicate danger; means actuated by a train in the rear of said outrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said outrunning signals to indicate safety and to cause said inrunning signals to indicate danger; and train-controlled means at a distant subsection for controlling the distant signal at a subsection preceding said distant subsection, said distant signal also being controlled by its associated home signal; said two means in the rear of the inrunning and the outrunning signals, when actuated simultaneously, operating to maintain one set of home and distant signals at safety and the other set at danger so as to avoid useless delay to traffic; and train-controlled means within said block to cause all of said signals to indicate danger when actuated by a train.

24. In a single-track electric signaling system; a block comprising a plurality of subsections; a set of inrunning home and distant signals for one subsection; a set of outrunning home and distant signals for a second subsection; a plurality of electromagnetic selectors each comprising one or more dead-beat polarized armatures positively movable in two directions by the said selectors; local circuits controlled by said polarized armatures, and normally maintaining one or the other of said sets of signals at safety and the other set at danger according to the last train movement; a signal-circuit including said electromagnetic selectors in series; means actuated by a train in the rear of the inrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said inrunning signals to indicate safety and to cause said outrunning signals to indicate danger; means actuated by a train in the rear of said outrunning signals to energize said signal-circuit with a characteristic polarity so as to cause said outrunning signals to indicate safety and to cause said inrunning signals to indicate danger; and train-controlled means at a distant subsection for controlling the distant signal at a subsection preceding said distant subsection, said distant signal also being controlled by its associated home signal; said two means in the rear of the inrunning and the outrunning signals, when actuated simultaneously, operating to maintain one set of home and distant signals at safety and the other set at danger so as to avoid useless delay to traffic; and train-controlled means within said block to cause all of said signals to indicate danger when actuated by a train.

25. In a single-track electric signaling system; a through-block comprising several subsections; an inrunning and an outrunning home signal near the respective inrunning and outrunning entrances of each subsection; an inrunning distant signal near the inrunning entrance to each subsection succeeded by a distant subsection within said block; an outrunning distant signal near the outrunning entrance of each subsection succeeded by a distant subsection within said blocks; a polarized electromagnetic selector near the end of each subsection and controlling the signals; said selectors normally maintaining the home and the distant signals at the opposite ends of the through-blocks at safety and at danger respectively; a selector-circuit including said selectors; train-controlled means near the inrunning end of the through-block operable to energize said selector-circuit with a characteristic polarity to cause the inrunning home and distant signals near the inrunning entrance to the through-blocks and to cause the home and distant signals near the outrunning entrance to the through-block to indicate danger; train-controlled means near the outrunning end of the through-block operable to energize said selector-circuit with a characteristic polarity to cause the outrunning home and distant signals near the outrunning home and distant signals near the outrunning entrance to the through-blocks and to cause home and distant signals near the inrunning entrance to the through-block to indicate danger; and train-controlled means at a subsection to cause the associated home signal and the distant signal of a preceding subsection to indicate danger when actuated by a train.

26. In a single-track electric signaling system; a through-block comprising several subsections; an inrunning and an outrunning home signal near the respective inrunning and outrunning entrances of each subsection; an inrunning distant signal near the inrunning entrance to each subsection succeeded by a distant subsection within said block; an outrunning distant signal near the outrunning entrance of each subsection succeeded by a distant subsection within said blocks; a polarized electromagnetic selector near the end of each subsection and controlling the signals; said selectors normally maintaining the home and the distant signals at the opposite ends of the through-blocks at safety and at danger respectively; a selector-circuit including said selectors; train-controlled means near the inrunning end of the through-block operable to energize said selector-circuit with a characteristic polarity to cause the inrunning home and distant signals near the inrunning entrance to the through-blocks and to cause the home and distant signals near the outrunning entrance to the through-block to indicate danger; train-controlled means near the outrunning end of the through-block operable to energize said selector-circuit with a characteristic polarity to cause the outrunning home and distant signals near the outrunning home and distant signals near the outrunning entrance to the through-blocks and to cause home and distant signals near the inrunning entrance to the through-block to indicate danger; and train-controlled means at a subsection for blocking the associated home signal and the distant signal of a preceding subsection, each distant signal also being controlled by its associated home signal.

27. In a single-track electric signaling system; two passing-stations; a through-block between said stations comprising several subsections; an inrunning and an outrunning home signal for each subsection; an inrunning distant signal for each subsection except the last from the inrunning end of said through-block; an outrunning distant signal for each subsection except the last from the outrunning end of said through-block; polarized electromagnetic selectors at predetermined localities throughout said through-block and controlling the signals; means at each passing-station for controlling all of said signals; said selectors normally interchangeably maintaining either all the inrunning or all the outrunning signals at safety and also at the same time either all the outrunning or all the inrunning signals at danger so as to avoid blocking both an inrunning train and an outrunning train entering the respective passing-stations simultaneously; a local track-circuit for each subsection to control the associated home signals; and means for each distant subsection for controlling the distant signal of the preceding subsection.

28. In a single-track electric signaling system; two passing-stations; a through-block between said stations comprising several subsections; an inrunning and an outrunning home signal for each subsection; an inrunning distant signal for each subsection except the last from the inrunning end of said through-block; an outrunning distant signal for each subsection except the last from the outrunning end of said through-block; polarized electromagnetic selectors at predetermined localities throughout said through-block and controlling the signals; means at each passing-station for controlling all of said signals; said selectors normally interchangeably maintaining either all the inrunning or all the outrunning signals at safety and also at the same time either all the outrunning or all the inrunning signals at danger so as to avoid blocking both an inrunning train and an outrunning train entering the respective passing-stations simultaneously; a local track-circuit for each subsection to control the associated home signals; and means for each distant subsection for controlling the distant signal of the preceding subsection, each distant signal also being controlled by its associated home signal.

29. In a single-track electric signaling system; a block comprising one or more insulated rail-sections; an inrunning and an outrunning signal for said block; a signal-circuit containing a source of energy and two polarized electromagnetic devices adapted to control the operation of said signals; means controlled by an inrunning train to permit the flow of a current of a given direction in said signal-circuit to cause said inrunning signal to indicate safety; means controlled by an outrunning train to permit the flow of a current in the opposite direction in said signal-circuit to cause said outrunning signal to indicate safety; a local track-battery at each end of an insulated rail-section; means controlled by said signal-circuit for connecting each battery one at a time in circuit through the rails of said section; and a track-relay for said battery which also controls a signal.

30. In a single-track signaling system; a block comprising a plurality of subsections; a plurality of inrunning signals and a plurality of outrunning signals for said block; track-controlled means normally maintaining one of said inrunning and one of said outrunning signals in opposite signaling positions; and track-circuits having overlap control of said signals, said track-circuits being controlled by said subsections.

31. In a single-track signaling system; a block provided with a plurality of inrunning signals and a plurality of outrunning signals; said block comprising a plurality of subsections; a selector-circuit normally maintaining one of said inrunning and one of said outrunning signals respectively in opposite signaling positions; and additional circuits having overlap control of said signals and being controlled by said subsections.

32. In a single-track signaling system; a block provided with a plurality of inrunning signals and a plurality of outrunning signals; track-controlled means normally maintaining one of said inrunning signals and one of said outrunning signals in opposite signaling positions; and track-controlled circuits having overlap control of said signals.

842,316. HORSESHOE. JOHN P. HOPPESCH, Chicago, Ill. Filed June 22, 1906. Serial No. 322,823.



Claim.—1. A horseshoe provided at the heel with a transverse bar removably engaged thereto, a resilient pad engaged to said bar and of approximately the same length, and removable means engaging the bar to the shoe.

2. A horseshoe embracing a short rigid steel shoe, a transverse bar bolted to the heels and affording in its lower face a recess, a cushion bar or pad rigidly secured in said recess and equal in length to said bar and bolts securing said bar in place on the shoe, the heads of said bolts affording calks.

3. A device of the class described embracing a relatively short horseshoe, a transverse steel plate bolted thereto and projecting rearwardly therefrom and affording a channel on the under side thereof, a rubber pad or bar engaged in said channel and wires extending transversely through said pad and engaging the sides of the channel.

4. In a device of the class described a steel plate affording a bottom channel adapted to be engaged to or detached from the shoe, a cushion-bar engaged therein and wires extending transversely through the cushion-bar and engaging at each side of the channel.

5. In a bar-horseshoe a protecting-pad engaged within the shoe to cover the frog, and embracing an inner resilient layer of leather, an outer resilient layer of rubber, a layer of canvas between said resilient layers, a V-shaped metal plate riveted on the inner side of the pad with its apex projecting forwardly to engage on the toe of the shoe, the rear ends thereof engaging on the pad.

6. In a device of the class described the combination with a shoe of a removable plate engaged to the ends thereof, a resilient pad securely engaged to said plate and extending the entire length thereof, and means engaging the plate and shoe together affording calks for the back of the shoe.

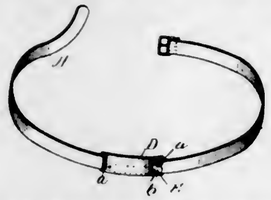
7. In a device of the class described the combination with a shoe of a metallic plate therefor having a channel or recess therein, inwardly-projecting wings on said plate, a resilient pad riveted to the plate, a resilient pad closely fitting the center of said shoe adapted at the rear thereof to rest on said wings and a metal plate securely engaged to the pad adapted to support the same on the toe of the shoe.

8. In a device of the class described the combination with a shoe provided with a toe-calk of a heel-plate adapted to be removably engaged to the shoe and flanged to afford a channel or seat, a resilient pad fitted in said channel, a resilient pad conforming with the inner contour of the shoe and resting at its rear on said wings and a plate engaged to said pad adapted to support the front end thereof.

9. In a device of the class described the combination with a shoe of a metallic heel-plate engaged thereto, a resilient pad riveted and wired to said plate, a protective pad fitted in said shoe and resting on said plate and shoe, said pad comprising a layer of leather, canvas and an outer layer of rubber, a metallic plate engaged to the leather layer and rivets fastening said layers and plates together.

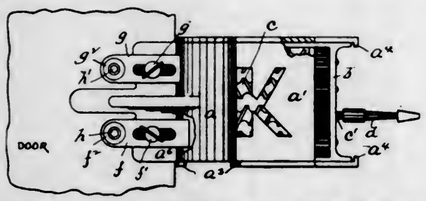
10. In a device of the class described the combination with a shoe having recessed ends, of a plate having inwardly-projecting wings or flanges integral therewith adapted to fit the recessed ends of said shoe, said plate flanged at the sides and back, a resilient pad engaged therein, bolts engaging the plate and shoe together affording calks for the back of the shoe and a resilient pad for the center of said shoe adapted at its rear to rest on said wings and a plate engaged to and projecting from the apex of said pad adapted to support the front end thereof.

842,317. SKIRT-SUPPORTER. BENJAMIN F. JOHNSON, Pontiac, Ill. Filed Nov. 3, 1905. Serial No. 285,780.



Claim.—In a garment-supporter the combination with a waist having an elongated loop *d* secured to the band thereof; of a belt A; a suitable rectangular plate D curved to fit the body of the wearer and secured to said belt; a transverse slit *b* in the lower edge of said plate near one end thereof; and a broad flat arm E conforming to the curvature of said plate pivoted at one end to said plate opposite said recess and adapted to pass through said loop on the waist of the wearer and having its free end deflected slightly to enter said slit and engage the opposite side of said plate, substantially as described.

842,318. MORTISING-TOOL. CLIFFORD W. KINNEAR, Beardstown, Ill. Filed Mar. 24, 1906. Serial No. 307,823.



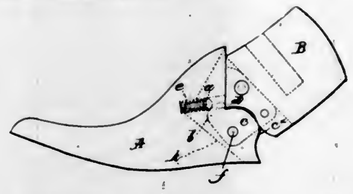
Claim.—1. In combination, a frame, means for clamping the same to a door, a carriage slidably mounted in said frame, a plurality of augers revolubly mounted in said carriage, and an auger adjustably supported at a right angle to the said plurality of augers.

2. In combination, a frame, a carriage slidably mounted in said frame, a plurality of augers revolubly mounted in said carriage, augers *h h'* adjustably mounted on said frame at right angles to the said plurality of augers, and springs for maintaining said augers *h h'* in their inoperative positions.

3. In combination, a frame, a plurality of augers slidably mounted in said frame, means for clamping said frame to a door, and augers *h h'* adjustably mounted on said frame and adapted to bore at right angles to the said plurality of augers.

842,319. LAST. GEORGE A. KRENTLER, Detroit, Mich., assignor to Krentler-Arnold Hinge Last Company, Detroit, Mich., a Corporation of West Virginia. Filed Aug. 21, 1903. Serial No. 170,269.

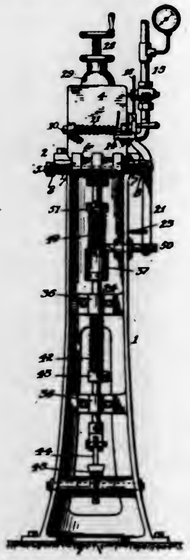
Claim.—1. A divided last, and a union movably connecting the parts of the last, one of said last parts having a rigid angular or wedging surface, and the other of said last parts having a coöperating rigid resisting-surface, and constructed to maintain the parts at rest when the last is collapsed and to offer increasing resistance in moving away from collapsed position.



2. A divided last, having adjacent contacting secant faces, and a union movably connecting the parts, a portion of one of said faces consisting of an angular or wedging surface, and a portion of the other of said faces consisting of a coöperating resisting-surface, said surfaces having a position of rest for automatically holding the last lengthened and being constructed to offer increasing resistance to moving away from lengthened position.

3. In a divided last, and in combination, a fore-part section having a rearward extension, a heel-section, a plate connecting said sections, and a protuberance on the fore-part extension arranged to engage the face of the heel-section and resist movement of said heel-section past a point intermediate its extreme positions.

842,320. VACUUM SEALING APPARATUS. JULIUS A. LANDSBERGER, Alameda, and WILLIAM C. BUHLES, San Francisco, Cal., assignors to Hermetic Closure Co., Chicago, Ill. Filed May 18, 1905. Serial No. 261,050.



Claim.—1. In a vacuum sealing apparatus, means for subjecting an assembled receptacle and cover to a vacuum, means for subjecting said receptacle and cover to pressure while *in vacuo*, and means for preventing the application of such pressure until the vacuum has been established.

2. In a vacuum sealing apparatus, means for subjecting an assembled receptacle and cover to a vacuum, means for subjecting said receptacle and cover to pressure while *in vacuo*, means for readmitting air, and means for preventing the readmission of air until the receptacle and cover have been subjected to such pressure.

3. In a vacuum sealing apparatus, a receiver, a valve through which air is exhausted from and readmitted thereto, means for operating said valve, means for subjecting a receptacle and cover within the receiver to pressure, and a connection between the valve-operating means and the pressure-producing means whereby they are alternately locked and alternately released.

4. In an apparatus for sealing receptacles *in vacuo*, a vacuum-chamber, a door for closing the same, a valve for exhausting air from and readmitting it to the same, a door-handle adapted to lock the valve during the creation and existence of the vacuum, and means for locking the door-handle.

5. In an apparatus for sealing receptacles *in vacuo*, a vacuum-chamber, a door for closing the same, a valve for exhausting air from and readmitting it to the same, a valve-lever, a door-handle adapted to engage with the valve-lever during the creation and existence of the vacuum, and means for locking the door-handle in engagement with the valve-lever.

6. In an apparatus for sealing receptacles *in vacuo*, a vacuum-chamber, a door for closing the same, a valve for exhausting air from and readmitting it to the same, a door-handle adapted to lock the valve during the creation and existence of the vacuum, and means for automatically locking and releasing the door-handle.

7. In an apparatus for sealing receptacles *in vacuo*, a vacuum-chamber, a door for closing the same, a valve for exhausting air from and readmitting it to the same, a valve-lever, a door-handle adapted to lock the valve-lever during the creation and existence of the vacuum, and means for locking the door-handle and for releasing the door-handle and valve-lever.

8. In a vacuum sealing apparatus, a vacuum-chamber, a door for closing the same, a support for receptacles within said chamber, a vertically-movable rod connected to said support, a valve for exhausting air from and readmitting it to the vacuum-chamber, a pivoted door-handle adapted to engage the valve-lever, and a lever having at one end means for locking said door-handle and at the other end means for locking said rod.

9. In a vacuum sealing apparatus, a vacuum-chamber, its door, an air exhaust and admission valve, a vertically-movable support for receptacles to be vacuum-sealed, and a connected mechanism for locking said door in closed position and for locking said support when the door is open.

10. In a vacuum sealing apparatus, a vacuum-chamber, a door for closing the same, an air-valve, a pivoted door-handle for operating said valve, a latch-lever in the path of the door-handle for locking said handle, a vertically-movable rod, a support for receptacles carried thereby, and a locking device for said rod connected to said latch-lever.

11. In a vacuum sealing apparatus, a supporting-frame, a vacuum-chamber, a valve for exhausting air from and readmitting it to said chamber, a vertically-movable support for receptacles, and a pivoted lever having separate means for alternately locking said valve and said support; said support being free when said valve is locked and vice versa.

12. In a vacuum sealing apparatus, a vacuum-chamber, its door, a lever for locking the door, a vertical rod entering the vacuum-chamber and carrying a receptacle-support, a projection from said rod, and a bolt connected to the door-locking lever for stopping and releasing said projection.

13. In a vacuum sealing apparatus, a vacuum-chamber, means for controlling the production of a vacuum therein, means for applying pressure upon a receptacle and cover therein, means for simultaneously locking the vacuum-controlling means and freeing the pressure-applying means, and for alternately and simultaneously freeing the vacuum-controlling means and locking the pressure-applying means.

14. In a vacuum sealing apparatus, and in combination a receiver, a door for closing the same, a valve for exhausting air from and readmitting air to the same, a door-handle adapted to operate the said valve, devices for applying pressure upon a receptacle and cover while *in vacuo* within the receiver, and a connected mechanism including

means for locking and releasing the door-handle and means for locking and releasing the pressure-applying devices; all constructed and arranged for the performance of the following sequence of operations: the operation of the valve by the movement of the door-handle in one direction and the consequent creation of a vacuum within the closed receiver; the locking door-handle and valve and the simultaneous release of the pressure-applying devices; the application of pressure to the receptacle and cover *in vacuo;* the automatic release of the door-handle and valve, their return to normal position and the readmission of air to the receiver; and the return of pressure-applying devices to normal position and their relocking in such position.

15. In a vacuum sealing apparatus, a receiver adapted to contain a receptacle and its cover, vacuum-controlling means, pressure-applying means, and movable connections between said means for locking and releasing them alternately, said connections including a bolt having an end formed with vertical and inclined faces; the said bolt being arranged in such relation to the pressure-applying means as to lock and release the same and to transmit through said connections motion derived from contact of the pressure-applying means with said inclined face, thereby releasing the vacuum-controlling means.

16. In a vacuum sealing apparatus, a vacuum-chamber, a support for a receptacle therein, a vertically-movable rod connected to said support, a projection from said rod, a locking-bolt having an end formed with vertical and inclined faces, and adapted to normally act as a stop for said projection, and means for moving said bolt so as to remove its vertical face from the path of said projection and to leave its inclined face in said path.

17. In a vacuum sealing apparatus, a receiver, vacuum-controlling means, pressure-applying means, and a lever having at one end a device for locking and releasing the vacuum-controlling means, and at the other a device for locking and releasing the pressure-applying means.

18. In a vacuum sealing apparatus, a receiver, vacuum-controlling means, pressure-applying means, a lever having at one end a device for locking and releasing the vacuum-controlling means, and at the other end a device for locking and releasing the pressure-applying means, and a spring connected to said lever for restoring it to and tending to maintain it in its normal position.

19. In a vacuum sealing apparatus, a supporting-frame, a receiver, a door for the same, a door-handle, a vacuum-controlling valve, a lever pivoted to the main frame and having at one end a shoulder adapted to engage the said door-handle, a support for receptacles within the receiver, a vertically-movable rod connected thereto, a bolt connected to the other end of said lever and a guide-opening in the supporting-frame for said bolt.

20. In an apparatus for sealing receptacles *in vacuo*, a vacuum-chamber, a swinging door therefor, a valve for controlling the exhaustion of air from and admission of air to the said chamber, means carried by the door for operating said valve, and means for locking said operating means.

21. In an apparatus for sealing receptacles *in vacuo*, a vacuum-chamber, a swinging door therefor, a valve for controlling the exhaustion of air from and admission of air to the said chamber, means, carried by the door, for controlling said door and operating said valve, and means for locking said controlling and operating means.

22. In an apparatus for sealing receptacles *in vacuo*, a vacuum-chamber, a door for the same, a valve for exhausting and readmitting air from and to the same, a lever for controlling the door, a lever, operated by the door-controlling lever, for opening the valve for the production of a vacuum, and means for locking the door-controlling lever.

23. In an apparatus for sealing receptacles *in vacuo*, a vacuum-chamber, a door for the same, a valve for exhausting and readmitting air from and to the same, a handle carried by the door, a valve-opening lever operated by said handle, and means for locking the door-handle.

24. In an apparatus for sealing receptacles, *in vacuo*, a vacuum-chamber, a door for the same, a valve for exhausting and readmitting air from and to the same, a valve-lever, a handle journaled on the door and adapted to operate said valve, and means for locking the handle and thereby locking the valve-lever.

25. In an apparatus for sealing receptacles *in vacuo*, a vacuum-chamber, a door for the same, a valve for exhausting and readmitting air from and to the same, means for controlling the door which means also control the opening of said valve for the production of a vacuum, and means for locking said controlling means.

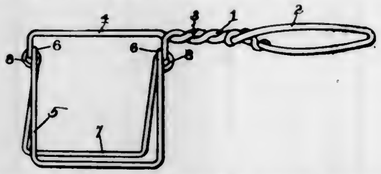
26. In an apparatus for sealing receptacles *in vacuo*, a vacuum-chamber, a door for the same, a valve for exhausting and readmitting air from and to the same, a valve-lever, a handle journaled on the door, and having a movement of its own independently of the door, whereby after the door has been closed the said handle can continue its movement and operate the valve-lever and means for locking said handle.

27. In an apparatus for sealing receptacles *in vacuo*, a vacuum-chamber, a door for the same, a valve for exhausting and readmitting air from and to the same, a valve-lever movable in one direction for opening said valve and having a spring for returning it automatically in the other direction, a handle on the door for operating said valve-lever, means for locking said door when it has operated the valve-lever, means for releasing said door, and a spring for retracting said door-handle.

28. In a vacuum sealing apparatus, a vacuum-chamber, a support for a receptacle, and a rubber mat attached to said support and having a U-shaped guide-rim.

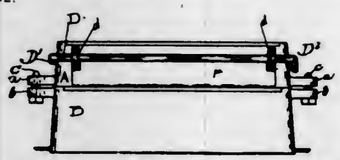
29. In a vacuum sealing apparatus, a vacuum-chamber, a support for a receptacle therein, a rod connected to said support, a coupling having a removable cap in which said rod is loose, a collar on said rod, a pressure-spring on said rod between said cap and said collar, a second rod fixed in said coupling, and means for moving said second rod; the second rod and coupling moving independently of the first rod until a sufficient compression of the spring compels the transmission of motion to said first rod and said support.

842,321. PIE-LIFTER. ABRAHAM L. LONG, New Bloomfield, Pa. Filed Sept. 24, 1906. Serial No. 335,984.



Claim.—A pie-lifter comprising a member formed of a single strand of wire bent in the form of a rectangle and provided with opposite eyes, the ends of the wire forming said member being twisted together adjacent one corner of the rectangle and extended laterally in prolongation of the top strand thereof, one of said ends being extended in prolongation of said twisted portion and bent back upon itself and engaged with the twisted portion to form a handle, and a U-shaped wire member having its ends loosely engaging said eyes.

842,322. FLASK FOR SAND MOLDS. JAMES MACPHAIL, Davenport, Iowa. Filed Apr. 2, 1906. Serial No. 309,262.



Claim.—1. In a flask for sand molds, movable sand-supports, and vertically-movable handles for lifting said flask and for simultaneously shifting said sand-supports.

2. In a flask for sand molds, oppositely-disposed sand-supports, and vertically-movable handles at the opposite ends of the flask for lifting said flask and for simultaneously projecting the sand-supports beyond the inner face of the flask-wall.

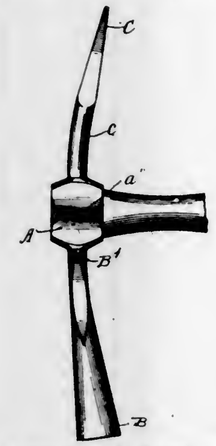
3. A flask for sand molds having movable sand-supports and vertically-movable handles for lifting said flask and for shifting said sand-supports, said handles having unsupported ends arranged to drop and automatically shift the sand-supports out of operative position.

4. A flask for sand molds having a sand-support, a vertically-movable handle connected to said sand-support whereby when the handle is lifted the sand-support will be moved into operative position, and having a part connected to said sand-support and adapted to extend below the bottom of the flask-wall whereby when the flask is supported on a flat surface to be rammed the sand-support will be moved into operative position.

5. A flask for sand molds having one or more movable sand-supports, means for automatically projecting said sand support or supports beyond the inner face of the flask-wall and means for withdrawing the sand support or supports from operative position when the flask is to be lifted from the mold.

6. A flask for sand molds having one or more movable sand-supports adapted, when in operative position, to project beyond the inner face of the flask-wall, and means for automatically withdrawing the sand-supports from operative position to permit the flask to be lifted from the mold.

842,323. HAMMER. WILLIAM J. MALLOY, Chicago, Ill. Filed July 13, 1906. Serial No. 326,054.



Claim.—1. An upholsterer's hammer comprising an eye and a face connected at the bottom thereof by means of a laterally-thin resilient stem and a blade or peen on the upper side of the eye which curves rearwardly toward the handle.

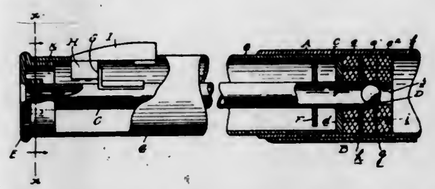
2. A hammer of the class described having an eye, a flat face connected therewith by means of a laterally-thin stem and a curved peen oppositely-disposed from the face.

842,324. AIR-GUN. WILLIAM F. MARKHAM, Plymouth, Mich., assignor to The Markham Air Rifle Company, Plymouth, Mich., a Corporation of Michigan. Filed Feb. 23, 1906. Serial No. 302,600.

Claim.—1. In an air-gun a piston-abutment formed of yieldable material having a central aperture therein and a metallic bushing sleeved within said aperture.

2. In an air-gun a piston-abutment formed of yieldable material centrally apertured for the reception of the end of the true barrel and the shot, and a metallic bushing sleeved within said aperture constituting a seat for the shot and end of the true barrel.

3. In an air-gun a piston-abutment comprising a plurality of disks formed of yieldable material and centrally apertured, and a metallic bushing sleeved within the aperture having oppositely-extending flanges secured between adjacent disks.



4. In an air-gun a piston-abutment formed of a plurality of leather washers centrally apertured, and a metallic bushing having a laterally-extending flange arranged with said flange between adjacent washers in the bushing within the central aperture.

5. In an air-gun the combination with a false barrel having an annular shoulder formed therein, of a piston abutment comprising a metallic washer fitting against said annular shoulder, a plurality of leather washers in rear of said metallic washer, all of said washers being centrally apertured in alinement, and a metallic bushing fitting within said leather washers.

6. In an air-gun the combination with a false barrel and a true barrel removably secured therein, of a cap on said true barrel fitting the end of said false barrel, coöperating members upon said false and true barrels for interlocking by a rotation of said true barrel, and coöperating members on said false barrel and cap for determining the point of engagement of said interlocking members.

7. In an air-gun the combination with a false barrel and a true barrel removably secured therein, of a cap secured to said true barrel having a flange for engaging the end of said false barrel, coöperating members on said false and true barrels for interlocking by a rotary movement of the one in relation to the other to prevent longitudinal movement of the true barrel, and coöperating detents on the flange of said cap and on said false barrel adapted to engage by the resiliency of the metal during the rotation of said cap to indicate the position of engagement of said interlocking members.

8. In an air-gun the combination with a false barrel and a true barrel removably secured therein, of a cap on the end of said true barrel having a flange for fitting within the end of said false barrel, coöperating members on said true and false barrels for interlocking by a rotation of one in relation to the other to hold said true barrel from longitudinal movement, male and female detents formed the one on said false barrel and the other on the flange of said cap, adapted for automatic engagement upon the rotation of said cap, due to the resiliency of the metal.

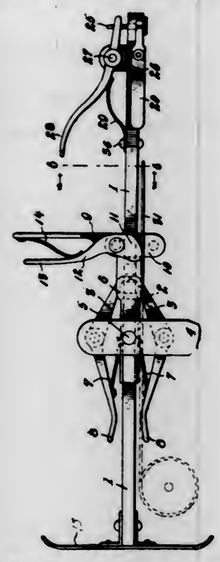
9. In an air-gun the combination with a true barrel provided with an end cap, of a false barrel with the end of which said cap engages, said barrel being formed from a sheet-metal blank having a seam formed by abutting unattached edges, male and female detents formed on said cap and false barrel adapted for engagement with each other upon the rotation of the cap, the engagement of said cap and barrel being permitted when said detents are out of registration by the opening of the seam in said false barrel.

10. In an air-gun the combination with a false barrel formed from a sheet-metal blank, the seam being formed by abutting unattached edges of said blank, of a true barrel removably secured within said false barrel, a cap on the end of said true barrel, male and female detents, the one on said false barrel and the other on said cap, the detent of said false barrel being located in proximity to said seam, whereby the resiliency of the metal will permit the engagement of said cap with said barrel when said detents are out of registration.

11. In an air-gun, the combination with a piston-abut-

ment having a central aperture, of a metallic bushing secured to said abutment and sleeved within said aperture.

842,325. WIRE-CONNECTING DEVICE. LEWIS MORGAN, Hoquiam, Wash., assignor to Frank H. Lamb, Hoquiam, Wash. Filed July 16, 1906. Serial No. 326,437.



Claim.—1. A wire-connector comprising a bar having at one end a laterally-disposed gripping device at one side thereof and wire-retaining means at the opposite side, and means carried by the bar for holding the end of the wire from the retaining means.

2. A wire-connector comprising a bar having at one end a laterally-disposed gripping device at one side thereof and wire-retaining means at the opposite side, means carried by the bar for holding the end of the wire from the retaining means, and a cut-off knife movably mounted to coöperate with said retaining means.

3. A wire-connector comprising a bar having a gripping-face upon its head, a gripping-lever pivoted to the bar and coöperating with said face, means carried by the bar for holding the opposite end of the strand under tension, a cut-off knife pivotally mounted upon the opposite end of the lever from the gripping-face, an operating-lever for said cut-off knife disposed upon the side of the bar, and an angularly-disposed handle extending from the knife into the path of said cut-off lever.

4. In a wire-connector, a bar provided at one end with a gripping-face disposed above the center thereof, a lever pivotally mounted upon the bar and having a gripping end opposite said face, an opposite crotched portion of said lever, and an operating-handle from the lever disposed laterally to said gripping-face.

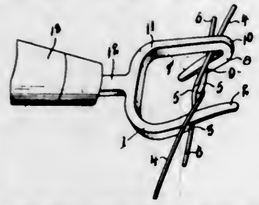
5. In a wire-connector, a bar provided at one end with a head having gripping-face disposed above the center thereof, a lever pivotally mounted upon the bar and having a gripping end opposite said face, an opposite crotched portion of said lever, an operating-handle from the lever disposed laterally to said gripping-face, a tension-spring extending from said head and bearing upon the bar, and a cut-off device carried by the crotched end of said lever.

6. In a wire-connector, a bar provided at one end with a head having gripping-face disposed above the center thereof, a lever pivotally mounted upon the bar and having a gripping end opposite said face, an opposite crotched portion of said lever, an operating-handle from said lever disposed laterally of said gripping-face, a tension-spring extending from said head and bearing upon the bar, a blade pivotally mounted upon the crotched end of the head-lever, an angularly-disposed handle extended from said blade, a cut-off lever mounted upon the bar at one side thereof and disposed in the path of the blade-handle, and a spring carried by the bar to engage said cut-off lever.

7. A wire-connector comprising a bar having at one end a laterally-disposed head, a lever carried by said head for securing a strand thereto, and means carried by the opposite end of said lever for retaining and guiding a parallel strand.

8. A wire-connector comprising a bar having at one end a laterally-disposed head, a lever carried by said head for securing a strand thereto, means carried by the opposite end of said lever for retaining and guiding a parallel strand, and means carried by the retaining end of the lever to sever said parallel strand after the wire has been looped.

842,326. WIRE-TUCKER. LEWIS MORGAN, Hoquiam, Wash., assignor to Frank H. Lamb, Hoquiam, Wash. Filed July 16, 1906. Serial No. 326,438.



Claim.—1. A tucker comprising a finger having an inclined upper face and engaging means upon its under face.

2. A tucker comprising a finger having an inclined upper face and engaging means upon its under face, and an opposite finger having an inclined upper face and provided with engaging means upon its under face.

3. A tucker comprising a finger having a shoulder upon its under face and an inclined upper face.

4. A tucker comprising parallel fingers having inclined upper faces and engaging means upon their under faces, the free ends of said fingers being disposed in opposite directions.

5. A tucker comprising parallel fingers having inclined upper faces and engaging means upon their under faces, the free ends of said fingers being disposed in opposite directions, and one arm thereof bent upon itself.

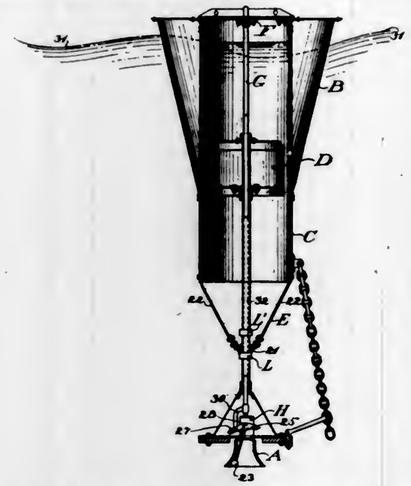
6. In a tucker, a finger provided with means to lift a strand upon one face and means upon the opposite face to carry beneath the strand the free looped end of said strand.

842,327. APPARATUS FOR PRODUCING SUBMARINE SOUND-SIGNALS. ARTHUR J. MUNDY, Newton, and HORACE B. GALE, Boston, Mass., assignors to Submarine Signal Company, Waterville, Me., a Corporation of Maine. Filed Apr. 11, 1906. Serial No. 311,166.

Claim.—1. In an apparatus for producing sound-vibrations in water, by which they are transmitted, the combination of an under-water sound-producing device, a buoyant supporting-body adapted to float upon the surface of the water, an attached tube extending downward below the buoyant support and open at its lower end and a motor element adapted to be immersed in the water in the tube and to move responsively to relative axial movements of the water therein, said motor element being operatively connected to said under-water sound-producing device, substantially as set forth.

2. In a signal-buoy, the combination of an under-water sound-producing device, a motor element operatively connected thereto and adapted to have a reversing movement responsive to the up-and-down movement of the body of the buoy by the waves, and a tube, open at its lower end, extending downward below the buoy and inclosing the said motor element, substantially as set forth.

3. In an apparatus for producing sound-signals in water, by which they are transmitted, the combination of a buoyant support adapted to float upon the surface of the water and to be moved up and down by the waves, an attached tube, open at its lower end, extending downward from the buoyant support and adapted to inclose a mass of water practically unaffected by the wave movement, a motor element adapted to be immersed in the water in the tube and to be acted upon by the inertia of said mass of water, and an under-water sound-producing device operatively connected to said motor element, substantially as set forth.



4. In an apparatus for producing sound-signals in water, by which they are transmitted, the combination of a buoyant support adapted to float upon the surface of the water and to be moved up and down by the waves, an attached tube, open at its lower end, extending downward below the buoyant support so as to inclose a mass of water comparatively unaffected by the surface movement, a piston movably supported in the tube and adapted to be immersed in the said mass of water and acted upon by its inertia, and an under-water sound-producing device operatively connected to said piston, substantially as set forth.

5. In an apparatus for producing sound-signals in water, by which they are transmitted, the combination of a buoyant support adapted to float upon the surface of the water and to be moved up and down by the waves, an attached tube, open at its lower end, extending axially downward below the buoyant support so as to inclose a mass of water comparatively unaffected by the wave movement, a buoyant piston movably supported in the tube and adapted to be immersed in the said mass of water and acted upon by its inertia, and an under-water sound-producing device operatively connected to said piston, substantially as set forth.

6. In an apparatus for producing sound-vibrations in water, by which they are transmitted, the combination of an under-water sound-producing device, a buoyant body, a tube with its axis extending up and down supported thereby and open to the water at its lower end, means for supporting the said sound-producing device upon the tube, and a motor element adapted to be immersed in the water in said tube and to have a reversing movement responsive to the relative up-and-down movements of the water therein, operatively connected to said under-water sound-producing device.

7. In a signal-buoy, a floating support, a tube rigidly attached thereto with its axis extending up and down, said tube being open to the water at its lower end, an under-water sound-producing device, means for supporting the said sound-producing device under the buoy comprising an open frame attached to the tube and adapted to permit a relative up-and-down movement of the column of water therein, and a motor element adapted to have a reversing movement responsive to said up-and-down movement of the water in the tube and operatively connected to said under-water sound-producing device, substantially as set forth.

8. In a signal-buoy, an attached tube with its axis extending up and down, said tube being open to the water at its lower end, an under-water sound-producing device, means for supporting the said sound-producing device comprising an open frame, attached to the bottom of the tube and adapted to permit a relative up-and-down movement of the column of water therein, and a piston adapted to have a reversing movement responsive to said up-and-down movement of said column of water in which it is immersed, and operatively connected to said under-water sound-producing device, substantially as set forth.

9. In an apparatus for producing sound-signals in water, by which they are transmitted, the combination of a buoyant support adapted to float upon the surface of the water and to be moved up and down by the waves, a tube rigidly attached to said support, said tube being open at its lower end, and extending axially downward below the buoyant support, so as to inclose a mass of water comparatively unaffected by the wave movement, a motor element adapted to be acted upon by the inertia of said mass of water, an under-water sound-producing device operatively connected to said motor element, and a central axial guide for said motor element, substantially as set forth.

10. In an apparatus for producing sound-signals in water, by which they are transmitted, the combination of an under-water sound-producing device, a buoyant body, a tube attached thereto at or near its upper end and extending downward therefrom so as to reach comparatively still water, an open supporting-frame for the operating parts attached to the tube and adapted to permit a relative up-and-down motion of the water therein, an axial guide for the motor element supported by said frame, and a motor element operatively connected to said under-water sound-producing device, and adapted to have a reversing movement upon said axial guide responsive to said up-and-down motion of the water in the tube.

11. In an apparatus for producing sound-signals in water, by which they are transmitted, the combination of a buoyant body, a tube attached thereto extending downward under the water and open at its lower end, an under-water sound-producing device within or below said tube, a motor element in the tube operatively connected to said sound-producing device, and adapted to move responsively to relative axial movements of the water therein, and an open frame attached to the tube and adapted to support the sound-producing device at a point below the said motor element.

12. In an apparatus for producing sound-signals in water, by which they are transmitted, the combination of a buoyant body, a tube attached thereto extending downward under the water and open at its lower end, an under-water sound-producing device within or below said tube, a motor element in the tube operatively connected to said sound-producing device, and adapted to move responsively to relative axial movements of the water therein, an axial guide for the said motor element, and an open frame attached to the tube and supporting the said guide and sound-producing device at a point below the said motor element.

13. In an apparatus for producing sound-signals in water, by which they are transmitted, the combination of a buoyant supporting-body, a tube attached thereto extending downward below the same and open at its lower end, an under-water sound-producing device within or below said tube, a motor element operatively connected to said sound-producing device and adapted to move responsively to relative axial movements of the water in the tube, an axial guide for the said motor element, and an open frame attached to the tube and supporting the said guide and sound-producing device at a point between the latter and the said motor element.

14. In an apparatus for producing sound-signals in water, by which they are transmitted, the combination of a buoyant supporting-body, a tube attached thereto extending axially downward below the same and open at its lower end, an under-water sound-producing device within

or below said tube, a piston operatively connected to said sound-producing device, and adapted to move responsively to relative axial movements of the water in the tube, an axial guide for the said piston, and an open frame attached to the tube and supporting the said guide and sound-producing device at a point between the latter and the said piston.

15. In an apparatus for producing sound-signals in water by which they are transmitted, the combination of a buoyant support adapted to float upon the surface of the water and to be moved up and down by the waves, an attached tube, open at its lower end, extending axially downward below the buoyant support and adapted to inclose a mass of water comparatively unaffected by the wave movement, a motor element adapted to be immersed in the water in the tube and to be acted upon by the inertia of said mass of water, an under-water sound-producing device and means, comprising a power-storing mechanism, operatively connecting the motor element with the said under-water sound-producing device.

16. In an apparatus for producing sound-signals in water, by which they are transmitted, the combination of a buoyant body, a tube attached thereto extending axially downward under the same and open at its lower end, an under-water sound-producing device within or below said tube, a piston in the tube, means, comprising a power-storing mechanism, operatively connecting the piston with the said under-water sound-producing device, and adapted to move responsively to relative axial movements of the water in the tube, an axial guide for the said piston, and an open frame, or spider, attached to the tube, supporting the said guide and sound-producing device at a point between the latter and the said piston.

17. In an apparatus for producing sound-signals in water, by which they are transmitted, the combination of a buoyant support adapted to float upon the surface of the water and to be moved up and down by the waves, an attached tube, open at its lower end, extending downward from the buoyant support and adapted to inclose a mass of water comparatively unaffected by the wave movement, a piston movably supported in the tube and adapted to be immersed in the said mass of water and acted upon by its inertia, an inwardly-projecting circumferential ring in the tube at or near the mid-stroke position of said piston and an under-water sound-producing device operatively connected to said piston, substantially as set forth.

18. In a signal-buoy, the combination of a buoyant support adapted to float upon the surface of the water and to be moved up and down by the waves, an attached tube open at its lower end extending axially downward from the said buoyant support so as to inclose a mass of water comparatively unaffected by the wave movement, an under-water sound-signaling device supported in or below said tube, an atmospheric sound-signaling device carried on the buoyant support and means adapted to be acted upon by the inertia of the water in said tube whereby both signaling devices are operated simultaneously, substantially as set forth.

19. In a signal-buoy, a whistle, a downward tubular extension of the buoy, an under-water sound-signaling device supported by said tubular extension, and means for operating said whistle and said under-water sound-signaling device simultaneously by the relative movements of the buoy and the mass of water inclosed in said tubular extension thereof.

20. In a signal-buoy, a buoyant support adapted to float upon the surface of the water, a tube open at its lower end extending downward therefrom, an open frame, or spider, attached to the said tube and adapted to permit relative axial movement of the column of water therein, an under-water sound-producing device supported by said open frame, an atmospheric sound-producing device mounted on said buoyant support, and means for operating both sound-producing devices simultaneously by the relative movement of the buoy and the mass of water inclosed in said tube, substantially as set forth.

21. In a signal-buoy, a buoyant support adapted to float upon the surface of the water, a tube open at its lower end extending downward therefrom, an open frame, or spider, attached to the said tube and adapted to permit relative axial movement of the column of water therein, an under-water sound-producing device supported by said open frame, an atmospheric sound-producing device mounted on said buoyant support, a piston movably supported in the tube, and an inwardly-projecting circumferential ring in the tube at or near the mid-stroke position of said piston, whereby both said sound-producing devices are operable simultaneously by the relative movement of the buoy and the mass of water inclosed in said tube, substantially as set forth.

22. In a signal-buoy, a buoyant support adapted to float upon the surface of the water, a tube open at its lower end extending downward therefrom, an open frame, or spider, attached to the said tube and adapted to permit relative axial movement of the column of water therein, an under-water sound-producing device supported by said open frame, an atmospheric sound-producing device, operable by compressed air, mounted on said buoyant support, a piston movably supported in the tube, and an inwardly-projecting circumferential ring in the tube at or near the mid-stroke position of said piston, whereby both said sound-producing devices are operable simultaneously by the relative movement of the buoy and the mass of water inclosed in said tube, substantially as set forth.

23. In a signal-buoy, a buoyant support adapted to float upon the surface of the water, a tube open at its lower end extending downward therefrom, an enlarged section at the lower end of said tube, an open frame, or spider, attached thereto and adapted to permit relative axial movement of the column of water in the tube, an under-water sound-producing device supported by said open frame, an atmospheric sound-producing device, operable by compressed air, mounted on said buoyant support, and means for operating both sound-producing devices simultaneously by the relative movement of the buoy and the mass of water inclosed in said tube, substantially as set forth.

24. In a signal-buoy, a buoyant support adapted to float upon the surface of the water, a tube open at its lower end extending downward therefrom, an under-water sound-producing device supported on said tube, an atmospheric sound-producing device, operable by compressed air, mounted on said buoyant support, a piston movably supported in the tube, and an inwardly-projecting circumferential ring in the tube at or near the mid-stroke position of said piston, whereby both said sound-producing devices are operable simultaneously by the relative movement of the buoy and the mass of water inclosed in said tube, substantially as set forth.

25. In a signal-buoy, the combination of an under-water sound-signaling device, a motor element operatively connected thereto and adapted to have a reversing movement responsive to the up-and-down movement of the buoy by the waves, a tube below the buoy open at its lower end inclosing the said motor element, and an extension of said tube of smaller diameter connecting the same with the body of the buoy, substantially as set forth.

26. In a signal-buoy, the combination of a buoyant support adapted to be moved up and down by the waves, an atmospheric sound-signaling device operable by compressed air mounted on said buoyant support, a tube extending downward therefrom inclosing a mass of water comparatively unaffected by the wave movement, a compressed-air chamber above the water at the top of said tube variable by the relative movement of the buoy and the column of water inclosed in the tube and connected with said atmospheric sound-signaling device, the lower section of said tube being of larger diameter, a motor element inclosed in said enlarged section and an under-water sound-signaling device supported at the bottom of said enlarged section and operatively connected to said motor element.

27. In a signal-buoy, the combination of a buoyant support adapted to be moved up and down by the waves, an atmospheric sound-signaling device operable by compressed air mounted on said buoyant support, a tube extending downward therefrom adapted to inclose a mass of water comparatively unaffected by the wave movement, a compressed-air chamber above the water at the top of said tube variable by the relative movement of the buoy and the column of water inclosed in the tube and connected with said atmospheric sound-signaling device, the lower section of said tube being of larger diameter, a motor element inclosed in said enlarged section, an axial guide for the said motor element, and an under-water sound-signaling device supported at the bottom of said enlarged section and operatively connected to said motor element.

28. In a signal-buoy, the combination of a buoyant support adapted to be moved up and down by the waves, an atmospheric sound-signaling device, operable by compressed air mounted on said buoyant support, a tube extending downward therefrom inclosing a mass of water comparatively unaffected by the wave movement, a compressed-air chamber above the water at the top of said tube variable by the relative movement of the buoy and the column of water inclosed in the tube and connected with said atmospheric sound-signaling device, the lower section of said tube being of larger diameter, a motor element inclosed in said enlarged section, an axial guide for the said motor element, a frame, or spider, attached to said enlarged section adapted to permit axial movement of the water in the tube, and an under-water sound-producing device supported by said frame, and operatively connected to said motor element.

29. In a signal-buoy, the combination of a buoyant support adapted to be moved up and down by the waves, an atmospheric sound-signaling device operable by compressed air mounted on said buoyant support, a tube extending downward therefrom adapted to inclose a mass of water comparatively unaffected by the wave movement, a compressed-air chamber above the water at the top of said tube variable by the relative movement of the buoy and the column of water inclosed in the tube and connected with said atmospheric sound-signaling device, the lower section of said tube being of larger diameter than the upper, a piston movably supported therein, an inwardly-projecting circumferential ring on said enlarged section of tube through which the said piston travels in the operation of the device and an under-water sound-producing device operatively connected to said piston.

30. In a signal-buoy the combination of a buoyant support adapted to be moved up and down by the waves, an atmospheric sound-signaling device operable by compressed air mounted on said buoyant support, a tube extending downward therefrom inclosing a mass of water comparatively unaffected by the wave movement, a compressed-air chamber above the water at the top of said tube variable by the relative movement of the buoy and the column of water inclosed in the tube and connected with said atmospheric sound-signaling device, the lower section of said tube being of larger diameter than the upper, a piston movably supported therein, an axial guide for the said piston, an inwardly-projecting circumferential ring on said enlarged section of tube through which the said piston travels in the operation of the device and an under-water sound-producing device operatively connected to said piston.

31. In a signal-buoy, the combination of a buoyant support adapted to be moved up and down by the waves, an atmospheric sound-signaling device operable by compressed air mounted on said buoyant support, a tube extending downward therefrom adapted to inclose a mass of water comparatively unaffected by the wave movement, a compressed-air chamber above the water at the top of said tube variable by the relative movement of the buoy and the column of water inclosed in the tube and connected with said atmospheric sound-signaling device, the lower section of said tube being of larger diameter than the upper, a piston movably supported therein, an axial guide for the said piston, an inwardly-projecting circumferential ring on said enlarged section of tube through which the said piston travels in the operation of the device, a frame, or spider, attached to the tube and adapted to permit relative axial movement of the water therein, and an under-water sound-producing device supported by said frame and operatively connected to said piston, substantially as and for the purposes set forth.

32. In a signal-buoy, the combination of a buoyant support adapted to be moved up and down by the waves, an atmospheric sound-signaling device operable by compressed air mounted on said buoyant support, a tube extending downward therefrom and adapted to inclose a mass of water comparatively unaffected by the wave movement, a compressed-air chamber above the water at the top of said tube variable by the relative movement of the buoy and the column of water inclosed in the tube and connected with said atmospheric sound-signaling device, an open frame, or spider, attached to the said tube and adapted to permit relative axial movement of the column of water therein, an under-water sound-producing device supported by said frame, and means for operating both said sound-producing devices simultaneously by the relative movement of the buoy and the column of water inclosed in said tube, substantially as set forth.

33. In an apparatus for producing sound-signals in water, by which they are transmitted, the combination of a buoyant support adapted to float upon the surface of the water and to be moved up and down by the waves, an attached tube, open at its lower end, extending downward from the buoyant support and adapted to inclose a mass of water comparatively unaffected by the wave movement, a piston movably supported in the tube and adapted to be immersed in the said mass of water and acted upon by its inertia, stops for the piston, an inwardly-projecting circumferential ring in the tube at or near the mid-stroke position of said piston and an under-water sound-producing device operatively connected to said piston, substantially as set forth.

34. In a signal-buoy, the combination of a buoyant support, a tube open at its lower end extending downward therefrom, a motor element operable by the relative movement of the water in said tube, an under-water sound-producing device, a frame attached to said tube adapted to support said sound-producing device and to permit axial movement of the water in the tube, and means, comprising a power-storing mechanism, operatively connecting the said motor element with the said under-water sound-producing device, substantially as set forth.

35. In a signal-buoy, the combination with the supporting-body of an attached tube below the same, a piston movably supported in the tube, a contracted ring inside the tube through which the piston travels, and an under-water sound-producing device operatively connected to the piston.

36. In a signal-buoy, the combination with the supporting-body of an attached tube below the same, a piston movably supported in the tube and operatively connected with the signaling device, stops for the piston and means adapted to return the piston to an intermediate position between said stops, substantially as set forth.

37. In a signal-buoy, the combination of a tube with its axis extending up and down below the buoy open to the water at its lower end, a piston inclosed in said tube and movable by the relative motion of the water therein, and an under-water sound-producing device actuated by such movement of the piston, substantially as set forth.

38. In a signal-buoy, the combination of a tube below the body thereof open to the water at its lower end, a movable piston inclosed in said tube, a central axial guide for said piston, an open frame connecting said guide and the sides of the tube and adapted to permit a free vertical movement of the water therein, and an under-water sound-producing device operatively connected with the piston, substantially as set forth.

39. In a signal-buoy, the combination with the supporting-body of a tube extending axially downward therefrom and open to the water at its lower end, a whistle operable by the relative movement of the water in said tube, a piston in the tube movable by the relative motion of the water therein, an under-water sound-signaling device operatively connected with the piston, stops limiting the stroke of the piston and an enlarged passage for the water past the piston at each end of the stroke, whereby the whistle and under-water sound-signal are operable conjointly by the relative movement of the water in the tube, without mutual interference, substantially as set forth.

40. In a signal-buoy, the combination with the supporting-body of a tube extending below the same, a piston movably supported in the tube, a bell in or below the tube op-

eratively connected with the piston, and an open frame adapted to support the bell on the tube and to permit axial movement of the water therein, substantially as set forth.

41. In a signal-buoy, the combination with the supporting-body of a tube extending below the same, a piston movably supported in the tube, an axial guide for the piston, a bell in or below the tube, operatively connected with the piston, and an open frame adapted to support the bell on the tube and to permit axial movement of the water therein, substantially as set forth.

42. In a signal-buoy, the combination with the supporting-body of a tube extending below the same, a piston movably supported in the tube, an axial guide for the piston, a bell in or below the tube, operatively connected with the piston, an open frame adapted to support the bell on the tube and to permit axial movement of the water therein, a closed air-chamber above the water at the upper end of the tube, and a whistle operatively connected thereto, substantially as set forth.

43. In a signal-buoy, the combination with the supporting-body of an attached tube below the same, a piston movably supported in the tube and operatively connected with the signaling device, dash-pots to check the motion of the piston at the ends of the stroke, and means adapted to return the piston to a position intermediate the ends of the stroke, substantially as set forth.

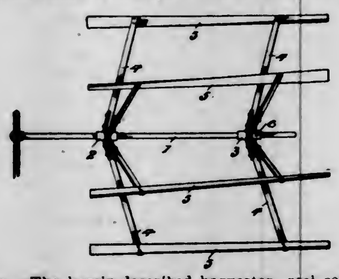
44. In a signaling apparatus, a buoy, a tube extending downwardly therefrom open at its lower end, a motor located within said tube and adapted to have a motion with relation thereto, and a sounder having a movable element, and connections between said motor and the movable element of said sounder, as described.

45. In a signaling apparatus, a buoy, a tube extending downwardly therefrom, said tube being open at both ends to the water, a sounder connected with said tube, and a motor located within said tube, and connections between said motor and said sounder whereby said sounder will be operated by the relative movement between it and said motor.

46. In a signaling apparatus, a buoy, a tube extending downwardly therefrom and open at both ends to the water, a sounder connected to said tube, and a motor located within said tube and adapted to operate said sounder, the walls of said buoy approaching each other below the normal water-line, whereby the waves engaging the under surface of the buoy in approaching and receding from it, will be effective to magnify the relative movement of the buoy and motor, as described.

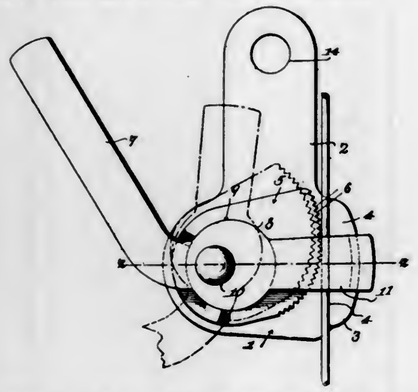
47. In a signaling apparatus, a buoy, a tube extending downwardly therefrom and adapted to be entirely submerged in water and open at both ends, a sounder connected to said tube, and a motor located within said tube, and means whereby the movement of the motor within said tube causes the operation of said sounder, as described.

842,328. HARVESTER-REEL. THADDEUS J. MYERS, Rossville, Kans. Filed Sept. 11, 1906. Serial No. 334,168.



Claim.—The herein-described harvester-reel comprising a shaft, collars mounted upon said shaft, the one fixed thereto, the other being loose, each of said collars comprising radial extensions and a hub portion, arms secured at their inner ends to the said radial extensions of the respective collars, slats attached to the outer ends of the corresponding arms and a set-screw threaded into an opening of the hub of the movable collar and adapted to engage with the shaft and secure the movable collar in the adjusted position.

842,329. WIRE-GRIP. HORATIO T. MCCLEAN, Durant, Iowa. Filed May 9, 1906. Serial No. 316,016.



Claim.—1. In a device of the class described, the combination of a supporting member, a fixed jaw mounted thereon, a cam-shaped jaw mounted for movement on the member to and from the fixed jaw and provided with an opening, and a device independent of the movable jaw arranged to engage in the opening of the latter for actuating the movable jaw.

2. In a device of the class described, the combination of a support, a fixed jaw carried thereby, a cam-shaped movable jaw pivoted on the support, and a device on the support independent of the movable jaw for actuating the latter, said device including an arm arranged and adapted to coöperate with the jaws for holding the wire between the latter.

3. In a device of the class described, the combination of a support, movable and fixed jaws thereon, an eccentric, means on the movable jaw engaging the eccentric for actuating the movable jaw thereby, and a common means for actuating the eccentric and retaining the wire between the jaws.

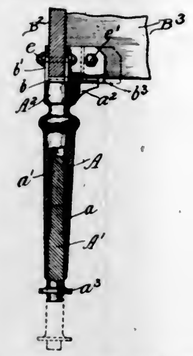
4. In a device of the class described, the combination of a support, a movable and a fixed jaw thereon, an eccentric engaging the movable jaw, a lever for actuating the eccentric and arranged to hold the movable jaw on the support, means carried by the lever for preventing the wire from disengaging from the jaws, and an integral rivet formed on the support for fulcruming the lever thereon.

5. In a device of the class described, the combination of a support, a movable jaw mounted thereon provided with spaced lugs, a lever fulcrumed on the support for holding the movable jaw thereon and arranged to engage between the lugs to limit the independent rotary movement of the movable jaw, means intermediate the lever and movable jaw for actuating the latter by the lever, and a fixed jaw arranged in coöperative relation with the movable jaw.

6. In a device of the class described, the combination of a support, a movable jaw having an opening, a lever mounted on the support, an eccentric independent of the movable jaw and formed integral with the lever and engaging the opening of the movable jaw, and means for retaining the wire between the said jaws.

7. In a device of the class described, the combination of a support, a movable and a fixed jaw thereon, a lever mounted on the support and extending over and independent of the movable jaw, an eccentric carried by the lever for actuating the movable jaw, an arm actuated with the lever which is arranged over both jaws, and interlocking shoulders between the outer end of the arm and the fixed jaw for holding the parts together while the device is in operation.

842,330. ADJUSTABLE STANDARD. JOSEPH A. MCCORMICK, Chicago, Ill., assignor to J. J. Ryan and Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 21, 1905. Serial No. 275,129.



Claim.—1. The combination with an extensible leg of a transverse seat thereon, a laterally-extending bracket rigidly engaged to said seat and adjustable means on said bracket adapted together with the seat to engage a slab therebetween.

2. The combination with a leg of a seat on the end thereof, an integral upwardly-extending flange engaged to said seat, a bracket rigidly engaged to said seat and means slidable thereon adapted to vary said seat as to width.

3. In a device of the class described the combination with a leg of a longitudinally-adjustable foot therein, a seat engaged to said leg, an outwardly-extending bracket engaged to said seat, a clamp slidable on said bracket adapting said seat to support slabs of various thickness and means for guiding said clamp in its movement to or from the seat.

4. In a device of the class described the combination with a leg of a transverse seat on the end thereof provided with an outwardly-directed flange, a lateral bracket on said seat and a clamp slidably engaged thereon and adapted to be adjusted with respect to said flange.

5. In a device of the class described the combination with a leg of a transverse seat thereon provided with an outwardly-directed longitudinal flange, a recessed bracket on said seat, a clamp slidably engaged on said bracket and said seat and a seat therein at a right angle to the aforesaid seat.

6. In a device of the class described the combination with a tubular leg of a foot adjustably engaged therein, a transverse seat on one end of said leg, a bracket extending at a right angle to said seat, a clamp slidably engaged on said bracket and provided with a seat therein and means for holding said clamp in adjusted position.

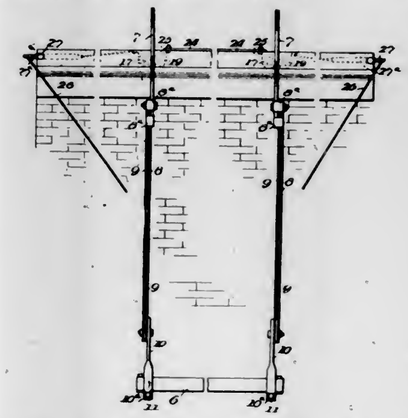
7. In a device of the class described the combination with a tubular leg provided with internal threads for a part of its length of a foot externally threaded for a part of its length and adjustable in said tubular leg, a flanged seat on said leg, a laterally-extending bracket engaged thereto, a clamp, a plurality of inwardly-directed guides connected to said clamp and means whereby said clamp may be adjusted to vary the width of said seat.

8. In a device of the class described the combination with a threaded tubular leg of a threaded foot adapted to be adjusted with respect to said leg, a seat integral with said leg, an upwardly-directed flange engaged thereto, a plurality of lugs on said seat, a bracket rigidly engaged to said seat and projecting outwardly therefrom, a clamp slidable on said bracket and a plurality of guides engaged to said clamp adapted to move transversely of the seat.

9. In a device of the class described the combination with an adjustable leg of a lug rigidly engaged to one end thereof, a seat engaged to said leg, a bracket engaged to said seat and adapted to bear upon said lug, a clamp slidably engaged to said bracket and provided with a seat at an angle to the aforesaid seat and means engaged to the clamp and first-mentioned seat adapted to limit the adjustment of said seat.

10. In a device of the class described the combination with a plurality of threaded leg-sections one movable within the other of means engaged to one of the same adapted to engage a bar, a seat engaged to the other section, a longitudinal flange integral with the seat, a bracket, a clamp slidable on the same and provided with a seat at an angle to the first-mentioned seat and means for holding said clamp in adjustment and adapted to engage a slab rigidly between said flange and clamp.

842,331. SCAFFOLD. JOHN V. PALMER, Pittsburg, Pa. Filed Oct. 13, 1906. Serial No. 338,784.



Claim.—1. A scaffold comprising a pair of carriages connected together and adapted to run along the edge of a roof, a pair of hooks the inner ends of which are supported upon the carriages respectively, and a platform suspended from the outer ends of the hooks.

2. A scaffold comprising a pair of carriages connected together by a bar and adapted to run along the edge of a roof, a pair of hooks the inner ends of which are supported upon the carriages respectively, and a platform suspended from the outer ends of the hooks, and ropes connected to the carriages and extending in opposite directions therefrom and around to the platform, for manipulation by a person thereon.

3. The combination with scaffold-hooks, of carriages having sockets to receive the points of the hooks, said carriages being adapted to travel upon a roof.

4. The combination with scaffold-hooks, of carriages having sockets to receive the points of the hooks, and safety-rollers mounted upon the carriages and extending laterally in position to bear against a rib on a roof.

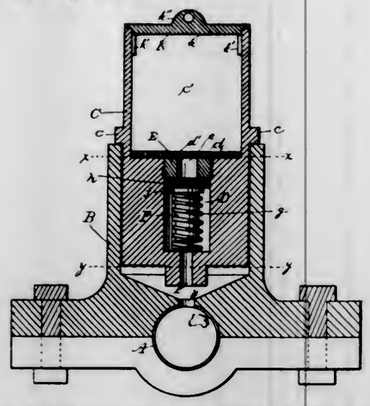
5. In a scaffold, in combination, carriages adapted to travel upon the roof, hooks extending over the edge of the roof and resting at their inner ends on the carriages, a platform hung from the hooks, and extensible spacing-bars connected to the scaffold and having rollers at their outer ends arranged to run along the wall.

6. In a scaffold, in combination, a pair of carriages connected together by a bar, and having sockets in their tops, hooks the points of which enter the sockets, a platform suspended from the hooks, pulley-brackets adapted to be clamped to the roof, and ropes extending oppositely from the carriages and around said pulleys and to the platform.

842,332. LUBRICATOR. WILLIAM S. PATTERSON, Salt Lake City, Utah. Filed June 12, 1906. Serial No. 321,372.

Claim.—1. In a lubricator, an oil-cup having a thick bottom with a vertical opening therein, a perforated disk in said opening, a spring-supported plunger reciprocating

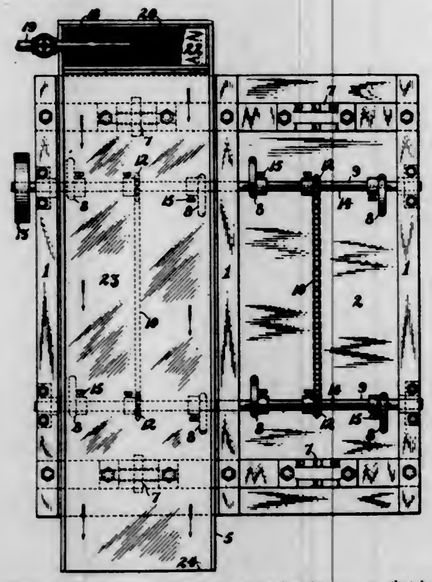
vertically below said disk, an oil-permeable washer between said plunger and said disk and a duct at the bottom of said opening as specified.



2. In a lubricator an oil-cup seated in an oil-box and having a thick bottom with a vertical opening therein, a vertically-adjustable perforated disk in said opening, a spring-supported plunger reciprocating vertically below said disk, an oil-permeable washer between said plunger and said disk and a duct at the bottom of said opening as specified.

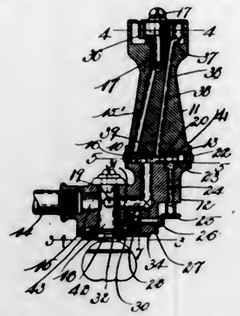
3. A lubricator comprising an oil-box having a channel connecting with the bearing, an oil-cup seated in said box and having an oil-chamber with a central opening in its bottom, having its upper part threaded, a filter covering said opening, a threaded disk in said opening having a vertical channel therethrough, a plunger below said disk, a spring supporting said plunger, a washer of less diameter than that of the opening between said plunger and said disk, means to secure said washer upon said plunger and a duct opening into said oil-box as herein set forth.

842,333. MINERAL-CONCENTRATOR. ALMARIN B. PAUL, San Francisco, Cal. Filed Apr. 23, 1906. Serial No. 313,227.



Claim.—In a concentrator, a main frame, a flat-bottomed table mounted on an incline to oscillate transversely, said table having a bottom lining of fibrous material, a screen-bottomed supply-box at the upper end of said table, a pair of transverse rotatory shafts beneath said table, positively connected to rotate together, adjustable cams on said shafts alternately placed to lift each side of the table in succession, a driving-pulley for rotating the shafting, and means to adjust the longitudinal slope of said table, substantially as specified.

842,334. GAS-BURNER. PETER E. PETERSON, Milford, N. H. Filed Oct. 26, 1906. Serial No. 340,635.



Claim.—1. In a gas-burner, a casing, a burner-tip fast thereto, a stop-cock, said casing provided with a passage leading from said stop-cock to said burner-tip, a rotary cut-off plate extending across said passage, with a series of concentric ports therein adapted to aline with said passage, teeth on said cut-off plate, a rotary driver-plate adapted to engage said teeth and rotate said cut-off plate, and gearing operatively connecting said driver-plate to said stop-cock.

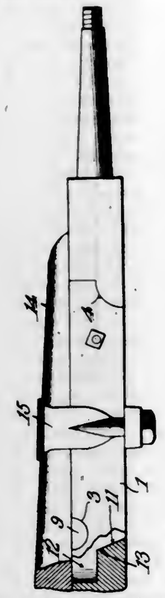
2. In a gas-burner, a casing, a burner-tip fast thereto, a stop-cock, said casing provided with a passage leading from said stop-cock to said burner-tip, a rotary cut-off plate extending across said passage, with a series of concentric ports therein adapted to aline with said passage, a metal coil surrounding said tip, one end fast to a stationary part, a vertically-extending rod journaled to rotate in said casing, a crank-arm on said rod attached to the outer end of said coil, an arm fast to the lower end of said rod, and ratchet-teeth on said rotary cut-off plate in engagement with said last-named arm, whereby when said metal coil contracts said cut-off plate is rotated to move one of said ports out of alinement with said passage-way.

3. In a gas-burner, a casing, a burner-tip fast thereto, a stop-cock, said casing provided with a chamber and with a passage leading from said stop-cock to said chamber and from said chamber to said tip, a rotary cut-off plate located in said chamber and provided with ports adapted to aline with said passage, and mechanism operatively connecting said cut-off plate to said stop-cock, whereby when said stop-cock is rotated said cut-off plate is intermittently rotated to move said ports into alinement with said passage.

4. In a gas-burner, a casing, a burner-tip fast thereto, a stop-cock, said casing provided with a chamber and with a passage leading from said stop-cock to said chamber and from said chamber to said tip, a rotary cut-off plate located in said chamber and provided with ports adapted to aline with said passage, mechanism operatively connecting said cut-off plate to said stop-cock, whereby when said stop-cock is rotated said cut-off plate is intermittently rotated to move said ports into alinement with said passage, a metal coil adapted to be expanded and contracted by variations in temperature, and instrumentalities operated by said coil to rotate said cut-off plate and move one of said ports out of alinement with said passage.

5. In a gas-burner, a casing, a burner-tip fast thereto, a stop-cock, a passage leading from said stop-cock to said burner-tip, a rotary cut-off plate with ports therein adapted to aline with said passage, mechanism connecting said stop-cock to said cut-off plate adapted to rotate said cut-off plate and move said ports into alinement with said passage, and mechanism operable by differences in temperature in one of its parts to rotate said cut-off plate and move one of said ports out of alinement with said passage.

842,335. AXLE. GEORGE T. PRICE, Conroe, Tex., assignor of one-half to Richard Knight, Conroe, Tex. Filed Sept. 11, 1906. Serial No. 334,198.



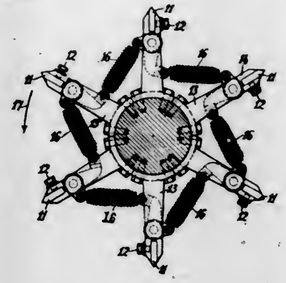
Claim.—1. An axle having spaced extension formed in their upper and lower portions with notches, an axle-stub having a tongue adapted to fit between said extensions and having lateral projections to fit the upper and lower notches of said extensions, and means for holding said tongue in position between said extensions.

2. An axle having spaced extensions formed in their upper and lower portions with notches, an axle-stub having a tongue provided with lateral projections adapted to fit the notches of said spaced extensions, and a brace-bar extending along the upper edges of said extensions and tongue for holding the parts assembled.

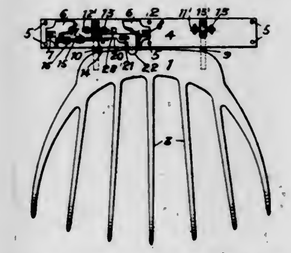
3. An axle having an angular seat and spaced parallel end extensions formed in their upper inner edges with approximately semicircular notches and in the lower outer corners with approximately semicircular notches, an axle-stub having a spindle, an enlarged intermediate portion, and an inner tongue having its lower corner cut away to produce an extension adapted to fit into the angular seat of said axle, said tongue also having lateral projections adjacent its upper inner end to fit the notches in the inner upper edges of said spaced extensions, and similar lateral projections adjacent the lower outer end thereof to fit the lower outer notches of said spaced extensions, a brace-bar fitted against the upper ends of said axle and axle-stub, and an axle-clip extending around said brace-bar and spaced extensions.

842,336. TOOL-CYLINDER FOR MACHINES FOR UNHAIRING HIDES. VICTOR QUAEDVLIEG, Stadlau, near Vienna, Austria-Hungary. Filed Feb. 23, 1905. Serial No. 246,821.

Claim.—In a device for unhairing hides, the combination with a cylinder, of a number of carriers mounted thereon, each comprising a pair of brackets rigidly connected with the cylinder, a lever pivoted to said brackets and carrying at its outer end a knife-seat, a knife removably secured in said seat, and an extension-spring connected to the other end of said lever and to one of the brackets of a rearwardly-disposed carrier.



842,337. AUTOMATIC HAT-FASTENER. MILFRED W. ROBERTSHAW, New York, N. Y. Filed Feb. 23, 1906. Serial No. 302,367.



Claim.—1. An automatic hat-fastening attachment comprising a member for attachment to the hat, a hair-engaging member vertically movable thereon, and a hand-releasable locking device for positively locking it against retrograde movement in different positions to which it may be moved between its limits of vertical movement.

2. An automatic hat-fastening attachment comprising a member for attachment to the hat, a hair-engaging member pivotally mounted thereon so as to swing vertically, and a hand-releasable locking device for positively locking it against retrograde movement in different positions to which it may be moved between its limits of vertical movement.

3. An automatic hat-fastening attachment comprising a member for attachment to the hat, a toothed hair-engaging member vertically movable thereon, and a hand-releasable locking device for positively locking it against retrograde movement in different positions to which it may be moved between its limits of vertical movement.

4. An automatic hat-fastening attachment comprising a member for attachment to the hat, a toothed hair-engaging member pivotally mounted thereon so as to swing vertically, and a hand-releasable locking device for positively locking it against retrograde movement in different positions to which it may be moved between its limits of vertical movement.

5. An automatic hat-fastening attachment comprising a member for attachment to the hat, a hair-engaging member pivotally mounted thereon so as to swing vertically, and a hand-releasable locking device, consisting of a ratchet on one member and a pawl on the other for retaining the hair-engaging member in the position to which it may be moved.

6. An automatic hat-fastening attachment comprising a member for attachment to the hat, a hair-engaging member pivotally mounted thereon so as to swing vertically, a locking device, consisting of a ratchet on one member and a pawl on the other, for retaining the hair-engaging member in the position to which it may be moved, and manually-operated means for disengaging said member from the locking device.

7. An automatic hat-fastening attachment comprising a member for attachment to the hat, a toothed member 1

pivotally mounted thereon and having a ratchet 14, and a hand-releasable pawl 15 for engaging said ratchet.

8. An automatic hat-fastening attachment comprising a member for attachment to the hat, a toothed member 1 pivotally mounted thereon and having a ratchet 14, a pawl 15 for engaging said ratchet, and a hand-operated lever 22 engaging said pawl.

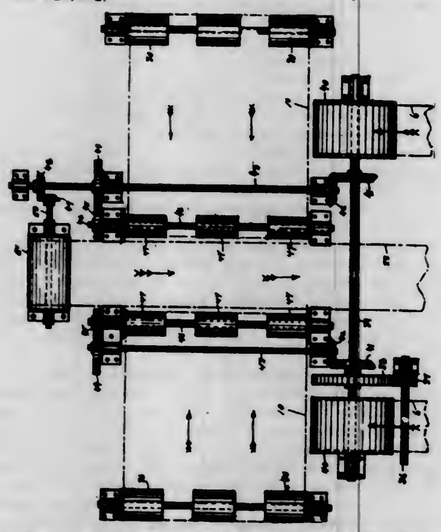
9. An automatic hat-fastening attachment comprising a member for attachment to the hat, a toothed member 1 pivotally mounted thereon and having a ratchet 14, a pawl 15 for engaging said ratchet, and a hand-operated lever 22 engaging said pawl, said pawl and lever being covered and protected by a plate 6.

10. An automatic hat-fastening attachment comprising a member for attachment to the hat, a hair-engaging member pivotally mounted thereon so as to swing vertically and having a plurality of diverging teeth 3, and a hand-releasable locking device for positively locking it against retrograde movement in different positions to which it may be moved between its limits of vertical movement.

11. An automatic hat-fastening attachment comprising a member for attachment to the hat, a toothed hair-engaging member pivotally mounted thereon so as to swing vertically, and a hand-releasable locking device for retaining the hair-engaging member in the position to which it may be moved, the toothed portion of said hair-engaging member being curved lengthwise and crosswise of the teeth to conform to the head, with the ends of the teeth curved in the opposite direction, substantially as described.

12. In an automatic hat-fastening attachment comprising a member for attachment to the hat and a hair-engaging member pivotally mounted thereon so as to swing vertically, the combination of a ratchet 14 on one member, a pawl 15 on the other, and a releasable lever 20 connected with the pawl 15 by means of a projection on one of said members extending into an opening in the other of said members.

842,338. APPARATUS FOR UNLOADING MARINE VESSELS. CHARLES D. ROSS, Milwaukee, Wis., assignor of one-half to Lake Shore Stone Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Aug. 1, 1906. Serial No. 328,682.

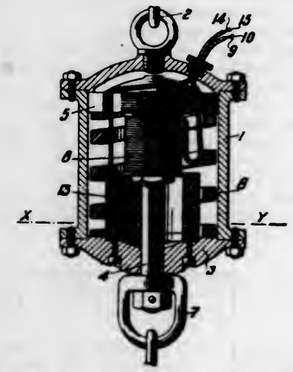


Claim.—1. In a marine vessel of the class described the combination of two parallel compartments located upon the respective sides of the longitudinal center of the vessel, having downwardly-converging floors and discharge-apertures located at the apex of said floors, a conveyer located longitudinally beneath the discharge-apertures of each compartment, a third conveyer located centrally between and extending upwardly at an angle to said first-named conveyers and two transversely-arranged conveyers communicating from the two first-named conveyers and adapted to discharge their contents upon said central conveyers, means for simultaneously operating all of said conveyers, and means for discharging the material elevated by said conveyers upon the respective sides of the vessel.

2. In a marine vessel of the class described the combination of two parallel compartments one of the ends of which compartments are located at slight distances apart on the respective sides of the longitudinal center of the vessel leaving a longitudinal space between them for the reception of a central conveyer, said compartments having downwardly-converging floors provided with discharge-apertures located at their apex, doors for closing said passages, a conveyer located longitudinally beneath the passages of each compartment, a third conveyer located centrally of the vessel and extending upwardly at an angle to said first-named conveyers between the front ends of said compartments, and two transversely-arranged conveyers communicating between the two first-named conveyers with and adapted to discharge their contents upon said central conveyer, means for simultaneously operating all of said conveyers and means for discharging the material elevated by said conveyers upon the respective sides of the vessel.

3. In a marine vessel of the class described the combination of two parallel compartments located upon the respective sides of the longitudinal center of the vessel having parallel converging floors, discharge-apertures located at the apex of said floors, sliding doors for closing said apertures, a conveyer-belt located longitudinally beneath the discharge-passages of each compartment, a plurality of sets of belt-supporting rollers revolubly supported from the vessel beneath the upper and lower folds of said belt, the sets of rollers supporting the upper fold of said belt being arranged at an angle to each other so as to retain the upper fold resting thereon in a trough-shaped position while the sets of rollers supporting the lower fold are arranged in a horizontal position, a third conveyer located centrally between and extending upwardly at an angle to said first-named conveyers, a plurality of sets of rollers for supporting said third conveyer, two transversely-arranged conveyers communicating from said first-named conveyers and adapted to discharge their contents upon said central conveyer, a set of rollers for supporting said transverse conveyers, means for simultaneously operating all of said conveyers and means for discharging the material elevated by said conveyers upon the respective sides of the vessel.

842,339. APPARATUS FOR ELECTRICALLY INDICATING WEIGHT. CHARLES RUSSO, London, England, assignor to Marconi's Wireless Telegraph Company Limited, London, England. Filed Apr. 4, 1906. Serial No. 309,952.



Claim.—1. In an apparatus for electrically indicating the weights of articles weighed; a member for supporting the articles being weighed and adapted to vary in position in proportion to the weights supported, a solenoid carried by the weight-regulated member, a second solenoid mounted so as to be stationary relatively to the first solenoid, so that one solenoid will enter the other solenoid more or less according to the weight supported by the weight-regulated member, means for causing an alternating electric current to pass through the stationary solenoid to induce a current in the winding of the other solenoid in proportion to the extent to which one solenoid enters the other, an electrical measuring device in circuit with the solenoid in which the current is induced calculated to indicate the variations of the induced current upon a dial, and a dial having markings thereon adapted to show the weight of the articles being weighed.

2. In an apparatus for electrically indicating the weights of articles weighed; the combination with a member for supporting the articles being weighed and mechanism to cause said member to vary in position in proportion to the weights supported, a solenoid carried by the weight-regulated member, an electrical measuring device in circuit with said solenoid to indicate upon a dial the variations of a current passing through said solenoid, and a dial having markings thereon adapted to show the weight of the articles being weighed; of an annular solenoid arranged coaxial with the first solenoid, means for causing an alternating electric current to pass through said annular solenoid to induce a current in the winding of the first solenoid in proportion to the extent which the latter enters the annular solenoid, a stationary support for carrying the annular solenoid, and means for maintaining the current constant which passes through the annular solenoid substantially as set forth.

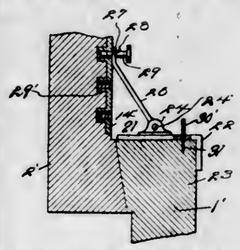
3. In an apparatus for electrically indicating the weights of articles weighed; the combination with a spring-balanced support for the article being weighed, said support varying in position in proportion to the weight supported, a solenoid fixed to the said spring-balanced support, an electrical measuring device in circuit with the said solenoid to indicate upon a dial the variations of a current passing through said solenoid, and a dial having markings thereon adapted to show the weight of the articles being weighed; of a frame stationary relative to the spring-balanced support, an annular solenoid carried by the frame and arranged coaxial with the first solenoid, and means for causing a constant alternating current to pass through said annular solenoid to induce a current in the windings of the first solenoid in proportion to the extent which the latter enters said annular solenoid substantially as set forth.

4. In an apparatus for electrically indicating the weights of articles weighed; the combination of a cylinder, a piston in the cylinder, and a rod connected to the piston and passing through the head thereof to support the articles being weighed, a spring acting between the cylinder-head and the piston, a solenoid fixed to the piston, an electrical measuring device in circuit with the said solenoid to indicate upon a dial the variations of a current passing through said solenoid, a dial having markings adapted to show the weight of the articles being weighed, an annular solenoid fixed to the piston-head and located coaxial with the first solenoid, so that the latter will enter the annular solenoid more or less in proportion to the weight supported by the piston, means for causing an alternating current to pass through the windings of said annular solenoid, and means for maintaining said current constant substantially as set forth.

5. In an apparatus for electrically indicating the weights of articles weighed; the combination of a cylinder, a piston in the cylinder, and a rod connected to the piston and passing through the head thereof to support the articles being weighed, a spring acting between the cylinder-head and the piston, a solenoid fixed to the piston, an ammeter in circuit with the said solenoid to indicate upon a dial the variations of a current passing through said solenoid, an ammeter-dial having markings thereon adapted to show the weight of the articles being weighed, an annular solenoid fixed to the cylinder-head and located coaxial with the first solenoid, so that the latter will enter the annular solenoid more or less in proportion to the weight supported by the piston, means for causing an alternating current to pass through the windings of the annular solenoid, and means for maintaining the said current constant substantially as set forth.

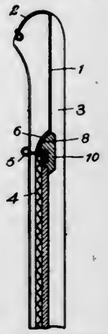
6. In electrically indicating the weights of articles weighed; the combination of a cylinder, a piston in the cylinder, and a rod connected to the piston and passing through the head thereof to support the articles being weighed, a spring acting between the cylinder-head and the piston, a solenoid fixed to the piston, an ammeter in circuit with the said solenoid to indicate upon a dial the variations of a current passing through the said solenoid, an ammeter-dial having markings thereon adapted to show the weight of the articles being weighed, an annular solenoid fixed to the cylinder-head and located coaxial with the first solenoid, so that the latter will enter the annular solenoid more or less in proportion to the weight supported by the piston, means for causing an alternating current to pass through the windings of the annular solenoid, a voltmeter and a rheostat in circuit with the coil of the annular solenoid for regulating and maintaining a constant current through the said annular solenoid substantially as set forth.

842,340. SASH-FASTENER. HENRY SALISBURY, Brooklyn, N. Y. Filed Sept. 8, 1905. Serial No. 277,527.



Claim.—The combination with a window, of a plate having a threaded passage therein secured to one of the sashes, a plate secured to the other sash, spaced ears carried by the second plate, a bar pivoted between the ears and having an eye therein, a screw engaged in the eye, said bar being moved upon its pivot, to bring the bar into and out of position to enter the opening of the first-named plate, and a yoke arranged to receive the bar therein when out of position for engagement with the screw in said opening.

842,341. WASHBOARD. JAMES T. SARGENT, Cleveland, Ohio. Filed Oct. 27, 1905. Serial No. 284,667.



Claim.—1. A washboard having in combination therewith a soap-shelf having its rear edge secured in a groove in the front face of the cross-bar at the upper end of the rubbing-face, and projecting out over the rubbing-face.

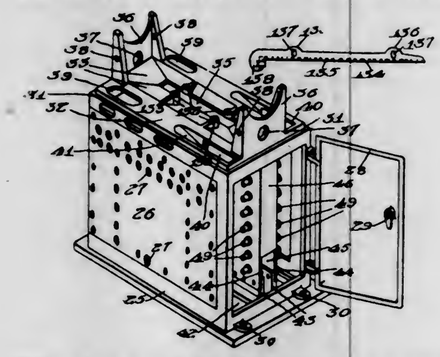
2. A washboard having in combination therewith a soap-shelf provided at its ends with lugs projecting into a groove in the upper cross-bar, the ends of the cross-bar

having the lugs therein projecting into rabbets in the legs, said shelf projecting out over the rubbing-face.

3. A washboard having in combination therewith a metal brand-board having its edges turned over and fitting in rabbets in the inner walls of the legs, thereby forming a metal gutter for the escape of water entering the rabbets.

4. A washboard having in combination therewith a soap-shelf carried by the cross-bar at the upper end of the rubbing-face and projecting out over the rubbing-face.

842,342. ELECTRIC CONTROLLER. HARRY SAWYER, Muskegon, Mich. Filed Feb. 5, 1906. Serial No. 299,660.



Claim.—1. In a controller, the combination of a casing, resistances and contacts therefor, a movable contact member projecting from the casing, and means for catching and confining the particles discharged from the contact member.

2. In a controller, the combination of a casing, resistances and contacts therefor, a movable contact member projecting from the casing, and means for housing the contact member and catching and confining the particles dislodged from the contact member.

3. In a controller, the combination of a casing, resistances and contacts therefor, a movable contact member projecting from the casing, a housing for the contact member and means communicating with the housing and extending downwardly from the top of the casing and adapted to catch the particles dislodged from the contact member and conduct the same to the bottom of the casing.

4. In a controller, a frame comprising a casing, having a perforated top and walls, and a door at one end, spaced partitions arranged longitudinally within the casing to form a central chamber, the top being provided with a slot, having an inclined side communicating with the central chamber, and standards or uprights extending from the top of the casing adjacent the ends of the slot and extending beyond either side thereof.

5. In a controller, a frame comprising a casing, having a perforated top and walls, and a door at one end, spaced partitions arranged longitudinally within the casing to form two separated chambers, said top being provided with a slot communicating with the space between the chambers, the edges of the slot being inclined, a closure for the front of the space, and flanged uprights extending above the top of the casing adjacent the ends of the slot, said flanges standing on either side of the slot.

6. In a controller, a controller-frame comprising a closed casing provided with a door at one end, a centrally-disposed longitudinal closed housing arranged within the casing to form two separated chambers, the top of said housing being provided with a longitudinal slot, uprights extending above said top, adjacent the ends of the slots, and supports within the chambers and carried by each of the walls thereof.

7. In a controller, a controller-frame comprising a closed casing provided with a door at one end, a longitudinal closed housing arranged within the casing to form two separated chambers, the top of the housing being provided with a longitudinal slot, and uprights extending above the top adjacent the ends of the slot.

8. In a device of the class described, the combination of a casing open at one end, a door for said opening, spaced partitions within the casing to form two separated chambers, resistance-cards within each of the chambers, and removable through the door, the top of the casing being provided with a slot communicating with the space between the chambers, contacts secured to the top, connections between the contacts and the resistance-cards, a lever projecting through the slot into and movable in the space between the chambers, and brushes carried by the lever and adapted to engage the contacts.

9. In a device of the class described, the combination of a casing open at one end, a door for said opening, spaced partitions longitudinally disposed within the casing to form two separated chambers, resistance-cards within each of the chambers and removable through the door, the top of the casing being provided with a slot communicating with the space, insulating-supports secured to the top on either side of and adjacent the slot, contacts carried by the adjacent faces of the supports, connections between the resistance-cards and the respective contacts, a lever pivoted within the space between the chambers and projecting through the slot, and brushes removably secured to the lever above the top, said brushes moving between the supports and engaging the contacts carried thereby.

10. In a device of the class described, the combination of a casing open at one end, a door for said opening, spaced partitions centrally disposed within the casing to form two separated chambers, resistance-cards adapted to be inserted into the chambers through the front of the casing, the top of the casing being provided with a slot comunicating with the space between the chambers, uprights extending above the top on each side of the slot, insulating-supports secured to the uprights adjacent the slot, contacts carried by the adjacent faces of the supports, connections between the resistance-cards and the contacts, a lever pivoted between the chambers, and brushes removably carried by the lever, said brushes standing between and adapted to successively engage the contacts when the lever is moved.

11. In a device of the class described, the combination of a casing having an opening in one end, a closure for said opening, said casing being divided to form two independent separated chambers, resistance-cards removably seated within the chambers, the top of the casing being provided with a slot communicating with the space between the chambers, and an aperture communicating with each of the chambers, said top being also provided with a recessed portion communicating with the apertures and having an inclined bottom, insulating-supports secured to the top adjacent the sides of the slot, contacts carried by the supports, conductors secured to the contacts and resistance-cards and passing through the apertures and recesses, a lever pivoted between the chambers, and projecting through the slot, and brushes carried by the lever, said brushes being disposed between the supports to engage the contacts thereon.

12. In a device of the class described, the combination of a casing having an opening at one end, a closure for said opening, an inclosed space within the casing, the top thereof being provided with a slot, resistance-cards removably seated within the casing and on both sides of the inclosed space, contacts secured to the face of the top adjacent to and on both sides of the slot, connections between the contacts and the resistance-cards, a lever pivoted within the space and extending through the slot, brushes carried by the lever and engaging the contacts, an adjustable guide secured to the top adjacent the slot, and a stop carried by the guide and standing within the path of movement of the lever.

13. In a device of the class described, the combination of a casing having an opening at one end, a closure for said opening, an inclosed space within the casing, resistance-cards removably seated within the casing and on both sides of the inclosed space, the top of the casing being provided with a slot communicating with the space, and having inclined edges, uprights extending above the top adjacent the ends of the slot, insulating-supports secured to the uprights and standing on both sides of and adjacent the slot, contacts carried by the supports, connections between the contacts and resistance-cards, and brushes carried by the lever, said brushes standing between the supports and engaging the contacts thereon.

14. In a device of the class described, the combination of a casing, having an opening at one end, a closure for said opening, an inclosed space within the casing, dividing the casing into two separated chambers, resistance-cards removably seated in the chambers, the top of the casing being provided with a slot having inclined edges and communicating with the space, contacts carried by the top, connections between the contacts and resistance-cards, a lever pivoted within the space and extending through the slot, brushes carried by the lever and moving between and engaging the contacts, and a centering device engaging the lever for holding the same in an inoperative position.

15. In a device of the class described, the combination of a casing having an opening in one end, a closure for said opening, an inclosed space within the casing, resistance-cards within the casing, the top of the casing being provided with a slot communicating with the inclosed space, contacts secured to the top, connections between the resistance-cards and contacts, a lever pivoted within the space and extending through the slot, brushes carried by the lever and engaging the contacts and located in close proximity to the slot, an arm carried by the lever within the inclosed space, said arm being provided with a bearing-face having a centrally-disposed recess, and a retaining-roller engaging the face and adapted to be seated in the recess for holding the lever in its central position.

16. In a device of the class described, the combination of a casing having an opening in one end, a closure for said opening, the top of the casing being provided with a slot, spaced partitions within the casing and disposed on opposite sides of the slot, a lever pivoted between the partitions and extending through the slot, said lever being provided with a bearing-surface having a recessed portion, a spring-supported roller engaging the bearing-surface and adapted to enter the recess for centering the lever, means for varying the tension of the arm, resistance-cards removably seated in the casing, contacts carried by the top of the casing, connections between the contacts and resistance-cards, and brushes carried by the lever, said brushes being adapted to engage the contacts.

17. In a device of the class described, the combination of a casing open at one end and having a longitudinal slot in the top thereof, a closure for the opening, spaced partitions within the casing and located on either side of the slot, a lever pivoted between the partitions and extending through the slot, an arm carried by the lever between the partitions, said arm being provided with a bearing-surface, a bracket, a spring-arm pivoted intermediate its ends to the bracket, a roller carried by one end of the arm and engaging the arm carried by the lever, a movable block mounted on the bracket and engaging the other end of the arm, means for adjusting the block to vary the tension of the roller against the bearing-surface, resistance-cards within the casings, contacts adjacent the lever, connections between the resistance-cards and contacts, and brushes carried by the lever for engaging said contacts.

18. In a device of the class described, the combination of a casing open at one end and having a longitudinal slot in the top thereof, a closure for the opening, spaced partitions within the casing and disposed on opposite sides of the slot, uprights extending above the top of the casing adjacent the ends of the slot, flanges carried by the uprights and standing on either side of the slot, parallel insulating-supports secured to the flanges and adjacent the sides of the slot, resistance-cards within the casing, contacts carried by the adjacent faces of the supports, connections between the contacts and the resistance-cards, a lever pivoted between the partitions and extending through the slot, a brush-holder removably carried by the lever between the supports, and brushes carried by the holder and engaging the contacts.

19. In a device of the class described, the combination of a casing open at one end and provided with a slot in the top thereof, spaced partitions within the casing adjacent the sides of the slot, a lever pivoted between the partitions and extending through the slot, uprights secured to the top of the casing and on either side of the slot, contact-supports secured to the uprights on either side of the lever and parallel with the sides of the slot, a brush-holder removably carried by the lever and extending across the slot, brushes carried by the holder and engaging the contacts, resistances within the casing, and connections between the resistance material and the contact-supports.

20. In a device of the class described, the combination of a casing open at one end and provided with a slot in the top thereof, spaced partitions within the casing adjacent the sides of the slot, a lever pivoted between the partitions and extending through the slot, spaced contact-supports secured to the top of the casing adjacent the sides of the slot and parallel therewith, a lever pivoted between the partitions and extending through the slot in the top of the casing, a brush-holder removably carried by the lever between the supports, brushes carried by the holder, said brushes extending across the slot and engaging the contacts, resistances within the casing and on both sides of the space formed between the partitions, connections between the resistances and the contact-supports, and a removable cover for the contact-supports and brushes, said cover being provided with a longitudinal slot through which the lever passes.

21. In a device of the class described, the combination of a casing having a slot in the top thereof, spaced parallel contact-supports secured to the top adjacent the slot, a lever projecting through the slot and moving between the supports, a brush-holder, said holder comprising a block or plate having keyhole-slots therein, brushes carried by the holder and yieldingly projecting beyond the edges thereof, said holder being disposed across the slot in the top of the casing with the brushes engaging the contacts, means carried by the lever and adapted to pass through the slots in the holder for removably securing said holder to the lever, resistance-cards, and connections between the contacts and resistance-cards.

22. A device of the class described containing spaced parallel vertical contact-supports of insulating material, a lever movable between the supports, a brush-holder within the space between said supports, means carried by the lever detachably engaged by the holder, and brushes mounted upon the holder, said brushes being adapted to engage the contacts, and being disposed transversely across the space formed between the supports.

23. In combination, in a device of the class described, a pair of vertically-disposed parallel contact-slates, a dead-block secured to the adjacent faces of each slate, near the upper edge and adjacent the center thereof, a plurality of diametrically opposite contacts secured to the slates on each side of the blocks, a pair of contact-strips secured to each slate respectively, diametrically opposite each other, each of the contacts on one slate being divided into two sections, cross connections between the diagonally opposite sections of the said contacts, and brushes disposed between the slates and engaging respectively the diametrically opposite contacts carried by the slates.

24. In a controller, the combination of a pair of plates, contacts carried by said plates, a lever moving between the plates, a brush-holder, said holder comprising a base, resistance-brushes carried by the base and projecting beyond the edges thereof, an electrical connection between said brushes, an electromagnet carried by the base, the poles of said magnet being disposed adjacent the active faces of said brushes, a second set of brushes carried by the base, arranged in pairs diametrically opposite each other, the terminals of the magnetic coil having electrical connection with one pair of diametrically opposite brushes of the second set, connections between the other pairs of brushes, and means carried by the lever for engaging the holder to removably secure the same between the slates and with the brushes engaging their respective contacts carried by said slates.

25. A brush-holder for controllers and the like, comprising a base, an electromagnet carried thereby, the poles of

said magnet being spaced from each other and disposed adjacent the edges of the base, resistance-brushes moving between the poles, electrical connections between said brushes, contact-brushes carried by the base, connections between said contact-brushes and the ends of the coil, a second set of contact-brushes, and an electrical connection between said second set of brushes.

26. A brush-holder for controllers and the like, comprising a base, an electromagnet carried thereby, the poles of said magnet being spaced from each other and disposed adjacent the edges of the base, diametrically opposite resistance-brushes moving between the poles, electrical connections between the brushes, diametrically opposite contact-brushes carried by the base, connections between said contact-brushes and the ends of the magnet-coil, a second set of diametrically opposite contact-brushes, electrical connections between said second set of brushes, and means disposed between each pair of diametrically opposite brushes for normally holding their ends beyond the edges of the base, said means being insulated from the brushes.

27. A brush-holder for controllers and the like, comprising a base, spaced pole-plates carried thereby, the ends of said plates being located adjacent the edges of the base, a pair of diametrically opposite contact-brushes, a coil surrounding one of the pole-plates, and having electrical connection with each of the brushes, diametrically opposite resistance-brushes movably mounted between the ends of the pole-plates, a second pair of diametrically opposite contact-brushes, connections between the respective diametrically opposite brushes of each pair, and means insulated from and disposed between each pair of brushes, for normally and yieldingly holding the free ends thereof beyond the edges of the base.

28. A brush-holder for controllers and the like, comprising a support, spaced pole-plates secured thereto and having their ends adjacent the sides of the support, diametrically opposite contact-brushes, a coil surrounding one of the pole-plates with each end in electrical connection with one of the brushes, resistance-brushes movably mounted between the ends of the plates, an electrical connection between said resistance-brushes, the ends of the pole-plates being deflected toward each other and in close proximity to the active face of the resistance-brushes, a second pair of diametrically opposite contact-brushes, an electrical connection between said brushes, and an expansible member insulated from and disposed between each pair of brushes for causing their active faces to normally and yieldingly project beyond the sides of the support.

29. In a controller, the combination of a supporting-frame, a plurality of resistance-cards supported by and independently removable from said frame longitudinally, contacts for said resistance-cards, respectively, and a movable contact member for said contacts.

30. In a controller, the combination of a casing, having an opening at one end, a closure for said opening, a compartment within the casing, insulated supports secured to the walls of the compartment and disposed opposite each other, resistance-frames resting upon said supports and adapted to be withdrawn through the front of the casing, contacts secured to the casing, connections between the resistance-frames and the contacts, a lever pivoted within the casing and outside of the compartment, and brushes carried by the lever and adapted to engage the contacts.

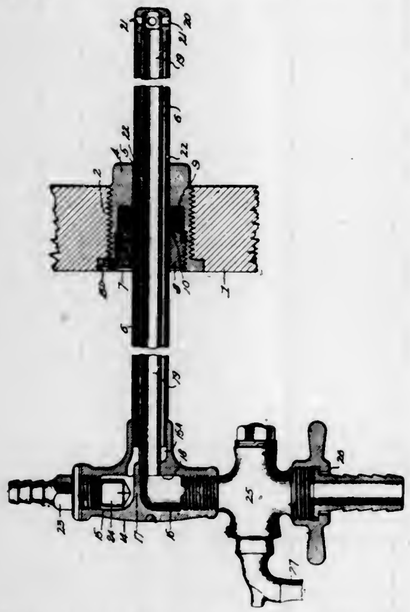
31. In a controller, the combination of a casing, having an opening at one end, a closure for said opening, a compartment within the casing, vertically-spaced insulated supports secured to the walls of the compartment, the supports on one wall being arranged diametrically opposite those on the other wall, resistance-frames resting upon said supports and adapted to be withdrawn through the front of the casing, and means carried by each frame and adapted to engage the next adjacent support for holding said frame within the casing.

32. In a controller, the combination of a casing having an opening at one end, a closure for said opening, a compartment within the casing, vertically-spaced insulated supports secured to the walls of the compartment, superimposed resistance-frames resting upon the supports and adapted to be inserted through the front of the casing and between the supports, and a yielding member carried by the frame and adapted to engage the next adjacent support for holding the frames against displacement.

33. In a controller, the combination of a casing having an opening at one end, a closure for said opening, a compartment within the casing, vertically-spaced and oppositely-disposed supports secured to the walls of the compartment, resistance-frames resting upon said supports and adapted to be withdrawn through the front of the casing, and an upwardly-bowed spring, one end thereof being secured to the frame, said spring being provided with a recessed portion intermediate its ends, the free ends of the spring being inclined and terminating adjacent the face of the frame, said spring being adapted to engage and be depressed by the next adjacent support when the frame is inserted, so that the recess therein will engage the said support.

34. In a controller, the combination of a casing having an open front end, insulated supports carried by the walls thereof and serving as guides, resistance-cards, comprising a frame, resistance material carried thereby and insulated therefrom, said cards being adapted to be inserted through the front of the casing and guided between the insulated supports within the casing.

842,343. AIR-INLET AND BEER-OUTLET BUNG FOR BARRELS. GUSTAVE A. W. SCHILLING and JOHN H. FLACH, Denver, Colo., assignors of one-third to Louis Becker, Denver, Colo. Filed Feb. 28, 1906. Serial No. 303,424.



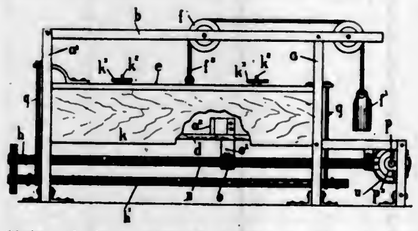
Claim.—1. In a device of the character described, the combination with a beer-barrel having a threaded bung-hole, of a bung threaded to said bung-hole, an air-inlet pipe extending slidably through said bung, a T-fitting threaded to said pipe having an independent inlet and outlet, a beer-supply pipe secured to said T's outlet and depending from said T into and through said air-pipe to its opposite end, a plug threaded to the ends of said two pipes provided with beer-inlet apertures entering said beer-pipe, and adapted to close the entrance to said air-pipe, means for admitting air into said air-pipe adjacent to said bung, a faucet connected to the discharge-outlet of said T-fitting and a valve-controlled inlet to said T arranged and adapted to be connected to a supply of compressed air, and

means connected to said bung for clamping said air-pipe against leakage, and means for admitting air into said air-pipe at predetermined portions of its length, as specified.

2. In a device of the character specified, the combination with the beer-barrel having a bung-hole, of the threaded plug, the nut threaded thereto, the rubber washer in said plug, the air-pipe extending through said nut and washer and bung and adapted to be clamped to said bung by said nut and washed, and with the beer-pipe and T-pipe fitting connected thereto, said air-pipe provided with an oppositely-arranged inlet and outlet aperture, a partition in said T separating said inlet and outlet passages, a central inlet connecting with said inlet-aperture of said T-pipe fitting, and threaded to said air-pipe, a beer-drawing pipe connected to the outlet-passage of said T-pipe fitting, a faucet connected to the outlet of said T, an automatic air-inlet valve connected to the inlet end of said T, means for admitting air into said air-pipe adjacent to said bung, a plug secured to the ends of said air and beer pipes and beer-inlet apertures in said plug, as specified.

3. In a device of the character specified, a bung having a threaded chamber, and a circular aperture extending from the chamber axially through the bung; a rubber washer in the bottom of the chamber having an aperture registering with the bung-aperture; an apertured nut threaded within the chamber against the washer; a T having inlet and outlet openings separated by a partition, and a central opening common to both; a liquid-receiving pipe which passes through the central opening and communicates with the outlet; an air-inlet pipe surrounding the liquid-receiving pipe and threaded to the central opening so as to communicate with the inlet-opening, said pipes having a common cap which closes the outer pipe, and is provided with apertures communicating with the inner pipe, said pipes being passed through said nut, washer, and bung, said outer pipe having apertures occurring adjacent to the inner end of the bung, and means whereby the nut is turned to compress the rubber washer around the pipe.

842,344. MACHINE FOR COMPRESSING FILLING FOR MATTRESSES. ABRAHAM A. SCHIMMEL, Boston, Mass. Filed Jan. 26, 1906. Serial No. 298,042.



Claim.—1. In a mattress-making machine, a compression-box having a bottom formed of removably-supported strips, a fixed end, a movable end, a top, sides depending from said top and adjustable therein to and from each other, and means for positively moving said top downward.

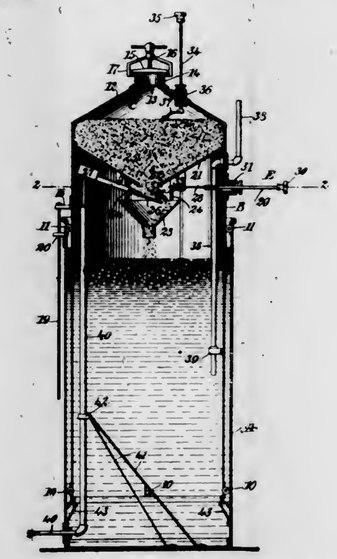
2. In a mattress-making machine, a compression-box having a bottom formed of removably-supported strips, a fixed end, a movable end, a top, sides depending from said top and adjustable therein to and from each other, means for positively moving said top downward, and springs acting upon said sides.

3. In a mattress-making machine, the combination with the relatively fixed bottom, a fixed and movable end, of a movable top, a frame in which said top is guided, sides depending from said top and mounted therein for adjustment toward and from each other, and springs secured at one end to said sides and at the other ends to said frame.

4. In a mattress-making machine, a compression-box having a bottom formed of removably-supported strips, a fixed end, a movable end, a top, sides depending from said top and adjustable therein to and from each other, means for positively moving said top downward, a plunger movable lengthwise of said box, means for guiding the top and sides in a direct vertical plane, and means for conjointly actuating said plunger and top.

5. In a mattress-making machine, a compression-box having a bottom formed of removably-supported strips, a fixed end, a movable end, a top, sides depending from said top and adjustable therein to and from each other, means for positively moving said top downward, springs acting upon said sides, a screw-shaft, a plunger, a nut carrying the same and engaging said screw-shaft, shafts parallel with the screw-shaft and connected to move in unison, and means for conjointly actuating said plunger and top to move them simultaneously in directions at right angles to each other.

842,345. ACETYLENE-GAS GENERATOR. BARTON W. SCOTT, San Jose, Cal. Filed Nov. 3, 1905. Serial No. 285,713.



Claim.—1. In an acetylene-gas machine, a gasometer, the bell-section of which is provided with a dome-top and with an inverted-cone-shaped partition near its upper end forming with the top a carbid-chamber, said partition having a central opening at its apex, a funnel below the opening of the said partition, a weighted and shovel-shaped valve pivoted to lugs projecting from the partition, said valve being adapted to close the opening of the partition when in one position and to discharge into the funnel when in another position, and a service-pipe extending up into the bell and adapted to engage the said valve.

2. In an acetylene-gas machine, a gasometer, the bell-section of which is provided at upper end with a receiving-chamber having an inlet and outlet, a funnel beneath the outlet of the said chamber, a sliding valve for controlling the outlet of the chamber, said valve being mounted in the bell-section of the gasometer, a shovel-shaped feed-valve pivoted to the bottom of the chamber and provided with a weight at one end, and a service-pipe extending up into the bell-section and adapted to engage the weight of the valve, the valves being located between the chamber and funnel.

3. In an acetylene-gas machine, a gasometer, the bell of which is formed in its upper end with a carbid-chamber having a hopper-shaped bottom, said bottom having an opening therein, a pivoted and counterbalanced valve constructed to fit upon the hopper-shaped bottom of the carbid-chamber around the opening thereof to close the same, means carried by the body of the gasometer for opening the valve when the bell descends, and a valve mounted to slide between the pivoted valve and the lower end of the

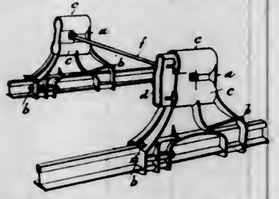
hopper-shaped bottom of the carbid-chamber to wholly or partially close the opening therein.

4. In an acetylene-gas machine, a gasometer, the bell of which is provided with a carbid-chamber in its upper end, said chamber having an apertured hopper-shaped bottom, a pivoted and counterbalanced shovel-shaped valve below the bottom of the carbid-chamber, means carried by the body of the gasometer for opening the valve when the bell descends, and a valve mounted to slide in guideways at one side of the discharge-opening of the carbid-chamber, and adapted to wholly or partially close the said opening.

5. An acetylene-gas machine, comprising a gasometer, the bell of which is formed with a carbid-chamber in its upper end, the chamber having a hopper-shaped bottom having a discharge-opening therein, means for guiding the bell in the body, a pivoted and counterbalanced valve below the discharge-opening of the carbid-chamber, means carried by the gasometer-body for opening the valve when the bell descends, a sliding valve for wholly or partially closing the said discharge-opening, and a blow-off pipe having its major portion arranged within the gasometer-bell with its upper end projecting out through said bell.

6. An acetylene-gas machine, comprising a gasometer, the bell of which is formed with a carbid-chamber in its upper end, the chamber having an apertured hopper-shaped bottom, means for guiding the bell in the body, means for preventing said bell from turning in said body, a pivoted and counterbalanced valve below the opening of the carbid-chamber, means carried by the gasometer-body for opening the valve when the bell descends, a sliding valve for wholly or partially closing the opening of the carbid-chamber, and a blow-off pipe arranged within the bell of the gasometer and extending out through the same at the upper end thereof.

842,346. RAILWAY-BUMPER. JOHN M. SCOTT, Racine, Wis. Filed June 22, 1906. Serial No. 322,817.



Claim.—1. In a railway-bumper the combination of a pair of similar standards having bases extended lengthwise of and adapted to be secured to the track-rails, buffer-blocks movably mounted in said standards above the rails in position to engage the wheel-treads or brake-beam of a car, and springs interposed between said blocks and standards so as to resist backward movement of the blocks, substantially as described.

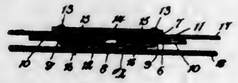
2. In a railway-bumper the combination of a pair of standards having bases recessed to fit over and engage with the track-rails and sockets above and parallel with the rails, buffer-blocks fitted in said sockets, springs interposed between said blocks and the rear ends of said sockets, and a cross-brace for connecting said standards with each other above the rails, substantially as described.

3. In a railway-bumper the combination of a pair of standards having bases extended lengthwise of the track-rails and recessed to fit over and engage with the same and sockets above and parallel with the rails, means for securing said standards on the rails, buffer-blocks fitted and movable in said sockets, springs interposed between said blocks and the rear ends of the sockets, and a cross-brace connecting said standards above the rails, substantially as described.

4. In a railway-buffer the combination of standards having extended bases recessed to fit over and engage with the track-rails and sockets above and parallel with the rails, wedges fitted in tapering recesses in said standards next to and lengthwise of the rails and adapted to be driven into place to secure the standards on the rails, buffer-blocks movably held in said sockets and protruding from said standards, and springs interposed between said blocks and the rear ends of said sockets, substantially as described.

5. In a railway-bumper the combination of similar standards adapted to be secured to the track-rails and formed with sockets above and parallel with the rails, movable buffer-blocks fitted in and projecting from the open front ends of said sockets and each provided with rearwardly-projecting stems, spiral springs surrounding said stems within the sockets and bearing at their front ends against the backs of said blocks and at their other ends against the rear ends of the sockets, and means for limiting the forward movement of said blocks, substantially as described.

842,347. WAIST-HOLDER AND SKIRT-SUPPORTER. BERT A. SEBRING and JOHN W. GRAHAM, Pueblo, Colo. Filed Aug. 16, 1905. Serial No. 274,462.



Claim.—1. In a supporter of the character described, the combination with a supporting body member comprising clamping-plates arranged to be placed upon opposite sides of a garment, of a fabric-piercing pin pivotally mounted at one end on one clamping-plate, and a keeper mounted on the other plate and arranged to receive the other end of the pin.

2. In a supporter of the character described, the combination with a body member comprising clamping-sections, of fabric-piercing means for securing the sections together, said means having a portion spaced from the body member and constituting supporting means for engagement by a hanger member.

3. In a supporter of the character described, the combination with a body member comprising clamping-plates, of a fabric-piercing device for clamping the plates upon an article of clothing, and a hanger-hook that detachably engages said device, said hook being separate from the body member.

4. In a supporter of the character described, the combination with a body member comprising clamping-plates, of a pin movably mounted on one of the plates, said pin engaging and having a detachable interlocking connection with the other plate to clamp said plates upon an article of clothing, and a hanger member having a detachable engagement with the pin, said hanger member being attachable to another article of clothing.

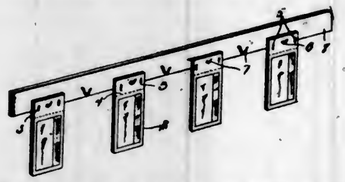
5. In a supporter of the character described, the combination with a body member comprising plates, one of said plates having a central keeper-hook, and openings disposed on opposite sides of the same, of pins pivotally mounted on the other plate, said pins having shanks that detachably pass through the openings and detachably engage the keeper-hook.

6. In a supporter of the character described, the combination with a body member comprising clamping-plates, of a cushion located between them, and means for fastening the plates together on opposite sides of an article of clothing, and supporting another article of clothing therefrom.

7. In a supporter of the character described, the combination with a body member comprising clamping-plates, one of which has an upstanding keeper-hook and openings on opposite sides of said keeper-hook, fabric-engaging pins pivotally mounted on the other plate, said pins having angular shanks that pass through the openings, and detachably engage the keeper-hook of the first-mentioned plate, a cushion interposed between the plates, and hanger-hooks that detachably engage the pin-shanks.

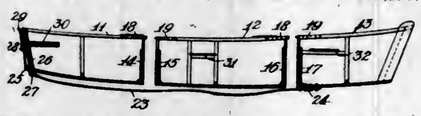
842,348. LABEL-PACKET. GEORGE P. SHILEY, Missouri Valley, Iowa. Filed Oct. 28, 1903. Serial No. 178,944.

Claim.—A label-packet comprising a backing of stiff material and a plurality of superposed leaves normally disconnected from each other and from the packing, each of the leaves consisting of a single stub and a single label portion, staples forming the only means for securing the stub portions of the series of leaves to the backing, the backing and the stub portions being perforated to provide means for suspending the device, said perforation being located in the longitudinal axis of the packet, the staples at the stub portions being located one on each side of said



perforation and in the vicinity of the edges of the stubs, the said staples having legs located on opposite sides of the lateral axis of the packet drawn through said perforation, each label portion being separated from the stub portion by a weakened line and provided under its entire rear surface with a coating of dry adhesive, the stub portion being void of said adhesive.

842,349. SECTIONAL BOAT. NORMAN L. SKENE, Somerville, Mass. Filed Mar. 20, 1906. Serial No. 306,990.



Claim.—1. A sectional boat comprising in its construction a plurality of sections provided with water-tight bulkheads at adjacent ends thereof, means located above the water-line for connecting said adjacent ends together, and means exteriorly located for connecting said adjacent ends together, said last-named means fastened at one end to the bow-section of said boat beneath the water-line and at the other end detachably attached to the transom of the stern-section above the water-line.

2. A sectional boat comprising in its construction a bow-section, a stern-section and an intermediate section, said sections provided with water-tight bulkheads at their adjacent ends, means located above the water-line for connecting the adjacent ends of said sections together, and a connection exteriorly located fast at one end to the bottom of said bow-section, the other end of said connection detachably attached to said stern-section.

3. A sectional boat comprising in its construction a plurality of sections provided with water-tight bulkheads at adjacent ends thereof, means located above the water-line for connecting said adjacent ends together, and a flexible connection extending longitudinally of and beneath said sections, said connection connecting the two ends sections of said boat together.

4. A sectional boat comprising in its construction a bow-section, a stern-section and an intermediate section, said sections provided with water-tight bulkheads at their adjacent ends, means located above the water-line for connecting the adjacent ends of said sections together, and a flexible connection fast at one end to the bottom of said bow-section, the other end of said connection detachably attached to said stern-section.

5. A sectional boat comprising in its construction a bow-section, a stern-section, and an intermediate section, said sections provided with water-tight bulkheads at their adjacent ends, means located above the water-line for connecting the adjacent ends of said sections together, and a flexible connection fast at one end to the bottom of said bow-section, the other end of said connection detachably attached to said stern-section, said intermediate section adapted to receive said stern-section, and said stern-section adapted to receive said bow-section when said sections are detached one from another.

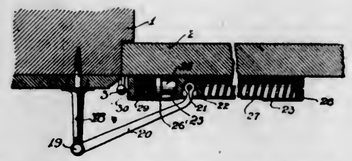
6. A sectional boat comprising in its construction a plurality of sections provided with water-tight bulkheads at adjacent ends thereof, a plurality of plates fast to the gunwales of said sections at the adjacent ends thereof, means for connecting the adjacent pairs of said plates together, and a flexible connection extending longitudinally of and beneath said sections, said connection connecting the two end sections of said boat together.

7. A sectional boat comprising in its construction a plurality of sections provided with water-tight bulkheads at adjacent ends thereof, a plurality of plates fast to the gunwales of said sections at adjacent ends thereof, said plates arranged in pairs having tongue-and-groove engagement one with the other, a plurality of pins adapted to lock together the members of said pairs, and a flexible connection extending longitudinally of and beneath said sections, said connection connecting the two end sections of said boat together.

8. A sectional boat comprising in its construction a bow-section, a stern-section, and an intermediate section, said sections provided with water-tight bulkheads at their adjacent ends, means located above the water-line for connecting the adjacent ends of said sections together, and a flexible connection fast at one end to said bow-section, the other end of said flexible connection detachably attached to the transom of said stern-section above the water-line.

9. A sectional boat comprising in its construction a plurality of sections provided with water-tight bulkheads at adjacent ends thereof, means located above the water-line for connecting said adjacent ends together, and means extending longitudinally of and beneath said sections for holding said sections together, said last-named means fastened at one end thereof to the bow-section of said boat and movable relatively to said bow-section, the other end of said means detachably attached to the stern-section of said boat, said sections adapted to fit one within another when detached one from another.

842,350. DOOR-CHECK. ROBERT R. SMITH, Philadelphia, Pa. Filed Apr. 1, 1905. Renewed Dec. 12, 1906. Serial No. 347,551.



Claim.—1. In apparatus of the class described, a movable part, a stationary part, a casing fixed to one of said parts, a link pivotally connected to the other of said parts, coiled springs in said casing, a plunger in said casing actuated by one of said springs, a piston in said casing actuated by the other of said springs and pivotally connected to said link, said plunger being adapted for checking the movement of said piston, and means for limiting the movements of said plunger and piston toward each other, substantially as specified.

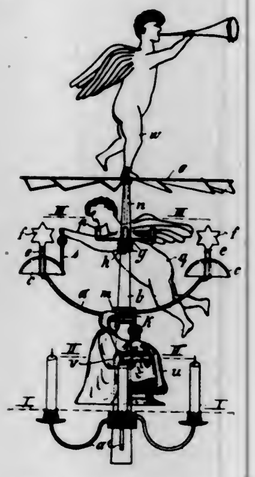
2. In apparatus of the class described, a movable part, a stationary part, a strut fixed to one of said parts, a guiding device fixed to the other of said parts, coiled springs therein, a plunger mounted to reciprocate in said device and actuated by one of said springs, a piston mounted to be reciprocated in said device and actuated in one direction by the other of said springs, said springs pressing said plunger and piston toward each other, and a link pivotally connected to said piston and said strut, substantially as specified.

3. In apparatus of the class described, a guiding device, coiled springs supported in said device, a piston in said device and actuated by one of said springs, a plunger mounted to be reciprocated in said device actuated by the other of said springs, said device having a stop for limiting the movement of said piston and plunger toward each other, a link pivotally connected to said plunger, and a

strut pivotally connected to said link, substantially as specified.

4. In apparatus of the class described, a cylinder having a bearing crimped therein and removable bearings at the ends thereof, a piston and plunger in said cylinder on opposite sides of said bearing, coiled springs in said cylinder which thrust said piston and plunger toward each other, a link pivotally connected to said piston and reciprocating in a slot in said cylinder, and a strut pivotally connected to said link, substantially as specified.

842,351. CHRISTMAS-MUSIC APPARATUS. WALTER STOCK, Solingen, Germany. Filed Feb. 19, 1906. Serial No. 301,936.



Claim.—1. A Christmas toy consisting of a standard, holders attached thereto at different heights, some of said holders carrying tapers and others carrying bells, a needle fitted to the standard, a tube seated on said needle, a wheel fixed to said tube, the latter being provided with arms having figures seated thereon said figures carrying clappers which strike the bells upon the rotation of the wheel.

2. A Christmas toy comprising a standard, holders attached thereto at different heights, said holders consisting of arms forming loops at the inner end, a hollow rivet uniting said loops allowing the adjustment of the arms for the purpose described and set forth.

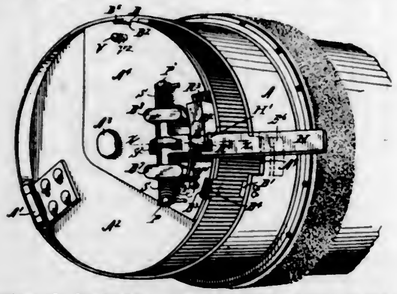
3. In a Christmas toy comprising a standard, holders attached thereto at different heights, tapers and bells fitted in said holders and figures attached to the bell-holders for the purpose described and set forth.

4. A Christmas toy consisting of a standard, holders attached thereto at different heights, tapers and bells fitted in said holders, a needle fitted to the standard, a guiding-tube seated on said needle, a wheel fixed to said tube and a kneeling or upright figure fitted over the tube and having a tubular extension for the purpose described and set forth.

5. A Christmas toy consisting of a standard, holders attached thereto of different heights, tapers and bells fitted in said holders, a needle fitted to the standard, said needle forming at one end a spiral and a tube seated on said needle carrying a wheel for the purpose described and set forth.

6. A Christmas toy consisting of a standard, holders attached thereto at different heights, tapers and bells fitted in said holders, a needle fitted to the standard, a guiding-tube seated on said needle, a wheel fixed to said tube and clappers fitted to said wheel for the purpose described and set forth.

842,352. CARRIER FOR PNEUMATIC-DESPATCH APPARATUS. CHARLES F. STODDARD, Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del., a Corporation of Delaware. Filed May 17, 1904. Serial No. 208,369.



Claim.—1. In a carrier for pneumatic-despatch-tube apparatus, a cover, locking mechanism pivoted on said cover, a lever for operating said locking mechanism, means on the shell of the carrier with which said locking mechanism engages for locking the cover to the shell of the carrier, a spring for holding said lever within the periphery of the carrier when the cover is locked to the shell of the carrier and means for holding said lever against the action of said spring outside of the periphery of the shell when the cover is unlocked.

2. In a carrier for pneumatic-despatch-tube apparatus, a cover, locking mechanism pivoted on said cover, a lever for operating said locking mechanism, means on the shell of the carrier with which said locking mechanism engages for locking the cover to the shell of the carrier, a spring acting on said lever for holding said lever within the periphery of the carrier when the cover is locked to the shell of the carrier and means for holding said lever against the action of said spring outside of the periphery of the shell when the cover is unlocked.

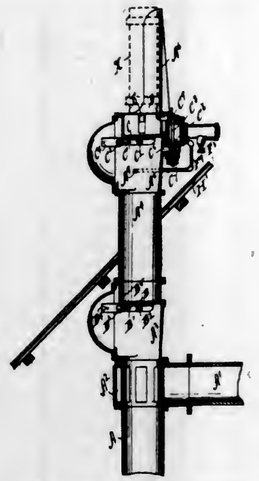
3. In a carrier for pneumatic-despatch-tube apparatus, a cover, locking mechanism pivoted on said cover, a lever for operating said locking mechanism, means on the shell of the carrier with which said locking mechanism engages for locking the cover to the shell of the carrier, a spring acting on said lever for holding said lever within the periphery of the carrier when the cover is locked to the shell of the carrier, and means engaging with said lever for holding the same against the action of said spring beyond the periphery of the carrier when the cover is unlocked from the shell of the carrier.

4. In a carrier for pneumatic-despatch-tube apparatus, a cover, a plate pivoted on said cover, a lever pivoted to said plate for operating the same, lugs on the shell of the carrier with which said plate engages for locking the cover to the shell of the carrier, a spring for holding said lever within the periphery of the carrier when the cover is locked to the shell of the carrier and means for holding said lever against the action of said spring outside of the periphery of the shell when the cover is unlocked.

5. In a carrier for pneumatic-despatch-tube apparatus, a cover, a plate pivoted on said cover, a lever pivoted to said plate for operating the same, lugs on the shell of the carrier with which said plate engages for locking the cover to the shell of the carrier, a spring acting on said lever for holding said lever within the periphery of the carrier when the cover is locked to the shell of the carrier and means for holding said lever against the action of said spring outside of the periphery of the shell when the cover is unlocked.

6. In a carrier for pneumatic-despatch-tube apparatus, a cover, a plate pivoted on said cover, a lever pivoted to said plate for operating the same, lugs on the shell of the carrier with which said plate engages for locking the cover to the shell of the carrier, a spring acting on said lever for holding said lever within the periphery of the carrier when the cover is locked to the shell of the carrier, and means engaging with said lever for holding the same against the action of said spring beyond the periphery of the carrier when the cover is unlocked from the shell of the carrier.

842,353. PNEUMATIC-DESPATCH APPARATUS. CHARLES F. STODDARD, Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del., a Corporation of Delaware. Filed May 20, 1904. Serial No. 208,811.



Claim.—1. In a pneumatic-despatch-tube apparatus, a transmission-tube, a sending-terminal connected to said transmission-tube, inner and outer gates normally closing said sending-terminal, means for normally producing equalization of pressure in the transmission-tube and the sending-terminal, an exhaust-port from said sending-terminal to the atmosphere normally closed, an exhaust-valve controlling said port and operated by the carrier to allow the pressure to exhaust from the sending-terminal for releasing the transmission-tube pressure on the outer gate to permit the entrance of a carrier into the sending-terminal, means for closing said exhaust-valve after the entrance of the carrier to permit the pressure in the sending-terminal and the transmission-tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission-tube, and mechanism operated by a reduction of pressure in said terminal for preventing the carrier from operating the outer gate to open the same until a predetermined time after said pressure becomes normal.

2. In a pneumatic-despatch-tube apparatus, a transmission-tube, a sending-terminal connected to said transmission-tube, inner and outer gates normally closing said sending-terminal, means for normally producing equalization of pressure in the transmission-tube and the sending-terminal, an exhaust-port from said sending-terminal to the atmosphere normally closed, an exhaust-valve controlling said port operated by the carrier to allow the pressure to exhaust from the sending-terminal for releasing the transmission-tube pressure on the outer gate to permit the entrance of a carrier into the sending-terminal, means for closing said exhaust-valve after the entrance of the carrier to permit the pressure in the sending-terminal and the transmission-tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission-tube and to hold said outer gate closed so that the pressure in the transmission-tube will not escape into the atmosphere while the inner gate is open, and mechanism operated by a reduction of pressure in said terminal for preventing the carrier from operating the outer gate to open the same until a predetermined time after said pressure becomes normal.

3. In a pneumatic-despatch-tube apparatus, a transmission-tube, a sending-terminal connected to said transmission-tube, inner and outer gates normally closing said sending-terminal, means for normally producing equalization of pressure in the transmission-tube and the sending-terminal, an exhaust-port from said sending-terminal to the atmosphere normally closed, an exhaust-valve controlling said port operated by the carrier to allow the pressure to exhaust from the sending-terminal for releasing the transmission-tube pressure on the outer gate to permit the entrance of a carrier into the sending-terminal, a counterweight on said exhaust-valve for closing the same after the entrance of the carrier to permit the pressure in the sending-terminal and the transmission-tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission-tube and to hold the said outer gate closed so that the pressure in the transmission-tube will not escape into the atmosphere while the inner gate is open, and mechanism operated by a reduction of pressure in said terminal for preventing the insertion of a carrier into the sending-terminal and to allow the insertion of a carrier into said sending-terminal in a predetermined time after said pressure becomes normal.

4. In a pneumatic-despatch-tube apparatus, a transmisison-tube, a sending-terminal connected to said transmission-tube, inner and outer gates closing said sending-terminal, a by-pass for normally producing equalization of pressure in the transmission-tube and the sending-terminal, an exhaust-port from said sending-terminal to the atmosphere normally closed, an exhaust-valve controlling said port operated by the carrier to allow the pressure to exhaust from the sending-terminal for releasing the transmission-tube pressure on the outer gate to permit the entrance of a carrier into the sending-terminal, a counterweight on said exhaust-valve for closing the same after the entrance of the carrier to permit the pressure in the sending-terminal and the transmission-tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission-tube and to hold the said outer gate closed so that the pressure in the transmission-tube will not escape while the inner gate is open, and mechanism operated by a reduction of pressure in said terminal for preventing the insertion of a carrier into the sending-terminal and to allow the insertion of a carrier into said sending-terminal in a predetermined time after said pressure becomes normal.

5. In a pneumatic-despatch-tube apparatus, a transmission-tube, a sending-terminal connected to said transmission-tube, inner and outer gates normally closing said sending-terminal, means for normally producing equalization of pressure in the transmission-tube and the sending-terminal, an exhaust-port from said sending-terminal to the atmosphere normally closed, an exhaust-valve controlling said port and operated by the carrier to allow the pressure to exhaust from the sending-terminal for releasing the transmission-tube pressure on the outer gate to permit the entrance of the carrier into the sending-terminal, means for closing said exhaust-valve after the entrance of the carrier to permit the pressure in the sending-terminal and the transmission-tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission-tube, a finger above said outer gate, means for locking said finger against movement for a predetermined time after the insertion of a carrier to prevent the insertion of other carriers into the sending-terminal, and mechanism operated by the pressure in the terminal for releasing said locking means to allow the insertion of another carrier.

6. In a pneumatic-despatch-tube apparatus, a transmission-tube, a sending-terminal connected to said transmission-tube, inner and outer gates normally closing said sending-terminal, means for normally producing equalization of pressure in the transmission-tube and the sending-terminal, an exhaust-port from said sending-terminal to the atmosphere normally closed, an exhaust-valve controlling said port operated by the carrier to allow the pressure to exhaust from the sending-terminal for releasing the transmission-tube pressure on the outer gate to permit the en-

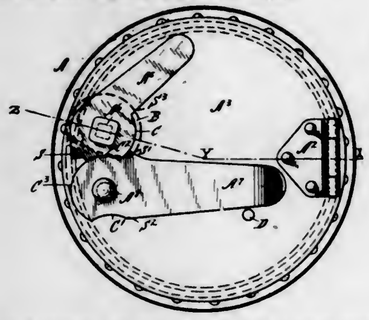
trance of a carrier into the sending-terminal, means for closing said exhaust-valve after the entrance of a carrier to permit the pressure in the sending-terminal and the transmission-tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission-tube and to hold said outer gate closed so that the pressure in the transmission-tube will not escape into the atmosphere while the inner gate is open, a finger above said outer gate, means for locking said finger against movement for a predetermined time after the insertion of the carrier to prevent the insertion of other carriers into the sending-terminal, and mechanism operated by the pressure in the terminal for releasing said locking means to allow the insertion of another carrier.

7. In a pneumatic-despatch-tube apparatus, a transmission-tube, a sending-terminal connected to said transmission-tube, inner and outer gates normally closing said sending-terminal, means for normally producing equalization of pressure in the transmission-tube and the sending-terminal, an exhaust-port from said sending-terminal to the atmosphere normally closed, an exhaust-valve controlling the said port operated by the carrier to allow the pressure to exhaust from the sending-terminal for releasing the transmission-tube pressure on the outer gate to permit the entrance of a carrier into the sending terminal, a counterweight on said exhaust-valve for closing the same after the entrance of the carrier to permit the pressure in the sending-terminal and the transmission-tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission-tube and to hold the said outer gate closed so that the pressure in the transmission-tube will not escape into the atmosphere while the inner gate is open, a finger above said outer gate, means for locking said finger against movement for a predetermined time after the insertion of the carrier to prevent the insertion of other carriers into the sending-terminal, and mechanism operated by the pressure in the terminal for releasing said locking means to allow the insertion of another carrier.

8. In a pneumatic-despatch-tube apparatus, a transmission-tube, a sending-terminal connected to said transmission-tube, inner and outer gates normally closing said sending-terminal, a by-pass for normally producing equalization of pressure in the transmission-tube and the sending-terminal, an exhaust-port from said sending-terminal to the atmospliere normally closed, an exhaust-valve controlling said port operated by the carrier to allow the pressure to exhaust from the sending-terminal for releasing the transmission-tube pressure on the outer gate to permit the entrance of a carrier into the sending-terminal, a counterweight on said exhaust-valve for closing the same after the entrance of the carrier to permit the pressure in the sending-terminal and the transmission-tube to substantially equalize on the inner gate whereby the weight of the carrier will open said inner gate and enter the transmission-tube and to hold the outer gate closed so that the pressure in the transmission-tube will not escape while the inner gate is open, a finger above said outer gate, means for locking said finger against movement for a predetermined time after the insertion of the carrier to prevent the insertion of other carriers into the sending-terminal, and mechanism operated by the pressure in the terminal for releasing said locking means to allow the insertion of another carrier.

842,354. CARRIER FOR PNEUMATIC-DESPATCH-TUBE APPARATUS. CHARLES F. STODDARD, Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del., a Corporation of Delaware. Filed May 20, 1904. Serial No. 208,812.

Claim.—1. In a carrier for pneumatic-despatch-tube apparatus, a shell, a cover hinged to said shell, a bolt for locking said cover to the shell, a pivoted member for operating said bolt and a second pivoted member for securing the first-mentioned pivoted member; each of said pivoted members having a surface concentric with its own pivotal point and a surface concentric with the pivotal point of the other member; and said pivoted members operating so that neither can be turned except when concentric surfaces register with each other.

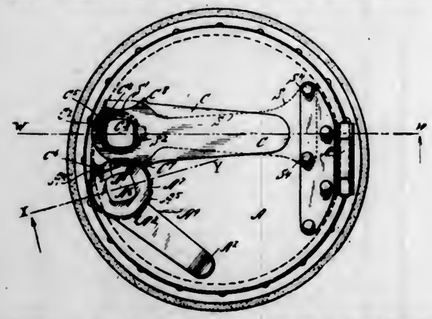


2. In a carrier for pneumatic-despatch-tube apparatus, a shell, a cover hinged to said shell, a bolt for locking said cover to the shell, a pivoted lever for operating said bolt, and a safety-lever pivoted on said cover; each of said levers having a surface concentric with its pivotal point and a surface concentric with the pivotal point of the other lever; and said levers operating so that neither can be turned except when concentric surfaces register with each other.

3. In a carrier for pneumatic-despatch-tube apparatus, a shell, a cover hinged to said shell, a bolt for locking said cover to the shell, a pivoted member for operating said bolt and having a curved surface concentric with its pivotal point, and a second pivoted member having a curved surface concentric with the pivotal point of the pivoted member for operating the bolt; and said pivoted members operating so that the bolt-operating member cannot be turned except when the two concentric surfaces register with each other.

4. In a carrier for pneumatic-despatch-tube apparatus, a shell, a cover hinged to said shell, a bolt for locking said cover to the shell, and mechanism for securing said bolt comprising two pivoted members with one of said pivoted members operating to move the bolt; both of said pivoted members having curved surfaces concentric to the pivotal points of each of said members; and said members operating so that neither can be turned except when concentric surfaces register with each other.

842,355. CARRIER FOR PNEUMATIC-DESPATCH-TUBE APPARATUS. CHARLES F. STODDARD, Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del., a Corporation of Delaware. Filed May 20, 1904. Renewed July 28, 1905. Serial No. 271,718.



Claim.—1. In a carrier for pneumatic-despatch-tube apparatus, a cover, locking mechanism for securing the cover to the shell of the carrier, means for holding said locking mechanism against movement when the cover is locked to the shell of the carrier, a device for locking said holding mechanism against movement when the cover is open, and means for releasing said holding mechanism when the cover is moved into locking position on the shell of the carrier.

2. In a carrier for pneumatic-despatch-tube apparatus, a cover, locking mechanism for securing the cover to the shell of the carrier, mechanism engaging with said locking mechanism for holding said locking mechanism against movement when the cover is locked to the shell of the carrier, a device for locking said holding mechanism against movement when the cover is open, and means for releasing said holding mechanism when the cover is moved into locking position on the shell of the carrier.

3. In a carrier for pneumatic-despatch-tube apparatus, a cover, a bolt for locking said cover to the shell of the carrier, a locking-lever for operating said bolt to lock and unlock the same, a safety-lever coöperating with said locking-lever for holding said locking-lever against movement when the cover is locked to the shell of the carrier, a device for locking said safety-lever against movement when the cover is open, and means for releasing said safety-lever when the cover is moved into locking position on the shell of the carrier.

4. In a carrier for pneumatic-despatch-tube apparatus, a cover, a bolt for locking said cover to the shell of the carrier, a locking-lever for operating said bolt to lock and unlock the same, a safety-lever engaging and coöperating with said locking-lever for holding said locking-lever against movement when the cover is locked to the shell of the carrier, a device for locking said safety-lever against movement when the cover is open, and means for releasing said safety-lever when the cover is moved into locking position on the shell of the carrier.

5. In a carrier for pneumatic-despatch-tube apparatus, a cover, a bolt for locking said cover to the shell of the carrier, a locking-lever for operating said bolt to lock and unlock the same, a safety-lever engaging and coöperating with said locking-lever, the said levers being provided with interacting parts for preventing the operation of the locking-lever when the cover is locked to the shell of the carrier, a device for locking said safety-lever against movement when the cover is open, and means for releasing said safety-lever when the cover is moved into locking position on the shell of the carrier.

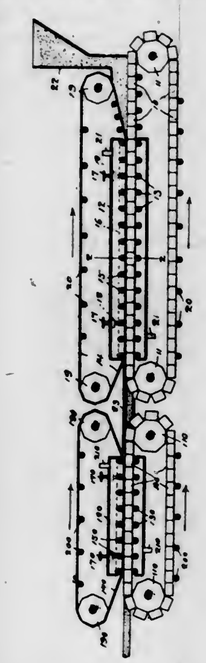
6. In a carrier for pneumatic-despatch-tube apparatus, a cover, a bolt for locking said cover to the shell of the carrier, a locking-lever for operating said bolt to lock and unlock the same, a safety-lever engaging and coöperating with said locking-lever for holding said locking-lever against movement when the cover is locked to the shell of the carrier and extending beyond the periphery of the carrier to prevent the insertion of the carrier into the transmission-tube when removed from locking engagement with the locking-lever, a device for locking said safety-lever against movement when the cover is open, and means for releasing said safety-lever when the cover is moved into locking position on the shell of the carrier.

7. In a carrier for pneumatic-despatch-tube apparatus, a cover, a cam-bolt for locking said cover to the shell of the carrier, a locking-lever for operating said bolt to lock and unlock the same, a safety-lever engaging and coöperating with said locking-lever for holding said locking-lever against movement when the cover is locked to the shell of the carrier, and extending beyond the periphery of the carrier to prevent the insertion of the carrier into the transmission-tube when removed from locking engagement with the locking-lever, a device for locking said safety-lever against movement when the cover is open, and means for releasing said safety-lever when the cover is moved into locking position on the shell of the carrier.

842,356. METHOD OF AND MECHANISM FOR MAKING CORK SHEETS. JUNIUS H. STONE, New York, N. Y. Filed Oct. 10, 1906. Serial No. 338,249.

Claim.—1. The method of making a cork sheet or strip, the same consisting in continuously forming a layer of granulated cork, simultaneously compressing and heating said layer as it is formed, and progressively cooling said layer and holding it under compression during such cooling, the material being held substantially air-excluded during the heating and cooling.

2. The method of making a cork sheet or strip, the same consisting in continuously forming a layer of granulated cork, passing the layer through a heater, compressing said layer while in the heater, and then passing the layer through a cooler, the material being held substantially air-excluded during the heating and cooling.



3. The method of making a cork sheet or strip, the same consisting in continuously forming a layer of granulated cork, passing the layer through a heater, compressing said layer while in the heater, and then passing the layer through a cooler and holding it under compression in said cooler, the material being held substantially air-excluded during the heating and cooling.

4. The method of making a cork sheet or strip, the same consisting in continuously forming a layer of granulated cork, passing the layer through a heater, compressing said layer while in the heater, cooling the layer under pressure after leaving the heater, and passing the layer through an air-excluding housing between the heater and the cooler.

5. An apparatus for the manufacture of continuous cork sheets or strips, comprising an endless carrier, an endless presser, said carrier and presser being in opposition to each other, the opposing surfaces moving in the same direction, said carrier being substantially unyielding while carrying the material, an oven inclosing portions of the carrier and presser, and means for supporting the portions of the carrier and presser within the oven.

6. An apparatus for the manufacture of continuous cork sheets or strips, comprising an endless carrier, an endless presser, said carrier and presser being in opposition to each other, the opposing surfaces moving in the same direction, said carrier being substantially unyielding while carrying the material, an oven inclosing portions of the carrier and presser, rolls for supporting the portion of the carrier within the oven, and adjustable pressing-rolls bearing on the portion of the presser within the oven.

7. An apparatus for the manufacture of continuous cork sheets or strips, comprising an endless carrier, an endless presser, an oven inclosing portions of the carrier and

presser, a cooler, and an endless carrier and endless presser having portions inclosed by said cooler.

8. An apparatus for the manufacture of continuous cork sheets of strips, comprising an oven, a cooler, an intermediate housing between the oven and the cooler, and endless carriers and pressers, having portions inclosed by said oven and cooler, and adapted to form and feed a layer of granulated cork through the oven and the housing and the cooler.

9. An apparatus for the manufacture of continuous cork sheets or strips, comprising a movable compressing device adapted to receive granulated cork in layer form, said device comprising an endless carrier formed of pivotally-connected sections and an endless compressor formed of pivotally-connected plates, and a heating device for heating the layer as it is being compressed, said compressing device being movable in a single plane while subjected to the heating action.

842,357. METHOD OF FILLING TEETH. HAMILTON F. STRONG, Cleveland, Ohio. Filed June 9, 1905. Serial No. 264,434.



Claim.—1. The method herein described of filling teeth, consisting, first, in placing a lining of one or more layers of tin-foil about the wall of the cavity, then covering the tin-foil with a coating of non-conducting material in liquid form; and, finally, filling the cavity with amalgam, gold, or other suitable filling material.

2. The method herein described of filling teeth, which consists in placing a metallic lining about the wall of the cavity of the tooth and then covering said lining with a medicated liquid adapted to harden and form a non-conducting film over said lining, then partially filling said cavity with amalgam, and, lastly, coating the amalgam with the medicated liquid and covering the same with gold.

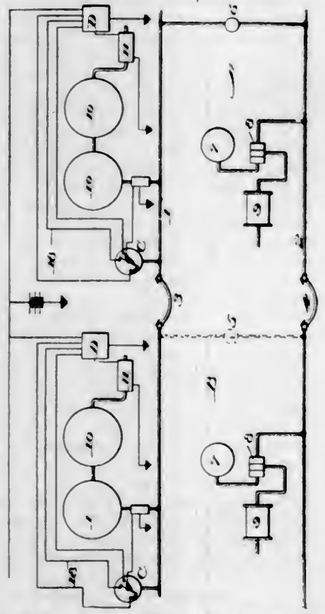
842,358. WIRELESS BALANCE FOR ELECTRIC GENERATORS. ROBERT C. TAYLOR and EDWARD TAYLOR, Brooklyn, N. Y., assignors to Westinghouse Air-Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Aug. 8, 1904. Serial No. 219,865.

Claim.—1. In apparatus of the class described, in combination, a reservoir, a pump adapted to force a fluid into said reservoir, and means comprising two circuits adapted upon either of said circuits being completed to cause the actuation of said pump.

2. In apparatus of the class described, in combination, a reservoir, a reservoir-line, a pump adapted to force air into said reservoir, and means comprising a connection between said reservoir and said reservoir-line adapted to permit air to pass from said reservoir to said reservoir-line and upon air tending to pass from said reservoir-line to said reservoir to start said pump.

3. In apparatus of the class described, in combination, a reservoir, a reservoir-line, a connection between said reservoir and said reservoir-line, and means comprising a movable member in said connection adapted upon the pressure in either said reservoir or said reservoir-line becoming lower than that of the other to cause air to flow into that of the lower pressure.

4. In apparatus of the class described, in combination, a reservoir, a reservoir-line, a pump adapted to force air into said reservoir, a connection between said reservoir and said reservoir-line, means comprising two circuits adapted upon either of said circuits being completed to cause the actuation of said pump, pressure-controlled means adapted to complete one of said circuits, and means comprising a movable member within said connection adapted to permit the passage of air from said reservoir to said reservoir-line and upon air tending to pass in the reverse direction to complete the other of said circuits.



5. In apparatus of the class described, in combination, a reservoir, a reservoir-line, a pump adapted to force air into said reservoir, a connection between said reservoir and said reservoir-line, a movable member within said connection adapted in one position to obstruct the passage therethrough, in a second position to permit the passage of air through said connection and in a third position to maintain said passage in obstructed condition and to complete an electric circuit, said movable member being exposed upon separate portions of its surface to the pressures from said reservoir and from said reservoir-line respectively and being adapted to assume said second and said third positions according as the pressure from said reservoir or from said reservoir-line preponderates, and means connected with said electric circuit adapted upon the same being completed to start said pump.

6. In apparatus of the class described, in combination, a reservoir, a reservoir-line, a pump adapted to force air into said reservoir, a connection between said reservoir and said reservoir-line, a movable member within said connection adapted in one position to obstruct the passage therethrough, in a second position to permit the passage of air through said connection and in a third position to maintain said passage in obstructed condition and to complete an electric circuit, said movable member being exposed upon separate portions of its surface to the pressures from said reservoir and from said reservoir-line respectively and being adapted to assume said second and said third positions according as the pressure from said reservoir or from said reservoir-line preponderates, means connected with said electric circuit adapted upon the same being completed to start said pump, and a spring tending to maintain said movable member in said first position.

7. In apparatus of the class described, in combination, a reservoir, a reservoir-line, a pump adapted to force air into said reservoir, a connection between said reservoir and said reservoir-line, a movable member within said connection adapted in one position to obstruct the passage therethrough, in a second position to permit the passage of air through said connection and in a third position to maintain said passage in obstructed condition and to complete an electric circuit, said movable member being exposed upon separate portions of its surface to the pressures from said reservoir and from said reservoir-line respectively and being adapted to assume said second and said third positions according as the pressure from said reservoir or from said reservoir-line preponderates, means connected with said electric circuit adapted upon the same being completed to start said pump, means adapted upon the pressure of said reservoir-line attaining a certan value to stop said pump, and means adapted automatically to break said circuit before said last-mentioned pressure is attained.

8. In a braking system, a reservoir-line, a plurality of reservoirs, a plurality of pumps, and means positioned between said reservoirs and said reservoir-line adapted upon the pressure in said reservoir-line becoming greater than that in the corresponding reservoir to cause a pump to force air into said reservoir and adapted upon the pressure in one of said reservoirs becoming greater than that in said reservoir-line to permit the free passage of air from said reservoir to said reservoir-line.

9. In a braking system, a reservoir-line, a reservoir, a pump, means adapted upon the pressure in said reservoir-line falling to a certain point to cause the actuation of said pump, and means adapted upon the pressure in said reservoir-line increasing to cause the actuation of said pump independently of said first-mentioned means.

10. In a braking system, a reservoir-line, a reservoir, a pump, means adapted upon the pressure in said reservoir-line falling to a certain point to cause the actuation of said pump, and means interposed between said reservoir and said reservoir-line adapted upon the pressure in said reservoir-line exceeding that in said reservoir to cause the actuation of said pump independently of said first-mentioned means.

11. In a braking system, a pump, a reservoir, a reservoir-line, means adapted to cause the operation of said pump upon the fall of pressure in said reservoir-line to a predetermined point, and means adapted to cause the operation of said pump independently of the condition of said first-mentioned means.

12. In a braking system, a reservoir-line, a reservoir, a pump, means adapted upon the fall of pressure in said reservoir-line to a certain predetermined point to complete a circuit and cause the actuation of said pump, and means adapted upon the increase of pressure in said reservoir-line above that in said reservoir to complete another circuit and cause the actuation of said pump.

13. In a controlling apparatus, two receptacles adapted to contain a fluid under pressure, a connection between the same, and a movable member in said connection the opposite sides of which are respectively exposed to the pressure within said two receptacles and the path of travel of which is limited by a stop and an electric contact.

14. In a controlling apparatus, two receptacles adapted to contain a fluid under pressure, a connection between the same, a movable member in said connection the opposite sides of which are respectively exposed to the pressure within each of said two receptacles and the path of travel of which is limited by a stop and an electric contact, and a by-pass about said removable member normally closed thereby and adapted to be opened upon the pressure in one of said receptacles exceeding that in the other.

15. In a controlling apparatus, two receptacles adapted to contain a fluid under pressure, a connection between the same, a movable member in said connection the opposite sides of which are respectively exposed to the pressure within said two receptacles and the path of travel of which is limited by a stop and an electric contact, and a by-pass about said movable member normally closed thereby, said movable member being adapted upon movement against said stop to open said by-pass and upon movement against said electric contact to complete an electric circuit.

16. In a controlling apparatus, two receptacles adapted to contain a fluid under pressure, a connection between the same, a movable member in said connection the opposite sides of which are respectively exposed to the pressure within said two receptacles and the path of travel of which is limited by a stop and an electric contact, and a by-pass about said movable member normally closed thereby, said movable member being adapted upon the pressure in one of said receptacles exceeding that of the other to be forced against said stop and open said by-pass and upon the pressure in the latter receptacle becoming the greater to be forced in the opposite direction against said electric contact and complete an electric circuit.

17. In a controlling apparatus, two receptacles adapted to contain a fluid under pressure, a connection between the same, a movable member in said connection the opposite sides of which are respectively exposed to the pressure within said two receptacles and the path of travel of which is limited by a stop and an electric contact, and a by-pass about said movable member normally closed thereby, said movable member being adapted upon the pressure in one of said receptacles exceeding that of the other to be forced against said stop and open said by-pass and upon the pressure in said last-mentioned receptacle becoming the greater to be forced in the opposite direction against said electric contact and complete an electric circuit and maintain said by-pass in a closed condition.

18. In a braking system, a reservoir-line, a reservoir, a pump, a connection between said reservoir and said reservoir-line, and a movable member in said connection the opposite sides of which are respectively exposed to the pressure within said reservoir and said reservoir-line and the path of travel of which is limited by a stop and an electric contact, said movable member being adapted upon engagement with said electric contact to complete an electric circuit and cause the actuation of said pump.

19. In a braking system, a reservoir, a reservoir-line, a pump, a connection between said reservoir and said reservoir-line, a movable member in said connection the opposite sides of which are respectively exposed to the pressure within said reservoir and said reservoir-line and the path of travel of which is limited in one direction by an electric contact, and a by-pass about said movable member normally closed thereby, said movable member being adapted upon the pressure in said reservoir-line exceeding that in said reservoir to be forced against said electric contact and complete an electric circuit and cause the actuation of said pump.

20. In a braking system, a pump, a reservoir, a reservoir-line, means adapted upon the pressure in said reservoir-line falling to a certain predetermined point to complete an electric circuit and cause the actuation of said pump, a connection between said reservoir and said reservoir-line, and a movable member within said connection the path of travel of which is limited in one direction by an electric contact, said movable member being adapted upon engagement with said electric contact to complete another electric circuit and cause the actuation of said pump.

21. In a braking system, a reservoir-line, a reservoir, a pump, means adapted upon the pressure in said reservoir-line falling to a certain predetermined point to cause said pump to force air into said reservoir, a connection between said reservoir-line and said reservoir, and a movable member within said connection the opposite sides of which are respectively exposed to the pressure within said reservoir and said reservoir-line and the path of travel of which is limited by a stop and an electric contact, said movable member being adapted upon pressure in said reservoir-line exceeding that in said reservoir to be forced against said electric contact and complete an electric circuit and cause said pump to force air into said reservoir.

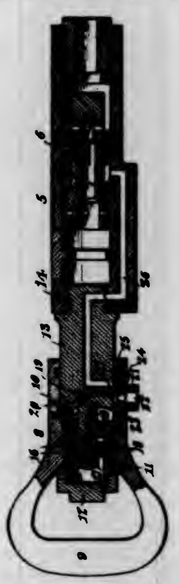
22. In a braking system, a reservoir-line, a reservoir, a pump, means adapted upon the fall of pressure in said reservoir-line to a certain point to complete an electric circuit and cause said pump to force air into said reservoir, a connection between said reservoir and said reservoir-line, a movable member within said connection the position of which is controlled by the relative pressures in said reservoir and said reservoir-line, an electric contact against which said movable member is forced upon the pressure in said reservoir-line exceeding that in said reservoir, and a by-pass about said movable member normally closed thereby and adapted to be opened upon the pressure in said reservoir exceeding that in said reservoir-line, said

movable member upon engagement with said electric contact completing an electric circuit and causing the actuation of said pump.

23. In a braking system, a plurality of reservoirs, a reservoir-line, a pump associated with each reservoir, a connection between each reservoir and said reservoir-line, and a movable member within each connection the position of which is controlled by the relative pressures in said reservoir-line and in the reservoir with which it is associated, said parts being so arranged and constructed that upon the operation of one pump the pressure in said reservoir-line will be raised, the movable members in said other connections will be actuated and the pumps associated therewith started.

24. In a braking system, a reservoir, a reservoir-line, a pump, means adapted upon the pressure in said reservoir-line falling to a certain predetermined point to cause the operation of said pump and upon the pressure therein rising to a certain other point to cause the stopping of said pump, and means positioned between said reservoir and said reservoir-line adapted upon the pressure in said reservoir-line exceeding that in said reservoir to cause the operation of said pump until the same is stopped by said first-mentioned means and adapted upon the pressure in said reservoir exceeding that in said reservoir-line to permit the free passage of air from said reservoir to said reservoir-line.

842,359. PNEUMATIC MOTOR. THOMAS TURNER, Ottumwa, Iowa. Filed Feb. 27, 1906. Serial No. 303,211.



Claim.—1. In a pneumatic tool, the combination with a motor member, of a cylinder element, a piston element operating in the cylinder element, one of said elements being connected to the motor member, and a supply-conduit opening through the cylinder element, said piston element having a channel provided with an inlet end communicating with the conduit, and an outlet communicating with the interior of the cylinder on one side of the piston to admit motive fluid to said cylinder element for effecting the relative movement of the cylinder and piston elements.

2. In a pneumatic tool, the combination with a motor member, of a cylinder element, a piston element operating in the cylinder element, one of said elements being connected to the motor member, said piston element also having a port that permits the passage of the motive fluid into the cylinder on the opposite side of the piston, and means for closing the port.

3. In a pneumatic tool, the combination with a motor member, of a cylinder element, a piston element operating in the cylinder element, one of said elements being connected to the motor member, and a supply-conduit having a supply-port opening through the cylinder element, said piston element having channels, both of which communicate with the supply-port, one of said channels communicating with the interior of the cylinder on one side of the piston to admit motive fluid to said cylinder element for effecting the relative movement of the cylinder and piston elements, the other communicating with the motor member.

4. In a pneumatic tool, the combination with a motor member, of a piston element connected thereto, a cylinder element in which the piston element operates, and a supply-conduit connected to the cylinder and having a port opening therethrough, said piston element having independent channels provided with independent inlet ends that communicate with the port of the supply-conduit, said channels leading in opposite directions, and one communicating with the interior of the cylinder, the other communicating with the motor member, said latter channel having its inlet end movable into and out of communication with the port.

5. In a pneumatic tool, the combination with a motor member, of a cylinder element, a piston element operating therein, one of said elements being connected to the motor member, a supply-conduit connected to one element, the other element having channels, both communicating with the conduit, one of said channels communicating with the cylinder on one side of the piston, the other communicating with the motor member and having its inlet end movable into and out of communication with the supply-conduit.

6. In a pneumatic tool, the combination with a motor member, of a cylinder element, a piston element snugly fitted therein and connected to the motor member, said piston element having a channel communicating with the motor member at one end and having an offset inlet end, and a supply-conduit having a port opening through the cylinder element and disposed in line with the path of movement of the inlet.

7. In a pneumatic tool, the combination with a motor member, of a cylinder element, a piston element operating in the cylinder element, one of said elements being connected to the motor member, and means for introducing motive fluid into the cylinder on one side of the piston, said means including ports carried by the piston and cylinder and arranged in alinement.

8. In a pneumatic tool, the combination with a motor member, of a cylinder element, a piston element operating in the cylinder element, one of said elements being connected to the motor member, and means for introducing motive fluid into the cylinder on one side of the piston, said means including a supply-nipple connected to the cylinder element, and a channel formed in the piston element and communicating with the nipple and with the cylinder element at one side of the piston.

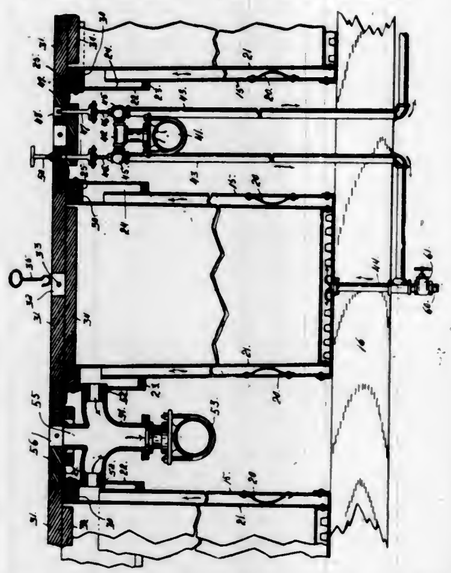
9. In a pneumatic tool, the combination with a motor member, of a cylinder element and piston element operating in the cylinder element, one of said elements being connected to the motor member, means for introducing motive fluid to the cylinder element on one side of the piston element, said piston element having an opening therethrough, and means carried by the piston element for closing said opening.

10. In a pneumatic tool, the combination with a motor member, of a cylinder element and piston element operating in the cylinder element, one of said elements being connected to the motor member, and means for introducing motive fluid to the cylinder member on one side of the piston element, said piston element comprising relatively rotatable parts having openings that are movable into and out of alinement.

11. In a pneumatic tool, the combination with a handle member having a cylinder, of a motor member having a piston element operating in the cylinder, and a supply-nipple connected to the cylinder, said piston having a channel that communicates with the nipple and with the cylinder in rear of the piston.

12. In a pneumatic tool, the combination with a handle member having a cylinder element, of a motor member having a piston element operating in the cylinder element, and a motive-fluid supply having a port through one of the cylinder-walls, said piston element having a channel communicating with the port and with the cylinder on one side of the piston, said piston element also having a supply-channel that communicates with the motor member and is movable into and out of communication with the port of the cylinder element.

842,360. ICE-MAKING SYSTEM. GEORGE L. VAIL, Denver, Colo. Filed Sept. 7, 1904. Serial No. 223,619.



Claim.—1. The combination with a chamber, of a series of outer cans suitably mounted in said chamber, the said cans being suitably separated within the chamber to permit free access to the cans, a pipe connection with each individual can to supply heat-absorbing liquid thereto, a valve connected with each supply-pipe whereby the flow of liquid to each can is controlled independently of the other cans, a platform covering the said chamber, the valves for controlling the supply of liquid to the cans being controllable from above the said platform, inner cans located in the outer cans and separated therefrom to allow the liquid to circulate freely for ice-freezing purposes, each outer can having an overflow-outlet at the top whereby as the liquid is introduced at the bottom of each outer can it is drawn off at the top of the same can.

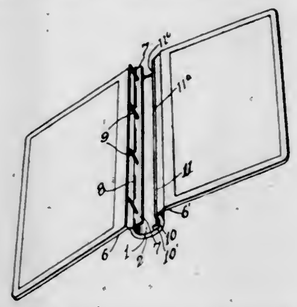
2. The combination with a dry chamber suitably insulated and closed at the top by a sectional platform, individual cans located in said chamber and suitably supported, a pipe system for conducting brine or other heat-absorbing liquid to the bottom of each individual can, a valve located to control the flow of brine to each individual can independently of the other cans, said valve being accessible from the top of the platform, each individual can being provided with an overflow-outlet, and inner cans located in the outer cans and arranged to leave a space for the circulation of brine thereabout for the purpose set forth.

3. A can provided with a suitable inlet, a wall connected with the upper part of the can below the top thereof and separated therefrom to form a trap, the said wall extending above the top proper of the can, the top of the said wall being provided interiorly with a stiffening-band, an inner can located in the first-named can and projecting above the top of the can proper, the inner can having an exteriorly-located stiffening-band which engages the stiffening-band of the outer can, the two bands together being of a thickness equal to the width of the trap.

4. The combination with a chamber, of cans located in the chamber and suitably separated, an inlet-pipe system located in the chamber and having pipes connected with the individual cans, a valve for controlling the flow to each pipe, a platform covering the chamber at the top, and means for controlling each valve from a point above the platform whereby the flow of heat-absorbing liquid to each individual can is separately controlled.

5. The combination with a chamber of an outer can mounted in said chamber, a platform covering said can, a pipe connection with the can to supply heat-absorbing liquid thereto, a valve for regulating the liquid-supply from the pipe to the can, said valve being controlled from above the platform and an inner can located in the outer can and separate therefrom to allow the liquid to circulate freely for ice-freezing purposes.

842,361. PERMANENT BINDER FOR LOOSE-LEAF RECORDS. AUGUST WAGNIERE, Los Angeles, Cal., assignor of one-half to Henry J. Pauly, Los Angeles, Cal. Filed May 17, 1905. Serial No. 260,744.



Claim.—1. In a loose-leaf binder, a channeled back member and a bar hinged thereto carrying leaf-engaging pins, and adapted to fold into the channel of the back member.

2. In a loose-leaf binder, a channeled back member, a bar hinged thereto carrying leaf-engaging pins and arranged to fold into the channel of the back member, and a locking means for engaging said pins, when the same are in the channel.

3. In a loose-leaf binder, a channeled back member, a locking-bar at one side thereof, a bar adapted to fold into the channel of the back member hinged to the other side of said member and carrying leaf-engaging pins standing upright in one position of the bar to receive the leaves, and across the channeled member in another position of the bar, to engage the locking-bar.

4. In a loose-leaf binder, a leaf-engaging member, a locking member therefor, an automatically-operating locking-detent for the locking member preventing its backward movement when engaged therewith, and means normally preventing the engagement of said locking-detent.

5. In a loose-leaf binder, a leaf-engaging member, a locking member therefor, means for normally limiting the movement of the locking member and a detent engaging the locking member, when it exceeds the normal movement, to prevent return movement.

6. In a loose-leaf binder, a leaf-engaging member, a locking member therefor having a definite normal movement, and a detent engaging the locking member when it exceeds the normal movement, to lock said bar.

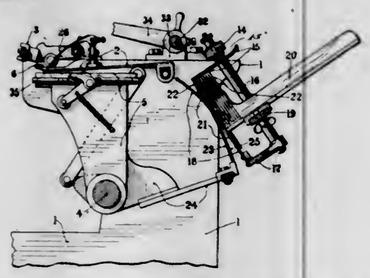
7. In a loose-leaf binder, a leaf-engaging member, a locking member therefor, movable means for normally limiting the movement of the locking member, and a detent engaging the locking member when it exceeds the normal movement, to prevent return movement.

8. In a loose-leaf binder, a leaf-engaging member, a locking member therefor, removable means for normally limiting the movement of the locking member, and a detent

engaging the locking member when it exceeds the normal movement, to prevent return movement.

9. A locking device for loose-leaf binders comprising a case member, a locking member slidable thereon, one of said members being provided with a projection and the other with a spring-detent to engage such projection in a certain relative position of the members, and a removable stop to prevent the relative movement of said members to said position.

842,362. PLATEN PRINTING-MACHINE. FRED WAITE, Otley, England. Filed Sept. 12, 1905. Serial No. 278,156.



Claim.—1. The combination with a feed-plate of a feeding device for printing-presses comprising a container-box, a curved delivery-finger to engage the envelops between their flaps and their bodies arranged to life them from the container-box, and a bridge above the container-box to prevent more than one envelop being delivered at a time, the curved finger operating to draw the envelops one at a time from underneath the bridge as it lifts them from their container-box.

2. In a feeding device for printing-presses, the combination of a container-box, delivery-fingers having a stiff portion and a separate flexible portion to engage the envelops between their flaps and their bodies, and a bridge to prevent more than one envelop being delivered at a time.

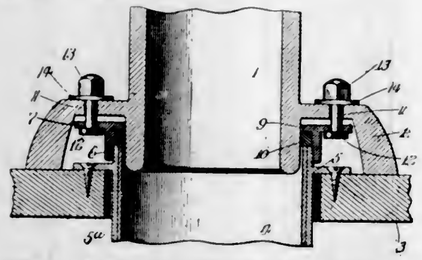
3. In a platen-machine for printing envelops having a feed-plate and a swinging part, the combination with an inclined envelop-container box having its sides and base adjustable and being provided with a stop or rest adapted to bear against the center of the flap of the foremost envelop and having a bridge-piece located over the upper edges of the envelop, of a pair of springy fingers mounted on the swinging part adapted to move the said fingers in an arc of a circle to feed the envelops upwardly toward the bridge and at the same time out from underneath the bridge one at a time onto the feed-plate, and means for automatically throwing off the impression, substantially as described.

4. In a platen-machine for printing envelops, the combination with an inclined envelop-container box consisting of a main cross-rail 14 carrying an adjustable bridge-piece 15 and being provided with depending pillars 16, 16 in connection with a cross-stay 17 provided with a stop or rest 18, said pillars 16, 16 carrying a vertically-adjustable base-rail 19 provided with horizontally-adjustable L-shaped brackets 20, 20 carrying vertically-adjustable plates 21, 21, of a pair of springy fingers mounted on the swinging platen or other part adapted to move the said fingers in an arc of a circle to feed the envelops singly onto the feed-plate, and means for automatically throwing off the impression, substantially as described.

5. In a platen-machine for printing envelops having a feed-plate and presser-fingers coöperating therewith, the combination with an inclined envelop-container box having its sides and base adjustable and being provided with a stop or rest adapted to bear against the flap of the foremost envelop and having a bridge-piece located over the upper edges of the envelops, of an automatic envelop-feed mechanism consisting of a pair of springy fingers 23, 23 provided with stiffening-pieces 25 carried on an arm 24 mounted on the swinging platen or other part adapted to move the said fingers in an arc of a circle to cause the fingers to engage the foremost envelop, draw it clear of the bridge-piece and pass it forward onto the feed-plate beneath presser-fingers, and means for automatically throwing off the impression, substantially as described.

6. In a platen-machine for printing envelops having a feed-plate, the combination with an envelop-container box and means for automatically feeding the envelops singly therefrom onto the feed-plate, of means for automatically throwing off the impression consisting of a reciprocating bar 8 formed with a shoulder 9, a pivoted weighted detent-lever 10 adapted to engage said shoulder 9 on being depressed, a rock-shaft 32 carrying a feeler-arm 34 adapted to pass through an opening 35 in the feed-plate on an envelop failing to be fed onto the said plate, a trigger 29, and a forked lever 31 on the same rock-shaft 32 adapted to operate the trigger 29 and depress the detent-lever 10 into engagement with the shoulder 9 of the reciprocating bar 8, substantially as described.

842,363. FLOOR CONNECTION FOR WATER-CLOSETS. EARL G. WATROUS, Chicago, Ill. Filed Mar. 17, 1903. Serial No. 148,167.



Claim.—1. A floor connection for water-closets comprising, in combination with the outlet of a water-closet bowl and a discharge-pipe, a floor-flange connected with the discharge-pipe and having a tubular portion communicating with the bowl-outlet, a coupling-nut adapted to engage the floor-flange, and means for connecting the nut and bowl in adjustable manner; substantially as described.

2. A floor connection for water-closets comprising, in combination with the outlet of a water-closet bowl and a discharge-pipe, a floor-flange connected with the discharge-pipe and having a tubular portion communicating with the bowl-outlet, a coupling-nut adapted to engage the exterior of the floor-flange, and bolts engaging the bowl and the nut for clamping the same together; substantially as described.

3. A floor connection for water-closets comprising, in combination with the outlet portion of a water-closet bowl and a discharge-pipe, a floor-flange connected with the discharge-pipe, a coupling-nut adapted to engage the floor-flange, packing coöperating with the nut and the end of the flange and arranged to be forced against said outlet portion of the bowl, and means for adjustably connecting the nut and bowl; substantially as described.

4. A floor connection for water-closets comprising, in combination with the outlet of a water-closet bowl and a dischargre-pipe, a floor-flange having a tubular portion connected with the discharge-pipe, a coupling-nut adapted to engage the exterior of the floor-flange, said nut having an annular flange 7 provided with bolt-holes, and bolts passing through the bowl and received by said holes whereby the bowl is clamped or secured to the nut; substantially as described.

5. A floor connection for water-closets comprising, in combination with a discharge-pipe and with the outlet of a water-closet bowl having a base 2, a floor-flange connected with the discharge-pipe and screw-threaded at its upper end, a coupling-nut screwing onto said floor-flange and provided with an outward annular flange 7 and an inward flange 9, packing arranged between the flange 9 and the end of the floor-flange, and bolts passing through said base and engaging said flange 7 of the coupling-nut, whereby the bowl is clamped to such nut and floor-flange; substantially as described.

6. The combination, with the outlet 1 and base 2 of a water-closet bowl, of a discharge-pipe 4 in communication with said outlet, a floor-flange 5 having a tubular portion 5ª connected with the discharge-pipe, a coupling-nut 6 screwing on the floor-flange and provided with a flange 7 having a series of elongated holes 8, and bolts having elongated heads adapted to pass through the base and through said holes and engage beneath said flange 7 for clamping the bowl to the nut and floor-flange; substantially as described.

7. The combination of an outlet 1 of a water-closet bowl, a base 2 for the bowl, having a series of elongated holes and forming with said outlet an annular recess or socket, a discharge-pipe 4 with which the outlet communicates, a floor-flange 5 with which the pipe 4 is connected, a coupling-nut 6 screwing upon the flange 5 and arranged in said recess or socket, said nut being provided with an annular flange 7 having a series of elongated holes, and bolts provided with elongated heads to pass through the holes in the bowl-base and flange 7 and engage under the latter; substantially as described.

8. The combination of an outlet 1 of a water-closet bowl, a base 2 for the bowl, having a series of elongated holes and forming with said outlet an annular recess or socket, a discharge-pipe 4 with which the outlet communicates, a floor-flange 5 with which the pipe 4 is connected, a coupling-nut 6 screwing upon the flange 5 and arranged in said recess or socket, said nut being provided with an annular flange 7 having a series of elongated holes, and also provided with an inwardly-directed annular flange 9, bolts provided with elongated heads to pass through the holes in the bowl-base and flange 7, and engage under the latter, and packing 10 arranged below the flange 9 and adapted to be compressed when the nut is screwed upon the floor-flange and to be thereby forced inwardly against the outer surface of the bowl-outlet; substantially as described.

9. The combination of an outlet 1 of a water-closet bowl, a base 2 comprising an annular portion or skirting whose bottom lies in the same plane as the lower end of the outlet 1, a discharge-pipe in communication with the bowl-outlet, a floor-flange connected with the discharge-pipe, a coupling-nut screwing onto said flange within the space between said outlet 1 and base 2, and means for securing the base to the coupling-nut; substantially as described.

10. The combination of an outlet 1 of a water-closet bowl, a base 2 comprising an annular portion or skirting whose bottom lies in the same plane as the lower end of the outlet 1, a discharge-pipe in communication with the bowl-outlet, a floor-flange connected with the discharge-pipe and within which the lower end of the outlet depends, said flange extending over the flange of the base between the outlet 1 and the annular portion or skirting, a coupling-nut screwing onto the flange, and means for adjustably securing the bowl-base to the coupling-nut; substantially as described.

11. A floor connection for water-closets comprising, in combination with the outlet portion of a water-closet bowl, a discharge-pipe into which the outlet portion of the bowl depends, a floor-flange connected with the discharge-pipe, and a coupling-nut adapted to engage the floor-flange, and means for securing the bowl to the coupling-nut; substantially as described.

12. A floor connection for water-closets comprising, in combination with the outlet portion of a water-closet bowl, a discharge-pipe into which the outlet portion of the bowl depends, a floor-flange connected with the discharge-pipe, and a coupling-nut encircling the outlet portion of the bowl and adapted to engage the floor-flange, and means for securing the bowl to the coupling-nut; substantially as described.

13. A floor connection for water-closets comprising, in combination with the outlet portion of a water-closet bowl, a discharge-pipe into which the outlet portion of the bowl depends, a floor-flange connected with the discharge-pipe, and a coupling-nut arranged to engage the exterior of the floor-flange, and means for securing the bowl in different adjusted positions angularly with respect to the coupling-nut; substantially as described.

14. A floor connection for water-closets comprising, in combination with the outlet portion of a water-closet bowl, a discharge-pipe into which the outlet portion of the bowl depends, a floor-flange connected with the discharge-pipe, a coupling-nut engaging the floor-flange, and an expansible joint between such nut and the outlet portion of the bowl, and means for securing the bowl to the coupling-nut; substantially as described.

15. A floor connection for water-closets comprising, in combination with the outlet portion of a water-closet bowl, a discharge-pipe into which the outlet portion of the bowl depends, a floor-flange connected with the discharge-pipe, a coupling-nut engaging the floor-flange, and an expansible and slip-joint connection between said nut and outlet portion of the bowl, and means for securing the bowl to the coupling-nut; substantially as described.

16. A floor connection for water-closets comprising a discharge-pipe, a floor-flange connected therewith, a nut engaging said floor-flange, in combination with a bowl having an outlet portion 1 and a base portion 2 terminating in substantially the same plane, said outlet portion 1 depending into the discharge-pipe and forming a slip-joint connection with said nut, and means for securing the bowl to the coupling-nut; substantially as described.

17. A floor connection for water-closets comprising a discharge-pipe, a floor-flange connected therewith, a nut engaging said floor-flange, in combination with a bowl having an outlet portion 1 and a base portion 2 terminating in substantially the same plane, said outlet portion 1 depending into the discharge-pipe and forming a slip-joint connection with said nut, and bolts 11 passing through said base 2 and engaging the nut; substantially as described.

18. A floor connection for water-closets comprising a discharge-pipe, a floor-flange connected therewith, a nut engaging said floor-flange, in combination with a bowl having an outlet portion 1 and a base portion 2 terminating in substantially the same plane, said outlet portion 1 depending into the discharge-pipe, and an expansible packing-ring interposed between the nut and floor-flange and adapted to be pressed against the exterior of the outlet portion 1 of the bowl to form a joint, and means for securing the bowl to the coupling-nut; substantially as described.

842,364. DREDGE. JAMES L. WHITE, Milwaukee, Wis., assignor of one-half to Edward L. Leser, Milwaukee, Wis. Filed Dec. 4, 1905. Serial No. 290,082.

Claim.—1. A device for excavating, having in combination, a pipe for admitting water under pressure, and a pipe for forcing off the excavated material, this latter being open at the bottom, an auger below the opening for drawing the pipes into the material to be excavated, and means for directing a stream of water upward into the draw-off pipe so that the material adjacent to the pipes will fall into the sphere of influence of the rising stream.

2. In a device for excavating material, the combination of a pipe for admitting water under pressure, a pipe for forcing off the excavated material, this latter being open at the bottom, means for placing the open-ended mouth of the draw-off pipe adjacent to the material to be excavated, such means being adjacent to the open-ended mouth, and means for passing the water upward below such material, and forcing it up in the draw-off pipe.

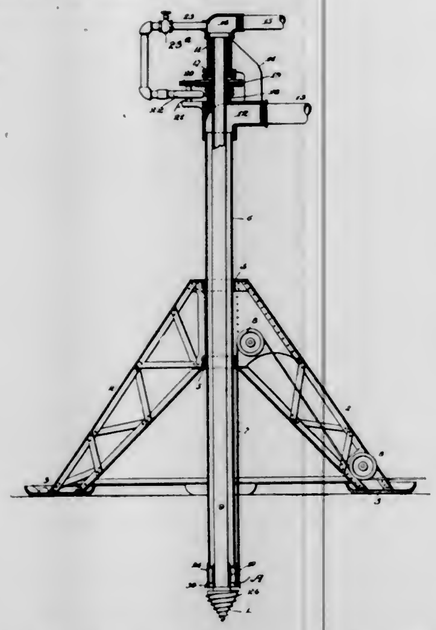
3. In a device for excavating, the combination with an injector, and a conical auger, the top of the auger being adjacent to the inlet of the injector.

4. In a device for excavating, the combination with an injector and a cone-shaped auger below and adjacent to the intake of the injector, and means for rotating the auger, whereby the material will drop by gravity upon the top of the auger within the sphere of influence of the injector.

5. In a device for excavating, the combination with an injector having an intake at the lower end thereof, of an

auger for drawing the intake of the injector into the material which is to be elevated.

6. In a device for excavating, the combination with an injector, of an auger for drawing the intake of the injector into the material to be acted upon, and a pocket carried by the auger for holding such material in proximity to the intake of the injector.



7. In a device for excavating, the combination with an inlet-pipe, an outlet-pipe and openings between the inlet and outlet pipes, such openings forming an injector and an auger for drawing the intake of the injector into the material which is to be elevated.

8. In a device for excavating, the combination with an inlet-pipe, an outlet-pipe and means of communication between the inlet and outlet pipes, of an auger for drawing the outlet-pipe into the material to be acted on, and a pocket on the auger to hold the said material in proximity to the outlet-pipe.

9. In a device for excavating, the combination with an injector, having a down-leg and an up-leg, and an auger, the said auger being carried by the down-leg.

10. In a device for excavating, the combination with a pipe and an auger, a supporting-shaft for the auger, within the pipe, the said pipe having an extension, and a steady-bearing for the shaft, the said steady-bearing being carried by the extension.

11. In a device for excavating, the combination with a down-leg, and an auger connected thereto, the said auger including a central connection for the down-leg, a hollow central chamber, means connecting the chamber to the down-leg, and an annular opening on the top of the auger communicating with the central chamber.

12. In a device for excavating, the combination with an up-leg, an auger below it separated by an interval forming an annular space, and a petticoat covering this interval.

13. In a device for excavating, the combination with a pipe, an extension thereon, and an auger, the auger being separated by an interval forming an annular space, and a series of spikes carried by the extension, forming a petticoat covering this interval.

14. In an excavating device, the combination with an up-leg, a tubular shaft therein constituting a down-leg, an elbow on the down-leg, a bracket above the elbow, a shaft-bearing for the down-leg, a chamber on the bracket, and driving means intermediate the bearing and the elbow.

15. In a device for excavating, the combination of an up-leg, a chamber above the leg, a tubular shaft within the down-leg and extending into the chamber, a bearing therefor within the chamber, a stuffing-box on the chamber, and a stuffing-box on the down-leg, and a spur-gear between the two.

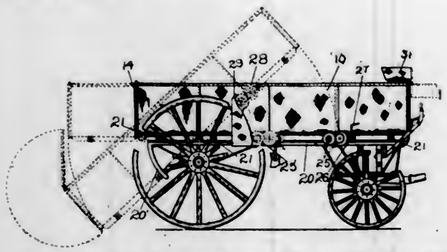
16. In a device for excavating, the combination with a pipe constituting an up-leg, a pipe constituting a down-leg, an auger on the down-leg, means for admitting water under pressure to the down-leg, a water-motor, and a by-pass pipe for shunting a portion of the water under pressure to the water-motor.

17. In a device for excavating, the combination with a frame and sledge-like feet therefor, of an injector movable in the frame, means for vertically moving the injector, and means for moving the frame.

18. In a device for excavating, the combination with a movable frame and sledge-like feet on the frame, of an injector movable in the frame, means for lowering the injector, and means for raising the injector.

19. In an apparatus of the character described, the combination with a movable frame and sledge-like feet on the frame, of an injector movable in the frame, means for lowering the injector, means for raising the injector, and means for moving the frame, said moving means and raising means being the same.

842,365. SANITARY DUMP-WAGON. FREDERICK G. WISELOGEL, Indianapolis, Ind., assignor to United States Construction and Utilization Company, Rochester, N. Y., a Corporation of New York. Filed Oct. 9, 1906. Serial No. 338,175.



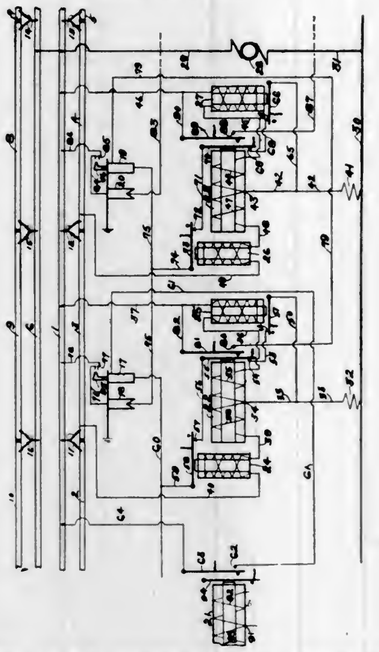
Claim.—1. In a dumping-wagon, the combination, with the running-gear, of a receptacle movably mounted thereon, a longitudinal rack carried by the running-gear, a pinion carried by the receptacle and meshing with said rack, means for rotating said pinion, a segmental rack carried by the running-gear, and a pinion carried by the receptacle and adapted to be brought into engagement with the segmental rack.

2. In a dumping-wagon, the combination, with the running-gear, of a longitudinal track having a downward extension at its rear end, an upwardly-extending segmental rack arranged in opposition to said extension, a receptacle movably supported on the track and having a member adapted to engage the said extension, a longitudinal rack carried by the running-gear, a pinion carried by the receptacle and meshing with said rack, a pinion carried by the running-gear and adapted to mesh with the vertical segment, means for rotating said pinions, and means for holding the receptacle in normal receiving position.

3. In a dumping-wagon, the combination, with the running-gear, of a receptacle reciprocally mounted thereon, a vertical rack carried by the running-gear, a pinion journaled on the receptacle and adapted to be brought into mesh with the rack, means for propelling the receptacle longitudinally on the running-gear, and a single means for operating the said propelling means and the rack-engaging pinion.

4. In a dumping-wagon, the combination, with the running-gear, of a receptacle reciprocally mounted thereon, a vertical rack carried by the running-gear, a pinion journaled on the receptacle and adapted to be brought into mesh with the rack, means for propelling the receptacle longitudinally on the running-gear, a single means for operating the said propelling means and the rack-engaging pinion, and a downward extension carried by the running-gear in opposition to the vertical rack, and means carried by the receptacle to engage said extension.

842,366. ELECTRIC BLOCK-SIGNALING SYSTEM. ADONIRAM J. WILSON, Westfield, N. J., assignor to The Hall Signal Company, a Corporation of Maine. Filed Aug. 21, 1906. Serial No. 331,424.



Claim.—1. In a block-signaling system, the combination of a circuit having two multiple branches; a magnetic device with two opposing coils, one associated with each branch; each branch including the rails of a separate track side; said branches having a normal operative effect upon said magnetic device; means operable by a car for changing said normal operative effect of said branches; a signal normally indicating danger; and means operable by an approaching car to throw said signal to safety when said branches have their normal operative effect.

2. In a block-signaling system for railways, the combination with a block of a circuit having two multiple branches; a magnetic device with two opposing coils, one in each branch; each branch including the rails of a separate track side; said branches having a normal operative effect upon said magnetic device; means operable by a car in the block for changing said normal operative effect of said branches; a signal associated with said block; and means associated with a preceding block and operable by a car in that block to control said signal when said branches have their normal operative effect.

3. In an electric block-signaling system for electric railroads, a plurality of protected blocks each provided with a signal; a differential relay at each protected block; means at each of said blocks for utilizing the same source of electric power as is used for the propulsion of trains for the operation of said differential relays; a signal; a signal-circuit therefor controlled by the differential relay of the associated block and also by the differential relay of a preceding block.

4. In an electric block-signaling system for electric railroads, a plurality of protected blocks each provided with a signal; a differential relay at each protected block; means at each of said blocks for utilizing the same source of electric power as is used for the propulsion of trains for the operation of said differential relays; a signal for each block; each of said differential relays controlling the signal of the associated block and the signal of a block in advance of the associated block.

5. In a block-signaling system; a plurality of blocks each comprising a portion of a continuous return-rail and an insulated rail-section; a source of electric power; a differential branched track-circuit, each branch including the source of electric power and one rail of the block; said branched circuit having a normal operative effect when the block is not occupied by a train; a signal for each block; a signal-circuit operable to actuate the signal when the branched circuit of the associated block has its normal operative effect and the branched circuit of a preceding block has its inoperative effect.

6. In a block-signaling system; a source of electric power; a track divided into blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a differential electromagnetic device for each block comprising two opposing coils, one connected between the source of electric power and the return-rail and the other connected between said source of power and the insulated rail-section; said differential device having a normal operative effect when the associated block is clear and an inoperative effect when the associated block is occupied by a train; a home and a distant signal for each block; signaling-circuits controlled by said differential devices and operable to actuate said signals only when the differential electromagnetic device of the associated block has its normal operative effect.

7. In an electric block-signaling system; a plurality of blocks each comprising a portion of a continuous return-rail and an insulated rail-section; an electromagnetic device with opposing windings for each block, one of said windings connected to the continuous return-rail and the other connected to the insulated rail-section; a home and a distant signal for each block; a home-signal circuit controlled by the electromagnetic device of a preceding block; a distant-signal circuit controlled by the electromagnetic device of a succeeding block and by said home signal.

8. In a signaling system; a source of electric power; a track comprising a continuous return-rail and a plurality of insulated rail-sections forming blocks; a signal for each block; a magnetic device with opposing windings for each block, one winding connected between the source of electric power and the continuous return-rail and the other winding connected between said source of electric power and an insulated rail-section of the block, said windings having a normal operative effect upon said device when the block is clear; a circuit-closer normally held closed by said magnetic device when the block is clear; a circuit-breaker normally held open by said magnetic device; a signal-circuit including said circuit-closer one block and said circuit-breaker of a preceding block whereby the signal is controlled jointly by said magnetic devices.

9. In a signaling system; a source of electric power; a track comprising a continuous return-rail and a plurality of insulated rail-sections forming blocks; a home and a distant signal for each block; a magnetic device with opposing windings for each block, one winding connected between the source of electric power and the continuous return-rail and the other winding connected between said source of electric power and the insulated rail-section of the block, said winding having a normal operative effect upon said device when the block is clear; a circuit-closer normally held closed by said magnetic device when the block is clear; a circuit-breaker normally held open by said magnetic device; a home-signal circuit including said circuit-closer of one block and said circuit-breaker of a preceding block whereby said home signal and said circuit-breaker of a preceding block whereby said home signal is controlled jointly by said magnetic devices; and a second signal-circuit for said distant signal and including the circuit-closer of a succeeding block and controlled by said home signal.

10. A normal-danger electric block-signaling system, in which a differential relay controls the signal-circuits, and arranged for utilizing the same source of power as for the propulsion of trains to cause a signal to move from "danger" to "safety" on the approach of a train to a "clear" block.

11. An electric block-signaling system, in which a differential relay controls the signal-circuits, and arranged for utilizing the same source of power as for the propulsion of trains to operate home and distant signals and a plurality of electromagnetic devices controlling signal-circuits for said signals.

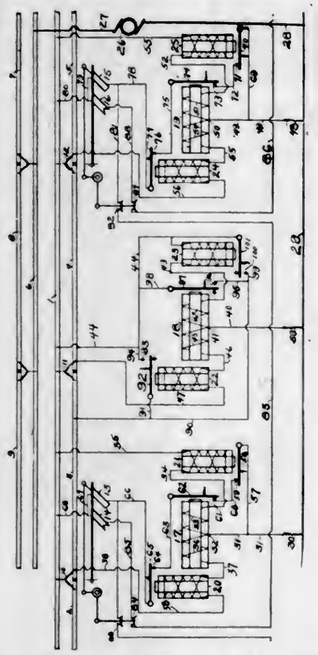
12. In a block-signaling system for railways, a block comprising a portion of a continuous return-rail and an insulated rail-section; a source of electric energy; a differential electromagnetic device comprising two opposing coils; a branched track-circuit comprising two branches each connected to the source of electric energy, one extending to the return-rail through one of said opposing coils and the other extending to the insulated rail-section through the other of said opposing coils, so that said differential device has a normal operative effect when said block is clear and an inoperative effect when said block is occupied by a train; a signal for said block and a second signal for an extent of track succeeding said block; means controlled by track-rails succeeding said second signal; and a signal-circuit for said first-mentioned signal controlled by said differential device and by said means controlled by track-rails succeeding said second signal so that said signal-circuit overlaps said second signal.

13. In a block-signaling system for railways, a block comprising a portion of a continuous return-rail and an insulated rail-section; a source of electric energy; a differential electromagnetic device comprising two opposing coils; a branched track-circuit comprising two branches each connected to the source of electric energy, one extending to the return-rail through one of said opposing coils and the other extending to the insulated rail-section through the other of said opposing coils, so that said differential device has a normal operative effect when said block is clear and an inoperative effect when said block is occupied by a train; a signal for said block and a second signal for an extent of track succeeding said block; means for controlling said second signal controlled by track-rails succeeding said second signal; and a signal-circuit for said first-mentioned signal controlled by said differential device and by said means controlled by track-rails succeeding said second signal so that said signal-circuit overlaps said second signal.

842,367. ELECTRIC BLOCK AND BLOCK-SECTION SIGNALING SYSTEM. ADMONIRAM J. WILSON, Westfield, N. J., assignor to The Hall Signal Company, a Corporation of Maine. Filed Aug. 21, 1906. Serial No. 331,425.

Claim.—1. In a block-signaling system, a plurality of block-sections; each comprising a portion of a continuous return-rail and an insulated rail-section; means for relaying from one section to a distant section, comprising a differential electromagnetic device having two windings, one winding connected to the continuous return-rail and one winding connected to the insulated rail-section, so that their joint magnetizing effect is controllable by a train bridging the rails of said sections, and a relay-circuit connected to the rails of said distant section and controlled by said differential device.

2. In a block-signaling system, a plurality of block-sections; each comprising a portion of a continuous return-rail, an insulated rail-section and a bridging resistance therefor; means for relaying from one section to a distant section, comprising a differential electromagnetic device having two windings, one winding connected to the continuous return-rail and one winding connected to the insulated rail-section, so that their joint magnetizing effect is controllable by a train bridging the rails of said section; and a relay-circuit connected to the rails of said distant section and controlled by said differential device; a separate electromagnetic device connected between each of said two windings and the opposite rails of the block-section respectively; and a separate relay-circuit controlled by each of said latter electromagnetic devices and connected with the opposite rails of said distant block-section so as to be closed on a break in either of the said rail connections from said two coils of the differential electromagnetic device.



3. In a block-signaling system; a block comprising a portion of a continuous return-rail and a plurality of insulated rail-sections; a source of electric energy; a differential electromagnet device comprising two windings, one connected between the source of electric energy and the return-rail and the other connected between the source of electric energy and one of the insulated sections, said windings having a joint magnetizing effect when said insulated section is normal and clear and having no joint magnetizing effect when said insulated section is bridged or connected to the continuous return-rail; a signal inductively controlled by said differential electromagnetic device; and means controlled by a train on a distant insulated rail-section for electrically connecting said first-mentioned rail-section to said continuous return-rail so as to control said signal.

4. In a block-signaling system; a block comprising a portion of a continuous return-rail and a plurality of insulated rail-sections; a source of electric energy; a differential electromagnetic device comprising two windings, one connected between the source of electric energy and the return-rail and the other connected between the source of electric energy and one of the insulated sections, said windings having a joint magnetizing effect when said insulated section is normal and clear and having no joint magnetizing effect when said insulated section is bridged or connected to the continuous return-rail; a signal inductively controlled by said differential electromagnetic device; and means controlled by a train on a distant insulated rail-section for electrically connecting said first-mentioned rail-section to said continuous return-rail so as to control said signal; said means comprising a differential electromagnetic device connected between the source of electric energy and the return-rail and the insulated rail-section of the distant block-section.

5. In a block-signaling system; a block comprising a portion of a continuous return-rail and a plurality of insulated rail-sections; a source of electric energy; a differential electromagnetic device comprising two windings, one connected between the source of electric energy and the return-rail and the other connected between the source of electric energy and one of the insulated sections, said windings having a joint magnetizing effect when said insulated section is normal and clear and having no joint magnetizing effect when said insulated section is bridged or connected to the continuous return-rail; a signal inductively controlled by said differential electromagnetic device; and means controlled by a train on a distant insulated rail-section for electrically connecting said first-mentioned rail-section to said continuous return-rail so as to control said signal; said means comprising a branched circuit connected respectively to the return-rail and the insulated rail-section, a differential relay controlled jointly thereby and a relay controlled by each branch, said relays controlling several multiple-relay circuits.

6. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; train-controlled means at each of said blocks, said means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear; a local operating-circuit for each of said home signals controlled by the train-controlled means of the associated block; and a distant-signal circuit controlled by the home signal of said succeeding block.

7. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; train-controlled means at each of said blocks, said means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear; a local operating-circuit for each of said home signals controlled by the train-controlled means of the associated block; and a distant-signal circuit controlled by the home signal and the train-controlled means of said succeeding block.

8. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; train-controlled means at each of said blocks; said means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear; a local operating-circuit for each of said home signals controlled by the train-controlled means of the associated block; and a distant-signal circuit controlled by the home signal and the train-controlled means of said succeeding block and also by the home signal at the first block.

9. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; train-controlled means at each of said blocks, said means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear; a local operating-circuit for each of said home signals controlled by the train-controlled means of the associated block; and a distant-signal circuit in multiple with said home signal of the succeeding block.

10. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; train-controlled means at each of said blocks, said means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear; a local operating-circuit for each of said home signals controlled by the train-controlled means of the associated block; and a distant-signal circuit in multiple with said home signal of the succeeding block and controlled by the home signal of said succeeding block.

11. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; train-controlled means at each of said blocks, said means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear; a local operating-circuit for each of said home signals controlled by the train-controlled means of the associated block; and a distant-signal circuit in multiple with said home signal of the succeeding block and controlled by the home signal and the train-controlled means of said succeeding block.

12. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; train-controlled means at each of said blocks, said means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear; a local operating-circuit for each of said home signals controlled by the train-controlled means of the associated block; and a distant-signal circuit in multiple with said home signal of the succeeding block and controlled by said home signal of the succeeding block and controlled by the home signal and the train-controlled means of said succeeding block and also by the home signal at the first block.

13. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; train-controlled means at each of said blocks, said means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear; a local operating-circuit for each of said home signals controlled by the train-controlled means of the associated block and normally closed, thereby holding said signal at "clear;" and a distant-signal circuit also normally closed, maintaining the distant signal at "clear" and controlled by the home signal of said succeeding block.

14. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; train-controlled means at each of said blocks, said means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear; a local operating-circuit for each of said home signals controlled by the train-controlled means of the associated block and normally closed thereby holding said signals at "clear;" and a distant-signal circuit also normally closed, maintaining the distant signal at "clear" and controlled by the home signal and the train-controlled means of said succeeding block.

15. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; train-controlled means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear; a local operating-circuit for each of said home signals controlled by the train-controlled means of the associated block and normally closed thereby holding said signals at "clear;" and a distant-signal circuit also normally closed, maintaining the distant signal at "clear" and controlled by the home signal and the train-controlled means of said succeeding block and also by the home signal at the first block.

16. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; train-controlled means at each of said blocks, said means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear; a local operating-circuit for each of said home signals controlled by the train-controlled means of the associated block and normally closed thereby holding said signals at "clear;" and a distant-signal circuit also normally closed, maintaining the distant signal at "clear" and in multiple with said home signal of the succeeding block.

17. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block and a home signal at a succeeding block; a source of electric energy; two local track-circuits respectively connecting the opposite rails of each of said blocks to the source of electric energy; each of said track-circuits including a relay and one of the two opposing coils of a differential relay; a home-signal circuit controlled jointly by said relays and said differential relay; a distant-signal circuit in multiple with the said home signal of the succeeding block.

18. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block and a home signal at a succeeding block; a source of electric energy; two local track-circuits respectively connecting the opposite rails of each of said blocks to the source of electric energy; each of said track-circuits including a relay and one of the two opposing coils of a differential relay; a home-signal circuit controlled jointly by said relays and said differential relay; a distant-signal circuit in multiple with the said home signal of the succeeding block and controlled by said home signal.

19. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section; a home and a distant signal at one block and a home signal at a succeeding block; a source of electric energy; two local track-circuits respectively connecting the opposite rails of each of said blocks to the source of electric energy; each of said track-circuits including a relay and one of the two opposing coils of a differential relay; a home-signal circuit controlled jointly by said relays and said differential relay; a distant signal circuit in multiple with the said home signal of the succeeding block and controlled by the home signal and each of the relays of said succeeding block.

20. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section and a resistance permanently cross-connecting said continuous return-rail and said insulated rail-section and interconnecting said insulated rail-sections; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; train-controlled means at each of said blocks, said means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear, which effect is changed when said block is occupied by a train; a normal clear signal for one block; a normally energized circuit for said signal controlled by the electromagnetic device of the associated block; a normal clear signal for a preceding block; a normally energized circuit for said latter signal controlled by the electromagnetic device of the associated block and by the said first-mentioned signal.

21. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section and a resistance permanently cross-connecting said continuous return-rail and said insulated rail-section and interconnecting said insulated rail-sections; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; train-controlled means at each of said blocks, said means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear; a local operating-circuit for each of said home signals controlled by the train-controlled means of the associated block; and a distant-signal circuit controlled by the home signal and the train-controlled means of said succeeding block and also by the home signal at the first block.

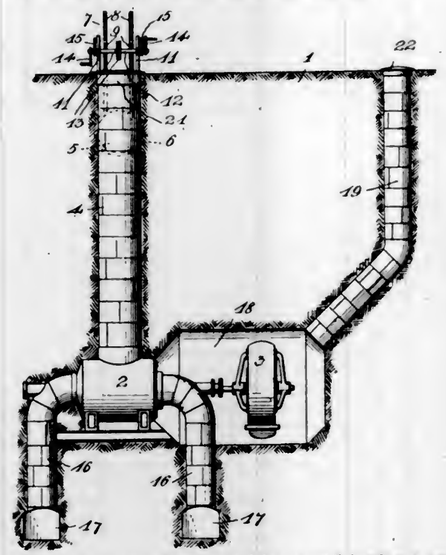
22. In a block-signaling system; a plurality of blocks, each block comprising a portion of a continuous return-rail and an insulated rail-section and a resistance permanently cross-connecting said continuous return-rail and said insulated rail-section and interconnecting said insulated rail-sections; a home and a distant signal at one block; a home signal at a succeeding block; a source of electric energy; a train-controlled means at each of said blocks, said means comprising an electromagnetic device with two opposing windings, said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear; a local operating-circuit for each of said home signals controlled by the train-controlled means of the associated block; and a distant-signal circuit controlled by the home signal and the train-controlled means of said succeeding block and also by the home signal at the first block.

23. In an electric block-signaling system in which a differential relay controls the signal-circuits; interlocked home and distant signal-circuits, each being controlled by a separate block; and means for utilizing the same source of power as is used for the propulsion of trains to control and to energize said interlocked signal-circuits.

24. In a block-signaling system; a plurality of blocks, each comprising a portion of a continuous return-rail and an insulated rail-section; a source of electric energy; train-controlled means for each of said blocks, comprising an electromagnetic device with two opposing windings; said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear, which effect is changed when said block is occupied by a train; a normal clear signal for one block; a normally energized circuit for said signal controlled by the electromagnetic device of the associated block; a normal clear signal for a preceding block; a normally energized circuit for said latter signal, controlled by the electromagnetic device of the associated block and by the said first-mentioned signal.

25. In a block-signaling system; a plurality of blocks, each comprising a portion of a continuous return-rail and an insulated rail-section; a source of electric energy; train-controlled means for each of said blocks, comprising an electromagnetic device with two opposing windings; said windings connected respectively between the source of electric energy and the opposite rails of the associated block so as to have a normal operative effect when the associated block is clear, which effect is changed when said block is occupied by a train; a normal clear signal for one block; a normally energized circuit for said signal controlled by the electromagnetic device of the associated block; a normal clear signal for a preceding block; a normally energized circuit for said latter signal controlled by the electromagnetic device of the associated block, by the said first-mentioned electromagnetic device and by the said first-mentioned signal.

842,368. POWER PLANT. FRANK YEOMAN, Oroville, Cal. Filed Oct. 16, 1905. Serial No. 283,059.



Claim.—A power plant comprising a wall having a well open at its upper end at the top of the wall, provided with a water-inlet opening near its upper end, a chamber at the bottom of the well, a passage leading from said chamber to the top of the wall, water-discharge passages leading downwardly and outwardly from said chamber, a turbine having its casing in said chamber at the lower end of and communicating with the well, discharge-pipes leading from the turbine-casing to the discharge-passages, an electric generator in the chamber connected to and driven by the turbine, closures for the upper ends of the well and of the passage which leads upwardly from the chamber, and a gate to open and close the water-inlet opening, substantially as described.

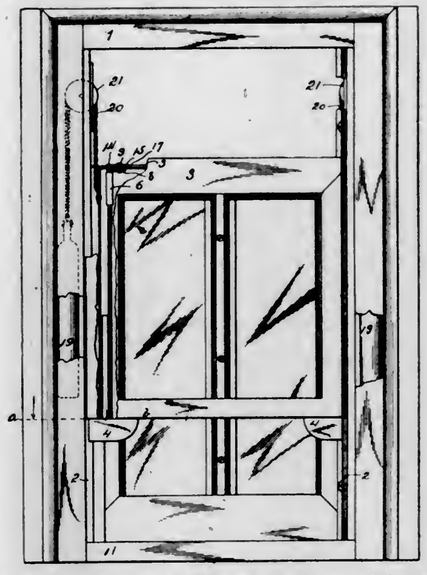
842,369. AUTOMATICALLY-CLOSING WINDOW. HENRY F. ZAHNER, Kansas City, Mo. Filed July 21, 1905. Serial No. 270,694.

Claim.—1. The combination with the sash, of a weight, a weight-supporting means comprising two members, one supporting the weight and the other secured to the sash, the two members being vertically slidable relative to each other and provided with means for limiting the downward movement of the weight, and means releasable by heat for securing the member carrying the weight in the elevated position relative to the sash.

2. The combination with the sash, of a weight, two members slidable one on the other, one carrying the weight and the other secured to the sash, a link supporting the member secured to the weight, and means released by heat for securing the link to the sash.

3. The combination with the sash, of a weight, two members slidable one on the other, one member being secured to the weight and the other to the sash, a link supporting the member secured to the weight and secured to the sash by solder fusible at a low degree of heat, and means for limiting the lengthwise movement of the two members relative to each other.

4. The combination with the window-frame, of the sash vertically slidable therein, two weights carried by the sash and vertically slidable in the window-frame and adapted, when released from the sash, to fall upon and be supported by the sill of the window-frame, means releasable by heat for supporting the weights from the sash and means connected with the window-frame for counterbalancing the combined weight of the sash and said two weights.



5. The combination with the window-frame, of the sash vertically slidable therein, two weights which when released will fall upon and be supported by the sill of the window-frame, two devices secured to the sash by solder fusible at a low degree of heat, means for supporting said weights from said two devices respectively, and means connected to the window-frame for counterbalancing the combined weight of the sash and said two weights.

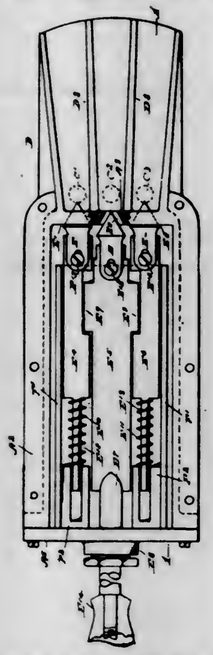
6. The combination with a window-frame, of the sash vertically slidable therein, two weights, means releasable by heat for supporting said weights from the sash, means for limiting the downward movement of said weights when they are unsupported by the sash, and means for counterbalancing the combined weight of the sash and said two weights.

7. The combination with the window-frame, of the sash vertically slidable therein, two weights, two members secured respectively one to each weight, means releasable by heat for securing said two members to the sash, two members secured to the sash and upon which the first-named members are vertically slidable respectively, the second-named members being provided with means for limiting the downward movement relative to the sash of the first-named members, and means for counterbalancing the combined weight of the sash and said two weights.

8. The combination with the window-frame, of the sash vertically slidable therein, two supporting devices carried by the sash, each comprising two members one vertically slidable on the other, two weights supported one upon each of said slidable members, means releasable by heat for retaining the slidable members in the raised position, and means for counterbalancing the weight of the sash and said two weights when the slidable members are in the raised position.

9. The combination with the sash, of two vertically-movable weights, two devices each comprising two members one slidable vertically on the other and one supported by the sash, the two slidable members supporting respectively said weights, and means controlled by heat for retaining said slidable members raised, thereby preventing the downward movement of the weights relative to the sash.

842,370. OIL-BURNER. NICHOLAS ZUCKE, Sparks, Cal. Filed Nov. 16, 1905. Serial No. 287,594.



Claim.—1. An oil-burner consisting of an oil-box having oil and steam inlets; a divided atomizing-nozzle; a series of openings between said oil-box and the nozzle, primary and secondary plugs fitting said openings and mounted upon interlocked slides controlled from outside said oil-box; a guide within said oil-box, and inclosing said slides; springs to keep said secondary plugs normally seated; inspirators opening into the several divisions of the nozzle.

2. An oil-burner consisting of an oil-box having oil and steam inlets; an atomizing-nozzle; openings between said oil-box and the nozzle, primary and secondary plugs fitting said openings, and mounted upon slides, the movement of the secondary slides being controlled by the slide of the primary plug; inspirators opening into the nozzle.

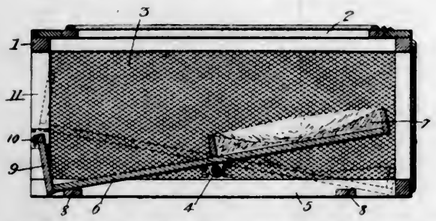
3. An oil-burner comprising an oil-box having an oil-inlet, a divided nozzle, openings being formed between said oil-box and nozzle, and primary and secondary plugs fitting said openings and adjustably mounted upon slides, the slides of the secondary plugs being controlled by the slide of the primary plug.

4. An oil-burner comprising an oil-box having an oil-inlet, a divided nozzle, openings being formed between said oil-box and nozzle, primary and secondary plugs fitting said openings, and slides upon which said plugs are adjustably mounted, the slides of the secondary plug being spring-pressed, and the slide for the primary plug being provided with means for moving the secondary slides against the action of their springs.

5. An oil-burner comprising an oil-box having an oil-inlet, a divided nozzle, openings being formed between said oil-box and nozzle, primary and secondary plugs fitting said openings, and means for operating said plugs synchronously and also for operating said primary plug independently.

6. An oil-burner comprising an oil-box provided with oil and steam inlets, an atomizing-nozzle, a series of openings between said oil-box and nozzle, primary and secondary plugs controlling said openings, means for holding said secondary plugs to their seats, means for moving the primary plug, and means whereby the movement of the primary plug will be imparted to the secondary plugs.

842,371. TRAP-NEST. HENRY N. ALMY, Honolulu, Hawaii. Filed Apr. 18, 1906. Serial No. 312,427.



Claim.—1. In a trap-nest, in combination, a nest-compartment, a nest therein, a vertically-movable door for the nest-compartment, and devices adapted to be projected beneath the lower edge of the door when the same has been raised to its closed position for locking the door in said closed position.

2. In a trap-nest, in combination, a rest-compartment, a nest therein, a door for the nest-compartment movable to closed position by the passage of the hen thereinto, means for locking the door in its closed position, an indicating means, and means controlled by the movement of the door for operating the indicator.

3. In a trap-nest, in combination, a nest-compartment, a nest therein, a door for said nest-compartment, means for closing the door, means for locking the door in closed position, an indicating means, and means located adjacent the door for operating the indicator, said operating means being controlled by the hen.

4. In a trap-nest, in combination, a nest-compartment, a tilting platform therein, a nest carried at the rear end of the platform, a door for the nest-compartment carried by the platform at its forward end, said parts being so positioned as to compel the tilting of the platform for closing the door in order to gain access to the nest, means controlled by the tilting platform for locking the door in its closed position to entrap the hen, and indicating means, and means also controlled by the platform for operating the indicator.

5. In a trap-nest, in combination, a nest-compartment, a nest therein, a door for the nest-compartment, means for closing the door, and devices normally held inoperative by the door but adapted to be actuated for locking the door when the same has moved to its closed position.

6. In a trap-nest, in combination, a nest-compartment, a nest therein, a vertically-movable door for the nest-compartment, means for lifting the door to close the same, and devices located on opposite ends of the door and normally held inoperative by their engagement with the door but adapted to be projected beneath the lower edge of the door when the same has moved to closed position, whereby the door is locked to entrap the hen.

7. In a trap-nest, in combination, a nest-compartment, a movable nest therein, a door carried by the movable nest and adapted to be operated for closing the entrance to the nest-compartment, devices mounted on opposite sides of the door for locking the door in closed position, and a contact plate or strip secured to the door, said contact-strip being normally held out of contact with the locking devices, but adapted to be brought into engagement therewith for closing a circuit and ringing an alarm.

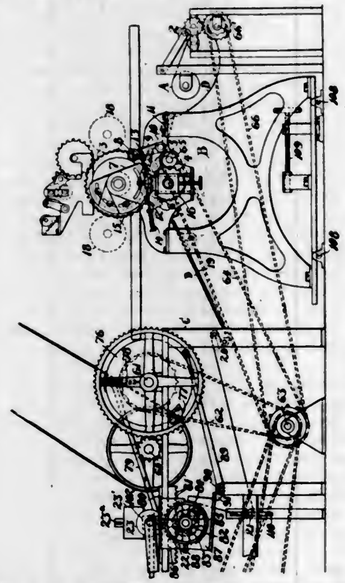
8. In a trap-nest, in combination, a nest-compartment, a nest therein, a door for the nest-compartment, means for closing the door, means for locking the door in closed position, contact devices located adjacent the door, and a contact plate or strip secured to the door, said contact plate or strip being normally held out of contact with said contact devices, but adapted to be brought into engagement therewith for closing a circuit and ringing an alarm.

9. In a trap-nest, in combination, a nest-compartment, a nest therein, a vertically-movable door for the nest-compartment, means for lifting the door to close the same, devices located on opposite sides of the door and normally held inoperative when the door is in its open position, means for projecting the devices beneath the lower edge of the door for locking the door when the same has been lifted to closed position, and a contact plate or strip secured to the lower edge of the door, said plate or strip being held out of contact with the locking devices when the hen is on the nest, but adapted to be lowered into engagement therewith for closing a circuit and ringing an alarm.

10. In a trap-nest, in combination, a nest-compartment, a nest therein, a vertically-movable door for the nest-compartment, and devices bearing against the edges of said door for preventing accidental movement of the door from its open to its closed position.

11. In a trap-nest, in combination, a nest-compartment, a door for said nest-compartment, and means serving to prevent accidental movement of the door from its open to its closed position, said means also serving to lock the door in closed position.

842,372. BAG-MACHINE. JOHN F. AMES, Portland, Oreg. Filed Mar. 6, 1905. Serial No. 248,586.



Claim.—1. A bag-making machine having in combination means for supporting a continuous strip of cloth, a printing mechanism to which the strip is delivered, means for giving an advance movement to the strip in unison with the making of the imprint, means for interrupting the advance of the strip and causing the printed portion thereof to be delivered loosely beyond the printing devices, independent intermittently-operating means for renewing the travel of the printed strip after each imprint, and a cutting mechanism to which the printed strip is advanced by the last-named means.

2. In bag machinery, the combination in a single organism of means for supporting a continuous strip of cloth, a printing mechanism to which the strip is delivered, means for interrupting and then renewing the travel of the strip and causing the printed portion thereof to be delivered loosely beyond the printing devices, and independent means for continuing the travel of the loose and printed strip.

3. In bag machinery, the combination in a single organism of means for supporting a continuous strip of cloth, a printing mechanism to which the strip is delivered, means for interrupting after each imprint and then renewing during the succeeding imprint the travel of the strip, said strip being delivered in a loose condition beyond the printing mechanism after each imprint, independent means for continuing the travel of the said loose and printed portion of the strip, a cutting mechanism to which the printed strip is delivered, and means for operating the imprinting, feeding and cutting mechanisms automatically and coördinately.

4. In a bag-machine the combination in a single organism of means for supporting a continuous strip of cloth, a printing mechanism to which the strip is delivered, means for interrupting and then renewing the travel of the strip and delivering said strip in a loose condition beyond the printing mechanism, independent means for continuing the travel of the said loose and printed strip, a cutting mechanism to which the printed strip is delivered, a folding mechanism to which the severed lengths of cloth are delivered, and means for operating the imprinting, feeding, cutting and folding mechanisms automatically and coördinately.

5. A bag-machine having in combination intermittently-operating printing mechanism and means whereby a strip of fabric may be fed thereto; intermittently-operating cutting mechanism by which the printed strip is severed into bag lengths; intermittently-operating folding mechanism succeeding the cutting mechanism, and feeding means between the cutting and folding mechanisms.

6. A bag-machine including in a single organism an adjustable printing mechanism to which a strip of fabric is delivered, an adjustable, intermittently-operating feeding means for giving an advance movement to the strip in unison with the making of the imprint and then interrupting said advance movement after the imprint is made, a cutting mechanism for severing the imprinted strip into bag lengths, and means associated with the cutting mechanism and independent of the first-named feeding means for delivering to the cutting mechanism the portion of fabric advanced beyond the printing mechanism by said first feeding means, a mechanism for folding the severed lengths of fabric, means for piling the folded lengths, and means for operating the feeding, cutting, folding and piling mechanisms automatically and coördinately.

7. A bag-machine including in a single organism an adjustable printing mechanism to which a strip of fabric is delivered, an adjustable, intermittently-operating feeding means for giving an advance movement to the strip in unison with the making of the imprint and then interrupting said advance movement after the imprint is made, a cutting mechanism, means whereby the printing and cutting mechanism are adjustable one relative to the other, said cutting mechanism operating during the intermission of the forward movement of the fabric, for severing the fabric into bag lengths, a feeding means associated with the cutting mechanism and independent of the first feeding means for feeding to the cutting mechanism the portion of the imprinted fabric advanced beyond the printing mechanism by the said first feeding means, and an adjustable intermittently-operating folding mechanism to which the severed lengths of fabric are delivered.

8. A machine of the character described having the following instrumentalities, viz: means for supporting and feeding a strip of fabric; means for printing said strip; adjustable, intermittently-operating mechanism for cutting the printed strip into bag lengths and to which mechanism the strip is automatically and intermittently fed; and adjustable folding mechanism to which the severed lengths are delivered intermittently and by which said lengths are folded into bag forms.

9. A machine of the character described having the following instrumentalities, viz: means for feeding a strip of fabric; means for printing said strip; adjustable and intermittently-operating mechanism for cutting the printed strip into bag lengths, intermittently-acting feeding means for delivering the printed fabric to the cutting mechanism; adjustable folding mechanism to which the severed lengths are delivered; means for delivering the severed lengths intermittently to the folding mechanism; and means for piling the folded bag forms.

10. The combination with means for supplying a strip of fabric, of a cutting device for severing the said strip into desired lengths, an adjustable, intermittently-acting folder coöperating with the cutter to fold the severed sec-

tions, suitable conveying means, and a piling device to receive the folded sections, said piling device comprising a frame having adjustable sides and ends.

11. The combination with means for cutting a strip of fabric into desired lengths, and adjustable means for intermittently folding the severed sections, of a piling device comprising a framework with adjustable walls and a movable bottom operatable vertically between said walls, said walls partially inclosed at the top to provide an air-cushion for the falling material.

12. The combination of three successively-arranged carriers moving in the same direction, having their carrying-surfaces disposed in substantially the same plane, a cutter operating between the first two of said carriers, means for driving the carriers continuously, means for feeding a strip of material intermittently upon said carriers, and a folder operating between the second and third carriers.

13. The combination of three successively-arranged carriers the carrying-surfaces of which move in the same direction, a cutter operating between the first two of said carriers, means for driving the carriers continuously, means for feeding a strip intermittently upon said carriers, a transversely-extending guiding device disposed in the path of the severed sections of the strip for the purpose of stopping and truing the edge of the severed sections prior to folding, and a folding-blade operative between the second and third carriers.

14. In a bag-machine, the combination with means for supplying a strip of fabric, of a printing mechanism, a feeding mechanism, three successively-arranged carriers the carrying-surfaces of which move in the same direction, a cutter operating between the first two of said carriers, means for driving the carriers continuously, means for feeding a strip intermittently upon said carriers, a transversely-extending guiding device disposed in the path of the severed sections of the strip for the purpose of stopping and truing the edge of the severed section prior to folding, and a folding-blade operative between the second and third carriers.

15. The combination of four successively-arranged carriers whose carrying-surfaces move in the same direction, the fourth carrier being disposed parallel with the other three but on a different plane, a cutter operating between the first two of said carriers, means for driving the carriers continuously, means for feeding a strip intermittently upon said carriers, a transversely-extending guiding device disposed in the path of the severed sections of the strip for the purpose of stopping and truing the edge of the severed section prior to folding, a folder operative between the second and third carriers, and means coöperating with the folder for delivering the folded sections upon the fourth carrier.

16. A bag-machine having in combination a printing mechanism to which a strip of fabric is delivered, a feeding mechanism for the printed strip, four successively-arranged carriers moving in the same direction with the fourth carrier disposed parallel with the other three but disposed on a different plane, a cutter operating between the first two of said carriers, means for driving the carriers continuously, means for feeding a strip intermittently upon said carriers, a folding device operating between the second and third carriers, and a guide for stopping and truing the edge of the severed section prior to folding.

17. The combination of three successively-arranged carriers whose carrying-surfaces move in the same direction, a cutter operating between the first and second carriers, a folder operating between the second and third carriers, means for driving the carriers continuously, means for feeding a strip intermittently upon said carriers, and a guide disposed in the path of the severed sections of the strip for the purpose of stopping and truing the edge of the severed section prior to folding.

18. In a bag-machine the combination with means for supplying a strip of fabric, of a printing mechanism, a feeding mechanism, three successively-arranged carriers whose carrying-surfaces move in the same direction, a cutter operating between the first and second carriers, means for driving the carriers continuously in the same direction, a transversely-extending guiding device disposed in the path of the severed section of the strip for the purpose of stopping and truing the edge of the severed section prior to folding, and a folder operative between the second and third carriers.

19. The combination of four successively-arranged carriers whose carrying-surfaces move in the same direction, the fourth of said carriers being disposed parallel with the other three but on a different plane, a cutter operating between the first and second carriers, means for driving the carriers continuously, means for feeding a strip intermittently upon said carriers, a guide disposed in the path of the severed sections of the strip for the purpose of stopping and truing the edge of the severed section, and a folder operatable between the second and third of said carriers.

20. The combination with means for supplying a strip of fabric, of a printing mechanism, a feeding mechanism, four successively-arranged carriers whose carrying-surfaces move in the same direction, the fourth of said carriers being disposed parallel with the other three but on a different plane, a cutter operatable between the first and second of said carriers, means for driving the carriers continuously in the same direction, means for feeding a strip intermittently upon the carriers, a guide disposed in the path of the severed section of the strip for the purpose of stopping and truing the edge of the severed section prior to folding, and a folding device operatable between the second and third of the carriers.

21. In a bag-machine the combination with means for supplying a strip of fabric, of a printing mechanism, a feeding mechanism and three successively-arranged carriers having their upper planes disposed in substantially the same plane and whose carrying-surfaces move in same direction, a cutter operating between the first two of said carriers, a folder operating between second and third of said carriers, the cutter and folder operating in successive order during the intermission of the forward movement of the fabric, means for driving the carriers continuously, and means for feeding a strip intermittently upon said carriers.

22. In a bag-machine the combination with means for supplying a strip of fabric, of a printing mechanism, a feeding mechanism and three successively-arranged carriers having their upper planes disposed in substantially the same plane and whose carrying-surfaces move in same direction, a cutter operating between the first two of said carriers, a folder operating between second and third of said carriers, the cutter and folder operating in successive order during the intermission of the forward movement of the fabric, means for driving the carriers continuously, means for feeding a strip intermittently upon said carriers and a transversely-extending guiding device disposed in the path of the severed section of the strip for the purpose of stopping and truing the edge of the severed section.

23. In a bag-machine the combination with means for supplying a strip of fabric, of a printing mechanism, a feeding mechanism and three successively-arranged carriers having their upper planes disposed in substantially the same plane and whose carrying-surfaces move in same direction, a cutter operating between the first two of said carriers, a folder operating between second and third of said carriers, the cutter and folder operating in successive order during the intermission of the forward movement of the fabric, means for driving the carriers continuously, means for feeding a strip intermittently upon said carriers and a transversely-extending guiding device disposed in the path of the severed section of the strip for the purpose of stopping and truing the edge of the severed section, and a presser-roller arranged between the cutter and said feeding means.

24. The combination with a printing-press mounted on a movable carriage, of a cutting device mounted independently of the press and operatable in unison therewith means for passing a strip of material through the press, means for feeding the imprinted strip to the cutting device, and adjustable feeding means operating coördinately with the cutting device to fold the severed sections.

25. The combination with a printing-press mounted on a movable carriage, of a cutting device mounted independently of the press and operatable in unison therewith, means for passing a strip of material through the press, means for feeding the imprinted strip to the cutting device, adjustable folding means operating coördinately with the cutting device to fold the severed sections, and adjustable mechanism for piling the folded sections.

26. The combination with a printing-press mounted on a movable carriage, a cutting mechanism supported independently of said carriage, means for feeding a strip of material to said printing mechanism, means for feeding the imprinted strip to said cutting mechanism, means for operating the several mechanisms and feeding means in unison and adjustable tension means for the strip intermediate of the printing mechanism and the means for feeding material to the cutting mechanism.

27. The combination with a printing-press mounted on a movable carriage, a cutting mechanism supported independently of said carriage, means for feeding a strip of material to said printing mechanism, means for feeding the imprinted strip to said cutting mechanism, means for operating the several mechanisms and feeding means in unison, adjustable tension means for the strip intermediate of the printing mechanism and the means for feeding material to the cutting mechanism, said last-named means including a rod extending transversely of the path of movement of the strip and adjustable to bear unequally on the opposite edges of the strip.

28. The combination of a printing mechanism and a cutting mechanism, means for delivering a strip to said printing mechanism, means for delivering the imprinted strip to the cutting mechanism and adjustable tension device between the printing mechanism, and the means for feeding the strip to the cutting mechanism, said tension device operatable to bear more or less on one side or the other of the strip to equalize the length of the two edges of the strip as it passes to the cutter.

29. The combination with a printing-press mounted on an adjustable carriage of an independently-supported cutting device, means for feeding a strip of material to the printing-press, means for feeding the imprinted strip to the cutting mechanism, means for giving the press, the cutting mechanism and the several feeding means a coördinate movement, and a table carried by and movable with the printing-press upon which the imprinted material is delivered prior to its passage to the cutting mechanism, and suitable adjustable tension means between the press and the means for feeding the imprinted strip to the cutting mechanism.

30. The combination with means for supplying a strip of material continuously, of means for bestowing an imprint at regular intervals on said strip, a cutting device operatable at right angles to the path of movement of the strip, means for feeding the strip intermittently to said cutting device, said means comprising upper and lower contact-rollers, means for giving one of said rollers a step-by-step movement, and a brake operated intermittently with said means for rotating said roller to limit the movement of the latter.

31. The combination with intermittently-operating feed-rollers to which the material is adapted to be delivered in a continuous strip, a continuously-operating endless carrier upon which the material is delivered from said feed-rollers, a presser-roller adjustable lengthwise of said endless carrier and beneath which roller the strip passes, a cutter operating in the path of the strip and during the intervals of rest of the material, successively-arranged and continuously-operating carriers upon which the severed strip is delivered from the cutter, and a folding device operating intermittently of said last-named endless carriers, means for operating said endless carriers continuously and means for operating said feeder means, cutter and folding means intermittently and coördinately.

32. The combination with intermittently-operating feed-rollers to which the material is adapted to be delivered in a continuous strip, a continuously-operating endless carrier upon which the material is delivered from said feed-rollers, a presser-roller adjustable lengthwise of said endless carrier and beneath which roller the strip passes, a cutter operating in the path of the strip and during the intervals of rest of the material, successively-arranged and continuously-operating carriers upon which the severed strip is delivered from the cutter and a folding device operating intermittently of said last-named endless carriers, means for operating said endless carriers continuously, means for operating said feeder means, cutter and folding means intermittently and coördinately, and an adjustable guide-bar 31 arranged in the path of the severed section of material and in juxtaposition to the folding device.

33. The combination of three successively-arranged endless carriers having their upper planes disposed in substantially the same plane and all moving in the same direction, a cutter operating between the first two of said carriers, means for driving the carriers continuously, means for feeding a strip of material intermittently upon said carriers, and a folder operating between the second and third carriers.

34. The combination of three successively-arranged endless carriers having their upper planes disposed in substantially the same plane, a cutter operating between the first two of said carriers, means for driving the carriers continuously, means for feeding a strip of material intermittently upon said carriers, a presser-roller adjustable lengthwise of the machine and arranged between the cutter and said feeding means and a transversely-extending adjustable guiding device succeeding the folder and disposed in the path of the severed section of the strip for the purpose of truing the edges of said severed section prior to folding, and a folder.

35. The combination with means for cutting a strip of fabric into desired lengths, and adjustable means for folding the severed sections of a piling device comprising a framework with adjustable walls and a movable bottom operatable vertically between said walls, said walls partially inclosed at the top to provide an air-cushion for the falling material.

36. The combination with a cutting device, of means for feeding a strip of material thereto, means for folding the severed sections of the strip and means for piling said folded sections, said last-named means including a frame having adjustable walls, a slotted bottom operatable between said walls, means for raising and lowering said bottom, said last-named means including a shaft with pulleys thereon, flexible connections between said pulleys and said movable bottom, means for rotating said shaft to raise or lower the bottom and locking means for holding the bottom at any desired elevation.

37. The combination with cutting mechanism, of means for delivering a strip of material thereto, means for folding the severed sections, carrier means, a reciprocating table upon which the folded sections are delivered, stop means arranged in the path of the material and above said table and a vertically-movable platform upon which the material is delivered on the withdrawal of the support afforded by said table beneath said stop means.

38. The combination with means for advancing a strip of material, of a cutter arranged in the path of the material and adapted to sever the same into desired lengths, means for folding the severed sections of material, suitable conveyer means upon which the folded sections are delivered, a succeeding conveyer to receive the folded sections, a table reciprocating across an opening and upon which table the folded sections are delivered and stop means in the path of the folded material and coöperating with the table to deposit the material through the said opening on the withdrawal of the table beneath said guide means.

39. The combination with cutting and folding devices, of means for feeding a strip of material to the cutter, means for delivering the severed sections to the folder, suitable conveying means receiving the folded sections, a reciprocating table upon which the folded sections are delivered by said conveying means, an adjustable guide arranged in the path of the folded sections coöperating with the table to deposit the folded sections beneath the table on the withdrawal of the support of the latter, a vertically-mov-

able platform upon which the material from the table is deposited.

40. In bag machinery and in a single organism, the combination of a printing device, a cutter, intermittently-operating means for feeding a continuous flexible web of material to the printing device, and an intermittently-operating feed mechanism between the printing device and cutter for feeding the imprinted strip to the cutter, said last-named feed mechanism operating subsequent to the putting in motion of the web by the printing-device feeding means.

41. In bag machinery and in a single organism, the combination with means for feeding a continuous web of material, of means for imprinting a brand or the like at intervals on said web, a cutting device for severing the printed web into bag lengths, and intermittently-operating means between the imprinting means and the cutting device for feeding the imprinted web to said cutting device, said feeding means for the cutter operating subsequent to the putting in motion of the web by the printing-device feeding means whereby the portion of the web between the cutting means and said feeding means remains stationary during a part of the imprinting operation substantially as described.

42. In bag machinery and in a single organism, the combination with means for feeding a continuous web of material, of means for imprinting a brand or the like at intervals on said web, a cutting device for severing the printed web into bag lengths, intermittently-operating means between the imprinting means and the cutting device for feeding the imprinted web to said cutting device, said feeding means for the cutter operating subsequent to the putting in motion of the web by the printing-device feeding means whereby the portion of the web between the cutting means and said feeding means remains stationary during a part of the imprinting operation, a folding device and means for adjusting the printing means with respect to the cutting device.

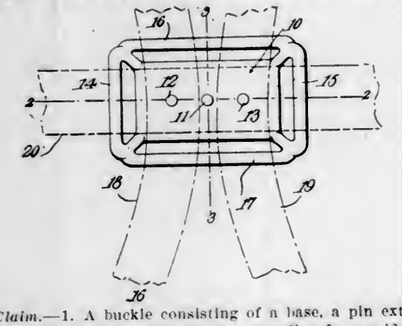
43. In bag machinery and in a single organism, the combination with means for feeding a continuous web of material, of means for imprinting a brand or the like at intervals on said web, a cutting device for severing the printed web into bag lengths, intermittently-operating means between the imprinting means and the cutting device for feeding the imprinted web to said cutting device, said feeding means for the cutter operating subsequent to the putting in motion of the web by the printing-device feeding means whereby the portion of the web between the cutting means and said feeding means remains stationary during a part of the imprinting operation, successively-arranged endless carriers beyond the cutting device having their carrying-surfaces arranged in substantially the same plane and moving in the same direction, and a folder operating between said carriers.

44. In bag machinery and in a single organism, the combination with means for feeding a continuous web of material, of means for imprinting a brand or the like at intervals on said web, a cutting device for severing the printed web into bag lengths, intermittently-operating means between the imprinting means and the cutting device for feeding the imprinted web to said cutting device, said feeding means for the cutter operating subsequent to the putting in motion of the web by the printing-device feeding means whereby the portion of the web between the cutting means and said feeding means remains stationary during a part of the imprinting operation, successively-arranged endless carriers beyond the cutting device having their carrying-surfaces arranged in substantially the same plane and moving in the same direction, a folder operating between said carriers, and an adjustable stop beyond the folder and movable toward and from said folder and interposable in the path of the severed sections.

45. The combination with a printing-press, of a cutting device mounted independently of the press and operatable in unison therewith, means for passing a strip of material through the press, means for feeding the imprinted strip to the cutting device, folding means operating coördinately with the cutting device to fold the severed sections and an endless carrier operative on each side of the cutting device and folding device to support the fabric during the cutting and folding operations.

46. The combination with the form and impression cylinders of a printing-press, of intermittently-operating means for feeding a web to said cylinders, a cutting device, intermittently-operating means for feeding the printed web to said cutting device, said last-named feeding means operating subsequent to the putting in motion of the web by the first-named feeding means, and means for varying the distance between the cutting device and said cylinders.

842,373. BUCKLE. CHRISTIAN O. ANDERSON, Brigham, Utah. Filed July 21, 1906. Serial No. 327,206.



Claim.—1. A buckle consisting of a base, a pin extending centrally from said base, pins extending from said base and spaced from said central pin and of less length than the same, loops extending from the ends of said plate, and loops extending from the sides of said base.

2. A buckle consisting of an oblong base, a pin extending centrally from said base, pins extending from said base and spaced from said central pin and of less length than the same, loops extending from plate at the ends, and loops extending from said base at the sides and at a less distance therefrom than the end loops.

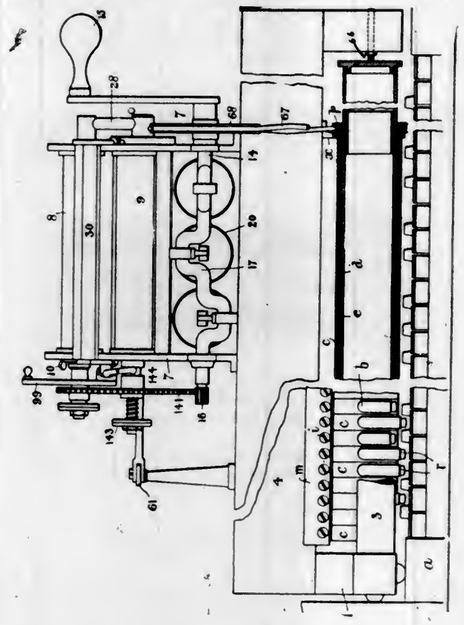
842,374. MECHANICAL APPARATUS FOR PLAYING KEYBOARD MUSICAL INSTRUMENTS. JOHN A. ARMSTRONG, Westcombe Park, England. Filed Sept. 22, 1906. Serial No. 335,768.

Claim.—1. In an automatic player for keyboard musical instruments a key-striking mechanism comprising a continuously-revolving drum, a set of key-striking devices each including a ring arranged to embrace the drum, and inflatable means of connection for frictionally engaging the ring of each striking device to the drum.

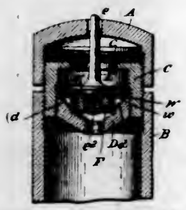
2. In an automatic player for keyboard musical instruments a key-striking mechanism comprising a continuously-revolving drum, a set of key-striking devices each including a ring adapted to embrace the drum, means for normally holding the ring in the position in which the striker is not depressing its key, and inflatable means of connection for frictionally engaging the ring to the drum.

3. In an automatic player for keyboard musical instruments a key-striking mechanism comprising a continuously-revolving drum, a set of key-striking devices each including a ring arranged to embrace the drum, a projection on each ring and a coacting surface for said projection, means adapted to turn the ring so that the projection normally rests on its coacting part and inflatable means of connection for frictionally engaging the ring to the drum.

4. In an automatic player for keyboard musical instruments a key-striking mechanism comprising a continuously-revolving drum, a set of key-striking devices each including a ring arranged to embrace the drum, a projection on each ring and a fixed stop for said projection, a spring tending to hold the ring against said projection and to hold the striking member away from the key and inflatable means of connection for frictionally engaging the ring of the drum.



842,375. DRAIN-VALVE. LEWIS J. ASHWORTH, Huntington, W. Va. Filed Mar. 14, 1906. Serial No. 306,022.

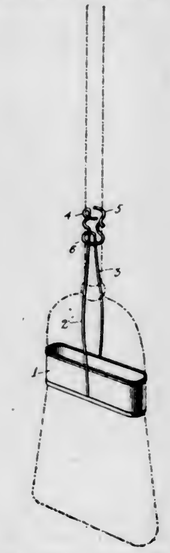


Claim.—1. In combination with a water-pipe internally threaded, a valve-chamber screwed therein and provided with an opening in its upper side and threaded internally, a cap removably fastened on the projecting upper end of the valve-chamber and provided with a central hole, a plug or bottom screwed up into the lower end of the valve-chamber and provided with a central opening and air-passages leading to said opening, and a valve inclosed in the valve-chamber and provided with a stem extending upward through the opening in the top of the valve-chamber and into the central opening in the cap.

2. In combination with a water-pipe, a valve-chamber screwed into the upper end thereof, and threaded internally and provided with a central opening in its top, a plug or bottom screwed up into the valve-chamber so as to be adjustable therein and provided with a central opening and lateral air-passages leading thereto, a valve within the chamber and adapted to normally rest upon said plug or bottom over the central opening therein and adapted to seat up against the under side of the top of the valve-chamber.

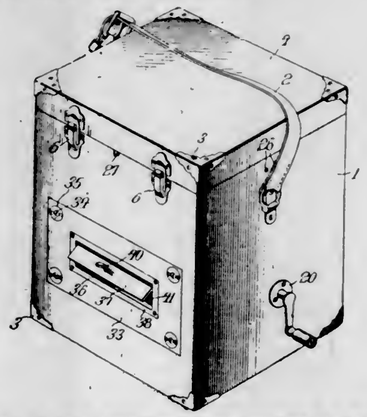
842,376. BROOM-SHIELD. HERMAN H. ASIMONT, Snohomish, Wash. Filed Feb. 8, 1906. Serial No. 300,174.

Claim.—The herein-described broom-shield comprising a band to be passed around the broom-head, the spring-rods extending upwardly from the band and having their lower ends attached thereto at opposite sides thereof, said rods having laterally-bent portions at their upper ends to form friction devices to bear against the broom-handle, one of said spring-rods being also bent at a point below its upper



end to form an open link to extend around the broom-handle and to also embrace the other spring-rod, substantially as described.

842,377. SIGNALING APPARATUS. GEORGE F. ATWOOD, East Orange, N. J., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 26, 1906. Serial No. 303,018.



Claim.—1. In a signaling set, the combination with an inclosing case containing upper and lower compartments having mechanically-coöperating signaling apparatus mounted therein, of a waterproof partition between said compartments, said partition being provided with a flexible waterproof diaphragm through which the movement of the coöperating signaling apparatus is transmitted.

2. In a telephone set, the combination with an inclosing case containing upper and lower compartments, of an insect-proof partition therebetween, apparatus including a switch mounted in the lower compartment, a telephone-receptacle adapted to be depressed by the weight of the telephone located in the upper compartment, and an in-

sect-proof connection through said partition between the switch and the telephone-receptacle.

3. In a telephone set, the combination with an inclosing case having two compartments, of a waterproof partition therebetween, a switch mounted in one compartment, a telephone-receptacle adapted to actuate said switch mounted in the other compartment, and a waterproof connection through said partition between said receptacle and said switch.

4. In a telephone set, the combination with an inclosing case having two compartments with a waterproof partition therebetween, of a switch mounted in one compartment, an operating-rod for said switch extending through the partition into the other compartment, a flexible waterproof diaphragm secured over the head of said actuating-rod, and a telephone-receptacle in said last-mentioned compartment adapted to be depressed by the weight of the telephone and brought into engagement through the diaphragm with the head of said rod to actuate said switch.

5. In a weatherproof telephone set, the combination with an inclosing case having an upper and a lower compartment with a waterproof partition therebetween, telephone apparatus mounted in both said compartments and having operative connection through said waterproof partition, a lid for said upper compartment forming the upper part of said case and affording access to the upper compartment, said lid having a tongue-and-groove connection with the upper part of the case to prevent the entrance of water thereto, and a removable side panel for affording access to said lower compartment, said panel having a weatherproof connection with the case.

6. In a telephone set, the combination with a waterproof case, of telephone apparatus including a bell mounted within said case, and a removable panel for affording access to the interior of said case, said panel having an adjustable opening for permitting the passage of sound from the bell to the exterior of said case.

7. A signaling set comprising a weatherproof case provided with an opening in the wall thereof to permit the passage of sound from the interior of the case, signaling apparatus mounted within said case, and means for adjusting the size of said opening while preventing the entrance of rain thereto.

8. In a signaling set, the combination with a weatherproof case, of signaling apparatus mounted therein, the wall of said case being provided with an opening to permit the passage of sound from the apparatus mounted therein, and a hood arranged over the exterior of said opening to shield the same from rain.

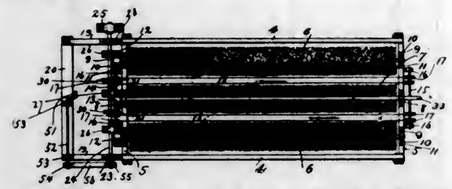
9. In a signaling set, the combination with a weatherproof case, of signaling apparatus mounted therein, the wall of the case being provided with an opening to permit the passage of sound from the telephone apparatus mounted within said case, and an adjustable hood arranged over the exterior of said opening to shield the same from rain.

10. In a telephone set, the combination with a case having telephone apparatus mounted therein, said case having an opening in its wall to permit the passage of sound from the interior thereof, a screen or grating secured across said opening to prevent the entrance of insects and the like to said case, and an adjustable hood arranged over the exterior of said opening to shield the same from rain.

11. In a telephone set, the combination with a case having telephone apparatus mounted therein, said case having an opening in its wall to permit the passage of sound from the interior thereof, of an adjustable hood hinged over said opening to protect the same from rain, said hood being provided with resilient side pieces adapted to protect the opening at the sides of said hood, and to act as friction-stops to hold said hood in its adjusted position.

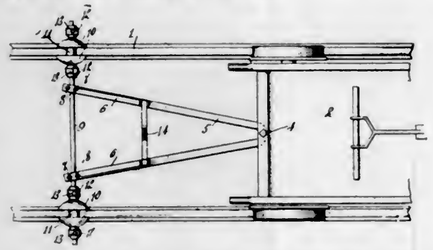
12. In a telephone set, the combination with a case having telephone apparatus mounted therein, said case having an opening in its wall to permit the passage of sound from the interior to the exterior thereof, of a frame mounted in said opening, a lid arranged over said opening and fulcrumed in said frame, said lid serving as a hood to protect said opening from rain, resilient side pieces secured to said lid and adapted, when the same is raised, to protect from rain the opening at the sides of said lid, said side pieces having a slight outward inclination from their points of support and being arranged to engage the edges of said frame to frictionally hold the lid in any position to which it may be adjusted and to hold it in its closed position when it is moved thereto.

842,378. FRUIT AND VEGETABLE BRUSHER, POLISHER, WASHER, AND SELF-FEEDER. JAMES M. BAKER, Glendora, Cal. Filed Apr. 21, 1904. Serial No. 204,269.



Claim.—In a machine of the class described, the combination of inclined roller-brushes spaced apart to form raceways between them, each raceway having suitably-covered rigid inclined trough-like or concave floor supporting the fruit or vegetables, said floor being provided with endless cords or belts running upwardly on said floor for the more complete turning of the fruit or vegetables between the said brushes, with means for operating said brushes and endless cords or belts, for the purpose specified.

842,379. TRACK GAGE AND LEVEL. LOUIS BARCELOUX, St. Guillaume Station, Quebec, Canada. Filed May 26, 1906. Serial No. 318,950.



Claim.—1. In a device of the character described, the combination comprising a frame, an axle carried by the frame, a pair of disks disposed on each end of the axle and arranged to lie on opposite sides of the rails of a railway-track, rotatable members on the axle between each pair of disks, and means for fixing the disks at a plurality of points on the axle.

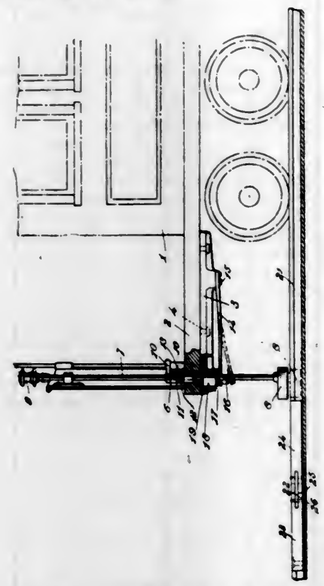
2. In a device of the character described, the combination comprising a frame, an axle carried by the frame, disks disposed on the axle, movable collars disposed on each side of the disks, and rollers disposed intermediate of the disks.

3. In a device of the character described, the combination comprising a frame, arms carried by the frame, an axle, means for securing the axle to the frame, gage-disks carried by the axle, means for spacing the disks apart so as to lie on each side of the rails of a railway-track, and means carried by said arms adapted to indicate the level of a track.

4. In a device of the character described, the combination comprising a frame, arms carried by the frame, an axle, a yoke disposed beneath the axle and extending through the frame and said arms, nuts on the yoke adapted to secure the arms to the frame and the frame to the axle, a spirit-level carried by the arms, and gage-indicating means carried by the axle.

5. In a device of the character described, in combination with a wheeled car, a yoke carried by the car, a V-shaped frame disposed adjacent the yoke, a removable pin disposed through a portion of the car, the V-shaped frame and the yoke and adapted to form a pivotal connection between the frame and the car, an axle carried by the frame, gages carried by the axle, and a level supported by the frame.

842,380. SWITCH-OPERATING MECHANISM FOR CARS. JUNIUS BARNES, Burlington, Vt. Filed May 24, 1906. Serial No. 318,588.



Claim.—1. The combination with a car and switch, of a switch-throwing mechanism mounted on the car, said mechanism comprising a shaft extending above and below the floor of the car, a device arranged to hold the shaft in a depressed position, and a shoe on the end of the shaft arranged to throw the switch and to automatically release the shaft from said device after the switch is thrown.

2. The combination with a car, of a switch-throwing mechanism mounted thereon, said mechanism comprising a vertical shaft extending from a point below to a point above the floor of the car, a shoe on the shaft for actuating a switch and which is itself released by the switch, and means for holding the shaft and shoe in a set position.

3. The combination with a car, and a switch, of a switch-throwing mechanism mounted thereon, said mechanism comprising a base-plate, a tubular support thereon which extends upwardly through the floor of a car, a shaft extending through the tubular support, a shoe on the lower end of the shaft arranged to actuate the switch and to be automatically released after the switch is actuated, and means for depressing and partially turning the shaft.

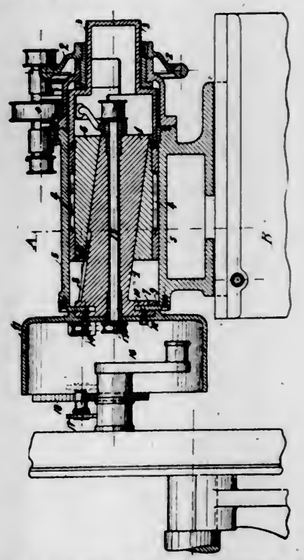
4. The combination with a car, of a switch-throwing mechanism mounted thereon, said mechanism comprising a base-plate, a tubular support thereon which extends upwardly through the floor of a car and is provided with an inverted-T-shaped slot, a shaft extending through the support, an interlocking finger in the slot for holding the shaft in a depressed position, means for elevating the shaft, and a shoe on the lower end of the shaft for throwing a switch and which is itself actuated to release said finger from the slot to permit the shaft to be elevated.

5. The combination with a car, of a switch-throwing mechanism mounted thereon, said mechanism comprising a detachable base-plate for mounting on the floor of the car and provided with a vertical opening and a recess extending from said opening, a shaft slidably and rotatably mounted in the opening of the base-plate which is provided with a lug normally engaging in the recess, means for depressing the shaft to cause the lug to engage the under surface of the base-plate when the shaft is turned, means for returning the shaft when the lug is disengaged, and a shoe carried by the shaft for actuating the switch and arranged to coöperate with the switch for disengaging the lug from the base-plate to permit the shaft to be elevated.

6. A switch-throwing mechanism comprising a base-plate, a tubular support on the base-plate having an inverted-T-shaped slot, a shaft in the support, a finger on the shaft moving in said slot, a leaf-spring secured on the base-plate and engaging the shaft, and a shoe mounted on the shaft for throwing the switch and arranged to coöperate with the switch for causing the shaft to be turned and the finger released after the switch is thrown.

7. A switch-throwing mechanism comprising a depressible shaft which is adapted to extend through the floor of the car, means for depressing and partially turning the shaft, a device for locking the shaft in depressed position, means for returning the shaft, and a wedge-shaped shoe in the lower end of the shaft, in combination with a rail, and a switch-tongue having a pivoted end section whose sides are slightly convex so as to maintain the point thereof out of engagement with the rail to permit the point of the said shoe to enter between them and said tongue being adapted to actuate the shoe so as to release the shaft to permit the same to withdraw the shoe from the switch.

842,381. GRINDING APPARATUS. GEORG BENICKE, Offenbach-on-the-Main, Germany. Filed May 20, 1904. Serial No. 208,934.



Claim.—1. A grinding apparatus consisting of a wheel, said wheel having an inclined bore, a cylinder fitting within said wheel and keyed to rotate therewith and to slide therein, means for maintaining said wheel to always rotate upon the same axis, and means for rotating said wheel, means for moving said wheel longitudinally with reference to the said cylinder so as to vary the axial position of the said cylinder with reference to the said wheel, and a grinding-tool and gear mounted on said cylinder, and means for rotating said grinding-tool.

2. A grinding apparatus consisting of a wheel, said wheel having an inclined bore, a cylinder fitting within said wheel and keyed to rotate therewith and to slide therein, means for maintaining said wheel to always ro-

tate upon the same axis, and means for rotating said wheel, means for moving said wheel longitudinally with reference to the said cylinder, said means consisting of a screwed member connected with said wheel, a nut device fixedly mounted so that on rotation thereof axial movement shall be communicated to said screwed member, so as to vary the axial position of the said cylinder with reference to the said wheel, and a grinding-tool and gear mounted on said cylinder, and means for rotating said grinding-tool.

3. A grinding apparatus consisting of a fixed cylindrical casing, a wheel capable of sliding within said casing, said wheel having an inclined bore, a cylinder fitting within said wheel and keyed to rotate therewith, means for maintaining said wheel to always rotate upon the same axis, and means for rotating said wheel, means for moving said wheel longitudinally with reference to the said cylinder so as to vary the axial position of the said cylinder with reference to the said wheel, and a grinding-tool and gear mounted on said cylinder, and means for rotating said grinding-tool.

4. A grinding apparatus consisting of a fixed cylindrical casing, a wheel capable of sliding within said casing, said wheel having an inclined bore, a cylinder fitting within said wheel and keyed to rotate therewith, means for maintaining said wheel to always rotate upon the same axis, and means for rotating said wheel, means for moving said wheel longitudinally with reference to the said cylinder, so as to vary the axial position of the said cylinder with reference to the said wheel, a flange upon the end of said casing, a deep annular recess at the end of said cylinder within which the flange upon said casing lies whereby the said cylinder is fixedly held against longitudinal displacement, and a grinding-tool and gear mounted on said cylinder, and means for rotating said grinding-tool.

5. A grinding apparatus consisting of a wheel, said wheel having an inclined bore, a cylinder fitting within said wheel and keyed to rotate therewith and to slide therein, means for maintaining said wheel to always rotate upon the same axis, and means for rotating said wheel, means for moving said wheel longitudinally with reference to the said cylinder so as to vary the axial position of the said cylinder with reference to the said wheel, a bell-shaped casing mounted upon the end of said cylinder and a grinding-tool and wheel mounted upon said bell-shaped casing and means for rotating said grinding-tool.

6. A grinding apparatus consisting of a wheel, said wheel having an inclined bore, a cylinder fitting within said wheel and keyed to rotate therewith and to slide therein, means for maintaining said wheel to always rotate upon the same axis, and means for rotating said wheel, means for moving said wheel longitudinally with reference to the said cylinder so as to vary the axial position of the said cylinder with reference to the said wheel, a spindle mounted within said cylinder but having its axis parallel to the axis of the said wheel, a grinding-tool and gear mounted upon the end of said cylinder, said gear deriving motion from said central spindle, and means for rotating said central spindle.

7. A grinding apparatus consisting of a wheel, said wheel having an inclined bore, a cylinder fitting within said wheel and keyed to rotate therewith and to slide therein, means for maintaining said wheel to always rotate upon the same axis, and means for rotating said wheel, means for moving said wheel longitudinally with reference to the said cylinder so as to vary the axial position of the said cylinder with reference to the said wheel, a spindle mounted within said cylinder whose axis however, is parallel to the axis of said wheel, a carrier mounted upon the end of said cylinder a counter-shaft mounted parallel with said spindle, an arm mounted upon said support and carrying the grinding-tool, gear for rotating said grinding-tool from said counter-spindle and for rotating said counter-spindle from said main spindle and means for rotating said main spindle.

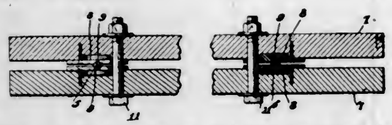
8. A grinding apparatus consisting of a wheel, said wheel having an inclined bore, a cylinder fitting within said wheel and keyed to rotate therewith and to slide therein, means for maintaining said wheel to always rotate upon the same axis, and means for rotating said wheel, means for moving said wheel longitudinally with reference to the said cylinder so as to vary the axial position of the said cylinder with reference to the said wheel, a spindle mounted within said cylinder whose axis is always parallel with said wheel, a support mounted upon the end of said cylinder, a counter-spindle mounted upon said support away from the center of said main spindle, an arm mounted upon said spindle said arm carrying, a boss, a spindle carried within said boss and a grinding-tool mounted upon said spindle, said support having a circular groove and means for adjusting the position of said grinding-tool-carrying arm within said circular groove, so as to bring the tool into various positions with reference to the center of rotation of the cylinder aforesaid, and means for rotating said main spindle and for conveying motion from said main spindle to said counter-spindle and from said counter-spindle to said grinding-tool.

9. In a grinding apparatus such as specified the main spindle for driving the grinding-tool, a counter-spindle arranged away from the axial center line of said main spindle, an arm carried by said support, the grinding-tool carried within said arm, and means for rotating said main spindle for conveying motion from said main spindle to said counter-spindle and from said counter-spindle to said grinding-tool substantially as described.

10. In a grinding apparatus such as specified the main spindle for driving the grinding-tool, a counter-spindle arranged away from the axial center line of said main spindle, an arm carried by said support, the grinding-tool carried within said arm, and means for rotating said main spindle for conveying motion from said main spindle to said counter-spindle and from said counter-spindle to said grinding-tool, said support having a circular slot and means for adjusting and fixing the position of said arm within said circular groove substantially as described.

11. In a grinding apparatus such as hereinbefore specified means for longitudinally moving the member through which the rotation of the cylinder is effected consisting of a hollow boss, a recess within said boss, a central spindle, a driving-spindle and means for conveying motion from said driving-spindle to said spindle, said means passing through said recess in said hollow boss, a screw-nut upon said boss, a nut device for coöperating therewith for the longitudinal movement of said boss, substantially as described.

842,382. MASON'S PLATFORM FOR BUILDINGS. CHARLES J. CLARK, New York, N. Y. Filed June 2, 1905. Serial No. 263,388.



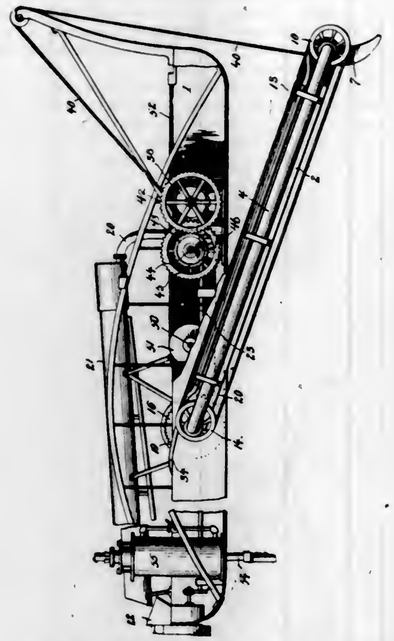
Claim.—1. In a device of the kind described, flexible supports, a series of horizontal supports carried thereby, each comprising two members, bolts adapted to clamp the flexible supports between the said two members, said bolts being spaced on the two members between the flexible supports, substantially as described.

2. In a device of the kind described, flexible supports, a series of horizontal supports carried thereby, each comprising two members having reinforced portions at their ends adapted to engage the flexible supports, bolts adapted to clamp the flexible supports between the reinforced portions at the ends of the horizontal members, said bolts being located between the flexible supports, substantially as described.

842,383. GOLD-DREDGE. HORACE J. CLARK, Boise, Idaho, assignor to The Clark Dredging Company, Chicago, Ill., a Corporation of Nevada. Filed Apr. 9, 1906. Serial No. 310,859.

Claim.—1. In a dredge, a suction-pipe formed in a plurality of sections, means for independently operating said sections, and scoops carried by said sections and provided with an inlet-opening for material thereto.

2. In a dredge, a suction-pipe formed in a plurality of sections, means for independently operating said sections, scoops carried by said sections and provided with an inlet-opening for material thereto, and a priming-chamber disposed intermediate of said sections and connected with a source of supply.



3. In a dredge, a suction-pipe formed in a plurality of sections, means for independently operating said sections, scoops carried by said sections and provided with an inlet-opening for material thereto, a priming-chamber disposed intermediate of said sections and connected with a source of supply, and a nozzle extending from the priming-chamber toward each suction-pipe.

4. In a dredge, a suction-pipe formed in a plurality of sections, means for independently operating said sections, scoops carried by said sections and provided with an inlet-opening for material thereto, a priming-chamber disposed intermediate of said sections and connected with a source of supply, a nozzle extending from the priming-chamber toward each suction-pipe, a boat structure, pivoted supporting-arms at opposite sides thereof and connected at their free ends by the suction-pipes, and conducting-pipes carried by said arms and communicating with said suction-pipes.

5. In a dredge, a suction-pipe formed in a plurality of sections, means for independently operating said sections, scoops carried by said sections and provided with an inlet-opening for material thereto, a priming-chamber disposed intermediate of said sections and connected with a source of supply, a nozzle extending from the priming-chamber toward each suction-pipe, a boat structure, pivoted supporting-arms at opposite sides thereof and connected at their free ends by the suction-pipes, conducting-pipes carried by said arms and communicating with said suction-pipes, and centrifugal pumps connected with said conducting-pipes at the pivot of said arms.

6. In a dredge, a suction-pipe, and a hollow scoop in communication therewith and provided with an upper carrying-face and an opening at its point or free end to receive material.

7. In a dredge, a suction-pipe, a conducting-pipe extending from the axis of the suction-pipe, a supporting-arm for said suction-pipe pivoted at its inner end, and a connection from the conducting-pipe at the pivotal point of said arm.

8. In a dredge, a suction-pipe, a conducting-pipe extending from the axis of the suction-pipe, a supporting-arm for said suction-pipe pivoted at its inner end, a connection from the conducting-pipe at the pivotal point of said arm, a tubular driving-shaft in communication with said conducting-pipe, and a pump connected to said shaft.

9. In a dredge, a suction-pipe, a conducting-pipe extending from the axis of said suction-pipe, a supporting-arm for said suction-pipe pivoted at its inner end, a connection from the conducting-pipe at the pivotal point of said arm, a tubular driving-shaft in communication with said conducting-pipe, a pump connected to said shaft, a driving-gear connected to said tubular shaft, and a driving-pulley carried by the outer end of said shaft for transmitting power to the suction-pipe for oscillating the same.

10. In a dredge, a plurality of suction-pipes each provided with a scoop communicating therewith, a fixed priming-chamber disposed intermediate of said suction-pipes, means for independently moving said pipes relative to the priming-chamber, and means for transmitting pressure to said chamber.

11. In a dredge, a plurality of suction-pipes each provided with a scoop communicating therewith, a fixed priming-chamber disposed intermediate of said suction-pipes, means for independently moving said pipes relative to the priming-chamber, means for transmitting pressure to said chamber, and oppositely-extending choke-nozzles carried by said chamber and disposed within the coupling connections for said suction-pipes.

12. In a dredge, a main driving-shaft, pumps disposed at the opposite sides thereof, a gear carried by said shaft for driving said pumps, suction-pipes, and conducting-pipes at opposite sides of the dredge communicating with said pumps and suction-pipes.

13. In a dredge, a main driving-shaft, pumps disposed at opposite sides thereof, a gear carried by said shaft for driving said pumps, suction-pipes, conducting-pipes at opposite sides of the dredge communicating with said pumps and suction-pipes, driving means carried by the pump connections for moving said suction-pipes, a transverse shaft provided with gear connections to rotate said driving means, and a gear connection between the driving-shaft and said transverse shaft.

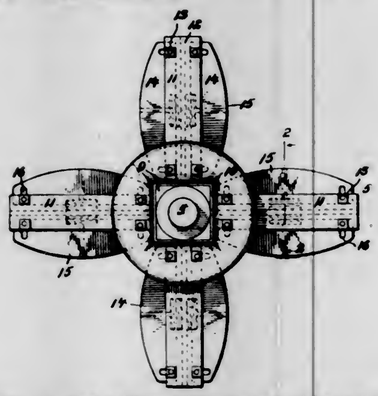
14. In a dredge, a main driving-shaft, pumps disposed at opposite sides thereof, a gear carried by said shaft for driving said pumps, suction-pipes, conducting-pipes at opposite sides of the dredge communicating with said pumps and suction-pipes, driving means carried by the pump connections for moving said suction-pipes, a transverse shaft provided with gear connections to rotate said driving means, a gear connection between the driving-shaft and said transverse shaft, a priming-pipe communicating with said suction-pipes, a pump for supplying pressure to said priming-pipe, and a gear connection between said driving-shaft and said pump.

15. In a dredge, a main driving-shaft, pumps disposed at opposite sides thereof, a gear carried by said shaft for driving said pumps, suction-pipes, conducting-pipes at opposite sides of the dredge communicating with said pumps and suction-pipes, driving means carried by the pump connections for moving said suction-pipes, a transverse shaft provided with gear connections to rotate said driving means, a gear connection between the driving-shaft and said transverse shaft, a priming-pipe communicating with said suction-pipes, a pump for supplying pressure to said priming-pipe, a gear connection between the driving-shaft and said pump, pivotally-mounted arms carrying said suction-pipe and conducting-pipes, a windlass for controlling said arms carried upon a cross-shaft, and a geared connection between said cross-shaft and the main driving-shaft.

16. In a dredge, a main driving-shaft, pumps disposed at opposite sides thereof, a gear carried by said shaft for driving said pumps, suction-pipes, conducting-pipes at opposite sides of the dredge communicating with said pumps and suction-pipes, driving means carried by the pump connections for moving said suction-pipes, a transverse shaft

provided with gear connections to rotate said driving means, a geared connection between the driving-shaft and said transverse shaft, a priming-pipe communicating with said suction-pipes, a pump for supplying pressure to said priming-pipe, a geared connection between the driving-shaft and said pump, pivotally-mounted arms carrying said suction-pipes and conducting-pipes, a windlass for controlling said arms carried upon a cross-shaft, a geared connection between said cross-shaft and the main driving-shaft, a windlass-shaft, a counter-shaft for driving and reversing the drive thereof, and a geared connection between said counter-shaft and the main driving-shaft.

842,384. TAILINGS-TRIMMER. HORACE J. CLARK, Chicago, Ill., assignor to The Clark Dredging Company, Chicago, Ill., a Corporation of Nevada. Filed Sept. 15, 1906. Serial No. 334,744.



Claim.—1. In a tailings-trimmer, a wheel having blades provided with movable cushioned contact-faces mounted thereon.

2. In a tailings-trimmer, the combination with a discharge device, of a wheel separated from and beneath the same and having blades disposed at an angle to the path of fall of material from said device and provided with movable cushioned contact-faces to engage said material.

3. In a tailings-trimmer, the combination with a discharge device, of a wheel having blades disposed at an angle to the path of fall of material from said device and provided with oppositely-disposed cushioned contact-faces, and means for rotating said wheel in opposite directions.

4. In a tailings-trimmer, a wheel comprising a hub having radial arms extended therefrom, a contact-face movably mounted upon each of said arms, and a cushioning device for retaining said face in extended position.

5. In a tailings-trimmer, a wheel comprising a hub having radially-disposed arms extended therefrom with flanges at their opposite ends, a contact-block disposed between said flanges and provided with slots therein, securing-bolts extending through the flanges of said arms and said slots, and cushioning means disposed between the arm and inner face of said block.

6. In a tailings-trimmer, a wheel comprising a hub having radially-disposed arms extended therefrom with flanges at their opposite ends, a contact-block disposed between said flanges and provided with slots therein, securing-bolts extending through the flanges of said arms and said slots, and a cushioning-spring disposed between the arm and a socket on the inner face of said block.

7. In a tailings-trimmer, a wheel comprising a hub having radially-disposed arms extended therefrom with flanges at their opposite ends, a contact-block disposed between said flanges and provided with slots therein, securing-bolts extending through the flanges of said arms and said slots, cushioning means disposed between the arm and inner face of said block, and a compressing-bolt extended through the block and arm to retain the cushioning means under compression during assemblage.

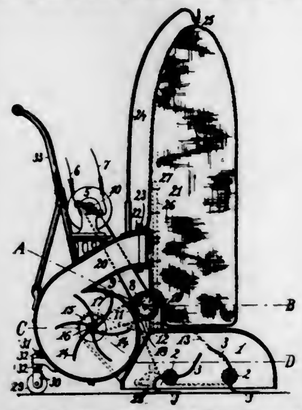
8. A tailings-trimmer comprising a hub, I-beams secured to said hub, and cushioned contact-blocks disposed on opposite sides of said I-beams.

9. A tailings-trimmer comprising a hub, I-beams secured to said hub, cushioned contact-blocks disposed upon opposite sides of said beams, and securing-bolts for said blocks extending through the end flanges of said beams, and slots in said blocks.

10. In a tailings-trimmer, the combination of a supporting-bracket, a wheel mounted therein provided with a driving-gear, radially-extended arms from said wheel provided with a cushioned contact-face on each thereof, and a discharge-hopper disposed above said wheel to deliver material in the path of travel of said arms.

11. The combination with a discharge device, of a separated uninclosed wheel disposed beneath the same with its axis parallel with and below the discharge edge of said device and having blades disposed to travel in a path transverse to the fall of material from said device.

842,385. CARPET-CLEANING MACHINE. LEANDER B. COBB, Stoneham, Mass., assignor to American Carpet Beater Company, Boston, Mass., a Corporation of Massachusetts. Filed June 16, 1904. Serial No. 212,875.

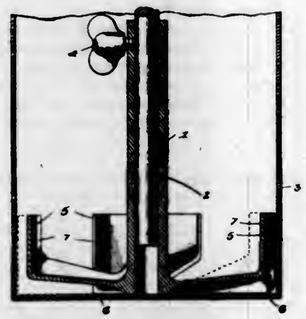


Claim.—1. A carpet-cleaning machine comprising a casing having an open under side in combination with a plurality of flexible rotating beaters within the casing, secondary casings having open communication with the interior of the casing and having openings in their upper ends, a fan within each secondary casing, arms extending upward from the outer secondary casings, a bag supported by the arms and extending below the openings in the upper ends of the secondary casings but having open communication with the openings in the secondary casing, and means for detaching the bag from the openings in the secondary casings, substantially as shown and described.

2. In a carpet-cleaning machine, a casing having an open under side, shafts carried by the casing, two series of flexible beaters upon each shaft, the straps of one series of beaters on each shaft being alternately arranged with the straps of the other series of beaters on the same shaft, wheels 28 and 29 for the casing, means for raising or lowering wheel 29 to adjust the casing and its beaters in contact with the floor, and means for withdrawing dirt and dust from the casing, substantially as shown and described.

3. In a carpet-cleaning machine, a casing having an open under side, rotating shafts carried by the casing, two series of flexible beaters upon each shaft within the casing, the straps of one series of beaters on each shaft being alternately arranged with the straps of the other series of beaters on the same shaft, a secondary casing having open communication with the interior of the casing and provided with an opening in its upper end, a fan within the secondary casing, a bag carried by, detachably attached to, and communicating with the interior of the secondary casing for holding the dirt withdrawn from the beaters, a motor, and means connecting the motor, beaters and fans for withdrawing dirt and dust from the casing and its beaters and carrying the same upward into the bag, substantially as shown and described.

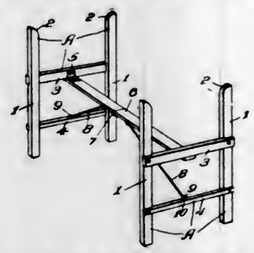
842,386. CHURN-DASHER. FRED W. COOK, North Chicago, Ill., assignor to Chicago Hardware Foundry Co., North Chicago, Ill. Filed May 21, 1906. Serial No. 318,031.



Claim.—1. A churn-dasher comprising a plurality of radially-disposed rotatable inclined blades having their forward edges disposed in the same horizontal plane, and curved wings upon the outer ends of the blades and disposed eccentrically in relation to the center of the dasher.

2. A churn-dasher comprising a central portion, inclined blades radiating from one end thereof, the forward or advancing edges of said blades being disposed in the same plane with the end of the central portion, and wings disposed at an angle to the ends of the blades and eccentric with the central portion.

842,387. BOLSTER-HOLDER. KATHERINE E. CROCKER, Buffalo, N. Y. Filed Oct. 20, 1906. Serial No. 339,814.



Claim.—1. In a bolster-holder, the combination with corresponding standards composed of parallel leg-pieces and cross-pieces, of a two-piece spreader connected to each standard by a hinge and having a hinge-joint at its center, and of detachable braces extending from each spreader-piece to one of the standards.

2. In a bolster-holder, the combination with two corresponding standards forming the ends of the holder and composed of parallel leg-pieces and of two parallel cross-pieces connected to the leg-pieces, the leg-pieces extending below the lower cross-pieces to form legs and extending above the upper cross-pieces to form forks to receive the bolster, of a two-part spreader connected at each end by a hinge to the upper cross-pieces and having a hinge-joint at its center, said spreader being adapted to fold upwardly, of eyelets on the lower cross-pieces, and of rods attached to each spreader-piece and having hooks at their opposite ends to engage with said eyelets to secure the bolster-holder in operative position.

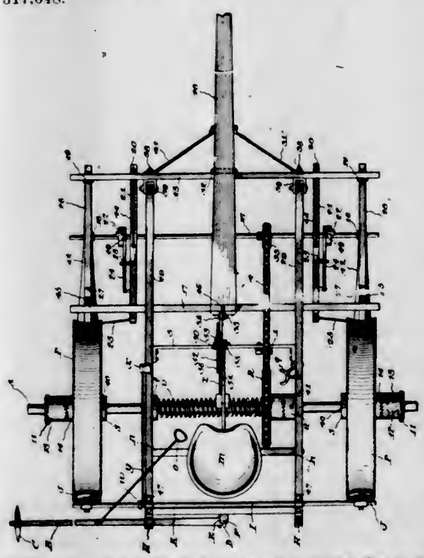
3. In a bolster-holder, the combination with corresponding standards composed of parallel leg-pieces, vertically arranged, and of upper and lower parallel cross-pieces, horizontally arranged and secured to the leg-pieces, said leg-pieces extending below the lower cross-pieces and above the upper cross-pieces and having their upper ends inwardly beveled, of a two-part spreader extending between the upper cross-pieces, hinges connecting the ends of the spreader respectively to the upper cross-pieces, a central hinge connecting the two parts of the spreader, braces connected at their upper ends to the respective spreader-pieces adjacent to the central hinge and adapted to engage by their lower ends with the lower cross-pieces to maintain the bolster-holder in operative position.

4. In a bolster-holder, the combination with two corresponding standards composed each of two parallel, vertical leg-pieces and of two parallel horizontal cross-pieces secured to the leg-pieces and fitted to mortises in the outer faces of the leg-pieces, of a two-part spreader-piece extending between the upper pair of said cross-pieces and connected thereto by hinges, a hinge connecting the two parts of the spreader, said spreader-pieces being adapted to fold together at said central hinge with their lower faces in contact, or adjacent, of eyelets on the lower pair of cross-pieces, brace-rods hung on each spreader-piece and having hooks to engage with the eyelets and lock the parts in operative position with the spreader horizontal, said spreader being of less thickness than the leg-pieces, whereby the spreader-pieces may fold up together when the hooks are withdrawn from the eyelets, and side hooks on the edges of the leg-pieces to maintain the parts in closed and inoperative position.

5. The combination in a bolster-holder, of two corresponding standards, each having legs to set on the floor and a fork to receive the bolster, of a single, two-piece spreader connected positively to the respective standards at its ends and having a central hinge-joint connecting its two halves, and means to secure the spreader and standards in operative position.

6. In a bolster-holder, the combination with two corresponding standards having each two leg-pieces positively attached together in fixed relation to each other, of a two-piece spreader connected to each standard by a hinge at a fixed point on the standard and having a central hinge-joint, and of detachable braces to connect the spreader to the respective standards and temporarily maintain the parts in operative position.

842,388. CORN-PLANTING MACHINE. FRED D. CUTSFORTH, Chetek, Wis. Filed May 18, 1906. Serial No. 317,648.

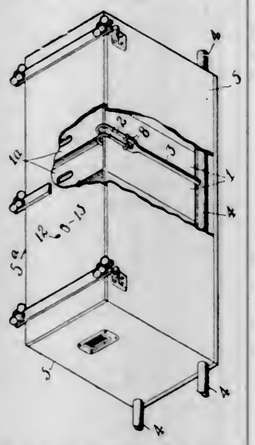


Claim.—1. In a corn-planter, a seed-tube having a pivoted gate at its lower end, a slide-bar having a connection with the gate, a hook pivoted to the slide-bar, and a

wheel-driven shaft having a catch engageable with the hook for actuating the slide-bar to open the gate.

2. In a corn-planter, a wheel-driven shaft having a hub thereon provided with a projecting trip and a catch, a rotatable dropping-plate having projecting fingers engageable by the trip, a seed-tube having a pivoted gate at its lower end, a slide-bar having a connection with the gate, and a hook pivoted to the slide-bar and engageable by the aforesaid catch.

842,389. BATTERY. FRANK A. DECKER, Philadelphia, Pa., assignor, by mense assignments, to Decker Electrical Manufacturing Company, Wilmington, Del. Filed Feb. 27, 1904. Serial No. 195,694.



Claim.—1. A battery comprising a plurality of cells, a duct extending into the interior of each of said cells, a conduit communicating with a plurality of said ducts, and means for connecting said conduit to said ducts, said connection permitting the removal of said cells and ducts without moving said conduit, substantially as specified.

2. A battery comprising a plurality of cells, a duct extending into the interior of each of said cells, a main conduit, a plurality of branch conduits each communicating with said main conduit and with a plurality of said ducts, and means for removing and replacing the respective cells and their ducts independently of the remaining cells and their connections, substantially as specified.

3. A battery having an inclosed cell, a vent leading therefrom, a port leading thereto, and a pivoted valve which normally closes said port and opens said vent, said valve being moved by pressure to open said port and simultaneously close said vent, substantially as specified.

4. A battery having a cell, a plurality of apertures communicating therewith, and a pivoted valve having angular wings adapted respectively for covering said apertures alternately, said valve being weighted to maintain one of said apertures closed and the other open, substantially as specified.

5. A battery having a plurality of cells, a closed casing containing said cells, a plurality of apertures in said casing, and a valve which covers said apertures alternately, substantially as specified.

6. A battery-cell, a duct communicating with said cell, and a conduit communicating with said duct, said conduit having a flared terminal adapted for engaging the end of said duct, substantially as specified.

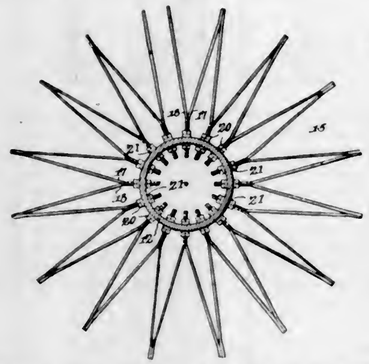
842,390. SPRAY-PRODUCING POINT FOR ATOMIZERS. ALLEN DE VILBISS, Toledo, Ohio, assignor to The De Vilbiss Manfacturing Company, Toledo, Ohio. Filed Jan. 11, 1906. Serial No. 295,568.

Claim.—1. A spray-producing point formed of a single piece, provided with a liquid-conduit and an air-conduit which open into a chamber common to both of them through the rear integral wall of said chamber, the outer ends of said conduits formed with restricted openings.



2. A spray-producing point formed of a single piece, provided with a liquid-conduit and an air-conduit which open into a chamber common to both of them through the rear integral wall of said chamber, the outer ends of said conduits formed with restricted openings, the outer ends of said conduits located one immediately above the other.

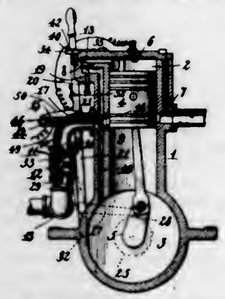
842,391. THERMOPILE. HENRY DIECKS, Eastport, Me. Filed Jan. 11, 1906. Serial No. 295,614.



Claim.—1. In combination, a casing or pipe through which a heated fluid may be directed, said casing having a perforated wall, a thermopile formed of radiating couples, the inner ends of said couples being brought closely together in parallel relation and extended through the perforations to be exposed to the action of heat, and means for locking said inner ends to each other and to said casing.

2. The combination with a casing or pipe through which a heated fluid may be directed, the wall of said pipe being perforated, of a thermopile formed of radiating couples, the inner ends of said couples being semicircular in cross-section and provided with screw-threads, insulating-washers arranged in the perforations and extending around said couples, and nuts arranged on the threaded portions of the couples and serving to confine the same in place.

842,392. EXPLOSIVE-ENGINE. JOHN ECKHARD, Buffalo, N. Y., assignor of one-half to Joseph P. Fell, Buffalo, N. Y. Filed June 29, 1905. Serial No. 267,633.



Claim.—1. An explosive-engine comprising a cylinder having a compression-chamber and an explosion-chamber, a passage leading from the explosion-chamber to the compression-chamber, an exhaust-port, an inlet-port at the connection of the upper end of said passage with the explosion-chamber, an inlet-port in the cylinder between the ends of said passage, a spring-controlled valve for the first-mentioned inlet-port, a suitably-governed valve for the other inlet-port, and a piston working in said cylinder.

2. In an explosive-engine, the combination with the cylinder having a compression-chamber at one end and an explosion-chamber at the other end, a passage connecting both chambers, an inlet-port between the ends of the cylinder, an inlet-port at the explosion end of the cylinder, and a working piston in the cylinder, of a spring-controlled valve for the last-mentioned inlet-port, a valve for the first-mentioned inlet-port, and combined manually-operative and automatically-operative mechanism for controlling the last-mentioned valve.

3. In an explosive-engine, the combination with the cylinder having closed ends and a passage connecting said ends, two inlet-ports arranged at different points and connecting said passage with the bore of the cylinder, a working piston in the cylinder, a spring-controlled valve for one of said ports, and a valve for the other port, of a hand-lever operatively connected with the last-mentioned valve, and a governor operatively connected with said hand-lever.

4. An explosive-engine comprising a cylinder having closed ends and a passage connecting said ends, an inlet-port connecting the passage with the bore of the cylinder between its ends, a valve for said port, and a valve normally closing the passage at the upper end of the cylinder, a working piston in the cylinder, and a hand-lever connected to the first-mentioned valve to open or close the same.

5. An explosive-engine comprising a cylinder having closed ends and a passage connecting said ends, an inlet-port connecting the passage with the bore of the cylinder between its ends, a valve for said port, and a valve normally closing the passage at the upper end of the cylinder, a working piston in the cylinder, a hand-lever connected to the first-mentioned valve to open or close the same, and a notched lock-piece secured to the cylinder to be engaged by said lever to hold the same in any desired position.

6. An explosive-engine comprising a cylinder having closed ends and a passage connecting said ends, an inlet-port connecting the passage with the bore of the cylinder between its ends, a valve for said port, and a valve normally closing the passage at the upper end of the cylinder, a working piston in the cylinder, a hand-lever connected to the first-mentioned valve to open or close the same, a governor having detachable connection with said lever, and means for holding the hand-lever in any desired position when disconnected from the governor.

7. An explosive-engine comprising a cylinder having closed ends and a passage connecting said ends, an inlet-port connecting the passage with the bore of the cylinder between its ends, a valve for said port, and a valve normally closing the passage at the upper end of the cylinder, a working piston in the cylinder, and a hand-lever connected to the first-mentioned valve to open and close the same and adapted when moved to a certain position to open the last-mentioned valve.

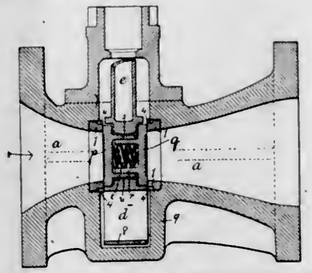
8. An explosive-engine comprising a cylinder having closed ends and a passage connecting said ends, an inlet-port connecting the passage with the bore of the cylinder between its ends, a valve for said port, and a valve normally closing the passage at the upper end of the cylinder, a working piston in the cylinder, a hand-lever connected to the first-mentioned valve to open or close the same, a governor having detachable connection with said lever, a notched lock-piece for coaction with said lever, and means for disengaging said lever from the notches of said lock-piece when connected with the governor.

9. An explosive-engine comprising a cylinder having closed ends and a passage connecting said ends, an inlet-port connecting the passage with the bore of the cylinder between its ends, a valve for said port, and a valve normally closing the passage at the upper end of the cylinder, a working piston in the cylinder, a hand-lever connected to the first-mentioned valve to open and close the same, a governor detachably connected with said lever, a slotted lock-piece on the cylinder having one wall of its slot provided with a series of notches, a spring serving to force the said lever in engagement with said notches, and a lever pivoted on the lock-piece and adapted to be swung over the notches thereof to cause the hand-lever to engage the edge of said pivoted lever.

10. In an explosive-engine, the combination with two cylinders having their ends closed and a passage connecting the closed ends of each cylinder, a spring-controlled valve at the upper end of said passages, a spring-pressed valve between each passage and the bore of the corresponding cylinder between its ends, a suitable igniter in each cylinder, and working pistons for the cylinders, of a cross-bar connecting said spring-pressed valves, a lever adapted to actuate said valves during a portion of its movement, circuit-wires for the igniters, and switches in the circuits, one part of each switch being carried on said cross-bar and the other part on said lever, said switches being arranged that in a certain position of said lever one switch only is closed, while in a second position of said lever both switches are closed, and in a third position of said lever both switches are open.

11. In an explosive-engine, the combination of two cylinders having their ends closed and a passage connecting the closed ends of each cylinder, a spring-controlled valve at the upper end of each of said passages, a spring-pressed valve between each passage and the bore of the corresponding cylinder between its ends, a suitable igniter in each cylinder, and working pistons for the cylinders, of a cross-bar connecting said spring-pressed valves, a lever adapted to actuate said valves during a portion of its movement, circuit-wires for the igniters, and switches in the circuits controlled by the movement of said lever.

842,393. FLUID-CONTROLLING DEVICE. SEBASTIAN Z. DE FERRANTI, London, England. Filed Sept. 11, 1905. Serial No. 278,030.



Claim.—1. In combination, a Venturi tube and a fluid-controlling device operatively disposed between the converging and diverging nozzles of said tube.

2. In combination in a pipe-line, a Venturi tube and a fluid-controlling device operatively disposed between the converging and diverging nozzles of said tube, the diameters of the larger ends of said nozzles being about equal respectively to those of the corresponding portions of the pipe-line.

3. In combination, a Venturi tube, the converging nozzle of which is shorter than the diverging nozzle together with a fluid-controlling device operatively disposed between said nozzles.

4. In a pipe-line, a structure comprising a Venturi tube and a fluid-controlling device operatively disposed between the converging and diverging nozzles of said tube, the passage-way through said structure available for fluid flow having smooth bounding surfaces.

5. In a pipe-line, a structure comprising a Venturi tube and a fluid-controlling device operatively disposed between the converging and diverging nozzles of said tube, the passage-way through said structure available for fluid flow having polished bounding surfaces.

6. In a pipe-line, a structure comprising a Venturi tube

and a fluid-controlling device operatively disposed between the converging and diverging nozzles of said tube, said structure being of substantially equal strength to that of the pipe-line as regards resistance to certain mechanical stresses.

7. In a pipe-line, a structure comprising a Venturi tube and a fluid-controlling device operatively disposed between the converging and diverging nozzles of said tube, certain parts of said structure being ribbed to maintain the strength of the pipe-line.

8. In combination, a Venturi tube and a fluid-controlling device operatively disposed between the converging and diverging nozzles of said tube, and having a body or casing formed integral with said nozzles.

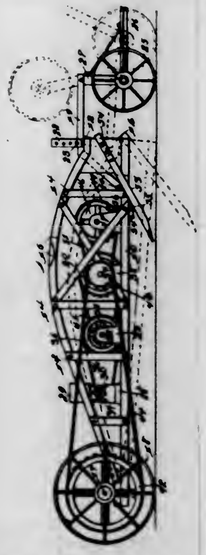
9. In a pipe-line, a structure comprising a Venturi tube and a fluid-controlling device operatively disposed between the converging and diverging nozzles of said tube, said controlling device including a part having an aperture therethrough; and means for registering said aperture with the adjacent ends of said nozzles.

10. In combination, a Venturi tube and a sluice-valve operatively disposed between the converging and diverging nozzles of said tube.

11. In combination, a Venturi tube and a fluid-controlling device operatively disposed between the converging and diverging nozzles of said tube, said controlling device having a body or casing and a member slidable fluid-tight relatively thereto.

12. In combination, a Venturi tube and valve means operatively disposed between the converging and diverging nozzles of said tube.

842,394. TRAVELING CAPSTAN. HENRY M. FISK, Pella, Iowa. Filed July 18, 1906. Serial No. 326,788.



Claim.—1. In a traveling capstan, a frame mounted at its rear end upon an axle and wheels, means for supporting and raising and lowering the front end of the frame, adjustable anchors on the front end of the frame, a motor on the end portion of the frame, a driving-shaft connected with the motor and gearing for transferring power to the wheels for advancing the frame.

2. In a traveling capstan, a frame mounted at its rear end upon an axle and wheels, means for supporting and raising and lowering the front end of the frame, a motor on the end portion of the frame, a driving-shaft connected with the motor and gearing for transferring power to the wheels for advancing the frame, a drum on the end portion of the frame and gearing to transfer power from the motor to the drum.

3. In a traveling capstan, a frame mounted at its end upon an axle and wheels, means for supporting and raising and lowering the front end of the frame, a motor on the end portion of the frame, a driving-shaft connected with the motor and gearing for transferring power to the wheels for advancing the frame, a drum on the end portion of the frame and gearing to transfer power from the motor to the drum and a rope fixed to the drum for connecting a ditching-machine with the drum and motor.

4. In a traveling capstan, a frame mounted at its rear end upon an axle and wheels, means for supporting and raising and lowering the front end of the frame, a motor on the end portion of the frame, a driving-shaft connected with the motor and gearing for transferring power to the wheels for advancing the frame, a drum on the end portion of the frame and gearing to transfer power from the motor to the drum and a rope fixed to the drum for connecting a ditching-machine with the drum and motor and means for raising and lowering the front end of the frame.

5. In a traveling capstan, a frame mounted at its rear end upon an axle and wheels, means for supporting and raising and lowering the front end of the frame, a motor on the end portion of the frame, a driving-shaft connected with the motor and gearing for transferring power to the wheels for advancing the frame, a drum on the end portion of the frame and gearing to transfer power from the motor to the drum and a rope fixed to the drum for connecting a ditching-machine with the drum and motor and means for raising and lowering the front end of the frame and means to fasten the front end of the frame to the ground to prevent backward movement of the capstan.

6. In a traveling capstan, a frame supported upon wheels at its rear end, flat blades bifurcated at their top ends and means for adjustably connecting them astride the sides of the frame.

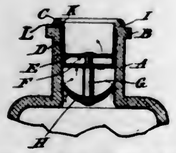
7. In a traveling capstan, a frame supported upon wheels at its rear end, adjustable anchors on the front end of the frame elbow-shaped hounds adjustably connected with the front end of the frame and a front carriage pivotally connected with the front ends of the hounds.

8. A traveling capstan comprising a frame supported at its rear end upon wheels, an adjustable front carriage at its front end, a motor on the frame, a driving-shaft connected with the motor and frame, gearing for transferring power from the motor to the rear supporting-wheels, gearing for transferring power from the motor to a drum, a drum on the frame, a rope on the drum, and adjustable anchoring devices connected with the front end portion of the frame, arranged and combined to operate as set forth.

9. In a traveling capstan, a frame supported upon wheels at its rear, anchors adjustably connected with the front end of the frame to incline rearward and downward, blades for cutting ground and adjusting the anchor provided with pin-holes and pivotally connected with the anchor, and pins in the blades to engage the frame as set forth.

10. In a traveling capstan, a frame supported upon wheels at its rear end, anchors pivotally connected with the front end of the frame to incline rearward and downward, braces pivotally connected with the anchors and provided with pin-holes and pins in the pin-holes, to operate as set forth.

842,395. NON-REFILLABLE BOTTLE. JAMES B. FOWLER, San Diego, Cal. Filed June 10, 1905. Serial No. 264,731.



Claim.—1. A non-refillable bottle having its neck made with an extension thinly finished so it can be easily heated and turned down over the thimble to seal the same in place within the neck of said bottle, and a hollow thimble made to fit into the neck of the bottle and shields at the bottom of said thimble which shields are perforated in oppositely-located halves, and a valve attached to said shields connected with said hollow thimble, all substantially as described and for the purpose set forth.

2. In a non-refillable bottle a hollow thimble adapted to fit within the neck of the bottle and having a flange to rest upon a seat in the neck of said bottle and carrying shields constructed with perforations as set forth and to which shields, connected with said thimble, is attached a valve; all substantially as described and for the purpose set forth.

842,396. TYPE-WRITING MACHINE. WILLIAM FRASER, Stockholm, Sweden, assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y., a Corporation of New York. Filed Apr. 22, 1905. Serial No. 256,978.



Claim.—1. In a device of the character specified, the combination of a member having a pivot, and a retaining device that coöpertes with an end of the pivot to prevent the part seated thereon from being accidentally displaced lengthwise of the pivot and detached therefrom, said retaining device being prevented from moving in the direction of the axis of the pivot and being adapted to be deflected in a direction at substantially right angles thereto and to permit a lengthwise withdrawal of the pivot.

2. In a device of the character specified, the combination of a member having a pivot, and a spring retaining device that coöperates with an end of the pivot to prevent the part seated thereon from being accidentally detached, said retaining device being prevented from moving in the direction in which said part is unseated from the pivot and which may be deflected against its spring-pressure in another direction to free said part.

3. The combination of a pivot, a coöperating member with a hole through which the pivot may be projected endwise, and a retaining device comprising a leaf-spring that coöperates with an end of the pivot, the plane of the spring body portion of said leaf-spring being coincident with or parallel to the pivot.

4. The combination of a member having a laterally-projecting pivot, and a retaining device, said retaining device comprising a leaf-spring with the plane of one portion thereof at substantially right angles to the plane of another portion thereof.

5. The combination of a member having a laterally-projecting pivot, and a retaining device, said retaining device comprising a leaf-spring with the plane of one portion thereof at substantially right angles to the plane of another portion thereof, and one of said portions being resilient and the other substantially non-resilient.

6. The combination of a member having a laterally-projecting pivot, and a retaining device, said retaining device comprising a leaf-spring with the plane of one portion thereof at substantially right angles to the plane of another portion thereof, and one of said portions being resilient and the other substantially non-resilient, the plane of the resilient portion being coincident with or parallel to the pivot and the plane of the non-resilient portion being at substantially right angles to the axis of the pivot.

7. The combination of a member having a laterally-projecting pivot extending therefrom, and a leaf-spring that is secured thereto and coöperates with the free end of the pivot to prevent the accidental disconnection of the device seated on said pivot, said spring being fixed against yielding in the direction of the axis of the pivot and adapted to yield in a direction at substantially right angles thereto.

8. The combination of a member having a laterally-projecting pivot extending therefrom, and a leaf-spring that is secured to said member and coöperates with the free end of the pivot to prevent the accidental disconnection of the device seated on said pivot, said spring being bent in planes at right angles to each other at opposite end portions, one end being secured to said member and the other bearing on the free end of the pivot.

9. The combination of a member having a laterally-projecting pivot extending therefrom, a leaf-spring that is secured to said member and coöperates with the free end of the pivot to prevent the accidental disconnection of the device seated on said pivot, said spring being bent to form two members in planes at substantially right angles to each other, one member being resilient and the other substantially non-resilient, and means for securing the end of the resilient member to the pivot-carrying member whereas the substantially non-resilient member coöperates with the free end of the pivot.

10. A link bent at one end thereof to form a pivot, and a retaining device coöperating with the free end of said pivot to prevent the accidental disconnection of the member seated thereon, said retaining device comprising a leaf-spring having portions 19 and 20 bent at 21 so that the planes thereof are at right angles to each other, the portion 20 being comparatively short whereas the other portion 19 is comparatively long, the long portion 19 being secured to the link and the part 20 coöperating with the end of the pivot.

842,397. AXLE. ANDREW J. FRIEDMAN, Canton, Ohio. Filed Jan. 6, 1906. Serial No. 294,912.



Claim.—1. An axle comprising a U-shaped tube provided with flanged ends having spindles extending outwardly therefrom, and a brace secured in said axle, as set forth.

2. An axle comprising a U-shaped tube provided with outwardly-extending flanges at each end, spindles provided with enlargements secured in each end of the axle projecting outwardly therefrom, and a brace secured in said axle between said spindles, as set forth.

3. An axle comprising a U-shaped tube widest at its center, spindles secured in the ends of the axle, flanges projecting out from said axle over said spindles, and a flanged brace secured in the axle between the spindles, for the purpose set forth.

4. An axle comprising a U-shaped tube widest at its center, spindles welded in the ends of the axle, flanges projecting upwardly and outwardly from the ends of the axle over the spindles, and a trough-shaped brace secured in the axle and extending from spindle to spindle, for the purpose set forth.

842,398. NUT-CRACKING MACHINE. WILLIAM GERHARDT, San Antonio, Tex. Filed Apr. 29, 1904. Serial No. 205,550.

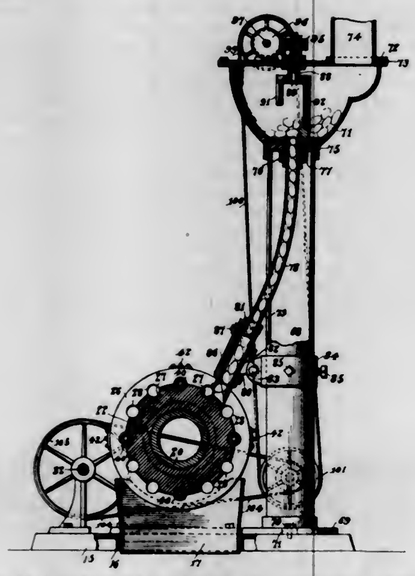
Claim.—1. In a nut-cracking machine, the combination with a plurality of nut-cracking mechanisms including shell engaging and fracturing devices, of means for successively operating the mechanisms.

2. In a nut-cracking machine, the combination with a plurality of cracking mechanisms including shell-fracturing devices, of operating means for the cracking mechanisms, said cracking mechanisms being movable past and into and out of engagement with the operating means to cause said means to operate successively and continuously on the different mechanisms and fracture the shells thereof while permitting a lateral expansion of the nuts.

3. In a nut-cracking machine, the combination with a plurality of independently-operating cracking mechanisms

including coacting shell-fracturing devices, of common means for successively and continuously effecting the independent cracking operation of each mechanism.

4. In a nut-cracking machine, the combination with a plurality of cracking mechanisms including shell-fracturing devices, of means for effecting the cracking operation of each mechanism, said mechanisms being successively and repeatedly movable into coöperation with said operating means.



5. In a nut-cracking machine, the combination with a movable support, of cracking mechanisms including shell engaging and fracturing devices mounted thereon, and operating means for the cracking mechanisms, said support being movable to carry the cracking mechanisms successively into coöperation with the operating means, and said means operating successively on the cracking mechanisms to effect the movement of the shell-fracturing devices to engage and crack the nuts.

6. In a nut-cracking machine, the combination with a movable support, of a plurality of independent cracking mechanisms mounted thereon and movable therewith, said mechanisms including relatively movable shell engaging and fracturing devices, operating means for effecting the cracking operations of said mechanisms, and means for moving the support to carry the cracking mechanisms mounted thereon successively into coöperation with said operating means.

7. In a nut-cracking machine, the combination with a revoluble support, of a plurality of separate cracking mechanisms mounted thereon and revoluble therewith, said mechanisms including relatively movable shell engaging and fracturing devices, and operating means for the cracking mechanisms, said mechanisms being successively carried into coöperative relation with the operating means upon the revolution of the support.

8. In a nut-cracking machine, the combination with a revoluble support, of nut-cracking mechanisms mounted thereon and revoluble therewith, said mechanisms including relatively movable shell engaging and fracturing devices, operating means for the cracking mechanisms, means for feeding nuts to the mechanisms, and means for continuously revolving the support to carry said cracking mechanisms successively and repeatedly into coöperative relation with said operating means and thereby successively effect the relative movements of the fracturing devices to crack the nuts.

9. In a nut-cracking machine, the combination with a carrier, of means for feeding nuts thereto, nut-cracking mechanism mounted on the carrier and having shell-fracturing means, means for operating the mechanism to crack the nuts, and means for moving the carrier and mechanism to a position to receive a nut from the feeding means and from such position to a position to effect the movement of the cracking mechanism by the operating means.

10. In a nut-cracking machine, the combination with a movable nut-carrier, of a plurality of nut-cracking mechanisms movable therewith and including shell-fracturing means, means for successively operating the mechanisms to cause the fracturing means to properly engage and crack the nuts in the carrier, and means for moving the carrier and for moving the nut-cracking mechanisms successively into coöperation with the operating means.

11. In a nut-cracking machine, the combination with nut-feeding means, of a revoluble support and nut-carrier coacting therewith, nut-cracking mechanism movably mounted on and movable with the support, said mechanism including nut-engaging and shell-fracturing means, and operating means for moving the mechanism upon the support, said support upon its revolution carrying the said mechanism into coöperative relation with the operating means.

12. In a nut-cracking machine, the combination with nut-feeding means, of a revoluble support movable with respect thereto, a plurality of separate nut-cracking mechanisms movably mounted on and revoluble with the support, said mechanisms including relatively movable nut-engaging and shell-fracturing means, operating means for moving the nut-cracking mechanisms upon the support to crack the nuts fed thereto, and means for revolving the said support to carry the mechanisms successively and repeatedly past the feeding means and into coöperative relation with the operating means to continuously crack nuts.

13. In a nut-cracking machine, the combination with a revoluble carrier, of nut-cracking mechanism movably mounted thereon and revoluble therewith, said mechanism including relatively movable coacting shell-fracturing means arranged to engage the nuts and at the same time permit the lateral expansion thereof, and operating means for the nut-cracking mechanism located in the path of revolution of the cracking mechanism.

14. In a nut-cracking machine, the combination with nut-feeding means, of a revoluble carrier, a plurality of independently-operating nut-cracking mechanisms revoluble with the carrier and including relatively movable shell-fracturing devices arranged to engage the opposite ends of the nuts and permit of their lateral expansion under pressure, and operating means for successively moving the mechanisms, said means being located in the path of revolution of the cracking mechanisms.

15. In a nut-cracking machine, the combination with a rotatable carrier including a drum having nut-receiving pockets, of a plurality of nut-cracking mechanisms having shell-fracturing means movably mounted on the carrier and revoluble therewith, and means for actuating the mechanisms to move said fracturing means in the pockets and crack the nuts therein while permitting of their lateral expansion.

16. In a nut-cracking machine, the combination with a rotatable carrier including a drum having open-ended and open-sided nut-receiving pockets, of means for successively feeding nuts to the open sides of the pockets, a plurality of nut-cracking mechanisms movably mounted on the carrier and revoluble therewith, said mechanisms comprising sets of shell-fracturing jaws movable through the open ends of the pockets and permitting the expansion of the shells under pressure, and means for successively moving the jaws into the pockets during the revolution of the carrier for cracking the nuts therein and at the same time permitting of their lateral expansion.

17. In a nut-cracking machine, the combination with a movable flanged carrier having pockets between the flanges and openings through said flanges alined with the pockets, of supports located outside the flanges, plungers slidably mounted in the supports and having coacting shell-fracturing jaws movable through the openings in the flanges and into the pockets.

18. In a nut-cracking machine, the combination with a rotatable carrier including a drum having spaced flanges and supporting-disks located outside the flanges, said drum being provided with pockets between the flanges, and openings through said flanges that are alined with the pockets, of nut-cracking mechanisms movably mounted on the disk and drum and comprising sets of shell-fracturing jaws movable through the openings in the flanges and into the pockets, and means for successively effecting the movement of the jaws into the pockets to effect the cracking of the nuts while permitting of their lateral expansion.

19. In a nut-cracking machine, the combination with a movable carrier, of relatively movable nut-fracturing jaws movably mounted on and movable with the carrier, means for effecting the preliminary relative movement of the jaws to position the same upon nuts of different sizes, and means for effecting the relative movement of the jaws to fracture the shell of such nut, both of said means successively operating on the jaws upon the movement of the carrier.

20. In a nut-cracking machine, the combination with a movable carrier, of relatively movable nut-fracturing jaws movably mounted on and movable with the carrier, means for effecting the preliminary yielding and relative movement of the jaws to position the same upon a nut, and means for effecting the relative unyielding movement of the jaws to fracture the shells, both of said means successively operating on the jaws upon the movement of the carrier.

21. In a nut-cracking machine, the combination with a movable carrier, of relatively movable nut-fracturing jaws movably mounted on and movable with the carrier, means for effecting a preliminary relative movement of the jaws to position the same upon nuts of different sizes, locking means for holding one of the jaws against movement, and means for effecting the relative movement of the jaws to fracture the shell of such nut, said means successively operating on the jaws upon the movement of the carrier.

22. In a nut-cracking machine, the combination with a rotatable carrier, of relatively movable nut-fracturing jaws movably mounted on and movable with the carrier, said jaws being arranged to receive a nut between them, means for effecting a preliminary yielding movement to one of the jaws, a lock for holding the yieldingly-moved jaw against retrograde movement, and means for effecting the relative unyielding movement of the jaws to fracture the shells, said means successively operating on the jaws upon the movement of the carrier.

23. In a nut-cracking machine, the combination with a movable carrier, of oppositely-located nut-fracturing jaws movable on and with the carrier and arranged to receive a nut between them, a spring for urging one jaw toward the other to thereby position the jaws upon nuts of different sizes, a lock for holding the spring-pressed jaw against movement, and means for relatively moving the jaws when the spring-pressed jaw is locked to effect the fracture of the shell of the nut, said movements being effected during the movement of the carrier.

24. In a nut-cracking machine, the combination with a rotatable carrier, of oppositely-located shell-fracturing jaws movably mounted on the carrier and arranged to receive a nut between them, a spring for urging one of the jaws toward the other, and means for effecting the following operations of said jaws in the order named: first, separating the jaws to permit the introduction of a nut between them; second, releasing the spring-pressed jaw to position said jaws upon a nut; third, locking the spring-pressed jaw against retraction; fourth, effecting an inward movement of the other jaw to fracture the shell of the nut; fifth, retracting said jaws to release the cracked nut.

25. In a nut-cracking machine, the combination with a movable nut-holding carrier, of relatively movable shell-fracturing jaws movably mounted on and movable with the carrier, means for locking one of the jaws in a variety of positions to engage nuts of different sizes, said means being located at a predetermined point in the path of movement of the jaw and said jaw being moved into engagement therewith on the movement of the carrier, and means for operating the other jaw to fracture the shells while the first-mentioned jaw is locked.

26. In a nut-cracking machine, the combination with a movable carrier, of relatively movable shell-fracturing jaws movably mounted on and movable with the carrier, means for effecting a variable movement of one of the jaws to engage the same on nuts of different sizes, means for locking said jaw in any of a plurality of different positions, and means for operating the other jaw after the first-mentioned jaw is locked to fracture the shells, said operating means being located in the path of movement of the second jaw and engaged thereby on the movement of the carrier.

27. In a nut-cracking machine, the combination with a movable carrier, of relatively movable shell-fracturing jaws movably mounted on and movable with the carrier, means for effecting a variable preliminary relative movement of the jaws to clamp nuts of different sizes therebetween, means for afterward locking one of the jaws in any of a plurality of positions, said means being located in the path of movement of said jaw and said jaw being moved into engagement therewith on the movement of the carrier, and means for operating the other jaw after the first-mentioned jaw is locked to fracture the shells, said operating means being located in the path of movement of the second jaw and engaged thereby on the movement of the carrier.

28. In a nut-cracking machine, the combination with a movable carrier, of relatively movable shell-fracturing jaws movably mounted on and movable with the carrier, means located at one point in the path of movement of one of the jaws for locking said jaw in any of a plurality of positions upon the carrier, said jaw being consecutively moved into and out of engagement with the locking means on the movement of the carrier, and means for operating the other jaw to fracture the shells after the first-mentioned jaw is locked, said means being located in the path of movement of the second jaw and engaged thereby on the movement of the carrier.

29. In a nut-cracking machine, the combination with a revoluble carrier, of relatively movable shell-fracturing jaws mounted on and revoluble with the carrier, means located at a predetermined point for locking one of the jaws in any of a plurality of positions upon the carrier and in engagement with nuts of different sizes, and means for effecting the movement of the other jaw to fracture the shell of said nut while the first-mentioned jaw is locked, said locking and said moving means being located in the paths of movement of the jaws.

30. In a nut-cracking machine, the combination with a revoluble carrier, of relatively movable oppositely-arranged shell-fracturing jaws slidably mounted on the carrier, means located at a predetermined point for holding one of the jaws against sliding movement in any of a plurality of positions and in engagement with nuts of different sizes, said means being located in the path of movement of said jaw, operating means for moving the other jaw while the first-mentioned jaw is locked, to fracture the shells of the nuts, said operating means being located in the path of movement of the jaw, and means for revolving the carrier to carry the jaws into coacting engagement with their locking and operating means respectively.

31. In a nut-cracking machine, the combination with a movable carrier, of a plurality of nut-cracking mechanisms mounted thereon, each mechanism comprising relatively movable oppositely-arranged shell-fracturing jaws slidably mounted on the carrier, yielding means for moving one of the jaws of each set, common means for successively holding said yieldingly-operated jaws against a sliding movement, said means being located in the path of movement of said jaws, means for successively moving the other jaws of the sets while the first-mentioned jaws are locked, said operating means being located in the path of movement of the jaws moved thereby, and means for moving the carrier to carry the jaws successively into coacting engagement with their locking and operating means respectively.

32. In a nut-cracking machine, the combination with a revoluble carrier, of sets of relatively movable shell-fracturing jaws slidably mounted on and revoluble with the carrier, means located at a predetermined point in the path of movement of one of the jaws of each set and having an interlocking engagement with said jaws for holding the same against sliding movement and in any of a plu-

rality of positions, means for automatically effecting variable inward movements of said jaws prior to their being locked, means for moving the other jaw of each set while the first-mentioned jaw is locked, said moving means being also located in the path of movement of the jaw operated thereby, and means for revolving the carrier to successively carry the sets of jaws into coacting engagement with the locking and operating means.

33. In a nut-cracking machine, the combination with a movable carrier, of a stationary locking device, and nut-cracking mechanism having shell-fracturing means and including a nut-engaging member carried by the carrier into and out of engagement with the locking device, and means for effecting the movement of the member when disengaged from the locking device, said means effecting a yielding movement of the member in one direction.

34. In a nut-cracking machine, the combination with a revoluble carrier, of nut-cracking mechanism comprising relatively movable members mounted on the carrier, means for yieldingly moving one of said members on the carrier toward the other member, and a stationary locking device, said yieldingly-operated member being moved by the carrier into and out of engagement with the locking device for holding it against yielding movement.

35. In a nut-cracking machine, the combination with a movable carrier having nut-holding means, of a stationary locking device having a plurality of shoulders, and nut-cracking mechanism movably mounted on the carrier and comprising relatively movable members, one of said members having a plurality of shoulders that are carried into interlocking engagement with the shoulders of the locking device on the movement of the carrier.

36. In a nut-cracking machine, the combination with a revoluble carrier, of nut-cracking means including a movable shell-fracturing jaw mounted on the carrier and having shoulders, a spring for effecting a variable movement of the jaw to engage upon nuts of different sizes, and a device located adjacent to the carrier and having shoulders which are interlocked with the shoulders of the jaw during the revolution of the carrier and during the nut-cracking operation, to hold the jaw in any of a plurality of positions.

37. In a nut-cracking machine, the combination with a supporting-spindle, of a carrier revolubly mounted thereon, a shell-fracturing jaw slidably mounted on the carrier longitudinally of the spindle, and a stationary cam that interlocks with the jaw during the revolution of the carrier and during the shell-fracturing operation to secure said jaw in any of a plurality of positions.

38. In a nut-cracking machine, the combination with a supporting-spindle, of a carrier revolubly mounted thereon, a cam rigidly secured to the spindle and having shoulders, a shell-fracturing jaw slidably mounted on the carrier longitudinally of the spindle, and having shoulders that detachably interlock with the shoulders of the cam, and means for effecting a variable movement of the jaw prior to its said interlocking engagement.

39. In a nut-cracking machine, the combination with a movable carrier, of a locking device, and a plurality of spring-operated cracking members movably mounted on the carrier and movable therewith, said cracking members successively engaging the locking device and being thereby held against their spring movements.

40. In a nut-cracking machine, the combination with a support, of a carrier revolubly mounted on the support, a locking device secured to the support, a plurality of cracking members movably mounted on the carrier and revoluble therewith, and means for yieldingly moving the cracking members on the support to engage nuts of different sizes, said cracking members successively interlocking with said locking device after their yielding movements and being thereby held against such yielding movements during a portion of the revolution of the carrier.

41. In a nut-cracking machine, the combination with a supporting-spindle, of a carrier revolubly mounted on the spindle, a cam secured to the spindle, a plurality of nut-cracking jaws slidably mounted on the carrier and revoluble with the same, and means for yieldingly moving the jaws on the carrier to engage nuts of different sizes, said jaws successively interlocking with the cam and being thereby each held against yielding movement in any of a plurality of positions.

42. In a nut-cracking machine, the combination with a movable carrier, of coacting jaws mounted on the carrier and relatively movable thereon, means for automatically effecting a variable relative movement of the jaws to engage them on nuts of different sizes, and means for afterward effecting a further relative movement to crack the nuts so engaged.

43. In a nut-cracking machine, the combination with a rotatable carrier, of sets of coacting jaws mounted on the carrier, the jaws of each set being relatively movable, means for automatically and successively effecting a variable relative movement between the jaws of each set to engage them on nuts of different sizes, and means for afterward effecting a further fixed relative movement of the jaws to crack the nuts, said sets of jaws being consecutively actuated during the rotation of the carrier.

44. In a nut-cracking machine, the combination with a movable carrier, of a nut-cracking member movably mounted thereon, automatically-adjustable means for holding nuts of different sizes against the nut-cracking member, and means for effecting the movement of the member to crack the nuts held thereagainst during the movement of the carrier.

45. In a nut-cracking machine, the combination with a rotatable carrier, of a plurality of nut-cracking members movably mounted thereon, automatically-adjustable means for holding nuts of different sizes against the nut-cracking members, said means including devices movably mounted on the carrier and rotatable therewith, and means for effecting the successive movement of the members to crack the nuts held thereagainst during the rotation of the carrier.

46. In a nut-cracking machine, the combination with a rotary drum, having open-sided nut-receiving pockets, of sets of relatively movable nut-cracking jaws mounted on the drum and operating in the pockets, and means for effecting an unyielding relative movement of the jaws inwardly to crack nuts located between them and in the pockets.

47. In a nut-cracking machine, the combination with a rotary drum having open-sided nut-receiving pockets, of sets of relatively movable nut-cracking jaws movably mounted on the drum and operating in the pockets, means for feeding nuts into the pockets between the jaws, means for effecting the variable movement of one jaw of each set to clamp the nuts against the other jaws, means for successively locking the jaws so moved in their variable positions, and means for successively moving the said other jaws to crack the clamped nuts.

48. In a nut-cracking machine, the combination with a movable carrier having nut-receiving means, of nut-cracking means mounted on the carrier and including a nut-cracking member movably mounted thereon and carried thereby, means for first moving said member into binding engagement with a nut placed in the receiving means, and a movable operating device located in the path of movement of the member for afterward effecting an unyielding movement thereof upon the carrier to crack the nut, said member being carried into engagement with the operating device by the carrier.

49. In a nut-cracking machine, the combination with a movable carrier, of nut-cracking means mounted on the carrier and including a nut-cracking member movably mounted thereon and carried thereby, means for effecting a preliminary movement of the member to first engage the same with a nut, and an operating-wheel located in the path of movement of the member for afterward moving the same upon the carrier to crack the nut, said member being carried into engagement with the wheel by the carrier.

50. In a nut-cracking machine, the combination with a revoluble carrier, of nut-cracking mechanisms including a plurality of nut-cracking jaws movably mounted on the carrier, means for successively effecting preliminary movements of the jaws to engage the same with nuts to be cracked, and an operating-wheel located in the path of movement of the jaws and successively sliding the same upon the carrier after the said preliminary movement to crack the nuts during the revolution of said carrier.

51. In a nut-cracking machine, the combination with a revoluble carrier, of nut-cracking mechanism including a nut-cracking jaw slidably mounted on and revoluble with the carrier, means for feeding nuts to the carrier in front of the jaw, a stationary cam-track located in the path of movement of the jaw during the revolution of the same for effecting a preliminary movement of the jaw on the carrier to position said jaw upon a nut, and an operating-wheel also located in the path of movement of the jaw and in rear of the cam-track and engaging the same during the revolution of the carrier and jaw for the purpose of sliding the jaw upon the carrier to fracture the shell of the nut.

52. In a nut-cracking machine, the combination with a revoluble carrier, of nut-cracking mechanism including a nut-cracking jaw slidably mounted on the carrier and revoluble therewith, and an actuating device located alongside the carrier and engaging the jaw to move the same upon the carrier during the revolution of said carrier, said device being movable toward and from the axis of revolution of the carrier.

53. In a nut-cracking machine, the combination with a revoluble carrier, of a plurality of cracking-jaws slidably mounted thereon, and an actuating device successively engaged by the jaws during the revolution of the carrier, said device being movable toward and from the axis of revolution of the carrier, to permit the passage of said jaws.

54. In a nut-cracking machine, the combination with a revoluble carrier, of a plurality of nut-cracking jaws slidably mounted thereon and revoluble therewith, and an operating-wheel for successively engaging the jaws to move the same upon the carrier, said wheel having a slidable movement to permit the free passage of the jaws thereover.

55. In a nut-cracking machine, the combination with a revoluble carrier, of a plurality of nut-cracking jaws slidably mounted thereon and revoluble therewith, a stem located at the side of the carrier, an operating-wheel slidably mounted on the stem and having a portion of its periphery in the path of movement of the jaws, and a spring bearing against the wheel.

56. In a nut-cracking machine, the combination with a movable carrier, of a nut-cracking jaw movably mounted thereon and movable therewith, means mounted in the path of movement of the jaw for moving the same in one direction upon the carrier, first to position the jaw upon a nut and afterward to crack such nut, said jaw being carried by the carrier into engagement with the said means, and means for moving the jaw in an opposite direction to release the nut after the same has been cracked.

57. In a nut-cracking machine, the combination with a movable carrier, of a nut-cracking jaw movably mounted thereon and movable therewith, an operating device mounted in the path of movement of the jaw for moving the same in one direction upon the carrier to crack a nut, said jaw being carried by the carrier into engagement with the operating device, and a spring carried by the jaw and movable therewith, said spring automatically moving the jaw in an opposite direction to disengage the jaw from the nut after the same has been cracked.

58. In a nut-cracking machine, the combination with a revoluble carrier, of a plurality of jaws slidably mounted thereon and revoluble therewith, an actuating member located in the path of movement of the jaws and successively operating upon the same to effect their movement in one direction for the purpose of engaging and properly cracking the nuts, and separate springs mounted on the jaws for moving said jaws in an opposite direction after their operation by the actuating member.

59. In a nut-cracking machine, the combination with a movable nut-carrier, of a tubular nut-cracking jaw slidably mounted on the nut-carrier and movable therewith, said jaw having shell-fracturing means acting upon the nuts placed on said carrier, during the movement of said carrier, an expelling-stem mounted on the jaw, and means located in the path of movement of the jaw and engaged thereby during the movement of the carrier to move the jaw upon the carrier and actuate the fracturing means to break the shells of the nuts, said means being located out of the path of movement of the stem.

60. In a nut-cracking machine, the combination with a support, of a nut-cracking jaw slidably mounted thereon and having shell-fracturing means, an expelling-stem located within the jaw and relatively movable with respect thereto, spaced cam-tracks for effecting the movement of the jaw, the space between said tracks being arranged to receive the stem to permit the same being stationary during the movement of the jaw, and means for effecting a relative movement between the support and cam-tracks.

61. In a nut-cracking machine, the combination with a support, of a nut-cracking jaw slidably mounted thereon and having shell-fracturing means, an expelling-stem mounted in the jaw and relatively stationary with respect thereto, a grooved operating-wheel for effecting the movement of the jaw, the groove of said wheel being arranged to receive a portion of the stem to permit the same remaining stationary during the movement of the jaw, and means for effecting a relative movement between the support and wheel to effect an engagement between the jaw and wheel.

62. In a nut-cracking machine, the combination with a movable carrier, of a plurality of tubular nut-cracking jaws slidably mounted thereon and having shell-fracturing means, expelling-stems extending through the jaws, and a cam member located in the path of movement of the jaws and having a groove that receives the stems.

63. In a nut-cracking machine, the combination with a revoluble carrier, of a plurality of slidable jaws mounted thereon and revoluble therewith, expelling-stems located within the jaws, a cam member having spaced tracks disposed in the path of movement of the jaws for effecting their sliding movement on the carrier during the revolution of the same, the space between the tracks being arranged to receive the adjacent ends of the expelling-stems, and a grooved wheel for effecting the further movement of the jaws upon the carrier, the groove of said wheel being also arranged to receive the adjacent ends of the stems.

64. In a nut-cracking machine, the combination with a revoluble carrier, comprising a drum having nut-receiving pockets and an outstanding flange, of a gear-wheel connected with the drum and spaced from the flange, nut-cracking jaws slidably mounted in the flange and gear-wheel, and means for effecting the sliding movements of the jaws.

65. In a nut-cracking machine the combination with a movable carrier, of nut-cracking mechanism including a cracking member movably mounted thereon and movable therewith, a spring for urging the member in into engagement with a nut placed on the carrier, a cam element having spaced terminals, said cam element having its terminals located in the path of movement of the cracking member and moving the same against the tension of the spring, and a locking device for holding the member when disengaged from the cam, said device being located in the path of movement of the cracking member and disposed in line with the space between the terminals of the cam element.

66. In a nut-cracking machine, the combination with a revoluble carrier, of a plurality of nut-cracking members slidably mounted thereon and revoluble therewith, a stationary cam-track having offset spaced terminals disposed in the path of movement of the cracking members, and a stationary locking device located in line with the space between the terminals of the cam-track, and interlocking with the members to hold the same in any of a plurality of positions, said cracking members being carried into engagement with the cam-track and locking device by the revolution of the carrier.

67. In a nut-cracking machine, the combination with a movable carrier, of coacting nut-cracking members having shell-fracturing means, one of said members having a slidable and revoluble movement thereon to engage and properly position itself upon a nut, said member being movable with the carrier, means for effecting the sliding and revoluble movements of the member upon the carrier,

and means for effecting the relative movements of the members to crack the nut positioned therebetween.

68. In a nut-cracking machine, the combination with a movable carrier, of a set of relatively movable oppositely-arranged jaws slidably mounted on and movable with the carrier, a spring for urging one of the jaws toward the other, means for moving the jaw against the tension of the spring, a lock for holding said jaw after its movement by the spring, and means for moving the other jaw after the first-mentioned jaw has been locked, said means and lock being located in the path of movement of the jaws and said jaws being carried into engagement thereby upon the movement of the carrier.

69. In a nut-cracking machine, the combination with a revoluble carrier, of a plurality of sets of independent jaws slidably mounted on the carrier and revoluble therewith, a spring for urging one jaw of each set toward the other jaw, a lock located in the path of movement of the jaws for successively holding the same against movement on the carrier, means for successively moving the other jaws toward the first-mentioned jaws while locked, and means for withdrawing said first-mentioned jaws after the same are unlocked, said means and lock being disposed in the path of movement of the jaws and said jaws being moved into engagement therewith during the revolution of the carrier.

70. In a nut-cracking machine, the combination with a stationary spindle, of a carrier journaled thereon and comprising a flanged drum having a plurality of nut-receiving pockets, supporting devices disposed outside the flanges of the drums and in spaced relation thereto, independent sets of nut-cracking jaws slidably mounted in the supporting devices and flanges and revoluble with the carrier, a spring carried by one jaw of each set for urging the same into a pocket of the drum, a stationary locking device arranged in the path of movement of said jaws for holding the same against movement, a cam for moving the opposite jaws toward the first-mentioned jaws when so locked, said cam being stationary, and a cam for successively withdrawing the first-mentioned jaws from the pockets after the same have been unlocked.

71. In a nut-cracking machine, the combination with a movable carrier, of oppositely-disposed coacting nut-cracking jaws movably mounted on and movable with the carrier, means for locking one of said jaws at a predetermined point in its movement in any of a plurality of positions with relation to the other, and means for effecting the movement of said other jaw while the first is thus locked to crack a nut placed between the jaws.

72. In a nut-cracking machine, the combination with a rotatable nut-carrying drum, of a plurality of sets of oppositely-coacting jaws movably mounted on and rotatable with the drum, the jaws of each set being arranged to receive nuts of different sizes between them, means for locking one of said jaws of each set at a predetermined point in its movement in any of a plurality of positions with relation to the coacting jaw, and means for effecting the movement of said other jaws toward the first-mentioned jaws while the same are locked.

73. In a nut-cracking machine, the combination with a movable carrier, of oppositely-disposed coacting jaws movably mounted on the carrier, a spring for moving one jaw inwardly, a spring for moving the other jaw outwardly, means for effecting the positive movements of said jaws against the action of their springs, and means for locking one of the jaws against movement while the other is being positively moved.

74. In a nut-cracking machine, the combination with a base, of a nut-carrier movably mounted on the base, nut-cracking means movably mounted on and movable with the carrier, a support located on the base and extending above the carrier adjacent thereto, and nut-feeding means located on the support said nut-feeding means delivering the nuts to the carrier and in position to be acted on by the nut-cracking means.

75. In a nut-cracking machine, the combination with a base, of a revoluble nut-carrier journaled on the base, nut-cracking means movably mounted on and movable with the carrier, a standard mounted on the base at one side of the carrier and extending above the same, and nut-feeding means located on the support and delivering nuts to the carrier in position to be acted on by the nut-cracking means.

76. In a nut-cracking machine, the combination with a base, of a rotatable nut-carrier movably mounted on the base, sets of coacting cracking-jaws movably mounted on and movable with the carrier, a standard mounted on the base, a hopper carried by the standard, and means for delivering nuts from the hopper to the carrier between the cracking-jaws.

77. In a nut-cracking machine, the combination with a base, of mechanism for cracking nuts mounted on the base, a supporting-standard mounted on the base and extending above the cracking mechanism, a feeder for the cracking mechanism mounted on the standard above said cracking mechanism and including a delivery-spout, and means adjustably connecting the standard and spout for adjusting the latter with respect to the nut-cracking mechanism.

78. In a nut-cracking machine, the combination with a base, of nut-cracking mechanism mounted on the base, a feeder for the mechanism including a delivery-spout coacting with the cracking mechanism, a supporting-standard mounted on the base and carrying the feeder, said standard being adjustable toward and from the cracking mechanism, and means adjustably connecting the standard and spout to vary the position of said spout with respect to the cracking mechanism.

79. In a nut-cracking machine, the combination with a base-support, of nut-cracking mechanism movably mounted thereon and including a movable carrier and nut-cracking jaws movable thereon and therewith, a standard mounted on the base, a hopper supported on the standard, a delivery-spout extending longitudinally of the standard, and a nozzle carried by the lower end of the spout and delivering the nuts to the carrier.

80. In a nut-cracking machine, the combination with nut-cracking mechanism including a movable carrier and movable coacting jaws carried thereby, of a standard located adjacent to the cracking mechanism, a hopper mounted on the upper end of the standard, a delivery-spout connected with the lower end of the hopper and extending downwardly, and a discharge-nozzle carried by the lower end of the spout and delivering to the upper portion of the carrier between the jaws.

81. In a nut-cracking machine, the combination with a movable nut-carrier, of a hollow standard located adjacent thereto, a hopper mounted on the upper end of the standard, a delivery-spout connected with the bottom of the hopper and extending downwardly at one side of the standard, a discharge-nozzle carried by the lower end of the spout and located over the nut-carrier, and an adjustable bracket connection between the standard and the nozzle, for varying the position of the latter with respect to the carrier.

82. In a nut-cracking machine, the combination with a nut-receiving hopper, of a support for the same, nut-cracking mechanism located lower than the hopper, a spout leading from the hopper to the mechanism, and an adjustable bracket connection between the support and the spout to vary the position of the spout with respect to the nut-cracking mechanism.

83. In a nut-cracking machine, the combination with a hopper, of a standard for supporting the same, nut-cracking mechanism located lower than the hopper, a spout leading from the hopper to the mechanism, a collar surrounding the standard, and a hinge connection between the collar and the spout to permit the variation of the position of the spout with respect to the nut-cracking mechanism.

84. In a nut-cracking machine, the combination with a movable nut-carrier, of cracking mechanism coacting therewith, feeding means therefor including a nozzle having a delivery end coacting directly with the carrier, said end having one side cut away, and a yielding wall portion covering said cut-away side and movable outwardly under abnormal pressure from a nut engaged in the carrier.

85. In a nut-cracking machine, the combination with a movable nut-carrier, of nut-cracking mechanism coacting with the carrier, a standard located at one side of the same, a hopper supported on the standard, a tubular nozzle secured to the lower portion of the standard and disposed contiguous to the carrier, said nozzle delivering directly to the carrier, and a conduit leading from the hopper and having its lower end inserted in the upper end of the nozzle.

86. In a nut-cracking machine, the combination with a revoluble nut-carrier drum having nut-receiving pockets, of a standard located at one side of the same, a hopper supported on the standard, a nozzle adjustably secured to the standard and having a spring-wall, said nozzle being located over the nut-carrier, and a conduit connecting the hopper and the nozzle.

87. In a nut-cracking machine, the combination with a movable nut-carrier, of nut-cracking mechanism coacting therewith, a hopper located above the carrier and having a discharge-opening, a conductor leading from the opening to a position over the carrier, and a revoluble agitator mounted in the hopper and movable concentrically on an upright axis over the opening, for directing the nuts in said hopper into the opening.

88. In a nut-cracking machine, the combination with a base, of a rotatable carrier-drum mounted thereon and having a plurality of open-sided pockets, nut-cracking mechanism operating successively in the pockets during the revolution of the drum, a hopper supported above the carrier, a conductor leading from the lower portion of the hopper and delivering nuts to the pockets of the carrier prior to the movement of the cracking mechanism therein, agitating means located in the hopper, and means for driving the drum and operating the agitator.

89. In a nut-cracking machine, the combination with nut-cracking mechanism, of means for feeding nuts thereto including a hopper having a discharge-opening in its bottom, an upright shaft journaled above the opening, depending arms secured to the shaft and operating about the discharge-opening, and a nut-conduit leading from the opening to the cracking mechanism.

90. In a nut-cracking machine, the combination with nut-cracking mechanism, of means for feeding nuts thereto including a hopper having a discharge-opening in its bottom, a substantially upright shaft journaled above the opening, said shaft having a bore therethrough that is alined with the discharge-opening, and agitating means carried by the shaft.

91. In a nut-cracking machine, the combination with cracking mechanism, of means for feeding nuts thereto, including a hopper having a discharge-opening in its bottom, a cover for the top of the hopper, a vertical shaft journaled in the cover above the opening and having a bore therethrough that is alined with said opening, agitating means carried by the shaft and located in the hopper, and driving means for the shaft including gearing located at one side of said shaft and out of alinement with the bore thereof.

92. In a nut-cracking machine, the combination with nut-cracking mechanism, of means for feeding nuts thereto including a hopper having a discharge-opening, a gudgeon surrounding the opening, an agitator journaled on the gudgeon and operating in the hopper, and a spout leading from the hopper to the nut-cracking mechanism.

93. In a nut-cracking machine, the combination with nut-cracking mechanism, of means for feeding nuts thereto including a hopper having a discharge-opening in its bottom, an upstanding gudgeon surrounding the opening and located in the hopper, an upright agitator located in the hopper and having a journal-bearing revolubly mounted on the gudgeon, said agitator operating about the opening concentrically thereto, and means for operating the agitator.

94. In a nut-cracking machine, the combination with nut-cracking mechanism, of means for feeding nuts thereto including a hopper having an opening in its bottom, a sleeve secured in said opening and projecting above the same, constituting a gudgeon, a cover for the hopper, an upright shaft journaled in the cover and having a bore therethrough alined with the discharge-opening of the hopper, depending arms carried by the shaft and located within the hopper, and a ring mounted upon the lower end of one of the arms and journaled upon the gudgeon, said arm having an inwardly-extending lug.

95. In a nut-cracking machine, the combination with a base having an opening therethrough, of a nut-carrier drum journaled on the base above the opening, a receiving-hopper secured in the opening and inclosing the lower portion of the drum, nut-cracking mechanism movably mounted on and movable with the drum, a standard disposed at one side of the drum and mounted on the base, a hopper carried by the standard, and a delivery-spout leading from the bottom of the hopper to the upper portion of the drum.

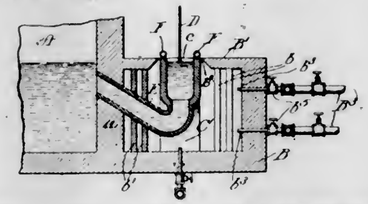
96. In a nut-cracking machine, a nut-cracking jaw having a socket, and cutting-blades located longitudinally in said socket, said blades tapering in width toward their outer ends.

97. In a nut-cracking machine, a nut-cracking jaw having a socket, and cutting-blades located longitudinally in said socket, said blades tapering in width and thickness toward their outer ends.

98. In a nut-cracking machine, a nut-cracking jaw having a socket, and cutting-blades located in said socket, said blades having curved cutting edges and tapering in width from their inner to their outer ends.

99. In a nut-cracking machine, a nut-cracking jaw having a socket in its end provided with curved walls, and cutting-blades located longitudinally in said socket, said blades having curved cutting edges and tapering in width and thickness toward their outer ends, said blades furthermore terminating short of the outer end of the socket.

842,399. SHEET-GLASS-DRAWING FURNACE. JAPHUS GEORGE WILCOX, Pa., and CHRISTOPHER M. SHORTLE, Bernhards Bay, N. Y., assignors, by mesne assignments, to Newkirk Glass Company, Pierre, S. Dak., a Corporation of South Dakota. Filed Aug. 19, 1904. Serial No. 221,430.



Claim.—1. The combination with a glass-melting furnace and a hollow nose provided in its cap or top wall with a draft-opening, of an open-topped drawing-pot supported in said nose in line with said draft-opening, and a conduit or conduits located below the level of the surface of the molten glass in the furnace for conducting the molten glass from the furnace to the drawing-pot and exposed at the sides and top and bottom surfaces thereof to the heat of the interior of the nose.

2. The combination with a glass-melting furnace and a hollow nose provided in its cap or top wall with a draft-opening, of an open-topped drawing-pot supported in said nose in line with said draft-opening, and a conduit or conduits leading from the furnace below the level of the surface of the molten glass therein and opening into the drawing-pot at the bottom thereof and exposed at the sides and top and bottom thereof to the temperature of the interior of the nose, the top wall or cap of the nose fitting the pot closely to prevent radiated heat from the interior of the nose acting directly upon the formed sheet of glass drawn from the molten glass in said pot.

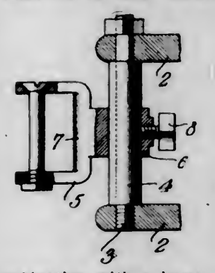
3. The combination with a glass-melting furnace and a hollow nose provided in its cap or top wall with a draft-opening, of an open-topped drawing-pot supported in said nose in line with said draft-opening, a conduit or conduits located within the nose and below the level of the surface of the molten glass for conducting the molten glass from the furnace to the drawing-pot and exposed at the sides and the top and bottom thereof to the temperature of the interior of the nose, and means for supplying heat within

the nose for heating the drawing-pot and the conduit or conduits.

4. The combination with a glass-furnace and its nose provided in its cap or top wall with a draft-opening, of a drawing-pot located in alinement with said opening, and a conduit or conduits for feeding glass from the furnace to the drawing-pot, the end walls of the drawing-pot being provided with integral non-cooling vertical surfaces located in position to be engaged by the side margins of the sheet or film of glass as it rises from the molten glass in said pot.

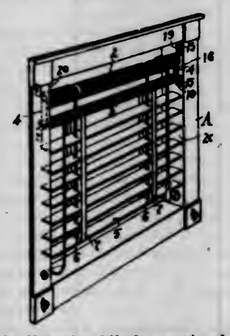
5. In a sheet-glass-drawing furnace, a drawing pot or receptacle adapted to contain molten glass from which the sheet is drawn, said pot or receptacle being provided with integral non-cooling vertical surfaces, parallel with each other, and located in position to be engaged by the side margins of the sheet or film of glass immediately upon its emergence from the molten glass in the pot and to which the margins of said sheet or film adhere as the sheet is drawn upwardly.

842,400. HAME ATTACHMENT. DIETRICH GLEIM, Hastings, Minn. Filed Oct. 16, 1906. Serial No. 339,249.



Claim.—In combination with a hame, spaced eyes attached thereto, a bolt seated at its end in the openings of the eyes, a sleeve journaled upon the bolt and bearing at its ends against the sides of the eyes, a trace-clip having a horizontally-disposed eye which receives said sleeve and which is capable of longitudinal movement thereon, said clip-eye having a set-screw, said clip having a vertically-disposed loop for attachment with the trace.

842,401. VENETIAN BLIND. I. WELTON GOODELL, Norwalk, Ohio. Filed May 17, 1906. Serial No. 317,410.

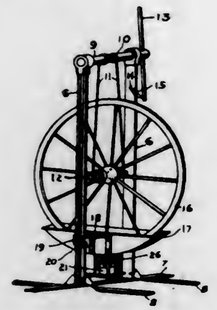


Claim.—1. In Venetian blinds, a pair of brackets having the body portion thereof offset inward from the ends and in a plane parallel therewith, and the ends of said brackets having inclined open slots in the inner edges thereof and extending upward and inward in parallel lines, in combination with a roller and a rocking cross-piece separately mounted in said body portions of the brackets one above the other.

2. As a new article of manufacture, a bracket for Venetian blinds having a flat straight body portion 4 provided with transverse holes near its ends and ends 15 offset from said body portion in the same plane and provided with open slots extending inward and upward in both ends of the bracket in parallel planes.

3. A Venetian blind comprising a roller and a rocking cross-piece and slats operatively connected with said parts, in combination with brackets having inwardly-offset body portions in which said roller and rocking cross-piece are rotatably mounted off the center thereof, and the ends of said brackets provided with inclined slots opening in the inner side edges thereof and extending upward and inward to the middle of said ends.

842,402. TIRE-TIGHTENER. EUGENE E. GRAVES, Lincoln, Nebr., assignor of one-half to Frank E. Sanders, Danville, Ill. Filed Sept. 8, 1906. Serial No. 333,807.



Claim.—1. In an apparatus for treating wheels, a standard of T-iron, a base to support the standard, means supported by the standard for supporting the wheel to be treated, a bracket following the contour of the T-iron standard and sliding thereon, a set-screw for securing the bracket to the standard, a receptacle to hold a solution in position to submerge the lower rim of the wheel, said receptacle being attached to and supported from the bracket, and means under the vessel for heating the solution contained within the vessel.

2. In an apparatus for treating wheels, a standard, a base for supporting the standard, a windlass supported by the standard, a shaft passing through the hub of the wheel, and a rope having its middle portion wrapped several times around the windlass and fastened thereto and having its ends attached to the respective ends of the shaft to support the latter, a vessel to contain the treating solution secured under the wheel to the standard in a vertically-adjustable manner, a lamp to heat the contents of the receptacle removably secured to the under side of the latter, and a shield surrounding the lamp.

3. In an apparatus for treating wheels, a standard, a base for supporting the standard, means supported by the standard for supporting the wheel in a vertical position for treatment, a vessel for containing the treating solution slidingly mounted on the standard under the wheel, said vessel having a plurality of under side hooks, all of which open in the same direction, and a lamp having upwardly-extended arms with horizontal ends, adapted to be caught by being slipped under said hooks.

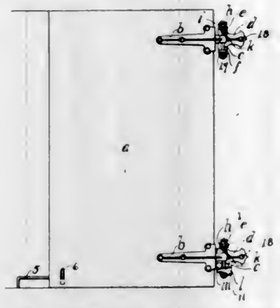
4. In an apparatus for treating wheels, a standard, a base for supporting the standard, means supported by the standard for supporting the wheel in a vertical position for treatment, a vessel for containing the treating solution slidingly mounted on the standard under the wheel, said vessel having under side hooks, a lamp having upwardly-extended arms adapted to be caught under said hooks, and a cylindrical shield surrounding the lamp held by friction with the lamp-holding arms.

5. In an apparatus for treating wheels, a base, a pair of standards supported by said base, a windlass at the top of the standards, a shaft on which the wheel to be treated is mounted said shaft having its ends separately suspended from the windlass, a slide mounted on one of the standards, a set-screw to fix the position of the slide, a receptacle to hold the treating solution supported under the wheel from the said slide, said receptacle having under side hooks, a lamp having arms adapted to be engaged by said hook, and a shield surrounding said lamp.

842,403. MAGNETIC ALLOY. ROBERT A. HADFIELD, Sheffield, England. Filed Nov. 8, 1906. Serial No. 342,459.

Claim.—An iron-silicon-manganese-aluminium alloy containing silicon from two to 4.5 per cent., manganese not exceeding .7 per cent. and aluminium not exceeding 1.3 per cent.

842,404. SELF-CLOSING HINGE FOR SHUTTERS. FREDERICK C. KASCH and WILLIAM EBERHARD, Akron, Ohio, assignors to The Kasch Roofing Company, Akron, Ohio, a Corporation. Filed May 25, 1904. Serial No. 209,647.



Claim.—1. The combination of a stationary hinge-piece, an upright hinge-pin secured in said stationary hinge-piece, a swinging hinge-piece slidably mounted upon said hinge-pin, and a flexible hanger depending from said stationary hinge-piece and adapted to uphold said swinging hinge-piece, substantially as set forth.

2. The combination with a shutter, of a stationary hinge-piece, an upright hinge-pin secured in said stationary hinge-piece, a swinging hinge-piece secured to said shutter and slidably mounted upon said hinge-pin, and a flexible hanger depending from said stationary hinge-piece adapted to uphold said swinging hinge-piece and wrap around the hinge-pin as the shutter is opened, substantially as set forth.

3. The combination with a shutter, of a stationary hinge-piece, an upright hinge-pin secured in said stationary hinge-piece, a swinging hinge-piece secured to said shutter and provided with a hub slidably mounted upon said hinge-pin, and a flexible hanger depending from said stationary hinge-piece and supporting the hub of said swinging hinge-piece, said hanger being so disposed that it is wrapped around the hinge-pin by the opening of the shutter, substantially as set forth.

4. The combination with a shutter, of a hinge-piece adapted to be secured to the wall and having lugs projecting therefrom, an upright hinge-bolt mounted in said lugs, a flexible hanger depending from the upper one of said lugs having its ends secured thereto by said hinge-bolt, and a hinge-piece secured to the shutter provided with a hub slidably mounted upon said hinge-bolt and having a suitable button projecting therefrom adapted to be supported in the depending bight of said hanger, substantially as set forth.

5. The combination of a stationary hinge-piece, an upright hinge-pin secured in said stationary hinge-piece, a swinging hinge-piece slidably mounted upon said hinge-pin, a flexible hanger depending from said stationary hinge-piece and adapted to uphold said swinging hinge-piece, a circular ratchet upon said stationary hinge-piece, and a pawl carried by said swinging hinge-piece adapted to engage the teeth of said ratchet, substantially as set forth.

6. The combination with a shutter, of a stationary hinge-piece, an upright hinge-pin secured in said stationary hinge-piece, a swinging hinge-piece secured to said shutter and slidably mounted upon said hinge-pin, a flexible hanger depending from said stationary hinge-piece adapted to uphold said swinging hinge-piece and wrap around said hinge-pin as the shutter is opened, a pawl carried upon said swinging hinge-piece, and a ratchet upon said stationary hinge-piece having teeth concentrically disposed about said hinge-pin and adapted to consecutively engage said pawl as the shutter is opened, substantially as set forth.

7. The combination of a stationary hinge-piece, an upright hinge-pin secured in said stationary hinge-piece, a swinging hinge-piece slidably mounted upon said hinge-pin, a flexible hanger depending from said stationary hinge-piece adapted to uphold said swinging hinge-piece and wrap around the hinge-pin, a suitable ratchet carried by said stationary hinge-piece, a pawl-casing secured to said swinging hinge-piece, and a gravity-pawl mounted to slide vertically in said casing and engage consecutively the teeth of said ratchet, substantially as set forth.

8. The combination with a shutter, of a wall hinge-piece provided with an upright hinge-pin, a swinging hinge-piece secured to said shutter and slidably mounted upon said hinge-pin, a flexible hanger depending from said wall hinge-piece adapted to uphold said swinging hinge-piece and wrap around said hinge-pin as said shutter is opened, a suitable ratchet carried by said wall hinge piece, a pawl-casing secured to said swinging hinge-piece, a pawl slidably mounted in said casing adapted to normally engage the teeth of said ratchet, and means adapted to disengage said pawl from said ratchet upon the temperature of said means reaching an abnormally high degree, substantially as set forth.

9. In a fire-shutter, the combination of a wall hinge-piece provided with an upright hinge-pin and a suitable ratchet, a hinge-piece secured to said shutter and slidably mounted upon said hinge-pin, flexible means for suspending said shutter from said wall hinge-piece adapted to raise the shutter as it is opened, a pawl adapted to swing with said shutter and normally engage with said ratchet, and means for releasing said pawl from said ratchet adapted to be thrown into operation by excessive heat, substantially as set forth.

10. In a fire-shutter, the combination of a wall hinge-piece provided with an upright hinge-pin and a suitable ratchet, a hinge-piece secured to said shutter and slidably mounted upon said hinge-pin, flexible means for suspending said shutter from said wall hinge-piece adapted to raise the shutter as it is opened, a pawl adapted to swing with said shutter and normally engage with said ratchet, spring-operated means for disengaging said pawl from said ratchet, and a fusible link adapted to hold said disengaging means out of operation, substantially as set forth.

11. In a self-closing shutter, the combination of a suitable stationary ratchet, a pawl-casing adapted to swing with the shutter, a gravity-pawl adapted to engage said ratchet slidably mounted in said casing and provided with a suitable head, a releasing-piece mounted to slide vertically in said casing under the head of said pawl, a spring under said releasing-piece, and a fusible link outside of said casing connecting the latter to said releasing-piece and holding said spring in compression, substantially as set forth.

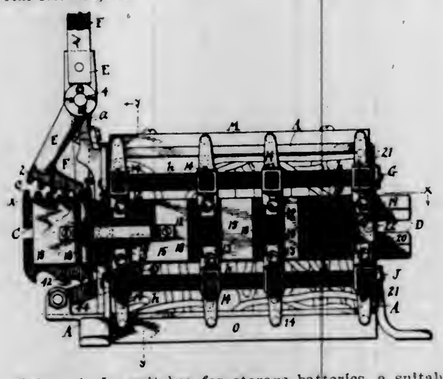
12. The combination with a shutter having a hinge-plate attached thereto, of a vertical wall anchor-plate, a horizontal wall anchor-plate extending through and secured to said vertical anchor-plate, and a wall hinge-plate adapted to be attached to both of said anchor-plates, substantially as set forth.

13. The combination with a shutter having a hinge-plate attached thereto, of a vertical wall anchor plate provided with a flange adapted to lie against the wall-face, a horizontal wall anchor-plate extending through and bolted to said vertical anchor-plate and interlocking with said flange, and a wall hinge-plate adapted to fit over said flange and be bolted to both of said anchor-plates, substantially as set forth.

14. In a fire-shutter, the combination of a wall hinge-piece provided with an upright hinge-pin, a shutter hinge-

piece mounted to swing upon said hinge-pin, a pawl adapted to swing with said shutter, a ratchet center piece secured to said wall hinge-piece, and a circular segmental ratchet soldered to said center piece and provided with teeth to engage said pawl, substantially as set forth.

842,405. SWITCH FOR STORAGE BATTERIES. SETH A. LEONARD, Cleveland, Ohio. Filed May 14, 1906. Serial No. 316,705.



Claim.—1. In switches for storage batteries, a suitable supporting-frame, longitudinally-movable plates mounted oppositely on said frame, and brush and plate connections for the current operatively related to said plates.

2. In a switch for storage batteries, a supporting-frame, opposite slidable plates on the sides of the frame and means to operate said plates separately, contact and insulating surfaces on said plates respectively, and upper and lower series of brushes supported on pivots at right angles to said plates.

3. In electrical switches, opposite longitudinal slidable plates having contact and insulating surfaces upon their outer sides and means to operate said plates independently, a series of brushes at the top and another series at the bottom of each of said plates respectively, and said brushes formed of laminæ of copper strips adapted to engage edgewise with said contact-surfaces.

4. In an electrical switch, a suitable support, opposite slidable plates thereon and means to operate said plates separately, and separate brushes for said plates, one of said plates adapted to throw in more or less current progressively and the opposite plate adapted to reverse the current.

5. In a switch for storage batteries, a suitable support, opposite plates upon the sides thereof independently operative, and a locking device between said plates adapted to hold one plate while the other is free to be operated.

6. In a switch for storage batteries, a suitable support, plates on opposite sides thereof adapted to be moved lengthwise and separate actuating-levers therefor, in combination with a device between said plates to lock one and leave the other free and operative, and said plates constructed to be engaged by said locking device when out of current connections.

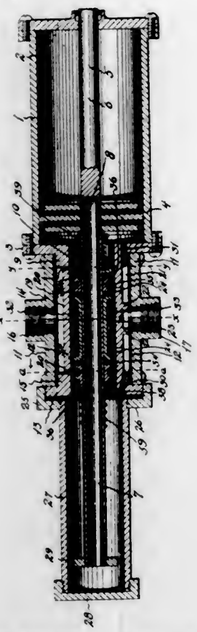
7. The switch substantially as described having a main frame, opposite members slidably mounted thereon, a separate lever for each member and a single support wherein said levers are pivoted side by side, separate brushes and contact-plates for each member and means interposed between said members adapted to automatically lock one of said members while the other member is unlocked and the current is open thereto.

8. In a storage-battery switch, a suitable support, a contact-carrying part on the side thereof slidable lengthwise and provided with a series of curved notches at its lower edge, a lever to operate said plate and a pivoted spring-engaged arm and a roller thereon adapted to engage said notches and accent the steps in the movements of said plate.

9. In switches for storage batteries, a support and a plate slidably mounted thereon, contact-plates on said slidable plate, brushes on said support comprising a series of metal strips adapted to engage edgewise with said contact-plates, and a lever for said plate having a freeing connection therewith during a portion of its throw.

10. In switches for storage batteries, a support and a plate slidably mounted thereon, a series of contact-plates on said slidable plate, a series of brushes comprising metal contact-strips arranged to wipe sidewise over said contact-plates, means to fix predetermined stopping positions for said slidable plate and an operating-lever for said slidable plate.

842,406. WATER-MOTOR. LEWIS C. LEWIS, Columbus, Ohio, assignor to The Monarch Manufacturing Company, Columbus, Ohio, a Corporation of Ohio. Filed Oct. 6, 1905. Serial No. 281,579.



Claim.—1. In a fluid-motor, a cylinder, a piston-head working in the cylinder, an extension-sleeve, a hollow piston-rod carrying the piston-head and arranged to establish communication between the cylinder and the sleeve, provision for supplying and exhausting fluid to and from the cylinder and sleeve, and a valve interposed between the cylinder and sleeve extension having movable engagement with the piston-rod adapted to control the supply and exhaust of fluid to and from the cylinder and the sleeve.

2. A sleeve provided with suitable inlet and exhaust ports and provision for supplying and exhausting fluid to and from said sleeve, in combination with a piston and a valve having a plurality of leathers snugly fitting within the sleeve, and provision for moving said valve to cause its leathers to alternately cover and uncover the ports in the sleeve and during certain periods to cover both the supply-ports and uncover both of the exhaust-ports.

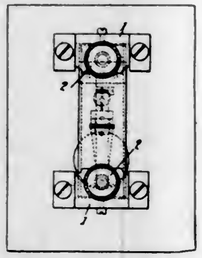
3. In a fluid-motor, a cylinder, a piston-head working in the cylinder, a valve-casing associated with one end of the cylinder, a sleeve extension associated with the valve-casing, a hollow piston-rod carrying the piston-head extending through the valve-casing into the sleeve and arranged to establish communication between the cylinder beyond the piston-head and the sleeve, and a valve having movable engagement with the piston-rod arranged in the valve-casing.

4. In a fluid-motor, the combination with a cylinder, an extension-sleeve, a piston and a piston-rod working in the cylinder and the sleeve and establishing communication therebetween, of a valve-casing provided with a supply and an exhaust chamber and disposed between the cylinder and the extension-sleeve, the said casing having ports establishing communication between the sleeve and one end of the exhaust-chamber and the cylinder and the opposite end of the exhaust-chamber, a valve-sleeve arranged in the casing having supply-ports communicating with the supply-chamber and exhaust-ports communicating with the exhaust-chamber, and a free sliding valve arranged on the piston-rod in the valve-sleeve and adapted to alternately cover and uncover the ports leading to the supply-chamber and the exhaust-chamber.

5. In a water-motor, the combination with a cylinder, of a piston mounted for reciprocatory motion in said cylinder, a valve-casing, a valve slidably disposed in said valve-casing, an extension-sleeve extending beyond the end of the valve-casing, a hollow piston-rod to which the piston is secured, said piston-rod being arranged to establish communication between the sleeve extension and the interior of the cylinder beyond the piston, said piston-rod extending through the valve and having a member arranged upon its outer end adapted to shift said valve at the limit of movement of the piston away from the sleeve extension.

6. In a device of the character described, the combination with a cylinder, of a piston mounted for reciprocatory movement in said cylinder, a valve-casing located adjacent said cylinder, a sleeve extending from said valve-casing and closed at its outer end, means for admitting fluid under pressure to the valve-casing, means for conducting said fluid from said valve-casing, a hollow piston-rod secured to the piston and extending through the valve-casing and into the sleeve, said piston-rod being adapted to establish communication between said sleeve and the interior of the cylinder beyond the piston, and a valve located in the valve-casing and adapted to be shifted when the piston reaches its limit of movement in either direction.

842,407. EXTRA-HIGHLY-VIBRATING CONTACT-BREAKER. GUSTAVE MAMY, Paris, France. Filed Dec. 9, 1903. Serial No. 184,435.



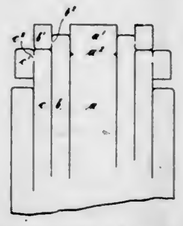
Claim.—A vibrating interrupter having a vibrating element, a centrally-fulcrumed spring-pressed oscillating lever adapted to normally contact with said vibrating element, said lever being insulated from the said vibrating element and adapted to follow its movement during a portion thereof and a stop adapted to limit the movement of said lever in one direction, substantially as described.

842,408. GLOVE-BLANK. WILLIAM N. MARSDEN, Amsterdam, N. Y., assignor to Fownes Brothers & Co., New York, N. Y., a Copartnership of Great Britain. Filed Feb. 28, 1906. Serial No. 303,432.

Claim.—1. A glove-blank comprising a finger-piece and a tip integrally attached to the side thereof and extending beyond its end.

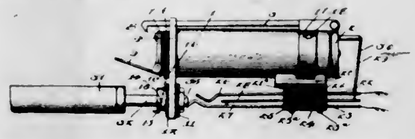
2. A glove-blank comprising a finger-piece and a reversed tip integrally connected with the side thereof, the point of connection being midway, substantially, between the tip end of the finger-piece and the inner end of the reversed tip.

3. A glove-blank comprising a finger-piece, a reversed tip therefor located opposite the end of an adjoining finger-piece and connected with its finger-piece by a slender integral connection with the side thereof whereby the tip may be turned through half a revolution in applying it to its finger-piece.



4. A glove-blank comprising finger-pieces for the second and third fingers, reversed tips each connected with its finger-piece at the side by a slender integral connection located, approximately, midway between the outer end of the finger-piece and the inner end of the reversed tip, the tip for the second finger-piece being cut opposite the end of the third finger-piece and that for the third finger-piece opposite the end of the fourth finger-piece.

842,409. COMBINED ANNUNCIATOR AND JACK FOR TELEPHONE-SWITCHBOARDS. MARTIN V. MEHREN, Genoa, Ill., assignor to Eureka Electric Company, Chicago, Ill., a Corporation of Illinois. Filed June 2, 1904. Serial No. 210,844.



Claim.—1. The combination with an annunciator and drop therefor, of a restoring-lever hung below the drop and pivoted between its ends and arranged to be actuated by the plug on insertion and to act upon the drop to restore the same.

2. The combination with an annunciator, of a drop pivoted between its ends, and a pivoted lever hung below the drop and arranged to be actuated by the plug on insertion and to act upon the drop below its point of pivotal support to restore the same.

3. The combination with an annunciator, of a drop pivoted above its lower end, and a lever hung below the drop and pivoted between its ends and arranged to be actuated by the plug on insertion, and to act upon the drop below its point of pivotal support.

4. The combination with an annunciator, of a drop pivoted above its lower end, and a lever hung below the drop and pivoted between its ends and arranged to have its lower end actuated by the plug on insertion and to have its upper end act upon the drop below its point of pivotal support.

5. The combination with an annunciator, of a drop pivoted above its lower end, a restoring-lever pivoted between its ends and having its upper end located in the rear of the lower end of the drop and its lower end bent forwardly so as to be actuated by the handle of the plug on insertion.

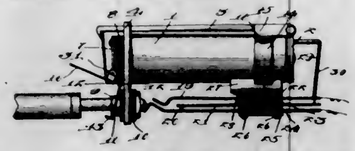
6. In a combined jack and annunciator, the combination with the annunciator and drop, of a vertically-disposed lever arranged in front of the annunciator and below the drop and pivoted at one side of the jack-socket, whereby it will be struck by the plug-handle to restore the drop, substantially as described.

7. In a combined jack and annunciator, the combination with the drop, of a lever made in the form of a ring, and end, of a lever made in the form of a ring adapted to encircle the jack and pivoted between its ends so as to be

actuated by the insertion of the plug to actuate the drop, substantially as described.

8. In a combined jack and annunciator, the combination with the drop, of a lever made in the form of a ring, and adapted to encircle the jack-socket, said lever being pivoted between its ends and arranged with its lower end projecting forwardly so as to be struck by the plug on insertion, and with its upper end in the rear of the lower end of the drop, substantially as described.

842,410. TELEPHONE-SWITCHBOARD. MARTIN V. MEHREN, Genoa, Ill., assignor to Eureka Electric Company, Chicago, Ill., a Corporation of Illinois. Filed June 2, 1904. Serial No. 210,845.



Claim.—1. In a combined jack and annunciator, the combination with the jack-socket, of a vertically-disposed lever hung below the drop and pivoted between its ends at the mouth of said socket, and arranged to have its upper end act upon the drop and its lower end acted upon by the plug, substantially as described.

2. In a combined jack and annunciator, the combination of a jack-socket and drop, and a drop-restoring lever made in the form of a ring encircling the jack and pivoted thereto, substantially as described.

3. In a combined jack and annunciator, the combination of a jack-socket and drop, and a drop-restoring lever made in the form of a ring encircling the jack and pivoted thereto, one end of said lever being bent outwardly to form a projection to be struck by the plug on insertion, substantially as described.

4. In a combined jack and annunciator, the combination with the annunciator, of a drop in front of the annunciator, an armature in the rear thereof, a latch secured to the armature and extending to the front of the annunciator and normally engaging the drop, a plug-socket below the front of the annunciator, jack-springs in the rear thereof, and a pivoted lever in the form of a ring encircling and pivotally secured to the jack-socket below the drop, for automatically restoring the same on the insertion of the plug, substantially as described.

842,411. STRAIGHT-EDGE. OLIVER MESSINGER, Sheridan, Wyo. Filed Dec. 27, 1905. Serial No. 293,530.

Claim.—1. The method of manufacturing a compound structure, which consists in cutting a wooden body longitudinally of the grain and into separate longitudinal sections, turning the sections formed thereby end for end, and securing said sections together after such turning.

2. The method of manufacturing a compound structure, which consists in forming a body of strips secured together, cutting said body longitudinally through the various strips into longitudinal sections, turning the sections end for end, and securing said sections flat against each other after such turning.

3. The method of manufacturing a compound structure, which consists in forming a body of longitudinally-disposed strips of different widths, cutting said body longitudinally into sections, turning the sections end for end, and securing the sections flat against each other after such turning, with the joints of the strip-sections disposed out of alinement.

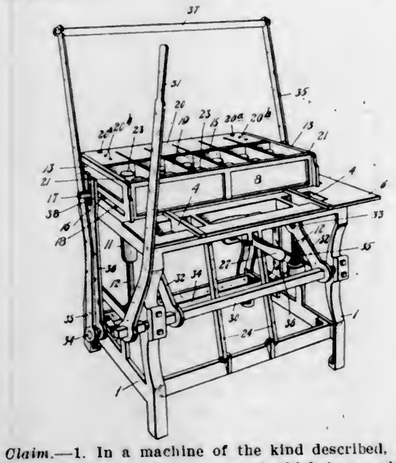
4. The method of manufacturing a compound structure, which consists in gluing a plurality of strips of different widths together into a body, said strips extending longitudinally throughout the body and through the thickness thereof, the outer strips being of harder wood than the inner strips, sawing said body longitudinally through all the strips to form sections, turning the sections end to end, and gluing the same flat against each other after such turning, with the joints of the strip-sections disposed out of alinement.



5. A compound body comprising longitudinal body-sections cut from a block, reversed end for end from their original relation in such block and secured flat against each other, each section being composed of strip-sections of different widths, the joints between the strip-sections of one body-section being disposed out of alinement with those of the other body-section.

6. A body comprising body-sections formed from a block reversed end for end from the original relation of said sections in such block and secured flat against each other, each section being composed of outer hard-wood strip-sections of different widths and inner soft-wood sections, the joints between the strip-sections of one body-section being disposed out of alinement with those of the other body-section.

842,412. BRICK-MACHINE. JOHN MILLER, Minneapolis, Minn., assignor to Winner Block Machine Company, a Corporation of Minnesota. Filed Mar. 7, 1906. Serial No. 304,655.



Claim.—1. In a machine of the kind described, a flask having movable side plates, one of which is movable into

a position out of line with the mold to permit the molded material to be ejected, and the other of which is movable laterally to eject the molded material, substantially as described.

2. In a machine of the kind described, a molding-flask having one wall-plate mounted to move vertically to and from operative position and having an opposite plate mounted to move laterally to and from operative position, its movement from operative position serving to eject the molded material, substantially as described.

3. In a machine of the kind described, a flask having one wall-plate mounted to move vertically to and from operative position, and having an opposite wall-plate mounted to move laterally to and from operative position, in combination with means for effecting a movement of said laterally-movable wall-plate to eject the molded material, while said vertically-movable wall-plate occupies its lower inoperative position, substantially as described.

4. In a machine of the kind described, a flask having fixed end plates and fixed partitions, and having movable side plates, one of which is movable vertically to and from operative position, and the other of which is movable laterally to eject the molded bricks while the first occupies its lower position, substantially as described.

5. In a machine of the kind described, the combination with a flask having one side plate mounted to move vertically, and an opposite side plate mounted to move laterally, of independent lever-actuated rock-shafts having connections to said two movable side plates, for imparting the respective movements thereto, substantially as described.

6. In a machine of the kind described, the combination with a flask having opposite side plates, one of which is movable vertically, and the other of which is movable laterally, of a latch for normally holding the vertically-movable plate in operative position, and independent lever-actuated rock-shafts having connections to said two movable side plates, for imparting the respective movements thereto, substantially as described.

7. In a machine of the kind described, the combination with a flask having opposite side plates, one of which is movable vertically, and the other of which is movable laterally, of a latch for normally holding said vertically-movable plate in operative position, a trip-lever for releasing said latch-frame, and lever-actuated connections for imparting the respective movements to said two movable side plates, substantially as described.

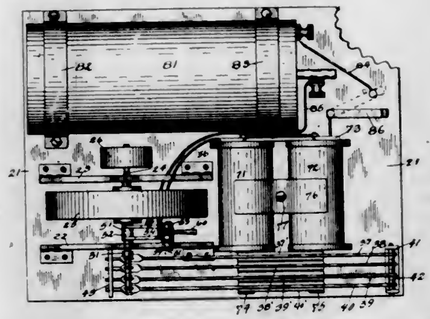
8. The combination with a frame having sectioned platen-supporting rails, of a flask on said frame above said rails, said flask having fixed end plates and partitions, and movable side plates, one of which is movable vertically, between the sections of said rails, to and from operative position, and the other of which is movable laterally to eject the formed bricks and is slotted to embrace said partitions, and means for imparting the respective movements to said two movable side plates, substantially as described.

9. In a machine of the kind described, the combination with a frame and a flask mounted thereon, said flask having fixed end plates and partitions and movable side plates, one of which is movable vertically through the platen-supporting portion of said frame, and the other of which is movable laterally to eject the bricks and the platen supporting the same, independent lever-actuated rock-shafts having connections for imparting the respective movements to said movable side plates, and a latch for normally holding said vertically-movable side plates in operative position, substantially as described.

10. In a machine of the kind described, the combination with a suitable framework adapted to support a platen, of a flask having fixed end plates and partitions, and movable side plates, said end plates having horizontal slots, one of said side plates being movable vertically through the platen-supporting portion of said frame, and the other of said side plates having angular portions working in the slots of said end plates, and being slotted to embrace the said partitions, a lever-actuated rock-shaft having parallel arms connected to the depending portions of said vertically-movable plates, a secondary lever-actuated rock-shaft having parallel arms connected to end projections of the other movable side plate for moving the same laterally, and a latch normally holding said vertically-movable side plate in operative position, substantially as described.

11. In a machine of the character described, a molding-flask having one wall-plate mounted to move vertically to and from operative position, and having an opposite plate mounted to move laterally to eject the formed bricks, and an adjustable stop for variably intercepting the return movements of said laterally-movable ejector-plate, substantially as described.

842,413. ELECTROMAGNETIC POWER-GENERATOR. REINHOLD A. MILLER, Indianapolis, Ind. Filed Mar. 14, 1906. Serial No. 305,950.



Claim.—1. The combination, in an electromagnetic power-generator, of a suitable source of electrical energy, an electromagnet having a projecting core or pole, a shaft, a crank on said shaft, a series of armature-bars pivoted at one end and extending across the poles or cores of the magnets, and a corresponding series of pitmen of differing lengths connecting said armature-bars and the crank on the shaft.

2. The combination, in an electromagnetic power-generator of an electromagnet having a projecting core or pole, a shaft, a crank on said shaft, a series of armature-bars pivoted at one end and extending across the poles or cores of the magnets, and a corresponding series of pitmen of differing lengths connecting said armature-bars and the crank on the shaft.

3. The combination, in an electromagnetic power-generator, of a suitable source of electrical energy, an electromagnet, a shaft, a crank on said shaft, vibrating armatures connected to said crank, a commutator on said shaft and a double brush mounted adjacent said commutator and electrically connected to the magnet, and means for bringing either set of brushes into effective condition for the magnet to reverse the direction of rotation of the shaft.

4. The combination, in an electromagnetic power-generator, of an electromagnet, a shaft, a crank on said shaft, vibrating armatures connected to said crank, a commutator on said shaft and a double brush mounted adjacent said commutator and electrically connected to the magnet, and means for bringing either set of brushes into effective condition for the magnet to reverse the direction of rotation of the shaft.

5. The combination, in an electromagnetic power-generator, of a shaft, a crank on said shaft, a plurality of vibrating armatures each having an independent sliding connection with the crank limiting the period of its action on said crank, an electromagnet common to said armatures for moving the armatures in one direction, and means operated by the shaft for controlling said electromagnet.

6. The combination, in an electromagnetic power-generator, of a shaft, a crank on said shaft, a plurality of vibrating armatures each having an independent sliding connection with the crank limiting the period of its action on said crank, an electromagnet common to said armatures for moving the armatures in one direction, and means for controlling said electromagnet.

7. The combination, in an electromagnetic power-generator, of a shaft, a crank on said shaft, a plurality of

vibrating armatures and an independent pitman connection between each of said vibrating armatures and the crank, said pitmen having sliding engagements with their armatures, means for limiting the vibratory movement of said armatures, an electromagnet arranged to affect the armatures, and means operated by the shaft for controlling said electromagnet.

8. The combination, in an electromagnetic power-generator, of a shaft, a crank on said shaft, a plurality of vibrating armatures and an independent pitman connection between each of said vibrating armatures and the crank, said pitmen having sliding engagements with their armatures, means for limiting the vibratory movement of said armatures, an electromagnet arranged to affect the armatures, and for controlling said electromagnet.

9. The combination, in an electromagnetic power-generator, of a shaft, a crank on said shaft, a plurality of vibrating armatures, an electromagnet affecting said armatures, a plurality of independent connections between said armatures and the crank, which embody a slip joint, and means operated by the shaft for controlling said electromagnet.

10. The combination, in an electromagnetic power-generator, of a shaft, a crank on said shaft, a plurality of vibrating armatures, an electromagnet affecting said armatures, a plurality of independent connections between said armatures and the crank, which embody a slip joint, and means for controlling said electromagnet.

11. The combination, in an electromagnetic power-generator, of a shaft, a crank on said shaft, a plurality of vibrating armatures, an electromagnet affecting said armatures, a plurality of independent connections between said armatures and the crank, which embody a slip joint, means operated by the shaft for controlling said electromagnet, and means for limiting the movement of the vibrating armatures in the direction effected by the magnet.

12. The combination, in an electromagnetic power-generator, of a shaft, a crank on said shaft, a plurality of vibrating armatures, an electromagnet affecting said armatures, a plurality of independent connections between said armatures and the crank, which embody a slip joint, means for controlling said electromagnet, and means for limiting the movement of the vibrating armatures in the direction effected by the magnet.

13. The combination, in an electromagnetic generator, of a shaft, a pair of cranks on said shaft, two sets of vibrating armatures, one for each crank, a pair of electromagnets, one for each set of armatures, means operated by the shaft for intermittently connecting and disconnecting the two magnets successively with an energizing-circuit, and means for reversing the succession to reverse the direction of rotation of the shaft.

14. The combination, in an electromagnetic generator, of a shaft, a pair of cranks on said shaft, two sets of vibrating armatures, one for each crank, a pair of electromagnets, one for each set of armatures, means for intermittently connecting and disconnecting the two magnets successively with an energizing-circuit, and means for reversing the succession to reverse the direction of rotation of the shaft.

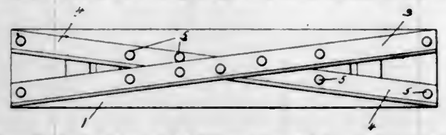
15. The combination, in an electromagnetic power-generator, of a shaft, a crank on said shaft, a plurality of vibrating armatures, one for each crank, a pair of electromen connecting the armatures with the crank, an electromagnet common to all the armatures for effecting said armatures, and means for automatically controlling said magnet.

842,414. METALLIC RAILWAY-TIE. JOHN J. MOORE, Troy, N. Y., assignor of one-third to Thomas J. Rafferty and one-third to Gordon Green, Troy, N. Y. Filed June 14, 1906. Serial No. 321,612.

Claim.—1. A built-up metallic railway-tie comprising a flat body-plate, and diagonally-arranged angle-irons riveted to the under side of said body-plate.

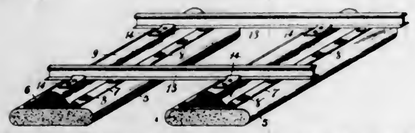
2. A built-up metallic railway-tie comprising a flat body-plate having, near each end, rail-engaging lips struck up from the body of the plate, and diagonally-arranged angle-irons riveted to the under side of said body-plate.

3. A built-up metallic railway-tie comprising a flat body-plate; a long angle-iron riveted to the under side of the body-plate and extending diagonally from corner to corner



thereof; and a pair of angle-irons riveted to the under side of the body-plate and extending from the remaining corners, diagonally to said long angle-iron.

842,415. METALLIC RAILWAY-TIE. AUGUST J. MUELLER, Chicago, Ill. Filed June 11, 1906. Serial No. 321,295.

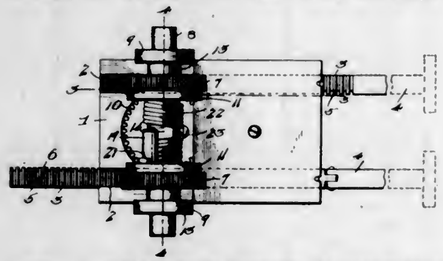


Claim.—1. Rail-supporting means consisting of a base-plate having upturned and inturned edges forming channels, an arched tread-plate arranged upon said base-plate, and having its edges slotted and loosely fitting said channels, and means engaging said slots for detachably securing the tread-plate to the base-plate.

2. Rail-supporting means consisting of a base-plate having upturned and inturned edges forming longitudinal channels, an arched tread-plate arranged upon said base-plate and having its edges slotted and loosely fitting said channels, resilient means for reinforcing said tread-plates, and means for detachably securing the tread-plate to the base-plate.

3. Rail-supporting means consisting of a base-plate having channels along its edges, an arched tread-plate having open slots in its edges, and said edges loosely fitting said channels, bolts passing through said slots and base-plate, and resilient supporting-plates arranged below said tread-plate.

842,416. MECHANICAL MOVEMENT. JOHN E. NELSON, Chicago, Ill. Filed Feb. 17, 1906. Serial No. 301,576.



Claim.—1. In a mechanical movement, alternately-reciprocating devices, a rotatable motion-transferring element between the said devices, and synchronously operating the latter, a drive-shaft having loose rotatable means thereon in operative relation to said reciprocating devices and directly actuated by the latter, and disks fast to the shaft and movably engaged by the said loose rotatable means.

2. In a mechanical movement, the combination of a driving-shaft, reciprocating devices having reverse movement in alternation, rotatable means between the said reciprocating devices for synchronously operating the latter and means directly coöperating with the said reciprocating devices and engaging the shaft.

3. In a mechanical movement, the combination of a driving-shaft, reciprocating devices having reverse movement in alternation, rotatable means between the said reciprocating devices for synchronously operating the latter and

mechanism directly coöperating with the said reciprocating devices and engaging the shaft and provided with means for compensating for the reverse movement of the said reciprocating devices.

4. In a mechanical movement, the combination of reversely-operating reciprocating devices, a drive-shaft, rotatable means between the said reciprocating devices for synchronously operating the same and mechanism directly cooperating with the said reciprocating devices and the shaft and provided with means for compensating for the reverse movement of the said reciprocating devices.

5. In a mechanical movement, the combination of reversely-operating reciprocating devices, a drive-shaft, a rotatable motion-transmitting element between and engaging the reciprocating devices for synchronously operating the latter, and mechanism directly coöperating with the said reciprocating devices and the shaft.

6. In a mechanical movement, the combination of reversely-operating reciprocating devices, a drive-shaft, a horizontally-disposed rotatable motion-transmitting element directly coöperating with the reciprocating devices, mechanism engaging the drive-shaft and also directly cooperating with the said reciprocating devices.

7. In a mechanical movement, the combination of reversely-reciprocating alternately-moving devices, a drive-shaft, mechanism directly coöperating with the reciprocating devices and the shaft, and spring means surrounding the shaft and engaging said mechanism to absorb the jar or jerk of the reciprocating devices.

8. In a mechanical movement, the combination of reversely-operating reciprocating slides having teeth on the upper and inner edge portions thereof, a toothed motion-transmitting element interposed between and engaging the side teeth of said reciprocating slides, a drive-shaft having pinions thereon held in continual engagement with the top teeth of the slides, and disks for directly transmitting the motion of the slides to the shaft and with which the pinions have loose engagement.

9. In a mechanical movement, the combination of reversely-operating reciprocating slides provided with teeth, a toothed motion-transmitting element interposed between and engaging a portion of the teeth of said slides, a drive-shaft having pinions thereon held in continual engagement with the remaining teeth of the slides, and disks for directly transmitting motion to the drive-shaft and carrying outwardly-projecting movable spline-pins, the inner sides of the pinions being grooved and the grooves having cam-faces terminating in drops to coöperate with the said pins.

842,417. SHOCK-LOADER. OLE E. NELSON, Hierman, Minn. Filed May 11, 1906. Serial No. 316,334.

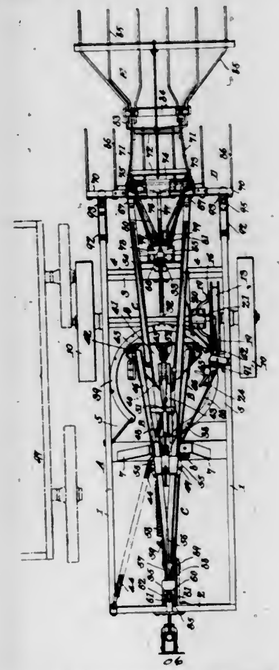
Claim.—1. In a machine of the character described the combination with a frame, and wheels supporting the same; of a shock-engaging device carried by the frame, mechanism operated by the movement of the frame for raising the shock-engaging device, and means operated by the impact of said device against a shock for moving said mechanism into operative relation with the wheels.

2. In a machine of the character described the combination with a frame, and supporting-wheel therefor; of hoisting mechanism carried by the frame, a shock-grabbing device connected to said mechanism, and means operated by the impact of a shock with said grabbing means for throwing the hoisting mechanism into operative relation with the wheels.

3. In a machine of the character described the combination with a frame, and supporting-wheels therefor; of a mast movably supported by the frame, mechanism for hoisting the mast, shock-engaging means carried by the mast, and means operated by the contact of a shock with the engaging means for throwing the hoisting mechanism into operative relation with the wheels.

4. In a machine of the character described the combination with a frame, and supporting-wheels therefor; of a mast carried by the frame, mechanism for successively swinging the mast vertically and laterally, a shock-grabbing device carried by the mast, and means operated by the contact of a shock with said device for throwing the mast-operating mechanism into operative relation with the wheels.

5. In a machine of the character described the combination with a frame, and supporting-wheels therefor; of a mast carried by the frame, mechanism for successively swinging the mast vertically and laterally, a shock-engaging device carried by the mast, means operated by the contact of a shock with said device for throwing the mast-operating mechanism into operative relation with the wheels, and means operated by the lateral swinging of the mast for releasing the mast-operating mechanism.



6. In a machine of the character described the combination with a frame, and supporting-wheels therefor; of a mast carried by the frame, mechanism for successively swinging the mast vertically and laterally, a shock-grabbing device carried by the mast, means operated by the contact of a shock with said device for throwing the mast-operating mechanism into operative relation with the wheels, and means for returning the mast to its lowered position subsequent to the release of said mechanism.

7. In a machine of the character described the combination with a frame, and supporting-wheels therefor; of a mast movably carried by the frame, a rotatable drum, means operated by the drum for swinging the mast vertically and laterally successively, a shock-grabbing device carried by the mast, and means operated by the contact of a shock with said device for placing the drum in operative relation with the supporting-wheels.

8. In a machine of the character described the combination with a frame, and supporting-wheels therefor; of a mast movably mounted on the frame, a drum, a clutch for placing the drum into or out of operative relation with the supporting-wheels, mechanism operated by the rotation of the drum for successively swinging the mast vertically and laterally, a shock-grabbing device upon the mast, and means operated by the contact of a shock with said device for actuating the clutch to place the drum in operative relation with the wheels.

9. In a machine of the character described the combination with a frame, and wheels supporting the same; of a brace pivotally supported by the frame, a mast ful-

crumed between its ends upon the brace, a guide for one end of the mast and means for actuating it within its guide to raise the brace and mast.

10. In a machine of the character described the combination with a frame, and a rotatable element connected thereto; of a brace pivoted upon the frame, a mast fulcrumed between its ends upon the brace, guides carried by the frame and movably engaged by one end of the mast, and means operated by the revolution of the rotatable element for moving the mast within the brace to swing said mast and brace vertically.

11. In a machine of the character described the combination with a frame, and a rotatable element connected thereto; of a brace pivoted upon the frame, a mast fulcrumed between its ends upon the brace, guides carried by the frame and movably engaged by one end of the mast, means operated by the revolution of the rotatable element for moving the mast within the brace to swing said mast and brace vertically and laterally successively.

12. In a machine of the character described the combination with a frame, and a rotatable element; of a table carried by and adapted to partly rotate on the frame, a brace pivotally connected to the table and movable therewith, a mast fulcrumed between its ends upon the brace, guide-rails carried by the frame and partly surrounding the table, means upon the mast for movably engaging the rails, and mechanism operated by the rotatable element for moving the rail-engaging means upon the rails to swing the mast vertically and the table and mast laterally.

13. In a machine of the character described the combination with a frame, and a rotatable element; of a table carried by and adapted to partly rotate on the frame, a brace pivotally connected to the table and movable therewith, a mast fulcrumed between its ends upon the brace, guide-rails carried by the frame and partly surrounding the table, means upon the mast for movably engaging the rails, mechanism operated by the rotatable element for moving the rail-engaging means upon the rails to swing the mast vertically and the table and mast laterally, and a spring connection between the mast and brace to facilitate the vertical swinging of the mast.

14. In a machine of the character described the combination with a frame and a rotatable element; of a table carried by and adapted to partly rotate on the frame, a brace pivotally connected to the table and movable therewith, a mast fulcrumed between its ends upon the brace, guide-rails carried by the frame and partly surrounding the table, means upon the mast for movably engaging the rails, mechanism operated by the rotatable element for moving the rail-engaging means upon the rails to swing the mast vertically and the table and mast laterally, and elastic means for retarding the lateral movement of the mast and table.

15. In a machine of the character described the combination with a frame, and a rotatable element; of a table carried by and adapted to partly rotate on the frame, a brace pivotally connected to the table and movable therewith, a mast fulcrumed between its ends upon the brace, guide-rails carried by the frame and partly surrounding the table, means upon the mast for movably engaging the rails, mechanism operated by the rotatable element for moving the rail-engaging means upon the rails to swing the mast vertically and the table and mast laterally, and means operated by the partial rotation of the table for throwing the mast-operating mechanism out of operative relation with the rotatable element.

16. In a machine of the character described the combination with a frame having a rotatable element; of longitudinally-extending guide-rails carried by the frame and having upstanding portions at one end, and laterally-curved portions at the other end, a table mounted to partly rotate upon the frame adjacent the laterally-curved portions of the rails, a brace pivotally mounted upon the table, a mast fulcrumed between its ends to the brace, means upon one end of the mast for traveling between all portions of the guide-rails, and means operated by the rotatable element for moving the rail-engaging means longitudinally of the rails to successively swing the mast vertically and, with the table, laterally.

17. In a machine of the character described the combination with a frame having a rotatable element; of longitudinally-extending guide-rails carried by the frame and having upstanding portions at one end, and laterally-curved portions at the other end, a table mounted to partly rotate upon the frame adjacent the laterally-curved portions of the rails, a brace pivotally mounted upon the table, a mast fulcrumed between its ends on the brace, means upon one end of the mast for traveling between all portions of the guide-rails, and means operated by the rotatable element for moving the rail-engaging means longitudinally of the rails to successively swing the mast vertically and, with the table, laterally, and means operated by the pivotal movement of the table in one direction for throwing the mast-operating mechanism out of operative relation with the rotatable element.

18. In a machine of the character described the combination with a frame, and a rotatable element; of a toothed disk movable with said element, a drum inclosing the disk loosely mounted on the element, means carried by the drum for engaging the disk, a vertically-movable mast carried by the frame, means operated by the drum for raising the mast, and means operated by the mast at the completion of its movement for disengaging the disk from the drum.

19. In a machine of the character described the combination with a frame, and supporting-wheels therefor; of a toothed disk rotatable with the wheels, a drum mounted adjacent the disk, means carried by the drum for engaging the disk, a mast movably mounted on the frame, means operated by the drum for successively swinging the mast vertically and laterally, and means operated by the lateral movement of the mast for releasing the drum from the disk.

20. In a machine of the character described the combination with a frame, and wheels for supporting the frame; of a disk rotatable with said wheels, a drum, means carried by the drum for engaging the disk, a mast movably mounted upon the frame, means operated by the drum for successively swinging the mast vertically and laterally, a shock-grabbing device carried by the mast, and means operated by the contact of a shock with said device for placing the drum in operative relation with the disk.

21. In a machine of the character described the combination with a frame, and wheels for supporting the same; of a mast movably mounted upon the frame, mechanism for swinging the mast vertically, fork members carried by the mast and movably connected, and means connecting said members and the mast for automatically spreading the members apart under the weight of a load therein.

22. In a machine of the character described the combination with a frame, a brace pivotally mounted thereon, and a mast fulcrumed between its ends upon the brace; of mechanism for swinging the mast and brace vertically, a rocking fork member connected to the mast, an outer fork member movably connected to the rocking fork member, means operated by a load on the members for automatically spreading them apart, and a lock for securing the members in extended position.

23. In a machine of the character described the combination with a frame, and supporting-wheels therefor; of a brace pivoted to the frame, a mast fulcrumed between its ends to the brace, mechanism for swinging the brace and mast vertically, pivotally-connected fork members one of which is pivoted to the mast, means connected to the mast and brace for extending the fork members during the lowering of the mast, and means upon the members for locking the forks in extended position.

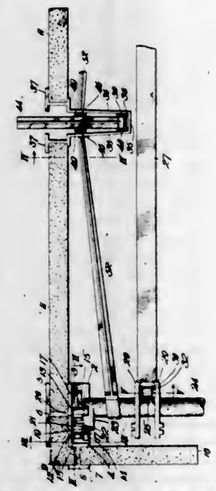
24. In a machine of the character described the combination with a pivoted brace and a mast fulcrumed thereon and adapted to fold thereupon; of mechanism for swinging the brace and mast vertically, a fork member movably connected to the mast, a yoke outstanding therefrom, a flexible connection between the yoke, mast, and brace, said connection adapted to swing the yoke against the mast when the mast is lowered, and means operated by the lowering of the mast for clamping said connection against movement.

25. In a machine of the character described the combination with a table adapted to partly rotate, a brace pivoted upon the table, and a mast fulcrumed upon the brace; of mechanism for successively swinging the brace and mast vertically and laterally, a fork member movably connected to the mast, an outstanding yoke thereon, a flexible connection between the yoke and mast, means on the brace for engaging said connection to render it taut when the mast is lowered, means operated by the lowering of the mast for securing the rope when taut, and means operated by the lateral movement of the raised mast and brace for releasing the taut connection.

26. In a machine of the character described the combination with a frame, and wheels supporting the same; of a mast movably mounted on the frame, mechanism for raising the mast, shock-grabbing devices connected to the mast, means carried by the mast for securing said devices in extended position, and means actuated by the pressure of the shock upon one of the devices for releasing said devices to grip the shock.

27. In a machine of the character described the combination with a vertically-movable mast, and mechanism for actuating the same; of a rocking fork member connected to the mast, a hooked yoke outstanding therefrom, an outwardly extending fork member connected to the rocking fork member, means connected thereto and engaging the hooked yoke for securing the members in extended position, and means operated by the pressure of a shock against the rocking member for releasing the outwardly-extending member to embrace the shock.

842,418. PITLESS WEIGHING-SCALE. DARIUS M. ORCUTT, Kansas City, Kans. Filed Jan. 16, 1906. Serial No. 296,259.



Claim.—1. In a weighing-scale, a frame comprising corner-brackets provided with inner side and end walls and outer side and end walls integrally connected, cement end walls connecting and extending between the end walls of the brackets, and cement side walls connecting and extending between the side walls of the brackets.

2. In a weighing-scale, a frame, comprising corner-brackets provided with inner side and end walls and outer side and end walls integrally connected, cement end walls connecting and extending between the end walls of the brackets, cement side walls connecting and extending between the side walls of the brackets, and an angular cement wall having a side portion extending between the side walls of each bracket, and an end portion extending between the end walls of the bracket.

3. In a weighing-scale, swinging hangers suitably supported, a link pivotally connecting said hangers, and a bearing-block carried by and adjustable longitudinally of said link.

4. In a weighing-scale, swinging hangers suitably supported, a link pivotally connecting said hangers, and a bearing-block carried by and adjustable transversely of said link.

5. In a weighing-scale, swinging hangers suitably supported, a link pivotally connecting said hangers, and a bearing-block carried by and adjustable longitudinally and transversely of said link.

6. In a weighing-scale, a pair of hangers suitably supported, a link pivotally connecting said hangers and having its upper side transversely corrugated, and a bearing-block having its under side transversely corrugated and engaging the corrugated upper side of the link.

7. In a weighing-scale, a corner-bracket provided with a pair of standards, parallel bolts connecting said standards with a wall of said bracket, hangers pivotally pendent from said bolts, a link pivotally connecting said hangers, and a bearing-block mounted on said link.

8. In a weighing-scale, a corner-bracket provided with a pair of standards, parallel bolts connecting said standards with a wall of said bracket, hangers pivotally pendent from said bolts, a link pivotally connecting said hangers and having its upper side transversely corrugated, and a bearing-block having its under side transversely corrugated, and engaging said corrugated upper side of the link.

9. In a weighing-scale, a rocker-shaft, a swinging fulcrum therefor, an arm projecting inwardly therefrom and provided with an upwardly-projecting knife-bearing, a platform, ribs rigid with the platform and transversely corrugated at their under side, and a bearing-block having its upper side transversely corrugated and engaging the corresponding surface of the ribs and resting on said knife-bearing.

10. In a weighing-scale, a platform, rocker-shafts supporting the same, arms projecting inwardly from the rocker-shafts, a rigid bracket provided with bearing-ribs extending transversely of the scale, a bearing-block supported by said ribs, a scale-beam lever fulcrumed on said block, and stirrups pivotally suspended from said lever and sustaining the downward pressure of said rocker-shaft arms.

11. In a weighing-scale, a platform, rocker-shafts supporting the same, arms projecting from the rocker-shafts, a bracket having openings through which the arms project, a scale-beam lever fulcrumed on said bracket inward of said openings and provided contiguous to the latter with outwardly-projecting lugs, bearing-pins projecting upward from said lugs, and stirrups pivotally suspended from said pins and having their lower ends forming a support for the contiguous ends of the rocker-shaft arms.

12. In a weighing-scale, a platform, rocker-shafts supporting the same, arms projecting from said shafts, a bracket having openings through which the arms project, a scale-beam lever fulcrumed on the bracket, stirrups pivotally pendent from said lever and capable of swinging longitudinally and transversely of the scale and provided with bearing-sockets in their lower ends, and pins depending from said arms and engaging said bearing-sockets.

13. In a weighing-scale, a bracket comprising an end wall, side walls projecting from the end wall and provided with openings, and ribs formed integral with and within the bracket at its closed end.

14. In a weighing-scale, a corner-bracket, comprising a base-plate, a side and an end wall rising from said plate, and standards integral with said base-plate and having their upper ends opposite and a suitable distance from said side wall.

15. In a weighing-scale, a corner-bracket, comprising a base-plate, a side and an end wall rising from said plate, standards integral with said base-plate and having their upper ends opposite and a suitable distance from said side wall, outer side and end walls, ribs connecting said side walls, and ribs connecting the end walls together.

842,419. CARRIER FOR PNEUMATIC-DESPATCH-TUBE APPARATUS. JOHN S. PALMER, Chicago, Ill. Filed Feb. 28, 1906. Serial No. 303,450.

Claim.—1. The combination with a carrier-shell, of a lid fitting the end of the same, and a hinge connecting the

shell and lid, the lid being movable outwardly on the hinge when open, so that it will not close except by manipulation.

2. The combination with a carrier-shell having a seat in the end thereof, of a lid hinged to the end of the shell and adapted to close within the same upon said seat, and means to move the lid out of register with the seat when open to prevent closure of the lid except by manipulation.



3. The combination with a carrier-shell, of a lid for the end thereof having a diametrical bore, a hinge connecting the shell and lid and having a round member extending into one end of said bore, on which the lid is rotatable, and a latch-bolt slidable in the other end of said bore and arranged to engage the shell, to hold the lid closed.

4. The combination with a carrier-shell, of a lid fitting the end thereof and having a diametrical bore, and a hinge connecting the shell and lid and having a rod or bolt extending into the bore, the lid being rotatable and also movable in and out on said rod and having a projection extending into said bore, and the rod having a circumferential groove and recesses on opposite sides, into which said projection extends.

5. The combination with a carrier-shell, of a lid having a diametrical bore, a hinge connecting the shell and lid and having a rod extending into said bore, on which rod the lid is reversible to expose either side and also slidable to a limited extent, a latch having a bolt in the bore and finger-pieces accessible from both sides of the lid, and a spring in the bore between the inner ends of the latch-bolt and hinge-rod.

6. The combination with a carrier-shell, of a hinge attached thereto one member of which consists of a circular rod or bolt, and a lid rotatable on said rod and also movable lengthwise thereon to a limited extent.

7. In a pneumatic-despatch system, a carrier having thereon an indicator changeable to indicate various stations of the system, and means to prevent the indicator being set to indicate a particular station thereof.

8. A lid for carriers having a changeable indicator thereon, and means to prevent change thereof when the lid is closed.

9. The combination with a carrier-shell having a lid which fits when closed within the end of the shell, of an indicator having a dial set in a recess in the lid, and a latch which engages the dial and is movable in a recess at the edge of the lid, the rear edge of the latch, when the dial is moved, projecting beyond the edge of the lid, so that movement of the latch and dial is prevented when the lid is closed.

842,420. WEED-CUTTER. OTIS O. PETTY, Olney, Ill. Filed May 16, 1906. Serial No. 317,115.

Claim.—1. A weed-cutter comprising a tubular staff having at its upper end a transverse handle and at its lower end a fixed downwardly-extending blade, a lever pivotally mounted on the staff adjacent its lower end and carrying a cutting-blade movable toward and from the fixed blade in an inclined direction when the lever is swung, and a rod extending through the tubular staff and connected at its lower end to the said lever.

2. A weed-cutter comprising a tubular staff having at one end a transverse handle and at its other end a fixed longitudinally-disposed blade, a transverse lever pivoted to the staff adjacent the fixed blade and having at one end a cutting-blade movable toward and from the fixed blade when the lever is swung, means operative by the hand grasping the handle for swinging the lever in one direction, and means by which the lever is retracted in the opposite direction.

3. A weed-cutter comprising a tubular staff having at one end a transverse handle and at the other end a longitudinal fixed blade, two levers pivotally mounted on the staff at opposite ends thereof, the lever at the end having the fixed blade having a cutting-blade movable toward and from the fixed blade when the lever carrying it is swung, and a rod pivotally connected at its ends to said levers and extending longitudinally through said staff.



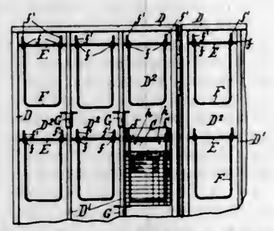
4. A weed-cutter comprising a tubular staff having at one end a transverse handle and at the other end a longitudinal fixed blade, two transverse levers pivoted adjacent opposite ends of the lever so as to be swung in a plane at right angles to the face of the fixed blade, the lever adjacent the fixed blade carrying a cutting-blade movable, when the staff is held in a vertical position, downwardly toward and against the fixed blade when the lever carrying the cutting-blade is swung in one direction, a rod extending longitudinally through the staff and connected at its ends to said levers, and a spring for swinging said levers in a direction such that the cutting-blade will be moved away from the fixed blade.

5. A weed-cutter comprising a tubular staff having at one end a lateral downwardly-extending arm having at its lower end a fixed blade, a handle secured to the other end of the staff and extending transversely across the open end thereof, a transverse lever pivoted to swing vertically between the handle and the upper end of the staff, a spring for forcing said lever downward, a transverse lever pivoted to said arm so as to swing vertically and having one end extending below the open end of the lower end of the staff, and having at the other end a cutting-blade normally disposed at an inclined position relative to the fixed blade and movable toward and from said blade when the lever carrying the cutting-blade is swung, and a rod extending through said staff and connected to said levers respectively.

6. A weed-cutter comprising a tubular staff having at one end a vertical arm the upper end of which has a collar embracing the staff, the lower end of the arm having a vertical fixed blade, a horizontally-disposed U-shaped handle one arm of which is provided with a collar embracing the upper end of the staff and the other arm extending over the top of the staff and forming a handhold, a lever pivoted between the arms of the handle to swing vertically, a transverse lever pivoted to the arm at the lower end of the staff so as to swing in a vertical plane and having at one end an inclined cutting-blade movable with the lever carrying it toward and from the fixed blade, the other end of the lever carrying the cutting-blade extending under the end of the staff, a rod extending through the vertical opening in the staff and connected to said levers, and a spring for forcing said rod downward.

7. A weed-cutter comprising a vertical tubular staff having at its lower end a vertical arm at the upper end of which is a collar embracing the staff, the lower end of said arm having a vertical fixed blade, the said arm having a vertical transverse slot intermediate the upper and lower ends, a transverse lever pivotally mounted in said slot and having one end extending under the end of the staff the other end being downwardly curved toward the fixed blade and carrying a cutting-blade normally inclined relative to the fixed blade, a handle secured to the upper end of the staff and extending transversely across the open end of the staff and provided with a transverse slot, a lever pivotally mounted in the slot of the handle and extending across the upper end of the staff, a spring carried by the handle for swinging the upper lever downward, and a rod extending longitudinally through the staff and connected to said levers.

842,421. EASY ACCOUNT-KEEPER. GEORGE T. PINE, Huntington, W. Va. Filed Oct. 12, 1906. Serial No. 338,675.



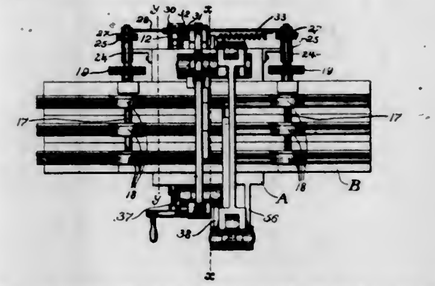
Claim.—1. A bookkeeping apparatus consisting of a series of frames hinged together at their backs and adapted to open out book-like fashion, each frame carrying a series of transverse rods and a series of longitudinal ribs on its opposite faces, and a series of clamping devices on each rod whereby individual-account books may be clamped in place between the ribs on the face of each frame and means adjacent each clamping device adjustably engaging the upper and lower ends of the book to hold it against endwise movement with respect to the clamping device.

2. A book-like account-holder consisting of a series of frames hinged together at their back edges and adapted to open out in book fashion, each frame carrying a series of spring-wire clamping-arms on each of its faces adapted to temporarily hold a book-like package of account-slips, and adjustable means on the frame for engaging the lower end of the book to assist in holding the book of account-slips in place.

3. In a bookkeeping apparatus, a series of hinged frames adapted to open out book fashion, each frame being divided longitudinally by a series of strips or ribs, a series of transverse rods mounted in these strips or ribs above the surface of the frame, wire clamping devices on each of these rods and lying in the spaces between the ribs, each clamping device being provided with a stop at its upper end extending toward the face of the frame and against which the upper end of the account book or pad abuts when it is slipped up under the rod, and adjustable sliding stops on the ribs to engage the lower ends of the books or pads, substantially as and for the purpose set forth.

842,422. CARVING-MACHINE. FRANCIS H. RICHARDS, Hartford, Conn. Filed Apr. 8, 1902. Serial No. 101,888.

Claim.—1. In a carving-machine, the combination of a plurality of parallel carriages, means for moving said carriages to and fro in different directions, corresponding cutting elements mounted upon said carriages, the individual cutting elements upon each carriage depending from and being directed in line with the movement of said carriages, and a plurality of stock-guides placed side by side transversely of and beneath said carriages.



2. In a carving-machine, the combination of a plurality of carriages, means for moving said carriages to and fro in different directions, a plurality of depending carving-tools mounted upon each carriage and directed in line with the path of motion thereof, the tools upon one carriage being directed substantially at right angles to those upon the other carriage, and a plurality of stock-guides placed side by side transversely of and beneath said carriages.

3. In a carving-machine, the combination of stock-feeding means, a plurality of parallel stock-guides, a cutter-carriage mounted transversely of said stock-guides, means for moving said carriage toward and away from said stock-guides, and a plurality of carving-tools depending from said cutter-carriage and directed in line with the path of movement of said carriage, one tool for each stock-guide.

4. In a carving-machine, an articulated parallelogram having a stationary base and a movable upper side, in combination with a plurality of cutting elements mounted on and directed in line with the movement of said upper side, a plurality of stock-guides placed transversely to said parallelogram, stock-feeding means, and means connected to said stock-feeding means for actuating the movable members of said parallelogram.

5. In a carving-machine, a plurality of flanking articulated parallelograms having parallel stationary bases and countermovable upper sides, in combination with cutting elements carried by said upper sides and directed in line with the paths of movement of their respective carriers, a stock-guide placed transversely to said parallelograms, stock-feeding means, and means connected to said stock-feeding means for actuating the movable members of said parallelograms.

6. In a carving-machine, a plurality of flanking articulated parallelograms having parallel stationary bases and counter-oscillatable upper sides, in combination with corresponding series of cutting elements carried by said upper sides and directed in line with the path of oscillation of their respective carriers, a plurality of stock-guides placed transversely to said parallelogram, stock-feeding means associated with each stock-guide, and means connected to said stock-feeding means for actuating the movable members of said parallelogram.

7. In a carving-machine, a plurality of parallel stock-guides disposed in a common plane, and a plurality of flanking articulated parallelograms surrounding said stock-guides and having parallel bases stationarily mounted in a plane parallel to that of said stock-guides and counter-oscillatable cutter-carrying upper sides.

8. In a carving-machine, the plurality of parallel stock-guides disposed in a common plane; a plurality of flanking articulated parallelograms surrounding said stock-guides, and having parallel bases stationarily mounted in a plane parallel to that of said stock-guides and counter-oscillatable cutter-carrying upper sides; and operating means for imparting an arcal movement to said upper sides alternately toward and away from said stock-guides.

9. In a carving-machine, an articulated parallelogram having a stationary base, a tool-carrying upper side, and an end extending below its point of articulation with the base, in combination with a shaft perpendicularly mount-

ed to said base, a crank upon said shaft, and a connecting-rod connecting said crank and the extended portion of said end with a plurality of stock-guides placed transversely to said parallelogram, stock-feeding means, and means to actuate the same and a connection therewith for actuating the movable members of said parallelogram.

10. In a carving-machine, an articulated parallelogram having a stationary base, a tool-carrying upper side, and an end extended below its point of articulation with the base, in combination with a shaft perpendicularly mounted to said base, an eccentric on said shaft, an eccentric-rod connecting said eccentric and the extended portion of said end, a plurality of stock-guides placed transversely to said parallelogram, and stock-feeding means connected to said shaft.

11. In a carving-machine, a plurality of flanking articulated parallelograms having parallel stationary bases, tool-carrying upper sides and ends extended below their points of articulation with their bases, in combination with a shaft perpendicularly mounted to said bases, crank members on said shaft, rods connecting said extended portions of said ends to said crank members, a plurality of stock-guides placed transversely to said parallelograms, and stock-feeding means connected to said shaft.

12. In a carving-machine, a plurality of flanking articulated parallelograms having parallel stationary bases, tool-carrying upper sides and ends extended below their points of articulation with their respective bases, in combination with a shaft perpendicularly mounted to said bases, crank members on said shaft, rods connecting said extended portions of said ends and said crank members, an intermittent feed mechanism actuated from said shaft, and a plurality of stock-guides placed transversely to said parallelograms.

13. In a carving-machine, a plurality of parallel cutter-carriages movable to and fro in converging directions, corresponding series of cutting members upon said carriages, and directed in line with the movements thereof, a feed mechanism and means for actuating said carriages, and for operating said feed mechanism to effect the feed of the stock during the withdrawal of the cutting members from the stock.

14. In a carving-machine, the combination of a plurality of independent stock-supporters, a plurality of sets of carving-tools each plurality mounted fast upon the same actuating member, one set associated with each of said supporters and the carving-tools in each set being mounted to penetrate the stock from different directions, means for operating said tools, and feeding means.

15. A duplex carving-machine comprising a set of stock supporting and feeding means; carving-tools mounted to penetrate in different directions the stock controlled by said set; a second set of stock supporting and feeding means; carving-tools mounted to penetrate in different directions the stock controlled by said second set; and means for operating said tools; each of said sets of tools being mounted fast one relatively to the other.

16. In a carving-machine, the combination of a plurality of independent supporters having a stepwise relation, a plurality of sets of carving-tools, one set associated with each of said supporters and the carving-tools in each set being mounted to penetrate the stock from different directions, means for operating said tools, and feeding means.

17. In a carving-machine, the combination of a plurality of independent stock-guides having a stepwise relation, a plurality of carving-tools, one at each of said guides, a single member whereby said tools are operated, a second plurality of carving-tools, one at each of said guides and mounted to penetrate the stock in a different direction from the first plurality, a single member whereby said second plurality is operated, and means associated with each of said stock-guides for feeding the stock.

18. In a carving-machine, the combination with a plurality of independent stock-guides, of a plurality of tool-carriers each extending transversely of said guides, means upon each tool-carrier for carrying a tool at each of said guides, the respective tools of one carrier each having a complemental relation to the respective tools of another carrier, and the cut of one tool being supplemental to that of its complementary tool, means for operating said tool-carriers, and means associated with each of said stock-guides for feeding the stock.

19. In a carving-machine, the combination with a plurality of independent stock-guides, of a plurality of tool-carriers each extending transversely of said guides, means upon each tool-carrier for carrying a tool at each of said guides, means for operating said tool-carriers so that the tools carried by one thereof may penetrate the stock in a different direction from the tools carried by the other thereof, and means associated with each of said stock-guides for feeding the stock.

20. In a carving-machine, the combination with a plurality of independent stock-supporters, of a tool-carrier extending across all of said supporters, means for supporting said tool-carrier at its ends and reciprocatably across said supporters and toward and from the same, tools mounted upon said carrier between its ends, one tool at each stock-supporter, means for reciprocating said carrier crosswise of said supporters to cause the tools to penetrate and leave the stock, and feeding means.

21. In a carving-machine, the combination with a plurality of independent stock-guides having a stepwise relation, of a plurality of tool-carriers extending side by side across the stock-guides, means for supporting each tool-carrier at its ends, tools mounted upon said carriers between their ends, one tool being mounted upon each carrier at each stock-guide, and the tools upon one carrier extending transversely with relation to the tools upon the other carrier, means for moving said carriers to and fro, one in a direction transverse to the other, and stock-feeding means.

22. In a carving-machine, the combination of a plurality of stock-guides placed side by side in a row, the sides of the beds being oblique to the direction of the row, a tool-carrier extending across said guides, obliquely-directed tools upon said carrier, one tool associated with each guide, means for moving said carrier obliquely, coöperating tools mounted to penetrate the stock in a different direction, and means for feeding the stock.

23. In a carving-machine, the combination of a plurality of stock-guides placed side by side in a row, the sides of the guides being oblique to the direction of the row, a plurality of tool-carriers extending side by side across said guides, obliquely-directed tools upon each carrier, one tool upon each carrier being asociated with each guide and the tools upon one carrier being directed obliquely with relation to the tools upon the other carrier, means for moving said carriers to and fro substantially in the direction in which their tools are directed, and means for feeding the stock.

24. In a carving-machine, the combination of a plurality of independent stock-guides, a shaft extending transversely of said guides, a plurality of stock-feeding rolls upon said shaft, one roll for each guide, means for rotating said shaft, carving-tools mounted in position to operate in transverse directions upon the stock supported upon said guides, and means reciprocatable transversely of said support and toward and from the same for carrying and operating said carving-tools in unison.

25. In a carving-machine, the combination of a plurality of independent stock-guides, a shaft extending transversely of said guides, a plurality of stock-feeding rolls upon said shaft, one roll for each guide, a roll opposite to each of said rolls, means positively connecting all of said rolls, means for rotating said shaft, positively-connected carving-tools mounted in position to operate upon the stock supported upon the different guides, and means connected to said shaft-rotating means for operating said carving-tools.

26. In a carving-machine, the combination of a plurality of independent stock-guides having stepwise relation, a group of carving-tools mounted in position to operate in different directions upon the stock supported upon the different guides, means for operating said tools, a shaft extending transversely of said guides at each side of said group of tools, a plurality of stock-feeding rolls upon each of said shafts, one roll opposite each guide, and means for rotating said shafts.

27. The combination of a plurality of stock-guides having their supporting-surfaces obliquely disposed relative to their transverse line, stock-feeding rolls, a plurality of tool-carriers each having obliquely-directed tools, the tools upon one carrier being directed angularly with relation to the tools upon the other carrier, and means for moving said carriers obliquely.

28. A carving-machine comprising means of guiding and feeding a plurality of strips of stock, side by side, a number of sets of carving-tools having complemental tools for each of the several strips, means for rigidly connecting all said tools of a set together and means for actuating the same, for simultaneously carving repeat ornaments upon the several strips the respective tools of one carrier each having a complemental relation to the respective tools of another carrier, and the cut of one tool being supplemental to that of its complementary tool.

29. In a carving-machine, the combination with a plurality of stock-guides, of a beam extending transversely thereof, tools mounted upon said beam, one at each stock-guide, pivoted arms whereon said beam is mounted, means for operating said arms, and stock-feeding means.

30. In a carving-machine, the combination with stock-supporting means of a plurality of beams, a tool mounted upon each beam, said tools being directed angularly with reference to each other, pivoted arms whereon each beam is movable substantially in the direction in which its tool is directed, means for operating said arms and beams, and feeding means.

31. In a carving-machine, the combination with a plurality of stock-guides, of a plurality of beams, a tool mounted upon each beam at each stock-guide, the tools upon one beam being directed angularly with reference to the tools upon the other beam, pivoted arms whereon each beam is movable substantially in the direction in which its tools are directed, means for operating said arms and beams, and stock-feeding means.

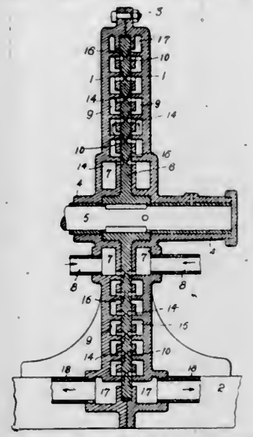
32. In a carving-machine, the combination with a plurality of stock-guides, of a plurality of beams, a tool mounted upon each beam at each stock-guide, the tools upon one beam being directed angularly with reference to the tools upon the other beam, pivoted arms upon which each beam is movable substantially in the direction in which its tools are directed, means for operating said arms and beams, a shaft extending transversely of said stock-guides, a plurality of stock-feeding rolls upon said shaft, one roll for each stock-guide, and means for rotating said shaft.

33. In a carving-machine, the combination with a plurality of independent stock-guides, of a plurality of beams, a tool mounted upon each beam at each stock-guide, the tools upon one beam being directed angularly with reference to the tools upon the other beam, pivoted arms upon which each beam is movable substantially in the direction in which its tools are directed, means for operating said arms and beams, a shaft extending transversely of said guides at each side of said plurality of beams, a plurality of stock-feeding rolls upon each of said shafts, one roll opposite each guide, and means for rotating said shafts.

34. In a carving-machine, the combination with a plurality of stock-guides, of a plurality of beams, a tool mounted upon each beam at each stock-guide, the tools upon one beam being directed angularly with reference to the tools upon the other beam, pivoted arms upon which each beam is movable substantially in the direction in which its tools are directed, means for operating said arms and beams, a pair of coupled shafts at each side of said plurality of beams and extending transversely of said guides, one shaft in each pair being above the guides and the other below the guides, rolls upon each of said shafts adapted to engage the upper and lower sides of the stock, and means for rotating said shafts.

35. In a carving-machine, the combination of a plurality of tool-carriers, a number of sets of tools upon each carrier arranged in tandem and secured in rigid relation, one with the other and means for moving each carrier transversely of the stock substantially in the direction in which its tools are directed for carving ornaments in repeat upon each portion of stock in unison the respective tools of one carrier each having a complemental relation to the respective tools of another carrier, and the cut of one tool being supplemental to that of its complementary tool.

842,423. TURBINE. GEORGE RISCHMULLER, San Francisco, Cal. Filed Apr. 2, 1906. Serial No. 309,512.



Claim.—1. A turbine comprising casing-sections, a shaft, a disk secured on said shaft and rotating between said sections, and having on each side a concentric series of annular groups of pockets, each pocket having an impact inner side each pocket opening its whole length into the side of the runner, the inner side being concentric to the runner and the outer side oblique thereto and an escape outer side, the adjacent casing-section having a corresponding concentric series of annular steam-chambers, a concentric series of annular groups of ducts registering with the inner sides of pockets of the respective groups, and leading from the outermost portions of the annular steam-chambers, said casing-section having also means for permitting escape of the steam from the escape sides of the pockets into a steam-chamber, the ducts in each group increasing in number from the center to the circumference, and means for admitting steam to the innermost steam-chamber at each side and exhausting it from the escape sides of the outermost group of pockets, substantially as described.

2. A turbine comprising casing-sections, a shaft, a runner secured on said shaft and rotating between said sections, and having on each side a concentric series of annular groups of pockets, each pocket having an impact inner side and an escape outer side, the adjacent casing-section having a corresponding concentric series of annular steam-chambers, a concentric series of annular groups of ducts registering with the inner sides of pockets of the respective groups, and leading from the outermost portions of the annular steam-chambers, the discharge end of any steam-duct being longer than the distance between adjacent pockets of a corresponding series to permit the ducts in succession to supply each two adjacent pockets with the live-steam, said casing-section having also means for permitting escape of the steam from the escape sides of the pockets into a steam-chamber, the ducts in each group increasing in number from the center to the circumference, and means for admitting steam to the innermost steam-chamber at each side and exhausting it from the escape sides of the outermost group of pockets, substantially as described.

3. A turbine comprising casing-sections, a shaft, a runner secured on said shaft and rotating between said sections, and having on each side a concentric series of annular groups of pockets, each pocket having an impact inner side and an escape outer side, the adjacent casing-section having a corresponding concentric series of annular groups of ducts registering with the inner sides of pockets of the respective groups, and leading from the outermost portions of the annular steam-chambers, said casing-section having also escape-passages from the es-

cape sides of the pockets into the corresponding steam-chambers, sufficiently extensive, relatively to the distance between adjacent pockets, to permit continuous escape of steam from each pocket into the steam-chamber, the ducts in each group increasing in number from the center to the circumference, and means for admitting steam to the innermost steam-chamber at each side and exhausting it from the escape sides of the outermost group of pockets, substantially as described.

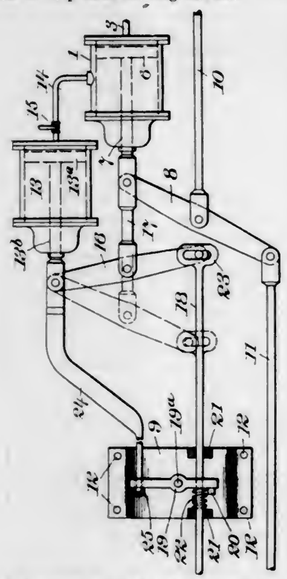
4. A turbine comprising casing-sections, a shaft, a disk secured on said shaft and rotating between said sections, and having on each side a concentric series of annular groups of pockets, each pocket having an impact inner side and an escape outer side, the adjacent casing-section having a corresponding concentric series of annular steam-chambers, a concentric series of annular groups of ducts registering with the inner sides of pockets, of the respective groups, and leading from the outermost portions of the annular steam-chambers, said casing-section having also a series of continuous annular passages for the escape of the steam from the escape sides of the pockets into a steam-chamber, the ducts in each group increasing in number from the center to the circumference, and means for admitting steam to the innermost steam-chamber at each side and exhausting it from the escape sides of the outermost group of pockets, substantially as described.

5. A turbine comprising casing-sections, a shaft, a runner secured on said shaft and rotating between said sections, and having on each side a concentric series of annular groups of pockets, each pocket having an impact inner side and an escape outer side, the adjacent casing-section having a corresponding concentric series of annular steam-chambers, a concentric series of annular groups of ducts registering with the inner sides of pockets of the respective groups, and leading from the outermost portions of the annular steam-chambers, the rear wall of the impact inner side of the pocket being substantially parallel with the direction of an adjacent duct in the corresponding group, and the front wall being substantially at right angles to the plane of the runner, said casing-section having also means for permitting escape of the steam from the escape sides of the pockets into a steam-chamber, the ducts in each group increasing in number from the center to the circumference, and means for admitting steam to the innermost steam-chamber at each side and exhausting it from the escape sides of the outermost group of pockets, substantially as described.

6. A turbine comprising casing-sections, a shaft, a runner secured on said shaft and rotating between said sections, and having on each side a concentric series of annular groups of pockets, each pocket having an impact inner side and an escape outer side, the adjacent casing-section having a corresponding concentric series of annular steam-chambers, a concentric series of annular groups of ducts registering with the inner sides of pockets of the respective groups, and leading from the outermost portions of the annular steam-chambers, each pocket being shallow at the rear end and increasing in depth at the front end to form an abutment extending from the deepest point of the pocket to the face of the runner and substantially transverse to the plane of the runner, said casing-section having also means for permitting escape of the steam from the escape sides of the pockets into a steam-chamber, the ducts in each group increasing in number from the center to the circumference, and means for admitting steam to the innermost steam-chamber at each side and exhausting it from the escape sides of the outermost group of pockets, substantially as described.

842,424. FLUID-PRESSURE BRAKE. WILLIAM H. SAUVAGE, New York, N. Y., assignor to Sauvage Safety Brake Company, a Corporation of New Jersey. Filed May 25, 1906. Serial No. 318,655.

Claim.—1. In a fluid-pressure brake system, the combination with the main brake-cylinder, its piston and piston-rod, brake-rigging and triple valve, of a second auxiliary cylinder, its piston and piston-rod, means for admitting fluid under pressure to the second cylinder after the movement of the piston in the first cylinder has begun, a lever system connecting the piston of the second cylinder with the brake-rigging, an adjustable fulcrum for said lever system comprising a locking device operating to fix the fulcrum during the outward movement of the second piston, and means operated by the return movement of the second piston to trip said locking device.



2. In a fluid-pressure brake system, the combination with the main brake-cylinder, its piston and piston-rod, brake-rigging and triple valve, of a second auxiliary cylinder, its piston and piston-rod, means for admitting fluid under pressure to the second cylinder after the movement of the piston in the first cylinder has begun, a lever system connecting the piston of the second cylinder with the brake-rigging, an adjustable fulcrum for said lever system comprising a friction-clutch operating to fix the fulcrum during the outward movement of the second piston, and means operated by the return movement of the second piston to trip said friction-clutch.

3. In a fluid-pressure brake system, the combination with the main brake-cylinder, its piston and piston-rod, brake-rigging and triple valve, of a second auxiliary cylinder, its piston and piston-rod, means for admitting fluid under pressure to the second cylinder after the movement of the piston in the first cylinder has begun, a lever system connecting the piston of the second cylinder with the brake-rigging, an adjustable fulcrum for said lever system comprising a friction-clutch operating to fix the fulcrum during the outward movement of the second piston, and means operated by the return movement of the second piston to trip said friction-clutch, said last-mentioned means comprising a connection from the second piston to the tail of the friction-clutch dog.

4. In a fluid-pressure brake system, the combination with the main brake-cylinder, its piston and piston-rod, brake-rigging and triple valve, of a second auxiliary cylinder, its piston and piston-rod, means for admitting fluid under pressure to the second cylinder after the movement of the piston in the first cylinder has begun, a lever pivoted at one end to the second piston and at an intermediate point of its length to the first piston, a rod pivoted to the other end of said lever, a clutch mounted on a fixed base, and coöperating with said rod to normally prevent motion of the same toward the cylinders, and means for tripping said clutch.

5. In a fluid-pressure brake system, the combination with the main brake-cylinder, its piston and piston-rod, brake-rigging and triple valve, of a second auxiliary cylinder, its piston and piston-rod, means for admitting fluid under pressure to the second cylinder after the movement of the piston in the first cylinder has begun, a lever pivoted at one end to the second piston, and at an intermediate point of its length to the first piston, a rod pivoted to the other end of said lever, a clutch mounted on a fixed base, and coöperating with said rod to normally prevent motion of the same toward the cylinders, and means for tripping said clutch, said last-mentioned means comprising a connection from said clutch to the piston-rod of the second cylinder.

6. In a fluid-pressure brake system, the combination with the main brake-cylinder, its piston and piston-rod, brake-rigging and triple valve, of a second auxiliary cylinder, its piston and piston-rod, means for admitting fluid under pressure to the second cylinder after the movement of the piston in the first cylinder has begun, a lever pivoted at one end to the second piston and at an intermediate point of its length to the first piston, a rod pivoted to the other end of said lever, a friction-clutch mounted on a fixed base, and coöperating with said rod to normally prevent motion of the same toward the cylinders, and means for tripping said friction-clutch.

7. In a fluid-pressure brake system, the combination with the main brake-cylinder, its piston and piston-rod, brake-rigging and triple valve, of a second auxiliary cylinder, its piston and piston-rod, means for admitting fluid under pressure to the second cylinder after the movement of the piston in the first cylinder has begun, a lever pivoted at one end to the second piston and at an intermediate point of its length to the first piston, a rod pivoted to the other end of said lever, a friction-clutch mounted on a fixed base, and coöperating with said rod to normally prevent motion of the same toward the cylinders, and means for tripping said friction-clutch, said clutch comprising a pivoted dog having a perforation at one side of the pivot through which the above-mentioned rod passes.

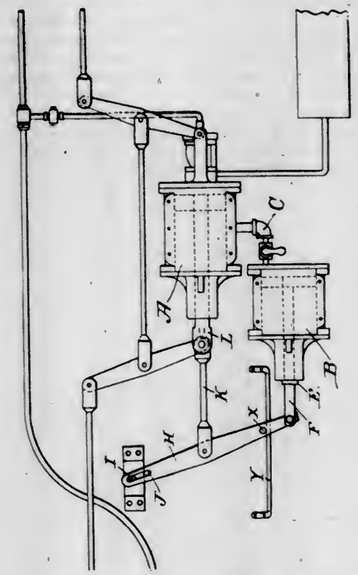
8. In a fluid-pressure brake system, the combination with the main brake-cylinder, its piston and piston-rod, brake-rigging and triple valve, of a second auxiliary cylinder, its piston and piston-rod, means for admitting fluid under pressure to the second cylinder after the movement of the piston in the first cylinder has begun, a lever pivoted at one end to the second piston and at an intermediate point of its length to the first piston, a rod pivoted to the other end of said lever, a friction-clutch mounted on a fixed base, and coöperating with said rod to normally prevent motion of the same toward the cylinders, and means for tripping said friction-clutch, said clutch comprising a pivoted dog having a perforation at one side of the pivot through which the above-mentioned rod passes and said tripping means comprising a loose connection from the other end of said dog to the second piston.

842,425. FLUID-PRESSURE BRAKE. WILLIAM H. SAUVAGE, New York, N. Y., assignor to Sauvage Safety Brake Company, a Corporation of New Jersey. Filed Sept. 1, 1906. Serial No. 332,889.

Claim.—1. In a fluid-pressure-brake apparatus comprising a main cylinder and an auxiliary cylinder, the auxiliary cylinder going into action after the movement of the piston of the main cylinder has begun, the combination of a telescoping piston-rod for said auxiliary cylinder, a latch arranged to hold the telescoping members extended, and means for tripping said latch before the piston completes its return stroke, said means comprising a fixed dog having a beveled face located in the line of travel of the latch.

2. In a fluid-pressure-brake apparatus the combination of a cylinder, a piston having a hollow piston-rod, a push-rod telescoping therein, and a latch pivoted on the push-rod and adapted to engage the outer end of the hollow piston when the push-rod is partly withdrawn therefrom.

3. In a fluid-pressure-brake apparatus the combination of a cylinder, a piston having a hollow piston-rod, a push-rod telescoping therein, and a latch pivoted on the push-rod and adapted to engage the outer end of the hollow piston when the push-rod is partly withdrawn therefrom together with means for tripping said latch when the piston completes its return stroke.



4. In a fluid-pressure-brake apparatus the combination of a cylinder, a piston having a hollow piston-rod, a push-rod telescoping therein, and a latch pivoted on the push-rod and adapted to engage the outer end of the hollow piston when the push-rod is partly withdrawn therefrom together with means for tripping said latch when the piston completes its return stroke, said means comprising a dog fixed to the cylinder-head and engaging said latch.

5. In a fluid-pressure-brake apparatus comprising a main cylinder and an auxiliary cylinder, and the usual brake-levers, the combination of an auxiliary lever pivoted at one end to a fixed fulcrum by a sliding connection, connected at the other end to the piston of the auxiliary cylinder and midway of its length to the piston of the main cylinder, a guide for said auxiliary lever parallel to the line of piston travel, and a projection on said lever engaging the guide.

6. In a fluid-pressure-brake apparatus the combination of a main cylinder, an auxiliary cylinder, the usual system of brake-levers and an auxiliary lever, pivoted at one end to a fixed fulcrum by a sliding connection, connected at the other end to the piston of the auxiliary cylinder, and intermediate of its length to the piston of the main cylinder.

842,426. GLASSWARE HEATING AND FINISHING MACHINE. HENRY A. SCHNELBACH, Pittsburg, Pa., assignor to Macbeth-Evans Glass Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Aug. 6, 1906. Serial No. 329,272.

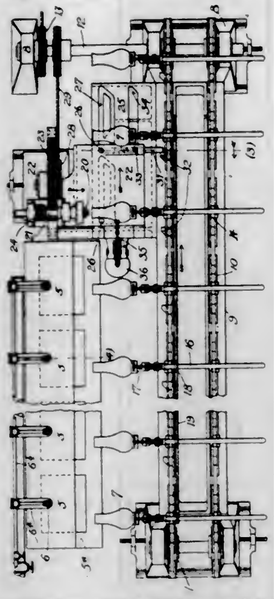
Claim.—1. The combination with a graduated heating-furnace, of automatic mechanical devices for continuously moving glass articles through the heat zone and finishing the article after it is softened, without removal from the machine.

2. The combination with a furnace having a series of graduated heating-chambers, of mechanism for continuously carrying glass articles through the zones of heat and simultaneously revolving them, and mechanism movable with said carrying mechanism for finishing the article after it is heated.

3. The combination with a furnace having a series of graduated heating-chambers, of mechanism for moving glass articles through the heating zone and simultaneously revolving them to preserve their shape, and finish-

ing mechanism operating in line with said motion, whereby the finishing is done without stopping the moving carrier mechanism.

4. The combination with a furnace and a carrier for moving a glass article therethrough, of a traveling finishing-tool operating on the article as it moves, whereby the motion of the article through the furnace is uninterrupted by the finishing operation.



5. The combination with a furnace and a continuously-traveling carrier for glass articles, of a finishing-tool intermittently traveling with said carrier and articles after they pass through the furnace, without interrupting their motion.

6. In a glass-finishing apparatus a furnace consisting of a continuous series of heating-compartments forming an uninterrupted heat zone and having graduated degrees of heat, and automatic means for continuously translating and revolving articles through said zones of heat.

7. The combination with a heating-furnace and means to continuously move articles therethrough, of coöperating automatic mechanism to immediately finish the articles after they are heated.

8. The combination with automatic means for gradually and evenly heating glass articles, of an automatic moving finishing-tool adapted to operate on said articles without interrupting their progress through the zone of heat.

9. In a finishing apparatus a furnace comprising a series of graduated compartments each comprising a chamber having a slot opening obliquely upward and communicating with the contiguous outlets for operation on an article exposed to the heat, and burners for supplying flame in each compartment.

10. A finishing-furnace comprising a graduated series of heating-chambers with separate burners therein, each chamber having a slot for emitting flame and said slots communicating and being in register so that an article may travel continuously through the varying zones of heat, substantially as described.

11. In a heating and finishing apparatus the combination with a furnace, of a horizontal support, a traveling carrier moving thereon, a series of forks on the carrier, a track for engaging a roller, and snaps for carrying articles, having rollers engaging said track when the snaps are laid in said forks, whereby the article is carried through the heating zone of the furnace and simultaneously revolved in its support, substantially as described.

12. In a finishing apparatus the combination with an article-carrier, of a fixed rack, a movable carriage having a revoluble forming-tool and a pinion to engage said rack to revolve the tool, and means to automatically engage and release the said pinion and move the carriage forward with the article-carrier.

13. The combination with means for moving and revolving a glass article, of a shifting carriage carrying a forming-tool and its shaft, a pinion on the shaft of the tool, a fixed rack, and devices adapted to force the tool into engagement with the moving article and engage the pinion and rack and thereupon revolve the tool as the table is shifted over said rack.

14. A finishing-tool for glass articles adapted to coöperate with a continuously-moving carriage for the articles, comprising a shaft carrying a tool and means for shifting the shaft into and out of engagement with the article, means for simultaneously revolving the tool and the article and means for returning the tool and carriage to normal position.

15. The combination with a heating-furnace and a carrier for moving and revolving an article through the heating zone, of an automatic finishing-tool operated by the said moving carrier and mechanism for forcing the tool into engagement with the article, for revolving it as it travels, and for releasing and returning it to position to engage the next article in the series on said carrier.

16. In heating and finishing apparatus the combination with a furnace and a traveling carrier for moving and revolving the articles, of a finishing-tool comprising a shifting table, automatic means thereon to engage the traveling carrier and shift the table, a fixed rack, a shifting shaft on the table carrying a pinion and a forming-tool, and means to engage and disengage said tool and said rack and thereby to revolve the pinion and tool as the table moves, substantially as described.

17. The combination with a graduated furnace, of mechanism to continuously carry articles through the varying zones of heat therein, and a forming-tool and means to reciprocate and intermittently move it along with the carrying mechanism, substantially as described.

18. The combination with a heating-furnace and a traveling carrier for articles to be heated therein, of a driving-shaft for the carrier and a finishing-tool operated by the said driving-shaft to move the tool in consonance with the moving of the carriage, substantially as described.

19. The combination with a furnace and a carrier for moving articles through the zone of heat, of automatic mechanism for engaging and finishing each of the articles as it moves, substantially as described.

20. The combination with a graduated furnace and a continuously-traveling carrier of automatic mechanism movable by and with said carrier for engaging and finishing an article thereon, substantially as described.

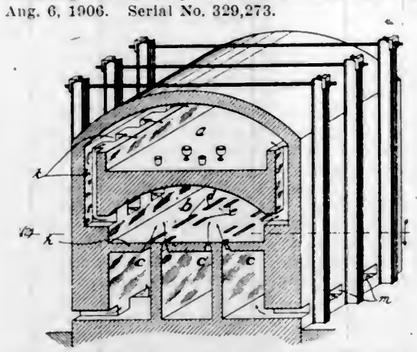
21. In a glassware-finishing machine the combination with a constantly-traveling carrier and a furnace having graduated heating zones, of a set of removable holders for the articles and means by which said holders and articles may be placed at any point on the carrier and are revolved locally as they travel through the heat zone.

22. In a glassware-finishing machine the combination of a frame, a horizontal traveling carrier on the frame, a graduated furnace adapted to heat articles on said carrier as it moves, a series of removable snaps or holders adapted to be placed at various places on the carrier and coöperating means on the frame and the snap to revolve the latter as it travels with the carrier, substantially as described.

23. The combination of a furnace having several compartments of varying degrees of heat, said compartments having recessed outlets forming together a continuous heat zone, downward-directed flames in the furnace and means to deflect the heat against the ware, a carrier for glassware provided with means to translate and revolve the ware in front of the furnace, such means including individual holders for the ware removably supported on the carrier.

24. In a machine for finishing lamp-chimneys, the combination with a furnace having an exposed continuous heating zone of graduated intensity from one end to the other, a straightaway carrier located in front of the furnace and having a series of supports for individual ware-holders, a supporting-frame for said carrier having a friction-track, a snap for holding a lamp-chimney provided with a friction-roller adapted to engage said friction-track, and removable from the carrier, whereby each individual article may be placed at various places on the carrier and will engage with the friction-track so as to revolve the article as it is translated.

842,427. GAS-FURNACE. HENRY A. SCHNELBACH, Pittsburg, Pa., assignor to Macbeth-Evans Glass Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Aug. 6, 1906. Serial No. 329,273.

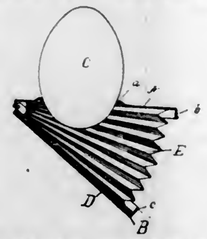


Claim.—1. A furnace comprising a combustion-chamber, a gas-chamber underneath the same having narrow slots opening through its top, and an air-chamber lying closely contiguous to the gas-chamber and having corresponding narrow slots opening through its top in close proximity to said gas-outlets, whereby the air and gas are mixed immediately at their outlet from the supply-chambers.

2. A furnace comprising a combustion-chamber with a flat floor, a centrally-located relatively large gas-chamber under said floor and communicating therewith through a series of narrow slots; outlet-passages for the flame and a heating-chamber, and a pair of natural-draft air-passages close to and on the sides of the gas-chamber and having slots opening through said floor in close proximity to the gas-outlets, substantially as described.

3. A furnace for producer-gas comprising a flat-bottomed combustion-chamber a gas-chamber beneath and opening through said floor by narrow slots and air-chambers on the sides of the gas-chamber, fed by natural draft and opening into the combustion-chamber by narrow slots lying close to the gas-openings, said slots being converging and arranged in pairs staggered in position, substantially as described.

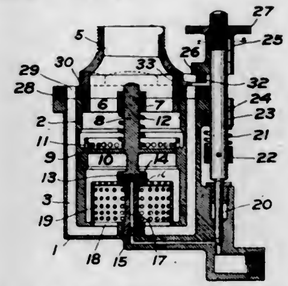
842,428. EGG-TESTER. PHILIP J. SCHREIBER, Toledo, Ohio. Filed Feb. 8, 1906. Serial No. 300,085.



Claim.—1. An egg-tester, comprising two stamped metal members each having their perimeters formed with inwardly-projecting flanges which lap when the members are closed together, said members having their flanges pivotally connected at one end and one of said members having an opening therethrough to receive an egg, collapsible folding walls connecting the sides of said members whereby to form an adjustable pocket therebetween, and a mirror disposed within said pocket in position to have the rays from said opening reflected therein.

2. An egg-tester, comprising two members pivotally connected at one end and having right-angled inwardly-projecting flanges at their edges, one of said members having an opening therethrough and both being adapted to have relative angular adjustment or closed compactly together one within the other, a mirror mounted within the member opposing the opening, and foldable walls connecting the sides of the two members within the flanges thereof to enable the parts to be opened to form a triangular member having the end thereof opposing the pivotal connection open or be closed together with the bellows inclosed therein.

842,429. CARBURETER FOR EXPLOSION-ENGINES. ALBERT B. SCHUYLER, Rochester, N. Y. Filed Aug. 2, 1905. Serial No. 272,394.



Claim.—1. In a carbureter, the combination with the casing having an air-inlet discharging into its bottom and an outlet an oil-supply extending up into said inlet, a foraminated cage extending from the upper end of the oil-supply across the air-inlet; the central portion of the cage around the oil-supply being imperforate, a spring-depressed suction-valve controlling the space above said cage to the outlet and provided on its under side with a valve of greater diameter than the oil-discharge opening to strike the oil on the imperforate top portion of the cage and splash it over the perforated portions.

2. The combination of a carbureter-casing, a spring-actuated valve therein adapted to be automatically opened by suction through said casing and having a supplementary valve thereon, an oil-inlet adapted to be closed by said supplementary valve and terminating in a plate, a perforated diaphragm extending across the air-inlet and to the edges of said plate, the said supplementary valve being of such area as to strike an extended imperforate surface on said plate to close the oil-inlet and also to distribute oil from said plate over said diaphragm.

3. The combination of a carbureter-casing, a cylindrical valve-seat therein, a ring of ports around the same, a valve-disk adapted to move in said seat from one side of said ports to the other side thereof, a spring normally tending to prevent passage of air through said ports by moving said disk to one of its positions, an oil-inlet in said casing, a perforated diaphragm covering the air-inlet to said casing, and means for distributing oil from the oil-inlet over said diaphragm.

4. The combination of a carbureter-casing, an air-inlet thereto, an oil-inlet, a perforated diaphragm in said casing, means for distributing oil from the oil-inlet over said diaphragm, a vertically-movable valve controlling said oil-inlet, a rotary horizontal valve controlling said air-inlet, a vertically-adjustable bar hinged to said air-inlet valve and adapted to be set at different angles thereto, and means projecting laterally from said oil-inlet valve over said bar, whereby the air-inlet and the oil-inlet may be simultaneously controlled by movement of said air-inlet valve.

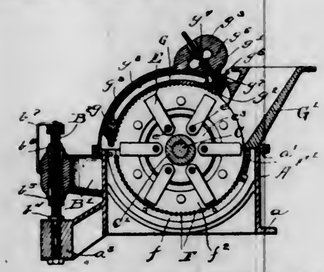
5. The combination with the cylindrical carbureter-casing having an outlet to the engine in its upper portion an air-inlet and an oil-inlet in the lower portion, a spring-depressed suction-valve controlling the passage through the

cylinder and provided on its lower side with a fixed stem having a disk-valve controlling the oil-discharge opening, a plate around the opening from which the oil is splashed by said disk-valve, and a foraminated extension of said plate receiving the oil splashed from said plate and exposing it to the entering air.

6. A carbureter comprising a casing having inner and outer walls, air-inlets extending down from the top of the casing between the two walls, to a bottom air-inlet, a horizontally-turning ring-valve on top of the casing and controlling said air-inlets, an oil-supply pipe extending up into the bottom of the casing and having a bell-shaped foraminated cage extending from its upper end and inclosing the bottom air-inlet, a spring-depressed suction-valve controlling the space above the cage and having a depending valve-stem to close the oil-passage and simultaneously splash the oil on the cage, a spring-pressed oil-controlling valve and means for actuating the valve from the air-valve.

7. A carbureter comprising a casing having inner and outer walls, air-inlets extending down from the top of the casing, between its two walls, to a bottom inlet, a bell-shaped cage over said bottom air-inlet, an oil-pipe discharging centrally on top of said cage and having a passage leading to one side of the casing, a rotary ring-valve on top of the casing and controlling the air-inlets, a vertical rod mounted in bearings on the side of the casing and having a needle-valve on its lower end closing the oil-passage, a spring pressing the rod down, a projection on the upper end of the rod overhanging the air-valve; a cam on the air-valve to engage said projection and lift the needle-valve, a spring-depressed suction-valve in the inner casing provided with a valve on its lower side controlling the oil-discharge opening.

842,430. PULVERIZER. PETER L. SIMPSON, Chicago, Ill., assignor to Herbert S. Simpson, Chicago, Ill. Filed July 24, 1905. Serial No. 270,967.



Claim.—1. In a crusher or disintegrator, a casing having an upper charging-aperture, a shaft extending horizontally through the casing, hammers pivoted radially on the shaft, a wear-plate in the top of the casing, a screen in the casing below the shaft and traversed by said hammers, levers journaled exteriorly of the casing, self-centering, resilient bearings thereon for said shaft and means for operating the levers to adjust the hammers vertically.

2. In a pulverizer, a rotatable shaft, hammers pivoted thereon at suitable intervals around the shaft, a casing forming a chamber adapted to receive the material to be pulverized and having a charging-aperture therein, a plurality of screen-bars arranged in an arc beneath said shaft, segment-plates rigidly engaging said bars in place, a wear-plate above the shaft, antifriction self-centering bearings for said shaft and pivotally-supported means carrying said bearings and adapted for raising and lowering the shaft.

3. In a pulverizer, a casing, a rotatable shaft extending centrally therethrough, hammers pivoted radially on the shaft at equal intervals longitudinally and also circumferentially of the shaft, an arc-shaped screen extending beneath the hammers, a vertically-adjustable, pivotally-supported yokes, antifriction resilient bearings thereon for said shaft external to the said casing, simultaneously-acting means for adjusting both bearings and the shaft and an indicator to measure the adjustment.

4. In a pulverizer, a metallic casing, a shaft extending centrally therethrough, a sleeve on said shaft having a flange on each end on the outer side of the casing, a plurality of hammers pivotally engaged on said sleeve, a screen extending at an arc beneath the sweep of the hammers, connected simultaneously-acting means for adjusting the hammers with respect to said screen, means for locking the same in adjusted position, and self-centering resilient bearings for said shaft carried on said adjusting means.

5. In a pulverizer, a casing, a shaft extending therethrough and journaled externally thereof on self-centering bearing, radial hammers yieldingly secured on the shaft, a pivoted yoke external to the casing and on which the shaft is journaled, and adjusting means therefor acting to simultaneously adjust both ends of the shaft with respect to the casing.

6. In a pulverizer, a casing affording a pulverizing-chamber and having a charging-aperture in its top, hammers arranged and adapted to operate within said casing, a screen on one side the hammers, a wear-plate on the other, a yoke supporting said hammers and pivotally supported intermediate the hammers and its outer end and means acting on the outer end of said yoke to shift the hammers in either direction.

7. In a pulverizer, a stationary frame affording a closed casing, a shaft extending horizontally and centrally therethrough, hammer-supports on the shaft, hammers pivoted to said supports radially of the shaft, a screen below and arranged in an arc approximately corresponding with the sweep of the hammers, a frame or yoke arranged externally of and pivoted with its ends disposed centrally at opposite sides of the casing, resilient coiled bearings for said shaft thereon and adjusting means acting also to secure said yoke in adjustment.

8. In a pulverizer, a casing affording a frame, a yoke pivoted to swing its arms vertically at each side the casing and centrally thereof, a shaft extending centrally through the casing and journaled in the yoke-arms, a plurality of coiled springs in said arm affording bearings for the shaft, hammer-supports on the shaft, hammers carried on said supports and a jack engaging the outer end of said yoke and adapted to adjust and lock the same in the desired adjustment.

9. In a pulverizer, a casing, a yoke pivoted near its ends, on each side the casing, a shaft extending centrally of the casing and journaled on the ends of the yoke, hammer-supports on the shaft, hammers pivoted to the said supports, in close relation longitudinally and swinging circumferentially, a screen arranged at an arc below and out of the path of the sweep of the hammers and a jack secured on the frame and engaging the yoke and acting to adjust both ends of the hammer-shaft simultaneously and hold the same in adjusted position.

10. In a pulverizer, a casing affording a material-chamber, a yoke pivoted with its arms on each side of the casing, a shaft extending centrally through the casing and journaled to the ends of the yoke, yielding bearings in said arms for said shaft, a peripherally-ribbed sleeve on the shaft, hammers pivoted between the ribs, a screen in the casing arranged below and in suitable proximity to the sweep of the hammers, a wear-plate above the hammers, adjusting means pivoted thereon, a jack engaged on the yoke and acting to secure the same in adjustment and adapted to elevate or depress the hammer-shaft and lock the same in the adjusted position.

11. In a pulverizer, a casing affording a material-chamber, a yoke having an arm on each side the casing and pivoted on the casing to simultaneously move both its arm ends vertically, a shaft extending centrally through the casing and journaled on the ends of the yoke-arms, antifriction resilient self-centering bearings therefor, a peripherally-ribbed sleeve rigidly secured on the shaft, pintles extending through the ribs parallel with the shaft, a screen in said casing and arranged in suitable proximity with the sweep of the hammers, a hollow wear-plate similarly but oppositely disposed in the casing, and indicating and adjusting mechanism acting upon the yoke to shift the hammers toward and from the wear-plate and the screen and to lock the same in adjustment while the hammers are in motion.

12. In a pulverizer, a casing having a charging-aperture and affording a material-chamber, a shaft extending centrally therethrough, hammer-supports on the shaft, radially-swinging hammers pivoted to the said supports, a screen arranged below and in suitable proximity to the sweep of the hammers, a wear-plate adjustable to and above the hammers, a threaded shaft pivoted thereon and adjustably engaged on the casing, a centrally-pivoted frame or yoke arranged externally of the casing and provided with boxes affording an antifriction self-centering bearing for said shaft and rotatable means for securing the yoke in the desired adjustment.

13. In a pulverizer embracing a casing open at the bottom and having a charging-aperture in its top, a vertically-movable shaft extending horizontally and centrally therethrough, hammer-supports rigidly but removably secured on the shaft, parallel equidistant pintles in the hammer-supports, hammers pivoted on the pintles, a screen arranged below and in proximity to the sweep of the hammers, an adjustable wear-plate above the hammers a vertically-tiltable frame or yoke pivoted intermediate its ends externally of the casing, antifriction-bearings on the ends of the arms thereof for the shaft and registering adjusting means for said yoke or frame acting to hold the shaft and hammers in the desired adjustment.

14. In a pulverizer, a casing open at the bottom and having a charging-aperture, a shaft extending horizontally and centrally therethrough, ribbed hammer-supports on the shaft, parallel equally-distanced pintles extending through the ribs, hammers pivoted on the pintles and between the ribs, a screen arranged below the sweep of the hammers, an adjustable wear-plate above the hammers, an adjustable tilting frame on which the shaft is journaled and whereby the hammers are adjusted to the screen and the wear-plate while the hammers are in motion and means shifting and locking said frame in the desired adjustment.

15. The combination with a vertically-adjustable shaft of a casing inclosing the same and having a charging and a discharging aperture therein, a sleeve rigidly engaged on said shaft and having a flange on each end thereof engaging on the outer sides of the casing, radial hammers pivoted on the sleeve and resilient roller-bearings for said shaft.

16. The combination with a casing having a discharge and a charging opening therein, of a resiliently-supported shaft extending centrally and horizontally therethrough, a tilting yoke having a centrally-pivoted arm on each side the casing and on the ends of which the shaft is journaled, radial hammers on the shaft, a screen below and a wear-plate above the hammers, and a vertically-arranged screw-threaded stud secured to the casing and extending loosely through the crotch of the yoke and nuts on said stud above and below the yoke acting to hold the same in adjustment.

17. In a pulverizer, the combination with a casing having a discharge and a charging aperture, of a hammer-shaft extending centrally therethrough, a plurality of closely-arranged bars extending parallel with the shaft and disposed concentric therewith and acting with the hammers to pulverize the material inserted in the casing, a tiltable frame external to the casing, antifriction-bearings thereon for said hammer-shaft, a screw-threaded stud extending through the tiltable frame and nuts on the said stud above and below the frame acting to hold the frame rigidly in adjustment with respect to said bars.

18. In a pulverizer, the combination with a horizontally-arranged vertically-adjustable hammer-bearing shaft and its hammers, of a casing containing and surrounding the hammer-bearing portion of the shaft, a suitably-supported vertically-tiltable frame on which said shaft is journaled parallel with the axis of the frame, and provided centrally with an aperture of greater diameter at its ends than at its center, an upright stationary screw-threaded stud extending loosely through the said aperture and nuts on said stud, respectively above and below said frame.

19. In a crusher or disintegrator, the combination with the horizontal vertically-adjustable hammer-bearing shaft and hammers pivoted thereon, of a casing containing and surrounding the hammer-bearing portion of said shaft, a vertically-tiltable frame external to the casing and having a central aperture therethrough tapering toward its center, bearings thereon for said hammer-shaft remote from and parallel to the axis of the frame, a stationary upright screw-threaded stud secured to the casing and extending loosely through said aperture, nuts on the stud respectively above and below the frame and an indicator on the stud extending in proximity to a scale on the frame.

20. In a pulverizer, a revoluble shaft and hammers thereon, of means for revolving the same, a casing forming a chamber wherein the said hammers operate and provided at one side of the shaft with a charging-aperture and at the bottom with a discharge-opening, a stationary screen in the casing arranged below and in suitable proximity with the sweep of the hammers, a vertically-tiltable frame pivoted intermediate its ends on the casing, bearings for said shaft thereon parallel to the axis of the frame, means for adjusting and securing the said frame in the desired adjustment, a curved wear-plate arranged above and in proximity to the sweep of the hammers, a pivoted bearing for said wear-plate at one end thereof and an adjustable bearing at the other, and means for securing the said wear-plate in the desired adjustment against the outward thrust.

21. In a machine of the class described the combination with a casing of a transverse shaft therein, a sleeve rigidly engaged on said shaft and provided with peripheral flanges on the outer sides of the casing, a plurality of hammers pivotally engaged on said sleeve, a segment-shaped wear-plate pivoted in said casing above the hammers, a lug on said casing, provided with an aperture therethrough opening through the casing at the front end of said plate, a threaded shaft pivoted on the front end of said plate and loosely engaged in said aperture, set-nuts thereon adapted to adjust said plate with respect to said hammers and a set-screw engaged in said casing and bearing on the front end of the plate.

22. In a disintegrator, a shaft arranged in a horizontal plane, hammer-supports on the shaft, hammers pivoted to said supports, a casing containing the hammers and provided at one side of the shaft with a charging-aperture and having a bottom discharge, a standard on each side of said casing, a yoke pivoted thereon, bearings in the ends of said yoke for said shaft, a rearwardly-directed leg on the casing, an upwardly-directed threaded shaft in said leg adapted to extend through an aperture in said yoke and set-nuts on said shaft engaging above and below the yoke.

23. In a disintegrator, the combination with a horizontally-rotating hammer-bearing shaft, of a casing containing and surrounding the hammer-bearing portion thereof and provided at one side of the shaft with a charging-aperture and having a bottom discharge, a screen rigidly engaged beneath the hammers, a yoke pivotally engaged without the casing, bearing-boxes on the ends thereof, a plurality of coiled bearing members in said boxes adapted to resiliently support said shaft, an adjusting-shaft extending through an aperture in said yoke and means thereon adapted to hold the yoke in adjusted position.

24. In a device of the class described the combination with a casing, of a shaft extending transversely therethrough, a plurality of hammers pivoted on said shaft, a screen beneath the hammers and concentric with said shaft, a slotted standard on each side of said casing, a yoke pivoted in said standards and having its ends projecting beyond the same, resilient antifriction bearings on said yoke ends of said shaft, a rearwardly-directed lug on said casing, a vertical adjusting-shaft rigidly engaged in said leg and extending through an aperture in said yoke and means on said adjusting-shaft adapted to hold the same in adjusted position.

25. In a pulverizer the combination with a casing having a bottom discharge and a charging-aperture, of a slotted boss thereon, a shaft extending centrally through the casing, hammers hinged to the shaft and revolving therewith,

stationary screen-bars below the sweep of the hammers, segment-plates rigidly engaged on the casing and adapted to hold said bars in place, a hollow wear-plate above the sweep of the hammers, a steam connection therein, a pivot connection between one end of the wear-plate and the casing, a bolt pivoted to the other end of said wear-plate and extending loosely through the aforesaid boss and through the slot therein and nuts on the bolt within the said slot.

26. In a pulverizer of the class described the combination with the casing and the hammer-bearing shaft arranged rotatably therein, of a chambered wear-plate having a roughened inner face and arranged within the casing on an arc approximately coinciding with the sweep of the hammer ends, means for adjusting said wear-plate to or from the hammers comprising a bolt pivoted on the plate, an apertured boss on the casing through which said bolt extends and having a transverse slot therein, nuts in said slots engaging the bolt and steam connections with the chamber in said wear-plate.

27. In a pulverizer of the class described the combination with a casing having an aperture in each side, of a shaft extending transversely through said apertures, a sleeve rigidly engaged thereon and having a flange on each end closing said aperture, hammers pivoted on said sleeve, a pair of segment-bars on each side of the casing, screen-bars rigidly engaged between said bars, levers supporting said shaft and means for adjusting the same to raise and lower the hammers.

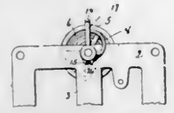
28. In a machine of the class described, a casing having a discharge-aperture and a charging-aperture, a yoke pivoted centrally with its ends on each side the center of the casing, a hammer-shaft journaled on the ends of said arms, a jack acting to swing said yoke to adjust said shaft in the casing, hammers arranged in longitudinal lines on the shaft and pivoted to swing circumferentially thereof, a plurality of closely-arranged rods affording a screen below the hammers, a wear-plate arranged above the hammers and adjustable with respect thereto and affording a steam-chamber and steam connections opening into said wear-plate.

29. In a machine of the class described a casing, a vertically-adjustable hammer-shaft therein, hammers pivotally engaged on said shaft, a pair of segment-bars rigidly engaged on each side of the casing, a plurality of screen-bars rigidly engaged therebetween and means for adjusting the hammers with respect to said screen comprising a yoke affording bearings for said sleeve, a vertical shaft extending through said yoke and set-nuts thereon adapted to support the yoke in adjusted position.

30. In a machine of the class described, a casing having a discharge-opening in the bottom and an upper charging-aperture, a hammer-shaft journaled centrally therein, hammers thereon revoluble therewith, a stationary screen comprising closely-arranged bars extending from the charging-aperture around approximately one-half the casing below the hammers, segment-plates rigidly engaged in the casing and adapted to hold said bars in place, a wear-plate extending from the screen to the charging-aperture above the hammers, a steam-chamber therein, means for adjusting the wear-plate to the hammers and means adjusting the hammer-shaft with its hammers bodily to and from the screen and wear-plate comprising a yoke affording bearings for said shaft, pivotal supports for said yoke, a fixed shaft extending through the yoke and means thereon adapted to hold the yoke in adjusted position.

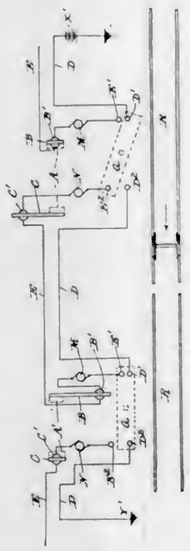
842,431. REGULATOR FOR TIMEPIECES. SAMUEL SLOAN, Waterbury, Conn., assignor to The Waterbury Clock Co., Waterbury, Conn., a Corporation. Filed Mar. 12, 1906. Serial No. 305,433.

Claim.—1. The combination with a frame-plate having a central portion, of a regulator above said central portion and adapted to be pivotally secured to the back plate and consisting of a hub, an upwardly-extending bowed arm, an inwardly-extending spring-receiving arm, a spring fender or guard, and an operating-arm formed independent of and interlocked with the said hub whereby the turning of the operating-arm will turn the spring-receiving arms, substantially as described.



2. The combination with a frame-plate having a central portion, of a regulator adapted to be pivotally secured to the back plate above said central portion and consisting of a hub, an upwardly-extending bowed arm, an inwardly-turned spring-receiving arm and downwardly-extending fender said hub formed with an outwardly-projecting lug and an operating-arm including a notched head for engagement with said lug, said lug extending upward when turned to receive the spring-receiving arms, substantially as described.

842,432. ELECTRIC SIGNAL FOR RAILWAYS. HORATIO SMELSER, Ashton, Nebr. Filed Oct. 7, 1905. Serial No. 281,758.



Claim.—1. In electric signals for railways, head-end and rear-end signals arranged at intervals along the track, an electric motor for operating each signal independently of the other signals, branch electric conductors extending between said signals with each conductor connected with the motor of a rear-end signal and with the motor of a head-end signal, a main electric conductor extending along the track, and switch mechanism operating to complete the circuit from said main conductor through one branch conductor and simultaneously operating to break the circuit from the main conductor through another branch conductor.

2. In electric signals for railways, head-end and rear-end signals arranged at intervals along the track, an electric motor for operating each signal independently of the other signals, branch electric conductors extending between said signals with each conductor connected with the motor of a rear-end signal and with the motor of a head-end signal, a main electric conductor extending along the track, switch mechanism operating to complete the circuit from said main conductor through one branch conductor and simultaneously operating to break the circuit from the main conductor through another branch circuit, and train-operated mechanism for moving said switch mechanism.

3. In electric signals for railways, head-end and rear-end signals arranged at intervals along the track, an electric motor for operating each signal independently of the other signals, branch electric conductors extending between said signals with each conductor connected with the motor of a rear-end signal and with the motor of a head-end signal and the contiguous conductors having adjacent terminals, a main electric conductor extending along the track and having terminals adjacent to the terminals of said branch conductors, and a switch continuously in electric contact with one of the terminals of said main conductor and operating to make or to break the circuit through the other terminal of the main circuit and through the adjacent terminals of the branch conductors.

4. In electric signals for railways, head-end and rear-end signals arranged at intervals along the track, an electric motor for operating each signal independently of the other signals, branch electric conductors extending between said signals with each conductor connected with the motor of a rear-end signal and also with the motor of a head-end signal and the contiguous conductors having adjacent terminals, a main electric conductor extending along the track and having terminals adjacent to the terminals of said branch conductors, a switch continuously in electric contact with the one of the terminals of said main conductor, and train-operated mechanism for moving said switch to complete the circuit through the other terminal of the main conductor or through the adjacent terminals of the branch conductors.

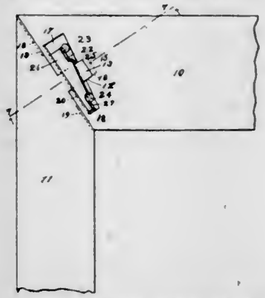
5. In electric signals for railways, electrically-operated signals arranged at intervals along the track, branch electric conductors extending along the track and each conductor connected with a head-end and with a rear-end signal, a main electric conductor extending along the track, and switch mechanism actuated by a passing train to complete the circuit through the branch conductor in advance of the train and to interrupt the circuit through the branch conductor in the rear of the train.

6. In electric signals for railways, head-end and rear-end signals arranged at intervals along the track, an electric motor for each signal, branch electric conductors extending between the signals with each conductor connected with the motor of a head-end signal and with the motor of a rear-end signal, a main electric conductor extending along the track, and switch mechanism actuated by a passing train to complete the circuit through the branch conductor in advance of the train and to interrupt the circuit through the branch conductor in the rear of the train.

7. In electric signals for railways, head-end and rear-end signals arranged at intervals along the track, an electric motor for each signal, branch electric conductors extending between the signals with each conductor connected with the motor of a head-end signal and with the motor of a rear-end signal, a main electric conductor extending along the track, switch mechanism actuated by a passing train to complete the circuit through the branch conductor in advance of the train and to interrupt the circuit through the branch conductor in the rear of the train, catch mechanism for holding the switch mechanism in the position to which it has been moved while the branch conductor in advance of the train is in circuit, and tripping mechanism operated by the interruption of the circuit in the branch conductor in the rear of the train for disengaging the catch mechanism to permit the switch mechanism to return to its original position.

8. In electric signals for railways, a tower, a signal-arm hinged on said tower, an electric lamp on said signal-arm, an electric motor for raising said signal-arm, a branch conductor connected with said motor and said lamp, a main conductor, switch mechanism actuated by a passing train for completing the circuit from said main conductor through said branch conductor, catch mechanism for holding the switch mechanism in the position to which it has been moved, tripping mechanism for disengaging the catch mechanism from the switch mechanism, and springs for returning the switch mechanism to its original position after the latter has been released from the catch mechanism.

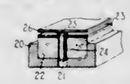
842,433. FOLDING SQUARE. JOHN SMITH, Chicago, Ill. Filed Aug. 6, 1906. Serial No. 329,283.



Claim.—1. A folding square consisting of two members each having its meeting edge mitered, one of said members having a rectangular opening in its mitered portion and a depressed recess intersecting said opening, the other member having on its mitered edge a rectangular-shaped tongue provided with a tapered dovetailed groove, and a wedge-shaped dovetailed key movably located in the depressed recess and said groove, substantially as described.

2. A folding square consisting of two members each having its meeting edge mitered, one of said members having in its mitered portion a rectangular opening and a depressed recess intersecting said opening, a headed bolt located at one side of the depressed recess on each side of said opening, a rectangular-shaped tongue on the mitered portion of the other member having a tapered and dovetailed transverse groove, and a tapered dovetailed and recessed key movably located in the said depressed recess and said groove of the tongue, substantially as described.

842,434. TYPE-WRITING MACHINE. BURNHAM C. STICKNEY, Elizabeth, N. J., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Aug. 4, 1903. Serial No. 168,245.



Claim.—1. In a type-writing machine, the combination of a series of type-bars, a type-basket on which said type-bars normally rest and which comprises a pad in which a plurality of metal pieces are seated and by which they are supported, each metal piece receiving direct support from the pad.

2. In a type-writing machine, the combination of a series of type-bars, a type-basket on which said type-bars normally rest and which comprises a rigid support, a flexible or resilient pad mounted on said support and independent metallic pieces embedded in said pad and spaced apart longitudinally of the pad, each metal piece receiving direct support from the pad.

3. In a type-writing machine, the combination of a series of type-bars, a type-basket on which said type-bars normally rest and which comprises a rigid support, a flexible or resilient pad mounted on said support, independent non-resilient pieces embedded in said pad and supported thereby and a sheathing over the face of said pad and which receives the impact of the type bars during the retrograde movements thereof.

4. In a type-writing machine, the combination of a series of type-bars, a type-basket on which said type-bars normally rest and which comprises a felt pad having a series of metal pieces embedded therein and supported thereby, and a leather covering on which the type-bars rest.

5. In a type-writing machine, the combination of a resilient pad, and metal pieces which are seated friction-tight in the pad and are adapted to move therein by impact of the type-bars.

6. In a type-writing machine, the combination of a resilient pad, metal pieces which are seated friction-tight in

the pad and are adapted to move therein, and a facing for said metal piece that is independent of said pad and is spaced apart therefrom.

7. In a type-writing machine, the combination of a pad having openings therein, metal pieces that are carried by the pad and are seated friction-tight and are guided in their movement in said openings, and a leather facing-strip that covers all of said metal pieces and which is adapted to receive the impact of the type-bars.

8. In a type-writing machine, the combination of a resilient pad having transverse openings therein, and metal pegs seated in said openings and adapted to receive the impact of the type-bars in the direction of the lengths of said pegs.

9. In a type-writing machine, the combination of a series of type-bars, a pad having transverse openings therein that correspond in number to the number of type-bars, and a metal peg that is seated in each of said openings and each of which receives the impact of a type-bar.

10. In a type-writing machine, the combination of a series of type-bars, a pad having transverse openings therein that correspond in number to the number of type-bars, a metal peg that is seated in each of said openings and each of which receives the impact of a type-bar, and a flexible strip which covers all of said pegs.

11. In a type-writing machine, the combination of a series of type-bars, a rigid support which has a series of perforations therein, a pad seated on said rigid support, and having perforations which register with the openings in said rigid support, and a series of metal pegs, one of which is situated in each of the openings in the pad.

12. In a type-writing machine, the combination of a series of type-bars, a rigid support which has a series of perforations that correspond in number to the type-bars, a pad seated on said rigid support and having perforations which register with the openings in said rigid support, and a series of headed metal pegs, one of which is situated in each of the openings in the pad and a flexible covering-strip for the heads of said pegs.

13. In a type-writing machine, the combination of a series of type-bars, a rigid support, a pad secured to said support, and having a series of headed metal pegs that correspond in number to the type-bars and each of which extends longitudinally in the plane of movement of a type-bar and with the heads thereof extended toward the type-bars.

14. In a type-writing machine, the combination of a series of type-bars, a rigid support, a pad secured to said support and having a series of transverse openings therein that correspond in number to the type-bars, a headed metal peg heated in each of said openings and extending longitudinally in the plane of a type-bar and with the head thereof extending toward the associated type-bar, and a flexible covering for the heads of said pegs and against which the type-bars are adapted to strike.

15. In a type-writing machine, the combination of a series of segmentally-arranged type-bars, a segmental pad, and a series of radiating metallic pieces supported by said pad and each adapted to receive the impact of a type-bar.

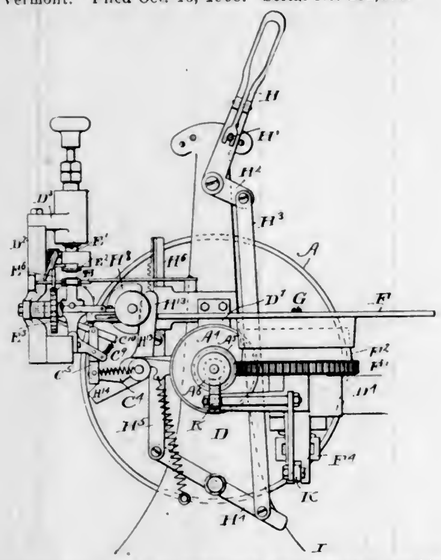
16. In a type-writing machine, the combination of a series of segmentally-arranged type-bars, a segmental rigid support which is substantially U-shaped in cross-section, a pad seated in said support, and metallic pieces embedded in said pad and supported thereby, each metallic piece being supported directly by said pad.

17. In a type-writing machine, the combination of a series of segmentally-arranged type-bars, a segmental rigid support which is substantially U-shaped in cross-section, a pad seated in said support and provided with a series of radiating openings, a headed metal peg that is seated in each of said openings and with the head thereof extending toward an associated type-bar, and a flexible strip that extends over the heads of said pegs and which is independent of the pad.

18. In a type-writing machine, the combination of a pad, a leather facing on said pad, transverse registering openings in the pad and its leather facing, and headed pegs seated in said openings with the heads thereof situated outside of leather facing.

19. In a type-writing machine, the combination of a pad, a leather facing on said pad, transverse openings in the pad and its leather facing, headed pegs seated in said openings and with the heads thereof situated outside of leather facing and a flexible facing-strip that covers the heads of said pegs.

842,435. MACHINERY FOR MEASURING AND MARKING FABRICS. ANDREW H. SUTTON, New York, N. Y., assignor, by mesne assignments, to Parker and Woolson Machine Company, Springfield, Vt., a Corporation of Vermont. Filed Oct. 16, 1905. Serial No. 282,878.



Claim.—1. A fabric measuring and marking machine comprising a rotating member adapted to be moved relatively to the face of the fabric so as to serve as a unit of measure, a shaft fixed to said measuring-unit member and arranged to be rotated therewith, cam mechanism carried by said shaft and connections between the shaft and the cam mechanism adapted to secure rotation of the latter with the former, recording devices, connections between the cam mechanism and the recording devices whereby the motion of the cam mechanism is adapted to advance said recording devices, means for retaining the recording devices in their advanced position and means adapted to disconnect the said cam mechanism from said shaft and release the retaining means of the recording devices and permit the latter to be returned to their initial position, retracting means adapted to return the cam mechanism to its initial position and detents arranged to arrest the cam mechanism and recording devices at such initial positions.

2. A fabric-measuring machine comprising a member adapted to be moved relatively to the fabric so as to serve as a unit of measure, a shaft so connected with said measuring-unit member as to be rotated by the said relative movement thereof, cam mechanism connected with and operated by said shaft, a series of recording-wheels comprising a fraction-wheel and one or more integer-wheels, pawl-and-ratchet connections so arranged that the said wheels may be advanced by the motion of the cam mechanism, the advancing connections of the fraction-wheel being separate from and independent of those belonging to the integer-wheels, separate retaining devices adapted to hold each wheel in its advanced position, separate means for releasing the pawl-and-ratchet mechanism and retaining devices of each wheel, and a movable element adapted to simultaneously actuate each of said separate releasing devices.

3. A fabric-measuring machine comprising a movable measuring-unit member, a shaft so connected as to be rotated by the motion of said measuring unit, an indicating device, connections between said shaft and said indicating device whereby the motion of the former will be transmitted to the latter, cam mechanism connected with the shaft and adapted to be moved thereby, recording mechanism so connected with the cam mechanism as to be advanced by the motion of the latter, and means for simultaneously releasing the indicating mechanism, the cam mechanism and the recording devices from their several connections whereby they may be each returned to their initial position.

4. A fabric-measuring machine comprising a movable measuring-unit member, a shaft connected therewith and adapted to be rotated by the motion thereof, an indicating device connected with said shaft and adapted to be advanced thereby, a plurality of cam-surfaces connected with said shaft, a series of recording devices mounted on the machine-frame, connections between certain of the recording devices and certain of the cam-surfaces whereby the motion of the latter actuates the former and independent connections between certain other of the recording devices and certain other of the cam-surfaces, separate retaining devices for each of said recording devices, a rotatable shaft journaled adjacent to said recording devices, tripping members adapted to be advanced against said retaining devices and release the same, and means carried by said rotatable shaft adapted to advance said tripping means when said shaft is rotated.

5. A fabric-measuring machine comprising a measuring-unit member, a series of recording devices, pawl-and-ratchet mechanism for advancing the same and connections between the measuring-unit element and the pawl-and-ratchet mechanism whereby the latter will be operated upon the motion of the former, said recording devices being so mounted that they are capable of movement in a reverse direction so as to return to their initial position, detents arranged to oppose such reverse movement, tripping means adapted to be moved against the detents and throw them out of operation, tripping means adapted to be moved against the pawl connections so as to trip said pawls clear of the ratchets, a rotatable shaft journaled adjacent to said tripping devices, and provided with projections rigidly connected therewith adapted to advance said tripping means upon the rotation of said shaft.

6. A fabric-measuring machine comprising a member adapted to be moved relatively to the fabric so as to serve as a unit of measure, a hollow-ended shaft connected with said measuring-unit member so as to be rotated by the movement thereof, a worm carried by said shaft, a worm-wheel journaled in a bracket on the machine-frame and meshing with said worm, an indicating-disk supported by and having a cone clutch connection with said worm-wheel, cam mechanism loosely mounted on said shaft, a cone-clutch mounted on said shaft and adapted to coöperate with a member on the cam mechanism and to transfer rotary motion to the latter, a spring interposed between the worm fixed to the shaft and the last-mentioned cone-clutch and adapted to maintain the latter in engagement with the said member of the cam mechanism, a rod mounted in the hollow end of said shaft, a key passing through a slot in the shaft and connecting the cone-clutch with the said rod, a hand-lever secured to the framework of the machine, and connecting mechanism adapted upon the movement of the hand-lever to throw the indicating-disk out of engagement with the clutch carried by the worm-wheel and to retract the rod carried in the hollow shaft so as to release the clutch operating the cam mechanism.

7. A fabric measuring and marking machine comprising a movable measuring unit, a shaft connected with said unit and adapted to be rotated by the movement thereof, cams carried by said shaft and connected therewith, sliding arms mounted on a shaft projecting from the frame, springs connected with said sliding arms in such manner as to cause their inner ends to normally bear against the cam-surfaces, each of said sliding arms being pivotally connected at its outer end to a rocking lever, the rocking levers carrying pivotally-supported pawls, recording-wheels having secured thereto ratchets and mounted on a shaft in such manner that the said pawls may engage said ratchets, spring-pressed dogs mounted on the frame and positioned to engage such ratchets, a plate slidably mounted in the frame behind said dogs and provided with lugs adapted to trip the dogs when the plate is advanced toward the same, and means for advancing said sliding plate.

8. A fabric measuring and marking machine comprising a measuring-unit member, a shaft connected therewith and adapted to be rotated by the movement thereof, cams loosely mounted on said shaft and connected therewith by means of a cone-clutch, a compression-spring mounted on the shaft and adapted to hold said clutch in gear, a sliding rod connected with said clutch whereby the latter may be thrown out of gear upon the reciprocation of the rod against the force of the spring, recording-wheels mounted on a shaft carried by the frame, ratchets fixed to said recording-wheels, pawls adapted to coöperate with said ratchets, lever connections between said pawls and the cam-surfaces whereby the rotation of the latter serves to advance the recording-wheels, spring-pressed dogs mounted so as to engage said ratchets thereby preventing backward movement on the part of the recording-wheels, tripping means for said dogs, a hand-lever mounted on the machine-frame, and connections between said hand-lever, the sliding rod to which the cone-clutch is attached, and the means for tripping the said retaining-dogs whereby, through movement of the hand-lever, the said clutch is thrown out of gear and the said dogs are tripped.

842,436. FIREARM. REGINALD C. THOMAS, Chesuncook, Me. Filed Aug. 21, 1906. Serial No. 331,434.

Claim.—1. In a firearm, a stock divided into two sections, devices for adjustably connecting said sections, and a locking-plate separate from said connecting devices for locking the sections in any desired position.

2. In a firearm, a stock divided into two sections, means for adjustably connecting said sections, means for preventing longitudinal separation of the sections, and a locking-plate for limiting the movement of one section relatively to the other.

3. In a firearm, a stock divided into two sections, devices flush with the surface of the stock for adjustably connecting the sections, and a locking-plate within the stock hidden from view for locking said sections.

4. In a firearm, a stock divided into two sections, mortise-plates on one of said sections, tenon-plates on the said other section, and a separate locking-plate for adjustably connecting said sections.

5. In a firearm, a stock divided into two sections, mortise-plates on one of said sections, tenon-plates on the said other section, a locking-plate between said plates, and means for adjusting said locking-plate.

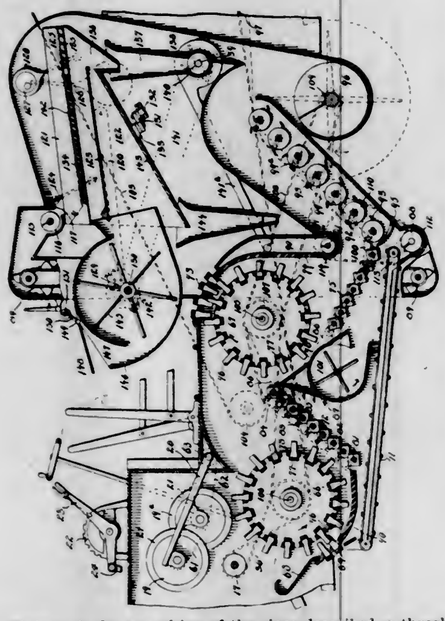
6. In a firearm, a stock divided into two sections, mortise-plates on one of said sections, tenon-plates on the said other section, teeth on one of said mortise-plates, a locking-plate provided with teeth for engaging said teeth on said mortise-plates, means for adjusting said locking-plate, and means for connecting said parts.

7. In a firearm, a stock divided into two sections, recessed mortise-plates on one of said sections, tenon-plates on the other section for engaging the recesses in the mortise-plates, teeth on the inside of one of said mortise-plates, a locking-plate provided with teeth for engaging said teeth on the mortise-plate, and means for adjusting said locking-plate.

8. In a firearm, a stock divided into two sections, mortise-plates on one of said sections, tenon-plates on the said other section, a locking-plate between said mortise and tenon plates, and means for adjusting said sections without separating the same.

9. In a firearm, a stock divided into two sections, outer plates on each of said sections, a locking-plate between said outer plates, and means for adjusting said locking-plate.

842,437. THRESHER AND CLEANER. GEORGE W. TICE, Riley Center, Mich., assignor of one-half to Allen K. Tice, Larimore, N. D. Filed Nov. 23, 1905. Serial No. 288,763.



Claim.—1. In a machine of the class described, a threshing-cylinder having a coöperating concave, a screen beneath said cylinder, a secondary threshing-cylinder, a conveyer-grate disposed beneath said cylinders, a conveyer-grate at the discharge from said secondary cylinder, a straw-conveyer disposed at the discharge from said last-mentioned grate, and a conveyer-belt extending beneath said screen and both conveyer-grates.

2. In a machine of the class described, a threshing cylinder, having a coöperating concave, a screen beneath said cylinder, a conveyer disposed beneath said screen, a secondary threshing-cylinder, a conveyer-grate disposed beneath said cylinders and discharging upon said conveyer, a conveyer-grate at the discharge from said secondary cylinder, straw-conveying rakes disposed at the discharge from said last-mentioned grate, and a fan disposed at the front of said last-mentioned grate to force air therethrough.

3. In a machine of the class described, a plurality of threshing-cylinders each adapted to thresh grain of different sizes, means for feeding material from one of said cylinders to the other, a screen beneath one of said cylinders, a vertically-disposed screen at the rear of the other cylinder, and a conveying-belt extending beneath both of said cylinders.

4. In a machine of the class described, a threshing-cylinder in combination with a coöperating concave at its upper portion, means for feeding material to said cylinder, and a vertically-disposed screen at the discharge side of the cylinder comprising a prolongation of the concave.

5. In a machine of the class described, a primary undershot threshing-cylinder in combination with a secondary overshot cylinder, means for feeding material from one of said cylinders to the other, a screen disposed beneath the primary cylinder, a conveying-belt beneath said screen, and a conveying-chamber having a screen-wall at the rear of the secondary cylinder.

6. In a device of the class described, a threshing mechanism, means for conveying the grain therefrom, a straw-conveyer extending from said threshing mechanism, a suction conveying-fan communicating with said straw-conveyer, a cleaner having a closed casing communicating with said fan, a cleaner-fan having communication with the straw-conveying fan through said casing, a huller mechanism disposed in communication with said cleaner-fan, and means to return the material from said huller to said cleaner.

7. In a machine of the class described, a threshing mechanism, means for conveying the grain therefrom, an elevator, a straw-conveyer extending from said threshing mechanism, a suction conveying-fan communicating with said straw-conveyer, a cleaner disposed at the upper end of said elevator and having a casing communicating with said fan, a cleaner-fan having communication with said straw-conveying fan through said casing, a huller mechanism disposed in communication with said cleaner, means to return the material from said huller to said elevator, and means for automatically controlling the air-inlet to said cleaner-fan to regulate the blast thereto.

8. In a machine of the class described, a plurality of threshing-cylinders, a conveying-reel disposed between said cylinders, a vertically-disposed screen at the discharge from the last cylinder, and a conveying-belt disposed beneath said reel.

9. In a machine of the class described, a primary undershot and secondary overshot threshing-cylinder, a conveying-reel between said cylinders, a secondary conveying-reel disposed beneath the discharge from the overshot cylinder, a conveying-belt disposed beneath both of said cylinders, a straw-conveyer disposed at the discharge of the secondary reel, and means for simultaneously operating said reels and straw-conveyer.

10. In a machine of the class described, a plurality of threshing-cylinders, a conveying-grate disposed between said cylinders, a secondary conveying-grate disposed at the discharge from the last cylinder, a conveying-belt disposed beneath both of said cylinders, a straw-conveyer disposed at the discharge of the said secondary grate, means for simultaneously operating said reels and straw-conveyer, means to drive an air-blast through the secondary grate, and a suction-fan disposed in communication with said straw-conveyer.

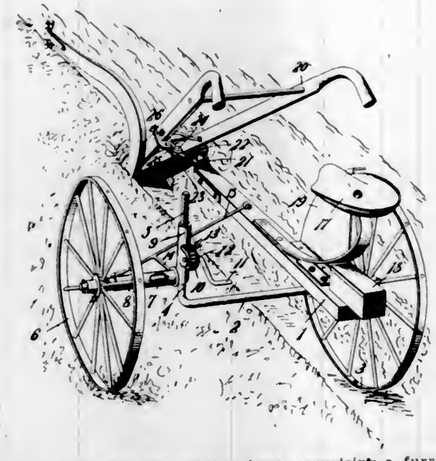
11. In a machine of the class described, a plurality of threshing-cylinders, a conveying-grate disposed between said cylinders, a secondary conveying-grate disposed at the discharge from the last cylinder, a conveying-belt disposed beneath both of said cylinders, a straw-conveyer disposed at the discharge of the secondary grate, means for simultaneously operating said reels and straw-conveyer, means to drive an air-blast through the secondary grate, a suction-fan disposed in communication with said straw-conveyer, an elevator from said endless conveyer, a cleaner in communication with said elevator and with the suction-fan of the straw-conveyer, and a cleaner-fan communicating with said cleaner and suction-fan.

12. In a machine of the class described, two series of grates each series consisting of a plurality of rotating grates each having arms extending from the journals thereof, a bar connecting the bottom grate of each series of grates, and a pitman extending between the bars of each series.

13. In a machine of the class described, two series of grates each series consisting of a plurality of rotating grates each having arms extending from the journals thereof, a bar connecting the bottom grate of each series of grates, a pitman extending between the bars of each series, a rotary toothed straw-conveyer comprising a series of fingers having independent shafts each provided with lever-arms extending therefrom and connected to a universal driving-bar, and a link connection between said bar and the bar of a series of grates.

842,438. SULKY ATTACHMENT FOR PLOWS. JAMES W. TURNER, Shelbyville, Mo. Filed July 19, 1906. Serial No. 326,916.

Claim.—1. A sulky attachment for plows comprising a furrow-wheel, an axle supported thereby and having an upturned toothed end, a box slidably mounted on the upturned end of the axle, a sleeve extending at right angles therefrom, a ground-wheel supporting said sleeve, a gear carried by the box and engaging the toothed end of the axle, means for manually rotating the gear, means for holding the gear against rotation in one direction, a beam carried by the axle and extending forward therefrom, and a brace connecting the beam and sleeve.



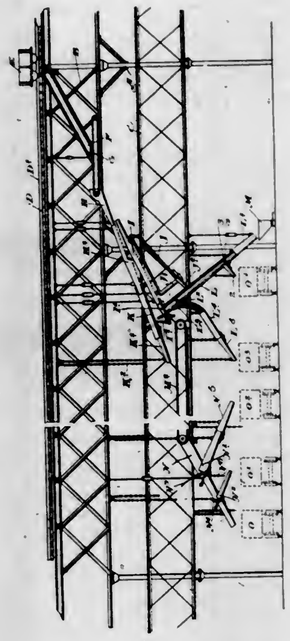
2. A sulky attachment for plows comprising a furrow-wheel, an axle supported thereby and having an upturned toothed end, a box slidably mounted on the upturned end of the axle, a sleeve extending at right angles therefrom, a ground-wheel supporting said sleeve, a gear carried by the box and engaging the toothed end of the axle, means for manually rotating the gear, means for holding the gear against rotation in one direction, a beam carried by the axle and extending forward therefrom, a brace connecting the beam and sleeve, a bracket at the front end of the beam, a longitudinally-movable bolt therein, a plow-handle clamp, and a pivotal connection between said clamp and the bolt.

842,439. COAL-MINE TIPPLE AND SCREEN PLANT. WILLIAM R. WILSON, Toronto, Ontario, Canada. Filed June 23, 1905. Serial No. 266,691.

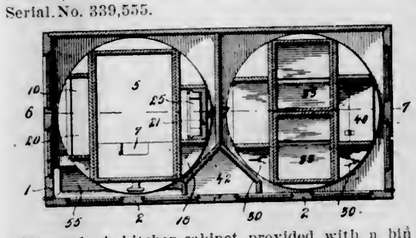
Claim.—1. The combination with the main chute designed to receive the coal from the dump-car, of two endless aprons suitably driven and located one beneath the aforesaid chute and the other below and ahead of it as to the direction of the course of the coal, a supplemental chute located at the discharge end of the upper apron and screens located one above the other at the discharge end of the supplemental chute, a chute extending from the lower end of the upper screen down to the lower apron, said chute and screen carrying the lump-coal, and a lower screen designed to carry the nut-coal and provided with a plurality of chutes beneath the same, whereby divergent directions are given to the coal passing through such screens as specified.

2. The combination with the main chute designed to receive the coal from the dump-car, of two endless aprons suitably driven and located one beneath the aforesaid chute and the other below and ahead of it as to the direction of the course of the coal, a supplemental chute located at the discharge end of the upper apron and screens located one above the other at the discharge end of the supplemental chute, a chute extending from the lower end of the upper screen to the lower apron, said chute and screen carrying the lump-coal, and a lower screen designed to carry the nut-coal and provided with a plurality of chutes beneath the same, whereby divergent directions are given to the coal passing through such screens and a chute located at the discharge end of the lower apron.

842,439.



842,440. KITCHEN-CABINET. GEORGE W. WYSOR, Huntington, W. Va., assignor of one-half to H. X. Morton, Jr., Bramwell, W. Va. Filed Oct. 18, 1906. Serial No. 339,555.



Claim.—1. A kitchen-cabinet provided with a bin pivotally mounted at its lower portion and there provided with a delivery-pocket, a rotatable casing to receive said bin, and a latch carried by the bin to engage said casing, as set forth.

2. A kitchen-cabinet comprising an upper compartment having at its opposite sides rotatable holders, each provided with retaining bins and shelves, a series of compartments beneath one of said holders, and a compartment disposed intermediate of the holders at the upper portion of the main compartment, as set forth.

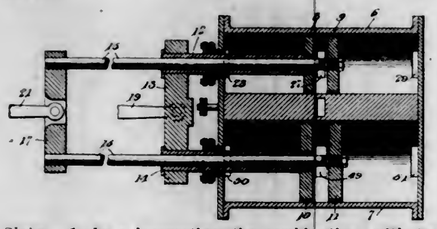
3. A kitchen-cabinet comprising an upper compartment having at its opposite sides rotatable holders, each provided with retaining bins and shelves, a series of compartments beneath one of said holders, a compartment disposed intermediate of the holders at the upper portion of the main compartment, and slidingly-mounted boards disposed beneath the holders and compartments, as set forth.

4. A kitchen-cabinet comprising an upper compartment having at its opposite sides rotatable holders, each provided with retaining bins and shelves, a series of compartments beneath one of said holders, a compartment disposed intermediate of the holders at the upper portion of the main compartment, slidingly-mounted boards disposed beneath the holders and compartments, and opposite compartments provided at the lower portion of said casing.

one of which has mounted therein a pivoted holder, and the other parallel slidingly-mounted boards disposed above a storage-receptacle, as set forth.

5. A kitchen-cabinet comprising, in combination with the casing, a kneading-board having flanges about the edges thereof and an elongated slot in the bottom of the board, and a waste-tray positioned beneath said board, as set forth.

842,441. COMPOUND STEAM-ENGINE. HARRY ANDERSON, Springfield, Ohio. Filed Apr. 9, 1906. Serial No. 310,600.



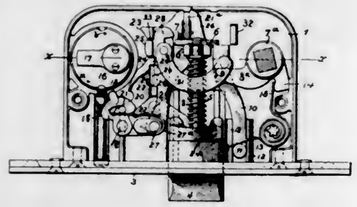
Claim.—1. In a locomotive, the combination, with two axles provided with driving-wheels, of two engines, each comprising a high-pressure cylinder and a low-pressure cylinder, each cylinder provided with two pistons and with means for alternately admitting steam between said pistons and at the ends of the cylinders, cross-heads to which the rear pistons of each engine are connected, other cross-heads to which the front pistons are connected, said cross-heads being located one beyond the other at the same end of the cylinders, rods connecting the first-mentioned cross-heads with the crank-pins of the front driving-wheels, and other rods connecting the last-mentioned cross-heads with the crank-pins of the rear driving-wheels, substantially as described.

2. In a locomotive, the combination, with two axles provided with driving-wheels, of two engines, each comprising a high-pressure cylinder and a low-pressure cylinder, each cylinder provided with two pistons and with means for alternately admitting steam between said pistons and at the ends of the cylinders, cross-heads to which the rear pistons of each engine are connected, other cross-heads to which the front pistons are connected, said cross-heads being arranged at one end of said cylinders in substantially the same horizontal plane, a common guideway for said cross-heads, rods connecting the first-mentioned cross-heads with the crank-pins of the front driving-wheels, other rods connecting the last-mentioned cross-heads with the crank-pins of the rear driving-wheels, and means connecting said front and rear driving-wheels to cause them to rotate in unison, substantially as described.

3. In a locomotive, the combination, with two axles provided with driving-wheels, of two engines, each comprising a high-pressure cylinder and a low-pressure cylinder, each cylinder provided with two pistons and with means for alternately admitting steam between said pistons and at the ends of the cylinders, cross-heads to which the rear pistons of each engine are connected, other cross-heads to which the front pistons are connected, rods connecting the first-mentioned cross-heads with the crank-pins of the front driving-wheels, other rods connecting the last-mentioned cross-heads with the crank-pins of the rear driving-wheels, and means connecting said front and rear driving-wheels to cause them to rotate in unison, said means comprising an arm secured to the crank-pin of one of said driving-wheels, said arm extending across the wheel center and having a crank-pin on its farther end and a coupling-rod connecting said last-mentioned crank-pin to the crank-pin of the other driving-wheel, substantially as described.

842,442. MORTISE NIGHT-LATCH. CHARLES A. BERRY, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed July 18, 1906. Serial No. 326,743.

Claim.—1. In a latch, the combination with a bolt, and knob mechanism for retracting same, of key mechanism comprising a rotary member engaged by the key and adapted to be rotated thereby and a bolt-retracting lever, the latter adapted to retract the bolt when said rotary member is turned in one direction, and means actuated by said rotary member when the latter is turned in the opposite direction, to project the bolt beyond its normal latching position, and carry said bolt-retracting lever out of the path of movement of said rotary member.



2. In a latch, the combination with a bolt, knobs, means connecting the bolt and knobs, a rotary member engaged by the key and rotated thereby and a bolt-retracting lever, of means actuated by said rotary member for projecting the bolt into the strike-plate beyond its normal latching position, and into its locking position, and carrying the bolt-retracting lever out of the path of movement of the rotary member, and means for dogging the knob mechanism when the bolt is in its projected or locking position.

3. The combination with a latch-bolt and a movable carrier to which said bolt is slidingly connected, of means for shifting the carrier whereby the bolt is projected from its latching to its locking position, and returned to its latching position, and means carried by said carrier and actuated by a key whereby the bolt may be rotated when in its latching position.

4. The combination with a latch-bolt, of a cylinder-lock and parts coöperating with same whereby the rotation of the movable member of the lock in one direction operates to project the latch beyond its normal position and dead-lock the same, and rotation of said movable member in the opposite direction, restores the bolt to its normal position and a device actuated by the key mechanism for retracting the bolt, the said devices being movable with the bolt from the normal position of the latter to its locking position and back again to its normal or latching position, and out of the path of the key mechanism when the bolt is in its locking position.

5. The combination with a latch-bolt and a movable carrier to which the bolt is slidingly connected, of a cylinder-lock, means actuated by the rotation of the movable member of the latter in one direction for retracting the bolt when the latter is in its latching position, and independent means actuated by said movable member of the cylinder-lock for shifting the carrier and its connected bolt from the latching position of the latter to its locking position and back again to its latching position.

6. The combination with a latch-bolt, and a movable carrier to which the bolt is slidingly connected, of a cylinder-lock the movable member of which shifts the carrier and its connected bolt back and forth, means for locking the carrier in its two positions, and means on said carrier and actuated by the key for retracting the bolt when the latter is in its inner or locking position.

7. The combination with a movable carrier, and a latch-bolt having a sliding connection therewith, of a cylinder-lock, the movable member of which is adapted by a movement in one direction to move the carrier and project the bolt beyond its normal latching position, and restore the bolt and carrier to their normal positions by a reverse movement, and means on said carrier actuated by the movable member of the cylinder-lock for retracting the bolt when the latter is in its normal or latching position.

8. The combination with a movable carrier and a latch-bolt slidingly connected to and movable with said carrier, of key-actuated mechanism for moving said carrier and its connected bolt, dogging means for locking the carrier in its two positions, and bolt-retracting devices mounted on said carrier and adapted to be actuated by the key mechanism when the carrier is in one of its positions and be out of the path of movement of said key mechanism when the carrier is in its other position.

9. The combination with a latch-bolt, of a cylinder-lock, a sliding carrier-plate having separated lips, a lever pivoted to said plate and provided with a tongue normally resting between said lips, and with a shoulder adapted to engage a cross-head on the stem of the bolt, and bolt-retracting means carried by said carrier-plate.

10. The combination with a latch-bolt, of a cylinder-lock, a sliding plate having separated lips, a lever pivoted to said plate and provided with shoulders to engage a fixed stud, with a tongue normally resting between the lips on the plate and with a shoulder to engage the cross-head on the stem of the bolt, and bolt-retracting means also carried by said plate.

11. The combination with a latch-bolt, knob mechanism and a sliding and pivoted bar actuated by the roll-back of the knob mechanism, of a cylinder-lock, a sliding plate having separated lips, a lever pivoted to said plate and provided with shoulders to engage a fixed stud for holding the plate in its two positions, with a tongue normally resting between the lips on the plate and in the path of the arm on the movable member of the lock and with a shoulder to engage the rear face of a cross-head on the stem of the bolt, a yoke connecting said pivoted lever on the plate and said pivoted and sliding bar connected with the knob mechanism, and bolt-retracting means carried by the plate and adapted to be engaged by the movable member of the cylinder-lock, when the sliding carrier-plate is in one of its positions.

12. The combination with a latch-bolt, a carrier to which the bolt is connected, and knob mechanism for retracting the bolt when the latter is in its latching position, of key mechanism for shifting the carrier whereby the bolt is projected from its latching to its locking position and back again to its latching position, and means carried by said carrier and actuated by the key mechanism whereby the bolt may be retracted by the key when in its latching position.

13. The combination with a latch-bolt, and a carrier to which the bolt is connected, of key mechanism for shifting the carrier and connected bolt from the latching position of the bolt to its locking position and back again, means for locking the carrier in two positions and mechanism whereby the bolt may be retracted by the key when the bolt is in its latching position.

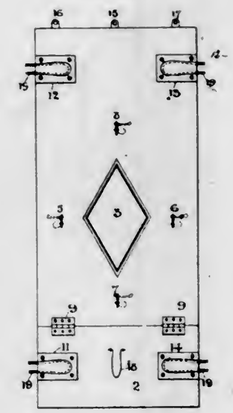
14. The combination with a carrier and a bolt connected thereto and movable therewith and also movable independently of said carrier, of key mechanism for moving the carrier and its connected bolt from the normal latching position of the bolt to its locking position and back again, and means for locking the carrier and dogging the bolt when the latter is in its locking position.

15. The combination with a carrier, and a bolt connected thereto and movable therewith, and also movable independently of said carrier, of key mechanism for moving the carrier and its connected bolt from the normal latching position of the bolt to its locking position and back again, a roll-back for actuating the bolt, and mechanism for locking the carrier, dogging the bolt and dogging the roll-back when the bolt is in its locking position.

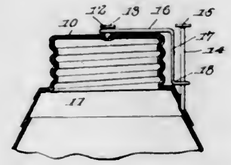
842,443. TOILET-COMPANION. SAMUEL J. BROWN, Ekron, Ky., assignor of one-half to William Abraham Morgan, Eastman, Ga. Filed Dec. 21, 1905. Serial No. 292,866.

Claim.—A toilet-companion comprising in combination two independent long flat boards, a short flat board hinged to the end of each of the long flat boards, separate clamping-springs applied over the edges of said long and said short boards to clamp the two sets of boards together, foldable hanging-hooks secured to the front of one of said long boards, a hinged loop secured to the front of one of the short flat boards, and hanging-eyes secured to the free end of one of said long boards, substantially as specified.

842,443.



842,444. CAN-CLOSURE. ARNOLD BRUNDRETT, Denison, Tex. Filed Nov. 3, 1905. Serial No. 285,744.

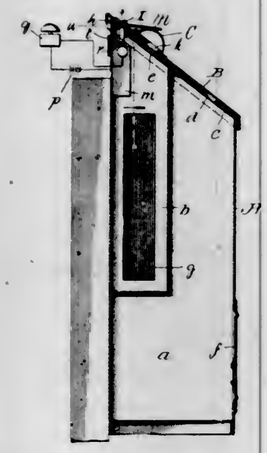


Claim.—A can-closure comprising a threaded nipple, a cap adapted to engage the threads on the nipple and provided with a headed stud extending vertically from the top of the cap at the longitudinal axis of the latter, a standard rigidly secured to the can and having its free end spaced from the cap and provided with a terminal head, and a horizontal arm having one end thereof provided with a terminal loop extending in the plane of the arm and embracing the stud, the opposite end of said arm being bent downwardly and provided with a laterally-extending loop slidably engaging the standard whereby when the cap is moved laterally to open position the loop will grip the standard and support the cap in a substantially horizontal plane, the upward movement of the loop being limited by engagement with the terminal head of said standard.

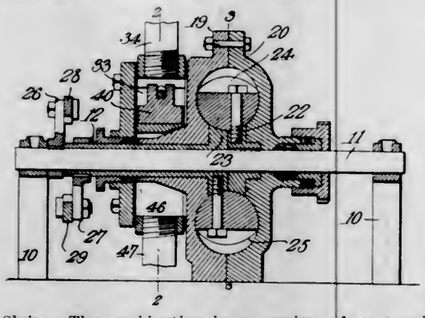
842,445. LETTER-BOX. STEPHEN J. CARLETON, Arcadia, Fla. Filed Aug. 27, 1906. Serial No. 332,214.

Claim.—In a letter-box, the combination of a body having openings in its top, one of which is for the introduction of letters, a circuit-closing device arranged in a normally open electric circuit with a source of electric energy and an electric signal and comprising a non-conducting support located in the box-body, a stationary member connected to said support, and a resilient member also connected to the support and having a loop extending upward through the other opening in the top and also having an arm arranged under the stationary member and adapted when the resilient member is free to be moved and held against said stationary member to close the electric circuit, and a vertically-swinging cover pivoted to the body and normally closing the openings in the top of said body and resting on the loop of the resilient member comprised in the circuit-closing device, whereby the weight of the cover operates to normally hold the arm of the resilient member away from the stationary member.

842,445.



842,446. ENGINE. ISAIAH D. CHRITTON, Graves, Kans. Filed Sept. 14, 1906. Serial No. 334,627.

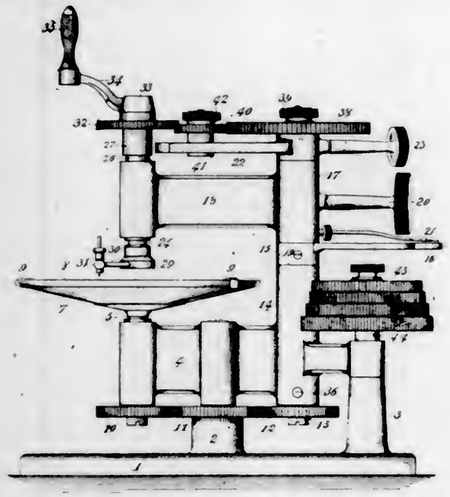


Claim.—The combination in an engine, of an annular cylinder, a pair of pistons arranged in the cylinder and each provided with a pair of pressure-faces arranged approximately at ninety degrees from each other, piston-hub members to which said pistons are secured, a pair of concentric shafts carrying the hub members, rocker-arms on said shafts, a crank-shaft, pitman connections between the rocker-arms and the crank-shaft, a steam-chest, an exhaust-chamber arranged at one side of the cylinder, said cylinder having a projecting hub member extending around the shafts to protect the same from the exhaust-steam, a slide-valve arranged in the steam-chest, and means for actuating the slide-valve.

842,447. CYCLOIDOGRAPH. JOHN F. COOLEY, Boston, Mass., assignor of one-half to Cooley Epicycloidal Engine Development Company, Jersey City, N. J., and Boston, Mass., a Corporation of New Jersey. Filed Nov. 15, 1902. Serial No. 131,518.

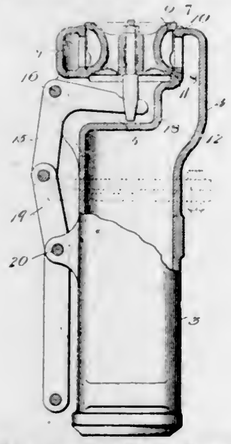
Claim.—1. In a cycloidograph, a table, a head, both rotating in the same direction on separate parallel positionally-fixed axes at correlative speeds expressible by consecutive numerals, gearing connecting the table and head, a plurality of scribers carried by the head in contact with the table and at equal radial distances from its axis of rotation, and means for rotating the rotatable parts.

2. In a cycloidograph, a table, a head, both rotating in the same direction on separate parallel positionally-fixed axes at correlative speeds expressible by consecutive numerals, gearing connecting the table and head, a plurality of scribers carried by the head in contact with the table and at equal radial distances from its axis of rotation and equiangularly spaced thereabout, and means for rotating the rotatable parts.



3. In a cycloidograph, a table, a head, both rotating in the same direction on separate parallel positionally-fixed axes at correlative speeds expressible by consecutive numerals, gearing connecting the table and head, a plurality of scribers carried by the head in contact with the table and at equal radial distances from its axis of rotation and equiangularly spaced thereabout, the number of scribers being equal to the numeral representing the speed of the table, and means for rotating the rotatable parts.

842,448. THROTTLE-VALVE. MILLARD F. COX, Richmond, Va. Filed Apr. 16, 1906. Serial No. 311,959.



Claim.—1. In a throttle-valve construction the combination of a supply-pipe having a concentric steam-chamber at one end thereof and an open-ended chamber also extending thereinto and a double-ended throttle-valve located within said chamber and adapted to be moved longitudinally of the end of the pipe in its opening and closing operations, the end of the pipe being straight.

2. In a throttle-valve construction the combination of a supply-pipe having a straight end and a concentric steam-chamber communicating therewith, a throttle-valve located within said steam-chamber and adapted to open and close the latter, the valve being reduced at its intermediate portion, and means for moving said valve longitudinally of the end of the pipe.

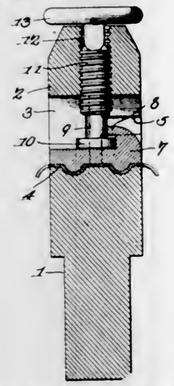
3. In a throttle-valve construction, the combination of a supply-pipe having a concentric steam-chamber at one end thereof, an open-ended chamber extending into said pipe adjacent to said steam-chamber, a throttle-valve disposed in said steam-chamber, and means extending into said open-ended chamber for moving said valve longitudinally of the end of the supply-pipe.

4. In a throttle-valve construction, the combination of a supply-pipe having an enlarged end, a concentric steam-chamber in said enlarged end, an open-ended lateral chamber extending into said enlarged end, a flared valve cooperating with said steam-chamber, and a bell-crank lever having one arm projecting into said open-ended chamber for opening and closing said valve.

5. In a throttle-valve construction, the combination of a supply-pipe having a concentric steam-chamber at one end communicating therewith, and a double-ended throttle-valve disposed in the said steam-chamber and diametrically reduced at its intermediate portion, said valve being adapted to be moved longitudinally of the end of the pipe in its opening and closing operations.

6. In a throttle-valve construction, the combination of a supply-pipe having a concentric steam-chamber at one end communicating therewith and providing also a valve-chamber, and a double-ended throttle-valve disposed in said steam-chamber and having the intermediate portion thereof diametrically reduced, the valve being movable longitudinally of the end of the pipe and the inner wall of the steam-chamber being open to permit steam to pass into the space formed between said wall and the intermediately-reduced portion of the valve.

842,449. HITCHING-POST. JOHN H. DIDRICH, Celina, Ohio, assignor of one-third to Joseph Schmitt and one-eighth to George Orr, Celina, Ohio. Filed May 1, 1906. Serial No. 314,702.

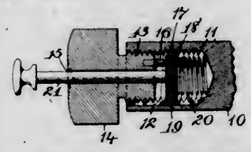


Claim.—1. The combination with an apertured post having guide-grooves in opposite walls thereof, and transversely-extending grooves communicating therewith; of a jaw within the aperture and coöperating with one wall of said aperture to form a clamp, projecting devices upon the jaw and adapted to travel within the guide-grooves, and means for sliding the jaw.

2. The combination with an apertured post having guide-grooves in opposite walls thereof, and transversely-extending grooves communicating therewith; of a jaw within the aperture and coöperating with one wall of said aperture to form a clamp, projecting devices upon the jaw and adapted to normally travel within the guide-grooves, and rotatable means for sliding the jaw.

3. The combination with an apertured post having guide-grooves in opposite walls thereof, and transversely-extending grooves communicating therewith; of a jaw within the aperture and coöperating with one wall of said aperture to form a clamp, projecting devices upon the jaw and adapted to travel within the guide-grooves, rotatable means for sliding the jaw, and said jaw detachably engaging the rotatable means.

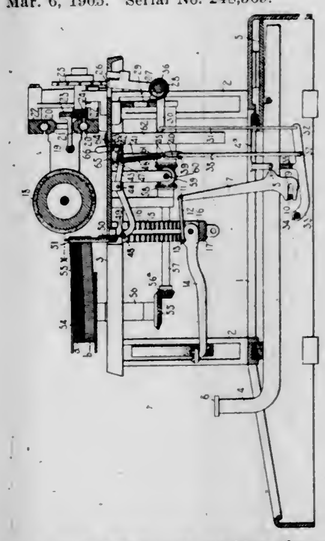
842,450. BOLT. MICHAEL ENNIS, Newark, N. J. Filed Nov. 17, 1906. Serial No. 343,854.



Claim.—1. In a bolt-lock, the combination with a member having a screw-threaded recess, the recess having a longitudinal slot therein, of a bolt having a screw-threaded shank, the bolt having a central perforation, a pin eccentrically mounted on the end of the bolt, a locking-plate arranged to slide in the recess and having a tongue to fit in the groove, the locking-plate having a series of perforations concentrically arranged therein and adapted to come in line with the pin on the bolt, and a spring between the locking-plate and the end of the recess in the first member.

2. A locking means for a bolt comprising a member having a screw-threaded recess, the recess having a longitudinal groove, a bolt having a screw-threaded shank to fit in the recess, the bolt having a longitudinal perforation, and a pin mounted eccentrically in the end of the bolt, a lock-plate sliding in the recess having a tongue to fit in the groove, perforations in the locking-plate to engage the pin on the bolt, means for normally holding the locking-plate in engagement with the bolt, and manually-operated means for disengaging the lock-plate from the bolt.

842,451. TYPE-WRITING MACHINE. JACOB FELBEL, New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Mar. 6, 1905. Serial No. 248,569.



Claim.—1. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a ribbon-vibrator, means for automatically moving said vibrator so as to bring one of the fields of said ribbon to the printing-point, and means for maintaining the vibrator against movement with another of the fields of said ribbon at the printing-point.

2. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of means

for automatically vibrating the ribbon so as to move one of said fields to and from the printing-point, and means adapted to maintain the ribbon against such vibration during the operation of the machine with another of said fields at the printing-point.

3. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of means for automatically vibrating the ribbon so as to move one of the fields thereof to and from the printing-point at printing operation, hand-actuated means operable at will to position the ribbon with another of the fields thereof at the printing-point, and means adapted to render the said vibrating means ineffective to move the ribbon.

4. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of means for normally maintaining the ribbon away from the printing-point to expose said printing-point to the view of the operator, means for vibrating the ribbon so that one of the fields thereof will cover the printing-point at printing operation, and hand-actuated adjustable means for moving the ribbon and maintaining it in such position that another field thereof covers the printing-point and for simultaneously adjusting the parts so that the said vibrating means are rendered ineffective to move the ribbon.

5. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a ribbon-vibrator, means for automatically actuating said vibrator at printing operation so as to bring one of the fields of the ribbon to the printing-point, and means adapted to maintain the vibrator in a position of rest during the actuation of the machine with another field of the ribbon at the printing-point.

6. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a ribbon-vibrator, actuating means coöperating therewith to cause the vibrator to normally maintain the ribbon-vibrator away from the printing-point and to automatically move the ribbon so as to present one of the fields thereof to the printing-point at printing operation, and hand-actuated means to effect a change in the relative disposition of the parts so as to render the actuating means ineffective to move the ribbon-vibrator and to maintain another field of the ribbon at the printing-point.

7. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a ribbon-vibrator, actuating means operatively connected to said ribbon-vibrator and adapted to normally maintain the ribbon away from the printing-point and to automatically move the ribbon so that one of the fields thereof will cover the printing-point at printing operation, hand-actuated means adapted to effect a change in the position of the vibrator relative to its actuating means and to maintain the vibrator during the actuation of the machine in a fixed position where another field of the ribbon will cover the printing-point, and means which afford a movement of said actuating means independently of the vibrator.

8. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a ribbon-vibrator, means under the control of the operator for either automatically moving said vibrator or maintaining it fixed during the actuation of the machine, one field of the ribbon being presented at the printing-point when the vibrator is automatically actuated and another field of the ribbon being presented at the printing-point when the vibrator is maintained fixed.

9. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a ribbon-vibrator, actuating means therefor for presenting one field of the ribbon at the printing-point at printing operation, and means for operatively connecting said vibrator to said actuating means or disconnecting it therefrom and presenting another field of the ribbon at the printing-point.

10. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a ribbon-vibrator, actuating means therefor, and means for operatively connecting said vibrator to or disconnecting it from said actuating means, said vibrator being so disposed as to cause one field of the ribbon to cover and uncover the printing-point when the vibrator is connected to its actuating means and to cause another field of the ribbon to cover the printing-point when the vibrator is disconnected from its actuating means.

11. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of type-bars, finger-keys therefor, and a ribbon-vibrator adapted to be automatically moved to interpose one field of the ribbon in the path of a type on a type-bar at the depression of a finger-key or to remain fixed with another field of the ribbon at the printing-point during the depression of a finger-key, as may be desired.

12. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a platen, type-bars, finger-keys therefor, a ribbon-vibrator having ribbon-guides thereon, means controlled by said finger-keys for automatically moving the vibrator to effect a movement of one of the fields of the ribbon transversely of the platen to cover and uncover the printing-point, and means to render the automatically-actuating moving means ineffective to move the vibrator and for maintaining another field of the ribbon at the printing-point.

13. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a ribbon-vibrator, connections for said vibrator, actuating means coöperating with said connections for automatically moving the vibrator during the operation of the machine, so as to present one of the fields thereof at the printing-point, and means for moving said connections out of operative relation with the actuating means and for maintaining the ribbon with another field thereof at the printing-point.

14. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a ribbon-vibrator, connections for said vibrator, actuating means coöperating with said connections for automatically moving said vibrator to present one field of the ribbon at the printing-point during the operation of the machine, and means for moving said connections out of operative relation with the actuating means and for moving the vibrator so as to bring another field of the ribbon to the printing-point and maintain it in such position during the operation of the machine.

15. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of finger-keys, a ribbon-vibrator, connections for said finger-keys to said vibrator to move the vibrator so as to bring one of the fields of the ribbon to the printing-point, and means for rendering the connections inoperative to transmit movement from the finger-keys to the ribbon-vibrator so that the ribbon-vibrator may be maintained with another field of the ribbon at the printing-point during the operation of the machine.

16. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of finger-keys, a ribbon-vibrator, intermediate connections between said finger-keys and said vibrator, which connections are adapted to move the vibrator at the actuation of a finger-key to bring one of the fields of the ribbon into use, and means for displacing one portion of said connections relatively to another so that an actuation of the finger-keys will be inoperative to transmit motion to the vibrator and so that another field of the ribbon may be brought into use while the vibrator is prevented from vibrating.

17. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of finger-keys, a ribbon-vibrator, intermediate connections between said finger-keys and said ribbon-vibrator, which connections are adapted to move the vibrator at actuation of a finger-key to bring one field of the ribbon to the printing-point, and hand-actuated means for displacing one portion of said connections relatively to another and for at the same time moving the ribbon-vibrator to and maintaining it in a position where another field of the ribbon covers the printing-point, so that the vibrator will maintain the ribbon in position to receive the impact of the types on one field thereof during the automatic actuation of the vibrator and will maintain the ribbon in position to receive the impact of types on another field of the ribbon when the vibrator is maintained at rest.

18. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a platen, type-bars, finger-keys therefor, a universal bar, a ribbon-vibrator and intermediate connections between said vibrator and said universal bar to effect a movement of the vibrator at actuation of a finger-key, hand-actuated means for controlling the relation of the parts of said connections one to another so that the connections may be rendered effective or ineffective to transmit motion to the ribbon-vibrator, the construction and the arrangement of the parts being such that one field of the ribbon will be exposed to the impact of the types when the ribbon-vibrator is actuated by said connections and so that another field of the ribbon will be presented to the impact of the types when the vibrator is maintained at rest.

19. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a platen, type-bars, finger-keys therefor, a universal bar, a ribbon-vibrator, intermediate connections between said vibrator and said universal bar to effect a movement of the vibrator at actuation of a finger-key, and hand-actuated means for controlling the relation of the parts of said connections one to another so that the connections may be rendered effective or ineffective to transmit motion to the ribbon-vibrator; the construction and arrangement of the parts being such that the said hand-actuated means and the parts controlled thereby are maintained in the positions to which they are moved when actuated to render the connections ineffective to move the vibrator, and such that a key-actuated movement of the vibrator will bring one field of the ribbon to the printing-point while when the vibrator is maintained at rest another field of the ribbon will be presented at the printing-point.

20. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a platen, type-bars, finger-keys therefor, a universal bar, a ribbon-vibrator which is adapted to normally maintain the ribbon out of the path of the types of the type-bars, intermediate connections between said vibrator and said universal bar to automatically effect a movement of the vibrator at actuation of a finger-key so as to interpose one field of the ribbon in the path of the types on the type-bars, and hand-actuated means for controlling the relation of the parts of said connections one to another so that the connections may be rendered effective or ineffective to transmit motion from the universal bar to the ribbon-vibrator; the construction and arrangement of the parts being such that the said hand-actuated means and the parts controlled thereby are maintained in the positions to which they are moved when actuated to render the connections ineffective to move the vibrator so that the vibrator will then maintain another field of the ribbon at the printing-point.

21. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a platen, a carriage, type-bars, finger-keys therefor, escapement mechanism for said carriage, a ribbon-vibrator, intermediate connections between said escapement mechanism and said vibrator, which connections are adapted to actuate the vibrator at actuation of a finger-key to bring one field of the ribbon to the printing-point, and means for affording a movement of the finger-keys, type-bars and escapement mechanism independently of the ribbon-vibrator, whereby the ribbon-vibrator while held motionless may maintain another field of the ribbon at the printing-point.

22. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a ribbon-vibrator, and means for shifting one field of the ribbon into and another out of use and for simultaneously fixing the vibrator against movement so that the new field coöperates with the type at the time when the parts are adjusted to prevent reciprocation of the vibrator.

23. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a normally reciprocatory ribbon-carrier which at printing operation presents one field of the ribbon to the printing position, a shifting mechanism for presenting another field of the ribbon to the printing position, and for simultaneously preventing reciprocation of the vibrator so that the last-named field of the ribbon coöperates with the type at the time when the parts are adjusted to prevent reciprocation of the carrier.

24. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a normally reciprocatory ribbon-carrier which at printing operation presents one field of the ribbon to the printing position, means for feeding the ribbon from one spool to another, a shifting mechanism for arresting the movement of the ribbon-carrier and at the same time presenting another field of the ribbon to the printing position without interfering with the movement of the ribbon from spool to spool, the result being that the new field of the ribbon coöperates with the type at the time when the parts are adjusted to prevent reciprocation of the carrier.

25. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a ribbon-vibrator, and means for shifting one field of the ribbon into and another out of use, and for simultaneously fixing the vibrator against movement, said shifting means comprising a pin-and-slot connection between the ribbon-vibrator and its vibrating means, and hand-actuated means for shifting said parts relatively to each other and for moving the vibrator to and maintaining it in a position beyond the point where it is normally moved in the automatic actuation thereof.

26. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a ribbon-vibrator, and means for shifting one field of the ribbon into and another out of use and for simultaneously fixing the vibrator against movement so that the new field coöperates with the type at the time when the parts are adjusted to prevent reciprocation of the vibrator, said shifting means comprising an actuating-lever operatively connected to the ribbon-vibrator, a pin-and-slot connection between said lever and its actuating means, and independent hand-actuated means for moving said lever, and maintaining it in the position to which it is moved.

27. In a type-writing machine, the combination with a ribbon having fields of different characteristics, of a ribbon-vibrator, and means for shifting one field of the ribbon into and another out of use and for simultaneously fixing the vibrator against movement, said shifting means comprising an actuating-lever operatively connected to the ribbon-vibrator, a pin-and-slot connection between said lever and its actuating means, a rock-shaft, hand-actuated means for turning said rock-shaft, and means controlled by the rock-shaft for moving said actuating-lever and ribbon-vibrator and for maintaining them in the positions to which they are moved.

28. In a type-writing machine, the combination of printing devices; a ribbon; means for feeding the ribbon longitudinally; means for automatically vibrating the ribbon so that said printing devices will write lengthwise of one portion of the ribbon; and means for bringing another portion of the ribbon into use and maintaining the ribbon against vibration during the operation of the machine so that the printing devices will write lengthwise of such other portion of the ribbon.

29. In a type-writing machine, the combination of mechanism for feeding the ribbon longitudinally, a ribbon-vibrator, means for automatically moving said vibrator so as to bring one portion of the width of the ribbon to the printing-point, and means for maintaining the vibrator against movement while another portion of the width of said ribbon is at the printing-point, the mechanism for feeding the ribbon longitudinally remaining operative while the vibrator is so maintained.

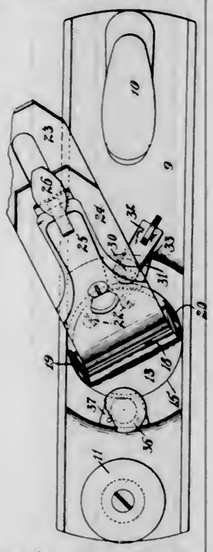
842,452. PROCESS OF MAKING FERROUS CARBONATE. ADOLF FLÜGGE, Hanover, Germany. Filed Nov. 15, 1906. Serial No. 343,531.

Claim.—1. A process for the manufacture of pure ferrous carbonate, which process consists in grinding powdered ferrous sulfate free from air with alkali carbonate free from air with a syrupy liquid in the cold, then mixing the mass with water saturated with carbon dioxid to dissolve the alkali sulfate, and finally separating the ferrous

carbonate from the solution by settling and centrifugal action.

2. A process for the manufacture of pure ferrous carbonate, which process consists in grinding one hundred parts of powdered ferrous sulfate free from air with eighty parts of alkali bicarbonate free from air and glycerin in the cold, then mixing the mass with water previously saturated with carbon dioxid to dissolve the alkali sulfate, and finally separating the ferrous carbonate from the solution by settling and centrifugal action.

842,453. PLANE. EDWIN W. FOSTER, Central Park, Long Island, N. Y. Filed Aug. 3, 1906. Serial No. 329,049.

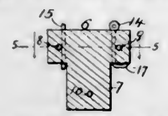


Claim.—1. In a plane, the combination of a frame member having a circular opening in its bottom containing the annular shoulder, a supporting member rotatable in said opening and having an annular shoulder engaging said shoulder whereby the lower face of the member will be substantially flush with the sole of the frame, the supporting member having a slot therein, a plane-iron carried by the supporting member and projecting into said slot, a clamping-plate arranged to engage the top of the frame and the supporting member at the rear of the frame, and a swinging lever on the frame and arranged to press the clamping-plate against the said portions of the frame and support to lock the support in adjusted positions.

2. In a plane, the combination of a frame member having a circular opening in its bottom containing the annular shoulder, a supporting member rotatable in said opening and having an annular shoulder engaging said shoulder whereby the lower face of the member will be substantially flush with the sole of the frame, the supporting member having a slot therein, a plane-iron carried by the supporting member and projecting into said slot, a clamping-plate arranged to engage the top of the frame and the supporting member at the rear of the frame, a swinging lever on the frame and arranged to press the clamping-plate against the said portions of the frame and support to lock the support in adjusted positions, and a clamping member engaging the top of the frame and of the supporting member at the front of the frame.

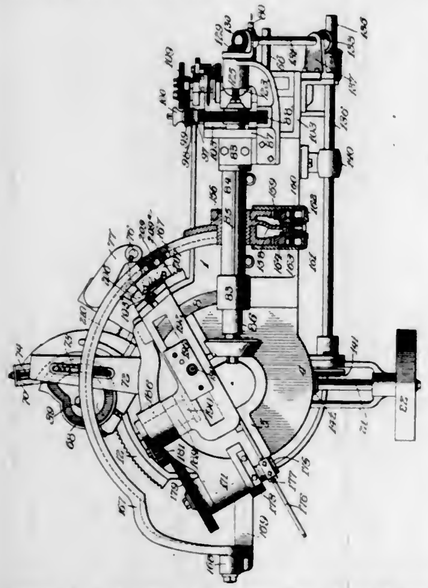
842,454. CEMENT FENCE-POST. BENJAMIN F. GIBLER, Winslow, Ill. Filed Apr. 17, 1906. Serial No. 312,226.

Claim.—A cement fence-post comprising a rectangular body portion formed with a central longitudinal rearwardly-extending tongue coacting with said body portion to form a structure T-shaped in cross-section, longitudinal metallic braces extending through the material of said body portion projecting on each side of said tongue, a longitudinal brace extending through said tongue and parallel with said first-named braces, said braces being so relatively arranged that lines therebetween form a tri-



angle, said body portion being formed on each side of said tongue, with a vertical series of horizontal openings extending entirely therethrough, said openings being disposed between the brace in said tongue and the adjacent braces in said body portion and intersecting the base and the adjacent legs of said triangle.

842,455. GEAR-CUTTING MACHINE. JAMES E. GLEASON, Rochester, N. Y., assignor to The Gleason Works, Rochester, N. Y., a Corporation of New York. Filed Dec. 27, 1904. Serial No. 238,350.



Claim.—1. In a machine for generating bevel-gears, the combination with suitable supports for the gear-blank and the operating-tool, said supports being capable of relative angular adjustment to accommodate gears having pitch-cones of different angles, of means for swinging the gear-blank on its axis and simultaneously operating the tool in a path tangential to the gear-blank, and means for automatically proportioning the relative speed of movement of the pitch-surface of the gear-blank and the coöperating tool according to the angular relation of the planes in which they operate to generate the curves of the gear-teeth by evolution.

2. In a machine for generating the curves on the working faces of bevel-gear teeth, the combination with a support for centering a gear-blank on its axis, and a tool-support adapted to guide a tool to operate in a path tangential to the pitch-surface of the gear to be generated, the blank and tool supports being capable of adjustment for operation in different angular relations to accommodate gears having pitch-cones of different angles, of means for simultaneously swinging the blank and tool supports in their respective paths with an equal velocity of movement of

the pitch-surface of the blank and the coöperating tool, the generating movements of the tool and blank being proportioned automatically at all relative angular adjustments of the blank and tool supports.

3. In a machine for generating bevel-gears, the combination with a support for rotatably centering a gear-blank on its axis, and a tool-support mounted to swing on an axis and adapted to guide an operating-tool in a path tangential to the pitch-surface of the gear to be generated, the axes of the blank and tool supports being capable of angular adjustment to accommodate gears having pitch-cones of different angles, of means for simultaneously swinging the blank and tool supports in their respective paths, and devices for automatically proportioning the swinging motions of the blank and the tool in ratios varying according to the angular relation of the paths in which the blank and tool operate to maintain equal velocity of motion of the pitch-surface of the blank and the coöperating tool.

4. In a machine for generating the teeth of bevel-gears, the combination with the supports for the gear-blank and operating-tool, said supports being mounted to swing in planes in different angular relations to accommodate gears having pitch-cones of different angles, of means for simultaneously swinging the supports through predetermined relative angles, and means for automatically proportioning the relative swinging movements of the blank and tool according to the angular adjustments of the supports to produce an equal velocity of the tool and the pitch-surface of the gear being generated.

5. In a machine for generating the teeth of bevel-gears, the combination with the supports for the gear-blank and operating-tool, said supports being mounted to swing in paths arranged in different angular relations to correspond with gears having pitch-cones of different angles, of means coöperating with the said supports at all positions of relative adjustment thereof for automatically proportioning the relative swinging motion of the supports to cause an equal velocity of the tool and the pitch-cone of the gear to be generated, irrespective of the angular relation of the planes in which the tool and gear-blank operate.

6. In a machine for generating the curves of bevel-gear teeth, the combination with a support for centering a gear-blank on its axis, a turret mounted to rotate on an axis arranged transversely to that of the blank, and a tool-support mounted on an axis carried by the turret and adapted to guide an operating-tool in a path tangential to the pitch-surface of the gear to be generated, of an arm mounted to swing on an axis coincident with the axis of the gear-blank and having ways therein formed concentrically with the axis of the turret, and operative connections between the said arm and the gear-blank and operating-tool for imparting equal velocity of movement of the pitch-surface of the blank and the coöperating tool.

7. In a machine for cutting bevel-gears, the combination with a work-support for centering the gear-blank on a given axis, and a tool capable of operating in planes at variable angles relatively to the plane of rotation of the blank, of devices interposed between the blank and the tool for automatically producing equal speed of motion on the pitch-surface of the blank and the tool in their respective planes irrespective of the relative angular relation of the tool.

8. In a machine for cutting bevel-gears, the combination with a work-support for centering the gear-blank on a given axis, and a tool mounted to move in a plane which is perpendicular to the plane of rotation of the blank, and which is also capable of swinging in different planes transversely to the said perpendicular plane, of means for feeding the tool in a direction transversely of the cone-surface, and devices for imparting a simultaneous swinging motion to the blank and the tool in their respective planes.

9. In a machine for cutting bevel-gears, the combination with a work-support for centering the gear-blank on a given axis, and a tool mounted to operate about a point coincident with the axis of the blank and arranged to swing in a predetermined plane about a given axis, of feed devices for moving the tool into engagement with the blank about the said point as a center, and means for simultaneously swinging the blank and the tool about their respective axes.

10. In a machine for generating the teeth of bevel-gears, the combination with a support for centering a gear-blank on a given axis, of a turret mounted to swing in a plane substantially parallel to the axis of the blank for accommodating gears of different cone-angles, a tool-support mounted on the turret and having a tool arranged to swing in planes tangential to the pitch-cone of the gear being generated, means for swinging the said turret on its axis to feed the tool to the blank, and means for simultaneously swinging the blank and tool-support on their respective axes after the tool has been fed to the blank and with a uniform velocity of movement of the tool and the pitch-surface of the blank.

11. In a machine for cutting bevel-gears, the combination with a work-support for centering a gear-blank on a given axis, and a turret carrying a tool mounted to operate in a given plane about a point coincident with the axis of the blank and having an axis about which the tool is capable of swinging in a plane perpendicular to the plane of motion of the turret, of feed devices for moving the turret in a plane about the said point as a center to feed the tool toward the blank, and means for simultaneously swinging the blank and the tool about their respective axes.

12. In a machine for generating bevel-gears, the combination with a support for centering a gear-blank so as to rotate on its axis, of a turret mounted to rotate on an axis in angular arrangement to that of the blank and adjustable to accommodate gear-blanks of different pitch-cones, a tool-support pivotally mounted on the turret and adapted to carry a tool arranged to swing in a path tangential to the pitch-surface of the blank, means for rotating the turret on its axis to feed the tool toward the blank, and means for simultaneously swinging the blank and the tool on their respective axes and means for automatically proportioning the generating movement to cause an equal velocity of movement of the tool and the pitch-surface of the blank in generating bevel-gears having pitch-cones of different angles.

13. In a machine for generating bevel-gears, the combination with a support for centering a gear-blank on its axis, of a turret mounted to rotate in a plane substantially parallel to the axis of the blank, a tool-support mounted to swing on said turret in different planes corresponding to the pitch-cones of the gears to be generated, a frame adjustable concentrically about the axis of movement of the turret, means mounted on said frame and coöperating with the turret for feeding the tool carried thereby into and out of coöperative relation with the blank, and means for simultaneously swinging the blank and tool on their respective axes after the tool has been fed into coöperative relation with the blank for generating the curves of the teeth thereof.

14. In a machine for generating bevel-gears, the combination with a support for centering a gear-blank on its axis, of a turret mounted on an axis arranged transverse to that of the blank, a tool-support pivotally mounted on the turret and arranged to swing in different planes corresponding to the pitch-cones of the gears to be generated, and an operating-arm mounted to swing concentrically with the axis of the gear-blank and having an operative connection with the tool-support for producing simultaneous swinging movement of the blank and the tool on their respective axes for generating the curves of the gear-teeth.

15. In a machine for cutting bevel-gears, the combination with a work-support for centering a gear-blank on a given axis, and a tool-support carrying a tool which is arranged to move in different planes relatively to the axis of the gear-blank, of an operative connection between the tool-support and the work-support-embodying devices for imparting motion in varying ratios to the blank and the tool corresponding with the angular relation of their respective planes.

16. In a machine for generating the working faces of bevel-gear teeth, the combination with a support for centering a gear-blank on its axis, and a tool-support adapted to guide a tool to move in a path tangential to the pitch-surface of the gear, the axes of rotation of the blank and

tool being capable of relative angular adjustment to provide for gears having pitch-cones of different angles, of motion-transmitting devices operatively connected to the blank and tool while the axes thereof are arranged in different angular adjustments for imparting simultaneous swinging movement to the blank and tool in ratios corresponding with the different angular adjustments of their axes.

17. In a machine for generating bevel-gears, the combination with a support for rotatably centering a gear-blank on its axis, a turret mounted to swing on a vertical axis for altering the plane of operation of the tool according to the different pitch-angles of the gears to be generated and a tool-support mounted on the turret and arranged to guide an operating-tool in a path tangential to the pitch-surface of the gear, of a segmental arm having ways thereon formed concentrically with the vertical axis of the turret, a projection on the tool-support coöperating with said ways for operatively connecting said arm and the tool-support at all positions of adjustment of the turret about its axis, said arm being mounted to swing about the axis of the gear-blank and devices interposed between said arm and the gear-blank for causing a uniform motion of the pitch-surface of the blank and the tool to generate the curves of the gear-teeth.

18. In a machine for cutting bevel-gears, the combination with a work-support for centering a gear-blank on a given axis, and a tool-support carrying a tool mounted to move in a plane about an axis which is arranged in angular relation to that of the blank, of an arm movable in a plane parallel to that of the gear-blank and operatively connected to the tool-support, a corresponding member operatively connected to the support for the gear-blank, and devices interposed between the said arm and the said member connected to the gear-blank support for causing a uniform motion of the blank and the tool about their respective axes.

19. In a machine for cutting bevel-gears, the combination with a support for centering a gear-blank on a given axis, and a tool-support carrying a tool and mounted to move in a plane about an axis arranged angularly relatively to the axis of the blank, of an arm operatively connected to the tool-support and mounted to swing about the axis of the blank as a center, a corresponding member operatively connected to the support for the gear-blank, and a rack-and-gear connection between the said arms for causing a uniform motion of the blank and the tool about their respective axes.

20. In a machine for cutting bevel-gears, the combination with a support forming an axis about which a gear-blank is adapted to rotate, and a tool-support carrying a tool mounted to rotate about an axis which is in angular relation to that of the blank, and capable of swinging in a plane arranged at a predetermined angle to the axis of the blank, of an arm formed concentrically with the axis of the tool-support and mounted to operate about the axis of the blank as a center, said arm being operatively connected to the tool while the latter occupies different positions around its axis, and devices operatively connecting the said arm and the gear-blank for causing a uniform motion of the tool and the blank in their respective axes.

21. In a machine for cutting bevel-gears, the combination with a work-support for centering a gear-blank on a given axis, a tool-carrier mounted to rotate about an axis arranged in angular relation to that of the gear-blank, and a tool-support mounted to swing in a plane transversely to the plane of rotation of the carrier, of an arm formed concentrically with the axis of the carrier and arranged to rotate about the axis of the blank as a center, said arm being operatively connected to the tool-support at different positions of the tool support or carrier on their respective axes, and devices operatively connecting the said arm and the gear-blank support for causing a uniform motion of the gear-blank and the tool-support about their respective axes.

22. In a machine for cutting bevel-gears, the combination with a work-support for centering a gear-blank on a given axis, a tool-carrier mounted to rotate about an axis arranged in angular relation to that of the gear-blank, and a tool-support mounted on the carrier and arranged to swing in a plane transversely to the plane of rotation of the carrier, of an arm formed concentrically with the axis of the carrier and mounted to rotate about the axis of the gear-blank, said arm being operatively connected with the tool-support, a second arm operatively connected to the gear-blank support and a rack-and-gear connection between the said arms for causing a uniform motion of the gear-blank and the tool while the tool-support is operating in a given plane.

23. In a machine for cutting bevel-gears, the combination with the work-support for centering a gear-blank on a given axis, a tool-carrier mounted to rotate on an axis intersecting that of the gear-blank and the tool-support mounted on the carrier and arranged to rotate about an axis which intersects the axes of the carrier and the gear-blank, of an arm formed concentrically to the axis of the carrier and mounted to rotate about the axis of the gear-blank as a center, an operative connection between the said arm and the tool-support which is capable of transmitting motion between these parts while they operate about their respective axes, and devices operatively connecting the said arm and the gear-blank support for causing a uniform motion of the gear-blank and the tool-support about their respective axes.

24. In a machine for cutting bevel-gears, the combination with a work-support for centering a gear-blank on a given axis, and the tool-support mounted to rotate about an axis arranged in angular relation to that of the gear-blank, of an arm mounted to rotate about the axis of the gear-blank and having an operative connection with the tool-support while the latter is operating about its axis, a gear operatively connected to the gear-blank support and the rack operatively connected to the said arm and coöperating with the said gear for transmitting motion between the tool-support and the gear-blank.

25. In a machine for cutting bevel-gears, the combination with a work-support for centering the gear-blank and a tool-support adapted to carry a tool and mounted to rotate in a plane which is arranged at an angle to the plane of rotation of the gear-blank, of an arm operatively connected to the tool-support and mounted concentrically with the gear-blank, a rack mounted to move longitudinally in ways and operatively connected to the said arm and a gear operatively connected to the gear-blank support and coöperating with the rack to transmit motion between the tool-support and the gear-blank while they operate in their respective planes.

26. In a machine for generating the teeth of bevel-gears, the combination with a suitable support for centering a gear-blank on its axis, and a tool-support embodying a pair of pivoted guideways, tool-holders mounted to operate on said ways and carrying tools arranged to operate simultaneously on the opposite sides of a gear-tooth of the blank and means for securing said guideways in fixed angular relation, of means for simultaneously swinging the gear-blank and the guideways of the tool-support in their respective paths and with equal motion to generate the curves of the tooth.

27. In a machine for generating the teeth of bevel-gears, the combination with a suitable support for centering a gear-blank on its axis, and a tool-support embodying a pair of oppositely-arranged guideways mounted on a common axis and adjustable in angular relation, a device for retaining said guideways in fixed angular relation during the cutting operation of the tools, and means for simultaneously rotating the gear-blank and the guideways on their respective axes to simultaneously generate the curves on opposite sides of a gear-tooth.

28. In a machine for generating the teeth of bevel-gears, the combination with a suitable support for centering a gear-blank on its axis, and a tool-support embodying a pair of oppositely-arranged guideways independently adjustable about a common axis and adapted to swing about the said axis as a center, a device connecting the said guideways for adjusting and holding the latter in fixed angular relations, tool-holders mounted to reciprocate on said guideways and arranged to operate simultaneously on the opposite faces of a tooth of the blank, and means for simultaneously swinging the gear-blank and the guideways on their respective axes for simultaneously generating the curves on opposite sides of the tooth.

29. In a machine for generating the teeth of bevel-gears, the combination with a suitable support for rotatably centering a gear-blank on its axis, of a tool-support embodying a pair of angularly-arranged guideways mounted on a common axis, an arm connecting the said ways for holding them in fixed relation, an operating-arm having ways formed therein, a block secured to said connecting-arm having a part coöperating with the ways in said operating-arm, and operative connections between the said operating-arm and the gear-blank for causing simultaneous swinging movement to the gear-blank and the tools on their respective axes.

30. In a machine of the character described, the combination with a work-support, of a tool-support embodying oppositely-arranged guideways which are mounted on a common axis, a tool-holder mounted to reciprocate longitudinally of each guideway, a segmental arm formed concentrically with the axis of the guideways and adapted to coöperate with the correspondingly-formed ends of the latter, means for securing the guideways to the said arm in fixed angular relation during the cutting operation of the tools, and means coöperating with the said arm to swing the guideways bodily about their common axes.

31. In a machine of the character described, the combination with a work-support, of a tool-support embodying oppositely-arranged guideways which are capable of being adjusted in angular relation and each being provided with a tool-holder which is mounted to reciprocate longitudinally thereon, an arm formed to coöperate with the guideways and provided with a securing device for locking the said guideways in fixed angular relation and an adjusting device coöperating with the said guideways for varying the angular relation thereof, embodying separate screws attached to the respective guideways and a nut operating on the screws.

32. In a machine of the character described, the combination with a supporting-base and a work-support mounted thereon, of a carrier mounted to rotate on the supporting-base in angular relation to the work-support and having an operating-arm, a tool-support mounted on the carrier provided with operating-tools, an arm pivoted on a relatively fixed part and operatively connected with the said operating-arm and a cam for operating the pivoted arm to rotate the carrier relatively to the work-support.

33. In a machine of the character described, the combination with a supporting-base and a work-support mounted thereon, of a carrier mounted to rotate on said base having an operating-arm, a tool-support mounted on the carrier, a pivoted arm mounted on a relatively fixed part of the base, a cam for operating the pivoted arm through a constant angle and a device connecting the said pivoted arm and arm which is capable of being adjusted to vary the angle of motion which is imparted to the carrier.

34. In a machine of the character described, the combination with a supporting-base and a work-support mounted thereon, of a carrier mounted to rotate on the base and having a radial arm, a tool-support on the carrier, an arm having a relatively fixed pivot, a cam for operating the pivoted arm through a given angle and a connection between the said pivoted and operating arms of the carrier which is capable of adjustment to vary the angle through which the carrier rotates.

35. In a machine of the character described, the combination with a supporting-base and a work-support mounted thereon, of a tool-carrier mounted to rotate in angular relation to the work-support and having an operating-arm provided with a radially-arranged guideway, a tool-support movable with the carrier, an arm mounted to operate about a relatively fixed pivot, a device for operating the pivoted arm through a given angle and a radially-adjustable projection carried by the pivoted and movable longitudinally of the radial guideway of the operating-arm for rotating the carrier to advance and retract the tool relatively to the work-support.

36. In a machine of the character described, the combination with a supporting-base having a work-support mounted thereon, of a tool-carrier mounted to rotate in angular relation to the work-support and having operating-tools thereon, a frame adjustable concentrically with the center of motion of the carrier and operating devices carried by the said frame for imparting rotary motion to the carrier to advance and retract the tools relatively to the work on the work-support.

37. In a machine of the character described, the combination with a supporting-base having a work-support mounted thereon and a main driving-shaft, of a tool-carrier adjustable in angular relation with the work-support, a frame adjustable correspondingly with the carrier, an operating-shaft carried by the frame and mounted thereon to swing in a path concentric with the main driving-shaft, and gearing connecting the operating-shaft to the main driving-shaft irrespective of its relative positions on the supporting-base, and operating devices carried by the frame and actuated by the operating-shaft for rotating the carrier to advance and retract the tools relatively to the work-support.

38. In a machine of the character described, the combination with a supporting-base having a work-support mounted thereon, of a tool-carrier mounted on the base and capable of being rotated into different angular positions relatively to the work-support, a frame adjustable in a circular path around the supporting-base, to correspond with the relative positions of the carrier, operating devices carried on the frame for imparting rotary motion to the carrier and a driving-shaft, an operating-shaft mounted on said frame and arranged to swing about the axis of the driving-shaft, and operatively connected with the devices of the movable frame, and suitable gearing connecting the driving-shaft with the operating-shaft on said frame while the latter occupies different adjusted positions on the supporting-base.

39. In a device of the character described, the combination with the supporting-base and a work-support mounted thereon, of a tool-carrier mounted on the base being rotated in angular relation to the work-support, an operating-arm connected to the carrier, and automatically-controlled means operating at intervals upon the said arm for rotating the carrier through a predetermined angle.

40. In a device of the character described, the combination with the supporting-base and a work-support mounted thereon, of a tool-carrier or turret capable of being rotated in angular relation to the work-support for feeding and retracting the operating-tool, an operating-arm attached thereto and a cam operatively connected to said arm for rotating the carrier through a predetermined angle to feed the tool to the work upon the work-support and for reversing the motion of the carrier to retract the tool at an increased speed.

41. In a machine of the character described, the combination with the supporting-base and a work-support thereon, of a tool-carrier or turret capable of being adjusted in angular relation to the work-support, a radial operating-arm attached to the carrier, a cam operatively connected to the said arm for rotating the carrier to advance and retract the tool relatively to the work on the work-support, and a device interposed between the operating-arm of the carrier and the cam for varying the angle through which the carrier operates.

42. In a machine for generating bevel-gears, the combination with a suitable supporting-base, a support thereon for rotatably centering a gear-blank on its axis, a turret mounted to operate in a plane parallel to the axis of the blank, and a tool-support mounted on the turret and carrying a tool arranged to swing in a plane tangential to the pitch-surface of the gear being generated, of automatic means for operating the turret in its respective plane of movement to feed the tool to the blank and for retracting the tool from the blank, and means for simultaneously swinging the blank and tool on their respective axial supports during the period elapsing between the feeding and retracting movements of the tool, for generating the curves of the gear-teeth.

43. In a machine for generating bevel-gears, the combination with a suitable supporting-base, a support thereon for rotatably centering a gear-blank on its axis, a turret mounted to operate in a plane parallel to the axis of the blank, and a tool-support mounted on the turret and carrying a tool arranged to swing in a plane tangential to the pitch-surface of the gear being generated, of means for operating the turret to feed the tool toward the root of the tooth of the gear being formed, and for automatically withdrawing the tool therefrom, automatically-timed means for simultaneously turning the gear-blank and the tool on their respective axes while the tool is fed into the blank for generating the curves on the working faces of the gear being formed, and indexing devices operating automatically to rotate the blank after the completion of the generating movements and the withdrawal of the tool from the blank.

44. In a machine of the character described, the combination with a supporting-base and a work-support thereon, of a tool-carrier or turret capable of being adjusted in angular relation to the work-support, a tool-support mounted to move in a plane transverse to the plane of rotation of the carrier, an operating-crank having an actuating device arranged to coöperate with the tool-support, an operating-shaft and automatically-controlled devices for intermittently connecting and disconnecting the operating-shaft and the crank for imparting motion to the tool-support.

45. In a machine of the character described, the combination with a supporting-base and a work-support thereon, of a tool-support mounted to rotate about an axis in a given plane, and means for periodically operating the tool-support, embodying an operating-crank normally locked in a predetermined position and having a connection which engages the tool-support for imparting motion thereto, a continuously-operating shaft and devices for simultaneously unlocking the operating-crank and connecting the latter with the operating-shaft for operating the tool-support.

46. In a device of the character described, the combination with a supporting-base and a work-support thereon, of a tool-support mounted to swing in a given plane, and means for periodically swinging the tool-support relatively to the work-support, embodying an operating-crank operatively connected to the work-support for imparting motion thereto, a locking device for normally retaining the said crank in a predetermined position, a continuously-operating shaft, clutch members interposed between the said shaft and the crank and means for simultaneously unlocking the crank and connecting the clutch members to cause operation of the operating-crank.

47. In a machine of the character described, the combination with a supporting-base and a work-support thereon, of a tool-support mounted to swing in a given plane, and means for periodically swinging the tool-support, embodying an operating-crank operatively connected to the said support for imparting motion thereto, stop mechanism for normally locking the operating-crank in a predetermined position to retain the tool-support stationary, an operating-shaft, devices controlled by the stop mechanism for connecting and disconnecting the operating-shaft and crank and means operating upon the stop mechanism to simultaneously unlock the operating-crank and connect the latter with the operating-shaft to swing the tool-support.

48. In a machine of the character described, the combination with a supporting-base and a work-support thereon, of a tool-support mounted to operate in a given plane, and means for swinging the tool-support periodically, embodying an operating-crank connected to the said support for imparting motion thereto, stop mechanism for normally lockin gthe operating-crank in a predetermined position, an operating-shaft, clutch members interposed between the said shaft and the operating-crank and controlled by the operation of the stop mechanism for transmitting motion from the operating-shaft to the said crank, and a cam driven upon the operating-shaft and coöperating with the stop mechanism for operating the latter at a predetermined moment to unlock the operating-crank and simultaneously engage the clutch members.

49. In a machine of the character described, the combination with a supporting-base and a work-support thereon, of a tool-support mounted to operate in a given plane, and means for periodically swinging the tool-support, embodying an operating-crank connected to the said support for imparting motion thereto, a clutch member operatively connected to the crank, an operating-shaft, a corresponding clutch member interposed between the operating-shaft and the crank and arranged to coöperate with the clutch member of the latter, a longitudinally-movable member arranged to coöperate with the operating-crank to lock the latter in a predetermined position, a clutch-actuating device carried by said member and arranged to engage the clutch members and means for operating said member to unlock the operating-crank and simultaneously connect the clutch members.

50. In a machine of the character described, the combination with a supporting-base having a work-support thereon adapted to support a gear-blank, and a tool-support carrying operating-tools, the tool-support capable of being adjusted in angular relation to the work-support and mounted to swing in different planes relatively to the work-support, of a frame adjustable circularly around the supporting-base, a driving-shaft mounted on the supporting-base, an operating-shaft on the said frame and means for maintaining said shafts in operative relation irrespective of the relative position of the frame on the base, and devices carried by the frame and operated by the operating-shaft of the frame for imparting swinging motion to the tool-support.

51. In a machine of the character described, the combination with a supporting-base and a work-support thereon, of a tool-carrier capable of being adjusted in angular relation to the work-support and a tool-support on the carrier and arranged to operate on a given axis in a plane transverse to the plane of rotation of the carrier, of means for operating the tool-support in a given plane, embodying a frame adjustable in a circular path around the supporting-base, a vertically-movable cross-head carried by the said frame and arranged to coöperate with the tool-support for imparting motion thereto, an operating-crank for actuating the cross-head and devices interposed between the operating-shaft and the crank for operating the latter at predetermined intervals.

52. In a machine for generating bevel-gears, the combination with a suitable supporting-base having circular ways formed thereon toward one end, a support on the base for rotatably centering a gear-blank on its axis, a tool-carrier mounted on the base and arranged to rotate on an axis concentric with the said ways on the base, and a tool-support pivotally mounted on the turret and adapted to guide an operating-tool in different planes corresponding with the pitch-cones of the gears to be generated, of means for operating the turret and tool-support in their respective planes embodying a frame adjustable around the circular ways of the base, a cam on said frame operatively connected to the turret for operating the latter on its axis to advance and retract the tool relatively to the blank, and an automatically-timed device mounted on the said frame for swinging the tool-support on its axis while the tool is fed into the blank, means for imparting turning movement to the gear-blank simultaneously with the swinging movement of the tool for generating the curves of the gear-teeth, and means for shifting the position of the said frame on the circular ways of the base to adjust the angular position of the turret and tool-support and their operating devices relatively to the gear-blank axis, to accommodate gears having pitch-cones of different angles.

53. In a machine for cutting gears, the combination with a support, a sleeve rotatably mounted thereon, an arbor revolubly mounted in the sleeve for supporting the gear-blank and devices interposed between the sleeve and arbor for rotating the latter through a predetermined angle and normally forming a positive connection between the arbor and the sleeve, of a tool-support carrying an operating-tool and means coöperating with the tool-support and the sleeve for simultaneously swinging the tool and gear-blank.

54. In a machine for cutting gears, the combination with a support, a sleeve rotatably mounted thereon, an arbor revolubly mounted within the sleeve and adapted to carry a gear-blank, devices carried by the sleeve and operatively connected with the arbor for rotating the latter through a given angle, and an operating-shaft operatively connected to the said devices at different points in the rotation of the sleeve, of a tool-support carrying an operating-tool and means coöperating with the tool-support and the sleeve for simultaneously swinging the tool and gear-blank.

55. In a machine of the character described, the combination with a support, a sleeve rotatably mounted thereon, an arbor revolubly mounted within the sleeve and adapted to carry a gear-blank, devices carried by the sleeve and operatively connected to the arbor for periodically rotating the latter through a given angle and an operating-shaft mounted in axial alinement with the arbor and coöperating with the devices which are carried by the sleeve, of a tool-support carrying an operating-tool and means coöperating with the tool-support and the sleeve for simultaneously swinging the tool and gear-blank.

56. In a machine of the character described, the combination with a support, a sleeve rotatively mounted thereon and provided with a radial arm, an arbor revolubly mounted within the sleeve and adapted to carry a gear-blank, indexing devices carried by the arm of the sleeve and operatively connected with the arbor and an operating-shaft mounted in axial alinement with the arbor for operating the said devices, of a tool-support carrying an operating-tool and means coöperating with the tool-support and the sleeve for simultaneously swinging the tool and gear-blank.

57. In a machine for forming gears, the combination with the tool and work supports, of indexing mechanism embodying a sleeve rotatably mounted on the work-support, an arbor mounted axially within the sleeve and adapted to carry a gear-blank, a spindle journaled in an arm on the sleeve and provided with a worm, and a worm-wheel carried by the arbor and coöperating with the worm of the sleeve and devices for operating the said worm to rotate the arbor relatively to the sleeve, to index the gear-blank relatively to the tool-support.

58. In a machine for cutting gears, the combination with the tool and work supports, of indexing mechanism embodying a sleeve rotatably mounted on the work-support and provided with a radially-projecting arm, an arbor revolubly mounted within the sleeve and adapted to carry a gear-blank, a worm journaled on the arm of the sleeve, a corresponding worm-wheel fixed to the arbor and coöperating with the said worm, devices carried by the sleeve for operating the worm to produce a relative rotation between the sleeve and the arbor to index the blank thereon relatively to the tool-support, and an operating-shaft mounted in axial alinement with the arbor for transmitting motion to the devices on the sleeve.

59. In a machine for cutting gears, the combination with the tool and work supports, of indexing mechanism embodying a sleeve rotatably mounted on the work-support and provided with a lateral arm, an arbor mounted axially within the sleeve and adapted to support a gear-blank, operating devices carried by the arm of the sleeve and operatively connected to the arbor for normally forming a positive connection between the sleeve and arbor and which when operated will produce a relative rotation of the sleeve and arbor to index the gear-blank thereon relatively to the tool-support, an operating-shaft and stop mechanism interposed between the said shaft and the operating devices of the arbor for controlling the operation of the latter.

60. In a machine of the character described, the combination with the tool and work supports, of indexing mechanism embodying a sleeve mounted on the work-support, an arbor rotatively mounted in the sleeve and adapted to center a gear-blank, and operating devices interposed between the arbor and the sleeve for producing a relative motion between them to index the blank relatively to the tool-support, of a continuously-operating shaft and stop mechanism interposed between the said shaft and the said devices controlling the operation of the latter.

61. In a machine of the character described, the combination with the tool and work supports, of indexing mechanism embodying a sleeve mounted on the work-support, an arbor mounted axially within the sleeve and adapted to center a gear-blank, operating devices for producing relative rotation between the arbor and the sleeve for indexing the gear-blank relatively to the tool-support, a continuously-operating shaft, a pair of shafts arranged in axial alinement each provided with an independent stop mechanism, one of said shafts being operatively connected with the operating devices of the arbor means for operating the stop mechanism at predetermined intervals for transmitting the motion of the operating-shaft and means for periodically operating the stop mechanism to alternately connect the axially-alined shafts to the operating-shaft.

62. In a machine of the character described, the combination with the tool and work supports, an arbor mounted rotatably on the work-support and adapted to center a gear-blank thereon operating devices for rotating the arbor to index the blank relatively to the tool-support, a continuously-operating shaft, a pair of oppositely-arranged shafts one of which is connected to the operating devices, stop mechanism coöperating with the said shafts to alternately lock one of them from rotation and simultaneously permit the rotation of the other, and means for transmitting motion from the continuously-operating shaft to the oppositely-arranged shafts under the control of the stop mechanism.

63. In a machine of the character described, the combination with the tool and work supports, and an arbor rotatably mounted on the work-support for supporting a gear-blank, of indexing devices for the gear-blank embodying operating devices for rotating the arbor to index the blank relatively to the tool-support, a pair of oppositely-arranged shafts one of which is connected to the operating devices of the arbor, a stop-wheel carried by each shaft, stop mechanism for alternately engaging the said wheels to simultaneously lock one of the shafts and permit rotation of the other and means for imparting motion to the oppositely-arranged shafts.

64. In a machine of the character described, the combination with a support, and an arbor rotatably mounted thereon, of operating devices for the latter, a pair of oppositely-arranged independently-rotatable shafts, one of which is connected to the operating devices of the arbor, a stop-wheel carried by each shaft, stop mechanism coöperating with the said wheels to alternately lock one of the shafts and simultaneously permit rotation of the other, bevel-gears carried by the shafts, a casing provided with a pinion arranged to coöperate with the said gears and a continuously-operating shaft for rotating the casing.

65. In a machine of the character described, the combination with the tool and work supports, and an arbor rotatably mounted on the work-support and adapted to center a gear-blank thereon, of indexing mechanism for the arbor embodying operating devices for rotating the latter to index the blank relatively to the tool-support, a shaft operatively connected with said devices, a stop-wheel on said shaft having a notch therein, a stop arranged to coöperate with said notch, a cam arranged to rotate with the said shaft and a yieldingly-operated device coöperating with the said cams for retaining the notch of the latter in coöperative relation with the stop.

66. In a machine of the character described, the combination with a supporting-base, a work-support, an arbor rotatably mounted thereon adapted to receive a gear-blank, and indexing mechanism therefor embodying operating devices for rotating the arbor and stop mechanism for controlling the operation of the said devices, of a tool-carrier mounted to rotate in angular relation to the work-support,

and a tool arranged to be advanced and retracted for each operation of the carrier, means for rotating the carrier to advance and retract the tool, a rock-shaft having devices for coöperating with the stop mechanism and a device controlled by the carrier-operating means for actuating the rock-shaft to release the stop mechanism while the tool-carrier occupies a predetermined position.

67. In a machine of the character described, the combination with a work-support, an arbor rotatably mounted thereon and supporting a gear-blank, operating devices for rotating the latter, a continuously-operating shaft and stop mechanism for periodically transmitting the motion from the said shaft to the operating devices of the arbor for rotating the latter to index the blank, of a tool-carrier rotatably mounted on the base and carrying the operating-tool, a frame mounted to move around the base in a circular path, an operating-shaft carried by the latter, means interposed between the said shaft and carrier for periodically rotating the latter through a predetermined angle to advance and retract the tool relatively to the gear-blank, a rock-shaft having devices arranged to coöperate with the stop mechanism to control the operation of the operating devices of the arbor, a segmental rack operatively connected to the rock-shaft and movable in a circular path concentric to the center of motion of the frame, a pinion carried by the latter and coöperating with the rack at different positions of the frame relatively to the supporting-base, an operating projection driven from the operating-shaft and an actuating device operatively connected to the pinion and coöperating with the said projection subsequent to each operation of the carrier for actuating the rack.

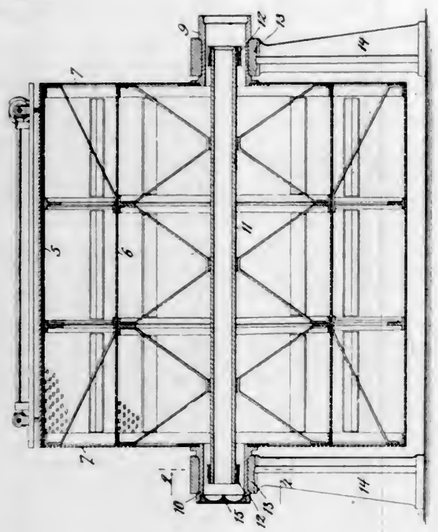
68. In a machine for generating bevel-gears, the combination with a suitable support for rotatably centering a gear-blank on its axis, and a pair of pivoted oppositely-arranged guideways adjustable in angular relation according to the pitch-angle of the gear-teeth to be generated, said ways carrying operating-tools arranged to simultaneously operate on the opposite faces of a gear-tooth on the work-support, means for securing said ways in fixed angular relation, and means for rotating the gear-blank on its axis and simultaneously swinging the guideways and their tools in a plane substantially tangential to the pitch-surface of the gear to generate the curves on both faces of a tooth thereof.

69. In a machine for cutting bevel-gears, the combination with a work-support for centering a gear-blank to rotate in a given plane, of a pair of oppositely-arranged tool-supports mounted to move about a point coincident with the axis of rotation of the blank and capable of swinging in a plane arranged angularly to the plane in which the blank operates, an operating-tool mounted to reciprocate longitudinally of each tool-support and provided with angular cutting edges for generating the teeth of the blank, a device for adjusting and securing said tool-supports in fixed angular relation to guide the operating-tools in paths corresponding to the angular relation of the opposite sides of a gear-tooth, means for feeding the cutting-tools about the said point as a center to approximately form the tooth and means for swinging the tools and the blank in their respective given planes to generate the curves on both surfaces of the tooth.

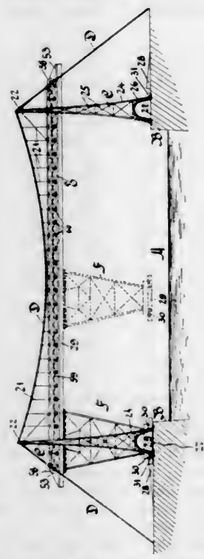
842,456. COFFEE-DRIER. DOUGLAS GORDON, Worcester, Mass., assignor to Marcus Mason & Company, New York, N. Y., a Corporation of New York. Filed May 1, 1906. Serial No. 314,612.

Claim.—A drier comprising two concentric perforated cylinders arranged one within the other, opposite end heads therefor, hollow trunnions projecting from said heads, one of said trunnions arranged to be connected with a supply of air under pressure, and the other of said trunnions closed to the exterior and provided interiorly with a deflector, and a central tube opening at both ends into the said trunnions, the outer diameter of said tube being smaller than the inner diameter of said trunnions, whereby a passage is left between the trunnions and the tube for air-currents, substantially as set forth.

842,456.



842,457. AERIAL FERRY. SAMUEL B. HARDING, Waukesha, Wis. Filed July 12, 1906. Serial No. 325,815.



Claim.—1. In combination with a highway along one side of a gulf, an aerial ferry across said gulf comprising a supporting-tower spanning said highway and permitting passage thereon, said tower having also a clear opening transverse to said highway, a bridge spanning said gulf and supported on said tower, and a car suspended from said bridge and adapted to pass through the opening in said tower.

2. In combination with a pair of highways along the margins of a gulf, towers or piers erected over the highways and arranged to clear said highways to permit unobtructed traffic thereon, said piers having each a clear opening transverse to said highways, a bridge supported on said piers or towers and spanning the gulf, and a car suspended from said bridge and arranged to pass through said openings, whereby said towers or piers do not obstruct either the movements of said car or the traffic on said highways.

3. An aerial ferry comprising a pair of supporting-towers, a truss-span supported thereon and having a runway, a suspended car rolling on said runway, and highways under said towers transverse to said runway; said towers having each a longitudinal opening therethrough permitting said car to pass through said towers, and a transverse opening over said highway to permit unobstructed traffic thereon.

4. An aerial ferry comprising a tower or pier, a bridge-span supported at one end on said tower or pier and having an overhang beyond the latter, a suspended car carried by said bridge-span and adapted to run through said tower upon said overhang, and a highway running transversely under said tower, the latter having a clear opening to permit traffic on said highway.

5. An aerial ferry comprising towers or piers each having a longitudinal opening, a truss spanning said towers and having an overhang at each end thereof and extending beyond said towers or piers, a runway carried by said truss from end to end thereof, and a suspended car running on said runway and having a wheel-base part or all of which extends through the openings in said towers or piers at the ends of its travel.

6. An aerial ferry comprising a tower or pier having a longitudinal opening in the center, a suspension-cable mounted on one end of said tower or pier, means for supporting said suspension-cable at the other end thereof, a stiffening-truss supported by said cable and passing through and beyond said opening, a runway carried by said stiffening-truss, and a car running on said runway and entering the opening of said towers or piers at the end of its travel, a part of said car passing completely through and beyond said opening.

7. In an aerial ferry or tramway, suspension means permitting lateral oscillation comprising a pair of wheels carrying a journal, a bearing-block resting on said journal, a hanger pivoted to swing transversely from said bearing-block, and a pivotal connection between said hanger and the frame of said car.

8. In an aerial ferry or tramway, suspension means permitting lateral oscillation comprising a pair of wheels carrying a journal, a bearing-block resting on said journal, a hanger pivoted to swing transversely from said bearing-block, and a longitudinal hinge-joint connecting the lower end of said hanger to the car-frame.

9. In an aerial ferry or tramway, suspension means permitting lateral oscillation comprising a pair of wheels carrying a journal, a bearing-block resting on said journal, a hanger pivoted to swing transversely from said bearing-block, a stirrup-bolt having its center bar longitudinally pivoted on said hanger, and means for supporting the car-frame from said stirrup-bolt.

10. In an aerial ferry or tramway, suspension means permitting lateral oscillation comprising a pair of wheels carrying a journal, a bearing-block resting on said journal, a hanger pivoted to swing transversely from said bearing-block, a stirrup-bolt having its center bar longitudinally pivoted on said hanger, springs supported by said stirrup-bolt, and a car-frame resting on said springs.

11. In an aerial ferry or tramway, suspension means permitting lateral oscillation comprising a pair of wheels carrying a journal, a bearing-block resting on said journal, a hanger pivoted to swing transversely from said bearing-block, a stirrup-bolt having its center bar longitudinally pivoted on said hanger, a member connecting the ends of said stirrup-bolt and secured thereto, springs resting on said member, and a car-frame having a sole-plate resting upon said springs.

12. In an aerial ferry or tramway, in combination with a car-frame comprising in part longitudinal beams or sills, a plurality of wheels, a plurality of hangers supported by said wheels, and a plurality of springs supported by said hangers and supporting said longitudinal beams, whereby the weight resting on the respective wheels is substantially equalized.

13. In an aerial tramway, the combination of a pair of parallel longitudinal sill-beams comprising a part of a car-frame, a plurality of wheels, a plurality of hangers supported by said wheels and depending therefrom, and a plurality of springs supported by said hangers and supporting in turn said sill-beams.

14. In combination with a pair of longitudinal sill-beams forming a part of a car-frame, one or more pairs of wheels connected by journals, one or more hangers suspended from said journals and mounted to oscillate longitudinally with respect thereto, said hangers depending between said sill-beams, yokes pivoted to the lower ends of the respective hangers on a longitudinal axis and depending below said sill-beams, springs supported by said yokes, and means for transferring the weight of said sill-beams to said springs.

15. In combination with a pair of longitudinal sill-beams forming a part of a car-frame, one or more pairs of wheels connected by journals, one or more hangers suspended from said journals and mounted to oscillate longitudinally with respect thereto, said hangers depending between said sill-beams, yokes pivoted to the lower ends of the respective hangers on a longitudinal axis and depending below said sill-beams, springs supported by said yokes, means for transferring the weight of said sill-beams to said springs, and abutment-pieces carried by said sill-beams for the end faces of said hangers to overcome bending tendencies caused by rolling friction of said wheels upon said track and maintain said hangers rigidly upright.

16. In an aerial ferry or tramway, the combination of a pair of parallel tracks, a suspended car, rollers running on said tracks, and suspension-joints between said rollers and said car permitting the rollers severally a limited amount of lateral parallel translational motion with respect to the car.

17. In an aerial ferry or tramway, the combination of a pair of double tracks, each track composed of two parallel rails, hangers each carrying a pair of rollers running on the respective rails of each track, a suspended car, and a connection between said car and hangers permitting a limited amount of lateral motion to the several rollers without oscillating them, whereby to take up lateral irregularities in the gage of the track.

18. In an aerial ferry or tramway, the combination of a pair of double tracks, each track composed of two parallel rails, a plurality of pairs of rollers running on the respective rails of each track, a suspended car, and flexible connections between the car and said pairs of rollers permitting a limited amount of lateral translational motion to the several pairs of rollers independently of one another while maintaining an equal pressure of the opposite wheels of each pair upon the track.

19. In a ferry or tramway, the combination of a pair of double tracks, each track composed of two parallel rails, two pairs of rollers running on the respective rails of each track, a suspended car, and a connection having a double longitudinal hinge between each pair of rollers and the car, whereby the car may have a lateral translational movement relative to either or both pairs of wheels without altering the distribution of pressure on the several rails.

20. In an aerial ferry or tramway, the combination of a pair of double tracks each track composed of two parallel rails, a plurality of pairs of rollers running on the respective track, a suspended car, and independent connections between each pair of wheels and the car, each of said connections comprising a member pivoted at its opposite ends on longitudinal axes to the car and the pair of wheels respectively.

21. In an aerial ferry or tramway, the combination of a track, a car suspended therefrom and rolling thereon, a pair of driving-sheaves at opposite ends of said track, an endless cable running over said sheaves, a cable-attachment piece on said car secured to said cable at one point thereof, and a pair of motors at opposite ends of said track adapted to rotate the respective driving-sheaves.

22. In an aerial ferry or tramway, the combination of a

track, a car suspended therefrom and rolling thereon, a pair of driving-sheaves at opposite ends of said track, an endless cable running over said sheaves, a cable-attachment piece on said car secured to said cable at one point thereof, a motor adapted to rotate one of said driving-sheaves so as to move said car along said track, and a mechanism on said car for controlling said motor.

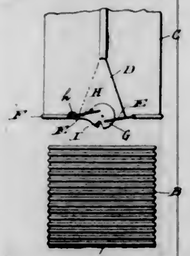
23. An aerial ferry or tramway comprising a raised track, a car suspended from and rolling on said track, a cable to which said car is attached, sheaves at each end of said track operating said cable, an electric motor operating one of said sheaves, a controlling mechanism for said motor, an auxiliary motor adapted to operate said controlling mechanism, and a second controlling mechanism on said car electrically connected with said auxiliary motor and adapted to control its movements.

24. An aerial ferry or tramway comprising a raised track, a pair of driving-sheaves at opposite ends thereof, an endless cable passing around said sheaves and driven thereby, a suspended car rolling on said track and connected to said cable at one point thereof, a pair of electric motors driving the respective sheaves, and a controlling mechanism on said car adapted to operate said motors.

25. An aerial ferry or tramway comprising a raised track, a pair of driving-sheaves at opposite ends thereof, an endless cable passing around said sheaves and driven thereby, a suspended car rolling on said track and connected to said cable at one point thereof, a pair of electric motors driving the respective sheaves, a controlling mechanism in circuit with each motor and adapted to control the movements thereof, auxiliary motors connected with the respective controlling mechanisms, and a central controlling mechanism on said car adapted to control the movements of both of the said auxiliary motors and thereby those of the main motors and of said car, substantially as described.

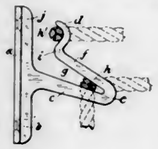
26. An aerial ferry comprising a pair of raised towers, each consisting of a pair of piers separated in the center and the two piers connected together at the top of said opening to form a bent leaving a clear opening through the center, a bridge-truss supported by said towers and overhanging the latter on each end, a track running from end to end of said truss, a suspended car mounted on said track and arranged to pass through the openings in said towers and beyond said towers at the ends of its travel, a pair of driving-sheaves rotating in vertical planes at the opposite ends of said truss, a motor actuating one of said driving-sheaves, a plurality of roller-sheaves supporting each lap of said cable, an attachment-piece mounted on said car and overhanging the lower row of roller-sheaves and connected to said cable, and means on said car for electrically controlling the movements of said motor.

842,458. STOVEPIPE. HENRY D. HART and FRED L. HART, West Mineral, Kans. Filed Mar. 25, 1905. Serial No. 252,036.



Claim.—An adjustable length for stovepipes comprising the combination of a length having its entire surface annularly corrugated, an uncorrugated sleeve slidably mounted over said corrugated length, one end of said sleeve having overlapping ends with its edge curled on itself, a wire mounted in said curled portion, a disk revolubly mounted on the outer of said overlapping ends, the two ends of the wire eccentrically secured to the disk and so arranged that by revolving the disk the wire is shortened so as to compress the curled edge of the sleeve into one of the corrugations, a lug on the disk to engage the wire when the length is assembled, and a handle extending from the edge of the disk and having a lug thereon to engage the wire when the length is unassembled, substantially as shown and described.

842,459. CORD-FASTENER. HENRY HELLWEG, Milwaukee, Wis., assignor to Acme Heel Company, Rochester, N. Y. Filed Feb. 11, 1905. Serial No. 245,191.



Claim.—1. A cord-fastener having a tapered recess, and a surface adjacent to said recess over which the cord is adapted to be thrown and pulled tight, and thence while still tight shifted into and gripped by said recess.

2. A cord-fastener comprising a base adapted to be secured to a fixed object, and a member having a tapered recess whose narrow end extends away from said base, and a tightener-surface at the wider end of said recess and approximately at right angles to the plane of the recess, and over which the cord is adapted to be thrown and tightened previously to being slipped into said recess.

3. A cord-fastener comprising a base adapted to be secured to a fixed object, a fastener-hook extending therefrom and having a tapered recess, and a supplementary hook at the wider end of said recess.

4. A cord-fastener comprising a base adapted to be secured to a fixed object, a fastener-hook having a tapered recess projecting from said base, one side of said recess having a groove therein, and a supplementary hook formed on the recurved end of said fastener-hook.

5. A cord-fastener comprising a base adapted to be secured to a fixed object, a fastener-hook extending outwardly therefrom and having a backwardly-bent end portion forming a wedge-shaped recess, and a tightener-surface at the wide end of said recess over which a cord is adapted to be thrown and pulled tight and thence shifted into said recess.

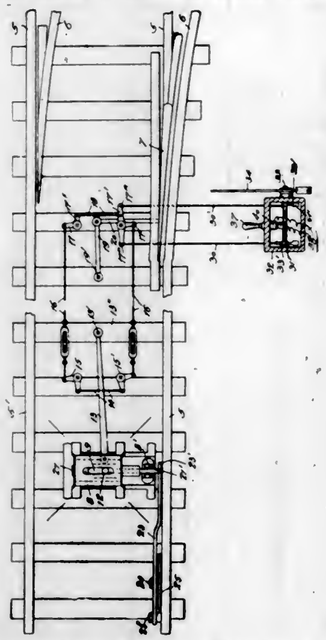
6. A cord-fastener comprising a base adapted to be secured to a fixed object, a member *c* extended outwardly therefrom in a plane substantially at right angles thereto, a backwardly-bent portion *f* forming an elbow *e* and a wedge-shaped recess *g*, and a supplementary hook *d* formed on the end of said portion *f*.

842,460. RAILWAY-SWITCH. PHILIP D. HIBNER, Seattle, Wash. Filed Mar. 15, 1906. Serial No. 306,100.

Claim.—1. The combination with a railway-track and a swinging switch-tongue, of a frame, a chambered block having guideways on the outer face of its side walls, said block being slidable within said frame, mechanical connections between said tongue and the block, a vertically-movable pin carried by the block and adapted to be normally in its lowermost position, and means actuated by a car-wheel whereby said pin is elevated into operative position.

2. The combination with a railway-track and a swinging switch-tongue, of a frame in the track-bed, a chambered block having guideways on the outer face of its side walls, said block being slidable within said frame, mechanical connections between said tongue and the block, a normally-depressed pin carried by the block, means actuated by the wheel of the car for protruding the said pin above the top of said frame, and devices carried on the car and adapted to be controlled therefrom whereby the said pin is engaged to predeterminately move said tongue in either direction.

3. The combination with a railway-track, a swinging switch-tongue, of a frame having transversely-arranged guides, a block slidably mounted on said guides, a vibratory lever connected to said block, mechanical connections between the lever and said tongue, a device carried by said block and arranged to be normally in its lowermost position, means actuated by the wheel of a car for raising said device into position to be engaged by devices carried upon the car when the same are depressed, said last-named devices, and means to control the actions thereof.



4. The combination with a railway-track, a swinging switch-tongue and a semaphore, of a frame having transversely-arranged guides, a block slidably mounted on said guides, a vibratory lever connected to said block, mechanical connections between the lever and said tongue and also between the lever and the semaphore, a device carried by said block and arranged to be normally in its lowermost position, means actuated by the wheel of a car for raising said device into position to be engaged by devices carried upon the car when the same are depressed, said last-named devices, and means to control the actions thereof.

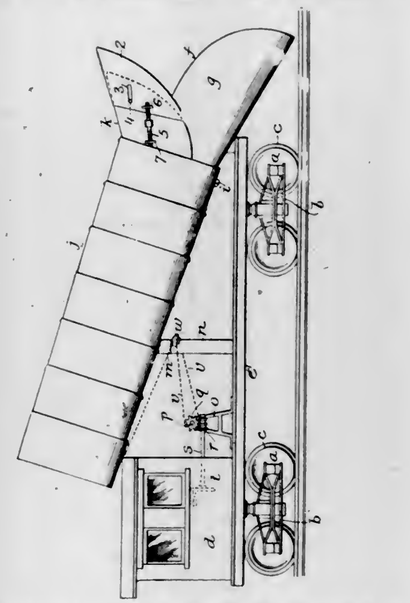
5. The combination of a railway-track, a switch-tongue, a slidable chambered block having guideways on the outer face of its side walls, mechanical connections between the block and the tongue, and means actuated by the wheel of a car for rendering the said block capable of being engaged by devices carried by the car for predeterminately swinging said tongue.

6. The combination of a railway-track, a switch-tongue, a semaphore, a slidable chambered block having guideways on the outer face of its side walls, mechanical connections between the block and the tongue and also with the said semaphore, and means actuated by the wheel of a car for rendering the said block capable of being engaged by devices carried by the car for predeterminately swinging said tongue.

7. The combination of a railway-track, a switch-tongue, a slidable block, mechanical connections between the block and the tongue, and means actuated by the wheel of a car for rendering the said blocks capable of being engaged by devices carried by the car for predeterminately swinging said tongue, said devices and comprising a vertically-movable spindle having an offset in its lower portion, a blade connected to said offset portion of the spindle, a spring tending to maintain the spindle at its most elevated position, a shaft having an arm at its top end, means to retain the shaft in various rotary positions, and operative connection between the shaft and the spindle.

8. The combination of a railway-track, a switch-tongue, a semaphore, a slidable block, mechanical connections between the block and the tongue and also with the said semaphore, and means actuated by the wheel of a car for rendering the said block capable of being engaged by devices carried by the car for predeterminately swinging said tongue, said devices and comprising a vertically-movable spindle having an offset in its lower portion, a blade connected to said offset portion of the spindle, a spring tending to maintain the spindle at its most elevated position, a shaft having an arm at its top end, means to retain the shaft in various rotary positions, and operative connection between the shaft and the spindle.

842,461. RAILWAY SNOW-PLOW. NELS HILL, Sykeston, N. D. Filed June 28, 1906. Serial No. 323,920.



Claim.—1. In a railway snow-plow, the combination of a car; a scoop mounted thereon; a funnel mounted on said car and free to swing from side to side thereof, said funnel being provided with a mouthpiece which projects outwardly over said scoop; and means for swinging said funnel.

2. In a railway snow-plow, the combination of a car; a scoop mounted thereon; a funnel mounted free to swing on said car and provided with an outwardly-projecting mouthpiece; and a hood mounted free to slide on said mouthpiece lengthwise of said car.

3. In a railway snow-plow, the combination of a car; a scoop provided with cutters intermediate its sides; a funnel extending upwardly and rearwardly from said scoop and pivotally secured thereto and provided with a mouthpiece extending outwardly over said scoop; and means for shifting said funnel.

4. In a railway snow-plow, the combination of a car; a flexible funnel made up of several sections pivotally secured together; and a scoop pivotally secured to which is the forward section of said funnel.

5. In a railway snow-plow, the combination of a car provided with a cab near one end thereof; a scoop mounted at the other end of said car; a funnel mounted free to swing on said car from side to side thereof; and mechan-

ism operable from said cab for swinging said funnel, said mechanism comprising a windlass; cords secured to said funnel and windlass; and means for rotating said windlass.

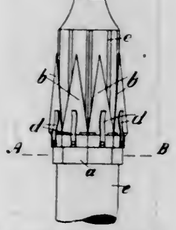
6. In a railway snow-plow, the combination of a car; a scoop mounted thereon; a funned mounted free to swing on said car; a windlass mounted on said car; and cords connected with said funnel and windlass.

842,462. COIN-CONTROLLED ACTUATING MECHANISM FOR AUTOPNEUMATIC PIANOS. ADAM J. HOBART, St. Johnsville, N. Y., assignor to Roth and Engelhardt, New York, N. Y., a Firm. Filed Apr. 28, 1905. Serial No. 257,827.



Claim.—In a coin-controlled actuating mechanism for autopneumatic pianos, an upper run having an inclined bottom-rail, a lower coin-run provided at one end with a weight and pivoted at its weighted end and held normally upon an incline, an upper resilient contact arranged beneath the upper contact and a lower contact, the lower run shielding the contacts from engagement by the coin in its passage over the run.

842,463. CANDLE-EXTINGUISHER. JOHANN KAISERREINER, Haag, Austria-Hungary. Filed Apr. 6, 1906. Serial No. 310,280.



Claim.—1. In a candle-extinguisher, in combination, a ring fitting on the candle, spring-actuated flap-tongues hinged to such ring, and stops at the lower inner edges of such flap-tongues, these stops being adapted to bear upon the upper edge of the said ring, substantially as and for the purpose set forth.

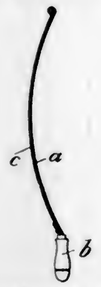
2. In a candle-extinguisher, in combination, a ring fitting on the candle, spring-actuated flap-tongues hinged to such ring, and longitudinal ridges on the inner surface of the ring, substantially as and for the purpose specified.

842,464. NEWSPAPER-HOLDER. ALWIN KETZSCHER, Rixdorf-Berlin, Germany. Filed Mar. 12, 1906. Serial No. 305,542.

Claim.—1. In a holder for newspapers the combination of a rigid curved rod, a second curved rod fastened to the first in a suitable manner, and means for pressing both rods against one another, as and for the purpose specified.

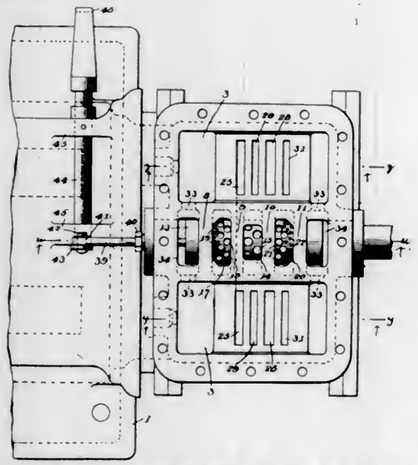
2. In a holder for newspapers the combination of a rigid curved rod, an elastic curved rod or strip pivotally secured to one end of the latter, and means for keeping both rods together, as and for the purpose specified.

3. In a holder for newspapers the combination of a rigid curved rod, a handle provided at the one end, a second curved rod fastened to the other end, and means for keeping both rods together, as and for the purpose specified.



4. In a holder for newspapers the combination of a rigid curved rod, a handle provided at one end, a second curved rod secured to the other end, and a locking device within the handle capable of keeping both rods together, as and for the purpose specified.

842,465. STEAM-ENGINE. GEORGE W. KING, HARRY J. BARNHART, and CHARLES B. KING, Marion, Ohio, assignors to The Marion Steam Shovel Company, Marion, Ohio, a Corporation of Ohio. Filed Aug. 3, 1904. Serial No. 219,267.



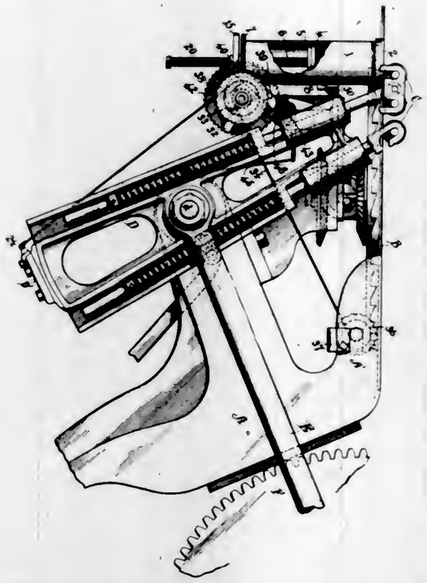
Claim.—1. In a reversing-engine, two parallel cylinders having their adjacent sides in contact, steam-chests mounted on the upper sides of said cylinders arranged to form a reversing-valve chamber between their adjacent walls, and a common closure for said steam-chests and said chamber, substantially as described.

2. In a reversing-engine, a casting comprising two parallel cylinders having their walls directly united, and two parallel but separated steam-chests mounted on corresponding sides of said cylinders, and a reversing-valve chamber formed in said casting between side walls of the steam-chests and an exhaust-chamber between said steam-chests and said cylinder, substantially as described.

3. In a reversing-engine, a casting comprising two parallel cylinders having their walls directly united, and two parallel but separated steam-chests mounted on corresponding sides of said cylinder, said casting being provided with a reversing-valve chamber located between the steam-chests, steam-passages in the portion of the casting between the steam-chests and cylinders, and an exhaust-chamber between said last-mentioned portion of the casting and the cylinder-walls, substantially as described.

4. In a reversing-engine, the combination, with two parallel cylinders having their adjacent sides in contact, two steam-chests mounted on the upper sides of said cylinders and arranged to form a chamber between their adjacent walls, of an exhaust-chamber between said steam-chests and the contacting walls of said cylinders, substantially as described.

842,466. INK-FOUNTAIN FOR PRINTING-PRESSES. JOHN W. KOHL, Marshfield, Wis., assignor of one-half to George H. Reynolds. Filed Nov. 6, 1905. Serial No. 286,097.



Claim.—1. In a mechanism of the class described, a printing-press and its disk, in combination with an ink-containing cylinder adjacent to the edge of said disk and perpendicular to the plane of said disk, a top for said cylinder containing a plurality of perforations, means whereby said cylinder is removably secured on the frame of the press, an ink-expelling piston, automatically actuated by the press and permanently arranged thereon, means upon the front of the press adapted to regulate the operation of said piston and means for automatically stopping the movement of said piston when the impression of the press is thrown off, substantially as described.

2. A printing-press and its disk, in combination with an ink-reservoir fastened on the frame of said press and provided with a perforated top adjacent to the edge of said disk in the plane thereof, a piston in said reservoir, a piston-rod attached to said piston, a worm-gear screw-threaded upon said rod, a worm for actuating said gear, and a driving connection between a moving part of said press and said worm, substantially as described.

3. A printing-press and its disk, in combination with an ink-reservoir fastened on the frame of said press and provided with a perforated top adjacent to the edge of said disk in the plane thereof, a piston in said reservoir, a piston-rod attached to said piston, a worm-gear screw-threaded upon said rod, a worm for actuating said gear, a driving connection between a moving part of said press and said worm and a regulable driving connection, substantially as described.

4. A printing-press and its disk, in combination with an ink-reservoir fastened on the frame of said press and provided with a perforated top adjacent to the edge of said disk in the plane thereof, a piston in said reservoir, a piston-rod attached to said piston, a worm-gear screw-threaded upon said rod, a worm for actuating said gear, a driving connection between a moving part of said press and said worm, a regulable driving connection and automatic means for stopping the operation of said worm, substantially as described.

5. A printing-press and its disk, in combination with an ink-reservoir having a perforated top in the plane of said disk and held adjacent to the edge thereof, a piston in said reservoir, a threaded wheel fitting said rod and closing the bottom of said reservoir beneath the piston, means supporting said wheel and regulable means for actuating said wheel from a moving part of the press, substantially as described.

6. In an ink-fountain, an ink-reservoir, a piston in said reservoir, a piston-rod attached to said piston, a worm-gear screw-threaded upon said piston-rod, a shaft in a plane transverse to the axis of said worm-gear, a worm upon said shaft in juxtaposition to said worm-gear, an oscillatory drum loosely mounted upon said shaft and a ratchet connection between said shaft and said drum, substantially as and for the purpose described.

7. In an ink-fountain, an ink-reservoir, a piston in said reservoir, a piston-rod attached to said piston, a worm-gear screw-threaded upon said piston-rod, a shaft in a plane transverse to the axis of said worm-gear, a worm upon said shaft in juxtaposition to said worm-gear, an oscillatory drum loosely mounted upon said shaft, a ratchet connection between said drum and said shaft and regulatable means for limiting the degree of oscillation of said drum, substantially as and for the purpose described.

8. In an ink-fountain, an ink-reservoir, a piston in said reservoir, a piston-rod attached to said piston, a worm-gear screw-threaded upon said piston-rod, a shaft in a plane transverse to the axis of said worm-gear a worm upon said shaft in juxtaposition to said worm-gear, an oscillatory drum mounted upon said shaft, a ratchet connection between said shaft and drum, means for actuating said drum and means for automatically interrupting the oscillation of said drum, substantially as and for the purpose described.

9. In a mechanism of the class described, a suitable bracket or support, in combination with a cylinder detachably secured thereto and having a perforated upper end, a piston in said cylinder, a piston-rod, a piston-rod driver arranged in the bracket and inclosing the lower end of said cylinder, a driver-shaft borne by the bracket and suitably connected with said driver and single-direction intermittent operating means on said shaft, substantially as described.

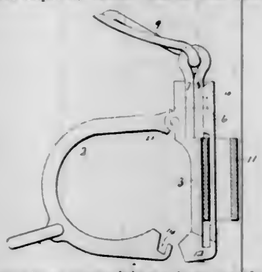
10. In a mechanism of the class described, a suitable bracket or support, in combination with an ink-reservoir arranged thereon and having a perforated end, a piston, a piston-rod, a piston-driver, the shaft thereof, an intermittent actuating-drum and a cord for connecting the same with a moving part of the printing-press, substantially as described.

11. In a mechanism of the class described comprising an ink-reservoir having a perforated end, in combination with a piston, a piston-rod, a piston-rod driver, the shaft thereof, a single-direction-actuating mechanism arranged on said shaft and a cord connecting the same with a moving part of the printing-press, substantially as described.

12. A mechanism of the class described comprising an ink-reservoir having a perforated end, in combination with a piston, a piston-rod, a piston-rod driver, a ratchet for preventing backward movement of said driver, an intermittent spring-retracted actuating mechanism connected with said driver and a cord for connecting the same with a moving part of a press, substantially as described.

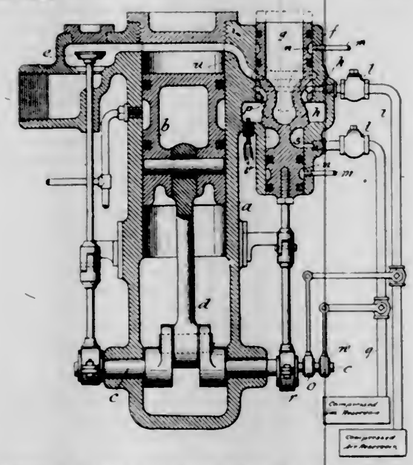
13. A mechanism of the class described comprising an ink-reservoir having a perforated end, in combination with a piston, a piston-rod, a piston-rod driver, a ratchet for preventing backward movement of said driver, an intermittent spring-retracted actuating mechanism connected with said driver, a cord for connecting the same with the moving part of a press and means adapted to be attached to a press for shortening and lengthening said cord to regulate the action of the mechanism, substantially as described.

842,467. TUG-LOOP. RICHARD P. KRONKE, Meriden, Conn. Filed Sept. 8, 1906. Serial No. 333,755.



Claim.—A tug-loop comprising a loop member and a gate hinged thereto said gate formed with a transverse slot, the lower end of the gate adapted to enter a notch formed in the end of the loop, the end of the loop formed with recesses in line with said slot in the gate when the gate is in the closed position and a tuck-loop passing through said slot and adapted at its lower end to enter said recesses—substantially as described.

842,468. EXPLOSION-ENGINE. JONAS T. LAGERGREN, New York, N. Y. Filed May 16, 1905. Serial No. 260,605.

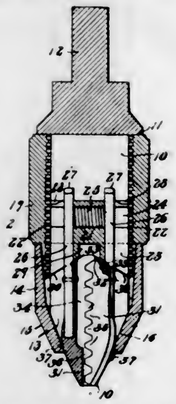


Claim.—1. In an explosion-engine, a main cylinder provided with a reciprocating piston, a valve-cylinder and a valve working therein and forming separate annular air and gas chambers when the valve is in the closed position, means for introducing compressed air and gas into said air and gas chambers respectively, said chambers upon the opening of the valve being united into one chamber which after the union of said separate annular chambers serves as an explosion-chamber for the therein-contained fluids under pressure, and an intercommunicating port between said explosion-chamber and the main piston-cylinder, substantially as shown and described.

2. In an explosion-engine, a main cylinder, a casing adjacent thereto and the opposite end portions of which are formed into piston-valve cylinders, a combination piston-valve mounted in said casing and comprising two end piston-valve members movable in said cylinders and connected by a reduced portion forming a gas-chamber, said casing being also provided centrally thereof with an air-chamber, said gas and air chambers being thrown into communication by the movement of the piston-valve to form an explosion-chamber, a gas-supply connected with one end portion of said casing and adapted to supply gas to said gas-chamber, an air-supply connected with the opposite end portions of said casing, and ports or passages formed in the piston-valve member in the last-named end portion of said casing and adapted to form a communication between the air-supply and the air-chamber, the last-named end portion of said casing being also provided with a port or passage which communicates with the main-piston cylinder and said air-chamber being provided with an igniter, substantially as shown and described.

3. In an explosion-engine, a main cylinder provided with a main piston and a casing at one side thereof, said casing being composed of two parts forming piston-valve cylinders, a combination piston-valve mounted in said casing and composed of two piston-valve members connected by a reduced neck-shaped portion forming a gas-chamber, said casing being also provided with an air-chamber, an air-supply device connected with one end portion of said casing, a gas-supply connected with the opposite end portion of said casing, and means whereby the movement of said piston-valve will form a communication between the gas-chamber and the air-chamber, and between the air-supply and the air-chamber, and between the air-chamber and the main cylinder, substantially as shown and described.

842,469. CHUCK. JOHN A. LELAND, Millers Falls, Mass., assignor of one-half to Herbert J. Leland, Millers Falls, Mass. Filed Dec. 2, 1905. Serial No. 290,034.



Claim.—A chuck comprising a body portion provided with a longitudinal slot, a conical shell embracing the extremity of the body portion and rigidly secured thereto, an internally-threaded sleeve mounted for rotation on the body portion and bearing against the shell, a follower mounted for sliding movement in the recess of the body portion and provided with longitudinal recesses and inclined cam-faces, there being a transverse recess formed in the upper end of the follower and intersecting the longitudinal recesses, screw-threads formed along the edge of the follower and engaging the threads on the sleeve, arms seated in the longitudinal recesses of the follower and adjustable longitudinally and laterally with respect thereto, a spring seated in the transverse recess and adapted to yieldingly support the same in operative position, jaws carried by the arms and provided with cam-surfaces adapted to engage the cam-surfaces on the follower, and antifriction-rollers interposed between the cam-surfaces.

842,470. PROCESS OF MANUFACTURING SODIUM PERBORATE. OTTO LIEBKNECHT, Frankfort-on-the-Main, Germany, assignor to The Roessler & Hasslacher Chemical Company, New York, N. Y., a Corporation of New York. Filed Feb. 7, 1906. Serial No. 299,901.

Claim.—1. The process of manufacturing sodium perborate which consists in reacting on a boron compound with an alkali peroxid and carbon dioxid.

2. The process of manufacturing sodium perborate which consists in reacting on an alkali borate with an alkali peroxid and carbon dioxid.

3. The process of manufacturing sodium perborate which consists in reacting on borax with an alkali peroxid and carbon dioxid.

4. The process of manufacturing sodium perborate which consists in reacting on a boron compound with sodium peroxid and carbon dioxid.

5. The process of manufacturing sodium perborate which consists in reacting on an alkali borate with sodium peroxid and carbon dioxid.

6. The process of manufacturing sodium perborate which consists in reacting on borax with sodium peroxid and carbon dioxid.

842,471. PROCESS OF MAKING ALKALI PERBORATES. OTTO LIEBKNECHT, Frankfort-on-the-Main, Germany, assignor to The Roessler & Hasslacher Chemical Company, New York, N. Y., a Corporation of New York. Original application filed Feb. 7, 1906, Serial No. 299,901. Divided and this application filed Oct. 26, 1906. Serial No. 340,686.

Claim.—1. The process of making alkali perborates which consists in reacting on boracic acid with an alkali peroxid and carbon dioxid.

2. The process of making sodium perborate which consists in reacting on boracic acid with sodium peroxid and carbon dioxid.

842,472. PROCESS OF MAKING ALKALI PERBORATES. OTTO LIEBKNECHT, Frankfort-on-the-Main, Germany, assignor to The Roessler & Hasslacher Chemical Company, New York, N. Y., a Corporation of New York. Original application filed Feb. 7, 1906, Serial No. 299,901. Divided and this application filed Oct. 26, 1906. Serial No. 340,687.

Claim.—1. The process of making alkali perborates which consists of reacting on boracic acid with an alkali peroxid and an alkali bicarbonate.

2. The process of making sodium perborate which consists in reacting on boracic acid with sodium peroxid and an alkali bicarbonate.

3. The process of making sodium perborate which consists in reacting on boracic acid with an alkali peroxid and sodium bicarbonate.

4. The process of making sodium perborate which consists in reacting on boracic acid with sodium peroxid and sodium bicarbonate.

842,473. PROCESS OF MAKING ALKALI PERBORATES. OTTO LIEBKNECHT, Frankfort-on-the-Main, Germany, assignor to The Roessler & Hasslacher Chemical Company, New York, N. Y., a Corporation of New York. Original application filed Feb. 7, 1906, Serial No. 299,901. Divided and this application filed Oct. 26, 1906. Serial No. 340,688.

Claim.—1. The process of making alkali perborates which consists in reacting on borax with an alkali peroxid and an alkali bicarbonate.

2. The process of making sodium perborate which consists in reacting on borax with sodium peroxid and an alkali bicarbonate.

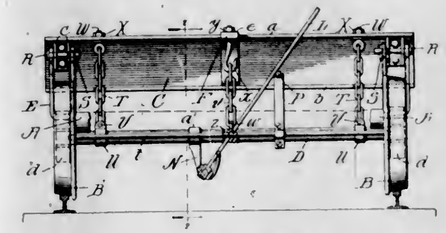
3. The process of making sodium perborate which consists in reacting on borax with an alkali peroxid and sodium bicarbonate.

4. The process of making sodium perborate which consists in reacting on borax with sodium peroxid and sodium bicarbonate.

842,474. BRAKE-RIGGING. JAMES A. LIGHTBODY, Waterville, Me. Filed Oct. 12, 1906. Serial No. 338,591.

Claim.—1. The combination in a brake-rigging, of a truck-bar, a bracket having upper and lower bars joined together and fixedly connected to upper and lower portions, respectively, of the truck-bar, a brake-beam, and a connection intermediate the bracket and the beam for hanging the latter from the former.

2. The combination in a brake-rigging, of a truck-bar having upper and lower flanges, a bracket having upper and lower bars welded together at their outer ends and fixedly connected to the upper and lower flanges, respectively, of the truck-bar; said bracket having a vertically-disposed threaded aperture in the welded portions of its bars, a bolt having a threaded shank secured in said threaded aperture, a brake-beam, and a connection intermediate said bolt and beam.



3. The combination in a brake-rigging, of a truck-bar having upper and lower flanges and also having lugs adjacent to its ends, a brake-beam, hangers connecting said lugs and the end portions of the beam, a bracket having upper and lower bars welded together at their outer ends and fixedly connected to the upper and lower flanges, respectively, of the truck-bar; said bracket having a vertically-disposed threaded aperture in the welded portions of its bars, a bolt having a threaded shank secured in said threaded aperture, and a connection between said bolt and the intermediate portion of the brake-beam.

4. The combination in a brake-rigging, of a truck-bar having upper and lower flanges, a brake-beam, a bracket having upper and lower bars joined together at their outer ends and fixedly connected at their inner ends to the upper and lower flanges, respectively, of the truck-bar, and a connection intermediate the outer portion of the bracket and the brake-beam.

5. The combination in a brake-rigging, of a brake-connecting rod, a brake-beam, and means carried by the brake-beam for supporting the brake-connecting rod.

6. The combination in a brake-rigging, of a brake-connecting rod, a brake-beam, and a safety-loop attached to the brake-beam and disposed under the brake-connecting rod.

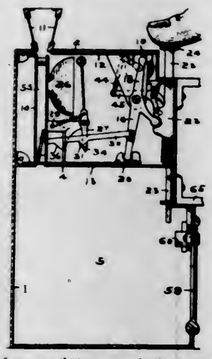
7. The combination in a brake-rigging, of a brake-connecting rod, a brake-beam, and a shackle fixed on the brake-beam, and a safety-loop connected to said shackle and disposed under the brake-connecting rod.

8. The combination in a brake-rigging of a truck-bar, a bracket having upper and lower bars fixedly connected to the upper and lower portions, respectively, of the truck-bar, a brake-beam having a bar extending at an angle from its middle and also having inclined truss-bars connecting its ends and said angular bar, hangers connecting the end portions of the truck-bar and the ends of the beam, means connecting the bracket and the outer end of the angular bar of the beam, a lever fulcrumed on said angular bar, a brake-connecting rod connected to the lower arm of said lever, and a safety-loop connected to the brake-beam and disposed under said brake-connecting rod.

9. The combination in a brake-rigging, of a truck-bar having a top flange, a brake-beam, and one or more safety-chains interposed between the top flange of the truck-bar and the beam and connected to the same, substantially as specified.

10. The combination in a brake-rigging, of a truck-bar having a top flange and a bottom flange and also having apertured lugs, a brake-beam, a bracket connected to the top and bottom flanges of the truck-bar, a connection intermediate the bracket and the beam, hangers connected to the beam and the apertured lugs of the truck-bar, and safety-chains interposed between and connected to the brake-beam and the top flange of the truck-bar.

842,475. FARE-REGISTER. WILLIAM L. LIGHTFORD, Indianapolis, Ind., assignor to John O. Sloan, Indianapolis, Ind. Filed Feb. 2, 1906. Serial No. 299,123.



Claim.—1. A fare-register consisting of a coin-receptacle, a coin-chute leading from the exterior of said register to the coin-receptacle, slides susceptible to alternate movement transversely of said chute, and means for moving said slides so that the lower end of the chute will be closed before the upper end is opened.

2. A fare-register consisting of a coin-receptacle, a coin-chute leading from the exterior of said register to the coin-receptacle, slides, and means for alternately moving said slides across the ends of the chute to constantly keep the latter obstructed.

3. A fare-register consisting of a coin-receptacle, a coin-chute leading from the exterior of the register to the coin-receptacle, means for determining the admission of the coin into the coin-chute, means for determining the admission of the coin from said chute to the coin-receptacle, and means for counting said coin in advance of such admission.

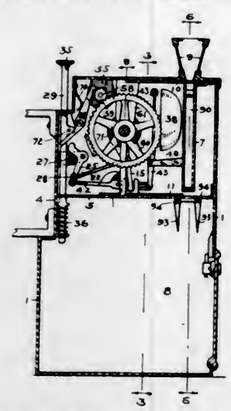
4. A fare-register consisting of a coin-receptacle, a coin-chute leading from the exterior to the coin-receptacle, slides susceptible to movement transversely of said chute, means for unevenly moving said slides across the opening of said chute, a counter, said counter being actuated by the slide-actuating means, a signal device, means for actuating said signal device, and means to restore the parts to normal.

5. A fare-register consisting of a coin-receptacle, a coin-chute leading from the exterior to the coin-receptacle, slides susceptible to movement transversely of said chute, means for alternately actuating said slides of each other, and safety means mounted within the coin-chute and adapted to close the latter by gravitation when the register is tilted at right angles to the movement of said slides.

6. A fare-register consisting of a coin-receptacle, a coin-chute leading from the exterior to the coin-receptacle, slides susceptible to movement transversely of said chute, means for alternately actuating said slides of each other, a safety means pivotally mounted within the coin-chute, and adapted to close the latter when the register is tilted at right angle to the movement of said slides, and safety means pivotally arranged on both sides of the discharge end of the coin-chute, and adapted to close the latter when the register is inverted.

7. A fare-register consisting of a coin-receptacle, a coin-chute leading from the exterior to the coin-receptacle, a slide at the entrance to said chute for temporarily supporting the fare, a safety-slide at the discharge end of said chute, a vertical lever engaging both slides, a sliding bar engaging said vertical lever for actuating both slides, a counter, means on the counter to be engaged and operated by said sliding bar, a bell, a bell-hammer lever provided with a hook, a horizontal lever pivotally attached to the vertical lever and riding on the bell-hammer lever, a shoulder formed on the horizontal lever to engage said hook and operate said bell-hammer lever, an inclined face on said bell-hammer lever, and a guide for said horizontal lever which engages the inclined face, to disconnect said lever from the bell-hammer lever.

842,476. FARE-REGISTER. WILLIAM L. LIGHTFORD, Indianapolis, Ind., assignor to John O. Sloan, Indianapolis, Ind. Filed Feb. 2, 1906. Serial No. 299,124.



Claim.—1. A fare-register comprising a coin-receptacle, a coin-chute leading to said receptacle, safety-slide means adapted to move transversely across said chute, means for operating said safety-slide means in opposite directions, a counter, a counter-setting means for said counter, retaining means for holding the parts after the counter is set, means to release said setting means, and means for restoring all the parts, excepting the counter, to normal.

2. A fare-register comprising a coin-receptacle, a coin-chute leading to said receptacle, a plurality of slides for opening and closing the coin-chute, a lever engaging the slides, a vertical sliding bar for operating the slides, means for connecting the lever and vertical sliding bar together, a counter, a counter-setting means for setting the counter, stop means for holding the setting means in given positions, an operating slide-bar extending to the exterior for releasing the stop means, and a restoring means for restoring the parts to normal.

3. A fare-register comprising a coin-receptacle, a coin-chute leading to and communicating with said receptacle, slides movably mounted in the register and adapted to close and open the coin-chute, a counter, means extending externally of the register for setting said counter, a stop device for holding the parts when the counter is set, and a single operating means extending externally of the register for moving both slides and for releasing the counter-setting mechanism.

4. A fare-register comprising a coin-receptacle, a coin-chute leading to and communicating with said receptacle, slides movably mounted in the register and adapted to close and open the coin-chute, a counter, means extending externally of the register for setting said counter, a stop device for holding the parts when the counter is set, a single operating means extending externally of the register for moving both slides and for releasing the counter-setting mechanism, and restoring means to restore the parts to normal.

5. A fare-register comprising a coin-receptacle, a coin-chute leading to and communicating with said receptacle, slides movably mounted in the register and adapted to close and open the coin-chute, a counter, means extending externally of the register for setting said counter, a stop device for holding the parts when the counter is set, a single operating means extending externally of the register for moving both slides and for releasing the counter-setting mechanism, restoring means to restore the parts to normal, a bell, a bell-striking mechanism, and a single operating means extending externally of the register for actuating said bell-striking mechanism.

6. A fare-register comprising a coin-receptacle, a coin-chute leading to and communicating with said receptacle, slides movably mounted in the register and adapted to close and open the coin-chute, a counter, means extending externally of the register for setting said counter, a stop device for holding the parts when the counter is set, a bell, a bell-striking mechanism, a single operating means extending externally of the register for moving both slides, releasing the counter-setting mechanism and actuating the bell-striking mechanism, and restoring means for restoring the parts to normal.

842,477. BEARING-METAL PACKAGE. NAPOLEON LODOR, Chattanooga, Tenn. Filed Sept. 29, 1906. Serial No. 336,792.



Claim.—1. A bearing-metal ingot, having an internal cavity, adapted to receive the unmelted body of flux, the said cavity having open vents extended through the face of the ingot.

2. A package or ingot composed of a body of bearing metal having an internally-held fluxing material prepared and ready for melting, said bearing-body having an open vent in communication with the fluxing material, for the purposes described.

3. A bearing-metal ingot provided with an internal cavity, a body of flux adapted to be melted and cast with the ingot held within the said cavity and an open vent in the ingot in communication with the flux, for the purposes described.

4. A bearing-metal ingot of spherical shape, having an internal cavity, a body of flux adapted to be melted and cast with the ingot held within the cavity and an open vent in the ingot that discharges through the side of the spherical body.

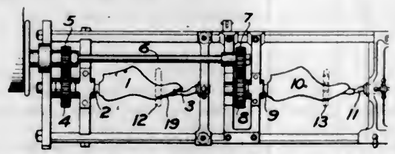
5. A bearing-metal ingot, composed of two sections, one of said sections having an internal cavity and a vent in communication therewith that extends through the side of the ingot, said cavity being adapted to receive the flux to be melted and cast with the ingot, the two parts having means for locking together, as set forth.

6. A bearing-metal ingot prepared and ready for being bodily melted, consisting of two sections, one of which has a cavity and a vent-groove that extends through the peripheral edge of the ingot, a body of flux, adapted to be melted and cast with the ingot held within the said cavity and means forming a part of the ingot for joining the two parts together.

7. A bearing-metal ingot prepared and ready for being bodily melted, composed of two parts, one of the said parts having a plurality of pockets in communication with each other and vents for the said pockets that extend through the sides of the ingot, one of the said parts having a central aperture and the other part having a shank adapted to project through said aperture whereby it can be upset to clench the two parts together for the purposes described.

8. As a new article, a bearing-metal package, consisting of two half-sections, one of which has cavities adapted for receiving the body-flux adapted to be melted and cast with the ingot, one or both of the sections having vent-grooves in communication with the said cavities, the two sections having means for locking together after the body of flux has been filled in the internal cavity, as set forth.

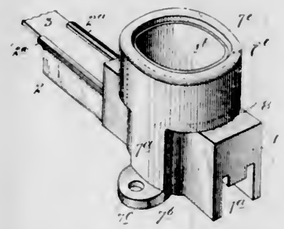
842,478. METHOD OF MANUFACTURING LASTS. HENRY F. LOEWER, Rochester, N. Y. Filed July 26, 1905. Serial No. 271,387.



Claim.—1. The method of manufacturing lasts in a last-lathe, consisting in first, connecting the lathe center with the last-form at the toe at a point below the point of the toe but with the center of rotation passing through the point of the toe; second, centering the last-block; third, cutting so far toward the center of rotation that the toe of the last is wholly above the projection supported by the lathe center, whereby the cutter cuts around and forms the whole bottom edge of the last; and lastly, trimming off all the material beneath and up to said bottom.

2. The method of manufacturing lasts in a last-lathe, consisting in first, connecting the lathe center with the last-form at the toe at a point below the point of the toe but with the center of rotation passing through the point of the toe, whereby the lathe center engages the last-form eccentrically to the center of rotation; second, centering the last-block; third, cutting so far toward the center of rotation that the guide-roller of the last-lathe may engage both sides of the angle forming the edge of the bottom including the toe, whereby the cutter cuts around and forms the whole bottom edge of the last, and leaves a projection at the toe eccentric to the center of rotation; and lastly, trimming off all the material beneath and up to said bottom edge.

842,479. MEANS FOR SUPPORTING RECEPTACLES AND THE LIKE. GEORGE A. LUTZ, New York, N. Y., and CLARENCE C. SIBLEY, Perth Amboy, N. J. Filed Oct. 26, 1905. Serial No. 284,560.



Claim.—1. In a device of the character described the combination of a cap, and a base having electrical fittings within the cap, with a frame fitting upon the cap and provided with means for attachment to a support independent of a conduit to hold the cap in place.

2. In a device of the character described, the combination of a conduit, with a cap fitting thereover, and a frame fitting over the cap and provided with means for attachment to a support independent of a conduit for holding the cap upon the conduit.

3. A device of the character described comprising a receptacle having a base and a cap, the base having electrical fittings within the cap, and a frame fitting over the cap and provided with means for attachment to a support.

4. In a device of the character described the combination of a cap, with a frame having a hollow portion fitting around an extended part of the cap, said frame having extended portions passing along the cap and provided with means for attachment to a support.

5. A device of the character described comprising a cap having a hollow extension, and a frame having a bore receiving the extended part of the cap and provided with extensions passing along the sides of the cap, said extensions having means for attachment to a support.

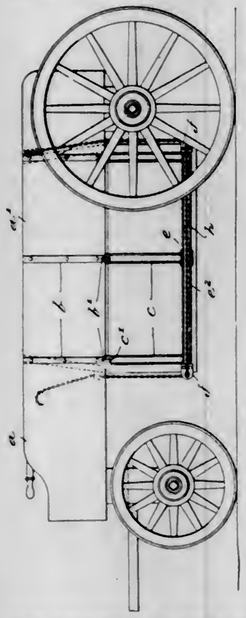
6. A device of the character described comprising a cap, a frame having a bore receiving a portion of the cap, said bore having an inward flange bearing upon the cap, and means for attaching the frame to a support.

7. In a device of the character described the combination of a base, a cap provided with a hollow extension, and a frame having a bore receiving said extension, said frame having extended portions and provided with means for attachment to a support.

8. A device of the character described the combination of a base, a cap having a hollow extension, a frame having a bore receiving said extension and provided with a flange bearing against said extension, said frame having

extended portions, and means for attaching the frame to a support.

842,480. DUMP-WAGON. RICHARD H. MACCLERNAN, Philadelphia, Pa., assignor to Contractors Wagon Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 29, 1906. Serial No. 319,251.



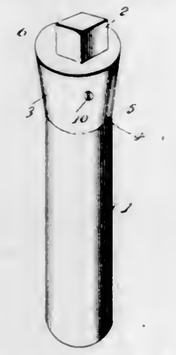
Claim.—1. In a dump-wagon, a wagon-box, doors pivotally secured thereto and forming the bottom of said wagon-box, for holding said doors in a closed or operative position, trusses arranged adjacent to the abutting ends of said doors, each of said trusses, consisting of a bar forming a compression member, a rod secured thereto and forming the tension member and a bolt, forming the strut member of said truss and means arranged on said bolt and adapted when actuated to readjust in conjunction with the bolt said truss.

2. In a dump-wagon, a wagon-box, doors pivotally secured thereto and forming the bottom of said wagon-box, trusses arranged adjacent to the abutting ends of said doors, each of said trusses, consisting of a bar secured to said doors and forming the compression member, a channel-iron secured to said bar and forming the tension member and a bolt interposed between said bar and channel-iron and forming the strut member of said truss, and chains for holding said doors in a closed or operative position passing over said truss.

3. In a dump-wagon, a wagon-box, doors pivotally secured thereto and forming the bottom of said wagon-box, trusses arranged adjacent to the abutting ends of said doors, each of said trusses, consisting of a bar forming the compression member, a channel-iron secured to said bar and forming the tension member, a threaded bolt supported by the channel-iron and forming the strut member of said truss, and means arranged on said bolt and adapted, when actuated, to readjust in conjunction with the bolt said truss.

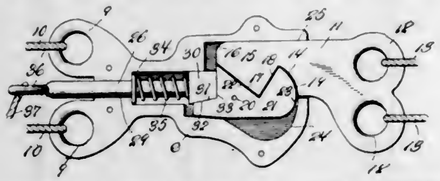
4. In a dump-wagon, a wagon-box, doors pivotally secured thereto and forming the bottom of said wagon-box, trusses arranged adjacent to the abutting ends of said doors, each of said trusses, consisting of a bar forming the compression member, having an opening, a channel-iron secured thereto and forming the tension member, a threaded bolt supported by the channel-iron and engaging the opening of said bar and forming the strut member of said truss, nuts arranged on the bolt and adapted, when actuated, to readjust in conjunction with the bolt said truss when distorted, and means for holding said doors in an operative position and passing over the apex of the tension member of said truss.

842,481. REAMER. CLIFFORD E. MARTIN, Greenfield, Mass. Filed May 15, 1906. Serial No. 317,036.



Claim.—The herein described reamer for removing pipe-burs, consisting of a guide-stem of uniform formation throughout adapted to snugly fit the pipe to be reamed, a polygonal extremity 2 in longitudinal alinement with the guide-stem, and an intermediate tapered portion 3, the smaller end of which joins the stem, said intermediate tapering portion being provided in one side with a longitudinally-extending and radially-opening slot 4 extending at one end across the juncture of the tapering portion of the guide-stem, and a bit mounted in said slot, and also projecting at one end beyond the said point of juncture.

842,482. HAY-SLING LOCK. GUSTAVE MATSON, Crookston, Minn. Filed June 27, 1906. Serial No. 323,646.



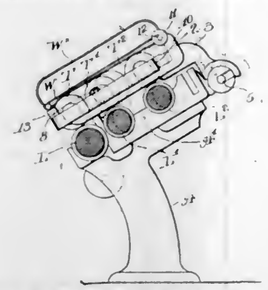
Claim.—1. A device of the class described comprising a casing, a cover for the casing, a dog pivotally mounted in the casing, a trip-head designed for engagement through one wall of the casing and with the said dog, a bolt arranged to hold the dog in engagement with said trip-head, and means carried by the cover for holding the bolt in position in the casing.

2. A device of the class described comprising a casing, a dog pivotally mounted in the casing, a bolt slidably engaged through one end of the casing, a collar loosely engaged upon the bolt and designed to abut the said end of the casing, a head carried at one end of the bolt and designed for engagement with the said dog, a spring disposed upon the bolt between the collar and the head, and a trip-head designed for engagement through one end of said casing and with said dog.

842,483. TOP-ROLL CLEARER FOR SPINNING-FRAMES. JOHN T. MEATS, Taunton, Mass. Filed Oct. 20, 1906. Serial No. 339,776.

Claim.—1. In a spinning-frame, a cap-bar, middle and back top rolls guided thereby, the front top roll adjustably connected with the cap-bar, and a hinged top-roll clearer mounted to maintain a constant position relative to the front top roll.

2. In a spinning-frame, top rolls, means to vary the distance between the middle and back rolls and the front roll, and a hinged top-roll clearer mounted to maintain a constant position relative to the front roll irrespective of the distance between it and the middle and back rolls.



3. In a spinning-frame, top rolls, a cap-bar in which the middle and back top rolls are guided, guides for the front top roll adjustable on the cap-bar, and a hinged top-roll clearer adjustable simultaneously with said guides.

4. In a spinning-frame, top rolls, means to vary the distance between the middle and back rolls and the front roll, and a top-roll clearer pivotally mounted on said means.

5. The combination, with a cap-bar and middle and back top rolls controlled as to their position thereby, a front top roll, and slides adjustable on the cap-bar to control said roll, of a top-roll clearer pivotally mounted on the slides.

6. The combination, with middle and back top rolls, and a cap-bar by which they are controlled, of a front top roll, guiding means therefor adjustably mounted on the cap-bar, and a top-roll clearer pivotally mounted on said means.

7. The combination, with middle and back top rolls, and a cap-bar by which they are controlled, of a front top roll, guiding means therefor adjustably mounted on the cap-bar, a top-roll clearer pivotally mounted at its rear end on said means, and a support on said means for the front end of the clearer, to relieve the top rolls of a portion of the weight of the clearer.

8. In a spinning-frame, a cap-bar, middle and back top rolls guided thereby, longitudinally-adjustable slides mounted on the cap-bar, each slide having its rear end upturned outside the cap-bar and provided with a bearing, a front top roll guided by the slides, and a top-roll clearer having pintles pivotally mounted in the bearings on the slides.

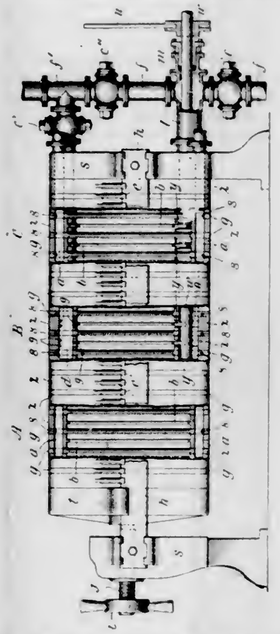
9. In a spinning-frame, a cap-bar, middle and back top rolls guided thereby, front top-roll guide members longitudinally adjustable on the cap-bar and upturned at their rear ends above the cap-bar, and a top-roll clearer fulcrumed on the upturned portions of said members.

842,484. PRESSURE-FILTER. CHARLES W. MERRILL, Lead, S. D. Filed Mar. 28, 1905. Serial No. 262,524.

Claim.—1. In a pressure-filter the combination with suitable filter-plates, of a container provided with a direct opening through which a cleansing medium may be introduced in any desired direction into the space within the container.

2. In a pressure-filter the combination with suitable filter-plates, of a container provided with a direct opening through which a cleansing medium may be introduced in any desired direction, into the space within the container, and with a direct outlet through which the mixture of cleansing medium and unfilterable component is discharged.

3. In a pressure-filter the combination with suitable filter-plates, of a container provided with a direct opening through which a cleansing medium may be introduced in any desired direction, into the space within the container and a direct outlet connecting with a channel in the wall of the container through which the mixture of cleansing medium and unfilterable component is discharged.



4. A pressure-filter comprising with suitable filter-plates a series of containers each provided with a direct opening through which a cleansing material may be introduced in any desired direction, into the space within the containers.

5. A pressure-filter comprising with suitable filter-plates a series of containers each provided with a direct opening through which a cleansing material may be introduced in any desired direction, into the space within the containers, and with a direct outlet through which the mixture of cleansing medium and unfilterable component is discharged.

6. A pressure-filter comprising with suitable filter-plates a series of containers each provided with a direct opening through which a cleansing material may be introduced in any desired direction, into the space within the containers, and with a direct outlet connecting with a channel in the wall of the container through which the mixture of cleansing medium and unfilterable component is discharged.

7. The combination in a pressure-filter with suitable filter-plates, of a container provided with a direct outlet and a rotative pipe provided with devices whereby a cleansing medium may be introduced under pressure into the space within the container and the unfilterable component within the container discharged.

8. The combination in a pressure-filter with suitable plates and containers of a rotative pipe provided with devices whereby a cleansing medium may be introduced through the pipe and the contents of the pressure-filter discharged.

9. The combination in a pressure-filter, with suitable filter-plates of a series of containers each provided with a direct outlet and rotative pipe provided with devices whereby a cleansing medium may be introduced under pressure into each of the spaces within the container and the unfilterable component within the container discharged.

10. A pressure-filter comprising with suitable filter-plates a series of containers, each provided with a direct opening and a rotative pipe provided with devices whereby a cleansing material may be introduced in any desired quantities and directions, by means of said opening into the space within the containers.

11. A pressure-filter comprising with suitable filter-

plates a series of containers, each provided with a direct opening and a rotative pipe provided with devices whereby a cleansing material may be introduced in any desired direction, by means of said opening into the space within the containers and through which the mixture of cleansing medium and unfilterable component is discharged.

12. A pressure-filter comprising with suitable filter-plates a series of containers, each provided with a direct opening and a rotative pipe provided with devices whereby a cleansing material may be introduced in any desired direction, by means of said opening into the space within the containers and a direct outlet connecting with a channel in the wall of the container through which the mixture of cleansing medium and unfilterable component discharges.

13. The combination in a pressure-filter with suitable filter-plates, of a container provided with a direct outlet forming when the containers and plates are put together in series an outlet-channel; and a pipe provided with devices whereby a cleansing medium may be introduced under pressure into the space within each container, and the unfilterable component discharged.

14. The combination in a pressure-filter with suitable filter-plates of a series of containers, each provided with a direct outlet forming, when the containers are put together with the plates in series an outlet-channel; and a pipe provided with a series of devices whereby a cleansing medium may be introduced under pressure into the space within each container and the unfilterable component discharged from the interior through the outlet-channel.

15. The combination in a pressure-filter with suitable filter-plates, of a series of containers, each provided with an opening so connected as to form when the containers and plates are put together a channel within the filter-press connected with each container, and a pipe placed within said channel provided with devices whereby a cleansing medium may be introduced under pressure into the space within each container and the unfilterable component within each container discharged through said channel.

16. The combination in a pressure-filter with suitable filter-plates, of a container provided with a direct outlet forming when the containers are put together with the plates in series, an outlet-channel; and a rotative pipe provided with devices whereby a cleansing medium may be introduced under pressure into the space within the container, and the unfilterable component within the container discharged.

17. The combination in a pressure-filter with suitable filter-plates of a series of containers each provided with a direct outlet forming when put together with the plates an outlet-channel; and a rotative pipe provided with devices whereby a cleansing medium may be introduced under pressure into the space within each of the containers and the unfilterable component within the container discharged from the interior through the outlet-channel.

18. The combination in a pressure-filter with suitable filter-plates, of a series of containers each provided with a direct outlet; and a rotative pipe within said outlet provided with devices whereby a cleansing medium may be introduced under pressure into the space within each of the containers, and the unfilterable component within the container discharged.

19. The combination in a pressure-filter with suitable filter-plates, of a container provided with a direct outlet from the container; and a rotative pipe within said outlet provided with devices whereby a cleansing medium may be introduced under pressure into the space within the container, and the unfilterable component within the container discharged.

20. The combination in a pressure-filter with suitable filter-plates of a series of containers each provided with a direct outlet forming when put together with the plates an outlet-channel; and a rotative pipe placed within said outlet-channel provided with devices whereby a cleansing medium may be introduced under pressure in any desired direction into the space within each of the containers and the unfilterable component within the container discharged from the interior through the outlet-channel.

21. The combination in a pressure-filter with suitable filter-plates, of a container provided with a direct inlet through which the material to be filtered may be introduced into the space within the same; a direct outlet from the container; and a pipe, provided with a series of devices whereby a cleansing medium may be introduced under pressure into the spaces within the container and the unfilterable matter ejected therefrom.

22. The combination in a pressure-filter, with suitable filter-plates of a series of containers each provided with a direct inlet through which the material to be filtered may be introduced into the space within the containers; a direct outlet from each container; and a pipe, provided with a series of devices whereby a cleansing medium may be introduced under pressure into each of the spaces within the containers and the unfilterable matter ejected from the interior.

23. The combination in a pressure-filter, with suitable filter-plates, of a container provided with an opening so connected as to form when the containers are put together in series, a continuous channel within the filter-press, opening into each container; and a pipe placed within said channel provided with a device whereby a cleansing material may be introduced under pressure into the interior of the container and the unfilterable material ejected therefrom.

24. The combination in a pressure-filter, with suitable filter-plates of a series of containers each provided with a series of openings so connected as to form when the containers are put together a continuous channel within the filter-press opening into each container, and a pipe placed within said channel provided with a series of devices whereby a cleansing material may be introduced under pressure into each of the spaces within the containers and the unfilterable material ejected from the interior.

25. The combination in a pressure-filter with suitable filter-plates, of a container provided with a direct inlet through which the material to be filtered may be introduced into the space within the same; a direct outlet, forming when the containers are put together in series an outlet-channel; and a pipe provided with a device whereby a cleansing medium may be introduced under pressure into each container, and the unfilterable matter ejected therefrom.

26. The combination in a pressure-filter, with suitable filter-plates of a series of containers each provided with a direct inlet through which the material to be filtered may be introduced into the space within the containers; a direct outlet from each container, forming when put together an outlet-channel; and a pipe provided with a series of devices whereby a cleansing medium may be introduced under pressure into each of the spaces within the containers and the unfilterable matter ejected from the interior into the outlet-channel.

27. The combination in a pressure-filter with suitable plates, of a container provided with a plurality of direct outlets forming when the containers and plates are put together in series, a like number of outlet-channels, and pipes provided with devices whereby a cleansing medium may be introduced under pressure into the space within each container, and the unfilterable component discharged.

28. The combination in a pressure-filter with suitable filter-plates, of a series of containers, each provided with a plurality of direct outlets, each forming, when the containers are put together with the plates in a series, a like number of outlet-channels, and pipes provided with a series of devices whereby a cleansing medium be introduced under pressure into the space within the container, and the unfilterable component discharged from the interior through the outlets.

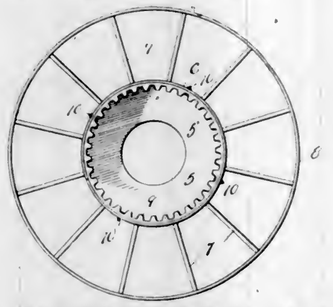
29. The combination in a pressure-filter with suitable filter-plates, of a container provided with a direct outlet, forming, when the containers and plates are put together in series, an outlet-channel, and a pipe placed within the outlet-channel, provided with devices whereby a cleansing medium may be introduced under pressure into the space within each container and the unfilterable component discharged.

30. The combination in a pressure-filter with suitable filter-plates, of a series of containers each provided with a direct outlet, forming when the containers are put together with the pipes in a series, an outlet-channel, and a pipe placed within said channel, provided with a series of devices whereby a cleansing medium may be introduced under pressure into the space within each container, and the unfilterable component discharged from the interior through the outlet-channel.

31. The combination in a pressure-filter with suitable filter-plates, of a container provided with a plurality of direct outlets, forming, when the containers and plates are put together in series, a like number of outlet-channels, and a pipe placed in each outlet-channel; provided with devices whereby a cleansing medium may be introduced under pressure into the space within each container and the unfilterable component discharged.

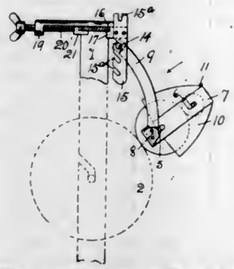
32. The combination in a pressure-filter with suitable filter-plates, of a series of containers, each provided with a plurality of direct outlets, forming, when the containers are put together with the plates in series, a like number of outlet-channels, and a pipe placed within each outlet-channel, provided with a series of devices whereby a cleansing medium may be introduced under pressure into the space within each container and the unfilterable component discharged from the interior through the outlet-channel.

842,485. WHEEL. JOSEPH S. MILLER, Palmdale, Cal. Filed June 27, 1906. Serial No. 323,612.



Claim.—The combination with an axle, of a wheel revolubly mounted thereupon and including an annular plate through which the axle passes, said plate having a continuous flange at its outer periphery extending at right angles thereto, radial spokes carried by the flange, a tread carried by the spokes, and an internal gear removably secured within the flange, a cap member secured to the axle for movement therewith, dogs pivoted to the cap member and engaging the gear for rotation of the wheel with the cap member and axle in one direction, and independently thereof in the opposite direction, said cap member being of a size to pass through the gear to permit of removal thereof when the cap is in position.

842,486. PRINTING ATTACHMENT FOR PAPER-ROLL HOLDERS AND CUTTERS. MICHAEL MCMAHON, Toledo, Ohio. Filed Feb. 26, 1906. Serial No. 302,953.



Claim.—1. The combination with a paper-roll-holder frame of a plurality of notched arms carried by the frame, a bar having its ends removably journaled in alining notches in said arms, a hanger-frame pivotally carried by said bar, and printing means carried by the hanger-frame.

2. The combination with a paper-roll-holder frame, of notched arms adjustably secured to the frame, a member having trunnions journaled in alining notches in the arms, a hanger-frame pivoted to said member, and printing means carried by said hanger-frame.

3. The combination with a paper-roll-holder frame, of arms secured to the frame and having a plurality of bearing-notches, and a printing attachment suspended from said arms and having a various pivotal movement relative thereto.

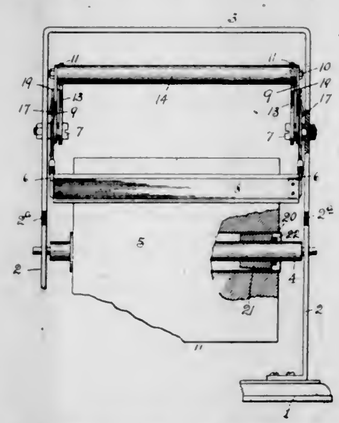
4. The combination with a paper-roll-holder frame, of stepped bearing-arms secured to the top piece of the frame and adjustable longitudinally thereof, and a printing attachment suspended from said arms and having a various pivotal movement relative thereto.

5. The combination with a paper-roll-holder frame, of adjustable arms secured thereto and each having a plurality of differently-positioned bearings, a suspending member having trunnions mounted in alining bearings in said arms, and printing means carried by said member.

6. The combination with a paper-roll-holder frame, of arms adjustably secured to said frame and each having a plurality of differently-positioned bearings, a member having trunnions mounted in alining bearings in said arms and a suspended member having pivotal connection with said member with its axis at right angles to the axis of said member, and printing means carried by the suspending member.

7. The combination with the top piece of a paper-roll-holder frame, of a frame carried by and adjustable longitudinally of said top piece, said frame having means for securing it in adjusted position and also having spaced arms projecting from one side thereof, said arms having a plurality of bearing-sockets, a suspending member having trunnions mounted in alining sockets in said arms, and printing means carried by the suspending member.

842,487. PAPER-ROLL HOLDER AND CUTTER. MICHAEL MCMAHON, Toledo, Ohio. Filed Feb. 26, 1906. Serial No. 302,954.



Claim.—1. In combination, a paper-roll, a knife normally coacting with its surface, means movable relative to the knife and having spring connection therewith whereby a relative movement of either causes an adjusting of the tension of the spring, a fixed ratchet member, and pawls carried by said means for engaging the ratchet-teeth and retaining the means in adjusted position.

2. In combination, an oscillatory knife, lever means movable relative to the knife, spring connection between the knife and said means adjustable by a relative movement of said parts, a ratchet member having a fixed position

relative to said knife and means, and pawls carried by said means for engagement with the ratchet member.

3. In combination, an oscillatory knife, a lever member movable relative to the knife, spring connection between said parts for imparting opposite directions of movement thereto and being adjustable by a relative movement of said parts, a fixed ratchet member, and pawls for engagement with the teeth of said ratchet member, said pawls being carried by the lever member, and movable by a movement of the handle of the lever member to effect their disengagement from the teeth of the ratchet member.

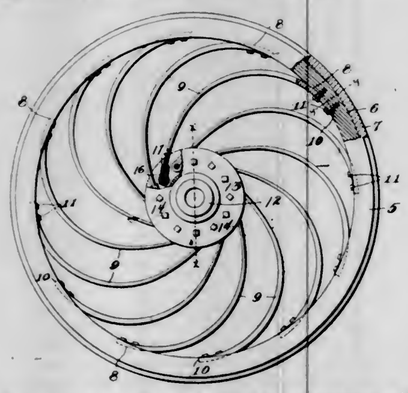
4. In combination, the frame-uprights, a knife having its arms pivoted to the opposite uprights, two lever-arms pivoted to the opposite uprights, spring connection between the knife-arms and lever-arms and having its tension adjusted by a relative movement of said knife and lever-arms, a handle connecting the lever-arms and adapted to have an axial movement, ratchet members fixed to the frame, and pawls carried by the lever-handle for engagement with said ratchet members and adapted to be moved out of engagement therewith by an axial movement of the handle.

5. In combination, an oscillatory knife, a lever-arm movable relative thereto, and having a common axis therewith, a spring having portions bent at angles to each other and the outer end of one portion fixed to the lever-arm and the outer end of the other portion in sliding engagement with the knife-arm, said spring having its tension increased by a converging movement of the knife and lever-arms, and means for retaining the parts in adjusted position.

6. In combination, a frame, a knife having two spaced arms pivoted to the frame, a lever-arm having a common pivot with each knife-arm, spring connection between the knife and lever-arms whereby a relative movement of said arms causes an adjustment of the spring tension, a rod connecting the two lever-arms, two fixed ratchet members, pawls carried by the rod for engagement with the ratchet-teeth, and a sleeve encircling said rod and movable to effect a disengagement of the pawls from the ratchet-teeth.

7. In combination, a frame, axially-disposed pivots carried by each side of the frame, a knife having arms mounted on said pivots, a lever having its fulcrum on said pivots, ratchet members carried by said pivots but fixed relative to the knife and lever, pawls carried by the lever for engagement with said ratchet members, and springs for maintaining the knife and lever in spaced relation and adapted to have its tension regulated by an adjustment of the lever relative to the knife.

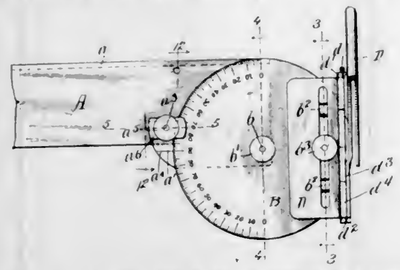
842,488. VEHICLE-WHEEL. JOHN H. O'DANIEL, Columbus, Ohio. Filed Mar. 26, 1906. Serial No. 307,981.



Claim.—1. In a vehicle-wheel, the combination with a rim having a plurality of shallow recesses formed therein, a hub, a plurality of bowed spring-spokes the outer ends of which are thicker than the inner ends thereof, the inner ends of said spokes being pivoted tangentially in said hub and the outer ends of said spokes resting in the recesses of the rim, the extreme ends of the spokes resting against shoulders formed by the walls of the ends of the recesses.

2. In a vehicle-wheel, the combination with a rim having a plurality of shallow recesses formed therein, a hub, a plurality of bowed spring-spokes the outer ends of which are thicker than the inner ends thereof, the inner ends of said spokes being pivoted tangentially in said hub and the outer ends of said spokes resting in the recesses of the rim, the extreme ends of the spokes resting against shoulders formed by the walls of the ends of the recesses, the hub comprising a pair of upstanding flanges, and means for adjusting one of said flanges toward and from the other of said flanges.

842,489. SAW-GUIDE. EDWARD H. OVERHOLT, Streator, Ill. Filed Apr. 21, 1904. Serial No. 204,176.



Claim.—1. A miter-sawing guide, comprising a straight-edge stock, a graduated disk thereon, a saw-guide secured upon the disk and adapted for adjustment at angles with reference to the face and to the edge of the stock and means for adjusting said guide along the chord of the disk with respect to the article operated upon.

2. A miter-sawing guide, comprising a straight-edge stock, a disk thereon, a clamping-plate adapted to engage said disk in adjusted position and a saw-guide slidably engaged upon the disk and adapted for adjustment at an angle both with the face and with the edge of the stock.

3. A miter-sawing guide, comprising a straight-edge stock, a disk thereon having projections on its outer face and an adjustable guide slidably engaged on said projections and adapted for adjustment at an angle with the face and with the edge of the stock.

4. The combination with a stock of a revoluble disk carried thereon and provided with upwardly-directed projections, a spring clamping-plate adapted to hold said disk in adjusted position, a saw-guide slidably engaged on said projection and capable of adjustment at any desired angle with the face and with the edge of the stock.

5. The combination with a stock of a revoluble protractor-disk carried thereon, means carried on the stock adapted to engage the periphery of said disk and hold it in adjusted position, a plate adjustably engaged on said disk and a saw-guide hinged thereon comprising a sheet of metal bent upon itself and offset at each end.

6. In a device of the class described a straight-edge stock comprising a plate of metal bent to afford a flat upper bearing-face and a downturned straight-edge flange at a right angle therewith, a protractor-disk journaled on said upper face a resilient clamping-plate adapted to lock said disk in its adjusted position, there being alined projections on the upper face of said disk and a saw-guide adjustably engaged on said projections.

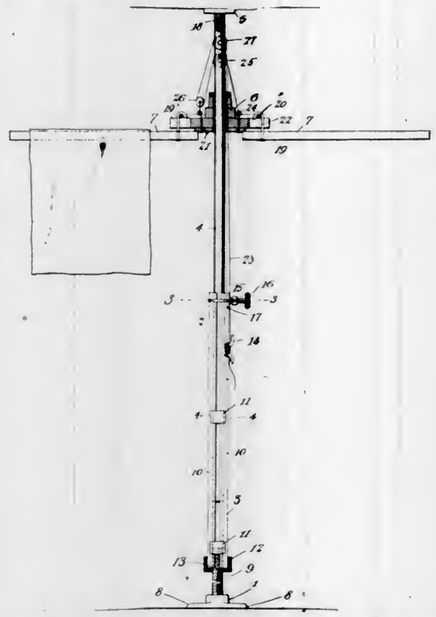
7. The combination with a sheet-metal stock of a disk revolubly engaged thereon, a saw-guide carried on said disk and adapted for adjustment at an angle both with the face and with the edge of the stock, means for adjusting said guide along a chord of the disk and a resilient plate adapted to lock the disk in its adjusted position upon the stock.

8. In a device of the class described the combination with a stock of a disk pivoted thereon, a laterally-directed plate secured on the stock adjacent to the periphery of the disk, a clamping-plate thereon adapted to engage the disk and hold it in adjusted position and a guide on said disk adapted to be adjusted along a chord thereof.

9. In a device of the class described the combination with a stock having a downturned flange on one margin thereof, of a graduated protractor-disk rotatively engaged on the stock, a laterally-directed plate on the stock closely adjacent to said disk and having an indicator-mark thereon with reference to which the disk is adjusted, a clamping-plate thereon having a downturned end adapted to engage said disk and hold it in adjusted position, raised projections on said disk and a guide adjustably engaged on said projections.

10. A device of the class described, a stock comprising a plate bent to afford a downturned right-angle flange and a flat upper face, a disk rotatably carried on the end of the stock, means adapted to lock the same in adjusted position, a saw-guide upon the disk comprising a base portion slidably engaged along a chord of said disk and a U-shaped guide hinged thereto adapted to receive the saw-back, a thread[illegible]attle-bolt for said hinge adapted to clamp the guide in adjusted position with respect to the base portion and a straight-edge adapted to be secured beneath and against the flange of the stock affording an extended side wall therefor.

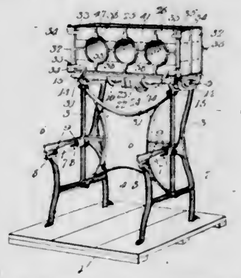
842,490. CLOTHES-DRIER. ALICE F. POGGI, Elizabeth, N. J. Filed Aug. 12, 1905. Serial No. 273,873.



Claim.—In a clothes-drier, the combination with an upright, of a vertically-adjustable block thereon provided with a series of radial slits extending inwardly from its periphery, a support upon the upper surface of said block between the ends of each of said slits, and clothes-supporting arms each provided with a laterally-extending hook near its inner end adapted to fit within one of said slits and to engage said support, while the inner end of said arm engages the under side of said block.

842,491. CEMENT-BLOCK MACHINE. GEORGE L. REED, Springfield, Ohio, assignor to The Reed Manufacturing Company, Springfield, Ohio, a Corporation of Ohio. Filed May 10, 1906. Serial No. 316,055.

Claim.—1. A cement-block machine comprising a frame having supports arranged side by side, in combination with a mold pivoted to said frame so as to swing from one support to the other, said mold comprising a face-plate frame pivoted to the frame of the machine at one edge, a face-plate supported by said face-plate frame, a back plate pivoted to the rear edge of said face-plate frame, a front plate pivotally connected with the front edge of said face-plate frame, end plates pivoted to the ends of one of said plates, and means for detachably connecting the same with the opposite plate, substantially as described.



2. A cement-block machine comprising a mold-support having an upper and a lower seat arranged side by side, in combination with a mold pivoted to said support so as to swing into inverted position from one seat to the other, said mold comprising a bottom plate pivoted to the support at its front edge, a back plate pivoted to the rear edge of said bottom plate, a front plate pivotally connected with the front edge of the bottom plate, end plates pivoted to the ends of the front plate, and latches for detachably connecting said end plates with the back plate, substantially as described.

3. A cement-block machine comprising a mold-support having an upper and a lower seat arranged side by side, in combination with a mold, all the walls whereof are pivotally connected to swing apart to release the block, said mold being provided with fastening devices to hold said walls together in fixed operative relation on the upper seat during the filling and tamping, said mold being pivoted to the support so as to swing from its position on the upper seat into inverted position on the lower seat after filling and tamping, substantially as described.

4. A cement-block machine comprising a mold-support having an upper and a lower seat arranged side by side, in combination with a mold, all the walls whereof are pivotally connected to swing apart to release the block, said mold being provided with fastening devices to hold said walls together in fixed operative relation on the upper seat during the filling and tamping, said mold being pivoted to the support so as to swing from its position on the upper seat into inverted position on the lower seat after filling and tamping, and a pallet detachably connected to the mold to close the open side thereof before inversion, said pallet acting to support the block after the mold has been inverted and the block released therefrom, substantially as described.

5. In a cement-block machine, a mold, a face-plate frame comprising side members, cross-bars connecting the same, rabbets in the inner faces of said side members forming shoulders near the upper edge thereof, a face-plate having a threaded recess in the outer face thereof supported on said shoulders, recessed lugs carried by said side members, an apertured bar engaging said recessed lugs, and a threaded bolt extending loosely through said apertured bar and engaging said threaded recess in the face-plate, substantially as described.

6. In a cement-block machine, a mold, a face-plate frame comprising side members having an outwardly-extending flange carried by one of said members, pivot-lugs on said member, a side plate above said side member, pivoted lugs carried by said plate and adapted to engage pivot-lugs carried by said side member, a projection on the pivot-lug carried by said side plate adapted to engage the flange on said side member to limit the pivotal movement of said side plate, substantially as described.

7. In a cement-block machine, an invertible mold, the bottom whereof comprisies a face-plate frame having a marginal seat, a removable face-plate fitting said seat, a cross-bar engaging the frame below said marginal seat, and a hand-screw bearing on the cross-bar and having a threaded engagement with the face-plate, substantially as described.

8. In a cement-block machine, a mold-support having upper and lower seats composed of parallel seat-bars, in combination with a mold having its bottom pivoted to said support and comprising a face-plate frame and removable face-plate, side plates pivotally connected with the face-plate frame, end plates pivotally connected to one of the side plates, latches detachably connecting the end plates with the other side plate, and a pallet detachably connected to the top of the mold, substantially as described.

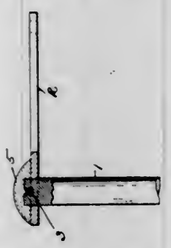
9. A cement-block machine comprising a mold-support having an upper and a lower seat arranged side by side, and a mold pivoted to swing from the former into inverted position on the latter seat, said lower seat comprising inclined support members, seat-bars having inclined slots therein, and pins extending through said slots and connecting said bars to said support members, substantially as described.

10. In a cement-block machine, mold-plates hinged to swing on pivotal axes at right angles to each other, one of said plates being provided with a pivoted latch having a projection provided with a beveled face, the other plate being provided with a segmental keeper, the curved margin of which is correspondingly beveled, substantially as described.

11. In a cement-block machine, mold-plates hinged to swing on pivotal axes at right angles to each other, one of said plates being provided with a pivoted latch having a projection provided with a beveled face, the other plate being provided with a segmental keeper, the curved margin of which is correspondingly beveled, said keeper being provided with a stop projection in the path of the projection on the latch, substantially as described.

12. In a cement-block machine, mold-plates hinged to swing on pivotal axes at right angles to each other, one of said plates being provided with a pivoted latch having a projection provided with a beveled face, the other plate being provided with a segmental keeper, the curved margin of which is correspondingly beveled, the curvature of said keeper being of diminishing radius toward the end first engaged by the latch, substantially as described.

842,492. FASTENING DEVICE. EDWIN A. REEVES, New Haven, Conn., assignor to The Reeves Manufacturing Company, New Haven, Conn., a Corporation of Connecticut. Filed Nov. 29, 1905. Serial No. 289,559.



Claim.—In a fastening device, the combination with a body member; a separate member encircling a portion of said body member; a key within said body member projecting radially upon each side thereof, and between the said separate member and the end of said body member; a readily-fusible head member covering and contacting with said key, the end of said body member, and a portion of said separate member, thereby inseparably uniting all of said parts.

842,493. CAR-WINDOW SASH. EDWARD T. ROBINSON, St. Louis, Mo., assignor to St. Louis Car Company, St. Louis, Mo., a Corporation. Filed May 3, 1905. Serial No. 258,717.



Claim.—In a window, the combination with the pane, of a pair of stiles, a sheet-metal upper rail secured to the upper ends of said stiles, a sheet-metal lower rail secured to the lower ends of the stiles and having upturned arms attached to the edges of the stiles, inturned deflector-flanges extending from the outer side of the rails to the pane, wooden filler-strips located within the rails, a channel-shaped cushion-strip surrounding the pane and against one side of which the deflector-flanges bear, and bead-strips bearing against the other side of the cushion-strip, substantially as set forth.

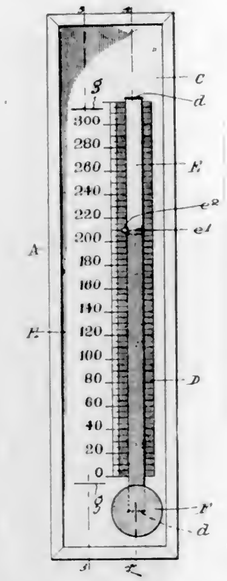
842,494. COLLAPSIBLE CRATE. GEORGE G. ROHRSSEN, St. Louis, Mo., assignor to Manewallange Biscuit Company, St. Louis, Mo., a Corporation of Missouri. Filed Aug. 1, 1906. Serial No. 328,739.



Claim.—1. A collapsible crate consisting of four pieces of angle-iron which constitute the corner-posts of the crate, cross-pieces connecting pairs of the corner-posts together to form two sections, cushions on some of said cross-pieces, two pieces of angle-iron pivotally connected to the inner faces of the lower ends of the corner-posts for connecting the two sections of the crate together, a bar connected by a hinge to the upper end of one section of the crate and adapted to engage the other section of the crate, and a pivotally-mounted dog for locking said bar in position; substantially as described.

2. A collapsible crate, consisting of two sections which are pivotally fastened at their lower ends to connecting-bars, means at the upper ends of the sections for locking them together, each section of the crate consisting of two angle-iron corner-posts connected together at their upper and lower ends by pieces of angle-iron, and cross members fastened to said corner-posts and consisting of two metallic plates fastened together with a piece of yielding material interposed between same and projecting through an opening in one plate; substantially as described.

842,495. ATTENDANCE-INDICATOR. WILLIAM B. ROSE, Chicago, Ill. Filed Jan. 13, 1906. Serial No. 295,883.



Claim.—1. In a device of the class described, the combination with a plate and suitable perforations and slots therein, of an endless marking-band passed through said perforations in said plate, an indicator upon the band in front of said plate and a band having a scale thereon passing through said slots in said plate.

2. In a device of the class described, the combination with a plate and suitable slots and perforations therein, of an endless marking-band passed through said perforations, an indicator upon the same in front of the plate, and a second endless band having a scale thereon passing through said slot and adapted to be moved to bring different portions of its length in front of said plate.

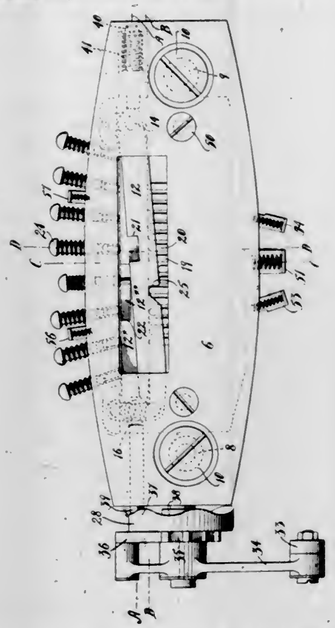
3. In a device of the class described, the combination with a plate and suitable slots and perforations therein, of an endless two-color marking-band passed through said perforations, and a band having a scale thereon passing through slots in the plate.

842,496. PIANO-MACHINE HEAD FOR PUNCHING JACQUARD-CARDS. JOHN ROYLE, Jr., Paterson, N. J. Filed Apr. 14, 1904. Serial No. 203,220.

Claim.—1. The combination with the punches and means for operating them, of punch-controlling slides and means for operating the slides, the said slides being provided on their edges toward the punches with recesses located normally at different distances from the line of punches.

2. The combination with the punches and means for operating them, of sliding plates for locking and releasing the punches, a channeled plate for guiding the said sliding plates, an abutment, springs interposed between the sliding plate and abutment for returning the sliding plates to their normal positions and means for operating the said sliding plates against the tension of their retracting-springs.

3. The combination with the punches and means for operating them, of slides for locking and releasing the punches and horizontally-swinging levers superposed in a bank for engaging the slides and keys for operating the levers, said levers being each provided with an eye at one end and a transversely-elongated slot at the other end for interchanging the levers at pleasure.



4. The combination with the punches and means for operating them, of slides for locking and releasing the punches, the said slides being provided with tailpieces at different elevations, a bank of levers for engaging the said tailpieces and keys for operating the levers.

5. The combination with the punches and means for operating them, of punch-controlling slides provided with tailpieces at different elevations, a bank of horizontally-swinging levers for engaging the tailpieces and keys for operating the levers, the levers above and below a given key being recessed on their edges toward the key to prevent unintentional operation of the levers.

6. The combination with the punches and means for operating them, of punch-controlling slides, a bank of levers for operating the slides, keys for operating the levers, and means for shifting the bank of levers longitudinally.

7. The combination with the punches and means for operating them, of punch-controlling slides, a bank of levers for engaging the slides, the said levers being provided with recesses on their edges toward the slides, keys for operating the levers and means for shifting the bank of levers bodily to change the relation of the recesses with respect to the slides.

8. The combination with the punches and means for operating them, of punch-controlling slides, a bank of levers for operating the slides, a longitudinally-sliding plate forming a support for the bank of levers, a rotary cam for operating the bank of levers as a whole and keys for operating the levers independently.

9. The combination with the punches and means for operating them, of punch-controlling slides, a bank of levers for operating the slides, a longitudinally-sliding plate forming a support for the bank of levers, a cam for operating the bank of levers bodily in one direction, a spring for operating the bank of levers bodily in the opposite direction and keys for rocking the levers independently.

10. The combination with the punches and means for operating them, of interchangeable punch-controlling slides of different operative constructions and means for operating them.

11. The combination with the punches and means for op-

erating them, of punch-controlling slides of different operative constructions, interchangeable levers for operating the differently-constructed slides and keys for operating the levers.

12. The combination with the punches and means for operating them, of interchangeable punch-controlling slides of different operative constructions, a bank of interchangeable levers engaging the differently-constructed slides and keys for controlling the levers.

13. The combination with the punches and means for operating them, of punch-controlling slides, a plate provided with a series of slots for receiving the slides, means for operating the slides and means for removably securing the plate and slides in operative relation with respect to the punches.

14. The combination with the punches, the base-plate forming a support for the punches and means for operating the punches, of reciprocating slides for locking and releasing the punches, a plate provided with a series of slots for the reception of the several slides and means for removably securing the said plate to the base-plate.

15. The combination with the base-plate, the punches supported therein and means for operating the punches, of reciprocating slides for locking and releasing the punches, a plate provided with slots in its upper face for the reception of the slides from above, means for locking the slides, a bar extending transversely across the slots for limiting the movement of the slides, means for operating the slides and means for securing the slotted plate to the base-plate.

16. The combination with the punches, the base-plate for supporting them and means for operating them, of reciprocating slides for locking and releasing the punches, a bank of levers for operating the slides, a base-plate for supporting the bank of levers, a slotted and recessed plate for receiving the slides in the slots and the lever-supporting plate in the recess, means for removably securing the slotted and recessed plate to the base-plate and means for operating the levers.

17. The combination with the punches, the base-plate forming a support therefor, the slides for locking and releasing the punches and the levers for operating the slides, of a plate forming a support for the slides and levers, keys for operating the levers, a casing forming a support for the keys, the said casing being arranged to embrace the said slide and lever-supporting plate and means for removably securing a casing to the base-plate.

18. The combination with the pattern-punches and means for operating them, of a peg-hole punch and means for operating it, the said peg-hole punch being longer than the pattern-punches, and means for locking and releasing the pattern and peg-hole punches.

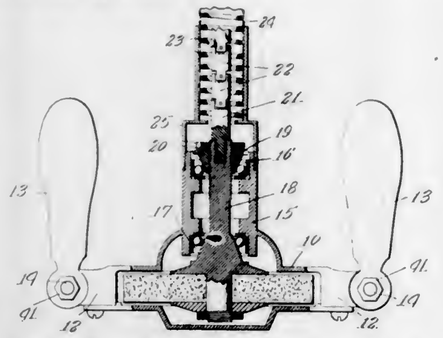
19. The combination with the pattern-punches and means for operating them, of a peg-hole punch and lacing-hole punches longer than the pattern-punches, means for operating them and means for locking and releasing the pattern, peg-hole and lacing-hole punches.

842,497. MACHINE FOR GRINDING HORSESHOE-CALKS. GEORGE A. RUSSELL, Worcester, Mass.; Mary C. Russell administratrix of said George A. Russell, deceased. Filed Feb. 11, 1905. Serial No. 245,180.

Claim.—1. As an article of manufacture, a portable grinding device comprising a segmental casing, a shaft journaled near one side of and supported by said casing, and a grinding-wheel mounted on said shaft, the edge of said grinding-wheel projecting laterally from the casing.

2. As an article of manufacture, a portable grinding device comprising a segmental casing, a shaft journaled near one side of said casing and supported thereby in bearings, a grinding-wheel mounted on said shaft, the principal part of said grinding-wheel being inclosed within the casing, the operating edge of the wheel projecting laterally from the casing, and handles mounted on said casing on the opposite sides of the shaft for supporting the casing.

3. In a grinding device, the combination of a casing consisting of a front plate and a rear plate, said plates being of a general circular form with one side removed, a shaft journaled on said plates adjacent to the cut-away portions thereof, a grinding-wheel mounted on said shaft and located mainly within the casing and projecting therefrom on the cut-away side thereof, and a pair of adjustable handles connected with said casing for supporting it at opposite sides of said shaft.



4. In a grinding device, the combination of a casing consisting of a front plate and a rear plate, said plates being of a general circular form with one side removed, a shaft journaled in the casing and adjacent to the cut-away portion thereof, a grinding-wheel mounted on said shaft and located mainly within the casing and projecting therefrom on the cut-away side thereof, and a pair of antifriction-bearings for said shaft located on the casing, said bearings comprising a cone adjustable along the shaft to take up wear.

842,498. GARMENT-FASTENER. CARL H. SCHMIDT, Chicago, Ill. Filed June 18, 1906. Serial No. 322,280.



Claim.—1. In combination, mutually-overlapping garment-flaps, a series of separate loop-pieces secured on the opposed faces of the respective flaps to intermesh with each other when the flaps are closed, and a fastening-strip adapted to be inserted through said loop-pieces for removably securing the flaps together in their overlapped relation.

2. A garment-fastener comprising, in combination, a plurality of separate loop-pieces comprising plates with loops raised thereon and perforations beyond the opposite sides of the loops at which they are sewed on the opposed surfaces of the garment-flaps to intermesh with each other when the flaps are closed, and a fastening-strip adapted to be inserted through said loops for removably securing the flaps together.

3. In combination, mutually-overlapping garment-flaps, a series of separate loop-pieces secured on the opposed faces of the respective flaps to intermesh into alinement with each other when the flaps are closed, and a fastening-strip provided with a stop on its upper end adapted to be inserted through said loop-pieces for removably securing the flaps together in their overlapped relation.

4. In combination, mutually-overlapping garment-flaps, a series of separate loop-pieces secured on the opposed faces of the respective flaps to intermesh with each other when the flaps are closed, a fastening-strip adapted to be inserted through said loop-pieces for removably securing the flaps together in their overlapped relation, and means for releasably securing the strip at its lower end to the garment.

5. A garment-fastener comprising, in combination, a plurality of separate spaced loop-pieces comprising plates having thread-engaging perforations and raised loops thereon between the perforations, said loop-pieces being secured to the opposed surfaces of the garment-flaps to intermesh with each other when the flaps are closed, a fastening-strip provided on its upper end with a stop and on its lower end with an eye, and adapted to be inserted through said loops, and a ball-and-socket fastener below the lowermost loop for clamping the strip between its ball-and-socket members at the eye-equipped portion of the bar.

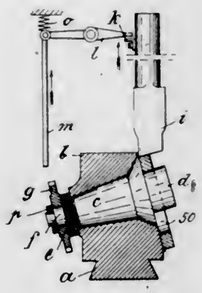
842,499. MEAT-CUTTER. CHARLES G. SCHMIDT, Cincinnati, Ohio, assignor to Cincinnati Butcher's Supply Co., Cincinnati, Ohio, a Corporation of Ohio. Filed Dec. 11, 1905. Serial No. 291,169.

Claim.—In a meat-cutter, the combination of a housing open at one end, two perforated plates held immovable thereat and provided with circular, centrally-located openings of equal diameter, a circular cutter-shaft of uniform cross-section supported within the housing and extending outwardly through these central openings which it fully occupies, a feed device adapted to move the meat against the inner plate, a cutter-head between the two, another cutter-head between the two plates, both cutter-heads having centrally-located, polygonal openings of equal size, seat members for them fitted to these openings so as to fully occupy them and mounted so as to rotate with the cutter-shaft, but being endwise removable therefrom, and means to operate this cutter-shaft so as to cause the same to rotate the seat members with the cutter-heads mounted on them.

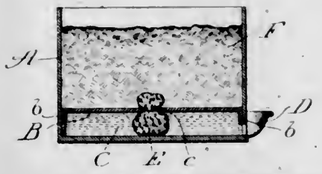
842,500. METHOD OF PREPARING RINGS FOR BALL-BEARINGS. STEFAN SCHNEIDER, Charlottenburg, Germany. Filed July 23, 1906. Serial No. 327,453.

Claim.—The herein-described method of preparing ball-bearing rings, consisting in perforating a metal disk, expanding the perforation, hammering the perforated disk uniformly in radial direction so as to neutralize internal stresses in said disk, and rolling said perforated disk to form a finished ring.

842,500.



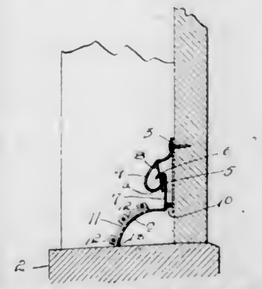
842,501. WINDOW PLANT-BOX. AUGUST J. SCHOENECKE, Chicago, Ill. Filed Sept. 29, 1906. Serial No. 336,750.



Claim.—1. A window flower-box comprising, in combination, a box proper provided with a removable false bottom of sheet metal having depending flanges and containing holes, said bottom fitting within the box proper to space it, by its flanges, from the inner surface of the box proper bottom and form a water-reservoir, sponges confined in said holes to project above the false bottom and below the same into the reservoir, and a filling-spout on said box discharging into the reservoir.

2. A window flower-box comprising, in combination, a box proper provided with a removable false bottom of sheet metal containing holes and having depending flanges extending entirely about it, said bottom fitting within the box proper to space it, by its flanges, from the inner surface of the box proper bottom and form a water-reservoir, sponges confined in said holes to project above the false bottom and below the same into said reservoir, and a filling-spout on said box discharging into the reservoir and extending upward on the outer side of the box approximately to the plane of said false bottom.

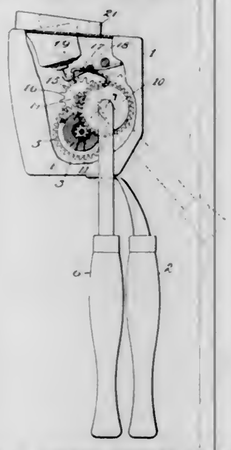
842,502. WEATHER-STRIP. WILLIAM U. G. SHAW, Battle Ground, Ind. Filed Nov. 6, 1905. Serial No. 286,029.



Claim.—The combination with a door and a frame including a sill, of a strip of elastic material secured to the door, a plate secured at its upper edge to the upper edge of the said strip and provided with an outwardly and downwardly turned portion, the lower edge of which is bent inwardly and upwardly, a sill-piece having its upper edge bent whereby it may be supported upon the inwardly

and upwardly turned portion of said plate and having its lower edge portion curved outwardly and downwardly, a helical spring interposed between the elastic strip and the body portion of the sill-piece directly above the upper end of the downwardly and outwardly turned portion, and a curved guard secured to each side of the door-frame for coöperation with the said outwardly-curved lower edge of the sill-piece, substantially as described.

842,503. MASSAGE APPARATUS. GEORGE F. TROTTER and ANNA BEBOUT, St. Louis, Mo.; said Trotter assignor to said Bebout. Filed Oct. 20, 1905. Serial No. 283,706.



Claim.—1. In a portable massage apparatus, a handle for supporting the apparatus, a massage member movable on said apparatus, a spring-motor and an oscillatory handle having a ratchet connection with the motor for storing power in the motor without stopping it.

2. In a portable massage apparatus, a casing provided with means for supporting the apparatus against the part to be treated, a massage member mounted in the casing and surrounded by the means supporting the apparatus against the part to be treated, a motor mounted in the casing and vibrating the massage member, and manually-operated means for storing power in the motor without stopping the massage member.

842,504. PAINTING IMPLEMENT. FRANKLIN TUTTLE, New York, N. Y. Filed June 20, 1906. Serial No. 322,554.



Claim.—1. A painting implement made up of a strip of fibrous material with thin edges wound upon itself, substantially as described.

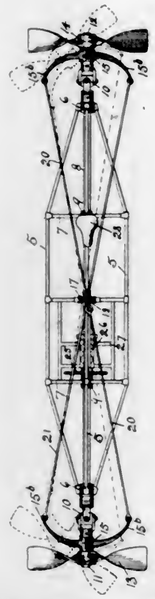
2. A painting implement made up of a strip of fibrous material with thin edges wound upon the end of a suitable support, substantially as described.

3. A painting implement made up of a strip of absorbent cotton wound upon the end of a suitable support, substantially as described.

842,505. CAR OF NAVIGABLE BALLOONS. PHILIP H. UNSINGER, Toledo, Ohio. Filed Mar. 9, 1906. Serial No. 305,151.

Claim.—1. In a balloon-car, a horizontal shaft having its ends projecting beyond the car ends and provided with extensions having a swivel movement relative thereto, a propeller carried by each extension, controlling means having connection with the extensions for causing opposite angular adjustments thereof relative to the shaft, and means for driving the shaft.

2. In a balloon-car, a propeller-shaft having universally-adjustable extensions at each end, a propeller on each extension, and means for imparting an angular circular adjustment to the extensions whereby the extensions may be swung to all points within the arc of a circle having the shaft as an axis.



3. In a balloon-car, a propeller-shaft having its ends formed with universally-movable extensions, means for driving the shaft, a propeller carried by each extension, and means for imparting adjustment to the shaft extensions whereby their axes are disposed at angles to the major portion of the shaft and lie in substantially parallel planes.

4. In a balloon-car, a propeller-shaft having its ends formed with universally-movable extensions, means for driving the shaft, a propeller carried by each shaft extension, and mechanism for imparting both an opposite and a corresponding angular adjustment of the extensions relative to the shaft.

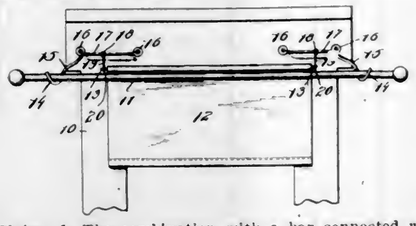
5. In a balloon-car, a propeller-shaft having its ends provided with universally-adjustable extensions, means for driving the shaft, a propeller carried by each extension, means for causing the shaft extensions to assume corresponding positions laterally of the shaft, and means for causing the extensions to assume opposite positions vertically of the shaft.

6. In a balloon-car, a propeller-shaft having its ends provided with universally-connected extensions, means for propelling the shaft, a spider and a propeller carried by each extension, and controller means connecting the two spiders adapted to impart horizontal oscillation simultaneously to each.

7. In a balloon-car, a propeller-shaft having its ends provided with universally-adjustable extensions, means for driving the shaft, a spider and a propeller carried by each extension, means connecting the horizontal arms of the two spiders for imparting corresponding movements to the two extensions, and means connecting the vertical arms of the spiders for imparting opposite movements thereto.

8. In a balloon-car, a propeller-shaft having its ends universally adjustable relative to its major portion, means for driving the shaft, a spider and a propeller carried by each adjustable shaft end, a segmental guiding member for the lower spider-arm, means connecting the upper arm of each spider for imparting opposite vertical adjustments to the propellers, and means connecting the reverse horizontal arms of the spiders for imparting corresponding oscillations to the propellers.

842,506. SHADE-BRACKET. PETER F. WAGNER, Greensburg, Ind. Filed Aug. 11, 1906. Serial No. 330,203.



Claim—1. The combination with a bar connected with the window-casing and offset therefrom, of a curtain-bracket consisting of a length of wire having its ends bent into loops engaging the said bar, and having its middle portion formed into an enlarged loop and a small loop for the reception of the pintle of the shade-opening into the large loop, the wire composing the large loops at one side being adapted to bear against the window-casing and forming a brace for the bracket.

2. A combined curtain-pole support and shade-bracket, consisting of a length of wire bent to form a projecting arm adapted to support one end of a curtain-pole, and having a right-angular or laterally-extended bar provided with attaching-eyes formed by the bending of the wire, combined with a curtain-bracket composed of a length of wire having its ends formed into loops slidingly engaging the said lateral bar, and its middle portion formed into a loop for the reception of the pintle or pivot of the shade-roller.

842,507. LUBRICATOR. JAMES N. WEIKLY, Jersey City, N. J., assignor of one-half to George Holt Fraser, Brooklyn, N. Y. Filed Dec. 31, 1896. Serial No. 617,592



Claim.—1. The combination with an engine having a throttle-valve handle, of a lubricator having a feed-valve, and means for locking said valve open, a yielding connection between such valve and said handle operating said feed-valve with the operation of the handle, and yielding when said feed-valve is locked.

2. The combination with an engine having a throttle-valve handle, of a lubricator having a steam-valve for supplying an auxiliary jet of steam and an oil-valve for controlling outflow of oil, and a connection between such handle and said valves operating both said valves with the operation of the handle.

3. In combination with a lubricator provided with suitable oil-ducts and steam-ducts arranged to balance the contents of the lubricator between opposing forces, and a discharge-pipe in communication with said ducts, of an automatically-actuated valve operated by the pressure in said pipe to close communication between said discharge-pipe and said ducts.

4. In combination with a lubricator provided with oil-ducts and steam-ducts arranged to balance the contents of the lubricator between opposing forces, and a discharge-pipe in communication with said ducts, of an automatically-operated valve operated by the pressure in said pipe to close said oil-duct.

5. In combination with a lubricator provided with an oil-duct and a steam-duct arranged to balance the contents of the lubricator between opposing forces, and a discharge-pipe in communication with said ducts, of an automatically-actuated valve adapted to close said steam-duct and operated by the pressure in said pipe.

6. In combination with a lubricator provided with an oil-duct and a steam-duct arranged to balance the contents of the lubricator between opposing forces, and a discharge-pipe, of an automatically-actuated valve adapted to close both said ducts and controlled by the pressure in said pipe.

7. In a pressure-lubricator or the like, a reservoir, an oil-feed and an equalizer pipe connected to said reservoir and both discharging into a discharge-pipe, and such pipe in combination with a pressure-operated valve for closing said equalizer-pipe, said valve being opened by the pressure from said discharge-pipe.

8. In a pressure-lubricator, a pressure-reservoir having a discharge-pipe and an oil-feed and equalizer pipe leading to said discharge-pipe, in combination with a valve controlling said equalizer-pipe operated automatically by pressure from said discharge-pipe.

9. In a pressure-lubricator, a reservoir having a discharge-pipe and an oil-feed and equalizer pipe leading to said discharge-pipe in combination with a valve to said equalizer-pipe opened by the pressure at its egress side and closed by live steam pressure.

10. In a pressure-lubricator, a reservoir, a discharge-pipe, and an oil-feed and equalizer pipe leading to said pipe, in combination with a valve for said equalizer pipe closed by the steam-pressure at its egress side and opened by pressure from said discharge-pipe.

11. In a pressure-lubricator or the like, the combination with a reservoir having an oil-feed and an equalizer pipe, of one automatically-actuated valve controlling both said oil-feed and equalizer pipe.

12. In a pressure lubricator, a reservoir and an equalizer-pipe, and a pipe leading therefrom for discharging such equalizer-pipe, in combination with a valve for such equalizer-pipe opened by the back pressure from such discharging-pipe.

13. In a pressure-lubricator, a reservoir and an equalizer-pipe for injecting the oil feed from said reservoir, and a discharge-pipe, in combination with a valve controlling the steam-feed of such equalizer-pipe, and a piston operating said valve and receiving back pressure from said discharge pipe at one side and steam-feed pressure at its other side.

14. In a pressure-lubricator, a reservoir and an oil-gage valve therefor, in combination with pressure-operated means automatically closing said valve at a predetermined condition thereby beyond, and operated by fluid-pressure to both open and close said valve.

15. For a pressure-lubricator or the like, a reservoir, an oil-gage valve and a discharge-pipe, in combination with means automatically opening said valve and operated by the pressure in said discharge-pipe, and operated by fluid-pressure to both open and close said valve.

16. For a lubricator or similar device, a discharge-pipe and a pressure-operated valve controlling the flow therethrough and comprising a valve proper and seat, movable the one relatively to the other, a tubular conduit controlled thereby, a piston operated by pressure and moving the movable member, and a spring resisting such movement.

17. For a lubricator or similar device, a discharge-pipe and the improved regulator 58 controlling the flow therethrough and comprising a valve 59, a seat 60, a cylinder 62, and a piston 61, substantially as and for the purpose set forth.

18. For a lubricator or similar device, an equalizer-pipe, in combination with a pressure-operated valve controlling the feed therethrough, and a second pressure-operated valve controlling the pressure operating said first valve.

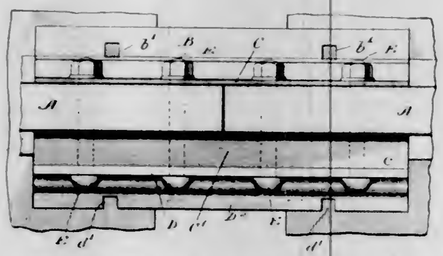
19. In a pressure-lubricator or similar device, a casing having a pressure-conduit and a seat, in combination with an automatic valve controlling communication through said conduit and engaging said seat, and a by-pass communicating between the ingress and egress sides of said seat.

20. For a pressure-lubricator or similar device, a casing having a pressure-conduit, a seat, and a low-pressure cylinder, in combination with a valve engaging said seat, and a piston in said cylinder operating said valve and operated by the difference between the pressures in said cylinder and casing.

21. For a pressure-lubricator or similar device, the improved valve 79 comprising a shell having a valve-chamber and seat, in combination with a valve proper in said shell for seating on said seat, and a piston fitting said chamber and connected to said valve proper for operating it, and a by-pass for communicating across said seat when said valve proper is closed.

22. For a pressure-lubricator or similar device, the improved valve 80 comprising a valve-chamber having a seat, a plunger fitting in said casing and engaging said seat, a by-pass affording communication across said seat when said plunger is seated thereon, and a relief-vent for said plunger.

842,508. RAIL-JOINT. BENJAMIN WOLHAUPTER, New York, N. Y., assignor to The Rail Joint Company, a Corporation of New York. Filed Sept. 28, 1906. Serial No. 336,600.



Claim.—1. A rail-joint comprising a base-plate, a longitudinal girder-plate having interlocking connection with one side margin of the base-plate, a joint-bar interposed between the rail ends and the said girder-plate, and track-bolts extending through the rails, the said joint-bar and the said girder-plate.

2. A rail-joint comprising a base-plate, a longitudinal girder-plate having interlocking connection with one side margin of the base-plate adapted to permit horizontal, lateral movement of the girder-plate with respect to the base-plate, a joint-bar interposed between the rail ends and the said girder-plate, and track-bolts extending through the rails, the said joint-bar and the said girder-plate.

3. A rail-joint comprising a base-plate, a longitudinal girder-plate having interlocking connection with the adjacent side margin of the base-plate, a joint-bar having upper and lower outwardly-extending longitudinal flanges in contact with said girder-plate, and track-bolts extending through said rails, the joint-bar and the girder-plate.

4. A rail-joint provided with a base-plate having, at the outer side of the rail-seat thereof, an inwardly-facing longitudinal shoulder, a longitudinal girder-plate at the outer side of the rail, having interlocking connection with the side margin of the base-plate at which the said shoulder is located, a joint-bar interposed between the rail and the said girder-plate, and bolts extending through said rails, joint-bar and girder-plate.

5. A rail-joint comprising a base-plate having at the outer side of the rail-seat thereof an inwardly-facing longitudinal shoulder, and outside of said shoulder an outwardly-extending horizontal flange located above the level of its bottom surface, a longitudinal girder-plate provided near its lower margin with a horizontal groove adapted to receive said flange on the base-plate, a joint-bar interposed between the rails and the said girder-plate, and bolts extending through the rails, the joint-bar and girder-plate.

6. A rail-joint comprising a base-plate provided at one of its side margins with an outwardly-extending horizontal flange located above the level of its bottom surface, a longitudinal girder-plate the lower margin of which is in the same horizontal plane with the bottom surface of the base-plate and which is provided with a horizontal groove adapted to receive said flange on the base-plate, a joint-bar interposed between the rails and the said girder-plates, and bolts extending through the rails, the joint-bar and the girder-plate.

7. A rail-joint comprising a base-plate having at one side of the rail-seat thereof an inwardly-facing longitudinal shoulder, and an outwardly-extending horizontal flange located above the level of its bottom surface, a longitudinal girder-plate provided near its lower margin with a horizontal groove adapted to receive said flange on the base-plate, and the lower margin of which is in the same horizontal plane with the bottom surface of the base-plate, a joint-bar interposed between the rails and said girder-plate, and bolts extending through the rails, the joint-bar and girder-plate.

8. A rail-joint comprising a base-plate, inner and outer longitudinal girder-plates having interlocking connection at their lower edges with the side margins of the base-plate, joint-bars interposed between the rails and said girder-plates, and track-bolts extending through the rails, the said joint-bars and the girder-plates.

9. A rail-joint comprising a base-plate having inwardly-facing, longitudinal shoulders at both sides of the rail-seat thereof, inner and outer longitudinal girder-plates having interlocking connection at their lower edges with the side margins of the base-plate, joint-bars interposed between the rails and the said girder-plates, and bolts extending through said rails, the joint-bars and the girder-plates.

10. A rail-joint comprising a base-plate having inwardly-facing, longitudinal shoulders at both sides of the rail-seat thereof, and provided at its side margins with outwardly-extending horizontal flanges located above the level of its bottom surface, inner and outer longitudinal girder-plates provided near their lower margins with horizontal grooves adapted to receive said horizontal flanges on the base-plate, joint-bars interposed between the rails and said girder-plates, and bolts extending through the rails, the joint-bar and the girder-plates.

11. A rail-joint comprising a base-plate having inwardly-facing, longitudinal shoulders at both sides of the rail-seat thereof, and provided at its side margins with outwardly-extending horizontal flanges located above the level of its bottom surface, inner and outer longitudinal girder-plates provided near their lower margins with horizontal grooves adapted to receive said horizontal flanges on the base-plate, and the lower margins of which are in the same horizontal plane with the bottom surface of the base-plate.

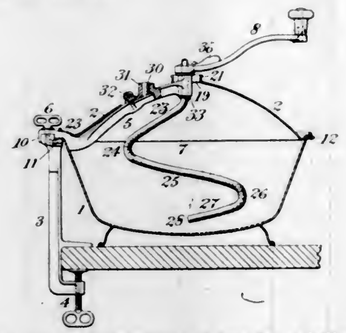
12. A rail-joint comprising a base-plate and girder-plate having interlocking connection at its lower margin with the base-plate, a joint-bar interposed between the rails and said girder-plate, and bolts inserted through the rails, the joint-bar and girder-plate, the contact-surface between the joint-bar and girder-plate being outwardly and downwardly inclined.

13. A rail-joint comprising a base-plate, inner and outer longitudinal girder-plates having interlocking connection at their lower margins with the side margins of the base-plate, joint-bars interposed between the rails and the said girder-plates, and bolts inserted through said rails, the joint-bar and girder-plates; the contact-surfaces between the said joint-bars and the said girder-plates being outwardly and downwardly inclined.

14. A rail-joint comprising a base-plate, a longitudinal girder-plate having interlocking connection at its lower margins with the side margin of the base-plate, a joint-bar interposed between the rails and the girder-plate, and bolts extending through the rails, the joint-bar and the girder-plate said girder-plate being provided with two inwardly-extending horizontal flanges located one above and the other below the track-bolts and having downwardly and inwardly facing oblique surfaces, and said joint-bar having two upwardly and outwardly facing oblique surfaces for contact with the oblique surfaces of the girder-plate.

15. A rail-joint comprising a base-plate, a longitudinal girder-plate having interlocking connection with one side margin of the base-plate, a joint-bar interposed between the rails and said girder-plate, and track-bolts extending through the rails, the joint-bar and said girder-plate having upper and lower longitudinal flanges in contact at their outer edges with the girder-plate; the lower flange being adapted for contact with the base flange of the rails.

842,509. DOUGH MIXER AND KNEADER. OLIVER D. WOODRUFF, Southington, Conn. Filed July 12, 1906. Serial No. 325,745.



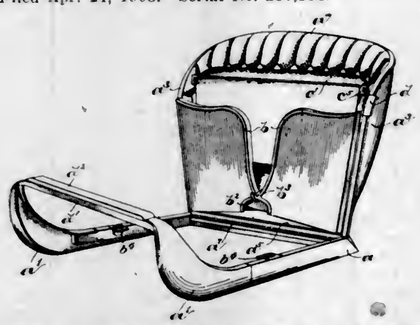
Claim.—In a dough mixer and kneader, a helical rotor, having the upper reach 23 extending diagonally downward and outward from the axis of the rotor, and the bend 24 below the reach 23, and the reach 25 extending diagonally downward from the bend 24, and the bend 26 below the reach 25, and the reach 27 extending diagonally downward and inward from the bend 26 to the end 28, which end is exactly or nearly in a vertical line with the axis of the rotor.

842,510. SAFETY-RAZOR. FREDERICK H. ARNOLD, Reading, Pa. Filed Sept. 15, 1906. Serial No. 334,788.



Claim.—In a safety-razor a handle having a tapered central opening in one end and a guard having an angled projection near either end and a tapered shank one of whose faces is flush with the surface of the guard, in combination with a blade having a corresponding shank and a rectangular perforation near either end adapted to engage said projections, said shanks being held together by pressing said handle thereon.

842,511. VEHICLE-BODY. JOHN D. ARTZ, Dayton, Ohio. Filed Apr. 24, 1905. Serial No. 257,156.



Claim.—1. In a structure as described, a back hinged to the body portion, said back being of greater width at the top than at the bottom, side portions hinged to said back, swell portions on the body portion registering with and forming a continuation of the back when the structure is in its folded position and a seat, substantially as specified.

2. In a structure as described, a seat, a hinged back recessed to contain the seat when folded, side sections hinged to said back, swells on the body portion, registering with the back when in its folded position, substantially as and for the purpose specified.

3. In a structure as described, a flaring back section hinged to the rear portion of the vehicle-body and merging by curves into side portions, side sections hinged to said side portions, a base for said back section, resting on the rear portion of the vehicle-body when in erect position and limiting the rearward movement of the back section, and a seat, substantially as specified.

4. In a structure as described, a back section hinged to the rear part of the vehicle-body, flaring side portions formed integral therewith, side sections hinged to said side portions, a seat, portions projecting laterally from the vehicle-body with which said flaring side portions will register when the structure is in its folded position, substantially as specified.

5. In a structure as described, a hinged back, having a flat base portion, a sill to which said back is hinged, and on which said base portion will rest when the back is in its erect position to limit the rearward movement of said back, hinged side sections, and a seat, substantially as and for the purpose specified.

6. In a structure as described, a body portion, a back, side sections hinged to said back, a seat, a base for said back formed with a channel to inclose the lower edge of said back, a hinged connection between said base and body portion, substantially as specified.

7. In a structure as described, a recessed back hinged to a rearward portion of the vehicle-body, side sections hinged to said back, a seat pivotally connected to said back, overlapping portions of said side sections of reducted thickness, substantially as and for the purpose specified.

8. In a structure as described, a body portion, a back hinged to said body portion, a seat pivotally connected to said back, side sections hinged to said back, a shoe fitted to the lower forward extremity of each side section, a lock-keeper on the body portion, a downward-projecting recessed finger on said shoe engaging said lock-keeper, and a bolt engaging said lock-keeper, substantially as and for the purpose specified.

9. In a folding seat for vehicles, a recessed back hinged to the body portion of the vehicle, and merging by curves into side panels, a seat, foldable against said back, and within the recess thereof, side sections hinged to said back, overlapping portions of said side sections of reduced thickness, means to prevent the upward movement of said side sections when the seat is in its erect position, means for preventing the lateral movement of said side sections when the seat is in its erect position, and swells on the body portion registering with the back when the seat is in its folded position, substantially as specified.

10. In a folding seat for vehicles, the combination of a back hinged to the vehicle-body, side sections hinged to said back, sockets secured to said back on opposite sides of the vehicle, a seat, projecting studs on opposite sides of said seat removably engaging said sockets, projecting fingers secured to said side sections, hasps on said seat engaging said projecting fingers, substantially as specified.

11. In an article of manufacture, a folding tonneau adapted to be fitted to vehicle-bodies, comprising a sill portion, a recessed back so hinged to said sill portion that it will be limited in its rearward movement, said back being formed flaring, and merging by curves into the side portions, a seat pivotally connected to said back and foldable within the recess of said back, side sections hinged to said back, swells on the forward part of said sill portion with which the hinged back will register when in its foldable position, substantially as and for the purpose specified.

12. In a structure as described, a hinged back, a flat base for said back, a sill to which said back is hinged, and on which said base will rest when in the erect position to

limit the rearward movement of the seat, side sections hinged to said back, and a seat, substantially as specified.

13. In a folding seat for vehicles, a back, folding side sections having their overlapping side portions reduced in thickness, and a seat, substantially as described.

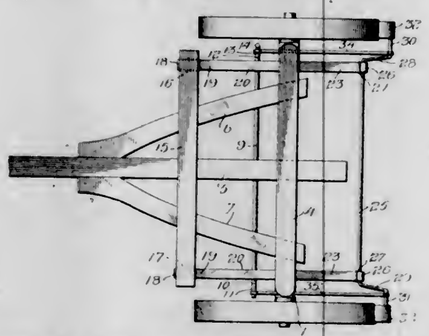
14. In a structure as described, a vehicle-body adapted to carry a flaring folding seat, swells on the side of said body to coincide with the shape of the back portion of said vehicle-seat, substantially as specified.

15. In a folding seat for vehicles, the combination of a back hinged to the vehicle-body, side sections hinged to said back, sockets secured to said back on opposite sides of the vehicle, a seat, projecting studs on opposite sides of said seat removably engaging said sockets, substantially as specified.

16. In a folding seat for vehicles, a folding portion hinged to the vehicle-body, a seat, rectangular projecting studs on opposite sides thereof, sockets on the folding portion each comprising a slot of a width substantially equal to the face of the rectangular stud, and an enlarged opening at the bottom of said slot of a diameter substantially equal to the diagonal of the stud, substantially as and for the purpose specified.

17. In a structure as described, a recessed back hinged to the rearward portion of the vehicle-body, a seat hinged to said back and adapted to turn on its hinged connection into the recess of said back, side sections hinged to said back and adapted to turn inward and rest against the seat when the structure is in its folded position, and a hook projecting from the back and engaging said side sections to hold the parts in their folded position, substantially as specified.

842,512. VEHICLE-BRAKE. WILLIAM K. ASHINHURST, Bibb, Tex. Filed Nov. 8, 1905. Serial No. 286,372.



Claim.—In a vehicle-brake, the combination with a vehicle-pole, an axle, a bolster and braces associated with said pole and said axle and bolster, of a beam disposed upon said pole and said braces, brackets connected at one of their ends to said beam, said brackets extending downwardly and rearwardly beneath said axle and having their rear end portions bent upon themselves to form eyes, a rock-shaft mounted upon said braces, a brake-beam mounted in said brackets, and connections between said rock-shaft and said brake-beam for rocking the latter.

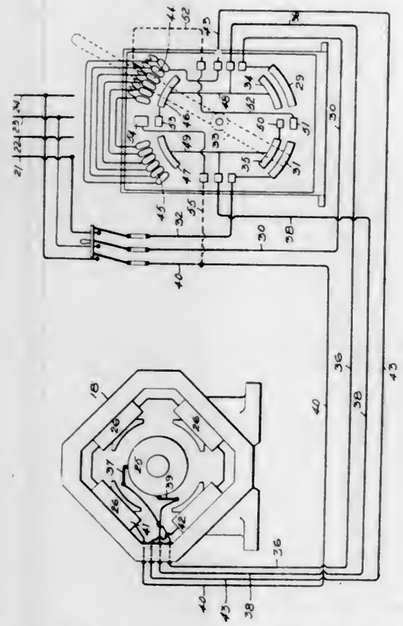
842,513. FLOAT-VALVE. FRED W. AXTELL, Fort Worth, Tex. Filed Nov. 7, 1906. Serial No. 342,418.

Claim.—1. In a float-valve comprising a seat having an upright standard projecting therefrom, a cover engaging said seat and provided with an extension having a T-shaped recess therein, the said standard having flanges and guards to prevent the displacement of said cover, and a lever fulcrumed in said standard and provided with a short arm for engaging said cover.

2. A float-valve comprising a seat having a standard projecting therefrom, a cover for said seat having an extension loosely engaging said standard by means of a T-shaped recess formed in said extension, and a reversible lever fulcrumed in said standard and having a short arm for preventing the displacement of said valve and for closing said valve in operation.



842,514. FURNACE-CHARGING APPARATUS. GEORGE BAEHR, McKeesport, Pa., assignor to National Tube Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Sept. 17, 1904. Serial No. 224,892.

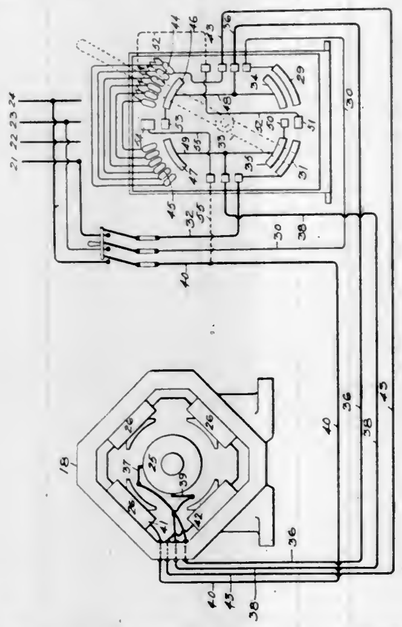


Claim.—1. The combination with a furnace, of reciprocating mechanism in front of the same and mounted to move toward and from the furnace, a reversible electric motor mounted thereon, a multiple-voltage circuit connected thereto, and means for changing the motor connections from a circuit of high voltage to a circuit of low voltage, and vice versa, whenever the direction of rotation of the motor is changed.

2. The combination with a furnace, of reciprocating mechanism in front of the same and mounted to move toward and from the furnace, an electric motor mounted thereon, a multiple-voltage circuit, and a lever-controller having two active positions and movable in a single plane, said lever being arranged in its forward position to connect the motor to a low-voltage circuit, and in its rearward position to connect said motor to a high-voltage circuit and with the direction of the current through the motor field and armature reversed.

3. The combination with a furnace, of reciprocating mechanism in front of the same and mounted to move toward and from the furnace, an electric motor mounted thereon, a multiple-voltage circuit, a lever-controller having a neutral and two active positions and movable in a single plane, said lever being arranged in its forward position to connect the motor to a low-voltage circuit, and in its rearward position to connect the motor to a high-voltage circuit with the direction of the current through the field and armature reversed, and a brake applied by said lever in its neutral position.

842,515. ELECTRIC-MOTOR SYSTEM. GEORGE BAEHR, McKeesport, Pa., assignor to National Tube Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Sept. 17, 1904. Serial No. 224,893.



Claim.—1. In an electric-motor system, the combination with a motor, of a multiple-voltage circuit connected thereto, and means for changing the motor connections from a circuit of high voltage to a circuit of low voltage, and vice versa, whenever the direction of rotation of the motor is changed.

2. In an electric-motor system, the combination with a motor having a series field, of a multiple-voltage circuit connected to said motor, and means for changing the motor connections from a circuit of high voltage to a circuit of low voltage, and vice versa, whenever the direction of rotation of the motor is changed.

3. In an electric-motor system, the combination with a motor, of a multiple-voltage circuit therefor, and a controller between said motor and circuit, said controller being arranged so that in one position it will connect the motor to a circuit of one voltage, and in another position it will connect the motor to a circuit of different voltage, and with the relative direction of the current through the motor field and armature reversed.

4. In an electric-motor system, the combination with a motor having a series field, of a multiple-voltage circuit therefor, and a controller connecting said motor and circuit and mounted to assume two positions, said controller being arranged so that when in one position it will connect the motor to a circuit of one voltage, and in another position it will connect the motor to a circuit of different voltage, and with the relative direction of the current through the motor field and armature reversed.

5. In an electric-motor system, the combination with a motor, of a multiple-voltage circuit therefor, and a controller interposed between said motor and circuit and comprising a lever-switch mounted to assume two positions and so arranged that in one position it will connect the motor to a circuit of one voltage and in another position it will connect the motor to a circuit of a different voltage and with the relative direction of the current through the motor field and armature reversed.

6. In an electric-motor system, the combination with a motor, of a multiple-voltage circuit therefor, a controller connecting said motor and circuit, said controller being so arranged that when in one working position it will connect the motor to a circuit of one voltage, and in another working position it will connect the motor to a circuit of different voltage and with the relative direction of the current through the motor field and armature reversed, and a brake operated by said controller when in its neutral position.

7. In an electric-motor system, the combination with a motor, of a multiple-voltage circuit therefor, and a controller between said motor and circuit, said controller comprising a lever-switch mounted to move in a single plane and to assume two working positions and a neutral position, the arrangement being such that in one working position said lever will connect the motor to a circuit of one voltage, and in its other working position it will connect the motor to a circuit of different voltage and with the relative direction of the current through the motor field and armature reversed, and in its neutral position it will place the motor-armature in a closed circuit.

8. In an electric-motor system, the combination with a motor, of a multiple-voltage circuit therefor, a lever-controller interposed between said motor and circuit, said controller comprising a lever mounted to move in a single plane and to assume two working positions and a neutral position, the arrangement being such that in one working position it will connect the motor to a circuit of one voltage, and in the other working position it will connect the motor to a circuit of different voltage and with the relative direction of the current through the field and armature reversed, and in its neutral position it will place the motor-armature in a closed circuit, and a resistance in said closed circuit.

9. In an electric-motor system, the combination with a motor, of a multiple-voltage circuit therefor, and a controller interposed between said motor and circuit and comprising a lever-switch mounted to move in a single plane and to assume two working positions and a neutral position, the arrangement being such that said lever in one working position will connect the motor to a circuit of one voltage, and in the other working position it will connect the motor to a circuit of a different voltage and with the relative direction of the current through the field and armature reversed, and in the neutral position it will connect the motor field and armature in series and place the same in a closed circuit.

10. In an electric-motor system, the combination with a motor, of a multple-voltage circuit therefor, and a controller in said circuit and comprising a lever-switch arranged to assume two positions and to bridge contacts in both positions, said contacts being so arranged that in one position of the lever the motor will be connected to a circuit of one voltage and with the field and armature in series and so that the current traverses both field and armature in the same direction, and in the other position of the lever the motor will be connected to a circuit of a different voltage and with the field and armature in series but so that the current traverses the same in opposite directions.

11. In an electric-motor system, the combination with a motor, of a multiple-voltage circuit therefor, and a controller in said circuit, the same comprising a lever-switch arranged to assume two working positions and a neutral position and bridge contacts in all positions, said contacts being so arranged that in one position of the lever the motor will be connected to a circuit of one voltage and with the current traversing both the field and armature in the same direction, and in the other working position the motor will be connected to a circuit of a different voltage and so that the current traverses the field and ar-

mature in opposite directions, and in the neutral position the motor-armature will be placed in a closed circuit.

12. In an electric-motor system, the combination with a motor, of a multiple-voltage circuit therefor, a controller in said circuit, the same comprising a lever-switch arranged to assume two working positions and a neutral position and bridge contacts in all positions, said contacts being so arranged that in one position of the lever the motor will be connected to a circuit of one voltage and with the current traversing both the field and armature in the same direction, and in the other working position of the lever the motor will be connected to a circuit of different voltage and so that the current traverses the field and armature in opposite directions, and in the neutral position of the lever the motor-armature will be placed in a closed circuit, and a resistance device in said closed circuit.

13. In an electric-motor system, the combination of a motor, of a multiple-voltage circuit therefor, and a controller in said circuit and comprising a lever-switch arranged to assume two working positions and a neutral position and to bridge contacts in all positions, said contacts being so arranged that in one position of the lever the motor will be connected to a circuit of one voltage and so that the current traverses both the field and armature in the same direction, and in the other working position of the lever the motor will be connected to a circuit of a different voltage and so that the current traverses the field and armature in opposite directions, and in the neutral position of the lever the motor field and armature will be placed in series and in a closed circuit.

14. A motor-controller for a multiple-voltage circuit, the same comprising a lever-switch arranged to assume two positions and to bridge contacts in both positions, said contacts comprising two main contacts one to be connected to a main of one voltage and the other to a main of another voltage, a pair of contacts to be connected to the opposite terminals of the motor-armature and one thereof in proximity to each main contact and arranged to be connected to the same by the lever-switch in its two positions; a pair of field-contacts permanently connected to each other and adapted to be connected to the motor-field, a companion contact in proximity to each field-contact and arranged to be connected thereto by the lever in its two positions, and permanent connections between each of the armature-contacts and one of the companion field-contacts.

15. A motor-controller for a multiple-voltage circuit, said controller comprising a lever-switch arranged to assume two working positions and a neutral braking position and to bridge contacts in all of said positions, said contacts comprising two main contacts one to be connected to a main of one voltage and the other to a main of another voltage, a pair of contacts to be connected to the opposite terminals of the motor-armature and one thereof in proximity to each main contact and arranged to be connected to the same by the lever in its two working positions, a pair of field-contacts permanently connected to each other and to be connected to the motor-field, a companion contact located in proximity to each field-contact and arranged to be connected thereto by the lever in its two working positions, permanent connections between each of the armature-contacts and one of the companion field-contacts, a pair of contacts arranged to be bridged by the lever in its neutral position, one of said contacts to be connected to one armature-terminal, and the other of said contacts to be connected to the other armature-terminal.

16. A motor-controller for a multiple-voltage circuit said controller comprising a lever-switch arranged to assume two working positions and a neutral braking position and to bridge contacts in all of said positions, said contacts comprising two main contacts one to be connected to a main of one voltage and the other to a main of another voltage, a pair of contacts to be connected to the opposite terminals of the motor-armature and one thereof in proximity to each main contact and arranged to be connected to the same by the lever in its two working positions, a pair of field-contacts permanently connected to each other and to be connected to the motor-field, a companion contact located in proximity to each field-contact and arranged to be connected thereto by the lever in its two working positions, permanent connections between each of the armature-contacts and one of the companion field-contacts, a pair of contacts arranged to be bridged by the lever in its neutral position, one contact of one pair to be connected to one terminal of the motor-armature and one contact of the other pair to be connected to the opposite terminal of the motor-armature, and the other contact of the one pair to be connected to one terminal of the motor-field and the other contact of the other pair to be connected to the other terminal of the motor-field.

842,516. WATCHCASE-CENTER. ADOLPHUS BAVIER, Waterbury, Conn., assignor to The Waterbury Clock Co., Waterbury, Conn., a Corporation. Filed July 31, 1905. Serial No. 272,088.



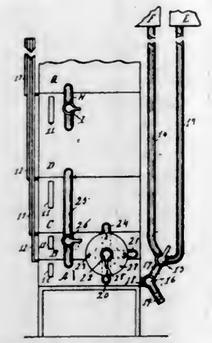
Claim.—1. In a center for watchcases, the combination with a sheet-metal inside ring having upon one edge an inwardly-extending fastening-flange and open at its opposite edge for the reception of a watch-movement one plate of which bears upon the inner face of the said flange to which the movement is fastened; of an outside ring mounted upon the outer periphery of the said inside ring and narrower than the same.

2. In a center for watchcases, the combination with a sheet-metal inside ring having its outer edge formed with an integral inwardly-extending fastening-flange, and its rear edge being made open to permit the introduction of a watch-movement into the ring for the bearing of its front movement-plate directly against the inner face of the said fastening-flange to which the movement is fastened, of an outside ring mounted upon and narrower than the periphery of the inside ring.

3. In a center for watchcases, the combination with a sheet-metal inside ring having upon one edge an annular snap-shoulder and an inwardly-extending fastening-flange, the said shoulder being smaller in diameter than the diameter of the ring and the flange being smaller in diameter than the said shoulder, and the opposite edge of the ring being open to permit the introduction of a watch-movement which bears upon the inner face of the said flange to which the said movement is fastened; of an outside ring mounted upon the outer periphery of the inside ring and narrower than the same.

842,517. OIL-DISPENSING TANK. JOHN E. BOURNE, Somerville, Ohio. Filed Dec. 29, 1905. Serial No. 293,765.

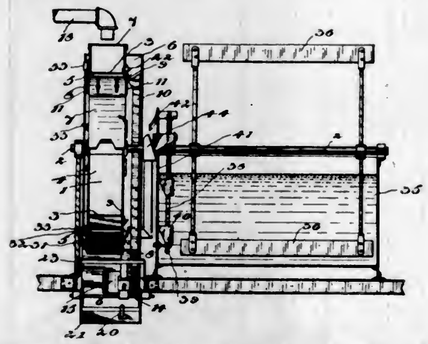
Claim.—1. In a liquid-dispensing device, the combination of a tank, a vessel representing the unit of measure, vessels representing respectively aliquot parts thereof, one of the said latter vessels being interposed in the line of communication between the tank and said other vessels and provided with a valved discharge-pipe, and also with a valved supply-pipe leading thereto from the tank, and valved passages leading from said latter vessel to the respective other vessels.



2. The combination of a first vessel representing one-fourth of the unit of measure and provided with a valved discharge-opening and with a valved supply-pipe, a second vessel of equal capacity, a third vessel with capacity equal to both the first and the second vassels, pipes arranged to lead from each of said vessels to both of the other vessels and a single cock arranged to control said last-named pipes as desired.

3. The combination of a series of measuring vessels one of said vessels being provided with a valved discharge-pipe and with a valved supply-pipe, passages leading therefrom to said other vessels, and means for controlling said passages either successively or simultaneously.

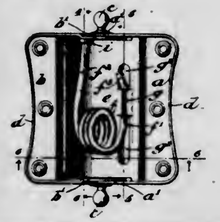
842,518. CHEMICAL-SOLUTION ELEVATOR FOR USE IN WATER-PURIFIERS. JOHN BOWEY, Jr., London, Ontario, Canada. Filed Sept. 8, 1905. Serial No. 277,526.



Claim.—1. In a water-purifier the combination of a chemical-solution holder; an endless vertical carrier; cups pivoted thereon and normally tending to tip; a guide with which the cups contact to keep them in normal position, a gap being formed in the guide at a suitable point to permit the cups to tip as they reach it; and a tripping-arm adjacent to the gap adapted to engage the cups to return them to their normal position, substantially as described.

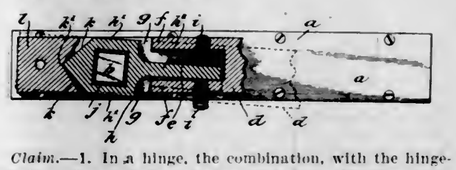
2. In a water-purifier the combination of a chemical-solution holder; an endless vertical carrier; cups pivoted thereon and normally tending to tip; a guide with which the cups contact to keep them in normal position, a gap being formed in the guide at a suitable point to permit the cups to tip as they reach it; a tripping-arm adjacent to the gap adapted to engage the cups to return them to their normal position, the guide above the gap being provided with an inclined portion adapted to aid in the returning of the cups to normal position, substantially as described.

842,519. SPRING-HINGE. WILLIAM H. BROTHERS, Cleveland, Ohio, assignor to The Columbian Hardware Company, Cleveland, Ohio, a Corporation of Ohio. Filed Dec. 6, 1905. Serial No. 290,597.



Claim.—In a spring-hinge, the combination of two sheet-metal hinge-leaves provided with pivotally-connected ears, one of said leaves being provided with a longitudinal sleeve or socket closed toward the inside of the hinge and open to the outside thereof, the said leaf having longitudinal interior grooves or depressions at the opposite ends of said sleeve or socket, and the other of said leaves having one of its ears provided with a perforation at one side of the pivot connections, the adjacent leaf having a curved slot and a spring having two arms, one of which is inserted through the said sleeve or socket and seated in said groove or depression, and the extremity of the other of which arms is inserted through the said perforation into said slot, for substantially the purposes set forth.

842,520. HINGE. WILLIAM H. BROTHERS, Cleveland, Ohio, assignor to The Columbian Hardware Company, Cleveland, Ohio, a Corporation of Ohio. Filed Jan. 30, 1906. Serial No. 298,648.



Claim.—1. In a hinge, the combination, with the hinge-spindle, of a spindle-engaging and door-adjusting lever fulcrumed at one end, and adjusting means acting on the other end of the said lever, said spindle engaging the lever intermediate of the fulcrum and adjusting means, for substantially the purposes set forth.

2. In a hinge, the combination, with the hinge-spindle, of a spindle-engaging and door-adjusting lever having a tapered fulcrum end, a saddle having a seat or recess for said end, and adjusting means acting on the lever, for substantially the purposes set forth.

842,521. DOOR-CHECK. WILLIAM H. BROTHERS, Cleveland, Ohio, assignor to The Columbian Hardware Company, Cleveland, Ohio, a Corporation of Ohio. Filed Feb. 6, 1906. Serial No. 299,705.

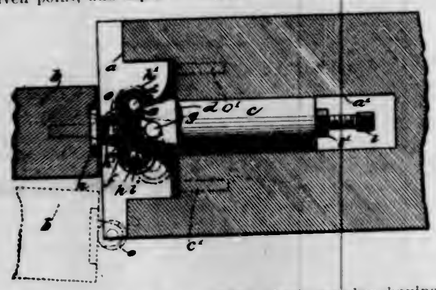
Claim.—1. In a door-check, a rocking check member provided with strike-rolls spaced apart to be struck alternately during the opening and closing of a door.

2. In a door-check, a rocking check member provided with strike-rolls suitably spaced apart and a tappet to strike said rolls alternately during the opening and closing of a door.

3. In a door-check, a rocking check member provided with strike-rolls, and a tappet-roll, said check member and tappet-roll being adapted to be mounted for coöperation, one of them on a door-frame and the other on the door.

4. In a door-check, a spring-influenced rocking check

member provided with strike-rolls, one on each side of a given point, and separated by a door-centering gap.



5. In a door-check, a rocking check member having a door-centering gap and rolling contact-surfaces on both sides of a given point of said member and on each side of said gap.

6. In a door-check, the combination of a suitably-supported rocking check member, a spring-actuated plunger acting on the member, and means for adjusting the tension of the spring.

7. In a door-check, a rocking check member comprising a frame and three angularly-arranged rolls carried by the same.

8. In a door-check, a rocking check member having two strike-rolls arranged one on each side of a given point and a back roll, in combination with a spring-actuated plunger bearing on the back roll.

9. In a door-check, a rocking check member having two strike-rolls arranged one on each side of a given point and a back roll, in combination with a spring-actuated plunger, and means for adjusting the tension of the spring.

10. In a door-check, a pivoted check member, in combination with a spring-actuated plunger bearing upon the same at a point back of its pivot.

11. In a door-check, the combination of a rocking member having rolling contact or checking surfaces on both sides of a given point of said member, and a tappet to be carried by the door for alternately striking said surfaces during the opening and closing of the door.

12. In a door-check, the combination of a base-plate, a member pivoted at one end to said plate and having a socket in said end, a door-check proper at said socketed end of the base-plate, the same consisting of a rocking member arranged to momentarily obstruct or interfere with the closing movement of the door, spring-pressure means in said socket acting on said door-check proper, and adjusting devices acting on the pivoted member to adjust the door-check proper relatively to the path of movement of the door.

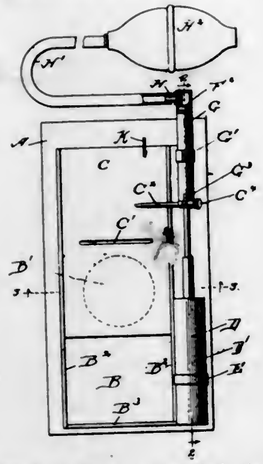
842,522. PHOTOGRAPHIC SHUTTER. HENRY A. BYERS, Pe Ell, Wash. Filed Aug. 14, 1905. Serial No. 274,140.

Claim.—1. In a device of the kind described, the combination with a frame having a plate hinged thereto, openings formed in the frame and plate, of a shutter working in guideways carried by the frame and means connected to said shutter for imparting a rapid initial movement and a slow terminal movement to the shutter, for the purpose described.

2. In a device of the kind described, the combination with a frame, provided with an opening, of a shutter provided with a slot working over said opening, and means connected to said shutter for imparting a rapid initial movement and a slow terminal movement to the shutter passing over the opening, for the purpose described.

3. In a device of the kind described, the combination with a frame provided with an opening and having a plate hinged thereto, of a shutter working in guideways, a speed-regulator attached to said shutter, and means for operating said shutter, for the purpose described.

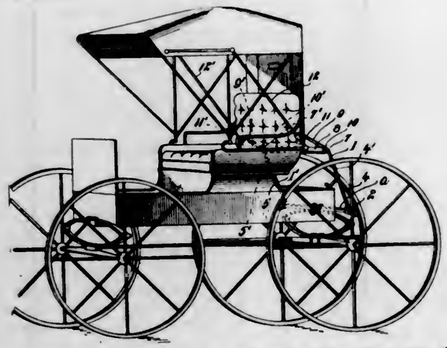
4. In a device of the kind described, the combination with a frame having an opening formed therein, of a plate secured on said frame having an opening in alinement with the opening in the frame and provided with guideways, a shutter working in said guideways carrying an arm, a cylinder arranged on said frame, a rod connected to said arm, a piston-head secured on the end of said rod working in the cylinder, and means connected to the cylinder for operating the piston, for the purpose described.



5. In a device of the kind described, the combination with a frame provided with a hinged plate adapted to fit on the lens-tube of a camera, of a shutter working in guideways on said frame, an arm secured to said shutter, a rod secured to said arm, and means for operating said rod, for the purpose described.

6. In a device of the kind described, the combination with a frame provided with an opening, and a plate adapted to be secured over the lens-tube of the camera, hinged to the frame, of a shutter provided with a slot, working in guideways, means connected to said shutter for allowing the slot in the shutter to pass over the opening, in the frame at a rapid initial movement and a slow terminal movement, and means for operating said shutter, for the purpose described.

842,523. SUPPORT FOR VEHICLE-TOPS. HENRY CARROW, Bonneterre, Mo. Filed Oct. 20, 1906. Serial No. 339,760.



Claim.—In a vehicle attachment of the character described, the combination of a sectional rod on each side of a vehicle adapted to be secured at their opposite ends to the vehicle-spring and bow of the top, and a transverse bar connecting the said sectional rods adapted to support the top of the vehicle when lowered, substantially as described.

842,524. HAIR-COMB. FOREST S. CARTWRIGHT, Chicago, Ill. Filed Apr. 5, 1906. Serial No. 310,129.



Claim.—1. A comb provided with teeth, one of said teeth having an elastic insert disposed therein adjacent its lower end, and means adapted to contact directly with said insert, to hold the comb in place.

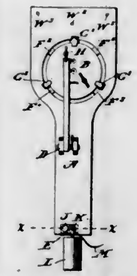
2. A comb provided with teeth, one of said teeth having a recess formed in its side adjacent its lower end; an elastic strip disposed in said recess; resilient means adapted to contact directly with said strip, to hold the comb in place; and separate means connected with said first-mentioned means and adapted upon actuation to release the latter from contact with said strip.

3. A comb provided with teeth and having an opening formed through the bridge portion between two adjacent teeth; a spring having its upper end secured in said bridge portion and its lower end adapted to contact with the face of one of said teeth, to hold the comb in place; and a supplemental section formed on said spring and extending through said opening, said section being adapted when moved upwardly therethrough, to release said spring end from contact with said tooth side.

4. A comb provided with teeth and having an opening formed in the bridge portion between two adjacent teeth; a resilient member having one end secured in said bridge portion and adapted to contact with its free end directly against one of said teeth; and means connected with said member and movable through said opening, said last-mentioned means being adapted when moved upwardly therethrough to release said resilient means from contact with said tooth.

5. A comb provided with teeth and having an opening formed through its bridge portion between two adjacent teeth, one of said teeth having a recess formed in its side; a strip of elastic material inserted in said recess; resilient means having one end secured in said bridge portion and adapted to contact with its free end directly against said strip, to hold the comb in place; and means connected with said resilient means and movable through said opening, said last-mentioned means being adapted when moved upwardly therethrough to release said resilient means from contact with said strip.

842,525. TIME-CONTROLLED DAMPER. WALTER F. CAWTHORNE and HENRY M. LUMMIS, Elizabeth, N. J., assignors to Autodraft Manufacturing Company, a Corporation of New York. Filed May 29, 1905. Renewed Oct. 5, 1906. Serial No. 337,627.



Claim.—1. In a time-controlled damper-adjuster, the combination of an alarm-clock, detachably set in a vertical base-board, with a hammer pivoted at one end to said base-board, and operating in a vertical arc, having its free end extending under the winding-post of the alarm mechanism of the clock, a spring-catch substantially as set forth, at or near the bottom of said base-board and directly in line with the arc described by the free end of the hammer in falling, a weight having a loop at its top and normally suspended upon said catch and having attached to it a flexible cord passing through a pulley or pulleys to the damper or draft.

2. In a machine of the above description, the combination of a base-board containing a circular opening near its top in which springs are set, a suitable alarm-clock fitting into said opening, a hammer with one end pivoted to the said base-board below said opening in such manner as to bring the other end immediately under the alarm winding-post of the clock, a spring at the pivoted end of the said hammer so arranged as to accelerate the downward force of the hammer, a suitable spring-catch countersunk in said base-board at or near the bottom thereof and in line with the arc described by the free end of the hammer in descending, a weight with a loop at its top, a flexible cord attached to said weight and proceeding over suitable pulleys or ways to the dampers and drafts of the heater.

3. In a machine of the above description, the combination of a base-board, in which there is affixed, removably, a suitable alarm-clock having an alarm winding-post on the back thereof, with a hammer pivoted at one end to said base-board, the free end extending under the alarm winding-post of the clock, a spring-catch affixed to said base-board in line with the arc described by the free end of the hammer substantially as set forth for the purpose above described.

4. In a machine of the above description, the combination of a base-board with a suitable alarm-clock having an alarm winding-post on the back thereof, a means for removably affixing said clock to said base-board, a hammer pivoted by one end to said base-board, the other end extending under the alarm winding-post of the clock, a spring-catch affixed in said base-board, in line with the arc described by the free end of the said hammer, substantially as set forth and for the purpose hereinbefore described.

5. In a machine of the above description, the combination of a base-board, with a suitable alarm-clock having an alarm winding-post on the back thereof, a means for affixing said clock, removably, in said base-board, a hammer pivoted at one end to said base-board, the free end extending under the alarm winding-post of the alarm-clock, a spring-catch affixed in said base-board, in line with the arc described by the free end of said hammer, a suitable weight normally suspended upon said catch, a cord or cords attached to said weight and passing over suitable pulleys or ways to the damper or drafts.

6. In a machine of the above description, the combination of a suitable alarm-clock having an alarm winding-post on the back thereof, removably affixed in a base-board, with a hammer pivoted at one end, by means of a suitable bracket, to said base-board, said hammer having a suitable spring to accelerate the motion of the free end thereof, the free end of said hammer extending under the alarm winding-post of the alarm-clock, a suitable spring-catch affixed in said base-board, in line with the arc described by the free end of the hammer, in passing away from the said clock, said catch normally protruding from the face of said base-board and receding into said board upon pressure, all substantially as set forth and for the purpose hereinbefore set forth.

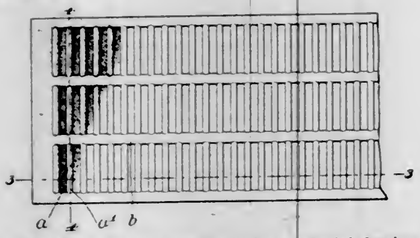
7. In a time-controlled damper-adjuster, the combination of a suitable alarm-clock, having an alarm winding-post on the back thereof, with a suitable framework normally containing said clock, a means for removably affixing said clock in said framework, a hammer pivoted by one end to said framework in such manner that the free end thereof extends under the alarm winding-post of the said clock, a suitable catch disposed in said framework in line with the arc described by the free end of the hammer in passing from the said alarm winding-post of the clock, all substantially as set forth for the uses and purposes herein expressed.

8. In a time-controlled damper-adjuster, the combination of a suitable alarm-clock, having an alarm winding-post on the back thereof, with a suitable framework normally containing said clock, a means for removably affixing said clock in said framework, a hammer pivoted by one end to said framework in such manner that the free

end thereof extends under the alarm winding-post of the said clock, a suitable catch disposed in said framework in line with the arc described by the free end of the hammer in passing from the said alarm winding-post of the clock, a weight normally suspended upon said catch, a cord or cords attached to said weight and passing therefrom over suitable pulleys or ways to the damper or drafts of the heater, all substantially as described and for the purposes herein expressed.

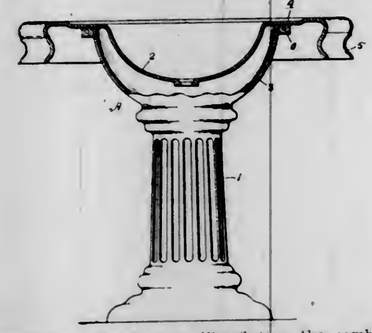
842,526. INSULATING MATERIAL. CECIL M. CLARKE, Chicago, Ill. Filed Feb. 12, 1906. Serial No. 300,698.

Claim.—1. A sheet of asbestos insulating material having an original flat portion and projections expanded in opposite directions therefrom of looser texture than the original sheet.



2. A sheet of asbestos insulating material having an original flat portion and projections expanded in opposite directions therefrom of looser texture than the original sheet, and of more compact texture than is the material when merely expanded.

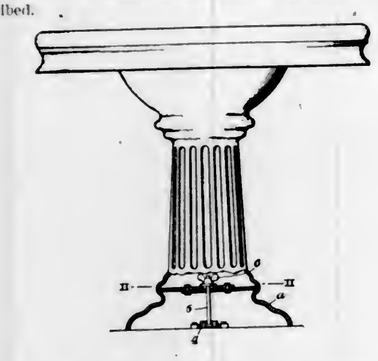
842,527. CONSTRUCTION OF LAVATORIES AND LIKE FIXTURES FOR DOMESTIC USE. ALEXANDER H. CLINE, Jr., Kansas City, Mo., and JAMES H. DANVER, Beaver, Pa. Filed Mar. 10, 1906. Serial No. 305,397.



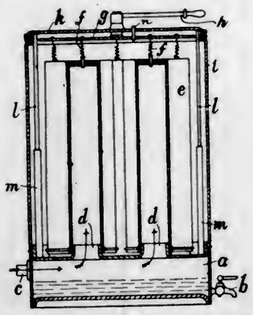
Claim.—In a lavatory or like fixture the combination of a bowl portion provided with a laterally-extending slab and with lugs formed upon the under surface of such extended slab, and a pedestal having an integrally-formed upward-extending shell surrounding said bowl portion and provided at the upper edge of such upward-extending shell with lugs engaging the lugs formed upon the edge of the bowl portion as aforesaid, substantially as described.

842,528. MEANS FOR SECURING FIXTURES TO SUPPORTING-SURFACES. JAMES H. DANVER, Beaver, Pa. Filed Mar. 10, 1906. Serial No. 305,395.

Claim.—The combination of a hollow pedestal having a bowl-supporting portion and a base, said base being provided with an internal shoulder, an extensible web engaging said shoulder, an anchor adapted to be secured to a supporting-surface, and an adjustable connection extending from the anchor to the web and accessible through the pedestal for purposes of adjustment, substantially as described.

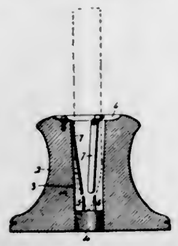


842,529. DUST-SEPARATOR FOR CLEANING APPARATUS. GUSTAV DITTMAR, Offenbach-on-the-Main, Germany. Filed June 26, 1906. Serial No. 323,507.



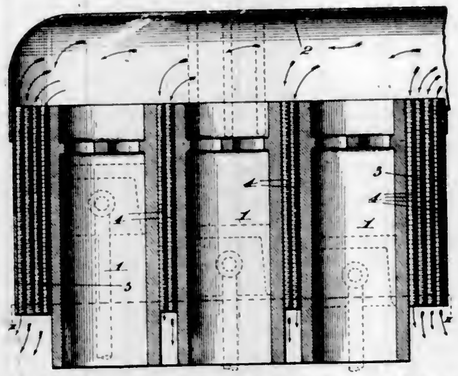
Claim.—A dust-filter for cleaning apparatus, comprising a lower water-containing vessel having an inlet for admitting dust-laden air to said vessel and a plurality of outlet-openings in its upper side, a plurality of flexible filter-bags closed at their upper ends and connected by their lower ends to the outlet-openings of said vessel, means connected at the upper ends of the bags for elastically supporting said filter-bags, means for shaking said filter-bags, a cover, and a flexible case connected to the cover and vessel and surrounding the filter-bags.

842,530. CIGAR-PERFORATOR. JAMES G. DOHERTY, Waterbury, Conn. Filed Aug. 24, 1906. Serial No. 331,836.



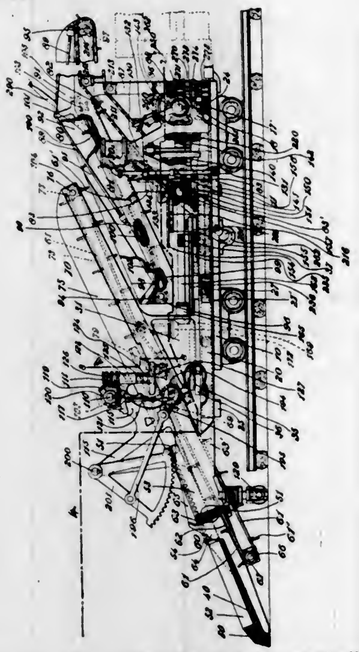
Claim.—A cigar-perforator comprising a block-like body having a longitudinal central passage, a plug closing one end of the passage, pins in said plug and extending therefrom into said passage, a plurality of independent spring-fingers secured to the top of the body around said passage the free ends of the fingers extending into the same and terminating at a point above the upper ends of said pins, substantially as described.

842,531. MEANS FOR COOLING EXPLOSIVE-ENGINE CYLINDERS. GEORGE P. DORRIS, St. Louis, Mo. Filed Oct. 5, 1904. Serial No. 227,199.



Claim.—The combination with the cylinder of an explosive-engine, of a jacket surrounding said cylinder, a hood located at one end of said jacket to conduct air thereto, and a plurality of tubes arranged in concentric layers about said cylinder within said jacket and communicating directly with the hood at one end and with the atmosphere at the other end, both by their bores and by the space between the tubes.

842,532. LOADING-MACHINE. ANDREW J. DOSS, Switchback, W. Va. Filed May 25, 1904. Serial No. 209,706.



Claim.—1. The combination of a car, a swiveling base, a reciprocating carriage, and a loading mechanism, comprising a shoveling-conveyer having a wedge-like feeder and an elevating conveying mechanism in conjunction therewith.

2. The combination of a reciprocating inclined conveyer, a wedge-like feeder at the front thereof, and means for reciprocating said conveyer to drive the feeder in its forward movement under material to be loaded.

3. The combination of a reciprocating inclined conveyer, a wedge-like feeder at the front thereof, means for reciprocating said conveyer to drive the feeder in its forward movement under material to be loaded, and means for swinging said conveyer laterally.

4. The combination of a reciprocating carriage, a conveyer mounted thereon, a wedge-like feeder for said conveyer adapted to slide under the material to be loaded, means for shoving said carriage forward to thrust said wedge-like feeder under material to be loaded, and means for laterally swinging said carriage.

5. The combination of a reciprocating carriage, a traveling support therefor, means for swiveling said carriage, an inclined conveyer mounted on said carriage, a wedge-like feeder for said conveyer disposed in front thereof, and means for reciprocating said carriage to thrust said feeder under material to be loaded and deliver it onto said inclined conveyer.

6. The combination of a reciprocating inclined conveyer, a wedge-like feeder at the front thereof, means for reciprocating said conveyer to drive the feeder in its forward movement under material to be loaded, and a supplemental feeder for raking material up said wedge-like feeder.

7. The combination of a reciprocating inclined conveyer, a wedge-like feeder at the front thereof, means for reciprocating said conveyer to drive the feeder in its forward movement under material to be loaded, and a reciprocating supplemental feeder for raking material up said wedge-like feeder.

8. The combination of a reciprocating inclined conveyer, a primary wedge-like feeder at the front thereof, means for reciprocating said conveyer to drive the feeder in its forward movement under material to be loaded, and a wedge-like reciprocating supplemental feeder for raking material up said primary wedge-like feeder.

9. The combination of a reciprocating carriage, an inclined conveyer mounted on said carriage and pivoted to swing in a vertical plane, and a wedge-like feeder at the front of said conveyer adapted to lift material onto said conveyer on a forward movement of the carriage.

10. The combination of a reciprocating carriage, an inclined conveyer mounted on said carriage and pivoted to swing in a vertical plane, a wedge-like feeder at the front of said conveyer adapted to lift material onto said conveyer on a forward movement of the carriage, and a supplemental feeder for pulling up material over the wedge-like feeder.

11. The combination of a reciprocating carriage, an inclined conveyer mounted on said carriage and pivoted to swing in a vertical plane, a wedge-like feeder at the front of said conveyer adapted to lift material onto said conveyer on a forward movement of the carriage, and a supplemental reciprocating feeder for pulling material up the inclined face of said wedge-like feeder.

12. The combination of a traveling car, a reciprocating carriage, an inclined conveyer mounted thereon and comprising a fixed rear portion and a pivoted front portion, and a wedge-like feeder at the front of said conveyer adapted to slide under material to be loaded and deliver it onto the traveling mechanism of the conveyer on the forward thrust of the carriage.

13. The combination of a traveling car, a swiveling reciprocating carriage mounted on said car, an inclined conveyer mounted on said carriage, and a wedge-like feeder at the front of said conveyer adapted to slide under material to be loaded and deliver it onto the traveling mechanism of said conveyer on the forward thrust of said carriage.

14. The combination of a traveling car, a swiveling reciprocating carriage mounted on said car, an inclined conveyer mounted on said carriage, a wedge-like feeder at the front of said conveyer, adapted to slide under material to be loaded and deliver it onto the traveling mechanism of said conveyer on the forward thrust of said carriage, and a supplemental conveyer disposed on said car and adapted to receive material from the conveyer on said carriage.

15. The combination of a traveling car, a swiveling reciprocating carriage mounted on said car, an inclined conveyer mounted on said carriage, a wedge-like feeder at the front of said conveyer adapted to slide under material to be loaded and deliver it onto the traveling mechanism of said conveyer on the forward thrust of said carriage, and a supplemental conveyer also mounted on said car and provided with a flaring hopper adapted to receive material from the conveyer on said carriage.

16. The combination of a traveling car, a reciprocating carriage supported thereby, means for swinging said carriage to the right or left, an inclined conveyer mounted on said carriage, a wedge-like feeder at the front of said conveyer, and a supplemental conveyer on said car comprising an inclined front portion adapted to receive material from the conveyer on said carriage and a rearward extension adapted to overhang a car or other point of delivery.

17. The combination of a reciprocating carriage, an inclined conveyer mounted on said carriage and pivoted to swing in a vertical plane and provided at its front end with a wedge-like feeder adapted to lift material by a forward thrust onto said conveyer, and means for adjusting the inclination of said inclined conveyer.

18. The combination of a reciprocating carriage, an inclined conveyer mounted on said carriage and pivoted to swing in a vertical plane and provided at its front end with a wedge-like feeder adapted to lift material by a forward thrust onto said conveyer, means for adjusting the inclination of said inclined conveyer, and means for locking said pivoted conveyer in adjusted position.

19. A low loading-machine comprising a traveling car, a base swiveled thereon, a shoveling-conveyer supported on said swiveling base and having an elevating conveying mechanism and a wedge-like feeder at its front end, means on said car for thrusting said wedge-like feeder under the mass of material to be loaded, means for operating said conveying mechanism, the frame of said traveling conveyer comprising a stationary rear portion, and a front portion pivoted to swing in a vertical plane.

20. The combination of an inclined conveyer, a traveling support therefor, a wedge-like feeder at the front of said conveyer adapted by a wedge-like action on a forward thrust to slide under, lift and deliver material onto the traveling carrier of said conveyer, means for moving said conveyer forward to slide said feeder under the material to be loaded, and a supplemental wedge-like feeder reciprocating over said wedge-like feeder for raking material over it

21. The combination of an inclined conveyer, a wedge-like feeder at the front thereof, a supplemental feeder, and means for reciprocating said supplemental feeder over the wedge-like feeder comprising two sectors engaging racks on said supplemental feeder, a crank-shaft, pitmen connecting the cranks of the crank-shafts with said sectors, and means for operating said crank-shafts.

22. The combination of an inclined conveyer, a wedge-like feeder at the front thereof, a supplemental feeder provided with slide-bars having rack-teeth, guides on the frame of the conveyers for said slide-bars, two sectors pivoted to swing on said conveyer and engaging said rack-teeth, and means for reciprocating said sectors.

23. The combination of a traveling car, a swiveling base supported thereon, a reciprocating carriage guided in ways of said base and carrying a shoveling-conveyer, a crank-shaft journaled in said base and provided with a crank, and a pitman connecting said crank with said reciprocating carriage to impart motion thereto.

24. The combination of an inclined conveyer, a traveling support therefor, a wedge-like feeder at the front of said conveyer adapted by a wedge-like action on a forward thrust to slide under, lift and deliver material onto the traveling carrier of said conveyer, means for moving said conveyer forward to slide said feeder under the material to be loaded, and means for holding said traveling support in fixed position.

25. The combination of a traveling car, a swiveling base supported thereon, a swiveling mechanism therefor, a reciprocating carriage guided in ways of said base, a reciprocating mechanism therefor, a shoveling-conveyer mounted on said carriage, a supplemental reciprocatory feeder for raking material onto said conveying mechanism of the shoveling-conveyer, a reciprocating mechanism for said supplemental feeder, a driving-shaft, and clutches connecting said mechanisms with said driving-shaft.

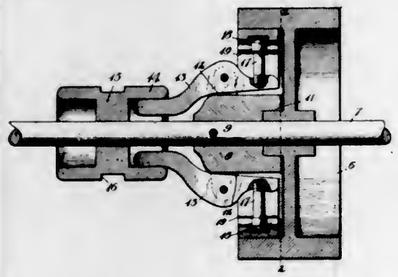
26. The combination of a conveyer, a primary wedge-like feeder at the front thereof, means for moving said conveyer forward to thrust said primary wedge-like feeder under material to be loaded, and a wedge-like supplemental feeder arranged to reciprocate over the inclined face of said primary wedge-like feeder for raking material up the inclined face thereof.

27. In a loading-machine, the combination of a conveyer, a shoveling-conveyer pivoted to the lower end of said conveyer, a transverse shaft supported in bearings attached to said conveyer and provided with pinions, toothed segments attached to said pivoted conveyer and engaged by said pinions, a stub-shaft journaled in alinement with said transverse shaft and provided with a worm-wheel, a worm-shaft provided with a worm engaging said worm-wheel, a clutch for connecting and disconnecting said transverse shaft with said stub-shaft, the frame of said traveling conveyer comprising a fixed rear portion having curved front ends and a front portion pivoted to swing in a vertical plane and provided with curved lugs bearing on said curved front ends.

28. The combination of a traveling support, a conveyer supported thereon and pivoted to swing in a vertical plane, a wedge-like feeder for said conveyer disposed at the front thereof, mechanism for raising and lowering said pivoted conveyor, and a clutch for connecting and disconnecting said mechanism and said conveyer whereby the conveyer may be rendered automatically adjustable.

29. The combination of a traveling car, a swiveling base supported thereon, a swiveling mechanism therefor, a reciprocating carriage guided in ways of said base, a reciprocating mechanism therefor, a shoveling-conveyer mounted on said carriage, a driving-shaft, and clutches connecting said driving-shaft with the swiveling mechanism, and the reciprocating mechanism.

842,533. CLUTCH. EDWARD J. DOWNEY and JAMES A. DAVIS, Cleveland, Ohio. Filed July 5, 1906. Serial No. 324,790.

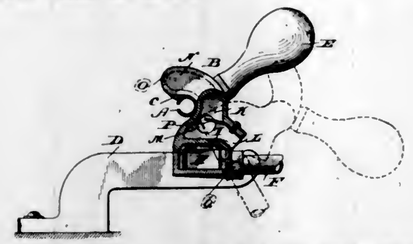


Claim.—1. In a clutch for a pulley, in combination, a block on the pulley-shaft, having a lug projecting at one side thereof, friction-arms pivoted to the lug and extending in opposite directions therefrom toward the pulley-rim, a spring secured to the end of the lug and bearing at opposite ends against the outer sides of the arms, and means to force the arms outwardly against said rim.

2. In a clutch for a pulley, in combination, a block on the pulley-shaft, a friction-arm pivotally connected at one end to the block, and extending toward the pulley-rim and adapted to swing in contact therewith, a lever fulcrumed on the block and having an adjustable bolt the foot of which is screwed into the lever and the head of which bears against said arm, and means to operate the lever.

3. In a clutch for a pulley, in combination, a block on the pulley-shaft, a friction-arm pivoted to the block and extending toward the pulley-rim, a lever fulcrumed on the block, a rocker resting against the block and connected at one end to the lever and at the other end to the arm, and means to operate the lever.

842,534. DRIER FOR CIGARETTE-MACHINES. NAPOLEON DU BREIL, Cincinnati, Ohio. Filed Apr. 5, 1905. Serial No. 253,993.



Claim.—1. In combination with a continuous cigarette-machine, having a folding-tube, means movable on the machine to and from the tube for heating said folding-tube to dry the seam of the cigarette-rod passing therethrough.

2. In combination with the folding-tube of a continuous cigarette-machine, a heater applied to the exterior of said folding-tube and movable on the machine into and out of heating relation with the tube for the purpose set forth.

3. In combination with the folding-tube of a continuous cigarette-machine or other tube through which the cigarette-rod passes, a heater movable on the machine to and from heating relation to said tube, for the purpose set forth.

4. In combination with a tube through which the cigarette-rod passes, a trunnioned heater movable upon its trunnions to and from a position in which it is adapted to heat said tube.

5. In combination with the tube through which the cigarette-rod passes, a trunnioned heater having one wall made to conform to said tube and movable to and from the same.

6. In combination with the tube through which the cigarette-rod passes, a heater mounted on trunnions by which it is movable to and from the tube, and having a catch releasably holding it in heating relation to the tube.

7. In combination with a continuous cigarette-machine, supporting-brackets, and a heater for drying the pasted seam of the cigarette-rod, having trunnions upon which it is movable to and from drying position, and having said trunnions removably mounted in bearings in the supporting-brackets, whereby the heater may be wholly removed from the machine.

8. A drier for cigarette-machines, comprising a hollow body adapted to lie parallel with and conform to the folding-tube of the cigarette-machine, and having a base-chamber into which fuel is discharged, provided with an upwardly-discharging burner-opening, a combustion-chamber into which said burner-opening discharges, having suitable inlets for air to support combustion and an upper chamber for a part of the length of the drier overhanging the tube and through which the products of combustion are discharged.

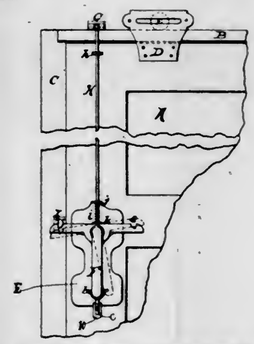
9. A drier for cigarette-machines comprising a hollow body adapted to conform to the folding-tube of a cigarette-machine and constructed with a base-chamber for fuel having an upwardly-discharging burner-opening, a combustion-chamber into which said burner-opening discharges, having inlets for air to support combustion, a baffle-plate extending transversely of said combustion-chamber to deflect the burning gases toward the wall which contacts with the folding-tube, and an extension to the combustion-chamber extending a part of the length of the drier and overhanging the folding-tube.

10. In combination with a continuous cigarette-machine, a heater comprising a lower chamber to which the fuel is admitted and an upper chamber in which the fuel is burned, the said heater being provided with trunnions and supporting-brackets whereby it is supported in position on the machine by its own weight only.

11. The combination with the folding-tube of a continuous cigarette-machine, of a heater trunnioned in the base portion thereof and having means for the introduction of fuel thereto, also in the base portion.

12. In combination with the folding-tube of a continuous cigarette-machine, a heater comprising a means for introducing fuel at or near the base thereof, trunnions at or near the bottom of said heater and brackets having open grooved ends wherein the trunnions of the heating means may be set in such manner as to be movable into and out of heating relation with the folding-tube or bodily removed from the machine.

842,535. SLIDING-DOOR FASTENER. WILLIAM H. DURANT, Concord, N. H. Filed Aug. 7, 1905. Serial No. 273,022.



Claim.—1. A sliding door provided with hangers, and friction means in addition thereto acting normally to engage the track from which the door is suspended.

2. A sliding door provided with hangers and with friction means to hold the door partially open, said friction means acting normally to engage the hanger-track, a latch-piece for holding the door in closed position, and connections between the friction means and latch-piece for releasing the friction means when the latch-piece is operated.

3. A sliding door provided with hangers and with friction means to hold the door partially open, said friction means acting normally to engage the hanger-track, a latch-piece to hold the door at the end of its sliding movement, connections between the friction means and latch-piece for releasing the friction means when the latch is operated, and means for holding the latch-piece to prevent its operation.

4. A sliding door provided with hangers and with friction means acting normally to engage the hanger-track, a latch-piece mounted to swing upon its support, and devices normally engaging the latch-piece for releasing the friction means when the latch-piece is operated.

5. In a sliding-door fixture, a swinging latch device presenting a handpiece and provided with an arm projecting at an angle therefrom, said arm being notched both on its upper and under sides, a latch-support having a stud embraced by the notched under side of said arm and acting as a fulcrum for said latch device, a projection adapted to be engaged by the notch on the upper side of said arm, and means acting normally to keep the latch device seated upon said stud.

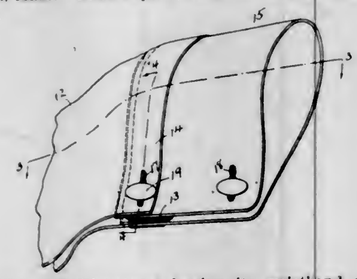
6. A latch device comprising oppositely-projecting arms provided each with engaging notches, a plate or projection adapted to be engaged thereby, a handpiece connected to said oppositely-projecting arms, a latch-support provided with fulcra, one for each of said arms, and means for normally maintaining the latch device seated on said fulcra.

7. In a sliding-door fixture, a block or shoe having a depending rod, a latch-support having near its upper end a fulcrum, a latch device comprising a handpiece having an arm resting on said fulcrum and presenting a surface to contact with the lower end of said rod when the latch

device is turned on said fulcrum, and a spring acting normally to depress said rod and with it said block or shoe.

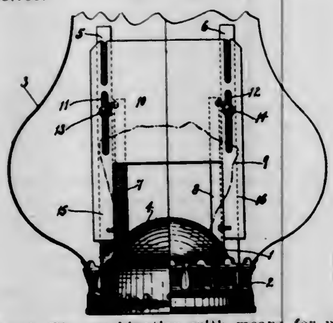
8. A sliding door provided with roller-hangers, a track on which said rollers travel, a friction device connected with said door and coacting with said track, a latch device presenting a handpiece having a projection at its lower end and a projecting arm at its upper end, a latch-support having a fulcrum on which is seated the arm of the latch device, a spring acting normally to keep the friction device in contact with the track and maintain the arm of the latch device seated upon its fulcrum, said latch-support having a slot that is entered by the projection from the lower end of the handpiece, said projection and slot limiting the extent of movement of the latch device.

842,536. SHIRT-SLEEVE. GEORGE M. EDGARTON, Boston, Mass. Filed Sept. 7, 1906. Serial No. 333,647.



Claim.—A shirt-sleeve having its wristband composed of inner and outer members which are disconnected at their edges to form a cuff-edge-receiving pocket, each of said members having buttonholes, the buttonholes of the two members coinciding, whereby either edge of a reversible cuff may lie concealed in said pocket and held therein by a single button passing through said coinciding buttonholes and through a buttonhole of such cuff.

842,537. ATTACHMENT FOR OIL-LAMPS. ARTHUR H. ELLIOTT, New York, N. Y. Filed Mar. 2, 1906. Serial No. 303,783.



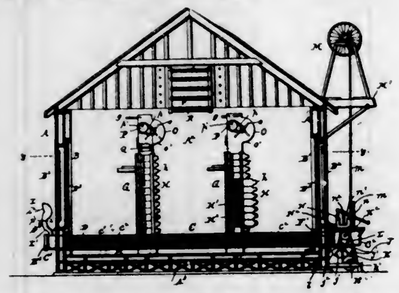
Claim.—1. The combination with means for producing a flat oil-flame, of means for shutting out from view the margin of the flame whereby a steady, flat and even illuminating-surface is obtained for use as a standard of light.

2. The combination with means for producing a flat oil-flame including a transparent chimney surrounding the flame, of means located within the transparent chimney for shutting out from view the margin of the flame leaving a section of the flat flame in view for photometric purposes.

3. The combination with the cone of an oil-burner provided with an elongated wick and flame slot, of standards attached to the cone in proximity to the opposite ends of the slot and at one side thereof and a vertically-sliding screen attached to the standards for shutting a portion of the flame from view.

4. The combination with the cone of an oil-burner provided with an elongated slot, of standards uprising from the cone in proximity to the opposite ends of the slot and at one side thereof, strips for screening the side edges of the flame from view and a vertically-adjustable screen for shutting the top portion of the flame from view whereby a central well-defined portion of the flat flame is left in view for photometric purposes.

842,538. STOREHOUSE FOR GRAIN AND OTHER MATERIAL. JOHN H. ELWARD, Hutchinson, Kans. Filed Jan. 17, 1903. Serial No. 139,452.



Claim.—1. The combination with an inclosed compartment, of a horizontally-disposed box-like duct arranged within said compartment and having one end communicating with the outside air, means at said end of the duct for controlling the passage of air to or from said duct, vertical ducts arranged entirely within the said compartment, communicating at their lower ends with said horizontal duct and arranged to distribute air in all horizontal directions to the mass of grain within the compartment, and air-forcing means arranged within said compartment and connected with the tops of said vertical ducts for causing the air from within the compartment to be forced downward through said vertical ducts and then through said horizontal duct.

2. The combination with an inclosed compartment, of a horizontally-disposed box-like duct arranged within said compartment and having one end communicating with the outside air, means at said end of the duct for controlling the passage of air to or from said duct, vertical ducts arranged entirely within the said compartment, communicating at their lower ends with said horizontal duct and arranged to distribute air in all horizontal directions to the mass of grain within the compartment, air-forcing means arranged within said compartment and connected with the tops of said vertical ducts for causing the air from within the compartment to be forced downward through said vertical ducts and then through said horizontal duct, and means for forcing air inward along said horizontal duct and upward through said vertical ducts.

3. In a storing and ventilating house, the combination with an inclosed compartment, of a horizontally-arranged perforated air-trunk extending through said compartment and communicating at its opposite ends with the external air, vertical perforated air-ducts arranged within said compartment, communicating with said horizontal duct and adapted to have air escape laterally therefrom in all horizontal directions and from any desired portion or portions thereof, valves at either end of said horizontal duct for controlling the flow of air to or from said duct, means for forcing external air into said horizontal duct and up through said vertical duct, and means connected to the tops of said vertical ducts and arranged to force air from the interior of said compartment above material stored therein down through said vertical ducts and then through said horizontal ducts.

4. In a storing and ventilating house, the combination with the inclosed compartment, of the horizontally-arranged air-trunks provided with air-escapes, the vertically-arranged air-trunks communicating with the horizontal air-trunks, closed, at their upper ends and provided with air-escapes, and the series of dampers inclosing said vertical trunks when shut and adapted to vary the escape area for air therefrom, substantially as set forth.

5. In a storing and ventilating house, the combination with the inclosed compartment, of the horizontally-arranged air-trunks provided with air-escapes, the vertically-arranged trunks communicating with the horizontal trunks and provided with air-escapes, and a series of dampers arranged to surround said vertical trunks to prevent the escape of air therefrom, substantially as set forth.

6. In a storing and ventilating house, the combination with the inclosed compartment, of the horizontally-arranged air-trunks provided with air-escapes, the vertically-arranged trunks communicating with the horizontal trunks and provided with air-escapes, and a series of dampers arranged to prevent the escape of air from those sections of the vertical ducts inclosed by the dampers and to permit its escape from those sections in which the dampers are not shut, substantially as set forth.

7. In an air-duct for a ventilating system, the combination of the perforated walls forming the duct and the series of dampers arranged edge to edge on all sides of said wall and adapted to vary the escape area for the air from the duct, substantially as set forth.

8. A ventilator-duct comprising a perforated wall surrounded by a series of adjustable sections, whereby the escape area for the air from the duct may be varied at will, substantially as set forth.

9. A ventilator-duct comprising a mesh-covered, perforated tube surrounded by a series of adjustable sections, whereby the escape area for air from the duct may be varied at will, substantially as set forth.

10. A ventilator-duct comprising a perforated tube rectangular in cross-section, and a series of adjustable sections arranged edge to edge on each side of said duct and adapted to vary the escape area for the air therefrom, substantially as set forth.

11. In a storing and ventilating house, the combination with the inclosed compartment, of the vertically-arranged air-trunks adapted to be surrounded by a mass of grain or equivalent material and having two or more of its sides open for air-escape, and a vertical series of adjustable dampers or cut-offs arranged edge to edge on said open sides, and means for delivering air under pressure to the said vertically-arranged air-trunks, substantially as set forth.

12. In a storing and ventilating house, the combination with an inclosed compartment, of a horizontally-arranged perforated air-trunk adapted to be covered over by a mass of grain and to deliver air in all directions thereto and having one end communicating with the external air, a valve at the said end for controlling the passage of air to and from said horizontal duct, a plurality of vertically-arranged trunks, each communicating with said horizontally-arranged trunk, arranged entirely within said compartment and adapted to deliver air in all horizontal directions throughout its length, means for varying the area over which air is delivered from said vertical trunks, means arranged at the upper ends of said vertical trunks for forcing air from within said compartment through both said vertical and horizontal trunks, and means connected with the valved end of said horizontal trunk for forcing air into said trunk and into the said vertical trunks.

13. In a storing and ventilating house, the combination with an inclosed compartment, of a plurality of vertically-arranged air-trunks perforated on all sides throughout their length and provided with a series of adjustable sections adapted to be adjusted to regulate the area over which air may escape horizontally in all directions from said trunks, and means for delivering air under pressure to said vertically-arranged air-trunks.

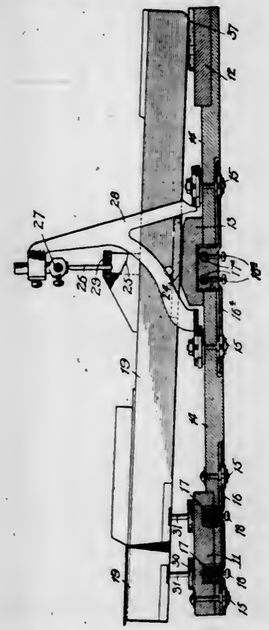
14. In a storing and ventilating house, the combination with an inclosed compartment, of a plurality of vertically-arranged air-trunks perforated on all sides throughout their length and adapted to extend through the material to be treated, means for varying the area over which air may escape from said ducts in all horizontal directions in accordance with the height of the material within the compartment, whereby the entire section of each of said trunks surrounded by said material may be exposed to permit the escape of air therefrom, and means for delivering air under pressure to said trunks.

15. In a storing and ventilating house, the combination with an inclosed compartment, of a plurality of vertically-arranged air-trunks perforated on all sides throughout their length and adapted to extend through the material to be treated, said air-ducts having valved communication at their upper ends with the interior of said compartment and valved communication at their lower ends with the external air, means for varying the area over which air may escape from said ducts in all horizontal directions in accordance with the height of the material within the compartment, and means for delivering air under pressure to said vertically-arranged air-trunks.

16. In an air-duct for a ventilating system, the combination of walls forming the duct and perforated on all sides, and an adjustable casing inclosing said perforated walls and adapted to vary the escape area for air from the duct.

17. In an air-duct for a ventilating system, the combination of walls forming the duct and perforated on all sides, and an adjustable casing inclosing said perforated walls and vertically adjustable at will to vary the escape area for air from the duct.

842,539. KEYBOARD FOR MUSICAL INSTRUMENTS. WILLIAM B. FITZ SIMMONS, Chicago, Ill. Filed May 28, 1906. Serial No. 319,027.



Claim.—1. A keyboard for musical instruments comprising in combination, a supporting frame, keys pivoted thereto and provided with engaging means on their upper sides, guides at the front lower side of the keys, a rod mounted above and transversely of the keys, provided with depending pins adapted to engage and guide the said engaging means on the keys, and means whereby the rod may be adjusted vertically.

2. A keyboard for musical instruments comprising in combination, a supporting frame, keys pivoted thereto and provided with engaging means on their upper sides, guides at the front lower side of the keys, a rod mounted above and transversely of the keys, pins slidable longitudinally thereon and means for securing the pins in

position, said pins being adapted to engage and guide the said engaging means on the keys.

3. A keyboard for musical instruments comprising in combination, a supporting-frame, keys pivoted thereto, guides at the front lower side of the keys, a rod mounted above and transversely of the keys, pins depending therefrom, and slotted members secured in the tops of the keys and adapted to engage said pins and guide the keys.

4. In combination, pivoted recessed keys a balance-rail extending transversely below the keys, a rod mounted below and parallel therewith, pins mounted for rotative adjustment upon said rod and adapted to engage the recesses in the keys.

5. In combination, pivoted recessed keys a balance rail extending transversely below the keys, a rod provided with upwardly-extending pins mounted below said rail, said pins extending through the rail and adapted to engage the recesses in the keys.

6. In combination, pivoted recessed keys a balance rail extending transversely below the keys, a rod mounted below and parallel therewith, upwardly extending pins mounted thereon for rotative and longitudinal adjustment, and means for securing the pins in position, said pins extending above the rail and adapted to engage recesses in the keys.

7. In combination, a set of piano keys recessed on the under sides, a transverse rod, guide pins slidable longitudinally thereon and adapted to engage the recesses in the keys, together with means for securing the pins in position.

8. In combination, a set of piano keys recessed on their under sides, a transverse rod, pins slidable longitudinally thereon and adapted to engage the recesses in the keys, means for securing the pins in longitudinally adjustable position, and means whereby the pins may be adjusted toward and away from the rod.

9. In combination in a key for pianos and the like, a wooden body portion provided at its lower side with a slot extending transversely thereacross and with a recess extending back from the slot, and a packing strip fitting the slot and provided with a perforation opposite the recess which perforation is adapted to receive a guide pin.

842,540. COMBINED FISHING-FLOAT AND LINE-HOLDER. CHARLES R. FLEMING, Los Angeles, Cal. Filed June 12, 1906. Serial No. 321,411.



Claim.—1. A combined fishing-float and line-holder comprising a closed hollow float formed of two concentric detachable parts, a spindle carried by one part only and projecting into the other part when said parts are together, the spindle being adapted to have the fishing-line wound thereon, said parts when together completely inclosing the line and hooks.

2. A combined fishing-float and line-holder comprising a body portion with a projecting spindle, a hollow cap adapted to receive said spindle and mounted on the body portion, the body portion having a pocket adapted to receive hooks or sinkers, and means for fastening a line to the float.

3. A combined fishing-float and line-holder comprising a body portion having a projecting spindle, the spindle having a head, a hollow cap detachably mounted on the body portion and telescoping with the spindle, the body portion having a wedge-shaped loop adapted to pinch the line, the cap having a similar loop.

4. A combined fishing-float and line-holder comprising a body portion with a projecting spindle upon which the line is adapted to be wound, the spindle having a head on its end, a hollow elongated cap screwed to the body portion, the body portion having a plurality of pockets extending longitudinally thereof and adapted to receive and house hooks, sinkers, &c., and means on the body portion and cap for detachably fastening the line thereto.

842,541. GARMENT-SUPPORTER. MARY L. GASTON, New York, N. Y. Filed July 16, 1906. Serial No. 326,332.



Claim.—1. A garment-supporter having a clasp, and a protector comprising a readily-detachable holder having means attachable to said supporter without puncturing any part thereof and carrying a flap or flaps adapted to be interposed between the member or members of such clasp and the garment.

2. A garment-supporter having a clasp comprising a button and a constricted loop, and a protector comprising a readily-detachable holder having means attachable to a part of said supporter without puncturing any part thereof and carrying a flap or flaps adapted to be interposed between the garment and such clasp.

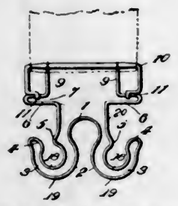
3. A garment-supporter having a clasp, and a detachable protector adapted to be interposed between one or both members of such clasp and the garment and comprising a holder having means for attachment to a metallic part of such garment-supporter and carrying one or more flaps secured thereto.

4. A garment-supporter having a clasp, and a detachable protector adapted to be interposed between one or both members of such clasp and the garment and comprising a metallic holder having spring-hooks for attachment to such garment-supporter and carrying one or more flaps secured thereto.

5. A garment-protector adapted to be interposed between a member of a garment-clasp and the garment and comprising a holder having means readily attachable to a part of a garment-supporter without puncturing any part thereof and carrying one or more flaps secured thereto.

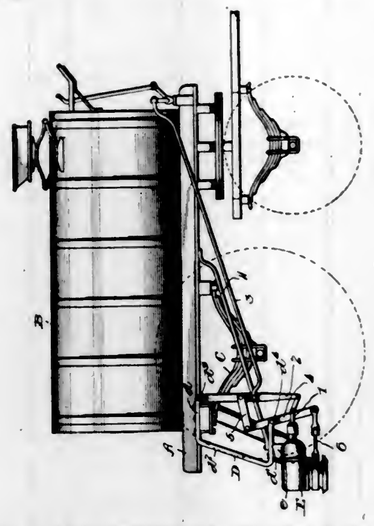
6. A garment-protector adapted to be interposed between a pair of members of a clasp and comprising a metallic holder having a bar provided with hooked ends and a pair of flaps secured to such bar.

842,542. GARMENT-HOOK. BENJAMIN GOLDSMITH, Connellsville, Pa. Filed Jan. 4, 1906. Serial No. 294,595.



Claim.—As a new article of manufacture, a device of the character described, consisting of a single piece of spring-wire bent at its middle portion to form a downwardly-facing contracted loop 1, the wire being curved outwardly in opposite directions from said loop, to form the outer members of hooks and then doubled upon itself to form offset portions 4 and reversely bent to form inner members conforming in curvature to said outer members, the wire being then extended upwardly and crimped at points opposite the said offset portion whereby to form contracted mouths for the hooks, the wire then extending upwardly from said crimped portions beyond the said loop and outwardly at right angles to the upwardly-extending portions, the extremities of the wire being then extended inwardly to form two supporting-loops 7 above said hooks, and the extremities of the wire being connected together, as and for the purpose set forth.

842,543. SPRINKLING-WAGON. CHARLES M. HAESKE, South Bend, Ind. Filed Feb. 7, 1906. Serial No. 299,932.



Claim.—1. In a sprinkler-truck, side bars; a cross-bar adjacent to rear ends of said side bars; supporting-bars carried by and depending from said cross-bar, said supporting-bars comprising upper and lower horizontal portions and an intermediate inclined portion, the ends of said horizontal portions being bifurcated; sprinkler-heads provided with a thickened portion to which the lower horizontal portion of the supporting-bar is attached; a vertical lever having its upper end pivoted within the upper horizontal portion of the supporting-arm and its lower end pivoted to the sprinkler-piston and an operating-rod connected to said vertical rod.

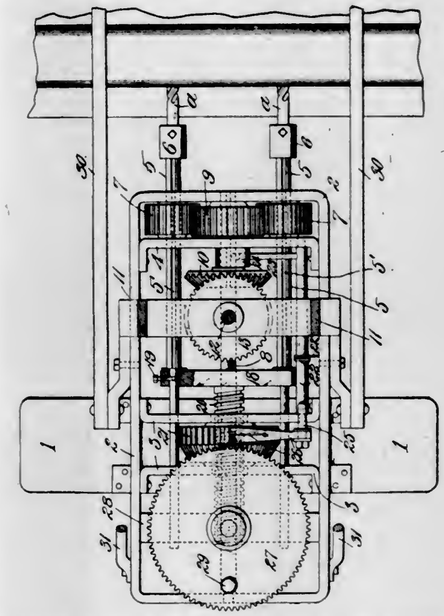
2. In a sprinkler-truck, a pair of supporting-bars located at each corner of the rear end, said supporting-bars comprising upper and lower horizontal portions and an intermediate portion, the ends of said upper and lower horizontal portions being provided with means whereby they may have a pivotal engagement with and form supports for the lever mechanism of sprinkler-heads.

3. In a sprinkler-truck, a pair of supporting-bars located at each corner of the rear end, said supporting-bars comprising upper and lower horizontal portions and an intermediate rearwardly-inclined portion, the ends of said upper and lower horizontal portions being thickened and bifurcated to form arms whereby they may have a pivotal engagement with and form supports for the lever mechanism of sprinkler-heads.

4. In a sprinkler-truck, side rails of an inverted-T shape; a cross-bar attached to the under side of said side bars, the under side of said cross-bar being attached to the free ends of the rear springs of the truck; a pair of supporting-bars having their upper portions extending across the said cross-bar adjacent to each end thereof, said supporting-bars after crossing the side bar being extended rearwardly and downwardly and terminating in a forwardly-projecting horizontal portion, the ends of each of said upper and lower portion of the supporting-bars being formed to have a pivotal engagement with lever mechanism, and sprinkler-heads having a thickened portion adapted to be attached to the lower horizontal portion of said supporting-bars.

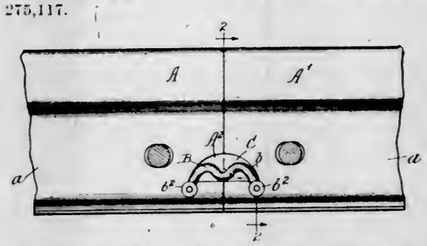
842,544. RAILWAY-TRACK DRILL. ALEXANDER H. HANDLAN, Jr., St. Louis, Mo. Filed Aug. 25, 1906. Serial No. 331,964.

Claim.—A railway-track drill comprising a base-plate, a rectangular horizontal frame supported upon the base-plate, having a pair of rear cross-bars and a forward cross-bar, a pair of drill-rods journaled in the front end of the horizontal frame and in the rear and forward cross-bars, pinions splined to the drill-rods, between the front end of the horizontal frame and the forward cross-bar, and through which the drill-rods are adapted to slide, a driving-shaft journaled in the forward and rear ends of the



horizontal frame, a cross-head carried by the drill-rods, a driving gear-wheel keyed to the driving-shaft between the front end of the horizontal frame and the forward cross-bar and meshing with the pinions, means for operating the driving-shaft and means for advancing and retracting the cross-head with the drills.

842,545. ELECTRICAL CONNECTION FOR RAILWAY-RAILS. EUGENE HAYWARD, Clayton, Mich., assignor of one-third to John T. Lueder and one-third to John B. Morris, Chicago, Ill. Filed Aug. 21, 1905. Serial No. 275,117.



Claim.—1. In a device of the class described the combination with abutting rail ends having an aperture therethrough, a contact-plug extending through the rail-webs at each end of said aperture and a conductor connecting said plugs and concealed in said aperture.

2. In a device of the class described the combination with abutting rails having a recess therein of a bonding-wire concealed in said recess and a contact-plug connected at each end thereof and seated in recesses at the ends of said aperture.

3. In a device of the class described the combination with abutting rails provided at the joint with an aperture therethrough having cylindric seats at the end thereof of transverse plugs engaged in said seats peripheral flanges

thereon for limiting the inward movement of said plugs and means contained in said aperture for connecting said plugs.

4. The combination with abutting rails, each provided with a cylindric seat and a recess opening therefrom to the end of the rail of a plug in each seat, a bonding-wire engaged with each plug and lying in said recesses, a peripheral flange on one end of each plug and means for holding said plugs in place.

5. In a device of the class described the combination with two abutting rail ends having an aperture in each and provided with a seat at the base of each aperture, a tubular contact-plug seated in each seat, a conductor connected to said plugs and flanges on each of said plugs adapted to limit the transverse movement of the same.

6. A bonding-wire of the class described comprising a plurality of transverse tubular plugs having an aperture opening into the same at an angle thereto, a wire having its ends projecting through said aperture and into said tubular plugs and a flange on one end of said plugs.

7. In a device of the class described the combination with abutting rail ends having an aperture through the rail-web, a seat in each rail-web adjacent the end of said aperture, contact-plugs engaged in said seats transversely of the web, a wire in said aperture rigidly engaged to said contact-plugs and means on the ends of said contact-plugs adapted to bear against the webs of the rail and acting to hold said wire from lateral movement.

842,546. MANUFACTURE OF LUMINANT FOR ELECTRIC LAMPS. JOHN A. HEANY, York, Pa. Original application filed Dec. 29, 1904, Serial No. 238,769. Divided and this application filed Nov. 27, 1906. Serial No. 345,405.

Claim.—1. A filament for incandescent lamps consisting exclusively of metallic titanium in a dense, shiny, coherent state and homogeneous throughout.

2. A filament for electric incandescent lights consisting throughout of substantially pure metallic titanium of high fusing-point and electrically conductive, which is stable at an efficiency at which a carbon filament, or a titanium carbon filament, will rapidly disintegrate, the light-emitting properties of the filament being due to the homogeneous metallic nature of the titanium.

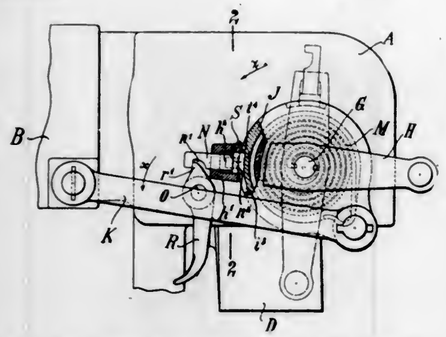
3. The process of forming a dense, homogeneous titanium filament for electric incandescent lamps which consists in producing a filament which consists exclusively of a titanium compound in the desired shape and then dissociating said titanium compound in an inert environment thereby eliminating the substance which the titanium has combined with and shrinking the remaining pure metal into a dense, homogeneous shiny filament.

4. The process of forming a dense homogeneous titanium filament for electric incandescent lamps which consists in producing a filament which consists exclusively of a conducting titanium compound in the desired shape and then dissociating said titanium compound by passing therethrough an electric current in a vacuum thereby eliminating the substance with which the titanium was combined with and by means of said electric current shrinking and sintering the remaining pure metal into a dense homogeneous shiny filament.

5. The process of forming a dense homogeneous titanium filament for electric incandescent lamps which consists in producing a filament which consists exclusively of titanium nitrid in the desired shape and then dissociating said nitrid in an inert environment thereby eliminating the nitrogen of the nitrid and shrinking the remaining pure metal into a dense homogeneous shiny filament.

842,547. BARREL-RECOIL GUN WITH WEDGE BREECH-BLOCK. MAX HERMSDORF, Essen-on-the-Ruhr, Germany, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Filed Jan. 15, 1906. Serial No. 296,207.

Claim.—1. In a gun of the character described, the combination with the gun-barrel and the breech-closing mechanism, of means located on the gun-barrel and coöperating with the breech-closing mechanism for positively locking the breech-closing mechanism against recoil due to the arrest of the gun-barrel at the limit of its forward movement.



2. In a gun of the character described, the combination with the gun-barrel and the means for automatically closing the breech, of a stop located on the gun-barrel and coöperating with said means for positively locking the breech-closing means against recoil due to the arrest of the gun-barrel at the limit of its forward movement.

3. In a gun of the character described, the combination with the gun-barrel and the means for automatically closing the breech, of a stop located on the gun-barrel and coöperating with said means for positively locking the breech-closing means against recoil due to the arrest of the gun-barrel at the limit of its forward movement, and means for releasing said stop at will.

4. In combination with a gun having a barrel, a breech-block, a rotating part through which the breech-block is closed and means through which rotation of said part is induced during movement incident to recoil, of means located on the gun-barrel and coöperating with said rotating part for positively locking said part against recoil due to the arrest of the gun-barrel at the limit of its forward movement, and means for releasing the rotating part from said locking means.

5. In a gun of the character described, the combination of the crank-shaft for closing the breech, the drum connected with said crank-shaft through the medium of a spring and receiving movement from the recoil of the gun to impart tension to the spring in the direction of closing the breech-block, a crank-arm carrying a bolt for locking the crank-shaft and drum against relative movement during the return of the gun-barrel, and imparting opening movement to the breech-block in consequence of the interlock between the crank-shaft and drum, and a stop intercepting the closing movement of the crank-shaft through the medium of the bolt; said bolt being released from said stop by the act of withdrawing the bolt from its engagement with the drum.

6. In a gun having barrel-recoil, the combination of the breech-block, the crank-shaft through yhich the breech-block is opened and closed, a drum rotatably mounted upon said crank-shaft, a spring having its respective ends connected with the drum and the crank-shaft and through which rotary movement of the drum may be imparted to the crank-shaft, a draw-bar connecting the drum to a non-recoiling part of the gun and through which rotation is imparted to the drum, during recoil and putting tension on the spring which tends to rotate the crank-shaft in the direction of closing the breech-block, an arm carried by the crank-shaft having a bolt which engages with the drum at the end of the rotary movement due to the recoil of the gun-barrel and causing the crank-shaft to rotate with the drum in the direction of opening the breech-block during the return or forward movement of the gun-barrel, a stop past which the bolt snaps at the end of the opening movement of the crank-shaft, which prevents movement of the crank-shaft in the direction of closing under the reaction of the gun-barrel at the end of its forward movement and a sear located in position to engage the bolt at the end of the opening movement of the breech-block and adapted to withdraw the bolt from engagement both with the stop and the drum to permit the crank-shaft to rotate under the tension of the spring and close the breech-block.

842,548. AZO DYE AND PROCESS OF MAKING SAME. WILHELM HERZBERG, Berlin, Germany, assignor to Actien Gesellschaft für Anilin Fabrikation, Berlin, Germany. Filed Oct. 26, 1906. Serial No. 340,689.

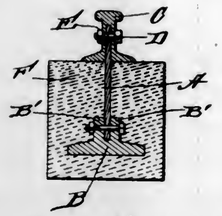
Claim.—1. The process of producing red azo dyestuffs consisting in diazotizing a di-ortho-dialkyloxybenzidindisulfonic acid and combining the diazo compound thus obtained with beta-naphthol.

2. The process of producing a red azo dyestuff consisting in diazotizing the hereinbefore-defined di-ortho-dianisidindisulfonic acid and then combining the diazo compound thus obtained with beta-naphthol.

3. As a new article of manufacture an azo dyestuff which may be obtained by diazotizing di-ortho-dialkyloxybenzidindisulfonic acid and combining the diazo compound thus obtained with beta-naphthol, which azo dyestuff dyes wool without a mordant from an acid-bath clear red tints which are fast to washing and milling.

4. As a new article of manufacture the hereinbefore-described monoazo dyestuff dying wool without a mordant in an acid-bath bluish-red tints which are fast to washing and milling, this dyestuff being in the shape of the sodium salt a red crystalline powder dissolving in water to a blue-red solution, which solution separates a violet precipitate by the addition of concentrated hydrochloric acid and a brick-red precipitate by the addition of concentrated soda-lye, which dyestuff dissolves in concentrated sulfuric acid with a blue-red coloration from which solution on addition of ice separates a blue-red precipitate and which dyestuff when treated with a strong reducing agent yields di-ortho-dianisidindisulfonic acid besides 1.2 amidonaphthol.

842,549. RAIL-FASTENING APPARATUS. LLOYD G. HOON, Belle Center, Ohio. Filed July 25, 1906. Serial No. 327,730.



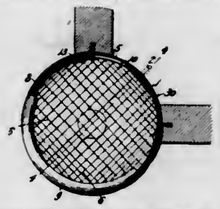
Claim.—1. In combination with a rail having the under surface thereof channeled, a plate, standards having flanges between which said plate is held upon edge, the upper edge of said plate adapted to engage said channel and a filling intermediate the rail and the standards and about said plate, as set forth.

2. In combination with a rail having the under surface thereof channeled, a plate, standards having flanges between which said plate is held upon edge, the upper edge of said plate adapted to engage said channel, a cement filling in which said standards and plate are embedded and forming a surface upon which the flanges of the rail are adapted to rest and fastening-bolts passing through registering apertures of the web of the rail and plate, as set forth.

842,550. POOL-TABLE POCKET. WILLIAM H. HOUTS, San Bernardino, Cal. Filed Aug. 28, 1906. Serial No. 332,328.

Claim.—1. A means for detachably connecting a pool-table pocket to the table, consisting of an inner member having means for interlocking with the table-bed, and an outer sustaining member having means for detachably connecting it with the pocket-iron, as set forth.

2. As an improvement in pool-table pocket, means for sustaining the outer portion of the pocket body or lacing to the pocket-irons and a resilient holder to which the other portion of the pocket body or lacing is connected, having means for detachably interlocking with the table-bedy, substantially as shown and described.



3. In a pocket-holder for pool-tables, a resilient member adapted to be bent up to spring into the table-bed opening, said member having means for interlocking with the said table-bed.

4. In a pocket-holder for pool-tables, in combination with the pocket-iron, a pliable covering detachably looped over the said iron and having means for locking the same upon the iron and means for sustaining the pocket body or lacing, as set forth.

5. As an improvement in pool-table pockets, in combination with the table-bed having a concaved pocket-recess, provided with a series of sockets: a pocket having a resilient supporting member adapted to be sprung to fit into the concaved opening in the table-bed and having projections to engage the sockets in the said concaved opening, as set forth.

6. In combination with a table-bed, having a pocket-opening provided with end sockets and an intermediate socket: of a pocket comprising a spring-metal member having two end and an intermediate projection adapted to be slipped into the sockets of the table-opening, a covering for the said member and hooks pendently secured to the said opening, and a flexible pocket suspended from the hooks, as set forth.

7. As an improvement in pool-table pockets: the combination with the table having a concaved seat in its end and a fixedly-held upwardly-curved member that opposes the concaved seat: of an inner pocket-sustaining member having means for detachably interlocking with the concaved seat, and an outer pocket-sustaining member consisting of a flexible body adapted to loop over the outer concaved member and having means for locking itself upon the said outer concaved member, as set forth.

8. As an improvement in pool-table-pocket-sustaining means of the character described: the combination with the table edge having a concaved recess provided with a plurality of sockets; of a resilient member having series of projections adapted to be sprung into the sockets in the concaved seat of the table; a pliable covering for the said resilient member having its ends turned over and stitched and pocket-holding members secured to the covering by the stitching, for the purposes described.

842,551. FISHING-REEL. ROBERT L. HUNTER, Cleveland, Ohio. Filed Sept. 24, 1904. Serial No. 225,804.

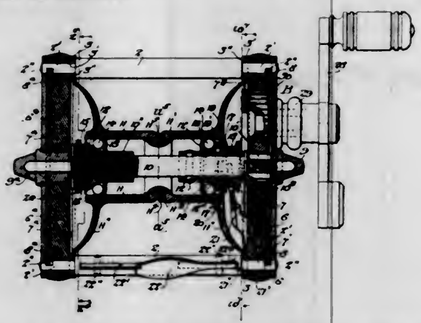
Claim.—1. In a fishing-reel, a frame provided with end studs, in combination with a head, having a face-plate and a locking-ring arranged upon the inner side of said face-plate and operable from the exterior thereof to secure the head upon said studs, substantially as described.

2. In a fishing-reel, a frame, in combination with a head, a rotary locking-ring arranged in said head and adapted when partially rotated to engage the head or disengage the same from said frame, substantially as described.

3. In a fishing-reel, a frame having an end ring and end studs, in combination with a two-part head fitted upon said studs, and a locking-ring arranged upon said parts and operable from the exterior thereof to secure the head on, or free the head from said studs, substantially as described.

4. In a fishing-reel, a frame provided with notched end

studs, in combination with a head, composed of metallic and non-metallic parts and having openings to receive said studs, a locking-ring arranged in said non-metallic part and notched to correspond with said studs, and means upon the exterior of the head for operating said ring, substantially as described.



5. In a fishing-reel, a frame, provided with notched end studs, in combination with a head fitted upon said studs and provided with an internal annular recess, a locking-ring notched to correspond with said studs and fitted in said recess and means for operating said ring, on the exterior of said head, substantially as described.

6. In a fishing-reel, a frame, provided with end studs, in combination with a head, a movable locking device arranged in said head and means on the exterior of the head for operating said device to engage or disengage the same with said studs, substantially as described.

7. In a fishing-reel, a frame, provided with head-retaining studs upon its ends, in combination with heads fitted upon said studs and held stationary thereby and a device in the head for securing the same to the studs, substantially as described.

8. In a fishing-reel, a frame provided at each end with studs, in combination with heads having openings to fit corresponding studs, each of said heads containing a locking device operable from its exterior and adapted to secure the same upon the frame, substantially as described.

9. In a fishing-reel, a frame, composed of end rings having spindle-holes, in combination with spindles or cross-bars rigidly secured to said rings and having reduced, integral ends extending through the holes in said rings and forming head-securing studs, suitable heads and means movable therein for fastening the same upon said studs, substantially as described.

10. In a fishing-reel, a frame, composed of end rings and a plurality of cross-bars having ends extending through said rings and notched as described, in combination with front and rear heads having openings to receive corresponding studs, said heads having metallic face-plates through which the ends of said studs appear, a locking device contained in said heads to engage the reduced ends of said cross-bars and adapted for operation to disengage the heads therefrom substantially as described.

11. A new article of manufacture, comprising a fishing-reel spool, having a hollow barrel which is thickened at the middle, the thickened portion containing a line recess or opening that does not pierce the barrel, substantially as described.

12. A new article of manufacture, comprising a fishing-reel spool composed of a non-metallic casting and having a hollow barrel, in combination with milled, serrated metallic bearing-rings sunk in the ends of said barrel, substantially as described.

13. In a fishing-reel, a frame and head, in combination with a spool-shaft, means for rotating said shaft, a spool revoluble on said shaft, a drag mechanism for engagement with said shaft and a clutch normally connecting said shaft and spool and adapted for operation to free said spool from said shaft and drag mechanism, substantially as described.

14. A fishing-reel, comprising a frame and a spool suitably mounted therein, in combination with a drag mechanism, and adapted to be permanently set, means for disconnecting the spool from said drag mechanism without freeing said drag mechanism, substantially as described.

15. In a fishing-reel, a frame, heads, driving mechanism and spool-shaft, in combination with click and drag mechanisms to engage said shaft, a spool mounted for free rotation on said shaft and a clutch normally connecting the shaft and spool for simultaneous rotation and adapted for operation to free the shaft, substantially as described.

16. In a fishing-reel, the frame and heads, in combination with suitable driving mechanism, a spool and its shaft, a band for engagement therewith and means for tightening said band thereon, substantially as described.

17. In a fishing-reel, the frame, heads and driving mechanism, in combination with a spool-shaft, a spool mounted thereon, a clutch for connecting the spool and shaft, a sheave on said shaft, a band encircling said sheave and attached to one of said heads and means upon said head for tightening said band upon said sheave to resist the rotation of said shaft and spool, substantially as described.

18. In a fishing-reel, a frame having a plurality of cross-bars or spindles, front and rear heads detachably secured to the ends of said spindles, a spool-shaft having bearings in said heads, a spool revolubly mounted upon said shaft, a clutch connecting said spool and said shaft and a horizontal trigger mounted upon one of said cross-bars and substantially parallel therewith for operating said clutch, substantially as described.

19. In a fishing-reel, a frame and front and rear heads detachably secured thereto, in combination with a spool-shaft, a spool mounted for free rotation on said shaft, a clutch normally connecting the spool and shaft and a horizontal clutch-operating trigger arranged between said heads in convenient position to be operated by the thumb of the hand when the reel is in use, substantially as described.

20. In a fishing-reel, a frame, the heads and spool, in combination with a plurality of gears, arranged in one of said heads for driving said spool, a clutch for disconnecting the spool from said gear, a conveniently-positioned clutch-trigger and a spring-returned swinging lever for operating said gears, substantially as described.

21. In a fishing-reel, a frame, in combination with a head, a spool and spool-pinion, a plurality of gears arranged in said head for driving said pinion and spool, a lever provided on said head and a single-directioned driving mechanism connecting the said lever and gears, substantially as described.

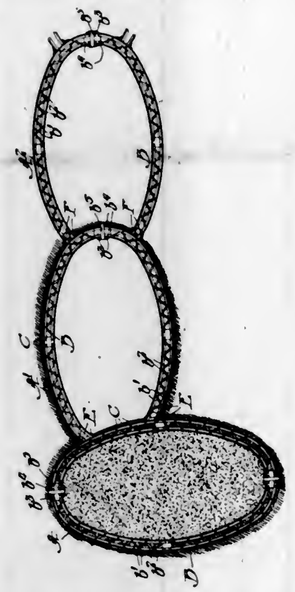
22. In a fishing-reel, a reel-head containing a plurality of gears, in combination with a lever pivoted on said head, a spring for returning said lever and a pawl-and-ratchet device joining said lever and gear, substantially as described.

23. In a fishing-reel, a frame, comprising end rings and spindles, in combination with heads arranged on said frame, a driving mechanism in one of said heads, a spool mounted between said heads, a clutch normally connecting the said spool and driving mechanism, a clutch-lever, one of said spindles with a slot or recess and a clutch-lever-operating trigger mounted in said recess, substantially as described.

24. In a fishing-reel, the combination with the frame rods or bars, having notched ends, of a detachable head or casing, containing the gearing and having holes in its end plate for the reception of said rods or bars, a slotted locking-ring mounted within said casing and adapted to engage with the notched ends of said rods, and a detachable line spool or bobbin.

842,552. ART OF CONSTRUCTING RETAINING-WALLS. GEORGE W. JACKSON, Chicago, Ill. Filed June 12, 1906. Serial No. 321,362.

Claim.—1. The improved retaining-wall described for excavated areas, comprising a plurality of separately-constructed wall units located side by side, each unit embracing a solid column or pier of concrete and the concrete structure of said units being built one into another to constitute a continuous concrete wall.



2. The improved retaining-wall described for excavated areas, comprising a plurality of separately-constructed concrete piers or wall units located side by side and joined to constitute a continuous wall, and reinforcing-rings embedded in said piers.

3. The improved retaining-wall described for excavated areas, comprising a plurality of separately-constructed concrete piers or wall units located side by side and joined to constitute a continuous wall, and reinforcing-rings embedded in said piers, said reinforcing-rings being united to provide a continuous reinforcing metal structure throughout the length of the wall.

4. The improved retaining-wall described for excavated areas, comprising a plurality of separately-constructed concrete piers or wall units located side by side and joined to constitute a continuous wall, reinforcing-rings embedded in said piers, and suspension-rods for said rings also embedded in the concrete body of the units.

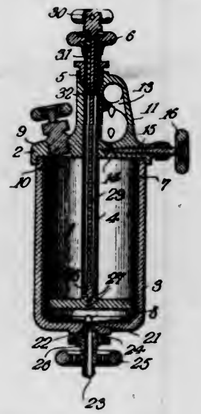
5. The method of constructing retaining-walls which consists in separately constructing concrete piers or wall units in the earth side by side and forming each pier partially in an adjacent pier to constitute a continuous concrete wall.

6. The method of constructing retaining-walls which consists in separately constructing concrete piers or wall units in the earth, embedding metal structures therein, and joining the concrete and metal structure of adjacent wall-sections at the time the last wall-section or pier is constructed to form a continuous concrete wall.

7 The method of constructing retaining-walls which consists in separately constructing concrete piers or wall units side by side and joining them to constitute a continuous wall, wherein the construction of each unit consists in constructing an excavation in the earth in successively-lower sections and lining said sections as they are excavated with successively-lower sections of lagging and thereafter filling the lined excavation with concrete.

8. The method of constructing retaining-walls which consists in separately constructing piers or wall units in the earth side by side wherein each wall unit is constructed by excavating successively-lower sections in earth, lining each section as it is excavated with a section or course of lagging supported by laterally-separated lagging-rings, filling each lined excavation with concrete and uniting the concrete and lagging-ring structures of adjacent wall units to constitute a continuous wall.

842,553. LUBRICATOR. MAURICE D. JAYNE, Phillipsburg, N. J. Filed Sept. 6, 1906. Serial No. 333,500.



Claim.—1. A lubricator comprising a cylinder, a piston therein, means for admitting fluid under pressure to one side of the piston, a conduit for conveying lubricant away from the opposite side of the piston, a valve carried by the piston for permitting the cylinder-space above the piston to be drained, and a common valve controlling the said means and the conduit.

2. A lubricator comprising a cylinder, a head therefor having a boss; a piston within the cylinder, a piston-rod extending through the boss, a sight-chamber at one side of the piston-rod and arranged in the boss, a valve arranged to control the feed through the sight-chamber, means for supplying fluid under pressure to the cylinder, and a fluid-controlling valve arranged on the said head.

3. A lubricator comprising a cylinder, a piston therein having a passage connecting opposite sides of the piston, a piston-rod, a valve in the piston-rod controlling the said passage, and means exterior to the cylinder for actuating the said valve.

4. A lubricator comprising a cylinder, a piston therein, means carried by the piston for draining the space above the latter, and means carried by the cylinder for draining the space below the piston.

5. A lubricator comprising a cylinder, a piston therein, and separate means actuated from a point exterior to the cylinder for draining the chambers on opposite sides of the piston.

6. A lubricator comprising a cylinder, a piston therein having a drainage-passage, a tubular piston-rod, a valve arranged in the rod for controlling the said passage, and a means for yieldingly urging the valve toward its seat.

7. A lubricator comprising a cylinder, a piston therein having a passage, a tubular piston-rod, a valve arranged to control the passage, a stem for the valve extending out of one end of the rod, and means on the outer end of the stem for holding the valve off its seat.

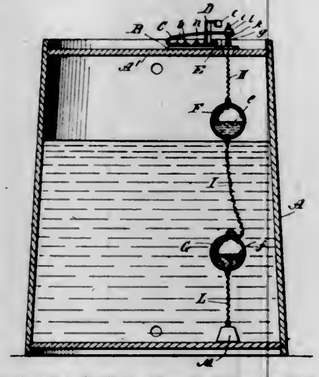
8. A lubricator comprising a cylinder, a piston therein having a passage, a tubular piston-rod, a valve arranged to control the passage, a knob on the rod, a stem for the valve extending through the rod and knob, a spring on the stem for holding the valve closed, and means between the outer end of the valve-stem and the knob for holding the valve off its seat against the tension of the spring.

9. A lubricator comprising a cylinder, a piston therein, a head for the cylinder, a conduit on the head, a steam-pipe connected at its ends with the cylinder and conduit, a valve arranged in the conduit for controlling the supply of steam, a valve carried by the piston for permitting the cylinder-space above the latter to be drained, and a device

having separate passages one for the discharge of lubricant and the other for the supply of steam to the conduit.

10. A lubricator comprising a cylinder, a head therefor having a chambered boss and a hollow rearward extension communicating with the chamber of the boss, sight-glasses arranged in the walls of the chamber of the boss, a piston-rod extending through the head, a valve arranged in the head for controlling the feed of lubricant in the cylinder, a pipe extending from the said extension of the head to the cylinder for conveying fluid under pressure thereto, a valve in the extension for controlling the supply of fluid, and separate conduits for conveying fluid to the lubricator and lubricant for the same.

842,554. ELECTRIC WATER-ALARM. ALBERT JOHNSON, New York, N. Y. Filed Mar. 20, 1906. Serial No. 306,969.

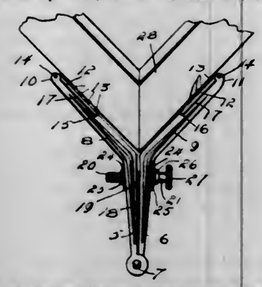


Claim.—1. In a device of the character herein set forth, the combination with a spring and arms for contact therewith, of two floats applied in connection with said spring and adapted to permit the end thereof to rise and compel it to descend, substantially as and for the purposes set forth.

2. In a device of the character herein set forth, the combination with a spring and arms for contact therewith, of two floats connected with each other, one of said floats being connected with the end of the spring, substantially as explained and for the purposes set forth.

3. In a device of the character herein set forth, the combination with the spring and arms for contact therewith, of two floats connected with each other and with the spring, and an anchor applied in connection with the lower float, substantially as and for the purposes set forth.

842,555. MITER-CLAMP. ARON E. JOHNSON, Seattle, Wash. Filed Apr. 18, 1906. Serial No. 312,469.

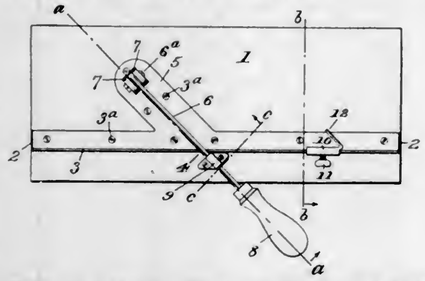


Claim.—1. A miter-clamp comprising arms pivoted together at their lower ends and having their upper ends cut away in their inner faces to form seats; a head pivoted at its upper end to the upper end of each arm and adapted to be received in the cut-away portion thereof, each head having a serrated outer face; a spring secured at its upper end to the pivot of each head and disposed in the cut-away portion of each arm beneath the corresponding head, to force the latter outwardly into engagement with the miter; a bolt passing through said arms, to open and close the same; and a spring connected to the lower end of one of said arms adjacent its pivot and disposed between said arms, to assist in opening said arms when said bolt is loosened.

2. A miter-clamp comprising arms pivoted together at their lower ends and having their upper ends cut away in their inner faces to form seats; a head pivoted at its upper end to the upper end of each arm and adapted to be received in the cut-away portion thereof, each head having a serrated outer face; a spring secured at its upper end to the pivot of each head and disposed in the cut-away portion of each arm beneath the corresponding head, to force the latter outwardly into engagement with the miter; a bolt passing through said arms, to open and close the same; and a spring connected to the lower end of one of said arms adjacent its pivot and disposed between said arms, to assist in opening said arms when said bolt is loosened.

2. A miter-clamp comprising arms pivoted together at their lower ends and having their upper ends cut away in their inner faces to form seats; a head pivoted at its upper end to the upper end of each arm and adapted to be received in the cut-away portion thereof, each head having a serrated outer face; a spring secured at its upper end to the pivot of each head and disposed in the cut-away portion of each arm beneath the corresponding head, to force the latter outwardly into engagement with the miter, said arms being provided adjacent their bent portions with a pair of alining openings, one of which is threaded, and the other of which is elongated with respect to the first; a bolt passing through said opening and provided with a threaded portion fitting in said threaded opening and a plain portion passing through said elongated opening; a convex bearing-surface on the outer face of the arm in which said elongated opening is located, and surrounding said opening; a shoulder on said bolt adapted to bear against said convex surface; an operating-head for said bolt, and a spring connected to the lower end of one of said arms adjacent its pivot, to assist in opening said arms when said bolt is loosened.

842,556. DEVICE FOR CUTTING PISTON-PACKING OR THE LIKE. THOMAS E. JONES, Cincinnati, Ohio. Filed Oct. 29, 1906. Serial No. 340,967.



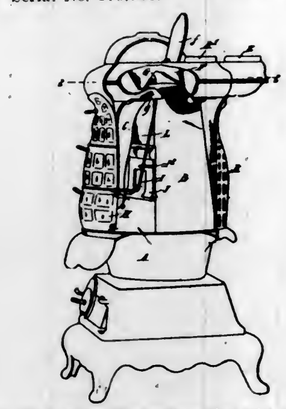
Claim.—1. An angle-cutting device for piston-packing or the like, comprising a base-board, a guideway longitudinally mounted on said base-board and having a vertical open slot therein, a knife or blade pivoted at one end to said base-board and extending at an oblique angle to said guideway and adapted to be moved vertically in said open slot of the latter in the cutting operation.

2. An angle-cutting device for piston-packing or the like, comprising a base-board, a guideway longitudinally mounted on said base-board and having an open vertical slot therein, a knife or blade pivoted at one end to said base-board and projecting obliquely across the latter for operation in said open slot and a vertical, slotted guide through which said blade passes and in which it reciprocates vertically in the cutting manipulation thereof.

3. An angle-cutter for piston-packing or the like, comprising a base-board, a guideway longitudinally mounted on said base-board and having a vertical opening or slot therein, a knife or blade pivotally connected at one end to said base-board and projecting obliquely therefrom and adapted to be moved vertically in said open slot, and a setting-gage adjustably mounted on said guideway and having an obliquely-arranged arm thereon.

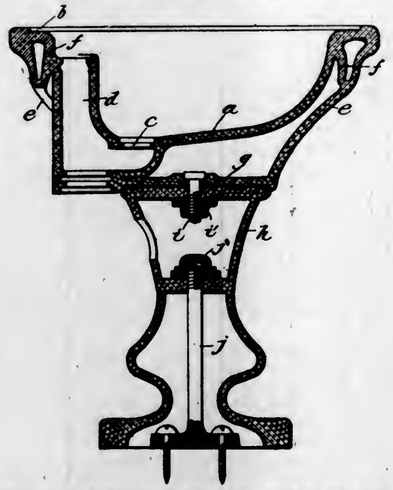
4. An angle-cutter for piston-packing or the like, comprising a base-board, an L-shape guideway longitudinally mounted on said base-board and having an open slot therein, an obliquely-arranged plate projecting integrally from the base of said L-shape guideway and secured to said base-board, a pair of spaced lugs at the rear end of said oblique plate, a knife pivotally mounted at its inner end on said lugs and projecting obliquely from the latter in line for engagement with said open slot of the guideway, a vertical, slotted guide for said knife, and a setting-gage adjustably mounted on said L-shape guideway and having an obliquely-arranged arm thereon.

842,557. STOVE. WILLIAM J. KEEP and HENRY C. MAUL, Detroit, Mich., assignors to The Michigan Stove Company, Detroit, Mich., a Corporation. Filed Oct 26, 1903. Serial No. 178,548.



Claim.—In a stove, the combination of a magazine, having its upper end communicating with a flue-passage when the cover is lifted, a cover adapted to close the upper end of said magazine, a fire-door adapted to swing in a horizontal plane and cover an opening in a side wall of the stove in a plane below that of the cover, said door being provided with a lug eccentric to the pivot thereof, and a rod engaging said lug and cover, said rod being normally located in an inclined position, for the purpose described.

842,558. LAVATORY. JOHN F. KELLY and HARRY S. MADDOCK, Trenton, N. J., assignors to Thomas Maddock's Sons Company, Trenton, N. J., a Corporation of New Jersey. Filed Jan. 20, 1906. Serial No. 297,045.



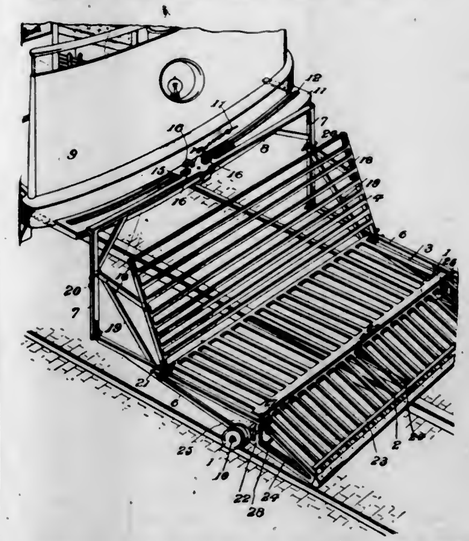
Claim.—1. A lavatory of porcelain, earthenware, or the like, comprising a bowl, an integral ledge or table-like slab projecting outward from the upper edge thereof, a central pedestal for supporting the lavatory, and a shell or skirt attached to the under side of the ledge or slab outside of the bowl, said shell or skirt surrounding and inclosing the bowl with an intervening space between, and extending downward and provided with a surface to seat upon and be secured to the pedestal independently of the bowl.

2. A lavatory of porcelain, earthenware, or the like, comprising a bowl, an integral ledge or table-like slab extending outward from the upper edge thereof, a central pedestal for supporting the lavatory, a shell or skirt attached to the under side of the ledge or slab outside of the bowl, said shell or skirt surrounding and inclosing the bowl with an intervening space between, and a reinforcing web or fin extending from the upper portion of the shell or skirt to the under side of the slab, said shell or skirt extending downward and provided with a surface to seat upon and be secured to the pedestal independently of the bowl.

3. A lavatory of porcelain, earthenware, or the like, comprising a bowl, an integral ledge or table-like slab projecting outward from the upper edge thereof, a pedestal for supporting the lavatory, arranged centrally of the slab, and supply and waste connections located at one end of the bowl in a vertical plane outside of the plane of the pedestal, whereby a duplex lavatory may be made up by arranging a pair or series of single lavatories end to end, and each pair of the series may be connected to common supply and waste pipes.

4. A duplex lavatory of porcelain, earthenware, or the like, comprising a pair of oval bowls, each having an integral rectangular ledge or table-like slab extending outward from the upper edge thereof, a central pedestal for supporting each bowl, and separate supply and waste connections for the bowls, said connections being located at the ends of the bowls adjacent to each other, and a common waste-pipe located between the pedestals and having branches extending to each bowl.

842,559. CAR-FENDER. JAMES E. KINNEBREW, Sharpsburg, Pa. Filed June 6, 1906. Serial No. 320,468.



Claim.—1. In a car-fender, the combination of a plate or bar connected with the front portion of the car, a frame having transverse sliding connection with said plate and comprising a cross-bar and hangers, side frames having pivotal connection at their rear ends with the lower ends of said hangers, wheels supporting said side frames near

their front ends and adapted to travel upon the track, and receiving-sections supported between said side frames and having movement independent thereof and movement therewith when folding the fender so as to be out of the way.

2. In a car-fender, the combination of a fixed impact-section and a movable receiving-section located in the rear of said impact-section and adapted to sink below the rear portion of said impact-section to admit of the latter providing a stop to retain the object landing upon said receiving-section and actuating the same.

3. In a car-fender, the combination of a fixed impact-section, a movable receiving-section, and a guard independent of the fixed and movable sections and normally supported by the impact-section and adapted to be projected upward upon depression of the movable section by the landing of an object thereon.

4. In a car-fender, the combination of an impact-section, a movable receiving-section, and a guard, the latter forming a counterbalance for the movable section to normally hold the same in a given position and adapted to be thrown upward when the movable section is depressed by the weight of the object received thereon.

5. In a car-fender, the combination of an impact-section, a movable section, and a pivoted guard normally supported by the impact-section and in turn forming a counterbalance for the movable section to hold the same in a given position and adapted to be thrown upward when the movable section is depressed.

6. A car-fender comprising fixed front and back sections and a movable intermediate section.

7. A car-fender comprising an upwardly and rearwardly inclined impact-section, an upwardly and inwardly inclined back section, and an intermediate receiving-section pivoted at or near its rear end and adapted to rise and fall at its front end to admit of the rear portion of the front section forming a stop to prevent dislodgment of an object after landing upon the fender.

8. A car-fender comprising a plate or bar secured to the car or vehicle, a cross-bar having a transverse sliding connection with said plate, hangers pendent from said cross-bar, side frames having pivotal connection at their rear ends with the hangers, braces between the side frames and hangers, a front and intermediate and a back section carried by said side frames, the intermediate section being movable and the back section having pivotal connection with said frames, braces for normally holding the back section in fixed position, truck-wheels for supporting the front portion of the fender and adapted to travel upon the truck-rails, and a guard normally holding the intermediate section in given position and adapted to be actuated thereby when depressed.

842,560. ORANGE LAKE AND PROCESS OF MAKING SAME. RICHARD KIRCHHOFF, Berlin, Germany, assignor to Actien Gesellschaft für Anilin Fabrikation, Berlin, Germany. Filed July 7, 1905. Serial No. 268,727. (Specimens.)

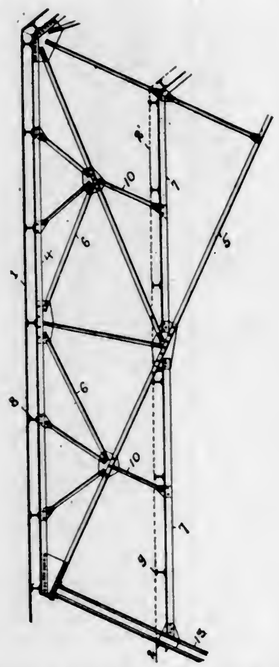
Claim.—1. The process of producing color lakes from the herein-described azo colors derived from the reaction of the diazo compound of aromatic amido sulfonic acids on orthonitrophenol, which consists in precipitating the alkali salts of said azo colors with salts of the alkaline earths in the presence of a suitable substratum.

2. The process of producing color lakes from the herein-described azo colors derived from the reaction of the diazo compound of aromatic amidosulfonic acids on orthonitrophenol, which consists in precipitating the alkali salts of said azo colors with salts of the alkaline earths.

3. The new orange-color lakes prepared by precipitating an alkali salt of the monoazo colors defined in the foregoing specification with salts of the alkaline earths in the presence of a suitable substratum, said lakes being distinguished by a clear orange color, a great insolubility in water and a very great fastness to light, these lakes being split up by the action of a strong reducing agent yielding thereby 2.4-diamido-phenol besides an amidosulfonic acid.

4. The new orange-color lake prepared by precipitating the azo dyestuff: sulfanilic acid-azo-ortho-nitrophenol by means of barium chlorid in the presence of aluminium hydroxid, said lake being a clear orange-colored powder having a great body, practically insoluble in water and insoluble in alcohol, which powder when treated with a hot solution of an alkali is decomposed and converted into the corresponding alkali salt of the said dyestuff, and from which solution of the alkali salt, by a treatment with strong reducing agents, 2.4-diamidophenol is obtained besides sulfanilic acid.

842,561. ROOF STRUCTURE. CARL W. A. KOELKEBECK, East Cleveland, Ohio. Filed May 8, 1905. Serial No. 259,383.



Claim.—1. In a roof structure having roof-surfaces of different levels, a triangular truss having a top and bottom chord, diagonal members, and an inclined secondary or supplemental bottom chord coextensive with the truss and crossing the direction of the bottom chord, substantially as set forth.

2. In a roof structure having roof-surfaces of different levels, a triangular truss having a top and bottom chord, diagonal members, an inclined secondary or supplemental bottom chord coextensive with the truss and crossing the direction of the bottom chord, all chords located in a vertical plane, substantially as set forth.

3. A triangular truss having a top chord, a bottom chord, diagonal members, and an inclined secondary or supplemental bottom chord coextensive with the truss and crossing the direction of the bottom chord, substantially as set forth.

4. In a roof structure having roof-surfaces of different levels, a triangular truss having a top and bottom chord, diagonal members, an inclined supplemental chord coextensive with the truss and crossing the direction of the bottom chord, and purlins carried on the supplemental chord, substantially as set forth.

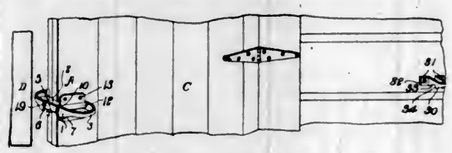
5. In a roof structure having roof-surfaces of different levels, a triangular truss having a top and botton chord, diagonal members, an inclined supplemental bottom chord coextensive with the truss and crossing the direction of

the bottom chord, purlins carried by the top chord, and purlins carried by the supplemental bottom chord, substantially as set forth.

6. In a roof structure having roof-surfaces of different levels, a triangular truss having a top and bottom chord, an inclined supplemental bottom chord coextensive with the truss and crossing the direction of the bottom chord, and tension members or hangers for said latter chord, substantially as set forth.

7. In a roof structure having roof-surfaces of different levels, a triangular truss having a top chord, purlins for the upper roof-surfaces carried by the top chord, a bottom chord, an inclined supplemental bottom chord, coextensive with the truss and crossing the direction of the bottom chord, and purlins for the lower roof-surfaces carried by the supplemental bottom chord, substantially as set forth.

842,562. DOOR-LATCH. WALTER W. KRAUSE, Greenleaf, Wis. Filed Nov. 12, 1906. Serial No. 343,096.



Claim.—1. In a latch mechanism, the combination of a latch member, with a catch member comprising two portions disposed at an angle to each other, each portion being provided with a bevel and a notch adjacent the bevel.

2. In a latch mechanism, the combination of a latch member, with a catch member comprising two portions disposed at approximately right angles to each other each having a bevel and a notch adjacent thereto, and means on each portion for securing the catch to a support.

3. In a latch mechanism, a catch comprising two connected plate portions each having oppositely-disposed bevels and notches, one portion being provided with screw-receiving apertures and the other with a projection adapted to be driven into a support for the catch, in combination with a latch member adapted to be arranged in co-operative relation with the catch to engage with one of the bevels and notches thereof.

4. In a latch mechanism, a catch comprising a plate having oppositely-disposed bevels and notches, in combination with a latch comprising a notched latch-bar, laterally-curved handholds at the ends of the latch-bar, a pivotal mounting for the latch-bar, and a spring connected with the latch-bar.

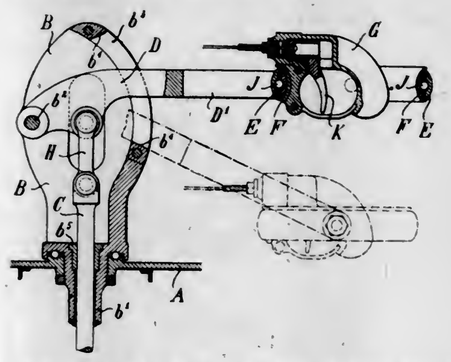
5. In a latch mechanism, the combination of a latch-bar provided with a recess forming a locking-shoulder at one end, a bevel on the latch-bar adjacent the said shoulder, handholds on the ends of the said bar, a pair of plates adapted to be secured on opposite sides of the door, a pivot mounted on one of the plates and extending through the rack-bar and secured to one of the handholds, and a spring mounted on the other plate and connected with the latch-bar.

6. In a latch mechanism, the combination of a single-piece structure comprising a latch-bar and laterally-curved handholds, said latch-bar being provided with locking-shoulders and bevels at opposite ends and apertures adjacent the said ends, a pivot adapted to engage in either of the apertures of the latch-bar, and a spring adapted to engage in either of the said apertures.

7. In a latch mechanism, the combination of a single-piece structure comprising a latch-bar and laterally-curved handholds, said latch-bar being provided with locking-shoulders and bevels at opposite ends and apertures adjacent the said ends, a pivot adapted to engage in either of the apertures of the latch-bar, a spring adapted to engage in either of the said apertures, and a pair of supporting-plates adapted to be secured on the opposite sides of the door for supporting the spring on one and the pivot on the other.

8. In a latch mechanism, the combination of a single-piece structure comprising a latch-bar and laterally-curved handholds having tapped openings, said latch-bar being provided with locking-shoulders and bevels at opposite ends and having apertures arranged in alinement with the apertures of the handholds, a pivot adapted to engage in either of the apertures of the latch-bar and screw into the alining apertures of the handholds, a spring adapted to engage in either of the said apertures, and a pair of supporting-plates adapted to be secured on opposite sides of the door for supporting the spring on one and the pivot on the other.

842,563. TRAINING-LEVER FOR GUNS. JOHANNES KRONE, Essen-on-the-Ruhr, Germany, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Filed Nov. 3, 1905. Serial No. 285,739.



Claim.—1. A training-lever for guns provided with a grip angularly movable thereon and a trigger carried by the grip.

2. A training-lever for guns provided with a grip angularly adjustable on said lever, about a plurality of axes and a trigger carried by the grip.

3. A training-lever for guns provided with a grip, a trigger carried by the grip and a connection between the grip and lever, constructed with two turning bearings with axes at right angles to each other.

4. A training-lever for guns provided with a grip, a trigger carried by the grip and three turning connections interposed between said grip and the training-lever.

5. A training-lever for guns provided with a grip and three turning connections interposed between said grip and the training-lever; two of said turning connections having their axes at right angles to each other and in a plane substantially transverse to the length of the training-lever, and the axis of the third turning connection being substantially longitudinal with the training-lever.

6. An aiming-lever for guns, having vertical and horizontal movements, and constructed with a bifurcated end, a ring trunnioned in said bifurcated end, a second ring having a turning-bearing on the ring first named, and a grip mounted on said second ring.

7. An aiming-lever for guns, having vertical and horizontal movements, and constructed with a bifurcated end, a ring trunnioned in said bifurcated end, a second ring mounted coaxially with and having a turning-bearing on the ring first named, through the medium of opposed grooves with interposed balls, and a grip mounted on said second ring.

8. The combination with a rotatable member for controlling one of the controlling mechanisms of a gun, of an axially-movable rod controlling another mechanism of a gun, a lever connected to the rotatable member and to the axially-movable rod, and a grip carried by said lever and angularly movable thereon.

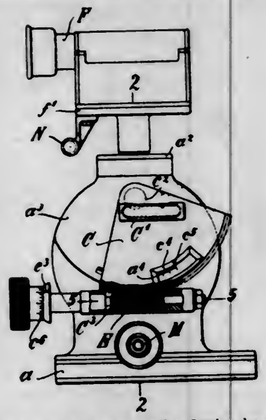
9. The combination with a rotatable member for controlling one of the controlling mechanisms of a gun, of an axially-movable rod controlling another mechanism of a gun, a lever connected to the rotatable member and to the

axially-movable rod and a grip angularly adjustable about a plurality of axes.

10. The combination with a rotatable member for controlling one of the controlling mechanisms of a gun, of an axially-movable rod controlling another mechanism of a gun, a lever connected to the rotatable member and to the axially-movable rod, and a grip angularly adjustable about two axes at right angles to each other.

11. A training-lever mounted to move in two directions at right angles to each other, a grip carried by the lever, and connection between the grip and the lever permitting the grip to move relatively to the lever in two directions at right angles to each other.

842,564. SIGHTING DEVICE FOR PORTABLE GUNS. JOSEF KURIG, Essen-on-the-Ruhr, Germany, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Filed Apr. 25, 1905. Serial No. 257,322.



Claim.—1. A portable gun-sight device having swinging movement for eliminating the influence of the inclined position of the gun-wheels, and having the part on which said swinging movement takes place, mounted to swing independently of the gun-barrel about an axis parallel to the axis of the horizontal trunnions of the gun whereby the influence of the inclined positions of the wheels may be eliminated before the necessary elevation is imparted to the gun.

2. A portable gun-sight device having swinging movement for eliminating the influence of the inclined position of the gun-wheels, and having the support on which said swinging movement takes place, mounted to swing independently of the gun-barrel about an axis parallel to the axis of the horizontal trunnions of the gun whereby the influence of the inclined positions of the wheels may be eliminated before the necessary elevation is imparted to the gun; the sight device being provided with a level device, capable of adjustment in unison with said support.

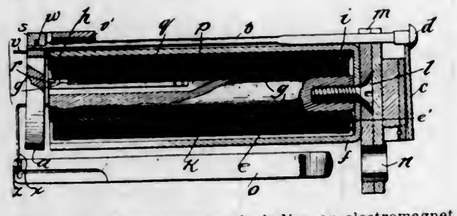
3. In a portable gun-sight device, the combination of an adjustable level device, a bolt mounted to swing independently of the gun-barrel, about an axis parallel to the axis of the horizontal trunnions of the gun whereby the influence of the inclined positions of the wheels may be eliminated before the necessary elevation is imparted to the gun, means transmitting motion from the level device to the bolt, and a telescope-carrier having swinging movement on said bolt for eliminating the influence of the inclined position of the gun-wheels.

4. In a portable gun-sight device, the combination of an adjustable level device, a bolt mounted to swing independently of the gun-barrel, about an axis parallel to the axis of the horizontal trunnions of the gun whereby the influence of the inclined positions of the wheels may be eliminated before the necessary elevation is imparted to the gun, means transmitting motion from the level device to the bolt, a telescope-carrier, a connection between the bolt and the telescope-carrier permitting relative swinging movement of the carrier and the bolt and means for swinging the carrier and the connection on the bolt for eliminating the influence of the inclined position of the gun-wheels.

5. In a portable gun-sight device, the combination of an adjustable level device for fixing the elevation of the gun-barrel, and a telescope-carrier mounted to remain stationary when the level device is adjusted and capable of being swung into a vertical position independently of the level device.

6. In a portable gun-sight device, a sight-carrier, an axis extending longitudinally of the barrel about which said carrier is adjustable to eliminate the influence of the inclined position of the gun-wheels, an axis parallel to the horizontal gun-trunnions about which the first-mentioned axis is turnable whereby the influence of the inclined positions of the wheels may be eliminated before the necessary elevation is imparted to the gun, means for determining the direction and amount of turning of the first-mentioned axis, a level movable with said axis, and a level on the sight-carrier.

842,565. ANNUNCIATOR. HARRY J. KUSEL, Chicago, Ill., assignor to Williams-Abbott Electric Company, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 20, 1905. Serial No. 288,119.



Claim.—1. An annunciator, including an electromagnet, a spool upon which the same is disposed, a casing within which the spool is contained, and a locking device for holding the said spool in position within the casing including one locking member carried by the spool and a companion locking member having a mounting substantially stationary with respect to the casing.

2. The combination of an annunciator whose winding is removable with reference to the balance of the annunciator structure, and a locking device having one locking member provided upon the removable winding structure and the other locking member provided upon the balance of the annunciator structure.

3. The combination with the winding of an annunciator of a spool carrying the winding, a core portion for the electromagnet over which said spool is slipped, and a locking device having one locking member provided upon the core and another locking member provided upon the spool.

4. The combination with the winding of an annunciator of a spool carrying the winding, a core portion for the electromagnet over which said spool is slipped, and a locking device having one locking member provided upon the core and another locking member provided upon the spool, the locking device upon the core being in the form of a spring-catch, said core being slotted to receive said catch.

5. An annunciator, including a displaceable winding, means for holding the winding in a normal position, and a spring for displacing the winding when said means are operated to permit the displacement of the winding.

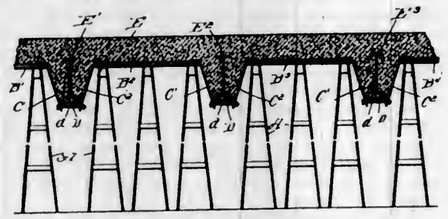
6. An annunciator, including a displaceable winding, a locking device for holding the winding in a normal position, and a spring for displacing the winding when said locking device is operated to permit the displacement of the winding.

7. An annunciator, including a displaceable winding, a casing for the winding, a locking device for holding the winding in a normal position in the casing, and a spring for displacing the winding when said locking device is operated to permit the displacement of the winding.

8. An annunciator, including a displaceable winding, a casing for the winding, a locking device for holding the winding in a normal position in the casing, a spring for displacing the winding when said locking device is operated to permit the displacement of the winding, and a core for the winding mounted within the casing, upon which said winding is movable.

9. An annunciator, including a slotted armature-lever portion, a slotted armature, and a locking-leaf adapted to engage the slots in the armature-lever portion and the armature to bring about a fixed relation between the armature and armature-lever, the armature being movable with respect to the armature-lever when said leaf is withdrawn from an engaging slot.

842,566. APPARATUS FOR LAYING CONCRETE FLOORS. ANDREW LANQUIST, Chicago, Ill. Filed Nov. 7, 1905. Serial No. 286,292.



Claim.—1. In a temporary structure for laying concrete or similar floors, the combination with platforms located on each side and spaced apart from a floor-beam, of plates depending from and supported by the platforms at each side of the beam, and means supported by said plates below the beam for supporting the concrete around the beam.

2. In a temporary structure for laying concrete or similar floors, the combination with platforms located on each side of and spaced apart from a floor-beam, of plates depending from and supported by the platforms at each side of the beam, a support for the concrete extending between said plates below the beam, and means for vertically adjusting said support relatively to said plates.

3. In a temporary structure for laying concrete or similar floors, the combination with platforms located on each side of and spaced apart from a floor-beam, of plates depending from and supported by the platforms at each side of the beam, means detachably uniting said plates below the beam, and a support for the concrete carried by said means.

4. In a temporary structure for laying concrete or similar floors, the combination with platforms located on each side of and spaced apart from a floor-beam, of plates depending from and supported by the platforms at each side of the beam, bolts uniting said plates below the beam, and a support for the concrete resting upon said bolts.

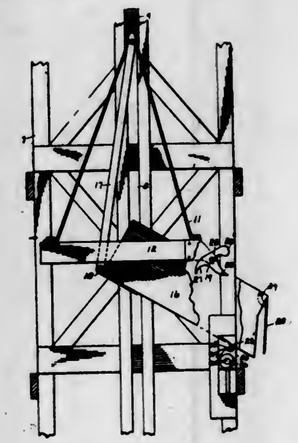
5. In a temporary structure for laying concrete or similar floors, the combination with platforms located on each side of and spaced apart from a floor-beam, of plates depending from and supported by the platforms at each side of the beam, said plates having vertical series of holes therethrough, bolts extending through horizontally-alined holes in said plates, and a support for the concrete resting upon said bolts.

6. In a temporary structure for laying concrete or similar floors, the combination with platforms located on each side of and spaced apart from a floor-beam, of plates depending from the platforms at each side of the beam, outwardly-projecting flanges at the upper edge of said plates overlying the edges of the adjacent platforms, means for removably securing said flanges to the platforms, and means supported by said plates below the beam for supporting the concrete.

7. In a temporary structure for laying concrete or similar floors, the combination with platforms located at each side of and spaced apart from a floor-beam, of plates depending from platforms at each side of the beam, a board for supporting the concrete extending between said plates below the beam, and bolts detachably uniting said plates upon which said board rests.

8. In a temporry structure for laying concrete or similar floors, the combination with platforms located on each side of and spaced apart from a floor-beam, of plates depending from the platforms at each side of the beam, laterally-projecting flanges at the upper edges of said plates overlying the adjacent edges of the platforms, said plates having vertical series of holes therethrough, bolts extending through horizontally-alined holes in said plates, and a plank supported upon said bolts beneath the beam.

842,567. AUTOMATIC DISCHARGING APPARATUS. HARRY C. LINDSLY, Kansas City, Mo. Filed May 3, 1906. Serial No. 314,972.



Claim.—1. A device of the class described comprising a supporting-frame, a receptacle trunnioned at its forward end on said frame, swinging arms supporting the rear of said receptacle, and means for operating said receptacle, for the purpose set forth.

2. In a device of the class described, a guide-frame, a hoist-cage in said frame, a receptacle having trunnions on its forward end revolubly seated in sockets in said cage, and means for rocking said trunnions off of the sockets in said cage and into engagement with said guide-frame, for the purpose set forth.

3. In a device of the class described, a guide-frame, a hoist-cage in said frame, a receptacle supported at one end by swinging bars suspended from the cage-head and at the other by trunnions carried by the cage sides, and means for automatically rocking said receptacle for the purpose set forth.

4. In a device of the class described, a guide-frame, a hoist-cage adapted to be raised and lowered in said frame, a swinging receptacle supported in said cage, trunnions on said receptacle, means on said guide-frame for receiving said trunnions, and means for automatically rocking said trunnions into said receiving means, for the purpose set forth.

5. In a device of the class described, a guide-frame, a hoist-cage adapted to be raised and lowered in said frame, a receptacle trunnioned at its forward end to said cage and supported at its rear by swinging arms, means on said guide-frame for receiving said trunnions, levers pivoted on said cage and adapted for engagement with said trunnions, and means on said guide-frame for operating said lever.

6. In a device of the class described, a guide-frame, a hoist-cage adapted to be raised and lowered in said frame, a swinging receptacle trunnioned at one end in said cage, levers pivoted on said cage and adapted for engagement with said trunnions, socket-plates on said guide-frame, and means for rocking said levers, for the purpose set forth.

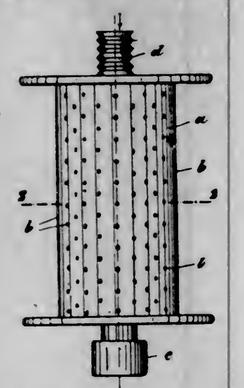
7. In a device of the class described, a guide-frame, a

hoist-cage adapted to be raised and lowered in said frame, a swinging receptacle having trunnions at one end, seated in sockets in said cage, levers pivoted on said cage and adapted for engagement with said trunnions, means for rocking said levers, and means on said frame for receiving said trunnions.

8. In a device of the class described, a guide-frame, a hoist-cage adapted to be raised and lowered in said frame, a swinging receptacle having trunnions at one end seated in sockets in said cage, means on said frame for receiving said trunnions, idlers on said frame adjacent to said receiving means, and levers having arms adapted to engage said trunnions and said idlers, for the purpose set forth.

9. In a device of the class described, a guide-frame, a hoist-cage adapted to be raised and lowered in said frame, a swinging receptacle trunnioned at one end on said cage, and means for rocking said trunnions from their seats in said cage to seats in said frame during the rise of the cage, and for returning said trunnions to the cage-seat during the fall of the cage, for the purpose set forth.

842,568. PROCESS FOR MANUFACTURING GLOSSY CELLULOSE THREADS. RUDOLF LINKMEYER, Herford, Germany. Filed Mar. 1, 1905. Serial No. 247,998.



Claim.—1. In the manufacture of silk-like threads by causing solutions of cellulose in ammoniacal oxid of copper to issue through capillary orifices into solutions of fixed salts or alkalies, eliminating the free ammonia from the threads and converting the oxid of copper contained in the same into a salt easily soluble in acids and subsequently washing the threads with diluted acids.

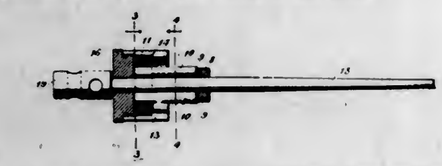
2. In the manufacture of silk-like threads by causing solutions of cellulose in ammoniacal oxid of copper to issue through capillary orifices into solutions of fixed salts or alkalies, removing the free ammonia from the threads and converting the oxid of copper contained in the said threads into carbonate of copper and subsequently washing the threads with diluted acids.

3. In the manufacture of silk-like threads by causing solutions of cellulose in ammoniacal oxid of copper to issue through capillary orifices into solutions of fixed salts or alkalies, winding the threads upon a perforated cylinder arranged outside the precipitation-bath and causing air to pass through the layers of thread previously to washing the latter with diluted acids.

842,569. TUBE-EXPANDER. WILLIAM H. MATHERS, New York, N. Y., assignor to William M. Dudgeon, Cold Spring Harbor, N. J., executor of Richard Dudgeon, deceased. Filed Oct. 5, 1906. Serial No. 337,513.

Claim.—1. In a tube-expander, the combination, with the stock and the rollers therein, of a guard or guide ring in which said stock is rotatively mounted, and a retaining-cap screwed into said ring.

2. In a tube-expander, the combination, with the stock and the rollers therein, of a guard or guide ring in which said stock is rotatively mounted, and means secured directly to said ring which at the same time retain said stock in said ring and said rollers in said stock.



3. In a tube-expander, the combination, with the stock and the rollers therein, said stock being provided with an enlarged bearing-head at its inner end, of a guard or guide ring in which said head is rotatively mounted, and a retaining-cap screwed into said ring.

4. In a tube-expander, the combination, with a stock provided with longitudinal slots and rollers in said slots, of a bearing member within which said stock is rotatively mounted, and means secured directly to said member which at the same time retain said stock in said member and said rollers in said stock.

5. In a tube-expander, the combination, with a stock provided with a bearing-head and roller-containing slots, of a guard or guide ring in which said head is rotatively mounted, and a member secured directly to said ring and coöperating therewith to retain said stock in said ring and said rollers in said slots.

6. In a tube-expander, the combination, with a stock provided with slots and rollers in said slots, of a bearing member within which said stock is rotatively mounted, and a cap secured directly to said member which at the same time retains said stock in said member and said rollers in said slots.

7. In a tube-expander, the combination, with a stock provided with a bearing-head and roller-containing slots, of a guard or guide ring in which said head is rotatively mounted, and a cap screwed into said ring which at the same time retains said stock in said ring and said rollers in said slots.

842,570. MOUNT FOR PORTABLE GUNS. WILHELM MAYER, Essen-Ruttenscheid, Germany, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Filed Oct. 30, 1905. Serial No. 284,994.

Claim.—1. The combination with a portable-gun mount having a trail, of a trail-beam connected to the trail and mounted to swing vertically thereto, and single means carried by the trail for fixing the trail-beam in different angular positions relatively to the trail.

2. The combination of a portable-gun mount having a trail, a trail-beam having jointed connection with the trail, a frame on the trail adapted to receive the trail-beam, and means for fixing the trail-beam in the different positions in said frame.

3. The combination of a portable-gun mount having a trail, a limber, a trail-beam connected to the trail and mounted to swing vertically thereto and adapted to connect the mount with the limber, and means carried by the trail for fixing the trail-beam in different angular positions relatively to the trail.

4. The combination of the gun-mount trail, the trail-beam, the bearing-block in which the end of said trail-beam is secured by a horizontal pin, the frame confining the trail-beam transversely on the trail, and the key-bolt for adjustably securing the trail-beam against vertical movement in the frame.

5. The combination of a portable-gun mount having a trail, a limber, a trail-beam having means for connecting the trail to the limber and mounted to swing vertically thereto, means carried by the trail for fixing the trail-beam in an upper position to serve as a handspike and for fixing the trail-beam in a lower position to serve as a connecting means between the trail and the limber.

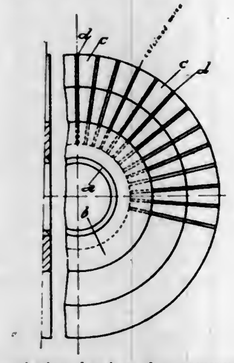
6. The combination of a portable-gun mount having a trail, a limber, a trail-beam having means for connecting

the trail to the limber and mounted on the trail to swing vertically thereto, means for limiting the swinging movement of the trail-beam relatively to the limber, means carried by the trail for fixing the trail-beam in an upper posi-



tion to serve as a handspike and for fixing the trail-beam in a lower position to serve as a connecting means between the trail and the limber.

842,571. INSULATION FOR COMMUTATORS. MAX MEIROWSKY, Cologne-Ehrenfeld, Germany. Filed July 13, 1905. Serial No. 269,555.

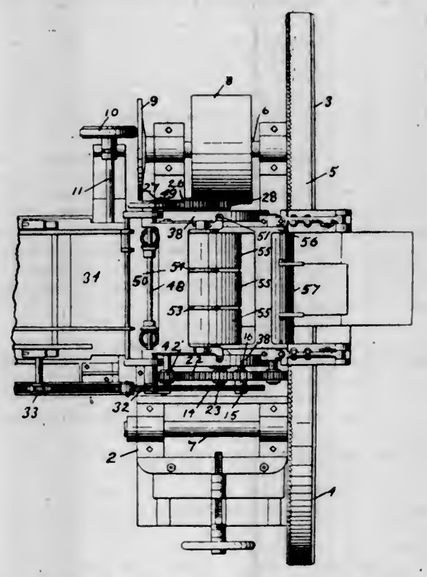


Claim.—Insulation laminæ for commutators consisting of calcined mica.

842,572. RESAWING-MACHINE. ARNO MEREEN, Minneapolis, Minn. Filed Apr. 18, 1905. Serial No. 256,215.

Claim.—1. The combination, with a horizontal saw, of a feed-bed over which the boards are fed side by side to the saw, and a feed-belt arranged above said bed and having a portion of its surface arranged to bear flatwise upon the surface of the boards, means for holding said belt on said boards with a yielding pressure, means for regulating the tension on said belt and a driving means for said belt to cause it to move the boards, substantially as described.

2. The combination, with a horizontal saw, of a feed-bed whereon the lumber is advanced side by side endwise to the saw, a driven feed-belt supported above said bed, the lower side of said belt being substantially parallel with the plane of said bed and having a long bearing-surface on the boards and composed of a material capable of adhering to the boards, means for regulating the tension on said belt, and means for holding said belt down upon said boards with a yielding pressure to cause it to move the boards, substantially as described.



3. The combination, with a horizontal band-saw, of a feed-bed whereon the lumber is advanced side by side endwise to the saw, a series of driven feed-belts arranged above said bed, the lower portion of said belts being parallel substantially with the plane of said bed and having long bearing-surfaces on the boards, means for yieldingly holding said belts down upon said boards to obtain a maximum area of frictional contact with a minimum of pressure to move said boards, and means for regulating the tension on said belt.

4. The combination, with a horizontal saw and a feed-bed over which the boards are advanced endwise side by side to the saw, of a series of belts supported side by side above said bed and having broad frictional bearing-surfaces on the boards and composed of a material that has a tendency to adhere thereto, means for regulating the tension on said belts, and means for driving said belts to move the boards, substantially as described.

5. The combination, with a horizontal saw and a feed-bed over which the boards are advanced side by side to the saw, of a belt supported above said bed and arranged to bear on the surface of the lumber, rolls around which said belt passes there being two rolls at the bottom arranged to press said belt down upon the lumber with a yielding pressure and another roll above said first-named rolls, and the part of said belt between and beneath said first-named rolls being substantially parallel with and lying smoothly on the tops of the boards, means for regulating the tension on said belt and means for positively driving said rolls and belt.

6. The combination, with a horizontal saw and a feed-bed over which the boards are advanced to the saw, of rolls arranged above said bed in a plane substantially parallel with the plane of said bed and free to move vertically under pressure of the lumber, a belt passing under said

rolls and arranged to travel parallel with the lumber and held on the surface of the lumber by said rolls with a yielding pressure, means for regulating the tension of the belt, and means for driving said belt.

7. The combination, with a horizontal saw and a feed-bed over which the boards are advanced side by side to the saw, of a driven rubber belt supported above said feed-bed and having a broad bearing-surface arranged to contact with the upper surface of the boards and feed them toward the saw, means for regulating the tension on the belt, and means for yieldingly holding said belt down upon the boards, substantially as described.

8. The combination, with a horizontal band-saw and a feed-bed over which the boards are advanced side by side to the saw, of a series of rubber belts arranged above said bed and having long bearing-surfaces upon the upper surfaces of the boards, means regulating the tension on the belts and gravity-rolls arranged to hold said belts down upon the boards with a yielding pressure, substantially as described.

9. The combination, with a horizontal band-saw and a feed-bed over which the boards are advanced side by side to the saw, of a loose or floating roll arranged over said bed, an idle roll, a pivoted frame wherein said idle roll is supported, a driven roll having a vertical movement in its bearings and yieldingly held toward said bed, and a belt carried by said rolls and held down upon the top of the boards by the weight of said loose roll and said driven roll, substantially as described.

10. The combination, with a horizontal band-saw, of a feed-bed whereon the lumber is advanced side by side endwise to the saw, a driven feed-belt supported above said bed, the lower portion of said belt traveling for a considerable distance in a plane substantially parallel with the plane of said bed and resting upon the upper surface of the lumber on said bed to move said lumber, means for holding said belt on said lumber with a yielding pressure, and means for adjusting the tension of said belt.

11. The combination, with a horizontal band-saw, of feed-rolls whereon the box-boards are advanced side by side endwise to the saw, a series of driven feed-belts supported above said rolls and composed of a material that has a tendency to adhere to the boards, the lower portion of said belts traveling for a considerable distance in a plane substantially parallel with the plane of said rolls, gravity-rolls arranged to hold said belts down upon the boards with a yielding pressure to move the same toward the saw, and means for regulating the tension on the belts, substantially as described.

12. The combination, with a saw and a feed-bed, of a feed-belt between which and said bed the lumber is advanced, rolls loosely mounted and having a limited vertical movement and resting by gravity upon the lumber, one of said rolls having a driving connection at one end, and said rolls being cored out in the ends contiguous to said driving connection to allow the weight of the opposite ends to counterbalance the tendency of the drive to tilt the rolls, substantially as described.

13. The combination with the lumber bed and saw, of the vertically-movable presser-roll, and shaft passing through the same, said roll being free to play about said shaft, a swinging yoke carrying a positively-driven feed-roll, said roll and the first-mentioned roll lying adjacent to the bed, one in advance of the other, a swinging yoke carrying a roll above said former-mentioned rolls, and a belt passing around said rolls and having its lower portion lying substantially parallel with the plane of the bed and adapted to exert pressure on the lumber for feeding it to the saw, substantially as described.

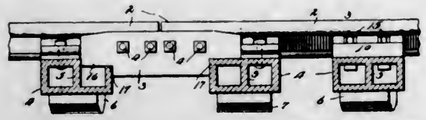
14. The combination with the lumber bed and saw, of the vertically-movable presser-roll and shaft passing through the same, said roll being free to play about said shaft, a swinging yoke carrying a positively-driven feed-roll, said roll and the first-mentioned roll lying adjacent to the bed, one in advance of the other, a swinging yoke carrying a roll above said former-mentioned rolls, a belt passing around said rolls and having its lower portion lying substantially parallel with the plane of the bed to exert a pressure on the lumber for feeding it to the saw, and means for vertically adjusting said positively-driven roll, substantially as described.

15. The combination with the lumber bed and saw, of the vertically-movable presser-roll and shaft passing through the same, said roll being free to play about said shaft, a swinging yoke carrying a positively-driven feed-roll, said roll and the first-mentioned roll lying adjacent to the bed, one in advance of the other, a swinging yoke carrying a roll above said former-mentioned rolls, a belt passing around said rolls and having its lower portion lying substantially parallel with the plane of the bed to exert a pressure on the lumber for feeding it to the saw, and means for adjusting the positively-driven roll and the roll located above said roll, substantially as described.

16. The combination with the lumber bed and saw, of the presser-rolls located one in advance of the other, above the bed, means for positively driving one of said rolls, a roll located above said rolls, belts passing around said rolls and having their lower portion lying substantially parallel with the plane of the bed to exert a pressure on the lumber for feeding it to the saw, and ribs formed on the periphery of the top roll and fitting between the adjacent edges of the belts to prevent one belt rising upon another, substantially as described.

17. The combination with the lumber bed and saw, of the pressure-rolls located one in advance of the other, above the bed, means for positively driving one of said rolls, a roll located above said rolls, a belt passing around said rolls and having its lower portion lying substantially parallel with the plane of the bed to exert a pressure on the lumber for feeding it to the saw, means for regulating the tension of said belt, and means for regulating pressure on the positively-driven roll, substantially as described.

842,573. RAIL-TIE. LA FAYETTE MITCHELL and WILLIAM S. FORD, Nebo, Ill. Filed Apr. 18, 1906. Serial No. 312,433.

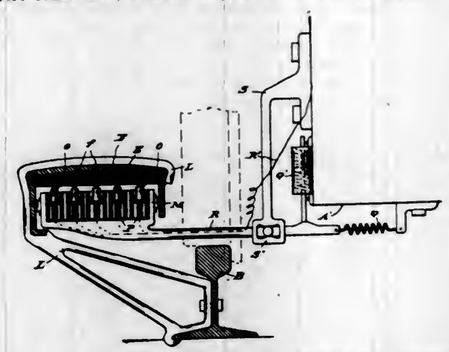


Claim.—1. In a device of the class described, a pair of cross-ties arranged in spaced relation and having transverse recesses formed in their upper faces, a pair of rail-sections sustained upon the ties and disposed in endwise relation, said sections being arranged for their ends to meet at a point between the ties, a splicing member having recessed end portions seated in the recesses in the ties and a depending portion disposed between and terminally contacting with the ties, said depending portion being extended across and to bear beneath the bases of the rail-sections, and fastening members connecting the splicing member with the rail-sections.

2. A hollow metal tie having a longitudinal strengthening-web formed therein, undercut rail-engaging blocks formed on the upper face of the tie and in appropriate spaced relation, and surface-engaging lugs formed on the lower face of the tie at points adjacent it ends.

842,574. ELECTRIC DANGER-SIGNAL. ALEXANDER MCCAHON, St. Joseph, Mo. Filed Apr. 30, 1906. Serial No. 314,554.

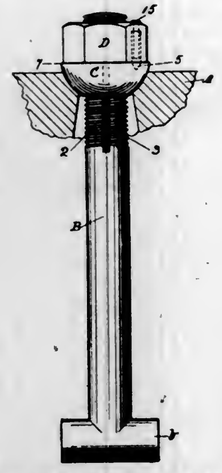
Claim.—1. In an electric danger-signal the combination with the rails and a switch and engine or car of a railway, of a bracket and a steel hood supported thereby, an insulated lining therein, the dovetail grooves in said lining, a trolley, a plurality of brushes therein, a spiral spring for each having battery connection and a coil-spring having fire-box connection, a trolley-arm connecting at the other end with a bracket and a swivel-box carrying said trolley-arm, a double-acting coil-spring, the random wires parallel with each other, a signal-wire, a telephone-wire and a continuous return-wire, a road-crossing bell having signal-wire connection, substantially as shown and set forth.



2. In an electric danger-signal for railways the combination with railway-ties, rails, switches, and engines, of a bracket rigidly bolted to a rail, a metal hood supported at the outer end of said rail, an insulated lining within said hood, a trolley and trolley-arm, random and other wires of unequal length in the dovetail grooves the division-point of each wire being opposite the middle of its parallel wire thereby forming a continuous circuit if contacted by an approaching engine or in case a switch is open, substantially as shown and set forth.

3. In an electric danger-signal the combination with the rails of a railway and wires having battery connection, of a bracket rigidly fastened on the rail, a hood supported by said bracket slightly aside from the rail and above the horizontal of the top of same, an insulated lining and the dovetail grooves therein for the wires, substantially as described and shown.

842,575. SELF-RETAINING ADJUSTING MEANS FOR CLUTCH-ACTUATING DRAFT-BOLTS. MICHAEL F. MCMAHON, Worcester, Mass. Filed May 9, 1906. Serial No. 315,920.

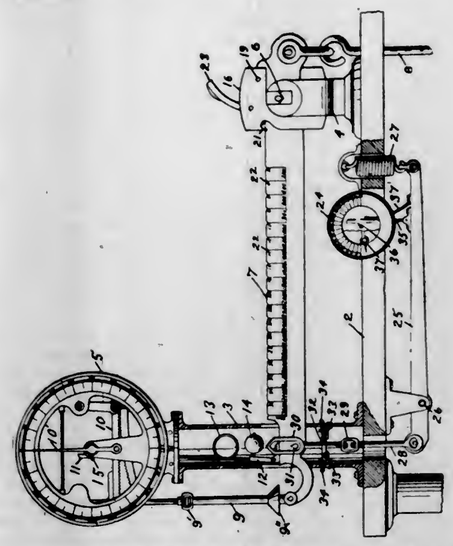


Claim.—1. The means for effecting and retaining adjustment of clutch-actuating draft-bolts, comprising the combination as described, with the movable clutch-plate, the threaded clutch-actuating draft-bolt having a head for connection of actuator means thereto, and a threaded end, the adjusting-nut threaded thereon, a yielding spring-pressed stud arranged in an opening through one side of the nut, parallel with the axis thereof, and having a projecting conical point, a non-rotatable nut-bearing seat provided with a series of cone-fitting openings therein, positioned at radial intervals that correspond with angles of the nut, substantially as set forth.

2. In combination with a draft-bolt in a clutch mechanism, and the clamp-disk controlled thereby, a non-rotatable rockable nut-supporting member having a flat nut-bearing seat and a rounded bed-surface, the adjusting-nut threaded on said draft-bolt, and a self-acting adjustment-retaining means consisting of a spring-pressed yieldable conical-pointed stud, disposed approximately parallel with the main axis, near the edge of the nut-seating surface with its conical point projecting therefrom, and counter-matching cone-receiving recesses engageable at the adjacent bearing-faces by coned surfaces that effect retraction of the stud by forced lateral movement of the nut in either direction, as and for the purpose set forth.

3. The combination, with the clutch-draft bolt, the adjusting-nut thereon provided with an endwise-movable pin having a conical end projectable from the bearing-face of the nut, and an arresting-bar at its opposite end, and a spring for projecting said pin; of a non-rotatable seat member having a rounded bed-surface, and a flat nut-bearing surface provided with circular cone-fitting cavities arranged therein at regular intervals corresponding with the hexagonal divisions of the nut and adapted for respectively engaging the conical end of said pin as the respective sides of the nut are brought to a predetermined position, and for automatic release thereof as the nut is turned from such position.

842,576. AUTOMATIC WEIGHING-SCALE. NILS NILSON, Wayzata, Minn. Filed Apr. 22, 1905. Serial No. 256,839.



Claim.—1. In a scale the combination with a beam, a beam-weight, and means to indicate fractional parts less than what is indicated by the beam-weight, of an indicator to show the adjustment to be made in the beam-weight preliminary to ascertaining the weight of the article on the scale, said indicator having a part thereof arranged to be actuated from the beam to cause the indicator to show the adjustment to be made in the beam-weight previous to the beams and fractional indicator being rendered operative to indicate the correct weight of the article being weighed, substantially as described.

2. The combination with a scale provided with a beam, a movable weight thereon, and an indicator to show the weight of the load up to a predetermined point, of an auxiliary indicator having a part arranged to be tem-

porarily engaged by a portion of the beam in the movement of said beam to adapt said indicator to show the position at which the beam-weight should be placed to weigh in excess of said predetermined point and have the weight indicated upon the first-mentioned indicator, substantially as described.

3. In a scale having a beam, and a movable weight, two weight-indicators, one of said indicators being operatively connected with the beam to coact therewith and its movable weight to indicate the weight up to a predetermined point, and the other indicator having a part thereof arranged to be temporarily connected with the beam in the movement of said beam to adapt said indicator to coact with the beam to indicate the adjustment to be made in the beam-weight to weigh in excess of said predetermined point, substantially as described.

4. In combination, with a weighing-scale having a scale-beam and movable weight thereon and mechanism connected with said beam for counterbalancing the load up to a predetermined weight, of a graduated dial, an indicator-hand arranged to travel over said dial and connected with said scale-beam to be actuated by the initial movement thereof and indicating approximately the weight of the load on the scale up to said predetermined weight, and a secondary indicating device inoperative during the initial movement of said beam and becoming operative during its final movement and indicating approximately the proper position of the beam-weight to balance the load on the scale when such load exceeds the weight represented by the graduations of said first-named indicating device.

5. The combination, with a weighing-scale provided with a scale-beam and movable weight, of an auxiliary beam, a spring connecting the long arm of said auxiliary beam with the fixed support, means connected with the short arm of said auxiliary beam and arranged in the path of said scale-beam but normally out of contact therewith and engaged by said scale-beam during its final movement only, a dial having graduations corresponding to those on said scale-beam, and an indicating-hand operatively connected with said auxiliary scale-beam and arranged to travel over the graduations of said dial, substantially as described.

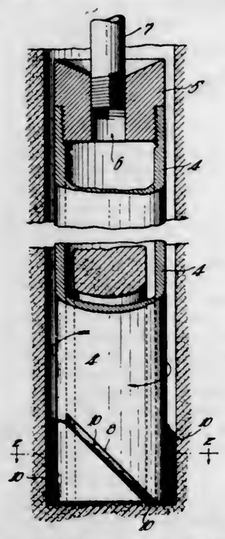
6. The combination, with a weighing-scale having a scale-beam provided with a knife-edge and a movable weight, of an auxiliary beam, a spring connecting the long arm of said auxiliary beam with the fixed support, an adjustable rod connected with the short arm of said auxiliary beam and having a loop at one end inclosing said knife-edge and normally out of contact therewith, the upper end of said loop having a bearing for said knife-edge and contacting therewith during the final movement of said scale-beam, a dial having graduations corresponding to the graduations on said scale-beam, and an indicating-hand operatively connected with said auxiliary scale-beam and arranged to travel over said dial and indicate approximately the weight of the load on the scale, for the purpose specified.

7. The combination with a scale provided with a beam and movable weight, of an auxiliary beam, means for offering resistance to movement of the long arm of said auxiliary beam, means connected with the short arm of said auxiliary beam and located in the path of said scale-beam, a graduated dial, and an indicator operatively connected with said auxiliary scale-beam and arranged to travel over the graduations of said dial to indicate the position at which the beam-weight should be placed in the operation of weighing, substantially as described.

8. The combination with a weighing-scale having a beam and movable weight, of an auxiliary beam having a counterbalancing device at one end, means connected with the other end of said auxiliary beam and arranged to be operated by the movement of said scale-beam at a predetermined point, and a suitable indicator connected with said auxiliary beam and actuated from the weight-beam to indicate the position at which the weight should be placed on its beam in weighing beyond a predetermined point, for the purpose specified.

9. The combination with a scale provided with a beam and movable weight, of an auxiliary beam having a counterbalancing device at one end, means connected with the other end of said auxiliary beam and actuated by the final movement only of said scale-beam, and an indicating device operatively connected with said auxiliary beam to indicate the position at which the weight should be placed on its beam to weigh beyond the point at which the weight-beam acts on the auxiliary beam.

842,577. CORE-DRILL. GEORGE E. OKELL, Los Angeles, Cal., assignor to Max Livingston, Los Angeles, Cal. Filed Nov. 5, 1906. Serial No. 341,990.



Claim.—1. A tubular drill having a diagonal slot in the lower end thereof.

2. A tubular drill having a slot in its lower end substantially at an angle of forty-five degrees to its vertical axis.

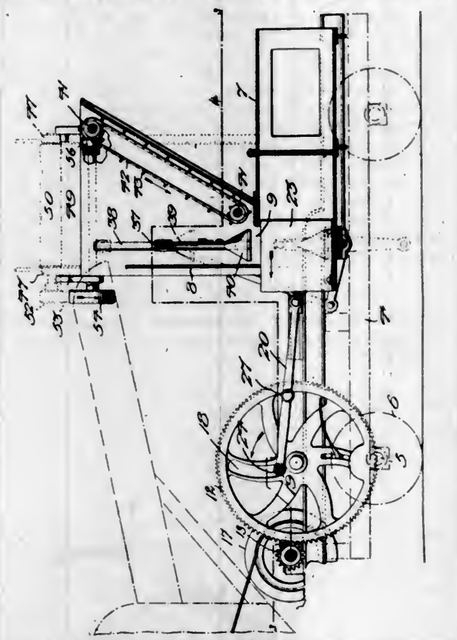
3. A tubular drill having a slot in its lower end substantially at an angle of forty-five degrees to its vertical axis and having a driving-head secured to the other end, said driving-head having a cup in its upper surface.

842,578. BALING-PRESS. MILTON I. PARKHURST, Fancy Prairie, Ill. Filed Dec. 26, 1905. Serial No. 293,429.

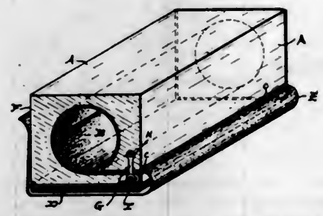
Claim.—1. In a device of the class described, a baling-box, a plunger arranged for operation therein, a drive-wheel having a substantially radial guideway, a pitman connected with the plunger and having a wrist-pin movably disposed in the guideway, said pin being adapted to move inward in the slot during instroke of the plunger, and spring-fingers connected for operation to move the pin outward in the slot during the outstroke of the plunger.

2. In a device of the class described, a baling-box, a plunger arranged for operation therein, a drive-wheel having a substantially radial guideway, a pitman connected with the plunger and having a wrist-pin movably disposed in the guideway, an antifriction-roller mounted on the pitman at a point between its ends and a spring-finger carried by the drive-wheel and designed to act upon said roller for moving the wrist-pin outward in the guideway during outstroke of the plunger, said pin being adapted to move inward in the guideway during instroke of the plunger.

3. In a device of the class described, a baling-box having a feed-opening and a hopper leading thereto, a baling-plunger arranged for reciprocation in the box, a feed-plunger mounted for reciprocation in the hopper to operate through the feed-opening, a drive-shaft, operative connections between the shaft and baling-plunger, a feed-shaft operatively connected with the drive-shaft, connections between the feed-shaft and feed-plunger, a conveyer-belt sustained for travel in the hopper, and operative connections between said belt and the feed-shaft.



842,579. SANDPAPER-HOLDER. FREDERICK J. PETERS, Milwaukee, Wis. Filed Dec. 26, 1905. Serial No. 293,211.

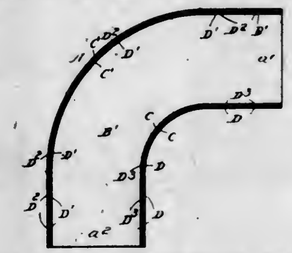


Claim.—1. The device herein described for storing and holding flexible abrading material, comprising a hollow receptacle open at its respective ends, provided with an elongated slit through which the material may be drawn, in combination with a bearing-surface around which said material is held and means for retaining the opposing bearing-surface of the slit in clamping contact with the abrading material.

2. The device herein described for storing and holding flexible abrading material, comprising a hollow receptacle open at its respective ends, provided with an elongated slit throughout its entire length through which the material may be drawn, in combination with a bearing-surface around which said material is held when using the same, a clamping-hook pivoted to the bearing-surface upon one side of said slit and adapted to engage in the bearings on the opposite side of said slit, and an elastic cushion secured to said bearing-surface.

3. The combination of a rectangular receptacle provided with elongated cylindrical aperture open at both ends and a horizontal bearing-surface formed integrally with said receptacle, said receptacle being provided with an elongated slot extending from one of said open ends to the other through which the abrading material is adapted to be drawn, and an elastic cushion secured to said bearing-surface, all substantially as and for the purpose specified.

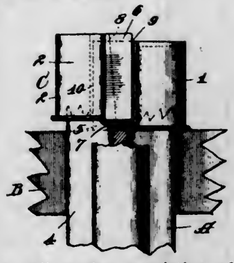
842,580. PIPE-ELBOW. WILLIAM J. PLECKER, Peoria, Ill. Filed Oct. 25, 1904. Serial No. 229,953.



Claim.—1. The herein-described pipe-elbow formed of two half-sections, each section having along one edge a series of apertures and a series of outward-turned tongues, and along the other edge a series of apertures and a series of inward-turned tongues, the tongues of one half-section being respectively passed through the opposed apertures of the other half-section and the tongues of each pair of adjacent tongues being at their ends bent in opposite directions, substantially as set forth.

2. For the manufacture of a pipe-elbow the herein-described pair of half-sections, each section having at one edge a series of apertures and a series of inward-turned tongues, and at the other edge a series of apertures and a series of outward-turned tongues, the tongues along the outer or convex edge of the first section being turned inward, the tongues along the outer or convex edge of the second half-section being turned outward, the tongues along the inner or convex edge of the second half-section being turned inward and the tongues along the inner or concave side of the first-aforesaid section being turned outward, substantially as set forth.

842,581. RAIL-ANCHOR. FRED A. POOR, Chicago, Ill., assignor to The Railway Specialty & Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 8, 1906. Serial No. 294,984.

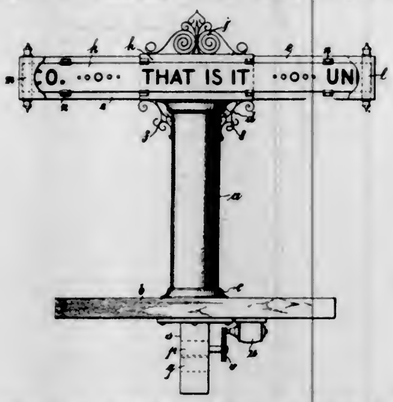


Claim.—1. A rail-anchor consisting of clip members adapted to engage the base of a rail provided with interlocking wedging-surfaces so disposed that force exerted on one thereof to effect engagement of said wedging-surfaces will draw said clip members into frictional engagement with the base of the rail and will impart movement to said clip members bodily lengthwise of the rail to provide for effecting a firm bearing of the clip member other than that to which the force is applied against a tie or other support.

2. A rail-anchor consisting of clip members provided with suitable openings for engagement with the base of a rail, a flange or projection on one thereof adapted to bear against a tie or other support, and means for simultaneously and by a single operation drawing said clip members into frictional engagement with the rail-base and said

flange into firm bearing against its support, said means comprising interlocking wedging-surfaces on said clip members extending at similar but oppositely-disposed angles lengthwise of said clip members and the relation being such that the wedging-surface on the flanged clip member will converge toward the outer edge of said clip member in the direction of its flanged end.

842,582. MOVING DISPLAY-SIGN. TIMOTHY B. POWERS, New York, N. Y., assignor to Kutnow Bros., New York, N. Y. Filed Aug. 8, 1906. Serial No. 329,705.



Claim.—1. A moving display-sign comprising a base-board, a hollow standard centrally mounted thereon, an extensible display-rack mounted on said standard, one roller on each end of the display-rack, two guides each secured under an angle of forty-five degrees above the hollow standard, and an endless tape provided with intelligible characters pass from the right to the left over the display-rack, its end rollers and the central guides down and up within the hollow standard, and a tape-actuating motor mechanism.

2. A moving display-sign comprising a base-board, a hollow standard centrally mounted thereon, an extensible horizontal display-rack mounted on said standard, one roller on each end of the display-rack, two guides each secured under an angle of forty-five degrees above the hollow standard in reverse position to each other, an endless tape provided with intelligible characters passing from the right to the left over the display-rack, its end rollers and the central guides down and up within the hollow standard, a tape-actuating motor mechanism, and means for transmitting the motion of the motor to the tape.

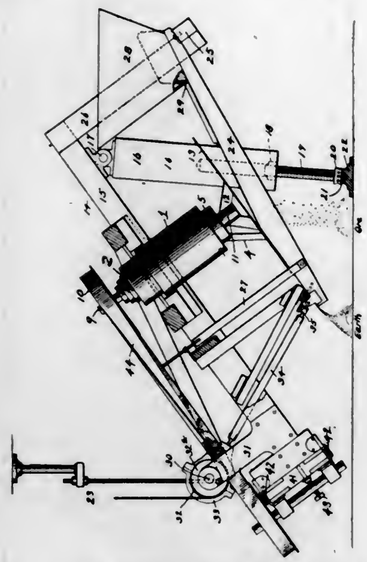
3. A moving display-sign comprising a base-board, a hollow standard centrally mounted thereon, an extensible horizontal display-rack mounted on said standard, one vertical roller on each end of the display-rack, two guides each secured under an angle of forty-five degrees above the hollow standard in reverse position to each other, two rollers having their axes mounted in different vertical planes below said standard, an endless tape provided with intelligible characters passing from the right to the left over the front surface of the display-rack, its left-hand vertical end roller, one central guide down through the standard, between the two rollers below said standard, up through the standard over the second central guide and around the right-hand vertical end roller, and a tape-actuating motor driving the rollers below the standard.

4. In a moving display-sign a hollow central standard, and an angular ring at its top end, an extensible horizontal display-rack mounted on said standard and ring, supporting-scrolls secured to the standard, vertical rollers one on each end of the display-rack, and an endless tape passing from the right to the left over the front surface of the display-rack, its rear surface and down and up within the hollow standard, and means for actuating said endless tape.

5. In a moving display-sign, a base-board, a hollow standard mounted centrally thereon and having a strengthening angular ring at its bottom end and a like ring at the top end, an extensible display-rack mounted on said standard and top ring, supporting-scrolls secured to the standard, one vertical roller on each end of said rack, two guides each secured under an angle of forty-five degrees above the standard in reverse position to each other, an endless tape with intelligible characters, and means for passing said tape continually over the display-rack.

6. In a moving display-sign an extensible display-rack, one vertical roller on each end of same, two central guides each secured under an angle of forty-five degrees in the rear of the said display-rack in reverse position to each other, an endless tape passing from the right to the left over the front surface of the display-rack and successively over the central guides, and means for actuating said tape.

842,583. MAGNETIC SEPARATOR. CHARLES J. REED, Philadelphia, Pa. Filed Aug. 15, 1902. Serial No. 119,763.



Claim.—1. In a magnetic separator, the combination with a non-magnetic disk and means for rotating it, of an electromagnet having a curved segmental pole-piece the face of which is adjacent to the upper side of said disk and is eccentric thereto, an inclined chute for the material to be treated extending in proximity to the bottom face of said disk and means for effecting vibration of said chute to feed the material forward and insure presentation of all portions thereof to the action of the magnetic field.

2. In a magnetic separator, the combination with a non-magnetic disk and means for rotating it, of an electromagnet having a curved pole-piece at one end the face of which is in proximity to said disk and is eccentric with reference thereto, an inclined chute extending beneath and adjacent to the rotating disk and means for causing the chute to vibrate laterally in order to feed the material forward and insure presentation of all portions thereof to the action of the magnetic field.

3. In a magnetic separator, the combination with an electromagnet having laterally-projecting pole-pieces, non-magnetic disks rotatably supported beneath and adjacent to said pole-pieces and means for rotating said disks in opposite directions, of a plurality of chutes extending beneath and in proximity to said disks and means for effecting lateral vibration of said chutes in order to feed the material forward and insure presentation of all portions thereof to the action of the magnetic field.

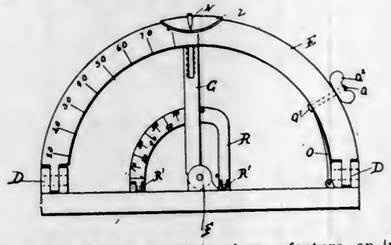
4. In a magnetic separator, the combination with an electromagnet having laterally-projecting pole-pieces and a plurality of non-magnetic disks rotatably mounted below and adjacent to said pole-pieces, of a plurality of inclined chutes extending beneath and in proximity to said disks and means for effecting vibration of said chutes in order to feed the material forward and insure presentation of all portions thereof to the action of the magnetic field.

5. In a magnetic separator, the combination with an electromagnet having laterally-projecting pole-pieces and a plurality of non-magnetic disks rotatably mounted below and adjacent to said pole-pieces, of a plurality of inclined chutes extending beneath and adjacent to said disks, means for effecting vibration of said chutes to feed the material forward and insure presentation of all portions thereof to the action of the magnetic field and means for varying the degree of inclination of said chutes.

6. In a magnetic separator, the combination with one or more rotatable, non-magnetic disks and means for rotating the same, of an electromagnet having laterally-projecting, curved pole-pieces the faces of which are adjacent to the upper side of said disk or disks and are eccentric thereto, one or more inclined chutes extending beneath and in proximity to said disk or disks and means for effecting vibration of said chute or chutes in order to feed the material forward and insure presentation of all portions thereof to the action of the magnetic field.

7. In a magnetic separator, the combination with one or more non-magnetic disks and means for rotating the same, of an electromagnet having laterally-projecting, curved pole-pieces, the curvature of which is eccentric to that of the disk or disks, one or more vertically-adjustable chutes extending beneath said disk or disks and means for effecting lateral vibration of the same in order to feed the material forward and insure presentation of all portions thereof to the action of the magnetic field.

842,584. ANGLE-FINDER. JAMES M. RIDLEY, Camden, N. J. Filed April 23, 1906. Serial No. 313,139.



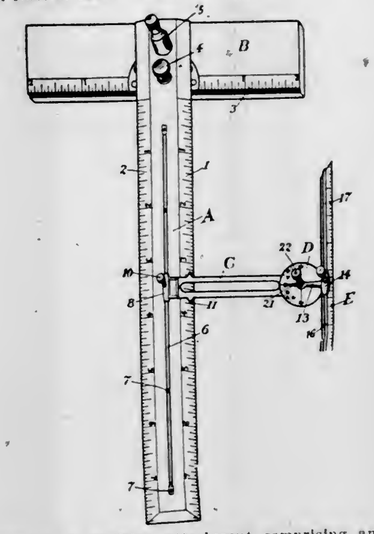
Claim.—1. As a new article of manufacture, an instrument for determining two angles from two known angles consisting of two horizontal concentric rings adjustable relative to each other, a quadrant carried by each of the rings, said quadrants crossing each other and means for determining the angles at which the quadrants are adjusted, as specified.

2. In an angle-determining instrument, a graduated base, a ring fitted thereto adapted to be adjusted concentric therewith, a quadrant hinged to the base, a quadrant hinged to the ring, said quadrants crossing each other and being graduated, gages by which the quadrants may be adjusted and the angle of their adjustment determined, a block fitted to travel in one quadrant, a graduated dial carried by the block, a pointer pivoted at the center of the graduations of the dial and a shoe fitted to travel in the other quadrant and connected with the pointer so as to cause the latter to move over the face of the dial when the quadrants are moved relative to each other, as and for the purpose set forth.

3. In combination with an instrument of the character described, two hinged quadrants crossing each other, a dial adapted to slide upon one of the quadrants, a pointer adapted to travel over the face of the dial and means carried by the other quadrant for causing the pointer to move when the quadrants are adjusted relative to each other, as specified.

4. In an instrument of the character described, a circular base, the graduated quadrant E hinged to said base, the graduated gage O also hinged to the base, means for holding the quadrant in any adjustment relative to the gage, a ring fitted within the base and adapted to be adjusted concentrically with said base, a quadrant G hinged to said ring, a gage R also hinged to the ring, means for adjusting the last-named quadrant relative to its gage, a graduated dial, a block projecting therefrom adapted to run in a groove in the quadrant E, a pointer, a rod to which said pointer is secured, said rod passing through said block and a shoe adapted to travel in a slot formed in the quadrant G, said shoe being attached to or formed with the rod carrying the pointer, as specified.

842,585. DRAFTING ATTACHMENT. THOMAS S. ROSS, Baltimore, Md., assignor of one-third to Michael H. Noon and one-third to James J. Ellis, Baltimore, Md. Filed Nov. 5, 1906. Serial No. 342,108.



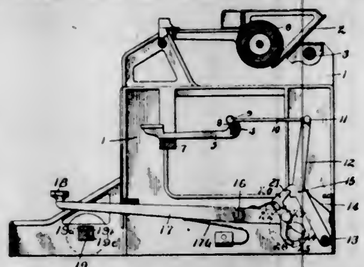
Claim.—1. A drafting attachment comprising an arm having pointed extensions on the sides near the free end portion thereof, a slide on the free end thereof, a dial on the opposite end, a pointer or index movably secured on the dial, a slide provided on the extended end portion of the pointer or index, a short rule-blade having a scale thereon and provided with a longitudinal round metal rod secured on the top part thereof whereby the rod is slidably secured within the slide on the pointer or index, substantially as described.

2. A drafting attachment comprising an arm having pointed extensions on the sides near the free end portion thereof, a slide on the free end thereof, a thumb-screw provided on the slide, a dial on the opposite end, a pointer or index movably secured on the dial, a slide provided on the extended end portion of the pointer or index and having a thumb-screw secured therein, a short rule-blade having a scale thereon and provided with a longitudinal round metal rod secured on the top part thereof, whereby the rod is slidably secured within the slide on the pointer or index and secured in position by the thumb-screw therein, substantially as described.

3. A drafting attachment in combination with a bevel-square rule provided with a longitudinal round metal rod secured on the top side thereof, comprising an arm provided with pointed extensions on the sides near the free

end portion thereof, of a slide secured on the said end portion, of a dial on the opposite end, of a pointer or index movably secured on the dial, of a slide on the extended end portion of the pointer or index, of a short rule-blade having a scale thereon, of a longitudinal round metal rod secured on the top part of the blade for the purpose of being engaged by the slide on the end of the pointer or index, substantially as described.

842,586. KEY-ACTION FOR TYPE-WRITING AND OTHER KEY-OPERATED MACHINES. JOHN T. SCHAAFF, Washington, D. C., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Dec. 13, 1904. Serial No. 236,721.



Claim.—1. In a key-action, the combination of a vibratory lever movable automatically in one direction, a key-lever pivoted intermediate its ends, a pivoted latch carried by one of said parts and forming a connection between the vibratory lever and the key-lever in the rear of the latter's pivot, means stopping the key-lever before the vibratory lever reaches the end of its movement, and means causing the pivoted latch to move and break the connection between the key-lever and the vibratory lever after the key-lever has been stopped.

2. In a key-action, the combination of a part to be actuated, a key-lever pivoted intermediate its ends, a latch pivoted to the lever in the rear of the pivot of the key-lever, a vibratory lever connected to the part to be actuated and adapted to be engaged by the latch, a spring acting on the vibratory lever to press the same forwardly, and yielding means for breaking the engagement between the latch and the vibratory lever when the key-lever is stopped before the part actuated reaches the end of its forward movement.

3. In a key-action, the combination of a type-bar having an upward extension near its pivot, a vibratory lever connected at its upper end with the upper extension on the type-lever and pivoted at its lower end, a spring pressing said lever forwardly, a key-lever pivoted intermediate its ends, a pivoted latch adapted for connection with the forwardly-pressed vibratory lever, and yielding means for breaking the connection between the latch and the vibratory lever when the key-lever is stopped before the type-bar strikes.

4. In a key-action, the combination of a type-bar, a forwardly-pressed vibratory lever connected at its upper end with the type-bar and pivoted at its lower end, a key-lever pivoted intermediate its ends, a latch pivoted on the key-lever in the rear of the pivot of the key-lever, and a spring carried by the key-lever and acting on the latch to break the connection between the key-lever and the vibratory lever when the key-lever is stopped before the type-bar strikes, and to make said connection when the key-lever has been released.

5. In a key-action, the combination with a type-bar and a key-lever, of a means for causing a disconnection between the key-lever and the type-bar, after the stopping of the key-lever before the type-bar strikes, and means for preventing the disconnection.

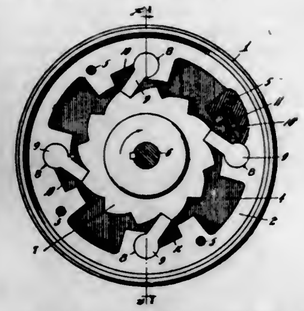
6. In a key-action, the combination with the type-bar and the key-lever, of a trip interposed in the connection between the key-lever and the type-bar to permit the type-bar to return independently of the key-lever, a spring for causing the tripping action, and means engaging the trip to prevent operation.

7. In a key-action, the combination with a type-bar and a key-lever, of a trip interposed between the key-lever and the type-bar, and means engaging the trip to prevent its operation, comprising a rotatable disk and a rod eccentrically carried by the disk.

8. In a key-action, the combination with the key-lever and the type-bar, of a latch forming a connection between the key-lever and the type-bar, a spring acting on the latch to cause a disconnection between the key-lever and the type-bar after the key-lever is stopped before the end of the striking or impression movement of the type-bar, means engaging the trip to prevent the disconnection and means for stopping the key-lever before the type-bar has reached the end of its impression movement, said means being movable to permit the key-lever to move with the type-lever to the end of its movement.

9. In a key-action, the combination with the type-bar, and the key-lever, of means for stopping the key-lever before the type-bar reaches the limit of its movement, said means being movable to permit the key-lever to move with the type-bar to the end of its movement, means causing a disconnection of the key-lever and the type-bar when the key-lever is stopped before the type-bar reaches the end of its movement, and means for preventing the disconnection.

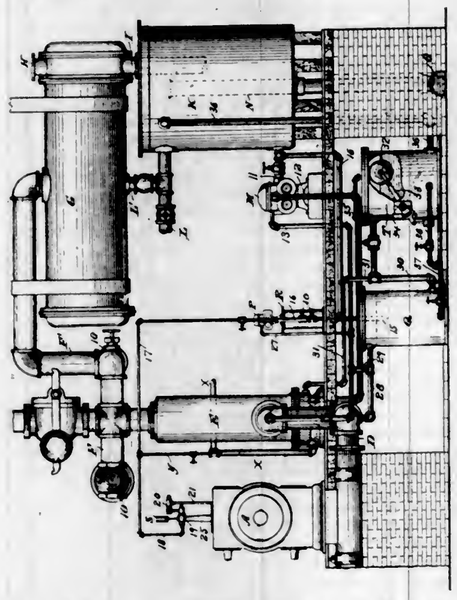
842,587. PULLEY-CLUTCH. MARTIN SKOGSTAD and CLARENCE SKOGSTAD, Grand Meadow, Minn. Filed May 14, 1906. Serial No. 316,650.



Claim.—The combination with a pulley-rim 1 having an internal rib 2, of the separable side plates 4 embracing said rib 2, a plurality of nutted bolts passed through said two plates 4 and the intermediate rib 2, and rigidly but detachably connecting the same, said plates having hub portions 3, a shaft 6 loosely journaled to the hubs 3, a ratchet-wheel 7 secured to said shaft and working in the space between said side plates 4, and a plurality of spring-pressed clutch-dogs mounted in the seats formed in said rib 2 and engageable with the teeth of said ratchet-wheel 7, said side plates and pulley-rim affording a chamber inclosing the frictionally-engaging parts of the clutch, substantially as described.

842,588. STEAM-ENGINE SYSTEM. DANIEL M. SOMERS, New York, N. Y. Filed Mar. 3, 1900. Serial No. 7,200.

Claim.—1. In a steam-engine system in which the exhaust-steam from the engine is condensed and the condense-water fed to the boilers, the combination with the engine-piston having one or more annular grooves in its periphery, of means for forcing liquid into said groove or grooves through the piston and maintaining said liquid in said groove or grooves under pressure, a drip-tank receiving the drip from the exhaust-steam connections, a tank receiving the overflow from the drip-tank and connected to the boiler-feed supply, and connections controlled by a float for admitting steam to said second tank to secure the feed of the water in said tank to the boiler-feed supply when the water in the tank reaches a certain level, substantially as described.



2. In a steam-engine system in which the exhaust-steam from the engine is condensed and the condense-water fed to the boilers, the combination with the engine-piston having one or more annular grooves in its periphery, of a pump and suitable connections for forcing liquid into said groove or grooves and maintaining said liquid in said groove or grooves under pressure, a drip-tank receiving the drip from the exhaust-steam connections, a tank receiving the overflow from the drip-tank and connected to the boiler-feed supply, connections controlled by a float for admitting steam to said tank to secure the feed of the water in said tank to the boiler-feed supply when the water in the tank reaches a certain level, and connections to the suction of said pump for supplying said pump from the drip-tank, substantially as described.

3. In a steam-engine system in which the exhaust-steam from the engine is condensed and the condense-water fed to the boilers, the combination with the engine-piston having one or more annular grooves in its periphery, of a pump and suitable connections for forcing liquid into said groove or grooves and maintaining said liquid in said groove or grooves under pressure, a drip-tank receiving the drip from the exhaust-steam connections, a tank receiving the overflow from the drip-tank and connected to the boiler-feed supply, connections controlled by a float for admitting steam to said tank to secure the feed of the water in said tank to the boiler-feed supply when the water in the tank reaches a certain level, and connections to the suction of said pump for supplying said pump from the drip-tank or from the boiler-feed supply, substantially as described.

4. In a steam-engine system in which the exhaust-steam from the engine is condensed and the condense-water fed to the boilers, the combination with the engine-piston having one or more annular grooves in its periphery, of a pump and suitable connections for forcing liquid through the piston into said groove or grooves, connections between the suction and force sides of said pump for circulating the liquid to maintain the pressure in said groove or grooves, and an adjustable valve on said circulating connections for regulating the pressure in the piston, substantially as described.

5. The combination with an engine-piston having one or more annular grooves in its periphery, of a pump and suitable connections for forcing liquid into said piston and maintaining liquid under pressure in said groove or grooves, means for cutting off the supply from said pump, and connections between the suction and force sides of said pump for circulating the liquid for maintaining the pressure, substantially as described.

6. The combination with an engine-piston having one or more annular grooves in its periphery, of a pump and suitable connections for forcing liquid into said piston and maintaining liquid under pressure in said groove or grooves, connections between the suction and force sides of said pump for circulating the liquid for maintaining the pressure in the piston, and an adjustable valve on said circulating connections for adjusting the pressure in the piston, substantially as described.

7. The combination with an engine-piston having one or more annular grooves in its periphery, of a pump having force-pipe 17, suitable connections between said force-pipe and piston, suction-pipe 14, circulating-pipe 22 connecting said pipes 14, 17, supply-pipe 16, and means for closing and opening said supply-pipe and circulating connections, substantially as described.

8. The combination with an engine-piston having one or more annular grooves in its periphery, of a pump having force-pipe 17, suitable connections between said force-pipe and piston, suction-pipe 14, circulating-pipe 22 connecting said pipes 14, 17, supply-pipe 16 and means for closing and opening said supply-pipe, and adjustable valve 23 on the circulating connections, substantially as described.

9. The combination with an engine-piston having one or more annular grooves in its periphery, of a pump having force-pipe 17, suitable connections between said force-pipe and piston, suction-pipe 14 and circulating-pipe 22 connecting said pipes 14, 17, supply-pipes 15, 16, and means for closing either or both of said supply-pipes, substantially as described.

10. The combination with an engine-piston having one or more expansible piston-rings provided with annular grooves in their periphery, of an annular liquid-chamber within the piston the outer wall of which is formed by said ring or rings, liquid-passages between said liquid-chamber and said grooves, the total outward pressure on the inner side of the expansible ring or rings from the liquid-chamber being in excess of the total inward pressure on the ring or rings from the liquid-grooves, and springs pressing outward upon said expansible ring or rings, substantially as described.

11. The combination with an engine-piston having one or more expansible piston-rings provided with annular grooves in their periphery, of a liquid-chamber within the piston the outer wall of which is formed by said ring or rings, liquid-passages between said liquid-chamber and said grooves, the total outward pressure on the inner side of the expansible ring or rings from the liquid-chamber being in excess of the total inward pressure on the ring or rings from the liquid-grooves, and means for maintaining liquid in said chamber and grooves under adjustable pressure, substantially as described.

12. The combination with a horizontal engine-piston having an annular liquid-space wider in the lower part of the piston than in the upper part and two expansible piston-rings on opposite sides of said water-space provided with annular grooves, of a liquid chamber or chambers within the piston, the liquid in which acts against the inner sides of the expansible rings, liquid-passages between said liquid-chamber and the grooves and liquid-space, said expansible rings being formed to expose a larger surface to the outward pressure in the liquid-chamber than to the inward pressure in the grooves, and connections between said liquid chamber or chambers and a source of liquid-supply under pressure, substantially as described.

13. A piston having an expansible ring formed of sections provided with inwardly-extending ribs *w* of less width than the face of the ring, a liquid-groove in the periphery of the ring, and a liquid-chamber the outer wall of which is formed by said ribs, substantially as described.

14. A piston having an expansible ring formed of sections provided with inwardly-extending ribs *w*, a liquid-

groove in the periphery of the ring, a liquid-chamber the outer wall of which is formed by said ribs, and divided springs 40 on opposite sides of said ribs, substantially as described.

15. A piston having an expansible ring formed of sections provided with inwardly-extending ribs *w* of less width than the face of the ring, a liquid-groove in the periphery of the ring, a liquid-chamber the outer wall of which is formed by said ribs, and one of more passages connecting the liquid chamber and groove, substantially as described.

16. A piston-ring formed of sections *f* and keepers *g* having liquid-groove *e*, heels 1 on the keepers engaging the inner surfaces on the sections, and tongues 2 on the sections entering grooves in the keepers, substantially as described.

17. A piston-ring formed of sections *f* and keepers *g* having liquid-groove *e*, heels 1 on the keepers engaging the inner surfaces on the sections and tongues 2 on the sections entering grooves in the keepers, and inwardly-projecting ribs *w* on the sections and keepers, substantially as described.

18. A piston-ring formed of sections *f* and keepers *g* having liquid-groove *e*, heels 1 on the keepers engaging the inner surfaces on the sections and tongues 2 on the sections entering grooves in the keepers, inwardly-projecting ribs *w* on the sections and keepers, and divided springs 40 on opposite sides of the ribs *w*, substantially as described.

19. In a direct-acting pump, the combination with the piston and plunger, of a rod having a water-passage therein opening to the water-space in the pump-cylinder, a water-groove in the periphery of the piston, and a water-passage through the piston connecting said groove with the passage in the rod, whereby water is forced into said groove under pressure by movement of the piston and plunger, substantially as described.

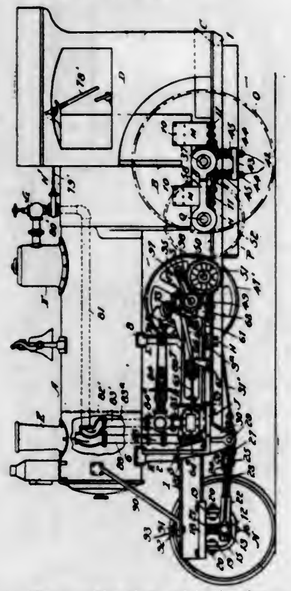
20. In a direct-acting pump the combination with the piston and plunger, of a rod having a water-passage therein opening to the water-space in the pump-cylinder, a water-groove in the periphery of the piston, a water-passage through the piston connecting said groove with the passage in the rod, and a valve opening to force liquid through the passage in the rod as the plunger moves in one direction and acting to close said passage on the return stroke, whereby water is forced into said groove under pressure by the movement of the piston and plunger, substantially as described.

21. The combination with piston U, and plunger B having connecting-rod O provided with water-passage *a'*, of annular water-chamber *c'* in the piston, passage *b'* connecting passage *a'* and the water-chamber, an expansible ring the inner side of which forms the outer wall of the water-chamber *c'* and having a water-groove in its periphery, the surfaces of said ring acted on by the outward pressure in water-chamber *c'* being greater than that acted on by the inward pressure in groove *e'*, substantially as described.

22. The combination with piston U and plunger B having connecting-rod O provided with water-passage *a'*, of annular water-chamber *c'* in the piston, passage *b'* connecting passage *a'* and the water-chamber, an expansible ring the inner side of which forms the outer wall of the water-chamber *c'* and having a water-groove in its periphery, the surface of said ring acted on by the outward pressure in water-chamber *c'* being greater than that acted on by the inward pressure in groove *e'*, and a spring-pressed valve 41 opening to admit liquid under force pressure to the passage *a'* and closing on the return stroke, substantially as described.

23. The combination with piston U and plunger B having connecting-rod O provided with water-passage *a'*, of annular water-chamber *c'* in the piston, passage *b'* connecting passage *a'* and the water-chamber, an expansible ring the inner side of which forms the outer wall of the water-chamber *c'* and having a water-groove in its periphery, the surfaces of said ring acted on by the outward pressure in water-chamber *c'* being greater than that acted on by the inward pressure in groove *e'*, and springs pressing said expansible ring outward, substantially as described.

842,589. TRACTION-ENGINE. WILLIAM N. SPRINGER, Peoria, Ill., assignor to The Avery Manufacturing Company, Peoria, Ill., a Corporation of Illinois. Filed Dec. 21, 1904. Serial No. 237,859.



Claim.—1. The combination, with the frame having the longitudinal side beams, of the longitudinally-arranged central beam I, extending from points under the center point of the boiler to points in front of the boiler and in front of the side beams, the boiler-support secured to the central beam I, the engines arranged at the sides of the beam the crank-shaft in rear of the engines, the rear wheels, and the shafting and gearing interposed between the engines and the driving-wheels, substantially as set forth.

2. The combination of the longitudinal side bars H, the boiler above the side bars, the longitudinally-arranged center beam I in horizontal planes above the planes of the side bars, the cross plates or beams, the boiler-supports rigidly connected to the central longitudinal bar I, the engines at the sides of the central longitudinal bar, the front axle below the front end of the central longitudinal bar, the pivotal connecting devices between the axle and the beam I, and means for turning the axle around the pivotal connecting devices for steering the engine, substantially as set forth.

3. The combination of the boiler, the fire-box, the engineer's platform, the longitudinal beams H at the sides of the engine, the longitudinally-arranged bar I between and above the beams H, the rear driving ground-wheels, the front steering-wheels, the front axle under the front part of the beam I, power-transmitting devices connected to the axle for steering it, means adapted to be operated by hand for actuating the power-transmitting devices, the engines supported on the side beams H independently of the boiler, the crank-shaft on the side beams, and the intermediate shafting and gearing between the crank-shaft and the driving ground-wheels, substantially as set forth.

4. The combination of the main frame having longitudinally-arranged beams H at the sides, the central parallel horizontally-arranged beam I between and above the side beams H, the cross plates or bars secured to the side beams and to the central longitudinal beam, the boiler, the fire-box, and the platform all supported on the frame-bars H, the engines, the crank-shaft and the intermediate shafting and gearing all supported on the frame independently of the boiler, the rear driving ground-wheels, the front wheels, the front axle under the front end of the central horizontal beam I, and adapted to swing horizontally around a vertical pivot and to swing vertically around a horizontal pivot, and power-transmitting devices for moving the said axle around the vertical pivot for steering the engine, substantially as set forth.

5. The combination of the rear driving-wheels, the frame adapted to rise and fall relatively to the said ground-wheels and having the longitudinal side beams H and the central horizontal longitudinally-arranged beam I between and above the beams H, the cross bars or plates connecting the beams H, the bar I being secured to the said cross bars or plates, the standards or brackets supported on the said cross bars or plates and adapted to support the boiler, the engines supported on the frame independently of the boiler, the crank-shaft on the said frame and the shafting and gearing intermediate of the crank-shaft and the rear ground driving-wheels, the front wheels, the front axle arranged to swing horizontally around a vertical hinge which is adapted to swing vertically, and power-transmitting devices adapted to turn the front axle around the vertical hinge for steering the engine, substantially as set forth.

6. The combination of the boiler, the frame, the engine, the rear wheels, the shafting and gearing interposed between the engines and the rear wheels for transmitting power to the latter, the front steering-wheels adapted to be turned to different inclinations to the planes of the driving-wheels, and means for turning the said front wheels, comprising the telescopic rod and sleeve one connected to the front wheels and the other to a carrier movable laterally of the engine, substantially as set forth.

7. In a traction-engine, the combination, with the boiler, the engine, the driving ground-wheels, and the shafting and gearing for transmitting power from the engine to the driving-wheels, of the steering-wheels adapted to be turned to different angles of inclination to the planes of the driving-wheels, and means for turning the steering-wheels to the said inclinations comprising a laterally-movable nut, a threaded shaft for moving the nut, and means connecting the nut to the steering-wheels for turning them comprising a part suitably connected to the steering-wheels and carrying one element of a telescopic connection and a fork pivotally connected to said nut and having pivotally connected to it the other element of said telescopic connection, substantially as set forth.

8. In a traction-engine, the combination, with the boiler, the engine, the driving ground-wheels, and the shafting and gearing interposed between the engine and the ground-wheels, of the steering-wheels adapted to be turned to either of several inclinations to the planes of the driving-wheels, the laterally-movable nut, the threaded shaft, and the telescopically-connected power-transmitting devices interposed between the nut and the steering-wheels, substantially as set forth.

9. In a traction-engine, the combination, with the boiler, the engine, the ground-wheels, and the means for transmitting power from the engine to the ground-wheels, of the steering-wheels adapted to be turned to either of several inclinations to the planes of the ground-wheels the transversely-mounted shaft, the transversely-moving nut actuated by the said shaft, and the telescopically-connected rod and sleeve, one connected to the said nut and the other connected to the said steering-wheels, substantially as set forth.

10. In a traction-engine, the combination, with the boiler, the fire-box, the driving ground-wheels, the engines, and the power-transmitting devices between the engines and the driving-wheels, of the steering-wheels adapted to be moved to either of several inclinations to the planes of the driving-wheels, the telescopically-connected power-transmitting parts for moving the steering-wheels, one of the said parts being connected to a transversely-moving carrier, and means for causing the said carrier to move toward the one side or toward the other side of the engine in order to turn the steering-wheels, substantially as set forth.

11. In a traction-engine, the combination of a frame having longitudinal side beams, a longitudinally-arranged central beam having its front end extending forward beyond the front ends of the said side beams, a steering-axle suitably connected to the front end of said central beam, steering-wheels mounted on said steering-axle, engines secured upon said frame, a boiler supported thereon, traction-wheels mounted near the rear end of said frame, and shafting and gearing interposed between the said engines and the said traction-wheels.

12. In a traction-engine, the combination of a frame having longitudinal side beams and suitable cross bars or plates connecting them together, a longitudinally-arranged central beam secured to said cross bars or plates and having its front end extending forward beyond the front ends of said side beams, steering-wheels suitably connected to the front ends of said central beam, engines secured upon said frame, a boiler supported on the frame, traction-wheels mounted near the rear end of the frame, and shafting and gearing interposed between said engines and said traction-wheels.

13. In a traction-engine, the combination of a frame having longitudinal side beams, a longitudinally-arranged central beam having its front ends extending forward beyond the front ends of said side beams, a steering-axle suitably connected to the front end of said central beam, steering-wheels mounted on said steering-axle, engines arranged at the sides of said central beam, a boiler, a boiler-support for the front end of the boiler resting upon said central beam, traction-wheels near the rear of said framework, and shafting and gearing interposed between said engines and said traction-wheels.

14. In a traction-engine, the combination of a frame having longitudinal side beams, a longitudinally-arranged central beam having its front end extending forward beyond the front ends of said side beams, a steering-axle suitably connected to the front end of said central beam, steering-wheels mounted on said steering-axles, a boiler, supports for the boiler one arranged near the front end thereof and the other arranged near the middle thereof and both resting on said central beam, engines supported on said framework, traction-wheels arranged near the rear end of said framework, and power-transmitting mechanism interposed between said engines and said traction-wheels.

15. In a traction-engine, the combination of a frame having longitudinal side beams, a longitudinally-arranged central beam with its front end extending forward beyond the front ends of said side beams, steering-wheels suitably connected to the front end of said central beam, a boiler, a support for the front end of said boiler comprising a central vertical standard resting at its base upon said central beam and having outwardly-diverging legs with feet resting upon the adjacent side beams near their front ends, engines arranged upon said frame, traction-wheels mounted near the rear end of said frame, and power-transmitting mechanism interposed between said engines and said traction-wheels.

16. In a traction-engine, the combination of a frame having longitudinal side beams, a longitudinally-arranged central I-beam with its front end extending beyond the front ends of said beams, steering-wheels suitably connected to the front ends of said central beams, a boiler, a support for the boiler arranged near the center thereof and having a saddle adapted to receive the boiler, and a central vertical standard resting at its base upon said central beam, engines arranged upon said framework, traction-wheels mounted near the rear end of said framework, and power-transmitting mechanism interposed between said engines and said traction-wheels.

17. In a traction-engine, the combination of a frame having longitudinal side beams, a longitudinally-arranged central beam having its front end extending forward beyond the front ends of said side beam, steering-wheels suitably connected to the front ends of said central beam, a boiler, a support for the front end of said boiler comprising a central vertical standard resting at its base upon said central beam and having outwardly-diverging legs with feet resting upon the adjacent side beams near their front ends, a support for the central part of said boiler having a saddle adapted to receive the boiler and a central

vertical standard resting at its base upon said central beam, engines arranged upon said frame, traction-wheels mounted near the rear end of said frame, and power-transmitting mechanism interposed between said engines and said traction-wheels.

18. In a traction-engine, the combination of a framework, a hanger pivotally connected to the front end of said framework to swing about a horizontal axis, a steering-axle pivotally connected to said hanger to swing about a vertical axis, a spring interposed between said axle and the adjacent part of the framework to which the said hanger is connected, steering-wheels carried by said axle, a boiler and an engine arranged on said framework, traction-wheels mounted near the rear end of said framework, power-transmitting mechanism interposed between said engine and said traction-wheels, and means for turning the said steering-axle around the said vertical axis.

19. In a traction-engine, the combination of a framework, a U-shaped hanger having its ends pivotally connected to the front end of said framework to swing about a horizontal axis, a steering-axle resting near its center upon said hanger and pivotally connected thereto to swing about a vertical axis, a spring interposed between said axle and the adjacent part of the framework to which the said hanger is connected, steering-wheels carried by said axle, a boiler and an engine arranged on said framework, traction-wheels mounted near the rear end of said framework, power-transmitting mechanism interposed between said engine and said traction-wheel, and means for turning said steering-axle around the said vertical axis.

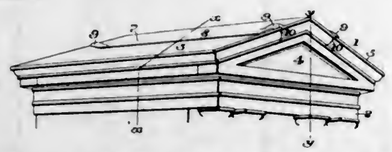
20. In a traction-engine, the combination of a framework, a U-shaped hanger having its ends pivotally connected to the front end of said framework to swing about a horizontal axis, a sleeve resting upon said hanger and pivotally connected thereto to swing about a vertical axis, a spring interposed between said sleeve and the adjacent part of the framework to which the said hanger is connected, a steering-axle carried by said sleeve, steering-wheels mounted on said axle, a boiler and an engine arranged on said framework, traction-wheels mounted near the rear end of said framework, power-transmitting mechanism interposed between said engine and said traction-wheels, and means for turning the said steering-axle around the vertical axis of said sleeve.

21. In a traction-engine, the combination with a frame, a boiler and an engine secured thereon, traction-wheels mounted near the rear end thereof, and power-transmitting mechanism interposed between said engine and said traction-wheels, of a vertically rising and falling plate arranged beneath the front end of said framework, springs interposed between said plate and said framework, a swivel-block connected to said plate to swing about a vertical axis, a U-shaped hanger having its ends pivotally connected to said vertically-movable block to swing about a horizontal axis, a steering-axle pivotally connected to said swivel-block to swing about the same horizontal axis, and pivotally connected to said hanger to swing about the vertical axis of said swivel-block, steering-wheels carried by said steering-axle, and means for turning the said axle around the said vertical axis.

22. In a traction-engine, the combination with a frame, a boiler and an engine secured thereon, traction-wheels mounted near the rear end thereof, and power-transmitting mechanism interposed between said engine and said traction-wheels, of a vertically rising and falling plate arranged beneath the front end of said framework and guided in its movements by guides extending downwardly from said framework, springs interposed between said plate and said framework, a swivel-block connected to said plate to swing about a vertical axis and having its upper end guided by the walls of a socket depending from said framework, a U-shaped hanger having its ends pivotally connected to said vertically-movable block to swing about a horizontal axis, a steering-wheel pivotally connected to said swivel-block to swing about the same horizontal axis, and pivotally connected to said hanger to swing about the vertical axis of said swivel-block, steering-wheels carried by said steering-axle, and means for turning said axle around said vertical axis.

23. In a traction-engine, the combination with a frame, a boiler and an engine secured thereon, traction-wheels mounted near the rear end thereof, and power-transmitting mechanism interposed between said engine and said traction-wheels, of a vertically rising and falling plate arranged beneath the front end of said framework, springs interposed between said plate and said framework, a steering-axle connected to said plate to swing both around a vertical axis and around a horizontal axis, and means for turning said axle around said vertical axis.

842,590. ROOF FOR MAUSOLEUMS, TOMBS, VAULTS, &c. CHARLES E. TAYNTOR, Brooklyn, N. Y., assignor to C. E. Tayntor Granite Company, Hallowell, Me., a Corporation of Maine. Filed July 14, 1906. Serial No. 326,284.



Claim.—1. A roof for mausoleums, vaults and the like comprising pediments, side roof-stones, an upwardly-extending seat adjacent the outer top portion of said side roof-stones, a depressed gutter in each of said side roof-stones in their upper surfaces, a central roof-stone and lips along its opposite side edges resting upon said seats and overhanging said gutters and situated within the plane of the upper surface of said roof-stones and presenting a straight vision-line.

2. A roof for mausoleums, vaults and the like, comprising pediments, side roof-stones, each having a depressed gutter extending longitudinally thereof near its outer top portion, a central roof-stone having lips along its opposite side edges, said lips adapted to overhang said gutters and situated within the plane of the upper surface of said roof-stones and presenting a straight vision-line.

3. A roof for mausoleums, vaults and the like, comprising pediments, side roof-stones, an upwardly-extending seat adjacent the outer top portion of said side roof-stones, a gutter extending longitudinally of said roof-stones, a central roof-stone, lips projecting along its opposite side edges overhanging said gutters and situated within the plane of the upper surface of said roof-stones and disappearing swells adjacent the outer ends of said lips.

4. A roof for mausoleums, vaults and the like, comprising pediments, side roof-stones, each having a depressed gutter extending longitudinally thereof near its outer top portion, a central roof-stone having lips along its opposite side edges, said lips overhanging said gutters and being within the plane of the upper surface of the roof-stones and disappearing swells adjacent the ends of said lips.

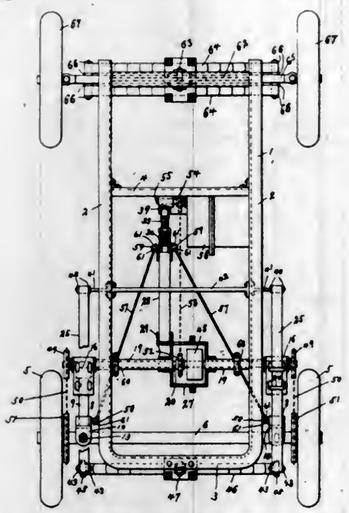
5. A roof for mausoleums, vaults and the like comprising pediments, side roof-stones, an upwardly-extending seat adjacent the outer top portion of said side roof-stones, a central roof-stone and lips along its opposite side edges resting upon and overhanging said seats and situated within the plane of the upper surface of said roof-stones and presenting a straight vision-line, and disappearing swells above the planes of said lips.

6. A roof for mausoleums, vaults and the like, comprising pediments, side roof-stones, each having a gutter extending longitudinally thereof near its outer top portion, a central roof-stone having lips along its opposite side edges, said lips adapted to overhang said gutters and situated within the plane of the upper surface of said roof-stones and presenting a straight vision-line, said gutters being extended beyond the lips.

7. A roof for mausoleums, vaults and the like, comprising pediments, side roof-stones, an upwardly-extending seat adjacent the outer top portion of said side roof-stones, a gutter extending longitudinally of said roof-stones, a central roof-stone, lips projecting along its opposite side edges overhanging said gutters and situated within the plane of the upper surface of said roof-stones and disappearing swells curved away in all directions adjacent the outer ends of said lips.

8. A roof for mausoleums, vaults and the like, comprising pediments, side roof-stones, each having a gutter extending longitudinally thereof near its outer top portion, a central roof-stone having lips along its opposite side edges, said lips overhanging said gutters and being within the plane of the upper surface of the roof-stones and disappearing swells curved away in all directions adjacent the ends of said lips.

842,591. AUTOMOBILE. RALPH P. THOMPSON and EMIL KOEB, Springfield, Ohio. Filed Oct. 16, 1905. Serial No. 282,891.



Claim.—1. In an automobile, the combination, with a main frame, of a supplemental frame located beneath the rear portion thereof and pivotally connected thereto at its forward end so that its rear end may move vertically, a rear axle provided with ground-wheels and connected to said supplemental frame at the rear end thereof, and a spring connected at its ends with the main frame and at an intermediate point with the supplemental frame, substantially as described.

2. In an automobile, the combination, with a main frame, of a supplemental frame located beneath the rear portion thereof and pivotally connected thereto at its forward end so that its rear end may move vertically, a rear axle provided with ground-wheels and connected to said supplemental frame at the rear end thereof, and a spring interposed between said supplemental frame and main frame, said spring being connected at a point between its ends to the supplemental frame and having its opposite ends connected with the main frame, substantially as described.

3. In an automobile, the combination, with a main frame, of a supplemental frame located beneath the rear portion thereof and pivotally connected thereto at its forward end so that its rear end may move vertically, a rear axle provided with ground-wheels and connected to said supplemental frame at its rear end, and springs interposed between said supplemental and main frames and connected at points between their ends to the supplemental frame and connected at their opposite ends with the main frame, substantially as described.

4. In an automobile, the combination, with a main frame, of a supplemental frame located beneath the rear portion thereof and pivoted thereto at its forward end so that its rear end may move vertically, a rear axle provided with ground-wheels and connected to the supplemental frame at its rear end, longitudinally-extending springs connected between their ends to points on the supplemental frame between the rear axle and the front end of said supplemental frame, said springs having their front ends connected to the main frame, and a transverse spring connected between its ends to the rear of the main frame and having its ends connected to the rear ends of the longitudinal springs, substantially as described.

5. In an automobile, the combination, with a main frame, of a supplemental frame located beneath the rear portion thereof and pivotally connected thereto at its forward end so as to be capable of vertical movement at its rear end and also capable of rocking laterally around a longitudinal axis, a rear axle provided with ground-wheels and connected to said supplemental frame at the rear end thereof, and a spring connected at its opposite ends with the main frame and at an intermediate point with the supplemental frame, substantially as described.

6. In an automobile, the combination, with a main frame, of a supplemental frame located beneath the rear portion thereof and pivotally connected thereto at its forward end so as to be capable of vertical movement at its rear end and also capable of rocking laterally around a longitudinal axis, a rear axle provided with ground-wheels and connected to said supplemental frame at the rear end thereof, and longitudinally-extending springs supporting the main frame and connected to the supplemental frame, substantially as described.

7. In an automobile, the combination, with a main frame, of a supplemental frame located beneath the rear portion thereof and pivotally connected thereto at its front end so as to be capable of vertical movement at its rear end and also capable of rocking laterally around a longitudinal axis, a rear axle provided with ground-wheels and connected to said supplemental frame at the rear end thereof, longitudinally-extending springs connected between their ends to said supplemental frame at points between the rear axle and front end of said supplemental frame, said springs having their front ends connected to the main frame, and a transverse spring connected to the rear end of the main frame and having its ends connected to the rear ends of the longitudinal springs, substantially as described.

8. In an automobile, the combination, with a main frame, of a supplemental frame located beneath the rear portion thereof and pivotally connected thereto at its front end so as to be capable of vertical movement at its rear end and also capable of rocking laterally around a longitudinal axis, a rear axle provided with ground-wheels and connected to said supplemental frame at the rear end thereof, longitudinally-extending springs connected between their ends to said supplemental frame, said springs having their front ends connected to the main frame, and a transverse spring connected to the rear end of the main frame and having its ends connected to the rear ends of the longitudinal springs, the connection between said transverse spring and main frame being a pivotal one around a longitudinal axis, substantially as described.

9. In an automobile, the combination, with a main frame, of a supplemental frame located beneath the rear portion thereof and pivotally connected thereto at its forward end, a rear axle provided with ground-wheels and connected to the rear end of said supplemental frame, springs interposed between said supplemental and main frames, a counter-shaft mounted on said supplemental frame, a driving-shaft on the main frame, and driving connections between said driving-shaft, counter-shaft and ground-wheels, substantially as described.

10. In an automobile, the combination, with a main frame, of a supplemental frame located beneath the rear portion thereof and pivotally connected thereto at its forward end so as to be capable of vertical and laterally rocking movements, a rear axle provided with ground-wheels and connected to the rear end of said supplemental frame, springs interposed between said supplemental and main frames, a counter-shaft mounted on said supplemental frame, a driving-shaft on the main frame, and driving connections between said driving-shaft, counter-shaft and ground-wheels, substantially as described.

11. In an automobile structure of the character described, the combination, with a main frame, and a rear axle having ground-wheels, of a supplemental frame located beneath the rear portion of the main frame, and springs interposed between said frames, said supplemental frame comprising a transverse member, a longitudinal member extending forward from said transverse member and bearing on the main frame, and two longitudinal members extending rearwardly from the transverse member and connected to the axle at their rear ends, substantially as described.

12. In an automobile, the combination, with a main frame, a supplemental frame located beneath the rear portion thereof, and springs interposed between said frames, said supplemental frame comprising a transverse member consisting of a counter-shaft bearing-sleeve and a casing for the counter-shaft gearing, a forwardly-extending member of adjustable length having a bearing on the main frame, rearwardly-extending members, an axle mounted in said rearwardly-extending members and provided with ground-wheels, means for adjusting the relations between said axle and transverse member, a driving-shaft on the main frame, and a counter-shaft mounted in the bearing-sleeve, the driving-shaft, counter-shaft and ground-wheels being provided with sprocket-wheels, and sprocket-chains connecting the same, substantially as described.

13. In an automobile structure of the character described, a supplemental frame comprising a transverse member consisting of a bearing-sleeve and gear-casing provided with a socket, a forwardly-extending member mounted in said socket, rearwardly-extending members connected to the ends of said sleeve and adapted to receive the rear axle at their rear ends, truss-rods connecting the rear ends of said rearwardly-extending members and the front end of the forwardly-extending member, and struts extending downward from the transverse member and bearing on said truss-rods, substantially as described.

14. In an automobile structure of the character described, the combination, with a main frame having a bearing-socket, of a supplemental frame located beneath the main frame, and springs interposed between said frames, said supplemental frame being provided at its forward end with a sleeve, and a thrust-post adjustable longitudinally in said sleeve and having its forward end rounded to fit the bearing-socket of the main frame and pivot axially and vertically therein, substantially as described.

15. In an automobile structure of the character described, an axle provided with ground-wheels and having its end portions vertically offset and its central portion depressed, in combination with a frame carrying said axle, said frame being provided with flanges embracing the axle above and below its offset portions, and securing-bolts passing through said offset portions, substantially as described.

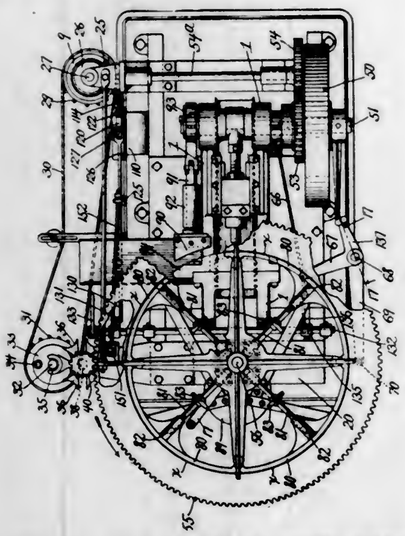
16. In an automobile, the combination, with a main frame, and front and rear axles beneath said frame and separate therefrom and provided with ground-wheels, of front and rear transversely-arranged springs supporting said main frame upon said axles and connected to said main frame by longitudinal pivots, substantially as described.

17. In an automobile, the combination, with a main frame, and front and rear axles beneath said frame and separate therefrom and provided with ground-wheels, of front and rear transversely-arranged springs supporting said main frame upon said axles and connected to said main frame by longitudinal pivots, said pivots being alined, substantially as described.

18. In an automobile, the combination, with a main frame, and front and rear axles provided with ground-wheels, of a transversely-arranged spring connected to the front axle and pivotally connected to the front of the main frame by a longitudinal pivot, a transversely-arranged rear spring connected to the rear of the main frame by a longitudinally-arranged pivot, and longitudinally-arranged springs having their rear ends connected to the rear transverse spring, their front ends connected to the main frame, and a supplemental frame connecting their intermediate portions with the rear axle, substantially as described.

19. In an automobile, the combination, with a main frame, and front and rear axles provided with ground-wheels, of a transversely-arranged spring connected to the front axle and pivotally connected to the front of the main frame by a longitudinal pivot, a transversely-arranged rear spring connected to the rear of the main frame by a longitudinally-arranged pivot, and longitudinally-arranged springs having their rear ends connected to the rear transverse spring, their front ends connected to the main frame, and a supplemental frame connecting their intermediate portions with the rear axle, the pivotal axes of said front and rear transverse springs being in alinement, substantially as described.

842,592. MACHINE FOR CUTTING BLANKS STAGGERING. EMIL TYDEN, Hastings, Mich. Filed May 25, 1906. Serial No. 318,630.



Claim.—1. In a machine for the purpose indicated, in combination with a die-press, a carrier for the sheets to be punched comprising means for holding the sheets in the form of a hollow cylinder and for rotating such cylinder between the punch and the die with step-by-step movement.

2. In a machine for the purpose indicated, in combination with a die-press, a carrier for the sheets to be punched comprising means for holding the sheets sprung into cylindrical shape and for carrying them in corresponding cylindrical path between the punch and die, and means for moving them axially with respect to such cylindrical path.

3. In a machine for the purpose indicated, in combination with a die-press, a rotary carrier for the sheets to be punched comprising a gear-wheel; means for clamping the sheets thereto interiorly with respect to its gear-rim; means for rotating such carrier with step-by-step movement corresponding to the strokes of the press, and means for advancing the carrier axially a determined distance for each rotation.

4. In a machine for the purpose indicated, in combination with a die-press, a carrier for the sheets to be punched provided with means for holding the sheets sprung into cylindrical form; means for rotating the carrier to carry the sheets thus sprung in a corresponding cylindrical path between the punch and die; means for giving the carrier a determined axial movement in each rotation, and means for supplementing the regular atep-by-step rotative movement of the carrier with one half-step movement in each revolution.

5. In a machine for the purpose indicated, in combination with a die-press, a carrier for the sheets to be punched

provided with means for holding the sheets sprung into cylindrical form; means for rotating the carrier to carry the sheets thus sprung in a corresponding cylindrical path between the punch and die; means for giving the carrier a determined axial movement in each rotation, and means for supplementing the full step-by-step rotative movement of the carrier with one half-step movement in each revolution and for causing said half-step movement to be in opposite directions in the alternate revolutions of the carrier.

6. In a machine for the purpose indicated, in combination with a die-press, a carrier for the sheets to be punched provided with means for holding the sheets thereto sprung or bent into cylindrical form; means for rotating the carrier to carry the sheets in corresponding cylindrical path between the punch and the die; means for giving the carrier axial movement simultaneously with its rotative movement to cause the successive registrations of the sheet with the die to stand in a spiral path on the sheet, and means for giving the carrier one half-step independent of the full steps in each revolution.

7. In a machine for the purpose indicated, in combination with a die-press, means for carrying the sheets in an endless circuit between the punch and the die with step-by-step movements corresponding to the strokes of the press, and means for giving them one half-step independent of the full steps in each complete circuit.

8. In a machine for the purpose indicated, in combination with a die-press, means for carrying the sheets to be cut in a cylindrical path between the punch and the die with step-by-step movements corresponding to the strokes of the press, and means for independently giving the sheets one half-step in each complete circuit.

9. In a machine for the purpose indicated, in combination with a die-press, means for carrying the sheets to be punched in an endless circuit between the punch and the die; means for giving the sheets step-by-step movement in such circuit; means for causing the press to skip a stroke at the proximate edges of the successive sheets of the circuit, and means for moving the sheets in the circuit-path once in each full circuit a distance equal to a half-step independently of the full-step movements.

10. In a machine for the purpose indicated, in combination with a die-press, means for mounting and carrying the sheets to be punched with step-by-step movement corresponding to the strokes of the press in an endless path encompassing the die and passing between the same and the punch; means for advancing the sheets edgewise transversely to such path a determined distance for each circuit, and means for cutting away and discharging the waste as the sheets move in such path.

11. In a machine for the purpose indicated, in combination with a die-press, means for mounting and carrying the sheets to be punched in an endless path encompassing the die and transverse to the direction of the stroke of the press; means for moving the sheets edgewise transverse to their path of movement around the die a determined distance for each complete circuit about the die; means for intermitting the stroke of the press at the edges of the sheets, and means for cutting away and discharging the waste.

12. In a machine for the purpose indicated, in combination with a die-press, a carrier in which the sheets to be punched are mounted in an endless circuit encompassing the die transverse to the stroke of the press; means for operating the carrier to carry the blanks in such die-encompassing path; means for causing the press to skip a stroke at the lines at which the edges of the sheets pass the die; means for giving the carrier a half-step movement once in each complete circuit and for reversing the direction of such half-step at alternate circuits.

13. In a machine for the purpose indicated, a die-press; a rotative sheet-carrier; an intermittent stop and drive mechanism for rotating the carrier and stopping it at the working stroke of the press; a clutch in the carrier-rotating train, and means for disengaging the clutch to interrupt the rotation at will.

14. In a machine for the purpose indicated, a die-press; a rotative sheet-carrier; mechanism for rotating the sheet-carrier with step-by-step movement corresponding to the strokes of the press; a clutch in the carrier-operating train adapted to be disengaged at a point corresponding to the rest interval in the step-by-step movement of the carrier; means for tripping the clutch, and means for operating the clutch-tripping devices at will.

15. In a machine for the purpose indicated, a die-press; a rotative sheet-carrier; mechanism for operating the sheet-carrier with step-by-step movement; means for giving the carrier axial movement; a clutch in the carrier-operating train adapted to be disengaged at a point corresponding to the rest intervals of the step movement of the carrier; means for tripping the clutch for disengagement; means for operating the tripping means, and an abutment on the carrier in position to encounter and actuate the operating means at the limit of a predetermined axial movement of the carrier.

16. In a machine for the purpose indicated, a die-press; a rotative sheet-carrier; a train for operating it with a step-by-step movement; a clutch in the train adapted to be disengaged at a point corresponding to the rest interval of the step movement of the carrier; spring-actuated means for tripping the clutch for disengagement; a catch for locking said means out of tripping position, and means for releasing the catch adapted to be operated at will.

17. In a machine for the purpose indicated, a die-press; a rotative sheet-carrier; a train by which it is rotated with step-by-step movement; means for giving the carrier axial movement during its step-by-step movement; a clutch in said train adapted to be disengaged at a point corresponding to the rest intervals of the step-by-step movement of the carrier; spring-actuated means for tripping the clutch for its disengagement; a catch for locking said spring-actuated means out of tripping position; means for releasing the catch; an abutment on the carrier in position to encounter and actuate said catch-releasing means after a predetermined axial and rotative movement of the carrier.

18. In a machine for the purpose indicated, in combination with a die-press, a rotative sheet-carrier; a train for giving it rotative movement; said train comprising a driving and a driven shaft and means for clutching them together for operating as one, said clutching means comprising a pivoted dog carried by the driving-shaft and provided with an operating lever-arm; a collar on the driven shaft having an abutment in the path of rotation of the dog; a cam mounted for adjustment longitudinally with respect to the shaft, said cam having an upraise which stands in the path of the lever-arm of the dog when the cam is adjusted longitudinally of the shaft toward the dog, and means for so adjusting the cam.

19. In a machine for the purpose indicated, in combination with a die-press, a rotative sheet-carrier; a train for giving it step-by-step rotative movement, said train comprising a driving and a driven shaft adapted to be coupled together for rotation as one; a clutch device for so coupling them comprising a pivoted dog provided with a lever-arm mounted upon the driving-shaft; a collar mounted on the driven shaft having an abutment adapted for driving engagement with the dog; a cam mounted for movement longitudinally with the shaft having an upraise in the path of the lever-arm of the dog for lifting the dog out of engagement with the abutment at a point corresponding to the rest intervals in the step-by-step movement of the carrier, and means for moving the cam longitudinally with respect to the shaft.

20. In a machine for the purpose indicated, in combination with a die-press, a rotative sheet-carrier; a train for giving it step-by-step rotative movement comprising a driving and a driven shaft adapted to be coupled together for rotation as one; a clutch device for so coupling them comprising a dog carried by the driving-shaft, an abutment carried by the driven shaft and a cam mounted for movement parallel with the shafts having an upraise for disengaging the dog from the abutment; spring-actuated connections for operating the cam; a catch for engaging such connections for locking the cam out of dog-tripping position; spring-actuated means for tripping the press out of action; a cam-wheel rotating with the carrier and connections from the press-tripping devices coöperating

with said cam-wheel for holding the press in action; releasably-connected elements in said connections; means for releasing them operated by the means for releasing the clutch-tripping cam connections to cause the press to be tripped out of action when the carrier-train clutch is tripped.

21. In a machine for the purpose indicated, a die-press; a rotative sheet-carrier; a train which gives said carrier step-by-step rotative movement; die-press-tripping devices; a cam rotated with the carrier; a lever having an abutment resting on the cam and connections therefrom to the press-tripping devices, said connections comprising two disengageably-connected parts and a locking device for connecting them; a clutch in the carrier-operating train; means for tripping the clutch for its disengagement to interrupt the movement of the carrier, and connections from said tripping means to the said locking device for operating the latter to disengage the parts which it connects to permit the press to be tripped out of action when the clutch in the carrier-driving train is tripped.

22. In a machine for the purpose indicated, in combination with a die-press, a gear by which the sheets are rotatively carried; a driving and a driven shaft and means connecting them for rotation together; a pinion on the driven shaft for actuating the sheet-carrying gear; an element actuated in an endless path by the driving-shaft; a device on said element which once in each rotation of the sheet-carrying wheel encounters the connections of the driven shaft for rotating the latter a distance corresponding to a half-step of the carrying-wheel independently of the direct actuation of said driven shaft by the driving-shaft.

23. In a machine for the purpose indicated, in combination with a die-press, a gear on which the sheets are mounted in circumferential succession for being rotatively carried; a press-tripping device which at normal position holds the press out of action; a cam-wheel and connections cooperating therewith extending to the press-trip devices for holding the latter out of normal position for permitting the press to act, said cam-wheel having recesses which permit the press-trip to resume normal position for interrupting the action of the press, said recesses being located at positions corresponding to the proximate edges of successive sheets on the carrying device, or the intervals between them, for interrupting the strokes of the press while said edges pass the die.

24. In a machine for the purpose indicated, in combination with a die-press having a tripping device normally in position for causing the press to be inactive, a carrier for the sheets to be punched on which the sheets are mounted successively in circular order, edge toward edge; operating connections for the trip devices and a cam-wheel rotating with the carrier and controlling said operating devices, the cam on said wheel having recesses for permitting the trip device to take normal position for interrupting the action of the press, located at positions corresponding to the proximate edges of the successive sheets or the intervals between them on the carrier, and means for giving said carrier step-by-step rotation, with rest intervals at the operative strokes of the press.

25. In a machine for the purpose indicated, in combination with a die-press, a gear by which the sheets are rotatively carried; a driving and a driven shaft and means connecting them for rotation together; a pinion on the driven shaft for actuating the sheet-carrying gear; a second gear coaxial with the sheet-carrying gear, and means by which the driving-shaft rotates said second gear; an abutment on said second gear which encounters the connections between the driving and driven shafts once in each rotation of said gear for rotating the driven shaft a distance corresponding to a half-step of the carrying-wheel independently of the direct actuation of the driven shaft by the driving-shaft, and means by which alternate encounters of said abutment actuate said driven shaft in opposite directions.

26. In a machine for the purpose indicated, in combination with a die-press, a gear by which the sheets are rotatively carried past the die; a driving and a driven shaft and means for connecting them for rotation together consisting of two lever-arms fast on the shafts respectively; a gear mounted on one of the arms having a crank-wrist rotated by it, the other arm having a slot engaged with the crank-wrist; a pinion on the driven shaft for actuating the sheet-carrying gear; a second gear on the lever-arm meshing with the first-mentioned gear thereon; an element actuated in an endless path by the driving-shaft; a device on said element which once in each rotation of the sheet-carrying wheel actuates said second gear through a sufficient angle to rotate the first gear one hundred and eighty degrees for oscillating the slotted lever-arm alternately in opposite directions at alternate encounters of said device, the angular movement of the slotted arm and its shaft in such oscillation being the amount necessary to actuate the carrying-wheel one half-step.

27. In a machine for the purpose indicated, a die-press; a sheet-carrier; means for rotating it and means for giving it axial movement; a disengageable clutch in the carrier-operating train; means for operating the clutch for disengagement of the train from the carrier; and an abutment on the carrier in position to encounter and actuate the clutch-operating means at a predetrmined limit in the axial movement of the carrier.

28. In a machine for the purpose indicated, a die-press; a sheet-carrier; a train for rotating it; a disengageable clutch in the train; spring-actuated means for tripping the clutch for disengagement; a catch for locking said tripping means out of tripping position, and means for releasing the catch.

29. In a machine for the purpose indicated, a die-press; a sheet-carrier; a train for rotating it and for giving it axial movement; a disengageable clutch in the train; spring-actuated means for tripping the clutch for its disengagement; a catch for locking said means out of tripping position; means for operating the catch for release, and an abutment on the rotating carrier which encounters said catch-operating means at a predetermined point in the axial and rotative movement of the carrier.

30. In a machine for the purpose indicated, a carrier for the sheets to be punched comprising a spoked gear within which they are mounted between the spokes; means for securing the sheets to the gear consisting of segmental clamps located between the spokes and means for advancing them radially from the axis toward the rim.

31. In a machine for the purpose indicated, a carrier for the sheets to be punched comprising means for holding the sheets in the form of a hollow cylinder consisting of a gear against the inner side of whose rim the sheets are clamped and a spiral gage mounted upon the shaft-bearing of such gear for adjusting the edge of the sheets in a spiral position.

32. In a machine for the purpose indicated, in combination with the sheet-carrier comprising a gear to which the sheets are clamped, an annular spiral gage for the edges of the sheets having a stem; a bearing for said stem mounted at the side of the shaft-bearing of the gear, and means for thrusting the stem through its bearing for forcing the gage against the edge of the sheets to adjust the latter.

33. In a machine for the purpose indicated, in combination with the die-press, a rotary carrier for the sheets to be punched provided with means for holding the sheets sprung into cylindrical form, such carrier comprising a gear within which the sheets are thus held; a long pinion for actuating the gear; a threaded shaft on which said gear is mounted; a sleeve in which said shaft telescopes, and a divided nut mounted at the end of the sleeve, and means for opening and closing the nut.

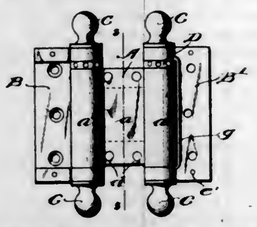
34. In a machine for the purpose indicated, in combination with the die-press, a carrier for the sheets to be punched comprising means for holding them in the form of a hollow cylinder and for rotating such cylinder between the punch and the die with a step-by-step movement; means for causing the press to skip a stroke at the edges of the sheets, consisting of a wheel rotated with the carrier having a flange, 71, provided with the recesses, 72, at intervals corresponding to the distance between the corresponding edges of consecutive sheets, a lever, 69, bearing on said flange and adapted to retreat into said recesses, and press-tripping devices connected with such lever.

35. In a machine for the purpose indicated, in combination with the die-press, a carrier for the sheets to be punched comprising means for holding the sheets sprung into cylindrical shape and for carrying them in a corresponding cylindrical path between the punch and die; means for moving them axially with respect to such path consisting of a threaded shaft for the carrier, a sleeve in which such shaft telescopes, a nut mounted on the sleeve and a long pinion actuating the gear.

36. In a machine for the purpose indicated, in combination with the die-press, means for carrying the sheets to be cut in a cylindrical path between the punch and the die with step-by-step movements corresponding to the strokes of the press; means for independently giving the sheets an additional movement periodically in their cylindrical travel consisting of the combination with the divided shaft, 37 38, for communicating rotary movement to the carrier, of means for connecting the two parts of such shaft consisting of a gear-train mounted on the driving member of said shaft for rotation therewith about its axis, the initial wheel of such train being a star-wheel and the final wheel having an eccentric abutment or crank; an element mounted on the driven member of said shaft engaged by said abutment; a wheel rotating with the carrier, and an abutment thereon mounted at position corresponding to the point in the rotation of the latter at which such periodic additional movement is to be caused, said abutment engaging the star-wheel.

37. In a machine for the purpose indicated, in combination with the die-press and means for carrying the sheets to be cut in a cylindrical path between the punch and the die with step-by-step movement corresponding to the strokes of the press, means for independently giving the sheets one half-step movement in each complete circuit, alternately in opposite directions, consisting of the combination with the divided shaft, 37 38, which communicates rotary motion to the carrier, of means for connecting the two members comprising a bracket on one of them and a gear-train mounted on such bracket, the first wheel of the gear-train being a star-wheel and the final wheel having a crank-wrist; a slotted arm on the other member with which the crank-wrist engages and a wheel rotating with the carrier having an abutment which engages the star-wheeel.

842,593. SPRING-HINGE. HARRY J. VALENTINE, Boston, Mass., assignor to The Columbia Hardware Company, Cleveland, Ohio, a Corporation of Ohio. Filed Aug. 30, 1905. Serial No. 276,415.

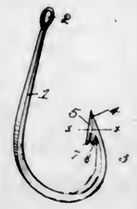


Claim.—1. In a spring-hinge, an intermediate member provided with sleeves, said member being hollow from sleeve to sleeve, and means for closing the hollow portion of the intermediate member between the ends of the sleeves, substantially for the purposes set forth.

2. A spring-hinge provided with an intermediate member composed of an outer or cover portion for receiving the finish, and two transverse filling-pieces respectively at the upper and lower ends of the intermediate member spaced a suitable distance apart to form a hollow member, substantially for the purposes set forth.

3. A blank for a hinge-leaf, comprising a body portion and spaced parallel strips extending from the same, for substantially the purposes set forth.

842,594. FISH-HOOK. GEORGE H. VAN VLECK and LOUIS C. VAN VLECK, Toledo, Ohio. Filed Oct. 1, 1906. Serial No. 336,845.

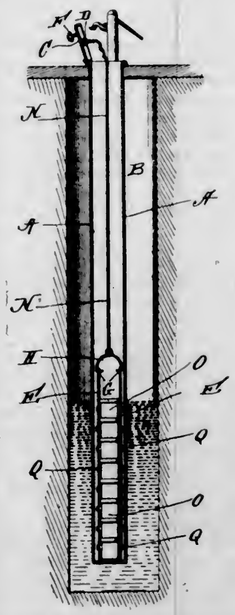


Claim.—1. A fish-hook provided with a long, narrow and gradually-tapered point, one side of which terminates in a forked barb and having a notch 8 which spaces the barbs from the bill.

2. A fish-hook having a point terminating in a forked barb on the outer side of the bill, the barbs being spaced from the bill by a common notch provided in the bill at the base of the point.

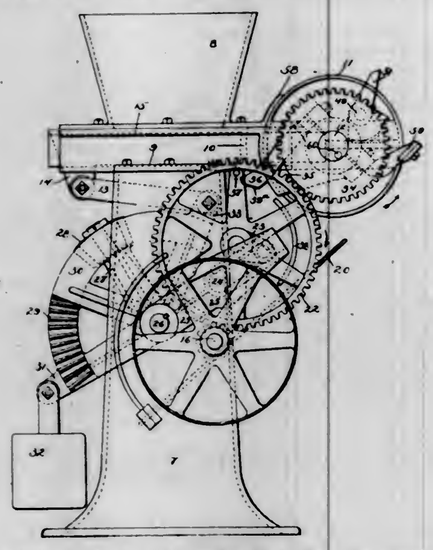
3. A fish-hook having a point triangular in cross-section, said point having one flat side which terminates in a forked barb.

842,595. COOLING APPARATUS. HARVEY J. VASCONCELLES, Jacksonville, Ill. Filed June 9, 1906. Serial No. 321,051.



Claim.—A cooling apparatus comprising a yoke, a series of superimposed receptacles, each having straps fixed to the ends thereof through which the upright portions of said yoke pass, a cover to each of said receptacles in contact with the inner faces of the upright portions of the yoke, the lower of said receptacles adapted to rest upon the transverse portion of the yoke and held by said yoke centrally underneath the series of receptacles, and a bail formed of a single piece of wire bent to form an eye and having hooked ends adapted to engage apertures in the end of said yoke, whereby the upright portions of the yoke may frictionally engage and hold the various covers on the receptacles, as set forth.

842,596. DOUGH-DIVIDING MACHINE. PAUL S. WARD, Covington, Ky., assignor to The Superior Tool and Supply Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Nov. 8, 1906. Serial No. 342,560.



Claim.—1. In a dough-dividing machine, the combination, with a measuring-receptacle, a plunger to feed the dough to the receptacle, and a weight, of power-driven mechanism for actuating the plunger and for raising the weight, and a compensating gear interposed between the driving mechanism and the plunger, and the weight, whereby the pressure of the weight may be maintained uniform on the plunger during the full stroke of the driving mechanism.

2. In a dough-dividing machine, the combination, with a measuring-receptacle, a plunger to feed the dough to the receptacle, and a weight, of a power-driven rock-shaft with connecting mechanism for actuating the plunger and for raising the weight, and a compensating gear interposed between the rock-shaft and the plunger, and the weight, whereby the pressure of the weight may be maintained uniform on the plunger during the full stroke of the rock-shaft.

3. In a dough-dividing machine, the combination, with a measuring-receptacle, a plunger to feed the dough to the receptacle, and a weight, of a power-driven rock-shaft, with lever keyed thereto, and a compensating gear interposed between said lever and the plunger on the one part, and the weight on the other part, whereby the pressure of the weight may be maintained uniform on the plunger during the full stroke of the lever.

4. In a dough-dividing machine, the combination, with a measuring-receptacle, a plunger to feed the dough to the receptacle, and a weight, of a power-driven rock-shaft with lever keyed thereto, a pinion mounted on said lever, and a pair of gears meshing with said pinion, one of said gears connected with the weight, whereby the pressure of the weight may be maintained uniform on the plunger during the full stroke of the lever.

5. In a dough-dividing machine, the combination, with a hopper, a channel for receiving dough therefrom, a measuring-receptacle, and a reciprocating plunger for forcing the dough from said channel into the measuring-receptacle, of a power-driven rock-shaft, with a lever keyed thereto, a pinion mounted on said lever, and a pair of segment-gears loosely mounted on said rock-shaft on opposite sides of said pinion, and with which said pinion engages, a connecting-bar coupling one of said segment-gears to said plunger, and a weight coupled to the other of said segment-gears, whereby the pressure of the weight may be maintained uniform on the plunger during the full stroke of the lever.

6. In a dough-dividing machine, a measuring-receptacle, comprising a rotating cylinder provided with recesses, a plunger seated in said recess, movable radially to constitute the base of said recess, a nut adjustably mounted on the rotating cylinder to serve as a stop to limit the inward movement of the plunger, with means for adjusting said nut to limit the depth of the recess.

7. In a dough-dividing machine, a measuring-receptacle, comprising a rotating cylinder provided with recesses, a plunger seated in said recess, movable radially to constitute the base of said recess, a nut adjustably mounted on the rotating cylinder to serve as a stop to limit the inward movement of the plunger, said nut being provided with a spiral gear longitudinally, with a worm-gear to engage said spiral gear, and a hand-crank for rotating said worm, whereby the nut may be adjusted to limit the depth of the recess.

8. In a dough-dividing machine a measuring-receptacle, comprising a rotating cylinder provided with recesses, a plunger seated in said recess, movable radially to constitute the base of said recess, a rack on said plunger with segment-gear engaging said rack, a dog secured to said segment-gear extending beyond the surface of the rotating cylinder, and a fixed stop on the frame with which said dog contacts to depress same and rock the segment-rack, whereby the plunger is advanced to force the dough from said recess.

9. In a dough-dividing machine, a measuring-receptacle, provided with a recess to receive the dough, and a movable partition-plate to divide said recess into compartments longitudinally, said partition being adapted to be pressed back out of the way by the dough when not in use.

10. In a dough-dividing machine, a measuring-receptacle, comprising a rotating cylinder provided with a recess to receive the dough, and a movable partition-plate to divide said recess into compartments longitudinally, said partition being adapted to be pressed back out of the way by the dough when not in use.

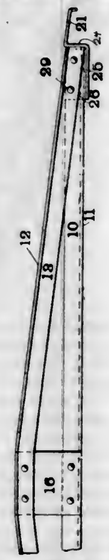
11. In a dough-dividing machine, a measuring-receptacle, comprising a rotating cylinder provided with a recess to receive the dough, a plunger seated in said recess movable radially to constitute the base of said recess, and a movable partition-plate to divide said recess into compartments longitudinally, said partition being adapted to be pressed back out of the way by the dough when not in use.

12. In a dough-dividing machine, a measuring-receptacle, comprising a rotating cylinder provided with a recess to receive the dough, a plunger seated in said recess, movable radially to constitute the base of said recess, said plunger-base being provided with slots, and movable partition-plates sliding in said slots, with lock for securing said plates in position to divide said recess into compartments longitudinally, said partition-plates being adapted to be pressed back out of the way by the dough when not in use.

842,597. CARLINE. JACOB H. WEISBROD, St. Louis, Mo., assignor to Herbert W. Wolff, St. Louis, Mo. Filed Mar. 2, 1906. Serial No. 303,744.

Claim.—1. In a railway-car, the combination with the roof and side plate, of a carline supporting said roof, said carline consisting of a rolled-metal truss-beam, a separate rolled-metal tie-beam, a strut connecting said beams and a knee-iron secured to the end of said carline and provided with an upwardly-extending vertical plate situated between the end of the carline and the side plate of the car, and a horizontal plate extending from the top of said vertical plate and bearing on the top of the side plate of the car.

2. In a railway-car, the combination with the roof and side plate, of a carline supporting said roof, said carline consisting of a rolled-metal truss-beam, a separate rolled-metal tie-beam, a strut connecting said beams and a knee-iron provided with a T portion, the upwardly-extending flange of which is secured to the end of said carline, said knee-iron being provided with an upwardly-extending vertical plate situated between the end of the carline and the side plate of the car and a horizontal plate extending from the top of said vertical plate and bearing on the top of the side plate of the car.



3. In a carline, the combination with a rolled-metal tie-beam, of a separate rolled-metal truss-beam secured to said tie-beam, a strut connecting said beams, and a member provided with a plate bearing on the side plate of the car and a flange extending between and secured to said beams.

4. In a carline, the combination with a rolled-metal tie-beam, of a separate rolled-metal truss-beam secured at its ends to the ends of said tie-beams, a strut connecting said beams, and a member provided with a plate bearing on the side plate of the car and a flange extending between and secured to said beams.

5. The combination with a flanged rolled-metal tie-beam, of a separate flanged rolled-metal truss-beam secured at its ends to the ends of said tie-beam, a strut connecting said beams, and a member provided with a plate bearing on the side plate of the car and a flange extending between and secured to said beams.

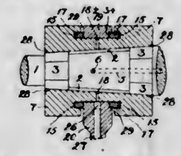
6. In a carline, the combination with a rolled-metal tie-beam, of a separate rolled-metal truss-beam secured at its ends to the ends of said tie-beam, a strut connecting said beams, and a knee-iron provided with a hook-plate engaging the side plate of the car and a flange extending between and secured to said beams.

7. In a carline, the combination with a rolled-metal tie-beam, of a separate rolled-metal truss-beam secured to said tie-beam, a strut connecting said beams, and a knee-iron provided with a hook-plate engaging the side plate of the car and a T member the flange of which extends between and is secured to the said beams.

8. In a carline, the combination with a rolled-metal tie-beam, of a separate rolled-metal truss-beam secured at its ends to the ends of said tie-beam, a strut connecting said beams, and a knee-iron provided with a hook-plate engaging the side plate of the car and an inverted-T member the flange of which extends between and is secured to the side beams.

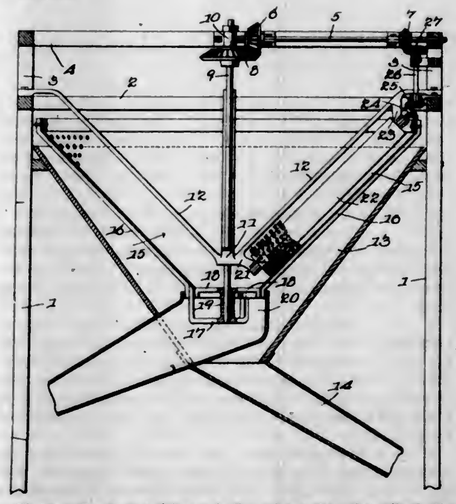
842,598. DEVICE FOR USE WITH ROCK-DRILLING MACHINES. EUSTACE M. WESTON, Johannesburg, Transvaal. Filed Oct. 30, 1905. Serial No. 285,187.

Claim.—1. In apparatus of the nature specified, the combination with a drill-steel formed with an external annular recess and with a longitudinal hole terminating at or in proximity to the cutting end and with a transverse hole placing the longitudinal hole in communication with said recess, of a cylinder encircling the recess and non-rotatably carried by the drill-steel and formed with a plurality of radial ports communicating with the recess in the drill-steel, a water-ring revolubly mounted on the cylinder, said water-ring being formed with an internal recess which serves for conducting water to one of the radial ports as the cylinder rotates in the water-ring, and means for conducting water to the recess in the water-ring, as and for the purposes set forth.



2. In apparatus of the nature specified, the combination with a drill-steel made taper for a portion of its length, said tapered portion being of polygonal transverse section, and with an annular recess in said tapered portion, and with a longitudinal hole at one end terminating at or in proximity to the cutting end of the bit and at the other end with a transverse hole communicating with the annular recess, a cylinder, the bore of which is made of corresponding taper and of corresponding polygonal transverse section, which cylinder incloses the annular recess in the bit and is non-rotatably carried by the bit, the cylinder being constructed with an external annular recess and with a plurality of radial ports placing said recess in communication with the annular recess in the bit and with grooves in the sides of the external annular recess, a water-ring made in halves detachably connected, said water-ring being rotatably mounted in the external recess in the cylinder and constructed with an internal recess which serves for conducting water to one of the radial ports in the cylinder and with a port for conducting water to said recess, packings located in the grooves in the sides of the external annular recess for making a water-tight joint between the cylinder and water-ring, as and for the purposes set forth.

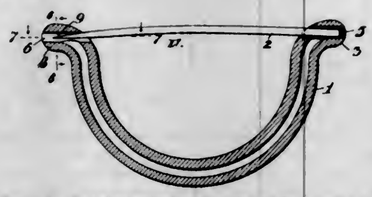
842,599. CLAY-SCREEN. JOHN B. WILLIAMSON, Marietta, Ohio, assignor of one-half to William J. Wark, Marietta, Ohio. Filed Apr. 17, 1906. Serial No. 312,255.



Claim.—In a machine of the character described the combination with a frame, a stationary casing supported

thereby and having an outlet, and a spout within and extending from the casing; of a rotatable shaft suspended from the frame and extending into the casing, a skeleton frame secured to and rotatable with the lower end of the suspended shaft, a bearing for said shaft suspended from the frame and disposed adjacent and above the skeleton frame, an inverted frusto-conical screen having an outlet, said skeleton frame being rigidly secured within the outlet, a cylindrical brush journaled at one end within the suspended bearing and disposed within and adapted to contact with the screen, mechanism for rotating the shaft and screen, and means for transmitting rotary motion from said mechanism to the cylindrical brush.

842,600. SAFETY DEVICE OR PIN. HENRY M. WILLIS, East Williston, N. Y. Filed Apr. 10, 1905. Serial No. 254,745.



Claim.—1. A safety-pin having the body portion thereof tubular and bent into loop form, and provided at one end with a catch portion and at the other end with a pin-bearing, and a pin secured to the said bearing lengthwise thereof and held by the latter at an angle thereto so as to normally extend laterally away from the said catch and body portions.

2. A safety device comprising a body portion having at one end thereof a catch, and at the other end thereof a socket portion formed integral therewith, and a pin secured in said socket portion lengthwise of the latter by means which causes it to set normally at an angle to said socket portion whereby said pin must be flexed into engagement with said catch.

3. In combination, a body portion having its ends extended at an angle to and projecting beyond the same to afford elongated bearings, a pin rigidly secured to one of said bearings lengthwise of the latter, and a catch carried by the other of said bearings, whereby the said pin is firmly supported and held by the respective bearings.

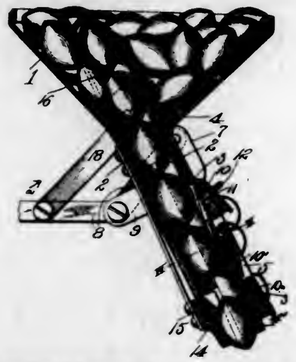
4. A device of the kind described having a body portion formed at one end into an extension projecting beyond its body at an angle and provided with a socket, and a pin rigidly secured in said socket lengthwise of said extension, the latter thus affording a bearing for said pin substantially from end to end of said socket.

842,601. FEEDING-MACHINE. ROBERT E. WOODSON and WILLIAM B. KNIGHT, St. Louis, Mo., and JOHN NILSON, San Francisco, Cal.; said Nilson and Knight assignors to said Woodson. Filed Aug. 24, 1905. Serial No. 275,542.

Claim.—1. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper, means carried by said tube and adapted to enter thereinto to feed the articles passing through the tube, and means for reciprocating said tube, substantially as set forth.

2. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper and having an irregularly-shaped inlet end projecting upwardly into said hopper, means carried by said tube and adapted to enter thereinto to feed the articles passing through the tube, and means for reciprocating said tube, substantially as set forth.

3. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper and having a helically-shaped upper end arranged to enter said hopper, means carried by said tube and adapted to enter thereinto to feed the articles passing through the tube, and means for reciprocating said tube, substantially as set forth.



4. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper, yielding means for restraining the movement of articles fed into said tube from said hopper, a feeding-dog carried by said tube and adapted to enter the channel of said tube, means for retracting said dog and means for reciprocating said tube, substantially as set forth.

5. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper, a yielding member carried by said tube for restraining the movement of articles delivered to the tube from said hopper, a spring-controlled feeding-dog carried by said tube and adapted to enter the channel therein, and arranged to deliver the articles being fed past said restraining member, means for retracting said dog and means for reciprocating said tube, substantially as set forth.

6. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper, a yielding restraining-dog carried by said tube, a feeding-dog carried by said tube and arranged above said restraining-dog, means for retracting said feeding-dog and means for reciprocating said tube, substantially as set forth.

7. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper, yielding restraining means carried by said tube and adapted to enter thereinto to be engaged by the articles passing through the tube, a feeding-dog carried by said tube and adapted to enter thereinto to engage the articles passing through the tube, means for reciprocating said tube, and means for retracting said feeding-dog, substantially as set forth.

8. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper, yielding restraining means carried by said tube and adapted to enter thereinto to be engaged by the articles passing through the tube, a feeding-dog carried by said tube and adapted to enter thereinto to engage the articles passing through the tube, means for reciprocating said tube, and means for retracting said feeding-dog; said last-named means consisting of an arm attached to said feeding-dog and arranged for engagement with a fixed portion of the machine, substantially as set forth.

9. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper, feeding means carried by said tube and adapted to enter thereinto, a yieldingly-supported gripper-jaw opposing the lower end of said tube, and means for reciprocating said tube, substantially as set forth.

10. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper, means for reciprocating said tube, feeding means carried by said tube and adapted to enter thereinto, and a gripping member opposing the discharge end of said tube; said gripping member being provided with means for preventing retrograde movement of the articles fed into position between it and the discharge end of the tube, substantially as set forth.

11. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper, means for reciprocating said tube, feeding means carried by said tube and adapted to enter thereinto, and a gripping member opposing the discharge end of said tube; said gripping member being provided with a prong to prevent retrograde movement of the articles fed into a position between it and the discharge end of said tube, substantially as set forth.

12. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper, means for reciprocating said tube, feeding means carried by said tube and adapted to enter thereinto, and a spring-controlled gripping member supported independently of said tube and opposing the discharge end of said tube, substantially as set forth.

13. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper, means for reciprocating said tube, feeding means carried by said tube and adapted to enter thereinto, gripping means located at the discharge end of said tube for engagement with the articles passing through the tube before they are discharged therefrom, and means carried by said tube for alining the articles while engaged by said gripping means, substantially as set forth.

14. In a feeding-machine, the combination of a hopper, a delivery-tube reciprocatorily fitted to said hopper, means for reciprocating said tube, feeding means carried by said tube and adapted to enter thereinto, gripping means located at the discharge end of said tube for engagement with the articles passing through the tube before they are discharged therefrom, and an alining dog carried by said tube and located in said tube in a position opposing that occupied by said gripping means, substantially as set forth.

15. In a feeding-machine, the combination of a hopper a delivery-tube reciprocatorily fitted to said hopper, means for reciprocating said tube, feeding means carried by said tube, and an agitator arranged to enter said hopper and having connection with said tube-reciprocating means, substantially as set forth.

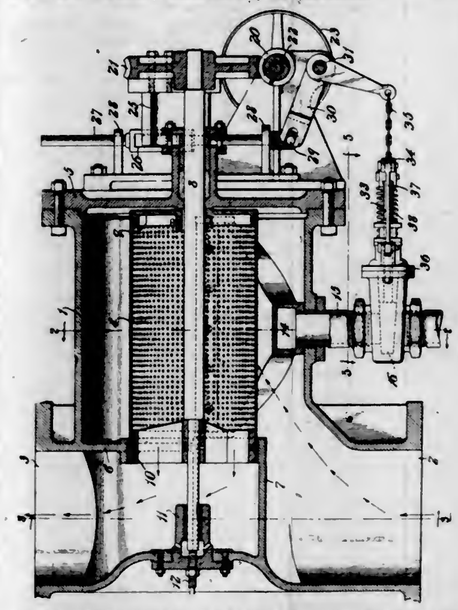
16. In a feeding-machine, the combination of a hopper having a guide member depending therefrom, a delivery-tube reciprocatorily positioned in said guide member, feeding means carried by said tube and adapted to enter thereinto, a lever pivoted to said guide member and having connection with said tube for imparting reciprocation to said last-named member, and an agitator connected to said lever and adapted to enter into said hopper, substantially as set forth.

842,602. AUTOMATIC LIQUID-STRAINER. HUGO WURDACK, St. Louis, Mo. Filed July 20, 1906. Serial No. 327,072.

Claim.—1. A device of the class described, comprising a shell or casing adapted to receive water, said casing being provided with a receiving-opening and a discharge-opening, a screen located inside of said casing for straining the refuse matter from the water which passes through the casing, a conduit, means for removing the refuse matter from the screen and discharging it into the conduit, and means for permitting the refuse matter to be discharged from the conduit automatically; substantially described.

2. A device of the class described, comprising a shell or casing adapted to receive water, said casing being provided with a receiving-opening and a discharge-opening, a cylindrical screen rotatably mounted inside of the casing for separating the refuse matter from the water which passes through the casing, a scraper coöperating with the exterior of the screen to remove the refuse matter therefrom, a conduit for receiving said refuse matter, a valve for controlling the discharge of said matter from said conduit, and means for actuating said valve intermittently; substantially as described.

3. A device of the class described, comprising a shell or casing adapted to receive water, said shell being provided with a receiving-opening and a discharge-opening, a tubular screen rotatably mounted in said shell and so arranged that the water which passes through the shell will pass into the interior of the screen and thus deposit the refuse matter in the water on the exterior of the screen, a scraper for removing said refuse matter from the screen, a conduit for receiving said refuse matter, and a valve for controlling the discharge of the refuse matter from said conduit; substantially as described.



4. A device of the class described, comprising a casing adapted to receive water and provided with an entrance-opening and a discharge-opening, a tubular screen arranged horizontally in said casing for straining the refuse matter from the water which passes through the casing, means for rotating said screen, a scraper for removing the refuse matter therefrom, a conduit for receiving said matter, and an automatically-operated valve for controlling the discharge of the refuse matter from said conduit; substantially as described.

5. A device of the class described, comprising a casing, a screen arranged inside of said casing, a scraper coöperating with said screen, a conduit arranged adjacent said scraper, a valve for controlling the passage of matter from said conduit, means for rotating said screen continuously, and means for actuating the valve intermittently; substantially as described.

6. A device of the class described, comprising a casing, a screen mounted inside of said casing, a scraper coöperating with said screen, a conduit arranged beneath said scraper and provided with a contracted end, and a valve for controlling the discharge of matter from said conduit; substantially as described.

7. A device of the class described, comprising a casing, a screen located inside of said casing, a hollow member arranged beneath said screen to form a conduit, and a scraper fastened to the upper edge of said hollow member; substantially as described.

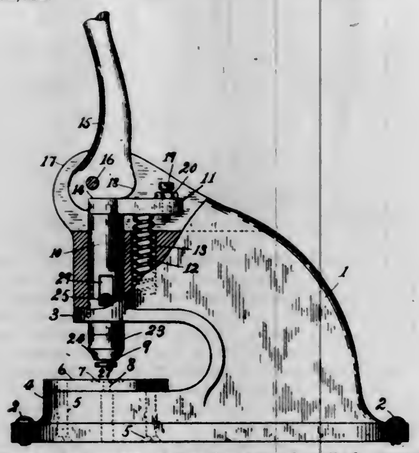
8. A device of the class described, comprising a casing, a horizontal shaft extending through said casing, a tubular screen carried by said shaft, a scraper coöperating with the exterior of said screen, a conduit arranged adjacent said scraper, a valve for controlling the passage of matter from said conduit, means for rotating said screen continuously, mechanism for actuating the valve, and a device which travels with the screen for actuating said mechanism intermittently; substantially as described.

9. A device of the class described, comprising a casing, a horizontal shaft extending through said casing, a tubular

screen carried by said shaft, a scraper cooperating with the exterior of said screen, a conduit arranged adjacent said scraper, a valve for controlling the passage of matter from said conduit, means for rotating said screen continuously, a reciprocating rod, a bell-crank lever connected to the lower end of said rod, a connection between the bell-crank lever and said valve, and means for actuating said rod intermittently; substantially as described.

10. A device of the class described, comprising a casing, a horizontal shaft extending through said casing, a tubular screen carried by said shaft, a scraper cooperating with the exterior of said screen, a conduit arranged adjacent said scraper, a valve for controlling the passage of matter from said conduit, means for rotating said screen continuously, a reciprocating rod, a bell-crank lever connected to the lower end of said rod, a cross-arm connected to the stem of said valve, a connection between said bell-crank lever and one end of said cross-arm, a link fastened to the other end of said cross-arm and to a stationary member, means for actuating said reciprocating rod intermittently to operate the valve, and a spring for returning said rod to normal position; substantially as described.

842,603. STAMPING-PRESS. AUGUST ZIDOVEC, San Francisco, Cal. Filed Feb. 20, 1906. Serial No. 302,032.



Claim.—1. A press of the character described, comprising a lower jaw, a die-plate thereon, an upper jaw, a punch-head sliding vertically therein, a punch carried thereby, means for reciprocating the punch-head, a stripper-rod extending parallel with and in proximity to the punch, and a cross-bar engaging the upper end of the stripper-rod, the punch-head and the upper jaw being transversely apertured to receive the cross-bar, the aperture through the punch-head being of greater vertical dimension than through the upper jaw, substantially as described.

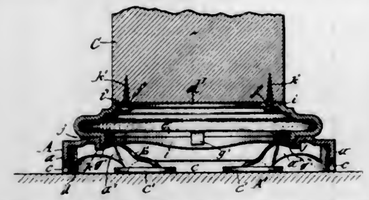
2. A press of the character described, comprising a lower jaw, a die-plate thereon, an upper jaw, a punch-head sliding vertically therein, a punch carried thereby, means for reciprocating the punch-head, stripper-rods extending parallel with and in proximity to the punch, and a cross-bar engaging the upper ends of the stripper-rods, the punch-head and the upper jaw being transversely apertured to receive the cross-bar, the aperture through the punch-head being of greater vertical dimension than through the upper jaw, substantially as described.

3. A press of the character described, comprising a lower jaw, a die-plate thereon, an upper jaw, a punch-head sliding vertically therein, a cutter and a punch carried thereby, means for reciprocating the punch-head, a stripper-rod extending parallel with and in proximity to the punch, and a cross-bar engaging the upper end of the stripper-rod, the punch-head and upper jaw being transversely apertured to receive the cross-bar, the aperture through the punch-head being of greater vertical dimension than through the upper jaw, substantially as described.

4. A press comprising a lower jaw, a die-plate thereon having an annular recess and soft metal therein, an upper jaw, a punch-head sliding therein, a spring pressing said punch-head upward, a handle pivoted between walls of the press having a rounded corner engaging the top of the punch-head, a stripper-disk, a cross-bar, stripper-rods secured to said stripper-disk and cross-bar, the punch sliding in said stripper-rods and slotted to pass over the cross-bar securing the stripper-disk to the upper jaw, substantially as described.

5. A press comprising a body having upper and lower jaws, the latter having a die-plate and a central recess with a soft-metal filling, a punch-head sliding vertically in the upper jaw, a cross-bar secured to the upper jaw, stripper-rods secured to and depending from said cross-bar, a stripper-disk secured to the lower ends of said stripper-rods and having a central aperture, a cutter secured to said punch-head, and a punch secured in the center of said punch-head, the punch-head being slotted transversely to pass over the cross-bar, substantially as described.

842,604. COLUMN-BASE. CHARLES E. ZIMMERMANN, Syracuse, N. Y. Filed May 4, 1905. Serial No. 258,875.



Claim.—1. In a column for architectural purposes, the combination of a hollow metallic base, a hollow metallic torus formed separate therefrom and seated removably thereon, and the column proper composed of wood and supported upon the said torus as set forth.

2. In a column for architectural purposes, the combination of a hollow metallic base composed of side walls and a top plate provided with a central annular opening, a hollow metallic torus seated removably upon the base, and provided with coinciding openings in its top and bottom, and the column proper composed of wood and supported upon said torus as set forth.

3. The combination with a column, of a separately-formed hollow metallic base having a top plate provided with a central annular opening, and a separately-formed hollow metallic torus seated removably upon the base and provided with means engaging the edges of the opening for sustaining the same in position and detachably secured to the column as set forth.

4. The combination with a column, of a separable hollow metallic base formed with a top plate provided with a central annular opening, and a separable hollow metallic torus seated removably upon the base and provided with top and bottom concentric openings and formed with downwardly-projecting lugs at the edges of the lower opening engaging the edges of the said top plate to sustain the torus in position, the said column being supported on said torus and secured detachably thereto as set forth and shown.

5. The combination with a wooden column, of a hollow metallic base having an open bottom and composed of side walls having openings and a top plate having a central annular opening, and a separable hollow metallic torus having an open top and an open bottom and formed with an annulus at its top provided with apertures, the column being supported upon said annulus, and secured thereto by means of screws passing through said apertures as set forth.

6. The combination with a wooden column, of a hollow cast-metal base composed of side walls and a top plate provided with a central annular opening and with interior ribs extending from the walls to said opening, said ribs being deflected downwardly at the opening and formed with feet affording supports for the top plate, a separately-formed hollow cast-metal torus seated removably upon the base and provided with an open top and an open bottom and means for detachably securing said torus to the column as set forth.

7. The combination with a wooden column, of a hollow cast-metal base composed of side walls having openings and a top plate provided with a central annular opening and provided with main floor-bearings at the corners thereof, the inner face of the said top plate provided with bracing-ribs extending from the corners to the opening thereof and formed with feet under the opening affording additional floor-bearings and supporting said top plate, and a hollow cast-metal torus seated removably upon the base provided with top and bottom openings coinciding with the opening of the top plate and provided with means for sustaining the same in position, and means for securing said torus detachably to the column as set forth.

842,605. NON-REFILLABLE BOTTLE. FREDERICK W. ABBOTT, Philadelphia, Pa. Filed May 19, 1906. Serial No. 317,798.



Claim.—1. A non-refillable bottle having a laterally and longitudinally curved discharge-passage leading therefrom, the curves being such that air-traps are formed thereby, in no matter what position the bottle is held.

2. A non-refillable bottle having a curved discharge-passage, the curves being such as to form air-traps, in no matter what position the bottle is held, and an angular bend formed in said passage for preventing the insertion of an instrument.

3. In a device of the character described, a curved tube, and a former for supporting the convolutions of said tube.

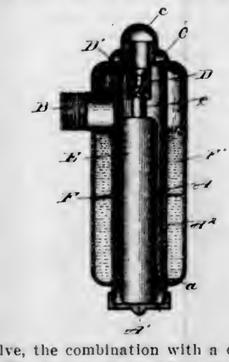
4. In a device of the character described, a curved tube forming a discharge-passage from the bottle, a former connected with said bottle and serving to support said tube, and an angular bend formed in said tube for preventing the insertion of an instrument therein.

5. In a non-refillable bottle, a curved tube forming a discharge-passage from the bottle, said tube being curved laterally and longitudinally and forming a complete convolution laterally.

842,606. AIR-VENT VALVE. EVERETT P. ALLEN, Chicago, Ill., assignor to Romeo M. Wilbur, trustee, Chicago, Ill. Filed May 19, 1902. Serial No. 108,017.

Claim.—1. In an automatic vent-valve, the combination with a hollow casing, having an inlet leading directly thereto from the radiator, above the line of flotation thereof, and an outlet leading therefrom, the portion of said casing below the inlet forming a float-chamber, of a float located within said float-chamber and adapted to control said outlet, and an air-chamber in communication with said float-chamber near the bottom thereof, said chamber arranged to be heated by the heating medium from the radiator.

2. In a valve, the combination with a casing having an inlet leading thereinto near the top thereof, and an outlet leading therefrom, of a closed float located within the casing below the inlet and adapted to open and close said outlet, and an air-chamber closed at its top and communicating with the casing at a point below said inlet.



3. In a valve, the combination with a casing having an inlet leading thereinto near the top thereof and an outlet leading therefrom, of a closed float located within the casing below the inlet and adapted to open and close said outlet, and an air-chamber closed at its top extending from a point adjacent to the inlet and communicating near the bottom thereof with said casing.

4. In a valve, the combination with a casing having an inlet leading thereinto above the bottom thereof and an outlet leading therefrom, of a closed float located within the float-chamber formed by the casing below the inlet and adapted to open and close the outlet, and an air-chamber closed at its top located concentrically with respect to said casing and extending from a point adjacent to the inlet and communicating near its bottom with the interior of the casing.

5. In a valve, the combination with a casing having an inlet leading thereto and an outlet leading therefrom, of a float within said casing adapted to open and close the outlet, and an air-chamber surrounding said casing, said chamber being closed at its top and communicating with the casing at a point adjacent the lower end of said float.

6. In a valve, the combination with a casing having an inlet leading thereto and an outlet leading therefrom, of a float within said casing adapted to open and close the outlet, and an air-chamber concentrically surrounding said casing, said chamber being closed at its top and communicating with the casing at a point adjacent the lower end of said float.

7. In an automatic vent-valve having an inlet and an outlet, the combination with a closed float for controlling the outlet, of a casing forming a float-chamber within which said float is located, a second casing surrounding and spaced apart from the first casing to form an air-chamber between said casings, means for uniting the upper ends of said casings thereby closing the air-chamber at its top, said first casing having a port adjacent its lower end through which said float and air-chambers communicate.

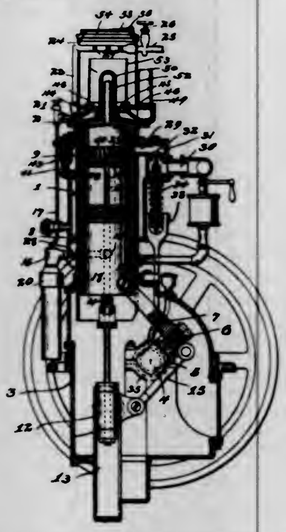
8. In an automatic vent-valve having an inlet and an outlet, the combination with a float for controlling the outlet, of a float-chamber within which said float is located, an air-chamber closed at its top and surrounding said float-chamber, said chambers being in communication adjacent their lower ends.

842,607. INCANDESCENT IGNITER FOR GAS-ENGINES. CHARLES A. ANDERSON, ERICK A. ERICKSON, and JOHN WICKSTROM, Chicago, Ill. Filed June 13, 1904. Serial No. 212,377.

Claim.—1. In an explosive-engine, the combination of a cylinder, two coacting reciprocating pistons operating therein, an ignition-tube communicating with said cylinder, and a displacer-plunger carried by one of said pistons and working in and out of said ignition-tube as said piston reciprocates, substantially as described.

2. In an explosive-engine, the combination of a cylinder,

two coacting reciprocating pistons operating therein, an ignition-tube having a closed outer end and communicating at its inner end with said cylinder, a displacer-plunger of substantially smaller cross-section than the interior of said tube carried by one of said pistons and working in and out of said ignition-tube as said piston reciprocates, substantially as described.



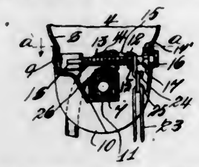
3. In an explosive-engine, the combination of a cylinder, a power-piston and a transfer-piston reciprocating therein, an ignition-tube communicating with the interior of said cylinder through one end thereof, a displacer-plunger carried by said transfer-piston and adapted to enter and be withdrawn from said ignition-tube as said transfer-piston reciprocates, and means to move said transfer and power pistons in such a manner that when said power-piston is at its limit of inward movement in said cylinder said transfer-piston has accomplished part of its outward movement, whereby said displacer-plunger has completed part of its outstroke, substantially as described.

4. In an explosive-engine, the combination of a cylinder, a power-piston and a transfer-piston reciprocating therein, an ignition-tube closed at one end and communicating at its other end with the interior of said cylinder through one end thereof, a displacer-plunger of substantially smaller cross-section than the interior of said tube carried by said transfer-piston and adapted to enter and be withdrawn from said ignition-tube as said transfer-piston reciprocates, and means to move said transfer and power pistons in such a manner that when said power-piston is at its limit of inward movement in said cylinder said transfer-piston has accomplished part of its outward movement, whereby said displacer-plunger has completed part of its outstroke, substantially as described.

5. In combination with an explosive-engine, a cylinder closed at one end, and a piston working therein, an ignition-tube mounted upon the closed end of said cylinder and communicating with the interior of the latter, an annular gas-burner mounted upon the end of the cylinder and encircling the ignition-tube, a casing forming in conjunction with the annular burner a complete inclosure for the ignition-tube, a draft-opening in said casing and movable closure therefor, and means for supplying fuel to said burner.

6. In combination with an explosive-engine and an ignition-tube communicating with the cylinder and protruding outside of the latter, an annular hollow burner-casting arranged to encircle said ignition-tube and provided with jet-openings leading from the cavity of the casting inwardly toward the ignition-tube, an outer casing forming in conjunction with said annular casting a complete housing for the burner, a draft-opening in said outer casing and a movable closure therefor, an inner casing mounted upon said burner-casting and interspaced between the ignition-tube and the outer casing, said inner casing being open at its end remote from the burner-casting, an entraining-pipe communicating with the interior of the burner-casting and mechanism for injecting a jet of gaseous fuel into said entraining-pipe.

842,608. ARTIFICIAL LEG. JOHN T. APGAR, New York, N. Y. Filed May 29, 1906. Serial No. 319,286.



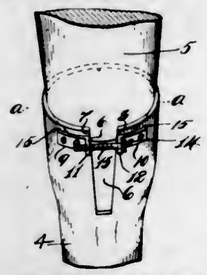
Claim.—1. In an artificial leg, the combination of upper and lower leg members pivotally connected, a rotatable horizontal screw passing through the knee-joint portion of said members, said screw being provided with a traveling nut, and a knee-cord connecting said members and adapted for adjustment by said traveling nut.

2. In an artificial leg, the combination of an upper leg portion and a lower leg portion pivotally connected, an adjusting-screw carried by the upper leg portion, a cord supported by the adjusting-screw and connected to the lower leg portion, and an ankle-cord also carried by said adjusting-screw, the adjusting-screw being adapted for operation exteriorly of the leg portions.

3. In an artificial leg, the combination of a lower leg portion and an upper leg portion pivotally connected, said upper leg portion comprising a leather socket having a metallic knee-joint portion attached thereto, said knee-joint portion being provided with a block of resilient material adapted to receive the pivot of said leg portions, and a cord adjustably mounted at one end within said knee-joint and secured at its other end to the lower leg portion.

4. In an artificial leg, the combination of a lower leg portion and an upper leg portion, the latter being provided with a knee-joint portion, a knee-cord adjustably supported at one end by said knee-joint portion, and at the other end by the lower leg portion, said knee-joint portion being provided with openings or channels through which the cord may pass, and cushioning-pads adjacent to said openings, substantially as and for the purpose described.

842,609. ARTIFICIAL LEG. JOHN T. APGAR, New York, N. Y. Filed Sept. 8, 1906. Serial No. 333,768.

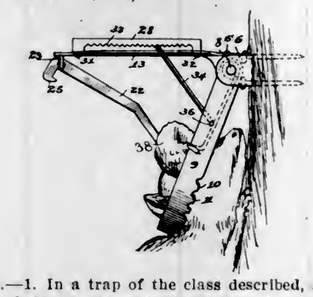


Claim.—1. An artificial leg having a vertical slot at the upper end of the socket member, said socket member being provided with brackets adjacent to said slot, one of said brackets having an adjusting device pivotally connected thereto, the other of said brackets being adapted to engage said adjusting device and means carried by said adjusting device whereby the tension of said socket member can be adjusted.

2. An artificial leg having a vertical slot at the upper end of the socket member, said socket member being provided with brackets adjacent to said slot, an adjusting-screw pivotally connected to one of the said brackets, the other of said brackets being adapted to engage said adjusting-screw, and a nut carried by said adjusting-screw adapted to regulate the tension of said socket member.

3. An artificial leg having a vertical slot at the upper end of the socket member, said socket member being provided with brackets adjacent to said slot, an adjusting-screw pivotally connected to one of the said brackets, the other of said brackets being provided with a slot adapted to receive the said adjusting-screw, said adjusting-screw being provided with a nut adapted to regulate the tension of said socket member.

842,610. ANIMAL-TRAP. WILLIAM D. ARMSTRONG, Abingdon, Ill., assignor to The Animal Trap Company, Abingdon, Ill., a Corporation of Illinois. Filed Mar. 9, 1906. Serial No. 305,117.



Claim.—1. In a trap of the class described, a base having its ends bent to form ears and adapted to be secured to a suitable support, a single jaw pivoted to said ears, a spring for actuating said jaw, a standard having one of its ends bent at substantially a right angle to said base and rigidly secured thereto, and a trigger pivoted to the standard and adapted to hold the jaw in set or open position, substantially as described.

2. In a trap of the class described, a base adapted to be secured to a suitable support and having its ends bent at substantially right angles to its body, a rod rigidly connecting said bent ends, a jaw pivotally mounted on said rod, a spring for actuating said jaw, a standard rigidly secured to the base and substantially perpendicular thereto, a bracket apertured for the passage of said rod and bearing on said base and standard, and a trigger pivoted to said standard and adapted to hold the jaw in locked position, substantially as described.

3. In a trap of the class described, a concaved base adapted to be secured to a suitable support, a single apertured jaw pivoted to the base, a series of springs for actuating said jaw, a standard rigidly connected to the base, a trigger pivoted to the standard adapted to be seated in the aperture in said jaw whereby the jaw is held in set or locked position, substantially as described.

4. In a trap of the class described, an apertured base adapted to be secured to a suitable support, a single jaw pivoted to the base, a pair of springs for actuating said jaw, an apertured standard, a bracket having rivets which pass through the apertures in said base and standard and are headed over to bind said parts together, and a trigger pivoted to said standard and adapted to hold the jaw in locked position, substantially as described.

5. In a trap of the class described, a concaved base adapted to be secured to a suitable support and having its ends bent at substantially right angles to the body, a rod rigidly connecting said bent ends, a jaw pivotally mounted on said rod, a series of staggered teeth upon the jaw, a spring for actuating said jaw, a standard rigidly secured to said base and substantially perpendicular thereto, a bracket apertured for the passage of said rod and bearing on said base and standard, and a trigger pivoted to the standard and adapted to hold the jaw in set position, substantially as described.

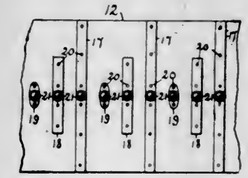
6. In a trap of the class described, the combination of an apertured base, an apertured standard, and a bracket having lugs or rivets which pass through the apertures in said base and standard and are headed over to bind the parts together, substantially as described.

7. In a trap of the class described, the combination of a base adapted to be secured to a support, a jaw pivotally mounted on said base, a spring to actuate said jaw, a standard mounted on said base, a trigger on said standard coöperating with said jaw to retain it in set position, a ratchet, and a pawl on said jaw coacting with said ratchet to prevent movement of said jaw in opposition to the action of said spring after the trigger has been tripped, substantially as described.

8. In a trap of the class described, the combination of a base adapted to be secured to a support, a U-shaped jaw provided with an aperture, the legs of which are pivotally attached to said base, a spring to actuate said jaw, a standard projecting outwardly from said base, a trigger to support the bait adapted to engage the aperture in said jaw and retain the same in set position, a ratchet-bar mounted on said standard, and a wire bail whose ends are pivotally attached to said jaw and whose central portion coöperates with said ratchet to prevent movement of said jaw in opposition to the action of said spring, substantially as described.

9. A trap of the class described having a jaw provided on one edge with rounded staggered teeth, substantially as described.

842,611. CONVEYER. JOHN H. BELL, Haddonfield N. J. Filed Oct. 1, 1906. Serial No. 336,850.



Claim.—1. In a conveyer, a framework supporting shafts, and pulleys connected by bars in manner to form drums with intersticed annular surfaces, on the shafts.

2. In a conveyer, a suitable framework, shafts supported thereon, groups of pulleys on the shaft, and bars secured to the peripheries of adjacent pulleys to form drums with intersticed faces.

3. In a conveyer, a framework, shafts supported thereon, groups of pulleys thereon, the pulleys of each group forming a drum, by means of peripheral connections, with intervening spaces, and adapted to carry a belt.

4. In a conveyer, a framework, shafts supported thereon, groups of pulleys on the shafts, the pulleys of each group forming a drum, by means of peripheral connections, with intervening spaces, and adapted to carry a belt, and a belt-guiding space between adjacent drums.

5. In a conveyer, a framework having means for supporting shafts, shafts therefor, drums upon the shafts comprising pulleys, or their equivalents, each adjacent pair of pulleys at each end of the shaft being connected at their peripheries in manner to form a drum with an intersticed peripheral surface, and the adjacent drums being separated to afford a space for the passage of belt-guides.

6. In a conveyer, a belt having fixed upon its inner surface a series of crosswise bars of different lengths.

7. In a conveyer, a belt having fixed upon the whole breadth of its inner surface a series of crosswise bars, spaced apart, and tapered guiding-lugs projecting from the center of said bars.

8. In a conveyer, a belt having fixed upon its inner surface a series of crosswise bars, of different lengths, spaced apart, and guiding-lugs projecting from said bars.

9. In a conveyer, a belt having fixed upon its inner surface a series of crosswise bars, spaced apart, and guiding-lugs of circular cross-section projecting from said bars.

10. In a conveyer, a belt having upon its interior surface a series of bars some of which reach across the belt, and others which reach only a portion of the way across, lugs upon the bars, and additional lugs secured to the belt which have bases shorter than the aforesaid short bars which reach only a portion of the way across the belt.

11. In a conveyer, a framework having means for supporting shafts, shafts therefor, drums upon the shafts which are formed of pulleys or equivalent means, placed apart on the shaft and connected by bars secured to their peripheries, with intermediate spaces, and projecting above the pulleys.

12. In a conveyer, a framework having means for supporting shafts, shafts therefor, multiple drums upon the shafts which are formed of pulleys or equivalent means, placed apart on the shaft and connected by bars secured to their peripheries, with intermediate spaces, and projecting above the pulleys, and a guiding-space between the adjacent drums placed upon a common shaft.

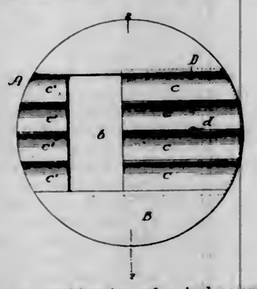
13. In a conveyer, driving-pulleys and carrier-pulleys, each having a shaft, a frame carrying the shafts, the pulleys placed upon their proper shafts to provide an intervening space between the pulleys on the same shaft, and a carrier-belt having upon its inner surface projections adapted to pass through the intervening spaces, as means for guiding the belt.

842,612. PROCESS FOR OBTAINING SOLUTIONS OF BACTERIAL POISONS. PETER BERGELL and FRITZ MEYER, Berlin, Germany. Filed Sept. 13, 1906. Serial No. 334,386.

Claim.—1. The process of producing solutions of bacteria poisons adapted for immunization consisting in treating dry bacteria poisons with anhydrous liquid hydrochloric acid, evaporating the acid and extracting the product.

2. The process of producing aqueous solutions of bacteria poisons containing the specific toxin and adapted for immunization consisting in treating dry bacteria poisons with anhydrous liquid hydrochloric acid, evaporating the acid, and extracting the product.

842,613. COMBINED CIGAR AND CIGARETTE HOLDER AND ASH-RECEIVER. SAMUEL L. BIGELOW, Ann Arbor, Mich. Filed Sept. 25, 1906. Serial No. 336,103.



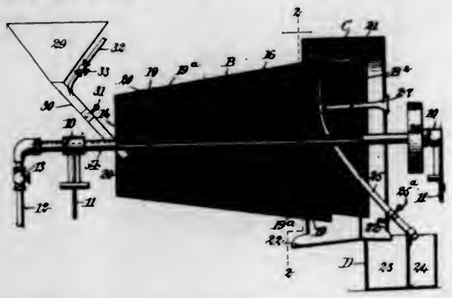
Claim.—1. The combination of a body portion open at the top, a cap for the body portion having an opening therein, and provided with a series of grooves terminating at said opening, and means for closing the opening, substantially as described.

2. The combination in a body portion, of a cap having an opening therein and provided with a series of grooves terminating at the opening, with a sliding closure for the said opening mounted directly under the grooved portion of the cap, substantially as described.

3. The combination of a box, a cap mounted on the box having an opening therein and provided with a series of grooves terminating at the opening, a corrugated closure conforming to the grooves of the cap and arranged to slide under the grooved portion of the cap, said cap being slotted, and a button passing through the slot in the cap and secured to the closure, substantially as described.

4. The combination of a body portion, a cap for said body portion having an opening through one side thereof, and provided with a series of grooves in the said cap on each side of the opening, one set of grooves being shorter than the other, and a closure for the opening, substantially as described.

842,614. APPARATUS FOR SEPARATING MATERIALS. TALMADGE BLASS, Lebanon, Pa. Filed Oct. 28, 1905. Serial No. 284,778.



Claim.—1. In a device for separating materials, means for containing the material, means for exerting centrifugal force on said material, means for exerting a constant force against said material in a direction opposite to the centrifugal force sufficient to retain all of said material in suspension in a stratified state, and means for separately removing the stratified material.

2. In a device for separating materials, a receiver for containing the material, means for revolving the receiver to subject the material to centrifugal force, means for forcing fluid against the material in a direction opposite to the centrifugal movement of the material of sufficient resistance to retain all of said material in suspension in a stratified state, and means for separately removing said stratified material.

3. A device for separating materials, comprising a reticulated or perforated receiver into which the material is fed, means for revolving the receiver to subject the material to centrifugal force, means for forcing fluid through the perforations in the cylinder against the material thrown outward by the centrifugal force to retain all of said material in suspension in a stratified state within said receiver, and means for separately removing said stratified material from said receiver.

4. A device for separating materials, comprising an inner reticulated or perforated receiving-cylinder into which the material is fed, an outer imperforate inclosing cylinder, means for revolving said cylinder to subject the material to centrifugal force, and means for forcing fluid through the receiving-cylinder against the material thrown outward by the centrifugal force.

5. A device for separating materials, comprising an inner conical reticulated or perforated receiving-cylinder into which the material is fed, an outer conical imperforate inclosing cylinder arranged with respect to said inner cylinder to provide an intervening chamber of even width throughout, means for revolving said cylinder to subject the material to centrifugal force, and means for forcing fluid into the chamber between said cylinders to exert its force through the inner cylinder against the material thrown outward by the centrifugal force.

6. A device for separating materials, comprising connected conical cylinders, one contained within the other, the inner cylinder being perforated or reticulated and provided with an extension at its larger end beyond the corresponding end of the outer cylinder, the latter cylinder having openings at its end portions, and the inner cylinder being of less diameter than the outer cylinder forming an annular chamber between the two closed at its ends and extending the full length of the outer cylinder, means for supplying material mingled with fluid to the contracted end of the inner cylinder, means for simultaneously revolving the said cylinders to subject the material to centrifugal force, and means for supplying fluid under pressure to the annular chamber between the cylinders, the fluid passing under pressure from said annular chamber into the interior cylinder in a direction opposite to that of the material when thrown outward by the centrifugal force.

7. A device for separating materials, comprising an inner conical reticulated or perforated receiving-cylinder into which the material is fed, an outer conical imperforate inclosing cylinder arranged with respect to said inner cylinder to provide an intervening chamber, means for revolving said cylinders to subject the material to centrifugal force, means for forcing water into chamber between said cylinders to exert its force through the inner cylinder against the material thrown outward by the centrifugal force, and means for discharging from the inner surface of the inner cylinder at approximately its enlarged end the heavier material collected there by the centrifugal force.

8. A device for separating materials, comprising an inner conical reticulated or perforated receiving-cylinder into which the material is fed, an outer conical imperforate inclosing cylinder arranged with respect to said inner cylinder to provide an intervening chamber, means for revolving said cylinders to subject the material to centrifugal force, means for forcing water into chamber between said cylinders to exert its force through the inner cylinder against the material thrown outward by the centrifugal force, and a discharge-pipe having its receiving end lying within the enlarged end of the inner cylinder adjacent to the same and facing in a direction opposite to the direction of rotation of said cylinder for carrying off the heavier material collected by the centrifugal force.

9. A device for separating materials, comprising connected conical cylinders, one contained within the other, the inner cylinder being perforated or reticulated and provided with an extension at its larger end beyond the corresponding end of the outer cylinder, the latter cylinder having end walls provided with openings, and the inner cylinder being of less diameter than the outer cylinder forming an annular chamber between the two closed at its ends by the end walls of the outer cylinder, means for supplying material mingled with fluid to the contracted end of the inner cylinder, means for simultaneously revolving the said cylinders, means for supplying fluid under pressure to the space between the cylinders, a discharge-pipe supported at its receiving end within the enlarged end of the inner cylinder adjacent to the same, the upper end of said pipe facing in a direction opposite to the direction of rotation of the cylinder, and a receptacle divided into compartments, one of which compartments receives the material from the casing and the other from the said discharge-pipe.

10. A device for separating materials, comprising inner and outer revolving conical cylinders, the outer cylinder being a jacketing-cylinder and having openings in its end walls, the opening in one end wall being larger than that in the other, the inner cylinder being reticulated or perforated and open at the ends and engaging at said ends the end walls of the outer cylinder thereby forming an annular chamber between the cylinders, means for revolving said cylinders together in the same direction, and means for delivering fluid under pressure to the space between the cylinders to cause the fluid to pass under pressure into the inner cylinder against the material thrown outward by the revolution of the cylinders.

11. A device for separating materials, comprising inner and outer revolving conical cylinders, the outer cylinder having end walls provided with openings and the inner cylinder being open at its ends and engaging at said ends the end walls of the outer cylinder, thereby forming an annular chamber between the cylinders, the inner cylinder being reticulated or perforated and the outer cylinder being imperforate, means for revolving said cylinders together in the same direction, means for delivering fluid under pressure to the space between the cylinders, and a fixed discharge-pipe for the heavier particles extending within the larger portion of the inner cylinder, having its upper end pointed in a direction opposite to the direction of rotation of the cylinders, and having its lower end carried out from the cylinders for the delivery of the material received thereby.

12. In a device for separating materials, a reticulated or perforated conical cylinder to which the material and water is fed, an annular chamber surrounding said cylinder, means for forcing fluid under pressure into said annular chamber and through the perforations in the cylinder against the material to hold the same in suspension, and means for revolving the cylinder, whereby the material thrown outward by the centrifugal force against the pressure of the fluid is caused to separate into layers.

13. A device for separating materials, comprising a reticulated or perforated conical cylinder for containing the material mixed with a fluid, an annular chamber surrounding said cylinder, means for forcing fluid under pressure into said annular chamber to cause the fluid to pass under pressure through the perforated walls of the conical cylinder against the material to hold the same in suspension, means for revolving the said cylinder whereby the material is caused to separate into layers with the heaviest near the inner face of the cylinder, the said cylinder having an inlet-opening for the material at its smaller end, and a central discharge-opening at its larger end for the lighter material, and means for discharging the heavy material.

14. In a device for separating materials, an inner reticulated or perforated cylinder, an outer imperforate cylinder, the two forming an intervening chamber, means for supplying the material to be separated to the inner cylinder, a central hollow shaft for rotating said cylinders, means for supplying fluid under pressure to said shaft, and hollow radial arms on said shaft supporting said cylinders and discharging the fluid into the chamber formed between said cylinders.

15. In a device for separating materials, an outer conical cylinder having its end walls provided with central openings, an inner reticulated or perforated conical cylinder smaller in diameter than the outer cylinder and having its ends engaging the end walls of the outer cylinder forming an annular chamber between the cylinders, means for feeding the material and a fluid to the contracted end of the inner cylinder, a tubular shaft mounted to turn in suitable bearings and closed at one end, the other end of said shaft being revolubly connected with a pipe for supplying fluid under pressure, tubular arms radiating from and communicating with the tubular shaft, the said arms extending through the wall of the inner cylinder and provided with flanges secured to the inner spaces of said cylinders, the arms having apertures in their outer end portions communicating with the space between the cylinders.

16. In a device for separating materials, means for subjecting the material to centrifugal force, means for simultaneously subjecting said material to fluid-pressure in opposition to said centrifugal force, means for separately discharging the lighter and heavier materials thus separated by said forces, and means for screening the fluid from said lighter material by said centrifugal force.

17. In devices for separating materials, an inner conical cylinder open at its ends and formed of reticulated or perforated material, an outer conical jacketing cylinder having end walls provided with central openings, the inner cylinder being of less diameter than the outer cylinder and having its open ends abutting against the end walls of the outer cylinder whereby an annular space is formed between the cylinders, the inner cylinder being provided with an extension at its larger end secured to the outer face of the corresponding end wall of the outer cylinder, means for revolving said cylinders, means for supplying fluid under pressure to the space between the cylinders, and a delivery device for the heavy material having its inlet end arranged within the larger end of the inner cylinder and extending close to the inner surface of said cylinder.

842,615. INSULATING LACQUER AND MATERIAL. PAUL BOERCHE, London, England. Filed Mar. 26, 1906. Serial No. 307,990.

Claim.—1. The process of converting soft stearin-pitch into insoluble and unmeltable material having insulating properties which consists in heating the stearin-pitch to a

temperature above, approximately, 220° centigrade, substantially as described.

2. The process of converting soft stearin-pitch into insoluble and unmeltable material having insulating properties which consists in heating the stearin-pitch to a temperature between, approximately, 220° centigrade and, approximately, 285° centigrade, substantially as described.

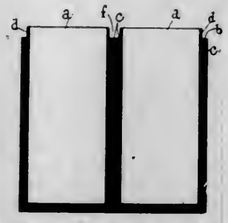
3. The process of forming an insulating-coating on surfaces to be insulated consisting in applying thereto a coating of stearin-pitch and thereupon heating the coating to a temperature above, approximately, 220° centigrade, substantially as described.

4. The process of forming an insulating-coating on surfaces to be insulated consisting in first dissolving stearin-pitch and then applying to the surface a coating of the dissolved stearin-pitch, and thereupon heating the coating to a temperature above, approximately, 220°, substantially as described.

5. The process of forming an insulating-coating on bodies to be insulated consisting of applying thereto a coating of stearin-pitch and thereupon exposing the thus-coated body to a temperature above, approximately, 220° centigrade, substantially as described.

6. The process of forming an insulating-coating on bodies to be insulated consisting in immersing the same in a bath of stearin-pitch and then moving the body so coated vertically near a source of heat having a temperature above, approximately, 220° centigrade, substantially as described.

842,616. BATTERY JAR OR CELL. JOSEPH Y. BRADBURY, Somerville, Mass. Filed Oct. 25, 1906. Serial No. 340,430.

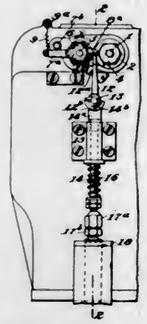


Claim.—1. A battery jar or cell of the class described, comprising a jar or cell of fragile, non-metallic material, and a jacket or armor of flexible, fibrous material applied to the exterior surface of the said jar or cell to cover the bottom and greater portion of the sides and ends of the same and to leave a portion of the outer surfaces of said sides and ends uncovered at the top of the same, and a substantially acid-resisting medium applied to said fibrous armor to render the same impervious, for the purpose specified.

2. A battery jar or cell of the class described, comprising a jar or cell, and a jacket or armor of flexible, fibrous material applied to the exterior surface of the said jar or cell to cover the bottom and greater portion of the sides and ends of the same and to leave a portion of the outer surfaces of said sides and ends uncovered at the top of the same, and a substantially acid-resisting medium applied to said fibrous armor to render the same impervious, for the purpose specified.

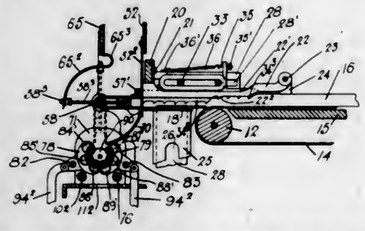
842,617. ELECTRICAL IGNITION MECHANISM FOR EXPLOSION-ENGINES. HENRI C. BRASIER, Paris, France. Filed July 12, 1902. Serial No. 115,333.

Claim.—1. An electric ignition device, comprising a fixed electrode, a shaft 5 carrying the movable electrode, a boss 7 secured to the shaft, and having a spring 9 to separate the movable electrode from the fixed electrode, a sleeve 8 loose on the shaft and having a ratchet to normally engage a ratchet on the said boss, a spring 10 around said shaft and secured at one end to the shaft and at the other end to the sleeve in combination with a reciprocating rod having a pivoted pallet to act on the sleeve 8 to turn the latter and the shaft through spring 10 to make the movable electrode contact with the fixed electrode and means to disengage the pallet.



2. In an ignition device, mechanism for actuating the movable electrode, comprising a shaft for said electrode, a boss keyed thereon, and a spring for the boss to operate said shaft by pressure in a line substantially tangential thereto and tending to keep the electrodes apart, a sleeve having a nose loosely mounted on said shaft and turning free of the boss when traveling to bring the electrodes together, and a spring stronger than the first-mentioned spring between the sleeve and shaft, a stop for limiting the return motion of the sleeve, with relation to the boss, to that position where a pallet first engages it, in combination with a vertically-reciprocating rod and means to operate it, an upright pallet pivotally mounted on said rod, and a spring to maintain it in its upright position, said sleeve having an arm adapted to strike and free the pallet from the nose of the sleeve when said nose has been moved a certain distance.

842,618. CIGAR-BUNCHING MACHINE. RICHARD A. BRIGHT and ARTHUR W. DAVIS, Cranston, R. I. Filed Mar. 22, 1906. Serial No. 307,524.



Claim.—1. In a machine of the type set forth, the combination with a filler-feeding belt, of a series of interspaced bars fixed at an inclination to and above the plane of the belt, serrated bars sliding intermediate the bars, and means for simultaneously actuating the feeding-belt and serrated bars.

2. In a machine of the type set forth, the combination with a filler-feeding belt, of a series of bars provided with swells upon their lower margins fixed above the plane of the belt, filler-engaging means sliding between the bars, and means for synchronously actuating the belt and engaging means.

3. In a machine of the type set forth, the combination with the filler-feeding belt, of a series of bars provided with inclined swelled lower margins fixed above the plane of the belt, filler-engaging devices sliding between the bars and means for simutaneously actuating the belt and engaging devices.

4. In a machine of the type set forth, the combination with a filler-feeding belt, of a series of bars fixed above the belt, slidable serrated bars intermediate the fixed bars adapted to engage the filler, and means for simultaneously actuating the belt and sliding the serrated bars.

5. In a machine of the type set forth, the combination with a filler-feeding belt, of a series of fixed bars having their lower margins inclined to the plane of the belt, slidable toothed bars provided with swelled lower margins intermediate the fixed bars adapted to engage the filler, and means for actuating the belt and sliding the toothed bars.

6. In a machine of the type set forth, the combination with a filler-feeding belt, of a series of bars fixed above the belt, reciprocating serrated bars intermediate the fixed bars for engaging and advancing the filler, yielding means upon the serrated bars for normally retaining the serrations of each bar in alinement during their advance, and means actuating the belt and reciprocating the toothed bars.

7. In a machine of the type set forth, the combination with a filler-feeding belt, of a filler-table adjacent the belt, a grate fixed in the plane above the belt and table, interspaced bars fixed in the grate, a carriage reciprocating adjacent the grate, bars mounted in the carriage adapted to slide in the spaces between the fixed bars and provided with teeth adapted to engage the filler and means for reciprocating the carriage.

8. In a machine of the type set forth, the combination with a frame, filler-table, and feeding-belt, of a grate fixed to the frame above the table and belt, and in a plane substantially parallel to that of the table and belt interspaced bars fixed in the grate, a carriage slidably mounted in the frame toothed bars mounted in the carriage and adapted to register in the spaces between the grate-bars, means in the frame for longitudinally reciprocating the carriage, and means in the frame coacting with the first-named means for reciprocating the carriage toward and from the plane of the table.

9. In a machine of the type set forth, the combination with two sets of forming-rolls, each roll comprising interengaging sections, stationary non-flexible cores in the sections, sleeves rotatably mounted on the cores, and mechanism for rotating the sleeves.

10. A roll for forming cigar-bunches comprising a rigid jointed core, a jointed tube loosely mounted upon the core intermediate the ends of the core, and means upon the core connected with the tube for rotating the sleeve.

11. A roll for forming cigar-bunches comprising a rigid jointed core, a jointed tube loosely mounted upon the core intermediate the core ends, pinions loosely mounted upon the ends of the core, and flexible sleeves connecting the tube and pinions.

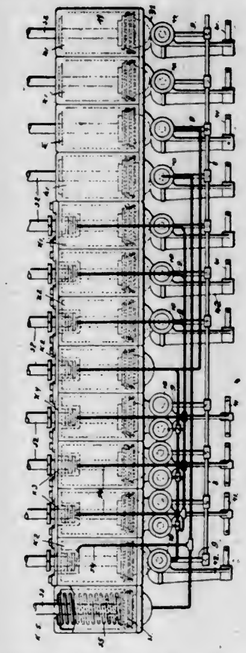
12. A roll for forming cigar-bunches, comprising a rigid jointed core, a jointed tube provided with longitudinal corrugations loosely mounted upon the core intermediate the core ends, pinions loosely mounted upon the ends of the core, and sleeves connecting the tube and pinions.

13. A roll for forming cigar-bunches comprising a jointed core, a jointed tube having a longitudinally-concaved exterior mounted upon the core intermediate the core ends, pinions loosely mounted upon the ends of the core, and connections between the pinions and the tube.

14. In a machine of the type set forth the combination with two pairs of jaw-couplets adapted to rock toward and from each other, a plurality of rolls mounted in each jaw-couplet, pinions on the rolls, a driving-shaft adjacent the rolls, and a gear on the driving-shaft adapted to mesh with the pinions when the jaws are in closed position, of a clutch upon the driving-shaft, means for rocking the jaws, and means actuated by the rocking means for intermittently operating the clutch.

842,619. SYSTEM OF PNEUMATIC CONTROL. EINAR J. BRING, Wilkinsburg, Pa. Filed July 25, 1906. Serial No. 327,672.

Claim.—1. In a pneumatic-control system for electric motors, the combination with electrical apparatus, of a series of pipes for fluid under pressure constituting a circuit of variable pressure, a second series of pipes for fluid under pressure, constituting a circuit of constant pressure, a plurality of pistons in said variable-pressure circuit, of such diameter as to adapt them to compress a spring of known tension when acted upon by a predetermined pressure, and a plurality of valves in said constant-pressure circuit, each controlling the admission fluid to or the discharge of fluid from a cylinder in said constant-pressure circuit.



2. In a pneumatic-control system for electric motors, the combination with a series of electric switches, of a series of pipes constituting a constant-pressure circuit, a second series of pipes constituting a variable-pressure circuit, a series of cylinders in said constant-pressure circuit, pistons in said cylinders connected to said switches, the movement of said pistons being governed by the pressure in said variable-pressure circuit.

3. In a pneumatic-control system for electric motors, the combination with a series of electric switches, of a series of pipes for compressed air, constituting a circuit of variable pressure, a second series of pipes for compressed air constituting a circuit of constant pressure, a series of cylinders, pistons and valves, in said constant circuit, and a pipe connection between any of said valves and cylinders in said constant circuit whereby pressure on each side of said pistons is equalized, or the pressure on one side exhausted simultaneously with the admission of air to the cylinder operated by a valve from which pipe connection is drawn.

4. In a pneumatic-control system for electric motors, the combination with a series of electric switches, of a series of pipes for compressed air constituting a circuit of constant pressure, a series of pipes for compressed air constituting a circuit of variable pressure, a piston in the variable-pressure circuit and a spring connected to said piston in such relation that the force it exerts upon the piston in its line of movement diminishes as the tension of the spring is increased thereby causing the piston to move with a snap action.

5. In a pneumatic-control system for electric motors, the combination with a series of electric switches, of a series of pipes for compressed air constituting a circuit of constant pressure, a series of pipes for compressed air constituting a circuit of variable pressure, the movement of parts in said constant circuit being controlled by the increase or decrease of pressure in said variable circuit, and a valve controlling the admission of compressed air to the variable

circuit thereby permitting any desired pressure to be maintained.

6. In a pneumatic-control system for electric switches, the combination with a series of pipes for compressed air constituting a circuit of constant pressure, and a series of pipes for compressed air constituting a circuit of variable pressure, a series of cylinders and pistons in said constant circuit, and means whereby the movement of said pistons in the constant circuit will depend upon the degree of pressure in the variable circuit, the existence of a certain pressure in the variable circuit actuating a certain piston in the constant circuit.

7. In a pneumatic-control system for electric switches, the combination with a series of pipes for compressed air constituting a constant circuit and a series of pipes for compressed air constituting a variable circuit, pistons in said constant circuit controlled by the pressure in said variable circuit, and means for effecting a gradual increase of pressure in said variable circuit.

8. In a pneumatic-control system for electric switches, the combination with a series of pipes for compressed air constituting a constant circuit and a series of pipes for compressed air constituting a variable circuit, pistons in said constant circuit controlled by the pressure in said variable circuit, and means for effecting a gradual increase of pressure in said variable circuit, comprising a nozzle or leakage-groove of predetermined cross-sectional area.

9. In a pneumatic-control system for electric switches, the combination with a series of pipes for compressed air, constituting a constant circuit, and a series of pipes for compressed air constituting a variable circuit, a series of valves and pistons in the constant circuit, a series of pistons in the variable circuit, a series of springs of predetermined tension, each adapted to be compressed by its piston when said piston is subjected to a certain pressure to actuate one of the valves controlling the motion of one of the pistons in the constant circuit.

10. In a pneumatic-control system for electrically-driven vehicles or trains, the combination with a series of pipes constituting a circuit of constant pressure, and a series of pipes constituting a circuit of variable pressure, and means for increasing or decreasing the supply of compressed air, whereby the acceleration of the vehicle or train depends primarily upon the rate of admission of air into said variable circuit.

11. In a pneumatic-control system for electric switches, the combination with a compressed-air circuit of constant pressure, and a compressed-air circuit of variable pressure, means for gradually increasing the supply of air to the variable circuit, and a series of pistons in said variable circuit so arranged as to cause certain switches to be closed at predetermined pressures during the gradual increase of pressure in the variable circuit.

12. In a pneumatic-control system for electric motors, the combination with a plurality of vertically-disposed pneumatic cylinders, of valve-chambers adjacent to said cylinders, horizontally-disposed pneumatic cylinders adjacent to said valve-chambers, pistons in said horizontal cylinders, piston-rods for said pistons, and valves within said valve-chambers connected to said piston-rods.

13. In a pneumatic-control system for electric motors, the combination with a series of cylinders, of switch-controlling pistons, and piston-rods in said cylinders, a valve-chamber for each of said cylinders, a control-cylinder adjacent to each of said valve-chambers, valves within said chambers connected to the piston-rods of said control-cylinders, and pipe connections for supplying air under a constant pressure to said first-mentioned cylinders, and air under variable pressure to said control-cylinders.

14. In a pneumatic-control system for electric motors, the combination with a plurality of switch-cylinders, of a valve-chamber and valve for each cylinder, control-cylinders having a piston, and a piston-rod for operating said valves, means for supplying air under a constant pressure to said switch-cylinders, and air under variable pressure to said control-cylinders, and equalizing-pipes connecting said valve-chambers and switch-cylinders.

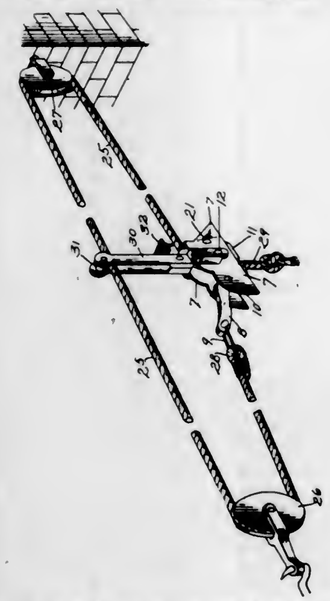
15. In a pneumatic-control system for electric motors, the combination with a plurality of switch-cylinders, of a valve-chamber and valve for each of said cylinders, a plurality of control-cylinders and a plurality of spring-controlled pistons within said control-cylinders for operating said valves.

16. In a pneumatic-control system for electric motors, the combination with a switch-cylinder and its piston and piston-rod, of a valve-chamber and valve, a control-cylinder, a piston within said control-cylinder, and a device for regulating the movement of said control-cylinder piston comprising a lever connected to said piston, an inclined arm pivotally secured at one end to said lever, and at its opposite end to a suitable support, and a spring encircling said arm, and means for compressing said spring by the movement of said lever.

17. In a pneumatic-control system for electric motors, the combination with a series of switch-cylinders, of a valve-chamber and valve for admitting air to said cylinders, a control-cylinder for each of said valve-chambers, pistons and piston-rods within said control-cylinders, and springs connected with said piston-rods whereby said pistons will be actuated by the admission of air to the control-cylinders under a predetermined pressure.

18. In a pneumatic-control system for electric motors, the combination with a series of switch-operating cylinders, pistons and piston-rods, of a series of control-cylinders each having a spring-controlled piston, means for admitting air to said switch-operating cylinders under a constant pressure, and air to said control-cylinders under a variable pressure, a series of pipe connections between said cylinders and an air-supply, and a controller-valve for regulating the supply of air through said pipes.

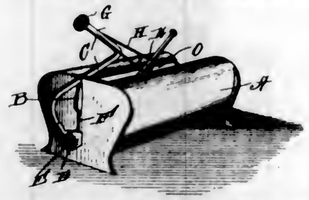
842,620. ROPE-FASTENER. JULIUS BROWN, Peekskill, N. Y. Filed Feb. 3, 1906. Serial No. 299,247.



Claim.—1. In a device of the character specified, the combination with a housing or support, of a pair of rope-clamping members pivoted therein, one of these having means for attachment to a rope, and having engaging faces for a rope passing through the device, and the other constituting a pivoted member having a face for engaging the rope and swinging the member upon its pivot toward the other member, said pivoted member having faces for the engagement of a rope pressed toward it by a face of said first member, and having a heel for pressing the rope at another point against another face of said first-mentioned member.

2. In a device of the character specified, the combination with a housing, of a lever pivoted therein and having means for the attachment of a rope, and said lever having a pair of spaced-apart rope-engaging faces, a member pivoted adjacent to said lever and having a heel for engaging a rope passing over the other of said faces said member having a recess in its face between said heel and the pivot thereof and a face for receiving the pressure of the rope and moving said heel toward said lever, and means for limiting the movement of said member.

842,621. MATCH-SAFE. HARRY BUDESHEIM, Washington, D. C. Filed May 21, 1906. Serial No. 317,973.



Claim.—1. A single-delivery match-safe comprising a receptacle adapted to contain matches, a spring-pressed lever mounted upon the receptacle, a single wire bent to form a resilient coil, with the ends of the wire fixed to said lever, and means for frictionally overcoming the tension of the spring of said lever, whereby the same may be normally held in position to be depressed within the receptacle, as set forth.

2. A single-delivery match-safe comprising a receptacle adapted to contain matches, a spring-pressed lever mounted upon the receptacle, a single wire bent to form a resilient coil, with the ends of the wire fixed to said lever, and a slot formed in one edge of the receptacle and serving to guide said lever, one edge of said slot inclined slightly laterally and adapted to engage the side of the lever with sufficient frictional force to counterbalance the tension of the spring which actuates the lever, as set forth.

3. A single-delivery match-safe comprising a receptacle, the bottom of which is inclined longitudinally and apertured, a spring-actuated lever pivotally mounted upon the receptacle, a wire bent to form a resilient coil and having its ends fastened to said lever, said coil, when depressed, being positioned over said aperture in the bottom of the receptacle, and a slot in the end of the receptacle in which said lever is guided, one edge of said slot inclining laterally, adapted to frictionally engage said lever to limit the normal upper throw of the latter, as set forth.

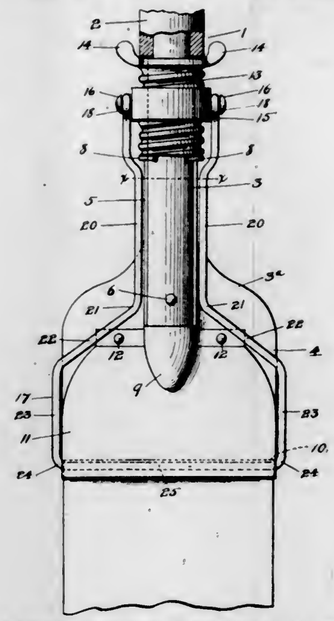
842,622. MOP-HOLDER. ARTHUR M. BURNHAM, Gardiner, Me., assignor of one-half to Wm. Gordon Crawford, Washington, D. C. Filed July 20, 1905. Serial No. 270,587.

Claim.—1. In a mop-holder, a handle, a head secured to said handle having flanges extending laterally from the handle, and a loop pivotally secured to said handle and adapted to rest on said flanges when in an operative position, substantially as shown and described.

2. In a mop-holder, a handle, a head secured to said handle having a depression in its outer end, and its upper end extended at each side of the handle to form flanges, and a loop pivotally secured to said handle and resting on said flanges and in the depression in the head when in an operative position, substantially as shown and described.

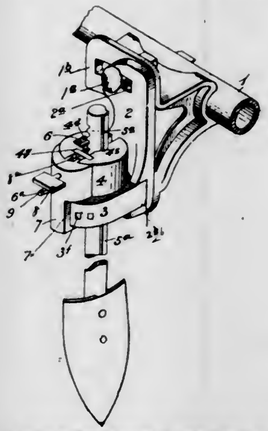
3. In a mop-holder, a handle, a head secured to said handle having flanges extended laterally from the handle, a threaded sleeve revolubly mounted on said handle, a threaded nut mounted on said sleeve, and a loop pivotally mounted on said nut and adapted to rest on said flanges when in an operative position, substantially as shown and described.

4. In a mop-holder, a handle, a head secured to said handle having a depression in its outer end and its upper end extended at each side of the handle to form flanges, an exteriorly-threaded sleeve revolubly mounted on said handle, an interiorly-threaded nut mounted on and engaging the threaded sleeve, and a loop pivotally secured on said



nut and adapted to rest on said flanges and in the depression in the head when in an operative position, substantially as shown and described.

842,623. CULTIVATOR. FITZHU L. CARRELL, Granger, Tex. Filed Sept. 8, 1905. Serial No. 277,497.



Claim.—1. A cultivator having a standard, a sleeve carrying said standard, a pinion arranged within said sleeve and geared to said standard, a bracket-arm support for said sleeve, and a dog effective for engagement with said sleeve, said bracket-arm support and the shaft of said pinion adapted to serve for actuating said pinion.

2. A cultivator having a standard equipped with teeth, a sleeve carrying said standard, a bracket-arm support for said sleeve, a pinion meshing with said teeth and arranged within said sleeve, and a dog applied to said sleeve and to the shaft of said pinion and having projections engaging

notches in said bracket-arm support, whereby said dog is adapted to effect either the turning of said sleeve or the actuation of said pinion.

3. A cultivator having a standard equipped with teeth, a sleeve carrying said standard, a pinion hung in said sleeve and meshing with said teeth, a bracket-arm support for said sleeve, a dog equipped with a key for its retention in said sleeve, said dog being applied to the shaft of said pinion and adapted to adjustably engage said bracket-arm support for the purposes aforesaid.

4. A cultivator having a standard equipped with teeth, a sleeve carrying said standard, a pinion carried by said sleeve and meshing with said teeth, a bracket-arm support for said sleeve, and a dog having spaced-apart studs let into an entrance-slot of said sleeve, and a key or button with its shank passed through said dog, and between said studs, and its inner end cross-bar engaging recesses indenting the walls of said entrance-slot, said dog being applied to the shaft of said pinion and having projections engaging notches in said bracket-arm.

5. A cultivator comprising a vertically-adjustable standard, it being equipped with teeth, a bracket applied to a beam of the plow or cultivator, a horizontally-turning sleeve having said standard passing therethrough and its lower portion passing through an opening in an arm of said bracket, a pinion hung within said sleeve, and a dog having an angular aperture therein receiving an angular projecting portion of the shaft of said pinion, said dog having projections engaging notches provided in said arm of the bracket.

6. A cultivator, comprising a bracket equipped with an arm having a plurality of adjusting-notches, means for effecting connection between said bracket and a beam of the cultivator, a shovel-standard, a sleeve rotatably seated in said arm and carrying said standard, and a dog equipped with means for its connection to said sleeve and with a projection for engagement with the notches of said arm.

7. A cultivator, comprising a shovel-standard, a sleeve adapted to receive said standard, a bracket having an arm into which said sleeve is seated so as to have horizontal movement, means for the attachment of said bracket to a beam of the cultivator, and a dog equipped with a projection engaging notches in the outer edge of said arm and with a latch effective for engagement with said sleeve and having a manipulating finger member.

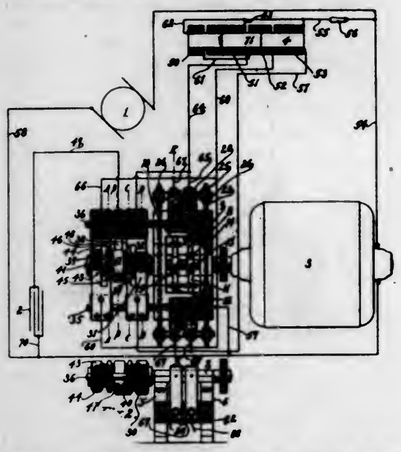
8. A cultivator, comprising a shovel-standard capable of vertical movement, a sleeve for receiving said standard, means for supporting said sleeve in position, a pinion for aiding the movement of said standard and having its shaft provided with an angular extension, and a dog for said sleeve, having an angular opening for receiving said angular shaft extension and effective for use in connection therewith.

842,624. COMMUTATOR. ALLEN F. CARVER and JAMES N. STOUT, New York, N. Y., assignors to American Inventions Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 25, 1905. Serial No. 289,061.

Claim.—1. In a commutator, the combination with a yielding contact-piece and a circuit maker and breaker arranged to move toward and away from the contact-piece, of means for actuating the circuit maker and breaker and a stop for arresting the yielding contact-piece on its return movement.

2. In a commutator, a supporting plate or table, plungers mounted in the plate or table to reciprocate longitudinally, a rotary cam mounted between the adjacent ends of the plungers for operating the plungers in one direction, springs for operating the plungers in the opposite direction and yielding contact-pieces in position to engage the opposite ends of the plungers when the plungers are forced outwardly by the cam.

3. In a commutator, a supporting plate or table having a hollow center, plungers mounted in the plate with their adjacent ends projecting into the hollow space at the center of the plate or table, a rotary cam mounted in the said hollow space between the adjacent ends of the plungers for operating the plungers in one direction, springs for operating the plungers in the opposite direction, yielding contact-pieces in position to engage the opposite ends of the plungers and stops for arresting the yielding contact-pieces on their return movements.



4. The combination with a translating device including an electromagnetic coil, of a commutator comprising a contact-piece in circuit with the coil, a reciprocating circuit maker and breaker for engaging the contact-piece, means for operating the circuit maker and breaker, a condenser electrically connected with the contact-piece and means for establishing communication with the condenser to reduce the spark at the moment of breaking circuit through the electromagnetic coil.

5. The combination with a translating device including several electromagnetic coils, of a commutator comprising several contact-pieces in circuit with the coils, reciprocating circuit makers and breakers for engaging the contact-pieces and means for operating the circuit makers and breakers, a condenser electrically connected with the several contact-pieces and means for establishing communication with the condenser to reduce the spark at the moment of breaking circuit through the several coils.

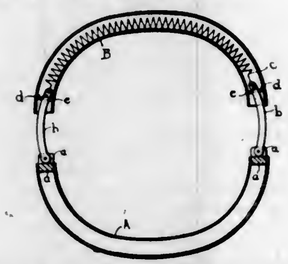
6. The combination with a translating device including several coils, of a commutator comprising contact-pieces in circuit with the coils, means for making and breaking circuit through the contact-pieces, and auxiliary circuit makers and breakers in circuit with the contact-pieces and coils, for assisting in carrying the current through the coils.

7. The combination with a translating device including several coils, of a commutator comprising contact-pieces in circuit with the coils, reciprocating circuit making and breaking devices arranged to coact with the contact-pieces, means for operating the said circuit makers and breakers and rotary commutators in circuit with the coils and contact-pieces for assisting in carrying the current through the coils, the relation between the rotary commutators and the contact-pieces with their reciprocating circuit makers and breakers being such that a circuit will be broken by the rotary commutator prior to the breaking of the circuit by the contact-piece and its coacting circuit maker and breaker.

8. The combination with a rotary disk or drum provided with conducting material, on a portion of its periphery, and a companion disk or drum provided with conducting material on a portion of its periphery, of a bifurcated brush, one branch of which is in engagement with one of the disks or drums and another branch with the other disk or drum, a condenser in electrical communication with one of said disks and a translating device in circuit with the other of said disks and means for rotating the disks.

9. The combination with a commutator including a rotary shaft, companion disks mounted on the shaft and provided with conducting material on a part of their periphery, brushes common to the companion disks, a disk or drum provided with conducting material throughout its entire periphery and a brush in engagement with said disk, of a condenser in electrical communication with said last-named brush and with one of the companion disks and a translating device in circuit with the other of said companion disks.

842,625. BRACELET. RINALDO C. CASTIGLIONI, Providence, R. I., assignor to The T. F. Greenwood Company, Providence, R. I., a Corporation of Rhode Island. Filed Mar. 14, 1906. Serial No. 306,025.



Claim.—1. A bracelet comprising two members, one of said members being provided with a spring which is connected to both ends of the other of said members when the bracelet is in open or closed position, substantially as described.

2. A bracelet comprising two members, and a spring located within one of said members, both ends of said spring being secured to the other of said members when the bracelet is in open or closed position, substantially as described.

3. A bracelet comprising two members, blocks secured within the ends of one of said members, tongues pivoted to said blocks and extending into the ends of the other of said members, and a spring connecting said tongues, substantially as described.

4. A bracelet comprising two members, blocks secured within the ends of one of said members, tongues pivoted to said blocks and extending into the ends of the other of said members, a spring connecting said tongues, and a stop for limiting the movement of said members in opening, substantially as described.

5. A bracelet comprising two members, blocks secured within the ends of one of said members, tongues pivoted to said blocks and extending into the ends of the other of said members, guide-plates secured within and near the ends of second member and provided with slots for said tongues to slide in, and a spring connecting said tongues, substantially as described.

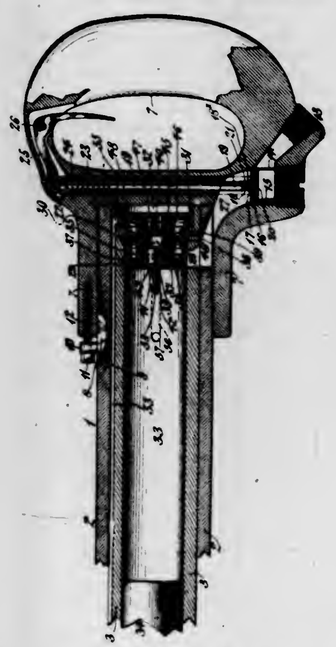
6. A bracelet comprising two members, blocks secured within the ends of one of said members, tongues pivoted to said blocks and extending into the ends of the other of said members, guide-plates secured within the ends of said second member and provided with slots for said tongues to slide in, studs on said tongues adapted to engage said plates and limit the movement of said tongues, and a spring connecting said tongues, substantially as described.

842,626. PNEUMATIC HAMMER. JOHN F. CLEMENT, Philadelphia, Pa. Filed Apr. 15, 1905. Serial No. 255,800.

Claim.—1. In a pneumatic hammer, a cylinder adapted to be manually held and having a piston therein and a valve mechanism, comprising a main valve, and a plurality of auxiliary valves, the latter being carried by said main valve, said valves moving in substantial alinement with said piston.

2. In a pneumatic hammer, a valve mechanism, comprising a main valve having differential pressure areas, and a plurality of inner and outer auxiliary valves, one of said valves being tappet-actuated.

3. In a pneumatic hammer, a valve mechanism, comprising a main valve, and an inner and outer auxiliary valve, said outer valve being operated by fluid-pressure, and said inner valve by its contact with the piston.



4. In a pneumatic hammer, a valve mechanism, comprising a main valve having differential pressure areas, an outer auxiliary valve having differential pressure areas, and an inner auxiliary valve having differential areas, said outer valve being operated by fluid-pressure and said inner valve by its contact with the piston.

5. In a pneumatic hammer, a valve mechanism, comprising a main valve, having differential pressure areas and an inner and outer auxiliary valve, said outer valve being operated by fluid-pressure, and a reduced end or striker on said inner valve, which latter is operated by contact of the piston therewith.

6. In a pneumatic hammer, a valve mechanism, comprising a main valve having differential pressure areas and an inner and outer auxiliary valve, said outer valve having differential pressure areas, air-passages extending from the rear of said outer valve through the smaller area thereof, and air-passages through said main valve with which said outer valve-passages register, when said outer valve is actuated, said inner valve being operated by contact with the piston, and said outer valve by fluid-pressure.

7. In a pneumatic hammer, a valve mechanism, comprising a main valve having differential pressure areas, and an inner and outer auxiliary valve, said outer valve having differential pressure areas, a recess at the outer end of said main valve in which the larger area of said outer valve is adapted to be seated, exhaust-passages through said main valve, and exhaust-passages through said outer valve adapted to register therewith at certain times, said outer valve being operated by fluid-pressure, and said inner valve by contact with the piston.

8. In a pneumatic hammer, a valve mechanism, comprising a main valve, having differential pressure areas, and an inner and outer auxiliary valve, said outer valve being operated by fluid-pressure, said inner valve being operated by contact with the piston, and means for exhausting the

air from the larger area of the main valve through said outer valve and said main valve.

9. In a pneumatic hammer, a valve mechanism, comprising a main valve and an inner and outer auxiliary valve, said outer valve being operated by fluid-pressure, said inner valve having differential areas, recesses in the smaller area thereof, air-passages through the main valve controlled by the larger area of said inner valve, whereby when the latter is actuated by contact with the piston, a live-air cushion is formed between the main valve and the piston, and a passage through the main valve for live air which latter seats said inner valve.

10. In a pneumatic hammer, a valve mechanism, comprising a main valve having differential areas and an inner and outer auxiliary valve, an inner and outer groove around said main valve, said inner groove controlling the admission of air to return the piston, and said outer groove controlling the exhaust, said outer valve being operated by fluid-pressure and said inner valve by contact with the piston.

11. In a pneumatic hammer, a valve mechanism, comprising a main valve having differential pressure areas, and an inner and outer auxiliary valve, each of said valves having differential pressure areas, said outer valve being operated by fluid-pressure, said inner valve by its contact with the piston, and inlet and exhaust ports controlled by said main valve, said inlet-port when open permitting motive fluid to pass directly to the piston-chamber without traversing said main valve.

12. In a pneumatic hammer, a valve mechanism, comprising a main valve, and an inner and outer auxiliary valve carried thereby, each of said valves having differential pressure areas, said outer valve being operated by fluid-pressure, said inner valve being moved forwardly by live air and rearwardly by its contact with the piston, inlet and exhaust ports controlled by said main valve, exhaust-ports controlled by said outer valve, said inlet-port admitting air to the cylinder under said main valve when said inlet-port is open, and means for forming a live-air cushion between the piston and the adjacent end of said main valve.

13. In a pneumatic hammer, the combination of a cylinder and piston, a valve mechanism, a tappet-actuated valve forming a part of said mechanism, and means actuated by said tappet for creating a live-air cushion between said piston and valve mechanism.

14. In a pneumatic hammer, a cylinder, a piston therein, a valve mechanism comprising a main distribution-valve of differential areas, an outer auxiliary valve and an inner auxiliary valve, and means on said inner auxiliary valve for creating a live-air cushion between the piston and said main distribution-valve, whereby the latter is prevented from being damaged by said piston.

15. In a pneumatic hammer, a cylinder, a piston therein, a valve mechanism therefor, said valve mechanism comprising a main distribution-valve, an outer auxiliary valve and an inner auxiliary valve, means for admitting live air to the piston to drive the latter forward without said air traversing said valve mechanism, and means on said inner auxiliary valve for creating a live-air cushion between the piston and main valve.

16. In a pneumatic hammer, a cylinder adapted to be manually held and having a hammering-piston therein, the forward end of said cylinder being adapted for the reception of the shank of a working tool, and a valve mechanism for controlling the movement of said piston and comprising a main valve located in substantial alinement with said piston, and an inner and outer auxiliary valve carried by said main valve.

17. In a pneumatic hammer, a cylinder adapted to be manually held and having a hammering-piston therein, the forward end of the latter being adapted for the reception of the shank of a working tool, and a valve mechanism comprising a main valve having differential pressure areas and a plurality of auxiliary valves carried by said main valve.

18. In a pneumatic hammer, a cylinder adapted to be manually held and having a hammering-piston therein, the forward end of the latter being adapted for the reception of the shank of a working tool, a valve mechanism comprising a main valve having differential pressure areas and a plurality of auxiliary valves carried by said main valve, one of said auxiliary valves being operated by fluid-pressure and the other by its contact with said piston.

19. In the valve mechanism of a pneumatic hammer, a tappet-actuated valve beneath which motive fluid enters to actuate the piston and means actuated by the tappet thereof for creating a live-air cushion between the piston and valve mechanism.

20. In a pneumatic hammer, a cylinder having a hammering-piston therein, a valve mechanism therefor comprising a main valve, and an inner and outer auxiliary valve carried thereby, said inner valve having a striker thereon operated by contact of said piston therewith.

21. In a pneumatic hammer, a cylinder having a hammering-piston therein, a valve mechanism therefor comprising a main valve, and an inner and outer auxiliary valve carried thereby, said inner valve being operated by its contact with the piston, and means for exhausting the air from the larger area of the main valve through said outer valve and main valve.

22. In a pneumatic hammer, a cylinder having a hammering-piston therein and a valve mechanism therefor, comprising a main valve and a plurality of auxiliary valves carried thereby, one of said auxiliary valves being tappet-actuated and means controlled by the tappet for creating a live-air cushion between said piston and valve mechanism.

23. In a pneumatic hammer, a cylinder, a piston therein and a valve mechanism therefor comprising a main distribution-valve, an outer auxiliary valve, an inner auxiliary valve and a striker projecting from the latter through said main valve and having a groove therein to permit the creation of an air-cushion between said piston and main valve.

24. The combination of a cylinder having a hammering-piston therein, a grasping-handle on said cylinder, a manually-operated valve in said handle and a valve mechanism for said cylinder comprising a main valve, a tappet-actuated inner auxiliary valve, an outer auxiliary valve and means actuated by the tappet for creating a live-air cushion between said piston and valve mechanism.

25. In a pneumatic hammer, a cylinder having a hammering-piston therein and an inlet-port, and a valve mechanism comprising a main valve controlling said port, and a plurality of auxiliary valves, one of said auxiliary valves being tappet-actuated, the other of said auxiliary valves being fluid-actuated, and said main valve being above said inlet-port when in raised position.

26. In a pneumatic hammer, a cylinder having a differential bore provided with a hammering-piston, and a valve mechanism comprising a main valve engaging said bore and having differential pressure areas, and a plurality of auxiliary valves carried by said main valve, one of said valves being tappet-actuated.

27. In a pneumatic hammer, a cylinder having an inlet-port therein and a valve mechanism controlling said port at one side of which latter the motive fluid enters to advance the piston, said valve mechanism comprising a main distribution-valve, an outer auxiliary valve, and an inner auxiliary tappet-valve.

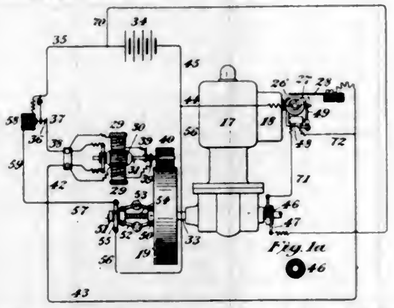
28. In a pneumatic hammer, a valve mechanism, comprising a main valve and a plurality of inner and outer auxiliary valves, the two latter being arranged in alinement with each other.

842,627. STARTING MEANS FOR INTERNAL-COMBUSTION ENGINES. CLYDE J. COLEMAN, Rockaway, N. J., assignor to Conrad Hubert, New York, N. Y. Filed Sept. 17, 1903. Serial No. 173,497.

Claim.—1. The combination of a non-starting engine, a self-starting motor and a magnetic clutch connecting the engine and motor.

2. The combination of a non-starting engine, a self-starting motor and a magnetic friction-clutch connecting the engine and motor.

3. The combination of an engine, an electrodynamic machine and a magnetic clutch connecting the engine and electrodynamic machine.



4. The combination of an engine, an electrodynamic machine and a magnetic friction-clutch connecting the engine and electrodynamic machine.

5. The combination of an internal-combustion engine, an electromotor and an electromagnetic clutch connecting the engine and electromotor.

6. The combination of an internal-combustion engine, an electromotor and an electromagnetic friction-clutch connecting the engine and electromotor.

7. The combination of a non-starting engine having a rotating wheel thereon, a self-starting motor, and an electromagnetic friction-clutch having circular pole-pieces fitted to rotate in peripheral contact with the rotating wheel of the engine.

8. The combination of a non-starting engine, an electromotor having field and armature coils connected in multiple, and an electromagnetic clutch connecting the engine and motor and having energizing-coils connected in series with the field-coils of the electromotor.

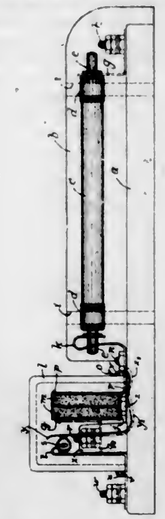
9. The combination of a non-starting engine having a rotating wheel thereon, an electromotor having field and armature coils connected in multiple, a magnetic friction-clutch having circular pole-pieces fitted to rotate in peripheral contact with the rotating wheel of the engine and having energizing-coils connected in series with the field-coils of the electromotor.

10. The combination of an internal-combustion engine, an electrodynamic machine, connecting means for the engine and electrodynamic machine, electrically-controlled means connecting the engine and electrodynamic machine, electric power and storing means, means for connecting the power and storing means and the electrodynamic machine for the starting operation and speed-controlled means actuated by the engine and including other means for connecting the electric power and storing means and the electrodynamic machine, such other connecting means being operative at a speed adapted for charging the power and storing means.

11. The combination of an internal-combustion engine, an electrodynamic machine, connecting means for the engine and electrodynamic machine electric power and storing means, means for connecting the power and storing means and the electrodynamic machine, speed-controlled means actuated by the engine and including other means for connecting the electric power and storing means and the electrodynamic machine such other connecting means being operative at a speed adapted for charging the power and storing means, and automatic controlling means controlled by the condition of the power and storing means for interrupting the charging-circuit.

12. The combination of an internal-combustion engine, an electrodynamic machine, connecting means for the engine and electrodynamic machine including an electromagnetic friction-clutch having circular pole-pieces fitted to rotate in peripheral contact with a rotating part of the engine, means for connecting the power and storing means and the electrodynamic machine for the starting operation, means controlled by the speed of the engine for connecting the electrodynamic machine and the power and storing means for the charging operation, such means being operatable at a speed adapted for the power and storing means.

842,628. SUBSTATION-PROTECTOR. FRANK B. COOK, Chicago, Ill. Filed Mar. 12, 1906. Serial No. 305,599.



Claim.—1. An arrangement of electrical protective apparatus comprising an insulating-base, a pair of fuses mounted parallel on the base, suitable spring clamping devices for the fuses adapted to automatically clamp same in place, a pair of lightning-arresters mounted in line with the respective fuses, suitable contact-springs for the lightning-arresters, a pair of thermal protectors mounted in line with the fuses and lightning-arresters, suitable contact-springs for the thermal protectors, a rib of insulating material between the fuses and extending parallel therewith, a suitable cover for the thermal protectors and lightning-arresters, and means for connecting the apparatus as a protector for electrical apparatus, substantially as described.

2. An arrangement of electrical protective apparatus comprising an insulating-base, a tubular fuse mounted horizontally on the base, suitable spring clamping devices for the fuse, a thermal protector mounted on the base in line with the fuse and in circuit therewith, suitable contact-springs for the thermal protector, a lightning-arrester mounted vertically on the base and in line with the fuse and thermal protector, a contact-spring and a ground-terminal for the lightning-arrester, the contact-spring being connected to the circuit of the fuse and thermal protector and the ground-terminal being adapted to ground the circuit of the fuse when the thermal protector operates, and suitable connection-terminals for the circuit-conductors, substantially as described.

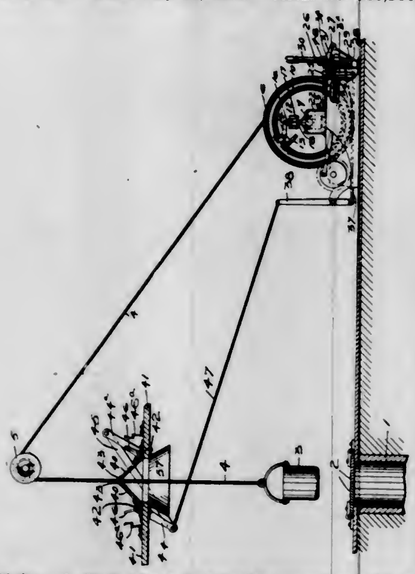
3. In apparatus of the class specified, the combination of an insulating-base, a fuse, lightning-arrester, and thermal protector mounted in line on the base in the order mentioned, suitable contact-springs for the several protectors, the free ends of the contact-springs for the lightning-arrester being at respective opposite ends of the latter, the fuse being mounted so that when it is not in place in the circuit the latter is opened for the entire length of the fuse, and suitable connection-terminals for the several circuit-conductors, substantially as described.

4. An arrangement of electrical protective apparatus, comprising an insulating-base, tubular fuses mounted horizontally on the base, suitable spring clamping devices for the fuses, thermal protectors mounted on the base in line with the respective fuses and in circuit therewith, suitable contact-springs for the thermal protectors, lightning-arresters mounted vertically on the base and in line with the respective lines of fuses and thermal protectors, contact-springs and a ground-plate for the lightning-arresters, the contact-springs being connected to the respective circuits of the fuses and thermal protectors and the ground-plate

being adapted to ground the circuits of the fuses when the thermal protectors operate, and suitable connection-terminals for the circuit-conductors, substantially as described.

5. In apparatus of the class specified, the combination of an insulating-base, fuses, lightning-arresters, and thermal protectors mounted in duplicate lines on the base and in the order mentioned, suitable contact-springs for the several protectors, the free ends of the contact-springs for each lightning-arrester being at respective opposite ends of the latter, the fuses being mounted so that when they are not in place in the circuits the latter are opened for the entire lengths of the fuses, an insulating-rib between the fuses, a suitable cover for the thermal protectors and lightning-arresters, and suitable connection-terminals for the several circuit-conductors, substantially as described.

842,629. AUTOMATIC CLUTCH. WILLIAM COOPER, Denver, Colo. Filed July 14, 1906. Serial No. 326,166.



Claim.—1. In hoists, a hoisting-receptacle, a cable-drum controlling said receptacle, power mechanism, a clutch device interposed between said drum and said power mechanism, locking means for maintaining said clutch device in its operative position, means whereby the said receptacle in passing a given point automatically releases said clutch and automatic means for throwing said clutch into its inoperative position when said locking means are released.

2. In hoists, a hoisting-receptacle, a cable-drum controlling said receptacle, power mechanism, a clutch device interposed between said drum and said power mechanism, a controller attached to said clutch device, locking means adapted to engage said controller and means for automatically throwing said locking means out of engagement with said controller.

3. In hoists, a hoisting-receptacle, a cable-drum controlling said receptacle, power mechanism, a clutch device interposed between said drum and said power mechanism, a controller attached to said clutch device, locking means adapted to engage said controller and means operated by the movement of said receptacle for throwing said locking means out of engagement with said controller.

4. In hoists, a hoisting-receptacle, a cable-drum controlling said receptacle, power mechanism, a clutch interposed between said drum and said power mechanism, a lever controlling said clutch, a quadrant adapted to lock said lever stationary and means for automatically swinging said quadrant out of engagement with said lever.

5. In hoists, a hoisting-receptacle, a cable-drum controlling said receptacle, power mechanism, a clutch interposed between said drum and said power mechanism, a lever controlling said clutch, a quadrant adapted to lock said lever stationary and means operated by the movement of said receptacle for throwing said quadrant out of engagement with said lever.

6. In hoists, a hoisting-receptacle, a cable-drum controlling said receptacle, power mechanism, a clutch interposed between said drum and said power mechanism, a lever controlling said clutch, a quadrant adapted to lock said lever stationary, a sector mounted on said quadrant, a pivoted member adapted to engage said sector and means operated by the movement of said receptacle for swinging said pivoted member.

7. In hoists, a hoisting-receptacle, a cable-drum controlling said receptacle, power mechanism, a friction-clutch adapted to couple said drum to said power mechanism, a lever controlling said friction-clutch, a swinging quadrant adapted to lock said lever stationary, a sector rigidly mounted on said quadrant, a pivoted sector member adapted to intermesh with said sector, a member interposed in the path of said receptacle and adapted to be engaged thereby and operative means connecting said last-mentioned member and said sector member.

8. In hoists, a hoisting-receptacle, a cable-drum controlling said receptacle, power mechanism, a friction-clutch adapted to couple said cable-drum and said power mechanism, a lever controlling said clutch, means for normally maintaining said lever in its inoperative position, means for locking said lever in its operative position, and means operated by the movement of said receptacle for releasing said locking means.

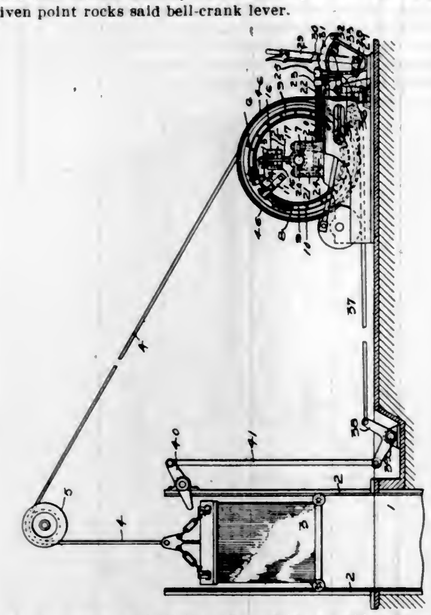
9. In hoists, a hoisting-receptacle, hoisting mechanism controlling said receptacle, a friction-clutch, a lever adapted to control said clutch, a quadrant pivoted at one end and adapted to lock said lever in place, a sector rigidly mounted on the free end of said quadrant, a second sector pivoted to the engine-frame and intermeshing with said first sector, an arm rigidly attached to said second sector, means interposed in the path of said receptacle and adapted to be engaged thereby and operative means connecting said first-mentioned means and said arm whereby the engagement of said first-mentioned means by said receptacle throws said quadrant out of engagement with said lever.

10. In hoists, a hoisting-receptacle, hoisting mechanism controlling said receptacle, a friction-clutch, a lever adapted to control said clutch, a device for automatically throwing said friction-clutch out of its operative position, a quadrant adapted to lock said lever so that said clutch is maintained in its operative position, said quadrant being pivoted by one end, a sector rigidly secured to the free end of said quadrant, a second sector pivoted on the engine-frame and intermeshing with said first sector, an arm rigidly attached to said second sector, means interposed in the path of said receptacle and adapted to be engaged thereby and operative means connecting said first-mentioned means and said arm whereby the engagement of said first-mentioned means by said receptacle throws said quadrant out of engagement with said lever.

842,630. AUTOMATIC CLUTCH. WILLIAM COOPER, Denver, Colo. Filed July 14, 1906. Serial No. 326,167.

Claim.—1. In hoists, a hoisting-receptacle, a cable-drum, a power-shaft, a clutch interposed between said drum and said shaft, a lever controlling said clutch and provided with a spring-latch, a swinging quadrant adapted to be engaged by said latch, a bell-crank lever pivotally connected to said quadrant and means whereby the said receptacle in passing a given point rocks said bell-crank lever.

2. In hoists, a hoisting-receptacle, a cable-drum, a power-shaft, a clutch interposed between said drum and said shaft, a lockable lever controlling said clutch, a locking-quadrant, pivoted to swing and adapted to engage said lever, a bell-crank lever pivotally connected to said quadrant and means whereby the said receptacle in passing a given point rocks said bell-crank lever.



3. In hoists, a hoisting-receptacle, a cable-drum, a power-shaft, a clutch interposed between said drum and said shaft, a lever controlling said clutch, a locking-quadrant adapted to engage said lever, said quadrant being pivoted to swing, a bell-crank lever pivotally connected with said quadrant, a kicker adapted to be engaged by said receptacle and means whereby said engagement rocks said bell-crank lever.

4. In hoists, a hoisting-receptacle, a power-shaft, a cable-drum loosely mounted on said shaft, a friction-clutch interposed between said shaft and said drum, a controlling-lever connected with said clutch, a pivoted locking-quadrant adapted to lock said lever stationary, a bell-crank lever pivotally connected to said quadrant, a second bell-crank lever, a connecting-rod between said bell-crank levers, a kicker adapted to be engaged by said receptacle and operative connection between said kicker and said second bell-crank lever.

842,631. APPARATUS FOR INJECTING SOLID VACCINE MATTER. HIPPOLYTE DEPERDUSSIN, Paris, France, assignor to The Pasteur Vaccine Company Limited, London, England, a Firm. Filed Jan. 25, 1906. Serial No. 297,803.

Claim.—1. A device for inoculating animals with solid vaccine matter, comprising a handle, a hollow needle, a stem working in the handle and needle, a spring adapted to be compressed when the stem is drawn back, a catch for engaging with the stem when retracted, and means for feeding the vaccine into line with said stem.

2. A device for inoculating animals with solid vaccine matter, comprising a handle, a hollow needle thereon, a stem working in the handle and needle and having a notch, a spring adapted to be compressed when the stem is drawn back, a spring-catch to engage with said stem when retracted, and means for feeding the vaccine into line with said stem.

3. In a device for inoculating animals with solid vaccine matter, the combination with a hollow needle, of means for ejecting the vaccine matter therethrough, and a feeder for said matter comprising a rotatable element having holes for the vaccine matter and so mounted as, when rotated, to bring said holes in line with said needle.

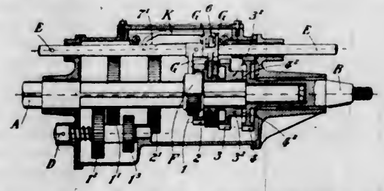
4. In a device for inoculating animals with solid vaccine matter, the combination with a hollow needle, of means for ejecting the vaccine matter therethrough, and a feeder for said matter comprising a rotatable element having holes for the vaccine matter and so mounted as, when rotated, to bring said holes in line with said needle, and a cover mounted eccentrically to the axis of rotation of said element.



5. In a device for inoculating animals with solid vaccine matter, the combination with a handle, of a hollow needle mounted thereon a spring-actuated stem in said handle for ejecting the vaccine matter through said needle, a disk mounted to rotate on an axis eccentric to that of the needle and provided with a series of holes adapted to receive the vaccine matter and be brought in line with the needle as said disk is rotated, a detent engaging with said disk, and a transparent cover adapted to be moved over and away from said disk.

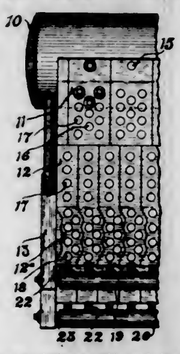
6. In a device for inoculating animals with solid vaccine matter, the combination with a handle, of a hollow needle mounted thereon, a spring-actuated stem in said handle for ejecting the vaccine matter through said needle, a disk mounted to rotate on an axis eccentric to that of the needle and provided with a series of holes adapted to receive the vaccine matter and be brought in line with the needle as said disk is rotated, a detent engaging with said disk, a transparent cover adapted to be moved over and away from said disk, and a stationary plate covering the holes adjacent to said needle.

842,632. LOCKING DEVICE. LOUIS M. G. DELAUNAY-BELLEVILLE, Neuilly sur Seine, France, assignor to Société Anonyme des Etablissements Delaunay-Belleville, Seine, France. Filed Apr. 12, 1906. Serial No. 311,371.



Claim.—In combination, a driving element, a shiftable and rotatable element carried thereby, a rod, a fork shiftable upon said rod and adapted to engage the rotatable element, a shaft carried by the fork, a lever rocking upon said shaft and having a head constituting a bolt adapted to engage in said rod for connecting the fork thereto, and a guide engaged by said lever and adapted to shift the lever in and out of engagement with said rod and to limit the travel of the lever in either direction.

842,633. WATER-TUBE BOILER. HARRY DEL MAR, New York, N. Y., assignor to Boilers and Engineering Company, Jersey City, N. J., a Corporation of New Jersey. Filed July 11, 1906. Serial No. 325,629.



Claim.—1. A cross-tube sectional boiler having upper and lower headers on each side of the boiler, an upper series of cross-tubes, and a lower series of staggered tubes running parallel with the cross-section series and from a point below the series of cross-section tubes.

2. A cross-tube sectional boiler having upper and lower headers on each side of the boiler, cross-tubes connecting the upper headers to the upper parts of the lower headers opposite, and the lower part of the lower headers having bent or serpentine portions with tubes arranged in a staggered position therein, said tubes connecting the lower part of the lower headers on one side of the boiler with the lower part of the lower headers on the opposite side of the boiler.

3. A cross tube sectional boiler having upper headers and upper cross-tubes, the latter arranged one directly over the other, in combination with a series of lower headers, each having the lower portion bent or serpentine and with cross-tubes arranged in a staggered position and connecting the lower parts of the lower headers on opposite sides of the boiler.

4. A boiler of the kind described having upper and lower headers on opposite sides of the boiler, the lower headers having the upper half with tubes arranged in a single series one over the other, and the lower half serpentine or corrugated, with the cross-tubes connecting said serpentine portion, the said tubes being in staggered position.

5. In a boiler of the kind described, the combination with the upper cross-sectional series of tubes and the lower staggered series of tubes, of the baffle between the upper and lower series.

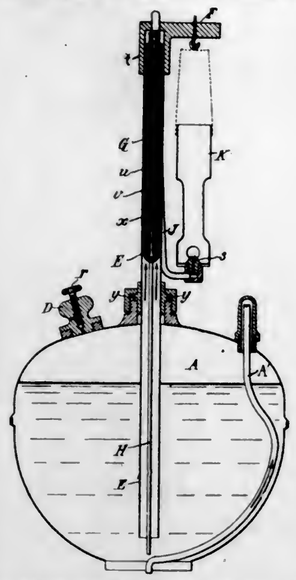
6. In a boiler of the kind described, the combination of an upper cross sectional series with tubes arranged one directly over the other, with a lower series of staggered tubes, and the baffle between the upper and lower series of tubes.

7. In a boiler of the kind described, a header having means for receiving a single series of tubes in its upper portion, which is straight, and constructed to receive a double series of tubes in staggered relation in its lower portion, said lower portion being bent or serpentine.

8. In a boiler of the kind described, the combination of an upper series of cross-tubes, one directly over the other, a lower series of staggered tubes beneath the said cross-tubes, a baffle between the two series of tubes, and upper and lower headers on opposite sides of the boiler, connecting the upper and lower series of tubes.

842,634. LOW-PRESSURE VAPOR-BURNING INCANDESCENT LAMP. LOUIS DENAYROUZE, Paris, France. Filed Dec. 23, 1904. Serial No. 238,059.

Claim.—1. An incandescence lamp operating with petroleum in which the vaporization of the liquid is effected under a very low excess pressure and including in combination a bracket for supporting a mantle and having a horizontal part arranged above the mantle, said bracket being formed with a vaporizing-chamber and a hollow stem through which the liquid passes, a metallic wick in said stem retarding the flow of the liquid therethrough, and a tube extending downward from said chamber substantially parallel to the mantle to conduct the vapor to the burner.



2. An incandescence lamp operating with petroleum in which the vaporization of the liquid is effected under a very low excess pressure and including in combination a bracket for supporting a mantle and having a horizontal part F of conducting metal arranged above the mantle, said bracket having also a vaporizing-chamber *t* of conducting metal at its upper end and having a hollow stem of metal of low conductivity, said liquid passing through said stem and chamber successively, a metallic wick in said stem retarding the flow of the liquid therethrough, and a tube extending downward from said chamber parallel to the mantle to conduct the vapor to the burner.

842,635. AMUSEMENT APPARATUS. ROY DODSON, St. Louis, Mo. Filed June 8, 1906. Serial No. 320,697.

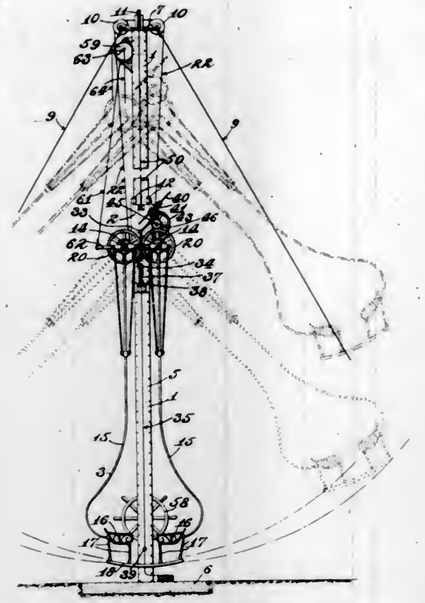
Claim.—1. An amusement apparatus comprising a column, a swing-support movably mounted on said column, a swing suspended from said swing-support, and mechanism operatively connected to said swing to be actuated thereby and adapted to elevate said swing-support.

2. An amusement apparatus comprising a column, a swing-support movably mounted on said column, a swing suspended from said swing-support, mechanism operatively connected to said swing to be actuated thereby for elevating said swing-support, and means for rendering said elevating means inoperative.

3. An amusement apparatus comprising a column, a swing-support movably mounted on said column, a swing suspended from said swing-support, mechanism operatively connected to said swing to be actuated thereby for elevating said swing-support, a speed-governor normally inoperative, and means for rendering said elevating mechanism inoperative and also rendering said speed-governor operative.

4. An amusement apparatus comprising a column, a swing-support movably mounted on said column, a swing suspended from said swing-support, mechanism adapted to be operated by said swing to elevate said swing-support, a speed-governor mounted on said swing-support and normally inoperative, and means for simultaneously rendering said elevating mechanism inoperative and said speed-governor operative.

5. An amusement apparatus comprising a column, a swing-support movably mounted on said column, a swing suspended from said swing-support, mechanism for elevating said swing-support and adapted to be operated by said swing, and a mechanical motor adapted to oscillate said swing.



6. An amusement apparatus comprising a column, a swing-support movably mounted on said column, a swing suspended from said swing-support, mechanism for elevating said swing-support and adapted to be operated by said swing, a mechanical motor adapted to oscillate said swing, means for rendering said elevating mechanism operative when the swing-support is in its lowermost position, and means for rendering said elevating mechanism inoperative when the swing-support reaches a predetermined elevation.

7. In an amusement apparatus, a column, a swing-support comprising a sleeve movably mounted on said column, guide-rollers mounted on said sleeve, a cable passing over sheaves at the top of said column and having its ends secured to said sleeve, balance-weights suspended from said cable, rock-shafts journaled in bearings on said sleeve, winding-drums loosely mounted on said rock-shafts, intermeshing gear-wheels secured to said winding-drums, pawls pivotally mounted on said gear-wheels, ratchet-wheels loosely mounted on said rock-shafts, clutches feathered on said rock-shafts, means for moving said clutches into engagement with said ratchet-wheels, a swing suspended from said rock-shafts and adapted to rock the same when oscillated, and a cable passing over sheaves at the top of said column and having its ends secured to said winding-drums and adapted to be wound thereon.

8. In an amusement apparatus, a column, a swing-support comprising a sleeve movably mounted on said column, guide-rollers mounted in said sleeve and adapted to bear against the outer faces of said column, a cable passing over sheaves at the top of said column and having its ends secured to said sleeve, balance-weights suspended from said cable, rock-shafts journaled in bearings on said sleeve, a swing suspended from said rock-shafts, winding-drums loosely mounted on said rock-shafts, a cable passing over sheaves at the top of said column and having its ends secured to said winding-drums, intermeshing gear-wheels secured to said winding-drums, pawls pivotally mounted on said gear-wheels, ratchet-wheels loosely mounted on said rock-shafts, clutches feathered on said rock-shafts, a yoke connecting said clutches, a bell-crank lever operatively connected to said yoke, an operating-bar connected to said bell-crank lever, a cord depending from said operating-bar, a stop secured on said cord, a bracket secured on said column, a spring mounted on said bracket in the path of said operating-bar and adapted to be engaged thereby when the swing-support is in its lowermost position, whereby said bar is operated to render the clutches on said rock-shafts effective, and said stop being adapted to engage said bracket when the swing-support has reached a predetermined elevation and thereby operate said bar to render said clutches ineffective.

9. An amusement apparatus comprising a column, a swing-support movably mounted on said column, a swing suspended from said swing-support, a counterbalance for said swing-support and said swing, and mechanism operatively connected to said swing to be actuated thereby for elevating said swing-support.

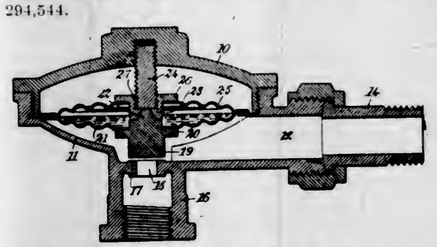
10. An amusement apparatus comprising a column, a swing-support movably mounted on said column, a swing suspended from said swing-support, a counterbalance for said swing-support and said swing, mechanism operatively connected to said swing to be actuated thereby for elevating said swing-support, and means for elevating said swing-support independently of said swing-operated mechanism.

842,636. DUST-BINDING COMPOSITION AND PROCESS OF MAKING SAME. LEISER G. L. DRESSLER, Dresden, Germany, assignor to Eduard Vollbehr, Dresden-Röcknitz, Germany. Filed Aug. 10, 1906. Serial No. 329,959.

Claim.—1. As a novel composition of matter a dust-binding emulsion for sprinkling streets, &c., composed of glycerin, dextrin, gum-arabic, milk, salt and oil and existing in the form of a liquid which may be diluted with water to a certain extent.

2. As a novel composition of matter a dust-binding emulsion for sprinkling streets, &c., composed of about seventy-eight per cent. of oil, four per cent. of glycerin, one per cent. of gum-arabic, two per cent. of dextrin, ten per cent. of milk, one per cent. of salt, and four per cent. of water and existing in form of a liquid.

842,637. AUTOMATIC VALVE. CLAYTON A. DUNHAM, Marshalltown, Iowa. Filed Jan. 4, 1906. Serial No. 294,544.



Claim.—1. A valve comprising a casing with inlet and outlet openings and a seat, a valve proper coacting with the seat, an expansion-chamber to one wall of which the valve proper is connected, a member connected to the opposite wall of the expansion-chamber, said member and valve being extended into the expansion-chamber to engage each other and limit the movement of the walls of the chamber toward each other, and means for adjustably attaching the expansion-chamber to the casing.

2. A valve comprising a casing, with inlet and outlet openings and a valve-seat, a valve proper coacting with the seat, an expansion-chamber through one wall of which a part of the valve is extended, said part terminating in a tapered plug, a member secured to the opposite wall of the expansion-chamber and having a tapered orifice adapted to receive the plug, and means engaged with said member for attaching the expansion-chamber to the casing.

3. A valve comprising a casing with inlet and outlet orifices and a valve-seat, a valve proper coacting therewith, an expansion-chamber to which the valve proper is attached, a member permanently secured in the wall of the expansion-chamber opposite the valve proper and having a filling-opening therein, and a plug secured in said opening and adjustably connected to the inner side of the casing, for the double purpose specified.

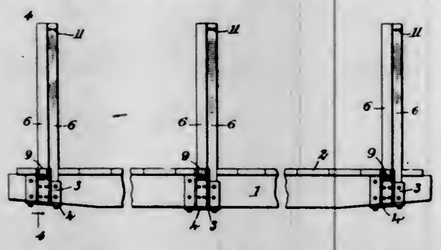
4. A valve comprising a casing with inlet and outlet orifices and a valve-seat, a valve proper coacting therewith, an expansion-chamber to which the valve proper is attached, a member secured in the wall of the expansion-chamber opposite the valve proper and having a filling-opening therein, and a plug secured in said opening and adjustably connected to the casing, for the double purpose specified, the inner end of the valve and the said member being adapted to engage each other within the expansion-chamber to limit the contraction of said chamber.

5. A valve having a casing with inlet and outlet openings and a valve-seat, a valve proper coacting with the seat, an expansion-chamber to which the valve proper is attached, a member secured to the wall of the expansion-chamber opposite the valve proper and having a filling-opening therein, and a plug secured in said opening, for the purpose specified.

6. A valve having a casing with inlet and outlet openings and a valve-seat, a valve proper coacting with the seat, an expansion-chamber to which the valve proper is attached, a member secured to the wall of the expansion-chamber opposite the valve proper and having a filling-opening therein, and a plug secured in said opening, for the purpose specified, the valve and said member having portions extended into the expansion-chamber and adapted to engage each other to limit the contracting movement of the chamber.

7. In a valve, the combination of a casing having inlet and outlet openings and a valve-seat, a valve coacting with the seat and controlling fluid movement through the casing, an expansion-chamber located within the casing and to one side of which the valve is attached, a plug within the expansion-chamber and projecting from the side to which the valve is attached, an orificed block fastened to the other side of the expansion-chamber and coacting with the said plug, and a member screwed in the orifice in the block and connected with the casing to attach the expansion-chamber to the same.

842,638. CAR-STAKE. ROBERT L. EDWARDS, Perry, Okla. Filed Nov. 9, 1906. Serial No. 342,641.



Claim.—1. In combination, a socket adapted to receive a car-stake, a stake normally stepped in said socket and adapted to be partly withdrawn therefrom by a vertical movement, means for limiting the upward movement of said stake from said socket, said means constituting a pivot about which the said stake may be rotated into a folded and horizontal position at the car-floor, and a spring engaging said stake and adapted to hold the same in its folded position.

2. In combination, a socket adapted to be attached to a car and to receive a car-stake which is normally stepped in said socket and adapted to be partly removed therefrom by a vertical movement, means for limiting the upward movement of said stake from said socket, said means constituting a pivot about which said stake may be rotated into a folded and horizontal position at the car-floor, and a bed or receptacle sunk into said floor adapted to receive said stake when so folded, in such a manner that the upper face of the stake is on a level with, and becomes a part of, the surface of said car-floor.

3. In combination, a socket adapted to be attached to a car, a stake normally stepped in said socket and presenting a transverse head at the lower extremity thereof, and pins projecting inwardly from the side walls of said socket and adapted to engage said head when said stake is raised partially from said socket, said pins constituting pivots for the rotation of said stake.

4. In combination, a socket adapted to be attached to a car, a stake normally stepped in said socket and presenting a transverse head at the lower extremity thereof, pins projecting inwardly from the side walls of said socket and adapted to engage said head when said stake is raised partially from said socket, said pins constituting pivots for the rotation of said stake, and a spring attached to said socket and adapted to engage said head when said stake is in its folded position.

842,639. STUFFING-JOINT FOR ROTARY SHAFTS. PAUL EMDEN, St. Gall, Switzerland. Filed Dec. 4, 1905. Serial No. 290,222.



Claim.—1. An automatic stuffing-joint comprising surfaces one of which is axially movable and which surfaces are adapted for the expansion of steam or gas passing the space therebetween in a radially-outward direction so that the pressure on the outside of the surfaces becomes greater than the pressure between the same whereby the surfaces are drawn or pressed together to leave but a slight escapement or gap.

2. A stuffing-joint comprising chambers with a wall or partition, a shaft passing through the wall and a movable disk adapted to be pressed against the wall by unequal pressure in the chambers.

3. A stuffing-joint comprising chambers with a wall or partition, a shaft, and a movable disk carried by the shaft and adapted to be drawn to or close the wall by unequal pressure at opposite sides thereof.

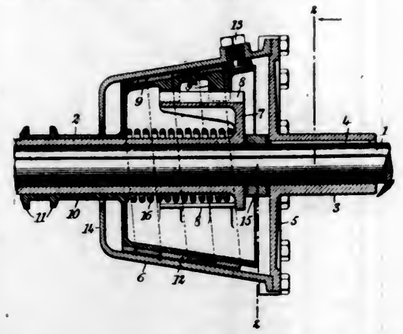
4. A cylinder or vacuum-chamber having a second chamber communicating with steam or atmospheric pressure, a shaft and a movable disk on the shaft adapted to be held or moved to the wall between the cylinder and the second chamber by the unequal pressure between both.

5. A cylinder or pressure-chamber having a second chamber communicating with a condenser or space of lower pressure than the cylinder, a shaft, and a movable disk on the shaft, said second chamber having an entrance for air or steam at atmospheric or nearly atmospheric pressure.

6. A stuffing-joint comprising a wall forming a small chamber or cylinder, a shaft passing the cylinder, the chamber connected with a space of pressure higher or lower than the pressures outside of the chamber, and two movable disks on the shaft adapted to be pressed against the walls of the chamber in opposite directions.

7. A stuffing-joint comprising a wall forming a small chamber or cylinder, a shaft passing through the cylinder, and two movable disks carried by the shaft and adapted to be drawn to the walls of the chamber in the same direction.

842,640. CLUTCH. THOMAS J. FAY, New York, N. Y., and JOHN M. ELLSWORTH, Bernardsville, N. J. Filed Oct. 12, 1906. Serial No. 338,585.



Claim.—1. A clutch, comprising a driving member, a driven member, an intermediate body carried by the driven member and having an unbroken surface of revolution, a band loosely wrapped around said body but unattached thereto and having one end secured to the driving member, and a cone for telescoping with said body and causing the band to become tightly wrapped around said body.

2. A clutch, comprising a driving member, a driven member, a spiral band having one end thereof secured to the driving member, a cone inclosed by the band and normally free to rotate therein and means for gripping the other end of said band to said driven member.

3. A clutch, comprising a driving member, a driven member, a cone, a spiral band surrounding the cone but unattached thereto and having one end thereof secured to the driving member, and means for gripping the other end of said band to said cone.

4. A clutch, comprising a driving member, a driven member, a body carried by said driven member and having an unbroken conical surface, a spiral band surrounding the body and having one end thereof secured to the driving member, and means for gripping the other end of said band to the driven member.

5. A clutch, comprising a driving member, a driven member, two telescoping cones, one of which is secured to the driven member, a spiral band surrounding said last-mentioned cone and having one end thereof secured to the driving member, and means for moving one of said cones in respect to the other to grip the free end of the band therebetween.

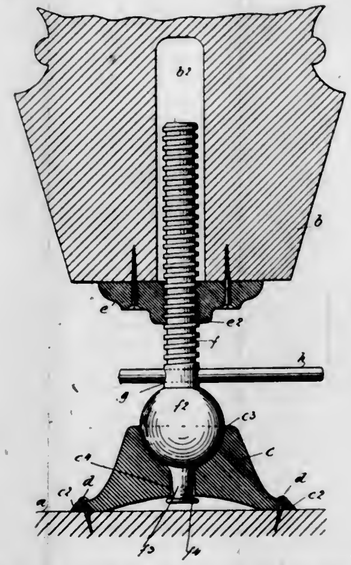
6. A clutch, comprising a driving member, a driven member, two telescoping cones of different angularity, one of which is secured to the driven member, a spiral band surrounding said last-mentioned cone and having one end thereof secured to the driving member, and means for moving one of said cones in respect to the other to grip the opposite end of said band therebetween.

7. A clutch, comprising a driving member, a driven member, a cone carried by said driven member, a spiral band encircling said cone and having one end secured to said driving member adjacent the larger end of the cone, and means for binding the opposite end of the band to the smaller end of the cone.

8. A clutch, comprising a driving member, a driven member, a cone, a spiral band having one end secured to the driving member adjacent the larger end of the cone, and means for binding the opposite end of the band to the smaller end of the cone, said means including a second cone adapted to telescope with the first-mentioned cone, one of said cones being longitudinally movable in relation to the other.

9. A clutch, comprising a driving-shaft, a casing carried thereby, a driven member extending into said casing, a cone carried by said driven member, a spiral band encircling said cone and having one end secured to the casing, and means controllable from without the casing to grip the free end of the band to the driven member.

842,641. UNIVERSALLY-ADJUSTABLE FOOT FOR THE LEGS OF BILLIARD-TABLES AND SIMILAR ARTICLES. WALTER S. FERNAU, Jamaica, N. Y. Filed Oct. 9, 1906. Serial No. 338,105.



Claim.—1. A universally-adjustable foot member for the legs of tables or other articles, comprising a base having a semispherical recess in the top thereof and a central bore extending downwardly through said base from said recess, and a screw-threaded shaft provided with a spherical portion adapted to fit in said recess and having a depending tapered projection which passes through said bore.

2. A universally-adjustable foot member for the legs of tables or other articles, comprising a base having a semispherical recess in the top thereof and a central bore extending downwardly through said base from said recess, and a screw-threaded shaft provided with a spherical portion adapted to fit in said recess and having a depending tapered projection which passes through said bore, said depending tapered projection being provided with a head which is secured thereto and the bottom of the base being concave.

3. In an adjustable foot-piece for the legs of tables or other articles, a base member having a concave bottom side and a semispherical recess in the top thereof together with a central bore which extends from said recess to the bottom of said base, a screw-threaded shaft provided with a spherical body adapted to rest in said recess and having a central downwardly-directed tapered projection which passes through said bore and is provided at its lower end with a detachable head.

842,642. PLANTER. GEORGE P. FISHER, Jr., Chicago, Ill. Filed Dec. 27, 1906. Serial No. 349,641.

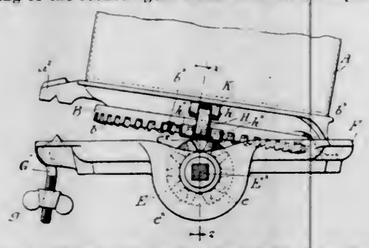
Claim.—1. In a planter the combination with a seedbox, its gear-wheel and its supporting-frame having a drive-pinion, of a movable dog separate from the seedbox gear-wheel and arranged to prevent the improper meshing of the seedbox gear-wheel with its drive-pinion.

2. In a planter the combination with a seedbox, its gear-wheel and its supporting-frame having a drive-pinion of a vertically and laterally movable dog arranged to prevent the improper meshing of the seedbox gear-wheel with its drive-pinion.

3. In a planter the combination with a seedbox and with its gear-wheel having a projection and with the supporting-frame having a drive-pinion of a dog vertically movable

with said seedbox and arranged in position to be shifted by the projection on the seedbox gear-wheel.

4. In a planter the combination with a seedbox, its gear-wheel and its supporting-frame having a drive-pinion of a vertically and laterally movable dog arranged to project above the drive-pinion and serving to prevent the improper meshing of the seedbox gear-wheel with its drive-pinion.



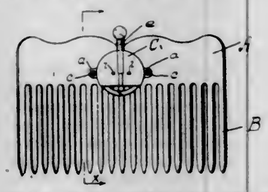
5. In a planter the combination with a seedbox and with its gear-wheel having a projection and with the supporting-frame having a drive-pinion of a gravity-dog arranged above and in position to engage the drive-pinion and in the path of said projection on the seedbox gear-wheel.

6. In a planter the combination with a seedbox and with its gear-wheel having a projection and with the supporting-frame having a drive-pinion of a movable dog having a beveled portion adapted to be engaged and shifted by the projection on the seedbox gear-wheel.

7. In a planter the combination with a seedbox and with its gear-wheel having radially-projecting teeth of a pivoted laterally-movable dog carried by the seedbox and arranged in the path of the projecting teeth of the gear-wheel and serving to prevent the improper meshing of the seedbox gear-wheel with its drive-pinion.

8. In a planter the combination with a supporting-frame and pinion and with a seedbox movably mounted upon said frame and having a gear to engage said pinion, said gear and said pinion being provided respectively with projecting teeth and a notched rim, of a movable dog for preventing the improper meshing of the seedbox-gear and the drive-pinion and means for shifting said dog to inoperative position when said gear and pinion are in proper relative position.

842,643. COMB. FRANK FONTNEAU, Attleboro, Mass. Filed July 16, 1906. Serial No. 326,306.

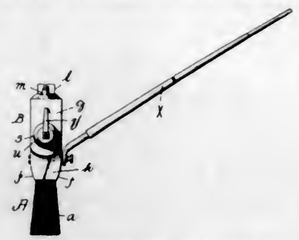


Claim.—1. In a comb the combination with the head and teeth, of a housing-plate fixed to the head, jaws within and extending below the plate, and retractile means for closing the jaws.

2. In a comb, the combination with the head and teeth, of a housing-plate fixed to the head, a plunger mounted in the housing and having one end projecting therefrom, a pair of jaws normally in closed position pivoted to the other end of the plunger, and spring means for normally retaining the jaws in closed position.

3. In a comb, the combination with the head and teeth, of a housing-plate fixed to the head, a yoke-plate fixed to the housing-plate, a plunger slidably mounted in the housing-plate and yoke and having one end projecting above the housing, a shoulder on the yoke, jaws pivoted to the lower end of the plunger, and provided with slotted upper portions, rivet-pins upon the yoke-plate passing through the slotted upper portion of the jaws, and a spring upon the plunger bearing against said shoulder and the yoke-plate.

842,644. FOUNTAIN-BRUSH. FRANKLIN E. FORNWALT, Harrisburg, Pa. Filed Sept. 28, 1906. Serial No. 336,569.



Claim.—1. The combination in a fountain-brush, of a holder containing a reservoir, the bottom wall of which is formed by a diaphragm having a depending portion of semicircular form in cross-section in which are a plurality of apertures, a hollow valve having a large opening in its upper portion in communication with the reservoir and mounted to turn on its axis in said semicircular portion of the diaphragm and also having apertures arranged to register with those of the diaphragm, a handle arranged outside of the body and connected to said valve, a brush carried by the holder, and means for conducting substance received from the valved reservoir to the brush.

2. The combination in a fountain-brush, of a holder containing a reservoir, the bottom wall of which is formed by a diaphragm having a portion of semicircular form in cross-section in which are a plurality of apertures; said reservoir also having an opening in its end wall in alinement with the semicircular portion of the diaphragm, a threaded nipple surrounding said opening and a threaded cap mounted on the nipple, a hollow valve communicating with the reservoir and having apertures arranged to register with those of the diaphragm and also having an upright provided with an angular aperture, a stem journaled in the said cap and having an angular portion arranged in the aperture of said upright, a handle fixed on the outer end of the stem, a brush carried by the holder, and means for conducting substance received from the valved reservoir to the brush.

3. The combination in a fountain-brush, of a holder containing a reservoir, and having the lower portions of its end walls arranged side by side and movable independent of each other to permit its side walls to spring inward and outward, a brush arranged in the holder, and means for clamping the brush in the holder and pressing the edges of the side walls of the holder toward the opposite sides of the brush.

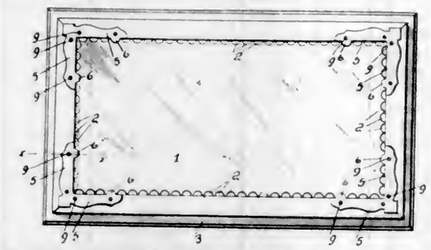
4. The combination in a fountain-brush, of a holder containing a reservoir, a hood arranged in the holder and adapted to receive substance from the reservoir, a brush having its head positioned in the hood, and means for clamping the brush-head and holding the hood in the body.

5. The combination in a fountain-brush, of a holder having side walls, a hood arranged in the holder, a brush having a head arranged in the hood and provided with a transverse aperture, an interiorly-threaded block interposed between the brush-head and one flange of the hood and connected to said flange and the adjacent side wall of the holder, a threaded bolt extending through the transverse aperture of the brush-head and into the said threaded block, a smooth-bore block receiving the threaded bolt and interposed between the brush-head and the other flange of the hood and connected to said flange and the adjacent side wall of the holder, and a thumb-nut which is mounted on that portion of the bolt which extends beyond said wall of the holder.

842,645. PICTURE AND MIRROR FASTENER. THOMAS GALLAGHER, Butler, Pa. Filed June 27, 1906. Serial No. 323,729.

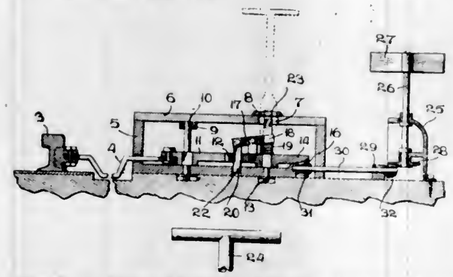
Claim.—1. The combination with a frame, of a mirror secured therein, and having edge indentations, and corner-fasteners for said frame, and mirror, each comprising two angularly-disposed arms secured to the front surface of the frame, and formed with inwardly-projecting lugs

overlapping the mirror and fitting within adjacent indentations thereof.



2. The combination with a frame, of a mirror secured therein and formed along its front edges with indentations, and fasteners for said frame and mirror comprising corner-brackets consisting of angularly-disposed arms, formed with openings for securing devices, and each of said arms having a lug projecting from its inner edge and fitting one of the indentations of the mirror.

842,646. SELF-LOCKING SWITCH-OPERATING MECHANISM. ROBERT F. GAUNT, St. Louis, Mo. Filed Nov. 6, 1906. Serial No. 342,291.



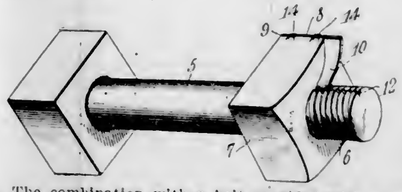
Claim.—1. The combination with the movable switch-rail of a railway-switch, of a connecting-rod secured to said movable rail, a housing, a toothed segment arranged for rotation in the housing and to which the connecting-rod is secured, a disk arranged for rotation in the housing and provided with teeth meshing with the teeth of the segment, means whereby said disk is rotated, and a spring-actuated locking-bolt carried by said disk and adapted to engage in suitably-located apertures in the housing; substantially as specified.

2. The combination with the movable switch-rail of a railway-switch, of a connecting-rod secured to said movable rail, a housing, a toothed segment arranged for rotation in the housing and to which the connecting-rod is secured, a disk arranged for rotation in the housing and provided with teeth meshing with the teeth of the segment, means whereby said disk is rotated, means whereby said disk is locked against movement, a signal arranged for operation adjacent the housing, and means operated by the rotation of the disk for actuating said signal; substantially as specified.

842,647. NUT-LOCK. WILLIAM GMEINER, Pittsburg, Kans., assignor of one-fourth to John A. Cameron and one-fourth to Alphonson J. Gmeiner, Pittsburg, Kans. Filed Oct. 29, 1906. Serial No. 341,160.

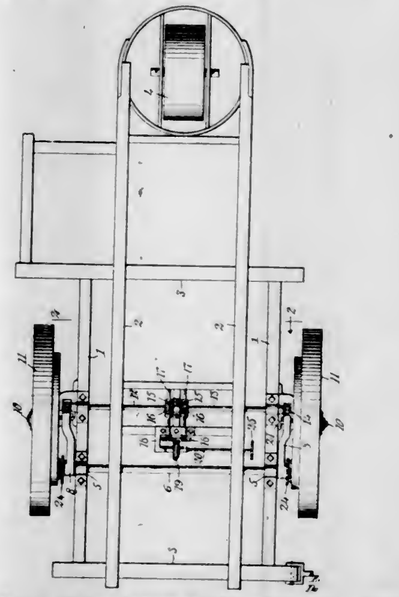
Claim.—1. The combination with a bolt having a longitudinal groove formed therein, of a nut having a kerf disposed at the intersection of two of its side walls, and a pawl having angularly-disposed arms one of which is seated in the kerf and provided at one longitudinal edge thereof with spaced recesses and the opposite arm provided with a terminal laterally-extending lip adapted to enter the groove in the bolt, the metal forming the walls of the nut being pressed laterally into engagement with the recesses in the pawl.

2. The combination with a bolt having a longitudinal groove formed therein, of a nut having a kerf disposed at the intersection of two of its side walls, and a pawl having angularly-disposed arms one of which is seated in said kerf and provided with spaced recesses and the opposite arm provided with a terminal lip adapted to engage the groove in the bolt, the metal forming the walls of the nut being pressed laterally into engagement with the recesses in the pawl.



3. The combination with a bolt provided with a longitudinal groove, of a nut having a kerf formed at the intersection of two of its side walls, and a pawl provided with integral angularly-disposed arms one of which is seated in the kerf and provided with a plurality of spaced V-shaped recesses, the opposite arm being extended above and parallel with the upper surface of the nut and provided with a terminal laterally-extending lip for engagement with the groove in the bolt, the metal forming the walls of the nut being pressed laterally into engagement with the recesses in the pawl.

842,648. PLATFORM-LEVELING DEVICE FOR HARVESTERS. EDSIL R. GORDON and DAMON R. THROOP, Harrington, Wash., assignors to Gordon-Throop-Wolfe Company, Harrington, Wash., a Corporation. Filed Aug. 4, 1906. Serial No. 329,254.



Claim.—1. In combination, a main frame, arms pivoted at the sides of said frame, main wheels carried by said arms, means for simultaneously raising one of said arms and lowering the other, comprising two transverse shafts supported in alinement on the frame, gear-wheels on the adjacent ends of said shafts, worm-wheels in engagement with said gear-wheels and supporting auxiliary shafts, bevel-gears on the ends of said auxiliary shafts, a double bevel-gear in engagement with both of said gears, and

means for rotating said double bevel-gear, whereby the transverse shafts are rotated in opposite directions.

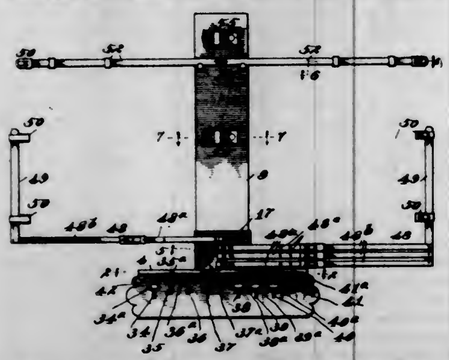
2. In combination, a main frame, a shaft suitably mounted thereon, pinions on the ends of said shaft, sprocket-wheels adjacent said pinions, arms pivoted to said shaft, spindles carried on the ends of said arms, main wheels mounted on said spindles, a gear-wheel carried by each of said main wheels and adapted to mesh with the said pinions, brackets carried upon opposite sides of said main frame, two transverse shafts mounted in said brackets, pinions on the outer ends of said shafts and in engagement with the said arms, antifriction-rollers carried by said brackets and in engagement with said arms, and means for rotating said transverse shafts in opposite directions, whereby one of said arms may be raised and the other lowered.

3. In combination, a main frame, a main shaft carried thereby, arms pivoted to the ends of said shaft, spindles carried by said arms, main wheels on said spindles, means for transmitting the power from said main wheels to said shaft, and means for simultaneously raising one of said arms and lowering the other in respect to the frame, said means comprising rack-bars on the ends of the arms, brackets carried by the frame, two transverse shafts mounted in alinement within said brackets and terminating adjacent said rack-bars, pinions on the end of said shafts and adapted to engage with the rack-bars, antifriction-rollers carried by said brackets and adapted to engage with the sides of said rack-bars, and means for simultaneously rotating said transverse shafts in opposite directions.

4. In combination, a main frame, a main shaft mounted thereon, an arm pivoted on said main shaft, a spindle carried by said arm, a main wheel upon said spindle, means carried by said main wheel and said main shaft, whereby power may be transmitted to the latter, a rack-bar on the outer end of said arm, a bracket carried by the main frame, a transverse shaft mounted within said bracket a pinion mounted on said transverse shaft and adapted to engage with the rack-bar, and a roller mounted upon said bracket adjacent said pinion and adapted to engage with said arm adjacent the rack-bar.

5. In combination, a main frame, arms pivoted at the sides of said frame, main wheels carried by said arms, means for simultaneously raising one of said arms and lowering the other, comprising two transverse shafts supported in alinement on the frame, pinions on the outer ends of said shafts and adapted to engage with said arms, gear-wheels on the inner ends of said shafts, parallel auxiliary shafts having worm-wheels in engagement with said gear-wheels, and means for rotating said auxiliary shafts in opposite directions.

842,649. SHEET-MUSIC TURNER. RICHARD P. GREEN, Chicago, Ill. Filed Oct. 9, 1905. Serial No. 281,956.

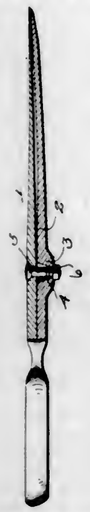


Claim.—1. In a sheet-music turner, in combination, a rotatable shaft; a winding-drum fixed thereon; a sleeve surrounding said shaft and having fixed thereto a winding-drum; two key-levers for each of said winding-drums; a flexible connection between each lever and its winding-drum; and leaf-holding means attached to said shaft and said sleeve at points removed from said winding-drums.

2. In a sheet-music turner, in combination, a rotatable vertical shaft; a winding-drum fixed on said shaft; a sleeve on said shaft carrying a winding-drum, each of said winding-drums having two grooves in its periphery; a horizontal shaft; two key-levers on said shaft for each of said winding-drums, a cord connecting each of said levers with its winding-drum, each cord lying in one of the grooves of said drum and being wound in opposite directions thereon; and two leaf-holding arms, one fixed to said vertical shaft and the other to said sleeve.

3. In a sheet-music turner, in combination, a casing; a post therein having a foot portion and a plurality of arms; a vertical shaft rotatably supported by said foot portion and said arms; a winding-drum fixed on said shaft, lying between said foot portion and one of said arms; a sleeve surrounding said shaft and bearing a winding-drum lying between two of said arms; a horizontal shaft supported in said casing; two levers upon said shaft for each of said winding-drums; a cord connecting each of said key-levers with its winding-drum; guide-sheaves rotatably mounted in said casing for said cords; and two leaf-holding arms, one secured to said vertical shaft and the other to said sleeve.

842,650. SHEARS. JESSE C. GREENFIELD, Macon, Mo. Filed May 14, 1906. Serial No. 316,836.



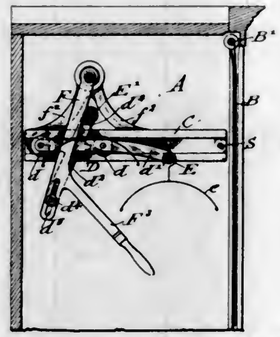
Claim.—1. A pair of shears having one of its blades provided with a cone-shaped pivot-hole, the base of which is disposed on the inner side of the blade.

2. A pair of shears having one of its blades provided with a cone-shaped pivot-hole, the base of which is disposed on the inner side of the blade, and its other blade provided with a rigid cylindrical pivot-bolt to engage the said hole, and means for holding the blades assembled.

3. A pair of shears having one of its blades provided with an enlargement on its outer side having therein a cone-shaped pivot-hole, the base of which is disposed on the inner side of the blade and its other blade provided with a rigid true cylindrical pivot-bolt to engage the said hole, and a nut engaging the pivot-bolt for holding the blades assembled.

842,651. DISPLAY-RACK. GEORGE GROSSMAN, New York, N. Y. Filed Mar. 24, 1906. Serial No. 307,837.

Claim.—1. A garment-cabinet comprising a casing, horizontal guideways attached to the side walls of the casing, carriers moving in said guideways provided with forwardly-extending arms and cross-pieces having downwardly-extending arms, transverse suspension-rails connecting said arms and cross-pieces, levers connected with the downwardly-extending arms of the cross-pieces, a pivot-shaft in the upper part of the casing on which said levers are pivoted, and a forwardly-extending handle-arm on one of said levers.



2. In a garment-cabinet, in combination, a casing, horizontal guideways attached to the side walls of said casing, carriers guided in said casing and provided with forwardly-extending arms and upright cross-pieces, suspension-rails connecting the ends of said arms and the upper ends of said cross-pieces, a transverse pivot-shaft supported in the upper part of the casing, levers suspended from the same and provided with slotted lower ends connected by pins with the downwardly-extending arms of the cross-pieces, and a vertically-swinging forwardly-extending handle-arm secured to one of said levers.

842,652. BOTTLE. ERASTUS HAMILTON, Chicago, Ill. Filed Nov. 8, 1905. Serial No. 286,321.

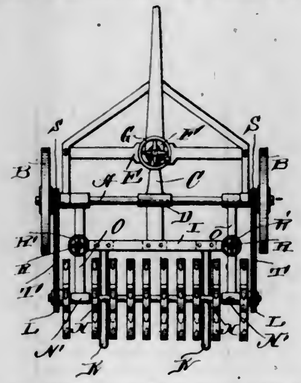


Claim.—1. A device of the class described comprising a bottle having a concave inner bottom surface and an outer bottom surface hollowed to form a thickened supporting-flange and having a central aperture therethrough, a sleeve rigidly engaged in said aperture having a concave upper end flush with the top of said aperture and affording a valve-seat, a peripheral flange on the bottom of said sleeve engaging the bottom of the bottle and limiting the upward movement of the sleeve, a centrally-apertured guideway in said sleeve, a stem engaging in said guideway, a beveled valve on the upper end thereof affording a valve-closure, a spring engaging the under side of said guideway and normally holding the valve seated.

2. A device of the class described comprising a bottle having an inner bottom surface rounded at the edge and gradually tapering to the center, a hollow outer bottom surface having a centrally-thickened bearing-face provided with a central aperture therethrough, a sleeve engaged in said aperture having a flanged lower end adapted to seat against said bearing-face and a beveled upper end, an integral guideway in said sleeve, a stem engaged in said guideway having its lower end enlarged, a pin projecting from each side of said stem, a rearwardly-beveled valve adapted to seat on said beveled sleeve and a spring engaged between said guide and pin adapted to normally hold the valve seated.

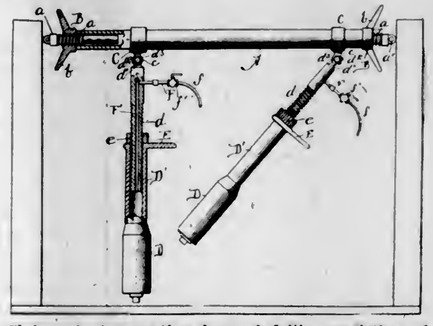
3. A device of the class described comprising a bottle having a concave bottom therein provided with a central aperture opening therethrough, a removable sleeve adapted to fit tightly in said aperture and provided with an inwardly-beveled upper end, a peripheral flange on the bottom of said sleeve adapted to engage the bottom of the bottle and limit the inward movement of said sleeve, a central guide in said sleeve, a valve-stem movably engaged therein, a closure on the inner end of said stem adapted to seat on the beveled end of said sleeve, a transverse pin in the outer end of said stem and a spring engaged between said pin and said guide and acting normally to hold the closure seated.

842,653. ROTARY HARROW. FREEMAN HANSON, Hollis Center, Me. Filed Oct. 15, 1906. Serial No. 339,041.



Claim.—In combination with a driving-axle and wheels mounted thereon, a frame supported by the axle, a beam pivotally mounted upon the axle, a cross-piece connected to said beam, shoes fixed to said cross-piece, means for tilting the beam, arms pivotally mounted upon the axle, a rotary harrow mounted upon said arms, means connected with the driving-shaft for operating said harrow, adjusting-screws carried by said arms and adapted to bear against said cross-piece, as set forth.

842,654. MOUNTING FOR ROCK-DRILLS. MARTIN HARDSOCG, Ottumwa, Iowa. Filed July 12, 1904. Serial No. 216,275.

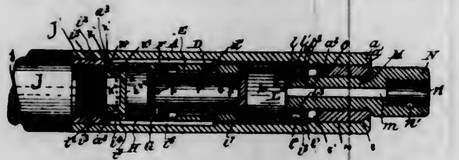


Claim.—1. A mounting for rock-drills, consisting of a support adapted to be maintained in suitable position with respect to a fixed abutment, a screw between the support and the abutment, a nut for regulating the pressure exerted by the screw against the support, in combination with a rock-drill having an extension or barrel rigidly secured thereto, a tubular screw-threaded shank adjustably secured to the support and entered into the extension or barrel and provided with a pressure-supply passage leading to its interior, a handle for forwardly projecting the barrel during the drilling operation, and a follower-nut on the screw-threaded shank for locking the barrel and drill in projected position, substantially as described.

2. A mounting for rock-drills, consisting of a tubular support adapted to be held in suitable position with respect to a fixed abutment, a screw slidably mounted in the end of the tubular support and outwardly projecting therefrom, a winged end on the outwardly-projecting portion of the screw and adapted to bear against the end of the tubular support for regulating the position of the screw, a collar adjustable on the support, in combination with a rock-drill having an extension or a barrel rigidly secured thereto, a screw-threaded tubular shank pivoted at one end to the collar and having its opposite end entered into the extension or barrel, a pressure-supply pipe entering the tubular shank for supplying pressure to the barrel, a handle on the extension or barrel for regulating the position of the barrel with respect to the screw-threaded shank, and a lock-nut for holding the barrel and drill in projected position, substantially as described.

3. A mounting for rock-drills, consisting of a tubular support, screws slidably mounted in the ends of the support, winged nuts screw-threaded onto the screws and adapted to bear against the ends of the tubular support for outwardly projecting the screws therefrom, a collar adjustable on the support, in combination with a rock-drill having an extension or barrel rigidly secured thereto, a tubular screw-threaded shank pivoted to the collar and having its opposite end entered into the extension or barrel, an adjustable handle secured to the drill for sliding the barrel along the screw-threaded shank during the drilling operation, and a follower-nut for locking the barrel and drill in projected position, substantially as described.

842,655. PNEUMATIC HAMMER. MARTIN HARDSOCG, Ottumwa, Iowa. Filed July 28, 1904. Serial No. 218,546.



Claim.—1. In a pneumatic hammer, the combination of an outer tube or casing, a plurality of rings entered into the outer tube or casing, the rings varying in width and in thickness of wall and forming guides for supporting the hammer and channels for the admitted pressure to operate the hammer, substantially as described.

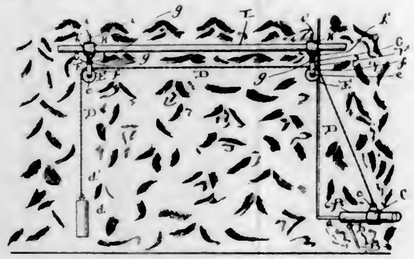
2. In a pneumatic hammer, the combination of an outer tube or casing, a plurality of rings entered into the outer tube or casing, the rings varying in width and in thickness of wall and forming guides for supporting the hammer, channels for the admitted pressure to operate the hammer, and a ring or shell entered into the rear end of the outer tube or casing for locking the plurality of rings in place, substantially as described.

3. In a pneumatic hammer, the combination of an outer tube or casing, a plurality of rings entered into the outer tube or casing, the rings varying in width and in thickness of wall and forming guides for supporting the hammer and channels for the admitted pressure to operate the hammer, a ring or shell entered into the rear end of the outer tube or casing, and cross-pins interlocking the ring or shell with the outer tube or casing for holding the ring or shell in a fixed relation and locking the plurality of rings in place, substantially as described.

4. In a pneumatic hammer, the combination of an outer tube or casing, a plurality of rings entered into the outer tube or casing, the rings varying in width and in thickness of wall and forming guides for supporting the hammer and channels for the admitted pressure to operate the hammer, a ring or shell entered into the rear end of the tube or casing and interlocked therewith, a sleeve or guide at the front end of the tube or casing, and a tool holder or socket carried by the sleeve, substantially as described.

5. In a pneumatic hammer, the combination of an outer tube or casing having in its interior face a series of longitudinal channels, a tool-holder consisting of a piston, a neck and a receiving-head for the shank of the tool the piston having therein a series of passages open to the front side thereof and in communication with the longitudinal channels in the outer tube or casing, and a sleeve encircling the neck of the tool-holder or chuck and located at the forward end of the outer tube or casing, substantially as described.

842,656. SUPPORT FOR PNEUMATIC TOOLS. MARTIN HARDSOCG, Ottumwa, Iowa. Filed Feb. 13, 1906. Serial No. 300,858.



Claim.—1. In a support for pneumatic tools, the combination of the tool, a collar encircling the body of the tool, a cable attached at one end to the collar, a counterweight at the opposite end of the cable to the tool, pulley-wheels over which the cable travels, a hanger for each pulley-wheel, a cross-rod on which the hangers are mounted, a hook for each hanger provided with locking means for locking the hangers in adjusted position on the cross-rod and further provided with a shank adapted to be secured in fixed position for supporting the cross-rod and hangers in position, substantially as described.

2. In a support for pneumatic tools, the combination of the tool, a collar encircling the body of the tool, a cable attached at one end to the collar, a counterweight at the opposite end of the cable to the tool, a pulley-wheel over which the cable travels, a bracket in which the pulley-wheel is mounted, a swivel for the bracket, a collar for the swivel, a cross-rod entered through the collar upon which the collar is adjustably mounted and a hook for attaching the cross-rod with the pulley-wheel and its support in position, substantially as described.

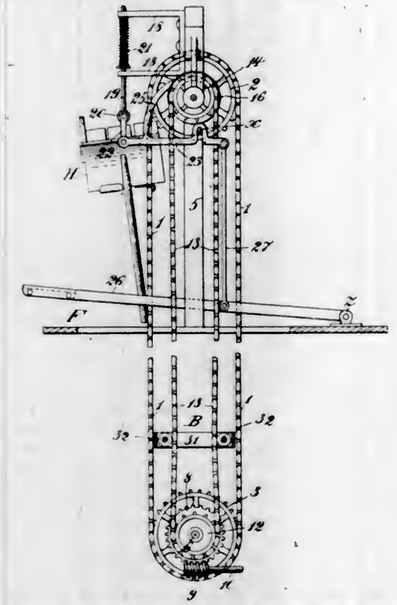
3. In a support for pneumatic tools, the combination of the tool, a cable secured at one end to the tool, a counterweight at the opposite end of the cable, pulley-wheels over which the cable travels, a hanger for each pulley-wheel, a cross-rod on which the hangers are mounted, a hook for each hanger provided with locking means for holding the hangers in adjusted position on the cross-rod, and further provided with a shank adapted to be secured in fixed position for supporting the cross-rod and hangers secured thereto, substantially as described.

4. In a support for pneumatic tools, the combination of the tool, a cable secured at one end to the tool, a counterweight at the opposite end of the cable, a pulley-wheel over which the cable travels, a bracket in which the pulley-wheel is mounted, a swivel for the bracket, a collar from which the swivel depends, a cross-rod entered through the collar upon which the collar is adjustably mounted, and a hook secured at one end to the collar and adapted to have its other end secured to the surface to be drilled, substantially as described.

5. In a support for pneumatic tools, the combination of the tool, a cable secured at one end to the tool, a counterweight at the opposite end of the cable, a pulley-wheel over which the cable travels, a bracket in which the pulley-wheel is mounted, a swivel for the bracket, a collar to which the swivel is attached, a cross-rod entered through the collar upon which the collar is adjustably mounted, and a hook provided with means for locking the collar upon the cross-rod and provided with a shank adapted to be inserted into the material to be drilled to support the cross-rod and pulley carried thereby, substantially as described.

6. In a support for pneumatic tools, the combination of a tool, a cable secured at one end of the tool, a counterweight on the opposite end of the cable, pulley-wheels over which the cable travels, brackets in which the pulley-wheels are mounted, a swivel for each of the brackets, a collar for each of the swivels to which the swivels are attached, a cross-rod entered through both of the collars upon which the collars are adjustably mounted, and a hook for each collar provided at one end with a screw-threaded portion entered through the collar and adapted to bear against the cross-rod, the hooks terminating in shanks adapted to be secured in position in the material to be drilled to support the cross-rod and the collars mounted thereon, substantially as described.

842,657. HOD-ELEVATOR. JOHN D. HARPER, New York, N. Y., assignor to Charles W. Anderson, Brooklyn, N. Y. Filed Oct. 17, 1905. Serial No. 283,118.

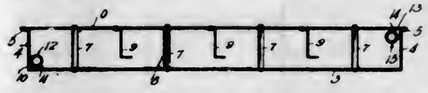


Claim.—1. A hod-hoist having a carrier for the hod, a driving mechanism for said carrier, a clutch connecting said mechanism with the carrier, one of the members of said clutch being slidable into and out of engagement, and a spring for holding it yieldingly engaged, a lever, a wedge carried by said lever for disengaging the clutch, and a sliding part connected with said lever and disposed in the path of the ascending hod.

2. A hod-hoist, having a carrier for the hod, a driving mechanism for said carrier, a clutch connecting said mechanism with the carrier, one of the members of said clutch being slidable into and out of engagement and a spring for holding it yieldingly engaged, a lever, a wedge carried by said lever for disengaging the clutch, a movable part in the path of the ascending hod and coupled to said lever for actuating it and the said wedge, a movable platform in front of the carrier, and a rod connecting said platform with said lever for elevating the lever, for the purpose specified.

3. In a hod-hoist, the combination with the endless-chain carrier and its sprocket-wheels, and means for driving said carrier, of the sliding frame in the path of the ascending hod, the supports for said frame, the lever 23 coupled to said frame, the clutch device, and a wedge carried by said lever for disengaging the clutch when the lever is lifted, and means whereby the said frame is lifted by the weight of the person removing the elevated hod.

842,658. SOLAR HEATER. CHARLES L. HASKELL, Boston, Mass. Filed June 28, 1904. Serial No. 214,456.



Claim.—1. In a solar heater, a tank, an outlet and an inlet pipe arranged diagonally opposite each other on opposite sides of the tank, said pipes being each perforated, and wings secured to the under surface of the top and extending down in position to engage with a stream of water passing from the inlet to the outlet pipe said wings extending from the top toward the bottom but terminating above the bottom so as to leave a free space for passage of liquid below the same.

2. In a solar heater, a tank, the top of which is flat upon its under surface, an inlet and an outlet pipe arranged diagonally opposite each other on opposite sides of the tank, said pipes being each perforated its entire length, and flat wings extending down into the tank in position to engage flatwise with a stream of water passing from the inlet to the outlet pipes said wings extending from the top of the tank part way to the bottom and terminating above the bottom in longitudinally-extending wings projecting in the direction of the flow or stream of water passing from the inlet to the outlet pipes, and means for holding the top in its flat position.

3. In a solar heater, a tank, inlet and outlet pipes arranged at opposite ends of the tank, combined ties and struts extending in series of transverse rows across the tank and wings extending from the top of the tank in a series of transverse rows alternating in transverse position with the series of rows of struts so that each series of struts will deflect the stream against the next succeeding series of wings and each series of wings will deflect the stream against the next succeeding series of struts.

4. In a solar heater, a flat tank provided with perforated inlet and outlet pipes arranged on opposite sides thereof, hollow struts extending from the top to the bottom of the tank, said struts being triangular in cross-section and open along one edge, and bolts extending longitudinally through the struts and through the top and bottom respectively, of the tank.

842,659. TOY. WILLIAM HAVERMAN, Cleveland, Ohio, assignor of one-half to Arthur F. Marsh, Cleveland, Ohio. Filed July 26, 1906. Serial No. 327,856.

Claim.—1. In a toy, in combination, a casing, a closely-fitting cover therefor, a figure within the casing, a spring tending to thrust said figure out of the casing, the cover normally holding the figure in the casing, and an explosive within the casing adapted to blow the cover outward to release the figure and spring.

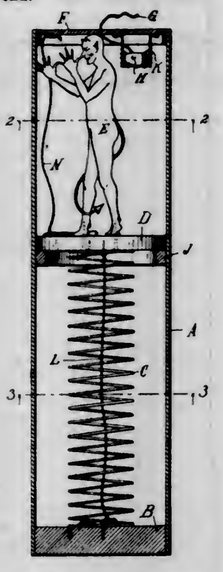
2. In a toy, the combination of a tubular casing, a figure therein, a spring beneath the figure tending to press it upward, a cover for the casing adapted to hold the figure within the casing with the spring compressed, an explosive on the under side of the cover, and a fuse for the explosive passing through the cover.

3. In a toy, the combination of a casing, a cover therefor, a loose cord normally within the casing connecting the cover with the casing, an explosive within the casing arranged to blow off the cover, and a figure adapted to be exposed to view when the cover is blown off.

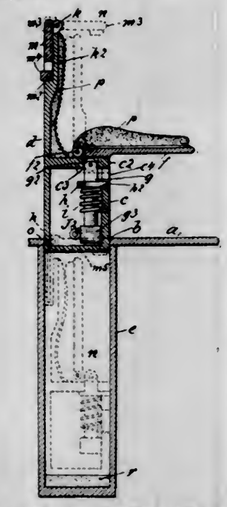
4. In a toy, the combination of a longitudinal casing, a cover therefor, an explosive within the casing beneath the cover, a fuse for the explosive passing outwardly through the cover, a figure within the casing, a spring normally pressing said figure upward against the under side of the cover, means for guiding said figure in its movement, and means for limiting the movement thereof.

5. A toy made in imitation of a cannon firecracker and comprising a cylindrical casing having a removable closer at one end, an explosive within the casing adjacent to such closer, a fuse connected with such explosive and passing outwardly through such closer, a figure within the casing, and means to project the same into view through the

open end of the casing when the explosive has removed the closer for such end.



842,660. DISAPPEARING THEATER-CHAIR. FREDERICK HARVEY, New York, N. Y., assignor of one-half to Albert H. Woods, New York, N. Y. Filed July 28, 1906. Serial No. 328,249.

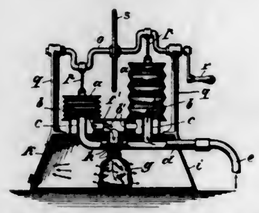


Claim.—1. A chair for theaters adapted to disappear beneath the floor, above which it is placed when not in use, said floor being provided with an opening, and said chair being provided with a hinged seat member adapted to be folded vertically when not in use and to be lowered into a horizontal position when in use, the back of the chair being provided with means for closing the opening in the floor when the chair disappears therethrough and the bottom portion of the chair being provided with devices which automatically operate to hold the chair above the floor when the seat member is lowered for use, and which automatically operate to release the chair and allow it to drop through the floor when the seat member is raised.

2. A theater-chair adapted to pass through an opening in the floor, above which it is placed, said chair being composed of a base member and a back member, and being provided with a hinged seat member adapted to be folded into a vertical position and to be lowered into a horizontal position for use, and devices operated by the seat member when lowered for use to hold the chair above the floor and operating when the seat member is raised to allow the chair to pass through the floor, the back of the chair being also provided with automatic devices for closing the opening in the floor when the chair passes therethrough.

3. A chair for theaters and similar structures adapted to disappear beneath the floor, above which it is placed when not in use, said floor being provided with an opening beneath which is a receiver for said chair, said chair being provided with a hinged seat member adapted to be folded vertically when not in use and to be lowered into a horizontal position when in use, and devices operated by pressure applied on the seat member to hold the chair above the floor and automatically released to permit the chair to drop through the floor when the pressure is relieved from the said member, the back of the chair being also provided with a pivoted plate member automatically operated when the chair passes beneath the floor to close the opening in the floor.

842,661. DUST-SUCTION APPARATUS. ADOLF HEIN, Berlin, Germany. Filed Feb. 21, 1906. Serial No. 302,184.



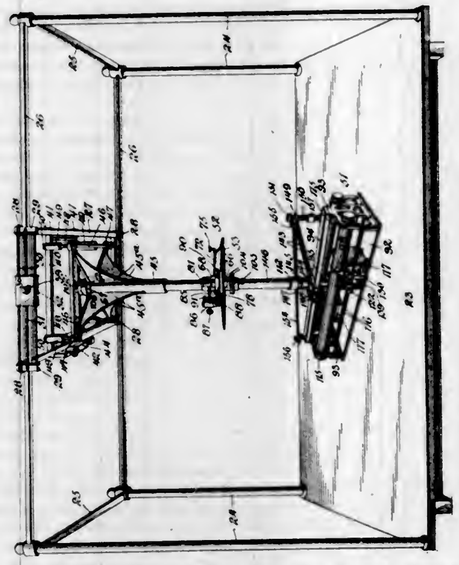
Claim.—1. A dust-suction apparatus, comprising suction-bellows having valved inlets and outlets, a crank-shaft and connections for working the bellows, a bifurcated pipe for conducting dusty air to the bellows-inlets, a pipe leading from the bellows-outlets to the interior of the hollow stand for the bellows, and a filter through which the air from the bellows passes prior to escaping to the atmosphere, substantially as described.

2. A dust-suction apparatus, comprising suction-bellows having valved inlets and outlets, a crank-shaft and connections for working the bellows, a bifurcated pipe for conducting dusty air to the bellows-inlets, a pipe leading from the bellows-outlets to the interior of the hollow stand for the bellows, a filter-bag, through which the air from the latter pipe passes prior to escaping to the atmosphere, and preliminary filtering means located between the bellows and the mouth of said bag, substantially as described.

3. A dust-suction apparatus, comprising suction-bellows having valved inlets and outlets, a crank-shaft and connections for working the bellows, uprights supporting said shaft, a hollow stand supporting the bellows and said uprights, a pipe for conducting from the bellows-outlets to the interior of the hollow stand, a filter-bag, through which the air passes prior to escaping to the atmosphere, and preliminary filtering means located between the bellows and the mouth of the said bag, substantially as described.

842,662. DRAFTING INSTRUMENT. JESSE A. HEYDRICK, Butler, Pa. Filed Feb. 17, 1905. Serial No. 246,107.

Claim.—1. In apparatus of the character described, the combination with a fixed drafting-table, of overhead supporting means elevated above the table, leaving an unobstructed working space for the draftsman over said table, and plotting mechanism movably suspended from the supporting means, said plotting mechanism being movable over the table and comprising relatively movable elements, certain of which coact with the table, indicating means comprising relatively movable coacting scale and index devices respectively carried by said elements and located between the table and support for indicating the relative positions of the elements, and means connecting the devices for effecting the relative adjustment of said elements.



2. In apparatus of the character described, the combination with a drafting-table, of an overhead track supported above the same leaving an unobstructed working space for the draftsman over said table, and plotting mechanism movably suspended from the track and coacting with the table, said mechanism comprising relatively rotatable parts, means for indicating the relative positions of said parts, said means comprising relatively movable scale and index elements carried by said parts and disposed between the table and track, and adjusting means adjustably adjusting the elements.

3. In apparatus of the character described, the combination with a drafting-table, of standards located at the corners of the table and projecting above the same, spaced overhead tracks connecting certain of the standards, tie connections between said standards, said tracks and tie connections being of sufficient height to leave an unobstructed working space for the draftsman below the same and over the table, supporting means having wheels that run upon the tracks, and plotting mechanism suspended from the supporting means between the tracks, said plotting mechanism including relatively movable elements that are movable over the table and coact therewith, and indicating means for the elements disposed between the table and tracks.

4. In apparatus of the character described, the combination with a drafting-table, of an overhead support movable over the table in one direction, an overhead carriage movable on the support in a direction transverse to the direction of movement of the support, said support and carriage leaving an unobstructed working space for the draftsman between the same and the table, and plotting mechanism suspended from the carriage, extending across the working space and coacting with the table, said mechanism including relatively movable parts, one of which is fixed to the carriage, and means connecting the parts for relatively rotating the same, said means being located between the carriage and table.

5. In apparatus of the character described, the combination with a drafting-table, of overhead tracks supported thereover, an overhead carriage-support movable on said tracks and provided with other tracks disposed in angular relation to the supporting-tracks, a carriage movable on said latter tracks, said tracks, carriage-support and carriage leaving an unobstructed working space for the draftsman over the table, and plotting mechanism suspended from the carriage, extending across said working space, and being movable over the table, said mechanism including relatively ratatable parts, one of which is fixed to the carriage, the other coacting directly with the table, an outstanding index element carried by one part, a scale-ring carried by the other part, said index element and scale-ring being disposed in coacting relation and being located beneath the carriage and over the table, and means connecting the ring and index element for relatively adjusting the said parts.

6. In apparatus of the character described, the combination with a drafting-table, of an overhead track member located above the table and leaving an unobstructed working space for the draftsman over said table, a carrier member also located over the table, said members being relatively movable, means fixing one of the members against movement with respect to the drafting-table, mechanism movable with relation to both members, a lock for securing the adjusting mechanism to one of said members, said mechanism having an adjustable engagement with the other member, and plotting mechanism supported on the carrier member, extending across said working space and coöperating with the table.

7. In apparatus of the character described, the combination with a drafting-table, of overhead supporting means fixed with relation thereto, leaving an unobstructed working space for the draftsman over the table, a carrier movable on the supporting means, a clamp arranged to be secured to the supporting means, adjusting mechanism carried by the clamp and engaging the carrier, and plotting mechanism mounted on the carrier.

8. In apparatus of the character described, the combination with supporting means, of a carrier movable thereon and having a rack, a clamp arranged to be secured to the supporting means, an actuating-pinion journaled on the clamp and engaging the rack, and plotting mechanism mounted on the carrier.

9. In apparatus of the character described, the combination with supporting means including a track, of a carrier movable on the track, a block also mounted on the track, a clamping device for securing the carrier against movement on the track, a rack-bar secured to the carrier, a pinion journaled on the block and engaging the rack-bar, and plotting mechanism supported from the carrier.

10. In apparatus of the character described, the combination with spaced tracks, of a carrier comprising a frame having rollers movable on the tracks, guide-rods also constituting a part of the carrier and arranged alongside the track, a rack-bar disposed contiguous to the guide-rods and mounted on the carriage, an adjusting-block slidably mounted on the guide-rod and the track, a clamp device carried by the block, means for moving said device into engagement with the track, an actuating-pinion having an exposed head, said pinion engaging the rack-bar and being carried by the block, and plotting mechanism supported from the carrier.

11. In apparatus of the character described, the combination with a supporting member, of a carrier member movable on the supporting member, a rack carired by one member, a pinion engaging the rack, a mounting for said pinion adjustably carried on the other member, means for securing the mounting against movement on the member carrying it and in different positions, and plotting mechanism mounted on the carrier member.

12. In apparatus of the character described, the combination with a support including relatively movable members, of a mounting adjustable on one member, a clamp for holding the mounting against movement on the member, means engaging the other member for moving the same, separately-rotatable actuating devices for the clamp and moving member, said devices having concentric axes of movement, and plotting mechanism mounted on the support.

13. In apparatus of the character described, the combina-

tion with a support including a track, of a mounting adjustable along the track, a carrier movably supported on the track and having a rack, a pinion journaled on the mounting and engaging the rack, and plotting mechanism supported on the carrier.

14. In apparatus of the character described, the combination with a support including a track, of a mounting adjustable along the track, a clamp carried by the mounting and engaging the track to secure said mounting in different positions on the track, a carrier movable on the track and having a rack located alongside the track, a pinion journaled on the mounting and engaging the rack, means for moving the clamp and pinion, and plotting mechanism supported on the carrier.

15. In apparatus of the character described, the combination with supporting-tracks, of a carrier movable thereon, adjusting means for the carrier including a clamp arranged to engage the tracks, a rack and pinion associated with the tracks and carrier, a carriage mounted on the carrier and arranged to move transversely of the supporting-tracks, adjusting means between the carrier and carriage, said adjusting means including a rack and pinion, and plotting mechanism supported on the carriage.

16. In apparatus of the character described, the combination with spaced supporting-tracks, of a carrier having rollers movable thereon and including tracks disposed transversely of the supporting-tracks, adjusting mechanism between the supporting-tracks and carrier having a clamping engagement with one of said tracks, a carriage movable on the tracks of the carrier, adjusting mechanism between the carriage and carrier including a clamping device arranged to engage one of the tracks of said carrier, and plotting mechanism supported by the carirer.

17. In apparatus of the character described, the combination with a drafting-table, of standards extending above the same, spaced tracks supported by the standards, a carrier-frame movably mounted on the tracks and extending over the table, said carrier-frame including tracks disposed at right angles to the supporting-tracks, means for adjusting the carrier on the tracks, said means having an adjustable engagement with both the carrier and one of the tracks, a carriage movable on one of the carrier-tracks, means for adjusting said carriage upon the carrier, said means having an adjustable engagement with the carriage and the carrier, and plotting mechanism suspended from the carriage and operating over the table.

18. In apparatus of the character described, the combination with a drafting-table, of an overhead support located over the table and leaving an unobstructed working space for the draftsman beneath the same and over the table, a movable overhead carriage mounted on the support, a hanger suspended from the carriage, plotting mechanism rotatably mounted on the lower end of the hanger below the carriage and coacting with the table, and adjusting and indicating means comprising relatively movable elements respectively mounted on the hanger and plotting mechanism, and located below the carriage.

19. In apparatus of the character described, the combination with a drafting-table, of an overhead support located over the table and leaving an unobstructed working space for the draftsman beneath the same and over said table, a movable overhead carriage mounted on the support, a hanger suspended from the carriage, plotting mechanism centrally and rotatably carried by the lower end of the hanger and projecting on opposite sides thereof in coaction with the table, and adjusting means connecting the plotting mechanism and hanger and located between the carriage and table for rotating said plotting mechanism on said hanger.

20. In apparatus of the character described, the combination with a drafting-table, of overhead tracks supported over the table, an overhead carriage-support movable on the tracks and having tracks at substantially right angles thereto, an overhead carriage movable on the tracks of the carriage-support, said supporting-tracks, carriage-support and carriage leaving an unobstructed working space for the draftsman beneath the same and over the table, a hanger suspended from the carriage and depending beneath the same and the supporting-tracks, plotting mechanism rotatably suspended from the lower end of the hanger beneath the carriage and coacting with the table, coacting scales and index element carried by the hanger and plotting mechanism and located beneath the carriage and operating means connecting the hanger and the plotting mechanism and located beneath the carriage.

21. In apparatus of the character described, the combination with a table, of a carriage movably supported thereover, a hanger member, a plurality of adjusting-bolts connecting the hanger member and carriage for fixedly supporting the hanger member at different distances from the table, and plotting mechanism movable with the hanger member.

22. In apparatus of the character described, the combination with a table, of a carriage movably supported thereover and having upright eyes, of a hanger-bracket having outstanding web portions provided with eyes alined with the carriage-eyes, adjusting-bolts passing through the eyes, and plotting mechanism supported on the hanger-bracket.

23. In apparatus of the character described, the combination with a table, of an overhead support located over the table, a hanger having an upright journal-bearing, adjustable connections between the upper end of the hanger and the support, and plotting mechanism journaled in the bearing and suspended from the lower end of the hanger, said plotting mechanism coacting with the table.

24. In apparatus of the character described, the combination with a drafting-table, of an overhead support located over the table, a hanger movably suspended from the support, plotting mechanism movably mounted on the hanger below the support and coacting with the table, indicating means for the plotting mechanism located below the support, said means comprising relatively movable coacting scale and index elements mounted on the hanger and plotting mechanism respectively between the support and table, and means connecting the elements for effecting their relative movements.

25. In apparatus of the character described, the combination with a drafting-table, of an overhead support located over the table, a hanger suspended from the support and movable thereon in any direction, drafting mechanism movably mounted on the hanger below the support and coacting with the table, indicating means between the drafting mechanism and hanger comprising relatively rotatable scale and index element carried by the hanger and drafting mechanism respectively, said means being located between the support and table, and means connecting the scale and index elements for effecting the movement of the drafting mechanism upon the hanger.

26. In apparatus of the character described, the combination with a drafting-table, of an overhead support over the table, plotting mechanism suspended from the support and coacting with the table, said mechanism including relatively movable members, and means connecting the members below the support for effecting their relative movements.

27. In apparatus of the character described, the combination with a drafting-table, of an overhead support over the table, plotting mechanism suspended from the support and coacting with the table, said mechanism including an upper hanger member and a lower drafting member rotatably suspended therefrom, and actuating means connecting the members below the support and above the table for effecting their relative rotation.

28. In apparatus of the character described, the combination with a drafting-table, of an overhead support over the table, plotting mechanism suspended from the support and coacting with the table, said mechanism including an upper hanger member depending below the support and a lower drafting member rotatably suspended from the lower end of the hanger member and coacting with the table, and actuating and indicating means connecting the members below the support and above the table for respectively effecting their relative rotations and indicating their relative positions.

29. In apparatus of the character described, the combination with supporting means, of plotting mechanism movable with respect to the supporting means, and adjusting means for the plotting mechanism including an adjusting-screw and split revoluble devices, one of which rotatably receives the screw, the other having a threaded engagement therewith, said devices respectively having connections with the supporting means and plotting mechanism.

30. In apparatus of the character described, the combination with supporting means, of plotting mechanism movable with respect thereto, adjusting means for the plotting mechanism including mountings carried respectively by the means and mechanism and adjustable thereon in angularly-disposed paths, bearings rotatably secured in the mountings, and a screw rotatably mounted in one of the bearings and having a threaded engagement with the other.

31. In apparatus of the character described, the combination with supporting means, of plotting means rotatably associated therewith, adjusting mechanism for the plotting means including devices adjustably mounted on the respective means and adjustable in angularly-disposed lines of movement, and a connection between the devices.

32. In apparatus of the character described, the combination with supporting means, of plotting means rotatably associated therewith, adjusting mechanism for the plotting means including devices, one of which is adjustable substantially concentric to the axis of rotation of the plotting means, the other being adjustable toward and from such axis, and a connection between the devices.

33. In apparatus of the character described, the combination with supporting means, of plotting means rotatably associated therewith, adjusting mechanism for the plotting means including devices, one of which is mounted on one of the means and is adjustable thereon toward and from the axis of rotation of the plotting means, the other device being carried by the other means, and an adjustable connection between the devices.

34. In apparatus of the character described, the combination with a support having an arm, of plotting mechanism rotatably mounted on the support and including a ring, a post adjustably mounted on the ring in a direction substantially concentric to the axis of rotation of the plotting mechanism, said post having a bearing rotatably mounted therein, another post mounted on the arm and adjustable toward and from the axis of rotation of the plotting mechanism, and an adjusting-screw connecting the posts.

35. In apparatus of the character described, the combination with a support, of plotting mechanism rotatable on the support and including a ring, a post adjustably mounted on the ring and having a bearing rotatably mounted therein, another post mounted on the support and adjustable thereon toward and from the axis of rotation of the plotting mechanism, and an adjusting-screw connecting the posts and having an engagement with the rotatable bearing.

36. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism revoluble thereon, a clamping device adjustably engaging one mechanism, another device adjustable on the other mechanism, means for effecting the movement of said latter device and adjusting means connecting the clamping device and the other mechanism.

37. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism revoluble thereon, a clamping device adjustably engaging the plotting mechanism, another device adjustable on the other mechanism for effecting the movement of said latter device and means connecting the said devices.

38. In apparatus of the character described, the combination with a drafting-table, of overhead supporting mechanism mounted thereover and including a device movable to different positions with respect thereto, means for suspending said supporting mechanism; a hanger depending from the overhead supporting mechanism, plotting mechanism revolubly suspended from the hanger and coacting with the table, means connecting the plotting mechanism and hanger below the supporting mechanism for effecting the partial rotation of the plotting mechanism, and means disposed below said supporting mechanism for indicating the positions of the plotting mechanism with respect to the hanger.

39. In apparatus of the character described, the combination with a drafting-table, of overhead supporting mechanism including a carriage movably mounted thereover and movable to different positions with respect thereto, means for suspending said overhead supporting mechanism, a hanger depending from the overhead mechanism, plotting mechanism revolubly suspended from the hanger and coacting with the table, means for indicating the position of the plotting mechanism with respect to the supporting mechanism, said means including a graduated scale and a pointer coacting with the scale, one of the same being carried by the hanger, the other by the plotting mechanism, and means connecting the mechanisms for effecting the rotation of the plotting mechanism, said rotating means and indicating means being located between the overhead supporting mechanism and the table.

40. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism revoluble thereon and including a disk, a clamp comprising elements that embrace the disk and are arranged to engage the same at different points around the same, a post carried by the clamp, another post carried by the supporting mechanism and adjustable thereon toward and from the axis of rotation of the plotting mechanism, and an adjusting device connecting the said post.

41. In apparatus of the character described, the combination with a drafting-table, of overhead supporting mechanism including a depending portion that is movable in different directions over the table, plotting mechanism rotatably suspended from the depending portion, and means including a manual actuating device connecting the depending portion and the plotting mechanism beneath the overhead supporting mechanism for effecting the partial rotation of the plotting mechanism.

42. In apparatus of the character described, the combination with a table, of supporting mechanism including a tubular portion movable to different positions on the table, rotatable plotting mechanism including a limb journaled in the tubular portion and movable therewith, and means for rotating the plotting mechanism including adjusting means connected to the tubular portion and the limb journaled therein.

43. In apparatus of the character described, the combination with supporting mechanism including a carriage having a depending tubular portion, of plotting mechanism including an element journaled in the tubular portion, and a disk carried by said element and located contiguous to the lower end of the tubular portion, a clamp arranged to engage the disk, and an adjustable connection between the clamp and tubular portion.

44. In apparatus of the character described, the combination with a table, of a carriage movably supported over the table and having a depending tubular portion, plotting mechanism rotatable with relation to the carriage including an element journaled in the tubular portion, a disk carried by the plotting mechanism and disposed contiguous to the lower end of the tubular portion, a clamp rotatable with relation to the disk and arranged to engage the same and be thereby held against rotation, and adjusting means connecting the clamp and the tubular portion.

45. In apparatus of the character described, the combination with a support, of plotting mechanism rotatable with respect to the support, and means for effecting the movement of the plotting mechanism, said means including a lever connected to the plotting mechanism, and an actuating-cam operating against the lever and having its axis of movement substantially coincident to the axis of rotation of the mechanism.

46. In apparatus of the character described, the combination with a supporting-hanger having a bearing, of plotting mechanism journaled in the bearing, and means for effecting the movement of the plotting mechanism, said means including an actuating-cam surrounding the bearing and having its axis of movement substantially coincident to the axis of movement of the plotting mechanism.

47. In apparatus of the character described, the combination with a support, of plotting mechanism movably mounted on the support, a lever fulcrumed between its ends on the support, a connection between one end of the

lever and the plotting mechanism, and a rotatable device bearing against the opposite end of the lever for operating the same.

48. In apparatus of the character described, the combination with a support, of plotting mechanism movably mounted on the support, an actuating-lever fulcrumed on the support, a connecting device, means for adjustably securing the connecting device to the plotting mechanism, and means for adjustably securing the connecting device to the lever at different distances from its fulcrum.

49. In apparatus of the character described, the combination with a support, of plotting mechanism movably mounted on the support, an actuating-lever fulcrumed on the support, a post adjustably mounted on the plotting mechanism, a post adjustably connected to the lever, and an adjustable connection between the posts.

50. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism rotatable with respect thereto, and means for effecting the said rotation of the plotting mechanism, said means including a lever pivoted on one of the mechanisms and having a connection with the other mechanism, and means for moving the lever.

51. In apparatus of the character described, the combination with a support, of plotting mechanism movable thereon and having a scale that is movable therewith, an index element carried by the support and coacting with the movable scale, and means mounted on the support for moving the plotting mechanism, said means including an indicating element that is movable with respect to and coacts with the movable scale.

52. In apparatus of the character described, the combination with a support, of plotting mechanism rotatable thereon and having a scale that is rotatable with said plotting mechanism, an index element carried by the support, said movable scale coacting with the index element, and means mounted on the support for moving the plotting mechanism, said means including an indicating element that is movable on the support and with respect to the scale and said indicating element coacting with the movable scale.

53. In apparatus of the character described, the combination with a support, of plotting mechanism rotatable thereon and having a scale rotatable with the plotting mechanism, and means movably mounted on the support and connected to the plotting mechanism for moving the same, said means including an actuating device that is movable with respect to the support, the plotting mechanism, and the scale and coacting with said scale.

54. In apparatus of the character described, the combination with a support, of plotting mechanism rotatably mounted on the support and having a rotatable dial provided with a circular scale, means movably mounted on the support and connected to the plotting mechanism for moving the same, said means including an indicating element that is movable with respect to both the support and scale and coacts with the latter.

55. In apparatus of the character described, the combination with a support, of plotting mechanism rotatably mounted on the support and having a rotatable dial provided with a circular scale, means movably mounted on the support and connected to the plotting mechanism for moving the same, the said means including an actuating-arm movable on the support concentric to the scale, said arm moving over the scale and constituting an indicating element that coacts with said scale.

56. In apparatus of the character described, the combination with a support having an arm, of plotting mechanism rotatably mounted on the support and having a dial provided with a scale, said scale coacting with the arm, which constitutes an index element, means movably mounted on the arm and connected to the plotting mechanism for moving the same, and a rotatable actuating device for said means movably mounted on the support and having its axis of movement substantially coincident with the axis of rotation of the plotting mechanism, said device moving over the scale and coacting therewith.

57. In apparatus of the character described, the combination with supporting mechanism having an index element, of a lever pivoted on the element, plotting mechanism rotatable with respect to the supporting mechanism, and an adjustable screw connecting the lever and plotting mechanism.

58. In apparatus of the character described, the combination with supporting mechanism, of a lever pivoted on the supporting mechanism, rotatable plotting mechanism associated with the supporting mechanism, a screw connection between the plotting mechanism and lever, and a cam for operating the lever.

59. In apparatus of the character described, the combination with supporting mechanism including a depending portion, of plotting mechanism rotatable on said depending portion, a lever pivoted on said depending portion, a cam journaled on said depending portion and engaging the lever, and a connection between the lever and the plotting mechanism.

60. In apparatus of the character described, the combination with supporting mechanism including a depending tubular portion, of plotting mechanism including an element rotatably mounted in said tubular portion, an index-arm carried by the tubular portion, a lever pivoted between its ends on the arm and having a ring surrounding the tubular portion, a cam journaled on the tubular portion and engaging the ring, and a connection between the lever and the plotting mechanism.

61. In apparatus of the character described, the combination with a movably-supported overhead carriage, of a depending bracket carried thereby and having an index-arm at its lower end, plotting mechanism journaled in the bracket and including a disk, a clamp device rotatable with respect to the bracket and arranged to engage the disk, a lever pivoted on the index-arm, an adjusting-screw connecting the lever and clamp, and a cam journaled on the bracket and having a connection with the lever for moving the same.

62. In apparatus of the character described, the combination with a drafting-table, of supporting mechanism movable over the table, plotting mechanism rotatable on the supporting mechanism, and mechanism for rotating the plotting mechanism including a lever, and means connecting the lever to one of the mechanisms, said means being adjustable on the lever toward and from its fulcrum.

63. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism movable with respect thereto, a lever, means connecting the lever to one of the mechanisms, said means being adjustable on the lever toward and from its fulcrum, and a screw for thus adjusting the connection.

64. In apparatus of the character described, the combinaiton with supporting mechanism, of plotting mechanism, a lever pivoted on the supporting mechanism, a block adjustable on the lever toward and from its fulcrum, means for securing the block at different positions on the lever, and a connection between the block and the plotting mechanism.

65. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism movable with respect thereto, a lever pivoted on the supporting mechanism, a block adjustable on the lever toward and from its fulcrum, an adjusting device for the block, means for holding the block against movement, means for effecting the movement of the lever, and a connection between the lever and the plotting mechanism.

66. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism revolubly mounted on the supporting mechanism, an index-arm carried by the supporting mechanism, a lever pivoted between its ends upon the index-arm, a block adjustable on the lever toward and from its fulcrum, a screw connection between the block and the plotting mechanism, and a cam journaled upon the supporting mechanism and engaging the lever.

67. In apparatus of the character described, the combination with a drafting-table, of an overhead carriage movable thereon in a plurality of directions and having a depending bearing, suspended plotting mechanism having an element journaled in said bearing, relatively rotatable scale and index elements carried by the bearing and plotting mechanism, and located wholly beneath the carriage for indicating the positions of the plotting mechanism with respect to the carriage, and means connecting the elements for adjusting the same and also holding them against relative movement.

68. In apparatus of the character described, the combination with a drafting-table, of an overhead carriage having a bearing, suspended plotting mechanism having an element journaled in said bearing, said mechanism being supported over the table and beneath the carriage, and means located beneath the carriage for rotating the plotting mechanism and holding it in different fixed positions relative to the carriage.

69. In apparatus of the character described, the combination with a drafting-table, of an overhead carriage having a depending hanger provided with an upright bearing, suspended plotting mechanism located beneath the hanger and having an element journaled in said bearing, said mechanism being supported beneath the carriage, and cooperating devices located at the lower end of the hanger beneath the carriage and movable with said carriage, one of the devices being rotatable with the plotting mechanism for indicating the different positions of said mechanism during its rotation.

70. In apparatus of the character described, the combination with a table, of an overhead carriage supported above the table and having a depending tubular portion provided with a ball-raceway, balls located in the raceway, and plotting mechanism revolubly suspended from the carriage and including an element journaled in the tubular portion and coacting with the balls.

71. In apparatus of the character described, the combination with an overhead carriage having a bearing, of suspended plotting mechanism having an element journaled in the bearing, means located beneath the overhead carriage and connecting the bearing and plotting mechanism for rotating the plotting mechanism and also holding the same against movement, and relatively rotatable coacting indicating devices also located beneath the overhead carriage, one of said devices being held against rotation with respect to the carriage and being movable therewith, the other being rotatable with the holding means.

72. In apparatus of the character described, the combination with an overhead carriage having a bearing, of suspended plotting mechanism located beneath the carriage and having an element journaled in the bearing, and means mounted beneath the carriage and connecting the plotting mechanism and carriage for rotating said plotting mechanism upon the carriage, said means including an actuating device also located beneath the carriage.

73. In apparatus of the character described, the combination with an overhead carriage having a bearing, of suspended plotting mechanism located beneath the carriage and having an element journaled in the bearing, and common means connecting the carriage and plotting mechanism for adjusting said plotting mechanism and also holding it against relative movement, said adjusting means including actuating mechanism disposed beneath the carriage.

74. In apparatus of the character described, the combination with supporting means, of plotting mechanism including a movable limb member, a scale-dial movable with the limb member, means mounted on the supporting means for moving the plotting mechanism and including an actuating device coacting with the movable scale-dial, and an index separate from the actuating device carried by the supporting means and coacting with the scale-dial.

75. In apparatus of the character described, the combination with a drafting-table, of overhead supporting means located above the table, plotting means movably suspended from the supporting means, a scale carried by one of said means, an indicator carried by the other of said means and coacting with the scale, and means for relatively adjusting the plotting and supporting means including a device that also coacts with the scale.

76. In apparatus of the character described, the combination with a drafting-table, of overhead supporting means located above the table and including an overhead movable carriage having a depending tubular portion provided at its lower end with an index-arm, rotatable plotting mechanism journaled in the tubular portion and extending below the same, said mechanism having a dial provided with a protractor-scale coöperating with the arm, and adjusting means for the plotting mechanism connecting the arm and dial.

77. In apparatus of the character described, the combination with a table, of a carriage movably supported thereover, means for suspending the carriage over the table, a depending bracket suspended from the carriage, and having an index-arm extending on opposite sides of the same, said index-arm being provided with index-marks, and plotting mechanism suspended from the bracket and journaled thereon, said plotting mechanism including a dial-ring having a scale coacting with the marks on the arm.

78. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism movable with respect thereto, a scale movable with the plotting mechanism, and means for moving the plotting mechanism including a cam device having a hand movably coacting with the movable scale.

79. In apparatus of the character described, the combination with supporting mechanism of plotting mechanism movable with respect thereto, a scale movable with the plotting mechanism, and means for moving the plotting mechanism including an actuating-hand movably coacting with the scale.

80. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism movable with respect thereto, a scale mounted on one mechanism, an index therefor mounted on the other mechanism, and means for moving the plotting mechanism including an actuating-hand movably coacting with the scale.

81. In apparatus of the character described, the combination with supporting mechanism having an index, of plotting mechanism movable with respect thereto and having a dial coacting with the index, said dial having a scale, and moving means for the plotting mechanism having hand movably coacting with the scale.

82. In apparatus of the character described, the combination with a carriage having a hanger member, of an index device carried by the hanger member, plotting mechanism rotatably supported on the hanger member, a scale carried by the plotting mechanism and coacting with the index, and means for moving the plotting mechanism upon the hanger member including a hand movably mounted on said hanger member and coacting with the scale.

83. In apparatus of the character described, the combination with a table, of a carriage supported thereover and having an upright bearing, an index-arm carried by the lower end of the bearing, plotting mechanism operating over the table and having an element journaled in the bearing, a scale carried by the plotting mechanism and coacting with the arm, and means for moving the plotting mechanism with respect to the carriage, said means including an actuating-hand that movably coacts with the scale.

84. In apparatus of the character described, the combination with a table, of a carriage supported thereover and having a depending hanger-bracket provided with a vertical bearing, a limb member operating over the table and having an upright element journaled in the bearing, a scale-dial movable with the limb member, and means for effecting the movement of the limb member, said means including a cam journaled on the bracket and having an arm that extends over and coacts with the scale-dial.

85. In apparatus of the character described, the combination with supporting mechanism, of a limb member movable with respect thereto, and coacting indicating devices one of which is carried by the supporting member, the other being movable with the limb member, said latter device being adjustable with respect to said limb member which carries its.

86. In apparatus of the character described, the combination with supporting mechanism, of a limb member movable with respect thereto, coacting indicating devices, one of which is carried by the supporting mechanism, the other being movable with respect thereto and with respect to the limb member, and means for connecting the said other device to the limb member so that they will move together.

87. In apparatus of the character described, the combi-

lever and the plotting mechanism, and a rotatable device bearing against the opposite end of the lever for operating the same.

48. In apparatus of the character described, the combination with a support, of plotting mechanism movably mounted on the support, an actuating-lever fulcrumed on the support, a connecting device, means for adjustably securing the connecting device to the plotting mechanism, and means for adjustably securing the connecting device to the lever at different distances from its fulcrum.

49. In apparatus of the character described, the combination with a support, of plotting mechanism movably mounted on the support, an actuating-lever fulcrumed on the support, a post adjustably mounted on the plotting mechanism, a post adjustably connected to the lever, and an adjustable connection between the posts.

50. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism rotatable with respect thereto, and means for effecting the said rotation of the plotting mechanism, said means including a lever pivoted on one of the mechanisms and having a connection with the other mechanism, and means for moving the lever.

51. In apparatus of the character described, the combination with a support, of plotting mechanism movable thereon and having a scale that is movable therewith, an index element carried by the support and coacting with the movable scale, and means mounted on the support for moving the plotting mechanism, said means including an indicating element that is movable with respect to and coacts with the movable scale.

52. In apparatus of the character described, the combination with a support, of plotting mechanism rotatable thereon and having a scale that is rotatable with said plotting mechanism, an index element carried by the support, said movable scale coacting with the index element, and means mounted on the support for moving the plotting mechanism, said means including an indicating element that is movable on the support and with respect to the scale and said indicating element coacting with the movable scale.

53. In apparatus of the character described, the combination with a support, of plotting mechanism rotatable thereon and having a scale rotatable with the plotting mechanism, and means movably mounted on the support and connected to the plotting mechanism for moving the same, said means including an actuating device that is movable with respect to the support, the plotting mechanism, and the scale and coacting with said scale.

54. In apparatus of the character described, the combination with a support, of plotting mechanism rotatably mounted on the support and having a rotatable dial provided with a circular scale, means movably mounted on the support and connected to the plotting mechanism for moving the same, said means including an indicating element that is movable with respect to both the support and scale and coacts with the latter.

55. In apparatus of the character described, the combination with a support, of plotting mechanism rotatably mounted on the support and having a rotatable dial provided with a circular scale, means movably mounted on the support and connected to the plotting mechanism for moving the same, the said means including an actuating-arm movable on the support concentric to the scale, said arm moving over the scale and constituting an indicating element that coacts with said scale.

56. In apparatus of the character described, the combination with a support having an arm, of plotting mechanism rotatably mounted on the support and having a dial provided with a scale, said scale coacting with the arm, which constitutes an index element, means movably mounted on the arm and connected to the plotting mechanism for moving the same, and a rotatable actuating device for said means movably mounted on the support and having its axis of movement substantially coincident with the axis of rotation of the plotting mechanism, said device moving over the scale and coacting therewith.

57. In apparatus of the character described, the combination with supporting mechanism having an index element, of a lever pivoted on the element, plotting mechanism rotatable with respect to the supporting mechanism, and an adjustable screw connecting the lever and plotting mechanism.

58. In apparatus of the character described, the combination with supporting mechanism, of a lever pivoted on the supporting mechanism, rotatable plotting mechanism associated with the supporting mechanism, a screw connection between the plotting mechanism and lever, and a cam for operating the lever.

59. In apparatus of the character described, the combination with supporting mechanism including a depending portion, of plotting mechanism rotatable on said depending portion, a lever pivoted on said depending portion, a cam journaled on said depending portion and engaging the lever, and a connection between the lever and the plotting mechanism.

60. In apparatus of the character described, the combination with supporting mechanism including a depending tubular portion, of plotting mechanism including an element rotatably mounted in said tubular portion, an index-arm carried by the tubular portion, a lever pivoted between its ends on the arm and having a ring surrounding the tubular portion, a cam journaled on the tubular portion and engaging the ring, and a connection between the lever and the plotting mechanism.

61. In apparatus of the character described, the combination with a movably-supported overhead carriage, of a depending bracket carried thereby and having an index-arm at its lower end, plotting mechanism journaled in the bracket and including a disk, a clamp device rotatable with respect to the bracket and arranged to engage the disk, a lever pivoted on the index-arm, an adjusting-screw connecting the lever and clamp, and a cam journaled on the bracket and having a connection with the lever for moving the same.

62. In apparatus of the character described, the combination with a drafting-table, of supporting mechanism movable over the table, plotting mechanism rotatable on the supporting mechanism, and mechanism for rotating the plotting mechanism including a lever, and means connecting the lever to one of the mechanisms, said means being adjustable on the lever toward and from its fulcrum.

63. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism movable with respect thereto, a lever, means connecting the lever to one of the mechanisms, said means being adjustable on the lever toward and from its fulcrum, and a screw for thus adjusting the connection.

64. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism, a lever pivoted on the supporting mechanism, a block adjustable on the lever toward and from its fulcrum, means for securing the block at different positions on the lever, and a connection between the block and the plotting mechanism.

65. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism movable with respect thereto, a lever pivoted on the supporting mechanism, a block adjustable on the lever toward and from its fulcrum, an adjusting device for the block, means for holding the block against movement, means for effecting the movement of the lever, and a connection between the lever and the plotting mechanism.

66. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism revolubly mounted on the supporting mechanism, an index-arm carried by the supporting mechanism, a lever pivoted between its ends upon the index-arm, a block adjustable on the lever toward and from its fulcrum, a screw connection between the block and the plotting mechanism, and a cam journaled upon the supporting mechanism and engaging the lever.

67. In apparatus of the character described, the combination with a drafting-table, of an overhead carriage movable thereon in a plurality of directions and having a depending bearing, suspended plotting mechanism having an element journaled in said bearing, relatively rotatable scale and index elements carried by the bearing and plotting mechanism, and located wholly beneath the carriage for indicating the positions of the plotting mechanism with respect to the carriage, and means connecting the elements for adjusting the same and also holding them against relative movement.

68. In apparatus of the character described, the combination with a drafting-table, of an overhead carriage having a bearing, suspended plotting mechanism having an element journaled in said bearing, said mechanism being supported over the table and beneath the carriage, and means located beneath the carriage for rotating the plotting mechanism and holding it in different fixed positions relative to the carriage.

69. In apparatus of the character described, the combination with a drafting-table, of an overhead carriage having a depending hanger provided with an upright bearing, suspended plotting mechanism located beneath the hanger and having an element journaled in said bearing, said mechanism being supported beneath the carriage, and cooperating devices located at the lower end of the hanger beneath the carriage and movable with said carriage, one of the devices being rotatable with the plotting mechanism for indicating the different positions of said mechanism during its rotation.

70. In apparatus of the character described, the combination with a table, of an overhead carriage supported above the table and having a depending tubular portion provided with a ball-raceway, balls located in the raceway, and plotting mechanism revolubly suspended from the carriage and including an element journaled in the tubular portion and coacting with the balls.

71. In apparatus of the character described, the combination with an overhead carriage having a bearing, of suspended plotting mechanism having an element journaled in the bearing, means located beneath the overhead carriage and connecting the bearing and plotting mechanism for rotating the plotting mechanism and also holding the same against movement, and relatively rotatable coacting indicating devices also located beneath the overhead carriage, one of said devices being held against rotation with respect to the carriage and being movable therewith, the other being rotatable with the holding means.

72. In apparatus of the character described, the combination with an overhead carriage having a bearing, of suspended plotting mechanism located beneath the carriage and having an element journaled in the bearing, and means mounted beneath the carriage and connecting the plotting mechanism and carriage for rotating said plotting mechanism upon the carriage, said means including an actuating device also located beneath the carriage.

73. In apparatus of the character described, the combination with an overhead carriage having a bearing, of suspended plotting mechanism located beneath the carriage and having an element journaled in the bearing, and common means connecting the carriage and plotting mechanism for adjusting said plotting mechanism and also holding it against relative movement, said adjusting means including actuating mechanism disposed beneath the carriage.

74. In apparatus of the character described, the combination with supporting means, of plotting mechanism including a movable limb member, a scale-dial movable with the limb member, means mounted on the supporting means for moving the plotting mechanism and including an actuating device coacting with the movable scale-dial, and an index separate from the actuating device carried by the supporting means and coacting with the scale-dial.

75. In apparatus of the character described, the combination with a drafting-table, of overhead supporting means located above the table, plotting means movably suspended from the supporting means, a scale carried by one of said means, an indicator carried by the other of said means and coacting with the scale, and means for relatively adjusting the plotting and supporting means including a device that also coacts with the scale.

76. In apparatus of the character described, the combination with a drafting-table, of overhead supporting means located above the table and including an overhead movable carriage having a depending tubular portion provided at its lower end with an index-arm, rotatable plotting mechanism journaled in the tubular portion and extending below the same, said mechanism having a dial provided with a protractor-scale coöperating with the arm, and adjusting means for the plotting mechanism connecting the arm and dial.

77. In apparatus of the character described, the combination with a table, of a carriage movably supported thereover, means for suspending the carriage over the table, a depending bracket suspended from the carriage, and having an index-arm extending on opposite sides of the same, said index-arm being provided with index-marks, and plotting mechanism suspended from the bracket and journaled thereon, said plotting mechanism including a dial-ring having a scale coacting with the marks on the arm.

78. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism movable with respect thereto, a scale movable with the plotting mechanism, and means for moving the plotting mechanism including a cam device having a hand movably coacting with the movable scale.

79. In apparatus of the character described, the combination with supporting mechanism of plotting mechanism movable with respect thereto, a scale movable with the plotting mechanism, and means for moving the plotting mechanism including an actuating-hand movably coacting with the scale.

80. In apparatus of the character described, the combination with supporting mechanism, of plotting mechanism movable with respect thereto, a scale mounted on one mechanism, an index therefor mounted on the other mechanism, and means for moving the plotting mechanism including an actuating-hand movably coacting with the scale.

81. In apparatus of the character described, the combination with supporting mechanism having an index, of plotting mechanism movable with respect thereto and having a dial coacting with the index, said dial having a scale, and moving means for the plotting mechanism having hand movably coacting with the scale.

82. In apparatus of the character described, the combination with a carriage having a hanger member, of an index device carried by the hanger member, plotting mechanism rotatably supported on the hanger member, a scale carried by the plotting mechanism and coacting with the index, and means for moving the plotting mechanism upon the hanger member including a hand movably mounted on said hanger member and coacting with the scale.

83. In apparatus of the character described, the combination with a table, of a carriage supported thereover and having an upright bearing, an index-arm carried by the lower end of the bearing, plotting mechanism operating over the table and having an element journaled in the bearing, a scale carried by the plotting mechanism and coacting with the arm, and means for moving the plotting mechanism with respect to the carriage, said means including an actuating-hand that movably coacts with the scale.

84. In apparatus of the character described, the combination with a table, of a carriage supported thereover and having a depending hanger-bracket provided with a vertical bearing, a limb member operating over the table and having an upright element journaled in the bearing, a scale-dial movable with the limb member, and means for effecting the movement of the limb member, said means including a cam journaled on the bracket and having an arm that extends over and coacts with the scale-dial.

85. In apparatus of the character described, the combination with supporting mechanism, of a limb member movable with respect thereto, and coacting indicating devices one of which is carried by the supporting member, the other being movable with the limb member, said latter device being adjustable with respect to said limb member which carries its.

86. In apparatus of the character described, the combination with supporting mechanism, of a limb member movable with respect thereto, coacting indicating devices, one of which is carried by the supporting mechanism, the other being movable with respect thereto and with respect to the limb member, and means for connecting the said other device to the limb member so that they will move together.

87. In apparatus of the character described, the combi-

nation with supporting mechanism, of a limb member rotatable with respect thereto, means connecting the limb member, and supporting mechanism for rotating the former, an index device carried by the supporting mechanism, a scale movable with respect thereto and with respect to the limb member, and means for connecting the said scale to the limb member so that they will move together.

88. In apparatus of the character described, the combination with a supporting member, of a limb member rotatably mounted on the supporting member, operating means connecting the members for rotating the limb member on the supporting member, coacting indicating devices separate from said operating means and carried respectively by the supporting and limb members, one of said devices being movable on the member carrying it, and means for securing the said movable indicating device and its member against relative movement.

89. In apparatus of the character described, the combination with a support, of a limb member rotatably suspended therefrom, means for connecting the support and limb member for rotating the latter, an index device mounted on the support, a scale coacting with the index device and rotatably supported from the support and with respect to the limb member, and means for adjustably connecting the scale and the limb member to hold the same in different relations.

90. In apparatus of the character described, the combination with a supporting member, of a limb member rotatably mounted on the supporting member, operating means connecting the members for rotating the limb member on the supporting member, a scale mounted on the limb member, said scale and limb member being relatively rotatable, means for securing the scale and limb member in different relations, and an index carried by the supporting member, said scale coöperating with the index.

91. In apparatus of the character described, the combination with a support having a bearing, of a limb member and an indicator having telescoped relatively rotatable elements journaled in the bearing, and means for connecting the elements to secure the limb member and indicator against relative rotation.

92. In apparatus of the character described, the combination with a support having a bearing, of a limb member and an indicator having telescoped relatively rotatable elements journaled in the bearing, and clamping devices for connecting the elements to secure the limb member and indicator against relative rotation.

93. In apparatus of the character described, the combination with a support having a bearing, of a sleeve journaled in the bearing and carrying an indicator, a limb member having a rod rotatable in the sleeve, and means for preventing the relative rotation of the indicator and limb member.

94. In apparatus of the character described, the combination with a movable support having an upright bearing, of a sleeve journaled in the bearing, an index-arm carried by the bearing, a dial carried by the sleeve and having a scale coacting with the arm, a limb member having a rod rotatable in the sleeve, a clamp for securing the rod and sleeve against relative movement in different relative positions, and a limb member carried by the rod.

95. In apparatus of the character described, the combination with a table, of a carriage movably supported thereover, a depending bracket suspended from the carriage and having an upright tubular portion constituting a bearing, an outstanding index-arm carried by the tubular portion, a sleeve journaled in the tubular portion, a protractor-dial having a scale coacting with the index-arm, adjustable connections between the dial and indicator-arm including an actuating-hand coacting with the dial-scale, a rod rotatable in the sleeve, means for clamping said rod and sleeve against relative rotation, and a limb member carried by the rod and movable over the table.

96. In apparatus of the character described, the combination with supporting mechanism, of a limb member rotatable thereon, a centering device arranged to be projected below the limb member, and means for supporting the device above the bottom of the limb member and raising it when the same is projected beneath the limb member.

97. In apparatus of the character described, the combination with supporting mechanism, of a limb member rotatable thereon, a centering device arranged to be projected below the limb member, and a spring for raising the device after it has been projected downwardly.

98. In apparatus of the character described, the combination with supporting mechanism including a rod, of a limb member carried by the rod, a centering device slidable in the rod and arranged to be depressed below the limb member, and a spring housed within the rod for yieldingly supporting the centering device and raising the same after its depression.

99. In apparatus of the character described, the combination with a table, of a carriage movably supported over the same, a limb member suspended from the carriage and movable over the table, and a yieldingly-supported centering device arranged to be projected downwardly through the limb between the ends thereof and into engagement with the table.

100. In apparatus of the character described, the combination with a table, of a carriage supported thereover, a limb member, a connection between the limb member and carriage including a rod, a yieldingly-supported centering-stem slidably mounted in the lower end of the rod, and an actuating-collar for the stem surrounding the rod and having a connection with said stem.

101. In apparatus of the character described, the combination with a drafting-table, of overhead supporting mechanism mounted thereon, a limb member movably suspended from the supporting mechanism and having a substantially horizontal straight-edge movable therewith over the table, guides disposed in rear of the straight-edge, a scale disposed in rear of the straight-edge, and a marking device movably mounted upon the guide and movable longitudinally along the straight-edge, said marking device having an indicator coacting with the scale.

102. In apparatus of the character described, the combination with a table, of a carriage movably supported thereover, a rotatable limb member suspended from the carriage comprising a base-plate having longitudinally-disposed guides, a longitudinally-disposed scale arranged parallel to the guides, a carriage movable on the guides and having an indicator coacting with the scale, and a vertically-movable marking device movably mounted on the carriage.

103. In apparatus of the character described, the combination with a table, of supporting mechanism located thereover, a limb member carried by the supporting mechanism and movable over and coacting with the table, said limb member comprising a base having longitudinal parallel guides, a scale located alongside the guides, a carriage movable on the guides and having an indicator coacting with the scale, and a marking device movably mounted on the carriage and having a fixed vertical path of movement, said device being movable to a position beneath the carriage and base and coacting with the paper placed upon the table beneath said base.

104. In apparatus of the character described, the combination with a drafting-table, of supporting mechanism mounted over the same in spaced relation thereto, a limb member movable with respect to the mechanism and coacting with the table, separate independently-adjustable carriages mounted on the limb member, independent manually-actuated marking devices mounted on the carriages and movable into and out of coaction with the table, and means for normally supporting the devices out of coaction with the table.

105. In apparatus of the character described, the combination with a table, of supporting mechanism located thereover, a limb member movable with respect thereto, relatively movable marking devices both of which are movably mounted on the limb member, and indicating mechanism for said devices.

106. In apparatus of the character described, the combination with a table, of supporting mechanism suspended over the table, a limb member movable with respect thereto, relatively movable marking devices both of which are movably mounted on the limb member, indicating mechanism for said devices, and means for moving the devices.

107. In apparatus of the character described, the combination with a drafting-table, of a limb member movably suspended over the table, and relatively independently movable manually-actuated marking devices mounted on opposite sides of the limb member and movable thereon past each other, said devices coöperating with the table.

108. In apparatus of the character described, the combination with a table, of a carriage movably supported over the same, a limb member suspended from the carriage and coacting with the table, said limb member having oppositely-disposed substantially parallel straight-edges, scales located on the limb member longitudinally of the straight-edges, carriages mounted on opposite sides of the limb to slide thereupon past each other and having indicators coacting with the scales, and marking devices movably supported on said carriages.

109. In apparatus of the character described, the combination with a drafting-table, of an overhead carriage movably supported thereover, a stem rotatably journaled in the carriage, a limb carried by the lower end of the stem and coacting with the table, a beam mounted on the upper portion of the limb and extending outwardly from the stem, and means for mounting a marking device on the outer portion of the beam.

110. In apparatus of the character described, the combination with a drafting-table, of a carriage movably supported thereover, a stem rotatably journaled in the carriage, a limb carried by the lower end of the stem and coacting with the table, a beam mounted on the upper portion of the limb and extending outwardly from the stem, a brace for the beam connecting the outer portion thereof and the limb at one side of the stem, and means for mounting a marking device on the outer portion of the beam.

111. In apparatus of the character described, the combination with a drafting-table, of a carriage movably supported thereover, a stem rotatably journaled in the carriage, a limb carried by the stem and coacting with the table, a beam mounted on the limb and comprising spaced rods adjustably extending on opposite sides of the stem, and means for mounting a marking device on the outer portion of the beam.

112. In apparatus of the character described, the combination with a table, of a carriage movably supported above the same, a rod revolubly suspended from the carriage, a limb member carried by the rod and coöperating with the table, a beam adjustably associated with the rod, said beam being rotatable with the rod and limb member, and means for supporting a marking implement upon the beam.

113. In apparatus of the character described, the combination with a table, of a carriage movably supported above the same, a rod revolubly suspended from the carriage, a limb member secured to the lower end of the rod and coöperating with the table, a clamp device located on the rod, a beam comprising spaced rods slidably mounted in the clamp, and means for securing a marking implement to the beam.

114. In apparatus of the character described, the combination with a table, of a carriage movably supported thereover, a limb revolubly suspended from the carriage and coöperating with the table, a marking device adjustably associated with the limb and coacting with the table at one side of the limb, and means for securing said marking device against relative movement with the limb.

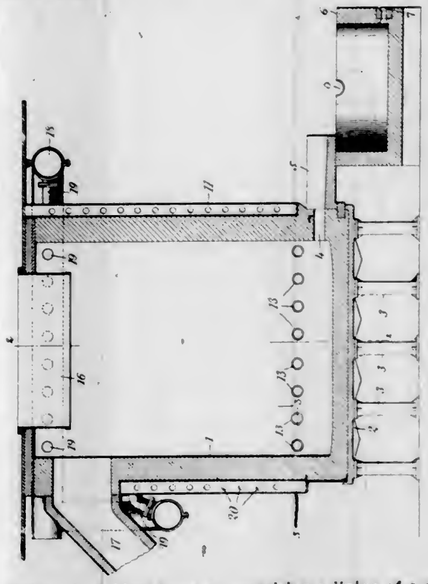
115. In apparatus of the character described, the combination with a table, of a limb member suspended over and coacting with the table, said member including a rod, a centering-stem slidably mounted in the lower end of the rod, and an actuating device for the stem disposed exteriorly of the rod and having a connection with said stem.

116. In apparatus of the character described, the combination with a table, of a carriage located over the same, means for supporting the carriage to permit its free movement over the table, a limb member rotatably suspended from the carriage and coacting directly with the table, and coöperating indicating devices comprising relatively rotatable scale and index elements, one of which is carried by the carriage and held against rotation, the other device being rotatable with the limb member, and means for effecting their relative rotation and thereby the rotation of the limb member.

117. In apparatus of the character described, the combination with a drafting-table, of an overhead carriage located over the same, overhead means for supporting the carriage to permit its free movement over the table, a limb member suspended from the carriage and rotatable on an axis substantially perpendicular to the table, said limb member being also laterally movable over the table directly adjacent thereto and being disposed below the carriage, an idex element carried by the carriage and located beneath the same, a dial mounted on the limb member below the carriage and having a scale coöperating with the index element, and means connected to the dial for rotating the same and thereby the limb member.

118. In apparatus of the character described, the combination with a drafting-table, of overhead tracks supported over the table, an overhead carriage movable on the tracks and having other tracks, a limb suspended from the overhead carriage and coöperating directly with the table, said limb rotating in a plane substantially parallel to the upper face of said table, rotatable scale and index elements for indicating the position of the limb with respect to the carriage, said elements being carried by the carriage and limb respectively and located beneath the carriage, and means connecting the elements for relatively rotating the same and thereby the limb member.

842,663. BLAST-FURNACE. HIRAM W. HIXON, Victoria Mines, Ontario, Canada. Filed Aug. 1, 1906. Serial No. 328,741.



Claim.—1. A blast-furnace, comprising a lining of a refractory material, an air-jacket surrounding the same, the outer wall of said jacket being curved outwardly and provided with vertical partitions between said lining and said jacket thereby forming a plurality of parallel passages, means for delivering air to the top of said passages, and twyers in the lining communicating with the lower ends of said passages.

2. A blast-furnace, comprising a rectangular lining of refractory material, an air-jacket surrounding the same and constituting a strengthening-brace for said lining, the outer wall of said jacket being curved outwardly and provided with a plurality of perforated, vertical partitions between said lining and said jacket, means for delivering air to said air-jacket at the upper end thereof, and means for admitting air from said jacket through said lining at the lower end thereof.

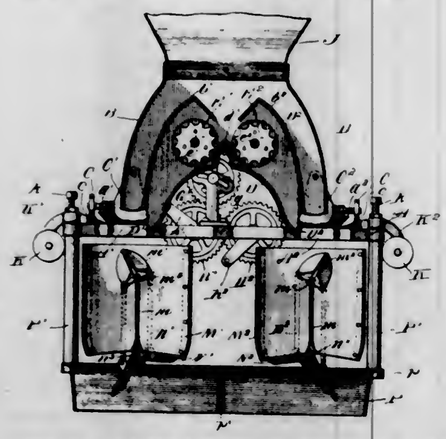
3. A blast-furnace, comprising a rectangular lining of magnesite, an air-jacket surrounding the same, the outer wall of said jacket being curved outwardly and constituting a strengthening-brace for said lining, vertical partitions between said lining and said jacket, thereby subdividing said jacket into a plurality of vertical passage-ways, twyers in the walls of said furnace communicating with the lower ends of said passage-ways, and ports and closures therefor in the outer wall of said air-jacket and in alinement with each of said twyers, whereby the twyers may be freed from obstructions.

4. A blast-furnace, comprising a rectangular refractory lining, and an air-jacket surrounding said lining, the outer wall of said air-jacket being curved outwardly and provided with a plurality of spacing-braces, whereby the air-jacket and its braces constitute a truss for strengthening the walls of the furnace.

5. In a blast-furnace, a lining of refractory material, an air-jacket surrounding the same, vertical partitions in said air-jacket, each of said partitions being provided with a plurality of perforations, twyers communicating with the lower end of said air-jacket, and means whereby the twyers may be freed from obstructions and foreign matter removed from the air-jacket.

6. A blast-furnace, comprising a lining of refractory material, an air-jacket surrounding said lining, vertical perforated spacing-partitions in said air-jacket subdividing the space between the jacket and the lining into a plurality of passages, means for admitting air to said jacket adjacent one end of the passages, means for admitting air from the lower end of said passages through said lining, and means for drawing off the contents of said furnace adjacent the lower end thereof.

842,664. POWER-DRIVEN WEIGHING-MACHINE. GEORGE HOEPNER, Chicago, Ill., assignor to Union Scale & Mfg. Co., San Francisco, Cal., a Corporation of California. Filed Jan. 7, 1904. Serial No. 188,044.



Claim.—1. In a weighing-machine, the combination with a plurality of weighing-receptacles, each having two compartments, of a separate main supply for delivering material to each of said receptacles, a separate gate for discontinuing said main supply to each receptacle, a separate continuous supplemental supply for delivering material to each receptacle after the discontinuance of said main supply, deflectors for directing the material alternately into the compartments of each receptacle, and means for discharging a predetermined quantity of material from said receptacles.

2. In a weighing-machine, the combination with a plurality of weighing-receptacles each having two compartments, of channels for supplying material alternately to the receptacles and alternately to the compartments of each receptacle, deflectors for directing the material alternately into the compartments of each receptacle and mechanism for separately discharging a predetermined quantity of material from the compartments.

3. In a power-controlled automatic weighing-machine, the combination with a plurality of weighing-receptacles, each having two compartments, of a separate main supply for delivering material to each receptacle, a separate gate for discontinuing said main supply, separate power-actuated means for delivering a continuous supplemental supply of material to each receptacle after the discontinuance of said main supply, deflectors for directing the material alternately into the compartments of each receptacle, and means for discharging a predetermined quantity of material from said receptacles.

4. In a weighing-machine, the combination with a plurality of weighing-receptacles each having two compartments, of a plurality of channels for supplying material alternately to the receptacles and alternately to the compartments of each receptacle, deflectors for directing the material alternately into the compartments of each receptacle and mechanism actuated by the sinking of the receptacles for separately discharging a predetermined quantity of the material from the compartments.

5. In a weighing-machine, the combination with a plurality of weighing-receptacles, of a plurality of channels for supplying material to said receptacles, the channels for each receptacle being separate and distinct from those leading to the other receptacle a gate controlling the passage of material through one of the channels leading to each receptacle, mechanism for closing said gates to cut off the supply of material to the receptacles, means for delivering a continuous completing supply of material to said receptacles after the closing of the gates and mechanism for successively reopening said gates.

6. In a weighing-machine, the combination with a plurality of weighing-receptacles, of a plurality of channels for supplying material to said receptacles, the channels for each receptacle being separate and distinct from those leading to the other receptacle a gate controlling the passage of material through one of the channels leading to each receptacle, mechanism for closing said gates to cut off the supply of material to the receptacles, means for delivering a continuous completing supply of material to said receptacles after the closing of the gates mechanism for successively reopening said gates, and means for successively discharging predetermined quantities of material from the receptacles.

7. In a weighing-machine, the combination with a plurality of weighing-receptacles, of a plurality of channels for supplying material to said receptacles, the channels for each receptacle being separate and distinct from those leading to the other receptacle a gate controlling the passage of material through one of the channels leading to each receptacle, mechanism actuated by the sinking of the respective receptacles for closing said gates to cut off the supply of material to the receptacles, means for delivering a continuous completing supply of material to said receptacles after the closing of the gates and mechanism for successively reopening said gates.

8. In a weighing-machine, the combination with a plurality of weighing-receptacles, of a channel for supplying material to each of said receptacles, gates controlling the passage of material through said channels, mechanism for closing said gates to cut off the supply of material to the receptacles, power-actuated supplemental means for continuing the supply of material to the receptacles after the gates are closed, and mechanism for successively reopening said gates.

9. In a weighing-machine, the combination with a plurality of weighing-receptacles, of a channel for supplying material to each of said receptacles, gates controlling the passage of material through said channels, mechanism actuated by the sinking of the respective receptacles for closing said gates to cut off the supply of material to the receptacles, means for successively discharging predetermined quantities of the material from the receptacles, supplemental means for delivering a continuous completing supply of the material to the receptacles after the gates

are closed, and mechanism for successively reopening said gates.

10. In a weighing-machine, the combination with a plurality of weighing-receptacles, of a channel for supplying material to each of said receptacles, gates controlling the passage of material through said channels, mechanism for closing said gates to cut off the supply of material to the receptacles, supplemental uninterrupted channels through which material is continuously supplied to said receptacles after the gates are closed, and mechanism for successively reopening said gates.

11. In a weighing-machine, the combination with a plurality of weighing-receptacles, of a channel for supplying material to each of said receptacles, gates controlling the passage of material through said channels, mechanism for successively opening said gates, pairs of links for retaining said gates open, and mechanism for breaking the knee-joints in the pairs of links to permit the gates to close.

12. In a weighing-machine, the combination with a plurality of weighing-receptacles, of a channel for supplying material to each of said receptacles, gates controlling the passage of material through said channels, mechanism for successively opening said gates, pairs of links for retaining said gates open, and mechanism actuated by the sinking of the receptacles for breaking the knee-joints in the pairs of links to permit the gates to close.

13. In a weighing-machine, the combination with a plurality of weighing-receptacles, of a channel for supplying material to each of said receptacles, gates controlling the passage of material through said channels, mechanism for successively opening said gates, pairs of links for retaining said gates open, mechanism for breaking the knee-joints in the pairs of links to permit the gates to close, and supplemental means for continuing the supply of material to the receptacles after the gates are closed.

14. In a weighing-machine, the combination with a plurality of weighing-receptacles, of a channel for supplying material to each of said receptacles, gates controlling the passage of material through said channels, mechanism for successively opening said gates, pairs of links for retaining said gates open, mechanism for breaking the knee-joints in the pairs of links to permit the gates to close, and mechanism for successively discharging predetermined quantities of the material from the respective receptacles.

15. In a power-controlled automatic weighing-machine, the combination with a plurality of weighing-receptacles, of a channel for supplying material to each of said receptacles, gates controlling the passage of material through said channels, mechanism for closing said gates, and power-actuated mechanism for successively opening said gates at predetermined intervals.

16. In a power-controlled automatic weighing-machine, the combination with a plurality of weighing-receptacles, of a channel for supplying material to each of said receptacles, gates controlling the passage of material through said channels, mechanism for closing said gates, power-actuated supplemental means for continuing the supply of the material to the receptacles after the gates are closed, and power-actuated mechanism for successively opening said gates at predetermined intervals.

17. In a power-controlled automatic weighing-machine, the combination with a plurality of weighing-receptacles, of a channel supplying material to each of said receptacles, gates controlling the passage of material through said channels, power-actuated mechanism for successively opening said gates at predetermined intervals, pairs of links for retaining said gates open, and mechanism for breaking the knee-joints in the pairs of links to permit the gates to close.

18. In a power-controlled automatic weighing-machine, the combination with a plurality of weighing-receptacles, of a channel for supplying material to each of said receptacles, gates controlling the passage of material through said channels, power-actuated mechanism for successively opening said gates at predetermined intervals, pairs of links for retaining said gates open, mechanism for breaking the knee-joints in the pairs of links to permit the gates to close, and power-actuated supplemental means for continuing the supply of material to the receptacles after the gates are closed.

19. In a weighing-machine, the combination with a plurality of weighing-receptacles each having two compartments, of a plurality of channels for supplying material alternately to the compartments of each receptacle, a gate controlling the passage of material through a channel leading to each receptacle, mechanism for closing said gates, means for successively discharging predetermined quantities of material from said compartments, and mechanism for successively reopening said gates.

20. In a power-controlled automatic weighing-machine, the combination with a plurality of weighing-receptacles each having two compartments, of channels for supplying material alternately to the compartments of each receptacle, a gate controlling a channel leading to each receptacle, mechanism for closing said gates, power-actuated supplemental means for continuing the supply of material to the compartments after the gates are closed, and power-actuated mechanism for successively opening said gates at predetermined intervals.

21. In a weighing-machine the combination with a plurality of weighing-receptacles each having two compartments, of a plurality of channels for supplying material alternately to the receptacles and alternately to the compartments of each receptacle, deflectors for directing the material alternately into the compartments of each receptacle, oscillating bottoms for said receptacles adapted to close one and simultaneously open the other compartment, and means actuated by the sinking of the receptacles to oscillate said bottoms to open one compartment and close the other compartment.

22. In a weighing-machine, the combination with a plurality of weighing-receptacles each having two compartments, of a plurality of channels for supplying material alternately to the receptacles and alternately to the compartments of each receptacle, deflectors for directing the material alternately into the compartments of each receptacle, oscillating bottoms for said receptacles adapted to close one and simultaneously open the other compartment, means actuated by the sinking of the receptacles to oscillate said bottoms to open one compartment and close the other compartment, swinging guides located above the compartments in each receptacle, and operative connections between the guide and bottom of each receptacle for swinging said guide into position to direct the material into the closed compartment.

23. In a power-controlled automatic weighing-machine, the combination with a weighing-receptacle having two compartments, of a channel for supplying material to said receptacle, a gate controlling said channel, power-actuated mechanism for opening said gate at predetermined intervals, mechanism for closing said gate actuated by the partial sinking of the receptacle, a supplemental channel for continuing the supply of material to the receptacle after the gate is closed, and means actuated by the further sinking of the receptacle for discharging a predetermined quantity of the material.

24. In a power-controlled automatic weighing-machine, the combination with a weighing-receptacle having two compartments, of a channel for supplying material to said receptacle, a gate controlling said channel, power-actuated mechanism for opening said gate at predetermined intervals, mechanism for closing said gate actuated by the partial sinking of the receptacle, a supplemental channel, power-actuated means for continuing the supply of material through said supplemental channel to the receptacle after the gate is closed, and means actuated by the further sinking of the receptacle for discharging a predetermined quantity of the material.

25. In a power-controlled automatic weighing-machine, the combination with a weighing-receptacle having two compartments, of a channel for supplying material to said receptacle, a gate controlling said channel, a lever adapted to engage and open said gate, power connections for actuating said lever at predetermined intervals, mechanism for closing said gate actuated by the partial sinking of the receptacle, and supplemental means for continuing the supply of the material to the receptacle after the gate is closed.

26. In a power-controlled automatic weighing-machine, the combination with a weighing-receptacle, of a channel

for supplying material to said receptacle, a gate controlling said channel, a weighted lever, power connections intermittently engaging said lever for oscillating the same into position to engage said gate whereby when the lever is released by the power connections the weight thereon will swing the same to its normal position thereby opening the gate, mechanism for retaining the gate open, and mechanism for closing said gate actuated by the sinking of the receptacle.

27. In a power-controlled automatic weighing-machine, the combination with a weighing-receptacle, of a channel for supplying material to said receptacle, a gate controlling said channel, a weight tending to normally close said gate, a weighted lever, power connections intermittently oscillating said lever into position to engage said gate whereby when the lever is released by the power connection the weight thereon will swing the same to its normal position thereby opening the gate, a pair of links for retaining said gate open, and means for breaking the knee-joints of said links to permit the weight on the gate to swing the same closed.

28. In a power-controlled automatic weighing-machine, the combination with a weighing-receptacle, of a channel for supplying material to said receptacle, a gate controlling said channel, a shaft having a radial arm thereon, power connections for rotating said shaft, a weighted lever adapted to be engaged by said arm and oscillated into position to engage said gate whereby when said arm passes out of contact with said lever the weight thereon will swing the same to its normal position thereby opening said gate, means for retaining the gate open, and means actuated by the sinking of the receptacle for permitting said gate to close.

29. In a power-controlled automatic weighing-machine, the combination with a weighing-receptacle having two compartments, of a channel for supplying material to said receptacle, a gate controlling said channel, mechanism for opening said gate at predetermined intervals, mechanism for closing said gate actuated by the sinking of the receptacle, a supplemental uninterrupted channel, a power-actuated feeding device for delivering material into said channel and thereby completing the predetermined amount of material in said receptacle after the closing of said gate.

30. In a power-controlled automatic weighing-machine, the combination with a weighing-receptacle having two compartments, of a channel for supplying material to said receptacle, a gate controlling said channel, mechanism for opening said gate at predetermined intervals, mechanism for closing said gate actuated by the sinking of the receptacle, a supplemental uninterrupted channel, a rotary disk having recesses in its periphery for receiving material and delivering the same into said supplemental channel, power connections for continuously rotating said disk whereby the predetermined amount of material is supplied to said receptacle after the closing of said gate.

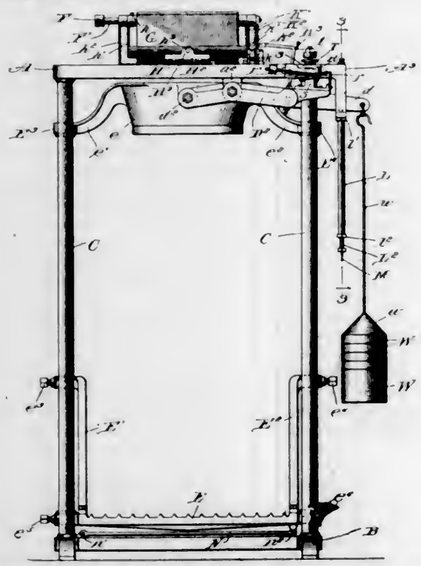
31. In a power-controlled automatic weighing-machine, the combination with a weighing-receptacle having two compartments, of a channel for supplying material to said receptacle, a gate controlling said channel, a weighted lever, power connections intermittently oscillating said lever into position to engage said gate whereby when the lever is released by the power connections the weight thereon will swing the same to its normal position thereby opening said gate, means for closing said gate upon the partial sinking of said receptacle, a supplemental uninterrupted channel leading to said receptacle, a power-actuated feeding device for delivering material into said channel thereby completing the predetermined amount of material in said receptacle after the closing of said gate.

32. In a power-controlled automatic weighing-machine, the combination with a weighing-receptacle having two compartments, of a channel for supplying material to said receptacle, a gate controlling said channel, a shaft having a radial arm thereon, means for rotating said shaft, a weighted lever adapted to be engaged by said arm and oscillated into position to engage said gate whereby when said arm passes out of contact with said lever the weight thereon will swing the same to its normal position and thereby open said gate, mechanism for closing said gate actuated by the partial sinking of the receptacle, a supplemental uninterrupted channel leading to said receptacle, a rotary disk having recesses in its periphery for receiving the material and delivering the same into said supplemental channel, power connections for rotating said disk, and means actuated by the the further sinking of the receptacle for discharging a predetermined quantity of the material therefrom.

33. In a power-controlled automatic weighing-machine, the combination with a weighing-receptacle, of a scale-beam supporting said receptacle and having an arm for supporting the counterbalance-weight, a channel for supplying material to said receptacle, a gate controlling said channel, means for closing said gate upon the partial sinking of said receptacle, supplemental means for continuing the supply of material to the receptacle after the closing of said gate, a supplemental counterweight flexibly connected to said scale-beam arm to assist said material to lower the receptacle sufficiently to close said gate thereby determining the amount of material supplied by said supplemental means after the closing of said gate.

34. In a weighing-machine, the combination with a weighing-receptacle having two compartments, of a main supply for delivering material to said receptacle, means for discontinuing said main supply, a continuous supplemental supply for delivering material to said receptacle after the discontinuance of said main supply, and means for discharging a predetermined quantity of material from said receptacle.

842,665. WEIGHING-MACHINE. GEORGE HOEPNER, Chicago, Ill., assignor to Union Scale & Mfg. Co., San Francisco, Cal., a Corporation of California. Filed June 17, 1905. Serial No. 265,761.



Claim.—1. In a weighing-machine, the combination with a scale-beam, of means for supporting upon said scale-beam a receptacle to receive the material to be weighed, a gate for restricting the flow of material to said receptacle, a second gate for cutting off the restricted flow of material, pairs of toggle-links for holding said gates open, and a riser carried by the scale-beam for successively breaking said toggle-links thereby closing said gates.

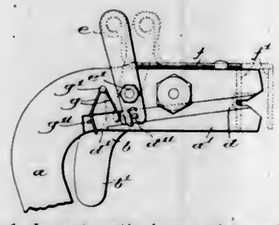
2. In a weighing-machine, the combination with a scale-beam, of means for supporting upon the scale-beam a receptacle to receive the material to be weighed, means for restricting the flow of material to said receptacle, means for cutting off the restricted flow of material, mechanism actuated directly by the scale-beam to successively operate both of said means, means for preventing the scale-beam rising sufficiently when operating said first means to operate said second means, and means for assisting the movement of the scale-beam in operating said first means.

3. In a weighing-machine, the combination with a scale-beam, of means for supporting upon the scale-beam a receptacle to receive the material to be weighed, an oscillating gate for restricting the flow of material to the receptacle, a rotary shaft to which said gate is fixed, a hand-lever on said shaft, a second gate for cutting off the restricted flow of material, mechanism actuated directly by the scale-beam for successively closing said gates, and means for opening both of said gates by moving said hand-lever.

4. In a weighing-machine, the combination with a scale-beam, of means for supporting upon the scale-beam a receptacle to receive the material to be weighed, a gate for restricting the flow of material to said receptacle, an oscillating shaft to which said gate is fixed, a hand-lever on said shaft, a second gate for cutting off the restricted flow of material, pairs of toggle-links for holding said gates open, a riser carried by the scale-beam for successively breaking said toggle-links and thereby closing said gates, and means for opening both of said gates by a movement of said hand-lever.

5. In a weighing-machine, the combination with a scale-beam, of means for supporting upon the scale-beam a receptacle to receive the material to be weighed, means for restricting the flow of material to said receptacle, means for cutting off the restricted flow of material, mechanism actuated directly by the rising of the scale-beam for successively operating both of said means, a spring-actuated plunger engaging said scale-beam and tending to lift the same, and means for discontinuing the action of said plunger when the scale-beam has moved sufficiently to operate said first means.

842,666. THREAD-PARTER FOR WEFT-REPLENISHING LOOMS. DENIS M. HOLLINS, Blackburn, England, assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Oct. 15, 1906. Serial No. 338,910.



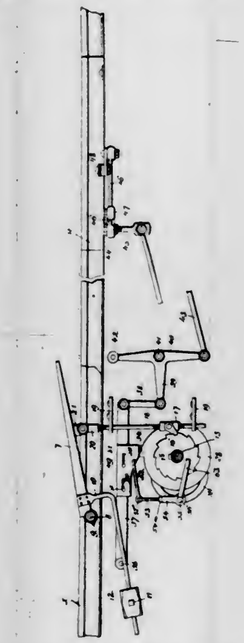
Claim.—1. In automatic looms, the combination with means for clamping and parting the thread between the cloth and the shuttle when filling replenishment takes place, of a guard or shield movable rearwardly beyond the end of the parter by connection or connections adapted to be engaged and operated by an improperly-boxed shuttle in the adjacent shuttle-box, in the manner and for the purpose substantially as herein set forth.

2. In automatic looms, a shuttle-feeler provided with a guideway, a slide movable therein and adapted to contact with and be moved by an improperly-boxed shuttle, a normally inoperative guard or shield, and a lever-like connection pivotally connected therewith and with the slide, to move rearwardly and operatively position the guard or shield by shuttle-induced movement of the slide.

3. In automatic looms, the combination with means to clamp and part the thread between the cloth and the shuttle when filling replenishment takes place, of a guard or shield for the thread, and means actuated by or through contact with an improperly-boxed shuttle to operatively position the guard or shield and thereby prevent coöperation of the clamping and parting means upon the thread.

4. In automatic looms, a shuttle-feeler *a'* provided with a guide-recess, a slide longitudinally movable therewith and adapted to contact with and to be moved by an improperly-boxed shuttle, a lever *e* fulcrumed on the shuttle-feeler and operatively connected with the slide, and a normally inoperative shield or guard as *f'* pivotally connected to said lever and adapted to be moved into operative position by or through shuttle-induced movement of the slide.

842,667. AUTOMATIC MINE-CAR SWITCH. MAURICE O. HORNING, Broughton, Pa. Filed Nov. 1, 1906. Serial No. 341,611.



Claim.—1. In a switch-throwing device the combination with a lever fulcrumed adjacent to one of the rails of a track in position to be depressed by a car-wheel, of a shaft supported transversely of the track, a plurality of disks on said shaft, a pawl operated by said lever, a ratchet-wheel on said shaft adapted to be engaged by said pawl, a tripping device adapted to be engaged by peripheral projections on said disks, and connections between said tripping device and the switch-point of the track.

2. In a switch-throwing device, the combination with a lever fulcrumed adjacent to one rail of a track in position to be depressed by a car-wheel, of a shaft supported below the rails and transversely thereof, a plurality of disks mounted upon said shaft, a ratchet-wheel also mounted on said shaft, a vertical rod supported in guides below said lever and pivotally secured thereto, a pawl carried by said rod to engage the teeth of said ratchet-wheel, a tripping device adapted to engage said disks, a double bell-crank lever connected to said tripping device, and connections between said bell-crank lever and the switch-point.

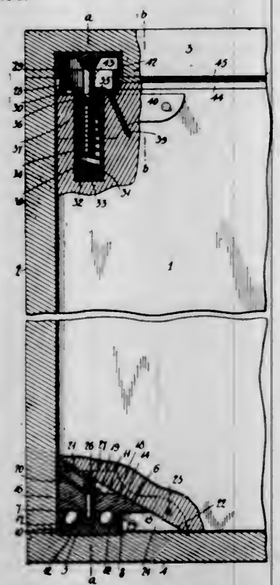
3. In a switch-throwing device, the combination with a lever fulcrumed adjacent to one rail of a track, in position to be struck by a car-wheel, of a shaft supported below the rails and transversely thereof, a plurality of disks formed with projections, longitudinally-movable bar supported above said disks, a ratchet-wheel on said shaft, a pawl operated by said lever to engage the ratchet and partially revolve said shaft, means for shifting said bar, a tripping device on said bar, and connections between said bar and the switch-point.

4. In a switch-throwing device, the combination with a counterbalanced lever fulcrumed adjacent to a track in position to be depressed by a car-wheel, of a vertically-disposed rod supported in guides below the track, and pivot-

ally secured at its upper end to said lever, a pawl pivoted upon said rod, a transverse shaft supported below the track, a ratchet-wheel on said shaft to be engaged by said pawl, a series of disks mounted on said shaft having varying peripheral projections, a longitudinally-movable bar extending above said disks, means for shifting said bar, a tripping device on said bar, and connections between said bar and switch-point.

5. In a switch-throwing device the combination with a counterbalanced lever, fulcrumed adjacent to a track in position to be depressed by a car-wheel, of a vertically-disposed rod supported in guides below the track, and pivotally secured at its upper end to said lever, a pawl pivoted upon said rod, a transverse shaft supported below the track, a ratchet-wheel on said shaft to be engaged by said pawl, a series of disks mounted on said shaft having varying peripheral projections, a longitudinally-movable bar extending above said disks, means for shifting said bar, a tripping device on said bar, and connections between said bar and switch-point comprising a vertically-disposed double bell-crank lever, a link connecting said double lever to said bar, and a horizontally-supported bell-crank lever connected by links with said double lever, and the switch-point.

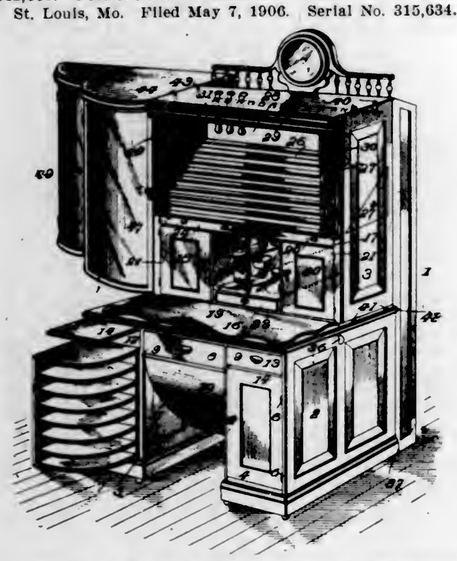
842,668. DOOR-PIVOTING DEVICE. JAMES E. HUEY, Charlotte, N. C., assignor of one-half to Welcome C. Lovejoy, Charlotte, N. C. Filed Feb. 23, 1906. Serial No. 302,496.



Claim.—1. An upper door-pivoting device comprising a lower member having a cylindrical boss, a cylindrical sleeve depending therefrom, a removable closure for the lower end of said sleeve, a bearing-screw in said sleeve, having a head provided with a bearing-socket in its upper side, an adjusting-nut on said screw, and a spring in said sleeve bearing under said nut; in combination with an upper member, having a cylindrical depending sleeve to receive the cylindrical boss of the lower member, and a pivot-stud to extend into the bearing-socket of the screw of the lower member, substantially as described.

2. In combination with a lower door-pivoting member, an upper door-pivoting member having a web provided with an inclined upper side and a clearance notch or recess, a door having a recess in its lower, inner corner, for the reception of the said web, plates on opposite sides of the door, and a clamping device for the said plates, cleared by said notch or recess in said web, substantially as described.

842,669. PHYSICIAN'S CABINET. HENRY A. HUGHES, St. Louis, Mo. Filed May 7, 1906. Serial No. 315,634.



Claim.—1. In a physician's cabinet, the combination with compartments and drawers in the base portion, a compartment formed above the body of the cabinet, a series of shelves within said compartment, each of said shelves being in rear of and above the preceding shelf, a compartment formed in the rear of the cabinet adjacent the shelves, a compartment being formed between the shelves and the said rear compartment, a series of instrument-supports, and flexible closures for closing the compartment containing the shelves.

2. In a physician's cabinet, the combination with a pair of compartments in the lower portion thereof, a series of horizontally-hinged shelves in each compartment, a drawer intermediate the compartments which is formed with a downwardly and rearwardly extending bottom, a drawer over each compartment, a series of compartments over and above the said drawers and in the body portion of the cabinet, a series of horizontally-disposed shelves above the latter compartments, each of said shelves being above and in rear of the preceding shelf, a secret compartment formed under said shelves, and doors for gaining access to the secret compartment.

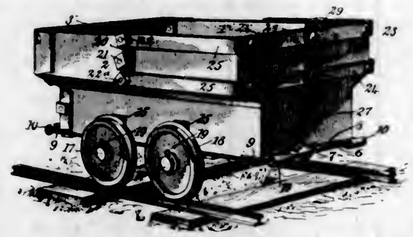
3. In a physician's cabinet, the combination with compartments and drawers in the base portion, a series of shelves above the body of the cabinet, each of said shelves being in rear of and above the preceding shelf, a secret compartment below said shelves, doors for gaining access to the secret compartment, and a compartment in rear of the cabinet.

4. In a physician's cabinet, the combination with compartments and drawers in the base portion of the cabinet, a series of shelves in the body portion of the cabinet, each of said shelves being in rear of and above the preceding shelf, a secret compartment formed under the shelves, openings having doors at the sides of the cabinet to gain access to the secret compartment, supplemental detachable compartments on the sides of the cabinet and over the doors, the supplemental compartments next to the cabinet being open to gain access to the secret doors, and a compartment formed in the rear of the cabinet.

842,670. MINE-CAR. CHARLES A. KELLER, Rosedale, Ind. Filed Apr. 11, 1906. Serial No. 311,091.

Claim.—1. In a car of the class described, in combination, a body having a movable door, a bail attached to said door, and means for pivotally connecting the bail to the car, whereby the door may be swung to the outer side of the opposite wall of the car.

2. In a car of the class described, in combination, a body having its bottom at the ends projecting beyond the sides, a bail pivotally attached to said body near the middle portion thereof, and a door attached to said bail and constituting an end wall of said body, said door being adapted to be reversed in position so as to become superposed over the opposite end wall of the car and to rest upon the projection of the bottom.



3. In a car of the class described, in combination, a car-body having a projecting tongue at each end thereof, a door normally resting on one of the said tongues, and a bail attached to said door and pivotally attached to the body of said car near the middle portion thereof, said bail affording means for reversing the position of said door to bring the same to the opposite end of said body so as to rest upon the tongue at the said end of the body.

4. In a car of the class described, in combination a body having hopper-shaped sides and one fixed end wall, the bottom of the body projecting at one end beyond the sides, a door shaped to close the other end of the body, and a bail comprising U-shaped parallel members secured to the door, said members having their ends pivotally connected with the sides of the body.

5. In a car of the class described, in combination, a body, and transversely-disposed tongues at the extremities of said body, said tongues having central draft-openings and laterally-disposed draft-openings adapted to receive a coupling.

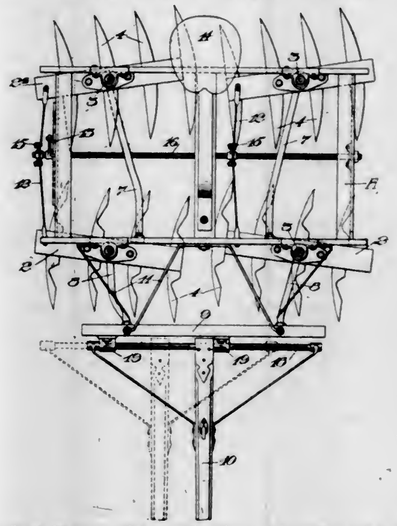
6. In a car of the class described, in combination, a body having cross-heads pivotally attached to the outer sides of the side walls thereof, a bail attached to said cross-heads, and a door attached to said bail and constituting an end wall of said body, said bail affording means for reversing said door to superpose the same over the opposite end wall of said body.

7. In a car of the class described, in combination, a body having outwardly-projecting tongues at the extremities thereof, and at substantially the level of the bottom of said car, a bail pivotally attached to said body near the middle portion thereof, and a door attached to said bail, the lower edge whereof normally rests on one of said tongues, to form an end wall for said car, said bail affording means for reversing said door whereby the same may be supported on the tongue at the opposite end of the car, and to superpose over the opposite end wall.

842,671. DISK HARROW. WILLIAM C. KING, Campbell, Cal., assignor of one-half to W. G. Aiken, Campbell, Cal. Filed Feb. 16, 1906. Serial No. 301,417.

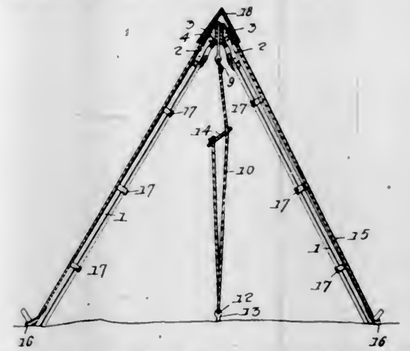
Claim.—1. In a harrow, the combination of a main frame, a plurality of supplemental transversely-extending front and rear bars upon opposite sides of the center of the main frame, said bars having each a centrally-located spindle and said main frame having sockets in which said spindles are turnable, shafts carried by the bars and provided with disks, braces extending from the central portions of the shafts to the main frame, and means by which the bars are turnable in unison and to different angles.

2. In a harrow, the combination of a rectangular, rigid main frame, transversely-extending channel-bars at each side of the center of the frame and located at the front and rear ends of said frame, said bars having pendent standards and centrally-located vertical spindles, sockets on the main frame in which spindles are turnable, shafts journaled in the standards, and provided with disks, braces extending from central portions of the shafts to the main frame, and means by which the front and rear bars at either side of the center of the main frame may be turned simultaneously and to opposite angular positions.



3. In a harrow, the combination of a rectangular main frame, transversely-extending channel-bars at the front and rear of the main frame and disposed upon opposite sides of the center thereof, means turnably connecting the central portions of the bars with the main frame, disk-carrying shafts mounted on the bars, means connecting the central portions of the rear shafts with the main frame, means whereby the front and rear bars upon either side of the frame may be turned to opposite angular positions relative to each other, a draft-bar, connections between it and the front of the main frame, and connections between the front disk-shafts and the draft-bar.

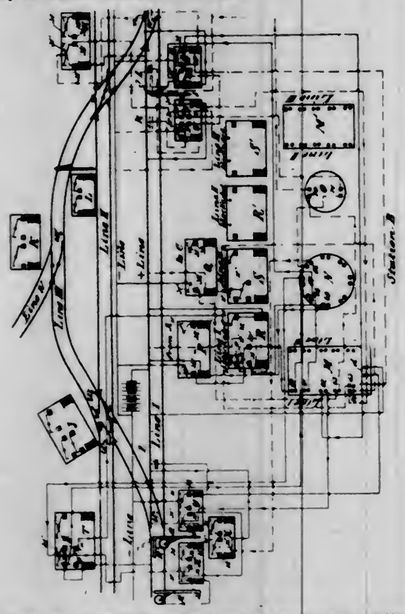
842,672. TENT. GULESBERRY M. KIRBY, Aurora, Mo. Filed Dec. 26, 1905. Serial No. 293,365.



Claim.—1. A tent having four corner-poles, forked hinge-castings secured on one end of each of said poles, an apex-casting having radially-projecting wings to which said hinge-castings are pivotally connected, a conically-shaped metallic cap arranged on said apex-casting, a waterproof covering arranged on said poles, loops to secure said covering to the poles, loops formed on the lower edges of the covering to receive stakes, a cord or rope adapted to be removably connected at one end to said apex-casting, means to adjustably connect said rope with a stake thereby holding said tent down, and means to form a storm-tight closure for the tent-covering, substantially as described.

2. A tent having four corner-poles, forked hinge-castings secured on one end of the same, an apex-casting having radially-projecting wings to which said hinge-castings are pivotally connected, a conically-shaped metallic cap arranged on said apex-casting, a waterproof covering arranged on said poles, means to secure said covering to said poles, a flap-strip secured to one side of the tent adjacent to and along one edge of the tent-opening thereby forming, with said edge, double flaps between which is adapted to be inserted the opposite edge of the opening, and an inner and outer row of fastening devices adapted to secure said edge in between said flaps thereby forming a storm-proof closure, substantially as described.

842,673. ELECTRICAL APPARATUS FOR SETTING THE POINTS AND SIGNALS ON RAILWAYS. LORENZ KOTTMAIR and RUDOLF ZWACK, Munich, Germany. Filed July 3, 1903. Serial No. 164,205.



Claim.—1. A switch and signal apparatus for railroad-tracks, comprising actuating devices for the track switches and signals, and electrical means for actuating the said actuating devices in one direction for making the line ready and for causing a return movement of the actuating devices, the said electrical means having electric switches one for each actuating device, each electric switch when set closing the circuit for another actuating device.

2. A switch and signal apparatus for railroad-tracks, comprising actuating devices for the track switches and signals, and electrical means for setting the actuating devices, provided with a switchboard having interrupters arranged in groups corresponding to the tracks to be made ready, and contact devices for closing the interrupters and adjustable simultaneous with the track-switch so that the same actuating device may be used in any desired order and direction of displacement for making ready different tracks.

3. A switch and signal apparatus for railroad-tracks, comprising actuating devices for the track switches and signals, and electrical means for setting the said actuating devices, the said electrical means including a switchboard provided with two groups (*b'* and *d'*) of interrrupters for each track and of which the group *b'* serves for actuating the said actuating devices in one direction for making the line ready, and the other group *d'* serves for causing a return movement of the actuating devices.

4. A switch and signal apparatus, comprising actuating devices for the switches and signals of a station, an alarm-circuit from one station to another, a main circuit for each station and having circuit-closers for successively connecting the main circuit with the said actuating devices, and a circuit-closer for closing the main circuit from the said alarm-circuit.

5. A switch and signal apparatus comprising an alarm-circuit from one station to another, a main circuit at a station, each adapted to be closed by the said alarm-circuit, actuating devices for the switches and signals at the track-section for a station, and circuit-closers in the said main circuit, for connecting the main circuit to an actuating device on closing the main circuit by the alarm-circuit, the connected actuating device controlling the circuit-closer for the next actuating device, to successively set the several switches and signals.

6. A switch and signal apparatus comprising an alarm-circuit from one station to another, a main circuit at a station, each adapted to be closed by the said alarm-circuit, actuating devices for the switches and signals at the track-section for a station, circuit-closers in the said main circuit, for connecting the main circuit to an actuating device on closing the main circuit by the alarm-circuit, the connected actuating device controlling the circuit-closer for the next actuating device, to successively set the several switches and signals, and a switchboard at a station for the said circuits and interrupters in the switchboard.

7. A switch and signal apparatus for railroad-tracks, comprising an alarm-circuit from one station to another, a main circuit at a station, adapted to be closed by the said alarm-circuit, an interrupter in the said main circuit, a series of actuating devices for the switches and signals of the station, and circuit-closers for connecting the main circuit with the said actuating devices, the closing of the main line by the interrupter actuating the circuit-closer for the first actuating device of the series, to set this first actuating device, and the action of the latter controlling the next circuit-closer, to actuate the second actuating device of the series.

8. A switch and signal apparatus for railroad-tracks, comprising an alarm-circuit from one station to another, a main circuit at a station, adapted to be closed by the said alarm-circuit, an interrupter in the said main circuit, a series of actuating devices for the switches and signals of the station, circuit-closers for connecting the main circuit with the said actuating devices, the closing of the main line by the interrupter actuating the circuit-closer for the first actuating device of the series, to set this first actuating device, and the action of the latter controlling the next circuit-closer, to actuate the second actuating device of the series, and a second interrupter in the main circuit, between the last actuating devices of the series.

9. A switch and signal apparatus for railroad-tracks, comprising an alarm-circuit from one station to another, a main circuit at a station, adapted to be closed by the said alarm-circuit, an interrupter in the said main circuit, a series of actuating devices for the switches and signals of the station, circuit-closers for connecting the main circuit with the said actuating devices, the closing of the main line by the interrupter actuating the circuit-closer for the first actuating device of the series, to set this first actuating device, and the action of the latter controlling the next circuit-closer, to actuate the second actuating device of the series, and an alarm in the main circuit, after the last actuating device of the series.

10. A switch and signal apparatus for railroad-tracks, comprising an alarm-circuit from one station to another, a main circuit at a station, adapted to be closed by the said alarm-circuit, an interrupter in the said main circuit, a series of actuating devices for the switches and signals of the station, and circuit-closers for connecting the main circuit with the said actuating devices, the closing of the main line by the interrupter actuating the circuit-closer for the first actuating device of the series, to set this first actuating device, and the action of the latter controlling the next circuit-closer, to actuate the second actuating device of the series, the first actuating device controlling the stop-signal, the latter controlling the stop-signal switch adjacent to the stop-signal, the stop-signal switch controlling the entrance-switch and the latter controlling the arrival-signal.

11. A switch and signal apparatus for railroad-tracks, comprising an alarm-circuit from one station to another, a main circuit at a station, adapted to be closed by the said alarm-circuit, an interrupter in the said main circuit, a series of actuating devices for the switches and signals of the station, circuit-closers for connecting the main circuit with the said actuating devices, the closing of the main line by the interrupter actuating the circuit-closer for the first actuating device of the series, to set this first actuating device, and the action of the latter controlling the next circuit-closer, to actuate the second actuating device of the series, the first actuating device controlling the stop-signal, the latter controlling the stop-signal switch adjacent to the stop-signal, the stop-signal switch controlling the entrance-signal and the latter controlling the arrival-signal, and a second interrupter in the main line between the entrance-switch and the arrival-signal.

12. A switch and signal apparatus for railroad-tracks, comprising an alarm-circuit from one station to another, a main circuit at a station, adapted to be closed by the said alarm-circuit, an interrupter in the said main circuit, a series of actuating devices for the switches and signals of the station, circuit-closers for connecting the main circuit with the said actuating devices, the closing of the main line by the interrupter actuating the circuit-closer for the first actuating device of the series, to set this first actuating device, and the action of the latter controlling the next circuit-closer, to actuate the second actuating device of the series, the first actuating device controlling the stop-signal, the latter controlling the stop-signal switch adjacent to the stop-signal, the stop-signal switch controlling the entrance-switch and the latter controlling the arrival-signal, and an alarm in the main circuit after the arrival-signal.

13. A switch and signal apparatus for railroads, comprising a main circuit at a station, adapted to be closed by the next station, a series of circuit-closers in the said main circuit, and actuating devices for the switches and signals of the station, connected with the said circuit-closers, the closing of the main circuit causing a closing of the first circuit-closer of the series, to set the corresponding actuating device, the latter controlling the next following circuit-closer.

14. A switch and signal apparatus for railroads, comprising a main circuit at a station, adapted to be closed by the next station, a series of circuit-closers in the said main circuit, actuating devices for the switches and signals of the station, connected with the said circuit-closers, the closing of the main circuit causing a closing of the first circuit-closer of the series, to set the corresponding actuating device, the latter controlling the next following circuit-closer, and an interrupter in the main circuit, in advance of the first circuit-closer of the series.

15. A switch and signal apparatus for railroads, comprising a main circuit at a station, adapted to be closed by the next station, a series of circuit-closers in the said main circuit, actuating devices for the switches and signals of the station, connected with the said circuit-closers, the closing of the main circuit causing a closing of the first circuit-closers of the series, to set the corresponding actuating device, the latter controlling the next following circuit-closer, an interrupter in the main circuit, in advance of the first circuit-closer of the series, and an alarm in the circuit, after the last circuit-closer of the series.

16. A switch and signal apparatus for railroads, comprising a main circuit at a station, adapted to be closed by the next station, a series of circuit-closers in the said main circuit, actuating devices for the switches and signals of the station, connected with the said circuit-closers, the closing of the main circuit causing a closing of the first circuit-closer of the series, to set the corresponding actuating device, the latter controlling the next following circuit-closer, an interrupter in the main circuit, in advance of the first circuit-closer of the series, an alarm in the circuit, after the last circuit-closer of the series, and a second interrupter between the last two circuit-closers of the series.

17. A switch and signal apparatus for railroads, comprising a main circuit at a station, adapted to be closed by the next station, a series of circuit-closers in the said main circuit, actuating devices for the switches and signals of the station, connected with the said circuit-closers, the closing of the main circuit causing a closing of the first circuit-closer of the series, to set the corresponding actuating device, the latter controlling the next following circuit-closer, and shunting means in the said main circuit, for controlling each actuating device separately.

18. A switch and signal apparatus for railroads, provided with a main circuit, actuating devices for the switches and signals, each actuating device having a pair of solenoids, a lever controlled by the solenoids and connected with the switch-points or signal-arms to be actuated, and current-controlling devices actuated by the said lever, to control the current of the main circuit relative to the solenoids of the several actuating devices.

19. A switch and signal apparatus for railroads, provided with a main circuit, actuating devices in the said main circuit, for controlling the switches and signals, each actuating device comprising a pair of solenoids connected with the main circuit, a lever oscillated by the said solenoids, a slide controlled by the said lever and connected with the switch-points and signal-arms to be actuated, locking-bolts for the said slide, an unlocking-bar controlled by the lever and controlling the said bolts, sets of fixed contacts, and a contact-lever for each set of contacts and controlled by one of the locking-bolts.

20. A switch and signal apparatus for railroads, provided with a main circuit, actuating devices in the said main circuit, for controlling the switches and signals, each actuating device comprising a pair of solenoids connected with the main circuit, a lever oscillated by the said solenoids, a slide controlled by the said lever and connected with the switch-points and signal-arms to be actuated, locking-bolts for the said slide, an unlocking-bar controlled by the lever and controlling the said bolts, sets of fixed contacts, and a contact-lever for each set of contacts and controlled by one of the locking-bolts, a contact of each set being connected with a corresponding solenoid, another contact in the set being in the main circuit and the third contact being connected with a contact of the next actuating device.

21. A switch and signal apparatus provided with an actuating device for a switch or signal, comprising a pair of solenoids having their movable cores connected, a lever oscillated by the said connected cores, a contact-arm controlled by the said lever, and a set of contacts formed of three insulated contacts, the said contact-arm being in contact at all times with one of the contacts and alternately with the other two contacts.

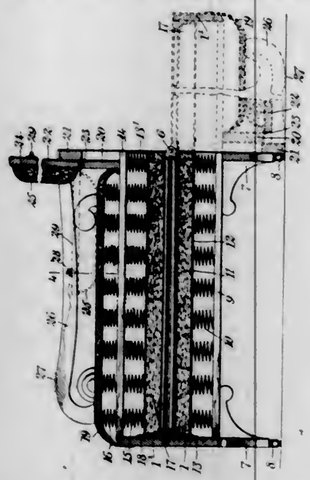
22. A switch and signal apparatus provided with a switchboard having a line-selector comprising two series of contacts, a beam mounted to rock and having two sets of contact-pins for alternate engagement with the said series of contacts, and a plug for engaging the beam at either side of its fulcrum, to impart a swinging motion to the beam, to move one set of contact-pins into engagement with one of the series of contacts and the other set of pins out of engagement with its series of contacts.

23. A switch and signal apparatus provided with a switchboard having a line-selector comprising two series of contacts, a beam mounted to rock and having two sets of contact-pins for alternate engagement with the said series of contacts, a plug for engaging the beam at either side of its fulcrum, to impart a swinging motion to the beam, to move one set of contact-pins into engagement with one of the series of contacts and the other set of pins out of engagement with its series of contacts, a third series of contacts at angles to the said two series of contacts, and a rocking beam for the said third series of contacts, controlled by the other beam.

24. A switch and signal apparatus provided with a switchboard having a line-selector comprising two series of contacts, a beam mounted to rock and having two sets of contact-pins for alternate engagement with the said series of contacts, a plug for engaging the beam at either side of its fulcrum, to impart a swinging motion to the beam, to move one set of contact-pins into engagement

with one of the series of contacts and the other set of pins out of engagement with its series of contacts, a third series of contacts at angles to the said two series of contacts, a rocking beam for the said third series of contacts, controlled by the other beam, a fourth shunting series of contacts, and a beam carrying contact-pins for engagement with the said fourth series of contacts, the last-mentioned beam being independent of the other two beams.

842,674. COMBINED LOUNGE AND FOLDING BED WITH A CANOPY. PAUL P. LAGRANGE, New Orleans, La. Filed Feb. 10, 1906. Serial No. 300,442.



Claim.—1. A folding bed and lounge, comprising a sectional frame, each section being provided upon one side with springs and with a mattress, and one of said sections being provided upon the opposite side with springs and upholstering, substantially as described.

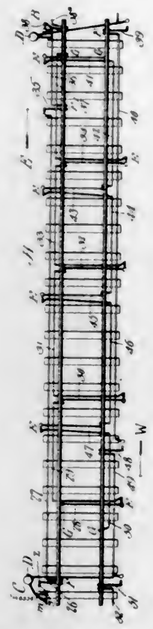
2. In a folding bed and lounge, a two-sectioned frame hinged to fold, each section being provided with springs and a mattress on one side, and one of said sections being also provided with springs and upholstering on the other side, and a folding back therefor, substantially as described.

842,675. RAILWAY SIGNAL APPARATUS. JOSHUA W. LATTA, Melvern, Kans. Filed Sept. 28, 1906. Serial No. 336,587.

Claim.—1. In a railway signal apparatus, a signal comprising an arm, piston-cylinders, a piston movable in one cylinder, a connection intermediate the piston and the arm for raising the latter when fluid-pressure is let into the cylinder, a piston movable in the other cylinder, and a connection intermediate the latter piston and the arm for lowering the arm when fluid-pressure is let into the last-mentioned cylinder.

2. In a railway signal apparatus, a signal comprising an arm, a piston-cylinder, a piston movable in said cylinder, a connection intermediate said piston and the arm for raising the arm when fluid-pressure is let into the cylinder, a second cylinder, a piston movable in said cylinder, a connection between said piston and the arm for lowering the latter when fluid-pressure is let into the second cylinder, a third cylinder, a conduit intermediate the third cylinder and the second cylinder for supplying fluid-pressure to the latter, a piston movable in the third cylinder and controlling the supply of fluid-pressure to the second cylinder, and means controlled by the piston in the third cylinder for locking the arm in its raised position.

3. In a railway signal apparatus, a signal comprising an arm, a piston-cylinder, a piston movable in said cylinder, a connection intermediate said piston and the arm for raising the arm when fluid-pressure is let into the cylinder, a second cylinder, a piston movable in said cylinder, a connection between said piston and the arm for lowering the latter when fluid-pressure is let into the second cylinder, a third cylinder, a conduit intermediate the third cylinder and the second cylinder for supplying fluid-pressure to the latter, a piston movable in the third cylinder and controlling the supply of fluid-pressure to the second cylinder, a catch connected with the arm, and a latch connected with the piston in the third cylinder and arranged to engage the said catch when the arm is raised.



4. In a railway signal apparatus, a signal comprising an arm, an upright piston-cylinder having an inlet for fluid-pressure adjacent to its upper end and a vent adjacent to its lower end, a piston movable in said cylinder, a connection intermediate the piston and the arm for raising the arm when the piston is moved downward, a second upright piston-cylinder having an inlet for fluid-pressure adjacent to its lower end and a vent adjacent to its upper end, a piston movable in the latter cylinder, and a connection intermediate said piston and the arm for lowering the arm when the piston is moved upward.

5. In a railway signal apparatus, a signal comprising an arm, an upright piston-cylinder having an inlet for fluid-pressure adjacent to its upper end and a vent adjacent to its lower end, a piston movable in said cylinder, a connection intermediate the piston and the arm for raising the arm when the piston is moved downward, a second upright piston-cylinder having an inlet for fluid-pressure adjacent to its lower end and a vent adjacent to its upper end, a piston movable in the latter cylinder, a connection intermediate said piston and the arm for lowering the arm when the piston is moved upward, a third piston-cylinder, a conduit connecting said third cylinder and the inlet of the second cylinder, a piston movable in the third cylinder and controlling the supply of fluid-pressure to the second cylinder, and means controlled by said piston for locking the arm in its raised position.

6. In a railway signal apparatus, a signal comprising an arm, an upright piston-cylinder having an inlet for fluid-pressure adjacent to its upper end and a vent adjacent to its lower end, a piston movable in said cylinder, a connection intermediate the piston and the arm for raising the arm when the piston is moved downward, a second upright piston-cylinder having an inlet for fluid-pressure adjacent to its lower end and a vent adjacent to its upper end, a piston movable in the latter cylinder, a connection between said piston and the arm for lowering the arm when fluid-pressure is let into the cylinder, a second cylinder, a piston movable in said cylinder, a connection between the piston and the arm for raising the latter when fluid-pressure is let into the cylinder, a second cylinder, a piston therein, a connection between the latter piston and the arm for lowering the arm when fluid-pressure is let into the second cylinder, pumps arranged at intervals in the length of the track and arranged to be actuated intermediate the discharges of the pumps and the inlets of the cylinders of the signal.

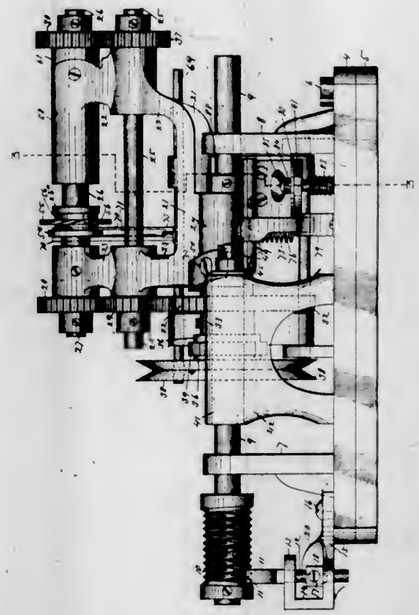
8. In a railway signal apparatus, the combination of a track, a vehicle movable thereon, signals arranged at intervals in the length of the track and respectively comprising an arm, cylinders, a piston in one cylinder, connected with the arm and arranged when fluid-pressure is let into the cylinder to raise the arm, and a piston in the other cylinder, connected with the arm and arranged when fluid-pressure is let into the cylinder to lower the arm, pumps arranged at intervals in the length of the track and respectively comprising a cylinder, a reciprocatory piston movable in the cylinder, and a shoe arranged to depress the piston of the pump and being movable vertically and horizontally and adapted to be depressed by a vehicle-wheel moving in one direction and to be moved laterally out of the way by a vehicle-wheel traveling in the opposite direction; some of the shoes being disposed in one direction and others in the opposite direction, and conduits intermediate the discharges of the pumps and the inlets of the cylinders comprised in the signals.

9. In a railway signal apparatus, the combination of a track, signals arranged at intervals in the length of the track, air-pumps arranged at intervals in the length of the track and arranged to be actuated by the passage of a vehicle thereover, audible signals at the end of the block of track, and connections intermediate the pumps and the signals, whereby a vehicle traveling in either direction on the track is enabled to raise signals in front and behind it and sound an audible signal in front of it and is also enabled to lower signals behind it.

842,676. LENS-GRINDING MACHINE. OLIVER LAVELLÉE, Boston, Mass. Filed Sept. 28, 1906. Serial No. 336,581.

Claim.—1. In a machine of the character described, a driving-shaft, means for longitudinally reciprocating said shaft, a swinging frame on said shaft adapted to be reciprocated longitudinally thereby said frame being provided with means for holding the shafts which rotate the lens and the pattern, a pattern-holder located intermediate of the edge of the pattern and the grindstone and adapted to be reciprocated with the pattern as said lens traverses the edge of the grindstone, means for holding the swinging frame with the edge of the lens bearing against the grindstone, means for holding the swinging frame forward away from the grindstone, mechanism for transmitting motion from the driving-shaft to the shafts for rotating the lens and pattern, clutch mechanism intermediate of said transmitting mechanism and the driving-shaft, and mechanism for closing or bringing into engagement the clutch mechanism when the swinging frame is moved toward the grindstone and for opening or disengaging said clutch mechanism when the swinging frame is moved forward away from the grindstone.

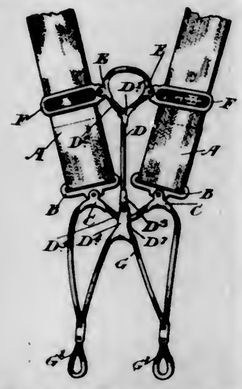
2. In a machine of the character described, a screw having interlacing right and left threads rigid on said shaft whereby longitudinal reciprocation is imparted to the shaft, a swinging frame on said shaft and adapted to be reciprocated longitudinally thereby, shafts mounted in said frame for rotating the lens and pattern, mechanism intermediate of the driving-shaft and the lens and pattern-shafts for imparting rotation to the lens and pattern, a driving-wheel loose on the driving-shaft, clutch members rigid respectively with said driving-wheel and with the main driving-gear of the mechanism intermediate of the driving-shaft and the lens and pattern-shafts, a slide supported by the bed of the machine and provided with an arm which engages the clutch member which is rigid with the driving-wheel, a second arm extending from the slide toward the swinging frame, and a cam on the swinging frame and in engagement with said second arm whereby as the swinging frame is swung forward the clutch is opened and the machine allowed to stop.



3. In a machine of the character described, a swinging frame, shafts mounted in said frame for rotating the lens and the pattern, mechanism for longitudinally reciprocating said frame whereby the lens is reciprocated across the edge of the grindstone, a frame located between the swinging frame and the grindstone, a grooved pattern-holder supported by said frame and extending up therefrom between the pattern and the grindstone and adapted to receive in its groove the edge of the pattern, and means whereby the grooved pattern-holder is allowed to be reciprocated by the pattern while in engagement therewith.

4. In a machine of the character described, a swinging frame, shafts mounted in said frame for rotating the lens and the pattern, mechanism for longitudinally reciprocating said frame whereby the lens is reciprocated across the edge of the grindstone, a frame located between the swinging frame and the grindstone, a grooved pattern-holder supported by said frame and extending up therefrom between the pattern and the grindstone and adapted to receive in its groove the edge of the pattern, a lip extending from the swinging frame, and a swinging latch extending from the pattern-holder frame and adapted to engage with the lip when the swinging frame is swung forward and hold it in such forward position.

842,677. SUSPENDERS. CARL LUDOLPH, Berlin, Ontario, Canada. Filed June 2, 1906. Serial No. 319,939.



Claim.—1. In suspenders, the combination with the shoulder-straps and the trouser-back connector provided with suitable tabs and formed of cord, and loop-guides pivotally connected to the bottom end bars of the shoulder-straps, of a double-loop guide through which the two sides of the cord of the trouser-back connector extend, and a supplemental loop connected to the shoulder-straps at each side and having the end extending downwardly between the shoulder-straps and connected to the double loop of the trouser-back connector as and for the purpose specified.

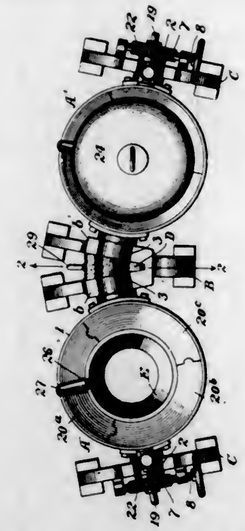
2. In suspenders, the combination with the shoulder-straps and the trouser-back connector provided with suitable tabs and formed of cord, and loop-guides pivotally connected to the bottom end bars of the shoulder-straps, of a double-loop guide through which the two sides of the cord of the trouser-back connector extend, supplemental-loop arc-shaped guides located at each side and connected to the shoulder-straps and through which the supplemental loop extends, the said supplemental loop having a guide-loop at one end through which the other end extends down to the double loop of the trouser-back connector as and for the purpose specified.

3. In suspenders, the combination with the shoulder-straps and the trouser-back connector provided with suitable tabs and formed of cord, and loop-guides pivotally connected to the bottom end bars of the shoulder-straps, of a double-loop guide through which the two sides of the cord of the trouser-back connector extend, supplemental-loop arc-shaped guides, adjustable bars on the shoulder-straps to which the loop-guides are pivotally connected, the said supplemental loop extending through the loop-guides and having a guide-loop at one end through which the outer end extends down to the double loop of the trouser-back connector as and for the purpose specified.

4. In suspenders, the combination with the shoulder-straps and the trouser-back connector provided with suitable tabs and formed of cord, and loop-guides pivotally connected to the bottom end bars of the shoulder-straps, of a double-loop guide through which the two sides of the cord of the trouser-back connector extend and a supplemental loop slidably connected to the shoulder-straps at each side and at the bottom to the double-loop trouser-back connector as and for the purpose specified.

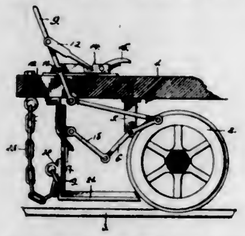
842,678. FURNACE. JAMES V. MARTIN Baltimore, Md., assignor of one-third to Thomas C. Brian, Baltimore, Md. Filed Apr. 30, 1906. Serial No. 314,591.

Claim.—1. The combination with a pair of furnace-chambers arranged adjacent to one another and independently supported upon horizontal trunnions, the trunnions of one chamber being at an obtuse angle to the trunnions of the other chamber and the adjacent trunnions having axial openings communicating with the interiors of their respective furnace-chambers, of a block of refractory material fitting between said adjacent trunnions, said block having an opening therethrough registering with the openings in the trunnions.



2. The combination with a pair of furnace-chambers arranged adjacent to one another and independently supported upon horizontal trunnions, the trunnions of one chamber being at an obtuse angle to the trunnions of the other chamber and the adjacent trunnions having axial openings communicating with the interiors of their respective furnace-chambers, and a standard having two bearings for supporting the adjacent trunnions and having a wedge-shaped socket between said bearings, of a wedge-shaped block of refractory material adapted to fit within said socket and against the ends of said adjacent trunnions, said block having an opening therethrough adapted to register with the openings in the trunnions.

842,679. CAR-BRAKE. WILLIAM MARTIN, Wilkinsburg, Pa. Filed May 7, 1906. Serial No. 315,656.

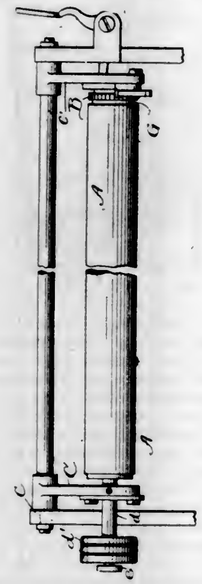


Claim.—1. In a safety car-brake, the combination with a car-platform supported by wheels adapted to travel upon rails, of a depending bracket carried by said platform, bell-crank levers pivotally connected to said bracket, depending arms carried by said platform, a slotted plate movably supported upon said arms and connecting with said bell-crank levers, L-shaped shoes carried by said slotted plate and loosely connecting with said platform, means to normally hold said shoes in close proximity to said wheels and said rails, and means to release the first-named means, substantially as described.

2. In an emergency-brake, the combination with a car-platform, of a bracket secured thereto, and having depending ends, bell-crank levers pivoted to the depending ends of said bracket, an operating-lever connected to said bell-cranks, a slotted plate, links connecting said plate to said bell-cranks, angular arms carried by the platform to engage said slotted plate, shoes carried by said plate, and loose connections between said shoes and the platform.

3. In an emergency-brake, a pair of track-shoes, a slotted plate supporting the shoes, a support attached to a car-platform, bell-cranks pivotally connected to said support, links connecting one end of said bell-cranks to the supporting-plate, a pivoted actuating-lever, an angular lever and a cross-bar connecting the other ends of said bell-cranks to the actuating-lever, a notched bar carried by the car-platform, a pawl pivoted to the actuating-lever and engaging said notched bar, and a strip to release said pawl whereby the brake-shoes are permitted to drop by gravity to engage the track, substantially as described.

842,680. PAPER-FEEDING MECHANISM FOR TYPE-WRITERS. JOHN MAYNARD, Cleveland, Ohio, assignor, by direct and mesne assignments, of one-third to R. W. Emerson and one-third to William B. Treat, Cleveland, Ohio. Filed July 13, 1906. Serial No. 326,072.

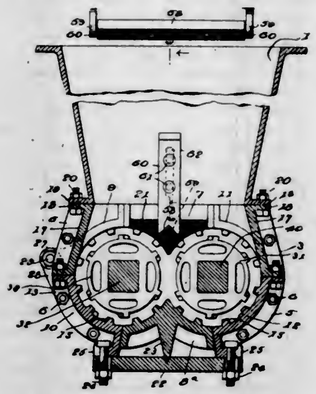


Claim.—1. In a type-writing machine, the combination of the rotatable feed-roll, a tube which extends axially through said roll and beyond one end thereof, which tube is fixed to said roll, a cylindrical rod passing through said tube, a ratchet-wheel fixed to said rod adjacent to one end of the feed-roll, and mechanism for drawing the rod endwise through the tube to frictionally clutch said ratchet and feed-roll together.

2. In a type-writing machine, the combination of the rotatable feed-roll, a tube which extends axially through said roll and beyond one end thereof, which tube is fixed to said roll, a cylindrical rod passing through said tube, a ratchet-wheel fixed to said rod adjacent to one end of the feed-roll, and a clamping device screwed to the rod but engaging with the adjacent end of said tube.

3. In a type-writing machine, the combination of the rotatable feed-roll, a tube which extends axially through said roll and is fixed thereto and extends beyond one end of said roll, said projecting end being rotatably mounted in the machine-frame, a cylindrical rod which extends through said tube and beyond the feed-roll, said projecting end being rotatably mounted in the machine-frame, a rotatable wheel fixed to the projecting end of said rod adjacent to the feed-roll, and a device screwed to the other end of said rod in engagement with the adjacent end of said tube.

842,681. COB BREAKER OR CRUSHER. GEORGE H. MAYNE, Springfield, Ohio, assignor to The Foos Manufacturing Company, Springfield, Ohio, a Corporation of Ohio. Filed Mar. 19, 1904. Serial No. 198,941.



Claim.—1. A crusher or breaker of the character described, comprising two parallel crushing-rolls between which the material passes, each of said rolls being provided with a plurality of circumferential rows of inclined teeth alternately arranged, the inclination of the teeth of the two rolls being opposite and acting to feed forward the material, means for rotating said rolls in opposite directions at differential speeds, and a casing inclosing said rolls on all sides and having its inner surface provided with longitudinal ribs or teeth coöperating with those of the rolls, said casing having an inlet or feed opening at one end only above said rolls and a discharge-outlet at the other end, substantially as described.

2. A crusher or breaker of the character described, comprising two parallel crushing-rolls between which the material passes, each of said rolls being provided with a plurality of circumferential rows of inclined teeth alternately arranged, the inclination of the teeth of the two rolls being opposite and acting to feed forward the material, means for rotating said rolls in opposite directions at differential speeds, and a casing inclosing said rolls and having its inner surface provided with longitudinal ribs or teeth co-operating with those of the rolls, said ribs or teeth being interrupted and the interruptions of one rib alternating with the projections of the adjacent ribs, said casing having an inlet or feeding opening at one end above said rolls and a discharge-outlet at the other end, substantially as described.

3. In a crusher or breaker of the character described, the combination, with two parallel crushing-rolls, of a casing inclosing and coöperating with said rolls, said casing being composed of a plurality of separate staves extending longitudinally of the casing, the planes of division being one horizontal and passing through the axes of both rolls, and two vertical and passing through the axes of the respective rolls, a portion of the lower stave extending between the vertical planes of division being loosely mounted between the adjacent staves, a breakable bar supporting the loosely-mounted portion of said stave, means for separately connecting said staves, an end frame separately connected to each of said staves and supporting the casing, and bearings in said end frame, said casing having an inlet or feed opening at one end above said rolls, and a discharge-outlet at the other end, substantially as described.

4. In a crusher or breaker of the character described, the combination, with two parallel crushing-rolls revolving in opposite directions, of a casing inclosing and coöperating with said rolls and having an inlet or feed opening above said rolls, a hopper surrounding said inlet-opening, and a freely-revoluble bar supported in said inlet-opening beneath said hopper and parallel with and centrally above said crushing-rolls, substantially as described.

5. In a crusher or breaker of the character described, the

combination, with two parallel crushing-rolls revolving in opposite directions, of a casing inclosing and coöperating with said rolls and having an inlet or feed opening above said rolls, a hopper surrounding said inlet-opening, and a freely-revoluble bar supported in said inlet-opening beneath said hopper and parallel with and centrally above said crushing-rolls, said bar being non-circular in cross-section, substantially as described.

6. In a crusher or breaker of the character described, the combination, with two parallel crushing-rolls revolving in opposite directions, of a casing inclosing and coöperating with said rolls and having an inlet or feed opening above said rolls, a hopper surrounding said inlet-opening, and a freely-revoluble bar supported in said inlet-opening beneath said hopper and parallel with and centrally above said crushing-rolls, said bar being polygonal in cross-section, substantially as described.

7. In a crusher or breaker of the character described, the combination, with two parallel crushing-rolls revolving in opposite directions, of a casing inclosing and coöperating with said rolls, and having an inlet or feed opening above said rolls, a hopper surrounding said inlet-opening, and a freely-revoluble bar supported in said inlet-opening parallel with and centrally above said crushing-rolls, said bar being adjustable toward and from the converging surfaces of the rolls, substantially as described.

8. In a crusher or breaker of the character described, the combination, with two parallel crushing-rolls revolving in opposite directions, of a casing inclosing and coöperating with said rolls and provided with an inlet or feed opening above the same, a hopper surrounding said feed-opening, bearing-plates mounted and vertically adjustable on said hopper, and a freely-rotating bar mounted in said bearing-plates and lying parallel with and centrally above the crushing-rolls, substantially as described.

9. In a crusher or breaker of the character described, a pair of parallel crushing-rolls, each comprising a shaft, a roll-body composed of a plurality of flat disks having their adjacent lateral faces abutting, a series of teeth extending diagonally and in a common direction across the peripheral surfaces of said disks, the teeth of the adjacent disks being arranged out of alinement and the teeth on the roll being at an angle to the teeth on the other roll and means for securing said disks on the said shaft, substantially as described.

842,682. REGISTERING MECHANISM FOR CALCULATING-MACHINES. JAMES F. MAYS, Birmingham, Ala. Filed May 24, 1905. Serial No. 262,031.

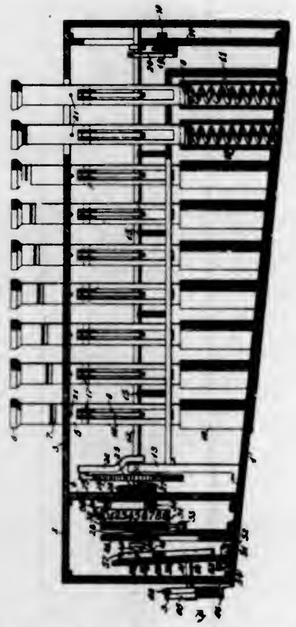
Claim.—1. In a registering mechanism, a plurality of independently-operable registering-dials, sets of digits thereon from 0 to 9, means to transmit gradually from dial to dial a digit-carrying movement throughout the dials' movements in exposing said sets of digits, and means to retain only the registered digits exposed to view on the dial or dials during said carrying movement.

2. In a registering mechanism, a plurality of independently-operable registering-dials, one or more sets of digits from 0 to 9 thereon, cam means to transmit gradually from dial to dial a digit-carrying movement throughout the dials' movements in exposing a set of digits, and means forming part of the carrying mechanism which act to retain only the registered digits exposed to view on the dials during said carrying movements.

3. In a registering mechanism; a plurality of independently-operable registering-dials, one or more sets of digits on each dial, cams movable with said dials, and means operable by said cams to transmit a carrying movement from dial to dial, said means acting gradually during the travel of said dials in exposing a set of digits to complete their carrying operation.

4. In a registering mechanism, a plurality of registering-dials, digits thereon, and independently-movable devices for each of said dials adapted to display a single digit at a time, said devices being operatively connected respectively to the dials of next lower value or parts movable therewith.

5. In a registering mechanism, a plurality of independently-movable dials, digits arranged thereon, means to effect a transfer movement from dial to dial, and a movable shield for each dial to which transfers are made, said shield having an operating connection with its respective dial and with parts movable with the dial of next lower value.



6. In a registering mechanism, a plurality of dials, characters thereon, and transfer mechanism for carrying from dial to dial which comprises as a part thereof a number of apertured plates which maintain in sight but a single character at a time on each dial.

7. In a transfer mechanism, a rotatable dial provided with numerals, a movable shield for said dial which is unaffected by the rotation of said dial, a display-opening in said shield through which a numeral is diplayed, and means independent of said dial to move said shield to continuously display the same numeral until the completion of a transfer movement.

8. In a calculating-machine, a series of indicating-dials, a movable shield for each of the dials beyond the primary dial, the shields having each an opening for the display of a single character on the dial, means for imparting movement from each dial to the shield of the dial of next highest value, said shield moving with its dial during the transfer movement and returning independent of said dial to expose a higher numeral at the display-opening.

9. In a calculating-machine, the combination with a plurality of totaling-dials, of a transfer mechanism including a shield for each dial above the primary dial, each shield having an opening for the display of a single numeral, means for transmitting movement of each dial to the shield of the next highest dial, said shield moving with its respective dial to expose the same numeral until the completion of the transfer movement and then moving independently of the dial to expose a higher numeral.

10. The combination in a calculating-machine, of a plurality of totaling-dials, shields for all except the primary dial, each shield having an opening for the display of a single numeral, ratchet-wheels secured to the dials, pawls carried by said shields and engaging such ratchet-wheels, cams revoluble with the dials, and cam-operated levers for engaging and moving the shields.

11. In a calculating-machine, the combination with a plurality of totaling-dials, of pivotally-mounted shields covering all except the primary dial, each shield having an opening for the display of a single numeral, a pawl-carrying arm movable with each shield, a pawl on said arm, a ratchet-wheel movable with each dial and with which the pawl engages, a cam movable with each dial, a cam-lever for engaging and moving the shield, and a spring for restoring each shield to initial position and thereby exposing a higher numeral at the display-opening.

12. In a calculating-machine, the combination with a plurality of totaling-dials, of a shield pivoted at the axis of each dial and having a display-opening, an arm secured to each shield, a pawl carried by said arm, a ratchet-wheel secured to the dial and engaged by the pawl, a cam carried by each dial, a lever for engagement with each cam which is pivoted at one end to a fixed point, and having its opposite end engaging a shield, and springs for restoring the shields to initial position.

13. In a calculating-machine, a plurality of totaling-dials, key-operated means for independently operating each dial, and transfer mechanism for gradually transmitting a digit-carrying movement from dial to dial throughout the movements of said dials, said operating means comprising lost-motion connections between each dial and its operating means and means to continuously display the same numeral until the completion of a transfer movement for each dial.

14. In a calculating-machine, a plurality of totaling-dials, a ratchet-wheel secured to each dial, a pawl engaging said ratchet-wheel and restricting its movement to one direction, a second pawl engaging said wheel, an element carrying said pawl which receives movement from the operating mechanism of the dial of lower value than that corresponding to the ratchet-wheel with which said pawl engages, the movement of said element being calculated to rotate the ratchet and its dial one step, and key-controlled devices for operating said dials which comprise a toothed wheel having a greater number of teeth than the dial ratchet-wheels, a movable element carrying a pawl which engages and rocks said toothed wheel, and spring means to restrain said first-mentioned pawl-bearing element from following the movement of the dial ratchet-wheel when operated by the key-controlled devices.

15. In a registering mechanism, a plurality of dials, key-operated means to move said dials independently to display a digit thereon transfer mechanism for transmitting a digit-carrying movement to all except the primary dial, a fixed shield provided with a digit-display opening for the primary dial, movable shields provided with digit-display openings for the other dials, and means to cause said latter shields to move with their corresponding dials during a digit-carrying movement.

16. In a registering mechanism, a number of dials provided each with a set of digits, a cam-surface revoluble with each dial, said surface substantially corresponding in extent with the space occupied by the set of digits and terminating near the zero-digit, pivoted levers engaging said cam-surfaces and movable thereby, and devices, comprising a display-shield for the digits of each of said dials, which devices are engaged by said levers and impart their movement to the dials of next higher value.

17. In combination, a plurality of registering-dials carrying lugs or projections, and a resetting mechanism comprising a plurality of movable devices, a movable support on which said devices are movably mounted and which is adapted to bring them into the path of said projections, and operating means to move said devices, independently of said support, to engage said projections and turn said dials to initial position.

18. In a resetting mechanism, a set of dials, a movable plate, a plurality of arms pivotally mounted thereon, and operating means for shifting said plate to position said arms for engagement with said dials and for moving said arms relatively to said plate to reset the dials.

19. In a resetting mechanism a set of dials, a pivotally-mounted plate adjacent to said dials, pivoted arms mounted on said plate, a movable element engaging said arms to rock them, a shaft mounted in said plate and operatively connected to said element, a cam-lever and a lost-motion connection between said lever and said shaft.

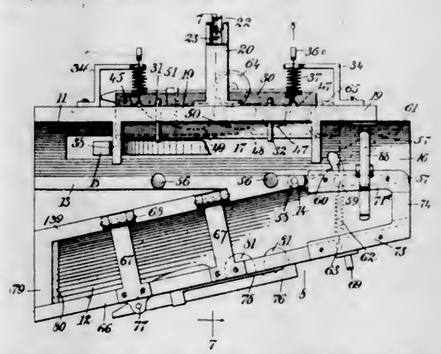
20. In resetting mechanism, the combination with a plurality of indicating-dials, of projecting pins or lugs connected thereto, a movable support, a plurality of rocking members carried thereby and each having a pin-engaging arm, a common actuating device for said members, and means for imparting movement to said actuating device and support.

21. In resetting mechanism, the combination with a plurality of indicating-dials, of projecting pins or lugs connected thereto, a movable support, a plurality of gears carried thereby and each having a pin-engaging arm, a rack engaging the gears, and means for imparting longitudinal movement to said rack.

22. In a resetting mechanism, the combination with a plurality of indicating-dials, pins or lugs connected to the dials, a pivotally-mounted plate, a plurality of studs carried by said plate, mutilated gears mounted on the studs, a rack for engaging the mutilated gears, a mutilated rack-driving gear, and a handled shaft carrying said driving-gear and serving as a means for adjusting the plate to and from resetting position.

23. In a resetting mechanism, the combination with a plurality of indicating-dials, of pins connected to the dials, a pivoted plate, a series of studs carried thereby, mutilated gears mounted on the studs and provided with pin-engaging arms, a rack for engaging the mutilated gears, a mutilated driving-gear engaging a second set of teeth on the rack, a shaft carrying the driving-gear, an inclosing casing having a slot through which the shaft extends, a shelf or bracket carried by the casing, a disk secured to the shaft and having a projecting pin, and a handled cam-lever bearing on the shelf or bracket and provided with a slot into which said pin extends.

842,683. WEFT-REPLENISHING MECHANISM FOR LOOMS. LESTER MILLER, Yonkers, N. Y. Filed Sept. 20, 1904. Serial No. 225,213.



Claim.—1. In a loom, in combination, a shuttle-box, a guard-shelf projecting through the wall thereof, extensions moving therewith and constituting supports for a shuttle, springs constraining said shelf inwardly, and means for withdrawing said shelf and said extensions.

2. In a loom, in combination, a shuttle-box, a gate adapted to deflect an incoming shuttle, laterally-projecting wings carried by the wall of said shuttle-box and adapted to receive a shuttle therebetween, a movable member projecting through the wall of said shuttle-box and constituting means for supporting a shuttle lying between said wings, a treadle, and mechanism connecting said treadle with said gate and said movable member.

3. In a loom, in combination, a main shuttle-box, an auxiliary shuttle-box disposed in a position inclined thereto, a gate pivotally mounted at the entrance to said boxes, the floor of said main box beneath said gate having a slot therein, said gate having a projection extending below said slot, a spring attached to the said projection and normally maintaining said gate to open said main shuttle-box, means for passing a substitute shuttle to said main shuttle-box, and means for actuating the said gate and opposing said spring.

4. In a loom, in combination, a main shuttle-box, an auxiliary shuttle-box disposed in a position inclined thereto, a gate pivoted at the entrance to said boxes and adapted to deflect an incoming shuttle into said auxiliary box, a guard-shelf projecting through the wall of said main box and adapted to retain a shuttle when lying within said main box, springs constraining said shelf inwardly, a shuttle-check projecting through the wall of said main box, a spring constraining said shuttle-check inwardly, chains attached to said shelf and to said shuttle-check, a chain attaching to said gate, means for guiding said chains and a treadle for operating the same.

5. In a loom, in combination, a main shuttle-box, an auxiliary shuttle-box disposed in a position inclined thereto, a movable gate mounted at the mouth of said main box and adapted to deflect an incoming shuttle into said auxiliary box, and a laterally-projecting guard-strip carried by said gate and projecting above to the path of an incoming shuttle.

6. In a loom, in combination, a main shuttle-box, an auxiliary shuttle-box disposed in a position inclined thereto, a pivoted gate disposed between said boxes and adapted to deflect an incoming shuttle into said auxiliary box, a guard-strip carried by said gate and having a lateral extension projecting in the direction of said auxiliary box, and a guard-strip carried by said auxiliary box and having an extension projecting in the direction of said main box.

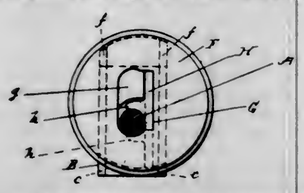
7. In a loom, in combination, a main shuttle-box, an auxiliary shuttle-box, a gate therebetween adapted to deflect an incoming shuttle into said auxiliary box, said auxiliary box having a hinged side to facilitate the removal of said shuttle, and a spring-pressed shuttle-check projecting through said hinged side and tending to arrest the flight of the incoming shuttle.

8. In a loom, in combination, a loom, a lever, means actuated by said lever for passing a substitute shuttle into said shuttle-box, a picker-staff projecting into said shuttle-box, and a connection between said lever and said picker-staff for withdrawing said picker-staff rearwardly.

9. In a loom, in combination, a shuttle-box, a lever, means actuated by said lever for passing the substitute shuttle into said shuttle-box, a picker-staff projecting into said shuttle-box, a spring constraining said picker-staff toward an extreme rear position, and a connection between said lever and said spring adapted to displace said spring laterally.

10. In a loom, in combination, a shuttle-box, a treadle, means actuated by said treadle for passing a substitute shuttle to said shuttle-box, a picker-staff projecting into said shuttle-box, a spring constraining said picker-staff toward a rear position, and a spring connecting the body of said first spring with said treadle whereby the depression of said treadle displaces said first spring laterally.

842,684. REVERSING-GEAR. WILLIAM J. D. MILLER, Hillsboro, Mo. Filed Sept. 27, 1906. Serial No. 336,466.

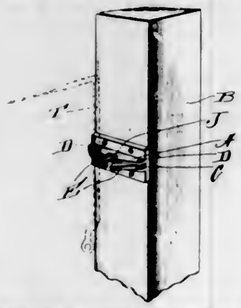


Claim.—1. In a reversing-gear, the combination, with a shaft, and a guide-block secured thereto and provided with guide-plates; of an eccentric provided with a grooved block which is slidable on the said plates and against the end of the said guide-block, said eccentric having also an opening to clear the said shaft and a slot at one side of the said opening, and an inclined operating-plate slidable in the said slot and provided with a projecting bar for moving it back and forth, said plate having also guide-lugs which project from one side of it and which slide upon the said shaft.

2. In a reversing-gear, the combination, with a shaft, a guide-block secured to the said shaft, and guide-plates provided with inturned end portions and adjustably connected to the said guide-block; of an eccentric provided with a grooved block which engages with the inturned end portions of the said guide-plates and which abuts against the said guide-block, said eccentric having also an opening to clear the said shaft and a slot on one side of the said opening, and an inclined operating-plate slidable in the said slot and provided with a projecting bar for moving it back and forth, said plate having also guide-lugs which project from one side of it and which slide upon the said shaft.

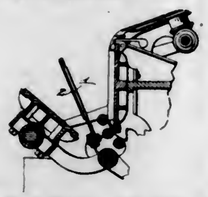
3. In a reversing-gear, the combination, with a shaft, and a guide-block secured thereto; of an eccentric operatively connected with the said block and slidable crosswise of the said shaft, said eccentric having also an opening to clear the said shaft and a slot on one side of the said opening, and an inclined reversing-plate slidable in the said slot and having guide-lugs which project from one side of it into the said opening and which engage with and slide upon the said shaft.

842,685. GATE-CATCH. JAMES O. MITCHELL, Basic City, Va. Filed June 25, 1906. Serial No. 323,334.



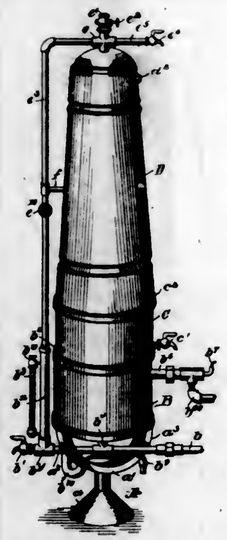
Claim.—A gate-catch comprising a plate having two parallel flanges spaced apart and projecting from one face thereof, each of said flanges having centrally-disposed notches which are in registration with each other, and said plate being provided with apertures between the flanges in the bottom wall thereof, catches pivotally mounted between said flanges and each having a curved finger adapted to be guided through an aperture in the bottom of the plate, a pin carried by each end of the finger and adapted to limit the outer throw of the catch, and a spring mounted between the flanges and adapted to normally hold said pins against the under surface of said plate, as set forth.

842,686. GRIPPER-CREASER FOR PRINTING-PRESSES. JOHN R. MORRISON, Dallas, Tex., assignor of one-third to L. S. Morrison, Rome, Ga. Filed Mar. 19, 1906. Serial No. 306,898.



Claim.—A gripper-creaser comprising a bar provided with means whereby the same may be removably attached to the gripper-carrier of a printing-press, said bar being recessed to fit various makes of presses, and longitudinally-disposed creasing-ribs formed on one side of said bar whereby the paper in the press is creased simultaneously with the printing of the same, substantially as described.

842,687. WATER-STILL. OSCAR A. NENNINGER, El Paso, Tex. Filed May 2, 1906. Serial No. 314,780.



Claim.—1. In a water-still, the combination of a base, a boiler-pan supported on the base and provided with inlet and outlet pipes, adapted to be connected with a source of boiling water, the inlet-pipe being arranged at a higher level than the outlet-pipe, an air-supply pipe within the inlet-pipe, a condensing-chamber above the boiler-pan and provided with a vent in its upper end, a condensing-cylinder within the chamber, a pipe for connecting the condensing-cylinder with a source of water-supply, a pipe connecting the source of water-supply with the boiler-pan, a float-valve within the boiler-pan at the opening of the said pipe, a receiving-pan below the condenser and between the condensing-chamber and the boiler-pan, a plurality of tubes connecting the boiler-pan with the condenser and traversing the receiving-pan, an outlet-pipe for the receiving-pan, an overflow-pipe connected with the boiler-pan, and a trap interposed in the overflow-pipe.

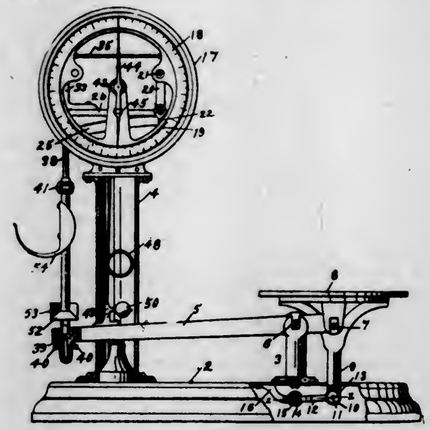
2. In a water-still and in combination, a boiler-pan, supply and discharge pipes for connecting the boiler-pan with a water-back, an air-supply pipe within the supply-pipe, a condensing-chamber above the boiler-pan, a condensing-cylinder within the chamber, means whereby the cylinder may be connected with a source of water-supply, means below the chamber for receiving the distilled water, and means for connecting the boiler-pan with the source of water-supply.

3. In a water-still and in combination, a boiler-pan, a supply and discharge pipe for connecting the pan with a water-back, an air-pipe within the supply-pipe, a condensing-chamber above the boiler-pan, a receiving-pan within the boiler-pan and the condensing-chamber, tubes forming a communication between the boiler-pan and the condensing-chamber, a condensing-cylinder within the chamber, and means whereby to connect the condensing-cylinder with a source of cold-water supply.

4. In a water-still and in combination, a pan for receiving heated water, supply and discharge pipes for the pan, an air-pipe within the supply-pipe, a condensing-chamber supported above the pan, a receiving-pan below the condensing-chamber, and a condensing-cylinder supported within the chamber above the receiving-pan.

5. In a water-still and in combination, a boiler-pan for receiving heated water, means whereby the heated water may circulate to and from the pan, an air-pipe traversing said means and communicating with the pan, a condensing-chamber above the pan, a condensing-cylinder within the chamber, and a receiving-pan between the chamber and the boiler-pan.

842,688. AUTOMATIC WEIGHING-SCALE. NILS NILSON, Wayzata, Minn. Filed May 9, 1905. Serial No. 259,542.



Claim.—1. In an automatic scale, the combination with a frame, of members rocking one upon the other and having supporting-pivots, a balance-weight carried by one of said members, a guiding means connecting said balance-weight member with said frame and means for applying the pressure of the load to be weighed to the other member at a point between its pivots and said balance-weight, substantially as described.

2. In an automatic scale, the combination, with a frame, of opposing contacting members having respectively plain and curved faces and rocking one upon another and having supporting-pivots, a balance-weight carried by one of said members, a guiding means for said balance-weight member, and means for applying the pressure of the load to be weighed to the other member at a point between its pivots and said balance-weight, substantially as described.

3. In an automatic scale, the combination, with an opposing contacting-lever and a bar rocking one upon the other and pivotally supported near one end, a balance-weight provided near the opposite end of said bar, and means for applying the pressure of the load to be weighed to said lever at a point between said pivots and said balance-weight, for the purpose specified.

4. In an automatic scale, the combination, with a rocker-lever 23 having supporting-links 20, of a bar 24 contacting with said lever 23, a yoke 27 pivotally supported at one end near said links 20 and having a pivotal connection with said bar at its opposite end, a balance-weight support near the pivots of said yoke 27 on said bar, and means for applying the pressure of the load to be weighed to said lever at a point between said links 20 and said balance-weight, substantially as described.

5. In an automatic scale, the combination, with a rocker-lever 23 and links 20, of a bar 24 contacting with said lever, a yoke 27 pivotally supported at one end near said links and having at its opposite end a pivotal connection with said bar, a casting 32 whereon said bar is bolted and having an arm 33, a weight carried by said arm, and means for applying pressure of the load to be weighed to said lever between its pivots and said weight, substantially as described.

6. In an automatic scale, a pivoted beam having a short arm and a platform carried thereby, a graduated dial, an indicator-hand therefor, a lever mechanism operatively connected with said hand and the long arm of said beam for balancing the load on said platform, and a removable weight arranged between said mechanism and said beam to depress said long arm and balance a predetermined load

on said platform to adapt the scale for weighing a greater load than represented by the total of the graduations on the dial, substantially as described.

7. In an automatic scale, a pivoted beam having a short arm and a platform carried thereby, a graduated dial, an indicator-hand therefor, opposing contacting members rocking one upon the other and connected with said beam, means connecting said indicator with said beam, and a removable weight device provided on the connection between said opposing members and said beam and adapted to balance a predetermined load on said platform to adapt the scale for weighing a greater load than represented by the total of the graduations on the dial, substantially as described.

8. In an automatic scale, a pivoted beam having a short arm and a platform carried thereby, a graduated dial, an indicator-hand therefor operatively connected with the long arm of said beam, opposing contacting members having movable pivots, a rod connecting one of said members with the long arm of said beam, and a weight removably arranged on said rod, for the purpose specified.

9. In an automatic scale, a pivoted beam having a short arm and a platform carried thereby, a dial having primary and secondary graduations the latter representing fractions of the former and being readable in the opposite direction, an indicator arranged to travel over said primary and secondary graduations and operatively connected with the long arm of said pivoted beam, opposing members having movable pivots, a rod connecting one of said members and the long arm of said beam, and a hopper provided on said rod and adapted to contain an article whose weight is indicated by the backward movement of the pointer over said secondary graduations, substantially as described.

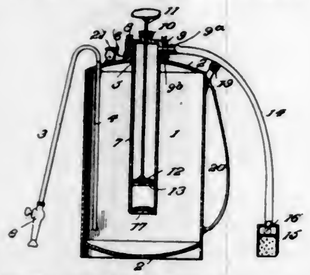
10. In an automatic scale, a pivoted beam having a short arm and a platform thereon, a dial having primary and secondary graduations, the latter representing fractions of the former and being readable in the opposite direction, a pointer having one end to travel over said primary graduations and the other in the opposite direction over the secondary graduations, and means connecting said pointer with the long arm of said beam.

11. In an automatic scale, a pivoted beam having a short arm and platform thereon, a dial having primary and secondary graduations, the later representing fractions of the former and being readable in the opposite direction, a pointer having one end to travel over said primary graduations and the other end in the opposite direction over said secondary graduations, means connecting said pointer with the long arm of said beam, and a support provided on said connecting means and whereon comparatively light articles can be placed and their weight indicated by the movement of said pointer over said secondary graduations, substantially as described.

12. In an automatic scale, the combination with a frame, of opposing contacting members rocking one upon the other and having supporting-pivots near one end, a balance-weight provided at the opposite end of one of said members, means for applying the pressure of the load to be weighed to the other member at a point between said pivots and said balance-weight, and a rod pivotally connecting said weight-carrying member with said frame, for the purpose specified.

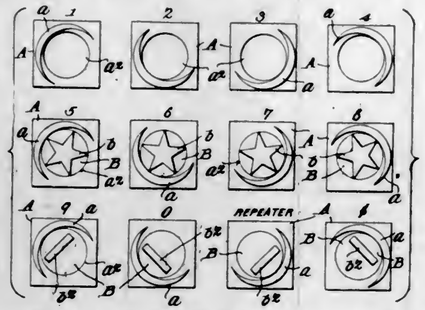
842,689. WATER-SPRAYER AND FIRE-EXTINGUISHER. JOHN R. NORMAN, Powell Station, Tenn., assignor of one-half to William Roark, Byington, Tenn. Filed Aug. 1, 1905. Serial No. 272,250.

Claim.—An apparatus of the character described, comprising a tank provided in its top with an opening and reinforcing-collar 6 projecting upwardly around said opening, a pump embodying a barrel fitting in said opening and having at its upper end an outwardly-extending flange adapted to rest upon said collar whereby to support the barrel within the tank, and a valved piston-rod working in said barrel and projecting from the upper end thereof, the said flange being provided in its vertical wall with a laterally-extending passage 9^b and having a nipple 9^a projecting from its periphery in communication with said passage, a suction-tube connected at one end to said nipple, bolts projecting upwardly from said reinforcing-collar and extending through said annular flange whereby to secure



the flange to the collar, and a discharge-pipe connected to said tank and provided with a delivery-nozzle.

842,690. PRINTING-TYPE. EUGENE B. OSWALT, Tuskegee, Ala. Filed Dec. 18, 1905. Serial No. 292,333.



Claim.—1. A multiplex type embodying a non-reversible element provided with an orifice of uniform diameter extending therethrough from its base, and a reversible element rotatably mounted within and insertible into either end of the orifice and provided with a printing-symbol upon each end.

2. A multiplex type embodying a non-reversible type having a cylindrical orifice of uniform diameter extending therethrough from the face thereof, and a cylindrical reversible element rotatably mounted within and insertible into either end of the orifice and provided with terminal printing-symbols.

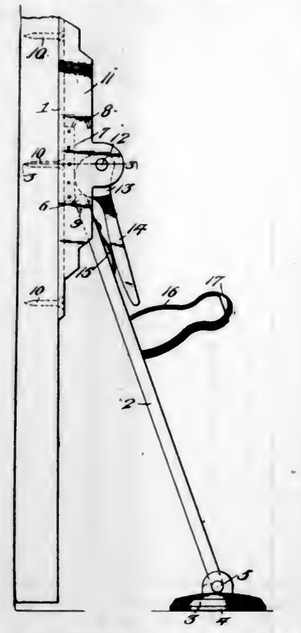
3. A multiplex type comprising an angular non-reversible element having a cylindrical orifice of uniform diameter extending therethrough from the face thereof, and a cylindrical reversible element rotatably mounted within and insertible into either end of the orifice and provided with a printing-symbol at each end thereof.

4. A multiplex type one element of which is rectangular in cross-section and has a printing-symbol upon one face, said element being provided with a cylindrical orifice of uniform diameter extending therethrough from said face, and a reversible cylindrical element rotatably mounted within and insertible into either end of the orifice and having a printing-symbol at each end thereof, either of said symbols adapted to coöperate with the first-mentioned symbol for designating purposes.

842,691. DOOR-SECURER. HENRY R. PALMER, Seattle, Wash. Filed May 9, 1906. Serial No. 315,909.

Claim.—1. A door-securer embodying an abutment, means for fastening said abutment to a door, a brace having means to engage the floor, and a cam coöperating with the brace and adapted to hold the brace in engagement with the floor or out of contact with the floor, substantially as described.

2. A door-securer embodying an abutment, means for fastening said abutment to a door, a brace having a sliding engagement with said abutment and having means to engage the floor, a spring-shoulder on said brace, and a cam coöperating with said brace either to hold the same in engagement with the floor or to sustain the same in an elevated position out of contact with the floor.



3. A door-securer embodying an abutment, means for fastening said abutment to a door, a brace having one end movably associated with said abutment, a floor-engaging base or foot having a jointed connection with the opposite end of said base, and a cam coöperating with the brace to hold the latter with the base or foot thereof in engagement with the floor or sustain the brace in an elevated position out of contact with the floor.

4. A door-securer embodying an abutment, means for fastening said abutment to a door, a brace having means to engage the floor, a combined handle and door-stop carried by said brace, and a cam coöperating with the brace to sustain the latter in engagement with the floor or uphold the same out of engagement with the floor.

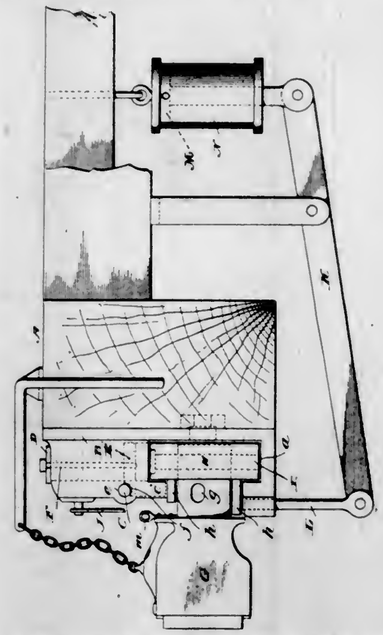
5. A door-securer embodying an abutment, a stay for fastening said abutment to a door comprising a toe portion adapted to engage under the bottom of the door, a brace having means to engage the floor, and a cam for forcing the brace into engagement with the floor and holding the same, substantially as described.

842,692. CAR-COUPLING. DAVID PATTERSON, Denver, Colo. Filed July 9, 1906. Serial No. 325,334.

Claim.—1. In a car-coupler, the combination of a bed plate or frame, and a draw-bar; the said bed-plate and draw-bar being provided with coöperating means whereby the draw-bar may be moved to and fro horizontally in the bed-plate or may be supported in a horizontal plane in the bed-plate different from that in which it moves to and fro.

2. In a car-coupler, the combination of a bed plate or frame having communicating guideways disposed at an angle to each other, a draw-bar, and a draw-bar carrier movable to and fro in one guideway of the bed plate or frame and adapted to be moved into the other guideway thereof.

3. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending from the horizontal guideway, a draw-bar, and a draw-bar carrier movable to and fro in the horizontal guideway of the bed plate or frame and adapted to be moved into the upright guideway thereof.



4. In a car-coupler, the combination of a bed plate or frame having communicating guideways disposed at an angle to each other, a draw-bar, a draw-bar carrier movable to and fro in one guideway and adapted to be moved into the other guideway, and means for securing the draw-bar and its carrier in the latter guideway.

5. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be moved into the upright guideway, and means for securing the draw-bar and its carrier in the latter guideway.

6. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway, and an upright guideway extending up from the middle of the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be moved into the upright guideway, and means for securing the draw-bar and its carrier in the latter guideway.

7. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be moved into the upright guideway, and a block movable in the upright guideway at the opposite side of the carrier, with reference to the horizontal guideway.

8. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be moved into the upright guideway, a block movable in the upright guideway at the opposite side of the carrier with reference to the horizontal guideway, and means for holding said block in a position adjacent to the horizontal guideway.

9. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guide-

way extending from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be moved into the upright guideway, a block movable in the upright guideway at the opposite side of the carrier, with reference to the horizontal guideway, and means adapted in one position of the draw-bar and its carrier to secure the block in a position adjacent to the horizontal guideway and in another position of the draw-bar and carrier to secure the same in the upright guideway.

10. In a car-coupler, the combination of a bed plate or frame having communicating guideways disposed at an angle to each other, a draw-bar carrier movable to and fro in one guideway of the bed plate or frame and adapted to be moved into the other guideway thereof, and a block movable in such other guideway at the opposite side of the carrier, with reference to the first-mentioned guideway.

11. In a car-coupler, the combination of a bed plate or frame having communicating guideways disposed at an angle to each other, a draw-bar carrier movable to and fro in one guideway of the bed plate or frame and adapted to be moved into the other guideway thereof, a block movable in such other guideway at the opposite side of the carrier, with reference to the first-mentioned guideway, and means for holding the block in a position adjacent to the first-mentioned guideway.

12. In a car-coupler, the combination of a bed plate or frame having communicating guideways disposed at an angle to each other, a draw-bar, a draw-bar carrier movable to and fro in one guideway and adapted to be moved into other guideway thereof, and means for raising the draw-bar and draw-bar carrier.

13. In a car-coupler, the combination of a bed plate or frame having communicating guideways disposed at an angle to each other, a draw-bar, a draw-bar carrier movable to and fro in one guideway and adapted to be moved into the other guideway thereof, and fluid-pressure means for raising the draw-bar and draw-bar carrier.

14. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway of the bed plate or frame and adapted to be moved into the upright guideway thereof, and means for raising the draw-bar and its carrier.

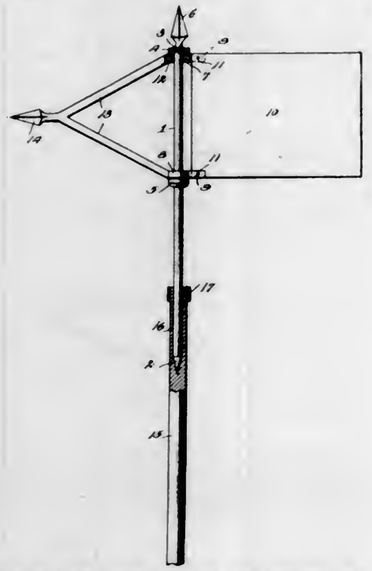
15. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway of the bed plate or frame and adapted to be moved into the upright guideway thereof, and fluid-pressure means for raising the draw-bar and its carrier.

16. In a car-coupler, the combination of a bed plate or frame, a vertically-movable draw-bar, a lever fulcrumed at an intermediate point of its length, a rod on one arm of said lever, disposed below the draw-bar, and fluid-pressure means for depressing the other arm of the lever.

17. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending up from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be raised into the upright guideway, a block movable in the upright guideway at the opposite side of the carrier, with reference to the horizontal guideway, and a pin mounted in the bed plate or frame and adapted to hold the draw-bar and carrier in the upright guideway and also adapted to hold the block in a position adjacent to the horizontal guideway.

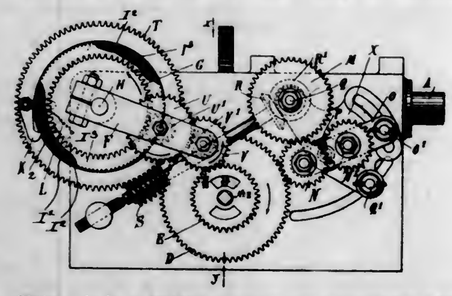
18. In a car-coupler, the combination of a bed plate or frame having a horizontal guideway and an upright guideway extending up from the horizontal guideway, a draw-bar, a draw-bar carrier movable to and fro in the horizontal guideway and adapted to be raised into the upright guideway, a cap closing the upper end of the upright guideway, a block connected by slide-rods with said cap and movable in the upright guideway at the opposite side of the carrier, with reference to the horizontal guideway, and a pin mounted in the bed plate or frame and adapted to hold the draw-bar and carrier in the upright guideway and also adapted to hold the block in a position adjacent to the horizontal guideway.

842,693. ADVERTISING-SIGN. JOHN J. PATTERSON, Bellingham, Wash. Filed Mar. 17, 1906. Serial No. 306,606.



Claim.—A sign comprising a staff having a lower pointed end and an upper threaded end, stationary bearing members on the staff, one above the other, the upper bearing member being formed with a threaded socket engaging the upper threaded end of the staff and having a crown ornament, upper and lower revoluble bearing members on the staff arranged respectively below and above said upper and lower stationary bearing members, bearing-balls between the opposing faces of the upper and the lower bearing members, said revoluble bearing members being provided with slotted supporting-arms projecting from one side thereof, a sign-banner having its upper and lower rear corners fastened in said slotted arms, and converging arms integral with and projecting from the opposite side of the revoluble bearing members, said arms being connected at their outer ends and having an ornamented terminal and forming a Y-shaped vane, substantially as described.

842,694. DIVIDING-MACHINE. HENRI P. HAYES, Locle, Switzerland. Filed Oct. 16, 1905. Serial No. 283,075.



Claim.—1. In a dividing-machine, the combination with a frame, a drive-shaft and a work-shaft driven thereby, of interchangeable gears on the said drive-shaft, a pivot fixed in the said frame, a gear loosely mounted on the pivot, index-plates with different numbers of notches thereon secured to the said loosely-mounted gear, a second gear also loosely mounted on the said pivot, a catch carried by the said second gear, means whereby the catch may be positioned to engage the notch or notches of any index-plate to obtain a desired division, interchangeable means for driving the said loosely-mounted gear and its index-plates by one of the said interchangeable gears, a rocker-bridge pivotally connected to the said frame, a rocker-arm pivotally connected to the said rocker-bridge, intermeshing gears mounted on the said rocker-arm, one of which meshes with the other interchangeable gear, and means intermediate of the said gears mounted on the said rocker-arm and the said second gear-wheel loosely mounted on the pivot, whereby the said second gear-wheel may be driven in either direction by the other intermediate gear.

2. In a dividing-machine, the combination with a frame, a drive-shaft and a work-shaft driven thereby, of interchangeable gears on the said drive-shaft, each of said interchangeable gears being provided with a segmental recess and a lug or projection, the lug on one gear being adapted to enter a recess in the other gear with which it is employed, a pivot fixed in the said frame, a gear loosely mounted on the pivot, index-plates with different numbers of notches thereon secured to the said loosely-mounted gear, a second gear also loosely mounted on the said pivot, a catch carried by the said second gear, means whereby the catch may be positioned to engage the notch or notches of any index-plate to obtain a desired division, interchangeable means for driving the said loosely-mounted gear and its index-plates by one of the said interchangeable gears and means for driving the said second loosely-mounted gear by the other of said interchangeable gears.

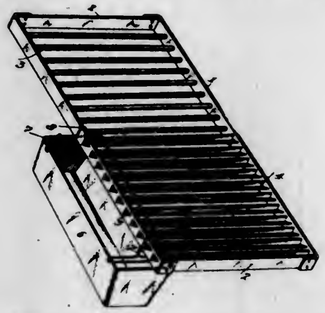
3. In a dividing-machine, the combination with a frame, a drive-shaft and a work-shaft driven thereby, of interchangeable gears on the said drive-shaft, each of said interchangeable gears being provided with a segmental recess and a lug or projection, the lug on one gear being adapted to enter a recess in the other gear with which it is employed and one face of each gear being provided with two numerals, one above the other, the upper indicating the number of divisions obtainable when the gear is employed and the lower being one less than the upper, and the face of the lug on each gear being provided with two numerals, the one above the other, the upper indicating the number of teeth in the gear-wheel and the lower being the difference between one hundred and the upper number, a pivot fixed in the said frame, a gear loosely mounted on the pivot, index-plates with a different number of notches thereon secured to the said loosely-mounted gear, a second gear also loosely mounted on the said pivot, a catch carried by the said second gear, means whereby the catch may be positioned to engage the notch or notches of any index-plate to obtain a desired division, interchangeable means for driving the said loosely-mounted gear and its index-plates by one of the said interchangeable gears and means for driving the said second loosely-mounted gear by the other of said interchangeable gears.

842,695. CAMP-BROILER. CHARLES R. PETERS, Monterey, Cal. Filed June 19, 1905. Serial No. 266,006.

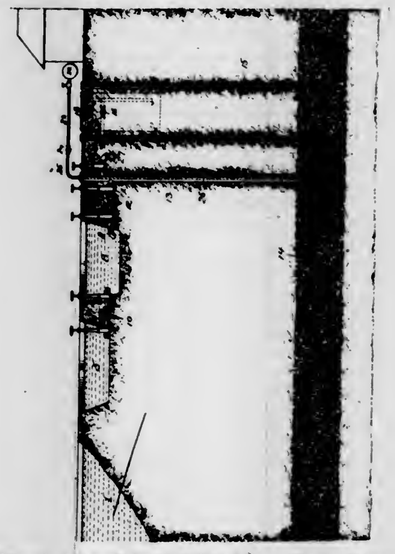
Claim.—1. A camp-broiler comprising a substantially rectangular frame, solid rods connecting the side bars of said frame throughout a part of its length, V-shaped bars connecting the said side bars throughout the remainder of the length of said frame, and a removable pan having means for suspending it from the side of said frame with one edge extending under the frame.

2. A camp-broiler comprising a substantially rectangular frame, solid rods connecting its side bars throughout a portion of its length, and channels or troughs connecting the said side bars throughout the remainder of the length of the frame; the said side bars being perforated to receive said channel-bars.

3. A camp-broiler comprising a frame, solid bars extending across said frame for a portion of its length, channel-bars extending across said frame for the remainder of its length, and communicating with openings in said frame, a dripping-pan removably attached to said frame, and independent supporting-legs having lugs for receiving and supporting the frame.



842,696. WATER SUPPLY AND PURIFICATION SYSTEM. GEORGE PFEIFFER, Jr., Brown Mills, N. J. Filed June 1, 1906. Serial No. 319,706.



Claim.—1. In a water supply and purification system, the combination of a sedimentation-basin receiving its supply from a body of surface water, a well communicating at its upper end with said sedimentation-basin and at its lower end with a natural water-bearing stratum, and a pump-well likewise communicating with said water-bearing stratum at a point so remote from the supply-well that the water-bearing stratum serves as a filter for the water flowing from one well to the other.

2. In a water supply and purification system, the combination of a plurality of sedimentation-basins receiving their supply from a body of surface water, a well communicating at its lower end with a natural water-bearing stratum, a pump-well likewise communicating with said stratum, and means whereby the first well can receive its supply of water from one of the sedimentation-basins without disturbing the water in the other basin or basins.

3. In a water supply and purification system, the combination of a series of sedimentation-basins receiving their supply from a body of surface water, a distributing-basin having independent connection with each of the sedimenta-

tion-basins of the series, a well communicating at its upper end with said distributing-basin and at the lower end with a natural water-bearing stratum, and a pump-well likewise communicating with said water-bearing stratum.

4. In a water supply and purification system, the combination of a series of sedimentation-basins receiving their supply from a body of surface water, a distributing-basin deeper than said sedimentation-basins and having independent connection with each, a well, communicating at its upper end with said distributing-basin and at the lower end with a natural water-bearing stratum, and a pump-well likewise communicating with said water-bearing stratum.

5. In a water supply and purification system, the combination of a well receiving its supply from a body of surface water, and communicating at its lower end with a natural water-bearing stratum, a pump-well likewise communicating with said water-bearing stratum, and means for supplying fluid under pressure to the first well and for releasing said pressure, to cause a sudden inrush of water from the water-bearing stratum into the well for cleansing purposes.

6. In a water supply and purification system, the combination of a well receiving its supply from a body of surface water, and communicating at its lower end with a natural water-bearing stratum, a pump-well likewise communicating with said water-bearing stratum, and means for supplying air or other elastic fluid under pressure to the first well and for releasing said pressure, to cause a sudden inrush of water from the water-bearing stratum into the well for cleansing purposes.

7. In a water supply and purification system, the combination of a well receiving its supply from a body of surface water and communicating at its lower end with a natural water-bearing stratum, a pump-well likewise communicating with said water-bearing stratum, means for supplying fluid under pressure to the first well and for releasing said pressure to cause a sudden inrush of water from the water-bearing stratum into the well for cleansing purposes, and a drain-pipe having valved communication with the upper end of the well, whereby it can receive said cleansing flow.

8. In a water supply and purification system, the combination of a series of pump-wells communicating with a natural water-bearing stratum, and a series of wells likewise communicating with said water-bearing stratum and also in communication with a body of surface water, so as to deliver a supply of the latter to the water-bearing stratum, said supply-wells being so disposed in reference to the pump-wells that each supply-well furnishes water to the pump-wells adjacent thereto.

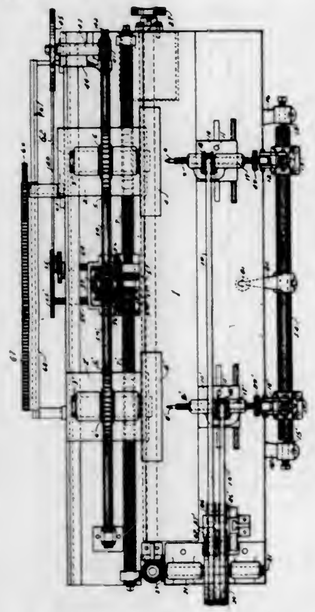
9. In a water supply and purification system, the combination of a plurality of pump-wells, each communicating with a natural water-bearing stratum, a plurality of supply-wells likewise communicating with said water-bearing stratum and with a body of surface water, a reservoir of fluid under pressure, a main supplied thereby, and a valved communication between said main and each of the supply-wells.

10. In a water supply and purification system, the combination of a plurality of pump-wells, each communicating with a natural water-bearing stratum, a plurality of supply-wells likewise communicating with said water-bearing stratum and with a body of surface water, a reservoir of fluid under pressure, a main supplied thereby, a valved communication between said main and each of the supply-wells, and a valved communication between the upper portion of each of said supply-wells and a drain-pipe.

11. In a water supply and purification system, the combination of a plurality of pump-wells, each communicating with a natural water-bearing stratum, a plurality of sedimentation-basins receiving their supply from a body of surface water, a distributing-basin in communication with said sedimentation-basins, a distributing-main in communication with said distributing-basin, and a series of supply-wells, each providing a communication between said distributing-main and the water-bearing stratum with which the pump-wells communicate.

12. In a water supply and purification system, the combination of a well, communicating at its lower end with a plurality of water-bearing strata, and at its upper end with a body of surface water, and one or more pump-wells, also communicating with said water-bearing strata.

842,697. MACHINE FOR ENGRAVING AND DIE-SINKING. HENRY PHILLIPS, Scranton, Pa. Filed Apr. 27, 1905. Serial No. 257,601.



Claim.—1. In an engraving-machine, the combination with rotary pattern and work-carrying heads, stationary bearings, and tracer and tool spindles, movable endwise, and in substantially the same plane, in said bearings, toward and from said heads, respectively, of a bar pivoted to swing about an axis transverse to the bar and perpendicular to the plane of movement of said spindles, and connections between said spindles and bar whereby the reciprocatory movements of said spindles are caused to bear a certain definite relation to each other.

2. In an engraving-machine, the combination with rotary pattern and work-carrying heads, stationary bearings and tracer and tool spindles movable endwise, and in substantially the same plane, in said bearings, toward and from said heads, respectively, of a bar pivoted to swing about an axis transverse to the bar and perpendicular to the plane of movement of said spindles and swivel connections between said spindles and bar whereby the reciprocatory movements of said spindles are caused to bear a certain definite relation to each other.

3. In an engraving-machine, the combination with tracer and tool spindles reciprocable endwise in substantially the same plane, of a bar pivoted to swing in the plane of movement of said spindles, and swivel connections between said spindles and bar whereby the reciprocatory movements of said spindles are caused to bear a certain definite relation to each other.

4. In an engraving-machine, the combination with tracer and tool spindles reciprocable endwise in substantially the same plane of a bar pivoted to swing about an axis perpendicular to the plane of movement of said spindles and swivel connections between said spindles and bar whereby the reciprocatory movements of said spindles are caused to bear a certain definite relation to each other.

5. In an engraving-machine, the combination with tracer and tool spindles reciprocable endwise in substantially the same plane of a bar pivoted to swing about an axis perpendicular to the plane of movement of said spindles, a swiveled connection between said bar and one of said spindles, an oscillatory shaft having an arm connected to the other of said spindles and having another arm attached by a swiveled connection to said bar.

6. In an engraving-machine, the combination with tracer and tool spindles reciprocable endwise in substantially the same plane of a bar pivoted to swing about an axis perpendicular to the plane of movement of said spindles, a swiveled connection between said bar and one of said spindles, an oscillatory shaft having an arm connected to the other of said spindles and another arm attached at one end to said shaft and having a swiveled connection at its other end with said bar between the pivot of the latter and its point of connection to said first-mentioned spindle.

7. In an engraving-machine, the combination with endwise-movable, tool and tracer spindles, means to cause the longitudinal movement of said spindles to be interdependent, rotary pattern and work-carrying heads, means to rotate said heads, means to feed said heads laterally, and means operated by the lateral movement of one of said heads to vary the speed of rotation of said heads.

8. In an engraving-machine, the combination with endwise-movable, tool and tracer spindles and means to cause the longitudinal movements of said spindles to be interdependent, of pattern and work-carrying heads, driving means therefor, means operated by said driving means to feed said heads laterally either in the same or opposite directions, means operated by the lateral movement of one of said heads to vary the speed of said driving means and means operated by said feeding means to reverse said driving means at intervals.

9. In an engraving-machine, the combination with endwise-movable, rotary tool and tracer spindles and means to cause the longitudinal movements of said spindles to be interdependent, of pattern and work-carrying heads, a drive-shaft, driving means for said spindles carried thereby, means driven from said shaft to rotate said heads in the same or opposite directions comprising a reversing mechanism and a change-speed mechanism, independent lateral feeding means for said heads, actuating means for said feeding means driven by said head-rotating means, operative connections between said reversing mechanism and said actuating means, and means carried by one of said heads to actuate said change-speed mechanism, whereby the rotary speed of the heads is varied by the lateral feed of one of them.

10. In an engraving-machine, rotary pattern and work-carrying heads and endwise-movable tracer and tool spindles connected together so that their endwise movements are interdependent, in combination with alined shafts carrying worms for rotating the said heads, gears on the adjacent ends of said shafts, a single driving means for said gears, means to render one of said gears inoperative and to connect said shafts so that they are driven as one and means operated by one of said shafts to reverse said driving means at intervals.

11. In an engraving-machine, rotary pattern and work-carrying heads and endwise-movable tracer and tool spindles, connected together so that their endwise movements are interdependent, in combination with means to rotate said heads, and means driven by said rotating means to feed said heads laterally either in the same or opposite directions and means to vary the speed of rotation of said heads operated by the lateral feed of one of them.

12. In an engraving-machine, rotary pattern and work-carrying heads and endwise-movable tracer and tool spindles, connected together so that their endwise movements are interdependent, a worm-carrying shaft to rotate each of said heads, a disk driven by one of said shafts and carrying adjustable tappets, a rocking device in position to be actuated by said tappets, a double pawl-and-ratchet mechanism operatively connected to said rocking device, independent lateral feeding means for said heads operated by said mechanism and means to reverse the rotation of said heads operated by said rocking device.

13. In an engraving-machine, rotary pattern and work-carrying heads and endwise-movable tracer and tool spindles, connected together so that their endwise movements are interdependent, means to rotate said heads and means to feed them laterally, a rack carried by one of said heads, a shaft journaled in the frame of the machine and carrying at one end a pinion in mesh with said rack and at the other end a gear, a framework slidably mounted on the frame of the machine and having a rack in mesh with said gear, a cam-guide formed on said framework, a vertical slidable rod in engagement with said cam-guide and provided with rack-teeth, a change-speed mechanism forming part of the head-driving mechanism and carrying a gear in mesh with said rack-teeth, whereby the speed of rotation of said heads is varied by the lateral movement of one of them.

14. In an engraving-machine, the combination with the tool and tracer spindles, of rotary pattern and work-carrying heads, means to rotate said heads either in the same or opposite directions, comprising alined shafts, gearing to drive said shafts in opposite directions, a sliding clutch to disconnect one of said shafts from the driving-gearing and to connect it rigidly to the other shaft, and means operated by one of said shafts to reverse said driving-gearing at predetermined intervals.

15. In an engraving-machine, the combination with tracer and tool spindles, of pattern and work-carrying heads, means to rotate said heads either in the same or opposite directions, comprising alined shafts and means to drive them independently or as one, a tappet-disk driven by one of said shafts, pawl-and-ratchet mechanism operated by said tappet-disk and connections therefrom to feed said heads laterally either in the same or opposite directions and at the same or different speeds, means to reverse the rotation of said heads also operated by said tappet-disk and means to vary the speed of rotation of said heads operated by the lateral feed of one of said heads.

16. In an engraving-machine, the combination with the pattern and tool-carrying heads, of means to rotate the same, means operated by said rotating means to feed said heads laterally either in the same or opposite directions and either at the same or different speeds, reversing mechanism for said heads also operated by said feeding means, a cam-guide slidably mounted on the frame of the machine, operative connections between said guide and one of said heads, whereby the lateral feed of the latter is caused to move the former a speed-changing mechanism in the driving train for rotating said heads and connections between said mechanism and said cam-guide; whereby the lateral feed of one of said heads varies the speed of rotation of both heads.

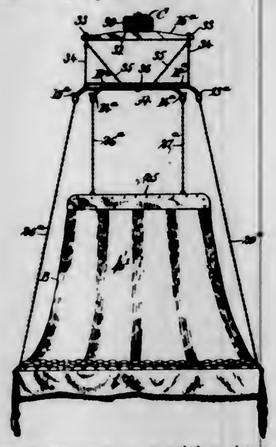
17. In an engraving-machine, the combination with pattern and work-carrying heads, of driving mechanism for the same, a tappet-disk driven by said driving mechanism, a rocking lever in position to be actuated by said disk, reversing mechanism for said heads operated by said rocking lever, means to feed said heads laterally, comprising independent feed-screws, a shaft to drive each screw, intermeshing change-gears on the ends of said shafts, a forked connecting-rod embracing one of said gears and connected at its other end to said rocking lever, a pawl pivoted in one arm of the fork and engaging one of said change-gears, a lever pivoted loosely on the shaft of said gear and pivoted at one end to the other arm of said fork, a pawl pivoted to the other end of said lever and also engaging said gear, and a supporting-arm for said fork carried by said shaft, whereby the lateral feed of said heads is unchanged by the reversal of rotation thereof.

842,698. HAMMOCK. EMMANUEL F. PILLMAN, Boston, Mass. Filed July 3, 1905. Serial No. 268,091.

Claim.—1. A hammock-support, comprising bars pivoted together at one side of their center of length and provided with means at their ends for attachment of hammock-cords, a spreader-bar adapted for connection with a support, and flexible connections between each end of the spreader-bar and each of the pivoted bars.

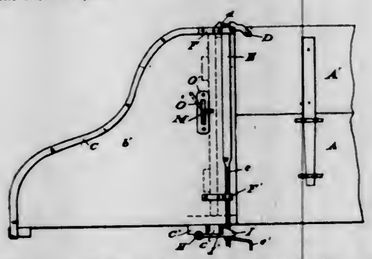
2. A hammock-support, comprising bars pivoted together at one side of their center of length and provided with means at their ends for attachment of hammock-

cords, a spreader-bar adapted to be pivoted to a support, flexible connections between each end of the spreader-bar and each of the pivoted bars, and a connection between the longer ends of said pivoted bars.



3. A hammock-support, comprising bars pivoted together at one side of their center of length and provided with hooks at their ends, a spreader-bar adapted to be pivoted to a support, flexible connections between each end of the spreader-bar and each of the pivoted bars, and a flexible connection between the longer ends of the said pivoted bars.

842,699. WAGON-BOX EXTENSION AND END-GATE. ALVA POOL, Starfield, Mo., assignor of one-half to James P. Tyer, Clinton county, Mo. Filed Sept 17, 1906. Serial No. 334,965.



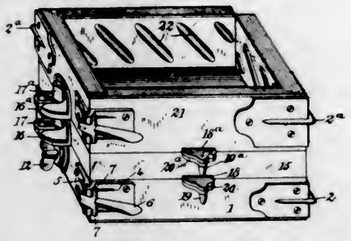
Claim.—1. The combination with a wagon-box, of right and left castings provided with outer shoulders and notches in the top, the projecting ends of a cleat attached beneath the rear end of said box, an extension consisting of a floor and two sides, one of which is provided with a slot, a cleat adapted to fit alongside the box-cleat, upper castings and lower loops and the bars adapted to engage therewith and the bar-arms engaging with said notches, axles projecting from beneath the extension-cleat, catches carried thereon and provided with holes through the opposite ends for engagement with the threaded ends of said bars and seats in the catches for engagement with said box-cleat, the tail-nuts to hold said catches up in rigid engagement with the ends of said cleats, the hinged end-gate forward in said extension closing against the rear ends of the sides of the wagon-box, a bracket attached to the end-gate horizontal with said slot in a side of the extension, a rod and its arm carried by said bracket and the fastener end of said rod engaging with said slot to lock the end-gate, substantially as set forth and shown.

2. The combination with the extension of a wagon-box and the cleats, of duplicate bars and their supports on the sides of the extension, the axles projecting from beneath the extension, the catches carried on said axles with perforations in their opposite ends to engage with said bars and the seats at the top thereof to engage with the wagon-box cleat, substantially as set forth and shown.

3. The combination of a wagon-box extension provided with a slot in a side thereof, an end-gate hinged to the opposite side, a bracket on said end-gate horizontal with said slot, a rod carried by said bracket one end bent at a right angle to serve as a handle, the other end bent to engage with said slot to serve as a fastener, substantially as set forth and shown.

4. In a wagon-box and an extension thereof, right and left castings, the shoulders outward thereon to serve as bearings for the sides of the extension, the notches in the tops thereof and the flat arms of the bars adapted to engage with said notches, substantially as set forth and shown.

842,700. MOLDER'S FLASK. GUY H. RAYBURN, Columbus, Ohio, assignor of one-half to Strafford R. Hewitt, Columbus, Ohio. Filed Aug. 11, 1906. Serial No. 330,211.



Claim.—1. A molder's flask comprising a cope and a drag hingedly connected at their corners whereby they may be laterally opened, guide-bars pivotally attached to the ends of the drag adapted to be locked in horizontal and vertical positions, adjustable sockets carried by the cope coöperating with the guide-bars, and hinge members secured to both the cope and drag adapting them to be vertically separated.

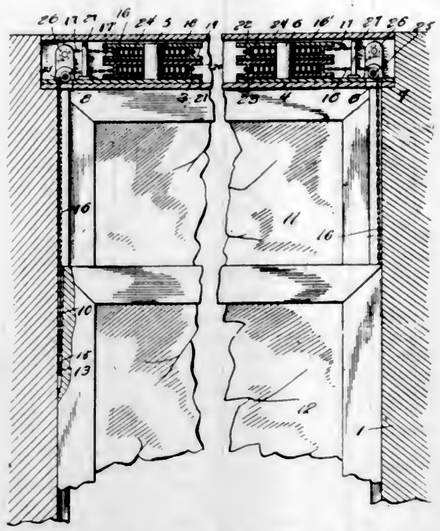
2. A molder's flask consisting of a cope made up of two members hingedly connected together, a clamp for holding the members of the cope from separation, a drag consisting of two members hinged together, a clamp for holding the members of the drag from separation, guide-bars for maintaining the cope and drag in register, and means whereby the guide-bars may be turned to operative and inoperative position.

3. In a molder's flask, a cope, a drag, guide-bars pivotally attached to the drag, means for locking the guide-bars in horizontal and vertical positions, brackets carried by the cope coöperating with the guide-bars, and adjustable sockets carried by the brackets for the purpose described.

842,701. SASH-BALANCE. JOSEPH N. REILAND, Mazeppa, Minn. Filed June 16, 1905. Serial No. 265,538.

Claim.—1. A sash-balance comprising a casing, upper and lower sashes slidably mounted in the casing, upper and lower wheels arranged at each side and in the top of the casing, each wheel having a spring arranged therein, a chain connected with each of said upper and lower wheels, the chains of the upper wheels being detachably connected with the upper sash, and the chains of the lower wheels being detachably connected with the lower sash.

2. A sash-balance, comprising a casing, upper and lower sashes arranged for sliding movement within the casing, each sash having a groove upon each of its side faces, a projection arranged at the bottom of each groove, upper and lower spring-actuated wheels arranged in the top of the casing and upon each side thereof, chains connected with each wheel, the chains of the upper wheels being connected with the upper sash, and the chains of the lower wheels with the lower sash, each chain having a loop provided with a contracted portion for engagement with the corresponding projection in the corresponding groove of the sashes, and a plate arranged at each side of the casing at the top thereof to guide the chains in their passage from their respective wheels to the corresponding rollers.



3. A sash-balance comprising a casing, upper and lower sashes arranged for sliding movement within the casing, each sash having a longitudinally-extending groove formed on each of its side faces, a projection arranged at the bottom of each groove; upper and lower hollow wheels mounted in the top of the casing at each side thereof, chains connected with each wheel, the chains of the upper wheels being connected with the upper sash, and the chains of the lower wheels with the lower sash, each chain having a loop provided with a contracted portion for engagement with the projection in the corresponding sash-groove, and a band-spring mounted within each wheel for actuating the same, the upper wheels being arranged for movement in a direction opposite to that of the lower rollers.

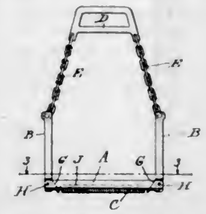
4. A sash-balance, comprising a casing, upper and lower sashes arranged for sliding movement in the casing, each sash having a longitudinally-extending groove formed in each of its side faces, a projection arranged at the bottom of each groove, upper and lower hollow wheels mounted in posts arranged in the top of the casing at each side thereof, each wheel being formed with a perforation in its body, chains secured to each wheel and to the projection in the corresponding sash-groove, each chain having a bolt at its upper end for engagement in the perforations in said wheels, and a contracted portion for engagement with the said projections, the chains of the upper wheels being connected with the upper sash, and the chains of the lower wheels with the lower sash, and a band-spring mounted in each for actuating the same, the upper wheels being arranged for movement in a direction opposite to that of the lower rollers.

842,702. SAFETY-STIRRUP. KONRAD REIM, New York, N. Y. Filed Nov. 6, 1906. Serial No. 342,195.

Claim.—1. In an automatic safety-stirrup, a tread, arms pivotally connected to said tread, a spring connecting said arms and normally tending to rock the same in a direction away from each other, and means for connecting said arms to the stirrup-strap.

2. In an automatic safety-stirrup, a tread, an arm pivotally connected thereto at each end thereof, a spring connecting the ends of the arms together below the tread and stirrup-strap connections with the ends of the arms above the tread.

3. In an automatic safety-stirrup, a tread having seats formed in the ends thereof, arms pivotally connected to the said tread in said seats, a spring connecting together the ends of said arms below the tread, a strap lug or block



and flexible connections between said lug or block to the free ends of the arms above the tread.

842,703. DISH-DRAINER. MARY E. ROBERTS, Dawson, N. D. Filed Aug. 29, 1905. Serial No. 276,199.



Claim.—1. A dish-drainer comprising a rimless concavo-convex disk having a smooth upper and a smooth lower face, a central opening, arcuate slots concentric with the opening and a support for the disk.

2. A dish-drainer comprising a rimless concavo-convex disk having a smooth upper and a smooth lower face, arcuate slots concentrically arranged, and a support for the disk.

842,704. SNOW-SCRAPER. OLIVER W. ROBINS, Cedar Rapids, Iowa. Filed May 9, 1906. Serial No. 316,029.



Claim.—1. A snow-scraper comprising a pair of runners, a body pivotally mounted on the runners, and means for tilting the body either forwardly or rearwardly, and for holding the same in a horizontal position.

2. A snow-scraper provided with a pivotally-mounted body having a movable end-gate, means for tilting the body either forwardly or rearwardly and for holding the body in a horizontal position, and means for automatically opening the end-gate when the body is tilted rearwardly.

3. The combination of a pivotally-mounted body, an end-gate having arms pivotally connected with the body, means carried by the body and supporting the arms for holding the end-gate in its closed position, means for tilting the body, and means arranged in the path of the arms for supporting the end-gate when the body is tilted rearwardly, whereby the end-gate will be automatically opened.

4. The combination of a pivotally-mounted body, an end-gate having an arm pivoted to the body, a bracket mounted on the body and arranged in the path of the arm for supporting the gate in its closed position when the body is

horizontal, and a stop consisting of a bar or piece having a projecting portion arranged in the path of the arm for supporting the end-gate when the body is tilted rearwardly.

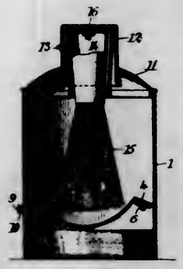
5. The combination with a pair of runners, of a body provided with brackets having depending portions pivoted to the runners, and combined guides and keepers mounted on the runners and located beneath the pivots of the brackets and receiving the lower portions of the latter.

6. The combination with a pair of runners, of a pivotally-mounted body, a platform extending from one of the runners, an operating bar or lever connected with the body for tilting the same, an arcuate bar mounted on one of the runners and arranged adjacent the platform, and locking mechanism carried by the operating bar or lever for engaging the arcuate bar.

7. The combination of a pair of runners, a body pivotally mounted on the runners and adapted to be tilted either backwardly or forwardly, said body being composed of a bottom and sides, and an end-gate having arms pivoted to the sides, means for tilting the body, means mounted on the body for supporting the end-gate in its closed position when the body is arranged horizontally or is tilted forwardly, and means carried by the runners for supporting the end-gate when the body is tilted rearwardly, whereby the end-gate is automatically opened.

8. A snow-scraper comprising a pair of spaced runners, a body pivotally mounted at an intermediate point of its length to and between the runners, and at an intermediate point of the length of the said runners, and means for tilting the body either forwardly or rearwardly.

842,705. COMBINED SHAVING MUG AND BRUSH. GEORGE A. RONEY, Grand Forks, N. D. Filed Aug. 7, 1906. Serial No. 329,529.



Claim.—1. In a device of the character described, a mug, a handle pivotally connected at the inside of the mug and adapted to be normally contained therein, and means for attaching said handle to the exterior of the mug when the latter is in use.

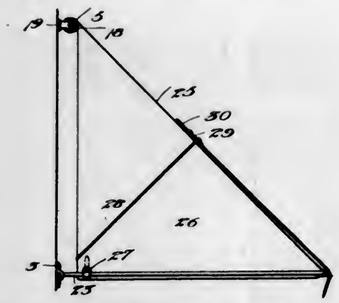
2. In a device of the character described, a mug, a top for the mug adapted to be screw-threaded thereto, a brush carried by the top having a handle composed of a plurality of conical units, and means for positively securing the handle in contracted relation.

3. In a device of the character described, a mug, a top for covering the mug, an inverted cup secured to and passing into the top, a threaded stud carried by the cup, and a brush having a telescopic handle adapted to be held in contracted relation on the stud.

4. In a device of the character described, a mug, a top for closing the mug, a brush carried by the top having a handle composed of a plurality of conical sections telescoping with each other, a threaded stud secured to the top, and a threaded opening carried by the lower section adapted to engage with said stud and hold the handle in contracted relation, as specified.

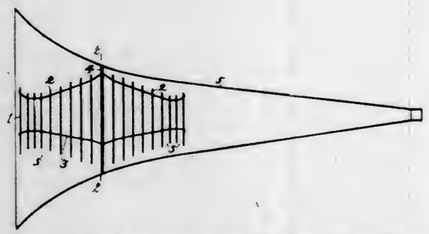
5. In a device of the character described, a mug, a handle hingedly fixed to the mug and adapted to be contained therein, a pin secured at the outside of the mug, and a latch carried by said handle for engaging with the pin for the purpose described.

842,706. AWNING. EDWARD L. ROOKS and PERCY A. ROOKS, Jackson, Tenn. Filed Apr. 3, 1905. Serial No. 253,500.



Claim.—An awning comprising a frame including side bars and a front bar, the side bars being pivotally connected to the structure, a spring-roller mounted on the structure above the pivotal support of the frame, means for securing the roller in determinate position, an awning comprising a body portion and side flaps secured thereto, each of said flaps being formed with an eye near the free edge thereof, hooks secured to the side bars of the frame and adapted to receive the eyes of the side flaps to retain the latter in position, a ring secured centrally to the upper surface of the body, and cords secured to the side flaps adjacent the eyes therein, said cords being passed through the ring on the body portion and depending for manual operation, whereby a pull on said cords will disengage the side flaps from the hooks and draw the same onto the upper surface of the body to limit the independent movement of the cord and permit a further pull on the same to operate the spring-roller.

842,707. ATTACHMENT TO HORNS FOR SOUND-REPRODUCING INSTRUMENTS. OVEREND G. ROSE, Camp Meeker, Cal. Filed Mar. 22, 1906. Serial No. 307,413.



Claim.—1. An attachment for the horns of sound-reproducing instruments, comprising a cage-like structure composed of a series of flat disks arranged in parallel planes and connected together, and adapted to be held as a complete structure within the horn.

2. In a sound analyzer for phonograph-horns, a plurality of annular disks and an imperforate disk arranged at a distance from each other and adapted to be secured in the horn, the annular disks decreasing in internal and external diameter toward the forward end and the imperforate disk being arranged at the smaller end.

3. In a sound projector and analyzer for phonograph-horns, a plurality of annular disks arranged at a distance from each other and adapted to be secured in the horn, the apertures in said disks decreasing in diameter from the middle toward each end.

4. In a sound projector and analyzer for phonograph-horns, a plurality of annular disks arranged at a distance from each other and adapted to be secured in the horn, said disks decreasing in external and internal diameters from the middle toward each end.

5. In a sound projector and analyzer for phonograph-horns, a plurality of annular disks arranged at a distance from each other and adapted to be secured in the horn, an imperforate disk at the forward end and a sound-box at the inner end.

6. In a sound projector and analyzer for phonograph-horns, a plurality of annular disks of variant diameters, and wires for holding them at a distance from each other with their centers in the axis of the horn.

7. In a sound projector and analyzer for phonograph-horns, a plurality of annular disks arranged at a distance apart and adapted to be secured in the horn, and an imperforate disk at the forward end and a sound-box at the inner end, said box comprising two annular disks and a rim therebetween, and arms provided with hooks for securing it in position.

8. The combination with a phonograph-horn, a plurality of annular disks in the larger end thereof, said disks being at a distance from each other and decreasing in diameter from the middle toward each end, the middle disk engaging with the horn for supporting itself and the other disks at substantially right angles to the axis of the horn and with their peripheries out of contact with the horn.

9. The combination with a phonograph-horn, of a plurality of annular disks in the larger end thereof, and an annular disk in the aperture of one or more of said larger disks.

842,708. LOOSE-LEAF BINDER. WILLIS J. ROUSSEL, New Orleans, La. Filed Mar. 31, 1906. Serial No. 309,190.



Claim.—1. A loose-leaf binder comprising a back member, leaf-retaining means carried thereby, a spring-pressed shutter adapted to engage said leaf-retaining means and bear upon the leaves, and means for varying the pressure of said shutter.

2. A loose-leaf binder comprising a back member, leaf-retaining means carried thereby, a spring-pressed shutter adapted to engage said leaf-retaining means and bear upon the leaves, and means for locking the shutter in applied position.

3. A loose-leaf binder comprising a back member, leaf-retaining means comprising a series of telescopically-arranged posts, a shutter movably supported by the back member and adapted to engage said posts and bear upon the leaves, springs for maintaining the shutter in applied position, and means for adjusting the tension of said springs.

4. A loose-leaf binder comprising a back member, leaf-retaining means comprising a series of telescopically-arranged posts, a shutter movably supported by the back member and adapted to engage said posts and bear upon the leaves, springs for maintaining the shutter in applied position, a shaft supported in rear of said springs, and a series of cone-surfaces carried by the shaft and arranged for threaded engagement with the springs.

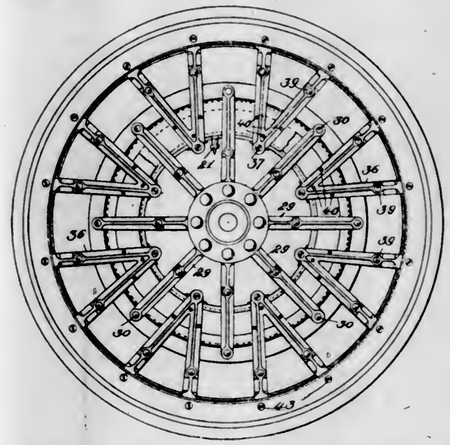
5. A loose-leaf binder comprising a back member, leaf-retaining means carried thereby, a spring-pressed shutter adapted to engage said leaf-retaining means and bear upon the leaves, means for varying the pressure of said shutter, and a cover member comprising hinged sections arranged for coöperation with the leaf-retaining means.

6. A loose-leaf binder comprising a back member, leaf-retaining means carried thereby, a spring-pressed shutter adapted to engage said leaf-retaining means and operate upon the leaves, means for locking the shutter in applied position, and means for releasing the shutter to permit its manual operation.

7. A loose-leaf binder comprising a back member, leaf-retaining means carried thereby, a spring-pressed shutter adapted to engage said leaf-retaining means and bear upon the leaves, and manually-operable means for varying the pressure of said shutter.

8. A loose-leaf binder comprising a back member, leaf-retaining means carried thereby, a shutter adapted to engage said leaf-retaining means and bear upon the leaves, a plurality of springs arranged to bear upon said shutter, and means for simultaneously varying the tensions of said springs.

842,709. VEHICLE-WHEEL. JOHN C. RUTHERFORD, New York, N. Y. Filed Jan. 15, 1906. Serial No. 296,205.



Claim.—1. A vehicle-wheel embodying a tire-section, a hub-section, a cushioning-section interposed between the hub and tire sections, spokes connected at one end to the hub-section and to the cushioning-section, and V-shaped spokes having their apex connected to the cushioning-section and their ends to the tire-section.

2. A wheel of the character described, comprising the combination with a hub-section and a tire-section, of a cushioning-section comprising a cushioning element interposed between an outer and an inner retaining element, said outer and inner retaining elements having inturned sides, spokes connected at one end to the hub portion and to the inturned sides of the outer retaining element, and V-shaped spokes having the apex thereof connected to the inturned sides of the inner retaining element and their ends connected to the tire-section.

3. A wheel of the character described, comprising the combination with a hub-section and a tire-section, of a cushioning-section comprising a cushioning element interposed between an outer and an inner retaining element, said outer and inner retaining elements having inturned sides, spokes connected at one end to the hub portion and to the inturned sides of the outer retaining element; and V-shaped spokes having the apex thereof connected to the inturned sides of the inner retaining element, and having their ends extending into and connected to the tire-section.

4. A wheel of the character described, comprising a cushioning-section suitably connected with the tire and hub of the wheel, said section comprising a cushioning element formed of an inflatable tube and a covering therefor, an inner and an outer retaining element for said cushioning element, holdfast devices between said inner and outer retaining elements and said covering, and protecting-bands for said covering, said bands associating with said inner retaining element.

5. A wheel of the character described, comprising a tire-section, a hub-section, a cushioning-section interposed between the tire and the hub sections, an inner set of spokes arranged at each side of the wheel and connected at one end to the hub-section and at its other end to said cushioning-section, stay-bolts for said spokes, a set of outer spokes arranged at each side of the wheel and connected at one end to said cushioning element and at their other end

to said tire-section, and stay-bolts for said outer set of spokes.

6. A wheel of the character described, comprising a tire-section, a hub-section, a cushioning-section interposed between the tire and the hub sections, an inner set of spokes arranged at each side of the wheel and connected at one end to the hub-section and at their other end to said cushioning-section, stay-bolts for said spokes, and an outer set of V-shaped spokes arranged at each side of the wheel and having the apex thereof connected to said cushioning-section and the ends thereof extending into and secured to said tire-section.

7. A wheel of the character described, comprising a tire-section, a hub-section, a cushioning-section interposed between the tire and the hub sections, an inner set of spokes arranged at each side of the wheel and connected at one end to the hub-section and at its other end to said cushioning-section, stay-bolts for said spokes, an outer set of V-shaped spokes arranged at each side of the wheel and having the apex thereof connected to said cushioning-section and the ends thereof extending into and secured to said tire-section, and stay-bolts for said outer set of spokes interposed between the tire-section and the cushioning-section.

8. A wheel of the character described, comprising a tire-section, a hub-section, a cushioning-section interposed between the hub and the tire sections, an inner set of spokes arranged at each side of the wheel and connected at one end to the outer side of said cushioning-section and at their other end to the hub-section, stay-bolts for said spokes arranged at a point between the inner side of the cushioning-section and said hub-section, an outer set of spokes connected at one end to the inner side of said cushioning section and at their other end to said tire-section, and stay-bolts for said outer set of spokes arranged at a point between said outer side of said cushioning-section and the said tire-section.

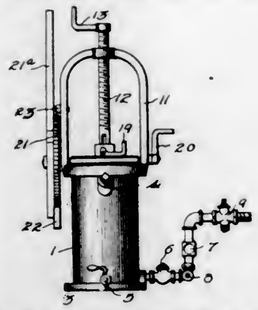
9. A wheel of the character described, comprising the combination with a hub and a tire section, of a cushioning-section interposed between the hub and the tire section, said cushioning-section comprising an inner retaining element provided with a seat, a cushioning element mounted in said seat, and an outer retaining element provided with a depressed portion adapted to engage said cushioning element, each of said retaining elements provided with inturned sides, combined with means secured to said inturned sides and to the tire and hub sections for suitably connecting the cushioning-section thereto.

10. A wheel of the character described, comprising the combination with a hub and a tire section, of a cushioning-section interposed between the hub and the tire section, said cushioning-section comprising an inner retaining element provided with a seat, a cushioning element mounted in said seat, and an outer retaining element provided with a depressed portion adapted to engage said cushioning element, each of said retaining elements provided with inturned sides, combined with means secured to said inturned sides and to the tire and hub sections for suitably connecting the cushioning-section thereto, and protecting-bands for the cushioning-section.

842,710. LUBRICATOR FOR STEAM-ENGINES. OZRO SANDERS, Winchester, Ind.. Filed Apr. 23, 1906. Serial No. 313,693.

Claim.—1. A lubricator comprising a cylinder, a plunger or piston in said cylinder, a screw-threaded piston-rod engaging a stationary screw-threaded bearing above the cylinder, a gear mounted on said rod, a spring-pressed pin mounted on said gear and normally engaging a groove or way in said piston-rod and means to rotate said gear.

2. A lubricator comprising a cylinder, a plunger or piston in said cylinder, a screw-threaded piston-rod engaging a stationary screw-threaded bearing above the cylinder, a gear mounted on said rod, a spring-pressed pin mounted on said gear and normally engaging a groove or way in said piston-rod and means to rotate said gear, the upper end of said groove being beveled outward to the surface of said rod whereby said shaft is automatically thrown out of connection with said gear.



3. A lubricator comprising a cylinder, a plunger or piston in said cylinder, a screw-threaded piston-rod engaging a stationary screw-threaded bearing above the cylinder, a gear mounted on said rod, a spring-pressed pin mounted on said gear and normally engaging a groove or way in said piston-rod, means to rotate said gear, the upper end of said groove being beveled outward to the surface of said rod whereby said shaft is automatically thrown out of connection with said gear, and a handle on said pin for withdrawing it from the groove by hand.

4. A lubricator comprising a cylinder, a plunger or piston in said cylinder, a screw-threaded piston-rod engaging a stationary screw-threaded bearing above the cylinder, a worm-gear mounted on said rod, a spring-pressed pin mounted on said gear and normally engaging a groove or way in said piston-rod, a shaft carrying a worm meshing with said worm-gear, and means to rotate said shaft, the upper end of said groove being beveled outward to the surface of the rod whereby said shaft is automatically thrown out of connection with said gear for the purpose specified.

5. A lubricator comprising a cylinder, a plunger or piston in said cylinder, a screw-threaded piston-rod, a top plate, for the cylinder, having upwardly-extending curved arms provided with a screw-threaded bearing for said piston-rod above the cylinder, and means to rotate said piston-rod to raise and lower said piston.

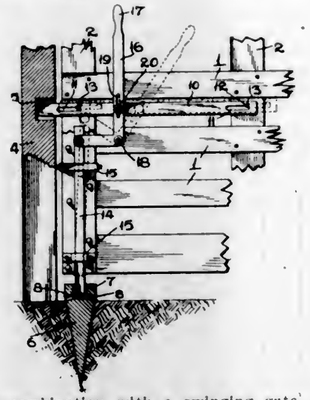
6. A lubricator comprising a cylinder, a plunger or piston in said cylinder, a screw-threaded piston-rod, a top plate for the cylinder having upwardly-extending curved arms provided with a screw-threaded bearing for said piston-rod, a gear mounted on said rod and having a spring-pressed pin normally engaging a groove or way in said piston-rod, and means to rotate said gear, the upper end of said groove being beveled outward to the surface of said rod whereby, said shaft is automatically thrown out of connection with said gear for the purpose specified.

7. A lubricator comprising a cylinder, a piston in said cylinder, means to raise and lower said piston in said cylinder, the piston having a circumferential groove in its edge, and a packing-ring provided with a bead extending into said groove and its lower end beveled outward and projecting below the bottom of the piston for the purpose specified.

842,711. COMBINED SWING-GATE LOCK AND SUPPORT. CHARLES E. SARGENT, Greenville, Ill. Filed Sept. 4, 1906. Serial No. 333,195.

Claim.—1. The combination of a swinging gate, of a plurality of socket-blocks arranged in the ground in the path of travel of the free end of said gate, a bar arranged for vertical movement on the free end of the gate and adapted to engage in the socket-blocks, a locking-bar arranged for horizontal movement on the gate and adapted to engage a post to hold the gate closed, a connection between said locking-bar and the gate whereby the gravity of said locking-bar holds the same locked, and means connected to the locking-bar and to the vertically-moving bar for simultaneously withdrawing the locking-bar and elevating the supporting-bar.

2. The combination with a swinging gate, of a plurality of socket-blocks arranged in the ground in the path of travel of the free end of the gate, a supporting-bar carried by the free end of the gate for engaging in said socket-blocks to support the weight of the free end of the gate while either open or closed, a locking-bar arranged on the gate and connected thereto in such a manner as that said locking-bar is held against longitudinal movement while holding the gate in a locked position, and means arranged on the gate and connected to the locking-bar and supporting-bar for simultaneously withdrawing the locking-bar and elevating the supporting-bar after the locking-bar has been released.



3. The combination with a swinging gate, of socket-blocks arranged in the ground in the path of travel of the free end of said gate, a supporting-bar arranged for vertical movement on the free end of said gate for engaging in said socket-blocks to support the weight of the free end of the gate while either open or closed, an operating-handle for elevating the supporting-bar, and a locking-bar arranged on the gate and connected to the operating-handle, which locking-bar holds the operating-handle against movement when said handle is moved so as to cause the lower end of the supporting-bar to engage in any one of the socket-blocks.

842,712. KNOCKDOWN TOY STRUCTURE. ALBERT SCHOENHUT, Philadelphia, Pa. Filed Apr. 5, 1906. Serial No. 310,152.

Claim.—1. In a knockdown toy, a box-like base structure, a frame hinged thereto, and an open-sided tent or canopy secured to said base structure and supported by said frame.

2. In a knockdown toy, a box-like base structure, a folding frame hinged thereto, and a tent or canopy secured to said base structure and supported by the folding frame.

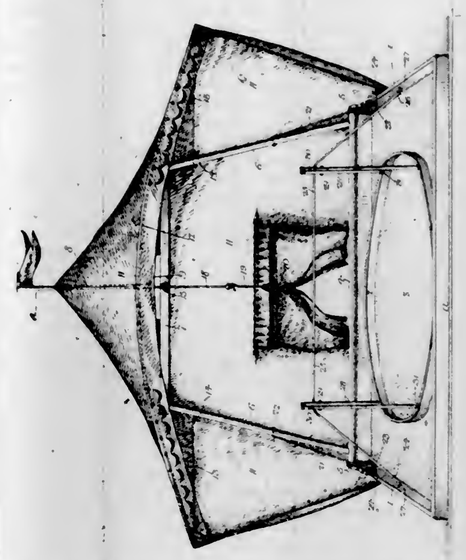
3. In a knockdown toy, a base structure, a frame hinged to said base structure and capable of being folded thereon, and a tent or canopy of fabric or other suitable material supported by said folding frame.

4. In a knockdown toy, a base structure, a frame hinged to said base structure and capable of being folded therein, supports for said frame carried by the base structure, and a tent or canopy of fabric or other suitable material secured at its lower edge to said base structure and supported by said folding frame.

5. In a knockdown toy, a base structure, a folding frame carried thereby, a tent or canopy secured to said base structure and supported by the folding frame, and means carried by said folding structure for distending said tent or canopy.

6. In a knockdown toy, a base structure, a folding frame carried thereby, a tent or canopy secured to said base structure and supported by the folding frame, a wire for spreading the front of the tent or canopy, and means carried by said folding frame for supporting said wire in the forward position.

7. In a knockdown toy, a base structure, bearings carried by the ends and at one side of the same, a bar journaled in said bearings, uprights carried by said bar, a tent or canopy secured to the base structure, and means carried by said uprights for supporting and distending the tent or canopy.



8. In a knockdown toy, a base structure, bearings carried by the ends and at one side of the same, a bar journaled in said bearings, uprights carried by said bar, a cross-piece connecting said uprights, a pole hinged to said cross-piece, and a tent or canopy secured to the base structure and supported and distended by said uprights, cross-piece and pole.

9. In a knockdown toy, a base structure, an annular rim disposed within said base structure and forming a "ring," a folding wire connected to the base structure and simulating a tight rope, and means for supporting said wire.

10. In a knockdown toy, a base structure, an annular rim disposed within said base structure and forming a "ring," a folding wire connected to the base structure and simulating a tight rope, and means carried by said rim for supporting said wire.

11. In a knockdown toy, a base structure, an annular rim disposed within said base structure and forming a "ring," supports mounted on said rim, and a folding wire connected to the base structure and upheld by said supports, said wire simulating a tight rope.

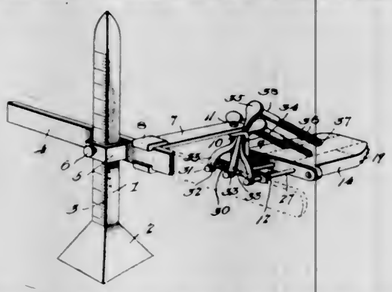
12. In a knockdown toy, a base structure, bearings carried by the ends and at one side of the same, a bar journaled in said bearings, uprights, carried by said bar and having their upper ends connected by a cross-piece, means carried by said uprights and engaging the side walls of the base structure whereby said uprights may be supported, a tent or canopy secured to said base and disposed when open above the same, a curved wire for distending the forward top portion of the tent or canopy, and means for keeping such portion disposed in the outward position.

13. In a knockdown toy, a base structure, bearings carried by the ends and at one side of the same, a bar journaled in said bearings, uprights carried by said bar and having their upper ends connected by a cross-piece, wire rods carried by said uprights and adapted to engage the side walls of the base structure whereby said uprights may be supported, a tent or canopy secured to said base and disposed when open above the same, a curved wire for distending the forward top portion of the tent or canopy,

and means for keeping such portion disposed in the outward position comprising rods secured to said wire and engaging the uprights and cross-piece of the supporting-frame.

14. In a knockdown toy, a base structure, a folding frame connected to the same, a tent or canopy secured to said base structure and supported by said frame, a wire carried by the upper edge of said tent or canopy for spreading the same, rods carried by the frame to hold said tent or canopy in the forward position, one of said rods being disposed in the center and hooking into an eye carried by the cross-piece of the frame, and a trapeze and rings carried by said central rod.

842,713. SKIRT-MARKER. FRANK H. SCHOFIELD and ADOLPH HERD, Youngstown, Ohio; said Schofield assignor to said Herd. Filed Sept. 20, 1906. Serial No. 335,400.



Claim.—1. In a garment-marker, an adjustable support, and a marking device carried by said support, said marking device having self-contained powder-ejecting mechanism comprising means for jetting a plurality of powder-jets in a straight line against a garment to form a dotted-line mark thereon.

2. In a garment-marker, a support, and a marking device carried by said support and comprising a casing having a plurality of jet-orifices arranged in a line, and a powder carrying and expelling device operating within the casing.

3. In a garment-marker, a support, and a marking device comprising a casing having a discharge-chamber provided with a plurality of jet-orifices, and a powder carrying expelling plunger operating within said chamber.

4. In a garment-marker, a support, and a marking device comprising a casing having a plurality of jet-orifices arranged in a line, and a powder carrying expelling plunger having an impact discharging-screen.

5. In a garment-marker, a support, and a marking device comprising a casing provided with a plurality of jet-orifices, and a powder carrying expelling plunger operating within the casing and having an open end carrying an impact discharging-screen engaging the wall of the casing having the jet-orifices.

6. In a garment-marker, a support, and a marking device comprising a casing provided with a plurality of jet-orifices, and a powder carrying expelling plunger operating within the casing and consisting of a hollow body having a powder-compartment, a covered filling-opening, and an outlet-opening, and an impact discharging-screen covering the end outlet of the plunger.

7. In a garment-marker, a support, a marking device comprising a casing having jet-orifices, and a powder carrying expelling plunger operating within the casing, an actuating-spring for moving the plunger in one direction, and an exterior operating device for moving the plunger in the opposite direction.

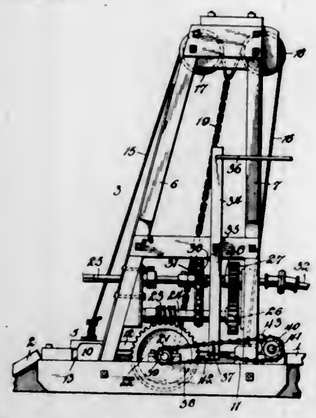
8. In a garment-marker, a support, a marking device comprising a casing having jet-orifices, and a powder carrying expelling plunger operating within the casing, and having a stem projecting outside of the latter, an actuating-spring for moving the plunger in one direction, an operating-lever pivotally supported exterior to the casing and having one end engaging said plunger, and a return-spring connected with the lever at one side of its pivot for returning the same to its normal position.

9. In a garment-marker, a support, a marking device comprising a casing having a plurality of discharge-chambers, each provided with a series of jet-orifices, and a powder carrying expelling plunger operating within each chamber, and an exterior operating device for each plunger.

10. In a garment-marker, a support, a marking device comprising a casing having a central discharge-chamber provided with a series of jet-orifices, and side discharge-chambers having laterally-deflected jet-tubes, a powder carrying expelling device operating in each chamber, and a separate operating device for each of said expelling devices.

11. In a garment-marker, a main support, a marker-arm carried by said support, a supporting-bracket pivotally carried by the marker-arm, and a marking device mounted on said bracket and having powder-ejecting mechanism comprising means for jetting a plurality of powder-jets.

842,714. WAGON-JACK FOR PORTABLE GRAIN DUMPS AND ELEVATORS. ERNST H. SCHROEDER and HENRY V. SCHROEDER, Minier, Ill. Filed Apr. 27, 1904. Serial No. 205,217.



Claim.—1. In a device of the class described, the combination of a wagon-receiving platform composed of connected inner and outer bars, upright frames at each end extending between the inner and outer bars and provided with inclined sides receiving the platform, cables arranged in pairs on each frame and connected with the platform at the ends thereof, and forming the support for the same and arranged to permit the platform to shift rearwardly as it is elevated, and hoisting mechanism connected with the cables for raising and lowering the platform, substantially as described.

2. In a device of the class described, the combination of a wagon-receiving platform, upright frames arranged at the ends of the platform, a pair of spaced pulleys arranged at the top of each of the frames, a pair of cables connected with each end of the platform at different points and passing over the said pulleys, a transverse shaft extending entirely across the device and arranged beneath the platform, chains connected with each pair of the cables and with the shaft, and means for rotating the shaft, substantially as described.

3. In a device of the class described, the combination of elevating means having a clutch, a shifting-lever connected with the clutch and provided with a guide, and sprocket-gearing operated by the said means and provided with a sprocket-chain passing through said guide and provided with means for operating the lever to shift the clutch automatically, substantially as described.

4. In a device of the class described, the combination of a wagon-receiving platform, a transverse shaft, means for connecting the said shaft with the platform, a pair of longitudinal shafts, worm-gearing connecting one of the longitudinal shafts with the transverse shaft, two sets of gearing connecting the longitudinal shafts for communicating motion from one to the other and for reversing such motion, an intermediate clutch member for engaging either gearing, a shifting-lever connected with the clutch member, and an endless connection operated by the said gearing and provided with means for shifting the lever to operate the clutch automatically, substantially as described.

5. In a device of the class described, the combination of upright tapering frames provided with front inclined guiding-faces, an elevating frame or platform provided with front and rear bars embracing the upright frames and fitting the same snugly when the elevating frame or platform is in its lowermost position, the spaces between the front and rear bars of the elevating frame or platform being greater than the width of the said frames when more or less elevated, the front bar being adapted to swing rearwardly against the slide on the inclined faces of the upright frames when the elevating frame or platform is raised, and hoisting mechanism connected with the frame or platform.

6. In a device of the class described, the combination of hoisting mechanism, spur and sprocket gearing for differentially operating the hoisting mechanism, an intermediate clutch member for engaging either gearing, and means operable by the said gearing for automatically shifting the clutch member.

7. In a device of the class described, the combination of hoisting mechanism, power mechanism embodying shafts, differential spur and sprocket gearing connecting the shafts, one of the shafts having a clutch member for engaging either gearing, a shifting-lever connected with the clutch member, and means operable by the power-gearing for automatically shifting the lever.

842,715. ARM-SCYE BUST-FORM. CHARLES H. SCOTT, New York, N. Y. Filed Jan. 25, 1905. Serial No. 242,610.

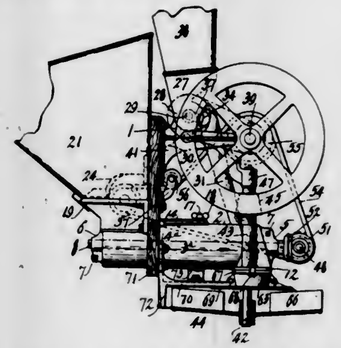


Claim.—A bust-form consisting of a pad of restricted thickness at a plurality of points whereby a plurality of ventilating-recesses are formed on the inner and outer faces thereof, and ruffles attached to the outer face of said pad concealing said recesses on the outer face of said pad, said ruffles being disposed substantially circumferentially about a central point and having an erectness increasing progressively from a point near the edges of said pad toward said central point, said ruffles being disposed apart from each other whereby ventilating-channels are formed therebetween.

842,716. SEEDING-MACHINE. CHARLES P. SESTER, Peoria, Ill. Filed July 11, 1906. Serial No. 325,561.

Claim.—1. In a device of the character described, the combination of a removable end-gate for vehicles, an auger supported by and having its feeding portion extending through the end-gate, adapted to receive material upon one side of said end-gate and discharge it from the opposite side thereof, and a distributer disposed beneath the discharge end of said auger.

2. In a device of the character described, the combination of a removable end-gate for vehicles, a pair of augers supported by and having their feeding portions extending through the end-gate, adapted to receive material upon one side of the said end-gate and discharge it from the opposite side thereof, and distributers disposed beneath the discharge ends of said augers.



3. In a device of the character described, the combination of a removable end-gate for vehicles, an auger supported by and having its feeding portion extending through the end-gate, provided with a valved inlet-opening on one side of the said end-gate and a discharge-opening upon the opposite side thereof, and a distributer disposed below the discharge end of said auger.

4. In a device of the character described, the combination of a removable end-gate for vehicles, a pair of augers supported by and having their feeding portions extending through the end-gate, each of which are provided with valved inlet-openings on one side of said end-gate and with discharge-openings upon the opposite side thereof, and a distributer disposed beneath the discharge end of each of said augers.

5. In a device of the character described, the combination of a removable end-gate for vehicles, a casing supported by and extending through the end-gate provided with an inlet-opening at one end and a discharge-opening at the opposite end, an auger mounted in said casing, and a distributer disposed below the discharge-opening in said casing.

6. In a device of the character described, the combination of a removable end-gate for vehicles, a pair of spaced casings supported by and extending through the end-gate, each of which have corresponding inlet-openings upon one side of the end-gate and discharge-openings upon opposite sides thereof, augers mounted in said casings, and distributers disposed below the discharge-openings of each of said casings.

7. In a device of the character described, the combination of a removable end-gate for vehicles, a casing supported by and extending through the end-gate, and having an inlet-opening on one side of the end-gate and discharge-opening upon the opposite side thereof, a valve controlling the inlet-opening in said casing, and a distributer disposed below the discharge-opening thereof.

8. In a device of the character described, the combination of a removable end-gate for vehicles, a pair of spaced casings supported by and extending through said end-gate and having inlet-openings on one side of the end-gate and discharge-openings upon the opposite side thereof, valves controlling the inlet-openings in said casings and distributers disposed below the discharge-openings thereof.

9. In a device of the character described, the combination of a removable end-gate for vehicles, a cylindrical casing supported by and extending through said end-gate provided with an inlet-opening in the upper face of one end thereof and a discharge-opening in the lower face of the opposite end, an auger feed revolubly mounted in said casing, a slide-valve operating through said end-gate and controlling the inlet-opening of the casing, and a distributer mounted below the discharge-opening thereof.

10. In a device of the character described, the combination of a removable end-gate for vehicles, a pair of spaced cylindrical casings supported by and extending through said end-gate provided with inlet-openings in the upper face of one end thereof and discharge-openings in the lower face of the opposite ends, auger feeds revolubly mounted in said casings, slide-valves operating through said end-gate and controlling the inlet-opening of the casings, and distributers mounted below the discharge-openings thereof.

11. In a device of the character described, the combination of an end-gate, a rotary feed extending through the end-gate, adapted to receive material on one side of the end-gate and advancing it through the same discharging it upon the opposite side thereof, a hopper mounted on one side of the end-gate and above the receiving end of the feed, and a distributer mounted upon the opposite side of the end-gate and below the delivery end of the said feed.

12. In a device of the character described, the combination of an end-gate, a casing extending through said end-gate and having an inlet-opening on one side of the end-gate and a discharge-opening upon the opposite side thereof, a revoluble feed member mounted in the casing and adapted to convey material emptied into the receiving end of the casing to and through the discharge-opening therein, a hopper mounted upon one side of the end-gate and above the receiving end of the casing, and a distributer mounted upon the opposite side of the end-gate and below the discharge-opening in said casing.

13. In a device of the character described, the combination of an end-gate, rotary feeding devices supported by and operating through said end-gate and having inlet-openings on one side of the end-gate and discharge-openings upon the opposite side thereof, a hopper supported by the end-gate above the inlet-openings of the rotary feeding devices, and distributing-fans revolubly mounted beneath the discharge-openings of said rotary feeding devices.

14. In a device of the character described, the combination of an end-gate, rotary feeding devices supported by and operating through said end-gate and having inlet-openings on one side of the end-gate and discharge-openings upon the opposite side thereof, a hopper supported by the end-gate above the inlet openings of the rotary feeding devices, an agitating shaft revolubly mounted in the hopper and above the inlet-openings aforesaid, and distributer-fans revolubly mounted beneath the discharge-openings of said rotary feeding devices.

15. In a device of the character described, the combination of an end-gate, rotary feeding devices supported by and operating through said end-gate, and having inlet-openings on one side of the end-gate and discharge-openings upon the opposite side thereof, slide-valves controlling said inlet-openings, a hopper supported by the end-gate above the inlet-openings of the rotary feeding devices, an agitating-shaft revolubly mounted in the hopper and above the inlet openings aforesaid, and distributing-fans revolubly mounted beneath the discharge-openings of said rotary feeding devices.

16. In a device of the character described, the combination of an end-gate, rotary feeding devices supported by and operating through said end-gate and having inlet-openings on one side of the end-gate and discharge-openings upon the opposite side thereof, a hopper supported by the end-gate above the inlet-openings of the rotary feeding devices, a driving-shaft, and means for operating said revoluble feeding devices and fan-distributers from said driving shaft.

17. In a device of the character described, the combination of an end-gate, rotary feeding devices supported by and operating through said end-gate and having inlet-openings on one side of the end-gate and discharge-openings upon the opposite side thereof, a hopper supported by the end-gate above the inlet-openings of the rotary feeding devices, an agitating-shaft revolubly mounted in the hopper and above the inlet-openings aforesaid, a driving-shaft and means for operating the revoluble feeding devices, the agitating-shaft, and fan-distributers from said driving-shaft.

18. In a device of the character described, the combination of an end-gate, rotary feeding devices supported by and operating through said end-gate, and having inlet-openings on one side of the end-gate and discharge-openings upon the opposite side thereof, slide-valves controlling said inlet-openings, a hopper supported by the end-gate above the inlet-openings of the rotary feeding devices, an agitating-shaft revolubly mounted in the hopper and above the inlet-openings aforesaid, a driving-shaft, and means for operating the revoluble feeding devices, the agitating-shaft and fan-distributers from said driving-shaft.

19. In a device of the character described, the combination of an end-gate, fan-distributers revolubly mounted on one side of the end-gate, mechanism for actuating said distributers mounted on the corresponding side of said end-gate, a grain-containing hopper mounted upon the opposite side of said end-gate, and means for conveying the grain from the hopper through the end-gate to and upon the said fans.

20. In a device of the character described, the combination of an end-gate, fan-distributers revolubly mounted upon one side of said end-gate, grass-seeding devices mounted upon the corresponding side of said end-gate, means for conveying grass-seed from the grass-seeding devices to said fans, a grain-containing hopper mounted upon the opposite side of said end-gate, and means for conveying grain from the hopper through the end-gate to and upon the said fans.

21. In a device of the character described, the combination of an end-gate, distributing-fans revolubly mounted upon one side of said end-gate, grass-seeding devices mounted upon the corresponding side of said end-gate, means for conveying grass-seed therefrom to said fans, a grain-containing hopper mounted upon the opposite side of said end-gate, means for feeding the grain from the hopper through the board to and upon said fans, and driving mechanism mounted upon the corresponding side of the board with the fans and grass-seeding devices and adapted to actuate said grass-seeding devices, fans, and grain-feeding means.

22. In a device of the character described, the combination of an end-gate, fan-distributers revolubly mounted on one side of the end-gate, mechanism for actuating said distributers mounted on the corresponding side of said end-gate, a grain-containing hopper mounted upon the opposite side of said end-gate, an agitating-shaft revolubly mounted in said hopper, means for conveying the grain from the hopper through the end-gate to and upon the fans, and means operated by the distributer-actuating mechanism for actuating the said agitating-shaft.

23. In a device of the character described, the combination of an end-gate, fan-distributers revolubly mounted on one side of the end-gate, mechanism for actuating said distributers mounted on the corresponding side of said end-gate, a grain-containing hopper mounted upon the opposite side of said end-gate, and auger feeding means for conveying grain from the hopper through the end-gate to and upon the fans.

24. In a device of the character described, the combination of an end-gate, fan-distributers revolubly mounted on one side of the end-gate, mechanism for actuating said distributers mounted on the corresponding side of said end-gate, a grain-containing hopper mounted upon the opposite side of said end-gate, auger feeding means for conveying grain from the hopper through the end-gate to and upon the fans, and means operated by said distributer-actuating mechanism for actuating the said augers.

25. In a device of the character described, the combination of an end-gate, fan-distributers revolubly mounted on one side of the end-gate, mechanism for actuating said distributers mounted on the corresponding side of the said end-gate, a grain-containing hopper mounted upon the opposite side of said end-gate, and anger feeding means having their receiving ends below the hopper and passing through the board having their discharge ends above the fans, adapted to convey the grain from the hopper to and upon the fans.

26. In a device of the character described, the combination of an end-gate, fan-distributers revolubly mounted on one side of the end-gate, mechanism for actuating said distributers mounted on the corresponding side of the said end-gate, a grain-containing hopper mounted upon the opposite side of the said end-gate, auger feeding means having their receiving ends below the hopper and passing through the board having their discharge ends above the fans, adapted to convey the grain from the hopper to and upon the fans, and means for operating the said auger feeding means from said fan-actuating mechanism.

27. In a device of the character described, the combination of an end-gate, fan-distributers revolubly mounted on one side of the end-gate, mechanism for actuating said distributers mounted on the corresponding side of said end-gate, a grain-containing hopper mounted upon the opposite side of the said end-gate, casings extending from beneath the hopper on one side of the board to a point above the fans on the other side of said board, angers revolubly mounted in said casings, and means operated by the fan-actuating mechanism for actuating the said augers.

28. In a device of the character described, the combination of an end-gate, fan-distributers revolubly mounted on one side of the end-gate, mechanism for actuating the said distributers mounted on the corresponding side of said end-gate, a grain-containing hopper mounted upon the opposite side of said end-gate, casings extending from beneath the hopper on one side of the board to a point above the fans on the other side of the said board, valve mechanism for controlling the inlet of grain from the hopper to said casings, and means operated by the fan-actuating mechanism for actuating the said augers.

29. In a device of the character described, the combination of an end-gate, fan-distributers revolubly mounted on one side of said end-gate, a hopper mounted on the opposite side of the end-gate casings extending from beneath the hopper on one side of the board to a point above the fans on the other side of said board, augers revolubly mounted in said casings, grass-seeding mechanism mounted on the corresponding side of the board with said distributers, and diverging spouts leading from the grass-seeding devices to the ends of the casings above said fans.

30. In a device of the character described, the combination of an end-gate, fan-distributers revolubly mounted on one side of said end-gate, a hopper mounted on the opposite side of the end-gate, casings extending from beneath the hopper on one side of the board to a point above the fans on the other side of said board, valve mechanism for controlling the inlet of material from the hopper to the casings therebeneath, augers revolubly mounted in said casings, grass-seeding mechanism mounted on the corresponding side of the board with said distributers, and diverging spouts leading from the grass-seeding devices to the ends of the casings above said fans.

31. In a device of the character described, the combination of an end-gate, fan-distributers revolubly mounted on one side of said end-gate, a hopper mounted on the opposite side of said end-gate, an agitating-shaft revolubly mounted in the hopper, revoluble feeding members extending through the end-gate and having their receiving ends beneath the hopper and their discharge ends above the distributers, a driving-shaft mounted on the corresponding side of the end-gate with the distributers, means connected with said driving-shaft for actuating the revoluble feeding members, fan-distributers and agitating-shaft, the means for actuating the agitating-shaft operating through openings in the end-gate.

32. In a device of the character described, the combination of an end-gate, fan-distributers revolubly mounted on one side of said end-gate, a hopper mounted on the opposite side of the end-gate, an agitating-shaft revolubly mounted in the hopper, revoluble feeding members extending through the end-gate and having their receiving ends beneath the hopper and their discharge ends above the fans, a driving-shaft, connections between the driving-shaft and the fan-distributers, and chain belting for operating the revoluble feeding members and agitating-shaft, said chain belting operating through openings in the end-gate.

33. In a device of the character described, the combination of an end-gate, a fan revolubly mounted on one side of the end-gate, a hopper mounted on the opposite side of said end-gate, a revoluble feeding member extending through the end-gate having its receiving end beneath the hopper, and its discharge end above the distributer, and a feedway overlying a portion of the fan and depending from the discharge end of the revoluble member.

34. In a device of the character described, the combination of an end-gate, a fan revolubly mounted on one side of said end-gate, a hopper mounted on the opposite side thereof, a casing extending through the end-gate having its receiving end below the hopper and its discharge end above the distributer, a feeding member revolubly mounted in the casing, and a feedway overlying the said fan, and depending from said casing.

35. In a device of the character described, the combination of an end-gate, a fan revolubly mounted on one side of said end-gate, a hopper mounted on the opposite side thereof, a casing extending through the end-gate having its receiving end below the hopper and its discharge end above the distributer, a feeding member revolubly mounted in the casing, and a feedway overlying the fan and adjustably connected with the discharge end of the casing.

36. In a device of the character described, the combination of an end-gate, a fan revolubly mounted on one side of said end-gate, a hopper mounted on the opposite side of the end-gate, a casing extending through the end-gate having its receiving end below the hopper and its discharge end above the fan, a feeding member revolubly mounted in the said casing, and a feedway depending from said casing above the central portion of the fan and provided with tapered walls.

37. In a device of the character described, the combination of an end-gate, a fan revolubly mounted on one side of said end-gate, a hopper mounted on the opposite side of the end-gate, a casing extending through the end-gate having its receiving end below the hopper and its discharge end above the fan, a feeding member revolubly mounted in the said casing, and a feedway depending from and adjustably connected with the discharge end of said casing and provided with tapered walls.

38. In a device of the character described, the combination of an end-gate, a fan revolubly mounted on one side of said end-gate, a hopper mounted on the opposite side of the end-gate, a casing extending through the end-gate having its receiving end beneath the hopper and its discharge end above the fan, a feeding member revolubly mounted in the casing, a slide-valve controlling the inlet of material from the hopper to the casing, and a feedway depending from the discharge end of the casing and overlying the fan.

39. In a device of the character described, the combination of an end-gate, a fan-distributer revolubly mounted on one side of said end-gate, a hopper mounted upon the opposite side of the end-gate, an agitating shaft revolubly mounted in the hopper, a casing extending through the end-gate having its receiving end below the hopper and its discharge end above the fan, a feeding member revolubly mounted in the casing, and a feedway depending from the discharge end of the casing and overlying the fan.

40. In a device of the character described, the combination of an end-gate, a fan-distributer revolubly mounted on one side of the end-gate, a hopper mounted upon the opposite side of said end-gate, an agitating-shaft revolubly mounted in the hopper, a casing extending through the end-gate having its receiving end below the hopper and its discharge end above the fan, a feeding member revolubly mounted in the casing, a slide-valve controlling the inlet of material from the hopper into the casing, and a feedway depending from the discharge end of the casing and overlying the fan.

41. In a device of the character described, the combination of an end-gate, a distributer-fan revolubly mounted upon one side of said end-gate, a hopper mounted upon the opposite side thereof, a casing extending through the end-gate having its receiving end below the hopper and its discharge end above the fan, a feeding member revolubly mounted in the casing, a distributing-shaft for said fan,

passing through a bearing formed on the discharge end of the casing, and mechanism for actuating said distributing-shaft and also said revoluble feeding member.

42. In a device of the character described, the combination of an end-gate, a pair of distributing-fans revolubly mounted upon one side of said end-gate, a hopper mounted upon the opposite side thereof, a pair of casings extending through the end-gate having their receiving ends below the hopper and their discharge ends above the fans, feeding members mounted in the said casing, and a shield connected with said end-gate and also the said casings and partially overlying and surrounding portions of the said fans.

43. In a device of the character described, the combination of an end-gate, a pair of distributing-fans revolubly mounted on one side of said end-gate, a hopper mounted upon the opposite side thereof, a pair of casings extending through the end-gate having their receiving ends below the hopper and their receiving ends above the fans, feeding members revolubly mounted in the casings, an agitating-shaft revolubly mounted in said hopper and a shield connected with said end-gate and also the said casings, and partially overlying and surrounding portions of the said fans.

44. In a device of the character described, the combination of an end-gate, a pair of distributing-fans revolubly mounted on one side of said end-gate, a hopper mounted upon the opposite side thereof, a pair of casings extending through the end-gate having their receiving ends below the hopper and their receiving ends above the fans, feeding members revolubly mounted in the casings, slide-valves operating through the end-gate for controlling the inlet of material from the hopper to the receiving ends of the casings, an agitating-shaft revolubly mounted in said hopper and a shield connected with said end-gate and also the said casings, and partially overlying and surrounding portions of the said fans.

45. In a device of the character described, the combination of an end-gate, a pair of fan-distributers revolubly mounted on one side of said end-gate, a hopper mounted on the opposite side thereof, a pair of casings extending through the end-gate having their receiving ends below the hopper and their discharge ends above the fans, feeding members revolubly mounted in said casings, depending feeding-ways secured to the discharge end of the casings and overlying said fans, and a shield connected with said end-gate and also the said casings, and partially overlying and surrounding portions of the said fans.

46. In a device of the character described, the combination of an end-gate, a pair of fan-distributers revolubly mounted on one side of said end-gate, a hopper mounted upon the opposite side thereof, a pair of casings extending through the end-gate, having their receiving ends below the hopper and their discharge ends above the fans, slide-valves operating through the end-gate for controlling the inlet of material from the hopper to the receiving ends of the casings, an agitating-shaft mounted in said hopper above the receiving ends of the casings, feedways depending from and secured to the discharge ends of the casings and overlying said fans, and a shield connected with said end-gate and also the said casings, and partially overlying and surrounding portions of the said fans.

47. In a device of the character described, the combination of an end-gate, a fan-distributer revolubly mounted on one side of said end-gate, a hopper mounted upon the opposite side thereof, a cylindrical casing extending through the end-gate having its receiving end below the hopper and its discharge end above the fan, a shaft extending longitudinally through said casing, an auger attached to said shaft within the casing, means for operating said fan, and means for operating said auger-shaft.

48. In a device of the character described, the combination of an end-gate, a fan-distributer revolubly mounted on one side of said end-gate, a hopper mounted upon the opposite side thereof, a cylindrical casing extending through the end-gate having its receiving end below the hopper and its discharge end above the fan, a shaft extending longitudinally through said casing, an auger attached to said shaft within the casing, an agitating-shaft revolubly mounted in said hopper, and mechanism for actuating said auger-shaft, distributer, and agitating-shaft.

49. In a device of the character described, the combination of an end-gate, a fan-distributer revolubly mounted on one side of said end-gate, a hopper mounted upon the opposite side thereof, a cylindrical casing extending through the end-gate having its receiving end below the hopper and its discharge end above the fan, a shaft extending longitudinally through said casing, an auger attached to said shaft within the casing, an agitating-shaft revolubly mounted in said hopper, a slide-valve operating through the end-gate for controlling the inlet of material from the hopper to the receiving end of the casing, and mechanism for actuating the said auger-shaft, distributer and agitating-shaft.

50. In a device of the character described, the combination of an end-gate, a fan-distributer revolubly mounted on one side of said end-gate, a hopper mounted upon the opposite side thereof, a cylindrical casing extending through the end-gate having its receiving end below the hopper and its discharge end above the fan, a shaft extending longitudinally through said casing, an auger attached to said shaft within the casing, an agitating-shaft revolubly mounted in said hopper, a slide-valve operating through the end-gate for controlling the inlet of material from the hopper to the receiving end of the casing, a feedway depending from and connected with the discharge end of said casing, and overlying the said fan, and mechanism for actuating the said auger-shaft, distributer and agitating-shaft.

51. In a device of the character described, the combination of an end-gate, a pair of distributing-fans revolubly mounted on one side of said end-gate, a hopper mounted upon the opposite side thereof, a pair of cylindrical casings extending through the end-gate having their receiving ends below the hopper and discharge ends above the fans, and openings formed in the upper walls of said casings near their discharge ends, revoluble feeding members operating in the said casings, a grass-seeding attachment mounted upon the corresponding side of the end-gate with the fan-distributers, and diverging spouts leading from the grass-seeding attachment and communicating with the openings aforesaid in the casings.

52. In a device of the character described, the combination of an end-gate, a pair of distributing-fans revolubly mounted on one side of said end-gate, a hopper mounted upon the opposite side thereof, a pair of cylindrical casings extending through the end-gate having their receiving ends below the hopper and discharge ends above the fans, and openings formed in the upper walls of said casings near their discharge ends, revoluble feeding members operating in the said casings, an agitating-shaft revolubly mounted in the hopper, slide-valves operating through the end-gate for controlling the inlet of material from the hopper to the casings, a grass-seeding attachment mounted upon the corresponding side of the end-gate with the fan-distributers, and diverging spouts leading from the grass-seeding attachment and communicating with the openings aforesaid in the casings.

53. In a device of the character described, the combination of an end-gate, a hopper mounted on one side thereof, a cylindrical casing extending through the end-gate and having its receiving end below the hopper, a revoluble feeding member mounted in said casing, a distributing-shaft passing through the discharge end of said casing, a fan mounted on the lower end of the distributing-shaft below the discharge end of the casing, a driving-shaft, connections between the driving-shaft and distributing-shaft, and means for actuating the feeding member in the casing from said driving-shaft.

54. In a device of the character described, the combination of an end-gate, a hopper mounted on one side thereof, a cylindrical casing extending through the end-gate and having its receiving end below the hopper, a revoluble feeding member mounted in said casing, a slide-valve operating through the end-gate and controlling the inlet of material from the hopper to the casing, a distributing-shaft passing through the discharge end of said casing, a fan mounted on the lower end of the distributing-shaft below the discharge end of the casing, a driving-shaft, connections between the driving-shaft and distributing-shaft, and means for actuating the feeding member in the casing from said driving-shaft.

55. In a device of the character described, the combination of an end-gate, a hopper mounted on one side thereof, a cylindrical casing extending through the end-gate and having its receiving end below the hopper, a revoluble feeding member mounted in said casing, a slide-valve operating through the end-gate and controlling the inlet of material from the hopper to the casing, an agitating-shaft revolubly mounted in said hopper and disposed above the inlet end of said casing, a distributing-shaft passing through the discharge end of said casing, a fan mounted on the lower end of the distributing-shaft below the discharge end of the casing, a driving-shaft, connections between the driving-shaft and distributing-shaft, and means for actuating the feeding member in the casing and the agitating-shaft in the hopper from the said driving-shaft.

56. In a device of the character described, the combination of an end-gate, a hopper mounted on one side thereof, a cylindrical casing extending through the end-gate and having its receiving end below the hopper, a revoluble feeding member mounted in said casing, a feedway connected with and depending from the discharge end of said casing, a distributing-shaft passing through the discharge end of the casing and also the feedway attached thereto, a fan mounted on the lower end of the distributing-shaft below the feedway, a driving-shaft, connections between the driving-shaft and distributing-shaft, and means for actuating the feeding member in the casing from the said driving-shaft.

57. In a device of the character described, the combination of an end-gate, a distributer-fan mounted on one side of said end-gate, a hopper mounted upon the opposite side thereof, a cylindrical casing extending through the end-gate having its receiving end below the hopper and its discharge end above the fan, said casing comprising two semicircular sections suitably connected together and having bearings formed at its opposite ends, a longitudinally-disposed shaft in said casing, feeding means mounted on said shaft, a driving-shaft, and connections between the driving-shaft and the shaft in the casing.

58. In a device of the character described, the combination of an end-gate, a hopper mounted upon the opposite side thereof, a cylindrical casing extending through the end-gate having one end below the hopper and its opposite end above the fan, the end of the casing below the hopper provided with a feed-opening and the end of the casing above the hopper provided with a discharge-opening, said casing comprising two semicircular sections suitably connected together and having bearings formed at its opposite ends, a longitudinally-disposed shaft in said casing, feeding means mounted on said shaft, a slide-valve operating above the inlet-opening in the casing and controlling the inlet of material from the hopper to said casing, a feedway depending from the discharge end of the casing, and overlying said fan, a driving-shaft, and connections between the driving-shaft and the shaft in the said casing.

59. In a device of the character described, the combination of an end-gate, a pair of spaced cylindrical casings supported by and extending through the end-gate, having their receiving ends upon one side of the end-gate and their discharge ends upon the opposite side thereof, shafts longitudinally disposed in said casings, feed members attached to said shafts, a transverse shaft, connections between the transverse shaft and said feeding-shafts, a driving-shaft, connections between the driving and transverse shafts, distributing-fans revolubly mounted below the discharge end of said casings, and means for actuating the said fans from the driving-shaft.

60. In a device of the character described, the combination of a removable end-gate for vehicles, an auger supported by and having its feeding portion extending through said end-gate, a fan-distributer rotatably mounted below the discharge end of said auger, and an interposed auger-way supported between the feed and fan distributer.

61. In a device of the character described, the combination of an end-gate, an auger feed supported by and extending through said end-gate, a fan-distributer rotatably mounted below one end of said feed, an interposed feedway between the distributer and auger feed, and means for adjusting the position of said feedway with respect to the axis of said distributer.

62. In a device of the character described, the combination of an end-gate, an auger feed supported by and extending through said end-gate, a fan-distributer mounted below one end of said feed, a drive-shaft, a counter-shaft parallel with the axis of the drive-shaft, connections between the counter-shaft and auger-feed, connections between the drive and counter shafts, and means for operating the distributer from the drive-shaft.

63. In a device of the character described, the combination of an end-gate, a pair of spaced auger feeds supported by and extending through said end-gate, a drive shaft, a counter-shaft having connection at its opposite ends with the auger feeds, distributers beneath the driven end of said augers, connections between the driven and counter shafts, and means for operating said distributers from the drive-shaft.

64. In a device of the character described, the combination of an end-gate, a pair of spaced casings extending through said end-gate, shafts operating in said casings and augers thereon, distributers below the outer and corresponding ends of said casings, a drive-shaft, a counter-shaft, meshing gears on the outer ends of the auger-shafts and opposite ends of the counter-shaft, connections between the driven and counter shafts, and means for operating the distributers from the driving-shaft.

65. In a device of the character described, the combination of an end-gate, a pair of spaced casings extending through said end-gate, feeding members operating in said casings, a hopper supported on one side of the end-gate above one end of the casings, distributers mounted below the opposite ends of said casings, a shield connected with said casings, partially overlying and partially surrounding the said distributers, a drive-shaft, means for operating the distributers from the drive-shaft, a counter-shaft connected at its opposite ends to the feeding members in the casings, and means for operating the counter-shaft from the driving-shaft.

66. In a device of the character described, the combination of an end-gate, an auger feed supported by and extending through said end gate, the longer portion of said auger being on the outside of said end-gate, and adapted to receive material in the shorter end thereof, and discharge it from the opposite end, and a distributer disposed beneath the discharge end of said auger.

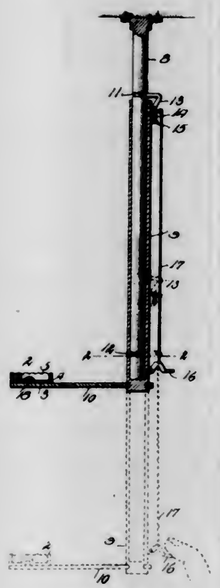
67. In a device of the character described, the combination of a removable end-gate for vehicles, a casing attached to and projecting through said end-gate, having an inlet-opening at one end and a discharge-opening at its opposite end, a feeding member revolubly mounted in said casing, a fan-distributer mounted below the discharge opening in said casing, and an interposed feedway supported between the casing and said distributer.

S42,717. RAZOR-BLADE CLEANER. ALANSON F. SMITH, Bonami, La. Filed July 3, 1906. Serial No. 324,665.

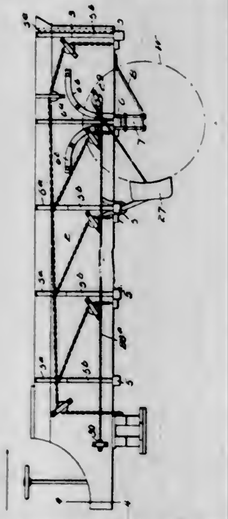
Claim.—1. The combination with an arm provided with a pivot-pin, of a cleaner provided with a central enlargement, and a socket passing through the bottom of the cleaner and partially through said enlargement, said socket being adapted to receive the pivot-pin to revolubly mount the cleaner upon the arm.

2. A device of the character described comprising a rod provided with recesses, a sleeve adjustably mounted upon the rod, a catch carried by the sleeve and engaged in one of said recesses, a lever pivotally mounted upon the sleeve, a rod connecting the catch and lever, and a cleaner carried by the sleeve.

842,717.

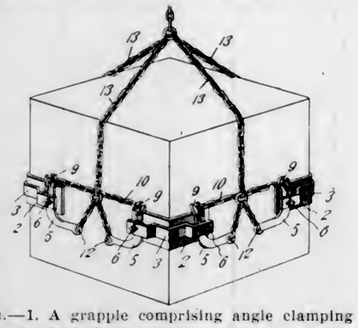


842,718. WAGON-BRAKE. ENOCH SMITH, Salt Lake City, Utah, assignor of one-third to George Curley, Salt Lake City, Utah. Original application filed May 2, 1905, Serial No. 258,449. Divided and this application filed Apr. 18, 1906. Serial No. 312,445.



Claim.—In an apparatus of the class described, the combination with a wagon-body, of a U-shaped member pivotally supported in brackets beneath the wagon-bottom, brake-shoes secured to each end of said U-shaped member for engaging the wagon-wheels, idler-pulleys secured to the wagon-body, in back of the U-shaped member, idler-pulleys secured to the wagon-body in front of the U-shaped member, a brake-beam secured to the wagon-body beneath the front end thereof, cables secured to said brake-beam and passing over said idler-pulleys and connecting with said U-shaped member, a chain-shaft mounted on the front of the wagon-body, a chain connecting said brake-beam with said shaft and adapted to be wound on said shaft, a brake-rod rotatably mounted in the front of the wagon-body, gear connections between said brake-rod and said chain-shaft, whereby the movement of the brake-rod will be conveyed to the chain-shaft to wind up the brake-chain, and pawl-and-ratchet devices carried by the brake-rod and the wagon-body for locking the same to its adjusted positions.

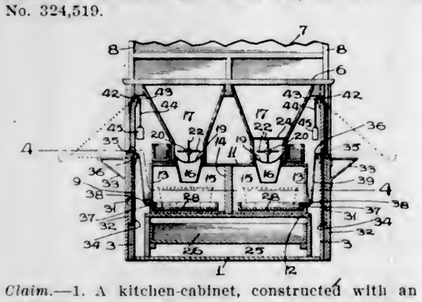
842,719. GRAPPLE. GEORGE W. SMITH, Dallas, Tex. Filed June 16, 1906. Serial No. 322,058.



Claim.—1. A grapple comprising angle clamping members, levers pivotally mounted upon said clamping members, and a connecting member secured to the operating ends of the levers to cause the clamping members to be secured in position when power is applied to the levers.

2. A grapple comprising angle clamping members, straps secured to said clamping members and having their ends spaced therefrom, elbow-levers pivotally mounted upon the clamping members between the same and said spaced ends of the straps, and connecting members secured to the operating ends of said levers to cause the clamping members to be secured in position when power is applied to the levers.

842,720. KITCHEN-CABINET. ALEXANDER R. STEPHENS, Jamestown, Mo. Filed July 2, 1906. Serial No. 324,519.

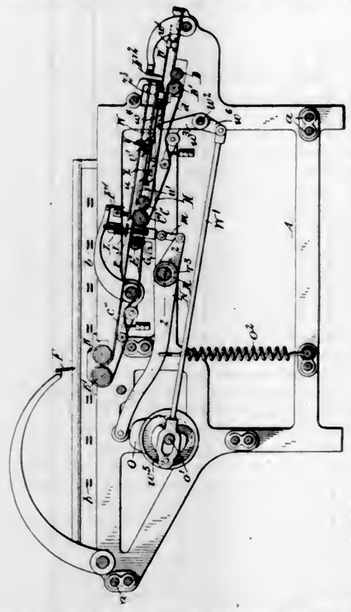


Claim.—1. A kitchen-cabinet, constructed with an inclosed body portion, a hopper arranged in said body portion, a sifting device arranged in the lower end of the hopper, a door normally closing the compartment below the sifting device, a shelf carried by said door, a sliding dough-board arranged in the side of the body, and connections between said dough-board and the shelf whereby said dough-board is moved into a horizontal position whenever the door carrying the shelf is opened; substantially as specified.

2. A kitchen-cabinet, constructed with an inclosed body portion, hoppers arranged in said body, movable dough-boards arranged on the sides of the body, doors normally closing the compartment below the hoppers, and connections between the doors and the dough-boards whereby the latter are moved into operative position when the doors are opened; substantially as specified.

3. A kitchen-cabinet, constructed with an inclosed body portion, movable dough-boards arranged on the sides of said body portion, doors normally closing a compartment in the lower portion of the body, and connections between the doors and the dough-boards whereby the latter are moved into operative position when the doors are opened; substantially as specified.

842,721. PERFORATING AND REGISTERING MECHANISM FOR SHEET-FOLDING MACHINES. CHARLES A. STURTEVANT, Plainfield, N. J., assignor to E. C. Fuller Company, New York, N. Y., a Corporation of New York. Filed July 19, 1905. Serial No. 270,330.



Claim.—1. In a sheet-folding machine, the combination of a perforating device constructed to produce a row of perforations in a sheet, a folding device constructed to fold the sheet along said row of perforations and arranged parallel to said perforating device, means for moving the sheet successively to said perforating and folding devices, and a single longitudinally-movable gage which is engaged by the front edge of the sheet and operates to arrest the sheet first in the perforating position and then in the folding position, substantially as set forth.

2. In a sheet-folding machine, the combination of a perforating device constructed to produce a row of perforations in a sheet at one operation, a folding device constructed to fold the sheet along said row of perforations and arranged parallel to said perforating device, means constructed and operating to first move the sheet to said perforating device and then advance the sheet in the same direction to said folding device, a single longitudinally-movable gage which is engaged by the front edge of the sheet and operates to arrest the sheet first in the perforating position and then in the folding position, and actuating means operating to move said gage alternately and intermittently forward and backward into the perforating and folding positions, substantially as set forth.

3. In a sheet-folding machine, the combination of a perforating device which is constructed and operates to produce a transverse row of perforations in the sheet, a folding device arranged parallel to said perforating device and operating to fold the sheet along said line of perforations, a propelling device for carrying the sheet to said perforating and folding devices, a single gage which is arranged to be engaged by the sheet at the front edge thereof and which has a forward-and-backward movement in the plane of the movement of the sheet and is adapted to arrest the sheet first in the perforating position and then in the folding position, means for actuating said gage constructed to move the gage into its rearward position for arresting the sheet when in position to be operated upon by said perforating device and then moving the gage into its forward position for again arresting the sheet in position to be operated upon by said folding device, a gripper moving with said gage, and means operating to close said gripper on said sheet while being perforated and until the folding operation, substantially as set forth.

4. In a sheet-folding machine, the combination of a perforating device which is constructed and operates to produce a transverse row of perforations in the sheet, a folding device arranged parallel to said perforating device and operating to fold the sheet along said line of perforations, a propelling device for carrying the sheet to said perforating and folding devices, a single gage which is arranged to be engaged by the sheet at the front edge thereof and which has a forward-and-backward movement in the plane of movement of the sheet and is adapted to arrest the sheet first in the perforating position and then in the folding position, means for actuating said gage constructed to move the gage into its rearward position for arresting the sheet when in position to be operated upon by said perforating device and then moving the gage into its forward position for again arresting the sheet in position to be operated upon by said folding device, a gripper moving with said gage, and actuating means for said gripper constructed to close the same upon the sheet after the same engages with the gage in the rearward position thereof and to release the gripper from the sheet in the forward position of the gage, substantially as set forth.

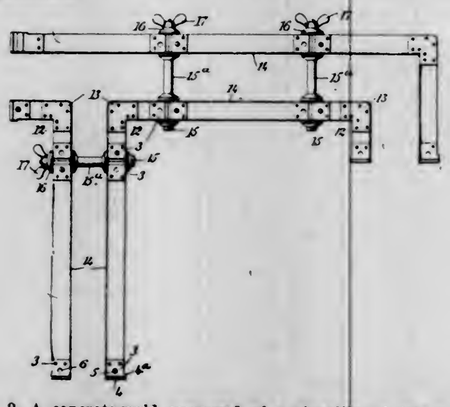
5. In a sheet-folding machine, the combination of a fixed sheet-perforating device constructed and operating to produce a transverse row of perforations in a sheet at one operation, a fixed folding device for producing a fold in the sheet along the line of perforations therein and arranged parallel with said perforating device on the front side thereof, carrying-tapes for propelling the sheet to said perforating and folding devices, means for actuating said perforating and folding devices intermittently and successively, a single gage arranged in front of the folding device in position to be engaged by the front edge of the sheet and having a forward-and-backward movement in the plane of movement of the sheet while being presented to the perforating and folding devices and adapted to arrest the sheet first in the perforating position and then in the folding position, means for actuating said gage constructed to move the same into its rearward position for arresting the sheet in position to be perforated and then moving the gage into its forward position in which the same again arrests the sheet in position to be operated upon by the folding device, a gripper mounted on the gage and moving forward and backward with the same, and actuating means for said gripper constructed to close the same upon the sheet after the same engages the gage in the rearward position thereof and to release the gripper from the sheet in the forward position of the gage, substantially as set forth.

6. In a sheet-folding machine, the combination of a perforating device, means operating to carry the sheet to said perforating device comprising a roller arranged in rear of the perforating device and tapes passing around said roller, a folding device comprising a pair of folding-rollers arranged in front of the perforating device and a blade coöperating with the said folding-rollers, carrying-tapes passing over the rear roller of said pair and under the front roller thereof, and a register and gripper constructed to engage with the front edge of the sheet and reciprocating lengthwise of the path of the sheet in front of said pair of folding-rollers, substantially as set forth.

842,722. MOLD FOR CONCRETE CONSTRUCTION, JAMES F. SWINNERTON, New York, N. Y. Filed May 10, 1906. Serial No. 316,099.

Claim.—1. A concrete-mold composed of a plurality of detachable wooden plane and angular frames forming a wall for the mold, metal corner-plates attached to the

corners of the frames, a dowel and a recess carried by each corner-plate, a groove and a sector of a boss at the corner of each plate, whereby when the frames are placed in alinement, the recesses and the dowels of the corner-plates will hold the frames in alinement and form a hole surrounded by a boss at the juncture of four corner-plates, a dished washer seated over the boss about the hole of the corner-plates, a bolt passing through the dished washers and hole, a pipe having flanges through which the bolt also passes for holding the walls of the mold apart, and nuts threaded on the bolts whereby when they are tightened the walls of the mold are rigidly held spaced apart and the frames are held from lateral displacement.



2. A concrete-mold composed of a plurality of detachable frames lined with metal on one face, and means passing through the corners of the frames for holding them rigidly spaced apart, said means also at the same time securing the frames from lateral displacement.

3. A concrete-mold composed of a plurality of detachable frames, corner-plates on said frames having means for holding them in alinement, holes formed in the corner-plates when the frames are assembled, pipes alining with the holes, bolts passing through the holes and pipes for holding the frames rigidly spaced apart, and means on said bolts for holding the frames from lateral displacement.

4. A concrete-mold composed of a plurality of detachable frames, means for increasing and decreasing the dimensions of said mold, sheet metal lining the inner faces of said frames, and bolts passing through the corners of abutting frames for rigidly holding them spaced apart.

5. In a concrete-mold, a corner-plate, a dowel-pin and a recess in said plate, a groove in the edge of said plate, and the sector of a boss concentric with said groove, for the purpose described.

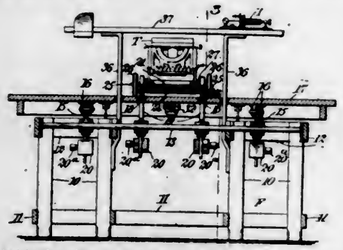
6. A concrete-mold composed of a plurality of detachable frames forming the walls of the mold, means projecting from the face of each frame bolts for securing the walls in spaced relation, and dished washers carried by the bolts and coöperating with said projecting means for holding the frames from lateral displacement.

7. A concrete-mold composed of detachable frames, a plate at the corner of each frame, and means adapted to pass through the abutting corners of a plurality of frames and coöperating with said plates for locking the frames together.

8. A concrete-mold composed of a plurality of frames, a plate secured to the corner of each frame having a groove surrounded by a concentric boss, and means adapted to embrace a plurality of adjacent bosses for securing the frames together.

842,723. TABLE. ARTHUR P. SWITZER, New York, N. Y. Filed Feb. 2, 1906. Serial No. 299,146.

Claim.—1. A table having a substantially horizontal top, means for mounting said top to swing forwardly and rearwardly in a horizontal position, a support for a machine above said top, and means for mounting said support to swing forwardly and rearwardly in a horizontal position simultaneously with said top.



2. A table having a substantially horizontal top, means for mounting said top to swing forwardly and rearwardly in a horizontal position, a support for a machine above said top and resting on said top, and means connecting said top with said support for swinging said support forwardly and rearwardly in a horizontal position and simultaneously with said top.

3. A table having a top, rock-shafts mounted on said table below said top, arms attached to said shafts and movably supporting said top, other arms mounted on one of said rock-shafts and projecting upwardly, and means for mounting a machine on said last-mentioned arms above said top.

4. A table having a swinging top with slots therein, fixed standards extending up through the slots, means for movably supporting a machine above said top, a shelf supported on said standards, and means for fixing said top with respect to said standards.

5. A table having a swinging top, rocker-arms mounted beneath said top and projecting upwardly, a machine supported on said arms at one side and supported on said table at the other side, and means for swinging said arms simultaneously with said top.

6. A table comprising a frame, shafts mounted in said frame, oscillatory arms carried by said shafts, a top attached to said arms and having openings, arms extending from one of said shafts through said openings, and means for supporting a machine on said last-mentioned arms above said top.

7. A table comprising a frame, shafts mounted in said frame, oscillatory arms carried by said shafts, a top attached to said arms and having openings, other arms extending from one of said shafts through the said openings, means for counterweighting said arms, and means for supporting a machine on said last-mentioned arms above said top.

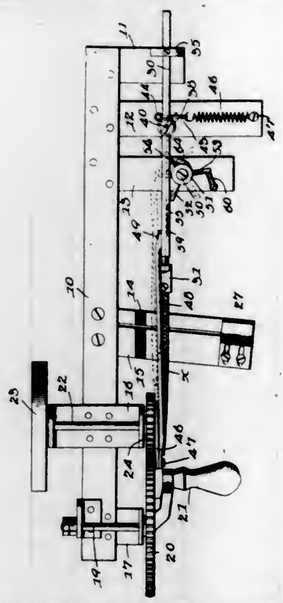
8. In a table, the combination of a frame, a top mounted on said frame to move into different positions thereupon, said top being provided with slots extending therethrough, oscillatory arms mounted on said frame and projecting through said slots, and a machine-carriage movable upon said top and connected to said arms.

842,724. SAW-FILING MACHINE. CICERO J. TATUM, Port Arthur, Tex., assignor of one-half to Lemuel E. Dunn, Port Arthur, Tex. Filed Apr. 28, 1906. Serial No. 314,204.

Claim.—1. In a saw-filing machine, a file-carrier, means for reciprocating the same in the same plane a plurality of times, and means for moving the carrier laterally at the completion of a predetermined number of strokes to effect the feeding of the saw through the medium of the file.

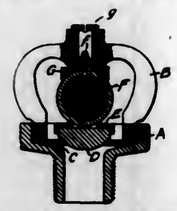
2. In a saw-filing machine, a reciprocable file-carrier, means for reciprocating the same, means under the control of the file-carrier for shifting the carrier laterally during its stroke in one direction to effect the feeding of the saw through the medium of the file, and for raising the file-carrier and the file clear of the saw during movement in the opposite direction.

3. In a saw-filing machine, the combination with a reciprocable file-carrier, of means for actuating the same, a revoluble block, a series of equidistantly-spaced arms projecting therefrom, one of said arms forming a cam through which saw-feeding movement is imparted through the medium of the file, a yieldably-mounted arm supported by the file-carrier and serving to engage the successive arms as the carrier is reciprocated, movement of the cam-shaped arm to operative position effecting lateral movement of the file-carrier and feeding of the saw as the carrier moves in one direction, and effecting raising of the file-carrier and the file from the saw as the carrier moves in the opposite direction.



4. In a saw-filing machine, the combination with a frame, of a reciprocable file-carrier, a guide-block having an opening through which the file-carrier is guided, a support on which said block is mounted, a standard having a guiding-slot through which the file-carrier extends, springs tending to hold the carrier in saw-filing position, a revolubly-mounted block adjacent to the carrier, a series of arms radiating from said block, one of said arms being cam-shaped, a yieldable locking-finger for holding the arms from movement in one direction, a yieldably-mounted arm supported by the file-carrier and arranged to engage the successive radial arms, and a cam projecting from the block and arranged to engage against one side of the file-carrier.

842,725. AUTOMATIC SPRINKLER. JOHN TAYLOR, Manchester, England, assignor to General Fire Extinguisher Company, New York, N. Y., a Corporation of New York. Filed May 25, 1904. Serial No. 209,785.



Claim.—1. An automatic sprinkler embodying in its construction as a means for holding said sprinkler closed a frangible vessel containing a material or mixture the boiling-point of which is at approximately the temperature at which it is desired the sprinkler shall open, substantially as described.

2. An automatic sprinkler embodying in its construction as a means for holding said sprinkler closed a frangible vessel containing a non-gaseous material or mixture which as it expands will serve to fracture the vessel, and which when released by such fracture will become gaseous, thereby producing an explosion and shattering the vessel, substantially as described.

3. An automatic sprinkler embodying in its construction as a means for holding said sprinkler closed a frangible vessel partially filled at normal temperatures with a mixture or material which, when subjected to a temperature approximating its boiling or vaporizing point will expand so as to completely fill said vessel, and which will then by its further expansion serve to fracture the vessel and upon its release assume a gaseous form, substantially as described.

4. In an automatic sprinkler, the combination, with the valve, of a frangible vessel for holding said valve to its seat, said frangible vessel containing a material or mixture the boiling-point of which is at approximately the temperature at which it is desired the sprinkler shall open, substantially as described.

5. In an automatic sprinkler, the combination, with the valve, of a frangible vessel for holding said valve to its seat, said frangible vessel containing a non-gaseous material or mixture which as it expands will serve to fracture the vessel, and which when released by such fracture will become gaseous, thereby producing an explosion and shattering the vessel, substantially as described.

6. In an automatic sprinkler, the combination, with the valve, of a frangible vessel for holding said valve to its seat, said frangible vessel being partially filled at normal temperatures with a mixture or material which, when subjected to a temperature approximating its boiling or vaporizing point, will expand so as to completely fill said vessel, and which will then by its further expansion serve to fracture the vessel and upon its release assume a gaseous form, substantially as described.

7. An automatic sprinkler embodying in its construction as a means for holding said sprinkler closed a frangible vessel containing a non-gaseous material or mixture adapted by expansion to fracture the vessel and adapted to become gaseous upon the reduction of pressure produced by such fracture.

842,726. DISH-WASHER. MINNA V. TRIMBLE, Bellevue, Pa. Filed June 19, 1906. Serial No. 322,369.



Claim.—1. In a dish-washer, the combination with a receptacle or pan having a raised socket therein, of a basket within said pan, and means for removably pivoting said basket within and around said socket and above the bottom of said basket.

2. In a dish-washer, the combination with a receptacle or pan having a raised socket therein, of a basket within said pan, and means within said basket for removably pivoting said basket within and around said socket and above the bottom of said basket.

3. In a dish-washer, the combination with a receptacle or pan provided with a raised portion on the bottom thereof having a seat therein, of a basket within said pan, a raised portion on the bottom of said basket, and a pin on the raised portion of said basket for fitting within said seat to removably pivot said basket.

4. In a dish-washer, the combination with a receptacle or pan, of a removable frame within said pan, a basket within said pan, and means for removably pivoting said basket to said frame above the bottom of the basket.

5. In a dish-washer, the combination with a receptacle or pan, of a removable frame within said pan, a basket within said pan, and means within said basket for removably pivoting the same to said frame above the bottom of the basket.

6. In a dish-washer, the combination with a receptacle or pan, of a removable frame within said pan, and a basket within said pan having a raised portion thereon for removably pivoting said basket to said frame above the bottom of said basket.

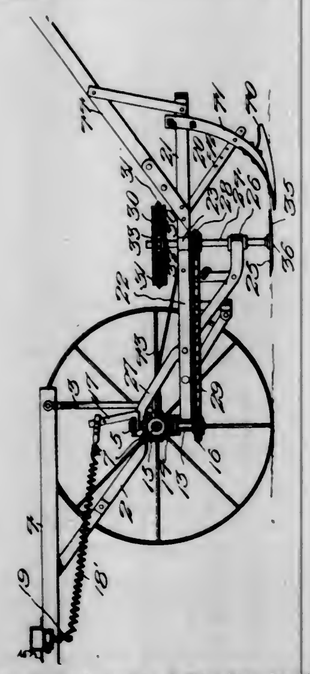
7. In a dish-washer, the combination with a receptacle or pan, of a removable frame within said pan having a raised portion thereon, and a basket within said pan having a raised portion thereon for removably pivoting said basket to said frame above the bottom of said basket.

8. In a dish-washer, the combination with a receptacle or pan, of a removable frame within said pan having a raised portion thereon and provided with a seat therein, a basket within said pan having a raised portion on the bottom of the same, and a pin on the raised portion of said basket for fitting within said seat to removably pivot said basket.

9. In a dish-washer, the combination with a receptacle or pan, of a removable frame within said pan, a basket within said pan, means for removably pivoting said basket to said frame above the bottom of the basket, and means for adjusting said frame against the sides of said pan.

10. In a dish-washer, the combination with a receptacle or pan, of a removable frame within said pan having radial spring-supporting wires, a basket within said pan, means for removably pivoting said basket to said frame above the bottom of the basket, and bent portions on the said wires for adjusting said frame against the sides of said pan.

842,727. COTTON-CHOPPING MACHINE. SAMUEL H. TUCKER, Gatesville, Tex. Filed Mar. 31, 1906. Serial No. 309,170.



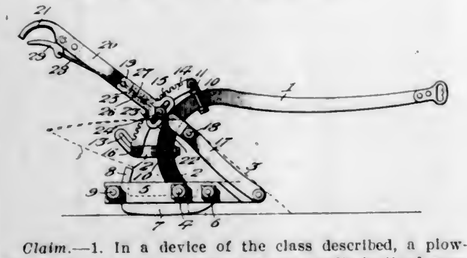
Claim.—1. In a device of the class described, a main frame including an axle, a cutter-frame connected with the main frame and comprising a pair of yieldable arms movable horizontally toward and from each other and having bearings, cutter-shafts in said bearings and provided with cutter-blades, a spring connected for moving the bars toward each other, means for positively moving the bars away from each other, and means for operating the cutter-shafts from the axle.

2. In a device of the class described, a main frame including an axle, a cutter-frame connected with main frame and comprising a pair of yieldable arms movable toward and from each other and having bearings, cutter-shafts journaled in said bearings and equipped with cutter-blades, connections between the axle and cutter-shafts for operating the latter, a spring connected between and for moving the bars toward each other, and a sectional rod extended between the bars and including a turnbuckle operable for moving the bars away from each other.

3. In a device of the class described, a main frame including an axle, a cutter-frame connected with the main frame, a pair of cutter-shafts journaled in the cutter-frame and equipped with cutting-blades, a pair of vertically-spaced bearing-plates sustained by the cutter-shafts, sprocket-pinions fixed upon the shafts between the plates, a pair of sprocket-pinions mounted idly between the plates in line with and respectively at opposite sides of one of the first-named pinions, a chain arranged upon the pinions for connecting the shafts for reverse rotation one from the other, and connections between the axle and cutter-shafts for operating the latter.

4. In a device of the class described, a main frame including an axle and a bearing-yoke journaled thereon, a pair of vertical stub-shafts journaled in said yoke and geared to the axle for rotation therefrom, a cutter-frame connected for movement with the yoke, a lifting-spring arranged to turn the yoke upon the axle for swinging the cutter-frame vertically, a pair of cutter-shafts journaled in the cutter-frame and equipped with coöperating cutting-blades, and gearing between the stub-shafts and cutter-shafts for rotating the latter.

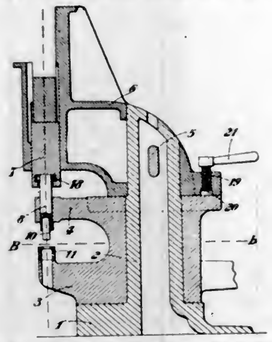
842,728. PLOW. SAMUEL H. TUCKER, Gatesville, Tex. Filed Sept. 19, 1906. Serial No. 335,303.



Claim.—1. In a device of the class described, a plow-standard, a pair of upwardly and rearwardly inclined arms fixedly connected therewith, a segmental rack attached to the standard at a point between the arms, handle-bars pivoted between their ends respectively to said arms and provided at their forward ends with transversely-extended slotted heads, fastening members entered through the slotted heads and engaged with the arms for movably connecting the forward ends of the handle-bars to the latter, the rear ends of the bars being adjustable in a vertical plane, a locking-pawl movably mounted on one of the handle-bars for engagement with the rack to fix the bars in adjusted position, and means for operating the pawl.

2. In a device of the class described, a plow-standard, a pair of rearwardly and upwardly inclined arms fixedly connected therewith, a pair of bearing-heads attached to the standard, a segmental toothed rack pivotally connected to one of the heads and having slot-and-bolt connection with the other for adjustment toward and from the standard, a pair of handle-bars pivoted between their ends respectively to the arms and having their forward ends adjustably engaged by slot-and-bolt connections with the arms to permit vertical adjustment of the rear ends of the bars, a movable locking member carried by one of the bars for engagement with the rack to fix the bars in adjusted positions, and means for operating the locking member.

842,729. PUNCHING-MACHINE. ARTHUR VERNET, Dijon, France. Filed Nov. 6, 1906. Serial No. 342,290.



Claim.—1. A punching-machine in which tools are carried upon arms forming part of a cylinder capable of turning around the vertical axle of the machine, means being provided for securing the cylinder in position and for avoiding the flection of the axle during the punch working, each upper arm of said cylinder carrying several punches, each lower arm of said cylinder being provided with means for facilitating taking up, taking down and regulating of the tools, substantially as described.

2. A punching-machine, in which tools are carried upon arms forming part of a cylinder capable of turning around the vertical axle of the machine, each upper arm of said cylinder carrying several punch-holders, each punch-holder being provided with one punch, these punch-holders being of a square section in order to permit an easily grouping of them at the end of said arm, the passage from one punch to the other being effected by partial rotation of the cylinder, substantially as described.

3. A punching-machine in which tools are carried upon arms forming part of a cylinder capable of turning around the vertical axle of the machine, a screw being engaged in a threaded hole formed in the upper part of the frame of the machine and bearing upon said cylinder, in order to fix the position of said cylinder and to avoid flection of the vertical axle, substantially as described.

4. A punching-machine in which tools are carried upon a cylinder capable of rotating around the axle of the machine, this cylinder being provided with a circular T-shaped groove in which engages a like-shaped key forming part of the upper part of the frame of the machine, substantially as described.

5. In a punching-machine, a base having an axis, a rotatable cylinder mounted on the axis and having a plurality of arms, punch-holders carried by the arms, and means for spacing the same from each other.

6. In a punching-machine, a base having an upright forming an axis, a rotary cylinder mounted on said upright and having arms, one for supporting punch-holders, and the other dies, means for mounting and adjusting the punch-holders relative to each other, a secondary cylinder above the first-mentioned cylinder and having a sliding block for actuating the punch-holders, and means for momentarily fixing the relative position of the cylinders.

7. In a punching-machine, a rotating cylinder having arms, one for supporting punch-holders and the other for supporting the dies, spacer means for the punch-holders to vary the relative distances to each other, and means for mounting the punch-holders and dies.

842,730. METHOD OF MAKING ELECTRICALLY-CONDUCTING BODIES FOR USE AS CONTACTS. HERMANN VIEKTEL, Charlottenburg, and GEORG EGLY, Lichtenberg, near Berlin, Germany, assignors to Gebrüder Siemens & Compagnie, Charlottenburg, near Berlin, Germany. Filed Sept. 22, 1906. Serial No. 335,832.

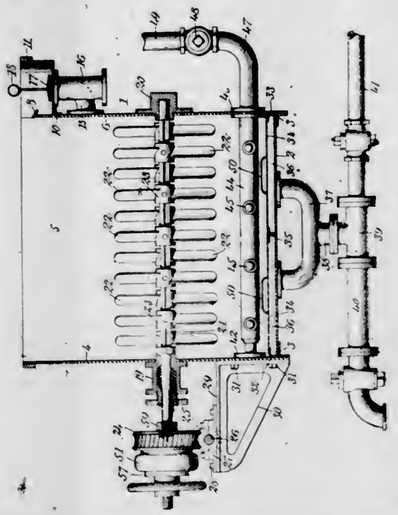
Claim.—1. A method of making electrically-conducting bodies for use as contacts consisting in intimately mixing together metallic powders and carbon, pressing and molding the mixture, and heating the same until softening and alloyage take place.

2. A method of making electrically-conducting bodies for use as contacts consisting in intimately mixing together metallic powders and carbon, adding thereto and mixing therewith an agglutinant, pressing and molding the mixture, and heating the same until softening and alloyage take place.

3. A method of making electrically-conducting bodies for use as contacts consisting in intimately mixing together metallic powders and carbon, adding thereto and mixing therewith an agglutinant, pressing and molding the mixture, and heating, the same in a reducing atmosphere until softening and alloyage take place.

4. A method of making electrically-conducting bodies for use as contacts consisting in intimately mixing together copper, tin and zinc in the form of powder, adding thereto and mixing therewith water, pressing and molding the mixture, and heating the same in an hydrogenous atmosphere until softening and alloyage take place, substantially as herein described.

842,731. FILTER FOR DEFECATION. RAMON M. VILLARINO, Campechuela, Cuba. Filed Nov. 1, 1905. Serial No. 285,448.



Claim.—1. A filter for the purpose named, comprising a tank provided at the upper edge thereof with an open trough for receiving therefrom any overflow of the substance being filtered therein, and a curved pipe having communication with the trough and the upper part of the tank.

2. A filter for the purpose named, comprising a tank provided at the upper edge thereof with an open trough for receiving therefrom any overflow of the substance being filtered therein, and a curved pipe having communication with the trough and the upper part of the tank, provided with a valve for controlling such communication.

3. A filter, comprising a tank provided at the upper edge thereof with an open trough for receiving any overflow of the substance being filtered, a valve-controlled pipe having communication with the trough and the upper part of the tank, and a valve-controlled discharge-pipe leading from the bottom of the trough.

4. A filter, comprising a tank rectangular in form, the height of one of its sides being less than that of the remaining sides, the tank being provided at the upper edge of said side with an open trough for receiving any overflow from the tank, and a valve-controlled pipe having

communication with the trough and the upper part of the tank.

5. A filter, comprising a tank rectangular in form, one of the sides of the tank being of less height than that of the remaining sides, and having at its upper edge an outwardly and downwardly inclined chute, a trough at said side to which the chute leads, a valve-controlled pipe having communication with the trough and the upper part of the tank, and a valve-controlled discharge-pipe leading from the bottom of the trough.

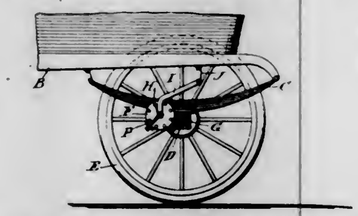
6. A filter, comprising a tank, means for agitating the substance being filtered therein, the tank being provided at the upper edge thereof with an open trough for receiving any overflow of the substance, and a pipe leading from the bottom of the trough and communicating with the upper part of the tank.

7. A filter comprising a tank, means for agitating the substance to be filtered, the tank being provided at the upper edge thereof at one side with an open trough for receiving any overflow of the substance, a pipe leading from the bottom of the trough and communicating with the upper part of the tank, a discharge-pipe also leading from the bottom of the trough, and valves for closing the upper ends of said pipes.

8. A filter comprising a tank, means for agitating the substance being filtered therein, the tank being provided at the upper edge thereof with an open trough for receiving any overflow of the substance, a pipe leading from the bottom of the trough and communicating with the upper part of the tank, and means for discharging the filtered substance from the tank.

9. A filter comprising a tank, means for agitating the substance being filtered therein, a trough for receiving any overflow from the tank, means for returning the overflow to the tank, a screen spaced from the bottom of the tank, discharge-pipes for the filtered substance leading from the bottom of the tank, and means for discharging hot water into the tank.

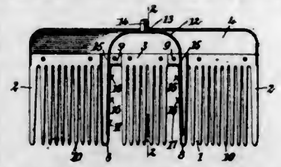
842,732. DEVICE FOR RETARDING THE REBOUNDING ACTION OF SPRINGS. ALLAN C. WALLING, Newark, N. J. Filed Mar. 29, 1905. Serial No. 252,669.



Claim.—1. In an automatic checking device for vehicles, a liquid-filled cylinder adapted to be connected with the running-gear of a vehicle, a partition extending radially from the center of said cylinder to the cylinder-wall, and having a contracted port therein, an oscillating horizontally-arranged piston adapted to be pivotally connected with the body of the vehicle and having bearings on the inner end of said partition and on the wall of the cylinder respectively, and, with said partition dividing the cylinder into two chambers, means for permitting the free passage of liquid from one chamber to the other in one direction only, and a manually-adjustable valve controlling the port in said partition.

2. An automatic checking device for vehicles, comprising a liquid-filled cylinder adapted to be secured to a vehicle running-gear, an oscillating piston arranged in said cylinder and pivotally connected to the body of a vehicle, a partition arranged in said cylinder and having an opening therein, and with said piston, dividing said cylinder into two compartments in constant communication through said opening, means whereby liquid in said cylinder may freely pass around said partition in one direction only, and adjustable means controlling said opening.

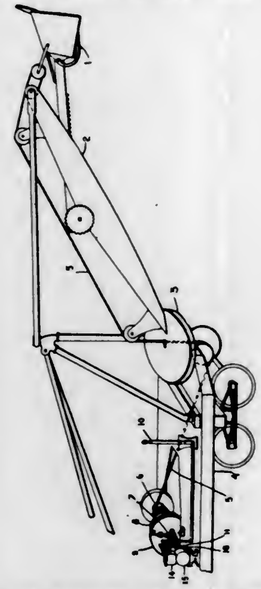
842,733. LADY'S COMB. WILLIAM J. WATSON, Shawnee, Okla. Filed Apr. 17, 1906. Serial No. 312,126.



Claim.—1. A lady's comb having a pair of hollow teeth presenting openings on their adjacent sides, a back having an opening in the rear edge thereof and to which said teeth attach, a bow disposed within said back, having a stud projecting through said opening and adapted to be pressed inwardly, said bow having legs extending into the interior of said teeth, with inclined fingers projecting through said openings in the central direction of said stud, whereby a depression of said stud may withdraw said fingers.

2. A lady's comb having a body composed of a middle section and end sections attached at each side thereof, a back to which said sections attach, and hollow teeth disposed within said middle section and said end sections, a back to which said sections and said teeth attach, said back having a chamber therein and an opening in the rear edge thereof, a bow disposed within said chamber, having a stud projecting through said opening, said bow having legs extending into the interior of said teeth, said teeth having openings, said legs having inclined fingers extending through said openings and projecting in the general direction of said fingers into the interior of said teeth.

842,734. EXCAVATOR CONTROL POWER MEANS. JOHN B. WEBBER, Jr., Toledo, Ohio, assignor to The Vulcan Iron Works Company, Toledo, Ohio, a Corporation of Ohio. Filed July 28, 1906. Serial No. 328,150.



Claim.—1. An excavator having a digging member, driving mechanism and manually-controlled power means to connect or disconnect the member and mechanism.

2. An excavator having a digging member, driving mechanism and power means to control the connection between the member and mechanism, said means comprising an automatic device to cut off the power.

3. An excavator having a working member, driving mechanism and manually-controlled fluid means affecting the connection between the member and mechanism.

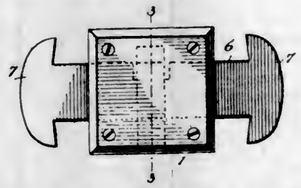
4. An excavator having a working member, driving mechanism and automatic cut-off power means affecting the connection between the member and mechanism.

5. An excavator having a shaft, driving and driven elements on said shaft and power means operable axially of the shaft controlling the connection between the elements.

6. An excavator having a shaft, driving and driven elements on said shaft, power means axially of the shaft to connect and disconnect the elements and a control element operable at an angle to the shaft.

7. An excavator having working member and a mechanically-independent element for controlling the member.

842,735. LATCH. JOHN A. WEBER, Perryville, Mo. Filed May 29, 1906. Serial No. 319,384.



Claim.—1. A latch comprising a casing, a latch slidable therethrough and provided with locking-heads at its opposite ends, and a dog for locking the latch in either of its projected positions.

2. A latch comprising a casing, a bolt slidable through the casing and provided at each of its ends with a locking-head, and a gravity-dog in the casing for locking the latch in either of its projected positions.

3. A latch comprising a casing, a bolt slidable transversely therethrough and provided at each of its ends with a locking-head, and a vertically-sliding dog in the casing operative to engage and lock the bolt in either of its projected positions.

4. A latch comprising a casing having a longitudinal and vertical guideway, a bolt slidable in the longitudinal guideway and provided at each of its ends with a locking-head and between said heads with a notch or recess, and a gravity-dog movable in the vertical guideway and adapted to seat in said notch to hold the bolt against movement in either of its projected positions.

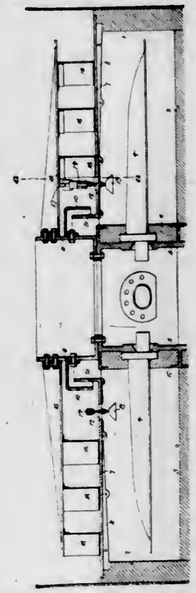
842,736. ORE HEATING AND DRYING DEVICE FOR FURNACES. UTLEY WEDGE, Ardmore, Pa. Filed Feb. 14, 1906. Serial No. 301,084.

Claim.—1. An ore-roasting or like furnace having a metallic top or roof plate composed of radially-ribbed segmental sections secured together and resting upon the walls of the furnace.

2. An ore-roasting or like furnace having a roof-plate with an opening therein adjacent to the central portion of the plate and communicating with the upper chamber of the furnace, an intermittently-operating valve for alternately opening and closing said opening, a central rotating shaft, and a projecting arm thereon having stirring vanes or blades for feeding the ore from the outer or peripheral portion of the roof-plate toward the center of the same.

3. An ore-roasting or like furnace having at the top, a dry-ore chamber, with an opening therein communicating with the upper chamber of the furnace, a vertically-movable valve coacting with said opening, and means carried by a rotating element of the furnace for imparting movement to said valve.

4. An ore-roasting or like furnace having at the top, a dry-ore chamber, with opening therein communicating with the upper chamber of the furnace, a vertically-movable valve coacting with said opening, an arm carried by a rotating member of the furnace, and a lever carrying the valve and having a portion normally projecting into the path of said arm so as to be struck and moved thereby.



5. An ore-roasting or like furnace having at the top, a dry-ore chamber, with opening therein communicating with the upper chamber of the furnace, a vertically-movable valve coacting with said opening, an arm carried by a rotatable member of the furnace, and a lever having a portion to be struck by said rotating arm to move the valve in one direction and an arm provided with a counterweight for restoring the valve to its normal position.

6. An ore-roasting or like furnace having at the top a dry-ore chamber with opening therein communicating with the upper chamber of the furnace, a movable valve for said opening, means carried by a rotating member of the furnace for moving said valve, and means for freeing the valve from the control of said operating device.

7. An ore-roasting or like furnace having at the top a dry-ore chamber with opening therein, communicating with the upper chamber of the furnace, a vertically-movable valve coacting with said opening, an arm carried by a rotating member of the furnace and a valve-carrying lever having a portion projecting into the path of said arm in order that it may be struck thereby to move the valve, and means for varying the relation of the valve and the lever, in one of which relations, the lever is held free from contact with the arm.

8. An ore-roasting or like furnace having at the top a dry-ore chamber with an opening therein communicating with the upper chamber of the furnace, a movable valve for said opening, and means for feeding ore into the opening when the valve is open in order to seal said valve.

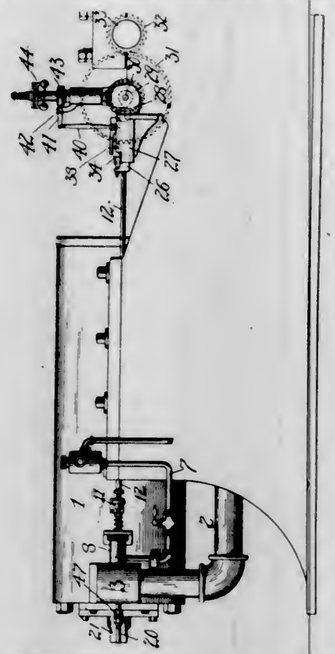
842,737. EXPLOSIVE-ENGINE. CHARLES WHITE and ARTHUR R. MIDDLETON, Baltimore, Md. Filed June 22, 1904. Renewed Nov. 23, 1906. Serial No. 344,786.

Claim.—1. In combination, in an explosive-engine, a cylinder valve mechanism, and means including a governor for feeding an excess charge of fuel to the combustion-chamber after the cut-off period has terminated, substantially as described.

2. In combination, in an explosive-engine, a cylinder, valve mechanism, including an inlet-valve held closed during the cut-off period, means for supplying fuel and governor means for feeding a small charge back of the

closed inlet-valve during the cut-off period, substantially as described.

3. In combination, in an explosive-engine, an exhaust-valve at the rear end of the combustion-chamber, an inlet-valve, means for holding the exhaust-valve open and the inlet-valve closed, and governor means for feeding back of the closed inlet-valve a small charge of fuel prior to the feeding of the main charge, substantially as described.



4. In combination, in an explosive-engine, an inlet-valve, a governor-rod, a fuel-supplying device operated by the said rod and a yielding connection between the said rod and the said inlet-valve arranged to keep the said valve closed while the rod reciprocates to feed the fuel, substantially as described.

5. In combination, in an explosive-engine, an inlet-valve for the fuel, a fuel-supplying device, a rod for operating the said device, and a flexible arm connecting the said rod with the inlet-valve to hold the said valve closed while the rod operates the fuel-supplying device.

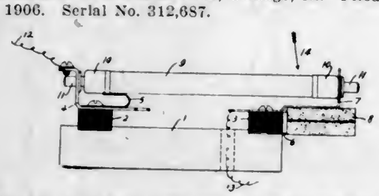
6. In combination, in an explosive-engine, an inlet for the fuel, an exhaust-valve, an intermediately-pivoted lever for operating the exhaust-valve by bearing at one end thereon, a governor-rod bearing at the other end of the lever to operate the same, and an arm extending from the said rod to hold the inlet-valve closed while the exhaust-valve is open, substantially as described.

7. In combination, in an explosive-engine, an inlet-valve for the fuel, an exhaust-valve, a lever for operating the exhaust-valve, a governor-rod for operating the lever, fuel-supplying means operated from the said rod and yielding means connecting the said rod with the inlet-valve to hold the same closed while the rod operates the fuel-supplying means, substantially as described.

8. In combination, in an explosive-engine, an inlet-valve for the fuel, a fuel-supply device, means for operating the said device comprising a slide having a stop, a cam for operating the slide, and a detent for engaging the stop, having clearance therewith to allow movement of the slide when the governor cuts off, substantially as described.

9. In combination, in an explosive-engine, an inlet-valve for the fuel, an exhaust-valve, a fuel-supplying device, a rod for operating the same, a lever operated by the said rod and controlling the exhaust-valve, a flexible arm connecting the said rod with the inlet-valve, a cam for operating the rod, a stop associated with the rod, and a governor-detent for controlling the stop, said detent having clearance between itself and the stop to allow the rod to be operated by the cam partially when the cut-off takes place, substantially as described.

842,738. FUSE-MOUNT. CHARLES E. WHITE, Chicago, Ill., assignor to Frank B. Cook, Chicago, Ill. Filed Apr. 19, 1906. Serial No. 312,687.



Claim.—1. A tubular fuse provided with suitable connection-terminals, and means adapted to clamp the fuse in circuit, comprising a rigid portion through which a portion of a terminal is inserted, and a flexible spring member adapted to bear laterally against the last-mentioned terminal.

2. A tubular or inclosed fuse provided with suitable terminals, a rigid contact member through which a portion of a terminal is inserted, a spring member adapted to engage the other terminal, and a flexible spring member adapted to bear laterally against one of the terminals for purposes substantially as described.

3. A tubular or inclosed fuse provided with suitable terminals, conducting portions through which the terminals extend, and means bearing laterally against the fuse toward the longitudinal axis thereof to securely hold the fuse in place.

4. An inclosed fuse provided with suitable terminals, and means for clamping the fuse in circuit comprising a portion through which a portion of a terminal may be inserted, and a flexible spring member adapted to bear laterally against the last-mentioned terminal.

5. An inclosed fuse provided with suitable terminals, means engaging the terminals and substantially holding the fuse in alinement, and means bearing laterally against the fuse toward the longitudinal axis thereof to clamp the fuse in place.

842,739. TENDER FOR TRACTION-ENGINES. ROBERT S. WHITE, Jr., Osceola, Okla. Filed July 18, 1906. Serial No. 326,728.

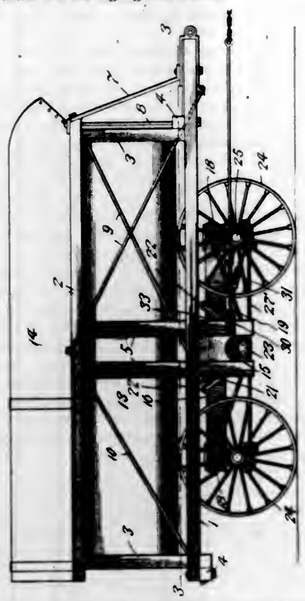
Claim.—1. A tender having a truck comprising a rigid frame, axles pivotally connected with the frame, links connecting the axles for movement in unison, steering chains or cables, and elastic couplings connecting said chains or cables with the axles.

2. A tender having a truck comprising a rigid frame, front and rear axles pivoted to the frame, links connecting said axles for movement in unison, guides in rear of the front axle, and draft chains or cables having looped ends passing around the guides and connected forwardly of the guides to the front axle.

3. A tender having a truck comprising a rigid frame, front and rear axles pivoted to the frame, links connecting said axles for movement in unison, guides in rear of the front axle, steering chains or cables having looped rear ends engaging the guides, and spring-couplings connecting said chains or cables with the front axle.

4. A tender having a truck comprising a rigid frame and turning-gear, said turning-gear comprising front and rear wheeled axles pivoted to the frame and connected for movement in unison, guides forward of the rear axle, chains or cables having a looped engagement with the guides, and spring-couplings connecting said chains or cables with the forward portion of the turning-gear.

5. A tender having a truck comprising a cross-bar and a reach, right-angularly arranged trusses connecting the respective ends of the cross bar and truss and rigidly uniting the same, front and rear axles pivoted to the reach, links connecting said axles for movement in unison, and steering devices for swinging the axles.



6. The combination with an engine having a front steering-axle, of a tender provided with a truck having front and rear wheeled axles connected for movement in unison, and steering-cables connected with the steering-axle of the engine, and the front steering-axle of the truck.

7. The combination with an engine and tender, of draft-links connecting the tender with the rear axle of the engine.

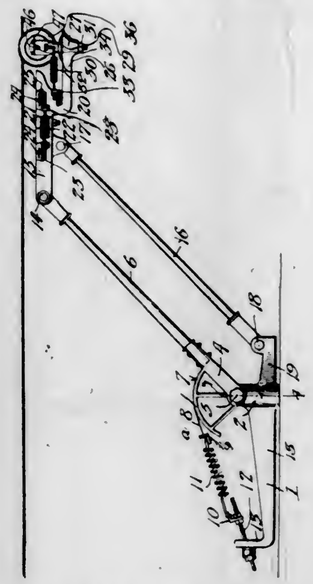
842,740. TROLLEY. PEARL J. WIRES, Osborn, Ohio. Filed Mar. 13, 1906. Serial No. 305,869.

Claim.—1. In a current-collector, a base, poles pivotally connected with the base, a supporting-spring between the base and one of the poles, a trolley-head comprising sections, one pivotally mounted upon the poles and the other pivotally mounted to swing laterally upon the first-named section, said laterally-swinging section projecting rearwardly beyond the rear trolley-pole, and a harp mounted upon the rearwardly-projecting portion of said section.

2. In a current-collector, a base, a pair of poles pivotally mounted upon the base, one in rear of the other, a trolley-head comprising two sections, one of said sections being pivotally mounted upon the poles to swing in a vertical plane and the other pivotally mounted for lateral movement upon said vertical swinging section, the laterally-swinging section being provided with a portion projecting in rear of the rear pole, and a harp pivotally mounted for lateral movement upon said portion.

3. In a current-collector, a base, poles pivotally supported by the base, a trolley-head comprising two sections, one of said sections being pivotally mounted for vertical movement upon the poles and the other being arranged in rear of said section and pivotally mounted for lateral movement thereon, springs connecting the head-sections to limit such lateral movement, a harp pivotally mounted for lateral movement on the rear section, and springs connecting said section with the harp and serving to limit the swinging movement of the latter.

4. In a trolley, the combination of a base, spring-actuated trolley-poles pivotally supported thereon and arranged one in rear of the other, a sectional head supported by said poles, one of the head-sections being pivoted for vertical movement upon the pole and the other pivoted for lateral movement upon said vertical moving swinging section, means for limiting the swing of the laterally-movable section, and a trolley-wheel pivotally mounted upon the laterally-movable section in rear of the poles.



5. In a trolley, a harp having its side arms provided with slots opening through the upper ends thereof, a terminally-threaded bolt fitting in said slots, means for clamping the bolt in position, cones threaded upon the ends of the bolt, a trolley-wheel revolubly mounted upon the bolt and provided with bearing-sockets receiving said cones, bearing-balls disposed in the sockets and contacting with the cones, yokes engaging the cones and holding the same from movement, said yokes being fastened to the arms of the harp, and bridge-pieces closing the slots in the harp-arms and yokes and retaining the bolt and cones in operative position.

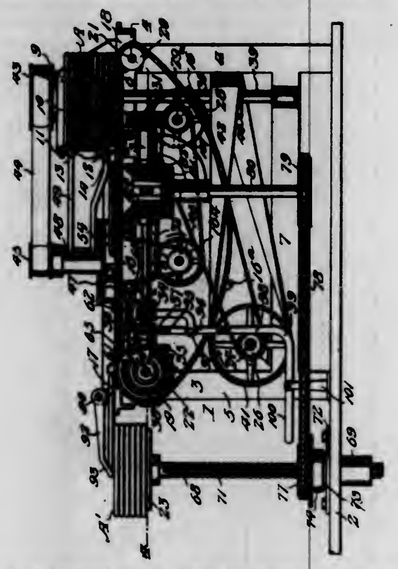
6. In a trolley, a pole, a swinging head carried by the pole, said head projecting rearwardly therefrom, means for pivotally supporting the head in rear of the pole, a laterally-swinging bracket upon the head in rear of such pivotal supporting connection, a laterally-swinging wheel journaled upon the bracket, and means for limiting the movement of the bracket and wheel and restoring the same to their normal position.

842,741. MACHINE FOR TREATING OIL-CAKES. CHARLIE F. YOUNG, Ginghamsburg, Ohio. Filed Jan. 31, 1906. Serial No. 298,859.

Claim.—1. In a machine of the character described, a trimming device comprising a driving-shaft, a swinging arm movable on an arc concentric with said shaft, a cutter-shaft carried by said arm, a rotary cutter carried by said cutter-shaft, an adjustable resistance-spring acting on said arm, and a driving connection between said shafts.

2. In a machine of the character described, the combination of a table, a feeder for feeding the cakes along the table, cutters for trimming the cakes fed by the feeder, a receiver for the trimmed cakes, said receiver having an intermittent movement to adjust it to successively receive the cakes, drive-gearing for operating the several parts, clutch mechanism associated with said gearing, and automatic means controlling the clutch mechanism, whereby in the operation of the machine the motion of the feeder and receiver will be arrested when the latter has received the

maximum number of cakes, the receiver restored to normal position, and the feeder again thrown into operation.



3. In a machine of the character described, the combination with trimming means adapted to remove the soft marginal portions of oil-cakes, means for feeding the cakes past the trimming means, a support to receive the trimmed cakes, and periodically-operating means for discharging the cakes onto said support.

4. In a machine of the character described, the combination of trimming means to remove the soft marginal portions of oil-cakes, means for supporting the cakes, means for producing a relative movement of said parts to adapt the trimming means to operate along the edges of the cakes, a receiver for the cakes, a removable screw-support for the receiver, a nut for operating said support to change the position of the receiver periodically as the cakes are fed thereto, and means for operating the nut.

5. In a machine of the character described, the combination of trimming means, means for feeding the cakes to be trimmed, a receiver for the trimmed cakes, periodically-operated means governing the position of said receiver to successively bring it into position to receive the cakes, and means for arresting the action of said operating means and the cake-feeding means when the receiver reaches the limit of its feeding movement, and means for restoring the feeder to its normal position and resetting the parts for further operation.

6. In a machine of the character described, the combination of trimming means, means for feeding the cakes to be trimmed, a receiver, means for periodically ejecting the trimmed cakes to the receiver, and means for imparting an intermittent motion to the receiver to adapt it to receive a pile or series of cakes.

7. In a machine of the character described, the combination of trimming means, means for feeding oil-cakes to be trimmed, a receiver for the trimmed cakes, and means for periodically ejecting the cakes to the receiver.

8. In a machine of the character described, the combination of trimming means, feeding means for oil-cakes, a receiver, means for communicating motion to said feeding means, and means operated thereby at predetermined times for ejecting the trimmed cakes to the receiver.

9. In a machine of the character described, the combination of trimming means, means for feeding the oil-cakes to be trimmed, a receiver for the trimmed cakes, a reciprocating device for ejecting the trimmed cakes to the receiver, and means for operating said reciprocating device.

10. In a machine of the character described, trimming means, means for feeding the cakes to be trimmed, a receiver for the trimmed cakes, a motive element for operating said feeder, a toothed reciprocating ejector for feeding the trimmed cakes to the receiver, and a toothed member on the motive element adapted to periodically operate said ejector.

11. In a machine of the character described, the combination of trimming means, cake-feeding means, a receiver for the trimmed cake, gearing for continuously operating the feeder and intermittently adjusting the receiver, and means controlling said gearing for permitting intermittent movement of the receiver without affecting the feeder and for arresting the movement of said feeder when a prescribed number of trimmed cakes have been fed to the receiver.

12. In a machine of the character described, the combination of trimming means, means for feeding the cakes to be trimmed, a periodically-adjusted receiver for the cakes, gearing for adjusting said receiver, gearing for operating the feeder, and means for controlling the action of the gearing operating the receiver to intermittently adjust said receiver to successively receive the trimmed cakes and to reverse the receiver to restore it to its normal position after the same has reached the limit of its feeding movement and been relieved of the load of trimmed cakes.

13. In a machine of the character described, the combination of trimming means, means for feeding the cakes to be trimmed, operating mechanism for said feeding means, an intermittently-adjustable receiver for the trimmed cakes, operating mechanism for said receiver, means for normally controlling the operating mechanism of the receiver to intermittently adjust it away from the path of movement of the delivered trimmed cakes to adapt it to successively receive the cakes, and means controlling said operating means and the operating means of the feeder for arresting the operation of the latter when the receiver has received a maximum number of cakes, for reversing said receiver and restoring it to its normal position, and for again throwing the feeder into operation.

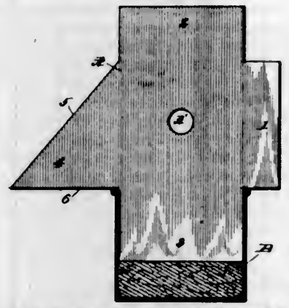
14. In a machine of the character described, the combination of trimming means, means for feeding the cakes to be trimmed, said means including a feeding device, and a shaft for imparting motion thereto, a receiver for the trimmed cakes having an intermittent movement, gearing for intermittently operating the receiver, a controller regulated by the action of said shaft to intermittently operate and reverse the receiver, an element adapted to be engaged by the receiver and the cakes fed thereto, and means actuated by said element to govern the movement of said controller.

15. In a machine of the character described, the combination of trimming means, cake-feeding means, a receiver for the trimmed cakes, a continuously-operating shaft, gearing between said shaft and feeder for normally operating the feeder, normally inactive gearing for intermittently adjusting the receiver, means for throwing the gearing for operating the feeder out of action, means for periodically throwing the gearing for adjusting the receiver to intermittently move it on its feeding movement and continuously move it for restoration to its normal position, a device automatically operated by the receiver on reaching the limit of its return movement and upon the feed of the cakes thereto to control the said means governing the operation of the means for operating the receiver, and a device operative when the receiver reaches the limit of its feeding movement to arrest the operation of the feeder.

16. In a machine of the character described, the combination of trimming means, means for supporting the cakes to be trimmed, means for producing a relative movement of said parts to cause the trimming means to remove the soft marginal portions of the cakes, a receiver for the trimmed cakes, a conveyer to carry away the trimmings, and means for automatically operating the parts to effect the trimming operation, to intermittently operate the receiver, to stop the feeding of the cakes when the receiver is filled, and to return the receiver to its normal position and reset the parts for further operation.

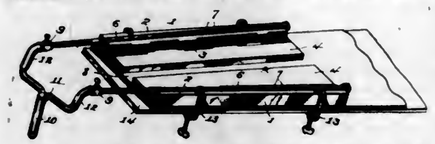
17. In a machine of the character described, the combination of trimming means, means for feeding oil-cakes, a receiver, means for intermittently adjusting the receiver to successively receive the trimmed cakes, means for periodically ejecting the trimmed cakes to the receiver, means for operating the feeder, and means for automatically and intermittently adjusting the receiver, stopping the feeder when the receiver is filled and returning the receiver to its normal position when the trimmed cakes are removed therefrom and restarting the feeder, substantially as described.

842,742. SCRAPER AND REGULATOR. JOSEPH H. YOUNG and GEORGE B. YOUNG, El Paso, Tex., assignors of one-third to Clarence S. Pickrell, El Paso, Tex. Filed Oct. 16, 1906. Serial No. 339,219.



Claim.—An ice-cream scraper and regulator comprising a plate having at its edges a projecting rectangular tongue or tongues, and a triangular tongue, as and for the purpose set forth.

842,743. TROUSERS-CREASER. LIONEL W. YOUNG, Massillon, Ohio. Filed July 9, 1906. Serial No. 325,259.



Claim.—1. In a device of the character described, a longitudinal metal plate having a raised side edge, a perforated pipe partially embedded in said raised side edge, the remaining and major portion of the plate being relatively thinner than said side edge and adapted to be licked and heated by the flames from said pipe.

2. In a static trousers-creaser, a longitudinal plate having a longitudinal channel in its upper face, and a gas-burner mounted in said channel for directing a heating-flame over the upper surface of the plate.

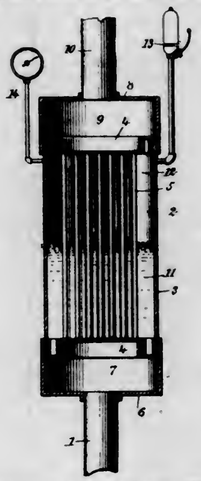
3. In a trousers-creaser, a longitudinal flat plate having one side edge relatively thicker and heavier than the body thereof, a channel extending throughout the length of said side edge, and a pipe mounted in said channel, said pipe being provided with perforations for directing flames over the upper surface of said plate.

4. In a static trousers-creaser, a longitudinal metal plate having a longitudinal channel in its upper face, a gas-burner mounted in said channel for directing a heating-flame over the upper surface of the plate, suitable connections between said burner and a supply-pipe, valves for regulating the gas-supply to said burner, and clamps for increasing the pressure of the plate upon the trousers.

842,744. MUFFLER AND WHISTLE DEVICE. MAX ZWICKL, New Durham, N. J. Filed June 13, 1906. Serial No. 321,508.

Claim.—1. A pipe constituting an exhaust from an explosion-engine, in combination with a steam generating and retaining device constituting a muffler, and a whistle adapted to be blown by the steam generated by said device.

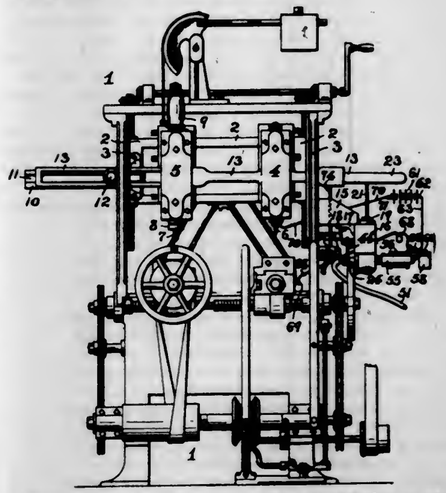
2. In combination, a pipe adapted to take the exhaust from the explosion-engine, a device attached to said pipe and adapted to muffle the explosions of said engine, said device having a water and steam retaining space adapted to be heated by the gases, and a whistle adapted to be blown by steam generated in said water-space.



3. A pipe constituting an exhaust for an explosion-engine, in combination with a steam generating and retaining device having a water-space, and a plurality of tubes passing therethrough and through which the gases from the explosion-engine may pass, and a whistle adapted to be blown by the steam generated in said water-space.

4. In combination, a body having a plurality of tubes passing therethrough, caps attached to the ends of said body and presenting chambers into which said tubes open, and a whistle in communication with the interior of said body, and cutting off the escape of steam therefrom.

842,745. ENGRAVING OR CARVING MACHINE. HONESTUS M. ALBEE, Nutley, N. J., assignor to J. H. Williams & Co., Brooklyn, N. Y., a Corporation of New York. Filed Sept. 19, 1904. Serial No. 225,001.



Claim.—1. The combination, with an engraving or carving machine provided with a vertically-movable tracer and

a tool-carrying lever-arm, of a pneumatic means for assisting the ascending movements of the tracer, consisting, essentially, of a cylinder and a piston or plunger therein, a connecting-rod between the tool-carrying lever-arm and the said piston or plunger, and a valve for automatically operating the said pneumatic means consisting of an outer shell or valve member communicating with the said cylinder, said outer shell or valve member having a port or air-passage for the entrance of the air into the cylinder and an air-exhaust passage to permit an exhaust of the air from the cylinder, an inner valve member slidably arranged within the said outer shell or valve member, said inner valve member being provided with an air-receiving chamber and having an air passage or port which when introduced beneath the said air passage or port in the outer shell or valve member opens into the said cylinder, said inner valve member being also provided with a channel for conducting the exhaust-air from the said cylinder, and means for operating said inner valve member, substantially as and for the purposes set forth.

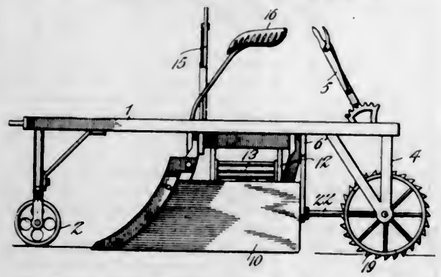
2. The combination, with an engraving or carving machine provided with a vertically-movable tracer and a tool-carrying lever-arm, of a pneumatic means for assisting the ascending movements of the tracer and tool consisting, essentially, of a cylinder and a piston or plunger therein, a connecting-rod between the tool-carrying lever-arm and the said piston or plunger, and a valve for automatically operating the said pneumatic means consisting of an outer shell or valve member communicating with the said cylinder, said outer shell or valve member having a port or air-passage for the entrance of the air into the cylinder and an air-exhaust to permit an exhaust of the air from the cylinder, an inner valve member slidably arranged within the said outer shell or valve member, said inner valve member being provided with an air-receiving chamber, and having an air passage or port which when introduced beneath the said air passage or port in the outer shell or valve member opens into the said cylinder, said inner valve member being also provided with a channel for conducting the exhaust-air from the said cylinder, and means for operating said inner valve member, consisting of an armature and an electric circuit connected with the machine-frame and templet, and with the tracer, a pair of electromagnets, a resistance box or rheostat, a source of electrical generation in said electric circuit, and a spring in engagement with said inner valve member for returning the said inner valve member to its normal initial position, substantially as and for the purposes set forth.

3. The combination, with an engraving or carving machine provided with a tool-carrying lever-arm, and a vertically-movable tracer of a pneumatic means for assisting the ascending movements of the tracer and tool, consisting, essentially, of a cylinder and a piston or plunger therein, a connecting-rod between the tool-carrying lever-arm and the said piston or plunger, said pneumatic means having an air-chamber adjacent to the lower end of said cylinder, a passage leading from said cylinder into said air-chamber, the said air-chamber forming an air-cushion at the bottom of said cylinder, and a valve for automatically operating the said pneumatic means, substantially as and for the purposes set forth.

4. The combination, with an engraving or carving machine provided with a tool-carrying lever-arm, and a vertically-movable tracer of a pneumatic means for assisting the ascending movements of the tracer and tool, consisting, essentially, of a cylinder and piston or plunger therein, a connecting-rod between the tool-carrying lever-arm and the said piston or plunger, said pneumatic means having an air-chamber adjacent to the lower end of said cylinder, a passage leading from said cylinder into said air-chamber, the said air-chamber forming an air-cushion at the bottom of said cylinder, and a valve for automatically operating the said pneumatic means consisting of an outer shell or valve member communicating with the said cylinder, said outer shell or valve member having a port or air-passage for the entrance of the air into the cylinder and an exhaust-passage to permit an exhaust of the air from the cylinder, an inner valve member slidably arranged within the said outer shell or valve member, said inner valve member being provided with an air-receiving chamber and having an air passage or port which when introduced beneath the said air passage or port in the outer shell or valve member opens into the said cylinder, said inner valve member being also provided with a channel for conducting the exhaust-air from the said cylinder, and means for operating said inner valve member, substantially as and for the purposes set forth.

5. The combination, with an engraving or carving machine provided with a tool-carrying lever-arm, and a vertically-movable tracer of a pneumatic means for assisting the ascending movements of the tracer and tool, consisting, essentially, of a cylinder and piston or plunger therein, a connecting-rod between the tool-carrying lever-arm and the said piston or plunger, said pneumatic means having an air-chamber adjacent to the lower end of said cylinder, a passage leading from said cylinder into said air-chamber, the said air-chamber forming an air-cushion at the bottom of said cylinder, and a valve for automatically operating the said pneumatic means consisting of an outer shell or valve member communicating with the said cylinder, said outer shell or valve member having a port or air-passage for the entrance of the air into the cylinder and an exhaust-passage to permit an exhaust of the air from the cylinder, an inner valve member slidably arranged within the said outer shell or valve member, said inner valve member being provided with an air-receiving chamber and having an air passage or port which when introduced beneath the said air passage or port in the outer shell or valve member opens into the said cylinder, said inner valve member being also provided with a channel for conducting the exhaust-air from the said cylinder, and means for operating said inner valve member, substantially as and for the purposes set forth.

842,746. EXCAVATOR. JOHN B. AMOS, Prairie City, Ill. Filed Sept. 22, 1906. Serial No. 335,799.



Claim.—1. An implement of the character described comprising a main frame, a carrier-frame laterally adjustable on the main frame, and a digger supported by the carrier.

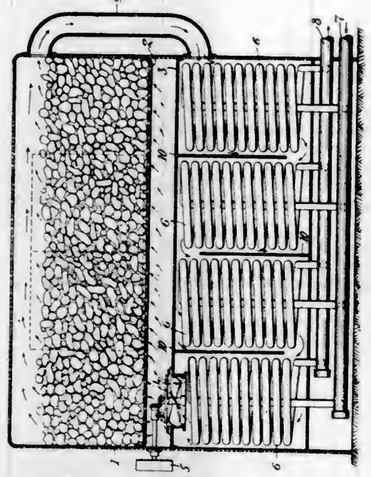
2. An implement of the class described comprising a main frame, a carrier-frame laterally adjustable on the main frame, a transverse conveyer supported by the carrier-frame, means for operating said conveyer, and a digger arranged to discharge the earth taken up thereby on the carrier.

3. An implement of the character described comprising a main frame, a carrier-frame laterally adjustable thereon, a transverse conveyer supported by the carrier-frame, means for operating said conveyer, and an excavating-shovel carried by the carrier-frame and having a channeled moldboard arranged to convey the earth to the conveyer.

4. In an implement of the character described, a conveyer, a shovel having a moldboard of channeled form to conduct the earth thereto, and means for shifting the shovel and conveyer in unison.

5. An implement of the character described comprising a main frame, a carrier-frame laterally adjustable thereon, an excavating-shovel having a channeled moldboard, a transverse conveyer adapted to receive the earth from the moldboard, a drive-wheel, and gearing for driving the conveyer from the drive-wheel.

842,747. PROCESS FOR COOLING COKE. CHARLES E. ARNOLD, Wilmington, Del., assignor of one-fourth to William Coyne, Wilmington, Del. Filed Aug. 30, 1906. Serial No. 332,685.



Claim.—1. The process of cooling combustible substances, which consists in inclosing them within an air-tight casing containing a cooling medium and inert gases, and circulating said gases in a continuous circuit in contact with the combustible substances and the cooling medium.

2. The process of cooling and quenching combustible substances, which consists in inclosing said substances within an air-tight casing containing a cooling medium, excluding the air from said casing, and circulating the gases within said casing in a continuous circuit in contact with the combustible substances and the cooling medium.

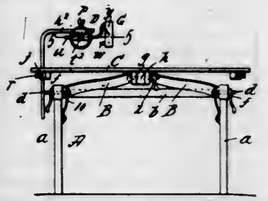
3. The process of cooling and quenching coke, which consists in inserting said coke while in an incandescent state in a casing, excluding the air from said casing, cooling an inert gas, and circulating said gas in contact with the coke.

4. The process of cooling coke, which consists in inserting said coke while in an incandescent state in an air-tight casing containing a cooling medium, and circulating the inert gases resulting from the slight combustion of the coke, in intimate contact with the cooling medium and the coke.

5. The process of cooling coke, which consists in inserting said coke while in an incandescent state in an air-tight chamber containing a cooling medium, forcing the inert gases which are within said casing and resulting from the slight burning of the coke, into contact with the cooling medium, and blowing said gases through the coke, whereby further burning of the coke is prevented and the temperature thereof reduced below the point of ignition.

842,748. MILLINER'S TABLE. KATIE B. ATHERTON and HERBERT W. ATHERTON, Holyoke, Mass. Filed Feb. 27, 1906. Serial No. 303,254.

Claim.—1. A milliner's table consisting of a supporting-frame, a top supported by said frame and provided with a hat-holder support, means for vertically adjusting said top, means for angularly adjusting the top, means whereby said support is adjustable vertically and revolubly relative to the table-top, means for confining said support unmovably in its adjusted position, and a hat-holder carried by said support.



2. A milliner's table having a top provided with a vertically-movable hat-holder support, a hat-holder carried thereby, means whereby said holder is adjustable vertically and means whereby said holder is bodily adjustable longitudinally with respect to the table-top.

3. A milliner's table having a top provided with a hat-holder support, a hat-holder carried thereby, means whereby said holder is vertically adjustable, means whereby said holder is longitudinally adjustable with respect to the table-top, and means whereby said holder is revolubly adjustable about a horizontal axis.

4. A milliner's table comprising a top, a vertically-movable hat-holder support carried thereby and comprising a rotatable and vertically-movable member and a horizontal member having a swivel-clamp, and a hat-holder secured in position by said clamp and comprising a longitudinally and horizontally adjustable supporting-stem.

5. In a device of the character described, a hat-holder head or body, supporting means whereby the holder is adjustable longitudinally of its axis and rotatively about its axis, and means for the confinement of the holder in its adjusted position.

6. A milliner's table comprising a hat-holder head, supporting means therefor, and means whereby said holder is adjustably connected with the supporting means and revoluble about an axis outside of and parallel with its own axis.

7. A milliner's table comprising a hat-holder head, supporting means therefor, whereby the holder is adjustably connected to said supporting means, and means whereby the holder is movable revolubly about an axis extending at right angles to its own axis.

8. In a device of the character described, a hat-holder, means for adjustably and rotatably supporting the holder upon and along the line of its axis, means for revolubly supporting the holder upon an axis parallel to the first-mentioned axis, and means for revolubly supporting the holder upon an axis parallel to the first-mentioned axis.

9. A milliner's table having combined therewith a vertical rod provided with a horizontal member, a swivel-clamp provided with a hole transversely therethrough, through which said horizontal member engages and having a hole therethrough at right angles to said first-named hole, and provided with opposite, apertured, ear-lugs, a bar or stem slidably engaged through said ear-lugs and carrying a contractible hat-holder, a bolt having an eye engaging said stem and having its shank extended through the second-named hole in said clamp and receiving a binding-nut at its protruding threaded end and means for adjustably holding the clamp-body on said horizontal member.

10. A milliner's table comprising a vertically and rotatively adjustable rod having a horizontally-extending member, a swivel-clamp provided with a transversely-extending opening through which said member engages, said clamp further provided with an opening extending at right angles with respect to said transversely-extending opening, apertured ears carried by the clamp, a bar slidably engaging in said ears, a contractible and expansible hat-holder carried by the bar, a screw-threaded bolt engaging in the said second-mentioned opening and provided with an eye receiving said bar, a binding-nut carried by the

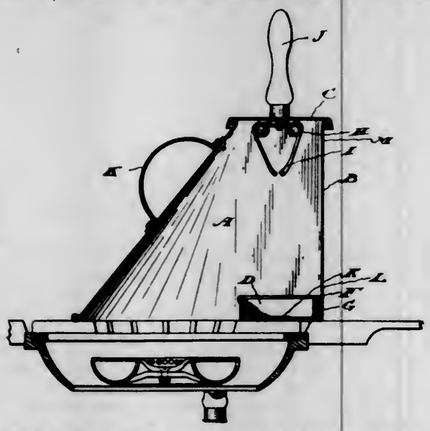
screw-threaded portion of the bar, and means for adjustably securing the clamp to said horizontal member.

11. In a device of the character described, a supporting bar or rod, a swivel-clamp means for longitudinally and revolubly adjusting the clamp to the rod, a hat-holder consisting of a head, a stem with which said head is connected, and means whereby said stem is horizontally and longitudinally and also rotatively adjustable relatively to, and adapted to be confined by, said swivel-clamp.

12. In a device of the character described, a hat-holder consisting of a partially-circular band of spring metal provided with oppositely-located finger-studs, a stem, having its extremity connected with an intermediate portion of said spring-band, and a support with which such stem is adjustably connected.

13. In a device of the character described, a hat-holder consisting of a partially-circular band of spring metal provided with oppositely-located finger-studs, a stem, having its forward extremity bent offset from its main portion, and connected with an intermediate portion of said spring-band, and a table having a hat-holder support with which such stem is adjustably connected.

842,749. BROILER. GEORGE T. BAGULEY, Toronto, Ontario, Canada. Filed Jan. 2, 1906. Serial No. 294,160.



Claim.—1. A broiler comprising a chamber having an opening in the bottom adapted to afford communication with a source of heat, and having one side inclined from the bottom inwardly toward the opposite side in combination with means adjacent to the latter side, and to one side of the source of heat, for supporting the meat to be broiled in a vertical position, openings being provided in the said side above the drip-pan for the escape of the heated air, substantially as described.

2. A broiler comprising a chamber having an opening in the bottom, and having one side inclined from the bottom inwardly toward the opposite side in combination with means adjacent to the latter side for supporting the meat to be broiled; a drip-pan removably supported below the meat-supporting means, and air-exit apertures being provided in the side of the chamber just above the drip-pan, substantially as described.

3. A broiler comprising a chamber having an opening in the bottom, and having one side inclined from the bottom inwardly toward the opposite side, in combination with a cover removably fitted to an opening in the top of the chamber adjacent to the latter side; and means connected with said cover for supporting the meat to be broiled, substantially as described.

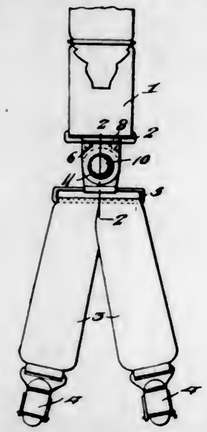
4. A broiler comprising a chamber having an opening in the bottom, and having one side inclined from the bottom inwardly toward the opposite side in combination with means adjacent to the latter side for supporting the meat to be broiled; a drip-pan removably supported below the meat-supporting means, and air-exit apertures being provided in the side of the chamber just above the drip-pan, and small apertures near the top of the same side, substantially as described.

5. A broiler comprising a chamber having an opening in the bottom, and having one side inclined from the bottom inwardly toward the opposite side in combination with means adjacent to the latter side for supporting the meat to be broiled; a guide detachably supported below the meat-supporting means opposite an aperture in an end of the chamber; and a drip-pan supported on the said guide, and removable through the said aperture, substantially as described.

6. A broiler comprising a closed chamber having an opening in the bottom adapted to afford communication with a source of heat, and shaped to direct heated air entering the opening toward one side of the chamber, in combination with means adjacent to the said side, and to one side of the source of heat, for supporting the meat to be broiled in a vertical position, openings being provided in the said side above the drip-pan for the escape of the heated air, substantially as described.

7. A broiler comprising a closed chamber having an opening in the bottom; a drip-pan at the bottom; a cover closing an opening over the drip-pan; and meat-holding means connected to the cover, substantially as described.

842,750. HOSE-SUPPORTER. JACOB C. BEACH, Shirley, Mass. Filed Nov. 18, 1905. Serial No. 288,013.

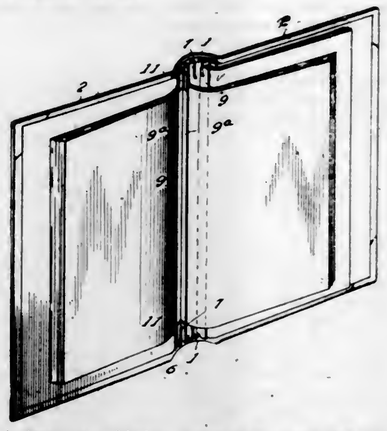


Claim.—1. A hose-supporter comprising suspending and garment-engaging members, metallic loops carried by said members, and a cast-off consisting of a pair of coupling-plates, respectively, slidably and pivotally engaging said loops and carrying interlocking members.

2. A garment-supporter comprising suspending and garment-engaging members, metallic loops carried by said members, a pair of coupling-plates provided at their respective upper and lower ends with eyes slidably and pivotally engaging the loops, and each having an opening therein, and a separable fastener for connecting said plates consisting of a stud and a socket carried by the plates, each member of said fastener comprising parts formed with flanges, one part passing through the opening in the plate and the flanges being arranged to form a groove receiving the edge of the plate about the opening and clamping the plate between them.

842,751. TEMPORARY BINDER. JOHN A BEXELL, Logan, Utah. Filed Apr. 23, 1906. Serial No. 313,310.

Claim.—1. A temporary binder, comprising protecting-covers, U-shaped fasteners secured at top and bottom edges of said cover at the middle thereof, said fasteners facing each other, and protective strips designed for insertion at their ends underneath the oppositely-facing fasteners, and designed to secure to said fasteners loose or bound-together leaves.



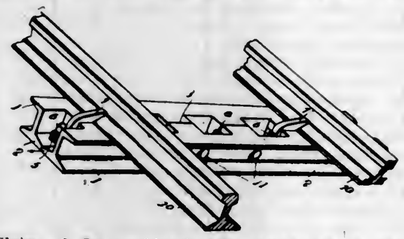
2. A temporary binder, comprising protecting-covers, U-shaped fasteners secured at top and bottom of said covers at the middle thereof, the open sides of said fasteners facing each other, top and bottom fasteners being considered, supporting-strips to which said fasteners are directly attached, and protective strips designed to have their ends inserted under the said fasteners, as and for the purpose specified.

3. A temporary binder, comprising protecting-covers, an upper and a lower set of U-shaped fasteners secured to said cover at the middle thereof, and protective strips provided at their ends with reinforces and designed to be inserted under said fasteners at their ends.

4. A temporary binder comprising protecting-covers, an upper and a lower set of U-shaped fasteners secured to said cover at the middle thereof, and protective strips provided at their ends with reinforces and recesses and designed to be inserted at their ends under said fasteners.

5. A temporary binder comprising protecting-covers, supporting-strips secured to said covers at top and bottom at the middle thereof, and fasteners provided with returned ends 4^a designed to embrace said supporting-strips whereby to detachably connect the fasteners to said strips.

842,752. RAILWAY-TIE. FREDERICK V. BICKING, Phœnixville, Pa. Filed June 26, 1906. Serial No. 323,515.



Claim.—1. In combination, a railway-tie, a pair of means connecting each pair of clamps with rail-clamps arranged at each end of said tie, the tie for simultaneously adjusting the clamps of each pair, and means for adjusting said clamps of each pair with reference to one another.

2. In combination, a railway-tie, rail-clamps arranged in pairs located at opposite ends of the tie and adjusting-rods connected with the pairs of clamps, and nuts applied to said rods and each coöperating with the tie to adjust the position of a rod and to effect simultaneous adjustment of a pair of the clamps, and nuts arranged to adjust clamps of each pair with reference to one another.

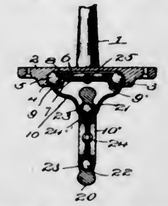
3. In combination, a railway-tie comprising complemental sections embodying base portions in contact throughout the length of the tie, the upper portions of the sections being spaced apart, abutments at intervals in the space between the sections, rail-clamps movably mounted in the space between the sections, and rods connected with the abutments and with the rail-clamps including means mounted thereon for effecting the simultaneous adjustment of a pair of said clamps, or individual adjustment of the clamps with reference to one another.

4. In combination, a railway-tie comprising complemental sections embodying base portions in contact throughout the length of the tie, the upper portions of the section being spaced apart, abutments at intervals in the space between the sections, rail-clamps movably mounted in the space between the sections, rods connected with the abutments and with the rail-clamps including means mounted thereon for effecting the simultaneous adjustment of a pair of said clamps or individual adjustment of the clamps of such pair with reference to one another.

5. In combination, a railway-tie embodying complemental longitudinal sections, transverse fastening means connecting the sections together, each section consisting of a base in contact with the base of the other section throughout the length of the tie, rail-clamps mounted between the upper portion of the tie and means for actuating said rail-clamps.

6. In combination, a railway-tie embodying complemental longitudinal sections, transverse fastening means connecting the sections together, each section consisting of a base in contact with the base of the other section throughout the length of the tie, rail-clamps mounted between the upper portion of the tie, each section being formed with enlargements projecting over the adjacent sides thereof, and constituting spaced abutments and members connecting the abutments with the rail-clamps for effecting the actuation of said clamps.

842,753. CASTER. RICHARD E. BIERD, Seattle, Wash. Filed Sept. 25, 1905. Serial No. 280,064.

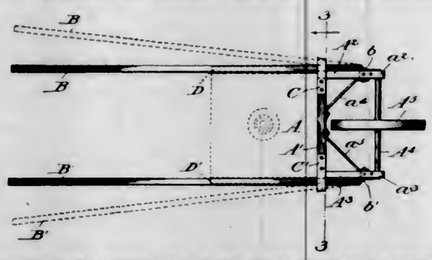


Claim.—In a caster, an attaching-plate provided with a depending inturned flange forming a ball-race, arms joined at their upper ends by a disk provided with a peripheral groove, a cap rigidly connected with the disk and provided with a coöperating groove, the said cap and disk being disposed within the depending flange of the plate, balls disposed within the ball-race of the plate and the groove of the disk and cap, disks formed upon and integral with the lower ends of the arms and provided with outturned flanges defining a ball-race, means rigidly connecting the disks, a rim encircling the connected disks and provided with a groove about its inner periphery corresponding and coacting with the groove of the joined disks, a ball-spacer disposed between the peripheries of the disk and the rim, and balls disposed between the rim and disks and spaced by the spacer.

842,754. TRUCK FOR CONVEYING MERCHANDISE. FREDERICK A. BIERIE, Philadelphia, Pa. Filed Mar. 17, 1905. Serial No. 250,576.

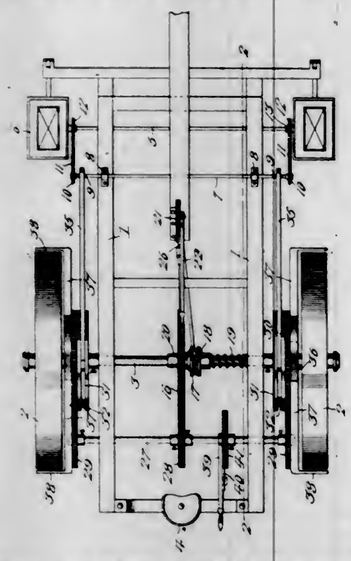
Claim.—A truck comprising a transverse cross-piece, forwardly-projecting members extending from each end thereof, an axle journaled between and in the said forwardly-

projecting members, yokes secured to the ends of the cross-piece in line therewith, a pair of handles, each handle being hinged at its forward end to the forward end of one of the said forwardly-projecting members at a point rear of the said axle and normally engaging the said member



throughout its length rear of the hinge-point and passing through one of the said yokes, said yokes being arranged to engage the upper, lower and outer faces of the said handles and permitting a limited outward swinging thereof.

842,755. CORN-PLANTER. HENRY F. BLAIR, Hermitage, Mo. Filed Nov. 3, 1906. Serial No. 341,929.

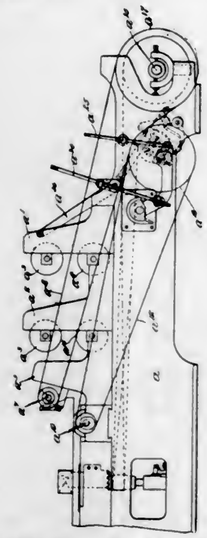


Claim.—1. In a planter, a main frame, a drive-shaft journaled therein and provided with transporting-wheels, a dropper-shaft having winding-drums thereon, means for fixing the drums for rotation in one direction with the shaft, a rock-shaft provided with winding-pulleys, belts normally wound on the drums and connected to be wound on the pulleys, and means actuated by the drive-shaft for actuating the rock-shaft.

2. In a planter, a main frame, a drive-shaft journaled therein and equipped with transporting-wheels, a dropper-shaft, winding-drums on said shaft, means for fixing the drums to the shaft for rotating the latter in one direction, a rock-shaft having winding-pulleys, belts normally wound in one direction on the drums and connected to be reversely wound on the pulleys, plunger-bars for actuating the rock-shaft, cam-heads on the drive shaft for operating the plunger-bars, and springs arranged to act on the winding-drums for winding the belts thereon.

3. In a planter, a main frame, a drive-shaft journaled therein and equipped with transporting-wheels, a second shaft having geared connection with the drive-shaft, gears idly mounted on the drive-shaft and carrying cam-heads, pinions fixed on the second shaft in engagement with the gears for rotating said cam-heads, a dropper-shaft, means including plungers operated by the cam-heads for rotating the dropper-shaft, and means for throwing said shaft out of gear with the drive-shaft at will.

842,756. BELT-ADJUSTING MECHANISM. CHARLES W. H. BLOOD, Boston, Mass., assignor to S. A. Woods Machine Company, Boston, Mass. Filed June 23, 1904. Serial No. 213,806.



Claim.—1. A machine, containing oppositely-moving horizontal spindles, oppositely-moving vertical spindles, and their driving-belts, combined with belt-tightening mechanism for simultaneously tightening the belts of said horizontal spindles and the belts of said vertical spindles, and a single hand-lever for operating said tightening mechanism.

2. A machine, having a horizontal spindle, and its driving-belt and pulleys, a vertical spindle and its driving-belt and drum, and hand-operated means for simultaneously tightening said belts.

3. A machine, having an upper horizontal spindle, a lower horizontal spindle rotating in the opposite direction to said upper spindle, coöperating vertical spindles rotating in opposite directions, driving-belts for all of said spindles, and hand-operated mechanism for simultaneously tightening all of said belts.

4. A machine, having an upper horizontal spindle, a lower horizontal spindle, driving-belts for oppositely rotating said spindles, one set of belts being frictionally driven by the other, means for simultaneously tightening said two sets of driving-belts, and means for independently tightening the same.

5. A machine, having a horizontal spindle, driving-belts for its opposite ends, adjustable driving-pulleys for said belts, opposite toggles for adjusting said pulleys, and a hand-lever for simultaneously operating said toggles.

6. A machine, having a horizontal spindle, driving-belts for its opposite ends, swinging driving-pulleys for said belts, opposite toggles for swinging said pulleys, and a hand-lever for simultaneously operating said toggles.

7. A machine, having upper and lower horizontal spindles and their driving-belts and pulleys, the pulleys and belts of one thereof being frictionally driven by the others thereof, said frictionally-driven pulleys being adjustably mounted, means for simultaneously adjusting the same toward and from the driving-belts, and adjusting means for adjusting said pulleys toward or from their spindles.

8. A machine, having upper and lower horizontal spindles and their driving-belts and pulleys, the pulleys and belts of one thereof being frictionally driven by the others thereof, said frictionally-driven pulleys being swingingly mounted, means for simultaneously swinging the same toward and from the driving-belts, and adjusting means for adjusting said pulleys independently of said swinging movement.

9. A machine, having a horizontal spindle, a driving-belt therefor, an adjustable pulley for said belt, means for adjusting said pulley, a toggle for moving said pulley to tighten the belt, and means for adjusting the operative movement of said toggle.

10. A machine, comprising a horizontal spindle, a driving-belt therefor, a swinging pulley for said belt, a toggle for said swinging pulley, and means for adjusting the operative movement of said toggle.

11. A machine, comprising a horizontal spindle, a driving-belt therefor, a swinging driving-pulley, about which said belt passes for driving said belt, a toggle arranged to move toward lengthened position to swing said swinging pulley into belt-tightening position, and means for adjusting said pulley toward and from its swinging center.

12. A machine, having a rotary spindle, driving-belts for its opposite ends, independently-adjustable driving-pulleys therefor movable into belt-tightening position and belt-releasing position, said belts passing around said pulleys in driven engagement therewith, a lever for simultaneously swinging said driving-pulleys, and automatic means coöperating therewith for locking said parts in belt-tightened position, said means being automatically locked and unlocked by movement of said lever.

13. A machine, having a horizontal spindle, a driving-belt therefor, an adjustable pulley for said belt, means for adjusting said pulley, a toggle for moving said pulley to tighten the belt, means for adjusting the operative movement of said toggle, and an operating-crank movable past a dead-center for locking said parts in belt-tightened position.

14. A machine, having a horizontal spindle, a driving-belt therefor, a swinging pulley for said belt, a toggle for swinging said pulley, means for adjusting said pulley toward and from its swinging center, means for adjusting the operative movement of said toggle, and an operating-crank movable past a dead-center for locking said parts in belt-tightened position.

15. A machine, comprising a horizontal spindle, belts at its opposite ends, tightening-pulleys for said belts, toggles for moving said pulleys, a rock-shaft, cranks and rods therefrom connected to said respective toggles, and an operating-lever for rocking said shaft.

16. A machine, having a horizontal spindle, belts at its opposite ends, tightening-pulleys for said belts, toggles for moving said pulleys, a rock-shaft, cranks and rods therefrom connected to said respective toggles, and an operating-lever for rocking said shaft, said rods being adjustable in length for changing the normal angles of said toggles.

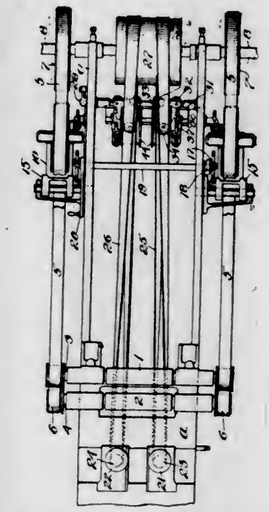
17. A machine, having a rotary spindle, a driving-belt therefor, a tightening driving-pulley mounted to swing for tightening said belt, said belt passing around said pulley in driven engagement therewith, a toggle movable toward lengthened position to tighten the belt, and operating connections for swinging said toggle, belt and pulley.

18. A machine, having a rotary spindle, a driving-belt therefor, a tightening-pulley for tightening said belt, an adjustable swinging support for said pulley, and a toggle and adjustable operating connections for swinging said support and pulley.

19. A machine, having horizontal rotary spindles and vertical rotary spindles, belts and driving-pulleys for all of said spindles, belt-tightening mechanism, including swinging pulleys and toggles for all of said belts, and a single hand-lever for simultaneously operating all of said pulleys and toggles.

20. A machine, having an upper horizontal spindle and its driving-belts and pulleys, a lower horizontal spindle and its driving-belts and pulleys, opposite vertical spindles and their driving-belts and driving means, belt-tightening pulleys for the belts of said vertical spindles, a swinging support for said belt-tightening pulleys, swinging supports for the pulleys of said lower spindle, and means for simultaneously swinging all of said swinging supports and their pulleys.

842,757. BELT GUIDING AND TIGHTENING MECHANISM. CHARLES W. H. BLOOD, Boston, Mass., assignor to S. A. Woods Machine Company, Boston, Mass. Original application filed June 23, 1904, Serial No. 213,806. Divided and this application filed Mar. 5, 1906. Serial No. 304,210.



Claim.—1. A machine, comprising rotary spindles, driving-belts therefor and separate belt-tighteners for said belts, having a common supporting-frame mounted to swing and provided with a longitudinal track, said belt-tighteners including brackets, and rollers mounted on said brackets to travel on said track, pulleys mounted in said brackets to engage said belts, and means for swinging said frame.

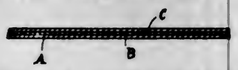
2. In a machine of the kind described, driving mechanism, including belts, laterally shiftable toward and from each other, and belt-tighteners for said belts, comprising a swinging frame, provided with a longitudinal track, brackets sliding on said track, pulleys adjustably supported in said brackets to engage said belts, and means for swinging said frame.

3. In a machine of the kind described, driving mechanism, including belts laterally shiftable toward and from each other, and belt-tighteners for said belts, comprising a frame provided with a track, brackets sliding on said track, belt-pulleys mounted in said brackets, and means for swinging said frame.

4. In a machine of the kind described, driving mechanism, including belts laterally shiftable toward and from each other, a swinging frame provided with a track, carriers provided with rollers, movable longitudinally on said track, and belt-pulleys journaled in said carriers for engaging said laterally-shiftable belts.

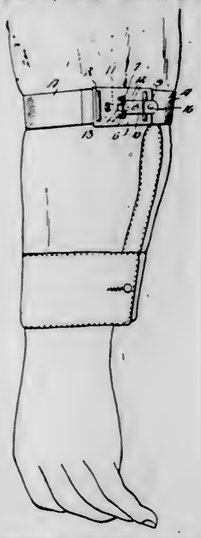
5. In a machine of the kind described, driving mechanism, including belts laterally shiftable toward and from each other, a track movable up and down, supporting-carriers movable longitudinally toward and from each other on said track, belt-pulleys supported by said carriers for engaging said laterally-shiftable belts, means for moving said track and thereby simultaneously moving said pulleys, and means for independently adjusting the normal height of the pulleys with relation to said track.

842,758. METAL BOX OR OTHER METAL ARTICLE OR SURFACE. ROBERT BROWN, Donaghmore, Ireland. Filed Jan. 2, 1906. Serial No. 294,304.



Claim.—The improved process of improving and softening the appearance of ornamental and polished metal surfaces and protecting the surfaces from corrosion, which consists in the reduction of paraffin-wax to a liquid state by the application of heat thereto, covering the surface with a film of the hot liquid wax, drying and draining the surface by submitting the same to a hot atmosphere which removes any moisture and causes the wax to flow and leave a very thin film upon the surface, and in hardening the remaining film by cooling.

842,759. BUCKLE. ALPHEUS O. BRUBAKER, Sugden, Ind. Ter. Filed June 24, 1905. Serial No. 266,831.



Claim.—1. A sleeve-holder comprising a buckle, a strip of webbing having its ends secured to the buckle, and a tongue pivotally secured to the buckle and provided with means for engaging the material of the sleeve underlying the buckle when in place, and means for securing the tongue in operative position against strain tending to disengage the sleeve material.

2. A sleeve-holder comprising a buckle, a strip of webbing having its ends secured to the buckle, a tongue pivotally connected with the buckle and terminally formed with means to engage the material of the sleeve underlying the buckle when in place, and means for securing the tongue in operative position against strain tending to disengage the sleeve material.

3. A sleeve-holder comprising a buckle, a strip of webbing having its ends secured to the buckle, a tongue pivotally connected to the buckle and having a part to cooperate with the under side of the plate, said latter part being terminally formed with an upwardly-projecting lip adapted to engage the material of the sleeve underlying the buckle when in place and force said engaged portion of the sleeve through an opening formed in the buckle-plate.

842,760. CLOTHES-LINE. BUREL A. BRUNNER, Rockwall, Tex. Filed May 11, 1905. Serial No. 260,600.

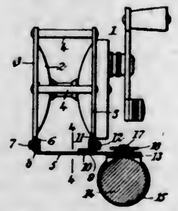
Claim.—1. A clothes-line composed of similar connected sections each comprising a straight main member folded upon itself at each end to form eyes, each inturned portion of said member being curved around the straight portion and terminating in a depending loop a portion of which extends across said straight member to form a crotch, and means secured to the straight portion between the sides of the loops and engaging said loops.



2. A clothes-line composed of connected sections, each of which comprises a main and a supplemental member, the main member having terminal crotches and intermediate loops, and the supplemental member being interlocked with the main member to form intermediate crotches and loops.

3. A clothes-line composed of connected sections each of which comprises a main and a supplemental member, the main member being twisted to form terminal eyes and crotches, and then formed into loops, the terminals of the member being secured around the intermediate portion thereof, and the supplemental member being looped around the intermediate portion of the main member, passed beneath the same to form crotches, and thence deflected upward and secured at its ends around the main member.

842,761. FISHING-REEL. TRACY V. BUCKWALTER, Altoona, Pa. Filed May 9, 1906. Serial No. 315,939.



Claim.—1. In combination with a fishing-rod having a reel-seat, a reel having sides, a base-plate secured to said sides and projecting laterally therebeyond, and means for pivotally attaching said base-plate to said reel-seat.

2. A reel, comprising a body having sides, a base-plate rigidly mounted upon said sides and extending laterally therebeyond, a cross-plate adapted to be removably attached to a fishing-rod, and means for pivotally mounting said base-plate upon said cross-plate.

3. A reel comprising a body having sides, a base-plate rigidly mounted upon said sides and extending laterally therebeyond, a cross-plate adapted to be removably attached to a fishing-rod and having a stud and stops, said cross-plate being adapted to be mounted upon said stud, and means for pivotally securing said base-plate to said cross-plate.

4. A reel comprising a body having sides, a base-plate rigidly mounted upon said sides and extending laterally therebeyond, a cross-plate adapted to be removably attached to a fishing-rod and having ledges transversely of said cross-plate, and means for pivotally securing said base-plate to said cross-plate between said ledges, whereby said ledges are adapted to constitute stops to limit the movement of said base-plate.

5. A reel comprising a body having sides, a base-plate secured to said sides and projecting laterally therebeyond, a cross-plate adapted to be removably attached to a fishing-rod and having transverse ledges constituting stops, and means for pivotally attaching said base-plate to said cross-plate between said ledges, said ledges having inner edges of opposite inclination whereby the edges of said base-plate are in contact with the inner edges of said ledges when the reel is set at an angle with the fishing-rod.

842,762. EYEGLASSES. SMITH W. BURCH, Voluntown, Conn. Filed May 23, 1906. Serial No. 318,384.

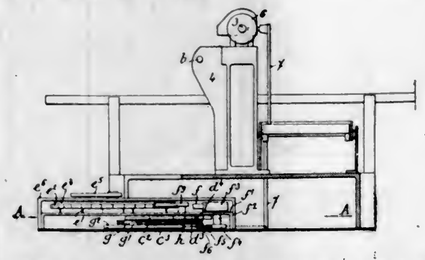


Claim.—1. The combination with an eyeglass, of a nose-clamp therefor comprising independently-movable clamping-arms, to engage each side of the nose and means permitting the independent manual manipulation of said arms.

2. The combination with an eyeglass, of a nose-clamp therefor comprising independently-movable clamping-arms to engage each side of the nose and carrying nose-pads at their outer ends, a spring secured to each arm and to the lens-post of the eyeglass structure, and means projecting beyond said post to permit manual movement of the arm.

3. The combination with an eyeglass, of a nose-clamp therefor comprising independently-movable clamping-arms to engage each side of the nose, a spring secured to each arm, and means connecting said spring to the lens-post of the eyeglass structure, said arm being extended beyond the connection of said spring and post to provide an operating-handle.

842,763. CRYPTOGRAPHIC MACHINE. HUBERT BURG, Mollkirch, near Rosheim, Germany. Filed Aug. 16, 1905. Serial No. 274,413.

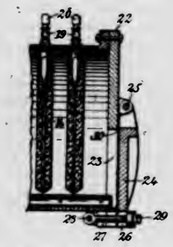


Claim.—1. In a cryptographic machine, having a keyboard, a revolving type-cylinder, and means for causing the said cylinder to swing, as from a temporary initial position, predetermined distances corresponding to each key of the keyboard, the combination of a disk having holes arranged according to several concentric circles and in radial rows, pins fixed in the said holes, at the rate of one pin for each radial row of holes, a member movable in a radial or nearly radial direction and adapted to impinge on the said pins successively, in having on that account, each time, a different amount of motion, and means for changing the temporary initial direction of the cylinder to a variable extent corresponding to the amount of motion of the said movable member each time the latter is moved to a fresh pin of the disk.

2. In a cryptographic machine, the combination of a type-cylinder, a toothed wheel coacting with the said cylinder, of a slidable plate, a fork with toothed arms and jointed upon the said plate, means for adjusting the position of the said fork upon the plate so as to engage the one or the other arm with the type-cylinder, means for reciprocating the said plate, and a disk having pins on its face for limiting the movement of the plate.

3. In a cryptographic machine, the combination of a keyboard, a shaft in operative connection with the keys of the said keyboard, two type-cylinders on the said shaft, one of the cylinders adapted for moving invariably in the same direction with respect to the shaft, and the other cylinder adapted for moving in a variable direction with respect to the shaft, and means for changing the direction in which the latter cylinder moves with respect to the shaft.

842,764. FILTER. EDWIN BURT, El Oro, Mexico. Filed Sept. 14, 1906. Serial No. 334,624.



Claim.—1. In a filter, a cylinder, trunnions carried by the cylinder, supports in which the trunnions are journaled, a series of filter-mats contained in the cylinder, a pipe connecting all of said mats, means for supplying the cylinder with an ore slime, and means for turning the cylinder to an inclined position on its trunnions.

2. In a filter, a casing, a plurality of filter-mats contained in the casing, means for supplying the casing with an ore slime, and means for tilting the casing in an inclined position.

3. In a filter, a casing, a door at one end of the casing, filter-mats contained in the casing, means for supplying the casing with a slime or the like, and means for tilting the casing to an inclined position.

4. In a filter, a cylindrical casing, a series of filter-mats contained therein, a solution-pipe, means connecting all of said mats to the solution-pipe, a door at one end of the casing, means for feeding slime to the casing at its opposite end, and means for tilting the casing to an inclined position.

5. In a filter, a casing, trunnions carried by the casing, a support in which the trunnions are journaled, a series of filter-mats contained in the casing, a pipe with which all of said mats communicate, means for tilting the casing to an inclined position, and means for opening one end of the casing, as described.

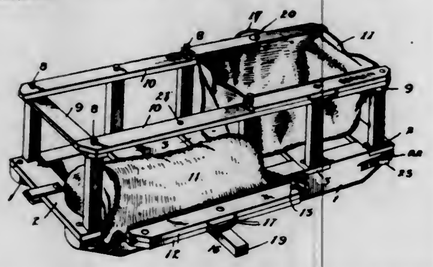
6. In a filter, a casing, a series of filter-mats contained therein, said mats being composed of a perforated core covered with a filtering material, means for tilting the casing to an inclined position, and means adapting the mats to remain vertical when the casing is thus tilted.

7. In a filter, a cylindrical casing, a series of filter-mats arranged parallel to each other contained therein, a pipe communicating with all of said mats, means for tilting the casing to an inclined position, a door at one end of the casing, and a pipe system adapted to feed to the casing slime, air and water during the filtering operation, as described.

8. In a filter, a cylindrical casing, a plurality of perforated pipes secured to the casing, a filter-mat suspended from each pipe, a pipe communicating with the filter-mats,

means for tilting the casing to an inclined position, means adapting the casing to be opened, and means to feed to the casing slime or the like to be filtered.

842,765. COTTON-PICKER'S SACK-CARRIER. WADE A. BYRD, Swifton, Ark. Filed Feb. 3, 1906. Serial No. 299,369.



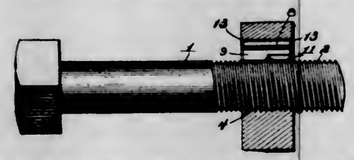
Claim—1. A movable supporting device having uprights reduced to form tenons at their upper ends, side rails engaging said tenons and connecting the uprights, intermediate uprights hingedly supported at their lower ends, and means detachably connecting the upper ends of the hinged uprights with the side rails.

2. A truck consisting of runners and cross members spacing and connecting the same, uprights upon said runners, end members and side rails connecting the upper ends of the uprights, intermediate uprights hingedly connected with the runners, means for detachably connecting the upper ends of the hinged uprights with the side rails, and flexible receptacles having slats supported above the side rails.

3. A runner-truck, uprights mounted upon the same and having reduced upper ends forming tenions, end members and side rails having apertures engaging the tenons and serving to connect the upper ends of the uprights, intermediate uprights hingedly connected with the runners and having recesses at their upper ends, securing members engaging said recesses through apertures in the side rails, and flexible receptacles having slats supported above the side rails.

4. A sack-supporting truck having runners beveled at both ends and provided at each end with draft attaching-hooks and with fender-springs engaging the points of said hooks.

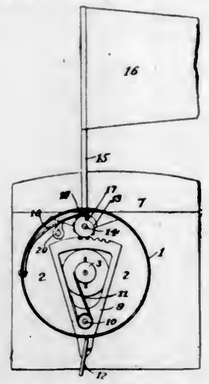
842,766. NUT-LOCK. FREDERICK A. CEASE, Plymouth, Pa. Filed Oct. 13, 1906. Serial No. 338,809.



Claim.—In a nut-lock, the combination of a bolt, a nut provided with a radial passage communicating at its inner end with the threaded bore thereof and having at its outer end an opening communicating with the outer end of said passage, and a key comprisin ga body portion fitted in said opening, and a bit projecting from said body portion into the passage, said bit being inclined to form a tongue to engage the threads of the bolt, the body of the nut being provided with projections at the ends of the opening to engage and hold the body of the key from displacement.

842,767. MAIL-BOX SIGNAL. DAVID F. CLARK, Peebles, Ohio. Filed July 9, 1906. Serial No. 325,387.

Claim.—1. A mail-box having a signaling device employing a quadrant effective for manual actuation, a pinion meshing therewith and carrying a signaling contrivance and retaining means for said pinion.

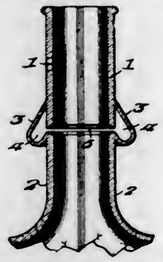


2. A mail-box having a signaling device comprising a quadrant provided with a thumb or finger actuating piece and a spring applied to said quadrant and having a recoiling action when said quadrant may be tripped, and a pinion meshing with said quadrant and carrying a signaling contrivance, and a retaining means for said pinion.

3. A mail-box having a signaling device comprising a quadrant, means for its actuation, a pinion or cog meshed with said quadrant and carrying a signaling contrivance, a spring detent or pawl effective for the retention of said pinion against rotation and a cam adapted to engage or trip said detent and having means for its manipulation.

4. A mail-box having a signaling device comprising a casing having a bracket embracing a tubular member secured to the back plate of said casing, said bracket also being provided with nut-equipped screws for the attachment thereof to the mail-box, a spring-equipped quadrant pivoted upon said back, a mutilated pinion geared to said quadrant and carrying a signaling contrivance and a notched sleeve, a spring pawl or detent engaging the notch of said sleeve, and a cam effective for convenient actuation and engagement with said spring-detent.

842,768. BOTTLE. JAMES T. CLIFFORD, Houghton, Mich. Filed Jan. 9, 1906. Serial No. 295,251.

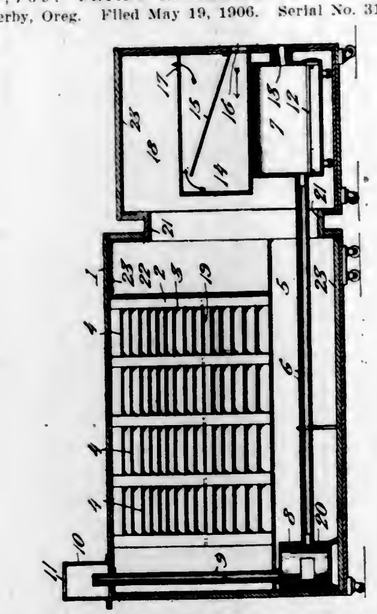


Claim.—1. A bottle having the neck thereof provided with a projecting trap of hollow formation encircling the neck, and communicating with the interior of the neck to receive and hold a portion of the contents of the bottle at all times.

2. A bottle provided with a neck having a plurality of sections spaced apart and united by a connecting-web which forms a trap or pocket, encircling the neck and communicating with the interior of the neck to receive and hold a portion of the contents of the bottle at all times.

3. A bottle provided with a neck and formed at a point intermediate the length of the neck, with an annular projecting trap or pocket which encircles the neck and communicates with the interior thereof to receive and hold a portion of the contents of the bottle at all times, said pocket being formed integral with the neck.

842,769. DRYING APPARATUS. ABNER COLEMAN, Kerby, Oreg. Filed May 19, 1906. Serial No. 317,793.



Claim.—1. A drying apparatus comprising a drying-chamber, a primary heater arranged at one end thereof, an auxiliary heater arranged at the opposite end thereof and connected with the primary heater by a smoke-flue, and a smoke-stack leading outward from the auxiliary heater.

2. A drying apparatus comprising a drying-chamber, a primary heater arranged at one end thereof, an auxiliary heater arranged at the opposite end thereof, a flue connecting said heaters, a flue extending from the auxiliary heater outward, and a heating-drum arranged over the primary heater and discharging into a chamber which communicates with the drying-chamber.

3. A drying apparatus comprising a drying-chamber, a primary heater at one end thereof, an auxiliary heater located at the other end thereof, a flue connecting said heaters, another flue extending outward from the auxiliary heater, a drum arranged over the primary heater and comprising inlet and outlet openings, and a baffle extending across the interior of the drum and located between the inlet and outlet openings thereof, substantially as described.

4. A drying apparatus comprising a drying-chamber, a heating-chamber located beneath the same and separated therefrom by a division-wall, a primary heater located at one end of the heating-chamber, an auxiliary heater located at the opposite end of said chamber, a flue connecting said heaters and passing through the heating-chamber, and a second flue extending outward from the auxiliary heater.

842,770. ADJUSTABLE TROWEL. PATRICK F. CONNELLY, Sioux Falls, S. D. Filed May 8, 1906. Serial No. 315,837.

Claim.—1. In a tool, the combination of a blade, a post permanently secured thereto and provided with a screw-thread at its upper end, a sleeve surrounding the post, a threaded member engaging the thread of the post and adjustably securing the sleeve to the latter, a handle pivoted to the sleeve to move on an axis at right angles to that of the post, and an adjustable device between the handle and sleeve for varying the angular relation of the handle with the blade.

2. In a tool, the combination of a blade, a post on the blade arranged at right angles to the plane thereof, a sleeve disposed over the post independently turnable thereon, a set-screw for securing the sleeve and post together, and a handle attached to and movable with the sleeve.

3. In a tool, the combination with a blade, a central upright post mounted stationary thereon, a sleeve rotatable on the post, means for securing the sleeve and post together, a handle pivoted on an axis at right angles to that of the sleeve and movable with the latter around the post, and a bracing means connected with the handle and the sleeve.



4. In a tool, the combination of a blade, an upright post thereon having a tapped bore, a sleeve mounted on the post to turn, a screw extending into the sleeve and threaded into the post, a hand-wheel on the screw which abuts the upper end of the sleeve for clamping the blade and sleeve together, a handle pivoted at its lower end on the sleeve to move on an axis at right angles to the latter, and an adjustable connection between the upper end of the sleeve and another part of the handle for bracing the latter with respect to the sleeve and changing the angular relation of the handle with the blade.

5. In a tool, the combination of a blade, a sleeve pivoted thereon which is disposed with its axis at right angles to the blade, a handle pivoted to the lower end of the sleeve and mounted to turn on an axis at right angles to that of the latter, and a turnbuckle for varying the angular adjustment of the handle with respect to the blade.

6. In a tool, the combination of a blade, a central upright post secured thereto which is provided with a tapped bore, a sleeve arranged at one end over and rotatable about the post, a set-screw extending through the sleeve which engages the thread on said post and abuts the end of the sleeve to hold the same in position, a handle pivoted at its lower end to the sleeve to turn about an axis parallel to the plane of the blade, and a turnbuckle connection between the sleeve and handle for adjusting the latter about its pivot.

7. In a tool, the combination of a blade, an upright post arranged centrally thereof and provided with a screw-thread, a sleeve arranged over and rotatable about the post, a set-screw extending through the screw which engages the thread from the post and holds the sleeve in position, a handle, a ferrule on the handle having lugs formed thereon, pivots connecting the lugs with the sleeve, and an adjustable connection between the sleeve and handle.

8. In a tool, the combination of a blade, a sleeve rotatively mounted thereon which is provided with a lug, means for clamping the post and sleeve together, a handle, a ferrule thereon which is provided with a lug, a fixed post on the blade disposed at right angles thereto, a pivot connecting the lugs of the ferrule and handle which permits the handle to be adjusted about the same and turned with the sleeve, and adjustable members between the sleeve and handle.

9. In a tool of the class described, the combination of a blade, a post thereon, a member sleeved on the post, means for adjustably attaching the sleeve to the post, and a handle adjustably connected with the sleeve, the side of the blade opposite from the post having two flat surfaces arranged in contiguous relation and one of the surfaces terminating in a sharp edge at one end of the blade.

10. A tool for working plastic material comprising a blade having its under face provided with a comparatively large flat surface for smoothing the work, and with a relatively small flat portion adjacent each end of the blade for polishing the work disposed at an angle to the first portion and arranged contiguous therewith, the said polishing-surfaces terminating in a sharp edge at the ends of the blade.

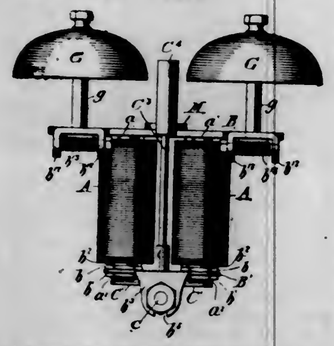
842,771. BATTERY BINDING-POST ATTACHMENT. GEORGE H. COVE, Roxbury, Mass., assignor of one-half to Frank R. Kimball, Boston, Mass. Filed Nov. 26, 1906. Serial No. 345,016.



Claim.—1. A battery binding-post attachment, comprising a U-shaped member having opposite approximately parallel arms provided at their free ends with coöperating wire-retaining tongues adapted to be moved past each other into wire-retaining position, and normally separated from each other out of wire-retaining position, and clamping means carried by said U-shaped member between the opposite projecting arms, moved by said arms into clamping position when the arms approach each other, and out of clamping position when the arms recede from each other.

2. A battery binding-post attachment, comprising a U-shaped member having opposite approximately parallel arms provided at their free ends with wire-embracing tongues and having clamping-jaws projecting inwardly from said arms in position to clamp the attachment in fixed position when the attachment is in wire-retaining position.

842,772. PARTY-LINE TELEPHONE SYSTEM. WILLIAM W. DEAN, Elyria, Ohio, assignor to The Dean Electric Company, Elyria, Ohio, a Corporation of Ohio. Filed Apr. 17, 1905. Serial No. 255,961.



Claim.—1. A selective party-line telephone system, comprising means at the central office for throwing selective ringing-currents of different predetermined frequencies upon a line; a plurality of stations connected to said line, and a ringer at each station having its armature and clapper-rod normally held against movement in response to any but a strong force; and naked pole-pieces adapted to touch the armature at the end of each stroke, whereby after initial vibration is set up in a ringer in response to proper current, its moving parts will be exposed to a strong and cumulative force sufficient to insure full operation, substantially as described.

2. In a party-line telephone system, the combination with a telephone-line, of a plurality of substations located on the line, a bell at each substation provided with a stiffened reed-tongue, an armature attached thereto, and naked magnet-poles in the path of travel of the armature, the operative rate of actuation of the bell being the natural rate of vibration of the tongue unmodified by the action of the gong of the bell in being struck, such operative rate being characteristic at each substation, and generating apparatus at the central office to generate current of the proper frequencies to operate said bells upon the telephone-line, and means to maintain the speed of the generating apparatus constant to thereby permit the desired operation of the bells, substantially as described.

3. In a party-line telephone system, the combination with a telephone-line, of a plurality of substations located on the line, a bell at each substation provided with naked magnet-poles exposed to its armature and with a stiffened reed-tongue, the operative rate of actuation of the bells being the natural rate of vibration of the reed-tongues unmodified by the action of the gongs of the bells in being struck, a generating apparatus at the central office consisting of an electric motor and a plurality of generators mounted upon a common shaft, a governor to maintain the speed of said motor and generators constant, said generators being arranged to deliver ringing-current to the line of frequencies corresponding to such operative rates of actuation of the bells, substantially as described.

4. In a party-line telephone system, the combination with a telephone-line, of a plurality of substations located on the line, bells provided with armatures exposed to naked poles and with stiffened reed-tongues at the substations in branches of the line conductors, each reed having a characteristic rate of actuation, means at the central office for impressing ringing-current upon the line of frequencies corresponding to each characteristic rates of actuation of the reeds, and means including the coils of the bells for electrically attuning said bell branches to the ringing-currents of the associated bells, substantially as described.

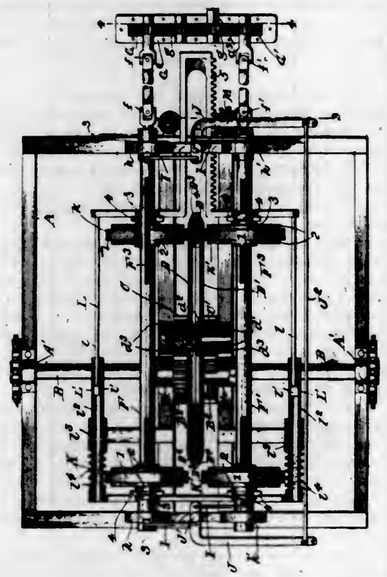
5. In a party-line telephone system, the combination with a telephone-line, of a plurality of substations located on the line, bells provided with armatures exposed to naked poles and with stiffened tuned reed-tongues at the substations in branches of the line conductors, each reed having a characteristic rate of actuation, and means at the central office for impressing ringing-current upon the line of frequencies corresponding to such characteristic rates of actuation of the reeds.

6. In a party-line telephone system, the combination with a telephone-line, of a plurality of substations located on the line, bells provided with armatures exposed to naked poles and with stiffened tuned reed-tongues at the substation in branches of the line conductors, each reed having a characteristic rate of actuation, condensers in said branches, and means at the central office for impressing ringing-current upon the line of frequencies corresponding to such characteristic rates of actuation of the reeds.

842,773. TRANSMISSION-GEAR. WILLIAM DEGEN and AUGUSTUS MANUEL, Fresno, Cal. Filed June 26, 1906. Serial No. 323,492.

Claim.—1. The combination of a pair of concentric friction-disks having their outer edges turned in toward each other, ball-bearings between the disks at the said edges, counter-shafts geared with their respective disks, pulley-shafts extending parallel with each other and with the disks and made in sections united by universal joints, drive-gearing for said pulley-shafts, eccentrics having bearings for the pulley-shafts, levers between the adjacent pairs of eccentrics and connected therewith, connections between the opposite levers, friction-pulleys keyed on and movable along the pulley-shafts, and a shifter-frame having means engaging with the friction-pulleys, and made in sections having a limited independent movement, and means for operating the shifter-frame, substantially as set forth.

2. In a transmission-gear, the combination of the parallel friction-disks having their arbors fitting telescopically one to the other, driven parts geared with said disks, pulleys operating upon their respective disks, and means for driving and shifting the said pulleys, substantially as set forth.



3. A transmission-gear comprising a pair of independently-movable parallel friction-disks, a pair of pulley-shafts extending approximately parallel with and on opposite sides of said pair of disks, pulleys keyed on and movable longitudinally along the pulley-shafts, the pulleys on the shafts being on opposite sides of the center of the disks, means for operating the shafts, and means for shifting the pulleys along the shafts, substantially as set forth.

4. The combination with a pair of friction-disks, of pulley-shafts extending along the said disks, pulleys on said shafts, means for shifting the pulleys along their shafts, bearings for the opposite pulley-shafts, said bearings being movable toward and from each other, and means for shifting the said bearings toward and from each other, substantially as set forth.

5. In a transmission-gear, the combination of the friction-disks having arbors fitting telescopically one to the other, the driven parts geared with their respective disks, and the friction-pulleys and their shafts, substantially as set forth.

6. In a transmission mechanism, the combination of the pair of concentric parallel and independently-movable friction-disks, and antifriction-bearings between the said disks, substantially as set forth.

7. In a transmission-gear the combination with a pair of parallel, independently-movable disks, of pulley-shafts and pulleys thereon and movable into and out of engagement with the outer faces of their respective disks, substantially as set forth.

8. The combination of a pair of friction-disks, shafts on the opposite sides of the disks, and movable toward and from the disks, and friction-pulleys on the shafts for engagement with the disks and movable longitudinally on the shafts, substantially as set forth.

9. The combination of a pair of friction-disks, shafts on the opposite sides of the disks, gearing between said shafts and friction-pulleys on the shafts and movable along the same into and out of engagement with their respective disks; substantially as set forth.

10. In transmission mechanism, the combination of the friction-disks having telescopic arbors and gears thereon, and counter-shafts having gears meshing with the gears of the arbors, substantially as set forth.

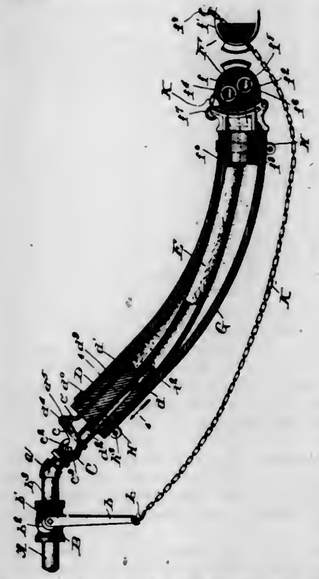
11. In transmission mechanism a pair of concentric parallel disks having their edges inturned and sloping inwardly on their outer faces toward their peripheries, and friction-pulleys movable into and out of engagement with the outer face of said disks, substantially as set forth.

12. In transmission mechanism the combination of a pair of friction-disks, a pair of pulley-shafts extending along the opposite sides of the disks and approximately parallel therewith, friction-pulleys on said shafts on opposite sides of the centers of the disks, and a shifter-frame having means engaging with the friction-pulleys, the said frame being composed of sections telescoping one with the other, means for operating one of the frame-sections, and springs for readjusting the other section, substantially as set forth.

13. The combination with the friction-disks, of friction-pulleys for engagement therewith and a shifter-frame composed of sections having a limited independent movement, said sections being provided with means for engagement with the friction-pulleys, means for operating one of the shifter-frame sections, and springs for readjusting the other shifter-frame section, substantially as set forth.

14. The combination of a pair of parallel concentric independently-movable friction-disks, antifriction-bearings between the said disks at the edges thereof, the counter-shafts geared with their respective disks, pulley-shafts extending along the opposite sides of the disks, pulleys on said shafts for engagement with said disks, eccentrics having bearings for the pulley-shafts adjacent the opposite ends of the latter, means for rocking the eccentrics whereby to move the shafts toward and from the disks, and devices connecting the eccentric-operating means at the opposite ends of the pulley-shafts, substantially as set forth.

842,774. AIR-BRAKE SYSTEM. WILLIAM H. EICHELBERGER, Royalton, Pa., assignor of one-half to Millard F. Meinsler, Middletown, Pa. Filed Oct. 10, 1905. Serial No. 282,143.



Claim.—1. In an air-braking system, the combination with the train-pipe sections, of a normally open valve connected with the ends of the sections, a lever for operating the valve, means for limiting the motion of the lever, a second normally open valve connected with the first valve,

a cylinder of relatively large diameter adjacent to the second valve and provided with a plurality of longitudinal perforations therethrough, nipples at the opening of one of the perforations, a pipe connecting the second valve with one of the nipples, a hose of relatively small diameter secured to the other nipple, a piston in the other perforation of the cylinder, a rod connected with the piston, a pin on the rod for engaging the slot of the second valve-lever, a coupling for connecting the free ends of the hose on the adjacent ends of the train-pipe sections, and composed of a plurality of separable sections, each comprising a locking portion and a cylindrical portion, and each having a plurality of perforations longitudinally thereof and registering with the perforations of the other section, one of the perforations forming a communication between the hose of relatively small diameter, a hose of relatively large diameter inclosing the small hose, and having its ends seated on the cylinder and the cylindrical portion of the coupling-section, and a flexible strand connecting the valve-lever of the first valve with the coupling-section of the opposite train-pipe section.

2. In an air-braking system, the combination with a train-pipe section, of normally open valves connected with the ends of the sections, a lever for operating the valves, a cylinder of relatively large diameter adjacent to the valve and provided with a plurality of longitudinal perforations therethrough, nipples at the opening of one of the perforations, a pipe connecting the valve with one of the nipples, a hose of relatively small diameter secured to the other nipple, a piston in the other perforation of the cylinder, a rod connecting the piston with the valve-lever, a coupling connecting the free ends of the hose on the adjacent ends of the train-pipe sections, and provided with a plurality of perforations longitudinally thereof, one of said perforations forming a communication between the adjacent sections of the small hose, and a hose of relatively large diameter inclosing the small hose.

3. In an air-braking system, the combination with the train-pipe composed of a plurality of sections, a hose connecting the adjacent ends of the sections, a plurality of normally open valves interposed between the ends of the hose and the section, a second hose inclosing the first hose, means whereby an increase of pressure in the outer hose may close one of the valves, and means connecting the other valve and the opposite train-pipe section, whereby a separation of the sections beyond a predetermined distance may close the valve.

4. In an air-braking system, the combination with the train-pipe sections, of a normally open valve on the ends of the sections, a hose connected with the valves, inclosures for the hose, a coupling for adjacent ends of the hose, comprising a plurality of interlocking sections and having a plurality of longitudinal openings, therethrough, one of the openings connecting the inner hose and the other the inclosures, and means whereby an increase of pressure in the inclosures may partially close the valves.

5. In an air-braking system, the combination with the train-pipe sections, of a normally open valve in the ends of the sections, a hose connected with the valves, an inclosure for the hose, a coupling for the adjacent ends of the inner hose, comprising a plurality of interlocking sections, and having a plurality of longitudinal openings therethrough, one of the openings connecting the inner hose and the other the inclosures, means whereby an increase in pressure in the inclosure may partially close the valve, and means whereby to regulate the extent of said closure.

6. In an air-braking system, the combination with the train-pipe sections, of a flexible hose connecting the adjacent sections, a valve at the inner end of the hose, a second hose inclosing the first hose, and means whereby an increase in pressure in the outer hose may partially close the valve.

7. In an air-braking system, the combination with the train-pipe sections, of a flexible hose connecting the adjacent sections, a valve at the inner end of the hose, a second hose inclosing the first hose, means whereby an increase in pressure in the outer hose may partially close the valves, and means whereby to regulate the extent of the closure of the valves.

8. In an air-braking system, the combination of the train-pipe sections, normally open valves on the ends of the sections, a pipe connecting the valves, an inclosure for the pipe, means whereby an increase of pressure within the inclosure may partially close the valves, and means whereby to regulate the extent of closure of the valves.

9. In an air-braking system, the combination with the train-pipe sections, of a flexible pipe connecting the sections, an inclosure for the flexible pipe, means whereby an increase in pressure in the inclosure may partially close the communication between the train-pipe sections and the flexible pipe, and means whereby to regulate the extent of the closure.

10. In an air-braking system, the combination with the train-pipe sections, of a flexible pipe connecting the sections, inclosures for the flexible pipe, means whereby an increase of pressure in the inclosure may close the communication between the train-pipe sections and the flexible pipe, and means whereby the separation of the train-pipe sections beyond a predetermined extent may close said communication.

11. In an air-braking system, the combination with the train-pipe sections, of a flexible pipe connecting the sections, an inclosure for the flexible pipe, means whereby an increase in pressure in the inclosure may partially close the communication between the train-pipe sections and the flexible pipe, means whereby the separation of the train-pipe sections beyond a predetermined extent may partially close said communication, and means whereby to regulate the extent of said inclosure.

12. In an air-braking system, the combination with the train-pipe sections, of a flexible pipe connecting the sections, an inclosure for the flexible pipe, a plurality of normally open valves at the ends of the sections, means whereby an increase of pressure in the inclosure may close one of said valves, and means whereby the separation of the train-pipe sections beyond a predetermined extent may close the other of said valves.

13. In an air-braking system, the combination with the train-pipe sections, of a flexible pipe connecting the sections, an inclosure for the flexible pipe, a plurality of valves at the ends of the sections, means whereby an increase of pressure in the inclosure may partially close one of said valves, means whereby the separation of the train-pipe sections beyond a predetermined extent may partially close the other valve, and means whereby to regulate the extent of closing of each of the valves.

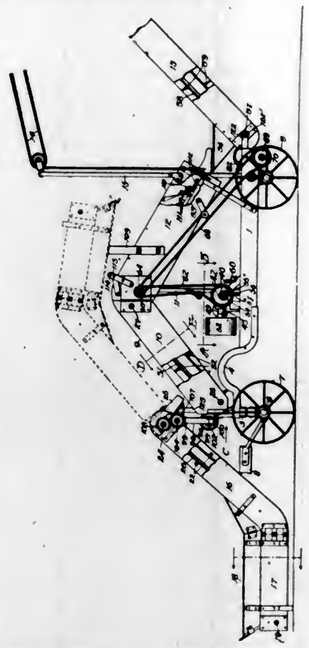
14. In an air-braking system, the combination with the train-pipe sections, of a flexible pipe connecting the sections, an inclosure for the flexible pipe, a plurality of valvs on the ends of the sections, means whereby an increase of pressure in the inclosure may close one of said valves, and means connected to the opposite train-pipe section for closing the other of said valves.

15. In an air-braking system, the combination with the train-pipe sections, of a hose connecting the sections, means arranged for operation by pressure escaping from said hose, when broken, for closing the train-pipe sections, and auxiliary means actuated by the separation of the train-pipe sections beyond a predetermined distance for closing the train-pipe sections.

16. In an air-braking system the combination with the train-pipe section and a hose connecting the same, of means operated by pressure escaping from the hose when ruptured for closing the train-pipe sections, and auxiliary means operated by the separation of the sections beyond a predetermined distance for closing the same.

842,775. COMBINED PORTABLE ELEVATOR AND CORN-HUSKING MECHANISM. ORREN S. ELLITHORP, Chicago, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Mar. 12, 1906. Serial No. 305,495.

Claim.—1. An elevator and corn-husker comprising, in combination, a series of pairs of husking-rollers mounted in a downwardly-inclined frame, said frame having end members in which said rollers are journaled, an upwardly-inclined elevator adapted to deliver unhusked ears to the upper ends of said husking-rollers, ear-forwarding bars longitudinally arranged relative to said rollers and slidably connected with the end members of the roller-supporting frame, depending levers secured to said rock-shaft and pivotally connected with said ear-forwarding bars, and means connected with said transverse shaft operative to transmit motion to said rock-shaft.



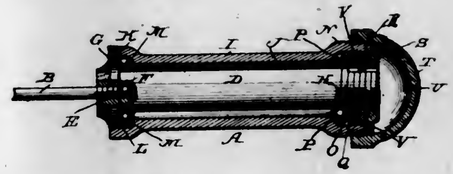
2. An elevator and corn-husker comprising, in combination, a series of pairs of husking-rollers mounted in a downwardly-inclined frame, said frame having end members in which said rollers are journaled, an upwardly-inclined elevator adapted to deliver unhusked ears to the upper ends of said husking-rollers, ear-forwarding bars longitudinally arranged relative to said rollers and slidably connected with the end members of the roller-supporting frame, a rock-shaft mounted in bearings secured to side members of the roller-supporting frame, depending levers secured to said rock-shaft and pivotally connected with said ear-forwarding bars, a vertically-arranged lever having its lower end pivotally connected with a fixed part of the machine and its upper end connected with one of said depending levers, a transverse shaft adapted to transmit motion to said husking-rollers, an eccentric secured to said transverse shaft, and a pitman connection between said eccentric and said vertically-arranged lever.

3. An elevator and corn-husker comprising, in combination, a horizontally-arranged frame, frames having their lower ends secured to opposite ends of said horizontal frame and inclined upward and inward and connected together intermediate the ends of said horizontal frame, husking-rollers journaled in one of said inclined frames, and ear-conveying means mounted in the other, a transverse shaft journaled near the junction of said inclined frames and operative to transmit motion to said husking-rollers and said ear-conveying means, a transverse shaft mounted upon said horizontal frame intermediate its ends and adapted to receive power from a suitable source, and motion-transmitting means connecting said transverse shafts.

4. An elevator and corn-husker comprising, in combination, a horizontally-arranged frame, frames having their lower ends secured to opposite ends of said horizontal frame and inclined upward and inward and connected together intermediate the ends of said horizontal frame, husking-rollers journaled in one of said inclined frames, and ear-conveying means mounted in the other, a transverse shaft journaled near the junction of said inclined frames and operative to transmit motion to said husking-rollers and said ear-conveying means, a transverse shaft mounted upon said horizontal frame intermediate its ends, a longitudinally-arranged shaft having gear connections with said last-named transverse shaft, and a driving-pulley secured thereto, and means for changing the angular relation between the longitudinal shaft and the transverse shaft connected therewith, and motion-transmitting means connecting said transverse shafts.

5. An elevator and corn-husker comprising, in combination, a horizontally-arranged frame, frames having their lower ends secured to opposite ends of said horizontal frame and inclined upward and inward and connected together intermediate the ends of said horizontal frame, husking-rollers journaled in one of said inclined frames, and ear-conveying means mounted in the other, a transverse shaft journaled near the junction of said inclined frame and operative to transmit motion to said husking-rollers and said ear-conveying means, a transverse shaft mounted upon said horizontal frame intermediate its ends and means for giving motion thereto, motion-transmitting means connecting said transverse shafts, said means comprising a clutch mechanism mounted upon said second-named transverse shaft, and means for operating said clutch mechanism, said means comprising a transversely-arranged lever adapted to rock about a pivot intermediate its end and connected with said clutch mechanism whereby the clutch mechanism may be adjusted from either side of the machine.

842,776. GUN-CLEANER. CHARLES T. FORBES, Fresno, Cal. Filed Sept. 7, 1906. Serial No. 333,587.

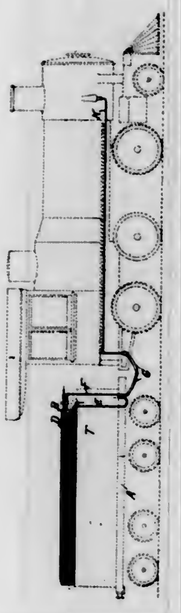


Claim.—The combination with a rotatable rod, of a handle comprising a hub located at one end of said rod, a circular enlargement on the hub, at its end adjacent to the rod, a sleeve adapted to fit loosely on the hub, an inner pocket at the rod end of the sleeve, balls held in said pocket by the enlargement at the rod end of the hub, screw-thread and flattened portion at the other end, of the hub, an inner pocket at the upper or adjacent end of the sleeve, balls in the latter-stated pocket, a screw-threaded collar, a non-rotatable washer, and a securing-nut, whereby to hold the hub and balls in place, and a cap on the sleeve.

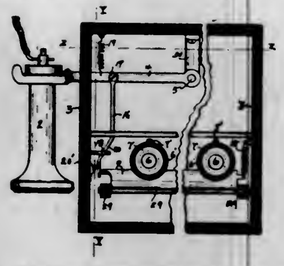
842,777. MEANS FOR HEATING FEED-WATER. JOHN FORNIA, Albany, N. Y., assignor of one-half to Frederick R. Greene, Albany, N. Y. Filed May 2, 1906. Serial No. 314,745.

Claim.—In a feed-water heater for locomotives, the combination of a locomotive and its tender, with a tank on said tender; a box placed along each side and across the rear end of said tank, spaced a short distance from the edge thereof, leaving an opening through which water may be taken from the tank; a coil placed in said box extending throughout its whole extent; a pipe connecting the lower layer of the coil with the bottom of the tank; a means for connecting the upper layer of the coil with the locomotive-boiler; a steam-conveying pipe connecting the interior of said box to the engine forward of the boiler; a valve in said steam-pipe, substantially as described.

842,777.



842,778. TELEPHONE-EXCHANGE SYSTEM. BENJAMIN O. FOX, Milwaukee, Wis., assignor of one-half to Michael S. Sheridan, Milwaukee, Wis. Filed Dec. 11, 1905. Serial No. 291,177.

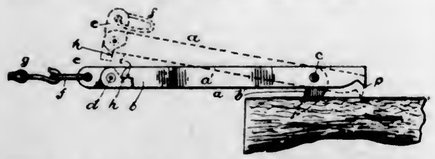


Claim.—1. In a telephone-exchange system of the class described, the combination with each of the push-buttons of the several stations, of a contact-bearing adapted as said push-button is forced inwardly to move a circuit-closing arm in contact with the terminal of a conductor leading to a signal at a distant station, a second contact-bearing adapted as said button is released to be brought in contact with a retaining-pawl, a retaining-pawl adapted to engage the second contact-bearing of all the push-buttons in a single station and hold the same in a circuit-closing position until the receiver at such station is placed upon its supporting-arm, actuating means connected with the supporting-arm of a receiver for throwing said retaining-pawl out of engagement with the contact-bearings of the several push-buttons as said receiver is placed upon its supporting-arm and means for releasing said pawl from engagement with the actuating means connected with said receiver-supporting arm as soon as said push-buttons have been released from said pawl, whereby said pawl may be drawn back to its normal position as soon as the contact-bearings of the push-buttons have been disengaged therefrom.

2. In a telephone-exchange system of the class described, the combination with the main supporting-frame 3, of the pawl 9, pivotally connected at its respective ends to said frame, a plurality of push-buttons 6, slidably supported in said frame, each provided with radial flanges or contact-bearings 7 and 10, circuit-closing arms 7′ adapted to be thrown to their closed position by contact with said flange 7 as said push-buttons 6 are moved inwardly, pawl 9 adapted as said push-button is released from the hand of the operator to be brought into engagement with the flange 10 with any one of the push-buttons at such station and retain the same in circuit-closing position until said pawl 9 is disengaged therefrom, spring 8 adapted by its recoil to throw said push-button back to its normal position when released by said pawl, receiver 2, receiver-supporting arm 4, vertical bar 16, pivotally connected at one end with said arm 4, actuating-spring 19, adapted, when the receiver is removed from said arm 4, to move the latter to its raised position and bring the bar 16 above the pawl 9, bracket 18 having bearings for the angular bar 16 and bar-actuating spring 20′, said bar 4 being adapted to be raised by the action of said spring 19 when released from the weight of the receiver whereby said bar 16 is brought above the pawl 9 and in position to contact therewith as it descends, said bar 16 being adapted as it is drawn downwardly by the weight of the receiver to throw said pawl out of engagement with said push-buttons, and said bracket 18 being adapted when said pawl has been thrown out of engagement with said push-buttons to draw said bar 16 out of engagement with said pawl, whereby when said push-buttons have been thrown to their normal position said pawl 9 will be free to move back in its normal position, substantially as set forth.

3. In a telephone-exchange system of the class described, the device herein described for connecting the several conductors 11 with one end of the several circuit-closing arms 7′ consisting in the combination with the one end of said circuit-closing arms, of a plurality of retaining-fingers 22 adapted to engage one end of said electric conductors, a clamping-bar 27 extending past the several circuit-closing arms 7′ and the several electric conductors 11 of a single station and adapted to simultaneously clamp all the conductors of a single station and hold the same independently of the respective connections between said conductors 11 and said circuit-closing arms 7′, all substantially as and for the purpose specified.

842,779. LOGGING-DOG OR SWAMPING-HOOK. DAVID W. FREEMAN, Fishhawk, Oreg. Filed Feb. 24, 1906. Renewed Dec. 29, 1906. Serial No. 350,046.

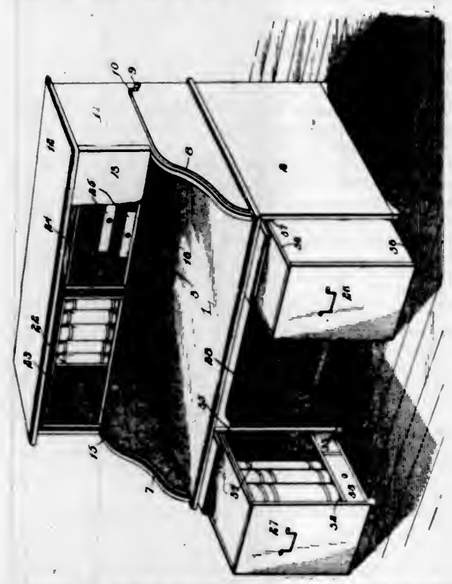


Claim.—1. An article of the class mentioned, comprising a shank, a bar made with a bill and pivoted at the root of such bill to one end of the shank, and a link pivoted to the opposite end of the shank; the free end of the bar and the inner end of said link being respectively adapted to engage with each other, and so that one will lie on the other during the hauling of a log, but becoming disengaged the moment there is an upward pull on the link.

2. An article of the class mentioned, comprising a shank made of two parts, a bar made with a bill and pivoted at the root of such bill to one end of said shank, intermediate of its two parts, and a link pivoted to the opposite end of the shank; the free end of the bar and the inner end of said link being respectively adapted to engage with each other and so that one will lie on the other during the hauling of a log, but becoming disengaged the moment there is an upward pull on the link.

3. An article of the class mentioned, comprising a shank made of two parts, a bar made with a bill and pivoted at the root of such bill to one end of said shank, intermediate of its two parts, and a link pivoted to the opposite end of the shank; the free end of the bar and the inner end of said link being respectively adapted to engage with each other, and so that one will lie on the other during the hauling of a log, but becoming disengaged the moment there is an upward pull on the link, and the prying end of the shank being made with a point as *p* to adapt the same to have a better hold while prying.

842,780. DESK. EDWIN L. GARDNER, Logan, Utah. Filed Apr. 14, 1906. Serial No. 311,727.



Claim.—1. A desk including a casing open at the bottom, a roller-top having a path of movement across the open bottom of the casing, and a plurality of sections vertically movable in the casing, each of said sections being arranged for independent movement relative to the casing.

2. A desk including a casing open at the bottom, a roller-top having a path of movement across the open bottom of the casing, a plurality of sections vertically movable in the casing, and a counterbalance connected to each section.

3. A desk including a casing open at the bottom, a roller-top having a path of movement across the open bottom of the casing, a plurality of sections vertically movable in the casing, and a counterbalance connected to each section, one of said sections having a spring-pressed partition to automatically reduce and regulate the size of the receiving-space.

4. A desk including a casing open at the bottom, a roller-top having a path of movement across the open bottom of the casing, a plurality of sections vertically movable in the casing, a counterbalance connected to each section, and a plurality of receiving-sections slidably arranged in the lower portion of the desk, each of said latter sections opening inward toward the center of the desk.

842,781. INSULATED CROSSOVER FOR ELECTRIC RAILWAYS. EDWARD E. GILMORE, Philadelphia, Pa. Filed Sept. 27, 1905. Serial No. 280,318.

Claim.—1. In a device of the class described the combination with a cross-arm having a bowed central portion adapted to carry a trolley-wire, of another cross-arm provided with a central connecting portion adapted to carry a second trolley-wire, a bearing element formed on the first-mentioned cross-arm underneath the central bowed portion, an insulating-disk secured to the second-mentioned cross-arm adapted to engage the bearing element on the first-mentioned arm, whereby adjustment of the cross-arms may be had, and an insulating-disk secured to the first cross-arm adapted to brace each cross-arm in any position to which it is adjusted.



2. In a device of the class described, the combination with a pair of crossed arms having wire-holding grooves, one of said arms having a central bowed portion and with openings forming bearing elements, the other of said arms having a divided bearing element engaging said openings and with a groove formed by its division for the reception of a trolley-wire, means for bracing each arm in its adjusted position, and means for insuring a straight run from one end of each arm to the other.

842,782. BUTTON. FREDERICK W. GOERDES, Newark, N. J. Filed June 1, 1904. Renewed Nov. 10, 1906. Serial No. 342,907.

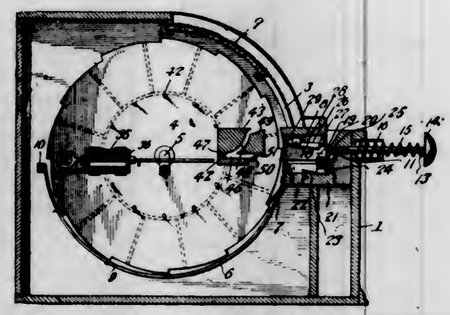


Claim.—1. A button having an inturned integral marginal flange, and a fastener therefor comprising a straight, rigid cross-bar provided at its ends with oppositely-extending rigid arms, said arms being of substantially equal length and curved on arcs of substantially equal degrees and arranged beneath said flange and bearing throughout their length directly against the rim of the button, the bar thus being arranged to extend on a straight diagonal line to the diameter of the fastener between the ends of the arms connected thereby and being incapable of longitudinal compression or spring action, whereby in the process of manufacture the arms are adapted by their elongated bearing on the rim to hold the fastener in position while the flange is being inturned over upon the same without liability of displacement of the fastener, and a pin connected at one end to the outer end of one arm and extending across the center of the cross-bar and having its free pointed end terminating contiguous the free end of the other arm, the fastener as thus constructed closely approximating the form of the letter X with the extremities of the arms thereof joined by directly-opposite curved portions of equal length and radii, substantially as described.

2. A button having an inturned integral marginal flange, and a fastener therefor comprising a straight, rigid cross-bar provided at its ends with oppositely-extending rigid arms, said arms being of substantially equal length and curved on arc of substantially equal degrees and arranged beneath said flange and bearing throughout their length directly against the rim of the button, the bar thus being arranged to extend on a straight diagonal line to the diameter of the fastener between the ends of the arms connected thereby and being incapable of longitudinal compression or spring action, whereby in the process of manufacture the arms are adapted by their elongated bearing on the rim to hold the fastener in position while the flange is being inturned over upon the same without liability of displacement of the fastener, and a pin connected at one end to the outer end of one arm and extending across the center of the cross-bar and having its free pointed end terminating contiguous the free end of the other arm, the latter being provided with a hooked keeper to receive the pointed end of the pin, said pin and keeper being offset at their points of juncture with the respective arms to project beyond the flange, the fastener as thus constructed closely approximating the form of the letter X with the extremities of the arms thereof joined by directly-opposite

curved portions of equal length and radii, substantially as described.

842,783. VENDING APPARATUS. ARTHUR E. HARRISON, Dandridge, Tenn. Filed May 9, 1906. Serial No. 315,907.



Claim.—1. In a vending apparatus, the combination of a spring-actuated carrier provided with locking projections, a sliding frame, a dog fixed to and movable with the sliding frame and provided with receiving and releasing slots coöperating with said projections to control the movement of said carrier, and means for actuating the sliding frame.

2. In a vending apparatus, the combination of a rotary spring-actuated carrier provided with locking projections, a sliding frame, a dog carried by said sliding frame and having receiving and releasing slots coöperating with said projections to control the movement of the carrier, a detent upon the dog guarding the releasing-slot, and means for actuating the sliding frame.

3. In a vending apparatus, the combination of a rotary spring-actuated carrier, locking projections upon the carrier, a dog arranged to slide in a fixed plane and provided with an arcuate receiving-slot and an intersecting releasing-slot coöperating with said projections to control the movement of the carrier, and means for operating the dogs.

4. In a vending apparatus, the combination of a rotary spring-actuated carrier, locking projections upon the carrier, a dog arranged to slide in a fixed path and provided with an arcuate receiving-slot and an intersecting releasing-slot coöperating with said projections to control the movement of the carrier, said dog being further provided at the outlet end of said releasing-slot with a detent, and means for actuating the dog.

5. In a vending apparatus, the combination of a rotary spring-actuated carrier provided with locking projections, a sliding dog movable across the path of movement of said projections, said dog being provided with intersecting arcuate and horizontal receiving and releasing slots cooperating with said projections to control the movement of the carrier, said receiving-slot being provided with an inlet having an inclined guide and the releasing-slot with a detent at the outer end thereof, and means for actuating the dog.

6. In a vending apparatus, the combination of a rotary spring-actuated carrier provided with locking projections, a sliding frame, a dog carried by the frame and movable across the path of rotation of said projections, said dog being provided with intersecting arcuate and straight receiving and releasing slots coöperating with said projections to control the movement of the carrier, said receiving-slot being provided with a guide-inlet and the releasing-slot with a detent at the outlet end thereof, and means for imparting motion to the sliding frame.

7. In a vending apparatus, the combination of a rotary spring-actuated carrier provided with locking projections, a sliding dog comprising a block having an arcuate receiving-slot provided with an inlet at its upper end and a horizontal receiving-slot intersecting said arcuate slot at its forward end and opening at its rear end through the block, said slots extending through one side of the block to receive and coöperate with said projections to control the movement of the carrier, a detent at the outlet end of the releasing-slot, and means for imparting motion to the dog.

8. In a vending apparatus, a rotary spring-actuated carrier provided with a circular series of locking projections, in combination with a dog comprising a block having receiving and releasing slots, said slots being arranged to release a projection fitting therein and receive the succeeding projection upon the forward movement of the block to permit the carrier to rotate the distance between adjacent pins, and means for imparting motion to the dog.

9. In a vending apparatus, the combination of a spring-actuated rotary carrier provided with locking projections, the dog coöperating with said locking projections to control the movement of the carrier, said dog being provided with receiving and releasing slots coöperating with said projections, a sliding frame carrying the dog, cushioning means associated with said frame, and means for operating the sliding frame.

10. In a vending apparatus, the combination of a rotary spring-actuated carrier provided with locking projections upon one side thereof, a sliding frame, a dog carried thereby having receiving and releasing slots opening through one side thereof and coöperating with said projections to control the action of the carrier, and means for imparting motion to the sliding frame.

842,784. TOY. WILLIAM B. HILL, Terre Haute, Ind. Filed Oct. 20, 1906. Serial No. 339,850.



Claim.—1. A device of the character described comprising a casing having a transparent top, a row of tubes rising from the bottom of the casing and forming compartments, guides leading from one side of the casing to the tubes, and balls adapted to be guided and seated in said tubes.

2. A device of the character described comprising a casing having a transparent top, a row of tubes rising from the bottom of the casing and forming pockets, strips secured to the bottom of the casing and extending outwardly from one side of the row of tubes and simulating in form and arrangement the tines of a fork, and balls within the casing and adapted to be guided and seated in said tubes.

3. A device of the character described comprising a casing having a transparent top, a row of open-topped pockets extending upwardly from the bottom of the casing, guide members on the bottom of the casing leading to the pockets, and balls adapted to pass along said guideways to the bases of the pockets and jumped thereinto.

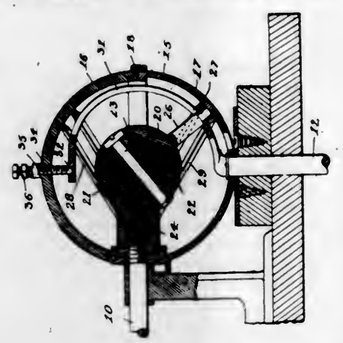
842,785. MECHANICAL MOVEMENT. OTTO E. HINTZ, Bellevue, Iowa. Filed Mar. 26, 1906. Serial No. 308,178.

Claim.—1. In mechanism for transforming rotary motion into oscillatory motion, a revoluble shaft, an oscillatory member, a block supported by the shaft and free for rotative movement in a plane at an angle to the axis of the shaft, a stud projecting from said block, a cam-track in which said stud engages, and a slotted bar carried by the oscillatory member and receiving motion from said stud.

2. In mechanism for transforming rotary movement into oscillatory movement, a revoluble shaft, a block supported by and rotated with the shaft, said block being mounted for rotative movement around an axis disposed at an angle to the plane of the shaft-axis, a stud carried by said block, a stationary cam-track for directing the movement of the stud, and a curved bar carried by the oscillatory member and having a slot through which said stud extends.

3. In mechanism for transforming rotary motion into oscillatory motion, a revoluble member, a divided sphere

arranged at one end of said revoluble member, one portion of the sphere being rigidly secured to said member, a pivot-bolt disposed obliquely to the axis of movement of said member, and connecting the two sections of the sphere, a stud carried by the second section of the sphere and extending radially from the center of said sphere, an anti-friction-roller carried by the stud, a spherical casing formed in sections, a double track or guideway carried by the sections of the casing and receiving the antifriction-roller, an approximately semicircular bar carried by the oscillatory member and extending partly around said sphere, a bearing member for the free end of the bar, said bar having an elongated slot through which the stud extends, whereby movement is imparted from the stud to said bar.



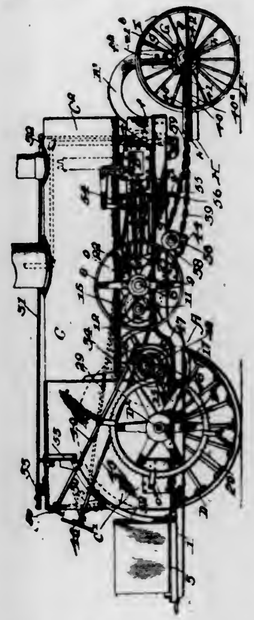
4. In mechanism for transforming rotary movement into oscillatory motion, a continuously-revoluble member, a block pivotally connected thereto and arranged to rotate thereon around an axis that is oblique to the axis of rotation of said revoluble member, an arm carried by said block, a cam-track in which said arm is guided, and an oscillatory member including a slotted bar through which said arm extends.

842,786. TRACTION-ENGINE. MARTIN J. HOGAN, Canton, Ohio. Filed Sept. 19, 1903. Renewed June 2, 1906. Serial No. 319,922.

Claim.—1. In a traction-engine, the combination with a horizontally-disposed boiler, of a frame upon which said boiler rests, said frame being rigid throughout and comprising longitudinal side beams equally spaced apart from the front to the rear end of said boiler, engines supported on the frame independently of the boiler and having a common crank-shaft arranged beneath the boiler and a fly-wheel secured to said crank-shaft at one side of said frame, traction-wheels for supporting the rear end of said frame, shafting and gearing supported upon the frame independently of the boiler, and interposed between the engines and the traction-wheels, and front steering-wheels both situated in vertical planes between the vertical planes of the sides of the frame, substantially as set forth.

2. In a traction-engine, the combination of a horizontally-disposed boiler, a frame upon which the boiler rests, engines supported upon the frame independently of the boiler and having a common crank-shaft mounted beneath the said boiler and a fly or belt wheel secured to said crank-shaft at one side of said frame, traction-wheels supporting the rear end of said frame, shafting and gearing supported upon the frame independently of the boiler and interposed between the engines and the traction-wheels, and front steering-wheels mounted on an axis in front of the said engines, one at either side of the central vertical, longitudinal plane of the frame, and both nearer to the said plane than the said belt-wheel, substantially as set forth.

3. In a traction-engine, the combination of a horizontally-disposed boiler, a frame upon which the boiler rests, engines supported upon the frame independently of the boiler and situated one at either side of the front end of said frame, traction-wheels supporting the rear end of said frame, shafting and gearing interposed between the engines and the traction-wheels and supported upon said frame independently of the boiler, a power-transmitting belt-wheel carried by said shafting at one side of said frame, and front steering-wheels both situated nearer to the central, longitudinal, vertical plane of the frame than the said belt-wheel and entirely in front of said engines, substantially as set forth.



4. In a traction-engine, the combination of a rigid frame having longitudinal side beams joined at intervals by cross-bars, a horizontally-disposed boiler secured on said frame, a prime mover secured upon the frame entirely independently of said boiler, traction-wheels supporting the rear end of said frame, shafting and gearing connecting said prime mover and said traction-wheels and supported upon said frame entirely independently of said boiler, a forward extension secured to and supported by said frame independently of said boiler and situated between the vertical planes of the sides of the frame, a steering-axle suitably connected to the front end of said forward extension, and steering and supporting wheels mounted on said axle entirely in front of said prime mover and less distant apart than said traction-wheels, substantially as set forth.

5. In a traction-engine, the combination of a rigid frame, a horizontally-disposed boiler secured to said frame, a prime mover secured upon the frame entirely independently of said boiler and having a crank-shaft arranged transversely beneath said boiler, and a power-transmitting belt-wheel carried by said crank-shaft at one side of said frame, traction-wheels for supporting the rear end of said frame, shafting and gearing connecting said crank-shaft and traction-wheels, and supported upon said frame entirely independently of said boiler, a forward extension secured to and supported by said frame and arranged out of alinement with said belt-wheel, a steering-axle suitably connected to the front end of said forward extension, and steering and supporting wheels mounted on said axle, one at either side of the central, vertical, longitudinal plane of the frame and nearer thereto than said belt-wheel, substantially as set forth.

6. In a traction-engine, the combination of a frame, a horizontally-disposed boiler secured on the said frame, engines secured upon the said frame at either side thereof and beneath and entirely independently of said boiler, a common crank-shaft for the said engines mounted on said frame beneath said boiler, a belt or fly wheel on said crank-

shaft arranged at one side of said frame, traction-wheels supporting the said frame near its rear end, power-transmitting devices between said crank-shaft and said traction-wheels, a forward extension secured to said frame independently of said boiler and situated between the vertical planes of the sides of the frame, a steering-axle suitably connected to said forward extension in the central, vertical, longitudinal plane of the said frame, and steering-wheels mounted on said steering-axle, one at either side of said central, vertical, longitudinal plane, and both nearer to the said plane than the said belt-wheel, substantially as set forth.

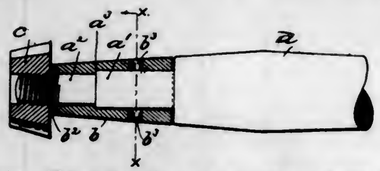
7. In a traction-engine, the combination of a frame, a horizontally-disposed boiler secured on said frame, engines secured upon said frame at either side thereof and beneath and entirely independently of said boiler, a common crank-shaft for said engines mounted on said frame beneath said boiler, a belt or fly wheel on said crank-shaft and arranged at one side of said frame, traction-wheels supporting said frame at its rear end, power-transmitting devices interposed between said crank-shaft and said traction-wheels, a forward extension carried by said frame and extending in front of the said engines thereon and to a point in the vertical, central plane of the frame, a steering and supporting axle, means for pivotally connecting said axle to said forward extension on a vertical axis in said central, vertical, longitudinal plane of said frame, and supporting and steering wheels mounted on said axle, one at either side of said central, vertical, longitudinal plane of the frame and less distant therefrom than the said fly or belt wheel, substantially as set forth.

8. In a traction-engine, the combination of a frame comprising side bars equally spaced apart from end to end and joined at intervals by cross-bars, a forward extension carried by said frame, traction-wheels arranged to support the rear end of said frame, a steering-axle suitably connected to said forward extension at its front end, steering-wheels mounted on said axle, one at either side of its connection with said forward extension, engines, one secured at either side of the front end of said frame, a common crank-shaft for the engines mounted transversely on said frame, a fly or belt wheel secured to said crank-shaft, and arranged at one side of said frame and out of alinement with the steering-wheel on that side of the frame, power-transmitting devices interposed between said crank-shaft and said traction-wheels, and a horizontally-disposed boiler secured on the frame independently of the engines and gearing thereon, substantially as set forth.

9. In a traction-engine, the combination of a frame comprising longitudinal side beams joined at intervals by cross-bars, traction-wheels arranged to support the rear end of said frame, two engines secured to said frame near the front end thereof, a common crank-shaft for the engines, mounted transversely on the frame, a fly or belt wheel secured to said crank-shaft and arranged at one side of said frame and in line with the traction-wheel on the same side of the frame, power-transmitting devices interposed between said crank-shaft and said traction-wheels, a forward extension carried by said frame and out of alinement with said belt-wheel, a steering-axle suitably connected to said forward extension in front of said engines, and steering-wheels, each mounted on said axle at either side of its connection with said forward extension and nearer to the central, vertical, longitudinal plane of the frame than said belt-wheel, substantially as set forth.

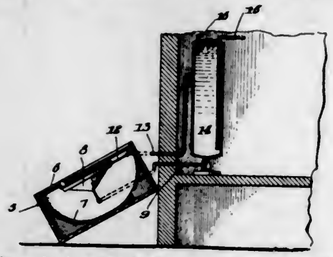
10. In a traction-engine, the combination of a frame comprising longitudinal side beams joined at intervals by cross-bars, traction-wheels arranged to support the rear end of said frame, two engines secured to said frame near the front end thereof, a common crank-shaft for the engines mounted transversely on the frame, a fly or belt wheel secured to said crank-shaft and arranged at one side of said frame and in line with the traction-wheel on the same side of the frame, power-transmitting devices interposed between said crank-shaft and said traction-wheels, a forward extension carried by said frame and out of alinement with said belt-wheel, a steering-axle suitably connected to said forward extension in front of said engines, and steering-wheels, each mounted on said axle at either side of its connection with said forward extension and nearer to the central, vertical, longitudinal plane of the frame than said belt-wheel, and having its periphery intersecting the plane containing the side beams of the said frame, substantially as set forth.

842,787. RELEASING SCREW-ARBOR FOR MILLING-MACHINES AND THE LIKE. WILLIAM H. HOLT, Providence, R. I. Filed Jan. 30, 1906. Serial No. 298,667.



Claim.—The combination of a milling-tool whose arbor has reduced concentric portions forming a shoulder therebetween and the outer one of which portions is screw-threaded; a toothed cutter provided with a screw-threaded opening to engage thereby the threaded portion of the arbor; a sleeve loosely mounted upon the reduced portions of the arbor, and having a shoulder to abut the shoulder of the latter, and said sleeve provided with a serrated end adjacent the toothed cutter, substantially as set forth.

842,788. SOLAR HEATER. FRED M. HUNTOON, Riverside, Cal. Filed Sept. 4, 1906. Serial No. 333,256.



Claim.—1. A solar heater comprising a glass-covered box; a cone-shaped heating-receptacle within said box having the apex thereof projecting downwardly or away from the glass cover; a supply-pipe connected to said receptacle at the apex of the cone; and a service-pipe connected to said receptacle at the base of the cone.

2. A solar heater comprising a glass-covered box; a water-heating receptacle within said box, said receptacle being comprised of two slightly-separated hollow metallic cones united at their bases, the apex of the cones being projected away from the glass cover; a supply-pipe connected to the outer wall of the heating-receptacle at the apex thereof; and a service-pipe connected to said receptacle at the base of the cones.

3. A solar heater comprising a glass-covered box; a water-heating receptacle within said box, said receptacle being comprised of two slightly-separated hollow metallic cones united at their bases, the apex of the cones being projected away from the glass cover; a burning-glass within said box above said heating-receptacle, said burning-glass being arranged to focus the rays of heat upon the apex of the receptacle; a supply-pipe connected to the outer wall of said receptacle at the apex thereof; and a service-pipe connected to said receptacle at the base of the cone.

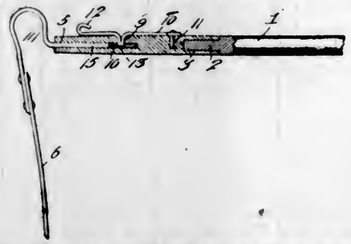
4. A solar heater comprising a glass-covered box; a water-heating receptacle within said box, said receptacle being comprised of two slightly-separated hollow metallic cones united at their bases, the apex of the cones being projected away from the glass cover; a storage-tank; a pipe connected to the bottom of said storage-tank and to the outer wall of the heating-receptacle at the apex thereof; and a pipe connecting said heating-receptacle from the base of the cone to the upper portion of the storage-tank.

842,789. CORNER-BRACE. HARLEY C. JOHN, Riverside, Cal. Filed Jan. 13, 1906. Serial No. 295,966.



Claim.—A corner-brace comprising angularly-disposed arms meeting at a common point or apex and a pointed spur or prong extending directly outward from the apex of the bracket on a line drawn centrally between the bracket-arms.

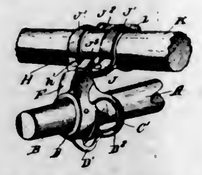
842,790. HANDLE. BURRELL T. LANDERS, Cherryvale, Kans. Filed July 28, 1906. Serial No. 328,265.



Claim.—1. The combination with a handle formed in its forward end with a centrally-disposed longitudinally-extending recess, the upper wall of the recess being formed with an opening, and a latch member comprising a single length of material bent at one end to form an eye, bent intermediate its ends to form an extension to register with the opening in the recess-wall, and bent at its forward end to form an eye arranged in a plane at right angles to the first-mentioned eye, and means for securing the eye at the rear end of the latch to the handle, of an implement and a shank therefor arranged to fit the recess in the handle, the shank being formed with an opening to register with the opening in the handle and receive the latch extension.

2. A tool-handle formed in the forward end with a centrally-disposed recess of angular contour, a latch member having an extension projecting through one wall of the recess, and a tool-shank comprising divergent members adapted when in contact to correspond in size and contour to the recess, the proximate faces of the member being recessed to provide an opening to receive the extension of the latch member.

842,791. NECK-YOKE ATTACHMENT. DAVID N. LUSE, Carroll, Iowa, assignor to Heider Manufacturing Co., Carroll, Iowa, a Corporation of Iowa. Filed Jan. 18, 1905. Renewed Nov. 26, 1906. Serial No. 345,178.



Claim.—1. The improvement herein described comprising the pole-section having the band to encircle the pole-tip and provided at its lower side with the safety-stirrup adapted to engage in rear of a flange or projection of the pole-tip and provided with a loop connecting said stirrup with the body of the pole-section and forming a brace for the safety-stirrup, the said pole-section having at its upper side the projecting head provided with a bearing for the swivel-bolt and an opening elongated from front to rear for the passage of said bolt, the swivel-bolt having at its lower end a head or ball journaled and rocking in the head of the pole-section, the said bolt extending through the elongated opening in the head and being provided at its upper end with a non-circular head and having a longitudinal bore or opening and the brace-bolt within said opening, and the yoke-section having a clamp comprising two members provided at their lower ends with a bearing for the swivel-bolt and at the upper end of said bearing with a non-circular head for the upper head of the swivel-bolt, the clamping-sections having semicircular straps and devices for connecting the same and securing them upon the yoke, substantially as set forth.

2. The combination in a neck-yoke attachment with the pole-section and the yoke-section, of the swivel-bolt connecting the two sections and having an outer or main portion and a brace-bolt extending through the same, substantially as and for the purpose set forth.

3. In a neck-yoke attachment a swivel-bolt having a main or body portion provided with a longitudinal bore and a brace extending through said main portion and held at its opposite ends, substantially as set forth.

4. The combination of the pole-section, the yoke-section, and the swivel-bolt held to the yoke-section and turning in the pole-section and comprising the body or main portion and the brace-bolt extending longitudinally through the same, substantially as set forth.

5. The combination with the pole-section and the swivel-bolt journaling at its lower end therein, of the yoke-section having at its lower portion a bearing encircling the swivel-bolt and provided at its upper end with a non-circular seat, the swivel-bolt having at its upper end a non-circular head fitting in said seat, substantially as set forth.

6. In a neck-yoke attachment a pole-section provided with an outwardly and downwardly curving safety-stirrup connected at its ends with the body of the pole-section, and a brace-loop connecting said stirrup between its ends with the body of the pole-section, substantially as set forth.

7. In a neck-yoke attachment a pole-section having a band to encircle the pole-tip, and having a brace-loop projecting downwardly and rearwardly from the lower side of said band together with side branches or safety-stirrups connecting said brace-loop with the upper portion of the band at the opposite sides of the latter, substantially as set forth.

842,792. GAS-BURNER. GEORGE MACHLET, Jr., Elizabeth, N. J. Original application filed Dec. 1, 1903. Serial No. 183,333. Divided in part and this application filed July 18, 1905. Serial No. 270,256.

Claim.—1. A gas-burner in the form of a tubular ring comprising a body portion, a cap portion and a separate intervening screen provided upon each edge with locking projections, and consisting of an annulus formed with corrugations in its top and bottom surfaces.

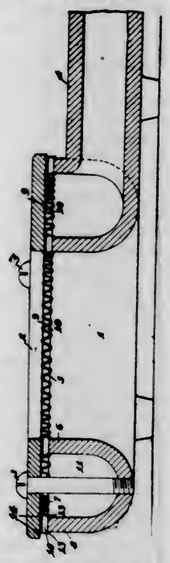
2. A gas-burner in the form of a tubular ring comprising an annular body portion of U-section and a cap, and a screen intervening between the cap and the outer rim of the body portion, said screen having flutes in its top and bottom surfaces, each flute larger at its inlet end than at its outlet end.

3. A gas-burner in the form of a tubular ring comprising an annular portion of U-section and a cap, and a separate screen provided with locking projections and intervening between the cap and the inner rim of the body portion, said screen having flutes in its top and bottom surfaces, each flute larger at its inlet end than at its outlet end.

4. A gas-burner in the form of a tubular ring comprising a body portion and a cap portion, and rings corrugated to form screens intervening between the cap and the inner and outer rims of the body portion, said screens provided with means for locking the cap in position upon the body.

5. A gas-burner in the form of a tubular ring comprising a body portion and a cap portion, and an intervening ring corrugated to form a screen and having means for locking the cap in position upon the body.

6. A gas-burner in the form of a tubular ring made in annular portions, with an intervening annular diaphragm formed of a strip of sheet metal corrugated to form radiating flutes in its top and bottom surfaces, each flute larger at its inlet end than at its outlet end.



7. A gas-burner in the form of a tubular ring made of annular portions with an intervening ring corrugated to form a screen, said screen-ring formed with numerous locking projections to engage both of said annular portions.

8. A gas-burner in the form of a tubular ring made of annular portions with an intervening ring corrugated to form a screen, said screen-ring formed with numerous locking projections to engage both of said annular portions, and one of said annular portions having a circular groove to receive the projections.

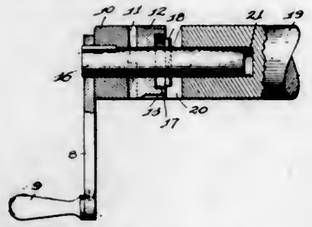
9. A gas-burner in the form of a tubular ring comprising a trough-like portion and a cap, and an intervening screen in the form of an annular diaphragm formed with radiating flutes, said screen formed upon its under side with projections which engage a rim of the trough-like portion, and upon its top side with projections which engage an annular groove formed in the cap.

10. A gas-burner in the form of a tubular ring comprising a trough-like portion and a cap, and an intervening screen in the form of an annular diaphragm formed with radiating flutes, one of said annular portions having a groove, and said screen having projections which engage said groove.

11. A gas-burner in the form of a tubular ring comprising annular body and cap portions, a screen intervening between said portions and formed with radiating flutes, and a series of fastening devices extending from said cap to said body portion within the latter and detachably connecting said portions together; said screen having sets of projections upon its top and bottom sides, and said body and cap portions having means to engage said projections.

842,793. STARTING-CRANK. GEORGE M. D. MERWIN, St. Louis, Mo. Filed Dec. 5, 1905. Serial No. 290,470.

Claim.—1. In a device of the class described, a crank, a pin carried by the crank, an outer member mounted on the pin and having a ratcheted inner face, an inner member loosely mounted on the pin and having a ratcheted outer face, a recessed inner face and a ratcheted periphery, a spring-pawl adapted to engage with said ratcheted periphery, a starting-shaft adapted to receive the inner end of the pin and ratcheted on its outer face, and a cross-pin mounted radially through the former-named pin and adapted to engage with the outer ratcheted face of the starting-shaft and to be seated in the recess in the inner face of the said inner member, substantially as described.



2. In a device of the class described, a starting-shaft, a crank, a pin actuated by the crank, and means whereby the shaft is engaged with and actuated by the pin when the crank is revolved in the predetermined direction, and means whereby the pin is disengaged from the shaft when the shaft is revolved in the opposite direction, substantially as described.

3. In a device of the class described, a motor, a starting-shaft 19 provided with a bore 21, a crank, a slidable pin carried by said crank and adapted to be inserted in the bore in the starting-crank, a collar fixed to the pin and having a ratcheted inner face, a member 12 loosely mounted upon the pin and ratcheted to engage with the first-named collar member, the member 12 being ratcheted about its periphery, a spring-pawl adapted to engage with the ratcheted face of the member 12, a cross-pin mounted in the first-named pin and adapted to engage with depressions in the outer face of the starting-shaft, the member 12 being provided with a circular recess to receive said cross-pin, substantially as described.

4. In a device of the class described, a starting-shaft having a bore and provided with a ratcheted face, a crank, a pin carried by said crank and arranged in the bore of said shaft, said pin being movable axially of said bore, means carried by said pin for engagement with the ratcheted face of the starting-shaft to effect forward rotation of the latter, and means also carried by said pin for freeing the first-mentioned means from engagement with the shaft when the latter rotates in a reverse direction.

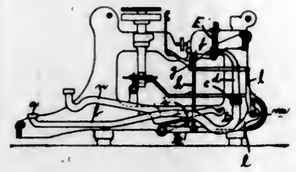
5. In a device of the class described, a starting-shaft having a bore and provided with a ratcheted face, a crank, a pin carried by said crank and arranged in the bore of said shaft, said pin being movable axially of said bore, means carried by said pin for engagement with the ratcheted face of the starting-shaft to effect forward rotation of the latter, a pair of members also carried by said pin intermediate the crank and the means for engaging the ratcheted face of the starting-shaft, one of said members being fixed and the other movable, the opposing faces of said members having engaging surfaces designed to effect axial movement of said pin upon reverse rotation of the starting-shaft, and means for locking said loose member against reverse rotation.

6. In a device of the class described, a starting-shaft having a bore and provided with a ratcheted face, a crank, a pin carried by said crank and arranged in the bore of said shaft, said pin being movable axially of said bore, a cross-pin carried by the first-mentioned pin for engagement with the ratcheted face of the starting-shaft to effect forward rotation of the latter, a pair of members also carried by said first-mentioned pin and arranged intermediate the crank and the cross-pin, one of said members being fixed and the other movable, the opposing faces of said members having engaging surfaces designed to effect axial movement of said pin upon reverse rotation of the starting-shaft, and means for locking said loose member against reverse rotation.

7. A device of the class described, comprising a crank, a pin carried thereby, means carried by said pin for engaging the starting-shaft of a motor to effect forward rotation of said shaft, and means also carried by said pin for freeing the first-mentioned means from engagement with the starting-shaft when the latter rotates in a reverse direction.

8. A device of the class described, comprising a crank, a pin carried thereby, a cross-pin carried by the first-mentioned pin for engaging the starting-shaft of a motor to effect forward rotation of said shaft, a collar mounted on said first-mentioned pin and movable axially thereof, and a second collar also mounted on said pin but fixed against movement thereon, the opposing faces of said collars having engaging surfaces designed to effect axial movement of said pin upon reverse rotation of the starting-shaft.

842,794. SPACING MECHANISM OF TYPE-WRITERS. CARL J. MOHNS, Chemnitz, Germany, assignor to The Firm of Wanderer Fahrradwerke vorm. Winklhofer & Jaenicke A. G., Schönau, Saxony, Germany. Filed Aug. 11, 1904. Serial No. 220,401.



Claim.—The combination in a type-writer, of carriage-controlling mechanism, ribbon mechanism, key-levers, a lever operated by said levers, a rod connected to said lever having a slot in its upper end, a pin on the carriage-controlling mechanism engaging in said slot, a connection from said lever to the ribbon mechanism, so that on the depression of a key both the carriage and ribbon mechanisms will be operated, a space-key and connections therefrom to the carriage-controlling mechanism for operating the said carriage-controlling mechanism, the pin in the carriage-controlling mechanism working in the slot during this operation whereby the carriage-controlling mechanism is operated independently of the ribbon mechanism, substantially as described.

842,795. PAPER-GUIDE. CARL J. MOHNS, Chemnitz, Germany, assignor to The Firm of Wanderer Fahrradwerke vorm. Winklhofer & Jaenicke, A. G., Schönau, Saxony, Germany. Filed Aug. 11, 1904. Serial No. 220,403.

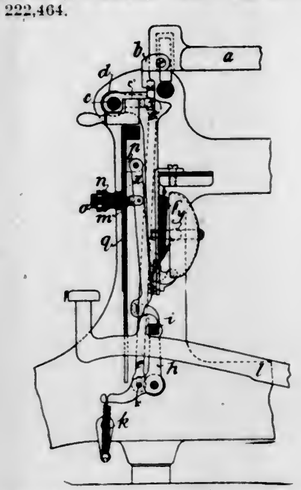


Claim.—1. The combination in a type-writer, of a vertically-shiftable platen and a guiding device independent of and located in front of said platen and having vertical movement to follow the platen and adjustable longitudinally of the platen.

2. A type-writer having a traveling carriage, a vertically-shifted platen carried by said carriage, an arm supported on the front of the carriage, said arm extending rearwardly toward the platen, and a roller on said arm adapted to contact with the platen, said arm being adjustable longitudinally of the platen and having a yielding upward movement to follow the same.

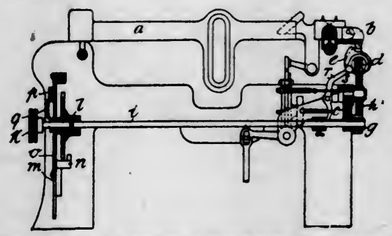
3. A type-writer having a traveling carriage, a vertically-shifted platen carried by said carriage, a dovetail bar on the inner part of the front of the carriage, a correspondingly-shaped portion fitting on said bar, an arm pivoted to said portion and extending rearwardly toward the platen, a roller on said arm contacting with the platen and a spring for normally holding the arm in a horizontal position.

842,796. DEVICE FOR LOCKING THE KEY-LEVERS IN TYPE-WRITING MACHINES. CARL J. MOHNS, Chemnitz, Germany, assignor to The Firm of Wanderer Fahrradwerke, vorm. Winklhofer & Jaenicke, A. G., Schönau, Saxony, Germany. Filed Aug. 27, 1904. Serial No. 222,464.



Claim.—A locking device for type-writers consisting of a bell-crank lever, a locking-bar carried by one arm thereof, a rocking bar, a link connecting said rocking bar with the other arm of the bell-crank lever, means for rocking the bar by the carriage, a lever having one end connected to the frame and its other end connected to the arm of the bell-crank lever which carries the locking-bar, a connection for operating said lever by hand and means for locking said lever in such a position as to hold the locking-bar in locking engagement.

842,797. TABULATING DEVICE FOR TYPE-WRITING MACHINES. CARL J. MOHNS, Chemnitz, Germany, assignor to The Firm of Wanderer Fahrradwerke, vorm. Winklhofer & Jaenicke, A. G., Schönau, Saxony, Germany. Filed Aug. 27, 1904. Serial No. 222,466.



Claim.—1. In a tabulating mechanism for type-writing machines the combination with the paper-carriage, stops secured thereto, stop-bar mounted near said paper-carriage, said stop-bar having both a longitudinal and a rotary movement, and stops on said bar adapted to engage the stops on said paper-carriage, of a shaft and separate means carried thereby for imparting either a longitudinal or a rotary movement to said stop-bar, substantially as described.

2. In a tabulating mechanism for type-writing machines the combination with the paper-carriage, stops secured thereto, a stop-bar mounted near said paper-carriage, said stop-bar having both a longitudinal and a rotary movement, and stops on said bar adapted to engage the stops on said paper-carriage, of a shaft, means thereon for imparting a longitudinal movement to the stop-bar, a lever operated by said shaft, and means carried by said lever for

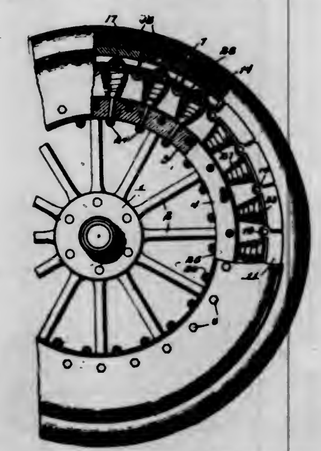
imparting a rotary movement to said stop-bar, substantially as described.

3. In a tabulating mechanism for type-writing machines the combination with the paper-carriage, stops secured thereto, a stop-bar mounted near said paper-carriage, said stop-bar having both a longitudinal and a rotary movement and stops on said bar adapted to engage the stops on said paper-carriage, of a shaft, a lever operated thereby and adapted to impart a rotary movement to said stop-bar and a pinion on said shaft adapted to impart a longitudinal movement to said stop-bar, substantially as described.

4. In a tabulating mechanism for type-writing machines the combination of the paper-carriage, stops carried thereby, a stop-bar, adjustable stops carried thereby and a rack formed on said stop-bar, of a shaft having both a longitudinal and a rotary movement, a pinion carried by said shaft and engaging said rack, a collar on said shaft, a lever engaging said collar and means carried by said lever for rotating said stop-bar, substantially as described.

5. In a tabulating mechanism for type-writing machines the combination with paper-carriage, the stops carried thereby, the stop-bar, the stops on said bar engaging the stops on said paper-carriage, the shaft having both a rotary and a longitudinal movement and separate means carried thereby for giving said stop-bar a longitudinal and a rotary movement, of the carriage-escapement mechanism, a lever for releasing said escapement mechanism and means carried by said stop-bar for operating said lever, substantially as described.

842,798. TIRE. HECTOR J. MONDOR, Holyoke, Mass. Filed Feb. 7, 1906. Serial No. 299,998.



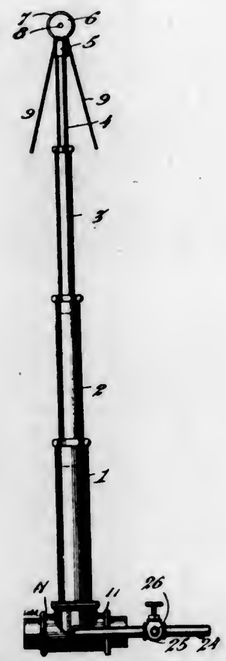
Claim.—1. A wheel embodying an inner rim, an outer rim composed of hinged sections, a tire fitted to the outer rim, and springs interposed between the outer and inner rims and adapted to be slid laterally out of engagement with the sections of the outer rim.

2. A wheel comprising an inner rim, an outer sectional and flexible rim, a tire carried by the outer rim, and springs interposed between the outer and inner rims, each spring carrying a stud-bolt at one end removably fitted to one rim and carrying a plate at its opposite end having an interlocked but detachable engagement with the other rim.

3. A vehicle-wheel comprising an inner rim, an outer rim made up of hinged sections, springs interposed between the inner rim and the sections of the outer rim, undercut flanges extending outward from each outer rim-section, a recessed offset located centrally of each outer rim-section, a tire-retaining wedge fitting over such offset portion, and a wedge-forcing screw passing through said offset portion and bearing against the wedge for causing the latter to clamp the tire between the flanges of each outer rim-section.

4. A vehicle-wheel comprising an inner rim, an outer flexible rim composed of hinged sections having dovetailed recesses in their inner faces, and springs interposed between the inner and outer rims, each of said springs being provided at its outer end with a plate having beveled edges adapted to fit slidingly into the dovetailed recess in the inner face of the corresponding outer rim-section.

842,799. DERRICK. ISAAC E. MONROE, Combs, W. Va. Filed Apr. 28, 1906. Serial No. 314,279.



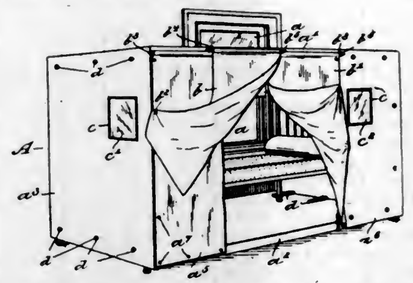
Claim.—1. A derrick embodying a plurality of tubular telescopic sections having interfitting ends, conical shoulders on said interfitting ends, and means for forcing said conical shoulders into firm and unyielding engagement with each other when the derrick-sections are extended, substantially as described.

2. A derrick embodying a plurality of hollow telescopic sections, the adjacent interfitting ends of which are provided with the coöperating conical shoulders, and a combined stop-collar and clamp removably fitted to one section and adapted to engage the adjoining section to force the conical shoulders of the interfitting ends into firm and unyielding engagement with each other.

3. A derrick embodying a plurality of tubular telescopic sections, the interfitting ends of which are provided with coöperating conical shoulders, a split collar removably fitted on one section and having a threaded engagement therewith and adapted to bear against the adjoining section, the arrangement being such that by turning said collar, the conical shoulders of the interfitting ends are forced into firm and unyielding engagement with each other, substantially as described.

4. A derrick embodying a plurality of tubular telescopic sections, the interfitting ends of which are provided with coöperating conical shoulders, means for forcing said shoulders into firm and unyielding engagement with each other, a tubular stem on the interfitting end of one section extending into the other section, a packing-washer extending around said stem, and means for expanding said washer into fluid-tight engagement with the inside of the last-named section.

842,800. PORTABLE SICK-ROOM TENT. JAMES C. MOORE and ARABELLA E. MOORE, Philadelphia, Pa.; said Arabella E. Moore assignor to said James C. Moore. Filed Feb. 10, 1906. Serial No. 300,388.



Claim.—In combination with an apartment or room provided with a window having a sash, of a portable room-tent mounted in said apartment adjacent to said window and composed of detachable solid top, bottom and ends, a side having detachable flexible panels and intermediate hanging curtains detachably connected with the panels and the solid top and forming when parted the entrance-way into the tent, and a side arranged to permit of the entrance of light and air into the tent from the window of said apartment or room.

842,801. STORAGE-BATTERY PLATE. WILLIAM MORRISON, Chicago, Ill., assignor, by mesne assignments, to Exmoor Storage Battery Company, Chicago, Ill., a Corporation of Arizona. Filed Jan. 20, 1905. Serial No. 242,010.

Claim.—1. A storage-battery support or grid consisting of a phosphorous alloy containing lead and antimony.

2. A storage-battery support or grid consisting of an alloy containing lead, antimony, and "phosphor-tin."

3. A storage-battery support or grid consisting of a phosphorous alloy comprising lead, antimony and tin.

842,802. MANUFACTURE OF STEEL. JOSÉ DE MOYA, Paris, France, assignor to La Société de Moya et Cie., Paris, France. Filed Feb. 7, 1905. Serial No. 244,659.

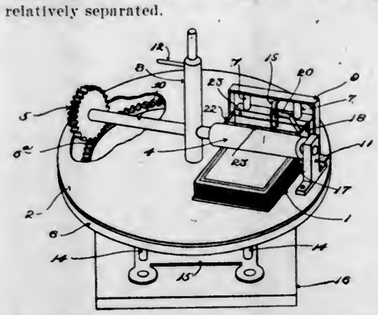
Claim.—In the manufacture of Siemens, Bessemer, Martin, Thomas, and other steels, the process of direct recarburization consisting in adding chlorid of sodium to the molten charge in the converters, furnaces, &c., for the purpose of rendering the slag more easy to melt and of raising the temperature of the bath, introducing said treated metal into the casting-ladle till it is about one-third full and adding thereto at regular intervals carbon in amounts of five kilograms in combustible containers, said addition of carbon being completed before the appearance of slag in the ladle and before the filling of the latter with metal.

842,803. MACHINE FOR DEALING PLAYING-CARDS. GEORGE MURCH, Capetown, Cape Colony. Filed Mar. 22, 1905. Serial No. 251,363.

Claim.—1. In combination, a rotary dealer-carrier, a card-holder carried thereby, and devices actuated through the rotation of said dealer-carrier to deal or deliver cards or the like at predetermined points in the said rotation.

2. In combination, the rotary dealer-carrier 2, the dealer-roll, means to rotate the said dealer-roll, a laterally-expansible card-support, a spring or springs in connection with said card-support acting to press the same toward the dealer-roll and means to expand the card-support and move the same away from the dealer-roll.

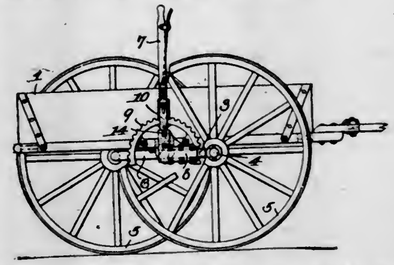
3. In combination, a dealing device, a card-support having a laterally-movable side, a spring acting to hold said side normally in closed position, and a finger-piece operatively connected with said side and by pressure on which the side is opened and the card-support and dealing device are relatively separated.



4. In combination, a dealing device, a card-support having a movable side, means for holding said side normally in closed position, means to yieldingly support the said card-support, a plunger applied to the said card-support and operatively connected with said movable side, whereby by pressure on the plunger the side may be opened and the card-support moved away from the dealing device.

5. In combination, a rotary dealer-carrier, a card-holder carried thereby, a dealing device, and actuating means for said dealing device acting automatically to cause cards or the like to be delivered at predetermined points in the rotation of the said dealer-carrier.

842,804. VEHICLE. GEORGE E. MURRELL, Fontella, Va. Filed Apr. 21, 1906. Serial No. 313,050.

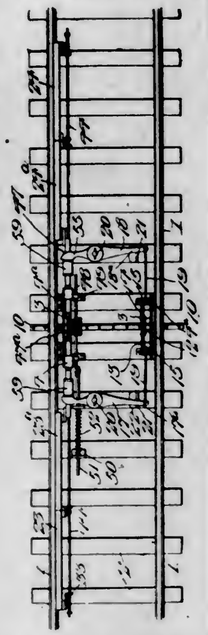


Claim.—1. The combination of a vehicle-body, with a crank-shaft on which the body is journaled which is provided with crank-arms extending diametrically opposite to each other, axles on the ends of the cranks, wheels on the axles, an operating-lever, a bracket removably secured to one of the crank-arms, means for removably securing the lever to the bracket at right angles to the arm, a toothed sector on the body of the vehicle arranged adjacent to the lever, and a latch mechanism for locking the lever with respect to the sector.

2. The combination of a vehicle-body, with a transversely-extending shaft, journals on the body for the shaft, a crank-arm at one end of the shaft, an axle thereon, road-wheels, a bracket on the crank-arm having a recess conforming to the shape of said arm and a second recess arranged at an angle to the first-mentioned, a lever secured in the second recess, a latch mechanism on the lever, and a toothed sector for said mechanism mounted on the body and over which the lever is adapted to move.

3. The combination of a vehicle-body, with a transversely-extending shaft, journals on the body for the shaft, crank-arms at the ends of the shaft, axles thereon, road-wheels, a bracket on one of the crank-arms having a recess into which the said arm fits and a second recess arranged at an angle to the first, a lever bolted in the second recess, clips coöperating with the first-mentioned recess for securing the bracket to the crank-arm, a latch mechanism on the lever, and a toothed sector for the said mechanism which is supported on the said body in coöperative relation to the lever.

842,805. RAILROAD-GATE. WILLIAM H. MYERS, Harrisonburg, Va. Filed Feb. 6, 1904. Serial No. 192,364.



Claim.—1. The combination with track-rails, of tread-rail sections arranged close to one of said track-rails, a gate movably disposed in transverse relation to the track-rails and having a lock device thereon, a slidable locking means coöperating with said device and connected to the tread-rail sections, and shifting-levers engaging said means and also connected to the gate.

2. The combination with track-rails, of tread-rail sections arranged close to one of said track-rails, a gate movably disposed in transverse relation to the track-rails and having a lock device thereon, a slidable locking means coöperating with said device and connected to the tread-rail sections, shifting-levers engaging said means and also connected to the gate, and a spring-actuated resetting-bar for restoring the gate to normal position.

3. The combination with track-rails, of a gate movably disposed in transverse relation thereto and having oscillating movements, tread-rail sections arranged in proximity to one of the track-rails, a locking means slidably cooperating with a portion of the gate and connected to the tread-rail sections, shifting-levers loosely engaging a part of the locking means and also connected to the gate, and a resetting mechanism for restoring the gate to normal position.

4. The combination with track-rails, of a gate oscillatably mounted in transverse relation thereto and having a shouldered locking device thereon, oppositely-disposed locking-bars normally engaging the said locking device, tread-rail sections arranged adjacent to one of the track-rails and connected to the said bars, transversely-extending shifting-levers engaging portions of the locking-bars and connected to the gate for throwing the latter, and means for restoring the gate to normal position.

5. The combination with track-rails, of an oscillatable gate arranged in transverse relation thereto and having a gear device thereon with a shouldered head, a crank on the gate, oppositely-disposed slidable locking-bars normally held in engagement with the said shouldered head, tread-rail sections in proximity to one of the track-rails having coöperating means connected to the locking-bars, transversely-extending shifting-levers on opposite sides of the gate, engaging portions of the locking-bars and also connected to the crank on the gate, and a spring-actuated resetting-bar having teeth engaging said gear device.

6. The combination with track-rails, of a gate movably disposed in transverse relation thereto and having oscillating movements, a series of fulcrumed bell-crank levers, each of said bell-crank levers having one of its arms provided with offsets, tread-rail sections pivotally secured to said bell-crank levers, each tread-rail being loosely connected to the other, a locking means slidably coöperating with a portion of the gate, means for connecting the locking means with the offsets of the bell-crank levers, and shifting-levers engaging said locking means and also connected to the gate.

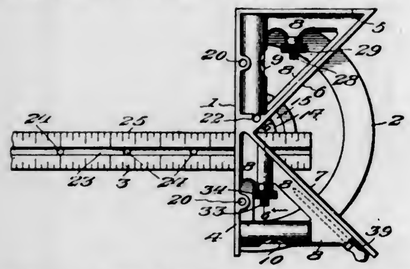
7. The combination with track-rails, of a gate movably disposed in transverse relation thereto and having oscillating movements, fulcrumed levers, tread-rail sections pivoted to said levers, each tread-rail section being loosely connected to the other, a slidable locking means coöperating with said tread-rail sections, and shifting-levers engaging said means and also connected to the gate.

8. The combination with track-rails, of a gate movably disposed in transverse relation thereto and having oscillating movements, tread-rail sections pivotally mounted, each section being loosely connected to the other, a slidable locking means connected to said tread-rail sections, and shifting-levers engaging said means and also connected to the gate.

9. The combination with track-rails, of a gate movably disposed in transverse relation thereto and having oscillating movements, tread-rail sections, a locking means slidably coöperating with a portion of the gate and connected to the tread-sections, a shifting-lever engaging said means and also connected to the gate, and a spring mounted upon the locking means and engaging the shifting-lever.

10. The combination with track-rails, of a gate movably disposed in transverse relation thereto and having oscillating movements, fulcrumed levers, one of said levers being provided with a slot, while another is provided with an offset, tread-rail sections pivotally connected to said levers, each section being loosely connected to the other, a slidable locking means coöperating with a portion of the gate, said locking means having connection with the slot of said lever, means for connecting said locking means to the offset of the other lever and a shifting-lever engaging said locking means and also connected to the gate.

842,806. COMBINATION-TOOL. WILLIAM MCCAUSLAND, Brooklyn, N. Y. Filed Nov. 4, 1905. Serial No. 285,898.



Claim.—1. A base having a straight-edge and formed with openings adjacent said edge, an angle-gage plate adapted for removable engagement with the base-openings to project beyond said straight-edge in either direction, said plate including a semicircular strip formed with scale-marks, a pointer pivotally supported by the plate with its free end coöperating with the scale-mark, the adjacent edge of the semicircular strip being grooved to receive the pointer.

2. A tool of the class described comprising a base including two strips arranged at a right angle to each other, an angle-gage plate arranged for movable connection with the base, said plate comprising a semicircular scale-strip, and a blade adapted to be pivotally connected to said gage-plate and overlie the scale-marks thereon, whereby the angle between one of the base-strips and the blade may be determined by the registering scale-mark on the gage-strip.

3. A tool of the class described comprising a base having two strips arranged at a right angle to each other, one of the strips being formed with spaced alined openings, in combination with a gage-plate provided with depending pins to engage the openings in the strip and permit the gage-plate to project in either direction from said strip.

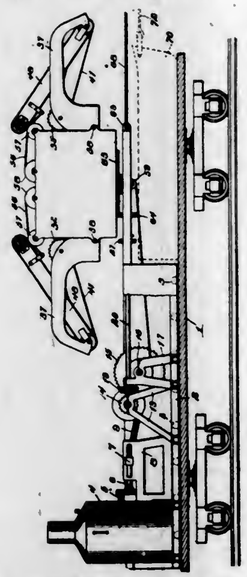
4. A tool of the class described comprising a base having two strips arranged at right angles to each other, one of the strips being formed with spaced alined openings, a gage-plate adapted to removably engage said openings, the connection between the gage-plate and strip being arranged to aline one edge of the gage-plate with said strip in one position of said plate.

5. A tool of the class described comprising a base, and a gage-plate removably connected therewith, said plate comprising parallel spaced curved members terminally connected by a cross-strip, a pointer pivotally connected to the cross-strip, the front end of the pointer moving in a recess formed in one of the curved members.

6. A tool of the class described comprising a base, and a gage-plate removably connected therewith, said plate comprising parallel spaced curved members terminally connected by a cross-strip, a pointer pivotally connected to the cross-strip, the front end of the pointer moving in a recess formed in one of the curved members, in combination with a scaled blade adapted to be removably secured to one of said members.

7. A tool of the class described comprising a base, and a gage-plate removably connected therewith, said plate comprising parallel spaced curved members terminally connected by a cross-strip, a pointer pivotally connected to the cross-strip, the front end of the pointer moving in a recess formed in one of the curved members, one of said members being formed with a slot curving concentrically with the curvature of the member, in combination with an edge blade, and means engaging said blade and movable in the slot in the member.

842,807. APPARATUS FOR UNLOADING PLATFORM-CARS. PETER MCNERNEY, Lake Elmo, Minn. Filed Sept. 29, 1906. Serial No. 336,704.



Claim.—1. In an apparatus of the character described, oppositely-disposed conveyers in combination with a movable plow for discharging the contents of platform-cars onto said conveyers.

2. In an unloading apparatus, oppositely-disposed conveyers, a plow comprising diverging sides, said unloading apparatus being mounted upon rollers and adapted to be drawn from one car to the other, substantially as described.

3. In a device of the character described, oppositely-disposed conveyers pivoted to arms, said arms being pivoted to swing upwardly, and means for swinging said conveyers and said arms.

4. In an unloading apparatus, oppositely-disposed conveyers pivoted to arms, said arms being pivoted to swing upwardly and downwardly, a turn-table to which said arms are pivoted, means for moving said conveyers and arms, and means for turning said turn-table.

5. In an unloading apparatus, a turn-table, means for actuating said turn-table, arms pivoted to said turn-table, conveyers pivoted to said arms, and means for actuating said conveyers and for swinging said arms on their pivotal points.

6. In an unloading apparatus, a frame, an engine mounted thereon, rollers journaled in the frame, a turn-table on said frame, arms pivoted to the turn-table, conveyers pivoted to the arms, a plow having divergent sides, and means for actuating the conveyers and moving the arms, substantially as described.

7. In an unloading apparatus adapted to be drawn from car to car, the combination of a plow having divergent sides, a turn-table disposed above the plow, arms pivoted to the turn-table, conveyers pivoted to the arms, cables attached to the conveyers, and means for elevating the conveyers and arms, and means for turning the turn-table, substantially as described.

8. In an unloading apparatus, a frame mounted on rollers, a turn-table mounted on said frame, arms pivoted to the turn-table, conveyers pivoted to the arms, an engine mounted on the frame, a winding mechanism operated by said engine, cables connected to the conveyers and to the winding mechanism for raising and lowering said conveyers and arms, and means for rotating said turn-table.

9. In an unloading apparatus, a plow having diverging sides, a frame mounted on rollers, an engine on the frame, a turn-table mounted on the frame, arms pivoted to the turn-table, conveyers connected to said arms, winding mechanism operated by said engine, cables connected to said conveyers and passing over grooved pulleys to the winding mechanism for raising and lowering said conveyers and arms, and means for operating said turn-table.

10. In an unloading device, a frame mounted on rollers and adapted to be drawn over the cars for unloading the same, a plow having diverging sides, a turn-table mounted upon rollers, means for operating said turn-table, and a train of gearing for operating said conveyers, substantially as described.

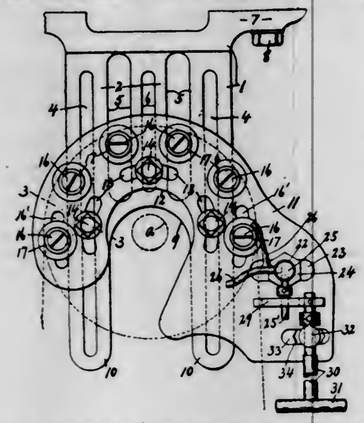
842,808. BELT-SHIFTER. THEODORE J. MCVEY, Syracuse, N. Y., assignor to Carlton & McVey, Syracuse, N. Y., a Copartnership. Filed Mar. 23, 1906. Serial No. 307,612.

Claim.—1. A belt-shifter comprising a hanger having lengthwise slots and bolts adjustable lengthwise therein, a roller-supporting plate having a series of concentric elongated slots and receiving said bolts, which latter serve to clamp the plate to the hanger, and a series of rollers rotatably mounted upon the plate about a common axis, the end rollers of the series being separately adjustable about said axis to conform to different degrees of lap of the belt.

2. In a belt-shifting device of the class described, a hanger having a series of parallel lengthwise slots, a roller-supporting plate having a series of elongated slots arranged about a common center, bolts passed through the slots in the plate and hanger for clamping the plate to said hanger, and a series of rollers mounted on the plate equidistant from said center.

3. In a belt-shifting device of the character described, the combination, of a roller-supporting plate and hanger

therefor, said plate being adjustable around, and toward and from a common axis, means for clamping the plate in its adjusted position, and a series of rollers mounted on the plate and arranged concentrically with said axis.



4. In a belt-shifting device of the character described, a hanger having a series of parallel slots, a roller supporting plate having elongated slots arranged about a common center and registered with the slots in the hanger, clamping-bolts passed through the slots in the hanger and plate for securing said plate to the hanger, a sliding bolt and guide therefor adjustably mounted on the plate, belt-shifting arms projecting from the bolt, and means for shifting said bolt lengthwise of its guide.

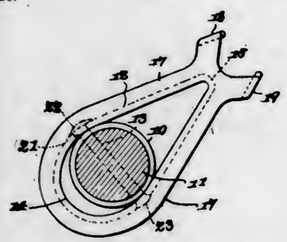
5. In a belt-shifting device of the character described, a hanger having parallel slots, a roller-supporting plate having elongated slots arranged about a common center and registering with the slots in the hanger, clamping-bolts passed through said slots for securing the plate to the hanger, a series of rollers arranged in a circular arc, the end rollers of the series being adjustable lengthwise of said arc, a belt-shifting bolt and guide therefor mounted on the plate an dadjustable toward and from the center of said arc, means for securing the guide in its adjusted position, and means for shifting the sliding bolt.

6. In a belt-shifting device of the character described, a hanger and a separate roller-supporting plate having opposite substantially flat faces to permit the plate to be inverted or reversed and either side arranged next to the hanger, a series of rollers mounted in a circular arc upon the plate, the rollers at the ends of the arc being adjustable lengthwise of said arc, means for clamping the adjustable rollers in their adjusted position a sliding bolt and guide therefor mounted on the plate and adjustable toward and from the center of the arc, and belt-shifting arms projecting from the bolt.

7. In a belt-shifting device of the character described, a hanger having a series of vertical slots, a plate having a series of lengthwise slots arranged about a common center, clamping-bolts passed through said slots for securing the plate to the hanger, a series of roller-supporting studs secured to the plate in a circular arc, rollers mounted upon said studs, the studs at the end of the arc being adjustable lengthwise of the arc, a guide mounted on the plate and adjustable relatively to one of the adjustable roller-studs, a sliding bolt movable in said guide and provided with belt-shifting arms, and means mounted on the plate for shifting the sliding bolt endwise in the guide.

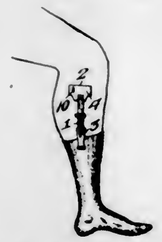
842,809. NECK-YOKE ATTACHMENT. DAVID D. NELSON, Mindenmines, Mo. Filed Jan. 30, 1906. Serial No. 298,708.

Claim.—1. A neck-yoke attachment comprising a ferrule for encircling and closely engaging the neck-yoke, an oblong frame bearing over the opposite sides of said ferrule and curved at one end and spaced from the ferrule and with the sides converging toward and united at the other end and a pin passing through said frame and ferrule and also through the neck-yoke and secured from turning in said frame.



2. A neck-yoke attachment comprising a ferrule for encircling and closely engaging the neck-yoke, an oblong frame bearing over the opposite sides of said ferrule and curved at one end and spaced from the ferrule and with the sides converging toward and united at the other end, said frame ferrule and neck-yoke having transverse registering apertures with a lateral recess in one of the frame-apertures, and a pin extending through said apertures and seat in the opening in the body.

842,810. GARMENT-SUPPORTER. ARTHUR R. POLLOCK, Columbus, Ohio. Filed Dec. 4, 1905. Serial No. 290,296.



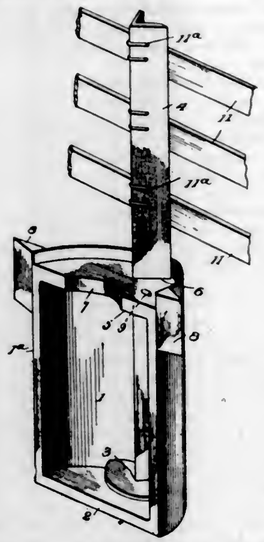
Claim.—1. In a garment-supporter, a garment-engaging device comprising a body portion provided with an opening, an engaging pin pivoted to swing toward and from the body, and a locking-piece pivoted to the body and movable into engagement with the pin, said piece having a spring-engaging portion designed to seat in said opening.

2. In a garment-supporter, a garment-engaging device comprising a body portion having an opening, a substantially U-shaped pin pivoted to swing toward and from the body and a locking-piece pivoted to the body and movable for engaging the ends of the pin, said piece having longitudinal pin-receiving grooves and a spring portion to seat in the opening of the body.

842,811. FENCE-POST. WILLIAM N. REYNOLDS, Pierre, S. D.; James A. Reynolds administrator of said William N. Reynolds, deceased. Filed May 7, 1906. Serial No. 315,637.

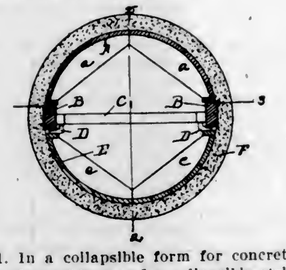
Claim.—1. A fence-post base, comprising a semi-cylindrical structure open at one side and provided with a solid top plate and a solid bottom plate, the bottom plate being provided in said upper face with a socket extending only partially therethrough and the top plate being provided with a recess extending entirely therethrough, a post extending through said recess and having its lower end seated in said socket, and means for securing the post to the base.

2. A semicylindrical post-base open at one side and provided with a solid bottom plate having a socket in its upper face and also provided with a top plate having a recess in vertical alinement with said socket, the base being provided at the opposite boundaries of its open side and at the upper end thereof with oppositely-extending wings S, and a post secured in said socket and recess.



3. In a semicylindrical post-base provided with a solid bottom plate formed with a socket in its upper face and also provided with a solid top plate the upper face of which is slightly below the upper semicircular edge of the base, said top plate being provided with a recess extending therethrough and said recess and said socket being angular, and a post angular in cross-section and secured in said recess and socket.

842,812. COLLAPSIBLE FORM FOR CONCRETE-WORK. OLIVER S. RIBLET, Erie, Pa. Filed Sept. 1, 1905. Serial No. 276,758.



Claim.—1. In a collapsible form for concrete-work the combination of a roof form and a collapsible strip arranged under the form and extending beyond the walls of the roof form.

2. In a collapsible form for concrete-work the combination of a roof form having the surfaces near the edges of its sides approximating vertical planes and a collapsing strip arranged under one of said edges and extending beyond the walls thereof.

3. In a collapsible form for concrete-work the combination of a roof form having the surfaces near the edges of its sides approximating vertical planes; a collapsing strip arranged under the edges of said roof form and extending beyond the walls thereof; and spreaders C between the collapsing strips.

4. In a collapsible form for concrete-work the combination of a roof form and a collapsing strip arranged under the form and extending beyond the walls of the roof form; and collapsible means for supporting said side strip.

5. In a collapsible form for concrete-work, the combination of a roof form and a bottom form, each having its side wall near the edge approximating a vertical plane; and a collapsing strip between said forms and extending outwardly beyond the walls of the roof form.

6. In a collapsible form for concrete-work, the combination of a roof form and a bottom form, each having its side wall near the edge approximating a vertical plane; and a collapsing strip between said forms and extending beyond the walls of both the roof and bottom forms.

7. In a collapsible form for concrete-work, the combination of a roof form; a bottom form; a collapsing strip between said forms; and a collapsible support resting on said bottom form and supporting said collapsing strip.

8. In a collapsible form for concrete-work, the combination of a roof form; a bottom form; a collapsing strip between said forms; and a collapsible support resting on said bottom form and supporting said collapsing strip, said collapsing strip supporting said roof form.

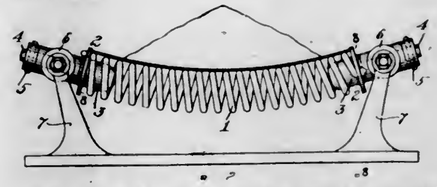
9. In a collapsible form for concrete-work, the combination of a roof form; a collapsing strip arranged under and supporting the roof form; and a collapsible support in the form of a wedge supporting the collapsing strip.

10. In a collapsible form for concrete-work, the combination of a roof form having its edges approximating vertical planes; collapsing strips arranged under said spreaders between said collapsing strips; and collapsible supports for said collapsing strips.

11. In a collapsible form for concrete-work, the combination of a roof form having its edges approximating vertical planes; collapsing strips arranged under said spreaders between said collapsing strips; and collapsible supports for said collapsing strips, said strips extending beyond the walls of said form.

12. In a collapsible form for concrete-work, the combination of the roof form A; the bottom form E, said forms having the walls near their side edges approximating vertical planes; collapsing strips B between the edges of said forms extending outwardly beyond the walls thereof; the spreaders C between said collapsing strips; and the wedges D between said collapsing strips and bottom form.

842,813. IDLER FOR BELT CONVEYERS. JOHN J. RIDGWAY, Rosebank, N. Y. Filed Apr. 3, 1906. Serial No. 309,650.



Claim.—1. In a belt-conveyer support, the combination of a roller, consisting of a spiral spring, journals for said roller, means for attaching said spring to said journals, journal-boxes and supporting means, substantially as described.

2. In a belt-conveyer support, the combination of a flexible roller, supporting means, and journal-boxes for said roller, pivotally secured to said supporting means, substantially as described.

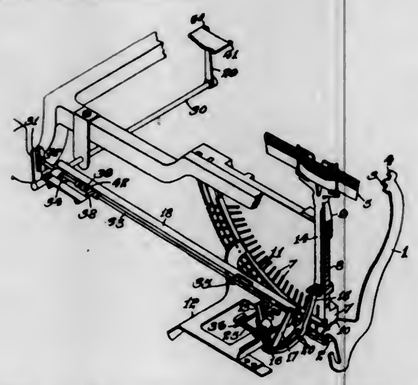
3. In a supporting device for belt conveyers, the combination of a flexible roller, supporting means, inflexible ends for said roller, secured in rotational relation to said supporting means by pivoted bearings, substantially as described.

4. In a supporting device for belt conveyers, the combination of a flexible roller, supporting means and bearings for said roller, pivoted to said supporting means out of the line of the axis of rotation of said roller, substantially as described.

5. A belt-conveyer support consisting of a spiral spring, hubs secured thereto and supported in rotational relation by pivoted bearings, substantially as described.

6. A belt-conveyer support consisting of a spiral spring, hubs secured thereto, guide-flanges and supporting means, substantially as described.

842,814. RIBBON-VIBRATING MOVEMENT FOR TYPE-WRITERS. GILBERT SCHERER and JOSEPH LANDBURG, Denver, Colo., assignor to the Underwood Typewriter Company, of New York. Filed Aug. 11, 1906. Serial No. 330,124.



Claim.—1. The combination of a ribbon-vibrating lever, wrists connected to said lever at different distances from the fulcrum thereof, an actuator for said lever, and means for shifting said wrists independently of the lever to engage either wrist with said actuator, and concomitantly disengage the other wrist from said actuator.

2. The combination of a ribbon-vibrating lever, an actuator, wrists mounted at different distances from the lever-fulcrum, and means for shifting said wrist axially independently of both said lever and said actuator for bringing either wrist into action, and concomitantly silencing the other wrist.

3. The combination of a reciprocating actuator, a ribbon-vibrating lever having forks bestriding said actuator, wrists mounted at different distances from the fulcrum of the lever, and means for shifting the wrists axially independently of both said actuator and said lever for bringing either wrist into action, and concomitantly silencing the other wrist.

4. The combination of a reciprocating actuator having a slot, a ribbon-vibrating lever having forks bestriding said actuator, wrists mounted upon said lever at different distances from its fulcrum, and means for shifting said wrists simultaneously to cause either one to enter said slot, and the other one to withdraw from said slot.

5. The combination of a ribbon-vibrating lever, wrists connected to said lever at different distances from the fulcrum thereof, a yoke connecting said wrists, and a reciprocating actuator for said lever; said yoke being shiftable to move said wrists axially into and out of engagement with said actuator.

6. The combination of a ribbon-vibrating lever, wrists connected to said lever at different distances from the fulcrum thereof, a yoke connecting said wrists, a reciprocating actuator for said lever; said yoke being shiftable to move said wrists axially into and out of engagement with said actuator; a part extending in the direction of reciprocation of said actuator, and loosely connected to said yoke, and means including a finger-piece for shifting the said part to move said wrists in axial direction.

7. The combination of a ribbon-vibrating lever, a reciprocating actuator, wrists mounted at different distances from the lever-fulcrum and connected by a yoke, and shiftable independently of said lever and actuator, a part loosely engaging said yoke and extending in the direction of movement of said actuator, and a finger-piece connected to the said part to move said yoke and wrist in axial direction.

8. In a type-writing machine, the combination with a platen-shifting mechanism, of a ribbon-vibrating lever shiftable with said mechanism, a reciprocating actuator, wrists yoked together and mounted at different distances from the fulcrum of said lever and shiftable axially in bearings provided upon said lever, a rock-shaft having an arm extending in the direction of reciprocation of said actuator and loosely connected to said yoke, to shift the latter, and also to move idly therewith during the platen-shifting operation, and a finger-piece having means to shift said rock-shaft endwise.

9. The combination of a ribbon-vibrating lever, wrists connected to said lever at different distances from the fulcrum thereof, a reciprocating actuator between said wrists, and means for shifting said wrists axially independently of both the lever and the actuator, and means for detaining said wrist either in such a position that one engages the actuator, or in such a position that the other engages the actuator, or in such a position that neither engages the actuator.

10. The combination of a reciprocating actuator, a ribbon-vibrating lever, wrists mounted at different distances from the fulcrum of the lever, and means including a finger-piece for shifting the wrists axially independently of both said actuator and said lever, so as to bring either one wrist or the other, or neither of them into action at will.

11. The combination of a reciprocating actuator having a slot, a ribbon-vibrating lever having forks bestriding said actuator, wrists mounted upon said lever at different distances from its fulcrum, means for shifting said wrists simultaneously to cause either one to enter said slot, and the other one to withdraw from said slot, and means for detaining said wrists in a midway position in which neither of them engages said slot.

12. In a type-writing machine, the combination with a shifting-platen mechanism, of a ribbon-vibrating lever shiftable with said platen, an actuating-arm having a slot extending in the direction of the shifting of the platen, wrists mounted at different points along the lever, and means for shifting said wrists at either shift position of the platen-shifting mechanism, so as to bring either wrist into action, and simultaneously silence the other wrist.

13. In a type-writing machine, the combination with a shifting-platen mechanism, of a ribbon-vibrating lever shiftable with said platen, an actuating-arm having a slot extending in the direction of the shifting of the platen, wrists mounted at different points along the lever, and means for shifting said wrists at either shift position of the platen-shifting mechanism, so as to bring either wrist into action, and simultaneously silence the other wrist, or so as to silence both wrists at will.

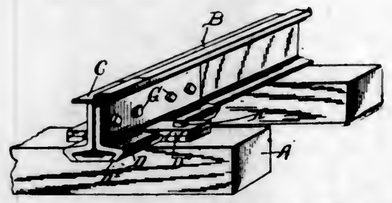
14. In combination, a platen-shifting mechanism, a finger-piece mounted upon the framework, a rock-shaft connected to said finger-piece to be moved endwise thereby, an arm extending from said rock-shaft, an actuator reciprocating in the direction of said arm, a ribbon-vibrating lever shiftable up and down with the platen, and means loosely connected to said arm for causing said actuator to vibrate said lever to different distances at will.

15. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination of an actuator connected to said universal bar and having a slot, a ribbon-vibrating lever, a pair of wrists at different distances from the fulcrum of said lever, means being provided upon said lever for guiding said wrists for axial movements, said wrists being mounted to work in said slot and being movable axially to connect said lever with said actuator, and means connecting said wrists to enable either wrist, when shifted to effective position, to silence the other wrist.

16. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination of an actuator connected to said universal bar, a ribbon-vibrating lever, a pair of wrists at different distances from the fulcrum of said lever, and means for moving said wrists simultaneously to silence either thereof, and cause the other to connect said lever to said actuator.

17. In a type-writing machine having type-operating keys and a universal bar reciprocated by said keys, the combination with a ribbon vibrator or carrier, of shiftable means for enabling said universal bar to vibrate said carrier different distances at the type-strokes, said vibrating means including a lever between the universal bar and the carrier, a pair of wrists mounted at different distances from the fulcrum of said lever, movement-transmitting means coöperating with said lever and said wrists, and means for shifting said wrists axially at the same time, to bring either into use and silence the other.

842,815. RAIL-JOINT. EDWARD H. SCHWARTZ, Chicago, Ill. Filed May 25, 1903. Serial No. 158,711.

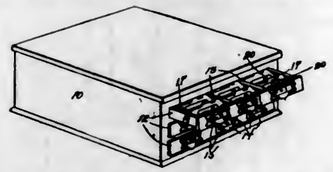


Claim.—1. A rail-joint comprising a base-plate provided with a seat in its upper face, a contact-strip mounted within said seat, and a pair of fish-plates, said base-plate being provided with beveled edges and said fish-plates being provided with inwardly-extending flanges, all adapted to coöperate to draw said base-plate and said contact-strip upwardly and in contact with the under surface of the rail, when the fish-plates are clamped together.

2. A rail-joint comprising a base-plate, the opposite edges of which are beveled upwardly and outwardly, said base-plate being provided with lugs extending outwardly and with a seat in its upper face, a contact-strip mounted within said seat, a pair of fish-plates, each of said fish-plates being provided with a downwardly and inwardly projecting flange arranged to engage the beveled edge of the base-plate, so as to draw the base-plate tightly against the under surface of a rail mounted upon said base-plate, and clamped between said fish-plates, said fish-plates being also provided with outwardly-extending lugs, and means for securing the lugs on the base-plate and the lugs on the fish-plates to each other, substantially as described.

3. A rail-joint comprising a base-plate on which the ends of the rail rest and which is provided with a longitudinal groove in its top surface, and a bonding or connecting strip located in said groove in contact with the bottom surfaces of the rail ends, said rail-joint embracing means by which said base-plate is clamped toward the bottoms of the rail ends and said bonding or connecting strip thereby pressed firmly against the same.

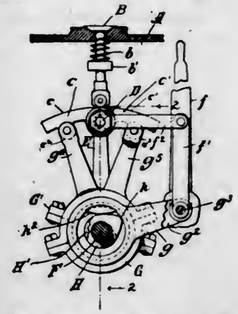
842,816. CABINET FOR BOOK-ACCOUNT BALANCE-SLIPS. FREDERICK A. SHUPE and SAMUEL D. PAGE, Des Moines, Iowa. Filed Dec. 8, 1905. Serial No. 290,995.



Claim.—A cabinet for balance-slips comprising a case, drawers in the case, partitions in the drawers provided with kerfs in their side faces, sides for pockets fitted in said kerfs, detachable pocket-covers hinged to the said sides, means for latching the covers in closed position, index-cards connected with the covers, and means for detachably connecting balance-slips and fastening them to the bottoms of the pockets.

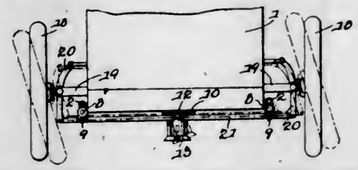
842,817. VALVE CONTROL AND REVERSE MECHANISM. JOHN W. SLATER, Slatersville, R. I. Filed Apr. 18, 1906. Serial No. 312,292.

Claim.—In an internal-combustion engine having a valve and a valve-stem therefor, a bipart actuator for said stem composed of two hinged members, a cam-shaft having a pair of cams, an actuator-support pivoted to said cam-shaft and having a pivot uniting said actuator members, a pair of circular supports about said cams, and having localizing extensions, and a fixed cam-displacing



block within each support; together with an eccentric-strap mounted upon each circular support, and a rod extending from each strap, said rods being respectively pivoted to the actuator members.

842,818. AUTOMOBILE-HEADLIGHT. CASSIUS M. SPINK, Warren, Ind. Filed May 14, 1906. Serial No. 316,797.



Claim.—1. The combination with a vehicle-body having supporting-wheels pivotally mounted thereunder; of side lamps carried by the body, means for holding said lamps normally directed forward from the body, and means operated by the pivotal movement of the wheels for turning the lamps independently one at a time in the direction of travel of the vehicle when turning.

2. The combination with a vehicle-body and supporting-wheels pivotally mounted thereunder; of side shafts rotatably mounted on the body, lamps carried thereby, means for holding the lamps and shafts normally in predetermined positions, and means operated by the pivotal movement of the wheels for turning the shafts independently one at a time to point a lamp in the direction of travel of the vehicle when turning.

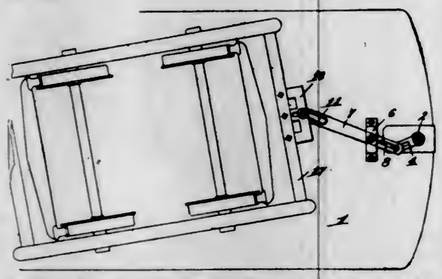
3. The combination with a vehicle-body and supporting-wheels pivotally mounted thereunder; of side shafts rotatably mounted on the body, lamps carried thereby, means for holding the lamps and shafts normally in predetermined positions, fingers interposed between the shafts, and movable laterally with the wheels, and means operated by the fingers for turning the shafts independently one at a time to point a lamp in the direction of travel of the vehicle when turning.

4. The combination with a vehicle-body and supporting-wheels pivotally mounted thereunder; of side shafts carried by the body, arms extending therefrom, lamps carried by the shafts, means upon the shafts for normally holding the lamps directed forward, a laterally-movable rod actuated by the pivotal movement of the wheels, and fingers upon the rod and between the arms for swinging the arms and turning the shafts independently one at a time to point a lamp in the direction of travel of the vehicle when turning.

5. The combination with a vehicle-body and supporting-wheels pivotally mounted thereunder; of a shaft carried by the body, a lamp upon the shaft, a slotted arm normally engaging and movable with the shaft, a laterally-

movable rod actuated by the pivotal movement of the wheels, means upon the rod for engaging the arm to swing it, and means carried by the body for supporting the arm out of operative position.

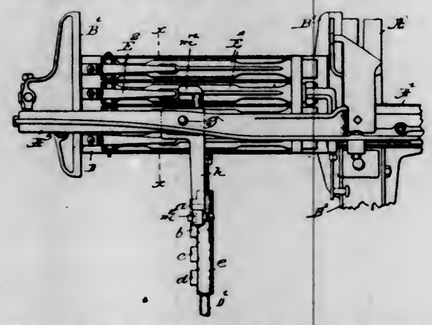
842,819. CAR-HEADLIGHT SUPPORT. CASSIUS M. SPINK, Warren, Ind., assignor of one-half to Jacob D. Lines, Warren, Ind. Filed May 18, 1906. Serial No. 317,613.



Claim.—1. The combination with a car-body and a truck mounted to swing thereunder; of a headlight-support mounted to partly rotate upon the body, an arm movable with the support, a plate upon and movable with the truck, a lever fulcrumed between its ends, means adjustably mounted upon the plate for movably engaging the lever at one side of its fulcrum, and means adjustably mounted upon the lever at the other side of its fulcrum for movably engaging the arm.

2. The combination with a car-body, and a truck mounted to swing thereunder; of a headlight-support mounted to partly rotate upon the body, a longitudinally-slotted arm movable with the support, a longitudinally-slotted plate upon the truck and movable therewith, a lever fulcrumed between its ends and slotted longitudinally, means adjustably mounted in the slot in the plate for engaging one of the slots in the lever, and means adjustably mounted in the other slot in the lever for movably engaging the slotted arm.

842,820. SMASH-PREVENTER FOR LOOMS. THOMAS W. TILLMAN, Columbus, Ga., assignor to Randolph Crompton, George Crompton, Edward D. Thayer, and William B. Scofield, Worcester, Mass., a Firm. Filed Oct. 31, 1904. Serial No. 230,710.



Claim.—1. The combination with a shifting shuttle-box having multicells, and a series of binders, one for each cell, and a shuttle-box rod having a series of projections, of locking means controlled by the binders to lock and restrain movement of the shuttle-box rod whenever a shuttle is absent from a cell of the shuttle-box.

2. A shuttle-box rod connected with a shuttle-box having multicells and binders, and a sleeve applied to said rod and provided with projections, combined with a rock-shaft sustained by the lay and having at its upper end a finger and at its lower end an arm, and a spring acting normally to keep said finger pressed toward the binder opposite it, each binder, when acted upon by a shuttle in the cell opposite it moving said finger and rock-shaft in a direction to cause said arm to retire from locking engagement with the projections carried by the shuttle-box rod, leaving the shuttle-box rod free to be moved.

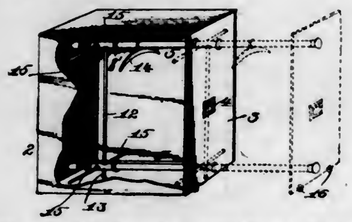
3. In a shuttle-box mechanism of looms, the combination with a vertically-moving shuttle-box rod having a notched or recessed surface thereon, of a shaft having an arm thereon adapted to engage any one of the notches or recesses, and also having an arm or finger thereon adapted to engage a shuttle-binder, substantially as shown and described.

4. In a shuttle-box mechanism of looms, the combination with a vertically-moving shuttle-box rod having a notched or recessed surface thereon, of a shaft having an arm thereon adapted to engage any one of the notches or recesses, and also having an arm or finger thereon adapted to engage a shuttle-binder, and to be moved by the outward movement of the shuttle-binder to release the locking-arm, substantially as shown and described.

5. In a shuttle-box mechanism of looms, the combination with a vertically-moving shuttle-box rod having a notched or recessed surface thereon, of a shaft having an arm thereon adapted to engage any one of the notches or recesses, and also having an arm or finger thereon adapted to engage a shuttle-binder, and to be moved by the outward movement of the shuttle-binder to release the locking-arm, and a spring for yieldingly holding the finger or arm in engagement with the shuttle-binder, and the locking-arm in engagement with a notched or recessed surface, substantially as shown and described.

6. In a shuttle-box mechanism for looms, the combination with the give-way mechanism connected with the box-lever, and with the vertically-moving shuttle-box rod, and said vertically-moving shuttle-box rod, of a locking mechanism to lock said shuttle-box rod, said locking mechanism comprising a notched or recessed surface secured to and moving with said rod, a stand secured to the box-frame, a shaft supported on said stand, a locking-arm on said shaft to engage said notched or recessed surface, a finger or arm on said shaft to engage a shuttle-binder, and a spring for holding said arm or finger in yielding engagement with the shuttle-binder, and said locking-arm in yielding engagement with the notched or recessed surface, substantially as shown and described.

842,821. ATTACHMENT INTENDED TO SAVE CLOSET-SPACE. THOMAS TRYON, New York, N. Y. Filed June 1, 1906. Serial No. 319,738.



Claim.—1. As an article of manufacture, a plurality of telescopic rods each having a member movable with respect to another member, said rods having means for fastening them in place at the opposite ends thereof, a brace connecting the movable members of the rods, and guide-arms extending outwardly from said movable members.

2. As an article of manufacture, a plurality of telescopic rods each having a member movable with respect to another member, said rods having means for fastening them in place at opposite ends thereof, a brace connecting the movable members of the rods, guide-arms extending outwardly from said movable members, and a prop pendent from one of the movable members.

3. A closet-space-saving attachment for supporting garments or the like, comprising a plurality of rods provided at one end with means for fastening them in place, a plurality of members each adapted to telescope one of said rods and provided with laterally-extending arms, a brace between said telescopic members near their inner ends, and means connecting the outer ends of said telescopic members for simultaneously moving the telescopic members upon the rods.

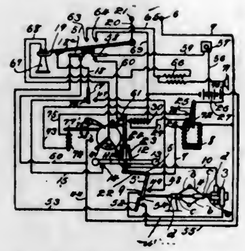
4. An attachment to save closet-space comprising a box having a front bodily movable with respect to the body of the box, a plurality of telescopic rods, the sections of which are respectively connected with the back and front of said box, and a brace extending between the movable sections of the said rods.

5. An attachment to save closet-space comprising a box having a front bodily movable with respect to the body of the box, telescopic rods, the sections of which are respectively connected with the back and front of said box, and arms extending oppositely from the front sections of the telescopic rods to engage the inner faces of the sides of the box on the backward and forward movement of said front.

6. An attachment to save closet-space comprising a box having a movable front, telescopic rods, the sections of which are respectively connected with the back and front of said box, arms extending oppositely from the front sections of the rods to engage the inner faces of the sides of said box during the forward and backward motion of said front, and a depending foot-piece connected with the front section of one of the rods to traverse the bottom of said box during said motion of the front.

7. An attachment to save closet-space comprising a box having a movable front, telescopic rods, the sections of which are respectively connected with the back and front of said box, a brace extending between the front sections of the rods, arms extending oppositely from said front sections and arranged to engage the sides of the box on the forward and backward motion of the front, and a foot-piece depending from the lower front section to traverse the bottom of the box during the motion of the front.

842,822. TELEPHONE SYSTEM. HERSCHEL R. TURNER, Hoxie, Kans. Filed May 12, 1906. Serial No. 316,578.



Claim.—1. The combination with two line-wires, of a plurality of stations connected in multiple to the line-wires and each having a settable and a moving contact, a generator at each station connected in multiple to the line-wires a circuit-breaker in each generator-circuit, and electromagnets controlled by the generator-current for operating the moving contacts.

2. The combination with the two line-wires, of a plurality of stations connected in multiple to the line-wires, and each having a settable and a moving contact, a generator at each station connected in multiple to the line-wires, a circuit-breaker in each generator-circuit, and electromagnets controlled by the generator-current for operating the moving contacts said electromagnets also operating the circuit-breakers.

3. The combination with two line-wires, of a plurality of stations, connected in multiple to the line-wires and each having a settable and a moving contact a generator at each station connected in multiple to the line-wires, a relay in each generator-circuit, a battery-circuit controlled by each relay, and an electromagnet controlling each moving contact and controlled by the relay.

4. The combination with two line-wires, of a plurality of stations connected in multiple to the line-wires and each having a settable and a moving contact, an electromagnet controlling each moving contact, a generator, and means for producing a pulsating current along the line and at each station to act on the electromagnets of all the stations.

5. The combination with two line-wires, of a plurality of stations connected in multiple to the line-wires, and each having a settable and a moving contact, a generator at each station connected to the line-wires, means at each station for operating the moving contact when the generator of one station is operated, and means at each station for cutting the generators of all stations, except the one calling up, out of circuit with the line-wires, when a generator is operated to call up.

6. The combination with two line-wires, of a plurality of stations connected in multiple to the line-wires, and each having a settable and a moving contact, an electromagnet controlling each moving contact, a generator, and means for producing a pulsating current along the line and at each station to act on the electromagnets of all the stations, said means being normally out of circuit with the line-wires, and being constructed to be thrown into circuit when the means is operated to call up.

7. The combination with two line-wires, of a plurality of stations connected in multiple to the line-wires, and each having a settable and a moving contact, the moving contacts of all the stations normally resting in like positions and the settable contacts normally resting in different positions and settable to positions corresponding to any of the settable contacts and means at each station connected to the line-wires, for moving all the moving contacts in synchronism to the settable contacts.

8. The combination with two line-wires, of a plurality of stations connected in multiple to the line-wires, and each having a settable and a moving contact, the moving contacts of all the stations normally resting in like positions and the settable contacts normally resting in different positions, and settable to positions corresponding to any other of the settable contacts and means at each station connected to the line-wires for moving all the moving contacts in synchronism to the settable contacts, and means at each station moved to cut out a station when a settable contact is away from its normal position and the moving contacts are operated from another station.

9. The combination with two line-wires of a plurality of stations connected in multiple to the line-wires and each having a settable and a moving contact the moving contacts of all the stations normally resting in like positions, and the settable contacts normally resting in different positions and settable to positions corresponding to any other of the settable contacts, and means at each station connected to the line-wires for moving all the moving contacts in synchronism to the settable contacts, and locking mechanism for the settable contacts effective as long as the moving contacts are away from their normal positions.

10. The combination with the two line-wires, of a plurality of stations connected in multiple to the line-wires, and each having a settable and a moving contact, a toothed wheel connected to each moving contact, a pawl for operating each toothed wheel an electromagnet operating each pawl generators controlling the electromagnets and connected in multiple to the line-wires circuit-breakers in the generator-circuits, and means normally positioned to cut each generator out of the circuit with the line-wires, but operated to throw the local generator into circuit when the local generator is operated.

11. The combination with a settable contact, of a moving contact, and mechanism locking the settable contact against movement when the moving contact is away from its normal position.

12. The combination with the settable contact, of a toothed disk, an electrically-operated pawl for moving the toothed disk, a contact moving with the disk, and means locking the settable contact against movement when the disk is moved from its normal position.

13. The combination with a dial provided with a plurality of notches or recesses, of an index or pointer having a projection to enter any one of said recesses, an axially-movable shaft to which said pointer or index is secured, a settable contact turning with the shaft and the index, and an electrically-operated moving contact.

14. The combination with a dial provided with a plurality of notches or recesses, of an index or pointer having a projection to enter any one of said recesses, an axially-movable shaft to which said pointer or index is secured, a settable contact turning with the shaft and the index, and an electrically-operated moving contact, and locking mechanism controlled by the moving contact, and moved into engagement with the axially-movable shaft when the moving contact is away from its normal position.

15. The combination with the generator adapted to be connected in multiple to the line-wires, of a relay in the generator-circuit, a battery-circuit, a circuit-breaker in the generator-circuit, a settable contact, a moving contact, and an electromagnet in the battery-circuit operating the circuit-breaker and moving the moving contact.

16. The combination with the generator adapted to be connected in multiple to the line-wires, of a switch in the generator-circuit, a relay in the generator-circuit, a battery-circuit, an electromagnet in the battery-circuit, an armature for the electromagnet, a circuit-breaker, a lock for connecting the armature to the circuit-breaker when the switch is operated and a governor operated by the generator and operating the switch.

17. The combination with the generator, of a moving contact, a disk by which the contact is carried, a spring moving the disk in one direction, a pawl moving the disk against the action of the spring, a dog holding the disk when moved by the pawl, an electromagnet for the dog, an electromagnet for the pawl, a relay in the generator-circuit, a pair of oppositely-polarized armatures for the relay, one of which controls the pawl-operating electromagnet, and the other of which controls the dog-operating electromagnet, and a circuit-breaker in the generator-circuit, controlled by the pawl-operating electromagnet.

18. The combination with the moving contact, of an electromagnet for moving the contact in one direction, an electromagnet controlling its movement in the other direction, and a circuit-breaker operated by one of the electromagnets and in turn producing a pulsating current in said magnet.

19. The combination of a settable contact, a moving contact, an electromagnet controlling said latter contact, a battery-circuit in which is located the electromagnet, a shunt-circuit, a relay arranged in multiple with the line-wires, through the shunt-circuit, when the settable contact is in normal position and controlling the battery-circuit, a generator, a governor operated thereby, and two switches one of which is operated by the generator and the other of which is operated by the settable contact to cut out the shunt-circuit.

20. The combination with a moving contact, of a settable contact, an electromagnet controlling the moving contact, and a polarized relay controlling the circuit of the electromagnet which is limited in its operation by the settable contact.

21. The combination with the generator, of a relay, a moving contact controlled by the relay, a settable contact, two circuits one including the relay and the other including the relay and the generator, and a switch controlled by the settable contact and movable to close either circuit.

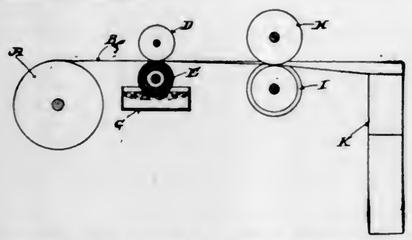
22. The combination with the generator, of a relay, a moving contact controlled by the relay, a settable contact, two circuits one including the relay and the other including the relay and the generator, and a switch controlled by the settable contact, and movable to close either circuit, and a circuit-breaker in the circuit including the generator.

23. The combination with the generator, of a relay, a settable contact, a moving contact, an electromagnet controlling said moving contact, a battery-circuit in which the magnet is located, controlled by the relay, two circuits, one including the relay, and the other including the relay and the generator, a circuit-breaker in the circuit including the generator, and means operated by the generator causing the circuit-breaker to be operated by the electromagnet.

24. The combination with a moving contact, of an electromagnet operating the contact, a generator, a circuit-breaker and means operated by the generator causing the circuit-breaker to be operated by the electromagnet.

25. The combination with the settable contact, of a moving contact a generator and circuit-breaker arranged to send a pulsating current to the line-wires, and means adapted to receive a pulsating current either from the line-wires or from the generator and to operate the moving contact.

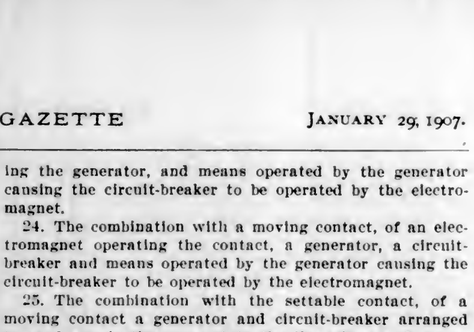
842,823. STAY-STRIP. HENRY B. WHITE, Malden, Mass., assignor to Carter, Rice & Company, Incorporated, a Corporation of Massachusetts. Filed Aug. 10, 1906. Serial No. 330,061.



Claim.—1. The method of causing gummed stay-strip to fold which consists in applying solvent for the gum to the gummed face of the strip along the desired line of fold.

2. The method of causing gummed stay-strip to fold which consists in applying solvent for the gum to the gummed face of the strip along the desired line of fold and bending the stay-strip along the proposed line of fold while the wetted gum is still soft.

842,824. ROVING AND SPINNING FRAME. WILLIAM BATTEN, Auburn, Me. Filed Sept. 22, 1905. Serial No. 279,642.

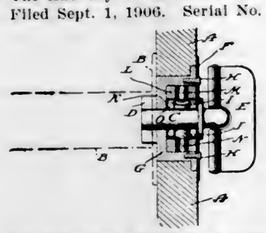


Claim.—1. The combination of a series of drawing-rolls, guides at the entrance to the said series, a second series of drawing-rolls, doubling-guides between the two series of drawing-rolls, means to twist and wind the doubled and drawn rovings, gearing operatively connecting together the rolls of the first series, gearing operatively connecting together the rolls of the second series, driving connections intermediate the two series in operative engagement with a roll of each series, means to adjust the two series toward and from each other, and means to adjust the said intermediate driving connections to correspond with changes in the setting of the rolls.

2. The combination, in a machine for the manufacture of twisted rovings or yarns, of a series of drawing-rolls, guides at the entrance to the said series, a second series of drawings-rolls, doubling-guides between the two series of drawing-rolls, means to twist and wind the rovings, means

to adjust the rolls of the two series to suit different lengths of staple, &c., gearing operatively connecting together the rolls of the first series, gearing operatively connecting together the rolls of the second series, means to drive one of the said series from the other embracing a carrier-gear in driving engagement with gears on the lower back roll of the second series and on the lower front roll of the first series, respectively, and means to adjust the said carrier-gear to maintain such engagement under the adjustments of the rolls of the two series.

842,825. WINDING-KEY FOR FILM-CAMERAS AND ROLL-HOLDERS. CARL BORNMANN, New Haven, Conn., assignor to The Anthony & Scovill Company, Binghamton, N. Y. Filed Sept. 1, 1906. Serial No. 332,895.

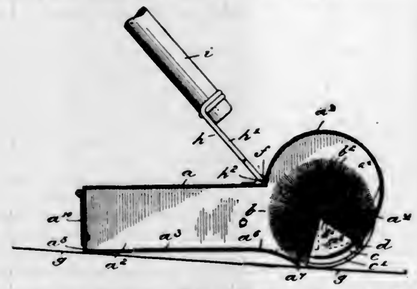


Claim.—1. A winding-key embodying a rotary spindle, a bushing, movable parts carried by the bushing, an outer casing, and projections from the spindle which, when it is turned in one direction, engage with the bushing and compel it to turn in the same direction, but when turned in the reverse direction engage the movable parts carried by the bushing forcing them against the outer casing, thus locking the parts against such reverse movement.

2. A winding-key embodying a rotary spindle, a bushing and an outer casing, movable devices carried by the bushing and means interposed between the spindle and the bushing which, when the spindle is rotated in one direction, engage with the bushing and when in the reverse direction with the movable parts, forcing them against the casing.

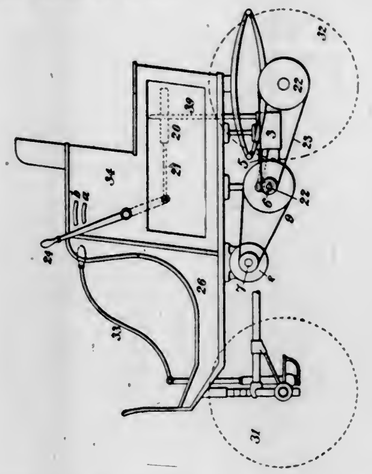
3. A winding-key embodying a rotary spindle, a bushing and an outer casing, movable devices carried by the bushing and means interposed between the spindle and the bushing which, when the spindle is rotated in one direction, engage with the bushing and when in the reverse direction with the movable parts, forcing them against the casing, and means to initially retard the reverse movement of the bushing.

842,826. CARPET-SWEEPER. JOHN S. CLAGETT, Philadelphia, Pa., assignor to Henry H. Netter, Philadelphia, Pa. Filed June 9, 1905. Serial No. 264,378.



Claim.—In combination with a casing, a dome-like projection at one end, the lower portion of said projection being open, a shaft mounted in the dome-like projection, wheels secured to the shaft within the projection, bristles carried by the shaft, said bristles being of such length as to extend partly through the opening of the projection, a rod extending across the opening of the projection contacting with the bristles to retard the movement thereof and extensions on the rod secured to the interior of the projection.

842,827. MEANS FOR OPERATING MOTOR-VEHICLES. CLYDE J. COLEMAN, New York, N. Y. Filed Feb. 11, 1901. Serial No. 46,790.



Claim.—1. The combination of an engine, running-gear of a vehicle connected therewith, an auxiliary self-starting motor and power device, such motor and the engine being connected together so that each is adapted to actuate the other, a speed-governor for the engine whereby a substantially constant speed thereof is maintained, means for storing energy connected to such motor and power device, and means located within reach of the operator for operating the auxiliary motor and operating the engine, substantially as set forth.

2. The combination of an engine, running-gear of a vehicle connected therewith, an auxiliary self-starting motor and power device, such motor and the engine being connected so that each is adapted to actuate the other, means for storing energy adapted to energize the motor to actuate the same and to receive energy from the motor when the motor is actuated as a power device by the engine, means located within reach of the operator for operating the engine and for connecting the motor with the storing means so as to obtain a maximum power from the motor and means for connecting the auxiliary motor as a power device with the storing means so as to obtain a storage of power at a minimum rate, substantially as set forth.

3. The combination of an engine, running-gear of a vehicle connected therewith, an auxiliary self-starting motor and power device, such motor and the engine being connected so that each is adapted to actuate the other, means for storing energy adapted to energize the motor to actuate the same and to receive energy from the motor when the motor is actuated as a power device by the engine, means located within reach of the operator for operating the engine and for connecting the motor with the means for storing energy so as to obtain a maximum power from the motor and automatic means for connecting the motor as a power device with the storing means so as to obtain a storage of power at a minimum rate, substantially as set forth.

4. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, a speed-governor for the engine whereby a substantially constant speed thereof is maintained, electrical storage means, and means for connecting the motor, as a motor, with the storage means to start the engine, and for connecting the motor, as a dynamo, with the storage means, substantially as set forth.

5. The combination of a constant-speed engine and an

electric-motor dynamo connected together so that each is adapted to actuate the other, electrical storage means, and means controlled by the speed of the motor for connecting the motor, as a motor, with the storage means to start the engine, and for connecting the motor, as a dynamo, with the storage means, when the normal speed of the engine has been attained, substantially as set forth.

6. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, a speed-governor for the engine whereby a substantially constant speed thereof, is maintained, electrical storage means, and means controlled by the speed of the motor for connecting the motor, as a motor, with the storage means to start the engine, and for connecting the motor, as a dynamo, with the storage means when the normal speed of the engine has been attained, substantially as set forth.

7. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, electrical storage means, and means for connecting the motor with a field of great intensity, as a motor, with the storage means to start the engine, and for connecting the motor with a field of less intensity, as a dynamo, with the storage means, substantially as set forth.

8. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, a speed-governor for the engine, electrical storage means and means for connecting the motor with a field of great intensity, as a motor, to start the engine, and for connecting the motor with a field of less intensity, as a dynamo, with the storage means, substantially as set forth.

9. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, electrical storage means, and means controlled by the speed of the motor for connecting the motor with a field of great intensity, as a motor, with the storage means to start the engine, and for connecting the motor with a field of less intensity, as a dynamo, with the storage means, substantially as set forth.

10. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, a speed-governor for the engine, electrical storage means, and means controlled by the speed of the motor for connecting the motor with a field of great intensity, as a motor, with the storage means to start the engine, and for connecting the motor with a field of less intensity, as a dynamo, with the storage means, substantially as set forth.

11. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, electrical storage means, a lever for admitting and cutting off the supply of motive medium to the engine, and means actuated by such lever for connecting the motor, as a motor, with the storage means to start the engine, and means operated independently of such lever for disconnecting the motor as a motor and for connecting the motor, as a dynamo, with the storage means, substantially as set forth.

12. The combination of an engine and an electric motor connected thereto so that each is adapted to actuate the other, a speed-governor for the engine, electrical storage means, a lever for admitting and cutting off the supply of motive medium to the engine and means actuated by such lever for connecting the motor, as a motor, with the storage means to start the engine, and means operated independently of such lever for connecting the motor, as a dynamo, with the storage means, substantially as set forth.

13. The combination of an engine and an electric motor connected thereto so that each is adapted to actuate the other, electrical storage means, a lever for admitting and cutting off the supply of motive medium to the engine, and means actuated by such lever for connecting the motor, as a motor, with the storage means to start the engine, and controlled by the speed of the motor independently of such lever for connecting the motor, as a dynamo, with the storage means, substantially as set forth.

14. The combination of an engine and an electric motor connected thereto so that each is adapted to actuate the other, a speed-governor for the engine, electrical storage means, a lever for admitting and cutting off the supply of motive medium to the engine, and means actuated by such lever for connecting the motor, as a motor, with the storage means to start the engine, and controlled by the speed of the motor independently of such lever for connecting the motor, as a dynamo, with the storage means, substantially as set forth.

15. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, electrical storage means, a lever for admitting and cutting off the supply of motive medium to the engine, and means actuated by such lever for connecting the motor with a field of great intensity, as a motor, with the storage means to start the engine and operated independently of such lever for connecting the motor with a field of less intensity, as a dynamo, with a storage means, substantially as set forth.

16. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, a speed-governor for the engine, electrical storage means, a lever for admitting and cutting off the supply of motive medium to the engine, and means actuated by such lever for connecting the motor with a field of great intensity, as a motor, with the storage means to start the engine, and operated independently of such lever for connecting the motor with a field of less intensity, as a dynamo, with the storage means, substantially as set forth.

17. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, a lever for admitting and cutting off the supply of motive medium to the engine and means actuated by such lever for connecting the motor with a field of great intensity, as a motor, with the storage means to start the engine, and controlled by the speed of the motor independently of such lever, for connecting the motor with a field of less intensity, as a dynamo, with the storage means, substantially as set forth.

18. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, a speed-governor for the engine, electrical storage means, a lever for admitting and cutting off the supply of motive fluid to the engine, and means actuated by such lever for connecting the motor with a field of great intensity, as a motor, with the storage means to start the engine, and controlled by the speed of the motor independently of such lever for connecting the motor with a field of less intensity, as a dynamo, with the storage means, substantially as set forth.

19. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, means controlled by the speed of the motor, electrical storage means, and connections from the storage means to the motor including a controlling-switch actuated by the speed-controlled means, substantially as set forth.

20. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, a speed-governor for the engine, means controlled by the speed of the motor, electrical storage means, and connections from the storage means to the motor including a controlling-switch actuated by the speed-controlled means, substantially as set forth.

21. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, running-gear of a vehicle connected with the engine, means controlled by the speed of the motor, electrical storage means, a lever located within reach of the operator and controlling both the engine and the motor, and connections from the storage means to the motor controlled by such lever and including a controlling-switch actuated by the speed-controlled means independently of such lever, substantially as set forth.

22. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, a speed-governor for the engine, running-gear of a vehicle connected with the engine, means controlled by the speed of the motor, electrical storage means, lever located within reach of the operator and controlling both the engine and the motor, and connections from the storage means to the motor controlled by such lever and including a controlling-switch actuated by the speed-controlled means independently of such lever, substantially as set forth.

23. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, the motor being provided with field-coils connected in multiple with the armature-coils and with additional field-coils connected in series with the armature-coils, electrical storage means connected thereto, and means for reversing the connections of the series field-coils to connect the motor as a dynamo with the storage means, substantially as set forth.

24. The combination of an engine and an electric motor connected together so that each is adapted to actuate the other, the motor being provided with field-coils connected in multiple with the armature-coils and with additional field-coils connected in series with the armature-coils, electrical storage means connected thereto, and means controlled by the speed of the motor for reversing the connections of the series field-coils to connect the motor as a dynamo with the storage means, substantially as set forth.

25. The combination of an engine, electric means for starting the engine by the application of power thereto and for utilizing the power of the engine when the engine is self-actuated to store energy, a lever for admitting and cutting off the supply of motive medium to the engine, such lever controlling the electric means for applying power to the engine, and means controlled by the speed of the engine and controlling the electric-power-storing means, substantially as set forth.

26. The combination of an engine, a power-storing device, and means for connecting the power-storing device with the engine to start the engine and for automatically connecting the engine with the power-storing device, under the control of the speed of the engine upon and not until the attainment of a speed of the engine sufficient for the power-storing operation.

842,828. RAILWAY-SIGNAL. CLARENCE W. COLEMAN, Westfield, N. J., assignor to The Hall Signal Company, a Corporation of Maine. Original application filed Apr. 4, 1902, Serial No. 101,327. Divided and this application filed Mar. 1, 1904. Serial No. 196,088.

Claim.—1. The combination with a pivoted semaphore-signal comprising a spectacle and a blade, of a prime mover, and connections intermediate the prime mover and the semaphore-signal for increasing the efficiency of the prime mover in its movement of the semaphore-signal on its pivot.

2. The combination with a pivoted semaphore-signal comprising a spectacle and a blade unsymmetrical in their relative arrangement, of a prime mover and connections intermediate the prime mover and the semaphore-signal for increasing the leverage or power of the prime mover with the increase in load of the spectacle.

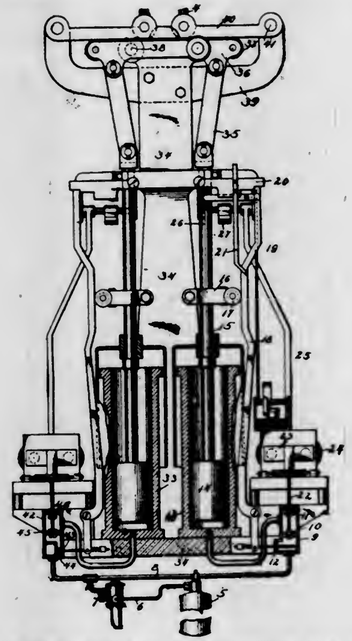
3. The combination with a pivoted semaphore-signal comprising a spectacle and a blade unsymmetrical in their relative arrangement, of a prime mover operable with a minimum constant power, and connections intermediate the prime mover and the semaphore-signal for increasing the leverage or power of the prime mover with the increase in load of the spectacle.

4. The combination with a pivoted semaphore-signal comprising a spectacle and a blade, of a prime mover, and a jointed connection intermediate the prime mover and the semaphore-signal for increasing the leverage or power of the prime mover with the increase in load of the spectacle.

5. In a signal apparatus, the combination of a signal; a motor; and a connection intermediate the signal and the motor for increasing the efficiency or effectiveness of the motor.

6. In a signal apparatus, the combination of a signal; a motor for moving the signal, the load of the signal on the motor increasing as the signal changes position; and means between the motor and signal for increasing the efficiency or effectiveness of the motor.

7. In a signal apparatus, the combination of a signal; a motor; and a jointed connection intermediate the signal and motor for increasing the efficiency or effectiveness of the motor.



8. In a signal apparatus, the combination of a signal; a fluid-pressure motor; and a connection intermediate the signal and motor for increasing the efficiency or effectiveness of the motor.

9. In a signal apparatus, the combination of a signal; a fluid-pressure motor for moving the signal, the load of the signal on the motor increasing as the signal changes position; and means between the motor and signal for increasing the efficiency or effectiveness of the motor.

10. In a signal apparatus, the combination of a signal; a motor; and a system of levers intermediate the signal and motors for increasing the efficiency or effectiveness of the motor.

11. In a signal apparatus, the combination of a signal; a motor operating by means of an expansible fluid; means for cutting off the supply of fluid-pressure to the motor before the signal has completed its movement from one position to another, whereby the expansive power of the fluid in the motor may be utilized to complete the movement of the signal; and a connection intermediate the signal and motor for increasing the efficiency or effectiveness of the motor.

12. In a fluid-pressure signal apparatus, the combination of a signal; a supply source for an expansible fluid; a fluid-pressure-applying chamber in operative connection with said supply and in controllable communication with said supply source; means for cutting off the supply of said fluid to the pressure-applying chamber before the signal has completed its movement from one position to another, whereby the expansive power of the fluid in said chamber may be utilized to complete the movement of the signal; and a device for increasing mechanical leverage interposed in the connection between the signal and the pressure-applying chamber.

13. In a gas-pressure signal apparatus, the combination of a signal; a tank for liquefied gas; a gas-pressure-applying chamber in operative connection with said signal and in communication with said tank, whereby gas may be sup-

plied from said tank to said gas-pressure-applying chamber to move the signal to another position of indication; supply and exhaust valves for said chamber; means for cutting off the supply of gas to said chamber before the signal has completed its movement under gas-pressure, whereby the expansive power of the gas in said chamber may be utilized to complete the movement of the signal; and a device for increasing mechanical leverage interposed in the connection between the signal and the pressure-applying chamber.

14. In a gas-pressure signal apparatus, the combination of a signal; a tank for liquefied gas; a gas-pressure-applying chamber in operative connection with said signal and in communication with said tank, whereby gas may be supplied from said tank to said gas-pressure-applying chamber to move the signal to another position of indication; supply and exhaust valves for said chamber; means for cutting off the supply of gas to said chamber before the signal has completed its movement under gas-pressure, whereby the expansive power of the gas in said chamber may be utilized to complete the movement of the signal; a device for increasing mechanical leverage in the connection between the gas-pressure-applying chamber and the signal; a retaining device to prevent return movement of the signal; and electric means for operating said supply and exhaust valves and said retaining device.

15. In a gas-pressure signal apparatus, the combination of a signal; a tank for liquefied gas; a gas-pressure-applying chamber in operative connection with said signal and in communication with said tank, whereby gas may be supplied from said tank to said gas-pressure-applying chamber to move the signal to another position of indication; supply and exhaust valves for said chamber; means for cutting off the supply of gas to said chamber before the signal has completed its movement under gas-pressure; means in the connection between the gas-pressure-applying chamber and the signal for gradually increasing mechanical leverage to compensate for the decrease in pressure of working gases during expansion, whereby the expansive power of the gas in said chamber may be utilized to complete the movement of the signal.

16. In a signal apparatus, the combination of a signal; a prime mover; and levers 36 and 40 in the connection between the prime mover and the signal for increasing mechanical leverage.

17. In a signal apparatus, the combination of a movable signal; a gas-motor for moving said signal; and means intermediate said signal and said gas-motor for increasing the mechanical leverage of said motor.

18. In a signal apparatus, the combination of a movable signal; a motor for moving said signal; an independent source of stored power for said motor; and means intermediate said signal and said motor for increasing the mechanical leverage of said motor.

19. In a signal apparatus, the combination of a movable signal; a motor for moving said signal; an adjacent independent source of stored power for said motor; and means intermediate said signal and said motor for increasing the mechanical leverage of said motor.

20. In a signal apparatus, the combination of a movable signal; a gas-motor for moving said signal; an independent tank of compressed gas for operating said gas-motor; and means intermediate said signal and said gas-motor for increasing the mechanical leverage of said motor.

842,829. PROCESS OF MAKING COMMUTATORS. THOMAS DUNCAN, La Fayette, Ind., assignor to Duncan Electric Manufacturing Company, La Fayette, Ind., a Corporation of Illinois. Original application filed Mar. 14, 1904, Serial No. 197,913. Divided and this application filed Jan. 23, 1905. Serial No. 242,410.

Claim.—1. The process of making commutators for meter-motors, which consists in fastening a strip of precious metal upon a strip of inferior metal to form a composite strip, dividing said composite strip into lengths which, when rolled, will form tubes of the diameter to be made, rolling said lengths into such tubes, slotting and separating said tube into commutator-segments, and holding the commutator-segments in fixed mechanical relation, substantially as described.

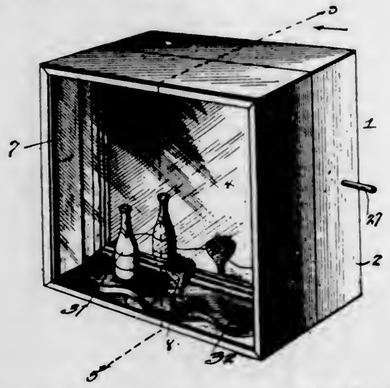


2. The process of making commutators for meter-motors, which consists in forming a groove in a strip of inferior metal, placing a strip of precious metal in said groove, and fastening said strip of precious metal to its companion strip to form a composite strip and dividing said composite strip into lengths which, when rolled, will form tubes of the diameter of the commutators that are to be made, rolling said lengths into a tube, slotting and separating said tube into commutator-segments, and holding the commutator-segments in fixed mechanical relation, substantially as described.

3. The process of making commutators for meter-motors, which consists in forming a groove in a strip of inferior metal, placing a strip of silver in said groove and fastening composite strip and dividing said composite strip into lengths which, when rolled, will form tubes of the diameter of the commutators that are to be made, rolling said lengths into a tube, slotting and separating said tube into commutator-segments, and holding the commutator-segments in fixed mechanical relation, substantially as described.

4. The process of making commutators for meter-motors, which consists in establishing a groove in a body of metal, inserting a body of precious metal in said groove, and subdividing the composite body of metals into commutator-segments.

842,830. DEVICE FOR ADVERTISING EFFERVESCENT LIQUIDS. WILLIAM C. DUNN, Brooklyn, N. Y. Filed Nov. 23, 1905. Serial No. 285,778.



Claim.—1. A device for advertising an effervescent liquid, consisting of a display-stand, a transparent liquid-receptacle, a combined air and liquid supply, connected with the receptacle, whereby the normal level of the liquid is maintained in the receptacle, and means for producing an effervescent appearance of the liquid in the receptacle.

2. A device for advertising an effervescing liquid, consisting of a transparent liquid-receptacle, in combination with a liquid-supply reservoir connected with said liquid-receptacle, a liquid-supply tank, connected with said liquid-supply reservoir, an air-pump connected with the liquid-supply reservoir, and the liquid-receptacle; and a porous cartridge located in the connection between the liquid-supply reservoir, and the liquid-receptacle, as and for the purpose set forth.

3. A device for advertising an effervescing liquid, consisting of a transparent liquid-receptacle, having an opening in its lower portion, and an air, and liquid supply connection with said opening, having a porous cartridge; in combination with a liquid-supply reservoir, connected with said liquid-receptacle, a liquid-supply tank, connected with said liquid-supply reservoir, and an air-pump, connected with said liquid-supply reservoir, substantially as shown and described.

4. In a device for advertising an effervescent liquid, a transparent liquid-receptacle, having an opening in its lower portion, in combination with a liquid-supply reservoir, and an air-pump, connected with said opening in the liquid-receptacle, and a liquid-supply tank connected with said liquid-supply reservoir, whereby liquid may be supplied to said liquid-receptacle in an effervescing condition, and maintained in such state, substantially as herein set forth.

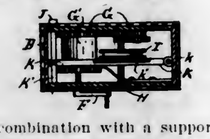
5. A device for advertising an effervescing liquid, consisting of a show-case, provided with mirrors, and a shelf on which is displayed a wine-glass, a bottle and other articles; said wine-glass having a passage-way for liquid in its stem; in combination with a liquid-supply reservoir, having a connection with the stem of the wine-glass for the passage of air and liquid, and a porous cartridge in such connection; an air-pump having a tubular connection with said liquid-supply reservoir, and terminating adjacent to the cartridge; and a liquid-supply tank, connecting with the liquid-supply reservoir, as and for the purpose set forth.

842,831. BURIAL-CASKET. CHARLES F. EAGELMAN, Geigers Mills, Pa. Filed May 29, 1906. Serial No. 319,282.



Claim.—A casket of transparent material comprising a body portion, a cover, said body and cover having interlocking portions, outstanding contacting lugs upon said body and cover, screws insertible through the lugs, collars thereon bearing upon the lower faces of the lugs on the body portion and handles extending from the lower ends of the screws and below the lugs.

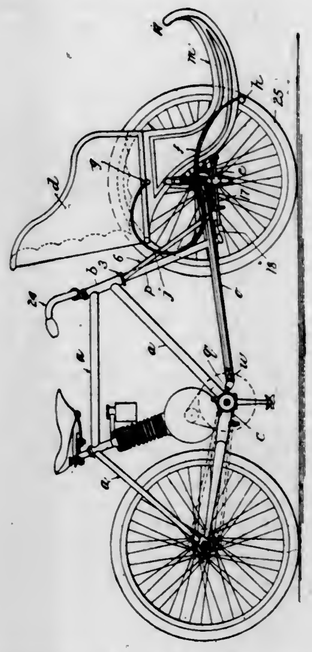
842,832. SEWING-MACHINE MOTOR. ROBERT E. GRANT, Grand Rapids, Mich., assignor to James Oppenneer, Grand Rapids, Mich. Filed June 4, 1904. Renewed Dec. 10, 1906. Serial No. 347,215.



Claim.—In combination with a supporting-frame, a fly-wheel and a spring-actuated train of gear, a brake-arm pivoted at one end to the frame and extending parallel with the face of the fly-wheel, a slide pivoted to the free end of the brake and extending at right angles to position to be actuated by the knee of the operator, an actuating-arm at the free end of the slide, a spring upon the brake bearing upon the face of the fly-wheel and a spring holding the brake-arm and spring normally against the fly-wheel, substantially as and for the purpose set forth.

842,833. CONVERTIBLE BICYCLE AND TRICYCLE FRAME. CARL O. HEDSTROM, Springfield, Mass. Filed Nov. 27, 1905. Serial No. 289,357.

Claim.—1. The combination with the frame of a motor-cycle, of a complemental frame to carry an auxiliary seat forwardly of the motor-cycle, said complemental frame comprising a vertically-disposed member to be rigidly secured in the head of the motor-cycle frame in place of the front fork, and a longitudinally-disposed frame part to connect with the lower part of the motor-cycle frame, an axle on the complemental frame provided with yokes; vertical spindles in the yokes, steering-knuckles on said spindles, on which wheels are supported, and a spring bearing on said knuckles to support the frame, together with steering means to swing the wheels on said axle in unison.



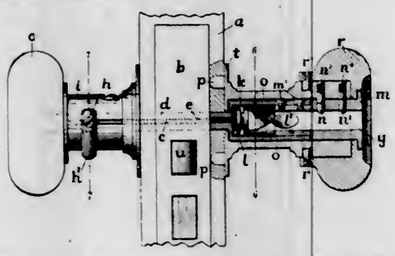
2. The combination with the frame of a motor-cycle, of a complemental frame carrying an auxiliary seat forwardly of the motor-cycle and comprising an axle transversely disposed relative to the motor-cycle frame, wheels on the ends of said axle to rotate on a vertical axis and movable in the direction of said axis, suitable springs between the wheels and a part of the axle to support the latter and one end of said complementary frame, a device to swing the wheels in unison to steer the vehicle, together with other parts of the complementary frame, one to fit the head of the motor-cycle frame and the other for attachment to said frame, at or near the crank-hanger, comprising a slotted horizontally-extending member, and a hub member adapted for attachment to the crank-hanger, as described.

3. The combination with the frame of a motor-cycle, of a complemental frame carrying an auxiliary seat forwardly of the motor-cycle and comprising an axle transversely disposed relative to the motor-cycle frame, frame parts extending one to the head and the other to the crank-hanger of the motor-cycle, and being secured thereto; an auxiliary seat located above the axle and spring-supported thereon, the springs being substantially S-shaped and attached to the rear and forward part of the auxiliary seat, wheels on the ends of said axle and movable in a direction vertical thereto, and suitable springs between the wheels and a part of the axle constituting a support for the latter and the forward end of said complementary frame.

4. The combination with the frame of a motor-cycle, of a complemental frame carrying an auxiliary seat forwardly of the motor-cycle and comprising an axle transversely disposed relative to the motor-cycle frame, frame parts extending one to the head and the other to the crank-hanger of the motor-cycle, and being secured thereto; an auxiliary seat located above the axle and spring-supported

thereon, and springs attached to the rear and forward part of the auxiliary seat, wheels on the ends of said axle, and suitable springs between the wheels and a part of the axle constituting a support for the latter and the forward end of said complementary frame.

842,834. KNOB-LOCK. JULIAN A. HURDLE, New York, N. Y., assignor of one-half to Federation Hardware and Tool Company, a Corporation of New York. Filed May 29, 1906. Serial No. 319,283.



Claim.—1. In a device of the character described the combination of a rotatable cylinder having a spirally-shaped keyway and a spirally-shaped key-follower for unlocking said cylinder, substantially as shown and described.

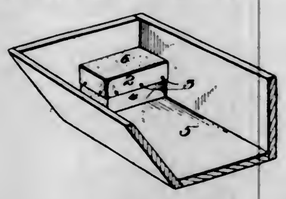
2. In a device of the character described, the combination of a rotatable cylinder, a spirally-shaped keyway therein a ward-pin normally projecting in the keyway, a carrier in said rotatable cylinder and a spindle carrying a swivel key-follower for unlocking said cylinder substantially as shown and described.

3. In a device of the character described the combination of the knobs, a spindle connecting the same, a rotatable cylinder, a carrier between the knobs movably connected longitudinally with the spindle, a key-follower connected with the forward end of said carrier and adapted to operate within a keyway of the rotatable cylinder to unlock the same, substantially as shown and described.

4. In a device of the character described, the combination of a rotatable cylinder provided with a spiral keyway, a ward-pin projecting therein, a spindle connected with said rotatable cylinder and a carrier provided with a key-follower for unlocking the rotatable cylinder, substantially as shown and described.

5. In a device of the character described, the combination of a door, a lock, knobs situated on each side of the door, one of said knobs being provided with a rotatable cylinder, a spiral keyway therein, a spindle between said knobs, a carrier supported within said spindle, a key-follower for unlocking the rotatable cylinder, means for moving the said key-follower longitudinally whereby the outer of said knobs is engaged or disengaged and means for moving said spindle rotatively substantially as shown and described.

842,835. BRICK-HOLDER FOR USE IN THE CARE OF LIVE STOCK. CASWELL L. HUTCHESON, Chattanooga, Tenn. Filed May 11, 1906. Serial No. 316,396.



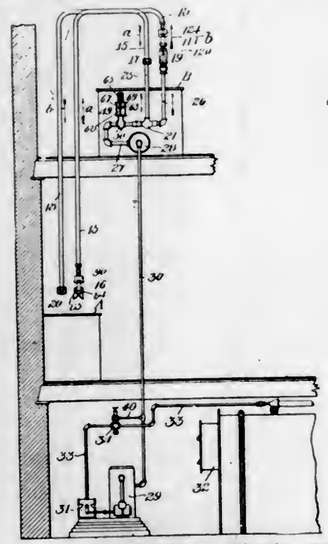
Claim.—1. A brick-holder comprising a holding and a supporting member, said holding member associating with two walls of a feed-box and having one open side and one open end and said holding member adapted to be secured to said supporting member, the latter adapted to be secured to the bottom of the feed-box.

2. A brick-holder comprising the combination with a supporting member adapted to be secured to the bottom of a feed-box, of a holding member associating with two walls of the feed-box and consisting of a bottom-section and an L-shaped wall-section secured to one end and one side of said bottom-section.

3. A brick-holder comprising a rectangular supporting member adapted to be secured to the bottom of a feed-box, combined with a holding member associating with two walls of the feed-box and consisting of a bottom-section and an L-shaped wall-section, said bottom-section adapted to be secured to said supporting member.

4. A brick-holder comprising a rectangular supporting member adapted to be secured to the bottom of a feed-box, combined with a holding member associating with two walls of the feed-box and consisting of a bottom-section and an L-shaped wall-section, said bottom-section adapted to be secured to said supporting member, the supporting member of a size so as to enable it to snugly nest in said holding member.

842,836. PNEUMATIC-DESPATCH-TUBE SYSTEM. JOHN S. JACQUES, Boston, Mass. Filed Nov. 24, 1905. Serial No. 288,874.



Claim.—1. In a pneumatic-despatch-tube system, an ejector provided with a pressure-inlet orifice, an outlet-orifice, and an intermediate inlet-orifice, two tubes adapted to transmit carriers in opposite directions, respectively, said tubes open to the atmosphere at one pair of terminals, said tubes normally closed to the atmosphere at a second pair of terminals, said intermediate inlet-orifice connected to one of said normally closed terminals, said outlet-orifice connected to the other of said normally closed terminals, and air-pressure means connected to said pressure-inlet orifice.

2. In a pneumatic-despatch-tube system, an ejector provided with a pressure-inlet orifice, an outlet-orifice, and an intermediate inlet-orifice, two tubes adapted to transmit carriers in opposite directions, respectively, said tubes open to the atmosphere at one pair of terminals, said tubes normally closed to the atmosphere at a second pair of terminals, said intermediate inlet-orifice connected to one of said normally closed terminals, said outlet-orifice connected to the other of said normally closed terminals, air-pressure means connected to said pressure-inlet orifice, and a magnetically-operated shut-off valve located between said air-pressure means and said pressure-inlet orifice.

3. In a pneumatic-despatch-tube system, an ejector provided with a pressure-inlet orifice, an outlet-orifice, and an intermediate inlet-orifice, two tubes adapted to transmit carriers in opposite directions, respectively, said tubes open to the atmosphere at one pair of terminals, said tubes normally closed to the atmosphere at a second pair of terminals, said intermediate inlet-orifice connected to one of said normally closed terminals, said outlet-orifice connected to the other of said normally closed terminals, air-pressure means connected to said pressure-inlet orifice, a magnetically-operated shut-off valve located between said air-pressure means and said pressure-inlet orifice, and means adapted to control said air-pressure means whereby a substantially constant pressure is automatically maintained in the connections leading from said air-pressure means to said pressure-inlet orifice.

4. In a pneumatic-despatch-tube system, two tubes adapted to transmit carriers in opposite directions, respectively, said tubes open to the atmosphere at one pair of terminals, said tubes normally closed to the atmosphere at a second pair of terminals, an ejector provided with a pressure-inlet orifice, an outlet-orifice, and an intermediate inlet-orifice, said intermediate inlet-orifice connected to one of said normally closed terminals, said outlet-orifice connected to the other of said normally closed terminals, a source of compressed air connected to said pressure-inlet orifice, and a valve adapted to control the supply of said compressed air to said pressure-inlet orifice.

5. In a pneumatic-despatch-tube system, two tubes adapted to transmit carriers in opposite directions, respectively, said tubes open to the atmosphere at one pair of terminals, said tubes normally closed to the atmosphere at a second pair of terminals, an ejector provided with a pressure-inlet orifice, an outlet-orifice, and an intermediate inlet-orifice, said intermediate inlet-orifice connected to one of said normally closed terminals, said outlet-orifice connected to the other of said normally closed terminals, a steam-operated air-compressing pump connected to said pressure-inlet orifice, a valve adapted to control the supply of compressed air to said pressure-inlet orifice, and a pump-regulating valve adapted to automatically control the supply of steam to said steam-operated air-compressing pump.

6. In a pneumatic-despatch-tube system, two tubes adapted to transmit carriers in opposite directions, respectively, said tubes open to the atmosphere at one pair of terminals, said tubes normally closed to the atmosphere at a second pair of terminals, an ejector provided with a pressure-inlet orifice, an outlet-orifice, and an intermediate inlet-orifice, said intermediate inlet-orifice connected to one of said normally closed terminals, said outlet-orifice connected to the other of said normally closed terminals, an air-compressing pump connected to said pressure-inlet orifice, a magnetically-operated valve adapted to control the supply of compressed air to said pressure-inlet orifice, and means operated by the fluctuations in the air-pressure for controlling said air-compressing pump and maintaining a substantially constant air-pressure in the connections from said pump to said pressure-inlet orifice.

7. In a pneumatic-despatch-tube system, two tubes adapted to transmit carriers in opposite directions, respectively, said tubes open to the atmosphere at one pair of terminals, said tubes normally closed to the atmosphere at a second pair of terminals, an ejector provided with a pressure-inlet orifice, an outlet-orifice, and an intermediate inlet-orifice, said intermediate inlet-orifice connected to one of said normally closed terminals, said outlet-orifice connected to the other of said normally closed terminals, a main air-pressure reservoir, a secondary air-pressure reservoir, connected together, said secondary air-pressure reservoir connected to said pressure-inlet orifice, a magnetically-operated shut-off valve interposed between said secondary air-pressure reservoir and said pressure-inlet orifice, and means for maintaining a substantially constant pressure within said main air-pressure reservoir.

8. In a pneumatic-despatch-tube system, a despatch-tube provided with a sending-terminal and a receiving-terminal, an air-current-creating device connected therewith, a source of compressed air connected to said air-current-creating device, a shut-off valve adapted to control the supply of compressed air to said air-current-creating device, a solenoid adapted to operate said shut-off valve, a manually-operatable electric switch in circuit with said solenoid and located at said sending-terminal, a spring or weight adapted to return said switch to its opened position, an armature adapted to lock said switch in its closed position, a spring adapted to hold said armature in engagement with said switch, an electromagnet adapted to release said armature from engagement with said switch, an automatic switch in circuit with said electromagnet and adapted to be closed by the receiving-terminal valve when said terminal valve is opened by a carrier passing therethrough, and a weight acting to close said shut-off valve when a carrier has passed through said receiving-terminal.

9. In a pneumatic-despatch-tube system, a despatch-tube provided with a sending-terminal and a receiving-terminal valve, means for creating an air-current therein, means for supplying compressed air to said air-current-creating means, a shut-off valve adapted to control the supply of compressed air to said air-current-creating means, a solenoid adapted to operate said shut-off valve, a source of electric current, an electric switch manually operatable in circuit with said solenoid and said source of electric current, means for locking said manually-operatable switch in its closed position, an electromagnet adapted to withdraw said locking means from engagement with said manually-operatable switch, an automatic switch in circuit with said electromagnet and closed by the opening movement of the receiving-terminal valve, and means for returning said automatic switch to its opened position.

10. In a pneumatic-despatch-tube system, a despatch-tube provided with a sending-terminal and a receiving-terminal, an air-current-creating device connected therewith, a source of compressed air connected to said air-current-creating device, a shut-off valve adapted to control the supply of compressed air to said air-current-creating device, a solenoid adapted to operate said shut-off valve, a sending-terminal valve normally operatable, an electric switch in circuit with said solenoid adapted to be closed by the opening movement of said sending-terminal valve, an armature adapted to lock said electric switch in its closed position, an electromagnet adapted to withdraw said armature from engagement with said switch, means for returning said switch to its opened position, a receiving-terminal closure adapted to check the momentum of a carrier passing out of said receiving-terminal, an automatic switch in circuit with said electromagnet operatively connected to said receiving-terminal closure and adapted to be closed by the opening movement of said closure, and means for closing said closure and returning said automatic switch to its opened position.

11. In a pneumatic-despatch-tube system, a despatch-tube provided with an inlet and an outlet orifice, a terminal valve adapted to close said outlet orifice, an ejector provided with an inlet-orifice, an outlet-orifice, and an intermediate orifice, said despatch-tube connected to said intermediate orifice, a receptacle for compressed air connected to said ejector-inlet orifice, a shut-off valve interposed between said ejector and said receptacle, electrically-operated means to open said shut-off valve, said means controlled by said terminal valve, and a spring adapted to close said shut-off valve.

12. In a pneumatic-despatch-tube system, an ejector provided with an inlet and an outlet orifice, a despatch-tube provided with an inlet and an outlet orifice connected to said ejector intermediate said ejector inlet and outlet orifices, an air-pressure reservoir connected to said ejector-inlet orifice, a terminal valve adapted to close said despatch-tube-outlet orifice, an electric switch operatively connected to said terminal valve, a pivoted arm normally extending across said despatch-tube-inlet orifice, an electric switch connected to said pivoted arm, an electromagnet in circuit with said terminal-valve switch, a latch adapted to hold said pivoted arm out of its normal position, said terminal valve adapted to actuate said switch connected thereto to close said circuit and operate said latch to release said arm held thereby, a shut-off valve interposed between said reservoir and said ejector-inlet orifice, and a

solenoid adapted to open said shut-off valve, said pivoted arm adapted to actuate said switch connected thereto to complete a circuit to said solenoid to open said shut-off valve controlled thereby.

13. In a pneumatic-despatch-tube system, an ejector provided with an inlet and an outlet orifice, a despatch-tube provided with an inlet and an outlet orifice connected to said ejector-outlet orifice, an air-pressure reservoir connected to said ejector-inlet orifice, a terminal valve adapted to close said despatch-tube-inlet orifice, a pivotally-mounted buffer-plate adapted to close said despatch-tube-outlet orifice, an electric switch adapted to be closed by the opening movement of said terminal valve, an electric switch operatively connected to said buffer-plate, an electromagnet in circuit with said buffer-plate switch, a latch adapted to hold said terminal-valve switch closed, said pivoted buffer-plate adapted to actuate said switch connected thereto to close said circuit and operate said latch to release said switch held thereby, a shut-off valve interposed between said reservoir and said ejector-inlet orifice and a solenoid adapted to open said shut-off valve, said terminal valve adapted to actuate said switch connected thereto to complete a circuit to said solenoid to open said shut-off valve controlled thereby.

14. In a pneumatic-despatch-tube system, a despatch-tube provided with an inlet and an outlet orifice, a terminal valve adapted to close said despatch-tube-outlet orifice, a pivoted arm normally extending across said despatch-tube-inlet orifice, an ejector provided with an inlet-orifice, an outlet-orifice, and an intermediate orifice, said despatch-tube connected to said intermediate orifice, a receptacle for air under pressure connected to said ejector-inlet orifice, a shut-off valve interposed between said ejector and said receptacle, and electrically-operated means to open said shut-off valve, said means controlled by said terminal valve and said pivoted arm.

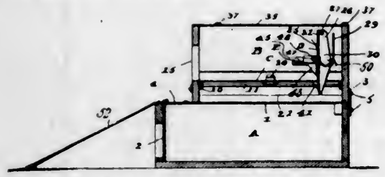
15. In a pneumatic-despatch-tube system, a despatch-tube provided with an inlet and an outlet orifice, a terminal valve adapted to close said despatch-tube-inlet orifice, a pivotally-mounted buffer-plate adapted to close said despatch-tube-outlet orifice, an ejector provided with an inlet-orifice, an outlet-orifice, and an intermediate orifice, said despatch-tube connected to said ejector-outlet orifice, a receptacle for air under pressure connected to said ejector-inlet orifice, a shut-off valve interposed between said ejector and said receptacle, and electrically-operated means to open said shut-off valve, said means controlled by said terminal valve and said buffer-plate.

16. In a pneumatic-despatch-tube system, a despatch-tube, a sending-terminal, a receiving-terminal, a device adapted to create an air-current within said despatch-tube, a source of motive fluid connected to said air-current-creating device, a shut-off valve interposed between said source of motive fluid and said air-current-creating device, a solenoid adapted to open said shut-off valve, a manually-operatable switch located at said sending-terminal and adapted to complete an electric circuit to said solenoid, an automatic switch located at said receiving-terminal, said automatic switch adapted to be operated by the passage of a carrier outwardly through said receiving-terminal, a latch adapted to lock said manually-operatable switch in its closed position, an armature mounted upon said latch, and an electromagnet adapted to withdraw said latch from said manually-operatable switch and controlled by said automatic switch, whereby said solenoid opens said shut-off valve when a carrier is introduced into said sending-terminal and closes said shut-off valve upon the passage of a carrier outwardly from said receiving-terminal.

842,837. ANIMAL-TRAP. FERDINAND KUNKEL, Concordia, Kans. Filed July 19, 1906. Serial No. 326,901.

Claim.—1. A trap provided with a tilting platform having only one side of its pivot-point accessible to an animal, a gravity-actuated trigger and bait-holder for engaging the tilting platform and holding it in raised position, and a releasing-pan for moving the trigger and bait-holder out of engagement with the tilting platform.

2. A trap provided with a tilting platform, a gravity-actuated trigger and bait-holder engaging the platform, and a pivotally-mounted releasing-pan having a depending arm located adjacent the trigger and bait-holder for moving the same out of engagement with the tilting platform.



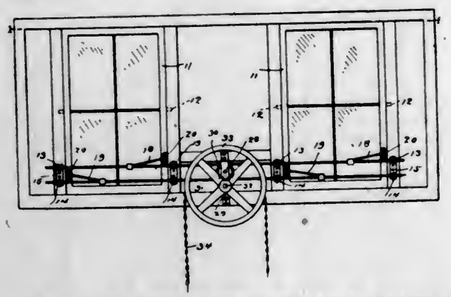
3. A trap provided with a tilting platform, a trigger and bait-holder formed of sheet metal and having a stamped-out projection to engage the tilting platform, and a sheet-metal releasing-pan having its rear edge cut and bent to form a depending arm adapted to bear against the trigger and bait-holder and move it away from the tilting platform.

4. A trap provided with a tilting platform, a trigger and bait-holder engaging the platform, and a releasing-pan comprising a sheet-metal plate having upstanding ears, a bent flange and an integral depending arm, a suspension-rod extending through the upstanding ears and constituting the pivot-point of the pan, and a counterweight consisting of a piece of wire having its rear end coiled and its forward end engaged by the bent flange of the releasing-pan.

5. A trap provided with a tilting platform, a trigger and bait-holder comprising a sheet-metal front plate having tapering side flanges and being formed with perforations and a rear plate forming a bait-box, the lower end of said front plate having an integral V-shaped projection to engage the tilting platform, a suspension-rod extending through the upper ends of the tapering flanges, and a tiltable releasing device for the trigger and bait-holder.

6. A trap comprising a lower compartment having an entrance-opening in its upper end and an angular flange, an upper compartment detachably secured to the angular flange, and having a swinging top, a partition extending longitudinally of the upper compartment, a tilting platform mounted below the partition, an entrance-opening on one side of the partition in one end of the upper compartment, a trigger and bait-holder pivotally mounted at the other end of the compartment and engaging the tilting platform, and a pivotally-mounted releasing-pan having a depending arm to engage the trigger and the rearwardly-extended counterweight.

842,838. MULTIPLE-WINDOW-OPERATING MECHANISM. ADOLPH G. PITZ, Bridgeport, Conn. Filed Oct. 10, 1906. Serial No. 338,273.



Claim.—1. An operating mechanism for a plurality of vertically-swinging windows, consisting of a cable comprising upper and lower parts, means for connecting said parts respectively to opposite sides of each window and means for moving the parts of the cable in opposite directions whereby the windows may be opened or closed.

2. An operating mechanism for a plurality of swinging windows, consisting of a cable comprising upper and lower parts, means for connecting said parts respectively to the opposite sides of the window-frames, upper and lower guides consisting of pairs of grooved rollers through which the parts of the cable pass and means for moving the parts of the cable in opposite directions.

3. An operating mechanism for a plurality of swinging windows, consisting of a cable comprising upper and lower parts, means for connecting said parts respectively to the opposite sides of the window-frames, a drum about which the cable passes twice, the upper and lower parts of the cable extending in opposite directions from the drum and means for rotating the drum to open or close the windows.

4. An operating mechanism for a plurality of swinging windows, consisting of a cable comprising upper and lower parts, means for connecting said parts respectively to the opposite sides of the window-frames, a drum about which the cable passes twice, the upper and lower parts of the cable extending in opposite directions from the drum, a gear-wheel moving with the drum, a pinion engaging said gear-wheel and an operating wheel and chain by which the pinion is rotated to open or close the window.

5. An operating mechanism for a plurality of swinging windows, consisting of a cable comprising upper and lower parts, detachable connections between the parts of the cable and the opposite sides of the window-frames and means for moving the parts of the cable in opposite directions.

6. An operating mechanism for a plurality of swinging windows, consisting of a cable comprising upper and lower parts, operating-arms, universal joints connecting said arms with the opposite sides of the window-frames, clamps detachably engaging the parts of the cable, universal joints connecting the opposite ends of the operating-arms with the clamps and means for moving the parts of the cable in opposite directions.

842,839. ELASTIC SUBSTANCE SIMILAR TO INDIA-RUBBER AND ITS METHOD OF MANUFACTURE. LUCIEN ROLAND, Paris, France. Filed May 26, 1906. Serial No. 318,924.

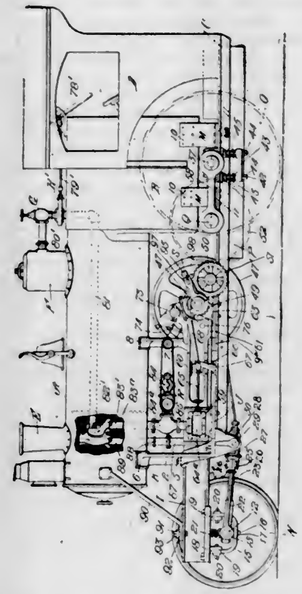
Claim.—1. An elastic substance analogous to caoutchouc, comprising a mixture of gelatin and of glycerin in a liquid state, with an aqueous solution of chromates or chromic acid, the quantity of glycerin exceeding by about one-tenth in weight that of the gelatin, while the quantity of chromates is equal to about five-hundredths of this quantity of gelatin, the weight of water employed for dissolving these chromates being finally equal to about two times the weight of the latter, a little more or a little less according as the proportion of glycerin in the mixture is more or less strong, this water remaining inclosed in the substance under the form of water of constitution, substantially as described.

2. The herein-described process consisting in mixing glycerin, gelatin and chromic acid or chromates with a quantity of water in the proportions specified, then allowing the mixture to set while retaining the water of hydration in combination whereby is formed a solid hydrated compound devoid of free water and insoluble in water, substantially as described.

3. The herein-described compound consisting in a solid hydrated mixture of glycerin, gelatin, and chromic acid or chromates in the proportions specified and devoid of free water, substantially as described.

842,840. TRACTION-ENGINE. WILLIAM N. SPRINGER, Peoria, Ill., assignor to Avery Manufacturing Company, Peoria, Ill., a Corporation of Illinois. Original application filed Dec. 21, 1904, Serial No. 237,859. Divided and this application filed Mar. 8, 1906. Serial No. 304,854.

Claim.—1. In a traction-engine, the combination with a frame, steering-wheels, a motor, and traction-wheels, of a two-speed transmission-gearing interposed between the said motor and the traction-wheels, clutches for connecting up the gears, shifting rods, one for each of said clutches, and means for simultaneously actuating said rods to cause them to operate the movable elements of said clutches.



2. In a traction-engine, the combination with a frame, steering-wheels, a motor, and traction-wheels, of a two-speed transmission-gearing interposed between the said motor and the traction-wheels, clutches for connecting up the gears, shifting rods, one for each of said clutches, and means for simultaneously shifting said rods in one direction or the other to operate the movable elements of said clutches.

3. In a road-engine, the combination with a frame, steering-wheels, a motor, and driving-wheels, of a two-speed transmission-gearing interposed between the motor and the driving-wheels, the clutches for connecting up each set of gears, shifting rods for operating each of said clutches, and cams for controlling the said rods.

4. In a road-engine, the combination with a frame, steering-wheels, a motor, and driving-wheels, of a two-speed transmission-gearing interposed between the motor and said driving-wheels, clutches for connecting up each set of gears, shifting rods for controlling said clutches each movable independently of the other, cams associated with said rods for shifting them, and means for operating said cams simultaneously.

5. In a road-engine, the combination with a frame, steering-wheels, a motor, and driving-wheels, of a two-speed transmission-gearing interposed between the motor and said driving-wheels, clutches for connecting up each set of gears, shifting bars, each adapted to control one of the said clutches, a worm, projections on said rods adapted to be engaged by said worm, and means for actuating the worm.

6. In a road-engine, the combination with a frame, steering-wheels, a motor, and driving-wheels, of a two-speed transmission-gearing interposed between the motor and said driving-wheels, clutches for connecting up each set of gears, shifting bars, each arranged to control one of said clutches, and means associated with said bars for moving them in the same direction to cause the disengagement of one clutch and the engagement of the other and for moving one bar relatively to the other in order to shift each movable clutch element into operative position.

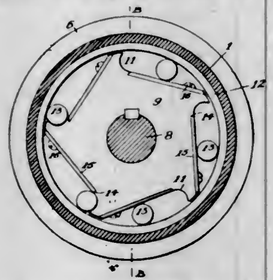
7. In a traction-engine, the combination with a frame, steering-wheels, an engine on said frame, and traction-

wheels, of a shaft between the crank-shaft of the engine and the axis of the traction-wheels, a two-speed transmission-gearing interposed between said counter-shaft and said crank-shaft and arranged to drive the counter-shaft at different speeds, the gears for each speed on the crank-shaft being loosely mounted thereon, clutches, each adapted to connect one of said loose gears to said crank-shaft, shifting bars each connected to the movable element of one of said clutches, means for moving said bars to cause the engagement of one of said clutches and the disengagement of the other one, and power-transmitting devices connecting the said counter-shaft with the said traction-wheels.

8. In a traction-engine, the combination with steering-wheels, a rear axle, and traction-wheels mounted on said rear axle, of a frame supported by said wheels and yieldingly mounted on said rear axle, an engine secured to the frame, shafting and gearing including a counter-shaft interposed between said engine and said traction-wheels, and radius-bars connecting said counter-shaft and rear axle, each radius-bar having the axis of its pivotal connection with the counter-shaft coincident with the axis of the said counter-shaft.

9. In a motor-vehicle, the combination of a suitable frame, steering-wheels connected to the frame at one end thereof, a non-rotary rear axle extending transversely across the frame at one end thereof and yieldably connected to said frame, a motor suitably secured to the frame, traction-wheels loosely mounted on either end of said rear axle, shafting and gearing including a counter-shaft interposed between said motor and said traction-wheels, and radius-bars connecting said counter-shaft near either end thereof to the adjacent end of said rear axle, each of said radius-bars having its rear end loosely mounted upon said rear axle and free to turn about the axis of said axle independently of the frame.

842,841. CLUTCH. FRED STARR, San Francisco, Cal. Filed Aug. 15, 1906. Serial No. 330,742.

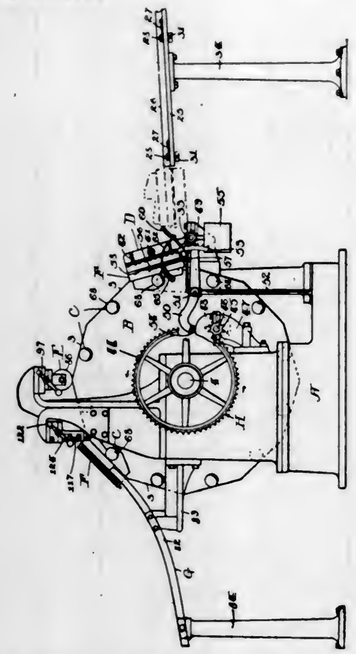


Claim.—In a clutch, a driven shaft, an outer casing loosely mounted thereon, an inner clutch member keyed to the shaft and having peripheral pockets of a depth at the gripping-point equal to the diameter of the roller, plus the thickness of the plate, wear-plates in said pockets and secured removably to said inner clutch member, and rollers loose in said pockets but adapted to be gripped between said wear-plates and the inner surface of said casing.

842,842. MACHINE FOR FINISHING PRINTERS' LEADS. CYRUS C. WEBSTER, Minneapolis, Minn., assignor to American Type Founders Company, a Corporation of New Jersey. Filed Dec. 7, 1904. Renewed Dec. 26, 1906. Serial No. 349,142.

Claim.—1. A machine for finishing printers' leads, consisting of a carrier, a holder for the leads to be finished, means for attaching said holder to said carrier, trimming mechanism in the path of the holder on said carrier for finishing the edges of such leads, a cut-out, and actuating mechanism.

2. A machine of the class set forth, consisting of a carrier, a holder for the leads to be finished, means for feeding said holder to said carrier, means on said carrier for gripping said holder, trimming mechanism in the path of said holder for cutting the edges of such leads, and actuating mechanism.



3. A machine of the class set forth, consisting of a holder for a stack of leads to be finished, a carrier, means for placing said holder on said carrier, trimming mechanism in the path of said holder for cutting the edges of such leads, a cut-out in the path of said holder to remove said holder from said carrier, and actuating mechanism for said parts.

4. A machine of the class set forth, consisting of a carrier, a holder for the leads to be finished, a lock on said carrier, means for automatically closing said lock to grip said holder, feed mechanism, trimming mechanism, means for automatically opening said lock to release said holder, a cut-out, and actuating mechanism.

5. A machine of the class set forth, consisting of a carrier, a plurality of locks on said carrier, holders for the leads to be finished, means for feeding said holders successively to said carrier, means for successively closing said locks to grip said holders, trimming mechanism, means for successively opening said locks to release said holders, cut-out mechanism, and actuating mechanism.

6. A machine of the class set forth, consisting of a suitable frame, a carrier journaled on said frame, a feeder adjoining said carrier, a holder for a stack of pieces of material to be finished adapted to be placed on said carrier by means of said feeder, a lock on said carrier, means for closing said lock to grip said holder, trimming mechanism in the path of said holder for finishing the edges of such leads, means for opening said lock to release said holder, a cut-out in the path of said holder to remove said holder from said carrier, and actuating mechanism for said parts.

7. A machine of the class set forth, comprising, in combination, a carrier provided with a plurality of faces, a series of holders for stacks of leads to be finished, each holder being provided with a rib, means for feeding said holders to said carrier successively and placing one holder on each face thereof, means for gripping the ribs of said holders on the faces of said carrier, means for trimming the leads carried by said holders, a cut-out for removing the holders successively from the carrier, and actuating mechanism for said parts.

8. A machine of the class set forth, comprising, in combination, a carrier provided with a plurality of flat, peripheral faces, a series of holders for the material to be finished, each holder having a rib, means for feeding said holders to said carrier and placing one holder on each of said faces, means for gripping the ribs of said holders on said carrier, a cut-out for removing said holders from said carrier, and actuating mechanism for said parts.

9. A machine of the class set forth, consisting of a carrier-plate adapted to revolve continuously having flat, peripheral faces, a lock adjoining each peripheral face of said plate, a plurality of holders for the leads to be finished, a suitable supporting-frame, a feeder swung from said frame, means for reciprocating said feeder to place a holder on each peripheral face of said plate, means for tripping said locks to receive and grip said holders, a plurality of cutters arranged in pairs, between which said holders are passed by said carrier, a cut-out, and actuating mechanism.

10. A machine of the class set forth, consisting of a carrier-plate having a plurality of flat, peripheral faces, a lock on said plate contiguous to each peripheral face, a plurality of holders for stacks of leads to be finished, a supporting-frame upon which said carrier-plate is journaled, a feeder pivoted on said frame, a justifier pivoted between its ends on said feeder, a resilient support between each end of said justifier and said feeder, means for tripping said locks to receive and grip said holders, and means for revolving said carrier and reciprocating said feeder.

11. A machine of the class set forth, consisting of a carrier having a plurality of flat, peripheral faces, a frame upon which said carrier is journaled, a lock adjoining each peripheral face of said carrier, means for opening said locks by hand, a plurality of holders for stacks of leads to be finished, a feeder for placing said holders successively on the peripheral faces of said plate, a justifier carried by said feeder, a retainer in the path of said justifier to prevent said holders leaving the same until the locks on said carrier have gripped the same, means for tripping said locks to receive and grip said holders, means for again tripping said locks to release said holders, and actuating mechanism.

12. A machine of the class set forth, consisting of a carrier having a plurality of flat, peripheral faces, a journal-support on which said carrier is adapted to revolve, a spring-lock adjoining each of said faces of said carrier, a plurality of holders for stacks of leads to be finished, a plurality of cutters past which such leads are carried, means for automatically opening said lock to receive and grip a holder at a time, means for again opening said lock to release said holder, a cut-out for removing the holders after they have been unlocked, and actuating mechanism for revolving said carrier and operating said parts.

13. A machine of the class set forth, consisting of a carrier having a plurality of flat, peripheral faces, a journal-support on which said carrier is adapted to revolve, a lock on said carrier adjoining each of said peripheral faces, a holder for a stack of leads to be finished, said holder having a rib adapted to be gripped by said lock and a clamp for holding a stack of leads to be finished, means for tripping said lock to receive and grip said rib, means for again tripping said lock to release said rib, trimming mechanism, a cut-out for removing said holder after it has been unlocked, and actuating mechanism.

14. A machine of the class set forth, consisting of a carrier having a plurality of clamps, a journal-support on which said carrier is adapted to revolve, a lock adjoining each segment of said carrier, a plurality of holders having means for clamping a stack of pieces of material to be finished and ribs formed with stop-shoulders to impinge against said locks, means for opening and closing the locks to receive and grip the ribs on said holders, a plurality of cutters between which the stacks of pieces of material are passed, means for again opening the locks to release said holders, a cut-out for removing said holders after they have been unlocked, and actuating mechanism.

15. A machine of the class set forth, consisting of a carrier having a plurality of flat, peripheral faces, a plurality of holders for stacks of pieces of material to be finished, a feeder for placing said holders successively on said faces of said carrier, a plurality of locks on said carrier for gripping said holders, a justifier carried by said feeder, a retainer for said holders in the path of said justifier, means for opening and closing said locks, a plurality of trimmers, a pair of rails for removing said holders as they are unlocked, and actuating mechanism.

16. A machine of the class set forth, consisting of a carrier having a plurality of flat, peripheral faces, a plurality of holders for clamping stacks of leads to be finished, a feeder for placing said holders successively on said faces, a justifier carried by said feeder, a spring-retainer in the path of said justifier, a plurality of locks on said carrier, means for closing and opening said locks to grip and release said holders, means for opening said locks by hand, pairs of trimmers between which such stacks of leads are passed, a cut-out for removing said holders after they have been unlocked, and actuating mechanism.

17. A machine of the class set forth, consisting of a carrier having a plurality of flat, peripheral faces, a journal-support for said carrier, a plurality of holders for clamping stacks of leads to be finished, a feeder for placing said holders successively on said faces, a plurality of locks on said carrier, means for successively closing and opening said locks to grip and release said holders, pairs of trimmers between which such leads are passed, a cut-out for removing said holders after they have been unlocked, and means for actuating said parts.

18. A machine of the class set forth, consisting of a carrier having a plurality of flat, peripheral faces, a journal-support for said carrier, a plurality of holders for clamping stacks of leads to be finished, a feeder for placing said holders successively on said faces, a plurality of locks on said carrier, means for successively closing and opening said locks to grip and release said holders, pairs of cutters between which the stacks of leads are carried, a cut-out for removing said holders after they have been unlocked, and means for actuating said parts.

19. A machine of the class set forth, consisting of a carrier having a plurality of flat, peripheral faces, a journal-support for said carrier, a plurality of locks adjoining said faces, a plurality of holders for stacks of pieces of material to be finished, a feeder for placing said holders successively upon said faces, a cam-shoulder by which said locks are caused to close and grip said holders, another cam-shoulder by which said locks are opened to release said holders, a cut-out for removing said holders as they are released by said locks, and actuating mechanism.

20. A machine of the class set forth, consisting of a vertical carrier-plate having a plurality of flat, peripheral faces, a plurality of spring-locks on said carrier-plate, a pair of cam-shoulders by which said locks are successively opened, a plurality of holders for stacks of pieces of material to be finished, a feeder by which said holders are placed successively upon said peripheral faces of said carrier to be gripped by said locks after they have been opened by one of said cam-shoulders, a cut-out by which said holders are removed as the locks are opened by the other cam-shoulder, trimmers between which the stacks of pieces of material are passed, and actuating mechanism.

21. A machine of the class set forth, consisting of a carrier having a series of flat, peripheral faces, a plurality of spring-locks on said carrier, a frame on which said carrier is journaled, a feeder, a plurality of holders for stacks of pieces of leads, means for reciprocating said feeder to place said holders successively upon the peripheral faces of said carrier, a cam by which said locks are successively opened to grip said holders, a feedway adjoining said feeder, a retainer by which the holders are prevented from leaving the feeder until gripped by said locks, means for limiting the return movement of said retainer, another cam by which said locks are opened to release said holders, and actuating mechanism.

22. A machine of the class set forth, consisting of a vertical carrier-plate having a plurality of flat, peripheral faces, a plurality of locks, one for each peripheral face of said carrier-plate, a frame upon which said carrier-plate is

journaled, a feeder pivoted upon said frame, a plurality of holders for stacks of pieces of material, means for reciprocating said feeder to place the holders successively upon the peripheral faces of said carrier, means for opening and closing said locks successively to receive and grip said holders, a spring-retainer to prevent the holders leaving the feeder until engaged by said locks, a stop for limiting the return movement of said retainer, a feedway for the holders adjoining said feeder, a pair of guides on said feedway, means for adjusting the distance between said guides, means for opening said locks to release said holders, and means for revolving said carrier and reciprocating said feeder.

23. A machine of the class set forth, consisting of a vertical carrier-plate having a plurality of flat, peripheral faces, a frame upon which said carrier-plate is suitably journaled, a lock adjoining each peripheral face of said carrier-plate, a feeder pivoted upon said frame, a justifier carried by said feeder, a plurality of holders for stacks of pieces of material adapted to be placed successively by said feeder upon the peripheral faces of said plate, means for successively opening said locks to receive and grip said holders, a retainer pivoted upon said frame to prevent said holders leaving said feeder after they have been gripped by said locks, a spring impinging against said retainer, a stop for limiting the return movement of said retainer, a feedway adjoining said feeder, a pair of guides on said feedway, means for adjusting the distance between said guides, means for again opening said locks to release said holders, and means for revolving said carrier and reciprocating said feeder.

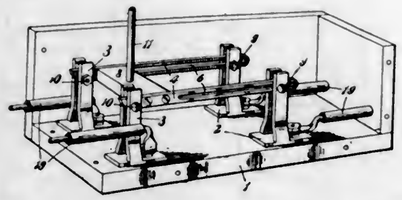
24. A machine of the class set forth, consisting of a carrier having a plurality of flat, peripheral faces, a frame upon which said carrier is journaled, a plurality of spring-locks adjoining the peripheral faces of said carrier, a plurality of holders for stacks of pieces of material to be finished, a feeder pivoted upon said frame, a cam for successively opening said locks to receive and grip said holders, a justifier pivoted between its ends upon said feeder, a spring-support below each end of said justifier, a retainer pivoted upon said frame to prevent said holders leaving said justifier before they are gripped by said locks, a spring impinging against said holder to return it to normal position, a stop for limiting the return movement of said retainer, a feedway adjoining said feeder, a pair of guides on said feedway, means for adjusting the distance between said guides, a cam for opening said locks to release said holders, and drive mechanism for revolving said carrier and reciprocating said feeder.

25. A machine of the class set forth, consisting of a carrier having a plurality of flat, peripheral faces, a plurality of spring-locks adjoining said peripheral faces, a frame upon which said carrier is journaled, a feeder pivoted upon said frame, a plurality of holders for stacks of pieces of material to be finished, means for reciprocating said feeder to place said holders successively upon the peripheral faces of said plate, means for tripping said locks to grip said holders, a justifier carried by said feeder, a retainer for preventing the holders leaving said feeder until they have been gripped by said locks, a stop near the pivot end of said feeder, a feedway adjoining said feeder, means for again tripping said locks to release said holders, and means for revolving said carrier.

26. A machine of the class set forth, consisting of a carrier-plate having a plurality of flat, peripheral faces, a frame upon which said carrier-plate is journaled, a spring-lock adjoining each peripheral face of said plate, a plurality of holders having clamps for holding stacks of pieces of material, ribs below said clamps, stop-shoulders formed upon said ribs, means for tripping said locks to grip the ribs on said holders, means for again opening said locks to release said holders, and actuating mechanism.

27. A machine of the class set forth, consisting of a carrier having a plurality of flat, peripheral faces, a journal support for said carrier, holders for stacks of leads to be finished, means for successively feeding and fastening said holders on said peripheral faces, trimming mechanism past which such stacks of leads are passed, and means for revolving said carrier.

842,843. SAFETY ELECTRIC SWITCH. ARTHUR H. WILLIAMSON, Lachine, Quebec, Canada. Filed Feb. 3, 1906. Serial No. 299,231.



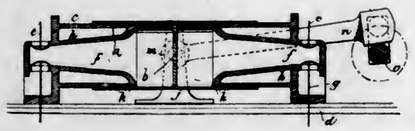
Claim.—1. In an electric switch, a casing of insulating material, terminal poles mounted in said casing, switch-blades slidably mounted on one pair of poles and having notches adapted to engage the opposite poles, an insulating member connecting said switch-blades, a threaded post mounted on said insulating member, and a helical spring surrounding said post adapted to maintain the switch-blades in engagement with the poles.

2. In an electric safety-switch, a casing of insulating material, terminal poles mounted in said casing, a pair of slotted switch-blades pivotally and slidably mounted on one pair of terminal poles, said switch-blades having notches in their opposite ends adapted to engage a second pair of terminal poles, an insulating member connecting said switch-blades, a threaded post mounted on said insulating member, and adapted to operate in a slot in the cover of said casing.

3. In an electric switch, a casing, terminal poles mounted therein, slotted switch-blades slidably and pivotally mounted on one pair of terminal poles, notches in the ends of said switch-blades adapted to engage a second pair of terminal poles, an insulating member connecting said switch-blades, a threaded post mounted in said insulating member, a compression-spring surrounding said post, a handle mounted on said post, and a guard-plate mounted beneath said handle.

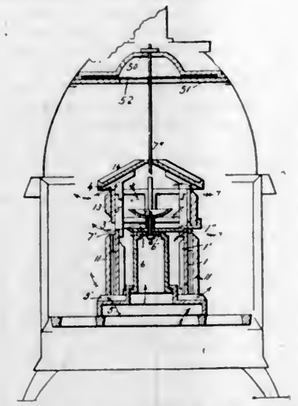
4. In a device of the class described, a casing, terminal poles mounted therein, slotted switch-blades pivoted to one pair of terminal poles and adapted to slide in and out of engagement with the second pair of terminal poles, an insulating member connecting said switch-blades, a post mounted in said insulating member adapted to operate in a slot in a cover of the casing, a helical spring surrounding said post, a guard-plate mounted on said post above the slot, and a handle of insulating material removably mounted on the extremity of said post.

842,844. INTERNAL-COMBUSTION ENGINE. WILLIAM B. BURCHALL, Stockport, England. Filed Nov. 12, 1903. Renewed Jan. 8, 1907. Serial No. 351,396.



Claim.—In an engine, the combination with a base-plate, a pair of oppositely-arranged stationary pistons spaced apart on said base-plate and having an open inner end and a tapering bore extending from the inner end to the outer end of the pistons, a cooling-jacket surrounding the bore of the piston and extending outwardly from the inner end of each piston, an open-ended cylinder having a transverse partition-wall therein and mounted to slide on said cooling-jackets, expansion-rings between said jackets and said cylinder, a guide projecting from the base-plate intermediate of the pistons and adapted for sliding engagement with the cylinder, and inlet and outlet valves in the extreme outer ends of said pistons.

842,845. AIR-FEEDING DEVICE. WILLIAM D. DOUGLAS, Chicago, Ill. Filed Aug. 13, 1903. Serial No. 169,360.



Claim.—1. In an air-feeding device, the combination with a casing open at its upper and lower ends and having at its upper end a frame comprising one or more bars and rings united therewith, of a removable top for the casing, and means for securing together the top and the casing, substantially as described.

2. In an air-feeding device, the combination with a casing open at its upper and lower ends provided with interior ledges, a frame located within the casing and supported by said ledges, said frame comprising one or more rings united by radiating bars, of a removable top provided with a series of downwardly-extending angular ribs, and means for securing the top to the casing, substantially as described.

3. In an air-feeding device, the combination with a tube or casing having at one of its open ends upwardly-extending ribs or projections and a frame comprising one or more ribs or bars and rings uniting the same, of a removable sectional top provided at its under side with downwardly-extending projections, a stand or support for the casing comprising one or more rings and bars uniting the same, and means for securing together the stand, casing and top, substantially as described.

4. In an air-feeding device, the combination with a casing open at its upper and lower ends, of a removable top therefor, a frame comprising one or more rings united by radiating bars separating the top from the walls of the casing, a stand or support for the casing comprising one or more rings united by radiating bars or ribs, and means for securing together the stand, casing, frame and top, substantially as described.

5. In an air-feeding device, the combination with a tube or casing open at its upper and lower ends provided with projections or teeth at its upper end and having inner ledges and vertical ribs, of a removable top for the casing, a frame located within the casing under inner ledges thereof, said frame comprising one or more rings and bars uniting the same, and means for securing and drawing together the top, casing and frame, substantially as described.

6. In an air-feeding device, the combination of a casing open at its upper and lower ends, a removable sectional top therefor, a frame comprising one or more rings united by radiating bars separating the top from the walls of the casing, a tube provided with a cross-bar at its upper end secured centrally to the frame, and means for securing the parts together, substantially as described.

7. In an air-feeding device, the combination of a casing open at its upper and lower ends, a removable top therefor, a frame comprising one or more rings united by radiating bars separating the top from the walls of the casing, a tube provided with an outwardly-flanged lower end and a cross-bar at its upper end secured centrally to the frame, a stand or support for the casing comprising one or more rings united by radiating bars or ribs, and means for securing together the stand, casing and top, substantially as described.

8. In an air-feeding device, the combination with a casing or body open at its upper and lower end and provided exteriorly with flanged vertical ribs, of a removable sectional outer wall or casing inclosing the body and having inwardly-facing vertical grooves adapted to engage the flanges of the ribs of said body, and a removable top for the casings having one or more downwardly-extending projections, the body being spaced by its exterior ribs from the outer wall inclosing the same, substantially as described.

9. In an air-feeding device, the combination with the body or inner casing-wall having flanged vertical outer ribs connected at their lower ends by a ledge separated from the body, of a removable sectional outer casing-wall inclosing said body, resting on said ledge and having inwardly-facing vertical grooves adapted to engage the flanges of said ribs, a removable sectional top for the casing-walls, a frame separating the sectional top from the casing-walls, a stand or support for the body comprising one or more rings united by bars or ribs, and means for securing together the several parts, substantially as described.

10. In an air-feeding device, the combination with a double-walled casing comprising the body or inner wall and a separated removable sectional outer wall having approximately wedge-shaped vertical grooves in their respective adjacent faces, of a skeleton frame inclosed between said walls comprising a series of convergent upright girders united by a ring or ledge at about their lower ends, a removable top for the casing, a frame separating the top from the walls of the casing, a stand or support for the skeleton frame and body comprising one or more rings united by radiating bars or ribs, and means for securing together the several parts, substantially as described.

11. In an air-feeding device, the combination of a skeleton frame comprising a series of convergent upright girders united near their lower ends by a ledge and thereabove by one or more rings and bars, with a removable sectional casing or wall inclosing the girders resting on the ledge thereof and having inwardly-facing vertical grooves adapted to engage the outer flanges of said girders, a removable sectional top for the casing, a frame separating the top from the casing-walls, a stand or support for the skeleton frame comprising one or more rings united by radiating bars or ribs, and means for securing together the several parts, substantially as described.

12. In an air-feeding device, the combination with a grate, of a skeleton frame located thereabove comprising a series of convergent upright girders united at their lower ends by a ledge and at their upper parts by one or more rings and bars, a removable sectional casing or wall inclosing the girders resting on the ledge thereof and having inwardly-facing vertical grooves adapted to engage the outer flanges of said girders, a removable sectional top having a depressed well-shaped middle, a frame separating the top from the casing-walls, and means for securing together the several parts, substantially as described.

13. In an air-feeding device, the combination of a double-walled casing formed in horizontal divisions each consisting of an inner wall-section having flanged vertical outer ribs united at their lower ends by a ledge supporting thereon a removable sectional outer wall-section having vertical grooves in its inner face adapted to engage the flanges of said ribs, with a removable top for the casing, a plurality of frames respectively separating the top from the casing and the horizontal sections of said casing from each other, a stand or support for the inner wall-sections or body, said stand and frames respectively comprising one or more rings united by bars or ribs, and means for securing together the several parts, substantially as described.

14. The combination with a grate, of an air-feeding device located thereabove comprising a casing open at its upper and lower ends, a removable sectional top therefor, a frame separating the top from the walls of the casing,

and means for securing together the casing, frame, top and grate, substantially as described.

15. In an air-feeding device, the combination with a grate, of a stand located thereabove comprising one or more rings united by bars or ribs, a skeleton frame supported on the stand comprising a series of upright girders united near their lower ends by a ledge and thereabove by one or more rings and bars, a removable sectional casing or wall inclosing the girders, resting on the ledge thereof and having inwardly-facing vertical grooves adapted to engage the outer flanges of said girders, a removable top for the casing, a frame separating the top from the casing-walls, and means for securing together the parts and grate, substantially as described.

16. In an air-feeding device, the combination with a grate, of a stand located thereabove comprising one or more rings united by bars or ribs, a skeleton frame supported on the stand comprising convergent upright girders united at their lower ends by a ledge, a double-walled casing inclosing said girders between its walls and having in adjacent opposite faces thereof vertical grooves adapted to engage the flanges of said girders, a removable top, a frame separating the top from the casing-walls, and means for securing together the parts and grate, substantially as described.

17. In an air-feeding device, the combination with a casing or body open at its upper and lower end and provided exteriorly with flanged vertical ribs projecting alternately a little above and below the top and bottom rim of the body and connected near their lower ends by a ledge separated from said body, a removable sectional outer wall or casing inclosing the body and having inwardly-facing vertical grooves adapted to engage the flanges of the ribs of said body, of a stand or support for the body comprising one or more rings and bars united therewith, and a removable double top for the casings having one or more downwardly-extending projections, suitable means being provided for securing the stand, casing and top together, substantially as described.

18. In an air-feeding device, the combination with a grate, of a casing located thereabove, and its upper and lower end being open, a removable top for the casing, said top having one or more downwardly-extending projections on its under face to space it from the casing, and means for securing together the grate, casing and top, substantially as described..

19. In an air-feeding device, the combination of a double-walled casing, a top provided with depending projections to space it from said casing, and a deflector centrally located and supported in the casing, substantially as described.

20. In an air-feeding device, the combination with a grate, of a stand located thereabove comprising one or more rings united by bars or ribs, a casing supported on said stand open at its upper and lower ends, a removable sectional top, a frame separating the top from the casing, and means for securing together the grate, stand, casing, frame and top, substantially as described.

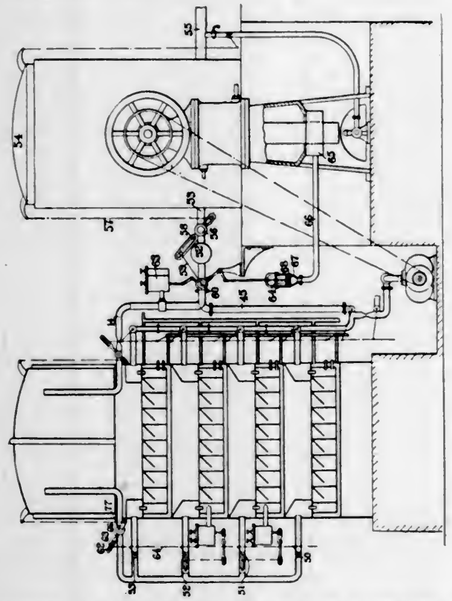
21. In an air-feeding device, the combination with a grate, of a stand located thereabove comprising one or more rings united by bars or ribs, a double-walled casing open at its upper and lower ends supported by said stand, a removable top for the casing, a frame separating the top from the walls of said casing, a spider-frame located under the grate consisting of one or more rings and bars united therewith, and means for securing and drawing together the spider below and the parts above the grate, substantially as described.

22. The combination with a furnace provided with a grate, of an air-feeding device comprising a stand located centrally on the grate consisting of one or more rings united by bars or ribs, a double-walled casing supported by said stand, a removable top for the casing, a frame separating the top from the casing-walls, means for securing together the central parts and grate, one or more auxiliary frames located at a distance from the device but connected therewith by means of a rod and supporting a screen adapted to prevent the escape of sparks to the flue, said auxiliary frames comprising respectively rings united by bars or ribs, and means for supporting the frames within the furnace, substantially as described.

23. In an air-feeding device, the combination of a casing or body open at its upper and lower ends having vertical slits in its walls and angular ribs projecting above its upper end, a tongued-and-grooved removable sectional outer wall inclosing the body, a removable sectional double top, a frame located within the body comprising rings united by bars having their outer ends inserted in said slits, and means for securing together the parts, substantially as described.

24. In an air-feeding device, the combination of a stand or support comprising one or more rings united by ribs or bars, a casing or body provided exteriorly thereof with vertical ribs resting on the stand, a removable outer wall for the casing comprising vertical sections connected together by a tongue-and-groove connections, said sections being provided with vertical grooves on their inner faces adapted to engage the ribs of the casing, a removable sectional top for the casing provided with downwardly-extending projections, and means for securing the stand, casing and top together, substantially as described.

842,846. CARBURETED-AIR APPARATUS. THOMAS H. GLASSCOE, Wanstead, England. Filed Sept. 10, 1906. Serial No. 334,019.



Claim.—1. In a carbureting apparatus, automatically-actuating means for controlling in accordance with the demand, the amount of carbureting-surface in operation, said means comprising valves in the delivery-pipe from the carbureting-surface, an expansible receptacle into which the carbureting fluid is delivered, and automatic means controlled simultaneously with the other means automatically controlled in accordance with the demand whereby the admission of carbureted fluid to the receptacle is regulated and the pressure therein is kept constant, notwithstanding variations of demand.

2. In carbureting apparatus, a series of carbureting elements, an air-inlet to each element, an outlet for carbureted fluid from each element, a valve in each outlet, a bell or the like movable responsive to the demand, and a connection between the valves and the bell, said valves being set to close or open successively, whereby more or less carbureting elements are put into operation according as the demand increases or decreases.

3. In a carbureting apparatus, means acting automatically to control the amount of carbureting-surface in operation in accordance with the temperature.

4. In a carbureting apparatus, means acting automatically to control the amount of carbureting-surface in operation in accordance with the demand, together with means acting to control the amount of carbureting-surface in operation in accordance with the temperature.

5. In a carbureting apparatus, means acting automatically to control the amount of carbureting-surface in operation in accordance with the demand, together with means acting to control the amount of carbureting-surface in operation in accordance with the temperature, a receptacle for carbureting fluid, said receptacle having movements responsive to the demand, and means for controlling the delivery of carbureted fluid into the receptacle in accordance with the demand, whereby the pressure in the receptacle is kept constant, notwithstanding variations in demand.

6. In carbureting apparatus, means for controlling the amount of carbureting-surface in operation, an expansible receptacle into which the carbureted fluid is delivered from the carbureter, a pipe conveying carbureted fluid from said receptacle, and a pipe conveying non-carbureted fluid, a second expansive receptacle containing a dilute mixture formed by mixing the contents of the two pipes, valves in said pipes, and means controlled by the movements of the second receptacle in accordance with the variations of demand, acting to operate said valves in opposite ways to each other, to admit to the second receptacle a greater volume of carbureted fluid in relation to the volume of non-carbureted fluid, when the demand increases, and vice versa when the demand decreases, whereby the proportion of hydrocarbon in the dilute mixtnre is kept constant.

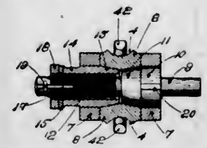
7. In carbureting apparatus, means for controlling the amount of carbureting-surface in operation, an expansible receptacle, a pipe connecting the outlet of the carbureter with the expansive receptacle, a delivery-pipe in the receptacle, and valve in the first-mentioned pipe, and means continuously controlled by the movement of said expansive receptacle whereby the said valve is opened or closed in accordance with the demand.

8. In carbureting apparatus, means for controlling the amount of carbureting-surface in operation, an expansible receptacle into which the carbureted fluid is delivered from the carbureter, a pipe conveying carbureted fluid from said receptacle and a pipe conveying non-carbureted fluid, a mixing-chamber into which both of said pipes deliver, a pipe connecting said mixing-chamber with a second expansive receptacle, a valve in each of said pipes operated in accordance with the movements of the expansive receptacle as the demand varies, the valves in the non-carbureted-fluid pipe from the first expansive receptacle being set to operate in opposite directions to one another, and valve means controlled in accordance with the demand, whereby the pressure of the fluid in the receptacle is maintained constant notwithstanding variations in demand.

9. In carboureting apparatus, means for controlling the amount of carbureting-surface in operation, an expansible receptacle into which the carbureted fluid is delivered from the carbureter, a pipe conveying carbureted fluid from said receptacle, and a pipe conveying non-carbureted fluid, a second expansive receptacle containing a dilute mixture formed by mixing the contents of the two pipes, valves in said pipes, and means controlled by the movements of the second receptacle in accordance with the variations of demand, acting to operate said valves in opposite ways to each other, to admit to the second receptacle a greater volume of carbureted fluid in relation to the volume of non-carbureted fluid, when the demand increases, and vice versa when the demand decreases, whereby the proportion of hydrocarbon in the dilute mixture is kept constant, and means operated from a part having movements in accordance with the demand, whereby the pressure of the carbureted fluid is maintained constant notwithstanding the variations in the demand.

10. In carbureting apparatus, means acting automatically to control the amount of carbureting-surface in operation in accordance with the demand, thermostatically-operated means acting to control the surface in accordance with the temperature, and means for maintaining the pressure of the carbureted fluid constant.

842,847. WRIST-PIN BEARING FOR ENGINES. WILLIAM B. MASON, Boston, Mass., assignor to The Mason Regulator Company, Saco, Me., a Corporation of Maine. Original application filed Dec. 28, 1903, Serial No. 186,784. Divided and this application filed Jan. 16, 1905. Serial No. 241,321.

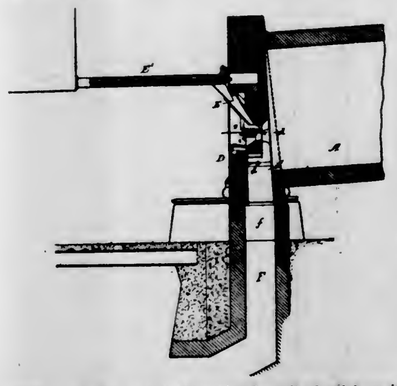


Claim.—1. In a wrist-pin bearing, the combination of a wrist-pin having a threaded portion at one end thereof, said threaded portion having a longitudinal groove therein, a fixed cone fast to the other end of the wrist-pin, a movable cone upon the threaded portion of the wrist-pin and adjustable with relation to the fixed cone, holding means for the movable cone, as a nut upon the threaded portion of the wrist-pin, and a washer interposed between the said nut and the movable cone, having a tongue engaging the slot in the wrist-pin and a serrated surface engaging a similarly-serrated surface upon the movable cone, whereby the wrist-pin the two cones thereon and the holding means for the said movable cone rotate as one piece.

2. In a wrist-pin bearing, the combination of a cross-head, cone-bearings therein, a wrist-pin, adjustable cones thereon rotating with the wrist-pin as one piece, a forked connecting-rod, engaging said wrist-pin, and means whereby the said wrist-pin and the connecting-rod turn together as one piece but are allowed lateral play with relation to each other.

3. In a wrist-pin bearing, the combination of a cross-head having cone-bearings therein, a wrist-pin having adjustable cones thereon rotating with the said wrist-pin as one piece, a connecting-rod engaging the said wrist-pin, a slot in one of the last two mentioned members, and a corresponding projection on the other of said members engaging the said slot, whereby the wrist-pin and connecting-rod turn together as one piece but are allowed lateral play with relation to each other.

842,848. PROCESS OF BURNING CEMENT. CHARLES A. MATCHAM, Allentown, Pa. Filed Dec. 28, 1906. Serial No. 349,809.



Claim.—1. The process herein described of burning cement in a substantially horizontal kiln, said process con-

sisting in feeding the cement material into one end of the kiln and allowing it to flow from the inlet end to the discharge end thereof, feeding powdered fuel to the kiln, creating at the inlet end of the kiln a draft through said kiln from the discharge end to the inlet end thereof sufficient to draw into the kiln the powdered fuel and a volume of air, the flame being drawn in a substantially straight path through the kiln in contact with the cement material without materially disintegrating the lining thereof, substantially as described.

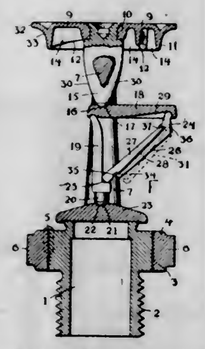
2. The process herein described of burning cement in a substantially horizontal kiln, said process consisting in feeding the cement material into one end of the kiln, creating at the inlet end of the kiln a draft through the kiln from the discharge end to the inlet end thereof, and thereby simultaneously drawing into the discharge end of the kiln a stream of powdered fuel, a volume of air at normal temperature, and a relatively large volume of heated air, the flame being drawn through the kiln in contact with the cement material without materially disintegrating the lining of the kiln, substantially as described.

3. The process herein described of burning cement in a substantially horizontal kiln, said process consisting in feeding the cement material into one end of the kiln, creating at the stack end of the kiln a draft through the kiln from the discharge end to the stack end thereof, drawing into the discharge end of the kiln by said draft a stream of powdered fuel with a volume of air at normal temperature and simultaneously introducing a relatively larger volume of heated air directly under the incoming powdered fuel and air, thereby immediately forming a combustible mixture with the fuel as this enters the kiln, substantially as described.

4. The process herein described of burning cement in a substantially horizontal kiln, said process consisting in creating a draft at the stack end of the kiln, feeding powdered fuel in a relatively dense mass directly into the kiln and drawing in a relatively large volume of heated air directly under the powdered fuel so as to spread and support said fuel and carry it into the combustion zone of the furnace, substantially as described.

REISSUES.

12,601. AUTOMATIC SPRINKLER. GEORGE I. ROCKWOOD, Worcester, Mass., assignor to Rockwood Sprinkler Company, Worcester, Mass., a Corporation of Massachusetts. Filed Oct. 30, 1906. Serial No. 341,360. Original No. 807,205, dated Dec. 12, 1905.



Claim.—1. In an automatic sprinkler, the combination with a water-nozzle, and a cap closing said nozzle, of a fixed boss and a cap-retaining device between said cap and said boss, comprising a lever arranged parallel to said cap, a post having one end bearing against said cap and its opposite end bearing against one end of said lever, and a strut interposed between said post and the opposite end of said lever, said strut consisting of attached pieces detachable by heat.

2. In an automatic sprinkler, the combination with a water-nozzle, and a cap closing said nozzle, of a cap-retaining device comprising a lever arranged parallel to the cap, a post resting upon said cap and supporting one end of said lever, a strut placed at an oblique angle to said post, and interposed between said post and the opposite end of said lever, said strut consisting of attached pieces detachable by heat, and means for applying pressure to said lever between its supported ends.

3. In an automatic sprinkler, the combination with a water-nozzle, and a closing-cap for said nozzle, of a fixed boss having its axis coincident with the axis of the nozzle, a lever bearing against said boss, and between its ends, a post interposed between one end of said lever and said cap, and a strut interposed between said post and the opposite end of said lever, the integrity of said strut being destroyable by heat.

4. In an automatic sprinkler, the combination with a water-nozzle, and a closing-cap for said nozzle, of a fixed boss above said cap, a lever parallel with the cap and bearing against said boss, a post bearing on said cap and supporting one end of said lever and a strut resting against a shoulder on said post and supporting the opposite end of said lever, means for varying the distance between said boss and said cap.

5. In an automatic sprinkler, the combination with a water-nozzle, and a cap closing said nozzle, of a fixed boss above said cap, and a cap-retaining device interposed between said boss and said cap and consisting of a frame comprising an upright post, an oblique strut bearing against said post, and a lever supported upon said post and strut and bearing against said boss, one member of said retaining device being composed of pieces attached together by solder fusible at a predetermined degree of heat.

6. In an automatic sprinkler, the combination with a water-nozzle and a cap closing said nozzle, of a cap-retaining device, comprising a post mounted on said cap, a lever having one end resting on said post, means for applying pressure to said lever between its ends, a strut interposed between said post and the opposite end of said lever, said strut consisting of two united parts detachable by heat, and having means for preventing the sliding movement of one part on the other in the direction of the line of pressure.

7. In an automatic sprinkler, comprising a water-nozzle and a cap closing said nozzle, the combination with said cap of a retaining device consisting of a post mounted on said cap, a lever having one end supported by said post, a strut interposed between said post and the opposite end of said lever, said strut consisting of two united parts detachable by heat, and provided with shoulders for preventing the longitudinal sliding movement of one of said parts on the other.

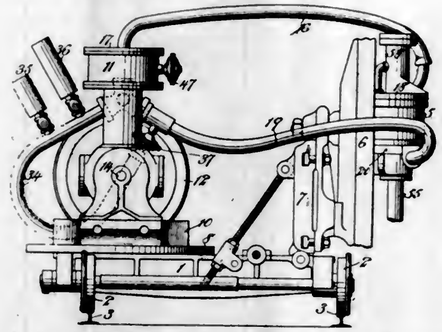
12,602. ELECTROPNEUMATIC CHANNELER. ARTHUR H. GIBSON, Easton, Pa., assignor to The Ingersoll-Sergeant Drill Company, New York, N. Y., a Corporation of West Virginia. Filed Sept. 20, 1906. Serial No. 335,522. Original No. 805,195, dated Nov. 21, 1905.

Claim.—1. In combination, a channeler, a presser connected with the channeler in practical working proximity thereto, a motor for actuating the presser and means for maintaining the said practical working proximity of the presser to the channeler during the travel of the channeler along its line of cut.

2. In combination, a truck, a channeler adjustably mounted thereon and a presser adjustably mounted on the truck whereby the channeler and presser cylinders may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

3. In combination, a truck, a channeler adjustably mounted thereon and a presser and motor adjustably mounted on the truck whereby the channeler and presser cylinders may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

4. In combination, a truck, a channeler adjustably mounted thereon and a presser swiveled on the truck whereby the channeler and presser cylinders may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.



5. In combination, a truck, a channeler adjustably mounted thereon and a motor and presser swiveled on the truck whereby the channeler and presser cylinders may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

6. In combination, a truck, a channeler adjustably mounted thereon and a radially-adjustable presser swiveled on the truck whereby the presser may be adjusted into close proximity to the channeler and kept in such relationship as the channeler is adjusted to different positions along the truck.

7. In combination, a truck, a channeler adjustably mounted thereon, a radially-adjustable motor and presser swiveled on the truck whereby the presser may be adjusted into close proximity to the channeler and kept in such relationship as the channeler is adjusted to different positions along the truck.

8. In combination, a truck, a channeler adjustably mounted thereon, a frame swiveled on the truck and a presser mounted on the frame whereby the channeler and presser may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

9. In combination, a truck, a channeler adjustably mounted thereon, a frame swiveled on the truck and a motor and presser mounted on the frame whereby the channeler and presser may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

10. In combination, a truck, a channeler adjustably mounted thereon, a radially-adjustable frame swiveled on the truck and a presser mounted on the frame whereby the channeler and presser may be kept in close proximity to each other as the channeler is adjusted to different positions along the truck.

11. In combination, a truck, a channeler adjustably mounted thereon, a radially-adjustable frame swiveled on the truck and a motor and presser mounted on the frame whereby the presser may be adjusted into close proximity to the channeler and retained in such relationship as the channeler is adjusted to different positions along the truck.

12. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the corresponding ends of the two cylinders and means for automatically cushioning the channeler-piston comprising a cylinder surmounting the channeler-cylinder, connected ports in the two cylinders and a plunger carried by the channeler-piston, fitted to slide in the cushioning-cylinder and open and close its port as the channeler-piston is reciprocated.

13. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the corresponding ends of the two cylinders, means for cutting off the escape of air from one of the pipes for cushioning the downward stroke of the channeler-piston and means for automatically sustaining the pressure of air in the last-named pipe.

14. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the corresponding ends of the two cylinders, a receiver-pressure supply, manually-operated means for cutting off the escape of air from one of the pipes for cushioning the downward stroke of the channeler-piston and means for automatically supplying pressure to said pipe from the receiver-pressure supply to sustain the air-cushion for the downward stroke of the channeler-piston.

15. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the corresponding upper and lower ends of the two cylinders and a valve arranged to cut off the supply of air from the lower end of the presser-cylinder to the lower end of the channeler-cylinder and at the same time to open the lower end of the presser-cylinder to the atmosphere.

16. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the corresponding upper and lower ends of the two cylinders, a receiver-pressure pipe leading to the lower pipe, an automatically-operating valve in the receiver-pressure pipe and a valve arranged to cut off the supply of air from the lower end of the presser-cylinder to the lower pipe and to open the lower end of the presser-cylinder to the receiver-pressure pipe.

17. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the corresponding upper and lower ends of the two cylinders, a receiver-pressure pipe leading to the lower pipe, an automatically-operating valve in the receiver-pressure pipe, an exhaust to the atmosphere and a three-way valve arranged to open the lower end of the presser-cylinder at pleasure to the exhaust, to the receiver-pressure pipe or to the said lower pipe.

18. In combination, a channeler-cylinder, a presser-cylinder, their pistons, pipes connecting the upper and lower ends of the two cylinders, an induction-valve for the presser-cylinder, a receiver-pressure pipe communicating with the lower pipe, a one-way valve in the receiver-pressure pipe, a manually-operated valve arranged to open communication from the lower end of the presser-cylinder to the said lower pipe or to the receiver-pressure pipe or to the atmosphere and means for holding the valve in its different positions.

12,603. RAIL TIE AND FASTENING. JOHN G. SNYDER, Altoona, Pa., assignor of two-fifths to John Woolf Plank, Carlisle, Pa. Filed Sept. 25, 1906. Serial No. 336,208. Original No. 826,376, dated July 17, 1906.



Claim.—1. A rail tie and fastening consisting of a casing or shell open at the bottom and having the lower sides formed with inwardly-inclined flanges, said casing being adapted to contain concrete, recesses in the top of said casing adapted to receive the rail, cushions in said recesses, clamping-plates secured to the casing and engaging the foot of the rail, and means for securing said plates in position.

2. A rail tie and fastening consisting of a casing or shell containing concrete or similar material, and having the sides formed with inturned flanges, recesses in the top of said casing adapted to receive the rails; cushions in said recesses, clamping-plates engaging the foot of the rail and having tongues engaging openings in the casing, and bolts mounted in the casing and serving to secure the clamping-plates.

3. A rail tie and fastening consisting of a casing or shell having a lower open side and the side walls of the casing formed with inturned flanges, said casing adapted to contain concrete, recesses in the top of said casing adapted to receive the rails, cushioning means in said recesses, and clamping-plates engaging the foot of the rails and having tongues entering openings in the casing.

4. A rail tie and fastening consisting of a casing or shell containing concrete, recesses in the top of said casing adapted to receive the rails, clamping-plates secured to the casing and engaging the foot of the rails, a spiral rod passing through the entire length of the casing, and clamping-lugs secured on the ends of said rod.

5. A rail-tie consisting of a casing or shell having the lower sides formed with flanges inclined slightly inward with the lower edges of said flanges spaced apart to provide a comparatively wide opening in the bottom of the tie, a filling for said casing, and means for securing the rail to the casing.

DESIGNS.

34,428. BADGE. FRANK EBERLE, Norfolk, Va. Filed Nov. 7, 1906. Serial No. 342,425. Term of patent 3½ years.



Claim.—The ornamental design for a badge as shown.

38,429. WATCH-FOB. WALTER C. RUSS, Norfolk, Va. Filed Nov. 30, 1906. Serial No. 345,841. Term of patent 3½ years.



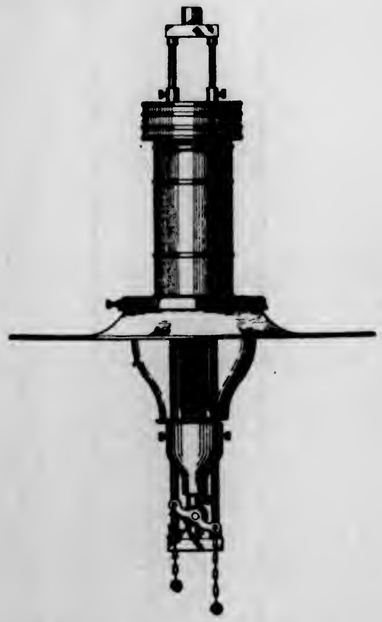
Claim.—The ornamental design for a watch-fob as shown.

38,430. BOTTLE. WILLIAM C. PRESSING, Norwalk, Ohio. Filed Dec. 26, 1906. Serial No. 349,588. Term of patent 14 years.



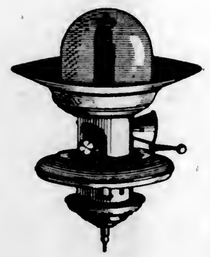
Claim.—The ornamental design for a bottle, as shown.

38,431. GAS-LAMP. RICHARD W. ZIERLEIN, St. Louis, Mo. Filed Nov. 12, 1906. Serial No. 343,159. Term of patent 7 years.



Claim.—The ornamental design for a gas-lamp as shown.

38,432. LAMP. OSKAR HELFFT, Berlin, Germany. Filed Sept. 6, 1906. Serial No. 333,573. Term of patent 7 years.



Claim.—The ornamental design for a lamp, as shown.

38,433. INCANDESCENT LAMP. OSKAR HELFFT, Berlin, Germany. Filed Sept. 6, 1906. Serial No. 333,574. Term of patent 7 years.



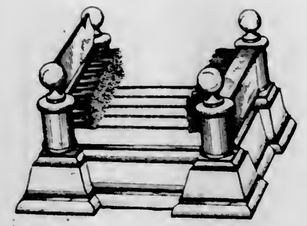
Claim.—The ornamental design for an incandescent lamp, as shown.

38,434. INCANDESCENT LAMP. OSKAR HELFFT, Berlin, Germany. Filed Sept. 6, 1906. Serial No. 333,572. Term of patent 7 years.



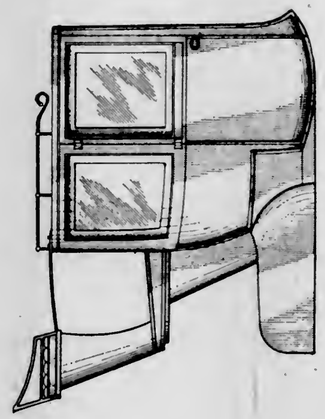
Claim.—The ornamental design for an incandescent lamp, as shown.

38,435. SHOE SCRAPER AND CLEANER. ALBERT M. STILES and SAMUEL B. STILES, Parkersburg, W. Va. Filed Dec. 22, 1906. Serial No. 349,195. Term of patent 7 years.



Claim.—The ornamental design for a shoe scraper and cleaner, as herein shown.

38,436. BODY FOR MOTOR-VEHICLES. WENDELL L. NICHOLS, Boston, Mass. Filed Dec. 26, 1906. Serial No. 349,585. Term of patent 14 years.



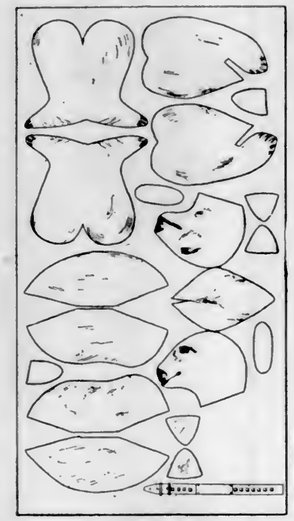
Claim.—The ornamental design for a body for motor-vehicles, as shown.

38,437. BEDROOM-CABINET. JOHN C. FLYNN, Atlanta, Ga. Filed Dec. 28, 1906. Serial No. 349,927. Term of patent 7 years.



Claim.—The ornamental design for a bedroom-cabinet, as shown.

38,438. CLOTH FABRIC. OLIVER C. GRINNELL, Jr., Brooklyn, N. Y. Filed Dec. 11, 1906. Serial No. 347,368. Term of patent 7 years.



Claim.—The ornamental design for cloth fabric, as shown.

TRADE-MARKS

PUBLISHED JANUARY 29, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 1,035. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DR. D. JAYNE & SON, Philadelphia, Pa. Filed Apr. 10, 1905.



Particular description of goods.—A Remedy for Liver Complaints, in Pill Form.

Ser. No. 3,303. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE SMITH-WORTHINGTON COMPANY, New York, N. Y. Filed Apr. 27, 1905.

CHAMPION

Particular description of goods.—Saddle-Housings and Saddle-Pads.

Ser. No. 4,512. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) SAMPLE & CO., New York, N. Y. Filed May 6, 1905.



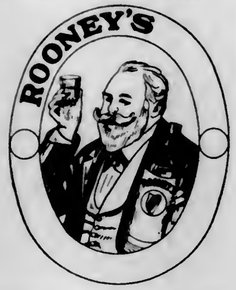
Particular description of goods.—Whisky.

Ser. No. 5,068. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) MINOT, HOOPER & CO., New York, N. Y. Filed May 11, 1905.

AL SHUMS

Particular description of goods.—Shirtings.

Ser. No. 5,296. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) STRAUS, GUNST & Co., Richmond, Va. Filed May 12, 1905. Used ten years.



Particular description of goods.—Whisky.

Ser. No. 6,476. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) SOCIÉTÉ ANONYME DES ANCIENS ÉTABLISSEMENTS PANHARD & LEVASSOR, Paris, France. Filed May 24, 1905.



Particular description of goods.—Dynamos, Motors, and Parts Thereof, Magnetos, Spark-Coils, Disjunctors, Switches, Rheostats, and Sparking-Plugs.

Ser. No. 6,477. (CLASS 19. BOATS AND ROAD-VEHICLES.) SOCIÉTÉ ANONYME DES ANCIENS ÉTABLISSEMENTS PANHARD & LEVASSOR, Paris, France. Filed May 24, 1905.



Particular description of goods.—Automobiles and Parts Thereof, Except Rubber Tires.

Ser. No. 6,784. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) VICTOR SPORTING GOODS CO., Springfield, Mass. Filed May 27, 1905.

VICTOR

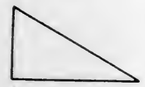
Particular description of goods.—Implements, Apparatus, and Goods Used in Athletic Games and Sports, Comprising Implements and Apparatus Used in Base-Ball, (Including Indoor,) Foot-Ball, Hammer-Throwing, Tennis, Polo, Hockey, Croquet, Golf, Volley, Archery, Fencing, Vaulting, Basket-Ball, Shot-Putting, Boxing, Hand-Ball, and Push-Ball, Including All Implements, Apparatus, and Articles Essential to or Commonly Used in Such Games or Sports, but Not Including Clothing, Shoes, or Bandages, and Gymnasium Supplies and Articles Comprising Striking-Bags, Striking-Bag Frames, Striking-Bag Gloves, Indian Clubs, Medicine-Balls, Plastons, Dumb-Bells, and Exercisers, Either Weight or Elastic.

Ser. No. 7,348. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) W. R. ROACH & Co., Hart, Mich. Filed June 3, 1905.



Particular description of goods.—Canned Fruits and Vegetables.

Ser. No. 7,545. (CLASS 61. JEWELRY, AND SOLID AND PLATED PRECIOUS-METAL WARE.) STERN BROTHERS & Co., New York, N. Y. Filed June 6, 1905.



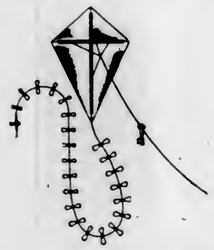
Particular description of goods.—Rings and Ring-Mountings.

Ser. No. 7,701. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) HENRY R. MYERS, Covington, Ky. Filed June 8, 1905.



Particular description of goods.—Gin.

Ser. No. 7,849. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE FRANKLIN ELECTRIC MFG. CO., Hartford, Conn. Filed June 10, 1905.



Particular description of goods.—Incandescent Electric Lamps.

Ser. No. 7,880. (CLASS 52. PACKING-HOUSE PRODUCTS.) HAMMOND STANDISH & Co., Detroit, Mich. Filed June 10, 1905. Used ten years.



The star being represented in silver color.
Particular description of goods.—Lard.

Ser. No. 8,023. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) WILLIAM EDGE & SONS, LIMITED, Bolton, England. Filed June 13, 1905.



Particular description of goods.—Tinting-Color for Bleachers' Use.

Ser. No. 8,221. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) BENJAMIN W. LE COMPTE, Galveston, Tex. Filed June 15, 1905.



Particular description of goods.—Whisky.

Ser. No. 8,485. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) RHEINSTROM BETTMAN JOHNSON & Co., Cincinnati, Ohio. Filed June 19, 1905.



Particular description of goods.—Tonic.

Ser. No. 9,030. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) KAMP DISTILLING CO., St. Louis, Mo. Filed June 26, 1905.



Particular description of goods.—Whisky.

Ser. No. 9,773. (CLASS 51. MALT LIQUORS.) ANHEUSER-BUSCH BREWING ASSOCIATION, St. Louis, Mo. Filed July 3, 1905. Used ten years.

BUDWEISER

Particular description of goods.—Beer.

Ser. No. 9,937. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) ATKINSON, MENTZER & GROVER, Chicago, Ill. Filed July 8, 1905.

Tilo

Particular description of goods.—Matting.

Ser. No. 9,951. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) F. J. RAYMOND, Stockton, Cal. Filed June 24, 1905.



Particular description of goods.—Leather Gloves.

Ser. No. 9,980. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) NATIONAL BISCUIT COMPANY, Jersey City, N. J., and Chicago, Ill. Filed July 10, 1905.

FROTANA

Particular description of goods.—Fruit-Biscuit.

Ser. No. 10,447. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DR. D. JAYNE & SON, Philadelphia, Pa. Filed July 17, 1905.



Particular description of goods.—A Remedy for Diseases of the Respiratory Organs, Balsam, Alterative, Tonic Vermifuge, Sanative Pills for Liver Complaints, Liniment or Counter-Irritant, and Hair-Tonic.

Ser. No. 12,708. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) JOHN LUCAS & Co., Philadelphia, Pa. Filed Sept. 16, 1905.



Particular description of goods.—A Composition for Removing Paint and Varnish.

Ser. No. 12,709. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) JOHN LUCAS & Co., Philadelphia, Pa. Filed Sept. 16, 1905.



Particular description of goods.—Varnishes and Japans.

Ser. No. 13,207. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOHANNES VON FEHREN, Kiel, Germany. Filed Oct. 2, 1905.



The cross is printed in red.

Particular description of goods.—Bitters.

Ser. No. 13,214. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HILAIRE VINCENT, Manchester, N. H. Filed Oct. 2, 1905.



Particular description of goods.—An Internal Remedy for Purifying the Blood and Preventing Cholera.

Ser. No. 13,285. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) M. & C. MAYER, New York, N. Y. Filed Oct. 4, 1905.



Particular description of goods.—Knit Hosiery and Underwear.

Ser. No. 13,511. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) SUSIE PORTER BURBANK, Boston, Mass. Filed Oct. 12, 1905.

Rosemary

Particular description of goods.—Hair-Tonic, Talcum Powder, Tooth-Powder, and Skin Food.

Ser. No. 14,223. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) BARNHART BROTHERS & SPINDLER, Chicago, Ill. Filed Oct. 26, 1905.



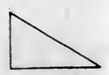
Particular description of goods.—Type.

Ser. No. 14,896. (CLASS 71. TOBACCO PRODUCTS.) DE ERVEN DE WED. J. VAN NELLE, Rotterdam, Netherlands, assignor to New firm De Erven de Wed. J. Van Nelle, Rotterdam, Holland. Filed Nov. 22, 1905.

THE RISING HOPE

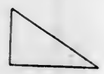
Particular description of goods.—Smoking-Tobacco, Cigars, Cigarettes, and Snuff.

Ser. No. 15,083. (CLASS 61. JEWELRY, AND SOLID AND PLATED PRECIOUS-METAL WARE.) STERN BROTHERS & COMPANY, New York, N. Y. Filed Nov. 29, 1905.



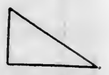
Particular description of goods.—Bead Neck-Chains, Bracelets, and Crosses.

Ser. No. 15,084. (CLASS 61. JEWELRY, AND SOLID AND PLATED PRECIOUS-METAL WARE.) STERN BROTHERS & COMPANY, New York, N. Y. Filed Nov. 29, 1905.



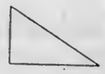
Particular description of goods.—Hat-Pins, Scarf-Pins, and Baby-Pins Made Partly or Wholly of Precious Metal or Having Jewels.

Ser. No. 15,085. (CLASS 61. JEWELRY, AND SOLID AND PLATED PRECIOUS-METAL WARE.) STERN BROTHERS & COMPANY, New York, N. Y. Filed Nov. 29, 1905.



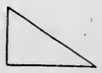
Particular description of goods.—Lockets, Fobs, Pendants, and Earrings.

Ser. No. 15,086. (CLASS 61. JEWELRY, AND SOLID AND PLATED PRECIOUS-METAL WARE.) STERN BROTHERS & COMPANY, New York, N. Y. Filed Nov. 29, 1905.



Particular description of goods.—Link-Buttons, Tie-Clasps, Studs, and Collar-Supporters Made Partly or Wholly of Precious Metal or Having Jewels.

Ser. No. 15,087. (CLASS 61. JEWELRY, AND SOLID AND PLATED PRECIOUS-METAL WARE.) STERN BROTHERS & COMPANY, New York, N. Y. Filed Nov. 29, 1905.



Particular description of goods.—Thimbles Made Partly or Wholly of Precious Metal.

Ser. No. 15,398. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) GEBR. BÖHLER & Co. AKTIENGESELLSCHAFT, Berlin, Germany. Filed Dec. 14, 1905.



Particular description of goods.—Cast-Steel in Blocks, Ingots, Bars, Plates, Sheets, and Wire.

Ser. No. 16,381. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) GEORGE HERRMANN LAWSON, Hartford, Conn. Filed Jan. 22, 1906. Used ten years.



Particular description of goods.—Remedies for the Cure of Blood, Liver, and Kidney Diseases.

Ser. No. 16,947. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) THE MANGANESE BRONZE & BRASS CO. LD., London, England. Filed Feb. 12, 1906. Used ten years.

PARSONS MANGANESE BRONZE

Particular description of goods.—Manganese-Bronze.

Ser. No. 18,504. (CLASS 47. CONFECTIONERY.) "LUCERNA" ANGLO-SWISS MILK CHOCOLATE CO., Hochdorf-Lucern, Switzerland. Filed Apr. 4, 1906.



Particular description of goods.—Chocolate, Cocoa, and Bonbons.

Ser. No. 18,600. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) JOHN WANAMAKER, Philadelphia, Pa. Filed Apr. 7, 1906.

REDLEAF

Particular description of goods.—Broad Silks, Dress Silks, and Piece Silks.

Ser. No. 18,838. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) LEHIGH VALLEY SILK MILLS, South Bethlehem, Pa. Filed Apr. 16, 1906.

MIRAGE

Particular description of goods.—Silk Dress Goods.

Ser. No. 18,869. (CLASS 8. DETERGENTS.) WORLDS DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y. Filed Apr. 17, 1906.

Cura Skin

Particular description of goods.—Medicated and Antiseptic Toilet Soap for the Cure of Skin Diseases.

Ser. No. 19,724. (CLASS 71. TOBACCO PRODUCTS.) THE FRITZ BROS. CO., Cincinnati, Ohio. Filed May 21, 1906.



Particular description of goods.—Cigars.

Ser. No. 19,781. (CLASS 18. AGRICULTURAL AND DAIRY MACHINERY AND PARTS OF SUCH MACHINERY.) THE WELLS-JONES PLOW CO., Jackson, Tenn. Filed May 22, 1906.

"O-K"

Particular description of goods.—Soil-Scrapers.

Ser. No. 19,998. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) STANDARD MILLING CO., Houston, Tex. Filed June 2, 1906.

TEXAS PRIDE

Particular description of goods.—Wheat-Flour.

Ser. No. 20,027. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) REGAL SHOE COMPANY INC., Boston, Mass. Filed June 4, 1906.

THE SHOE THAT PROVES.

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 20,040. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) LOUIS REMI BERGERON, Fall River, Mass. Filed June 4, 1906.

KEYSTONE

Particular description of goods.—Bread.

Ser. No. 20,205. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) MAX. SALMON, New York, N. Y. Filed June 11, 1906.

OLD CASK PURE RYE WHISKEY

Particular description of goods.—Whisky.

Ser. No. 20,216. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) ALABASTINE COMPANY, Grand Rapids, Mich. Filed June 11, 1906. Used ten years.

Alabastine

Particular description of goods.—Calcimine.

Ser. No. 20,459. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) J. A. WRIGHT & CO., Keene, N. H. Filed June 21, 1906.

BLACK DIAMOND

Particular description of goods.—Stove-Polish.

Ser. No. 20,597. (CLASS 52. PACKING-HOUSE PRODUCTS.) CHARLES ROESCH AND SONS COMPANY, Philadelphia, Pa. Filed June 27, 1906. Used ten years.



Particular description of goods.—Fresh, Smoked, and Cured Meats.

Ser. No. 20,682. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) C. DE KONING TILLY, Haarlem, Holland. Filed June 30, 1906.

ACHTERSTRAAT.

Particular description of goods.—An Oil for Medicinal Purposes and Applications.

Ser. No. 20,797. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) BURTON & DAVIS CO., New York, N. Y. Filed July 9, 1906.

ARROW CHOP

Particular description of goods.—Teas.

Ser. No. 20,936. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) HEIDELBERG, WOLFF & CO., New York, N. Y. Filed July 14, 1906.

THE EUREKA WATER PROOF AND STORM PROOF GARMENTS MADE BY HEIDELBERG, WOLFF & CO. N.Y.

Particular description of goods.—Overcoats, Ulsters, Rain-Coats, Automobile-Coats, Automobile and other Suits; Including Coats, Vests, and Trousers, Smoking-Jackets, Dressing-Gowns, and Bath-Wraps.

Ser. No. 21,166. (CLASS 32. FURNITURE AND UPHOLSTERY NOT OTHERWISE CLASSIFIED.) THE DIAMOND FABRIC COMPANY OF AMERICA, Hoboken, N. J. Filed July 25, 1906.



Particular description of goods.—Bed and Upholstery Springs.

Ser. No. 21,314. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) J. & G. COX LIMITED, Gorgie, Edinburgh, Scotland. Filed Aug. 3, 1906.



Particular description of goods.—Gelatin for Use as Food.

Ser. No. 21,434. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) EDWARD HEFFERNAN, Lynn, Mass. Filed Aug. 9, 1906.



Particular description of goods.—A Remedy for Colds and Throat and Lung Trouble.

Ser. No. 21,472. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) THE OMO MANUFACTURING COMPANY, Middletown, Conn. Filed Aug. 10, 1906.

VALENO

Particular description of goods.—Dress-Shields.

Ser. No. 21,497. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) NATIONAL CLOTHING COMPANY, Mayfield, Ky. Filed Aug. 11, 1906.



Particular description of goods.—Coats, Vests, Trousers, and Rain-Coats Not Made of Rubber.

Ser. No. 21,547. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOHN WYETH AND BROTHER, INCORPORATED, Philadelphia, Pa. Filed Aug. 15, 1906.

GLYKAOLIN

Particular description of goods.—Medicinal Pastes and Ointments.

Ser. No. 21,668. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) COMMERCIAL MILLING COMPANY, Detroit, Mich. Filed Aug. 20, 1906. Used ten years.

HENKEL'S BREAD FLOUR

Particular description of goods.—Wheat-Flour.

Ser. No. 21,683. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) ANDREW T. DIETZ, Toledo, Ohio. Filed Aug. 20, 1906.

SAYSO

Particular description of goods.—Wafers, Waffles, Ice-Cream Cones and Pyramids, and Baskets, All Made of Pastry.

Ser. No. 21,692. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MOUNTAIN IRON MINERAL CO., Spartanburg, S. C. Filed Aug. 21, 1906.

KUIDINE

Particular description of goods.—A Medicinal Compound Put Up in Liquid and Tablet Form for All Chronic Diseases of the Human Body, Including Biliousness, Indigestion, Dyspepsia, Diarrhea, Cholera Morbus, Colic, Stomach Cramps, Catarrh, Sick Headache, Piles, Rheumatism, Kidney and Bladder Trouble, and Eczema.

Ser. No. 21,753. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) CHAS. A. SCHIEREN & CO., New York, N. Y. Filed Aug. 25, 1906.

SCHIEREN'S COWBOY

Particular description of goods.—Leather of All Kinds.

Ser. No. 21,760. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) THE RUGBY MILLING COMPANY, Rugby, N. D. Filed Aug. 27, 1906.



Particular description of goods.—Wheat-Grits.

Ser. No. 21,817. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) ADOLPH SOMMER, Cambridge, Mass. Filed Aug. 30, 1906.

VISCOL

Particular description of goods.—Oils and Oily Products for Lubricating, Waterproofing, and Improving the Texture of Leather and Fibrous Goods.

Ser. No. 22,163. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) WILLIAM EDGE & SONS LIMITED, Bolton, England. Filed Sept. 17, 1906.



Particular description of goods.—Dyes.

Ser. No. 22,201. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) RICHARD M. HOLLINGSHEAD, Camden, N. J. Filed Sept. 20, 1906.

KRYSTAL SOILOFF

Particular description of goods.—Soap.

Ser. No. 22,321. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) EMIL JULIUS ROBERT EXNER, Berlin, Germany. Filed Sept. 25, 1906.



Particular description of goods.—Bitters.

Ser. No. 22,452. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) AMERICAN ANTIFORMIN CO., New York, N. Y. Filed Oct. 3, 1906.

ANTIFORMIN

Particular description of goods.—A Cleansing and Disinfecting Preparation.

Ser. No. 22,599. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE WALTER MEDICINE COMPANY, Peru, Ind. Filed Oct. 8, 1906.

THE
Walter Medicine Co.



Particular description of goods.—Blood-Purifier and Remedies for Dropsy, Heart and Kidney Diseases, Rheumatism, Liver and Bladder Disorder, and Constitutional Breakdown.

Ser. No. 22,641. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) FRIED. KRUPP AKTIENGESELLSCHAFT, Essen-on-the-Ruhr, Germany. Filed Oct. 11, 1906.

Particular description of goods.—Sheet-Metal Plates, Angle-Steel, Boiler-Plates, Armor-Plates, Tool-Steel, and Rod-Steel.

Ser. No. 22,657. (CLASS 32. FURNITURE AND UPHOLSTERY NOT OTHERWISE CLASSIFIED.) COOPER & MCKEE, Brooklyn, N. Y. Filed Oct. 11, 1906.

OPALITE

Particular description of goods.—Cigar-Cabinets.

Ser. No. 22,686. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) AUGUSTUS HANS SANDS, New York, N. Y. Filed Oct. 13, 1906.



Particular description of goods.—Dress-Silks.

Ser. No. 22,757. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) LYON & HEALY, Chicago, Ill. Filed Oct. 18, 1906.



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Particular description of goods.—Furniture-Polish.

Ser. No. 22,767. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) ORTT AND TOWLE SHOE CO., Hammond, Ind. Filed Oct. 18, 1906.



Particular description of goods.—Leather Shoes.

Ser. No. 22,848. (CLASS 17. WOOD MANUFACTURES NOT OTHERWISE CLASSIFIED.) NEUSS, HESSLEIN & Co., New York, N. Y. Filed Oct. 23, 1906.



Particular description of goods.—Wooden Handles for Tools and Implements.

Ser. No. 22,852. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MAX J. BREITENBACH, New York, N. Y. Filed Oct. 23, 1906.

Chologestin

Particular description of goods.—A Combination of Remedial Agents Possessing and Exercising Antacid, Antiseptic, Digestive, and Chologogue Properties Intended for the Amelioration and Cure of Gaseous or Fermentative Intestinal Indigestion.

Ser. No. 22,867. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) ST. LOUIS DUST SETTLING CO., St. Louis, Mo. Filed Oct. 23, 1906.

IXL

Particular description of goods.—A Preparation to be Used on a Floor or Carpet to Absorb the Dust Arising Therefrom When the Floor or Carpet is Being Swept.

Ser. No. 22,869. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) PITMAN-MYERS COMPANY, Indianapolis, Ind. Filed Oct. 23, 1906.

PELLITOL

Particular description of goods.—Ointments.

Ser. No. 22,964. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) CHARLES C. COPELAND & Co., New York, N. Y. Filed Oct. 29, 1906. Used ten years.



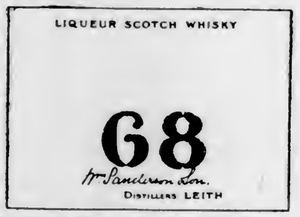
Particular description of goods.—Cotton, Cotton and Silk, and Cotton and Wool Piece Goods.

Ser. No. 23,246. (CLASS 38. RUBBER AND MINOR PLASTICS NOT OTHERWISE CLASSIFIED.) LAWTON & HALL, Chicago, Ill. Filed Nov. 10, 1906. Used ten years.



Particular description of goods.—Rubber Coats, Pants, Leggings, Hats, Caps, Blankets, Boots, and Shoes.

Ser. No. 23,248. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) WM. SANDERSON & SON, Leith, Scotland. Filed Nov. 10, 1906.



Particular description of goods.—Whisky.

Ser. No. 23,261. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) ADAM SCHNEIDER, Berlin, Germany. Filed Nov. 10, 1906.

KOSMOS

Particular description of goods.—Odometers or Fare-Indicators, Controlling Apparatus, Such as Kilometer-Counters and Tachymeters.

Ser. No. 23,274. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) ROBERT S. STRADER, Lexington, Ky. Filed Nov. 12, 1906. Used ten years.

"OLD BARTON"

Particular description of goods.—Whisky.

Ser. No. 23,275. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) ROBERT S. STRADER, Lexington, Ky. Filed Nov. 12, 1906. Used ten years.

OLD PUGH

Particular description of goods.—Whisky.

Ser. No. 23,290. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) HERBERT LINCOLN PURDY, Boston, Mass. Filed Nov. 12, 1906. Used ten years.

Lincoln

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 23,393. (CLASS 71. TOBACCO PRODUCTS.) PARK & TILFORD, New York, N. Y. Filed Nov. 16, 1906.



Particular description of goods.—Cigars.

Ser. No. 23,395. (CLASS 71. TOBACCO PRODUCTS.) PARK & TILFORD, New York, N. Y. Filed Nov. 16, 1906.

IONIC

Particular description of goods.—Cigars.

Ser. No. 23,396. (CLASS 71. TOBACCO PRODUCTS.) PARK & TILFORD, New York, N. Y. Filed Nov. 16, 1906.



Particular description of goods.—Cigars.

Ser. No. 23,430. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) OTIS COMPANY, Ware, Mass. Filed Nov. 17, 1906.



Particular description of goods.—Knitted Underwear.

Ser. No. 23,434. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) J. S. CASTELL & Co., New York, N. Y. Filed Nov. 17, 1906.



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Particular description of goods.—Broad Silk.

Ser. No. 23,456. (CLASS 10. FERTILIZERS.) ASHEPOO FERTILIZER COMPANY, Charleston, S. C. Filed Nov. 19, 1906.

ASHEPOO

Particular description of goods.—Fertilizers.

Ser. No. 23,468. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) THOMAS MANLY, Kentish Town, England. Filed Nov. 19, 1906.

OZOBROME

Particular description of goods.— Photographic Carbon Tissue and Transfer Paper.

Ser. No. 23,469. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) GROVER C. MORGAN, Westfield, Mass. Filed Nov. 19, 1906.



Particular description of goods.—Horse-Whips.

Ser. No. 23,513. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE GENERAL INCANDESCENT LAMP COMPANY, Cleveland, Ohio. Filed Nov. 21, 1906.

G.I.
ZODIAC

Particular description of goods.—Incandescent Lamps.

Ser. No. 23,541. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) THE TRAKA METAL COMPANY, Medford, Mass. Filed Nov. 22, 1906.

TRAKA

Particular description of goods.—Bearing Metals.

Ser. No. 23,550. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE BRIDGEPORT SPECIALTY COMPANY, Bridgeport, Conn. Filed Nov. 23, 1906.

LOTENS

Particular description of goods.—Magnetos.

Ser. No. 23,551. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE BRIDGEPORT SPECIALTY COMPANY, Bridgeport, Conn. Filed Nov. 23, 1906.

HYTENS

Particular description of goods.—Magnetos.

Ser. No. 23,568. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) AMERICAN DRUGGISTS SYNDICATE, New York, N. Y. Filed Nov. 24, 1906.

ADS

Particular description of goods.—Remedies for Pleurisy, Pneumonia, Coughs, Colds, Croup, and Grippe, Sore Throat, Chills and Fever, Rheumatism, Asthma, Dysentery, Diarrhea, Cholic, Cholera Morbus, Worms, Sour Stomach, Cramps in the Stomach, Fainting, Kidney and Liver Complaint, Lumbago, Toothache, Stiff Joints, Cuts, Burns, Scalds, Sprains, Bruises, Spasm, Chilblains, Frost-Bites, Spinal Affections, Paralysis, Rickets, Bites of Poisonous Insects, Skin Irritations, Scrofula, Anemia, Tic-Douloureux, Diseases of the Brain, Nerves, and Blood, and Female Weaknesses.

Ser. No. 23,569. (CLASS 68. PUBLICATIONS.) THE AMERICAN LAW BOOK COMPANY, Jersey City, N. J., and New York, N. Y. Filed Nov. 24, 1906.

Particular description of goods.—Law-Books.

Ser. No. 23,573. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE CHILLINGTON TOOL COMPANY, LIMITED, Wolverhampton, England. Filed Nov. 24, 1906.

KING ROAD
CHILLINGTON.

Particular description of goods.—Horseshoes.

Ser. No. 23,577. (CLASS 48. DAIRY PRODUCTS.) KIRSCHBRAUN & SONS, Omaha, Nebr. Filed Nov. 24, 1906.

CREAMERY
Ideal
BUTTER

Particular description of goods.—Creamery-Butter.

Ser. No. 23,585. (CLASS 68. PUBLICATIONS.) SUCCESSFUL FARMING PUBLISHING COMPANY, Des Moines, Iowa. Filed Nov. 24, 1906.

SUCCESSFUL FARMING

Particular description of goods.—A Monthly Newspaper.

Ser. No. 23,586. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) MARY A. GLEN, Elizabeth, N. J. Filed Nov. 22, 1906.

The Magic Changelings

Particular description of goods.—Paper Toys.

Ser. No. 23,611. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) THE ROESSLER & HASSLACHER CHEMICAL CO., New York, N. Y. Filed Nov. 26, 1906.

Oxygator

Particular description of goods.—Apparatus for Generating Oxygen.

Ser. No. 23,618. (CLASS 47. CONFECTIONERY.) MALLOW CREAM CO., Chicago, Ill. Filed Nov. 26, 1906.

MAZETTA CREAM

Particular description of goods.—A Confectioner's Paste to be Used in Making Candies.

Ser. No. 23,662. (CLASS 3. VEGETABLE.) THE FERMENT COMPANY, New York, N. Y. Filed Nov. 30, 1906.

BACILLAC

Particular description of goods.—Lactobacilline Ferment.

Ser. No. 23,663. (CLASS 3. VEGETABLE.) THE FERMENT COMPANY, New York, N. Y. Filed Nov. 30, 1906.



Particular description of goods.—Lactobacilline Ferment.

Ser. No. 23,677. (CLASS 51. MALT LIQUORS.) THE EBLING BREWING CO., New York, N. Y. Filed Nov. 30, 1906.



The streamers being red and the background red in part.
Particular description of goods.—Malt Extract.

Ser. No. 23,681. (CLASS 18. AGRICULTURAL AND DAIRY MACHINERY AND PARTS OF SUCH MACHINERY.) THE CUTAWAY HARROW COMPANY, Higganum, Conn. Filed Nov. 30, 1906.

CUTAWAY

Particular description of goods.—Harrows, Plows, Cultivators, Horse-Hoes, Seeders, Lawn and Field Rollers.

Ser. No. 23,694. (CLASS 52. PACKING-HOUSE PRODUCTS.) DAVID M. BODINE, Trenton, N. J. Filed Nov. 30, 1906.



The oval-shaped border is yellow.
Particular description of goods.—Pork-Relish.

Ser. No. 23,706. (CLASS 12. MASONRY MATERIALS.) FLEXO BUILDING PAPER CO., Oakland, Cal. Filed Dec. 1, 1906.

FLEXO

Particular description of goods.—Roofing-Paper and Fireproof and Saturated Building-Papers.

Ser. No. 23,709. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WALTHER MANUFACTURING CO., New York, N. Y. Filed Dec. 1, 1906.

LINICURA

Particular description of goods.—Medical Preparations for Animals, Notably Horses, and Including Liniments, Electuaries for Coughs, Colds, and Epizootic, Tonics and Condition-Powders, Condiments, and Condition Foods, and Blisters.

Ser. No. 23,710. (CLASS 47. CONFECTIONERY.) DOCTOR WEMM'S EUCALYPTUS CURE COMPANY, Denver, Colo. Filed Dec. 1, 1906.

U-K-LIP

Particular description of goods.—Chewing-Gum.

Ser. No. 23,787. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) W. W. LAWRENCE & COMPANY, Pittsburg, Pa. Filed Dec. 5, 1906. Used ten years.



The seal is yellow.
Particular description of goods.—A Combination of White Lead and Zinc.

Ser. No. 23,788. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) ROYAL MANUFACTURING CO., Lancaster, Pa. Filed Dec. 5, 1906.



Particular description of goods.—Grindstones.

Ser. No. 23,848. (CLASS 52. PACKING-HOUSE PRODUCTS.) AUGUSTUS OEMLER, Savannah, Ga. Filed Dec. 6, 1906.



Particular description of goods.—Canned Hash-Meat.

Ser. No. 23,874. (CLASS 8. DETERGENTS.) THE CITIZENS' WHOLESALE SUPPLY COMPANY, Columbus, Ohio. Filed Dec. 8, 1906.



Particular description of goods.—Carpet, Cloth, and Glove Cleaners.

Ser. No. 23,875. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE CITIZENS' WHOLESALE SUPPLY CO., Columbus, Ohio. Filed Dec. 8, 1906.



Particular description of goods.—Olive-Oils, Cotton-Seed Oils, Peanut-Oils, Salad-Oils, Mustard and Spice Oils.

Ser. No. 23,876. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PAUL BROTHERS, Philadelphia, Pa. Filed Dec. 8, 1906.



Particular description of goods.—Leather Boots, Shoes, and Slippers.

Ser. No. 23,895. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE EDGAR MANUFACTURING COMPANY, Boston, Mass. Filed Dec. 10, 1906.

UNION HUSTLER

Particular description of goods.—Water-Motors.

Ser. No. 23,927. (CLASS 8. DETERGENTS.) THE POMPEIAN MFG. CO., Cleveland, Ohio. Filed Dec. 11, 1906.



Particular description of goods.—Soap.

Ser. No. 23,928. (CLASS 8. DETERGENTS.) THE POMPEIAN MFG. CO., Cleveland, Ohio. Filed Dec. 11, 1906.



Particular description of goods.—Soap.

Ser. No. 23,929. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) THE CITIZENS' WHOLESALE SUPPLY CO., Columbus, Ohio. Filed Dec. 11, 1906.



Particular description of goods.—Leather Blackings and Dressings.

Ser. No. 23,930. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) THE CITIZENS' WHOLESALE SUPPLY CO., Columbus, Ohio. Filed Dec. 11, 1906.



Particular description of goods.—Wheat-Flakes, Oat-Flakes, Oatmeal, Rolled Oats, Hominy, Macaroni, Vermicelli, Spaghetti, Crackers, Bread, Cakes, Pies, Crullers, Doughnuts, Yeast.

Ser. No. 23,962. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) GOODNESS BROS., Webster and Worcester, Mass. Filed Dec. 12, 1906.



Particular description of goods.—Remedies for Catarrh, Asthma, Bronchitis, Headache, Hay-Fever, Neuralgia, Nasal Troubles, and Colds in the Head and for Use in the Nose, Throat, and Ears.

Ser. No. 23,987. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) WEISS M'F'G. CO., New York, N. Y. Filed Dec. 13, 1906.

Weiss Mf'g Co.

Particular description of goods.—Leather Fobs of All Kinds, Leather Match-Cases, and Leather Pocket-Books.

Ser. No. 23,991. (CLASS 68. PUBLICATIONS.) AGRICULTURAL PUBLISHING COMPANY, Raleigh, N. C. Filed Dec. 13, 1906.

THE PROGRESSIVE FARMER.

Particular description of goods.—A Weekly Journal.

Ser. No. 24,008. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) AMERICAN-LA FRANCE FIRE ENGINE CO., Elmira, N. Y. Filed Dec. 14, 1906. Used ten years.

PATROL

Particular description of goods.—Fire-Extinguishers, Chemical-Engines, and Hand-Grenades and Attachments Therefor.

Ser. No. 24,014. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE STERLING ELECTRICAL MANUFACTURING COMPANY, Warren, Ohio. Filed Dec. 14, 1906.

Fairy Lights

Particular description of goods.—Decorative Electric-Lighting Outfits.

Ser. No. 24,015. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE STERLING ELECTRICAL MANUFACTURING COMPANY, Warren, Ohio. Filed Dec. 14, 1906.

JACK-O-LANTERN

Particular description of goods.—Decorative Electric-Lighting Outfits.

Ser. No. 24,029. (CLASS 54. SEA FOODS.) C. SCHMITZ & Co., New York, N. Y. Filed Dec. 14, 1906.

CLIFF

Particular description of goods.—Canned Salmon.

Ser. No. 24,039. (CLASS 8. DETERGENTS.) ICHTHYOL GESELLSCHAFT CORDES, HERMANNI & Co., Hamburg, Germany. Filed Dec. 15, 1906.



Particular description of goods.—Medicated Soap.

Ser. No. 24,059. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) H. JACOB & SONS, New York, N. Y. Filed Dec. 15, 1906.



Particular description of goods.—Leggings.

Ser. No. 24,068. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) NATIONAL SEWING MACHINE COMPANY, Belvidere, Ill. Filed Dec. 15, 1906

Pioneer

Particular description of goods.—Sewing-Machines.

Ser. No. 24,071. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) THE SNITJER COMPANY, Pittsburg, Pa. Filed Dec. 15, 1906.

MIRACLE

Particular description of goods.—Gas and Vapor Heaters and Furnaces.

Ser. No. 24,094. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) NATIONAL STARCH CO., Jersey City, N. J., and Oswego, N. Y. Filed Dec. 17, 1906. Used ten years.

OSWEGO

Particular description of goods.—Corn-Starch.

Ser. No. 24,098. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PFISTER & VOGEL LEATHER COMPANY, Milwaukee, Wis. Filed Dec. 17, 1906.

BOULEVARD

Particular description of goods.—All Kinds of Leather.

Ser. No. 24,099. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PFISTER & VOGEL LEATHER COMPANY, Milwaukee, Wis. Filed Dec. 17, 1906.

CREMORE

Particular description of goods.—All Kinds of Leather.

Ser. No. 24,100. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PFISTER & VOGEL LEATHER COMPANY, Milwaukee, Wis. Filed Dec. 17, 1906.

EIDERDUN

Particular description of goods.—All Kinds of Leather.

Ser. No. 24,126. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) EDWARD L. HOUSE, Buffalo, N. Y. Filed Dec. 18, 1906.

"DOGSHEAD"

Particular description of goods.—Non-Alcoholic Carbonated Sarsaparilla, Lemon-Soda, Lemon-Sour, Root-Beer, and Ginger-Ale.

Ser. No. 24,127. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) THE P. TRENT CO., Cincinnati, Ohio. Filed Dec. 18, 1906.

OUR BEST

CHAMBER OF COMMERCE BRAND INSPECTED QUALITY GUARANTEED UNEQUALED

OUR BEST

Particular description of goods.—Wheat-Flour.

Ser. No. 24,136. (CLASS 33. GLASSWARE NOT OTHERWISE CLASSIFIED.) AMERICAN BAR LOCK CO., Philadelphia, Pa. Filed Dec. 19, 1906.

Porcelite

Particular description of goods.—Vault-Lights, Sidewalk-Lights, and Door and Window Lights.

Ser. No. 24,140. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) EAGLE PENCIL COMPANY, New York, N. Y. Filed Dec. 19, 1906. Used ten years.

PERFECTION

Particular description of goods.—Lead-Pencils of All Kinds, Including Copying-Pencils.

Ser. No. 24,163. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) HIBBARD, SPENCER, BARTLETT & COMPANY, Chicago, Ill. Filed Dec. 20, 1906.

CRUSO

Particular description of goods.—Oilers, Oil-Cans, Tin Pails, Washboilers, Flour-Sifters Flour-Bins, Stove-Mats, Fine-Stoppers, Mixing-Spoons Made of Tin and Sheet-Steel.

Ser. No. 24,197. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) OINO LINIMENT CO., Boston, Mass. Filed Dec. 21, 1906.

ONO

Particular description of goods.—Liniments.

Ser. No. 24,202. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) G. W. COLE COMPANY, Rahway, N. J., and New York, N. Y. Filed Dec. 21, 1906.

THREE IN ONE

Particular description of goods.—An Oil Adapted for Use as a Lubricator, a Preserver, or a Cleanser for Metal, Wood, or Leather.

Ser. No. 24,203. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) G. W. COLE COMPANY, Rahway, N. J., and New York, N. Y. Filed Dec. 21, 1906.

3 IN

Particular description of goods.—An Oil Adapted for Use as a Lubricator, a Preserver, or a Cleanser for Metal, Wood, or Leather.

Ser. No. 24,209. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PARSONS PAPER CO., Holyoke, Mass. Filed Dec. 22, 1906. Used ten years.

SCOTCH

Particular description of goods.—High-Grade Paper for Use in Writing, Printing, and Engraving.

Ser. No. 24,210. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PARSONS PAPER CO., Holyoke, Mass. Filed Dec. 22, 1906.

DEFENDUM

Particular description of goods.—High-Grade Paper for Use in Writing, Printing, and Engraving.

Ser. No. 24,211. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PARSONS PAPER CO., Holyoke, Mass. Filed Dec. 22, 1906. Used ten years.

MERCANTILE BOND

Particular description of goods.—High-Grade Paper for Use in Writing, Printing, and Engraving.

Ser. No. 24,212. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PARSONS PAPER CO., Holyoke, Mass. Filed Dec. 22, 1906. Used ten years.

Old Hampden

Particular description of goods.—High-Grade Paper for Use in Writing, Printing, and Engraving.

Ser. No. 24,221. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) GEO. H. BAKER, New Haven, Conn. Filed Dec. 22, 1906.

LIQUIDENE

Particular description of goods.—A Varnish-Like Preservative for Linoleum, Oil-Cloth, and Like Material.

Ser. No. 24,222. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WILLIAM C. BURK, Philadelphia, Pa. Filed Dec. 22, 1906.

Tree of Life

Particular description of goods.—Medicines for the Treatment and Regulation of the Stomach, Bowels, Liver, and Kidneys.

Ser. No. 24,225. (CLASS 51. MALT LIQUORS.) EL DORADO BREWING CO., Stockton, Cal. Filed Dec. 22, 1906.

VALLEY BREW

Particular description of goods.—Beer.

Ser. No. 24,226. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BAPTIST KAHABKA, Buffalo, N. Y. Filed Dec. 22, 1906.

TEUTONIA SALVE

Particular description of goods.—Eye-Salves.

Ser. No. 24,242. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) CLARKE BROS., Scranton, Pa. Filed Dec. 24, 1906.

HONEY SAVER

Particular description of goods.—Men's Leather Boots and Shoes.

Ser. No. 24,243. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) CLARKE BROS., Scranton, Pa. Filed Dec. 24, 1906.

OUR LACKAWANNA LINE

Particular description of goods.—Men's Leather Shoes.

Ser. No. 24,244. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) CLARKE BROS., Scranton, Pa. Filed Dec. 24, 1906.

Laurel Line

Particular description of goods.—Men's, Boys', and Youths' Leather Shoes.

Ser. No. 24,245. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) CLARKE BROS., Scranton, Pa. Filed Dec. 24, 1906.

Jennie Lind

Particular description of goods.—Ladies' Leather Shoes.

Ser. No. 24,246. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) CLARKE BROS., Scranton, Pa. Filed Dec. 24, 1906.

Belle of Lackawanna

Particular description of goods.—Ladies' Leather Shoes.

Ser. No. 24,248. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) CLARKE BROS., Scranton, Pa. Filed Dec. 24, 1906.

San Toy

Particular description of goods.—Ladies', Misses', and Children's Leather Shoes.

Ser. No. 24,252. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) MACK H. DAVIS, Shelby, Ohio. Filed Dec. 24, 1906.

STORERS BEST

DAVIS MILL COMPANY

THE HIGHEST PATENT ROLLER

Particular description of goods.—Wheat-Flour.

Ser. No. 24,259. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) ROBISCHON & PECKHAM COMPANY, New York, N. Y. Filed Dec. 24, 1906.

WONDER-WEAR

Particular description of goods.—Men's, Women's, and Children's Knitted Undershirts and Drawers.

Ser. No. 24,260. (CLASS 27. RAILWAY EQUIPMENT NOT OTHERWISE CLASSIFIED, AND RAILWAY ROLLING-STOCK.) TAYLOR IRON & STEEL CO., High Bridge, N. J. Filed Dec. 24, 1906. Used ten years.

TAYLOR MANGANESE

Particular description of goods.—Steel Car-Wheels.

Ser. No. 24,261. (CLASS 9. EXPLOSIVES.) UNION MATCH COMPANY, Duluth, Minn. Filed Dec. 24, 1906.

BANNER

Particular description of goods.—Friction-Matches.

Ser. No. 24,279. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE NINETEEN HUNDRED WASHER CO., Binghamton, N. Y. Filed Dec. 26, 1906.

1900

Particular description of goods.—Washing-Machines and Wringers.

Ser. No. 24,292. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) AMERICAN PRINTING COMPANY, Fall River, Mass. Filed Dec. 27, 1906.

AMERICAN PRINTING CO. FABRICS

Particular description of goods.—Cotton Piece Goods.

Ser. No. 24,293. (CLASS 33. GLASSWARE NOT OTHERWISE CLASSIFIED.) BALL BROS. GLASS MFG. CO., Muncie, Ind. Filed Dec. 27, 1906. Used ten years.

Ball

Particular description of goods.—Fruit or Preserving Jars.

Ser. No. 24,296. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) MADAME IRÈNE, New York, N. Y. Filed Dec. 27, 1906.

Le Coryphée

Particular description of goods.—Corsets.

Ser. No. 24,298. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) PRESSING & ORR COMPANY, Norwalk, Ohio. Filed Dec. 27, 1906.

WINORR

Particular description of goods.—Salad-Dressing, Catsup, and Mince-Meat.

Ser. No. 24,304. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) WM. ELLIOT & Co., New York, N. Y. Filed Dec. 28, 1906.

55N

Particular description of goods.—Razors.

Ser. No. 24,305. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) WM. ELLIOT & Co., New York, N. Y. Filed Dec. 28, 1906. Used ten years.

5

Particular description of goods.—Razors.

Ser. No. 24,306. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) WM. ELLIOT & Co., New York, N. Y. Filed Dec. 28, 1906.

74

Particular description of goods.—Razors.

Ser. No. 24,307. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) WM. ELLIOT & Co., New York, N. Y. Filed Dec. 28, 1906.

63

Particular description of goods.—Razors.

Ser. No. 24,308. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) WM. ELLIOT & Co., New York, N. Y. Filed Dec. 28, 1906.

25

Particular description of goods.—Razors.

Ser. No. 24,309. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) WM. ELLIOT & Co., New York, N. Y. Filed Dec. 28, 1906.

22

Particular description of goods.—Razors.

Ser. No. 24,310. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) WM. ELLIOT & Co., New York, N. Y. Filed Dec. 28, 1906.

43

Particular description of goods.—Razors.

Ser. No. 24,320. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE DR. MILES MEDICAL COMPANY, Elkhart, Ind. Filed Dec. 28, 1906. Used ten years.

DR. MILES

Particular description of goods.—Remedies for Torpid Liver, Biliousness, Constipation, Indigestion, and Diseases of the Abdominal Organs, Headache, Neuralgia, Backache, Rheumatism, Sciatica, and for the Relief of Pain, for Diseases of the Heart and Resultant Ailments, Epilepsy, Sleeplessness, Nervousness, Fits, Despondency, Dyspepsia, Hysteria, St. Vitus' Dance, Tobacco and Alcoholic Excesses, Opium Habit, and Nervous Prostration, for Debility, Anemia, Mental or Physical Exhaustion, and Nervous Diseases, for Scrofula, All Blood Diseases of the Brain, Nerves, Lungs, Skin, Mucous Membrane, Liver, Kidneys, Bones, and Glands, for Paralysis, Blood-Poisoning, Tumors, Pimples, Swellings, Ulcers, Salt-Rheum, Sore Throat, Canker, Asthma, and Catarrh, and Medicinal Plasters for Pain, Weakness, or Irritability of the Various Parts and Organs of the Body.

Ser. No. 24,330. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) AMERICAN LACE LEATHER CO. INC., Richmond, Va. Filed Dec. 29, 1906.

EAGLE

Particular description of goods.—Lace-Leather.

Ser. No. 24,338. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) IVIMY, LIMITED, London, England. Filed Dec. 29, 1906.

Custoda

Particular description of goods.—Custard-Powder.

Ser. No. 24,339. (CLASS 2. MINERAL.) JEWETT, BIGELOW & BROOKS, Detroit, Mich. Filed Dec. 29, 1906.

IROQUOIS

Particular description of goods.—Coal.

Ser. No. 24,341. (CLASS 47. CONFECTIONERY.) NATIONAL BISCUIT COMPANY, Jersey City, N. J., and New York, N. Y. Filed Dec. 29, 1906. Used ten years.



The cross being printed in red.

Particular description of goods.—Candy.

Ser. No. 24,343. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING.) THE STRONG MACHINERY & SUPPLY CO., New York, N. Y. Filed Dec. 29, 1906.



Particular description of goods.—Metallic Packing.

Ser. No. 24,352. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) HENRY DISSTON & SONS, INCORPORATED, Philadelphia, Pa. Filed Dec. 31, 1906.



Particular description of goods.—Files and Rasps.

Ser. No. 24,355. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE ILLINOIS SEED COMPANY, Chicago, Ill. Filed Dec. 31, 1906.



PHOENIX

Particular description of goods.—Poultry Food.

Ser. No. 24,356. (CLASS 3. VEGETABLE.) THE ILLINOIS SEED COMPANY, Chicago, Ill. Filed Dec. 31, 1906.



Particular description of goods.—Grass, Clover, and Field Seeds.

Ser. No. 24,359. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) W. S. QUINBY COMPANY, Boston, Mass. Filed Dec. 31, 1906.



Particular description of goods.—Coffee and Tea.

Ser. No. 24,368. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) J. GROSSMAN'S SONS, New Orleans, La. Filed Dec. 31, 1906. Used ten years.

Harmony Club

Particular description of goods.—Whisky.

Ser. No. 24,371. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) ISRAEL RAND, Philadelphia, Pa. Filed Dec. 31, 1906. Used ten years.

Columbia

Particular description of goods.—Ladies' and Children's Shirt-Waists and Shirt-Waist Suits.

Ser. No. 24,373. (CLASS 47. CONFECTIONERY.) SODA MINT GUM COMPANY, Trenton, N. J., and Allegheny, Pa. Filed Dec. 31, 1906.



Particular description of goods.—Chewing-Gum.

Ser. No. 24,388. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) ROUECH-BOWDEN COMPANY, Detroit, Mich. Filed Jan. 2, 1907.

PLAYTIME

Particular description of goods.—Dolls and Toy Animals.

Ser. No. 24,410. (CLASS 53. SACCHARINE FOODS NOT INCLUDED IN CLASS 47.) GORDON, WOLF AND CO., New York, N. Y. Filed Jan. 3, 1907.

HONEYLOYD

Particular description of goods.—Honey Compounds.

Ser. No. 24,445. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) JOHN LUCAS & Co., Philadelphia, Pa. Filed Jan. 4, 1907.

LUFLATKŌT

Particular description of goods.—A Paint Used for Finishing Purposes.

Ser. No. 24,452. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE KEUFFEL & ESSER COMPANY, Holoken, N. J. Filed Jan. 4, 1907.

Duplex

Particular description of goods.—Drawing-Paper.

Ser. No. 24,453. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE KEUFFEL & ESSER COMPANY, Hoboken, N. J. Filed Jan. 4, 1907.

Universal

Particular description of goods.—Drawing-Paper.

Ser. No. 24,463. (CLASS 10. FERTILIZERS.) CRAVEN CHEMICAL COMPANY, Newbern, N. C. Filed Jan. 5, 1907.



Particular description of goods.—Fertilizers.

Ser. No. 24,464. (CLASS 10. FERTILIZERS.) CRAVEN CHEMICAL COMPANY, Newbern, N. C. Filed Jan. 5, 1907.



Particular description of goods.—Fertilizers.

Ser. No. 24,472. (CLASS 30. CROCKERY, EARTHENWARE, AND PORCELAIN.) THE OWEN CHINA COMPANY, Minerva, Ohio. Filed Jan. 5, 1907.



Particular description of goods.—Vases, Mugs, Tankards, and Clock-Cases of Porcelain or Semiporcelain Material.

TRADE-MARKS

REGISTERED JANUARY 29, 1907.

60,056. RATCHET, SCREW, AND TRACK JACKS. A. O. NORTON INCORPORATED, Boston, Mass.
Filed September 17, 1906. Serial No. 22,129. PUBLISHED DECEMBER 4, 1906.

60,057. PERFUMED SOAP. A. & F. PEARS LIMD., London, England.
Filed January 17, 1906. Serial No. 16,236. PUBLISHED DECEMBER 4, 1906.

60,058. STOCK FOOD AND POULTRY FOOD. JAMES W. ANDERSON, St. Louis, Mo.
Filed August 10, 1906. Serial No. 21,460. PUBLISHED DECEMBER 4, 1906.

60,059. YEAST. HENRY BENDIX, Richmond, Va.
Filed October 29, 1906. Serial No. 22,978. PUBLISHED DECEMBER 4, 1906.

60,060. PORTLAND CEMENT. AUGUST BLUMENTHAL, Hamburg, Germany.
Filed July 26, 1906. Serial No. 21,183. PUBLISHED DECEMBER 4, 1906.

60,061. CERTAIN HUSKING DEVICES. THE DEFIANCE TICK MITTEN CO., Toledo, Ohio.
Filed August 30, 1906. Serial No. 21,807. PUBLISHED DECEMBER 4, 1906.

60,062. PURE WHITE LEAD. THE EAGLE WHITE LEAD CO., Cincinnati, Ohio.
Filed July 20, 1905. Serial No. 10,604. PUBLISHED FEBRUARY 20, 1906.

60,063. COTTON AND WORSTED PIECE GOODS. FARR ALPACA CO., Holyoke, Mass.
Filed August 24, 1906. Serial No. 21,731. PUBLISHED DECEMBER 4, 1906.

60,064. CORN-STARCH. FISHER MFG. CO., Sunbury, Pa.
Filed October 27, 1906. Serial No. 22,941. PUBLISHED DECEMBER 4, 1906.

60,065. HEATING AND COOKING STOVES. FONES BROS. HARDWARE CO., Little Rock, Ark.
Filed September 6, 1905. Serial No. 12,263. PUBLISHED DECEMBER 4, 1906.

60,066. ASH-SIFTER. MINNA FROESE, New York, N. Y.
Filed November 8, 1906. Serial No. 23,171. PUBLISHED DECEMBER 4, 1906.

60,067. CERTAIN CEREAL FOODS. THE H-O (HORNBY'S OATMEAL) COMPANY, New York and Buffalo, N. Y.
Filed May 17, 1906. Serial No. 19,622. PUBLISHED DECEMBER 4, 1906.

60,068. FOOD FOR YOUNG CHICKENS, PIGEONS, AND CAGED BIRDS. GEO. L. HARDING, Binghamton, N. Y.
Filed October 4, 1906. Serial No. 22,485. PUBLISHED DECEMBER 4, 1906.

60,069. CLEANSING COMPOUND. WILLIAM B. HODGE, Glenside, Pa.
Filed March 7, 1906. Serial No. 17,637. PUBLISHED DECEMBER 4, 1906.

60,070. RIBBONS. ERNEST & HERMAN LEVY, New York, N. Y.
Filed September 21, 1906. Serial No. 22,222. PUBLISHED DECEMBER 4, 1906.

60,071. VARNISH-STAINS. JOHN LUCAS & CO., Philadelphia, Pa.
Filed August 16, 1906. Serial No. 21,608. PUBLISHED DECEMBER 4, 1906.

60,072. OILED WATERPROOF GARMENTS. MARYLAND OILED CLOTHING CO., Baltimore, Md.
Filed September 11, 1906. Serial No. 22,023. PUBLISHED DECEMBER 4, 1906.

60,073. LEATHER GLOVES. THE MILEY COMPANY, Portland, Me.
Filed June 13, 1906. Serial No. 20,237. PUBLISHED DECEMBER 4, 1906.

60,074. WASHING OR SOAP POWDER. THE N. K. FAIRBANK COMPANY, Chicago, Ill.
Filed August 12, 1905. Serial No. 11,615. PUBLISHED DECEMBER 4, 1906.

60,075. WASHING-POWDERS. THE N. K. FAIRBANK COMPANY, Chicago, Ill.
Filed July 13, 1905. Serial No. 10,233. PUBLISHED DECEMBER 4, 1906.

60,076. RAZORS, KNIVES, AND STEELS. NATIONAL CUTLERY COMPANY, Detroit, Mich.
Filed May 29, 1905. Serial No. 7,047. PUBLISHED DECEMBER 4, 1906.

60,077. CANNED VEGETABLES. NEW HOLSTEIN CANNING COMPANY, New Holstein, Wis.
Filed October 5, 1906. Serial No. 22,525. PUBLISHED DECEMBER 4, 1906.

60,078. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,230. PUBLISHED DECEMBER 4, 1906.

60,079. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,235. PUBLISHED DECEMBER 4, 1906.

60,080. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,236. PUBLISHED DECEMBER 4, 1906.

60,081. HEATING-STOVES AND PORTABLE OVENS. NOVELTY MANUFACTURING COMPANY, Jackson, Mich.
Filed November 7, 1906. Serial No. 23,151. PUBLISHED DECEMBER 4, 1906.

60,082. OVERALLS, BLOUSES, COATS, VESTS, AND TROUSERS. OSHKOSH CLOTHING MANUFACTURING COMPANY, Oshkosh, Wis.
Filed May 2, 1906. Serial No. 19,240. PUBLISHED DECEMBER 4, 1906.

60,083. CERTAIN ELECTRICAL APPARATUS AND DEVICES. FRANCIS RAYMOND, Chicago, Ill.
Filed July 17, 1905. Serial No. 10,467. PUBLISHED DECEMBER 4, 1906.

60,084. WHEAT-FLOUR. BERNARD J. ROTHWELL, Boston, Mass.
Filed August 27, 1906. Serial No. 21,767. PUBLISHED DECEMBER 4, 1906.

60,085. CHOCOLATE AND COCOA. "SAROTTI" CHOKOLADEN- & CACAO-INDUSTRIE, AKTIENGESELLSCHAFT, Berlin, Germany.
Filed July 11, 1905. Serial No. 10,058. PUBLISHED DECEMBER 4, 1906.

60,086. HOSIERY. KARL SCHLATTER, Philadelphia, Pa.
Filed September 5, 1906. Serial No. 21,928. PUBLISHED DECEMBER 4, 1906.

60,087. CERTAIN FOOD PRODUCTS. SCHNULL & Co., Indianapolis, Ind.
Filed April 29, 1905. Serial No. 3,598. PUBLISHED DECEMBER 4, 1906.

60,088. CERTAIN SEA FOODS. SCHNULL AND COMPANY, Indianapolis, Ind.
Filed October 18, 1906. Serial No. 22,765. PUBLISHED DECEMBER 4, 1906.

60,089. AUTOMOBILES, AND PARTS THEREOF, EXCEPT RUBBER TIRES. SOCIÉTÉ LORRAINE DES ANCIENS ETABLISSEMENTS DE DIETRICH & CIE. DE LUNÉVILLE, Paris, France.
Filed December 21, 1905. Serial No. 15,562. PUBLISHED DECEMBER 4, 1906.

60,090. TIN AND TERNE PLATE. N. & G. TAYLOR Co., Philadelphia, Pa.
Filed June 16, 1906. Serial No. 20,348. PUBLISHED DECEMBER 4, 1906.

60,091. SILK PIECE GOODS. THE VALENTINE & BENTLEY SILK Co., Newton, N. J., and New York, N. Y.
Filed August 28, 1906. Serial No. 21,773. PUBLISHED DECEMBER 4, 1906.

60,092. CHEWING-GUM. JULIA FRANCIS VALENTINO, Nashville, Tenn.
Filed December 14, 1905. Serial No. 15,409. PUBLISHED DECEMBER 4, 1906.

60,093. COFFEE. ROSS W. WEIR & COMPANY, New York, N. Y.
Filed October 4, 1906. Serial No. 22,477. PUBLISHED NOVEMBER 27, 1906.

60,094. POWDER FOR USE IN MAKING CASTINGS. FREDERICK WILLIAM WEISSMANN, Cincinnati, Ohio.
Filed July 16, 1906. Serial No. 20,966. PUBLISHED DECEMBER 4, 1906.

60,095. INCANDESCENT MANTLES AND BURNERS. WELSBACH Co., Gloucester, N. J.
Filed October 12, 1906. Serial No. 22,668. PUBLISHED DECEMBER 4, 1906.

60,096. DRIED FRUIT. CASTLE BROTHERS, INCORPORATED, San Francisco, Cal.
Filed December 29, 1905. Serial No. 15,760. PUBLISHED APRIL 3, 1906.

60,097. ADHESIVE PASTE. THE COLLODIN MANUFACTURING Co., New York, N. Y.
Filed October 24, 1906. Serial No. 22,882. PUBLISHED DECEMBER 4, 1906.

60,098. LINEN, COTTON, AND SILK THREADS AND YARNS. HUGHES FAWCETT, New York, N. Y.
Filed January 22, 1906. Serial No. 16,389. PUBLISHED DECEMBER 4, 1906.

60,099. COOKED FLAKED WHEAT. THE "FORCE" FOOD COMPANY, New York and Buffalo, N. Y.
Filed May 17, 1906. Serial No. 19,629. PUBLISHED DECEMBER 4, 1906.

60,100. PRUNING-SHEARS, PRUNING-KNIVES, HEDGE-SHEARS, GRASS-HOOKS, AND SCYTHES. HERMANN HESSENBRUCH, Philadelphia, Pa.
Filed June 8, 1905. Serial No. 7,630. PUBLISHED DECEMBER 4, 1906.

60,101. PREPARED CEREAL BREAKFAST FOODS. HYGIENIC FOOD Co., Battle Creek, Mich.
Filed December 21, 1905. Serial No. 15,901. PUBLISHED DECEMBER 4, 1906.

60,102. CERTAIN EDGE-TOOLS. THE JAMES SWAN COMPANY, Seymour, Conn.
Filed May 12, 1905. Serial No. 5,384. PUBLISHED DECEMBER 4, 1906.

60,103. COFFEE. LEVERING COFFEE Co., Baltimore, Md.
Filed October 8, 1906. Serial No. 22,601. PUBLISHED DECEMBER 4, 1906.

60,104. COFFEE. LEVERING COFFEE Co., Baltimore, Md.
Filed October 8, 1906. Serial No. 22,602. PUBLISHED DECEMBER 4, 1906.

60,105. TEA. LEVERING COFFEE Co., Baltimore, Md.
Filed October 8, 1906. Serial No. 22,604. PUBLISHED DECEMBER 4, 1906.

60,106. WITHDRAWN.

60,107. CERTAIN CONFECTIONERY. MORTON, NICKUM & Co., Los Angeles, Cal.
Filed August 15, 1906. Serial No. 21,584. PUBLISHED DECEMBER 4, 1906.

60,108. WHEAT-FLOUR. MOSELEY & MOTLEY MILLING Co., Rochester, N. Y.
Filed June 3, 1905. Serial No. 7,354. PUBLISHED DECEMBER 4, 1906.

60,109. WATER-PUMPS. F. E. MYERS & BROTHER, Ashland, Ohio.
Filed May 29, 1905. Serial No. 6,901. PUBLISHED DECEMBER 4, 1906.

60,110. INCUBATORS AND BROODERS. REINHOLD F. NEUBERT, Mankato, Minn.
Filed November 9, 1906. Serial No. 23,199. PUBLISHED DECEMBER 4, 1906.

60,111. BLENDED TEAS. NEW ORLEANS IMPORT Co., LIMITED, New Orleans, La.
Filed August 9, 1905. Serial No. 11,460. PUBLISHED DECEMBER 4, 1906.

60,112. POWDER WHICH CAUSES ARTIFICIAL DENTURES TO HOLD FAST TO THE MOUTH. ROBERT M. PRATHER, Vernon, Tex.
Filed October 13, 1906. Serial No. 22,685. PUBLISHED DECEMBER 4, 1906.

60,113. WHEAT-FLOUR. REGINA FLOUR MILL Co., St. Louis, Mo.
Filed November 6, 1906. Serial No. 23,145. PUBLISHED DECEMBER 4, 1906.

60,114. WHEAT-FLOUR. REGINA FLOUR MILL Co., St. Louis, Mo.
Filed November 6, 1906. Serial No. 23,146. PUBLISHED DECEMBER 4, 1906.

60,115. WHEAT-FLOUR. THE SHELLABARGER MILL & ELEVATOR COMPANY, Salina, Kans.
Filed November 5, 1906. Serial No. 23,109. PUBLISHED DECEMBER 4, 1906.

60,116. WHEAT-FLOUR. THE SHELLABARGER MILL & ELEVATOR COMPANY, Salina, Kans.
Filed November 5, 1906. Serial No. 23,110. PUBLISHED DECEMBER 4, 1906.

60,117. BUTTER. THE T. L. BRUNDAGE COMPANY, Cleveland, Ohio.
Filed May 28, 1906. Serial No. 19,913. PUBLISHED DECEMBER 4, 1906.

60,118. EGGS. THE T. L. BRUNDAGE COMPANY, Cleveland, Ohio.
Filed May 28, 1906. Serial No. 19,914. PUBLISHED DECEMBER 4, 1906.

60,119. TEA. ROSS W. WEIR & COMPANY, New York, N. Y.
Filed October 16, 1906. Serial No. 22,731. PUBLISHED DECEMBER 4, 1906.

60,120. CERTAIN OILS AND LUBRICANTS. WM. C. ROBINSON & SON Co., Baltimore, Md.
Filed October 17, 1906. Serial No. 22,743. PUBLISHED DECEMBER 4, 1906.

60,121. OVERCOATS AND SUITS. THE WM. H. RICHARDSON Co., Boston, Mass.
Filed April 14, 1905. Serial No. 1,452. PUBLISHED JUNE 12, 1906.

60,122. RAZORS, BUTCHER-KNIVES, KITCHEN-KNIVES, AND SHOE-KNIVES. BISON MFG. Co., Little Valley, N. Y.
Filed July 25, 1906. Serial No. 21,169. PUBLISHED DECEMBER 4, 1906.

60,123. VARNISH, JAPAN, DRIERS, AND LIQUID FILLERS. BOSTON VARNISH COMPANY, Everett, Mass.
Filed March 19, 1906. Serial No. 18,004. PUBLISHED DECEMBER 4, 1906.

60,124. SHADE-CLOTH. CHARLES W. BRENEMAN, Cincinnati, Ohio.
Filed June 11, 1906. Serial No. 20,209. PUBLISHED DECEMBER 4, 1906.

60,125. CIGARETTES. BUTLER-BUTLER INCORPORATED, New York, N. Y.
Filed May 1, 1906. Serial No. 19,216. PUBLISHED DECEMBER 4, 1906.

60,126. CIGARS. THE CASTAÑEDA (HAVANA) CIGAR FACTORIES LIMITED, Havana, Cuba.
Filed January 18, 1906. Serial No. 16,271. PUBLISHED DECEMBER 4, 1906.

60,127. CIGARS. THE CASTAÑEDA (HAVANA) CIGAR FACTORIES LIMITED, Havana, Cuba.
Filed January 18, 1906. Serial No. 16,272. PUBLISHED DECEMBER 4, 1906.

60,128. CERTAIN ELECTRICAL APPARATUS. THE CHLORIDE OF SILVER DRY CELL BATTERY COMPANY, Baltimore, Md.
Filed February 21, 1906. Serial No. 17,227. PUBLISHED DECEMBER 4, 1906.

60,129. AUTOMOBILES. CIE DE L'INDUSTRIE ELECTRIQUE & MÉCANIQUE, Geneva and Sécheron, near Geneva, Switzerland.
Filed October 8, 1906. Serial No. 22,605. PUBLISHED DECEMBER 4, 1906.

60,130. TOOL-STEEL. JOHN A. CROWLEY, New York, N. Y.
Filed October 23, 1906. Serial No. 22,856. PUBLISHED DECEMBER 4, 1906.

60,131. BUNION-PROTECTORS. THE FISCHER MNFG. Co., Milwaukee, Wis.
Filed November 29, 1905. Serial No. 15,071. PUBLISHED DECEMBER 4, 1906.

60,132. CIGARS AND STOGIES. ISRAEL LEWIS, Newark, N. J.
Filed October 26, 1906. Serial No. 22,913. PUBLISHED DECEMBER 4, 1906.

60,133. BOLTED COTTON DRESS GOODS AND LININGS, JOHN LONKE, New York, N. Y.
Filed July 7, 1906. Serial No. 20,783. PUBLISHED DECEMBER 4, 1906.

60,134. HOSE-SUPPORTERS. MATTHEW L. MARGOLISH, New York, N. Y.
Filed May 7, 1906. Serial No. 19,334. PUBLISHED SEPTEMBER 11, 1906.

60,135. CERTAIN FANCY GOODS, FURNISHINGS, AND NOTIONS. MEYER, MARTIN & Co., New York, N. Y.
Filed April 8, 1905. Serial No. 839. PUBLISHED DECEMBER 4, 1906.

60,136. OPEN-MESH FABRIC FOR PROTECTION AGAINST INSECTS. ISAAC E. PALMER, Middletown, Conn.
Filed October 24, 1906. Serial No. 22,888. PUBLISHED DECEMBER 4, 1906.

60,137. SHELLACS AND VARNISHES. THE PALMER-PRICE COMPANY, Newark, N. J.
Filed November 9, 1906. Serial No. 23,190. PUBLISHED DECEMBER 4, 1906.

60,138. SHELLACS AND VARNISHES. THE PALMER-PRICE COMPANY, Newark, N. J.
Filed November 9, 1906. Serial No. 23,191. PUBLISHED DECEMBER 4, 1906.

60,139. COKE. PITTSBURGH GAS & COKE COMPANY, New York, N. Y.
Filed June 4, 1906. Serial No. 20,052. PUBLISHED DECEMBER 4, 1906.

60,140. BRASS RODS. THE PLUME & ATWOOD MFG. Co., Waterbury, Conn.
Filed October 29, 1906. Serial No. 22,990. PUBLISHED DECEMBER 4, 1906.

60,141. CERTAIN RAILWAY EQUIPMENT. RAILWAY STEEL-SPRING COMPANY, Jersey City, N. J., and New York, N. Y.
Filed September 22, 1906. Serial No. 22,235. PUBLISHED DECEMBER 4, 1906.

60,142. CALCIMINE. REXORA MANUFACTURING COMPANY, Detroit, Mich.
Filed July 7, 1906. Serial No. 20,781. PUBLISHED DECEMBER 4, 1906.

60,143. TOOTH-BACKING. ISIDORE STERN, New York, N. Y.
Filed November 2, 1906. Serial No. 23,055. PUBLISHED DECEMBER 4, 1906.

60,144. STEEL. TAYLOR IRON & STEEL Co., High Bridge, N. J.
Filed February 3, 1906. Serial No. 16,728. PUBLISHED DECEMBER 4, 1906.

60,145. SUBSTITUTE FOR TURPENTINE USED AS A LIQUID DRIER. THE TURPENTINE JUNIOR COMPANY, Cincinnati, Ohio.
Filed January 22, 1906. Serial No. 16,391. PUBLISHED DECEMBER 4, 1906.

60,146. VALVES. THE WILLIAM POWELL Co., Cincinnati, Ohio.
Filed May 21, 1906. Serial No. 19,727. PUBLISHED DECEMBER 4, 1906.

60,147. COAL. YANKEE FUEL COMPANY, Raton, Ter. of N. Mex.
Filed November 12, 1906. Serial No. 23,297. PUBLISHED DECEMBER 4, 1906.

60,148. CIGARS. CUESTA, REY & Co., West Tampa, Fla.
Filed July 25, 1906. Serial No. 21,156. PUBLISHED DECEMBER 4, 1906.

60,149. TOY BEARS. BENJAMIN GOLDENBERG, New York, N. Y.
Filed October 10, 1906. Serial No. 22,627. PUBLISHED DECEMBER 4, 1906.

60,150. CLEANING AND POLISHING PREPARATION FOR WOOD AND METAL. OWEN C. HASSLER, Chicago, Ill.
Filed April 16, 1906. Serial No. 18,858. PUBLISHED DECEMBER 4, 1906.

60,151. CERTAIN BRUSHES. JAMES E. BLAKE COMPANY, Attleboro, Mass.
Filed July 13, 1905. Serial No. 10,263. PUBLISHED JUNE 19, 1906.

60,152. CIGARS. ISRAEL LEWIS, Newark, N. J.
Filed October 26, 1906. Serial No. 22,914. PUBLISHED DECEMBER 4, 1906.

60,153. SHAVING-SOAP. J. T. ROBERTSON COMPANY, Manchester, Conn.
Filed July 13, 1905. Serial No. 10,275. PUBLISHED JUNE 5, 1906.

60,154. PUZZLES. HENRY A. WOOD, East Orange, N. J.
Filed October 26, 1906. Serial No. 22,929. PUBLISHED DECEMBER 4, 1906.

60,155. MERCURY GAS-TESTING GAGES. BEEKMAN SANITARY SPECIALTY Co., New York, N. Y.
Filed August 30, 1906. Serial No. 21,798. PUBLISHED DECEMBER 4, 1906.

60,156. SALT CAKES. DAVID H. BEYEA, Brooklyn, N. Y.
Filed September 10, 1906. Serial No. 22,001. PUBLISHED DECEMBER 4, 1906.

60,157. LOCAL ANESTHETIC. DR. E. BLOCH, Basel, Switzerland.
Filed June 13, 1906. Serial No. 20,239. PUBLISHED DECEMBER 4, 1906.

60,158. NEWSPAPER. RUDOLPH BLOCK, New York, N. Y.
Filed October 18, 1906. Serial No. 22,753. PUBLISHED DECEMBER 4, 1906.

60,159. FACE-POWDER. CHARLES A. STEVENS & BROS., Chicago, Ill.
Filed August 17, 1906. Serial No. 21,644. PUBLISHED DECEMBER 4, 1906.

60,160. PURGATIVE PILLS. EDOUARD DEMOURGUES, Paris, France.
Filed June 7, 1906. Serial No. 20,131. PUBLISHED DECEMBER 4, 1906.

60,161. PREPARATION FOR THE FEET. WALTER LUTHER DODGE, Chicago, Ill.
Filed September 21, 1906. Serial No. 22,230. PUBLISHED DECEMBER 4, 1906.

60,162. EYE-WASH OR EYE-TONIC. EYE REX CO., Boston, Mass.
Filed June 8, 1906. Serial No. 20,162. PUBLISHED DECEMBER 4, 1906.

60,163. INCANDESCENT LAMPS. THE GENERAL INCANDESCENT LAMP COMPANY, Cleveland, Ohio.
Filed November 2, 1906. Serial No. 23,046. PUBLISHED NOVEMBER 27, 1906.

60,164. WRITING-PAPER. HENRY LINDENMEYR & SONS, New York, N. Y.
Filed October 1, 1906. Serial No. 22,422. PUBLISHED DECEMBER 4, 1906.

60,165. MEDICINAL PREPARATION. JOHN T. MILLIKEN, St. Louis, Mo.
Filed October 8, 1906. Serial No. 22,582. PUBLISHED DECEMBER 4, 1906.

60,166. LIQUID SEDATIVE COMPOUND. JOHN T. MILLIKEN, St. Louis, Mo.
Filed October 8, 1906. Serial No. 22,583. PUBLISHED DECEMBER 4, 1906.

60,167. LIQUID DIGESTIVE COMPOUND. JOHN T. MILLIKEN, St. Louis, Mo.
Filed October 8, 1906. Serial No. 22,584. PUBLISHED DECEMBER 4, 1906.

60,168. TYPE-WRITER CARBON-PAPER AND TYPE-WRITER RIBBONS. THE MONARCH TYPEWRITER COMPANY, Syracuse, N. Y.
Filed June 2, 1906. Serial No. 19,996. PUBLISHED DECEMBER 4, 1906.

60,169. WEEKLY NEWSPAPER. THE NATIONAL TRIBUNE COMPANY, Washington, D. C.
Filed October 10, 1906. Serial No. 22,629. PUBLISHED DECEMBER 4, 1906.

60,170. COMPOUNDS FOR THE EXTERMINATION OF MOSQUITOS. AUGUST E. NIENSTADT, New York, N. Y.
Filed June 5, 1906. Serial No. 20,076. PUBLISHED DECEMBER 4, 1906.

60,171. TOOTH-PASTE, TOOTH-POWDER, AND TOOTH-WASH. THE O'BRIEN WORTHEN CO., Keokuk, Iowa.
Filed June 13, 1906. Serial No. 20,238. PUBLISHED DECEMBER 4, 1906.

60,172. GLOBES FOR LAMPS AND LANTERNS. R. E. DIETZ COMPANY, New York, N. Y.
Filed October 29, 1906. Serial No. 22,957. PUBLISHED DECEMBER 4, 1906.

60,173. GLOBES FOR LAMPS AND LANTERNS. R. E. DIETZ COMPANY, New York, N. Y.
Filed October 29, 1906. Serial No. 22,958. PUBLISHED DECEMBER 4, 1906.

60,174. POCKET-BOOKS. RITTER BROS., New York, N. Y.
Filed October 12, 1906. Serial No. 22,665. PUBLISHED DECEMBER 4, 1906.

60,175. REMEDY FOR BARBER'S ITCH, ECZEMA, SORES, BURNS, AND SCALDS. SYCO TINA COMPANY, New Bethlehem, Pa.
Filed October 5, 1906. Serial No. 22,548. PUBLISHED DECEMBER 4, 1906.

60,176. DRAWING AND TRACING PAPER. TECHNICAL SUPPLY COMPANY, Scranton, Pa.
Filed October 12, 1906. Serial No. 22,666. PUBLISHED DECEMBER 4, 1906.

60,177. CERTAIN PAPER MANUFACTURES. THE TENGWALL COMPANY, Chicago, Ill.
Filed July 3, 1906. Serial No. 20,719. PUBLISHED DECEMBER 4, 1906.

60,178. OIL FOR MEDICINAL PURPOSES. C. DE KONING TILLY, Haarlem, Netherlands.
Filed May 29, 1906. Serial No. 19,987. PUBLISHED DECEMBER 4, 1906.

60,179. REMEDY FOR VARIOUS DISEASES OF POULTRY. HENRY E. TURPIN, Haywards, Cal.
Filed October 10, 1906. Serial 22,624. PUBLISHED DECEMBER 4, 1906.

60,180. BUNGS. THE UNITED STATES BUNG MANUFACTURING COMPANY, Cincinnati, Ohio.
Filed October 15, 1906. Serial No. 22,708. PUBLISHED DECEMBER 4, 1906.

60,181. COIN-OPERATED TALKING AND PICTURE-DISPLAYING MACHINES. LOUIS P. VALIQUET, Newark, N. J.
Filed October 30, 1906. Serial No. 23,014. PUBLISHED DECEMBER 4, 1906.

60,182. VEGETABLE STOMACH-BITTERS, APPETIZERS, AND BLOOD-PURIFIERS. PRUDENCE VAN HECKE, New York, N. Y.
Filed October 5, 1906. Serial No. 22,549. PUBLISHED DECEMBER 4, 1906.

60,183. POROUS PLASTERS. ALLCOCK MANUFACTURING CO., New York, N. Y.
Filed June 27, 1905. Serial No. 9,252. PUBLISHED DECEMBER 4, 1906.

60,184. MAGAZINE OR PERIODICAL. FRANK O. BALCH, Chicago, Ill.
Filed September 26, 1906. Serial No. 22,351. PUBLISHED DECEMBER 4, 1906.

60,185. TONIC COMPOUND OF ROOTS, HERBS, AND BARKS. LEEONZO V. BELL, Jacksonville, Fla.
Filed July 30, 1906. Serial No. 21,250. PUBLISHED DECEMBER 4, 1906.

60,186. CERTAIN VEGETABLE PRODUCTS. MARCUS G. BLACK, Mount Pleasant, Tex.
Filed November 1, 1906. Serial No. 23,031. PUBLISHED DECEMBER 4, 1906.

60,187. CLOSET-BOWLS, URINALS, BASINS, SINKS, SAID ARTICLES BEING MADE OF EARTHENWARE. CAMDEN POTTERY COMPANY, Camden, N. J.
Filed May 31, 1906. Serial No. 19,963. PUBLISHED DECEMBER 4, 1906.

60,188. CERTAIN MEDICINES. CHAMBERLAIN MEDICINE CO., Des Moines, Iowa.
Filed July 1, 1905. Serial No. 9,571. PUBLISHED DECEMBER 4, 1906.

60,189. CERTAIN PAPER MANUFACTURES. DAMERON-PIERSON CO. LTD., New Orleans, La.
Filed April 23, 1906. Serial No. 19,013. PUBLISHED DECEMBER 4, 1906.

60,190. BAKING-POWDER, BICARBONATE OF SODA, CREAM OF TARTAR, AND YEAST-POWDER. E. R. DURKEE & CO., New York, N. Y.
Filed May 2, 1905. Serial No. 3,968. PUBLISHED DECEMBER 4, 1906.

60,191. CERTAIN GLASSWARE. GILLINDER & SONS, INC., Philadelphia, Pa.
Filed October 12, 1905. Serial No. 13,532. PUBLISHED DECEMBER 4, 1906.

60,192. CARBON-PAPER AND CERTAIN CHEMICAL PAPER. EGON HASSINGER, Paris, France.
Filed July 28, 1906. Serial No. 21,237. PUBLISHED DECEMBER 4, 1906.

60,193. REMEDY FOR HEAVES. ANTON HERCER, Spring Valley, Ill.
Filed April 4, 1906. Serial No. 18,511. PUBLISHED DECEMBER 4, 1906.

60,194. RUBBER BOOTS AND SHOES. HOOD RUBBER CO., Boston, Mass.
Filed May 31, 1906. Serial No. 19,953. PUBLISHED DECEMBER 4, 1906.

60,195. SCHOOL, ARTISTS', AND LUMBER CRAYONS. JOSEPH M. HOYT, Danvers, Mass.
Filed August 10, 1906. Serial No. 21,468. PUBLISHED DECEMBER 4, 1906.

60,196. CERTAIN FURNITURE AND UPHOLSTERY. ELBERT HUBBARD, East Aurora, N. Y.
Filed August 17, 1906. Serial No. 21,639. PUBLISHED DECEMBER 4, 1906.

60,197. VASOMOTOR, CARDIAC, RESPIRATORY, AND METABOLIC STIMULANT. JOHN WYETH AND BROTHER, INCORPORATED, Philadelphia, Pa.
Filed August 15, 1906. Serial No. 21,550. PUBLISHED DECEMBER 4, 1906.

60,198. PORCELAIN, STONEWARE, AND EARTHENWARE, INCLUDING JASPER. JOSIAH WEDGWOOD & SONS LTD., Etruria, Stoke-upon-Trent, England.
Filed July 6, 1905. Serial No. 9,824. PUBLISHED DECEMBER 4, 1906.

60,199. COMPOUND FOR THE TREATMENT OF COAL. KOLESAVER MFG. CO., New York, N. Y.
Filed August 13, 1906. Serial No. 21,520. PUBLISHED DECEMBER 4, 1906.

60,200. SALVES. THOMAS F. MAGUIRE, Lowell, Mass.
Filed April 5, 1906. Serial No. 18,532. PUBLISHED OCTOBER 30, 1906.

60,201. APPARATUS FOR COOKING BY RETAINED HEAT. ABNER B. NORTH, Morristown, N. J.
Filed March 2, 1906. Serial No. 17,462. PUBLISHED DECEMBER 4, 1906.

60,202. TOOTH AND MOUTH WASHES. CHARLES O. SANTOS, Norfolk, Va.
Filed July 6, 1906. Serial No. 20,759. PUBLISHED DECEMBER 4, 1906.

60,203. ALTERATIVE AND RECONSTRUCTIVE TONICS. SOUTHERN PHARMACAL & CHEMICAL CO., Louisville, Ky., assignor to William E. Turner, Hagerstown, Md.
Filed June 27, 1905. Serial No. 9,150. PUBLISHED DECEMBER 4, 1906.

60,204. PIANOS. THE STARR PIANO COMPANY, Richmond, Ind.
Filed January 29, 1906. Serial No. 16,595. PUBLISHED DECEMBER 4, 1906.

60,205. ILLUSTRATED MONTHLY JOURNAL. THE TELEPHONY PUBLISHING COMPANY, Chicago, Ill.
Filed February 17, 1906. Serial No. 17,150. PUBLISHED DECEMBER 4, 1906.

60,206. GRADUATED TESTING-BOTTLES, FLASKS, AND LABORATORY GLASSWARE. CONSTANTIN WAGNER, New York, N. Y.
Filed March 5, 1906. Serial No. 17,529. PUBLISHED DECEMBER 4, 1906.

60,207. MEDICINE FOR CERTAIN NAMED DISEASES. FRANCIS S. WALKER, Fayette, Iowa.
Filed August 16, 1906. Serial No. 21,621. PUBLISHED DECEMBER 4, 1906.

60,208. TONIC. GUSTAV WEIL, New York, N. Y.
Filed July 16, 1906. Serial No. 20,965. PUBLISHED DECEMBER 4, 1906.

60,209. SMALLPOX PREVENTIVE. JOHN T. WHITE, Salt Lake City, Utah.
Filed July 5, 1906. Serial No. 20,737. PUBLISHED DECEMBER 4, 1906.

60,210. PAPER BOXES FOR JEWELRY. MERMOD, JACCARD & KING JEWELRY COMPANY, St. Louis, Mo.
Filed September 10, 1906. Serial No. 22,006. PUBLISHED DECEMBER 4, 1906.

60,211. WHISKY. CHARLES DENNEHY & COMPANY, Chicago, Ill.
Filed September 13, 1906. Serial No. 22,054. PUBLISHED DECEMBER 4, 1906.

60,212. EXTRACT OF MALT. FRED KRUG BREWING COMPANY, Omaha, Nebr.
Filed September 4, 1906. Serial No. 21,879. PUBLISHED DECEMBER 4, 1906.

60,213. WHISKY. GARRETT-WILLIAMS CO., Baltimore, Md.
Filed October 25, 1906. Serial No. 22,905. PUBLISHED DECEMBER 4, 1906.

60,214. WHISKY. THE GEO. BIELER SONS CO., Cincinnati, Ohio.
Filed October 6, 1906. Serial No. 22,558. PUBLISHED DECEMBER 4, 1906.

60,215. WHISKY. THE GEO. BIELER SONS CO., Cincinnati, Ohio.
Filed October 6, 1906 Serial No. 22,560. PUBLISHED DECEMBER 4, 1906.

60,216. WHISKY. ADOLPH L. LEWIN, Pittsburg, and Greene county, Pa.
Filed October 13, 1906. Serial No. 22,681. PUBLISHED DECEMBER 4, 1906.

60,217. WHISKY. MARYLAND DISTILLING COMPANY OF BALTIMORE CITY, Baltimore, Md.
Filed October 22, 1906. Serial No. 22,835. PUBLISHED DECEMBER 4, 1906.

60,218. GIN. PADUCAH DISTILLERIES CO., Paducah, Ky.
Filed June 11, 1906. Serial No. 20,213. PUBLISHED DECEMBER 4, 1906.

60,219. PORTER. THE STANDARD BREWERY COMPANY OF BALTIMORE CITY, Baltimore, Md.
Filed July 19, 1906. Serial No. 21,020. PUBLISHED DECEMBER 4, 1906.

60,220. AMPLIFYING-HORNS. THE TEA TRAY COMPANY OF NEWARK, NEW JERSEY, Newark, N. J.
Filed June 7, 1906. Serial No. 20,139. PUBLISHED DECEMBER 4, 1906.

60,221. BEER. ACTIENGESELLSCHAFT PAULANERBRÄU (ZUM SALVATORKELLER), Munich, Germany.
Filed July 6, 1905. Serial No. 9,814. PUBLISHED DECEMBER 4, 1906.

60,222. BEER. ACTIENGESELLSCHAFT PAULANERBRÄU (ZUM SALVATORKELLER), Munich, Germany.
Filed July 6, 1905. Serial No. 9,815. PUBLISHED DECEMBER 4, 1906.

60,223. APRICOT BRANDY. JOSEPH BIGOURDAN, Bordeaux, France.
Filed May 11, 1906. Serial No. 19,453. PUBLISHED DECEMBER 4, 1906.

60,224. GRAPE-JUICE WINE. DOMENICO C. BRIGNOLE, Memphis, Tenn.
Filed June 14, 1906. Serial No. 20,274. PUBLISHED DECEMBER 4, 1906.

60,225. BLEACHING COMPOUNDS. AMÉDÉE CASTAING, New York, N. Y.
Filed March 9, 1906. Serial No. 17,685. PUBLISHED DECEMBER 4, 1906.

60,226. LOCKETS, BROOCHES, AND BADGES. THE CYCLISTS' TOURING CLUB, London, England.
Filed July 13, 1906. Serial No. 20,911. PUBLISHED DECEMBER 4, 1906.

60,227. MEDICAL COMPOUND USED AS A SCALP-CLEANER, DANDRUFF CURE, AND HAIR VIGOR. NEWTON EDMONDS, Washington, D. C.
Filed May 20, 1905. Serial No. 6,139. PUBLISHED DECEMBER 4, 1906.

60,228. TOILET POWDER. ELIZABETH FRENCH, Florence, Italy.
Filed February 23, 1906. Serial No. 17,275. PUBLISHED DECEMBER 4, 1906.

60,229. WHISKY. J. H. FRIEDENWALD & CO., Baltimore, Md.
Filed April 27, 1905. Serial No. 3,210. PUBLISHED JUNE 5, 1906.

60,230. JEWEL-STONE. CHARLES W. FULLER, St. Augustine, Fla., and Newport, R. I.
Filed June 5, 1906. Serial No. 20,078. PUBLISHED DECEMBER 4, 1906.

60,231. KÜMMEL OR CORDIAL. J. A. GILKA, Berlin, Germany.
Filed October 3, 1906. Serial No. 22,456. PUBLISHED DECEMBER 4, 1906.

60,232. MEN'S LEATHER SHOES. GOLDEN STATE SHOE CO., Los Angeles, Cal.
Filed August 23, 1906. Serial No. 21,728. PUBLISHED DECEMBER 4, 1906.

60,233. WHISKY. THE GOTTSCHALK COMPANY OF BALTIMORE CITY, Baltimore, Md.
Filed October 22, 1906. Serial No. 22,833. PUBLISHED DECEMBER 4, 1906.

60,234. PIANOS, MANDOLINS, GUITARS, BANJOS, AND VIOLINS. C. J. HEPPE & SON, Philadelphia, Pa.
Filed October 13, 1906. Serial No. 22,770. PUBLISHED DECEMBER 4, 1906.

60,235. PIANOS, MANDOLINS, GUITARS, BANJOS, AND VIOLINS. C. J. HEPPE & SON, Philadelphia, Pa.
Filed October 13, 1906. Serial No. 22,772. PUBLISHED DECEMBER 4, 1906.

60,236. WHISKY. JOHN MCGLINN, Philadelphia, Pa.
Filed June 26, 1905. Serial No. 9,103. PUBLISHED APRIL 24, 1906.

60,237. SYRUP FOR BEVERAGES. MORGAN-LYONS VINEGAR COMPANY, Louisville, Ky.
Filed August 27, 1906. Serial No. 21,770. PUBLISHED DECEMBER 4, 1906.

60,238. WATCHSPRINGS. CHARLES ROBERT, Chaux de Fonds, Switzerland.
Filed May 31, 1905. Serial No. 7,132. PUBLISHED DECEMBER 4, 1906.

60,239. WHEAT-FLOUR. SPRAGUE, WARNER & COMPANY, Chicago, Ill.
Filed January 24, 1906. Serial No. 16,472. PUBLISHED APRIL 10, 1906.

60,240. SPECIFIC MEDICINES AS A PREVENTIVE OF APPENDICITIS. WILLIAM MYRON REYNOLDS, New York, N. Y.
Filed May 7, 1906. Serial No. 19,356. PUBLISHED DECEMBER 4, 1906.

60,241. CORDIAL. SOCIETE ANONYME DE LA DISTILLERIE DE LA LIQUEUR BENEDICTINE DE L'ABBAYE DE FECAMP, Fécamp, France.
Filed January 4, 1906. Serial No. 15,879. PUBLISHED DECEMBER 4, 1906.

60,242. CERTAIN PHARMACEUTICAL PREPARATION. FREDERICK A. VOGEL, Milwaukee, Wis.
Filed July 9, 1906. Serial No. 20,805. PUBLISHED DECEMBER 4, 1906.

60,243. WHISKY. THE WM. BERGENTHAL CO., Milwaukee, Wis.
Filed May 25, 1905. Serial No. 6,570. PUBLISHED JUNE 5, 1906.

60,244. SOLID AND PLATED PRECIOUS-METAL WARE. AMERICAN SODA FOUNTAIN COMPANY, Boston, Mass.
Filed November 13, 1905. Serial No. 14,525. PUBLISHED DECEMBER 4, 1906.

60,245. CREME DE MENTHE. AMSTERDAMSCHE LIKEURSTOKERIJ "'T LOOTSJE" DER ERVEN LUCAS BOLS, Amsterdam, Netherlands, and New York, N. Y.
Filed March 29, 1906. Serial No. 18,333. PUBLISHED DECEMBER 4, 1906.

60,246. ALE. CONWAY BROS. BREWING & MALTING CO., Troy, N. Y.
Filed November 1, 1906. Serial No. 23,033. PUBLISHED DECEMBER 4, 1906.

60,247. CORDIALS AND LIQUOR ESSENCES. P. DEMPSEY & Co., Boston, Mass.
Filed September 15, 1905. Serial No. 12,009. PUBLISHED DECEMBER 4, 1906.

60,248. SHOTGUNS, PISTOLS, REVOLVERS, AND RIFLES. REMINGTON ARMS COMPANY, New York and Ilion, N. Y.
Filed October 3, 1906. Serial No. 22,461. PUBLISHED DECEMBER 4, 1906.

LABELS

REGISTERED JANUARY 29, 1907.

13,332.—*Title:* "ALAGA." (For Syrup.) ALABAMA-GEORGIA SYRUP COMPANY, Montgomery, Ala. Filed December 31, 1906.

13,333.—*Title:* "P. S. ALEGRETAS SOFT CREAMS." (For Candy.) PETER SMERLIES, Grand Rapids, Mich. Filed December 17, 1906.

13,334.—*Title:* "JUDGE GAYNOR CIGARS." (For Cigars.) RUDOLF EPPSTEIN and ALFRED WANDER, New York, N. Y. Filed December 1, 1906.

13,335.—*Title:* "BAUMÉ ANALGÉSIQUE BENGUÉ." (For Proprietary Medicines.) THEODORE SELTZER, West Hoboken, N. J. Filed January 8, 1907.

13,336.—*Title:* "STEARNS' ELECTRIC RAT AND ROACH PASTE." (For a Rat and Roach Paste.) STEARNS ELECTRIC PASTE CO., Buffalo, N. Y. Filed January 4, 1907.

13,337.—*Title:* "'SAPOLIN' DECORATORS' BRONZING LIQUID." (For a Bronzing Liquid.) GERSTENDORFER BROS., New York, N. Y. Filed January 5, 1907.

13,338.—*Title:* "'STAR' BANANA BRONZING LIQUID." (For a Bronzing Liquid.) GERSTENDORFER BROS., New York, N. Y. Filed January 5, 1907.

13,339.—*Title:* "'OUR FAVORITE' ENAMEL BRONZING LIQUID." (For a Bronzing Liquid.) GERSTENDORFER BROS., New York, N. Y. Filed January 5, 1907.

13,340.—*Title:* "RADIATOR BRONZING LIQUID." (For a Bronzing Liquid.) GERSTENDORFER BROS., New York, N. Y. Filed January 5, 1907.

PRINTS

REGISTERED JANUARY 29, 1907.

1,897.—*Title:* "TAILOR EXHIBITING CLOTH." (For Suitings.) ED. V. PRICE & COMPANY, Chicago, Ill. Filed November 19, 1906.

1,898.—*Title:* "MEN'S AND BOYS' APPAREL." (For Men's and Boys' Apparel.) H. C. LYTTON, Chicago, Ill. Filed January 4, 1907

1,899.—*Title:* "BE A CHULOO." (For Chewing-Gum.) THE MEEK COMPANY, Coshocton, Ohio. Filed January 7, 1907.

1,900.—*Title.* "BARON'S WELSH RABBIT." (For Welsh Rabbit.) THE SAMUEL BARON CO., Brooklyn, N. Y. Filed December 28, 1906.

REPORT
OF THE
COMMISSIONER OF PATENTS
TO CONGRESS,
FOR THE YEAR ENDED DECEMBER 31, 1906.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 24, 1907.

To the Senate and House of Representatives of the United States of America in Congress assembled:

In compliance with section 494 of the Revised Statutes I have the honor to submit the following report of the business of the Patent Office for the year ended December 31, 1906:

RECEIPTS.

Detailed statement of all moneys received for patents, for copies of records or drawings, or from any source whatever.

Applications:		
Cash received		$1,561,608 00
Cash refunded		4,911 00
Net cash		1,556,697 00
Certificates of deposit		40,529 00
Total cash and certificates		1,597,226 00
Copies:		
Cash received		154,292 70
Cash refunded		10,147 10
Net cash		144,145 60
Certificates of deposit		534 48
Total cash and certificates		144,680 08
Recording assignments:		
Cash received		28,477 83
Cash refunded		1,297 83
Net cash		27,180 00
Certificates of deposit		118 00
Total cash and certificates		27,298 00
Subscriptions to Official Gazette:		
Cash received		15,261 41
Cash refunded		286 16
Net cash		14,975 25
Certificates of deposit		50 05
Total cash and certificates		15,025 30
Registration of prints and labels:		
Cash received		7,472 00
Cash refunded		888 00
Net cash		6,584 00
Certificates of deposit		108 00
Total cash and certificates		6,692 00
Aggregates.		
Cash received		$1,767,111 94
Cash refunded		17,530 09
Net cash		1,749,581 85
Certificates of deposit		41,339 53
Total cash and certificates		1,790,921 38

EXPENDITURES.

Amounts expended under the several appropriations from January 1, 1906, to December 31, 1906.

Salaries	$900,600 38
Scientific library	1,807 82
Transportation of publications to foreign countries	769 15
International Union for Protection of Industrial Property	685 15
Stationery	13,830 59
Postage on foreign matter	2,430 00
Furniture	6,287 29
Carpets, matting, and linoleum	1,137 48
Ice	455 42
Telephones	772 78
Washing towels	110 13
Sundries	7,367 58
Law library	340 00
a Official Gazette, (illustrations,) paid contractor, for six months, January 1 to July 1	37,562 80
Photolithographing, paid contractor	127,823 91
Printing and binding, paid Public Printer for Official Gazette, indexes, printing specifications, and miscellaneous work	442,920 72
Rent for storage of models	10,000.00
Total	1,554,891 20

RECEIPTS AND EXPENDITURES.

Receipts from all sources	$1,790,921 38
Expenditures	1,554,891 20
Surplus	236,030 18

Statement of balance in the Treasury of the United States on account of the patent fund.

Amount to the credit of the fund January 1, 1906	$6,190,991 68
Amount of receipts during the year 1906	1,790,921 38
Total	7,981,913 06
Deduct expenditures for the year 1906	1,554,891 20
Balance January 1, 1907	6,427,021 86

SUMMARY OF THE BUSINESS OF THE PATENT OFFICE.

Applications for patents for inventions	55,471
Applications for patents for designs	806
Applications for reissues of patents	205
Total	56,482
Caveats filed	1,885
Applications for registration of trade-marks	8,493
Applications for registration of labels	844
Applications for registration of prints	419
Disclaimers filed	9
Appeals on the merits	1,390
Total	13,040
Applications, etc., requiring investigation and action	10,602
Patents issued, including designs	31,806
Patents reissued	159
Total	31,965
Trade-marks registered	10,568
Labels registered	709
Prints registered	656
Total	11,933
Patents expired during the year	23,360
Patents withheld for non-payment of final fees	5,021
Applications allowed awaiting final fees	10,800
Trade-mark applications passed for publication	11,756

a The Official Gazette in its entirety has been produced by the Government Printing Office since July 1, 1906.

PATENTS ISSUED.

Patents issued to citizens of the United States, with the ratio of population to each patent granted.

States and Territories.	Patents and designs.	One to every—	States and Territories.	Patents and designs.	One to every—
Alabama	131	13,959	New Hampshire	81	5,081
Alaska	11	5,767	New Jersey	1,298	1,451
Arizona	37	3,322	New Mexico	28	6,97:
Arkansas	120	10,929	New York	4,642	1,565
California	1,115	1,331	North Carolina	144	13,141
Colorado	383	1,409	North Dakota	85	3,753
Connecticut	845	1,074	Ohio	2,167	1,918
Delaware	49	3,770	Oklahoma	130	3,062
District of Columbia	236	1,180	Oregon	161	2,568
Florida	78	6,776	Panama	3	.....
Georgia	224	9,894	Pennsylvania	3,014	2,090
Hawaii	17	9,058	Philippine Islands	8	.....
Idaho	64	2,527	Porto Rico	3	.....
Illinois	3,107	1,551	Rhode Island	303	1,414
Indiana	782	3,192	South Carolina	74	18,110
Indian Territory	61	6,425	South Dakota	98	4,097
Iowa	691	3,258	Tennessee	356	7,901
Kansas	335	4,386	Texas	437	6,976
Kentucky	267	8,041	Utah	79	3,500
Louisiana	164	8,424	Vermont	87	3,949
Maine	151	4,598	Virginia	267	6,944
Maryland	303	3,927	Washington	327	1,583
Massachusetts	1,675	1,674	West Virginia	203	4,723
Michigan	952	2,541	Wisconsin	653	3,172
Minnesota	503	3,481	Wyoming	30	3,084
Mississippi	100	15,513	United States Army	7	.....
Missouri	957	3,246	United States Navy	8	.....
Montana	96	2,534	United States Revenue Service	1	.....
Nebraska	273	3,886			
Nevada	12	3,527	Total	28,335	.....

Patents granted to citizens of foreign countries.

Algeria	1	Netherlands	19
Argentina	5	Newfoundland	2
Austria-Hungary	133	New South Wales	26
Barbadoes	1	New Zealand	60
Belgium	61	Nicaragua	1
Brazil	6	Norway	19
British Guiana	1	Portugal	2
British West Indies	1	Queensland	7
Canada	461	Roumania	2
Cape Colony	3	Russia	28
Chile	4	Scotland	66
Cuba	8	Sierra Leone	1
Denmark	28	South Australia	9
England	852	Spain	6
France	314	Sweden	61
Germany	991	Switzerland	78
Guatemala	3	Tasmania	5
Haiti	4	Transvaal	38
India	5	Tunis	2
Ireland	15	Turkey	2
Italy	34	Venezuela	1
Jamaica	2	Victoria	58
Japan	11	Western Australia	6
Mexico	25		
Natal	3	Total	3,471

The following tables present a comparative statement of the business of the Patent Office since the enactment of the statute of 1836 and exhibit in detail the business of the Office during the last calendar year:

Comparative statement of the business of the Office from 1837 to 1906, inclusive.

Year.	Applications.	Caveats filed.	Patents and reissues.	Cash received.	Cash expended.	Surplus.
1837	.....	.....	435	$29,289 08	$33,506 98	.....
1838	.....	.....	520	42,123 54	37,338 92	$4,784 62
1839	.....	.....	425	38,019 97	34,543 51	3,476 46
1840	765	228	473	38,056 51	39,020 67	.....
1841	847	312	495	40,413 01	52,666 87	.....
1842	761	291	517	36,505 63	31,241 43	5,264 20
1843	819	315	519	35,315 81	30,776 96	4,538 85
1844	1,045	380	497	42,509 26	36,344 53	6,164 73
1845	1,246	452	503	51,076 14	39,395 65	11,680 49
1846	1,272	448	638	50,264 16	46,158 71	4,105 45
1847	1,531	533	569	63,111 19	41,878 35	21,232 84
1848	1,628	607	653	67,576 89	58,905 84	8,670 85
1849	1,955	595	1,077	80,752 78	77,716 44	3,036 34
1850	2,193	602	993	86,927 05	80,100 95	6,826 10
1851	2,258	760	872	95,738 61	86,916 93	8,821 68
1852	2,639	996	1,019	112,056 34	95,916 91	16,139 43
1853	2,673	901	961	121,527 45	132,869 83	.....
1854	3,324	868	1,844	163,789 84	167,146 32	.....
1855	4,435	906	2,013	216,459 35	179,540 33	36,919 02
1856	4,960	1,024	2,505	192,588 02	199,931 02	.....
1857	4,771	1,010	2,896	196,132 01	211,582 09	.....
1858	5,364	943	3,710	203,716 16	193,193 74	10,522 42
1859	6,225	1,079	4,538	245,942 15	210,278 41	35,663 74
1860	7,653	1,084	4,819	256,352 59	252,820 80	3,531 79

Comparative statement of the business of the Office from 1837 to 1906, inclusive—Continued.

Year.	Applications.	Caveats filed.	Patents and reissues.	Cash received.	Cash expended.	Surplus.
1861	4,643	700	3,340	$137,354 44	$221,491 91	.....
1862	5,038	824	3,521	215,754 99	182,810 39	$32,944 06
1863	6,014	787	4,170	195,593 29	189,414 14	6,179 15
1864	6,972	1,063	5,020	240,919 98	229,868 00	11,051 98
1865	10,664	1,932	6,616	348,791 84	274,199 34	74,592 50
1866	15,269	2,723	9,450	495,665 38	361,724 28	133,941 10
1867	21,276	3,597	13,015	646,581 92	639,263 32	7,318 60
1868	20,445	3,705	13,378	681,565 86	628,679 77	52,886 09
1869	19,271	3,624	13,986	693,145 81	486,430 74	206,715 07
1870	19,171	3,273	13,321	669,456 76	557,147 19	112,309 57
1871	19,472	3,366	13,033	678,716 46	562,091 64	116,624 82
1872	18,246	3,090	13,590	699,726 30	665,595 00	34,131 30
1873	20,414	3,248	12,864	703,191 77	691,178 98	12,012 79
1874	21,602	3,181	13,599	738,278 17	679,298 41	58,959 76
1875	21,638	3,004	14,837	743,453 36	721,657 71	21,795 65
1876	21,425	2,997	15,595	757,987 65	652,542 60	105,445 05
1877	20,308	2,909	14,187	732,342 85	613,152 62	119,190 23
1878	20,260	2,755	13,444	725,375 55	593,082 89	132,292 66
1879	20,059	2,620	13,213	703,931 47	529,638 97	174,292 50
1880	23,012	2,490	13,947	749,685 32	538,865 17	210,820 15
1881	26,059	2,406	16,584	853,665 89	605,173 28	248,492 61
1882	31,522	2,553	19,267	1,009,219 45	683,867 67	325,351 78
1883	34,576	2,741	22,383	1,146,240 00	675,234 86	471,005 14
1884	35,600	2,582	20,413	1,075,798 80	970,579 76	105,219 04
1885	35,717	2,552	24,233	1,188,089 15	1,024,378 85	163,710 30
1886	35,968	2,513	22,508	1,154,551 40	992,503 45	162,047 95
1887	35,613	2,622	21,477	1,144,509 60	994,472 22	150,037 38
1888	35,797	2,251	20,506	1,118,516 10	973,108 78	145,407 32
1889	40,575	2,481	24,158	1,281,728 05	1,052,955 96	228,772 09
1890	41,048	2,311	26,292	1,340,372 66	1,099,297 74	241,074 92
1891	40,552	2,408	23,244	1,271,285 78	1,139,713 35	131,572 43
1892	40,753	2,290	23,559	1,286,331 88	1,110,739 24	175,592 59
1893	38,473	2,247	23,769	1,242,871 64	1,141,038 45	101,833 19
1894	38,439	2,286	20,867	1,187,439 58	1,100,047 12	87,392 46
1895	40,680	2,415	22,057	1,245,246 93	1,106,389 49	138,857 44
1896	43,982	2,271	23,373	1,324,059 83	1,113,413 71	210,646 12
1897	47,905	2,176	23,794	1,375,641 72	1,122,843 13	252,798 59
1898	35,842	1,659	22,267	1,137,734 48	1,136,196 20	1,538 28
1899	41,443	1,716	25,527	1,325,457 03	1,211,783 73	113,673 30
1900	41,980	1,731	26,499	1,350,828 53	1,260,019 62	90,808 91
1901	46,449	1,842	27,373	1,449,398 16	1,297,385 64	152,012 52
1902	49,641	1,851	27,886	1,552,859 08	1,393,345 54	159,513 54
1903	50,213	1,771	31,699	1,642,201 81	1,448,645 81	193,556 00
1904	52,143	1,808	30,934	1,657,326 53	1,476,000 38	181,326 15
1905	54,971	1,896	30,399	1,806,758 14	1,479,633 22	327,124 92
1906	56,482	1,885	31,965	1,790,921 38	1,554,891 20	236,030 18

Statement showing the number of the first patent, design patent, and reissued patent, and the number of the first certificate of registration of a trade-mark, label, and print issued in each calendar year since July 28, 1836, when the present series of numbers of letters patent commenced, together with the total number of each issued during the year.

[The number of patents granted prior to the commencement of this series of numbering (July 28, 1836) was 9,957.]

Calendar year.	Number of first patent and certificate issued in each calendar year.						Number of patents and certificates of registration issued during each calendar year.							
	Patents.	Designs.	Reissues.	Trade-Marks.	Labels.	Prints.	Patents.	Designs.	Reissues.	Total patents.	Trade-Marks.	Labels.	Prints.	Total certificates.
1836 (July 28)	1	.....	.....	.....	.....	.....	109	.....	.....	.....	.....	.....	.....	.....
1837	110	.....	.....	.....	.....	.....	436	.....	.....	.....	.....	.....	.....	.....
1838	546	.....	1	.....	.....	.....	515	.....	6	.....	.....	.....	.....	.....
1839	1,061	.....	7	.....	.....	.....	404	.....	13	.....	.....	.....	.....	.....
1840	1,465	.....	20	.....	.....	.....	458	.....	10	.....	.....	.....	.....	.....
1841	1,923	.....	30	.....	.....	.....	490	.....	6	.....	.....	.....	.....	.....
1842	2,413	.....	36	.....	.....	.....	488	.....	13	.....	.....	.....	.....	.....
1843	2,901	1	49	.....	.....	.....	494	14	11	519	.....	.....	.....	.....
1844	3,395	15	60	.....	.....	.....	478	12	7	497	.....	.....	.....	.....
1845	3,873	27	67	.....	.....	.....	475	17	11	503	.....	.....	.....	.....
1846	4,348	44	78	.....	.....	.....	506	59	13	638	.....	.....	.....	.....
1847	4,914	103	91	.....	.....	.....	495	60	14	569	.....	.....	.....	.....
1848	5,409	163	105	.....	.....	.....	584	46	23	653	.....	.....	.....	.....
1849	5,993	209	128	.....	.....	.....	988	49	30	1,067	.....	.....	.....	.....
1850	6,981	258	158	.....	.....	.....	884	83	26	993	.....	.....	.....	.....
1851	7,865	341	184	.....	.....	.....	757	90	25	872	.....	.....	.....	.....
1852	8,922	431	209	.....	.....	.....	880	109	20	1,019	.....	.....	.....	.....
1853	9,512	540	229	.....	.....	.....	846	86	29	961	.....	.....	.....	.....
1854	10,358	626	258	.....	.....	.....	1,759	57	28	1,844	.....	.....	.....	.....
1855	12,117	683	286	.....	.....	.....	1,892	70	51	2,013	.....	.....	.....	.....
1856	14,009	753	337	.....	.....	.....	2,315	107	83	2,505	.....	.....	.....	.....
1857	16,324	890	429	.....	.....	.....	2,686	113	97	2,896	.....	.....	.....	.....
1858	19,010	973	517	.....	.....	.....	3,467	102	126	3,695	.....	.....	.....	.....
1859	22,477	1,075	643	.....	.....	.....	4,165	108	231	4,504	.....	.....	.....	.....
1860	26,642	1,183	674	.....	.....	.....	4,363	183	232	4,778	.....	.....	.....	.....
1861	31,005	1,366	1,106	.....	.....	.....	3,040	142	147	3,329	.....	.....	.....	.....
1862	34,045	1,508	1,253	.....	.....	.....	3,221	195	116	3,532	.....	.....	.....	.....
1863	37,266	1,703	1,369	.....	.....	.....	3,781	176	227	4,184	.....	.....	.....	.....
1864	41,047	1,879	1,596	.....	.....	.....	4,638	139	248	5,025	.....	.....	.....	.....
1865	45,685	2,018	1,844	.....	.....	.....	6,099	221	296	6,616	.....	.....	.....	.....
1866	51,784	2,239	2,140	.....	.....	.....	8,874	294	290	9,458	.....	.....	.....	.....

Statement showing the number of the first patent, design patent, and reissued patent—Continued.

Calendar year.	Number of first patent and certificate issued in each calendar year.						Number of patents and certificates of registration issued during each calendar year.							
	Patents.	Designs.	Reissues.	Trade-Marks.	Labels.	Prints.	Patents.	Designs.	Reissues.	Total patents.	Trade-Marks.	Labels.	Prints.	Total certificates.
1867	60,658	2,533	2,430	.....	.....	.....	12,301	325	400	13,026	.....	.....	.....	.....
1868	72,959	2,858	2,830	.....	.....	.....	12,544	446	420	13,410	.....	.....	.....	.....
1869	85,503	3,304	3,250	.....	.....	.....	12,957	506	534	13,997	.....	.....	.....	.....
1870	98,460	3,810	3,784	1	.....	.....	12,157	737	439	13,333	121	.....	.....	121
1871	110,617	4,547	4,223	122	.....	.....	11,687	905	464	13,056	486	.....	.....	486
1872	122,304	5,452	4,687	608	.....	.....	12,200	884	529	13,613	491	.....	.....	491
1873	134,504	6,336	5,216	1,099	.....	.....	11,616	747	501	12,864	492	.....	.....	492
1874	146,120	7,083	5,717	1,591	1		12,230	886	483	13 599	559	232	.....	791
1875	158,350	7,969	6,200	2,150	233		13,291	915	631	14,837	1,138	232	.....	1,370
1876	171,641	8,884	6,531	3,283	465		14,172	902	621	15,595	959	472	.....	1,431
1877	185,813	9,686	7,452	4,247	937		12,920	699	568	14,187	1,216	392	.....	1,608
1878	198,733	10,385	8,020	5,463	1,329		12,345	590	509	13,444	1,455	492	.....	1,947
1879	211,078	10,975	8,529	6,918	1,821		12,133	592	488	13,213	872	355	.....	1,227
1880	223,211	11,567	9,017	7,790	2,176		12 926	515	506	13,947	349	203	.....	552
1881	236,137	12,082	9,523	8,139	2,379		15 548	565	471	16,584	834	202	.....	1,036
1882	251,685	12,647	9,994	8,973	2,581		18,135	861	271	19,267	947	304	.....	1,251
1883	269,820	13,506	10,265	9,920	2,885		21,196	1,020	167	22,383	902	906	.....	1,808
1884	291,016	14,528	10,432	10,822	3,791		19,147	1,150	116	20,413	1,021	513	.....	1,534
1885	310,163	15,678	10,548	11,843	4,304		23,331	773	129	24,233	1,067	391	.....	1,458
1886	333,494	16,451	10,677	12,910	4,695		21,797	595	116	22,508	1,029	378	.....	1,407
1887	355,291	17,046	10,793	13,939	5,073		20,429	949	99	21,477	1,133	380	.....	1,513
1888	375,720	17,995	10,892	15,072	5,453		19,585	835	86	20,506	1,059	327	.....	1,386
1889	395,306	18,830	10,978	16,131	5,780		23,360	723	75	24,158	1,229	319	.....	1,548
1890	418,665	19,553	11,053	17,360	6,009		25,322	886	84	26,292	1,415	304	.....	1,719
1891	443,987	20,439	11,137	18,775	6,403		22,328	836	80	23,244	1,762	137	.....	1,899
1892	466,315	21,275	11,217	20,537	6,540		22,661	817	81	23,559	1,737	*a*6	.....	1,743
1893	488,976	22,092	11,298	22,274	None.	1	22,768	902	99	23,769	1,677	None.	2	1,679
1894	511,744	22,994	11,397	23,951	Do.	3	19,875	928	64	20,857	1,806	Do.	4	1,810
1895	531,619	23,922	11,461	25,757	Do.	7	20,883	1,115	59	22,057	1,829	Do.	3	1,832
1896	552,502	25,037	11,520	27,586	6,546	10	21,867	1,445	61	23,273	1,813	1	32	1,846
1897	574,369	26,482	11,581	29,399	6,547	42	22,098	1,631	65	23,794	1,671	14	16	1,701
1898	596,467	28,113	11,646	31,070	6,561	58	20,404	1,803	60	22,267	1,238	200	35	1,473
1899	616,871	29,916	11,706	32,308	6,761	93	23,296	2,139	92	25,527	1,619	511	100	2,260
1900	640,167	32,055	11,798	33,957	7,272	193	24,660	1,758	81	26,499	1,721	737	93	2,551
1901	664,827	33,813	11,879	35,678	8,009	286	25,558	1,734	81	27,373	1,928	878	159	2,965
1902	690,385	35,547	11,960	37,606	8,887	445	27,136	640	110	27,886	2,006	767	158	2,931
1903	717,521	36,187	12,070	39,612	9,654	603	31,046	536	117	31,699	2,186	990	270	3,446
1904	748,567	36,723	12,189	41,798	10,644	873	30,267	557	110	30,934	2,158	1,114	297	3,569
1905	778,834	37,280	12,299	43,956	11,758	1,170	29,784	486	129	30,399	4,490	830	359	5,679
1906	808,618	37,766	12,428	48,446	12,588	1,529	31,181	625	159	31,965	10,568	709	656	11,933

a Registration of labels practically suspended May 27, 1891, under decision of the United States Supreme Court in *Higgins et al.* v. *Keuffel et al.*, (55 O. G., 1139,) with the registration of No. 6,545, June 14, 1892. Resumed June 9, 1896, with the registration of No. 6,546.

Applications filed.

	Patents.	Reissues.	Caveats.	Designs.	Trade-marks.	Prints.	Labels.	Total.
1891	39,418	109	2,408	1,025	1,906	.....	698	45,564
1892	39,514	109	2,290	1,130	2,179	.....	7	45,680
1893	37,293	120	2,247	1,060	1,899	.....	401	43,020
1894	36,987	95	2,286	1,357	2,053	.....	371	43,149
1895	39,145	72	2,415	1,463	2,112	13	293	45,513
1896	42,077	77	2,271	1,828	2,005	36	59	48,353
1897	45,661	94	2,176	2,150	1,946	26	66	52,119
1898	33,915	84	1,659	1,843	1,796	50	316	39,663
1899	38,937	106	1,716	2,400	2,059	143	629	45,990
1900	39,673	82	1,731	2,225	2,099	127	943	46,871
1901	43,975	115	1,842	2,361	2,410	233	1,064	51,998
1902	48,320	151	1,851	1,170	2,602	266	1,121	55,481
1903	49,289	154	1,771	770	2,504	380	1,234	56,102
1904	51,168	157	1,808	818	2,524	397	1,335	58,207
1905	54,034	156	1,896	781	16,224	467	1,068	74,626
1906	55,471	205	1,885	806	8,493	419	844	68,123

Expenditures for photolithographing the Official Gazette since 1884–85.

Fiscal year.	Contractor.	Edition.	Pages.	Per page.	Cost.	Total cost.
1884–85	Norris Peters	6,500	5,040	$7 86	$39,614 40	$39,614 40
1885–86	.....do	6,500	a 130	a 7 86	a 1,021 80	
			5,816	7 45	43,329 20	44,351 00
1886–87	.....do	6,500	5,620	7 45	41,869 00	41,869 00
1887–88	.....do	6,500	5,528	7 45	41,183 60	41,183 60
1888–89	.....do	6,500	5,906	7 45	43,999 70	43,999 70
1889–90	.....do	6,500	7,522	7 45	56,038 90	
			b 1,074	b 2 75	b 2,953 50	58,992 40
1890–91	.....do	7,000	7,488	7 45	55,785 60	
			b 3,702	b 2 75	b 10,180 50	65,966 10
1891–92	Norris Peters Co	7,000	7,110	7 45	52,969 50	52,969 50

Expenditures for photolithographing the Official Gazette since 1884–85—Continued.

Fiscal year.	Contractor.	Edition.	Pages.	Per page.	Cost.	Total cost.
1892–93	.....do	7,000	7,234	$7 45	$53,893 30	
			b 16	b 3 00	b 48 00	
			b 16	b 3 50	b 56 00	
			b 364	b 2 75	b 1,001 00	$54,998 30
1893–94	National Lithographic Co	7,000	6,040	7 45	44,998 00	
			c 849	c 5 30	c 4,499 70	
			c 554	.....	c 500 00	49,997 70
1894–95	Norris Peters Co	7,000	6,668	5 25	35,007 00	
			b 6,856	b 48	b 3,290 88	38,297 88
1895–96	A. B. Graham	7,000	7,654	5 10	39,035 40	
					b 3,290 90	42,326 30
1896–97	Norris Peters Co	7,000	7,936	4 50	35,712 00	35,712 00
1897–98	.....do	7,000	7,794	5 10	39,749 40	39,749 40
1898–99	.....do	7,000	8,226	5 60	46,065 60	46,065 60
1899–1900	.....do	7,000	9,838	5 60	55,092 80	55,092 80
1900–1901	.....do	7,000	9,936	6 25	62,100 00	62,100 00
1901–1902	.....do	7,000	10,656	6 25	66,600 00	66,600 00
1902–1903	.....do	7,000	12,018	6 25	75,112 50	75,112 50
1903–1904	.....do	7,000	13,466	6 25	84,162 50	84,162 50
1904–1905	Sackett & Wilhelms Lithographing & Printing Co.	7,000	13,640	5 50	75,020 00	75,020 00
1905–1906	.....do	7,000	16,490	4 60	71,736 00	71,736 00

a First edition furnished at previous contract price, new contract not having been executed.
b Back numbers reproduced.
c Expired patents published.
d Estimated.

The Official Gazette for 1906–1907 is being published in its entirety by the Government Printing Office under an appropriation by Congress of $130,000.

Expenditures for photolithographic and photographic work since 1884–85.

Fiscal year.	Contractor.	Price per page. Current issue.	Price per page. Reproduction of exhausted copies	Price per page. Library edition.	Price per page. Photographic copies.	Total.	Official Gazette.	Grand total.
1884–85	Norris Peters	a $1 61	f $1 58	t $2 90	.....	$78,671 99	$39,614 40	$118,286 39
			f 1 00					
1885–86	.....do	a 1 61	f 1 58	t 2 80	.....	84,940 19	44,351 00	129,291 19
			f 1 00					
1886–87	.....do	a 1 61	k 1 56	t 2 80	.....	79,509 57	41,869 00	121,378 57
			f 1 00					
1887–88	.....do	a 1 61	k 1 56	t 2 80	.....	77,907 96	41,183 60	119,091 56
			f 1 00					
1888–89	.....do	a 1 61	k 1 56	t 2 80	.....	83,284 54	43,999 70	127,284 24
			f 1 00					
1889–90	.....do	a 1 61	k 1 56	t 2 80	.....	101,292 67	58,992 40	160,285 07
			f 1 00					
1890–91	.....do	a 1 61	k 1 56	t 2 80	.....	110,998 97	65,966 10	176,965 07
			f 1 00					
1891–92	Norris Peters Co	b 1 57	k 1 56	t 2 80	.....	99,992 58	52,969 50	152,962 08
			f 1 00					
1892–93	.....do	b 1 55	k 1 56	t 2 80	.....	99,788 92	54,998 30	154,787 22
		c 1 49	f 1 00					
1893–94	National Lithographic Co	b 1 55	k 1 56	t 2 70	.....	94,911 33	49,997 70	144,909 03
		c 1 47	f 1 00					
1894–95	Norris Peters Co	b 1 01	i 1 14	t 1 95	.....	60,482 04	38,297 88	98,779 92
		c 96	l 94					
1895–96	A. B. Graham	d 1 0025	k 735	u 1 10	.....	58,866 60	42,326 30	101,192 90
		e 9775	l 93					
1896–97	Norris Peters Co	f 84	m 65	u 1 00	.....	58,960 78	35,712 00	94,672 78
		e 655	n 60					
1897–98	.....do	d 92	m 75	u 1 50	.....	68,999 28	39,749 40	108,748 68
		e 83	n 75					
1898–99	.....do	d 1 005	o 72	u 1 60	t $0 07	75,999 85	46,065 60	122,065 45
	*Annie C. Bell	e 885	n 78		w 095			
					y 125			
1899–1900	Norris Peters Co	g 995	p 70	u 1 60	v 05	98,999 90	55,092 80	154,092 70
	*Henry C. Yates & Co	e 885	n 78		w 12			
					y 18			
1900–1901	.....do	g 1 08	g 80	u 1 75	v 05	108,999 54	62,100 00	171,099 54
		h 1 03			w 12			
					y 20			
1901–1902	.....do	g 1 08	g 80	u 1 75	v 05	108,999 55	66,600 00	175,599 55
		h 1 03			w 12			
					y 20			
1902–1903	Norris Peters Co	g 1 08	g 80	u 1 75	w 14	123,842 76	75,112 50	198,955 26
	*Charles Parker	h 1 03			y 20			
1903–1904	Norris Peters Co	g 1 08	g 80	u 1 75	w 10	129,999 97	84,162 50	214,162 47
	*W. E. Oliver	h 1 03			y 15			
1904–1905	Sackett & Wilhelms Lithographing & Printing Co.	d 1 30	g 80	u 1 65	w 10	140,000 00	75,020 00	215,020 00
	*C. Parker	h 95	r 1 10		y 15			
			s 1 25					

Expenditures for photolithographic and photographic work since 1884–85—Continued.

Fiscal year.	Contractor.	Price per page. Current issue.	Reproduction of exhausted copies.	Library edition.	Photographic copies.	Total.	Official Gazette.	Grand total.
1905–1906	§A. B. Graham Co	*d* $0 895	*q* $0 60	*u* $1 38	*w* $0 08	$129,999 99	$71,736 00	$201,735 99
	‡Norris Peters Co	*aa* 725	*r* 80		*y* 13			
	°Columbia Planograph Co	*bb* 705	*s* 90					
	•W. E. Oliver	*cc* 60						
	'Sackett & Wilhelms Lithographing & Printing Co							
1906–1907	§Norris Peters Co	*f* 80	*q* 57			z140,000 00	*ff*	
	‡Norris Peters Co	*dd* 65	*s* 85					
	°A. B. Graham Co			*ee* 1 22				
	•E. L. Parker				*w* 08 *y* 13			

§ For current issue.
‡ " reproduction of exhausted copies.
° " the library edition.
• " photographic work.
' " Official Gazette.
a " 152 thin, 2 thick, and 1 bond copies.
b " 102 " 2 " " 1 " "
c " 24 " 2 " " 1 " " of design patents and trade-marks.
d " 100 " 2 proof, 2 thick and 1 bond copies.
e " 24 " 4 thick, and 1 bond copies of designs and trade-marks.
f " 100 " 2 " " 1 " "
q " 75 " 2 proof, 2 thick, and 1 bond copies.
h " 50 " 4 thick, and 1 bond copies of designs and trade-marks.
i " 152 " and 2 thick copies of mechanical patents.
j " 12 copies of design patents and trade-marks.
k " 150 thin and 2 thick copies of mechanical patents.
l " 24 " " 2 " " " designs and trade-marks.
m " 150 copies of mechanical patents.
n " 24 " " design patents and trade-marks.
o " 100 " " mechanical patents.
p " 50 " " " " "
q " 50 " each, mechanical and design patents and trade-marks.
r " 75 " " " " " " " "
s " 100 " " " " " " " "
t " 200 copies.
u " 235 "
v Size, 5 x 8 in.
w " 7 x 11 "
y " 10 x 15 "
z Estimated.
aa For 50 thin, 2 proof, 2 thick, and 1 bond copies of designs.
bb " 50 " 2 thick, and 1 bond copies of trade-marks.
cc " 2 copies of trade-marks for publication.
dd " 50 thin, 2 thick, and 1 bond copies of trade-marks and designs.
ee " 150 copies.
ff No contract made with photolithographer for illustrations for Official Gazette.

Table showing the number of patents issued by the United States and foreign countries from the earliest period to December 31, 1906. (*Foreign figures for 1906 estimated.*)

Countries.	To 1870, inclusive.	1871 to 1906.	Total.	Countries.	To 1870, inclusive.	1871 to 1906.	Total.
Argentina	83	6,068	6,151	Malta	.....	63	63
Australia	.....	2,841	2,841	Mauritius	113	261	374
Austria	.....	46,183	46,183	Mexico	22	6,422	6,444
Austria-Hungary	15,350	67,583	82,933	Netherlands	4,535	.....	4,535
Bahamas	.....	2	2	Newfoundland	40	346	386
Barbadoes	.....	137	137	New South Wales	236	11,740	11,976
Belgium	35,044	168,248	203,292	New Zealand	109	10,672	10,781
Bolivia	42	65	107	Norway	737	16,742	17,479
Brazil	185	5,143	5,328	Paraguay	.....	71	71
British Guiana	32	94	126	Peru	.....	160	160
British Honduras	1	19	20	Portugal	245	4,927	5,172
Canada	4,081	102,137	106,218	Queensland	67	6,368	6,435
Ceylon	58	614	672	Russia	1,464	16,404	17,868
Chile	266	1,473	1,739	St. Helena	.....	4	4
Colombia	.....	959	959	South African Republic	.....	1,262	1,262
Congo Free State	.....	169	169	South Australia	123	6,221	6,344
Costa Rica	.....	49	49	Spain	.....	35,900	35,900
Denmark	464	16,167	16,631	Straits Settlements	.....	164	164
Ecuador	.....	10	10	Sweden	1,629	23,097	24,726
Fiji Islands	.....	32	32	Switzerland	.....	36,697	36,697
Finland	112	2,541	2,653	Tasmania	43	2,426	2,469
France	103,934	281,755	385,689	Transvaal	.....	1,260	1,260
Germany	9,996	187,877	197,873	Trinidad	6	172	178
Great Britain	53,408	312,996	266,404	Tunis	.....	609	609
Guatemala	.....	57	57	Turkey	.....	1,540	1,540
Hawaii (prior to August 12, 1898)	.....	148	148	Uruguay	.....	300	300
Hongkong	.....	150	150	Venezuela	.....	202	202
Hungary	.....	33,406	33,406	Victoria	822	12,463	13,285
India	445	8,638	9,083	Western Australia	.....	3,524	3,524
Italy and Sardinia	4,723	74,979	79,702				
Jamaica	22	177	199	Total foreign	238,437	1,538,755	1,777,192
Japan	.....	11,349	11,349	United States	120,573	729,182	849,755
Leeward Islands	.....	20	20				
Liberia	.....	2	2	Grand total	359,010	2,267,937	2,626,947
Luxemburg	.....	6,650	6,650				

The following comparison between the receipts, expenditures, applications filed, issues of the Office, the printed copies sold, copies of records furnished, and the number of employees for the years ended, respectively, December 31, 1899, and December 31, 1906, illustrates the growth of the business of the Patent Office:

Class.	1899.	1906.	Increase.	Percentage of increase.
Receipts	$1,325,457.03	$1,790,921.38	$465,464.35	35.1
Expenditures	$1,211,783.73	$1,554,891.20	$343,107.47	28.3
Applications and caveats filed	45,990	68,123	22,133	48.1
Letters patent, design and reissue patents granted, and trade-marks, labels, and prints registered	27,787	43,898	16,111	57.9
Printed copies of patents furnished	1,451,519	2,031,042	579,523	39.9
Price received	$50,201.11	$82,263.72	$32,062.61	63.8
Words written in copies of records furnished	13,575,650	23,839,800	10,264,150	75.6
Number of employees	663	798	135	20.3

SUMMARY OF TABLES.

In 1906 there were received 55,471 applications for mechanical patents, 806 applications for design patents, 205 applications for reissues of patents, 8,493 applications for registration of trade-marks, 844 applications for registration of labels, and 419 applications for registration of prints. There were 31,806 patents issued, including designs, 159 patents reissued, and 10,568 trade-marks, 709 labels, and 656 prints registered. The number of patents that expired was 23,360. The number of allowed applications awaiting the payment of final fees was 10,800, and the number forfeited for non-payment of the final fees 5,021. The total receipts were $1,790,921.38, the expenditures $1,554,890.20, and the surplus of receipts over expenditures $236,030.18. The total balance to the credit of the Patent Office in the Treasury of the United States on January 1, 1907, was $6,427,021.86.

In proportion to population more patents were issued to citizens of Connecticut than to those of any other State—1 to every 1,074. Next in order are the following: District of Columbia, 1 to every 1,180; California, 1 to every 1,331; Colorado, 1 to every 1,409; Rhode Island, 1 to every 1,414; New Jersey, 1 to every 1,451; Illinois, 1 to every 1,551; New York, 1 to every 1,565; Washington, 1 to every 1,583; Massachusetts, 1 to every 1,674; Ohio, 1 to every 1,918; Pennsylvania, 1 to every 2,090; Idaho, 1 to every 2,527; Montana, 1 to every 2,534; Michigan, 1 to every 2,541; Oregon, 1 to every 2,568; Oklahoma, 1 to every 3,062; Wyoming, 1 to every 3,084; Wisconsin, 1 to every 3,172; Indiana, 1 to every 3,192; Missouri, 1 to every 3,246; Iowa, 1 to every 3,258; Arizona, 1 to every 3,322; Minnesota, 1 to every 3,481; Utah, 1 to every 3,500; Nevada, 1 to every 3,527; North Dakota, 1 to every 3,753; Delaware, 1 to every 3,770; Nebraska, 1 to every 3,886; Maryland, 1 to every 3,927; Vermont, 1 to every 3,949; South Dakota, 1 to every 4,097; Kansas, 1 to every 4,386; Maine, 1 to every 4,598; West Virginia, 1 to every 4,723; New Hampshire, 1 to every 5,081; Alaska, 1 to every 5,767; Indian Territory, 1 to every 6,425; Florida, 1 to every 6,776; Virginia, 1 to every 6,944; New Mexico, 1 to every 6,974; Texas, 1 to every 6,976; Tennessee, 1 to every 7,901; Kentucky, 1 to every 8,041; Louisiana, 1 to every 8,424; Hawaii, 1 to every 9,058; Georgia, 1 to every 9,894. The fewest patents granted in proportion to the number of inhabitants were in the following States: South Carolina, 1 to every 18,110; Mississippi, 1 to every 15,513; Alabama, 1 to every 13,959; North Carolina, 1 to every 13,141, and Arkansas, 1 to every 10,929.

As to foreign patents, 991 were granted to citizens of Germany; 852 to those of England; 461 to those of Canada; 314 to those of France; 133 to those of Austria-Hungary; 78 to those of Switzerland; 66 to those of Scotland; 61 each to those of Belgium and Sweden; 60 to those of New Zealand; 58 to those of Victoria; 38 to those of Transvaal; 34 to those of Italy; 28 each to those of Denmark and Russia; 26 to those of New South Wales; 25 to those of Mexico; 19 each to those of the Netherlands and Norway; 15 to those of Ireland; 11 to those of Japan; 9 to those of South Australia; 8 to those of Cuba; 7 to those of Queensland; 6 each to those of Brazil, Spain, and Western Australia; 5 each to those of Argentina, India, and Tasmania; 4 each to those of Chile and Haiti; 3 each to those of Cape Colony, Guatemala, and Natal; 2 each to those of Jamaica, Newfoundland, Portugal, Roumania, Turkey, and Tunis; 1 each to Algeria, Barbadoes, British Guiana, British West Indies, Nicaragua, Sierra Leone, and Venezuela.

A statement of the condition of the examining divisions of this Office at the end of the year has always been made in the Commissioner's yearly report to Congress, and it is a pleasure to state that the condition of these divisions at the close of the year 1906 was excellent. A report of the condition of these examining divisions at the close of the calendar year always suffers by the absence of the Examiners, who during the last half of December take the balances of leave to which they are entitled for the whole of the year, and these absences cause some drag in the work of the divisions at the very end of the year. For instance, our work reports show that nearly one-third of the assistants occupied in the examination of applications were absent during the last week of the year.

If the condition of each examining division is stated by the date of the oldest amended application, our reports show that such oldest amended cases were taken up for action after the date of receipt of the amendments in the following periods:

Within 15 days by 14 divisions, from 15 days to 1 month by 16 divisions, and from 1 month to 56 days in 9 divisions.

The average time in which such oldest applications in the several divisions were taken up for action was 25.41 days. This statement, however, being based upon the oldest dates that can be found in the several examining divisions does not show in the best way the times within which cases pending in the divisions do, in fact, receive action. Such times may be shown by taking the dates of the several Examiners' desks in each division and averaging these dates. This process develops the fact that such average times of the divisions are about one-sixth less than

the times obtained by the statement of the slowest dates, and in regard to the amended work the average time by Examiners' desks, and which fairly represents the times required in the various classes into which inventions are divided, was 21.02 days from the date of filing.

Applying both methods of statement to the new work of this Office, it may be stated that at the end of the year the oldest cases remaining in 29 of the examining divisions of this Office were within one month, and in the remaining 10 divisions were between one and two months. Not a single division of this office exceeded this latter period. The average position of the divisions in their transaction of new work, marked by the slowest cases in each division, was 32.44 days, and by Examiners' desks showed that the average time required for action upon new cases was 27.12 days from the date of filing.

The weekly work report of January 15, 1907, exhibits, as usual, the recovery from the disturbing effects of Examiners' absences at the end of the year. By this report a much better statement of work conditions is able to be shown, and it appears that the examining divisions of this Office were taking up their oldest amended cases for action as follows:

20 divisions within 13 days, 16 divisions from 13 days to 1 month, and 3 divisions ranging from 1 month to 43 days, the average time being 19.16 days. Applying the same method of determining the average position of the different Examiners' desks in the divisions, this average time is reduced to 15.89 days.

As to the new work upon January 15, 36 of the 39 examining divisions were taking up their oldest cases for action within 29 days from the date of filing and the 3 remaining divisions in 36, 43, and 43 days, respectively. The average position of the examining divisions in this Office judged by the oldest cases is 28 days, and by the average time for the Examiners' desks it is 23.41 days.

No single statement can better express the general prompt and excellent condition of the work of this Office at the middle of the current month than the following: The total number of cases awaiting action upon January 15, 1907, is about 600 less than the receipts of new and amended cases during the first two weeks of this month.

In respect to the registration of trade-marks the condition of the work of this Office is very satisfactory. This work, which prior to 1905 amounted to about 2,500 trade-mark applications per annum, was very greatly increased by the liberal provisions of the statute of February 20, 1905, and by the end of that year there had been filed 16,224 applications for registration of trade-marks. During the year 1906 this number fell to 8,493, and it is thought probable that moderate annual increases in this amount may be expected. The work of the division having these matters in charge is well up to date. At the end of the year new trade-mark applications were taken up for action within 17 days and amended cases within one week from the time of filing.

There has been no time in recent years when the general condition of the work of this Office has been so good as at the present time, and this excellent condition has been brought about in part by the increased force given to this Office upon the 1st of July of the year just ended and also by systematic and generous efforts on the part of the examining corps and clerical force of this Office to improve the condition of the different divisions. I have been able to divert to the purpose of examining applications for patents some Examiners hitherto occupied with other necessary work, but who were temporarily assigned to such examining divisions as were behind with their work for the purpose of bringing it up to date.

I feel it a duty to the Examiners of this Office to say that many members of this corps of 300 men have cheerfully worked overtime to this end and have surrendered leaves which in many cases were due to them and that without their personal efforts, which were in a high degree generous and self-sacrificing, the excellent condition of these divisions which I am now able to report would not have been reached for many months.

Attention is called to the growth of this Office during the last seven years. This is shown in the table included above, where it appears that the number of applications and caveats filed has increased in this period by 48.1 per cent and that the Letters Patent issued and trade-marks, prints, and labels registered have increased 57.9 per cent. Such regular increase follows very closely the increase in the number of employes in manufacturing establishments in the country, and the distribution of these applications among the different States and Territories is very nearly proportional to the number of employes engaged in manufacturing in such States and Territories. These facts show that the patent system is very closely related to the manufacturing enterprises of the country, and it is believed that this system has materially aided the manufactures of the country and that its prosperity is closely connected with theirs. For this reason the treatment of the United States Patent Office by Congress should be such as will allow it adequate growth and development and for this purpose to give it such increase in its working force and in the space allotted for the transaction of its business as is required by its growth.

It will also be necessary if this service is to be maintained in efficiency to check the frequent resignations of skilled Examiners by increasing their compensation somewhat above the present figures. In the last year resignations from the examining corps of this Office amounted to 32, distributed as follows: 2 Principal Examiners, 3 first assistants, 5 second assistants, 15 third assistants, and 7 fourth assistants. It will be seen that the largest number of resignations came in the grade of the third assistant, a grade in which an assistant may be supposed to have reached a capacity for effective and independent action in the transaction of the work of examining applications. At the present time the temptation to resign in order to accept employment with practicing attorneys or with large manufacturing establishments which have patent departments is not able to be met by any inducements which this Office can present in the way of salary. It should not be forgotten that there is a wide field of employment for the Examiners of the Patent Office outside of the Government service, and I believe that these outside inducements are more frequently presented to our Examiners than to any other group of technically-trained men in the Government service. In 1848 the salary of a Principal Examiner in this Office was $2,500, at that time equaling the salary of a Representative in Congress. The pay of these Examiners has not been increased from that time to the present, while the cost of living has increased very considerably.

The space allotted to the Patent Office at the present time is insufficient for the economic transaction of its work

and for the health and convenience of its employes. The space allotted to some divisions of this Office is unfit for their purposes in dimensions, as well as in the matter of light and ventilation. If the Patent Office could occupy the whole of the building which it now occupies in part, it would no more than suffice for its necessities. I believe that an amount equal to the accumulated surplus derived from the operations of this Office, which is shown by this report to be a little less than six and one-half million dollars, might well be expended in the building of a permanent satisfactory building adapted to the requirements of this service and worthy of a service which is recognized throughout the world as representing the American national characteristics more than any other branch of the Government service.

Respectfully submitted.

FREDERICK I. ALLEN,
Commissioner.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 2, 1907.

Lyman F. Palmer and H. H. Wetherbee & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Crescent Manufacturing Company, of Seattle, Wash., for registration of a trade-mark, a trade-mark registered to Lyman F. Palmer, of Topeka, Kans., and a trade-mark registered to H. H. Wetherbee & Company, of Boston, Mass. The notices of declaration mailed by the Patent Office in the usual manner to the said Lyman F. Palmer and H. H. Wetherbee & Company have been returned by the Post-Office Department undelivered, and it appears of record in the interference that both of said parties are probably out of business.

Notice is therefore hereby given to the said Lyman F. Palmer and to H. H. Wetherbee & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 9, 1907.

Charles B. Hull, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of The J. F. Zahm Tobacco Company, of Toledo, Ohio, for registration of a trade-mark, and a trade-mark registered to the said company, and also a trade-mark registered to Charles B. Hull, of Detroit, Mich. It has been impossible to locate said Hull, and his attorney of record is no longer in business.

Notice is therefore hereby given to the said Charles B. Hull, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 18, 1907.

F. G. Whitney & Company, their assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of E. M. Weinberg & Company, of 134 Mott street, borough of Manhattan, New York, N. Y., for registration of a trade-mark and a trade-mark registered to F. G. Whitney & Company, of Attleboro, Mass., and the notice of said declaration mailed by the Patent Office in the usual manner to the said F. G. Whitney & Company having been returned undelivered, notice is hereby given to the said F. G. Whitney & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notice of declaration heretofore sent by and returned to the Office may be forwarded to them.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 2, 1907.

Charles A. Raymond, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for registration of a trade-mark filed by the Bay State Shoe & Leather Company, of Worcester, Mass., a registered trade-mark to the same company, and a trade-mark registered to Charles A. Raymond, of Boston, Mass., and New York, N. Y. The notice of declaration of said interference mailed by the Patent Office in the usual manner to the said Charles A. Raymond, 195 Congress street, Boston, Mass., has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said Charles A. Raymond, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

THE

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[BY AUTHORITY OF CONGRESS.]

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ISSUE OF FEBRUARY 5, 1907.

Patents	721	No. 842,849	to No. 843,569,	inclusive.
Designs	2	No. 38,139	to No. 38,140,	inclusive.
Trade-Marks	199	No. 60,249	to No. 60,447,	inclusive.
Labels	8	No. 13,341	to No. 13,348,	inclusive.
Prints	5	No. 1,901	to No. 1,905,	inclusive.
Reissues	None.			
Total issue	935			

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	2	.....	New Hampshire	1	.....
Alaska, District of	.....	.....	New Jersey	26	17
Arizona Territory	.....	1	New Mexico Ter't'y	.....	.....
Arkansas	1	.....	New York	100	38
California	16	2	North Carolina	3	1
Colorado	11	.....	North Dakota	.....	.....
Connecticut	21	10	Ohio	55	10
Delaware	2	.....	Oklahoma Territ'y	4	.....
District of Columbia	5	.....	Oregon	3	2
Florida	1	.....	Panama	1	.....
Georgia	5	5	Pennsylvania	57	16
Hawaii Territory	1	.....	Philippine Islands	.....	.....
Idaho	.....	.....	Rhode Island	11	2
Illinois	67	21	South Carolina	1	.....
Indian Territory	3	.....	South Dakota	1	.....
Indiana	25	5	Tennessee	4	.....
Iowa	10	1	Texas	17	3
Kansas	9	4	Utah	2	.....
Kentucky	6	3	Vermont	3	.....
Louisiana	8	1	Virginia	4	1
Maine	6	3	Washington	5	.....
Maryland	8	2	West Virginia	2	1
Massachusetts	44	25	Wisconsin	14	2
Michigan	24	7	Wyoming	1	.....
Minnesota	8	4	U. S. Army	.....	.....
Mississippi	5	.....	U. S. Navy	1	.....
Missouri	26	9	Total to citizens of the United States	634	197
Montana	1	.....			
Nebraska	3	1			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Natal	.....	.....
Austria-Hungary	2	.....	Netherlands	.....	1
Belgium	.....	.....	Newfoundland	1	.....
Brazil	.....	.....	New South Wales	.....	.....
British West Indies	.....	.....	New Zealand	1	.....
Canada	10	.....	Norway	1	.....
Cape Colony	.....	.....	Persia	.....	.....
Chile	.....	.....	Queensland	.....	.....
China	.....	.....	Roumania	.....	.....
Costa Rica	.....	.....	Russia	1	.....
Cuba	1	.....	Scotland	2	2
Denmark	1	.....	South Australia	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	20	5	Sweden	2	.....
France	8	2	Switzerland	.....	1
Germany	32	3	Transvaal, South Africa	2	.....
India	2	.....	Victoria	.....	.....
Ireland	.....	.....	Western Australia	.....	.....
Italy	.....	.....			
Japan	.....	1			
Java	.....	.....	Total to citizens of foreign countries	89	15
Mexico	3	.....			

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 22, 1907.

Francis Sedziak, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for patent filed by Joseph M. Bosenbury, of Decatur, Ill., and an application for patent filed by Francis Sedziak, of St. Louis, Mo. It appears from the record of the case that the present address of the said Francis Sedziak is unknown, and it has been impossible to notify him of the interference.

Notice is therefore hereby given to the said Francis Sedziak, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 22, 1907.

Alexander Speer & Sons, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Star Manufacturing Company, of Carpentersville, Ill., for registration of a trade-mark and a trade-mark registered to Alexander Speer & Sons, of Pittsburg, Pa. It has been found impossible to locate the said Alexander Speer & Sons, and their attorneys of record are dead.

Notice is therefore hereby given to Alexander Speer & Sons, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business January 29, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Jan. 25	Jan. 26	41
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Jan. 21	Dec. 31	114
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Jan. 18	Jan. 7	180
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Jan. 17	Jan. 11	214
109	XVI. Telegraphy and Telephony..	Jan. 17	Jan. 2	133
167	V. Bookbinding, Harvesters, Jewelry, and Music.	Jan. 16	Jan. 3	240
321	I. Tillage, etc., Fences, and Railway Draft Appliances.	Jan. 16	Jan. 2	111
327	XVIII. Steam-Engineering, etc ...	Jan. 16	Jan. 2	175
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Jan. 16	Jan. 2	158
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Jan. 16	Jan. 2	197
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Jan. 16	Dec. 29	208
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Jan. 16	Dec. 29	175
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Jan. 15	Jan. 5	96
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Jan. 15	Jan. 2	349
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Jan. 15	Jan. 2	187
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Jan. 15	Jan. 2	215
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Jan. 15	Dec. 29	212
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	Jan. 14	Jan. 5	131
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	Jan. 14	Jan. 2	162
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Jan. 14	Dec. 31	191
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Jan. 14	Dec. 27	212
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Jan. 10	Jan. 7	202
123	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Jan. 9	Jan. 2	332
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Jan. 9	Dec. 29	362

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Jan. 8	Jan. 7	203
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Jan. 7	Jan. 2	263
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Jan. 7	Jan. 2	330
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Jan. 5	Jan. 2	247
382	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	Jan. 4	Jan. 2	247
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Signals, Time Controlling Mechanism.	Jan. 4	Dec. 29	266
343	XXXIX. Cushion and Pneumatic Tires, Fine Arts, and Water Distribution.	Jan. 2	Jan. 2	556
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Jan. 2	Jan. 2	469
332	X. Carriages and Wagons.....	Jan. 2	Jan. 2	386
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	Jan. 2	Jan. 2	404
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Jan. 2	Dec. 31	319
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Dec. 31	Dec. 31	358
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	Dec. 31	Dec. 31	227
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	Dec. 29	Dec. 19	281
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Dec. 26	Dec. 24	272

Total number of applications awaiting action 9,425

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Trade-Marks	Jan. 28	Jan. 25	90
	Designs	Jan. 22	Jan. 17	23
	Labels and Prints	.....	.....	....

Interference Notice.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 18, 1907.

F. G. Whitney & Company, their assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of E. M. Weinberg & Company, of 134 Mott street, borough of Manhattan, New York, N. Y., for registration of a trade-mark and a trade-mark registered to F. G. Whitney & Company, of Attleboro, Mass., and the notice of said declaration mailed by the Patent Office in the usual manner to the said F. G. Whitney & Company having been returned undelivered, notice is hereby given to the said F. G. Whitney & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notice of declaration heretofore sent by and returned to the Office may be forwarded to them.

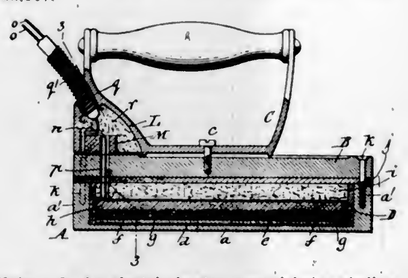
This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

PATENTS

GRANTED FEBRUARY 5, 1907.

842,849. ELECTRIC HEATER. ARTHUR N. ANDERSON. Niagara Falls, N. Y. Filed May 31, 1905. Serial No. 263,117.



Claim.—1. An electric heater comprising a shell, a plurality of resistance coil-sections arranged parallel side by side in said shell, insulating-strips arranged between said sections and each strip bearing on its opposite sides against the sections between which the same is arranged and at its opposite ends against the inner sides of the shell, and an electric insulating and heat-conducting filling arranged in the shell and completely embedding said coil-sections and strips, substantially as set forth.

2. An electric heater comprising a shell, a resistance composed of a plurality of coil-sections arranged parallel side by side in said shell and bearing at opposite ends against the opposite side walls of the shell and connected in series so as to form a zigzag-shaped conductor, insulating-strips each arranged lengthwise between two adjacent coil-sections and bearing on opposite sides against the sides of the coils which it separates and at opposite ends against the side walls of the shell and at one end against that portion of the resistance which connects the coil-sections on opposite sides of the same, and a filling arranged in said shell and embedding said resistance and strip, substantially as set forth.

842,850. DISTRIBUTING-MACHINE FOR CLOSED FILTERS. HIRAM W. BLAISDELL, Los Angeles, Cal. Filed Nov. 16, 1904. Serial No. 233,005.

Claim.—1. A machine constructed to operate from a fixed support within a covered filter provided with means for distributing material and mechanism for operating the parts.

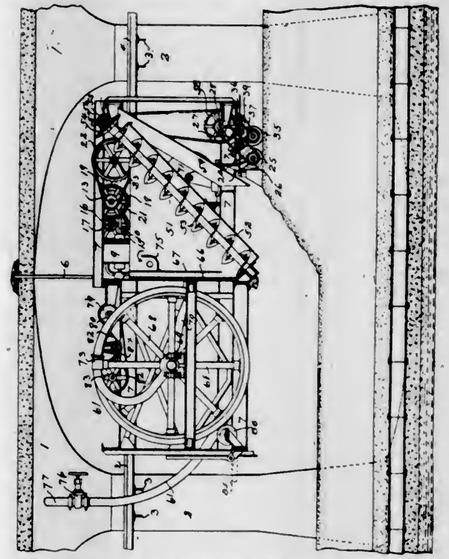
2. A covered filter provided with supporting means beneath the cover, a machine constructed to travel thereon provided with mechanism for distributing material and instrumentalities for operating the parts.

3. A machine constructed to operate from a fixed support within a covered filter, means for distributing material carried thereon, devices for supplying the material to said means and mechanism for operating the parts.

4. A covered filter provided with suspending means beneath the cover, a traveling structure supported from said means constructed to distribute material and mechanism for operating the parts.

5. A machine of the character described provided with means for distributing material, apparatus for supplying material to said machine, a vehicle for conveying material to said apparatus, means for conducting the vehicle therefrom and mechanism for operating the parts.

6. A covered filter provided with suspending means, mechanism engaging said means constructed to distribute the material, apparatus for supplying the material to said machine, a vehicle for conveying material to said apparatus, means for conducting the vehicle of said material from said machine and instrumentalities for operating the parts.



7. A machine of the character described provided with means for distributing the material, apparatus connecting the source of material-supply and said machine to continuously supply the latter throughout the travel of the machine, a vehicle for conveying the material from said source to said machine and mechanism for operating the parts.

8. A machine of the character described, provided with distributing means, a flexible connection between said machine and the source of material-supply, a vehicle for conveying the material through said connection to said machine and mechanism for operating the parts.

9. A covered filter provided with supporting means, mechanism constructed to travel in engagement with said means, to effect the distribution of material, a flexible connection between the source of material-supply and said mechanism to continuously supply the latter during the travel thereof, a vehicle for conveying material through said connection to said mechanism and instrumentalities to operate the parts.

10. A machine of the character described provided with distributing means, a flexible connection between said machine and the source of material-supply, a vehicle for conveying material from said source to said machine, an outlet for said vehicle, a flexible connection between said machine and said outlet and instrumentalities for operating the parts.

11. A machine of the character described provided with distributing means, a source of material-supply, a connection between said source and said machine, a vehicle for

conveying material through said connection, an outlet for said vehicle, a connection between said machine and said outlet and instrumentalities for operating the parts.

12. A machine of the character described provided with distributing means, a source of supply, a vehicle for conveying material from said source to said machine, an outlet for said vehicle, reels carried by said machine, flexible connections upon said reels connecting said machine respectively with the source of material-supply and the outlet and instrumentalities for operating the parts.

13. A machine of the character described provided with distributing means, a source of supply, a vehicle for conveying material from said source to said machine, an outlet for said vehicle, reels operated by the travel of the machine, inlet and outlet connections upon said reels, connecting said machine respectively with the source of supply and the outlet and instrumentalities for operating the parts.

14. A machine of the character described provided with distributing means, apparatus for supplying material thereto, a fluid-vehicle for carrying the material, means for discharging the vehicle and mechanism for operating the parts.

15. A machine of the character described provided with distributing means, a source of supply, a vehicle for conveying material from said source to said machine, an outlet for said vehicle, reels carried by the machine, devices for operating the reels by the movement of the machine, inlet and outlet connections connecting said machine respectively with the source of supply and the outlet, whereby the machine is continuously supplied with material throughout the movement thereof and instrumentalities for operating the parts.

16. A covered filter provided with supporting means, a distributing mechanism constructed to travel on said means, reels on said machine, devices for operating the reels from the travel of the machine, flexible connections upon said reels for respectively supplying and discharging material, and instrumentalities for operating the parts.

17. A machine of the character described provided with a rotary distributing device, means for supplying material to the machine and mechanism for operating the parts.

18. A machine of the character described provided with main and auxiliary distributing devices, whereby the material may be distributed around obstructions and mechanism for operating the parts.

19. A machine of the character described provided with a main distributer, auxiliary distributers, devices for extending and retracting the latter and instrumentalities for operating the parts.

20. A machine of the character described provided with distributing devices, means for extending and retracting said devices to effect the distribution of material around obstructions and mechanism for operating the parts.

21. A machine of the character described provided with means for supplying material, movable bearings, devices for moving the bearings, distributers mounted in said bearings and mechanism for operating the parts.

22. A machine of the character described provided with a main distributer, auxiliary distributers, means for extending and retracting the latter, an operating-shaft constructed to drive said main and auxiliary distributers and mechanism for operating the parts.

23. A machine of the character described provided with fluid means for supplying material, a receiver for the material a device for discharging the material from the receiver and mechanism for operating the parts.

24. A machine of the character described provided with fluid means for supplying material, a receiver for the material, an elevator to discharge the material from the receiver and mechanism for operating the parts.

25. A machine of the character described provided with an elevator for discharging the material from the machine, rotary distributers and mechanism for operating the parts.

26. A machine of the character described provided with fluid means for supplying material, a receiver a discharging device therein, distributers and mechanism for operating the parts.

27. A machine of the character described provided with inlet and outlet apparatus for conducting filter material and its vehicle and discharging the vehicle respectively, a receiver connected with said apparatus, a device for discharging the material from said receiver, distributers, and mechanism for operating the parts.

28. A covered filter provided with supporting means, a structure constructed to travel on said means, a receiver, flexible inlet and outlet connections for the receiver, whereby material is conveyed to the receiver by a fluid-vehicle and the vehicle is discharged therefrom, a device for discharging the material from said receiver, a main distributer, extensible and retractible auxiliary distributers, and mechanism for operating the parts.

29. A machine of the character described provided with supporting means, a structure constructed to travel on said means, a receiver, flexible inlet and outlet connections for the receiver, whereby material is conveyed to the receiver by a fluid-vehicle and the vehicle is discharged therefrom, a device for discharging the material from said receiver, a main distributer, extensible and retractible auxiliary distributers, and mechanism for operating the parts.

30. A covered filter provided with supporting means, a structure constructed to travel on said means, reels carried by said structure, devices interposed between the supporting-wheels of said structure and said reels to operate the latter by the travel of the structure, a receiver upon the structure, flexible connection between the receiver and the source of material-supply, a vehicle for the material, flexible connection between the receiver and the outlet for the vehicle of the material, apparatus for effecting the discharge of the vehicle from the receiver, a device for discharging the material from the receiver, and instrumentalities for operating the parts.

31. A covered filter provided with supporting means, a structure constructed to travel on said means, reels carried by said structure, devices interposed between the supporting-wheels of said structure and said reels to operate the latter by the travel of the structure, a receiver upon the structure, flexible connection between the receiver and the source of material-supply, a vehicle for the material, flexible connection between the receiver and the outlet for the vehicle of the material, apparatus for effecting the discharge of the vehicle from the receiver, a device for discharging the material from the receiver, a main distributer, extensible and retractible auxiliary distributers and mechanism for operating the parts.

32. A covered filter provided with supporting means, a structure constructed to travel on said means, reels carried by said structure, devices interposed between the supporting-wheels of said structure and said reels to operate the latter by the travel of the structure, a receiver upon the structure, flexible connection between the receiver and the source of material-supply, a vehicle for the material, flexible connection between the receiver and the outlet for the vehicle of the material, apparatus for effecting the discharge of the vehicle from the receiver, a device for discharging the material from the receiver, a main distributer, reciprocating auxiliary distributers and instrumentalities for operating the parts.

33. A machine of the character described provided with means for conveying commingled sand and water thereto from without the filter, apparatus for separating the sand from the water, instrumentalities for distributing the sand and mechanism for operating the parts.

34. A machine of the character described provided with means for conveying the material to the machine from without the filter, a conveying element for said material, means for separating the material from the conveying element, apparatus for discharging the material and mechanism for operating the parts.

35. A machine of the character described provided with flexible means for conveying material thereto from without the filter, a conveying element for said material, apparatus for separating the material from the conveying element, devices for discharging the separated material and mechanism for operating the parts.

36. A machine of the character described provided with a receiver, apparatus for conveying combined sand and water to the receiver from without the filter, devices for separating the same from the water, means for disposing of the water and mechanism for operating the parts.

37. A machine of the character described provided with means for conveying water and sand from without the filter to the machine under pressure, means for separating the sand from the water, means for discharging the sand and mechanism for operating the parts.

38. A machine of the character described provided with means for conveying material thereto by the action of a conveying element, apparatus to effect the settling of the material from said element, means for discharging the material and mechanism for operating the parts.

39. A machine of the character described provided with means for conveying material to the machine in the presence of a conveying element, apparatus for effecting the settling of material from the element, and devices for disposing of the conveying element and mechanism for operating the parts.

40. A machine of the character described provided with means for conducting material to the machine in the presence of a conveying element, apparatus for effecting the gravitation of the material from the element, and devices for discharging the material from the machine, means for disposing of the conveying element and mechanism for operating the parts.

41. A covered filter provided with suspending means within the covering thereof, a machine constructed to engage said means to effect the distribution of material and mechanism for operating the parts.

42. A filter provided with a covering supported by piers, means supported by said piers beneath said covering to receive a machine, a machine constructed to engage said means to effect the distribution of material and mechanism for operating the parts.

43. A filter provided with a covering having suitable supports, tracks connected with said supports beneath said covering, a distributing-machine constructed to travel on said tracks and mechanism for operating the parts.

842,851. BINDER. CHARLES G. BODEN, St. Louis, Mo. Filed Dec. 5, 1904. Serial No. 235,547.



Claim.—1. In combination with a plate, a sliding element spaced therefrom, arches consisting of members having portions thereof penetrating said element and confined in said space, and means whereby said element may operate said arches.

2. In a device of the character described, the combination with a housing of arches comprising a pair of members having continuations thereof projecting into said housing, said continuations being arranged in parallel relation to each other within said housing, and a slide acting as a keeper for the continuations of said arches and also coöperating with said arches to actuate same.

3. In combination with a plate having a central raised portion, arches comprising a pair of members each having a continuation, a sliding element having a central depression overlying said raised portion and having its side portions shaped to confine said continuations between said raised portion and said side portions, and means whereby said element may operate said arches.

4. In a device of the character described, the combination of a lower plate having an upwardly-projecting bead, an upper plate forming a space between said upper and lower plates, a corrugated slide, the central bead of which coöperates with the before-mentioned bead to form grooves on each side of same, arches passing through said upper plate and said slide and having horizontal arms fitting into said grooves, said slide being provided with means to operate said arches.

5. In a device of the character described, the combination of a lower plate, an upper plate having apertures therethrough, a slide having slots therein, arches passing through said apertures and said slots, and having arms which are retained between said slide and one of said plates, said slots in said slide coöperating with the arches passing therethrough to operate said arches.

6. In a device of the character described, the combination of a casing, a slide located within same movable in either direction, said slide having slots therein, the sides of which slant from the center of said slide, arches penetrating from the exterior of said casing and passing through said slots, said arches having arms which rest between said slide and said casing and said slanting sides of said slots by pressure upon said arches, actuating same to rotate upon said arms as on pivots either to open or to close, according to the direction of movement of said slide.

7. In a device of the character described, the combination of a casing, a slide located within same movable in either direction, said slide having slots therein, the sides of which slant from the center of said slide, arches penetrating from the exterior of said casing and passing through said slots, said arches having arms which rest between said slide and said casing and said slanting sides of said slots by pressure upon said arches actuating same to rotate upon said arms as on pivots either to open or to close, according to the direction of movement of said slide, said slots terminating in straight portions.

8. In combination with a plate, a sliding element having a central depressed portion, arches consisting of members having portions thereof penetrating said element and arranged on opposite sides of said depressed portion, and confined between said plate and element, and means whereby said element may operate said arches.

9. In combination with a housing and a slide therein, arches comprising a pair of semicircular portions and integral horizontal arms disposed at right angles to said portions, said slide having a pair of oppositely-disposed irregularly-formed slots therein through which the lower portions of said semicircular portions project, whereby the latter may be actuated to be locked in either open or closed position.

10. In combination with a housing, a corrugated slide therein, the outer side portions of the corrugations in said slide being longitudinally cut to form cam-slots, and arches having portions passing through said slots with which the walls of said slots coöperate, whereby the slide is adapted to actuate said arches, said arches being supported by said corrugations.

11. In combination with a plate and an element bearing a sliding relation thereto, said plate and element each having a bent portion oppositely disposed to one another, arches consisting of members having portions thereof retained between said plate and element on opposite sides of said bent portions, and means whereby said element may operate said arches.

12. In combination with a plate, an element slidingly related thereto, said plate and element having coöperating portions bent to form seats, arches consisting of members having portions thereof penetrating said element and arranged in said seats, and means whereby said element may operate said arches.

13. In combination with a plate, an element slidably mounted with respect to said plate, and arches comprising a pair of members for actuation by said element having continuations thereof disposed within said element and arranged between said element and plate and being confined thereby, said slide having irregularly-formed slots therein through which said members project.

14. In combination with a plate, a slide movably mounted with respect to said plate and having a pair of oppositely-disposed inclined slots therein terminating in straight portions, arches comprising a pair of members having portions projecting through said slots and engaged by and confined between said slide and plate.

15. In combination with a plate, an element having a sliding relation thereto, said plate and element having their side portions and central portions coöperating in form seats therebetween, and arches consisting of members having portions thereof penetrating said element and dis-

posed in said seats, and means whereby said element may operate said arches.

16. In combination with a plate, an element having a sliding relation thereto, said plate and element having inwardly-bent portions and having their side portions disposed in juxtaposition to one another and spaced from said first-named portions to form seats in conjunction therewith, arches consisting of members having portions thereof arranged in said seats, and means whereby said element may operate said arches.

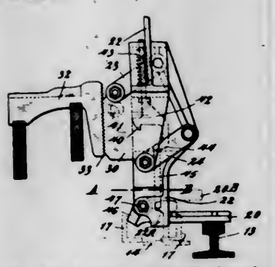
17. In combination with a plate, an element slidingly related thereto, arches consisting of members having portions thereof penetrating said element, said element being formed to receive said arch-member portions and to confine the same to said plate, and means whereby said element may operate said arches.

18. In combination with a housing, arches consisting of members having portions thereof penetrating said housing and disposed in longitudinal alinement therein, a sliding element in the housing penetrated by said arch-member portions and shaped to receive the same, and means whereby said element may operate said arches.

19. In combination with a plate, an element slidingly related thereto, arches consisting of members having portions thereof penetrating said element and arranged in side-by-side relation therein, said element confining said arch-member portions to said plate, and means whereby said element may operate said arches.

20. In combination with a housing, arches comprising a pair of members having continuations thereof projecting into the housing and arranged in parallel relation therein, and a slide surrounding said continuations of the members and provided with means for actuating the members.

842,852. ELECTRICAL CONTACT APPARATUS. JAMES C. BOYD, New York, N. Y. Filed Dec. 16, 1905. Serial No. 291,961.



Claim—1. A car, a running-track therefor, a contact-shoe, links arranged to connect the contact-shoe to the car, an adjustable bracket for connecting the links to the car, a movable bracket for connecting the links to the contact-shoe, a dependent projection from said movable bracket, a plurality of power-rails in different relative positions to the running-track, a fixed guide near said running-track arranged to engage with said dependent projection and to automatically shift the contact-shoe from one of said power-rails to the other of said power-rails by the movement of the car.

2. A car, a running-track therefor, a contact-shoe, links arranged to connect the contact-shoe to the car, an adjustable bracket for connecting the links to the car, a movable bracket for connecting the links to the contact-shoe, a dependent projection from said movable bracket, a fixed guide near said running-track arranged to engage with said dependent projection and to shift the contact-shoe from one of said power-rails to the other of said power-rails by the movement of the car, and a hook arranged to lock said movable bracket in its shifted position.

3. A car, a running-track therefor, a contact-shoe, links arranged to connect the contact-shoe to the car, an adjustable bracket for connecting the links to the car, a movable bracket for connecting the links to the contact-shoe, a dependent projection from said movable bracket, a fixed guide near said running-track arranged to engage with said dependent projection and to shift the contact-shoe from one of said power-rails to the other of said power-rails by the movement of the car, a hook arranged to lock said movable bracket in its shifted position and a spring arranged to actuate said hook in one direction.

4. A car, a running-track therefor, a contact-shoe, links arranged to connect the contact-shoe to the car, an adjustable bracket for connecting the links to the car, a movable bracket for connecting the links to the contact-shoe, a dependent projection from said movable bracket, a fixed guide near said running-track arranged to engage with said dependent projection and to shift the contact-shoe from one of said power-rails to the other of said power-rails by the movement of the car in one direction, a hook arranged to lock said movable bracket in its shifted position, a spring arranged to actuate the hook in one direction, a trigger arranged to release the hook, said guide also arranged to engage with the trigger and to release the hook against the action of the spring and to shift the movable bracket back to its former position by the movement of the car in the opposite direction.

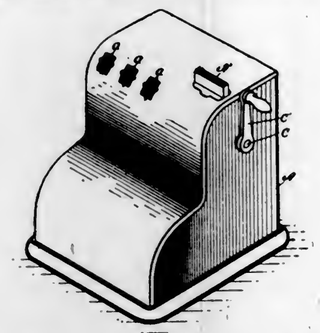
5. A car, a running-track therefor, a movable bracket, links arranged to connect the movable bracket to the car, an adjustable bracket for connecting the links to the car, a contact-shoe loosely connected to said movable bracket, a spring connecting the contact-shoe and the movable bracket, a dependent projection from said movable bracket, a fixed guide near said running-track arranged to engage with said dependent projection and to shift the contact-shoe from one of said power-rails to the other of said power-rails by the movement of the car in one direction, a hook arranged to lock said movable bracket in its shifted position, a spring arranged to actuate the hook in one direction, a trigger arranged to release the hook, said guide also arranged to engage with the trigger and to release the hook against the action of the spring and to shift the movable bracket back to its former position by the movement of the car in the opposite direction, and a supporting-beam for holding the contact-shoe during said shifting.

6. A car, a running-track therefor, a contact-shoe carried by the car, a power-rail parallel to the running-track and opposite one portion of the running-track, another power-rail parallel to the running-track and opposite another portion of the running-track, said power-rails being in different relative positions to the running-track, means for positively holding the contact-shoe in operative position over one of the power-rails, a locking device for holding the contact-shoe in operative position over the other of the power-rails, a guide arranged to shift the contact-shoe from the first of said operative positions and to cause the contact-shoe to be locked in the second of said operative positions when the car is running in one direction and to unlock and to shift the contact-shoe from the second of said operative positions to the first of said operative positions when the car is run in the opposite direction.

7. A car, a running-track therefor, a contact-shoe, links arranged to connect the contact-shoe to the car, a power-rail parallel to the running-track and opposite one portion of the running-track, another power-rail parallel to the running-track and opposite another portion of the running-track, said power-rails being in different relative positions to the running-track, means for positively holding the contact-shoe in operative position over one of the power-rails, means for locking the contact-shoe and thereby holding the contact-shoe in operative position over the other of the power-rails, and a guide arranged to positively move and cause the links to be locked and thereby hold the contact-shoe in operative position over one of the power-rails when the car is moved in one direction, and to unlock and to move the links back and thereby shift the contact-shoe into its operative position over another of the power-rails when the car is run in the other direction.

842,853. COIN-REGISTER. LEO J. BURDICK, Los Angeles, Cal. Filed Sept. 19, 1903. Serial No. 173,849.

Claim.—1. In a register mechanism, the combination of a suitable casing containing a coin-slot for the introduction of coins; a frame B supported within said casing; a shaft C supported on said frame and projecting through said casing; a suitable operating-crank for said shaft; a drum-like wheel D secured to said shaft; a coin-slot D in said drum adapted to register with the coin-slot in said casing; a lever E having arms E′ E″ pivotally supported on said shaft, said arm E′ being adapted to enter said coin-slot *d*; a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch F therein; a tension spring *f′* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d*; plates *d′ d′* coacting with said arm *m* to form a coin-holder; a spring *m′* secured to said arm *m* and to said drum; a series of register-wheels, the units register-wheel G having laterally-projecting teeth *g* thereon; suitable gear connections for said register-wheels; a cam-plate L arranged to the rear of and partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with the teeth *g* on said register-wheel G; tripping-cams *n n′* for said lever locking-dog F; a locking-dog J for said units register-wheel G, having arms M, N, K, thereon; and engaging tooth *e″* on the arm E″ of said lever E, adapted to engage said arms M, N, to actuate the said locking-dog J; a lug D″ on said drum adapted to engage said arm K to release said locking-dog J; and a stop *i* to prevent the actuation of said lever E through said coin-slot in said casing, all coacting for the purpose specified.



2. In a register mechanism, the combination of a suitable casing containing a coin-slot for the introduction of coins; a frame B supported within said casing; a shaft C supported on said frame and projecting through said casing; a suitable operating-crank for said shaft; a drum-like wheel D secured to said shaft; a coin-slot *d* in said drum adapted to register with the coin-slot in said casing; a lever E having arms E′ E″ pivotally supported on said shaft, said arm E′ being adapted to enter said coin-slot *d*; a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f′* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d*; plates *d′ d′* coacting with said arm *m* to form a coin-holder; a spring *m′* secured to said arm *m* and to said drum; a series of register-wheels, the units register-wheel G having laterally-projecting teeth *g* thereon; suitable gear connections for said register-wheels; a cam-plate L arranged to the rear of and partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with the teeth *g* on said register-wheel G; tripping-cams *n n′* for said lever locking-dog F; a locking-dog J for said units register-wheel G, having arms M, N, K, thereon; and engaging tooth *e″* on the arm E″ of said lever E, adapted to engage said arms N M to actuate the said locking-dog J; and a lug D″ on said drum adapted to engage said arm K to release said locking-dog J, all coacting for the purpose specified.

3. In a register mechanism, the combination of a suitable casing containing a coin-slot for the introduction of coins; a frame B supported within said casing; a shaft C supported on said frame and projecting through said casing; a suitable operating-crank for said shaft; a drum-like wheel D secured to said shaft; a coin-slot *d* in said drum adapted to register with the coin-slot in said casing; a lever E having an arm E″ pivotally supported on said shaft; a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f′* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d*; plates *d′ d′* coacting with said arm *m* to form a coin-holder; a spring *m′* secured to said arm *m* and to said drum; a series of register-wheels, the units register-wheel G having laterally-projecting teeth *g* thereon; suitable gear connections for said register-wheels; a cam-plate L arranged to the rear of and partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with the teeth *g* on said register-wheel G; tripping-cams *n n′* for said lever locking-dog F; a locking-dog J for said units register-wheel G, having arms M N K thereon; an engaging tooth *e″* on the arm E″ of said lever E, adapted to engage said arms M N to actuate the said locking-dog J; and a lug D″ on said drum adapted to engage said arm K to release said locking-dog J, all coacting for the purpose specified.

4. In a register mechanism, the combination of a suitable casing containing a coin-slot for the introduction of coins; a frame B supported within said casing; a shaft C supported on said frame and projecting through said casing; a suitable operating-crank for said shaft; a drum-like wheel D secured to said shaft; a coin-slot *d* in said drum adapted to register with the coin-slot in said casing; a lever E having an arm E″ pivotally supported on said shaft; a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f′* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d*; plates *d′ d′* coacting with said arm *m* to form a coin-holder; a spring *m′* secured to said arm *m* and to said drum; a series of register-wheels, the units register-wheel G having laterally-projecting teeth *g* thereon; suitable gear connections for said register-wheels; a cam-plate L arranged to the rear of and partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with the teeth *g* on said register-wheel G; tripping-cams *n n′* for said lever locking-dog F; a locking-dog J for said units register-wheel G, having arms M N K thereon; an engaging tooth *e″* on the arm E″ of said lever E, adapted to engage said arms M N to actuate the said locking-dog J; and a lug D″ on said drum adapted to engage said arm K to release said locking-dog J; and a stop *i* to prevent the actuation of said lever E through the coin-slot in said casing, all coacting for the purpose specified.

5. In a register mechanism, the combination of a suitable casing containing a coin-slot for the introduction of coins; a frame B supported within said casing; a shaft C supported on said frame and projecting through said casing; a suitable operating-crank for said shaft; a drum-like wheel D secured to said shaft; a coin-slot *d* in said drum adapted to register with the coin-slot in said casing; a lever E; a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f′* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d*; plates *d′ d′* coacting with said arm *m* to form a coin-holder; a spring *m′* secured to said arm *m* and to said drum; a series of register-wheels, the units register-wheel G having laterally-projecting teeth *g* thereon; suitable gear connections for said register-wheels; a cam-plate L arranged to the rear of and partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with the

teeth *g* on said register-wheel G; tripping-cams *n n'* for said lever locking-dog F; and a stop *i* to prevent the actuation of said lever E through said coin-slot in said casing, all coacting for the purpose specified.

6. In a register mechanism, the combination of a suitable casing containing a coin-slot for the introduction of coins; a frame B supported within said casing; a shaft C supported on said frame and projecting through said casing; a suitable operating-crank for said shaft; a drum-like wheel D secured to said shaft; a coin-slot *d* in said drum adapted to register with the coin-slot in said casing; a lever E having arms E' E'' pivotally supported on said shaft, said arm E' being adapted to enter said coin-slot *d;* a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f'* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* plates *d' d'* coacting with said arm to form a coin-holder; a spring *m'* secured to said arm *m* and to said drum; a series of register-wheels, the units register-wheel G having laterally-projecting teeth *g* thereon; suitable gear connections for said register-wheels; a cam-plate L arranged to the rear of and partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with the teeth *g* on said register-wheel G; and tripping-cams *n n'* for said lever locking-dog F, all coacting for the purpose specified.

7. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having arms E' E'' pivotally supported on said shaft, said arm E' being adapted to enter said coin-slot *d;* a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f'* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said slot *d;* plates *d' d'* coacting with said arm to form a coin-holder; a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; tripping-cams *n n'* for said lever locking-dog F; a locking-dog J for said register mechanism, having arms M N K thereon; an engaging tooth *e''* on the arm E'' of said lever E, adapted to engage said arms M N to actuate said locking-dog J; and a lug D'' on said drum adapted to engage said arm K to release said locking-dog J, all coacting for the purpose specified.

8. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having an arm E'' pivotally supported on said shaft; a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f'* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* plates *d' d'* coacting with said arm to form a coin-holder; a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; tripping-cams *n n'* for said lever locking-dog F; a locking-dog J for said register mechanism, having arms M N K thereon; an engaging tooth *e''* on the arm E'' of said lever E, adapted to engage said arms M N to actuate said locking-dog J; and a lug D'' on said drum adapted to engage said arm K to release said locking-dog J, all coacting for the purpose specified.

9. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having arms E' E'' pivotally supported on said shaft, said arm E' being adapted to enter said coin-slot *d;* a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f'* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* plates *d' d'* coacting with said arm to form a coin-holder; a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; tripping-cams *n n'* for said lever locking-dog F; a locking-dog J for said register mechanism, having arms M N K thereon; an engaging tooth *e''* on the arm E'' of said lever E, adapted to engage said arms M N to actuate said locking-dog J; and a lug D'' on said drum adapted to engage said arm K to release said locking-dog J, all coacting for the purpose specified.

10. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having an arm E'' pivotally supported on said shaft; a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f'* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* plates *d' d'* coacting with said arm to form a coin-holder; a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; and tripping-cams *n n'* for said lever locking-dog F; all coacting for the purpose specified.

11. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having arms E' E'' pivotally supported on said shaft, said arm E' being adapted to enter said coin-slot *d;* a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* plates *d' d'* coacting with said arm to form a coin-holder; a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; tripping-cams *n n'* for said lever locking-dog F; a locking-dog J for said register mechanism, having arms M N K thereon; an engaging tooth *e''* on the arm E'' of said lever E, adapted to engage said arms M N to actuate said locking-dog J; and a lug D'' on said drum adapted to engage said arm K to release said locking-dog J, all coacting for the purpose specified.

12. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having arms E' E'' pivotally supported on said shaft, said arm E'' being adapted to enter said coin-slot *d;* a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* plates *d' d'* coacting with said arm to form a coin-holder; a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; and tripping-cams *n n'* for said lever locking-dog F, all coacting for the purpose specified.

13. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having an arm E'' pivotally supported on said shaft; a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* plates *d' d'* coacting with said arm to form a coin-holder; a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; tripping-cams *n n'* for said lever locking-dog F; a locking-dog J for said register mechanism, having arms M N K thereon; an engaging tooth *e''* on the arm E'' of said lever E, adapted to engage said arms M N to actuate said locking-dog J; and a lug D'' on said drum adapted to engage said arm K to release said locking-dog J, all coacting for the purpose specified.

14. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having arms E' E'' pivotally supported on said shaft, said arms E' being adapted to enter said coin-slot *d;* a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f'* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; tripping-cams *n n'* for said lever locking-dog F; a locking-dog J for said register mechanism, having arms M N K thereon; an engaging tooth *e''* on the arm E'' of said lever E, adapted to engage said arms M N to actuate said locking-dog J; and a lug D'' on said drum adapted to engage said arm K to release said locking-dog J, all coacting for the purpose specified.

15. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having arms E' E'' pivotally supported on said shaft said arm E' being adapted to enter said coin-slot *d;* a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; tripping-cams *n n'* for said lever locking-dog F; a locking-dog J for said register mechanism, having arms M N K thereon; an engaging tooth *e''* on the arm E'' of said lever E, adapted to engage said arms M N to actuate said locking-dog J; and a lug D'' on said drum adapted to engage said arm K to release said locking-dog J, all coacting for the purpose specified.

16. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having an arm E'' pivotally supported on said shaft; a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f'* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; tripping-cams *n n'* for said lever locking-dog F; a locking-dog J for said register mechanism, having arms M N K thereon; an engaging tooth *e''* on the arm E'' of said lever E, adapted to engage said arms M N to actuate said locking-dog J; and a lug D'' on said drum adapted to engage said arm K to release said locking-dog J, all coacting for the purpose specified.

17. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having an arm E'' pivotally supported on said shaft; a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f'* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; and tripping-cams *n n'* for said lever locking-dog F, all coacting for the purpose specified.

18. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having arms E' E'' pivotally supported on said shaft, said arm E' being adapted to enter into said coin-slot *d;* a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f'* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* plates *d' d'* coacting with said arm to form a coin-holder; a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; a tripping-cam for said lever locking-dog F; a locking-dog J for said register mechanism, having arms M, N, K thereon; an engaging tooth *e''* on the arm E'' of said lever E, adapted to engage said arms M, N to actuate said locking-dog J; and a lug D'' on said drum adapted to engage said arm K to release said locking-dog J, all coacting for the purpose specified.

19. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having an arm E'' pivotally supported on said shaft; a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f'* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* plates *d' d'* coacting with said arm to form a coin-holder; a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; and a tripping-cam for said lever locking-dog F; all coacting for the purpose specified.

20. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having arms E' E'' pivotally supported on said shaft; a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* plates *d' d'* coacting with said arm to form a coin-holder; a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; and a tripping-cam for said lever locking-dog F, all coacting for the purpose specified.

21. In a register mechanism, the combination of a register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot *d* in said drum; a lever E having an arm E'' pivotally supported on said shaft; a locking-dog F carried by said lever E, arranged through a suitable slot in said drum, having a notch *f* therein; a tension-spring *f'* for said locking-dog F secured within said drum; an arm *m* on said lever E projecting into said drum in position to be engaged by a coin introduced into said coin-slot *d;* a spring *m'* secured to said arm *m* and to said drum; a cam-plate L partially embracing said drum, adapted to engage the coins as they are carried by said drum, whereby said lever E is actuated to throw the same into engagement with said register mechanism; and a tripping-cam for said lever locking-dog F, all coacting for the purpose specified.

22. In a registering mechanism, the combination of a suitable register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; a locking-dog for said lever carried thereby; a tension-spring for said lever; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry

mechanism at a predetermined point in the movement of said shaft; tripping-cams for said lever locking-dog; a locking-dog for said registry mechanism adapted to be actuated by said lever; and an arm on said drum adapted to release said registry-mechanism locking-dog, for the purpose specified.

23. In a registering mechanism, the combination of a suitable register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; a locking-dog for said lever carried thereby; a tension-spring for said lever; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; and tripping-cams for said lever locking-dog, for the purpose specified.

24. In a registering mechanism, the combination of a suitable registry mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; a locking-dog for said lever carried thereby; a tension-spring for said lever; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; a trip adapted to release said lever locking-dog as the shaft is revolved; a locking-dog for said registry mechanism adapted to be actuated by said lever; and an arm on said drum adapted to release said registry-mechanism locking-dog, for the purpose specified.

25. In a registering mechanism, the combination of a suitable registry mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; a tension-spring for said lever; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; a locking-dog for said registry mechanism adapted to be actuated by said lever; and an arm on said drum adapted to release said registry-mechanism locking-dog, for the purpose specified.

26. In a registering mechanism, the combination of a suitable register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; a locking-dog for said lever carried thereby; a tension-spring for said lever; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; and a trip adapted to release said lever locking-dog as the shaft is revolved, for the purpose specified.

27. In a registering mechanism, the combination of a suitable register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; a tension-spring for said lever; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft, for the purpose specified.

28. In a registering mechanism, the combination of a suitable register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; a locking-dog for said lever carried thereby; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; tripping-cams for said lever locking-dog; a locking-dog for said registry mechanism adapted to be actuated by said lever; and an arm on said drum adapted to release said registry-mechanism locking-dog, for the purpose specified.

29. In a registering mechanism, the combination of a suitable register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; a locking-dog for said registry mechanism adapted to be actuated by said lever; and an arm on said drum adapted to release said register-mechanism locking-dog, for the purpose specified.

30. In a registering mechanism, the combination of a suitable register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; a locking-dog for said lever carried thereby; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; a locking-dog for said registry mechanism adapted to be actuated by said lever; and an arm on said drum adapted to release said registry-mechanism locking-dog, for the purpose specified.

31. In a registering mechanism, the combination of a suitable register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft, for the purpose specified.

32. In a registering mechanism, the combination of a suitable registry mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; a locking-dog for said lever carried thereby; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; a trip adapted to release said lever locking-dog as the shaft is revolved; a locking-dog for said registry mechanism adapted to be actuated by said lever; and an arm on said drum adapted to release said registry-mechanism locking-dog, for the purpose specified.

33. In a registering mechanism, the combination of a suitable registry mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; a locking-dog for said registry mechanism adapted to be actuated by said lever; and an arm on said drum adapted to release said registry-mechanism locking-dog, for the purpose specified.

34. In a registering mechanism, the combination of a suitable register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; a locking-dog for said lever carried thereby; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; a trip adapted to release said lever locking-dog as the shaft is revolved, for the purpose specified.

35. In a registering mechanism, the combination of a suitable register mechanism; a shaft; a drum-like wheel secured to said shaft; a coin-slot in said drum; a lever pivotally supported on said shaft; an arm on said lever projecting into said drum in position to be engaged by a coin introduced into said slot; a cam-plate partially embracing said drum, adapted to engage the coin as it is carried by said drum, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; for the purpose specified.

36. In a registering mechanism, the combination of a suitable register mechanism; a shaft; a coin-holder carried by said shaft; a lever pivotally supported on said shaft adapted to be engaged by a coin carried by said holder; a locking-dog for said lever carried thereby; a tension-spring for said lever; a cam-plate adapted to engage the coin as it is carried by said holder, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; tripping-cams *n n'* for said lever locking-dog; a locking-dog for said registry mechanism adapted to be actuated by said lever; a trip on said coin-holder adapted to release said register-mechanism locking-dog, for the purpose specified.

37. In a registering mechanism, the combination of a suitable registry mechanism; a shaft; a coin-holder carried by said shaft; a lever pivotally supported on said shaft adapted to be engaged by a coin carried by said holder; a locking-dog for said lever carried thereby; a tension-spring for said lever; a cam-plate adapted to engage the coin as it is carried by said holder, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; a trip adapted to release said lever locking-dog as the shaft is revolved; a locking-dog for said registry mechanism adapted to be actuated by said lever; a trip on said coin-holder adapted to release said registry-mechanism locking-dog, for the purpose specified.

38. In a registering mechanism, the combination of a suitable registry mechanism; a shaft; a coin-holder carried by said shaft; a lever pivotally supported on said shaft adapted to be engaged by a coin carried by said holder; a tension-spring for said lever; a cam-plate adapted to engage the coin as it is carried by said holder, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; a locking-dog for said registry mechanism adapted to be actuated by said lever; and a trip on said coin-holder adapted to release said registry-mechanism locking-dog, for the purpose specified.

39. In a registering mechanism, the combination of a suitable registry mechanism; a shaft; a coin-holder carried by said shaft; a lever pivotally supported on said shaft adapted to be engaged by a coin carried by said holder; a locking-dog for said lever carried thereby; a tension-spring for said lever; a cam-plate adapted to engage the coin as it is carried by said holder, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; tripping-cams *n n'* for said lever locking-dog; for the purpose specified.

40. In a registering mechanism, the combination of a suitable registry mechanism; a shaft; a coin-holder carried by said shaft; a lever pivotally supported on said shaft adapted to be engaged by a coin carried by said holder; a locking-dog for said lever carried thereby; a tension-spring for said lever; a cam-plate adapted to engage the coin as it is carried by said holder, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft; a trip adapted to release said lever locking-dog as the shaft is revolved, for the purpose specified.

41. In a registering mechanism, the combination of a suitable registering mechanism; a shaft; a coin-holder carried by said shaft; a lever pivotally supported on said shaft; adapted to be engaged by a coin carried by said holder; a tension-spring for said lever; a cam-plate adapted to engage the coin as it is carried by said holder, whereby said lever is actuated to throw the same into engagement with said registry mechanism at a predetermined point in the movement of said shaft, for the purpose specified.

42. In a registering mechanism, the combination of a suitable registry mechanism; a shaft; a coin-holder carried by said shaft; a lever pivotally supported on said shaft adapted to be engaged by a coin carried by said holder; a cam-plate adapted to engage a coin as it is carried by said holder, whereby said lever is actuated to throw the same into engagement with said register mechanism at a predetermined point in the movement of said shaft; a trip adapted to disengage said lever from said register mechanism as the shaft is revolved; a locking-dog for said register mechanism, adapted to be actuated by the said lever; and a trip on said coin-holder, adapted to release said register locking-dog, for the purpose specified.

43. In a registering mechanism, the combination of a suitable registering mechanism; a shaft; a coin-holder carried by said shaft; a lever pivotally supported on said shaft adapted to be engaged by a coin carried by said holder; a cam-plate adapted to engage the coin as it is carried by said holder, whereby said lever is actuated to throw it into engagement with said register mechanism at a predetermined point in the movement of said shaft; a trip adapted to disengage said lever from said register mechanism as the shaft is revolved, for the purpose specified.

44. In a registering mechanism, the combination of a suitable registering mechanism; a shaft; a coin-holder carried by said shaft; a lever pivotally supported on said shaft adapted to be engaged by a coin carried by said holder; a cam-plate adapted to engage the coin as it is carried by said holder, whereby said lever is actuated to throw it into engagement with said register mechanism at a predetermined point in the movement of said shaft; a locking-dog for said register mechanism adapted to be actuated by the said lever; and a trip on said coin-holder adapted to release said register locking-dog, for the purpose specified.

45. In a registering mechanism, the combination of a suitable registering mechanism; a shaft; a coin-holder carried by said shaft; a lever pivotally supported on said shaft, adapted to be engaged by a coin carried by said holder; a cam-plate adapted to engage the coin as it is carried by said holder, whereby said lever is actuated to throw it into engagement with said register mechanism at a predetermined point in the movement of said shaft, for the purpose specified.

46. In a registering mechanism, the combination of a suitable registering mechanism; a shaft; a lever adapted to engage said registering mechanism; a coin-holder pivotally supported on said shaft; a cam-plate adapted to engage the coin as it is carried by said holder, whereby said lever is actuated to throw it into engagement with said register mechanism at a predetermined point in the movement of said shaft; a trip adapted to disengage said coin-holder from said lever as said shaft is revolved; a locking-dog for said register mechanism adapted to be actuated by said lever; and a trip on said coin-holder adapted to release said register locking-dog, for the purpose specified.

47. In a registering mechanism, the combination of a suitable registering mechanism; a shaft; a lever adapted to engage said registering mechanism; a coin-holder piv-

otally supported on said shaft; a cam-plate adapted to engage the coin as it is carried by said holder, whereby said lever is actuated to throw it into engagement with said register mechanism at a predetermined point in the movement of said shaft; a trip adapted to disengage said coin-holder from said lever as the shaft is revolved; for the purpose specified.

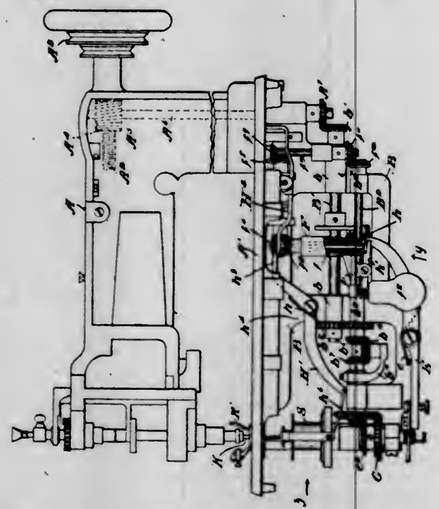
48. In a registering mechanism, the combination of a suitable registering mechanism; a shaft; a lever adapted to engage said registering mechanism; a coin-holder pivotally supported on said shaft; a cam-plate adapted to engage the coin as it is carried by said holder, whereby said lever is actuated to throw it into engagement with said register mechanism at a predetermined point in the movement of said shaft; a locking-dog for said register mechanism adapted to be released by said coin-holder, for the purpose specified.

49. In a registering mechanism, the combination of a suitable registering mechanism; a shaft; a lever adapted to engage said registering mechanism; a coin-holder pivotally supported on said shaft; and a cam-plate arranged to engage the coin as it is carried forward by said holder, whereby said lever is actuated to throw it into engagement with said register mechanism at a predetermined point in the movement of said shaft, for the purpose specified.

50. In a registering mechanism, the combination of a suitable registering mechanism; a shaft; a lever adapted to engage said registering mechanism; a coin-holder on said shaft; and a cam-plate arranged to engage the coin as it is carried forward by said holder, whereby said lever is actuated to throw it into engagement with said register mechanism at a predetermined point in the movement of said shaft, for the purpose specified.

51. In a registering mechanism, the combination of a suitable registering mechanism; means for actuating the same; a coin-holder; a cam-plate arranged to engage a coin as it is carried forward by said holder whereby said registering actuating means is engaged with the registering mechanism at a predetermined point in the movement thereof, for the purpose specified.

842,854. EMBROIDERING-MACHINE. ARTHUR BURGESS, JOHN G. REHFUSS, and MARTIN O. REHFUSS, Philadelphia, Pa., assignors to Joseph H. Bromley, Philadelphia, Pa. Filed Dec. 14, 1903. Serial No. 185,091.



Claim.—1. In a machine for simultaneously securing embroidering-braids to the opposite faces of a fabric, in corresponding design or pattern, the combination with independent braid-supplying means above and below the bed-plate, and a universal feed above the bed-plate, of means to turn the braid-supplying device below the bed-plate to cause it to follow the direction of the universal feed, independent thread-supplying carriers above and below the bed-plate with means to cause each to wind its thread about its adjacent embroidering-braid, and means to draw one of said threads transversely through the fabric and unite it in a loop with the other of said tying-in threads on the opposite face of the fabric.

2. In a machine for simultaneously securing embroidering-braids to the opposite faces of a fabric in corresponding design or pattern, the combination of a horn above and a horn below the bed-plate for conducting an embroidering-braid to the opposite faces of a fabric, a thread-carrier above and a thread-carrier below the bed-plate for carrying tying-in threads about the respective embroidering-braids, means for interlooping the tying-in threads in a loop on one face of the fabric beneath the embroidering-braids, and means for periodically moving the horn below the bed-plate longitudinally of its axis.

3. In a machine for simultaneously securing embroidering-braids to the upper and lower faces of a fabric in corresponding design or pattern, the combination of a horn above and a horn below the bed-plate for conducting an embroidering-braid to each of the opposite faces of a fabric, a thread-carrier above and a thread-carrier below the bed-plate for carrying tying-in threads about the upper and lower embroidering-braids respectively, a universal feed for changing direction of feed as called for by the design or pattern, means for turning the lower horn to cause it to follow the direction of the universal feed, devices for periodically moving the lower horn longitudinally of its axis, and means for uniting the tying-in threads in a loop on one face of the fabric.

4. In a machine for simultaneously securing embroidering-braids to opposite faces of a fabric in corresponding design or pattern, the combination of a horn above and a horn below the bed-plate for conducting embroidering-braids to the opposite faces of a fabric, a thread-carrier above and a thread-carrier below the bed-plate for carrying tying-in threads about the upper and lower embroidering-braids respectively, a universal feed disposed above the bed-plate, means for turning the lower horn to follow the movement of the universal feed, a hook-needle disposed above the bed-plate and means for reciprocating said hook-needle to cause it to loop the tying-in threads together.

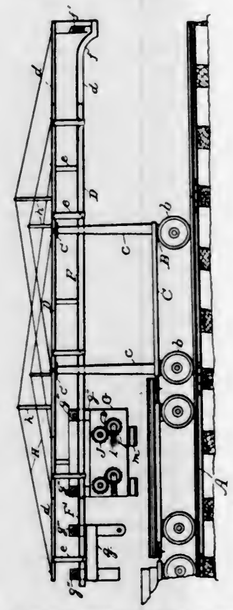
5. In a machine for simultaneously securing embroidering-braids to opposite faces of a fabric in corresponding design or pattern, the combination of a horn above and a horn below the bed-plate for conducting embroidering-braids to the opposite faces of a fabric, a thread-carrier above and a thread-carrier below the bed-plate for carrying tying-in threads about the upper and lower embroidering-braids respectively, a universal feed and hand-operative means for adjusting the universal feed, devices operatively connected to the said hand-operative means for turning the lower horn to follow the adjusting movement of the universal feed, and a hook-needle for looping the tying-in threads together.

6. In a machine of the character described, the combination of a horn above and a horn below the bed-plate of the machine for conducting embroidering-braids to the opposite faces of a fabric, a thread-carrier above and a thread-carrier below the bed-plate, means for causing said thread-carriers each to wind its thread about the embroidering-braid adjacent thereto a hook-needle for looping the threads of the carriers together, stopping and starting devices, and a brake automatically operative on stopping the machine to stop the lower thread-carrier.

7. In a machine for simultaneously securing embroidering-braids to opposite faces of a fabric in corresponding design, the combination with a braid-conducting horn above and another below the bed-plate, a universal feed above the bed-plate, means to cause the lower horn to follow the movements of said feed and deposit its braid to correspond with the pattern formed by the upper braid, a thread-carrier above and another below, the bed-plate, means to cause each of said thread-carriers to wind its thread about the embroidering-braid adjacent thereto, means to tighten the pull of the lower tying-in thread on its adjacent embroidering-braid, and means to draw the lower tying-in thread upward through the body fabric, loop it with the upper thread, and deposit such loop beneath the upper embroidering-braid.

8. In a machine of the character described, the combination of a braid-supplying horn, a thread-carrier, a universal feed and operative means therefor, disposed above the bed-plate, a braid-supplying horn and a thread-carrier, disposed below the bed-plate; means for operating the said carrier, comprising a transmitting-shaft, gearing connection between the said shaft and carrier, means for moving the lower horn in unison with the universal feed, comprising a parallel shaft and gear connection between said shaft and lower horn; a hook-needle with means to cause it to loop the upper and lower threads on one side of the fabric; and connecting and actuating gearing between said elements to drive them in unison of time and function.

842,855. TRACK-LAYING DEVICE. CHARLES W. BURTON, Centerville, Utah. Filed Apr. 24, 1906. Serial No. 313,484.



Claim.—1. A track-laying machine formed of a truck, a frame on said truck, three tracks on said frame of which the two outer tracks are approximately of equal length and the middle one of said tracks is longer than said outer tracks, and carriers on said tracks, substantially as described.

2. A track-laying machine formed of a truck, a frame on said truck, three tracks on said frame of which the two outer tracks are of approximately equal length, carriers on said outer tracks, means for seizing and hoisting track-rails on said carriers, the middle one of said tracks being longer than said outer tracks, and a carrier on said middle track as described.

3. A track-laying machine formed of a truck, a frame on said truck having outwardly-curved posts, three tracks on said frame of which the two outer tracks are of approximately equal length depending carriers on said outer tracks, winches on said carriers, the middle one of said tracks being longer than said outer tracks, and a depending carrier on said middle track, as herein set forth.

4. In a track-laying machine having an elevated track, a steep incline at the front end of said track, a bumper at the front end of said track, a depending tie-carrier on said track, a rounded tie-support at the lower rear part of said carrier and a roller at the lower front end of said carrier for the purpose herein set forth.

5. In a track-laying machine a track-rail carrier having a winch, a lever on said winch having a recess, holes near the outer end of said lever and connecting with said recess, a handle for said lever having a broadened end and holes therethrough aliningwith said holes in said recess and a bolt adapted to engage said holes to maintain said handle in operative position or at rest in said recess, as specified.

6. A track-laying machine formed of a truck, a frame on said truck, three tracks on said frame of which the two outer tracks are approximately equal length, depending carriers on said outer tracks, means for seizing and hoisting track-rails on said carriers, the middle one of said tracks having a steep incline at its front end, a spring-bumper at the front end of said track, a depending tie-carrier on said track, a rounded tie-support at the lower rear part of said carrier and a roller at the lower front end of said carrier, for the purposes herein set forth.

842,856. WATER-BALLAST-CONTROLLING APPARATUS FOR VESSELS. CHARLES B. CALDER, Toledo, Ohio, assignor to The Toledo Ship Building Company, Toledo, Ohio, a Corporation of Maine. Filed Aug. 20, 1906. Serial No. 331,256.

Claim.—1. In a vessel having a plurality of water-ballast compartments, a manifold in communication with the sea and communicating with each of said compartments through valve-controlled pipes, a pump associated with each of said pipes, and valves for opening and closing communication between said pumps and pipes.

2. In a vessel having a plurality of water-compartments, a manifold in communication with the sea, a plurality of pumps corresponding in number to the number of compartments, a plurality of pipes each having communication with a compartment and with the manifold and one of said pumps, and an arrangement of valves associated with each pipe for controlling the filling and emptying of the compartments.

3. In a vessel having a plurality of water-ballast compartments, a manifold having its ends in valve-controlled communication with the sea, a conduit forming an overboard-discharge, a plurality of pumps associated with said conduit, a pipe communicating with each compartment and having valve-controlled communication both with the mani-

fold and with the conduit through one of said pumps, substantially as described.

4. In a vessel having a plurality of water-ballast compartments, a header or manifold having its ends in communication with the sea, a plurality of pipes opening independent communication between the header and the several compartments, a valve in each pipe for controlling such communication, and a pump associated with each pipe whereby an operation of the pump will effect a discharge of the ballast from the associated compartment.

5. In a vessel having a plurality of water-ballast compartments, a header or manifold conduit having communication with the sea, pumping means associated with the header or manifold, a plurality of pipes communicating at one end with the compartments and having their other ends in valve-controlled communication both with the header and the pumping means, whereby the compartments may be all filled at once or at different times from the header or emptied together or at different times by the action of the pumping means.

6. In a vessel having a plurality of water-ballast compartments, a header or manifold conduit located beneath the water-line and in communication with the sea, a pump for each compartment, a pipe for each compartment having independent valve-controlled communication with the associated pump and the header whereby the compartments may be filled from the header and emptied by an operation of the pumps, and a common overboard-discharge for said pumps.

7. In a vessel having a plurality of water-ballast compartments, a header or manifold conduit having its ends in communication with the sea, a plurality of pumps operative in unison and each having communication with a different compartment, a plurality of pipes leading from the header to the several compartments, each being in valve-controlled communication with the header and in valve-controlled communication with a pump whereby a part of said compartments can be filled and the others emptied simultaneously.

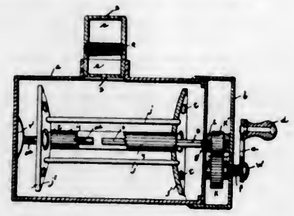
842,857. ADVERTISING-CARD. JOHN B. CARROLL, Chicago, Ill. Filed Sept. 17, 1906. Serial No. 334,928.



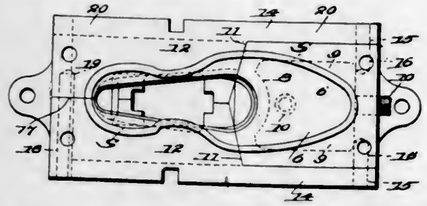
Claim.—An advertising-card having indicated thereon an incomplete pictorial representation of an animal, the tail of the animal being attached to the card in such manner as to secure freedom of movement and projecting from the plane thereof, and directions correlating the conditions and movement of the tail with atmospheric phenomena, substantially as described.

842,858. PAINT-LINE AND AWL HOLDER. WILLIAM N. CAVILEER, Spokane, Wash. Filed Nov. 12, 1906. Serial No. 343,167.

Claim.—In a paint-line holder, a cylindrical box, having an opening in one side thereof, a cylindrical casing-cover detachably connected at one end of said box, a round shaft fixed to the opposite end of said box, a reel rotatably and reciprocally mounted on said fixed shaft, a gear-actuated shaft mounted in the cylindrical cover-casing, said shaft having an end of non-circular cross-section slidingly engaging a correspondingly-shaped aperture in the hub of said reel and means for turning said gears.



842,859. MOLD FOR MANUFACTURING RUBBER FOOTWEAR. MAURICE C. CLARK, Providence, R. I. Filed June 8, 1906. Serial No. 320,698.



Claim.—1. A mold comprising a front member adapted to act as a mold for a portion of the instep, two side members, a sole-mold and a last for supporting the shoe to be molded.

2. The combination with a last for supporting the shoe to be molded, of a mold member for receiving the front portion of the shoe, side mold members for receiving that portion of the shoe between the front mold members and the heel, and a mold member for the sole.

3. A mold for rubber footwear comprising a last for supporting a shoe to be molded, and a plurality of mold members designed to receive the shoe and the last in such manner that the line of division of certain of the mold members will be at the sides of the opening in the shoe and at the heel.

4. A mold for rubber footwear comprising a last member for supporting the shoe to be molded, a front mold member and two side mold members, the line of division of such front and side mold members being at the sides of the last and at the rear or heel portion thereof, and a sole-mold member.

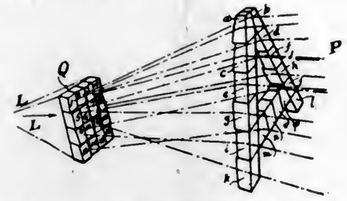
5. A mold for rubber shoes including a front mold member and two side mold members adapted to be closed about the shoe to be molded, the line of division, between the front member and the two side members being at the side of the shoe to be molded.

6. A mold for rubber shoes, comprising a last for supporting the shoe to be molded, a stationary front mold member for the instep portion of the shoe, two side mold members movable toward and from the last and the stationary member, and a sole-mold member.

7. A mold for making rubber footwear comprising a front mold member having beveled end portions, movable side mold members adapted to be moved toward and from the shoe to be molded, the line of division between the front member and the side member being at the side of the shoe, a mold member for the sole, said front member, the side members and the sole-mold having heating-chambers therein.

842,860. LUMINOUS SIGN. PAUL L. CLARK, New York, N. Y. Filed May 23, 1905. Serial No. 261,915.

Claim.—1. In a luminous sign, the combination with a source of light, of means for deflecting and collecting beams of light derived from said source, whereby a predetermined image or design will be produced, different in outline from said means, and in which the collected light-rays are directed to the illuminated portions only, leaving the non-illuminated portions dark by the deflection therefrom of the rays which would otherwise have fallen upon them.



2. In a luminous sign, a light-deflecting medium adapted to receive light from a given source and composed of a group of closely-adjacent light-deflecting parts respectively controlling the direction of light at different angles to adjacent parts of a predetermined character or design differing in outline from said group and composed of illuminated and non-illuminated portions.

3. In a luminous sign, a plurality of refractors arranged in a given shape and adapted to receive rays or beams of light from a common source and refract them as an image in the form or outline of an illuminated character or design of a different shape from that of the refractors to the exclusion of light on surrounding parts by reason of the diversion of light therefrom to the illuminated portions.

4. In a luminous sign, a transparent group of refractors adapted to receive light from a common source and project for observation an image of a predetermined character or design differing in outline from said group.

5. In a luminous sign, a character or design for projecting an image for observation, and a light-refracting medium differing in outline from said character or design and adapted to receive light from a common source, and having independent light-refracting parts respectively controlling the direction of light to corresponding parts of the character or design aforesaid.

6. In a luminous sign, a character or design having a plurality of refractors for independently transmitting light to project the image or design of the character for observation, and a light-refracting medium different in outline from said character adapted to receive light from a common source and having a plurality of independent refractors respectively controlling the transmission of light to corresponding refractors of the character or design.

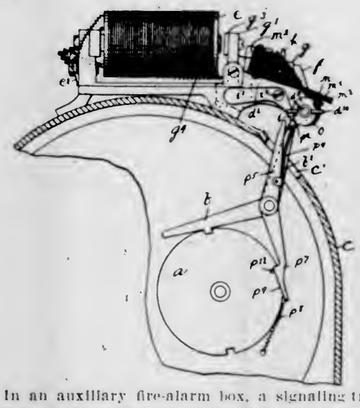
7. In a luminous sign, a light-deflecting medium adapted to receive light from a given source and composed of independent light-deflecting parts respectively controlling the direction of light to adjacent parts of a predetermined character or design differing in outline from the said medium.

842,861. AUXILIARY FIRE-ALARM BOX. FREDERICK W. COLE, Newton, Mass., assignor to The Gamewell Fire-Alarm Telegraph Company, New York, N. Y., a Corporation of New York. Filed Oct. 11, 1905. Serial No. 282,250.

Claim.—1. In an auxiliary fire-alarm box, a signaling-train, auxiliary actuating mechanism for it, an electromagnet included in an auxiliary circuit for releasing said auxiliary actuating mechanism, a winding device for said actuating mechanism, a switch in said auxiliary circuit and means operated by the auxiliary actuating mechanism and the signaling-train in running, for operating said switch to open said auxiliary circuit, substantially as described.

2. In an auxiliary fire-alarm box, a signaling-train, auxiliary actuating mechanism for it, an electromagnet included in an auxiliary circuit for releasing said auxiliary actuating mechanism, a winding device for said actuating mechanism, a switch in said auxiliary circuit, two coöperating operating devices for said switch, one of which is adapted to be operated by the auxiliary actuating mechanism, and the other by the signaling-train, substantially as described.

3. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it, an electromagnet included in an auxiliary circuit for releasing said auxiliary actuating mechanism, a winding device for said auxiliary actuating mechanism, a switch in said auxiliary circuit, a switch-controller connected with and operated by the auxiliary actuating mechanism, and a switch-operating device adapted to be operated by the signaling-train after said switch-controller has been operated, substantially as described.



4. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it, an electromagnet included in an auxiliary circuit for releasing said auxiliary actuating mechanism, a winding device for said auxiliary actuating mechanism, a switch in said auxiliary circuit, a switch-controller consisting of a cam connected with and operated by the auxiliary actuating mechanism and a switch-operating device adapted to be operated by the signaling-train after said switch-controller has been operated, substantially as described.

5. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it, an electromagnet included in an auxiliary circuit for releasing said auxiliary actuating mechanism, a winding device for said auxiliary actuating mechanism, a switch in said auxiliary circuit, a switch-controller adapted to be operated by the auxiliary actuating mechanism, a switch-operating device consisting of means for holding the members of the switch in engagement when disengaged by the switch-controller, and means operated by the signaling-train for subsequently separating said members to open the auxiliary circuit, substantially as described.

6. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it, an electromagnet included in an auxiliary circuit for releasing said auxiliary actuating mechanism, a winding device for said auxiliary actuating mechanism, a switch in said auxiliary circuit, a switch-controller adapted to be operated by the auxiliary actuating mechanism, a switch-operating device consisting of a prop for holding the members of said switch in engagement when disengaged by the switch-controller, and means operated by the signaling-train for moving said prop out of engagement with said switch, substantially as described.

7. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it, an electromagnet included in an auxiliary circuit for releasing said auxiliary actuating mechanism, a winding device for said auxiliary actuating mechanism, a switch in said auxiliary circuit, a switch-controller connected with and operated by the auxiliary actuating mechanism, a switch-operating device consisting of a prop for holding the members of said switch in engagement and a lever operated by the signaling-train for moving said prop out of engagement with said switch, substantially as described.

8. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it, an electromagnet included in an auxiliary circuit for releasing said auxiliary actuating mechanism, a winding device for said auxiliary actuating mechanism, a switch in said auxiliary circuit, a

switch-controller connected with and operated by the auxiliary actuating mechanism, and a switch-operating device adapted to be operated by the signaling-train after said switch-controller has been operated, and to be subsequently restored after the switch-controller is reset, by means operated by the signaling-train.

9. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it, an electromagnet included in an auxiliary circuit for releasing said auxiliary actuating mechanism, a switch in said auxiliary circuit, a switch-controller operated by the auxiliary actuating mechanism when released, means for winding said auxiliary actuating mechanism and resetting said switch-controller, and a switch-operating device adapted to be operated by the signaling-train after the switch-controller has been operated, and to be subsequently restored by means operated by said train, resuming its normal position after the switch-controller has been reset, substantially as described.

10. In an auxiliary fire-alarm box, a signaling-train, auxiliary actuating mechanism for it, an electromagnet included in an auxiliary circuit for releasing said auxiliary actuating mechanism, and means operated by the joint action of the auxiliary actuating mechanism and the signaling-train for opening said auxiliary circuit, substantially as described.

11. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it comprising essentially a shaft, a crank-arm thereon, an actuating-spring for said shaft connected at one end to the extremity of said arm and at the other end to a fixed point, means for locking said shaft with the crank-arm just off its dead-center and means operated by said shaft for operating the starting-lever of the signaling-train, substantially as described.

12. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it comprising essentially a shaft, a crank-arm thereon, an actuating-spring connected to said crank-arm, a locking device for the shaft, means for turning said shaft half a revolution to extend the actuating-spring, and means operated by said shaft during the succeeding half-revolution for operating the starting-lever of the signaling-train, substantially as described.

13. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it comprising essentially a shaft, an actuating-spring therefor, a detent on the shaft, a let-off in engagement with which said detent is normally held by said spring, means for moving the shaft half a revolution to wind the actuating-spring and bring the detent into engagement with the let-off, an electromagnet for operating the let-off, and means operated by the shaft during its succeeding half-revolution for operating the starting-lever of the signaling-train, substantially as described.

14. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it comprising a shaft and means operated by it for operating the starting-lever of the signaling-train, means for winding, locking and releasing said shaft, a switch adapted to open the auxiliary circuit, and a resetting device for said switch operated by said shaft, substantially as described.

15. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it comprising a shaft and means operated by it for operating the starting-lever of the signaling-train, means for winding, locking and releasing said shaft, a switch adapted to open the auxiliary circuit, and cams on said shaft for resetting said switch, substantially as described.

16. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it comprising a shaft, means operated by it for operating the starting-lever of the signaling-train, an actuating-spring for turning it half a revolution, a winding device for turning it half a revolution in the same direction to wind said actuating-spring, and means for preventing backward rotation of said shaft, substantially as described.

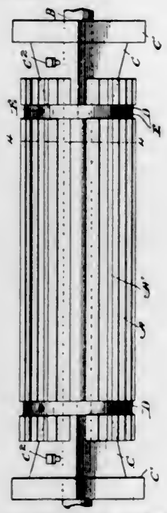
17. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it and a gravitating dog adapted to engage one of the coöperative parts of said actuating mechanism, substantially as described.

18. In an auxiliary fire-alarm box, a signaling-train, an auxiliary actuating mechanism for it comprising a detent, a let-off for said detent connected to the armature of an electromagnet which is included in the auxiliary circuit and a gravitating dog adapted to engage said let-off, substantially as described.

19. A normally wound mechanism, means for releasing it and a gravitating dog adapted to be thrown into temporary engagement with one of the coöperating parts to temporarily check the operation of said mechanism, substantially as described.

20. A normally wound mechanism, a detent, a let-off for said detent connected to the armature of an electromagnet, and a gravitating dog adapted to be thrown into temporary engagement with said let-off to hold it, substantially as described.

842,862. CORE FOR PAPER AND FABRIC ROLLS. CHARLES L. CRANE, Willimantic, Conn. Filed Nov. 23, 1906. Serial No. 344,704.



Claim.—1. In a core for paper and fabric rolls, the combination with a hollow, cylinder-like body having at all times in its outer surface, longitudinally-extending channels across each of which a wound sheet may extend in a plane, and made up of radially-movable bars at some distance from its axis, of means for limiting the outward movement of the bars, and wedges adapted to be forced between the ends of the bars and a rotary shaft passing axially through the body.

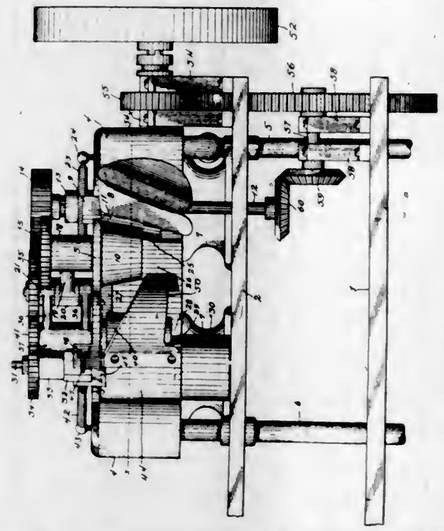
2. The combination with a hollow cylindrical core composed of slightly-separated longitudinal bars and provided with deep circumferential grooves, of rings fitting hoop-like in said grooves, respectively, and means for securing each bar to said rings while allowing it limited radial movement.

3. The combination with a hollow cylindrical core composed of longitudinal bars and provided with deep circumferential grooves near its ends, of rings lying in said grooves, respectively, means for securing each block to said rings while allowing it free radial movement, and wedges adapted to be forced between the ends of said bars and a shaft inclosed by them.

4. The combination with a set of bars each grooved longitudinally, all arranged in cylindrical form and having deep external transverse grooves near their ends, of perforated rings lying in said grooves, respectively, and each passing inward through a perforation of a ring and fixed in the bar beneath with its head at some distance outside the ring when the latter lies in the bottom of the groove.

5. The combination with a cylindrical body composed of the longitudinally-grooved bars and provided with the deep circumferential grooves near its ends, of the rings lying in said grooves, respectively, the screws attaching the bars loosely to the rings, and the opposing wedges for the ends of said body, normally when in use projecting to some distance beyond said ends and provided with shoulders or projections to aid in withdrawing them, substantially as set forth.

842,863. COLLAR-SHAPING MACHINE. CHARLES W. CURRIER and JOSEPH LEITSCHUH, Columbus, Ohio, assignors to The Federal Manufacturing Company, Columbus, Ohio, a Corporation of Ohio. Filed July 7, 1904. Serial No. 215,675.



Claim.—1. The combination with a heating-wall and a top plate, of a guiding and folding shoe supported from the top plate, and a pair of oppositely-tapered shaping and propelling rollers supported from the top plate in the rear of the shoe and in juxtaposition to the heating-wall.

2. In a device of the type set forth, a heating-wall formed with roller receiving and heating recesses, an inclined curving-face provided with a guide at its upper end, rollers in said recesses for propelling a collar over the said curving-face, a propelling-roller acting in conjunction with one of said rollers, and shaping and curving means associated with the other of said rollers

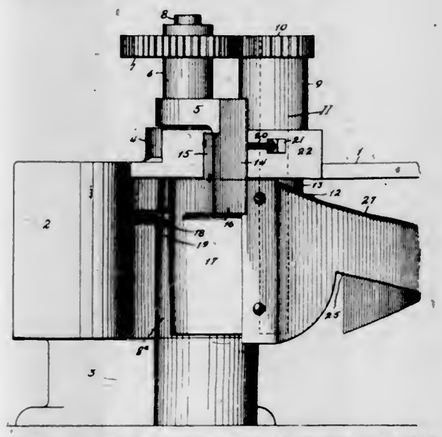
3. In a machine of the character described, the combination with a heating-chamber having recesses formed in the walls thereof, of a tapered propelling-roller mounted in one of said recesses, a second tapered roller yieldingly mounted and adapted to act in conjunction with the first-named roller to propel a collar, a guide-shoe adapted to deliver collars between said rollers, a tapered roller mounted in the other recess of the wall of the heating-chamber, a roller yieldingly mounted adjacent the last-named roller, and a guiding-surface having an overhanging lip which is located between the propelling-rollers and the last-named rollers.

4. In a machine of the character described, the combination with a heating-chamber having recesses formed in the walls thereof, of a tapered propelling-roller mounted in one of said recesses, a second tapered roller yieldingly mounted and adapted to act in conjunction with the first-named roller to propel a collar, a guide-shoe adapted to deliver collars between said rollers, a tapered roller mounted in the other recess of the wall of the heating-chamber, a roller yieldingly mounted adjacent the last-named roller, a guiding-surface having an overhanging lip which is located between, the propelling-rollers and the last-named rollers, and a shaping-block acting in conjunction with the last-named rollers for curling a collar.

5. In a device of the character described, the combination with a heating-chamber, a portion of the wall of which forms a guide having an overhanging lip, of a propelling-roller located in a recess formed in the wall of the heating-chamber upon one side of said guide, of a second propelling-roller yieldingly mounted adjacent the first-named propelling-roller, a guide-shoe adapted to deliver collars to said propelling-rollers, a propelling-roller located in a recess formed in the wall of the heating-chamber upon the other side of the guide, a shaping-roller yieldingly mounted adjacent said last-named propelling-roller, and a shaping-block acting in conjunction with the shaping-roller for curling a collar.

6. In a device of the character described, the combination with a heating-chamber, a portion of the wall of which forms a guide having an overhanging lip, of a propelling-roller located in a recess formed in the wall of the heating-chamber upon one side of said guide, a second propelling-roller yieldingly mounted adjacent the first-named propelling-roller, a guide-shoe adapted to deliver collars to said propelling-rollers, a propelling-roller located in a recess formed in the wall of the heating-chamber upon the other side of the guide, a shaping-roller yieldingly mounted adjacent said last-named propelling-roller, a shaping-block yieldingly mounted adjacent the shaping-roller and acting in conjunction therewith for curling a collar, and means for adjusting the limit of movement of said shaping-block.

842,864. COLLAR-SHAPING ATTACHMENT. CHARLES W. CURRIER and JOSEPH LEITSCHUH, Columbus, Ohio, assignors to The Federal Manufacturing Company, Columbus, Ohio, a Corporation of Ohio. Filed July 7, 1904. Serial No. 215,677.



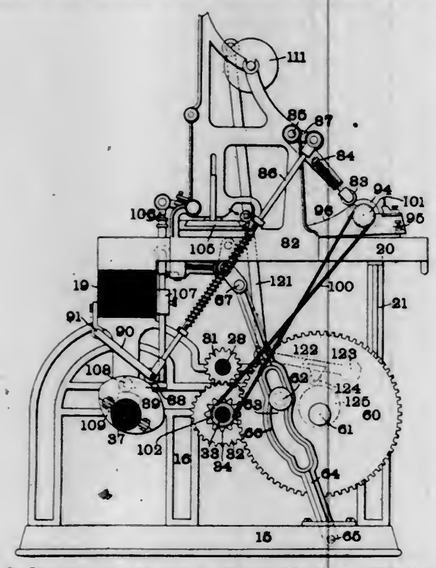
Claim.—1. The combination with a support and a shaping-roller, of a shaping-block having a curved face substantially conforming to the contour of the roller and mounted to swing from the support independently of the roller, and a curved guide-shoe supported from the block.

2. In a collar-shaping machine, the combination with a shaping-roller, of a shaping-block, and a guide curving spirally downward, said guide having an overhanging lip as and for the purpose set forth.

842,865. EMBOSSING-PRESS. SAMUEL CURTIS, Kirkwood, Mo., assignor to The Modern Machine Company, St. Louis, Mo., a Corporation of Missouri. Filed Mar. 24, 1906. Serial No. 307,875.

Claim.—1. In an embossing-press, the combination with a reciprocating die, of a plunger coöperating therewith, a

pivoted member guiding said die and provided with a slot having straight ends and a curved central part, and a main driver provided with a pin working in said slot.



2. In an embossing-press, the combination with a reciprocating die, of a plunger coöperating therewith, a pivoted member driving said die and provided with a slot having straight ends and a curved central part, and a rotary main driver provided with a wrist-pin working in said slot.

3. In an embossing-press, the combination with a reciprocating bed-plate carrying a die, of a driving member for said bed-plate, means for disengaging said driving member from said bed-plate, and a spring interposed between said bed-plate and driving member and holding said bed-plate in position after the disengagement of said driving member therefrom.

4. In an embossing-press, the combination with a reciprocating bed-plate carrying a die, of a link pivoted to said bed-plate, a driving-bar pivoted to said link and detachably connected with said bed-plate, and a reciprocating driving member connected with said driving-bar and link.

5. In an embossing-press, the combination with a reciprocating bed-plate carrying a die, of a link pivoted to said bed-plate, a driving-bar pivoted to said link and detachably connected with said bed-plate, a spring interposed between said bed-plate and driving-bar, and a reciprocating driving member connected with said driving-bar and link.

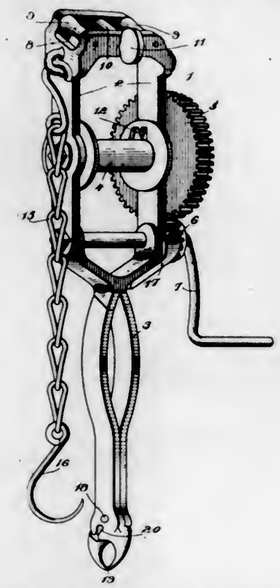
6. In an embossing-press, the combination with a reciprocating bed-plate carrying a die, of a link pivoted to said bed-plate, and a driving-bar pivoted to said link and detachably connected with said bed-plate, a spring interposed between said bed-plate and driving-bar, a second link pivoted to said first link and driving-bar, a pivotally-mounted member connected with said second link and provided with a curved slot, and a rotary driver provided with a wrist-pin working in said slot.

7. In an embossing-press, the combination with a die, of a spring-supported plunger coöperating therewith, a driving-shaft, a wrist-pin driven from said shaft, a pitman-rod driving said plunger, a block journaled on said wrist-pin and slidingly engaging said pitman-rod, and an air-cushion between said block and pitman-rod.

8. In an embossing-press, the combination with a die, of a spring-supported plunger coöperating therewith, a driving-shaft, a wrist-pin driven from said shaft, a pitman-rod driving said plunger and provided with a slot, and a block journaled on said wrist-pin and engaging the slot in said pitman-rod, said block and pitman-rod being provided the one with a projection and the other with an opening, together forming an air-cushion.

9. In an embossing-press, the combination with a reciprocating die, of a plunger coöperating therewith, a slidingly-mounted cross-head for driving said plunger, a member adjustably carried by said cross-head, and a link pivoted to said member and to said plunger.

842,866. WIRE-STRETCHER. ZENAS A. CURTIS, Channing, Tex. Filed Mar. 3, 1906. Serial No. 304,013.



Claim.—1. In a device of the character described, the combination with the frame of a reel provided with a polygonal-faced bore, a hub for said reel having a polygonal-faced portion to correspond with the bore of said reel, a polygonal-faced portion on said hub, a gear-wheel carried thereon, a flange on said hub between said polygonal-faced portions and means passing through said hub for securing the same in position in said frame, substantially as described.

2. In a device of the character described, a hub comprising a polygonal-faced portion, a flange on said hub and a polygonal-faced portion on said hub, substantially as described.

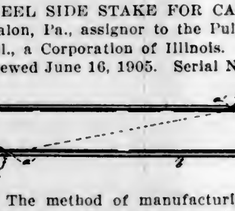
3. In a device of the character described, a hub comprising two annular portions, a polygonal-faced portion between said annular portions, and a polygonal-faced portion at one end of said hub, substantially as described.

4. In a device of the character described, a hub comprising an annular portion and two polygonal-faced portions, said annular portion being between said polygonal-faced portions, substantially as described.

842,867. BATTERY. FRANK A. DECKER, Philadelphia, Pa., assignor to Decker Electrical Manufacturing Company, Wilmington, Del., a Corporation of Delaware. Filed July 14, 1906. Serial No. 326,233.

Claim.—1. A battery construction comprising a metal envelop having an auxiliary bottom of non-conducting material, a tube within said envelop, and a conduit exterior to and connected through said bottom with said tube.

2. A battery construction comprising an envelop having a metal bottom, an insulating auxiliary bottom within said envelop, and an insulating member exterior to the bottom of said envelop, said auxiliary bottom and exterior member being directly connected together through an opening in said metal bottom.



3. A battery construction comprising a metal envelop, an auxiliary rubber member within said envelop, and a rubber member exterior to said envelop, said rubber members being vulcanized together through an opening in said envelop.

4. A battery construction comprising a metal envelop, an auxiliary bottom member of insulating material in the form of a pan within said envelop, and an exterior member of insulating material secured to said bottom member through an opening in said envelop.

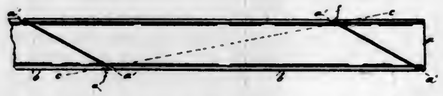
5. A battery construction comprising a plurality of metal envelops, non-conducting material separating said envelops, exterior to the bottoms of said envelops a non-conducting member having a passage or passages therein, and within each envelop a non-conducting member with a passage therein registering with a passage of said exterior member through an opening in the bottom of the corresponding envelop.

6. A battery construction comprising a plurality of metal envelops, non-conducting material separating said envelops, exterior to the bottoms of said envelops a non-conducting member or members with passages therein, and a non-conducting conduit or conduits within each of said envelops, each of said conduits having a non-conducting connection with an exterior non-conducting member.

7. A battery construction comprising a metal envelop, a rubber bottom member within said envelop, a rubber member with a passage therein exterior to said envelop and vulcanized through an opening therein to said bottom member, and a rubber conduit supported within said envelop by said bottom member and communicating with the passage of said exterior member.

8. A battery construction comprising a plurality of lead envelops insulated from each other, a rubber pan within each envelop, a plurality of rubber conduits within each envelop and communicating respectively with corresponding compartments thereof, and exterior to said envelops a plurality of rubber members with passages therein communicating with said conduits and vulcanized to said pans through openings in said envelops.

842,868. STEEL SIDE STAKE FOR CARS. ETHAN I. DODDS, Avalon, Pa., assignor to the Pullman Company, Chicago, Ill., a Corporation of Illinois. Filed June 18, 1904. Renewed June 16, 1905. Serial No. 265,602.

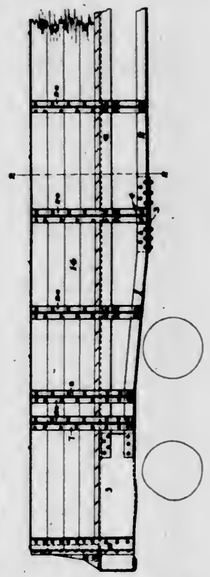


Claim.—1. The method of manufacturing side or end stakes for railway-cars from a beam having flanges at its opposite edges which consists in severing said beam into parts by cuts intersecting each other substantially in the planes of the inner surfaces of said flanges, substantially as described.

2. The method of making side or end stakes for railway-cars from a beam having flanges at its opposite edges which consists in severing said beam into parts by cuts extending through said flanges and intersecting each other substantially in the planes of the inner surfaces of said flanges, substantially as described.

3. The method of manufacturing side or end stakes for railway-cars from a beam having flanges at its opposite edges which consists in cutting through said flanges at suitable points and dividing the web of said beam by cuts which intersect each other substantially in the planes of the inner surfaces of said flanges at the points where the latter are cut through, substantially as described.

842,869. CAR CONSTRUCTION. ETHAN I. DODDS, Avalon, Pa., assignor to The Pullman Company, Chicago, Ill., a Corporation of Illinois. Filed Mar. 27, 1905. Serial No. 252,391.



Claim.—1. A side sill for railway-cars whose central portion is composed solely of an upper longitudinal compression-bar and a lower longitudinal sectional tension-bar in combination with side stakes extending above said compression-bar to which both of said bars are directly fastened, substantially as described.

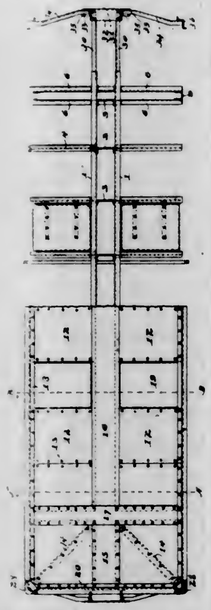
2. In a car, a side sill extending beyond the body-bolsters, the said sill comprising an angular compression member and a tension member made up of three or more parts, butt-straps joining adjacent parts of the tension member, and vertical metallic side stakes or members uniting the said tension and compression members, substantially as described.

3. In a car, a side sill extending beyond the body-bolsters, the said sill comprising an angular compression member and a tension member made up of three or more parts, butt-straps joining adjacent parts of the tension member, and vertical metallic T-shaped side stakes or members uniting the said tension and compression members, said T-shaped members projecting above the said compression member and wooden or metallic car sides supported by the said stakes or T-shaped members, substantially as described.

4. In a car, a side sill extending beyond the body-bolsters, the said sill comprising an angular compression member and a tension member made up of three or more parts, butt-straps joining adjacent parts of the tension member, and vertical metallic T-shaped side stakes or members uniting the said tension and compression members, all in combination with subsills extending to the ends of the car, substantially as described.

5. In a car having wooden sides, floors and ends, a side sill extending beyond the body-bolsters, the said sill comprising an angular compression member and a tension member made up of three or more parts, butt-straps joining adjacent parts of the tension member, and vertical metallic T-shaped side stakes or members uniting the said tension and compression members, substantially as described.

842,870. METALLIC GONDOLA CAR. ETHAN I. DODDS, Pullman, Ill., assignor to The Pullman Company, Chicago, Ill., a Corporation of Illinois. Filed July 6, 1905. Serial No. 268,303.



Claim.—1. The combination in a car, of two spaced draft-sills, a flanged face-plate, said draft-sills being attached to said flange, and two transverse end-sill members secured to said face-plate, substantially as described.

2. The combination in a car, of two spaced channel draft-sills, a flanged face-plate, the top flanges of said draft-sills being riveted to the flange of said face-plate and two transverse channel-beams secured to said plate, substantially as described.

3. The combination in a car of two spaced channel draft-sills, a flanged face-plate, said draft-sills being riveted to said flange, two channel end sills riveted to said flanged face-plate, and a strengthening member riveted to and connecting the inner ends of said end sills, substantially as described.

4. A car, having a plurality of T-beam side stakes in combination with a plurality of side plates, each extending between and fastened to two adjacent side stakes, substantially as described.

5. A car having a plurality of cross-bearers comprising I-beams and a plurality of floor-plates, each floor-plate extending between, supported by, and fastened to flanges of two adjacent cross-bearers, substantially as described.

6. In a railway-car, the combination of center sills, body-bolsters and cross-bearers fastened to said center sills, side plates covering the ends of said bolsters and cross-bearers, and a side stake secured to the end of each bolster and cross-bearer, said side plates extending between and fastened to two adjacent side stakes, substantially as described.

842,871. GONDOLA CAR. ETHAN I. DODDS, Pullman, Ill., assignor to The Pullman Company, Chicago, Ill., a Corporation of Illinois. Filed July 24, 1905. Serial No. 270,995.



Claim.—1. In a car, the combination of two center sills, a spacer for said center sills between the same, and a needle-beam secured to said spacer, substantially as described.

2. In a car, the combination of two channel center sills, a channel-spacer for said center sills between the same, and a needle-beam secured to said spacer, substantially as described.

3. In a car, the combination of two center sills, a spacer for said center sills between the same, a needle-beam, and an angle-plate securing said spacer and needle-beam together, substantially as described.

4. In a car, the combination of two channel center sills, a channel-spacer for said center sills between the same, the flanges of said spacer being riveted to the webs of said center sills, a needle-beam, and an angle-plate securing said spacer and needle-beam together, substantially as described.

5. In a car, the combination of two channel center sills, a channel-spacer for said sills between the same, the flanges of said spacer being riveted to the webs of said center sills, a flanged needle-beam, and an angle-plate fastened to the flange of said needle-beam and to the web of said channel-spacer, substantially as described.

6. In a car, the combination of a body-bolster comprising two spaced members, a spacer between said members fastened thereto, and a side stake secured to said spacer, substantially as described.

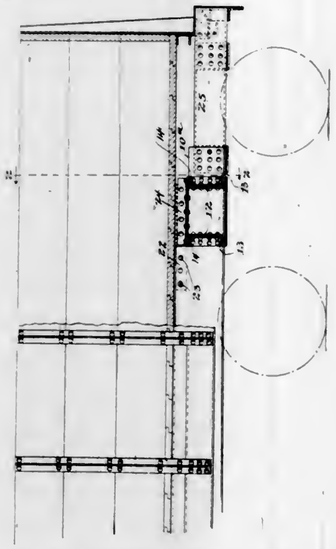
7. In a car, the combination of a body-bolster comprising two spaced members, a spacer between said members fastened thereto, a side plate, and a side stake, said plate and stake being secured to said spacer, substantially as described.

8. In a car, the combination of a body-bolster comprising two spaced members with vertical webs, a channel-spacer between said members, the flanges of said spacer being riveted to the vertical webs of said members, a side plate, and a side stake, said plate and stake being riveted to the web of said channel-spacer, substantially as described.

9. In a car, the combination of a body-bolster comprising two spaced members each having a vertical web and an outer end flange, a channel-spacer between said members, the flanges of said spacer being riveted to the webs of said members, a side plate riveted to the end flanges of said bolster members and to the web of said channel-spacer, and a flanged side stake, the flange of said stake being riveted to the web of said channel-spacer, substantially as described.

10. A sill for a railway-car, comprising a middle plate, an angle-bar longer than said plate riveted thereto adjacent to one longitudinal edge thereof and extending beyond the ends of said plate, a spliced angle-bar riveted adjacent to the opposite longitudinal edge of said middle plate and also extending beyond the ends of said central plate, said angle-bars being of unequal weight per unit of length, fillet-plates riveted to and projecting beyond the ends of said middle plate, and an end beam at each end of said sill attached to the projecting portions of said angle-bars and fillet-plates, substantially as described.

842,872. SILL AND BOLSTER CONSTRUCTION FOR RAILWAY-CARS. ETHAN I. DODDS, Pullman, Ill., assignor to The Pullman Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 23, 1905. Serial No. 275,380.



Claim.—1. In a railway-car, the combination of center sills projecting beyond the body-bolsters, each of said sills being reduced in depth for a portion of its length, draft-sills attached to the projecting ends of said center sills, body-bolster beams, and a tie-plate fastened to said body-bolster beams passing over the reduced portions of said center sills, substantially as described.

2. In a railway-car, the combination of center sills, each reduced in depth for a portion of its length, body-bolster beams, a tie-plate fastened to said body-bolster beams passing over the reduced portions of said center sills, and one or more bars fastened to said center sills and to said tie-plate, substantially as described.

3. In a railway-car, the combination of center sills, each reduced in depth for a portion of its length, body-bolster beams, a tie-plate fastened to said body-bolster beams passing over the reduced portion of said center sills, a bar fastened to one of said center sills, and a second bar secured to said first bar and to said tie-plate, substantially as described.

4. In a railway-car, the combination of center sills, each reduced in depth for a portion of its length, body-bolster beams, a tie-plate fastened to said body-bolster beams passing over the reduced portions of said center sills, and one or more angle-bars riveted to said center sills and fastened to said tie-plate, substantially as described.

5. In a railway-car, the combination of center sills, each reduced in depth for a portion of its length, body-bolster beams, a tie-plate fastened to said body-bolster beams passing over the reduced portions of said center sills, one or more angle-bars riveted to said center sills, and one or more angle-bars riveted to said first-mentioned angle bar or bars and to said tie-plate, substantially as described.

6. In a railway-car, the combination of center sills, each reduced in depth for a portion of its length, body-bolster beams each having a flange along its upper edge, a tie-plate riveted to said flanges and passing over the reduced portions of said center sills, and one or more bars riveted to said center sills and secured to said tie-plate, substantially as described.

7. In a railway-car, the combination of center sills, each reduced in depth for a portion of its length, body-bolster beams each with a flange along its upper edge, a tie-plate fastened to said flanges, one or more bars riveted to said center sills, and one or more bars securing said bar or bars to said tie-plate, substantially as described.

8. In a railway-car, the combination of center sills, each reduced in depth for a portion of its length, body-bolster beams, a tie-plate fastened to said beams passing over the reduced portions of said center sills, and one or more bars riveted to the full-depth portion of said center sills and fastened to said tie-plate, substantially as described.

9. In a railway-car, the combination of center sills, each reduced in depth for a portion of its length, body-bolster beams, a tie-plate fastened to said body-bolster beams passing over the reduced portions of said center sills, a bar or bars riveted to the full-depth portion of said center sills, and an angle bar or bars securing said bar or bars to said tie-plate, substantially as described.

10. In a railway-car, the combination of center sills, each reduced in depth for a portion of its length, body-bolster beams, a tie-plate fastened to said body-bolster beams passing over the reduced portions of said center sills, and diagonal braces fastened to said tie-plate and to said sills, substantially as described.

11. In a railway-car, the combination of center sills, each reduced in depth for a portion of its length, body-bolster beams, a tie-plate fastened to said body-bolster beams passing over the reduced portions of said center sills, a bar riveted to each of said center sills, and a diagonal brace fastened to each of said bars and to said tie-plate, substantially as described.

12. In a railway-car, the combination of center sills each reduced in depth for a portion of its length, body-bolster beams, a tie-plate fastened to said body bolster beams passing over the reduced portions of said center sills, and diagonal angle-braces fastened to said tie-plate and to said sills, substantially as described.

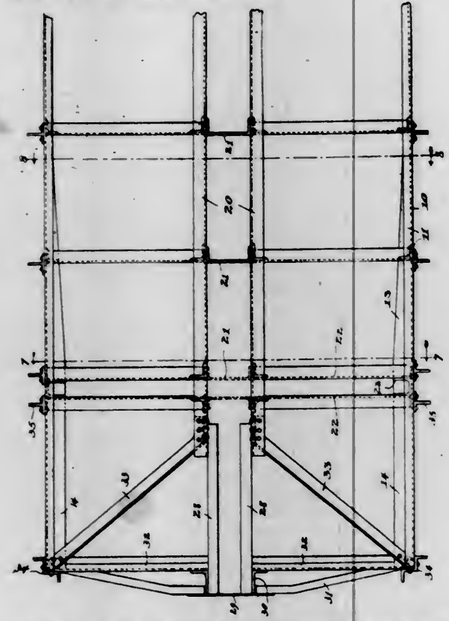
13. In a railway-car, the combination of center sills, each reduced in depth for a portion of its length, body-bolster beams, a tie plate fastened to said body-bolster beams passing over the reduced portions of said center sills, an angle-bar riveted to each of said center sills, a gusset-plate at each of the adjacent corners of said car, and diagonal angle-braces each secured at its inner end to one of said angle-bars, and at its outer end to one of said gusset-plates, substantially as described.

14. In a railway-car, the combination of center sills, each reduced in depth for a portion of its length, body-bolster beams each having integral flanges along its upper and lower edges, a top tie-plate riveted to said upper flanges passing over the reduced portions of said center sills, a bottom tie-plate riveted to the lower flanges of said bolster-beams passing beneath said center sills, one or more bars riveted to said center sills, and one or more bars securing said first bar or bars to said top tie-plate, substantially as described.

15. In a railway-car, the combination of center sills, each reduced in depth for a portion of its length, body-bolster beams each having integral flanges along its upper and lower edges, a top tie-plate riveted to the upper flanges of said body-bolster beams passing over the reduced

portions of said center sills, a bottom tie-plate riveted to the lower flanges of said body-bolster beams, gusset-plates at the adjacent corners of the car-frame, an angle-bar riveted to each of said center sills extending over said top tie-plate, and diagonal braces secured at their inner ends to said angle-bars and at their outer ends to said gusset-plates, substantially as described.

842,873. METALLIC UNDERFRAME FOR CARS. ETHAN I. DODDS, Pullman, Ill., assignor to The Pullman Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 30, 1905. Serial No. 285,153.



Claim.—1. In a railway-car, the combination of a bellied side sill having a bottom flange along its lower margin, said flange having a central portion of uniform width, tapered, intermediate portions, and wide ends, and transverse beams resting on and secured to said wide ends, substantially as described.

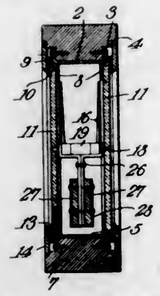
2. In a railway-car, the combination of a bellied side sill having a bottom flange along its lower margin, said flange having a central portion of uniform width, tapered intermediate portions, and wide ends, the parts of said sill being so proportioned that the sum of the depth of the sill and the width of said flange is the same at all points of its length, and transverse beams resting on and secured to said wide ends of the flange, substantially as described.

3. In a railway-car, the combination of a side sill having a top flange and a bottom flange, said bottom flange having ends wider than its central portion, and a transverse beam having top and bottom flanges, said top flanges being secured together, the bottom flange of said transverse beam being secured to one of the wide ends of said sill, substantially as described.

4. In a railway-car, the combination of a bellied side sill having an integral top flange and an integral bottom flange, said bottom flange having wide ends and intermediate tapered portions, and a transverse beam having integral top and bottom flanges, said top flanges being riveted together and the bottom flange of said transverse beam being riveted to one of the wide ends of the bottom flange of said sill, substantially as described.

5. In a railway-car, the combination of a bellied side sill having a bottom flange along its lower margin, said flange having a central part of uniform width, tapered intermediate portions, and wide ends, and diagonal braces resting upon and riveted to the wide ends of said flange, substantially as described.

842,874. PLUMB RULE AND LEVEL. WAYNE DOWNS, Dallas, Tex., assignor of two-fifths to Silas R. Adams, Dallas, Tex. Filed Sept. 10, 1906. Serial No. 333,980.



Claim.—1. In a plumb rule and level the combination with a casing having transparent walls and graduated seats therefor; of an angular pivot member having reduced ends bearing in the transparent walls, pointers engaging and extending radially from the pivot member said pointers being rotatable therewith, hangers non-rotatably mounted upon the pivot member for retaining the pointers thereon, said hangers being radially connected to prevent lateral movement of the pointers, and a weight secured to the hangers.

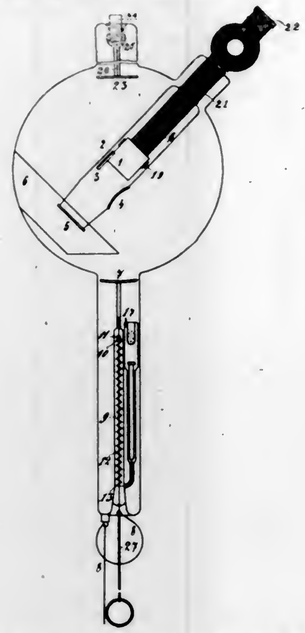
2. A plumb rule and level having an approximately Z-shaped graduated ring forming a pair of angular seats, a collar fitted into one of said angular seats, a transparent wall fitted into the other of said angular seats, a retaining-ring contacting partially with said transparent wall and partially with said graduated ring for holding the same in position, and an indicator having one of its pivot-points supported by said transparent wall.

3. A plumb rule and level comprising a stock having an opening extending therethrough and formed at each end with inner and outer rabbeted portions, a collar fitted into said opening and having lugs engaging said inner rabbeted portion, a Z-ring having a pair of angular seats, one of said angular seats being fitted against one end of said collar, a transparent wall fitted into the other of said angular seats, a resilient inner retaining-ring fitted against a portion of said Z-ring and a portion of said transparent wall, and an outer retaining-ring fitted against said inner retaining-ring for holding said transparent wall in the angular seat of said Z-ring and for holding said Z-ring against the outer end of said collar.

4. A plumb rule and level comprising a stock having an opening formed with inner and outer rabbeted portions, a collar fitted into said opening and having lugs engaging said inner rabbeted portion, a pair of Z-rings each having a pair of angular seats one of which is fitted against the adjacent end of the collar, a transparent wall fitted into the other angular seat of each Z-ring, each transparent wall having a depression in its inner face, an inner retaining-ring fitted against each transparent wall and Z-ring, an outer retaining-ring fitted into the outer rabbeted portion for holding the inner retaining-ring in position, and an indicator consisting of a pivot member having reduced ends fitted into the depressions in said transparent walls, an enlarged central portion, non-circular intermediate portions, pointers engaging with said non-circular intermediate portions, hangers engaged with said non-circular intermediate portions for holding said pointers in position, and weights secured to said hangers.

842,875. X-RAY TUBE. MYLIUS EHRHARDT, Berlin, Germany. Filed Oct. 18, 1904. Serial No. 228,999.

Claim.—1. In a Röntgen tube of the kind described, the combination with an anticathode 1, of a lead-glass tube 2 inclosing said anticathode, a lateral opening 4 provided in said tube and situated between the anticathode and the end opening 5 of the tube, and a plate 3 also located within the said tube and situated about opposite to said lateral opening, for the purpose as described.



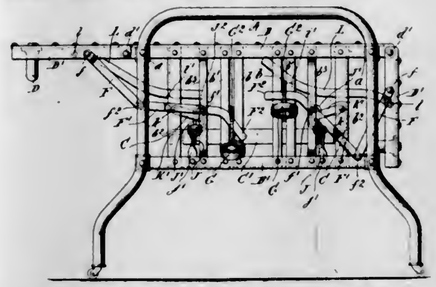
2. In a Röntgen tube of the kind described, the combination with a cathode 7 and an anticathode 1, of a lead-glass tube 2 inclosing said anticathode, a lateral opening 4 provided in said tube and situated between the anticathode and the end opening 5 of the tube, opposite to said cathode, a plate 3 located also within the said tube and situated in a line with said lateral opening and the cathode, and a metal lining surrounding said end opening at some distance therefrom, for the purpose as described.

3. In a Röntgen tube of the kind described, the combination with the cylindrical portion of the Röntgen tube, of another tube 15 located in said cylindrical portion, the interior of this tube having no connection with the interior of the Röntgen tube; a glass bulb located at the end of said inner tube near to the ball-like portion of the Röntgen tube and communicating with the same, a substance adapted to develop a gas when being electrically heated and contained in said bulb, an auxiliary cathode 14 arranged within said side tube, a conducting-wire connected with said auxiliary cathode, and a switch 9 connected with the main conduit, substantially as and for the purpose described.

4. In a Röntgen tube of the kind described, the combination with the Röntgen tube proper, of a side tube 15, the interior of which has no connection with the interior of the said Röntgen tube, a glass bulb 16 located at one end of the side tube and communicating with the interior of the Röntgen tube, a substance adapted to develop a gas when being electrically heated and contained in said bulb, an auxiliary cathode 14 arranged within said side tube, a conducting-wire connected with said auxiliary cathode, and a switch 9 connected with the main conduit, substantially as and for the purpose described.

5. In a Röntgen tube of the kind described, the combination with the ball-like portion and the cylindrical portion of the Röntgen tube, of an anticathode located in the first-mentioned portion, a lead-glass tube 2 inclosing said anticathode, a lateral opening 4 provided in said tube and situated between the anticathode and the end opening 5 of the tube, and a plate 3 also located within the said tube and situated about opposite to said lateral opening; a tube 15 located in the cylindrical portion, the interior of this tube having no connection with the interior of the Röntgen tube; a glass bulb located at the end of said inner tube near to the ball-like portion of the Röntgen tube and communicating with the same, a substance adapted to develop a gas when being electrically heated and contained in said bulb, an auxiliary cathode 14 arranged within said side tube, a conducting-wire connected with the main conduit, a switch 9, and a cord 27, consisting of a non-conducting material and being constantly connected with said switch, substantially as and for the purpose as described.

842,876. FOLDING COUCH. JACOB FELDMAN, Chelsea, Mass. Filed July 16, 1906. Serial No. 326,316.



Claim.—1. In a folding couch, a main frame having a head and foot each composed of transverse top and bottom angle-bars joined by vertical metallic slats, metal side rails connecting the head and foot portions of said main frame and braces joining said side rails to the two end portions of the main frame, head and foot metallic standards whereto the main frame is secured, and laterally-suspended swinging frames each consisting of an outer side rail and end bars pivotally joined to the transverse top end bars of the main frame, elevating-toggles and props for said swinging frames and independent treadles to operate the swinging frame of either side.

2. In a folding couch, the combination of a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting said top and bottom end bars, side rails, cross-braces between and securing the side rails and braces from the side rails to the vertical slats, swing-frames pivoted to the upper end bars of the main frame, elevating-toggles pivoted to the main and side frames respectively, props engaging with the main frame when the swing-frames are extended and elevating-toggles pivoted on a cross-brace of the main frame to engage and work the elevating-toggles.

3. In a folding couch, the combination of a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting said top and bottom end bars, side rails, cross-braces between and securing the side rails and braces from the side rails to the vertical slats, swing-frames pivoted to the upper end bars of the main frame, elevating-toggles pivoted to the main and side frames respectively, props engaging with the main frame when the swing-frames are extended, elevating-toggles pivoted on a cross-brace of the main frame to engage and work the elevating-toggles, and lifting-treadles pivoted on the cross-brace of the main frame having operating ends extending outside the main frame, said treadles having stirrups to engage the elevating-toggles.

4. In a folding couch, the combination of a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting said top and bottom end bars, side rails, cross-braces between and securing the side rails, and braces from the side rails to the outer vertical slats, swing-frames pivoted to the upper end bars of the main frame, elevating-toggles pivoted to the main and side frames respectively, props engaging with the main frame when the swing-frames are extended, elevating-toggles pivoted on a cross-brace of the main frame to engage and work the elevating-

toggles, lifting-treadles pivoted on a cross-brace of the main frame having operating ends extending outside the main frame, said treadles composed each of two strap-irons spirally coiled to form a tread and having stirrups to engage the elevating-toggles.

5. In a folding couch, a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting the side end bars, the outer slats of angle-iron whereof the webs are slotted to receive the props, and other pairs of said slats placed parallel in juxtaposition to serve as guides for lifting-treadles, side rails and braces, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and side frames, props carried by the side frames and engaging with the main frame when the swing-frames are extended, said props provided with notches to catch at the lower lips of the slots in said vertical angle-iron slats, and lifting-treadles pivoted on a cross-brace of the main frame and having their operating ends extending outside the main frame to engage the elevated toggle member.

6. In a folding couch, a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting the side and bars, the outer slats of angle-iron whereof the webs are slotted to receive the props, and other pairs of said slats placed parallel in juxtaposition to serve as guides for lifting-treadles, side rails and braces, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and side frames, props carried by the side frames and engaging with the main frame when the swing-frames are extended, said props provided with notches to catch at the lower lips of the slots in said vertical angle-iron slats, and lifting-treadles pivoted on a cross-brace of the main frame and having their operating ends extending outside the main frame, said treadles being composed each of two strap-irons spirally coiled to form a tread, having stirrups to engage the elevating-toggles.

7. In a folding couch, a main frame, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and side frames, props engaging with the main frame when the swing-frames are extended, and lifting-treadles pivoted to the main frame to engage and operate the elevating-toggles, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

8. In a folding couch, a main frame, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and side frames, props engaging with the main frame when the swing-frames are extended, and lifting-treadles pivoted to the main frame having operating ends extending outside the main frame, and stirrups to engage the elevating-toggles to lift the swing-frames, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

9. In a folding couch, a main frame, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and swing frames, props engaging with the main frame when the swing-frames are extended, and lifting-treadles pivoted to the main frame having operating ends extending outside the main frames, said treadles composed each of two strap-irons spirally coiled to form a tread and having a stirrup to engage an elevating-toggle, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

10. In a folding couch, a main frame, comprising top and bottom angle-iron end bars, side rails and braces, swing-frames pivoted to the upper end bars of the main frame, elevating-toggles pivoted to the main frame and end bars on the swing-frames, props carried by the swing-frames and engaging with the main frames when the swing-frames are extended and lifting-treadles pivoted on the main frame having operating ends extending outside the main frame and stirrups to engage the elevating-toggles, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

11. In a folding couch, the combination of a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting said top and bottom end bars, side rails, cross-braces between and securing the side rails and braces from the side rails to the vertical slats, swing-frames pivoted to the upper end bars of the main frame, elevating-toggles pivoted to the main and side frames respectively, props engaging with the main frame when the swing-frames are extended and elevating-toggles pivoted on a cross-brace of the main frame to engage and work the elevating-toggles, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

12. In a folding couch, the combination of a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting said top and bottom end bars, side rails, cross-braces between and securing the side rails and braces from the side rails to the vertical slats, swing-frames pivoted to the upper end bars of the main frame, elevating-toggles pivoted to the main and side frames respectively, props engaging with the main frame when the swing-frames are extended, elevating-toggles pivoted on a cross-brace of the main frame to engage and work the elevating-toggles, and lifting-treadles pivoted on the cross-brace of the main frame having operating ends extending outside the main frame, said treadles having stirrups to engage the elevating-toggles, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

13. In a folding couch, the combination of a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting said top and bottom end bars, side rails, cross-braces between and securing the side rails, and braces from the side rails to the outer vertical slats, swing-frames pivoted to the upper end bars of the main frame, elevating-toggles pivoted to the main and side frames respectively, props engaging with the main frame when the swing-frames are extended, elevating-toggles pivoted on a cross-brace of the main frame to engage and work the elevating-toggles, lifting-treadles pivoted on a cross-brace of the main frame having operating ends extending outside the main frame, said treadles composed each of two strap-irons spirally coiled to form a tread and having stirrups to engage the elevating-toggles, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

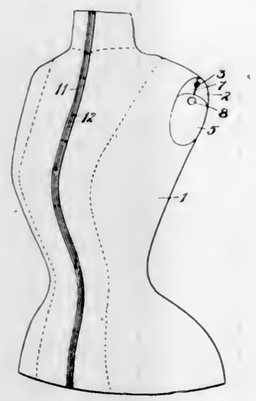
14. In a folding couch, a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting the side end bars, the outer slats of angle-iron whereof the webs are slotted to receive the props, and other pairs of said slats placed parallel in juxtaposition to serve as guides for lifting-treadles, side rails and braces, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and side frames, props carried by the side frames and engaging with the main frame when the swing-frames are extended, said props provided with notches to catch at the lower lips of the slots in said vertical angle-iron slats, and lifting-treadles pivoted on a cross-brace of the main frame and having their operating ends extending outside the main frame to engage the elevated toggle member, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

15. In a folding couch, a main frame, comprising top and bottom angle-iron end bars, vertical slats connecting the side end bars, the outer slats of angle-iron whereof the webs are slotted to receive the props, and other pairs of said slats placed parallel in juxtaposition to serve as guides for lifting-treadles, side rails and braces, swing-frames pivoted to the main frame, elevating-toggles pivoted to the main and side frames, props carried by the side frames and engaging with the main frame when the swing-frames are extended, said props provided with notches to catch at the lower lips of the slots in said vertical angle-iron slats, and lifting-treadles pivoted on a cross-brace of the main frame and having their operating ends extending outside the main frame, said treadles being composed each of two strap-irons spirally coiled to form a tread, having stirrups to engage the elevating-toggle, a tripper to disengage the props, and a tripper-lever, pivoted on the main frame, to actuate the tripper.

16. In a folding couch, a main frame comprising top and bottom angle-iron end bars, vertical slats connecting said end bars, pairs of slats serving as guides for treadle-levers, the outer slats composed of angle-iron whereof the webs are slotted to receive the props, the top end bars extended laterally to form stirrups for swing-frames, end standards of bent pipe, blocks to secure the end bars of the side frame to the standards, side rails and braces between the side rails and outer vertical slats; swing-frames each provided with an outer side rail and end bars pivoted to the upper end bars of the main frame; elevating-toggles pivoted to the main and side frames respectively; props engaging with the main frame when the swing-frames are extended, said props provided with notches to catch on the lower lips of the slots in the vertical angle-iron slats; lifting-treadles pivoted to a cross-brace on the main frame and provided with operating ends which extend outside the main frame, said treadles composed each of two strap-irons spirally coiled to form a tread, and having a stirrup to engage an elevating-toggle; trippers to engage the props, said trippers composed each of a bar bent at its ends and pivoted on the main frame; tripper-treadles pivoted on the main frame and each provided with a loop to engage a tripper, said swing-frames and actuating members being independently operable, the main frame and swing-frames adapted to receive a spring fabric between the several end bars thereof.

842,877. GARMENT-FORM. CHARLES FRANKEL, New York, N. Y. Filed Mar. 23, 1906. Serial No. 307,728.

Claim.—1. A garment-form comprising a bust, a raised measuring-strip attached thereto, and adjustable arm-plates secured at the shoulders.



2. An arm-plate for a garment-form, comprising a main stationary member and a supplemental member adjustable thereto, and means for clamping the two members together.

3. In an arm-plate for a garment-form, an upper plate adapted to be secured to the form and a lower plate in contact therewith and adjustable relative thereto.

4. In an arm-plate for a garment-form, two members having curved upper and lower edges, and pin-and-slot connections between the two members.

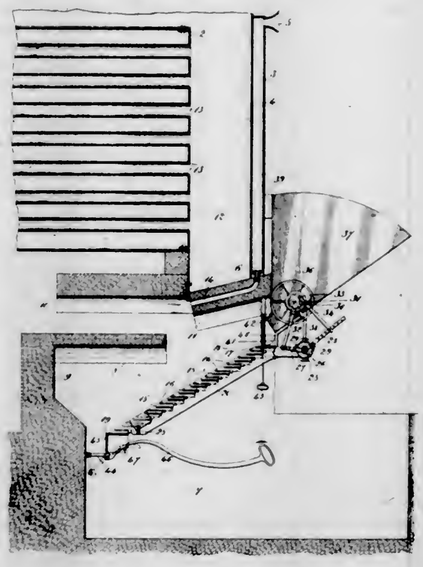
5. In a garment-form arm-plate, a stationary member, a movable member, and means for clamping the movable member in place in any one of a plurality of positions relative to the stationary member.

6. A garment-form comprising a bust, and a measuring-strip attached thereto having a raised rib with notches indicating the divisions into units or parts thereof.

842,878. AUTOMATIC STOKER. JOHN S. S. FULTON, New York, N. Y., assignor to Fulton Furnace Company, New York, N. Y., a Corporation of New York. Filed Dec. 7, 1904. Serial No. 235,820.

Claim.—1. In an automatic stoker, a step-grate comprising two inclined series of substantially-horizontal grate-bars, the bars of one series being interleaved between those of the other series, and means for producing relative upward, backward, downward and forward movements between alternate bars and the bars next above and below them.

2. In an automatic stoker, a step-grate comprising two inclined series of substantially horizontal grate-bars, the bars of one series being interleaved between those of the other series, and means for producing relative upward, backward, downward and forward movements between alternate bars and the bars next above and below them, said movements diminishing in extent from the upper to the lower end of the grate.



3. In an automatic stoker, a step-grate comprising an inclined series of stationary grate-bars and an inclined series of movable grate-bars interleaved between the stationary bars, and means for imparting to the movable series of bars sequential upward, backward, downward and forward movements.

4. In an automatic stoker, a step-grate comprising an inclined series of stationary grate-bars and an inclined series of movable grate-bars interleaved between the stationary bars, and means for operating the movable series of bars in such manner that the upper end of the series moves in a circular path while the lower end moves in an arc of a circle less than the circumference of the latter, substantially as set forth.

5. In an automatic stoker, a step-grate comprising an inclined series of stationary grate-bars, an inclined framework movably supported at its lower end and carrying a series of grate-bars interleaved between the stationary bars, and means for moving the upper end of said framework in a circular path.

6. In an automatic stoker, a step-grate composed of two similar portions located side by side and each comprising two inclined series of grate-bars, the bars of one series being interleaved between and movable with respect to those of the other series, and means for moving one series of movable bars upward and backward and for simultaneously moving the other series of movable bars downward and forward, and vice versa.

7. In an automatic stoker, a step-grate comprising an inclined series of stationary grate-bars, an inclined movable framework pivotally supported on links at its lower end and carried by eccentrics at its upper end, a shaft to which said eccentrics are secured, a series of grate-bars carried by said movable framework and interleaved between the stationary grate-bars, and means for rotating said shaft.

8. In an automatic stoker, a step-grate composed of

two similar portions located side by side and each comprising an inclined series of stationary grate-bars, an inclined framework movably supported at its lower end and carried by eccentrics at its upper end, and a series of grate-bars carried by the movable framework and interleaved between the corresponding stationary grate-bars, a shaft to which said eccentrics are secured, the eccentrics for one movable framework being disposed on said shaft in diametrically opposite relation to the eccentrics which carry the other movable framework, and means for rotating said shaft.

9. In an automatic stoker, a step-grate comprising two inclined series of substantially horizontal grate-bars supported for relative movement at their lower ends, the bars of one series being interleaved between those of the other series, and means for producing relative upward, backward, downward and forward movements between the upper ends of said series of bars.

10. In an automatic stoker, a step-grate comprising two inclined series of substantially horizontal grate-bars supported for relative movement at their ends, the bars of one series being interleaved between those of the other series, and means for producing a relative circular movement between the upper ends of said series of bars.

11. In an automatic stoker, a step-grate composed of two similar portions located side by side and comprising respectively two inclined series of substantially horizontal grate-bars, the bars of one series being interleaved between those of the other series, and means common to the two portions of the grate for producing relative upward, backward, downward and forward movements between the interleaved bars, the relative movements of the bars in the two portions of the grate being opposite in phase.

12. In an automatic stoker, the combination of a step-grate comprising an inclined series of stationary grate-bars, an inclined series of movable grate-bars interleaved between the stationary grate-bars, a shaft, and operating connections between the same and said movable series of grate-bars, and means for rotating said shaft comprising a ratchet-wheel secured thereto, two arms independently journaled concentrically with said shaft and provided respectively with pawls adapted to engage and rotate said ratchet-wheel, and means for oscillating said arms simultaneously in opposite directions.

13. In an automatic stoker, the combination of a step-grate comprising an inclined series of stationary grate-bars, an inclined series of movable grate-bars interleaved between the stationary grate-bars, a shaft, and operating connections between the same and said movable series of grate-bars, and means for rotating said shaft comprising a ratchet-wheel secured thereto, two arms independently journaled concentrically with said shaft and provided respectively with pawls adapted to engage and rotate said ratchet-wheel, and means for oscillating said arms simultaneously in opposite directions, said means comprising a driving-shaft and means for rotating the same, an eccentric carried thereby and having its connecting-rod adjustably secured to one of said arms, and a crank-pin carried by said eccentric and provided with a connecting-rod which is adjustably secured to the other of said arms.

14. In an automatic stoker, the combination of a step-grate comprising a stationary framework having a horizontal top plate and an inclined series of grate-bars extending downward therefrom, a movable framework carrying an inclined series of grate-bars which are interleaved between the stationary grate-bars, means for imparting to the movable series of bars sequential upward, backward, downward and forward movements, a hopper having its discharge-opening located above the top plate of the stationary framework in position to deliver fuel upon said top plate and upon the movable bar next below it, and means for regulating the delivery of fuel from said hopper.

15. In an automatic stoker, the combination of a step-grate comprising two inclined series of grate-bars, the bars of one series being interleaved between those of the other series, means for operating said bars in such manner that each bar of one of the series moves successively upward, backward, downward and forward with respect to the bars above and below it, and transverse division-walls 8 and 11 located above said grate and providing a combustion-chamber, substantially as described.

16. In an automatic stoker, the combination of a step-grate comprising two inclined series of grate-bars, the bars of one series being interleaved between those of the other series, means for operating said bars in such manner that each bar of one of the series moves successively upward, backward, downward and forward with respect to the bars above and below it, and transverse division-walls 8 and 11 located above said grate and providing a combustion-chamber, the wall 11 being provided with air-passages opening into the space at the front end of said wall, substantially as described.

17. In an automatic stoker, the combination with a step-grate located between side walls and comprising two inclined series of substantially horizontal grate-bars, the bars of one series being interleaved between those of the other series, and means for producing relative upward, backward, downward and forward movements between alternate bars and the bars next above and below them, of transverse division-walls overhanging the upper and lower portions of said grate and providing a combustion-chamber above the grate and an outlet-passage between the ends thereof, substantially as described.

18. In an automatic stoker, the combination with a step-grate located between side walls and comprising two inclined series of substantially horizontal grate-bars, the bars of one series being interleaved between those of the other series, and means for producing relative upward, backward, downward and forward movements between alternate bars and the bars next above and below them, of transverse division-walls overhanging the upper and lower portions of said grate and providing a combustion-chamber above the grate and an outlet-passage between the ends thereof, the transverse wall over the lower portion of the grate being arranged to reflect heat back under the other transverse wall.

19. In an automatic stoker, the combination with a step-grate located between side walls and comprising two inclined series of substantially horizontal grate-bars, the bars of one series being interleaved between those of the other series, and means for producing relative upward, backward, downward and forward movements between alternate bars and the bars next above and below them, of transverse division-walls overhanging the upper and lower portions of said grate and providing a combustion-chamber above the grate and an outlet-passage between the ends thereof, and means for delivering heated air into said outlet-passage.

20. In an automatic stoker, the combination with a step-grate located between side walls and comprising two inclined series of substantially horizontal grate-bars, the bars of one series being interleaved between those of the other series, and means for producing relative upward, backward, downward and forward movements between alternate bars and the bars next above and below them, of transverse division-walls overhanging the upper and lower portions of said grate and providing a combustion-chamber above the grate and an outlet-passage between the ends thereof, the transverse wall over the upper portion of the grate being provided with air-passages opening into the space at its front end, and a hollow casing exposed to the heat of the waste products of combustion and forming an air-space communicating with said air-passages and with the external air.

842,879. BEDSTEAD. FRANCIS G. GALE, Waterville, Quebec, Canada. Filed Apr. 27, 1906. Serial No. 314,035.

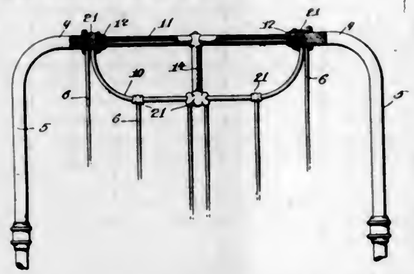
Claim.—1. An end frame for a bedstead having two connected corner-posts capable of being sprung apart slightly and a top rail held between said corner-posts by the resiliency of the end frame.

2. An end frame for a bedstead having two connected corner-posts capable of being sprung apart and each provided with a projection and a top rail having a socket in its ends to fit over said projections.

3. An end frame for a bedstead having two corner-posts each provided with an arm, said corner-posts being resiliently connected, and a brass top rail movably sustained between said arms.

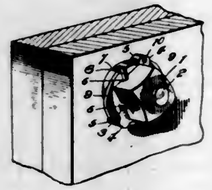
4. In a bedstead, an end frame having two corner-posts, arms extending therefrom, each provided with a projection, and a brass top rail extending between said arms, said top rail having sockets in its ends to fit over said projections.

5. In a bedstead, an end frame having two corner-posts, an arm extending inwardly from each corner-post, a dropped rod connecting said arms, and a brass top rail detachably sustained by the arms.



6. In a bedstead, an end frame comprising two corner-posts each having an arm extending inwardly therefrom, provided with a projection, a dropped rod connecting said arms, and a tubular top rail extending between said arms, the projections on the arms entering the ends of said top rail.

842,880. NUT-LOCK. AWULIUS J. GARRISON and ARCH A. BOSSERMAN, Greenville, Va. Filed May 2, 1906. Serial No. 314,897.

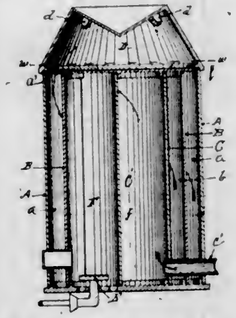


Claim.—1. In a nut-lock, the combination of a bolt, a nut screwed thereon, a washer, projections extending from the inner side of the washer, said washer being provided with a slot extending from its peripheral portion, a pawl arranged in said slot projecting outwardly from the washer, and a curved spring attached at one end to the pawl and having its opposite end upturned and passing through an opening in the washer.

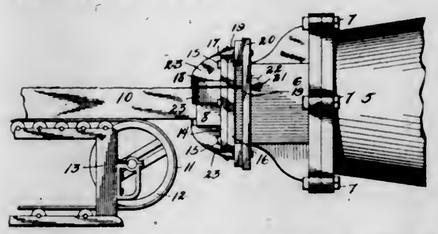
2. In a nut-lock, the combination of a bolt, a nut screwed thereon, a washer, projections extending from the inner side of the washer, said washer being provided with a slot extending from its peripheral portion, a pawl arranged in said slot projecting outwardly from the washer, and a curved spring attached at one end to the pawl and having its opposite end upturned and passing through an opening in the washer, the washer having extensions at its peripheral portion of which the aforesaid projections are integral portions, the curved spring aforesaid extending through a groove on the under side of one of the extensions above mentioned.

842,881. HEATING-FURNACE. ELMER E. GRAHAM, Erie, Pa. Filed Aug. 19, 1905. Serial No. 274,959.

Claim.—The combination in a heating-furnace of an annular outer shell having an air-inlet opening near the base thereof, a vertical wall at one side of said opening extending inwardly from said shell, a second annular shell inside of said outer shell and joined to said vertical wall, a top on the chamber formed by said annular shells having an air-outlet opening at the side of said vertical wall opposite to said air-inlet opening, a third annular shell inside of said second shell, and forming with second shell an annular heating-chamber part of which third shell is curved inward so as to form an enlargement of the annular heating-chamber formed by the said walls, said third shell having an opening for the passage of the products of combustion from the annular part of said heating-chamber into a central heating-chamber inside of said third shell, a vertical wall between said opening and the enlarged part of the heating-chamber, a gas-burner in the enlarged portion of the heating-chamber, and a smoke-exit pipe extending from the central chamber outward, substantially as set forth.



842,882. DEVICE FOR MAKING ORNAMENTAL BRICKS. MILTON N. GRANT, Columbus, Ohio, assignor to The Central Ohio Roofing Tile & Brick Company, Columbus, Ohio, a Corporation of Ohio. Filed Apr. 23, 1906. Serial No. 313,171.



Claim.—1. In a device of the character described, the combination with a machine having a die through which clay is discharged, of wires arranged at the sides of the mouth of said die and adapted to engage and roughen one side and one edge of the clay which is discharged from said die.

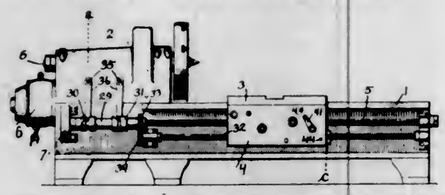
2. In a device of the character described, the combination with a machine having a die through which clay is discharged, of wires arranged at the sides of the mouth of said die and adapted to engage and roughen the surface of said clay, and means for placing said wires under tension.

3. In a device of the character described, the combination with a machine having a die through which clay is discharged, of wires arranged at the sides of the mouth of said die and adapted to engage and roughen the surface of the clay, means for adjusting the tension of said wires, and spacing-blocks over which said wires pass.

4. In a device of the character described, the combination with a machine having a die through which clay is forced, of wires arranged at the sides of the mouth of said die and adapted to engage and roughen the surface of said clay, a frame carried by said machine, and tensioning members carried by said frame with which the ends of said wires are engaged.

5. In a device of the character described, the combination with a machine having a die through which a mass of clay is discharged, of wires arranged for limited vibration at the sides of the mouth of said die and adapted to engage and roughen the outer face of the mass of clay which passes through said die.

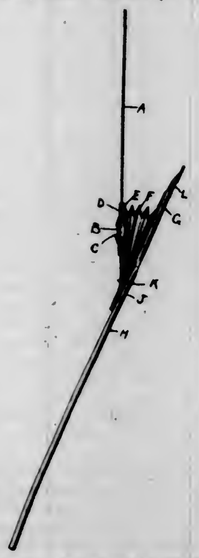
842,883. LATHE. GEORGE E. GREENLEAF, Plainfield, N. J., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Apr. 20, 1906. Serial No. 312,780.



Claim.—1. In a lathe, the combination, substantially as set forth, of a bed, a carriage, a head-stock, a lathe-arbor, a first-motion part for imparting motion to the lathe-arbor, selective transmission-gears between said first-motion part and lathe-arbor, a lead-screw, clutches for bringing said gears selectively into action, arms for throwing said clutches, rotary cams mounted loosely on the lead-screw for controlling said arms, a splined rod journaled on the lathe-bed, connections between said rod and cams, a handle carried by the lathe-carriage, and connections between said handle and rod whereby the turning of the handle brings about the turning of the cams and the bringing of the clutches selectively into action.

2. In a lathe, the combination, substantially as set forth, of a bed, a carriage, a head-stock, a lathe-arbor, a first-motion part for imparting motion to the lathe-arbor, selective transmission-gears between said first-motion part and lathe-arbor, clutches for bringing said gears selectively into action, arms for engaging and disengaging said clutches, a completely rotary cam for each arm, each of said cams having a plurality of lobes each of which will actuate its arm, means rigidly uniting the cams so that their lobes together form a complete circular series of lobes in which the lobes on one cam alternate with those on the other cam, a splined rod journaled on the lathe-bed, connections between said rod and cams, a completely rotary handle carried by the lathe-carriage, connections between said handle and rod whereby the continuous turning of the handle brings about the continuous turning of the cams, and means for locking the handle in positions corresponding with the idle and active positions of the cam-lobes.

842,884. FAN. BERNHARD GUGGENHEIM, New York, N. Y. Filed Oct. 6, 1906. Serial No. 337,683.



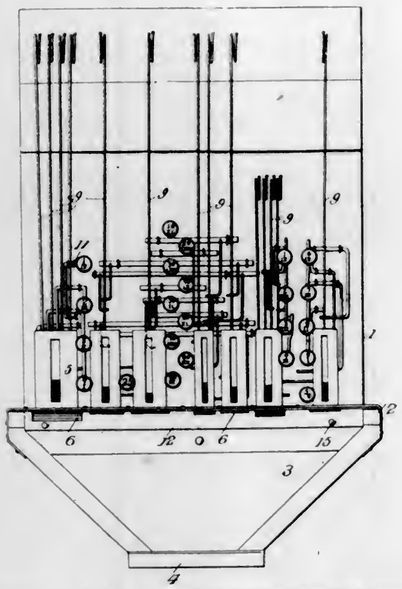
Claim.—1. A fan, consisting of a body portion provided with a whistle, a bellows secured to said body portion, a handle secured to one end of said bellows and the bottom of said body portion, substantially as and for the purposes set forth.

2. A fan, consisting of a body portion provided with a whistle, a back portion provided with a handle, a bellows connecting said body portion to said back portion for operating said whistle.

3. A fan, consisting of a body portion, a whistle therein, a back portion, a handle thereon, a bellows connecting said body portion to said back portion, whereby the bellows operate the whistle when the fan is shaken by the handle.

4. A fan, consisting of a body portion, a whistle therein, a back portion, a handle secured thereto, a bellows connecting said body portion to said back portion, said bellows being closed at the bottom and suitably fastened to the body and back portions to permit only the top of the bellows to expand as the fan is operated.

842,885. MONEY-CHANGING MACHINE. ELBERT D. HALE, Rogers, Ark. Filed Sept. 11, 1905. Serial No. 277,962.



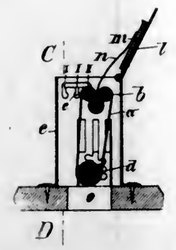
Claim.—1. A device of the character described comprising cups for coins of different denominations, coin-ejecting plates arranged in superposed series of predetermined number and each arranged to eject a single coin from its respective cup, an operating-rod secured to each of said plates, and the latter provided with recesses as described for the clearance of said rods, and operating-levers arranged to actuate one or more of said rods at a time.

2. In a device of the character described, a series of cups for coins of different denominations, a predetermined number of coin-ejecting plates, set one above the other in said cups and each arranged to eject therefrom a single coin, each of said plates being provided with an aperture S, and all but the bottom plate being provided with a recess, operating-rods passing down through said recesses and each secured to one of the plates, and means for actuating any number of said rods at a time.

3. A device of the character described, comprising a coin-receiving cup, a predetermined number of coin-ejecting plates arranged one above the other in the bottom of said cup and each arranged to eject a single coin therefrom, each of said plates but the bottom plate being provided with a recess, the recesses being of different sizes, operating-rods passing down through said recesses and each secured to one of the plates, and levers arranged to actuate one or more of said rods at a time.

4. A device of the character described, comprising a series of cups designed to contain coins of different denominations, a predetermined number of coin-ejecting plates mounted one upon the other in the bottoms of said cups and each arranged to eject therefrom a single coin, each of said plates, except the bottom plate, being provided with a recess, and the said recesses of the respective plates increasing in width toward the uppermost plate, spring-operating rods secured to the respective plates and passing down through the clearance provided by said recesses, and a series of levers provided with arms arranged to respectively actuate one or more of said rods at a time.

842,886. CIGARETTE-FORMER. ROBERT HOFFMANN, Cassel, Germany. Filed Aug. 15, 1906. Serial No. 330,619.

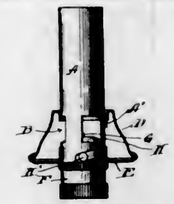


Claim.—1. In a cigarette-former and in combination a casing comprising side walls having bearings therein near the upper parts of the same and bearings near the bottoms thereof and a cover, a pair of rolls journaled in the upper bearings, a single roll journaled in the lower bearing, an endless belt guided over the rolls, means for rotating one of the upper rolls for feeding the belt and a paper-moistener carried by the cover, substantially as described.

2. In a cigarette-former, the combination with a casing, two opposite sides of which are each provided in the lower part with a vertical slot and a plurality of adjoining horizontal recesses and in the upper part with a bearing, a horizontal slot and a plurality of adjoining downwardly-directed recesses, of a driving-roller mounted to turn in the bearings of said casing and provided with a crank, an upper roller engaging with its pins in the upper slots and recesses of said casing and mounted to turn in either recess in each side, a lower roller engaging with its pins in the lower slots and recesses of said casing and mounted to turn in either recess in each side, means for securing the lower roller in the respective recesses, and an endless band passing over the three rollers and adapted to form a pocket for tobacco between the two upper rollers and to roll the tobacco and to wrap an inserted wrapper around the rolled tobacco.

3. In a cigarette-former, the combination with a casing, two opposite sides of which are each provided in the lower part with a vertical slot and a plurality of adjoining horizontal recesses and in the upper part with a bearing, a horizontal slot and a plurality of adjoining downwardly-directed recesses, of a roughened driving-roller mounted to turn in the bearings of said casing and provided with a crank, an upper roller engaging with its pins in the upper slots and recesses of said casing and mounted to turn in either recess in each side, a lower roller engaging with its pins in the lower slots and recesses of said casing and mounted to turn in either recess in each side, means for securing the lower roller in the respective recesses, an endless band passing over the three rollers and adapted to form a pocket for tobacco between the two upper rollers and to roll the tobacco and to wrap an inserted wrapper around the rolled tobacco, a cover for said casing and adapted to support itself when turned upward, and a wetting-pad on said cover and adapted to wet the gummed wrappers.

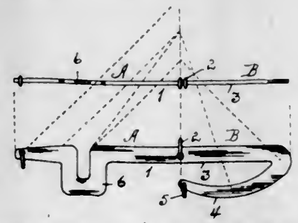
842,887. GAS-BURNER REGULATOR. WILLIAM C. HOMAN, Meriden, Conn., assignor to Edward Miller & Company, Meriden, Conn., a Corporation of Connecticut. Filed Nov. 15, 1906. Serial No. 343,508.



Claim.—In a burner of the character described, a Bunsen tube having air-passages in its side, a wind-guard on said tube over said passages and held against rotation relatively thereto, a nipple supporting said tube and having a gas-passage therethrough, a tapered needle-valve mounted on said nipple, a regulator comprising a perforated cap slidable on said nipple the perforation in said cap overstanding said valve and said gas-passage, means for elevating and depressing said cap comprising a plate rotatably mounted on said tube, a slot in the hub of said plate, a slot in said Bunsen tube, one of said slots being cam-shaped and a projection on the cap passing through both of said slots, said plate being rotatable independently of the tube and guard.

842,888. DRAFT-EQUALIZER. HENRY C. HORN, Little York, Ill. Filed Oct. 2, 1906. Serial No. 337,083.

Claim.—1. An evener-bar comprising a main portion, a wheel-runway and a looped portion.



2. In a device of the character described, and in combination, an evener-bar provided with a wheel-runway and a looped end, a doubletree adapted for engagement therewith, and the short end of the lever adapted for engagement with a swingletree.

3. A device of the character described comprising a wheel-runway and an integral looped end, it being of resilient material.

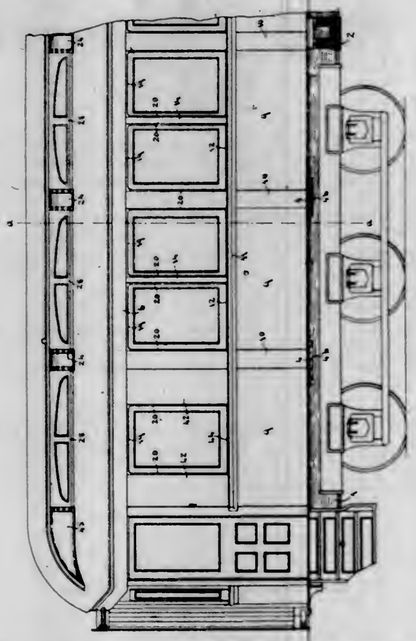
842,889. RAILWAY-CAR FRAME. WILLIAM F. KIESEL, Jr., Altoona, Pa. Filed Mar. 6, 1906. Serial No. 304,534.

Claim.—1. In a car-frame, the combination with the side sills, of posts rising therefrom, top side plates riveted to the posts at their upper ends, sill-plates for the windows extending between and riveted to the sides of the posts, and intermediate window-posts resting upon said sill-plates and riveted at their upper ends to the top side plates.

2. In a car-frame, the combination with the side sills, of posts rising therefrom, top side plates riveted to the posts at their upper ends, sill-plates for the windows extending between and riveted to the sides of the posts, an intermediate window-post resting upon said sill-plates and riveted at their upper ends to the top side plates, said frame-posts and intermediate window-posts being bent inward at the top to form lower-deck carlines.

3. In a car-frame, the combination with a series of main frame-posts spaced apart the width of two or more windows, of sill-plates extending between and supported by the posts, and intermediate window-posts rising from and supported by the sill-plates.

4. In a car-frame, the combination with a series of main frame-posts spaced apart the width of two or more windows, of sill-plates extending between and supported by the posts, intermediate window-posts consisting of T-bars rising from said sill-plates with their flanged sides placed outward, and top side plates riveted to the upper ends of all said posts.



5. The intermediate window-posts of T-shaped cross-section bent inward at their upper ends to form lower-deck carlines.

6. In a car-frame, the combination with a series of frame-posts having outside cover-plates riveted thereto, of sill-plates for the windows having horizontal flanges extending between and riveted to the sides of the posts and having vertical flanges extending between and lying flush with the cover-plates, and a belt-rail extending along the car outside the cover-plates and sill-plates and riveted thereto.

7. In a car-frame, the combination with the side sills, of posts rising therefrom, cover-plates on said posts overlapping the side sills at their lower ends, sill-plates for the windows extending between posts and having vertical flanges extending between and lying flush with the cover-plates, sheathing-plates overlapping the side sills at their lower ends and lying inside of and riveted to the cover-plates and window-sill flanges, and top side plates passing along outside the cover-plates at their upper ends and riveted thereto and to the posts.

8. In a car-frame the combination, with posts and a top side plate riveted outside the posts at their upper ends, of channel lintel-plates for the windows having their ends flattened and inserted between the top side plate and the posts, said lintels having their webs riveted to the top side plate.

9. In a car-frame, the combination with posts having outside cover-plates, of sill-plates for the windows supported between posts and having vertical flanges extending between and lying flush with the cover-plates, a top side plate riveted to the posts outside the cover-plates, lintel-plates riveted to the lower edge of the side plate with their ends inserted between the cover-plates and side plate, and side frame-plates for the windows having flanges at the outside overlapping the cover-plates.

10. In a car-frame, the combination with posts having outside cover-plates, of sill-plates for the windows supported between posts and having vertical flanges passing across between the cover-plates, intermediate window-posts resting upon the sill-plates, a top side plate riveted to the several posts outside the cover-plates, lintel-plates riveted inside the lower edge of the side plate and having their ends extending beyond the window-openings and riveted in between the side plate and the cover-plates and intermediate posts, and side frame-plates for the windows having flanges at the outside overlapping the cover-plates and intermediate posts.

11. In a car-frame, the combination with posts having outside cover-plates, of sill-plates for the windows supported between posts and having vertical flanges lying flush with the cover-plates, T-shaped intermediate posts resting upon the sill-plates with their flanged sides placed outward in line with the cover-plates, window side frame-plates and lintels having their sides and ends overlapping the cover-plates and T-posts, and a top side plate overlapping the lintels.

12. The combination, with a car-frame comprising a center sill, depressed side sills, and posts for the sides rising from the side sills, of a floor resting upon flanged joists riveted to the top of the center sill and to the sides of the posts.

13. The combination, with a car-frame comprising a box-girder center sill, depressed side sills, and posts for the sides rising from the side sills, of floor-joists comprising longitudinal Z-bars riveted to the top of the center sill at each side, and longitudinal bars having flanges on a level with the top of the Z-bars riveted to the posts.

14. The combination, with a car-frame comprising a center sill, side sills, and posts for the sides rising from the side sills, of floor-plates resting upon longitudinal joists attached to the center sill and to the posts, longitudinal hangers depending from the floor-plates between the center sill and side sills, angle-bars secured to the lower edges thereof, and subfloors resting upon said angles and upon longitudinal supports at the center and sides of the car-frame.

15. The combination, with a car-frame comprising a center sill, side sills, and posts for the sides rising from the side sills, of floor-plates resting upon longitudinal joists riveted to the top of the center sill and to the posts, longitudinal hangers depending from the floor-plates between the center sill and side sills, angle-bars removably secured to the lower edges thereof at each side, subfloor boards having said angles attached thereto at one end, the opposite ends of said boards being inserted in grooves formed upon the center sill and side sills.

16. The combination with a car-frame and transverse floor-plates supported thereby, of supports for a subfloor at the center and sides of the frame, and longitudinal hangers depending from the floor-plates between the center and sides, said hangers having angle-bars removably attached to their lower sides to which the subfloor boards are attached.

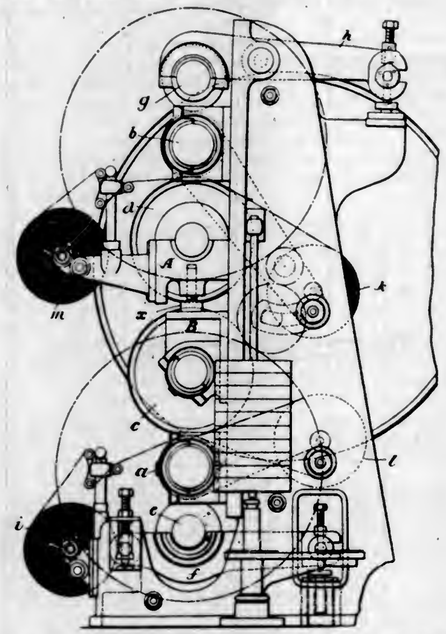
17. In a car-frame, the combination with a center sill, side sills and posts rising from the side sills, of cross-braces extending from the center sill to the side sills at the points of attachment of the posts, and side bearing-plates attached to the side sills and cross-braces below the posts.

18. In a car-frame supported upon six-wheel trucks, the combination with a center sill, side sills and posts rising from the side sills, of cross-braces extending from the center sill at each side of the truck center plate to the side sills where the posts are attached thereto, angle-braces between the cross-braces and side sills, and side bearing-plates riveted in with said angle-braces to the cross-braces and side sills below the posts and having their under faces set in the arc of the circle traversed by the truck side bearings.

19. The side bearing-plates 4^b of the frame substantially as herein shown and described.

20. In a car-frame the combination with the angle-bar side sills and channel cross-braces riveted thereto at their outer ends, of flanged triangular brace-plates riveted to the horizontal limb of the side sills and to the web of the cross-braces.

842,890. CALENDER-ROLLERS FOR PRODUCING EMBOSSED OR RAISED PATTERNS. JOHANNES KLEINEWEFERS, Crefeld, Germany, assignor to Joh. Kleinewefers Söhne, Crefeld, Germany, a Corporation of Germany. Filed Aug. 2, 1901. Serial No. 70,690.



Claim.—1. In a device of the character described, the combination with the standards, of compressed-paper rollers, engraved steel rollers, the rollers being arranged to form a stack, and one of said rollers being held stationary with respect to the standards, and means for varying the pressure of the rollers upon the material subjected to treatment, substantially as described.

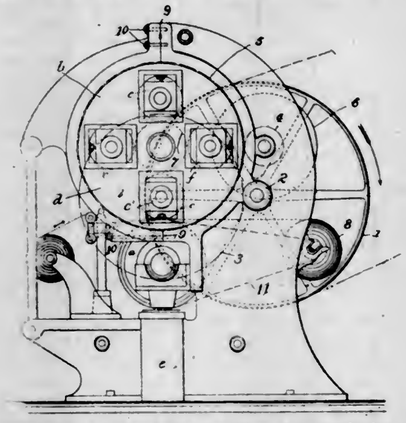
2. In a device of the character described, the combination with the standards, of sets of calender-rollers, each set consisting of a paper roller and a steel roller, the rollers being arranged to form a stack, and one of the rollers of one set being mounted in fixed relation to the standards, and means for varying the pressure of the rollers upon the material subjected to treatment, substantially as described.

3. In a device of the character described, the combination of two sets of calender-rollers arranged to form a stack, each set consisting of a paper roller and a steel roller, means for adjusting the distance between the sets of rollers, and means for varying the pressure of the rollers upon the material subjected to treatment, substantially as described.

4. In a device of the character described, the combination with the standards, of two compressed-paper rollers adjustably journaled therein, engraved steel rollers respectively above and below said paper rollers, an upper and a lower dummy roller, the rollers being arranged to form a stack, and levers acting upon said dummy rollers to press the latter against said steel rollers, substantially as described.

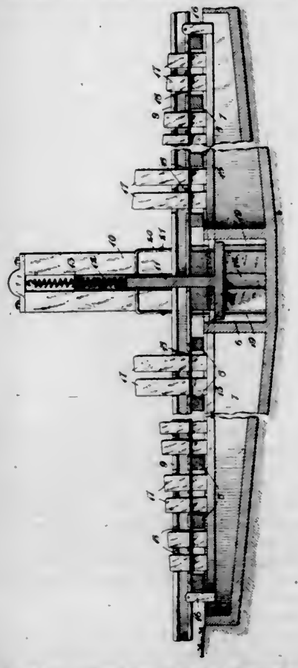
5. In a device of the character described, the combination with the standards, of two sets of rollers arranged to form a stack, each set consisting of an engraved steel roller and a compressed-paper roller adapted to coöperate therewith, and independently-adjustable means acting upon one of the rollers of each set, the two sets of rollers being adapted for the treatment of both sides of a single web, or of one side each of two separate webs, substantially as and for the purpose described.

842,891. EMBOSSING-MACHINE. JOHANNES KLEINEWEFERS, Crefeld, Germany, assignor to Joh. Kleinewefers Söhne, Crefeld, Germany, a Corporation of Germany. Filed Aug. 2, 1901. Serial No. 70,691.



Claim.—In a calendering-machine for producing impressed or embossed patterns on one or both sides of woven fabrics and the like, the combination with a single roller mounted in stationary bearings, of a rotatable frame provided at its periphery with a plurality of round rollers, one of which rollers has a smooth surface while the other rollers are engraved, and means for rotating said frame to bring any one of the rollers carried thereby into operative relation with said stationary roller, substantially as and for the purpose described.

842,892. RAILWAY-GATE. WILLIAM LAMBERT, Latham, Kans. Filed Oct. 8, 1906. Serial No. 337,986.



Claim.—1. The combination with a railway-track and a well thereunder, of a gate slidable up and down in the

well and through the track, and levers located under the track and connected to the gate and having projections extending upwardly through the track in position to be struck by the wheels of a train.

2. The combination with a railway-track and a well thereunder, of a pair of standards extending from the well above the track and having guides, a gate slidable up and down in the guides and into and out of the well and having means to normally raise the same above the track, and levers pivoted under the track on each side of the gate and connected thereto and having projections extending above the track in position to be struck and depressed by the wheels of a train.

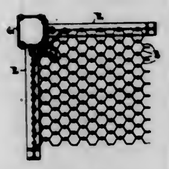
3. The combination with a well having laterally extensions under the track on both sides, of standards in the well having guides and extending above the track on each side thereof, a base-plate movable up and down in the well between said standards and having thereon a gate movable up and down through the track, springs connected to said gate and the top of the standard, to normally raise the gate, and levers located in the said lateral extensions of the well and connected to the base-plate and having projections extending above the track in position to be struck and depressed by the wheels of a train.

842,893. SUSPENSORY DEVICE FOR GARTERS, &c. SARAH LEVITAS, New York, N. Y. Filed Apr. 4, 1905. Serial No. 253,740.



Claim.—The combination with a gripping-plate constructed with a slot enlarged at one end and narrowed at the other, of a primary toggle-plate hinged at one end of the gripping-plate, and a second toggle-plate pivoted to the free end of the primary toggle-plate and having a stem and knob arranged to pass through the larger end of the aforesaid slot and then to the narrowed portion thereof, of a spring arranged to retain, under normal conditions, the toggle-plates to hold the knob and stem in their gripping position at the narrowed end of said slot, as described.

842,894. METAL STRUCTURAL WORK. RANSOME T. LEWIS, Elmira, N. Y. Filed Sept. 25, 1905. Serial No. 279,924.

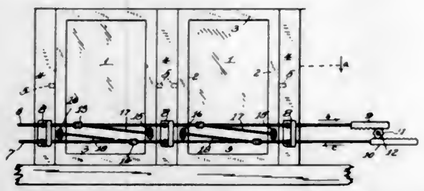


Claim.—1. In a structural framework, the combination, with the principal supporting members, of a cellular system of interconnected members spanning the space between the principal members, the cell members being rigidly bolted together where they abut one against another, and the outlying cells being rigidly attached to the principal members, whereby any weight or strain to which said system is subjected at any given point will be transmitted in all directions through the system to the principal members.

2. A structural framework comprising metal plates bent to form, when placed side to side, a system of vertical cells, the abutting sides of said cells being rigidly bolted together, in combination with principal supporting frame members, the outlying members of said cells being rigidly attached to the principal members and the cell-plates being proportioned as to thickness and depth to correspond with the load to be supported and the space to be spanned.

3. A structural framework comprising continuous metal plates extending between supports and bent to form, when placed side by side, a system of vertical cells, said plates, where they touch one another, being rigidly bolted together, in combination with principal supporting members to which said plates are rigidly attached at their ends and outlying sides.

842,895. SHUTTER-OPERATING DEVICE. ALBERT K. LOVELL, New York, N. Y., assignor to Gerhard F. Drouvé, Bridgeport, Conn. Filed Aug. 11, 1902. Serial No. 119,304.

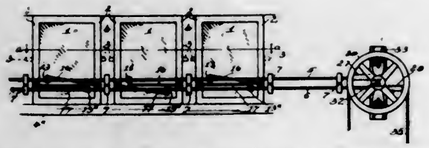


Claim.—1. The combination, in a device for operating a plurality of windows, comprising, operating-rods extending throughout the entire series of windows to be operated, and adapted to move in opposite directions, said rods positioned with respect to the movement of the windows, adjustable collars mounted on said rods, links connecting said collars with said windows, the pivotal connections of said links being such that each end of said links will readily conform to the varying operative positions of the windows and also with respect to the movement of said rods, for the purpose set forth.

2. The combination, in a device for operating a plurality of windows, comprising, operating-rods angular in cross-section combined with antifriction-rolls to compensate for the torsional strain, said rods extending throughout the entire series of windows to be operated and adapted to move in opposite directions, said rods positioned with respect to the movements of the windows, adjustable collars mounted on said rods, links connecting said collars with said windows, the pivotal connections of said links being such that links will readily conform to the varying operative positions of the windows and also with respect to the movement of the rods, for the purpose set forth.

3. The combination, in a device for operating a plurality of windows, of operating-rods, adjustable collars mounted on said rods, links interposed between said collars and windows and pivotally supported to each and adapted, when the windows are closed, to cross or overlap each other, for the purpose set forth.

842,896. SHUTTER-OPERATING DEVICE. ALBERT K. LOVELL, New York, N. Y., assignor to Gerhard F. Drouvé, Bridgeport, Conn. Filed Aug. 18, 1902. Serial No. 120,033.



Claim.—1. In a device for operating a plurality of shutters, comprising, in combination with operating-rods moving in opposite directions and carrying adjustable collars, of links comprising arms swiveled at one end to couplings said couplings swiveled to said collars, the opposite ends of said arms pivotally supported to swiveled connections of the window-brackets, for the purpose set forth.

2. In a device for operating a plurality of shutters, comprising, in combination with operating-rods moving in opposite directions and carrying adjustable collars or sleeves, of links comprising arms swiveled at one end to couplings, said couplings swiveled to said collars, the opposite ends of said arms pivotally supported to swiveled connections of the shutter-brackets, said collars reversed at intervals on said connecting-rods so as to neutralize or counteract the torsional strain on said rods, for the purpose set forth.

3. The combination, in a device for operating shutters, or rods adapted to move in opposite directions, links interposed between said rods and shutters and having both a universal and a swivel movement, adjustable means on said rods for supporting one end of said links so that, by means of said adjustment and the universal and swiveling feature of the links, the shutters are freely operated without cramping, for the purpose set forth.

4. The combination, in a device for operating shutters, of an operating-rod adapted to have an endwise movement, links interposed between said rod and shutters and having both a universal and a swivel movement, adjustable means on said rod for supporting one end of said links, means for counteracting the torsional strain on said rod, for the purpose set forth.

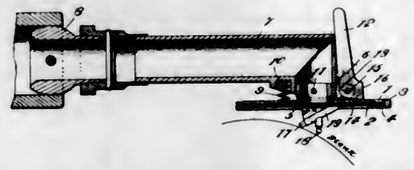
5. The combination, in a device for automatically operating a plurality of shutters, comprising operating-rods carrying adjustable collars, links having both a universal and a swivel movement and connecting said collars with the shutters, said collars reversed at intervals so as to alternate the thrust of said links and thus counteract or neutralize the torsional strain on said rods, for the purpose set forth.

6. The combination, in a device for automatically operating a plurality of shutters, comprising, operating-rods adapted to be moved in opposite directions, collars adjustably mounted on said rods, links connecting said collars with the shutters, said collars reversed at intervals to bring the pivotal connection of the links with the collars alternately above and below said rods so as to alternate the thrust of said links and thus counteract or neutralize the torsional strain on said rods, for the purpose set forth.

7. The combination, in a device for operating a plurality of shutters, comprising operating-rods carrying adjustable racks adapted to engage an interposed pinion, means for supporting said pinion, said rods also carrying collars adjustably mounted thereon, links connecting said collars with the shutters and constructed substantially as shown and adapted thereby to conform to the varying movements of the shutters and operating-rods, said collars reversed at intervals so that the thrust of said links will be oppositely exerted on said rods and thereby counteract or neutralize the torsional strain on said rods, for the purpose set forth.

8. The combination, in a device for operating a plurality of shutters, with operating-rods, of brackets for supporting said rods, bases to which said brackets are adjustably secured, means on said bases for supporting them to the outside of a beam, said base adapted to be reversed, and means thereon for supporting them to the inside face of a beam, for the purpose set forth.

842,897. COMBINED RECORDER AND REPRODUCER. THOMAS H. MACDONALD, Bridgeport, Conn., assignor to American Graphophone Company, Bridgeport, Conn., a Corporation of West Virginia. Filed Jan. 16, 1906. Serial No. 296,365.



Claim.—1. In a talking-machine, a combined recorder and reproducer comprising a single diaphragm mounted to tilt upon a given axis, and a recording and a reproducing style secured to said diaphragm, a spring acting to turn the diaphragm in one direction, and means operable to turn the diaphragm against the tension of said spring.

2. In a talking-machine, the combination of a pivotally-mounted diaphragm-casing, a diaphragm supported therein, a spring reacting between said casing and a suitable abutment, a style connected to said diaphragm, and means for throwing and holding said casing against the tension of said spring.

3. In a talking-machine, the combination of a diaphragm-casing having a tubular neck, a sound-conveying tube or opening to which said neck is pivotally connected, a diaphragm in said casing, a style mounted on said diaphragm, and means tilting said casing upon said pivot into a plurality of planes.

4. In a talking-machine, the combination of a diaphragm-casing having a tubular neck whose outer surface is in the form of a zone or a sphere, a sound conveying tube within which said neck is pivotally connected, a diaphragm in said casing, a style mounted on said diaphragm, and means shifting said casing upon said pivot into a plurality of planes.

5. In a talking-machine, the combination of a diaphragm casing having a tubular neck whose exterior is formed on the lines of a sphere, a sound-conveying tube within which said neck is pivotally mounted, a diaphragm in said casing, a plurality of styles mounted on said diaphragm, and means shifting said casing upon said pivot into a plurality of planes.

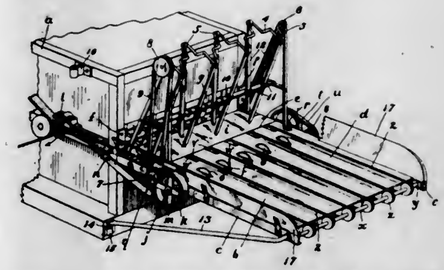
6. In a talking-machine, the combination of a diaphragm-casing, a sound-conveying tube to which said casing is pivotally connected, a diaphragm in said casing, a recording-style mounted on said diaphragm, a spring bearing on one side of said casing and a cam-lever bearing on the other side thereof.

7. In a talking-machine, a diaphragm-casing mounted to turn upon an axis, a diaphragm in said casing, a style connected to said diaphragm, a spring bearing against the casing and tending to turn it upon its axis, and means holding said casing against the action of the spring.

8. In a talking-machine, the combination with a sound-conveying tube, of a casing containing a diaphragm pivoted in the end of said tube by a pivot parallel with said diaphragm, a recording-style and a reproducing-style fast upon said diaphragm, and devices tilting said casing and said diaphragm upon said pivot, as and for the purpose described.

9. In a talking-machine, the combination with a sound-conveying tube, of a casing carrying a diaphragm and pivoted within the end of said tube by a pivot parallel with said diaphragm, a recording-style and a reproducing-style fast upon said diaphragm, and oppositely-disposed devices consisting respectively of a cam and a spring tilting said casing and diaphragm upon said pivot, as and for the purpose described.

842,898. BAND-CUTTER AND FEEDER. WILLIAM T. MADILL, Highfield, Ontario, Canada. Filed Mar. 14, 1906. Serial No. 306,068.



Claim.—1. In a band-cutter and feeder, the combination with the frame, cylinder and driving mechanism of a threshing-machine, of a platform hinged to the frame of

the thresher having a rigid top plate, a removable plate extending from said rigid plate to the concaves of the thresher, supporting-arms hingedly secured to the outer end of said platform and removably secured to the frame of the thresher, a plurality of shafts journaled below said rigid top plate, a plurality of endless chain carriers supported and driven from said shafts having the upper portion thereof arranged above said top plate, a plurality of circular band-cutters mounted on another of said shafts and arranged intermediately between each pair of carriers, a pair of standards at the inner end of said platform and arranged to the sides thereof, a crank-shaft journaled on said standards having a plurality of cranks, each alternate crank being set diametrically opposite, a plurality of forks journaled at the upper ends on said cranks, a guide for said forks arranged intermediate of the height of said standards, and means for driving said crank-shaft, band-cutters and endless carriers, as and for the purpose specified.

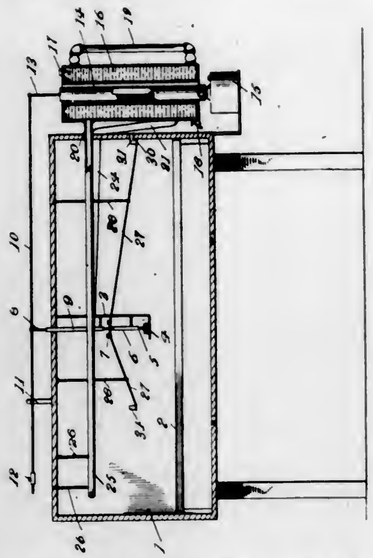
2. In a band-cutter and feeder, the combination with the frame, cylinder and driving mechanism of a threshing-machine of a platform hinged thereto and extending laterally therefrom and having a pair of side bars and a rigid top plate said plate having a plurality of openings therethrough, a removable plate bridging the distance from the aforesaid plate into the machine, hinged bars secured to said frame and said platform and supporting the latter, means attached to said frame for engaging said bars, bearings supported by said side bars, shafts journaled in said bearings and extending across said platform under said plate, a plurality of sprocket-wheels mounted on said shafts, and extending through said openings, a plurality of chain carriers on said sprockets, a plurality of band-cutters mounted on another of said shafts and protruding through said openings between the aforesaid carriers, means for governing the feed into said machine between said carriers and the machine, means for operating said governing means, and means for driving the aforesaid carriers and band-cutters, as and for the purpose specified.

3. In a band-cutter and feeder, the combination with the frame, cylinder and driving mechanism of a threshing-machine of a platform hinged thereto and extending laterally therefrom and having a pair of side bars and a rigid top plate said plate having a plurality of openings therethrough, a removable plate bridging the distance from the aforesaid plate into the machine, hinged bars secured to said frame and said platform and supporting the latter, means attached to said frame for engaging said bars, bearings supported by said side bars, shafts journaled in said bearings and extending across said platform under said plate, a plurality of sprocket-wheels mounted on said shafts and extending through said openings, a plurality of chain carriers on said sprockets, circular cutters mounted on another of said shafts and extending through said openings between the aforesaid carriers, a pair of uprights rising from said platform at each side thereof in proximity to the frame of the machine, bearings supported thereby at the top end thereof, a crank-shaft having a plurality of cranks and journaled in said bearings, a plurality of forks journaled on the aforesaid cranks, a guide-bar extending between the said uprights intermediate of their length having slots in which said forks slide, and suitable pulleys mounted on said shafts connected by suitable belting and connected with said driving mechanism, as and for the purpose specified.

842,899. INCUBATOR. WENCESLAUS F. MIKOLASEK, Vodnany, S. D. Filed May 19, 1906. Serial No. 317,658.

Claim.—1. In combination, an incubator embodying an incubating-compartment, means for heating said compartment, an initially-operable regulating mechansim for the heating means, and an auxiliary or emergency means for controlling the heating of the incubating-compartment and operable at a predetermined time subsequent to the actuation of the initially-operating regulating mechanism.

2. In combination, an incubator embodying an incubating-compartment, means for heating said compartment, an initially-operable regulating mechanism for the heating means, an auxiliary or emergency means for controlling the heating of the incubating-compartment and operable at a predetermined time subsequent to the actuation of the initially-operating regulating mechanism, and means connecting the said auxiliary or emergency means for actuation by the first-mentioned regulating mechanism.



3. In combination, an incubator embodying an incubating-compartment, a regulator, thermostat means in the incubating-compartment connected with the regulator for operation thereof, a plate connected with the thermostat means aforesaid, air-vents for the incubating-compartment, valves for opening and closing said vents, and levers connected with the plate and the valves of the air-vents and operable after the initial operation of the regulator as specified.

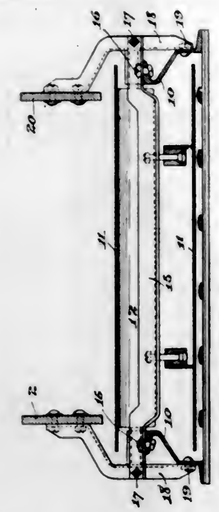
4. In combination, an incubator embodying an incubating-compartment, a heater therefor, a thermostat in the incubating-compartment, a regulator for the heater including a rod connected with the thermostat, a plate attached to said rod, air-vents for the incubating-chamber, valves for said vents, levers pivoted between the ends thereof and each connected at one end with a valve of one of the air-vents, the opposite ends of the levers having a loose connection with the plate attached to the rod aforesaid, whereby the regulator is initially operable to control the heating of the incubating-compartment and whereby the valves of the air-vents will be operated subsequent to the regulator.

842,900. CONVEYER. WILLIAM H. MORENUS, Lake View, Iowa, and FRANK R. JONES, Harvey, Ill., assignors to Austin Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 30, 1906. Serial No. 345,803.

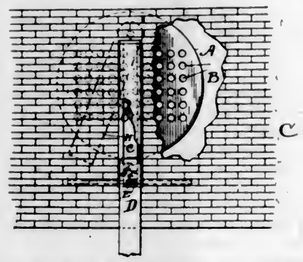
Claim.—1. A conveyer-frame having a channel side member approximately one-half of whose web is offset, the exterior surfaces of the channel's flanges being parallel, substantially as described.

2. A conveyer-frame having a channel side member, the upper longitudinal part of which is inwardly offset, the exterior surfaces of the channels's flanges being parallel, substantially as described.

3. In a conveyer, the combination of a frame, the side members of which are channels, the upper parts of which are inwardly offset and the flanges of which project outwardly with their exterior surfaces parallel, suitably-mounted rollers, and an endless conveyer-belt, said belt being of sufficient width whereby its longitudinal edges lie above and below the offset webs of said side channels, substantially as described.



842,901. BOILER-FLUE CLEANER. SAMUEL MCADOO, Toronto, Ohio. Filed July 25, 1906. Serial No. 327,671.



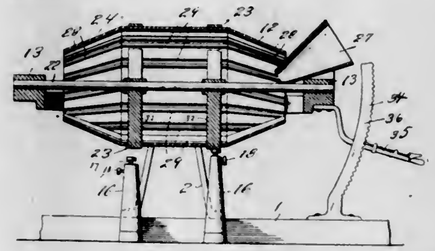
Claim.—1. In boiler-flue cleaners, the combination of a boiler having tubular flues therethrough from end to end, and a boiler-setting whose vertical rear wall has a vertical slot, with a slide movable vertically in said slot, a steam-pipe movable horizontally through said slide, and a discharge-pipe which is secured to the inner end of the supply-pipe and at right angles thereto and is provided with jet-openings in that face which is adjacent to the end of the boiler, substantially as and for the purpose specified.

2. In boiler-flue cleaners, the combination of a boiler having substantially horizontal tubular flues extending through it from end to end, and a boiler-setting whose vertical rear wall has a slot, with a slide movable vertically in said slot, a steam-supply pipe movable horizontally in said slide toward and from the end of the boiler, a discharge-pipe which is secured to the inner end of the supply-pipe and at right angles thereto, and is provided with jet-openings in that side which faces the end of the boiler, and means for closing the slot throughout its entire length whatever may be the position of the slide therein, substantially as specified.

3. In boiler-flue cleaners, the combination of a boiler having substantially horizontal tubular flues extending through it from end to end, and a boiler-setting whose vertical rear wall has a vertical slot, with a slide movable in said slot, a steam-supply pipe movable endwise through said slide, a discharge-pipe which is secured to the inner end of the supply-pipe and at right angles thereto and is provided with jet-openings in that side which faces the end of the boiler, said slide being so much longer than the slot that it will close the same whether the flue-cleaning device is in use or out of use, substantially as specified.

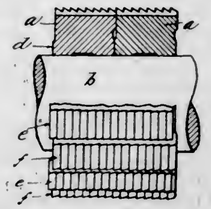
4. In boiler-flue cleaners, the combination of a boiler having tubular flues extending through it from end to end, and a boiler-setting whose end wall opposite the ends of the flues has a slot through it, with a slide movable in said slot, a steam-supply pipe movable lengthwise through said slide toward and from the end of the boiler in a path substantially parallel with the flues therein, a discharge-pipe secured to the inner end of the supply-pipe and at right angles thereto and therefore extending at right angles to the said flues, said supply-pipe being provided with a series of nozzles projecting therefrom toward the end of the boiler and located a distance apart substantially equal to the distance between centers of adjacent flues in the same horizontal row, substantially as specified.

842,902. CONCRETE-MIXER. GEORGE E. MCARTHUR, Eaton Rapids, Mich. Filed Jan. 17, 1906. Serial No. 296,485.



Claim.—In a machine of the class described, a rocking or tiltable frame having a laterally-extending yoke said yoke being provided with a box or bearing and said frame being provided at the sides opposite the laterally-extending yoke with a stub-shaft, a plurality of uprights or supports arranged in alinement with each other, a sleeve supported by two of said uprights and affording a bearing for the box upon the yoke of the tilting frame, a bearing upon one of the uprights for the stub-shaft of the tilting frame said bearing being in axial alinement with the bearing-sleeve supporting the yoke, a driven shaft journaled in said bearing-sleeve, a counter-shaft journaled upon the yoke and receiving motion from the driven shaft, a mixing-drum carried by the tilting frame, means for transmitting motion to the mixing-drum from the counter-shaft, a hand-lever connected with the frame for tilting the latter, and tubular standards arranged in the path of the tilting frame and having adjustable stop members to limit the tilting movement of said frame.

842,903. ROTARY CUTTER FOR MAKING SAWS. CHARLES NAPIER, Springfield, Mass., assignor of one-half to Massachusetts Saw Works, Chicopee, Mass. Filed Jan. 5, 1906. Serial No. 294,784.



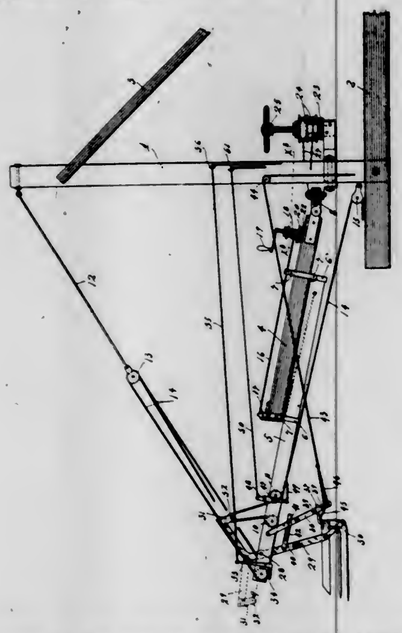
Claim.—1. A rotary cutter for saws and the like comprising a cylindrical body having on the surface thereof separate longitudinally-arranged rows of continuously-formed V-shaped teeth of uniform depth and projection, the teeth in one or more rows being offset relative to the

teeth in another preceding row to locate said offset teeth in planes of rotation which will subdivide the spaces between the teeth in said preceding row into equal parts.

2. A rotary cutter for saws and the like comprising separate longitudinally-disposed rows of teeth, and means to adjust said rows endwise to locate the teeth on one or more of the rows in planes of rotation which will subdivide the space between two teeth in a preceding row into equal parts.

3. A rotary cutter for saws and the like comprising an arbor having a flange at one end thereof; separate, longitudinally-disposed rows of teeth, endwise movable in the arbor; a screw extending through the flange and having a rotative engagement with said endwise-movable rows of teeth to adjust the latter, one row relative to the other.

842,904. LOADING-DERRICK. NELS H. NELSON, Willmar, Minn. Filed Mar. 17, 1906. Serial No. 306,666.

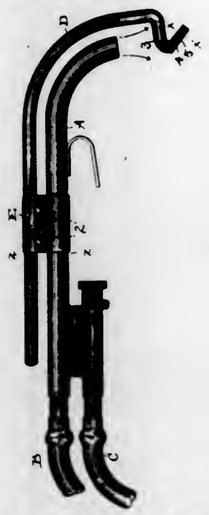


Claim.—1. The combination with a derrick having an extensible beam, of a lever pivoted to the outer end of said beam, a scoop pivoted to said lever, means for latching said scoop to said lever and for releasing the same, and means for latching said lever to said beam and for releasing the same, substantially as described.

2. The combination with a derrick, of a lever pivoted to the free end of the beam thereof, a latch for securing said lever to said beam, and for releasing the same, a scoop pivoted to said lever, and means for latching said scoop to said lever, and for releasing the same, substantially as described.

3. In a derrick, the combination with a beam and an upright, of a beam-supporting device involving a cable and guides therefor affording a connection between the upper end of said upright and the outer end of said beam, and extending along said beam to the base of said upright, a scoop-supporting lever pivoted to the outer end of said beam and subject to said hoisting-cable, a latch for securing said lever to said beam, a trip connection to said latch, a brake-lever applied to said beam and operative to hold said hoisting-cable against movement at will on the said beam, an operating connection for said brake-lever, a scoop pivoted to said scoop-supporting lever and provided with an arm 37, a latch-lever 38 pivoted to the said derrick-beam, and operating to engage said arm 37 and lock said scoop with respect to its supporting-arm, and a trip connection 43 having branches 45 and 46 connected respectively to the rear portion of said scoop and the lower end of said latch-lever, substantially as described.

842,905. COMBINED BLOWPIPE AND SOLDERING ATTACHMENT. PHILIP P. NUNGESSER, Cleveland, Ohio, assignor to The Nungesser Electric Battery Co., Cleveland, Ohio, a Corporation of Ohio. Filed Sept. 25, 1905. Serial No. 280,024.



Claim.—1. A blowpipe having a downwardly-curved outer end, in combination with a soldering-iron D adjustably clamped upon said pipe and bent to conform therewith and having its outer free end formed with a substantially right-angled portion 3 and inclined extremity 4, and said end formed to substantially V shape and directly in line with the discharge from the mouth of the said pipe.

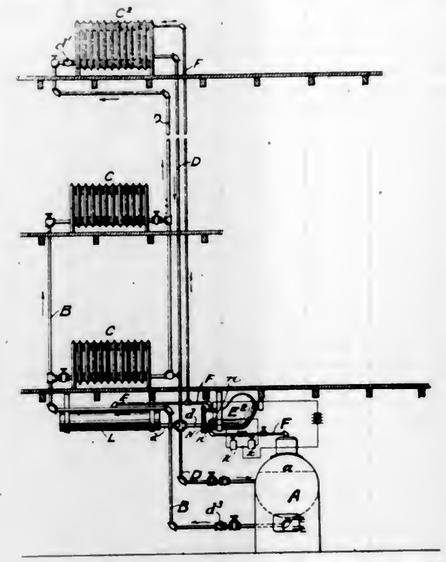
2. A gas-heating blowpipe A bent downwardly at its outer end, in combination with a soldering-iron secured thereto and having a soldering end substantially V shape in side elevation and the inner portions 3 of said end standing directly across the mouth of said pipe and the outer portion extending at an inclination away from said portion 3 and in the same vertical plane therewith and with the bent end of said pipe A, and in line with the discharge of said pipe.

842,906. MANUFACTURE OF ARTICLES FROM CAST-IRON. ALEXANDER E. OUTERBRIDGE, Jr., Philadelphia, Pa. Filed Nov. 9, 1905. Serial No. 286,494.

Claim.—The hereinbefore-described improvement in the manufacture of articles from cast-iron, which consists in diffusing throughout the metal in the ladle, after tapping, a silicon compound containing a relatively high percentage of silicon, and thereby modifying the grade of iron in the ladle itself, in accordance with the predetermined requirements of a given casting, or group of castings.

842,907. HOT-WATER-CIRCULATING SYSTEM. CASSIUS C. PECK, Rochester, N. Y. Filed Oct. 31, 1904. Serial No. 230,882.

Claim.—1. In a hot-water heating system, a steam-generator, a circuit of pipes connected with the water-space of said generator, means of preventing flow in one direction in said circuit, a chamber in said circuit, a steam-supply from the generator to the chamber, means for intermittently opening and closing said steam-supply in correspondence with the change from one water-level to another water-level in said chamber, whereby water is circulated through the circuit, and means of condensing steam admitted to said chamber.



2. In a hot-water-circulating system, a steam-generator, a circuit of pipes connected with the water-space of said generator, means for preventing flow in one direction in said circuit, a chamber in said circuit, a steam-supply from the generator to the chamber, means for intermittently opening and closing said steam-supply in correspondence with the change from one water-level to another water-level in said chamber, whereby water is circulated through the circuit, and means of condensing within the heating-circuit steam admitted to said chamber.

3. In a hot-water heating system, the combination of the steam-generator, a circuit of pipes containing a radiator connected with the steam-space in said generator, means for preventing flow in one direction in said circuit, a steam-supply from the generator to the radiator, means for intermittently opening and closing said steam-supply in correspondence with the change from one water-level to another water-level in said radiator, whereby water is circulated through the circuit.

4. In a hot-water-circulating system, the combination of the steam-generator, a water-chamber, a supply-pipe for said chamber connected into the return-pipe of the heating-circuit, an extension of said return-pipe to the water-space of the steam-generator, means of preventing outflow from the generator through said return-pipe, a steam connection from said generator to said chamber, and a float for intermittently opening said steam connection when the water in said chamber rises to a predetermined level, and for closing said connection when the water falls to a predetermined level, whereby water is circulated through the circuit.

5. In a hot-water-circulating system, the combination of the steam-generator, a radiator, a supply-pipe for said radiator connected to the water-space of said generator, a return-pipe from said radiator to the generator, means for preventing the flow in one direction in the circuit of said supply and return pipes, a steam connection from said generator to said radiator, and means for intermittently opening said steam connection when the water in said radiator rises to a predetermined level, and for closing said connection when the water falls to a predetermined level, whereby water is circulated through the circuit.

6. In a hot-water heating-circuit, the combination of a steam-boiler, a circuit of supply and return pipes and radiators connected thereto, a check-valve in the supply-pipe set to prevent flow of water therein to the boiler, a check-valve in the return-pipe of the circuit set to prevent flow of water therein from the boiler, a circulation-regulator having a combined steam and water chamber, an independent radiator having its lower portion connected with the water-space of the regulator, steam connection between the steam-space of the boiler and the steam-space of the regulator and of the radiator, a valve in said steam connection and means for automatically operating said valve by change of water-level in the regulator so as simultaneously and suddenly to admit steam-pressure to the regulator and to the radiator when the water rises to a predetermined level in the regulator, and suddenly to close said valve when the water-level sinks to a predetermined point in the regulator, for the purpose set forth.

7. In a hot-water-circulating system, a circuit of pipes and radiators, a steam-generator having its water-space connected to the supply and to the return of the heating-circuit, in combination with a water-circulating regulator having a combined steam and water chamber connected with the steam-supply and with the water-return, a steam-radiator in the heating-circuit through which all water of the circuit flows, a steam connection between the regulator and the steam-radiator, a valve in the steam-supply pipe to the regulator and the radiator and mechanism for operating the valve, said mechanism being adapted to be actuated by a change of water-level in the regulator, as and for the purpose specified.

8. In a hot-water heating system, the combination of a steam-generator having a water-space and a steam-space, a pipe-circuit in communication therewith, a combined steam and water radiator in the return of the circuit, a circulation-regulator constructed with a combined steam and water chamber, a water-storage chamber, said regulator and said water-storage chamber being connected with the return of the circuit, a steam connection from the steam-generator to the steam-space of said radiator, to said regulator, and to said water-storage chamber, a valve in said connection, and mechanism for operating the valve actuated by change of water-level in the regulator, causing steam and water to be alternately admitted to the regulator, to the radiator, and to the storage-chamber, whereby the water-storage chamber is filled and emptied of both water and steam synchronously with the regulator, for the object specified.

842,908. FOLDABLE OR COLLAPSIBLE BOAT. IRA O. PERRING, Kalamazoo, Mich., assignor to Life-Saving Folding Canvas Boat Company, Kalamazoo, Mich., a Corporation. Filed Feb. 13, 1905. Renewed Oct. 3, 1906. Serial No. 337,274.

Claim.—1. In a folding boat, the combination of a suitable flexible skin; suitable gunwales; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding section having eyes therein to receive the sections upon which they are telescoped; supporting-straps arranged in pairs adapted to receive the overlapping ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion; side pieces or portions made up of sections hinged together, arranged in said grooves so that the sections thereof overlap the joints of the said central portion; upwardly-projecting pins on said side pieces; rods having oppositely-disposed hooks at their ends adapted to engage the said pins, pivoted to the said central portion; sockets in the ends of said central portion; keel extensions adapted to be arranged in said sockets, arranged through the ends of the said cross-rib-connecting strap; seat-supports having hooks thereon adapted to engage over the said gunwales; braces pivoted to said seat-supports and to each other by transversely-arranged pivots; a seat-board; loops on said seat-supports adapted to receive said seat-board, whereby

the said seat-board is clamped to said supports as said braces are forced into position; and a standard pivoted to said braces, adapted to be turned up to engage the under side of said seat-board, for the purpose specified.



2. In a folding boat, the combination of a suitable flexible skin; suitable gunwales; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; supporting-straps arranged in pairs adapted to receive the overlapping ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion; side pieces or portions made up of sections hinged together, arranged in the said grooves so that the sections thereof overlap the joints of the said central portion; sockets in the ends of the said central portion; keel extensions adapted to be arranged in said sockets, arranged through the ends of the said cross-rib-connecting strap; seat-supports having hooks thereon adapted to engage over the said gunwales; braces pivoted to said seat-supports and to each other by transversely-arranged pivots; a seat-board; loops on said seat-supports adapted to receive said seat-board, whereby the said seat-board is clamped to said supports as said braces are forced into position; and a standard pivoted to said braces, adapted to be turned up to engage the under side of said seat-board, for the purpose specified.

3. In a folding boat, the combination of a suitable flexible skin; suitable gunwales; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; supporting-straps arranged in pairs adapted to receive the overlapping ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion; side pieces or portions made up of sections hinged together, arranged in said grooves so that the sections thereof overlap the joints of the said central portion; upwardly-projecting pins on said side pieces; rods having oppositely-disposed hooks at their ends adapted to engage the said pins, pivoted to the said central portion; seat-supports having hooks thereon adapted to engage over the said gunwales; braces pivoted to said seat-supports and to each other by transversely-arranged pivots; a seat-board; loops on said seat-supports adapted to receive said seat-board, whereby the said seat-board is clamped to said supports as said braces are forced into position; and a standard pivoted to said braces, adapted to be turned up to engage the under side of said seat-board, for the purpose specified.

4. In a folding boat, the combination of a suitable flexible skin; suitable gunwales; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; supporting-straps arranged in pairs adapted to receive the overlapping ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion; side pieces or portions made up of sections hinged together, arranged in said grooves so that the sections thereof overlap the joints of the said central portion; seat-supports having hooks thereon adapted to engage over the said gunwales; braces pivoted to said seat-support and to each other by transversely-arranged pivots; a seat-board; loops on said seat-supports adapted to receive said seat-board, whereby the said seat-board is clamped to said supports as said braces are forced into position; and a standard pivoted to said braces, adapted to be turned up to engage the under side of said seat-board, for the purpose specified.

5. In a folding boat, the combination of a suitable flexible skin; suitable gunwales; suitable ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; side pieces or portions made up of sections hinged together, arranged in said grooves so that the sections thereof overlap the joints of the said central portion; upwardly-projecting pins on said side pieces; rods having oppositely-disposed hooks at their ends adapted to engage the said pins, pivoted to the said central portion; sockets in the ends of said central portion; keel extensions adapted to be arranged in said sockets, arranged through the ends of the said cross-rib-connecting strap; seat-supports having hooks thereon adapted to engage over the said gunwales; braces pivoted to said seat-supports and to each other by transversely-arranged pivots; a seat-board; loops on said seat-supports adapted to receive said seat-board, whereby the said seat-board is clamped to said supports as said braces are forced into position; and a standard pivoted to said braces, adapted to be turned up to engage the under side of said seat-board, for the purpose specified.

6. In a folding boat, the combination of a suitable flexible skin; suitable gunwales; suitable ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion; side pieces or portions made up of sections hinged together, arranged in the said grooves so that the sections thereof overlap the joints of the said central portion; sockets in the ends of said central portion; keel extensions adapted to be arranged in said sockets, arranged through the ends of said cross-rib-connecting strap; seat-supports having hooks thereon adapted to engage over the said gunwales; braces pivoted to said seat-supports and to each other by transversely-arranged pivots; a seat-board; loops on said seat-supports adapted to receive said seat-board, whereby the said seat-board is clamped to said supports as said braces are forced into position; and a standard pivoted to said braces, adapted to be turned up to engage the under side of said seat-board, for the purpose specified.

7. In a folding boat, the combination of a suitable flexible skin; suitable gunwales; suitable ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion; side pieces or portions made up of sections hinged together, arranged in said grooves so that the sections thereof overlap the joints of the said central portion; upwardly-projecting pins on said side pieces; rods having oppositely-disposed hooks at their ends adapted to engage the said pins, pivoted to the said central portion; seat-supports having hooks thereon adapted to engage over the said gunwales; braces pivoted to said seat-supports and to each other by transversely-arranged pivots, adapted to engage said keel when in position; a seat-board; loops on said seat-supports adapted to receive said seat-board, whereby the said seat-board is clamped to said seat-supports as said braces are forced into position; and a standard pivoted to said braces, adapted to be turned up to engage the under side of said seat-board, for the purpose specified.

8. In a folding boat, the combination of a suitable flexible skin; suitable gunwales; suitable ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion; side pieces or portions made up of sections hinged together, arranged in the said grooves so that the sections thereof overlap the joints of the said central portion; seat-supports having hooks thereon adapted to engage over the said gunwales; braces pivoted to said seat-supports and to each other by transversely-arranged pivots; a seat-board; loops on said seat-supports adapted to receive said seat-board, whereby the said seat-board is clamped to said supports as said braces are forced into position; and a standard pivoted to said braces, adapted to be turned up to engage the under side of said seat-board, for the purpose specified.

9. In a folding boat, the combination of a suitable skin; suitable gunwales; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; supporting-straps adapted to receive the overlapping ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; a collapsible keel arranged over said cross-ribs, adapted to apply tension to the said connecting-strap thereof when inserted into position; seat-supports having hooks thereon adapted to engage over the said gunwales; braces pivoted to said seat-supports and to each other by transversely-arranged pivots; a seat-board; loops on said seat-supports adapted to receive said seat-board, whereby the said seat-board is clamped to said supports as said braces are forced into position; and a standard pivoted to said braces, adapted to be turned up to engage the under side of said seat-board, for the purpose specified.

10. In a folding boat, the combination of a suitable skin; suitable gunwales; longitudinal ribs; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; a collapsible keel arranged over the said cross-ribs, adapted to apply tension to the said connecting-strap thereof when inserted into position; seat-supports having hooks thereon adapted to engage over the said gunwales; braces pivoted to the said seat-supports and to each other by transversely-arranged pivots, adapted to engage said keel when in position; a seat-board; loops on said seat-supports adapted to receive said seat-board, whereby the said seat-board is clamped to said seat-supports as said braces are forced into position; and a standard pivoted to said braces adapted to be turned up to engage the under side of said seat-board, for the purpose specified.

11. In a folding boat, the combination of a suitable skin; suitable gunwales; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; supporting-straps adapted to receive the overlapping ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; a collapsible keel arranged over said cross-ribs, adapted to apply tension to the said connecting-strap thereof when inserted into position; seat-supports having hooks thereon adapted to engage over the said gunwales; braces pivoted to said seat-supports and to each other by transversely-arranged pivots, adapted to engage said keel when in position; a seat-board; and loops on said seat-supports adapted to receive said seat-board, whereby the said seat-board is clamped to said seat-supports as said braces are forced into position, for the purpose specified.

12. In a folding boat, the combination of a suitable skin; suitable gunwales; longitudinal ribs; cross-ribs arranged over said longitudinal ribs; a collapsible keel arranged over the said cross-ribs, adapted to apply tension to the said connecting-strap thereof when inserted into position; seat-supports having hooks thereon adapted to engage over the said gunwales; braces pivoted to said seat-supports and to each other by transversely-arranged pivots, adapted to engage said keel when in position; a seat-board; and loops on said seat-supports adapted to receive said seat-board, whereby the said seat-board is clamped to said seat-supports as said braces are forced into position, for the purpose specified.

13. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; supporting-straps adapted to receive the overlapped ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion; side pieces or portions made up of sections hinged together, arranged in said grooves so that the sections thereof overlap the joints of the said central portion; upwardly-projecting pins on said side pieces; rods having oppositely-disposed hooks at their ends, adapted to engage the said pins, pivoted to the said central portion; sockets in the ends of the said central portion; and keel extensions adapted to be arranged in the said sockets arranged through the ends of said cross-rib-connecting strap, for the purpose specified.

14. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; supporting-straps adapted to receive the overlapped end of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion; side pieces or portions made up of sections hinged together, arranged in said grooves so that the sections thereof overlap the joints of the said central portion; sockets in the ends of the said central portions, and keel extensions adapted to be arranged in the said sockets arranged through the ends of said cross-rib-connecting strap, for the purpose specified.

15. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; supporting-straps adapted to receive the overlapped ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion; side pieces or portions made up of sections hinged together, arranged in said grooves so that the sections thereof overlap the joints of the said central portion; upwardly-projecting pins on said side pieces; and rods having oppositely-disposed hooks at their ends, adapted to engage the said pins, pivoted to the said central portion, for the purpose specified.

16. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; supporting-straps adapted to receive

the overlapped ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion; and side pieces or portions made up of sections hinged together, arranged in said grooves so that the sections thereof overlap the joints of the said central portion, for the purpose specified.

17. In a folding boat, the combination of a suitable flexible skin; cross-ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion, side pieces or portions made up of sections hinged together, arranged in said grooves so that the sections thereof overlap the joints of the said central portion; upwardly-projecting pins on said side pieces; rods having oppositely-disposed hooks at their ends, adapted to engage the said pins, pivoted to the said central portion; sockets in the ends of the said central portion; and keel extensions adapted to be arranged in the said sockets arranged through the ends of said cross-rib connecting strap, for the purpose specified.

18. In a folding boat, the combination of a suitable flexible skin; cross-ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion; side pieces or portions made up of sections hinged together, arranged in said grooves so that the sections thereof overlap the joints of the said central portion; sockets in the ends of the said central portions; and keel extensions adapted to be arranged in the said sockets arranged through the ends of said cross rib-connecting strap, for the purpose specified.

19. In a folding boat, the combination of a suitable flexible skin; cross-ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion; side pieces or portions made up of sections hinged together, arranged in said grooves so that the sections thereof overlap the joints of the said central portion; upwardly-projecting pins on said side pieces; and rods having oppositely-disposed hooks at their ends, adapted to engage the said pins, pivoted to the said central portion, for the purpose specified.

20. In a folding boat, the combination of a suitable flexible skin; cross-ribs; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; grooves in the sides of said central portion, and side pieces or portions made up of sections hinged together, arranged in the said grooves so that the sections thereof overlap the joints of the said central portion, for the purpose specified.

21. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other; supporting-straps adapted to receive the overlapped ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; a combined keel and bottom consisting of a central portion made up of sections; side pieces or portions, arranged to overlap the joints of the said central portion secured thereto; sockets in the ends of said central portion; and keel extensions adapted to be arranged in the said sockets, arranged through the ends of said cross-rib-connecting strap, for the purpose specified.

22. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other; supporting-straps adapted to receive the overlapped ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; a combined keel and bottom consisting of a central portion made up of sections; and side pieces or portions, arranged to overlap the joints of the said central portion secured thereto; for the purpose specified.

23. In a folding boat, the combination of a suitable flexible skin; cross-ribs; a centrally-arranged connecting-strap for said cross-ribs; a combined keel and bottom consisting of a central portion made up of sections; side pieces or portions, arranged to overlap the joints of the said central portion secured thereto; sockets in the ends of said central portion; and keel extensions adapted to be arranged in the said sockets, arranged through the ends of said cross-rib-connecting strap, for the purpose specified.

24. In a folding boat, the combination of a suitable flexible skin; cross-ribs; a centrally-arranged connecting-strap for said cross-ribs; a combined keel and bottom consisting of a central portion made up of sections, and side pieces or portions, arranged to overlap the joints of the said central portion secured thereto, for the purpose specified.

25. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; supporting-straps adapted to receive the overlapped ends of said rib-sections; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; side pieces or portions made up of sections hinged together, arranged to overlap the joints of the said central portion secured thereto; sockets in the ends of the said central portion; and keel extensions adapted to be arranged in the said sockets, for the purpose specified.

26. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; supporting-straps adapted to receive the overlapped ends of said rib-sections; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; and side pieces or portions made up of sections hinged together, arranged to overlap the joints of the said central portion secured thereto, for the purpose specified.

27. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other; supporting-straps adapted to receive the overlapped ends of said rib-sections; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; side pieces or portions made up of sections hinged together, arranged to overlap the joints of the said central portion secured thereto; sockets in the ends of the said central portion; and keel extensions adapted to be arranged in the said sockets, arranged through the ends of said cross-rib-connecting strap, for the purpose specified.

28. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other; supporting-straps adapted to receive the overlapped ends of said rib-sections; a combined keel and bottom consisting of a central portion made up of three sections arranged end to end and connected by oppositely-arranged hinges; and side pieces or portions made up of sections hinged together, arranged to overlap the joints of the said central portion secured thereto, for the purpose specified.

29. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; supporting-straps arranged in pairs, adapted to receive the overlapped ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; and a keel arranged over said cross-ribs, adapted to apply tension to the said connecting-strap therefor, for the purpose specified.

30. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other; supporting-straps, arranged in pairs, adapted to receive the overlapped ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; and a keel arranged over said cross-ribs, adapted to apply tension to the said connecting-strap therefor, for the purpose specified.

31. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; and supporting-straps arranged in pairs, adapted to receive the overlapped ends of said rib-sections, for the purpose specified.

32. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other; and supporting-straps arranged in pairs, adapted to receive the overlapped ends of said rib-sections, for the purpose specified.

33. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; supporting-straps adapted to receive the overlapped ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; and a keel arranged over said cross-ribs, adapted to apply tension to the said connecting-strap therefor, for the purpose specified.

34. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other, the sliding sections having eyes therein to receive the sections upon which they are telescoped; and supporting-straps adapted to receive the overlapped ends of said rib-sections, for the purpose specified.

35. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other; supporting-straps adapted to receive the overlapped ends of said rib-sections; cross-ribs arranged over said longitudinal ribs; a centrally-arranged connecting-strap for said cross-ribs; and a keel arranged over said cross-ribs, adapted to apply tension to the said connecting-strap therefor, for the purpose specified.

36. In a folding boat, the combination of a suitable flexible skin; longitudinal ribs made up of overlapping sections adapted to telescope upon each other; and supporting-straps adapted to receive the overlapped ends of said rib-sections, for the purpose specified.

37. In a folding boat, the combination of a suitable flexible skin; cross-ribs; a centrally-arranged connecting-strap for said cross-ribs; and a keel arranged over said cross-ribs, adapted to apply tension to the said connecting-strap therefor, for the purpose specified.

38. In a folding boat, the combination of seat-supports having hooks thereon, adapted to engage over the gunwales of the boat; braces pivoted to said seat-supports and to each other by transversely-arranged pivots; a seat-board; loops on said seat-supports, adapted to receive said seat-board, whereby the said seat-board is clamped to said supports as said braces are forced into position; and a standard pivoted to said braces, adapted to be turned up to engage the under side of said seat-board, for the purpose specified.

39. In a folding boat, the combination of seat-supports having hooks thereon, adapted to engage over the gunwales of the boat; braces pivoted to said seat-supports and to each other by transversely-arranged pivots; a seat-board; and loops on said seat-supports, adapted to receive said seat-board, whereby the said seat-board is clamped to said supports as said braces are forced into position, for the purpose specified.

842,909. LIFTER OR HOLDER. FREDERICK W. PEW, Buffalo, N. Y. Filed May 14, 1906. Serial No. 316,611.

Claim.—1. A lifter or holder having a lever provided on its front arm with a mouth which opens laterally and the sides or jaws of which are parallel, substantially as set forth.

2. A lifter or holder having a lever provided on its front arm with a parallel-sided mouth which opens laterally and another mouth which opens forwardly in the direction of the length of the lever, substantially as set forth.



3. A lifter or holder having a lever containing a longitudinal wire bar which is provided with a laterally-bent front end and in rear of said front end with a laterally-projecting loop, substantially as set forth.

4. A lifter or holder having a lever which consists of two longitudinal wire bars each of which is provided with a laterally-bent front end and in rear of said front end with a laterally-projecting loop, substantially as set forth.

5. A lifter or holder having a lever which consists of two longitudinal wire bars having forwardly-diverging portions forming the inner or rear side of a mouth and two portions converging forwardly from the front ends of said diverging portions and forming the outer of the front side of said mouth, substantially as set forth.

6. A lifter or holder having a lever which consists of two longitudinal wire bars having forwardly-diverging portions forming the inner or rear side of a mouth, two portions converging forwardly from the front ends of said diverging portions and forming the outer or front side of said mouth, and two portions diverging forwardly from the front ends of said converging portions, substantially as set forth.

7. A lifter or holder comprising two pivotally-connected levers, one of said levers consisting of two longitudinal wire bars which are twisted together in front of the pivotal connection between said levers and have their front ends constructed to form jaws, substantially as set forth.

8. A lifter or holder having a lever consisting of two longitudinal bars which are provided with pivot-loops, twisted portions connecting the bars in front of the pivot-loops, forwardly-diverging portions connected with the twisted portions, laterally-projecting loops connecting with the front ends of the forwardly-diverging portions, forwardly-converging portions connecting with said last-mentioned loops, forwardly-diverging portions connecting with said forwardly-converging portions, and laterally-projecting ends connecting with said last-mentioned forwardly-diverging portions, substantially as set forth.

9. A lifter or holder having two levers one of which is provided with pivot-eyes, and a coupling consisting of a plate arranged above the other lever and having hooks adapted to engage underneath the last-mentioned lever and pivot-pins which are received in said eyes, substantially as set forth.

10. A lifter or holder having two levers one of which is provided with pivot-eyes, a coupling consisting of a plate arranged above the other lever and having hooks adapted to engage underneath the last-mentioned lever and pivot-pins which are received in said eyes, and a clamping-screw arranged on said plate and bearing against the upper side of said last-mentioned lever, substantially as set forth.

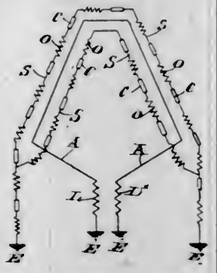
11. A lifter or holder having two levers one of which is provided with pivot-eyes, a coupling consisting of a top plate, pivot-lugs projecting laterally from the plate in the same plane, and hooks arranged on opposite sides of each pivot-lug and projecting from the plate at right angles thereto, said plate being arranged above the other lever and said hooks engaging underneath the same and said pivot-lugs engaging with said pivot-eyes, and a clamping-screw arranged in said plate and engaging with the top of said last-mentioned lever, substantially as set forth.

842,910. WIRELESS COMMUNICATION. GREENLEAF W. PICKARD, Amesbury, Mass. Filed Nov. 30, 1906. Serial No. 345,642.

Claim.—1. In systems of wireless communication, means for shielding the wave-intercepter from static discharges,

which means consists of a conductor having impedance and non-inductive resistance connected to it.

2. In systems of wireless communication, means for shielding the wave-intercepter from static discharges, which means consists of a conductor having connected with it a plurality of impedance-coils and non-inductive resistances.



3. In systems of wireless communication, means for shielding the wave-intercepter from static discharges, which means consists of a conductor having connected with it an iron impedance-coil and a non-inductive resistance.

4. In systems of wireless communication, means for shielding the wave-intercepter from static discharges, which means consists of a conductor having connected with it an impedance-coil and a carbon resistance.

5. In systems of wireless communication, means for shielding the wave-intercepter from static discharges, which means consists of a conductor having connected with it an iron-impedance and a carbon resistance.

6. In systems of wireless communication, means for shielding the wave-intercepter from static discharges, which means consists of a conductor having connected with it a plurality of iron impedance-coils and non-inductance resistances.

7. In systems of wireless communication, means for shielding the wave-intercepter from static discharges, which means consists of a conductor having connected with it a plurality of impedance-coils and carbon resistances.

8. In systems of wireless communication, means for shielding the wave-intercepter from static discharges, which means consists of a conductor having connected with it a plurality of iron impedance-coils and carbon resistances.

9. In systems of wireless communication, means for shielding the wave-intercepter from static discharges, which means consists of a conductor connected to earth and having connected with it an impedance-coil and a non-inductance resistance.

10. In systems of wireles communication, means for shielding the wave-intercepter from static discharges, which means consists of a conductor located in proximity to the intercepter and containing ohmic and reactive impedance.

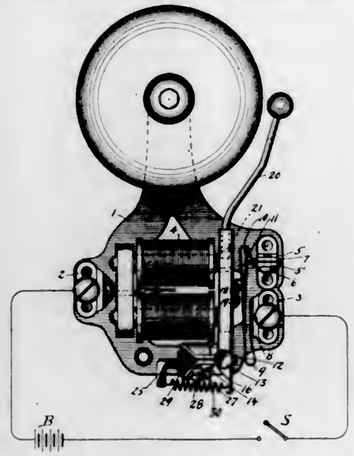
11. In systems of wireless communication, means for shielding the wave-intercepter from static discharges, which means consists of a conductor having connected in it in series an impedance-coil and a non-inductive resistance.

12. In systems of wireless communication, means for shielding the wave-intercepter from static discharges, which means consists of a plurality of conductors arranged about the intercepter, said conductors having connected with them respectively an impedance-coil and a non-inductive resistance.

13. An aerial structure for systems of wireless communication, which comprises the wave-intercepting conductor; a plurality of static-shield conductors arranged about said wave-intercepting conductor, each including an impedance-coil and a non-inductive resistance; and a retaining member to maintain all the conductors in coöperative relationship.

14. An aerial structure for systems of wireless communication, which comprises the wave-intercepting conductor; a plurality of static-shield conductors arranged about said wave-intercepting conductor and each including an impedance-coil and a non-inductive resistance; insulating-shields for the devices in the static-shield conductors; and a retaining member connected with said insulating-shields to maintain all the conductors in coöperative relationship.

842,911. ELECTRIC BELL. HENRY E. REEVE, Brooklyn, N. Y. Filed Oct. 4, 1905. Serial No. 281,213.



Claim.—1. In an electric vibrator mechanism, a base, an electromagnet, a pivoted armature therefor, a spring vibrator-arm, a spring contact-strip secured thereto, a stationary post, an adjustable contact-screw carried thereby and contacting with said strip, an insulated stop carried by the armature and engaging the vibrator-arm, and an adjustable tension device for said armature, the circuit passing through the magnet-coils, contact-screw, strip and vibrator-arm and being insulated from the base.

2. In an electric bell, a base, an electromagnet, binding-posts, a contact-post, a contact-screw carried thereby, a vibrator-arm connected to one binding-post, a contact-strip carried thereby engaging said contact-screw, the end of said arm being turned round the end of said contact-strip for guarding the same.

3. In an electric bell, a base, an electromagnet, a binding-post and a contact-post carried by said base, two independently-adjustable contact-screws carried by said contact-post, a vibrator-arm and two contact-strips carried thereby for engagement with said contact-screws.

4. In an electric vibrator mechanism, an electromagnet, an armature therefor, a vibrator-arm having a plurality of contact-points, and a plurality of independently-adjustable contact members adapted to engage said contact-points.

5. In an electric bell, a base, binding-posts therefor, an electromagnet, an armature therefor, a supporting-post for said armature formed of sheet metal having two arms, and a pivot center-screw clamped between said arms.

6. In an electric bell, a base, an electromagnet carried thereby, an armature therefor, a pivot for said armature, a supporting-post for said pivot, a supporting member carried by said post having a screw-threaded arm, a yoke for clamping said arm to said post, an adjusting-nut on said screw-threaded portion, and a spring connecting said armature to said supporting member.

7. In an electric bell, a base, an electromagnet, an armature therefor consisting of a sheet-metal shell and a magnetizable member or bar secured in said shell, and means for pivotally supporting said armature.

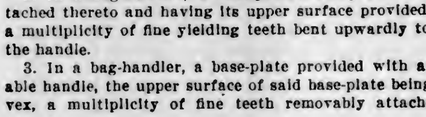
8. In an electric bell, a base, an electromagnet carried thereby, an armature for said magnet formed of a sheet-metal shell and a bar, a pivot-pin for said armature, a tubular sleeve for said pivot-pin, and means for securing said pivot-pin in said sleeve.

9. An electric-bell construction including a base, an electromagnet carried thereby, an armature therefor, having a part formed of sheet metal, with side top and bottom, a pivot-pin passing through the top and bottom portions, a sleeve for said pivot-pin, the side of said sheet-metal portion having a perforation for access to said sleeve, and a portion of said sleeve being indented into said pin.

10. In an electric bell, a base, an electromagnet, an armature therefor formed of a sheet-metal shell and an iron bar, a striker member having one end seated in a recess in said bar, and a pin for securing said striker member to said bar, the head of said pin being covered by said shell.

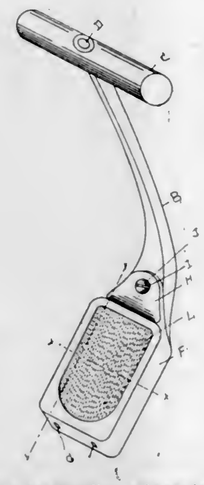
11. In an electric vibrator mechanism, an electromagnet, a plurality of vibrating contact-strips and a plurality of independently-adjustable contact-screws coacting with said strips.

842,912. SCOOP AND SHOVEL GRIP. CALVIN J. RUNDELL, Wayne, Nebr. Filed Sept. 26, 1906. Serial No. 336,206.



Claim.—The combination with a grip-handle and the handle-bar of a shovel or scoop, of a band adjustably secured to said handle-bar, a cam upon said band, one part of which is square and the other part rounded, and a bolt freely securing the grip-handle to said cam, substantially as described.

842,913. BAG-HANDLER. HORACE SANBORN and ELLET SANBORN, Portland, Me. Filed June 11, 1906. Serial No. 321,107.

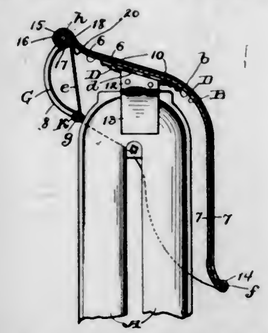


Claim.—1. In a bag-handler, a base-plate provided with a suitable handle, the upper surface of said base-plate being provided with a multiplicity of fine yielding teeth.

2. In a bag-handler, a base-plate having a handle attached thereto and having its upper surface provided with a multiplicity of fine yielding teeth bent upwardly toward the handle.

3. In a bag-handler, a base-plate provided with a suitable handle, the upper surface of said base-plate being convex, a multiplicity of fine teeth removably attached to said base-plate and a suitable frame removably attached to said base-plate for holding said teeth in position.

842,914. HOT-AIR DEFLECTOR AND DUST-COLLECTOR FOR RADIATORS. CHRISTIAN E. SCHAFER, Cleveland, Ohio. Filed Jan. 26, 1906. Serial No. 297,961.



Claim.—1. In a hot-air deflector and dust-collector for a radiator, the combination, with an air-deflecting hood adapted to cover the top of the radiator and arranged to discharge air forwardly, of a foraminated or perforated plate supported from the forward portion and at the top of the hood as required to render it capable of being swung forwardly, which plate extends longitudinally of the hood, and a screen arranged at the inner side and extending longitudinally of the said plate, which screen is supported from the plate.

2. The combination, with an air-deflecting hood adapted to cover the top of a radiator and discharging forwardly, of a suitably-supported forwardly-bulging foraminated or perforated plate arranged in front and extending longitudinally of the hood; and a screen arranged at the inner side and extending longitudinally of the said plate, which screen is supported from the plate.

3. The combination, with an air-deflecting hood arranged to discharge forwardly, with the space formed within the hood having end walls, of a forwardly-bulging foraminated or perforated plate supported from the forward portion and at the top of the hood, which plate extends between the aforesaid walls, and a screen arranged at the inner side and extending longitudinally of the said plate, which screen is supported from the plate.

4. The combination with an air-deflecting hood arranged to discharge forwardly, with the space formed within the hood having end walls; a forwardly-bulging foraminated or perforated plate detachably supported from the forward portion of and at the top of the hood, and a screen arranged at the inner side and extending longitudinally of the said plate, which screen is detachably supported from the plate.

5. The combination, with a forwardly-discharging air-deflecting hood for the top of a radiator, with the space formed within the hood having end walls; a forwardly-bulging foraminated or perforated plate detachably supported from and at the top of the forward portion of the hood, which plate extends between the aforesaid walls; a screen arranged at the inner side and extending longitudinally of the said plate, which screen is supported from the plate, and means for detachably fastening the plate to the aforesaid walls a suitable distance below the top of the hood.

6. The combination, with a forwardly-discharging air-deflecting hood, with the space formed within the hood having end walls, of a forwardly-facing screen extending between and in close proximity to the said walls, and a holder supporting the screen and arranged in the main forwardly of the screen, which holder is removably supported at the top from the hood and provided at the bottom with a member affording a bottom-bearing to the screen.

7. The combination, with a forwardly-discharging air-deflecting hood, with the space formed within the hood having end walls, of a forwardly-facing screen extending between the said walls, and a holder supporting the screen and removably supported at the top from the hood and provided at the bottom with a member extending in under and supporting the screen.

8. The combination, with a forwardly-discharging air-deflecting hood, with the space within the hood having end walls, of a forwardly-facing screen extending between the end walls, and a holder arranged in the main forwardly of the hood and removably supported from the hood and having hooks or projecting members which extend over the upper edge of the screen and overlap the rear or inner side of the screen, said holder extending under and supporting the screen.

9. The combination, with a forwardly-discharging air-deflecting hood, with the space formed within the hood having end walls, of a forwardly-facing screen extending between the said walls, and a holder supporting the screen and removably supported at the top from the hood, and means for locking the screen-holder to the aforesaid walls adjacent the lower edge of the screen.

10. A forwardly-discharging air-deflecting hood comprising a central section and two end sections, with the central section overlapping adjacent portions of the outer surfaces of the adjacent ends of the end sections, and with the end sections provided interiorly with spring clamping members arranged to straddle and clamp the upper portions of radiator-sections.

11. A forwardly-discharging air-deflecting hood provided at the under side of the top of the hood with a slideway arranged longitudinally of the hood, and two plates forming a side engaging the slideway, said plates being provided with members arranged to support the hood from the upper portion of a radiator-section.

12. The combination, with a forwardly-discharging air-deflecting hood, with the space formed within the hood having end walls, of a forwardly-facing screen extending between the said walls, a holder supporting the screen and removably supported from the hood, and means for locking the screen-holder to the aforesaid walls.

13. The combination, with a forwardly-discharging air-deflecting hood, with the space formed within the hood having end walls, of a forwardly-facing screen extending between the said walls, and a holder supporting the screen and supported from the hood as required to render the holder capable of being swung outwardly to afford access to the screen.

14. The combination, with a forwardly-discharging air-deflecting hood, with the space formed within the hood having end walls, of a forwardly-facing screen extending between the said walls, and a holder supporting the screen and supported from the hood as required to render the holder capable of being swung outwardly to afford access to the screen, said holder being detachable from the hood, and the screen being removable endwise from the holder upon the detachment of the latter from the hood.

842,915. RAIL-JOINT. ARCHIBALD W. SHAW, Drew, Miss. Filed Sept. 25, 1906. Serial No. 336,106.

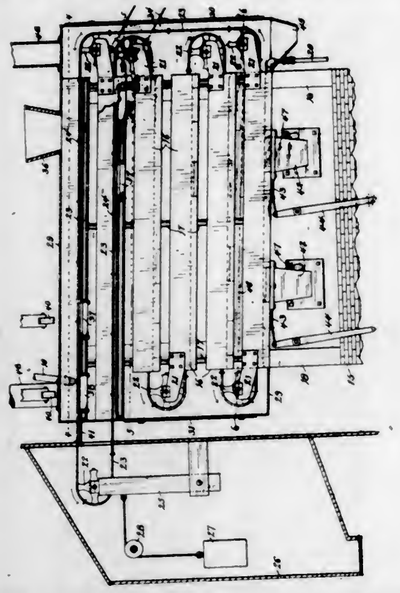
Claim.—1. The combination with the meeting ends of two rail-sections, the webs of which have transverse openings, of a chair comprising two separable sections each of which has a base portion extending under the rail, and an upstanding rail-engaging flange, and oppositely-presented hooks extending from said flanges into the transverse openings in the rail-webs, and interlocking therein.

2. The combination with the meeting ends of two rail-sections, the webs of which have transverse openings, of a chair comprising two separable sections each of which has a base portion extending under the rail, and an upstanding rail-engaging flange, oppositely-presented hooks extending from said flanges into the transverse openings in the rail-webs, and interlocking therein, and plates extending transversely under the chair and having recesses in which the chair seats.

842,915.



842,916. SAWDUST-DRIER. CHARLES E. SMITH, Marshfield, Wis. Filed June 18, 1906. Serial No. 322,148.



Claim.—1. A drier, comprising a series of hollow troughs one above another and arranged at an incline with openings through which one may discharge into another, a conveyer passing through the troughs, and means for supplying steam to the interior of the troughs and for draining the water of condensation from the lower ends of the troughs.

2. A drier, comprising a series of hollow troughs arranged one above another and at an incline with openings through which one may discharge into another, a conveyer passing through the troughs, pipe-sections connecting the troughs together and establishing communication between the interior of the troughs, means for admitting steam to the interior of the troughs, and means at the lower end of the bottom trough for discharging water of condensation from the interior of the troughs.

3. A drier, comprising a series of troughs arranged one above another and provided with openings through which one trough may discharge into another, a conveyer passing through the troughs, the first opening of each trough passed by the conveyer being grated to allow of a partial discharge only and the next opening serving to complete the discharge, and means for heating the troughs.

4. A drier, comprising a series of troughs arranged one above another and having openings through which one may discharge into another, a conveyer passing through the troughs, means for heating the troughs, and a casing surrounding the troughs and the conveyer formed of removable sections permitting access to the several parts separately.

5. A drier, comprising a series of troughs arranged one above another and provided with openings through which one may discharge into another, a conveyer-belt passing through the troughs, valves for the openings of the first trough to control the passage of material therethrough, a bin, a projecting shelf leading from the first trough to the bin, said conveyer passing along the shelf and into the bin, and means for heating the troughs.

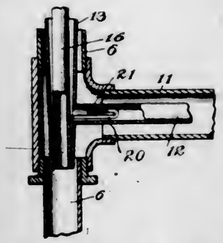
6. A drier, comprising a series of troughs arranged one above another and provided with openings through which one may discharge into another, a conveyer-belt passing through the troughs, valves for the openings of the first trough to control the passage of material therethrough, a bin, a projecting shelf leading from the first trough to the bin, said conveyer passing along the shelf and into the bin, a lever pivoted in the bin, a weight connected therewith, a wheel carried by the lever around which the conveyer-belt passes, and means for heating the troughs.

7. A drier, comprising a series of troughs arranged one above another and provided with openings through which one may discharge into another, a conveyer-belt passing through the troughs, discharge-spouts leading from the openings of the last trough, valves in said spouts by means of which the discharge of material may be controlled, a hopper at the end of the last trough into which the surplus material is discharged, and means for heating the troughs.

8. A drier, comprising a series of troughs arranged one above another and provided with openings through which one may discharge into another, a conveyer-belt passing through the troughs, means for heating the troughs, a casing surrounding the troughs, and deflecting-plates on the casing leading to the bottom trough.

9. A drier, comprising a series of hollow cast-metal troughs arranged at an incline one above another and provided with openings through which one may discharge into another, pipe-sections connecting the troughs together and forming a communication between the interior of the troughs, means for admitting steam to the interior of the troughs, means for discharging water of condensation from the troughs, bearing-brackets on the ends of the troughs, sprocket-wheels journaled therein, a conveyer-belt passing around the sprocket-wheels and through the troughs and comprising a pair of chains connected at intervals by slats, means for driving the conveyer-belt, a casing surrounding the troughs, a hopper leading to the top trough, valves for the openings in the top trough, a bin, a lever pivoted therein, a weight for moving the lever, sprocket-wheels carried by the lever around which the conveyer-belt passes after leaving the top trough, a shelf projecting from the top trough to the bin to convey surplus material from the top trough to the bin, discharge-spouts leading from the openings of the bottom trough, weighted valves therein for controlling the passage through the spouts, slide-valves in the spouts, and a hopper at the end of the bottom trough to receive the surplus material after passing the spouts.

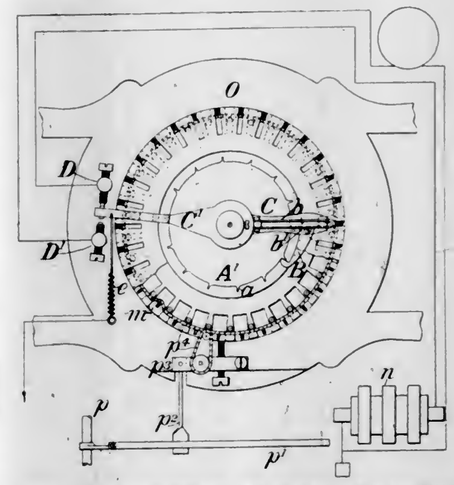
842,917. HYDROCARBON-OIL AND STEAM VAPOR BURNER AND STEAM-GENERATOR COMBINED. ALEXANDER J. SMITHSON, Portland, Oreg. Filed Oct. 26, 1905. Serial No. 284,552.



Claim.—1. In a device of the character specified, the combination of spaced tubes, an oil-tube in communication with the outer tube, means for supplying a fluid medium to the inner tube, and a tube leading from said inner tube through the outer tube and within said oil-pipe to facilitate the supply of the oil therefrom to said outer tube.

2. In a device of the class specified, the combination of spaced tubes, means for supplying a fluid medium to the inner tube, a pipe for supplying a liquid to the outer tube, and a tube leading from the inner tube through the outer tube and into said fluid-supply pipe and recurved to create a suction therethrough to facilitate the feed of said liquid.

842,918. TYPE-PRINTING TELEGRAPH. EDWIN J. STELJES, London, England. Filed Apr. 17, 1905. Serial No. 256,068.

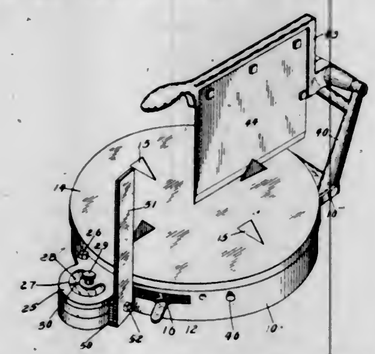


Claim.—1. In combination in a type-writing transmitter a key to a known Wheatstone transmitter, pierced with a hole at its end, a connecting-rod engaging the hole, a rock-shaft, a crank upon said rock-shaft operating the said connecting-rod and another crank upon the said rock-shaft and a vertical rod having a button thereon and actuating the transmitter-crank.

2. In combination in a type-writing transmitter, including a rotary arm, means employed to make the path of the revolving arm free for synchronization consisting of a special finger-key, a rock-shaft, means from the said finger-key to operate said rock-shaft and a hinged lever operated from said rock-shaft, a bell-crank operated by said lever, a lever carrying a roller within the transmitter-chain operated by the said bell-crank to draw up the said chain, so that the latter may be extended by the said apparatus to

free the path of the revolving arm of the transmitter to permit synchronization.

842,919. CHEESE-CUTTER. LAFE SWANK, Anderson, Ind., assignor to American Cheese Cutter Company, Anderson, Ind., a Corporation of Indiana. Filed May 31, 1906. Serial No. 319,443.



Claim.—1. In a cheese-cutter, the combination, with a suitable supporting-base, of a cheese-carrying table rotatably mounted thereon, means for indicating angular advancement thereof, a pivoted knife supported on said base by means permitting ready removal, a knife-guide carried by said base substantially at right angles to the plane of the table, and a hand-knife coöperating with said knife-guide.

2. In a cheese-cutter, the combination, with a suitable supporting-base, of a cheese-carrying table rotatably mounted thereon, means for indicating angular advancement thereof, a pivoted knife supported on said base by means permitting ready removal, a knife-guide carried by said base substantially at right angles to the plane of the table, and a hand-knife provided with a portion adapted to receive said knife-guide and hold it in a plane substantially radial to the table.

3. In a cheese-cutter, the combination, with a suitable supporting-base, of a cheese-carrying table journaled thereon, a large gear carried by said table, a materially smaller pinion journaled on the base and driven by said gear, an inclosing casing for said pinion having an open top, a swinging cover for said casing and having a sight-opening, a pointer journaled in said cover, and a swinging storage-box mounted on said base beneath the pinion-case.

4. In a cheese-cutter, the combination with a cheese-carrying table and means for accurately indicating angular movement thereof, of a guide-bar arranged adjacent said table substantially at right angles to the plane thereof and substantially in a plane radial to the table, and a hand-knife having a transverse mortise fitting the guide-bar in one dimension and loose thereon in the radial dimension, substantially as and for the purpose set forth.

5. In a cheese-cutter, the combination with a cheese-carrying table, of a guide-bar arranged adjacent said table substantially at right angles to the plane thereof and substantially in a plane radial to the table, and a hand-knife having a transverse mortise fitting the guide-bar in one dimension and loose thereon in the radial dimension, substantially as and for the purpose set forth.

6. In a cheese-cutter, the combination, with a cheese-carrying table, of a guide-bar arranged adjacent said table and substantially at right angles to the plane thereof, and a hand-knife having a transverse mortise fitting said guide-bar in one dimension and loose thereon in the radial dimension.

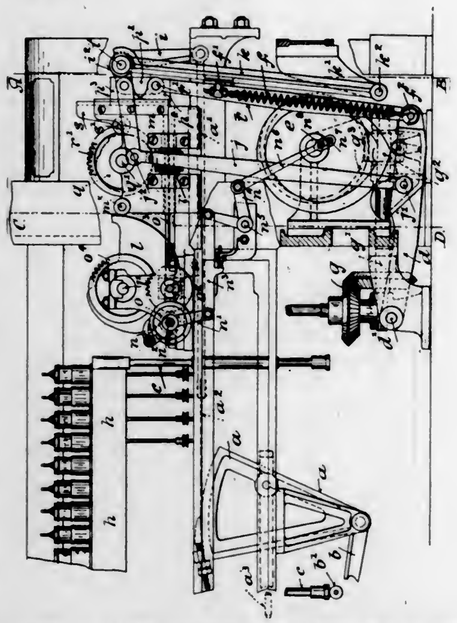
842,920. PICK. WILLIAM THEDORF, St. Vincent, Minn. Filed Mar. 13, 1906. Serial No. 305,894.

Claim.—A pick for stringed instruments, the same formed of a single piece of sheet metal comprising a finger-embracing portion, a shank projecting therefrom and consisting of a narrow strip of metal with approximately parallel edges and adapted to extend from said finger-embracing portion around the end of the finger and to



embed itself in the flesh thereof, and a picking-point proper at the outer end of said shank bent outward therefrom and rounded transversely, the whole for use substantially as described.

842,921. MEANS FOR FACILITATING THE SPINNING OF TEXTILE FIBERS. RICHARD TODD, Heaton Chapel, and JESSE A. STOTT and ABRAHAM H. STOTT, Manchester, England. Filed Feb. 21, 1905. Serial No. 246,769.



Claim.—1. In continuous-spinning frames, and for the indicated purpose, a chase-plate, slides for said chase-plate, reciprocating mechanism for said slides and chase-plate, automatic means for varying the angle of the chase-plate and means for insuring the same initial quick drop being imparted no matter what the length of the chase, substantially as described.

2. The chase-varying mechanism comprising slides p^2, p^3, and link p' connecting said slides, means for varying the angle of inclination of the part p' supporting means for the connected slides, means for reciprocating said chase-varying mechanism, the slide p^3 having a right-angled face p^4 for insuring the same initial quick drop, substantially as described.

3. In mechanism for the indicated purpose, a copping-lever, a building-cam, mechanism for actuating such building-cam, a sliding or movable carriage actuated thereby, a differential-chase cam, a chase-varying device comprising slides slide-guides, and means for reciprocating the slide-guides, relative to the carriage, connections between the rail and the copping-lever including a shiftable bell-crank lever, said chase-varying device influencing the fulcrum

of said bell-crank lever as building proceeds, substantially as described.

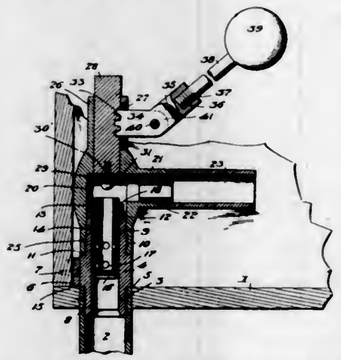
4. In combination, a copping-lever, a copping-cam, a shiftable bell-crank lever, supports for said bell-crank lever, connections between the bell-crank lever and copping-lever between the bell-crank lever and lifting-rail, a chase-plate engaging the fulcrum of the bell-crank lever, connected slides reciprocated from said copping-lever, independent movable guides or supports for said slides, means for moving the guides or supports including, a differential-chase cam, and a building-cam, substantially as described.

5. The building motion for producing cops with a differential chase and a constant initial quick drop, comprising a copping-cam, a shiftable bell-crank lever, a chase-varying device means for insuring a uniform quick drop, reciprocating mechanism intermediate of said chase-varying device and copping-lever, movable carriages or supports, and a building-cam, all substantially as described.

6. In combination in continuous-spinning frames for producing cops of the indicated kind, a copping-cam, a copping-lever, building mechanism in connection with said copping-lever, a chase-varying device, reciprocating mechanism intermediate of said chase-varying device and copping-lever, a movable support for said chase-varying device, and a differential-chase cam for said chase-varying device, and means for rotating said cam, substantially as described.

7. In combination in continuous-spinning frames, for producing cops of the indicated kind, a copping-lever, a copping-cam coöperating therewith, a quadrant mechanism for moving the rails, intermediate connections between the quadrant and copping-lever including a shiftable fulcrum, a chase-varying device acting on said fulcrum and suitably-guided means for reciprocating said chase-varying device, a differential-chase cam and a support therefor and a building-cam acting on said support substantially as shown.

842,922. BALL-COCK VALVE. CHARLES C. TOZIER, Skowhegan, Me., assignor to Maine Valve Company, Skowhegan, Me., a Corporation of Maine. Filed July 17, 1906. Serial No. 326,554.



Claim.—1. In a valve of the class described, a separable valve-casing, a removable reduction-pipe in one portion of the casing, a removable seat carried thereby, and a valve in the other portion of said casing with a removable acting face.

2. In a valve of the class described, a separable casing, a removable reducing-pipe and hush-chamber in one portion of said casing and extended through the same into the other portion, and a valve-seat removably secured to the extended end of said pipe.

3. In a valve of the class described, a separable casing, a removable reducing-pipe and hush-chamber in one portion of said casing and extended into the other, a removable valve-seat, and a valve having a removable acting disk.

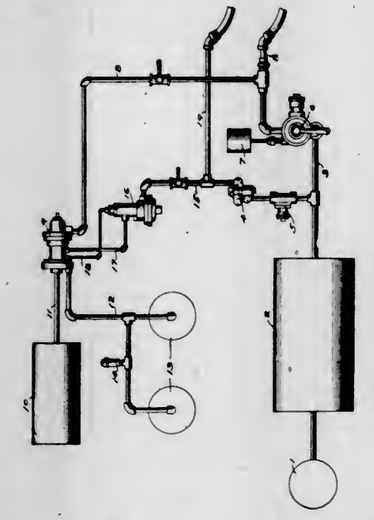
4. In a valve of the class described, a casing, a removable reducing-pipe therein with lateral openings with a space surrounding said pipe, a valve-seat removably secured on the extended end of said pipe, a removable plunger, and a removable valve-disk on the end of said plunger and adapted to be seated on said seat.

5. In a valve of the class described, a separable casing, one portion of which has a chamber with lateral outlet, and valve-seat, a plunger with a valve adapted to said seat, a removable reducing-pipe in the other portion of said casing and having one end extended therethrough into said chamber, and a removable valve-seat on the extended end of said pipe in said chamber.

6. In a valve of the class described, a separable casing, a removable reducing-pipe and hush-chamber in one portion of said casing and extended into the other, a removable valve-seat, and a valve having a removable acting disk, said reducing-pipe being adjustably mounted.

7. In a valve of the class described, a valve-casing, a reducing-pipe adjustable therein with one end extended, said pipe having lateral openings and a space surrounding the same, and a removable valve-seat on the threaded end of the pipe beyond the end of said valve-casing.

842,923. COMBINED AUTOMATIC AND STRAIGHT-AIR BRAKE. WALTER V. TURNER, Wilkinsburg, and EDWARD A. WRIGHT, Edgewood Park, Pa., assignors to The Westinghouse Air Brake Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed May 6, 1904. Serial No. 206,655.



Claim.—1. In an air-brake, the combination with a train-pipe, engineer's brake-valve, auxiliary reservoir, triple valve and brake-cylinder, of a straight-air-brake valve for supplying air to the brake-cylinder, and means controlled by the straight-air-brake valve for venting air from the auxiliary reservoir to cause the movement of the triple valve to release position.

2. In an air-brake, the combination with a train-pipe, engineer's brake-valve, auxiliary reservoir, triple valve and brake-cylinder, of a straight-air-brake valve and a pipe leading therefrom to the triple-valve exhaust-port for supplying air to the brake-cylinder, and means controlled by the straight-air-brake valve for venting air from the auxiliary reservoir to cause the movement of the triple valve to release position.

3. In an air-brake, the combination with a train-pipe, engineer's brake-valve, auxiliary reservoir, triple valve and brake-cylinder, of a straight-air-brake valve, and means controlled by the straight-air-brake valve for causing the movement of the triple valve to release position.

4. The combination with an automatic air-brake system,

and a straight-air-brake apparatus, of means for preventing a further supply of air to the brake-cylinder by the automatic system in service applications when the brake is applied with straight air.

5. In an air-brake, the combination with a train-pipe, engineer's brake-valve, auxiliary reservoir, triple valve and brake-cylinder, of a straight-air-brake valve and means operated by the movement of the straight-air-brake valve to service position when the triple valve is in service position for automatically causing the release of the triple valve.

6. In an air-brake, the combination with a train-pipe, engineer's brake-valve, auxiliary reservoir, brake-cylinder and a triple valve having a vent-port for the auxiliary reservoir adapted to be open in lap position, of a straight-air-brake valve, and means operated thereby for controlling said vent-port from the auxiliary reservoir, and for supplying air through the triple-valve exhaust to the brake-cylinder.

7. In an air-brake, the combination with a train-pipe, engineer's brake-valve, auxiliary reservoir, triple valve and brake-cylinder, of a straight-air-brake valve for supplying air to the exhaust-port of the triple valve, and means controlled by the straight-air-brake valve for venting air from the auxiliary reservoir when the triple valve is in service position.

8. In an air-brake, the combination with a main reservoir, engineer's brake-valve, train-pipe, auxiliary reservoir, triple valve and brake-cylinder, of a straight-air-brake valve for supplying air to the brake-cylinder, and means controlled by the triple valve for venting air from the auxiliary reservoir when the straight-air brake is applied.

9. In an air-brake, the combination with a main reservoir, engineer's brake-valve, train-pipe, auxiliary reservoir, triple valve and brake-cylinder, of a straight-air-brake valve for supplying air to the brake-cylinder, and means operated by a reduction in train-pipe pressure for venting air from the auxiliary reservoir when the straight-air brake is applied.

10. In an air-brake, the combination with a main reservoir, engineer's brake-valve, train-pipe, auxiliary reservoir and brake-cylinder, of a triple-valve device having ports for supplying air from the auxiliary reservoir to the brake-cylinder and for venting air from the auxiliary reservoir to the atmosphere, and a straight-air-brake valve for supplying air to the brake-cylinder and having means for controlling said vent-port.

11. In an air-brake, the combination with a main reservoir, engineer's brake-valve, train-pipe, auxiliary reservoir and brake-cylinder, of a triple-valve device having a vent-port for releasing air from the auxiliary reservoir, and a straight-air-brake valve having means for supplying air to the exhaust-port of the triple valve and for controlling the outlet from the said vent-port of the triple valve.

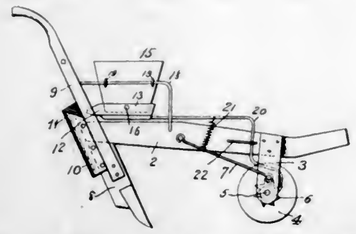
12. In an air-brake, the combination with a main reservoir, engineer's brake-valve, train-pipe, auxiliary reservoir and brake-cylinder, of a triple-valve device having a vent-port for releasing air from the auxiliary reservoir, and a straight-air-brake valve having ports connected to the exhaust-port and to the said vent-port of the triple-valve device.

13. In an air-brake, the combination with a main reservoir, engineer's brake-valve, train-pipe, auxiliary reservoir and brake-cylinder, of a triple-valve device having a vent-port for releasing air from the auxiliary reservoir, and a straight-air-brake valve having ports for supplying air direct to the triple-valve exhaust-port and for establishing communication from the triple-valve vent-port to the atmosphere in application and lap positions.

14. In an air-brake, the combination with a main reservoir, engineer's brake-valve, train-pipe, auxiliary reservoir, and brake-cylinder, of a triple-valve device having a service-port for supplying air to the brake-cylinder, and a vent-port adapted to open in advance of the service-port for releasing air from the auxiliary reservoir, and a straight-air-brake valve for supplying air to the brake-cylinder, and controlling the outlet from said triple-valve vent-port.

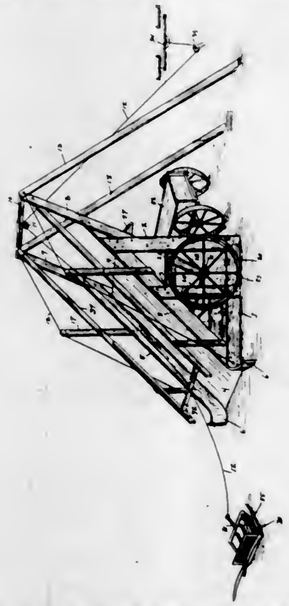
15. In an air-brake, the combination with a main reservoir, engineer's brake-valve, train-pipe, auxiliary reservoir and brake-cylinder, of a triple-valve device having a vent-port adapted to be opened for releasing air from the auxiliary reservoir to the atmosphere by the movement of the valve to service-application position, and to be closed by the further movement of the valve to emergency position, and a straight-air-brake valve for supplying air to the brake-cylinder.

842,924. FERTILIZER-DISTRIBUTER. GEORGE T. VAUGHN, Huntsville, Ala. Filed Sept. 14, 1906. Serial No. 334,615.



Claim.—In combination, a beam, a supporting-wheel therefor a ratchet moving with the wheel, a discharge-tube carried by the beam, a hopper carried by the beam, an oscillating bottom for the hopper, an arm extending from the bottom and bearing against the ratchet, a guide on the beam for holding the arm against undue lateral movement and a spring for holding the arm in contact with the ratchet.

842,925. LOADER. JAMES E. WALLIN, Edgerton, Wis. Filed June 14, 1906. Serial No. 321,625.



Claim.—1. In apparatus of the described class, the combination of a supporting-frame; a scoop; an inclined platform connected with the supporting-frame; inclined track-rails also connected with the supporting-frame; and a controlling-bar adapted to travel along said track-rails; together with means for locking the controlling-bar to the track-rails near the lower ends thereof; and a releasing device adapted to be actuated by the scoop.

2. In apparatus of the described class, the combination of a supporting-frame; a scoop; an inclined platform connected with the supporting-frame; inclined track-rails also connected with the supporting-frame; and a controlling-bar adapted to travel along said track-rails; together with means for locking the controlling-bar to the track-rails near the lower ends thereof; and a releasing device adapted to be actuated by the scoop, said locking means comprising spring-actuated latches on the controlling-bar and catches on the track-wheels.

3. In apparatus of the described class, the combination of a supporting-frame; a scoop; an inclined platform connected with the supporting-frame; inclined track-rails also connected with the supporting-frame; and a controlling-bar adapted to travel along said track-rails; together with means for locking the controlling-bar to the track-rails near the lower ends thereof; and a releasing device adapted to be actuated by the scoop, said releasing device comprising a removable member connected with the controlling-bar and adapted to be engaged and actuated by a member connected with the scoop; and flexible connections between the movable member; and locking means for the controlling-bar.

4. In apparatus of the described class, the combination with a supporting-frame; an inclined platform connected therewith; a scoop adapted to travel along said platform; and a draft-rope connected therewith and guided by said frame, together with a set of supporting-wheels having link connection with the frame; pivoted locking-bars to hold the wheels in supporting position and means for adjusting said wheels to a non-supporting position.

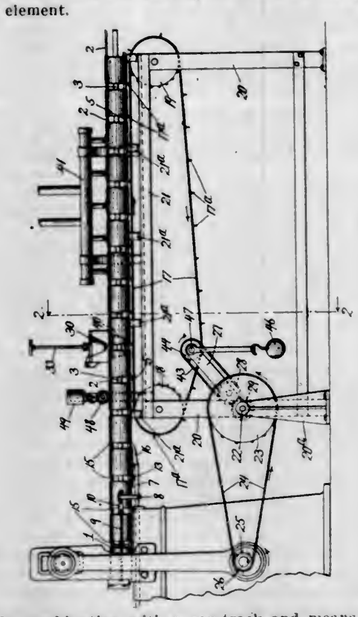
5. In apparatus of the described class, the combination with an inclined platform; of a set of track-rails; a controlling-bar adapted to move along the track-rails; a scoop provided with a draft-rope arranged to pass through an aperture in the controlling-bar; and a rigid member connected with said scoop and adapted to enter said aperture; said member being adapted to lock in said aperture by cramping when subjected to the weight of the scoop.

6. In apparatus of the described class, the combination with an inclined platform; a scoop; a draft-rope connected therewith; of a controlling-bar mounted in a suitable support and adapted to travel along said platform, said controlling-bar having an aperture for the reception of the draft-rope; spring-actuated locking devices for the controlling-bar; a releasing member connected with the controlling-bar and covering the draft-rope aperture therein; connections between the releasing member and the locking devices; and a member connected with the scoop and adapted to enter the aperture in the controlling-bar and to engage and actuate said releasing member, whereby the locking devices may be retracted to unlocking position.

842,926. CAN-SOLDERING MACHINE. HARRY C. H. WALSH, Chicago, Ill., assignor to Consolidated Press and Tool Company, a Corporation of Illinois. Filed Sept. 12, 1904. Serial No. 224,174.

Claim.—1. In a soldering-machine, in combination with means for carrying the body to be soldered with continuous movement to expose the line at which the solder is to be applied; means for applying a flux at the line to be soldered; a nozzle directed for discharge against the body at such line; a source of molten solder communicating with the nozzle and means for maintaining pressure above the supply of solder adequate for discharge of the latter through the nozzle in a jet for depositing a filament of solder along said line, and means located beyond the nozzle for heating the body to re-fuse said solder filament.

2. In a soldering-machine, in combination with means for advancing the object to be soldered, a wiper in position for contact with said body as it is thus advanced and means for supplying flux to said wiper; a nozzle directed for discharge against the body at the line of contact of the wiper therewith beyond the latter; a source of molten solder communicating with the nozzle and means for maintaining elastic-fluid pressure in excess of atmospheric pressure above the solder-supply therein adequate for discharge of the solder in a jet to deposit a filament of solder along the line of contact with the wiper, and means located beyond the nozzle for heating the body to re-fuse such solder element.



3. In combination with a can-track and means for advancing the can-bodies continuously along such track with the seam to be soldered exposed; means for applying solder to the seam comprising a nozzle for delivering a jet of molten solder located in position to discharge such jet onto the seam for forming a filament or wire of such solder thereon; a source of molten solder for supplying the nozzle and means for maintaining elastic-fluid pressure in excess of atmospheric pressure above the solder-supply for forcing solder through the nozzle.

4. In combination with a can-track and means for advancing the can-bodies continuously along such track, a solder-applying device comprising a valve-nozzle directed for discharge onto the seam; a source of molten solder in position for maintaining the solder therein at a level above the nozzle for affording gravity-pressure toward the latter; a passage by which such source communicates with the nozzle and a duct leading from a source of elastic-fluid pressure for communicating such pressure above the surface of the solder-supply for adding such elastic-fluid pressure to the gravity-pressure of the solder toward the nozzle.

5. In a can-soldering machine, in combination with means for delivering a jet of molten solder, means for moving the can to expose its seam to such jet; a solder-reservoir comprising a plurality of chambers communicating with each other successively at the lower part, and means for heating the chambers.

6. In a soldering-machine, in combination with means carrying the body to be soldered to expose past one point the line at which solder is to be applied; means for depositing the solder in a filament along such line, comprising a solder-reservoir, a discharge-nozzle, a passage leading from the bottom of the reservoir upward and onward to such discharge-nozzle, means for maintaining elastic-fluid pressure in excess of atmospheric pressure, and a passage leading from the source of such fluid-pressure into the upper side of the above-mentioned passage for communicating such pressure to the solder in the latter.

7. In a soldering-machine, in combination with a nozzle for delivering a jet of solder; a solder-reservoir comprising a plurality of chambers communicating with each other successively at the lower part, the last of said chambers having communication with the nozzle and the first having

an opening through which the solder-supply may be maintained and means for heating the chambers.

8. In a can-soldering machine, in combination with means for delivering a jet of molten solder, means for moving the can to expose it to such jet; a solder-reservoir comprising a plurality of chambers communicating with each other successively at the lower part and means for heating the chambers.

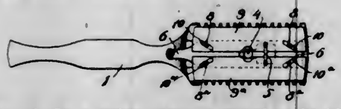
9. In a soldering-machine, in combination with a nozzle for delivering a jet of solder, a solder-reservoir and means for heating it; a duct leading from the reservoir to the nozzle; a valve for controlling the nozzle's discharge having its chamber forming part of the duct of communication from the solder-reservoir to the nozzle, said duct leading from the lower part of the reservoir upward for connection with the valve-chamber, and a passage leading into said solder-duct trending forward at its communication therewith, and downward to said forwardly-trending portion, and connections from a source of elastic-fluid pressure to said passage.

842,927. SAFETY-RAZOR. ALONZO A. WARNER, New Britain, Conn., assignor to Landers, Frary & Clark, New Britain, Conn., a Corporation of Connecticut. Filed Jan. 23, 1906. Serial No. 297,397.



Claim.—In a safety-razor, a base, a screw-threaded binding-post carried thereby, a blade supported thereon, said binding-post passing through said blade, a combined spring and guard member resting upon said blade, said binding-post passing through said guard member, a handle, one end of said handle resting upon said guard member, said binding-post passing through said handle portion, and means independent of the handle to vary the tension of the spring member upon said blade, and modify and adjust the relative position of the guards and blade edges consisting in a nut engaging the screw-threaded portion of the binding-post.

842,928. SAFETY-RAZOR. ALONZO A. WARNER, New Britain, Conn., assignor to Landers, Frary & Clark, New Britain, Conn., a Corporation of Connecticut. Filed Feb. 24, 1906. Serial No. 302,697.

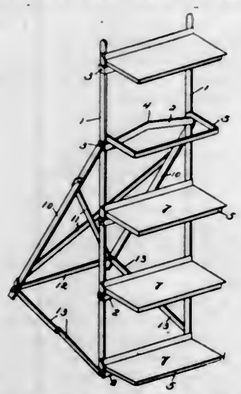


Claim.—1. In a safety-razor, a guard or backing member, guard-tongues at opposite edges thereof, two independent blades providing cutting edges adjacent to the guard members at each edge of the backing member, means for moving simultaneously said blades toward or away from each other for causing said cutting edges to project more or less, as desired, relatively to the guard-edges, said means consisting of an adjusting member positioned between the guard member and clamping-plate and provided with a series of pins engaging in slots in each of said blades.

2. In a safety-razor, a backing or guard member, an abutment thereon and extending transversely thereof, a blade notched to engage said abutment and laterally movable relatively to said backing member, an adjusting device longitudinally movable relatively to said backing member, a guide-pin carried by said adjusting device, a cam-groove in said blade into which said guide-pin projects, all arranged whereby when the adjusting member is moved longitudinally the blade will be moved laterally to expose more or less of its cutting edge, and means for clamping said parts rigidly in any desired position of adjustment.

3. In a safety-razor, a handle having a backing portion with guard-teeth arranged along opposite edges and disposed on opposite sides of the longitudinal axis of the handle, and a longitudinal groove, an adjusting member located in said groove, and means for clamping a blade to the backing portion.

842,929. DISPLAY-RACK. EDWARD B. WESTON, Dayton, Ohio. Filed June 9, 1906. Serial No. 321,066.



Claim.—1. In a display-rack, the combination with metallic side standards and open metallic frames hinged thereto, of cross-braces for the standards to serve as a support for the metallic frames with the middle portion of the cross-braces raised to a level with the supporting edge of the frames when extended, substantially as described.

2. In a display-rack, the combination with metallic side standards and open metallic frames hinged thereto, of cross-braces for the standards to serve as a support for the metallic frames with the middle portion of the cross-braces raised to a level with the supporting edge of the frames when extended, said frames turned downward at their inner ends and hinged on the rivets for the cross-braces, substantially as described.

3. In a display-rack, the combination with metallic side standards and open metallic frames hinged thereto, of cross-braces for the standards to serve as a support for the metallic frames with the middle portion of the cross-braces raised to a level with the supporting edge of the frames when extended, and metallic shelves to rest on said frames and cross-braces, with flanges thereon to embrace the side standards to hold the shelves in place.

4. In a display-rack, the combination with metallic side standards and open metallic frames hinged thereto, of cross-braces for the standards to serve as a support for the metallic frames with the middle portion of the cross-braces raised to a level with the supporting edge of the frames when extended, said frames turned downward at their inner ends and hinged on the rivets for the cross-braces, and metallic shelves to rest on said frames and cross-braces, with flanges thereon to embrace the side standards to hold the shelves in place.

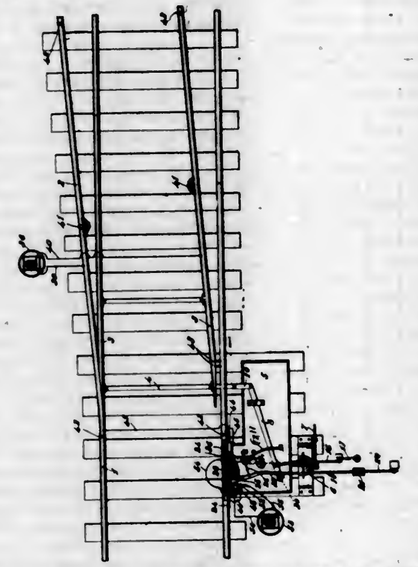
842,930. RAILWAY-SWITCH. THOMAS K. WILSON, Chillicothe, Ohio. Filed Nov. 18, 1905. Serial No. 288,000.

Claim.—1. The combination with a switch, of means for opening the switch, means for locking the switch in open position, and means operated in the movement of the train upon the track to release said lock, said means serving to actuate an auxiliary locking means for the switch.

2. The combination with a switch, of means for manually opening said switch, means for locking the switch in open position, train-operated means for releasing the lock, and means for rendering the train-operated means non-effective to release the lock.

3. The combination with a switch, of means for locking the switch in open position, train-operated lock-releasing means, and automatic means for rendering the releasing means non-effective.

4. The combination with a switch, of means for locking the switch in open position, train-operated lock-releasing means, and automatic means for rendering the releasing means non-effective, said means being operative only when the switch is open.



5. The combination with a switch, of means for locking said switch in open position, and auxiliary means for locking the switch in open position during the travel of the train thereon, said latter means releasing the first-mentioned locking means.

6. The combination with a switch, of means for normally locking the switch in open position, and electrically-operated auxiliary locking means to hold the switch in open position to the exclusion of the normal locking means.

7. The combination with a switch, of means for normally locking the switch in open position, electrically-operated auxiliary locking means to hold the switch in open position to the exclusion of the normal locking means, said auxiliary locking means including a normally closed circuit, and a normally open circuit, the closed circuit being adapted to be shunted by the passage of the train to permit closing of the open circuit.

8. The combination with a switch, of an operating-lever therefor, means for setting the lever to open the switch, means for resetting the lever to close the switch, means for locking the lever in set position, track-operated means to release the lock, and auxiliary locking means operated by the passage of a train to prevent resetting of the lever under the influence of the train-operated means.

9. The combination with a switch, of an operating-lever therefor, means for setting the lever to open the switch, means for resetting the lever to close the switch, a lock to hold the lever in set position, train-operated means to release the lock, and electrically-operated auxiliary locking mechanism for the lever whereby to maintain said lever in set position without regard to the operation of the train-operated means.

10. The combination with a switch, an operating-lever therefor, means for setting the lever to open the switch, means for resetting the lever to close the switch, a lock for maintaining the lever in set position, means for releasing the lock, and electrically-energized train-operating means for locking the lever in set position during the passage of the train onto or from the switch, said latter means releasing the first-mentioned locking means.

11. The combination with a switch, an operating-lever therefor, a catch for locking said lever in set position to maintain the switch open, means connected with the catch to release the same in the passage of a train on the track, and a power-latch to engage the operating-lever during the passage of a train to or from the switch.

12. The combination with a switch, an operating-lever therefor, a catch for locking said lever in set position to maintain the switch open, means connected with the catch to release the same in the passage of a train on the track, and an electrically-operated power-latch to engage the operating-lever during the passage of a train to or from the switch.

13. The combination with a switch, an operating-lever therefor, a catch for locking said lever in set position to maintain the switch open, means connected with the catch to release the same in the passage of a train on the track, and an electrically-operated power-latch to engage the operating-lever during the passage of a train to or from the switch, said power-latch releasing the operating-lever from the main latch.

14. The combination with a switch, of an operating-lever therefor, a main latch for locking said lever in set position, train-operated means for disengaging said latch from the lever, and electrically-operated means for disengaging said main latch from the lever and simultaneously locking the lever against return to normal position.

15. The combination with a switch, of an operating-lever therefor, a main latch for locking said lever in set position, train-operated means for disengaging said latch from the lever, and electrically-operated means for disengaging said main latch from the lever and simultaneously locking the lever against return to normal position, said latter means being operated by the passage of a train to or from the switch.

16. The combination with a switch and an operating-lever therefor, a main latch for locking said lever in set position, train-operated means for releasing said latch, a power-latch, electrically-operated means to move the power-latch into engagement with the lever and simultaneously disengage the main latch therefrom, said means including a normally closed track-circuit, and a normally open latch-circuit in the track-circuit and adapted to be closed by the passage of a train to or from the switch.

17. The combination with a switch, of an operating-lever therefor, a main latch for locking the lever in set position, a power-latch adapted in operation to engage and release the main latch and simultaneously lock the lever against movement, an electromagnet connected with the power-latch, a circuit including said magnet and having spaced terminal contacts, a closed circuit including the track, a relay included in said circuit, a lever connected to the armature of said relay, and a bridge-piece connected to said lever and arranged above the spaced contacts of the electromagnet-circuit, said closed circuit being shunted in the passage of the train to or from the switch to de-energize the relay and close the electromagnet-circuit.

18. The combination with a switch, of an operating-lever therefor, a main latch to lock the lever in set position, a power-latch adapted to release the main latch and simultaneously lock the lever against resetting movement, a normally open circuit including an electromagnet connected to the power-latch, and a normally closed circuit including a relay and the track-rails, said closed circuit being shunted from the relay in the passage of a train to or from the switch, and means operated by the relay to close the normally open circuit and operate the power-latch upon the deënergizing of said relay.

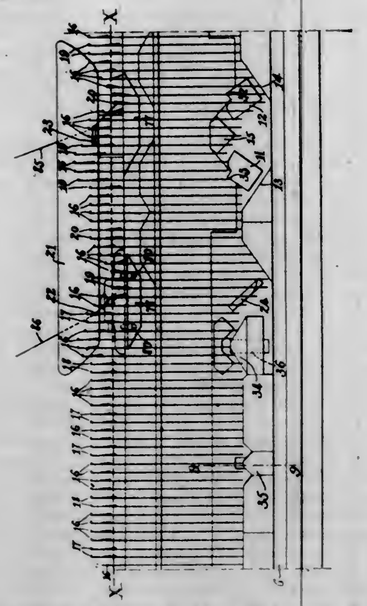
19. The combination with a switch, of an operating-lever therefor, a main latch for locking said lever in set position, a power-latch for releasing the main latch and locking the lever against resetting movement, a normally open latch-circuit including an electromagnet connected with the latch, a normally closed track-circuit including a relay and the track-rails, said track-circuit being shunted from the relay in the passage of a train on the track, and a gravity-operated connection to close the latch-circuit upon the deënergizing of the relay.

20. The combination with a switch, of an operating-lever therefor, a main latch for locking sail lever in set position, a

power-latch for releasing the main latch and locking the lever against resetting movement, a normally open latch-circuit including an electromagnet connected with the latch, a normally closed track-circuit including a relay and the track-rails, said track-circuit being shunted from the relay in the passage of a train on the track, and a gravity-operated connection to close the latch-circuit upon the deënergizing of the relay, said relay being energized and the latch-circuit broken after the passage of the train beyond the circuit including rails whereby to release the operating-lever from the influence of the power-latch.

21. The combination with a switch, of an operating-lever therefor, a main latch for locking said lever in set position, a power-latch for releasing the main latch and locking the lever against resetting movement, a normally open latch-circuit including an electromagnet connected with the latch, a normally closed track-circuit including a relay and the track-rails, said track-circuit being shunted from the relay in the passage of a train on the track, and a gravity-operated connection to close the latch-circuit upon the deënergizing of the relay, said latch-circuit being of higher voltage than the track-circuit.

842,931. KNITTING-MACHINE. HARRY C. ABERLE, Philadelphia, Pa. Filed Mar. 28, 1901. Serial No. 200,242.



Claim.—1. In a knitting-machine, the combination with the needles, their support and two thread-feeds, of means for actuating the needles to effect their operation upon the threads, means for automatically causing certain of the needles at certain intervals to produce stitches by but one thread and at other intervals to produce stitches by both threads, and means for automatically causing certain other of the needles to produce stitches by but one thread continuously.

2. In a knitting-machine, the combination with the needles having long butts, the needles having short butts, their support and two thread-feeds, of means for automatically causing certain of the long-butt needles at certain intervals to produce stitches by but one thread and at other intervals to produce stitches by both threads, and means for automatically causing certain of the short-butt needles to produce stitches by but one of the threads continuously.

3. In a knitting-machine, the combination with the needles having long butts and latches of a certain length, the needles having long butts and shorter latches, the needles having short butts and latches of a certain length, the needles having short butts and shorter latches, their support and two thread-feeds, the cam-carrier, actuating means therefor and a stitch-cam for each thread-feed to effect the operation of the needles upon the threads, means for raising the needles after they have been acted upon by each stitch-cam so that certain of the long-butt needles having the shorter latches will escape their engaged loops of thread, a cam carried by the cam-carrier in advance of one of the stitch-cams whereby all the needles are raised to disengage their latches from their engaged loops of thread, a movable cam carried by the cam-carrier in advance of the other stitch-cam whereby certain of the long-butt needles having long latches are raised to disengage their latches from their engaged loops of thread, and means for moving said movable cam into and out of action.

4. In a knitting-machine, the combination with the needles having long butts and latches of a certain length, the needles having long butts and shorter latches, the needles having short butts and latches of a certain length, the needles having short butts and shorter latches, their support and two thread-feeds, the cam-carrier, actuating means therefor, and a stitch-cam for each thread-feed to effect the operation of the needles upon the threads, means for raising the needles after they have been acted upon by each stitch-cam so that certain of the long-butt needles having the shorter latches will escape their engaged loops of thread, a cam carried by the cam-carrier in advance of one of the stitch-cams whereby all the needles are raised to disengage their latches from their engaged loops of thread, a movable cam carried by the cam-carrier in advance of the other stitch-cam whereby certain of the long-butt needles having long latches are raised to disengage their latches from their engaged loops of thread, and means for moving said movable cam into and out of action.

5. In a knitting-machine, the combination with the needles having long butts and latches of a certain length, the needles having long butts and shorter latches, the needles having short butts and latches of a certain length, the needles having short butts and shorter latches, their support and two thread-feeds, the cam-carrier, actuating means therefor and a stitch-cam for each thread-feed to effect the operation of the needles upon the threads, means for raising the needles after they have been acted upon by each stitch-cam so that certain of the long-butt needles having the shorter latches will escape their engaged loops of thread, a cam carried by the cam-carrier in advance of one of the stitch-cams whereby all the needles are raised to disengage their latches from their engaged loops of thread, a movable cam carried by the cam-carrier in advance of the other stitch-cam whereby certain of the long-butt needles having the longer latches are raised to disengage their latches from their engaged loops of thread, means for moving said movable cam into and out of action, and a second movable cam carried by the cam-carrier in advance of the last-named stitch-cam and adapted when in one position to raise the needles so that all the needles will escape their engaged loops of thread and when in another position to permit the latches of the short-butt needles to remain in their engaged loops of thread.

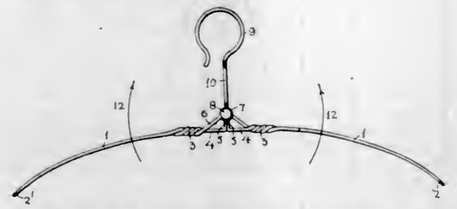
6. In a knitting-machine, the combination with the needles having long butts and latches of a certain length, the needles having long butts and shorter latches, the needles having short butts and latches of a certain length, the needles having short butts and shorter latches, their support, two thread-feeds, the cam-carrier, actuating means therefor and a stitch-cam for each thread-feed to effect the operation of the needles upon the threads, means for raising the needles after they have been acted upon by each stitch-cam so that certain of the long-butt needles having the shorter latches will escape their engaged loops of thread, a cam carried by the cam-carrier in advance of one of the stitch-cams whereby all the needles are raiseed to disengage their latches from their engaged loops of thread, a movable cam carried by the cam-carrier in advance of the other stitch-cam whereby certain of the long-butt needles having the longer latches are raised to disengage their latches from their engaged loops of thread, means for moving said movable cam into and out of action, and a second movable cam carried by the cam-lever in advance of the last-named stitch-cam and adapted when in one position to raise the needles so that all the needles will escape their engaged loops of thread and when in another position to permit the latches of the short-butt needles to remain in their engaged loops of thread.

7. In a knitting-machine, the combination with the needles having short latches, the needles having long latches, their support and two thread-feeds, of a stitch-cam for each thread-feed to effect the operation of the needles upon the threads, means for raising the needles to clear certain of their short latches of their engaged loops of thread after they have been acted upon by each stitch-cam, a cam carried by the cam-carrier in advance of one of the stitch-cams whereby all the needles are raised to clear their latches of their engaged loops of thread, a movable cam carried by the cam-carrier in advance of the other stitch-cam whereby certain of the needles having long latches are raised to clear their latches of their engaged loops of thread, and means for moving said movable cam into and out of action at substantially the same point in its path of rotation.

8. In a knitting-machine, the combination with the needles having short latches, the needles having long latches, the needles having latches of an intermediate length, their support and two thread-feeds, of a stitch-cam for each thread-feed to effect the operation of the needles upon the threads, means for raising the needles to clear their short latches of their engaged loops of thread after they have been acted upon by each stitch-cam, a cam carried by the cam-carrier in advance of one of the stitch-cams whereby the needles are raised to clear all their latches of their engaged loops of thread, a movable cam carried by the cam-carrier in advance of the other stitch-cam and adapted when in one position to raise the needles to clear the latches of the intermediate length of their engaged loops of thread and when in another position to raise the needles to clear all their latches of their engaged loops of thread, and means for moving said movable cam to an inoperative position and to the two positions above named.

9. In a knitting-machine, the combination with the needles, their support, the sinkers, their support, two thread-feeds, a stitch-cam for each thread-feed to effect the operation of the needles upon the threads and a sinker-cam for each stitch-cam to effect the operation of the sinkers upon the knitted fabric, of means adapted to be operated to move one of the stitch-cams into and out of operative position and means adapted to be operated to move one of the sinker-cams into and out of operative position.

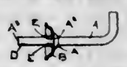
842,932. GARMENT-HANGER. FRANK BEMENT, Worcester, Mass., assignor to The Wire Goods Company, Worcester, Mass., a Corporation of Massachusetts. Filed Aug. 18, 1904. Serial No. 221,305.



Claim.—In a garment-hanger, the combination of a pair of duplicate arms each formed from a single piece of wire bent upon itself to form a loop and being united near its ends, with the ends of each wire slightly separated and with one end bent to form a circular eye, and with the other end bent at an angle and flattened to form a contacting tip opposite the center of said eye, a suspension-hook provided at one end with a circular eye inserted between the eyes of said arms and a pivotal pin passing through and uniting said eyes.

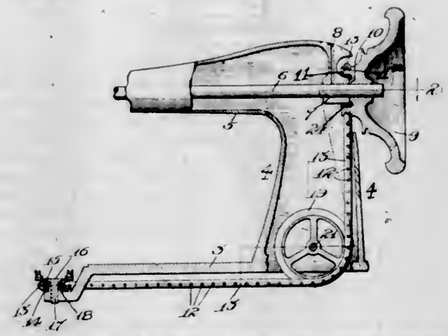
842,933. HOOK. WILLIAM O. BEMENT, Worcester, Mass., assignor to The Wire Goods Company, Worcester, Mass., a Corporation of Massachusetts. Filed Jan. 2, 1902. Serial No. 88,115.

Claim.—1. As an article of manufacture, a hook provided with a shoulder, a cup-shaped washer held on said hook with its convex side bearing against said shoulder, and a spur radially projecting from the side of said hook and inclosed within the concave side of said washer.



2. As an article of manufacture, a hook consisting of a single piece of wire provided with a screw-threaded tip at one end and a hooked section at the opposite end, a raised shoulder between the tip and the hooked section, a concaved washer held on the wire with its convex side against said shoulder, and a pair of radially-projecting spurs integral with the wire and inclosed within the concave side of said washer.

842,934. SEWING-MACHINE. JAMES BOLTON and JOHN WEISS, Chicago, Ill. Filed July 10, 1905. Serial No. 268,986.

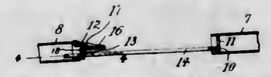


Claim.—1. In a sewing-machine, the combination with the power-shaft, a pulley thereon, a pair of plain pulleys below the same, a shuttle-carrier or hook and a pulley directly attached thereto, of an endless belt mounted upon said pulleys, whereby a shuttle-carrier or hook is directly and wholly actuated from the power-shaft by a belt, substantially as described.

2. In a sewing-machine, the combination with a power-shaft, shuttle-carrier or hook and an endless belt directly connecting said belt and carrier, of pulleys supporting and directing said belt at a point intermediate to power-shaft and hook or carrier, substantially as described.

3. In a sewing-machine, the combination with a power-shaft, a hook or shuttle-carrier and an endless belt directly connecting said hook and carrier, of converging pulleys supporting and directing said belt at a point intermediate to power-shaft and hook or carrier, substantially as described.

842,935. BRACELET. JOSEPH BULOVA, New York, N. Y. Filed July 25, 1906. Serial No. 327,610.



Claim.—1. A bracelet composed of a pair of hinged sections, a catch on one of said sections, and a spring-arm having an integral perforated foot set back in the other section and adapted to be engaged by said catch, substantially as specified.

2. A bracelet composed of a pair of hinged sections, a tube having a cross-bar on one of said sections, a catch secured to the cross-bar, and a spring-arm engaging the tube and having an integral perforated foot set back in the other section, substantially as specified.

842,936. WINDOW-SHADE ROLLER. CHARLES B. CASE, Indianapolis, Ind. Filed May 23, 1906. Serial No. 318,420.

Claim.—1. The combination of a window-shade, a hollow casing, a shade-roller attached to the lower end of the

shade and pivotally mounted within the casing, a rod forming one of the pivots on which the roller is mounted, a spring wound around the rod and having one end made fast to the rod and the other to the roller, radial arms projecting from the roller, and a wire mounted in the casing having a bent end projecting in the path of said arms to form a stop and terminating at its other end in a handle extension outside of the casing.

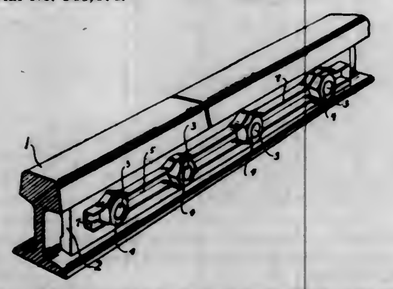


2. The combination of a window-shade, a hollow casing, a shade-roller attached to the lower end of the shade and pivotally mounted within the casing, a rod forming one of the pivots on which the roller is mounted, a spring wound around and having one end made fast to the rod and the other to the roller, projections on the roller which extend beyond its periphery, a stop extending parallel with and terminating near the longitudinal center of said roller for engaging and disengaging the said projections, and means attached to said pivoted rod for regulating the tension of the spring in said roller.

3. The combination of a window-shade, a hollow casing, a shade-roller attached to the lower end of the shade and pivotally mounted within the casing, a rod forming one of the pivots on which the roller is mounted, a spring wound around the rod having one end made fast to the rod and the other to the roller, radial arms projecting from the roller at one of its ends, a stop operated from the middle of the casing on the outside of the latter for engaging and releasing the said arms, means attached to said pivot-rod for regulating the tension of the spring in the roller and a removable cap inclosing said tension device.

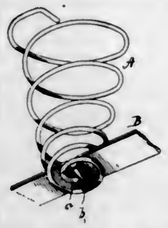
4. The combination of a window-shade, a hollow casing, a shade-roller attached to the lower end of the shade and pivotally mounted within the casing, a rod having one of its ends slotted to form one of the pivots on which the roller is mounted, a spring wound around the rod having one end made fast to the rod and the other to the roller, means for locking the roller to the casing, a ratchet-wheel mounted on said pivot-rod on the longitudinally-slotted end of the latter, said ratchet-wheel having notches in alinement with the slotted end of the rod, and a wing-plate inserted in the slotted end of the rod having projections entering the notches in the ratchet-wheel and a pin securing the plate to the rod.

842,937. NUT-LOCK. DAVID C. CHADDOCK, Wooster, Ohio. Filed July 17, 1905. Renewed Dec. 18, 1906. Serial No. 348,474.



Claim.—In a nut-lock of the class described, a series of bolts having heads and screw-threaded portions, nuts located upon the bolts, a locking-plate located upon the series of bolts and back of the nuts, said locking-plate provided with nut-locking flanges formed of a length equal to the length of the locking-plate, said locking-flanges formed of bendable material and adapted to be bent into contact with the different angularities of the edge faces of the series of nuts upon the bolts, substantially as and for the purpose specified.

842,938. FURNITURE-SPRING. BURT A. CHUBBUCK, Medina, N. Y. Filed May 9, 1906. Serial No. 315,970.



Claim.—The combination of a band having a projection, and a spring having a coil that encircles the projection and engages the projection on the same side of the band on which it encircles it, and on which the projection is situated, the portion of the spring that engages the projection being an inturned part of said encircling coil whose tip lies in the same plane as and engages the projection, the spring being applied to the band by the band being slipped sidewise between the coils thereof away from the coil having the projection-engaging tip, and the spring revolved until the band and its projection are situated in the coil having the inturned projection-engaging part.

842,939. MACHINE FOR REMOVING WATER-HAIRS FROM PELTS. GUSTAV CIMIOTTI, New York, N. Y. Filed Nov. 9, 1905. Serial No. 286,605.



Claim.—1. In a machine for removing water-hairs from pelts, the combination of a platform, a pelt-carrying apron movable in contact with said platform, and means for heating said platform.

2. In a machine for removing water-hairs from pelts, in combination, a platform constructed to contain a liquid, means to heat such liquid, and a pelt-carrying apron movable over said platform.

3. In a machine for removing water-hairs from pelts, a platform, a pelt-carrying apron movable over the upper surface of said platform, and means to heat said platform upon its lower surface.

4. The combination, with a hollow platform constituting a liquid-receptacle, of burners arranged beneath said platform, a pelt-carrying apron movable over the upper surface of the latter, and a pelt-wiping device above said platform.

5. In a machine for removing water-hairs from pelts, an apron-supporting platform, and springs beneath said platform and upon which the same rests directly.

6. A machine for removing water-hairs from pelts, including an apron-supporting platform, springs to sustain the same, and means to vary the tension of said springs.

7. In a machine for removing water-hairs from pelts, in combination, an endless pelt-carrying apron, means to yieldingly sustain the same at one point, and a yielding wiper device to coöperate with said apron at such point.

8. In a machine for removing water-hairs from pelts, a rotary wiper-drum having a plurality of longitudinally-disposed sockets in its periphery, and wipers seated in said sockets and arranged in staggered relation.

9. In a machine for removing water-hairs from pelts, a rotary wiper-drum having a plurality of recesses or sockets extending from end to end, wipers seated in said sockets and arranged in longitudinal rows, and solid portions extending between the wipers in each of said rows.

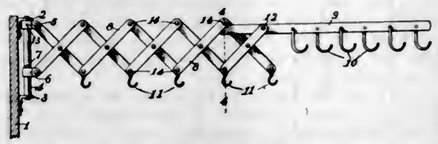
10. A wiper-drum having a socket therein, a spring-cushioned wiper seated in said socket, and adjustable means secured to said wiper and extending through the inner wall of said socket to limit the outward movement of said wiper.

11. A wiper-drum having a socket therein, a spring-cushioned wiper seated in said socket, and a screw screwed into said wiper and passing loosely through the inner wall of said socket, the head of said screw being arranged at the side of said wall which is opposite said wiper.

12. In a machine for removing water-hairs from pelts, a wiper-drum having a socket therein, there being an opening in the inner wall of said socket, a wiper in said socket, a screw extending through said opening and having its shank screwed into said wiper, the head of said screw being disposed toward the center of the drum and acting as a stop to limit the outward movement of said wiper, and a helical spring embracing the shank of said screw and interposed between said wiper and the inner wall of said socket.

13. A machine for removing water-hairs from pelts, comprising in its construction a supporting-frame, a platform supported thereon, burners arranged beneath said platform, rollers journaled in the lower part of said frame, a pelt-carrying apron passing over said platform and said rollers, a pelt-wiping device above said platform, apron-driving mechanism, and an operative connection between said mechanism and said pelt-wiping device.

842,940. WARDROBE-HANGER. VICTOR E. CLARK, Grand Rapids, Mich., assignor of one-half to Joseph R. McCargar, Grand Rapids, Mich. Filed Apr. 21, 1906. Serial No. 313,028.



Claim.—1. A wardrobe-support comprising a lazy-tongs structure, means for attaching one end of the same to a support, a bar extending horizontally outward from the lazy-tongs and pivotally attached to one member of the lazy-tongs and also slidably engaging another member of the same, and means for suspending articles by the bar.

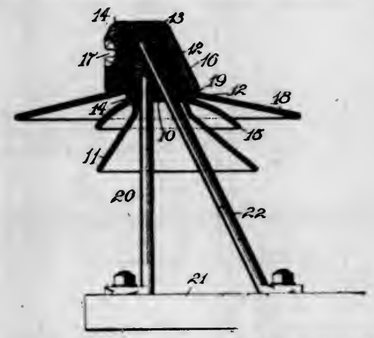
2. A wardrobe-support, comprising a vertical post, a clip fixed on the post, a clip slidable on the post, a lazy-tongs structure pivotally attached to the clips and rotative about the axis of the post, a bar extending horizontally outward from the lazy-tongs and pivoted to one member of the lazy-tongs and also slidably engaging another member of the same, and means for suspending articles from the bar.

3. A wardrobe-support, comprising a lazy-tongs structure having its members spaced apart, shouldered pivot-pins connecting said members, means for attaching one end of said structure to a support, a bar pivoted to one of the outer members of the lazy-tongs and slidably engaging the shouldered pivot-pins, and hooks on said bar.

4. A wardrobe-support comprising a lazy-tongs structure having its members spaced apart, shouldered pivot-pins connecting said members, means for pivotally attaching one end of said structure to a support, a horizontally-disposed bar pivoted to the upper end of the outer member of said structure and outwardly extended therefrom, the other end of said bar being inwardly extended and sliding between the said members and also engaging the under side of the upper pivot-pins.

5. In a wardrobe-support, brackets adapted to be attached to a support, a vertical post supported by the brackets, a clip fixed on the upper end of the post, a clip slidable on the lower end of the post, a stop engaging the slidable clip, a lazy-tongs structure pivoted to said clips and having its members spaced apart, shouldered pivot-pins connecting said members, a bar pivoted to the outer member of the lazy-tongs and projecting oppositely therefrom, and also having the inner end extended between the lazy-tongs member and engaging said pivot-pin, and hooks on said bar.

842,941. INSULATOR. WALTER G. CLARK, New York, N. Y. Filed Jan. 29, 1906. Serial No. 298,553.



Claim.—1. The combination with a wire-carrying insulator elongated in the direction of the wire strain or tension thereon, of bracing means extending into the insulator on the general line of said elongation.

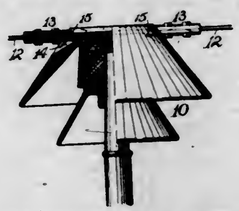
2. As an improved article of manufacture, a wire-carrying insulator elongated or broadened transversely in the direction of the strain or tension upon it.

3. The combination with the insulator and its support, said insulator having means for attaching a wire to one side thereof, of an angle-brace extending into the insulator to a point opposite the wire-attaching means.

4. The combination with an insulator having a wire-receiving opening or cut along one side, of a brace or support extending into the insulator and projecting outward diagonally and on the opposite side from the said wire-opening.

5. The combination with an insulator having a wire-opening on one side and having its body elongated in the direction of its strain, of a bracing-support entering the insulator at an angle to its axis and extending opposite the wire-receiving opening.

842,942. WIRE-INSULATOR. WALTER G. CLARK, New York, N. Y. Filed Jan. 29, 1906. Serial No. 298,554.



Claim.—1. The combination with an insulator having an overhanging upper edge, of wire-clamps adapted to be secured to a wire and engage the insulator beneath the said overhang.

2. A structure such as described comprising an insulator with a top groove and with overhanging edges adjacent to the groove ends in combination with wire-clamps to engage a wire and fit beneath the aforesaid overhang.

3. An insulator having a top groove and sockets in the outer sides, at the ends of and in alinement with the groove.

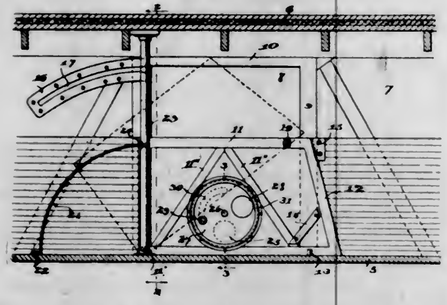
4. The combination with an insulator having peripheral overhanging or projecting edges, of ball-like clamps to engage a wire and fit beneath the said overhang.

5. The combination with an insulator having a grooved top and ball-sockets at the ends of the grooves, and on the outer sides of the insulator, of ball-like wire-clamps to engage a wire and fit in the aforesaid sockets.

6. The combination with an insulator constructed to receive a wire, and having sockets on its outer sides, of clamps constructed to fit bodily over a wire, and form abutments to enter the aforesaid sockets.

7. The combination with an insulator having ball-like sockets in its outer sides, of ball-like clamps adapted to fit bodily over a wire and enter the aforesaid sockets.

842,943. GRAIN-DOOR FOR RAILWAY-CARS. NOBLE H. CONGER, Chicago, Ill., assignor, by mesne assignments, to The Ostermann Manufacturing Co., Chicago, Ill., a Corporation of South Dakota. Filed July 27, 1905. Serial No. 271,448.

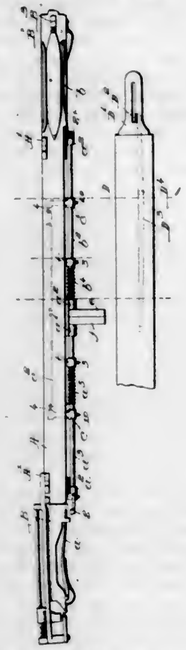


Claim.—1. In a railway-car, the combination of a wall of the car-body having a doorway, and a grain-door pivotally mounted at one side of said doorway and adapted to be swung parallel to the wall of said car-body across said doorway to retain grain or other lading in the car or to be removed therefrom, said door being of such length as to constantly overlap at least two edges of said doorway in its opening movement, substantially as described.

2. In a railway-car, the combination of a wall of the car-body having a doorway, and a grain-door pivotally mounted at one of its lower corners adjacent to one of the lower corners of said doorway, said door being adapted to be swung parallel to the wall of the car-body across said doorway to retain grain or other lading in the car or to be removed therefrom, said door being of such length as to constantly overlap at least two edges of said doorway in its opening movement, substantially as described.

3. In a railway-car, the combination of a wall of the car-body having a doorway, a grain-door pivotally mounted at one of its lower corners adjacent to one of the lower corners of said doorway, said door being adapted to be swung parallel to the wall of the car-body across said doorway to retain grain or other lading in the car or to be removed therefrom, said door being of such length as to constantly overlap at least two edges of said doorway in its opening movement, a guide for said door comprising a quadrant-rod, a post, said rod being parallel to the wall of the car-body and fastened at one end to the floor of the car and at its other end to said post, and an eyebolt secured to said door and coöperating with said rod, substantially as described.

842,944. PROTECTOR AND SMASH-PREVENTING MECHANISM FOR LOOMS. RANDOLPH CROMPTON, Worcester, Mass., assignor to Crompton-Thayer Loom Company, Worcester, Mass., a Firm. Filed May 19, 1906. Serial No. 317,661.



Claim.—1. A lay having two protector-rods each provided with a dagger and with a finger coacting with the usual binder, and means to turn the protector-rods to place the daggers alternately in their inoperative positions.

2. In a loom, a knock-off mechanism combined with a lay having two protector-rods, each provided with a dagger and a finger, the finger coacting with the usual binder, and means to move the protector-rods independently to lower that dagger which is next to the end of the lay from which the shuttle starts.

3. In a loom having a series of drop-boxes provided with binders, a protector-rod having a finger coacting with each of said binders, and a dagger, and means to turn said rod independently of the binder to put its dagger in position to enable the loom to continue in operation in case the shuttle coming into the empty cell of the movable shuttle-box fails to be properly boxed.

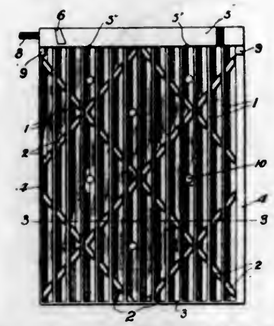
4. In a loom, a lay having drop-boxes at one end thereof and a single box at its opposite end, said boxes having usual binders, a pair of protector-rods each provided with a dagger, and means independent of the binders to place one of said daggers in position to stop the loom in case the operative places a shuttle in any box except that from which the shuttle to be replaced was taken.

5. In a loom having drop shuttle-boxes at one end, a protector-rod having a dagger that is put into loom-starting position in case the shuttle is absent from the shuttle-box, and independent means for moving said protector-rod to stop the loom in case the shuttle has not been applied to its proper cell before starting the loom.

842,945. BATTERY ELEMENT. FRANK A. DECKER, Philadelphia, Pa., assignor, by mesne assignments, to Decker Electrical Manufacturing Company, Wilmington, Del. Filed Feb. 1, 1906. Serial No. 298,960.

Claim.—1. A molded and baked carbon primary battery-plate having a corrugated body provided with edge and interior bracing members the interior bracing members being diagonally disposed to the corrugations.

2. A molded and baked carbon battery-plate having a perforated body with corrugated surfaces and bracing members diagonally disposed with reference to said corrugations.



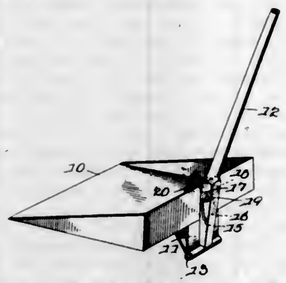
3. A battery-plate of molded and baked carbon having a nut embedded therein, a hole in said element passing through said nut, and a metal screw in said hole engaging said nut and element.

4. A negative battery-plate comprising a thin body having an enlarged top with a long, horizontally-disposed hole extending therein parallel to said body, and a long metal conductor disposed in said hole.

5. A molded and baked carbon battery-plate having a screw-threaded hole therein and extending along an edge thereof, in combination with a screw-threaded conducting-rod of metal adapted to fit in said hole.

6. A carbon battery-plate having a corrugated body whose cross-sectional area increases between its bottom and top, in combination with a metal rod disposed horizontally in said top.

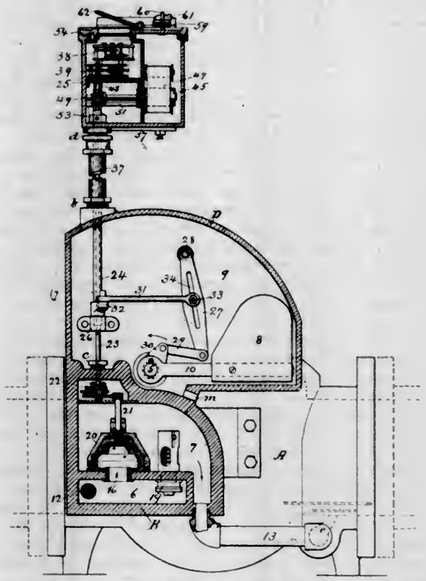
842,946. FOLDING DUST-PAN. JAMES A. DELANEY and JOHN LAWSON, Orange, Mass. Filed May 24, 1906. Serial No. 318,587.



Claim.—A dust-pan having a depending rear support, a handle swinging from the terminal of said support, a resilient catch formed from a single piece of wire bent into substantially U shape with coils intermediate the sides and bearing against opposite faces of the handle and with terminals extending into the same, said catch member connected to the handle by fastening elements operating through said coils and the bent portion of said catch member yieldably bearing over the rear portion of the dust-pan to hold the same locked to the handle.

842,947. LEAK-DETECTOR AND METERING MECHANISM. HENRY A. DESPER, Worcester, Mass. Filed Oct. 12, 1904. Serial No. 228,119.

Claim.—1. In combination with a service-pipe, a stop-valve closing in opposition to the flow, a shaft for said valve, a counterweight connected therewith for normally closing said valve, a supplemental chamber with inlet and outlet conduits connected as a by-pass around the valve, a turbine or whirler arranged in said chamber, registering mechanism and paper-feeding mechanism operated by said turbine, a marker coöperating with the paper-feed mechanism, and means for moving said marker actuated from the valve-shaft.



2. In combination, the body-casting having an interior valve-chamber forming a part of the service-pipe, a valve-seat and swinging valve within said chamber, a rockable shaft carrying said valve, a supplemental casing comprising water-pressure chambers and a weight-housing, inlet and outlet conduits for said water-pressure chamber, a turbine or whirler therein, register mechanism comprising a unit-indicating train, a record-strip feed and a recording-marker, dual shafts for operating said register-train and record-marker, connecting-gearing from the turbine-spindle to said register-operating shaft, and means connected with the valve-shaft for actuating the record-marker shaft.

3. In a detector and meter mechanism for fire service-pipes, the combination with the service-pipe, of means for automatically yieldably resisting the flow or current of water therethrough, a by-pass way, a register-operating motor therein, means for registering units of water passing said motor, a record-strip and record-strip-feed devices operated in conjunction with the unit-registering means, a record-marker, and means for actuating said marker deriving motion from said current-resisting means.

4. In apparatus of the character described, the combination, with the main waterway, the valve arranged therein, the by-pass comprising a partition-divided chamber with inflow and outflow compartments, and a turbine-motor arranged in said chamber; of a backwardly-yieldable relief-valve disposed between said compartments, for the purpose set forth.

5. In combination, with unit-registering mechanism, its driving-gearing, operating-shaft and motor therefor; of a series of feed-rolls adapted for advancing a ribbon or strip of paper, a worm-screw carried upon the register-operating shaft, gearing for operating said feed-rolls therefrom, an independently-actuated marker device, its point impinging against one of the feed-rolls, a tubular shaft provided with means for reciprocating said marker, and an inclosing case for said registering and paper-feeding mechanisms, provided with a water-tight closure.

6. In apparatus of the character described, the combination, with the main waterway, a main valve therefor, means tending to close said valve; a registering mechan-

ism, suitable driving-gearing and an operating-shaft therefor, and a motor for rotating said register-operating shaft, of a separately-actuated means in conjunction with said registering mechanism for indicating the position and movements of said main valve.

7. In an apparatus for the purpose specified, in combination with the main service waterway, the supplemental by-pass chamber, the register-actuating turbine therein, and the outlet-conduit therefrom; a guard-plate disposed within said main waterway over the exit-opening of said conduit, and a second guard or directing plate of larger dimension disposed near to and overlying said first guard-plate, substantially as and for the purpose set forth.

8. In apparatus for the purpose specified, the combination with the main waterway, its backwardly-closing main valve, a position-recording marker controlled from said main valve, the by-pass waterway, a registering mechanism operating in connection therewith, and a record-strip carrier coacting with said registering mechanism and marker; of a forwardly-operative backwardly non-operative motor arranged in a chamber on the by-pass and having means for transmitting motion from said motor to the drive-shaft of said registering mechanism.

9. In apparatus for the purpose specified, in combination, a main waterway, a main valve therein, means for automatically closing said main valve, means actuated by said main valve for indicating the position or movement of said valve, a by-pass for a portion of current diverted from the main waterway, a meter-registering mechanism arranged in conjunction with said position-indicating means, and a motor disposed in the by-pass for operating said meter-registering mechanism by the diverted current, said motor comprising a movable member elevatable from the inlet-port seat, for action of the motor by the forward flow therethrough, and depressible onto said seat rendering the motor self-locking or resistant to action by reverse flow of water in the by-pass way.

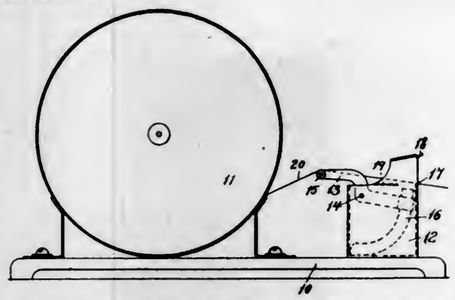
10. An apparatus of the character described, comprising a body-casing having therethrough a direct main waterway with an enlarged removably-capped interior chamber, to accommodate a valve openable out of line from the direct course of the waterway, an inward-projecting valve-seat coincident with said waterway at the inlet side, a valve-hinging shaft across said chamber, a main valve supported by said shaft and closable on said valve-seat, means for automatically resisting opening pressure against said valve, a supplementary waterway for diverting a portion of the current from the main waterway, a position-indicating means connected with the valve-hinging shaft and controlled by movement of the main valve, meter-registering mechanism coacting with said position-indicating means, a meter-operating motor disposed in said supplementary waterway and controlled by a current diverted from the main waterway, and suitable connections for actuating the meter-registering mechanism from said motor.

842,948. STRIP-SERVING DEVICE. STERLING ELLIOTT, Newton, Mass., assignor to National Binding Machine Company, Boston, Mass., a Corporation of Maine. Filed Oct. 12, 1905. Serial No. 282,388.

Claim.—1. An apparatus of the character specified, comprising a tank or reservoir, a moistener pivoted therein and a strip-lifter connected with said moistener to oscilliate therewith, said strip-lifter being adapted to raise the moistener when pressure is exerted thereupon by a pulling movement of the strip.

2. An apparatus of the character specified, comprising a tank or reservoir, a pivoted frame having a bar at one end outside the tank and having a moistener at the other end within the tank, and a support for a coil of paper, whereby a pull upon the strip leading over the said bar will depress that portion of the frame and elevate the moistener against the under side of the strip.

3. An apparatus of the character specified, comprising a tank or reservoir, a pivoted frame having a bar at one end outside the tank and having a moistener at the other end within the tank, and a support for a coil of paper, whereby a pull upon the strip leading over the said bar will depress that portion of the frame and elevate the moistener against the under side of the strip, a support being provided for the strip at a point intermediate the moistener and said bar.



4. An apparatus of the character specified, comprising a tank or reservoir having an opening in its upper surface across which the strip of gummed paper may rest; a moistening device within the tank, and means automatically to raise or lower said moistening device into or out of contact with the strip of paper when the latter is drawn for use or released.

5. A strip-serving device comprising means for delivering a strip, strip-moistening means normally in inactive relation thereto, and means automatically to move said moistening means from inactive to active relation to said strip for moistening the latter for use.

6. In an apparatus of the character specified a tank or reservoir, a moistening device normally in moisture-receiving relation thereto, strip-guiding means and means controlled by draft of the strip for use, to move said moistening device from moisture-receiving relation to strip-moistening relation.

7. In an apparatus of the character specified a tank or reservoir, a moistening device normally in moisture-receiving relation thereto, strip-guiding means and means controlled by draft of the strip for use, to move said moistening device to strip-moistening relation.

8. A strip-serving device comprising means for delivering a suitably-tensioned strip, strip-moistening means normally in inactive relation thereto and means automatically to move said moistening means from inactive to active relation to said strip for moistening the latter for use.

9. A tape-moistener comprising means for restraining, directing and positioning a strip of gummed tape, movable moistening means, and mechanism actuated by said movable moistening means for separating the end of the tape and the surface of said moistening means after the tape has been fed and severed.

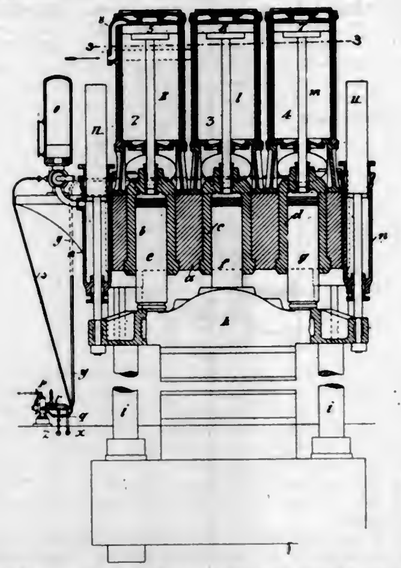
10. A tape-moistener comprising means to restrain, guide and position a strip of gummed tape, movable moistening means, and mechanism connecting the tape therewith, such that varying feeding stress in the tape will change the position of the moistening means with relation to the tape.

11. In an apparatus of the character described, a tank or reservoir, a pivoted moistening device normally in moisture-receiving relation, strip-guiding means, and means controlled by the draft of the strip for use, to move said moistening device to strip-moistening relation.

12. In an apparatus of the character specified, a tank or reservoir, a pivoted moistening device normally in moisture-receiving relation thereto, and means controlled by draft of the strip for use, to move said moistening device to strip-moistening relation.

13. A strip-serving device comprising means for suitably delivering a strip, strip-moistening means normally in inactive relation thereto, and means operatively connected to said strip-moistening means and adapted to be moved by draft of the strip for use, thereby to move the moistening means from inactive to active relation to said strip for moistening the latter in use.

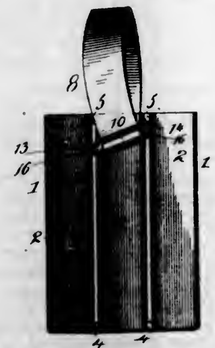
842,949. HYDRAULIC PRESS. BERTHOLD GERDAU, Düsseldorf, Germany. Filed Oct. 11, 1899. Serial No. 733,241.



Claim.—1. In a hydraulic press, the combination of a series of working cylinders with inclosed pistons, a press-bar operated thereby, steam-influenced plungers adapted to directly enter the cylinders, a liquid-inlet pipe communicating with the cylinders, a valve controlling said pipe, an exhaust-pipe, and an outwardly-opening spring-resisted check-valve in the exhaust-pipe and outside of the controlling-valve, substantially as specified.

2. In a hydraulic press, working pistons in connection with a press-bar and steam-actuated plungers to operate said working pistons, means to distribute the steam upon said plungers, return-pistons and pipe connections with a controlling-valve, a throttling-valve upon said pipe connections to regulate the pressure in the working cylinders, and a compressed-air vessel in connection with the return-cylinders, substantially as specified.

842,950. BATTERY-CELL. HUGO GERNSBACK, New York, N. Y., assignor to Royal Battery Company, a Corporation of New York. Filed June 28, 1906. Serial No. 323,943.



Claim.—1. The combination of a plurality of battery-cells, having a spacing-block securing the cells near their tops, and means engaging the said block, for carrying the cells.

2. The combination of a plurality of battery-cells secured together and spaced apart, a rod passing between the cells and a handle secured to the rod for carrying the cells.

3. The combination of a plurality of battery-cells secured together by a spacing member, a rod between the cells and having ends projecting beyond the cells, and a flexible handle secured to the ends of the rod, said rods being adapted to engage the spacing member for carrying the cells, and to be lowered between the cells to secure the handle close to the cells.

4. The combination of a plurality of battery-cells, spaced apart by a spacing member, a rod between the cells, and a flexible handle having loops on the ends thereof, which straddle the ends of said rod, and a pin securing the loops and the rod ends together.

5. The combination of a plurality of battery-cells, spaced apart by a spacing member, a rod between the cells, having a handle provided with loops which straddle the ends of the said rods, the said rods having apertures therethrough, and a pin in the loop and rod-aperture, having a recess engaging the rod, whereby shoulders are formed on the pin which prevent the latter from moving longitudinally.

6. A plurality of battery-cells, spaced apart by spacing-blocks, and a pair of rods between the several cells, and a carrying-handle secured to the ends of said rods on opposite ends of the cells.

7. A plurality of battery-cells, means spacing the cells apart, a plurality of rods (13 and 14) between the several cells, which are adapted to be moved vertically, a carrying-handle, and pins secured to the handle and adapted to engage apertures in the said rods and to secure the handle thereon.

8. A plurality of battery-cells 1, spaced apart by spacing-blocks, a plurality of rods (13 and 14) extending beyond the cells and provided with apertures in their ends, a handle having a loop 10, a pin 15 having projections on each side of the loop and provided with ends which engage with the apertures in the said rods, said rods being slidable vertically.

842,951. VENTILATION OF ELECTRIC MOTORS. GEORGE GIBBS, New York, N. Y. Filed Oct. 25, 1906. Serial No. 340,488.

Claim.—1. In a system of ventilation for electric railway-motors, the combination of a truck provided with one or more motors and having swivel connection with the car, said swivel connection having an air-passage through the same; means for delivering a current of air into the upper end of said air-passage; and means for conducting the current of air from the lower end of the air-passage to the motor or motors; as set forth.

2. In a system of ventilation for electric railway-motors, the combination of a truck having one or more motors and having a swivel connection with the car, said swivel connection having an air-passage through the same; a blower; an air-conduit conducting air from the blower to the upper end of the said air-passage; and one or more pipes connecting the lower end of said air-passage with the motor or motors; as set forth.

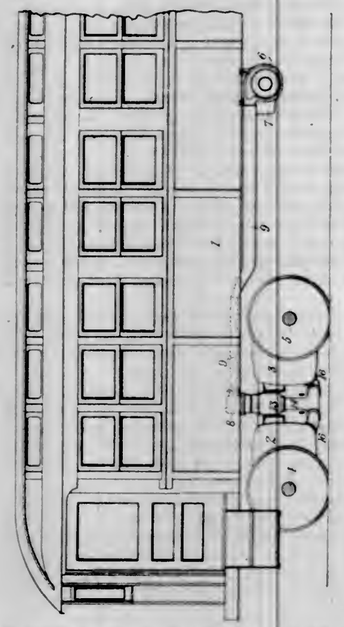
3. In a system of ventilation for electric railway-motors, the combination of a truck provided with one or more motors, a blower, and an air-duct arranged to convey air from the blower to the motor or motors and provided with a flexible portion or portions, as set forth.

4. In a system of ventilation for electric railway-motors, the combination of a car-truck, one or more motors supported in the truck, a blower carried by the car remote from the truck, and an air-duct connecting the blower and the motor or motors, as set forth.

5. In a system of ventilation for electric railway-motors, the combination of a car-bolster having a downwardly-extending hollow pivot, a blower connected with the upper end of said pivot, a truck having an upwardly-extending hollow collar or seat for said pivot, one or more motors carried in the truck, and one or more pipes connecting the motor or motors with the said collar or seat, as set forth.

6. In a system of ventilation for electric railway-motors,

the combination with a train of cars having driving-motors, of blowers carried by the cars, means for conducting air from the blowers to the car-motors, motors for actuating the blowers, and means for controlling the blower-motors from a single point on the train, as set forth.



7. In a system of ventilation for electric railway-motors, the combination with a train of cars having motors, of a blower on each motor-car, connected with the driving motor or motors thereon to cool the same, a motor on each motor-car for driving the blower thereon, means for controlling all the blower-motors on the train from a single point in the train, and means for controlling each blower-motor at will independently of the others, as set forth.

8. In a system of ventilation for electric railway-motors, the combination with a train of cars having driving-motors, of blowers connected with the said motors to cool the same, motors for driving the blowers, and electromagnetic means for controlling the blower-motors, as set forth.

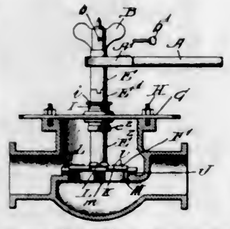
9. In a system of ventilation for electric railway-motors, the combination with a train of cars having driving-motors, of blowers connected with said motors to cool the same, motors for driving the blowers, connected in parallel with each other to the same source of current, means for controlling the circuits of the blower-motors simultaneously from a single point in the train, and means for controlling each blower-motor circuit independently of the others, as set forth.

10. In a system of ventilation for electric railway-motors, the combination of a blower, a motor for driving the same, in circuit with a source of current, separated contacts in said circuit, and electromagnetic means for closing said contacts, as set forth.

842,952. TOOL FOR PREPARING VALVE-SEATS. SAMUEL M. HALL, Chicago, Ill., assignor of one-half to Thomas Cullen, Chicago, Ill. Filed Apr. 29, 1905. Serial No. 258,124.

Claim.—1. A tool for preparing valve-seats comprising an axial shaft adapted to be secured to a valve, a series of interlocking sections surrounding said shaft whereby the range of operation of said tool may be varied, a cutter-head rotatable about said shaft, and means for imparting rotary motion through the interlocking sections to said cutter-head.

2. A tool for preparing valve-seats comprising an axial shaft adapted to be secured to a valve, longitudinally-adjustable means for securing said shaft to a valve, a series of interlocking sections surrounding said shaft, a cutter-head rotatable about said shaft, arranged to receive motion from said sections, and means adapted to be connected with said sections for imparting rotary motion to said cutter-head.



3. A tool for preparing valve-seats comprising an axial shaft adapted to be secured to a valve, longitudinally-adjustable means for securing said shaft to a valve, a series of interchangeable sections surrounding said shaft, means for interlocking said sections together, a cutter-head rotatable about said shaft, arranged to receive motion from said sections, and means adapted to be connected with said sections for imparting rotary motion to said cutter-head.

4. A tool for preparing valve-seats comprising an axial shaft adapted to be secured to a valve, longitudinally-adjustable means for securing said shaft to a valve, a series of interchangeable sections surrounding said shaft, means integral with said sections for interlocking said sections together, a cutter-head rotatable about said shaft, arranged to receive motion from said sections, and means adapted to be connected with said sections for imparting rotary motion to said cutter-head.

5. A tool for preparing valve-seats comprising an axial shaft adapted to be secured to a valve, longitudinally-adjustable means for securing said shaft to a valve, a series of interchangeable sections surrounding said shaft, means integral with said sections for interlocking said sections together, a cutter-head rotatable about said shaft arranged to receive motion from said sections, milling-tools fixed in said cutter-head, and means adapted to be connected with said sections for imparting rotary motion to said cutter-head, said sections constituting power-transmitting connection between said means and said cutter-head.

6. A tool for preparing valve-seats comprising an axial shaft adapted to be secured to a valve, a sectional sleeve, and a cutter-head mounted to turn about said shaft, milling-tools adjustably secured to said head, the sections of said sleeve and cutter-head being provided with interchangeable interlocking means, one of said sections being modified to receive devices for imparting rotary motion to said cutter-head.

842,953. ROCK-DRILL. HENRY HELLMAN and LEWIS C. BAYLES, Johannesburg, Transvaal. Filed Aug. 11, 1904. Serial No. 220,343.

Claim.—1. In a rock-drilling machine or engine, in combination, a shell or cradle provided with front and rear guides, means adjustable longitudinally of the shell or cradle for fixing it to a support, a power-cylinder slidably mounted in the front guide, means located at the rear end of said cylinder for introducing actuating fluid into said cylinder, a feed-nut carried by the rear guide, a feed-screw working through said nut and attached to the rear end of the cylinder and means for rotating said screw to traverse the cylinder longitudinally of the cradle.

2. In a rock-drilling machine or engine, in combination, a shell or cradle provided with front and rear guides, means for fixing it to a support, a power-cylinder slidably mounted in the front guide, means for introducing actuating fluid into said cylinder, a feed-nut carried by the rear guide, a feed-screw working through said nut and attached to the rear end of the cylinder and means for rotating said screw to traverse the cylinder longitudinally of the cradle.

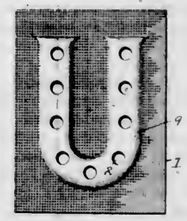
3. In a rock-drilling machine or engine, in combination, a shell or cradle, means for adjustably mounting said shell or cradle on a support, a power-cylinder slidably supported in said shell or cradle, means for moving said power-cylinder longitudinally of the shell or cradle, means compelling the drill bit or tool to rotate in unison with the cylinder while permitting it to move longitudinally of said cylinder, and means for providing a spray or sprays of water and directing the same around the mouth of the hole, substantially as described.

4. In a rock-drilling machine or engine, in combination a shell or cradle, means for slidably mounting said shell or cradle on a support, a power-cylinder slidably supported in said shell or cradle, a screw fitting said shell or cradle and engaging the rear end of the power-cylinder for moving said cylinder longitudinally of said shell or cradle, and means compelling the bit or tool to rotate in unison with the cylinder while permitting it to move longitudinally of said cylinder.

5. In a rock-drilling machine or engine, in combination a shell or cradle provided with front and rear guides, means adjustable longitudinally of the shell or cradle for fixing it to a support, a power-cylinder slidably mounted in the shell or cradle, a swivel carried by the rear end of the cylinder for introducing actuating fluid thereinto, a feed-screw carried by the rear end of the shell or cradle and connected to the rear end of the cylinder near the swivel and means for rotating said screw to traverse the cylinder longitudinally of the cradle.

6. In a rock-drilling machine or engine, in combination a shell or cradle, means for slidably mounting said shell or cradle on a support, a power-cylinder slidably supported in said shell or cradle, means for moving said power-cylinder longitudinally of the shell or cradle, a drilling bit or tool, and non-rotatable connections between the bit or tool and the forward end of the power-cylinder, for compelling the bit or tool to rotate in unison while permitting it to move longitudinally of said cylinder.

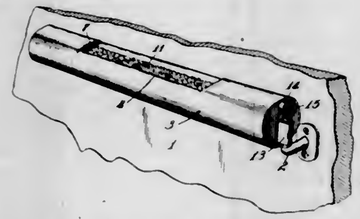
842,954. ELECTRIC SIGN. GEORGE HOWE, New York, N. Y., assignor to Metropolitan Engineering Company, a Corporation of New York. Filed Mar. 16, 1906. Serial No. 306,346.



Claim.—1. As a new article of manufacture, a metal sheet having an integral character or letter formed by striking up the metal of said sheet and provided with openings in said struck-up portion to receive the sockets of electric incandescent lamps.

2. The combination of a metal sheet having an integral character or letter formed by striking up the metal of said sheet and provided with openings on said struck-up character, and incandescent-lamp sockets disposed in the recess formed on the rear side of the sheet by said struck-up character and secured in said openings.

842,955. AIR MOISTENER OR EVAPORATOR. JOHN W. JOHNSON, Leavenworth, Kans. Filed Nov. 10, 1905. Serial No. 286,684.

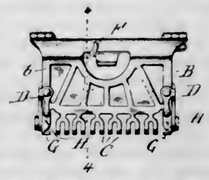


Claim.—1. An air moistener or evaporator having a body provided with covered ends forming water-chambers, and flanges extending inwardly from said body at the sides and ends of an intermediate open portion.

2. An air moistener or evaporator of substantially tubular form, having covered water-chambers at its ends, and provided with an elongated trough-like open portion intermediate said chambers, and having flanges extending inwardly from said body along the sides and ends of said trough-like portion.

3. An air moistener or evaporator comprising a tubular body having at each end a device for supporting it in a substantially horizontal position, and provided in its top with an opening surrounded by inwardly-extending depending flanges, and a filling of absorbent material in said opening.

842,956. SAFETY-RAZOR. FREDERICK KAMPFE, New York, N. Y. Filed May 16, 1904. Serial No. 208,126.



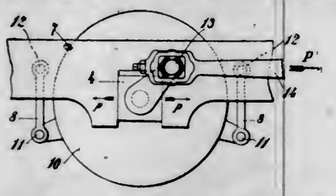
Claim.—1. In a safety-razor, the combination with a blade of a casing having blade-supports extending substan-

tially to the front thereof and adapted to support the blade substantially throughout its width, said supports having depending flanges, the front portions of which are bent at substantially a right angle thereto to form stops contiguous to the front ends of said supports of substantially the same width as the same, but separated therefrom by a space formed by removing a portion of the front ends of said supports.

2. The combination in a safety-razor of a casing comprising blade-supports, and depending flanges secured to said blade-supports and provided with projections extending at substantially right angles to said flanges and arranged in the front of said blade-supports and adapted to form stops to limit the forward movement of a blade.

3. The combination in a safety-razor of a casing comprising blade-supports, and depending flanges secured to said blade-supports and provided with projections extending at substantially right angles to said flanges and arranged in front of said blade-supports and adapted to form stops to limit the forward movement of a blade and also to serve as terminal guard-teeth.

842,957. ELECTRIC CAR AND LOCOMOTIVE. COLOMAN DE KANDÓ, Budapest, Austria-Hungary, assignor to Westinghouse Machine Company, a Corporation of Pennsylvania. Filed May 12, 1904. Serial No. 207,595.



Claim.—1. In an electric vehicle the combination of a frame, a motor, bearings centering the rotating part of said motor yielding in the direction of the driving strains, and bearings for the rotating part unyielding in the direction of the driving strains.

2. In an electric vehicle, the combination of a frame, a motor, a crank-shaft driven by said motor, bearings for supporting said motor said bearings being yielding in the direction of the strains produced by the crank-shaft and bearings rigid in the direction of strains produced by the crank-shaft.

3. In an electric vehicle, the combination of a frame, a motor, suspension-rods for supporting said motor pivotally connected to the frame and the motor, a crank-shaft driven by said motor and a bearing rigid in the direction of the strains produced by the crank-shaft.

4. In an electric vehicle the combination of a frame, a motor, the rotating element of which is journaled in bearings carried by the stationary element, means for supporting said motor, a crank-shaft driven by the rotating element and an independent bearing for receiving driving thrusts communicated through the crank-shaft.

5. In an electric vehicle the combination of a frame, a motor, the rotating element of which is journaled in bearings carried by the stationary element, flexible means for supporting said motor, a crank-shaft driven by the rotating element, and a bearing in the vehicle-frame for receiving driving thrusts communicated through the crank-shaft.

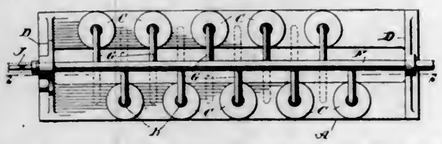
6. In an electric vehicle the combination of a frame, a motor, means for supporting said motor, a crank-shaft driven by the rotating element of said motor and an independent bearing for receiving driving thrusts communicated through the crank-shaft.

7. In an electric vehicle the combination of a motor having concentric stationary and rotating elements, bearings for maintaining the concentric relation of said elements, means for supporting said motor yieldingly in the direction of the driving pressures, and bearings transmitting such driving pressures to the vehicle independently of the stationary part of the motor.

8. In an electric vehicle the combination of a frame, a motor suspended to yield in the direction of the driving strains and bearings for the rotating part unyielding in the direction of the driving strains.

9. In an electric vehicle the combination of a frame, a motor suspended to yield in the direction of the driving strains and bearings for the rotating part unyielding in the direction of driving strains but yielding in another direction.

842,958. SPOOL HOLDER AND PROTECTOR. ABRAM KASSE and HARRY STOLL, New York, N. Y. Filed Apr. 19, 1906. Serial No. 312,645.



Claim.—1. A spool-holder comprising a support, a series of spindles on said support for holding the spools, a rod slidable on said support at right angles to said spindles and provided with a series of transverse pins arranged to be brought into registry with said spindles to prevent the removal of the spools from the spindles, and means for locking said rod in position.

2. A spool-holder, comprising a support, a series of spindles for receiving the spools, mechanism slidable at right angles to the spindles and provided with members spaced so that each registers with a spindle in one position, to prevent the removal of the spool, and permits the removal of the spool when the mechanism is slid a distance equivalent to one-half the distance between two spools located in a line substantially parallel to the line in which the mechanism slides, and means for locking said slidable mechanism in position.

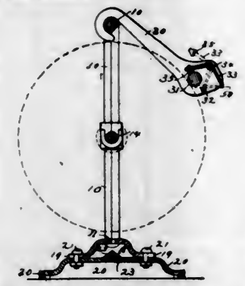
3. A spool-holder, comprising a support, a series of staggered spindles for receiving the spools, mechanism slidable at right angles to the spindles and provided with staggered members spaced so that each registers with a spindle in one position to prevent the removal of the spool, and permits the removal of the spool when the mechanism is slid a distance equivalent to one-half the distance between two spools located in a line substantially parallel to the line in which the mechanism slides, and means for locking said slidable mechanism in position.

4. A spool-holder, comprising a support, a series of spindles for receiving the spools, rotatable mechanism slidable at right angles to the spindles and provided with members spaced so that each registers with a spindle in one position to prevent the removal of the spool, and permits the easy removal of the spool when the mechanism is first slid a distance equivalent to one-half the distance between two spools located in a line substantially parallel to the line in which the mechanism slides, and then rotated.

842,959. ROLL-PAPER HOLDER AND CUTTER. FRANK KAUFMAN, Chicago, Ill., assignor to The West Manufacturing Company, Columbus, Ohio, a Corporation of Ohio. Filed Apr. 27, 1906. Serial No. 314,031.

Claim.—1. The combination with a frame having means for supporting the roll of paper, a knife-frame adapted to rest upon the periphery of said paper-roll, a knife fulcrumed in said frame at a point above its cutting edge, and a deflector for deflecting the end of the paper toward the edge of said knife, said knife being out of contact with said paper-roll and adapted to swing upon its fulcrum with its knife-edge movable past the loose end of said paper-roll substantially as specified.

2. The combination of a frame provided with means for supporting the roll of paper, a knife-frame adapted to rest upon the periphery of the paper-roll, a knife fulcrumed in said frame at a point above its edge, said knife being out of contact with said paper-roll and adapted to swing upon its fulcrum with its knife-edge movable past the loose end of said paper-roll and means for limiting the pivoted movement of said knife and returning it to initial position substantially as specified.



3. In a paper holder and cutter, the combination of a paper-supply, means for holding said paper-supply, a knife-frame adapted to float on said paper-supply and provided with a cross-rod 31, a knife fulcrumed in said frame at a point above its edge, a member extending at an angle from said knife for yieldingly maintaining said knife in its initial position, and a deflector for deflecting the end of the paper toward the edge of said knife, substantially as specified.

4. In a paper holder and cutter, the combination of a paper-supply, means for holding said paper-supply, a frame movably mounted in said means, said frame including a cross-rod, a knife fulcrumed to said frame beyond said cross-rod and extending on one side of said cross-rod, and a projection of said knife extending upon the opposite side of said cross-rod, substantially as specified.

5. In a paper holder and cutter, the combination of a paper-supply, means for holding said paper-supply, a frame movably mounted in said means, said frame including a cross-rod, a knife fulcrumed to said frame beyond said cross-rod and extending on one side of said cross-rod, a projection of said knife extending on the opposite side of said cross-rod, and a buffer carried by one of said two last-named members and contacting with the other for limiting the movement of said knife, substantially as specified.

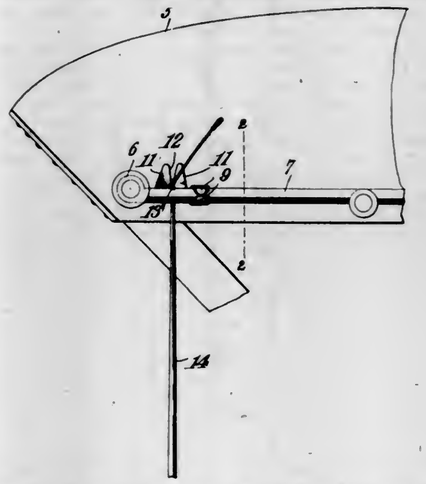
6. In a paper holder and cutter the combination of a paper-supply, means for holding said paper-supply, a knife-frame consisting of knife-arms fulcrumed upon said means and cross-rods connecting said arms; said frame bearing upon said paper-supply, means whereby the loose end of said paper-supply may be led from said paper-supply, and a knife movably mounted in said knife-frame adjacent the loose end of said paper and having the cutting edge of said knife movable away from the end of said loose end of said paper-supply, substantially as specified.

7. In a paper holder and cutter the combination of the paper-supply, means for holding said paper-supply, a knife-frame movably mounted in said means and including cross-rods 31 and 32, said cross-rod 31 being adapted to contact with said paper-supply and a knife fulcrumed upon said knife-frame and having its cutting edge movable away from the loose end of said paper-supply substantially as specified.

8. In a paper-holder a bearing member consisting of a substantially U-shaped cup 14 having a back wall provided with a vertical rectangular recess having on opposite sides thereof walls formed of substantially soft material, said walls being adapted to be bent inward at an angle to the back wall of said rectangular recess as and for the purpose specified.

9. In a paper holder and cutter, the combination of a paper-roll, means for mounting said roll, a knife-frame movably mounted in said means and provided with a cross-bar adjacent to and parallel with said roll, a presser-bar disposed within a plane below said cross-bar and parallel therewith, a deflector-bar parallel with said presser-bar and disposed therebelow, and a knife formed of an angle-bar and pivotally supported at its apex upon said cross-bar, the rear end of said knife resting upon said presser-bar.

842,960. WHIP HOLDER OR HANGER. GEORGE KELLER, Gilman, Ill. Filed July 16, 1906. Serial No. 326,485.



Claim.—1. The combination with a vehicle-top having a prop-bolt and brace, of a holder having clamping-arms embracing the brace and provided with laterally-extending fingers adapted to engage the lash end of a whip, said holder being locked in position on the vehicle-top by engagement with the prop-bolt.

2. The combination with a vehicle-top having a prop-bolt and brace, of a holder secured to the prop-bolt and provided with oppositely-disposed arms adapted to engage the brace, said holder being provided with a clamping member adapted to receive the lash end of a whip.

3. A holder formed of a single piece of metal having one end thereof provided with an opening and its opposite end formed with clamping-arms, one end of the plate being provided with laterally-extending fingers the adjacent edges of which are spaced apart and inclined or beveled for engagement with the lash end of a whip.

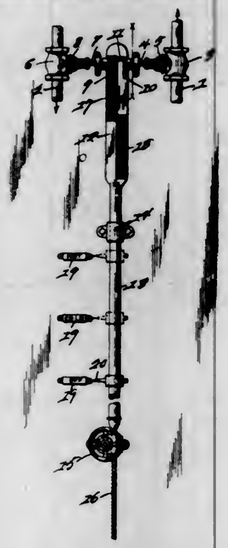
842,961. VALVE-OPERATING MECHANISM FOR SHOWER-BATH APPARATUS. THOMAS F. KEWLEY, Toledo, Ohio. Filed May 18, 1906. Serial No. 317,466.

Claim.—1. In a device of the class described, the combination with steam and water supply pipes and valves controlling the passage of water and steam therethrough, of means for operating said valves comprising segmental gears carried by said valves and a mutilated rack engaging said gears in succession, one of said gears provided with means for engaging the other gear to aline the teeth thereof with the teeth of the rack, substantially as described.

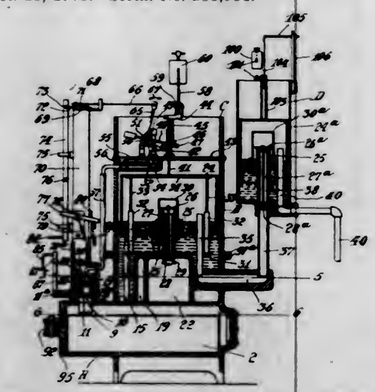
2. In a device of the class described, the combination with steam and water supply pipes and valves controlling the passage of water and steam therethrough, of alined valve-stems for said valves, gears carried by said valve-stems, and a vertically-movable rack-plate having rack-faces out of line with each other to engage said gears in succession, substantially as described.

3. In a device of the class described, the combination with steam and water supply pipes and valves controlling the passage of steam and water therethrough, of right and left threaded valve-stems for said valves, segmental gears secured upon the valve-stems to operate in different planes, a vertically-movable rack-plate having rack-faces out of alinement with each other to engage said gears in

succession, and means for effecting the final seating of the steam-valve, substantially as described.



842,962. ACETYLENE-GAS GENERATOR. GEORGE LAPORTE, St. Felix de Valois, Quebec, Canada, assignor of one-half to J. H. Chevalier, Campbell, Nebr. Filed Oct. 23, 1905. Serial No. 283,951.



Claim.—1. In an acetylene-generator, a carbid-chamber, a plurality of carbid-receptacles therein, means for distributing water-supply over and to said carbid, a water-receiving pan in a higher plane than said carbid-receptacles, a plurality of spouts leading from said pan, and a rockable deflector interposed between said pan and said spouts.

2. In an acetylene-generator, a carbid-chamber, a plurality of carbid-receptacles therein, means for distributing water-supply over and to said carbid, a water-receiving pan in a higher plane than said carbid-receptacles, a plurality of spouts leading from said pan, a rockable deflector interposed between said pan and said spouts, and gravity-operated means for rocking said deflector.

3. In an acetylene-generator, a carbid-chamber, a plurality of carbid-receptacles therein, means for distributing water-supply over and to said carbid, a water-receiving pan in a higher plane than said carbid-receptacles, a plurality of spouts leading from said pan, a rockable deflector between said pan and said spouts, a shaft on which said deflector is mounted, a rod rigidly connected with said shaft, a second shaft in substantial alinement with said first-mentioned shaft, a bifurcated member engaging said rod, and a rockable yoke on said second shaft, and gravity-operated means for rocking said yoke and said deflector.

4. In an acetylene-generator, a carbid-chamber, a plurality of carbid-receptacles therein, means for distributing water-supply over and to said carbid, a water-receiving pan in a higher plane than said carbid-receptacles, a plurality of spouts leading from said pan, a rockable deflector between said pan and said spouts, a shaft on which said deflector is mounted, a rod rigidly connected with said shaft, a second shaft in substantial alinement with said first-mentioned shaft, a bifurcated member engaging said rod, and a rockable yoke on said second shaft, a rod carried by said yoke, a weight slidable on said rod, and gravity-operated means adapted to impinge said yoke and thereby rock said deflector.

5. In an acetylene-generator, a carbid-chamber, a plurality of carbid-receptacles therein, means for distributing water-supply over and to said carbid, a water-receiving pan in a higher plane than said carbid-receptacles, a plurality of spouts leading from said pan, a rockable deflector between said spouts and said pan, a gravity-operated slide, a source of electrical energy, an alarm normally out of circuit, a rockable circuit-closing member, means on said slide adapted to rock said circuit-closing member, and means actuated by said slide for rocking said deflector.

6. In an acetylene-generator, a carbid-chamber, a plurality of carbid-receptacles therein, means for distributing water-supply over and to said carbid, a water-receiving pan in a higher plane than said carbid-receptacles, a plurality of spouts leading from said pan, a rockable deflector between said spouts and said pan, a single source of water-supply, a conduit between said supply and said pan, a gravity-valve between said supply and said conduit, gravity-operated means for raising said valve to open a passage from supply to said conduit, a gravity-slide, and means operated thereby for rocking said deflector.

7. In an acetylene-generator, a carbid-chamber, a plurality of carbid-receptacles therein, means for distributing water-supply over and to said carbid, a water-receiving pan in a higher plane than said carbid-receptacles, a plurality of spouts leading from said pan, a rockable deflector between said spouts and said pan, a single source of water-supply, a conduit between said supply and said pan, a gravity-valve between said supply and said conduit, gravity-operated means for raising said valve to open a passage from supply to said conduit, an electrically-actuated alarm normally out of circuit, means for rocking said deflector, and a gravity-operated slide adapted to close circuit to said alarm and to actuate the deflector-rocking means.

8. In an acetylene-generator, a carbid-chamber, a plurality of carbid-receptacles therein, a source of water-supply, a conduit leading therefrom, gravity-operated means for directing water from said conduit to different carbid-receptacles, a gas-receiving chamber, a water-sealed bell in a higher plane than said chamber, filtering means interposed between said chamber and said bell, a second gas-chamber, a tube establishing communication between said bell and said second chamber, a float in convenient juxtaposition to the upper part of said tube, a valve-stem and valve normally sustained by said float, and a member extending above said float in position to contact with said bell when in a lowered position.

9. In an acetylene-generator, a carbid-chamber, a plurality of carbid-receptacles therein, a source of water-supply, a conduit leading therefrom, gravity-operated means for directing water from said conduit to different carbid-receptacles, a plurality of gas-receiving chambers, a passage establishing communication between said chambers, filtering means between each chamber and said passage, a water-sealed bell in a higher plane than said chambers, a tube leading from one gas-chamber to the interior of said bell, a float in said bell, a valve sustained thereby in said tube, and means for operating said valve when said bell is in a lowered position.

10. In an acetylene-generator, a carbid-containing chamber, a plurality of carbid-receptacles therein, a gas purifying and receiving chamber comprising a plurality of compartments, a passage connecting said compartments, filtering means interposed between said compartments and said passage, a bell-chamber in a higher plane than said filtering means, a water-sealed bell in said bell-chamber, a tube leading from one of the gas-receiving chambers to the interior of said bell, a float in convenient proximity to the upper end of said tube, a valve-stem, a valve sustained by said float, a bridge projecting to a higher plane than said float and adapted to contact with the inner upper face of said bell when the bell is in a lowered position, a water-tank above said bell-chamber, a conduit leading from said water-tank to said carbid-containing chamber, a deflector below the lower end of said conduit and between said conduit and said carbid-containing chamber, and gravity-operated means for rocking said deflector when said bell moves to a relatively low plane within said bell-chamber.

11. In an acetylene-generator, a carbid-containing chamber, a gas purifying and receiving chamber comprising a plurality of compartments with a passage establishing communication between said compartments, filtering means interposed between said compartments and said passage, a bell-chamber in a higher plane than said gas-receiving chamber, a water-sealed bell in said bell-chamber, a tube establishing communication between said receiving-chamber and said bell, a float in said bell, a valve-stem, a valve normally sustained by said float, a member extending to a higher plane than said float and adapted to contact with the upper wall of said bell when said bell is in a lowered position, a water-supply tank, a conduit leading from said supply-tank to said carbid-containing chamber, a valve between said tank and said conduit, and gravity-operated means for opening said valve when said bell is in a relatively low position.

12. In an acetylene-generator, a carbid-containing chamber, a gas purifying and receiving chamber, a bell-chamber, a water-sealed bell in said bell-chamber, a water-supply tank, a conduit leading from said supply-tank to said carbid-containing chamber, a valve interposed between said conduit and said tank, means for deflecting water from said conduit to different parts of said carbid-containing chamber, a gravity-slide adapted to operate said last-mentioned means, and means connected with said bell for actuating the valve between the water-supply tank and said conduit and simultaneously releasing said gravity-slide.

13. In an acetylene-generator, a carbid-containing chamber, a gas purifying and receiving chamber comprising a plurality of compartments, there being a passage connecting said compartments, filtering means interposed between said compartments and said passage, a bell-chamber, a water-sealed bell in said bell-chamber, a tube connecting the interior of said bell with one of said compartments, a float in convenient proximity to the upper portion of said tube, a valve, a valve-operating means sustained by said float in normally closed position, a member extending above said float adapted to contact with said bell when the bell is in a lowered position, a water-supply tank, a conduit leading therefrom to said carbid-containing chamber, means for deflecting water from said conduit to different parts of said carbid-containing chamber, a gravity-slide, means coöperating with said slide for rocking said deflector, means for locking said slide in a normally elevated position, and means for releasing said slide when said bell is in a lowered position.

14. In an acetylene-generator, a carbid-containing chamber, a gas receiving and purifying chamber comprising a plurality of compartments, there being a passage establishing communication between said compartments, a tube leading from said carbid-containing chamber to one of said compartments, filtering means interposed between said passage and said compartments, a bell-chamber in a higher plane than said gas-purifying chamber, a water-sealed bell in said bell-chamber, means for supplying water to different parts of said carbid-containing chamber, a supplemental receiving-chamber, a water-sealed bell in said supplemental chamber, and a second supplemental bell coöperating therewith, said second supplemental bell being in communication with one of the compartments in said gas-receiving chamber.

15. In an acetylene-generator, a carbid-containing chamber, a gas purifying and receiving chamber comprising a plurality of compartments, there being a passage establishing communication between said compartments, filtering means between each of said compartments and said passage, a conduit leading from said carbid-containing chamber to one of said compartments, a bell-chamber, a water-sealed bell therein, a tube leading from the interior of said bell to the other compartment in said receiving-chamber, means for supplying water to different parts of said carbid-containing chamber, a supplemental receiving-chamber, a water-sealed bell therein, a conduit leading from said supplemental chamber to the first-mentioned bell, and a service-pipe leading from the second bell.

16. In an acetylene-generator, a carbid-containing chamber, a gas purifying and receiving chamber comprising a plurality of compartments, a passage establishing communication between said compartments, filtering means between said compartments and said passage, a conduit leading from the carbid-containing chamber to one of said compartments, a conduit leading from the other of said compartments upwardly, a bell inclosing the upper portion of said last-mentioned conduit, a water-supply tank, a conduit leading from said supply-tank, a deflector-chamber into which the lower end of said conduit is directed, a deflector in said chamber adapted to direct water to different parts of said carbid-containing chamber, means for rocking said deflector, a gravity-operated slide, locking means adapted to hold said slide in a normally elevated position, and means connected with said bell for releasing said slide.

17. In an acetylene-generator, a carbid-containing chamber, a gas purifying and receiving chamber comprising a plurality of communicating compartments, filtering means interposed between said compartments, a conduit leading from said carbid-containing chamber to one of said compartments, a conduit leading from the other of said compartments, a bell-chamber, a water-sealed bell therein surrounding the upper end of said last-mentioned conduit, a float, a valve-stem, a valve normally sustained by said float, means projecting to a higher plane than said float adapted to contact with said bell when in a lowered position, a water-supply tank, a conduit leading therefrom, a deflector-chamber, to which the lower end of said water-conduit leads, a rockable deflector in said deflector-chamber, a rockable yoke adapted to actuate said deflector, a standard, a gravity-operated slide guided upon said standard, means for locking said gravity-slide in a normally elevated position, means projecting from said slide adapted to rock said yoke, and means for releasing said slide when said bell is in a relatively lowered position.

18. In an acetylene-generator, a carbid-containing chamber, a plurality of carbid-receptacles therein, a rockable deflector adapted to direct water to either of said receptacles, a conduit leading from a higher plane than said deflector to a water-tank, a water-tank, a valve between said tank and said water-conduit, a gravity-operated slide, means adapted to be actuated thereby for rocking said deflector, a bell-chamber, a water-sealed bell therein, and means connected with said bell for releasing said gravity-operated slide.

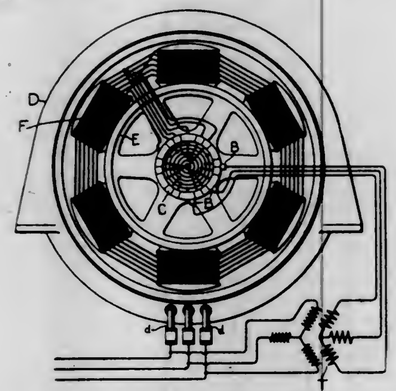
19. In an acetylene-generator, a carbid-containing chamber, two carbid-receiving pans therein, a receiving-chamber, a connection between the carbid-chamber and the receiving-chamber, a water-supply tank, a water-deflector, a gravity device automatically released for changing the position of said deflector, and an alarm adapted to be actuated thereby simultaneously.

842,963. DYNAMO-ELECTRIC MACHINE. MARIUS C. A. LATOUR, Paris, France, assignor to General Electric Company, a Corporation of New York. Filed Nov. 9, 1905. Serial No. 286,508.

Claim.—1. In combination, a magnetic circuit, an exciting-winding therefor provided with a many-part commu-

tator, the number of turns in the several sections connected between adjacent segments of the commutator being equal and the width of the commutator-segments varying progressively in accordance with a sine function, and means for supplying polyphase currents to said commutator.

2. In combination, a magnetic circuit, an exciting-winding comprising a plurality of equal coils or sections connected in series in a closed circuit, half of said sections being reversely wound relatively to the other half, a many-part commutator having its segments connected to the terminals of the several sections and said segments varying progressively in width in accordance with a sine function, and means for supplying polyphase currents to said commutator.



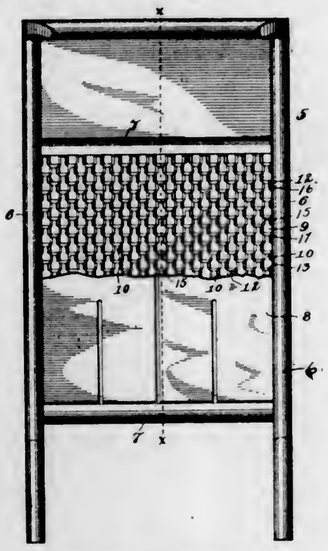
3. In a dynamo-electric machine, a field-magnet, field-coils thereon arranged in equal sections one half of which are reversely wound relatively to the other half, a many-part commutator connected to the field-winding and having segments varying progressively in width in accordance with a sine function, and means for supplying polyphase currents to said commutator.

4. In a dynamo-electric machine, a field-magnet, a winding for each pole thereof comprising a plurality of equal sections, one half of which are reversely wound relatively to the other half, similar sections of all the windings being connected in a group and all the groups being connected in series in a closed circuit, a many-part commutator connected to the points of connection between the several groups, and having segments varying progressively in width in accordance with a sine function, and means for supplying polyphase currents to said commutator.

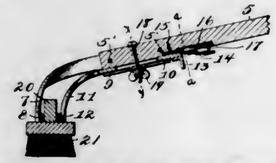
5. In a dynamo-electric machine, a polyphase armature-winding, a field-magnet, a winding for each pole of the magnet comprising a plurality of equal sections, one half of which are reversely wound relatively to the other half, similar sections of all the pole-windings being connected in a group and all the groups being connected in series in a closed circuit, a many-part commutator connected to the points of connection between the several groups and having segments varying progressively in width in accordance with a sine function, a polyphase arrangement of brushes bearing on the commutator, and connections for supplying to said brushes polyphase currents derived from the armature.

842,964. WASHBOARD. FREDERIC MARTIN, Columbus, Ohio. Filed Mar. 10, 1906. Serial No. 305,222.

Claim.—The combination with a washboard, of a rubbing-plate having a plurality of rows of projections upon the surface thereof and having recesses between said projections, the projections of each row being staggered with relation to the projections of adjoining rows and the recesses between said projections forming pockets, the bottoms of said pockets being formed by the tops of the projections of the next lower row and said projections being of less width than said pockets.



842,965. BRUSH OR MOP HOLDER. EGBERT E. MASTERS, Columbus, Ohio, assignor of one-half to Jennie Williams, Columbus, Ohio. Filed Mar. 15, 1906. Serial No. 306,141.



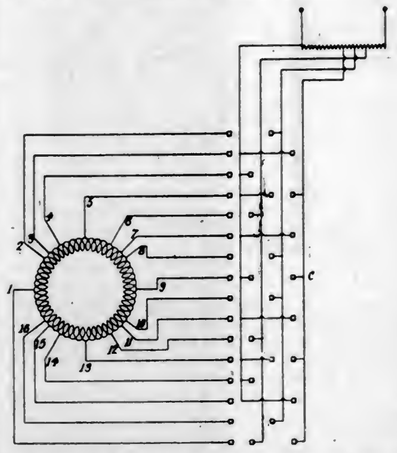
Claim.—In a device of the character described, the combination with a handle, of a fixed gripping member secured to said handle, flanges carried by said fixed gripping member which project beneath the handle and form ways, a movable gripping member slidably disposed in said ways, a downturned member carried by the rear end of the movable gripping member and forming a thumb-piece, and a stepped spring-plate secured to the handle with which the rear edge of the movable gripping member is adapted to engage.

842,966. METHOD OF OPERATING ELECTRIC MOTORS, GENERATORS, AND OTHER APPARATUS. RALPH D. MERSHON, New York, N. Y. Filed Feb. 1, 1904. Serial No. 191,464.

Claim.—1. The method of obtaining a desired speed or frequency in apparatus in which magnetic poles are produced, which consists in producing the poles in separated groups in which angular distances between adjacent poles of opposite sign in the same group correspond to the speed or frequency desired, as set forth.

2. The method of obtaining a desired speed or frequency in apparatus in which magnetic poles are produced, equivalent to an odd or non-integral number of poles, which consists in producing the poles with angular distances, between adjacent poles of opposite sign, corresponding to the desired speed or frequency.

3. The method of obtaining a desired speed or frequency in apparatus in which magnetic poles are produced, equivalent to an odd or non-integral number of poles, which consists in producing the poles with angular distances, between adjacent poles of opposite sign, corresponding to the desired speed or frequency, and where a continuation of such production of poles around the circumference of the excited element causes overlapping or interference of poles, dropping out one or more poles at such point.



4. The method of obtaining a desired speed or frequency in apparatus in which magnetic poles are produced, equivalent to an odd or non-integral number of poles, which consists in producing the poles in groups with angular distances, between adjacent poles of opposite sign in the same group, corresponding to the desired speed or frequency.

5. The method of obtaining a desired speed or frequency in apparatus in which magnetic poles are produced, equivalent to an odd or non-integral number of poles, which consists in producing the poles in separated groups, with angular distances between adjacent poles of opposite sign in the same group, corresponding to the desired speed or frequency.

6. In electrical apparatus in which magnetic poles are produced, and which is adapted for change of the number of poles therein, the method of varying the speed or the frequency which consists in changing the number of poles and producing the same in separated groups in which angular distances, between adjacent poles of opposite sign, correspond to the speed or frequency desired, as set forth.

7. In electrical apparatus in which magnetic poles are produced, and which is adapted for change of the number of poles therein, the method of varying the speed or frequency and obtaining a speed or frequency equivalent to an odd or non-integral number of poles, which consists in producing the poles with angular distances, between adjacent poles of opposite sign, corresponding to the desired speed or frequency, as set forth.

8. In electrical apparatus in which magnetic poles are produced, and which is adapted for change of the number of poles therein, the method of varying the speed or frequency and obtaining a speed or frequency equivalent to an odd or non-integral number of poles, which consists in producing the poles with angular distances, between adjacent poles of opposite sign, corresponding to the desired speed or frequency, and where a continuation of such production of poles around the circumference of the excited element causes overlapping or interference of poles, dropping out one or more poles at such point, as set forth.

9. In electrical apparatus in which magnetic poles are produced, and which is adapted for change of the number of poles therein, the method of varying the speed or frequency and obtaining a speed or frequency equivalent to an odd or non-integral number of poles, which consists in producing the poles in groups with angular distances, between adjacent poles of opposite sign in the same group, corresponding to the desired speed or frequency, as set forth.

10. In electrical apparatus in which magnetic poles are produced, and which is adapted for change of the number of poles therein, the method of varying the speed or frequency and obtaining that equivalent to an odd or non-integral number of poles, which consists in producing the poles in separated groups with angular distances, between adjacent poles of opposite sign in the same group, corresponding to the desired speed or frequency, as set forth.

11. In electrical apparatus in which magnetic poles are produced, the method of obtaining a speed or frequency equivalent to an odd or non-integral number of poles, which consists in feeding the current or currents into the winding at such points as will produce poles with angular distances, between adjacent poles of opposite sign, corresponding to the desired speed or frequency, as set forth.

12. In electrical apparatus in which magnetic poles are produced, the method of obtaining a speed or frequency equivalent to an odd or non-integral number of poles, which consists in feeding the current or currents into the winding at such points as will produce poles with angular distances, between adjacent poles of opposite sign, corresponding to the desired speed or frequency, and where such production of poles around the circumference of the excited element will cause overlapping or interference of poles, dropping out one or more poles at such point, as set forth.

13. In electrical apparatus in which magnetic poles are produced, the method of obtaining a desired speed or frequency which consists in feeding the current or currents into the winding at such points as will produce the poles in groups with angular distances, between adjacent poles of opposite sign in the same group, corresponding to the desired speed or frequency, as set forth.

14. In electrical apparatus in which magnetic poles are produced, the method of obtaining a speed or frequency equivalent to an odd or non-integral number of poles, which consists in feeding the current or currents into the winding at such points as will produce the poles in separated groups with angular distances, between adjacent poles of opposite sign in the same group, corresponding to the desired speed or frequency, as set forth.

15. In an alternating-current motor, the method of obtaining a desired speed, equivalent to an odd or non-integral number of poles, which consists in feeding the current or currents into the winding at such points as will produce poles with angular distances, between adjacent poles of opposite sign, corresponding to the speed or frequency desired, as set forth.

16. In an alternating-current motor, the method of obtaining a desired speed, equivalent to an odd or non-integral number of poles, which consists in feeding the current or currents into the winding at such points as will produce poles with angular distances, between adjacent poles of opposite sign, corresponding to the desired speed or frequency, and where such production of poles around the circumference of the excited element will cause overlapping or interference of poles, dropping out one or more poles at such point, as set forth.

17. In an alternating-current motor, the method of obtaining a desired speed, which consists in feeding the current or currents into the winding at such points as will produce the poles in groups with angular distances, between adjacent poles of opposite sign in the same group, corresponding to the desired speed, as set forth.

18. In an alternating-current motor, the method of obtaining a speed equivalent to an odd or non-integral number of poles, which consists in feeding the current or currents into the winding at such points as will produce the poles in separated groups with angular distances, between adjacent poles of opposite sign in the same group, corresponding to the speed desired, as set forth.

19. In an alternating-current motor adapted for change of the number of poles therein, the method of varying the

speed from that corresponding to a given angle between poles to a speed equivalent to an odd or non-integral number of poles, which consists in changing the angle between adjacent poles of opposite sign to that corresponding to the desired speed, as set forth.

20. In an electrical apparatus in which magnetic poles are produced, the method of obtaining a desired speed or frequency intermediate to that for one even number of poles and that for the next even number, which consists in producing poles at such intervals that the angular distance between the same bears the same ratio to the angular distance in the first number of poles, as the desired speed or frequency bears to that of the first number of poles, as set forth.

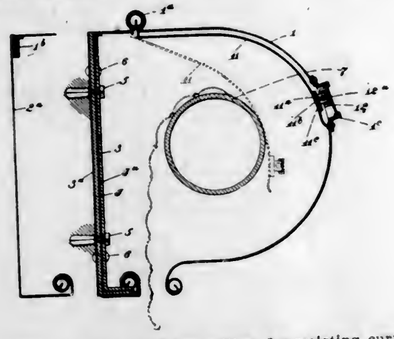
842,967. RAILROAD-TRACK. WILLIAM MILEY, Indianapolis, Ind., assignor of one-third to James M. Jones, Indianapolis, Ind. Filed Oct. 18, 1906. Serial No. 339,431.



Claim.—1. A rail for railroad-tracks comprising two longitudinally-extending portions adapted to be secured together face to face, each of said portions having a base-flange and a tread-web, the tread-webs of all of said portions lying flush with each other and the joints between the opposed ends of the rail portions being staggered with relation to each other, each of said longitudinally-extending portions having projections and recesses formed upon their inner faces alternately longitudinally thereof, the projections upon one of said portions entering the recesses of the opposed portion.

2. A rail for railroad-tracks comprising two longitudinally-extending portions adapted to be secured together face to face, each of said portions having a base-flange and a tread-web, the tread-webs of each of said portions lying flush with each other and the points between the opposed ends of said portions being staggered with relation to each other, the inner faces of said longitudinally-extending portions having a series of projections formed thereon which extend longitudinally thereof but for a portion of the length of said sections, and a series of recesses formed therein, said recesses being located between the ends of the projections, the projections of one portion being staggered with relation to the projections of its opposed portion, and the projections of one portion taking into the recesses of the opposed portion, the projections being considerably shorter than the recesses.

842,968. HOOD FOR ROLLING FIRE-RESISTING CURTAINS. EDWARD H. MCCLOUD, Columbus, Ohio, assignor to The Kinnear Manufacturing Company, Columbus, Ohio, a Corporation of West Virginia. Filed Feb. 2, 1906. Serial No. 299,219.



Claim.—1. In a hood for rolling fire-resisting curtains, the combination with the hood proper, of a supplemental shield within the hood to rest movably in proximity to the curtain or roller to close the space between said curtain or roller and the hood proper.

2. In a hood for rolling fire-resisting curtains, the combination with the hood proper, of a supplemental shield hinged within the hood and adapted to rest in proximity to the curtain or roller to close the space between said curtain or roller and the hood proper.

3. In a hood for rolling fire-resisting curtains, the combination with the hood proper, of a supplemental shield hinged to the hood and adapted to rest in proximity to the curtain or roller to close the space between said curtain or roller and the hood proper.

4. In a hood for rolling fire-resisting curtains, the combination with the hood proper, of a supplemental shield hinged to and within the hood and adapted to rest in proximity to the curtain or roller to close the space between said curtain or roller and the hood proper.

5. In a hood for rolling fire-resisting curtains, the combination with the hood proper having a grooved bead, of a supplemental shield within the hood beaded at one edge to fit hingedly within the bead of the hood and adapted at its other edge to rest in proximity to the curtain or roller to close the space between the curtain or roller and the hood.

6. In a hood for rolling fire-resisting curtains, the combination with the hood proper, of a supplemental shield adapted to rest in proximity to the curtain or roller to close the opening between said curtain or roller and the hood proper and means for holding said shield away from the curtain or roller adapted to be operated by the occurrence of near-by fire to release the shield.

7. In a hood for rolling fire-resisting curtains, the combination with the hood proper, of a supplemental shield adapted to rest in proximity to the curtain or roller to close the opening between said curtain or roller and the hood, and means for holding said shield away from the curtain or roller comprising devices held by fusible solder adapted to be fused by a dangerous rise of temperature to release the shield.

8. In a hood for rolling fire-resisting curtains, the combination with the hood proper, said hood having an opening, of a supplemental shield adapted to rest in proximity to the curtain or roller to close the opening between said curtain or roller and the hood, and means for holding said shield away from the curtain or roller comprising a hook on one part and a catch on the other and said hook and catch being arranged to be connected through the opening in the hood and means for closing said opening.

9. In a hood for rolling fire-resisting curtains, the combination with the hood proper, said hood having an opening and a movable cover therefor, of a supplemental shield adapted to rest in proximity to the curtain or roller to close the opening between said curtain or roller and the hood, and means for holding said shield away from said curtain or roller comprising a hook and a catch, one of said parts being on the shield and the other on the movable cover for said opening.

10. In a hood for rolling fire-resisting curtains, the combination with the hood proper, said hood having an opening and a movable cover therefor, of a supplemental shield adapted to rest in proximity to the curtain or roller to close the opening between the curtain or roller and a hood, and means for holding said shield away from said curtain or roller comprising a hook and a catch, one of said parts being on the shield and the other soldered with fusible solder to the movable cover for said opening.

11. In a hood for rolling fire-resisting curtains, the combination with the hood proper, said hood having an opening and a movable cover therefor, of a supplemental shield adapted to rest in proximity to the curtain or roller to close the opening between the curtain or roller and the hood, and means for holding said shield away from the curtain or roller comprising a hook and a catch, one of said parts being on the shield and the other soldered with a fusible solder to the movable cover, said cover and the part attached to it being adapted to effect the connection of said hook and catch to hold the shield prior to the complete closing of the opening.

12. A hood for rolling fire-resisting curtains, comprising in combination, an outer part and a back therefor, and means for securing the parts together whereby they are held normally in fixed relation but movable relatively to prevent buckling due to expansion when subjected to abnormal heat.

13. A hood for rolling fire-resisting curtains comprising in combination, an outer part and a back therefor comprising sections, and means for securing the parts together whereby they are held normally in fixed relation but movable relatively to prevent buckling due to expansion when subjected to abnormal heat.

14. A hood for rolling fire-resisting curtains comprising in combination, an outer part, and back part therefor comprising two sections placed with ends toward each other but separated by a space, a plate covering said space, and means for connecting said plate and sections in fixed relation normally but so as to be relatively movable when subjected to abnormal heat.

15. A hood for rolling fire-resisting curtains comprising, in combination, an outer part, and a back therefor comprising two sections placed with ends toward each other but separated by a space, a plate at each side of said space, and an intervening separating-strip between said plates whereby the ends of the sections are free to expand between said plates.

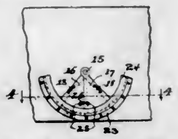
16. A hood for rolling fire-resisting curtains comprising, in combination, an outer part, and a back therefor comprising two sections grooved at their upper edges to receive the rear edge of the outer part of the hood and placed with their ends toward each other but separated by a space, a plate at each side of said space and an intervening separating-strip between said plates whereby the ends of the sections are free to expand between said plates.

17. A hood for rolling fire-resisting curtains comprising, in combination, an outer part, and a back therefor comprising two sections having their lower portions bent toward the lower portion of the outer part and placed with ends toward each other but separated by a space, and a plate closing the space between said sections but permitting the expansion of said sections, said plate being bent at its lower portion to embrace the bent portions of the sections.

842,969. GRAIN-DOOR VALVE. HENRY C. OSTERMANN, Chicago, Ill., assignor to The Ostermann Manufacturing Co., Chicago, Ill., a Corporation of South Dakota. Filed Apr. 28, 1906. Serial No. 314,189.

Claim.—1. In a device of the character described, the combination of a grain-door having a port-opening, a pair of pivotally-mounted plates adapted to close said opening, the meeting edges of said plates each having a portion adapted to lie in front of a part of the other plate, substantially as described.

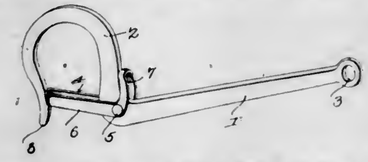
2. In a device of the character described, the combination of a grain-door having a port-opening, a pair of sector-plates concentrically pivoted on said door and adapted to close said opening, the meeting edge of each plate having a portion adapted to lie in front of a part of the other plate, substantially as described.



3. In a device of the character described, the combination of a grain-door having a port-opening, a pair of sector-plates concentrically pivoted on said door and adapted to close said opening, the meeting edge of each plate having a front and a back flange, the front flange of each plate being adapted to overlie the back flange of the other plate when both of said plates are in closed position, substantially as described.

4. In a device of the character described, the combination of a grain-door having a port-opening, a pair of sector-plates concentrically pivoted on said door and adapted to close said opening, the meeting edge of each plate having a front and a back flange, the front flange of each plate being adapted to overlie the back flange of the other plate when both of said doors are in closed position, and an arc-shaped retaining member overlying edges of said plates to maintain them in position against the pressure of the grain behind the door, substantially as described.

842,970. GATE OR DOOR HOOK. OZRO G. PARSONS, Edina, Mo. Filed Sept. 29, 1905. Serial No. 280,646.



Claim.—1. The combination with a hook, a keeper straddling the hook-shank and adapted to engage the hook whereby its movement in one direction is limited.

2. The combination with a hook of a keeper having an angular extension which straddles the hook-shank and engages the hook and limits the movement of the keeper in one direction.

3. The combination with a hook of a keeper pivotally connected therewith and which straddles the hook, a stop attached to the keeper and which straddles the hook, said stop adapted to engage the hook to limit the movement of the keeper in one direction.

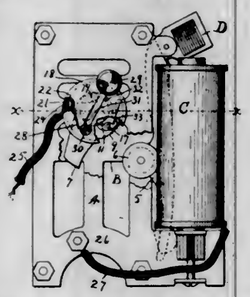
4. The combination with a hook, a keeper pivoted to the hook, a stop attached to the keeper and having a transversely-extending portion adapted to engage the hook, said keeper having a transversely-extending portion, the side portions of the keeper and stop being in the same plane.

842,971. WINDING MECHANISM FOR SELF-WINDING ELECTRIC CLOCKS. HENRY W. PORTER, Forestville, Conn., assignor to New Haven Clock Company, New Haven, Conn., a Corporation. Filed Sept. 4, 1906. Serial No. 333,270.

Claim.—1. In a self-winding electric clock, the combination of an oscillating arm of the winding mechanism with an oscillating plate moving with the said arm, a weighted arm pivoted on the said plate below its axis of oscillation, an insulated binding-post mounted on the said plate and carrying the other one of the contacts, and stops for limiting the swinging movement of the said weighted arm on the said oscillating plate.

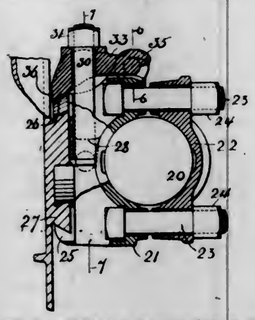
2. In a self-winding electric clock, the combination of an

oscillating arm of the winding mechanism with an oscillating plate moving with the said arm, a weighted arm pivoted by its lower end to the said plate, a contact-piece in the form of a point projecting from the said arm near its pivoted end, an insulated binding-post mounted on the said plate and carrying a yielding contact-arm for being engaged by the said contact-piece, and stops for limiting the movement of the said weighted arm on the said oscillating plate.



3. In a self-winding electric clock, the combination of a main wheel and shaft mounted to rotate together, a winding-hub, a ratchet and pawl for connecting the said hub and wheel for moving forwardly together and permitting an independent backward movement of the said hub, means for driving the said hub forwardly in the running of the clock, an oscillating plate rigidly connected with the said winding-hub, a weighted arm pivoted on the said plate and adapted to fall over when the said plate reaches a given position, a pair of contacts mounted on the said plate and insulated from each other when out of contact, and electrically-operated devices connected with the said contacts for moving the said winding-hub backwardly when the said oscillating plate carries the weighted arm into a position to fall over and bring the contacts into engagement.

842,972. ROCK-DRILL SADDLE. GEORGE S. POWER, Passaic, N. J. Filed Mar. 31, 1906. Serial No. 309,082.



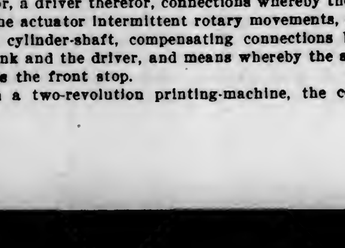
Claim.—1. In a saddle for supporting a drill the combination of a removable clamping-jaw, pivots extending from the sides of the jaw, elongated bearings formed in the saddle extending and opened to the rear of said pivots, and a bolt connecting the said saddle and clamping-jaw.

2. In a saddle for supporting a drill the combination of a body portion therefor, a cap bolted to the body portion, a dovetailed flange extending from the body portion, a pair of lugs in the body portion, a bolt, a cross-bar extending from the bolt and engaging with said lugs, a removable clamping-jaw engaged with said bolt, pivots extending from the sides of the jaw, and elongated bearings formed in the saddle extending and opened to the rear of said pivots.

3. The combination of a drill, a saddle for supporting the same, a conical projection extending from the drill, a dovetailed flange extending from the saddle engaging the said conical projection, a removable clamping-jaw bearing on the said conical projection, pivots extending from the sides of the jaw, elongated bearings formed in the saddle extending and opened to the rear of said pivots, and a swinging bolt extending from the saddle and engaging the clamping-jaw.

4. The combination of a drill-back, a projection extending therefrom, a saddle for supporting the drill-back, a flange extending from the saddle engaging the said projection of the drill-back, lugs on the saddle, a swinging bolt bearing up against said lugs, a clamping-jaw engaged with said bolt, a toe on said jaw bearing on the projection of the drill-back, pivots extending from the sides of the jaw, elongated bearings formed in the saddle extending and opened to the rear of said pivots.

842,973. SPRING AND MATTRESS FOR INVALID-BEDS. EDITH B. PRESTON, Mexico, Mo. Filed June 13, 1906. Serial No. 321,553.



Claim.—In a bed, the combination of a spring-frame embodying a movable section, and means for raising and lowering said section, and consisting of a wheel, a foot-lever, a rod connecting the wheel with the foot-lever, a rod connecting the wheel with the movable section of the spring-frame, and ratchet means carried by the frame and coöperating with the rod last mentioned to hold the movable section of the frame at a desired adjustment.

842,974. FRONT-STOP-OPERATING MECHANISM FOR PRINTING-MACHINES. GEORGE F. READ, New York, N. Y., assignor to Robert Hoe, New York, N. Y. Filed Apr. 27, 1906. Serial No. 313,928.

Claim.—1. The combination with a sheet-carrier having sheet-taking devices, of means whereby sheets may be presented thereto, a front stop, rotating operating means for the stop, and means for giving said operating means an intermittent movement.

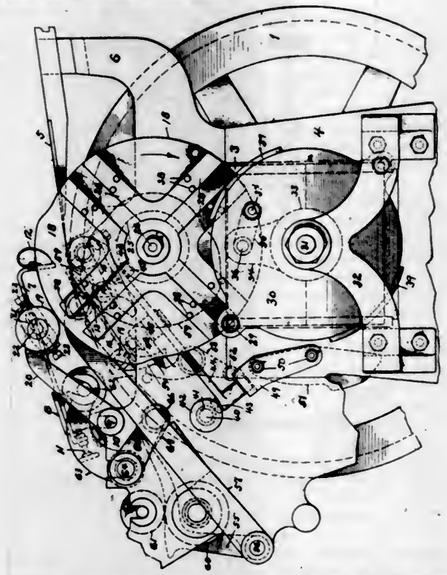
2. The combination with a sheet-carrier having sheet-taking devices, of means whereby sheets may be presented thereto, a front stop, a rotating actuator, means whereby the actuator operates the stop, connections whereby the actuator operates the sheet-taking devices, and means for giving the actuator an intermittent movement.

3. The combination with a sheet-carrier having sheet-taking devices, of means whereby sheets may be presented thereto, a front stop, a rotating cam for operating the stop, and means for giving the cam an intermittent movement.

4. The combination with a sheet-carrier having grippers, of means whereby sheets may be presented thereto, a front stop, an actuator including a cam, means for giving the actuator intermittent rotary movements, connections whereby the actuator-cam operates the stop, gripper-operating devices, and connections from the actuator to the gripper-operating devices.

5. In a two-revolving printing-machine, the combination with a cylinder, of a shaft therefor, a front stop, an actuator, a driver therefor, connections whereby the driver gives the actuator intermittent rotary movements, a crank on the cylinder-shaft, compensating connections between the crank and the driver, and means whereby the actuator operates the front stop.

6. In a two-revolution printing-machine, the combination with a cylinder, of a shaft on which the cylinder is mounted, grippers mounted on the cylinder, an actuator, a driver therefor, connections whereby the driver gives the actuator intermittent rotary movements, a crank on the cylinder-shaft, compensating connections between the crank and the driver, and connections whereby the actuator operates the front stop and grippers.



7. The combination with a carrier having sheet-taking devices, of a front stop, an actuator including a cam, connections whereby the actuator operates the sheet-taking devices and stop, a driver for the actuator, and means for effecting an intermittent engagement between the driver and the actuator.

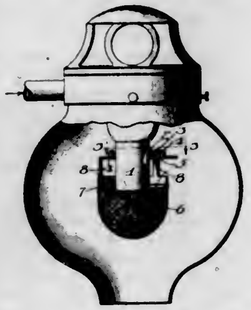
8. The combination with a carrier having sheet-taking devices, of a front stop, an actuator including a cam, connections whereby the actuator operates the sheet-taking devices and stop, a driver for the actuator, means for effecting an intermittent engagement between the driver and the actuator, means for positively stopping the movement of the actuator.

9. In a two-revolution printing-machine, the combination with a cylinder, of a shaft on which the cylinder is mounted, sheet-taking grippers, a front stop, an actuator including a cam, a rotary driver, connections whereby the actuator operates the grippers and stop, means for effecting intermittent engagement between the driver and the actuator, a crank on the cylinder-shaft, and a link connection between the crank and the driver.

10. In a two-revolution printing-machine, the combination with a cylinder, of a shaft on which the cylinder is mounted, sheet-taking grippers, a front stop, an actuator including a cam, a rotary driver, connections whereby the actuator operates the grippers and stop, means for effecting intermittent engagement between the driver and the actuator, a crank on the cylinder-shaft, a link connection between the crank and the driver, and means for positively stopping the movement of the actuator.

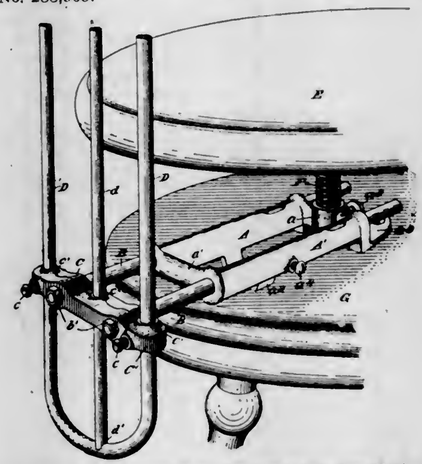
842,975. MANTLE-SUPPORT. FRIEDRICH E. REICHARDT, Chicago, Ill. Filed Apr. 2, 1906. Serial No. 309,565.

Claim.—In a burner, the combination of a burner-tip having a cylindrical wall and lugs projecting laterally therefrom; and a mantle-cap consisting of an annular plate circularly apertured to fit snugly over said tip to prevent lateral play, clips projecting upwardly from said plate and inwardly so as to rest upon said lugs, said lugs being thereby located between said plate and clips for preventing vertical play of said cap, and said cap also having a ring for



supporting the mantle at a distance below said plate sufficient to afford an escape-passage between said plate and the top of the mantle.

842,976. ADJUSTABLE STOOL BACK-REST. LESTER M. RICH, Cincinnati, Ohio. Filed Nov. 24, 1905. Serial No. 288,905.



Claim.—1. In a device of the character described, the combination of a rigid frame composed of parallel channeled side bars each having a longitudinal passage through it, and cross connections between these bars, these connections being adapted for attachment to the upper side of a pedestal-top, a pair of parallel rods extending through the longitudinal passages in the side bars, means for locking these bars in their adjusted position, a clamp carried on the ends of these bars beyond the stool-seat, and a back-supporting frame adjustably mounted in said clamp.

2. In combination, a rigid frame adapted for rigid attachment to the top of the subseat of a stool and provided at its inner end with a rigid integral sleeve which is adapted to closely embrace the stool-screw, a set-screw carried by said sleeve to lock the same to the stool-screw, a pair of parallel rods slidably mounted in said frame, and means for adjustably supporting a back-frame on the outer ends of said rods.

3. In combination, a rigid frame composed of parallel bars having longitudinal passages through them and cross connections, these connections being adapted for attachment to the top of the pedestal or subseat, a pair of parallel rods extending through the longitudinal passages in said side bars so as to lie upon opposite sides of the stool-screw, means carried by one of the side bars for locking the

parallel bars in their adjusted position, and a back-supporting frame attached to the outer ends of said parallel bars.

4. In combination, a frame adapted for attachment to the pedestal of the stool, a pair of parallel rods adjustably supported in said frame, a clamp on the outer ends of said rods consisting of an inner bar rigidly connecting said rods and provided with holes through which the ends of said rods extend and an outer companion bar through which the projecting ends of the rods extend, the adjacent faces of said companion clamp-bars being notched, nuts on the projecting threaded ends of the parallel rods, and vertical back-frame rods clamped between said bars and adapted to be vertically adjusted therebetween.

5. In combination, a clamp for supporting the back-frame and means for supporting said clamp, said back-frame consisting of a pair of outer rods having an integral curved connection at their lower end and an intermediate rod extending through the clamp and notched at its lower extremity to engage over the upper side of the curved connection.

6. In combination, a rigid frame adapted for rigid attachment to the upper surface of the subseat of a stool and carrying at its inner end a sleeve which closely embraces the stool-screw, means carried by this sleeve for temporarily locking the stool-screw against rotation, means slidable in said frame for supporting a stool-back, and a stool-back adjustably supported on said means, for the purpose set forth.

7. In combination, a frame adapted for rigid attachment to the upper surface of the subseat of a stool, means carried by said frame for closely engaging the seat-screw and for locking the seat-screw against rotation at will, means slidable in said frame for supporting a stool-back, and a stool-back adjustably supported on said means.

8. In combination, a frame adapted for rigid attachment to the upper surface of the subseat of a stool and having formed integral with it at its inner end a ring adapted to closely engage the seat-screw, a pair of rods adapted to project beyond the edge of the subseat and to slide in said frame one at either side of the seat-screw, and a stool-back supported on the projecting ends of said rods.

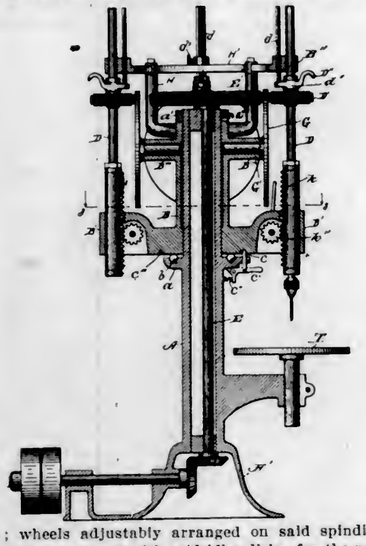
9. In combination, a frame consisting of side bars and cross connections, these connections being adapted for rigid attachment to the subseat of the stool, one of these cross connections being located at the inner end of the frame and being provided with an integral ring adapted for close engagement with the seat-screw, slidable rods mounted in said frame, and projecting beyond the edge of the subseat, and a stool-back supported on the projecting ends of said rods.

10. In a device of the class described, a frame adapted for rigid attachment to the subseat of a stool and consisting of parallel side bars and integral cross-bar connections, the cross-bar connections being adapted to rest upon the upper surface of the subseat and being provided with holes for the passage of fastening-screws, these bearing-faces being on a plane below the parallel bars, so that when the frame is attached to the subseat the parallel bars will be supported above and out of contact therewith, parallel rods slidably mounted in said parallel bars, and a stool-back supported on the projecting ends of said parallel rods, for the purpose herein set forth.

842,977. DRILLING-MACHINE. CORNELL RIDDERHOF, Grand Rapids, Mich. Filed Apr. 13, 1906. Serial No. 311,603.

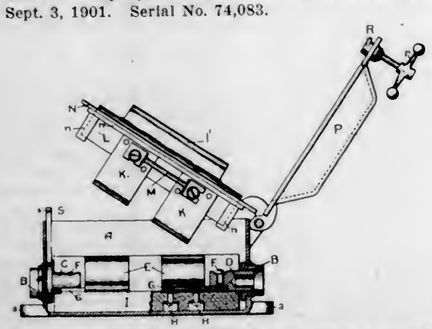
Claim.—1. In a drilling-machine, the combination of a revoluble turret; a horizontally-arranged friction driving-wheel arranged eccentrically of said turret; a plurality of vertically-arranged idler-disks carried by said turret arranged to successively engage said driving-wheel as said turret is revolved; a plurality of vertically-arranged spindles carried by said turret; and horizontally-arranged friction-wheels adjustably arranged on said spindles arranged in engagement with said idler-disks, for the purpose specified.

2. In a drilling-machine, the combination of a revoluble turret; a driving-wheel arranged eccentrically of said turret; a plurality of idler-disks carried by said turret arranged to successively engage said driving wheels as said turret is revolved; a plurality of spindles carried by said



turret; wheels adjustably arranged on said spindles arranged in engagement with said idler-disks, for the purpose specified.

842,978. MULTIPOLAR SERVICE-SWITCH. HOWARD R. SARGENT, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Sept. 3, 1901. Serial No. 74,083.



Claim.—1. A multipolar switch, comprising a plurality of fixed contacts, a plurality of free, independent contacts coöperating therewith, a single movable carrier in which said free contacts are removably mounted, and means for collectively securing said contacts to said carriers.

2. A multipolar switch, comprising a plurality of fixed contacts, a plurality of supports carrying movable contacts, a carrier having sockets in which said supports rest removably, and means for collectively securing said supports to said carrier.

3. A multipolar switch comprising a plurality of pairs of fixed contacts, a plurality of supports each carrying a pair of connected contacts, a carrier having sockets in which said supports rest removably, and means for collectively securing said supports to said carrier.

4. A multipolar switch comprising a plurality of pairs of fixed contacts, a plurality of insulating-supports each carrying a pair of contacts connected by a fuse, a carrier having sockets in which said supports rest removably, and means for collectively securing said supports to said carrier.

5. A multipolar switch, comprising a box containing a plurality of fixed contacts, an inner lid carrying the movable contacts, an outer lid, and means for locking it to the inner lid.

6. A multipolar switch, comprising a box containing a plurality of fixed contacts, an inner lid, a plurality of contacts removably supported by the inner lid, an outer lid, and means for locking it to the inner lid.

7. A multipolar switch, comprising a box containing a plurality of fixed contacts, an inner lid provided with sockets, a plurality of bars of insulation removably supported in said sockets, switch-blades on said bars, an outer lid, and means for locking the two lids together.

8. A multipolar switch, comprising a box containing a plurality of fixed contacts, a hinged inner lid carrying a plurality of removable contacts, a hinged outer lid, and a button on the outer lid adapted to engage with the inner lid.

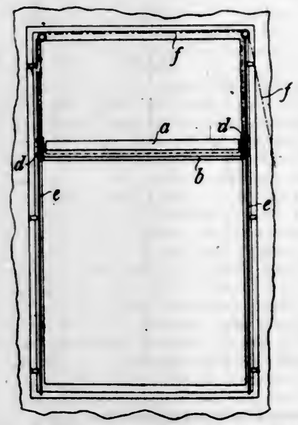
9. In a switch-box, the combination with a base and a movable part forming a switch-arm, of metal contacts upon the base and electrical connections therefrom, a fuse and support therefor, a carrier in which said fuse-support rests removably and a device adapted to connect the carrier and the movable part which device may be released to leave the fuse-support in connection with the metal contacts.

10. In a switch-box the combination with a base and a movable part forming a switch-arm, of metal contacts upon the base and electrical connections therefrom, a fuse and support therefor, a carrier in which said support rests removably, and a device connected with the movable part and adapted to engage said carrier for clamping the fuse-support in relation to the movable part and which may be released to leave the fuse-support in connection with the metallic contacts.

11. In a multipolar switch, the combination with a pair of contact-clips, of a pair of sockets adjacent thereto, and a bar of insulation adapted to rest in said sockets and carrying switch-blades to coöperate with said clips in one position of the bar, and to stand at one side of the same when said bar is reversed end for end.

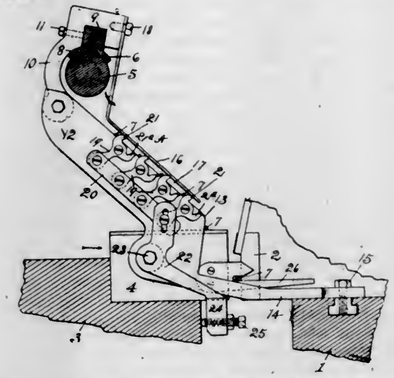
12. The combination with a three-wire system of wiring, of a switch-box provided with an inner lid and an outer lid, and means whereby the opening of both lids at once breaks the entire circuit.

842,979. DEVICE FOR CLEANING FROZEN WINDOW-GLASSES AND FOR PREVENTING THEM FROM FREEZING. CHRISTOFFER J. SCHULTZ, Flensburg, Germany. Filed Mar. 31, 1905. Serial No. 253,176.



Claim.—In a device for removing and preventing the formation of ice on window-panes and the like the combination with a turnable horizontal cylinder arranged in front of the window-pane and in slight contact with the latter, of a trough adapted to receive a liquid ice-melting medium such as a solution of common salt, the cylinder dipping into this medium, means for moving the said cylinder together with the trough up and down along the window and means for guiding same during their up-and-down motion, substantially as and for the purpose described.

842,980. MAGAZINE FOR WIRE-FENCE MACHINES. ORANGE S. STURTEVANT, Adrian, Mich, assignor to The Adrian Wire Fence Company, Adrian, Mich., a Corporation of Michigan. Filed Apr. 21, 1906. Serial No. 312,972.



Claim.—1. In a magazine, a wire-receiving part, an oscillatory element having fixed projections for imparting an intermittent movement to the wires passing through the magazine when the element is oscillated, and means for oscillating said element.

2. The combination with the inclined way of a magazine, of an oscillatory member having two spaced fingers fixedly projecting therefrom and formed with rounded upper surfaces, and means for oscillating the member to cause the fingers to alternately obstruct the passage-way through the magazine.

3. The combination with the inclined way of a magazine, of an oscillatory member having one end provided with spaced projections which alternately obstruct the passage-way in the magazine when the member is oscillated, and means having connection with the other end of said member for effecting a movement thereof.

4. A magazine comprising an inclined guide adapted to receive and direct the cross-wires, means for placing the wires into the upper end of the guide, oscillatory members associated with said guide and having a plurality of spaced projections which are provided with rounded wire-engaging surfaces and alternately lie in the path of movement of the wires as the members are oscillated, and means for imparting a like simultaneous movement to all the members.

5. In a magazine, a wire-receiving part, a plurality of oscillatory members associated therewith and having portions projecting in the path of movement of the wire-sections therethrough, and means for effecting a like simultaneous movement of said members whereby the wire-sections are caused to intermittently drop from one to the other thereof.

6. In a magazine, an inclined wire-receiving part, a series of sets of oscillatory members arranged in the plane of incline of said part and each being fashioned to twice interrupt the feed of the wire-sections through the part at spaced points therein as the member is oscillated, and means for imparting like simultaneous movements to said members.

7. The combination with a magazine for holding a plurality of sections of wire, of a plurality of elements disposed in spaced relation along the inclined way thereof for the purpose of maintaining the wire-sections in spaced relation during their passage through the magazine, said elements being capable of like movements in unison to ef-

fect a dropping of the wire-sections from one to the other thereof, and means for imparting movement to said members.

8. The combination with a magazine for holding a plurality of wire-sections, of a plurality of oscillatory members each having spaced portions disposed in different horizontal planes along the inclined way thereof in position to impede the progress of the wire-sections therethrough, and means for oscillating the fingers in unison to permit a movement of the sections from one to the other of said portions and members.

9. In a wire-fence loom, the combination with the drop-shaft and inclined way for receiving and directing the course of the wire-sections dropped from the shaft, of a plurality of rocker members disposed intermediate said shaft and the discharge end of the way, said members each being formed with spaced portions which operate to maintain the wire-sections in spaced relation during a considerable portion of their distance of travel through the way and cause them to have a step-by-step movement, and means for rocking said members.

10. The combination with a magazine for holding a plurality of wire-sections, and a source of supply therefor, of rocker-arms having lips fixedly projecting therefrom in position to alternately cross the path of movement of the wire-sections when the arms are rocked, whereby the wire-sections have a spaced step-by-step movement through the magazine, and means for rocking said arms.

11. In a magazine, the combination with an inclined way, of a plurality of rocker-arms arranged in different horizontal planes and having portions projecting therefrom in position to alternately cross the passage through the inclined way when the arms are rocked, whereby to cause an object to have a step-by-step movement during its passage through the way, a member connecting all of said rocker-arms to cause them to rock in unison, and means for imparting a reciprocal movement to the member.

12. The combination with the inclined magazine of a wire-fence machine, of a plurality of rocker members disposed in different horizontal planes along the way thereof, said members having one end formed with projections for alternately obstructing the passage-way through the magazine when the members are rocked, and means for rocking the members.

13. The combination with a source of wire-supply, of a plurality of inclined spaced wire-receiving parts combining to form a magazine, a plurality of fingers associated with each of said parts and movable to effect a step-by-step movement to the wire-sections passing through the magazine, said fingers each having spaced wire coacting parts.

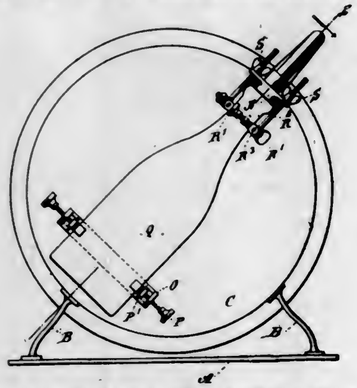
14. The combination with a drop-shaft, of a magazine associated therewith and comprising a plurality of spaced wire-receiving parts, a series of rocker-arms carried by each part for imparting a step-by-step movement to the wires passing therethrough, each rocker-arm having spaced wire coacting parts, a member connected to each series of arms and movable to effect a simultaneous movement thereof, and means for imparting a like simultaneous movement to all of said members.

842,981. ATTACHMENT FOR STERILIZING OR PASTEURIZING APPARATUS. CHARLES J. TAGLIABUE, New York, N. Y. Filed June 7, 1905. Serial No. 264,104.

Claim.—1. In a sterilizing or pasteurizing apparatus, the combination of a casing, a temperature-recorder within the casing, a thermometer located partly within and partly exteriorly of the casing, and a fastening and protecting device supported by the casing, for securing a receptacle to the casing and protecting the part of the thermometer between the casing and the receptacle.

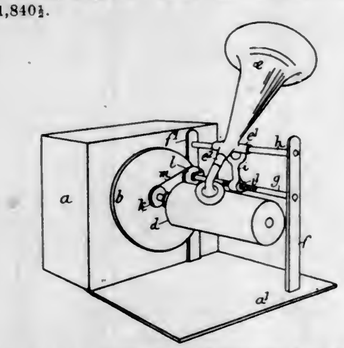
2. In a sterilizing or pasteurizing apparatus, the combination with a casing, a temperature-recorder within the casing, a protecting-pipe extending from said casing, a securing device at the end of said pipe for securing a receptacle in position adjacent to the pipe, a thermometer member located exteriorly of said pipe and said casing, and a fastening device for securing said receptacle to the casing adjacent to the thermometer member.

3. In a sterilizing or pasteurizing apparatus, the combination with the casing, a temperature-recorder within the casing, a protecting-pipe extending from said casing, a nut located at the end of said pipe and provided with ears, a collar adapted to embrace a portion of a receptacle, rods pivoted to said collar and arranged to engage the ears of



the nut and provided with thumb-screws for securing the receptacle in position adjacent to said protecting-pipe, a thermometer member located exteriorly of said pipe and said casing and a fastening device for securing said receptacle to the casing adjacent to the thermometer member.

842,982. TALKING-MACHINE. CHARLES THOMAS, Newton Abbot, England. Filed Dec. 15, 1905. Serial No. 291,840½.



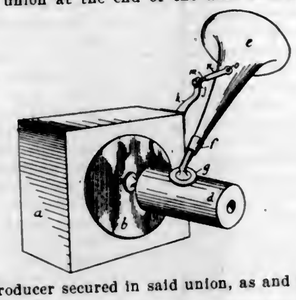
Claim.—1. A convertible gramophone and phonograph comprising a gramophone turn-table, a spindle upon which said turn-table rotates, a phonograph-mandrel detachably mounted upon said spindle, a reproducer for operation relatively either of said parts and means for feeding said reproducer, as set forth.

2. In a convertible gramophone and phonograph, the combination with a gramophone turn-table, its spindle and detachable phonograph-mandrel mounted on said spindle, of a frame comprising two standards secured in the cover of the phonograph-box, an Edison worm journaled in said standards, a guide-spindle fixed in the standards, a horn having a sleeve mounted on said guide-spindle, a claw-arm fast on the horn and engaging the Edison worm, a reproducer at the end of the horn, and gear for driving the Edison worm from the turn-table, as set forth.

842,983. TALKING-MACHINE. CHARLES THOMAS, Newton Abbot, England. Filed May 14, 1906. Serial No. 316,848.

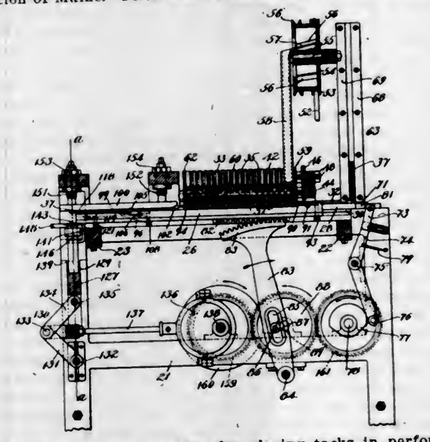
Claim.—In a convertible gramophone and phonograph the combination with the mandrel directly attached to the turn-table, of a horn-supporting arm, a box-plate for said

arm fixed to the case of the machine, a swiveling bow-holder secured to the arm, a horn secured in said holder, a flexible union at the end of the horn and a sound-box



with reproducer secured in said union, as and for the purpose described.

842,984. MACHINE FOR TACKING SHOE-SHANKS. BRADFORD B. WATERMAN, East Bridgewater, Mass., assignor to American Shoe Finding Company, a Corporation of Maine. Filed Dec. 19, 1905. Serial No. 292,417.



Claim.—1. In a machine for placing tacks in perforations in sheet material, a raceway provided with a plurality of grooves the bottoms of which lie in a plane intersecting said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, means for guiding said sheet material transversely of said grooves, whereby said perforations are maintained in alinement with said plane, and means for feeding said sheet material transversely of said grooves.

2. In a machine for placing tacks in perforations in sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, means for feeding tacks to said grooves, means for guiding said sheet material transversely of said grooves, whereby said perforations are maintained in alinement with said plane, and means for feeding said sheet material transversely of said grooves.

3. In a machine for placing tacks in perforations in sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, a rotary brush adapted to throw said tacks against said raceway, means for guiding said sheet material transversely of said grooves, whereby said perforations are maintained in alinement with said plane, and means for feeding said sheet material transversely of said grooves.

4. In a machine for placing tacks in perforations in sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, means for feeding tacks onto the upper surface of said sheet material, means for throwing said tacks from said surface against said raceway, means for guiding said material transversely of said grooves, whereby said perforations are maintained in alinement with said plane, and means for feeding said sheet material transversely of said grooves.

5. In a machine for tacking pieces of sheet material provided with perforations to non-perforated pieces of sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, means for feeding tacks to said grooves, means for guiding said perforated pieces transversely of said grooves, whereby said perforations are maintained in alinement with said plane, means for feeding said perforated pieces in a continuous row transversely of said grooves, means for separating said perforated pieces from said row one at a time, and mechanism for tacking one of said perforated pieces to one of said non-perforated pieces.

6. In a machine for tacking pieces of sheet material provided with perforations to non-perforated pieces of sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby said tacks are guided directly into said perforations, means for feeding tacks to said grooves, means for guiding said perforated pieces transversely of said grooves, whereby said perforations are maintained in alinement with said plane, means for feeding said perforated pieces transversely of said grooves, and mechanism for tacking one of said perforated pieces to one of said non-perforated pieces.

7. In a machine for tacking pieces of sheet material provided with perforations to non-perforated pieces of sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, a tack-hopper, a second raceway adapted to feed tacks from said hopper onto the upper surfaces of said perforated pieces, means for throwing said tacks from said upper surfaces against said first-named raceway, means for guiding said perforated pieces transversely of said grooves, whereby said perforations are maintained in alinement with said plane, means for feeding said perforated pieces transversely of said grooves, and mechanism for tacking one of said perforated pieces to one of said non-perforated pieces.

8. In a machine for tacking pieces of sheet material provided with perforations to non-perforated pieces of sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, a magazine adapted to contain said perforated pieces, means for feeding said perforated pieces out of said magazine, means for guiding said perforated pieces transversely of said grooves, whereby said perforations are maintained in alinement with said plane, means for feeding said perforated pieces transversely of said grooves, and mechanism for tacking one of said perforated pieces to one of said non-perforated pieces.

9. In a machine for tacking pieces of sheet material provided with perforations to non-perforated pieces of sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, a magazine adapted to contain said perforated pieces, means for feeding said perforated pieces out of said magazine, means for guiding said perforated pieces transversely of said grooves, means for feeding said perforated pieces transversely of said grooves, an inverted anvil beneath which said perforated pieces are fed, a driver adapted to force one of

said non-perforated pieces against one of said perforated pieces with tacks in said perforations, and mechanism for operating said driver.

10. In a machine for tacking pieces of sheet material provided with perforations to non-perforated pieces of sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, means for feeding tacks to said grooves, means for guiding said perforated pieces transversely of said grooves, whereby said perforations are maintained in alinement with said plane, means for feeding said perforated pieces transversely of said grooves, mechanism for tacking one of said perforated pieces to one of said non-perforated pieces, and ejecting means located between said raceway and said tacking mechanism for ejecting each of said perforated pieces that has failed to receive a tack in each of said perforations.

11. In a machine for tacking pieces of sheet material provided with perforations to non-perforated pieces of sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, a magazine adapted to contain said perforated pieces, means for feeding said perforated pieces out of said magazine, means for guiding said perforated pieces transversely of said grooves, whereby said perforations are maintained in alinement with said plane, means for feeding said perforated pieces transversely of said grooves, means for feeding tacks to said grooves, an inverted anvil beneath which said perforated pieces are fed, a driver adapted to force one of said non-perforated pieces against one of said perforated pieces with tacks in said perforations, mechanism for operating said driver, and ejecting means located between said raceway and said anvil for ejecting each of said non-perforated pieces that has failed to receive a tack in each of its perforations.

12. In a machine for tacking pieces of sheet material provided with perforations to non-perforated pieces of sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, means for feeding tacks to said grooves, means for guiding said perforated pieces transversely of said grooves, whereby said perforations are maintained in alinement with said plane, a reciprocatory slide adapted to feed a row of said perforated pieces transversely of said grooves, and means for tacking one of said perforated pieces to one of said non-perforated pieces.

13. In a machine for tacking pieces of sheet material provided with perforations to non-perforated pieces of sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, means for feeding tacks to said grooves, means for guiding said perforated pieces transversely of said grooves, whereby said perforations are maintained in alinement with said plane, means for feeding a row of said perforated pieces transversely of said grooves, means for separating said perforated pieces from said row, one at a time, an ejecting-finger normally lying in the path of said perforated pieces and adapted to be moved from said path by a tack located in one of said perforations, said ejecting-finger coöperating with said separating means to eject each of said perforated pieces that has failed to receive a tack in one of said perforations.

14. In a machine for tacking pieces of sheet material provided with perforations to non-perforated pieces of sheet material, means for placing tacks in said perforations, means for feeding a row of said perforated pieces beneath said tack-placing means, mechanism for tacking one of said perforated pieces to one of said non-perforated pieces, and ejecting means located between said tack-placing means and said tacking mechanism for ejecting one of said perforated pieces that has failed to receive a tack in its perforation.

15. In a machine for tacking pieces of sheet material provided with perforations to non-perforated pieces of sheet material, means for placing tacks in said perforations, mechanism for tacking one of said perforated pieces to one of said non-perforated pieces, and ejecting means located between said tack-placing means and said tacking mechanism for ejecting one of said perforated pieces that has failed to receive a tack in its perforation.

16. In a machine for tacking metallic stiffeners each provided with perforations at opposite ends thereof, respectively, to shoe-shanks, a receptacle having two opposite downwardly-converging sides each provided with a plurality of grooves adapted to guide tacks directly into said perforations at opposite ends, respectively, of said stiffeners, means for feeding tacks to said grooves, means for guiding said stiffeners transversely of said grooves, means for feeding said stiffeners transversely of said grooves, and mechanism for tacking one of said stiffeners to one of said shoe-shanks.

17. In a machine for tacking metallic stiffeners, each provided with perforations at opposite ends thereof, respectively, to fibrous shoe-shanks, two opposite downwardly-converging multigrooved raceways adapted to guide tacks into said perforations at opposite ends, respectively, of said stiffeners, means for feeding said stiffeners in a continuous row transversely of said grooves, means for separating said stiffeners from said row, one at a time, and mechanism for tacking one of said stiffeners to one of said shoe-shanks.

18. In a machine for tacking metallic stiffeners, each provided with perforations at opposite ends thereof, respectively, to fibrous shoe-shanks, two opposite downwardly-converging multigrooved raceways adapted to guide tacks into said perforations at opposite ends, respectively, of said stiffeners, means for feeding tacks onto the upper surfaces of said stiffeners, means for throwing said tacks from said upper surfaces against said raceways, means for feeding said stiffeners transversely of said grooves, and mechanism for tacking one of said stiffeners to one of said shoe-shanks.

19. In a machine for tacking metallic stiffeners each provided with perforations at opposite ends thereof, respectively, to shoe-shanks, a receptacle having two opposite downwardly-converging sides each provided with a plurality of grooves adapted to guide tacks directly into said perforations at opposite ends, respectively, of said stiffeners, means for feeding tacks to said grooves, a magazine adapted to contain stiffeners, means for feeding said stiffeners out of said magazine, means for guiding said stiffeners transversely of said grooves, means for feeding said stiffeners transversely of said grooves, and mechanism for tacking one of said stiffeners to one of said shoe-shanks.

20. In a machine for tacking metallic stiffeners each provided with perforations at opposite ends thereof, respectively, to shoe-shanks, a receptacle having two opposite downwardly-converging sides each provided with a plurality of grooves adapted to guide tacks directly into said perforations at opposite ends, respectively, of said stiffeners, means for feeding tacks to said grooves, ways adapted to guide said stiffeners transversely of said grooves, means for feeding said stiffeners along said ways, and mechanism for tacking one of said stiffeners to one of said shoe-shanks.

21. In a machine for tacking metallic stiffeners each provided with perforations at opposite ends thereof, respectively, to shoe-shanks, a receptacle having two opposite downwardly-converging sides each provided with a plurality of grooves adapted to guide tacks directly into said perforations at opposite ends, respectively, of said stiffeners, means for feeding tacks to said grooves, a magazine adapted to contain said stiffeners in a substantially vertical column, a pair of fingers adapted to engage the lowermost stiffener of said column and push it a portion of its width transversely of said column, a pivoted arm upon which said fingers are mounted, mechanism adapted to impart an oscillatory movement to said arm, ways adapted to guide said stiffeners transversely of said grooves, a feed-slide adapted to feed said stiffeners longitudinally of said ways, mechanism to impart a reciprocatory movement to said feed-slide, and mechanism for tacking one of said stiffeners to one of said shoe-shanks.

22. In a machine for tacking metallic stiffeners each provided with perforations at opposite ends thereof, respectively, to shoe-shanks, a receptacle having two opposite downwardly-converging sides each provided with a plurality of grooves adapted to guide tacks directly into said perforations at opposite ends, respectively, of said stiffeners, means for feeding tacks to said grooves, a magazine adapted to contain said stiffeners in a substantially vertical column, a pair of fingers adapted to engage the lowermost stiffener of said column and push it a portion of its width transversely of said column, a pivoted arm upon which said fingers are mounted, mechanism to impart an oscillatory movement to said arm, ways adapted to guide said stiffeners transversely of said grooves, a feed-slide adapted to feed said stiffeners longitudinally of said ways, mechanism to impart a reciprocatory movement to said feed-slide, an inverted anvil beneath which said stiffeners are fed, and a reciprocatory driver adapted to force a shoe-shank placed thereon against said stiffener.

23. In a machine for tacking metallic stiffeners, each provided with perforations at opposite ends thereof, respectively, to fibrous shoe-shanks, two opposite downwardly-converging multigrooved raceways adapted to guide tacks into said perforations at opposite ends, respectively, of said stiffeners, means for feeding tacks to said grooves, a magazine adapted to contain said stiffeners in a substantially vertical column, a pair of fingers adapted to engage the lowermost stiffener of said column and push it a portion of its width transversely of said column, a pivoted arm upon which said fingers are mounted, mechanism to impart an oscillatory movement to said arm, two guide-blocks adapted to guide said fingers, respectively, ways adapted to guide said stiffeners transversely of said grooves, a feed-slide adapted to feed said stiffeners longitudinally of said ways, mechanism to impart a reciprocatory movement to said feed-slide, and mechanism for tacking one of said stiffeners to one of said shoe-shanks.

24. In a machine for tacking metallic stiffeners, each provided with perforations at opposite ends thereof, respectively, to fibrous shoe-shanks, two opposite downwardly-converging multigrooved raceways adapted to guide tacks into said perforations at opposite ends, respectively, of said stiffeners, means for feeding tacks to said grooves, a magazine adapted to contain said stiffeners in a substantially vertical column, a pair of fingers adapted to engage the lowermost stiffener of said column and push it a portion of its width transversely of said column, a pivoted arm upon which said fingers are adjustably mounted, mechanism to impart an oscillatory movement to said arm, two guide-blocks adapted to guide said fingers, respectively, ways adapted to guide said stiffeners transversely of said grooves, a feed-slide adapted to feed said stiffeners longitudinally of said ways, mechanism to impart a reciprocatory movement to said feed-slide, and mechanism for tacking one of said stiffeners to one of said shoe-shanks.

25. In a machine for tacking metallic stiffeners each provided with perforations at opposite ends thereof, respectively, to shoe-shanks, a receptacle having two opposite downwardly-converging sides each provided with a plurality of grooves adapted to guide tacks directly into said perforations at opposite ends, respectively, of said stiffeners, means for feeding tacks to said grooves, a magazine adapted to contain said stiffeners in a substantially vertical column, a pair of fingers adapted to engage the lowermost stiffener of said column and push it a portion of its width transversely of said column, a pivoted arm upon which said fingers are mounted, mechanism to impart an oscillatory movement to said arm, ways adapted to guide said stiffeners transversely of said grooves, a feed-slide adapted to feed said stiffeners longitudinally of said ways, mechanism to impart a reciprocatory movement to said feed-slide, a vertically-adjustable anvil beneath which said stiffeners are fed, and a reciprocatory driver adapted to force a shoe-shank placed thereon against said stiffener.

26. In a machine for tacking metallic stiffeners, each provided with perforations at opposite ends thereof, respectively, to fibrous shoe-shanks, two opposite downwardly-converging multigrooved raceways adapted to guide tacks into said perforations at opposite ends, respectively, of said stiffeners, means for feeding a row of stiffeners transversely of said grooves, means for separating said stiffeners from said row one at a time, a reciprocatory driver adapted to drive one of said shoe-shanks upwardly against said stiffener with tacks in said perforations, a set of stops against which said shoe-shank may be located, and a spring acting to hold said shoe-shank against one of said stops.

27. In a machine for tacking pieces of sheet material provided with perforations to non-perforated pieces of sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, means for feeding tacks to said grooves, a magazine adapted to contain said perforated pieces, means for feeding said perforated pieces from said magazine, ways adapted to guide said perforated pieces transversely of said grooves, whereby said perforations are maintained in alinement with said plane, a feed-slide, a feed-pawl pivoted to said feed-slide adapted to engage one of said perforated pieces, mechanism for imparting a reciprocatory movement to said feed-slide and mechanism for tacking one of said perforated pieces to one of said non-perforated pieces.

28. In a machine for tacking pieces of sheet material provided with perforations to non-perforated pieces of sheet material, a raceway provided with a plurality of grooves, the bottoms of which lie in a plane which intersects said perforations, whereby tacks located in said raceway are adapted to be guided directly into said perforations, means for feeding tacks to said grooves, a magazine adapted to contain said perforated pieces, means for feeding said perforated pieces from said magazine, ways adapted to guide said perforated pieces transversely of said grooves, whereby said perforations are maintained in alinement with said plane, a feed-slide, a plurality of feed-pawls pivoted to said feed-slide adapted to engage respective perforated pieces, mechanism for imparting a reciprocatory movement to said feed-slide, and mechanism for tacking one of said perforated pieces to one of said non-perforated pieces.

29. In a machine for tacking metallic stiffeners each provided with perforations at opposite ends thereof, respectively, to shoe-shanks, a receptacle having two opposite downwardly-converging sides each provided with a plurality of grooves adapted to guide tacks directly into said perforations at opposite ends, respectively, of said stiffeners.

30. In a machine for tacking metallic stiffeners each provided with perforations at opposite ends thereof, respectively, to shoe-shanks, a receptacle having two opposite downwardly-converging sides each provided with a plurality of grooves adapted to guide tacks directly into said perforations at opposite ends, respectively, of said stiffeners, and means for feeding tacks to said grooves.

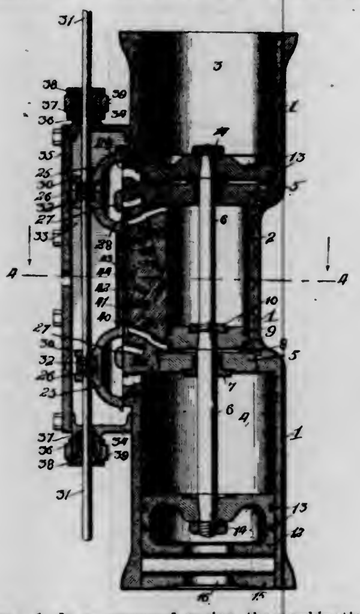
31. In a machine for tacking metallic stiffeners each provided with perforations at opposite ends thereof, respectively, to shoe-shanks, a receptacle having two opposite downwardly-converging sides each provided with a plurality of grooves adapted to guide tacks directly into said perforations at opposite ends, respectively, of said stiffeners, and means for feeding said stiffeners transversely of said grooves.

32. In a machine for tacking metallic stiffeners each provided with perforations at opposite ends thereof, respectively, to shoe-shanks, a receptacle having two opposite downwardly-converging sides each provided with a plurality of grooves adapted to guide tacks directly into said perforations at opposite ends, respectively, of said stiffeners, means for guiding said stiffeners transversely of said grooves, and means for feeding said stiffeners transversely of said grooves.

33. In a machine for tacking metallic stiffeners each

provided with perforations at opposite ends thereof, respectively, to shoe-shanks, a receptacle having two opposite downwardly-converging sides each provided with a plurality of grooves adapted to guide tacks directly into said perforations at opposite ends, respectively, of said stiffeners, means for guiding said stiffeners transversely of said grooves, and mechanism for tacking one of said stiffeners to one of said shoe-shanks.

842,985. COMPOUND ENGINE. WILLIAM A. WEBSTER, Monmouth, Ill. Filed Dec. 9, 1904. Serial No. 236,332.



Claim.—1. In a compound engine, the combination of a primary cylinder, a secondary cylinder at each end of the primary cylinder with the cylinders arranged tandem and the primary cylinder of smaller capacity than the secondary cylinder, a passage for both inducting and educting pressure at each end of the primary cylinder, a passage for both inducting and educting pressure at the inner end of each secondary cylinder and adapted to be brought into communication with its companion inducting and educting passage of the primary cylinder, an exhaust-passage for each secondary cylinder located between the induction and eduction passages of the primary and secondary cylinders for alternately supplying pressure to and exhausting pressure from the secondary cylinder, a slide-valve for each set of passages controlling the induction and eduction of pressure into and from the primary and secondary cylinders and having an induction-opening of less dimension than the eduction-opening, and a pressure-receiving chest inclosing the slide-valve and mounted on the main casing of the engine, substantially as described.

2. In a compound engine, the combination of a primary cylinder, a secondary cylinder at each end of the primary cylinder, with the cylinders arranged tandem and the primary cylinder of smaller capacity than the secondary cylinder, a passage for both inducting and educting pressure at each end of the primary cylinder, a passage for both inducting and educting pressure at the inner end of each secondary cylinder and adapted to be brought into communication with its companion inducting and educting passage of the primary cylinder, an exhaust-passage for each secondary cylinder located between the induction and eduction passages of the primary and secondary cylinders for alternately supplying pressure to and exhausting pressure from the secondary cylinder, a slide-valve for each set of passages controlling the induction and eduction of pressure into and from the primary and secondary cylinders and having an induction-opening of less dimension than the eduction-opening, and a pressure-receiving chest inclosing the slide-valve and mounted on the main casing of the engine, substantially as described.

3. In a compound engine, the combination of a primary cylinder, a secondary cylinder at each end of the primary cylinder with the cylinders arranged tandem and the primary cylinder of smaller capacity than the secondary cylinder, a passage for both inducting and educting pressure at each end of the primary cylinder, a passage for both inducting and educting pressure at the inner end of each secondary cylinder and adapted to be brought into communication with its companion inducting and educting passage of the primary cylinder, an exhaust-passage for each secondary cylinder located between the induction and eduction passages of the primary and secondary cylinders for alternately supplying pressure to and exhausting pressure from the secondary cylinder, a slide-valve for each set of passages controlling the induction and eduction of pressure into and from the primary and secondary cylinders and having an induction-opening of less dimension than the eduction-opening, a pressure-receiving chest inclosing the slide-valve and mounted on the main casing of the engine, and a rod slidable in the end walls of the pressure-receiving chest and having both slide-valves mounted thereon, substantially as described.

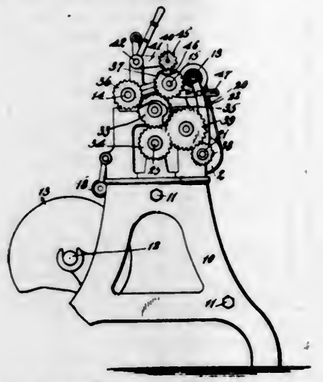
4. In a compound engine, the combination of a primary cylinder, a secondary cylinder at each end of the primary cylinder, with the cylinders arranged tandem and the primary cylinder of smaller capacity than the secondary cylinder, a passage for both inducting and educting pressure at each end of the primary cylinder, a passage for both inducting and educting pressure at the inner end of each secondary cylinder and adapted to be brought into communication with its companion inducting and educting passage of the primary cylinder, an exhaust-passage for each secondary cylinder located between the induction and eduction passages of the primary and secondary cylinders for alternately supplying pressure to and exhausting pressure from the secondary cylinder, a slide-valve for each set of passages controlling the induction and eduction of pressure into and from the primary and secondary cylinders and having an induction-opening of less dimension than the eduction-opening, a pressure-receiving chest inclosing the slide-valve and mounted on the main casing of the engine, cut-off plates automatically actuated from the speed of the engine and operating to throttle the passage leading into the primary cylinder, a slidable rod, and arms connecting the slidable rod and the cut-off plates for advancing and receding the cut-off plates, substantially as described.

5. In a compound engine, the combination of a primary cylinder having at its end an induction and eduction passage for pressure, a secondary cylinder in line with the primary cylinder and having at its inner end an inducting and educting passage for pressure, a valve controlling communication between the inducting and educting passages of the two cylinders, a chest for receiving pressure and in communication with the primary cylinder through the inducting and educting passage of said cylinder, and a cut-off plate located below the controlling-valve and operating to throttle the passage leading into the primary cylinder, substantially as described.

6. In a compound engine, the combination of a primary cylinder having at its end an inducting and educting passage for pressure, a secondary cylinder in line with the primary cylinder and having at its inner end an inducting and educting passage for pressure, a slide-valve controlling communication between the inducting and educting passages of the two cylinders, a chest for receiving pressure and in communication with the primary cylinder through the inducting and educting passage of said cylinder, and a cut-off plate located below the controlling-valve and operating to throttle the passage leading into the primary cylinder, substantially as described.

7. In a compound engine, the combination of a primary cylinder having at its end an inducting and educting passage for pressure, a secondary cylinder in line with the primary cylinder and having at its inner end an inducting and educting passage for pressure, a slide-valve controlling communication between the inducting and educting passages of the two cylinders, a chest for receiving pressure and in communication with the primary cylinder through the inducting and educting passage of said cylinder, a cut-off plate located below the controlling-valve and operating to throttle the passage leading into the primary cylinder, a slidable rod, and an arm connecting the slidable rod with the cut-off plate, substantially as described.

842,986. PAPER CUTTING AND PERFORATING MACHINE. SETH WHEELER, Castleton, N. Y. Filed Aug. 1, 1906. Serial No. 328,675.



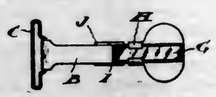
Claim.—1. A paper cutting and perforating machine comprising means for feeding a web, a plurality of longitudinal slitters, a plurality of diagonally-arranged perforators, the length of each of which is substantially equal to the distance between adjacent slitters and the direction of adjacent perforators being opposite with respect to each other, and means for winding up the perforated strips.

2. A paper cutting and perforating machine comprising means for feeding a web, a plurality of perforators arranged side by side, adjacent perforators being arranged obliquely and in opposite directions with respect to each other whereby they will produce lines of zigzag perforations across the web, a plurality of slitters for slitting the web into strips, said slitters arranged in lines with the adjoining ends of the said perforators, and means for winding up the perforated strips.

3. A paper cutting and perforating machine comprising means for feeding a web, a plurality of longitudinal slitters, a rotary shaft, a plurality of sleeves thereon, perforating-knives upon said sleeves secured thereto diagonally with respect to the axis of rotation of the shaft and the perforating-knives of adjacent sleeves arranged oppositely divergent, and take-up means for the product.

4. A paper cutting and perforating machine comprising means for feeding a web, a longitudinal slitting means therefor, and diagonally-arranged tangential perforating-knives.

842,987. CLASP. WILLIAM H. WILLIAMSON, Toronto, Ontario, Canada. Filed Feb. 9, 1906. Serial No. 300,249.



Claim.—1. A clasp comprising jaws hinged together, one of said jaws having a cup formed thereon; a disk of soft material secured to the other jaw and adapted to enter the cup; a pad in the bottom of the cup of less area than the said bottom; and means for forcing the jaws together, substantially as described.

2. A clasp comprising jaws hinged together, one of said jaws having a cup formed thereon; a disk of soft material secured to the other jaw and adapted to enter the cup; a pad in the bottom of the cup; a rivet securing the disk in place and having a head adapted to bed in the pad; and means for forcing the jaws together, substantially as described.

3. A clasp comprising jaws hinged together, one of said jaws having a cup formed thereon provided in its bottom with two transverse slots; a piece of fabric drawn through the slots and carried up the back of the clasp to form a shield; a disk of soft material secured to the other jaw and adapted to enter the cup; and means for forcing the jaws together, substantially as described.

842,988. CLOTHES-LINE HOLDER. LE ROY WILLOUR, Ashland, Ohio. Filed May 21, 1906. Serial No. 318,029.



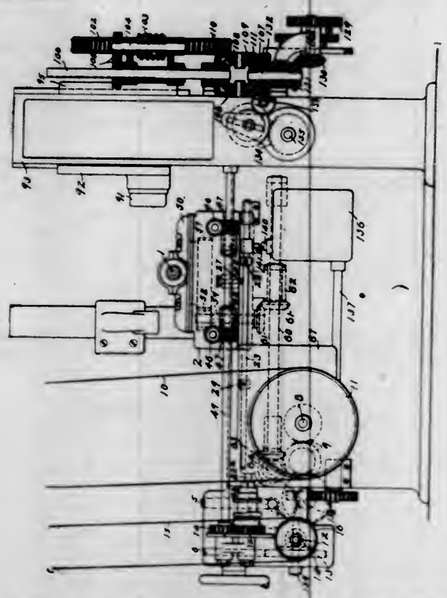
Claim.—A clothes-line holder comprising a supporting-base, a U-shaped frame pivoted axially thereof, superposed pulleys supported from said frame and means for adjustably moving one of said pulleys axially of said frame with relation to the other.

842,989. SPIRAL-CUTTING MACHINE. RICHARD T. WINGO, Providence, R. I., assignor to Brown and Sharpe Manufacturing Company, Providence, R. I., a Corporation of Rhode Island. Filed Jan. 16, 1904. Serial No. 189,319.

Claim.—1. The combination of a rotary blank-support, a reciprocating cutter-slide, a cutter-carriage mounted in guides in said slide arranged at right angles to the line of movement of the slide, and eccentrics at each end of the carriage for moving the carriage in the guides, substantially as described.

2. The combination of a reciprocating cutter-slide, a cutter-carriage mounted thereon, a cutter-spindle mounted in the carriage, a gear mounted in the carriage to move therewith and connected to drive the spindle, a rotary driving member mounted on the slide, intermediate sliding connections between the driving member and gear, and mechanism for moving the carriage on the slide to throw

the cutter into and out of cutting relation, substantially as described.



3. The combination of a reciprocating cutter-slide, a cutter-carriage mounted thereon, a cutter-spindle mounted on the carriage, a shaft extending in the direction of movement of the slide and mounted in fixed bearings, a gear having a sliding connection with the shaft and connected to move with the slide, a gear mounted on the cutter-carriage and connected to drive the spindle, intermediate sliding connections between said gears, and mechanism for moving the carriage on the slide to throw the cutter into and out of cutting relation, substantially as described.

4. The combination with a spindle, of a swivel-head on which the spindle is mounted, a carriage on which the swivel-head is mounted, guides for the carriage parallel to the axis of the swivel-head, a gear on the carriage concentric with the swivel-head and connected to drive the spindle, a second concentric gear having a sliding connection, and mechanism for moving the carriage in the guides, substantially as described.

5. The combination of a reciprocating cutter-slide, a cutter-carriage mounted thereon, a spiral or worm gear mounted on the slide, a gear engaged and driven therefrom, a gear on the carriage connected to drive the spindle and having a sliding connection with said driven gear, and mechanism for moving the carriage on the slide to throw the cutter into and out of cutting relation, substantially as described.

6. The combination of a swivel-head carrying the cutter-spindle, a concentric on the head connected to drive the spindle, a spiral or worm gear held from movement with said head, sliding connections between said gears, a spiral or worm gear engaging and driving said spiral or worm gear, and means for raising and lowering the head, substantially as described.

7. The combination of a reciprocating slide, a carriage movable thereon, a swivel-head on the carriage, a spindle on the head, a gear concentric with the axis of the head connected to drive the spindle, a spiral or worm gear on the slide, a sliding connection between said gears, a gear engaging and driving the gear on the slide, and means for moving the carriage on the slide, substantially as described.

8. A machine for cutting spirals having in combination a reciprocating slide, a cutter-carriage mounted thereon, a swivel-head mounted on the carriage, a cutter-spindle on the head, a shaft extending in the direction of movement of the slide and mounted in fixed bearings, a gear having a sliding connection with the shaft and connected to move with the slide, a gear mounted on the carriage concentric with the head and connected to drive the spindle, intermediate sliding connections between the gears, and mechanism for moving the carriage on the slide to throw the cutter into and out of cutting relation, substantially as described.

9. A machine for cutting spirals having in combination a blank-support, a cutter-carriage, mechanism for reciprocating one of said parts parallel to the axis of the blank-support, mechanism for reciprocating the blank during the cutting whereby a spiral cut is made, guides for the cutter-carriage arranged to guide the carriage in a direction at right angles to the axis of the blank-support, an eccentric at each end of the carriage for moving it in the guides, substantially as described.

10. A machine for cutting spirals having in combination a blank-support, a cutter-carriage, mechanism for reciprocating one of said parts parallel to the axis of the blank-support, mechanism for rotating the blank during the cutting whereby a spiral cut is made, guides for the cutter-carriage arranged to guide the carriage in a direction at right angles to the axis of the blank-support, an eccentric at each corner of the carriage for moving it in the guides, substantially as described.

11. The combination with a cutter-slide, of guides therein, a cutter-carriage mounted in said guides, and four eccentrics for moving the carriage in the guides, substantially as described.

12. The combination with a cutter-slide, of a cutter-carriage guided in said slide, eccentric blocks sliding in said carriage, and eccentrics for operating said blocks to raise and lower the carriage, substantially as described.

13. A machine for cutting spirals having in combination a rotary blank-support, a cutter-support, a feed mechanism for one of said supports, a return mechanism for said support, a device for connecting said mechanisms with the reciprocating support, mechanism for throwing the blank and cutter into and out of cutting relation so controlled by said device that the operation of said device in connecting either the feed or return mechanism with the reciprocating support to reverse its previous movement results in the operation of the mechanism for throwing the blank and cutter into and out of cutting relation, substantially as described.

14. A machine for cutting spirals having in combination a rotary blank-support, a cutter-slide, a feed mechanism, a return mechanism, a device for connecting said mechanisms with the slide, mechanism controlled by said device to throw the blank and cutter into cutting relation when the feed mechanism is connected with the slide and to throw the blank and cutter out of cutting relation when the return mechanism is connected with the slide, substantially as described.

15. A machine for cutting spirals having in combination a rotary blank-support, a cutter-support, a feed mechanism, a return mechanism, a clutch for throwing said mechanisms into operation, mechanism controlled through the movement of said clutch for throwing the blank and cutter into and out of cutting relation, substantially as described.

16. A machine for cutting spirals having in combination a blank-support, a cutter-slide, a feed mechanism, a return mechanism, a clutch for connecting said mechanisms with the slide, mechanism controlled through the movement of said clutch for throwing the blank and cutter into and out of cutting relation, substantially as described.

17. A machine for cutting spirals having in combination a blank-support, a cutter-slide, a feed mechanism, a return mechanism, a reversing-clutch for connecting said mechanisms with the slide, mechanism for throwing the blank and cutter into and out of cutting relation, a clutch for operating mechanism controlled from the reversing-clutch, substantially as described.

18. A machine for cutting spirals having in combination a cutter-slide, a feed mechanism, a return mechanism, a reversing-clutch for connecting said mechanisms with the slide, mechanism controlled through the movement of the clutch for moving the cutter into and out of cutting relation, substantially as described.

19. A machine for cutting spirals having in combination a cutter-slide, a feed mechanism, a return mechanism, a device for connecting said mechanisms with the slide, mechanism controlled by said device to move the cutter into cutting relation whenever the feed mechanism is connected with the slide, and to move the cutter out of cutting relation whenever the return mechanism is connected with the slide, substantially as described.

20. A machine for cutting spirals having in combination, a cutter-slide, a feed mechanism, a return mechanism, a reversing-clutch for connecting said mechanisms with the slide, mechanism for moving the cutter into and out of cutting relation, a clutch for operating said mechanism controlled from the reversing-clutch, substantially as described.

21. A machine for cutting spirals having in combination, a rotary blank-support, a cutter-support, mechanism for feeding one of said supports parallel to the axis of the blank-support, mechanism for returning said support, a device for connecting one or the other of said mechanisms with the reciprocating support, and mechanism for throwing the blank and cutter out of cutting relation set in motion by the operation of said device in connecting the reciprocating support with the return mechanism to reverse its previous movement, substantially as described.

22. A machine for cutting spirals having in combination a rotary blank-support, a cutter-slide, a feed mechanism, a return mechanism, a device for connecting the return mechanism with the slide, and mechanism controlled by said device for throwing the blank and cutter out of cutting relation whenever the return mechanism is connected with the slide to reverse its previous movement, substantially as described.

23. A machine for cutting spirals having in combination a rotary blank-support, a cutter-slide, a feed mechanism, a return mechanism, a clutch for connecting said return mechanism with the slide, and mechanism for throwing the blank and cutter out of cutting relation thrown into operation through the operation of the clutch in connecting the return mechanism with the slide to reverse its previous movement, substantially as described.

24. A machine for cutting spirals having in combination a cutter-slide, a feed mechanism, a return mechanism, a clutch for connecting said return mechanism with the slide, and mechanism for moving the cutter out of cutting relation thrown into operation through the operation of the clutch in connecting the return mechanism with the slide to reverse its previous movement, substantially as described.

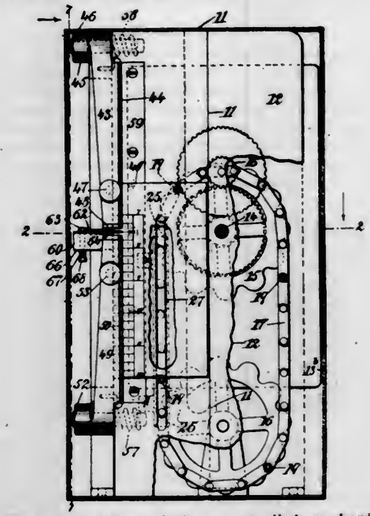
25. A machine for cutting spirals having in combination a cutter-slide, mechanism for reciprocating the same including a reversing-clutch, mechanism for throwing the blank and cutter into and out of cutting relation, a clutch for operating the same, connections between said clutches whereby the shifting of the reversing-clutch throws the other clutch into operation, substantially as described.

26. A machine for cutting spirals having in combination a cutter-slide, mechanism for reciprocating the same including a reversing-clutch, mechanism for moving the cutter into and out of cutting relation, a clutch for operating the same, and connections between said clutches whereby the shifting of the reversing-clutch throws the other clutch into operation, substantially as described.

842,990. TIME-RECORDER. JOHN G. WYNN, Madison, Wis. Filed Oct. 28, 1904. Serial No. 230,309.

Claim.—1. In an apparatus of the character described, the combination of a member provided with a slot for holding a card, a blade for cutting said card, a shear provided with a portion for engaging said blade and also with a cutting portion for engaging said card directly, means for actuating said shear, and time-controlled mechanism provided with movable members for controlling the positions which may be assumed by said card.

2. In an apparatus of the character described, the combination of a casing provided with a slot for holding a card, a time-controlled member provided with a portion protruding into said slot for the purpose of positioning said card relatively to said casing, shearing mechanism for cutting said card at a point adjacent to one of its ends, and separate shearing mechanism for cutting said card at a different time from the other of its ends, so that the uncut portion of said card represents the lapse of time between said cuttings.



3. The combination of time-controlled mechanism for stopping a card at a point relative to a fixed point, and mechanism for removing from said card different quantitative portions thereof so as to leave other quantitative portions of different sizes representing different periods of time.

4. The combination of time-controlled mechanism provided with a movable member for stopping a card in different positions at different moments of time, and mechanism for removing from said card different portions thereof according to the different relative positions occupied by said cards, the lengths of certain portions remaining representing different periods of time.

5. The combination of time-controlled mechanism provided with a movable member, means for sustaining a loose card to be lodged against said movable member, the relative position of said card when lodged against said member being thus controlled by the time of said lodgment, and means for cutting off different quantitative portions of said card.

6. The combination of time-controlled mechanism provided with a movable member, a stationary member provided with a slot disposed adjacent to said time-controlled mechanism and adapted to hold a loose card when dropped into said slot so as to lodge against said movable member, the relative position assumed by said card when thus lodged being controlled by the relative position in which the movable member chances to be found at the moment when said card is dropped, and means for cutting said card, the nature of the cut varying according to the relative position occupied by said card.

7. The combination of time-controlled mechanism provided with a movable member adapted to support a loose card lodged thereagainst, the position of said card varying with the position of said movable member, and means for cutting different quantitative portions of said card, said different portions representing the respective moments of beginning and completing a particular piece of work.

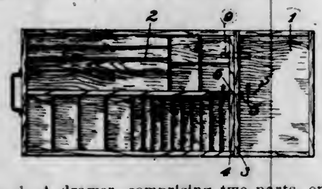
8. The combination of time-controlled mechanism provided with a movable member, means for holding a loose card to be lodged against said movable member, and separate mechanisms for cutting different portions of said card at different moments of time.

9. The combination of sprocket-wheels, a sprocket-chain mounted thereupon and provided with a time-pin, clock mechanism for actuating one of said sprocket-wheels, thus

causing the continuous movement of said sprocket-chain and said time-pin, a member provided with a slot disposed adjacent to said time-pin, guide mechanism for causing said time-pin to protrude into said slot so as to temporarily support a card therein, and means for indicating upon said card the approximate time upon which said time-pin supports said card.

10. The combination of time-controlled mechanism provided with a movable member, mechanism provided with a slot disposed adjacent to said movable member, means for holding a loose card to be dropped into said slot and lodged against said movable member, and separate cutting mechanisms spaced apart and adapted to operate upon different portions of said card for the purpose of indicating upon said card different moments of time when said card engages said movable member.

842,991. DRAWER. GEORGE W. ANDRESS, Chicago, Ill. Filed Mar. 19, 1906. Serial No. 306,801.



Claim.—1. A drawer, comprising two parts, one end of one part meeting one end of the other part on a line transverse to the drawer, said ends being pivotally secured together on an axis longitudinal of the drawer, and means for pivotally securing said ends together, substantially as described.

2. In a device of the kind described, a drawer comprising a supporting part, a display part pivotally connected to one end of said supporting part on an axis longitudinal to the drawer and means for pivotally connecting the parts, in combination with means for receiving and supporting said supporting part.

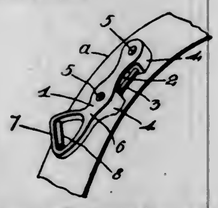
3. In a device of the kind described, a drawer comprising a supporting part, a display part pivotally connected to and supported by one end of said supporting part on an axis longitudinal to the drawer, means for pivotally connecting said parts, and one or more stops adapted to hold the said parts in the desired relation to one another, in combination with means for supporting said supporting part.

4. A drawer comprising a plurality of parts, pivotally connected on an axis longitudinal to the drawer, in combination with mating plates, and one or more stops, said stops adapted to hold the parts in the desired position.

5. A drawer comprising two parts pivotally connected on an axis longitudinal to the drawer, in combination with two engaging plates and one or more stops, said stops adapted to hold the parts in the desired position.

6. A drawer comprising two parts, pivotally connected on an axis longitudinal to the drawer by engaging plates, in combination with one or more resilient stops, said stops adapted to hold the parts in the desired position.

842,992. OVERCHECK-RUNNER AND GAG-HOLDER. HUGH M. APPLEGATE, Unionville, Mo. Filed Mar. 19, 1906. Serial No. 306,895.



Claim.—1. A combined overcheck-runner and gag-holder support comprising a bar having a recess therein to form a loop for an overdraw-checkrein, bosses at the opposite sides of said loop, fastening means passed through said bosses to secure the device to the crown-piece, and a loop formed on the end of said bar for a strap to support a gag-runner for a side-draw checkrein.

2. The herein-described overcheck-runner and gag-holder comprising a bar for attachment to the crown-piece of a bridle having its upper portion recessed on its inner side for the reception of an overdraw-checkrein, an antifriction device in said recess to keep the checkrein out of contact with the crown-piece and having its lower portion terminating in a loop to receive a gag-runner-supporting strap.

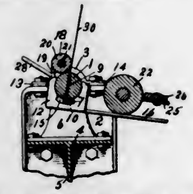
842,993. PROCESS OF ATTACHING AN ABRADING-SURFACE TO METAL. SAMUEL B. ARCHER, Saratoga Springs, N. Y. Filed June 9, 1905. Serial No. 264,403.



Claim.—1. Abrading-tools consisting of metal having a coating of enamel with an abradant embedded therein united to the metal by fusion.

2. The process of attaching an abrading-surface to metal for the purposes specified, consisting in applying a coating of liquid enamel to a metal plate and allowing it to dry, then heating the metal and applying to its coated surface a coating of dry powdered enamel, then heating the whole to a temperature that fuses the powdered enamel and reduces it to a plastic state and while in this condition applying a coating of abrading material and keeping the whole at a high temperature until the enamel sets and holds the abradant firmly to the metal.

842,994. RIDGE-ROLL MACHINE. CHARLES F. BALDWIN, Fond du Lac township, Tazewell county, Ill. Filed Feb. 3, 1906. Serial No. 299,319.



Claim.—1. In a sheet-metal-bending machine, the combination of a rotary longitudinal holder provided with a narrow opening throughout its length extending transversely therethrough for holding the sheet metal, bending means adjacent the holder extending lengthwise thereof for bending portions of the sheet metal protruding from the holder and means connected with said holder intermediate of the ends of the said bending means for rotating the holder.

2. In a sheet-metal-bending machine, the combination of a rotary longitudinal holder provided with a narrow opening throughout its length extending transversely therethrough for holding the sheet metal, bending means adjacent the holder extending lengthwise thereof for bending portions of the sheet metal protruding from the holder, and means connected with said holder, at a plurality of places intermediate of the ends of the said bending means for rotating the holder.

3. In a sheet-metal-bending machine, the combination of a rotary longitudinal holder comprising two longitudinal parts adapted to hold the sheet metal therebetween, bending means adjacent the holder extending lengthwise thereof for bending portions of the sheet metal protruding from the holder, means for rotating the holder and means intermediate of the ends of the said bending means embracing and connecting both parts of the holder.

4. In a sheet-metal-bending machine, the combination of a rotary longitudinal holder comprising two longitudinal parts, adapted to hold the sheet metal therebetween, bending means adjacent the holder extending lengthwise thereof for bending portions of the sheet metal protruding from the holder, a plurality of yokes intermediate the ends of said bending means embracing and connecting both parts of the holder, and means connected to said yoke for rotating the holder.

5. In a sheet-metal-bending machine, the combination of a rotary longitudinal holder provided with a narrow opening throughout its length extending transversely therethrough for holding the sheet metal, a member extending lengthwise of the holder adjacent the edge of the opening therethrough for bending the sheet metal protruding from the holder, and a plurality of bearings intermediate the ends of said bending member bearing against the said holder on the opposite side thereof from the said bending means.

6. In a sheet-metal-bending machine, the combination of a rotary longitudinal holder provided with a narrow opening throughout its length extending transversely therethrough for holding the sheet metal, bending means extending lengthwise of the holder adjacent the edge of the opening therethrough, and a plurality of bearings throughout the length of the holder, said bearings being cut away at each side of the holder adjacent the opening therethrough to permit insertion of the sheet-metal blank therethrough.

7. In a sheet-metal-bending machine, the combination with a rotary longitudinally-divided holder suitably journaled at each end, of a plurality of bearings therefor intermediate of its end supports, said bearings being open at one side of the holder adjacent the juncture of the two parts thereof and having cut-out places therein at the other side of the holder adjacent the juncture of the two parts.

8. In a sheet-metal-bending machine, the combination of a rotary longitudinal holder comprising two relatively immovable longitudinal parts adapted to hold a portion of the sheet-metal blank therebetween, bending means adjacent the holder extending lengthwise thereof and a plurality of yokes intermediate the ends of the bending means embracing and connecting both parts of the holder.

9. In a sheet-metal-bending machine, the combination with a rotary longitudinal holder comprising two parts adapted to hold a portion of the sheet-metal blank therebetween, of a plurality of yokes intermediate of the ends and revoluble with the holder embracing and connecting both parts thereof, the said yokes being cut away to allow insertion of the sheet-metal blank through the holder.

10. In a sheet-metal-bending machine, the combination of a rotary longitudinal holder provided with a narrow opening throughout its length extending transversely therethrough, bending means adjacent and extending lengthwise of said holder for bending portions of the sheet metal protruding from the holder, a plurality of bearings for said holder intermediate the ends of the bending means, and a stop on said bearings for limiting the insertion of the sheet metal through the holder.

11. In a sheet-metal-bending machine, the combination of a rotary longitudinally-divided holder journaled at each end and stationary means on each side of and adjacent the holder for bending the portions of the sheet metal protruding from the holder.

12. In a sheet-metal-bending machine, the combination of a rotary longitudinally-divided sheet-metal holder, a form adjacent said holder, and means revoluble around said form for shaping a portion of the sheet metal protruding from said holder about said form.

13. In a sheet-metal-bending machine, the combination of a rotary sheet-metal holder provided with means for rotating the same, a stationary form adjacent the holder and means for shaping an unheld portion of the sheet-metal blank about said form.

14. In a sheet-metal-bending machine, the combination of a rotary longitudinal holder provided with an opening throughout the length thereof extending transversely therethrough for holding a portion of the sheet metal, means for rotating said holder, means adjacent the holder at one side thereof for bending the sheet metal in the rotation of the holder, a form adjacent the other side of the holder and means revoluble around said form for shaping the sheet metal protruding from the holder about said form.

15. In a sheet-metal-bending machine, the combination with a sheet-metal holder consisting of two relatively immovable parts adapted to hold an intermediate portion of the sheet-metal blank, of means adjacent and operative in connection with the holder adapted to simultaneously bend portions of the sheet-metal blank protruding from each side of the holder.

16. In a ridge-roll machine, the combination of a split member for holding a portion of the sheet-metal blank, a channel-plate adjacent the said split member adapted to limit the insertion of the sheet-metal blank through the slot of the split member and to receive the protruding portion of said blank, means for rotating the said split shaft and mechanism for bending the portions of the sheet-metal blank protruding from the slot of the split shaft during the rotation thereof.

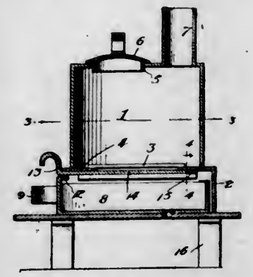
17. In a sheet-metal-bending machine, the combination with a rotary longitudinally-divided sheet-metal holder adapted to hold an intermediate portion of the sheet-metal blank, of a stop adjacent one edge and a form adjacent the other edge of the opening through the holder adapted to simultaneously bend the portions of the sheet-metal blank protruding from the holder in the rotation thereof and a member revoluble about the holder and said form for shaping an unheld portion of the blank about said form, substantially as described.

18. In a ridge-roll machine, the combination with a split shaft suitably arranged to be capable of limited rotary movement, a channel-plate adjacent the said split shaft having the channel thereof adapted to communicate with the slot of the split shaft in every position of the rotation of the split shaft, a cylindrical form adjacent the opposite end of the slot in the split shaft, substantially as and for the purposes specified.

19. In a ridge-roll machine, the combination of a split shaft for holding a portion of the sheet-metal blank, a channel-plate for limiting the insertion of the sheet-metal blank through the slot of the split shaft and for receiving the protruding portion of said blank, means for rotating the said split shaft so that the protruding edge of the sheet-metal blank is bent against the wall of the channel-plate, a cylindrical form adjacent the split shaft adapted to bend the sheet-metal blank during the rotation of the split shaft and means for wrapping a portion of the sheet-metal blank about said cylindrical form, substantially as specified.

20. In a sheet-metal-bending machine, the combination of a rotary longitudinal holder provided with an opening throughout the length thereof extending transversely therethrough for holding the sheet metal, means for rotating said holder, and a member revoluble around said form for bending portions of the sheet metal protruding from said holder.

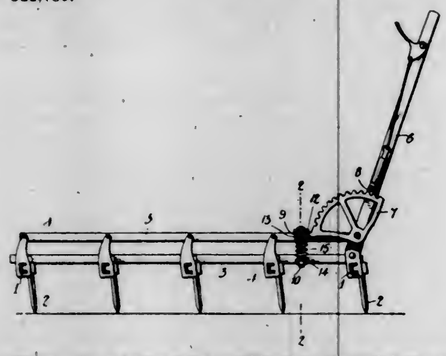
842,995. STOVE. MATHEW W. BARKER, Clarksville, Tenn. Filed May 10, 1906. Serial No. 316,156.



Claim.—A stove having a fire-box, an ash-box below the fire-box, open at one end and having a top forming the bottom of the fire-box and provided with an opening, a bar extended across said opening, guides attached to the bottom of the fire-box, a longitudinally-movable slide engaged by said guides and coacting with said openings to cut off or establish communication between the fire-box and the

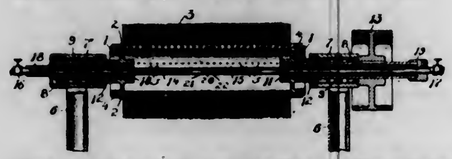
ash-box, and an ash-pan in the ash-box, slidable into and out of the same through the open end thereof and having a flange at its front end, said flange having an opening to clear the slide and through which the latter projects when the ash-pan is in place, the slide and the ash-pan being each removable independently of the other.

842,996. ADJUSTING-LEVER AND RATCHET CONNECTION FOR HARROWS. GEORGE E. BLAINE, Indianapolis, Ind. Filed June 14, 1906. Serial No. 321,780.



Claim.—In a harrow the combination of tooth-bars, an adjusting-bar pivotally connected to said tooth-bars, an adjusting-lever and rack pivotally connected to said adjusting-bar, a laterally-projecting bracket secured to said adjusting-bar, a bolt depending from said bracket, washers disposed on said bolt, a spring on said bolt between said washers, said rack having an apertured lug or ear engaging said bolt between said bracket and the top washer.

842,997. ROTARY BRUSH. DAVID F. BRODERICK, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Sept. 11, 1905. Serial No. 277,827.



Claim.—1. In a rotary brush, bearings, rotating spindles, one of said spindles being hollow, a core formed of segments carried by said spindles, bristles protruding therefrom, a supply-pipe leading through said hollow spindle without touching it and having an outlet within said core, said core having outlet-perforations between the bristles, and means for controlling the supply of fluid through said pipe as desired.

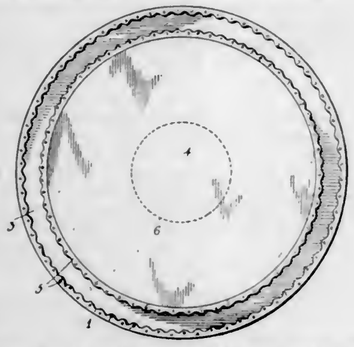
2. A rotary brush comprising bearings, hollow rotating spindles mounted therein, means for applying power to one spindle, a hollow core mounted on said spindles, bristles protruding therefrom, said core having outlet-perforations between the bristles, and supply-pipes leading through said spindles and having outlets within said core for the purpose specified.

3. In a rotary brush, a hollow segmental core having bristles and perforations between the bristles, means for supplying a plurality of fluids to the interior of said core from opposite ends, and means for regulating the supply.

4. A finishing-brush comprising bearings, hollow spindles mounted therein, heads secured to said spindles, a segmental perforated core secured to said heads and having bristles, and feed-pipes leading through both of said spindles and meeting in the center of said core.

5. A finishing-brush comprising, rotating spindles, a hollow perforated brush-core mounted thereon and having bristles, bearings for said spindles, one of said spindles being hollow, a feed-pipe extending through said spindle without touching it, and a support 18 for said pipe secured to one of said bearings.

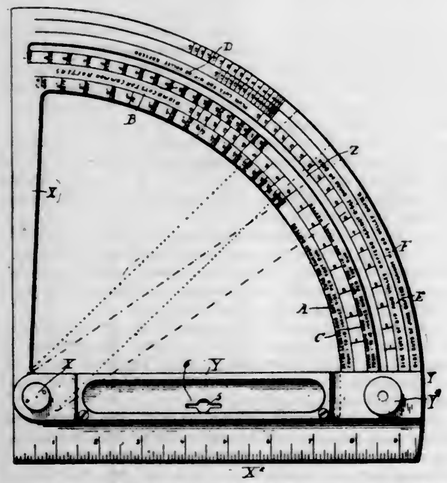
842,998. ARTIST'S PLAQUE. GEORGE BROWN, Chicago, Ill. Filed Feb. 26, 1906. Serial No. 303,045.



Claim.—1. The herein-described plaque consisting of an inner layer of cloth-board, layers of strawboard applied to said cloth-board upon opposite sides thereof, outer layers of pulp-board applied to the strawboard, and a painting-surface applied to the layers of pulp-board, said painting-surface consisting of a coating of mixed white lead, boiled oil, whiting and turpentine, and an ornamental border formed of plastic material applied to the plaque near its outer edge, substantially as described.

2. A plaque of the character described comprising an inner layer of cloth-board, intermediate layers of strawboard, and outer layers of pulp-board, said inner and intermediate layers of cloth and straw board having holes formed therein, substantially as and for the purpose described.

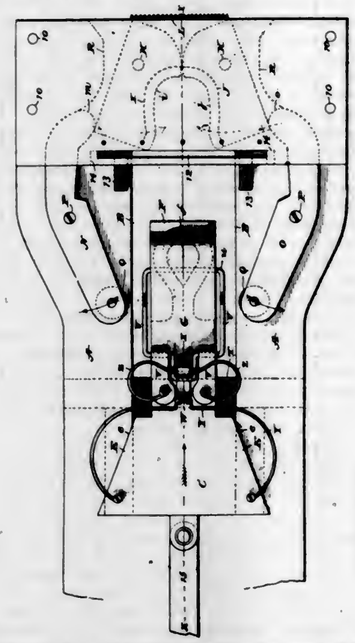
842,999. RAFTER AND POLYGON BEVEL. ALBERT O. CALHOUN, Victor, Mo. Filed Oct. 5, 1906. Serial No. 337,602.



Claim.—1. In a bevel of the character described, a graduated quadrant, a handle pivotally connected at one of its ends at the apex of the quadrant and provided with a level, a screw upon the handle adapted to engage a slot in the quadrant, for securing the handle at any predetermined position upon the quadrant, and a lateral extension of the quadrant having a scale along its outer edge.

2. In a bevel of the character described, the combination with a quadrant graduated as described, a handle pivoted at the apex of the quadrant, and provided with a level, the opposite end of the handle being adapted to move upon the graduated circumference of the quadrant, means for locking the same in its adjusted position, said quadrant being provided with a lateral extension along one of its arms to produce a right angle at the apex of the quadrant, substantially as described.

843,000. THIMBLE-FORMING MACHINE. FREDERICK A. CHRISTENSEN, ANDREW W. BOTT, and EDWIN H. WILBUR, Portland, Me., assignors to The Thomas Laughlin Company, Portland, Me., a Corporation of Maine. Filed July 23, 1906. Serial No. 327,345.



Claim.—1. In a machine of the character described, a separable core member, complementary outside forming members, means for actuating the parts to cause the outside forming members to embrace the core member to shape the material therebetween, and means for automatically opening the core.

2. In a machine of the character described, a core member, complementary outside forming members, means for shifting the core member into position between or away from said outside forming members, and means controlled by said shifting means for forcing said outside forming members into engagement with the core member to form the material therebetween including pivoted levers mounted independently of said forming members engaging said forming members, and a wedge on the carrier adapted to engage said levers to force the forming members into operating engagement with the core member.

3. In a machine of the character described, a core member, complementary outside forming members, means for shifting the core member into position between or away from said outside forming members, means controlled by said shifting means for forcing said outside forming members into engagement with the core member to form the material therebetween including pivoted levers mounted independently of said forming members engaging said forming members, a wedge on the carrier adapted to engage said levers to force the forming members into operating engagement with the core member, and means for normally opening the forming members,

4. In a machine of the character described, a core member, complementary outside forming members, means for shifting the core member to a position between or away from said forming members, means for causing the forming members to engage the core member to bend the material therebetween, means for feeding the blank to be bent comprising a guide for delivering the same at a point in advance of the entrance to the forming members, and means for preventing displacement of the blank in a direction away from the forming members comprising retainers adapted to engage the side of the blank opposite to that which faces the forming members.

5. In a machine of the character described, a core member, complementary outside forming members, means for shifting the core member to a position between or away from said forming members, means for causing the forming members to engage the core member to bend the material therebetween, means for feeding the blank to be bent comprising a guide for delivering the same at a point in advance of the entrance to the forming members, and means for preventing displacement of the blank in a direction away from the forming members, comprising freely-swinging gravity-retainers adapted to engage the side of the blank opposite to that which faces the forming members.

6. In a machine of the character described, a core member, complementary outside forming members, means for shifting the core member to a position between or away from said forming members, means for causing the forming members to engage the core member to bend the material therebetween, means for feeding the blank to be bent comprising a guide for delivering the same at a point in advance of the entrance to the forming members, and instrumentalities for preventing displacement of the blank in a direction away from the forming members or in a direction longitudinal of the blank, comprising freely-swinging gravity-retainers adapted to engage the side of the blank opposite to that which faces the forming members, and lugs depending from the ends of the guide adapted to abut the ends of the blank.

7. In a machine of the character described, a core member of separable sections, complementary outside forming members adapted to open and close upon the core member, the direction of opening of said outside members being in a plane at right angles to the direction of separation of said separable core member, and means for automatically opening said core member after the forming operation.

8. In a machine of the character described, a core member of separable pivoted sections, complementary pivoted outside forming members adapted to open and close upon the core member, the direction of opening of said outside members being in a plane at right angles to the direction of separation of the said separable core member, and means for automatically opening said core member after the forming operation.

9. In a machine of the character described, a core member of separable sections, complementary outside forming members, and means for automatically opening and closing the sections of the core member and the outside forming members.

10. In a machine of the character described, a horizontally-disposed core member, complementary outside forming instrumentalities for bending material around the core member, means for actuating said forming instrumentalities, and means for ejecting the completed article from the core member including a kicker, and means for actuating the kicker whereby in its ejecting movement it moves in part upwardly from the horizontal plane of the core member to throw the article upwardly off from the core member.

11. In a machine of the character described, a core member of separable sections, complementary outside forming members, means for opening and closing said core-sections and outside forming members, and means for ejecting the completed article from the core when opened.

12. In a machine of the character described, a core member, complementary outside forming members, means for

forcing the forming members into engagement with the core member, and means for actuating the core member to shift the same to a position between or away from the forming members, means for feeding the blank to a position between the core member and forming members, when separated, and means for ejecting the completed article from the core member, comprising a kicker at the rear of the core member arranged to engage the article thereon, and means for actuating the same to throw the article upwardly and off from said core member, whereby the machine may be continuously operated.

13. In a machine of the character described, a core member having a hinged section, complementary forming members adapted to engage the core member, means for actuating said forming members, and means for automatically opening the hinged section of the core member to permit extraction of the completed article when the forming members are open.

14. In a machine of the character described, a core member having a hinged section, complementary forming members adapted to engage the core member, means for actuating said forming members, and means for opening the hinged section of the core member to permit extraction of the completed article when the forming members are open, in combination with an ejector and means for automatically operating the same when said hinged section is opened.

15. In a machine of the character described, a core member having a hinged section, complementary forming members adapted to engage the core member, means for actuating said forming members, and means for opening the hinged section of the core member to permit extraction of the completed article when the forming members are open, in combination with an ejector, means for automatically operating the same when said hinged section is opened, and means for automatically restoring the parts to their normal or initial position.

16. In a machine of the character described, forming mechanism including a core member of separable sections, an ejector operatively associated therewith, and means for opening said core member and operating said ejector.

17. In a machine of the character described, forming mechanism including a core member having a pivoted section, an ejector operatively associated with said core member, and means for opening said hinged section of the core member and for operating said ejector.

18. In a machine of the character described, forming mechanism including a core member having a pivoted section, an ejector operatively associated with said core member, and means for opening said hinged section of the core member and for operating said ejector, comprising a tailpiece on said hinged section, a trip therefor, and an arm on said hinged section adapted to engage the ejector.

19. In a machine of the character described, forming mechanism including a core member having a pivoted section, an ejector operatively associated with said core member, and means for opening said hinged section of the core member and for operating said ejector, comprising a tailpiece on said hinged section, a trip therefor, and an arm on said hinged section adapted to engage the ejector, and means for restoring the parts to their initial or normal position.

20. In a machine for forming thimbles, a core member of separable sections, complementary forming members, a carrier for shifting the core member to a position between or away from the forming members, means for discharging a blank at a point in advance of the forming members, means operatively associated with the carrier for causing the forming members to engage the core member when the latter occupies a position between the former, an ejector operatively associated with the core member, and instrumentalities for opening the core member and for operating said ejector upon withdrawal of the core member from the forming members.

21. In a machine for forming thimbles, a core member having a hinged section, complementary forming members, a carrier for shifting the core member to a position between or away from the forming members, means for discharging a blank at a point in advance of the forming members, means operatively associated with the carrier for causing the forming members to engage the core member when the latter occupies a position between the former, an ejector operatively associated with the core member, and instrumentalities for opening the hinged section of the core member and for operating said ejector upon withdrawal of the core member from the forming members.

22. In a machine of the character described, forming mechanism including a core member of separable sections, and means for automatically opening said core member after the forming operation.

23. In a machine of the character described, forming mechanism including a shiftable core member, means carried by said core member for ejecting an article from the core, and means for actuating the ejecting means by the movement of the core member.

24. In a machine of the character described, a core member, complementary outside forming members, means for shifting the core member into a position between or away from said forming members, means for causing the forming members to engage the core member to bend the material therebetween, and means for maintaining a blank in place at a point in advance of the entrance to the forming members comprising movably-mounted retainers adapted to engage the side of the blank opposite to that which faces the forming members.

25. In a machine of the character described, a core member, complementary outside forming members, means for shifting the core member into a position between or away from said forming members, means for causing the forming members to engage the core member to bend the material therebetween, and means for maintaining a blank in place at a point in advance of the entrance to the forming members comprising yieldable retainers adapted to engage the side of the blank opposite to that which faces the forming members.

26. In a machine of the character described, a core member, complementary outside forming members, means for shifting the core member into position between or away from said outside forming members, and means for forcing said outside forming members into engagement with the core member to form the material therebetween including pivoted levers mounted independently of said forming members engaging said forming members, and means movable independently of and arranged to engage said levers to force the forming members into engagement with the core member.

27. In a machine of the character described, a core member, complementary pivotally-mounted outside forming members, means for shifting the core member into position between or away from said outside forming members, and means for forcing said outside forming members into engagement with the core member to form the material therebetween including pivoted levers mounted independently of said forming members engaging said forming members, and means movable independently of and arranged to engage said levers to force the forming members into engagement with the core member.

28. In a machine of the character described, a core member, complementary outside forming members, means for shifting the core member into position between or away from said outside forming members, and means for forcing said outside forming members into engagement with the core member to form the material therebetween including pivoted levers mounted independently of said forming members engaging said forming members, and means movable independently of and arranged to engage said levers to force the forming members into engagement with the core member, in combination with a single means for automatically opening said forming members and their actuating-levers.

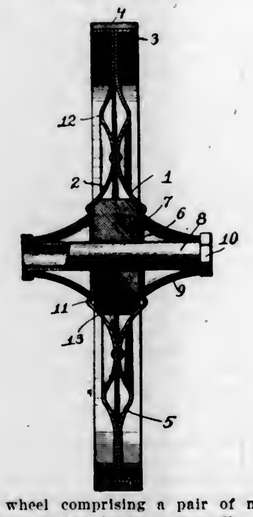
29. In a machine of the character described, a core member, complementary pivotally-mounted outside forming members, means for shifting the core member into position between or away from said outside forming members, and means for forcing said outside forming members into engagement with the core member to form the material therebetween including pivoted levers mounted independently of said forming members engaging said forming members, and means movable independently of and arranged to engage said levers to force the forming members into engagement with the core member, in combination with a spring connecting the pivotally-mounted forming members for automatically opening the same and their actuating-levers.

30. In a machine of the character described, a supporting-frame, forming members pivotally mounted on said frame, a core member, a carrier and means operatively associated therewith for shifting the core member into a position between or away from the forming members, levers also pivotally mounted upon said frame adapted to engage the forming members at one end, and inclined portions on the said carrier adapted to engage the opposite ends of the levers to force the forming members upon the core member when the latter is therewithin.

31. In a machine of the character described, a supporting-frame, forming members pivotally mounted on said frame, a core member, a carrier and means operatively associated therewith for shifting the core member into a position between or away from the forming members, levers also pivotally mounted upon said frame adapted to engage the forming members at one end, and inclined portions on the said carrier adapted to engage the opposite ends of the levers to force the forming members upon the core member when the latter is therewithin, in combination with means for opening the forming members and actuating-levers when the core is withdrawn from the forming members.

32. In a machine of the character described, a core member, complementary outside forming members, means for shifting the core member into a position between or away from said forming members, means for causing the forming members to engage the core member to bend the material therebetween, a frame or base member upon which a blank may rest, and means for maintaining the blank in place at a point in advance of the entrance to the forming members comprising retaining instrumentalities adapted to engage the side of the blank opposite to that which faces the forming members, the frame of the machine opposite the base member being formed with a way through which the blanks may be inserted.

843,001. WHEEL. WILLIAM H. CLARK, Salem, Ohio, assignor to The W. J. Clark Company, Salem, Ohio. Filed Apr. 30, 1906. Serial No. 314,339.



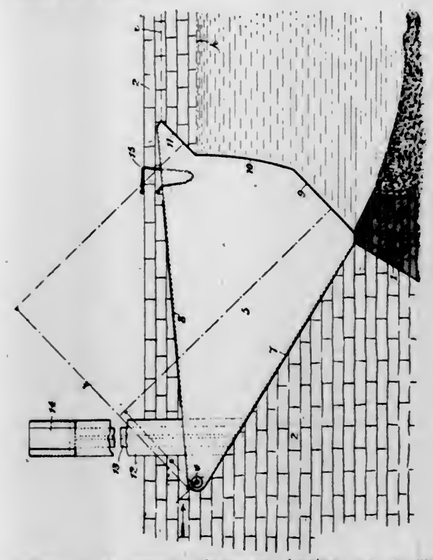
Claim.—A wheel comprising a pair of metallic disks placed back to back and having outwardly-projecting peripheral flanges and having perforated separated flat centers margined by exterior beads, the flat centers joining the body portions of the disk by curves extending from the latter outwardly, a tire on said flanges, a block disposed between the flat centers of the disks, a spindle passing through perforations in the block and in the centers of the disks, bell-shaped hubs disposed upon the spindle and bearing with their inner ends against the flat centers and beads of the disks, the inner ends of the bell-shaped hubs joining the inner portions of the curves uniting the centers and body portions of the disks and their outer ends fitting the spindle, and screw devices connected with the spindle and engaging the outer ends of the hubs and serving to draw the hubs disk-centers and block tightly together, combined substantially as set forth.

843,002. PRINTING-PLATE HOLDER. JAMES A. COREY, Twickenham, England. Filed Dec. 27, 1904. Serial No. 238,461.



Claim.—Means for mounting printing plates and surfaces, consisting of a block, the said block being provided with a slot having overhanging walls, serrations on the under sides of said walls, a block within said slot having serrations therein, a clip and a pin connecting said clip to said after-mentioned block.

843,003. AUTOMATICALLY-MOVABLE DAM-CREST. WILLIAM R. DAVIS, Albany, N. Y. Filed Nov. 16, 1906. Serial No. 343,735.



Claim.—1. A movable dam-crest having one or more active faces acted upon by the rise in level of the water dammed, thereby to automatically lift the crest.

2. A movable dam-crest having one or more active faces and one or more dead faces, said active faces acted upon by the rise in level of the water dammed, thereby to automatically lift the crest.

3. A movable dam-crest having an upper and a lower active face and a dead face between them, said active faces acted upon by the rise in level of the water dammed by the crest to automatically lift said crest.

4. An automatically-lifting dam-crest automatically raised by the increased lifting pressure due to an increase of head of the water dammed, to permit the excess of water to pass under the crest.

5. A movable dam-crest having an active face inclined

upwardly and toward the water dammed, to automatically lift the crest by reason of the increased head of the dammed water, substantially as described.

6. A movable dam-crest having an active face normally below an active face normally above the normal water-level of the water dammed and both acted upon by the increase of head in the water dammed to automatically lift the crest, substantially as described.

7. The combination with a dam and lateral abutments, of an automatically-movable dam-crest mounted between the abutments, one or more active faces on said crest acted upon by the head due to the rise above normal of the level of the water dammed, and means to limit the rise of the crest, substantially as described.

8. The combination with a dam and abutments; of a movable dam-crest movable about a horizontal axis, one or more active faces thereon acted upon by the head due to the rise above normal of the level of the water dammed, and a counterweight carried by the crest, substantially as described.

9. The combination with a dam and abutments; of a horizontal shaft mounted between the abutments, and a substantially sector-shaped dam-crest mounted at its center of rotation on the shaft and resting on the dam, said crest having one or more active faces acted upon by the rise of the water dammed above the normal level to automatically raise the dam-crest, and a counterweight carried by the dam-crest.

10. The combination with an automatically-movable dam-crest; of a counterweight freely suspended on the dam-crest and means to limit the swing of the counterweight and thereby automatically change the effective point of application of the weight, substantially as described.

11. The combination with a dam and lateral abutments; of an automatically-movable crest, normally resting on the dam, a pair of arms extending upwardly from the crest, a counterweight suspended from the arms, and rearwardly-projecting inclined arms having upwardly-extending ends in the path of swing of the weight to limit the swing of said weight, substantially as described.

12. The combination with a dam and lateral abutments; of a shaft mounted between the abutments at about the normal water-level, a substantially sector-shaped dam-crest mounted at its center of rotation on the shaft, said crest having a curved dead face whose center of curvature is that of the shaft, and an upper and lower inclined active face acted upon by the head due to the rise in level of the water dammed, upwardly-extending arms secured to the sides of the crest, a shaft mounted in the upper ends of the arms, a counterweight-box, hangers, suspending the box from the second shaft and means to limit the swing of the box, substantially as described.

13. An automatically-moving dam-crest having a damming face of a general convex form presented to the water dammed, means to pivot the dam at about the center of curvature of the face, said face acted upon by the increased head of water dammed to permit the excess of water to pass under the crest.

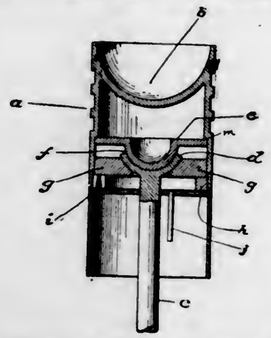
843,004. CONNECTING-ROD FOR TRUNK-PISTONS. HERMAN DOCK, Wyncote, Pa., assignor to Dock Gas Engine Company, a Corporation of New Jersey. Filed Apr. 25, 1906. Serial No. 313,557.

Claim.—1. A connecting-rod having a cupped or concaved bearing-face at its end.

2. A connecting-rod for a trunk-piston, said connecting-rod having a cupped or concaved bearing-face at its end.

3. The combination with a connecting-rod, having a cupped or concaved bearing-face at its end, of a trunk-piston having a similarly-curved but convex surface upon which said rod has its bearing.

4. The combination with a connecting-rod, having a cupped or concaved bearing-face at its end, of a trunk-piston, having a similarly-curved but convex surface upon which said rod has its bearing, the cupped end and convexly-curved bearing-surfaces being concentric.



5. The combination with a connecting-rod, having a cupped or concaved bearing-face at its end, of a trunk-piston having a removable transverse bearing-plate provided with a similarly-curved but convex bearing-surface for said concaved bearing end of the connecting-rod.

6. The combination with a connecting-rod, having a cupped or concaved bearing-face at its end, of a trunk-piston having a transverse bearing-plate provided with a convexly-curved bearing-surface for said concaved end of the connecting-rod, and means carried by the piston to hold said concaved bearing end of the rod in bearing contact with the convex bearing-surface of said plate.

7. The combination with a connecting-rod, having a cupped or concaved bearing-face at its end, of a trunk-piston having a convex bearing-surface upon the end of which said connecting-rod has its bearing, and adjustable means to hold said concaved end in proper bearing contact with said convex bearing-surface.

8. The combination with a connecting-rod, having a cupped or concaved bearing-face at its end, of a trunk-piston having a convexly-curved surface upon which said cup end has its bearings, a removable rod-retaining gland having a clearance passage for said rod, and adjustable means for holding said gland and rod in place.

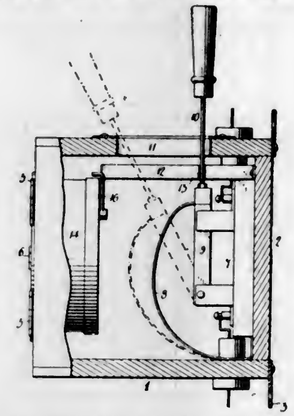
9. The combination with a connecting-rod, having a concaved bearing end, of a trunk-piston having a plate provided with a convexly-curved bearing-surface for said bearing end of the connecting-rod, a gland, an adjustable split ring, and means to expand said ring to hold the gland in place.

10. The combination with a connecting-rod, having a concaved bearing end, of a trunk-piston having a convexly-curved surface upon which the end of said rod has its bearing, a rod-retaining gland, a threaded retaining-ring for holding said gland and coacting threads in the trunk-piston arranged to receive the threaded retaining-ring, and means to lock said ring when the bearing-surfaces are in proper contact.

11. The combination with a connecting-rod, having a concaved bearing end, of a trunk-piston having a plate provided with a convexly-curved bearing-surface for said bearing end of the connecting-rod, a rod-retaining gland, a split ring, said ring being threaded on its outer surface and acting to retain said gland, coacting threads in the trunk-piston, and a taper screw at the split portion of said ring to expand or lock said ring.

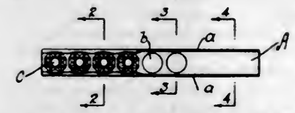
843,005. AUTOMATIC ELECTRIC TIME-SWITCH. LESLIE C. DORLAND, Poughkeepsie, N. Y. Filed June 8, 1906. Serial No. 320,859.

Claim.—The herein-described automatic time-switch apparatus comprising the casing having the movable door and provided with the slot in one side, an alarm-clock having a trip-arm attached to the winding-arbor of the alarm mechanism, a switch secured in the casing and having a switch-lever extending through and operating in the said slot, a spring to open the switch-lever, and the spring-detent arm to engage and normally hold the switch-lever in closed position, said spring-detent arm having one end



secured to the casing and the other disposed in the path of the trip-arm, when the door of the casing is closed, for the purpose set forth.

843,006. STONE GALLERY. GEORGE W. DOVER, Cranston, R. I., assignor to George W. Dover Company, a Corporation of Rhode Island. Filed May 3, 1906. Serial No. 315,009.



Claim.—1. In a stone gallery, the combination with a bar in a single piece having marginal flanges to overlap the edges of stones, said bar being provided in its upper surface with a series of conical seats below said flanges, of stones in said seats with their edges overlapped by said marginal flanges.

2. A stone gallery composed of a straight rectangular bar in a single piece having lateral integral flanges, and conical seats in the upper face of the bar between its flanges.

3. In a stone gallery, the combination with a straight rectangular bar in a single piece provided with flanges at its side edges and with seats upon its upper face, of stones mounted in said seats and held by the bent-over flanges of the bar.

4. In a stone gallery the combination with a straight rectangular bar in a single piece provided with a series of conical seats in its upper portion, of stones mounted in the seats, and marginal flanges upon the bar adapted to overlap the edges of the stones.

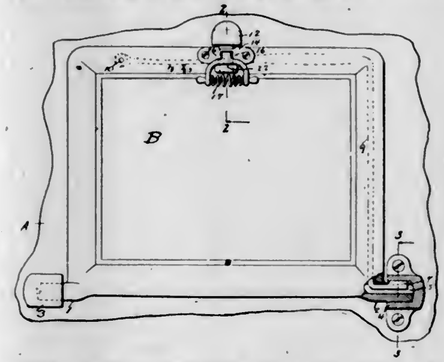
5. A stone gallery comprising a straight rectangular bar in a single piece, integral flanges upon the margins of the upper face of the bar, precious-metal plating upon the exterior of the flanges and the body, and recesses for the stones in the upper portion of the bar below and intermediate the flanges.

6. In a stone gallery the combination with a straight rectangular bar in a single piece provided with a series of recesses in its upper face below and between the hereinafter-named flanges, of stones mounted in the recesses, integral flanges upon the margins of the upper face of the bar adapted to positively engage the stones, and precious-metal plating upon the exterior of the flanges and body.

7. As an improved article of manufacture, a stone gallery composed of a flanged rectilinear bar of seamless plated wire longitudinally milled, and recesses for the reception of stones upon the upper face of the bar between the flanges thereof.

8. As an improved article of manufacture, a stone gallery composed of a flanged rectilinear bar of seamless plated wire longitudinally milled, and recesses for the reception of stones upon the upper face of the bar between the flanges thereof, the metal plating of said seamless wire covering the exterior of the flanges and all of the body except the upper surface thereof.

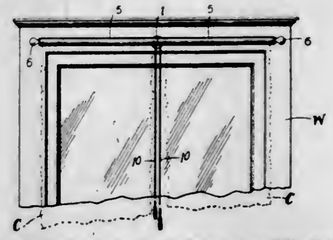
843,007. FURNACE-DOOR. ALVA W. DRAGOO, Murdock, Ill. Filed June 8, 1906. Serial No. 320,863.



Claim.—1. The combination with a hinged door, of a handle pivotally mounted therein, a sliding bolt carried by said door and operated by said handle, one of the hinges of said door being formed with notches, a resilient member having rigid connection with said door and terminating in a toothed end, designed for engagement with said notches, and a positive connection between said bolt and said resilient member whereby movement of the former is transmitted to the latter.

2. The combination with a hinged door, of a handle pivotally mounted therein, a sliding bolt carried by said door and operated by said handle, one of the hinges of said door being formed with notches, an L-shaped resilient member having rigid connection at one end to said door and terminating at its opposite end in a tooth formed with an inclined face and designed for engagement with said notches, and a positive rigid connection between said bolt and said resilient member whereby movement of the former is transmitted to the latter.

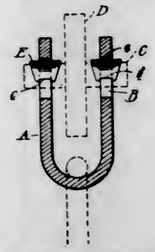
843,008. CURTAIN-POLE. GEORGE GERHEISER, St. Louis, Mo. Filed Sept. 1, 1906. Serial No. 332,917.



Claim.—A curtain-pole comprising a middle stationary section slotted longitudinally to a certain depth and for a portion of its length, terminal tubular sliding sections enveloping the said stationary section, a lug carried by each sliding section and operating in the slot of the middle section, the latter having a central opening leading from the base of the slotted or chambered portion thereof, studs located at opposite ends of the stationary section, and on opposite sides of the central opening aforesaid, and a cord secured to the lugs of the sliding sections and passing over the studs aforesaid, the ends of the cord emerging from the central opening of the middle section, the por-

tion of the cord coupled to one stud passing respectively out of the central opening in one direction, and in the opposite direction passing over the terminal stud nearest said lug, thence across to the lug of the opposite sliding section and over the opposite terminal stud, thence over the stud at the central opening aforesaid and out through said opening, the parts operating substantially as described.

843,009. SCALE-BEARING. JACOB L. GOOD, Detroit, Mich., assignor to W. F. Stimpson Co., Detroit, Mich., a Corporation of Michigan. Filed June 2, 1906. Serial No. 319,858.



Claim.—1. A scale-bearing comprising an apertured member, a bearing-segment having notched ends and engaging said aperture and shoulders on said member with which the notches of said segment engage to hold the same from detachment in any direction.

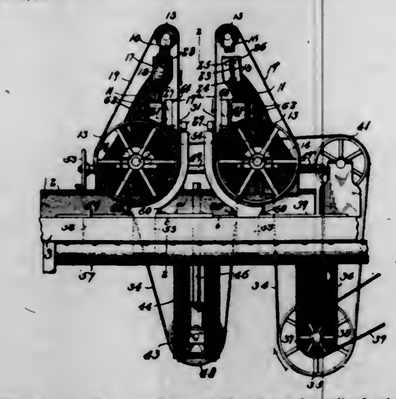
2. A scale-bearing comprising an apertured member, a resilient bearing-segment arranged to be sprung into engagement with said aperture and interlocking bearings on the ends of said segment and on the member.

3. A scale-bearing comprising an apertured member, a resilient bearing-segment arranged to be sprung into engagement with said aperture having a notched end, and a shoulder on said member engaging said notch to prevent detachment of said segment.

4. A scale-bearing comprising an apertured member and a resilient bearing-segment arranged to be contracted and inserted for loose engagement with the aperture in said member, and means for preventing lateral disengagement of said segment from the member.

5. A scale-bearing comprising an apertured member having a portion of the aperture approximately semicircular and of greater diameter than the remainder, a bearing-segment fitting the enlarged portion of the aperture, and having its ends in engagement with the shoulders formed by the walls of the smaller portion of the aperture.

843,010. SANDPAPERING-MACHINE. JOHN GRAMELSPACHER, Jasper, Ind. Filed Feb. 13, 1906. Serial No. 300,900.



Claim.—1. In a machine of the class described, the combination of carriages which are adjustable toward and away from one another, upright abrading-belts carried by the carriages with their inner active plies traveling downward, an adjustable presser-foot mounted on each carriage adjacent the abrading-belt thereof, substantially horizontal work-holding supports mounted upon the carriages and leading inwardly between the active plies and the belts, and means to simultaneously adjust the carriages toward and away from one another.

2. In a sandpapering-machine, the combination with a support having a slot therein, of a guideway upon the support in parallelism with the slot, carriages upon the guideway, shafts mounted upon the carriages transversely of the slot and overhanging the same, drive-pulleys upon the shaft over the slot, a drive-belt working through the slot and engaging the pulleys, a belt-tightener working through the slot, upright abrading-belts driven by the respective shafts, work-holder elements upon the carriage and leading inwardly between the abrading-belts, and means for simultaneously adjusting the carriages toward and away from one another.

3. In a machine of the class described, the combination of a substantially horizontal work-holder, a belt-wheel having a fixed position below the work-holder, a pulley located above the work-holder, an abrading-belt engaging the wheel and the pulley, means for simultaneously moving the wheel, pulley, and belt, a bracket carrying the pulley and pivotally mounted upon the support, and means to adjust the bracket upon its pivotal support to set the active ply of the belt with respect to the work-holder.

4. In a machine of the class described, the combination of spaced carriages, means to adjust the carriages toward and away from one another, work-holding elements upon the carriages, a belt-wheel upon each carriage below the work-holder, a pulley upon each carriage above the work-holder, an abrading-belt engaging a wheel and pulley of each carriage, means for simultaneously moving the wheel, pulley, and belt, and means to adjust each pulley to set the active ply of its belt with respect to the work-holder.

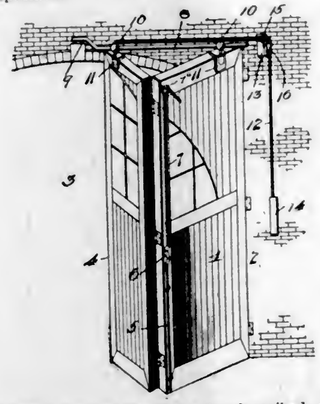
5. In a machine of the class described, the combination with an abrading-belt, of a presser therefor having a hook and a projection upon its front face, and a removable wear-face having a loop to receive the hook and a socket to receive the projection.

6. In a sandpapering-machine the combination with opposite carriages, and means at one end of the machine for simultaneously adjusting the carriages toward or from each other; of an abrading-belt carried by and movable with each carriage, said belts being movable bodily toward and from each other with the carriage, a work-holder upon each carriage, said holders projecting between the belts, and a presser-foot adjustably mounted upon each carriage and bearing upon the belt adjacent the work-holder.

7. In a sandpapering-machine the combination with slils, carriages slidably mounted thereon, means upon each carriage for engaging the slils to prevent displacement of the carriage, and means operated from one end of the machine for simultaneously adjusting the carriages toward and from each other; of an abrading-belt upon each carriage, the adjoining plies of said belt moving in the same direction, a drive-shaft, a flexible element operated by said shaft for actuating the abrading-belts independently of the adjustment of the carriage, means for maintaining said element normally taut, a work-holder upon each carriage, said work-holders extending between the adjoining plies of the abrading-belts, and an adjustable presser-foot upon each carriage and adjacent the work-holder.

843,011. FOLDING DOOR FOR FIRE DEPARTMENTS AND OPENER THEREFOR. LORIN E. HALE and ALVIN M. FOX, Kansas City, Mo., assignors to Anderson Coupling and Supply Company, Kansas City, Mo., a Corporation of Missouri. Filed Aug. 15, 1905. Renewed Oct. 1, 1906. Serial No. 337,000.

Claim.—1. A folding door, of the character described, comprising a plurality of members or doors, and a horizontally-pivoted guide-rod passing through pivotally-mounted lugs on the upper edges of said doors, for the purpose specified.



2. A folding door, of the character described, comprising a plurality of members or doors, a horizontally-pivoted guide-rod passing through pivotally-mounted lugs on the upper edges of said doors, a cord secured to the lug on the inside door and running through a bracket extending out from the wall, so that said cord acts in a line substantially parallel with the guide-rod as the doors are being opened, and a weight on the end of said cord.

3. A folding door, of the character described, comprising a plurality of members or doors, a horizontally-pivoted rod passing through pivotally-mounted lugs on the upper edges of said doors, a cord carrying a weight on its end, said cord secured to the lug on the inside door and running through a bracket on the wall, means to lock the door closed, and means for unlocking and tripping the door, extending in reach of the driver when in his seat on the fire apparatus.

843,012. MANIFOLDING MEANS FOR FLAT-PLATEN TYPE-WRITERS. HIRAM J. HALLE, New York, N. Y., assignor to Elliott-Fisher Company, New York, N. Y., a Corporation of Delaware. Filed Jan. 4, 1906. Serial No. 294,658.

Claim.—1. In a type-writing machine, as a means for producing manifold-records, the combination with a platen, of a plurality of paper sheets and an interposed floating transfer element retained at one edge only and disposed opposite the writing-surface of the platen, and means for holding the transfer element stationary in its normal operative position during the independent advance of the paper.

2. In a type-writing machine, as a means for producing manifold-records, the combination with a platen, of a plurality of paper sheets disposed thereover, a holder disposed parallel to the lines of writing, and a floating carbon interposed between the paper sheets and extended in the direction of the feed thereof from the holder and held stationary by said holder during the independent advance of the paper.

3. In a type-writing machine, as a means for producing manifold-records, the combination with a platen, of a plurality of paper sheets extended thereover, a carbon-holding bar extended between the sheets and supported at one end only, and a floating transfer element interposed between the paper sheets and extended in the direction of the feed thereof from the holding-bar.

4. In a type-writing machine, as a means for producing manifold-records, the combination with a platen, of a holding-bar supported at one end only and extended parallel to the lines of writing, a pair of paper sheets between which the bar is interposed, and a floating transfer element extended in the direction of the paper-feed from the holding-bar and held stationary by the latter during the feeding of the paper.

5. In a type-writing machine, as a means for producing manifold-records, the combination with a platen, of a plurality of paper sheets disposed thereover, a plurality of oppositely-extending holding-bars interposed between the paper sheets, and floating transfer elements alternating with the paper sheets and extended in the direction of the feed thereof from the holding-bars.



6. In a type-writing machine, the combination with a platen, of a paper-guide associated therewith, and a carbon-holder carried by the guide.

7. In a type-writing machine, the combination with a platen, of a paper-guide associated therewith, and a plurality of oppositely-extending carbon-holding devices carried by the guide for disposal within opposite folds of a manifold sheet or strip.

8. In a type-writing machine, the combination with a platen, of a paper-guide extended from one edge thereof, and a carbon-holder detachably mounted on the guide.

9. In a type-writing machine, the combination with a platen, of a paper-guide extended from one edge thereof, and a plurality of parallel carbon-holding bars each supported at one end only by the guide, alternate bars extending in opposite directions from their supported ends.

10. In a type-writing machine, as a means for producing manifold-records, the combination with a flat platen, of a carbon-holder located in a plane below the writing-surface of the platen, and a carbon element extended loosely over the writing-surface of the platen at right angles to the lines of writing from the carbon-holder and having its opposite end unattached.

11. In a type-writing machine, the combination with a platen and a scale-bar overlying one edge thereof, of means for leading paper sheets and interposed transfer means under the scale-bar and over the writing-surface of the platen from a point below said surface.

12. In a type-writing machine, as a means for producing manifold-records, the combination with a platen and an overlying machine-supporting frame, of a plurality of paper sheets and interposed transfer means led between the platen and frame and over the writing-surface of the platen, and means located below the writing-surface of the platen for holding the transfer means stationary during the feeding of the paper.

13. In a type-writing machine, as a means for producing

manifold-records, the combination with a flat platen and an overlying machine-supporting frame, of means for leading a plurality of paper sheets between the frame and over the writing-surface of the platen from a point below the latter, a plurality of holding-bars located below the plane of the writing-surface of the platen, and transfer elements extended loosely from the bars in the direction of the paper-feed and interposed between the paper sheets.

14. In a type-writing machine, the combination with a flat platen and a paper-guide extended from one edge thereof, of a scale-bar overlying the same edge of the platen, and carbon-holding means carried by the guide.

15. In a type-writing machine, the combination with a platen provided with a depression at one edge thereof, of a scale-bar overlying the depression, a paper-guide, and carbon-holding means carried opposite the depression in the platen by the paper-guide.

16. In a type-writing machine, the combination with a flat platen having a depression at one edge thereof, of a scale-bar overlying the depression, a paper-guide located below the scale-bar, and a plurality of oppositely-extending carbon-holding bars carried opposite the depression in the platen by the paper-guide.

17. In a type-writing machine, the combination with a support, of a carbon-holding bar detachably carried thereby, and a locking device for rigidly attaching the bar to the support.

18. In a type-writing machine, the combination with a support provided with an opening, of a carbon-holding bar having a retaining device arranged to extend through the opening in the support and to coöperate with the latter.

19. In a type-writing machine, the combination with a support provided with an opening, of a carbon-holding bar having a retaining device arranged to extend through the opening in the support and to coöperate with the latter, and a locking-cam carried by the bar and coacting with the support to secure the bar in place.

20. In a type-writing machine, as a means for producing manifold-records, the combination with a platen, of mechanism coöperating therewith to feed a plurality of paper sheets, a carbon-holder disposed transverse to the paper-feed, and a transfer element extended loosely from the carbon-holder in the direction of the paper-feed and held stationary by the holder during the feeding of the paper.

21. In a type-writer, as a means for producing manifold-records, the combination with a platen, of means for retaining a plurality of paper sheets opposite the platen, paper-feeding means located opposite that portion of the platen from which the paper is delivered, a holder located opposite that portion of the platen at which the paper is received, and a floating transfer element extended loosely from the holder and interposed between the paper sheets.

22. In a type-writer, as a means for producing manifold-records, the combination with a platen, of means for delivering a plurality of superposed paper sheets to the platen, a holder interposed between the paper sheets, a transfer element extended loosely from the holder in the direction of the paper-feed, and paper-feeding means engaging the paper sheets at a point beyond the unattached portion of the transfer element to effect the independent feed of the paper.

23. In a type-writer, as a means for producing manifold-records, the combination with a platen, of oppositely-disposed carbon-holders adapted for reception within opposite folds of a manifold sheet or strip, carbon elements located within opposite folds of the strip and extended loosely in the direction of the paper-feed from the holders, and paper-feeding means adapted to engage the paper at a point in advance of the transfer elements to effect the independent feed of the paper.

24. In a type-writing machine, the combination with a flat platen and paper-feeding means, of a platen-clamp arranged to clamp the paper on the platen and movable to release the paper when the feeding mechanism is operated.

25. In a type-writing machine, the combination with a platen and paper-feeding mechanism, of a platen-clamp movable to engage and release the paper, and means associated with the paper-feeding mechanism and controlling the operation of the clamp.

26. In a type-writing machine, the combination with a flat platen and paper-feeding means, of a platen-clamp normally clamping the paper on the platen, and mechanism for causing the automatic release of the platen-clamp to permit the feeding of the paper and the automatic re-engagement of the paper by the clamp when the paper has been fed a predetermined distance.

27. In a type-writing machine, the combination with a flat platen and paper-feeding mechanism, of a platen-clamp, and means operated by the feeding mechanism to cause the retention of the paper on the platen by the platen-clamp during the retraction of the feeding mechanism.

28. In a type-writing machine, the combination with a flat platen, of paper-feeding mechanism, a catch therefor, and a platen-clamp coöperatively related to the catch.

29. In a type-writing machine, the combination with a flat platen, of paper-feeding mechanism, a platen-clamp mounted independently of the paper-feeding mechanism to clamp the paper on the platen, and a finger-piece carried by the paper-feeding mechanism and coöperatively related to the platen-clamp.

30. In a type-writing machine, the combination with a flat platen and a normally closed platen-clamp, of paper-feeding mechanism, and means carried thereby for causing the opening and closing of the platen-clamp at the proper time.

31. In a type-writing machine, the combination with a flat platen, of a platen-clamp having a tendency to move to its closed position, stop mechanism resisting such movement, and paper-feeding mechanism coöperating with the stop mechanism to effect the release of the clamp.

32. In a type-writing machine, the combination with a flat platen, of a platen-clamp having a tendency to move to its closed position, paper-feeding mechanism including a feed-slide, and means holding the clamp open and operated by the feed-slide to release the clamp and permit the same to engage the paper.

33. In a type-writing machine, the combination with a flat platen, of a platen-clamp disposed above the platen, and a clamp-operating lever located below the platen.

34. In a type-writer, the combination with a flat platen, of a platen-clamp, an operating-lever therefor, and a finger-piece extended beyond the front end of the platen and co-operatively related to said lever.

35. In a type-writer, the combination with a platen, of a paper-clamp having a tendency to move in one direction, a lever connected to the clamp, and a movable stop obstructing the movement of the lever.

36. In a type-writer, the combination with a platen, of a platen-clamp having a tendency to move in one direction, a lever connected to the clamp, a stop opposing the movement of the lever, and paper-feeding mechanism arranged to move the stop.

37. The combination with a type-writer, of a platen-clamp having a tendency to move in one direction, a pair of levers connected to the opposite ends of the clamp, and means controlling the movement of said levers.

38. In a type-writer, the combination with a platen, of a platen-clamp yieldingly retained in its closed position, means for moving the clamp to its open position, and means for holding the clamp open.

39. In a type-writer, the combination with a platen, of a platen-clamp yieldingly retained in its closed position, means for moving the clamp to its open position, and an automatically-operated device coöperating with said means to prevent the clamp from moving back to its closed position.

40. In a type-writer, the combination with a platen, of a platen-clamp yieldingly retained in its closed position, means for moving the clamp to its open position, a device coöperating with said means to prevent the closing of the clamp, and paper-feeding mechanism coöperating with said device to release the clamp at the proper time.

41. In a type-writer, the combination with a platen, paper-feeding mechanism, and a latch therefor, of a platen-clamp yieldingly retained in its closed position and arranged to be moved to its open position by the catch.

42. In a type-writer, the combination with a platen, paper-feeding mechanism, and a catch therefor, of a platen-clamp and a pair of levers connected to the clamp and arranged to be moved by the catch.

43. In a type-writer, the combination with a platen, of a platen-clamp, paper-feeding mechanism including a feed-slide, and a buffer-rod controlling the movement of the clamp in one direction and operated by the slide.

44. In a type-writer, the combination with a platen-clamp and a feed-slide, of a buffer-rod opposing the movement of the platen-clamp in one direction, and means operated by the feed-slide to move the buffer-rod for the purpose of releasing the clamp.

45. In a type-writer, the combination with a platen, of a platen-clamp having a tendency to move to its closed position, a paper-feeding slide, a catch therefor arranged to move the clamp to its open position, and a buffer-rod opposing the return of the clamp to its closed position and arranged to be operated by the feed-slide to release the clamp.

46. In a type-writer, the combination with a platen, of a platen-clamp, a pair of levers connected to the clamp, reactive means urging the clamp to its closed position, a feed-slide, means carried thereby and coöperating with the levers to move the platen-clamp in one direction, and buffer-rods coöperating with the levers and arranged to be operated by the feed-slide.

47. In a type-writing machine, the combination with a platen, of a platen-clamp disposed thereover, a pair of levers connected to the clamp and arranged under the platen, reactive mechanism for moving the clamp in one direction, means coöperating with the levers to move the clamp in the opposite direction, spring-urged buffer-rods provided with heads arranged to oppose the return of the levers under the impulse of the reactive mechanism, and a paper-feed slide arranged to move the buffer-rods against the resistance of their springs to effect the release of the levers.

48. In a type-writer, the combination with a platen, of a platen-clamp, a feed-slide provided with a feed-clamp movable to its open position upon the release of the slide, means for automatically closing the platen-clamp when the feed-slide reaches the limit of its outward movement, and means for automatically closing the feed-clamp when the feed-slide reaches the limit of its inward movement.

49. In a type-writer, the combination with a platen and a paper-feeding slide, of a platen-clamp having a normal tendency to close, and a feed-clamp having a normal tendency to open.

50. In a type-writing machine, the combination with a platen and a feed-slide, of a platen-clamp having a normal tendency to move to its closed condition, a feed-clamp having a tendency to move to its open position, and means whereby the platen-clamp will be opened to permit the feeding of the paper and closed after the paper has been advanced.

51. In a type-writer, the combination with a platen, of paper-feeding mechanism movable to advance the paper and arranged for retraction independently thereof, a platen-clamp, a feed-clamp, and means for closing the feed-clamp upon the retraction of the paper-feeding mechanism.

52. In a type-writer, the combination with a platen, of a paper-feeding slide, a platen-clamp and a feed-clamp both of which are normally closed, mechanism for opening the platen-clamp to permit the feed of the paper and for closing the same when the paper has been advanced, means for opening the feed-clamp to permit the feed-slide to be retracted independently of the paper, and means for closing the feed-clamp as the slide reaches the limit of its retractile movement.

53. In a type-writer, the combination with a platen, of a paper-feeding slide, a feed-clamp and a movable finger-piece located at the same end of the slide and arranged to be engaged by the hand of the operator when the slide is grasped preparatory to feeding the paper, and a normally closed platen-clamp arranged to be opened by the operation of the finger-piece.

54. In a type-writer, the combination with a platen, of a paper-feeding slide, a feed-clamp and a movable finger-piece located at the same end of the slide and arranged to be engaged by the hand of the operator when the slide is grasped preparatory to feeding the paper, a normally closed platen-clamp arranged to be opened by the operation of the finger-piece, and means for causing the automatic closing of the platen-clamp when the feed-slide reaches the limit of its outward movement.

55. In a type-writer, the combination with a platen, of a paper-feeding slide, a feed-clamp and a movable finger-piece located at the same end of the slide and arranged to be engaged by the hand of the operator when the slide is grasped preparatory to feeding the paper, a normally closed platen-clamp arranged to be opened by the operation of the finger-piece, means for causing the automatic closing of the platen-clamp when the feed-slide reaches the limit of its outward movement, and means for causing the automatic closing of the feed-clamp when the feed-slide reaches the limit of its retractile movement.

56. In a type-writer, the combination with a platen, of a feed-slide, a feed-clamp a pair of levers mounted in the slide and connected to the opposite ends of the feed-clamp, and means coöperating with said levers to effect the operation of the feed-clamp.

57. In a type-writer, the combination with a platen, of a feed-slide, a feed-clamp, a pair of levers mounted in the slide and connected to the opposite ends of the clamp, springs coöperating with the levers to open the clamp, and fixed cams coöperating with the levers to close the clamp against the resistance of the springs.

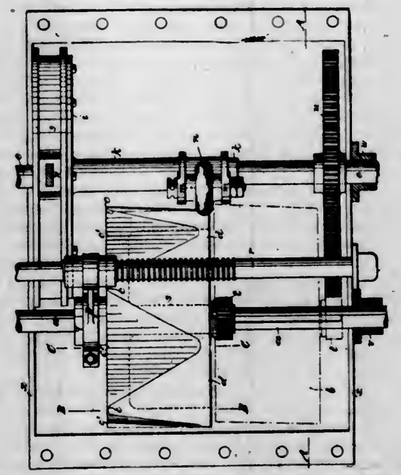
58. In a type-writing machine, as a means facilitating the production of manifold-records, a platen and an endless transfer element adapted to be interposed between paper sheets disposed opposite the platen.

59. In a type-writing machine, as a means facilitating the production of manifold-records, a platen and an endless transfer element having its opposite sides or runs in direct apposition opposite the writing-surface of the platen.

60. In a type-writing machine, as a means facilitating the production of manifold-records, a platen, a holder disposed parallel to the lines of writing, and an endless transfer element extended in the direction of the paper-feed from the holder.

61. In a type-writing machine, as a means facilitating the production of manifold-records, a platen, a holder disposed parallel to the lines of writing, and an endless transfer element extended loosely or floating from the holder.

843,013. POWER-TRANSMITTING MECHANISM. ROBERT HAMILTON, Singapore, Straits Settlements, India. Filed Jan. 15, 1906. Serial No. 296,167.



Claim.—1. In driving or power-transmission mechanism, a rotary driving-body having a fixed axis of rotation and a

peripheral driving-surface, clutch mechanism one portion of which is adapted to be oscillated by said driving-body through said driving-wheel and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, and means for varying the extent of oscillation of said oscillating clutch portion by axial movement of said driving-body relatively to said clutch mechanism.

2. In driving or power-transmission mechanism, a rotary driving-body having a fixed axis of rotation and a peripheral driving-surface, clutch mechanism one portion of which is adapted to be oscillated by said driving-body and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, and means for varying the extent of oscillation of said oscillating clutch portion and for arresting its oscillation, without stopping said driving-body, by axial movement of said body relatively to said clutch mechanism.

3. In driving or power-transmission mechanism, a rotary driving-body having a fixed axis of rotation and a peripheral driving-surface, reversible clutch mechanism one portion of which is adapted to be oscillated by said driving-body and the other portion of which is adapted to be rotated in a step-by-step manner in one direction or the other by said oscillating portion, and means for varying the extent of oscillation of said oscillating clutch portion by axial movement of said driving-body relatively to said clutch mechanism.

4. In driving or power-transmission mechanism, a rotary driving-body, clutch mechanism one portion of which is adapted to be oscillated by said driving-body and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotating clutch portion, means for varying the extent of oscillation of said oscillating clutch portion and thereby varying the speed imparted to said driven body without varying the speed of said driving-body, and means for directly connecting said driving and driven bodies when full speed is attained.

5. In driving or power-transmission mechanism, a rotary driving-body arranged to continuously rotate in one direction, reversible clutch mechanism one portion of which is adapted to be oscillated by said driving-body and the other portion of which is adapted to be rotated in a step-by-step manner in one direction or the other by said oscillating portion, a driven body connected to said rotary clutch portion, means for varying the extent of oscillation of said oscillating clutch portion and thereby varying the speed imparted to said driven body in either direction without varying the speed of said driving-body, and means for directly connecting said driving and driven bodies when full speed is attained in one direction.

6. In driving or power-transmission mechanism, a driving-body, a rotary driving-cam constantly concentric with said driving-body, a lever-arm arranged to be oscillated by said driving-cam, clutch mechanism one portion of which is adapted to be oscillated by said lever-arm and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotary clutch portion, and means for varying the extent of oscillation of said lever-arm by said cam.

7. In driving or power-transmission mechanism, a driving-body, a rotary variable-throw driving-cam constantly concentric with the driving-body, a lever-arm arranged to be oscillated by said driving-cam, clutch mechanism one portion of which is adapted to be oscillated by said lever-arm and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotary clutch portion, and means for displacing said cam and lever-arm relatively to each other in an endwise direction and thereby varying the extent of oscillation of said lever-arm.

8. In driving or power-transmission mechanism, a rotary driving-body having a variable-throw cam-surface formed upon its periphery, a lever-arm arranged to be oscillated thereby, clutch mechanism one portion of which is adapted to be oscillated by said lever-arm and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotary clutch portion, and means for displacing said driving-body and lever-arm relatively to each other and thereby varying the extent of oscillation of said lever-arm.

9. In driving or power-transmission mechanism, a rotary driving-body having a plurality of variable-throw cam-surfaces formed upon its periphery, a lever-arm arranged to be oscillated thereby, clutch mechanism one portion of which is adapted to be oscillated by said lever-arm and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotary clutch portion and means for displacing said driving-body and lever-arm relatively to each other and thereby varying the extent of oscillation of said lever-arm.

10. In driving or power-transmission mechanism, a rotary driving-body having a plurality of variable-throw cam-surfaces extending round its periphery and a cylindrical portion at one side, a lever-arm arranged to be oscillated thereby, clutch mechanism one portion of which is adapted to be oscillated by said lever-arm and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotary clutch portion, and means for displacing said driving-body and lever-arm relatively to each other and thereby varying the extent of oscillation of said lever-arm or arresting such oscillation without stopping the rotation of said driving-body.

11. In driving or power-transmission mechanism, an axially-movable rotary driving-body having a plurality of variable-throw cam-surfaces upon its periphery, a lever-arm arranged to be oscillated thereby, clutch mechanism one portion of which is adapted to be oscillated by said lever-arm and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotary clutch portion, and means for moving said driving-body axially whereby the oscillating lever-arm can be caused to bear upon portions of its periphery of different throw.

12. In driving or power-transmission mechanism, an axially-movable rotary driving-body having a plurality of variable-throw cam-surfaces extending round its periphery and a cylindrical portion at one side, a lever-arm arranged to be oscillated thereby, clutch mechanism one portion of which is adapted to be oscillated by said lever-arm and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotary clutch portion and means for moving said driving-body axially whereby the oscillating lever-arm can be caused to bear upon portions of its periphery of different throw or upon said cylindrical portion.

13. In driving or power-transmission mechanism, an axially-movable rotary driving-body having a plurality of variable-throw cam-surfaces upon its periphery, a lever-arm arranged to be oscillated thereby, clutch mechanism one portion of which is adapted to be oscillated by said lever-arm and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotary clutch portion means for moving said driving-body axially so that the oscillating lever-arm can be caused to bear upon different portions of its periphery and the extent of oscillation of said lever-arm thereby varied, and means whereby said driving-body can, after being moved axially into one of its extreme end positions and said oscillating lever-arm moved out of contact therewith, be directly connected with said driven body.

14. In driving or power-transmission mechanism, an axially-movable rotary driving-body having a plurality of variable-throw cam-surfaces extending round its periphery, and a cylindrical portion at one side, a lever-arm arranged to be oscillated thereby, clutch mechanism one portion of which is adapted to be oscillated by said lever-arm and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotary clutch portion, means for moving said driving-body axially so that the oscillating lever-arm can be caused to bear upon different portions of its periphery, of the variable-throw cam-surfaces or upon the cylindrical portion, and means whereby said driving-body can, after being moved axially into one of its extreme end positions and said oscillating lever-arm moved out of contact therewith, be directly connected with said driven body.

15. In driving or power-transmission mechanism, a rotary driving-cam, a double-armed oscillating lever operated thereby, clutch mechanism one portion of which is adapted to be oscillated by said double-armed lever and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotating clutch portion, and means for varying the extent of oscillation of said double-armed lever.

16. In driving or power-transmission mechanism, a rotary variable-throw driving-cam, a double-armed oscillating lever operated thereby, clutch mechanism one portion of which is adapted to be oscillated by said double-armed lever and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotating clutch portion, and means for displacing said cam and double-arm lever relatively to each other and thereby varying the extent of oscillation of said double-armed lever.

17. In driving or power-transmission mechanism, a rotary driving-body having a variable-throw cam-surface formed upon its periphery, a double-armed oscillating lever operated thereby, clutch mechanism one portion of which is adapted to be oscillated by said double-armed lever and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotating clutch portion, and means for displacing said driving-body and double-armed lever relatively to each other for varying the extent of oscillation of said double-armed lever.

18. In driving or power-transmission mechanism, a rotary driving-body having a plurality of variable-throw cam-surfaces formed upon its periphery, a double-armed oscillating lever operated thereby, clutch mechanism one portion of which is adapted to be oscillated by said double-armed lever and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotating clutch portion, and means for displacing said driving-body and double-armed lever relatively to each other for varying the extent of oscillation of said double-armed lever.

19. In driving or power-transmission mechanism, a rotary driving-body having a plurality of variable-throw cam-surfaces extending round its periphery and a cylindrical portion at one side, a double-armed oscillating lever operated thereby, clutch mechanism one portion of which is adapted to be oscillated by said double-armed lever and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotating clutch portion, and means for displacing said driving-body and double-armed lever relatively to each other for varying the extent of oscillation of said double-armed lever or for arresting such oscillation without stopping the rotation of said driving-body.

20. In driving or power-transmission mechanism, an axially-movable rotary driving-body having a plurality of variable-throw cam-surfaces upon its periphery, a double-armed oscillating lever operated thereby, clutch mechanism one portion of which is adapted to be oscillated by said double-armed lever and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotating clutch portion, and means for moving said driving-body axially so that the lever can be caused to bear upon different portions of its periphery and the extent of oscillation of said lever thereby varied.

21. In driving or power-transmission mechanism, an axially-movable rotary driving-body having a plurality of variable-throw cam-surfaces extending round its periphery and a cylindrical portion at one side, a double-armed oscillating lever operated thereby, clutch mechanism one portion of which is adapted to be oscillated by said double-armed lever and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotating clutch portion, and means for moving said driving-body axially so that the lever can be caused to bear upon different portions of its periphery and the extent of oscillation of said lever thereby varied or said lever can be caused to bear upon the said cylindrical portion and its oscillation arrested.

22. In driving or power-transmission mechanism, an axially-movable rotary driving-body having a plurality of variable-throw cam-surfaces upon its periphery, a double-armed oscillating lever operated thereby, clutch mechanism one portion of which is adapted to be oscillated by said double-armed lever and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotating clutch portion, means for moving said driving-body axially so that said lever can be caused to bear upon different portions of said cam-surfaces and means whereby when said driving-body has been moved axially into one of its extreme positions and said lever moved out of contact with said driving-body said driving-body can be directly connected to the said driven body.

23. In driving or power-transmission mechanism, an axially-movable rotary driving-body having a plurality of variable-throw cam-surfaces extending round its periphery and a cylindrical portion at one side, a double-armed oscillating lever operated thereby, clutch mechanism one portion of which is adapted to be oscillated by said double-armed lever and the other portion of which is adapted to be rotated in a step-by-step manner by said oscillating portion, a driven body connected to said rotating clutch portion, means for moving said driving-body axially so that said lever can be caused to bear upon different portions of said cam-surfaces or upon cylindrical portions of said driving-body, and means whereby when said driving-body has been moved axially into one of its extreme positions and said lever moved out of contact with said driving-body said driving-body can be directly connected to the said driven body.

24. Driving or power-transmission mechanism comprising a rotary driving-shaft, a driving-wheel mounted upon said shaft so as to rotate therewith and axially movable thereon, said driving-wheel having variable-throw cam-surfaces upon its periphery, a double-armed oscillating lever bearing upon the periphery of said driving-wheel, means for moving said driving-wheel axially with reference to said lever, an oscillating clutch portion connected to said lever, a rotary clutch portion, means for connecting the driving-body, and means whereby when said driving-body oscillating clutch portion with the rotary clutch portion when said oscillating clutch portion moves in one direction and for disconnecting said portions when said oscillating clutch portion moves in the opposite direction, and a driven body connected to said rotary clutch portion.

25. Driving or power-transmission mechanism comprising a rotary driving-shaft, a driving-wheel mounted upon said shaft so as to rotate therewith and axially movable thereon, said driving-wheel having variable-throw cam-surfaces upon its periphery, and with a cylindrical portion at one side, a double-armed oscillating lever bearing upon the periphery of said driving-wheel, means for moving said driving-wheel axially with reference to said lever, an oscillating clutch portion connected to said lever, a rotary clutch portion, means for connecting the oscillating clutch portion with the rotary clutch portion when said oscillating clutch portion moves in one direction and for disconnecting said portions when said oscillating clutch portion moves in the opposite direction, and a driven body connected to said rotary clutch portion.

26. Driving or power-transmission mechanism comprising a rotary driving-shaft, a driving-wheel mounted upon said shaft so as to rotate therewith and axially movable thereon, said driving-wheel having variable-throw cam-surfaces upon its periphery, a double-armed oscillating lever bearing upon the periphery of said driving-wheel, means for moving said driving-wheel axially, with reference to said lever, an oscillating clutch-ring connected to said lever, a rotary clutch portion located within said oscillating clutch-ring so as to be surrounded thereby, clutching devices for connecting said oscillating clutch-ring and rotating clutch portion when said oscillating clutch-ring moves in one direction and for releasing said parts when said clutch-

ring moves in the other direction, means for preventing backward movement of said rotary clutch portion, and a driven body connected to said rotating clutch portion.

27. Driving or power-transmission mechanism comprising a rotary driving-shaft, a driving-wheel mounted upon said shaft so as to rotate therewith and axially movable thereon, said driving-wheel having variable-throw cam-surfaces upon its periphery, a double-armed oscillating lever bearing upon the periphery of said driving-wheel, means for moving said driving-wheel axially with reference to said lever, an oscillating clutch-ring connected to said lever, a rotary clutch portion located within said oscillating clutch-ring so as to be surrounded thereby, clutching devices for connecting said oscillating clutch-ring and rotating clutch portion when said oscillating clutch-ring moves in one direction and for releasing said parts when said clutch-ring moves in the other direction, means for preventing backward movement of said rotary clutch portion, a driven body connected to said rotating clutch portion and means for directly connecting said rotary driving-shaft to said driven body when said driving-wheel has been moved to one of its extreme positions, substantially as set forth.

28. Driving or power-transmission mechanism comprising a rotary driving-shaft, a driving-wheel mounted upon said shaft so as to rotate therewith and axially movable thereon, said driving-wheel having variable-throw cam-surfaces upon its periphery, a double-armed oscillating lever bearing upon the periphery of said driving-wheel, means for moving said driving-wheel axially with reference to said lever, an oscillating clutch-ring connected to said lever, a rotary clutch portion located within said oscillating clutch-ring so as to be surrounded thereby, clutching devices for connecting said oscillating clutch-ring and rotating clutch portion when said oscillating clutch-ring moves in one direction and for releasing said parts when said clutch-ring moves in the other direction, a stationary ring corresponding to said oscillating ring and adapted to surround said rotary clutch portion, detent devices between said stationary ring and said rotary clutch portion whereby said rotary clutch portion is prevented from moving backwardly and a driven body connected to said rotary clutch portion.

29. Driving or power-transmission mechanism comprising a rotary driving-shaft, a driving-wheel mounted upon said shaft so as to rotate therewith and axially movable thereon, said driving-wheel having variable-throw cam-surfaces upon its periphery, and with a cylindrical portion at one side, a double-armed oscillating lever bearing upon the periphery of said driving-wheel, means for moving said driving-wheel axially with reference to said lever, an oscillating clutch-ring connected to said lever, a rotary clutch portion located within said oscillating clutch-ring so as to be surrounded thereby, clutching devices for connecting said oscillating clutch-ring and rotating clutch portion when said oscillating clutch-ring moves in one direction and for releasing said parts when said clutch-ring moves in the other direction, a stationary ring corresponding to said oscillating ring and adapted to surround said rotary clutch portion, detent devices between said stationary ring and said rotary clutch portion whereby said rotary clutch portion is prevented from moving backwardly, and a driven body connected to said rotary clutch portion.

30. Driving or power-transmission mechanism comprising a driving-shaft, a driving-wheel mounted to move axially thereon and to rotate therewith, said driving-wheel having variable-throw cam-surfaces upon its periphery, a double-armed oscillating lever bearing upon the periphery of said driving-wheel, means for moving said driving-wheel axially with reference to said lever, an oscillating clutch-ring connected to said lever, a rotating clutch portion, located within said oscillating clutch-ring so as to be surrounded thereby, reversible clutching devices for connecting said oscillating clutch-ring and rotating clutch portion when said oscillating clutch-ring is moved in a forward or backward direction and for releasing them when said clutch-ring is moved in a backward or forward direction, reversible detent devices for preventing backward movement of said rotating clutch portion and a driven body connected to said rotating clutch portion.

31. Driving or power-transmisalon mechanism comprising a driving-shaft, a driving-wheel mounted to move axially thereon and to rotate therewith, said driving-wheel having variable-throw cam-surfaces upon its periphery, and with a cylindrical portion at one side, a double-armed oscillating lever bearing upon the periphery of said driving-wheel, means for moving said driving-wheel axially with reference to said lever, an oscillating clutch-ring connected to said lever, a rotating clutch portion, located within said oscillating clutch-ring so as to be surrounded thereby, reversible clutching devices for connecting said oscillating clutch-ring and rotating clutch portion when said oscillating clutch-ring is moved in a forward or backward direction and for releasing them when said clutch-ring is moved in a backward or forward direction, reversible detent devices for preventing backward movement of said rotating clutch portion and a driven body connected to said rotating clutch portion.

32. Driving or power-transmission mechanism comprising a driving-shaft, a driving-wheel mounted to move axially thereon and to rotate therewith, said driving-wheel having variable-throw cam-surfaces upon its periphery, a double-armed oscillating lever bearing upon the periphery of said driving-wheel, means for moving said driving-wheel axially with reference to said lever, an oscillating clutch-ring connected to said lever, a rotating clutch portion, located within said oscillating clutch-ring so as to be surrounded thereby, a driven body connected to said rotating clutch portion, two sets of clutching devices for connecting said oscillating clutch-ring and rotary clutch portions when said oscillating clutch-ring is oscillated in a forward or backward direction and for releasing them when said clutch-ring is oscillated in a backward or forward direction, one of said sets of clutching devices operating for each direction, a stationary detent-ring similar to the oscillating clutch-ring and also surrounding said rotary clutch portion, two sets of detent devices between said stationary detent-ring and said rotating clutch portion for preventing said rotating clutch portion from moving in the direction that is not required, and a reversing-ring surrounding said oscillating clutch and stationary detent-rings and adapted according to its position to cause the operation of one set of clutching and detent devices, the other set of clutching and detent devices being placed out of operation according to the desired direction of rotation, all of the clutching and detent devices being disengaged when the reversing-ring occupies a mid-position.

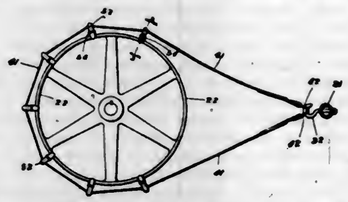
33. Driving or power-transmission mechanism comprising a driving-shaft, a driving-wheel mounted to move axially thereon and to rotate therewith, said driving-wheel having variable-throw cam-surfaces upon its periphery, a double-armed oscillating lever bearing upon the periphery of said driving-wheel, means for moving said driving-wheel axially with reference to said lever, an oscillating clutch-ring connected to said lever, a rotating clutch portion, located within said oscillating clutch-ring so as to be surrounded thereby, a driven body connected to said rotating clutch portion two sets of clutching devices for connecting said oscillating clutch-ring and rotary clutch portions when said oscillating clutch-ring is oscillated in a forward or backward direction and for releasing them when said clutch-ring is oscillated in a backward or forward direction, one of said sets of clutching devices operating for each direction, a stationary detent-ring similar to the oscillating clutch-ring and also surrounding said rotary clutch portion, two sets of detent devices between said stationary detent-ring and said rotating clutch portion for preventing said rotating clutch portion from moving in the direction that is not required, a reversing-ring surrounding said oscillating clutch and stationary detent-rings and adapted according to its position to cause the operation of one set of clutching and detent devices, the other set of clutching and detent devices being placed out of operation according to the desired direction of rotation, all of the clutching and detent devices being disengaged when the reversing-ring occupies a mid-position and means for directly connecting said rotary driving-shaft to said driven body when said driving-wheel has been moved to one of its extreme positions.

34. Driving or power-transmission mechanism comprising a driving-shaft, a driving-wheel mounted to move axially thereon and to rotate therewith, said driving-wheel having variable-throw cam-surfaces upon its periphery, and with a cylindrical portion at one side, a double-armed oscillating lever bearing upon the periphery of said driving-wheel, means for moving said driving-wheel axially with reference to said lever, an oscillating clutch-ring connected to said lever, a rotating clutch portion, located within said oscillating clutch-ring so as to be surrounded thereby, a driven body connected to said rotary clutch portion, two sets of clutching devices for connecting said oscillating clutch-ring and rotary clutch portions when said oscillating clutch-ring is oscillated in a forward or backward direction and for releasing them when said clutch-ring is oscillated in a backward or forward direction, one of said sets of clutching devices operating for each direction, a stationary detent-ring similar to the oscillating clutch-ring and also surrounding said rotary clutch portion, two sets of detent devices between said stationary detent-ring and said rotating clutch portion for preventing said rotating clutch portion from moving in the direction that is not required, a reversing-ring surrounding said oscillating clutch and stationary detent-rings and adapted according to its position to cause the operation of one set of clutching and detent devices, the other set of clutching and detent devices being placed out of operation according to the desired direction of rotation, all of the clutching and detent devices being disengaged when the reversing-ring occupies a mid-position, and means for directly connecting said rotary driving-shaft to said driven body when said driving-wheel has been moved to one of its extreme positions.

35. In driving or power-transmission mechanism, the combination with a driving-body, a driven body, and a rotary clutch of an axially-movable driving-wheel provided with cam-like surfaces and adapted to impart intermittent motion to said clutch through an oscillating two-armed lever adapted to constantly bear against the surface of said driving-wheel, substantially as described and shown.

36. In driving or power-transmission mechanism, a reversible clutch comprising a rotary clutch portion, an oscillating clutch-ring, two sets of clutch devices for connecting said parts together, and a reversing-ring surrounding the oscillating clutch-ring and adapted to bring one or other set of clutch devices into operation or to put both of them out of operation, substantially as described and shown.

843,014. BELT-SUPPORT. ALBERT M. HARRIS, South Bend, Ind. Filed June 21, 1906. Serial No. 322,687.



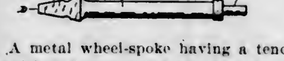
Claim.—1. The combination, with a device of the class described comprising a flexible strip adapted to embrace a pulley and provided at one of its ends with means by which it may readily be detachably held against rotation with the pulley, of transverse bars bearing rollers which come in immediate contact with the surface of the pulley when the device is in use.

2. The combination of a belt-pulley, a belt, and a belt-support, said support comprising a flexible strip adapted to be passed around the belt-pulley, and provided with transverse bars armed with rollers which come in immediate contact with the surface of said pulley when in use, and a device to which one end of said strip may be detachably connected.

3. The combination, with a device of the class described comprising a flexible strip adapted to embrace a pulley and provided at one of its ends with means by which it may readily be detachably held against rotation with the pulley, of transverse bars bearing rollers which come in immediate contact with the surface of the pulley when the device is in use, said rollers being provided with guards whereby the device as a whole is prevented from slipping sidewise off the pulley when in use.

4. The combination of a belt-pulley, a belt, and a belt-support, said support comprising a flexible strip adapted to be passed around the belt-pulley, and provided with transverse bars armed with rollers which come in immediate contact with the surface of said pulley when in use, said rollers being provided with guards whereby the device as a whole is prevented from slipping sidewise off the pulley when in use, and a device to which one end of said strip may be detachably connected.

843,015. METAL WHEEL-SPOKE. CHARLES HEART, Alexandria, Ind. Original application filed May 25, 1905, Serial No. 262,114. Divided and this application filed Sept. 9, 1905. Serial No. 277,744.



Claim.—1. A metal wheel-spoke having a tenon formed integral therewith and comprising two separate joined opposing sides having their edges turned inwardly and forming abutting lips at the joints thereof, and a thimble extending about the tenon and holding the two sides thereof together.

2. A hollow metal wheel-spoke having a tenon formed integral therewith and comprising two sides having their edges turned inwardly and forming abutting lips at the joints of the sides, and a thimble extending about the tenon and across the end thereof, the thimble holding the two sides of the tenon together.

3. A hollow metal wheel-spoke comprising a body part and an integral tenon, the body part having a seam therein and the tenon comprising two separate abutting sides, and a thimble extending about the tenon and also about a portion of the body part and holding the two sides of the tenon together.

4. In a wheel-spoke, the combination with a thimble, of a hollow metal spoke having a tenon comprising two sides each separately formed integral with the body of the spoke and having two lips turned inwardly, the lips of one side abutting against the lips of the other side of the tenon, the end of the spoke and the tenon being inserted in the thimble.

5. In a hollow metal wheel-spoke, the combination with a rectangular tapering end portion of the spoke having a longitudinal seam therein, of two parallel braces extending along the sides of the ends of the sloping plates of said tapering end, said braces having an integral brace attached thereto bearing against the side of said end portion opposite the seam thereof, said parallel braces bearing against the seamed side of said end portion and having lips bearing against opposite sides of said seam.

843,016. HULL FOR SHIPS. OLAF HOLBY, Christiania, Norway. Filed Sept. 27, 1905. Serial No. 280,303.

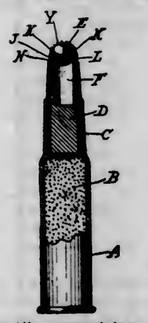
Claim.—1. A ship's hull having a bilge projection at its forward end whose under surface slopes upward and rearward and is normally wholly above the water-line and inactive in calm weather, said under surface serving to propel the ship forward during pitching in heavy seas.

2. A ship's hull having a forward bilge projection at its forward end whose under surface slopes upward and rearward and is normally above the water-line and a bilge projection at each side of the keel at the stern projecting downwardly and outwardly and inclined upwardly toward the rear and concave surfaces connecting the bilge projections with the keel and extending upwardly toward the

rear whereby the pitching of the vessel will propel it forward.



843,017. PROJECTILE. GILBERT H. HOXIE, Chicago, Ill., assignor to Hoxie Ammunition Company, a Corporation of Illinois. Filed Oct. 25, 1906. Serial No. 340,447.



Claim.—1. A projectile comprising an impact part, a jacket open at the forward end, and a jacket-filling, the latter adapted to hold the impact part in position and provided with a relatively free passage-way for the impact part.

2. A projectile comprising an exposed impact part, a jacket open at the forward end, and a jacket-filling, the latter adapted to hold the impact part in position, and provided with a relatively free passage-way for the impact part.

3. A projectile comprising an impact part, a jacket open at the forward end and of relatively tenacious material and a jacket-filling of relatively yielding material, the latter adapted to hold the impact part in position, and provided with a relatively free passage-way for the impact part.

4. A projectile comprising an exposed impact part, a jacket open at the forward end and of relatively tenacious material and a jacket-filling of relatively yielding material, the latter adapted to hold the impact part in position, and provided with a relatively free passage-way for the impact part.

5. A projectile comprising an impact part, a jacket open at the forward end, and a jacket-filling, the latter adapted to hold the impact part in position, and provided with a chamber to form a relatively free passage-way for the impact part.

6. A projectile comprising an exposed impact part, a jacket open at the forward end and a jacket-filling, the latter adapted to hold the impact part in position, and provided with a chamber to form a relatively free passage-way for the impact part.

7. A projectile comprising an impact part, a jacket open at the forward end and of relatively tenacious material and a jacket-filling of relatively yielding material, the latter adapted to hold the impact part in position, and provided with a chamber to form a relatively free passage-way for the impact part.

8. A projectile comprising an exposed impact part, a jacket open at the forward end and of relatively tenacious material and a jacket-filling of relatively yielding material, the latter adapted to hold the impact part in position, and provided with a chamber to form a relatively free passage-way for the impact part.

9. A projectile comprising an impact part, a jacket open at the forward end, and interposed filling material adapted to hold the impact part in position on the jacket, and provide a relatively free passage-way into the jacket.

10. A projectile comprising an impact part, a jacket open at the forward end and with an inner relatively free passage-way, and interposed filling material in the mouth of the jacket and adapted to hold the impact part in position on the jacket in front of such passage-way.

11. A projectile comprising an impact part, a jacket open at the forward end, and interposed filling material in the mouth of the jacket adapted to hold the impact part in position on the jacket, the diameter of the impact part being slightly less than the diameter of the jacket.

12. A projectile comprising an impact part, a jacket open at the forward end and interposed filling material in the mouth of the jacket adapted to hold the impact part in position on the jacket, the diameter of the impact part being slightly less than the diameter of the jacket, said jacket having a relatively free passage-way of less diameter than that of the impact part.

13. A projectile comprising a lead bullet having a recess in its forward end, a jacket inclosing the bullet in part with the forward portion thereof exposed, and an expander-plug arranged in said recess to form the impact-point of the projectile, the said recess having a greater depth than the expander-plug to provide a closed air-chamber at the rear of the expander-plug.

14. A projectile comprising a lead bullet having a central recess in its forward end, a jacket inclosing the bullet in part with the forward portion thereof exposed, and an expander-plug arranged in said central recess to form the impact-point of the projectile, the said central recess having a greater depth than the expander-plug to provide a closed air-chamber at the rear of the expander-plug.

15. A projectile comprising a lead bullet having a tapering recess in its forward end, a jacket inclosing the bullet in part with the forward portion thereof exposed, and an expander-plug arranged in said tapering recess to form the impact-point of the projectile, the said tapering recess having a greater depth than the expander-plug to provide a closed air-chamber at the rear of the expander-plug.

16. A projectile comprising a lead bullet having a central tapering recess in its forward end, a jacket inclosing the bullet in part with the forward portion thereof exposed, and an expander-plug arranged in said central tapering recess to form the impact-point of the projectile, the said central tapering recess having a greater depth than the expander-plug to provide a closed air-chamber at the rear of the expander-plug.

17. A projectile comprising a lead bullet having a recess in its forward end, a jacket inclosing the bullet in part with the forward portion thereof exposed, and an expander-plug of a spherical form arranged in said recess to form the impact-point of the projectile, the said recess having a greater depth than the expander-plug to provide a closed air-chamber at the rear of the expander-plug.

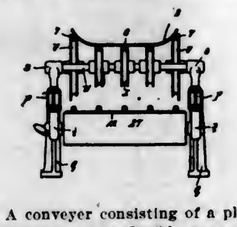
18. A projectile comprising a lead bullet having a central recess in its forward end, a jacket inclosing the bullet in part with the forward portion thereof exposed, and an expander-plug of spherical form arranged in said central recess to form the impact-point of the projectile, the said central recess having a greater depth than the expander-plug to provide a closed air-chamber at the rear of the expander-plug.

19. A projectile comprising a lead bullet having a tapering recess in its forward end, a jacket inclosing the bullet in part with the forward portion thereof exposed, and an expander-plug of spherical form arranged in said tapering recess to form the impact-point of the projectile, the said tapering recess having a greater depth than the expander-plug to provide a closed air-chamber at the rear of the expander-plug.

20. A projectile comprising a lead bullet having a central tapering recess in its forward end, a jacket inclosing the bullet in part with the forward portion thereof exposed, and an expander-plug of spherical form arranged in said central tapering recess to form the impact-point of the projectile, the said central tapering recess having a greater depth than the expander-plug to provide a closed air-chamber at the rear of the expander-plug.

21. A projectile comprising a relatively hard impact part, a relatively hard jacket, and a relatively soft jacket-filling, the latter adapted to hold the impact part in position, and provided with a relatively free passage-way for the impact part, such impact part lying outside of the jacket.

843,018. CONVEYER. JAMES A. JAMIESON, Montreal, Quebec, Canada. Filed Apr. 22, 1905. Serial No. 256,869.



Claim.—1. A conveyer consisting of a plurality of traveling flexible lengths and a flexible apron resting loosely thereon and the flexible lengths supporting the apron in the form of a trough.

2. A conveyer consisting of a plurality of series of sheaves, the sheaves of each series being arranged in tandem relation to the sheaves of the other series, a flexible length supported by each tandem series of sheaves and an endless apron looped over and resting loosely upon and supported in the form of a trough by such flexible lengths.

3. A conveyer comprising an apron resting upon a plurality of loops running over sheaves supporting different portions of the loops and apron in positions presenting a carrying-surface varying from flat to troughed.

4. A conveyer consisting of a plurality of sheaves arranged in two tandem series, a plurality of sheaves of smaller diameter arranged in tandem and located between the tandems first mentioned with their axes in the same plane as the said series, a loop supported by each tandem series and an endless apron resting upon the said loops and supporting the substance being conveyed.

5. A conveyer consisting of a plurality of sheaves arranged in two tandem series, a series of rollers located between the said two tandems with their axes in the same plane as the said series, a pair of endless cables supported by the sheaves and an endless apron supported by the cables and rollers.

6. A troughed conveyer consisting of a plurality of sheaves in two tandem series, a series of rotating devices of smaller diameter than the sheaves, and located between the said series with their axes located in the same horizontal plane as the said series, a pair of loops supported by the two tandem series of sheaves, and endless conveying means supported by the loops and rotating devices.

7. A troughed conveyer consisting of a plurality of sheaves arranged in two tandem series, a series of rollers of smaller diameter than the sheaves and located between the said series their axes located in the same horizontal plane as the said series, a pair of loops supported by the two tandem series of sheaves, and endless flexible conveying means supported by the loops and rollers.

8. A trough conveyer consisting of a plurality of sheaves arranged in two tandem series, a series of rollers of smaller diameter than the sheaves and located between the said series with their axes disposed in the same horizontal plane as the said series, a pair of loops supported by the two tandem series of sheaves, and an endless apron supported by the loops and rollers.

9. The combination of a pair of separated bearing-bases each supporting a pair of shafts, a pair of pulleys one mounted rigidly on each of the opposite shafts, a series of sheaves mounted rigidly on each of the adjacent shafts, a pair of raised longitudinals extending between and in line with the bases, and each supporting a series of pairs of shafts, one shaft of each of the pairs last mentioned having a pair of sheaves mounted rigidly thereon near the ends thereof, the sheaves on each shaft being in tandem relation to the sheaves on the other shafts, the other shaft of each pair having a series of sheaves mounted rigidly thereon and the sheaves of each of such series being in tandem relation, a loop looped over each tandem series, and an endless apron looped over the first-mentioned pair of pulleys and lying upon the loops.

10. The combination of a pair of separated bearing-bases each supporting a pair of shafts, a pair of pulleys one mounted rigidly on each of the opposite shafts, a series of sheaves mounted rigidly on each of the adjacent shafts, a pair of raised longitudinals extending between and in line with the bases, and each supporting a series of pairs of shafts, one shaft of each of the pairs last mentioned having a pair of sheaves mounted rigidly thereon near the ends thereof, the other shaft of each pair having a series of sheaves mounted rigidly thereon and the sheaves of each series being in tandem relation and of smaller diameter than the sheaves last mentioned, a loop looped over each tandem series, and an endless apron looped over the first-mentioned pair of pulleys and lying upon the loops.

11. The combination of a pair of separated bearing-bases each supporting a pair of shafts, a pair of pulleys one mounted rigidly on each of the opposite shafts, a series of sheaves mounted rigidly on each of the adjacent shafts, a pair of raised longitudinals extending between and in line with the bases, and each supporting a series of pairs of shafts, one shaft of each of the pairs last mentioned having a pair of sheaves mounted rigidly thereon near the ends thereof, the other shaft of each pair having a roller mounted rigidly thereon, a loop looped over each tandem series, and an endless apron looped over the end pulleys and lying upon the loops, and intermediate rollers.

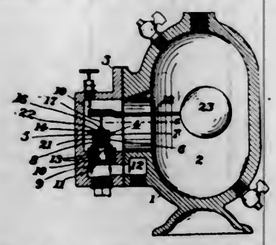
12. The combination of a pair of separated bearing-bases each supporting a shaft, a series of pulleys and a series of sheaves alternating with one another and a pair of raised longitudinals extending between and in line with the bases, and each supporting a series of pairs of shafts, one shaft of each of the pairs last mentioned having a pair of sheaves mounted rigidly thereon near the ends thereof the sheaves on each shaft being in tandem relation to the sheaves on the other shafts, the other shaft of each pair having a series of sheaves mounted rigidly thereon and the sheaves of each of such series being in tandem relation, a loop looped over each tandem series, and an endless apron looped over the pulleys and sheaves and lying upon the loops.

13. The combination of a pair of separated bearing-bases each supporting a shaft, one of such shafts having mounted rigidly thereon a pulley and a pair of sheaves one at each end of the pulley, a series of sheaves intermediate the first-mentioned sheaves and in line with the end portions of the perimeters of the pulleys, a series of deflecting-sheaves between the end sheaves and the intermediate sheaves, a series of pulleys intermediate such first-mentioned pulleys, a pair of loops looped over the end sheaves, the deflecting-sheaves, and the intermediate sheaves, and an endless apron looped over the end pulleys, the intermediate pulleys and supported at its edges by the portions of the loops running upon the intermediate sheaves.

14. The combination of a pair of separated bearing-bases each supporting a shaft, one of such shafts having mounted rigidly thereon a pulley and a pair of sheaves one at each side of the pulley, a series of sheaves intermediate the first-mentioned sheaves and in line with the end portions of the perimeters of the pulleys, a series of deflecting-sheaves between the end sheaves and the intermediate sheaves, a series of pulleys intermediate such first-mentioned pulleys and of smaller diameter than the last-mentioned series of sheaves, a pair of loops looped over the end sheaves, the deflecting-sheaves, and the intermediate sheaves, and an endless apron looped over the end pulleys, the intermediate pulleys and supported at its edges by the portions of the loops running upon the intermediate sheaves for the purpose of troughing the said apron.

15. A conveyer comprising an apron resting upon a plurality of loops running over sheaves of differing diameters supporting different portions of the loops and apron in positions presenting a carrying-surface varying from flat to troughed.

843,019. STEAM-TRAP. ROBERT C. JOHNSTON, Newport, Ky. Filed May 11, 1906. Serial No. 316,353.

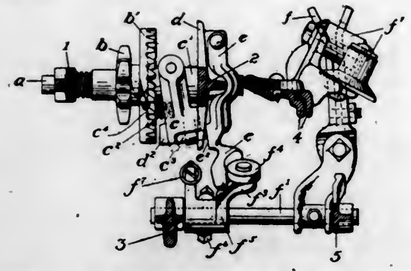


Claim.—1. In a steam-trap, the combination of an initial valve, a follow-up valve having a valve-seat thereon for said initial valve, a vale-seat for said follow-up valve, a perforated cap secured to said follow-up valve, said perforated cap having small side perforations surrounding said cap forming protecting-webs between said perforations throughout the side wall of said cap for permitting the passage of the water of condensation through said perforations and protecting said initial valve from foreign substances, said initial valve having a shoulder adapted to raise said cap, and thereby raise said follow-up valve, and means automatically operated by the water of condensation in said trap for unseating said initial valve and thereby relieving pressure from and unseating said follow-up valve, substantially as described.

2. In a steam-trap, the combination of an initial valve, a follow-up valve having a valve-seat thereon for said initial valve, said follow-up valve having a passage of relatively small diameter communicating with said valve-seat, a valve-seat for said follow-up valve having a passage of relatively large diameter communicating therewith, said follow-up valve having wings extending therefrom into said last-named passage, one or more of said wings being provided with a sideward deflection, a perforated cap secured to said follow-up valve, within which cap said initial valve is located, said perforated cap having small side perforations surrounding said cap forming protecting-webs between said perforations surrounding the side wall of said cap for permitting the passage of the water of condensation through said perforations and protecting said initial valve from foreign substances, and means extending through said cap from said initial valve, and means connecting with said latter means for automatically operating said initial valve from the water of condensation in said trap for relieving initial pressure from said follow-up valve and permitting said follow-up valve to be unseated against a pressure less than the ultimate pressure in said trap at the time of the unseating of said initial valve and causing said follow-up valve to be rotated by the passage of the water of condensation for simultaneously changing the relative contacting faces of both said valves.

3. In a steam-trap, the combination, with a casing, of an initial valve, a follow-up valve having a valve-seat thereon for said initial valve, and a passage of comparatively small diameter communicating with said valve-seat, a valve-seat for said follow-up valve having a passage of comparatively large diameter communicating therewith, said follow-up valve being provided with a sidewardly-deflecting face for causing said follow-up valve to be rotated by the passage of the water of condensation for simultaneously changing the relative contacting faces on both said valves, and means operated by the water of condensation for automatically unseating said valves in the order named.

843,020. CORN-PLANTER. SYLVESTER H. JONES and ELMER E. TOWLE, Richmond, Ind., assignors to The American Seeding Machine Company, Springfield, Ohio; a Corporation of Ohio. Filed Nov. 30, 1906. Serial No. 345,749.



Claim.—1. In a feeding mechanism for corn-planters, a continuously-revolving clutch member, an intermittently-operated clutch member, an antifriction-roller supported at the end of said last-mentioned clutch member, a disk adjacent to the clutch members, a notch formed therein, and means for projecting the friction-roller within the notch, a lever, and means for operating said lever intermittently to throw the roller out of the notch, for the purpose specified.

2. In a feeding device for corn-planters, a continuously-rotating clutch member, an intermittently-operated clutch member, a friction-roller supported thereby, a plain surface adjacent to the roller around which the roller is adapted to revolve, an operating device for said last-mentioned clutch member, a cam-face formed on said operating device, and a friction-roller adapted to engage said surface, and means for intermittently operating said last-mentioned friction-roller for the purpose of causing the engagement of the clutch members, substantially as specified.

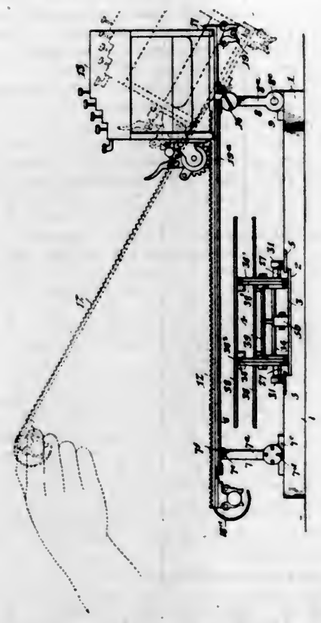
3. In a feeding device for corn-planters, a continuously-operating clutch member, a swinging dog comprising an intermittent clutch member, an antifriction-roller on the dog, a disk having a notch formed therein, means for normally projecting the roller within the notch, a swinging operating device having a flat surface adapted to engage the roller, and means for operating said last-mentioned member and which is formed to fit within the notch in operating position, thereby forming a continuous surface on the disk, for the purpose specified.

843,021. OAR-LOCK AND SOCKET THEREFOR. JAMES LACKIE and FRANK M. POSTON, Bremerton, Wash. Filed June 4, 1906. Serial No. 320,178.

Claim.—The herein-described oar-lock having the inverted-U-shaped swinging top piece pivotally connected to the upper end of one of its arms, said top piece having its free end provided with a catch-hook, the arm of the oar-lock against which said top piece closes being provided with a spring-catch in said recess, having its lower end secured to said arm and its upper end notched to engage with said catch-hook and provided with a finger-piece, substantially as specified.



843,022. COMBINATION BOOK AND BILLING PLATEN FOR TYPE-WRITING MACHINES. CHARLES F. LAGANKE, Cleveland, Ohio, assignor to Elliott-Fisher Company, New York, N. Y., a Corporation of Delaware. Filed May 11, 1905. Serial No. 259,901.



Claim.—1. In a type-writing machine, the combination with a base, of front and rear platen-supports carried thereby, a platen hinged to the rear support and resting upon the front support, and a book-support removably mounted on the base, both of the platen-supports being depressible to permit the platen to occupy a depressed position when the book-support is removed from the base and a machine-supporting frame also hinged to the rear platen-support and overlying the platen and depressible with the latter.

2. In a type-writing machine, the combination with a base, of front and rear platen-supports hinged thereto, and a platen hinged to one of said supports and arranged to rest loosely upon the other, whereby said platen may be swung up from its normal position independently of the supports or depressed by the swinging of the supports relative to the base.

3. In a type-writing machine, the combination with a base, of a book-support removably mounted thereon, front and rear platen-supports hinged to the base, and a platen hinged to the rear support and loosely supported by the front support.

4. In a type-writing machine, the combination with a base having a transverse depression, a book-support slidably received therein, and front and rear swinging platen-supports, of means carried by the base for swinging said supports, and a platen hinged to the rear platen-support and rested upon the front platen-support.

5. The combination with vertically-movable platen-supporting means, of a platen sustained thereby, and a machine-supporting frame including tracks or guides hinged intermediate of their ends to the platen-supporting means.

6. In a type-writing machine, the combination with vertically-movable platen-supports, of a platen hinged to one of said supports, and a machine-supporting frame hinged to one of the platen-supports at a point in advance of the rear end of said frame and overlying the platen.

7. In a type-writing machine, the combination with vertically-movable platen-supporting means, of a platen hinged at its rear end to the said supporting means, and a machine-supporting frame having its rear end extended beyond the rear end of the platen and hinged coaxially with the platen to the platen-supporting means.

8. In a type-writing machine, the combination with a base, of platen-supporting means hinged thereto, and a platen and a machine-supporting frame hinged independently of each other to the platen-supporting means.

9. In a type-writing machine, the combination with a base, of front and rear platen-supports carried by the base and vertically movable with respect thereto, a platen hinged to the rear platen-support and resting upon the front platen-support, and a machine-supporting frame arranged to overlie the platen and also hinged to the rear platen-support.

10. In a type-writing machine, the combination with a base, of front and rear platen-supports hinged thereto, a platen hinged to the rear support and resting loosely upon the front support, and a machine-supporting frame overlying the platen and hinged to the rear platen-support.

11. In a type-writing machine, the combination with a base, of front and rear platen-supports hinged thereto, a platen hinged to the rear support and resting loosely upon the front support, a machine-supporting frame overlying the platen and hinged to the rear platen-support, and means for swinging the platen-support to raise or lower the platen.

12. In a type-writing machine, the combination with a platen, of a machine-supporting frame hinged at a point in advance of its rear end, a machine mounted to travel on said frame, means for arresting the machine in position to substantially counterbalance the machine-supporting frame, whereby said machine, when moved to its rearmost position, will facilitate the swinging of the rear supporting-frame without actually performing that function.

13. In a type-writing machine, the combination with a vertically-adjustable platen-support, of a platen carried thereby, a machine-supporting frame hinged in advance of its rear end to the platen-support, a machine mounted to travel on the frame, and means for arresting the machine in position to constitute a substantial counterbalance for the frame, whereby the latter may be readily swung slightly with reference to the platen to facilitate the manipulation of the work.

14. A book-support comprising a pair of vertically-movable leaves, a separate support for each leaf, said support including two pairs of crossed arms, and a transverse rod connecting the two pairs of arms and also connecting the arms of each pair at their points of intersection, and a rocker having connection with the transverse rods of the two leaf-supports to compel corresponding but opposite movements thereof.

15. A book-support, comprising a base, two leaves movable toward and from the base, a separate support for each leaf, each support including connected crossed arms each having pivotal connection with the base and leaf, certain of said pivotal connections being loose, and an angular rocker pivoted at its middle to the base and having operative connection at its opposite ends with the respective leaf-supports.

16. A book-support comprising a pair of vertically-movable leaves, supports for the leaves, a rocker connecting the supports, and means associated with the rocker for opposing yielding resistance to the movement thereof.

17. A book-support comprising a pair of vertically-movable leaves, supports for the leaves, a rocker connecting the supports to compel corresponding opposite movements of the leaves, a brake-bar movable with the rocker, and a frictional device opposing the movement of the bar.

18. A book-support comprising a pair of leaves, supports therefor, a rocker connecting the supports, a brake-bar movable with the rocker, and jaws engaging the brake-bar and opposing frictional resistance to the movement thereof.

19. A book-support comprising a pair of vertically-movable leaves, supports therefor, a rocker connecting the supports to compel corresponding opposite movements of the leaves, a brake-bar associated with the rocker, and clamps engaging the opposite ends of the brake-bar and opposing frictional resistance to the movement thereof.

20. A book-support comprising a pair of vertically-movable leaves, means compelling uniform but opposite movements of said leaves, and a retarding device opposing movement of the leaves, said device including a pair of clamping-jaws, a part frictionally engaged by the jaws, and adjusting means for the jaws.

21. In a type-writing machine, the combination with a base, of front and rear platen-supports hinged at their lower ends to the base and located exclusively above the bottom of the latter to permit said base to rest upon a table-top, a platen supported by the upper ends of the platen-supports and depressible when said supports are swung down toward the platen, a machine-supporting frame associated with the platen, said frame and platen being both hinged to the rear platen-support, a transverse guideway formed in the base between the front and rear platen-supports, and a book-support slidable in said guideway to and from a position beneath the platen when the latter occupies an elevated position.

22. In a type-writing machine, the combination with a base, of front and rear platen-supports hinged at their lower ends to the base and arranged to swing down parallel with the latter, a book-support removably mounted on the base between the platen-supports, a platen sustained by the upper ends of the platen-supports and hinged to the rear platen-support, and a machine-supporting frame overlying the platen and hinged independently thereof to the rear platen-support.

23. In a type-writing machine, the combination with a base, of front and rear platen-supports hinged to the base, a platen hinged to the rear platen-support and resting upon the front platen-support, a machine-supporting frame arranged to overlie the platen and also hinged to the rear platen-support, and means for swinging the platen-supports to raise or lower the platen.

24. The combination with a base, of front and rear platen-supports, hinged to the base, a platen hinged to the rear platen-support and resting upon the front platen-support, a machine-supporting frame arranged to overlie the platen and also hinged to the rear platen-support, and a book-rest removably mounted on the base below the platen.

25. The combination with a base, of front and rear platen-supports hinged at their lower ends to the base, a platen hinged to the rear platen-support and resting upon the front platen-support, and a machine-supporting frame arranged to overlie the platen and also hinged to the rear platen-support, means carried by the base for swinging the platen-supports in unison to raise and lower the platen, and a book-support removably mounted on the base beneath the platen and between the platen-supports.

26. In a type-writing machine, the combination with a base, of front and rear platen-supports mounted to swing toward and from the base, a platen carried by said supports, a machine-supporting frame arranged to overlie the platen, an operating mechanism carried by the base and engaging the lower ends of the platen-supports to swing the latter for the purpose of raising or lowering the platen.

27. In a type-writing machine, the combination with a base, of front and rear platen-supports hinged at their lower ends to the base and including swinging arms having toothed segments at their lower ends, operating means mounted on the base and engaging the segments to swing the arms, and a platen carried by the platen-supports and vertically movable therewith.

28. In a type-writing machine, a base, front and rear platen-supports carried thereby and each including a pair of swinging arms formed with toothed segments, worms engaging the several segments, operating means common to the several worms, and a platen sustained by the platen-supports and vertically movable therewith.

29. A book-support, comprising a base, two leaves movable toward and from the base, and a separate support for each leaf, each support including connected cross-arms each having pivotal connection with the base and leaf, and certain of said pivotal connections being loose.

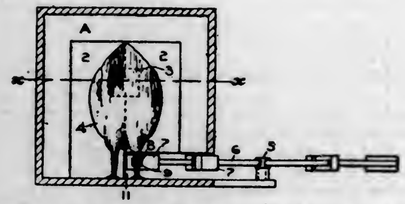
30. In a type-writing machine, the combination with a base and a platen supported thereover, said base being formed with a guideway, of a book-support having a bottom plate movable in the guideway of the base, and tracks fixed to the base and extended over the bottom plate of the book-support to prevent upward displacement of the latter.

31. In a type-writing machine, the combination with a base formed with a guideway, of tracks extending along the opposite edges of the guideway, a book-support movable in the guideway of the base and having a bottom plate formed with grooves or channels for the reception of the tracks, and means for supporting a platen above the book-support.

32. In a type-writing machine, the combination with a base, of front and rear platen-supports hinged at their lower ends to the base and arranged to swing down upon the latter, a book-support movably mounted on the base between the platen-supports, a platen hinged to one support and resting upon the other, a machine-supporting frame overlying the platen and hinged independently thereof to the rear platen-support at a point removed from the rear end of said platen, a machine mounted to travel on the supporting-frame, and means for arresting the machine in position directly over the rear support to counterbalance the machine-supporting frame and thus facilitate the raising thereof.

33. In a type-writing machine, the combination with a flat platen, of a hinged machine-supporting frame, a machine mounted to travel on said frame, and means for arresting the machine above the axis of movement of the frame to approximately counterbalance said frame.

843,023. REGISTERING MEANS FOR FOWLS. LEOPOLD S. LINDER, Mankato, Minn. Filed Jan. 20, 1906. Serial No. 296,990.



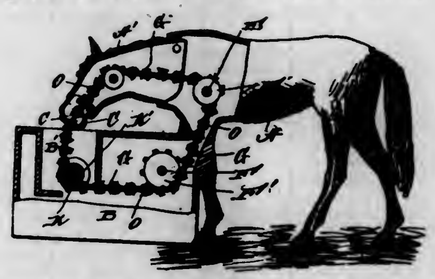
Claim.—1. Registering means for fowls consisting of a marking device carried by the fowl, and impression-receiving means arranged in the path of the fowl in position to be engaged by said marking device.

2. Means for registering the passage of fowls along a passage-way consisting of coöperating impressing and impression-receiving means carried by the fowl and arranged in said passage-way respectively.

3. Means for registering the passage of fowls consisting of a series of impression-receiving devices successively movable into the pathway of the fowl, and impression-giving devices carried by the fowl.

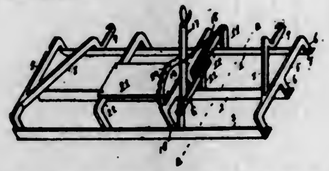
4. Means for registering the passage of fowls consisting of impression-receiving devices successively movable into the pathway of the fowl, and coöperating impressing-tablets removably carried by the fowl in position to engage with said impression-receiving means in the passage of the fowl.

843,024. FIGURE TOY. THOMAS J. LIVINGSTON, Fitzgerald, Ga. Filed Nov. 20, 1906. Serial No. 344,289.



Claim.—A figure toy consisting of a body portion of an animal, a pivotal head thereon, pivotal lips upon said head, a drum mounted therein, a feed-box having an opening in its top, a shaft mounted in the side walls of the box, a sprocket-wheel fixed to said shaft, a drum also mounted between the walls of the box, an endless band passing over said drums and sprocket-wheel, and bunches representing artificial food fastened to the band and adapted to move said pivotal lips of the animal as they pass into the mouth of the latter, as set forth.

843,025. SOIL PULVERIZER AND SMOOTHER. FREDERICK MILLER, Union county, Ind. Filed May 19, 1906. Serial No. 317,762.



Claim.—1. The combination of end pieces, a series of angle-bars hinged thereto and each formed with a cutting edge, and lever mechanism adapted to rotatively adjust said bars simultaneously.

2. The combination of a series of interchangeable cutter-bars, means for removably connecting them together and parallel with each other, braces removably hinged on the front bar of the series, and lever mechanism removably supported on said bars and adapted to simultaneously move and maintain them in different positions of rotative adjustment.

3. The combination of a series of cutter-bars, each terminating its opposite edges in planes substantially perpendicular to each other, means for interchangeably connecting said bars together and adjustable lever mechanism mounted on said bars and adapted to simultaneously move and maintain them in different rotative positions.

4. The combination of a series of cutter-bars, arch-bars adapted to be secured thereover with a slot between them, means for interchangeably securing said cutter-bars together and parallel with each other, and adjustable lever mechanism arranged to simultaneously move and maintain said bars in different rotative positions.

5. The combination with end pieces each provided with a brace, a series of interchangeable cutter-bars secured thereto, means for independently adjusting said bars with their edges in different vertical angles, lever mechanism for rotatively adjusting said bars, and draft connections detachably engaging with the front bar of said series.

6. The combination of a cutter-bar, and an arch-bar adapted to be removably secured thereto for the purpose specified.

7. The combination of end pieces, a cutter-bar provided with hinge members adapted to movably engage therewith, and a bar supported on said members a short distance thereover.

8. The combination of a series of cutter-bars, lever mechanism for simultaneously moving and maintaining them in different positions of rotative adjustment, and means maintaining said bars in different positions of rotative adjustment in relation to said mechanism.

843,026. FITTING FOR EYEGLASSES. PAUL MOEWS, Detroit, Mich. Filed Aug. 25, 1906. Serial No. 332,028.



Claim.—1. A single-piece fitting for eyeglasses or spectacles, comprising a bridge member, laterally-projecting arms extending directly and inwardly from the bridge ends, complementary guards, and offsets for the guards connecting the latter with the arms.

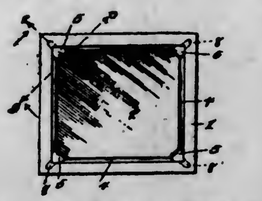
2. A fitting for eyeglasses or spectacles, comprising a bridge member, laterally-projecting arms extending inwardly from the bridge ends in substantially the vertical planes of the lenses, the guards, and flat guard-offsets lying in the planes of the guards and connecting the latter with the arms.

3. A single-piece flat metal fitting for eyeglasses or spectacles, comprising a bridge member having return-bent end portions, complementary loop-shaped guards extending in parallel planes perpendicular to the lenses, and angle-shaped members joining the guards with the bridge ends, the angles of said members lying in substantially the plane of the bridge.

4. In eyeglasses or spectacles, a fitting comprising a bridge, guards, and angle-shaped connecting members therebetween, of seats formed in the fitting at the juncture of said members with the bridge ends, and lens-braces secured within the seats.

5. A single-piece flat metal fitting for eyeglasses or spectacles, comprising a bridge member having return-bent end portions, complementary loop-shaped guards extending in parallel planes perpendicular to the lenses, and angle-shaped members connecting the guards to the bridge ends, the angles of said members lying in substantially the vertical planes of the lenses.

843,027. GLASS-FASTENER. ALEXANDER T. MOORE, New Orleans, La. Filed Apr. 2, 1906. Serial No. 309,470.



Claim.—1. In a glass-fastener, a frame, bearing-strips extending in contact with the frame and its glass, and a connecting corner-piece having a securing-point to enter the angle of the frame and a driving edge to engage the adjacent ends of the strips.

2. In a glass-fastener, a connecting-piece provided with strip-engaging means at one edge and with a securing-point deflected from the body into a plane parallel thereto.

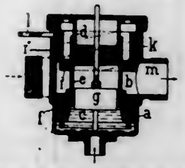
3. In a glass-fastener, a frame, bearing-strips extending in contact therewith, and a connecting-piece provided with

a securing-point and an overturned driving edge to embrace the adjacent strips.

4. In a glass-fastener, a frame, bearing-strips extending in contact therewith and formed with end portions of less diameter, and a connecting-piece having a securing-point and an overturned driving edge overlapping the reduced ends of adjacent strips.

5. In a glass-fastener, a frame, resilient V-shaped bearing-strips extended at an angle to each other, and a connecting-piece having a deflected securing-point and an overturned driving edge to engage and draw said strips downward toward the frame.

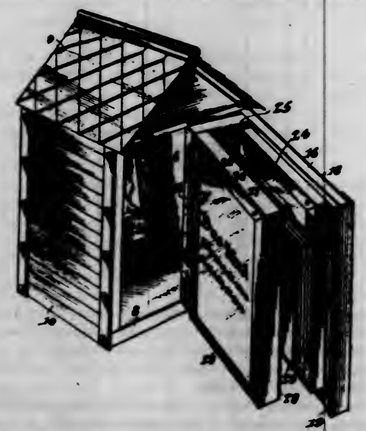
843,028. CARBURETER. EUGEN L. MUELLER, Paris, France. Filed Oct. 17, 1905. Serial No. 283,187.



Claim.—1. A carbureter, comprising in combination, a mixing-chamber having an air-inlet and a mixture-outlet, a liquid-reservoir located below said mixing-chamber and presenting a conical wall, a vertically-adjustable member having a conical wall projecting into the said reservoir parallel to the first said conical wall, and a wick located between the two said conical walls and projecting from said reservoir into said mixing-chamber, substantially as set forth.

2. A carbureter, comprising in combination, a mixing-chamber having an air-inlet and mixture-outlet, a liquid-reservoir located below said mixing-chamber and presenting a conical wall, a vertically-adjustable member having a conical wall projecting into said reservoir parallel to the first said conical wall, a vertically-moving screw-threaded member located in the mixing-chamber and regulating the cross-section of the same and of the said inlet and outlet passages, a nut fitting the said regulator, and means for actuating said regulator from without the device, and a wick located between the two said conical walls and projecting from said liquid-reservoir into said mixing-chamber, substantially as set forth.

843,029. GRAVE-RECORD. THOMAS P. PIGG, Farmington, Mo. Filed Sept. 11, 1906. Serial No. 334,202.



Claim.—1. In a device of the character described, the combination with a receptacle, of a movable door therefor, a movable panel associated with the inner side of the door, a holder movably interposed between the door and panel, and means for yieldingly urging the panel and door together to clamp the same against the holder.

2. In a device of the character described, the combination with a receptacle, of a door therefor, a swinging panel associated with the inner side of the door, and means for effecting a relatively yielding movement of the panel and door toward each other.

3. In a device of the character described, the combination with a receptacle, of a door therefor, a swinging panel associated with the inner side of the door, means for yieldingly urging said panel toward the door, and an album mounted between the door and panel and held in closed condition thereby.

4. In a device of the character described, the combination with a receptacle, of a door, spring-hinges connecting the door and receptacle to urge the former to closed condition, a support carried by the inner side of the door and panel, spring-hinges connecting the panel to the support and urging said panel toward the inner side of the door, and an album hinged to the support and interposed between the door and panel.

5. In a device of the character described, the combination with a receptacle having a rear and side walls, and an open front, of a protective sheathing covering the receptacle, fastening means passing through the rear wall for securing the receptacle to a support, a door for the open front of the receptacle, spring-hinges connecting the door and receptacle for urging the former to its closed position, a sheathing covering the outer face of the door, a rearwardly-extending support rigidly affixed to the inner side of the door adjacent to its hinged edge, a panel secured to the inner side of the door, a swinging plate, spring-hinges connecting the plate to the support, said plate having panels on its opposite sides, and an album pivotally mounted on the support between the plate and the door.

843,030. SAW. ROBERT E. POINDEXTER, Indianapolis, Ind. Filed Sept. 7, 1906. Serial No. 333,651.

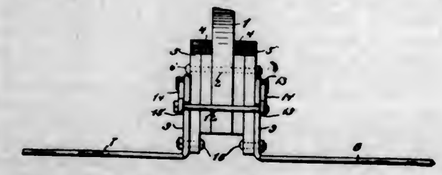


Claim.—1. A saw provided with a cutting-tooth having a beveled point, the face of said bevel being concaved to the angle of the bevel but not to the point of the tooth, substantially as set forth.

2. A saw provided with cutting-teeth formed with their points beveled on each side, the face of each bevel being formed concaved from points near the cutting edge and points of the teeth to near the opposite side of the bevel and extending lengthwise of said bevel, substantially as set forth.

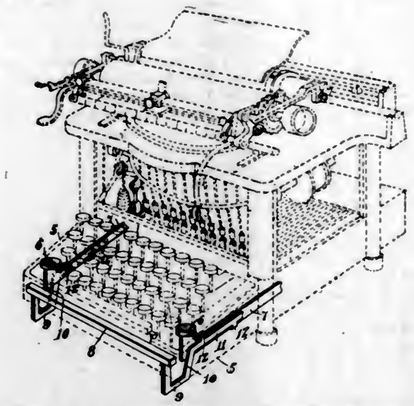
3. A saw-tooth with a beveled cutting-point, the bevel of which is formed concaved, substantially as set forth.

843,031. CULTIVATOR ATTACHMENT. HENRY O. POPE, Claude, Tex. Filed June 12, 1906. Serial No. 321,366.



Claim.—In a device of the character described, adapted to be connected to the beam of a lister or other plow, a pair of cutting-blades having upturned portions on one end provided with curved slots, a bolt passing transversely through said beam and operating in said slots, whereby an angular adjustment of said cutting-blades may be had, blocks disposed between said beam and said upturned portions through which said bolt also passes, a pivotal connection between the blocks and the upturned portions, a forward bolt connecting said upturned portion in advance of said beam, a bearing-plate disposed across said upturned portions in the rear of said beam, and eyebolts connecting said bearing-plate and said forward bolt, substantially as described.

843,032. TYPE-WRITING MACHINE. JOHN D. POWELL, Cleveland, Tenn. Filed Oct. 29, 1906. Serial No. 341,062.



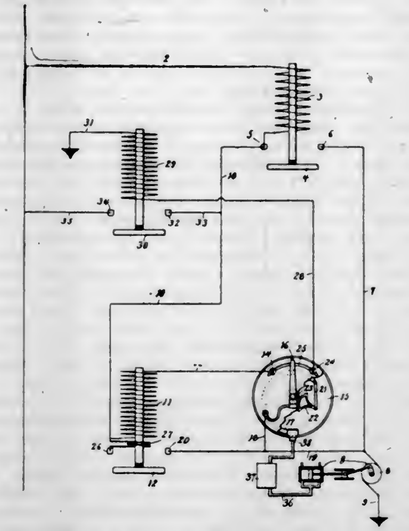
Claim.—1. An attachment of the character described, comprising an actuating-bar, and arms carried by the ends of the bar, each arm having a single upturned lip extending from the end portion of its under edge and having a single downturned lip projecting from an intermediate portion of its upper edge, said lips being arranged to engage respectively beneath and over the shift-keys of a type-writing machine to support the bar on said shift-keys and being detachable therefrom upon the upward-swinging movement of the bar.

2. An attachment of the character described, comprising arms having offset portions forming seats to receive the frame-bar of a type-writing machine, said arms having means at their inner ends for attachment to the shift-keys of said machine and having offset outer ends, and a bar mounted on and secured to the offset outer ends of the arms.

3. An attachment of the character described, comprising arms having depending substantially U-shaped intermediate portions forming seats to receive the frame-bar of a type-writing machine, each arm having a single upturned lip extending from the end portion of its under edge and having a single downturned lip projecting from an intermediate portion of its upper edge, said lips being arranged to engage respectively beneath and over the shift-keys of a type-writing machine to support the arms thereon and being detachable therefrom upon the upward-swinging movement of the arms, said arms having their outer ends oppositely offset, an actuating-bar having its end portions resting on the offset ends of the arms, and fasteners passing through said offset portions and into the under side of the bar.

4. An attachment of the character described, comprising arms having depending substantially U-shaped intermediate portions forming seats to receive the frame-bar of a type-writing machine, each arm having a single upturned lip extending from the end portion of its under edge and having a single downturned lip projecting from an intermediate portion of its upper edge, said lips being arranged to engage respectively beneath and over the shift-keys of a type-writing machine to support the arms thereon and being detachable therefrom upon the upward-swinging movement of the arms.

843,033. FLUID-PRESSURE REGULATOR. WALTER J. RICHARDS, Milwaukee, Wis. Filed Apr. 7, 1904. Serial No. 202,012.



Claim.—1. In a system for controlling an electric motor, a primary switch, a motor-starting switch having its magnet in the circuit controlled by the primary switch, and a main switch having its magnet in the circuit controlled by the motor-starting switch, the contacts of the motor-starting switch being connected practically in shunt with the contacts of the main switch without appreciable intervening resistance.

2. In a system for controlling an electric motor, a primary switch, a motor-starting switch having its magnet in the circuit controlled by the primary switch, a main switch having its magnet in the circuit controlled by the motor-starting switch, and a means influenced by the primary switch for affecting the operation of the main switch, the contacts of the motor-starting switch being connected practically in shunt with the contacts of the main switch without appreciable intervening resistance.

3. In a system for controlling an electric motor, a primary switch, a motor-starting switch having its magnet in the circuit controlled by the primary switch, a main switch having its magnet in the circuit controlled by the motor-starting switch, the contacts of the motor-starting switch being practically in shunt connection with the contacts of the main switch without an appreciable intervening resistance, and a supplemental switch having its magnet connected in another circuit controlled by the primary switch and adapted to cause the opening of the main switch.

4. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch for closing a circuit through the motor having its magnet in a shunt-circuit around the main-switch contact, and a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation being adapted to operate the main switch.

5. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit across the main-switch contacts, and a primary switch in said shunt-circuit adapted to make a connection to cause the opera-

tion of the motor-starting switch, said motor-starting switch by its operation being adapted to short-circuit its own magnet and the primary-switch connection and thereby effect the operation of the main switch.

6. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main switch, a retaining-coil for the motor-starting switch, and a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation being adapted to short-circuit its own magnet and the primary switch but including in the shunt-circuit the retaining-coil for the motor-starting switch.

7. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main switch, a low-resistance retaining-coil for the motor-starting switch, and a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation being adapted to short-circuit its own magnet and the primary-switch connection, the low-resistance retaining-coil included in the shunt-circuit while the motor-starting switch is operated, said motor-starting switch adapted to be held in its operated position by said retaining-coil until the main switch completes its operation.

8. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main switch, a low-resistance retaining-coil for the motor-starting switch, and a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation being adapted to short-circuit its own magnet and the primary-switch connection by means of the low-resistance retaining-coil and adapted to be held in its operated position by said retaining-coil until the main switch completes its operation, the operation of the main switch serving to short-circuit the retaining-coil to render the motor-starting switch inoperative and also serving to close the motor-circuit with the main-switch magnet included therein.

9. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a primary switch capable of causing the operation of the main switch, and a supplemental switch actuated by the primary switch for rendering the main switch inoperative by short-circuiting its magnet, the magnet of said supplemental switch being in shunt with the motor.

10. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a primary switch capable of causing the operation of the main switch, and a supplemental switch actuated by the primary switch for short-circuiting the magnet of the main switch and thereby rendering the main switch inoperative.

11. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main-switch contact, a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation adapted to operate the main switch, and a supplemental switch operated by a different connection made by the primary switch and adapted to render the main switch inoperative.

12. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main-switch contact, a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation adapted to short-circuit its own magnet and the primary-switch connection and effect the operation of the main switch, and a supplemental switch operated by a different connection made by the primary switch and adapted to short-circuit the main-switch magnet and thereby render the main switch inoperative.

13. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main switch, a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation adapted to short-circuit its own magnet and the primary-switch connection and to energize the main-switch magnet and thereby operate the main switch, and a low-resistance retaining-coil for the motor-starting switch adapted to be included in the circuit established by the operation of the motor-starting switch and hold said switch in its operated position until the main switch completes its operation.

14. In a fluid-pressure system, a controller for the motor-compressor thereof comprising a motor-circuit, a main switch for controlling the motor-circuit and having its magnet contained in said motor-circuit, a shunt-circuit around the main switch, a primary switch sensitive to the pressure of the fluid-pressure system adapted to close said shunt-circuit, a motor-starting switch having its operating-magnet included in the shunt-circuit, a retaining-coil of low resistance for the motor-starting switch, said motor-starting switch adapted to be operated on the closing of the shunt-circuit by the primary switch and when operated adapted to short-circuit its own operating-magnet and the conenction made by the primary switch and substitute in the shunt-circuit the low-resistance retaining-coil, the operation of the motor-starting switch also being adapted to energize the main-switch magnet to operate the main switch, said main switch when operated adapted to complete the motor-circuit and short-circuit the retaining-coil of the motor-starting switch, and a supplemental switch having its operating-magnet connected in shunt with the motor-compressor and controlled by another connection made by the primary switch and adapted in its operation to short-circuit the main-switch magnet.

15. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main switch and in series with the main-switch magnet, and a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation being adapted to operate the main switch.

16. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main switch and in series with the main-switch magnet, and a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation being adapted to short-circuit its own magnet and the primary-switch connection and thereby effect the operation of the main switch.

17. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main switch and in series with the main-switch magnet, a retaining-coil for the motor-starting switch, and a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation being adapted to short-circuit its own magnet and the primary switch and include in the shunt-circuit the retaining-coil for the motor-starting switch.

18. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main switch and in series with the main-switch magnet, a low-resistance retaining-coil for the motor-starting switch, and a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation being adapted to short-circuit its own magnet and the primary-switch connection, the low-resistance retaining-coil being included in the shunt-circuit while the motor-starting switch is operated, said motor-starting switch adapted to be held in its operated position by said retaining-coil until the main switch completes its operation as the result of the increased current passed through its magnet due to the short-circuiting of the resistance of the motor-starting-switch magnet.

19. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main switch and in series with the main-switch magnet, a low-resistance retaining-coil for the motor-starting switch, and a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation being adapted to short-circuit its own magnet and the primary-switch connection by means of the low-resistance retaining-coil and adapted to be held in its operated position by said retaining-coil until the main switch completes its operation, the operation of the main switch serving to short-circuit the retaining-coil to render the motor-starting switch inoperative and also serving to close a circuit through the motor with the main-switch magnet included therein.

20. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main switch and in series with the main-switch magnet, a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation adapted to operate the main switch, and a supplemental switch operated by a different connection made by the primary switch and adapted to render the main switch inoperative.

21. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main switch and in series with the main-switch magnet, a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation adapted to short-circuit its own magnet and the primary-switch connection and thereby effect the operation of the main switch, and a supplemental switch operated by a different connection made by the primary switch and adapted to short-circuit the main-switch magnet and thereby render the main switch inoperative.

22. In a system for controlling an electric motor, a main switch for controlling a motor-circuit, a motor-starting switch having its magnet in a shunt-circuit around the main switch and in series with the main-switch magnet, a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation adapted to short-circuit its own magnet and the primary-switch connection to increase the amount of current flowing through the main-switch magnet and thereby operate the main switch, and a low-resistance retaining-coil for the motor-starting switch adapted to be included in the circuit established by the operation of the motor-starting switch and hold said switch in its operated position until the main switch completes its operation.

23. In a fluid-pressure system, a controller for the motor-compressor thereof comprising a motor-circuit, a main switch for controlling the motor-circuit and having its magnet contained in said motor-circuit, a shunt-circuit around the main switch and in series with the main-switch magnet, a primary switch sensitive to the pressure of the fluid-pressure system adapted to close said shunt-circuit, a motor-starting switch having its operating-magnet included in the shunt-circuit, a retaining-coil of low resistance for the motor-starting switch, said motor-starting switch adapted to be operated on the closing of the shunt-circuit by the primary switch and when operated adapted to short-circuit its own operating-magnet and the connection made by the primary switch and substituting in the shunt-circuit the low-resistance retaining-coil, the removal of the resistance of the motor-starting-switch operating-magnet being adapted to effect the operation of the main switch, said main switch when operated adapted to complete a circuit through the motor and short-circuit the retaining-coil of the motor-starting switch, and a supplemental switch having its operating-magnet connected in shunt with the motor-compressor and controlled by another connection made by the primary switch and adapted in its operation to short-circuit the main-switch magnet.

24. In a system for controlling an electric motor, a main switch for controlling the motor-circuit, a motor-starting switch adapted to cause the operation of the main switch and supply current to the motor for starting its operation, and a primary switch for causing the operation of the motor-starting switch, said motor-starting switch having its contact and magnet practically in shunt connection with the main-switch contact and adapted when caused to be operated by the primary switch to remain in its operated position until the main switch is operated.

25. In a system for controlling an electric motor, a primary switch, a motor-starting switch adapted to be actuated on the operation of the primary switch, and a main switch adapted to be operated on the operation of the motor-starting switch, said motor-starting switch having its magnet practically in shunt with its contact and with the contact of the main switch, whereby it is held in its operated position until the main switch is operated.

26. In a system for controlling an electric motor, a primary switch, a motor-starting switch adapted to be actuated on the operation of the primary switch, and a main switch with its operating-magnet in series with the motor and adapted to be actuated on the operation of the motor-starting switch.

27. In a system for controlling an electric motor, a primary switch, a motor-starting switch relying thereon for its operation, a main switch relying on the motor-starting switch for its operation and having its operating-magnet in series with the motor, and a means influenced by the primary switch for also affecting the operation of the main switch.

28. In a system for controlling an electric motor, a primary switch, a motor-starting switch adapted to be closed by the operation of the primary switch, a main switch adapted to be closed by the closing of the motor-starting switch and having its operating-magnet in series with the motor, and a supplemental switch adapted to be operated by a different operation of the primary switch to cause the opening of the main switch.

29. In a system for controlling an electric motor, a main switch for controlling the motor-circuit having its operating-magnet in series with the motor, a motor-starting switch having its magnet in a shunt-circuit around the main-switch contacts, and a primary switch in said shunt-circuit adapted to make a connection to cause the operation of the motor-starting switch, said motor-starting switch by its operation being adapted to cause the operation of the main switch.

30. In a system for controlling an electric motor, a main switch for controlling the motor-circuit having its operating-solenoid in series with the motor, a motor-starting switch having its magnet in a shunt-circuit around the main-switch contact, and a primary switch in said shunt-circuit adapted to make a connection to operate the motor-starting switch, said motor-starting switch by its operation being adapted to short-circuit its own magnet and the primary-switch connection and effect the operation of the main switch.

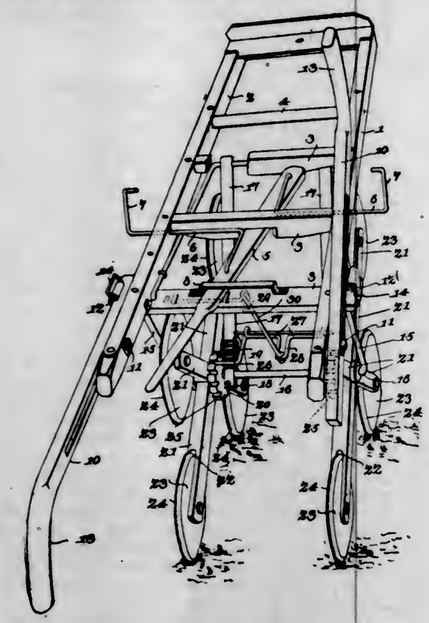
31. In a system for controlling an electric motor, a main switch for controlling the motor-circuit having its operating-magnet in series with the motor, a motor-starting switch having its magnet in shunt with the main switch so that the closing of the main switch short-circuits said motor-starting-switch magnet, and a primary switch in said shunt-circuit adapted to make a connection to energize the motor-starting-switch magnet and cause it to close the motor-starting switch to send an operating-current through the motor and to also energize the main-switch magnet.

843,034. HAND-TRUCK FOR CARRYING BAGGAGE, &c. JAMES E. RIDGWAY and WILLIAM R. RIDGWAY, Atchison, Kans. Filed Mar. 21, 1906. Serial No. 307,223.

Claim.—1. The combination with rotatable supporting-arms rigidly connected and a traction-wheel carried by

each arm; of a frame supported by said arms and means for positively locking the frame in fixed relation with the arms.

2. The combination with a frame and an axle carried thereby; of rotatable supporting-arms mounted upon the axle and rigidly connected and a traction-wheel carried by each arm and means for positively locking the frame in fixed relation with the arms.



3. The combination with a frame and an axle carried thereby, of supporting-arms rotatably mounted upon and radiating from the axle, said arms being rigidly connected, and a traction-wheel carried by each arm and means for positively locking the frame in fixed relation with the arms.

4. The combination with a frame and an axle carried thereby; of supporting devices rotatably mounted upon the axle, each of said devices comprising radiating arms rigidly connected, and a traction-wheel carried by each arm and means for positively locking the frame in fixed relation with the arms.

5. The combination with a frame and an axle carried thereby; of radiating arms rotatably mounted upon the axle and rigidly connected, a traction-wheel carried by each arm, and means for positively locking the frame in fixed relation with the arms.

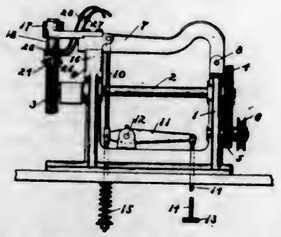
6. The combination with a frame and an axle carried thereby; of arms radiating from the axle and rotatably mounted thereon, said arms being rigidly connected, a traction-wheel carried by each arm, a rotatable locking member movable with the arms, and another locking member carried by the frame, said locking members adapted to coöperate to hold the frame in fixed relation with the arms.

7. The combination with a frame and an axle carried thereby; of rigidly-connected arms radiating from and rotatably mounted upon the axle, a traction-wheel carried by each arm, a notched wheel rotatable with the arms, and locking-fingers carried by the frame and adapted to engage the wheels.

8. The combination with a frame having standards extending downward therefrom, an axle connecting the standards, and braces pivotally connected to the frame and resiliently supported upon the axle; of rotatable supporting devices mounted between the braces and the adjoining standards, each of said supporting devices comprising rigidly-connected arms radiating from and rotatably mounted upon the axle, and a traction-wheel carried by each arm.

9. The combination with a frame having standards extending downward therefrom, an axle connecting the standards, and braces pivotally connected to the frame and resiliently supported upon the axle; of rotatable supporting devices mounted between the braces and the adjoining standards, each of said supporting devices comprising rigidly-connected arms radiating from and rotatably mounted upon the axle, and a traction-wheel carried by each arm, and means carried by the frame and arms for locking the frame in fixed relation to the arms.

843,035. APPARATUS FOR FINISHING INNERSOLES. GEORGE E. ROLLINS, Brockton, Mass. Filed Apr. 24, 1906. Serial No. 313,438.



Claim.—1. A machine for finishing innersoles, comprising means for supporting the innersole, and means operating in opposition thereto, having pressing-surfaces parallel to each other and spaced apart to receive the stitch-receiving rib of the innersole between them to apply a continuous and progressive pressure to the reinforcing fabric on the opposite sides of said rib and simultaneously to the body of the innersole at the base of said rib.

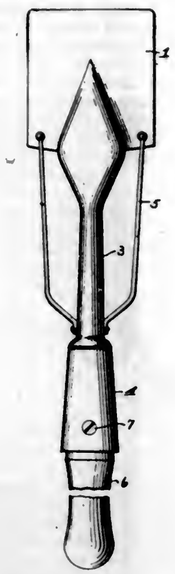
2. A machine for finishing innersoles, comprising a support for an innersole, a pair of yielding pressure devices having parallel sides extending perpendicularly to said support for yieldingly pressing the reinforcing fabric against the stitch-receiving rib of the innersole along the opposite sides of said rib and transmitting continuous pressure progressively thereto, heating means for maintaining said pair of pressure devices hot, and yielding means for maintaining said support and said heated pressure devices continuously pressed toward each other in pressing engagement with the opposite parallel sides of said rib from the base of the rib to the top edge thereof, and also in pressing engagement with the fabric and body of the innersole laterally from the base of said rib.

3. A machine for finishing innersoles, comprising a positively-driven work-support, and a pair of heated pressure-rolls opposite said work-support, heating means for said rolls, yielding means for maintaining the said rolls under normal pressure toward each other, and yielding means for maintaining said rolls under continuous pressure toward said rotary work-support, said rolls and work-support being constructed and arranged to feed the innersole and maintain unremitting progressive pressure on the reinforcing fabric against the opposite sides of the stitch-receiving rib and simultaneously against the body of the innersole at the opposite sides of the base of said rib.

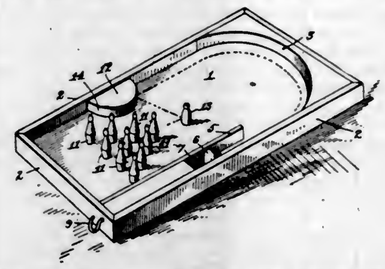
843,036. SPUD. CHARLES E. ROOT, Blaney, Mich. Filed May 7, 1906. Serial No. 315,619.

Claim.—A spud comprising a shank having a blade formed integral with one end thereof and offset therefrom, said shank being enlarged at its connection with said blade and extended down on the rear face thereof to form a strengthening-rib, said blade having a cutting edge and the shank being bowed inwardly above the blade and provided at its free end with a socket, and brace-bars attached to the upper edge of said blade and to said shank, said bars converging from the blade toward the shank.

843,036.



843,037. GAME-BOARD. LAZARUS B. SANFORD, Fall River, Mass. Filed Nov. 3, 1906. Serial No. 341,896.



Claim.—The combination with a board having low side walls and a curved end, of movable objects located near the other end of the board, a raceway extending along one side of said board, means for projecting a ball from said raceway toward said curved end, a semicircular cushion of some size having an upright wall and arranged at one side of the board about midway thereof and opposite said raceway, and a circular post at or near the center of the board and nearer the curved end thereof than the cushion, so that said post is interposed between said curved end and the movable objects.

843,038. HINGE PIN AND JOINT. RUDOLPH G. SCHUTZ, Cranston, R. I., assignor to United Wire and Supply Company, Providence, R. I., a Corporation of Rhode Island. Filed Nov. 12, 1903. Serial No. 180,876.



Claim.—1. A hinge-pin for articles of jewelry and the like comprising end portions of precious metal and an intermediate portion of base metal, substantially as described.

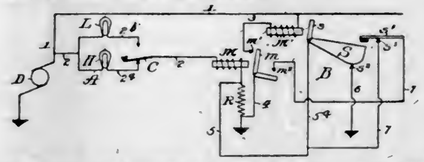
2. A hinge-pin for articles of jewelry and the like comprising a central portion of base metal and two end portions of precious metal fastened to said central portion, substantially as described.

3. A hinge-pin for articles of jewelry and the like comprising end portions of precious metal and an intermediate portion of base metal, said composite pin being tapered, substantially as described.

4. The combination, with a hinge-joint, of a hinge-pin having end portions of precious metal and an intermediate portion of base metal, substantially as described.

5. The combination, with a hinge-joint, of a hinge-pin having end portions of precious metal and an intermediate portion of base metal, said composite pin being tapered, substantially as described.

843,039. TRAIN-DESPATCHING SYSTEM. CHARLES E. SCRIBNER, Jericho, Vt., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed July 9, 1906. Serial No. 325,221.



Claim.—1. In a signaling system, the combination with an electromagnetically-operated signal, of an electric circuit for controlling the operation of said signal, means for varying the electrical condition of said circuit to set said signal, a test-signal lamp controlled by said circuit, and means automatically controlled by said first-named signal, for varying the electrical condition of the circuit to control the illumination of said lamp.

2. In a signaling system for electric railways, the combination with a main supply-conductor extending between a principal and an outlying station, of a branch thereof at the outlying station, an electromagnetically-operated signal in said branch, a signal-circuit conductor extending between said stations and receiving current from the main conductor, means in said signal-circuit, operable from the principal station, for controlling said branch circuit and thereby setting said signal, means, actuated by the setting of said signal, for varying the electrical condition of the signal-circuit, and a test-signal at the principal station responsive to said varying electrical condition of the signal-circuit to indicate the signal displayed at the outlying station.

3. In a signaling system, the combination with an electromagnetically-operated signal, of an electric circuit for controlling the operation of said signal, said circuit having alternative branches, the closure of one of which sets the signal for one indication, and the closure of the other sets the signal for an opposite indication, a test-signal in said circuit, and means automatically controlled by said first-named signal for varying the electrical condition of the circuit to control the indication of said test-signal.

4. In a signaling system, the combination with an electromagnetically-operated signal, of an electric circuit for controlling the operation of said signal, said circuit having alternative branches, the closure of one of which sets the signal for one indication and the closure of the other sets the signal for an opposite indication, a test-signal in each of said branches, and means automatically controlled by said first-named signal for varying the electrical condition of the circuit to correspondingly display the test-signal in the closed branch of said circuit.

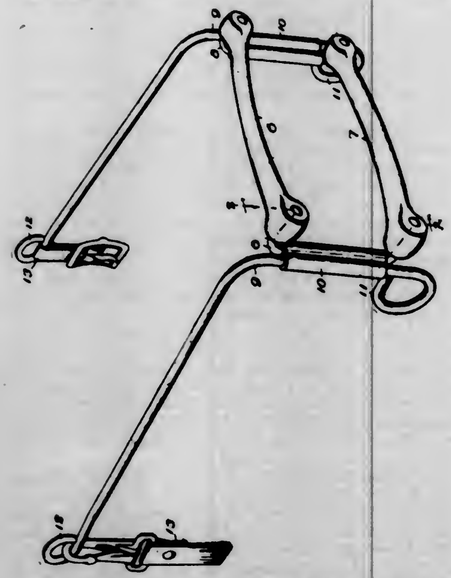
5. In a signaling system for electric railways, the combination with a main supply-conductor, of a signal-circuit conductor receiving current therefrom and extending from a principal to an outlying station, a branch of said main conductor at said outlying station controlled by said signal-circuit, an electromagnet in said branch circuit, a semaphore controlled by said magnet, means at the principal station for varying the electrical condition of said signal-circuit to control said branch circuit and thereby to control the operation of said semaphore, means actuated by said semaphore for varying the current in said signal-circuit, and a test-signal at the principal station

responsive to the variations in said circuit produced by the semaphore to indicate the position at which said semaphore is set.

6. In a signaling system for electric railways, the combination with a main supply-conductor, of a signal-circuit conductor receiving current therefrom and extending from a principal to an outlying station, a branch of said main conductor at said outlying station controlled by said signal-circuit, an electromagnet in said branch circuit, a semaphore controlled by said magnet, means at the principal station for varying the electrical condition of said signal-circuit to control said branch circuit and thereby to control the operation of said semaphore, a resistance in said signal-circuit at the outlying station, means, actuated by the semaphore-signal in one of its positions, to short-circuit said resistance, and a test-signal at the principal station responsive to the increased current, when said resistance is short-circuited, to give a corresponding signal.

7. In a signaling system for electric railways, the combination with a main supply-conductor extending between a principal and an outlying station, of a branch thereof at the outlying station, an electromagnet included in said branch, a semaphore controlled by said magnet, a signal-circuit conductor extending between said stations and receiving current from the main conductor, said signal-circuit having alternative branches at the principal station, the closure of one of which operates said electromagnet to set the semaphore at one indication and the closure of the other to set the semaphore at an opposite indication, a test-signal in each of said branches, a resistance in said signal-circuit at the outlying station, and means, actuated by the semaphore-signal in one of its positions, to short-circuit said resistance, said test-signals being responsive to the resulting increased current to indicate the position at which the semaphore has been set.

843,040. MOUTH-OPENER FOR ANIMALS. AVEY SEABRANT. Moundridge, Kans. Filed July 18, 1906. Serial No. 326,786.



Claim.—1. A mouth-opener comprising a pair of bit-bars rigidly connected and spaced apart, and laterally-swinging side bars pivotally connected to the bit-bars and provided with a fastening-strap.

2. A mouth-opener comprising a pair of bit-bars, spacing-bars at each side fixed between the ends of the bit-bars, side bars bent to form lower portions extending parallel to the spacing-bars and having a pivotal connection thereto permitting lateral swing of the side bars, and a fastening-strap connected to the upper ends of the side bars.

843,041. SHAFT-HOLDER FOR HARNESS. WYATT T. SEBREE. Carrollton, Ky. Filed June 29, 1906. Serial No. 324,060.



Claim.—1. A shaft-holder comprising a shell, a saddle-strap passing through and fastened to said shell, the front wall of said shell provided with an elongated slot and having its lower end projected and bent to form a shaft-supporting hook, an inverted-hook-shaped shaft-retaining member having a shank portion, the end of which is bent to form a handle, and a slide fastened to said shank portion and having a play in said slot, as set forth.

2. A shaft-holder comprising a shell, a saddle-strap passing through and fastened to said shell, the front wall of said shell provided with an elongated slot and having its lower end projected and bent to form a shaft-supporting hook, an inverted-hook-shaped shaft-retaining member having a shank portion, the end of which is bent to form a handle, a slide fastened to said shank portion and having a play in said slot, and a strap passing through the lower projecting portion of the shell and fastened to the shaft-retaining member, as set forth.

843,042. SOUND-BOX FOR TALKING-MACHINES. FREDERICK SHEPPY. Chicago, Ill. Filed Dec. 11, 1905. Serial No. 291,188.



Claim.—1. In a phonographic sound-box comprising a diaphragm and a sound-chamber, a plate secured in said box and extending across said chamber, said plate having an opening therein for the passage of sound-waves, a shutter pivotally mounted on said plate, and adapted to be adjusted edgewise to control the opening in said plate, and having a grasping portion extending beyond said sound-box.

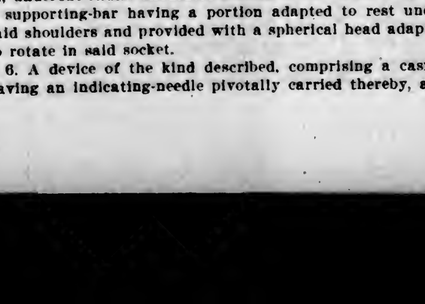
2. In a phonographic sound-box comprising a diaphragm and a sound-chamber, a plate secured in said box and extending across said chamber adjacent to the diaphragm, said plate having an opening therein for the passage of sound-waves, and a recessed portion in one of its faces, a shutter pivotally mounted in the recess of said plate and adapted to be adjusted edgewise to control the opening in said plate, and having an extension projecting from the sides of said sound-box.

3. In a phonographic sound-box comprising a diaphragm and a sound-chamber, a plate secured in said sound-box and having an opening therein for the passage of sound-waves, a shutter pivoted on said plate at the upper side of said sound-box and adapted to be moved edgewise to control the opening in said plate, said shutter having a grasping portion extending beyond the upper side of said sound-box.

4. In a phonographic sound-box comprising a diaphragm and a sound-chamber, a plate secured to said sound-box and extending transversely of said chamber, said plate having a sound passage-way therein and a recessed portion, a shutter pivoted on said recessed portion of plate and adapted to be moved edgewise to control the opening in said plate, said shutter having a grasping portion projecting beyond the sound-box, and said plate adapted to limit the pivotal movements of said shutter.

5. In a phonographic sound-box comprising a diaphragm, a sound-chamber and a sound passage-way, a shutter adjustably pivoted in said sound-box at a point eccentric to said passage-way, said shutter adapted to control the sound passage-way and to be held in its adjusted positions by frictional engagement with portions of the sound-box, means for adjusting said shutter and means for limiting the pivotal movements of the shutter.

843,043. SURFACE-INDICATOR. JACOB SIGRIST, Poughkeepsie, N. Y. Filed June 13, 1906. Serial No. 321,506.



Claim.—1. A device of the kind described comprising an indicating-needle, an angled arm, a lever adapted to be actuated upon movement of the angled arm, a second lever having a nose in engagement with an end of the first-mentioned lever, and a pin carried by the needle adapted to be engaged by the free end of the second-mentioned lever.

2. A device of the kind described, comprising a casing having a slot along its upper face and side and bottom openings, a pivoted needle movable along the slot, a pivoted angled arm, pins carried by the arm and projecting respectively through the side and bottom openings and adapted to have play therein, and means for communicating the movement of the angled arm to the needle.

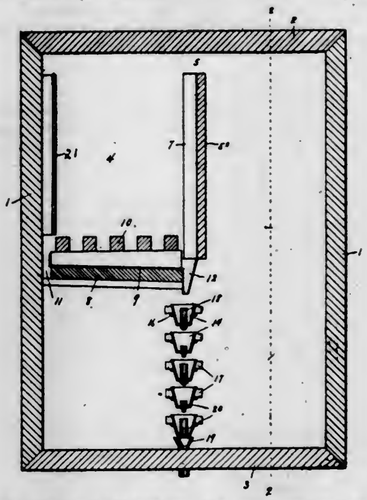
3. A device of the kind described, comprising a casing having a slotted top, a scale being formed along the margin of said slot, a pivoted needle having its point movable in the slot, the said casing having an opening in one side and an opening in the bottom, an angled arm pivoted within the casing, pins carried by the members of said arm, said pins projecting outwardly through the openings in the side and bottom respectively, the length of said openings being greater than the diameter of the pins at the point of passage, and a plurality of pivoted levers actuated by the rocking of the angled arm and adapted to actuate the pivoted needle.

4. A device of the kind described, comprising a casing, an indicating-needle pivotally carried by the casing, an angled arm pivotally carried by the casing, said arm being adapted to be rocked by projections upon a tested surface, and means whereby a rocking of the arm will move the needle, and a bar connected by a ball-and-socket joint to one side of said casing.

5. A device of the kind described comprising a casing, an indicating-needle carried thereby, means for moving said needle, a segmental disk carried by the rear face of the casing and having a ball-socket centrally formed therein, undercut radial shoulders formed on the said disk, and a supporting-bar having a portion adapted to rest under said shoulders and provided with a spherical head adapted to rotate in said socket.

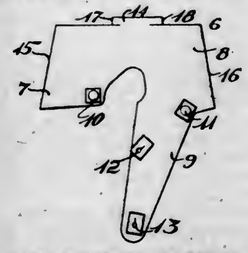
6. A device of the kind described, comprising a casing having an indicating-needle pivotally carried thereby, and having openings formed therein, an angled arm pivoted in the casing, projecting pins carried by the said arm, said pins extending through the said openings and adapted to move along said openings, a pivoted lever having one end in engagement with a member of said arm, a second pivoted lever having a nose adjacent its pivotal point, a roller carried by said nose and in engagement with the other end of the first-mentioned lever, a pin carried by the needle adapted to be engaged by the second-mentioned lever, and a spring adapted to return and hold the parts in their normal position.

843,044. REFRIGERATOR. JOSEPH STAUDACHER. Butler, Pa. Filed Sept. 15, 1905. Serial No. 278,583.



Claim.—In a refrigerator, the combination, with an outer casing, of an interior compartment comprising a bottom and side walls and adapted to contain ice, the base of said compartment being provided with a single narrow or restricted opening, a series of narrow vertically-disposed receptacles arranged in proximity to each other and adapted to successively receive the ice drippings from said compartment, said series of receptacles being arranged under said opening, hooks or lugs carried by each end of said receptacles and hook-engaging supports carried by said walls and coacting with said hooks or lugs to form a positive support for said receptacles.

843,045. HAND-SHIELD. LEWIS B. TEBEAU. Concord, N. H. Filed May 31, 1906. Serial No. 319,482.

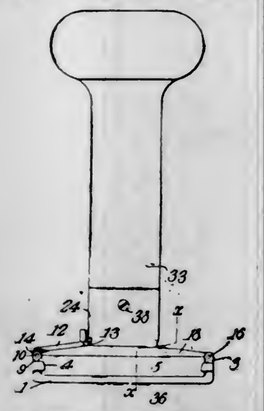


Claim.—1. As an article of manufacture, a hand-shield consisting of a piece of sheet material adapted to cover the back and palm of a hand and a tongue extending from the under side of the palm portion of said hand-shield and adapted to extend around the wrist and to be fastened to the back portion of said hand-shield and extended to be fastened also to said palm portion.

2. As an article of manufacture a hand-shield consisting of a piece of sheet material adapted to cover the back and palm of a hand, the edge of the back portion thereof being permanently attached to the edge of the palm portion thereof and having a finger-piece adapted to encircle and cover a portion of the index-finger of said hand, and a tongue extending from the under side of said palm portion and adapted to extend around the wrist across below the thumb and to be fastened to the back portion of said hand-shield.

3. As an article of manufacture, a hand-shield consisting of a piece of sheet material adapted to cover the back and palm of a hand and having a finger-piece adapted to encircle and cover a portion of the index-finger of said hand, and a tongue extending from the under side of the palm portion of said hand-shield and adapted to extend around the wrist and to be fastened to the back portion of said hand-shield and extended to be fastened also to said palm portion.

843,046. RUBBER STAMP. SAMUEL E. TIMMONS, Lawton, Okla. Filed Nov. 12, 1906. Serial No. 343,053.



Claim.—1. In a device of the character described the combination with a type-holder, and a cover movably connected to the holder; of an angular bolt engaging the cover, a ferrule non-rotatably mounted upon the bolt, means on the bolt and within the ferrule for clamping the ferrule upon the cover, and a handle secured within the ferrule.

2. In a device of the character described the combination with a slotted base and a slotted body carried thereby and having a recessed face, the slots in the body and base registering; of a cover movably connected to the base and adapted to extend over the body, means for securing the cover upon the body, a type projecting through the slots in the base and body and having grooves located within the recess in the body to facilitate the removal of the type from the body, and a handle secured to the cover.

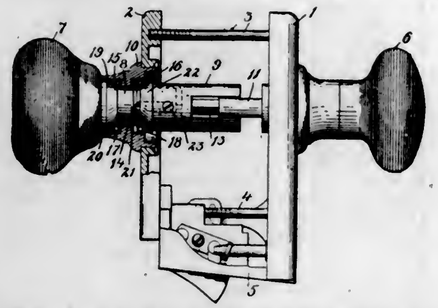
3. In a device of the character described the combination with a holder comprising a slotted base and a slotted body carried thereby, said base forming a type-retaining shoulder; of a cover hinged to the base, an angular bolt engaging the cover, a ferrule non-rotatably mounted upon the bolt, means on the bolt and within the ferrule for clamping the ferrule upon the cover, a handle projecting into the ferrule, and means for detachably securing the body against the cover.

4. In a device of the character described the combination with a holder comprising a slotted base and a slotted body carried thereby, said base forming a type-retaining shoulder; of a cover hinged to the base, an angular bolt engaging the cover, a ferrule non-rotatably mounted upon the bolt, means on the bolt and within the ferrule for clamping the ferrule upon the cover, a handle projecting into the ferrule, a locking-plate hinged to the base, and means for securing said locking-plate upon the cover.

5. In a device of the character described the combination with a holder comprising a slotted base and a slotted body carried thereby, said base forming a type-retaining shoulder; of a cover hinged to the base, an angular bolt engaging the cover, a ferrule non-rotatably mounted upon the bolt, means on the bolt and within the ferrule for clamping the ferrule upon the cover, a handle projecting into the ferrule, a locking-plate hinged to the base, and a spring-latch secured within the ferrule for retaining the locking-plate upon the cover.

6. In a device of the character described, the combination with a holder comprising a slotted base and a slotted body carried thereby, said base forming a type-retaining shoulder; of a cover hinged to the base, an angular bolt engaging the cover, a ferrule non-rotatably mounted upon the bolt, means on the bolt and within the ferrule for clamping the ferrule upon the cover, a handle projecting into the ferrule, a locking-plate hinged to the base, a depressible spring-latch secured within the ferrule and extending therethrough, and a finger-piece upon the latch for overlapping the locking-plate.

843,047. KNOB-OPERABLE-LATCH MECHANISM. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, a Corporation of Connecticut. Filed Mar. 23, 1906. Serial No. 307,642.



Claim.—1. In a latch mechanism, a knob-bearing comprising a rose-plate having oppositely-arranged interior shoulders, a knob-shank projecting through said rose, a shoulder on the outer part of said knob-shank, a removable and adjustable shoulder on the inner part of said knob-shank, and two independent sets of antifriction-bearings arranged between the interior shouldered portion of the rose and the shouldered portions of the knob-shank, one of the latter being adjustable.

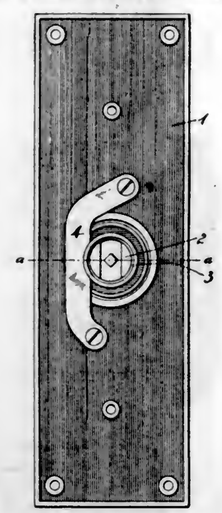
2. In a latch mechanism, a knob-bearing comprising a rose-plate having an annular inwardly-projecting shoulder, a knob-shank having a shoulder near the knob end of said shank, and an internal removable and adjustable shoulder on said knob-shank, said knob-shank shoulders being arranged on opposite sides of the shoulder in the rose-plate, and antifriction-bearings arranged between the latter and each of said knob-shank shoulders.

3. In a latch mechanism, a knob-bearing comprising a rose-plate, a knob, a two-part shank, one of said parts being adjustable longitudinally relatively to the other, and ball-bearings around said shank supported by said interior rose-plate shoulders and by the two parts of said shank.

4. In a latch mechanism, plates adapted to the opposite sides of a door, knobs carried by said plates, a shank for one of said knobs, a transversely-slotted extension adjustable thereon, and a roll-back extension fitting into said slotted shank extension and longitudinally adjustable relatively thereto.

5. In a latch mechanism, plates adapted to the opposite sides of a door, knobs carried by said plates, a hollow knob-shank extending from one of said knobs, a transversely-slotted extension adjustable thereon, a roll-back extension adapted to the slotted shank extension and longitudinally adjustable relatively thereto, and an independent spindle passing through said knob-shank and roll-back extension.

843,048. LOCK AND LATCH. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Oct. 4, 1906. Serial No. 337,345.



Claim.—1. In a device of the character described, a knob-shank, a bearing therefor, an escutcheon-plate and a single means to retain the knob-shank from endwise movement in the bearing and to hold the bearing securely to said plate.

2. In a device of the character described, an escutcheon-plate, a tubular rose or knob-shank bearing rigidly carried thereby, a knob-shank carried by said rose, and a single means for preventing the separation of the bearing from said plate and the endwise movement of said shank in said bearing.

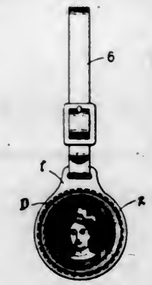
3. In a device of the character described, an escutcheon-plate, a tubular rose or knob-shank bearing carried thereby, a knob-shank carried by said rose, an annular groove in said shank, a cavity in the side of the tubular body of said rose adjacent to the groove in said knob-shank, and a retainer standing in said cavity and projecting into said groove to hold said parts assembled.

4. In a device of the character described, an escutcheon-plate, a tubular rose or knob-shank bearing carried thereby, a knob-shank carried by said rose, an annular groove in said shank, a cavity in the side of the tubular body of said rose adjacent to the groove in said knob-shank, and a retainer standing in said cavity and projecting into said groove to hold said parts assembled, said retainer being secured to said escutcheon-plate.

843,049. WATCH-FOB. CHARLES WALLERSTEDT, St. Louis, Mo. Filed Nov. 5, 1906. Serial No. 342,058.

Claim.—1. A fob comprising an outer ring, a casing therefor, a web or sheet stretched across the ring and integral with said casing, and an ornamental button adapted to be received within the ring and detachably coupled to the web.

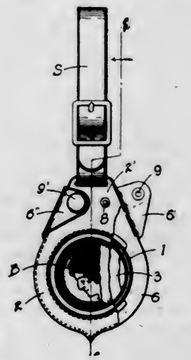
2. A fob comprising a weighted annular ring, a front web or sheet spread across the same and having its edges pressed around the ring and its center forced into a plane tangent with the rear face of the ring thereby forming a basin or receptacle, a rear sheet stretched taut across the ring and sewed to the first-named sheet along the inner and outer edges of the ring, an ornamental button adapted to be received by the basin and encompassed by the ring, and means for locking the button to the web forming the bottom of the basin.



3. A fob comprising a weighted annular ring, a front web or sheet spread across the ring and having its edges pressed to encompass the front peripheral portion of the ring and with its center forced to a plane substantially tangent to the rear face of the ring, a rear web or sheet stretched taut across the ring and sewed to the first sheet along the inner and outer edges of the ring, the sheets having tongue extensions beyond the ring, a central stud secured to the webs of the ring, an ornamental button having a rear disk and a front plate, and a socket on the disk to engage the stud on the webs of the ring, the whole being suspended from a suitable strap.

4. A fob comprising an outer ring, webs stretched across the same and disposed in a plane tangent to one of the faces of the ring, thereby forming a basin-shaped frame, and an ornamental button received by said basin.

843,050. WATCH-FOB. CHARLES WALLERSTEDT, St. Louis, Mo. Filed Nov. 16, 1906. Serial No. 343,711.



Claim.—1. A fob comprising a ring, a casing therefor, a webb or sheet stretched across the ring and integral with said casing, a sheet sewed to the back of the casing and forming a pocket with the latter, an extension for said rear sheet forming a flap, and lateral wings on said extension adapted to fold against the front of the fob.

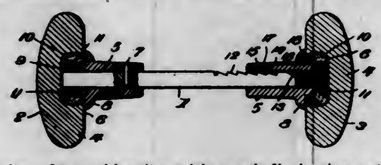
2. A fob comprising a ring incased between two leather sheets sewed together along the inner and outer edges of the ring, the outer sheet being extended beyond the ring in one direction, and having its center pressed rearwardly to form with the second sheet a basin for the reception of a suitable fob ornament, a rear sheet sewed to the first-named sheets and forming a pocket therewith, a flap forming the upper extension of the rear sheet, wings integral with said flap and foldable against the front of the fob, and means for securing said wings to the extension of the outer leather sheet.

843,051. ROCKER STOVE-GRATE. FRANCIS B. WATSON, Caldwell, Kans. Filed Mar. 23, 1906. Serial No. 307,714.



Claim.—In a device of the character described, the combination with a stove, of a plurality of grate members mounted for rocking movement in said stove, a link having pivotal connection with all of said grate members, a lever pivoted for swinging movement upon the exterior of the stove and having operative connection with said link, a shelf provided upon the front of the stove, said shelf being formed with a shouldered slot for the reception of said lever and a spring-detent mounted upon said lever and designed to engage the shouldered portion of said slot.

843,052. KNOB ATTACHMENT. MARTIN WEBER, Denver, Colo. Filed Nov. 29, 1905. Serial No. 289,614.



Claim.—In combination with a spindle having ratchet-teeth on one of its faces, a knob having a recess and a shank having one end in said recess, said shank being provided with a bore to receive the spindle, and an annular collar bearing against one side of the knob and provided with an inwardly-widened, wedge-shaped opening, said shank being provided with a transverse opening which extends to the ratchet-face of the spindle and with a longitudinal opening which extends from said transverse opening to the wedge-shaped opening in the collar, a spring-pawl comprising a straight arm in said longitudinal opening of the shank and opening of the collar, and a transverse arm in the transverse opening of the shank and engaging the ratchet-teeth of the spindle, a wedge in the opening of the collar and securing the end of the longer arm of the spring-pawl therein, the broadened end of said wedge extending into the recess in the knob, and a filling in said recess uniting the spindle to the knob and also bearing against the broadened edge of the wedge to lock the latter in place.

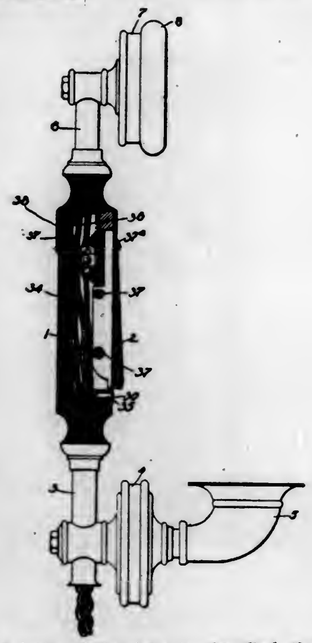
843,053. TELEPHONE-SWITCH. KLAS WEMAN, Buffalo, N. Y. Filed July 13, 1906. Serial No. 325,997.

Claim.—1. In a device of the character described, the combination of a casing comprising a shallow channel having an extension of greater depth, a set of contact-springs associated with said shallow channel and extending into said extension, and a lever for operating said springs.

2. In a device of the character described, the combination of a casing comprising a comparatively narrow channel having an extension of greater depth, a set of contact-springs secured to the base of said channel and extending into said extension, and a lever for operating said springs.

3. In a device of the character described, the combination of a casing comprising a comparatively shallow channel, an extension to said channel of greater depth than the channel itself, a set of contact-springs secured to the base of said channel and extending into and parallel with, the walls of said extension, and a lever for operating said contact-springs.

4. In a device of the character described, the combination of a casing comprising a comparatively shallow channel, an extension to said channel having an open end and the opposite end curved upwardly, a set of contact-springs secured to the base of said channel and extending into said extension, and a spring-held lever adapted to operate said contact-springs.



5. In a device of the character described, the combination of a casing, a set of contact-springs secured thereto, one of said springs having its end extended into hook form, a lever arranged over said contact-springs, and a spring upon which said lever is mounted.

6. In a device of the character described, the combination of a casing comprising a shallow channel having an extension of greater depth, a set of contact-springs secured below the base of said channel, a spring secured upon and projecting upwardly from said base and an insulating-lever connected with said spring and adapted to operate said contact-springs.

7. In a device of the character described, the combination of a casing comprising a shallow channel having an extension provided with an upwardly-curving end, a set of contact-springs secured to the base of said channel, a tension-spring secured to and projecting upwardly from said base, a lever connected with said tension-spring and adapted to operate said contact-springs, and an adjusting-screw associated with the curved end of said extension, said adjusting-screw being provided to limit the upward motion of said lever.

843,054. INCANDESCENT ELECTRIC LAMP. WILLIS R. WHITNEY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct 31, 1904. Serial No. 230,686.

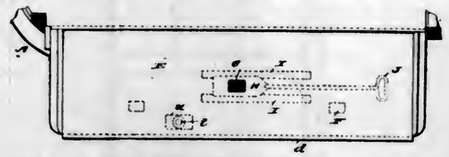
Claim.—1. The combination of a lamp-bulb having a reentrant tubular portion, tubular extensions thereof terminating within the lamp-bulb, metal caps having a coefficient of expansion greater than that of the material of the lamp-bulb and tightly clasping the ends of these tubular extensions and in intimate contact with the glass, and electrical connections on either side of each of said caps.

2. The combination of a lamp-bulb having a reëntrant portion, small tubular extensions of said reëntrant portion, and seals for said tubular extensions each consisting of a cap of metal having a coefficient of expansion greater than that of the material of the lamp-bulb and tightly clasping the end of the tube.



3. The combination of a lamp-bulb having a reëntrant portion, small tubular extensions of said reëntrant portion, seals for said tubular extensions, each consisting of a cap of metal having a coefficient of expansion greater than that of the material of the bulb and tightly clasping the end of the tube, and a filament electrically connected to said metal caps.

843,055. REGISTER. JOHN H. WILLIAMS, New Orleans, La. Filed June 14, 1906. Serial No. 321,760.



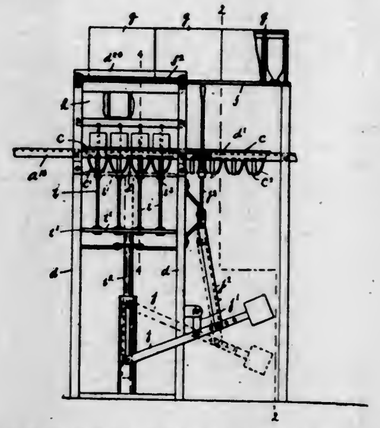
Claim.—1. In a register, the combination of a vertically-disposed bracket having an opening, a step fixed to the under side of the bracket and having a vertically-disposed opening registered with the opening of the bracket, a yieldingly-supported false step arranged above and hinged to the bracket and having a vertically-disposed opening registered with those of the bracket and step and also having a depending stem, a casing connected to and arranged below the step, a register-tape arranged in said casing and having a portion extending below the vertical openings in the step, bracket and false step, and means for moving the tape, arranged to be actuated by the depending stem of the false step.

2. In a register, the combination of a suitable support having an opening, a casing connected to and arranged below said support, a register-tape arranged in the casing and having a portion exposed to the said opening, a yieldingly-supported, vertically-movable step hinged to the support and having a forward depending flange and also having an opening registered with that of the support and a slide on its under side for closing said opening, and means operated by vertical movement of the step for feeding the tape.

3. In a register, the combination of a casing containing an abutment and having a slot in one wall, shafts journaled in the casing and bearing drums, a tape arranged to be moved from one drum to the other, a ratchet fixed on one shaft, a lever loosely mounted on said shaft and carrying a pawl arranged to engage the ratchet; said pawl having an apertured arm, a rod extending through the aperture of the arm on the pawl and connected to said arm and also extending through the abutment in the casing and the slot in the wall of the casing and having a lateral pin, a spring mounted on the rod and interposed between the abutment and arm, a vertically-movable, yieldingly-supported step, and a connection between said step and the lever for operating the latter by the former.

843,056. BOTTLE-WASHING MACHINE. FREEMAN N. YOUNG, Arlington, Mass. Filed Dec. 6, 1906. Serial No. 346,542.

Claim.—1. In a machine of the character described, the combination of means for supporting a bottle-rack, means for supporting a box or case in inverted position above the bottle-rack, having a movable bottle-supporting plate, which, when drawn out permits the bottles to move by gravity from the box or case to the bottle-rack, substantially as described.



2. In a machine of the character described, the combination of means for supporting a bottle-rack, means for supporting a box or case in inverted position above the bottle-rack, having a movable bottle-supporting plate, which, when drawn out permits the bottles to move by gravity from the box or case to the bottle-rack, and guides for the bottles, interposed between said supporting means for the box or case and the bottle-rack, substantially as described.

3. In a machine of the character described, the combination of means for supporting a bottle-rack, means for supporting a box or case in inverted position above the bottle-rack, having a movable bottle-supporting plate, a set of upright spindles arranged with respect to the supporting means for the box or case, to receive the bottles from the box or case when said plate is drawn out and means for moving said spindles to convey the bottles to the bottle-rack, substantially as described.

4. In a machine of the character described, the combination of means for supporting a bottle-rack, means for supporting a box or case in inverted position above the bottle-rack, having a movable bottle-supporting plate, a set of upright spindles adapted to extend up through the bottle-rack and arranged with respect to the supporting means for the box or case to receive the bottles from said box or case when said plate is drawn out, and means for moving said spindles to convey the bottles to the bottle-rack, substantially as described.

5. In a machine of the character described, the combination of means for supporting a bottle-rack, means for supporting a box or case in inverted position above the bottle-rack, having a movable bottle-supporting plate, a set of upright spindles arranged with respect to the supporting means for the box or case to receive the bottles from the box or case when said plate is drawn out, and a guide for the bottles interposed between said supporting means for the box or case and said spindles, substantially as described.

6. In a machine of the character described, the combination of a frame having means extending throughout its length for supporting a bottle-rack and permitting the discharge thereof at one end, means for supporting a box or case in inverted position above the bottle-rack, having a movable bottle-supporting plate, which, when drawn out permits the bottles to move by gravity from the box or case to the bottle-rack, substantially as described.

7. In a machine of the character described, the combination of a frame having tracks extending throughout its length for supporting a bottle-rack and permitting the discharge thereof at one end as a new rack is supplied at the opposite end, means for supporting boxes or cases, in in-

verted position, above the bottle-rack, having a movable bottle-supporting plate, which, when drawn out permits the bottles to move by gravity from the box or case to the bottle-rack, substantially as described.

8. In a machine of the character described, the combination of means for supporting a bottle-rack, means for supporting a box or case in inverted position above said bottle-rack, having a movable bottle-supporting plate, a plurality of independent bottle-supports, a frame carrying them, and means for moving said frame to project the bottle-supports up through the bottle-rack, to a position to receive the bottles from the box or case when said plate is drawn out and to subsequently convey said bottles to the bottle-rack upon the descent thereof, substantially as described.

9. In a machine of the character described, the combination of a frame, means borne by it for supporting a bottle-rack, means, extending throughout its length, for supporting a series of boxes or cases in inverted position, having a movable bottle-supporting plate above the bottle-rack, which, when drawn out permits the bottle to move by gravity from the boxes or cases into the bottle-rack, substantially as described.

10. In a machine of the character described, the combination of a frame, means borne by it for supporting a bottle-rack, means, extending throughout the length of said frame, for supporting a series of boxes or cases in inverted position and permitting the discharge thereof at one end as new boxes or cases are supplied at the opposite end, and having a movable bottle-supporting plate above the bottle-rack, which, when drawn out permits the bottles to move by gravity from the boxes or cases into the bottle-rack, substantially as described.

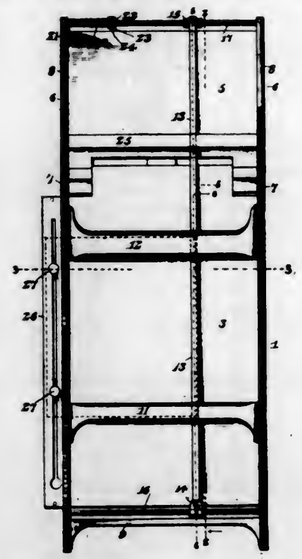
11. In a machine of the character described, the combination of a frame having means extending throughout its length for supporting the bottle-rack, and permitting the discharge thereof at one end as a new rack is supplied at the opposite end, means, extending throughout the length of said frame, for supporting a series of boxes or cases in inverted position, permitting the discharge thereof at one end as new boxes or cases are supplied at the opposite end, and having a movable bottle-supporting plate above the bottle-rack, which when drawn out permits the bottles to move by gravity from the boxes or cases into the bottle-rack, substantially as described.

843,057. PLATEN FOR TYPE-WRITING MACHINES. JORAM ZIEGLER, Cleveland, Ohio, assignor, by mesne assignments, to Elliott-Fisher Company, a Corporation of Delaware. Filed June 21, 1901. Renewed July 30, 1902. Serial No. 117,717.

Claim.—1. In a type-writing machine, the combination with a flat platen and a vertically-movable machine-supporting frame, of a work holding or guarding member disposed longitudinally over the printing area of the platen and spaced from the side members of the frame, said longitudinal work holding or guarding member being normally connected with the machine-supporting frame to insure its movement therewith and adjustable transversely of the platen independently of the frame to dispose it along the edge of the work sheet or element, regardless of the location thereof.

2. In a type-writing machine, the combination with a flat platen and a machine-supporting frame hinged at its rear end and comprising side rails and a transverse bar connecting the front ends thereof, of a work holding or guarding member disposed longitudinally over the platen between the side rails of the machine-supporting frame and spaced from both of said rails, said member having adjustable connection at one end with the front bar of the machine-supporting frame and adjustable connection at its opposite end with a relatively fixed part, whereby said longitudinal work holding or guarding member will swing vertically with the frame and will be independently adjustable transversely across the printing area of the platen to dispose it along one edge of a work sheet or element, regardless of the particular location of the latter.

3. In a type-writing machine, the combination with a flat platen and tracks or guides for a traveling machine, of a work holding or guarding device comprising separate members in crossing relation, each of said members being independently adjustable along the other, whereby the work holding or guarding device may be positioned to hold or guard an end edge and a side edge of a work-sheet.



4. In a type-writing machine, the combination with a flat platen and a vertically-movable machine-supporting frame, of a work holding or guarding device comprising separate members in crossing relation and movable toward and away from the writing-surface with the machine-supporting frame, each of said members being independently adjustable along the other, whereby the work holding or guarding device may be positioned to hold or guard an end edge and a side edge of a work-sheet regardless of the size or location of the latter.

5. In a type-writing machine, the combination with a flat platen and a vertically-movable machine-supporting frame, of a work holding or guarding device movable toward and from the platen with the frame and including two transverse members, independently adjustable longitudinally of the platen, and a longitudinal member in crossing relation with the transverse members and independently adjustable transversely of the platen, the independent adjustment of the several members permitting the work holding or guarding device to be adjusted in size to accommodate work-sheets of various sizes and to be positioned for holding or guarding work-sheets at various points within the printing area.

6. In a type-writing machine, the combination with a flat platen to support the work-sheet, and the vertically-movable main tracks or guides for the printing mechanism, of the transversely-disposed work holding or guarding member having sliding connection with said main tracks or guides, and a longitudinally-disposed transversely-adjustable work holding or guarding member located between the tracks or guides.

7. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a pair of swinging main tracks or guides connected for movement in unison, a plurality of transversely-disposed work holding or guarding members having sliding connection at their ends with said tracks or guides and movable therewith, and a longitudinally-disposed, transversely-adjustable work holding or guarding member located between the tracks or guides and also movable therewith toward and from the writing-surface.

8. In a type-writing machine, the combination with a flat platen, and the swinging main tracks or guides, of an adjustable transverse work holding or guarding member having sliding engagement with said tracks or guides, and a longitudinally-disposed work holding or guarding member in crossing relation with the transverse member and adjustable transversely of the platen.

9. In a type-writing machine, the combination with a flat platen, and the main tracks or guides formed with longitudinal grooves, of transverse work holding or guarding members slidably engaging said grooves, a supporting-bar extending between the main tracks or guides, and a longitudinally-disposed work-holding member adjustably supported by said bar.

10. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a flexible work holding or guarding member or strip disposed over the platen, and tension mechanism for said strip.

11. In a type-writing machine, the combination with a flat platen, and a swinging frame disposed thereover, of a flexible work holding or guarding member or strip secured at its opposite ends to the frame and platen respectively, and means for automatically taking up the slack in said strip when the frame is elevated.

12. In a type-writing machine, the combination with a flat platen, and a swinging frame disposed thereover, of a longitudinally-arranged flexible work holding or guarding member or strip connected at one end to the frame, and means located beyond the opposite end of the frame for automatically taking up the slack in said strip.

13. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a flexible work holding or guarding strip disposed over the platen, carriers supporting the opposite ends of the strip and mounted for adjustment transversely of the platen, and means for urging one of the carriers in a direction to take up the slack in said flexible member or strip.

14. In a type-writing machine, the combination with a flat platen for the support of the work-sheet, of a flexible work holding or guarding member or strip disposed over the platen, supporting-bars retaining the opposite ends of the strip, one of said bars being movable, and reactive means for urging said movable bar in a direction to automatically take up the slack in the strip.

15. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a flexible work holding or guarding member or strip disposed thereover, supporting-bars adjustably supporting the opposite ends of the strip, one of said bars being mounted for rotary movement, and a spring disposed to urge the bar in a direction to wind one end of the strip and thereby automatically take up the slack therein.

16. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a flexible work holding or guarding member or strip disposed over the platen, carriers located at the opposite ends of the strip, supporting-bars adjustably supporting said carriers to permit the lateral adjustment of the strip across the platen, one of said supporting-bars being mounted for rotary movement, means for preventing independent rotary movement of the carriers supported by the rotary supporting-bar, and a spring arranged to rotate said bar for the purpose of automatically taking up slack in the flexible member or strip.

17. In a type-writing machine, the combination with a flat platen, and a swinging machine-supporting frame disposed thereover, of the flexible work holding or guarding member or strip disposed over the platen and movable toward and away from the writing-surface, said flexible strip being connected to the machine-supporting frame for movement therewith and being mounted for transverse adjustment.

18. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a swinging supporting-frame for the printing mechanism, and individually-adjustable transverse and longitudinal work holding or guarding members movable toward and away from the writing-surface with the machine-supporting frame, one of said work holding or guarding members being flexible.

19. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a swinging supporting-frame for the printing mechanism, individually-adjustable transverse and longitudinal work holding or guarding members movable toward and away from the writing-surface of the machine-supporting frame, one of said work holding or guarding members being flexible, and tension mechanism for said flexible member.

20. In a type-writing machine, the combination with a flat platen to support the work-sheet and the swinging main tracks or guides, of an extensible work holding or guarding member disposed over the platen and capable of individual lateral adjustment, said member having one end movable with the tracks or guides and having its opposite end secured at a relatively fixed point.

21. In a type-writing machine, the combination with a flat platen to support the work-sheet, of the main tracks or guides for the printing mechanism, and a longitudinally-disposed flexible work holding or guarding member adjustable transversely of the platen, said member being under tension.

22. In a type-writing machine, the combination with a flat platen to support the work-sheet, of a frame vertically movable thereover, and a flexible work holding or guarding member or strip connected to said frame, said member being under tension.

23. In a type-writing machine, the combination with a flat platen, of work holding or guarding members disposed transversely and longitudinally of the platen, respectively, one of said members being flexible and under tension, and each of said members being mounted for individual adjustment.

24. In a type-writing machine, the combination with a flat platen, and the swinging main tracks or guides, of an adjustable transverse work holding or guarding member having sliding engagement with said tracks or guides, and a longitudinally-disposed work-holding member in crossing relation with the transverse member, and adjustable transversely of the platen, said longitudinal member also having connection with the main tracks or guides for movement therewith.

25. In a type-writing machine, the combination with a flat platen, and the swinging main tracks or guides, of a plurality of adjustable transverse work holding and guarding members having sliding engagement with the tracks or guides, and a longitudinally-disposed work holding or guarding member in crossing relation with the transverse members and adjustable transversely of the platen, the several work holding or guarding members being movable with the tracks or guides.

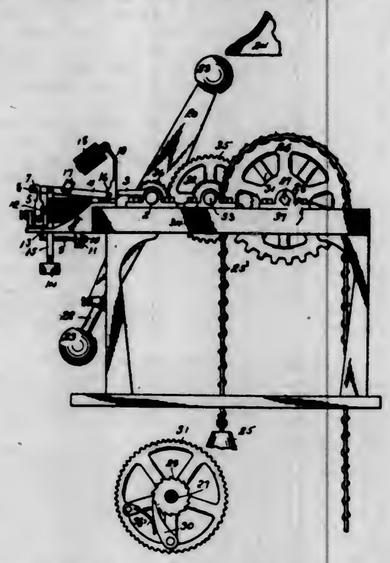
26. In a type-writing machine, the combination with a flat platen, and a movable machine-supporting frame; of a flexible work holding or guarding member under tension and connected to the machine-supporting frame for movement therewith.

27. In a type-writing machine, the combination with a flat platen, of a flexible work holding or guarding member disposed over the platen, means for mounting said member so as to permit it to be swung toward and away from the platen, and means for automatically taking up the slack in said member, when the latter is elevated.

28. In a type-writing machine, the combination with a flat platen, of a flexible work holding or guarding strip disposed over the platen, and retaining devices for the opposite ends of the strip, one of said devices being fixed relative to the platen and the other device being movable to swing the strip away from the platen and thus facilitate the manipulation of the work, said strip being under tension to cause the slack therein to be automatically taken up when the strip is elevated.

29. In a type-writing machine, the combination with a flat platen, of a flexible work-guarding strip disposed over the platen, and retaining devices for the opposite ends of said strip, one only of said devices being movable to separate the strip from the platen and thus facilitate the manipulation of the work, said strip being under tension to compel the same to remain taut.

843,058. FIRE-ALARM. GUSTAF V. ANDERSON, Kansas City, Kans., and HARVARD O. HARPSTER, Kansas City, Mo. Filed Jan. 30, 1906. Serial No. 298,665.



Claim.—1. The combination with a bell or gong, of a rotatable striker-support, and a striker carried by said support and movable to and from a position in which it will strike the bell or gong, the striker being retained, when rotated, by centrifugal force in position for striking the bell or gong, the striker after each striking operation being moved by gravity from contact with the bell or gong.

2. The combination with a bell or gong, of a rotatable striker-support having an arm, means for rotating said striker-support, a striker-bar movable upon said support to and from a position in which opposite ends of the bar will alternately strike the bell or gong when the support is rotated, the bar being moved by gravity so as to clear the bell after each striking operation, the bar being retained in the striking position by centrifugal force, a detent movable to and from a position for engaging said arm for preventing rotation of said striker-support, releasable locking means for retaining said detent in position for engaging said arm, electromagnetically-operated means for releasing the detent from the locking means, and electromagnetically-operated means for holding the detent in position for clearing said arm.

3. The combination with a bell or gong, of a rotatable striker-support having an arm, means for rotating said striker-support, a striker-bar rotatable with said support and slidable thereon to and from a position in which it will strike the bell or gong when the support is rotated, the striker-bar being retained by centrifugal force in the striking position and movable by gravity after striking from such position, a detent comprising a lever pivoted so as to swing to and from a position supporting said arm, means for moving said lever to the said position, releasable means for locking the lever in the said position, electromagnetic means for releasing the lever from said locking means, and electromagnetic means for holding the lever out of the path of movement of said arm.

4. The combination with a rotary shaft having an arm, of means for rotating said shaft, a gong or bell, a support on said shaft and rotatable therewith, a striker-bar slidable to and from positions in which the opposite ends will alternately strike the bell or gong when the support is rotated, said bar being retained on the support by centrifugal force in position for striking and movable by gravity out of contact with the bell or gong, a lever pivoted so as to swing to and from a position supporting said arm and movable out of said position by said arm, electromagnetic means for retaining said lever out of said position, means for swinging said lever to said position, and electromagnetically-controlled means for holding the lever in said position.

5. The combination with a rotary shaft having an arm, of means for rotating said shaft, a gong or bell, a support carried by said shaft and rotatable therewith, a striker-bar radially slidable upon said support and extending radially in opposite directions from the shaft, said bar being slidable to and from positions in which opposite ends will alternately strike the gong or bell, the bar being retractable after striking from such positions by gravity, a lever pivoted so as to swing to and from a position supporting said arm, and movable out of said position by said arm, electromagnetic means for retaining said lever out of said position, means for moving said lever to said position, automatically-operated means for locking said lever in said position, and electromagnetic means for operating the said locking means to release the lever.

6. The combination with a rotary shaft having an arm, of means for rotating said shaft, a bell or gong, a striker rotatable with said shaft and positioned so as to strike said bell or gong, a lever pivoted so as to swing to and from a position supporting said arm, means for moving said lever to said position, releasable means for locking the lever in said position, electromagnetic means for operating said locking means to release the lever, and electromagnetic means for holding the lever out of said position.

7. The combination with a rotary shaft having an arm, of means for rotating the shaft, a bell or gong, a striker rotatable with the shaft and positioned so as to strike said bell or gong, a lever pivoted so as to swing to and from a position supporting said arm, means for moving said lever to said position, automatically-operated means for engaging and locking said lever in said position, an electromagnet, means by which when said magnet is energized said locking means will be operated to release the lever, a second electromagnet, means by which when said lever is moved from said position and the second electromagnet is energized, the lever will be held out of said position, and means for energizing said magnets.

8. The combination with a rotary shaft, of means for rotating said shaft, striker-bar-supporting means carried by said shaft, a striker-bar radially slidable upon said supporting means, a gong or bell positioned so as to be struck by said striker-bar when the bar is rotated with the shaft, a lever, means carried by the shaft for engaging said lever to prevent rotation of the shaft when the lever is moved to a certain position, means for moving said lever to said position, releasable means automatically operated for locking the lever in said position, electromagnetic means for operating said locking means to release the lever, an electromagnet, means for energizing said electromagnet, and an armature carried by the lever and movable to a position to be held by said electromagnet when the lever is swung to a position in which the shaft will be free to rotate.

9. The combination with a bell or gong, of a rotary shaft having an arm, a striker-bar support carried by the shaft, a striker-bar intersecting the axis of rotation of the shaft and slidable radially back and forth by gravity the bar being positioned so that when its support is rotated the bar will have its ends alternately strike said bell or gong, the bar being movable by gravity so as to have the striking end clear the bell or gong after each striking operation, a lever pivoted to swing to and from a position in which it will support said arm and prevent rotation of said shaft, means for moving said lever to said position, automatic locking means for engaging and holding the lever in said position, electromagnetic means for operating the locking means to release the lever, an electromagnet, means for energizing said electromagnet, and an armature carried by the lever and movable to a position to be held by said electromagnet when the lever is swung to a position clearing said arm.

10. The combination with a gong or bell, of a rotating striker, means for rotating said striker, a lever, means by which said lever may be moved to a position for holding the striker-rotating means from operation, means connected with the striker-rotating means for engaging the lever when it is moved to the said position, releasable means for locking the lever in the said position, electromagnetic means for operating the locking means to release the lever, an electromagnet, means for energizing said electromagnet, and an armature carried by the lever and movable therewith to a position in which the armature will be held by said magnet when the lever is swung so as to release the striker-rotating means.

11. The combination with a rotary shaft having an arm, of means for rotating said shaft, a bracket carried by and rotatable with said shaft and provided with two diarotatable with said shaft and provided with two diametrically opposite arms each having a radial hole, a striker-bar slidable endwise in said holes, a bell or gong positioned so as to be struck alternately by opposite ends of said striker-bar, a detent movable to and from a position in the path of movement of said arm, means for moving said detent to said position, releasable means for locking the detent in said position, electromagnetic means for operating the locking means to release the detent, and electromagnetic means for holding the detent away from said position.

12. The combination with a rotary shaft having an arm, of means for rotating said shaft, a diametrically slidable bar carried by and rotatable with said shaft and movable back and forth to positions in which opposite ends will be alternately in the striking position, a detent movable to and from a position in the path of movement of said arm, means for moving said detent to said position, releasable means for locking the detent in said position, electromagnetic means for operating the locking means to release the detent, and electromagnetic means for holding the detent out of said position.

13. The combination with a rotary shaft having an arm, of means for rotating said shaft, a striker carried by and rotatable with said shaft, a detent movable to two positions one in and one out of the path of movement of said arm, the detent being movable out of the path of movement by said arm, means for moving the detent into the path of movement of said arm, two electromagnets forming part of an electric circuit, means by which said electromagnets respectively control the holding of said detent in said two positions, an electric generator forming part of said circuit, and means for making and breaking said circuit.

14. The combination with a rotary shaft having an arm, of means for rotating said shaft, a gong or bell, a striker-support carried by said shaft, a striker-bar movable to positions on said striker-support in which the opposite ends of the striker-bar will alternately strike the gong or bell when the shaft is rotated, a detent movable to two positions one in and one out of the path of movement of said arm, the detent being movable out of said path by the arm, means for moving the detent into said path, two electromagnets forming part of an electric circuit, means by which said electromagnets respectively control the holding of said detent in said two positions, an electric generator forming part of said circuit, and means for making and breaking said circuit.

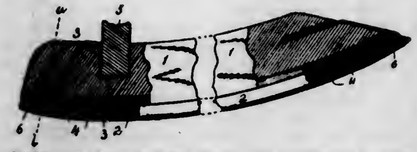
15. The combination with a rotary shaft having an arm, of means for rotating said shaft, a gong or bell, a striker-support carried by and rotatable with said shaft, a striker-bar radially slidable upon said support to positions in which opposite ends will alternately strike said gong or bell when the shaft is rotated, a detent movable to two positions one in and one out of the path of movement of said arm, the detent being movable by said arm out of said path, means for moving the detent into said path, two electromagnets forming part of an electric circuit, means by which said electromagnets respectively control the holding of said detent in said two positions, an electric generator forming part of said circuit, and means for making and breaking said circuit.

843,059. SAFETY-RAZOR. FREDERICK H. ARNOLD, Reading, Pa. Filed Aug. 24, 1905. Serial No. 275,514.



Claim.—A safety-razor comprising a guard-plate having a convex inner face and provided with a stem at one end, a clamping-plate having a concave inner face and also provided with a stem at one end, one of said plates being provided with a hook at its outer end and at its inner end with a lug, the other plate being provided with a recess at its outer end adapted to receive said hook, and at its inner end with an aperture adapted to receive said lug, a flexible blade adapted to be clamped between said plates and to conform to the curvature of their inner faces, said blade having a recess at each end adapted to receive said hook and lug, and a tubular handle adapted to engage and hold said stems.

843,060. ROCKING-CHAIR. JAMES C. ARONHALT, Kansas City, Mo. Filed Feb. 13, 1906. Serial No. 300,854.



Claim.—1. In a rocking-chair, the combination with the rocker, of a rubber tire secured lengthwise to the under side of the rocker and having protecting-tubes secured one in each end of the tire, and a wire embedded in the tire and extending through said tubes, the projecting ends of the wire being secured to the rocker.

2. In a rocking-chair, the combination with the rocker, of a rubber tire secured to the under side and lengthwise of the rocker and provided with protecting-tubes embedded in its respective ends, and a wire having one or more lateral projections and embedded in the tire and extending through the tubes, the ends of the wire being secured to the rocker.

3. In a rocking-chair, the combination with the rocker, having a hole in its upper side, of the chair-leg mounted in said hole, a rubber tire secured lengthwise to the under side of the rocker, and a wire embedded lengthwise in the tire and having one end secured to the rocker, and the other end secured in the hole in the rocker by said leg.

4. In a rocking-chair, the combination with the rocker having a hole in the rear end and a hole in the upper side adjacent the forward end, of the chair-leg mounted in said hole in the forward end, a rubber tire secured lengthwise to the under side of the rocker, and a wire embedded in the tire lengthwise and having one end secured in the hole in the rear end of the rocker, the forward end of the wire extending over the top of the rocker at the forward end of the rocker and extending downward along the side and below the lower end of the leg.

5. In a rocking-chair, the combination with the rocker having in its upper side adjacent the forward end a hole, of the chair-leg mounted in said hole, a rubber tire secured lengthwise to the under side of the rocker, and a wire embedded in the tire and having one or more lateral projections, one end of the wire being secured to the rocker and the other end passing over the forward end of the rocker to the top thereof and thence into said hole between the leg and the rocker.

6. In a rocking-chair, the combination with the rocker having a longitudinal groove in its lower side and having a hole in its upper side adjacent one end, of the chair-leg secured in said hole, a rubber tire mounted in said groove, and a wire embedded lengthwise in said tire and having one projecting end secured to the rocker and the other end extending over the top of the rocker and into said hole between the leg and the rocker.

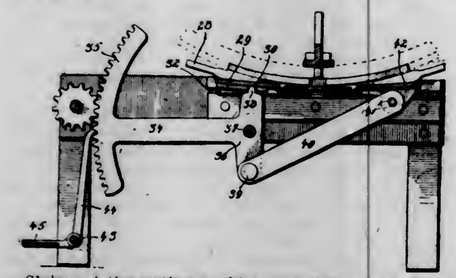
843,061. ADJUSTABLE ROLLER WINDOW-SCREEN. ANDREW J. BAKER, Adrian, Mich., assignor to John W. Page, Adrian, Mich. Filed May 23, 1905. Serial No. 261,754.



Claim.—1. In a window-screen, the combination of a case, a spring-actuated roller journaled therein, a screen upon said roller, a cross-bar attached to said screen, vertical, telescopic guides confining the ends of said cross-bar, said guides having a telescopic union with the ends of said case.

2. In a window-screen, the combination of a case, a spring-actuated roller therein, a screen upon said roller, a cross-bar attached to said screen, vertical telescopic guides confining the ends of said cross-bar, said case having telescopic end extensions to which said guides are rigidly secured.

843,062. TIRE-SETTING MACHINE. CHARLES W. BAKER, Celeste, Tex. Filed Jan. 18, 1906. Serial No. 296,590.



Claim.—A tire-setting machine comprising a main frame, beds movably mounted in the frame, clamping members freely movable on the beds, a main shaft revolubly supported by the frame, a T-lever connected to and operated by said shaft, one arm of the lever engaging one of the beds, and a second lever engaging the other bed and connected to the other arm of the T-lever, whereby in the operation of the shaft the beds are reciprocated in relatively opposite directions.

843,063. STRAW-STACKER. ELI BARTH and FRANKLIN BARTH, Nevada, Ohio. Filed Feb. 20, 1906. Serial No. 302,150.

Claim.—1. In a straw-stacker, the combination with a delivery-spout, of a frame carried by said spout, side frames hinged to said frame, an end frame hinged to said frame and means for adjusting the side and end frames, independently of each other, for the purpose described.

2. In a straw-stacker, the combination with a delivery-spout, provided with apertured lugs, of parallel bars mounted in said lugs provided with a frame at their outer ends, side frames and an end frame pivoted to said frame, having upwardly-projecting members and means connected to said upwardly-projecting members, for operating said sides and end, for the purpose described.

3. In a straw-stacker, the combination with a delivery-spout, provided with apertured lugs, of parallel bars mounted in said lugs carrying a frame at their outer ends, spring-actuated sides and end frames pivoted to said frame, a plate adjustably mounted on said parallel bars, and means connected to said plate for adjusting said frame, for the purpose described.

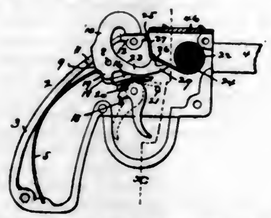


4. In a straw-stacker, the combination with a delivery-spout, of a frame covered with wire-netting adjustably mounted on the outer end of said spout, spring-actuated sides and end frames covered with wire-netting pivoted to said frame, having upwardly-projecting members, pulleys arranged on said frame, ropes connected to said upwardly-projecting members passing over the said pulleys having their ends connected to levers mounted on said spout, a pulley arranged on the outer end of the spout and a windlass arranged on the other end having its ends connected to the frame, for the purpose described.

5. In a straw-stacker, the combination with a delivery-spout, of apertured lugs arranged on the outer end of said spout, bars mounted in said lugs carrying a wire frame at their outer ends, spring-actuated sides and end frames hinged to said frame, apertured bars projecting up from said side and end frames above the said frame, curved bars mounted on said frame projecting through the apertures in said bars ropes connected to said apertured lugs, and to levers carried by the spout, a plate provided with an eye adjustably mounted on the parallel bars, and a rope connected to said eyes passing over a pulley arranged on the end of the spout and a windlass arranged on the other end of the spout, for the purpose described.

6. In a straw-stacker, the combination with the delivery-spout, of bars slidably mounted thereon carrying a frame at their outer ends, spring-actuated side frames hinged to said frame, a spring-actuated end piece hinged to said frame, ropes connected to said side and end pieces, a plate adjustably mounted on said bars, and means for adjusting said frame and independent means connected to said ropes for adjusting the side and end frames, for the purpose described.

843,064. REPEATING CAP-PISTOL. HARRY BENNETT, Newark, N. J., asignor of one-half to M. Samuel Kamm and one-half to Emery E. Hardy, Newark, N. J. Filed Sept. 13, 1902. Serial No. 123,247.



Claim.—1. In a repeating cap-pistol, the combination with an anvil and a hammer, of a pivoted feeding-arm having a slot in its free end adapted to receive a strip of caps extending in the direction of movement of the arm, said arm having a portion of itself adapted to engage the strip at a distance from said slot, and means for oscillating said feeding-arm.

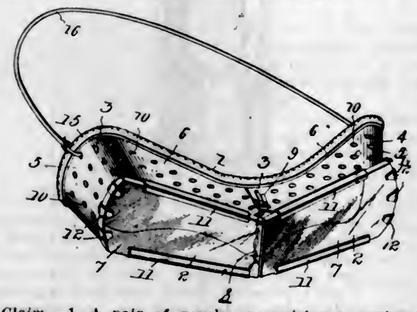
2. In a cap-pistol, the combination with an anvil and a hammer, of a feeding-arm pivoted at one end and adapted to engage at the other end a strip of caps, a projection upon said arm near its free end slotted to receive the strip of caps and hold the same in the plane of the arm, and means for oscillating said feeding-arm.

3. In a cap-pistol, the combination with an anvil and a pivoted hammer, of a cap-feeding arm projecting from said hammer and adapted to oscillate therewith, said arm having a slotted projection to receive the cap-strip and an extremity portion adapted to alternately engage and disengage the cap-strip.

4. In a cap-pistol, the combination of a pivoted hammer having a forwardly and upwardly extending feeding-arm slotted near its end to receive a strip of caps, a spring normally throwing said hammer forward, and a trigger for retracting said hammer and automatically releasing the same.

5. In a cap-pistol, the combination of a pivoted hammer having a forwardly and upwardly curving cap-feeding arm integral therewith and transversely slotted near its end to receive a strip of caps, a hammer-spring, a trigger independent of said hammer, a lever on said trigger adapted to engage the hammer, and means for tripping said lever and releasing the hammer.

843,065. GOGGLES. THOMAS W. BLACK, Burnham, Pa., assignor of one-half to William S. Philips, Burnham, Pa. Filed Mar. 6, 1906. Serial No. 304,489.



Claim.—1. A pair of goggles comprising a perforated sheet-metal frame consisting of two similar half-sections disposed angularly with respect to each other and having their upper inner ends overlapping, a fastening for said ends, transparent plates upon the front of said frame, and a binding upon the rear edge of said frame.

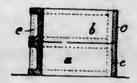
2. A pair of goggles comprising a perforated sheet-metal frame consisting of two similar half-sections disposed angularly with respect to each other and having their upper inner ends overlapping, each of said sections having their outer edges bent to form guide grooves or channels, a fastening connecting the sections at their overlapping ends, transparent plates slidably mounted within the grooves, and integral tongues upon the frame bent to engage the plates and retain them in position within the guides.

3. A pair of goggles comprising a perforated sheet-metal frame consisting of two similar half-sections disposed angularly with respect to each other and having their upper inner ends overlapping, each of said sections having their outer edges bent to form guide grooves or channels, a fastening connecting the sections at their overlapping ends, transparent plates slidably mounted within the grooves, integral tongues upon the frame bent to engage the plates and retain them in position within the guides, and a binding upon the rear edge of said frame.

4. A pair of goggles comprising a perforated sheet-metal frame having its inner edge slitted to permit it to be bent to fit the face of the wearer, said frame consisting of two similar half-sections disposed angularly with respect to each other and having their upper inner ends overlapping, each of said sections having their outer edges bent to form guide grooves or channels, a fastener connecting the sections at their overlapping ends, transparent plates slidably mounted within the grooves, integral tongues upon the frame bent to engage the plates and retain them in position within the guides, and a binding upon the rear edge of said frame.

5. A pair of goggles comprising a perforated sheet-metal frame having its inner edge slitted to permit it to be bent to conform to the face of the wearer, said frame consisting of two similar half-sections disposed angularly with respect to each other and having their upper inner ends overlapping, each of said sections having its outer edges bent to form guide grooves or channels, a fastener connecting the sections at their overlapping ends, transparent plates slidably mounted within the grooves, integral tongues upon the frame bent to engage the plates and retain them in position within the guides, and a binding of fabric folded over the inner edge of the frame and sewed thereto, the stitches passing through perforations in the frame adjacent to its inner edge.

843,066. APPARATUS FOR MAKING PATTERN-PLATES. PHILIBERT BONVILLAIN, Paris, France. Filed July 29, 1904. Serial No. 218,627.



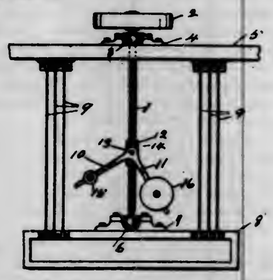
Claim.—In an apparatus for the manufacture of symmetrical pattern-plates, the combination of two similar half-flasks, removable plates for closing the sides of these flasks, the half-flasks being provided with half-openings in the plane of junction and with openings in a plane perpendicular to the plane of junction, the parts being arranged to form a complete flask of which the sides are pierced with holes located at the corners of a square, and a pattern-frame having arms pierced with holes at the same distance from each other as those in the half-flasks, substantially as described and for the purposes specified.

843,067. DRIVING MECHANISM FOR BOLTING-MACHINES. HARRY O. BOWSMAN, Decatur, Ind., assignor of one-half to Francis E. Lehman, Indianapolis, Ind. Filed June 4, 1906. Serial No. 320,033.

Claim.—1. Driving mechanism for bolting-machines consisting of a sieve-carrying frame so suspended as to have a free lateral movement; a vertical revoluble shaft carrying an unequally-weighted arm; an unequally-weighted arm having a vertical adjustment on the shaft, and adapted to impart to the said frame a gyratory movement; and means, adjustably mounted on the said arm, adapted to limit the range of the gyratory movement of the frame without changing the speed of the shaft.

2. In driving mechanism for bolting-machines for grad-

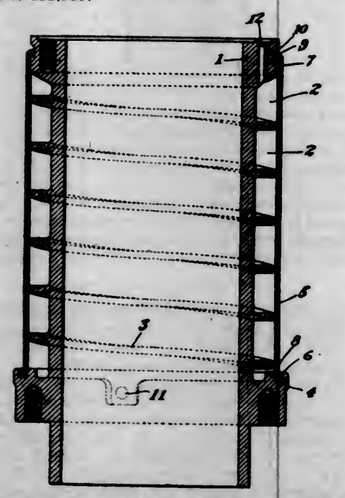
ing flour or other pulverulent materials, the combination of a flexibly-suspended sieve box or frame; a vertical revoluble shaft having its lower end mounted in a ball-and-socket bearing and adapted for a free gyratory movement; an unequally-weighted arm vertically adjustable on the said shaft, and adapted to impart to the said sieve-box a gyratory movement; and means for limiting the extent of the gyratory movement of the frame without changing the speed of the shaft.



3. The combination in a bolting-machine-driving mechanism of a sieve-carrying frame so suspended as to have a free lateral movement; a vertical revoluble pivotally-suspended shaft whose lower end has a ball-and-socket connection with the sieve-frame; a longitudinally-adjustable arm mounted on the shaft and provided with unequal adjustable weights adapted to limit the extent of the gyratory movement of the frame without changing the speed of the shaft.

4. A bolting-machine-driving mechanism consisting of a pendent revoluble shaft whose free end is adapted for a vibratory movement, and whose upper end has a driving connection; a suspended sieve box or frame having a free lateral movement, and having a pivotal connection with the lower end of the shaft; an unequally-weighted arm adjustably mounted on the shaft, and provided with unequal adjustable counterbalancing-weights adapted to limit the range of the gyratory movement of the sieve-frame without changing the speed of the shaft.

843,068. JACKETED ENGINE-CYLINDER. FRANCIS W. BRADY, Englewood, N. J. Filed Oct. 13, 1905. Serial No. 282,588.



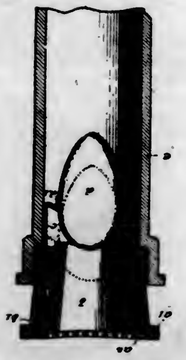
Claim.—1. A jacketed engine-cylinder comprising a water-chamber having inner and outer walls and a helical flange projecting from one wall across the water-chamber, and close to, but not in contact with the other wall, so as to direct the flow of water, and to permit sediment, dirt, &c., to drop between the flange and the other wall, substantially as described.

2. A jacketed engine-cylinder comprising a casting having a recessed water-chamber therein, a shell on said casting and inclosing said chamber, and a vertically-arranged helical flange projecting from the casting across the water-chamber and extending close to, but not in contact with the shell, substantially as described.

3. A jacketed engine-cylinder comprising a casting having a recessed water-chamber therein, sealing-surfaces located at the ends of the water-chamber, a cylinder or shell for inclosing the water-chamber, the ends of which contact with the sealing-surfaces aforesaid, a recess adjacent to one of the sealing-surfaces having a permanent abutment against which one end of the shell is adapted to rest and a space for the sealing material, a second recess adjacent to the other sealing-surface but over which the shell is adapted to pass, and a sealing means consisting of a metal having a relatively low melting-point in each of said recesses for forming the water-tight joint between the casting and the shell, substantially as described.

4. A jacketed engine-cylinder comprising a casting having a recessed water-chamber therein, sealing-surfaces located at the ends of the water-chamber, a cylinder or shell for inclosing the water-chamber, the ends of which contact with the sealing-surfaces aforesaid, a recess adjacent to one of the sealing-surfaces having a permanent abutment against which one end of the shell is adapted to rest, a space for the sealing material, a second recess adjacent to the other sealing-surface, but over which the shell is adapted to pass, a sealing means consisting of a metal having a relatively low melting-point in each of said recesses for forming a water-tight joint between the casting and the shell, the shell being adapted to slide over the sealing means in the second recess when the parts expand and contract, substantially as described.

843,069. SEWER-TRAP. GORDON G. BURDICK, Chicago, Ill., assignor of one-half to Charles Ford, Chicago, Ill. Filed Nov. 22, 1905. Serial No. 288,513.



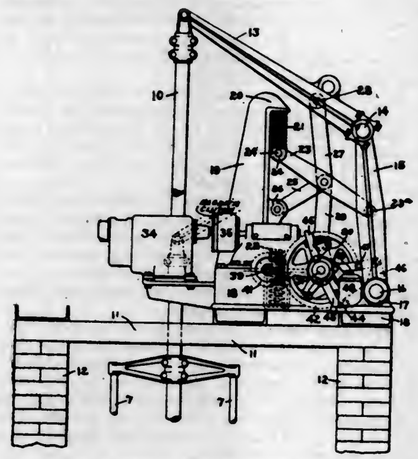
Claim.—1. A trap comprising a suitable box, a pipe removably arranged within said box, brackets depending from said pipe and having hooks at their lower ends, a float-valve adapted to form a closure for the lower end of said pipe and having an annular flange secured to said valve at a point above its center, said flange extending downwardly from the walls of said float and adapted to be engaged by said hooks.

2. In a trap comprising a pipe having a valve-seat, a hollow egg-shaped valve having an annular flange and means for loosely supporting said valve from said pipe.

3. In a trap comprising a pipe having a valve-seat, a hollow valve having an annular flange arranged above the center of gravity of the valve, and means for loosely supporting said valve from said pipe.

4. A valve consisting of a hollow member, having its upper part hemispherical and its lower part tapering, and having secured at the base of its hemispherical portion, an annular downwardly-extending flange.

843,070. SWITCH-OPERATING MECHANISM. THEODORE E. BUTTON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 11, 1904. Serial No. 228,005.



Claim.—1. An electric switch comprising a plurality of pivoted rock-arms, a contact carried by each of said arms, and common means for actuating said arms to give said contacts a right-line motion.

2. An electric switch comprising a rock-shaft, supporting-arms extending laterally therefrom, a contact carried by each of said arms, and means for rocking and shifting said shaft to give said contacts a right-line motion.

3. An electric switch comprising a rock-shaft, supporting-arms extending laterally therefrom, a contact carried by each of said arms, an actuating-motor, and connecting means between said motor and shaft for rocking and shifting the latter to give said contacts a right-line motion.

4. An electric switch comprising a plurality of pivoted rock-arms, a contact carried by each of said arms, an actuating-motor, and parallel-motion connections between said arms and motor for moving said contacts in a right line.

5. An electric switch comprising parallel-motion mechanism having two points movable in parallel right lines, actuating means adapted to engage said mechanism at one of said points, and a movable switch-contact pivotally connected to the mechanism at the other point.

6. An electric switch comprising parallel-motion mechanism having two points movable in parallel right lines, an actuating-spring lying in the path of movement of one point, and a movable switch-contact pivotally connected to the mechanism at the other point.

7. An electric switch comprising parallel-motion mechanism having two points movable in parallel right lines, an actuating-spring lying in the path of movement of one point, a movable switch-contact pivotally connected to the mechanism at the other point, and a motor for storing energy in said spring.

8. An electric switch comprising parallel-motion mechanism including two pivoted movable members and connections between them for causing two points, one on each of said members, to move in parallel right lines, actuating means adapted to engage said mechanism at one of said points, and a movable switch-contact connected to the mechanism at the other point.

9. An electric switch comprising parallel-motion mechanism including two pivoted movable members and connections between them for causing two points, one on each of said members, to move in parallel right lines, an actuating-spring lying in the path of movement of one point, and a movable switch-contact connected to the mechanism at the other point.

10. An electric switch comprising parallel-motion mechanism including two pivoted movable members and connections between them for causing two points, one on each of said members, to move in parallel right lines, an actuating-spring lying in the path of movement of one point, a movable switch-contact connected to the mechanism at the other point, and a motor for storing energy in said spring.

11. An electric switch provided with a movable contact, opposing springs disposed in a line parallel to the line of motion of said contact, a member adapted to be projected to and fro between said springs, and parallel-motion connections between said member and said contact for giving them parallel right-line motions.

12. An electric switch provided with a movable contact, opposing springs disposed in a line parallel to the line of motion of said contact, a member adapted to be projected to and fro between said springs, parallel-motion connections between said member and said contact for giving them parallel right-line motions, and means for storing energy in said springs.

13. An electric switch comprising a frame, a movable contact, an actuating-spring, a lever having one end adapted to engage the spring, a motor-crank connected to the center of the lever, a link pivotally connected at one end to a fixed point on the frame and at the other to the center of the lever, said link being one-half the length of said lever, means for permitting a lateral movement of the free end of the lever whereby its engaging end is reciprocated in a right line, and connections between said lever and contact for moving the latter in a right line.

14. An electric switch comprising a frame, a movable contact, an actuating-spring, a lever having one end adapted to engage the spring, a motor-crank connected to the center of the lever, a link pivotally connected at one end to a fixed point on the frame and at the other to the center of the lever, said link being one-half the length of said lever, means for permitting a lateral movement of the free end of the lever whereby its engaging end is reciprocated in a right line, a rock-arm connected at its outer end to said contact, and connecting means between said lever and rock-arm whereby said contact is reciprocated in a right line.

15. An electric switch comprising a movable contact, a contact-support carrying said contact, motive mechanism for shifting the contact, and actuating connections between said motive mechanism and contact-support for giving the latter a right-line motion and holding it against transverse movement.

16. An electric switch comprising a movable contact, a contact-support carrying said contact, motive mechanism for shifting the contact, and actuating connections between said motive mechanism and contact-support for moving the latter and compelling it to move in a right line.

17. An electric switch comprising a movable contact, motive mechanism for shifting the contact, a support to which said contact is rigidly connected, and connecting means between said motive mechanism and contact-support pivotally connected to the latter at two points and operative to move said contact and its support in a right line.

18. An electric switch comprising parallel-motion mechanism having three points movable in parallel right lines, actuating means adapted to engage said mechanism at one of said points, and a movable switch-contact pivotally connected to said mechanism at the other points.

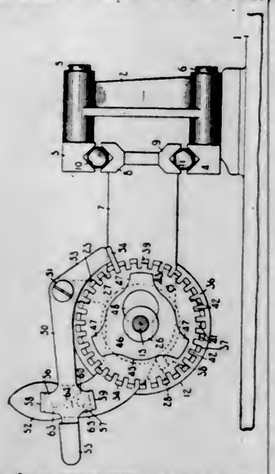
19. An electric switch comprising parallel-motion mechanism having three points movable in parallel right lines, an actuating-spring lying in the path of movement of one point, and a movable switch-contact pivotally connected to the mechanism at the other points.

20. An electric switch comprising parallel-motion mechanism including three pivoted movable members and connections between them for causing three points, one on each of said members, to move in parallel right lines,

actuating means adapted to engage said mechanism at one of said points, and a movable switch-contact connected to said mechanism at the other points.

21. An electric switch comprising parallel-motion mechanism including three pivoted movable members and connections between them for causing three points, one on each of said members, to move in parallel right lines, an actuating-spring lying in the path of movement of one point, and a movable switch-contact connected to the mechanism at the other points.

843,071. TYPE-WRITING MACHINE. DANIEL A. CARPENTER, New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed July 12, 1906. Serial No. 325,791.



Claim.—1. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, another movable stop, and means for temporarily holding the latter stop stationary in different positions in the path of the first-mentioned stop, said first-mentioned stop being movable, when the other stop is thus held in any of said positions, from and toward and into contact with the other stop.

2. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, another stop movable by the line-spacing lever and mechanism connected therewith, and means for temporarily holding the latter stop stationary in different positions in the path of the first-mentioned stop, said first-mentioned stop being movable, when the other stop is thus held in any of said positions, from and toward and into contact with the other stop.

3. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, another stop, a frictional connection rendering the latter stop movable with the platen, and means for locking the last-mentioned stop in different positions in the path of the first-mentioned stop, said stops being coöperative with each other to arrest the platen.

4. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, another movable stop, and means for temporarily holding the latter stop stationary in different positions in the path of the first-mentioned stop, said means including a device mounted on the platen-frame, and said first-mentioned stop being movable, when the other stop is thus held in any of said positions, from and toward and into contact with the other stop.

5. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, another stop, a frictional connection rendering the latter stop normally movable with the platen, and means for locking the last-mentioned stop in different positions in the path of the first-mentioned stop, said means including a device mounted on the platen-frame, and said stops being coöperative with each other to arrest the platen.

6. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, a coöperative stop mounted on the axis of the platen-shaft and normally movable with the platen, and means for locking the latter stop in different positions.

7. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, a coöperative stop mounted on the axis of the platen-shaft and normally movable with the platen, and means for locking the latter stop in different positions, said means including a device mounted on the platen-frame.

8. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, a coöperative stop mounted on the axis of the platen-shaft, a frictional connection rendering the latter stop normally movable with the platen, and means for locking the last-mentioned stop in different positions.

9. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, a coöperative stop mounted on the axis of the platen-shaft, a frictional connection rendering the latter stop normally movable with the platen, and means for locking the last-mentioned stop in different positions, said means including a device mounted on the platen-frame.

10. In a type-writing machine, the combination with a rotary platen of a disk and stop fast together, the disk being fast on the platen-shaft, another disk and stop fast together, the latter disk being mounted on the axis of the platen-shaft, means for locking the latter disk in different positions, and a connection rendering the last-mentioned disk normally movable with the other, said stops being cooperative to arrest the platen.

11. In a type-writing machine, the combination with a rotary platen of a disk and stop fast together, the disk being fast on the platen-shaft, another disk and stop fast together, the latter disk being mounted on the axis of the platen-shaft, means for locking the latter disk in different positions, and a connection rendering the last-mentioned disk normally movable with the other, said connection including a frictional spring, and said stops being coöperative to arrest the platen.

12. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, a rotary rack and a stop fast together, the rack being normally movable with the platen, and a detent movable into engagement with the rack and operative throughout the period of its engagement with the rack to prevent the rack from rotating in either direction, said stops being coöperative to arrest the platen.

13. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, a rotary rack and a stop fast together, their axis of rotation being the axis of the platen-shaft, and the rack being normally movable with the platen, and a detent movable into engagement with the rack and operative throughout the period of its engagement with the rack to prevent the rack from rotating in either direction, said stops being coöperative to arrest the platen.

14. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, a rotary rack and a stop fast together, their axis of rotation being the axis of the platen-shaft, a connection rendering the rack movable with the platen, said connection including a frictional spring, and a detent movable into engagement with the rack, said stops being coöperative to arrest the platen.

15. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, a rotary rack and a stop fast together, their axis of rotation being the axis of the platen-shaft, a connection rendering the rack movable with the platen, said connection including a frictional spring, and a detent movable into engagement with the rack, the detent being mounted on the platen-frame, and said stops being coöperative to arrest the platen.

16. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary disk and stop fast together, this disk being normally movable on its pivotal axis with the first-mentioned stop, and means for temporarily holding said disk stationary in different positions, said first-mentioned stop being movable when said disk is thus held in any of said positions, from and toward and into contact with the stop on said disk.

17. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary disk and stop fast together, this disk being mounted on the axis of the platen-shaft and being normally movable on said axis with the first-mentioned stop, and means for locking said disk in different positions.

18. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary disk and stop fast together, a frictional connection between the platen-shaft and said disk, and means for locking said disk in different positions.

19. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary disk and stop fast together, this disk being mounted on the axis of the platen-shaft, a frictional connection between the platen-shaft and said disk, and means for locking said disk in different positions.

20. In a type-writing machine, the combination with a rotary platen of two rotary stops, each being normally movable with the other through more than a rotation on its pivotal axis, and means for rendering one of said stops operative on the other to arrest the platen.

21. In a type-writing machine, the combination with a rotary platen of two rotary stops mounted on the axis of the platen-shaft and normally movable together through more than a rotation, and means for rendering one of said stops operative on the other to arrest the platen.

22. In a type-writing machine, the combination with a rotary platen of two rotary stops mounted on the axis of the platen-shaft and normally movable together through more than a rotation, and means for rendering one of said stops operative on the other to arrest the platen, said means including a holding device mounted on the platen-frame.

23. In a type-writing machine, the combination with a rotary platen of two rotary stops, one being normally movable on its pivotal axis by the action of the other stop, and means for rendering one of said stops operative on the other to arrest the platen, said means being inactive when said stops are moved together.

24. In a type-writing machine, the combination with a rotary platen of two rotary stops mounted on the axis of the platen-shaft, one being normally movable on its pivotal axis by the action of the other stop, and means for rendering one of said stops operative on the other to arrest the platen.

25. In a type-writing machine, the combination with a rotary platen of two rotary stops one being normally movable on its pivotal axis by the action of the other stop, and means for rendering one of said stops operative on the other to arrest the platen, said means including a holding device mounted on the platen-frame, and operative by hand to lock one of said stops in different positions.

26. In a type-writing machine, the combination with a rotary platen of two rotary stops mounted on the axis of the platen-shaft, one being normally movable on its pivotal axis by the action of the other stop, and means for rendering one of said stops operative on the other to arrest the platen, said means including a holding device mounted on the platen-frame.

27. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, another rotary stop, a connection through which the platen-shaft is operative to impart more than a whole rotation at a time to the latter stop, and means for rendering said stops coöperative with each other to arrest the platen.

28. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, another rotary stop mounted on the axis of the platen-shaft, a connection through which the platen-shaft is operative to impart more than a whole rotation at a time to the latter stop, and means for rendering said stops coöperative with each other to arrest the platen, said means being inactive when said stops are moved together.

29. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, another rotary stop mounted on the axis of the platen-shaft, a connection through which the platen-shaft is operative to impart more than a whole rotation at a time to the latter stop, and means for rendering said first-mentioned stop operative on the other to arrest the platen, said means including a holding device mounted on the platen-frame.

30. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary rack and stop fast together, the rack being normally movable on its pivotal axis with the first-mentioned stop, and a detent mounted on the platen-frame and movable into engagement with said rack to prevent the rotation of the rack in either direction.

31. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary rack and stop fast together, a frictional connection between the platen-shaft and the rack, and a detent mounted on the platen-frame and movable into engagement with said rack.

32. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, two other movable stops, and means for locking each of the two last-mentioned stops in different positions in the path of the first-mentioned stop.

33. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, two other stops, a frictional connection rendering each of the two last-mentioned stops normally movable with the platen, and means for locking each of the two last-mentioned stops in different positions in the path of the first-mentioned stop.

34. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, two other movable stops, and means for locking each of the two last-mentioned stops in different positions in the path of the first-mentioned stop, said means including a device mounted on the platen-frame.

35. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, two other stops, a frictional connection rendering each of the two last-mentioned stops normally movable with the platen, and means for locking each of the two last-mentioned stops in different positions in the path of the first-mentioned stop, said means including a device mounted on the platen-frame.

36. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, two other stops each mounted on the axis of the platen-shaft and normally movable with the platen, and means for locking each of the two last-mentioned stops in different positions.

37. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, two other stops each mounted on the axis of the platen-shaft and normally movable with the platen, and means for locking each of the two last-mentioned stops in different positions, said means including a device mounted on the platen-frame.

38. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, two other stops mounted on the axis of the platen-shaft, a frictional connection rendering each of the two last-mentioned stops normally movable with the platen, and means for locking each of the two last-mentioned stops in different positions.

39. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, two other stops mounted on the axis of the platen-shaft, a frictional connection rendering each of the two last-mentioned stops normally movable with the platen, and means for locking each of the two last-mentioned stops in different positions, said means including a device mounted on the platen-frame.

40. In a type-writing machine, the combination with a

rotary platen of a disk and stop fast together, the disk being fast on the platen-shaft, a disk and stop fast together and mounted on the axis of the platen-shaft, another disk and stop fast together and mounted on the axis of the platen-shaft, means for locking each of the two last-mentioned disks in different positions, and a connection rendering each of the two last-mentioned disks normally movable with the first-mentioned disk.

41. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, a rotary rack and a stop fast together, another rotary rack and a stop fast together, the racks being normally movable with the platen, and a detent movable into immediate engagement with each of said racks.

42. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, a rotary rack and stop fast together, another rotary rack and stop fast together, the axis of rotation of said racks being the axis of the platen-shaft and the racks being normally movable with the platen, and a detent movable into engagement with said racks.

43. In a type-writing machine, the combination with a rotary platen of a stop fast on the platen-shaft, a rotary rack and stop fast together, another rotary rack and stop fast together, the axis of rotation of said racks being the axis of the platen-shaft, a frictional connection rendering each of the racks movable with the platen, and a detent movable into engagement with said racks.

44. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary disk and stop fast together, another rotary disk and stop fast together, said disks being normally movable with the first-mentioned stop, and means for locking each of said disks in different positions.

45. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary disk and stop fast together, another rotary disk and stop fast together, said disks being mounted on the axis of the platen-shaft and being normally movable on said axis with the first-mentioned stop, and means for locking each of said disks in different positions.

46. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary disk and stop fast together, another rotary disk and stop fast together, a frictional connection between the platen-shaft and each of said disks, and means for locking each of said disks in different positions.

47. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary disk and stop fast together, another rotary disk and stop fast together, said disks being mounted on the axis of the platen-shaft, a frictional connection between the platen-shaft and each of said disks, and means for locking each of said disks in different positions.

48. In a type-writing machine, the combination with a rotary platen of three rotary stops, each being normally movable with the others through more than a rotation, and means for rendering one of said stops coöperative with each of the others to arrest the platen.

49. In a type-writing machine, the combination with a rotary platen of three rotary stops mounted on the axis of the platen-shaft and normally movable together through more than a rotation, and means for rendering one of said stops coöperative with each of the others to arrest the platen.

50. In a type-writing machine, the combination with a rotary platen of three rotary stops mounted on the axis of the platen-shaft and normally movable together through more than a rotation, and means for rendering one of said stops coöperative with each of the others to arrest the platen, said means including a holding device mounted on the platen-frame.

51. In a type-writing machine, the combination with a rotary platen of three rotary stops arranged to be rotated together, and means for rendering one of said stops coöperative with each of the others to arrest the platen.

52. In a type-writing machine, the combination with a rotary platen of three rotary stops mounted on the axis of the platen-shaft and arranged to be rotated together, and means for rendering one of said stops coöperative with each of the others to arrest the platen.

53. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, two other rotary stops, a connection through which the platen-shaft is operative to impart more than a whole rotation to each of the two last-mentioned stops, and means for rendering one of said three stops coöperative with each of the others to arrest the platen.

54. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, two other rotary stops mounted on the axis of the platen-shaft, a connection through which the platen-shaft is operative to impart more than a whole rotation to each of the two last-mentioned stops, and means for rendering one of said three stops coöperative with each of the others to arrest the platen.

55. In a type-writing machine, the combination with a rotary platen, of a stop positively connected with the platen-shaft, a rotary rack and stop fast together, another rotary rack and stop fast together, said racks being arranged to be rotated by the platen-shaft, and a detent mounted on the platen-frame and movable into immediate engagement with each of said racks.

56. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary rack and stop fast together, another rotary rack and stop fast together, a frictional connection between the platen-shaft and each of the racks, and a detent mounted on the platen-frame and movable into engagement with said racks.

57. In a type-writing machine, the combination with a rotary platen, of a stop positively connected with the platen-shaft, a rotary rack and stop fast together, another rotary rack and stop fast together, said racks being arranged to be rotated by the platen-shaft, and a detent adapted to engage one of said racks alone and to engage both of them together.

58. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary rack and stop fast together, another rotary rack and stop fast together, a frictional connection between the platen-shaft and each of the racks, and a detent adapted to engage one of said racks alone and to engage both of them together.

59. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary rack and stop fast together, another rotary rack and stop fast together, these racks being mounted on the axis of the platen-shaft and being arranged to be rotated with the first-mentioned stop, and a detent adapted to engage one of said racks alone and to engage both of them together.

60. In a type-writing machine, the combination with a rotary platen, of a stop positively connected with the platen-shaft, a rotary rack and stop fast together, another rotary rack and stop fast together, said racks being arranged to be rotated by the platen-shaft, and one of the racks being larger than the other and having longer teeth than the other, and a detent adapted to engage the larger rack alone and to engage both racks together.

61. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary rack and stop fast together, another rotary rack and stop fast together, one of these racks being larger than the other and having longer teeth than the other, a frictional connection between the platen-shaft and each of the racks, and a detent adapted to engage the larger rack alone and to engage both racks together.

62. In a type-writing machine, the combination with a rotary platen of a stop positively connected with the platen-shaft, a rotary rack and stop fast together, another rotary rack and stop fast together, these racks being mounted on the axis of the platen-shaft and being arranged to be rotated with the first-mentioned stop, and one of these racks being larger than the other and having longer teeth than the other, and a detent adapted to engage the larger rack alone and to engage both racks together.

63. In a type-writing machine, the combination with a rotary platen of stop mechanism including two rotary racks, and a detent adapted to engage both of said racks together.

64. In a type-writing machine, the combination with a rotary platen of stop mechanism including two rotary racks, and a detent adapted to engage one of said racks alone and to engage both of them together.

65. In a type-writing machine, the combination with a rotary platen of stop mechanism including two rotary racks mounted on the axis of the platen-shaft, and a detent adapted to engage both of said racks together.

66. In a type-writing machine, the combination with a rotary platen of stop mechanism including two rotary racks mounted on the axis of the platen-shaft, and a detent adapted to engage one of said racks alone and to engage both of them together.

67. In a type-writing machine, the combination with a rotary platen of stop mechanism including two rotary racks, one of the racks being larger than the other and having longer teeth than the other, and a detent adapted to engage the larger rack alone and to engage both racks together.

68. In a type-writing machine, the combination with a rotary platen of stop mechanism including two rotary racks mounted on the axis of the platen-shaft, one of the racks being larger than the other and having longer teeth than the other, and a detent adapted to engage the larger rack and to engage both racks together.

69. In a type-writing machine, the combination with a rotary platen of platen-arresting mechanism including a rotary stop-carrying device connected with and normally movable through any number of rotations by the platen-shaft, and means for locking said device in different positions, the platen-shaft being movable separately when said device is locked.

70. In a type-writing machine, the combination with a rotary platen of platen-arresting mechanism including a rotary disk connected with and normally movable through any number of rotations by the platen-shaft, and means for locking said disk in different positions, the platen-shaft being movable separately when said disk is locked.

71. In a type-writing machine, the combination with a rotary platen of platen-arresting mechanism including a rotary rack connected with and normally movable through any number of rotations by the platen-shaft, and a detent movable into engagement with said rack, the platen-shaft being movable separately when said detent is engaged with the rack.

72. In a type-writing machine, the combination with a rotary platen of platen-arresting mechanism including two rotary stop-carrying devices connected with and normally movable through any number of rotations by the platen-shaft, and means for locking said devices to the platen-frame.

73. In a type-writing machine, the combination with a rotary platen of platen-arresting mechanism including two rotary stop-carrying devices connected with and normally movable through any number of rotations by the platen-shaft, and means for locking one of said devices alone and both of said devices together to the platen-frame.

74. In a type-writing machine, the combination with a rotary platen of platen-arresting mechanism including a rotary device and a stop fast together, another rotary device and stop fast together, said devices being connected with and normally movable through any number of rotations by the platen-shaft, and means for locking said devices to the platen-frame.

75. In a type-writing machine, the combination with a rotary platen of platen-arresting mechanism including a rotary device and stop fast together, another rotary device and stop fast together, said devices being connected with and normally movable through any number of rotations by the platen-shaft, and means for locking one of said devices alone and both of said devices together to the platen-frame.

76. In a type-writing machine, the combination with a rotary platen of rotary devices including platen-arresting stops mounted on the axis of the platen-shaft and inclosed in a case which renders them inaccessible to the hand, and means operative with the hand outside of said case for actuating and regulating the action of said rotary devices.

77. In a type-writing machine, the combination with a rotary platen of rotary devices including platen-arresting stops mounted on the axis of the platen-shaft and inclosed in a case which renders them inaccessible to the hand, and means including a finger-wheel on the platen-shaft and a device mounted on the platen-frame outside of the case for actuating and regulating the action of said rotary devices.

78. In a type-writing machine, the combination with a rotary platen of rotary devices including platen-arresting stops mounted on the axis of the platen-shaft and inclosed in a case, a finger-wheel on the platen-shaft, and a device mounted on the platen-frame outside of the case and movable through an opening in the case into operative connection with parts of the mechanism within the case.

79. In a type-writing machine, the combination with a rotary platen of rotary devices including a rack and platen-arresting stops mounted on the axis of the platen-shaft and inclosed in a case, a finger-wheel on the platen-shaft, and a detent mounted on the platen-frame outside of the case and movable through an opening in the case into engagement with said rack.

80. In a type-writing machine, the combination with a rotary platen of rotary devices including two racks and platen-arresting stops mounted on the axis of the platen-shaft and inclosed in a case, a finger-wheel on the platen-shaft, and a detent mounted on the platen-frame outside of the case and movable through an opening in the case into engagement with said racks.

81. In a type-writing machine, the combination with a rotary platen, of a stop fast on the platen-shaft, an adjustable stop movable to different positions in the path of the first-mentioned stop, and means for temporarily holding said adjustable stop stationary in any of said positions until the other stop is moved into contact with it to arrest the platen.

82. In a type-writing machine, the combination with a rotary platen, of two stops arranged to normally rotate with the platen, and means for temporarily holding one of said stops at rest, while the other is free to rotate with the platen and by such rotation may be finally engaged with the temporarily-held stop to arrest the platen.

83. In a type-writing machine, the combination with a rotary platen, of two stops arranged to normally rotate with the platen, one of said stops having a fixed relation to the platen, and the other being adjustable relatively to the platen and the said fixed stop, and means for temporarily holding the adjustable stop at rest in the path of the fixed stop, to render said stops operative to arrest the platen when it is rotated to a predetermined extent while the adjustable stop is thus held.

84. In a type-writing machine, the combination of two stops arranged to be normally rotated with the platen and adapted to make contact with each other to arrest the platen, one of said stops being fixed relatively to the platen and the other stop being adjustable, and means for temporarily holding the adjustable stop at rest while the platen is rotated and until the said fixed stop is arrested by the temporarily-held adjustable stop.

843,072. DUST-GUARD FOR AUTOMOBILES. DAVID C. COLLIER, San Diego, Cal. Filed June 23, 1906. Serial No. 323,104.

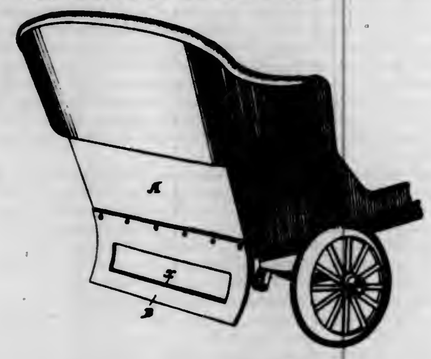
Claim.—1. A deflector for vehicles consisting of a blade, and means for connecting the same to the vehicle in a position below and inclined backward thereto with a space between the upper edge of the blade and the body.

2. The combination with the body of a vehicle, of a transverse blade inclined backward and supported with its upper edge below the body of the car, substantially as set forth.

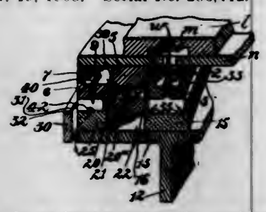
3. The combination of the car and a deflector extending down and back with an oblong opening therein below the bottom of the car.

4. The combination with a car, of a deflector below the

car and back of the same and having two rearwardly-inclined portions separated from each other.



843,073. IMPACT AND REACTION MOTOR. CHESTER COMSTOCK, Brooklyn, N. Y. Filed Nov. 24, 1902. Renewed Apr. 19, 1905. Serial No. 256,412.



Claim.—1. In an impact-motor, the combination with a circular set of pockets and a member opposed thereto having a set of jets, said opposed member completely closing the mouths of all of said pockets, of a member having a second set of jets, a second set of pockets, the mouths of all of which are completely closed by the last-mentioned member, and means for conducting the steam from said first set of pockets to said second set of jets; said conducting means including outlets formed interiorly in said pockets, and the aggregate capacity of said outlets being materially greater than the aggregate capacity of said second set of jets.

2. In an impact-motor, the combination with a member having a jet, of a circular set of pockets opposite thereto, the mouths of all of said pockets being completely closed by said jet member, two circular course members into both of which said pockets discharge laterally, jets in each of said course members, a circular set of pockets opposite the jets in one of said course members, and a circular set of pockets opposite the jets in the other of said course members, all of said pockets being completely closed by the opposed course members.

3. In an impact-motor, the combination with a jet, of a circular set of pockets opposite thereto; two circular courses into both of which said pockets discharge; jets for each of said courses, a circular set of pockets opposite the jets in one of said courses, and a circular set of pockets opposite the jets in the other of said courses; two courses in communication with said second and third sets of pockets respectively; fourth and fifth sets of pockets, and jets provided in the last-mentioned two courses in position to play upon said fourth and fifth sets of pockets.

4. In an impact-motor, the combination with two cylindrical members, whereof one fits steam-tight within and is revoluble relatively to the other, of the following devices formed in said members, namely, a central circular set of pockets, sets of pockets arranged in two series which ramify upon said central set, and sets of jets for discharging into all of said pockets; said sets of jets alternating with said sets of pockets and being in series therewith, the mouths of each pocket being closed by the surface of the opposing cylindriform member.

5. In an impact-motor, the combination of a cylindriform wheel member and a cylindriform casing member closely fitted thereto so as to prevent escape of steam longitudinally between said members, one of said members having circular sets of peripheral pockets and also having an annular course between said sets; said course being in communication with the first set of pockets, and being also provided with a series of jets, and the other of said members having annular courses opposite said sets of pockets and also having a set of pockets opposite the jets in the wheel; said casing courses being also provided with jets, and all the courses alternating in series with the sets of pockets, so that the steam may jet from the first course through the first set of pockets to the second course and may then jet through the second set of pockets to the third course, and may then jet into the third set of pockets.

6. In an impact-motor, the combination with a wheel and a casing of a plurality of circular sets of peripheral pockets, said sets being of equal diameter, and a plurality of annular case members of equal diameter, provided with jets opposed to said pockets, said members being disposed alternately in series with said sets of pockets, so that the steam may jet from the first course into the first set of pockets and pass thence into the second course, thence jet into the second set of pockets, and so on throughout the series, each course member completely closing the mouths of all of the opposed pockets, and each of the latter having an escape into the succeeding course member.

7. In an impact-motor, the combination with a wheel and a casing, of a plurality of circular sets of peripheral pockets and a plurality of opposed annular course members provided with jets; said course members being disposed alternately in ramifying series with said sets, so that the steam may jet from the first course member into the first set of pockets, and pass thence partly into one course member and partly into another course member, and may jet from the last-mentioned course members into succeeding sets of pockets, each course member completely closing the mouths of all of the opposed pockets, and each of the latter having a lateral escape for the steam into the succeeding course member.

8. In an impact-motor, the combination of two cylindrical sets of rings, one set surrounding and fitting close to the other throughout for preventing escape of steam, and means for enabling relative rotation of said sets; some of said rings being formed with pockets and others of said rings being formed with annular courses provided with jets, said rings forming a series in which the pocket-rings alternate with the course-rings, and the pockets in each ring having outlet-openings into the succeeding course.

9. In an impact-motor, the combination of two cylindriform sets of rings, one set surrounding the other and fitting closely thereto, and means for enabling relative rotation of said sets, some of said rings being formed with pockets and others of said rings being formed with annular courses provided with jets, said rings forming a ramified series in which the pocket-rings alternate with the course-rings, and the pockets in each having outlet-openings into the succeeding course, the first pocket-ring in the series having connection with two course-rings, and the latter having jets playing into two succeeding pocket-rings.

10. In an impact-motor, the combination with a wheel and a casing, of two sets of rings, one set being upon the inner side of the casing and surrounding the other set, which is upon the outer side of the wheel, and means for enabling relative rotation of said wheel and casing; some of said rings being formed with pockets and others of said rings being formed with annular courses provided with jets; said rings forming a ramified series in which the pocket-rings alternate with the course-rings, and the pockets in each having outlet-openings into the succeeding course, the first pocket-ring in the series having connection with two course-rings, and the latter having jets playing into two succeeding pocket-rings, which in turn are in connection with two succeeding course-rings, the latter having jets for playing into two succeeding pocket-rings.

11. In an impact-motor, the combination of two cylindrical sets of rings, one set surrounding and fitting closely to the other for preventing escape of steam, and means for enabling relative rotation of said sets; some of said rings being formed with pockets and others of said rings being formed with annular courses provided with jets, said rings forming an operant series in which the pocket-rings alternate with the course-rings, and the pockets in each ring having outlet-openings into the succeeding course, the rings in each set being contiguous, and each set being capable of withdrawal as a whole from the other set.

12. In an impact-motor, the combination of two sets of rings, the rings in each set being contiguous, and the rings in one set fitting steam-tight within the other set throughout, and being so mounted that one set may be separated from the other set as an entirety, each of said sets comprising pocket-rings and course-rings, and the course-rings in each set being opposite the pocket-rings in the other set, and having jets for playing into the latter, and being also in connection with the preceding pocket-ring in its own set to receive and discharge therefrom.

13. In an impact-motor, the combination with a wheel and a casing, of a set of rings upon the wheel and a set of rings upon the casing; some of said rings having courses and jets, and others of said rings having pockets each formed with an abrupt impact-face which extends the entire width of the ring; the pocket-rings being narrower than the course-rings, and being placed opposite thereto so as to be overlapped at each edge thereby; said pocket-rings and course-rings forming an operant series in which the pocket-rings and course-rings alternate.

14. In an impact-motor, the combination with a wheel and a casing, of a set of rings upon the wheel and a set of rings upon the casing, some of said rings having courses and jets and others of said rings having pockets each formed with an abrupt impact-face which extends the entire width of the ring; the pocket-rings being narrower than the course-rings and being placed opposite thereto so as to be overlapped at each edge thereby; said pocket-rings and course-rings forming an operant series, in which the pocket-rings and course-rings alternate, and the course-rings having inlets in their side walls opposite the pockets, so as to admit steam therefrom.

15. In an impact-motor, the combination of a casing, a shaft, a wheel rigidly affixed to the shaft, and means by which the wheel may be revolved both by direct impingement and by the reaction of an expansible propulsive agent thereupon; said means consisting of an outer set of rings and an inner set of rings; each ring in each set being in contact with the next ring of the same set, and some of said rings being provided with pockets and others with jets opposite thereto; said rings taken together forming an operant series or train.

16. In an impact-motor, a casing, a shaft, a wheel rigidly affixed to the shaft, and means by which the wheel may be revolved both by direct impingment and by reaction of an expansible propulsive agent thereupon; said means consisting of an outer set of rings and an inner set of rings, each ring in each set being in contact with the next ring of the same set and diametrically opposite to the ring with which it coöperates in the other set, and some of said rings being provided with pockets and others with jets opposite thereto, said rings taken together forming an operant series or train.

17. In an impact-motor, the combination of a casing, a shaft, a wheel rigidly affixed to the shaft, and means by which the wheel may be revolved both by direct impingement and by the reaction of an expansible propulsive agent thereupon; said means consisting of an outer built-up cylindriform set of rings and an inner built-up cylindriform set of rings, the set on the wheel fitting steam-tight within the set on the casing, some of said rings having jets for the discharge of the propulsive agent, and others of said rings having pockets for the reception of the impact propulsive agent.

18. In an impact-motor, the combination of a casing, a shaft, a wheel rigidly affixed to the shaft, and means by which the wheel may be revolved both by direct impingement and by the reaction of an expansible propulsive agent thereupon; said means consisting of an outer built-up cylindriform set of rings and an inner built-up cylindriform set of rings, the set on the wheel fitting steam-tight within the set on the casing; some of said rings having jets for the discharge of the propulsive agent, and others of said rings having pockets for the reception of the impact of the propulsive agent, and the rings having discharge-ports alternating in operant series with the rings having pockets.

19. In an impact-motor, the combination of a casing, a shaft, a wheel rigidly affixed to the shaft and means by which the wheel may be revolved both by direct impingement and by the reaction of an expansible propulsive agent thereupon, said means consisting of an outer built-up set of rings, and an inner built-up set of rings; some of said rings having jets for the discharge of the propulsive agent, and others of said rings having pockets for the reception of the impact of the propulsive agent, the rings having discharge-ports alternating in operant series with the rings having pockets, and each ring in each set being in contact with the next ring in the same set.

20. In an impact-motor, the combination of a casing, a shaft, a wheel rigidly affixed to the shaft, and means by which the wheel may be revolved both by direct impingement and by the reaction of an expansible propulsive agent thereupon; said means consisting of an outer built-up set of rings and an inner built-up set of rings; some of said rings having jets for the discharge of the propulsive agent and others of said rings having pockets for the reception of the impact of the propulsive agent, the rings having discharge-ports alternating in operant series with the rings having pockets, and each ring in each set being in contact with the next ring in the same set, and diametrically opposite to the ring with which it coacts in the other set.

21. In an impact-motor, the combination of a casing, a shaft, a wheel rigidly affixed to the shaft, and means by which the wheel may be rotated both by direct impingement and reaction of an expansible propulsive agent thereupon; said means consisting of an outer and inner set of rings, some of which have full-width pockets and others of which have jets, each ring in each set being in contact with the next ring of the same set, and diametrically opposite to the wing with which it coacts in the other set, the rings which have jets being of greater width than rings which have pockets.

22. In an impact-motor, the combination of a casing, a shaft, a wheel rigidly affixed to the shaft, and means by which the wheel may be rotated both by direct impingement and reaction of an expansible propulsive agent thereupon; said means consisting of an outer and inner set of rings, some of which have full-width pockets and others of which have jets; each ring in each set being in contact with the next ring of the same set and diametrically opposite to the ring with which it coacts in the other set, the rings which have jets being of greater width than the rings which have pockets, and the rings which have pockets being contiguous to the rings which have jets, so that the latter rings close the pockets.

23. In an impact-motor, the combination of a casing, a shaft, a wheel rigidly affixed to the shaft, and means by which the wheel may be rotated both by the direct impingement and reaction of an expansible propulsive agent thereupon; said means consisting of an outer and an inner set of rings, each ring being in contact with the next ring of the same set, some of said rings having jets and others having full-width pockets which are closed by the sides of the adjacent rings, said adjacent rings having jets, and courses between the pockets and the jets.

24. In an impact-motor, a steam-supply chamber connected with a built-up rigid cylindriform set of rings of equal diameter, each of which is in close contact with the next, some of said rings having pockets, and others thereof having jets, and all of said rings being mounted for rotation.

25. In an impact-motor, the combination with a set of pockets and a member opposed thereto having a set of jets, said opposed member completely closing the mouths of said pockets, of a member having a second set of jets, a second set of pockets, the mouths of all of which are

closed by one of the members, and means for conducting the steam from said first set of pockets to said second set of jets; said conducting means including outlets located in said pockets and the aggregate capacity of said outlets being materially greater than the aggregate capacity of said second set of jets.

26. In an impact-motor, the combination of two members, whereof one fits steam-tight within the other, the outer member being so formed upon one of its faces, and the inner member being so formed upon one of its faces as to permit the member to have relative rotation with the other member said members having in their faces the following coöperative elements, namely, a central set of pockets, jets for discharging into said pockets, a course upon each side of said set of pockets, the latter being in communication with both courses, jets in said courses, pockets arranged in two circular sets in position to coact with the last-mentioned jets, courses also in communication with the last-mentioned two sets of pockets, jets in the last-mentioned courses, and pockets arranged in two more circular sets in position to be played upon by the last-mentioned jets.

27. In an impact-motor, the combination of two sets of rings, one set so coöperating with the other as to prevent the escape of steam, and means for enabling relative rotation of said sets, some of said rings being formed with pockets and others of said rings being formed with courses provided with jets, said rings forming a series in which the pocket-rings alternate with the rings, and the pockets in each ring having outlet-openings into the succeeding course.

28. In an impact-motor, the combination of a plurality of sets of rings, one set so coöperating with the other as to fit closely thereto, and means for enabling relative rotation of said sets, some of said rings being formed with pockets and others of said rings being formed with annular courses provided with jets, said rings forming a ramified series in which the pocket-rings alternate with the course-rings, and the pockets in each having outlet-openings into the succeeding course, the first pocket-ring in the series having connection with two course-rings and the latter having jets playing into two succeeding pocket-rings.

29. In an impact-motor, the combination of two sets of rings, one set so related to the other as to prevent escape of steam, and means for enabling relative rotation of said sets, some of said rings being formed with pockets and others of said rings being formed with annular courses provided with jets, said rings forming an operant series in which the pocket-rings alternate with the course-rings, and the pockets in each ring having outlet-openings into the succeeding course, the rings in each set being contiguous and each set being capable of withdrawal as a whole from the other set.

30. In an impact-motor, a ring having a series of pockets formed thereon, in combination with an attached adjoining ring closing said pockets but having outlets therefor, and also having jets in communication with said outlets, and a ring having pockets opposite said jets.

31. In an impact-motor, a ring having a series of pockets formed thereon, each pocket being formed with a face which extends across the width of the ring, in combination with an attached adjoining ring closing said pockets but having outlets therefor, and also having jets in communication with said outlets, and a ring having pockets opposite said jets.

32. In an impact-motor, the combination with a ring, being formed with a series of pockets, each pocket comprising an impact-face, of a ring secured at each side of said pocket-ring, to close the sides of the pockets, said side rings being formed with courses which are in communication with said pockets, jets for said course-rings, and pocket-rings opposite said jets.

33. In an impact-motor, the combination with a ring, being formed with a series of pockets, each pocket comprising an impact-face, of rings secured at each side of said pocket-ring to close the sides of the pocket, at least one of said side rings having an annular course, and its walls being perforated opposite said pockets to receive the discharge therefrom, jets also formed in said course-ring, and a pocket-ring opposite said jets.

34. In an impact-motor, a steam-supply member connected with a built-up rigid set of rings, each of which is in close contact with the next, some of said rings having pockets and others thereof having jets, and all of said rings being mounted for rotation.

35. In an impact-motor, the combination with a jet, of a circular set of pockets opposite thereto, two circular courses into both of which said pockets discharge, jets for each of said courses, a circular set of pockets opposite the jets in one of said courses, and a circular set of pockets opposite the jets in the other of said courses, two courses in communication with said second and third sets of pockets respectively, fourth and fifth sets of pockets, and jets provided in the last-mentioned two courses in position to play upon the said fourth and fifth sets of pockets, said courses, jets and pockets being formed in two cylindriform members fitting steam-tight one within the other, and one thereof being mounted for rotation.

36. In an impact-motor, the combination with a jet of a circular set of pockets opposite thereto, an annular course at each side of said set of pockets and in communication therewith, a set of jets in each of said compartments and a set of pockets opposite each of said sets of jets, said courses, jets and pockets being formed in two cylindriform members fitting steam-tight one within the other, and one thereof being mounted for rotation.

37. In an impact-motor, the combination with a jet, of a circular set of pockets opposite thereto, an annular course at each side of said set of pockets and in communication therewith, a set of jets in each of said compartments, a set of pockets opposite each of said sets of jets, annular courses at the outer sides of said second and third sets of pockets and each provided with a set of jets, and a set of pockets opposite each of the last-mentioned sets of jets, said courses, jets and pockets being formed in two cylindriform members fitting steam-tight one within the other, and one thereof being mounted for rotation.

38. In an impact-motor, the combination of two coöperating members, whereof one consists of a set of pockets and the other consists of a set of jets, and the following parts at each side of said members, namely, a circular course in communication with said pockets, jets in said circular course, and a circular set of pockets opposite the last-mentioned jets, said courses, jets and pockets being formed in two cylindriform members fitting steam-tight one within the other, and one thereof being mounted for rotation.

39. In an impact-motor, the combination of two coöperating members, whereof one consists of a set of pockets and the other consists of a set of jets, and the following parts at each side of said members, namely, a circular course in communication with said pockets, jets in said circular course, a circular set of pockets opposite said jets, a circular course in communication with the last-mentioned pockets, jets in the last-mentioned course, and a circular set of pockets opposite the last-mentioned jets, said courses, jets and pockets being formed in two cylindriform members fitting steam-tight one within the other, and one thereof being mounted for rotation.

40. In an impact-motor, the combination of two members, whereof one fits steam-tight within the other, the outer member being so cylindrical upon its inner face and the inner member being so cylindrical upon its outer face as to permit one member to be slipped endwise over the other and to enable relative rotation of the members; said members having in their cylindrical faces the following coöperative elements, namely, a central set of pockets, jets for discharging into said pockets, a course upon each side of said set of pockets, the latter being in communication with both courses, jets in said courses and pockets arranged in two circular sets in position to be played upon by the last-mentioned jets.

41. In an impact-motor, the combination of two members, whereof one fits steam-tight within the other, the outer member being so cylindrical upon its inner face and the inner member being so cylindrical upon its outer face as to permit one member to be slipped endwise over the other and to enable relative rotation of the members, said members having in their cylindrical faces the following coöperative elements, namely, a central set of pockets, jets for discharging into said pockets, a course upon each side of said set of pockets, the latter being in communication with both courses, jets in said courses, pockets arranged in two circular sets in position to coact with the last-mentioned jets, courses also in communication with the last-mentioned two sets of pockets, jets in the last-mentioned courses, and pockets arranged in two more circular sets in position to be played upon by the last-mentioned jets.

42. In an impact-motor, the combination with a plurality of pocket-rings, of a plurality of course-rings opposite thereto and having jets, said pocket-rings and course-rings taken together forming an operant series in which the pocket-rings alternate with the course-rings, and connections being provided between the pockets in each ring and the course in the succeeding ring in the series, said pocket and course rings forming two cylindriform sets, whereof one fits steam-tight within the other.

43. In an impact-motor, the combination with a plurality of pocket-rings, of a plurality of course-rings opposite thereto and having jets; said pocket-rings and course-rings taken together forming an operant series in which the pocket-rings alternate with the course-rings, and connections being provided between the pockets in each ring and the course in the succeeding ring in the series, said rings being mounted in two sets, whereof one surrounds the other, and fits steam-tight thereto throughout.

44. In an impact-motor, the combination with a plurality of pocket-rings, of a plurality of course-rings opposite thereto, and having jets; said pocket-rings and course-rings taken together forming an operant series in which the pocket-rings alternate with the course-rings, and connections being provided between the pockets in each ring and the course in the succeeding ring in the series, said rings being mounted in two sets, whereof one surrounds the other, the rings in each set being flush one with another, and each set forming a cylinder which may be withdrawn bodily from the other set, and said sets fitting steam-tight throughout.

45. In an impact-motor, the combination with a plurality of pocket-rings, of a plurality of course-rings opposite thereto, and having jets, said pocket-rings and course-rings taken together forming an operant series in which the pocket-rings alternate with the course-rings, and connections being provided between the pockets in each ring and the course in the succeeding ring in the series, said rings being mounted in two sets, whereof one surrounds and fits steam-tight throughout to the other, a wheel upon the outer periphery whereof one of said sets is secured, and a casing upon the inner periphery whereof the other of said sets is secured.

46. In an impact-motor, a ring having a series of pockets formed therein, each pocket occupying the entire width of the ring, in combination with an attached adjoining ring closing said pockets but having outlets therefor, and also having jets in communication with said outlets, and a ring having pockets opposite said jets.

47. In an impact-motor, a ring having a series of pockets formed therein, each pocket being formed with an abrupt impact-face which extends across the entire width of the ring, in combination with an attached adjoining ring closing said pockets but having outlets therefor, and also having jets in communication with said outlets, and a ring having pockets opposite said jets.

48. In an impact-motor, the combination of a jet, a ring, a set of pockets in said ring opposite said jet, a second ring, a set of jets in said second ring, communications in said second ring between said set of pockets and said set of jets, a third ring, and pockets in said third ring opposite said set of jets, all of said rings being in steam-tight contact throughout.

49. An impact-motor comprising a casing, a shaft, a wheel rigid with the shaft, and means for rotating said wheel both by direct impingement and reaction of charges of an expansible propulsive agent thereupon, said means being constituted of two sets of rings, the rings in one set being in close contact each to the next, and all rigidly attached to the casing, and the other rings being in close contact each to the next, and all attached to the wheel, and the rings of each set alternating in their adaptability to discharge and to receive the impingement of the propulsive agent.

50. An impact-motor comprising a casing, a shaft, a wheel rigid with the shaft, and means for rotating said wheel both by direct impingement and reaction of charges of an expansible propulsive agent thereupon; said means being constituted of two sets of rings, one of which is attached to the casing and the other of which is attached to the wheel, some of said rings having full-width pockets, which are closed by the adjacent rings, the latter having jets for the discharge of the propulsive agent.

51. An impact-motor comprising a casing, a shaft, a wheel rigid with the shaft, and means for rotating said wheel both by direct impingement and reaction of charges of an expansible propulsive agent thereupon; said means being constituted of two sets of rings, one of which is attached to the casing and the other of which is attached to the wheel, some of said rings having full-width pockets, which are closed by the adjacent rings, the latter having jets for the discharge of the propulsive agent, and having in their side walls adjacent to the pockets, ports through which the propulsive agent is received from the pockets.

52. An impact-motor comprising a casing, a shaft, a wheel rigid with the shaft, and means for rotating said wheel both by direct impingement and reaction of charges of an expansible propulsive agent thereupon; said means being constituted of two sets of rings, one of which is attached to the casing and the other of which is attached to the wheel, some of said rings having full-width pockets, which are closed by the adjacent rings, the latter having jets for the discharge of the propulsive agent, and having in their side walls adjacent to the pockets, ports through which the propulsive agent is received from the pockets, the rings having jets being of greater width than the rings having pockets, and so arranged that these jet-rings of one set overlap the pocket-rings of the other set to such an extent and so closely that they constitute barriers to the leakage of the propulsive agent.

53. In an impact-motor the combination with a circular set of pockets, and a member opposed thereto having jets, said opposed member closing the mouths of said pockets, of a member having a second jet, and a second set of pockets, the mouths of all of which are closed by the last-mentioned member, and means for conducting the fluid from the first set of pockets to the second set of jets, said means including outlets formed in said pockets.

54. In an impact-motor the combination with a set of pockets, and a member opposed thereto having jets, said opposed member closing the mouths of said pockets, of a member having a second jet and second set of pockets, the mouths of all of which are closed by the last-mentioned member and means for conducting a fluid from the first set of pockets to the second set of jets.

55. In an impact-motor, the combination with a ring having a series of pockets therein, each pocket comprising an abrupt impact-face which extends entirely across the ring, of a ring secured at each side of said pocket-ring to close the sides of the pockets, said side rings being formed with courses which are in communication with said pockets, jets for said course-rings, and pocket-rings opposite said jets.

56. In an impact-motor, the combination with a ring, having a series of pockets formed therein, each pocket comprising an abrupt impact-face which extends entirely across the ring, of rings secured at each side of said pocket-ring to close the sides of the pockets; at least one of the said rings having an annular course, and its walls being perforated opposite said pockets to receive the discharge therefrom; jets also formed in said course-ring, and a pocket-ring opposite said jets.

57. In an impact-motor a combination of two sets of members each set being contiguous and the members in one set fitting steam-tight in the other set and being so mounted that one set may be separated from the other set each of said sets comprising pocket members and course

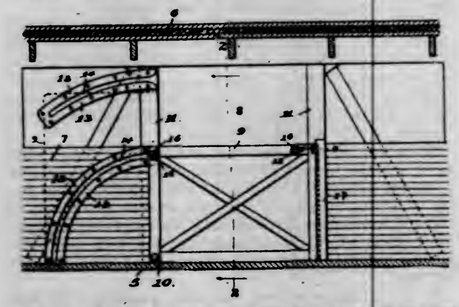
members and the course members in each set being opposite to the pocket members in the other set and having jets for playing into the latter and being also in connection with the preceding pocket member in its own set to receive the discharge therefrom.

58. In an impact-motor, the combination of a wheel and a casing fitted thereto so as to prevent escape of steam longitudinally between said members, one of said members having sets of peripheral pockets and also having a course between said sets, said course being in communication with the first set of pockets, and being also provided with a series of jets, and the other of said members having courses opposite said sets of pockets and also having a set of pockets opposite the jets in the wheel, said casing-courses being also provided with jets, and all the courses alternating in series with the sets of pockets, so that the steam may jet from the first course, and may then jet through the second set of pockets to the third course, and may then jet into the third set of pockets.

59. In an impact-motor, the combination with a wheel and a casing, of a plurality of peripheral pockets and a plurality of case members provided with jets opposed to said pockets, said members being disposed alternately in series with said sets of pockets, so that the steam may jet from the first course into the first set of pockets, and pass thence into the second course, thence jet into the second set of pockets, and so on through the series, each course member completely closing the mouths of all of the opposed pockets, and each of the latter having an escape for the steam into the succeeding course member.

60. In an impact-motor, the combination of two members one surrounding and fitting closely to the other for preventing the escape of a fluid and means for enabling relative rotation of said sets, some of said members being formed with pockets and others of said members being formed with annular courses provided with jets, said members forming an operant series in which the pocket members alternate with the course members and pockets in each member having outlet-openings in the succeeding course, the members in each set being contiguous and each set being capable of withdrawal as a whole from the other set.

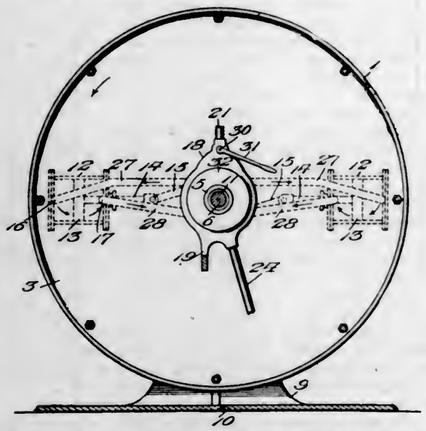
843,074. GRAIN-DOOR FOR RAILWAY-CARS. NOBLE H. CONGER, Chicago, Ill., assignor, by mesne assignments, to The Ostermann Manufacturing Co., Chicago, Ill., a Corporation of South Dakota. Filed May 15, 1905. Serial No. 260,560.



Claim.—1. The combination with the side wall of a railway-car having a doorway, of a grain-door pivotally mounted at one of its lower corners opposite the doorway and adapted to be swung edgewise in its vertical plane to a position at one side of said doorway, an undercut quadrant guide and an undercut curved guide on said side wall adjacent to the doorway, and a pair of headed projections on the door adjacent to its upper corners slidingly engaging said undercut guides during the opening and closing movements of the door, substantially as described.

2. The combination with the side wall of a railway-car having a doorway, of a grain-door pivotally mounted at one of its lower corners opposite the doorway and adapted to be swung edgewise in its vertical plane to a position at one side of said doorway, an undercut quadrant guide and an undercut curved guide on said side wall adjacent to the doorway, a pair of headed projections on the door adjacent to its upper corners slidingly engaging said undercut guides during the opening and closing movements of the door, and means on the opposite side of the doorway engaging the free vertical edge of the door when the latter is closed to prevent lateral displacement thereof, substantially as described.

843,075. ROTARY MOTOR. AVERNO A. DARBY, Vidalia, Ga. Filed June 14, 1906. Serial No. 321,757.



Claim.—1. In a motor of the type described, a rotary motor-wheel, a fixed abutment on which the wheel is journaled, a pair of opposed cylinders fixed in the wheel and containing reciprocatory pistons, connections between said pistons and the abutment, the pistons being adapted to stroke inwardly and outwardly in unison during reciprocation, and means for admitting a motive fluid simultaneously to corresponding ends of the pair of cylinders.

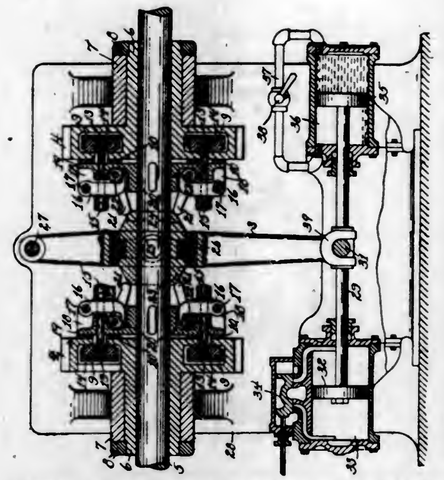
2. In a motor of the type described, a fixed shaft having reversely-disposed crank portions, a motor-wheel journaled for rotation on the shaft, oppositely-disposed cylinders fixed to the wheel, pistons arranged for reciprocation in said cylinders and adapted to stroke inwardly and outwardly in unison, connections between the pistons and respective crank portions of the shaft, and means for admitting a motive fluid simultaneously to corresponding ends of the pair of cylinders.

3. In a motor of the type described, a fixed shaft having reversely-disposed crank portions, a motor-wheel journaled for rotation on the shaft, cylinders fixed at opposite points to the wheel, pistons arranged for reciprocation in the cylinders and adapted to stroke inwardly and outwardly in unison, connections between the pistons and respective crank portions and means for admitting a motive fluid alternately to opposite ends of the cylinders, the fluid being admitted simultaneously to corresponding ends of the pair of cylinders.

4. In a motor of the type described, a fixed shaft having reversely-disposed crank portions, a motor-wheel journaled for rotation on the shaft, a pair of opposed cylinders fixed to the wheel, pistons disposed for reciprocation in the cylinders and arranged to stroke in unison, means for admitting a motive fluid alternately to opposite ends of the cylinders and a reversing-valve for controlling the admission of the fluid to the cylinders in accord with the position of the wheel relative to its dead-center.

5. In a motor of the type described, a fixed abutment, a rotary motor-wheel journaled thereon, a pair of opposed cylinders fixed on the wheel and containing reciprocatory pistons designed to stroke in unison, means for admitting a motive fluid alternately to opposite ends of the cylinders, and means for governing the time of admission of the fluid to the cylinders in accord with the position of the wheel relative to its dead-center.

843,076. CLUTCH-OPERATING MECHANISM. JACOB S. DETRICK, Baltimore, Md. Filed Feb. 15, 1904. Serial No. 193,525.



Claim.—1. A clutch-operating mechanism having means for retarding the throwing-in movement of the clutch while permitting the relatively rapid throwing-out movement thereof, such means comprising a liquid-cylinder partially filled with liquid, a piston therein, and throttled means connecting said cylinder at opposite sides of said piston.

2. In a clutch-operating mechanism, the combination of a clutch; a clutch-actuator; a cylinder partially filled with liquid; a piston, one of which latter two members is connected to said actuator; and means for throttling the flow of a liquid in said cylinder induced by the movement of the actuator, the organization being such that the throwing-in movement of the clutch is retarded, while the throwing-out movement thereof is comparatively rapid.

3. In a clutch-operating mechanism, the combination of a clutch; a clutch-actuator; a piston; a liquid-cylinder partially filled with liquid, to one of which latter two members said actuator is connected; and a throttled by-pass connecting one end of the cylinder with the other, the organization being such that the throwing-in movement of the clutch is relatively slow while the throwing-out movement thereof is comparatively rapid.

4. In a clutch-operating mechanism the combination of a clutch; a clutch-actuator; a power-cylinder and piston; a liquid-cylinder partially filled with liquid, and a piston, said actuator being connected with the corresponding parts of both power and liquid pistons and cylinders; a by-pass leading from one end of the liquid-cylinder to the other; and a throttling device in such by-pass, the organization being such that the throwing-in movement of the clutch is retarded while the throwing-out movement thereof is comparatively rapid.

5. The combination of a clutch; a clutch-operating lever; a power-cylinder provided with a piston; a liquid-cylinder partially filled with liquid and provided with a piston, said pistons being connected by a piston-rod and said lever being connected with said piston-rod; a by-pass leading from one end of the liquid-cylinder to the other; and a throttling device in such by-pass, the organization being such that the throwing-in movement of the clutch is relatively slow, while the throwing-out movement thereof is comparatively rapid.

6. The combination with a clutch and a clutch-actuator, of means, comprising a liquid-cylinder partially filled with liquid, a piston therein, and a throttled by-pass connecting the ends of said cylinder, for effecting a slow throwing-in movement of the actuator and a rapid throwing-out movement thereof.

7. The combination with a clutch and a clutch-actuator, of a power-cylinder for actuating the latter; and fluid-controlled means for retarding the action of said power-cylinder during the throwing-in movement of the actuator from which retarding action the power-cylinder is freed during the throwing-out movement by the means for retarding the action of the power-cylinder.

8. The combination with a clutch and a clutch-operating lever, of a power-cylinder for actuating the lever; and means for retarding the action of said power-cylinder during the throwing-in movement of the actuator from which retarding action the power-cylinder is freed during the throwing-out movement by the means for retarding the action of the power-cylinder, said means comprising a liquid-cylinder partially filled with liquid, a piston, and a throttled by-pass connecting the ends of the cylinder.

9. The combination with a pair of clutches, of a clutch-actuator adapted during a full movement to throw out one clutch and throw in the other; a power-cylinder for actuating the actuator; and a fluid-controlled retarding device connected with said lever and effective to secure a relatively rapid throwing-out movement of one clutch, and a relatively retarded throwing-in movement of the other clutch.

10. The combination with a pair of clutches, of a clutch-actuator adapted during a full movement to throw out one clutch and throw in the other; a power-cylinder for actuating the actuator; a piston connected with said actuator, said piston working in a cylinder partially filled with liquid; and a throttled by-pass connecting the opposite ends of the latter cylinder.

11. The combination of a shaft; a pair of clutches disposed longitudinally of the shaft; a lever mounted between the clutches and adapted to operate the clutches; a power-cylinder and a liquid-cylinder partially filled with liquid; and each provided with a piston; a piston-rod connecting the two pistons and to which said lever is connected; a by-pass connecting the opposite ends of said liquid-cylinder; and a throttling device in said by-pass.

12. The combination with a shaft, of a pair of gears mounted thereon; a pair of clutches for connecting the gears with and disconnecting them from said shaft; a clutch-operating lever mounted between said clutches; a collar mounted on said shaft for operating the clutches and with which collar said lever connects; a power-cylinder and a liquid-cylinder each provided with a piston; a piston-rod connecting said pistons and to which said lever is connected; a by-pass connecting the opposite ends of the liquid-cylinder; a throttling device interposed in said by-pass; and a body of liquid in said liquid-cylinder less in volume than the cubic contents of the cylinder and said by-pass.

13. A duplex clutch mechanism having means for effecting a relatively slow throwing-in movement of one clutch while permitting a relatively rapid throwing-out movement of the other clutch, said means comprising a cylinder partially filled with liquid, a piston therein, and a throttled by-pass connecting said cylinder at opposite sides of said piston.

14. The combination with a clutch and operating mechanism therefor, of means organized to retard the throwing-in movement of the clutch without affecting in any manner the throwing-out movement thereof.

15. The combination with a clutch and operating mechanism therefor, of means for uniformly retarding the entire throwing-in movement of the clutch without affecting in any manner the throwing-out movement of the clutch.

16. The combination with a clutch and operating mechanism therefor, of a fluid-controlled device organized to retard the throwing-in movement of the clutch without affecting the throwing-out movement thereof.

17. The combination with a clutch and operating mechanism therefor, of a liquid-controlled device organized to

uniformly retard the entire throwing-in movement of the clutch without affecting in any manner the throwing-out movement thereof.

18. The combination with a duplex clutch mechanism and a common operating member therefor, of means connected with the operating member and organized to retard the throwing-in movement of each clutch without affecting the throwing-out movement of the clutch.

19. The combination with a duplex clutch mechanism and a common operating member therefor, of means connected with the operating member and organized to uniformly retard the entire throwing-in movement of each clutch without affecting the throwing-out movement of the clutch.

20. The combination with a duplex clutch mechanism, and a common operating member therefor organized to throw in one clutch when advanced from an intermediate position and to throw in the other clutch when advanced in the opposite direction from said intermediate position, both clutches being thrown out when the member is in such intermediate position of means connected with said member and organized to retard the throwing-in movement of the member in each direction from said intermediate position without affecting the throwing-out movement of the member from either position to the intermediate position.

21. The combination with a duplex clutch mechanism, and a common operating member therefor organized to throw in one clutch when advanced from an intermediate position and to throw in the other clutch when advanced in the opposite direction from said intermediate position, both clutches being thrown out when the member is in such intermediate position, of a fluid-controlled device connected with said member and organized to retard the throwing-in movement of the member in each direction from said intermediate position without affecting the throwing-out movement from each direction to return to the intermediate position.

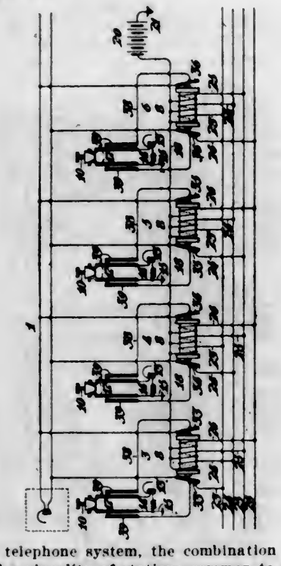
843,077. AZO DYE. OSCAR DRESSEL and MYRTIL KAHN, Elberfeld, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Nov. 6, 1906. Serial No. 342,286.

Claim.—1. The herein-described new azo dyestuffs obtainable by combining the diazo compound of 5-nitro-4-chloro-2-aminophenol with sulfonic acids of naphtholic compounds, which dyestuffs are, after being dried and pulverized, in the shape of their alkaline salts dark powders soluble in water: yielding upon reduction with stannous chlorid and hydrochloric acid 2-5-diamino-4-chlorophenol and sulfonic acids of aminonaphtholic compounds; and dyeing wool from acid-baths generally from red to violet shades, which on chroming change to from green to blue to black, substantially as hereinbefore described.

2. The herein-described new azo dyestuff obtainable by combining the diazo compound of 5-nitro-4-chloro-2-aminophenol with 2-phenylamino-5-naphthol-7-sulfonic acid, which dyestuff is, after being dried and pulverized, in the shape of its sodium salt a dark powder soluble in water with a violet color and in concentrated sulfuric acid with a bluish-red color; yielding upon reduction with stannous chlorid and hydrochloric acid 2-5-diamino-4-chlorophenol and 2-phenylamino-5-naphthol-6-amino-7-sulfonic acid; and dyeing wool from acid-baths bordeaux shades which are changed to blue when chromed after dyeing, substantially as hereinbefore described.

843,078. TELEPHONE SYSTEM. RICHARD M. EATON, Philadelphia, Pa., assignor to Keystone Telephone Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Mar. 30, 1904. Serial No. 200,705.

Claim.—1. In a telephone system, the combination with a line-circuit; of a plurality of stations common to said line-circuit; each station being provided with an automatic switch, each comprising a distinct coil for each of the other stations; a circuit connecting all of said switch-coils with a source of electric current; and a manual switch at each of said stations arranged to bridge its station across the line-circuit and close the circuit including said automatic switches at the other stations, to exclude the latter from connection with said line-circuit, substantially as set forth.



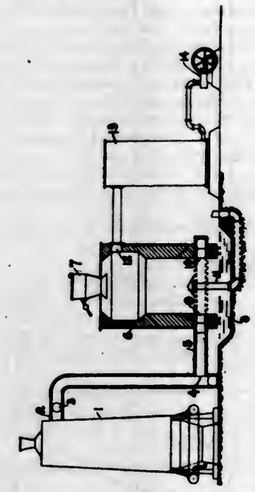
2. In a telephone system, the combination with a line-circuit; of a plurality of stations common to said line-circuit; a local-instrument circuit at each station, comprising a receiver, an induction-coil, and a shunt to ground; an automatic switch-coil at each station, operatively related to distinct switch members respectively connected to the opposite sides of said line-circuit; and, a manual switch at each station, arranged to connect its local-instrument circuit in a bridge across said line-circuit and contemporaneously operate the automatic switches at the other stations; whereby, the selected station is operatively connected with said line-circuit, and the remaining stations are contemporaneously excluded from connection with said line-circuit, substantially as set forth.

3. In a telephone system, the combination with a line-circuit; of a plurality of stations common to said line-circuit; a local-instrument circuit at each station, comprising a receiver, an induction-coil, and a shunt to ground; an automatic relay switch-coil at each station, operatively related to distinct relay switch members respectively connected to the opposite sides of said line-circuit; a source of electric energy common to all of said automatic switch-coils; and, a manual switch at each station, arranged to connect its local-instrument circuit in a bridge across said line-circuit and contemporaneously operate the relay-switch members at the other stations; whereby the selected station is operatively connected with said line-circuit and the remaining stations are contemporaneously excluded from connection with said line-circuit, substantially as set forth.

4. In a telephone system, the combination with a line-circuit; of a plurality of stations common to said line-circuit, each comprising an induction-coil; automatic relay-switches respectively located at said stations; each comprising a magnet-coil; a circuit connecting all of said switch-coils with a source of electric current; return-circuits equal in number to said switches, the return-circuit for each switch independently connecting the corresponding coils of all of the other switches in operative relation; and, a manual switch at each of said stations operatively related to the automatic switches at the other stations, substantially as set forth.

5. In a telephone system, the combination with a line-circuit; of a plurality of stations common to said line-circuit; counterpart automatic switches respectively located at said stations; each comprising a distinct coil for each of the other stations; a circuit connecting all of said switch-coils with a source of electric current; return-circuits equal in number to said switches, the return-circuit for each switch, independently connecting the corresponding coils of all of the other switches in parallel relation; and, a manual switch at each of said stations operatively related to the automatic switches at the other stations, substantially as set forth.

843,079. PROCESS OF ENRICHING BLAST-FURNACE GAS. CARLETON ELLIS, White Plains, N. Y. Filed Dec. 16, 1905. Serial No. 291,956.



Claim.—1. The process of generating a gas suitable for gas-engines which consists in continuously passing through a bed of hot fuel a combustible gas containing carbon monoxid and reducible amounts of carbon dioxid and in simultaneously passing through said fuel a current of air the relative proportion of air to gas supplied being that required to balance thermally the endothermic action of the carbon dioxid.

2. The process of generating a gas suitable for gas-engines which consists in continuously passing through a deep bed of hot fuel a combustible gas containing carbon monoxid and reducible amounts of carbon dioxid and in simultaneously injecting near the point of entry of said gas a current of air the relative proportion of air to gas supplied being that required to balance thermally the endothermic action of the carbon dioxid.

3. The process of generating a gas suitable for gas-engines which consists in continuously passing through a bed of hot fuel a hot combustible gas containing substantial amounts of carbon monoxid and reducible amounts of carbon dioxid and in simultaneously injecting near the point of entry of such gas a current of air the relative proportion of air to gas supplied being that required to balance thermally the endothermic action of the carbon dioxid.

4. The process of generating a gas suitable for gas-engines which consists in continuously passing through a deep bed of hot fuel hot combustible waste gases from a blast-furnace and in simultaneously injecting near the point of entry of said gases a current of air the relative proportion of air to gas supplied being that required to balance thermally the endothermic action of the carbon dioxid therein contained.

5. The process of generating a gas suitable for gas-engines which consists in continuously passing through a deep bed of hot fuel combustible waste gases from the reduction of iron ore and in simultaneously injecting near the point of entry of said gases a current of air the relative proportion of air to gas supplied being that required to balance thermally the endothermic action of the carbon dioxid therein contained and to maintain said fuel at an efficient gasifying temperature.

6. The process of generating a gas suitable for gas-engines which consists in continuously passing through a bed of hot fuel a combustible gas containing carbon monoxid and reducible amounts of carbon dioxid and in simultaneously passing through said fuel a hot current of air the relative proportion of air to gas supplied being that required to balance thermally the endothermic action of the carbon dioxid.

7. The process of generating a gas suitable for gas-engines which consists in continuously passing through a deep bed of hot fuel a combustible gas containing carbon monoxid and reducible amounts of carbon dioxid, and in simultaneously injecting near the point of entry of such gas a current of hot air the relative proportion of air to gas supplied being that required to balance thermally the endothermic action of the carbon dioxid.

8. The process of generating a gas suitable for gas-engines which consists in continuously passing through a bed of hot fuel a hot combustible gas containing substantial amounts of carbon dioxid and carbon monoxid and in simultaneously injecting near the point of entry of such gas a current of hot air the relative proportion of air to gas supplied being that required to balance thermally the endothermic action of the carbon dioxid.

9. The process of generating a gas suitable for gas-engines which consists in continuously passing through a deep bed of hot fuel hot combustible waste gases from a blast-furnace and in simultaneously injecting near the point of entry of such gases a current of hot air the relative proportion of air to gas supplied being that required to balance thermally the endothermic action of the carbon dioxid therein contained.

10. The process of generating a gas suitable for gas-engines which consists in continuously passing through a deep bed of hot fuel, hot combustible waste gases from the reduction of iron ore and in simultaneously injecting near the point of entry of said gases, a current of hot air the relative proportion of air to gas supplied being that required to balance thermally the endothermic action of the carbon dioxid therein contained and to maintain said fuel at an efficient gasifying temperature.

11. The process of generating gas suitable for gas-engines which consists in continuously passing through a deep bed of hot fuel hot combustible waste gases from the reduction of iron ore and in simultaneously injecting near the point of entry of said gases, a current of hot air the relative proportion of air to gas supplied being that required to balance thermally the endothermic action of the carbon dioxid therein contained, said air being diluted with an endothermic agent to prevent localized development of high temperatures in the fuel-bed.

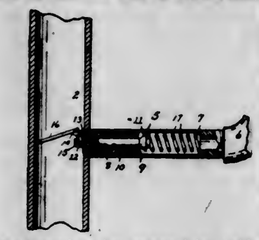
12. The process of generating gas suitable for gas-engines which consists in continuously passing through a deep bed of hot fuel hot combustible waste gases from the reduction of iron ore and in simultaneously injecting near the point of entry of such gases a current of hot air the relative proportion of air to gas supplied being that required to balance thermally the endothermic action of the carbon dioxid therein contained, said air being diluted with products of combustion to prevent localized development of high temperature in the fuel-bed.

843,080. DISINFECTOR FOR WATER-CLOSETS. WILLIAM H. ERMENTROUT, Reading, Pa. Filed Feb. 9, 1906. Serial No. 300,207.

Claim.—1. A disinfecting device for attachment to a water-closet flush-pipe comprising a cup, a right-angled tube leading therefrom into said pipe, a plug located in said tube, a valve-seat formed on the end of said plug, a valve-stem in said plug, a valve adapted to seat against said valve-seat, and a plate pivoted to said plug, lying in the path of the water in said pipe and having an angled end operatively connected to said valve-stem.

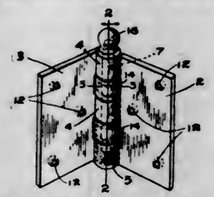
2. A valve for disinfectant-distributers comprising a

tubular plug, a valve-seat formed on the one end thereof, perforated ears formed on the opposite end, a lever pivoted between said ears, said lever comprising a plate and a depending angled end, a valve-stem loosely fitting said plug, a valve on the one end of said stem, a slot in the



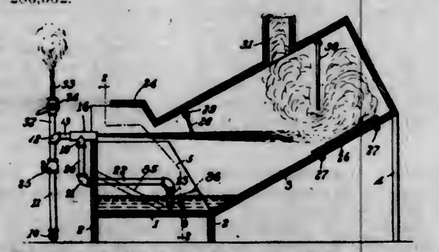
opposite end adapted to be engaged by said angled end of the plate-lever, a tubular casing having an internal shoulder and a coiled spring interposed between said shoulder and the end of said valve-stem.

843,081. HINGE. WILLIAM H. FITZGERALD, near Watertown, N. Y. Filed Oct. 25, 1906. Serial No. 340,439.



Claim.—In a hinge of the class described, the combination with a male and a female leaf, of a series of equally-spaced eyes integrally formed on the inner edge of each leaf, the spaces between the eyes of each leaf being wider than the corresponding eyes of the other leaf, a pivot-pin adapted to be inserted upwardly through the eyes of both of said leaves for the purpose of joining them together pivotally, a shouldered part formed on the lower end of said pin adapted to pass through a threaded hole in the lowermost eye of said hinge, but not capable of passing through any of the other eyes, a screw-plug fitting said threaded hole adapted when screwed inwardly to effect the raising of said pin and also said male leaf, and when screwed outwardly to permit the lowering of said pin and said male leaf, and means for incasing the eyes of said male leaf and also inclosing the spaces between the eyes of the female leaf.

843,082. FILE-SHARPENING APPARATUS. JAMES M. GALE, New York, N. Y. Filed Nov. 9, 1905. Serial No. 286,562.



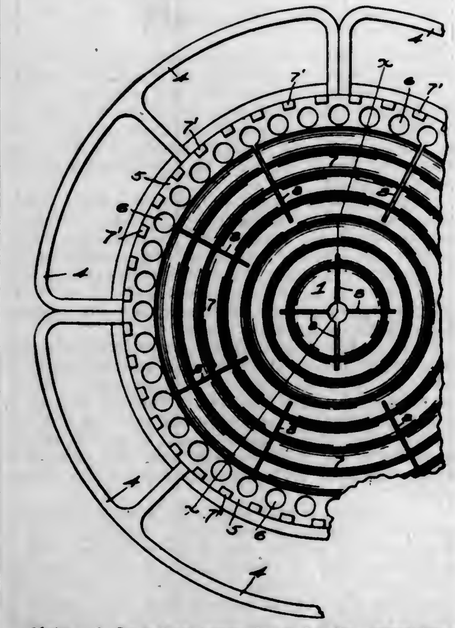
Claim.—1. A file-sharpening apparatus comprising a case having a sharpening-compound-containing receptacle at the front thereof and a downwardly and forwardly inclined chute portion leading to the receptacle, a blast apparatus in communication with the receptacle with its nozzle directed into the case toward the inclined chute, a normally vertical swinging baffle within the case in the path of the jet from the nozzle, and another normally vertical swinging baffle in rear of the first-mentioned baffle and in the return-path of the blast but out of the path of the direct blast.

2. A file-sharpening apparatus comprising a case including a front compartment for containing a sharpening-point, and a rear upwardly-inclined compartment leading therefrom, a blast device in communication with the front compartment and discharging therethrough toward the rear compartment, a stack rising from the rear compartment, a normally vertical swinging baffle hung from the top of the rear compartment in front of the stack and in the path of the blast, and another normally vertical swinging baffle hung from the top of the rear compartment in rear of the stack out of the path of the direct blast and in the return-path of the blast.

3. In a file-sharpening apparatus, the combination of a case having a compartment for containing a sharpening compound, a blast device in communication with the compartment and including a nozzle made up of a pipe-section which is closed at its forward end, a series of tubes piercing the closed end of the pipe and lying in the same plane, a mixing-chamber embracing the tube, and a reducer fitted in the discharge end of the mixing-chamber and provided with a discharge-slot alined with the discharge ends of the tubes.

4. A blast-nozzle, comprising a pipe member closed at its forward end, a plurality of tubes piercing the closed end of the pipe member and lying in the same plane, and a mixing-chamber embracing the tubes and carried by the pipe member, said mixing-chamber extending in front of the tubes, a reducer fitted in the outer end of the mixing-chamber and having a discharge-slot alined with the discharge ends of the tubes, and a suction branch for the mixing-chamber.

843,083. HEATING APPARATUS. STEPHEN H. GARST, Detroit, Mich. Filed Dec. 4, 1905. Serial No. 290,144.



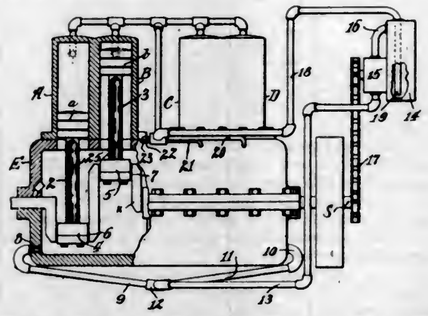
Claim.—1. In a heat-accumulator for fire apparatus, a support, a ridge disposed around the edge of said support and having a series of orifices therein, and an extension-ring consisting of a multiplicity of segments adapted to be placed around said support.

2. In a heating apparatus, a heater having its margin

dropped below the plane of the upper surface of the heater, and an annular downturned flange extending from the outer circumference of said dropped margin and forming an inclosing wall around the heater, the dropped margin of said heater having a multiplicity of orifices therein, and a series of extension devices attachable to said dropped margin and by means of which the effective area of the heater may be increased at any point, such increased area receiving heat through the orifices in the dropped margin, substantially as specified.

3. In a heating apparatus, a heater having its interior surface thickly studded with a multiplicity of depending heat-absorbing projections, the outer margin of said heater terminating in a dropped flange which lies below the plane of the upper surface of the heater, said dropped flange having extended from it an annular downturned flange which provides an inclosing wall for the heater, said dropped flange having a multiplicity of orifices, and a series of extension devices attachable to said dropped flange and supportable upon the annular wall, and by means of which the effective area of the heater may be increased, substantially as specified.

843,084. OILING DEVICE. RICHARD GRIESER and FREDERICK C. YATES, New York, N. Y. Filed Aug. 21, 1906. Serial No. 331,430.



Claim.—1. In an engine, the combination of a crank-case having operably mounted therein a driving-shaft and a series of cylinders and cranks and connecting-rods, the bottom of the crank-case being substantially parallel with the shaft, and means for withdrawing lubricating-oil from the lower end of the crank-case upon the same and the shaft being inclined in either direction from its level position, and for forcing the oil into the other end of the crank-case.

2. In an engine, the combination of a crank-case having operably mounted therein a driving-shaft and a series of cylinders and cranks and connecting-rods, the bottom of the crank-case being substantially parallel with the shaft, and means for withdrawing lubricating-oil from the lower end of the crank-case upon the same and the shaft being inclined in either direction from its level position, and for forcing the oil upon the bearing members.

3. In an engine, the combination of a crank-case having operably mounted therein a driving-shaft and a series of cylinders and cranks and connecting-rods, the bottom of the crank-case being substantially parallel with the shaft, and means for withdrawing lubricating-oil from the lower end of the crank-case upon the same and the shaft being inclined in either direction from its level position, and for forcing the oil upon the conecting-rods.

4. In an engine, the combination of a crank-case having operably mounted therein a driving-shaft and a series of cylinders and cranks and connecting-rods, the bottom of the crank-case being substantially parallel with the shaft, and means for withdrawing lubricating-oil from the lower end of the crank-case upon the same and the shaft being inclined in either direction from its level position, and for forcing oil upon the connecting-rods, the oil being directed in the plane of movement of the connecting-rods.

5. In an engine, the combination of a crank-case having operably mounted therein a driving-shaft and a series of cylinders and cranks and connecting-rods, the bottom of the crank-case being substantially parallel with the shaft, and means for withdrawing lubricating-oil from the lower end of the crank-case upon the same and the shaft being inclined in either direction from its level position, and for forcing the oil upon the connecting-rods, the oil being directed in the plane of movement of the connecting-rods, and being directed to engage the connecting-rods alternately on opposite sides of the perpendicular thereto at the point of contact, whereby the oil will be splashed alternately toward the piston and toward the wrist-pin coöperating with the connecting-rod.

6. In an engine, the combination of a crank-case, having mounted therein a normally horizontal driving-shaft and a series of cranks and connecting-rods, the bottom of the casing being substantially parallel with the driving-shaft, a conduit leading from each end of the reservoir, a fluid-actuator connected with said conduits, pipes leading from the fluid-actuator and arranged to direct oil upon the bearing members of the cylinders respectively, whereby the oil is withdrawn from the lower end of the crank-case upon the latter being inclined in either direction from its level position, and such oil is forced upon the bearing members.

7. In an engine, the combination of a crank-case, having mounted therein a normally horizontal driving-shaft and a series of cranks and connecting-rods, the bottom of the casing being substantially parallel with the driving shaft, a conduit leading from each end of the reservoir, a fluid-actuator connected with said conduits, pipes leading from the fluid-actuator and arranged to direct oil upon the bearing members of the cylinders respectively, whereby the oil is withdrawn from the lower end of the crank-case upon the latter being inclined in either direction from its level position, and such oil is forced upon the bearing members, said pipes being disposed to direct the oil upon the connecting-rods in the plane of their movement.

8. The combination of a casing having a series of bearings therein, a closed reservoir, a pipe leading from said reservoir into the casing and provided with branches for directing oil upon the bearing members, a conduit leading from one end of the casing into said reservoir, a conduit leading from the opposite end of the casing into the said reservoir, and a fluid-actuator connected with said conduits and organized to force oil flowing from the ends of the casing into the said reservoir and thence through said pipes onto the bearing members.

9. The combination of a casing having a series of bearings therein, a closed reservoir, a siphon-pipe leading from said reservoir near the bottom into the casing and provided with branches for directing oil upon the bearing members, a conduit leading from one end of the casing into the reservoir, a conduit leading from the other end of the casing into the said reservoir, and a fluid-actuator connected with said conduits and organized to force oil flowing from the ends of the casing into the reservoir and thence through said pipes onto said bearing members.

10. In an engine, the combination of a series of cylinders and a series of cranks and connecting-rods operating in a crank-case, a closed reservoir, a siphon-pipe leading from said reservoir into the crank-case and provided with branches for directing oil upon each connecting-rod, a conduit leading from one end of the crank-case into said reservoir, a conduit leading from the other end of the crank-case into said reservoir, and a fluid-actuator connected with said conduits and organized to force oil flowing from the ends of the crank-case into the reservoir and thence through said pipes onto all the connecting-rods.

11. In an engine, the combination of a casing having a series of bearings, a closed reservoir, a siphon-pipe leading from said reservoir near the bottom into the casing, a conduit leading from one end of the casing into said reservoir, a conduit leading from the other end of the casing into the said reservoir, and a suction force-pump connected with said conduits and organized to force oil flow-

ing from either end of the casing into the reservoir and thence through said pipes into the crank-case.

12. In an engine, the combination of a series of cylinders and a series of cranks and connecting-rods operating in a crank-case, a closed reservoir, a siphon-pipe leading from said reservoir into the crank-case and provided with branches for directing oil upon the connecting-rods, a conduit leading from one end of the crank-case into said reservoir, a conduit leading from the other end of the crank-case into said reservoir, and a force-pump connected with the conduits and organized to force oil flowing from the ends of the crank-case into the reservoir and thence through said pipes onto all the connecting-rods.

13. In a lubricating device, the combination with a crank and a reciprocating member, of a connecting-rod pivotally connected with said members, the connecting-rod being provided with a longitudinal channel on one side and with a pocket which runs around to the back of the connecting-rod at one end of the channel having openings leading to the crank-pin, and means for directing a stream of oil onto the channeled side of the connecting-rod.

14. In an engine, the combination of a casing having a series of cylinders, cranks and connecting-rods operable in a crank-case, the connecting-rods being provided with a longitudinal channel opposite one side of the casing, pipes arranged to direct lubricating-oil onto said side of each connecting-rod, means for withdrawing the oil from the bottom of the casing at each of opposite ends and forcing said oil through said pipes for oiling the connecting-rods, whereby the oil is withdrawn from the lower end only when the casing is inclined in either of two directions and forced upon the connecting-rods.

15. In an engine, the combination of a series of cylinders, cranks and connecting-rods operating in a crank-casing, the connecting-rods having channels on their sides opposite one side of the casing and also each provided with a pocket having openings leading to the crank-pin, pipes arranged to direct lubricating-oil onto each of the connecting-rods at their channeled sides, means for withdrawing the oil from the bottom of the crank-case at each of opposite ends and forcing the oil through said pipes onto the connecting-rods, whereby the oil is withdrawn from the lower side only of the crank-casing upon being inclined in either of two directions and forced upon the connecting-rods.

16. In an engine, the combination of a series of cylinders, cranks and connecting-rods operating in a crank-casing, the connecting-rods having channels on their sides opposite one side of the casing and also provided with a pocket having openings leading to the crank-pin, pipes arranged to direct lubricating-oil onto each of the connecting-rods at their channeled sides, means for withdrawing the oil from the bottom of the crank-case at each of opposite ends and forcing the oil through said pipes onto the connecting-rods, whereby the oil is withdrawn from the lower side only of the crank-casing upon being inclined in either of two directions and forced upon the connecting-rods, said means being operated by a force-pump actuated from the engine.

843,085. TYPE-WRITING MACHINE. ALLIN W. HEWITT, Bogota, N. J., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 19, 1906. Serial No. 312,582.

Claim.—1. In a type-writing machine, the combination with a revoluble platen and a line-space wheel therefor, and a detent for said line-space wheel, of means for releasing the platen from the control of said detent, and a stop adjustable to predetermine the extent to which the platen can be rotated when so released; said stop normally ineffective to arrest the platen, but connected to said releasing means to be rendered effective thereby.

2. In a type-writing machine, the combination with a revoluble platen and a line-space wheel therefor, and a detent for said line-space wheel, of means for releasing the platen from the control of said detent, and stops for limiting the forward and backward movements of the platen when so released; said stops normally ineffective to arrest the platen, but connected to said releasing means to be rendered effective thereby.



3. In a type-writing machine, the combination with a revoluble platen and a line-space wheel, of means for releasing the platen from the line-space wheel, and stops for limiting the backward and forward strokes of the platen when so released; said stops normally ineffective to arrest the platen, but connected to said releasing means to be rendered effective thereby.

4. In a type-writing machine, the combination with a revoluble platen and a line-space wheel, of a stop-carrying member which is normally stationary during the revolution of the platen, and means for disconnecting the platen from the line-space wheel and connecting it to said stop-carrying member so that the latter rotates with the platen, and a fixed stop to coöperate with said stop-carrying member.

5. In a type-writing machine, the combination with a revoluble platen, of a stop-carrying member normally disconnected from said platen, a line-space wheel for the platen, a detent for said line-space wheel, and means for connecting the stop-carrying member to the platen and releasing the platen from the control of said detent.

6. In a type-writing machine, the combination with a revoluble platen, of a stop-carrying member normally stationary during the rotation of the platen, a line-space wheel and detent for the platen, a finger-piece, a clutch operable by said finger-piece for connecting said stop-carrying member to the platen and means also controlled by said finger-piece for releasing the platen from the control of said line-space wheel and detent.

7. In a type-writing machine, the combination with a revoluble platen, of a wheel rotatable with the platen, stops upon said wheel and relatively adjustable around the wheel, and a yielding detent to engage said stops.

8. In a type-writing machine, the combination with a revoluble platen, of a wheel rotatable with the platen, stops upon said wheel and relatively adjustable around the wheel, and a yielding detent to engage said stops, said stop-carrying member being normally stationary during the rotation of the platen, and means being provided for connecting the platen to said stop-carrying member, at will.

9. In a type-writing machine, the combination with a revoluble platen, of a wheel rotatable with the platen, stops upon said wheel and relatively adjustable around the wheel, and a yielding detent to engage said stops, said stop-carrying member being normally stationary during the rotation of the platen, and means being provided for connecting the platen to said stop-carrying member, at will, said relatively adjustable stops having inclined teeth to enable them to overcome the restraint of said detent when force is supplied to the wheel to rotate the same.

10. In a type-writing machine, the combination with a platen and a line-space wheel, of a stop-carrying wheel, a clutch to connect the platen to the line-space wheel, a second clutch to connect the platen to the stop-carrying wheel, and a single finger-piece having means to control both of said clutches.

11. In a type-writing machine, the combination with a revoluble platen, a line-space wheel and a stop-carrying wheel, of means for either connecting the platen in alternation to the line-space wheel, and stop-carrying wheel, or releasing said platen from both wheels, at will.

12. In a type-writing machine, the combination with a revoluble platen, of a plurality of yielding detents, wheels controlled by said detents for governing the line-space movements of the platen and means for bringing either detent and wheel into action and simultaneously silencing the other wheel and detent.

13. In a type-writing machine, the combination with a revoluble platen, of a plurality of independently-operable wheels having means for governing the line-space movements of the platen, and means for either silencing both wheels or bringing either wheel into action and simultaneously silencing the other wheel, at will.

14. In a type-writing machine, the combination with a platen and a line-space wheel, of a stop-carrying wheel, a clutch to connect the platen to the line-space wheel, a second clutch to connect the platen to the stop-carrying wheel, and a single finger-piece having means to control both of said clutches; the construction and arrangement being such that both clutches may be out of use simultaneously, so as to permit the revolution of the platen independently of both wheels.

15. In a type-writing machine, the combination with a revoluble platen, of a wheel normally disconnected from the platen, relatively adjustable stop-teeth mounted upon said wheel, a yielding detent to engage said stop-teeth, the latter being inclined so as to be capable of forcing said detent aside, and means for connecting said wheel to the platen, at will.

16. In a type-writing machine, the combination with a revoluble platen, of a wheel normally disconnected from the platen, relatively adjustable stop-teeth mounted upon said wheel, a yielding detent to engage said stop-teeth, the latter being inclined so as to be capable of forcing said detent aside, and means for connecting said wheel to the platen, at will; said detent being constructed to coöperate with each of said stops to restrain the platen against rotation in either direction.

17. In a type-writing machine, the combination with a revoluble platen, of a wheel normally disconnected from the platen, relatively adjustable stop-teeth mounted upon said wheel, a yielding detent to engage said stop-teeth, the latter being inclined so as to be capable of forcing said detent aside, and means for connecting said wheel to the platen, at will; said detent being constructed to coöperate with each of said stops to restrain the platen against rotation in either direction; one of said stops having an abrupt abutment to prevent further rotation of the platen in backward direction, and the other of said stops having an abrupt abutment to prevent further rotation of said platen in forward direction.

18. In a type-writing machine, the combination with a platen having a head, and a line-space wheel having a flange, of a pair of clutch members supported in said head and comprising bars extending within the platen, and jaws to grip said flange, a rod carrying a hand-wheel and passing axially within the platen, a spring holding said rod in normal position, means carried by said rod and normally pressing said bars so as to cause the jaws to bite the flange; a stop-carrying wheel having a flange, a second pair of clutch members also supported in said head and comprising bars extending within the platen, and having jaws to grip the last-mentioned flange, and means also carried by said rod, and normally out of action, for pressing the last-mentioned bars, so as to cause their jaws to bite the flange of the stop-carrying wheel.

19. In a type-writing machine, the combination with a platen having a head in which are formed opposite radial slots, of a line-space wheel having an interior flange, a pair of bars fitted in said slots and extending within the platen and having at their outer ends each a pair of jaws to bite said flange, the inner jaw being longer than the outer jaw, and said bars having cams provided upon their inner end, a rod passing through said head, a tubular support extending inwardly from said head and guiding said rod, a spring surrounding said rod within said tube for holding said rod in normal endwise position, rolls on opposite sides of said rod to engage said cams upon said bars, and normally separating the bars, and thereby causing the jaws to bite the flange, and a hollow journal projecting outwardly from said head; said rod extending outwardly from said hollow journal, and provided with a finger-wheel; said head having a projecting circular bearing upon which said flange has a turning fit, and said slots extending through said bearing, a cap upon said head for retaining the line-space wheel, a stop-carrying wheel having a flange and also turning upon said head, a second pair of clutch-bars also supported in said head and extending through said cap, and having jaws to grip the last-mentioned flange, means also carried by said rod and normally out of action, for pressing the last-mentioned clutching-bars so as to cause their jaws to bite the last-mentioned flange, a cap secured upon said stop-carrying wheel, a platen-frame in which said journal has a bearing, and yielding detents upon said platen-frame for each of said wheels.

20. In a type-writing machine, the combination with a platen, of a finger-wheel normally capable of rotating the platen, a line-space wheel and detent, means for enabling the finger-wheel to release the platen from said line-space wheel and detent, and means connectible to the platen by said hand-wheel for adjustably limiting the forward and backward rotations of the platen.

21. In a type-writing machine, the combination with a line-space wheel having a detent, of a platen, means for causing the platen either to rotate together with the line-space wheel or to rotate in either forward or backward direction independently of the line-space wheel while the latter is stationary, and stops for limiting both the backward and forward rotations of the platen which are effected independently of said line-space wheel.

22. In a type-writing machine, the combination with a line-space wheel having a detent, of a platen, a finger-piece, means controlled by said finger-piece for causing the platen either to rotate together with the line-space wheel or to rotate in either forward or backward direction independently of the line-space wheel while the latter is stationary, and relatively adjustable stops for limiting both the backward and forward rotations of the platen effected by said finger-piece independently of said line-space wheel.

23. In a type-writing machine having a revoluble platen and a line-space wheel therefor, the combination of a detent for said line-space wheel, a normally ineffective stop, and a finger-piece having means to release the platen from the control of said detent and concomitantly render said stop effective to predetermine the extent to which the platen can be rotated.

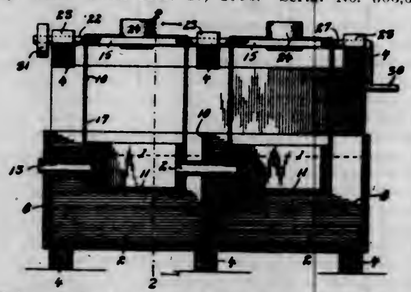
24. In a type-writing machine having a revoluble platen and a line-space wheel therefor, the combination of a detent for said line-space wheel, normally ineffective stops, and a finger-piece having means to release the platen from the control of said detent and concomitantly render said stops effective to predetermine the extent to which the platen can be rotated in backward and forward directions.

25. In a type-writing machine having a revoluble platen and a line-space wheel therefor, the combination of a detent for said line-space wheel, normally ineffective stops, and a finger-piece having means to release the platen from the control of said line-space wheel and concomitantly render said stops effective to predetermine the extent to

which the platen can be rotated in backward and forward directions.

26. In a type-writing machine having a revoluble platen and a line-space wheel therefor, the combination of a detent for said line-space wheel, relatively adjustable but normally ineffective stops, and a finger-piece having means to release the platen from the control of said line-space wheel and concomitantly render said stops effective to predetermine the extent to which the platen can be rotated in backward and forward directions.

843,086. ORE-SEPARATOR. LUCIAN B. HUNTER, Greeley, Colo. Filed Mar. 17, 1906. Serial No. 306,647.



Claim.—1. In an ore-separator, the combination, of a plurality of tanks, a jig-box in each tank, flexible conductors connecting the jig-boxes, levers having one end slotted and the other end forked to form arms, pivot-shafts passing through the arms, hangers pivoted to the ends of the arms, the jig-boxes secured between the lower ends of the hangers and depending into the tanks, counterbalance-weights having intersecting slots to engage and rest on the forked portions of the levers, and means for oscillating the levers.

2. In an ore-separator, the combination, of a plurality of tanks, a jig-box in each tank, flexible conductors connecting the jig-boxes, levers having one end slotted and the other end forked to form arms, a pivot-shaft passing through the arms, hangers pivoted to the ends of the arms, the jig-boxes secured between the lower ends of the hangers and depending into the tanks, counterbalance-weights freely removable on the levers and having depressions or cavities in their tops, and means for operating the levers.

3. In an ore-separator, the combination, of a plurality of tanks, a jig-box in each tank, flexible conductors connecting the jig-boxes, levers pivotally mounted above the tanks, a jig-box pivotally connected with one end of each lever and depending into one of the tanks, a counterbalance-weight freely removable on the other end of each lever, said weights having depressions or cavities in their tops, and means for oscillating the levers.

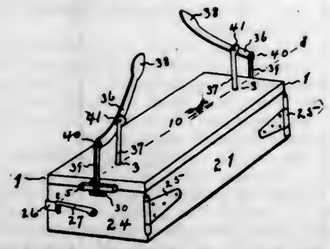
4. In an ore-separator, the combination, of a plurality of tanks, a jig-box in each tank, flexible conductors connecting the jig-boxes, slotted levers pivotally mounted above the tanks, wear-plates carried by the levers, a jig-box pivotally mounted on one end of each lever and depending into one of the tanks, a slotted counterbalance-weight freely removable on the other end of each lever, and means for rocking the levers.

5. In an ore-separator, the combination, of a plurality of tanks, a jig-box in each tank, flexible conductors connecting the jig-boxes, levers having one end slotted and the other end forked to form arms, a removably and adjustably mounted wear-plate carried by each lever at its slotted end, a pivot-shaft passing through said arms, hangers adjustably suspended from the arms of each lever, a jig-box secured between the lower ends of each hanger and depending into one of the tanks, a slotted counterbalance-weight freely removable on each lever at its forked end, and means for rocking or oscillating the levers.

6. In an ore-separator, the combination, of rows of tanks arranged in pairs, a jig-box in each tank, flexible conductors connecting the jig-boxes, pairs of counterbalanced levers having their inner ends overlapping and slotted, and the other ends forked to form arms, pivot-shafts passing through said arms, the jig-boxes suspended in the tanks from the forked ends of the levers, counterbalancing-weights having intersecting slots to engage the forked portions of said levers, and cams or tappets extending through the slots in said levers for operating the levers.

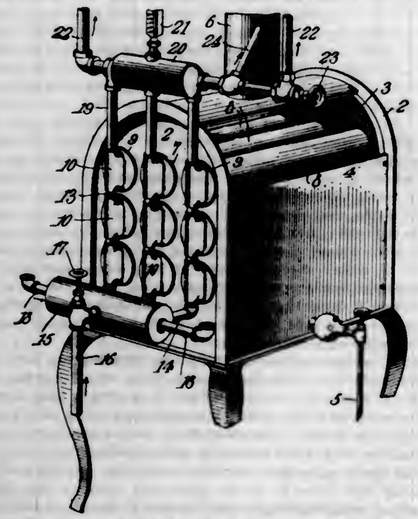
7. In an ore-separator, the combination, of a tank, a lever having one end slotted and its other end forked to form arms, a pivot-shaft passing through said arms, hangers pivoted to the ends of said arms, a jig-box secured between the lower ends of said hangers, a counterbalancing-weight having intersecting slots to engage the forked portion of said lever, and an angular cam or tappet extending through the slots in said lever for operating the latter.

843,087. BRICK-MOLDING MACHINE. THORVALD G. JENSEN, Kimballton, Iowa, assignor to Henningsen and Jensen, Kimballton, Iowa, a Partnership. Filed Apr. 11, 1906. Serial No. 311,054.



Claim.—A brick-molding machine, in combination, comprising a base having upset partitions 2 formed thereon, said upset partitions having free ends; a removable bed-plate 11 adapted to be seated on said base and to inclose a part of each of said partitions; the foldable member 20 seated upon said base and adapted to inclose the free ends of said partitions; the apertures 3 formed in said base; the core-lifters 36 adapted to make an entrance within apertures 3, and means to lock and unlock said foldable member.

843,088. HEATER. HENRY J. LANGE, Lorain, Ohio. Filed Sept. 17, 1906. Serial No. 334,901.

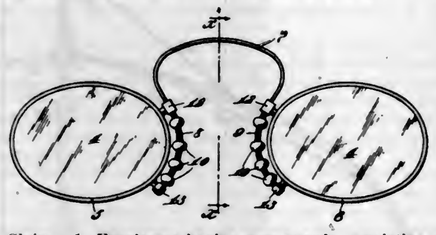


Claim.—1. In a heater the combination with a casing; of a plurality of series of tubes within the casing and projecting from one end thereof, tubular connections between the tubes of each series, means within each tube for directing water longitudinally therein while passing therethrough, a drum connected to one end of each series of tubes, a drum connected to the other end of each series of tubes, outlet-pipes extending from one of the drums, return-pipes connected to the other drum, and a supply-pipe opening into one of said drums.

2. In a heater the combination with a casing; of a series of tubes formed with closed ends disposed within the casing and with open ends projecting beyond the casing, a hollow extension upon each of the projecting ends, said extension having oppositely-disposed inlet and outlet ports, tubular connections between the ports of the several extensions, and a partition within each extension and projecting longitudinally within each tube, said partition terminating short of the closed end of the tube and being of the same width as the internal diameter of the tube.

3. In a heater the combination with a casing; of a series of tubes formed with closed ends disposed within the casing and with their opposite ends projected beyond the casing, a hollow reduced extension upon each of the projecting ends, said extensions having alining oppositely-disposed inlet and outlet ports, tubular connections between the ports, and means within the extensions and tubes for directing fluid from each inlet-port longitudinally of the tube and back to the outlet-port.

843,089. EYEGLASSES. JAMES C. MOORE, Philadelphia, Pa. Filed Sept. 14, 1906. Serial No. 334,579.



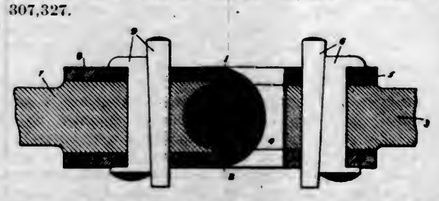
Claim.—1. Eyeglasses having nose-guards, consisting of threaded stems and substantially spherical bodies mounted on said stems and arranged so as to be turned thereon to shift the positions thereof with respect to each other.

2. Eyeglasses provided with nose-guards having stems clamped to the lens-frames thereof and a series of buttons or beads mounted on and arranged so as to be shiftable in two directions on said stems.

3. Eyeglasses provided with lens-frames coupled to each other by means of a spring or bridge-piece and nose-guards, consisting of threaded stems and a series of beads or buttons mounted thereon.

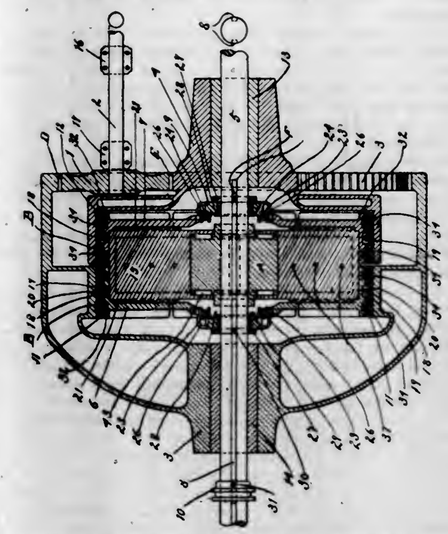
4. Eyeglasses comprising lens-frames coupled to each other by means of a spring or bridge-piece, and nose-guards consisting of threaded stems having a series of beads or buttons adjustably mounted thereon.

843,090. DOUBLE-CRANK JOINT. WILLIAM L. MORROW, Stockton, Cal. Filed Mar. 22, 1906. Serial No. 307,327.



Claim.—In a double-crank shaft, the crank, a bifurcated pitman or connecting rod, a semicircular brass bearing carried by said pitman or connecting rod, a second pitman or connecting rod fitting between the furcations of the first-named pitman or connecting rod, a semicircular brass bearing carried by said second-named pitman or connecting rod, the outer faces of the second-named pitman or connecting rod bearing against the inner faces of the furcations of the first-named pitman or connecting rod thereby forming a bearing for the outer faces of the second-named pitman or connecting rod and keys for tightening each of the pitman or connecting rods on said shaft.

843,091. ATTACHMENT FOR PLANING-MACHINES. PETER J. MCCORMICK, Baltimore, Md. Filed Aug. 9, 1906. Serial No. 329,861.



Claim.—1. A machine of the character described, comprising a main shaft, a driving-pinion thereon, a driven shaft, an interior gear and an exterior gear, both loose on the driven shaft and continuously in mesh with the driving-pinion, and means whereby these gears may be alternately clutched to the driven shaft, substantially as described.

2. A machine of the character described, comprising a main shaft, a driving-pinion thereon, a driven shaft, an external gear loose on the driven shaft and in mesh with one side of the pinion, an internal gear loose on the driven shaft and in mesh with the opposite side of the pinion, and means for alternately clutching the gears to the driven shaft, substantially as described.

3. A machine of the character described, comprising a main shaft, a driving-pinion thereon, a driven shaft, an external gear and an internal gear loose on the driven shaft and in mesh with the pinion, two clutches attached to revolve with the driven shaft and means for causing said clutches to alternately engage the respective gears, substantially as described.

4. A machine of the character described, comprising a main shaft, a driving-pinion thereon, a driven shaft, an external gear and an internal gear loose on the driven shaft and continuously in mesh with the driving-pinion, and each having a hollow or tubular extension, and a clutch located in each of the said tubular extensions, and arranged to revolve with the driven shaft and to be operated alternately by being made to clutch its respective gear with the driven shaft, substantially as described.

5. A machine of the character described, comprising a main shaft, a driving-pinion thereon, a driven shaft, a gear loose on the driven shaft, in mesh with the pinion and having a tubular extension, radially-movable clutches on the driven shaft and means for operating said clutches to

engage the interior of said tubular extension, substantially as described.

6. A machine of the character described, comprising a main shaft, a driving-pinion thereon, a driven shaft, a pair of gears loose on the driven shaft, in mesh with the pinion and having tubular extensions, two sets of radially-movable clutches on the driven shaft, and means for causing each set of clutches to alternately engage the interior surface of its respective tubular extension, substantially as described.

7. A machine of the character described, comprising a driven shaft, two gears continuously driven in opposite directions and loose on the driven shaft, a set of radially-movable clutches for each gear, and a cam on the driven shaft for operating each set of clutches, substantially as described.

8. A machine of the character described, comprising a driven shaft, two gears loose thereon and continuously driven in opposite directions, a set of radially-movable clutches for each gear, each clutch carrying a pin, and a cam on the driven shaft for each set of clutches each having a cam-groove to engage its respective pin, substantially as described.

9. A machine of the character described, comprising a driven shaft, two gears loose thereon, and continuously driven in opposite directions, a set of radially-movable clutches for each gear, each clutch carrying a pin, and a slidable cam on the driven shaft for each set of clutches each having a cam-groove to engage its respective pin, substantially as described.

10. A machine of the character described, comprising a driven shaft, two gears loose thereon and continuously driven in opposite directions, a set of radially-movable clutches on the driven shaft for each gear, a slidable cam on the driven shaft for operating each set of clutches, a shifting collar on the driven shaft, and keys connecting said collar with each cam, substantially as described.

11. A machine of the character described, comprising a driven shaft, a pair of gears loose thereon, having tubular extensions, a set of radially-movable clutches in each extension, a slidable cam on the shaft engaging each set of clutches, and means for operating the two sets of clutches in opposite directions when the cams are simultaneously moved in one direction, substantially as described.

12. A machine of the character described, comprising a driven shaft, a pair of gears loose thereon, having tubular extensions forming a chamber, an oil-cylinder, on the shaft within said chamber, a set of radially-movable clutches mounted on each end of said chamber, and means for causing each set of clutches to alternately engage the interior of the tubular extension of its corresponding gear, substantially as described.

13. A machine of the character described, comprising a driven shaft, an oil-cylinder mounted thereon, two gears on the shaft having tubular extensions inclosing said cylinder, radial guides on each end of the oil-cylinder, a set of clutches mounted on the guides on each end of the cylinder, adapted to contact with the interior of said extensions, and a slidable cam on the shaft for operating each set of clutches alternately, substantially as described.

14. A machine of the character described, comprising a driven shaft, and oil-cylinder thereon, having removable ends, two gears on the shaft having tubular extensions inclosing the cylinder, radial guides on the ends of the cylinder, a set of clutches mounted on each set of guides and adapted to engage the interior of the extensions, and slidable cams on the shaft for operating each set of clutches alternately, substantially as described.

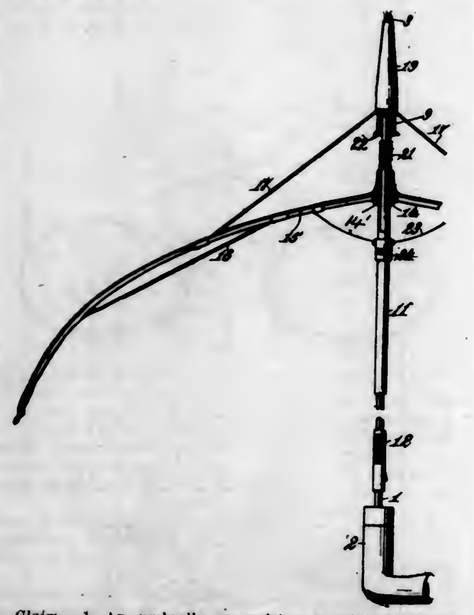
15. A machine of the character described, comprising a driven shaft, an oil-cylinder thereon, a pair of gears having tubular extensions inclosing the cylinder, radially-slidable clutches mounted on each end of the cylinder adapted to engage the interior of the extensions, and eccentrically-curved contact-pieces slidably mounted on the peripheries of the cams, substantially as described.

16. A machine of the character described, comprising a driven shaft, an oil-cylinder thereon, a pair of gears having tubular extensions inclosing the cylinder, radially-slidable clutches mounted on each end of the cylinder adapted to engage the interior of the extensions, and eccentrically-curved contact-pieces slidably mounted on the peripheries of the cams, yieldingly actuated in the direction of their thinner ends, substantially as described.

17. A machine of the character described, comprising a driven shaft, an oil-cylinder mounted thereon, divided into segmental chambers with perforated separating-partitions, a paddle-casting mounted on the shaft in the center of the oil-cylinder, and paddles projecting radially from the casting into the segmental chambers, substantially as described.

18. A machine of the character described, comprising a driven shaft, an oil-cylinder mounted thereon, divided into segmental chambers, with perforated separating-walls, a paddle-casting mounted on the shaft in the center of the oil-cylinder, paddles projecting radially from the casting into the segmental chambers, and plates on each side of each paddle connected by pins passing through holes in the paddles, substantially as described.

843,092. UMBRELLA. MICHAEL G. MCGUIRE, Chicago, Ill. Filed May 24, 1905. Renewed July 14, 1906. Serial No. 326,278.



Claim.—1. An umbrella comprising a stick, a sleeve fixed thereon near one end thereof and having a flange and a screw-threaded extension, a slidable sleeve mounted on the stick, ribs pivotally connected to the sleeve, outer brace members connected at one end to the ribs, a collar mounted upon said extension, associating with said flange and adapted to connect the other ends of the braces to said fixed sleeve, and a sleeve having internal screw-threads and an internal shoulder mounted upon said fixed sleeve and engaging the screw-threads of the extension and adapted to retain the collar in position.

2. An umbrella comprising a stick, a sleeve fixed thereon near one end thereof and having a flange and a screw-threaded extension, a slidable sleeve mounted on the stick, ribs pivotally connected to the sleeve, outer brace members connected at one end to the ribs, a collar mounted upon said extension, associating with said flange and adapted to connect the other ends of the braces to said fixed sleeve, a sleeve having internal screw-threads and an internal shoulder mounted upon said fixed sleeve and engaging the screw-threads of the extension and adapted to retain the collar in position, inner braces having the ends thereof connected to the ribs, and a spring interposed between said slidable sleeve and said fixed sleeve.

3. An umbrella comprising a stick, a slidable sleeve mounted thereon and carrying at one end a notched collar provided with ears, ribs pivotally connected to the ears of said collar, a sleeve fixed to said stick and provided with a cylindrical extension engaging said collar, a spring interposed between said fixed sleeve and said notched collar and inclosed by said extension, outer brace members having one end secured to said ribs, and means for detachably connecting the other end of said brace members to said fixed sleeve.

4. An umbrella comprising the combination with the body thereof, of outer brace members therefor, said brace members connected at one end with the umbrella-body, a beveled flange connected to the umbrella-stick, and a collar associating with said flange and adapted to detachably connect the upper ends of the brace members to the stick.

5. An umbrella comprising the combination with the body thereof, of outer brace members therefor, said brace members connected at one end with the umbrella-body, a beveled flange connected to the umbrella-stick, a collar associating with said flange and adapted to detachably connect the upper ends of the brace members to the stick, and means mounted upon the stick of the umbrella for inclosing and retaining said collar in position.

6. An umbrella comprising a spring-abutment, outer braces for the umbrella-body, a fixed sleeve provided with an extension and adapted to inclose said abutment, and means associating with said fixed sleeve for detachably connecting the outer brace members with the stick of the umbrella.

7. An umbrella comprising a stick, a slidable sleeve mounted thereon, ribs pivotally connected to said sleeve, inner brace members for said ribs, said brace members having their ends connected to the ribs, cords constituting outer brace members having one end connected to the ribs, and means for detachably connecting the other ends of the cords to the umbrella-stick.

8. An umbrella comprising a stick, a slidable sleeve mounted thereon, ribs pivotally connected to said sleeve, inner brace members for said ribs, said brace members having their ends connected to the ribs, outer brace members having one end connected to the ribs, means for detachably connecting the other ends of the outer brace members to the umbrella-stick, and means for inclosing and retaining said connecting means in position.

9. An umbrella comprising a stick, a slidable sleeve mounted thereon, ribs pivotally connected to said sleeve, inner brace members for said ribs, said brace members having their ends connected to the ribs, outer brace members having one end connected to the ribs, means for detachably connecting the other ends of the outer brace members to the umbrella-stick, means for inclosing and retaining said connecting means in position, and a spring-abutment interposed between the connecting means and said slidable sleeve.

10. An umbrella comprising a stick, a slidable sleeve mounted thereon, ribs pivotally connected to said sleeve, inner brace members for said ribs, said brace members having their ends connected to the ribs, cords constituting outer brace members having one end connected to the ribs, means for detachably connecting the other ends of the outer brace members to the umbrella-stick, and means connected with the ribs and shiftable upon said sleeve for closing the umbrella.

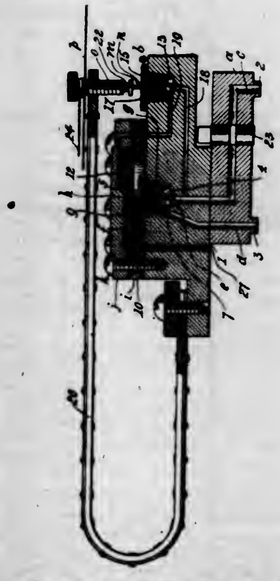
11. An umbrella comprising a stick, a slidable sleeve mounted thereon, ribs pivotally connected to said sleeve, inner brace members for said ribs, said brace members having their ends connected to the ribs, cords constituting outer brace members having their lower ends connected to the ribs and their upper ends free, means for detachably connecting the upper ends of the outer brace members to the umbrella-stick, means for inclosing and retaining said connecting means in position, and means connected with the ribs and shiftable upon said sleeve for closing the umbrella.

12. An umbrella comprising a stick, a slidable sleeve mounted thereon, ribs pivotally connected to said sleeve, inner brace members for said ribs, said brace members having their ends connected to the ribs, outer brace members having one end connected to the ribs, means for detachably connecting the other ends of the outer brace members to the umbrella-stick, means for inclosing and retaining said connecting means in position, a spring-abutment interposed between the connecting means and said slidable sleeve, and means connected with the ribs and shiftable upon said sleeve for closing the umbrella.

13. An umbrella comprising a stick, ribs pivotally connected therewith, inner brace members for said ribs, said brace members having their ends connected to the ribs, outer brace members having one end connected to the ribs, means for detachably connecting the other ends of the outer brace members to the umbrella-stick, and a shiftable means connected to the ribs and to the stick for closing the umbrella.

14. An umbrella comprising a stick, ribs pivotally connected therewith, inner brace members for said ribs, said brace members having their ends connected to the ribs, cords constituting outer brace members having their lower ends connected to the ribs and their upper ends free, and means for detachably connecting the upper ends of the outer brace members to the umbrella-stick.

843,093. HEAT-REGULATING APPARATUS. NATHAN E. NASH, Toronto, Ontario, Canada. Filed Nov. 21, 1905. Serial No. 288,353.

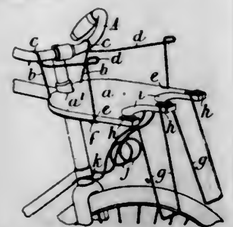


Claim.—1. In a heat-regulating apparatus comprising a valve-chamber having a passage leading therefrom to a source of supply of air under pressure, and an aperture extending from the said valve-chamber to the outer air, the transverse area of the passage being less than that of the aperture, a double-faced valve situated within the said valve-chamber having a stem which extends through the aperture to the outer air, and a thermostatic blade to directly actuate the said valve through the medium of its stem and in its vibration close either the said passage or the outlet-aperture, substantially as specified.

2. In a heat-regulating apparatus, a shell having an inlet and an outlet air-duct, which ducts converge in a valve-chamber, an air-chamber in communication with the valve-chamber and provided with a channel at all times open to the outer air, a double-faced valve situated within the

valve-chamber having a stem which extends from the valve-chamber into the air-chamber, the said valve being adapted to close the inlet-duct or the aperture leading to the air-chamber, and a diaphragm held within the air-chamber and over the end of the valve-stem, combined with a second valve-chamber having an air-escape aperture and a passage leading to the outer side of the said diaphragm, a double-faced valve situated within the second valve-chamber having a stem which passes through the said air-escape aperture, the two double-faced valves coacting to prevent a continuous escape of air from the source of air-supply to the atmosphere, and a thermostatic blade which in its vibration due to change in temperature of the air, operates to establish communication between the inlet-duct and the air-chamber at a point above the diaphragm, or to cut off such communication and expose the outer side of the diaphragm to the air, substantially as specified.

843,094. COMBINED SEAT AND LUGGAGE-CARRIER FOR BICYCLES. JAMES PATERSON and GILBERT K. PASLEY, Gisborne, New Zealand. Filed Apr. 24, 1905. Serial No. 257,257.



Claim.—1. A combined child's seat and luggage-carrier, comprising among its members, a seat portion, means for supporting it from the bicycle, an arm portion at each side of the seat hinged adjacent to the rear of the seat and means for locking said arm portions in operative position, substantially as described.

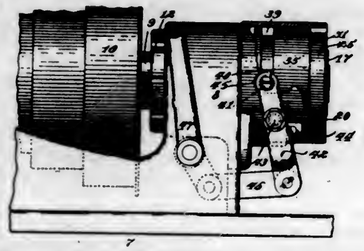
2. A combined child's seat and luggage-carrier, comprising among its members, a seat portion, uprights at the rear of the seat portion constructed to engage the handle-bar, lateral arm portions hinged to said uprights and catches adjacent to the front end of said seat portion for locking the arm portions in operative position, substantially as described.

3. A combined child's seat and luggage-carrier, comprising among its members a seat portion, uprights at the rear of the seat portion constructed to engage the handle-bar, lateral arm portions hinged to said uprights, catches adjacent to the front end of the seat portion for locking the arm portions in operative position and a foot-rest hinged to the front portion of the seat, substantially as described.

4. A combined child's seat and luggage-carrier comprising among its members, a seat recessed at its rear end to fit the steering-post of a bicycle, upright supports secured to the rear part of the seat and terminating in hooks to engage the handle-bars, lateral arm portions hinged to said uprights, catches secured to the seat adjacent to its front end for locking the hinged arms in operative position, a hinged foot-rest secured to the front of the seat, and a spring-support secured to the front portion of the seat and having a forked portion for engaging the steering-post, substantially as described.

843,095. CHUCK. JAMES PEARSON, Cleveland, Ohio, assignor to The Warner & Swasey Company, Cleveland, Ohio, a Corporation of Ohio. Filed July 25, 1905. Serial No. 271,149.

Claim.—1. The combination with a hollow lathe-spindle and a chuck-body integral therewith, of jaws carried by the chuck-body, a ring mounted within the chuck-body for limiting the forward longitudinal movement of the jaws, means for elastically pressing the jaws against said ring, a longitudinally-movable contractor for the jaws and having a shoulder at its forward end, a ring mounted upon the outside of the chuck-body, for reinforcing the same, and having fulcrum-seats formed upon it, said chuck-body having recesses for levers, levers mounted in said recesses and each having one end engaging the said shoulder, and means for rocking said levers.



2. The combination with a hollow lathe-spindle and a chuck-body integral therewith of jaws within the chuck-body having sloping outer faces, a contractor within the chuck-body and having a face for engaging said sloping faces on the jaws for closing said jaws, and having an abutment at its forward end, a system of levers engaging said abutment on the contractor, means for affording a fulcrum for said levers radially of the jaws and substantially radially of said abutment, and means for actuating said levers for shifting said contractor into operative engagement with said jaws.

3. In a chuck, the combination with a chuck-body, of jaws mounted therein and movable in radial paths, a longitudinally-movable contractor within the body for actuating the jaws, a longitudinally-adjustable reinforcing-ring upon the outside of the body and in the same longitudinal zone with the jaws axially of the chuck and having, in line with the path of movement of the jaws, a fulcrum-support for a lever, a lever having one end fulcrumed in such support, the contractor having, at its forward end and also in line with said path, a shoulder abutted by one end of said lever, the lever overlying the contractor, and means for engaging the other end of the lever for turning it on its fulcrum and causing it to shift the contractor.

4. In a chuck, the combination with a spindle, of jaws mounted on the spindle and means for actuating the same, a bearing for the spindle, a casing carried by and fast with the bearing and surrounding said jaws, and operating-levers carried by said bearing and casing and operatively connected with the jaw-actuating means.

843,096. LOCK-NUT FOR VEHICLE-HUBS. WILLIAM F. POST, Hattiesburg, Miss. Filed Jan. 15, 1906. Serial No. 296,146.



Claim.—1. A device of the character described, comprising a spindle provided with a nut-receiving end and a nut arranged to slide on said end, and an interlocking means between said spindle end and nut, said means including a bulged portion on the spindle end which wedges in the nut and prevents the complete insertion of the latter over the said end except by the tilting of the nut on said end.

2. A device of the character described, comprising a spindle provided with a reduced end having a bulged portion and a corresponding opposite dished portion, a nut arranged to be slid over said end of the spindle and designed for locking engagement therewith, the proportion of the nut and the bulged portion being such that the nut is required to be tilted on the spindle end to effect the complete insertion of the former over the latter.

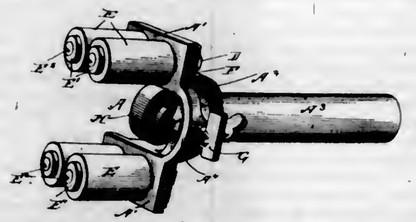
3. A device of the character described, comprising a spindle provided with a nut-receiving end having locking-keys and a lug and provided with a bulged portion opposite said lug, and a nut provided with bayonet-slots for locking engagement with said keys and provided with a groove through which said lug is designed to pass, the proportion of the parts being such that the bulged portion will wedge in the nut and preclude the passage of the nut onto and over the end of the spindle in a straight direction.

4. A device of the character described, comprising a spindle provided with a nut-receiving end, the latter being formed with a key and a lug, a nut provided with a locking-slot for the reception of said key and with a groove through which the lug is designed to pass, the spindle end and nut being so arranged as to require a tilting of the latter on the former preparatory to registering the key with the entrance portion of the slot.

5. A device of the character described, comprising a spindle provided with a reduced end having opposite keys and a laterally-extending lug at its outer end and provided near said lug with a dished portion and also provided with an opposite bulged portion and a nut provided with bayonet-slots for the reception of said keys and a groove through which the lug is designed to pass, the proportion of said groove and lug and the bulged portion of the reduced end of the spindle being such as to require the nut to be tilted to an oblique position preparatory to effecting the engagement and disengagement of the keys with and from the slots.

6. A device of the character described, comprising a spindle provided with a reduced end having opposite keys and a laterally-extending lug at its outer end and provided near said lug with a dished portion and with an opposite bulged portion, the keys being provided with beveled walls and a nut provided with bayonet-slots for the reception of said keys, and a groove through which the lug is designed to pass, the proportion of said groove and lug and the bulged portion of the reduced end of the spindle being such as to require the nut to be tilted to an oblique position preparatory to effecting the engagement and disengagement of the keys with and from the slots, the said slots opening inwardly at the inner face of the nut and provided with circumferentially-extending locking portions and beveled walls leading from the inwardly-opening portions into said locking portions substantially as described.

843,097. BAND-SAW GUIDE. HERMAN J. RATHKE, Rochester, N. Y. Filed May 16, 1905. Serial No. 260,655.



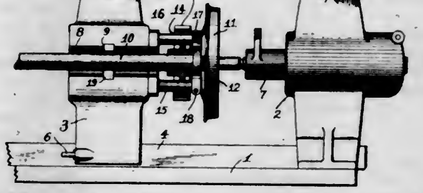
Claim.—1. A band-saw guide comprising a head consisting of two plates connected to two yokes, one of said yokes having an inwardly-extending arm, integral therewith, a bearing-roller carried by a shank horizontally adjustable in the arm, a screw adjustable in the lateral yoke, a plate swiveled to the end of said screw, a pair of guide-rollers connected to said plate, and a pair of guide-rollers connected to the plates of the head, all arranged and adapted to operate as set forth.

2. A band-saw guide comprising an arm having a yoke projecting from one end carrying plates at its ends provided with openings, a yoke connecting said plates provided with a threaded opening, a roller secured in one of the openings in each plate, a shaft carrying a roller projecting through each one of the other openings in said plates secured to a plate, a screw working in the opening in the yoke, swiveled in the plate carrying the rollers and a bearing-roller adjustably mounted in said arm for the purpose described.

3. A saw-guide comprising a hollow arm having a yoke projecting from said arm, a plate secured to each end of said yoke provided with openings and slots, shafts mounted in the opening in the plates carrying rollers, a yoke connecting said plates having a threaded opening, a screw mounted in the opening having a plate mounted to its end provided with openings, shafts carrying rollers projecting through the slots in the plates secured in the openings in said plate and a shank adjustably mounted in said arm provided with a bearing-roller at its end for the purpose set forth.

4. A saw-guide comprising an arm having a socket at one end provided with a yoke carrying plates at its ends, provided with openings and slots, a laterally-projecting yoke connecting said plates provided with a threaded opening, shafts mounted in the openings in the plate-carrying rollers, a set-screw mounted in the threaded opening in the yoke, a plate provided with openings swiveled on the end of said screw, shafts carrying rollers projecting through the slots in the plates secured in the openings in said plate, a threaded opening leading into the socket of the arm, a set-screw working in said opening and a shank provided with a bifurcated end carrying a bearing-roller mounted in said socket, for the purpose set forth.

843,098. WHEEL-PRESS. GEORGE T. REISS, Hamilton, Ohio, assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Apr. 16, 1906. Serial No. 312,043.



Claim.—1. A car-wheel press comprising a foot-block and a series of fingers projecting rigidly from the inner face of the foot-block.

2. A car-wheel press comprising a foot-block and a gapped heel-plate secured to the inner face of the foot-block, and a series of fingers projecting rigidly and inwardly therefrom.

3. A car-wheel press comprising a foot-block and a series of fingers projecting rigidly from the inner face of the foot-block, and a removable thrust-collar disposed against the ends of said fingers.

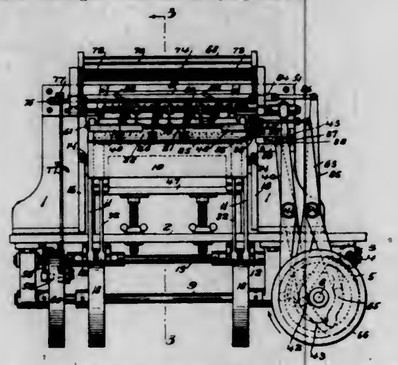
4. A car-wheel press comprising a foot-block and a series of fingers projecting rigidly from the inner face of the foot-block, and a divided jointed thrust-collar removably seated against the ends of said fingers.

5. A car-wheel press comprising a foot-block provided with a frontward open horizontal axle-receiving gap having a frontward open transverse notch, and a frontward open U-shaped axle-rest seated within said notch upon the floor thereof and adapted to engage below an intermediate portion of an axle.

843,099. SEWING-MACHINE. JOHN R. REYNOLDS, Hartford, Conn., assignor to The Smyth Manufacturing Company, Hartford, Conn., a Corporation of Connecticut. Filed Mar. 31, 1903. Serial No. 150,350.

Claim.—1. In a book-sewing machine, the combination with means for successively presenting signatures to be sewed, of a work-support, a thread-presenting device,

means for taking a bight of thread from said device and carrying it into the work in one direction and out of the work in a different direction, a looper, and means for operating the looper to cast a previous loop around the bight and take the bight from the carrying means.



2. In a book-sewing machine, the combination with means for successively presenting signatures to be sewed, of a work-support, a thread-presenting device, a thread-carrier, means for operating the carrier to take a bight of thread and carry the bight into the work in one direction and out of the work in a different direction, and a looper operating to take the bight after it has been carried out of the work.

3. In a book-sewing machine, the combination with means for successively presenting signatures to be sewed, of a work-support, a thread-presenting device, a thread-carrier, means for operating the carrier to cause it to take a bight of thread from the thread-presenting device, carry it into the work in one direction and out of the work in a different direction, and a looper operating to hold open a previous loop through which the bight is carried, cast the loop around the bight, and to take the bight from the carrier.

4. In a book-sewing machine, the combination with means for successively presenting signatures to be sewed, of a work-support, a hook having oppositely-arranged shoulders, means for presenting a thread thereto, means for giving the hook a movement to carry it into the work and out again on the entrance side thereof, the thread resting against one of the shoulders as the hook passes into the work and against the other shoulder as it passes out of the work, a looper, means for operating the looper to cast a loop over the thread held by the hook and to remove the thread therefrom, substantially as described.

5. In a book-sewing machine, the combination with means for successively presenting signatures to be sewed, of a work-support, a straight hook having oppositely-arranged shoulders, means for presenting a thread thereto, means for giving the hook a movement to carry it into and out of the work, the thread resting against one of the shoulders as the hook passes into the work and against the other shoulder as it passes out of the work, a looper, and means for operating the looper to cast a loop over the thread held by the hook and to remove the thread therefrom, substantially as described.

6. In a sewing-machine, the combination with a work-support, of a hook having oppositely-arranged shoulders, means for presenting thread to the hook, means for operating the hook to cause it to pass into, along, and out of the work, the thread resting against one of the shoulders as the hook passes into the work and against the other shoulder as it passes out of the work, a looper, means for actuating the looper to cause it to hold open the loop through which the hook passes as it comes out of the work, to cast off said loop, and to take the thread from the hook, substantially as described.

7. In a sewing-machine, the combination with a work-support, of a straight hook having oppositely-arranged shoulders, means for presenting thread to the hook, means for operating the hook to cause it to pass into, along, and out of the work, the thread resting against one of the shoulders as the hook passes into the work and against the other shoulder as it passes out of the work, a looper, means for actuating the looper to cause it to hold open the loop through which the hook passes as it comes out of the work, to cast off said loop, and to take the threads from the hook, substantially as described.

8. In a sewing-machine, the combination with a work-support, of a hook-carrier, a hook having oppositely-arranged shoulders mounted therein, means for actuating the hook independently of the carrier to cause it to pass into and out of the work, means for giving the carrier movements to carry the hook along the work, a looper, and actuating means therefor, substantially as described.

9. In a sewing-machine, the combination with a work-support, of a presser-plate between which and the support the work is held, a hook-carrier, a hook having oppositely-arranged shoulders mounted in the carrier, means for actuating the hook independently of the carrier to cause it to move through the work in both directions at different points, means for reciprocating the carrier, and means for presenting thread to the hook, the thread resting against one shoulder of the hook as the hook passes through the work in one direction and against its other shoulder as it passes through the work in the opposite direction, a looper, and actuating means therefor, substantially as described.

10. In a sewing-machine, the combination with a work-support, of a presser-plate located thereover, a hook having oppositely-arranged shoulders located in the support, means for causing the hook to move through the work in both directions at different points, a thread-presenting device operating to present thread to be taken by one shoulder of the hook at one of said points, a looper for taking the thread from the other shoulder of the hook at the other point, and means for operating the looper to cast a loop onto the hook and take the thread therefrom, substantially as described.

11. In a sewing-machine, the combination with a work-support, of a presser-plate located thereover, a hook-carrier mounted in the work-support, a hook having oppositely-arranged shoulders mounted in the carrier, means for actuating the hook to move through the work in both directions at different points, means for operating the carrier to move the hook from one of said points to the other, a thread-presenting device operating at one point, and a looper operating at the other point, substantially as described.

12. In a sewing-machine, the combination with a work-support, of a presser-plate located thereover, a hook-carrier mounted in the work-support, a hook having oppositely-arranged shoulders mounted in the carrier, means for actuating the hook to move through the work in both directions at different points, means for operating the carrier to move the hook from one of said points to the other, a thread-presenting device operating at one point, a looper operating at the other point, and means for actuating the looper to cause it to hold the loop through which the hook passes as it comes out of the work, to cast off said loop, and take the thread from the hook, substantially as described.

13. In a book-sewing machine, the combination with means for successively presenting signatures to be sewed, of a hook having oppositely-arranged shoulders and a cut-away side, means for carrying the hook into the work and out again in the entrance side thereof, a looper located at a point where the hook passes out of the work, and means for operating the looper to cast off a previously-held loop and to take a bight from the needle, substantially as described.

14. In a book-sewing machine, the combination with means for successively presenting signatures to be sewed, of a straight hook having oppositely-arranged shoulders and a cut-away side, means for carrying the hook into the work and out again on the entrance side thereof, a looper located at a point where the hook passes out of the work, and means for operating the looper to cast off a previously-held loop and to take a bight from the needle, substantially as described.

15. In a sewing-machine, the combination with a work-support, of a hook having oppositely-arranged shoulders and a cut-away side, means for presenting thread to the hook so that it will be taken by one of the shoulders, means for operating the hook to cause it to pass into, along and out of the work, a looper located at the point where the hook comes out of the work, and means for operating the looper to cast off a previously-held loop and to take a bight from the needle, substantially as described.

16. In a sewing-machine, the combination with a work-support, of a straight hook having oppositely-arranged shoulders and a cut-away side, means for presenting thread to the hook so that it will be taken by one of the shoulders, means for operating the hook to cause it to pass into, along and out of the work, a looper located at the point where the hook comes out of the work, and means for operating the looper to cast off a previously-held loop and to take a bight from the needle, substantially as described.

17. In a sewing-machine, the combination with a work-support, of a presser-plate between which and the support the work is held, a straight hook having oppositely-arranged shoulders and a cut-away side, means for presenting thread to the hook so that it will be taken by one of the shoulders, means for operating the hook to cause it to pass into, along and out of the work, a looper located at the point where the hook comes out of the work, and means for operating the looper to cast off a previously-held loop and to take a bight from the needle, substantially as described.

18. In a sewing-machine, the combination with a work-support, of a hook having oppositely-arranged shoulders, a thread-presenting device, means for moving said device from one side of the path of the hook to the other and rearwardly with respect to said path, means for causing the hook after taking the thread to pass into, along and out of the work, the thread resting against one of the shoulders as the hook passes into the work and against the other shoulder as it passes out of the work, a looper, and actuating means therefor, substantially as described.

19. In a sewing-machine, the combination with a work-support, of a straight hook having oppositely-arranged shoulders and a cut-away side, a thread-presenting device, means for moving said device from one side of the path of the hook to the other and rearwardly with respect to said path, means for causing the hook after taking the thread to pass into, along and out of the work, the thread resting against one of the shoulders as the hook passes into the work and against the other shoulder as it passes out of the work, a looper, and actuating means therefor, substantially as described.

20. In a sewing-machine, the combination with a work-support, of a presser-plate between which and the support the work is held, a hook-carrier located in the support, a hook having oppositely-arranged shoulders loosely mounted in the carrier, means for actuating the hook independently of the carrier to cause it to move through the work in both directions, means for reciprocating the carrier, a thread-presenting device, means for moving said device from one side of the path of the hook to the other and rearwardly with respect to said path, a looper, and actuating devices therefor, substantially as described.

21. In a sewing-machine, the combination with a work-support, of a presser-plate between which and the support the work is held, a hook-carrier located in the support, a straight hook having oppositely-arranged shoulders and a cut-away side, said hook being loosely mounted in the carrier, means for actuating the hook independently of the carrier to cause it to move through the work in both directions, means for reciprocating the carrier, a thread-presenting device, means for moving said device from one side of the path of the hook to the other and rearwardly with respect to said path, a looper, and actuating devices therefor, substantially as described.

22. In a sewing-machine, the combination with a work-support, of a presser-plate mounted thereover, a carrier-block, a hook having oppositely-arranged shoulders mounted therein, a slide with which the hook engages, means for reciprocating the slide, means for reciprocating the carrier-block at an angle with respect to the movement of the slide, a thread-presenting device, a looper, and actuating devices therefor, substantially as described.

23. In a sewing-machine, the combination with a work-support, of a presser-plate mounted thereover, a carrier-block, a hook having oppositely-arranged shoulders mounted therein, a slide with which the hook engages, means for reciprocating the slide, means for reciprocating the carrier-block at an angle with respect to the movement of the slide, a thread-presenting device, and means for giving it a movement from one side of the path of the hook to the other and rearwardly with respect to said path, a looper, and actuating means therefor, substantially as described.

24. In a sewing-machine, the combination with a work-support, of a presser-plate, a hook having oppositely-arranged shoulders, means for reciprocating the hook through and along the work, a thread-presenting device, a carrier on which said device is mounted, means for moving the carrier toward and away from the hook, means for reciprocating the presenting device with respect to the carrier whereby the thread-presenting device is carried from one side of the path of the hook to the other and rearwardly with respect to said path, a looper, and actuating means therefor, substantially as described.

25. In a sewing-machine, the combination with a work-support, of a presser-plate, a hook having oppositely-arranged shoulders, means for reciprocating the hook through and along the work, a thread-presenting plate, a carrier on which said plate is mounted, means for moving the carrier toward and away from the hook, means for reciprocating the thread-presenting plate with respect to the carrier whereby the thread-presenting plate is carried from one side of the path of the hook to the other and rearwardly with respect to said path, a looper, and actuating means therefor, substantially as described.

26. In a sewing-machine, the combination with a work-support, of a presser-plate, a hook having oppositely-arranged shoulders mounted in the work-support, means for reciprocating the hook through and along the work, a thread-presenting plate, a slide on which said plate is mounted, a bar for supporting said slide, means for reciprocating the slide with respect to the bar, means for moving the bar toward and away from the work, a looper, and means for actuating the looper, substantially as described.

27. In a sewing-machine, the combination with a work-support, of means for moving it into and out of operative position, a presser-plate, a slide mounted in the work-support, a series of blocks secured to the slide, a series of hooks held by the blocks, a second slide with which the hooks are in engagement, means for giving the slides reciprocations of an angle to each other whereby the hooks are carried through and along the work, a bar, a series of thread-presenting devices, a slide mounted in the bar, means for reciprocating said slide with respect to the bar, means for moving the bar toward and away from the work, a series of loopers, and actuating devices therefor, substantially as described.

843,100. CANDY-WORKING MACHINE. FRANCIS H. RICHARDS, Hartford, Conn. Filed May 27, 1905. Serial No. 262,539.

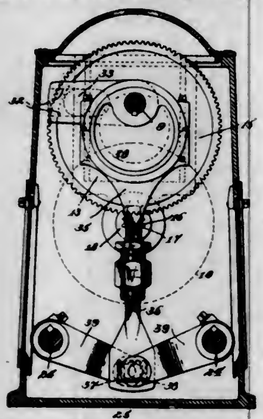
Claim.—1. In a candy-working machine, the combination with means for engaging a mass of candy, of means for actuating the same for alternately slowly pulling said mass into long drafts and quickly folding said drafts together.

2. In a candy-working machine, the combination with means for engaging a mass of candy, pulling said mass into long drafts and folding said drafts together, of means for driving the same rapidly during the folding operation and slowly during the pulling operation.

3. In a candy-working machine, the combination with means for engaging a mass of candy and embodying a pair of arms reciprocatory in opposite directions, of means for actuating said reciprocatory arms and moving these rapidly toward each other and slowly away from each other.

4. In a candy-working machine, the combination with

a number of members for holding a mass of candy, of means for actuating said holding means alternately at rapid and at slow speeds, for working said mass of candy by a series of alternately slow and rapid sequential steps.



5. In a candy-working machine, the combination with means for working a mass of candy in two directions, the working in one direction requiring more power than in the other direction, of means for driving the same at a slow speed in the direction requiring the greatest power and at a more rapid speed in the direction requiring the lesser power for maintaining the constancy of the load.

6. In a candy-working machine, the combination with a system of working devices comprising revolving and reciprocating members for drawing the candy out into a number of main strands and lapping and kneading the strands together, of a driving member, and a variable-speed actuator connecting said driving member and the said working devices and organized for driving the working devices at a relatively slow speed during the drawing out of the main strands, at a relatively higher speed for making the laps and at a relative lower speed for kneading the strands together.

7. In a candy-working machine, the combination of a system of working devices comprising drawing and lapping arms, a driving member, and a variable-speed actuator connecting said driving members and the working devices and organized for driving the working devices at a relatively slow speed during the drawing and at a relatively higher speed for making the laps, whereby the operations are increased in frequency, with a reduction of maximum stress on the driving member.

8. In a candy-working machine, the combination with a series of arms, of means for revolving a portion thereof in an orbital path, means for reciprocating other of said arms respectively in opposite directions rapidly toward each other and toward the axis of revolution of said revoluble arms for bringing the same against the material carried thereby and then moving the said arms slowly to knead the said mass and then moving said arms slowly away from each other and from said axis to pull the said mass.

9. In a candy-working machine, the combination with a plurality of revoluble arms, of a pair of oppositely-disposed reciprocatory arms adapted to pass radially through the orbit of revolution of said arms and engage the mass carried by such arms and to press the same toward the axis of said arms during the revolution thereof and to move away from said axis in opposite directions to pull the candy into long drafts, and means for actuating said arms and for moving the reciprocatory arms away from said axis at a slower speed than toward the same.

10. In a candy-working machine, the combination with means for engaging a mass of candy, of means for actuating the same and constructed and arranged for alternately pulling out said mass and quickly folding the same together.

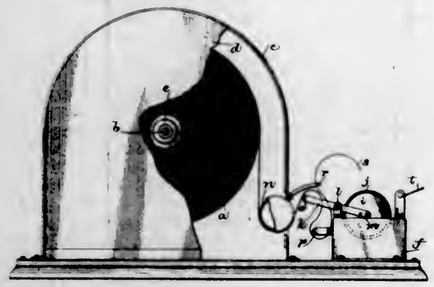
11. In a candy-working machine, the combination with means for engaging a mass of candy, pulling said mass out into drafts and folding said drafts together, of means constructed and arranged for driving the same rapidly during the folding operation and slowly during the pulling operation.

12. In a candy-working machine, the combination with means for engaging a mass of candy and embodying a pair of arms reciprocatory in opposite directions, of a shaft connected to said arms for so reciprocating the same, a pair of revoluble arms, a shaft connected to said arms for revolving the same, an eccentric and eccentric-strap for oscillating the shaft of the reciprocatory arms, and means for rotating said eccentric and the shaft of the revoluble arms at variable speed.

13. In a candy-working machine, the combination with a number of arms for working a mass of candy and comprising a pair of arms for reciprocation toward and from each other and a pair of arms for revolution in an orbital path, a pair of rock-shafts carrying said reciprocatory arms, a shaft carrying said orbitally-movable arms, a pitman articulated to said rock-shafts, an eccentric fast on said shaft, an eccentric-strap for engaging said eccentric and connected to said pitman, said shaft having fast upon it a member provided with bearing-faces, an actuator engaging said faces, and means constructed and arranged for revolving said actuator in an orbit eccentric to said shaft.

14. In a candy-working machine, the combination with a number of arms for working a mass of candy and comprising a pair of arms for reciprocation toward and from each other and a pair of arms for revolution in an orbital path, a pair of rock-shafts carrying said reciprocatory arms, a shaft carrying said orbitally-movable arms, a pitman articulated to said rock-shaft, an eccentric fast on said shaft, an eccentric-strap for engaging said eccentric and connected to said pitman, said shaft having fast upon it a member provided with bearing-faces, an actuator engaging said faces, a ring mounted eccentric to said shaft and carrying said actuator, gear-teeth upon said ring, and a gear engaging said gear-teeth for rotating the ring.

843,101. DEVICE FOR MOISTENING AND DELIVERING GUMMED BINDING-TAPE. HENRY P. ROBERTS, Boston, Mass., assignor, by mesne assignments, to Frederick S. Anable, Boston, Mass. Filed Jan. 4, 1906. Serial No. 294,645.



Claim.—1. In a tape-moistener, a holder for a gummed roll of tape, an adjustable tension device restraining rotation of the roll of tape, a series of fixed guides for the tape in its line of feed, a pan, a wet pad in the pan, a carrying-frame pivoted on the pan, a moistening-roll normally resting on the pad pivoted at one end of the carrying-frame, a bight of the tape leading from a fixed guide, passing over the opposite end of the carrying-frame and leading to another fixed guide, a bracket to hold the tape normally clear of the moistening-roll, and a cutter to position the tape above the roll and to sever the tape when moistened, substantially as described.

2. In a tape-moistener, the combination with a pan, a wet pad in the pan, and a moistening-roll yieldingly pressed against the pad, of devices to support gummed tape above the moistening-roll, and means to move the roll from the wet pad into contact with the gummed side of the tape, substantially as described.

3. In a tape-moistener, a pan containing a wet pad, and a moistening-roll in yielding contact with the pad, combined with devices to guide and support a strip of gummed tape, and means to remove the moistening-roll from the pad to touch the said roll to the tape when the tape is pulled, substantially as described.

4. In a tape-moistener, in combination, means for restraining, directing, and positioning a strip of gummed tape, a movable moistening-roll, and means actuated by said roll for separating the end of the tape and the surface of the roll after the tape has been fed and severed.

5. In a tape-moistener, the combination with means to restrain, guide, and position a strip of gummed tape, of a movable moistening-roll, and mechanism connecting the tape with the roll, such that varying feeling stress in the tape will change the position of the moistening-roll with relation to the tape, substantially as described.

6. A tape-moistener comprising tape-supplying mechanism, tape-moistening mechanism normally in tape-receiving relation but movable into tape-moistening relation, tape-operating mechanism for said tape-moistening mechanism and guiding provisions to direct the tape from its engaging relation with said operating mechanism in a substantially vertical path, thereby to impart a substantially vertical pull upon the said operating mechanism.

7. A tape-moistener comprising tape-supplying mechanism, tape-tensioning mechanism, tape-moistening mechanism normally in moisture-receiving relation but movable into tape-moistening relation, tape-operating mechanism for said tape-moistening mechanism, and guiding provisions to direct the tape from its engaging relation with said operating mechanism in a substantially vertical path, thereby to impart a substantially vertical pull upon the said operating mechanism.

8. A tape-moistener comprising tape-supplying mechanism, a tape-moistening roll normally in moisture-receiving relation but movable into tape-moistening relation, tape-operating mechanism for said tape-moistening roll and guiding provisions to direct the tape from its engaging relation with said operating mechanism in a substantially vertical path, thereby to impart a substantially vertical pull upon said operating mechanism.

9. A tape-moistener comprising tape-supplying mechanism, tape-moistening mechanism normally in moisture-receiving relation but movable into tape-moistening relation, tape-operating mechanism for said tape-moistening mechanism and tape-guiding means disposed in relation to said operating mechanism to permit engagement of said operating mechanism by a vertically-disposed bight of tape looped about said operating mechanism, whereby a substantially vertical pull is exerted upon said operating mechanism.

10. A tape-moistener comprising tape-supplying mechanism, tape-tensioning means, tape-moistening mechanism normally in moisture-receiving relation but movable into tape-moistening relation, tape-operating mechanism for said tape-moistening mechanism and tape-guiding means disposed in relation to said operating mechanism to permit engagement of said operating mechanism by a vertically-disposed bight of tape looped about said operating mechanism, whereby a substantially vertical pull is exerted upon said operating mechanism.

11. A tape-moistener comprising a tape-supplying mechanism, a tape-moistening roll normally in moisture-receiving relation but movable into tape-moistening relation, a lever supporting said roll and adapted to move the same and tape-guiding means disposed in relation to said lever to permit of engagement of said lever by a vertically-disposed bight of tape looped thereabout, whereby a substantially vertical pull is exerted upon said operating mechanism.

12. A tape-moistener comprising tape-supplying mechanism, tape-moistening mechanism normally in moisture-receiving relation but movable into tape-moistening relation, operating mechanism for said tape-moistening mechanism and tape-guiding means in the rear of and in advance of the tape-moistening mechanism to position the tape for moistening.

13. A tape-moistener comprising tape-supplying mechanism, tape-moistening mechanism normally in moisture-receiving relation but movable into tape-moistening relation, operating mechanism for said tape-moistening mechanism and tape-guiding means located below and above said operating mechanism and means to guide the tape into engagement with said operating mechanism.

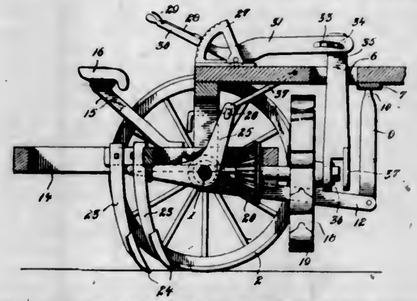
14. A tape-moistener comprising tape-supplying mechanism, a tape-moistening roll normally in moisture-receiving relation but movable into tape-moistening relation, a lever supporting said moistening-roll, tape-guiding means located below and above said operating-lever and means to guide the tape into engagement with said lever.

15. A tape-moistener comprising tape-supplying mechanism, tape-moistening mechanism normally in moisture-receiving relation but movable into tape-moistening relation, operating mechanism for said tape-moistening mechanism, tape-guiding means disposed in relation to said operating mechanism to permit engagement of said operating mechanism by a vertically-disposed bight of tape looped about said operating mechanism, and guiding means to lead said tape from said bight-forming guiding means in a vertical path.

16. In an apparatus of the character specified a tank or reservoir, a moistening device normally in moisture-receiving relation thereto, strip-guiding means and means controlled by the draft of the strip for use to move said moistening device bodily out of moisture-receiving position into strip-moistening relation.

17. A tape-moistener comprising tape-supplying mechanism, tape-moistening mechanism normally in moisture-receiving relation but movable into tape-moistening relation operating mechanism for said tape-moistening mechanism, tape-guiding means in the rear of said tape-moistening mechanism and combined tape-guiding and severing means in advance of the tape-moistening mechanism, said guiding means acting to position the tape for moistening.

843,102. COMBINED COTTON CHOPPER AND CULTIVATOR. NEWTON K. ROBERTSON and ISAAC W. JONES, Sidney, Tex. Filed Sept. 17, 1906. Serial No. 334,830.



Claim.—1. In a machine of the character described, a frame, an axle, supporting-wheels upon the latter, a second frame pivotally mounted upon said axle, a longitudinally-extending shaft journaled in bearings upon the front end of said pivotally-mounted frame, a pinion upon the rear end of said shaft, a gear upon said axle in mesh with said pinion, a rotary cutter upon the front portion of said shaft, a lever mounted upon the first-mentioned frame and formed with a segmental slot, means for locking said lever against movement, and a link having its lower end provided with a bearing for the front end of said shaft and its upper end provided with a pin to engage the slot in said lever, substantially as described.

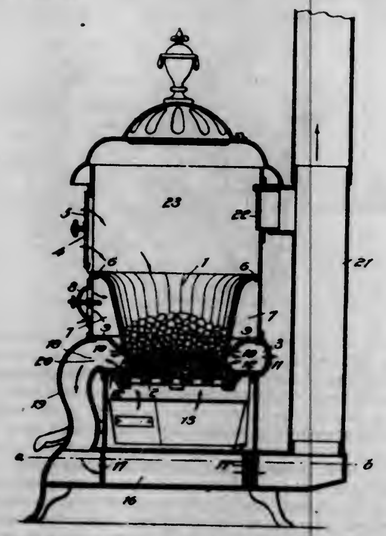
2. In a machine of the character described, a frame, an axle, supporting-wheels upon the latter, a second frame pivotally mounted upon said axle, a longitudinally-extending shaft journaled in bearings upon the front end of said pivotally-mounted frame, a pinion upon the rar end of said

shaft, a gear upon said axle in mesh with said pinion, a rotary cutter upon the front portion of said shaft, a lever mounted upon the first-mentioned frame, a link pivotally connected to said lever, a bearing upon the lower end of said link for the front end of said longitudinal shaft, and a guard upon the lower end of said link for said bearing, substantially as described.

3. In a machine of the character described, a vertically-disposed, arched frame having bearing-sleeves at its lower end, an axle rotatably mounted in said bearing-sleeves, wheels upon said axle, a tongue having its rear end secured upon the top of said arched frame, a cross-bar fixed upon said tongue and formed at its ends with longitudinally-extending slots, horizontal bars having their rear ends pivotally mounted upon said bearing-sleeves, and vertical, draft connection carrying-bars having their lower ends pivotally connected to the forward ends of said horizontal bars and their upper ends formed with cross-heads and reduced necks whereby they are detachably engaged with the slotted ends of said cross-bar, substantially as described.

4. In a machine of the character described, an arched, main frame, an axle mounted in the arched portion of said frame, a second frame pivotally mounted upon said axle, means for adjusting said second frame, a third frame pivotally connected to said second frame, said third frame being of substantially U shape and having a rear, cross-bar and parallel side bars, the latter having their forward ends pivoted to the second frame in advance of the axle, cultivators depending from the rear, cross-bar of said third frame, a bell-crank pivoted upon said axle and having one of its arms projecting beneath and adapted to engage said rear cross-bar to raise and lower said third frame and a foot-piece upon the other arm of said bell-crank, substantially as described.

843,103. HEATING-STOVE. CORNELIS F. A. RÖELL, Independence, Mo., assignor to Roell Manufacturing Company, Independence, Mo., a Corporation of Missouri. Filed Sept. 29, 1904. Renewed Dec. 17, 1906. Serial No. 348,290.



Claim.—1. In a heating-stove, an inclosing casing, a fire-pot, a grate, upper, lower and intermediate ring-plates assembled and forming a fire-zone space surrounding the lower end of the fire-pot, revertible flues into which said fire-zone space opens, and an air-chamber having an air-inlet in the casing and an outlet opening into said fire-zone space.

2. In a heating-stove, an inclosing casing, a fire-pot, an upper ring-plate above the lower edge of the fire-pot, a lower ring-plate supporting the grate and means for closing the space between said ring-plates forming a fire-zone space, revertible flues set out from the wall-casing and into which the fire-zone space opens, and an air-chamber having an air-inlet in the casing and an outlet-opening formed by the fire-pot and said upper ring-plate.

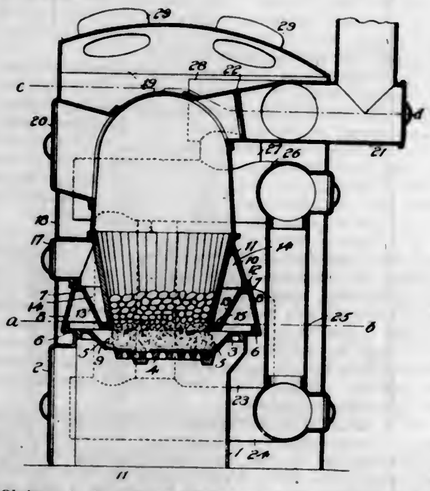
3. In a heating-stove, an inclosing casing, a fire-pot, a grate, upper, lower and intermediate ring-plates assembled and forming a fire-zone space surrounding the lower end of the fire-pot, the fire-pot wall and said upper ring-plate and the said casing forming an air-chamber having an air-inlet and opening into the fire-zone space, a base-draft flue, a pair of revertible flues set out from the casing and opening into the fire-zone space and into the base-draft flue, the air-inlet to said chamber being immediately above the upper ring and between the pair of revertible flues.

4. In a heating-stove, the inclosing casing, a grate, upper, lower and intermediate ring-plates assembled and forming a fire-zone space, and a fire-pot freely suspended by its upper flaring edge upon the inner walls of said casing and terminating below and within the inner edge of said supper ring-plate.

5. In a heating-stove, a casing, a grate, a fire-pot, upper, lower and intermediate ring-plates assembled and forming a fire-zone space surrounding the lower edge of the fire-pot, a base-draft flue and a pair of revertible flues the latter opening directly into the fire-zone space and into said base-draft flue.

6. In a heating-stove, a casing, a grate, a fire-pot, a base-draft, upper, lower and intermediate ring-plates assembled and forming a fire-zone space surrounding the lower edge of the fire-pot, and revertible flues connecting said fire-zone space with the base-draft.

843,104. HOT-AIR FURNACE. CORNELIS F. A. RÖELL, Independence, Mo., assignor to Roell Manufacturing Company, Independence, Mo., a Corporation of Missouri. Filed Sept. 5, 1905. Renewed Dec. 17, 1906. Serial No. 348,291.



Claim.—1. In a hot-air furnace, an inclosing casing, a grate, a ring-plate supporting the grate, a trough-ring inverted upon the circumference of said ring-plate and forming a fire-zone chamber, a fire-pot seated upon the inner lower edge of said inverted trough, a conical plate seated upon the apex of said inverted trough and including its inner wall forming an air-chamber around the fire-pot, and revertible flue-pipes connected to the outer wall of said inverted trough.

2. In a hot-air furnace, an inclosing casing, a base, a grate, a ring-plate, supporting the grate, a trough-ring inverted upon said ring-plate and forming a fire-zone chamber, a fire-pot seated upon the inner lower edge of said inverted trough, a conical plate seated upon the apex of said inverted trough and against the outer wall of the fire-pot and including the inner wall of said inverted trough forming an air-chamber around the fire-pot, a flue-pipe partially surrounding the base, revertible flue-pipes connecting the base-pipe and the outer wall of said inverted trough, a dome forming the combustion-chamber, a valved exit-pipe connecting the crown of the dome, a flue-pipe partially surrounding the dome, a plurality of flue-pipes connecting the base flue-pipe with the flue-pipe around the dome, a flue-pipe partially surrounding the crown of the dome and intersecting the exit-pipe, and a pipe connecting each end of said top flue-pipe with each side of the flue-pipe around the dome.

4. In a hot-air furnace including an inclosing casing, a grate, a ring-plate supporting the grate, a trough-ring inverted upon the circumference of said ring-plate and forming a fire-zone chamber, a fire-pot seated upon the inner lower edge of said inverted trough, a conical plate seated upon the apex of said inverted trough and including its inner wall having perforations around its inner lower edge forming an air-chamber around the fire-pot, and revertible flue-pipes depending from the outer wall of said inverted trough.

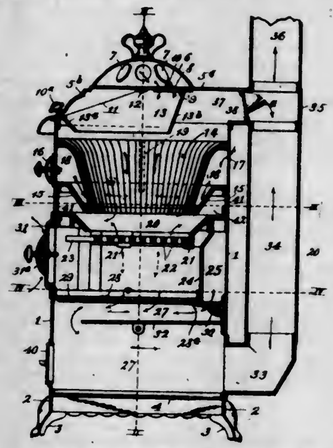
5. In a hot-air furnace, including an inclosing casing, a grate, a ring-plate supporting the grate, a trough-ring inverted upon the circumference of said ring-plate and forming a fire-zone chamber, a fire-pot seated upon the inner lower edge of said inverted trough-ring, a conical plate seated upon the apex of said inverted trough-ring and including its inner wall forming an air-chamber around the fire-pot, said trough-ring being provided with perforations in the base edge of said inner wall opening into the fire zone and spaces at the seating of the fire-pot upon said wall edge opening into the fire-pot, and revertible flue-pipes depending from the outer wall of said inverted trough-ring.

6. In a hot-air furnace, an inclosing casing, a grate, a fire-pot, an inverted ring-trough surrounding the base of the fire-pot and including the grate forming the fire zone, revertible flue-pipes depending from the outer wall of said inverted ring-trough, a base flue-pipe connecting the revertible flue-pipes, a dome forming the combustion-chamber, a smoke-pipe connecting the dome and having a direct-draft-controlling damper, and a plurality of vertical and horizontal flue-pipes connecting the base flue-pipe with the smoke-pipe between the controlling-damper of the latter and the exit for the purpose stated.

7. In an air-heating furnace and including an inclosing casing, a grate, a ring-supporting plate therefor, an inverted ring-trough provided with an inward-projecting edge seated upon the circumference of said ring-plate and with it and the grate forming a fire zone, a fire-pot supported upon the inward-projecting edge of the inverted trough, and revertible flue-pipes depending from the outer wall of said inverted ring-trough.

8. In an air-heating furnace, an inclosing casing, a grate, a ring-supporting plate therefor, an inverted trough-ring forming with said plate and the grate, the fire zone, a fire-pot supported upon an inner edge of the inverted trough, revertible flue-pipes depending from the outer wall of said inverted trough, and a ring-plate seated on the top of said trough and with its inner wall and outer wall of the fire-pot, forming an air-chamber, the bottom of said trough at its inner end having perforations opening into said chamber and into the fire zone and openings leading from said chamber into the fire-pot at its lower edge.

843,105. SMOKE-CONSUMING HEATER. CORNELIS F. A. RÖELL, Independence, Mo., assignor to Roell Manufacturing Co., a Corporation of Missouri. Filed Dec. 5, 1905. Serial No. 290,338.



Claim.—1. In a heater, the outer shell, a fire-pot fitting at its top therein, an annulus fitted within the shell and around the lower edge of the fire-pot, the shell being provided with oppositely-disposed air inlet and outlet, and two upright deflecting-plates connecting the inner surface of the shell with the outer surface of the fire-pot, and extending from the top of the latter downward and partly into the annulus leaving air-passages below the deflecting-plates between the fire-pot and the annulus.

2. In a heating-stove, the outer shell, a fire-pot therein, an annulus fitted to the shell and to the lower edge of the fire-pot, the shell being provided with an air-inlet and an air-outlet, oppositely disposed, and two upright deflecting-plates arranged midway between the said inlet and outlet, connecting the inner surface of the shell with the outer surface of the fire-pot and extending from the top of the latter downward and partly into the annulus, leaving air-passages below the deflecting-plates between the fire-pot and the annulus.

3. In a heating-stove, the outer shell provided with air-inlet and air-outlet openings oppositely disposed; combined with a downwardly-tapering fire-pot fitting at its top within the shell above said openings, an annulus around its lower edge fitting within the shell below said openings, a second fire-pot below the first and fitting within the shell, its walls having openings, an ash-pit whose upright wall is spaced from the shell forming a draft-passage communicating with the openings in the fire-pot, and properly-dampered inlets for fresh air and flues for the products of combustion.

4. In a heating-stove, the outer shell provided with air-inlet and air-outlet openings oppositely disposed; combined with a downwardly-tapering fire-pot fitting at its top within the shell above said openings, a downwardly-tapering annulus fitting at its upper edge within the shell below said openings and its lower edge around the lower edge of said fire-pot, a second fire-pot below the annulus and whose walls form with the annulus an annular space around the latter, said walls having openings communicating with this space, a draft-passage communicating with the openings in the fire-pot, and a smoke-flue communicating with said draft-passage.

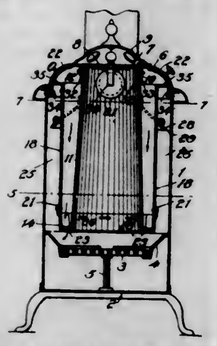
5. In a heating-stove, the outer shell provided with air-inlet and air-outlet openings oppositely disposed; combined with a downwardly-tapering fire-pot fitting at its top within the shell above said openings, an annulus fitting around its lower edge and within the shell below said openings, a second fire-pot below the first, a reinforcing heat-resisting ring within the shell between said annulus and the second fire-pot, and openings and flues for the admission of air and the discharge of smoke.

6. In a heating-stove, the outer shell, a main fire-pot therein, and an annulus around its lower edge and fitting within the shell; combined with a second fire-pot below the first and having openings in its walls near said shell, communications between these openings and the smoke-flue, and a ring of heat-resisting material fitting within the shell between said annulus and the second fire-pot.

7. In a heating-stove, the combination with the shell having a transverse passage for air, and the main fire-pot around which said passage is directed; of a second fire-pot below the first having openings for the escape of the products of combustion, and an annulus interposed between the fire-pots and separating the fire-pot from said air-passage.

8. In a heating-stove, an upright cylindrical shell having dampered openings for the inlet of air and the escape of smoke; combined with a main fire-pot near the top of the shell, a second and shallow fire-pot below the first and having segmental openings, a grate, an upright wall spaced from the shell and contacting with said shallow fire-pot to produce an ash-pit below the grate and a surrounding draft-passage communicating with said openings, a plate closing the bottom of the ash-pit and forming a hot-air chamber below it, and a deflecting-plate standing nearly horizontal within said chamber, for the purpose set forth.

843,106. MAGAZINE-STOVE. CORNELIS F. A. RÖELL, Independence, Mo., assignor to Roell Manufacturing Company, Independence, Mo., a Corporation of Missouri. Filed Apr. 18, 1906. Serial No. 312,356.



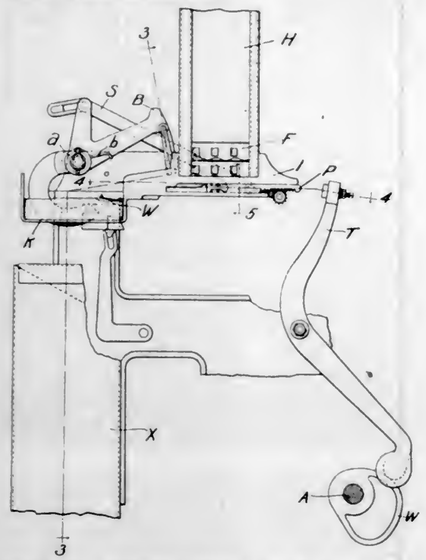
Claim.—1. In a stove, a casing, a magazine, a ring formed of an open-top trough part and a cover for said trough part formed of two segmental plates, a pair of air-feeding pipes opening into said trough part, one on each side of the magazine fitted and secured upon its walls and against the sides of which pipes the ends of the segmental plates abut, and means for securing the segmental plates to the trough part and to the magazine.

2. In a stove, a casing, a magazine having valved apertures in its walls at its upper end, a hollow ring at the base of the magazine, a pair of air-inlet pipes open at the top of the stove and opening into said ring and having communication with the magazine by its top wall valved apertures whereby the pressure of gases in the upper part of the magazine is relieved and the gases caused to pass into and down the air-feeding pipes into the ring thereby charging the air with gas before it is delivered into the fire.

3. In a magazine-stove, a casing, a top casting, a magazine, a grate, a ring formed of a trough part and segmental covering-plates therefor, each plate bolted to the magazine, the trough part having delivering-openings and bolted to the covering-plates, and air-inlet pipes opening into the top of the trough-ring and bolted to the outer wall thereof.

4. In a stove, a casing, a suspended magazine, a grate, a hollow ring at the lower edge of the magazine, the outer wall of said ring having offsets at opposite sides of its diameter and rims rising from the vertical walls of said offsets, segmental plates forming covers for the hollow ring, air-feeding pipes forming joints with the offset rims, the said segmental plates secured to the magazine, and the said hollow ring secured to the said segmental plates.

843,107. WEFT-REPLENISHING LOOM. WALTER F. ROPER, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Oct. 16, 1905. Serial No. 282,950.



Claim.—1. A weft-replenishing loom having, in combination, a stationary magazine, a horizontal guideway beneath said magazine extending forward thereof, a stack of superimposed cages resting on each other and supported on said guideway within said magazine, each of said cages holding a plurality of weft-carriers, feeding mechanism coöperating with the lowermost and active cage, a transferrer which automatically transfers the forward weft-carrier in the active cage into weaving position in the loom, a fixed stop coöperating with said forward weft-carrier to register it with the transferrer, a connection between said transferrer and feed mechanism to move said feeding mechanism in one direction, and a cam-actuating restorer to move said feeding mechanism and the active cage into the opposite direction.

2. A weft-replenishing loom having, in combination, a stationary magazine, a horizontal guideway beneath said magazine extending forward thereof, a stack of superimposed cages resting on each other and supported on said guideway within said magazine, each of said cages holding a plurality of weft-carriers, feeding mechanism coöperating with the lowermost and active cage, a transferrer which automatically transfers the forward weft-carrier in the active cage into weaving position in the loom, and means for automatically actuating said feeding mechanism each time the transferrer acts.

3. A weft-replenishing loom having, in combination, a magazine, a guideway beneath said magazine extending forward thereof, a stack of superimposed cages resting on each other and supported on said guideway within said magazine, each of said cages holding a plurality of weft-carriers, feeding mechanism coöperating with the lowermost and active cage, a transferrer which automatically transfers the forward weft-carrier in the active cage into weaving position in the loom, and means for automatically actuating said feeding mechanism each time the transferrer acts.

4. A weft-replenishing loom having, in combination, a magazine, a guideway beneath said magazine extending forward thereof, a stack of superimposed cages resting on each other and supported on said guideway within said magazine, each of said cages holding a weft-carrier, feeding mechanism coöperating with the lowermost and active cage, a transferrer which automatically transfers a weft-carrier from the active cage into weaving position in the loom, and means for automatically actuating said feeding mechanism each time the transferrer acts.

5. A weft-replenishing loom having, in combination, a magazine, a plurality of cages within said magazine, each of said cages holding a plurality of weft-carriers, feeding mechanism coöperating with said cages, and a transferrer which automatically transfers the coöperatively-located weft-carrier into weaving position in the loom.

6. A weft-replenishing loom having, in combination, a magazine, a plurality of cages each holding a weft-carrier, feeding mechanism coöperating with said cages, and a transferrer which automatically transfers a weft-carrier from the coöperatively-located cage into weaving position in the loom.

7. A weft-replenishing loom having, in combination, a plurality of independent cages, each having means to removably hold a weft-carrier at both of its ends, and automatic means for removing said weft-carriers from their cages.

8. A weft-replenishing loom having, in combination, a plurality of cages each adapted to hold a plurality of removable weft-carriers, and automatic means for removing said weft-carriers from their cages.

9. A weft-replenishing loom having, in combination, a plurality of cages each adapted to hold a removable weft-carrier, and automatic means for removing said weft-carriers from their cages.

10. A weft-replenishing loom having, in combination, a guideway, a cage holding a plurality of weft-carriers and supported on said guideway, said cage having on each side outwardly-projecting feed-lugs beveled on their forward faces, two horizontally-sliding racks geared together on opposite sides respectively of said cage, a spring-controlled pawl pivoted to each rack and adapted to engage said feed-lugs, said pawls riding idly over said feed-lugs when moved backwardly and acting on said lugs to feed the cage when moving forwardly, a reciprocating transferrer which ejects the forward weft-carrier in said cage, an actuating-link pivoted to one of said racks, a pin-and-slot connection between said actuating-link and transferrer whereby the transferrer moves the racks backwardly on its weft-carrier-ejecting movement, but has no effect when moving in the other direction, a restorer to move said racks forward, and a rotary cam to move said restorer.

11. A weft-replenishing loom having, in combination, a guideway, a weft-carrier cage supported on said guideway, said cage having on each side outwardly-projecting feed-lugs, two sliding racks moving in unison on opposite sides respectively of said cage, a spring-controlled pawl pivoted to each rack and engaging said feed-lugs, said pawls riding idly over said feed-lugs when moved backwardly and acting on said lugs to feed the cage when moving forwardly, a reciprocating transferrer which ejects the forward weft-carrier in said cage, an actuating-link pivoted to one of said racks, a connection between said actuating-link and transferrer whereby the transferrer moves the racks backwardly on its weft-carrier-ejecting movement, but has no effect when moving in the other direction, a restorer to move said racks forward, and a rotary cam to move said restorer.

12. A weft-replenishing loom having, in combination, a guideway, a weft-carrier cage on said guideway, said cage having outwardly-projecting feed-lugs, a sliding rack, a pawl on said rack engaging said feed-lugs, a transferrer which ejects a weft-carrier in said cage, means for moving the rack backwardly at each action of the transferrer, and a restorer independent of said transferrer to move said rack forward.

13. A weft-replenishing loom having, in combination, a lay, an automatically-threading shuttle, a cage, a support for said cage, a weft-carrier held by said cage with its butt toward the selvage of the cloth, a weft-end holder on the cage between the weft-carrier butt and the cloth selvage, a thread-guide near the weft-carrier tip for the thread on its way from the weft-carrier to said weft-end holder, and a transferrer which automatically transfers said weft-carrier from said cage into the shuttle on the lay.

14. A weft-replenishing loom having, in combination, a lay, an automatically-threading shuttle, a cage, a support for said cage, a weft-carrier held by said cage with its butt toward the selvage of the cloth, a weft-end holder at the inner side of the cage next the cloth selvage, a thread-guide near the weft-carrier tip for the thread on its way from the weft-carrier to said weft-end holder, and a transferrer which automatically transfers said weft-carrier from said cage into the shuttle on the lay.

15. A weft-replenishing loom having, in combination, a lay, an automatically-threading shuttle, a cage, a weft-carrier held by said cage with its butt toward the selvage of the cloth, a weft-end holder at the side of the cage next the cloth selvage, a thread-guide near the weft-carrier tip for the thread on its way from the weft-carrier to said thread-holder, and a transferrer which automatically transfers said weft-carrier from said cage into the shuttle on the lay.

16. A weft-replenishing loom having, in combination, an automatically-threading shuttle, a cage, a weft-carrier held by said cage, a weft-end holder at the side of the cage next the cloth selvage, and a transferrer which automatically transfers said weft-carrier from said cage into the shuttle.

17. A weft-replenishing loom having, in combination, a guideway for weft-carrier cages, each of said cages having a series of notches on the lower edge of its inner side, means for feeding said cages step by step along said guideway, means for ejecting the weft-carriers one by one from said cages, an inclined delivery-chute for receiving and discharging the spent cages, and a spring-finger engaging said notches in succession to steady each cage until wholly over said delivery-chute.

18. A weft-replenishing loom having, in combination, a guideway for weft-carrier cages, means for feeding said cages step by step along said guideway, means for ejecting the weft-carriers one by one from said cages, and an inclined delivery-chute for receiving and discharging the spent cages.

19. A weft-replenishing loom having, in combination, weft-carrier cages, means for feeding said cages step by step, means for automatically ejecting the weft-carriers one by one from said cages, and means for receiving and discharging the spent cages.

20. A weft-replenishing loom having, in combination, weft-carrier cages, means for automatically feeding said cages, means for automatically ejecting the weft-carriers from said cages, and a receiver for the spent cages.

21. A weft-replenishing loom having, in combination, a guideway, a cage on said guideway having feed-lugs, and feed mechanism acting on said lugs, said lugs being uncontrollable by said feeding mechanism if the cage is misplaced on the guideway.

22. A weft-replenishing loom having, in combination, a guideway, a cage moving thereon and a brake acting on said cage.

23. A weft-replenishing loom having a magazine holding weft-carrying cages, said magazine and cages being relatively unsymmetrical to obviate misplacing the cages in the magazine.

24. A cage for a weft-replenishing loom adapted to hold and carry a plurality of weft-carriers, said cage having a socket for the butt of each weft-carrier, a yielding latch for the tip of each weft-carrier (each socket having means to prevent displacement of its weft-carrier except by a lengthwise movement thereof, involving the yielding of the corresponding latch,) a weft-end holder on the outer wall of the inner side of the cage for each weft-carrier, a guide on each latch for the thread on its way from the weft-carrier to the proper weft-end holder, and thread-grooves in the inner side of the cage to protect each thread on its way to its weft-end holder.

25. A cage for a weft-replenishing loom adapted to hold and carry a plurality of weft-carriers, said cage having a

socket for the butt of each weft-carrier, a yielding latch for the tip of each weft-carrier (each socket having means to prevent displacement of its weft-carrier except by a lengthwise movement thereof, involving the yielding of the corresponding latch,) a weft-end holder on the outer wall of the inner side of the cage for each weft-carrier and a guide on each latch for the thread on its way from the weft-carrier to the proper weft-end holder.

26. A cage for a weft-replenishing loom adapted to hold and carry a plurality of weft-carriers, said cage having a socket for the butt of each weft-carrier, a yielding latch for the tip of each weft-carrier (each socket having means to prevent displacement of its weft-carrier except by a lengthwise movement thereof, involving the yielding of the corresponding latch,) a weft-end holder on the outer wall of the inner side of the cage for each weft-carrier, and a guide at the weft-carrier tip for the thread on its way from the weft-carrier to the proper weft-end holder.

27. A cage for a weft-replenishing loom adapted to hold and carry a plurality of weft-carriers, said cage having a socket for the butt of each weft-carrier, a yielding latch for the tip of each weft-carrier, and a weft-end holder for each weft-carrier.

28. A cage for a weft-replenishing loom adapted to hold and carry a plurality of weft-carriers having a weft-end holder for each weft-carrier.

29. A cage adapted to hold and carry a weft-carrier, said cage having a weft-end holder on the outer wall of one side, and thread-grooves in said side to protect the thread on its way to its weft-end holder.

30. A weft-replenishing loom having, in combination, an automatically-threading shuttle, a plurality of spare weft-carriers, means for feeding said weft-carriers into transferring position, weft-end holders between the weft-carriers and the cloth selvage, said weft-end holders advancing with their respective weft-carriers, and a transferrer which automatically transfers said weft-carriers into weaving position in the loom.

31. A weft-replenishing loom having, in combination, a lay, a plurality of spare weft-carriers, means for feeding said weft-carriers into transferring position, weft-end holders between said weft-carriers and the cloth selvage, said weft-end holders advancing with the respective weft-carriers, thread-guides near the other ends of said weft-carriers for the threads on their way from the weft-carriers to said holders, said guides advancing with their respective weft-carriers, and a transferrer which automatically transfers said weft-carriers into weaving position in the loom.

32. A weft-replenishing loom having, in combination, a plurality of spare weft-carriers, means for feeding said weft-carriers into transferring position, weft-end holders between the weft-carriers and the cloth selvage, said weft-end holders advancing with their respective weft-carriers, and a transferrer which automatically transfers said weft-carriers into weaving position in the loom.

33. A cage adapted to hold and carry a weft-carrier, said cage having a socket for the butt of each weft-carrier, said socket having means to permit displacement of its weft-carrier only by a lengthwise movement thereof, and a yielding latch for the tip of the weft-carrier, said latch in yielding moving in a direction away from the socket.

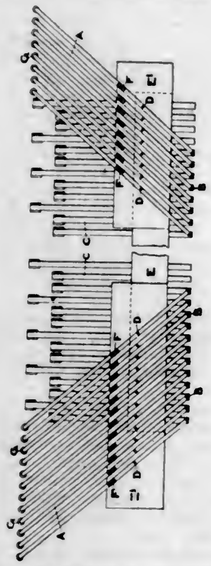
34. A detachable cage for an automatic weft-replenishing loom having means to removably hold both ends of a weft-carrier.

35. A detachable cage for an automatic weft-replenishing loom having means to grasp and hold a plurality of removable weft-carriers.

36. A detachable cage for an automatic weft-replenishing loom having means to grasp and hold a removable weft-carrier, and having also a weft-end holder.

843,108. MECHANICAL PIANO-PLAYER. JOSEPH ROWLEY, Ossett, England. Filed Mar. 26, 1906. Serial No. 308,094.

Claim.—In a mechanical pianoforte-player, the combination, with a supporting-bar, and a series of finger-levers arranged crosswise of the said bar and underneath it and adapted to strike the keys of a piano; of a series of pivots projecting from the top of the said bar, a series of guide-pins also projecting from the top of the said bar, a series of octave-fingers fulcrumed on the said pivots and provided with slots which slide over the said guide-pins, said



octave-fingers being arranged obliquely of the said finger-levers and bar and having their rear ends operatively connected with the said finger-levers, and a series of downwardly-projecting plungers carried by the front ends of the said octave-fingers.

843,109. PIE-PAN. BELLE C. SABIN, Chicago, Ill. Filed Feb. 15, 1906. Serial No. 301,198.



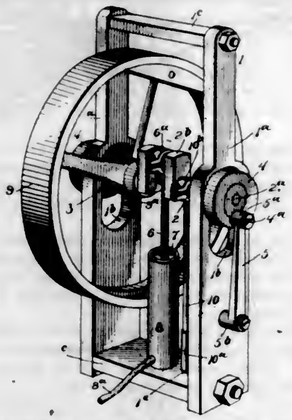
Claim.—1. In a pie-pan or the like, the combination of a pan having a flange formed on its outer rim, a groove or trough on the outside of said flange, and an auxiliary rim having a bead on its inner edge, a flange provided with extensions and a groove or trough corresponding with said groove or trough on the pan.

2. In a pie-pan or the like, the combination of a pan having a flange formed on its outer rim, a groove or trough outside of said flange, and an auxiliary rim comprising a flange, and a groove or trough corresponding with said groove or trough on said rim of the pan and arranged to force the pie-crust into said groove or trough on the rim of the pan, substantially as described.

843,110. MECHANICAL MOVEMENT. ABEL SACK, Ashton, Nebr. Filed Nov. 30, 1906. Serial No. 345,800.

Claim.—1. An apparatus of the class described, comprising a supporting-framework having guides, a shaft held in said framework and mounted in said guides, crank-carrying disks secured at each end to said shaft, a fixedly-held member secured to the supporting-frame and coöperating with said crank-disks, a fly-wheel mounted on said crank-shaft within said framework, said crank-shaft having a crank, a piston-rod connected to said crank, and a reciprocable rod connected with said shaft, substantially as shown and described.

2. An apparatus of the class described, comprising the combination with a supporting-frame having elongated guideways, a shaft mounted therein, friction-rollers on said shaft within said guideways, said shaft projecting through said guideways, crank-disks carried by the ends of said shaft, said crank-disks having cranks, friction-wheels mounted on said cranks, fixed members secured to the supporting-framework for engaging said friction-wheels, means for moving said shaft in its guideways, said shaft having a crank, and means for transmitting motion connected with said crank.



3. An apparatus of the class described, comprising the combination with a supporting-frame having elongated guideways, a shaft mounted therein, friction-rollers on said shaft within said guideways, said shaft projecting through said guideways, crank-disks carried by the ends of said shaft, said crank-disks having cranks, friction-wheels mounted on said cranks, fixed members secured to the supporting-framework for engaging said friction-wheels, means for moving said shaft in its guideways, said shaft having a crank, means for transmitting motion connected with said crank, and a fly-wheel carried by said shaft.

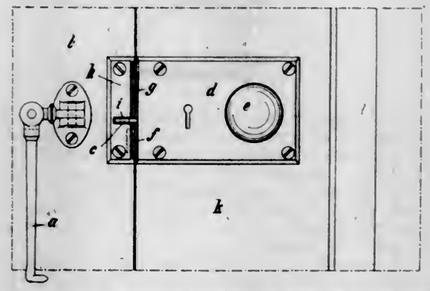
4. The combination with a supporting-framework having guideways, of a shaft journaled therein, friction-wheels carried by said shaft in said guideways, crank-carrying disks secured to said shaft at its ends, friction-wheels carried by the cranks of said disks, fixed members carried by the supporting-frame for coöperating with said friction-wheels, a rod connected with said shaft, said shaft having a crank, a rod connected with said crank, and a fly-wheel carried by said shaft, all being so arranged that when power is applied to one of said rods, the same is transmitted through the medium of the other rod, substantially as shown and described.

5. The combination with a supporting-framework having guideways, of a shaft journaled therein, friction-wheels carried by said shaft in said guideways, crank-carrying disks secured to said shaft at its ends, friction-wheels carried by the cranks of said disks, fixed members carried by the supporting-frame for coöperating with said friction-wheels, a rod connected with said shaft, said shaft having a crank, a rod connected with said crank, a fly-wheel carried by said shaft, a piston connected to said crank-connected rod, and a cylinder carried by the supporting-frame for coöperating with said piston substantially as shown and described.

6. The combination with a supporting-framework having guideways, of a shaft journaled therein, friction-wheels carried by said shaft in said guideways, crank-carrying disks secured to said shaft at its ends, friction-wheels carried by the cranks of said disks, fixed members carried by the supporting-frame for coöperating with said friction-wheels, a rod connected with said shaft, said shaft having a crank, a rod connected with said crank, a fly-wheel carried by said shaft, a piston connected to said crank-connected rod, and a cylinder carried by the supporting-frame for coöperating with said piston, said first-mentioned shaft-connected rod projecting through a bearing-aperture in the supporting-frame to guide the same, substantially as shown and described.

7. An apparatus of the class described, comprising a supporting-framework having guides, a shaft held in said framework and mounted in said guides, crank-carrying disks secured at each end to said shaft, a member secured to the supporting-frame at each side and coöperatively connected with the cranks of the crank-carrying disks, a fly-wheel mounted on the crank-shaft within the framework, said crank-shaft having a crank, a piston-rod connected to said crank, and a reciprocable rod connected with said shaft substantially as shown and described.

843,111. FASTENER FOR DOORS, WINDOWS, AND THE LIKE. ERNST W. F. SACHSE, Hamburg, Germany. Filed Mar. 31, 1906. Serial No. 309,132.



Claim.—1. The combination with a door, of a lock thereon, an eye on the lock in proximity to the usual locking-bolt thereof and a hook hinged to the door-jamb, said hook adapted to engage the eye and be held therein by the bolt when thrown, substantially as described.

2. The combination with a door having a lock provided with the usual locking-bolt, of a hook hinged to the jamb, and a slidable eye in the lock proximate the locking-bolt, said hook adapted to enter the eye and be locked against removal therefrom when the bolt is thrown, substantially as described.

3. The combination with a door having a lock provided with the usual locking-bolt, of a hook hinged to the jamb, a sliding member on the lock proximate to and below the bolt, and a member fixed on the sliding member, said hook adapted to be locked in engagement between either the sliding member or the member fixed thereon and the bolt, when the latter is thrown.

4. A fastener for doors consisting of a hook pivotally attached to the frame of the door and a night-bolt on the door having at its front end a perforation thus forming an eye into which the hook engages, when the door is partly open, in combination with a lock-bolt adapted to lock the hook, when it engages the eye.

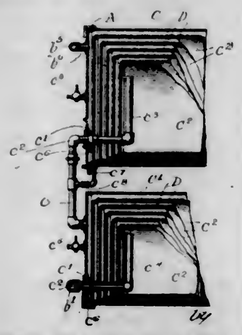
5. A fastener for doors consisting of a hook pivotally attached to the frame of the door, and a night-bolt slidable in the lock of the door and having at its front end a perforation thus forming an eye into which the hook may engage, and a second perforation in the thumb-piece of the said bolt, into either of which perforations the hook may engage, when the door is partly open, in combination with a lock-bolt adapted to lock the hook, when it engages one of the perforations.

843,112. CARBURETER. VERNE C. SEVERANCE, Chicago, Ill. Filed Mar. 3, 1906. Serial No. 303,962.

Claim.—1. In a carbureter, a carbureting-chamber comprising an outer tank, an inner tank of smaller diameter than the outer tank eccentrically disposed with respect thereto and supported upon the bottom thereof, an air-

inlet extending into and near the top of the inner tank, and an outlet in the outer tank.

2. In a carbureter, the combination with a hydrocarbon-tank, of a tank of smaller diameter within the same and forming an air-passage between the walls of the outer and inner tanks, an air-passage in the end wall of the inner tank, and a hydrocarbon-passage in the bottom of the inner tank, an air-inlet, a gas-outlet, and a wick supported in the air-passage between the two tanks.



3. In a carbureter, the combination with an outer tank, of a plurality of eccentrically-disposed inner cylindrical vaporizing-tanks of gradually-decreasing size, placed with their points of greatest separation at their upper ends, each tank having air communication with its adjacent tank through one of its end walls and having a hydrocarbon passage-way through its lower side, an air-inlet passage and a gas-outlet passage.

4. In a carbureter, the combination with an outer tank, of a plurality of eccentrically-disposed inner tanks of gradually-decreasing size, placed with their greatest distance apart at their upper ends and forming vaporizing-chambers with their upper portions, each chamber having communication with its adjacent one through an opening in the end wall of the tank, and all of said inner tanks being immersed in the hydrocarbon, wicks extending around the tanks, an air-inlet passage and a gas-outlet passage.

5. In a carbureter, the combination with a carbureting-tank, of a second tank within the first-named tank, an air-passage from the inner to the outer tank, through the end wall of the inner tank, an opening in the bottom of the inner tank through which the hydrocarbon may enter, a wick interposed in the chamber located between the two tanks, an air-inlet pipe extending through the outer and into the inner tank and terminating at a point near the upper wall of the inner tank, a gas-outlet pipe communicating with the outer tank, a filling-pipe connected to the gas-outlet pipe, and valves interposed in the filling-pipe and gas-outlet pipe at points adjacent to their juncture.

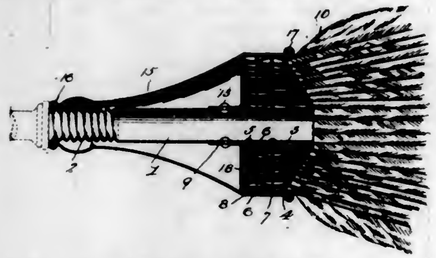
6. In a carbureter, the combination with an outer tank for containing the hydrocarbon, of an inner tank supported therein, an air-passage between the two tanks opening through the end wall of the inner tank, an opening in the bottom of the inner tank, an air-inlet opening into the inner tank, a gas-outlet opening from the outer tank, a wick wrapped around the inner tank, and means upon the inner tank for securing the wick in place.

7. In a carbureter, the combination with an outer tank for containing the hydrocarbon, of an inner tank supported therein, an air-passage between the two tanks opening through the end wall of the inner tank, an opening in the bottom of the inner tank, an air-inlet opening into the inner tank, a gas-outlet opening from the outer tank, a wick wrapped around the inner tank, and pins upon the inner tank for securing the wick in place.

843,113. FEATHER DUSTER. JAMES E. SNEVELY, San Francisco, Cal. Filed Apr. 9, 1906. Serial No. 310,684.

Claim.—1. In a brush of the character described, the central tube, a coiled binder-strip attached thereto and having its edge receding as a tapered helix, and brush-stock between the coils of the binder-strip.

2. In a brush of the character described, a central tube, a tapering binder-strip coiled thereon, and brush-stock secured between the coils of the binder-strip.

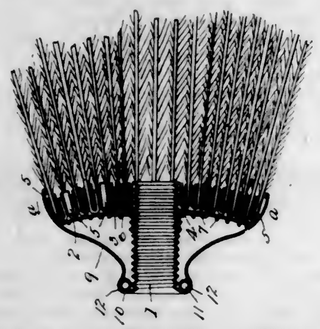


3. In a brush of the character described, a central core, a coiled binder-strip, and coiled binding-wires alternately inside and outside of layers of brush-stock, and brush-stock arranged as described, whereby the stock is crimped by the wires.

4. In a brush of the character described, a central core, a binder-strip secured thereto and having a thickened edge, and brush-stock secured between coils of the binder-strip, the thickened edge of the binder-strip forming a tapered helix, as set forth.

5. The combination with a tubular core, of the brush-stock arranged in coiled layers about the same, a cup surrounding the coiled stock, and a conical sleeve or cuff crimped to the cup and to the tubular core.

843,114. FEATHER DUSTER. JAMES E. SNEVELY, San Francisco, Cal. Filed Sept. 13, 1906. Serial No. 334,424.



Claim.—1. In a brush a base, a plain coiled strip secured thereon, a crimped strip intermediate the coils of the plain strip forming a series of sockets, and feathers having their shafts secured in the sockets.

2. In a brush, the combination of a base, a flat coiled strip secured thereon, a crimped strip intermediate the coils of the flat strip, and a plurality of feathers having their shafts inserted in the sockets provided between the crimped and flat strips.

3. In a brush, the combination of a base, a flat coiled strip secured thereon, a crimped strip intermediate the coils of the flat strip, and a plurality of feathers having their shafts inserted in the sockets provided between the crimped and flat strips and bent under the flat strip.

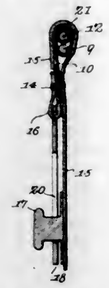
4. In a brush, the combination of a base, a flat coiled strip secured thereon, a crimped strip intermediate the coils of the flat strip, and a plurality of feathers having their shafts inserted in the sockets provided between the crimped and flat strips and bent under the flat strip and carried up on the other side of the flat strip.

5. In a brush, the combination of a tube, a disk thereon, a coiled metal strip on the disk, a plurality of feathers having their shafts between the coils of the strip and one or more strands passing over the strips and through perforations in the disk securing the strips in position.

6. In a brush, the combination of a threaded tube, a disk thereon, a coiled flat-metal strip adjacent to the disk, a crimped metal strip lying intermediate the coils of the flat strip, a plurality of feathers having their shafts secured between the crimped and flat strips and bent under the bottom edges of said strips, one or more strands passing over said strips and through perforations in the disk serving to retain the strips in position, a ring, and a cuff covering the tube, disk, and ends of the feather-shafts and secured to the tube by crimping about the ring thereon.

7. In a brush, the combination of a base, feathers, and one or more strips coiled on the base, between the coils of which the feathers are secured, and sewed to the base by strands passing over the strips and through perforations in the base.

843,115. HOSE-SUPPORTER. JOHN H. STOLTZFUS, Laurel, Miss. Filed June 18, 1906. Serial No. 322,302.



Claim.—1. In a device of the class described, a supporting member, a garment-engaging member having a suspension-loop, a flexible connection between the supporting member and suspension-loop, and a reinforcing-plate interposed between the walls of the loop and having one end thereof bent into engagement with the terminals of the flexible connection.

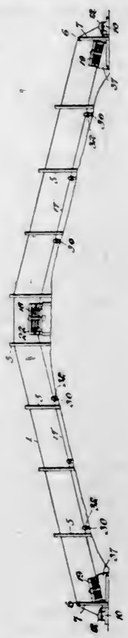
2. In a device of the class described, a supporting member, a garment-engaging member having an intermediate suspension-loop, a flexible connection between the supporting member and suspension-loop, and a reinforcing-plate interposed between the walls of the loop and having one end thereof bifurcated to form a plurality of tongues adapted to be bent into engagement with the terminals of the flexible connection.

3. In a device of the class described, a supporting member, a garment-engaging member having a suspension-loop, a flexible connection between the supporting member and suspension-loop, and a reinforcing-plate interposed between the walls of the loop and having one end thereof bifurcated to form a plurality of tongues adapted to be bent into engagement with the terminals of the flexible connection, the bifurcated end of the plate being subsequently bent upon itself to engage the adjacent portion of the flexible connection at the terminals thereof.

4. In a device of the class described, a supporting member, a garment-engaging member having one end thereof provided with a button and its opposite end formed with a suspension-hook adapted to engage said button, a reinforcing-plate interposed between the walls of the garment-engaging member and having one end thereof bent laterally to form a curved bearing-surface for the intermediate portion of the garment-engaging member, and a flexible connection between the supporting member and the garment-engaging member and having its terminals passing through the bent portion of the reinforcing-plate.

5. In a device of the class described, a supporting member, a cord extending from said member, a reinforcing-plate provided with a plurality of tongues adapted to be bent into engagement with the terminals of the cord, said plate being subsequently bent upon itself to engage the adjacent portion of the cord at said tongues, a garment-engaging member supported upon the curved end of the reinforcing-plate, and fastening devices passing through the garment-engaging member and reinforcing-plate.

843,116. AERIAL CABLE. GIOVANNI STRAMBINI, Truckee, Cal. Filed Sept. 5, 1906. Serial No. 333,296.



Claim.—1. In an apparatus of the class described, the combination with opposite tracks, of a pair of actuating-cables having opposite sides or stretches traveling in opposite directions and arranged in position for moving the cars or loads along the tracks in opposite directions, terminal pulleys receiving the outer portions of the actuting-cables, and an intermediate pulley receiving the inner or proximate portions of both of the actuating-cables.

2. In an apparatus of the class described, the combination with supports, of hangers mounted on the supports, a track-cable supported by the hangers, and a terminal tension device comprising a windlass shaft or drum provided with spaced ratchet heads or wheels and receiving the track-cable, and pawls or dogs engaging the ratchet heads or wheels.

3. In an apparatus of the class described, the combination of intermediate supports having hangers, a terminal support provided with pulleys, track-cables supported by the hangers and arranged on the said pulleys, and a terminal tension device comprising windlass shafts or drums receiving the track-cable and provided with spaced ratchet heads or wheels, and pawls or dogs engaging the ratchet heads or drums.

4. In an apparatus of the class described, the combination with opposite tracks, of intermediate and terminal pulleys, actuating-cables arranged on the pulleys and having opposite sides or stretches traveling in opposite directions and arranged with relation to the said tracks for actuating loads supported by the same, guides arranged in pairs at the said pulleys and receiving the stretches of the actuating-cables, and intermediate guides open at the top to permit the actuating-cables to be lifted from them.

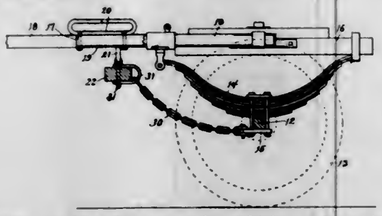
5. In an apparatus of the class described, the combination with track-cables, of fixed and slidable frames, pulleys

mounted in the said frames, and actuating-cables arranged on the pulleys and having opposite sides or stretches traveling in opposite directions, and means for adjusting the slidable frame.

6. In an apparatus of the class described, the combination with track-cables, of a terminal tension device having shafts or windlasses connected with the track-cables, an actuating-cable having side stretches traveling in opposite directions, a slidable frame carrying a pulley receiving the actuating-cable, and adjusting means connecting the slidable frame with the tension device.

7. In an apparatus of the class described, the combination with a track-cable and an actuating-cable, of a pulley receiving the actuating-cable and provided with a groove, and a band-brake having a strap or band arranged in the groove of the said pulley.

843,117. FRONT GEAR FOR VEHICLES. CHARLES G. STREICH, Oshkosh, Wis. Filed Feb. 8, 1906. Serial No. 300,057.



Claim.—1. In a front gear for vehicles, a frame having hounds, bearing-plates on top of the hounds provided with shoulders at their ends forming stops, a hanger mounted on the bearing-plates and capable of moving between the stops, an evener-bar swinging from the hanger beneath the hounds, and means for connecting the evener-bar with the axle of the vehicle.

2. In a front gear for vehicles, a frame having hounds, bearing-plates on the hounds, a hanger mounted on the bearing-plates and capable of moving thereon, an evener-bar having means for releasably engaging the hanger whereby it is suspended beneath the hounds, means for preventing accidental disengagement of the hanger from the evener-bar, and means connecting the evener-bar with the axle of the vehicle.

3. In a front gear for vehicles, a frame having hounds, bearing-plates on the hounds, a hanger mounted on the bearing-plates and capable of moving thereon, said hanger having its ends projecting in the same direction to form engaging hooks, an evener-bar provided with eyes to receive the hooked ends of the hanger whereby the evener-bar is suspended beneath the hounds by means of the hanger, a movable stop adapted to stand in the path of one of the ends of the hanger and prevent its removal from the eye of the evener-bar, and means for connecting the evener-bar with the axle of the vehicle.

4. In a front gear for vehicles, a frame having hounds, bearing-plates on the hounds, a hanger mounted on the bearing-plates and capable of moving thereon, said hanger having its ends projecting in the same direction to form engaging hooks, an evener-bar provided with eyes to receive the hooked ends of the hanger whereby the evener is suspended beneath the hounds by means of the hanger, a pivoted stop on the evener-bar adapted in one position to stand in the path of the hanger and prevent its removal from the eyes of the evener-bar and adapted in another position to be removed from the path of the hanger so as to permit of its removal from the eyes of the evener-bar, means for holding the stop in its positions, and means for connecting the evener-bar with the axle of the vehicle.

5. In a front gear for vehicles, a frame having hounds, bearing-plates on the hounds, a hanger mounted on the bearing-plates and capable of moving thereon, said hanger having its ends projecting in the same direction to form engaging hooks, an evener-bar, brackets on the evener-bar provided with eyes for receiving the hooked ends of the hanger, projecting ears on one of the brackets, a pin connecting said ears, a stop pivotally mounted on the pin and adapted in one position to stand in the path of the hanger and prevent its removal from the eyes of the brackets, a spring pressing the catch toward one of the ears, and a rib-and-slot connection between said ear and the catch to hold the catch with pressure in the said position, and means for connecting the evener-bar with the axle of the vehicle.

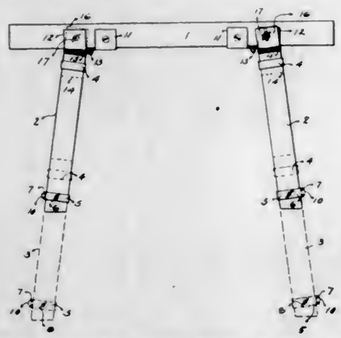
6. In a front gear for vehicles, a frame having hounds, bearing-plates on top of the hounds with their ends bent upwardly to constitute shoulders or stops, a hanger mounted on the bearing-plates and capable of moving between the stops, an evener-bar swinging from the hanger beneath the hounds, and means for connecting the evener-bar with the axle of the vehicle.

7. In a front gear for vehicles, a frame having hounds, bearing-plates on top of the hounds comprising elongated horizontal loops with their ends forming shoulders or stops, a hanger mounted in the loops of the bearing-plates and capable of moving between the stops, an evener-bar swinging from the hanger beneath the hounds, and means for connecting the evener-bar with the axle of the vehicle.

8. In a front gear for vehicles, a frame having hounds, bearing-plates on top of the hounds, a hanger mounted on the bearing-plates, an evener-bar swinging from the hanger beneath the hounds, and means for connecting the evener-bar with the axle of the vehicle.

9. In a front gear for vehicles, a frame having hounds, bearing-plates on top of the hounds, a hanger mounted on the bearing-plates and capable of moving thereon, an evener-bar detachably connected to the hanger and suspended thereby beneath the hounds, a clevis having a bolt connecting it with the evener-bar, said bolt being provided with a slidable stop capable of a position approximately at right angles to the bolt and of another position in alinement with the bolt, and chains connecting the clevis with the axle of the vehicle.

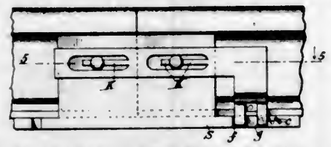
843,118. ADJUSTABLE FOLDING HORSE. THOMAS V. STRUBLE, Echo Lake, N. J. Filed June 30, 1906. Serial No. 324,145.



Claim.—A folding extensible horse, having a cross-beam, extensible legs, a U-shaped bracket or plate, adapted to clasp said cross-beam, and hinged to said legs, a similar U-shaped bracket or plate hinged to the first-mentioned U-shaped bracket and secured to said cross-beam, extensible braces connecting said legs in pairs, means for locking said braces, means for locking the sliding portions of said legs, a locking-hinge one leaf of which is secured to a pair of legs and means for locking the other leaf in contact with one side of the U-shaped bracket to which the legs are hinged to rigidly hold said legs in relation to the cross-beam, substantially as set forth.

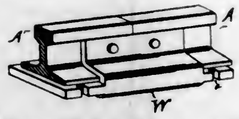
843,119. RAILWAY-JOINT. REUBEN B. SWANK, Dayton, Ohio. Filed Jan. 8, 1906. Serial No. 295,198.

Claim.—A rail-joint comprising a chair having an extension to embrace one side of the rail, and provided on its opposite upper edge with an inturned lug, a fish-plate having an offset angular portion to engage the lug of the chair and a curved shoulder on its inner edge to form a fulcrum when the plate is clamped against the rail, slotted bolts passing through the chair extension and fish-plate, a



locking-key having keyhole-slots formed therein to pass over the ends of said bolts, tapering tongues located within said slots to pass through the slots in the bolts, and pins engaging the key and chair to lock said key against longitudinal movement.

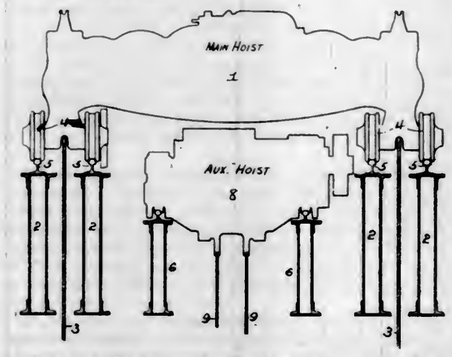
843,120. RAILWAY-JOINT. REUBEN B. SWANK, Dayton, Ohio. Filed Dec. 21, 1905. Serial No. 292,860.



Claim.—1. In a rail-joint, the combination with a rail-chair having an extension adapted to embrace one side of the rail and provided with a rib on its under face, of a fish-plate adapted to embrace the opposite side of the rail and having a flange to engage the rib on the base of the chair, bolts passing through the members, and a key for locking the bolts adapted to be locked in position by means of a spike.

2. A joint for rails or the like, comprising a chair adapted to embrace one side of the rails and formed with a rib on its lower face, a side plate having a flange to engage the rib on the chair and adapted to bind against the rails, bolts passing through the members, a key adapted to lock the bolts and clamp the members together, said key having a recess adapted to register with a complementary recess in the chair to receive a spike or other locking means.

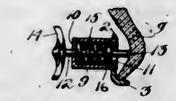
843,121. OVERHEAD TRAVELING CRANE. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed June 4, 1906. Serial No. 320,118.



Claim.—1. In an overhead crane, the combination of two main girders each made up of two parallel separated sections, the latter being disconnected from end to end, a trolley having bearing on each section of said main girders, intermediate girders and a trolley on said intermediate girders, each section of the main girders and the auxiliary girders being of box form.

2. In an overhead crane, the combination of two main girders each made up of two parallel separated sections, each section being of box form, the sections of each girder being disconnected from end to end, a trolley having bearing on each section of said main girders, intermediate girders of box form disconnected from the main girders except at their ends, and an auxiliary trolley mounted on said intermediate girders.

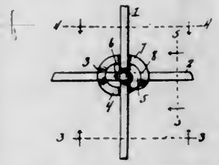
843,122. SHADE-HOLDER. ROBERT THORNER, Boston, Mass. Filed Jan. 15, 1906. Serial No. 296,088.



Claim.—1. A shade-holder, having a vertical flange and horizontal supporting-ledge, said vertical flange being provided with holding-lugs extending inwardly approximately parallel to said ledge, and a spring-held retainer opposite said lugs supported horizontally above said ledge and consisting of a barrel fixed immovably on said vertical flange, and a plunger extending through said barrel and projecting at both ends of the barrel, being centrally supported therein adjacent the opposite ends thereof, a spring within said barrel, surrounding said plunger, arranged to maintain the latter normally projected inwardly, the inner end of the plunger being adapted to engage the shade yieldingly, and the outer end of the plunger having an external head for retracting the same, said plunger being freely movable longitudinally by pulling on said head for outward movement.

2. A shade-holder, having a vertical flange and horizontal supporting-ledge, said vertical flange being provided with holding-lugs struck out from the metal of said flange and bent inwardly and upwardly approximately parallel to said ledge, and a retainer opposite said lugs, consisting of a barrel extending rigidly and immovably outwardly from said flange, said barrel having a closed outer end and an open inner end, a plunger journaled centrally in said closed end and provided with an annular guide-flange adjacent said closed end, a coiled spring between said flange and said closed end, and said plunger projecting inwardly beyond the vertical flange parallel to said ledge and projecting outwardly beyond the barrel, being provided on its outer projecting end with a retracting-head by which the plunger may be pulled longitudinally against the inward strain of the spring to release the shade.

843,123. TIE FOR WIRE FENCING. ERNEST E. TOBIAS, Adrian, Mich. Filed Mar. 12, 1906. Serial No. 305,477.

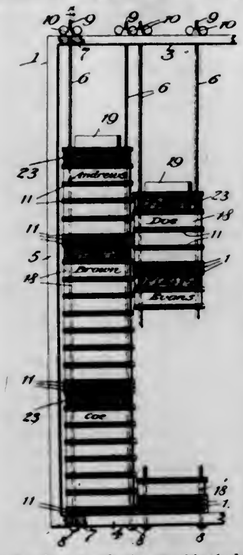


Claim.—1. In a tie for wire fencing, the combination with a crossed strand and stay wires crimped at their point of crossing, of a tie-wire in the form of a staple having its loop end contacting the strand-wire at one side of the stay, one leg passing in the rear of the stay-wire at one side of the strand-wire and curving outwardly across the strand-wire adjacent to the stay-wire, its terminal portion engaging under the stay-wire on the opposite side of the strand-wire from the major portion of said leg, the other leg passing in the rear of the stay-wire outside of and contiguous to the terminal of the first-mentioned leg, having a curved end portion which crosses the strand-wire, and a terminal portion which curves inwardly toward the strand-wire and lies behind the curved portion of the first-mentioned leg contiguous thereto.

2. In a tie for wire fencing, the combination with the

crossed strand and stay wires, of a tie in the form of a staple having its loop end contacting the strand-wire and its legs passing in the rear of the stay-wire, one leg crossing the face of the strand-wire after passing the stay-wire adjacent to and parallel with said stay-wire, and having a curved terminal portion engaging the stay-wire on the opposite side of the strand-wire from the major portion of said leg, the other leg passing the stay-wire adjacent to the terminal portion of the first-mentioned leg curving across the strand-wire to have engagement therewith.

843,124. CHANGEABLE INDEX. COPELAND TOWNSEND, New York, N. Y. Filed Mar. 16, 1906. Serial No. 306,397.



Claim.—1. An improved changeable index of the class described, comprising guides, and a plurality of separate holders slidably mounted on the guides and having means for engaging a card inserted edgewise between two of the holders and with its face exposed, substantially as and for the purpose set forth.

2. An improved changeable index of the class described, comprising guides, and a plurality of separate holders slidably mounted on the guides and having longitudinal face grooves or recesses for engaging a card inserted edgewise between two of the holders and with its face exposed, substantially as and for the purpose set forth.

3. An improved changeable index of the class described, comprising guides, and a plurality of holders slidably mounted on the guides and having means for engaging a card inserted edgewise between two of the holders and with its face exposed, said holders also having means adapted to be engaged to effect the sliding operation, substantially as and for the purpose set forth.

4. An improved changeable index of the class described, comprising guides, and a plurality of holders slidably mounted on the guides and having longitudinal face grooves or recesses for engaging a card inserted edgewise between two of the holders and with its face exposed, said holders also having means adapted to be engaged to effect the sliding operation, substantially as and for the purpose set forth.

5. An improved changeable index of the class described, comprising guides, a plurality of holders slidably mounted on the guides and having means for engaging a card inserted edgewise between two of the holders and with its face exposed, and means for automatically feeding the holders together when intervening cards are removed, substantially as and for the purpose set forth.

6. An improved changeable index of the class described, comprising guides, a plurality of holders slidably mounted on the guides and having longitudinal face grooves or recesses for engaging a card inserted edgewise between two of the holders and with its face exposed, and means for automatically feeding the holders together when intervening cards are removed, substantially as and for the purpose set forth.

7. An improved changeable index of the class described, comprising guides, a plurality of holders slidably mounted on the guides and having means for engaging a card inserted edgewise between two of the holders and with its face exposed, and a weight bearing upon the end holder for automatically feeding the holders together when intervening cards are removed, substantially as and for the purpose set forth.

8. An improved changeable index of the class described, comprising guides arranged in pairs, and a set of separate holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guides, said holders having means for engaging a card inserted edgewise between two of the holders and with its face exposed, substantially as and for the purpose set forth.

9. An improved changeable index of the class described, comprising guides arranged in pairs, and a set of separate holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guides, said holders having longitudinal face grooves or recesses for engaging a card inserted edgewise between two of the holders and with its face exposed, substantially as and for the purpose set forth.

10. An improved changeable index of the class described, comprising guides arranged in pairs and relatively disposed in diagonal position, substantially as set forth, and a set of holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guides, said holders having means for engaging a card inserted edgewise between two of the holders and with its face exposed, substantially as and for the purpose set forth.

11. An improved changeable index of the class described, comprising guide-rods, and a set of separate holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guide-rods, said holders having means for engaging a card inserted edgewise between two of the holders and with its face exposed.

12. An improved changeable index of the class described, comprising guide-rods, and a set of separate holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guide-rods, said holders having longitudinal face grooves or recesses for engaging a card inserted edgewise between two of the holders and with its face exposed.

13. An improved changeable index of the class described, comprising guide-rods, and a set of separate holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guide-rods and detachable therefrom, said holders having means for engaging a card inserted edgewise between two of the holders and with its face exposed.

14. An improved changeable index of the class described, comprising guide-rods, and a set of separate holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guide-rods and detachable therefrom, said holders having longitudinal face grooves or recesses for engaging a card inserted edgewise between two of the holders and with its face exposed.

15. An improved changeable index of the class described, comprising guide-rods arranged in pairs, and a set of separate holders superposed in parallel position one above the other and slidable upwardly and downwardly upon said pairs of guide-rods, said holders having means for engaging a card inserted edgewise between two of the holders and with its face exposed.

16. An improved changeable index of the class described, comprising guide-rods arranged in pairs, and a set of separate holders superposed in parallel position one above the other and slidable upwardly and downwardly upon said pairs of guide-rods, said holders having longitudinal face grooves or recesses for engaging a card inserted edgewise between two of the holders and with its face exposed.

17. An improved changeable index of the class described, comprising guide-rods arranged in pairs, and a set of separate holders superposed in parallel position one above the other and slidable upwardly and downwardly upon said pairs of guide-rods and detachable therefrom, said holders having means for engaging a card inserted edgewise between two of the holders and with its face exposed.

18. An improved changeable index of the class described, comprising guide-rods arranged in pairs and relatively disposed in diagonal position, substantially as set forth, and a set of holders superposed in parallel position one above the other and slidable upwardly and downwardly upon said pairs of guide-rods, said holders having means for engaging a card inserted edgewise between two of the holders and with its face exposed.

19. An improved changeable index of the class described, comprising guide-rods, and a set of holders superposed in parallel position one above the other and having openings receiving said guide-rods, whereby the holders are slidable upwardly and downwardly upon said guide-rods, said holders having means for engaging a card inserted edgewise between two of the holders and with its face exposed.

20. An improved changeable index of the class described, comprising guide-rods, and a set of holders superposed in parallel position one above the other and having openings receiving said guide-rods, whereby the holders are slidable upwardly and downwardly upon said guide-rods, said holders having longitudinal face grooves or recesses in front of the guide-rods for engaging a card inserted edgewise between two of the holders and with its face exposed.

21. An improved changeable index of the class described, comprising guides, a plurality of holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guides, and a card inserted edgewise between two of the holders and with its face exposed, the relative construction and arrangement being such that the cards support and divide the holders and the holders retain and support the cards.

22. An improved changeable index of the class described, comprising guides, a plurality of holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guides, said holders having means for engaging a card, and a card inserted edgewise between two of the holders and with its face exposed, the relative construction and arrangement being such that the cards support and divide the holders and the holders retain and support the cards.

23. An improved changeable index of the class described, comprising guides, a plurality of holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guides, said holders having a longitudinal face groove or recess for engaging a card, and a card inserted edgewise between two of the holders and with its face exposed, the relative construction and arrangement being such that the cards support and divide the holders and the holders retain and support the cards.

24. An improved changeable index of the class described, comprising a frame or casing, guides detachably mounted therein, and a set of holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guides, said holders having means for engaging a card inserted edgewise between two of the holders and with its face exposed, substantially as and for the purpose set forth.

25. An improved changeable index of the class described, comprising guides, a set of separate holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guides, cards inserted edgewise between two of the holders and with their faces exposed, said cards carrying upon their face designations indicating the subdivisions of the index, and cards inserted edgewise between two of the holders beneath said subdivision-cards and with their faces exposed, said latter cards carrying designations indicating the units of the index.

26. An improved changeable index of the class described, comprising guides, a set of holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guides, and index cards or members detachably inserted edgewise between two of said holders and supporting the same in separated position, substantially as and for the purpose set forth.

27. An improved changeable index of the class described, comprising guides, a set of holders superposed in parallel position one above the other and slidable upwardly and downwardly in connection with said guides, index cards or members detachably inserted edgewise between two of the holders and supporting the same in separated position, and means for automatically returning the holders together when said cards or members are removed, substantially as and for the purpose set forth.

28. An improved changeable index of the class described, comprising holders slidable upwardly and downwardly, and index cards or members carrying upon their face the indicated data and inserted between two of said slidable holders edgewise and with their faces exposed, the relative construction and arrangement being such that the index cards or members support and divide the holders and the holders support and divide the cards, substantially as and for the purpose set forth.

29. An improved changeable index of the class described, comprising guides or fixed members arranged in pairs, and a plurality of slidable holders operating upon said guides and respectively having openings receiving the respective members of said pairs of guides, whereby the holders transversely connect the guides or members, said holders having means in front of said openings for engaging a card inserted edgewise between two of the holders and with its face exposed, substantially as and for the purpose set forth.

30. An improved changeable index of the class described, comprising guides or fixed members arranged in pairs, and a plurality of slidable holders operating upon said guides and respectively having openings receiving the respective members of said pairs of guides, whereby the holders transversely connect the guides or members, said holders having longitudinal grooves or recesses at the top and bottom and in front of said openings for engaging the edges of a card inserted edgewise between two of the holders and with its face exposed, substantially as and for the purpose set forth.

843,125. PYROTECHNIC DEVICE. EDWARD H. WAGNER, New York, N. Y. Filed Oct. 11, 1906. Serial No. 338,363.



Claim.—1. A pyrotechnic device comprising an inclosed strip of pyrotechnic compound, a portion of said strip being folded back and forth in a zigzag form, another portion of said strip being wound about the zigzag portion in the form of a flat spiral.

2. A pyrotechnic device comprising an inclosed strip of pyrotechnic compound, a portion of said strip being folded back and forth in a zigzag form, the central portion of said zigzag portion being so formed as to leave an opening between its middle folds, another portion of said strip being wound about the zigzag portion in the form of a flat spiral.

3. A pyrotechnic device comprising an inclosed strip of pyrotechnic compound, a portion of said strip being folded

back and forth in a zigzag form, the central portion of said zigzag portion being so formed as to leave an opening between its middle folds, string or wire wound about said zigzag portion, another portion of said strip being wound about the zigzag portion in the form of a flat spiral.

4. A pyrotechnic device comprising a strip of inclosed pyrotechnic compound, said strip being folded in a zigzag form, a second strip of inclosed pyrotechnic compound of different ingredients than the first strip, said second strip being connected to said first strip and wound about the zigzag portion in the form of a flat spiral.

843,126. FIBROUS-STOCK FEEDER. STEPHEN W. WOODBURY, Newton Highlands, Mass. Filed Apr. 18, 1906. Serial No. 312,280.



Claim.—1. In a machine of the character specified, the combination of a toothed conveyer, a vibratory evener-comb coöperating therewith for removing surplus material, a vibratory clearer coöperating with the evener-comb to prevent the material clogging and matting upon the same, and a link connection between the evener and clearer for causing the comb and clearer to move in unison and at different relative speeds, the clearer having a faster movement imparted thereto.

2. In a machine of the character specified, the combination of a toothed conveyer, a vibratory evener-comb comprising a shaft mounted in bearings, outer bearings pivotally mounted upon the shaft of the evener, means for securing the pivoted bearings in an adjusted position, a clearer mounted upon the pivoted bearings and adapted to coöperate with the evener, and connecting means between the evener and clearer for causing the two to move in unison but at different relative speeds.

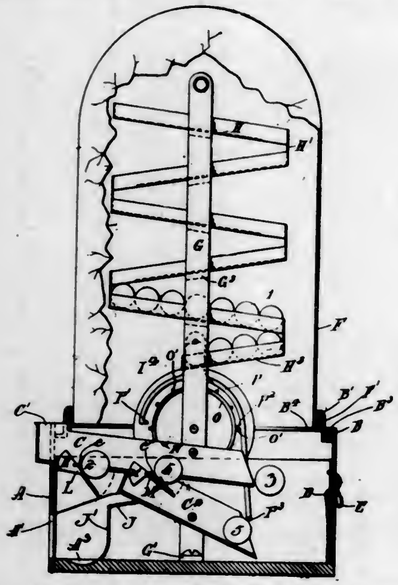
3. In a machine of the character specified, the combination of a toothed conveyer, a shaft, a vibratory evener-comb mounted upon said shaft to oscillate therewith, bearings pivotally mounted upon the shaft carrying the evener-comb, means for securing said bearings in an adjusted position, a second shaft mounted in the pivoted bearings, a clearer-comb mounted upon the second shaft to oscillate therewith, arms projected from the shafts carrying the evener and clearer, a link connecting said arms to cause them to move in unison but at different relative speeds, and means for imparting movement to one of said arms.

843,127. VENDING-MACHINE. ROBERT R. BALL, Westfield, N. J., assignor to Kent K. Stearns, Elizabeth, N. J. Filed Feb. 29, 1904. Serial No. 195,766.

Claim.—1. In a vending-machine, the combination of a base, a cover for said base, means for fastening the said cover to the base, a dome of transparent material inclosing the parts of the machine above the base and having its lower edges secured to the base by means of a flange secured to its exterior at the lower edge, a hook secured to the upper edge of the base extending above the same and over said flange.

2. In a device of the character described, the combination of a base, a cover for said base, means for fastening the said cover to the base, a dome of transparent material inclosing the parts of the apparatus above the base, a flange secured to said dome and extending outwardly from its lower edge and a hook secured to the upper part of the base extending above the same and over the flange.

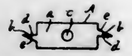
3. In a device of the character described, the combination of a base, a cover for said base, a plurality of vertical posts secured rigidly to the base extending above the said base and cover and connected at their upper ends, trays secured between said posts and supported by the same and a transparent dome provided with a flange on its exterior lower edge and a hook secured to the upper part of the base extending above the same and engaging said flange.



4. In a device of the character described, the combination of a bell-glass, a supporting-base and means between the said base and bell-glass for fastening the same together, comprising a flange secured to the exterior lower edge of said bell-glass and composed of different material and a hook secured to the base and engaging the said flange.

5. In a device of the character described, the combination of a base, a glass dome inclosing parts above the base and means of securing the said dome to the base, comprising a flange secured to the exterior of the dome at its lower edge, a hook engaging said flange and extending into the base, an angular portion at the lower end of said hook and a block secured to the hook and the vertical wall of the base beneath which the angular portion of the hook extends.

843,128. PAPER-FASTENER. GEORGE BODEN, Watertown, Conn., assignor to Oakville Company, Waterbury, Conn., a Corporation of Connecticut. Filed Mar. 3, 1904. Serial No. 196,417.

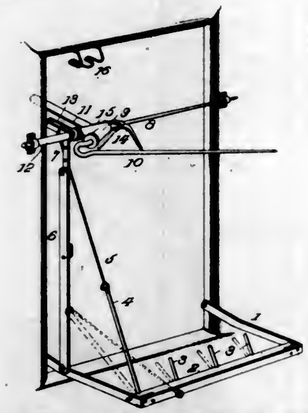


Claim.—1. A paper-fastener comprising a body portion and a pointed prong projecting from each end thereof, the prongs each having one side straight and the other side beveled and the straight sides of the prongs being substantially in alinement.

2. A paper-fastener comprising a body portion and a pointed prong projecting from each end thereof, the prongs each having one side straight and a portion of the other side beveled and the straight sides of the prongs being substantially in alinement.

3. A paper-fastener comprising a body portion bent substantially at right angles and with a pointed prong projecting inward from each end thereof, each prong having one side straight and the other side beveled and the straight sides of the prongs being substantially in alinement.

843,129. MAIL-DELIVERER. NEWTON K. BOWMAN, North Lawrence, Ohio. Filed June 11, 1906. Serial No. 321,280.



Claim.—1. In apparatus for delivering mail from a moving car, the combination of a deliverer movably mounted to swing toward and from the car and embodying movably-related mail-engaging means, a catcher adapted to be thrown into and out of operative position, connecting means between the catcher and deliverer to effect simultaneous outward or inward movement thereof, connecting means between the mail-engaging means and the catcher, a lock-bar for engaging with said connecting means, and a trip connected with the lock-bar to effect release thereof and extended across the path of the mail to be taken up to be actuated thereby to effect release of said mail-engaging means, whereby automatic discharge of the mail is effected.

2. In apparatus for delivering mail, the combination of a deliverer said deliverer embodying a relatively movable mail-engaging means, a catcher, connecting means between said catcher and said mail-engaging means, a lock-bar for said connecting means, and a trip pivoted to the catcher and having direct connection with the lock-bar and having a portion extended into the path of the mail to be taken up to be struck thereby to effect automatic release and discharge of the mail to be delivered.

3. In mail-delivery apparatus of the character specified, the combination of the deliverer, said deliverer embodying relatively movable mail-engaging means, a pivoted catcher, connecting means between the deliverer and catcher embodying a reversible connection mounted in axial alinement with said catcher, connecting means between the mail-engaging means and the catcher, a lock-bar for holding the mail-engaging means in a given position to insure support of the mail, and a trip pivoted to the catcher and having direct connection with the lock-bar and extended into the path of the mail to be taken up to be actuated thereby to effect automatic release and discharge of the mail to be delivered from the car.

4. In combination, a swinging deliverer embodying relatively movable mail-engaging means, a pivoted catcher embodying a supporting-bar and a handle, a clip for engaging with the handle to hold it in given position, connecting means between the catcher and deliverer embodying a reversible connection mounted in axial alinement with said catcher, connecting means between the mail-engaging means and said catcher, a lock-bar for holding the mail-engaging means in given position, and a trip pivoted to said supporting-bar and having direct connection with the lock-bar and having a portion extended into the path of the mail to be taken up to effect automatic release or discharge of the mail from said mail-engaging means.

843,130. AUTOMATIC SPRINKLER. CHARLES E. BUELL, North Plainfield, N. J., assignor to General Fire Extinguisher Company, New York, N. Y., a Corporation of New York. Filed May 9, 1887. Serial No. 237,647.



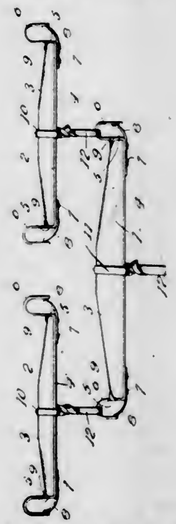
Claim.—1. An automatic sprinkler for use in a vacuum system comprising an outlet and a valve closing said outlet, and provided with an opening normally closed by an inwardly-opening valve adapted to be released by the action of heat to admit air to the system, substantially as described.

2. An automatic sprinkler comprising a nozzle, a yoke or frame adjustable on said nozzle, a tube passing through said frame and nozzle, and means normally closing said tube, substantially as described.

3. An automatic sprinkler comprising a nozzle, a yoke or frame adjustable on said nozzle, a tube passing through said frame and nozzle, and fusible means for normally closing said tube, substantially as described.

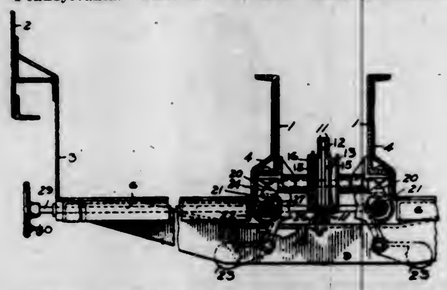
4. An automatic sprinkler comprising a nozzle, a yoke or frame adjustable on said nozzle, a tube passing through said frame and nozzle, a valve in said tube, and fusible means for normally closing said tube, substantially as described.

843,131. WHIFFLETREE. ROBERT R. BURTON, Pearster, Tex. Filed Apr. 16, 1906. Serial No. 312,030.



Claim.—In whiffletree construction, the combination of a body, a plate extending longitudinally of and the entire length of the body at the rear side thereof, opposite end portions of said plate being bent forwardly and thence rearwardly, at opposite extremities of the body of the whiffletree to form hooks, the forwardly-bent end portions of the plate being provided with integral lateral extensions projecting in front of the whiffletree-body and seated thereagainst to rigidly reinforce the ends of the plate relatively thereto.

843,132. SAFETY DEVICE FOR HOPPER-CAR DOORS. ANDREW CHRISTIANSON, Butler, Pa., assignor to Standard Steel Car Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Nov. 10, 1906. Serial No. 342,841.



Claim.—1. A railway-car provided with a swinging bottom door, closing mechanism for said door, a safety device comprising a latch mounted on the door and arranged to automatically engage the car-body when the door is closed, and means independent of the door-closing mechanism for releasing said latch.

2. A railway-car provided with a swinging bottom door, closing mechanism for said door, a safety device comprising a latch mounted on the door, and a movable member mounted on the car-body and arranged to be engaged by the latch and when moved to release said latch.

3. A railway-car provided with a swinging bottom door, closing mechanism for said door, a safety device comprising a latch mounted on the door, and a movable member mounted on the body in position to be engaged by the latch and arranged when moved to release said latch, said latch and movable member being provided with interengaging connections.

4. A railway-car provided with a swinging bottom door, closing mechanism for said door, a safety device comprising a latch mounted on the door, and a movable member mounted on the body in position to be engaged by the latch and arranged when moved to release said latch, said movable member and latch being provided with toothed or serrated engaging faces.

5. A railway-car provided with swinging bottom door, closing mechanism for said door, a safety device comprising a swinging hook mounted on the door, and a movable member on the body arranged to be automatically engaged by the hook and when moved to release the same.

6. A railway-car provided with a swinging bottom door, closing mechanism for said door, a safety device comprising a hook pivoted to the door, and a rotatable member on the body having a toothed engagement with said hook.

7. A railway-car provided with a swinging bottom door, closing mechanism for said door, a safety device comprising a hook pivoted to the door, and a rotatable shaft mounted on the body in position to be engaged by the hook.

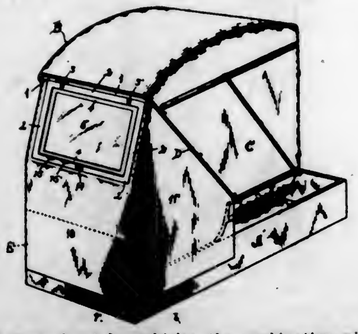
8. A railway-car provided with a center sill, a door on either side of the same, a beam connecting said door, door-closing mechanism, a safety device comprising a hook pivotally mounted on the beam, and a rotatable member mounted on the body in position to be engaged by the hook.

9. A railway-car provided with a swinging bottom door, closing mechanism therefor, a safety device comprising a counterweighted hook pivoted to the door, and a rotatable member mounted in the body in position to be engaged by the hook and arranged when rotated to release said hook.

10. A railway-car comprising a center sill, connected doors on either side thereof, a hook mounted on said doors, a longitudinal shaft mounted on the center sill in position to be engaged by the hook, and a transverse actuating-shaft geared to said longitudinal shaft.

843,133. STORM-FRONT FOR VEHICLES. LEWIS COCKERILL, Richmond, Ind. Filed Feb. 2, 1906. Serial No. 299,078.

Claim.—1. A removable storm-front for vehicles, comprising in combination, a brow-board detachably secured to the front bow of the vehicle-top, a frame hinged at its top to said brow-board, a window-sash hinged at its top to said brow-board and adapted to close the aperture of said frame, the herein-described means for removably connecting said sash to the frame, a window-glass secured in said sash, a curtain secured to the sides and bottom of said frame, means for detachably securing said curtain at its outer edges to inclose the vehicle-front, means for opening and closing the window when the curtain is expanded to close the vehicle-front, means for securing the window in its open position, means for securing the frame and the window back horizontally in the vehicle with the curtain folded in and carried thereby, all substantially as shown and described.



2. A storm-front for vehicles, the combination with the vehicle-top, a brow-board, a window-frame hinged to the brow-board and adapted to swing inward, a window-sash having a glass therein and hinged to the brow-board and adapted to swing into the window-frame, means for retaining the window-sash in the frame, means for swinging the frame and the sash independent of each other and for securing them horizontally in the top of the vehicle, a curtain secured to the window-frame and adapted to inclose the front portion of the vehicle not inclosed by the frame, means for detachably securing the side portions of the curtain to the inside of the vehicle-top, and a pair of supports pivoted to the lower edge of the frame and adapted to contact with the vehicle-dash to prevent the front from swinging, all substantially as shown and described and for the purposes set forth.

3. A storm-front for vehicles comprising, in combination, the sides and a front formed of a single piece of waterproof fabric to be folded and having space therein for a window, a brow-board secured across to the top of the front bow of the vehicle, a window-frame inclosing said space in the fabric and hinged to said brow-board, supports pivoted to the lower portion of said frame and adapted to hang out over the vehicle-dash or to be turned back across the frame, means whereby the fabric of the front may be folded across said frame and said supports to be supported thereby, a window suspended from the brow-board and adapted to fit in said frame but operative independent thereof, means for securing the window in an open or closed position independent of the frame, and means for supporting the frame and the fabric in the top of the vehicle together with the window, all substantially as shown and described.

843,134. AUTOMATIC BRAKE. CHARLES G. COSSAIRT, Paradise, Kans. Filed Mar. 5, 1906. Serial No. 304,354.

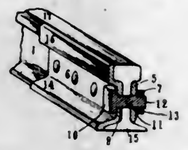
Claim.—1. The combination of a running-gear, brake-shoes mounted upon the running-gear, means for holding the brake-shoes normally in engagement with the wheels, a slidably-mounted tongue, an arm projecting downwardly from the rear end of the tongue and rigid therewith, and connecting means between the arm and brake-shoes whereby the latter will be thrown out of engagement with the wheels when the tongue is swung upwardly or any forward pull is exerted thereon.

2. The combination of a running-gear, brake-shoes mounted upon the running-gear, means for holding the brake-shoes normally in engagement with the wheels, a pair of wagon-hounds, plates connecting the wagon-hounds and fitting upon opposite sides of the same, a tongue slidably mounted between the plates, roller-bearings mounted between the plates and located upon opposite sides of the



tongue, an arm pendent from the rear end of the tongue and rigid therewith, and connecting means between the arm and the brake-shoes whereby the latter are thrown out of engagement with the wheels when the tongue is swung upwardly or any forward pull exerted thereon.

843,135. RAIL-JOINT. JOSEPH J. COUSINS, New York, N. Y. Filed Oct. 31, 1905. Serial No. 285,280.

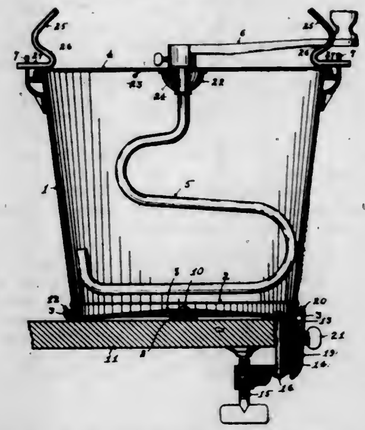


Claim.—1. A rail-joint comprising rails having key-seats cut in the webs thereof at their abutting faces, fish-plates on either side thereof, a key-bolt provided with a head, a key passing through the fish-plates and engaging the key-seats in the rails and means for holding said key-bolt in operative position.

2. A rail-joint comprising rails having key-seats cut in the abutting faces of the webs thereof, fish-plates on either side thereof provided with openings, a key-bolt consisting of a head, a key-part and a threaded extension, said key-part passing through the openings in the fish-plates and the key-seats in the abutting rails, and a nut to engage the threaded extension for holding the parts in place.

3. A rail-joint comprising rails having rectangular key-seats in the abutting faces of the webs thereof, fish-plates on either side thereof having rectangular openings therein, a key-bolt comprising a head, a rectangular key and a threaded extension, said head abutting against one fish-plate, the rectangular key passing through the rectangular openings in the fish-plates and the rectangular key-seats in the rails, and a nut to engage the threaded extension to secure the parts together.

843,136. MIXER. WILLIAM DICKS, Albion, N. Y. Filed Jan. 6, 1906. Serial No. 294,949.



Claim.—1. In combination with the receptacle, a clamp for holding the same comprising two arms arranged and secured transversely of each other, hooked ends on said arms to engage said receptacle peripherally at three points, a bracket and means for attaching said clamp to a table or shelf, and a clamping-piece adjustably secured to said bracket to engage said receptacle at a fourth point.

2. In combination with the receptacle, a clamp for holding the same comprising arms arranged and secured transversely of each other and centrally bent or dished upwardly, hooked ends on said arms to engage said receptacle peripherally at three points, a bracket and means for attaching said clamp to a table or shelf, and a clamping-piece adjustably secured to said bracket and means for forcing said clamping-piece into engagement with said receptacle at a fourth point and tending to overcome the bend or dish of said arms.

3. In combination with the receptacle, a clamp for holding the same comprising arms arranged and secured transversely of each other and centrally bent or dished upwardly, hooked ends on said arms to engage said receptacle peripherally at three points, a bracket secured to one end of one of said arms, a thumb-screw in said bracket for securing said clamp to a table or shelf, a thumb-screw threaded to said bracket, a clamping-piece taking over said thumb-screw and having one end capable of engaging the periphery of said receptacle at a fourth point and fulcrumed against said bracket.

4. In combination with the receptacle, a clamp for holding the same comprising arms arranged and secured transversely of each other and centrally bent or dished upwardly, hooked ends on said arms to engage the flange on said receptacle peripherally at three points, a bracket secured to one end of one of said arms, a thumb-screw in said bracket for securing said clamp to a table or shelf, a thumb-screw threaded to said bracket, a clamping-piece taking over said thumb-screw and having one end capable of engaging the periphery of said receptacle at a fourth point fulcrumed against said bracket, and a reinforcing-rivet securing said arm and the horizontal part of said bracket.

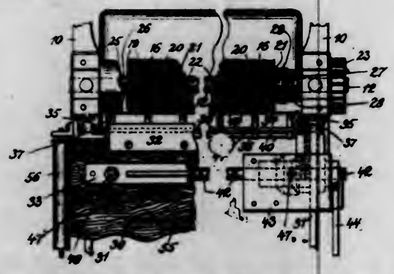
5. In combination with the cover and the mixing-rod, a bearing comprising a cup-shaped casting or stamping, a plate and a tube constituting the bearing proper for said mixing-rod, said tube being flanged or upset over the outer end of said casting or stamping and in and over said plate to rigidly secure said cup, tube, and plate together and said plate secured to said cover.

843,137. AZO DYE. OSCAR DRESSEL and ANTON OSSENBECK, Elberfeld, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Nov. 6, 1906. Serial No. 342,287.

Claim.—1. The herein-described new azo dyestuffs obtainable by combining diazo compounds of non-sulfonated nitro-ortho-aminophenolic compounds with 2-arylamino-5-naphthol-7-sulfonic acids, which dyestuffs are, after being dried and pulverized, in the shape of their alkaline salts dark powders soluble in water; yielding upon reduction with stannous chlorid and hydrochloric acid, diaminophenolic compounds and 2-arylamino-5-naphthol-6-amino-7-sulfonic acids and dyeing wool from acid-baths generally from red to violet shades, which on chroming change to from blue to black, substantially as hereinbefore described.

2. The herein-described new azo dyestuffs, which can be obtained by combining diazotized 4-nitro-2-aminophenol with 2-phenylamino-5-naphthol-7-sulfonic acid, which dyestuff is, after being dried and pulverized, in the shape of its sodium salt a dark powder soluble in water with a violet color and in concentrated sulfuric acid with a violet color; yielding upon reduction with stannous chlorid and hydrochloric acid 2-4-diaminophenol and 2-phenylamino-5-naphthol-6-amino-7-sulfonic acid; and dyeing wool from acid-baths Bordeaux shades, which are changed to blue-black when chromed after dyeing, substantially as hereinbefore described.

843,138. MACHINE FOR SHAPING PAPER. CARROLL H. DUNNING, New York, N. Y. Filed June 16, 1905. Serial No. 265,585.



Claim.—1. In a machine for shaping paper, the combination with a supporting-frame, of yielding means for tearing irregular parts of paper from the margin of the main body thereof, means for actuating said tearing appliances, and means for feeding and holding the paper.

2. In a machine for shaping paper, the combination with a supporting-frame, of elastic means for reducing the thickness of parts of the edge portion of a sheet of paper and for tearing off the other parts thereof, means for actuating said reducing and tearing appliances, and means for feeding and holding the paper.

3. In a machine for shaping paper, the combination with a supporting-frame, of a horizontally-slidable support for the paper, a body having a multiplicity of flexible projections, mechanism for imparting movements to said body, and means for holding the paper in contact with said projections during such movements.

4. In a machine for shaping paper, the combination with a supporting-frame, of a horizontally-slidable support for the paper, a body provided with a multiplicity of yielding projections, said projections extending under different angles from the surface of said body, mechanism for imparting movements to said body and said projections, and means for enforcing contact of the paper with said projections during such movements.

5. In a machine for shaping paper, the combination with a supporting-frame, of a support for the paper, a body provided with a multiplicity of projections, and means for moving said body in different directions with reference to said support.

6. In a machine for shaping paper, the combination with a supporting-frame, of a support for the paper, a body provided with a multiplicity of projections, and means for simultaneously moving said body and its projections lengthwise and crosswise with reference to and in proximity to said support.

7. In a machine for shaping paper, the combination with a supporting-frame, of a support for the paper, a body having a multiplicity of yielding projections, irregular spaces being provided between said projections, mechanism for imparting movements to said body and its projections, and means for horizontally advancing the paper for contact with said projections during such movements, and means for clamping the paper on the support.

8. In a machine for shaping paper, the combination with a supporting-frame, of a support for the paper, a roller mounted upon the frame and provided with yielding projections, mechanism for revolving said roller in proximity to said support, means for horizontally advancing and retracting the support, and means for clamping the paper thereon.

9. In a machine for shaping paper, the combination with a supporting-frame, of a roller mounted upon the frame and provided with yielding projections extending in radial directions and with other yielding projections extending therefrom in different directions, means for revolving said roller in close proximity to said support, and means for clamping the paper in position upon the support.

10. In a machine for shaping paper, the combination with a supporting-frame, of a support for the paper, a roller mounted upon said frame, a strip of fabric with yielding wire points secured thereto spirally wound upon said roller, mechanism for revolving said roller, means for horizontally advancing the paper for contact with said wire points and means for clamping the paper in its position upon the support while said roller is being revolved.

11. In a machine for shaping paper, the combination with a supporting-frame, of a support for the paper, a roller having a multiplicity of projections mounted upon said frame and adapted to revolve and also to move lengthwise, mechanism for enforcing such lengthwise movement of the roller, mechanism for revolving said roller, and means for clamping the paper in position during such movements of the roller.

12. In a machine for shaping paper, the combination with a supporting-frame, of a movable support for the paper, a body provided with projections for tearing off portions of such paper, a gage for adjusting the paper in its position upon said support and means for simultaneously moving said support toward said body and for moving said gage out of its operative position.

13. In a machine for shaping paper, the combination with a supporting-frame, of a movable support for the paper, a body provided with projections for tearing off portions of such paper, means for actuating said body, a gage for adjusting the paper in its position upon said support, and means for moving said support toward said body and simultaneously enforcing contact between said support and said gage for moving the latter out of its operative position.

14. In a machine for shaping paper, the combination with a supporting-frame, of a movable support for the paper, a body provided with projections for tearing off portions of such paper, mechanism for actuating said body, and joint means for simultaneously clamping the paper to its support and for moving said support toward said roller.

15. In a machine for shaping paper, the combination with a supporting-frame, of devices for tearing portions of a sheet of paper from the main body, a table, a clamping-bar, studs in engagement with said table and said bar, shoes on said studs, guides being provided on the table in which said shoes slide, a shaft, a lever and a toothed sector secured to said shaft, a ratchet on said frame in engagement with said sector, an eccentric slot being provided in said sector, and a pin adjusted to travel in said slot and secured to said shoe.

16. In a machine for shaping paper, the combination with a supporting-frame, of a movable support for the paper, a body provided with projections for tearing off portions of the paper, means for actuating said body, adjustable stationary supports for the paper, and means for moving said movable support toward said body.

17. In a machine for shaping paper, the combination with a supporting-frame, of a pair of rollers each provided with projections for tearing off portions of the paper, a table for supporting the paper having its upper surface substantially even with the plane in which the projections of the rollers meet, and means for moving said table toward said rollers.

18. In a machine for shaping paper, the combination with a supporting-frame, of a body provided with projections for tearing off portions of the paper, a table for supporting the paper, and means for moving the table toward the roller, a slit being provided in the table for withdrawing the paper through the same.

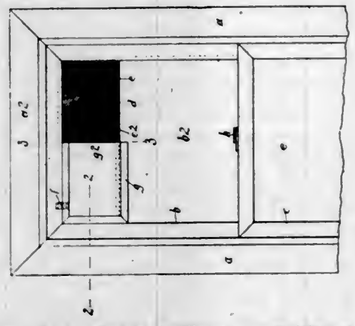
19. In a machine for shaping paper, the combination with a supporting-frame, of a body provided with projections for tearing off portions of the paper, a table for supporting the paper, means for moving the table toward said body, and a roller placed along an edge of said table for guiding the paper.

20. In a machine for shaping paper, the combination with a supporting-frame, of a support for the paper, two rollers mounted upon said frame each provided with a multiplicity of yielding projections, mechanism for revolving said rollers in close proximity with each other, and means for holding said paper in its position while said rollers are revolving in contact therewith.

21. In a machine for shaping paper, the combination with a supporting-frame, of appliances for tearing parts of the edge portion of the paper from the main body, mechanism for actuating said appliances and means for creating an air-current for withdrawing the portions of the paper so torn off.

22. In a machine for shaping paper, the combination with a supporting-frame, of a roller provided with a multiplicity of projections, a support for the paper, mechanism for revolving said roller, means for enforcing contact of the paper with said projections, an air-chamber extending along said roller, and an air-suction device for withdrawing the portions of paper torn off by said projections through said chamber.

843,139. VENTILATING WINDOW-SASH. SAMUEL FELDMAN, Brooklyn, N. Y. Filed Oct. 31, 1906. Serial No. 341,401.



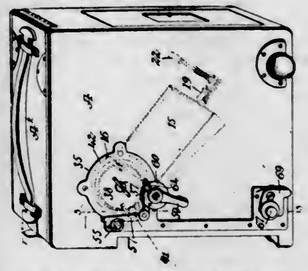
Claim.—1. A window-ventilator, comprising a transverse screen set into the sash in an opening formed by removing a part of the transparent or translucent panel, and a supplemental sash hinged to the window-sash and provided with a transparent or translucent panel and adapted to cover the screen when in one position and to be swung away from the same so as to permit air to pass therethrough.

2. In a window-ventilator, a sash having a transparent or translucent panel the top portion of which is removed to form a transverse opening or space, a ventilator-screen set into said space in the same plane as the transparent or translucent panel, and a supplemental sash hinged to the top portion of the main sash and adapted to cover said screen in one position and to be raised so as to permit air to pass therethrough.

3. In a window-ventilator, a window-frame, a window-sash mounted therein, a ventilator set into the window-sash and occupying a space formed by removing a part of the transparent or translucent panel therein, and a supplemental sash hinged to the window-sash and adapted in one position to cover the ventilator and to be raised so as to permit air to pass therethrough.

4. A window-sash provided with a transparent panel which only partially fills the same, the balance of said panel being filled by a screen, said sash being also provided with a hinged and closed sash member adapted to cover said screen.

843,140. CAMERA. WILLIAM F. FOLMER, New York, N. Y., assignor, by mesne assignments, to Folmer & Schwing Company, a Corporation of New Jersey. Filed May 22, 1905. Serial No. 261,500.



Claim.—1. In a camera, a curtain-shutter having a multiplicity of openings of graduated widths, the smallest opening being at the bottom of the shutter, each opening being longitudinally reinforced at its edges with a binding of more rigid material than that of the body of the shutter and having its ends defined by pliable tapes.

2. In a camera, a curtain-shutter having a multiplicity of openings of graduated widths and a covering portion beyond the largest opening, a winding and a tension roller for the shutter and devices for regulating and indicating the tension of the tension-roller, the lower edge of the shutter at which the smallest opening appears being secured to the tension-roller, a winding mechanism for the winding-roller, an indicator for the same roller, and a trip mechanism for the shutter, constituting a portion of the winding mechanism, and means for regulating the trip mechanism for time and for instantaneous exposure.

3. In a camera, a box, a winding-roller and a tension-roller mounted in the box, a curtain-shutter connected with the two rollers, a winding mechanism consisting of a gear, means for turning the gear, a pinion mounted on the shaft of the winding-roller meshing with the gear, opposing lugs carried by the gear, a spring-controlled escapement mounted for movement relative to the gear, and fingers upon the escapement, adapted for alternately engaging the lugs as the escapement is moved in opposite directions.

4. In a camera, a box, a winding-roller and a tension-roller mounted in the box, a curtain-shutter connected with the two rollers, a winding mechanism consisting of a gear, means for turning it, a pinion mounted on the shaft of the winding-roller meshing with the gear, opposing lugs carried by the gear, a spring-controlled escapement which surrounds the gear and pinion, which escapement is mounted for sliding movement, fingers upon the escapement, adapted to alternately engage the lugs to arrest the gear, a trip for the escapement, and means for operating said trip for time or for instantaneous operation of the shutter.

5. In a camera, a box, a winding-roller and a tension-roller mounted in the box, a curtain-shutter connected with the two rollers, a winding mechanism consisting of a gear, means for turning the gear, a pinion mounted on the shaft of the winding-roller meshing with the gear, opposing lugs carried by the gear, a spring-controlled escapement which

surrounds the gear and pinion, which escapement is mounted for sliding movement, fingers upon the escapement, adapted to alternately engage the lugs on the gear, as the escapement is moved in opposite directions, a trip for the escapement, means for operating said trip for time or for instantaneous operation of the shutter, an indicator-wheel mounted upon the box, and means carried by the shaft of the winding-roller for operating said indicator-wheel under the control of the winding mechanism.

6. In a camera, a curtain-shutter having a multiplicity of openings of graduated widths, the smallest opening being at the bottom of the shutter, each opening being reinforced at its longitudinal edges with binding-strips of more rigid material than that of the body of the shutter, said binding-strips each consisting of a rear flat member and a front arched member, the material of the shutter being received and secured between the two side members, the said openings having their ends defined by pliable tapes.

7. In a camera, the combination with a box, a winding-roller, a tension-roller, a curtain-shutter connecting the rollers, a winding and release mechanism for the curtain embodying a wheel and a spring-operated escapement cooperating therewith, of a focusing-mirror, a lever for operating it, and a spring-controlled locking-arm for engaging and locking the winding mechanism and adapted to be engaged by the mirror-operating lever when the mirror is being moved out of focusing position.

8. In a camera, the combination with the winding mechanism thereof having projections and a locking-arm adapted for predetermined engagement with said projections on the winding mechanism, of a focusing-mirror, a lever-arm arranged to move the said mirror from a lower focusing to an upper position, said lever-arm being provided with a projection adapted for engagement with the locking-arm to carry said locking-arm out of action when the mirror is in focusing position, permitting the said locking-arm to return to locking position when the focusing-mirror is in its upper position.

9. In a shutter mechanism for cameras, the combination with a casing having an exposure-opening, winding and tension rollers and a curtain-shutter having a plurality of apertures of different widths, the largest being nearest the winding-roller and constituting the full-exposure aperture and covering portions on both sides of the latter, of controlling devices for the winding-roller embodying a rotary disk having fixed stops thereon and an escapement therefor also having fixed projections, said stops and projections being so arranged relative to the apertures in the shutter, that each successive movement of the shutter in one direction will carry one of the narrower curtain-apertures past the exposure-opening and the next movement will bring the full aperture into register with the exposure-opening and arrest the shutter and the next will cover the opening.

10. In a shutter mechanism for cameras, the combination with a casing having an exposure-opening, winding and tension rollers and a curtain-shutter having a plurality of instantaneous-exposure apertures of different widths, a wider full-exposure aperture and covering portions on both sides of the latter, of controlling devices for the winding-roller embodying a rotary disk having fixed stops thereon, an escapement having fixed projections cooperating with the stops, the exposure-opening, the shutter-apertures and disk being so arranged relatively that at each successive release of the escapement one of the narrower instantaneous apertures of the curtain-shutter will pass the exposure-opening and the full-exposure aperture will be arrested when coincident with the exposure-opening and the next release of the escapement will cause the shutter to close said opening.

11. In a shutter mechanism for cameras, the combination with a casing having an exposure-opening, winding and tension rollers and a curtain-shutter having a plurality of instantaneous-exposure apertures of different widths, a wider full-exposure aperture and covering portions on both sides of the latter, of controlling devices for the winding-roller embodying a rotary disk having fixed stops, an oscillatory escapement having fixed projections coöperating with the stops, an automatically-opening cover for the exposure-opening, a catch for retaining it and connections between said cover and the escapement for causing the release of the latter each time the cover is opened.

12. In a shutter mechanism for cameras, the combination with a casing having an exposure-opening, winding and tension rollers and a curtain-shutter having a plurality of instantaneous exposure-apertures of different widths, a wider full-exposure aperture and covering portions on both sides of the latter, of controlling devices for the winding-roller embodying a rotary disk having fixed stops, an oscillatory escapement having fixed projections coöperating with the stops, a cover for the exposure-opening, and connections between said cover and the escapement for causing the release of the latter each time the cover is opened.

13. In a shutter mechanism for cameras, the combination with a casing having an exposure-opening, winding and tension rollers and a curtain-shutter having a plurality of instantaneous-exposure apertures of different widths, a wider full-exposure aperture and covering portions on both sides of the latter, of controlling devices for the winding-roller embodying a rotary disk having stops, an oscillatory escapement having projections coöperating with the stops, a cover for the exposure-opening and adjustable connections between the cover and escapement for causing the release of the shutter by the cover or permitting its independent release.

14. In shutter mechanism for cameras, the combination with a casing having an exposure-opening, winding and tension rollers and a curtain-shutter having a plurality of instantaneous-exposure apertures of different widths, a wider full-exposure aperture and covering portions on both sides of the latter, of controlling devices for the winding-roller embodying a rotary disk having stops, an oscillatory escapement having projections coöperating with the stops, a spring-operated cover for the exposure-opening, a catch for retaining it, and adjustable connections between the cover and escapement for permitting the release of the shutter by the cover or permitting its independent release.

15. The combination with a casing having an exposure-opening, winding and tension rollers and a curtain-shutter having a time-exposure aperture at least as large as the exposure-opening in the casing and a smaller instantaneous-exposure aperture and covering portions on opposite sides of said apertures, of controlling devices for the winding-roller embodying an escapement mechanism, the relation between the rollers, shutter-apertures and escapement being such that after the shutter is set, successive movements of the escapement will release and arrest the shutter before and after the instantaneous-opening has passed the exposure-opening and before and after the time-opening has passed and while it is in alinement with said opening.

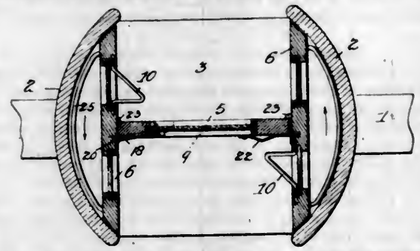
16. The combination with a casing having an exposure-opening, an apertured spring-operated shutter movable past said opening, and means for manually actuating it in one direction, of a movable cover for said exposure-opening, a catch for restraining the operating device and connections between said cover and catch to prevent the operation of the actuating device save when the cover is in position to cover exposure-opening.

17. The combination with a casing having an exposure-opening, an apertured spring-operated shutter movable past said opening and means for manually actuating it in one direction, of a movable cover for said exposure-opening, a tripping device for releasing said shutter, adjustable connections between said tripping device and the cover to cause the operation of the former by the latter or permit its independent operation and a catch for restraining the actuating device and operable by the cover to release the actuating device when the latter is either over or away from the exposure-opening.

18. The combination with the casing having an exposure-opening, an apertured spring-operated shutter movable past said opening, means for manually operating said shutter in one direction, a tripping device for said shutter, and a separate retaining-catch therefor, of a member adjustably connected to the cover having a portion adapted to coöperate with the tripping device and portions cooperating with the retaining-catch to hold it out of engagement save at the extremes of movement of the cover.

19. The combination with the casing having an exposure-opening, an apertured spring-operated shutter movable past said opening, means for manually operating said shutter in one direction, a tripping device for the shutter and a separate automatic shutter-retaining device, of a cover for the aperture, a member adjustably connected to said cover having a portion therein for engaging the tripping device and other portions adapted to engage the retaining device for holding it out of engagement save at the extremes of movement of the cover.

843,141. ROTATING DOOR. MORTIMER C. GAGE, Binghamton, N. Y. Filed May 14, 1906. Serial No. 316,813.



Claim.—1. In a rotary door, a pair of parallel connected side sections mounted to rotate in unison, a central section extending between the same, links connecting one edge of said central section to the center of one of the side sections, and a detachable connection between the opposite edge and the other section, substantially as described.

2. In a rotary door, a pair of parallel connected side sections mounted to rotate in unison, a central section extending between the same, links connecting one edge of said central section to one of the side sections, a detachable latch connection between said edge and said section and a detachable connection between the opposite edge and the other section, substantially as described.

3. The combination with a doorway having quadrantal side casings, of a rotary door comprising opposite parallel side sections rigidly connected and mounted to rotate together, a central section having a hinge connection with the center of one side section and a detachable connection with the other section, and a detachable pivotal connection between said central section and the door-casing, substantially as described.

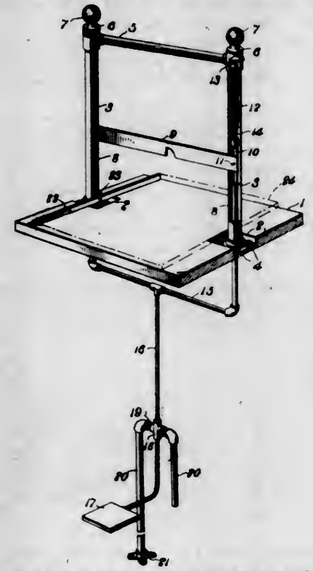
4. The combination with a door-casing, of a rotating door, a cross member rotating in unison therewith, and a pivoted spring-pressed lever bearing a rotary member acting on said cross member.

5. The combination with a door-casing, of a rotating door, a cross-arm connected therewith having studs on its opposite ends, a spring-pressed lever and a wheel on said lever having forked arms for engaging said studs, substantially as described.

6. In a rotary door, a pair of parallel connected side sections mounted to rotate in unison, a central section extending centrally between the same, a vertical rod rotatably mounted in the face of one of the side sections and having horizontally-extending arms connected to the central section at a suitable distance from its edge and forming link connections therefor, and a latch carried at the edge of the central section and adapted to detachably engage said vertical rod, and a latch connection for the opposite edge of the central section.

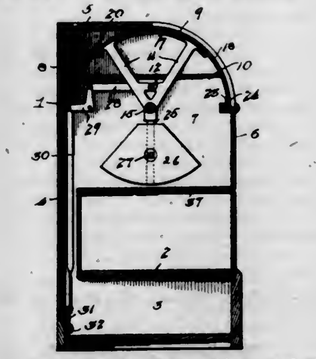
843,142. CUTTING APPARATUS. ALLYN A. GARDNER, Baltimore, Md. Filed Oct. 2, 1906. Serial No. 337,148.

Claim.—In cutting apparatus of the character described the combination with a table; of tubular standards secured thereon and having longitudinal slots therein, a cutting-blade interposed between the standards and having its ends extending through the slots, hangers slidably mounted within the standards and extending below the table, said hangers being secured to the blade, a rod connection between the lower portions of the hangers, a treadle secured to said connection, a guide for the treadle, springs secured to the upper ends of the hangers and within the upper portions of the tubular standards, said springs constitut-



ing supports for the hangers and blade, a guide-strip secured upon the table adjacent one of the standards and extending under the blade, a projection upon the guide-strip in alinement with the blade, and a holding-block slidably mounted upon the table and between the hangers and having notches in one of its edges, any one of said notches being adapted to receive the projection on the guide-strip.

843,143. SHOW-CASE. MAX F. GEBHARDT, Baltimore, Md. Filed Mar. 7, 1906. Serial No. 304,646.



Claim.—1. In a show-case, a movable curved glass closure, a swinging spider for supporting and carrying said closure, a shank connected to and projected downward from said spider, a slidable counterweight always diametrically balanced secured to said shank, means for adjusting said weight on the shank, and a system of levers operating from the back of the case for opening and closing said closure.

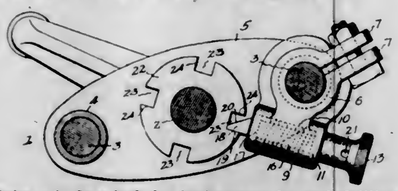
2. In a show-case, a curved glass movable section rigidly mounted upon a swinging spider, an adjustable counterweight connected to and slidably adjustable on the lower portion of the swinging spider, a link connecting the spider

with a bell-crank lever, and a system of connecting rods and levers leading from said bell-crank lever to a slide at the central portion of the case for operating said glass section.

3. A show-case having a glass front, a curved glass section mounted upon a swinging spider, an adjustable counterweight slidably connected to said spider, a cross-bar connecting the radial arms of the spider, a link connected to said cross-bar, and a series of levers and connecting-rods leading from said link and connected to a slide at the central upper portion of the case for operating said curved glass section.

4. In a show-case, a curved glass closure mounted upon a swinging spider, cushioning-strips for said glass closure, a downward projected portion integral with said spider and carrying a slidably-adjustable weight, a system of levers and connecting-rods leading from the spider to and connected with a slide at the central portion of the case, and a knob or button connected to said slide, substantially as described.

843,144. LOCK FOR FEED-SCREWS FOR ROCK-DRILLING ENGINES. FREDERICK E. GLAZE, Victor, Colo. Filed Mar. 16, 1906. Serial No. 306,403.



Claim.—1. In a lock for feed-screws, for rock-drilling engines, the combination with the yoke and the side rods, of the feed-screw having a collar abutting against said yoke, with a plurality of square notches, a split hub arranged to be removably secured to one of said side rods, a lug in said hub, a pawl-stem extending loosely through said hub and rotatably mounted therein, a spring surrounding said pawl-stem in said chamber, and arranged to hold it in one direction of its movement in engagement with said notches in said collar, a recess in the end of said lug, a pin extending through said stem and seated in said recess, a finger-disk on the end of said stem, a notch in the end of said lug in which to seat said pin when it is withdrawn from said recess, and its pawl end is reversed relative to said notches, as specified.

2. In a lock for feed-screws of rock-drills, the combination with the yoke, the side rods and tubes and the feed-screw, having a yoke-abutting collar, said collar being provided with ratchet-notches, of the split clamping-hub removably clamped to one of said rods, the pawl-stem support, the pawl-stem rotatably mounted in said support, the pawl on one end of said pawl-stem, the finger-disk on its opposite end, the spring surrounding said pawl-stem within said support, the pin and recess for defining the position of said pawl relative to said notches, and the notch for locking said pawl out of engagement with the notches of said feed-screw's collar, as specified.

843,145. GUN-SIGHT. HERMAN GUNN, Grand Forks, British Columbia, Canada. Filed Oct. 29, 1906. Serial No. 340,993.



Claim.—1. In combination with a sight-block, a plate, means for securing the plate to the sight-block, and a plurality of sight-tips pivoted to the plate.

2. In combination with a sight-block, a rotatable plate, means for rotatably securing the plate to the sight-block, and a plurality of sight-tips pivoted to the plate.

3. In combination with a sight-block, a plate rotatably disposed on the sight-block, means for limiting the rotation of the plate, and a plurality of sight-tips pivoted to the plate.

4. In combination with a sight-block, a horizontally-disposed rotatable plate carried by the block, a plurality of tips pivoted to the plate and adapted to be moved vertically, and means for locking the tips against movement.

5. In combination with a sight-block provided with a flange having a lug thereon, a rotatable plate disposed on the flange, a movable stop carried by the lug and adapted to engage the plate, and a plurality of pivoted sight-tips carried by the plate.

6. In combination with a sight-block provided with a flange having a lug thereon, a rotatable plate disposed on the flange, a movable stop carried by the lug, resilient means for actuating the stop into engagement with the plate, and a plurality of pivoted sight-tips carried by the plate.

7. In combination with a sight-block provided with a flange having a lug thereon formed with a recess leaving a shoulder, a rotatable plate disposed on the flange, a stop member disposed through the recess and the lug and provided with a head adapted to engage the plate, a spring disposed around the stop and adapted to thrust against said head and against the shoulder of said recess, and a plurality of pivoted sight-tips carried by the plate.

8. In combination with a sight-block having a flange provided with a lug, a rotatable plate carried by the flange and provided with recesses in its exterior wall, a stop member carried by the lug and provided with a pointed end adapted to engage in said recesses, means for forcing the pointed end into said recesses, and a plurality of movable tips carried by the plate.

9. In combination with a sight-block, a rotatable plate carried by the sight-block, a plurality of different shaped and colored sight-tips pivoted to the plate, and means for limiting the movement of the plate.

10. In combination with a sight-block, a rotatable plate carried by the sight-block and provided with a plurality of recesses, a plurality of tips pivotally disposed in the recesses, means for locking the tips in a plurality of positions, and means for limiting the rotary movement of the plate.

11. In combination with a sight-block, a rotatable plate carried by the sight-block, a plurality of sight-tips carried by the plate, springs carried by the plate and adapted to contact with the tips to lock the tips in a plurality of positions, and means for locking the plate against movement.

12. In combination with a sight-block, a rotatable plate provided with recesses therein, pivoted sight-tips disposed in the recesses, resilient members seated in the recesses and adapted to contact with the sight-tips, and means for limiting the movement of the plate.

13. In combination with a sight-block, a plate disposed on the sight-block and provided with a recess, a screw disposed through the plate having its head seated in said recess and its end in engagement with the sight-block, and a plurality of pivoted sight-tips carried by the plate.

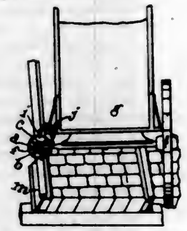
14. In combination with a sight-block, a rotatable plate provided with recesses in its exterior wall, locking means adapted to engage in the recesses, and a different shaped and colored sight-tip pivoted to the interior face of the wall of the plate opposite each recess in its exterior wall.

15. In combination with a sight-block, a rotatable plate provided with an annular shoulder having recesses cut vertically therein to leave projecting shoulders, pins carried by said latter shoulders, sight-tips pivoted on said pins, and means for locking the sight-tips in a horizontal and a vertical position.

843,146. WAGON-REMOVER. ALONZO J. HAWKES, Cambridge, Mass. Filed Nov. 16, 1906. Serial No. 343,680.

Claim.—1. A device of the character described, comprising a concaved body portion having an abutment within the concavity of the same, ribs connecting said abutment with said body portion, and lugs attached to said body portion and said ribs, substantially as described.

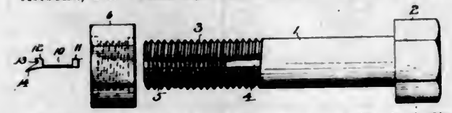
2. A device of the character described, comprising a concaved body portion provided with a rounded exterior surface capable of tilting on the ground and having an abutment within the concavity of the same forming a chamber, for the purpose specified.



3. A device of the character described, comprising a concaved body portion having a rounded exterior surface capable of tilting on the ground, and means attached to said body portion within the concavity to form an abutment, for the purpose specified.

4. A device of the character described, comprising a concaved body portion, and a substantially semicircular wall attached to the body portion within the concavity of the same, substantially as described.

843,147. NUT AND BOLT LOCK. JACOB A. HYLE, Altoona, Pa., assignor of three-fifths to Frederick Hesser, Altoona, Pa. Filed Apr. 25, 1906. Serial No. 313,641.



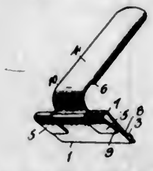
Claim.—1. A device for locking nuts to bolts, including a bolt provided with a longitudinal groove, said groove having ratchet-teeth at the bottom thereof, a nut formed with an annular shoulder, and a locking-key provided with a rigid projection adapted to contact with said annular shoulder during both the adjustment and removal of the nut, said key having an undercut portion at one end thereof, an intermediate yielding portion, and a downwardly-projected end for engaging said ratchet-teeth, substantially as specified.

2. The combination, with a bolt having a longitudinal groove in the threaded portion thereof provided with a series of ratchet-teeth, of a nut formed with an annular shoulder on both its front and rear faces, and a locking-key provided with a rigid lug or projection at or near each end thereof adapted to contact with the annular shoulders on the nut during both the adjustment and removal of said nut, and a downwardly-extended end for engaging the ratchet-teeth, substantially as specified.

3. The combination, with a bolt having a longitudinal groove in the threaded portion thereof provided with ratchet-teeth, of a nut formed with an annular shoulder on both its front and rear faces, a locking-key provided with a projection at each end thereof adapted to contact with the said annular shoulders on the nut, said key having an intermediate yielding portion, an undercut portion, and a downwardly-extended portion for engaging the ratchet-teeth, substantially as described and for the purposes set forth.

4. A device for locking nuts and bolts, comprising a bolt provided with a longitudinal groove throughout the threaded portion thereof, said groove having ratchet-teeth at its bottom, a nut formed with an annular shoulder on both its front and rear faces, a locking-key located between the nut and said ratchet-teeth, said locking-key comprising a rear projection, a forward projection, an intermediate yielding body portion, an undercut or recessed portion, and a downwardly and forwardly projected portion for engaging the ratchet-teeth in the longitudinal groove of the bolt, all substantially as described and for the purpose set forth.

843,148. SAFETY-RAZOR. AMOS H. JACKSON, Fremont, Ohio. Filed Oct. 13, 1906. Serial No. 338,787.



Claim.—1. As a new article of manufacture, a blank for razor-guards, consisting of a sheet of spring metal, approximately rectangular in shape, having two parallel, longitudinal slits, and oppositely-disposed cuts intersecting the slits, whereby clamping-lips are formed and side flanges provided to form a portion of the handle.

2. As a new article of manufacture, a safety-razor guard and handle, constructed of a single piece of spring metal, the guard having oppositely-disposed clamping-lips formed by oppositely-disposed cuts extending from the outer edge inwardly and intersected by longitudinal slits, said clamping-lips being bent over upon the outer surface of the guard, and the handle having side flanges formed by the said inwardly-extending cuts, which flanges are bent inwardly toward each other to form an oval-shape under grasping-surface.

3. In a safety-razor, the combination with a hollow-ground razor-blade, of a single-piece guard and handle, the guard having clamping-lips bent over upon the outer face thereof, said clamping-lips being formed by inwardly-extending transverse cuts intersected by longitudinal slits, and the handle provided with side flanges which are bent inwardly toward each other to form an oval-shape grasping-surface, said flanges being formed by the inwardly-extending transverse cuts.

843,149. AZO COLORING-MATTER. MYRTIL KAHN, Elberfeld, and RICHARD KOTHE, Vohwinkel, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Nov. 6, 1906. Serial No. 342,285.

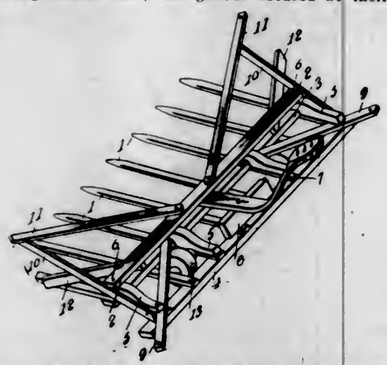
Claim.—1. The herein-described new azo dyestuffs obtainable by combining the diazo compound of 6-nitro-4-chloro-2-aminophenol with 2-arylamino-5-naphthol-7-sulfonic acids, which dyestuffs are, after being dried and pulverized, in the shape of their alkaline salts dark powders soluble in water; yielding upon reduction with stannous chlorid and hydrochloric acid, 2-6-diamino-4-chlorophenol and 2-arylamino-5-naphthol-6-amino-7-sulfonic acid and dyeing wool from acid baths generally from red to violet shades, which on chroming change to from blue to black shades, substantially as hereinbefore described.

2. The herein-described new azo dyestuff, which can be obtained by combining diazotized 6-nitro-4-chloro-2-aminophenol with 2-phenylamino-5-naphthol-7-sulfonic acid, which dyestuff is, after being dried and pulverized, in the shape of its sodium salt a dark powder soluble in water with a violet color and in concentrated sulfuric acid with a bluish-red color; yielding upon reduction with stannous chlorid and hydrochloric acid 2-6-diamino-4-chlorophenol and 2-phenylamino-5-naphthol-6-amino-7-sulfonic acid; and dyeing wool from acid baths violet shades, which are changed to blue when chromed after dying, substantially as hereinbefore described.

843,150. HORSE HAY-RAKE. AARON F. KEARNS, Moscow, Okla. Filed June 15, 1906. Serial No. 321,923.

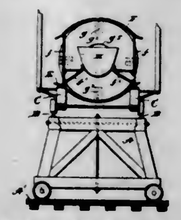
Claim.—In a horse hay-rake, the combination of a rake-head, tines connected thereto and having portions extended in the rear thereof, a rearwardly-extended seat-bar, outwardly and rearwardly inclined draft-bars, longi-

tudinal bars at the sides of the rake and having a forward and upward inclination, braces connected at their inner rear ends to the rake-head and near their forward ends to the longitudinal bars, and guards secured at their rear



ends to the rake-head and forwardly flared and secured at their front ends to the longitudinal bars and to the outermost tines.

843,151. CAR-LOADER. GEORGE A. KENNER and ROBERT FOLKEL, Herrin, Ill. Filed Apr. 13, 1906. Serial No. 311,512.



Claim.—1. In a car-loader, a concave apron, a distributer-wheel positioned thereabove comprising a pair of disks and blades secured radially between the outer portion thereof, one of said disks being secured to a drive-shaft and the other of said disks being provided with centrally-disposed opening therein, and a relatively fixed delivery-chute, the lower end of which extends into the opening formed in one side of the distributer-wheel.

2. In a car-loader, oppositely-curved separated plates, and a distributer-wheel positioned therebetween, said distributer-wheel comprising separated disks, the peripheries of which extend into proximity to said curved plates.

3. In a car-loader, oppositely-curved separated plates, a distributer-wheel positioned therebetween, said distributer-wheel comprising separated disks, the peripheries of which extend into proximity to said curved plates, and means for feeding material onto one of the curved plates between the disks of the distributer-wheel.

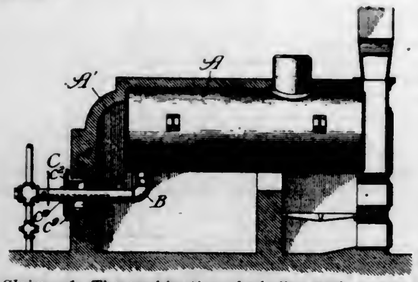
4. In a car-loader, oppositely-curved separated plates, and a distributer-wheel positioned therebetween, said distrbnter-wheel comprising separated disks, the peripheries of which extend into close proximity to said curved plates to form a substantially close joint therewith, and radial blades secured between said disks, one of said disks being formed with an opening centrally thereof to permit material to be fed therethrough onto one of the curved plates between the disks of the distributer-wheel.

5. In a car-loader, oppositely-disposed curved separated plates, a distributer-wheel positioned therebetween comprising separated disks and connecting radial blades, the peripheries of said disks extending into proximity to said curved plates for a portion of the length thereof, and one of said disks being formed with an inlet-opening centrally thereof, said relatively fixed delivery-chute, the lower end of which extends into the opening formed in said disk.

6. In a car-loader, a relatively fixed frame, a concaved apron secured thereon, a distributer-wheel positioned above said apron comprising separated disks and connecting radial blades, one of said disks being provided with an inlet-opening centrally thereof, and a delivery-chute pivotally secured to said frame, the delivery end of said chute being adapted to enter the inlet-opening in said disk when the same is moved to its lowered position.

7. In a car-loader, oppositely-curved separated plates, and a distributer-wheel positioned therebetween, said distributer-wheel comprising separated disks, the peripheries of which extend into proximity to said curved plates to form a substantially closed joint therewith, and radial blades secured between the outer portions of said disks, the outer ends of said blades being flush with the peripheries of said disks, and one of said disks being formed with an opening centrally thereof to permit material to be fed therethrough onto one of the curved blades between the disks of the distributer-wheel.

843,152. BOILER CONSTRUCTION. CHARLES KROESCHELL, Chicago, Ill. Filed Jan. 29, 1906. Serial No. 298,384.

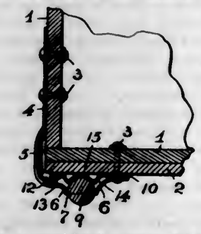


Claim.—1. The combination of a boiler, a pipe connected therewith, a chamber-wall through which said pipe extends, a guide connected with said wall, and a plate having a perforation fitting upon said pipe, said plate movable in said guide, for the purpose set forth.

2. The combination of a boiler, a pipe connected therewith, a chamber-wall provided with an opening, a thimble inserted in said opening and equipped at its outer end with a guide, and a plate having a perforation receiving said pipe, said plate movable in said guide, for the purpose set forth.

3. The combination of a boiler, a pipe connected therewith, a chamber-wall having a perforation through which said pipe extends, a sectionally-constructed thimble inserted in said perforation and equipped at one end with a guide, and a plate fitted upon said pipe and movable in said guide, for the purpose set forth.

843,153. COMBINED CORNER-SHIELD AND CASTER. ALBERT J. H. KUHSIEK, Jersey City, N. J., assignor to The R. Neumann Hardware Co., a Corporation of New Jersey. Filed Nov. 24, 1906. Serial No. 344,817.



Claim.—1. In a combined corner-shield and caster for trunks and the like, the combination, with an angle-plate, comprising two right-angled members, of a bearing-plate secured upon one of said members of said angle-plate and forming with the same a ball-receiving socket, a ball in said socket, said bearing-plate having its upper face unbroken and lying in a plane at right angles to the plane of said other member of the angle-plate so as to be adapted to be secured upon the bottom of a slat without cutting into said slat.

2. In a combined corner-shield and caster for trunks and the like, the combination, with an angle-plate comprising two right-angled members, one of which is provided with a ball-receiving socket, of a caster-ball mounted in said socket, a bearing-plate, and means for securing said bearing-plate upon said socketed member of the angle-plate, substantially as and for the purposes set forth.

3. In a combined corner-shield and caster for trunks and the like, the combination; with an angle-plate comprising two right-angled members, one of which is provided with a ball-receiving socket, of a caster-ball mounted in said socket, a bearing-plate, and a tongue connected with said socketed member, said tongue extending over an edge of the said bearing-plate for securing said angle-plate in position.

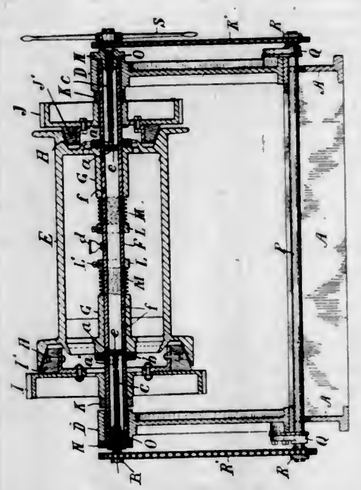
4. The herein-described combined corner-shield and caster for trunks and the like comprising two right-angled members, one of said members having a downwardly-extending portion formed with an opening, all arranged to provide a ball-receiving socket, a bearing-plate arranged above said socket, an annularly-formed ball-seat upon said plate, a ball having a portion resting upon said seat and said ball having another portion projecting from the opening of said ball-receiving socket, means for securing said plate upon said member of the shield, all arranged that the device can be secured to the bottom of a slat without cutting into said slat, substantially as and for the purposes set forth.

5. The herein-described combined corner-shield and caster for trunks and the like comprising two right-angled members, one of said members having a downwardly-extending portion formed with an opening, all arranged to provide a ball-receiving socket, a bearing-plate arranged above said socket, an annularly-formed ball-seat upon said plate, a ball having a portion resting upon said seat and said ball having another portion projecting from the opening of said ball-receiving socket, a clamping-tongue for securing said plate upon said member of the shield, all arranged that the device can be secured to the bottom of a slat without cutting into the slat, substantially as and for the purposes set forth.

6. The herein-described combined corner-shield and caster for trunks and the like comprising two right-angled members, one of said members having a downwardly-extending portion formed with an opening, all arranged to provide a ball-receiving socket, a bearing-plate arranged above said socket, an annularly-formed ball-seat upon said plate, a ball having a portion resting upon said seat and said ball having another portion projecting from the opening of said ball-receiving socket, a clamping-tongue for securing said plate upon said member of the shield, all arranged that the device can be secured to the bottom of a slat without cutting into the slat, both of said members of the shield being provided with nail or rivet receiving perforations, and the said bearing-plate being also provided with nail or rivet receiving perforations corresponding to and registering with the nail or rivet receiving perforations of the member which is provided with the ball-receiving socket, substantially as and for the purposes set forth.

7. The herein-described combined corner-shield and caster for trunks and the like comprising a pair of right-angled members, one of said members being formed with a downwardly-extending annular portion 6 which surrounds a hole in said member, said annular portion 6 providing a ball-receiving socket, a plate 10 formed with an annular boss 14 extending partially into said ball-receiving socket, a concave ball-seat 15 on said plate, said seat being surrounded by said annular boss, all arranged so that there will be no projecting portions extending above the upper face of said plate, and a clamping-tongue forced out of one of the members of the shield, said tongue extending over the edge of said plate, substantially as and for the purposes set forth.

843,154. HOISTER-DRUM WITH HOLLOW SHAFTS. ASHER LAMBERT, Newark, N. J. Filed Oct. 2, 1906. Serial No. 337,056.



Claim.—1. In a hoisting-engine, the combination, with a hollow drum-shaft and a friction-driver fitted to turn thereon and supported against end movement, with means for rotating the same continuously upon the shaft, of a drum fitted to turn upon the shaft and having a friction-surface to engage the friction-driver, a nut screwed inside the end of the shaft, a thrust-screw extended through the said nut, and connections from said screw for pressing the drum toward the friction-driver to couple them together.

2. In a hoisting engine, the combination, with a hollow drum-shaft held stationary in bearings, of a driving-gear and reversing-gear fitted to turn near the opposite ends of the shaft and held from end movements thereon, a drum fitted to turn upon the shaft between the said gears, complementary friction-surfaces upon the opposite ends of the drum and adjacent gears, and means operated through the interior of the shaft for pressing the drum toward either of the gears, to rotate it at pleasure in opposite directions.

3. In a hoisting-engine, the combination, with a hollow drum-shaft and a driving-gear fitted to turn thereon and supported against end movement, of a drum fitted to turn upon the shaft, complementary friction-surfaces upon the gear and drum, a nut screwed inside the end of the shaft, a thrust-screw extended through the said nut, and connection from said screw for pressing the drum toward the driving-gear to couple them together.

4. In a hoisting-engine, the combination, with a hollow shaft and bearings for holding the same stationary, of a driving-gear and reversing-gear fitted each to turn upon the shaft near one end of the same, a drum fitted to turn upon the shaft between the said gears, complementary friction-surfaces upon the ends of the drum and adjacent gears, means operated through the interior of the shaft to press the drum toward either of the gears, and springs fitted to the shaft within the drum and adjusted to hold the same intermediate to the gears so as to normally clear all the friction-surfaces.

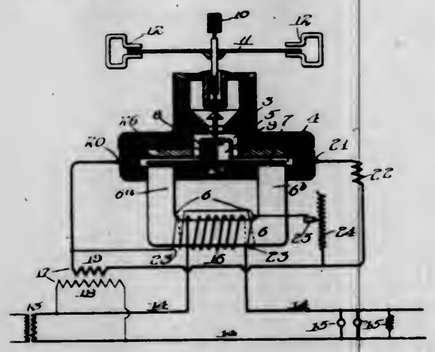
5. In a hoisting-engine, the combination, with a hollow shaft and bearings for holding the same stationary, of a driving-gear and reversing-gear fitted each to turn upon the shaft near one end of the same, a drum fitted to turn upon the shaft between the said gears, complementary friction-surfaces upon the ends of the drum and adjacent gears, nuts screwed in the ends of the shaft, thrust-screws extended through the nuts with connections from the same to the opposite ends of the drum for pressing it in opposite directions, a gear-shaft extended at the side of the drum with gearing coupling the ends of the shaft to

both of the said thrust-screws, and means for rotating the gearing to turn the thrust-screws.

6. In a hoisting-engine, the combination, with a hollow shaft and bearings for holding the same stationary, of a drum and gear fitted to each with hub to turn upon the shaft, complementary friction-surfaces upon the drum and gear, means operating through the interior of the shaft for pressing the drum and gear together to couple them when desired, an oil-hole extending from the interior of the shaft to the hub of the drum, and means for supplying oil to the interior of the shaft to lubricate the said hub.

7. In a hoisting-engine, the combination, with a hollow shaft having a drum fitted to rotate upon the same, the shafts having slots *a'* with cross-keys *a* at the ends of the drum, of the plug *e* fitted tightly within the shaft adjacent to such cross-keys, means for supplying oil to the interior of the shaft between the plugs, and the shaft having oil-holes *f* within the hubs of the drum for supplying oil to the same.

843,155. MOTOR-METER FOR ALTERNATING CURRENTS AND METHOD OF OPERATING THE SAME. ROBERT C. LANPHIER, Springfield, Ill., assignor to Sangamo Electric Company, Springfield, Ill., a Corporation of Illinois. Filed Apr. 27, 1906. Serial No. 314,060.



Claim.—1. In a motor watt-hour meter for alternating currents, the combination with a chamber adapted to contain a conducting fluid, an armature rotatable therein, and a field-magnet adapted to act upon said armature to cause rotation, of an energizing-winding for said magnet carrying current proportional to the load upon the meter, and a transformer having its primary winding in derivation to the load-circuit and its secondary winding connected to terminals adapted to direct its currents across the armature, substantially as described.

2. In a motor watt-hour meter for alternating currents, the combination with a chamber adapted to contain a conducting fluid, an armature rotatable therein, and a field-magnet adapted to act upon said armature to cause rotation, of an energizing-winding for said magnet carrying current proportional to the load upon the meter, and a low-potential transformer having its primary winding in derivation to the load-circuit and its secondary winding connected to terminals adapted to direct its current across the armature, substantially as described.

3. In a motor watt-hour meter for alternating currents, the combination with a chamber adapted to contain conducting fluid, an armature rotatable therein, an electro-magnet having pole-pieces approaching said armature at each side of its center, and a magnetic return-plate, of an energizing-winding for said magnet in series with the main load-circuit, and a transformer having its primary winding in derivation to the load-circuit and its secondary winding connected to terminals adapted to direct its current across the armature, substantially as described.

4. In a motor watt-hour meter for alternating currents, the combination with a chamber adapted to contain conducting fluid, an armature rotatable therein, an electro-magnet having pole-pieces approaching said armature at each side of its center, and a magnetic return-plate, of an energizing-winding for said magnet in series with the main load-circuit, and a low-potential step-down transformer having its primary winding in derivation to the load-current and its secondary winding connected to terminals adapted to direct its current across the armature, substantially as described.

5. In a motor watt-hour meter for alternating currents, the combination with a chamber adapted to contain mercury, an armature rotatable therein, and an electromagent adapted to produce energizing-fields of opposite polarity on each side of the center of rotation of said armature, of an energizing-winding for said magnet carrying current proportional to the load, and a step-down transformer having its primary winding in derivation to the load-circuit and its secondary winding connected to terminals adapted to direct its current across the armature, substantially as described.

6. In a motor watt-hour meter for alternating currents, the combination with a chamber adapted to contain conducting fluid, an armature rotatable therein, and a field-magnet adapted to act upon said armature to cause rotation, of an energizing-winding for said magnet carrying current proportional to the load upon the meter, a low-potential transformer having its primary winding in derivation to the load-circuit and its secondary winding connected to terminals adapted to direct its current across the armature, and an adjustable inductance in series with said secondary winding.

7. In a motor watt-hour meter for alternating currents, the combination with a chamber adapted to contain conducting fluid, an armature rotatable therein, and a field-magnet adapted to act upon said armature to cause rotation, of an energizing-winding for said magent in series with the translating devices, and a transformer adapted to direct through the armature a secondary current of low potential proportional to the pressure upon the circuit to which the meter is connected.

8. The method of operating a mercury watt-hour meter upon alternating current, which consists in passing through the armature a low-potential induced current proportional to the circuit-pressure, and in causing a main current-energizing field to react upon said low-potential induced current to produce rotation of the armature, substantially as described.

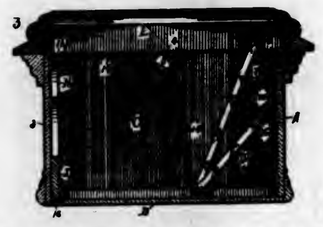
9. The method of operating by alternating current a motor watt-hour meter having a mercury-chamber, an armature in said chamber, and a magnetic energizing-field adapted to act upon said armature to produce rotation, which consists in passing through the armature a low-potential induced current proportional to the circuit-pressure, and in passing through the energizing-winding of the magnet the main load-current or a derived current proportional thereto.

843,156. GREEN SULFUR DYE. AUGUST L. LASKA, Offenbach-on-the-Main, Germany, assignor to Chemische Fabriek Griesheim-Elektron, Frankfort-on-the-Main, Germany, a Corporation. Filed Nov. 6, 1906. Serial No. 342,175.

Claim.—1. The process of making green sulfur dyestuffs by heating indophenols, obtained by joint oxidation of para-amidophenol and alpha-naphthylarylsulfamids, with alkali polysulfids in the presence of copper, substantially as described.

2. As a new article of manufacture the green sulfur dyestuffs resulting by heating the indophenols, obtained by the joint oxidation of para-amidophenol and alpha-naphthylarylsulfamids with alkali polysulfids in the presence of copper, which dyestuffs form black-green powders, hardly soluble in water, soluble in concentrated sulfuric acid with blue color, in sodium sulfid with green color, dyeing cotton green shades of remarkable fastness to washing, substantially as described.

843,157. DROP-FRONT BURIAL-CASKET. WALTER H. LAWSON, Richmond, Ind., assignor to Watt & Keelor, Richmond, Ind., a Firm. Filed Feb. 26, 1906. Serial No. 302,874.

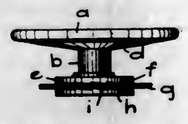


Claim.—1. In a burial-casket having a hinged top with the central portion of the front of the casket formed open, a movable panel adapted to close said open portion of the front, guides for mounting said panel whereby it may be moved vertically within the limit of its width, a stop extending back from the lower edge of the movable panel, flexible means for indirectly connecting the top and the movable panel whereby they will counterbalance each other to move to and from each other, and by which if the panel be held the top may be opened and closed without actuating the said panel, all substantially as shown and described.

2. A burial-casket having a hinged top and a vertically-movable front panel, means for guiding said panel in its movements, means for limiting the upper movements of the panel, arms pivoted to the top and extending downward inside the casket, cords secured to the lower ends of said arms and with other ends of said cords connected to the ends of the movable panel, and a system of pulleys for directing the operation of said cords whereby the opening and closing of the top will automatically lower and raise the movable panel respectively, all substantially as shown and described and for the purposes set forth.

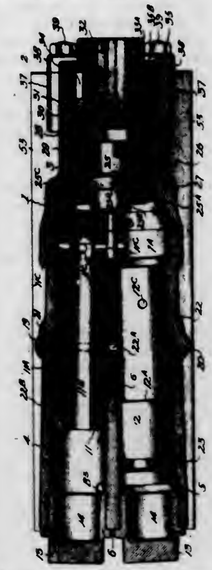
3. In a casket, the combination with the body having a portion of its front side cut away, and a top hinged to the upper edge of the rear side of the body, of the panel slidably mounted to close said cut-away portion of the front side, a lever connected to each end of the inside of the top, a cord connected to each end of the panel with its opposite end connected to its respective lever of the top, means for guiding the direction of said cords for counterbalancing the top and said panel whereby as the top is raised and lowered said cut-away portion of the casket will be opened and closed, and by which if said panel be held the top may be opened and closed without operating said panel, all substantially as shown and described and for the purposes set forth.

843,158. DETACHABLE BUTTON. ZOEL M. LEGER, Moncton, New Brunswick, Canada. Filed Apr. 18, 1906. Serial No. 312,434.



Claim.—A detachable button comprising a shank having the top thereof externally screw-threaded, a head having an internally-screw-threaded recess into which the end of the shank fits, an annular plate integral with the top of the shank, adjacent to the screw-threading, and adapted to abut the under side of the head, a second plate integral with the opposite end of the shank, a plurality of radial ratchet-teeth formed on the outer surface thereof, an attaching-plate having a plurality of radial ratchet-teeth thereon an externally-screw-threaded pin secured to said plate and an internally-screw-threaded recess on the shank into which said pin is adapted to extend as and for the purpose specified.

843,159. MULTIPLE-HAMMER-PISTON ROCK-DRILLING ENGINE. JOHN G. LEYNER, Denver, Colo. Filed May 9, 1905. Serial No. 259,613.



Claim.—1. A rock-drilling engine, comprising a casing containing two cylinders arranged at an acute angle to each other, a hammer-piston in each of said cylinders, means to secure a drill in the front end of said casing and means to reciprocate said hammer-pistons to deliver alternate blows upon said drill.

2. A rock-drilling engine, comprising a casing containing two cylinders arranged at an acute angle to each other, a hammer-piston in each of said cylinders, a drill-holding chuck in the front end of said casing, a striking-pin and means to maintain it in alinement with said chuck, and means to cause said hammer-pistons to deliver alternate blows upon said pin.

3. A rock-drilling engine, comprising a casing containing two cylinders arranged at an acute angle to each other, a hammer-piston in each of said cylinders, a drill-holding chuck in the front end of said casing, a striking-pin and means to maintain it in alinement with said chuck, means to cause said hammer-pistons to deliver alternate blows upon said pin, means to support said casing and means to simultaneously feed said casing and rotate said chuck.

4. In a rock-drilling engine, a casing, means to support a drill in the front end thereof, a pair of guideways in said casing converging toward the front end thereof, a reciprocatory hammer mounted in each of said guideways and means to cause said hammers to deliver alternate blows upon said drill.

5. In a rock-drilling engine, a drill-holder, a pair of hammers guided to reciprocate along lines converging toward said holder and means to cause said hammers to deliver alternate blows to the drill.

6. In a rock-drilling engine, the combination of a support, a casing reciprocally mounted on said support, a drill-chuck in said casing, means to feed said casing along said support and to simultaneously rotate said chuck, a pair of hammers mounted to reciprocate in said casing along lines converging toward said chuck and means to cause said hammers to deliver alternate blows to a drill held in said chuck.

7. In a rock-drilling engine, a casing comprising two cylinders arranged at an acute angle to each other, a drill-chuck in the front end of said casing the axis of which bisects said angle, a hammer-piston in each cylinder and means to convey a motive fluid to said pistons comprising ducts in said casing and grooves in said pistons.

arranged so that said pistons are simultaneously reciprocated in opposite directions to deliver alternate blows to the drill in said chuck.

8. In a rock-drilling engine, a casing comprising two cylinders arranged at an acute angle to each other, a drill-chuck in the front end of said casing the axis of which bisects said angle, a striking-pin maintained in axial alinement with said chuck, a hammer-piston in each cylinder and means to convey a motive fluid to said pistons comprising ducts in said casing and grooves in said pistons, arranged so that said pistons are simultaneously reciprocated in opposite directions to deliver alternate blows to the said striking-pin.

9. In a rock-drilling engine, the combination of a support, a casing mounted thereon comprising two cylinders arranged at an acute angle to each other, a drill-chuck rotatably mounted in the front end of said casing, a striking-pin maintained in axial alinement with said chuck, a hammer-piston in each of said cylinders, means to convey motive fluid to said casing to reciprocate said hammer-pistons in opposite directions to deliver alternate blows to said striking-pin and means to feed said casing along said support and to simultaneously rotate said chuck.

10. In a rock-drilling engine, the combination of a casing containing a plurality of cylinders, each having a hammer-piston therein, said cylinders and pistons having ducts formed therein to convey a motive fluid to simultaneously reciprocate said pistons in opposite directions, a drill-chuck arranged in the front end of said casing, a striking-pin reciprocally mounted in said chuck, and buffer devices for said pistons and striking-pin.

11. In a rock-drilling engine, the combination of a casing containing two cylinders, a hammer-piston in each cylinder, said casing having ducts to convey motive fluid to said pistons, a chuck in the front end of said casing, a striking-pin reciprocally mounted in said chuck, buffer devices for said pistons and striking-pin, a support for said casing, a feed-screw to feed said casing along said support and intermeshing gears on said chuck and feed-screw, whereby said chuck is rotated as said casing is fed.

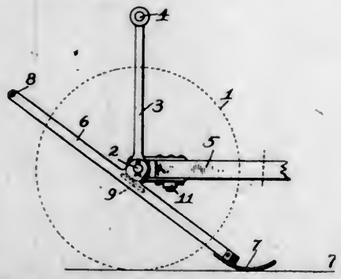
12. In a fluid-controlled rock-drilling engine, a casing, two cylinders in said casing, each having a hammer-piston, a rotatable chuck in said casing, a drill arranged to be supported by said chuck, a striking-pin reciprocally supported in said casing and having one end projecting into said chuck in operative striking relation to said drill, a buffer surrounding said striking-pin and arranged to cushion the spent blows of said hammer-pistons and said striking-pin, a feed-screw for feeding said drill, and gears connected with said feed-screw and chuck for rotating said drill.

13. In a fluid-controlled rock-drilling engine, the combination with the supporting-shell and the casing, having a pair of cylinders, each cylinder of which is provided with a hammer-piston, and fluid-ducts leading from a source of supply arranged and adapted to reciprocate said hammer-pistons in opposite directions in alternate order, a steel buffer-sleeve in said cylinders slidably mounted therein and provided with a bore of different diameters and projecting at one end into the reciprocal path of said hammer-pistons, a steel ring at the opposite end of said buffer-sleeve, having a hub that projects into the large bore of said sleeve, a space in said buffer-sleeve between the hub of said ring and the bottom of the large bore of said buffer-sleeve, a rubber buffer-ring at the end of said hub-ring, a steel washer at the end of said rubber buffer, a chuck extending at one end through said steel washer, and rubber buffer-ring, and hub-ring, into the large bore of said steel buffer-sleeve, to near the end of the hub of said hub-ring, a drill in said chuck, a striking-pin extending in said steel buffer-sleeve and into said chuck, having its front end projecting through the small bore of said steel buffer-sleeve into the reciprocal path of said hammer-pistons, and a collar intermediate of its ends extending into the large bore of said steel buffer-sleeve, there being an operative drill-driving space in said steel buffer-sleeve between the collar and the adjacent end of the hub of said hub-ring, the opposite end of said striking-pin projecting slidably into said chuck in operative striking relation to said drill, a front cylinder-head secured to the end of said cylinder, a hub-abutment portion extending to said steel washer, a feed-screw connected to said shell and casing and arranged to feed said drill, and means connected to said feed-screw and chuck for rotating said drill, substantially as described.

14. In a fluid-controlled hammer-piston drill, a casing, a chuck revolubly mounted in said casing, a drill in said chuck, two cylinders in said casing, having two pistons, arranged to reciprocate in opposite directions, and to drive said drill, a steel buffer-sleeve in said casing arranged to receive the spent blows of said hammer-pistons, a striking-pin slidably mounted at one end in said buffer-sleeve and slidably mounted at its opposite end in said chuck, against said drill, a buffer-ring arranged to cushion the spent blows of said striking-pin, a rubber ring arranged to resiliently cushion the movements of said buffer sleeve and ring, an abutment for said rubber buffer-ring, a feed-screw for feeding the drill, and means connected with said feed-screw and said chuck for rotating said drill.

15. In a fluid-controlled piston-drill, the combination of a casing containing two cylinders, a piston reciprocally mounted in each cylinder, said casing having fluid-ducts leading from a source of supply, a chuck rotatably mounted in the front end of said casing to hold a drill, a buffer-sleeve in said casing in axial alinement with said chuck, a buffer-ring and washers surrounding said chuck at the end of said sleeve, and a striking-pin reciprocally supported by said sleeve and chuck to engage the end of a drill in said chuck and to receive the blows of said pistons and deliver them to the drill.

843,160. TONGUELESS CULTIVATOR. CHARLES E. MACBETH, Hamilton, Ohio, assignor to The Long & Allstatter Company, Hamilton, Ohio. Filed Dec. 17, 1906. Serial No. 348,098.

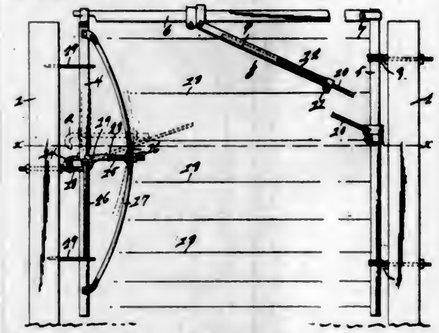


Claim.—A cultivator comprising a stub-axle, a cultivator-beam connected therewith, an arch side having its base pivoted to the stub-axle, an arch-bar having pivotal connection with the top of the arch side, a shoe-bar pivoted at an intermediate portion to the stub-axle and having a hitch-point at its forward end, a shoe at the rear end of the shoe-bar, coöperating stops upon the shoe-bar and the base of the arch side, and a stop carried by the cultivator-beam and projecting above and into the path of the shoe-bar to the rear of the stub-axle, combined substantially as set forth.

843,161. FENCE-GATE. PETER MAST, Adrian, Mich. Filed Sept. 11, 1905. Renewed July 24, 1906. Serial No. 327,505.

Claim.—1. In a fence-gate, a frame provided with spring-actuated means for raising its forward end and having a hook projecting outwardly therefrom, a post, a yoke member pivoted upon said post adapted to engage the hook upon the frame, and a pivoted operating-lever detachably connected with said yoke member, substantially as described.

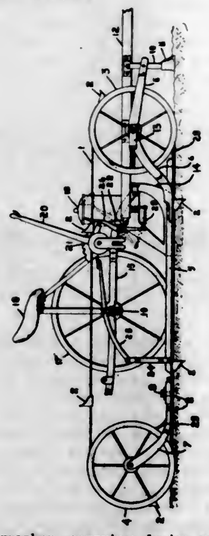
2. In a fence-gate, a frame provided with spring-actuated means for raising its forward end and having a hook projecting outwardly therefrom, a post, a yoke member pivotally supported upon said post having sides spaced apart to permit the forward end of the gate-frame to take a position therebetween, and having a transverse connecting portion to engage the hook upon the frame, and a pivoted operating-lever detachably connected with said yoke member, substantially as described.



3. In a fence-gate, a frame provided with spring-actuated means for raising its forward end and having a hook projecting outwardly therefrom, a post, fixed parallel supports carried by the post, a yoke member pivoted upon said supports having sides spaced apart, and having a transverse portion connecting said sides adapted to engage the hook upon the frame, lugs upon said sides adapted to rest upon the supports and limit the movement of the yoke, and an operating-lever for the yoke pivoted at one end and adapted to engage the yoke at a point remote from said pivoted end, substantially as described.

4. In a fence-gate, a frame provided with spring-actuated means for raising its forward end and having a hook projecting outwardly therefrom, a post, fixed parallel supports carried by the post, spaced pairs of guide-rods upon said post, a yoke member having parallel sides spaced apart and provided centrally thereof with trunnions adapted to rest upon the outer ends of said supports, and having a transverse connecting portion between the outer ends of the sides, outwardly-extending angular arms at the inner ends of the sides, lugs upon the sides to rest upon the supports, and operating-levers pivoted upon the trunnions of the yoke member adapted to detachably engage said angular arms, substantially as described.

843,162. GROUND-MARKER AND TRIP-ACTUATOR. FREDERICK H. MORSE, Milwaukee, Wis. Filed Mar. 28, 1906. Serial No. 308,513.



Claim.—1. A marker-carrying device and independent tilting means for each end thereof.

2. A planter having a seeding device, a trip therefor and a marker, adjustable independently of the seeding device, for actuating the trip.

3. A planter having furrow-openers, a marker-carrying device adjustable independently of the furrow-openers, a marker and a trip actuated by the marker.

4. A planter having furrow-openers, an endless flexible marker-carrying member adjustable independently of the furrow-openers, a marker and a trip actuated by the marker.

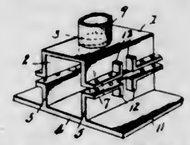
5. An endless flexible member, supporting means therefor, member-propelling markers and a marker-actuated trip.

6. A driven member, a trip and a ground-engaging trip-actuating marker to drive the member.

7. A ground-marking device comprising a pair of wheels, an endless carrier, markers thereon, and a runner for holding the wheel-embedded markers in the ground.

8. A trip-actuating device comprising a pair of wheels, an endless carrier, wheel-embedded propellers, and a runner for holding the propellers embedded.

843,163. COLUMN-SUPPORT. THOMAS F. MCCARTHY, Waltham, Mass. Filed June 15, 1906. Serial No. 321,851.



Claim.—1. The combination of a pair of clamping members adapted to have a beam pass therethrough, and means for adjustably clamping the members together said members provided with means for securing the adjoining ends of columns thereto.

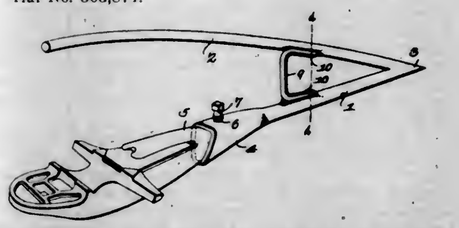
2. The combination with clamping members formed each with a channeled portion to provide a boxing, of means on the upper and lower faces of said members for engagement with a post or column and clamping means for securing the members in juxtaposition.

3. A column-joint adapted to be secured to the ends of superposed columns, fastening means for securing the columns thereto, said joint formed with an angular channel to allow the passage of a beam therethrough.

4. In building construction, a joint comprising clamping members, there being angular securing-flanges at the meeting edges of the members, said members being hollowed to provide a central passage therethrough for the reception of a beam, and means on opposite faces of the members to be engaged by superposed columns.

5. In building construction, a joint comprising clamping members having angular securing-flanges at their meeting edges, said members being hollowed to form a boxing for the passage of a beam therethrough, and means on the sides of the members to receive an abutting beam.

843,164. GRAIN-LIFTING ATTACHMENT FOR HARVESTERS. ALBERT H. MCCUTCHAN, Goltry, Okla., assignor of one-fourth to Charles M. Delzell and one-fourth to J. H. Santee, Goltry, Okla. Filed Mar. 2, 1906. Serial No. 303,874.

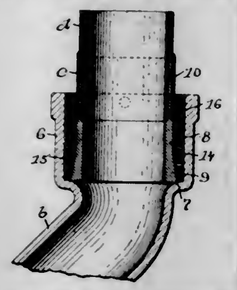


Claim.—1. A grain-lifting device adapted to be attached to the finger-guard of a harvester consisting of a forwardly-extending member, a member extending rearwardly from the forward end of said forwardly-extending member and

being inclined at an angle with relation to said forwardly-extending member, a U-shaped limb inserted between said members and having its ends extending toward the point of connection between the two said members and inclined toward each other, the outer sides of the ends of the limb being secured along their entire length to the said members and being concave to conform to the contour thereof.

2. A grain-lifting device adapted to be attached to the finger-guard of a harvester consisting of a forwardly-extending member, a member extending rearwardly from the forward end of said forwardly-extending member and being inclined at an angle with relation to said forwardly-extending member, a brace extending vertically between the forwardly-extending member and the rearwardly-extending member and attaching with both and having limbs which extend therefrom along both of said members toward the point of juncture only and bracing that portion of the lifting device lying between the brace and the point of juncture of the forwardly and rearwardly extending members and leaving the rear portion of the rearwardly-extending member free for vibration.

843,165. PIPE-JOINT. JOHN C. MCELROY, Providence, R. I. Filed Mar. 24, 1906. Serial No. 307,824.



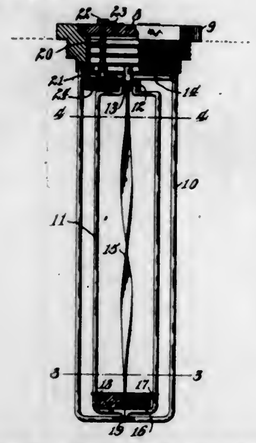
Claim.—1. In a pipe-joint, a thimble having a comparatively thick body portion from which extends a truncated-cone-shaped end and a reduced cylindrical end the latter provided with a series of holes, a lead end formed on the reduced cylindrical portion and shaped to cover the inner and outer surfaces thereof, and means for permanently securing the lead end to the thimble consisting of lead within said holes for uniting the parts of said end.

2. In a pipe-joint, a thimble *c* having a comparatively thick body portion 8 from which extends a truncated-cone-shaped end 9 and a reduced cylindrical end 10 the latter forming the inner and outer annular shoulders 11 and 12 and a lead end *d* cast on the cylindrical end 10 and shaped to envelop the cylindrical end to the shoulders 11 and 12, pass through holes 13 13 formed in said end 10 and to extend outward beyond said end, as described.

843,166. INDICATOR FOR TANKS. WILLIAM M. MCNUTT, New York, N. Y. Filed Nov. 19, 1906. Serial No. 343,990.

Claim.—1. In a fluid-level indicator, the combination of a support, an indicating-arm pivoted on the support, a spindle for the arm, a gear on the spindle, a rotatable frame carrying a gear meshing with said gear, a float vertically guided in said frame to move up and down by the level of the liquid, and means for causing the reciprocation of the float to oscillate the frame.

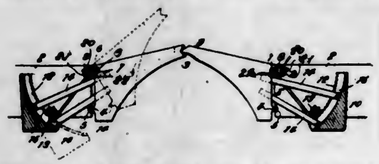
2. In a fluid-level indicator, the combination of a support, a spindle rotatable in the support carrying an indicator on its end, a frame secured to the support, a spiral member secured to the support, a second frame rotatably carried by said frame, a float member arranged to reciprocate vertically in the second frame, the float having an apertured portion engaging the spiral member whereby the rise and fall of the float by the liquid will cause the float to rotate on the spiral member and oscillate the second frame, and means for operating the indicator-spindle by the rotatable frame.



3. In a fluid-level indicator, the combination of a support, a spindle rotatable in the support, an indicator-arm on the outer end of the spindle, a gear secured on the inner end of the spindle below the support, a frame secured to the support and projecting downward, a second frame rotatable in the first frame and carrying a gear meshing with said gear to rotate the spindle at a reduced speed, a float carried by the rotatable frame and reciprocable thereon, and a spiral member projecting downward from the support and secured thereto, the float having an apertured portion engaging the fixed spiral member whereby the rise and fall of the float will cause its rotation and thereby rotate the movable frame and swing the indicating-arm.

4. In a fluid-level indicator, the combination of a support member, a spindle rotatable in the support, an indicator-arm on the outer end of the spindle, a gear secured on the inner end of the spindle below the support, a frame secured to the support and projecting downward, a second frame rotatable in the first frame and carrying a gear meshing with said gear on the spindle to rotate the spindle at a reduced speed, a float having side portions engaging the second frame to reciprocate thereon, and a bent spiral bar projecting downward from the support member and secured thereto, the float having a slotted portion engaging the spiral bar whereby the rise and fall of the float will cause its rotation and thereby rotate the movable frame and operate the indicating-arm.

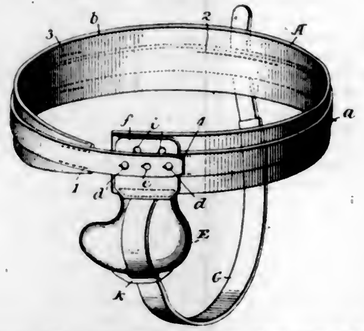
843,167. BRIDGE STRUCTURE. JOHN P. NIKONOW, Pittsburg, Pa. Filed Mar. 24, 1906. Serial No. 307,850.



Claim.—1. In a bridge, the combination of piers, cantalivers resting upon the piers, and three-hinge arches connecting the cantalivers, the sections of the arches being so formed as to be lifted when desired and for this purpose being loosely connected to the cantalivers so as not to interfere with the action of the three hinges.

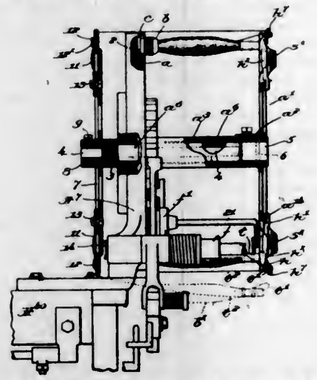
2. In a bridge, the combination of piers, cantalivers resting upon the piers, three-hinge arches connecting the cantalivers, the sections of the arches being connected to the cantalivers by a loose joint which enables them to be lifted when desired and does not interfere with the actions of the three hinges, and means for tightening the joint.

843,168. TRUSS. FRANKLIN A. NIMS, Greeley, Colo. Filed Feb. 16, 1906. Serial No. 301,422.



Claim.—The combination with the waist-belt of a truss, of studs thereon, a pad, and a tongue connected with the pad and having openings in different positions to engage the studs with the tongue either on vertical or inclined lines, substantially as set forth.

843,169. FILLING-REPLENISHING MECHANISM FOR AUTOMATIC LOOMS. JONAS NORTHROP and WALTER F. ROPER, Hopedale, Mass., assignors to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Jan. 26, 1906. Serial No. 298,004.



Claim.—1. The combination, in a loom, of an intermittingly-rotatable feeder to sustain the heads and tips of a series of filling-carriers as a reserve supply, a transferrer to transfer the filling-carriers singly to the running shuttle, and means rotatable with and at the inner end of the feeder to hold the filling ends leading from said filling-carriers.

2. A filling-feeder comprising a plate to sustain the heads of a circularly-arranged series of filling-carriers, a connected plate, yielding tip-holders thereon to sustain the tips of the filling-carriers, each tip-holder having a projection thereon, and a filling-end holder located adjacent the inner end of the feeder and connected therewith, the several ends of filling passing from their respective filling-carriers around the projections on the tip-holders and thence back to the filling-end holder.

3. A filling-feeder comprising two connected and rotatably-mounted plates adapted to sustain respectively the heads and tips of a series of filling-carriers, means adjacent to and connected with the head-sustaining plate to hold the filling-ends, and means on the tip-sustaining plate to support a bight in each filling end while the corresponding filling-carrier is in the feeder.

4. A filling-feeder comprising two connected and rotatably-mounted plates adapted to sustain respectively the heads and tips of a series of filling-carriers, means adjacent to and connected with the head-sustaining plate to hold the filling ends, and yieldingly-mounted means on the tip-sustaining plate to temporarily support a bight or loop in each filling end until the corresponding carrier is removed from the feeder.

5. The combination, in a loom, of an intermittingly-rotatable feeder to sustain the heads and tips of a series of filling-carriers as a reserve supply, a transferrer to transfer the filling-carriers singly to the running shuttle, a filling-end holder at the inner end of and rotatable in unison with the feeder, and means on the outer end of the latter to support a bight of each filling end adjacent the tip of the corresponding filling-carrier.

6. The combination, in a loom, of a rotatable filling-feeder to sustain the heads and tips of a series of filling-carriers, a disk rotatable with and adjacent the head-sustaining end of the feeder, devices thereon to hold the extremities of the filling ends leading from the several filling-carriers, and means on the other end of the feeder to support a bight or loop in each filling end.

7. The combination, in a loom, of intermittingly-movable means adapted to sustain a series of filling-carriers and present them singly into position to be transferred to the running shuttle, a transferrer, a filling-end holder movable with said sustaining means and adjacent the heads of the filling-carriers, and means to automatically release the severed filling ends from the holder.

8. The combination, in a loom, of intermittingly-movable means adapted to sustain a series of filling-carriers and present them singly into position to be transferred to the running shuttle, a transferrer, a filling-end holder movable with and at the inner end of said sustaining means, and automatic means to cause the holder to release the filling ends at a predetermined point in its movement.

9. The combination, in a loom, of a rotatable feeder, adapted to contain a plurality of filling-supplies, means to transfer the supplies singly to the running shuttle, and filling-end-holding means located adjacent the inner end of the feeder.

10. The combination, in a loom, of a filling-feeder at one side thereof to sustain a circularly-arranged series of filling-carriers, means to transfer them one by one to the running shuttle, and means intermediate the feeder and the cloth to hold the filling ends of the filling-carriers.

11. The combination, in a loom, of a rotatable feeder to sustain the heads and tips of a series of filling-carriers, a transferrer to remove the latter singly to the running shuttle, means to form a loop in each filling end adjacent the tip of its filling-carrier, to provide requisite slackness when transferred and to direct the filling end, and a filling-end holder adjacent the head-supporting end of the feeder.

12. In a loom, a fixed stand, a filling-feeder rotatably mounted thereon at its outer side and comprising connected plates to respectively sustain the heads and tips of a series of filling-carriers, a peripherally-notched disk at the opposite side of the stand, coaxially connected with the feeder, end-holding clips on the disk, to engage and hold the filling ends, and means on the feeder to temporarily support an outwardly-extended loop in each filling end, the filling ends leading from the filling-carriers around said means and back over the notched disk to the clips.

13. The combination, in a loom, of two connected plates to sustain the heads and tips of a series of filling-carriers, a fixed support on which said plates are rotatably mounted, a peripherally-notched guide-disk coaxially connected with said plates, individual holding devices on said disk to engage and hold the filling ends, means on the tip-sustaining plate to form a bight or loop in each filling end, and means to temporarily render inoperative each holding device after the corresponding filling-carrier has been removed to the running shuttle.

14. The combination, in a loom, of a rotatable feeder to sustain a series of filling-carriers, a stand on which the feeder is mounted, a transferrer to remove the filling-carriers singly from the feeder to the running shuttle, a filling-end holder connected with the feeder adjacent its inner end and located between the stand and the cloth, and

means to cause the filling ends one after another to be released from the holder after their respective filling-carriers have been transferred.

15. In a loom, means to automatically replenish the running filling, including a rotatable feeder for reserve supplies of filling, and a filling-end holder between said feeder and the cloth.

16. In a loom, means to automatically replenish the running filling, including a rotatable feeder for reserve supplies of filling, a filling-end holder connected with the feeder adjacent its inner end, and means to form a loop in each filling end at the outer end of the feeder.

17. A filling-feeder comprising a plate adapted to sustain the heads of a series of filling-carriers, a connected plate, a corresponding series of spring-controlled tip-holders mounted thereon and each provided with a lug, combined with a filling-end holder connected with the inner end of the feeder and comprising a peripherally-notched disk and a series of holding devices thereon, the filling ends being led around the lugs and inward over the edge of the disk to the holding devices.

18. A filling-feeder comprising two connected, rotatably-mounted plates adapted to sustain the heads and tips of a series of filling-carriers, combined with a filling-end holder comprising a disk coaxially connected with the feeder, end-holding devices thereon, and means to automatically render said devices inoperative one after another, to release the filling ends after removal of the carriers from the feeder.

19. A filling-feeder comprising two connected, rotatably-mounted plates adapted to sustain the heads and tips of a series of filling-carriers, combined with a filling-end holder comprising a disk coaxially connected with the feeder, spring-clips thereon to hold fast the filling ends, and a fixed cam to act upon one after another of the clips, and cause each to release its filling end after the corresponding filling-carrier has been removed from the feeder.

20. The combination, in a loom, of a rotatable filling-feeder to sustain a series of filling-carriers, a transferrer to remove the latter one by one to the running shuttle, a filling-end holder coaxially connected with the feeder at its inner end, comprising a peripherally-notched guide-disk and holding devices on the inner faces thereof to secure the extremities of the filling ends, and means to support an outwardly-extending loop or bight in each filling end near the tip of the filling-carrier from which it leads.

21. The combination, in a loom, of a feeder to removably sustain a circularly-arranged series of filling-carriers, filling-end-holding means located between the filling-carriers and the cloth, and means to provide slack in each filling end when its carrier is removed from the feeder.

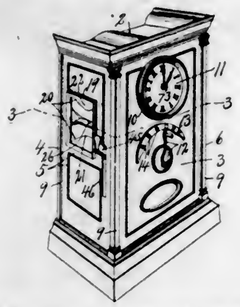
22. The combination, in a loom, of a rotatable feeder to removably sustain a series of filling-carriers, a transferrer to remove the latter and insert the same in the running shuttle, filling-end-holding means rotatable with the feeder and located at the inner end thereof, and means to slacken each filling end as its carrier is transferred.

843,170. TIME-RECORDER. ANSON N. PALMER and WILLIAM W. KIMBALL, Syracuse, N. Y., assignors to Syracuse Time Recorder Company, Syracuse, N. Y., a Corporation of New York. Filed Dec. 22, 1903. Serial No. 186,168.

Claim.—1. In a time-recorder, the combination with a clock-actuated printing-wheel, of a card-gripping device engaging the end of the card nearest the printing-point, means to move said gripping device across the face of the printing-wheel and connections between said means and printing-wheel for moving the latter transversely of its axis to make an impression upon the card.

2. In a time-recorder, the combination with a clock-actuated printing-wheel, a card-gripping device movable relatively to the wheel to bring the card into position to receive an impression, means to actuate the gripping device toward and from the printing-point, additional means to close and open the gripping device as it is moved to and from the printing-point, and further means actuated by the first-named means to move the wheel transversely of its axis to make an impression upon the card.

3. In a time-recorder, an axially-movable time-printing wheel movable transversely of its axis to make an impression, a card-gripping device movable relatively to the printing-point to bring the card into a position to receive such impression, and a manual for actuating the gripping device and moving the printing-wheel transversely of its axis.



4. In a time-recorder, the combination with a printing device, of a card-receiver movable to and from the printing device, a limiting-stop for the card moving with the receiver, means to actuate the receiver and stop, and a catch operating to engage and prevent the forward movement of the card when not engaged with the limiting-stop.

5. In a time-recorder, the combination with a printing device, of a card-receiver and means to move it to and from the printing device, a gripper brought into action by the forward movement of the receiver to draw the card forward and a catch engaging and holding the card from forward movement when not engaged by the gripper.

6. In a time-recorder, the combination with a printing device, a card-receiver and means to move it to bring the card into position to receive an impression, of a limiting-stop for the card movable with the receiver, a gripping mechanism brought into action by the forward movement of the receiver to draw the card forward, a presser-piece bearing on the card, and a catch operating to engage and hold the card from forward movement when not engaged by the gripper mechanism.

7. In a time-recorder, the combination with a printing mechanism and a card-holder movable to bring the card into position to receive an impression, of a lever actuated by the workman and operatively connected to actuate the card-holder and printing mechanism successively, and means brought into action by the forward movement of the card-holder to grip the end of the card nearest the printing-point and draw it forwardly.

8. In a time-recorder, the combination with a printing mechanism and a card-holder movable to bring the card into position to receive an impression, of means to limit the forward movement of the card-holder, a lever operatively connected to actuate the card-holder and printing mechanism successively by its continued movement in the same direction, a card-limiting stop carried by the holder, and means to prevent the forward movement of the card when not engaged with said stop.

9. In a time-recorder, the combination with a printing mechanism and a card-holder movable to bring the card into position to receive an impression, of means to limit the forward movement of the card-holder, a lever operatively connected to actuate the card-holder and printing mechanism successively by its continued movement in the same direction, and a presser-piece bearing on the card to straighten it out while moving to the printing mechanism.

10. In a time-recorder, the combination with a printing mechanism and a card-holder movable to bring the card into position to receive an impression, of means to limit the forward movement of the card-holder, a lever operatively connected to actuate the card-holder and printing mechanism successively by its continued movement in the same direction, a card-limiting stop carried by the holder, and a gripping device brought into action by the forward movement of the card-holder to engage the end of the card nearest the printing-point and draw it to said printing-point.

11. In a time-recorder, the combination with a printing mechanism and a card-holder movable to bring the card into position to receive an impression, of means to limit the forward movement of the card-holder, a lever operatively connected to actuate the card-holder and printing mechanism successively by its continued movement in the same direction, and a presser-piece bearing on the card to straighten it out while moving to the printing mechanism, and automatic means brought into action by the forward movement of the card-holder to grip and draw the card forwardly.

12. In a time-recorder, the combination with a printing device, of a card-receiver and means to move it to and from the printing device, of a card-guide opening into the receiver and a deflector or flange overhanging the card to straighten out the latter upon its return from the printing device.

13. In a time-recorder, the combination with a card-holder and a clock-rotated spindle each movable relatively to the other, of a lever operatively connected to control such relative movements, a type-wheel feathered on the spindle, and manually-operated means operatively connected to slide the type-wheel axially on the spindle.

14. In a time-recorder, the combination of a slidable platen carrying a card, a clock-rotated spindle having independent movement toward and from the platen, a spring-motor connected to move the spindle toward the platen, a type-wheel feathered on the spindle, a hand-lever connected to slide the platen and to tension the spring-motor, and means controlled by the operator and operatively connected to move the type-wheel axially on the spindle.

15. In a time-recorder, the combination of a slidable platen carrying a card, a fixed abutment and a stop operatively connected to limit the movement of the platen, said stop being movable and clock-actuated to vary its position relatively to the fixed abutment, a clock-rotated spindle having independent movement toward and from the platen, a type-wheel feathered on the spindle, a spring-motor operatively connected to move the spindle and type-wheel toward the platen to make an impression on the card, a hand-piece operatively connected to actuate the platen and to tension the spring-motor at the same time, automatic means to break the connection between the hand-piece and motor when the platen is in position to receive the impression, and a second hand-piece operatively connected to slide the type-wheel on the spindle.

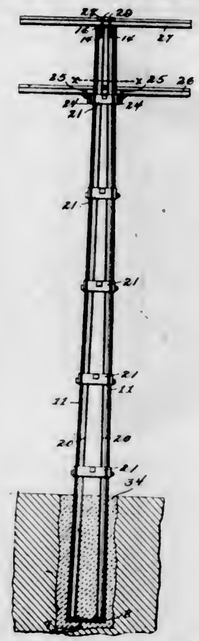
16. In a time-recorder, the combination of a clock-actuated printing-wheel, movable transversely of its axis to make an impression, a card-gripping device movable relatively to the printing-point to bring the card into position to receive such impression, a manual for effecting such movement of the printing-wheel and gripping device, and means to close and open the gripping device as the card is moved to and from the printing-point.

17. In a time-recorder, the combination of a time-stamp, a card-receiver movable to and from the printing-point, and means to clamp the front end of the card in the receiver, and means to prevent the movement of the card when not engaged by the clamping means.

18. In a time-recorder, the combination with a clock-rotated minute-wheel and its supporting-spindle, an hour-printing wheel rotatable step by step, a sliding detent operatively connected to hold the hour-wheel from rotation, an arm rotating with the spindle and provided with means operatively connected to move the hour-wheel one step and to simultaneously release the detent.

19. In a time-recorder, the combination with a clock-rotated minute-spindle, an hour-printing wheel rotatable step by step, a toothed wheel connected to rotate the hour-wheel, a cam and means rotating with the spindle and actuated by the cam into engagement with the toothed wheel to rotate the hour-wheel one step at each revolution of the minute-spindle and a detent normally engaged with the teeth of said wheel and actuated by said means at each revolution of the spindle to release the hour-wheel.

843,171. POLE. HUGO PETTERSON, Mount Vernon, Ohio. Filed Mar. 23, 1906. Serial No. 307,559.



Claim.—1. In a device of the character described, the combination with a plurality of rails, of a plurality of spacing-plates located between said rails, a plurality of bands surrounding said rails for binding said rails together, and vertically-disposed tie-rods which extend between the spacing-plates.

2. In a device of the character described, the combination with a plurality of rails and a plurality of spacing-plates located between said rails, bands surrounding said rails, vertically-disposed tie-rods extending between the spacing-plates, and horizontally-disposed tie-rods which lie upon each side of the spacing-plates.

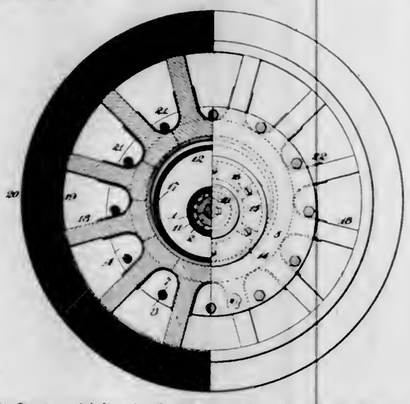
3. In a device of the character described, the combination with base members, of rails secured to said base members, spacing-plates located between said rails, bands which surround said rails, tie-rods extending between the adjacent spacing-plates, transversely-disposed cross-arms, and means for securing said cross-arms in position.

843,172. VEHICLE-WHEEL. WILLIAM QUIVEY, East Orange, N. J. Filed June 27, 1906. Serial No. 323,556.

Claim.—1. In a vehicle-wheel, the combination with inner and outer sections and an intermediate elastic cushion, of means for driving one section of the wheel from the other independent of the intermediate elastic cushion, such driving means connecting the two sections at the top of the wheel in all positions of rotation of the wheel and leaving the outer section free to move rotatively independently of the inner section on the lower side of the wheel, substantially as set forth.

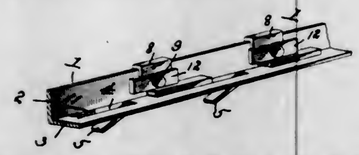
2. In a vehicle-wheel, the combination with inner and outer sections and an intermediate elastic cushion, of cross-bolts on the inner section passing through V-shaped openings in the outer section, whereby one part of the wheel will be driven by the other by the cross-bolts at the top of the wheel in all positions of rotation, substantially as set forth.

3. In a vehicle-wheel, the combination with inner and outer sections and an intermediate elastic cushion, of means for driving one section from the other independent of the intermediate elastic cushion engaging at the top of the wheel in all positions of rotation and leaving the outer section free to yield rotatively at the bottom of the wheel, such driving means releaving the intermediate elastic cushion of part of the weight of the vehicle, substantially as set forth.



4. In a vehicle-wheel, the combination with inner and outer sections and an intermediate elastic cushion, of a loose ring or carrier on the inner section upon which the cushion is mounted, and cross-bolts on the inner section passing through V-shaped slots on the outer section for driving one section of the wheel from the other at the top of the wheel in all positions of rotation, and permitting the outer section to yield at the bottom of the wheel, substantially as set forth.

843,173. TYPE-CHANNEL FOR TYPE-DISTRIBUTING MACHINES. DAVID B. RAY, Huntington, N. Y. Filed Feb. 17, 1906. Serial No. 301,554.



Claim.—1. An inclined type-channel formed by two surfaces at an angle with each other, said channel having openings at intervals for the passage of type, one of said surfaces being arranged to cause type passing down said channel to bear against the other surface and to pass over said openings.

2. An inclined type-channel having openings at intervals for the passage of type, in combination with an adjustable block adapted to prevent type passing down said channel from tipping endwise at the openings not designed to receive them.

3. An inclined type-channel having openings at intervals for the passage of type, and having lips at the lower ends of said openings.

4. In combination with a type-channel having openings at intervals for the passage of type, an adjustable support adapted to support certain type passing over said opening, and to permit other specially-notched type to pass through said openings.

5. A type-channel for a type-distributing machine comprising a laterally and longitudinally inclined bottom wall and an upright wall connected to the bottom wall along the depressed or lower edge thereof, said bottom wall being formed with openings therein adjacent the upright wall, whereby type in passing down said channel will ride against the upright wall and over the openings in the bottom wall, and selective projections extending into said openings.

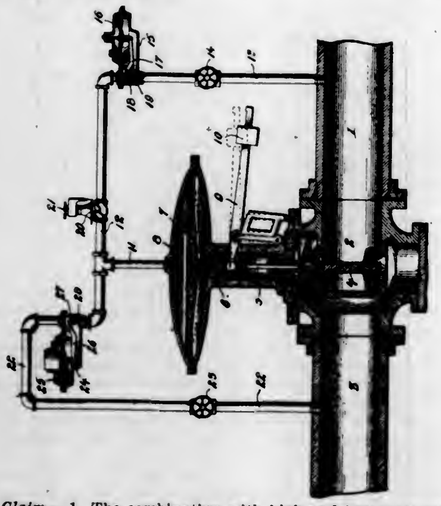
6. A type-channel for a type-distributing machine comprising a laterally and longitudinally inclined bottom wall and an upright wall connected to the bottom wall along the depressed or lower edge thereof, said bottom wall being formed with openings therein adjacent the upright wall, whereby type in passing down said channel will ride against the upright wall and over the openings in the bottom wall, and adjustable selective devices extending into said openings.

7. A type-channel for a type-distributing machine comprising a laterally and longitudinally inclined bottom wall and an upright wall connected to the bottom wall along the depressed or lower edge thereof, said bottom wall being formed with openings therein adjacent the upright wall, whereby type in passing down said channel will ride against the upright wall and over the openings in the bottom wall, adjustable selective devices extending into said openings, and rearward and downward projecting lips formed at the lower edges of said openings.

8. A type-channel for a type-distributing machine comprising a laterally and longitudinally inclined bottom wall and an upright wall connected to the bottom wall along the depressed or lower edge thereof, said bottom wall being formed with openings therein adjacent the upright wall, whereby type in passing down said channel will ride against the upright wall and over the openings in the bottom wall, selective projections extending into said openings, and guide-blocks secured to the upright wall of the channel to prevent the type tipping endwise at the openings which are not designed to receive them.

9. A type-channel for a type-distributing machine comprising a laterally and longitudinally inclined bottom wall, an upright wall connected to the bottom wall along the depressed or lower edge thereof, said bottom wall being formed with openings therein adjacent the upright wall, whereby type in passing down said channel will ride against the upright wall and over the openings in the bottom wall, selective projections extending into said openings, and vertically and longitudinally adjustable guide-blocks secured to the upright wall of the channel to prevent the type tipping endwise at the openings which are not designed to receive them.

843,174. PRESSURE-CONTROLLING SYSTEM. MIRON G. REYNOLDS, Anderson, Ind. Filed Sept. 24, 1906. Serial No. 336,049.



Claim.—1. The combination with high and low pressure mains, of an interposed valve, a regulator for operating said valve, an auxiliary high-pressure regulator in communication with the high-pressure main and with the valve-operating regulator, and an auxiliary low-pressure regulator in communication with the low-pressure main and said valve-operating regulator and controlled by the low pressure.

2. The combination with high and low pressure mains, of an interposed valve, a regulator for operating said valve, an auxiliary high-pressure regulator in communication with the high-pressure main and with the valve-operating regulator, and an auxiliary low-pressure regulator in communication with the low-pressure main and said valve-operating regulator and controlled by the low pressure, said low-pressure regulator being set to close at less pressure than the high-pressure regulator.

3. The combination with high and low pressure mains, of an interposed valve, a regulator for operating said valve, an auxiliary high-pressure regulator in communication with the high-pressure main and with the valve-operating regulator, and an auxiliary low-pressure regulator in communication with the low-pressure main and said valve-operating regulator and controlled by the low pressure, said low-pressure regulator being set to close at a less pressure than the high-pressure regulator, and said high-pressure regulator being adapted to close at a pressure less than the high-pressure main.

4. The combination with high and low pressure mains, of an interposed valve, a regulator for operating said valve, an auxiliary high-pressure regulator in communication with the high-pressure main and with the valve-operating regulator, an auxiliary low-pressure regulator in communication with the low-pressure main and said valve-operating regulator, and a needle-valve disposed between the high-pressure regulator and the valve-operating regulator.

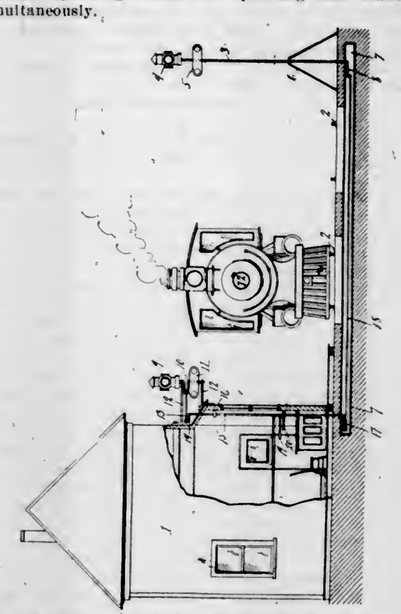
5. The combination with a high and low pressure main, of an interposed valve, a regulator-valve and diaphragm connected to operate said valve, an auxiliary piping extending from the high-pressure to the low-pressure main and communicating with said diaphragm, a low-pressure regulator disposed intermediate of the valve-operating regulator and low-pressure main and controlled from the latter, and a high-pressure regulator disposed intermediate of said valve-operating regulator and the high-pressure main.

6. The combination with a high and low pressure main, of an interposed valve, a regulator-valve and diaphragm connected to operate said valve, an auxiliary piping extending from the high-pressure to the low-pressure main and communicating with said diaphragm, a low-pressure regulator disposed intermediate of the valve-operating regulator and low-pressure main, a high-pressure regulator disposed intermediate of said valve-operating regulator and the high-pressure main, and a needle-valve disposed intermediate of the high-pressure regulator and the valve-operating regulator.

7. The combination with a high and low pressure main, of an interposed valve, a regulator-valve and diaphragm connected to operate said valve, an auxiliary piping extending from the high-pressure to the low-pressure main and communicating with said diaphragm, a low-pressure regulator disposed intermediate of the valve-operating regulator and the low-pressure main, a high-pressure regulator disposed intermediate of said valve-operating regulator and the high-pressure main, a needle-valve disposed intermediate of the high-pressure regulator and the valve-operating regulator, and controlling-valves applied to said piping intermediate of the mains and the regulators therein.

843,175. TRAIN-ORDER SIGNAL. WILLIAM C. REYNOLDS, Alpena, Mich. Filed Apr. 17, 1905. Serial No. 255,949.

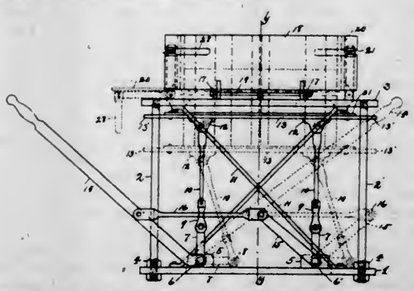
Claim.—1. In a train-order signal, the combination of the rotary standards on opposite sides of a track in directly-opposed relation, the lamps and boards connected with said standards to turn therewith, means extending across the track connecting said standards to cause them to operate in unison, and a lever connected with the standard-operating means for operating said standards simultaneously.



2. In a train-order signal, the combination of the rotary standards on opposite sides of the track, the lamps and boards connected with said standards to rotate therewith, crank-arms upon the lower ends of said standards, a conduit extending under said track and receiving said crank-arms, a connecting-rod in the conduit attached to said crank-arms at its opposite ends, one of the standards passing vertically through the office of the operator, and a lever thereon for rotating said standards and actuating the signals simultaneously.

3. In a train-order signal, the combination with a single track, of the mechanically-actuated signals on opposite sides of said track, means connected with said signals for actuating them, and a connecting-rod crossing the track and attached to the signal-actuating means of said signals for causing them to move in unison and show the same color.

843,176. MACHINE FOR MOLDING BUILDING-BLOCKS. SIMEON H. RICKARD, Allegheny, Pa. Filed Aug. 9, 1906. Serial No. 329,817.



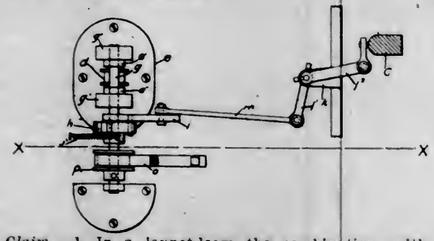
Claim.—1. In a machine for molding building-blocks, the combination consisting of the table fitted with a removable and interchangeable section, of a follow-plate supported upon said section, end and side pieces hinged to said section to form a mold-box, means comprising eccentric-clamps to maintain said end and side pieces in rec-

tangular form, a removable and interchangeable follow-plate forming the bottom of said mold-box, a supplemental table carrying cores arranged beneath said table and a means comprising rock-shafts and lever connections for elevating and lowering said supplemental table to place said cores within the mold or withdraw the same from the finished block, as described.

2. In a machine for molding building-blocks, a skeleton table supporting a removable and interchangeable plate, said plate adapted to support a follow-plate and provided with means for pivotally connecting the sides and ends of the mold-box.

3. In a machine for molding building-blocks, the combination consisting of the table fitted with a removable and interchangeable section, end and side pieces hinged to said section to form a mold-box, means, said means comprising straps hinged to the end plates of said mold-box, horizontally-arranged bars loosely mounted in said straps, said bars being provided at one end with a stop and at the other with an eccentric and adapted to enter slots in the end walls of the side plates of the mold-box, for maintaining said end and said side pieces in rectangular form, the inner walls of said side plates being formed with a plurality of vertically-disposed grooves, a removable and interchangeable follow-plate having a plurality of slots arranged in parallel relation to register with the grooves in the side plates and form the bottom of the mold-box, a supplemental table carrying a plurality of partitions operating in said slots and grooves and a means for simultaneously withdrawing said partitions from said mold-box, as and for the purpose described.

843,177. LAPPET-LOOM. WILLIAM A. ROBINSON, Woonsocket, R. I., assignor to Manville Company, Providence, R. I., a Corporation of New Jersey. Filed Mar. 24, 1904. Serial No. 199,671.



Claim.—1. In a lappet-loom the combination, with a needle-bar, of a pattern-surface for controlling the lateral movements of the needle-bar in weaving the lappet figure, and means for intermittently moving said needle-bar to locate the position of successive lappet figures laterally, substantially as described.

2. In a lappet-loom the combination, with a needle-bar, of a pattern-surface for controlling the lateral movements of the needle-bar in weaving the lappet figure, a second pattern-surface for moving said needle-bar to locate the position of successive lappet figures laterally, and means for intermittently operating said second pattern-surface, substantially as described.

3. In a lappet-loom the combination, with a needle-bar, of a pattern-surface for controlling the lateral movements of the needle-bar in weaving the lappet figure, a second pattern-surface for moving said needle-bar to locate the position of successive lappet-patterns laterally, and a third pattern-surface for controlling the operation of said second pattern-surface, substantially as described.

4. In a lappet-loom the combination, with a needle-bar, of a pattern-surface for controlling the lateral movements of the needle-bar in weaving a lappet figure, a cam for moving said needle-bar to locate the position of successive lappet figures laterally, and means for intermittently rotating said cam, substantially as described.

5. In a lappet-loom the combination, with a needle-bar, of a pattern-surface for controlling the lateral movements of the needle-bar in weaving the lappet figure, a connection between said pattern-surface and the needle-bar, a second pattern-surface for moving said needle-bar to locate the position of successive lappet figures laterally, said second pattern-surface being arranged to act on said connection intermediate the first pattern-surface and the needle-bar, and means for intermittently operating said second pattern-surface, substantially as described.

6. In a lappet-loom, the combination, with a needle-bar, of a pattern-surface for controlling the lateral movements of the needle-bar in weaving a lappet figure, a connecting-cord leading from said pattern-surface to said needle-bar, a second pattern-surface arranged to operate upon a bight in said connecting-cord, and means for intermittently operating said second pattern-surface, substantially as described.

7. In a lappet-loom, the combination, with a needle-bar, of a pattern-surface for controlling the lateral movements of the needle-bar in weaving a lappet figure, a connecting-cord leading from said pattern-surface to said needle-bar, a cam arranged to operate upon a bight in said connecting-cord, and means for intermittently operating said cam, substantially as described.

8. In a lappet-loom the combination, with a needle-bar, of a cord connecting with said needle-bar for controlling the lateral movements thereof, a movable pulley around which said cord passes, a cam for moving said pulley to lengthen or shorten the bight formed in the cord by its passing around said pulley, and means for intermittently rotating said cam, substantially as described.

9. In a lappet-loom the combination, with a needle-bar, of a cord connecting with said needle-bar for controlling the lateral movements thereof, a movable pulley around which said cord passes, a cam provided with a ratchet for moving said pulley to lengthen or shorten the bight formed in the cord by its passing around said pulley, a continuously-operating pawl for actuating said ratchet, and a pattern-surface for controlling the operative position of said pawl, substantially as described.

10. In a lappet-loom the combination, with a needle-bar, of a pattern-surface for controlling the lateral movements of the needle-bar, a pulley mounted independent of the lay of the loom but approximately in line with the axis about which said lay swings, a connecting-cord leading from said pattern-surface and around said pulley to the needle-bar, and means for moving said pulley to lengthen or shorten the bight formed in said cord by its passing around said pulley, substantially as described.

11. In a lappet-loom the combination, with a needle-bar, of a cord connecting with said needle-bar for controlling the lateral movements thereof, a movable pulley around which said cord passes, said movable pulley being mounted independent of the lay of the loom but approximately in line with the axis about which said lay swings, and means for moving said pulley to lengthen or shorten the bight formed in the cord by its passing around said pulley, substantially as described.

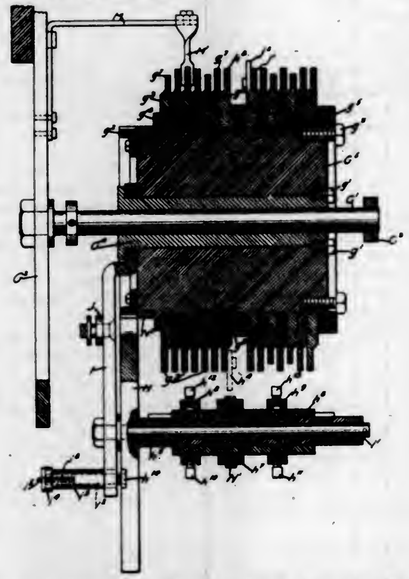
12. In a lappet-loom the combination, with a needle-bar, of a cord connecting with said needle-bar, a movable pulley around which said cord passes, said movable pulley being mounted independent of the lay of the loom but approximately in line with the axis thereof, and a cam for moving said pulley to lengthen or shorten the bight formed in the cord by its passing around said pulley, substantially as described.

843,178. LAPPET-LOOM. WILLIAM A. ROBINSON, Woonsocket, R. I., assignor to Manville Company, Providence, R. I., a Corporation of New Jersey. Filed May 9, 1904. Serial No. 207,000.

Claim.—1. In a lappet-loom, the combination, with a needle-bar, of a spiral pattern-surface for controlling the vertical movements of said needle-bar, substantially as described.

2. In a lappet-loom, the combination, with a needle-bar, of a spiral pattern-surface for controlling the vertical movements of said needle-bar in the production of an article provided with a lappet design, substantially as described.

3. In a lappet-loom, the combination, with a needle-bar, of a spiral pattern-surface for controlling the vertical movements of said needle-bar from the beginning to the end of a complete article provided with a lappet design, substantially as described.



4. In a lappet-loom, the combination, with a needle-bar, of a spiral pattern-surface for controlling the vertical movements of said needle-bar, a member coöperating with said pattern-surface, and means for rotating said pattern-surface, substantially as described.

5. In a lappet-loom, the combination, with a needle-bar, of a spiral pattern-surface for controlling the vertical movements of said needle-bar, a member coöperating with said pattern-surface, means for rotating said pattern-surface, and means for causing said coöperating member to traverse said spiral pattern-surface, substantially as described.

6. In a lappet-loom, the combination, with a needle-bar, of a spiral pattern-surface for controlling the vertical movements of said needle-bar, a member coöperating with said pattern-surface, means for rotating said pattern-surface, and means for moving said pattern-surface with relation to said coöperating member to cause said coöperating member to traverse said spiral pattern-surface, substantially as described.

7. In a lappet-loom, the combination, with a needle-bar, of a spiral pattern-surface for controlling the vertical movements of said needle-bar, a member coöperating with said pattern-surface, means for rotating said pattern-surface, and means for reversing the direction of rotation of said pattern-surface, substantially as described.

8. In a lappet-loom, the combination, with a needle-bar, of a spiral pattern-surface for controlling the vertical movements of said needle-bar, a member coöperating with said pattern-surface, means for rotating said pattern-surface, means for causing said coöperating member to traverse said spiral pattern-surface, means for reversing the rotation of said pattern-surface, and means for reversing the direction of traverse of said coöperating member, substantially as described.

9. In a lappet-loom, the combination, with a needle-bar, of a pattern-head provided with a spiral pattern-surface for controlling the vertical movements of said needle-bar, a member coöperating with said pattern-surface, means for rotating said pattern-head, and means controlled by said pattern-head for causing said coöperating member to traverse said spiral pattern-surface, substantially as described.

10. In a lappet-loom, the combination, with a needle-bar, of a pattern-head provided with a spiral pattern-surface for controlling the vertical movements of said needle-bar, a pattern-lever coöperating with said pattern-surface, means for rotating said pattern-head, and means for moving said pattern-head with relation to said pattern-lever to cause said pattern-lever to traverse said spiral pattern-surface, substantially as described.

11. The combination of a spiral pattern-head loosely mounted on a supporting-arbor, means for rotating said spiral head, and a stationary member engaging said spiral head, whereby the revolution of said spiral head will cause it to be moved lengthwise on its supporting-arbor, substantially as described.

12. A spiral pattern-head composed of two or more disks, each disk being provided with a pattern-surface in spiral form, whereby when said disks are assembled to form the pattern-head a spiral pattern-surface will be formed extending from one disk to the next adjacent disk, substantially as described.

13. A spiral pattern-head composed of two or more disks, each disk being provided with a projecting portion on which a pattern-surface is formed, the projecting portion of one disk being adapted to interlock with the projecting portion of the next adjacent disk to form a continuing pattern-surface, substantially as described.

14. In a lappet-loom, the combination, with two needle-bars, of two pattern-surfaces, one for controlling the vertical movements of each needle-bar, substantially as described.

15. In a lappet-loom, the combination, with two needle-bars, of two spiral pattern-surfaces for controlling the vertical movements of said needle-bars in the production of an article provided with a lappet design, one of said pattern-surfaces serving to control the production of a portion of said lappet design, and the other pattern-surface serving to control the production of the remainder of said lappet design, substantially as described.

16. In a lappet-loom, the combination, with two needle-bars, of two spiral pattern-surfaces for controlling the movements of said needle-bars from the beginning to the end of a complete article provided with a lappet design, one of said pattern-surfaces controlling one of said needle-bars for the production of a portion of said lappet design, and the other pattern-surface controlling the other needle-bar for the production of the remainder of said lappet design, substantially as described.

17. In a lappet-loom, the combination, with two needle-bars, of two spiral pattern-surfaces, one for controlling the vertical movement of each of said needle-bars, a member coöperating with each of said pattern-surfaces, and means for rotating said pattern-surfaces, substantially as described.

18. In a lappet-loom, the combination, with two needle-bars, of two spiral pattern-surfaces, one for controlling the movement of each needle-bar, a member coöperating with each of said pattern-surfaces, means for rotating said pattern-surfaces, and means for causing each of said coöperating members to traverse its spiral pattern-surface, substantially as described.

19. In a lappet-loom, the combination, with two needle-bars, of two spiral pattern-surfaces for controlling the movements of said needle-bars, a member coöperating with each of said pattern-surfaces, means for rotating said pattern-surfaces, and means for simultaneously moving said pattern-surfaces with relation to said coöperating members to cause said coöperating members to traverse said spiral pattern-surfaces, substantially as described.

20. In a lappet-loom, the combination, with two needle-bars, of two spiral pattern-surfaces for controlling the movements of said needle-bars, a member coöperating with each of said pattern-surfaces, means for rotating said pattern-surfaces, and means for reversing the direction of rotation of said pattern-surfaces, substantially as described.

21. In a lappet-loom, the combination, with two needle-bars, of two spiral pattern-surfaces for controlling the movements of said needle-bars, a member coöperating with each of said needle-bars, means for causing said coöperat-

ing members to traverse said spiral pattern-surfaces, means for rotating said pattern-surfaces, means for reversing the rotation of said pattern-surfaces, and means for reversing the direction of traverse of said coöperating members, substantially as described.

22. In a lappet-loom, the combination, with two needle-bars, of a pattern-head provided with two spiral pattern-surfaces for controlling the movements of said needle-bars, a member coöperating with each of said pattern-surfaces, means for rotating said pattern-head, and means controlled by said pattern-head for causing said coöperating members to traverse said spiral pattern-surfaces, substantially as described.

23. In a lappet-loom, the combination, with two needle-bars, of a pattern-head provided with two spiral pattern-surfaces, a pattern-lever coöperating with each of said pattern-surfaces, means for rotating said pattern-head, and means for moving said pattern-head to cause each of said pattern-levers to traverse its respective spiral pattern-surfaces, substantially as described.

24. The combination of a pattern-head loosely mounted on a supporting-arbor, said pattern-head being provided with two sets of spiral projections constituting two spiral pattern-surfaces, means for rotating said pattern-head, and a stationary member engaging one set of said spiral projections, whereby the revolution of said pattern-head will cause it to be moved lengthwise on its supporting-arbor, thereby effecting a corresponding movement of said spiral pattern-surface, substantially as described.

25. The combination of a pattern-head loosely mounted on a supporting-arbor, means for rotating said pattern-head in opposite directions, means for moving said pattern-head longitudinally on its supporting-arbor, and means controlled by the longitudinal movement of said head for reversing the direction of rotation thereof, substantially as described.

26. The combination of a pattern-head loosely mounted on its supporting-arbor, a ratchet and double-acting pawl for rotating said pattern-head, means for moving said pattern-head longitudinally on its supporting-arbor, and means controlled by the longitudinal movement of said pattern-head for shifting said pawl to change the direction of rotation of said head, substantially as described.

27. In a lappet-loom, the combination, with a needle-bar, of a pattern-surface for controlling the lateral movements of said needle-bar, and an independently-operated pattern-surface for controlling the vertical movements of said needle-bar, substantially as described.

28. In a lappet-loom, the combination, with a needle-bar, of a pattern-surface for controlling the lateral movements of said needle-bar constructed to reciprocate said needle-bar both in its operative and in its inoperative positions, and an independently-operated pattern-surface for controlling the vertical movements of said needle-bar and the weaving of the lappet-threads, substantially as described.

29. In a lappet-loom, the combination, with a needle-bar, of a pattern-surface for controlling the lateral movements of said needle-bar, and an independently-operated spiral pattern-surface for controlling the vertical movements of said needle-bar, substantially as described.

30. In a lappet-loom, the combination, with a needle-bar, of a pattern-surface for controlling the lateral movements of said needle-bar, and an independently-operated pattern-surface for controlling the vertical movements of said needle-bar, said last-mentioned pattern-surface being caused to advance at a slower speed than the pattern-surface which controls the lateral movements of the needle-bar, substantially as described.

31. In a lappet-loom, the combination of two needle-bars and two pattern-surfaces, one for controlling the vertical movements of each of said needle-bars, one of said pattern-surfaces serving to control the action of one of the needle-bars to form one portion of a unitary lappet design and the other pattern-surface serving to control the action of the other needle-bar to form another portion of such unitary lappet design, substantially as described.

32. In a lappet-loom, the combination, with two needle-bars, of mechanism for holding either of said needle-bars against vertical movement without affecting the vertical movements of the other needle-bar, substantially as described.

33. In a lappet-loom, the combination, with two needle-bars, of two pattern-surfaces, one for controlling the vertical movements of each needle-bar, and mechanism whereby either needle-bar may be held against vertical movement without affecting the vertical movements of the other needle-bar, substantially as described.

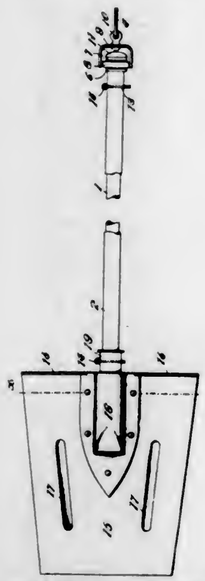
34. In a lappet-loom, the combination, with two needle-bars, of mechanism for giving vertical movements to said needle-bars, two pattern-surfaces, mechanism controlled by one of said pattern-faces for holding one of said needle-bars against vertical movement, and mechanism controlled by the other pattern-surface for holding the other needle-bar against vertical movement, substantially as described.

35. In a lappet-loom, the combination, with two needle-bars, of mechanism adapted to impart vertical movement to both of said needle-bars or to either one of said needle-bars independent of the other, substantially as described.

36. In a lappet-loom, the combination, with two needle-bars, of mechanism adapted to impart vertical movement to both of said needle-bars or to either one of said needle-bars independent of the other, and mechanism for determining whether vertical movement shall be given to both of said needle-bars or to either of said needle-bars separately, substantially as described.

37. In a lappet-loom, the combination, with two needle-bars, of mechanism adapted to impart vertical movement to both of said needle-bars or to either one of said needle-bars independent of the other, two pattern-surfaces, and mechanism controlled by said pattern-surfaces for causing vertical movements to be given to both of said needles or to either one of said needle-bars independent of the other, substantially as described.

843,179. INTRENCHING-TOOL. GEORGE B. RODNEY, New Castle, Del. Filed May 28, 1906. Serial No. 319,196.



Claim.—1. A combined intrenching-tool, picket-pin and tent-pole, the same comprising a stock or handle formed of telescoping members and provided at one end with a point and at the opposite end with a ring having swivel connection therewith, means for securing the telescoping members both when extended and when telescoped, and a blade removably fitted to the end of the stock having the point.

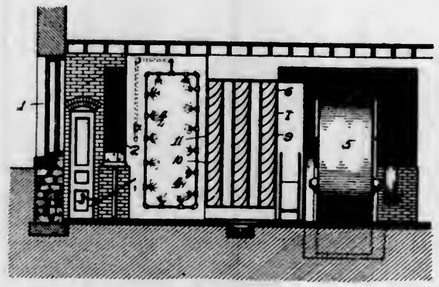
2. In a tool of the character specified, the combination of a stock comprising telescoping members having a snug fit, a point applied to one end of the outer member, a ring having swivel connection with the opposite end of said outer member, and means for positively connecting the members either when telescoped or when extended.

3. In a tool of the character specified, the combination of a stock, a blade, a plate attached to the blade and having opposing portions of the blade and plate pressed in opposite directions to form a socket, a socket-piece secured in the socket and having an end portion projected beyond the blade, and means for securing the blade to the stock.

4. In a tool of the character specified, the combination of a stock composed of telescoping sections having a point at one end and a centrally-apertured cap at the opposite end, said cap being secured to the inner member and having a portion adapted to overlap the end of the outer member, and means for securing the members both when extended and when telescoped.

5. The herein-described combination intrenching-tool, the same comprising a blade having a socket, a stock or handle comprising telescoping members and having the point at one end, and an apertured cap and a swivel-ring at the opposite end, and means for securing the blade to the stock and securing the members of the stock both when telescoped and when extended.

843,180. AIR-WASHER. CHARLES W. ROGERS, Chicago, Ill., assignor to Mathis Brothers Company, a Corporation of Indiana. Filed Oct. 5, 1906. Serial No. 337,525.



Claim.—1. In an air-washing system, an eliminator comprising a series of curved slats having an inclined arrangement in the path of the moving body of air.

2. In an air-washing system, an eliminator comprising a series of slats formed with apertures and arranged in an inclined direction in the paths of the moving body of air.

3. In an air-washing system, an eliminator comprising a series of slats formed with apertures in staggered relation, said slats being arranged in an inclined direction in the path of the moving body of air.

4. In an air-washing system, an eliminator comprising a series of slats formed with oblong apertures and arranged in an inclined direction in the path of the moving body of air.

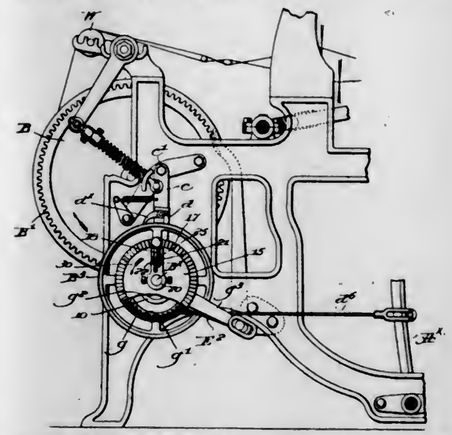
5. In an air-washing system, an eliminator comprising a series of curved slats formed with oblong apertures in staggered relation, said slats being arranged in an inclined direction in the path of the moving body of air.

6. In an air-washing system, an eliminator comprising a series of curved slats having an inclined arrangement in the path of the moving body of air, and a series of receiving-troughs arranged at the lower margins of the slats.

7. In an air-washing system, an eliminator comprising a series of slats formed with apertures and arranged in an inclined direction in the path of the moving body of air, and a series of receiving-troughs arranged at the lower margins of the slats.

8. In an air-washing system, an eliminator comprising a series of slats having an inclined arrangement in the path of the moving body of air and provided with down-turned lips on their lower margins, and a series of receiving-troughs arranged beneath said lips.

843,181. LET-OFF MECHANISM FOR LOOMS. CHARLES F. ROPER, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Mar. 15, 1906. Serial No. 306,111.



Claim.—1. In let-off mechanism for looms, a warp-beam having an attached gear, a pinion in mesh therewith, a pinion-shaft, a ratchet loose thereon, speed-reducing gearing intermediate the ratchet and the shaft, one member of said gearing being mounted loosely and eccentrically on the ratchet, and a coupling to normally effect rotation of the other member of the gearing and the shaft in unison, release of the coupling permitting the warp-beam and pinion-shaft to be turned independently of the said gearing

2. In let-off mechanism for looms, a warp-beam, a shaft having a ratchet loose thereon, means between the shaft and warp-beam to control rotation of the latter, speed-reducing gearing intermediate the ratchet and shaft and comprising an external, non-rotatable gear mounted loosely and eccentrically on the ratchet, and an annular internal gear in mesh therewith and loose on the shaft, and a coupling to connect said internal gear and the shaft to rotate together, release of the coupling permitting the warp-beam to be turned independently of the gearing and ratchet.

3. In let-off mechanism for looms, a warp-beam, an actuating-ratchet, connections between it and the warp-beam to control rotation of the latter, and including a shaft and speed-reducing gearing, one member of said gearing being driven by the ratchet and the other member being loosely mounted on the shaft, and a coupling between said member and the shaft consisting of a ratchet on one and a coöperating outwardly-swinging dog pivotally mounted on the other, to normally effect rotation of the shaft with said gearing, disengagement of the coupling-dog and ratchet, by an outward swing of the dog on its pivot releasing the shaft and permitting the warp-beam to be turned independently, the dog then serving as a handle to turn the shaft.

4. In let-off mechanism for looms, in combination, a warp-beam having an attached gear, a shaft having a pinion in mesh therewith, actuating means, speed-reducing gearing between it and the shaft, comprising a gear driven by said actuating means, and a meshing gear loose on the shaft, an external ratchet on said meshing gear, the ratchet-teeth having straight and inclined faces, and a coöperating dog mounted on the shaft, to normally engage the straight face of a ratchet-tooth and effect rotation of the shaft and gear as a unit, disengagement of the dog and ratchet releasing the warp-beam from control of the actuating means.

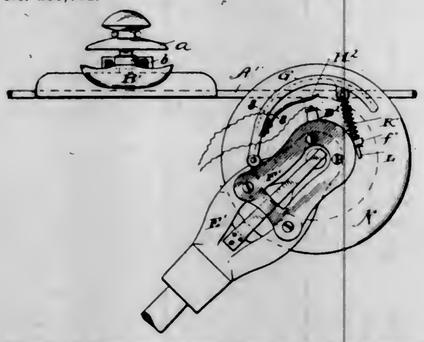
5. In let-off mechanism for looms, a warp-beam, a shaft having a ratchet loose thereon, means between the shaft

and warp-beam to control the rotation of the latter, speed-reducing gearing intermediate the ratchet and shaft and comprising an external, non-rotatable gear mounted loosely and eccentrically on the ratchet and an annular internal gear in mesh therewith and loose on the shaft, an annular series of ratchet-teeth on said loose gear, a radial arm fixedly mounted on the shaft adjacent said ratchet-teeth, and a spring-controlled dog mounted on the arm and normally engaging with one of the ratchet-teeth to effect rotation of the shaft and the loose gear together, retraction of the dog releasing the shaft and permitting the warp-beam to be rotated independently of the gearing.

6. In let-off mechanism for looms, in combination, a warp-beam having an attached gear, a shaft having a pinion in mesh therewith, an actuating-ratchet loose on the shaft, speed-reducing gearing intermediate said ratchet and shaft to govern rotation of the latter, and comprising a non-rotatable external gear mounted loosely and eccentrically on the said ratchet and an annular internal gear in mesh therewith, a disk on which the internal gear is fixed, loose on the pinion-shaft, an annular series of ratchet-teeth on the outer face of the disk, a coöperating dog, and a supporting-arm for the dog fixedly mounted on the shaft, normal engagement of the dog with a ratchet-tooth coupling the disk and shaft together, to effect rotation thereof in unison.

7. In let-off mechanism for looms, in combination, a warp-beam having an attached gear, a shaft having a pinion fast thereon in mesh with the gear, a ratchet loosely mounted on the said shaft, speed-reducing gearing operated by the ratchet and including a gear loose on the shaft, and a coupling to normally connect said gear and shaft to rotate in unison, the coupling including a manually-released member serving, when released, as a handle to turn the shaft and thereby rotate the warp-beam independently of the ratchet and the speed-reducing gearing.

843,182. CIRCUIT-CLOSING MECHANISM FOR INDICATORS ON CARS. THOMAS W. SMALL, Cleveland, Ohio, assignor, by mesne assignments, to The Acme Automatic Street Indicating Company, Cleveland, Ohio, a Corporation of Ohio. Filed May 17, 1905. Serial No. 260,772.



Claim.—1. The combination, with a vehicle adapted to move along a track, of a stationary projection, a spring-pressed member carried by a trolley-pole on the vehicle and comprising a plate adapted to stand in the path of said projection and a spring pressing it upward to be engaged by said projection, and a pair of contacts one of which is carried by said member and which are adapted to be closed when the member is moved by reason of engaging said projection.

2. The combination with a trolley-pole, a harp thereon, an arm pivoted to said harp, a contact member on the under side of said arm, a coöperating contact member carried by the harp, and a spring pressing said arm upward.

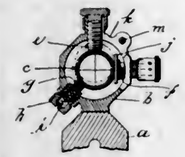
3. The combination with a trolley-pole, of a curved arm pivotally carried thereby alongside of the trolley-wheel, a contact member carried by said arm on its under side, a coöperating contact member, a bolt secured to the under side of the arm to limit its upward movement, and a spring surrounding said bolt to give the arm an upward tendency.

4. The combination with a trolley-pole carrying a trolley-wheel, of a pair of arms pivoted to the trolley-harp on opposite sides of the wheel, circuit-closing devices carried by said arms, and a double trip adapted to depress the two arms.

5. The combination with a trolley-pole, of a wheel carried thereby, a pivoted arm carried by the pole alongside of the wheel, a contact device on the under side of said arm, a blade carried alongside of the trolley-wire and having an under surface which said arm may engage and by which it may be depressed.

6. The combination with a trip having a blade B′ carried parallel with the trolley-wire but insulated from it, of a trolley-pole having a harp carrying a wheel and a curved wide arm G′ pivoted to the harp alongside of the wheel and adapted to engage the under side of the blade B′ and be depressed thereby, a spring tending to press said arm upward, means for limiting the upward movement, and a pair of contacts on the under side of said arm, one carried by the arm, and the other by the harp.

843,183. MOUNTING FOR RIFLE-TELESCOPES. FREDERICK L. SMITH, Chicopee Falls, Mass. Filed Aug. 28, 1903. Renewed Dec. 29, 1906. Serial No. 350,008.



Claim.—1. A telescope-mounting consisting of a member to encircle the telescope, two radially-disposed adjusting-screws extending through said member and constituting two abutments for the telescope arranged substantially in vertical and horizontal planes, a spring located equidistant from each of said abutments to press the telescope against the latter and to permit it to yield under pressure, in the opposite direction.

2. A telescope-mounting consisting of a member to encircle the telescope, two radially-disposed adjusting-screws extending through said member in substantially vertical and horizontal planes and constituting two abutments for the telescope; there being a vertically-disposed bearing-surface on said horizontally-located screw having a height greater than the range of adjustment of said vertically-disposed screws, and a spring located opposite and midway between said adjusting-screws to press the telescope equally against the ends of the latter, and to permit it to yield under pressure, in the opposite direction.

3. A telescope-mounting consisting of a member encircling the telescope, a vertically and a horizontally disposed adjusting-screw in said member against the ends of which the telescope may bear, and a spring constituting the third point of support for the telescope, located opposite and midway between said adjusting-screws whereby the telescope is pressed equally against the ends of said screws, and whereby it may yield under pressure, in the opposite direction.

4. The combination with the barrel of a rifle, of a telescope mounted thereon, supports on the barrel for the telescope, bearing-screws in the supports for the telescope, and springs in said supports and between said screws to press the telescope away from the barrel.

5. The combination with the barrel of a rifle, of a telescope mounted thereon, supports on the barrel for the telescope, springs between the barrel and telescope to press the latter away from the barrel and against said supports, and adjusting-screws in one of the supports to effect the horizontal and vertical adjustment of the telescope.

843,184. PAPER-FASTENER. JOHN P. STELLE, New York, N. Y. Filed Feb. 5, 1906. Serial No. 299,422.



Claim.—1. Means for securing together sheet materials comprising a pair of identical sheet-metal fasteners each having two prongs and a perforation in coaxial relation thereto, the prongs of each fastener being interchangeably adapted to pass through the perforation of the other.

2. Means for securing together sheet materials comprising duplicate fasteners each having heads and each provided with a pair of prongs projecting perpendicularly to said heads to engage the other fastener, and each fastener having a pair of holes symmentrically disposed on either side of a central axis of the fastener passing between said prongs and parallel with the longitudinal direction thereof whereby two fasteners are assembled in coaxial relation to clamp the papers between heads on the separate fasteners.

3. Means for securing together sheet materials comprising duplicate fasteners each having a head with a central hole, and a pair of prongs projecting adjacent said hole and on opposite sides thereof, whereby two fasteners may be assembled with the prongs of one entering the hole of the other.

4. Means for securing together sheet materials comprising duplicate fasteners each having a head with a central hole, and a pair of prongs projecting from said head adjacent said hole, the fasteners being additionally perforated adjacent said prongs, whereby two fasteners may be assembled with their prongs projecting through said hole and said perforations respectively.

5. Means for securing together sheet materials comprising fasteners each having a head, portions bent inwardly from said head and having perforations, and shanks or prongs extending normally to said head and adjacent to said perforations, said head having a hole opposite said shanks or prongs.

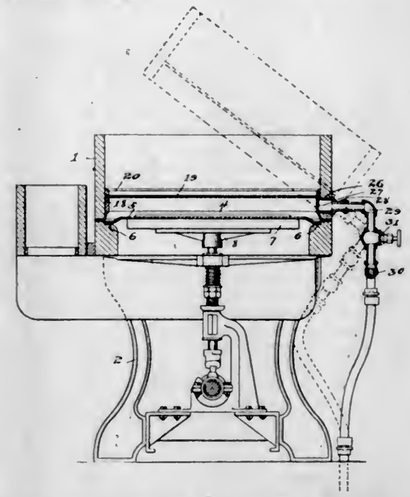
6. Means for securing together sheet materials comprising fasteners each having a head with a central hole, portions bent beneath said head, and prongs on said portions, said portions being perforated adjacent to the base of said prongs.

7. Means for securing together sheet materials comprising a pair of fasteners each having heads with prongs of sheet material of uniform thickness projecting therefrom, each of said heads being perforated symmetrically with respect to a central axis to receive the prongs of the other, whereby two fasteners may be assembled to secure the papers, with the prongs of each bent over upon the outside surface of the head of the other.

843,185. PROCESS FOR CLEANSING THE SCREENS OF PULP-SCREENING MACHINES. PETER R. THOM, Appleton, Wis., assignor of two-thirds to Kimberly & Clark Company, Neenah, Wis., a Corporation of Wisconsin. Filed Oct. 14, 1905. Serial No. 282,863.

Claim.—1. The herein-described method of cleansing screen-plates of pulp-screening machines in their operative position, which consists in subjecting the under sides of the plates to the action of a current of fluid delivered against the plates at a relatively high pressure, much in excess of the hydrostatic pressure to which the plates are subject in normal use, and so confining said current of fluid that it is compelled to force its way through the screen-openings, thereby driving back the accumulations of pulp fiber and clearing said screen-openings.

2. The herein-described process of cleansing screen-plates of pulp-screening machines, which consists in subjecting the delivery sides of the plates to the action of a current of gaseous fluid delivered against the plates at a relatively high pressure, much in excess of the hydrostatic pressure to which the plates are subject in normal use, and so confining said current of fluid that it is compelled to force its way through the screen-openings and thereby drive back the accumulations of pulp fiber and thus clear said screen-openings.



3. The herein-described process of cleansing screen-plates of pulp-screening machines while in their operative position and while submerged in a bath of dilute pulp, which consists in subjecting the under sides of the plates to the action of a current of gaseous fluid delivered in proximity to the plates at a relatively high pressure, sufficiently in excess of the hydrostatic pressure to which the plates are then subject to expel and drive back the pulp liquid away from the under surface of the plates and so confining said current of fluid that it is compelled to force its way through the screen-openings and thereby effects the clearing of the screen-openings.

843,186. TELEPHONE DICTATING MACHINE OR APPARATUS. KELLEY M. TURNER, New York, N. Y., and WILLIAM F. H. GERMER, Hoboken, N. J.; said Germer assignor to said Turner. Filed Apr. 30, 1906. Serial No. 314,400.

Claim.—1. In a telephone system or apparatus, a manager's instrument having a loud earpiece and an ordinary receiver, and means on the receiver for throwing either such receiver or the loud earpiece into the talking-circuit.

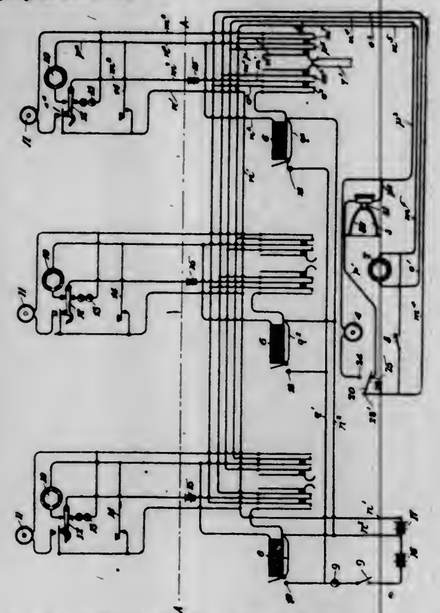
2. In a telephone system or apparatus, a manager's instrument having an acousticon-transmitter and a loud earpiece, and means for putting said instruments simultaneously into separate talking-circuits.

3. In a telephone system or apparatus, a manager's instrument, and stenographers' stations, an ordinary receiver and a loud earpiece at the manager's station in one talking-circuit, a transmitter also at the manager's station in a separate talking-circuit, and means for including either the ordinary receiver or the loud earpiece in one talking-circuit at will.

4. In a telephone system or apparatus, a manager's instrument, a plurality of stenographers' stations, a switch or button at the manager's instrument for closing a call-circuit to any stenographer's station, means at the stenographers' stations for completing an additional circuit, and an annunciator-drop actuated by said last-named circuit for indicating the station at which such additional circuit was completed.

5. In a telephone system or apparatus, a manager's instrument having a transmitter and a loud earpiece and having an ordinary telephone-receiver, a switch for throwing either said telephone-receiver or the loud earpiece into a circuit, a plurality of stenographers' stations each hav-

ing a transmitter and an earpiece, and means whereby the manager's transmitter may be placed in one circuit including any stenographer's earpiece, and the manager's earpiece placed in another and entirely separate circuit including any stenographer's transmitter, as and for the purpose set forth.



6. In a telephone system or apparatus, a manager's instrument having a transmitter, a loud earpiece, a plurality of annunciator-drops in said manager's instrument, jacks in said instrument and arranged to complete a calling-circuit to any desired stenographer's station, and means at the stenographer's station for establishing a plurality of talking-circuits, one including the manager's transmitter, and the other including his loud earpiece.

7. In a telephone system or apparatus, a manager's instrument comprising a box or casing having a transmitter, a loud earpiece and a plurality of annunciator-drops inset in the face thereof, a plurality of receiving-stations, and means by which said receiving-stations are connected by separate circuits with said transmitter and the loud earpiece.

8. In a telephone system or apparatus, a manager's instrument comprising a box or casing having a loud earpiece inset therein, a receiver having a switch, a plurality of stenographers' stations, means for completing a pair of separate circuits to any desired stenographer's station, including either said receiver or the loud earpiece, and means for indicating the stenographer's station called at the manager's instrument.

9. In a telephone system or apparatus, a manager's instrument comprising a box or casing with an acousticon-transmitter and a loud earpiece inset in its face, a plurality of annunciators also inset in the face of the manager's instrument, a plurality of receiving or stenographers' stations each having a receiver and an acousticon-transmitter, and means for connecting any desired stenographer's station by a plurality of circuits including the acousticon-transmitter at each end of the line and the receiver or earpiece at the other end of the line respectively.

10. In a telephone system or apparatus, a manager's instrument having a transmitter and a loud earpiece and having an ordinary telephone-receiver, a switch for throwing either said telephone-receiver or the loud earpiece into a circuit, a plurality of stenographers' stations each having a transmitter and an earpiece, a plurality of jacks and a plug whereby the manager's transmitter may be placed in one circuit including any stenographer's earpiece, and the manager's earpiece placed in another and entirely separate circuit including any stenographer's transmitter, as and for the purpose set forth.

11. In a telephone system or apparatus, a manager's instrument having a box or casing with a telephone-receiver and a loud earpiece inset therein, said instrument having a plurality of annunciators and jacks, a receiver at such manager's station, a plurality of receiving or stenographers' stations, means at the manager's station for calling any desired stenographer, circuits completed at said stenographer's station for dropping the annunciator corresponding to such station, and a pair of separate circuits from the manager's station to each stenographer's station.

12. In a telephone system or apparatus, a manager's instrument having a receiver and a loud earpiece, a receiving or stenographer's station, a talking-circuit arranged to be connected to said receiver or said loud earpiece, a transmitter at the manager's station, a receiver at the stenographer's station, and a talking-circuit therebetween.

13. In a telephone system or apparatus, a manager's instrument comprising a box or casing having an acousticon-receiver and a loud earpiece inset therein, said transmitter and earpiece being separated by an appreciable distance, a receiving or stenographer's station, and separate talking-circuits therewith including said transmitter and said loud earpiece.

14. In a telephone system or apparatus, a manager's instrument having a transmitter inset therein, a loud earpiece also inset in said manager's instrument, a telephone-receiver flexibly connected to the instrument and having a switch by which either said receiver or the loud earpiece is included in the talking-circuit, a receiving or stenographer's station also in said talking-circuit, and an additional talking-circuit including said transmitter and a receiver at the stenographer's station.

843,187. PASTE-PACKING. JAMES WHITCOMB, Owosso, Mich., assignor to Woodard Paste Packing Company, Owosso, Mich., a Corporation of Michigan. Filed Mar. 6, 1906. Serial No. 304,581.

Claim.—1. A packing material consisting of a mixture of graphite, an earthy substance and an oil.

2. A packing material comprising a mixture of graphite, fire-clay and oil.

3. A packing material comprising a mixture of graphite, fire-clay, lime and oil.

4. A packing material comprising a mixture of graphite, fire-clay, and oil which does not easily carbonize, and asbestos fiber.

5. A packing material comprising the mixture of the following ingredients in substantially the proportions specified, graphite, one-half pound; fire-clay, one pound; lime, one-fourth pound; cylinder (or high carbonizing) oil, one-half pint.

843,188. BRACELET. EBEN F. WILDE, Attleboro, Mass., assignor to Attleboro Manufacturing Company, Attleboro, Mass. Filed Apr. 27, 1906. Serial No. 313,993.



Claim.—1. In a bracelet, a plurality of units, a back plate and connecting-link formed integral and adapted to unite the units, and a spring adapted to exert a spring tension on the connecting-links in the units.

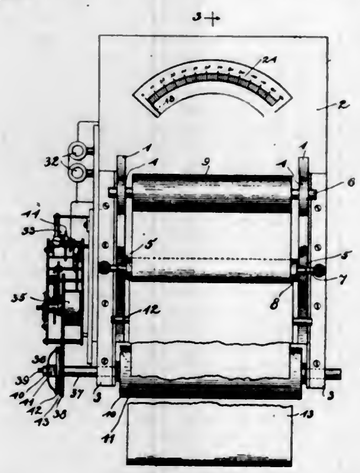
2. In a bracelet, a plurality of units, a back plate and connecting-link formed integral and adapted to unite the units, a spring-retaining plate in the units and a spring in the units held by the plate in a position to exert a spring tension on the connecting-links.

3. In a bracelet, a plurality of spring-actuated units, each unit consisting of a shell having sides in which are slots, a combined back plate and connecting-link formed integral and adapted to unite the units through the slots in the shells, and a spring adapted to exert a spring tension on the connecting-link, whereby the units are held in a contracted position under spring tension, as described.

4. In a bracelet, a plurality of spring-actuated units, each unit consisting of a shell having sides in which are slots, a combined back plate and connecting-link formed integral and adapted to unite the units through the slots in the shells, a spring-retaining plate, and a spring held by the plate and adapted to exert a spring tension on the connecting-link, whereby the units are held in a contracted position under spring tension, as described.

5. In a bracelet composed of a plurality of units, a combined back plate and connecting-link *d* stamped from sheet metal and shaped to form the back plate 12 having the central panel 13 and the connecting-link 14 shaped to form the bar 15 having the central finger 16 and the connecting-stems 17 17 all formed integral, as described.

843,189. MEASURING INSTRUMENT. GEORGE M. WILLIS, Chicago, Ill. Filed Feb. 12, 1904. Serial No. 193,252.



Claim.—1. In an instrument of the class described, the combination with an indicating-needle, of means for recording the readings of said needle on a record-sheet by means of electrical discharges depositing marking material thereon.

2. In an instrument of the class described, the combination with an indicating-needle, of means for recording the readings of said needle on a record-sheet by means of electrical discharges passing through the record-sheet and depositing marking material thereon.

3. In an instrument of the class described, the combination with an indicating-needle, of means for intermittently causing electrical discharges to deposit marking material on a record-sheet at points corresponding to the varying positions of the indicating-needle.

4. In an instrument of the class described, the combination with an indicating-needle, of means for causing electric discharges to convey marking material to the record-sheet of the instrument to produce marks thereon corresponding to the positions of the indicating-needle.

5. In an instrument of the class described, the combination with an indicating-needle, of a plurality of spark-pins associated with a record-sheet and said needle, said spark-pins registering with record-divisions on said record-sheet, means for causing electric sparks to pass through said record-sheet and to said spark-pins, and means for causing marking material to be carried by the electric discharge and imprinted on said record-sheet, the position of said marks on the record-sheet corresponding to the positions of said indicating-needle.

6. In an instrument of the class described, the combination with an indicating-needle, of means for causing electric sparks to pass through the record-sheet of the instrument and to said needle, and means for causing marking material to be carried by the electric discharge and imprinted on said record-sheet in places corresponding to the positions of the indicating-needle on its indicating-scale.

7. In an instrument of the class described, the combination with an indicating-needle, of a spark-point on said needle insulated therefrom, means for causing electric sparks to pass through the record-sheet of the instrument and toward said spark-point, and means for causing marking material to be carried by the electric discharge and imprinted on said record-sheet in places corresponding to the positions of said indicating-needle on its indicating-scale.

8. In an instrument of the class described, the combination with an indicating-needle, of a spark-point at the end of said needle insulated therefrom, means for causing electric sparks to pass through the record-sheet of the instrument and toward said spark-point on said needle, and means for causing marking material to be carried by the electric discharge and deposited on said record-sheet in places corresponding to the positions of said indicating-needle over its scale.

9. In an instrument of the class described, the combination with an indicating-needle, of a spark-point extending from said needle but insulated therefrom, a plurality of spark-pins by which said point may travel as the needle moves over its scale, the record-sheet of the instrument being adapted to travel by said spark-pins, means for causing electric sparks to pass through said record-sheet to said spark-pins and from said spark-pins to the spark-point on said needle, and means for causing the electric discharge to convey marking material to said record-sheet to mark said sheet in places corresponding to the position of the needle over its scale when a spark passes.

10. In an instrument of the class described, the combination with an indicating-needle, of a spark-point extending from its end but insulated therefrom, a series of spark-pins disposed near the path of said spark-point but always separated therefrom by an air-gap, an additional series of spark-pins disposed in horizontal alinement and connected with corresponding spark-pins of the other series, the record-sheet on the instrument being adapted to travel over said horizontally-alined pins, means for causing sparks to pass from said record-sheet to the horizontally-alined spark-pins and from the corresponding other spark-pins to the spark-point on the needle, and means for causing marking material to be conveyed by the electric discharge to said record-sheet to mark said sheet in places corresponding to the positions of the needle over its scale when a spark passes.

11. In an instrument of the class described, the combination with a pivoted indicating needle, of a spark-point extending from its end but insulated therefrom, a series of spark-pins disposed in the arc of a circle and near the path of said spark-point, each of said pins being disposed diametrically opposite a corresponding division on the scale of the instrument, the record-sheet of the instrument being adapted to travel over said spark-pins, marking material associated with said record-sheet, means for causing sparks to jump from said record-sheet toward said spark-pins and to the spark-point on said needle, and means for causing said marking material to be carried by the electric discharge and imprinted on the record-sheet in places corresponding to the position of the needle over its scale when a spark passes.

12. In an instrument of the class described, the combination with a pivoted indicating-needle inclosed in an air-tight case, of a spark-point extending from the end of said needle but insulated therefrom, a series of spark-pins disposed in the arc of a circle near the path of said spark-point but always separated therefrom by an air-gap, each

of said spark-pins being diametrically opposite to a corresponding division of the scale of the instrument, an additional series of longitudinally-alined equally-spaced spark-pins, each connected with a corresponding spark-pin of the first series extending from the interior of said air-tight casing to the exterior thereof, the record-sheet of the instrument being adapted to travel at the outside of said air-tight case and over the horizontally-alined spark-pins but insulated therefrom by an air-gap, and means for causing electric sparks to pass through said record-sheet to the longitudinally-disposed pins and from the corresponding other pins to the spark-point on the needle whereby the record-sheet is marked in places corresponding to the position of the needle over its scale when a spark passes.

13. In an instrument of the class described, the combination with a pivoted indicating-needle, of a spark-point extending from its end but insulated therefrom, a series of spark-pins disposed in the arc of a circle and near the path of the spark-point as the needle swings but always separated from said point by an air-gap, each one of said pins being disposed diametrically opposite a corresponding division-point on the instrument-scale, an additional series of spark-pins horizontally alined and equally spaced and connected with corresponding spark-pins of the first series, the record-sheet of the instrument being adapted to travel over said horizontally-alined spark-pins but separated therefrom by an air-gap, marking material associated with said record-sheet, means for causing electric sparks to pass from said record-sheet to the horizontally-alined spark-pins and from the corresponding spark-pins of the first series to the spark-point of the needle, and means for causing the electric discharge to convey said marking material to be printed on said record-sheet in places corresponding to the position of the needle over its scale when each spark passes.

14. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point extending and insulated therefrom, the record-sheet of the instrument being adapted to travel over said spark-point, means for repeatedly causing a spark to pass from the record-sheet toward said spark-point, marking material associated with said record-sheet, and means for causing electric discharge to convey said marking material, whereby the record-sheet is marked in places corresponding to the positions of the needle over the instrument-scale when the sparks pass.

15. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point insulated therefrom, a series of spark-pins corresponding to the divisions of the instrument-scale and disposed in the path of the spark-point as the needle travels over its scale, the record-sheet of the instrument being adapted to travel by said spark-pins, marking material associated with said record-sheet, means for repeatedly causing electric sparks to pass from said record-sheet to said spark-pins and from the spark-pins to the spark-point on the needle, and means for causing said marking material to be carried by the electric discharge to the record-sheet whereby said sheet is marked in places corresponding to the positions of the needle over the scale when the sparks pass.

16. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point insulated therefrom, a series of horizontally-alined spark-pins associated with said spark-point, said spark-pins being spaced proportionately and correspondingly to the divisions on the needle-scale, the record-sheet of the instrument being adapted to travel over said spark-pins so that the record-divisions thereon register with said spark-pins, marking material associated with said record-sheet, means for repeatedly causing an electric spark to jump from said record-sheet to that spark-pin nearest the spark-pin on the traveling needle, and means for causing the electric discharge to convey marking material whereby said record-sheet is marked at the division corresponding to the position of the spark-point on the needle when the spark passes whereby a record is obtained of the instantaneous individual readings of the indicating-needle.

17. In an instrument of the class described, the combination with an indicating-needle, of a spark-point extending from said needle, a series of spark-pins disposed near the path of said spark-point, said spark-pins being spaced correspondingly and proportionately to the divisions of the needle-scale, the record-sheet of the instrument being adapted to travel over said spark-pins so that the record-divisions thereon register with said spark-pins, a sheet treated with conductive marking material adapted to travel with said record-sheet, a circuit including said conductive sheet, said spark-pins, said spark-point, and the spark-gaps, and means for repeatedly causing an instantaneous current-flow through said circuit whereby a spark will repeatedly jump from the conductive sheet through the record-sheet to a spark-pin, and from the spark-pin to the spark-point on the needle, each spark jumping to that spark-pin nearest which the spark-point on the needle is disposed when the spark passes, marking material being conveyed by each electric discharge to the record-sheet to mark said sheet at places corresponding to the positions of the needle.

18. In an instrument of the class described, the combination with an indicating-needle, of a spark-point extending but insulated therefrom, a series of spark-pins spaced correspondingly and proportionately to the divisions of the needle-scale, the record-sheet of the instrument being adapted to travel over said spark-pins at a uniform rate, the record-divisions on said sheet registering with the spacing of said spark-pins, marking material associated with said record-sheet, a secondary circuit including said marking material, spark-pins, spark-points and the spark-gaps, a primary circuit associated with said secondary circuit, means associated with said primary circuit for repeatedly causing instantaneous current-flow through said secondary circuit whereby sparks pass from the marking material through the record-sheet to the spark-pins, and from the spark-pins to the spark-point, each spark passing from the record-sheet to that spark-pin nearest which the spark-point on the needle is disposed when the spark passes whereby the record-sheet is marked on the division corresponding to the scale-reading indicated by the needle when the spark passes.

19. In an instrument of the class described, the combination with a pivoted indicating-needle, of a spark-point extending from the end of said needle but insulated therefrom, a series of spark-pins disposed in the arc of a circle and near the path of said spark-point, each of said pins being disposed diametrically opposite a corresponding scale-division of the needle-scale, an additional series of horizontally-alined spark-pins each connected with a corresponding pin of the first series, the spacing of said horizontally-alined pins registering with the spacing of the divisions on the needle-scale, the record-sheet of the instrument being adapted to travel at a uniform rate over said horizontal spark-pins, a belt of conductive marking material adapted to travel with said record-sheet, a circuit including said marking material, said spark-pins, said spark-point and the spark-gaps, and means for repeatedly causing an instantaneous current-flow through said circuit whereby a spark repeatedly passes from the marking material to a spark-pin and from the corresponding other spark-pin to the spark-point on the needle, each spark passing from the record-sheet to that spark-pin connecting with the other spark-pin nearest which the swinging spark-point of the needle is disposed when the spark passes, the electric discharge carrying the marking material with it whereby the record-sheet is marked at a place corresponding to the scale-reading indicated by the needle when the spark passes, the successive sparks causing a record of the needle-readings to be traced on said record-sheet.

20. In an instrument of the class described, the combination with a pivoted indicating-needle provided with a section at its end insulated therefrom, a spark-point extending from the end of said insulated section, a second spark-point extending from said insulated section, a segmental conductor disposed near the path of said second spark-point, a series of sparking-pins disposed near the path of said first spark-point, each of said pins being disposed diametrically opposite to a corresponding division of the

needle-scale, an additional series of horizontally-alined spark-pins each connected with a corresponding spark-pin of the first series, the spacing between said horizontally-disposed pins registering with the spacing of the scale-divisions, a record-sheet adapted to travel over said horizontally-disposed pins at a uniform rate, a belt of conductive marking material adapted to travel with said record-sheet, a circuit including said conductive belt, said spark-pins, said spark-points, said segmental conductor and the various spark-gaps, and means for repeatedly causing instantaneous current-flow through said circuit whereby sparks will jump the various gaps, each spark jumping from the conductive belt through the record-sheet and to that horizontal spark-pin connected with that spark-pin of the first series nearest which the spark-point at the end of the needle is disposed when the spark passes, marking material passing from said belt with said spark to mark the record-sheet at the division corresponding to the position of the needle over the scale when the spark passes, the successive sparks thus marking a continuous record of the instantaneous readings of the needle.

21. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point insulated therefrom, the record-sheet of the instrument being associated with said spark-point, of a secondary circuit including said spark-point and gap, a primary circuit associated with said secondary circuit, a source of current in said primary circuit, a condenser of large capacity bridged about said source of current to be charged tthereby, and slow-acting means for intermittently discharging said condenser through said primary circuit.

22. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point, the record-sheet of the instrument being associated with said spark-point but separated therefrom at all times by an air-gap, of a circuit including said spark-point, said gap and the secondary winding of an induction-coil, a primary circuit including the primary winding of said induction-coil, a source of current included in said primary circuit, a condenser of large capacity bridged about said source of current, the inductance and resistance of said induction-coil being properly proportioned to the capacity of said condenser, and slow-acting means for intermittently discharging said condenser through said primary circuit.

23. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point, the record-sheet of the instrument being associated with said spark-point but separated therefrom by an air-gap, of a circuit including said spark-point, said gap and the secondary winding of an induction-coil, a primary circuit including the primary winding of said induction-coil, a source of current and a high resistance included in said primary circuit, a condenser of large capacity shunted about said resistance and said source of current, and slow-acting means for intermittently discharging said condenser through the primary winding.

24. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point at its end, of spark-contacts for said spark-point, a circuit adapted to include said spark-point and one of said spark-contacts, said contacts being disposed so that a surface thereof will be exposed to the spark-point whereby the resultant thrust of a spark or discharge-spray will be longitudinal with the axis of the needle whereby disturbance of the needle is prevented when a spark passes said needle being entirely independent of mechanical circuit connections.

25. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point at its end but insulated therefrom, a series of spark-pins disposed near the path of said spark-point as the needle swings, the record-sheet of the instrument being adapted to travel over said spark-pins, a secondary circuit adapted to include said spark-point, said record-sheet and one of said spark-pins, a primary circuit associated with said secondary circuit, a source of current and a make-and-break mechanism included in said primary circuit, a condenser bridged across said source of current, mechanism for actuating said make-and-break mechanism at regular intervals and for causing travel of said record-sheet at a uniform rate over said spark-pins, each engagement of the contacts of said make-and-break mechanism causing a condenser discharge through said primary circuit whereby an instantaneous current is caused to flow through said secondary circuit whereby a spark will jump from the record-sheet to a spark-pin and from the spark-pin to the spark-point on the needle, each spark passing from the record-sheet to that spark-pin nearest which the spark-point on the needle is disposed when the spark passes whereby the record-sheet is marked by each spark at a place corresponding to the needle-reading, and means for causing the spark passing between a spark-pin and a spark-point on the needle to be in a direction longitudinal with the axis of the needle whereby disturbance of the needle is prevented.

26. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point at its end but insulated therefrom, a series of spark-pins disposed near the path of said spark-point as the needle swings, the record-sheet of the instrument being adapted to travel over said spark-pins, a secondary circuit adapted to include said spark-point, said record-sheet and one of said sparks-pins, a primary circuit associated with said secondary circuit, a source of current and a make-and-break mechanism included in said primary circuit, a condenser bridged across said source of current, mechanism for actuating said make-and-break mechanism at regular intervals and for causing travel of said record-sheet at a uniform rate over said spark-pins, each engagement of the contacts of said make-and-break mechanism causing a condenser discharge through said primary circuit whereby an instantaneous current is caused to flow through said secondary circuit whereby a spark will jump from the record-sheet to a spark-pin and from the spark-pin to the spark-point on the needle, each spark passing from the record-sheet to that spark-pin nearest which the spark-point on the needle is disposed when the spark passes whereby the record-sheet is marked by each spark at a place corresponding to the needle-reading, and means for causing the contact-points to present a spark-surface to the spark-point on the needle whereby the resultant spark will be in a direction longitudinal with the axis of the needle whereby disturbance of the needle is prevented when the current flows through said secondary circuit.

27. In an instrument of the class described, the combination with an indicating-needle inclosed in an air-tight case, the record-sheet of said instrument being adapted to travel at the outside of said case, of means for recording readings of said needle on said record-sheet by means of electric discharges carrying marking material to said sheet at points corresponding to the varying positions of said needle, said needle being entirely independent of extraneous mechanical connection.

28. In an instrument of the class described, the combination with an indicating-needle, of means for recording the readings of said needle on a record-sheet by means of electrical discharges passing through said sheet and depositing marking material thereon said needle being entirely independent of extraneous mechanical connections.

29. In an instrument of the class described, the combination with an indicating-needle, of means for causing electrical discharges to pass through the record-sheet of the instrument and to said needle, and means for causing marking material to be carried by said discharges and imprinted on and in said record-sheet in places corresponding to the positions of the indicating-needle on its indicating-scale.

30. In an instrument of the class described, the combination with an indicating-needle, of marking material associated with the record-sheet of the instrument, means for positively charging said marking material, and means for discharging said marking material through said record-sheet and to the needle, said marking material being carried with the discharge and imprinted on the record-sheet.

31. In an instrument of the class described, the combination with an indicating-needle, of marking material, and means for recording the readings of said needle on the record-sheet of the instrument by means of electric discharges which pass through the record-sheet and carry

with them some marking material to leave marks on the record-sheet.

32. In an instrument of the class described, the combination with an indicating-needle, of a spark-point extending from said needle, a plurality of spark-pins by which said point may travel, the record-sheet of the instrument being adapted to travel by said spark-pins, marking material for said record-sheet, and means for recording the readings of said needle on said record-sheet by means of electric discharges which pass through the record-sheet and to the spark-pins to carry with them some marking material to leave marks on the record-sheet, the ends of said spark-pins being elongated in the direction of travel of the record-sheet.

33. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point, the record-sheet of the instrument being associated with said spark-point but separated therefrom by an air-gap, of secondary circuit including said spark-point and gap, a primary circuit associated with said secondary circuit, a source of current and a primary winding in said primary circuit, a condenser bridged about said source of current to be charged thereby, means for intermittently discharging said condenser entirely through said primary winding, whereby electrical discharge will pass through the air-gap, and the record-sheet, and marking material carried by the discharge will be deposited on said record-sheet.

34. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point, of a spark-contact separated from said spark-point by an air-gap, the record-sheet of the instrument being adapted to travel near said spark-contact, a secondary circuit including said spark-point, said gap, said contact and the secondary winding of an induction-coil, a source of current and a primary winding included in said primary circuit, a condenser permanently bridged about said source of current, means for intermittently discharging said condenser entirely and only through said primary circuit whereby electrical discharges are caused to pass between said spark point and contact and to the record-sheet, and marking material disposed to be carried by said discharges to be deposited on the record-sheet.

35. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point, spark-contacts for said spark-point, the record-sheet of the instrument being adapted to travel near said spark-contacts, a secondary circuit for including said spark-point, spark-contacts, a primary circuit for said secondary circuit, a source of current and a primary winding in said primary circuit, a condenser permanently bridged about said source of current to be charged thereby, make-and-break mechanism included in said primary circuit for intermittently discharging said condenser entirely through said primary winding whereby electrical discharges are caused to pass between the spark point and contacts and to the record-sheet, and marking material disposed to be conveyed by said discharges to be deposited on said record-sheet.

36. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point, of spark-contacts for said spark-point, the record-sheet of the instrument being adapted to travel near said spark-points, a secondary circuit including said spark-point, spark-contacts, a primary circuit including a primary winding, a source of current and a high resistance included in said primary circuit, a condenser permanently shunted about said resistance and said source of current, circuit-closing mechanism for intermittently discharging said condenser through the primary winding whereby electrical discharges are caused to pass between the spark point and contacts to the record-sheet, and marking material disposed to be conveyed by said discharges and deposited on said record-sheet.

37. In an instrument of the class described, the combination with an indicating-needle, of a sheet coated on one side with conductive marking material, means for positively charging said sheet, and means for discharging said sheet to the needle, the discharge causing the marking material to be electrically conveyed from the sheet to leave marks thereon at points corresponding to the positions of the needle.

38. In an instrument of the class described, the combination with an indicating-needle, of marking material, and means for causing electrical discharges to convey marking material to a traveling record-sheet on a line at right angles to the travel of the record-sheet.

39. The combination with an instrument-case, of an indicating-needle at the interior thereof provided with a spark-point, a series of spark-contacts for said spark-point in a line at right angles to the direction of travel of a record-sheet which is adapted to pass longitudinally over the contacts, conductive marking material associated with said record-sheet, a circuit for including said marking material, said spark-contacts, spark-point and the air-gaps, and means for periodically discharging current through said circuit, whereby said marking material is electrically conveyed to be imprinted on said record-sheet.

40. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point, of a second spark-point separated from said needle by an air-gap, the record-sheet of the instrument being adapted to travel near said second spark-point, a secondary circuit including said spark-points and a secondary winding, a primary winding associated with said secondary winding, a primary circuit including said primary winding and a source of current, means for inducing a spark at said spark-points upon closure of said primary circuit, and marking material disposed to be carried by the electrical discharges and deposited on said record-sheet.

41. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point, of a second spark-point separated from said needle-point by an air-gap, the record-sheet of the instrument being adapted to travel near said second spark-point, a secondary circuit including said spark-points and a secondary winding, a primary circuit including said primary winding and a source of current, a condenser, means associated with said source of current and said condenser for causing discharge to pass between said spark-points upon closure of the primary circuit, and marking material disposed to be conveyed by said discharges and deposited on the record-sheet.

42. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point, of a second spark-point separated from said needle-point by an air-gap, the record-sheet of the instrument being adapted to travel near said second spark-point, a secondary circuit including said spark-points, a primary circuit associated with said secondary circuit, a source of current in said primary circuit, a condenser associated with said primary winding and said source of current, a make-and-break mechanism, closure of said make-and-break mechanism causing a discharge between said spark-points and through the record-sheet, and marking material carried by said discharge and deposited on the record-sheet.

43. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point, of a second spark-point separated from said needle and spark-point by an air-gap, the record-sheet of the instrument being adapted to travel near said second spark-point, a secondary circuit including said spark-points, air-gap and the secondary winding, a primary winding associated with said secondary winding, a primary circuit including said primary winding and a source of current, a condenser of large capacity permanently bridged about said source of current to be charged thereby, make-and-break mechanism in said primary circuit for intermittently discharging said condenser through said primary winding whereby electrical discharges are caused to pass between the spark-points and to the record-sheet, and marking material conveyed by said discharges to be deposited on the record-sheet in places corresponding to the varying positions of the needle.

44. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point, of a second spark-point separated from said needle and spark-point by an air-gap, the record-sheet of the instrument being adapted to travel near said second spark-point, a secondary circuit including said spark-points and air-gap and a secondary winding, a primary winding associated with said secondary winding, a primary circuit including said primary winding and a source of current, a condenser of large capacity permanently bridged about said source of current to be charged thereby, make-and-break mechanism of low frequency in said primary circuit for intermittently discharging said condenser through said primary winding whereby electrical discharges are caused to pass between the spark-points and to the record-sheet, and marking material conveyed by said discharges to be deposited on the record-sheet.

45. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point insulated therefrom, the record-sheet of the instrument being associated with said spark-point but separated therefrom by an air-gap, a secondary circuit including said spark-point and gap, a primary circuit associated with said secondary circuit, a source of current in said primary circuit, a condenser of large capacity bridged about said source of current to be charged thereby, means for intermittently discharging said condenser through the primary circuit whereby electrical discharges pass from the spark-point and through the record-sheet, and marking material conveyed by said discharges and deposited on said record-sheet in places corresponding to the positions of the needle.

46. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point, the record-sheet of the instrument being associated with said spark-point but separated therefrom by an air-gap, of a circuit including said spark-point, said gap and the secondary winding of an induction-coil, a primary circuit including the primary winding of said induction-coil, a source of current and a high resistance included in said primary circuit, a condenser of large capacity shunting said resistance and said source of current, means for intermittently discharging said condenser through the primary winding whereby electrical discharges are caused to pass from the spark-point through the record-sheet, and marking material conveyed by said discharge and deposited on the record-sheet in places corresponding to the positions of the needle.

47. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point adapted to travel transversely to the direction of travel of the record-sheet of the instrument, stationary spark-points by which the needle spark-point travels, means for causing the record-sheet to travel at a uniform rate over the stationary spark-points, a secondary circuit including the spark-points and a secondary winding of an induction-coil, a primary circuit including the primary winding of the induction-coil, a condenser of large capacity associated with the primary circuit, slow-acting means for charging said condenser with a small current-flow and for intermittently connecting the condenser upon saturation thereof with the primary circuit, whereby a comparatively large current-flow is caused between the spark-points causing electrical discharges to pass through the record-sheet to mark said sheet at places corresponding to the varying positions of the indicating-needle.

48. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point adapted to move transversely to the direction of travel of the record-sheet of the instrument, stationary spark-points by which said needle spark-point travels, means for causing the record-sheet to travel near the spark-points, a secondary circuit including the spark-points and a secondary winding of an induction-coil, a primary circuit including the primary winding of the induction-coil, a condenser of large capacity included in the primary circuit, a source of current permanently bridged about the condenser, means for causing small current-flow from said source to charge said condenser, and make-and-break mechanism of low frequency in the primary circuit for intermittently connecting the condenser upon saturation thereof with the primary winding whereby electrical discharges of comparatively large current capacity will flow between the spark-points and through the record-sheet to mark said record-sheet at places corresponding to the varying positions of the needle,

49. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point adapted to travel transversely to the direction of travel of the record-sheet of the instrument, stationary contact-points by which the needle-point travels, means for causing the record-sheet to travel near the spark-points, a secondary circuit including said spark-point and the secondary winding of an induction-coil, a primary circuit including the primary winding of the induction-coil, a condenser of large capacity included in the primary circuit, make-and-break mechanism also included in the primary circuit, a source of current permanently bridged about the condenser, and means for causing comparatively small current-flow from said source to charge the condenser, said make-and-break mechanism serving to intermittently connect the charged condenser with the primary circuit, whereby electric discharges pass between the spark-points and through the record-sheet, said make-and-break mechanism being of comparatively slow-speed whereby said condenser is allowed to become saturated and thereby to cause comparatively great current-flow through the primary circuit and between the spark-points.

50. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point adapted to travel transversely to the direction of travel of the record-sheet of the instrument, stationary spark-points by which the needle spark-point travels, clockwork for causing said record-sheet to travel over the spark-points, a secondary circuit including said spark-points and the secondary winding of an induction-coil, a primary circuit including the primary winding of the induction-coil, a condenser of large capacity included in the primary circuit, make-and-break mechanism driven by said clockwork and also included in the primary circuit, a source of current bridged about said condenser, and means for causing small current-flow from said source to charge the condenser, said make-and-break mechanism serving to intermittently discharge the condenser through the primary winding whereby electrical discharges pass between the spark-points and through the record-sheet, the frequency of said make-and-break mechanism being comparatively low to allow the condenser to become saturated before the discharge thereof, whereby comparatively large current-flow will pass through the primary circuit and between the spark-points.

51. In an instrument of the class described, the combination with an indicating-needle provided with a spark-point adapted to travel transversely over the record-sheet of the instrument, stationary spark-points by which a needle spark-point travels, means for causing the record-sheet to travel at a uniform rate near the stationary spark-points, a secondary circuit including the spark-points and a secondary winding of an induction-coil, a primary circuit including the primary winding of the induction-coil, a condenser of large capacity associated with the primary circuit, means for charging said condenser with a small current-flow, means for intermittently connecting the condenser upon saturation thereof with the primary circuit, whereby a comparatively large current-flow is caused between the spark-points causing electrical discharges to pass through the record-sheet, and marking material adapted to be conveyed by the electric discharges and deposited on the record-sheet in places corresponding to the varying positions of the needle.

52. In an instrument of the class described, the combination with an indicating-needle, of marking material carried by a traveling sheet, and means for causing electrical discharges between said sheet and said needle, said electrical discharges conveying the marking material from said sheet to leave marks thereon corresponding to the varying positions of the needle over its scale.

53. In an instrument of the class described, the combination with an indicating-needle, of marking material associated with a record-sheet of the instrument, means for

repeatedly charging the marking material, and means for repeatedly discharging said marking material to cause electrical discharges to pass toward the needle to convey marking material to mark the record-sheet at points corresponding to the varying positions of the needle on its scale.

54. In an electrical measuring instrument, the combination with an indicating-needle, of spark-points associated with the needle and with a record-sheet of the instrument, marking material associated with the spark-points and with the record-sheet, and spark-producing means for causing electrical discharges to carry marking material to form marks on the record-sheet in places corresponding to the varying positions of the needle over its scale.

55. In an electrical measuring instrument, the combination with an indicating-needle, of spark-points associated with said needle, marking material, a record-sheet of the instrument being adapted to travel between the marking material and the spark-points, means for positively charging said marking material, and means for repeatedly discharging the marking material whereby electrical discharges pass from the marking material toward the spark-points to convey marking material to the record-sheet whereby the record-sheet is marked at points corresponding to the varying positions of the needle on its scale.

56. In an electrical measuring instrument, the combination with an indicating-needle, of spark-points associated therewith, marking material associated with a record-sheet disposed near said spark-points, and means for repeatedly charging said marking material and for discharging said marking material whereby said marking material is effected to leave marks on the record-sheet at points corresponding to the varying positions of the needle on its scale.

57. In a measuring instrument, the combination with a movable element, of spark-points associated with said movable element, marking material, a record-sheet associated with the spark-points and the marking material, and means for causing current-flow through a circuit associated with the spark-points and marking material, current-passage through said circuit causing conveyance of marking material to produce marks on the record-sheet corresponding to the varying positions of the movable element.

58. In a measuring instrument, the combination with a movable element, of spark-points associated therewith, a record-sheet associated with the spark-points and treated with a substance, means for causing repeated current-flow through a circuit associated with the spark-points, and means upon current-flow through said circuit for causing removal of the substance from the record-sheet in spots corresponding to the varying positions of the movable element.

59. In an electrical measuring instrument, the combination with a movable element, of spark-points associated therewith, a record-sheet of the instrument being associated with the spark-points, marking material associated with the record-sheet, a circuit associated with the spark-points and marking material, spark-producing means for causing electrical discharges to pass between the spark-points and the marking material, and means for causing the current-flow in one direction between said spark-points to be greater than in the opposite direction whereby the marking material will be conveyed to the record-sheet and remain thereon to form marks corresponding to the varying positions of the movable element.

60. In a measuring instrument, the combination with a movable element, of spark-points associated therewith, marking material, a circuit of which the spark-points form one terminal and the marking material the other terminal, a record-sheet of the instrument being disposed between the marking material and the spark-points, current-producing means for said circuit for causing electrical discharges to pass between the marking material and spark-points, said marking material being conveyed by electrical discharges and disposed on the record-sheet, and means for causing the total current-flow to be greater from the marking material toward the spark-points, whereby to prevent the reconveyance of marking material from the record-sheet.

61. The combination with a movable indicating member, of marking material associated with a record-sheet for the movable member, means for producing electrical discharges, and means for causing said electrical discharges to physically change the marking material to cause marks to be formed thereby on the record-sheet, said marks corresponding with the positions of the indicating member.

843,190. THREAD-GUARD. SARA B. WILSON, Buffalo, N. Y. Filed May 14, 1906. Serial No. 316,622.



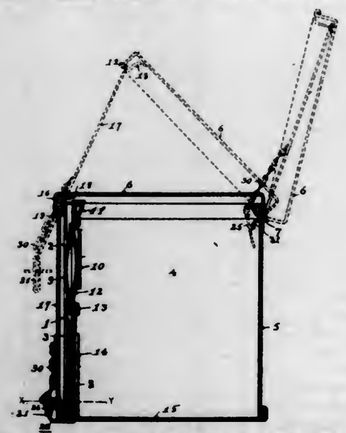
Claim.—1. A thread-guard comprising a base constructed to fit over a spool-holder, and a hollow post rising from the base and having longitudinal spring-tongues bulged between their ends to engage the bore of a spool and joined to the post at their upper and lower ends but terminating short of the ends of the post, whereby the tongues are held against inward and outward displacement at their ends and only their bulged middle portions are permitted to contract and expand, substantially as set forth.

2. A thread-guard, comprising a base constructed to fit over a spool-holder, and a hollow post rising from the base and provided with longitudinal slots terminating short of its upper and lower ends, forming spring-tongues which are joined to the post at both ends, the central portions of the tongues being bulged and adapted to engage the bore of a spool, substantially as set forth.

3. A thread-guard, comprising a base constructed to fit over a spool-holder, and a hollow post rising from the base and provided with longitudinal slots terminating short of its upper and lower ends, forming spring-tongues which are joined to the post at both ends, the tongues being tapered from their ends toward their middle and their narrow middle portions being bulged, substantially as set forth.

4. A thread-guard, comprising a circular base constructed to turn upon a spool-holder and adapted to support a spool, said base having a concave annular face extending from its top to its bottom, forming unshouldered edges at the upper and lower edges thereof, a hollow spool-post secured to the base, and means for compelling the spool to turn with said post and base, substantially as set forth.

843,191. DISPLAY-BOX. CHARLES C. ALLEN, West Seneca, N. Y. Filed Jan. 5, 1906. Serial No. 294,795.



Claim.—1. In combination with a display-box, means for protecting the front thereof comprising a protecting-front hinged or pivoted adjacent to the front edge of the cover of said box, and capable of covering the display-apertures of said box, and also capable of being folded within or parallel with the cover of said box.

2. In combination with a display-box, means for protecting the front thereof comprising a protecting-front hinged or pivoted adjacent to the front edge of the cover of said box and capable of covering the display-apertures of said box and a latch for holding said protecting-front in such closed position and said protecting-front also being capable of folding within and parallel with the cover of said box.

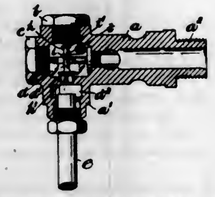
3. In a display-box, in combination with the box-body and hinged cover, a protecting-front capable of folding within said cover and capable of covering the front of said box, hinges connecting said protecting-front with said cover comprising loops secured to said cover and taking through said protecting-front and so arranged within the front flange of said cover as to allow sufficient play for said front to assume either of its two positions.

4. In a display-box in combination with the box-body and hinged cover, a protecting-front hinged to said cover and capable of folding within said cover and capable of covering the front of said box and a latch for securing said protecting-front in place over the box-front comprising a dished or bent L-strip secured to the lower edge of the box-front and capable of engaging over the lower edge of the protecting-front to hold the same frictionally.

5. In a display-box in combination with the box-body and hinged cover, a protecting-front hinged to said cover and capable of folding within said cover and capable of covering the front of said box and a latch for securing said protecting-front in place over the box-front comprising a dished or bent L-strip secured to the lower edge of the box-front and capable of engaging over the lower edge of the protecting-front to hold the same frictionally and means for further locking said protecting-front comprising a latch 25 and slots 23 and 24 therefor.

6. In a display-box in combination with the box-body and hinged cover, a protecting-front hinged to said cover and capable of folding within said cover and capable of covering the front of said box and a latch for securing said protecting-front in place over the box-front comprising a latch 25 and slots 23 and 24 therefor, and means for supporting the box-cover in the open position comprising a chain 30 securing said latch 25 to said cover 17, and a hasp 31 secured to the box-body and having a slot 32 to receive said latch.

843,192. AUTOMATIC BOILER-GAGE. DAVID G. CAMERON, London, England, assignor of one-fourth to Henry Claude Walker, London, England. Filed Apr. 30, 1906. Serial No. 314,597.



Claim.—1. An automatic boiler-gage comprising unions to the boiler a gage-glass seated in said unions, cocks opening passages through said unions, chambers in said unions, valves mounted in said chambers, seats for said valves in said chambers, said valves being adapted to close upon said seats, means for maintaining the steam-valve off its seat, said means comprising a normally contracted member adapted to be expanded to seat the steam-valve by the pressure of steam in the boiler.

2. An automatic boiler-gage comprising cock-fitted unions passing steam and water to the gage-glass, chambers in said unions, bridge-pieces in said chambers, valves passing through said bridge-pieces and mechanical means for utilizing the pressure of steam in the boiler to seat the steam-valve when the gage-glass is ruptured and the pressure therein is reduced below boiler-pressure, as above described.

3. An automatic boiler-gage comprising means for securing steam and water chambers to the boiler, cocks and passages in said chambers, a glass gage connecting said chambers, bridge-pieces secured across the chambers and having cross-pieces provided with steam-passages, valves in the chambers, said chambers having seats for the valves, a tube in one of the chambers and connected with the steam-valve, said tube being normally curved to hold the steam-valve off its seat, and said tube adapted to be straightened out when the pressure in the steam-chamber falls below boiler-pressure whereby the valve is seated.

4. In a boiler-gage, a steam-union having a chamber provided with a valve-seating, a bridge-piece with passages for steam and a Bourdon tube having an extremity normally directed upwardly and adapted to be straightened out by the pressure of steam in the boiler, and a valve having a collar supported upon said tube extremity, said valve being adapted to close on its seat when the tube extremity drops, as above described.

5. In a boiler-gage, a chambered union capable of passing steam to a gage-glass, a valve-seat in said chamber, a bridge-piece with passages for steam, a Bourdon tube fixed to the bridge-piece and having a forked extremity, a valve-stem in said chamber embraced by said fork, a collar upon said stem resting upon said extremity when directed upward, said valve being adapted to prevent automatically the passage of steam through the union to the glass when the latter becomes broken.

6. In a boiler-gage, a chambered union passing steam to a gage-glass, a bridge-piece transverse of said chamber, a Bourdon tube having a forked extremity, a valve-stem embraced by the said forked extremity, a second chambered union passing water to the said gage-glass, a second bridge-piece transverse of said second chamber, valves extending through said bridge-pieces, valve-seats in said chambers, said valves being adapted to close on their seats when said gage-glass is broken.

7. In a boiler-gage, the combination of a chambered union connecting with the boiler, a Bourdon tube within the chamber of said union, a valve within said chamber and normally held off its seat by the tube, said tube being normally curved and being adapted to straighten out under the influence of boiler-pressure, to seat the valve, whereby the further escape of steam past the valve is prevented, said tube automatically lifting the valve from its seat when the pressure in the chamber substantially equals the boiler-pressure.

8. In a boiler-gage, a steam-union, a Bourdon tube having an upstanding extremity, a valve within said union, a collar upon the stem of said valve intermediate of its length, said collar resting on the upstanding extremity of said tube, a second collar at the upper end of said valve-stem a lever pivoted on said union, an operative connection to said lever, said lever being adapted to locate itself below said upper collar and to prevent the valve from falling.

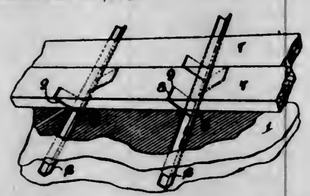
9. In a boiler-gage, the combination with a steam-union having a chamber with a valve-seat, and a valve in said chamber, of a bridge-piece having a cross-piece, a Bourdon tube having an open end fixed in the cross-piece in the path of the steam entering said chamber, said tube having its free end extending into the middle portion of the bridge-piece, and engaging said valve and said cross-piece having passages for the admission of steam to the chamber.

10. In a boiler-gage, the combination with a steam-union having a chamber with a valve-seat, and a valve in said chamber, of a bridge-piece having a cross-piece, a Bourdon tube having an open end fixed in the cross-piece in the path of the steam entering said chamber said tube having its free end forked and extending into the middle portion of the bridge-piece and having a threaded portion at its opposite end by which it is fixed to the bridge-piece, and said cross-piece having passages for the admission of steam to the chamber.

11. A boiler-gage comprising steam and water unions having internal chambers, cocks to said unions permitting the passage of fluid, bridge-pieces in said chambers, valves arranged in said chambers adapted normally to be held off seats in said chambers, a Bourdon tube capable of normally supporting the steam-valve and maintaining it lifted by means of a collar on its stem, and means for independently maintaining the steam-valve lifted without the assistance of said Bourdon tube.

12. A boiler-gage comprising steam and water unions, chambers in said unions, valves supported in said chambers and seats for said valves in said chambers, a gage-glass between said unions, a Bourdon tube for holding the steam-valve normally off its seat said tube being operatable by the steam-pressure in the steam-union to seat said valve, a cock to said steam-union, a drain-cock and a water-cock to said water-union, supplementary means for holding the said steam-valve off its seat said supplementary means being operated by the actuation of one of the cocks to the water-union, substantially as above described.

843,193. FLOOR AND ART OF LAYING SAME. THOMAS CANTWELL, Providence, R. I., assignor of one-half to James O. Beers, Jr., Brooklyn, N. Y. Filed Mar. 19, 1906. Serial No. 306,770.



Claim.—1. A floor comprising a lower plastic course, an angle-iron in said course, a strip forming part of an upper course and having an obliquely-disposed aperture therein, and a rigid pin in said aperture and extending beneath said angle-iron, said pin being adapted to be inserted on opposite sides of said angle-iron.

2. A floor comprising a lower plastic course, an engaging device in said course, said course having a recess adjacent said engaging device, a strip forming part of an upper course and having an angularly-disposed aperture therein, and a rigid pin in said aperture and extending beneath said engaging device within said recess, for the purpose specified.

3. A floor comprising a lower plastic course, an engaging device in said course, a strip forming part of an upper course and having an angularly-disposed slot in its edge, and a rigid pin in said slot and extending beneath said engaging device, for the purpose specified.

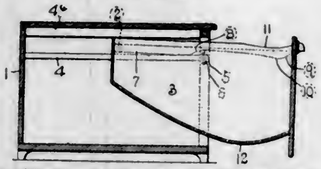
4. A floor comprising a lower plastic course, an engaging device in said course, a strip forming part of an upper course and having an angularly-disposed slot in each of its edges, and a rigid pin in each of said slots and extending beneath said engaging device in opposite sides thereof.

5. A floor comprising a lower plastic course, an angle-iron in said course, an engaging device for anchoring said angle-iron in said course, a strip forming part of an upper course and having an obliquely-disposed aperture therein, and a rigid pin in said aperture and extending beneath said angle-iron, said pin being adapted to be inserted on opposite sides of said angle-iron.

843,194. BIN. MOSES W. COOLBAUGH, Springfield, Mo. Filed Nov. 19, 1906. Serial No. 344,057.

Claim.—1. In combination with a casing provided at its front end with supporting devices, a bin located inside of said casing, and tracks connected to the sides of said bin which rest on the supporting devices of the casing, the lower edges of said tracks being inclined downwardly from a point adjacent their centers to their front ends so that when the bin is pulled forwardly slightly it will gradually move into its open position in an approximately horizontal plane and come to rest without a shock or jar; substantially as described.

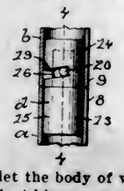
2. In combination with a casing provided with supports, a bin located inside of said casing and having members at the upper edges of its sides which rest on the supports of the casing, tracks connected to the sides of the bin adjacent the upper edges thereof, and coöperating supporting devices on the casing, the lower edges of said tracks curving upwardly adjacent the middle of the tracks and thence downwardly toward the front ends of the tracks which are curved upwardly so that after the bin has been pulled outwardly a short distance it will move forwardly in an approximately horizontal plane and come to rest without a shock or jar and when it is pushed inwardly it will be locked in its closed position against accidental displacement; substantially as described.



3. In combination with a casing provided with supports at its front end, a bin located inside of said casing, tracks connected to the sides of the bin adjacent the upper edges thereof for traveling on said supports, the lower edges of said tracks inclining downwardly from the center toward the end of the tracks and the ends of the tracks being curved upwardly, and means for supporting the rear end of the bin; substantially as described.

4. In combination with a casing provided with tracks, a bin located inside of said casing, devices connected to the sides of the bin at the upper rear corners thereof for resting on said tracks, supporting members located adjacent the front of the casing, and tracks secured to the sides of the bin adjacent the upper edges thereof for resting on said supporting members, the lower edges of said tracks curving upwardly at approximately the middle of the tracks and thence downwardly toward the front ends of the tracks which are curved upwardly; substantially as described.

843,195. BRACELET. FRANK E. CRAIN, Providence, R. I., assignor to Bates & Bacon, Attleboro, Mass., a Firm. Filed Sept. 26, 1906. Serial No. 336,326.

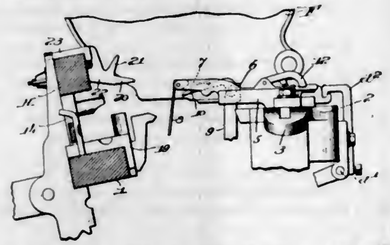


Claim.—1. A bracelet the body of which consists of two tubular members, a pivot-hinge comprising a member having a central stud, a member having a central hole into which the stud extends and a cam-groove, and a pin extending from the stud into the cam-groove, and means for holding the tubular members of the bracelet together in the closed position.

2. In a bracelet, the combination with the tubular halves *a* and *b* having the open ends 8 and 9 cut square across and the open ends 10 and 11 of a pivot-hinge *d* consisting of a member 13 shaped to fit in the end 8 of the half *a* and constructed to have the body portion 15 from one end of which extends a central stud 16 and a member 14 shaped to fit in the end 9 of the half *b* and constructed to have a central hole 18 in the end adapted to receive the stud 16 and a transverse cam-groove 19 formed at an angle in the side of the member, a pin 20 secured to the stud 16 and extending into the cam-groove 19, and means for holding the ends 10 and 11 of the bracelet in the closed position, as described.

3. In a bracelet, the combination with the tubular halves *a* and *b* having the open ends 8 and 9 cut square across and the open ends 10 and 11 cut at an angle, of a pivot-hinge *d* consisting of a member 13 shaped to fit in the open end 8 of the half *a* and constructed to have a body portion 15 from one end of which extends a central stud 16 having a transverse hole 17 and a member 14 shaped to fit in the end 9 of the half *b* and constructed to have a central hole 18 in the end adapted to receive the stud 16 and a transverse cam-groove 19 formed at an angle in the side of the member, a pin 20 secured to the stud 16 in the hole 17 and extending into the cam-groove 19 and a snap *c* formed by the end 11 and a plug 12 secured in the end 10 and extending into the end 11, whereby the halves *a* and *b* are pivotally secured together, are separated or drawn together in the opening or closing of the bracelet, the halves held in the closed position, and the opening and closing movement of the halves limited, as described.

843,196. FILLING-DETECTING MECHANISM FOR LOOMS. JOHN V. CUNNIFF, Fall River, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Nov. 2, 1906. Serial No. 341,686.



Claim.—1. In a loom, in combination, a lay, a filling-fork adapted to be tilted by intact filling, mechanism to effect a change in the operation of the loom when filling absence is detected by the fork, and means to effect the actuation of said mechanism by or through the lay when the fork is tilted independently of the filling.

2. In a loom, in combination, a lay, a filling-fork adapted to be tilted by intact filling, mechanism to effect a change in the operation of the loom by or through the fork upon detection of filling absence thereby, and means on the lay to coöperate with the fork when tilted independently of the filling and thereby effect the actuation of said mechanism.

3. In a loom, in combination, a lay, a filling-fork having a tail and adapted to be tilted by intact filling, mechanism to effect a change in the operation of the loom by or through the fork upon detection of filling absence thereby, and a member on the lay to coöperate with the fork-tail and effect the actuation of said mechanism when the fork is tilted independently of the filling.

4. In a loom, in combination, a lay, a filling-fork having a tail and adapted to be tilted by intact filling, mechanism to coöperate with the fork-tail and effect a change in the operation of the loom upon detection of filling absence by the fork, and means on the lay to coöperate with the fork-tail when the fork is tilted independently of the filling and thereby effect the actuation of said mechanism.

5. In a loom, in combination, a lay having a grid and provided with a series of transverse channels opposite the grid-openings and beneath the shuttle-path, a filling-fork having tines adapted to normally and intermittingly traverse said channels and engage the filling when intact, to cause tilting of the fork, mechanism adapted to effect the operation of a loom-stopping instrumentality or cause a change of filling when the fork detects filling absence, and means to effect such change in the operation of the loom on the forward beat of the lay when the fork is tilted by failure of its tines to traverse the channels in the lay.

6. In a loom, a lay having a grid and a raceway provided with transverse channels opposite the grid, combined with a filling-fork adapted to be tilted by engagement with intact filling and having its tines arranged to traverse the channels when the lay beats up, mechanism to effect a change in the operation of the loom by or through detection of filling absence by the fork, and means to cause the actuation of said mechanism when the fork is tilted upon failure of its tines to enter the channels in the lay-raceway.

7. In a loom, a filling-detector adapted to intermittingly engage and be moved by intact filling, and means acting through said detector to effect a change in the operation of the loom when the filling-detector is moved independently of the filling to indicate presence thereof.

8. In a loom, in combination, mechanism, including a filling-detector, to effect a change in the operation of the loom when filling absence is detected by the detector, and means to effect the actuation of said mechanism when the dectector indicates presence of filling independently of such filling.

9. In a loom, in combination, a filling-fork adapted to intermittingly engage and be tilted by intact filling, mechanism to effect a change in the operation of the loom upon detection of filling absence by the fork, and means to effect the actuation of such mechanism when the fork is tilted independently of the filling.

10. In a loom, in combination, a filling-fork adapted to intermittingly engage and be tilted by intact filling, mechanism to effect a change in the operation of the loom by or through the fork upon detection of filling absence thereby, and means to coöperate with the fork when tilted independently of the filling and thereby effect the actuation of said mechanism.

11. In a loom, in combination, a filling-fork adapted to intermittingly engage and be tilted by intact filling, mechanism to effect a change in the operation of the loom upon detection of filling absence by the fork, and means to limit tilting movement of the fork when engaged by the filling and also to coöperate with the fork and effect the actuation of said mechanism when the fork is tilted independently of the filling.

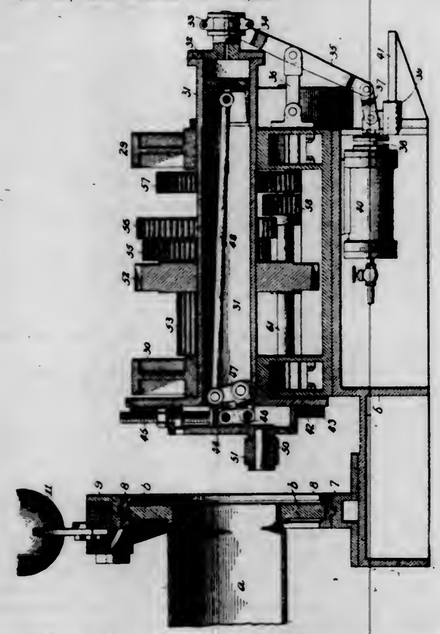
12. In a loom, in combination, a lay, a filling-fork having a tail 7 and adapted to intermittingly engage and be tilted by intact filling on the forward beat of the lay, mechanism to effect a change in the operation of the loom when filling absence is detected by the fork, said mechanism including a vibrating actuator 9 having a hook 10 to coöperate at such time with the fork-tail, and a member 20 on the lay adapted to enter the fork-tail and effect the actuation of said mechanism independently of the actuator and its hook when the fork is tilted by means other than the filling, the said member 20 extending above the fork-tail and limiting the movement of the fork when tilted by engagement with the filling.

13. In a loom, in combination, a lay, a filling-fork adapted to intermittingly engage and be tilted by intact filling, mechanism to effect a change in the operation of the loom when the fork detects filling absence, means to effect the actuation of said mechanism when the fork is tilted independently of the filling, and a device on the lay to cause such improper tilting, when it does occur, to be effected at an earlier point in the forward beat of the lay than when the fork is tilted by the filling.

843,197. TWIN-CUPOLA PROCESS OF MAKING SEMI-STEEL CASTINGS. JAMES C. DAVIS, Chicago, Ill., assignor by mesne assignments, to The American Brake Shoe & Foundry Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 27, 1899. Serial No. 706,988.

Claim.—In the art of making semi-steel castings, the process which consists in melting gray pig iron and carbon steel in separate cupolas or furnaces, adding to the steel while melting about ten per cent. of white pig iron, introducing into a mixing receptacle predetermined portions of the molten metal from each cupola or furnace, thoroughly mixing the same together in a molten state, and finally pouring the same directly into molds, substantially as and for the purpose described.

843,198. MACHINE FOR ATTACHING FLANGES. WILLIAM W. DOOLITTLE, Chicago, Ill., assignor to Crane Company, Chicago, Ill., a Corporation of Illinois. Filed Oct. 30, 1903. Serial No. 179,248.



Claim.—1. In a flange attaching machine in combination with a flange holding jaw and means for operating the same, a presser head mounted for both longitudinal and circumferential motion and carrying adjustably on said head a yieldingly supported roll for compressing the pipe and flange, substantially as described.

2. In a pipe flange welding machine a single pressure roll, mounted independently on a yielding arm to travel circumferentially and exert a yielding pressure on the flange, and means to hold it yieldingly in operative position within the flange, substantially as described.

3. In a flange welding machine the combination with a holding jaw and pneumatic means for locking the flange in the holding jaw, of a pressure roll and mechanism for exerting yielding pressure upon the presser roll and for shifting the position of said roll, substantially as described.

4. In a flange welding machine a holder jaw therefor comprising two grooved rings, one of which is pressed in place upon the other by means of a yoke actuated by means, and held with yielding pressure thereon, substantially as described.

5. In a flange welding machine the combination of a holding jaw and pneumatic means for locking the holding jaw, a pressure roll and pneumatic means for longitudinally shifting the presser roll, and pneumatic means for exerting pressure upon said presser roll, substantially as described.

6. In a flange welding machine a holder jaw, a traveling presser roll co-operating therewith, means for revolving the presser roll, and independent pneumatic means for exerting pressure upon said roll and for shifting the position of the presser roll, substantially as described.

7. In a flange welding machine a holder jaw for the flange comprising a divided grooved ring, one portion of said ring being pivoted to the other and being held in place by means of a movable pivoted yoke, a link attached to the pivots of said yoke, a crank and shaft operating said link and driven by pneumatic pressure, substantially as described.

8. In a flange welding machine the combination of a reciprocating and revolving cylinder and means for revolving it, pneumatic means for reciprocating it, a presser roll and pneumatic means within the cylinder for exerting pressure upon the presser roll.

9. In a flange welding machine, in combination with means for holding a pipe and flange, a cylinder mounted to reciprocate and to rotate, a presser roll on the head of the cylinder, a piston in said cylinder and adjustable link mechanism to move the roll thereby, means to revolve the cylinder and a fluid pressure cylinder with connections to reciprocate the cylinder.

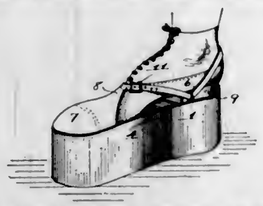
10. In a flange welding machine a revolving head having a radially movable roll thereon, an adjusting screw on the movable part of the head, a link and a pivoted bell crank lever and a cylinder and a piston, a rod attached to said lever to thrust the roll radially to the cylinder by fluid pressure in the cylinder.

11. In a flange welding machine, a holder jaw therefor comprising a divided ring having its inner periphery adapted to engage the pipe flange, and means for holding said ring portions yieldingly together.

12. In a flange welding machine, a holder jaw therefor, comprising a fixed jaw, a movable jaw pivoted thereto, the inner peripheries of said jaws being adapted to engage the pipe flange, and means for holding said jaws yieldingly in their closed position.

13. In a flange welding machine, a holder jaw therefor, comprising a fixed jaw, a movable counterbalanced jaw pivoted thereto, the inner peripheries of said jaws being adapted to engage the pipe flange, and means for holding said jaws yieldingly together.

843,199. SHOE-PROTECTOR. LYDIA A. DOYLE, Moundridge, Kans. Filed Sept. 23, 1905. Serial No. 279,834.



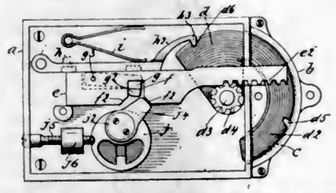
Claim.—1. A shoe-protector comprising a hollow box of considerable relative depth and upwardly open, said box having the outline of a shoe-last, pads removably fitting within said box, a metal loop arranged upon the heel edge of the box, and loops upon the sides of the box, a cover secured to the toe end of the box and provided with a tongue adapted to overlap a shoe-tongue, a strap connected at one end to the said tongue and adapted to pass through said loops, and a buckle connected to the tongue and adapted to be engaged by the free end portion of said strap.

2. A box upwardly open and having the outline of a shoe, a pad in the box, a top piece over the pad, said top piece being below the upper edge of the box, a cover of flexible material secured to the front end of the box and adapted to cover the vamp of a shoe, metal loops carried by the box, and a strap secured to the covering and passed through the loops as and for the purpose set forth.

3. A device of the kind described comprising an upwardly-open box, a plurality of pads adapted to fit therein, and means for attaching said box to a shoe.

843,200. DOOR-LOCK. WALTER W. FESSLER, New York, N. Y. Filed Mar. 28, 1906. Serial No. 308,405.

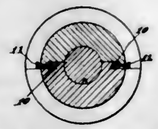
Claim.—1. A lock comprising a lock-casing adapted to be secured to or in a door, and a keeper adapted to be secured to or in a door-frame, the keeper being provided with a curved passage which opens through the face thereof at two different points and the lock-casing being provided with a pivoted plate having a curved arm adapted to be projected through said keeper and back into said casing, a pinion connected with said plate, a bolt mounted longitudinally in the lock-casing and provided with teeth operating in connection with said pinion and adapted to be projected into said keeper, a pivoted spring-depressed arm resting on said bolt and adapted to engage said curved arm at two different points, and a dog pivoted in said bolt and adapted to raise the spring-depressed arm, said dog and said bolt being both adapted to be operated by a key.



2. A lock comprising a casing adapted to be secured to or in a door, and a keeper adapted to be secured to or in a door-frame, a member pivoted in said casing and provided with a curved arm adapted to be projected through said keeper and back into said casing, a pinion connected with said member, a bolt mounted longitudinally in the casing and provided with teeth operating in connection with said pinion and also adapted to be projected into said keeper, a spring-depressed device resting on said bolt and adapted to engage said arm at two different points, and a dog pivoted in said bolt and adapted to raise the spring-depressed device, said dog and said bolt being both adapted to be operated by a key.

3. A lock comprising a casing adapted to be secured to or in a door, and a keeper adapted to be secured to or in a door-frame, a member pivoted in said casing and provided with a curved arm adapted to be projected through said keeper, a pinion connected with said member, a bolt mounted longitudinally in the casing and provided with teeth operating in connection with said pinion and also adapted to be projected into said keeper, a spring-depressed device resting on said bolt and adapted to engage said arm at two different points, and a dog pivoted in said bolt and adapted to raise the spring-depressed device, said dog and said bolt being both adapted to be operated by a key.

843,201. SHAFT-COUPLING. HENRY M. FRANK, El Paso, Tex. Filed June 30, 1906. Serial No. 324,121.



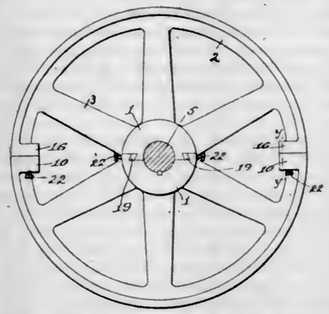
Claim.—A longitudinally-dovetailed shaft-coupling comprising a coupling-half having a pair of beveled-edged cleats next to the shaft-bearing, a coupling-half having a pair of beveled-edged flanges removed from the shaft-bearing to form key seats or spaces between the cleats and the flanges, said cleats and flanges being tapered lengthwise, and tapering diamond-shaped keys fitting the spaces for locking the parts together and to a shaft, substantially as shown and described.

843,202. SPLIT PULLEY. HENRY M. FRANK, El Paso, Tex. Filed June 30, 1906. Serial No. 324,122.

Claim.—1. A split pulley having longitudinal hub-flanges and cleats, rim-flanges and cleats perpendicular to the hub-flanges and cleats, and keys interposed between each set of said flanges and cleats to lock the pulley parts together.

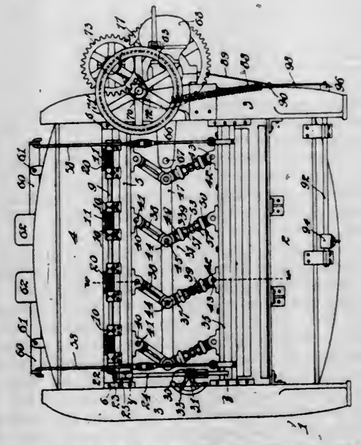
2. A split pulley having longitudinal tapering flanges and cleats in its hub, tapering flanges and cleats in its rim perpendicular to the hub-flanges and cleats, and keys interposed between each set of said flanges and cleats to clamp the pulley parts together.

3. A split pulley comprising male and female pulley parts having coacting faces adapted to fit one against the other without sliding them and to leave key-seats therebetween, and two sets of clamping-keys one set of which fit certain of the seats perpendicular to the other set.



4. A split pulley comprising tapered hub-flanges and cleats parallel with the hub-bearing and having beveled sides, the tapered rim-flanges and cleats perpendicular to the hub-flanges and cleats and having beveled sides, and the diamond-shaped tapering keys adapted to fit between the various flanges and cleats for securing the halves of the pulley together.

843,203. TOGGLE-PRESS. CLARENCE N. FREY, Cincinnati, Ohio, assignor to The J. M. Robinson Manufacturing Company, Cincinnati, Ohio, a Corporation of Ohio. Filed July 23, 1906. Serial No. 327,332.



Claim.—1. In a toggle-press, the combination of a main frame comprising a main bridge-piece, a supplemental bridge-piece under said main bridge-piece, means between said bridge-pieces for simultaneously adjusting said supplemental bridge-piece throughout its length with relation to said main bridge-piece, a plunger, toggle-links between said supplemental bridge-piece and plunger, and means for separately adjusting the length of said respective toggle-links, substantially as described.

2. In a toggle-press, the combination with a main frame comprising a main bridge-piece of a supplemental bridge-piece, means between said main bridge-piece and supplemental bridge-piece acting upon said bridge-pieces at a plurality of points distributed throughout their lengths

for adjusting the distance between said bridge-pieces simultaneously throughout their length, a plunger, toggle-links between said supplemental bridge-piece and plunger, a toggle-bar connected with each of said toggle-levers for simultaneously moving the same, and means for selectively adjusting the operative length of said respective toggle-levers.

3. In a toggle-press, the combination with a main frame comprising a main bridge-piece and a plunger, of toggle-levers between them, a toggle-bar for simultaneously operating said levers, means for separately adjusting the length of throw of said respective toggle-levers, and means for simultaneously adjusting the pivotal positions between said main bridge-piece and plunger of all of said toggle-levers.

4. In a toggle-press, the combination of a main frame comprising a main bridge-piece, a supplemental bridge-piece thereunder, a plurality of adjusting-screws distributed throughout the lengths of said bridge-piece and journaled in one of said bridge-pieces and having threaded connection with the other of said bridge-pieces, means for imparting coincident movement to all of said adjusting-screws, toggle-levers between said supplemental bridge-piece and plunger, and means for separately adjusting said toggle-levers, substantially as described.

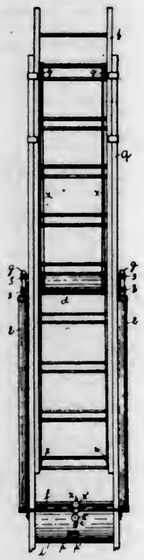
5. In a toggle-press, the combination with the side standards, main bridge-piece and a plunger, of a supplemental bridge-piece having sliding connection with said standards, adjusting-screws having threaded connection with said main bridge-piece and journal connection with said supplemental bridge-piece, a worm-wheel on each of said adjusting-screws, worms meshing said worm-wheels, a cross-shaft on which all said worms are secured, means for turning said cross-shaft for simultaneously rotating said worms and adjusting-screws, jam-nuts for said adjusting-screws, toggle-levers between said supplemental bridge-piece and plunger, and means for separately adjusting said toggle-levers, said toggle-levers being located vertically below said adjusting-screws, substantially as described.

6. In a toggle-press, the combination of a main frame comprising a main bridge-piece, a supplemental bridge-piece, means between said bridge-piece and contacting said bridge-piece at a plurality of points distributed throughout their lengths for simultaneously adjusting said supplemental bridge-piece throughout its length toward or from said main bridge-piece, a plunger, toggle-links between said supplemental bridge-piece and plunger, and means for separately adjusting the lengths of said respective toggle-links, constructed and arranged for selectively simultaneously adjusting said collective toggle-levers or adjusting said toggle-levers separately, substantially as described.

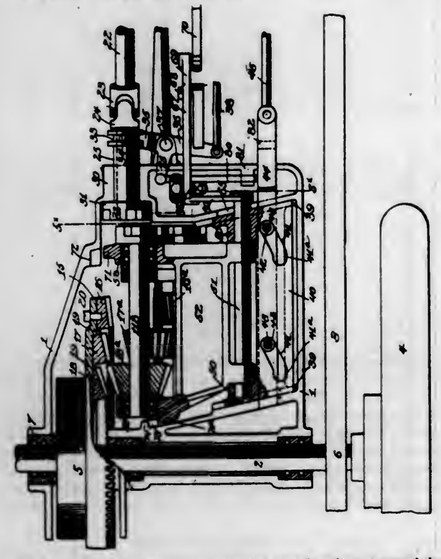
7. In a toggle-press, the combination of a main frame comprising a main bridge-piece, a plunger, a supplemental bridge-piece and toggle-levers between said main bridge-piece and plunger, a toggle-bar for simultaneously operating said levers, means for separately adjusting the length of throw of said respective toggle-levers, and means for simultaneously adjusting the pivotal positions between said main bridge-piece and plunger of all of said toggle-levers, constructed and arranged for selectively simultaneously adjusting said collective toggle-levers or adjusting said toggle-levers separately, substantially as described.

843,204. EXTENSION-LADDER. JAMES R. GODDARD, New Bedford, Mass. Filed Nov. 20, 1906. Serial No. 344,343.

Claim.—An extension-ladder, provided with a cylinder or cylinders connected with a receiver or tank through which the force of compressed air is adapted to be exerted on the heads of pistons in said cylinders; means whereby the motion of said pistons is caused to revolve a drum journaled on said ladder; a rope, adapted to be wound upon said drum, having one end secured to the ladder to be extended; whereby when the force of compressed air is exerted in the cylinders, the extension portion of said ladder is extended.



843,205. VARIABLE-SPEED TRANSMISSION MECHANISM. ALBERT V. HART, Rochester, N. Y. Filed Jan. 19, 1906. Serial No. 296,783.



Claim.—1. A power-transmission mechanism comprising a driving member, a driven member and a connecting element, means for positioning it relatively to the two members and adjusting it into operative engagement with the driven member, and an adjustable device connecting said element to the driving member.

2. A power-transmission mechanism comprising a driving member, a driven member and a connecting element, means for positioning it relatively to the driven member and operating it into engagement therewith and into alinement with the driving member and means for connecting the latter to the element.

3. A power-transmission mechanism comprising a driving member, a driven member and a connecting element, means for positioning it relatively to the two members and operating the element into engagement with one of them and in alinement with the other and devices for detachably connecting the element to said other alined member.

4. A power-transmission mechanism comprising a driving member, a driven member and a movable connecting element, means for adjusting the latter into and out of engagement with one of the members and into and out of alinement with the other member and an adjustable clutch connecting the element and said other member with which it is alined.

5. A power-transmission mechanism comprising a driving member, a driven member and a movable connecting element, means for positioning it in alinement with one of the members, separate means for moving the element laterally into and out of operative engagement with said member and means for detachably connecting said element to the other member.

6. In a power-transmission mechanism, the combination with a driving member and a driven member comprising a plurality of gear-wheels, of a plurality of connecting elements, means for adjusting them into alinement with their respective gear-wheels and moving them into and out of operative engagement therewith and adjustable clutch devices for connecting the driving member to each of said elements.

7. In a power-transmission mechanism, the combination with a driving member and a driven member comprising a plurality of gear-wheels, of a plurality of connecting elements corresponding to said gear-wheels, means for adjusting them to operatively engage one of the elements with its respective gear-wheel in alinement with the driving member and clutch devices for detachably engaging the driving member and said element.

8. In a power-transmission mechanism, the combination with a driving member and a driven member comprising a gear-wheel, of two connecting elements adapted to coöperate therewith and means for alternately adjusting them into engagement with said gear-wheel, a counter-shaft connected to one of said elements to produce a relatively reverse movement thereof and means for connecting the driving member either to the counter-shaft or the other element when said elements are respectively adjusted into operative engagement with the gear-wheel.

9. In a power-transmission mechanism, the combination with a driven member comprising a gear-wheel, of two connecting elements and means for alternately adjusting them into engagement with said gear-wheel, a clutch member carried on one of the elements, a counter-shaft also carrying a clutch member and connected to the other element to cause it to be moved in reverse direction relatively to the movement of the first-mentioned element and a driving clutch member adapted to coöperate with the corresponding clutch members of either element.

10. In a power-transmission mechanism, the combination with a driven member comprising a gear-wheel, of an arbor, a pinion thereon, and a clutch member on the arbor, a second arbor, a separate pinion thereon and a counter-shaft, gear-wheels connecting it with the last-mentioned arbor and a clutch member on the counter-shaft, means for alternately adjusting the two pinions into engagement with the gear-wheel and a driving clutch member adapted to coöperate with the corresponding clutch member of the operative pinion.

11. In a power-transmission mechanism, the combination with a driven member comprising a plurality of gear-wheels, a plurality of pinions corresponding to the several gear-wheels and an arbor supporting each pinion, of a carrier in which the arbors are mounted and means for adjusting it to engage one or another of the pinions with its respective gear-wheel, a driving member and means for connecting it to the several arbors.

12. In a power-transmission mechanism, the combination with a driven member comprising a plurality of gear-wheels, a carrier movable upon an axis extending transversely of that of the driven member, arbors journaled on the carrier and pinions arranged on the arbors corresponding to the several gear-wheels, of means for adjusting the carrier to separately engage each pinion with its respective gear-wheel, a driving member and means for connecting it to each arbor when its pinion is located in operative position.

13. In a power-transmission mechanism, the combination with a driven member comprising a plurality of gear-wheels, a movable carrier having its axis arranged in the plane of the axis of the driven member and in front of the faces of the several gear-wheels, arbors supported on the carrier and pinions on the arbor corresponding to the several gear-wheels, of means for imparting a lateral movement to the carrier and rotating it to position one or another of the pinions in alinement with its respective gear-wheel, a driving member and means for connecting it to each arbor.

14. In a power-transmission mechanism, the combination with a driven member, comprising a plurality of bevel gear-wheels, a movable carrier located in front of the faces of said gear-wheels, a pinion corresponding to each of the latter, an arbor supporting it journaled on the carrier, means for adjusting the latter, a driving member and means for connecting it to each arbor when the latter are adjusted into operative position.

15. In a power-transmission mechanism, the combination with a driven member comprising a gear-wheel, a plurality of pinions coöperating therewith and an arbor for each pinion, of a pivoted carrier supporting the arbors, operating devices for rocking it and means for locking the carrier in adjusted position, a driving member and means for connecting it with each arbor.

16. In a power-transmission mechanism, the combination with a driven member comprising a plurality of gear-wheels, a pinion for each of the latter and an arbor for each pinion, of a carrier supporting the arbors, a pivot for the carrier located in rear of the arbors, devices for adjusting the carrier and means coöperating with the carrier in proximity to the arbors for locking it in adjusted position, a driving member and means for connecting it with each arbor.

17. In a power-transmission mechanism, the combination with a driven member comprising a gear-wheel, a plurality of pinions coöperating therewith and an arbor for each pinion, of a carrier supporting the arbors, means for adjusting it to position one or another of said pinions in engagement with the gear-wheel, a driving-shaft and means for connecting it to each arbor.

18. In a power-transmission mechanism, the combination with a driven member comprising a gear-wheel, a plurality of pinions coöperating therewith and an arbor for each pinion, of a pivoted carrier supporting the arbors, devices for rotating it upon its pivot, means coöperating with the carrier to lock it in an adjusted position, a driving member and means for connecting it with each arbor.

19. In a power-transmission mechanism, the combination with a frame, a driven member comprising a gear-wheel, a plurality of pinions adapted to coöperate therewith, and an arbor for each pinion, of a pivoted carrier mounted on the frame and supporting the arbors, devices for rocking the carrier and means for shifting it on the frame relatively toward and from the driven member, a driving member and means for connecting it with each arbor.

20. In a power-transmission mechanism, the combination with a frame, a driven member comprising a gear-wheel, a plurality of pinions adapted to coöperate therewith, and an arbor for each pinion, of a pivotal carrier supporting the arbors, devices for rocking it, and interlocking projections on the frame and carrier, means for imparting a relative lateral movement to one of said parts to engage and disengage said projections, a driving member and means for connecting it to the arbors.

21. In a power-transmission mechanism, the combination with a frame, a driven member comprising a gear-wheel, a plurality of pinions adapted to coöperate therewith and an arbor for each pinion, of a pivoted carrier

supporting the arbor devices for rocking it to position one of the pinions in alinement with the gear-wheel and means for moving the carrier laterally to adjust said pinion into operative position and projections on the carrier and frame which coöperate to lock the carrier during the operation of the pinion, a driving member and means for connecting it to the arbors.

22. In a power-transmission mechanism, the combination with a frame, a driven member comprising a gear-wheel, a plurality of pinions adapted to coöperate therewith and an arbor for each pinion, of a pivoted carrier supporting the arbor devices for rocking it to position one of the pinions in alinement with the gear-wheel and means for moving the carrier laterally to adjust said pinion into operative position, the carrier being provided with a projection for each pinion and the frame having a coöperating recess adapted to receive the projections to prevent the lateral movement of the carrier except when one of the pinions is in alinement with the gear-wheel, a driving-shaft and means for connecting it to the arbors.

23. In a power-transmission mechanism, the combination with a frame, a driven member comprising a gear-wheel, a plurality of pinions adapted to coöperate therewith and an arbor for each pinion, of a movable carrier having end portions supporting the arbors, devices for adjusting it to position a pinion in alinement with the gear-wheel, and move the pinion into operative engagement therewith, the carrier and frame being provided with interlocking projections, a driving member and means for connecting it to the arbors.

24. In a power-transmission mechanism, the combination with a frame having ways thereon, a driven member comprising a gear-wheel, a slide mounted therein and means for reciprocating it, of a carrier movably supported on the slide, arbors mounted on the carrier and pinions secured to the arbors and adapted to coöperate with the gear-wheel, and devices for adjusting the carrier, a driving member and means for connecting it to the arbors.

25. In a power-transmission mechanism, the combination with a frame having ways thereon, a driven member comprising a gear-wheel, a slide mounted therein and means for reciprocating it, of a carrier movably supported on the slide, arbors mounted on the carrier and pinions secured to the arbors and adapted to coöperate with the gear-wheel, and devices for adjusting the carrier, a driving member, a clutch member thereon adapted to engage the arbors, means for operating it and a device actuated by said means for locking the slide.

26. In a power-transmission mechanism, the combination with a frame having ways thereon, a driven member comprising a gear-wheel, a slide mounted therein and means for reciprocating it, of a carrier movably supported on the slide, arbors mounted on the carrier and pinions secured to the arbors and adapted to coöperate with the gear-wheel and devices for adjusting the carrier, a driving member, a clutch member thereon adapted to engage the arbors, means for operating it and a locking device actuated by said means and coöperating with the slide-reciprocating means to prevent the movement of the latter when the clutch is in operative position.

27. In a power-transmission mechanism, the combination with a frame having ways thereon, a driven member comprising a gear-wheel, a slide mounted in the ways and a device for reciprocating it, of a carrier movably supported on the slide, arbors mounted on the carrier and pinions secured to the arbors and adapted to coöperate with the gear-wheel and means for adjusting the carrier, a driving member and a movable clutch member thereon and a clutch-operating lever, of a locking-pin connected to said lever and coöperating with the slide-reciprocating device.

28. In a power-transmission mechanism, the combination with a frame having ways thereon, a driven member comprising a gear-wheel, a slide mounted in the ways having a cam-slot therein, a longitudinally-movable bar guided on the frame having a projection engaging said slot, and means for operating the bar, of a carrier movably supported on the slide, arbors mounted on the carrier and pinions secured to the arbors and adapted to coöperate with the gear-wheel and devices for adjusting the carrier, a driving member and means for connecting it to the arbors.

29. In a power-transmission mechanism, the combination with a frame having ways thereon, a driven member comprising a gear-wheel, a slide mounted in the ways and a device for reciprocating it, of a rock-shaft journaled on the slide, means for oscillating it, a carrier attached to the shaft and arbors supported thereon, pinions secured to the arbors and adapted to coöperate with the gear-wheel, a driving member and means for connecting it to the arbors.

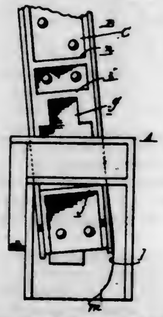
30. In a power-transmission mechanism, the combination with a frame, a driven member comprising a bevel gear-wheel, said frame having ways thereon extending at right angles to the pitch-line of said gear-wheel, a slide mounted in the ways and means for reciprocating it, of a carrier journaled on the slide, arbors supported on the carrier and pinions secured to the arbors and adapted to coöperate with the gear-wheel and devices for adjusting the carrier, a driving member and means for connecting it to the arbors.

31. In a power-transmission mechanism, the combination with a frame, a driven member comprising a plurality of bevel gear-wheels of different pitch, said frame having ways thereon arranged in front of the faces of the several gear-wheels, and a reciprocatory slide guided in the ways, of a carrier journaled on the slide, arbors journaled thereon and a pinion secured to each arbor and adapted to coöperate with one of the bevel gear-wheels, devices for retracting the slide and separate devices for subsequently operating the carrier, a driving member and means for connecting it to the arbors.

32. In a power-transmission mechanism, the combination with a driven member comprising a face-plate, a plurality of bevel gear-rings arranged concentrically thereon and a driving member, of a plurality of connecting elements corresponding to the several rings adapted to coöperate separately with the driving member, means for adjusting said elements to position one of them in engagement with its respective ring and means for connecting said elements to the driving member.

33. In a power-transmission mechanism, the combination with a driven member comprising a face-plate, a plurality of rings of different diameters arranged concentrically thereon, said rings being provided with bevel-teeth of different pitch and a single driving member, of a plurality of connecting elements corresponding to the several rings and adapted to coöperate separately with the driving and driven members, means for adjusting said elements to position one or another of them in operative engagement with its respective gear-ring and means for connecting said element to the driving member.

843,206. STAKE FOR VEHICLES. GEORGE L. HARVEY, Chicago, Ill. Filed Oct. 11, 1906. Serial No. 338,523.



Claim.—1. A vehicle-stake comprising a pocket member, a stake member in engagement therewith and adjustable therein from a vertical to a horizontal position and coöperating means on said members integral therewith for locking the stake in upright position.

2. The combination with a stake, of a pocket member therefor provided with intersecting vertical and horizontal recesses for engagement with a stake and permitting the swinging thereof, and interlocking means respectively on said stake and pocket member for holding the former in vertical position, said interlocking means being engageable or disengageable by the vertical movement of the stake.

3. The combination with a stake, of a pocket member recessed for the engagement of said stake and permitting a swinging of the latter from vertical to horizontal position, a bearing for limiting the swinging of the stake beyond the vertical position, and means of engagement between said bearing and the stake for locking the latter in said vertical position.

4. The combination with a stake, of a pocket member therefor recessed for the engagement of said stake and permitting a swinging thereof from vertical to horizontal position, diagonally opposite bearings in said pocket member for limiting the swinging of said stake, and means for interlocking said stake with both of said bearings to hold the former in upright position.

5. The combination with a stake, of a pocket member therefor permitting the swinging of a stake from vertical to horizontal position, a bearing for limiting the swinging of the stake, interlocking dovetails on said stake and bearings engageable and disengageable by a longitudinal movement of the stake locking the latter in vertical position.

6. A vehicle-stake comprising a flanged bar, and a member secured to a portion thereof forming a reinforce for the bar.

7. The combination with a stake-pocket member, of a stake for engaging said pocket formed of a flanged bar and a reinforcing member arranged in the flanges of said bar and engaging the pocket member.

8. The combination with a stake formed of a flanged bar, of a pocket member with which said stake is engaged permitting of swinging the latter from vertical to horizontal position, and a combined reinforce and locking member between the flanges of said bar, and a coöperating locking member on said pocket whereby the stake is held in vertical position.

9. The combination with a sill of a vehicle, of a stake-pocket fixedly secured to said sill, a stake engaging said pocket movable therein from a vertical to a horizontal position, and coöperating members integral therewith on said pocket and stake for locking the latter in vertical position.

10. The combination with a vehicle-sill, of a stake-pocket fixedly secured to said sill, a stake in engagement with said pocket longitudinally and angularly movable therein, and means for locking the stake when in vertical position from angular movement.

11. The combination with a vehicle-sill, of a plurality of stake-pockets fixedly secured thereto, and stakes longitudinally and angularly adjustable in said pocket, each movable from a position where it extends vertically above the pocket to a position where it extends upon opposite sides of the pocket parallel to the sill and overlapping the stake in the adjacent pocket.

12. The combination with a vehicle-sill, of a stake-pocket fixedly secured thereto, a stake longitudinally and angularly adjustable in said pocket from an upright position to a horizontal position, and a catch for holding said stake in horizontal position.

13. The combination with a stake, of a stake-pocket therefor having a rectangular base and recessed for the angular adjustment therein of said stake from vertical to horizontal position, a U-bolt diagonally embracing said pocket and passing through apertures in two of the angles of said base and straight bolts for securing the other two angles of the base.

14. A vehicle-stake comprising a flanged bar having an elongated aperture through the web portion thereof, for the purpose described.

15. In a folding stake for vehicles, a pocket member rigidly attached to the vehicle, a flanged stake member, and a reinforcing member secured to said stake extending into and above the pocket.

16. In a foldable vehicle-stake, a pocket member and a stake member engaging the same longitudinally and angularly movable therein in a plane parallel to the side of the car, and means for permitting a limited movement of the stake to relieve the same from the lateral stress of the load upon a slight shifting of said stake in the socket.

17. A folding vehicle-stake comprising a pocket member, a stake member adjustable therein from vertical to horizontal position, means for locking said stake in vertical position, and means for permitting a limited movement of the stake to relieve the same from the lateral stress of the load upon the disengagement of said locking means.

18. The combination with a stake, of a pocket member having separated bearings for the stake, and a clearance intermediate said bearings permitting the movement through said pocket of a bent stake.

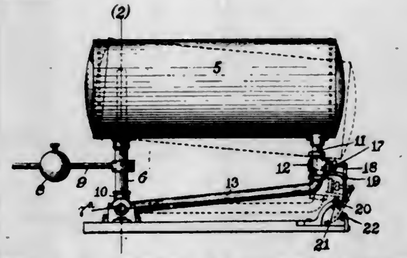
19. In a vehicle-stake comprising a pocket member and a stake member, coöperating bearings on said stake and pocket members for the application of leverage to initially move the stake.

20. A vehicle-stake comprising a stationary pocket member, a stake member adjustable therein in a plane parallel to the side of the vehicle in a knocked-down position, and means operating in the initial movement of said stake for relieving the same from the lateral stress of the load.

21. The combination with a metallic vehicle-stake having a flanged section, of a wooden insert for filling said section, and a brace for said stake secured to said insert.

22. The combination with a vehicle-stake having a flanged section and an aperture through the web of said section, of a pair of wooden inserts arranged upon opposite sides of said web and nailed to each other through the aperture therein, and a brace for said stake secured to one of said inserts.

843,207. STEAM-TRAP. GEORGE W. HAYDEN, Chicago, Ill., assignor to Crane Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 2, 1905. Serial No. 272,365.



Claim.—1. In combination in a steam trap a reservoir pivotally mounted upon a hollow trunnion, a steam inlet through said trunnion communicating with the reservoir, an outlet pipe and a valve therein, a lever pivoted to the stem of the valve and having an inclined end, and rollers arranged to strike said inclined end to open and close the valve as the lever is moved up or down with the moving reservoir, substantially as described.

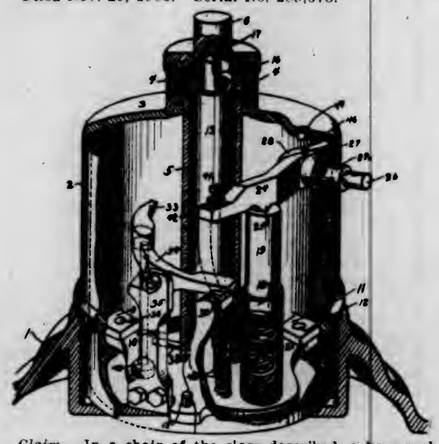
2. In a tilting trap, an outlet valve therefor having an extended stem, a lever 18 pivoted on the valve casing and to said stem and having an inclined end 20, and a pair of rollers engaging said inclined portion respectively in a lowered or raised position as the reservoir tilts, whereby to open and close the steam valve when the reservoir is at its lower or upper position respectively, substantially as described.

3. In combination in a steam trap a reservoir pivotally mounted upon a hollow trunnion, a steam inlet to such trunnion leading from the reservoir, an outlet pipe provided with a valve a lever pivoted to the stem of the valve and having an inclined end, and camming means arranged to engage said inclined end for opening the valve as the lever is moved downward with the moving reservoir.

4. In a steam trap the combination with a reservoir pivotally mounted upon a hollow trunnion, a steam inlet to such trunnion leading from the reservoir, an outlet pipe provided with a valve, a lever pivoted to the stem

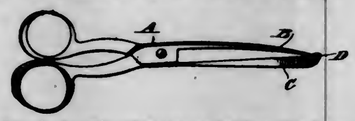
of the valve and having an engaging end, and camming means arranged to engage said engaging end for opening the valve as the lever is moved downward with the moving reservoir.

843,208. CHAIR. CHARLES W. HIEBER, Canton, Ohio. Filed Nov. 29, 1905. Serial No. 289,673.



Claim.—In a chair of the class described, a base and a closed top cylinder, a rock-shaft having fixed thereto a swinging arm, a pump located in the cylinder and actuated by the swinging arm, a lever secured to the rock-shaft, a chair-stem, a piston and a piston-rod and tube, a trip-lever, a pin secured to the chair-stem and adapted for contact with the trip-lever, and a valve-stem and valve controlled by the trip-lever, and a spring adapted for contact with the inner end of the trip-lever and passages communicating with the pump mechanism, the piston-tube and the release-valve, substantially as and for the purpose specified.

843,209. SCISSORS. EMERSON C. HIGGINS, Bayonne, N. J. Filed June 27, 1906. Serial No. 323,558.



Claim.—1. A pair of scissors having the lower blade longer than the upper and provided with an upwardly-extending guard at its forward end rounded on top and having plane faces.

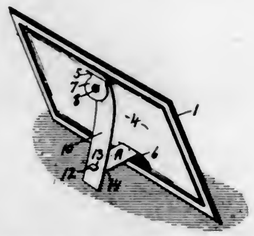
2. A pair of scissors having the lower blade longer than the upper and provided with an upwardly-extending guard at is forward end having plane faces, one face of said guard being approximately in the same plane as the cutting-faces of said longer blade.

3. A pair of scissors having the lower blade longer than the upper and provided with an upwardly-extending guard at its forward end in the same plane as the blade, said guard being approximately of the same thickness as the blade.

4. As a new article of manufacture, a pair of scissors having blades of unequal length, the shorter blade being pointed, the longer blade being provided with a guard which is situated beyond the point of the shorter blade and in the same plane as the longer blade.

843,210. EASEL. CHESTER R. HOAG, Newark, N. J., assignor to The Whitehead & Hoag Company, Newark, N. J., a Corporation of New Jersey. Filed Nov. 16, 1904. Serial No. 233,017.

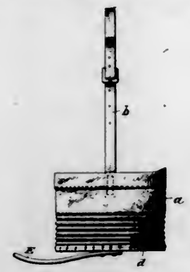
Claim.—1. In combination with a card having a back-piece provided with slits one above the other, a leg having one end inserted in the upper slit and its lower portion provided with a transverse slot and a brace having one end movable into and out of the other slit and its other end reduced in width to about the width of the slot and inserted into said slot.



2. The combination with a display-card having upper and lower pockets or slits, a hanger inserted in the upper slit, a leg also inserted in the upper slit and a brace having one end inserted in the lower slit and its other end engaged with the leg.

3. In combination with a card having a back-piece provided with slits one above the other, a leg having one end inserted in the upper slit and its lower portion provided with a transverse slot and a brace having one end inserted in the lower slit and its other end slidable in said slot.

843,211. NOSE-BAG FOR FEEDING HORSES AND OTHER ANIMALS. ALFRED L. HODGE, Dallas, Tex. Filed Nov. 20, 1906. Serial No. 344,345.



Claim.—1. In a device of the character described, a bag, a spring serving to normally hold said bag in a collapsed position, and a foot-piece extending laterally from the lower end of said bag.

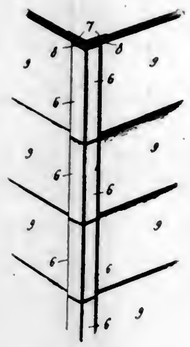
2. In a device of the character described, a flexible bag, a spring normally serving to hold said bag in a collapsed position, and a foot-piece secured to the bottom of the bag and extending laterally to one side thereof.

3. In a device of the character described, a flexible bag, a coil-spring secured within said bag adjacent the inner wall thereof and serving to normally maintain the same in a collapsed position, and a foot-piece extending laterally from the cover end of the bag.

843,212. ANGLE-PIECE FOR ROOFS OR SIDINGS. JAMES H. HOLT, Fairfield Center, Me. Filed May 31, 1906. Serial No. 319,599.

Claim.—A corner for shingle roofs or sidings comprising the combination with lapped courses of shingles, of lapped angle-pieces formed in two sides or parts each having outer and inner spaced flanges and an upright connecting portion at one edge thereof, said connecting portions being secured together by a water-tight joint, with the flanges extending in opposite directions and at an angle to each other, the space between the flanges being tapered to suit the taper of the shingles, the angle-piece being of substantially the same length as the shingles and similarly lapped at the respective courses.

843,212.



843,213. WIRE-REEL. OLE H. JUVE, Decorah, Iowa. Filed June 22, 1906. Serial No. 322,957.



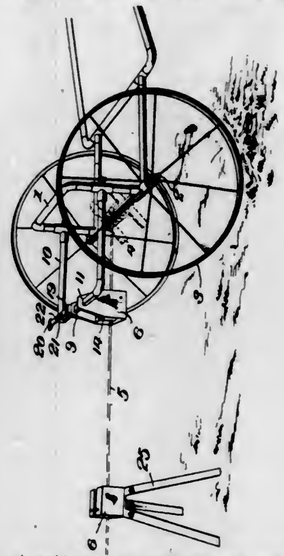
Claim.—1. A reel of the class described comprising the combination with a suitable frame, tubular spindles on said frame, supporting-wheels for said spindles, of a shaft rotatably disposed in said spindles, a reel on said shaft, a guide member for said reel and means to adjustably secure said guide member to the frame.

2. A reel of the class described comprising a frame formed of tubular section, tubular spindles secured to the depending portion of said frame, carrying-wheels on said spindles, a shaft rotatably mounted in said spindles and adapted to project from each edge thereof, a reel on said shaft and between said spindles and a guide member on said frame and means to adjust said guide member.

3. A reel of the class described comprising a tubular frame, tubular spindles on the depending portions of said frame, a shaft rotatably mounted within and removable from said spindles, a reel on said shaft, arms adjustably mounted upon said frame and a bar disposed between the outer ends of said arms and a guide-box adjustably mounted upon said bar.

4. A reel of the class described comprising a tubular frame, supporting-axles for said frame, parallel arms extending at right angles to the vertical portion of said frame, a T-head for each of said arms, means to adjustably secure said T-heads to the frame and a bar disposed between the outer ends of said arms, said bar being designed to carry a guide-box.

843,214. GUIDE FOR WIRE-REELS. OLE H. JUVE, Decorah, Iowa. Filed Nov. 24, 1906. Serial No. 344,848.



Claim.—1. A guide of the class described comprising a frame formed of a continuous piece of metal and having its free ends spaced apart, rollers carried by said frame and in pairs, one pair being horizontally disposed and the other vertically disposed, an extension on one of said ends, a depending ear on said extension forming a bearing for one end of one of said horizontally-disposed rollers and means to support said guide.

2. In a guide for reels the combination with a reel, a supporting-frame therefor and a bar secured to said frame; of a guide comprising a frame formed of one continuous section of material, hangers extending upwardly from the frame and integral therewith, said hangers having openings to receive said bar, the free ends of said frame being spaced apart, an extension on one of said ends, an ear on said extension, rollers disposed in pairs and rotatably mounted in said frame, and means to move said guide longitudinally of the bar.

3. The combination with a reel, a supporting-frame therefor and a bar on said frame; of a guide comprising a frame, hangers integral with said frame and extending upwardly therefrom, the free ends of said frame being spaced apart, rollers disposed in pairs and mounted in said frame, a stem on one of said hangers, a lever secured to said stem and means to engage said lever and hold the guide in its adjusted position.

843,215. CUSPIDOR. JOSEPH KNAPP, Buffalo, N. Y. Filed Sept. 4, 1906. Serial No. 333,066.

Claim.—1. A cuspidor comprising a body or outer shell having an upper annulus, a lower annulus forming a bottom with an opening, and a cylindrical shell secured to said annuli; a bowl having an overhanging flange bearing against the top of said upper annulus at the inner marginal portion thereof and provided with an opening in its bottom, and a cover having an opening and receiving support at its outer marginal portion.

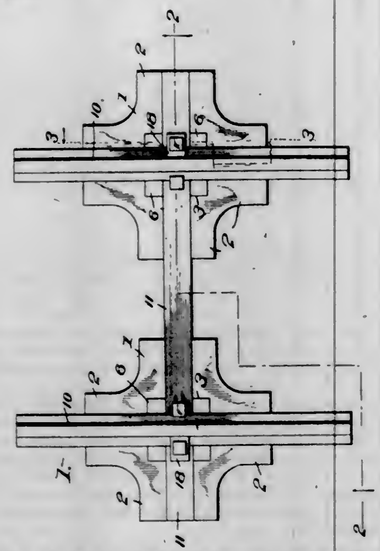
2. A cuspidor comprising a body or outer shell having an upper annulus provided with a depending flange near

its outer edge, a lower annulus forming the bottom with an opening and having an upstanding flange near its outer edge, a shell between said annuli surrounding said flanges of the latter, and means for securing said parts together; a bowl suspended within said body and having an opening in its bottom, and a cover also provided with an opening and supported on the body.



3. A cuspidor comprising a body or outer shell having an upper annulus provided with a depending flange near its outer edge, a lower annulus forming the bottom with an opening and having an upstanding flange near its outer edge, a shell between said annuli surrounding the flanges of the latter, and screw-bolts for securing said parts together; a bowl having an opening in its bottom and an outstanding flange at its upper end bearing against the upper side of the upper annulus at the inner marginal portion thereof, and a conical cover having a central opening and being curved downward at its outer marginal portion to form a rib, said rib surrounding the outer edge of the bowl.

843,216. ROAD-BED EQUIPMENT. JOHN D. KNEEDLER, Sioux City, Iowa. Filed Aug. 20, 1906. Serial No. 331,340.



Claim.—1. In a road-bed equipment of the class described, the combination with a bed-block of plastic material, having grooves in its upper face and channels in its lower face, extensions on said bed-block and means to reinforce said bed-block; of a metallic tie having a channel, said tie adapted to be seated in one of the grooves, an anchor-block disposed in a cavity in said bed-block, means on said anchor-block to engage the tie, cushion-plates for said bed-block, and means to secure rails to said tie and blocks.

2. A road-bed equipment of the class described, comprising a bed-block of plastic material, having a cavity in its upper face, a cushion-plate in and entirely surrounded by said cavity, an anchor-block in said cavity and above said cushion-plate and having lugs, means to secure said blocks in pairs, and additional means to secure rails in channels formed by said lugs and to said anchor-blocks and bed-blocks.

3. In a road-bed equipment of the class described, the combination with a bed-block having a cavity in its upper surface; of a cushion-plate disposed in said cavity, an anchor-plate on said cushion-plate, lugs on the upper surface of said anchor-plate, said lugs forming channels, means to secure said anchor-plate and cushion-plate to the bed-block and additional means to dispose said bed-blocks in pairs.

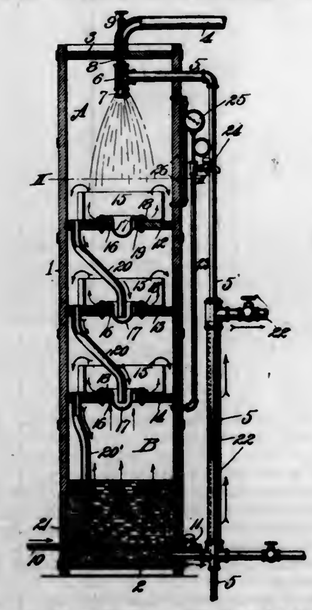
4. In a road-bed equipment, the combination with a bed-block having grooves, and a cavity in the upper surface thereof; of a cushion-plate in said cavity, an anchor-block disposed over said cushion-plate and in said cavity, means to secure said anchor-block to the bed-block, upwardly-extending lugs on said anchor-block and means to secure rails to the anchor-block and in channels formed by said lugs.

5. In a road-bed equipment, the combination with a bed-block having a cavity in its upper surface; of an anchor-block adapted to be seated in said cavity, means to secure said anchor-block to the bed-block, upwardly-extending lugs on said anchor-block, said lugs being arranged to form channels therebetween.

6. In a road-bed equipment of the class described, comprising the combination with a bed-block having a cavity in its upper surface, a cushion-plate in said cavity, an anchor-block on said cushion-plate, lugs on said anchor-block, means to secure and interlock rails between said lugs, and additional means to secure the anchor-block to the bed-block.

7. In a road-bed equipment of the class specified, comprising the combination with bed-blocks having cavities in their upper faces, cushion-plates in said cavities, anchor-blocks on said cushion-plates; of a metallic cross-tie having a channel, and cushion-plates in said channel.

843,217. CONTINUOUS STILL. EMIL KREPPER, St. Louis, Mo. Filed Sept. 17, 1906. Serial No. 334,880.



Claim.—1. In a still, the combination of a shell, a series of shelves mounted within said shell, pans seated on said shelves and having openings in the bottoms thereof, trap-cups located in the bottom openings of said pans, liquid-conducting means leading from one pan-chamber to a trap-cup in a lower pan-chamber, means for conducting a heating medium into the lower portion of said shell, and means for feeding the liquid to be treated into the upper portion of said shell, substantially as set forth.

2. In a still, the combination of a shell, a series of shelves mounted within said shell, pans mounted on said shelves and having openings in the bottom thereof, trap-cups located in the bottom openings of said pans and having rims projecting over the bottoms of the pans, liquid-conducting means leading from one pan-chamber to a trap-cup in a lower pan-chamber, means for conducting a heating medium into the lower portion of said shell, and means for feeding the liquid to be treated into the upper portion of said shell, substantially as set forth.

3. In a still, the combination of a shell, a series of shelves mounted in said shell, pans seated on said shelves and having openings in the bottoms thereof, trap-cups located in the bottom openings of said pans and having outwardly-extending and downwardly-inclined rims projecting over the bottoms of said pans, liquid-conducting means leading from one pan-chamber to a trap-cup in a lower pan-chamber, means for conducting a heating medium into the lower part of said shell, and means for feeding the liquid to be treated in the upper part of said shell, substantially as set forth.

4. In a still, the combination of a shell, a series of shelves mounted within said shell, pans seated on said shelves and having openings in the bottoms thereof, trap-cups located in the openings in the bottoms of said pans and having rims extending over the bottoms of the pans, tangentially-arranged vanes located between the bottoms of said pans and said trap-cup rims, means for conducting liquid leading from one pan-chamber to a trap-cup in a lower pan-chamber, means for conducting heating medium into the lower portion of said shell, and means for feeding the liquid to be treated into the upper portion of said shell, substantially as set forth.

5. In a still, the combination of a shell, a series of shelves mounted within said shell, pans seated on said shelves and having openings in the bottoms thereof, trap-cups located in the bottom openings of said pans, drop-pipes extending downwardly from a position exterior of an upper pan to a trap-cup associated with a lower pan, means for conducting a heating medium into the lower portion of said shell, and means for feeding the liquid to be treated into the upper portion of said shell, substantially as set forth.

6. In a still, the combination of a shell, a series of shelves mounted within said shell, pans seated on said shelves and having openings in the bottoms thereof, trap-cups located in the bottom openings of said pans, liquid-conducting means leading from one pan-chamber to the trap-cup of a lower pan-chamber, a drop-pipe leading downwardly from a position exterior of the lowermost of said pans, a trap-basin into which said drop-pipe leads, means for conducting heating medium into the lower end of said shell, and means for feeding liquid to be treated to the upper end of said shell, substantially as set forth.

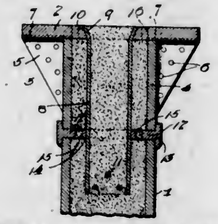
7. A still comprising a shell, a series of shelves each having an orifice, walls surrounding the orifices, trap-cups located in the orifices and spaced from the shelves and said orifices, liquid-conducting means leading from the shelves to the trap-cups, means for conducting a heating medium into the lower part of said shell, and means for feeding the liquid to be treated into the upper part of said shell.

843,218. COLUMN. JOHN LALLY, Waltham, Mass. Filed Sept. 25, 1906. Serial No. 336,160.

Claim.—1. In a column, a column-casing, a cap or connection therefor, and a centering-plate for positioning said parts relatively to each other.

2. In a column, a column-casing, a cap or connection therefor, and a centering-plate having a flange which engages one of said parts.

3. In a column, a column-casing, a cap or connection therefor, and a centering-plate having a flange which engages both of said parts.



4. In a column, a column-casing, a cap or connection therefor, an anchor for securing the casing and cap together, and a centering device for the casing, cap and anchor.

5. In a column, a column-casing, a cap or connection therefor, an anchor for securing the casing and cap together, and means for centering all of said parts.

6. In a column, a column-casing, a cap or connection therefor, an anchor for connecting said parts, and a centering device adapted to hold the casing and cap in their proper relative positions and also hold the anchor centrally of the casing and cap.

7. In a column, a column-casing, a cap or connection therefor, and a centering-plate for said parts having openings for the filling of the casing and cap.

8. In a column, a column-casing, a cap or connection therefor having a recessed top, and an anchor passing through the cap into the casing and having a head seated within the plane of the cap-top.

9. In a column, a casing, a cap or connection therefor having a recessed top, and a tubular anchor having a head seated in the recessed top and provided with bond-holes for the filling of the casing.

10. In a column, a casing, a cap or connection therefor having an opening, a filling within said casing, and an anchor having a head seated in said opening and provided with bond-holes in that portion which enters the casing.

11. In a column, a casing, a filling therefor, a cap or connection embodying separate crown-plate and bracket portions, and an anchor extending from the cap into the casing and embedded in the filling and serving to secure all of said parts together.

12. In a column, a casing, a filling therefor, a sectional cap or connection, and an anchor embedded in the filling and holding the sections of the cap together and also holding the cap as a whole upon the casing.

13. In a column, a casing, a filling therefor, and a sectional cap or connection embodying a channeled beam-rest or crown-plate and bracket-sections let into the channels of the plate.

14. In a column, a casing, a filling therefor, a sectional cap or connection embodying a channelel crown-plate and bracket members let into the channels of said plate, and an anchor having one end thereof fastened to the crown-plate and the other end embedded in the filling within the casing.

15. A column comprising a casing, a filling therefor, a cap or connection for said casing, a tubular anchor having its upper end inserted through and fastened in the cap and extending into the casing, and a filling for the anchor.

16. In a column, a casing, a filling therefor, a cap or connection for the casing, a tubular anchor having one end flared to engage the cap and the other end formed with bond-holes, and a filling for the anchor.

17. In a column, a casing, a filling therefor, a cap or connection for the casing, an anchor having a head at one end seated flush within the cap, said anchor extending down into the casing and being embedded therein, and a superimposed base having a flat bottom resting upon the cap or connection and fastened thereto.

18. In a column, a casing, a filling therefor, a cap or connection for the casing, a hollow anchor embedded in the filling and connected with the cap, and a pin or dowel

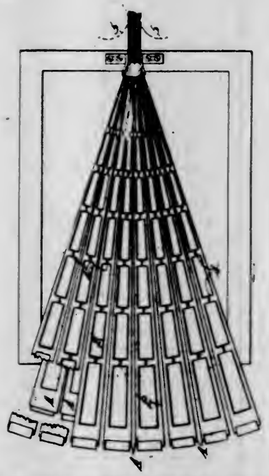
entering the anchor and extending upward above the cap or connection.

19. In a column, a casing, a filling therefor, a cap or connection for the casing having an opening therein, and a pin or dowel passing through said hole and having one end embedded in the filling and the other end projecting above the cap.

20. In a column, a casing, a filling therefor, a cap or connection for the casing, a tubular anchor having one end flared and connected with the cap and the other end embedded in the filling, and a dowel-pin extending down into the anchor and up above the cap and provided with a shoulder resting in the flared part of the anchor.

21. In a column, a casing, a filling therefor, a cap or connection for the casing, a tubular anchor embedded in the filling and connected with the cap or connection, and a dowel having a roughened outer surface, a portion of said dowel extending down into the anchor and another portion thereof extending above the cap or connection.

843,219. PAPER-FOLDING MACHINE. SOLOMON LAZAR, San Francisco, Cal. Filed Aug. 25, 1906. Serial No. 332,004.



Claim.—1. A paper-folding machine comprising upper and lower series of dies, each die in each series comprising a strip of stiff, bendable material having its longer edges bent to form lateral guide-flanges for the web, said flanges connected at intervals by narrow cross-straps and said strip bent longitudinally and centrally with one end of the die formed by said strip and straps substantially flat and the other end with its sides substantially parallel, the bent sides of the dies in one series fitting into the corresponding depressions in the other series.

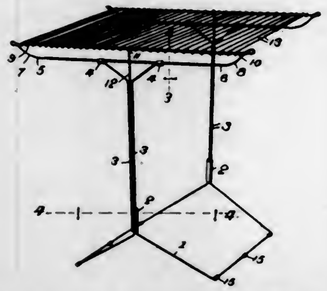
2. In a paper-folding machine, a die formed from a strip of suitable bendable material, the edges of said strip overturned to form lateral guide-flanges, said flanges connected at intervals by cross pieces or straps, said strip flattened at its feed end and bent centrally and longitudinally toward the other end, said cross-straps being maintained parallel with the adjacent surface of said strip, said bent strip and cross-pieces operating gradually to fold a web of paper centrally and longitudinally when the web is passed therethrough, and a second die corresponding to the first one and having its bent sides fitting into the corresponding depression of said first die, said cross-strips of the dies affording ready access to the web at any point in the lengths of the dies.

3. In a paper-folding machine, the combination of an upper and a lower series of dies, each die in each series comprising a strip of suitable bendable material having lateral guide-flanges, said flanges connected by cross-straps, said die-strip bent longitudinally and centrally to cause its opposite sides gradually to approach each other from the feed toward the delivery end of the die, the dies of the lower series being substantially concaved and the dies of the upper series substantially convexed relative to the dies of said lower series, with the bent sides of the upper series fitting the concavities of the lower series, said cross-straps of both series of dies being uppermost whereby the web in each die is viewable from the top and for a major portion of the length of the die.

4. In a paper-folding machine, the combination of an upper and a lower series of open-work dies of tubular form, the dies of each series being bent lengthwise so as to operate gradually to fold a web of paper centrally and longitudinally when a web is passed therethrough, the dies of the lower series being substantially concaved and the dies of the upper series being substantially convexed in cross-section relative to the dies of said lower series, the sides of the dies of the upper series fitting the concavities of the lower series, and the open-work part of each die being uppermost so that the web in each die is viewable from the top for the major portion of the length of the die.

5. In a paper-folding machine, the combination of an upper and a lower series of open-work dies of tubular form, the dies of each series being bent lengthwise so as to operate gradually to fold a web of paper centrally and longitudinally when the web is passed therethrough, the dies of the lower series being substantially concaved and the dies of the upper series being substantially convexed in cross-section relative to the dies of said lower series, the sides of the dies of the upper series fitting the concavities of the lower series, and the open-work of each die being uppermost so that the web in each die is viewable from the top for the major portion of the length of the die, said upper series of dies lying loose on the lower series to permit the ready and separate removal of any die.

843,220. DISPLAY-RACK. ASA B. LOSEE, Lake City, Iowa. Filed July 18, 1906. Serial No. 326,741.



Claim.—1. A rack of the class described comprising base-sections, standards secured to said base-sections, side rails disposed in pairs, means at the upper ends of said standards to telescopically receive said side rails and rods connecting the side rails and movable thereon.

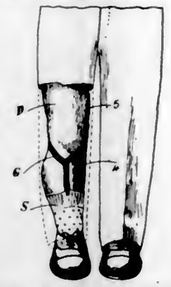
2. In a rack of the class described comprising the combination with a base and standards thereon; of side rails disposed in pairs and telescopically mounted on said standards, supporting-rods disposed between each pair of standards and movably secured thereto and means at the end of each side rail to limit the movement of said rods.

3. A rack of the class described comprising a base, standards secured to said base, side rails comprising upper and lower parallel members, said side rails being grouped in pairs, securing devices upon said standards in which said side rails are telescopically mounted and supporting-rods disposed between each pair of said rails.

4. A rack of the class described comprising a base, standards secured to said base, side rails telescopically mounted upon said standards, supporting-rods disposed between said side rails and laterally slidable thereon and

means at the end of each side rail to limit the movement of said rods.

843,221. LEG-FORM. GEORGE M. LUCE, St. Louis, Mo. Filed July 9, 1906. Serial No. 325,361.



Claim.—1. A form for bow-legs comprising a longitudinal outwardly-convexed member having tapering ends, and contacting with the leg only along the edges of the member whereby a layer of air is interposed between said member and leg, substantially as set forth.

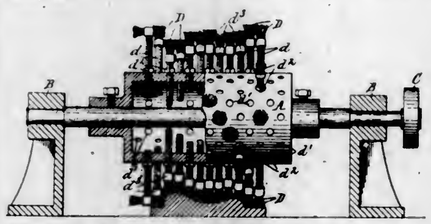
2. A form for bow-legs comprising a longitudinal outwardly-convexed member having tapering ends and an inner bent longitudinal bridge-piece bearing against the leg, substantially as set forth.

3. A form for bow-legs comprising a longitudinal outwardly-convexed member having tapering ends, an inner inwardly-bent longitudinal bridge-piece bearing against the leg, and a hinged extension coupled to the convex member and secured to the clothing of the wearer, substantially as set forth.

4. A form for bow-legs comprising a longitudinal outwardly-convexed member having tapering ends and contacting with its edges along the leg, a longitudinally-disposed yielding bridge-piece carried on the inner face of the member, an intermediate cushion of cotton or equivalent material disposed on the outer face of the longitudinal member, an outer protecting layer for said cushioning layer, a padded extension hinged at the base of its rear edge to the longitudinal member at a point along the knee-joint to permit the free bending of the knee, and means for securing the extension to the clothing of the wearer, substantially as set forth.

5. A form for bow-legs comprising a longitudinal outwardly-convexed pliable member having tapering ends, and contacting with the leg only along the edges of the member whereby a layer of air is interposed between said member and leg, substantially as set forth.

843,222. WOOD-DRESSING MACHINE. WILLIAM M. LUTHER, Buffalo, N. Y. Filed Oct. 23, 1906. Serial No. 340,149.



Claim.—1. A dressing mechanism comprising a rotary support, and dressing devices mounted thereon at different points lengthwise of the support, and individually adjustable toward and from the axis of support, substantially as set forth.

2. A dressing mechanism comprising a rotary support, and dressing devices independently secured thereon at different points lengthwise and circumferentially of the support and separately adjustable toward and from the axis of the support, substantially as set forth.

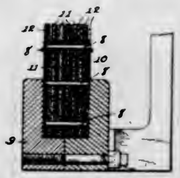
3. A dressing mechanism comprising a rotary support, and dressing devices mounted thereon, said dressing devices having dressing instrumentalities and separate means at different points lengthwise of said support for adjusting them toward and from the axis of the support, substantially as set forth.

4. A dressing mechanism comprising a rotary support, and dressing devices mounted thereon side by side lengthwise of the support, each device comprising a stem adjustable on the support toward and from the axis thereof, and a head with dressing instrumentalities, substantially as set forth.

5. A dressing mechanism comprising a rotary cylinder provided with holes in its periphery, and dressing devices arranged side by side lengthwise of said cylinder and having stems separately adjustable in said holes toward and from the axis of the cylinder, substantially as set forth.

6. A dressing mechanism comprising a rotary support provided with screw-threaded holes, dressing devices comprising stems screwed in said holes and provided with heads at their outer ends and dressing instrumentalities secured in said heads, and means for securing said stems in adjusted positions in said threaded holes, substantially as set forth.

843,223. ROLL-WIPER FOR TINNING-POTS. ARTHUR J. MASKREY, Chester, W. Va. Filed Nov. 23, 1906. Serial No. 344,688.



Claim.—1. The combination with the rolls of a tinning-pot, of wipers arranged adjacent to the surfaces of the rolls for removing the surplus molten metal therefrom, said wipers comprising a plurality of suitably-mounted sheets of woven asbestos fabric and sheets of wire-netting bound together.

2. The combination with the rolls of a tinning-pot, of wipers arranged adjacent to the surfaces of the rolls for removing the surplus metal therefrom, each of said wipers comprising a plurality of sheets or layers of woven asbestos fabric and sheets of wire-netting mounted with their edges presented to the rolls.

3. A device for removing surplus coating metal from the rolls of a metal-coating machine, consisting of a plurality of layers of woven asbestos fabric with layers of wire-netting interposed between them; substantially as described.

4. A device for removing surplus coating metal from the rolls of a metal-coating machine, consisting of a plurality of layers of woven asbestos fabric strengthened by layers of wire-netting.

5. A device for removing surplus coating metal from the rolls of a metal-coating machine, consisting of a plurality of layers of asbestos with strengthening layers of wire-netting.

6. A device for removing surplus coating metal from the rolls of a metal-coating machine, consisting of a plurality of layers of woven asbestos fabric, layers of wire-netting interposed between said layers of fabric, and a holding-clamp for said layers.

7. A device for removing surplus molten metal from the rolls of a tinning-pot, consisting of alternate layers of asbestos fabric and wire-netting.

8. A device for removing surplus molten metal from the rolls of a tinning-pot, consisting of alternate layers of asbestos fabric and wire-netting stitched together into a compact body.

9. A device for removing surplus molten metal from the

rolls of a tinning-pot, consisting of layers of asbestos fabric and wire-netting stitched together into a compact body, and a holding-clamp therefor.

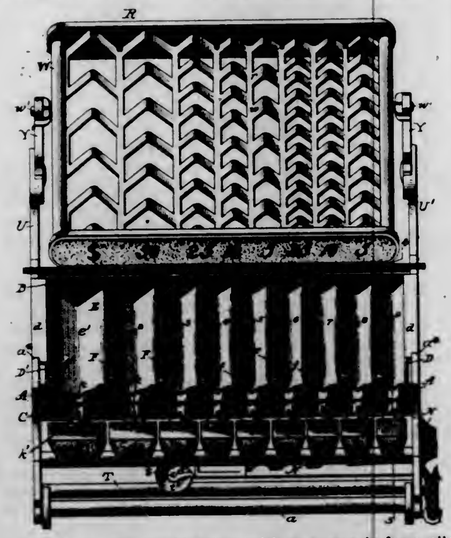
10. A device for removing surplus molten metal from the rolls of a tinning-pot, consisting of a plurality of alternate layers of asbestos fabric and wire-netting bound together in a compact body.

11. A device for removing surplus molten metal from the rolls of a tinning-pot, consisting of a plurality of layers of asbestos fabric and wire-netting bound together in a compact body, and a holding-clamp therefor.

12. A device for removing surplus molten metal from the rolls of a tinning-pot, consisting of a plurality of layers of asbestos fabric, a plurality of layers of wire-netting, the layers of netting and fabric being bound together in a compact body and mounted with their edges presented to the rolls.

13. A device for removing surplus molten metal from the rolls of a tinning-pot, consisting of a holding-clamp, a plurality of layers of woven asbestos fabric, layers of wire-netting interposed between said layers of fabric, said wire-netting being adapted to strengthen the fabric, preventing it from breaking down under pressure, and being also adapted for wiping and scraping the rolls, said layers of fabric and netting being mounted in said clamp and presenting their edges to the rolls.

843,224. COIN HOLDING AND DELIVERING MACHINE. JOHN W. MEAKER, Detroit, Mich., assignor to Meaker Sales Company, Detroit, Mich., a Corporation of Michigan. Filed Oct. 12, 1905. Serial No. 282,426.



Claim.—1. The combination, with a receptacle for a pile of coins constructed to permit the discharge of one or more coins from the lower end thereof, of an automatically-retracted coin-ejecting key having a finger-piece for engagement by the finger of the operator in operating the key, a coin-ejector which is freely movable into and out of the plane of the coin or coins to be ejected, said ejector being sustained in the plane of the coin or coins being ejected by pressure applied by the operator to said finger-piece in operating the key and constructed to drop below said plane only when said finger-piece is released by the operator to permit the key to return to its retracted position.

2. The combination, with a receptacle for an automatically-descending pile of coins constructed to permit the forward discharge of one or more coins from the lower end thereof, of an automatically-retracted, forwardly and backwardly movable coin-ejecting key, a coin-ejector carried by said key and freely movable into and out of the plane of the coin or coins to be ejected during the forward movement of the key, and a finger-piece adapted to be engaged by the finger of the operator's hand for drawing the key forward and through which finger-piece the operator sustains the ejector in the plane of the coin or coins being ejected, said ejector being constructed to drop below said plane only when said finger-piece is released by the operator to permit the key to return to its retracted position.

3. The combination, with a receptacle for an automatically-descending pile of coins adapted for the forward discharge of one or more coins from the lower end thereof, of a coin-ejecting key comprising an automatically-retracted member having a finger-piece pivotally mounted thereon, said finger-piece being below the coin-receptacle and being adapted to be engaged by a finger of the operator's upwardly open hand for drawing the key forward, and a coin-ejector moved by said finger-piece to engage and eject the lowermost coin or coins from the receptacle.

4. The combination, with a receptacle for an automatically-descending pile of coins adapted for the forward discharge of one or more coins from the lower end thereof, of a coin-ejecting key comprising an automatically-retracted member and a finger-piece pivotally mounted thereon, said finger-piece being below the coin-receptacle and having its greatest weight in front of its pivotal support, and a coin-ejector carried by said finger-piece and adapted in the forward movement of the key to engage and eject the lowermost coin or coins from the receptacle.

5. The combination, with a receptacle for an automatically-descending pile of coins adapted for the forward discharge of one or more coins from the lower end thereof, of a coin-ejecting key comprising an automatically-retracted finger-piece so movably mounted below the coin-receptacle as to be adapted to be moved toward and from the plane occupied by the lowermost coin in the receptacle and having a normal tendency to move away from said plane, a coin-ejector controlled by said finger-piece and adapted, in the forward movement of the key, to engage and eject the lowermost coin or coins in the receptacle, and means for automatically raising the ejector during the rearward movement of the key, whereby said ejector will be put in position to engage the lowermost coin or coins of the pile left in the receptacle, upon the next forward movement of the key.

6. The combination, with a receptacle for an automatically-descending pile of coins adapted for the forward discharge of one or more coins from the lower end thereof, of a coin-ejecting key comprising an automatically-retracted lever pivotally supported at its upper end above the bottom of the receptacle and a finger-piece pivotally mounted on the lower end of said lever, said finger-piece being situated below the coin-receptacle and adapted to be engaged by a finger of the operator's hand for drawing the key forward, a stop for limiting the downward movement of said finger-piece and a coin-ejector carried by said finger-piece adapted to engage and eject the lowermost coin or coins from the receptacle in the forward movement of the key.

7. The combination, with a receptacle for an automatically-descending pile of coins adapted for the forward discharge of one or more coins from the lower end thereof, of a coin-ejecting key comprising an automatically-retracted lever pivotally supported above the bottom of the receptacle, a finger-piece pivotally mounted on said lever and situated below said receptacle where it is adapted to be engaged by a finger of the operator's hand for drawing the key forward, said finger-piece having a part which engages with said lever for limiting the downward movement of the finger-piece, and a coin-ejector carried by said finger-piece and adapted in the forward movement of the key to engage and eject the lowermost coin or coins from the receptacle.

8. The combination, with a receptacle for an automatically-descending pile of coins adapted for the forward discharge of one or more coins from the lower end thereof, of a coin-ejecting key comprising a lever pivotally supported at its upper end above the bottom of the receptacle and projecting downwardly behind the receptacle, a finger-piece pivotally mounted on the lower end of said lever and extending forwardly therefrom below the bottom of the receptacle, the forward end of said finger-piece having a limited vertical movement, and an ejector carried by the finger-piece adapted, in the forward movement of the key, to engage and eject the lowermost coin or coins in said receptacle.

9. The combination, with a receptacle for an automatically-descending pile of coins adapted for the forward discharge of one or more coins from the lower end thereof, of a coin-ejecting key comprising a lever pivotally supported at its upper end above the receptacle and extending downwardly behind the receptacle and forwardly of its pivotal support, a finger-piece pivotally mounted on the lower end of said lever and projecting forwardly therefrom below the receptacle, and a coin-ejector projecting from said finger-piece and adapted, in the forward movement of the key, to engage and eject the lowermost coin or coins in the receptacle and, in the rearward movement of the key, to be carried by the finger-piece below the coins remaining in the receptacle.

10. The combination, with a receptacle for an automatically-descending pile of coins adapted for the forward discharge of one or more coins from the lower end thereof, of a coin-ejecting key comprising a lever pivotally supported at its upper end above the bottom of the receptacle, a finger-piece pivotally mounted on the lower end of said lever and projecting forwardly therefrom below the receptacle and also extending rearwardly of its pivotal support, but having its greatest weight in front of said support, said finger-piece being adapted to be engaged at its forward end by a finger of the operator for drawing the key forward, a coin-ejector carried by the forward end of said finger-piece and adapted, in the forward movement of the key, to engage and eject the lowermost coin or coins from the receptacle, and means for depressing the rear end of said finger-piece, during the rearward movement of the key for elevating said ejector.

11. In a change-making machine, the combination of a receptacle for an automatically-descending pile of coins adapted for the discharge of one or more coins from the lower end thereof, said receptacle having its bottom wall formed by a plate which is slotted to receive a coin-ejector and which extends rearwardly from said receptacle, a coin-ejecting key comprising a lever pivotally supported above the coin-receptacle and extending downwardly through a slot in the rearward extension of said plate, a finger-piece pivotally mounted on the lower end of said lever and extending forwardly and rearwardly of its pivotal support, said finger-piece having its greatest weight forward of said support and having its rear extension arranged to engage and to be depressed by the under surface of said plate, and a coin-ejector carried on the forward end of said finger-piece, adapted, in the forward movement of the key, to engage the lowermost coin or coins in the receptacle through the slot in its bottom wall.

12. The combination with a receptacle for an automatically-descending pile of coins constructed to permit the forward discharge of one or more coins from the lower end thereof, said receptacle having a slot in its bottom wall for receiving a coin-ejector, an automatically-retracted coin-ejecting key the forward end of which is freely movable vertically toward and from the bottom wall of the receptacle and carrying a coin-ejector adapted to enter said slot to engage and eject the lowermost coin or coins from the receptacle, a finger-piece to be engaged by the finger of the operator for drawing the key forward and by means of which the ejector is sustained in the plane of the coin or coins while being ejected, and a projection on the bottom wall of the receptacle arranged to deflect the key downward at the end of its forward movement.

13. In combination with the main frame of a change-making machine, of a stationary coin-tray mounted thereon, and a second coin-tray pivotally supported at its ends in an inclined position above the first-mentioned tray, said pivotally-mounted tray having its forward edge substantially in line with the front edge of the fixed tray and being movable on its pivotal supports for giving access to said fixed tray.

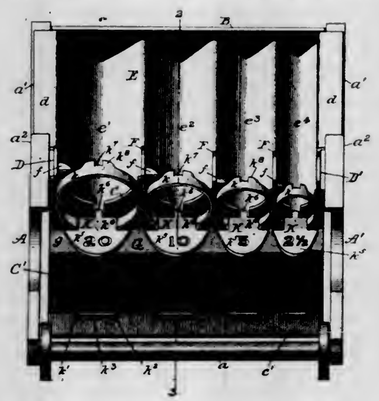
14. In combination with the main frame of a change-making machine, of a stationary coin-tray mounted thereon, a second coin-tray, supported for holding said second tray in an inclined position over the first-mentioned tray, said supports being movable for shifting the position of said tray with reference to the fixed tray.

15. In combination with the main frame of a change-making machine, of a stationary coin-tray mounted thereon, a second coin-tray, supports for holding said second tray in an inclined position, said supports being pivotally secured to said main frame whereby the position of said second tray may be shifted with respect to the said stationary tray.

16. In combination with the main frame of a change-making machine, of upwardly-projecting arms at the ends of the frame, adapted to support a coin-tray thereon in an inclined position, said arms being movable for shifting the position of the tray.

17. In a change-making machine, the combination of end plates forming parts of the main frame, said plates having inclined front edges and a shoulder for supporting a secondary frame, a secondary frame affording a support for stacks or piles of coins and for coin-ejecting mechanism, said secondary frame comprising a corrugated plate forming a series of coin-holding receptacles, a bottom plate, and end plates secured thereto, said end plates being provided with integral outwardly-projecting flanges which rest upon the shoulders on the side plates of the main frame and against said inclined edges, said outwardly-projecting flanges being formed by bending a portion of the metal of said plates, substantially as described.

843,225. COIN HOLDING AND DELIVERING MACHINE. JOHN W. MEAKER, Detroit, Mich., assignor to Meaker Sales Company, Detroit, Mich., a Corporation of Michigan. Filed Oct. 16, 1905. Serial No. 282,992.



Claim.—1. The combination with a receptacle for a stack or pile of coins constructed to permit the discharge of one or more coins from the lower end thereof, of a slidably-mounted, automatically-retracted coin-ejecting key carrying an ejector to engage the lowermost coin or coins in the receptacle, said key being vertically movable for carrying the ejector into and out of the plane of said coin or coins to be ejected, said key having a finger-piece adapted to be engaged by a finger of the operator for operating the key and through which the operator sustains the ejector in the plane of the coin or coins being ejected.

2. The combination with a receptacle for a stack or pile of coins constructed to permit the discharge of one or more coins from the lower end thereof, of an automatically-retracted, coin-ejecting key carrying a coin-ejector to engage the lowermost coin or coins in the receptacle, said key being vertically movable for carrying the ejector into or out of the plane of said coin or coins when moved

from its retracted position, and a finger-piece adapted to be engaged by a finger of the operator for operating the key and through which the operator sustains the ejector in engagement with the coin or coins being ejected.

3. The combination with a receptacle for a stack or pile of coins constructed to permit the discharge of one or more coins from the lower end thereof, of an automatically-retracted, coin-ejecting key carrying a coin-ejector to engage the lowermost coin or coins in the receptacle, said key being freely movable for carrying the ejector into or out of the plane of said coin or coins when moved from its retracted position, a finger-piece adapted to be engaged by a finger of the operator for operating the key and through which the operator maintains the ejector in engagement with the coin or coins being ejected, and means for automatically raising said key during its rearward movement.

4. The combination with a receptacle for a stack or pile of coins constructed to permit the discharge of one or more coins from the lower end thereof, of an automatically-retracted, coin-ejecting key, slidably mounted at the rear of said receptacle and movable beneath the same, the forward end of said key having a limited vertical movement when the key is moved from its retracted position, a coin-ejector carried by said forward end of the key, and a finger-piece also at the forward end of the key adapted to be engaged by a finger of the operator for operating the key and through which the forward end of the key is maintained by the operator in its elevated position.

5. The combination with a receptacle for a stack or pile of coins constructed to permit the discharge of one or more coins from the lower end thereof, of an upwardly and forwardly inclined guideway at the rear of said receptacle, and a coin-ejecting key slidably mounted in said guideway, said key being normally held in its retracted position by the inclination of said guideway.

6. The combination with a receptacle for a stack or pile of coins constructed to permit the discharge of one or more coins from the lower end thereof, of an upwardly and forwardly inclined guideway at the rear of said receptacle, a coin-ejecting key slidably mounted in said guideway and having its forward end arranged to move beneath said receptacle, said forward end of the key being freely movable toward and from the plane of the lowermost coin in the receptacle when the key is moved from its retracted position, a coin-ejector carried by the forward end of the key, and a finger-piece also carried by the forward end of the key adapted to be engaged by a finger of the operator for operating the key and through which the forward end of the key is maintained by the operator in its elevated position during such forward movement.

7. In a coin holding and delivering machine, the combination of a coin-receptacle having a slotted bottom plate upon which the coin rests, an upwardly and forwardly inclined guideway supported by said bottom plate at the rear of said receptacle, a coin-ejecting key slidably mounted in said guideway and normally held in its retracted position by the inclination of the guideway and having its forward end arranged to move beneath said receptacle, a finger-piece at the forward end of said key adapted to be engaged by a finger of the operator for operating the key, and a coin-ejector carried by said forward end of the key arranged to project through the slot in said bottom plate.

8. In a coin holding and delivering machine the combination of a receptacle for a stack or pile of coins constructed to permit the discharge of one or more coins from the lower end thereof, of an upwardly and forwardly inclined box at the rear of the receptacle, and a coin-ejecting key slidably mounted in and partially housed by said box, said key being held in its retracted position by the inclination of said box.

9. In a coin holding and delivering machine, the combination of a receptacle for a stack or pile of coins adapted for the discharge of one or more coins from the lower end thereof, said receptacle having a bottom plate upon which the coins rest, an upwardly and forwardly inclined box at the rear of said receptacle supported by a rearwardly-extending portion of said bottom plate, a coin-ejecting key slidably mounted in said box and partially housed thereby, the forward end of said key being provided with a finger-piece and with an ejector adapted to engage the lowermost coin or coins in said receptacle.

10. The combination with a receptacle for a stack or pile of coins adapted for the discharge of one or more coins from the lower end thereof, of a coin-ejecting key having a roller mounted thereon and forming a pivotal support therefor, an upwardly and forwardly inclined guideway in which said roller is mounted, and a coin-ejector and a finger-piece at the forward end of the key.

11. The combination, with a receptacle for a stack or pile of coins adapted for the discharge of one or more coins from the lower end thereof, of an upwardly and forwardly inclined support, a coin-ejecting key having a roller mounted thereon which travels on said support, the forward end of the key being arranged to move below the coin-receptacle and having a coin-ejector and a finger-piece projecting therefrom.

12. The combination with a receptacle for a stack or pile of coins adapted for the forward discharge of one or more coins from the lower end thereof, of an automatically-retracted, coin-ejecting key provided with a finger-piece below the coin-receptacle and adapted to be drawn forward by a finger of the operator's upwardly-open hand applied to said finger-piece, an ejector carried by said key and adapted to engage the lowermost coin or coins in the receptacle and to eject said coin or coins therefrom into the upwardly-open hand of the operator, and means for arresting the forward movement of the coin or coins ejected.

13. The combination with a receptacle for a stack or pile of coins adapted for the forward discharge of one or more coins from the lower end thereof, of an automatically-retracted, coin-ejecting key provided with a finger-piece below the coin-receptacle and adapted to be drawn forward by a finger of the operator's upwardly-open hand applied to said finger-piece, an ejector carried by said key and adapted to engage the lowermost coin or coins in the receptacle and to eject said coin or coins therefrom into the upwardly-open hand of the operator, and a stop carried by said key for arresting the forward movement of the coin or coins ejected.

14. The combination with a receptacle for a stack or pile of coins adapted for the forward discharge of one or more coins from the lower end thereof, of an automatically-retracted, coin-ejecting key provided with a finger-piece below the coin-receptacle and adapted to be drawn forward by a finger of the operator's upwardly-open hand applied to said finger-piece, an ejector carried by said key and adapted to engage the lowermost coin or coins in the receptacle and eject said coins therefrom into the upwardly-open hand of the operator, a stop carried by said key in advance of said coin or coins for arresting the forward movement thereof, and a support for the marginal edge of the lowermost coin being ejected.

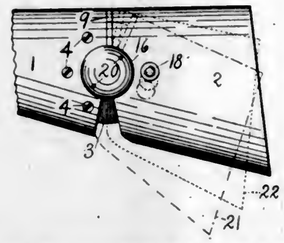
843,226. SLEEVE-HOLDER. ALEXANDER T. MOORE, New Orleans, La. Filed Apr. 30, 1906. Serial No. 314,390.



Claim.—1. A sleeve-holder comprising a flexible cord provided with loop portions at its opposite ends, and attaching devices carried by the opposite ends of each loop.

2. A sleeve-holder comprising a flexible cord having its free ends looped and secured to the body thereof at each end, and attaching-hooks carried by the opposite ends of each loop.

843,227. JOINTED GUN-STOCK. HOMER W. MUNSON, Williamsburg, Mass. Filed Oct. 4, 1906. Serial No. 337,383.



Claim.—1. The combination, in a jointed gun-stock, with a stock-section provided with disks fastened thereto and projecting beyond the same, of a second stock-section adapted to receive portions of such disks and provided with a center block fastened thereto and arranged to enter between said disks, and a pivotal connection between the disks and center block.

2. The combination, in a jointed gun-stock, with a stock-section provided with disks fastened thereto and projecting beyond the same, of a second stock-section adapted to receive portions of such disks and provided with a center block fastened thereto and arranged to enter between said disks, a pivotal connection between the disks and center block, and a locking-pin adapted to secure said center block and the stock-section to which the latter is fastened and the disks together.

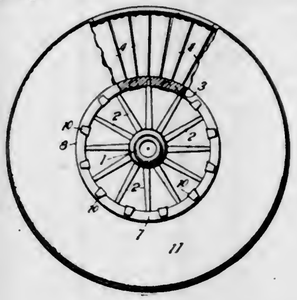
3. The combination, in a jointed gun-stock, with a stock-section provided with disks fastened thereto and projecting beyond the same, such disks having a plurality of openings therein for a locking-pin, of a second stock-section adapted to receive portions of said disks and provided with a center block fastened thereto and arranged to enter between the disks, a pivotal connection between the disks and center block, the stock-section to which said center block is secured and such center block having alining openings therein with which the disk-openings may be brought into alinement as the parts are turned on their pivot, and a locking-pin adapted to enter whatever openings are in alinement and secure the disks to the center block and its stock-section.

4. The combination, in a jointed gun-stock, with a stock-section provided with disks fastened thereto and projecting beyond the same, of a second stock-section adapted to receive portions of such disks and provided with a center block fastened thereto and arranged to enter between said disks, and a pivot-pin connecting the disks and center block and provided at the ends with heads which afford bearings for contiguous parts of the two stock-sections.

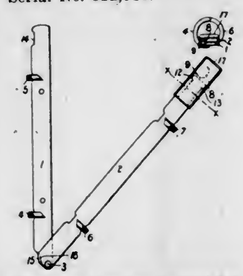
5. The combination, in a jointed gun-stock, with a stock-section and two disks fastened thereto and projecting beyond the same, of a second stock-section adapted to receive portions of such disks, a center block having an arm fastened between the stock-sections to said second stock-section, and a pivotal connection between said disks and center block.

843,228. SPRING-WHEEL. MICHAEL MURRAY, Harrisburg, Pa. Filed Sept. 21, 1906. Serial No. 335,664.

Claim.—In a spring-wheel, the combination of a rim and a tire therefor, a plurality of springs applied thereto and comprising spaced sides the inner extremities of which are arranged at opposite sides of the rim, a plate arranged at the inner side of the rim and having an outwardly-projecting flange engaging the extremities of the springs at one side of the latter, a detachable ring engaging the opposite extremities of the springs, and clamp means for holding the flange and the ring aforesaid positively in engagement with the springs.

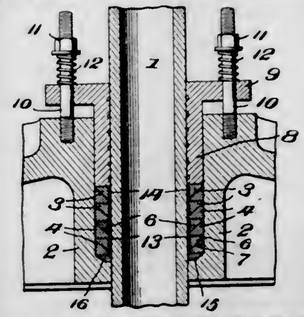


843,229. LOOSE-LEAF BOOK, FILE, TEMPORARY BINDER, &c. ADOLPH MYERS, LEOPOLD MYERS, and FRANCIS R. BAKER, Birmingham, England. Filed Apr. 21, 1906. Serial No. 312,984.



Claim.—A loose-leaf binder comprising two elongated plates, one of said plates having one corner cut away and the other plate having its corresponding corner bent over to engage said cut-away portion, a pin passing through both plates at the corners adjacent said cut-away and bent-over corners so that said plates when closed will lie one over the other, prongs on the edges of said plates and curving outwardly and upwardly so as to meet in the center line of said plates when said plates are closed and a slide movable longitudinally on one end of one plate and adapted to engage the end of the other plate to hold the plates together.

843,230. METALLIC PACKING. FELIX MCCARTHY, Pottstown, Pa. Filed Nov. 15, 1906. Serial No. 343,622.



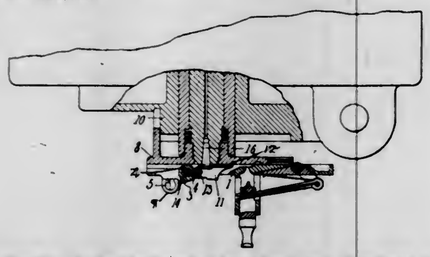
Claim.—1. In a packing of the class described the combination with a stuffing-box, a gland for said stuffing-box and a shaft extending through said stuffing-box and gland; of a plurality of packing-rings disposed in pairs one ring of each pair being adapted to contract while the opposite ring is adapted to expand when pressure is applied there-

on, said rings having telescoping beveled faces, grooves within the wearing-faces of said contracting rings, a filling for said grooves and means to exert tension upon the gland.

2. A packing of the class described comprising a plurality of segmental rings disposed in pairs, each ring having a beveled face adapted to coöperate with a beveled face on the opposite ring whereby when pressure is directed against said rings the segments of one ring will contract while the segments of the opposite ring will expand, a groove within the wearing-face of the contracting ring and a filling for said groove.

3. In a packing of the class described the combination with a stuffing-box and a gland therefor; of segmental packing-rings adapted to be disposed in said stuffing-box, said packing-rings being disposed in pairs, one of which rings is adapted to contract and the other to expand, the contracting ring having a beveled outer face and the expanding ring having a beveled inner face adapted to cooperate therewith a groove within the wearing-face of the contracting ring, a filling for said groove, bolts secured to said stuffing-box and extending into engagement with said gland, springs on said bolts whereby the gland will be directed into engagement with said packing-rings and hold the same under pressure.

843,231. AUTOMATIC EXTRACTOR FOR DETONATING CARTRIDGES IN BREECH-LOADING GUNS. EMIL OLSSON, Bofors, Sweden. Filed June 1, 1906. Serial No. 319,798.



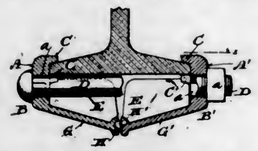
Claim.—1. An automatic extractor for cartridges in breech-loading guns, comprising a spring-actuated lever, a slide, a shaft carried by said slide, said lever being rotatably and shiftably mounted on the shaft, said lever having two jaws narrowing toward their ends and adapted when shifted in one direction to enter inside of the rim of the cartridge, a lug 14 on said lever being its fulcrum and a check-bolt adapted to engage with the said lug to swing the lever to eject the cartridge.

2. An automatic extractor for breech-loading guns, comprising a slide movable diametrically in the rear plane of the breech-screw, a shaft carried by said slide, a lever rotatably and shiftably mounted on said shaft, a spring controlling the rotatable movement of said lever, two jaws on said lever, a lug 14 on said lever to the rear of its fulcrum, a check-bolt adapted to engage with said lug and a projection 13 on said lever said projections extending parallel to axis of the gun and on which the rim of the cartridge presses when inserted so that the extractor is moved slightly aside to be subsequently returned by the spring after the rim has passed the projection, thus bringing the projection behind the cartridge and preventing its ejection by the air-pressure in the closing of the breech.

843,232. ANTICREEPING ATTACHMENT FOR RAILS. TRACY L. PAINE, Milwaukee, Wis. Filed Apr. 30, 1906. Serial No. 314,326.

Claim.—1. An anticreeping attachment for rails comprising a pair of clamping-jaws having rail-gripping faces and depending opposing feet having horizontal supporting engagement one with the other to prevent their separation in a vertical direction, a tie-bolt engageable with the jaws, and a nut engageable with the bolt.

2. An anticreeping attachment for rails comprising a pair of clamping-jaws having rail-gripping faces and depending feet, a horizontal lug on the foot of one jaw engaging a socket in the foot of the other jaw whereby both jaws are supported one by the other to prevent their separation in a vertical direction, a tie-bolt engageable with the jaws, and a nut engageable with the bolt.



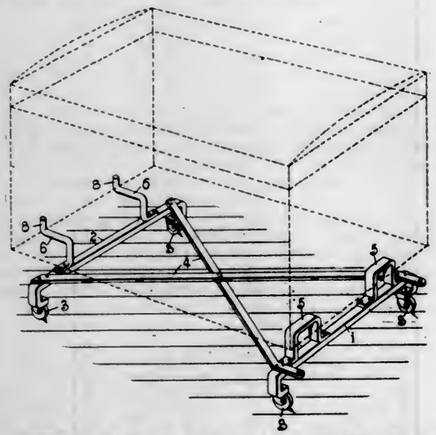
3. An anticreeping attachment for rails comprising a pair of clamping-jaws having rail-gripping faces and depending feet, a lug on the foot of one jaw extending into a socket in the other jaw, whereby it is opposed above and below by the material of the latter jaw, to thus provide for the mutual support of both jaws and immovability of the same in a vertical direction, a tie-bolt engageable with said jaws, and a nut run on the bolt.

843,233. BELLOWS-FOLD COUPLING FOR VESTIBULE-CARS. EDWARD L. PERRY, Sr., and EDWARD L. PERRY, Jr., Paterson, N. J. Filed Aug. 15, 1906. Serial No. 330,647.



Claim.—A seamless bellows-fold coupling, comprising a plurality of hollow sections or pockets constructed from a fabric woven in a continuous piece, said hollow sections or pockets being joined together in the process of weaving, and a waterproof coating upon the exterior surface of said coupling.

843,234. TRUCK. CHARLES RAWLINSON, St. Louis, Mo. Filed Feb. 15, 1906. Serial No. 301,255.

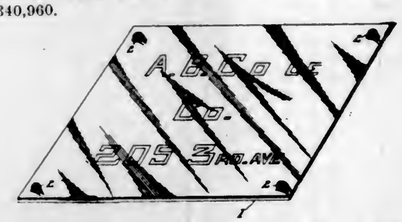


Claim.—1. In a truck of the character described, the combination with axles and their supporting-rollers, of reach-bars connecting the axles, said reach-bars extending beyond the axles and provided with openings constituting eyes, and elevated supports carried by the axles, one set of supports extending outwardly from the axle on which they are mounted; substantially as described.

2. In a truck of the character described, the combination with roller-carrying axles, means for connecting said axles, and upwardly-projecting supports on each axle, one set of supports extending outwardly beyond the plane of the axle to which they are connected and terminating in upwardly-extending projections; substantially as described.

3. In a truck of the character described, the combination with axles which are bent downwardly and inwardly at their ends, rollers mounted on inwardly-extending extremities of said axles, crossed reach-bars connecting said axles, elevated supports carried by the axles, said supports being spaced apart so that ropes or straps may be passed around the trunk or other article on the truck both in a transverse and in a horizontal direction without lifting the trunk or other article from the truck; substantially as described.

843,235. ENAMELED SIGN. ERNEST RICHARDSON, Beaver Falls, Pa. Filed Oct. 29, 1906. Serial No. 340,960.



Claim.—1. The combination of an enameled sheet of metal, and hollow flanged bosses thereon, extending above the enameled face of the body of the sheet.

2. The combination of an enameled sheet of metal, hollow flanged bosses thereon, extending above the enameled face of the body of the sheet, a backing, and headed fastenings extending through the hollow bosses into the backing.

843,236. SCRUBBER OR CLEANER. WILLIAM B. ROHMER, Bay St. Louis, Miss., assignor of one-half to Robert J. Turner, Bay St. Louis, Miss. Filed Feb. 26, 1906. Serial No. 303,070.



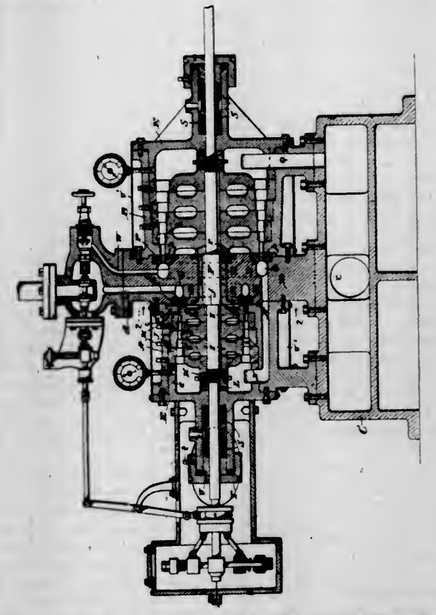
Claim.—1. A device of the class described comprising two mop-heads connected together at the outer end of the device, and provided with scrubbing-faces located at the front and back of the device, when the latter is in use, and adapted to be successively brought into position by turning the device, said mop-heads being reversible to bring the scrubbing-faces into engagement with each other for expelling the water, and handles connected with the inner ends of the mop-heads.

2. A device of the class described, comprising two mop-heads hinged together at the outer end of the device, and provided with scrubbing-faces located at the front and back of the device, when the latter is in use, and adapted to be successively brought into position by turning the device, said mop-heads being reversible to bring the scrubbing-faces into engagement with each other for expelling the water, and handles connected with the inner ends of the mop-heads and arranged at an angle to the same, whereby the mop-heads are held at an angle for use, said handles being separated, when the mop-heads are reversed, to enable the scrubbing-faces to be pressed tightly together for expelling the water.

3. A device of the class described composed of two sections hinged together at the outer end of the device, each section comprising a mop-head and a handle, the handles of the sections being arranged at an angle to the heads and angularly bent at an intermediate point, whereby when their inner portions are arranged together, the mop-heads will be held at an angle to each other.

4. A device of the class described comprising a pair of mop-heads hinged together at their outer ends and provided at their outer faces with mops located at opposite sides of the device when the latter is in use, and adapted to be successively brought into position for use by turning the device, and operating means connected with the inner ends of of the mop-heads for holding the latter in position for use and for reversing the mop-heads to squeeze the mops.

843,237. STEAM-TURBINE. FRANK D. SHEPHERD, Salt Lake City, Utah. Filed Mar. 31, 1906. Serial No. 309,219.



Claim.—1. In a turbine-engine, the combination of a cylinder, a piston therein having radially-extending blades, a source of supply of an operating fluid, such as a steam-chest, a ring having a seat in a cavity in said steam-chest concentric with the blades and provided with ports whose dimensions at their ends adjoining or toward the blades are the same as, or substantially the same as the dimensions of said blades, and a flange on the cylinder overlapping said ring.

2. In a turbine-engine, the combination of a cylinder, a series of blade-carrying disks in the cylinder, a source of

supply of operating fluid, such as a steam-chest at one end of the cylinder, a ring having a seat in said steam-chest and provided with ports for the delivery of fluid to the cylinder, the cylinder having a flange overlapping said ring, a series of rings carrying guide-blades, said rings being placed side by side in the cylinder, the series at one end abutting against said cylinder-flange, and a head at the other end of the cylinder having an integral flange within the cylinder and engaging the other end of the series of rings.

3. In a turbine-engine, the combination of a cylinder, a series of blade-carrying disks therein, the blades occupying but a portion of each disk in an axial direction, a series of rings in the cylinder having guide-blades that likewise extend over the respective ring only partially in an axial direction, the blades on the rings being opposite the portions of the disks over which the disk-blades do not extend, and the blades of the disks being opposite the portions of the rings over which the ring-blades do not extend, a flange on the cylinder against which one end of the series of rings abut, and a cylinder-head having an integral flange within the cylinder abutting against the other end of the series of rings.

4. In a turbine-engine, the combination of high-pressure and low-pressure cylinders, and a steam-chest having an annular chamber or channel for the supply of steam to the high-pressure cylinder, and having an annular chamber or channel for the supply of steam to the low-pressure cylinder, said chambers or channels being side by side, whereby the steam in one may receive heat from the steam in the other.

5. In a turbine-engine, the combination of high-pressure and low-pressure cylinders, a steam-chest having an annular chamber or channel for the supply of steam to the high-pressure cylinder, and having an annular chamber or channel for the supply of steam to the low-pressure cylinder, said chambers or channels being side by side, whereby the steam in one may receive heat from the steam in the other, and a port leading from the high-pressure cylinder to the channel or chamber for the supply of steam to the low-pressure cylinder, said port passing contiguous to the high-pressure channel or chamber in the steam-chest.

6. In a turbine-engine, the combination of a plurality of main stages provided with rotating pistons, the first piston of a succeeding main stage being of substantially greater diameter than the last piston of the next preceding stage, the pressure-receiving area of said first piston being substantially less than the pressure-receiving area of said last piston, and a port leading from one stage to the next.

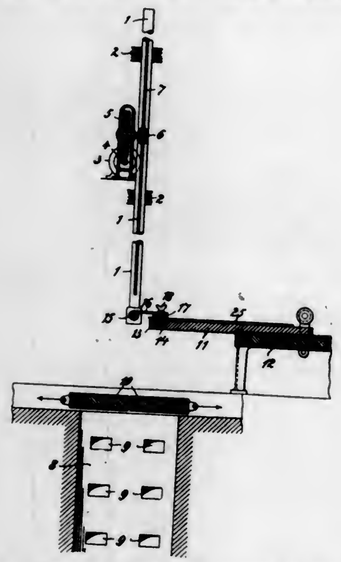
7. In a turbine-engine, the combination of a plurality of main stages provided with rotating pistons, the first piston of a succeeding main stage being of substantially greater diameter than the last piston of the next preceding stage, a steam-chest intermediate the different stages having contiguous channels or chambers for the supply of steam to the respective stages, and a port extending from one stage to the channel or chamber of the next stage.

8. In a turbine-engine, the combination of high-pressure and low-pressure cylinders, a wall interposed between the cylinders, a piston-carrying shaft passing through said walls, and a bushing on the shaft having at each end circumferential flanges engaging the wall, said bushing being mounted on the shaft to rotate therewith, the revolution of the bushing with the shaft resulting in the maintenance of steam-tight joints between the bushing and the wall.

9. In a turbine-engine, the combination of high-pressure and low-pressure cylinders, a wall interposed between the cylinders, a piston-carrying shaft passing through said wall, a piston-engaging shoulder on said shaft at each side of the wall, means for holding the pistons against said shoulder and a bushing on said shaft having at each end circumferential flanges engaging the wall.

10. In a turbine-engine, the combination of high-pressure and low-pressure cylinders, a steam-chest between the two cylinders, a shaft passing through the cylinders and the steam-chest, piston-disks on the portion of the shaft in each cylinder, a bushing on the portion of the shaft within the steam-chest having circumferential flanges seated in cavities or recesses in the steam-chest, such portion of the shaft being notched, and the shoulder formed thereby being engaged by the end one of the disks in each cylinder, a collar or nut on the shaft engaging the other end one of the disks in each cylinder, a stuffing-box for the shaft where it passes from each cylinder, contiguous, concentric channels or chambers in the steam-chest for the supply of steam to the cylinders, respectively, and a port leading from the high-pressure cylinder to the chamber or channel which supplies steam to the low-pressure cylinder, a base or bed on which the cylinders and steam-chests are mounted, and an exhaust-port leading from the low-pressure cylinder to a chamber in said base or bed.

843,238. PROCESS AND APPARATUS FOR FIRE-POLISHING PLATE-GLASS. PAUL T. SIEVERT, Dresden, Germany. Filed Oct. 23, 1906. Serial No. 340,156.



Claim.—1. The herein-described process for fire-polishing plate-glass which consists in suspending a glass plate along one edge and introducing said plate into and removing it from a heating-chamber capable of accommodating the whole plate.

2. The herein-described process for fire-polishing plate-glass which consists in suspending a glass plate along one edge and repeatedly introducing said plate into and removing it from a heating-chamber capable of accommodating the whole plate.

3. The herein-described process for fire-polishing plate-glass which consists in suspending a glass plate along one edge in a vertical direction and introducing said plate into and removing it from a heating-chamber capable of accommodating the whole plate.

4. The herein-described process for fire-polishing plate-glass which consists in suspending a glass plate along one edge in a vertical direction, introducing said plate into and removing it from a heating-chamber capable of accommodating the whole plate and repeating the introduction until the glass plate becomes stretched under the influence of its own weight.

5. The herein-described process for fire-polishing plate-glass which consists in suspending a glass plate along one edge in a vertical direction, introducing said plate into a heating-chamber capable of accommodating the whole plate, heating said chamber to a temperature which increases upwardly, and conveying the glass plate from the cold or lower part of said chamber through the upper hotter part.

6. The herein-described process for fire-polishing plate-glass which consists in suspending a glass plate along one edge in a vertical direction, introducing said plate into a heating-chamber capable of accommodating the whole plate, heating said chamber to a temperature which increases upwardly, and conveying the glass plate from the cold or lower part of said chamber through the upper hotter part and regulating the rate at which the different portions of the glass plate are conveyed through said hot part.

7. In an apparatus for fire-polishing glass, the combination of a glass plate to be treated, a heating-chamber capable of accommodating the whole plate, means for supporting said plate along one edge, and means for introducing said plate into and removing it from said heating-chamber.

8. In an apparatus for fire-polishing glass, the combination of a glass plate to be treated, a heating-chamber capable of accommodating the whole plate, means for supporting said plate along one edge in a vertical position, and means for introducing said plate into and removing it from the heating-chamber.

9. In an apparatus for fire-polishing glass, the combination of a glass plate to be treated, a heating-chamber capable of accommodating the whole plate, means for supporting said plate along one edge in a vertical position, means for introducing said plate into and removing it from the heating-chamber, and means for stretching the glass plate under the influence of its own weight.

10. In an apparatus for fire-polishing glass, the combination of a glass plate to be treated, a heating-chamber capable of accommodating the whole plate, means for supporting said plate along one edge in a vertical position, means for introducing said plate into and removing it from the heating-chamber, means for stretching the glass plate under the influence of its own weight, and means for heating said chamber to a temperature which increases upwardly.

11. In an apparatus for fire-polishing a glass plate, the combination of a heating-chamber capable of accommodating the whole plate, a support above said chamber, means for raising and lowering said support, means for forming a body of glass into a plate, means for conveying the edge of the glass plate over the chamber, a clamping device connected to the support, means for applying the clamping device to the edge of the plate while said edge is over the heating-chamber, and means for removing said conveying means when the glass plate is lifted.

12. In an apparatus for fire-polishing a glass plate, the combination of a heating-chamber capable of accommodating the whole plate, means for heating the chamber to a temperature which increases upwardly, a support above said chamber, means for raising and lowering said support, means for forming a body of glass into a plate, means for conveying the edge of the plate over the chamber, a clamping device connected with the support, means for applying the clamping device to the edge of the plate while said edge is over the chamber, means for removing said conveying means when the glass is lifted and means for conveying the glass plate from the cooler lower part through the upper hotter part of the chamber at a variable speed.

13. In an apparatus for fire-polishing glass, the combination of a glass plate to be treated, a fire-chamber capable of accommodating the whole plate, a vertical movable support above said chamber, a clamping device connected to the support and arranged to grip the glass plate along one edge, a motor operatively connected to said support to raise and lower it and to introduce said plate into and remove it from the fire-chamber.

14. In an apparatus for fire-polishing glass, the combination of a glass plate to be treated, a fire-chamber capable of accommodating the whole plate, a vertical movable support above said chamber, a clamping device connected to the support and arranged to grip the glass plate along one edge, a motor operatively connected to said support to raise and lower it and to introduce said plate into and remove it from the fire-chamber in a vertical position.

15. In an apparatus for fire-polishing glass, the combination of a glass plate to be treated, a fire-chamber capable of accommodating the whole plate, a vertical movable support above said chamber, a motor operatively connected to said support to raise and lower it, a plate-rolling table mounted laterally of said chamber and support and having a groove on the top near one edge, means for bringing said edge of the table over the chamber, a metal bar disposed in said groove with its upper face flush with the table-surface, a member connected with the support and arranged to register with said bar, means for pressing said bar and member together to clamp the glass plate along one edge, and means for removing the rolling-table when the glass plate is lifted.

16. In an apparatus for fire-polishing glass, the combination of a glass plate to be treated, a fire-chamber capable of accommodating the whole plate, flues in the walls of said chamber, means for heating said chamber to a temperature which increases upwardly, a vertical movable support above said chamber, a motor operatively connected to said support to raise and lower it, a plate-rolling table mounted laterally of said chamber and support, means for bringing the edge of said table over the chamber, a clamping device connected to the support and arranged to grip the glass plate along said edge, means for removing the rolling-table when the glass plate is lifted, and means for conveying the glass plate from the cooler lower part through the upper hotter part of the chamber at a variable speed.

17. In an apparatus for fire-polishing glass, the combination of a glass plate to be treated, a fire-chamber capable of accommodating the whole plate, a vertical movable support above said chamber, a motor operatively connected to said support to raise and lower it, a plate-rolling table mounted laterally of said chamber and support and having a groove on the top near one edge, means for bringing said edge of the table over the chamber, an iron bar disposed in said groove with its upper face flush with the table-surface, a series of electromagnets secured to the support having poles arranged to register with the iron bar, means for energizing said electromagnets to attract said iron bar and clamp the glass plate along one edge and means for removing the rolling-table when the glass plate is lifted.

18. In an apparatus for fire-polishing glass, the combination of a glass plate to be treated, a fire-chamber capable of accommodating the whole plate, a vertical movable support above said chamber, a motor operatively connected to said support to raise and lower it, a plate-rolling table mounted laterally of said chamber and support and having a groove on the top near one edge, means for bringing said edge of the table over the chamber, an iron bar disposed in said groove with its upper face flush with the table-surface, a fork fixed to the bottom of the support, a rotatable frame mounted in said fork, a series of electromagnets carried in said frame having poles arranged to register with the iron bar, weights on said frame to balance the electromagnets, means for energizing said electromagnets to attract said iron bar and clamp the glass plate along one edge, and means for removing the rolling-table when the glass plate is lifted.

19. In an apparatus for fire-polishing glass, the combination of a glass plate to be treated, a fire-chamber capable of accommodating the whole plate, a vertical movable support above said chamber, a motor operatively connected to said support to raise and lower it, a plate-rolling table mounted laterally of said chamber and support and having a groove on the top near one edge, means for bringing said edge of the table over the chamber, an iron bar disposed in said groove with its upper face flush with the table-surface, a series of electromagnets secured to the support having poles arranged to register with the iron bar, means for energizing said electromagnets to attract said iron bar and clamp the glass plate along one edge, means for removing the rolling-table when the glass plate is lifted, means for heating the fire-chamber to a temperature which increases upwardly and means for conveying the glass plate from the cooler lower part through the upper hotter part of the chamber at a variable speed.

20. The herein-described process for fire-polishing plate-glass, which consists in vertically suspending a plate-glass

by one edge and introducing said plate into and removing it from a heating-chamber.

21. The herein-described process for fire-polishing plate-glass, which consists in vertically suspending a plate-glass by one edge and introducing said plate into and removing it from a heating-chamber capable of accommodating the whole plate.

843,239. CONVEYER FOR EXCAVATING. IRVING J. SMITH, Richmond, Va. Filed Oct. 16, 1906. Serial No. 339,205.

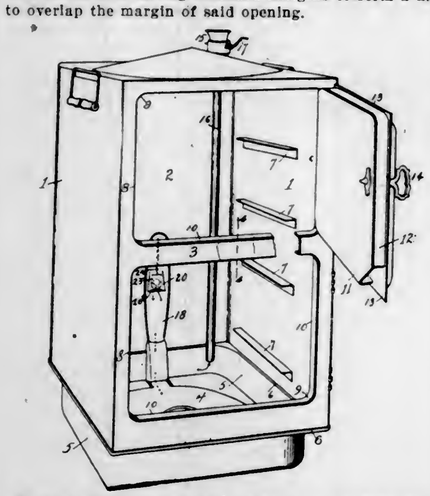


Claim.—1. In apparatus for excavating trenches, rails laid alongside the trenches, a derrick or hoisting frame adapted to travel on the rails, an engine located beyond one end of the trench, a combined hoisting and pull rope *k* extending from a drum of the engine to the top of the derrick and provided with a hoisting-hook and a stop, a hoisting-bucket carried by said hook, a stationary or dead pulley at the far end of the trench, a pulley on the derrick at one side of the center thereof, and another pull-rope *n* extending from the drum of the engine forward over the pulley at the side of the derrick and forward to the dead pulley and back again to the derrick where it is attached, substantially as set forth.

2. In an apparatus for excavating trenches, rails laid alongside the trenches, a derrick or hoisting-frame adapted to travel on the rails, an engine located beyond one end of the trench, a combined hoisting and pull rope *k* extending from a drum of the engine to the top of the derrick and provided with a hoisting-hook and a stop, a hoisting-bucket carried by said hook, a stationary or dead pulley at the far end of the trench, a pulley on the derrick, and another pull-rope *n* extending from the drum of the engine forward over the pulley on the derrick and forward to the dead pulley and back again to the derrick where it is attached, substantially as set forth.

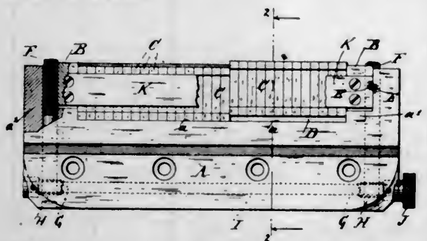
843,240. STEAM-COOKER. CHARLES E. SWARTZBAUGH, Toledo, Ohio. Filed Oct. 29, 1903. Serial No. 179,018.

Claim.—1. In a steam-cooker, a vertical wall of sheet metal having therethrough an angular opening with rounded corners, said opening having an integral inwardly-turned seamless beveled flange, and a door for said opening consisting of two thicknesses of sheet metal, the inner thickness having an integral seamless beveled margin corresponding with the flange of said opening, the outer thickness of the door having extended margins to form a flange to overlap the margin of said opening.



2. In a steam-cooker, a substantially rectangular top having in one corner a downwardly-projecting funnel combined with a tube adapted to slip through said funnel, and a funnel-shaped member at the top of said tube adapted to fit into the first-mentioned funnel to form a steam-tight joint, substantially as described.

843,241. LINOTYPE-MOLD. BYRON VAN WIE, New York, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed Oct. 4, 1906. Serial No. 337,388.



Claim.—1. In a slotted linotype-mold, the combination of a body portion, a series of independently-movable slides, any member of which may be set against the body to limit the length of the slot while the remaining slides form one wall of the slot, and means forming a permanent portion of the mold for changing the operative position of the last-named slides to vary the width of the slot and the thickness of the slug produced therein.

2. In a linotype-mold, a body portion, a cap portion, independently-movable slides mounted in the latter and each adapted to form the end of the mold-slot, or a portion of its side, according to its adjustment, and means permanently mounted in the mold for changing the distance between the cap and body.

3. In a linotype-mold, the combination of the body A, the cap B, the independently-movable slides mounted in the cap, and screws for changing the distance between the cap and the body.

4. In a linotype-mold, the combination of a body, the cap, means permanently included in the mold for changing the distance between the cap and body, the independently-movable slides and means for locking each slide in different positions.

5. In a slotted linotype-mold, the combination of a body portion forming one wall of the slot, a series of independently-movable slides adapted to form the opposite wall and one end of the slot, and permanently-connected devices for settling those slides which form the wall of the slot at different distances from the body according to the thickness of the slug required.

6. In a slotted linotype-mold, the combination of a body, a cap, a series of parallel slides C mounted in the latter, and a locking device carried by the cap and adapted to hold each slide in different operative relations to the cap.

7. In a linotype-mold, the combination of a body, a cap, mechanism for moving the cap to and from the body, a series of slides mounted in the cap, and means for locking the slides in different positions in the cap.

8. In a linotype-mold, the combination of the body, the cap provided with a rib, the series of independently-movable slides arranged to interlock therewith, and means for securing the slides in engagement with the rib; whereby the slides may be secured individually with their ends at any required distance from the body.

843,242. WATCH. WALTER J. WALKER, Chicago, Ill. Filed May 19, 1906. Serial No. 317,703.



Claim.—In a watch, the combination with the movement having a spring-barrel gear, and the plates of the case inclosing the same, of a rotatable rim between the edges of the said plates, said rim having an internal gear in mesh with the said spring-barrel gear, a setting-gear, and a movable rod carrying one of the wheels of the setting-gear at one end and extending outside the case at the other end, and arranged to engage or disengage said setting-gear.

843,243. BRACELET. WALFRID WALLENTHIN, Attleboro, Mass., assignor to S. O. Bigney and Company, Attleboro, Mass., a Firm. Filed June 30, 1906. Serial No. 324,264.



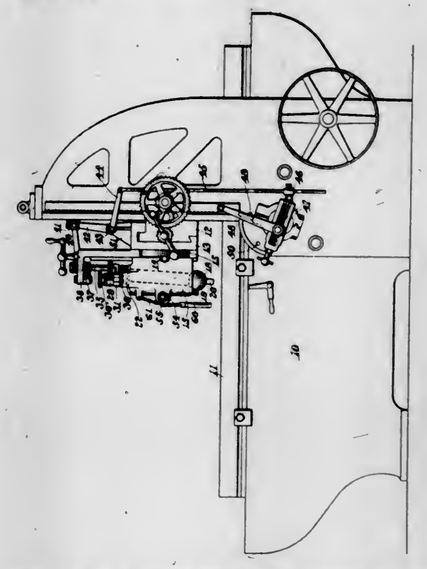
Claim.—1. A bracelet constructed of tubing and having a member fixed into one end thereof, an outwardly-extending pivot-pin fixed to said member, a flattened portion on said pin, a second member fixed into an adjacent end of said tubing, said second member being provided with a hole to receive said pivot-pin, a stop in said second member said flattened portion in said pivot being adapted to engage said stop and limit the opening of the bracelet, and means in said second member independent of said stopping means whereby said pivot-pin is engaged to prevent the joint from being separated.

2. A bracelet constructed of tubing and having a member fixed into one end thereof, an outwardly-extending pivot-pin fixed to said member, said pivot being provided with a flattened portion, a second member fixed into an adjacent end of said tubing, said second member being provided with a hole to receive said pivot-pin, a stop-pin in said second member arranged to engage the flattened portion of said pivot to limit the opening of the bracelet, said pivot being also provided with a second recess or groove, and means in said second member for engaging said groove to prevent the joint from being separated.

3. A bracelet constructed of tubing and having a member fixed into one end thereof, an outwardly-extending pivot-pin fixed to said member, said pivot being provided with a slot or recess, a second member fixed into an adjacent end of said tubing, said second member being provided with a hole to receive said pivot-pin, a stop in said second member arranged to engage the flattened portion of said pivot to limit the extent to which the bracelet shall open, said pivot being also provided with a second recess or groove, and the wall of said second member extending inward to engage said groove in the pivot to prevent the joint from being drawn apart.

4. A bracelet constructed of tubing and having a member fixed into one end thereof, an outwardly-extending pivot-pin fixed to said member, a second member fixed into an adjacent end of said tubing, and provided with a hole to receive said pivot-pin, said pivot being provided with a recess cut in one side only of the pivot, said recess having a flattened bottom portion, a stop-pin in said second member engaging said recessed portion whereby when the bracelet is opened the inner wall or bottom portion of said recess brings up against said pin to limit the opening of the bracelet, said pivot being also provided with a second recess or groove whereby the wall of said second member may be forced inward to enter said latter grooved portion of the pivot to prevent the joint from being separated.

843,244. PLANING-MACHINE. THOMAS A. WARNER, Cambridge, Mass., assignor of one-third to George P. Hutton, Gloucester, Mass. Filed Dec. 4, 1905. Serial No. 290,112.



Claim.—1. In a planing-machine, the combination with a tool-holder suitably mounted in the frame thereof, of a single working tool having two cutting edges oppositely inclined from a vertical face common to both and adapted to cut in either direction, and means for changing the angle of said tool-holder about its longitudinal axis at the end of the movement in either direction to change the angle of said common face to the work and alternately bring a different cutting edge into operative position.

2. In a planing-machine, the combination with a tool-holder suitably mounted in the frame thereof, of a working tool adapted to cut in either direction, and means for changing the vertical and horizontal angles thereof at the end of movement in either direction.

3. In a planing-machine, the combination with a tool-holder suitably mounted in the frame thereof, of a working tool supported thereby adapted to cut in either direction, mechanism coöperating with said working tool for moving it through a vertical angle, stops for limiting said vertical movement, and means coöperating with said mechanism

for causing said tool to be moved through a horizontal angle.

4. In a planing-machine, the combination with a tool-holder, of a working tool adapted to cut in either direction, a support therefor having a universal bearing in the bottom of said holder, a slide having a bearing for the upper end of said support, and means for moving said support in a vertical plane about said lower bearing.

5. In a planing-machine, the combination with a tool-holder, of a working tool adapted to cut in either direction, a support therefor having a universal bearing in the bottom of said holder and a transverse groove in the opposite end thereof, and means coöperating with said groove to cause it to move in a vertical plane about said lower bearing.

6. In a planing-machine, the combination with a tool-holder, of a working tool adapted to cut in either direction, a support therefor having a universal bearing in the bottom of said holder, and a horizontally-movable pivoted member provided with a pin engaging a groove in the end of said support to cause it to move in a vertical plane about said lower bearing.

7. In a planing-machine, the combination with a tool-holder, of a working tool adapted to cut in either direction, a support therefor having a universal bearing in the bottom of said holder, a horizontally-movable pivoted member, a slide adjustable therein, and a pin on said slide adapted to engage a groove in the end of said support to cause it to move in a vertical plane about said lower bearing.

8. In a planing-machine, the combination with a tool-holder, of a working tool adapted to cut in either direction, a support therefor having a universal bearing in the bottom of said holder, a two-part horizontally-movable pivoted member one part being adjustable upon the other, a support therefor, means for adjusting the pivot relative to said support, and a pin on said pivoted member adapted to engage a groove in the end of said support to cause it to move in a vertical plane about said lower bearing.

9. In a planing-machine, the combination with a tool-holder, of a working tool adapted to cut in either direction, a support therefor having a universal bearing in the bottom of said holder, a two-part pivoted member horizontally movable one part of which is adjustable upon the other, a support therefor, means for adjusting the pivot relative to said support, an oscillating friction device, connectors interposed between said friction device and said pivoted member, and a pin on said pivoted member adapted to engage a groove in the end of said support to cause it to move in a vertical plane about said lower bearing.

10. In a planing-machine, the combination with a tool-holder provided with a vertical slot therein wider at one end than the other and provided with a semispherical socket at the narrow end, a tool-support provided at one end with a spherical portion adapted to fit said socket, and means for moving said support about said socket in a vertical plane.

11. In a planing-machine, the combination with a tool-holder provided with a vertical slot therein wider at one end than the other and provided with a semispherical socket at the narrow end, a tool-support provided at one end with a spherical portion adapted to fit said socket, mechanism coöperating with said support to move it about said socket in a vertical plane, means for limiting the movement in a vertical plane, and means coöperating with said mechanism for moving said support about said socket in a horizontal plane.

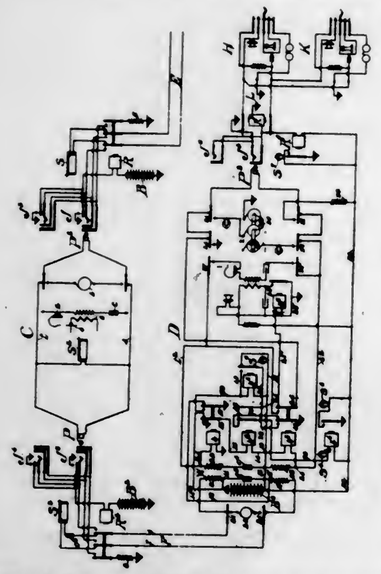
12. In a planing-machine, the combination with a tool-holder provided with a vertical slot therein wider at one end than the other and provided with a semispherical socket at the narrow end, a tool-support provided at one end with a spherical portion adapted to fit said socket, mechanism coöperating with said support to move it about said socket in a vertical plane, means for limiting the movement in a vertical plane, means coöperating with said mechanism for moving said support about said socket in a horizontal plane, a radial member extending from said support, and shoulders to limit the horizontal movement of said member.

13. In a planing-machine, the combination with a tool-holder provided with a vertical slot therein wider at one end than the other and provided with a semispherical socket at the narrow end, a tool-support provided at one end with a spherical portion adapted to fit said socket, mechanism coöperating with said support to move it about said socket in a vertical plane, means for limiting the vertical movement, means coöperating with said mechanism for moving said support about said socket in a horizontal plane, a radial member extending from said support, and adjustable shoulders to limit the horizontal movement of said member.

14. In a planing-machine, the combination with a tool-holder suitably mounted in the frame thereof, of a working tool provided with two opposite cutting edges adapted to cut in either direction, and means for moving said tool-holder through a very acute angle about its vertical axis to cause one cutting edge to be withdrawn from its operative position and the other cutting edge moved into position to operate.

15. In a planing-machine, the combination with a tool-holder suitably mounted in the frame thereof, of a working tool provided with two parallel cutting edges oppositely inclined from a vertical face common to both and adapted to cut in either direction, and means for changing the angle of said tool-holder about its longitudinal axis to bring a different cutting edge of said tool into operative position at the end of movement in each direction.

843,245. TELEPHONE TRUNKING SYSTEM. HARRY G. WEBSTER, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 8, 1902. Serial No. 134,263.



Claim.—1. The combination with a toll-line terminating in a jack, of a cord-circuit to connect to said toll-line, of a trunk-circuit adapted at one end to connect to said cord-circuit and at the other end to connect to a subscriber's telephone-line, a source of steady current and a source of varying current associated with one end of said trunk-circuit, two signals for said end of the trunk actuated by current from said steady source, means whereby one of said signals is displayed when connection is established between the trunk-circuit and the toll-cord and further means whereby this signal is effaced and the second signal displayed when connection is established between the trunk and the subscriber's line, said latter signal being again effaced when the subscriber answers his call, a disconnect-signal associated with the toll-cord circuit adapted to be operated by steady current from the trunk-circuit or by varying current from the toll-line, a second line or call signal normally connected with the toll end of the trunk and adapted to be operated only by varying current over the toll-line, substantially as described.

2. In a telephone system, the combination with a trunk-line, of a cord-circuit adapted to be connected with one end thereof, a clearing-out drop bridged across the cord-circuit, a subscriber's line adapted to be connected with the other end of said trunk-line, a switch-hook associated with the subscriber's station, a source of direct current associated with the trunk-line, a signal for the trunk and a trunk-relay to control the circuit of said signal, means whereby current from said source may be directed through said clearing-out drop and through the coil of said trunk-relay in series by the actuation of said switch-hook after connections have been established throughout and conversational conditions have existed, substantially as described.

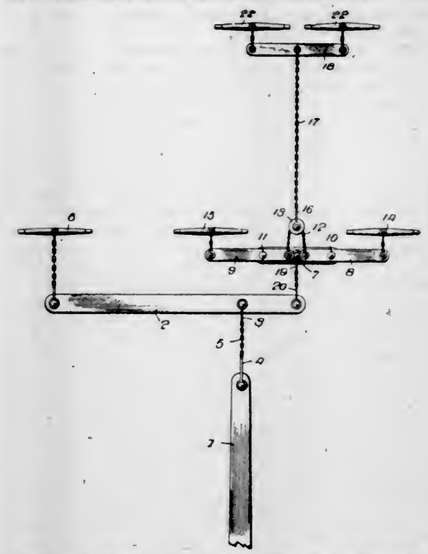
3. In a telephone system, the combination with a trunk-line extending between a toll-board and a local board, of a through conductive cord-circuit at the toll-board adapted to connect said trunk-line with the toll-lines, a clearing-out drop bridged across said cord-circuit, subscribers' telephone-lines terminating at said local board, a central source of direct current at the latter board with which the subscribers' lines are adapted to be connected for both signaling and talking, said trunk-line being adapted to connect with any of these lines, a signal for the trunk and a trunk-relay to control the circuit of said signal, and means after the subscriber has been put into conversation with the toll-line whereby current from said direct source will be directed through said clearing-out drop and through the coil of said trunk-relay in series when the subscriber replaces his receiver on the hook, substantially as described.

4. The combination with a toll-line and a subscriber's line, of a cord-circuit adapted to connect with the toll-line, and a trunk-circuit adapted to connect between said cord-circuit and the subscriber's line, a clearing-out drop bridged across said cord-circuit, a source of current, a signal and a trunk-relay to control the circuit of said signal associated with said trunk-line, a switch at the substation of said telephone-line, and means controlled by the position of said switch for sending current from said source through said trunk-relay over the trunk-line and through said clearing-out drop, whereby the drop will be actuated and whereby the trunk-relay will be deënergized to display said signal when the cord-circuit is removed from its connection with the trunk, substantially as described.

5. The combination with a toll-line and a subscriber's line, of a cord-circuit adapted to connect with the toll-line, and a trunk-circuit adapted to be connected between said cord-circuit and the subscriber's line, a source of current, a signal and a relay to control said signal associated with the trunk-circuit, a clearing-out signal bridged across the cord-circuit, means depending upon the condition of the subscriber's telephone for including said relay either in a local circuit with said source, or in a circuit with said source including the trunk-line and said clearing-out signal, whereby said signal may be energized from the subscriber's station and said relay may be deënergized by the removal of the connection between said cord and trunk, substantially as described.

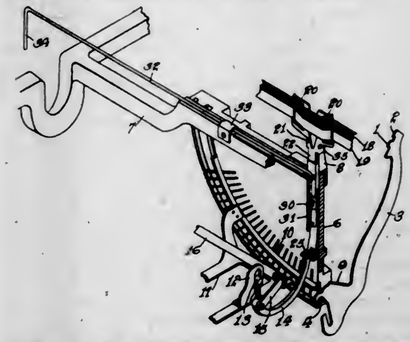
6. The combination with a trunk-circuit, of a source of current associated with said circuit, a signal for said circuit, and a relay to control said signal, a called-subscriber's line with which said trunk is adapted to be connected at its incoming end, and a cord-circuit adapted to be connected with said trunk at its outgoing end, an impedance bridged across said cord-circuit, means depending upon the condition of the subscriber's telephone for actuating said relay from said source either over a local circuit or over a circuit including the outgoing end of said trunk, a portion of said cord-circuit and said impedance, whereby under said latter condition the relay may be deënergized by the removal of the connection between the cord and the trunk, substantially as described.

843,246. HORSE-EVENER. CARL WENDLAND, Krum, Tex. Filed July 25, 1906. Serial No. 327,678.



Claim.—A device of the class described comprising a spreader-bar, a swingletree secured to one end of said bar, means adjacent one end of said bar to secure said bar to a tongue, a doubletree secured to the opposite end of said spreader-bar from that occupied by the swingletree, levers pivotally secured to each end of said doubletree, the pivot-points of said levers being adjacent one end thereof, a swingletree secured to the outer end of each of said levers, a chain disposed between the meeting ends of said levers, a sheave engaging said chain, an elongated chain secured to said sheave, a doubletree at the outer end of said chain and a swingletree secured to each end of said doubletree, said chain being of sufficient length to dispose the draft-animals at the outer end thereof in front of the draft-animals secured to the swingletrees on the levers.

843,247. TYPE-WRITING MACHINE. JOHN A. WHERRY, New Orleans, La., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed July 27, 1906. Serial No. 328,043.



Claim.—1. The combination of a ribbon-carrier, a part which reciprocates at the type-strokes, and a device communicating movement from said reciprocating part to said carrier, and adjustable relatively to both said carrier and said reciprocating part, so as to shift said carrier either

toward or away from said reciprocating part to change the point of connection of the carrier to the reciprocating part, and cause different portions of the ribbon to overlie the printing-point.

2. The combination of a ribbon-carrier, a stem upon which said carrier may slide, a reciprocating part actuating said stem, and a device between said stem and carrier, and adjustable relatively to both for shifting said carrier upon said stem, so as to cause different portions of the ribbon to overlie the printing-point.

3. The combination of a ribbon-carrier, a reciprocating support upon which said carrier is mounted, and a part also mounted upon said support and adjustable relatively to said carrier and to said support for shifting the carrier upon the support to cause different portions of the ribbon to cover the printing-point.

4. The combination of a ribbon-carrier, a reciprocating support upon which the carrier is mounted, and a toggle connecting said support to said carrier for shifting the latter upon the support, so as to cause different portions of the ribbon to overlie the printing-point, and a finger-piece upon the framework and connected to said toggle.

5. The combination of a ribbon-carrier having a shank, a reciprocating stem having a socket to receive said shank, links forming a toggle connected to said shank and stem for sliding the shank within the stem, and a stop for limiting the shifting of the shank at the opening of the toggle, and a finger-piece upon the framework and connected to said toggle.

6. In combination, a reciprocating member upon which the ribbon is carried, and comprising two parts which are relatively shiftable to cause different portions of the ribbon to cover the printing-point, and a finger-piece mounted upon the framing and stationary during the reciprocations of said member, but connected to means for effecting relative shifting movements of said shiftable parts.

7. In combination, a reciprocating member upon which the ribbon is carried, and comprising two parts which are relatively shiftable to cause different portions of the ribbon to cover the printing-point, and a device normally inactive during the operation of said reciprocating member, but movable transversely to the direction of movement of said reciprocating member, and having means called into action at such transverse movement for effecting relative shifting movements of said shiftable parts.

8. In combination, a reciprocating member upon which the ribbon is carried, and comprising two parts which are relatively shiftable to cause different portions of the ribbon to cover the printing-point, a finger-piece, two loosely-connected members controlled by said finger-piece, one of said loosely-connected members extending in the direction of movement of said reciprocating member, and means for enabling said loosely-connected members to effect relative shifting movement of said shiftable parts.

9. In combination, a reciprocating member upon which the ribbon is carried, and comprising two parts, one of which may slide upon the other in the direction of the reciprocation of said member, to cause different portions of the ribbon to cover the printing-point, an adjustable part upon said reciprocating member for effecting such sliding movement, said adjustable part having a projection, and a bar mounted upon the framework and controlled by a finger-piece, and extending in the direction of such reciprocation, and loosely connected to said projection.

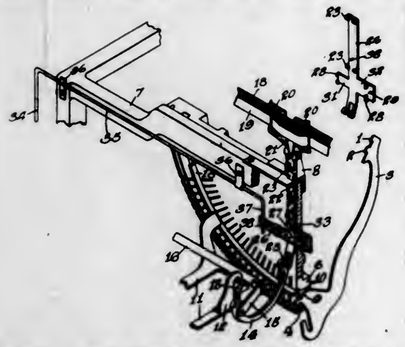
10. The combination of a ribbon-carrier, a part which reciprocates at the type-strokes, a device communicating movement from said reciprocating part to said carrier, and adjustable relatively to both said carrier and said reciprocating part, so as to shift said carrier either toward or away from said reciprocating part, to cause different portions of the ribbon to overlie the printing-point, and a part mounted upon the framework and having a finger-piece, and inactive during the reciprocation of the ribbon-carrier, but connected loosely to said adjustable device for adjusting the latter.

11. The combination of a ribbon-carrier, a reciprocating support upon which the carrier is mounted, a toggle connecting said support to said carrier for shifting the latter upon the support, so as to cause different portions of the ribbon to overlie the printing-point, and a part mounted upon the framework and having a finger-piece, and loosely connected to said toggle for opening and closing the latter.

12. The combination of a ribbon-carrier having a shank, a reciprocating stem having a socket to receive said shank, links forming a toggle connected to said shank and stem for sliding the shank within the stem, a stop for limiting the shifting of the shank at the opening of the toggle, a slide mounted upon the framework and having a finger-piece and movable across the line of reciprocation of said stem, and having a finger or part extending parallel with the direction of movement of said stem, and an eye mounted upon said toggle at the joint thereof, and engaging said finger.

13. The combination of a ribbon-carrier having a shank, a reciprocating stem having a socket to receive said shank, links forming a toggle connected to said shank and stem for sliding the shank within the stem, a stop for limiting the shifting of the shank at the opening of the toggle, a slide mounted upon the framework and having a finger-piece and movable across the line of reciprocation of said stem, and having a finger or part extending parallel with the direction of movement of said stem, and an eye mounted upon said toggle at the joint thereof, and engaging said finger; said ribbon-carrier, stem and toggle being shiftable up and down to accommodate the case-shifting movements of the platen, and said finger being of sufficient length to accommodate such shifting movements.

843,248. TYPE-WRITING MACHINE. JOHN A. WHERRY, New Orleans, La., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Sept. 28, 1906. Serial No. 336,631.



Claim.—1. The combination of a ribbon-carrier, a part which reciprocates at the type-strokes, and a device communicating movement from said reciprocating part to said carrier, said device being adjustable relatively to both said carrier and said reciprocating part and having the form of a cam to shift said carrier relatively to said reciprocating part to cause a different portion of the width of the ribbon to overlie the printing-point.

2. The combination of a ribbon-carrier, a reciprocating support upon which the carrier is mounted, and a cam engaging said support and said carrier for shifting the latter upon the support to cause a different portion of the ribbon to overlie the printing-point.

3. The combination of a ribbon-carrier having a shank, a reciprocating stem having a socket to receive said shank, a cam mounted to slide transversely upon said shank to adjust said ribbon-carrier, and a stop for limiting the movement of the cam.

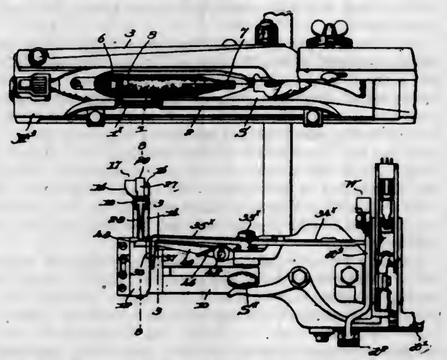
4. The combination of a ribbon-carrier having a shank, a reciprocating stem having a socket to receive said shank, a cam mounted to slide transversely upon said shank to adjust said ribbon-carrier, a stop for limiting the movement of the cam, and a finger-piece mounted upon the framing, and stationary during the reciprocations of said member, but connected to said cam for shifting the same.

5. In combination, a reciprocating member upon which the ribbon is carried, and comprising two parts, one of which may slide upon the other in the direction of the reciprocation of said member, to cause different portions of the ribbon to cover the printing-point, an adjustable cam upon said reciprocating member for effecting such sliding movement, said adjustable cam having a projection, and a bar mounted upon the framework and controlled by a finger-piece, and extending in the direction of such reciprocation, and loosely connected to said projection.

6. The combination of a ribbon-carrier, a reciprocating support upon which the carrier is mounted, a cam interposed between said support and said carrier to shift the latter upon the support to cause different portions of the ribbon to overlie the printing-point, said cam reciprocating with said support and said carrier, and a finger-piece mounted upon the framework and loosely connected to said cam for shifting the latter.

7. The combination of a ribbon-carrier having a shank, a reciprocating stem having a socket to receive said shank, a cam engaging said shank and said carrier for sliding the shank upon the carrier, a stop for limiting the shifting movement of the cam, said cam mounted to reciprocate with said stem and carrier, a slide mounted upon the framework and having a finger-piece and movable across the line of reciprocation of said stem, and having a finger or part extending parallel with the direction of movement of said stem, and an eye upon said cam to engage said finger.

843,249. FILLING-EXHAUSTION-INDICATING MECHANISM FOR LOOMS. EVERETT S. WOOD and JONAS NORTHROP, Hopedale, Mass., assignors to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed Mar. 3, 1906. Serial No. 304,045.



Claim.—1. Controlling mechanism for looms, having two members adapted to be impinged upon, an actuator mounted on one member and operatively connected with the other member and movable relatively thereto, means for impinging on one member to thereby position inoperatively said actuator, a shuttle, and means within it for impinging on the other member only when substantial exhaustion of the filling within the shuttle permits, to move the actuator while operatively positioned and thereby cause the actuation of the controlling mechanism, neither of said members contacting with the filling at such time.

2. In a loom, means to control its operation, and a shuttle to contain a supply of filling, said controlling means including two members adapted to be impinged upon, one of said members intermittingly impinging upon and being moved by the filling in the shuttle until predetermined exhaustion thereof, the second member never contacting with the filling, an actuator inoperatively positioned by each of such movements of said member, and means within the shuttle to impinge upon the other of said members only when through substantial exhaustion the filling fails to move the first-named member, to thereby move the actuator while operatively positioned and cause the actuation of the controlling means.

3. In filling-exhaustion-indicating mechanism for looms, a yieldingly-sustained feeler adapted to be intermittingly impinged upon and moved by the filling in the shuttle until substantial exhaustion of such filling, an actuator inoperatively positioned by such feeler movements, and a member never contacting with the filling and adapted to impinge upon means within the shuttle only when filling-induced feeler movement ceases, to thereby move the actuator while operatively positioned.

4. In filling-exhaustion-indicating mechanism for looms, a yieldingly-sustained feeler adapted to be intermittingly impinged upon and moved by the filling in the shuttle until substantial exhaustion of such filling, an actuator inoperatively positioned by such feeler movements, and a feeler-carrier never contacting with the filling and maintained passive by filling-induced movement of the feeler, and adapted, upon failure of such movement of the feeler, to initially impinge upon means within the shuttle other than the filling and thereby become active to move the actuator while operatively positioned.

5. In a loom, a shuttle adapted to support a filling-carrier and having a side opening opposite the head thereof, and filling-replenishing mechanism, combined with means to control the time of operation of said mechanism, including a feeler to enter the opening in the shuttle on alternate picks and impinge upon and be moved by the filling until predetermined exhaustion thereof, and a member which never contacts with the filling and which enters the opening and impinges upon the filling-carrier to effect the operation of the controlling means when, by reason of predetermined filling exhaustion, filling-induced movement of the feeler ceases.

6. In a loom, a shuttle to contain a supply of filling, means within the shuttle other than the filling to be impinged upon, filling-replenishing mechanism, and means to control the time of its operation, combined with a reciprocating carrier, and a feeler and an actuator, independently mounted thereon, filling-induced movement of the feeler preventing coöperation of the actuator and said controlling means, and coöperation of the carrier and said means within the shuttle, until predetermined exhaustion of the filling in the shuttle, the carrier never contacting with the filling.

7. In a loom, a shuttle to contain a supply of filling, means to effect a change in the operation of the loom, including a reciprocating carrier never contacting with the filling, a feeler mounted thereon to intermittingly impinge upon and be moved by the filling in the shuttle until predetermined exhaustion thereof, filling-induced movement of the feeler effecting movement of the carrier, and means within the shuttle other than the filling, operative upon failure of the filling to impinge upon the feeler, to impinge upon the carrier and affect the operation of the loom-controlling means independently of the feeler.

8. In a loom, a running shuttle, controlling mechanism for the loom, having two members adapted to be impinged upon, one supporting the other, an actuator mounted on one member and movable relatively to both members, means within the shuttle for impinging on one member to move it and thereby position inoperatively said actuator, and other means within the shuttle, for impinging on the other member when exhaustion of the running filling permits, to move the actuator while operatively positioned and thereby cause the actuation of the controlling mechanism, both members being out of contact with the filling when the operatively-positioned actuator is moved.

9. In a loom, a running shuttle, controlling mechanism for the loom, having two members adapted to be impinged upon, one supporting the other, an actuator mounted on one member and movable relatively to both members, means within the shuttle for impinging on one member to move it and thereby position inoperatively said actuator, and other means within the shuttle for impinging on the other member when exhaustion of the running filling permits, to move the actuator while operatively positioned and thereby cause the actuation of the controlling mechanism, and means to restore said members to impinging

position, neither member contacting with the filling when the operatively-positioned actuator is moved.

10. In a loom, a running shuttle, controlling mechanism for the loom, having two members adapted to be impinged upon, an actuator, means within the shuttle for impinging on one member to move it and thereby position inoperatively said actuator, and other means within the shuttle, for impinging on the other member only when exhaustion of the running filling permits, neither member contacting with the filling at such time, to move the actuator while operatively positioned and thereby cause the actuation of the controlling mechanism.

11. In filling-exhaustion-indicating mechanism for looms, in combination, a feeler device having two members adapted to be impinged upon, an actuator mounted on one, and controlled by the other of said members, a running shuttle, means within it for impinging on one of said members, and thereby rendering inoperative the actuator, other means also within the shuttle for impinging, when exhaustion of the filling permits, on the other member to move the actuator while operatively positioned, a transmitter, and a controller to lock and also move the same, movement of the operatively-positioned actuator acting through said controller to unlock and move the transmitter.

12. In a loom, a shuttle to contain a supply of filling, means within the shuttle other than the filling, and mechanical means to effect, while out of contact with the filling, a change in the operation of the loom by engagement with such other means within the shuttle, the filling in the latter preventing such engagement until exhausted to a predetermined extent.

13. In a loom, mechanical means to effect a change in the operation thereof, and a shuttle to contain a supply of filling, said means including a member to intermittingly contact with the filling in the shuttle until predetermined exhaustion of the filling, and a member never contacting with the filling, to engage means other than the filling within the shuttle and cause the actuation of said mechanical means only when such engagement is permitted by non-engagement of the first-named member and the filling.

14. In a loom, a shuttle to contain a supply of filling, and mechanical means to control the operation of the loom by engagement with means within the shuttle only upon predetermined exhaustion of the filling, said controlling means operating when out of contact with the filling in the shuttle.

15. In a loom, a shuttle to contain a supply of filling, and mechanical filling-exhaustion-indicating means to effect a change in the operation of the loom upon indication of a predetermined exhaustion of the running filling, said means including two members to respectively impinge upon the filling and upon means separate therefrom within the shuttle, intermittent impingement of one member upon the filling preventing impingement of the other member until predetermined exhaustion of the filling, whereupon the loom-controlling means is caused to operate, neither member contacting with the filling.

16. In a loom, a shuttle, a filling-carrier therein to sustain a supply of filling, and mechanical means to control the operation of the loom by engagement with the filling-carrier upon predetermined exhaustion of the filling thereon, the means including a member intermittingly acted upon by the filling prior to its predetermined exhaustion, to prevent such engagement, said means being adapted to operate when such member thereof is not contacting with the filling.

17. In a loom, a shuttle, a filling-carrier therein to sustain a supply of filling, and mechanical means to control the operation of the loom, said means including a member never contacting with the filling and adapted to engage the filling-carrier, and a member to prevent such engagement by intermittent impingement on the filling upon the carrier until such filling is exhausted to a predetermined extent.

18. In a loom, mechanical means to indicate filling exhaustion and adapted thereupon to effect a change in the operation of the loom, said means including a reciprocating feeler-carrier, and a feeler mounted thereon to indicate filling exhaustion, the feeler and feeler-carrier being out of contact with the filling in the shuttle when substantial exhaustion of the filling is indicated, and means within the shuttle to impinge on the feeler-carrier only when such exhaustion is indicated.

19. In a loom, mechanical means to indicate filling exhaustion and adapted thereupon to effect a change in the operation of the loom, said means including a yieldingly-supported, reciprocating feeler-carrier never contacting with the filling and adapted to engage means within the shuttle and effect the operation of the said mechanical means, and a feeler supported by and movable relatively to the feeler-carrier, to intermittingly impinge upon and be moved by the filling in the shuttle until substantial exhaustion of such filling, such filling exhaustion being indicated through the instrumentality of the feeler, the latter preventing any engagement of the feeler-carrier with means within the shuttle until the feeler and filling in the shuttle cease to contact.

20. In a loom, a shuttle to contain a filling-carrier, mechanical means to indicate filling exhaustion and adapted to control the operation of the loom, said means including a reciprocating member and a feeler mounted thereon, said member having no contact with the filling and impinging upon the filling-carrier when substantial exhaustion of the filling in the shuttle is indicated by non-engagement of such filling and the feeler, whereby the operation of the controlling means is effected through the instrumentality of the filling-carrier when there is no contact between the feeler and the filling.

21. In a loom, a shuttle to contain a filling-carrier provided with a supply of filling, a feeler adapted to intermittingly engage and be moved by means within the shuttle, and a feeler-carrier to effect a change in the operation of the loom by or through impingement on the filling-carrier upon substantial exhaustion of the filling, the feeler-carrier operating independently of said means within the shuttle.

22. In a loom, a shuttle to contain a supply of filling, separate means within the shuttle to be impinged upon, and a mechanical instrumentality to change the operation of the loom, including a member to intermittingly impinge upon the filling in the shuttle until substantial exhaustion of such filling, and a second member which never contacts with the filling adapted to impinge upon said separate means within the shuttle only when, by reason of substantial exhaustion of the filling, the latter fails to be impinged upon by the member adapted so to do, the impingement of said second member effecting the actuation of said instrumentality.

23. In a loom, a shuttle to contain a supply of filling, and a mechanical instrumentality to effect a change in the operation of the loom upon substantial exhaustion of the running filling, including a normally passive member, never contacting with the filling, and a member to intermittingly impinge upon the filling in the shuttle and maintain the first-named member passive, the filling impinging member becoming passive upon substantial exhaustion of the filling and permitting the passive member to become active by or through impingement upon means within the shuttle other than the filling.

24. In a filling-exhaustion-indicating mechanism for looms, a feeler adapted to intermittingly engage and be moved by means within the shuttle, an instrumentality acting independently of said means to engage other means within the shuttle only upon substantial exhaustion of the filling, to thereby change the operation of the loom, a shuttle to contain a supply of filling, and such other means to be engaged, within the shuttle and separate from the filling therein.

25. In filling-exhaustion-indicating mechanism for looms in combination, a shuttle to sustain a supply of filling, other means within the shuttle, a mechanical instrumentality to effect a change in the operation of the loom by engagement with such other means within the shuttle, the filling in the latter preventing such engagement until exhausted to a predetermined extent, a transmitter, and a controller to lock and also move the same, the engagement of said instrumentality with the means within the shuttle acting through the controller to unlock and move the transmitter.

26. In filling-exhaustion-indicating mechanism for looms, in combination, a shuttle, a filling-carrier therein to sustain a supply of filling, mechanical means to control the operation of the loom by engagement with the filling-carrier upon predetermined exhaustion of the filling thereon, said means being adapted to operate when non-contacting with the filling, a transmitter, and a controller to lock and move the same, engagement of the mechanical means with the filling-carrier acting through the controller to unlock and move the transmitter.

27. In a loom, in combination, a running shuttle, and controlling mechanism for the loom, having two members adapted to be impinged upon, the member first impinged upon being adapted to move the other, an actuator, means within the shuttle to impinge on one member and inoperatively position the actuator, other means within the shuttle to impinge on the other member, only when predetermined exhaustion of the filling permits, and move such member independently of the filling, to effect movement of the actuator while operatively positioned and thereby cause the actuation of the controlling mechanism, the simultaneous movement of both members after either is impinged upon moving the actuator bodily therewith in either its inoperative or its operative position.

28. In a loom, a shuttle to contain a filling-carrier having a head and smaller barrel, combined with mechanism to effect a change in the operation of the loom, including two relatively movable members having impinging faces normally positioned to correspond substantially to the difference in diameter between the head and barrel of the filling-carrier, and an actuator mounted on one and controlled by the other member, the latter member being adapted to intermittingly impinge upon and be moved by the filling on the barrel to thereby position inoperatively the actuator and also prevent impingement of the supporting member on the head until predetermined exhaustion of the filling, said supporting member thereupon immediately impinging upon and being moved by the head while the actuator is operatively positioned, to effect the operation of said mechanism.

29. In a loom, a shuttle to contain a filling-carrier, and means to effect a change in the operation of the loom, including a mechanical feeler device operating solely through the instrumentality of and by engagement with the filling-carrier when substantial exhaustion of the filling prevents contact between it and any part of the feeler device.

30. In a loom, a shuttle to contain a supply of filling, means within the shuttle other than the filling, and mechanical means to effect a change in the operation of the loom, including a device comprehending a governing member and an operating member, the former, through the instrumentality of the filling in the shuttle, preventing action of the latter until predetermined exhaustion of filling, the operating member acting immediately through the instrumentality of the means within the shuttle other than the filling, and never contacting with the latter.

31. In a loom, a shuttle to contain a supply of filling, means within the shuttle other than the filling, and mechanical means to effect a change in the operation of the loom, including a governing member to intermittingly contact with the filling within the shuttle until predetermined filling exhaustion, and an operating member never contacting with the filling and adapted to contact with the means within the shuttle other than the filling immediately upon failure of the latter to contact with the governing member, to thereby effect the actuation of said mechanical means.

32. In a loom, a shuttle, a filling-carrier having a head, and a filling-receiving portion, combined with mechanical means to effect a change in the operation of the loom upon predetermined filling exhaustion, said means including a member to intermittently impinge upon and be moved by the filling in the shuttle until predetermined exhaustion, and a member to impinge upon the head of the filling-carrier and restrained from so impinging until non-contaction of the filling and the first-named member, impingement of the second-named member on the head of the filling-carrier immediately causing the operation of the said mechanical means.

33. In a loom, a running shuttle, means to control the operation of the loom, including a spring-controlled reciprocating carrier, a feeler mounted on and having a limited movement relative to the carrier, the latter never contacting with the filling, a light spring to reset the feeler, the latter intermittingly engaging and being moved by the filling within the shuttle, to first compress the feeler-spring and then retract the carrier, and means within the shuttle, other than the filling and operative upon failure of the latter to move the feeler, to immediately impinge upon and retract the carrier, to cause the actuation of the loom-controlling means.

34. In a loom, a shuttle to contain a supply of filling, filling-replenishing mechanism, means to control the time of its operation, including a reciprocating carrier, never contacting with the filling, a feeler mounted thereon to intermittingly impinge on and be moved by the filling in the shuttle until predetermined exhaustion thereof, filling-induced movement of the feeler effecting movement of the carrier in one direction, a spring to effect its return movement, a light spring to reset the feeler on the carrier after filling-induced movement of the feeler, and means within the shuttle, operative only upon failure of the filling to impinge upon the feeler, to impinge upon and move the carrier against its spring, to effect the operation of the replenishing mechanism independently of the feeler.

35. In a loom, a shuttle to contain a supply of filling, filling-replenishing mechanism, and means to control the time of its operation, combined with a reciprocating carrier, never contacting with the filling, a feeler and an actuator independently mounted thereon, the former controlling the latter, a light spring to reset the feeler, filling-induced movement of the feeler compressing its spring and inoperatively positioning the actuator to prevent its co-operation with the controlling means, and means within the shuttle, other than the filling, operative upon predetermined filling exhaustion to impinge upon and move the carrier while the feeler is passive thereon and the actuator operatively positioned, to cause coöperation between the actuator and controlling means.

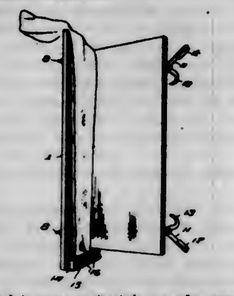
36. In filling-exhaustion-indicating mechanism for looms, in combination, a feeler adapted to intermittingly impinge upon and be moved by filling in the shuttle, a reciprocating carrier on which the feeler is mounted, and never contacting with the filling, means within the shuttle other than the filling to impinge upon and move primarily the carrier when exhaustion of the filling fails to cause its impingement on the feeler, an actuator movably mounted on the carrier and governed by the feeler, a transmitter, and a coöperating, positively-connected controller therefor lying in the operative path of movement of the actuator, filling-induced feeler movement positioning inoperatively the actuator and also moving the carrier, primary movement of the latter causing the actuator to move in its operative path to engage the controller and effect therethrough the operation of the transmitter.

843,250. COMBINED TROUSERS STRETCHER AND PRESSER. STEPHEN S. ZIGLER, Oxford Junction, Iowa. Filed Apr. 11, 1906. Serial No. 311,109.

Claim.—1. A combined trousers stretcher and presser comprising frame members, means to adjustably secure said members together at one edge, one of said members being longer than the other, bars having reduced ends secured to the elongated member, bars secured to the other member and terminating in suitable shanks, and means pivotally mounted on said shanks adapted to engage the ends of the bars on the opposite member and draw said members together.

2. A combined trousers stretcher and presser comprising frame members hinged together, one of said frame members being longer than the other, means secured to said extended end of the elongated member to engage and hold trousers thereon, bars secured to said elongated member, said bars having reduced ends, bars rigidly secured to the opposite member having shanks at their opposite ends,

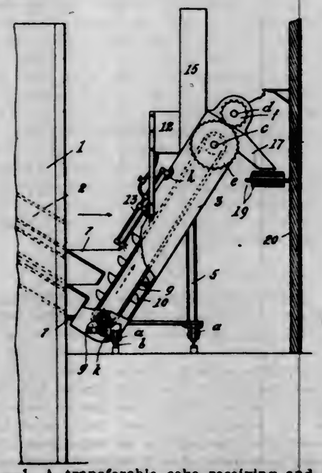
locking members mounted upon said shanks, the cammed ends of which are adapted to engage said reduced ends and draw said members together.



3. A combined trousers stretcher and presser comprising frame members 1 and 2, hinges secured to the member 1, one leaf of said hinges terminating in a bolt, straps secured to the member 2 and slidably engaging said bolts, means to adjust said straps on said bolts, locking devices secured to the member 2, said devices having hooked ends adapted to engage bars carried by the member 1 and dispose said members 1 and 2 in close relation to each other, a bar secured to one end of the member 1, and means to dispose said bar toward or away from the member 1 as desired.

4. A device of the class described comprising a pair of frame members, one of which is longer than the other, hinges on one of said frame members, one strap of said hinges being in the form of a bolt, straps rigid with the opposite frame member and having openings to receive said bolts, a nut on said bolts to adjust said frame members with relation to each other, a spring around said bolts to direct outward pressure on said straps and means to lock said frame members together.

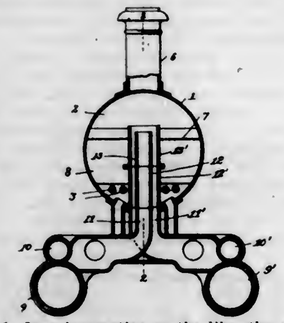
843,251. COKE-DISCHARGING APPARATUS. LEWIS ALBRECHT, Baltimore, Md. Filed Jan. 31, 1906. Serial No. 298,733.



Claim.—1. A transferable coke receiving and discharging apparatus adapted to be used in connection with a bench of gas-making retorts, comprising a box placed in an inclined position, an endless chain situated within the box carrying buckets, means to operate the endless chain and its buckets, and an appliance whereby water is sprayed upon the said buckets, and the coke contained therein, as the same traverse the said box from the receiving to the discharging end of the box, combined with an endless conveyer-belt extending in a direction parallel with the path taken by the said discharging apparatus in being moved from one vertical set of retorts to another, the said conveyer-belt being adjacent to the delivery end of the discharging apparatus, and thereby adapted to receive the discharged coke and carry the same away from the bench of retorts, substantially as specified.

2. A transferable coke receiving and discharging apparatus adapted to be used in connection with a bench of gas-making retorts, comprising a box placed in an inclined position, an endless chain situated within the box carrying buckets, means to operate the endless chain and its buckets, and an appliance whereby water is sprayed upon the said buckets and the coke contained therein, as the same traverse the said box from the receiving to the discharging end of the box, the said buckets having overflow-holes to limit the quantity of water held by the buckets independently of the quantity of water supplied to the same, substantially as specified.

843,252. LOCOMOTIVE EXHAUST-NOZZLE. JAMES B. ALLFREE, Ironton, Ohio. Filed June 5, 1905. Serial No. 263,823.



Claim.—1. In a locomotive or the like, the combination of a smoke-box, an exhaust-nozzle in said smoke-box and comprising two concentric cylinders forming a uniform and unobstructed annular exhaust-passage throughout its entire length in the smoke-box, the upper edge of the inner cylinder being below the edge of the outer cylinder, and means for independently connecting the passages formed by the two concentric cylinders with the exhausts of the locomotive-engines.

2. In a locomotive or the like the combination of a smoke-box, an exhaust-nozzle in said smoke-box and comprising an inner cylinder, an outer annular and concentric cylinder surrounding the inner cylinder and forming therewith a uniform unobstructed annular exhaust-passage throughout its entire length in the smoke-box, the upper edge of the outer cylinder being above the edge of the inner cylinder, and means for independently connecting the passages formed by the inner and outer cylinders with the exhausts of the locomotive-engines.

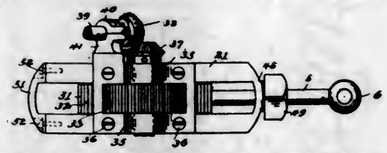
3. In a locomotive or the like the combination of a smoke-box, an exhaust-nozzle extending its entire length in said smoke-box and comprising an inner nozzle connected with the exhausts of one of the engines of the locomotive, an outer nozzle surrounding the inner nozzle and whose sides are parallel throughout its length with the sides of the inner nozzle and forming therewith an unobstructed exhaust-passage, the upper edge of the outer nozzle being above the edge of the inner nozzle, and means for connecting the exhausts of the other engine of the locomotive with the outer nozzle.

4. An exhaust-nozzle for locomotives or the like comprising two concentric exhaust-cylinders, the upper edge of the inner exhaust-cylinder being below the edge of the outer cylinder, a spreader within the inner exhaust-cylinder and means for independently connecting the passages formed by the concentric cylinders with the exhausts of the locomotive-engines.

5. An exhaust-nozzle for locomotives or the like comprising an inner and circular exhaust-cylinder, an outer annular and concentric exhaust-cylinder surrounding the inner exhaust-cylinder, the upper edge of the outer cylinder being above the edge of the inner cylinder, a cone-shaped spreader within the inner cylinder and means for independently connecting the passages formed by the inner and outer cylinders with the exhausts of the locomotive-engines.

6. An exhaust-nozzle for locomotives or the like comprising an inner exhaust-nozzle connected with the exhausts of one of the engines of the locomotive, a spreader within the inner nozzle, an outer exhaust-nozzle surrounding the inner nozzle and whose sides are parallel with the sides of the inner nozzle and its upper edge above the upper edge of the inner nozzle and means for connecting the exhausts of the other engine of the locomotive with the outer nozzle.

843,253. FRICTION-LOCK. WENDELL A. BARKER, Chicago, Ill. Filed May 21, 1906. Serial No. 317,952.



Claim.—1. The combination with a connecting or controlling rod, of a friction-lock therefor, said lock comprising a plurality of wedge members, a casing inclosing said wedge members, a series of springs interposed between said wedges to normally press them against said casing, and a releasing member adapted by its initial movement to release the lock, and by a further traverse to move the controlling-rod, substantially as described.

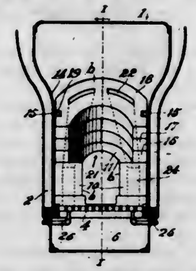
2. The combination with a connecting or controlling rod, of a friction-lock therefor, said lock comprising a block, having inclined surfaces attached to said rod, wedge members having corresponding inclined surfaces to said block, a casing inclosing said block and wedge members, a series of springs interposed between said wedges to normally press them against said block and casing, and a releasing member adapted by its initial movement to release the wedges and by a further traverse to move the controlling-rod, substantially as described.

3. The combination with a connecting or controlling rod, of a friction-lock therefor, said lock comprising a block, having inclined surfaces, attached to said rod, wedge members having corresponding inclined surfaces to said block, a casing inclosing said block and wedge members, a series of springs interposed between said wedges to normally press them against said block and casing, and a movable releasing member provided with lugs adapted to be moved into contact with said wedge and block members, to release the wedges, and by a further traverse to move the controlling-rod, substantially as described.

4. The combination with a connecting or controlling rod, of a friction-lock therefor, said lock comprising a block, having inclined surfaces, and attached to said rod, wedge members having registering inclined surfaces with the inclined surfaces on said block, a casing inclosing said block and wedges, springs interposed between said wedges to normally press them against said block and casing, a releasing member provided with lugs, and means for moving said releasing member into contact with said wedge and block members to release the wedges and by a further traverse to move the controlling-rod, substantially as described.

5. The combination with a connecting or controlling rod, of a friction-lock therefor, said lock comprising a block having inclined surfaces and attached to said rod, wedge members having inclined and parallel surfaces, said inclined surfaces registering with the inclined surfaces on said block, longitudinal ribs on the parallel surfaces, a casing inclosing said block and wedges, grooves in the sides of said casing in which said ribs are adapted to slide, springs interposed between said wedges to normally press them against said block and casing, a releasing member provided with lugs, means for moving said releasing member whereby the lugs are brought into contact with the small ends of said wedge members to release the wedges, and by a further traverse to move the controlling-rod, substantially as described.

843,254. FURNACE. WILLIAM N. BEST, Los Angeles, Cal., assignor to John H. Best and Ezra Best, Quincy, Ill. Filed Apr. 8, 1903. Serial No. 151,632.



Claim.—1. A furnace provided with a grate and a forwardly-inclined arch provided at its forward end with a substantially hopper or V shaped recess constructed to permit the cinders to enter from the entire width of the arch and to direct them to the central portion of the grate at the front thereof.

2. In a furnace, a shelf having a grate portion, anchor-blocks on said shelf, and an arch, the forward end of which rests on said blocks and is provided with an opening directly above said grate portion.

3. In a furnace, a shelf having a central grate portion and a rocket on each side thereof, an anchor-block in each socket, and an inclined arch resting at its forward end on said blocks and having an opening directly above said grate portion.

4. In a furnace, a shelf having a central grate portion and a perforated socket on each side thereof, an anchor-block in each socket having a passage communicating with said perforation, and an inclined arch resting at its forward end on said blocks and having two passages communicating with the passages in the blocks, the forward end of the arch being provided with an opening to register with said grate portion.

5. In a furnace, a shelf having a central grate portion and a perforated socket at each side thereof, an anchor-block in each socket having a passage communicating with said perforation, and an inclined arch resting at its forward end on said blocks and having two fan-shaped passages communicating with the passages in said blocks, the forward end of said arch being provided with an opening to register with said grate portion.

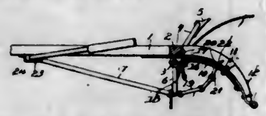
6. In a furnace, a shelf, two anchor-blocks resting thereon at a distance apart, the top of each of which is inclined, and an inclined arch formed from a series of sections, each section extending from side to side of the furnace and the forward section resting on said inclined tops and provided with an opening to register with the space between said blocks, and means for supporting the other sections.

7. A section for an arch in a furnace consisting of a curved piece of fireproof material, each end of which is provided with a groove and the forward side with a lug at each end, said section being further provided with a passage at each end which extends from the bottom upward and reaward to the rear face.

843,255. AUTOMATIC BRAKE. JOHN P. BLAKEMAN, Chaplin, Ky. Filed Apr. 30, 1906. Serial No. 314,539.

Claim.—1. In an automatic brake for horse-drawn vehicles, the combination of a set of shafts, a cross-shaft arranged adjacent the cross-bar of said set of shafts,

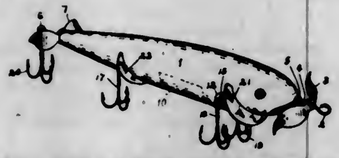
upwardly-extending arms on the ends of the cross-shaft, brake-shoes mounted on the ends of said arms, depending arms extending below the cross-bar and cross-shaft which are adapted to be connected to the backing-straps of the harness, a member extending from the cross-shaft, and a spring on the cross-bar engaging the said member for holding the brake-shoes normally out of engagement with the front wheels of the vehicle.



2. In an automatic brake for horse-drawn vehicles, the combination of a set of shafts, a transverse rock-shaft thereon, a spherical journal at each end of the said shaft, a bearing for each of said journals mounted on the said set of shafts and provided with a recess for receiving the journals, said bearings comprising a stationary member bolted to the shafts and a removable member hinged thereto, a leaf-spring for each of the movable members of the bearing, a link connecting the spring with the member, brake-shoes on the rock-shaft, and means for actuating the brake-shoes.

3. In a device of the character described, a set of shafts, a shoe-carrying shaft mounted thereon, crank-arms on the said shaft which are adapted to be connected with the backing-straps of the harness, hooks on the shafts at the rear ends of the latter and within reach of the driver from the vehicle-body, straps attached to the arms, and rings spaced apart on the straps and carried thereby which are adapted to be connected with the hooks in such a manner as to prevent the brakes from becoming set when the vehicle is moved backward and to hold the straps loose during the forward movement of the vehicle.

843,256. FISH DECOY OR LURE. GEORGE F. BOWERSOX, Portland, Ind. Filed Mar. 22, 1906. Serial No. 307,326.



Claim.—1. In a fish decoy or lure the combination of the body simulating a minnow, spinners mounted to the front and rear of the body, groups of hooks depending from the body, and blades or deflectors extending out from both sides of the body their positions being such as to cause the entire device to be submerged when it is trailed in water, all substantially as shown and described.

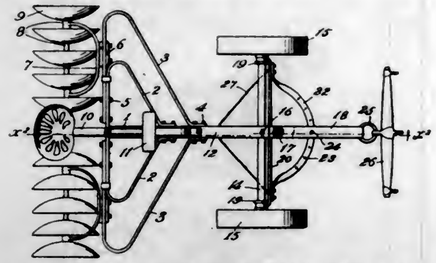
2. A fish decoy or lure comprising a buoyant body made to simulate a minnow, spinners revolubly mounted to the front and rear ends of the body, and crescent-shaped blades or deflectors projecting out from both sides of said body their positions being such as to cause the device to be submerged when it is trailed in the water, all substantially as set forth.

3. A submarine or diving fish-decoy, comprising in combination, a buoyant body formed to represent a fish, spinners mounted to the front and rear of the body, groups of hooks depending from the body, a plurality of crescent-shaped blades projecting out from both sides of the body and disposed at corresponding angles sloping from their upper ends downward and forward to cause the device to submerge when it is trolled in water, all substantially as described.

4. A diving fish-lure comprising a wooden body made to resemble a minnow, spinners carried by the front and rear ends of the body, means whereby a troll-line may be connected to the front end of the body, hooks pendent from various parts of the body, a plurality of blades or deflectors extending out from each side of the body and disposed at corresponding angles with reference to each other to cause the device to travel below the surface of the water when being trolled.

5. A fish-decoy comprising in combination a buoyant body made to simulate a minnow, screw-eyes extending out longitudinally from the front and rear of the body, a spinner mounted on the shank of each of said screw-eyes, a group of hooks pendent from the rear screw-eye, groups of hooks pendent from the body, and blades extending out from each side of the body and disposed at corresponding angles extending from the medial horizontal line on each side of the body forward and downward to near the medial vertical line on the under side of the body to cause the body to submerge when being trolled.

843,257. PLOW. HERMAN F. BRUSSOW, Whittier, Cal. Filed June 11, 1906. Serial No. 321,147.



Claim.—1. The combination with an axle and a pair of wheels journaled thereon, of a beam, means for securing said beam to said axle, a pair of frames mounted on said beam, one inside the other, a plurality of disk members carried by one of said frames, said disk members being adjustably mounted, and means for causing a variance in the position of the frames with respect to said axle.

2. A cultivator comprising an axle and a pair of wheels journaled thereon, a beam, means for securing said beam to said axle, a frame carried by said beam and extending beyond the width of the wheels on said axle, a plurality of disk members carried by said frame, a slotted tongue mounted on said axle, a king-bolt for securing said frame and tongue, and means for angularly positioning said tongue whereby the disk members are thrown out of parallel alinement with the axle.

3. A plow comprising an axle, a pair of wheels journaled thereon, a beam, a king-bolt for securing said beam to said axle, a member encircling the sides of said beam and having an opening; a frame extending beyond the width of the wheels, a plurality of disks carried by said frame, means for shifting said disks, and means for varying the angularity of said frame with respect to said axle.

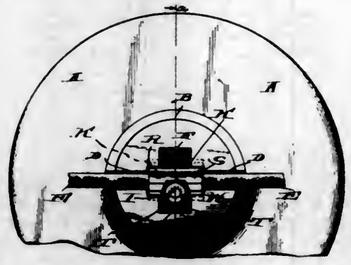
4. A plow comprising an axle having a pair of wheels journaled thereon, a beam carrying a disk-supporting frame, means for mounting said beam on said axle, a tongue having a furcated portion, a plurality of hangers loosely supported by said axle, a connection between said hangers and a yoke carried by said hangers and extending through the furcated portion of said tongue, and means for adjusting said tongue relative to said beam.

5. The combination with an axle and a pair of wheels journaled thereon, of a beam having disk-carrying frame mounted thereon, a king-bolt for pivotally connecting said beam to said axle, a tongue having an elongated slot, an arc in said slot, a support for said arc, and means for adjusting said tongue in the radius of said arc for causing said disks to travel out of parallel alinement with said axle.

6. The combination with a pair of wheels and an axle, of a beam, a frame mounted on said beam extending rearwardly thereof and beyond the width of said wheels, a plurality of disk members adjustably secured to said frame, a king-bolt mounted on said axle and arranged to pivotally secure said beam to said axle, a furcated tongue extending forwardly of said axle and held in place by said king-bolt, a plurality of hangers carried by said axle, a connection between said hangers, a yoke carried by said connection and extending through said furcated tongue, means for adjusting said tongue on said yoke whereby to cause an angular travel of said disks relatively to said axle, and means for limiting the movement of said axle.

7. The combination with an axle and a pair of wheels journaled thereon, of a beam, and a slotted tongue mounted on said axle, a king-bolt for pivotally securing said beam and tongue to said axle, a hanger carried by said axle, an arc on said hanger extending in the slot of said tongue, said tongue being laterally adjustable on said arc, a pair of frames secured to said beam, one inside the other, and a plurality of disk members carried by one of said frames.

843,258. INSULATOR-CLAMP. WALTER G. CLARK, Seattle, Wash., assignor to The Clark Electric and Manufacturing Company, a Corporation of New York. Filed June 12, 1905. Serial No. 264,816.



Claim.—1. The combination with an insulator provided with a transverse groove and conducting-wire therein, of a clamp adapted to be secured in said groove and comprising coöperating members interlocking one with the other and adapted to hold the wire in the groove in the insulator.

2. The combination with an insulator of a conducting-wire and a clamp for said wire, comprising coöperating interlocking members interlocked with the insulator in the groove.

3. The combination with a transversely-grooved insulator, of a clamp for locking the wire in said groove, said clamp comprising coöperating members having curved portions adapted to clasp the wire, and means for locking the members to each other and to the insulator.

4. The combination with an insulator provided with a recess, of an insulator-clamp comprising a plurality of members adapted to interlock one with the other, said members being provided with projections which engage said recess so that when one member is interlocked with the other the clamp cannot be removed from the insulator.

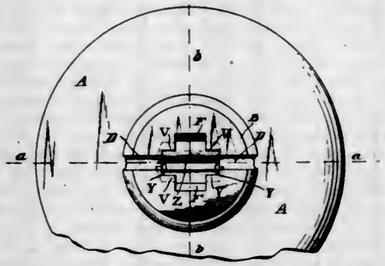
5. The combination with a grooved insulator provided with a recess, of an insulator-clamp for clamping the wire comprising interlocking members, said members being provided with projections which engage said recess so that when said members are placed in the groove of the insulator and interlocked one with the other, the projections in said recess prevent the clamp from being removed without unlocking the members.

6. The combination of an insulator having a groove provided with a widened portion and interlocking members adapted to engage said widened portion and clamp a conductor in the groove.

7. The combination of an insulator having a groove provided with a widened portion, interlocking members adapted to engage said widened portion, and means for securing said interlocking members in said groove.

8. The combination with a grooved insulator and conducting-wire, of a clamp adapted to be secured in said groove and comprising coöperating members interlocking one with the other and with the insulator and adapted to hold the wire in the groove in the insulator.

843,259. INSULATOR. WALTER G. CLARK, Seattle, Wash., assignor to The Clark Electric and Manufacturing Company, a Corporation of New York. Filed July 20, 1905. Serial No. 270,463.



Claim.—1. As a new article of manufacture, an insulator for wires formed with a groove in its top for the wire, a widened cavity or passage-way at the central portion of the insulator extending to the top of the insulator for the insertion of a wire-holding clamp, and recesses or undercut portions at each side of said widened cavity, with projecting shoulders above said recesses for receiving and retaining lugs on the clamp to hold it in place.

2. As a new article of manufacture, an insulator for wires formed with a groove in its top for the wire, a widened cavity or passage-way at the central portion of the top of the insulator, having lateral cavities extending to the top of the insulator for the insertion of the members of a wire-holding clamp, and recesses or undercut portions at each side of said lateral cavities, with projecting shoulders above said recesses for receiving and retaining projections on the clamping members to hold them in position.

3 As a new article of manufacture, an insulator for wires formed with a groove in its top for the wire, a widened cavity or passage-way at the central portion of the top of the insulator having a curved and recessed bottom and lateral cavities extending to the top of the insulator for the insertion of the members of a suitable wire-holding clamp, and recesses or undercut portions at each side of the lateral cavities and on opposite sides of the central groove for receiving the clamping members to hold them in position.

843,260. BATHING APPARATUS. WILLIAM H. CLOUD, Philadelphia, Pa. Filed Nov. 1, 1905. Serial No. 285,456.



Claim.—1. In a bathing apparatus, the combination with a mixing-chamber having a perforate lining adapted to contain saponaceous or other supply, of a delivery-chamber connected thereto, perforate walls within the chamber, means therein to maintain matter subject to complete envelopment in the water and means to prevent clogging of the delivery-perforations, all substantially as shown and described.

2. In a bathing apparatus, the combination with a suitable casing having a perforate lining, of sustaining means therein adapted to retain saponaceous or other material, means for removably securing to the said casing flexible

material adapted to receive and transmit the stream passing through the apparatus and of means for connecting the said apparatus to a supply source, all substantially as shown and described.

3. In a bathing apparatus, the combination with a mixing-chamber adapted to receive a stream of water, of means therein to form a spray therefrom, means for retaining matter in said chamber, until dissolved and means for delivering the solution; a secondary or delivery chamber, means therein for effecting a further combination of matter with the solution, means of connection between the mixing and delivery chamber, means for uttering the solution in a spray and means for enveloping or muzzling the said spray, all substantially as shown and described.

4. In a bathing apparatus, the combination with a receiving-chamber, having suitable inlet and outlet connections and adapted to be attached to a source of supply of water, of a perforate lining therein entirely surrounding the interior, a lower cover removably secured thereto, a delivery-chamber, means of connection between the receiving and delivery chambers, a perforate cap and perforate side walls within the delivery-chamber attached therein, a helically-coiled spring at the open bottom, said spring forming a seat for substance placed within the chamber and an apertured rubber brush attached to the outer walls of said delivery-chamber below said spring, all substantially as shown and described.

5. In a bathing apparatus, the combination with a fixed receiving-chamber adapted to contain saponaceous or other soluble matter in such manner as to be surrounded by water, means whereby the water is sprayed on the said substance causing effective dissolution thereof, a second or delivery chamber flexibly connected with the first, means for such connection, means within the delivery-chamber adapted to contain other soluble matter, means for spraying the educt from the first chamber upon the contents of the second chamber, means for discharging the combined solutions in the form of spray and means for baffling said discharge, all substantially as shown and described.

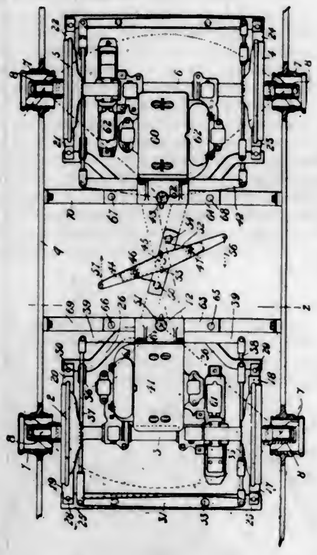
6. In a bathing apparatus, the combination with a source of water-supply, of a hollow casing adapted to be attached to said source of supply, a detachable lower head to said casing, an apertured plate held in the casing near its upper end, an inner perforate cylinder within the casing forming a lining thereto, a perforate bottom plate adapted to sustain substances placed thereon, the same being surrounded by water when in operation, an outlet at the extremity of the lower head, a secondary chamber, means of connection between the main and secondary chambers, perforate linings within the secondary chamber, means therein of support to substances within the secondary chamber and means of attachment thereto of suitable flexible brushes, all substantially as shown and described.

843,261. ELECTRIC TRAM-CAR. GEORGE J. CONATY, Smethwick, England. Filed July 6, 1906. Serial No. 215,549.

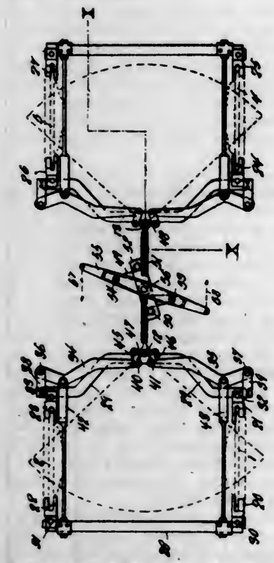
Claim.—1. A four-wheel electric tram car or truck having two pairs of bearing-boxes held against lateral and longitudinal movement, two radially-moving axles having their ends supported to have longitudinal movement in the bearing-boxes, an electric motor for driving each axle, casings for said motors, said casings being connected to and turning about the centers of the radial areas of the axles, and connecting the axles to said centers so that the motors have the same radial movement as the axles, substantially as described.

2. In a four-wheel electric tram car or truck, the combination with each of the radially-moving axles of two inner bearing-boxes 8 in which the ends of the axles revolve, guides in the truck, outer boxes 7 having vertical movement in said guides and radial guides pivoted in said boxes 7 on which the boxes 8 with the axles are adapted to move endwise, said radial guides being arranged to give the axles a movement radial to the track, substantially as described.

843,261.



843,262. BRAKE MECHANISM FOR TRAM-CARS. GEORGE J. CONATY, Kings Heath, county of Worcester, England. Original application filed Oct. 17, 1904, Serial No. 228,820. Divided and this application filed May 22, 1906. Serial No. 318,248.



Claim.—1. In a four-wheel tram car or truck, of brake mechanism for each pair of wheels consisting of four brake-blocks, two cross-beams suspended from the car-body and carrying said blocks, two power-levers carried by one of said beams, links connecting the other of said beams to said former levers, a balance-beam connected to the longer arm of each power-lever and means for bringing the balance-beams of each pair of brake mechanisms nearer together to apply the brakes and for separating them to release the brakes, substantially as described.

2. In a four-wheel tram car or truck, of brake mechanism for each pair of wheels consisting of four brake-blocks, two cross-beams suspended from the car-body and carrying said blocks, two power-levers carried by one of said beams, links connecting the other of said beams to said former levers, a balance-beam connected to the longer arm of each power-lever and means for bringing the balance-beams of each pair of brake mechanism nearer together to apply the brakes and for separating them to release the brakes, said means consisting of a stationary piece, a pulley at each end thereof, a lever pivoted at its middle to said stationary piece, a roller on said lever on each side of the pivotal point and a chain extending from one balance-beam over the roller on one end of the stationary piece, then over the rollers on the lever to the other roller on the stationary piece to the other balance-beam, substantially as described.

843,263. VEIL-PIN. JULIA T. DEAN, Milwaukee, Wis. Filed Aug. 27, 1906. Serial No. 332,239.



Claim.—1. The herein-described veil-securing device comprising a stem, a point at one end of said stem, and a semicircular head at the opposite end thereof, a tongue on said head, a clamp having arms, means to pivotally secure said arms to said tongue and additional means to yieldingly retain said clamp in its adjusted position.

2. In a device of the class described, the combination with a pointed stem having a semicircular head at one end thereof; of a clamp pivotally secured to said head and having one of its ends curved to coincide with the semicircular head on the pin and means to yieldingly dispose one end of said clamp into engagement with said stem, whereby an article disposed upon said stem will be held in position thereon.

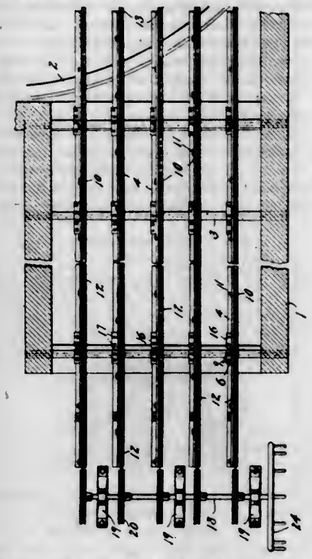
3. In a device of the class described, the combination with a pointed stem having a semicircular head, a tongue on said head and shoulders at the juncture between said head and tongue; of a clamp having a curved end, arms on the curved end of the clamp adapted to engage said tongue, means to pivotally secure said arms to said tongue, a plunger in said clamp and means to exert pressure on said plunger to direct the same into engagement with said tongue.

4. In a device of the class described, the combination with a pointed stem having a semicircular head at one end thereof, a tongue on said head, and shoulders at the intersection of the head and tongue; of a clamp having one of its ends curved and provided with arms, the lower ends of which are adapted to engage said shoulders, means to pivotally secure the arms to the tongue and additional means to yieldingly hold said clamp in its adjusted position.

5. In a device of the class described, the combination with a stem having a semicircular head at one end thereof, and a tongue integral with said head; of a clamp, one end of which is curved, arms integral with said clamp and adapted to engage said tongue, a socket in said clamp and between said arms, a plunger in said socket, a spring in said socket adapted to exert pressure on said plunger, whereby one end of the plunger will be directed against said tongue to yieldingly hold said clamp in its adjusted position.

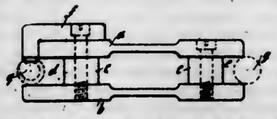
843,264. LEER. SAMUEL F. FIELD, Findlay, Ohio. Filed Oct. 5, 1905. Serial No. 281,510.

Claim.—1. In a leer the combination with a tunnel, of T-shaped cross-bars extending across the tunnel, inverted-T-shaped longitudinal bars supported upon the cross-bars, substantially U-shaped brackets connecting the bars at their points of crossing, each bracket being of substantially U shape and embracing the flange of one of the bars, the lower side of the bracket being reduced in its upper face at one end to engage beneath the flange of the adjacent cross-bar, the upper side of the bracket being projected longitudinally beyond the reduced side to overlap the upper side of the flange of said cross-bar, and fastenings to hold the brackets in place.



2. In a leer the combination with a tunnel; of T-shaped cross-bars extending across the tunnel, inverted-T-shaped longitudinal bars supported upon the cross-bars, substantially U-shaped brackets connecting the bars at their points of crossing, each bracket being of substantially U shape and embracing the flange of one of the bars, the lower side of the bracket being reduced in its upper face at one end to engage beneath the flange of the adjacent cross-bar, the upper side of the bracket being projected longitudinally beyond the reduced side to overlap the upper side of the flange of said cross-bar, fastenings to hold the brackets in place, antifriction-rollers journaled in the sides of the longitudinal bars with their peripheries projecting above the tops thereof, and a series of endless conveyer-belts traveling over the rollers.

843,265. SCREW-GAGE AND THE LIKE. FRIEDRICH B. FISCHER, Dresden, Germany. Filed Oct. 16, 1903. Serial No. 177,318.



Claim.—1. A screw-testing device having two parallel bars with testing-jaws at one end, one of which jaws has a series of teeth on its inner face corresponding in form to the spaces between the thread of the screw and extending at an angle corresponding to the pitch of said thread.

2. A screw-testing device having two substantially parallel flat bars with testing-jaws formed by their proximate faces at opposite ends and spacers rigidly connecting said bars intermediate the testing-jaws.

3. A screw-testing device having two substantially parallel bars with testing-jaws formed by their proximate faces at opposite ends, one of said bars being reduced in thickness intermediate the ends whereby it is rendered flexible to permit of a reduction in width of one gage-opening between the bars and spaces connecting the bars intermediate the ends and outside of said flexible portion.

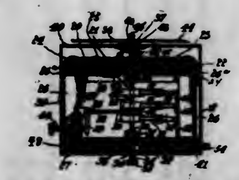
4. A screw-thread-testing device embodying two sub-

stantially parallel bars, spacers between said bars and beyond which the ends of the bars project in parallelism to form two gage-openings, one of said ends having a series of teeth on its inner face.

5. A screw-thread-testing device embodying two substantially parallel bars, spacers between said bars and beyond which the ends of the bars project in parallelism to form two gage-openings, one of said ends having a series of short teeth on its inner face remote from the spacer whereby a screw may be passed through said teeth and withdrawn endwise from between the bars.

6. A screw-testing device embodying substantially parallel bars, spacers between said bars and beyond which the ends of the bars project to form gage-jaws and a detachable jaw secured to one of said bars and having teeth on its inwardly-facing portion; substantially as described.

843,266. SYNCHRONIZER. WILLIAM H. FREEDMAN, Burlington, Vt. Filed June 13, 1903. Serial No. 161,279.



Claim.—1. A synchronizer comprising a magnetic ring wound to produce a rotating field, a magnetic bar mounted in the plane of and concentrically with said ring and having also magnetic windings, and means for connecting said ring and bar respectively to the two currents to be synchronized.

2. A synchronizer comprising a magnetic ring having windings adapted to produce a rotating field and mounted in a horizontal plane, a revoluble magnetic member having magnetic windings and mounted to turn coaxially with said ring on a vertical spindle, and means for connecting the windings of said ring and member respectively with the currents to be synchronized, said means comprising in the case of the revoluble member annular mercury-cups into which the terminals of the windings of said member continuously dip thus permitting free rotation of said member.

3. A synchronizer comprising a base, an iron ring-core mounted thereon, a polyphase winding on said core, a concentrically-mounted rotatable shaft, a magnetic core concentrically mounted on said shaft and coacting with said ring, a winding covering said magnetic core, a collar on said shaft and through which said shaft is slidable, a bearing for said collar, means for electrically connecting the winding on said magnetic core in pressure relation with a current to be synchronized, and a brake acting on said shaft and operated from the side of the instrument.

4. A synchronizer comprising a stationary magnetic member having windings adapted to produce a varying field, a revoluble magnetic member also having windings and mounted in a horizontal plane, the windings of one of said members being adapted to produce a rotating field, a spindle on which said second member turns, and an adjustable step for said spindle enabling the raising or lowering of said second member with respect to the first.

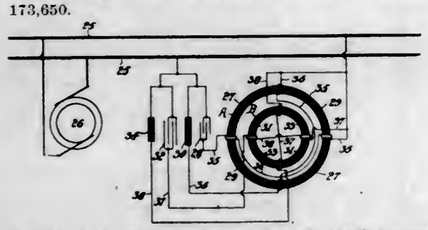
5. A synchroniser comprising a stationary magnetic member having windings adapted to produce a varying field, a revoluble magnetic member also having windings and mounted in a horizontal plane, the windings of one of said members being adapted to produce a rotating field, a spindle on which said second member turns, and a lever-brake acting from beneath said second member and tending to raise the same from its bearing.

6. A synchronizer comprising a stationary magnetic member having windings adapted to produce a varying field, a revoluble magnetic member also having windings and mounted in a horizontal plane, the windings of one of said members being adapted to produce a rotating field, a spindle on which said second member turns, a brake-disk revolving with said second member, a lever-brake under said disk, and means for pressing said brake against said disk.

7. A synchronizer comprising a stationary magnetic member having windings adapted to produce a varying field, a revoluble magnetic member also having windings and mounted in a horizontal plane, the windings of one of said members being adapted to produce a rotating field, a spindle on which said second member turns, a brake-disk revolving with said second member, a lever-brake under said disk, and a laterally-projecting screw acting on said brake to press it against said disk.

8. A combination synchronizer and lag-indicator, comprising a stationary annular electromagnetic member having a winding of electric conductors, an alternating circuit connected in pressure relation to said member, a second electromagnetic member concentrically mounted to rotate adjacent to the first, a generator-circuit, pressure-wires connecting the poles of said generator-circuit with said second electromagnetic member, a pointer carried by said second member and rotating therewith, a scale mounted adjacent to said pointer and having the angle of lead and lag marked thereon, and means for changing the connection of said stationary member, whereby it is connected in current relation to said generator.

843,267. FREQUENCY-METER. WILLIAM H. FREEDMAN, Burlington, Vt. Filed Sept. 18, 1903. Serial No. 173,650.



Claim.—1. A frequency-meter for alternating-current circuits comprising a fixed and a movable element, which carry rotating magnetic fields which interact on each other, both elements having energizing-coils, and means for connecting the circuits of said coils in parallel to the terminals of the circuit to be measured, the constants of said circuits differing from one another.

2. A frequency-meter for alternating-current circuits comprising a fixed and a movable element, each having coils wound to produce a rotating magnetic field, which fields interact on one another to cause the movable element to assume a position depending on the relative phase displacement of the two fields, both elements having energizing-coils, means for connecting the circuits of the respective coils in parallel to the circuit to be measured and across the poles thereof, and a capacity inserted in one of said circuits whereby a relative phase displacement of said circuits is produced.

3. A frequency-meter for alternating-current circuits comprising a fixed and a movable element, each having coils wound to produce a rotating magnetic field, which fields interact on one another to cause the movable element to assume a position depending on the relative phase displacement of the two fields, both elements having energizing-coils, means for connecting the circuits of the respective coils in parallel to the circuit to be measured and across the poles thereof, and an inductance inserted in one of said circuits whereby a relative phase displacement of said circuits is produced.

4. A frequency-meter for alternating-current circuits comprising a fixed and a movable element, each having coils wound to produce a rotating magnetic field, which fields interact on one another to cause the movable element to assume a position depending on the relative phase displacement of the two fields, both elements having energizing-coils, means for connecting the circuits of the respective coils in parallel to the circuit to be measured and across the poles thereof, and a capacity inserted in one of said circuits, and an inductance in the other of said circuits whereby a relative phase displacement of said circuits is produced.

5. A frequency-meter for alternating-current circuits comprising a fixed element and a movable element, means for producing a rotating magnetic field in each of said elements having the frequency of the circuit to be measured, whereby said movable element is caused to be moved until the two fields coincide in angular position, means for causing a relative phase displacement of the two fields depending in magnitude upon the frequency, and means for measuring the angle of movement of said movable element.

6. A frequency-meter for alternating-current circuits comprising a fixed element and a movable element, means for producing a rotating magnetic field in each of said elements having the frequency of the circuit to be measured, whereby said movable element is caused to be moved until the two fields coincide in angular position, means for causing different phase displacements, each a function of the frequency, in the two coils and thus causing an angular movement of said movable coil equal to the difference between said phase displacements and also a function of the frequency, and means for measuring said angular movement.

7. An electric meter having a scale graduated approximately according to the formula

$$\psi = \tan.^{-1}\frac{a\,n}{bn^2+1},$$

where n represents the frequency, and hence graduated in opposite directions above and below a predetermined magnitude ψ, respectively.

8. An electric meter having a scale graduated approximately according to the formula

$$\psi = \tan.^{-1}a\,n,$$

where n represents the frequency, and hence having a scale whose graduations are so spaced as to give an approximately uniform range of accuracy.

9. A frequency-meter for alternating-current circuits comprising a fixed element and a movable element, means for producing a rotating magnetic field in one of said elements having the frequency of the circuit to be measured, means for producing a varying magnetic field of the same frequency interacting with the first in the other element, whereby said movable element is caused to be moved until the two fields coincide in angular position, means for causing a phase displacement

$$\Theta_1 = \tan.^{-1}\frac{1}{an}$$

in one of said magnetic fields, means for causing a phase displacement

$$\Theta_2 = \tan.^{-1}\frac{1}{bn}$$

in the other magnetic field, whereby said movable element is caused to move through an angle

$$\psi = \tan.^{-1}\frac{1}{bn} - \tan.^{-1}\frac{1}{an},$$

and means for measuring said angle ψ.

10. A frequency-meter for alternating-current circuits comprising a fixed element and a movable element, means for producing a rotating magnetic field in one of said elements having the frequency of the circuit to be measured, means for producing a varying magnetic field of the same frequency interacting with the first in the other element, whereby said movable element is caused to be moved until the two fields coincide in angular position, means for causing a phase-lead

$$\Theta = \tan.^{-1}\frac{1}{an}$$

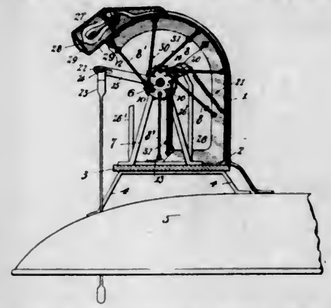
in one of said magnetic fields whereby said movable coil is given a proportional angular movement, and means for measuring said angular movement.

11. A frequency-meter for alternating-current circuits comprising a fixed element and a movable element, means for producing a rotating magnetic field in each element having the frequency of the circuit to be measured and means for causing a relative phase displacement of said fields whose magnitude is a function of the frequency.

12. A frequency-meter for alternating-current circuits comprising a fixed element and a movable element, means for producing a rotating magnetic field in each element having the frequency of the circuit to be measured, means for causing a relative phase displacement of said fields whose magnitude is a function of the frequency, whereby said movable element is caused to rotate through the same angle, and means for measuring the angle of rotation of said movable element.

13. A frequency-meter comprising a fixed ring having magnetizing-coils wound to produce a rotating field, a movable element within said ring rotatable about a central axis and also having magnetizing-coils, the circuit constants depending on capacity and inductance having different values for the two coils, said coils being connected in parallel to the terminals of the instrument, a stationary scale graduated in frequencies, a pointer mounted on said movable element and coöperating with said scale, and a manually-operated brake adapted to check the movement of said movable element.

843,268. CHANGEABLE SIGN OR INDICATOR. FRANK L. FULLER and CHARLES S. BANGHART, New York, N. Y. Filed Nov. 27, 1905. Serial No. 289,204.



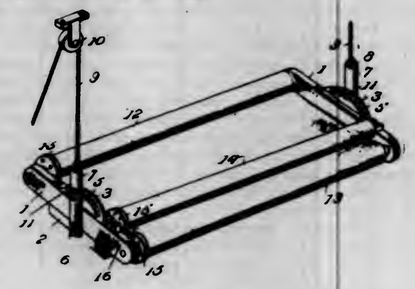
Claim.—1. In a changeable sign, a sign-carrier having a plurality of sign elements suspended therefrom, a ratchet-wheel having a number of teeth which is a multiple of the number of sign elements, a pawl-carrying arm movable over said teeth, adjustable stops whereby the throw of said arm is controlled, a link depending from said arm for moving the same, a housing having springs for engaging the sign elements and holding them in exposed relation, alternate elements having yielding stops upon their surfaces so as to prevent injurious wear and friction thereof.

2. A changeable sign, comprising a shaft having a pair of perforated collars thereon, sign elements having rods passed through the perforations of said collars and having packing strips or buffers upon alternate elements, a ratchet-wheel keyed to said shaft, an arm concentrically movable with respect to said shaft and having a pawl thereon, means for swinging said arm to rotate the ratchet-wheel and successively present new sign elements in sign-exposing relation, means for adjusting the throw of said arm, and means for preventing swinging movement of the sign elements in sign-exposing relation.

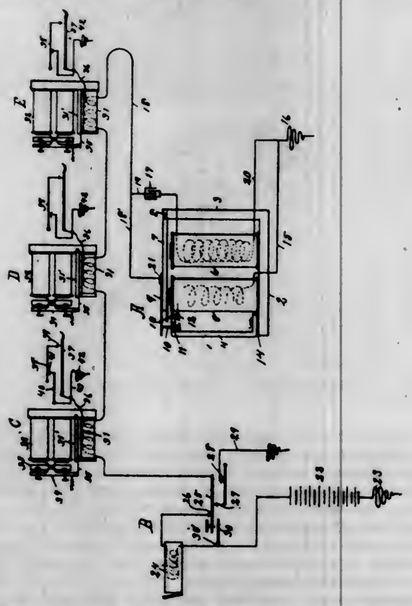
843,269. QUILTING-FRAME. WISTER F. GAINES, Cross Cut, Tex. Filed Mar. 15, 1906. Serial No. 306,297.

Claim.—In combination, a quilting-frame embodying end bars and quilting-rollers mounted between said end bars, hanger-bars pivotally connected to the frame at the ends thereof on a median line, means for suspending said bars, and means for connecting said bars to the frame at differ-

ent points to one side or the other of said median line, as and for the purpose set forth.



843,270. CIRCUIT-CATCHING DEVICE AND ELECTRICAL SYSTEM FOR USE IN CONJUNCTION WITH THE SAME. ALBERT H. GRAVES, Chicago, Ill. Filed May 8, 1903. Serial No. 156,178.



Claim.—1. A circuit-catching mechanism, comprising an electric circuit and source of current-supply, a condenser interposed in said circuit, a magnet, having an automatically-returning armature, and arranged in circuit with the condenser, said magnet being provided with a main winding of high resistance, and a retaining-winding of a resistance substantially as low as is consistent with retaining the armature reliably in closed position, and a shunt leading around said condenser, including said retaining-winding, and controlled by said armature.

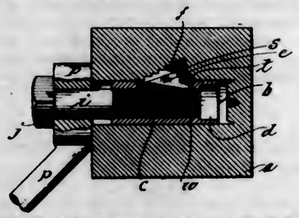
2. A circuit-catching mechanism, comprising an electric circuit and source of current-supply, a condenser interposed in said circuit, a magnet, having an automatically-returning armature, and arranged in circuit with the condenser, said magnet comprising two spools, of which one is provided with a main winding of high resistance and the other with a retaining-winding of a resistance substantially as low as is consistent with holding the armature reliably in closed position after closing, and a shunt leading around said condenser, including said retaining-winding and controlled by said armature, said armature being arranged to extend in operative relation to the cores of both members of said magnet.

3. A circuit-catching mechanism, comprising an electric circuit and source of current-supply, a condenser interposed therein, a retaining-magnet in circuit with the condenser and having an automatically-returning armature, said magnet being provided with two coils, and self-maintaining circuit connections controlled by said armature and comprising a normally open shunt leading from the main line around the condenser and through a part only of the coils of the retaining-magnet and normally open at a contact controlled by said armature.

4. In a telephone system, the combination of an electric circuit, a source of current-supply connected with said circuit, a condenser and a circuit-catcher magnet interposed in said circuit, a resistance and key-controlled circuit connections whereby said resistance may be interposed between the source of current-supply and the condenser and cut out of the circuit at will, an armature operable by said circuit-catcher magnet, and self-maintaining circuit connections controlled by said armature and including a branch conductor leading around the condenser, as and for the purpose set forth.

5. In a telephone system, the combination of a line conductor extending from an operator's station to a remote station and grounding connections at each station, a battery interposed in said line, a signaling device interposed in the line at the operator's station, a key arranged to open the circuit as to the said signaling device and as to the battery, and arranged to close the circuit to ground at the operator's station, a condenser interposed in the circuit, and a circuit-catcher magnet likewise interposed in the circuit in series with the condenser and at a point beyond said remote station, an armature controlled by said circuit-catcher magnet, self-maintaining shunt-circuit connections controlled by said armature and including a branch conductor leading from the main line around the condenser and to ground, said shunt-circuit connections forming when closed a circuit of substantially as low resistance as is consistent with maintaining the magnet energized and circuit closed and means for grounding said line conductor at said remote station.

843,271. EXPANSION-NUT. JOHN S. HANLON, Chicopee, Mass. Filed Nov. 8, 1905. Serial No. 286,416.



Claim.—1. In an expansion-nut, a barrel internally threaded for a greater part of its length and having a slot with inclined walls intersecting the threaded portion of the barrel midway of its length and in one side of the barrel, a triangular-shaped key having teeth on the outer surface thereof and removably inserted in said slot and engaging the inclined walls, a threaded longitudinally-movable bolt for engaging said key and said internally-threaded barrel, the inner end of the bolt forcing the key outward and retaining the same in its outward position.

2. In an expansion-nut, a barrel, a longitudinally-threaded aperture therein, a slot midway of the length of the barrel and having an inclined wall, a triangular-shaped key loosely mounted in said slot and engaging said inclined wall, a threaded bolt for moving said key outward.

3. In an expansion-nut, a barrel having an internally-threaded opening therethrough, a longitudinal slot having two inclined walls and facing each other in opposite directions, said slot opening into said threaded opening, a key substantially of a wedge shape located in said slot, one angle or apex of said key engaging one inclined wall of said slot, and another angle or apex of said key engaging the other inclined wall of said slot when in normal position whereby the key is prevented from dropping into the barrel, and whereby the rear wall serves to lock the key to the barrel, when extended.

4. In an expansion-nut, a barrel, a threaded aperture therethrough for a greater portion of its length, a slot intersecting the threaded aperture and having two inclined walls, a triangular wedge located in said slot and extending into the threaded aperture, two sides of the wedge engaging said inclined walls and one edge of said wedge having teeth oppositely located from the threaded part of the barrel, and teeth on the opposite side of said barrel, the teeth on said wedge and said barrel pointing in the same direction, and means engaging the threaded aperture for forcing said wedge outwardly.

843,272. SAFE. WILL C. HATTERSLEY, Norwood, Ohio, assignor to Victor Safe & Lock Co., Cincinnati, Ohio, a Corporation of Ohio. Filed Nov. 2, 1906. Serial No. 341,697.



Claim.—1. A door for a screw-door safe provided on its under side with a recess, a screw-ring having on its side a laterally-projecting neck adapted to occupy this recess, spaced lugs projecting from this neck, lugs projecting into the recess on the door, and arranged complementary to the spaces between the lugs on the neck, so that these lugs may also enter the recess mentioned, and thereafter engage the lugs within the recess by being passed under the same, and means to hold these lugs in such engagement.

2. A door for a screw-door safe provided on its inner side with a recess, a screw-ring having on its side a laterally-projecting neck adapted to occupy this recess, complementary spaced lugs on the neck of the screw-ring and within the recess of the door which lugs are adapted to engage each other, and a filling of metal applied in molten state to fill all spaces between the door and the part of the screw-ring occupying the recess therein and between the engaged lugs to hold these latter in position.

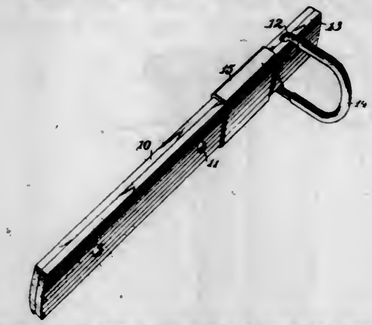
3. A door for a screw-door safe provided on its inner side with a recess, a screw-ring having on its side a laterally-projecting neck adapted to occupy this recess, complementary spaced lugs on the neck of the screw-ring and within the recess of the door which lugs are adapted to engage each other, a filling of metal applied in molten state to fill all spaces between the door and the part of the screw-ring occupying the recess therein and between the engaged lugs to hold these latter in position, and bolts seated in the screw-ring and the door-body to prevent disengagement of the interlocked lugs.

843,273. DENTAL BUR AND EXCAVATOR. WILLY HOMANN, Düsseldorf, Germany. Filed Mar. 29, 1905. Serial No. 252,621.



Claim.—A dentist-bur, comprising a spherical head provided with a reduced shank or neck portion, the curve between the head and the shank or neck portion being gradual, said head and shank or neck portion being provided with longitudinally and spirally arranged cutting-ribs having serrations or teeth except at the outer end of the head portion, substantially as shown and described.

843,274. WRENCH. HARRISON W. HUGHES, South Orange, N. J. Filed May 7, 1906. Serial No. 315,510.



Claim.—1. A wrench comprising a broad flat shank having a handle portion on one end, and a member pivoted near the other end of the shank and arranged to swing against the broad side of the shank, the swinging member being of a cross-sectional shape to present a rounded surface to a projection of an element to be turned, the swinging member being also U-shaped.

2. A wrench comprising a flat straight shank having a handle portion on one end, and a member pivoted in the shank and arranged to swing against the flat side of the shank, the swinging member being adapted to engage a projection on an element to be turned, a cushion on the swinging member, the shank being adapted to bear against the element to be turned and furnish a fulcrum, and a cushion on the shank where it engages the element to be turned.

3. A wrench comprising a shank, having a recess in its opposed edges near one end, and a swinging member being sprung into the recesses to pivot the swinging member, the swinging member forming a means for grasping a projection on an element to be turned, the shank forming a fulcrum on either side of the swinging member.

4. A wrench comprising a pair of plates to form a shank, the plates having their opposed faces recessed near one end, and a swinging member bent to form a substantially U-shaped structure and having its ends bent to enter the recesses in the plates, and means for securing the plates together.

5. A faucet-wrench comprising a flat shank having a handle portion on one end, and a swinging member pivoted near the other end of the shank, the swinging member being adapted to go over the outlet-pipe or the handle of a faucet, and the shank providing a bearing-surface on either side of the swinging member to engage the body portion of a faucet and act as a fulcrum.

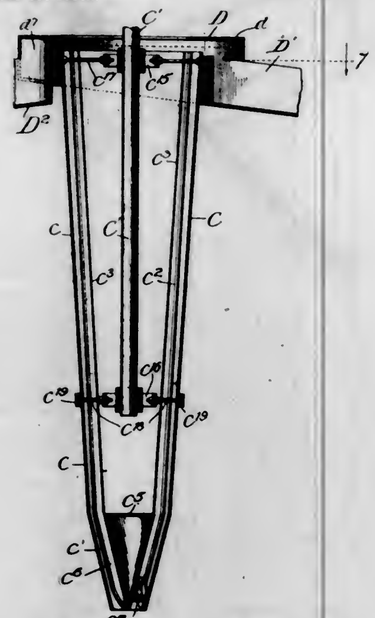
843,275. WATER-ELEVATING MACHINE. STEPHEN A. HUNTLEY, Casper, Wyo. Filed Apr. 24, 1905. Serial No. 257,158.

Claim.—1. A pump of the character set forth, comprising a rotating shell having an upwardly-flaring inner surface equipped with a longitudinal rib serving to induce the water to rotate with the shell, and an inclined blade at the lower end of the shell and rotating therewith, upon which the water may rise to come within the rotating influence of the longitudinal rib, thereby to acquire centrifugal force, for the purpose set forth.

2. A pump of the character set forth, comprising a rotating upwardly-flaring shell equipped with internal ribs extending from near its lower end to near its upper end, and equipped, also, at its lower end with an internal central body rotating with the shell and serving to confine the water between itself and the shell, whereby such water

as enters the shell will be caused to acquire centrifugal force, for the purpose set forth.

3. In a pump of the character set forth, the combination of an upwardly-flaring rotating shell equipped internally with longitudinal ribs, an internal body located in the lower end of the shell, and inclined blades between said body and the adjacent portion of the shell, for the purpose set forth.



4. In a pump of the character set forth, the combination of a suitable frame, an annular trough supported thereon and provided with a discharge-passage, a shaft extending through said annular trough, an adjustable hanger supporting said shaft, means connected with the chaft above said trough for rotating said shaft, a shell suspended from and fixed to rotate with said shaft, and lateral bearings for the shell above the lower end thereof, for the purpose set forth.

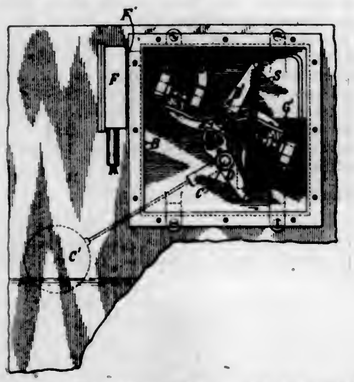
5. In a pump of the character set forth, the combination of a shaft, shaft-supporting means connected with the upper portion thereof, shaft-rotating means connected with the upper end of the shaft, an upwardly-flaring shell into which the lower end of the shaft projects, adjustable connecting means between the shaft and shell for centering the shaft with relation to the shell, and an annular trough encircling the upper end of the shell, for the purpose set forth.

6. In a water-elevating machine, the combination of a well having an internal shoulder, a frame supported on said shoulder and equipped with inwardly-presented rollers, a frame supported above said well and equipped with an annular trough, a shaft extending through said trough and journaled in and supported on said second-named frame, shaft-rotating means connected with the shaft above said trough and a shell suspended from said shaft to rotate therewith and engaged circumferentially by said rollers, for the purpose set forth.

843,276. AUTOMATIC ELECTRIC SWITCH. WILLIAM F. IRISH, East Orange, N. J. Filed July 16, 1904. Serial No. 216,791.

Claim.—1. An automatic switch comprising two levers mounted upon adjacent centers and having a loose engagement with each other, a spring joining the remote ends of the levers, switch-contacts controlled by one of the said levers and operating devices connected to the other lever.

2. The combination with a switch-lever E, of an operating-lever D, an intermediate lever D', a spring S connecting the remote ends of levers D and D' and operating the levers over a dead-center, and a float or other operating device connected to the lever D.



3. In an automatic switch, the combination with an operating-lever and an intermediate lever having their adjacent ends in engagement by means of a pin in one lever engaging a triangular opening in the other, of a spring connecting the two ends of the said levers, a switch-arm having a lost-motion connection with the said intermediate lever and a float or other operating device connected to the operating-lever.

4. In an automatic switch, the combination with the levers D and D' having their adjacent ends engaging by means of a pin in one lever engaging a triangular end in the other lever, of a spring S connecting the remote ends of the said levers and operating the lever D' upon either side of a dead-center, lugs *d* on the hub of the lever D', a switch-lever E having on its hub similar lugs *e* engaging with lugs *e'*, electrical contacts controlled by the said switch-lever and a float or other operating means connected with the lever D.

5. An automatic connection-switch provided with an inclosing case having a projecting sleeve adapted to traverse the wall of the tank, an operating-shaft passing through the said sleeve and provided on one end with means for attaching a float thereto, electrical switch-contacts, an actuating-spring for said contacts, and a connection between the said spring and the said operating-shaft for throwing the spring to one side or the other of a dead-center.

6. An automatic connection-switch provided with an inclosing box B having on its rear side a projecting sleeve B', an operating-shaft C passing through the said sleeve and adapted to receive a float at its inner end, a lever mounted on the opposite end of the said shaft, an actuating-spring C for the switch-contacts attached to said lever, together with the said contacts and electrical connections therefrom.

843,277. METHOD OF TREATING LIME. MONE R. ISAACS, Philadelphia, Pa. Filed Apr. 25, 1906. Renewed Jan. 16, 1907. Serial No. 352,520.

Claim.—1. The herein-described method of treating lime, which consists in combining the same with a fluorid.

2. The herein-described method of treating lime, which consists in combining the same with sodium fluorid.

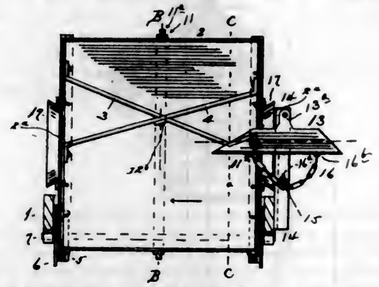
3. The herein-described method of treating lime, which consists in combining therewith from about two to thirty per cent. of a fluorid.

4. A composition of matter consisting of lime, and a fluorid.

5. A composition of matter consisting of lime, and a sodium fluorid.

6. A composition of matter consisting of lime, and a fluorid, combined substantially in the proportion described.

843,278. CONCRETE-MIXER. ELMER E. JACKSON, Fremont, Ohio. Filed May 31, 1905. Serial No. 263,023.



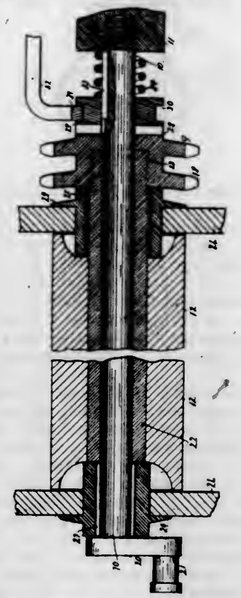
Claim.—1. In a rotary concrete-mixer, a rotary drum provided with a series of pairs of blades, each pair comprising an inner and outer blade, which are so set with reference to an axial plane of said drum, that the two blades cross each other at a point about midway of the length of said drum, and at sufficient angle so that as said drum is rotated, the contents thereof will be moved along the blades alternately from one end of said drum toward the other, according to the direction of the incline; and said outer blade being widened from one end thereof to said point of crossing, and deflected at a point therebetween, near the discharge end of said drum, both for discharging purposes, said blades being so set, and the outer blade being so deflected that a cross-section of said outer blade through said point and along the line of deflection, will follow a radial line from the axis of said drum, and a cross-section of said inner blade upon the plane of said radial line will be substantially parallel thereto, in combination with means for the operation of said drum.

2. In a rotary concrete-mixer a rotary drum in combination with a series of pairs of outer and inner blades, 3 and 4, said blades extending from end to end of said drum, and so placed that they have a reverse incline with reference to an axial plane thereof, said inclines being such that as said drum is rotated, the contents thereof is moved alternately in opposite directions, said outer blade being widened and deflected near the discharge end of said drum, both for discharging purposes, and being so set and being so deflected that a cross-section thereof through said point and along the line of deflection, will follow a radial line from the axis of said drum, and said inner blade being so set that as said contents is raised by said outer blade a portion thereof falls thereon and is carried in the reverse direction.

3. In a rotary concrete-mixer, a hollow cylindrical drum with drumheads partially closed, and a series of pairs of blades fixed therein which extend from end to end thereof, one of which is denominated an outer blade, and the other an inner blade, said blades being such and so placed that as said drum is made to operate, and the blades of any given pair are successively brought into operative position, the contents of said drum will be moved alternately in opposite directions, said outer blade being widened for part of its length from the discharging end of said drum, and deflected at a point near said end, both for discharging purposes, in combination with means for the operation of said drum.

4. In a drum of a rotary concrete-mixer, one of a pair of blades denominated the outer blade, said blade being widened for a portion of its length from one end thereof, and deflected at a point within said widened portion near said end both for discharging purposes, in combination with a companion blade denominated an inner blade which crosses the same and is secured thereto, both said blades adapted to be secured to said drum, and to have their respective inclines with reference to the axial plane of such drum such, that as the drum is rotated, a part of any contents thereof will be moved toward one end of said drum, while another part thereof will be moved in the opposite direction—and further so adapted that when set within such drum, a radial line from the axis thereof will pass over said point of deflection and transversely through said blade.

843,279. HEADER. WINFRED JACOBS, Dodge City, Kans. Filed Apr. 2, 1906. Serial No. 309,319.



Claim.—1. In a header of the kind described, the combination of a sickle and a sickle-operating shaft 10, power-transmission mechanism 11 therefor, carriers, power-transmission mechanism between the shaft and the carriers including a clutch under the operator's control for connecting said carriers with and disconnecting them from said shaft at will.

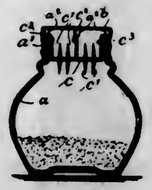
2. In a header of the kind described, the combination of a sickle and a sickle-operating shaft, power-transmission mechanism 11 therefor, a platform-carrier, elevator-carriers, a sleeve loosely mounted on the shaft, sprockets secured to the sleeve for operating the carriers, a clutch between said sleeve and said shaft comprising the two members 28 and 29, one member being secured to the sleeve and the other member being secured to the shaft but movable lengthwise thereon, a compression-spring for normally holding the clutch members engaged, and a means for disengaging them.

3. In a header, the combination of a sickle and a sickle-operating shaft and power devices therefor, a sleeve loosely mounted thereon, a roller fixedly mounted on the sleeve, a bearing at the sickle end for the shaft and a bearing at the other end for the sleeve, a sprocket secured to the sleeve for driving the carriers, a clutch between said shaft and said sleeve or sprocket comprising the two members 28 and 29, the member 28 being made integral with said sprocket and the member 29 being keyed to the shaft but movable lengthwise thereon, a compression-spring for holding the clutch members engaged, an operating-rod for shifting the clutch member 29, a platform-carrier and elevator-carriers, substantially as set forth.

843,280. SALT-SHAKER. OTTO KAMPFE, New York, N. Y. Filed Oct. 7, 1905. Serial No. 281,729.

Claim.—1. A salt-receptacle having one end thereof perforated, a pulverizing device loosely mounted in said re-

ceptacle near said perforated end and adapted to produce a chamber near said end substantially separate from the body of the receptacle holding the salt and means on said receptacle for supporting said pulverizing device and for guiding the same to give said device a slight axial movement with respect to said receptacle when the same is shaken.



2. A salt-receptacle having one end thereof perforated, a pulverizing device loosely mounted in said receptacle near said perforated end and adapted to produce a chamber near said end substantially separate from the body of the receptacle holding the salt, means on said receptacle for supporting the pulverizing device and devices forming part of the pulverizing device and extending out from the periphery thereof within said chamber for guiding said pulverizing device during a slight axial movement imparted thereto with respect to the receptacle when the same is shaken.

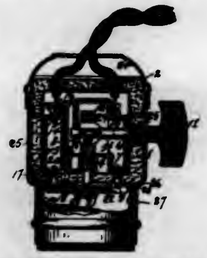
3. The combination with the body and neck of a salt receptacle or shaker and a removable cap therefor, of a device adapted to fit and temporarily remain within the neck of the shaker and produce therein a chamber substantially separate from the body of the receptacle holding the salt, and said device being loosely held at portions thereof between the cap and portions of the neck of the receptacle whereby a slight reciprocatory movement is given to said device when the receptacle is shaken.

4. The combination with the body and neck of a salt receptacle or shaker and a removable cover therefor, the neck being provided with notches of appreciable depth at intervals in the upper edge, of a device adapted to fit and temporarily remain within the neck of the shaker and produce therein a chamber substantially separate from the body of the receptacle holding the salt, and guide-arms forming part of said movable device whose diameter is slightly less than that of the neck of the receptacle, with overturned ends to the arms received in but of relatively less diameter than the depth of the notches said notches serving as a means of support normally for said movable device whereby an axial movement may be given to said device by the shaking of the structure as held in the hand.

5. The combination with the body and neck of a salt receptacle or shaker, the neck having notches in the rim, and a removable perforated cap for the receptacle, of a foraminous plate adapted to be received and temporarily remain in the neck of the salt-shaker, devices engaging said notches for supporting said foraminous plate loosely in position so that there is formed a chamber in the neck separate from the chamber holding the salt, whereby the salt shaken is obliged to pass through the foraminous plate and through the chamber in the neck before reaching the perforated cap and simultaneous therewith a movement is given to the said movable device axially of the salt-shaker.

6. The combination with the body and neck of a salt receptacle or shaker, the neck having notches in the rim and a removable perforated cap for the receptacle, of a foraminous plate adapted to be received in the neck of the salt-shaker and having pointed projections extending out therefrom and at right angles to the plane thereof and guide-arms whose extreme diameter across the plate is slightly less than the inner diameter of the neck with the upper ends of said arms overturned and received in the notches of the neck and thereby supported, said notches providing for a predetermined and limited movement of the said foraminous plate and its projections axially of the salt-shaker and simultaneous with the removal of the salt.

843,281. LAMP-SOCKET FOR INCANDESCENT LAMPS. CHARLES M. KEIER and EDWIN W. KEIER, Toledo, Ohio. Filed July 11, 1904. Serial No. 216,087.



Claim.—1. In a device of the described character, a pair of porcelain blocks oppositely recessed to form a chamber, a pair of coiled springs in said chamber, a contact-plate supporting said springs, a pair of contact-pieces adapted to contact with said plate, an external key extending into said chamber, and means upon said key for actuating said plate.

2. In a device of the described character, a chambered body, a pair of coiled springs in the chamber, a plate supporting said springs, a pair of electric terminals in said chamber, and means for actuating said plate, the arrangement being such that the plate may be manually forced into contact with the terminals and forced out of contact by means of the springs.

3. In a device of the described character, a chambered body, a metal strip having at one end a return-bend forming a contact-point, having also at its other end a return-bend provided with a hole in alinement with another hole in the strip, a key journaled in said two holes, a binding-screw engaged with said metal strip, and means for securing said metal strip in the chamber of said body.

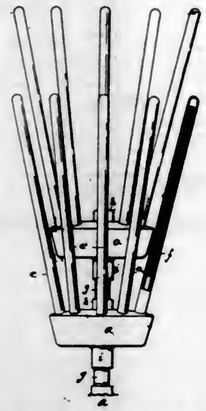
4. In a device of the described character, a block of insulating material, said block having a chamber which chamber has recesses forming pockets in its sides, a coiled spring in each of said recesses, a make-and-break plate held normally open by said springs, and means for manually moving said plate into closed position.

5. A device of the described character comprising a two-part porcelain block having in the interior thereof an inclosed chamber, one of said parts having through one of its walls two holes for the inleading and outleading conductors, two binding-screws in said chamber, two terminals adapted for engagement with corresponding lamp-terminals and leading into said chamber, connections in said chamber between said terminals and said binding-screws, a make-and-break device in said connections, and a key which controls said make-and-break device, combined with a two-part shell adapted to receive and to hold said two block parts in assembled relation, and means for detachably securing said shell parts together.

843,282. SYSTEM OF PIPING FOR CIRCULATING SYSTEMS. JOHN C. KITTON, Detroit, Mich. Filed Nov. 27, 1905. Serial No. 289,262.

Claim.—1. A system of piping for a circulating system embodying a plurality of sections arranged in substantially vertical alinement, each section comprising a header constructed with a receiving-chamber and with a discharge-chamber, a series of upwardly-diverging exterior pipes each opening into one of said chambers and having a closed outer end, and a series of interior pipes projecting within the exterior pipes, each opening into the other of said chambers at its lower end and into the corresponding exterior pipe at its upper end, the discharge-chamber of one header communicating with the receiving-chamber of the adjacent header.

2. A system of piping for a circulating system embodying a plurality of sections arranged in substantially vertical alinement, each section comprising a header constructed with a receiving-chamber and with a discharge-chamber, a series of upwardly-diverging exterior pipes each opening into one of said chambers, and a series of interior pipes projecting within the exterior pipes each opening into the other of said chambers at its lower end and into the corresponding exterior pipe at its upper end, the discharge-chamber of one header communicating with the receiving-chamber of the adjacent header, the two corresponding exterior and interior pipes arranged to form a restricted passage-way therebetween whereby the flow will be retarded and directed into each of the receiving-chambers and over into the interior pipes and therethrough into the discharge-chamber.



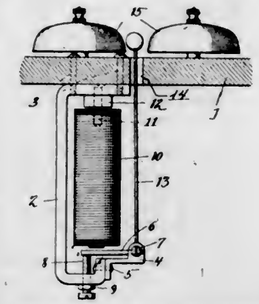
3. A system of piping for a circulating system embodying a plurality of sections arranged in series one below another, each section comprising a header constructed with a receiving and a discharge chamber, a series of exterior pipes each opening into one of said chambers, and a series of interior pipes projecting within the exterior pipes each opening into the other of said chambers at its lower end and into the corresponding exterior pipe at its upper end, the discharge-chamber of one header communicating with the receiving-chamber of the adjacent header throughout the series of sections, the two corresponding exterior and interior pipes arranged to form a restricted passage-way therebetween, whereby the flow will be retarded and directed into each of the receiving-chambers one after another and thence through the corresponding restricted passage-way into the corresponding discharge-chamber.

4. A system of piping for the passage of gases or liquids embodying a plurality of sections arranged in vertical series, each section comprising a header having a series of exterior pipes and a series of interior pipes, the interior pipes arranged to permit the gas or liquid passing in one direction between the interior and the exterior pipes and back in the opposite direction through the interior pipe, the pipes of one section arranged to partially surround the header and pipes of the next section above, and the headers communicating one with another.

5. A system of piping for the passage of gases or liquids, embodying a plurality of sections arranged one above the other, each section comprising a header having two compartments, a series of exterior pipes communicating with one of said compartments and having closed outer ends, and a series of interior pipes each opening into the corresponding exterior pipe and into the other compartment of the header whereby the gas or liquid may pass in one direction through one of said pipes and back in a reverse direction through the other of said pipes, the headers communicating one with another, and the pipes of one section arranged to partially surround the header and pipes of the section above.

6. A system of piping for a circulating system embodying a plurality of sections each formed with a receiving-chamber and with a discharge-chamber, and with a plurality of radiating pipes establishing communication between said receiving-chamber and said discharge-chamber, the discharge-chamber of the first section communicating with the receiving-chamber of the next succeeding section, whereby the flow is directed into each of the receiving-chambers one after the other and thence through the corresponding radiating pipes into the corresponding discharge-chamber.

843,283. ELECTRIC SIGNAL. CHARLES L. KRUM, Chicago, Ill. Filed Jan. 10, 1903. Serial No. 138,578.



Claim.—1. An electric signal comprising a vibrating armature, a suitable support, a permanent field-magnet carried by said support and projecting therefrom, the end of said magnet farthermost from said support being extended laterally adjacent one side of said vibrating armature, an operating-electromagnet carried by said support and having one only of its poles arranged adjacent the opposite side of said vibrating armature, a sounder carried by said support and a tappet operated by said armature arranged to strike said sounder.

2. An electric signal comprising a horizontal support, a permanent field-magnet extending downwardly therefrom and having its lower end bent laterally and then upwardly, a horizontally-disposed vibrating armature arranged above and pivoted on a bracket secured to the lower upturned end of said permanent field-magnet, an operating-electromagnet carried by said support and extending downwardly therefrom and having one of its poles arranged adjacent and above said vibrating armature, an adjusting-screw against which said armature is normally held by said permanent field-magnet, a bell or sounder carried by said support and a tappet operated by said armature and arranged to strike said bell or sounder.

3. A biased electric signal comprising a pivoted vibrating armature, a permanent field-magnet and an operating-electromagnet, each of said magnets having one only of its poles arranged adjacent the free end of said vibrating armature, said poles being arranged opposite each other and on opposite sides of said armature, a sounder and a tappet operated by said armature and arranged to strike said sounder.

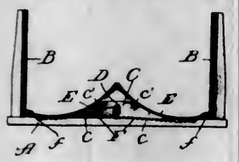
4. An electric signal comprising a support, a vibrating armature pivoted below said support, a permanent field-magnet and a single-spool electromagnet mounted on said support and extending downwardly therefrom with the lowermost poles arranged adjacent the free end of said vibrating armature, an adjustable stop against which said armature is normally held by said permanent field-magnet, a tappet connected to said vibrating armature and a bell or sounder carried by said support and arranged to be struck by said tappet.

5. An electric signal comprising a pivoted armature, an operating-electromagnet therefor, a permanent magnet having its poles arranged adjacent respectively the opposite poles of said electromagnet, each of said magnets having one only of its poles arranged adjacent and on opposite sides of said armature, a sounder and a tappet operated by said armature arranged to strike said sounder.

6. An electric signal comprising a pivoted vibrating armature, a signal spool electromagnet, a permanent field-magnet having its poles arranged adjacent the oppositely-disposed poles of said electromagnet and one pole of each

of said magnets being arranged adjacent the free end of and on opposite sides respectively of said vibrating armature, a stop against which said armature is normally held by said permanent magnet, a sounder and a tappet operated by said armature arranged to strike said sounder.

843,284. DUMPING-WAGON. HENRY F. LANGREDER, Chicago, Ill. Filed Nov. 1, 1906. Serial No. 341,567.



Claim.—1. The combination with the sides of a wagon-box, of two longitudinally-extending bottom plates curved in cross-section with their concave faces inward, and means for moving said plates to draw their outer edges from the sides of the box and to raise the edges thereof adjacent to the center of the structure.

2. The combination with the sides of a wagon-box, of two longitudinally-extending bottom plates hinged together along the medial line of the box, said plates being curved in cross-section and having their concave faces inward, and means for raising the adjacent edges of the plates and drawing the outer edges thereof away from the sides of the box.

3. The combination with the sides of a wagon-box, of two longitudinally-extending bottom plates curved in cross-section with their concave faces inward, the outer edges of said plates being substantially at the level of the bottom of the box and the inner edges of the plates being at a higher level than the bottom of the box, and means for moving said plates to draw the outer edges thereof away from the sides of the box and to raise their inner edges.

4. The combination with the walls of a wagon-box, of two longitudinally-extending bottom plates curved in cross-section with their concave faces inward, said plates being hinged together along the median line of the structure and having their outer portions adjacent to the lower level of the box and their adjacent edges at a higher level, and means for moving said plates to raise their adjacent edges and draw their outer edges inward.

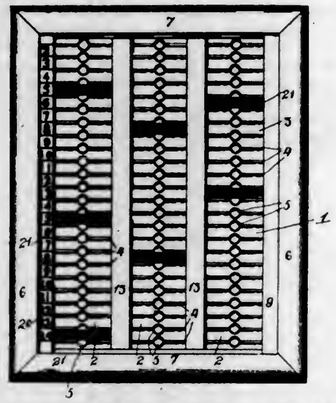
5. The combination with the sides of a wagon-box, of two longitudinally-extending bottom plates curved in cross-section with their concave faces inward, castings beneath the plates and conforming to the curves thereof to support the same, and means for raising the adjacent edges of the plates and drawing the outer sides thereof away from the sides of the box.

6. The combination with the sides of a wagon-box, of two longitudinally-extending bottom plates curved in cross-section with their concave faces inward, castings beneath the plates and conforming to the curves thereof to support the same, means for raising the adjacent edges of the plates and drawing the outer sides thereof away from the sides of the box, and suitable antifriction-rollers on the castings adapted to engage the plates.

7. The combination with the sides of a wagon-box, of two longitudinally-extending bottom plates curved in cross-section with their concave faces inward, a shaft extending longitudinally of the box, means of connection between the shaft and the plates whereby rotation of the shaft will draw the edges of the plates together, an operating-handle, and means of connection including a worm and gear interposed between the handle and the shaft for rotating the shaft as the handle is moved.

843,285. REGISTER NAME-BOARD. FRED W. LEUTHESSER, Chicago, Ill. Filed Apr. 27, 1906. Serial No. 314,098.

Claim.—1. In a name-board, a flat name-plate provided with a plurality of partition-ribs extending above the plane of the board and leaving name-spaces between the ribs, the ribs being broken by the formation of recesses extending through the ribs and below the surface of the plate adapted to facilitate the removal of name-cards, substantially as described.



2. In a name-board, a name-plate provided with a plurality of partition-ribs leaving name-spaces between the ribs, the ribs being broken by the formation therein of recesses adapted to facilitate the removal of name-cards, and clamping-rails overhanging the ends of the ribs and providing, in conjunction with the plate, spaces for the insertion of the ends of cards, substantially as described.

3. In a name-board, a name-plate having formed therein a plurality of parallel partition-ribs providing name-spaces for the reception of cards, the ribs being broken by the formation therethrough of recesses of greater diameter than the width of the ribs, said recesses extending into the surface of the name-plate and adapted to facilitate the removal of name-cards, substantially as described.

4. In a name-board, a name-plate having formed therein a plurality of parallel partition-ribs providing name-spaces between them, the ribs being broken by the formation therethrough of recesses of greater diameter than the width of the ribs to facilitate the removal of the name-cards, and clamping-rails overhanging the ends of the ribs and providing, in conjunction with the plate, spaces for the insertion of the ends of cards, substantially as described.

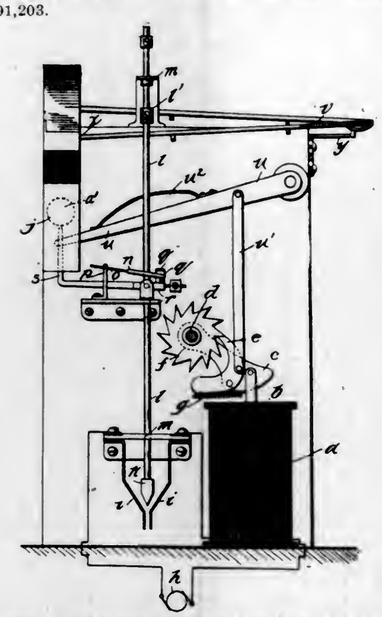
5. In a name-board, a name-plate of sheet metal having formed therein a plurality of outwardly-extending parallel ribs providing name-spaces between them, each of the ribs being interrupted by the formation therethrough of a recess extending out into the adjacent spaces and adapted to facilitate the removal of the name-cards, and clamping-rails overhanging the ends of the ribs and providing, in conjunction with the plate, spaces for the insertion of the ends of cards, substantially as described.

6. In a name-board or register, a frame, a name-plate consisting of a plurality of sections, each section having formed therein a plurality of partition-ribs providing spaces for name-cards, each of the ribs being broken by the formation therethrough of a recess adapted to facilitate removal of the name-cards, the several sections of the name-plate being secured within the frame, having between each section an intermediate rail, the outer frame and intermediate rails being provided with flanges overhanging the partition-ribs and affording spaces for the insertion of the ends of the cards, and rear clamping-cleats for holding the sections clamped against the flanges, substantially as described.

7. In a name-board, a name-plate provided with a plurality of partition-ribs leaving name-spaces between them, each of the ribs being broken by the formation therethrough of a recess, overhanging end closures for each of the name-spaces, in combination with name-cards of a proper width to be laid within the name-spaces between the ribs by bending the cards to retract the ends sufficiently to permit insertion under the overhanging end closures of the name-spaces, the recesses of the ribs facilitating the removal of the cards, substantially as described.

8. In a name-board, a name-plate provided with a plurality of partition-ribs leaving name-spaces between the ribs, rails overhanging the ends of the ribs to provide card-sockets, and cards formed of flexible material of greater length than the exposed portions of the name-spaces and adapted to be inserted into place by bending back the body of the card to retract the ends and allow them to be inserted into the card-sockets and forced back thereinto when the card is straightened out between the ribs, substantially as described.

843,286. POWER-TRANSMISSION MECHANISM. ROBERT H. LITTLE, Chicago, Ill., assignor to Talbot & Holst, Chicago, Ill., a Firm. Filed Dec. 11, 1905. Serial No. 291,203.



Claim.—1. The combination with a solenoid, of a shaft to which motion is to be imparted, a ratchet-wheel upon the shaft, a rocker-arm upon and rotatable with respect to the shaft, said rocker-arm being connected with the core of the solenoid, a pawl mounted upon the rocker-arm and engaging the ratchet-wheel, a spring connecting the pawl with the rocker-arm to engage said pawl with the ratchet-wheel, a switch comprising spring-fingers and circuit-closing plunger for connecting the fingers, a rod carrying the plunger, a bracket provided upon the rod, a swinging arm articulated to the rocker-arm, a spring carried by the swinging arm and serving to engage the bracket to elevate the plunger, a ring-clutch engaging the plunger-rod, a swinging frame engaging the said clutch, said frame having a bifurcated end between the bifurcated portions of which said swinging arm projects, a rolling weight adapted to rest upon the bifurcated end of said frame, a chute guiding said weight to the frame and a rack leading from an exit-opening of said chute to its receiving-mouth and serving to convey the rolling weight back to the chute after being discharged therefrom by the swinging arm, substantially as described.

2. The combination with a solenoid, of a shaft to which motion is to be imparted, a ratchet-wheel upon the shaft, a rocker-arm upon and rotatable with respect to the shaft, said rocker-arm being connected with the core of the solenoid, a pawl mounted upon the rocker-arm and engaging the ratchet-wheel, a switch including a circuit-closing plunger, a rod carrying the plunger, a swinging arm operated by the motor and adapted to engage the plunger, a clutch engaging the plunger-rod, a releasing device engaging said clutch, a rolling weight adapted to rest upon the releasing device, a chute guiding said weight to the releasing device and a track leading from an exit-opening of said chute to its receiving-mouth and serving to convey the rolling weight back to the chute after being discharged therefrom by the swinging arm, substantially as described.

3. The combination with a solenoid, of a shaft to which motion is to be imparted, a ratchet-wheel upon the shaft, a pawl operated by the solenoid and engaging the ratchet-wheel, a switch including a circuit-closing plunger, a rod carrying the plunger, a swinging arm operated by the motor and adapted to engage the plunger, a clutch engaging the plunger-rod, a releasing device engaging said clutch, a rolling weight adapted to rest upon the releasing device, a chute guiding said weight to the releasing device, and a track leading from an exit-opening of said chute to its receiving-mouth and serving to convey the rolling weight back to the chute after being discharged therefrom by the swinging arm, substantially as described.

4. The combination with a motor, of a shaft to which motion is to be imparted, a ratchet-wheel upon the shaft, a pawl operated by the motor and engaging the ratchet-wheel, a switch including a circuit-closing plunger, a rod carrying the plunger, a swinging arm operated by the motor and adapted to engage the plunger, a clutch engaging the plunger-rod, a releasing device engaging said clutch, a rolling weight adapted to rest upon the releasing device, a chute guiding said weight to the releasing device, and a track leading from an exit-opening of said chute to its receiving-mouth and serving to convey the rolling weight back to the chute after being discharged therefrom by the swinging arm, substantially as described.

5. The combination with a motor, of a shaft to which motion is to be imparted, a ratchet-wheel upon the shaft, a pawl operated by the motor and engaging the ratchet-wheel, a switch including a circuit-closing plunger, a rod carrying the plunger, a swinging arm operated by the motor and adapted to engage the plunger, a clutch engaging the plunger-rod, a releasing device engaging said clutch, and a rolling weight adapted to rest upon the releasing device and be removed therefrom by the swinging arm, substantially as described.

6. The combination with a motor, of a load-actuating element, means permitting intermittent engagement of said motor and load-actuating element, means for effecting the operation of said element by said motor, and a traveling weight governed by the motor and controlling said latter means, substantially as described.

7. The combination with a motor, of a load-actuating element to be driven thereby, means effecting the intermittent operation of said element by said motor, and a traveling weight governed by said motor and governing said means, substantially as described.

8. The combination with an electric motor, of a load-actuating element to be driven thereby, switching mechanism controlling circuit of the motor and effecting intermittent operation of said motor and the element controlled thereby, and a traveling weight governing said switching mechanism and governed by the motor, substantially as described.

9. The combination with an electric motor, of a load-actuating element to be driven thereby, a switching mechanism controlling the circuit of the motor and effecting intermittent operation of said motor and the element controlled thereby, said mechanism including a circuit opening and closing switch element, a releasing device permitting said switch to close and a clutching mechanism engaging said switch element to open said circuit, and a traveling weight governed by the motor and thrust thereby into engagement with the releasing device to close circuit through the motor, substantially as described.

10. The combination with an electric motor, of a load-actuating element to be driven thereby, a switching mechanism controlling the circuit of the motor and effecting intermittent operation of said motor and the element con-

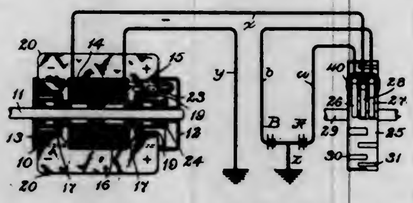
trolled thereby, said mechanism including a circuit opening and closing switch element, a releasing device permitting said switch to close and a clutching mechanism engaging said switch element to open said circuit, and a traveling weight governed by the motor and thrust thereby into engagement with the releasing device to close circuit through the motor, and an arm operated by the motor to remove said weight from the releasing device to stop the load-actuating element, substantially as described.

11. The combination with an electric motor, of a load-actuating element to be driven thereby, a switching mechanism controlling the circuit of the motor and effecting intermittent operation of said motor and the element controlled thereby, said mechanism including a circuit opening and closing switch element, a releasing device permitting said switch to close, and a clutching mechanism engaging said switch element to open said circuit, and a traveling weight governed by the motor and thrust thereby into engagement with the releasing device to close circuit through the motor, and an arm operated by the motor to remove said weight from the releasing device to stop the load-actuating element, a chute leading to the releasing device, and a track connecting the exit and the mouth of the chute for guiding the weight back to the releasing device, substantially as described.

12. The combination with a motor, of switching mechanism controlling its circuit, and a weight governed by the motor and governing said switching mechanism, substantially as described.

13. The combination with a motor, of switching mechanism controlling its circuit and a weight governed by the motor and governing said switching mechanism, and a track leading from and to the switching mechanism, upon which the weight is thrust by the motor and upon which said weight may travel, substantially as described.

843,287. ELECTRIC MOTOR. ANDREW T. MACCOY, Dover, Mass. Filed Mar. 15, 1905. Serial No. 250,162.

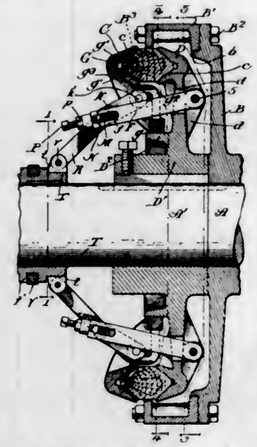


Claim.—1. A motor comprising a series of field-magnet poles of alternate polarity, a rotatable armature having a non-rotatable coil, means rotatable independently of said armature for changing the direction of the current delivered to the coil, and positive means for preventing reverse rotation of said armature, against which means the armature is held when a constant current passes through said coil.

2. A motor comprising a series of field-magnet poles of alternate polarity, an armature rotatable in one direction step by step under the influence of said field-magnet poles and having separate subpoles, and positive means for preventing reverse rotation of said armature when the centers of said subpoles have traveled past the centers of the field-magnet poles.

3. An electric motor comprising an electromagnetic armature adapted to rotate about a fixed axis, a coil adapted to magnetize said armature, a plurality of stationary permanent magnets having poles in coöperative relation to those of said armature, and positive means for preventing reverse movement of said armature when it is at any one of a plurality of predetermined positions and when said coil is excited by a constant current, the construction and arrangement of the poles of said armature and said permanent magnets being such that said armature is caused to rotate to the next in advance of said predetermined positions each time the polarity of the operating current is reversed.

843,288. FRICTION-CLUTCH. ALBERT MASTER, Chicago, Ill. Filed June 15, 1905. Serial No. 265,327.



Claim.—1. In a friction-clutch, the combination of a clutch member comprising oppositely-disposed, relatively movable jaws having grooved bearing-faces with inclined, flaring walls and a second clutch member having a series of radial lugs fixed thereto, a series of blocks held between said lugs and interposed between and arranged to extend within the grooved bearing-faces of said jaws, said blocks being independently and loosely held in said second clutch member and having oppositely-disposed, inclined bearing-faces corresponding to the bearing-faces of said jaws, whereby said blocks may be accurately centered within and securely gripped between said jaws, substantially as described.

2. In a friction-clutch, the combination of a clutch member comprising a pair of oppositely-disposed, relatively movable jaws having annular, grooved, V-shaped bearing-faces and a second clutch member having a series of radial lugs fixed thereto forming spaces open on one side, a series of wooden blocks held in the spaces between said lugs and interposed between and extending within the grooved bearing-faces of said jaws, said blocks being independently and loosely held in said second clutch member and movable in axial direction relatively thereto and said blocks having V-shaped bearing-faces on their opposite sides corresponding to the bearing-faces of said jaws, whereby said blocks will be accurately centered within and securely gripped by said jaws when the latter are clamped upon the same, substantially as described.

3. A friction-clutch comprising one member carrying a series of blocks formed upon their opposite faces with V-shaped bearing-surfaces and independently and loosely held within said member, and another member comprising jaws having circular V-shaped bearing-faces arranged upon opposite sides of said segmental blocks and within which jaws said blocks extend, substantially as described.

4. A friction-clutch comprising a disk-like member provided at its periphery with an overhanging annular part, provided with inwardly-depending projections fixed thereto, a series of friction-blocks interposed between said projections and independently movable axially with respect thereto and having bearing-faces upon their opposite sides, another member having two jaws arranged at opposite sides of said blocks and means for clamping said jaws against said blocks.

5. A friction-clutch comprising a disk-like member provided at its periphery with an overhanging annular part, provided with inwardly-depending projections fixed thereto and forming spaces open at their inner sides, a series of wooden friction-blocks interposed in spaces between said projections, said friction-blocks being held in manner free to move independently and axially and being provided at their opposite sides with V-shaped bearing-faces, another member comprising two jaws arranged at opposite sides of said blocks and having V-shaped annular grooves to engage the bearing-faces of said blocks, and means for clamping said jaws against said blocks.

6. A friction-clutch comprising a disk-like member provided at its periphery with an overhanging annular part removably bolted thereto, provided with inwardly-depending projections fixed thereto and forming spaces open at their inner sides, a series of friction-blocks interposed in spaces between said projections, said friction-blocks being held in manner free to move independently and axially, and being provided at their opposite sides with V-shaped bearing-faces, another member comprising two jaws arranged at opposite sides of said blocks and having V-shaped annular grooves to engage the bearing-faces of said blocks, one of said jaws being fixed and the other of said jaws being mounted to move in axial direction, and toggle-links for shifting said movable jaw.

7. A friction-clutch comprising one member carrying blocks provided with inclined bearing-faces and another member provided with jaws to engage said bearing-faces and means for clamping said jaws against said blocks, comprising toggle-links connected to said jaws, a bolt uniting said toggle-links, an adjustable bearing for said bolt and means for shifting said toggle-links.

8. A friction-clutch comprising one member provided with bearing-surfaces and another member provided with jaws engaging the opposite sides of said bearing-surfaces, one of said jaws being movable, toggle-links for shifting said movable jaw, a bolt uniting said toggle-links, one of said links having an adjustable shoe engaging said bolt and a set-screw carried at the end of said link for adjusting said shoe.

9. A friction-clutch comprising a member having a series of radially-extending projections or lugs fixed thereto, a series of friction-blocks independently and loosely held between the lugs of said member and each movable independently in axial direction relatively thereto, a second clutch member comprising a pair of oppositely-disposed jaws having circular, grooved bearing-faces with flaring walls, said blocks being arranged to extend within the grooved bearing-faces of said jaws and having oppositely-disposed, inclined bearing-faces corresponding to the bearing-faces of said jaws and means for clamping said jaws upon said blocks, substantially as described.

10. A friction-clutch comprising a disk-like member having at its periphery an overhanging annular part provided with an inwardly-extending portion carrying a series of friction-blocks, said blocks being held in manner to move independently and axially, a second clutch member comprising a hub portion and a pair of circular or ring-like jaws arranged on opposite sides of said series of blocks, one of said jaws snugly fitting upon the hub portion of said second clutch member and keyed to slide axially thereon and means for clamping said jaws upon said blocks, substantially as described.

11. A friction-clutch, comprising one member carrying a series of blocks and a second member provided with a pair of circular or disk-like jaws arranged on opposite sides of said series of blocks, pairs of toggle-links, the links of each pair being pivoted respectively to said jaws and to each other, a sliding sleeve and links connecting said sleeve to the connecting-bolts between said toggle-links, substantially as described.

843,289. ACETYLENE CARBONIC-ACID DERIVATIVE. CHARLES MOUREU, Paris, France. Original application filed Aug. 4, 1902, Serial No. 118,392. Divided and this application filed June 27, 1905. Serial No. 267,290.

Claim—1. As new bodies, the above-described ethers of methyl-7-octene-6-ine-2-oic-1 acid, the said ethers being oily, practically colorless transparent liquids of a more or less pronounced aroma, lighter than water, almost insoluble in same, easily soluble in alcohol, ether, benzol and gasolene, and having boiling-points 115° – 135° centigrade under twenty millimeters pressure.

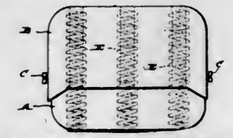
2. As a new body, the above-described methylic ether of methyl-7-octene-6-ine-2-oic-1 acid, said ether having an oily, practically colorless transparent liquid of an agreeable aroma, having its boiling-point 115°–125° centigrade under 20–25 millimeters pressure, and being lighter than water, almost insoluble in same, easily soluble in alcohol, ether, benzol and gasolene.

843,290. ACETYLENE CARBONIC-ACID DERIVATIVE. CHARLES MOUREU, Paris, France. Original application filed Aug. 4, 1902, Serial No. 118,292. Divided and this application filed June 27, 1905. Serial No. 267,291.

Claim.—1. As new bodies the above-described ethers of isoamyl propiolic acid, methyl-6-heptin-2-oic-1, said ethers being oily, practically colorless, transparent liquids of a more or less pronounced agreeable aroma, lighter than water, almost insoluble in same, easily soluble in alcohol, ether, benzol and gasolene, their boiling-points being 100°–110° centigrade under fifteen millimeters pressure.

2. As a new body the above-described methylic ether of isoamyl propiolic acid, methyl-6-heptin-2-oic-1, said ether being an oily, practically colorless, transparent liquid of an agreeable aroma, boiling at 98–100° centigrade under 16–18 millimeters pressure, having a specific gravity 0.942 (0°,) the same being almost insoluble in water, easily soluble in alcohol, ether, benzol and gasolene.

843,291. PHYSICAL-DEVELOPMENT APPLIANCE. ALFRED P. MULLINS, Glasgow, Scotland. Filed Feb. 6, 1906. Serial No. 299,831.



Claim.—1. In a device of the character described, the combination of two telescoping members slidably connected together, a plurality of posts mounted within one of said members and spiral springs mounted on said posts and adapted to be compressed by said telescoping members.

2. In a device of the character described, the combination of a pair of telescoping members slidably connected together, a plurality of spiral springs normally in expanded position mounted within said members and adapted to be compressed thereby, and means on one of said members for maintaining said springs in operative position.

3. In a device of the character described, the combination of two telescoping members, an elongated slot located in each end of one of said telescoping members, a pin located in each end of the other of said telescoping members and engaging said elongated slots, a plurality of posts mounted within one of said telescoping members and a plurality of spiral springs mounted on said posts and adapted to be compressed by the movement of said telescoping members.

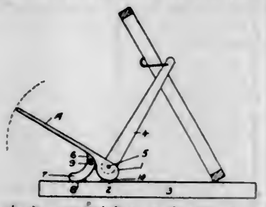
4. In a device of the character described, the combination of two telescoping members slidably connected together, a plurality of posts mounted within one of said members, a plurality of spiral springs normally in expanded position mounted on said posts and adapted to be compressed by the movement of said telescoping members for the purposes described.

843,292. LEVER-JACK. ANGUS A. MCINTOSH, Alexandria, Ontario, Canada. Filed Mar. 28, 1906. Serial No. 308,520.

Claim.—1. A lever-jack comprising a lever, a rounded head at one end thereof, holding means carried by the head, an arm pivotally secured to the head and projecting forwardly therefrom, a shoe pivotally secured to the lever at a point in the rear of the head, and holding means on the shoe.

2. A lever-jack comprising a lever, one end of which engages a suitable support, an arm pivoted to the lower end of the lever and projecting in advance thereof, and a shoe

pivotally connected near the lower end of the lever in the rear of the pivotal connection of the arm and lever.



3. A lever-jack comprising a lever, a rounded head formed at one end of the lever, an arm, one end of which is pivoted to the head eccentrically thereof, and a fulcrum member pivotally secured to the lever at a point rearwardly of the point of engagement of the arm and head.

4. A lever-jack comprising a lever, an enlarged head formed at one end of the lever, projecting holding means carried by the head, a forwardly-projecting arm pivotally secured at one end to the head, a fulcrum member pivotally secured at one end to the lever and rearwardly of the head, and rearwardly-projecting teeth on the member.

5. A lever-jack comprising a lever, an arm pivotally secured at one end to the lever, a flange depending from the lever at a point rearwardly of the pivotal point of the arm of the lever and a curved shoe, one end of which is pivotally secured to the flange.

6. A jack comprising a lever, the lower end of which lever is provided with a curved bearing-surface, a lifting-arm pivotally secured to the lever near its fulcrum-point, the lifting-arm being relatively long, and a curved and relatively short supporting member pivotally secured at one end to the lever at a point behind the connection of the lifting-arm and lever.

843,293. BOX FOR PATROL-STATIONS. ABRAHAM A. NEWMAN, Chicago, Ill. Filed Sept. 19, 1906. Serial No. 335,249.



Claim.—1. The combination with a box adapted to be attached to a wall, of a boss projecting rearwardly therefrom and adapted to receive a seat, the rear wall of the box being perforated within the hollow of said boss.

2. A patrol-box having on its rear face rearwardly-projecting ribs and a boss of substantially the thickness of said ribs, the rear wall of the box being perforated in line with the boss.

3. The combination with a box portion, of a cover portion pivotally secured thereto, and means for preventing the complete closure of the cover whereby a space is provided in which a key-attaching device may lie without injury from said cover.

4. The combination with a box portion having a bottom and end plates extending forwardly beyond the bottom, of a cover adapted to inclose the box and lying, when engaged by the end portions, in advance of the edge of the bottom portion whereby a space is provided in which a key-attaching device may lie without injury.

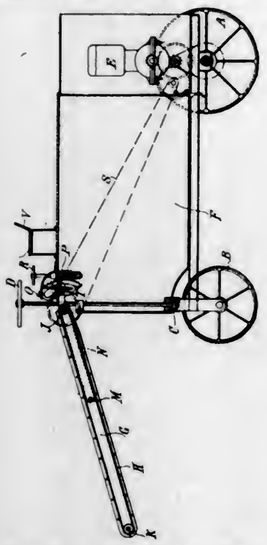
5. The combination with a box having a bottom portion and end portions in the form of quadrants which extend beyond said bottom, of a cover pivotally secured to the box portion and adapted to swing down and be engaged by said end portions whereby a space is provided between the cover and the forward edge of the bottom.

6. The combination with a box portion having a bottom and end plates in the form of quadrants, of a cover overlying the end plates and having a greater curvature than the curvature of the edges of said plates.

7. The combination with a box portion having a bottom and end plates in the form of quadrants, of a cover adapted to overlie said end plates and having a greater curvature than the edges thereof and being of greater length than the distance between said end plates, said cover being provided with flanges which lie well outside the end plates to provide a passage around the same.

8. The combination with a box having a rear plate, a bottom plate, and two quadrant-shaped end plates which extend beyond the forward edge of the bottom, of a cover having a greater curvature than the curves of the edges of the end plates and overlying the same, said cover being of greater length than the box and being provided with inwardly-extending flanges which lie well outside the edges of the end plates.

843,294. APPARATUS FOR GATHERING COTTON. JAMES F. O'SHAUGHNESSY, New York, N. Y. Filed Aug. 18, 1905. Renewed July 11, 1906. Serial No. 325,617.



Claim.—1. In an apparatus for gathering cotton, a vehicle having a receptacle, frames extending freely from the end of the vehicle and spaced apart to accommodate a row of cotton-stalks therebetween, carriers mounted on said frames and delivering to said receptacle, and means for actuating said carriers.

2. In an apparatus for gathering cotton, a vehicle having a receptacle, frames movably mounted upon said vehicle and spaced apart to accommodate a row of cotton-stalks therebetween, carriers operating upon said frames and means for actuating said carriers.

3. In an apparatus for gathering cotton, a vehicle having a receptacle, carriers supported at the rear end of said vehicles and extending rearwardly from said end, said carriers being spaced apart to accommodate a row of cotton-stalks therebetween and delivering to said receptacle, and means for actuating said carriers.

4. In an apparatus for gathering cotton, a vehicle having a receptacle, carriers trailing freely from the rear end of said vehicle said carriers being spaced apart to accommodate a row of cotton-stalks therebetween and delivering to said receptacle, and means for actuating said carriers.

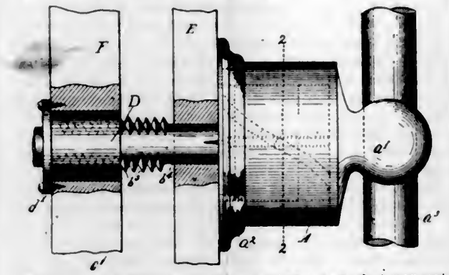
5. In an apparatus for gathering cotton a vehicle having a receptacle, carriers connected at one end to the rear end of said vehicle and freely trailing rearwardly from said rear end, said carriers being spaced apart to accommodate a row of cotton-stalks therebetween and delivering to said receptacle, means for supporting the free ends of said carriers and means for actuating said carriers.

6. In an apparatus for gathering cotton a vehicle having a receptacle, a motor mounted on said vehicle, one or more carriers having connection at one end to said vehicle and extending freely therefrom, said carriers delivering to said receptacle, and means driven by the motor for actuating said carriers.

7. In an apparatus for gathering cotton, a vehicle having a receptacle, traction-wheels upon which said vehicle is supported, a motor mounted on said vehicle and geared to said traction-wheels, carriers mounted on said vehicle and extending freely therefrom, said carriers delivering to said receptacle, and gearing also actuated by said motor for operating said carriers.

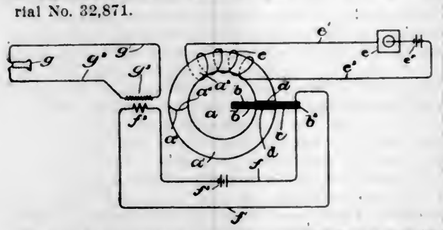
8. In an apparatus for gathering cotton, a vehicle having a receptacle, frames connected at one end to said vehicle and extending therefrom, said frames being separated from each other to accommodate a row of cotton-stalks therebetween, carrier-belts operating on said frames and delivering to said receptacle, and means for actuating said belts.

843,295. VISE. THEODOR OSTERBERG, Chicago, Ill. Filed Apr. 3, 1905. Serial No. 253,470.



Claim.—In a vise, two clamping-jaws, a socket non-rotatably secured to one of said jaws and having a major diameter and a minor cross-diameter, the walls at its minor diameter being threaded, a shaft having threaded portions adapted when partially rotated to engage the threaded portions of said socket and thereby lock the shaft against rotation, a shell rotatably mounted on the other jaw and adapted to move it longitudinally of the shaft, means for rotating said shell, and means substantially as described whereby the rotation of the shell will simultaneously partially rotate said shaft and move it longitudinally.

843,296. TELEPHONE RELAY OR REPEATER. ALBERT L. PARCELLE, Boston, Mass. Filed Oct. 12, 1900. Serial No. 32,871.

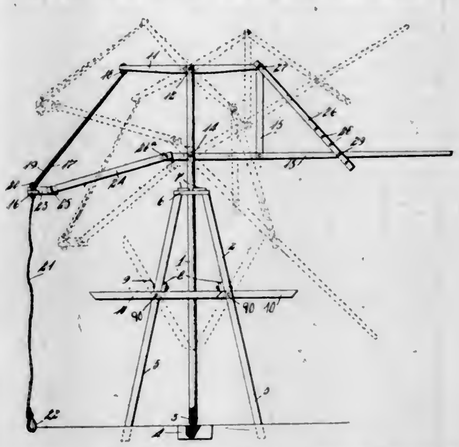


Claim.—1. A relay or repeater comprising a receiver-circuit having a confined mass of granular material of variable conductivity, a two-part magnet one section of which is permanent and the other of which is electrically magnetized, said sections having their poles oppositely disposed and movable one toward the other, said granular material being placed between said poles and being compressible thereby, and a transmitter-circuit connected with said electrically-magnetized section of said magnet.

2. A relay or repeater comprising a receiver-circuit having a confined mass of granular material of variable conductivity, a ring-like magnet formed in two sections with their poles separated to receive the mass of granular material between them, one of said sections being permanently magnetic, and a transmitter-circuit having a coil about the other of said sections.

3. A relay or repeater having a transmitter-circuit, a two-part ring-like magnet, one section of which is permanently magnetic and the other of which is soft iron, a transmitter-circuit having a coil about said soft-iron section, a diaphragm in operative relation to a pole of the soft-iron-magnet section, a confined mass of granular material of variable conductivity placed between the diaphragm and the pole of the permanent-magnet section, and a receiver-circuit connected to the diaphragm and to the mass of granular material.

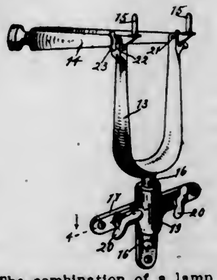
843,297. FARM-DERRICK. JAMES W. PRICE, Covington, Ind. Filed Oct. 25, 1906. Serial No. 340,523.



Claim.—1. A derrick of the class described having a mast, a yoke-beam mounted thereon, a lifting-bar connected to the yoke-beam, a lever connected to the mast, a link-bar connecting the lever and the yoke-beam, and a locking-bar pivotally connected to the yoke-beam and adapted to be also adjustably connected to the said lever, for the purpose set forth.

2. The herein-described derrick comprising the frame having the foldable beam, the mast mounted for rotation, the yoke-beam pivotally mounted on the mast, the lever, also pivotally mounted thereon, the lifting-bar, connections between the same and the yoke-beam, the link-bar connecting the said lifting-bar with the shorter end of the lever, the link-bar connecting the yoke-beam and lever, and the locking-bar pivotally connected to the yoke-beam and adjustably connected to the lever, for the purpose set forth.

843,298. LAMP APPARATUS FOR VEHICLES. GEORGE C. PYLE, Indianapolis, Ind. Filed June 7, 1906. Serial No. 320,536.



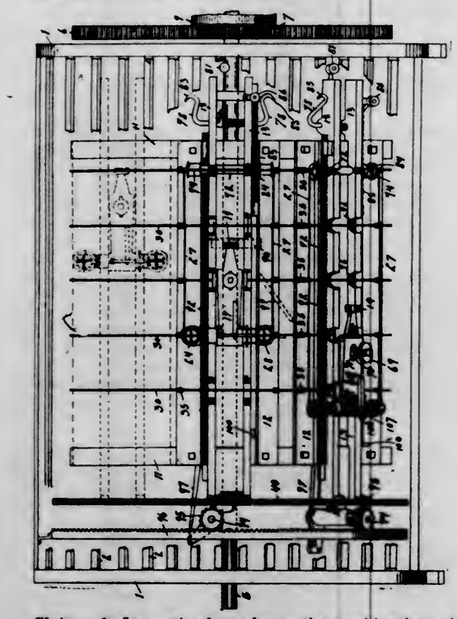
Claim.—1. The combination of a lamp, a lamp-bracket for vehicles consisting of a vertically-extending yoke-

shaped member mounted on the vehicle, a horizontally-disposed yoke-shaped member with the arms thereof pivoted between their ends on the arms of said vertically-disposed member, and means for clamping said two members together, said lamp being mounted on the ends of the arms of said horizontal member in position to substantially balance the other end of said member.

2. A lamp-bracket for vehicles consisting of a vertically-disposed horizontally-oscillatory yoke-shaped member with its two sides extending upward, a yoke-shaped horizontally-disposed vertically-oscillatory member with its sides pivoted in the upper part of the other member and with relatively short ends to one side of the pivotal point, and upwardly-extending pins on the short portions of said horizontal member for holding a lamp, substantially as set forth.

3. A lamp-bracket for vehicles consisting of a yoke-shaped vertically-disposed member with its sides extending upward and provided at their upper ends with pairs of parallel ears, a horizontal yoke-shaped member with the sides pivoted between said ears at points slightly removed from the extreme ends of said horizontal member so there will be short portions of said member to one side of the pivotal points, clamp-screws extending through said ears and horizontal member for pivoting and clamping the same together, and upwardly-extending pins on the short portions of said horizontal member for holding a lamp.

843,299. WIRE-FABRIC-WEAVING MACHINE. GEORGE A. RAYMOND, Adrian, Mich., assignor, by direct and mesne assignments, to The Michigan Woven Wire Fence Co., Detroit, Mich. Filed June 11, 1904. Renewed June 4, 1906. Serial No. 320,161.



Claim.—1. In a wire-fence loom, the combination with the means for carrying the longitudinal wires continuously into the machine, of the shuttle adapted to travel across the longitudinal wires, said shuttle carrying a rotary needle adapted to embrace the longitudinal wires and provided with the means at each end for holding a bobbin, whereby as the needle is rotated two bobbin-wires are simultaneously wrapped around the longitudinal wires as the shuttle passes across the loom.

2. In a wire-fabric loom, the combination with the means for carrying the longitudinal wires into the machine, of means for simultaneously introducing two stay-wires, stringing said stay-wires transversely of the longitudinal wires and simultaneously weaving the stay-wires to the longitudinal wires as said stay-wires are carried across the fabric.

3. In a wire-fabric loom, the combination of the rotary cylindrical member around which the longitudinal wires are adapted to pass, of a rotary needle adapted to travel across said longitudinal wires mounted upon said rotary cylinder, said needle being adapted to embrace each of said longitudinal wires in succession and having means for carrying a bobbin-wire at each end, means for rotating said needle to wind the bobbin-wires simultaneously onto the cross-wires as said needle is successively presented to said wires in its passage across the machine.

4. In a wire-fabric loom, the combination of the continuously-rotatable cylinder carrying the warp-wires upon the periphery thereof, of the shuttle mounted upon said cylinder and movable longitudinally thereof across said warp-wires, a slotted rotary needle-shaft carried by said shuttle a needle at each end of said shaft adapted to carry a bobbin, means for rotating said needle and for dropping it upon and raising it from the longitudinal wires during the passage of the shuttle across the warp-wires.

5. In a wire-fabric loom, the combination of the rotary cylinder carrying the longitudinal wires thereon, of a shuttle movable longitudinally of the cylinder across said longitudinal wires, said shuttle carrying a rotary needle-shaft slotted longitudinally to receive said longitudinal wires, a needle upon each end of said shaft adapted to carry a transverse wire in the form of a coiled bobbin, fixed track members in the path of said shuttle adapted to engage and carry the shuttle from strand to strand of the longitudinal wires to present the needle thereto, means for actuating the needle to carry it onto and raise it from said strands, and for rotating it to cause it to wrap the transverse wires around the longitudinal wires in succession as the shuttle moves across said longitudinal wires.

6. In a wire-fabric loom, the combination of the rotary cylinder-like member onto which the longitudinal wires are drawn by the rotation thereof, a shuttle mounted upon said cylinder member to slide longitudinally, a slotted needle carried by the shuttle adapted to successively embrace said longitudinal wires, said needle being adapted to carry a bobbin-wire and wrap said bobbin-wire successively around the longitudinal wires, and means independent of said rotary member for directing the shuttle to carry the needle successively to each of said longitudinal wires as said rotary member is turning.

7. In a wire-fabric loom, the combination of the rotary cylinder member onto which the longitudinal wires are adapted to be drawn, of a plurality of shuttles carrying rotary needles adapted to weave the transverse wires onto the longitudinal wires, means for driving said shuttles onto the longitudinal wires, means for driving said shuttles and needles, a hopper adapted to contain the transverse wires in the form of coiled bobbins and suspend them above the path of the needles carried by said shuttles, and means for automatically removing the bobbins from the hopper and placing them in succession upon the needles as the needle passes thereunder.

8. The combination of the rotary loom adapted to carry the longitudinal wires thereon, of needles adapted to weave the transverse wires onto the longitudinal wires while said longitudinal wires are carried around the loom during the rotation thereof, said needles being adapted to carry the transverse wires in the form of bobbins, means for actuating said needles to wrap the transverse wires around the longitudinal wires, a hopper for the bobbin-wires located above the path of the needles at the initial end of the loom, means for automatically separating the bobbins in the hopper and feeding the bobbins successively from the lower end of the hopper and forcing them upon the spools of the needles in position for weaving into the fabric.

9. In a wire-fabric loom, the combination of the rotary cylinder onto which the longitudinal wires are wound, rotary needles adapted to carry the transverse wires in the form of bobbins and weave them upon the longitudinal wires, means for actuating said needles, means for supplying bobbins to the spools upon said needles, and means for automatically attaching the initial ends of the bobbins to the marginal longitudinal wire as said bobbins are carried by the needles into position for weaving.

10. In a loom for weaving wire fabric, the combination of the rotary agent which receives the warp-wires, of the shuttles and needles carried by said agent, means for supplying the bobbins to the needles as the agent revolves in drawing the warp-wires thereon, and means for securing the end only of each of the bobbin-wires to the selvage-wire as said agent rotates.

11. In a machine for weaving wire fabric, the combination with the rotary agent adapted by its movement to draw the warp-wires thereon, of the shuttles and needles carried by said agent, means for reciprocating said shuttles and rotating said needles, and means for feeding the bobbin-wires to the needles as said needles pass into operative position.

12. In a machine for weaving wire fabric, the combination of the rotary agent adapted to draw the warp-wires thereon, a series of shuttles movable transversely of said agent across the warp-wires, means for carrying the shuttles across the machine and immediately returning them to their initial position, a rotary needle carried by each shuttle adapted to weave the woof-wire onto the warp-wires, means for rotating said agent, and means for reciprocating the shuttles and rotating the needles.

13. In a loom for weaving wire fabric, the combination with the rotary agent upon which the warp-wires are drawn, of shuttles upon said agent carrying a needle adapted to receive a warp-wire, means for actuating said needle to wind the bobbin carried thereby onto the warp-wires, and means carried by the needle to hold the bobbin from flirting when the needle is rotated.

14. In a loom for weaving wire fabric, the combination with the means for feeding the warp-wires into the loom, of a shuttle carrying a needle adapted to weave the bobbin-wire upon the warp-wires, and a finger upon the needle adapted to engage the bobbin-wire as the needle rotates and restrain it from flirting.

15. In a loom for weaving wire fabric, the combination of the loom and means for feeding the warp-wires into the loom, a shuttle adapted to travel across the warp-wires, a rotary needle carried by said shuttle adapted to wrap the bobbin-wire upon the warp-wires, a spool upon the needle adapted to receive the bobbin, and a spring-actuated detent in the spool having a projecting shoulder which engages the strands to hold the bobbin from flirting as the needle rotates.

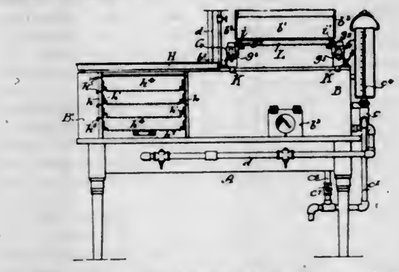
16. In a loom for weaving wire fabric, the combination with the means for feeding the warp-wires into the loom, of the shuttles carrying rotary needles, means for feeding coils of bobbin into the machine, and means for presenting the bobbins in the path of the needles and threading them thereon.

17. In a machine for weaving wire fabric, the combination with the wire-feeding mechanism and the shuttles for weaving the wire strands together, of the bobbin-feeding device comprising a holding-tube, a movable arm having an engaging hook adapted to grasp a bobbin and by its movement present the bobbin in the path of the needle of the shuttle.

18. In a loom for weaving wire fabric, the combination with the means for feeding the warp-wires into the loom, of a shuttle carrying a rotary needle, said shuttle being adapted to travel transversely of the warp-wires and weave the stay-wire thereon, a pivoted arm in which the needle is journaled, a gear-wheel adapted to drive said needle, also journaled in said arm, and means for actuating said arm on its pivot and rotating said gear-wheel.

19. In a wire-fabric loom, the combination of a cylinder rotatable about its axis around which the longitudinal wires pass, means for introducing a stay-wire successively to the longitudinal wires on said cylinder, and means for wrapping the stay-wire sequentially around the longitudinal wires as said stay-wire is strung transversely of the longitudinal wires on said cylinder during the rotation thereof.

843,300. CHOCOLATE-COATING MACHINE. HARRY C. REMMERS, Philadelphia, Pa. Filed Oct. 24, 1906. Serial No. 340,351.



Claim.—1. A chocolate-coating machine consisting of a casing, a chocolate-kettle therein, means in the casing for heating said kettle, and a conduit for heated gases leading from the casing having an inclined cover constructed to deliver material thereon into the chocolate-kettle, substantially as described.

2. The combination in a chocolate-coating machine, of a casing having a chocolate-kettle, means for heating the same, a conduit for hot gases connected to the casing, the upper portion of the conduit being inclined toward and leading into the chocolate-kettle, with upwardly-extending side portions for the top of said conduit placed to assist in directing material thereon into the kettle, substantially as described.

3. A chocolate-coating machine consisting of a kettle, means for heating the same, and knocking-off mechanism supported over said kettle, the same consisting of means for supporting a basket, a chain or chains placed to intermittently vibrate said supporting means, and means for moving the chain or chains, substantially as described.

4. The combination in a chocolate-coating machine, of a kettle, means for heating the same, frames extending above the kettle at opposite sides thereof, chains for the frames, a projection on each frame placed to be intermittently engaged by a chain when the latter is moved, and means for actuating the chains to vibrate the frames and the candy-baskets supported thereby, substantially as described.

5. The combination in a chocolate-coating machine, of a kettle having heating means, basket-supporting means, bearings on said supporting means, a device for vibrating the supporting means, and a candy-basket having pivots placed to enter said bearings so as to permit said basket to be turned through an arc of substantially one hundred and eighty degrees, substantially as described.

6. The combination in a chocolate-coating machine, of a kettle, means for heating the same, a basket-supporting device over the kettle having means whereby it may be vibrated, a candy-basket supported over the chocolate-kettle provided with pivots, bearings on the supporting device for the reception of said pivots, said device being extended to support the basket when it has been turned on its pivots through an arc of substantially one hundred and eighty degrees, substantially as described.

7. A chocolate-coating machine consisting of a casing, a kettle therein having heating means, a conduit for the products of combustion from said heating means arranged to heat a basket-carrier, said conduit being extended from one side of the machine, a basket-supporting device projecting from the opposite side of said machine, and means for vibrating said device, substantially as described.

8. A chocolate-coating machine consisting of a kettle having heating means, two pairs of sprocket-wheels supported above and adjacent to the sides of said kettle, a sprocket-chain connecting each pair of said wheels, means for moving the chains, a frame having a projection resting upon each of the chains and free to be vibrated by said chains, and means on the frame for supporting a candy-basket, substantially as described.

9. A chocolate-coating machine consisting of a kettle having heating means, two pairs of sprocket-wheels supported above and adjacent to the sides of said kettle, a

sprocket-chain connecting each pair of said wheels, means for moving the chains, two frames, each having a portion resting upon one of the chains, and means on the frames for supporting a candy-basket, said frames being constructed to support a basket both over the chocolate-kettle and also when said basket has been turned through substantially one hundred and eighty degrees from such position, substantially as described.

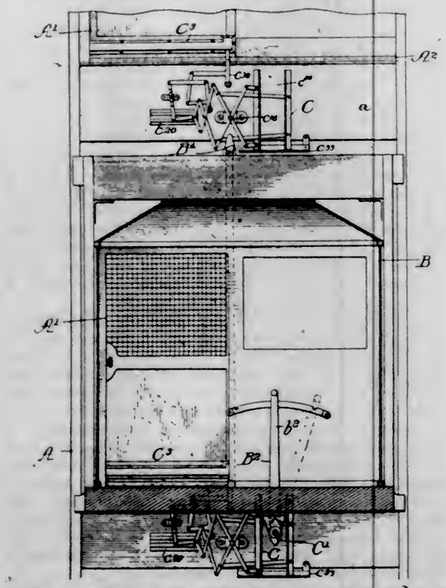
10. The combination in a chocolate-coating machine, of a kettle, heating means therefor, a basket for candies to be coated, and a device independent of the machine structure for lowering the basket into the kettle, the same consisting of a screen having handles detachably engaging the basket, substantially as described.

11. The combination in a chocolate-coating machine, of a kettle having heating means, a basket for candies to be coated, a frame having a screen formed to be placed over the basket to confine the candies therein, handles pivoted to said frame and movable toward and from each other, said handles having extensions placed to engage a candy-basket and hold the frame thereto, while the same is being dipped in the kettle, substantially as described.

12. The combination in a chocolate-coating machine, of a kettle, means for heating the same, means for knocking off surplus chocolate from a basket containing coated candies, supporting means for the basket constructed to permit of it being turned over to discharge the candies, with a device for vibrating the basket when it is in its inverted position to cause the discharge of candies therefrom and also when it is in its normal position, substantially as described.

13. The combination in a chocolate-coating machine, of a kettle for melted chocolate, structures for supporting a candy-basket over the kettle, provided with bearings for supporting one end of a basket, said structures having supports for the other end of the basket placed equidistant from the line of the bearings on opposite sides thereof, and means for vibrating the said basket-supporting structures, substantially as described.

843,301. ELEVATOR. HERMAN C. SAGEHORN, Chicago, Ill., assignor of one-half to Fred G. Roempler, Chicago, Ill. Filed May 18, 1906. Serial No. 317,504.



Claim.—1. The combination with an elevator-shaft, its door, an elevator-cage and its controlling mechanism, of a locking member connected with said controlling mechanism and carried by said cage, a locking member carried by said shaft into whose plane the locking member connected with the controlling mechanism is adapted to be brought, and a cam connected with the base of the door and serving to actuate said second-named locking member, said cam comprising a horizontal portion extending substantially across the base of the door and an offset portion adapted to effect an unlocking movement upon the complete closure of the door.

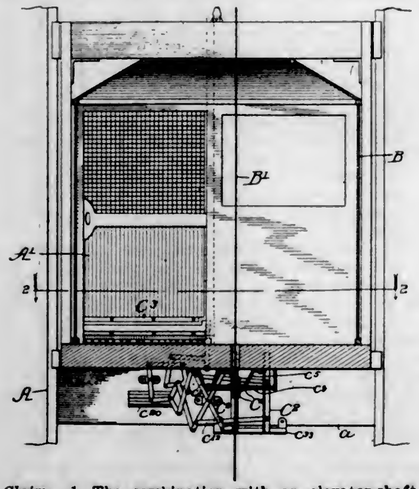
2. The combination with an elevator-shaft, its door, an elevator-cage and the controlling mechanism therefor, of a locking member connected with said controlling mechanism, a pair of vertically-disposed locking members connected with the elevator-shaft near the base of the door, a lever connected with the second-named locking members adapted to actuate the same, and a cam connected with the base of the door and serving to actuate said lever.

3. The combination with an elevator-shaft, its door, an elevator-cage and controlling mechanism for the cage having a rocking shaft equipped with a locking member, of a horizontally-slidable locking member connected with the elevator-shaft, and means connected with the elevator-door serving to actuate said second-named locking member during the opening and closing movement of the door.

4. The combination with an elevator-shaft, its door, an elevator-cage and controlling mechanism therefor, of a locking member connected with said controlling mechanism, a horizontally-shiftable locking member connected with the elevator-shaft, a cam connected with the base of the elevator-door, a lever connected with said cam and with the elevator-shaft, and link-and-lever connections between said lever and said horizontally-shiftable locking member.

5. The combination with an elevator-shaft, its door, an elevator-cage and the controlling mechanism therefor, of a locking member for said controlling mechanism moving with the elevator-cage, a shiftable locking member coacting with said first-named locking member and connected with the elevator-shaft, a lever pivotally connected with the elevator-shaft and serving to actuate said second-named locking member, and a cam connected with the base of the door and having a horizontal portion extending substantially across the base of the door and an offset portion near the edge of the door.

843,302. ELEVATOR. HERMAN C. SAGEHORN, Chicago, Ill., assignor of one-half to Fred G. Roempler, Chicago, Ill. Filed May 18, 1906. Serial No. 317,505.



Claim.—1. The combination with an elevator-shaft, a door therefor, an elevator-cage, and a cable controlling the movements of the cage, of cable-gripping levers supported beneath the floor of the cage and having a projecting actuating member, a horizontally-shiftable member connected with the elevator-shaft and serving to actuate said projecting member, mechanism serving to actuate said horizontally-shiftable member, and a cam connected with the base of the elevator-door and serving to actuate said horizontally-shiftable member through the medium of said mechanism.

2. The combination with an elevator-shaft, a door therefor, an elevator-cage, and a cable controlling the movements of said cage, of a cable-gripping device having a pair of cable-gripping levers carried beneath the floor of the cage and having also an actuating member projecting forwardly from the cage, a shiftable member connected with the elevator-shaft beneath said door and serving to actuate said actuating member, a horizontal cam connected with the base of the door and having an offset portion, and a lever connected with said shiftable member and actuated by said cam.

843,303. NECKTIE-HOLDER. FRANK SCHLECHT, Fremont, Ohio. Filed Nov. 19, 1906. Serial No. 344,145.

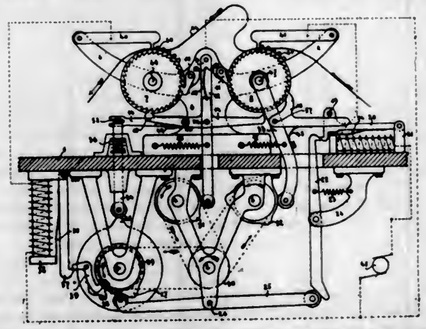


Claim.—1. A necktie-holder having front and rear collar-engaging bars formed on its lower end and an upwardly-projecting necktie-supporting hook formed on its upper end, substantially as described.

2. A necktie-holder comprising front and rear collar-engaging bars adapted to be inserted through one of the buttonholes of the collar and to lie adjacent to each side of the collar-button, an outwardly and downwardly bent button-engaging portion, and an upwardly-bent pointed tie-engaging hook formed integral therewith, substantially as described.

3. A necktie-holder formed from a single piece of sheet metal cut to form a button-engaging notch or recess, rearwardly bent or offset collar-engaging bars adapted to be inserted through the collar-button to engage the rear side of the collar, front collar-engaging bars arranged on each side of said rear bars, a forwardly and downwardly bent button-engaging portion formed on the upper end of the holder, and an upwardly-bent pointed hook formed on the end of said button-engaging portion to receive the bow or knot of the tie, substantially as described.

843,304. SINGLE-TYPE-CASTING MACHINE. LUDWIG SCHMIDT, Nuremberg, Germany, assignor to Elektrizitats-Aktiengesellschaft vormals Schuckert & Co., Nuremberg, Germany. Filed Apr. 3, 1906. Serial No. 309,724.



Claim.—1. In a single-type-casting machine, the combination with a space and a type deciphering drum and a symbol-bearing strip having the spacing symbols on the end of each line and controlling the deciphering operated by said drums, of means for regulating the movement of said drums, said means causing the strip to decipher the spacing symbols for one line before the type symbols of said line are deciphered.

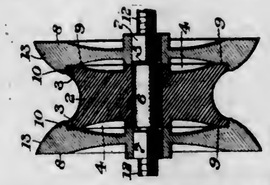
2. In a single-type-casting machine, the combination with a space and a type deciphering drum and a symbol-bearing strip having the spacing symbols on the end of each line and controlling the deciphering operated by said drums and levers operating said drums, of means for regulating the engagement of said levers with said strip-bearing drums, causing the strip to decipher the spacing symbols for one line before the type symbols of said line are deciphered.

3. In a single-type-casting machine, the combination with a space and a type deciphering drum, and a symbol-bearing strip, having the spacing symbols on the end of each line and controlling the deciphering, cam-wheel-operated levers operating said strip-bearing drums and pawls on said levers, engaging said drums, of electromagnetic means for regulating the engagement of said pawls with said strip-bearing drums, causing the strip to decipher the spacing symbols for one line before the type symbols of said line are deciphered.

4. In a single-type-casting machine, the combination with a space and a type deciphering drum, ratchet-wheels on said drums, pawls adapted to engage in said ratchet-wheels, levers operating said pawls, cam-wheels operating said pawl-operating levers and a symbol-bearing strip, having the spacing symbols on the end of each line and controlling the deciphering operated by said drums, of means controlled by said symbol-bearing strip for controlling the engagement of said lever-operated pawls with said ratchet-wheels, causing said symbol-bearing strip to decipher the spacing symbols for one line before the type symbols of said line are deciphered.

5. In a single-type-casting machine, the combination with a space and a type deciphering drum, ratchet-wheels on said drums, pawls adapted to engage in said ratchet-wheels, levers operating said pawls, cam-wheels operating said pawl-operated levers and a symbol-bearing strip, having the spacing symbols on the end of each line and controlling the deciphering operated by said drums, of electromagnetic means controlled by said symbol-bearing strip for controlling the engagement of said lever-operated pawls with said ratchet-wheels, causing said symbol-bearing strip to decipher the spacing symbols for one line before the type symbols of said line are deciphered.

843,305. TROLLEY-WHEEL. ADAM A. SCHNEIDER, Camden, N. J. Filed Apr. 30, 1906. Serial No. 314,473.

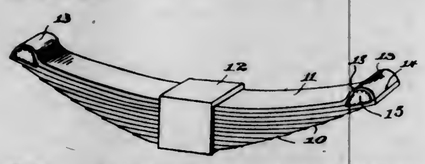


Claim.—1. A trolley-wheel comprising a shaft having a rounded portion and adapted to be supported adjacent its ends, disks non-rotatably mounted on the said shaft and each formed with a recess upon its inner face, the inner faces of said disks being curved toward each other, and a curved center piece rotatably mounted on said round portion of the shaft and having rims seated in the recesses of said disks and grooves on its side faces between said rims, said center piece being rotatable relative to the disks.

2. A trolley-wheel comprising a shaft with polygonal portions and an intermediate round portion and screw-threaded ends, disks non-rotatably mounted on said polygonal portions and each formed with a recess upon its inner face, the inner faces of said disks being curved toward each other, and a grooved center piece rotatably mounted on said round portion of the shaft and having

rims engaged in the recesses of said disks, said center piece being rotatable relatively to the disks.

843,306. BEARING END FOR HALF-ELLIPTIC SPRINGS. THOMAS A. SHEA, Hammond, Ind., assignor to American Steel Foundries, New York, N. Y., a Corporation of New Jersey. Filed Nov. 30, 1906. Serial No. 345,787.



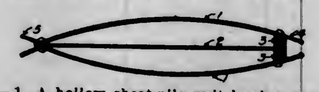
Claim.—1. In a half-elliptic spring, the combination of a back or main spring-plate bent to form a hollow bearing, a second spring-plate, and a filler-block within said hollow bearing and adapted to bear against said second spring-plate, said filler-block having its ends enlarged to prevent displacement of the block by coöperation with the edges of one or both of said spring-plates, substantially as described.

2. In a half-elliptic spring, the combination of a back or main spring-plate bent to form a hollow bearing, a second spring-plate, one or both of said plates having rounded longitudinal edges, and a filler-block of substantially the same length as the width of said spring-plates placed within said hollow bearing and adapted to bear against said second spring-plate, said filler-block having its ends enlarged to prevent displacement of the block by coöperation with the edges of one or both of said spring-plates, substantially as described.

3. In a half-elliptic spring, the combination of a back or main spring-plate bent at each end to form a transverse hollow bearing, a second spring-plate adapted to lie against said back or main spring-tape, the end of said latter plate being bent to abut against the adjacent face of said second spring-plate, the longitudinal edges of both of said spring-plates being rounded, and a filler-block of substantially the same length as the width of said spring-plates within said hollow bearing and of such shape and size as to substantially fill the interior of said bearing, said block having a substantially flat face adapted to rest upon the adjacent face of said second spring-plate, the ends of said block being enlarged and coöperating with the edges of both of said spring-plates to prevent displacement of said block, substantially as described.

4. A filler-block for use in a hollow bearing of the back or main spring-plate of a half-elliptic spring, said block having a flat surface adapted to rest on the spring-plate next to said back or main spring-plate and having a surface conforming substantially to the interior coutour of said bearing, said block at both ends having enlargements adapted to coact with the edges of one or both of said spring-plates to prevent lengthwise shifting of said block, substantially as described.

843,307. SHEET-PILE. FRANK W. SKINNER, New York, N. Y. Filed Jan. 15, 1906. Serial No. 296,107.



Claim.—1. A hollow sheet-pile unit having one or more convex surfaces and a flat interior plate or diaphragm adapted to act as a chord of the curved surface, substantially as described.

2. A hollow sheet-pile unit provided with one convex and one flat surface, substantially as described.

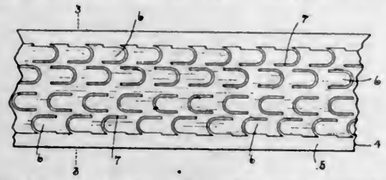
3. A hollow sheet-pile unit provided with two exterior bent or curved plates and a flat interior plate or diaphragm, substantially as described.

4. An interlocking joint provided with a female part consisting of converging plates and a filler fastened to the closed edge, substantially as described.

5. A hollow sheet-pile unit provided with a flat plate fastened directly to the convex side of a bent or curved plate near one edge and fastened indirectly thereto near the other edge through a separating filler-piece, substantially as described.

6. The combination of a pile composed of a plurality of plates, integral extensions on one edge of said plates forming converging members of a female joint, and integral extensions on the other edge of said plates forming diverging members of a corresponding member of a male joint, substantially as described.

843,308. RAILWAY-TIE. HERMAN G. STAAB, Milwaukee, Wis. Filed Aug. 23, 1906. Serial No. 331,737.



Claim.—1. A railway-tie of I-beam form in cross-section, the upper plate or head of said tie having a series of pairs of rounded lips provided thereon and disposed in longitudinal lines, said pairs of rounded lips being out of alinement transversely and the lips of each pair pointing in opposite direction to the adjacent pair, the lips which are nearest to the base of a rail extending over a plate adapted to be bent over said rail-base.

2. A railway-tie of I-beam form in cross-section, longitudinal lines of rounded lips formed from the head of the I-beam on each side of the web thereof, said rounded lips disposed out of alinement transversely with the longitudinal line of lips on the head on the same side of the web, the lips which are nearest to the base of a rail extending over the head adapted to be bent over the base of the rail.

3. A railway-tie of I-beam form in cross-section, longitudinal lines of rounded lips formed from the head of the I-beam on each side of the web thereof, said rounded lips disposed out of alinement transversely with the longitudinal lines of lips on the same side of the web, but in alinement with the corresponding lines of rounded lips upon the head on the opposite side of the web, the lips which are nearest to the base of a rail extending over the head at any angle adapted to be bent over the base of the rail.

4. A railway-tie of I-beam form in cross-section, longitudinal lines of rounded lips formed from the head of the I-beam on each side of the web thereof, and said lips being initially flat with the top of the head, but adapted to be bent up and over, said rounded lips disposed out of alinement transversely with the longitudinal lines of lips on the same side of the web, but in alinement with the corresponding lines of lips upon the head on the opposite side of the web, the lips which are nearest to the base of a rail extending over the head at any angle, adapted to be bent over the base of the rail.

5. A railway-tie of I-beam form in cross-section, the upper plate or head of said tie having a series of longitudinal lines of approximate U-shaped cuts forming rounded lips upon each side of the web connecting the top plate to the bottom plate, said rounded lips disposed out of alinement transversely with the longitudinal lines of lips on the same side of the web, but in alinement with the corresponding lips upon the opposite side of the web, whereby lips are provided for bending over the base of a rail extending over the plate at any angle.

843,309. BEATER, MIXER, AND MASHER FOR EGGS, CREAM, VEGETABLES, &c. WILLIAM STURMA, Philadelphia, Pa. Filed June 21, 1906. Serial No. 322,774.

Claim.—1. In a beater of the character stated, a guard for the driving-shaft thereof adapted to encircle or approximately encircle said shaft having in its periphery a division, permitting the walls thereof to pass said shaft in being placed in inoperative position, without displacing the shaft.



2. In a beater of the character stated, a divided shaft, a bearing therefor, a coupling for the members of said shaft, a ring mounted on said bearing and adapted to encircle or approximately encircle said coupling, said ring having a throat in its periphery adapted to pass said shaft in its location in inoperative position.

3. In a beater of the character stated, a guard for the shaft thereof composed of a piece adapted to encircle or approximately encircle said shaft and pivotally mounted on a bearing so as to be removed into inoperative position, the pivotal portion of said piece having a member adapted to form a stop assisting to support the piece in operative position and the peripheral portion thereof having a division permitting the walls thereof to pass said shaft in being placed in inoperative position without displacing the shaft.

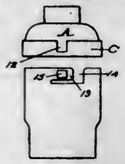
4. In a beater of the character stated, a pan-support composed of an open member, means for holding the same in operative position and a removable rim adapted to be placed within said support, the same being provided with means for sustaining it thereon.

5. A rotary beater composed of a central boss and blades, the latter radiating from said boss, extending upwardly therefrom and having flat sides, said blades alternating with the sides of said boss and forming a continuity of said sides from or approximately from the bottoms to the tops thereof.

843,310. INCANDESCENT-LAMP SOCKET. GEORGE B. THOMAS and GILBERT W. GOODRIDGE, Bridgeport, Conn., assignors to The Bryant Electric Company, Bridgeport, Conn., a Corporation of Connecticut. Filed July 5, 1906. Serial No. 324,920.

Claim.—1. In incandescent-lamp sockets, a cap and shell and means for fastening the same together, and means consisting of straps punched from one part, corresponding tongues cut from the other part, and means carried by said tongue to prevent the rotation of the parts after the tongues have entered the straps.

2. In incandescent-lamp sockets, a cap and shell and means for fastening the same together, and means consisting of interlocking straps and tongues borne on the respective parts, a projection on one tongue to act as a catch, and a corresponding hole in the part bearing the strap.



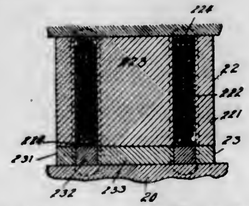
3. In incandescent-lamp sockets, a cap and shell and means for fastening the same together, said means consisting of straps punched from one part, tongues punched from the other part and interlocking with the straps on rotation of the parts when together, and a projection borne by one of the tongues to act as a catch in connection with one of the holes formed by the punching of the straps.

843,311. PROCESS OF SKINNING FRUIT. JOVITA B. THOMPSON, Denton, Tex. Filed Jan. 4, 1906. Serial No. 294,557.

Claim.—1. The hereinbefore-described process of skinning fruit, consisting in subjecting the fruit to the action of lye, washing off the skins and as much of the lye as possible from the fruit, then subjecting the fruit to the action of acetic acid to neutralize the remaining lye, and then rinsing the fruit.

2. The hereinbefore-described process of skinning fruit, consisting in subjecting the fruit to the action of caustic soda until the skin is loose and furrowed, washing off the skins, and the soda as far as possible with water, subjecting the fruit to the action of acetic acid until the remaining soda is neutralized, and finally rinsing the fruit with water.

843,312. MAGNETIC WORK-HOLDER. WALTER N. VANCE, Chicago, Ill. Filed Sept. 20, 1906. Serial No. 335,398.



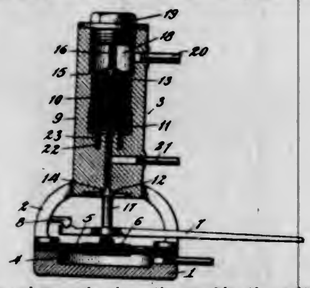
Claim.—1. The supplemental lift for work-holder magnets consisting of a core and shell, corresponding to the core and shell of the magnet and made of magnetic metal, and a dividing part made of non-magnetic material, whereby, when the lift is used with a holding-magnet the lines of force are compelled to go through the machine-bed and thus to polarize the lift; substantially as specified.

2. The combination with the machine-bed of magnetic metal, and the magnetic work-holder, designed to hold a piece of work of magnetic-metal work to said bed, of a supplementary lift, made of magnetic metal in shape and form to correspond to the magnetic metal of the holding-magnet, and having non-magnetic parts so arranged that, when the lift is placed between the magnet and the bed, or attracted part, the lines of magnetic force will be compelled to pass through the said bed or attracted part; substantially as specified.

843,313. VALVE MECHANISM. JOSEPH T. WADSWORTH, Plainfield, N. J., assignor to William B. Wadsworth, Plainfield, N. J. Filed Nov. 10, 1905. Serial No. 286,659.

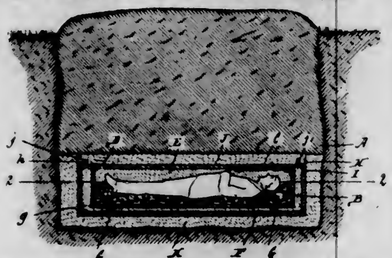
Claim.—1. In a valve mechanism, the combination with a valve-casing composed of two portions adjustably mount-

ed with respect to each other, one of said portions provided with a valve-seat opening outwardly, and the other portion provided with another valve-seat in line with the first valve-seat but opening in the opposite direction, said casing members provided, the one with an annular flange and the other with an annular recess for coaction therewith, of packing arranged between the two members, and oppositely-opening valves fitted to the two said valve-seats and provided with stems disposed in abutting relation.



2. In a valve mechanism, the combination with a valve-casing member 9 having a valve-seat 12 opening outwardly, and another casing member 10 having a valve-seat 13 in line with the first said valve-seat, but opening in the opposite direction, said casing members provided, the one with an annular recess 22, and the other with an annular flange 23, substantially as set forth, of oppositely-opening valves fitted to the two said valve-seats and provided with stems disposed in abutting relation.

843,314. BURIAL-VAULT. WILLIE K. WATERS, Buffalo, N. Y. Filed Jan. 30, 1905. Serial No. 243,343.

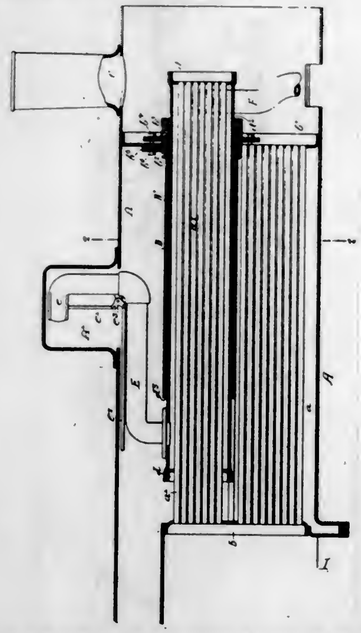


Claim.—In a grave-vault, the combination with a casket-box, of an angle-iron frame providing a vertical edge mounted on the upper edge of the box, means for securing the frame to the box, supports within the box, a coffin on said supports having a glass plate mounted in an opening at one end thereof, plastic substance between the box and coffin, a sealing substance within the coffin and an opening therein for admitting said substance, a cover formed of plastic material and having an annular channel to engage the vertical ledge of the frame, and plastic material surrounding the box and overlapping the joint between the box and cover.

843,315. SUPERHEATER FOR LCOMOTIVES. HENRY V. WILLS, Philadelphia, Pa., assignor to Burnham, Williams & Company, Philadelphia, Pa., a Firm. Filed Nov. 1, 1905. Serial No. 284,447.

Claim.—1. The combination of a boiler-casing, longitudinal tubes therein, a superheater located partly within the boiler, some of the tubes of the boiler passing through the superheater, with a pipe connecting the superheater with the body of the boiler, and an outlet-pipe from the superheater.

2. The combination in a locomotive-boiler, of a series of longitudinal tubes, a cylindrical casing extending into the boiler and having a head at each end forming a superheater, some of the longitudinal tubes of the boiler extending through the rear head of the superheater and attached to the front end of the superheater, with the steam-pipes leading to and from the superheater.



3. The combination in a locomotive-boiler having front and rear tube-sheets, longitudinal tubes extending from the front tube-sheet to the rear tube-sheet, a cylindrical casing extending through the front tube-sheet and into the body of the boiler, front and rear heads for said casing, the whole forming a superheater, with longitudinal tubes extending from the rear tube-sheet through the rear head of the superheater and connected to the front head of the superheater, and a steam-pipe communicating with inlet and outlet pipes for the superheater.

4. The combination in a locomotive-boiler, of a casing, front and rear tube-sheets, longitudinal tubes extending through the boiler and attached to the said tube-sheets, a superheater-casing extending through the front tube-sheet and into the boiler, front and rear heads for the said casing, tubes attached to the rear tube-sheet extending through the rear head and attached to the front head, and a protecting-casing surrounding the superheater.

5. The combination in a locomotive-boiler, of a casing having front and rear tube-sheets, longitudinal tubes coupled to both tube-sheets, a superheater in the form of a casing having front and rear heads, said superheater extending through the front tube-sheet into the boiler and projecting beyond the tube-sheet, and a protecting-casing surrounding the said superheater forming an air-space.

6. The combination in a locomotive-boiler, of front and rear tube-sheets, longitudinal tubes connected to said sheets, a superheater consisting of a cylindrical casing having front and rear heads, longitudinal tubes extending from the rear tube-sheet through the rear head and connected to the forward head of the superheater, a protecting-casing surrounding the greater portion of the superheater, an inlet-pipe coupled to the inner end of the superheater and opening into the boiler so as to allow steam to enter from the boiler into the superheater, and pipes leading from the projecting forward end of the superheater to the cylinders.

7. The combination of a locomotive-boiler, a superheater extending through one end of the boiler so as to be partly in the boiler and partly in the smoke-box, and a throttle-valve casing mounted on that portion of the superheater within the smoke-box.

8. The combination of a locomotive-boiler, a superheater, longitudinal pipes mounted in the boiler and projecting through the forward tube-sheet thereof, tubes extending through the said superheater, a throttle-valve chest mounted on the superheater within the smoke-box of the locomotive, a dry-pipe coupled to said valve-box and communicating with the upper portion of the boiler, an outlet-passage in said valve-box, a throttle-valve in said passage, and connection between the said passage and the cylinders of the locomotive.

9. The combination of a locomotive-boiler having front and rear tube-sheets, longitudinal tubes therein, a superheater-casing mounted in the boiler and projecting through the forward tube-sheet into the smoke-box of the locomotive, longitudinal tubes extending from the rear tube-sheet of the boiler through the superheater, a deflecting-plate in the superheater, a valve-box mounted on the superheater within the smoke-box, an inlet communicating with the superheater at one side of the deflecting-plate, a dry-pipe communicating with the boiler and with the said passage, an outlet-passage communicating with the superheater on the other side of the deflecting-plate and with the cylinders of the locomotive, and a throttle-valve in said passage.

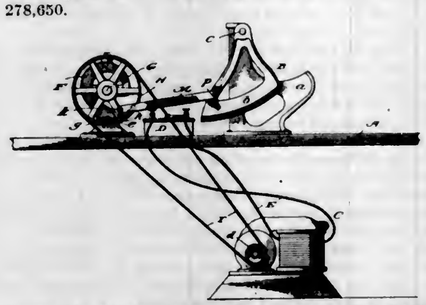
843,316. ATTACHING MEANS FOR ELECTRIC LAMPS. EARL G. WILSON, Morrow, and WILLIAM B. GOODWIN, Columbus, Ohio. Filed Dec. 4, 1905. Serial No. 290,127.



Claim.—1. A device of the character set forth, comprising an elastic cup provided with a channel or pocket for the reception of a sealing substance.

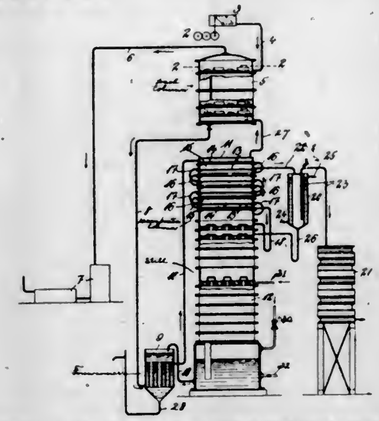
2. In a support of the character set forth, a socket adapted to receive an electric lamp, terminals extending from the socket, an elastic cup engaging with the socket, and means molded about said socket and cup for connecting the same, said terminals projecting through said means to the exterior thereof.

843,317. ELECTROMECHANICAL APPARATUS FOR SHAVING OR SLICING BEEF. FRANK H. WURZBACHER, Washington, D. C. Filed Sept. 15, 1905. Serial No. 278,650.



Claim.—In an electromechanical apparatus for shaving or slicing beef, the combination of a support, an oscillating knife mounted on the support, a wheel mounted in bearings on said support and having an apertured rim, a lug bolted to the inner side of the wheel-rim and having a transverse threaded aperture, a pitman pivotally connected at one end to the oscillating knife and having a smooth transverse aperture adjacent to its opposite end, a pivot-bolt extending loosely through the smooth aperture of the pitman and having a threaded end disposed in the threaded aperture of the lug, and a sleeve mounted on the bolt and arranged between the lug and the pitman.

843,318. DISTILLING APPARATUS. HERRMANN A. ABENDROTH, Berlin, Germany. Filed Jan 16, 1905. Serial No. 241,280.



Claim.—1. The combination, with a distilling apparatus, of a forewarmer arranged to be heated by the outflowing exhausted liquor from the distilling apparatus, a decomposition-column arranged to be heated by the gas escaping from the distilling apparatus, and means for conducting the material to be distilled through the forewarmer, then through the decomposition-chamber out of contact with the escaping gas and then to the distilling apparatus.

2. The combination, with a distilling apparatus, and a decomposition-column located above the distilling apparatus and arranged to be heated by the gas escaping from the distilling apparatus, of a forewarmer, connections between the forewarmer and the distilling apparatus whereby the exhausted liquor from the distilling apparatus flows through and heats the forewarmer and means for leading the incoming material to be treated through the forewarmer, then through the decomposition-column out of contact with the escaping gas and then into the distilling apparatus.

3. The combination, with a distilling apparatus, and a decomposition-column located above the distilling apparatus and traversed by the gas liquor and arranged to be heated by the gas escaping from the distilling apparatus without admixture of the gas and gas liquor, of a forewarmer, connections between the forewarmer and the distilling apparatus whereby the exhausted liquor from the distilling apparatus flows through and heats the forewarmer, and means for leading off gases driven off from the gas liquor in the decomposition-column.

4. The combination, with a distilling apparatus, and a decomposition-column located above the distilling apparatus and traversed by the gas liquor and arranged to be heated by the gas escaping from the distilling apparatus without admixture of the gas and gas liquor, of a forewarmer, connections between the forewarmer and the distilling apparatus whereby the exhausted liquor from the distilling apparatus flows through and heats the forewarmer, means for leading off gases driven off from the gas liquor in the decomposition-column, means for cooling the ammonia-gas, and connections between the decomposition-column and said cooling means whereby the ammonia-gas, after heating the decomposition-column is led to the said cooling means.

5. The combination with a distilling apparatus, and a decomposition-column arranged to be traversed and heated by the ammonia-gas escaping from the distilling apparatus,

of a wash-column traversed by the fresh gas liquor, a forewarmer, connections between the forewarmer and the distilling apparatus whereby the exhausted liquor from the distilling apparatus flows through and heats the forewarmer, means for leading off to the wash-column the gases driven off from the gas liquor in the decomposition-column, and means for feeding the gas liquor through the wash-column, the forewarmer, the decomposition-column, and then into the distilling apparatus.

843,319. STETHOSCOPE. PETER A. AURNESS, Minneapolis, Minn. Filed Jan. 22, 1906. Serial No. 297,121.

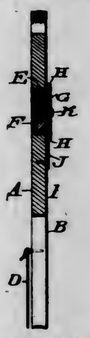


Claim.—1. A stethoscope comprising a double cone-shaped shell having open ends and diaphragms of different area inclosing the same, said shell having chambers in each end, and a constricted passage connecting them, a plug fitting into an orifice in said passage and having ear-tubes and a hole in its side wall communicating with one of said chambers whereby upon rotating said plug either of said diaphragms may be used, substantially as described.

2. A stethoscope comprising a shell having disks of different areas and a refractory lens interposed between said disks, substantially as described.

3. A stethoscope comprising a double cone-shaped shell having open ends and diaphragms of different area closing the same, said shell having chambers in each end and a constricted passage connecting them, said passage having a horizontal orifice, a plug having ear-tubes attached thereto and a hole in its side wall to allow said plug to communicate with either one of said chambers when inserted into said orifice and a refractory lens provided in each of said chambers and near said diaphragms whereby the sound-waves will be focalized for the purpose specified.

843,320. TOY. JOSEPH E. BATES, Philadelphia, Pa. Filed July 23, 1906. Serial No. 327,259.

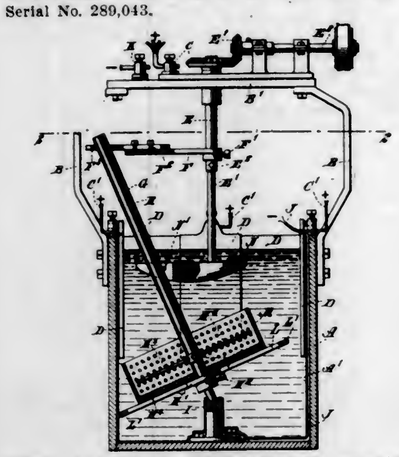


Claim.—1. In a toy target, a head having a socket therein, an eye adapted to removably occupy said socket, a flexible piece attached to said eye and head, and a member connected with the back of said eye, forming a flange adapted to limit the rear entrance of said eye into said socket.

2. A toy target having a socket, an eye having upon its back face a plate with a flange to limit its movement into the socket, said eye adapted to removably occupy said socket and a flexible piece having one end secured to the target and the other end inserted between said plate and eye and secured thereto.

3. A toy target having a head with a socket therein, an eye, the same being adapted to removably occupy said socket, a plate on the back of said eye, a flexible piece connecting said eye with said head, said piece having one end interposed between said plate and eye, and a common fastening for said plate and piece with said eye.

843,321. ELECTROPLATING APPARATUS. HERMAN R. BOISSIER, Great Neck, N. Y. Filed Nov. 25, 1905. Serial No. 289,043.



Claim.—1. An electroplating apparatus comprising a suitable tank provided with an electrode, a shaft extending into said tank and movable in a conical path, means for operating said shaft, and a receptacle connected with said shaft, and adapted to contain the articles to be plated, and provided with means for conducting the current to such articles.

2. The combination with a tank having means for conducting an electric current thereto, of a step-bearing in said tank, a shaft in alinement with said step-bearing, another shaft, one end of which rests in said step-bearing, while its other end is connected eccentrically with the first-named shaft, and a receptacle or holder for the articles to be plated, carried by the second-named shaft.

3. The combination with a tank and means for supplying current thereto, of a shaft movable in a conical path within said tank, and a receptacle for the articles to be plated carried by said shaft.

4. The combination with a tank having means for conducting a current thereto, of a shaft or support movable in said tank in a conical path, a receptacle for the articles to be plated, carried by said support, and means for preserving the direction of the receptacle's inclination up to a certain point of its travel, and then changing the direction of said inclination.

5. The combination with a tank having means for conducting an electric current thereto, or a shaft or support movable in a conical path, and having conducting pins or rods rigidly secured thereto, and a receptacle for the articles to be plated, carried by said support.

6. The combination with a tank having means for conducting an electric current thereto, of a support arranged within said tank, a receptacle for the articles to be plated carried by said support and surrounding the same, and conducting pins or rods radiating from said support within said receptacle, and rigidly secured to said support.

7. The combination with a tank having means for conducting a current thereto, of a receptacle for the articles to be plated, located within said tank, and toothed strips located at the bottom of said receptacle.

8. The combination with a tank having means for conducting a current thereto, of a step-bearing within said tank, a shaft alining with said step-bearing, a central electrode carried by said shaft, an extensible arm rigidly secured to said shaft, a shaft or support, one end of which rests in said step-bearing, while the other end is connected with said arm, said shaft being thus adapted to move in a conical path, a receptacle for the articles to be plated secured to the lower part of said shaft or support, pins or rods projecting from said support within the receptacle, and means for causing the direction in which the receptacle is inclined to change periodically.

9. The combination with a tank having means for conducting a current thereto, of a step-bearing within said tank, a shaft alining with said bearing, and having an electrode secured thereto, a support resting in said step-bearing and connected with said shaft eccentrically, and a receptacle for the articles to be plated, connected with said support.

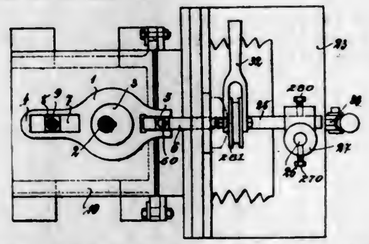
10. The combination with a tank having means for conducting a current thereto, of a shaft, an extensible arm carried by said shaft, a step-bearing, a support resting in said step-bearing, and connected with said arm, and a receptacle for the articles to be plated, carried by said support.

11. The combination with a tank having means for conducting a current thereto, of a movable receptacle for the articles to be plated, located within said tank, and an eccentrically-journaled rotary electrode located adjacent to said receptacle but exteriorly thereof.

12. The combination with a tank having means for conducting a current thereto, of a step-bearing within said tank, a support or shaft resting in said step-bearing, means for moving said support in a conical path, a receptacle for the articles to be plated, carried by said support, and guide members connected with said receptacle, and adapted to engage a stationary part of the tank, to cause the direction in which the receptacle is inclined to change, according as said guide members engage different surfaces of the tank.

13. The combination with a tank having means for conducting a current thereto, of a shaft or support, means for imparting movement to said support in a conical path, a polygonal step-bearing for the squared lower end of said shaft or support, and a receptacle carried by said support and adapted to receive the articles to be plated.

843,322. GROOVE-CUTTING MACHINE. PETER BONTENAKELS, Düsseldorf, Germany. Filed Jan. 27, 1906. Serial No. 298,123.

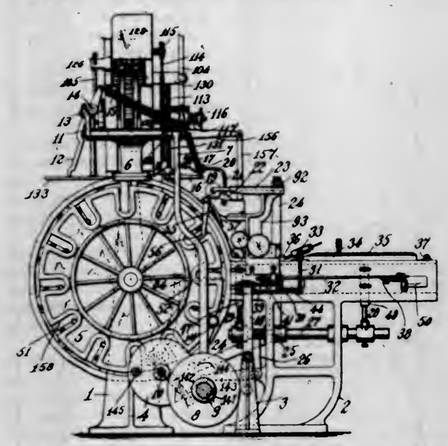


Claim.—1. In a groove-cutting machine, a frame, an eccentric rotatable thereon, a surrounding strap having a first arm and a second slotted arm at diametrically opposite sides of the eccentric, a cutting-tool carried by the first arm, and a pin adjustably mounted in the frame and engaging the second arm, substantially as specified.

2. In a groove-cutting machine, a frame, an eccentric rotatable thereon, a surrounding strap having a first arm and a second slotted arm at diametrically opposite sides of the eccentric, a cutting-tool carried by the first arm, a pin adjustably mounted in the frame, and a squared block rotatable on said pin and engaging the slot of the second arm, substantially as specified.

843,323. PACKING-MACHINE. EDWARD L. BRACY, Scotland Neck, N. C., assignor to Richard H. Wright, Durham, N. C. Filed Dec. 1, 1904. Serial No. 235,001.

Claim.—1. In packing-machines, a hopper, a feed-drum having transverse pockets therein mounted in said hopper, a rotating clearer provided with guards adjacent said drum, strippers coöperating with said drum to remove articles therefrom, an intermittently-rotating mold-wheel having molds therein, plungers mounted in said molds, pivoted tuckers mounted in recesses in said mold-wheel, means to force wrappers and articles into said molds, folding and pasting devices to close and seal said wrappers around said articles, means to rotate said feed-drum in unison with said mold-wheel and discharge devices comprising a chute, intermittently-operating grippers, a retainer, and means to operate said grippers and retainer to engage the wrapped packages alternately.



2. In packing-machines, a hopper, a feed-drum having transverse pockets therein mounted in said hopper, a clearer adjacent said drum, strippers coöperating with said drum to remove articles therefrom, an intermittently-rotating mold-wheel having molds therein, plungers mounted in said molds, pivoted tuckers mounted in said mold-wheel, means to force wrappers and articles into said molds, folding and pasting devices to close and seal said wrappers around said articles and means to operate said feed-drum in unison with said mold-wheel.

3. In packing-machines, a hopper, a feed-drum having pockets therein mounted in said hopper, a rotating clearer adjacent said drum, strippers coöperating with said drum to remove articles therefrom, an intermittently-rotating mold-wheel having molds therein, folding devices coöperating with said mold-wheel, means to rotate said feed-drum in unison with said mold-wheel and means to manually rotate said feed-drum and to accurately set the same.

4. In packing-machines, a hopper, a feed-drum having pockets therein mounted in said hopper, means to remove articles from said pockets, wrapping devices to receive and wrap said articles, disengageable means to rotate said feed-drum in unison with said wrapping devices and manual means to rotate said feed-drum.

5. In packing-machines, a hopper, a pocketed feed-drum in said hopper, wrapping devices to receive articles from said feed-drum, means comprising a spring-pressed disengageable clutch to rotate said feed-drum in unison with said wrapping devices and manual means to set said feed-drum and to move the same forward without disengaging said clutch.

6. In packing-machines, a hopper, a feed-drum provided with transverse pockets coöperating with said hopper, a clearer adjacent said drum to disengage therefrom articles not seated in said pockets, a stripper operating in a groove in said drum to remove articles from said pockets, a runway to receive said articles and a feed-belt in said runway operating in unison with said feed-drum.

7. In packing-machines, a hopper, a feed-drum having transverse pockets therein mounted in said hopper, a rotating clearer adjacent said drum, guards engaging said clearer to positively disengage articles therefrom, strippers coöperating with said drum to remove articles therefrom, a runway to receive said articles and a feed-belt coöperat-

ing with said runway and operated in unison with said drum.

8. In packing-machines, a hopper, a feed-drum having transverse pockets therein mounted in said hopper, a rotating clearer provided with guards mounted adjacent said drum to disengage therefrom articles not seated in said pockets, strippers operating in circumferential grooves in said drum to remove articles therefrom.

9. In packing-machines, an intermittently-rotating mold-wheel having molds therein, plungers frictionally supported in said molds, pivoted spring-pressed integral tuckers mounted in recesses in said mold-wheel, a pivoted lifter to engage the forward upstanding flap of a wrapper and thereafter to move toward said mold-wheel to force said flap into position, pasting devices, means comprising spring-pressed closers to fold the side flaps of wrappers and a retractor to disengage said closers during the operation of said tuckers.

10. In packing-machines, a mold-wheel provided with molds, folding means comprising movable closers to engage the wrappers of articles in said molds and movable tuckers mounted in said mold-wheel to be projected therefrom and a retractor to move said closers out of the path of said tuckers.

11. In packing-machines, a mold-wheel provided with molds, tuckers mounted within said wheels to be projected therefrom, folding devices comprising a movable closer adjacent said drum, a retractor coöperating with said closer and means on said tuckers to operate said retractor and carry the same out of the path of said tuckers.

12. In packing-machines, a mold-wheel having molds therein, tuckers mounted in said mold-wheel to be projected therefrom, a movable paste-finger coöperating with said mold-wheel, means for moving the paste-finger and means to operate said tuckers to engage a wrapper-flap at the same time as said paste-finger to bend said flap around said finger and supply paste to the inner face thereof.

13. In packing-machines, a mold-wheel provided with molds, pasting and folding devices coöperating with said mold-wheel to wrap and paste packages of articles, a discharge-chute, intermittently-operating grippers adjacent said chute, a retainer coöperating with said chute to clamp articles thereon, means to operate said retainer and grippers to alternately engage packages in said chute, means to move said grippers longitudinally of said chute and means to eject packages from said mold-wheel into said chute to hold the same in position therein until set.

14. In packing-machines, pasting and folding devices to form pasted wrapped packages, a discharge-chute to receive said packages, intermittently-operating gripping devices adjacent said chute, a retainer adjacent said chute to hold packages thereon, means to operate said gripping devices and said retainer to alternately engage the packages, means to move said gripping devices longitudinally of said chute to positively feed packages along the same and means to discharge a new package into said chute substantially in unison with the movement of the series of packages therein to hold said packages in said chute under gentle compression until the paste thereon is set.

15. In packing-machines, pasting and folding mechanism to form wrapped pasted packages, a discharge-chute, an intermittently-operating gripping mechanism to receive said packages, means to periodically eject packages from said folding mechanism into said chute and means to move said gripping mechanism longitudinally of said chute substantially in unison with said ejected package to hold said packages in position until set.

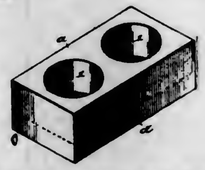
16. In packing-machines, folding and pasting mechanism to form wrapped pasted packages, intermittently-operating gripping mechanism to receive a series of said packages, means to periodically discharge a wrapped package from said folding mechanism and means to operate said gripping mechanism substantially in unison with the movement of said ejected package to hold the same under gentle compression.

17. In packing-machines, folding and pasting mechanism to form wrapped pasted packages, a discharge-chute discharge-yokes mounted adjacent said chute, grippers mounted in said yokes to move transversely of said chute, a retainer, means to operate said grippers and retainers to alternately engage packages and means to move said yokes longitudinally of said chute.

18. In packing-machines, folding and pasting mechanism to form wrapped pasted packages, means to periodically eject said packages, a discharge-chute, discharge-yokes mounted adjacent said chute, a gripper movably mounted in said yokes to move transversely of said chute, a movable retainer, means to operate said gripper and retainer to alternately engage packages in said chute and means to move said yokes longitudinally of said chute substantially in unison with the means to eject said packages.

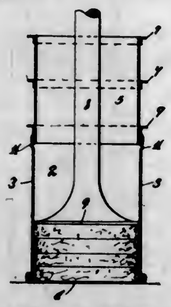
19. In packing-machines, means to form wrapped packages, a chute-frame, discharge-yokes mounted adjacent said frame, grippers mounted in said yokes to move transversely of said frame, springs to normally hold said grippers outward in operative position, means to move said yokes longitudinally of said frame and means to periodically force said grippers inward into operative position.

843,324. REINFORCED CEMENT BLOCK. EDWARD J. BROOKS, East Orange, N. J. Filed Apr. 16, 1906. Serial No. 311,890.



Claim.—A reinforced cement block including a hollow portion containing one or more recesses, a bridge-forming reinforce in the plane of the upper side of each recess and a solid portion in contact with and inseparably attached to said hollow portion and said reinforce substantially as hereinbefore specified.

843,325. METHOD OF PACKING ISINGLASS. ARTHUR L. CANFIELD, Montclair, N. J. Filed Feb. 9, 1906. Serial No. 300,219.



Claim.—1. The method of packing compressible sheet material, which consists in forming sheets into coils, compressing a plurality of such coils laid edgewise into a cylinder, and closing said cylinder while holding the coils under pressure, substantially as described.

2. The method of packing compressible sheet material into a cylinder, which consists in forming sheets into flat coils of greater diameter than thickness, compressing while supported against lateral displacement, a plurality of such coils laid edgewise into said cylinder, and closing said cylinder after the coils have been compressed within its end, substantially as described.

3. The method of packing compressible sheet material which consists in winding sheets into flat coils, laying a plurality of said coils edgewise in a cylinder of substantially the diameter of said coils and having one end closed, compressing said coils and a cover into the cylinder by a ram, fastening said cover under pressure, and withdrawing said ram, substantially as described.

4. The method of packing isinglass which consists in forming it into sheets, winding said sheets into coils, compressing said coils laid edgewise into a case adapted to withstand pressure, and closing said case in such manner as to withstand pressure, substantially as described.

5. The method of packing isinglass which consists in forming said material into sheets, rolling said sheets to form coils, compressing said coils in a metal case adapted to withstand interior pressure, and closing said case in such manner as to withstand pressure, substantially as described.

6. The method of packing isinglass which consists in forming said material into sheets, rolling said sheets to form coils, compressing said coils in a case adapted to withstand interior pressure, and hermetically closing said case in such manner as to withstand pressure, substantially as described.

843,326. TENNIS-NET. JAMES C. CHAPIN, Englewood, N. J. Filed Nov. 3, 1906. Serial No. 341,902.

Claim.—1. A tennis-net having its upper part composed of netting and its lower part of loose pendent threads.

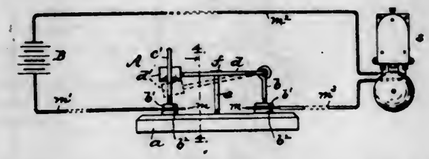
2. A tennis-net having a part composed of woven threads to form a network, and another part of free or unwoven threads.

3. A tennis-net having an upper portion which will prevent the passage of tennis-balls therethrough, and a lower portion which will yield to permit the passage therethrough of such balls.

4. A tennis-net composed in part of a fringe of loose pendent threads.

5. A tennis-net having a main body portion which will prevent the passage therethrough of tennis-balls, and a supplemental lower portion of loose threads which will spread to permit the passage therethrough of such balls.

843,327. AUTOMATIC CIRCUIT-CLOSER. LEANDER CHARBONNEAU, Woonsocket, R. I. Filed Nov. 21, 1906. Serial No. 344,512.



Claim.—1. As an improved article of manufacture, the automatic circuit-closing device substantially as herein described, the same comprising a plurality of independent suitably-mounted current-conducting binding-posts adapted to be located in an electric circuit and also adapted to be secured to the respective terminals of a main conductor, a substantially horizontal self-dropping current-conducting contact member in continuous engagement with one of the said posts and extending through but normally disengaged from the fellow post, and means secured to the said movable contact member capable of being fused at a comparatively low degree of heat so as to release the latter from its normal position and close the circuit by gravity action, said action being irrespective of the plane in which the posts are located with respect to the said movable member.

2. As an improved article of manufacture, the circuit-closing device substantially as herein described, the same comprising a base member, a pair of binding-posts fixed therein arranged to firmly hold the respective terminals of a main conductor of electricity, a swinging self-dropping conductor member jointed to one of said posts and extending horizontally therefrom, a fusible connection for maintaining the said movable member in the normal inoperative position and having the other one of said posts terminating in an enlarged eye or ring having the free end portion of the movable member located centrally of and extending through the eye of said post.

3. In a device of the character described, the combination with the base, a binding-post secured therein, and a self-dropping current-conducting arm jointed thereto, of a suitably-supported fusible connection for maintaining said arm in a normally fixed substantially horizontal position, a fellow binding-post also secured to the base having its free end terminating in an integral ring or eye, and having the outer end of said arm passing transversely through the center of said ring, substantially as hereinbefore set forth.

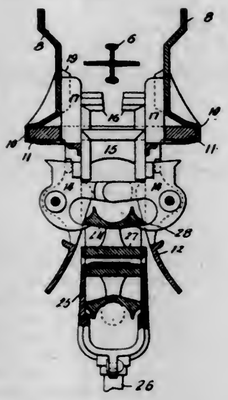
4. In a device of the character described, the combination of a suitably-mounted current-conducting swinging arm *d*, a connection fusible at a low degree of heat fixed to the arm and adapted to maintain the latter in the normal inoperative position, and a fixed conducting post or member having an integral eye through the center of which the free end portion of said arm freely extends, constructed and arranged so that the arm drops by gravity and contacts with the adjacent surface of said eye to close the circuit whenever the said fusible connection is melted, substantially as described.

843,328. HAY-CARRIER. JAMES R. COMBS, U. S. Navy. Filed Aug. 7, 1905. Serial No. 273,049.

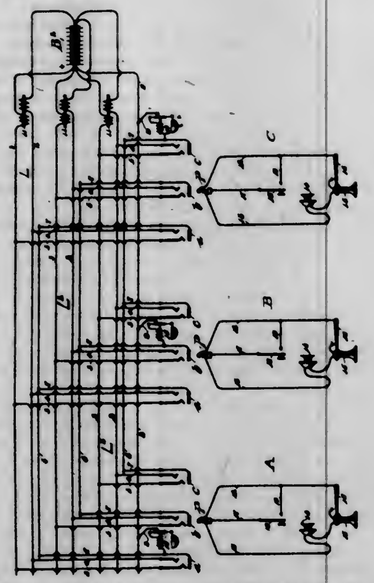
Claim.—1. The combination in a hay-carrier, of the grappling-dogs and a fork-pulley sheave having an overhanging rim which is exposed above the pulley-frame, the lower ends of said dogs swinging directly beneath the rim of the sheave.

2. The combination in a hay-carrier, of the turn-table, the grappling-dogs and the fork-pulley, the latter having a sheave and a frame supporting the same, and the frame being adapted to expose the sheave so its rim may be engaged by the dogs, and the lower ends of said dogs swinging directly beneath said rim.

843,328.



843,329. INTERCOMMUNICATING TELEPHONE SYSTEM. WILLIAM W. DEAN, Chicago, Ill., assignor to Kellogg Switchboard & Supply Company, Chicago, Ill., a Corporation of Illinois. Filed June 15, 1903. Serial No. 161,534.



Claim.—1. In an intercommunicating system, the combination with a single source of current for both talking and signaling, of three conductors for each substation consisting of an individual metallic circuit and an individual signaling-wire extending throughout the system, and means at each substation for calling and talking with any other party connected with the system, substantially as described.

2. In an intercommunicating system, a plurality of lines, the combination with a common battery, of a separate metallic talking-circuit for each line, an individual signaling-wire for each line, and a common signaling-wire for all of the lines, substantially as described.

3. In an intercommunicating system, the combination with a central source to furnish current for talking purposes, of spring-jacks for each line at each substation of the system, a subscriber's talking apparatus including a connecting-plug adapted to be inserted in any of the spring-jacks of the lines, said subscriber's talking apparatus being adapted to be entirely disconnected from the line-circuit, and means for receiving a call at any of the stations whether or not the apparatus at such station is thus disconnected, substantially as described.

4. In an intercommunicating telephone system, the combination with a common current source, of an individual line for each station and an individual signaling-wire for each station, a common signaling-wire for all of the stations, the signaling device of each station being connected between said common wire and the individual wire of that station, substantially as described.

5. In an intercommunicating telephone system, the combination with a common source of current, of a line conductor forming part of the talking-circuit of each substation connected with one pole of said source, a common signaling-conductor connected with the opposite pole of said source, a signaling device at each substation connected between said common signaling-wire and an individual signaling-wire, and means at each substation to close said line conductor and said individual signaling-wire together whereby the signaling device at any station may be operated at will, substantially as described.

6. In an intercommunicating system, the combination with individual lines consisting of two line conductors, of a common signaling-conductor and an individual signaling-conductor, a calling-signal at each substation, a common current source for talking, and means for operating the calling-signal at any station by current from said source over one of the talking-conductors and said individual and common signaling-conductors, substantially as described.

7. In an intercommunicating system, the combination with individual lines extending throughout the system, each line consisting of two limbs, each limb being separated from the other lines by a device opaque to voice-currents, of means when any two parties are talking whereby they are connected in parallel with the same line conductors, a common source of current for signaling and talking, and means for furnishing signaling-current over one of the limbs of said telephone-line, and a conductor not adapted to form a portion of the talking-circuit, substantially as described.

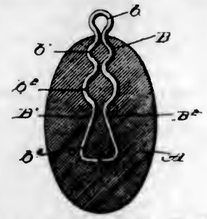
8. In an intercommunicating system, the combination with a central source of current to furnish current for talking, of spring-jacks for each line at each substation of the system, a subscriber's talking apparatus including a connecting-plug adapted to be inserted in any of the jacks of the lines, said subscriber's talking apparatus being entirely disconnected from the line-circuit, and a call-receiving instrument at each station permanently associated with the line, whereby any station may be signaled whether or not said apparatus is thus disconnected, substantially as described.

9. In an intercommunicating system, the combination with a plurality of metallic talking-lines extending throughout the system, of an individual signaling-wire associated with each of said lines, a common signaling-wire for all of said lines, and a call-receiving instrument at each station permanently connected between said common signaling-wire and the individual signaling-wire of said station, substantially as described.

10. In an intercommunicating system, the combination with a central source of current to furnish current for talking, of a plurality of metallic talking-lines extending throughout the system, an impedance-coil between said source of current and each of said metallic talking-lines, an individual signaling-wire associated with each of said lines, a common signaling-wire for all of said lines, and a call-receiving instrument at each station permanently connected between said common signaling-wires and the individual signaling-wire of said station, substantially as described.

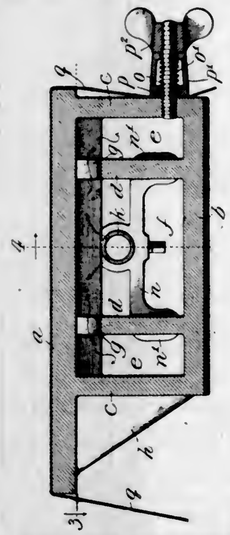
11. In an intercommunicating system, the combination with a plurality of metallic talking-lines extending throughout the system, of an individual signaling-wire associated with each of said lines, a common signaling-wire for all of said lines, a call-receiving instrument at each station permanently connected between said common signaling-wire and the individual signaling-wire of said station, and a subscriber's telephone set at each station adapted to be entirely disconnected from the lines without interfering with the operation of said call-receiving instrument, substantially as described.

843,330. ANCHOR FOR CAKES OF SOAP. JAMES G. DROUGHT, Chicago, Ill. Filed Mar. 27, 1905. Serial No. 252,213.



Claim.—A wire anchor for a cake of soap comprising an eye for supporting the soap and two corrugated portions adapted to be embedded in the soap, the corrugations in said two portions being so arranged as to form holes between the same through which the soap extends thereby firmly uniting the soap to the anchor.

843,331. CLOTH-PRESSING-MACHINE BUCK. JACOB ECKER, Chicago, Ill. Filed Jan. 25, 1905. Serial No. 242,658.

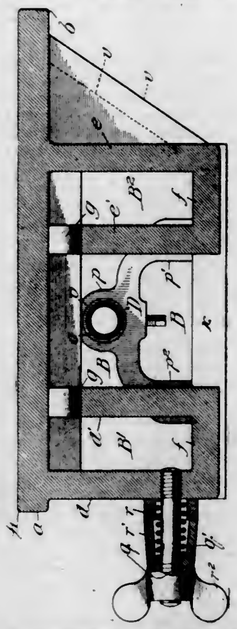


Claim.—1. A cloth-pressing buck comprising, in combination, a hollow metal body having imperforate outer walls and inner walls forming in said body a central chamber and, with said outer walls, side chambers, the chambers being open at both ends and said inner walls containing openings through which the chambers intercommunicate, a gas-burner in said central chamber, and shields on said body extending over and covering the open ends of the chambers and operating to deflect downwardly the hot gas escaping therefrom.

2. A cloth-pressing buck comprising, in combination, a hollow metal body having a flat upper pressing-surface, imperforate outer walls, and inner walls forming in said body a central chamber and, with said outer walls, side chambers, and a gas-burner supported in said central chamber, said inner walls containing openings through which the chambers intercommunicate and the chambers being open at both ends of said body to discharge the hot products of combustion from the burner beyond the work imposed on said buck.

3. A cloth-pressing buck comprising, in combination, a cast-metal body formed with a top and a bottom and outer and inner walls between them forming open-ended central and side chambers, said inner walls having openings, a bracket adjustably supported on said body, and a gas-burner supported on said bracket to extend in said central chamber.

843,332. CLOTH-PRESSING BUCK. JACOB ECKER, Chicago, Ill. Filed Dec. 1, 1905. Serial No. 289,822.



Claim.—1. A cloth-pressing buck comprising, in combination, a top having below it an open-bottomed central chamber and side chambers containing openings in their inner walls for communication with said central chamber but having closed outer sides and bottoms, said chambers being open at their opposite ends, and a gas-burner supported in said central chamber for heating the buck.

2. A cloth-pressing buck comprising, in combination, a top, inner walls depending from said top, provided with openings and forming a central open-bottomed chamber, outer imperforate walls depending from said top and forming with said inner walls side chambers closed along their bases, said chambers being open at their ends, and a gas-burner supported in said central chamber for heating the buck.

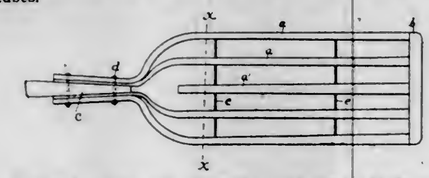
3. A cloth-pressing buck comprising, in combination, a top, inner walls depending from said top, provided with openings and forming a central open-bottomed chamber, outer imperforate walls depending from said top and forming with said inner walls side chambers closed along their bases, said chambers being open at their ends, a gas-burner supported in said central chamber for heating the buck, and deflectors supported at the open ends of said chambers.

843,333. BAKER'S PEEL. WALTER FICKETT, Portland, Me. Filed Nov. 26, 1906. Serial No. 345,239.

Claim.—1. The herein-described baker's peel having a blade composed of longitudinally-disposed metallic wedge-

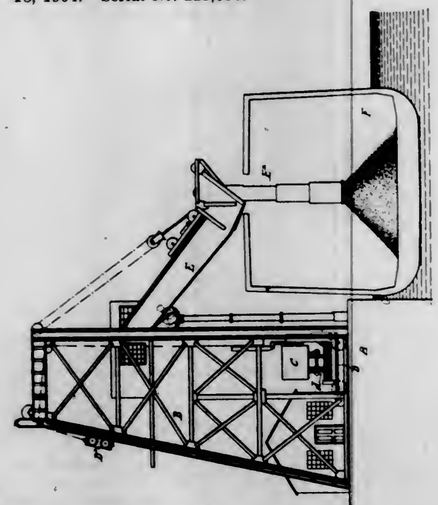
shaped tubes tapering to the end of the blade and a strengthening-plate uniting the ends of the tapering tubes.

2. The herein-described baker's peel having a blade composed of a plurality of longitudinally-arranged metallic wedge-shaped tubes tapering to the end of the blade, a strengthening-plate uniting the ends of the tapering tubes and stiffening-rods extending laterally through the several tubes.



3. The herein-described baker's peel having a blade composed of a plurality of longitudinally-arranged metallic wedge-shaped tubes tapering to the end of the blade, a strengthening-plate uniting the ends of the tapering tubes, stiffening-rods extending laterally through the several tubes, the outside tubes being bent inward and secured on each side of the handle.

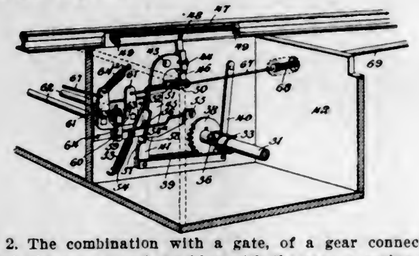
843,334. SCREEN FOR CAR-DUMPING APPARATUS. CHARLES A. FRY, New York, N. Y., assignor, by mense assignments, to Dodge Coal Storage Company, Saugatuck, Conn., a Corporation of Connecticut. Filed Oct. 18, 1904. Serial No. 229,030.



Claim.—The combination in a car-dumping apparatus, of a structure, a platform for carrying the car, means for dumping the platform and the car, a chute at one side of the structure into which the material is discharged from the car, a screen at the inner end of the chute, a trough under the screen, a conveyer in the trough, a telescopic tube connecting with the trough, a screenings-hopper, and a conveyer leading from the outlet end of the telescopic tube to the screenings-hopper, substantially as described.

843,335. AUTOMATIC RAILROAD-GATE. LUKE GALLANT, Amery, Wis. Filed Aug. 6, 1906. Serial No. 329,451.

Claim.—1. The combination with a pair of pivoted gates, arms connected with the gates and movable in opposite directions, a single lever fulcrumed at an intermediate point and connected with one of the arms, upper and lower levers, connected together at their adjacent ends, the upper lever being also connected with the other arm, and operating mechanism connected with the lower lever and the said single lever.



2. The combination with a gate, of a gear connected with the gate, a rack meshing with the gear, a spring for moving the rack in one direction, and train-operated means for moving the rack in the opposite direction.

3. The combination with a gate, of a gear connected with the gate, a rack meshing with the gear, a lever connected with the rack for actuating the same, a spring for moving the lever in one direction, and train-operated means for moving the lever in the opposite direction.

4. The combination with a gate, of a lever fulcrumed at an intermediate point and having one of its arms connected with the gate, a crank element connected with the other arm of the lever, a gear connected with the crank element, a rack meshing with the gear, and means for actuating the rack to open and close the gate.

5. The combination with a gate, of a lever fulcrumed at an intermediate point and having one of its arms connected with the gate, a crank element connected with the other arm of the lever, a gear yieldably connected with the crank element, a rack meshing with the gear, a spring for moving the rack in one direction, and train-operated means for moving the rack in the opposite direction.

6. The combination with a gate, of a shaft, a crank element mounted on the shaft and connected with the gate, a coiled spring disposed on the shaft and connected with the crank element, a second spring connected with the crank element and with the shaft, and means for operating the shaft.

7. The combination with a gate, of a shaft connected with the gate, a gear mounted on the shaft, a rack meshing with the gear, a lever connected with the rack for actuating the same, train-operated means for moving the lever in one direction, and means for moving the lever in the opposite direction.

8. The combination with a gate, of a shaft connected with the gate, a gear mounted on the shaft, a rack meshing with the gear, a link supporting one end of the rack, a lever connected with the other end of the rack, and means for actuating the lever for reciprocating the rack to open and close the gate.

9. The combination with a gate, of a gear, means for communicating motion from the gear to the gate, a reciprocatory rack meshing with the gear, a lever connected with the rack, train-operated mechanism for moving the lever in one direction, a spring for moving the lever in the opposite direction, locking mechanism for engaging the lever, and train-operated tripping mechanism connected with the locking mechanism for releasing the lever.

10. The combination with a gate, a lever, a rack connected with the lever, a gear meshing with the rack and connected with the gate, train-operated mechanism for moving the lever in one direction, a spring for moving the lever in the opposite direction, locking mechanism for holding the lever against movement, and train-operated tripping mechanism connected with the locking mechanism for releasing the lever.

11. The combination with a gate, of a lever, means for communicating motion from the lever to the gate, and springs for moving the lever in one direction, a train-operated device connected with the lever for moving the same in the opposite direction, a latch-lever provided with means for engaging the said lever for holding the gate in one position, and train-operated tripping mechanism connected with the latch-lever for releasing the other lever to permit the gate to be actuated by the said spring.

12. The combination with a gate, of a lever provided with a flange having an opening, means for communicating motion from the lever to the gate, train-operated mechanism for moving the lever in one direction, a spring for moving the lever in the opposite direction, a latch-lever operating in the opening of the said flange and provided with means for engaging the same to lock the gate in one position, and train-operated tripping mechanism connected with the latch-lever for releasing the other lever.

13. The combination with a gate, of a bell-crank lever fulcrumed at its angle and having an upper approximately horizontal arm, means for connecting the other arm of the lever with the gate for operating the latter, a depressible train-operated device, a bar or member connecting such device with the upper arm of the said lever, a horizontal lever connected with the said bar or member, a spring connected with the horizontal lever for moving the other lever in one direction, and means for locking the bell-crank lever and for tripping the same.

14. The combination of a gate, a main lever, means for communicating motion from the main lever to the gate, a spring for moving the said lever in one direction, train-operated mechanism for moving the said lever in the opposite direction, a latch-lever provided with means for engaging the main lever, bell-crank levers connected with the latch-lever for disengaging the same from the main lever, and train-operated tripping devices connected with the bell-crank levers.

15. The combination of a gate, a main lever, means for communicating motion from the main lever to the gate, a spring for moving the main lever in one direction, train-operated means for moving the said lever in the opposite direction, a locking-lever provided with means for engaging the main lever, bell-crank levers having overlapped arms provided with slots, a link connected with the latch-lever and having a pivot arranged in the said slots, and train-operated tripping devices connected with the bell-crank levers.

16. The combination of a gate, a main lever fulcrumed at an intermediate point, train-operated means connected with one arm of the lever, a latch directly engaging the other arm of the lever, means for communicating motion from the lever to the gate, and train-operated means connected with the latch for releasing the main lever.

17. The combination of a gate, a main lever fulcrumed at an intermediate point, means for communicating motion from the main lever to the gate, a train-operated device connected with one arm of the said lever for operating the same, a latch directly engaging the other arm of the main lever for locking the same, inner levers connected with the latch for releasing the main lever, and outer train-operated levers connected with the inner levers.

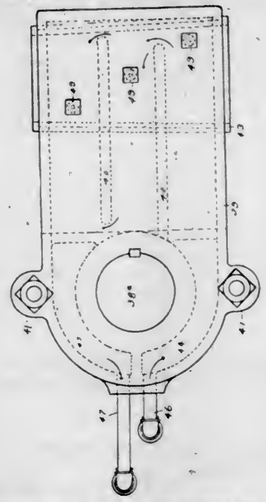
18. The combination of a gate, a main lever, means for communicating motion from the main lever to the gate, a latch for locking the main lever, means for actuating the main lever, and a train-operated tripping device connected with the latch and comprising a bell-crank lever, a spring connected with the bell-crank lever for holding one of the arms in an upright position, and a link connected with the other arm of the bell-crank lever.

843,336. SAW-GUIDE. HARRISON W. GARLAND, Bay City, Mich., assignor to M. Garland Co., Bay City, Mich. Filed Mar. 22, 1906. Serial No. 307,450.

Claim.—1. A guide for a band-saw comprising a pair of suitably-supported hollow members, and inlet and outlet pipes connected to the members and communicating with the hollow interiors thereof to supply a circulating cooling medium thereto:

2. A guide for band-saws comprising a pair of members lying in a vertical plane, a band-saw received therebetween and means for maintaining a circulation of a cooling medium through the members.

3. A guide for band-saws comprising a pair of hollow blocks having inlet and outlet channels, ribs located within the blocks to cause a circulation therein of a cooling medium, inlet and outlet pipes communicating with the inlet and outlet channels to supply the cooling medium to the blocks and convey it therefrom and a cutter passing between the blocks.



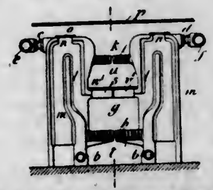
4. A guide and support for band-saws or other cutter comprising a hollow member in contact with the cutter and means for effecting the circulation of a cooling medium therethrough.

5. A guide and support for traveling cutters comprising a hollow block, means for maintaining the circulation of a cooling medium therethrough, and means for permitting the cooling medium to have direct contact with the cutter.

6. A guide and support for traveling cutters, comprising a hollow block, means for maintaining the circulation of a cooling medium therethrough, the block having a series of apertures therein to permit access of the cooling medium directly to the cutter and plugs for removably closing the apertures.

7. A guide and support for traveling cutters comprising a pair of hollow blocks located adjacent each other, the adjacent surfaces of the blocks being recessed, a traveling member received in the space formed by the recesses, means for maintaining the circulation of a cooling medium through the blocks, one of said blocks being perforated to permit the cooling medium to have direct contact with the traveling member and removable plugs for closing the perforations.

843,337. SECTIONAL BOILER. ALOIS HAGE, Hildesheim, Germany. Original application filed Jan. 15, 1906, Serial No. 296,168. Divided and this application filed Dec. 17, 1906. Serial No. 348,144.

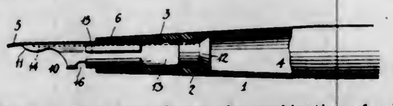


Claim.—1. In a boiler, the combination, with a series of sections arranged side by side and provided with flue-passages and water-spaces, and having at their middle parts partition portions also provided with water-spaces and

flue-passages, said parts forming two superposed combustion-chambers which are connected by the flue-passages of the said partition portions; of dampers for regulating the flue-passages between the said chambers, a range-plate arranged over the said chambers, and means for connecting all the said water-spaces together.

2. In a boiler, the combination with a series of sections arranged side by side and provided with water-spaces connected by upper and lower cross-tubes *c*, *f* and *b*, said sections forming a main combustion-chamber *g*, upwardly-extending flues *l* and downwardly-extending flues *m*; of an auxiliary combustion-chamber *k*, arranged above the main combustion-chamber, a range-plate arranged over the said combustion-chambers, dampers at the upper ends of the flues *l* and *m* permitting the products of combustion to pass from said chamber *g* to the range-plate, section parts *s* forming the partition between the main combustion-chamber *g* and the ash-pit of the auxiliary combustion-chamber *k* having slots between the same, a damper adapted to close said latter slots and permitting the products of combustion to pass through said chamber *k* from said combustion-chamber *g*, and a discharge-outlet for the products of combustion common to both of the said combustion-chambers.

843,338. NON-LEAKABLE FOUNTAIN-PEN. CLYDE A. HAYWARD, Boston, Mass. Filed May 7, 1906. Serial No. 315,677.



Claim.—1. In a fountain-pen the combination of a hollow holder having an interior annular shoulder, and a feed member mounted to slide in said holder and having a valve adapted to engage said shoulder and close said holder said feed member having a channel terminating near said valve to provide for the filling of the holder therethrough.

2. In a fountain-pen the combination of a hollow holder having an interior annular shoulder, and a feed member mounted to slide in said holder and having longitudinal channels extending to a point near its inner end, and a valve on said inner end to engage said shoulder and tightly close the holder.

3. A sliding feed attachment for a fountain-pen comprising a stock having a notch at one end and a valve at the other end, an ink-supply groove in the top of said stock, and cut-away portions at its opposite sides forming channels which communicate with the ink-reservoir when the attachment is slid into the holder to permit its being filled.

4. A feed attachment for a fountain-pen comprising a stock having side channels, and an ink-supply groove extending longitudinally thereof to a point beyond said channels at the rear end of said stock, and an enlarged tapered rear end.

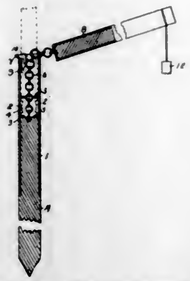
5. In a fountain-pen, the combination of a hollow holder open at one end and closed at its other end, said holder having an annular shoulder formed on the interior thereof, and a feed member mounted to slide in said open end of the holder, said feed member having longitudinal side channels, means for moving said member back and forth, and means for engaging said annular shoulder to limit the forward movement of said member and tightly close the holder.

6. In a fountain-pen, the combination of a hollow holder made in one piece open at one end and closed at the other, a pen-point mounted in said open end, and a feed member mounted to slide in said open end and having means to permit the insertion of ink into said holder, and means for tightly closing said holder against the passage of ink therefrom.

7. In a fountain-pen, the combination of a hollow holder made in one piece open at one end and closed at the other, a pen-point mounted in said open end, and a feed member mounted to slide in said open end and having means to permit the insertion of ink into said holder, and a valve on the inner end of the feed member to tightly close the holder.

8. In a fountain-pen, the combination of a hollow holder made in one piece open at one end and closed at the other, a valve-seat in said holder, a feed member sliding in said holder and having a valve to engage said seat and tightly close the holder, said feed member being provided with filling channels.

843,339. FISH-NET STAKE. EDUARD J. HOPKINS, Bay City, Mich., assignor of one-half to William P. Kavanaugh, Bay City, Mich. Filed July 30, 1906. Serial No. 328,394.



Claim.—1. A fish-net stake comprising a lower section, an upper section removable relative to the lower section, means for retaining the upper and lower sections in alinement and a loose connection between the upper and lower sections.

2. A fish-net stake comprising a stationary lower section, an upper section adapted to be alined with the lower section and to move vertically relative thereto, and a flexible connection between the sections.

3. A fish-net stake comprising a lower section, a socket carried thereby and an upper section, the lower end of which is removably stepped in the socket, the upper section movable vertically relative to the lower section and a positive connection between the upper and the lower sections to prevent their separation.

4. A fish-net stake comprising a lower section, a socket mounted thereon, the periphery of the socket being flush with the periphery of said lower section, an upper section removably seated in the socket and a positive connection between the upper and the lower sections to prevent their entire separation.

5. A plurality of fish-net stakes, each comprising a lower section, a socket carried thereby, an upper section removably seated in the socket, the upper section capable of vertical movement relative to the lower section, means for connecting the upper sections of the stakes, and means positively connecting each upper section with its corresponding lower section to prevent entire separation.

6. A fish-net stake comprising a lower section, a socket carried thereby and outwardly flared at its open end, an upper section removably seated in the socket and means for positively connecting the upper and lower sections to prevent their entire separation.

7. A fish-net stake comprising a lower section, a socket carried thereby, a seat formed in the socket above the upper end of the lower section whereby to leave a chamber between the seat and upper end of the lower section, an upper section, one end of which is removably received in the socket and a flexible connection between the upper and lower sections, the connection received in the chamber when the upper section is received in the socket.

8. A fish-net stake comprising a lower section, a socket carried thereby, a pair of collars located interiorly of the socket and spaced apart from each other, the upper collar being apertured, the lower collar forming a seat for the upper end of the lower section, an upper section removably seated upon the upper collar and a flexible connection between the upper and lower sections and passing through the aperture in the upper collar, the connection received in the space between the collars when the upper section is seated in the socket.

9. A fish-net stake comprising a lower section, a socket carried thereby, a pair of collars located interiorly of the socket and spaced apart from each other, the upper collar being apertured, the lower collar forming a seat for the upper end of the lower section, an upper section removably seated upon the upper collar, strengthening-ribs located interiorly of the socket between the collars, and a flexible connection between the upper and lower sections and passing through the aperture in the upper collar, the connection received in the space between the collars when the upper section is seated in the socket.

10. A fish-net stake comprising a lower section, a socket carried thereby, an apertured seat formed in the socket and spaced above the upper end of the lower section, a pin held in the socket beneath the seat, an upper section removably receivable in the socket and a flexible connection between the upper section and the pin.

11. A fish-net stake comprising a lower section, a socket carried thereby, the socket provided with intersecting bayonet-grooves, an upper section removably seated in the socket and studs carried by the upper section, the studs received and traveling in the grooves.

12. A fish-net stake comprising a lower section, a socket carried thereby, an upper section removably seated in the socket, studs carried by the upper section, the socket provided with intersecting grooves adapted to receive the studs to releasably lock the upper and lower sections together, one of the intersecting grooves being of such length that the upper section is seated before the stud reaches the bottom of the groove.

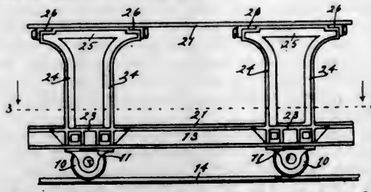
13. A fish-net stake comprising a lower section, an upper section removably seated relative thereto, and means for connecting the upper and lower sections at all times to prevent an entire separation thereof, the upper section capable of a vertical movement relative to the lower section.

14. A fish-net stake comprising a lower section, an upper section removably supported thereby, and means for flexibly connecting the sections to permit the unseating of the upper section relative to the lower section and to permit the upper section to swing horizontally relative to the lower section.

15. A fish-net stake comprising a lower section, an upper section removably seated thereon, means for preventing an entire separation of the sections and a weight for submerging the upper section subsequent to its unseating

16. A fish-net stake comprising a fixed lower section, a socket carried thereby, an upper section loosely and removably received in the socket and a flexible connection, the opposite ends of which are respectively connected to the upper and lower sections.

843,340. TRUCK. WILLIAM P. HUSSEY, Indianapolis, Ind., assignor to The Standard Dry Kiln Company, Indianapolis, Ind., a Corporation of Indiana. Filed July 5, 1906. Serial No. 324,750.



Claim.—1. The combination with the wheels and frame of a truck, of an upper deck or platform consisting of longitudinal bars secured to cross-bars substantially equidistant from each other, supports secured to the frame of the truck widened at the upper end, and means at each side of the upper end of said support for supporting said cross-bars on said upper deck or platform whereby the weight of said deck or platform will be evenly distributed.

2. In a double-deck truck having wheels, the combination with a frame, and a lower platform, of an upper platform having cross-bars with hook-shaped ends, and supports for said upper platform that at their lower ends are secured to the truck-frame and at their upper ends have pins to be engaged by the hook-shaped ends of the cross-bars of the upper platform whereby said upper platform may be readily removed or tilted.

843,341. SWIVEL DEVICE FOR RAZOR-STROP MEMBERS. FREDERICK KAMPFE, New York, N. Y. Filed Aug. 14, 1905. Serial No. 274,026.



Claim.—1. A swivel device for razor-strops comprising a headed post adapted to pass through an opening in the overturned end of the strop member, a bar adapted for connection with said post and to pass along through and beneath the overturned end of said member, a sleeve surrounding said post outside of the overturned end and means connected to the sleeve for supporting the strop from a fixed point.

2. A swivel device for razor-strop members comprising a headed post having a hole transversely through the post at the end opposite to the head, a bar having a flattened central portion adapted to be driven into the hole in the headed post and thereby securely fastened, and said bar received in the overturned end of one of the members of the strop, a revoluble sleeve about said headed post, and a ring connected to said sleeve and turning therewith for suspending the strop from a suitable support.

3. A swivel device for razor-strop members comprising a headed post having a hole transversely through the post at the end opposite to the head, a bar having a flattened central portion adapted to be driven into the hole in the headed post and thereby securely fastened, and said bar received in the overturned end of one of the members of the strop, a revoluble sleeve about said headed post, a ring connected to said sleeve and turning therewith for suspending the strop from a suitable support, and a clip having a central aperture for the post and passing around the overturned end of the strop to grip the surface thereof and assist in forming a bearing for the post.

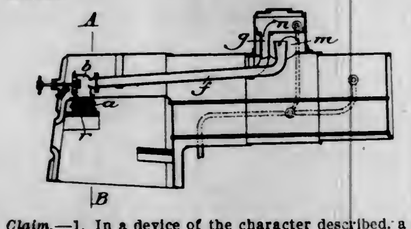
4. A swivel device for a razor-strop, comprising a headed post adapted to pass through an opening in the overturned end of the strop member and having a hole in said post, a bar adapted for connection with said post by passing through said hole and to pass along through and beneath said overturned end, a sleeve surrounding said post out-

side the overturned end of the strop and a ring connected to the sleeve for supporting the strop from a fixed point.

5. A swivel structure for a razor-strop, comprising a post having a head at one end and a hole transversely through the same near the other end, a bar having a flattened central portion to increase its appreciable diameter and adapted to be driven into the hole in the post and thereby securely fastened, a sleeve surrounding the post and revoluble thereon, a ring connected to said sleeve and turning therewith as a suspending device, and a clip of yoke form in cross-section having a central aperture for the post.

6. A swivel device for razor-strops comprising a headed post adapted to pass through an opening in the overturned end of the strop member, a bar adapted for connection with said post and to pass along through and beneath the overturned end of said member, a sleeve surrounding said post outside of the overturned end, means connected to the sleeve for supporting the strop from a fixed point, and a clip through which the post passes and which extends around the overturned end of the strop member.

843,342. SUPERHEATER. HEINRICH LANGER, Vienna, Austria-Hungary. Filed Dec. 5, 1905. Serial No. 290,431.



Claim.—1. In a device of the character described, a fire-box, a boiler, a superheater located in the rear of the angle of said fire-box and removed from the direct action of the flame, refractory material immediate said fire-box and said superheater, and connections between said superheater and said boiler.

2. In a device of the character described, a fire-box, a boiler having a plurality of chambers, a superheater located above said fire-box, refractory material between said fire-box and said superheater, a conduit leading from said superheater to one of said boiler-chambers, and a conduit leading from said superheater to the other of said chambers.

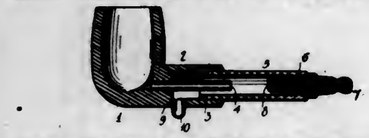
3. In a device of the character described, a fire-box, a boiler having a plurality of chambers, a superheater located above said fire-box, refractory material between said fire-box and said superheater, a conduit leading from one of said chambers to said superheater, a valve therefor, a conduit leading from the other of said chambers, and a valve for the last-mentioned conduit.

5. In a device of the character described, a fire-box, a boiler having a plurality of chambers, superheater-tubes located above said fire-box, refractory material between said fire-box and said superheater-tubes, a valved conduit leading from one of said boiler-chambers and communicating with said tubes, and a valved conduit leading from the other of said boiler-chambers and communicating with said superheater.

5. In a device of the character described, a fire-box, a boiler having a plurality of chambers, superheater-tubes located above said fire-box and transversely of said boiler, refractory material between said fire-box and said superheater-tubes, a valved conduit leading from one of said boiler-chambers and communicating with said tubes, and a valved conduit leading from the other of said boiler-chambers and communicating with said superheater.

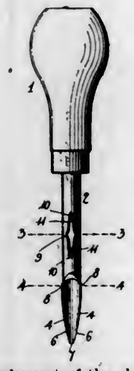
6. In a steam-superheater for locomotive and locomobile boilers, a fire-box, a boiler, an assemblage of superheater-tubes located in the rear upper angle of the fire-box and removed from the direct action of the flames, and connections leading from said superheater-tubes to said boiler.

843,343. TOBACCO-PIPE. CHARLES LINDBERG, Duluth, Minn. Filed Jan. 18, 1906. Serial No. 296,683.



Claim.—The herein-described tobacco-pipe provided with the short stem having the draft-bore and the enlarged counterbore, the hollow drain cap or plug communicating with the inner end of the counterbore and depending from the short stem, the main stem fitted in the outer end of the counterbore, the draft-tube connected with the draft-bore and extending through the counterbore and into the main stem, the bore of the latter being of greater diameter than the exterior diameter of the draft-tube and forming a chamber around the draft-tube and communicating with that formed by the counterbore of the short stem, and the mouthpiece fitted in the outer end of the main stem and having the reduced inner portion of less diameter than and extending into the bore thereof, substantially as specified.

843,344. BELT-SPLICING IMPLEMENT. FRANK M. LINDERMAN, Chicago, Ill. Filed Aug. 16, 1906. Serial No. 330,810.



Claim.—1. An implement of the class described comprising a handle and a tubular tool portion having its outer extremity sharpened to provide a cutter and provided in its opposite sides with transversely-alining eyes provided with cord-holding means.

2. An implement of the class described comprising a handle and a tubular tool portion having its outer extremity sharpened to provide a cutter, and having in its opposite sides or faces eyes provided with V-shaped or wedge-shaped portions, substantially as shown and for the purpose set forth.

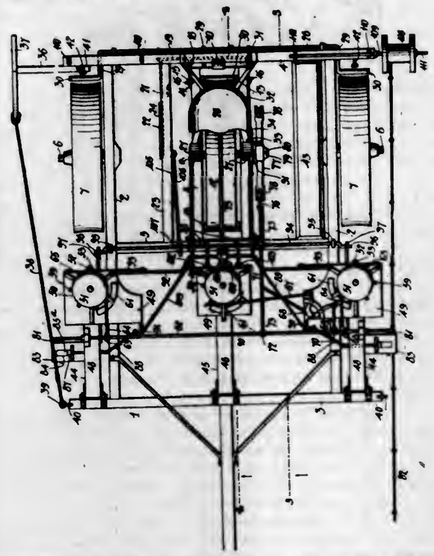
3. An implement of the class described comprising a handle and a tubular tool portion having its outer extremity sharpened to provide a cutter, and having transversely-alining V-shaped or wedge-shaped eyes in its opposite sides or faces, substantially as shown and for the purpose set forth.

4. An implement of the class described comprising a handle and a tubular tool portion having its outer extremity sharpened to provide a cutter, and having in its opposite sides or faces transversely-alining eyes provided with V-shaped portions having beveled edges, substantially as shown and for the purpose set forth.

5. An implement of the class described comprising a handle portion and a tubular tool portion, the tool portion having its free end beveled off to form tapering side cutting edges and a cutting-point, the said cutting edges having their diverging inner ends flared outwardly to provide a cutter of greater diameter than the tubular body portion of the tool, said tool portion also having intermediate its

ends transversely-alining eyes formed in its opposite sides or faces and provided with V-shaped or wedge-shaped portions having beveled edges, substantially as shown and for the purpose set forth.

843,345. CORN-PLANTER. WILLIAM H. LYTLE, Bedford, Ill., assignor of one-half to W. R. Donohoo, Pearl, Ill. Filed June 28, 1906. Serial No. 323,802.



Claim.—1. In a planter, the combination with a wheeled supporting-frame, of a marker-wheel loosely mounted therein, a series of runner-shoes hingedly connected to said frame, feed-hoppers carried by said shoes, feed-valves mounted within said hoppers, radially-projecting lugs on said valves, a cranked, spring-retracted, valve-operating shaft mounted on said runners, pawls actuated by said shaft to engage the lugs on said valves and turn the latter, a tappet-arm connected to said shaft, and means actuated by said marker-wheel to engage said tappet-arm and thereby rock said valve-operating shaft, substantially as described.

2. In a corn-planter, the combination with a wheeled supporting-frame, of a marking-wheel frame hingedly mounted therein, a marking-wheel journaled in said hinged frame, a series of shoes hingedly mounted in the forward portion of said wheeled frame, apertured hopper-plates arranged on said shoes, seed-hoppers arranged above said plates, apertured feed-valves pivotally mounted between said hoppers and said plates whereby communication is formed between said hopper and the feed-tubes of said shoes, a series of radially-disposed lugs on each of said valves, a spring-retracted valve-operating shaft journaled on said shoes, valve-operating pawls adapted to be reciprocated by said operating-shaft to successively engage the teeth on said valves and thereby revolve the same, stop-pawls on said hopper-plates to prevent the retrograde motion of said valve, and means whereby said operating-shaft is actuated, substantially as described.

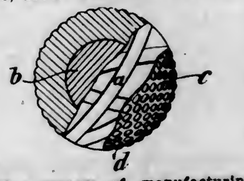
3. In a corn-planter, the combination with a wheeled supporting-frame, of a marking-wheel frame hingedly mounted therein, a marking-wheel journaled in said hinged frame, means to raise and lower said marking-wheel out of and into engagement with the ground, a series of runner-shoes hingedly connected to said wheeled frame, means to raise and lower said shoes out of and into engagement with the ground, hoppers carried by said shoes, rotary feed-valves disposed within said hoppers, a valve-operating shaft journaled on said shoes, valve-operating pawls connected to and operated by said shaft to turn said valve in one direction, stop-pawls operating to prevent a retrograde movement of said valves, and means whereby said operating-shaft is actuated by said marking-wheel, substantially as described.

4. In a corn-planter, the combination with a wheeled supporting-frame, of a marking-wheel frame hingedly mounted therein, a marking-wheel journaled in said hinged frame, a lifting-lever to raise and lower said marker-frame and wheel, runner-shoes hingedly connected to said wheeled frame, seed-hoppers carried by said shoes, rotary feed-valves arranged within said hoppers, a spring-retracted valve-operating shaft, valve-operating pawls actuated by said shaft to engage and turn said valves in one direction, means to prevent a retrograde movement of said valves, a tappet-arm connected to said operating-shaft and a tappet-lever mounted on the shaft, of said marking-wheel and adapted to engage said tappet-arm and thereby actuate said valve-operating shaft, substantially as described.

5. In a corn-planter, the combination with a wheeled supporting-frame, of a marking-wheel frame hingedly mounted therein, a marking-wheel journaled in said frame, marking-blocks on said wheel, a lifting-lever to raise and lower said frame and wheel, cleaning-blades supported on the rear end of said wheeled frame, means to engage said blades with the peripheries of said wheel, runner-shoes hingedly connected to the forward end of said wheeled frame, feed-hoppers carried by said shoes, feed-valves arranged below said hoppers, an operating-shaft journaled on said shoes, a tappet-lever, means whereby said tappet-lever is adapted to actuate said shaft.

6. In a corn-planter, the combination with a wheeled supporting-frame, of a marking-wheel frame hingedly connected thereto, a marking-wheel journaled in said hinged frame, marking-blocks arranged in the periphery of said wheel; a lifting-lever adapted to raise and lower said frame and wheel, means to press and hold the latter downwardly in yielding engagement with the ground, a series of runner-shoes hingedly connected to the forward end of said frame, a lifting-lever to raise and lower said runner-shoes out of and into engagement with the ground, means to yieldingly press and hold said shoes downwardly on the ground, seed-hoppers arranged on said seed-planting shoes, rotary valves arranged below said hoppers, an operating-shaft journaled on said shoes, valve-actuating pawls operated by said shaft, a tappet-arm, a crank-arm arranged on said operating-shaft, a link connecting said crank-arm and tappet-arm, a pivotally-mounted bearing-plate on said tappet-arm, a tappet-lever removably mounted on the shaft of said marking-wheel, tappet-rollers mounted in the outer ends of said shaft to engage said bearing-plate, whereby a drilling movement is imparted to said feed-valve, substantially as described.

843,346. MANUFACTURE OF GOLF-BALLS. ALFRED B. MACNEIL, and JEANNIE MACNEIL, Glasgow, Scotland. Filed May 23, 1906. Serial No. 318,391.

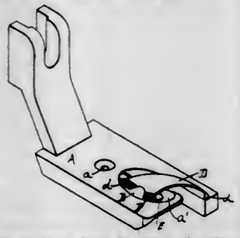


Claim.—1. The process of manufacturing golf-balls which consists in taking a solid and elastic core, winding tightly and evenly thereover vulcanized-rubber windings a portion of which is treated with elastic solution and then heating the ball so made until the outer windings and the solution become soft, then placing the ball in a mold and subjecting it to pressure, and allowing it to set, then removing and finishing.

2. The process of manufacturing golf-balls which con-

sists in winding about a core, vulcanized-rubber thread, then winding thereon rubber tape treated with an elastic solution, then heating to render the outer windings and the solution soft, then placing in a mold and allowing the same to cool and set under pressure whereby the homogeneous windings constitute the outer cover.

843,347. HEMMER. ALFRED L. MADISON, New York, N. Y., assignor to Willcox & Gibbs Sewing Machine Company, New York, N. Y., a Corporation of New York. Filed May 9, 1906. Serial No. 315,950.

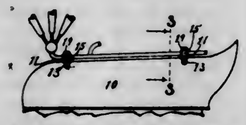


Claim.—1. A presser-foot hemmer having a scroll and a turning-finger at the entrance to the scroll, within the length of the presser-foot, as and for the purpose described.

2. A presser-foot hemmer having a scroll with a turning-finger formed on the scroll at the entrance to the latter, and within the length of the presser-foot.

3. A slotted presser-foot carrying a hemming-scroll within the slot and a turning-finger at the entrance to the scroll and also within said slot.

843,348. SHIFTER-FASTENER FOR VEHICLE-TOPS. JOHN Z. MILLER, Indianapolis, Ind. Filed July 26, 1906. Serial No. 327,892.



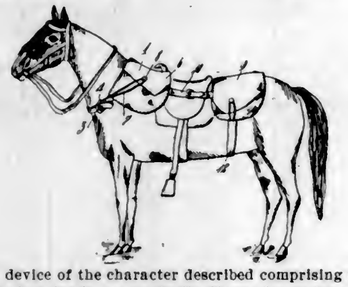
Claim.—1. A fastener for vehicle-tops, including one member secured to the vehicle-top, another member secured to the seat of the vehicle, one of said members being slotted and notched transversely of the slot, and a bolt passing through the other member with a widened head that is insertible in said slot and when turned transversely thereof fits in said notch, and a spring acting on said bolt to hold the head thereof in said notch.

2. A fastener for vehicle-tops including one member secured to the vehicle-top, another member secured to the seat of the vehicle, one of said members being slotted and notched transversely of the slot and the other member provided with a hole for the passage of the bolt that is enlarged above the lower end thereof, a bolt extending through said hole with a flattened head adapted to enter said slot and when turned transversely thereof engage said notch, a spiral spring about said bolt in the enlarged portion of the hole containing said bolt, and a nut on said bolt, substantially as set forth.

843,349. SADDLE-BAGS. AARON R. MOORE, Emporia, Kans. Filed Sept. 20, 1906. Serial No. 335,389.

Claim.—1. A device of the character described comprising a mail-delivery bag adapted to be arranged at the forward end of a saddle, a collecting or mail-receiving bag adapted to be arranged at the rear end of the saddle, means connecting said bags, and means on said bag for holding it in position on a horse.

2. A device of the character described comprising a mail-delivery bag arranged at and adapted to be secured to the forward ends of a saddle, means to hold said bag in position, a receiving or collecting bag adapted to be arranged on the back of a horse at the rear end of the saddle, side straps to connect said bags together on each side of the saddle, and means to hold said receiving-bag in place, substantially as described.



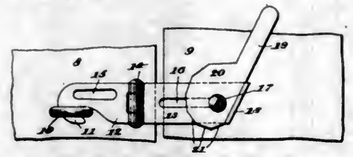
3. A device of the character described comprising a mail-delivery bag having a centrally-disposed aperture to receive the pommel of the saddle, a strap connected to said bag and adapted to be fastened around the neck of a horse to hold said bag in position, a collecting and receiving bag arranged at the rear end of the saddle, side straps to connect said delivery and receiving bags together at the opposite sides of the saddle, and a girth connected to the ends of said receiving-bag and adapted to be passed around the body of the horse to hold said bags in place, substantially as described.

4. A device of the character described comprising a mail-delivery bag having arranged therein an aperture to receive the pommel of the saddle, pockets formed in the opposite ends of said bag, cover-flaps arranged on the bag to close the open ends of said pockets, elastic fastening devices to hold said cover-flaps in closed position, a strap connected at its opposite ends to the ends of said bag and adapted to be passed around the neck of a horse to hold the bag in position, a mail collecting or receiving bag adapted to be arranged on the back of the horse at the rear end of the saddle, the upper side of said bag being formed to permit the insertion and removal of mail into and from the opposite ends of the bag when hung across the back of a horse, a cover-flap adapted to be closed over said opening in the bag, a centrally-disposed fastener arranged adjacent to the outer edge of said cover-flap to hold the same in closed position, elastic fastening devices adapted to hold the ends of the flap closed, side straps adapted to connect said bags together on opposite sides of the saddle, and a girth-strap connected to the end of the receiving-bag to hold the same in position, substantially as described.

5. In a device of the character described comprising a delivery-bag, means to secure the same to the pommel of a saddle, a strap to hold the bag in position on the neck of a horse, pockets formed in the opposite ends of said bag, waterproof-covered flaps adapted to close said pockets, elastic fastening-loops connected at one end to the opposite ends of said bag-holding strap and adapted to be stretched across the bag and engaged with hooks on said flaps, thereby holding the flaps closed and holding the mail-matter against movement in the pockets, a receiving-bag arranged on the back of a horse at the rear end of the saddle, a cover-flap to close the open end of said bag, a fastening device arranged on the edge of the center of the same, a girth-strap connected to the ends of the bag and adapted to be passed around the body of the horse to hold the bag in place, and elastic fastening-loops connected to the opposite ends of said strap and adapted to be engaged with hooks on the ends of the cover-flap, substantially as described.

843,350. HASP-FASTENER. CLYDE S. MORSE, Shabbona, Ill. Filed Dec. 10, 1906. Serial No. 347,005.

Claim.—1. In a fastener, the combination with a hasp pivotally and movably secured near one of its ends and provided at its secured end with a projecting flange, the other end of the hasp having means to engage an engaging device, of a locking-lever pivotally and eccentrically mounted on the pivot of the hasp and having a cam-head provided with a series of facets on its edge to engage the flange of the hasp.



2. In a fastener, the combination with a hasp provided at one of its ends with a laterally-projecting flange and at its other end with means to engage an engaging device on one of the parts to be secured and having near said flange a longitudinally-extending slot, of a pivot extended through said slot, a locking-lever pivotally and eccentrically mounted on the said pivot and having a cam-head provided with a series of facets on its edge to engage the flange of the hasp, the said facets being located at varying distances and angles to the said pivot.

3. In a fastener, the combination with a hasp consisting of two pieces hinged together, one of said pieces having near its free end means to engage an engaging device and the other of said pieces having at one of its ends a laterally-projecting flange and provided with a longitudinally-extending slot, of a pivot extended through said slot, a locking-lever pivotally and eccentrically mounted on said pivot and having a cam-head provided with a series of facets on its edge to engage the flange of the hasp.

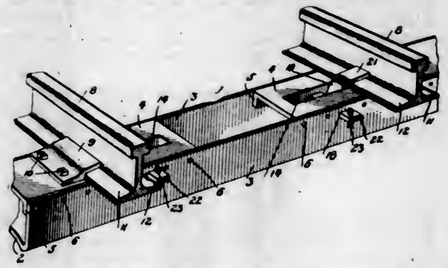
4. In a fastener, the combination with a hasp pivotally and movably secured near one of its ends to one of the parts to be secured together, the said hasp consisting of two members hinged together, one of said members having near its free end means to engage an engaging device secured on the other part to be fastened and the other of said members having at one of its ends a laterally-projecting flange, of a locking-lever pivotally and eccentrically mounted on the pivot of the hasp and having a cam-head provided with a series of facets on its edge to engage the flange of the hasp.

5. In a fastener, the combination with a hasp having at one of its ends means for engaging an engaging device and at its other end a laterally-projecting flange and provided near said flange with a longitudinally-extending slot, of a plate loosely secured at one of its ends to one of the parts to be connected together and pivotally and movably secured at its other end to the hasp, a locking-lever pivotally and eccentrically mounted on the hasp and having a cam-head provided with a series of facets on its edge to engage the flange of the hasp.

6. In a fastener, the combination with a hasp consisting of two members hinged together, one of said members having near its free end means to engage an engaging device secured on one of the pieces to be connected together and the other of said members having at one of its ends a laterally-projecting flange and provided near said flange with a longitudinally-extending slot, of a pivot extended through the slot of the hasp, a plate pivotally secured at one of its ends on said pivot and loosely secured at its other end to one of the pieces to be connected together, a locking-lever eccentrically mounted on said pivot and having a cam-head provided with a series of facets on its edge to engage the flange of the hasp.

843,351. METALLIC TIE AND RAIL-FASTENER. HUBERT W. MULVEY, Glassport, Pa. Filed Aug. 14, 1906. Serial No. 330,539.

Claim.—1. In a metallic tie and rail-fastener, the combination with rails, of a channel-bar having a concave bottom, plates carried by said bar and supporting said rails, clamps secured to said plates and engaging the outer sides of said rails, said plates having countersunk recesses formed therein, Z-shaped fasteners mounted in said recesses and engaging the inner sides of said rails, tapering keys passing through said tie and bearing upon said fasteners within said recesses, and means to lock said keys in said tie, substantially as described.



2. In a metallic railroad-tie, the combination with a sheet-metal tie comprising a bottom and side wall, of plates fitted in the tie at the ends thereof and secured to said side walls, rail-clamps secured to said plates, each plate having a depression, rail-fasteners seated in said depressions, and keys passed through registering openings in the side walls of the tie and the side walls of the depressions in said plates and holding said rail-fasteners in the depressions.

3. In a metallic railroad-tie, the combination with a sheet-metal tie having a bottom and side flanges, of flanged plates fitted within the tie at the ends thereof, each plate having a depression with notches in the flanges of the plates and with apertures in the side walls of the tie, rail-clamps fixed to said plates to engage the outer base-flange of a rail, substantially Z-shaped rail-fasteners seated in the depressions of said plates to engage the inner base-flange of said rail, and keys passed through said registering openings for securing said Z-shaped rail-fasteners within the depressions of said plates.

843,352. PROCESS OF MAKING INSULATORS. LOUIS MCCARTHY, Boston, Mass. Filed Mar. 8, 1906. Serial No. 304,828.

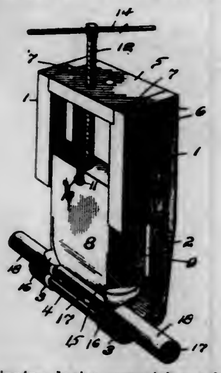


Claim.—The improved process of forming an interior layer of insulation in a coupling which consists in inserting a collar in each end of the coupling to form a shoulder on the insulation, manually inserting the insulating material in a plastic state and subjecting the same to pressure by means of a tapered mandrel.

843,353. WIRE-STRIPPING MACHINE. HARVY E. MCKENNA, Donora, Pa. Filed Apr. 2, 1906. Serial No. 309,429.

Claim.—1. A stripping device for wire, consisting of a frame, hook-shaped supports carried by said frame, a curved plate carried by said supports, a cutter-head slidably mounted in said frame and having a knife-edge, transverse cutters carried by said head, and means supported by said frame to raise and lower said head, substantially as described.

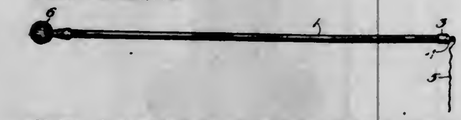
2. A stripping device for wire, consisting of a frame adapted to support a piece of wire, a cutter-head slidably mounted in said frame and having a longitudinally-disposed knife-edge, transverse cutters carried by said head, and means carried by said frame to move said cutters and said knife-edge into engagement with a piece of wire supported by said frame, substantially as described.



3. A wire-stripping device comprising a frame, cut away in the front and provided at its lower end with a support for the wire to be stripped, a cutter-head reciprocable in the frame toward and away from the wire-support and provided with a knife-edge, cutters carried by said cutter-head at the ends of the knife-edge, and means operating through the head of said frame and engaging the cutter-head for reciprocating the latter in the frame.

4. A wire-stripping device comprising a frame, embodying side frames cut away on the front and provided at their lower ends with wire-supports, a head connecting the side frames at their upper ends, and each side frame being grooved on its inner face, a cutter-head reciprocable in said grooves, transverse cutters carried by said head, and operating means mounted in the head and engaging the cutter-head for actuating the latter.

843,354. ELECTRODE FOR THERAPEUTIC USE, &c. EVERETT T. NEALEY, Bangor, Me. Filed May 14, 1906. Serial No. 316,703.



Claim.—1. An electrode of the kind described, comprising a porous terminal and a hollow support of insulating material, containing a liquid conductor.

2. An electrode, provided with means for securing a terminal wire, means for effecting an effluve discharge, and an intervening liquid-current conductor.

3. An electrode, comprising a tube of insulating material, closed at one end, a liquid conductor therein, and a wooden discharge-tip at the other end.

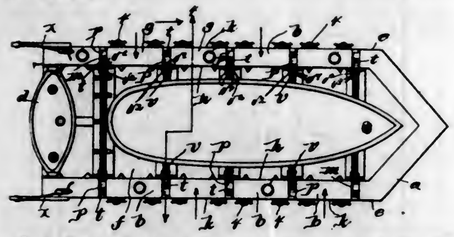
4. An electrode, comprising a wooden conductor portion, a liquid-conductor portion, and a glass inclosure therefor.

5. As an article of manufacture, an electrode, comprising a glass tube adapted to contain a fluid-current conductor, means for securing a contact-wire closing one end of said tube, and a wooden discharge-tip closing the opposite end of said tube.

843,355. DOCK. WILLIS E. OVERTON, Solomons, Md. Filed Oct. 4, 1905. Serial No. 281,331.

Claim.—1. A floating basin-dock consisting of hollow sections having automatically-engaging connection devices, and independent packing means.

2. A floating basin-dock consisting of hollow sections having laterally-slidable connection devices, abutting flanges having securing-bolts, and packing-strips between said flanges.



3. A floating basin-dock consisting of hollow sections having automatically-engaging laterally-operating connection devices, and independent packing means.

4. A floating basin-dock consisting of hollow sections having laterally-operating connection devices, locking means for the same, and packing means having securing-bolts, said connection devices relieving the bolts of the packing means of strain.

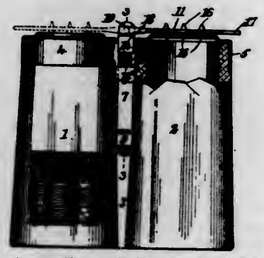
5. A floating basin-dock having a closed bow-section and interchangeable and detachable open body and stern sections, and a gate-closure for the stern-section having automatically-engaging laterally-sliding means of connection therewith.

6. A floating basin-dock consisting of hollow sections having dovetail-joint connection means, and dovetail-joint means for preventing the separation of the sections while being raised and lowered.

7. A floating basin-dock having a closed bow-section, and detachable interchangeable open body and stern sections, having automatically-engaging means of connection with each other, each of said sections being provided with a keel.

8. A floating basin-dock having a closed bow-section, detachable interchangeable open body and stern sections having automatically-engaging laterally-operating means of connection with each other, each of said sections being provided with a keel, and lee-boards for guiding purposes.

843,356. COMPOUND CONDIMENT-HOLDER. LYMAN B. PARKER, Sulphur, Ind. Ter., assignor to The Parker Composite Condiment Holder Co., Chickasha, Ind. Ter., a Corporation. Filed Sept. 28, 1906. Serial No. 336,531.



Claim.—1. A condiment-holder comprising a plurality of receptacles, perforated caps covering the receptacles, and a lid pivoted between the caps having conical pins projecting from each side for keeping the perforations in the caps free and open.

2. A condiment-holder comprising a plurality of receptacles joined together by an intermediate web, perforated sheet-metal caps joined together and fitting over the receptacles, a spring-arm fixed to the caps, and an enlargement on the web adapted to be engaged by the spring-arm when the caps are in place.

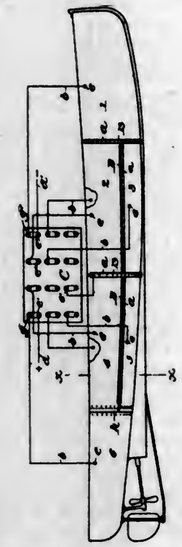
3. A condiment-holder comprising a plurality of receptacles joined together by an intermediate web, perforated caps constructed of a single piece of sheet metal slidably embracing the receptacles, enlargements at each side of the web, and spring-arms carried by the caps adapted to engage said enlargements when the caps are in place.

4. A condiment-holder comprising a plurality of receptacles joined together, perforated caps joined together and slidably embracing the receptacles, spring-arms carried by the caps, coacting with means carried by the receptacles for holding the caps in place, and a lid pivotally connected between the caps adapted to close the perforations in the caps.

5. A condiment-holder comprising a plurality of receptacles joined together, perforated caps for covering the receptacles, a lid having an arm with inclined faces and a flattened end, pivotally connected between the caps, and means yieldingly pressing on said arm, for the purpose described.

6. A condiment-holder comprising a plurality of receptacles joined together, perforated caps for covering the receptacles, a lid having an arm with a flattened end pivotally connected between the caps, a hollow finger arranged under the arm, and a spring partly incased in said finger and acting to normally press it against the arm.

843,357. HULL-CLEANING AND FRICTION-REDUCING APPARATUS. WILLIAM A. PARTEE and JOHN C. WHARTON, Nashville, Tenn. Filed Jan. 24, 1906. Serial No. 297,722.



Claim.—1. In a hull-cleaning, friction-reducing device, the combination of a hull and an insulated sectionalized sheathing and means for passing an electric current from one section to another substantially as described and for the purpose set forth.

2. In a hull-cleaning, friction-reducing device, the combination of a hull and an insulated, sectionalized sheathing, and means for electrifying the same, substantially as shown and for the purpose set forth.

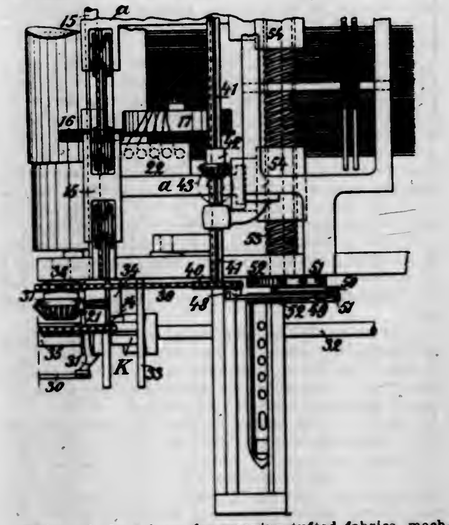
3. In a hull-cleaning, friction-reducing device, the combination of a hull and an insulated, sectionalized sheathing, and means for electrifying the same so as to produce gases on the submerged surfaces, substantially as shown and for the purpose set forth.

4. In a hull-cleaning, friction-reducing device, the combination of a hull and an insulated, sectionalized sheathing, and means for electrifying the same in two or more equal or unequal parts, substantially as shown and for the purpose set forth.

5. In a hull-cleaning, friction-reducing device, the combination with a hull, of an insulated sectionalized sheathing, a switchboard, insulated electrodes connecting separate sections of said sheathing to the switchboard, and other electrodes connecting an electrical generator with the switchboard, whereby separate sections of the sheathing are adapted to receive, independently of each other, electricity from the electrical generator in any predetermined variation, substantially and for the purpose as set forth.

6. In a hull-cleaning, friction-reducing device, the combination of a hull and an insulated, sectionalized sheathing and insulated straps covering the spaces between the sections of said sheathing and means for electrifying the same, substantially as shown and as set forth.

843,358. LOOM FOR WEAVING TUFTED FABRICS. EDWARD PARUSZEWSKI, Kottbus, Germany. Filed Apr. 1, 1905. Serial No. 253,353.



Claim.—1. In a loom for weaving tufted fabrics, mechanisms for forming a plurality of patterns, and a single keyboard apparatus for operating all said mechanisms.

2. In a loom for weaving tufted fabrics, mechanisms for forming a plurality of identical patterns, and a single keyboard apparatus for actuating all of said mechanisms.

3. In a loom for weaving tufted fabrics, the combination, with a plurality of pattern-forming mechanisms *a*, of a single keyboard apparatus *w*, whereby all of said mechanisms are simultaneously actuated.

4. In a loom such as described, in combination, a plurality of pattern-forming mechanisms *a*, a keyboard apparatus for actuating the same, and means actuated by each key for shifting said mechanisms transversely of the warp.

5. A loom for weaving tufted fabrics, including in its construction a plurality of pattern-forming mechanisms, each comprising a yarn-selecting device and knotting devices, and a single keyboard for simultaneously operating said pattern-forming mechanisms.

6. A loom for weaving tufted fabrics, including a plurality of pattern-forming mechanisms *a*, and a single keyboard apparatus for simultaneously operating said mechanisms and embodying means for shifting all of the same transversely of the warp.

7. A loom for weaving tufted fabrics, including a plurality of pattern-forming mechanisms, each embodying a yarn-presenting device, and a single keyboard apparatus for shifting all of said yarn-presenting devices.

8. A loom for weaving tufted fabrics, including a plurality of pattern-forming mechanisms, each embodying knotting devices, and a single keyboard apparatus for operating the knotting devices of all said mechanisms.

9. In a loom for weaving tufted fabrics, a plurality of pattern-forming mechanisms, each embodying a yarn-presenting device, a single keyboard, and mechanism operatively connecting said keyboard and said presenting devices whereby the latter are shifted to different distances by different keys.

10. In a loom for the purpose set forth, a plurality of pattern-forming mechanisms, each embodying a yarn-presenting device and knotting devices, and a keyboard embodying a key for each color of yarn, each key being operable to actuate all of said presenting devices to present yarn of the same color to the knotting devices of said different mechanisms.

11. A loom for weaving tufted fabrics, including a plurality of mechanisms for forming a plurality of patterns, each mechanism embodying a yarn-presenting device and knotting devices, and a keyboard apparatus for shifting the yarn-presenting devices of all said mechanisms, starting said knotting devices, and shifting said mechanisms transversely of the warp after the completion of the knotting operation.

12. A loom for weaving tufted fabrics, including a plurality of mechanisms for forming a plurality of patterns, each mechanism embodying a yarn-presenting device and knotting devices, a keyboard apparatus including a key for actuating each of said yarn-presenting devices to present yarn of any color to the knotting devices, a driving-shaft, mechanism operated by all the keys for operatively connecting said driving-shaft with said knotting devices, and mechanism also operated by all the keys for shifting each pattern-forming mechanism relatively to the warp.

13. In a loom for weaving tufted fabrics, mechanisms for weaving a plurality of patterns, each comprising a yarn-presenting device, a shaft for operating all of said yarn-presenting devices, and means for actuating said shaft.

14. In a loom for weaving tufted fabrics, mechanisms for weaving a plurality of patterns, each comprising a yarn-presenting device, a rockable shaft, operative connections between said shaft and all of said yarn-presenting devices, and means for rocking said shaft.

15. In a loom for weaving tufted fabrics, mechanisms for forming a plurality of patterns, each comprising a yarn-presenting device, an operating-shaft connected to all of said presenting devices and operable to shift the same, and a keyboard apparatus including keys to actuate said shaft through different distances.

16. In a loom for weaving tufted fabrics, in combination, mechanisms for weaving a plurality of patterns, each of said mechanisms comprising knotting devices, and a shaft for operating the knotting devices of all said mechanisms.

17. In a loom for weaving tufted fabrics, in combination, mechanisms for weaving a plurality of patterns, each of such mechanisms comprising knotting devices, a shaft for operating the knotting devices of all of said mechanisms, a driving-shaft, and keyboard-actuated mechanism for interclutching said shafts.

18. The combination, with a rotatably-mounted yarn-presenting disk, of a shaft having gears thereon, a connection between said shaft and said disk, a plurality of racks engaging said gears, means for actuating said racks through different distances, and a keyboard for placing any of said racks in coöperative relation with said actuating means.

19. The combination of a rotatably-mounted yarn-presenting disk, a plurality of racks, a reciprocating knife-bar, a keyboard for pushing any of said racks into such position as to be actuated by said knife-bar, and an operative connection between all of said racks and said yarn-presenting disk.

20. In a loom, a shiftable yarn-presenting device, a shaft operatively connected to said device and having gears thereon, upright racks engaging said gears and each having a nose thereon, said noses being arranged at different heights, a vertically-reciprocating knife-bar, and a key for shifting each rack into such position as to have its nose engaged by said knife-bar.

21. In a loom, a shiftable yarn-presenting device, a shaft operatively connected therewith and having a plurality of gears mounted thereon, racks engaging said gears, a reciprocating knife-bar, and a key for pushing one end of each rack in one direction about the gear with which it engages, whereby the other end portion of such rack swings in the opposite direction into the path of said knife-bar.

22. In a loom, knotting devices, a yarn-presenting device, a shaft for shifting the latter and having mounted thereon a plurality of gears, upright racks engaging said gears and each having, at a height different from the others, a nose thereon, a vertically-reciprocating knife-bar, and means for rocking any of said racks about the gear which it engages into the path of said knife-bar, whereby the latter engages the nose of such rack and raises the same.

23. In a loom for weaving tufted fabrics, a yarn-presenting device, a shaft for shifting the same and having mounted thereon a plurality of gears, upright racks engaging said gears, means for raising said racks to different heights, and means for maintaining each rack in raised position.

24. In a loom for weaving tufted fabrics, a yarn-presenting device, a plurality of upright racks having notches therein, means for raising said racks through different distances, a bar to engage the notches of said racks and thus hold said racks in raised position, and an operative connection between each rack and said yarn-presenting device.

25. In a loom such as described, a yarn-presenting device, a shaft for shifting the same, gears on said shaft, racks engaging said gears, a roller for holding each rack against its gear, a continuously-moving rack-actuating device, and means for slightly rocking each rack about its gear as a pivot, whereby the same moves into the path of said actuating device.

26. In a loom, a yarn-presenting device, a shaft for shifting the same and having gears thereon, racks engaging said gears, a continuously-acting rack-actuating device, and a key for rocking each rack about its gear into the path of said actuating device.

27. In a loom for weaving tufted fabrics, in combination, a plurality of pattern-weaving mechanisms, each embodying a yarn-presenting device and knotting devices, an operating-shaft connected to the knotting devices of all of said mechanisms, a driving-shaft, keys for simultaneously shifting all the yarn-presenting devices to present yarn of any color to said knotting devices, and mechanism operated by each key in being depressed for connecting said driving-shaft with said knotting-device-operating shaft.

28. In a loom for weaving tufted fabrics, a pattern-weaving mechanism embodying a yarn-presenting device and knotting devices, an operating-shaft connected to the knotting devices of said mechanism, a feed-shaft operated by said operating-shaft and adapted to shift said pattern-forming mechanism relatively to the warp, a keyboard for actuating said presenting device, a driving-shaft, a clutch mechanism between said driving-shaft and said operating-shaft, and means actuated by each key for clutching said clutch mechanism.

29. In a loom for the purpose set forth, a pattern-forming mechanism embodying a yarn-selecting device and knotting devices, an operating-shaft for said knotting devices, a feed-shaft for shifting said mechanism transversely of the warp, and an operative connection between said feed-shaft and said operating-shaft.

30. In a loom such as described, a plurality of pattern-forming mechanisms, and an operating-shaft connected with the knotting devices of all of said mechanisms.

31. In a loom such as described, a plurality of pattern-forming mechanisms, each embodying a yarn-selecting device and knotting devices, an operating-shaft connected with all of said selecting devices, and an operating-shaft connected with all of said knotting devices.

32. In a loom such as described, a plurality of pattern-forming mechanisms a, each embodying a yarn-presenting device 17 and knotting devices, a shaft 15 for operating all of said presenting devices, a shaft 46 for operating the knotting devices of all said mechanisms, and a keyboard apparatus w for controlling both of said shafts.

33. In a loom for weaving tufted fabrics, a plurality of pattern-forming mechanisms a, each embodying a yarn-presenting device 17 and knotting devices coacting therewith, a shaft 15 for shifting all said presenting devices, a shaft 46 for operating the knotting devices of all said mechanisms, and a shaft 53 for feeding all said mechanisms transversely of the warp.

34. In a loom for weaving tufted fabrics, a plurality of pattern-forming mechanisms, each including a frame having a cam-shaft mounted therein, knotting devices operated by said cam-shaft, and a single shaft for operating all of said cam-shafts.

35. The combination, with the mechanisms a, of the operating-shaft, the feed-shaft, and the pawl-and-ratchet device connecting said shafts.

36. In a loom such as described, a pattern-weaving mechanism movable in the loom and comprising a frame, reels mounted on said frame, a yarn-presenting device also mounted on said frame, and knotting devices likewise carried by said frame.

37. In a loom such as described, a pattern-weaving mechanism shiftable on the loom-frame and comprising a frame having reels mounted in the upper part thereof, a cam-shaft intermediate of the height of the same, knotting devices operated by said cam-shaft and disposed below the same, and a yarn-presenting disk carried at the lower portion of said frame in coöperative relation with said knotting devices.

38. In a loom for weaving tufted fabrics, a yarn-presenting device, a feed-gripper for pulling out the yarn length, loop-forming grippers for grasping the ends of said length and bringing the same together, and an intermediate gripper for grasping said ends and pulling the same up through the warp.

39. In a loom for weaving tufted fabrics, grippers having cranked gripping ends to grip the ends of the yarn lengths, and means for partially rotating said grippers whereby their gripping ends are moved arcuately.

40. In a loom for weaving tufted fabrics, grippers to grip the ends of the yarn length, and means for arcuately moving the ends of said grippers in opposite directions.

41. In a loom for weaving tufted fabrics, grippers to grip the ends of the yarn length and form a loop of the same, and an intermediate knotting-gripper movable between and out from between said loop-forming grippers.

42. In a loom for weaving tufted fabrics, grippers having cranked gripping ends, means for rotating the shank of one of said grippers, and intermeshing gears mounted on the shanks of said grippers.

43. In a loom for weaving tufted fabrics, a frame, loop-forming grippers having their shanks journaled in said frame, means for rotating said grippers, and means for reciprocating said frame.

44. In a loom for weaving tufted fabrics, a rectangular frame, grippers having their shanks journaled in the top and bottom of said frame and having cranked gripping ends extending below the same, means for rotating the shanks of said grippers, and means for moving said frame toward and away from the warp.

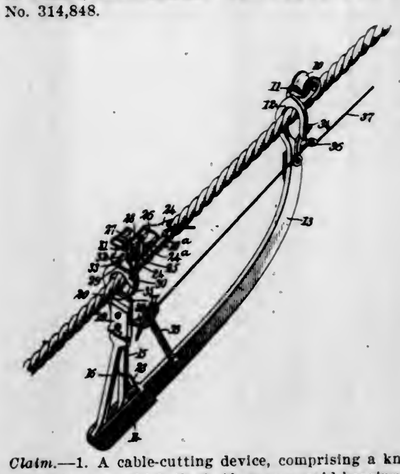
45. In a loom for weaving tufted fabrics, a rectangular vertically-reciprocating frame, grippers disposed side by side and having their shanks journaled in the upper and lower ends of said frame, said grippers having cranked gripping ends extending below said frame, a cylinder on the shank of one of said grippers having a curved slot therein, a fixed pin engaging said slot, and intermeshing gears on the shanks of said grippers.

46. In a loom for weaving tufted fabrics, loop-forming grippers, means for moving their gripping ends in oppositely-directed arcs, means for raising and lowering said grippers, and a knot-forming gripper movable between said loop-forming grippers.

47. In a loom for weaving tufted fabrics, a yarn-presenting device, a feed-gripper for pulling the yarn out of the same, shears for cutting off the yarn length, grippers for grasping the ends of the same, means for moving each of said grippers in an arc so as to form a yarn-loop, means for moving said grippers toward the warp, a knot-forming gripper movable between said grippers, and means for actuating said knot-forming gripper to grip the ends of the yarn length and pull the same upwardly through the warp.

48. In a loom for weaving tufted fabrics, the combination, with the loop-forming grippers, of a pivoted knot-forming gripper, and means for pivotally swinging said last-named gripper so as to carry the completed knot away from the loop-forming grippers.

843,359. CABLE-CUTTING DEVICE. CHARLES PETRIE, St. John's, Newfoundland. Filed May 2, 1906. Serial No. 314,848.



Claim.—1. A cable-cutting device, comprising a knife, a bearing-plate on which the knife moves, said bearing-plate having a hook for engaging the cable and coöperating with the knife, means for fixing the knife and the bearing-plate with respect to each other, means for moving the knife and the plate with respect to each other, and means in connection with said moving means for releasing the fixing means.

2. A cable-cutting device comprising a carriage adapted to slide along a cable, a pair of links pivotally mounted on the carriage near the lower end thereof, a knife-blade carried by one link, a bearing-plate carried by the other link and having a curved slot, a bolt passing through the curved slot and slidable therein, said bolt being fixed with respect to said blade, and means for normally retaining said links in inoperative position and means for releasing said retaining means.

3. A cable-cutting device comprising a carriage adapted to slide along a cable, a pair of links pivotally mounted on the carriage near the lower end thereof, a knife-blade carried by one link, a bearing-plate carried by the other link and having a curved slot, a bolt passing through the curved slot and slidable therein, said bolt being fixed with respect to said blade, means for normally retaining said links in operative position, said means comprising an eye connected with one of said links and a hook pivotally mounted on the carriage and adapted to pass through said eye, and means for disengaging the hook from the eye.

4. A cable-cutting device comprising a frame adapted to be supported by a cable, a pair of links pivoted to said frame, a plate connected with one link, a knife-blade removably mounted on said plate, a bearing-plate connected with the other link and having a curved slot, a bolt or screw passing through said slot and slidable therein and secured to the plate on the other link, and a second blade mounted opposite the first blade and movable toward it.

5. A cable-cutting device comprising two blades, means for guiding a cable between them, means for simultaneously forcing said blades toward each other, and means for guiding said blades to move sidewise as well as longitudinally to produce a sliding cut.

6. A cable-cutting device comprising a pair of plates, each having a sinuous slot, a blade mounted on each plate

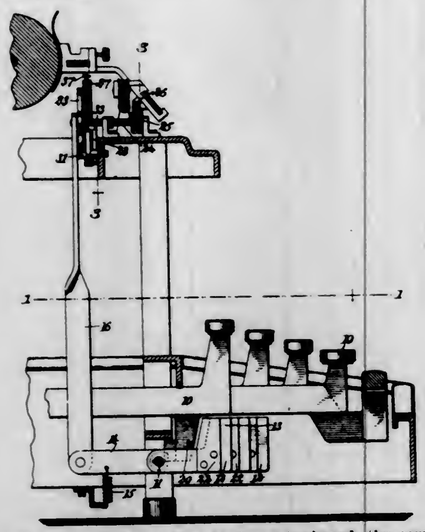
adjacent to said slots, and means for guiding said blades to move in a path corresponding to the curves of said slots.

7. A cable-cutting device comprising a hook for passing over a cable, a roller for running on the cable, a fork pivotally mounted on the axle of said roller, and means whereby the position of the fork with respect to said axle can be adjusted.

8. A cable-cutting device comprising a roller adapted to run on a cable, a fork pivoted on the axle of said roller, a link connected with said fork in adjusted positions, a lever connected with said link, and a knife-blade operated by said lever.

9. A cable-cutting device, comprising a frame, a pair of links pivoted thereto, one of said links having a bearing-plate and a hook for engaging the cable, a knife hinged to the other plate and movable on the bearing-plate, an eye on the bearing-plate, a hook on the frame normally engaging the eye whereby to prevent movement of the links with respect to each other, and means for releasing the hook.

843,360. TYPE-WRITER ATTACHMENT. WILLIAM C. PLANK, Las Flores, Mexico. Filed Sept. 5, 1905. Serial No. 277,008.



Claim.—1. In a machine having a keyboard, the combination of a shaft mounted to oscillate, a series of arms of different lengths on said shaft, and extending in one direction from the shaft, the said arms being each located in position to be operated by one of said keys, a lever connected with said shaft and extending therefrom in a direction opposite the said arms, a link connected with said lever, and extending upward therefrom, and means for transmitting motion from said link to a movable part of the machine.

2. In a machine having a keyboard, the combination of a shaft mounted to oscillate, a series of arms on said shaft, each having an upwardly-projecting portion extending into a position to be moved by the keys when the latter are operated, said arms extending in one direction from the shaft and to different distances according to the space occupied by the corresponding key, a lever connected with said shaft and extending therefrom in a direction opposite the said arms, and an operating member connected with said lever.

3. In a machine having a keyboard, the combination of a shaft mounted to oscillate, a series of arms rigidly secured to said shaft, each having a projecting portion extending into a position to be moved by the keys when the latter are operated, said arms extending from the shaft to different distances according to the space occupied by the corresponding key, a lever connected with said shaft, resilient means for normally keeping said lever in lowered position, and the said arms in extreme elevated position for being engaged by the key-levers, and a feeding device controlled from the said lever.

4. In a machine having a keyboard, the combination of a shaft mounted to oscillate, a series of arms rigidly secured on said shaft and extending in one direction therefrom, each arm having a projection at its free end extending upward into the path of motion of the levers of the keyboard, said arms engaging the levers of the keyboard at different distances from the shaft, according to the width of the character represented by the keys, a lever connected with the shaft and extending therefrom in a direction opposite the said arms, a spring connected with the lever for normally keeping the same in a lowered position and the arms in an elevated position, a feeding device, and means connected with said lever for controlling the operation of said feeding device.

5. In a machine having a keyboard, the combination of an oscillatable and longitudinally-movable shaft, two series of arms mounted thereon and adapted to be engaged by the levers of the keyboard, a fixed collar on said shaft, a spring engaging said collar for moving the shaft in one direction, and a shift-key for moving the shaft in the other direction, in order to present a different set of arms in position to be operated by the key-levers, the said shift-key having an extension and provided with a lug on said extension having an inclined surface adapted to engage the collar on said shaft.

6. In a machine having a keyboard, the combination of an oscillatable and longitudinally-movable shaft, two series of arms alternately mounted on said shaft, said arms being adapted to be engaged by the key-levers, and means for shifting said shaft to present a different set of arms to the key-levers; said means comprising a projection on the shaft, and a shift-key provided with a projection having an inclined surface adapted to engage said first-mentioned projection.

7. In a machine having a keyboard, the combination of a feeding device including an escapement-wheel and a pawl having a tooth for engaging the escapement-wheel, a rocking member, a pawl carried by said rocking member and having a tooth for engaging the escapement-wheel, a connection between the said pawls, whereby when one of the pawls is moved into engagement with the escapement-wheel the other pawl is disengaged from said wheel, an oscillatable shaft, a series of arms rigidly secured to said shaft and located in position to be operated by the keys of the keyboard, the said arms being constructed and adapted to oscillate the shaft different distances, a lever connected with the shaft, and a link connecting said lever with the rocking member.

8. In a machine having a keyboard, the combination of a feeding device, comprising an escapement-wheel, a pawl having a tooth for engaging the escapement-wheel, a movable member, a pawl carried by said movable member and having a tooth for engaging the escapement-wheel, a connection between the said pawls, whereby when one of the pawls is moved into engagement with the escapement-wheel, the other pawl is disengaged from said wheel, and a series of elements located in position to be operated by the keys of the keyboard, said elements being connected with said member and being constructed and adapted to operate the member different distances in accordance with the spaces occupied by the keys with which they are associated.

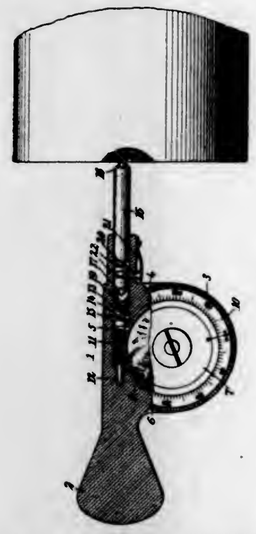
9. In a machine having a keyboard, the combination of a feeding device and means for controlling the operation thereof, the feeding device comprising an oscillatable member, a pawl thereon having a tooth and provided with a slot, an escapement member with which said tooth is adapted to engage, a second pawl pivotally mounted upon a stationary part of the machine and having a tooth for engaging said escapement member and having a stud for engaging the slot in the first pawl, said second pawl also being provided with a shoulder upon which the oscillatable member is adapted to rest and by which it is forced into engagement with said teeth.

10. An escapement device comprising an oscillatable member, a pawl thereon having a tooth, an escapement member with which said tooth is adapted to engage, a second pawl pivoted to a stationary element, said second pawl having a tooth for engaging the escapement member and a shoulder upon which said oscillatable member is adapted to rest, means for forcing the tooth on the first pawl into engagement with the escapement member when the oscillatable member is moved in one direction, and a connection between the said pawls, whereby when the first pawl is carried into engagement with the escapement member the said second pawl is disengaged from said member.

11. An escapement device, comprising a shaft, an escapement-wheel having teeth and mounted on said shaft, an oscillatable member pivoted upon said shaft, means for oscillating said member, a pawl pivoted to a stationary element and having a tooth for engaging said wheel and a shoulder which the oscillatable member is adapted to engage for forcing said tooth into engagement with the teeth of the escapement-wheel, said pawl also having a stud, a second pawl pivotally mounted upon the oscillatable member and having a tooth for engaging the escapement-wheel, the said second pawl being also provided with means for engaging and moving said stud, and the means for controlling the motion of said last-named pawl.

12. An escapement comprising a shaft, an escapement-wheel thereon, an oscillatable member pivotally mounted on the shaft, a pivoted pawl having a tooth for engaging the escapement-wheel, a shoulder for engagement with the oscillatable member and also having a stud, a second pawl pivotally mounted on said oscillatable member and having a tooth for engaging the escapement-wheel and a curved slot for receiving said stud, and a spring adapted to engage the second pawl and hold the tooth thereon away from the escapement-wheel, said spring also having a curved portion for forcing the tooth on the second pawl into engagement with the escapement-wheel.

843,361. SPEED-INDICATOR. WILLIAM C. PLANK, Las Flores, Mexico. Filed Aug. 1, 1906. Serial No. 328,731.



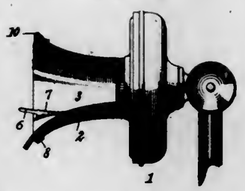
Claim.—1. In a speed-indicator, a circular box projecting at one side thereof, a worm-wheel journaled in the box, a longitudinal bore leading into the box, a worm meshing with the worm-wheel and journaled in the bore, an enlargement at one end of the worm, constituting a section of the indicator-spindle, a set-screw passing into a circumferential groove of said section to prevent the longitudinal movement thereof, an outer section of the spindle freely rotatable independently of the worm, a spring-pressed pin entering a circumferential groove of the outer section to hold the sections disengaged, and a second adjacent circumferential groove in the outer section adapted to be engaged by said pin to hold the sections together.

2. In a speed-indicator, a spindle made of two sections, a worm-wheel carried by one section, means for holding the worm-wheel against longitudinal movement, means for holding the sections disengaged, a rubber center interposed between said sections, and means for holding the sections in contact with the rubber center when pushed together.

3. In a speed-indicator, a spindle made in two sections, means for preventing the longitudinal movement of one section, a second section adapted to be engaged therewith having conical ends, a circumferential groove passing about said second section, a spring-pressed pin for engaging said groove to hold the sections apart, and an adjacent circumferential groove in said second section for engagement with said spring-pressed pin to hold the sections together.

4. In a speed-indicator, a spindle made in two sections, means for preventing the longitudinal movement of one of said sections, a rubber center carried by one of said sections, a second section conical at each end, circumferential grooves passing about said second section, a spring-pressed pin entering one of said grooves for holding the sections apart, and means whereby when the sections are pressed together the spring-pressed pin enters the other of said grooves and holds the sections frictionally engaged to the intermediate rubber center.

843,362. ATTACHMENT FOR MOUTHPIECES OF TELEPHONE-TRANSMITTERS. WILLIAM C. PLANK, Las Flores, Mexico. Filed Aug. 1, 1906. Serial No. 328,732.



Claim.—1. An attachment for mouthpieces, comprising a series of concentric linings of antiseptic paper, a plurality of ears projecting from the outer lining, a projection extending from all the linings, and a series of perforations in alinement with one edge of the projections for the purpose specified.

2. In a telephone, a mouthpiece, a series of concentric, removable, antiseptic linings therein, ears projecting from the outer lining, a spring-ring for clamping the ears to the mouthpiece, and a projection extending from each lining whereby it may be readily torn out.

3. In a telephone, a mouthpiece, a series of concentric, antiseptic linings therein, a plurality of projecting ears extending from the outer lining, a split spring-ring engaging the outer periphery of the mouthpiece adapted to clamp the ears thereto, and means carried by each lining whereby it may be readily torn out and removed.

4. In a telephone, a mouthpiece, a series of concentric, antiseptic linings therein, a plurality of projecting ears extending from the outer lining, a split spring-ring engaging the outer periphery of the mouthpiece adapted to clamp the ears thereto, a projection extending from each lining, and a series of longitudinal perforations in each lining whereby the linings may be torn out and readily removed.

5. In a telephone, a mouthpiece, a series of removable, concentric linings therein, each lining having a row of perforations, and a projection extending from each lining with one edge thereof in alinement with the perforations.

843,363. HOLDER FOR PAPERS OR BAGS. GERTRUDE S. PRIDDY, Chicago, Ill. Filed Aug. 2, 1906. Serial No. 328,858.



Claim.—1. A holder for paper, comprising two parallel clamping members and a holding member adapted to pass through the paper and secure the clamping members to said paper, all of said members being formed of a single piece of metal.

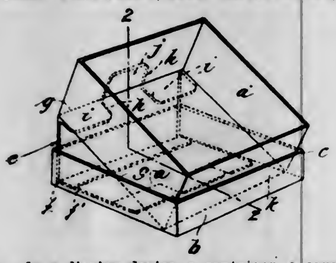
2. A holder for paper, comprising two parallel clamping members, and a holding member adapted to pass through the paper and secure the clamping members to said paper, each of said members being formed of wire.

3. A holder for paper, comprising two parallel clamping members formed of a single piece of wire, and a holding member adapted to pass through the paper and secure the clamping members to said paper.

4. A holder for paper, comprising two parallel clamping members, a holding member adapted to extend through the paper below said clamping members and hold said members together, and a handle for supporting said holder, each of said members being formed of wire.

5. A holder for paper, comprising two parallel clamping members, both formed of a single piece of wire, the end of said wire being bent to inclose said clamping members and hold them in contact with the paper.

843,364. DISPLAY-BOX. CHARLES C. RAHN, Thompsonville, Conn. Filed June 7, 1906. Serial No. 320,555.



Claim.—In a display device, a container, a cover therefor provided with means for elevating one end of the container when the same is placed within the cover, said means being carried by one end of the cover and adapted to be rotated to an upright position and provided with a score-line, its free edge being slitted back to the score-line, whereby a portion of the supporting means can be folded on the score-line to constitute bracket portions for supporting the container in an inclined position as described.

843,365. COMBINATION-LOCK. JOHN W. RAYMOND, Beverly, Mass. Filed May 22, 1906. Serial No. 318,274.

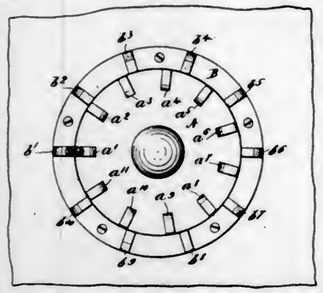
Claim.—1. The combination of a dial and ring-plate, the dial and ring-plate provided respectively with circumferential tactually-perceptible division-points, there being one more point on one of said members than on the other.

2. The combination of a dial and ring-plate, the dial and ring-plate provided respectively with evenly-spaced circumferential tactually-perceptible division-points, there being one more point on one of said members than on the other.

3. The combination of a dial and ring-plate, the dial and ring-plate provided respectively with circumferential tactually-perceptible division-points, reciprocally differential in their spacing, one of said points on each of said members being tactually distinguishable from the others.

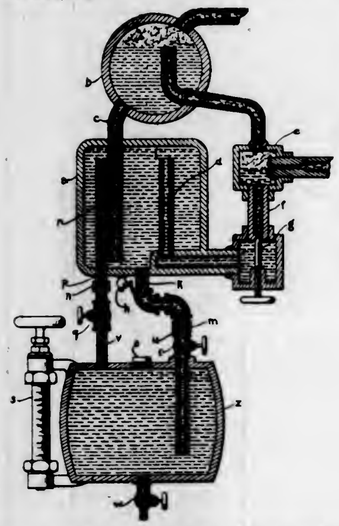
4. The combination of a dial and ring-plate, provided respectively with circumferential tactually-perceptible division-points, reciprocally differential in their spacing, arranged close to the line of separation between the dial and plate.

5. The combination of a dial and ring-plate provided respectively with evenly-spaced circumferential tactually-perceptible division-points there being one more point on one of said members than on the other, said points arranged close to the line of separation between the dial and ring-plate.



6. The combination of a dial and ring-plate, provided respectively with circumferential division-teeth arranged close to the line of separation between the disk and plate, there being one more tooth on one of said members than on the other, said teeth being of the same dimensions on each member where they approach the nearest to each other.

843,366. LUBRICATOR. EDWARD REBER and EVERETT C. CLARK, San Bernardino, Cal. Filed June 13, 1906. Serial No. 321,532.



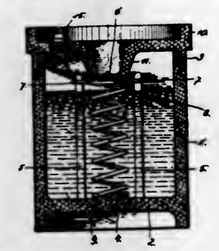
Claim.—1. In a lubricator, the combination with an oil-chamber having an oil-inlet pipe extending through its bottom wall, and a water-outlet pipe extending through its bottom wall, of a filling-tank having an upward-extending valved oil-pipe having detachable means of connection with said oil-inlet pipe of the oil-chamber, and an upward-extending valved water-pipe having detachable means of connection with said water-outlet pipe of the oil-chamber.

2. A lubricator having an oil-chamber provided with oil inlet and outlet pipes extending upward within the same to near the top thereof, a lateral feed-passage having communication with the lower end of said oil-outlet pipe and provided with a valve, said oil-inlet pipe having a lower extension through the bottom of the oil-chamber threaded at its lower end, said oil-chamber having a water-outlet pipe threaded at its lower end, and means for supplying the oil-chamber with water of condensation having connection with a steam-supply.

3. In a lubricator, the combination of a filling-tank, an oil-chamber having inlet and outlet pipes for oil extending upward within the chamber to near the top thereof, said inlet-pipe having a bottom extension to the filling-tank provided with a valve, a feed-passage at one side of said oil-chamber having communication with the lower end of said outlet-pipe and having a valve in its lower end portion, a water-outlet pipe connection between the oil-chamber and the filling-tank having a valve, a water-supply chamber communicating with a steam-supply from the boiler, and having a pipe extending to near the bottom of the oil-chamber and a pipe communicating with the upper portion of said feed-passage.

4. In a lubricator, the combination with an oil-chamber having an oil-inlet pipe and a water-outlet pipe, of a filling-tank having an upward-extending valved oil-supply pipe having a detachable means of connection with said oil-inlet pipe, and an upward-extending valved water-inlet pipe having detachable means of connection with the water-outlet pipe of the oil-chamber.

843,367. INK-WELL. JOSEPH SCHLAPP, Allegheny, Pa. Filed Oct. 26, 1906. Serial No. 340,762.



Claim.—1. An ink stand or well consisting of a receptacle having a raised bottom and a threaded end, a lid mounted upon said threaded end and having a depending funnel-shaped spout, standards carried by said bottom of said receptacle, a closure slidably mounted upon said standards, and means carried by the bottom of said receptacle to normally hold said closure against said spout, substantially as described.

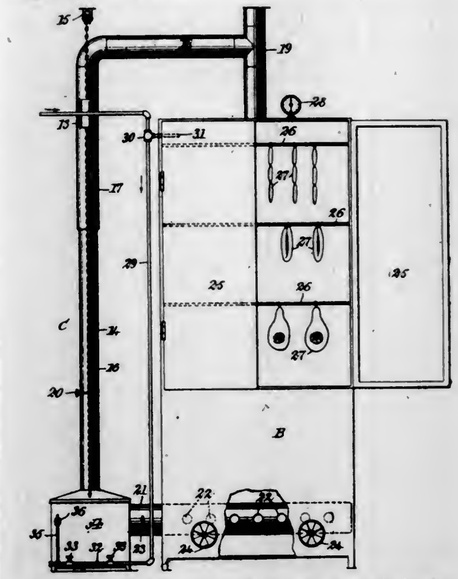
2. An inkstand consisting of a receptacle, a lid carried by said receptacle and having a depending spout, standards carried within said receptacle, a closure slidably mounted upon said standards, and means carried within said receptacle to normally hold said closure in engagement with said spout.

843,368. APPARATUS FOR SMOKING MEAT. CHRISTOPHER SCHMITT, New York, N. Y. Filed Oct. 20, 1906. Serial No. 339,736.

Claim.—1. In an apparatus for smoking meat, a smoke-house, a generator having heating means, and provided with a compartment above the heating means for containing chips, means in connection with the heating means for igniting the chips, and a conductor for the mingled smoke and heat leading from the generator to the smoke-house.

2. In an apparatus for smoking meat, a smoke-house, a generator having heating means and provided with a compartment above the heating means for containing chips means in connection with the heating means for igniting the chips, a conducting-pipe leading from the generator into the smoke-house, a damper for the said pipe, a chimney for the smoke-house, a by-pass connected with said chimney and with the generator, and a damper for the by-pass.

3. In an apparatus for smoking meat, a smoke-house, a generator provided with a compartment adapted to contain chips and means for admitting and regulating the admission of air into the generator, a source of gas-supply, a series of burners leading from said source into the generator, and a pilot-burner located above said compartment and adapted to ignite the chips therein.



4. In an apparatus for smoking meat, a smoke-house, a generator provided with a compartment adapted to contain chips, a means for admitting and regulating the admission of air into said generator, a source of gas-supply, a series of burners leading from said source into the generator, a pilot-burner located above said compartment and adapted to ignite the chips therein, a chimney for the smoke-house, a by-pass connecting the chimney with the generator, a damper in the by-pass, a conducting-pipe extending from the generator into the smoke-house, being adapted to conduct combined smoke and heated air therein, and a damper for the conducting-pipe.

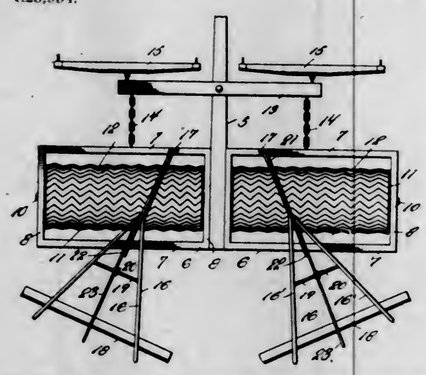
5. In an apparatus for smoking meat, a smoke-house, a generator provided with a compartment adapted to contain chips, a means for admitting and for regulating the admission of air into said generator, a source of gas-supply, a series of burners leading from said source into the generator, a pilot-burner located above said compartment and adapted to ignite the chips therein, a chimney for the smoke-house, a by-pass connecting the chimney with the generator, a damper in the by-pass, a conducting-pipe extending from the generator into the smoke-house, being adapted to conduct combined smoke and hot air therein, a damper for the conducting-pipe, means for regulating the supply of gas to the burners at the exterior of the generator, permitting the flame at the heating-burners to be rendered visible from the exterior of the generator.

6. In an apparatus for smoking meat, the combination with a smoke-house, its chimney, and ventilators at the bottom thereof, of a generator for smoke and heat independent of the smoke-house, the said generator being provided with a compartment therein to contain chips and with valved openings for air located above the compartment, a pilot-burner located at the upper portion of said chip-compartment, heating-burners located below the compartment, a by-pass connecting the upper portion of the generator with the said chimney, a damper in said by-pass, a conducting-pipe for hot air and smoke leading from the generator into the smoke-house, a damper for the said conducting-pipe, a gas-supply pipe, a controlling-valve therefor, and a thermostat-controller for the valve, leading into the smoke-house, and connections between the gas-supply pipe and the burners in the generator.

7. In an apparatus for smoking meat, the combination with a smoke-house, its chimney, and ventilators at the bottom thereof, of a generator for smoke and heat independent of the smoke-house, the said generator being provided with a compartment therein to contain chips and with valved openings for air, located above the compartment, a pilot-burner located at the upper portion of the said chip-compartment, heating-burners located below said compartment, a by-pass connecting the upper portion of the generator with the chimney of said smoke-house, a damper in said by-pass, a conducting-pipe for hot air and smoke leading from the generator into the smoke-house, a damper for the said conducting-pipe, a gas-supply pipe, a controlling-valve therefor, a thermostat controller for the valve leading into the smoke-house, connections between the gas-supply pipe and the burners in the generator, transparent sliding panels located in said generator opposite the lower burners therein, a removable top for the generator, weighted chains connected with the said top, and pulley-supports for the chains.

8. In an apparatus for smoking meat, a smoke and heat generator, a removable top therefor, counterbalance-weights connected with the said top, a smoke-house independent of the generator, a conducting-pipe leading from said generator into the smoke-house, a chimney for the said smoke-house, a telescopic by-pass connected with said chimney of the smoke-house and with the removable top of the generator, a damper for the conducting-pipe, exteriorly located, a damper for the by-pass, and means for producing heat and smoke in the said generator and directing said mixed hot air and smoke to the conducting-pipe.

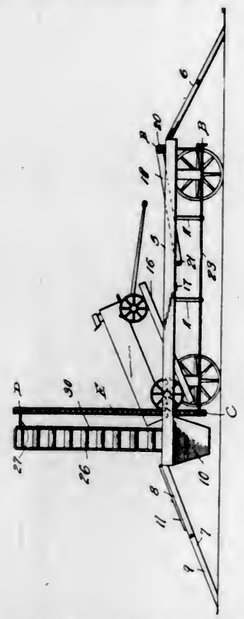
843,369. ROAD-SMOOTHER. ROBERT C. SCHREIBER, Fairmont, Minn. Filed July 12, 1906. Serial No. 325,954.



Claim.—1. A smoother comprising a tongue, oppositely-extending frames secured to the tongue, rollers journaled in the frames longitudinally thereof, scraper-supports pivoted to the frames forwardly of the rollers and extending rearwardly and downwardly thereover, scrapers secured to the supports in the rear of the rollers, arms secured to the frames, levers pivoted to the arms, connections between the levers and the scrapers for movement of the latter into and out of operative position when the levers are moved, and means for holding the levers at different points of their movement.

2. A smoother comprising a tongue, oppositely-extending frames secured at their inner ends to the rearward portion of the tongue in horizontal position, said frames including end members and forward and rear members, axles journaled in the end members, drums fixed upon the axles and having peripheral calks, stems pivoted to the forward members of the frames, yokes carried by the stems and extending downwardly and rearwardly beyond the frames, rearwardly-convergent scrapers carried by the yokes, cross members connected to the legs of each yoke, rods carried by the cross members, rearwardly-extending arms secured to the forward members of the frames, depending rack-bars carried by the rearward ends of the arms, levers pivoted to the arms and to the rods, for movement of the stems upon their pivots when the levers are moved to bring the scrapers into and out of operative position, and latches carried by the levers for engagement of the rack-bars to hold the scrapers at different points of their movement.

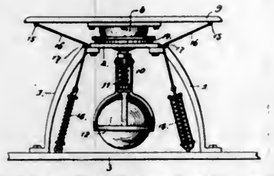
843,370. ELEVATOR. FRANKLIN SHANNON, Sloan, Iowa. Filed Feb. 28, 1906. Serial No. 303,445.



Claim.—1. In an elevator, the combination with a wheeled platform having longitudinal openings therein, of wheel-receiving beams pivoted between their ends in the openings for vertical movement, means for holding the forward ends of the beams against downward movement, latches movable into and out of position to hold the rearward ends of the beams against downward movement, said beams being arranged to receive the wheels of a wagon thereupon, a hopper at the rearward end of the platform and arranged to receive matter from a wagon upon the beams, a treadmill located forwardly of the beams in position to receive thereupon the team of a wagon upon the beams, foldable inclines at the ends of the platform, an elevator located with its lower end in the hopper, and operative connections between the treadmill and elevator.

2. In a machine of the class described, the combination with a frame, of wheels for the frame, foldable inclines at the ends of the frame, a platform mounted upon the frame, a hopper at the rearward end of the platform, said platform having longitudinally-spaced parallel slots therein, beams pivoted between their ends in the slots for vertical movement, means for preventing downward movement of the forward ends of the beams, latches arranged to lie at times in position to hold the rearward ends of the beams against downward movement, said beams being arranged for the reception of the wheels of a wagon thereupon and for downward movement of the rearward ends to position a wagon thus disposed for discharge of its contents into the hopper, a treadmill located in the frame in position to receive thereupon the team of a wagon on the beams, an elevating mechanism in the hopper, and operative connections between the treadmill and elevating mechanism.

843,371. SELF-LEVELING TABLE. QUEEN M. SIMPSON, Lawrence Pa. Filed Sept. 13, 1906. Serial No. 334,536.



Claim.—1. In a table, the combination with legs supported by a base, of a plate connecting said legs and having a central opening, an annular flange surrounding said opening and having a ball-race formed therein, balls mounted in said race, a gland mounted upon said flange, a semispherical block mounted upon said balls and having a depending stem, a table-top supported by said block, a weight adjustably mounted upon said stem, said base having a concavity formed therein, to receive said weight cables connected with said table-top, and springs carried by said base and connecting with said cables, and means to temporarily hold said weight in the concavity of said base, substantially as described.

2. In a table, the combination with a base, of a plate supported above said base and having a central opening formed therein, ball-bearings surrounding said opening, a block resting upon said ball-bearings, a table-top carried by said block, a weight adjustably supported by said block, cables attached to said table-top, springs carried by said base and connecting with said cables, and means including said base for holding said table-top stationary, substantially as described.

3. In a self-leveling table, the combination with a supporting member, of table-legs attached to said supporting member, a plate connecting said legs at their upper ends and provided with a ball-race, a table-top, a semispherical bearing-block secured to the table-top and resting on said antifriction-balls, a depending threaded stem carried by said semispherical bearing-block, a cage mounted for vertical movement on the stem, a weight carried by said cage, a spring mounted on the stem and acting against the cage to normally hold the cage elevated and the weight out of engagement with the supporting member, and means for compressing said spring to lower the cage and weight to engage the latter with the supporting member.

843,372. DIPPER. CHARLES F. SMITH, New York, N. Y. Filed Nov. 17, 1906. Serial No. 343,848.

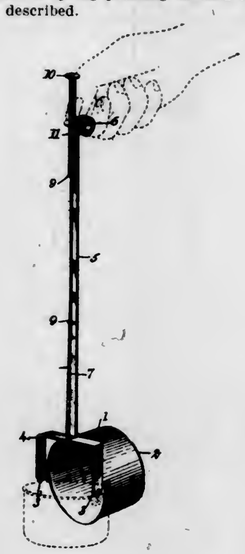
Claim.—1. In a dipper of the character described, a cup, a bail bridging the cup and pivotally connected at each side thereof, a handle fixed to the bail, and means carried by the handle connected to the cup at the opposite side thereof from the bail for swinging the cup on the bail.

2. In a dipper of the character described, a cup, a bail pivotally connected to the cup, a handle rigidly attached to the bail, and means carried by the handle having a flexible member connecting it with one side of the cup operating to swing the cup on the bail.

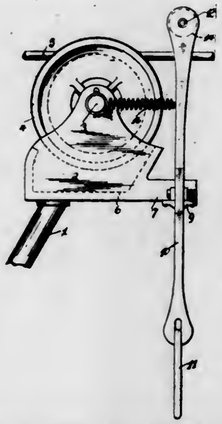
3. In a dipper of the character described, a cup, a bail pivotally connected to the cup, a handle rigidly attached to the bail having an eye formed at its upper extremity, a rod slidable in guides carried by the handle, a flexible member connecting the rod with the cup, a thumb-plate arranged at the upper end of the rod, and a spring interposed under said thumb-plate acting to force the rod in an upward direction.

4. In a dipper of the character described, a cup, a handle pivotally connected to the cup, and means carried by the handle having a flexible member connecting it with one side of the cup, operating to cause said cup to normally assume a horizontal position.

5. In a dipper of the character described, a cup, a handle pivotally connected thereto having the upper end thereof formed into an eye, a rod slidable in guides at one side of the handle, a flexible member connecting the rod and cup together, a thumb-piece carried at the upper end of the rod, and a spring pressing on said thumb-piece for the purpose described.



843,373. TROLLEY. JOHN STRUTH and CONARD HOLZAPFEL, Primrose, Pa. Filed June 23, 1906. Serial No. 323,136.

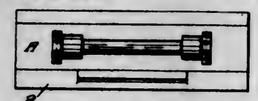


Claim.—The combination with a trolley-harp having a pin mounted therein, a trolley-wheel journaled upon said pin and adapted to engage a trolley-wire, of a rearward extension carried by said harp, a pin journaled in said extension, arms pivotally mounted in the ends of said pin, and having their lower ends connected together, revoluble cone-shaped rollers carried by the upper ends of said arms and contacting with one another, a retractal spring connecting said arms together, and means connecting with the pin of said harp to retain said arms in a vertical position, substantially as described.

843,374. ROLLING PARALLEL RULER AND SLIDING SCALE. GEORGE B. STURGEON, Wailuku, Hawaii. Filed Aug. 12, 1905. Serial No. 273,934.

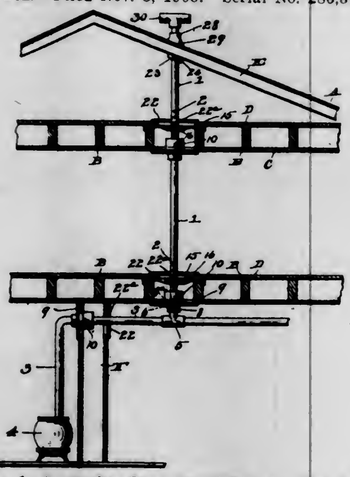
Claim.—1. An improved device of the character described having in combination a rule, a roller mounted

thereon, a plate parallel with the rule said plate and rule having a tongue-and-groove connection therebetween whereby the plate is slidable relative to said rule, a scale parallel with the plate, and means fixed to the plate and clamping the scale thereto.



2. A device of the character described having in combination a rule having a beveled upper edge said edge being provided with a dovetailed slot, a roller upon which the rule is mounted, a plate lying upon the beveled edge of the rule and having a tongue to slidably engage the slot in the rule, a clamping means having one part fixed to the plate and the other or free part overlying the plate, and a scale between said plate and the overhanging part of the clamping means and engaged by the latter whereby the scale is held to and movable with the plate.

843,375. STOVE-FLUE. EVERETT E. THOMPSON, Kaufman, Tex. Filed Nov. 8, 1905. Serial No. 286,370.



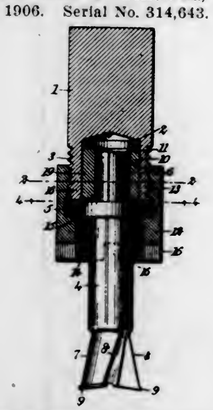
Claim.—1. A smoke-flue comprising a pipe having notches therein, said flue being adapted to extend through openings in the floors of buildings, collar-braces having extended ends secured to the rafters and joists of the building, said collar-braces surrounding said flue, and set-screws secured in said collar-braces and adapted to seat in one of the notches in the flue, substantially as shown and described.

2. A smoke-flue comprising a pipe having notches therein, said flue being adapted to extend through openings in the floors of buildings, collar-braces made of strap-iron having their middle portion bent to partly surround the flue, and having extended ends secured to the rafters and joists of the buildings, and mating members to fit around the balance of the flue, and secured to the first-named member of the collar-brace by means of bolts, and set-screws secured in the collar-braces and adapted to seat in the notches in the flue, substantially as shown and described.

3. A smoke-flue for buildings comprising a pipe extended through enlarged holes in the ceilings and the floors of the building, plates to cover said holes in the floors and ceilings, the plate covering the hole in the ceiling having secured to its upper side a hollow annular box, the inner surface of said box being conical-shaped, the plate and upper surface of said box provided with air-holes, and means to secure the plate in position, substantially as shown and described.

4. A smoke-flue for buildings comprising a pipe extended through enlarged holes in the ceilings and floors of the building, plates to cover said holes in the floors and ceilings, the plate covering the hole in the ceiling having secured to its upper side a hollow annular box, the inner surface of said box being conical-shaped, the plate and upper surface of said box provided with air-holes, collar-braces for securing the flue in position consisting of two mating members shaped to surround the flue and secured together by screw-bolts, and set-screws to secure said braces to said flue, substantially as shown and described.

843,376. ECCENTRICAL CUTTING-BIT. JOSEPH H. TOMBRAGEL and JOHN F. SCHUNLER, Covington, Ky. Filed May 1, 1906. Serial No. 314,643.



Claim.—1. An eccentrical cutting-bit comprising a shank having a cutter, a stock having an eccentric bore, an eccentrical sleeve on said shank and within said bore, said shank having a flange extending laterally beyond the said sleeve and abutting against said stock, and means for jamming said flange against said stock.

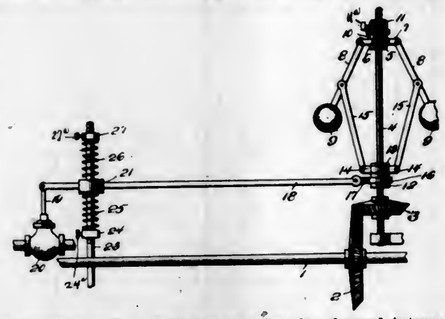
2. An eccentrical cutting-bit comprising a stock having a longitudinal eccentrical bore, an eccentric sleeve in said bore, a shank having a stud in said sleeve, and a flange adapted to hold said sleeve in said bore and to abut against said stock, a member adapted to be screwed onto said stock, and having a shoulder adapted to engage with said flange to jam the same against said stock.

3. An eccentrical cutting-bit, comprising a stock longitudinally and eccentrically bored and having a thread formed on an end thereof, an eccentric sleeve in said bore, a shank having a stud in said sleeve, a flange adapted to abut against said stock, a cutter, and a cylindrical member interiorly threaded and adapted to screw onto said stock and having an interior radial shoulder adapted to engage with said flange and jam the same against said stock, said member further having notches in one end to facilitate the turning thereof, said sleeve and said member having indicating marks to define the relative positions thereof.

843,377. SPEED-REGULATOR. JOHN W. ULLRICH, Jr., and JOHN W. MAIERHOFER, Allegheny, Pa. Filed Oct. 24, 1906. Serial No. 340,350.

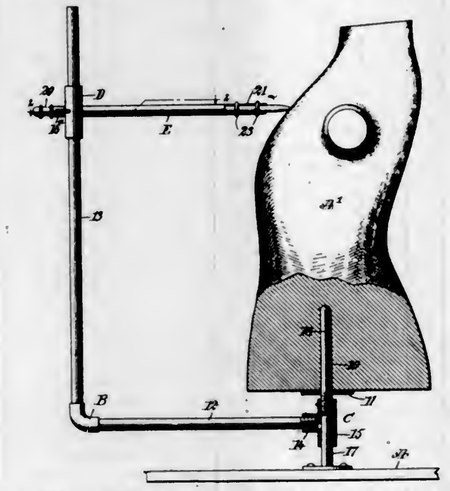
Claim.—1. The combination with the driving-axle of a motor-vehicle, of a vertically-disposed shaft arranged adjacent thereto, bevel-gears connecting said shafts, a slidable sleeve on said vertical shaft, a ball-governor mounted on the vertical shaft, links connecting the arms of the governor to said sleeve, a rod connected at one end to the stem of the power-controlling valve of the vehicle, and at its opposite end to said sleeve, a bearing formed integral with said rod, a vertical rod extending through said bearing, and springs surrounding said vertical rod on opposite sides of said bearing.

2. The combination with the driving-axle of a motor vehicle of a vertically-disposed shaft arranged adjacent thereto, bevel-gears connecting said shafts, a slidable sleeve on said vertical shaft, a ball-governor mounted on the vertical shaft, links connecting the arms of the governor to said sleeve, a rod connected at one end to the stem of the power-controlling valve of the vehicle, and at



its opposite end to said sleeve, a bearing formed integral with said rod, a vertical rod extending through said bearing, springs surrounding said vertical rod on opposite sides of said bearings, and means for supporting and tensioning said springs.

843,378. MARKER FOR BUST-FORMS. ALBERT WATERMAN. New York, N. Y. Filed July 28, 1906. Serial No. 328,219.



Claim.—1. A bust-marker, comprising a base, a standard secured to the base, a T-fitting, the vertical member of which is mounted to turn on the said standard, a post secured to the vertical member of said T-fitting, a bust-form rotatably mounted on the post, a body-arm comprising a lower horizontal member secured to the said fitting and a vertical member, a bearing mounted to slide on the vertical member of the said body-arm, means for securing said bearing in adjusted position, a marking-arm slidably mounted in the said bearing said marking-arm having a longitudinal recess near the end portion, and means provided at said recessed portion for securing a marking material thereto.

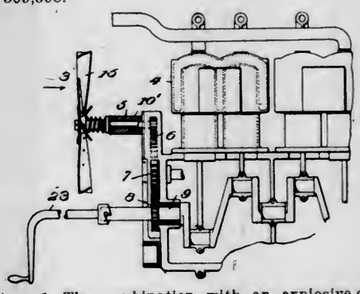
2. The combination with a base, a standard secured to the said base, a T-fitting the vertical member of which is mounted to turn on the said standard, a bust-form, and a post secured to the vertical member of said T-fitting and adapted as a pivot for the bust-form, of a body-arm comprising a lower horizontal member secured to the said fitting, and a vertical member, a bearing mounted to slide on the vertical member of said body-arm, means for securing the said bearing in adjusted position, a marking-arm slidably mounted in the said bearing, said marking-arm having a longitudinally-recessed inner end portion, and means provided at said recessed portion for securing a marking material thereto.

843,379. INCANDESCENT GAS-BURNER. FRANK T. WILLIAMS, Meriden, Conn., assignor to Edward Miller and Company, Meriden, Conn., a Corporation of Connecticut. Filed Nov. 18, 1905. Serial No. 287,947.



Claim.—In an incandescent lamp-burner, the combination of a base member having screw-threads thereon, a valve-point thereon, a regulator comprising a body member screw-threaded on the base member, a centrally-perforated tip portion having a screw-threaded connection between its external wall and the internal wall of said body member, a yielding washer inclosed between the body member and said tip portion, said washer making direct engagement at its inner side with the threads on the base member, a Bunsen tube overstanding all of said parts, and an opening in the side affording access to said body member.

843,380. FAN FOR AUTOMOBILE COOLING SYSTEMS. ALEXANDER WINTON and HAROLD B. ANDERSON, Cleveland, Ohio, assignors to The Winton Motor Carriage Company, Cleveland, Ohio. Filed Apr. 2, 1906. Serial No. 309,508.



Claim.—1. The combination with an explosive-engine, of a fan-shaft, gears positively connecting the engine with the fan-shaft, a fan loose on the fan-shaft, a friction-disk fast on the fan-sheet and coacting with the fan-hub for driving the fan, an expanding-spring having one end coacting with the opposite side of the hub from the said friction-disk, and the opposite end of the spring held by a shoulder on the fan-shaft, the parts coöperating as described.

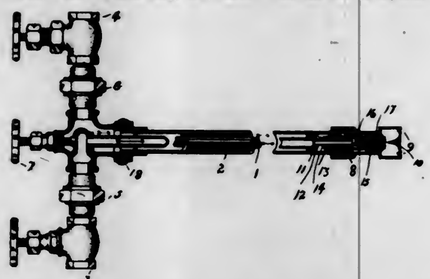
2. The combination with an explosive-engine, of a fan-shaft, gears positively connecting the engine with the fan-shaft, the fan having an elongated hub loose on the shaft, a friction-disk on the shaft and coöperating with one side of the hub for driving the fan, and an expanding-spring coöperating with the opposite side of the hub for the purpose described.

3. The combination of a fan-shaft, means for driving it at different speeds, a fan loose on the shaft, friction devices between the fan and its shaft for driving it, the friction devices so located that the air resistance upon the blades of the fan causes the friction to increase or decrease according to the speed of the fan.

4. The combination of a fan-shaft, means for driving

the shaft at different speeds, a fan loose upon the shaft, friction driving devices between the shaft and the fan, means forcing the friction devices together, the friction devices being so arranged that the air resistance to the blades of the fan will add to the frictional engagement of the friction driving devices when the speed of the fan is increased.

843,381. OIL-BURNER. GEORGE E. WITT, San Francisco, Cal. Filed Aug. 23, 1905. Serial No. 275,493.



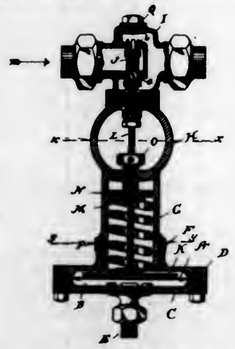
Claim.—1. In an oil-burner, the combination with concentric steam and oil pipes and a head fixed to the end of the steam-pipe said head having a burner portion, of a member fixed within the head having front and rear extensions, said rear extensions receiving the end of the oil-pipe and having passages for the flow of steam from said steam-pipe, and a plug fitted to and closing the front extension of said member, said front extension being perforated back of the plug and forming a chamber into which the steam and oil are admitted, and finally discharged through said perforations into the burner portion of the head.

2. In an oil-burner, the combination with concentric steam and oil pipes and a burner-head having discharge-apertures, of a member disposed within the steam-passage and having a threaded flange at its intermediate portion adapted to screw into engagement with the interior of the head, said member extending front and rear of the flange and having a passage longitudinally through it for the reception of the nozzle end of the oil-pipe, and said front extension forming a chamber into which steam and oil are delivered, a plug closing the front end of the front extension of the member said front extension being radially perforated to allow the mingled oil and steam to escape into the burner-head.

3. The combination of a steam-pipe, a burner-head secured to one end thereof, a member within the steam-passage having an enlarged threaded flange at its central portion engaging threads on the interior of the head, said member having a chambered radially-perforated front end and having a central opening which connects at one end with the steam-pipe and at the opposite end connects with said chamber, an oil-pipe entering said central opening in the member, a conical plug closing the chamber at the front end of the member except for the said perforations, said front and rear ends of the member being of less diameter than said flange and the interior of the steam-pipe, and said flange having diagonal passages for imparting a spiral motion to a portion of the steam and for directing this portion of the steam into the burner-head in the presence of the oil and steam delivered by the front end of the said member.

843,382. PUMP-GOVERNOR. GEORGE E. WITT, San Francisco, Cal. Filed Feb. 23, 1906. Serial No. 302,635.

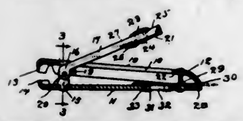
Claim.—1. A device of the character described comprising a casing having a chamber with a diaphragm extending across it, means connecting the chamber at one side of said diaphragm with the pressure-delivery of a pump, an extension of said casing having an upper portion enlarged to form a yoke said extension being adjustably fitted to the casing, a compression-spring in said extension and exerting a pressure upon the diaphragm in opposition to the pressure-delivery of the pump, a screw accessible through said yoke for adjusting the tension of said spring, a valve-stem, a plate bearing against the diaphragm and having the valve-stem fixed to it, said stem being slidable through the spring and adjusting-screw, a casing fitted to the yoke end of the extension having a steam-passage through it, and a valve carried by said stem and controlling said steam-passage.



2. In a device of the character described, the combination of a divided casing forming an internal chamber and a diaphragm between the parts of said casing and dividing said chamber, said diaphragm having a valve-stem fixed to it, one of the parts of the casing having a projecting hub, a tubular extension of the casing adjustably fitted thereto and means for locking said extension in its adjusted position, a casing having steam inlet and outlet passages and connecting-ports, a valve carried by the stem and controlling said ports, a spring in the tubular extension and acting upon the diaphragm in opposition to the pressure-delivery of the pump, and means for adjusting the tension of the spring.

3. In a device of the character described, the combination of a two-part casing inclosing a chamber, one of said parts connecting with the pressure-delivery of a pump and the other part having a central threaded hub, a diaphragm extending across said chamber and dividing the same, a cylindrical neck having one end adjustably fitted to said hub and the opposite end provided with an open yoke, a spring within said neck between the yoke and diaphragm and acting upon the latter, a valve-stem and a member carried thereby and bearing upon the diaphragm said stem extending through the neck and yoke, a casing fixed to the yoke and having a steam-passage, a valve carried by said stem and controlling said steam-passage, a cap within the neck and seating upon the spring, and an adjusting-screw bearing upon the cap and accessible through the open yoke whereby the tension of the spring may be adjusted.

843,383. NAIL-CLIPPER. ALBERT M. WOOSTER, Bridgeport, Conn. Filed Oct. 5, 1906. Serial No. 337,556.



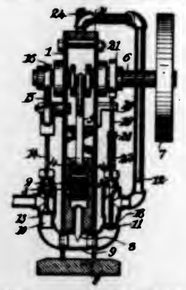
Claim.—1. A nail-clipper comprising two members having cutters, means for normally separating the cutters, a lever having its inner end pivoted to the lower member, and a cross-pin supported by the other member and extending under the lever, the said lever bearing loosely on the cross-pin.

2. A nail-clipper comprising two members having cutters, means for normally separating the cutters, an angular lever having its inner end pivoted to the lower member, and a cross-pin supported by the other member and extending under the angle of the lever, the said lever bearing loosely on the cross-pin.

3. A nail-clipper comprising two members having cutters, one of said members having an inwardly-projecting stud and the other member having a slot and a cross-pin, means for normally separating the cutters, and an angular lever pivoted at its inner end to the stud, said lever passing through the slot and bearing loosely on the cross-pin.

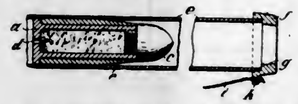
4. A nail-clipper comprising members provided with cutters, one of said members having an inwardly-projecting stud and the other member a slot and cross-pin, a lever passing through the slot and having a head pivoted at its inner end on the stud and its bearing on the cross-pin, and a slide on said lever adapted to engage the metal at the end of the slot to lock the cutters at the closed position when the lever is pressed into the slot.

843,384. ENGINE. ARTHUR S. BARNES, Batavia, N. Y. Filed Feb. 16, 1906. Serial No. 301,396.



Claim.—An engine comprising a casing, a piston mounted to swing in the arc of the circle in said casing, a crank-shaft, a connection between the piston and crank-shaft, an inlet-pipe for a motive agent, a valve for controlling the inlet, a cam on the crank-shaft, for operating said valve in one direction, an exhaust-pipe, a valve for said exhaust-pipe, a cam on the crank-shaft for moving said valve in one direction, and a pipe leading from said exhaust into the upper portion of the casing.

843,385. DEVICE FOR PROJECTING LIFE-LINES. BURKARD BEHR, Hamburg, Germany. Filed Jan. 27, 1906. Serial No. 298,256.



Claim.—1. In combination, a line-carrying ring adapted to be carried by the muzzle of a gun, and having a bore of less diameter than that of the gun, and a projectile having a tapered sleeve of soft metal arranged rearward of its point for engagement with the ring.

2. In combination, a line-carrying member, a projectile and a positive interlocking means between the two.

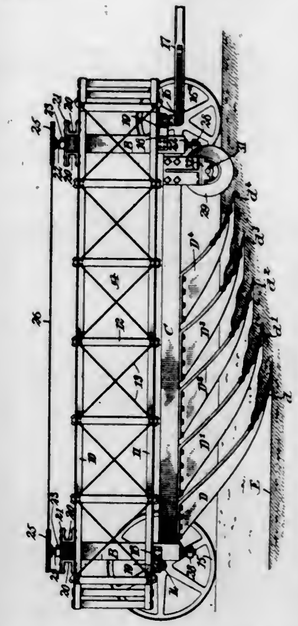
3. In combination, a line-carrying member, spring-fingers thereon, and a projectile having a shoulder for interlocking with said fingers.

4. In combination, a line-carrying member, spring-fingers thereon, and a recessed projectile having shoulders for interlocking with said fingers.

5. In combination, a line-carrying member, spring-fingers therein, a projectile having a tapered recess for the reception of said fingers, said recess having a lining of yieldable material.

843,386. GROOVING AND DITCHING PLOW. WILLIAM M. BENSON, Newport, Pa. Filed May 21, 1906. Serial No. 317,942.

Claim.—1. In a plow, a beam, shanks of graduated lengths arranged tandem and secured directly to the said beam, and a point for each shank, which points are of gradnated width, the rear point being the narrowest and entering the ground to the greatest depth, and the forward point being the widest and entering the ground to the least extent.



2. In a plow, a wheel-supported frame, a longitudinal beam carried by the frame, means for vertically adjusting the beam, and a plurality of independent and downwardly and forwardly inclined shanks arranged tandem and each having its upper end secured directly to the beam, the shanks being graduated in length, and points on the said shanks.

3. In a plow, a wheeled support, a beam vertically movable in the said support, adjusting devices for the end portions of the beam, which adjusting devices are carried by the said wheeled support, and shanks arranged tandem and secured directly to the beam, the shanks being of varying length, the rearmost shank the longest and the foremost shank the shortest.

4. In a plow, a wheeled support, a beam vertically movable in the said support, adjusting devices for the end portions of the beam, which adjusting devices are carried by the said wheeled support, shanks arranged tandem, secured directly to the beam, the shanks being of varying length, the rearmost shank the longest and the foremost shank the shortest, and colters carried by the forward portion of the beam and adapted to engage the ground in front of the forward shank, as described.

5. In a plow, a wheel-supported frame having vertical and spaced guideways at its forward and rear ends, a longitudinal beam having its ends working in said guideways, means for adjusting the ends of the beam, and a plurality of plows having their shanks secured to the beam one in rear of the other.

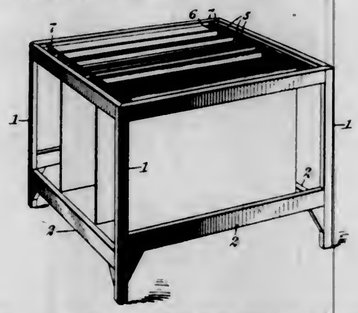
6. In a plow, a wheel-supported frame having vertical and spaced guideways, a longitudinal beam having its ends working in the guideways, means for simultaneously adjusting the ends of the beam, and a plurality of plows having their shanks secured to the beam one in rear of the other.

7. In a plow, a wheel-supported frame having vertical and spaced guideways at its forward and rear ends, a longitudinal beam having its ends working in the guideways, a plurality of plows secured to the beam, and screws work-

ing in the guideways and engaging with their lower ends the ends of the beam.

8. In a plow, a wheel-supported frame having vertical and spaced guideways at the forward and rear ends, said guideways being open on their inner sides, a longitudinal beam having its ends working in the guideways, a plurality of plows carried by the beam, screws working in the guideways and having their lower ends engaging the beam, a hand-wheel on the upper end of each screw, and a belt connecting the hand-wheels.

843,387. RACK FOR TISSUE-PAPER AND THE LIKE. WILLIAM A. BLACKMAN, New York, N. Y. Filed Sept. 8, 1906. Serial No. 333,745.



Claim.—1. A rack for tissue-paper and the like, comprising a rectangular frame, rods extending across said frame adjacent the opposite sides thereof, a plurality of paper-supporting bars having recesses adjacent their opposite ends adapted to receive said rods, and locking-rods supported above said first-mentioned rods and substantially parallel thereto for preventing the vertical displacement of the bars.

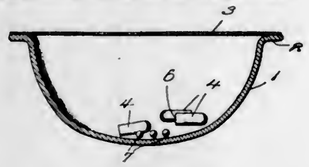
2. A rack for tissue-paper and the like, comprising a rectangular frame, means for supporting said frame, horizontal flanges carried by said frame and extending inwardly from opposite sides thereof, rods supported in said frame adjacent said flanges, paper-supporting bars extending across said frame, having their ends provided with recesses on the lower edges thereof adapted to receive said rods, the ends of said bars being supported on said flanges, and locking-rods located above said flanges and rods and substantially parallel thereto, adapted to prevent vertical displacement of said bars.

3. A rack for tissue-paper and the like, comprising a rectangular frame, flanges carried by said frame and extending inwardly from opposite sides thereof, rods supported in said frame adjacent said flanges, paper-supporting bars extending across said frame and having their ends provided with recesses on the lower edges thereof adapted to receive said rods, the ends of said bars being supported on said flanges, and means for preventing the vertical displacement of said bars.

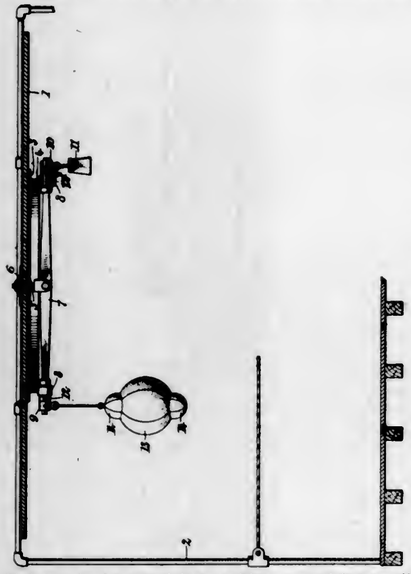
4. A rack for tissue-paper and the like, comprising a rectangular frame, rods extending across said frame adjacent the opposite sides thereof, a plurality of paper-supporting bars having recesses adjacent their opposite ends, said recesses adapted to receive said rods, and means for preventing the removal of the supporting-bars out of engagement with said rods, said means comprising a locking-rod located above and substantially parallel to each of the first-mentioned rods and above the supporting-bars, and means for normally preventing the displacement of each of said locking-rods.

843,388. PUZZLE. ARTHUR BRAGG, Brooklyn, N. Y. Filed July 18, 1905. Serial No. 270,262.

Claim.—A device of the class described comprising a receptacle; a plurality of balls located in the receptacle and a plurality of cylindrical receptacles disposed in said receptacle and arranged for the reception of the balls, each receptacle being of a different color and each ball being of a color corresponding to one of the receptacles.



843,389. TRAINING-MACHINE. EDWIN BROWN, St. Louis, Mo. Filed Sept. 13, 1906. Serial No. 334,451.



Claims.—1. An exercising-machine, comprising a ceiling, an annular flange extending downwardly therefrom, an arm pivotally mounted at the center of said annular flange and adapted to engage with the lower edge thereof at opposite sides, and a punching-bag suspended from one end of said arm.

2. A training-machine, comprising a ceiling, an annular flange secured to the lower side thereof, an arm pivotally mounted at the center of said flange and having antifriction-rollers in engagement with the lower edge thereof at opposite sides, a punching-bag suspended from one end of said arm, and a counterbalancing-weight suspended from the opposite end of said arm.

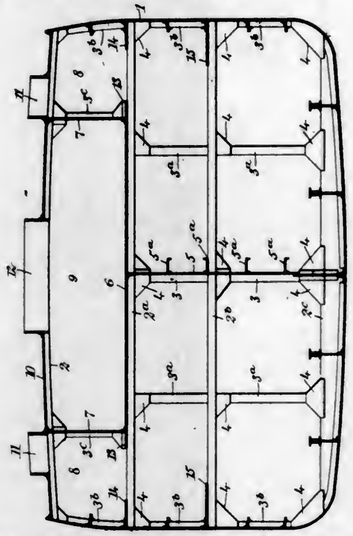
3. A training-machine, comprising an overhead horizontal support, an arm pivoted intermediate its ends on said support, an annular rim depending from the support and whereon the arm has contact, and a punching-bag suspended from one end of the arm.

4. A training-machine, comprising an overhead support, an annular flange extending downwardly therefrom, a member supported in engagement with said flange and adapted to move along said flange, and a punching-bag suspended from said member.

5. An exercising-machine, comprising a horizontal ceiling, an annular flange secured thereto and extending downwardly therefrom, a member adapted to move along said flange in engagement therewith, and a punching-bag suspended from said member.

6. A training-machine, comprising an overhead support, an annular flange secured thereto and extending downwardly therefrom, an arm pivotally mounted at the center of said flange and having an antifriction-roller in engagement with the lower edge of said flange at one side thereof, a punching-bag suspended from the opposite end of said arm, and a counterbalancing-weight suspended from said arm adjacent said antifriction-roller.

843,390. SHIP FOR CARRYING LIQUID CARGOES IN BULK. CHARLES E. BURNEY, Newport News, Va. Filed Aug. 29, 1906. Serial No. 332,427.



Claim.—1. A ship for carrying liquid cargoes, comprising a main tank, a deck covering said tank, and bulkheads rising from said deck providing expansion-trunks between them and the shell of the ship over said tank.

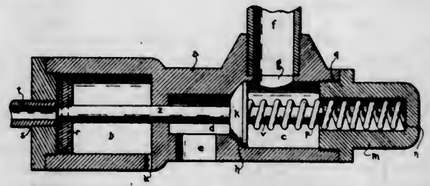
2. A ship for carrying liquid cargoes in bulk, comprising a tank at the bottom of the ship, a main or tank deck covering the tank, bulkheads upwardly extending from the tank-deck providing, in connection with the shell of the ship, an extension-trunk at each side of the ship, and an intermediate compartment for the general cargo of the ship.

3. A ship for carrying liquid cargoes in bulk, comprising tanks in the ship's bottom, a main or tank deck covering the same, bulkheads upwardly extending from the tank-deck forming, in connection with the shell of the ship, expansion-trunks at each side of the ship and a compartment for the general cargo of the ship intermediate the bulkheads, and a hatchway over each of the expansion-trunks and over the central compartment.

4. A ship for carrying liquid cargoes in bulk, comprising tanks in the bottom of the ship, a main or tank deck partially covering the tanks, having upwardly-extending bulkheads forming in connection with the shell of the ship, expansion-trunks at each side of the ship and a compartment for the general cargo intermediate the bulkheads, and splash-plates connected to and extending from the sides of the ship forming contracted openings connecting the expansion-trunks with the tanks.

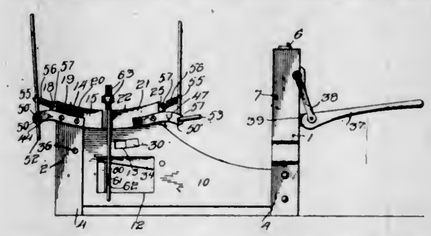
843,391. CYLINDER-COCK FOR LOCOMOTIVES. EDWARD J. FERRIS, Saltville, Va. Filed Apr. 5, 1906. Serial No. 310,056.

Claim.—1. A cylinder-cock for locomotives, having a cylinder provided with an opening at one end for a fluid-pressure pipe connection, a valve-chamber integral with said cylinder having a valve-seat, and an opening for a steam-pipe connection, a chamber integral with said cylinder intermediate of said valve-chamber and the cylinder having an exhaust-opening, a piston working in said cylinder, a valve mounted upon an extension of the rod of said piston working in said valve-chamber past the opening thereof for a steam-pipe connection, and a valve-closing spring.



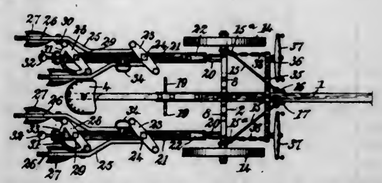
2. A cylinder-cock for locomotives, having a cylinder provided with an opening at one end for a fluid-pressure pipe connection, a valve-chamber integral with said cylinder having a valve-seat and an opening for a steam-pipe connection, a chamber integral with said cylinder intermediate of said valve-chamber and the cylinder having an exhaust-opening, an end cap at the other end of the cylinder having a spring-seat chamber, a piston working in said cylinder, a valve mounted upon an extension of the rod of said piston, working in said valve-chamber past the opening thereof for a steam-pipe connection, and a coil-spring upon the valve-stem, seated in said end cap, the cylinder, valve-chamber, valve, intermediate chamber, piston, end cap and spring being all in the same line.

843,392. TIRE-SHRINKER. WILLIAM H. FRANCIS, Hugo, Ind. Ter. Filed Oct. 2, 1905. Serial No. 281,074.



Claim.—A tire-shrinker comprising end posts, side members connecting the end posts, a fixed head mounted upon one of the posts, a movable head mounted upon the side members, a rack-bar mounted within the other post, a lever connected at one end with the lower end of the rack-bar, and at the other end with the movable head, and an operating-lever pivotally mounted upon the last-named post for engagement with the rack-bar to elevate the latter and throw the inner end of the aforesaid lever into engagement with the movable head to move the latter toward the fixed head.

843,393. PLOW OR CULTIVATOR. WILLIAM T. GEORGE, Fayetteville, Tenn., assignor of one-half to James A. Moores, Fayetteville, Tenn. Filed Oct. 16, 1906. Serial No. 339,154.



Claim.—1. In an implement of the class described, in combination, an extension-frame having transverse overlapping bars with alining openings therein, bolts adjust-

ably attaching said bars, beams attached to said frame, cross-heads pivotally mounted on said beams, hoe-bars carried by said cross-heads and carrying hoes, and locking-segments connected with said hoe-bars and affording means for locking the said hoe-bars in adjusted relations.

2. In an implement of the class described, in combination, a beam, a cross-head pivotally mounted thereupon, hoe-bars pivotally attached to said cross-head, a locking-segment pivotally attached to said hoe-bars and having circumferentially-disposed teeth, and a latch adapted to engage said teeth.

3. In an implement of the class described, in combination, a transversely-extensible frame, beams attached to the rear side thereof, cross-heads pivotally attached to said beams, locking-segments pivotally attached to said beams rearwardly of said cross-heads, said segments having circumferentially-disposed teeth, and cross-bars, said cross-bars being disposed parallel respectively with said cross-heads, hoe-bars pivotally attached to the extremities of said cross-heads and said cross-bars, hoes carried thereby, and locking means mounted on said beams and engaging said teeth to lock said segments.

843,394. GASKET. WILLIAM B. HAYNES, Akron, Ohio. Filed Mar. 26, 1906. Serial No. 308,062.



Claim.—1. A gasket consisting of a metal plate formed with a plurality of concentric corrugations, gradually increasing in depth.

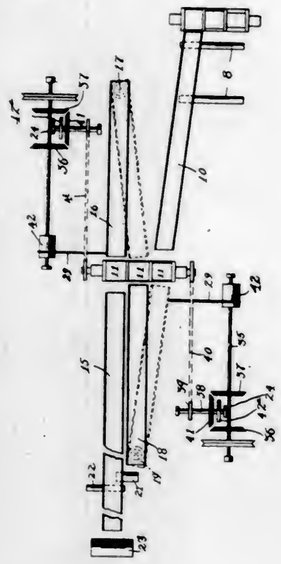
2. A gasket consisting of a metal plate formed with a plurality of concentrically-arranged corrugations of different depths, the corrugations at the inner circumference being of greater depth than those at the outer circumference.

3. A gasket consisting of a metal plate formed with a plurality of concentrically-arranged corrugations gradually decreasing in depth beginning at the inner circumference of the gasket.

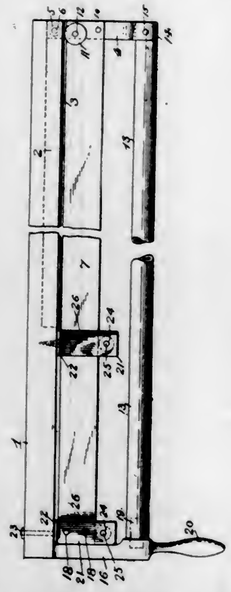
843,395. MECHANISM FOR HANDLING METAL IN ROLLING-MILLS. ADAM J. HOAK, Kewanee, Ill. Filed Sept. 12, 1905. Serial No. 278,117.

Claim.—1. In rolling-mill apparatus, a set of three-high rolls, formed with passes therebetween, a movable table, the inner end of which is in proximity to one of the passes in the rolls and the outer end of which is pivotally supported, an inclined track disposed transversely of and beneath the table, means movable on the track and supporting said inner end of the table, whereby to bring the table from a position in line with a lower end pass to a position in line with the upper pass, and vice versa, and a power-driven mechanism connecting both with the rolls and with the supporting means for the table for moving the same.

2. In rolling-mill apparatus, a set of three-high rolls, formed with passes therebetween, a movable table, the inner end of which is in proximity to one of the passes in the rolls and the outer end of which is pivotally supported, an inclined track disposed transversely of and beneath the table, a truck supporting said inner end of the table and movable on the track, whereby to bring the table from a position in line with a lower end pass to a position in line with the upper pass, and vice versa, and a power-driven mechanism connecting both with the rolls and with the truck for moving the same.



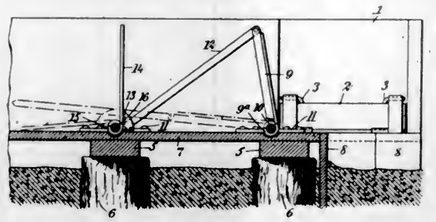
843,396. EXTENSIBLE DISPLAY-RACK. CHARLES K. HURD, Iowa City, Iowa. Filed Nov. 21, 1906. Serial No. 344,367.



Claim.—A display-rack comprising a bar having a longitudinal rabbet in its lower side extending part of the length of the bar, and a track below the rabbet; and an extensible part having parallel bars, a hanger whose upper end is within said rabbet, rests upon said track and is connected to the rear end of the parallel bars, a coupling connected to the front end of said bars, rollers on the upper movable bar engaging the lower side of said track, and brackets provided with rollers supporting the extensible part.

843,397. COLLAPSIBLE DAM. WILLIAM W. JONES, Granada, Colo. Filed Nov. 5, 1906. Serial No. 342,026.

Claim.—1. A dam comprising a plurality of sections hinged to a bed, a corresponding series of trip-plates, and braces intermediate said sections and plates.



2. A dam comprising a plurality of sections having brace-bars pivoted thereto, and a series of apertured trip-plates provided with means adapted to receive the free ends of said brace-bars.

3. The combination with a ditch having a head-gate, of a plurality of dam-sections hinged to a bed, brace-bars pivoted to said sections, and apertured trip-plates loosely connected with said brace-bars.

4. The combination with a pivoted head-gate, of a plurality of dam-sections hinged to a bed, brace-bars pivotally connected with said sections, and trip-plates having apertures of various sizes detachably connected with said brace-bars.

5. A dam-bed supported upon piling, and provided on its upper end with an apron, in combination with a plurality of dam-sections hinged to said bed, brace-bars pivotally connected to said sections, and apertured trip-plates detachably connected with said brace-bars.

6. A collapsible dam comprising a plurality of trip-plates adapted to be dropped by a predetermined height of water, and a series of dam-sections connected with said trip-plates and adapted to fall with the trip-plates.

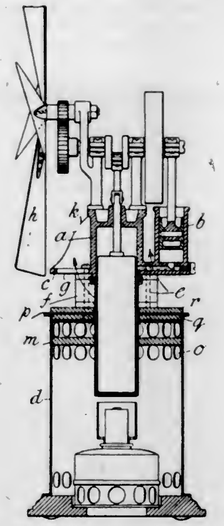
7. A series of independently-operative dam-sections hinged to a bed and connected with a corresponding series of trip-plates adapted to operate independently of each other, and braces arranged between said sections and trip-plate, adapted to hold up said sections while the trip-plates are standing, and to permit said sections to fall with the trip-plates.

843,398. MACHINE-DRIVEN VENTILATOR. CARL JOST, Bombay, India, assignor of two-thirds to Frederick Clarence Jenkins, Hamburg, Germany. Filed Oct. 2, 1905. Serial No. 281,020.

Claim.—1. A ventilator comprising a caloric-engine, a fan driven thereby, a perforated frame for supporting said engine, insulating transverse partitions in said frame between said perforations, and distance-pieces for separating the upper part of said engine from the frame.

2. In a ventilator, the combination of a caloric-engine having a casing provided with openings in its side walls near its top and bottom, a non-conducting transverse partition arranged in said casing near its top between the openings therein, and an insulated cover for said casing, a supporting-plate for the upper part of said engine having openings therein, distance-pieces disposed between said plate and frame and a fan arranged above said plate and adapted to draw air in between the openings in the plate to cool the engine.

843,398.



843,399. WEEDING AND CULTIVATING DEVICE. THOMAS J. KING, New York, N. Y. Filed Nov. 17, 1906. Serial No. 343,840.



Claim.—1. A device for the purpose described, comprising a shank, a tapered bit portion extended downward from the shank, and laterally-extended wings having curved ends, the curve of one wing being opposite to the curve of the other wing and the ends thereof being provided with teeth.

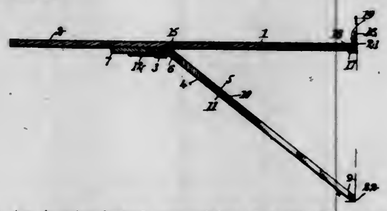
2. A device for the purpose specified, comprising a shank portion, a tapered bit having a longitudinal spiral trend, the edges of said bit being toothed, and laterally-extended curved wings toothed at the ends.

3. A device for the purpose specified, comprising a shank portion, a tapered bit, the said bit having a longitudinal spiral trend and terminating in a screw-point, the edges of the bit being provided with teeth, lateral wings having reverse curved ends, and teeth formed on said curved ends.

843,400. IRONING-BOARD. LEVIN C. KRANS, East Greenwich, R. I., assignor of one-half to John A. Bengtson, East Greenwich, R. I. Filed Dec. 1, 1905. Serial No. 289,793.

Claim.—1. An ironing-board, having a body with a transverse cleat on the under side thereof, a brace comprising a block and a standard pivoted together and both

of which are adapted to slide through said cleat, a stop-plate carried by said block and adapted to engage the face of said cleat, and means for supporting one extremity of said board.



2. An ironing-board comprising a wall-plate, a board engaging said wall-plate and having a transverse cleat on the under side thereof, a brace comprising a standard and a block pivoted thereto, said block being slidably mounted in said cleat and having a stop-plate adapted to engage said cleat, and means whereby said standard may engage said board to lock said block thereto.

3. In combination, an ironing-board, means for supporting the same above the floor at one extremity, a transverse cleat on the under side of said board, a brace having a block pivoted thereto and slidably mounted through said cleat, said brace having a projecting toe, and said board having a notch adapted to engage said toe, to lock said block against sliding on said board and a plate carried by said block and engaging said cleat, said brace being adapted to engage the wall at the floor.

843,401. MANUFACTURE OF VARNISHES, BALSAMS, AND RESINS. ABRAHAM KRONSTEIN, Karlsruhe, Germany. Filed Jan. 25, 1900. Serial No. 2,794.

Claim.—1. The process of producing insoluble solid resin and balsam like bodies from allyl-cinnamate which consists in heating a sample of the same to ascertain the temperature of decomposition and then heating the bulk of the substance below this temperature and in the absence of oxidizing agents until solidification and insolubility is reached.

2. The process herein described of producing insoluble solid resin and balsam like bodies from allyl-cinnamate, which consists in ascertaining the temperature at which said allyl-cinnamate is decomposed, and continuously heating said allyl-cinnamate to a temperature below the temperature of decomposition and in the absence of oxidizing agents until the substance is solidified and rendered insoluble.

3. The process of producing insoluble solid resin and balsam like bodies from organic ether soluble unsaturated ester-like compounds which consists in heating a sample of the compound to ascertain the temperature of decomposition and then heating the bulk of the substance below this temperature and in the absence of oxidizing agents until solidification and insolubility is reached.

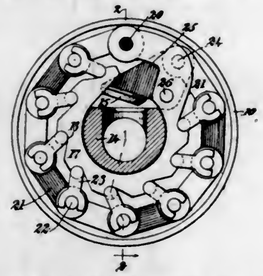
4. The process herein described of producing insoluble solid resin and balsam like bodies from organic ether soluble unsaturated ester-like compounds, which consists in ascertaining the temperature of decomposition of the same, and then heating the compound below this temperature in the absence of oxidizing agents until solidification and insolubility result.

843,402. STEAM-TRAP. JOHN LANGRIDGE, Ramsgate, England. Filed Feb. 12, 1906. Serial No. 300,656.

Claim.—1. A trap having a valve-actuating part, and two coacting expansion members, having their opposite ends connected and acting in opposite directions, one of said members being connected with the valve-actuated part.

2. A trap having a valve-actuating part, two coacting expansion members, one of which is in connection with the valve-actuating part, and means for anchoring opposite ends of said expansion members, for the purpose specified.

3. A trap having a valve-actuating part, and two coacting expansion members having their opposite ends connected and acting in opposite directions, one of said members being composed of engaged elements, and being connected with the valve-actuating part.



4. A trap having a valve-actuating part, two coacting expansion members, one of which is formed of a number of engaged elements and is in connection with the valve-operating part, and means for anchoring opposite ends of the expansion members, for the purpose specified.

5. A trap having a valve-operating part, two coacting expansion members, one of which is in connection with the valve-operating part, and means for adjustably anchoring opposite ends of the expansion members.

6. A trap having a valve-operating part, two coacting expansion members, one of which is in connection with the valve-actuating part, and an eccentric for adjustably anchoring opposite ends of said members.

7. A trap having a flexible expansion-chain, and a valve-operating part connected therewith.

8. A trap having a flexible expansion-chain, and a valve-operating part connected therewith, said chain expanding to close the valve.

9. A trap having two expansion members arranged to act in opposite directions, a rocker bearing loosely between said members, and a valve-operating part in connection with one member.

10. A trap having two expansion members arranged to act in opposite directions, a rocker bearing loosely between said members, a valve-operating part in connection with one member, and means for anchoring opposite ends of said members.

11. A trap having two expansion members, of which one is a chain, a valve-actuating part connected to one of said members, and a rocker bearing loosely between the said members.

12. A trap having a split expansion-collar, an expansion-chain encircling the same, a rocker bearing loosely between the collar and chain, and a valve-operating part connected with the chain.

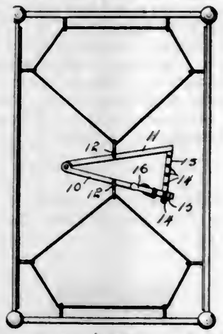
13. A trap having a split expansion-collar, an expansion-chain encircling the same, a rocker bearing loosely between the collar and chain, a valve-operating part connected with the chain, and means for anchoring opposite ends of the collar and chain.

14. A trap having a casing, a valve commanding a passage through the same, a lever attached to the valve, a split expansion-collar, on one end of which the lever is fulcrumed, an expansion-chain connected to the lever, and rockers bearing loosely between the chain and collar.

15. A trap having a casing, a valve commanding a passage through the same, a lever attached to the valve, a split expansion-collar, on one end of which the lever is fulcrumed, an expansion-chain connected to the lever, rockers bearing loosely between the chain and collar, and means for anchoring the said end of the collar and the end of the chain opposite the lever.

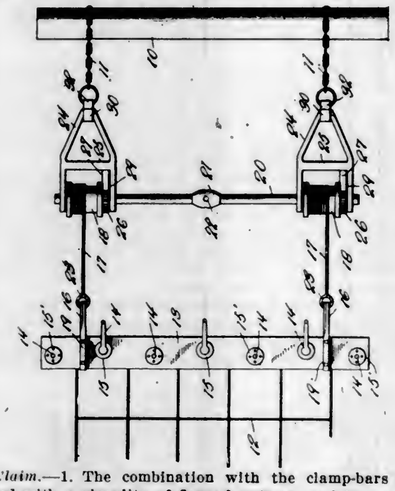
16. A trap having an expansion-chain fixed at one end, a valve-operating part connected with the other end, and means for maintaining the links in substantial alinement with each other, whereby to transmit the expansion and contraction of the chain to the valve-operating parts.

843,403. BED-BRACE. WYATT W. LOCKETT, Cason, Tex. Filed Sept. 20, 1906. Serial No. 335,475.



Claim.—The combination, with the bed-frame and two sets of wires one connected with the head portion and the other with the foot portion of the frame, of a brace comprising two bars pivoted together at one end and each provided with a pivoted wire-engaging hook, whereby the hooks may adjust themselves readily to the direction of draft of the said wires, and a transverse bar permanently connected at one end to one of the first-mentioned bars, and adjustably connected with the free end of the other bar.

843,404. WIRE-STRETCHER. CHARLES E. LOGAN, Mill Grove, Mo. Filed June 20, 1906. Serial No. 322,580.

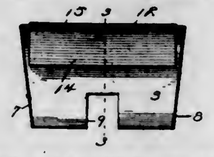


Claim.—1. The combination with the clamp-bars provided with a plurality of flanged nuts secured to one bar, crank-screws tapped into said nuts, flanged bearings for the screws on the opposite bar through which the screws pass, the nuts and bearings alternating with the two bars, as shown.

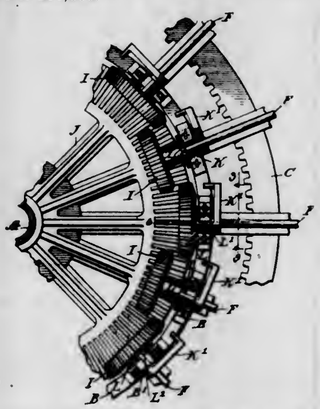
2. The combination with the clamp-bars provided with a plurality of flanged nuts secured to one bar, crank-screws tapped into said nuts, flanged bearings for the screws on the opposite bar through which the screws pass, the nuts and bearings alternating with the two bars, as shown, and hooks for engaging the eyes of the rope having divided ends embracing the said clamp-bars.

843,405. MATCH-SAFE. CHARLES H. LOVERING, Sidney, Mont. Filed Sept. 19, 1905. Serial No. 279,161.

Claim.—A pocket match-box comprising a single piece of sheet metal bent upon itself at its horizontal diameter, to form a receptacle, and provided with a horizontally-disposed slot formed therein at the line of bend, for the insertion of matches, and with registering notches at its outer edges to permit their withdrawal when the receptacle is so formed; and a resilient cover adapted to extend over and close said slot, and to embrace the sides of the receptacle to hold the outer edges thereof in engagement.



843,406. GEAR FOR MERRY-GO-ROUNDS. WILLIAM F. MANGELS, New York, N. Y. Filed Apr. 10, 1905. Serial No. 254,689.



Claim.—1. A merry-go-round provided with a revolving frame, seats associated with the frame, a fixed gear-wheel, and crank-shafts journaled on the frame carrying the seats, each crank-shaft having a pinion in mesh with the said fixed gear-wheel, the alternate crank-shafts being of greater length than the intermediate crank-shafts, whereby to stagger the pinions with respect to the gear-wheel, and the pinions on the alternate shafts being of less diameter than the pinions on the intermediate shafts.

2. A merry-go-round provided with a revolving frame, seats associated with the frame, a fixed gear-wheel, and crank-shafts journaled on the said frame and carrying the seats, each crank-shaft having a pinion in mesh with the said fixed gear-wheel, the face of the gear-wheel being of a breadth sufficient to accommodate adjacent pinions at shorter and longer radii, the pinions nearest the center of the gear-wheel being of less diameter than the pinions near the periphery thereof.

3. A merry-go-round provided with a revolving frame, seats associated with the frame, a fixed gear-wheel, and crank-shafts journaled on the said frame and carrying the seats, each crank-shaft having a pinion in mesh with the said fixed gear-wheel, the largest pitch diameter of one pinion being less than the smallest pitch diameter of an adjacent pinion.

4. A merry-go-round provided with a revoluble frame, a fixed gear-wheel, a crank-shaft for carrying a seat, a pinion on the crank-shaft meshing with the fixed gear-wheel, an eccentric bushing for supporting the crank-shaft, and manually-controlled means for partially rotating the bushing to move the pinion in and out of mesh with the fixed gear-wheel.

5. A merry-go-round provided with a revoluble frame, a fixed gear-wheel, a crank-shaft for carrying a seat, a pinion on the crank-shaft meshing with the fixed gear-wheel,

an eccentric bushing for supporting the shaft, manually-controlled means for manipulating the bushing to move the pinion in and out of mesh with the fixed gear-wheel, and a locking device for the crank-shaft to lock the same against rotation when the pinion is out of mesh with the fixed gear-wheel.

6. A merry-go-round provided with a revoluble frame, a fixed gear-wheel, a crank-shaft for carrying a seat, a pinion on the crank-shaft meshing with the fixed gear-wheel, an eccentric bushing for supporting the crank-shaft, means for manipulating the bushing to move the pinion in and out of mesh with the fixed gear-wheel, a locking gear-wheel on the crank-shaft, and a fixed locking-pin for engaging the locking gear-wheel for locking the crank-shaft against rotation when the pinion is moved out of mesh with the fixed gear-wheel.

7. A merry-go-round provided with a revoluble frame, seats associated with the frame, a fixed gear-wheel, a crank-shaft carrying a seat, a pinion on the crank-shaft, adapted to mesh with the said fixed gear-wheel, an eccentric bushing for the crank-shaft to turn in, a bearing for the said bushing, fixed on the said frame, and an arm on the said bushing, for turning it in the said bearing, to move the pinion in or out of mesh with the fixed gear-wheel.

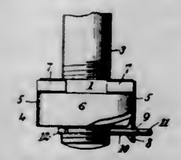
8. A merry-go-round provided with a revoluble frame, seats associated with the frame, a fixed gear-wheel, a crank-shaft carrying a seat, a pinion on the crank-shaft, adapted to mesh with the said fixed gear-wheel, an eccentric bushing for the crank-shaft to turn in, a bearing for the said bushing, fixed on the said frame, an arm on the said bushing, for turning it in the said bearing, to move the pinion in or out of mesh with the fixed gear-wheel, a locking gear-wheel on the said crank-shaft, and a locking-pin fixed on the said bearing and adapted to be engaged by the said locking gear-wheel at the time the said pinion is moved out of mesh with the fixed gear-wheel on turning the eccentric bushing.

9. A merry-go-round provided with a crank-shaft, a support for a seat, hung on the crank-arm of the said crank-shaft, the said support having a fork, the members of which are provided with inwardly-extending lugs, and a journal-box engaging the crank-arm and having recesses for the reception of the said lugs.

10. A merry-go-round provided with a crank-shaft, a support for a seat, hung on the crank-arm of the said crank-shaft, the said support having a fork, the members of which are provided with inwardly-extending lugs, a journal-box engaging the crank-arm and having recesses for the reception of the said lugs, and a locking means for removably locking the lugs in position on the said journal-box.

11. A merry-go-round provided with a crank-shaft, a support for a seat, hung on the crank-arm of the said crank-shaft, the said support having a fork, the members of which are provided with inwardly-extending lugs, a journal-box engaging the crank-arm and having recesses for the reception of the said lugs, and a button mounted to turn on the said box and adapted to extend over the said lugs, to hold the latter in place in the recesses of the journal-box.

843,407. NUT-LOCK. WILLIAM S. MASON, La Salle, Ill. Filed June 27, 1906. Serial No. 323,695.



Claim.—1. A nut-lock, comprising a casing having substantially parallel sides for engaging opposite faces of the nut, and arched ends connecting said sides, said sides having lateral projections constituting fingers adapted to be inwardly disposed about the edges of the nut and against the sides of the nut adjacent to the arched ends, whereby said casing is secured against displacement in a direction parallel to the sides, said casing having means to secure the same to the bolt.

2. A nut-lock, having a casing formed from a blank consisting of a strip of suitable material, having a lateral extension provided with a notched slot and lateral extensions on the side remote from the said first extension, said second extensions being adapted to act as fingers at the sides of the casing formed from the blank.

843,408. PINCUSHION. GEORGE D. MERRILL, East Orange, N. J. Filed Dec. 22, 1905. Serial No. 293,007.



Claim.—1. A device for the purpose substantially as described, comprising a concaved body-plate, cushioning material or filling therein, a facing fabric covering the outer face of said plate, an ornamental facing-plate having a concaved rear face, and means securing said plate on the body-plate, substantially as described.

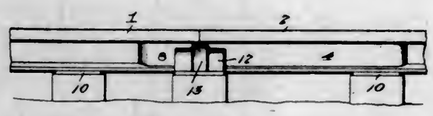
2. As an article of manufacture, a pincushion comprising two parallel superimposed plates with their edges brought approximately together, said plates being secured together and longitudinally and oppositely dished to form the cushioning-material-receiving chamber longitudinally of and between the inner faces of said plates, one plate forming a front facing with pin-holes intermediate its edges, and the other having the cushioning material secured thereto.

3. An article substantially as described, comprising a ring-shaped or annular cushion having a stiffening member, and a dished annular or ring shaped face-plate receiving said cushion in its concave surface and secured to the stiffening member thereof and having pin-holes through its front intermediate portion.

4. An article, substantially as described, comprising a dished ring-shaped body-plate, and a dished ring-shaped face-plate having projections at its inner and outer edges bent over the body-plate and securing the two plates together, said plates adapted to confine cushioning material between their inner dished faces, said face-plate having pin-holes through its front portion.

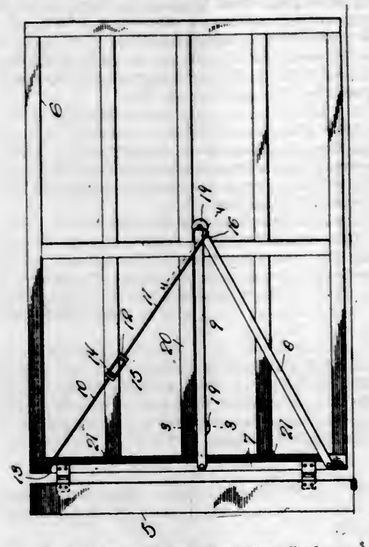
5. A pincushion comprising a body-plate having a facing fabric and the filling material secured thereto, and an annular front facing-plate having front pin-holes and spurs bent over the body-plate to secure the parts together.

843,409. RAIL-JOINT. JOHN L. MERTINS, Wolfe City, Tex. Filed June 19, 1906. Serial No. 322,373.



Claim.—A rail-joint consisting of rail-sections, one of the sections having an undercut longitudinally-extending seat-slot opening out through the end thereof and a thickened web on opposite sides of the slot, and the other section provided with a central, longitudinally-extending tongue to fit in the said slot and the web thereof thickened for a short distance, the flange members of the section having the slot therein adjacent to said slot being first flared and then tapered or converged to their free extremities, and chair members applied to opposite sides of the joint and having the inner slots shaped to receive the converged portions of the flange members.

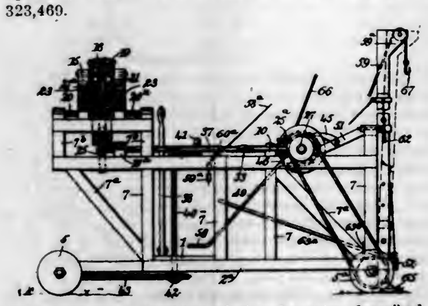
843,410. GATE-HANGER. CHARLEY A. MILLER, Mendon, Ohio. Filed Mar. 14, 1906. Serial No. 306,040.



Claim.—1. A device of the class described comprising an upright, a brace extending upwardly at an angle from the lower end of said upright, a second brace extending laterally from said upright and connected to the upper end of said first-named brace, a rod connected with the upper end of said upright and provided at its opposite end with a loop engaged over the meeting ends of said braces, and rollers mounted upon said second-named brace.

2. A device of the class described comprising an upright, a brace extending upwardly at an angle to said upright and from the lower end thereof, a second brace extending laterally from said upright and connected at its opposite end to the upper end of said first-named brace, rollers mounted upon said second-named brace, a rod connected to the upper end of said upright, a second rod provided at one of its ends with a loop engaged over the meeting ends of said braces, and adjustable connections between said rods.

843,411. HOISTING APPARATUS. FRANK D. MILLIN, Spokane, Wash. Filed June 26, 1906. Serial No. 323,469.



Claim.—1. In a machine of the character described, a framework wheels supporting the framework, a platform carried by the framework, a drum journaled on the framework, means carried by the framework operable from the platform to drive the drum, said means being also operable to move the platform on its wheels, and steering means operable from the platform.

2. In a machine of the character described, a carriage comprising a framework supporting a platform, a drum journaled on the framework, means for operating the drum supported by the framework and operable from the platform, said means also being operable to drive the carriage in moving the machine from place to place, and a detachable hoisting mechanism adapted to coöperate with the drum.

3. In a machine of the character described, a carriage comprising a framework supporting a platform, a drum journaled on the framework, means carried by the framework for driving the drum in either direction operable from the platform, steering means for the carriage operable from the platform, and braking means for the drum also operable from the platform.

4. In a machine of the character described, a carriage, a framework mounted thereon, a drum journaled on the framework, a shaft slidably connected to the drum and journaled on the framework, means for driving the drum, means for shifting the shaft in its bearings whereby the direction of rotation of the drum is changed, and means for connecting the shaft to a wheel of the carriage in driving the carriage about from place to place.

5. In a machine of the character described, a carriage, a framework mounted thereon, a drum journaled on the framework, gearing journaled on the framework for driving the drum, said gearing also being operative to drive the carriage about from place to place, steering means for the carriage, and a hoisting attachment detachably connected to the framework and coöperating with the drum, for the purpose described.

6. In a machine of the character described, a framework, a hoisting attachment detachably secured thereto, comprising a post and a foot, means for adjusting the post, and means for adjusting the foot to anchor the framework as described.

7. In a machine of the character described, a carriage, a framework mounted thereon, a drum journaled on the framework, means carried by the framework for driving the drum in either direction, a hoisting attachment detachably secured to the framework and adapted to coöperate with the drum, said attachment comprising a post and a foot, means for adjusting the post to different heights, and means for adjusting the foot to anchor the carriage in place.

8. In a machine of the character described, a framework, wheels supporting the same, means journaled on the framework for driving the drum in either direction, said means being also adapted to drive the wheels in moving the machine from place to place, steering means carried by the framework for guiding the machine, and a hoisting attachment detachably secured to the rear end of the machine and adapted to coöperate with the drum, for the purpose described.

9. In a machine of the character described, a framework, a drum journaled thereon, a hoisting attachment detachably secured to the rear end of the framework comprising a transverse beam, a post and a foot, guides for the post and foot, guy-ropes connecting the guides with the transverse beam, guy-ropes connecting the guides with the framework, and means permitting the vertical adjustment of the post and foot, as described.

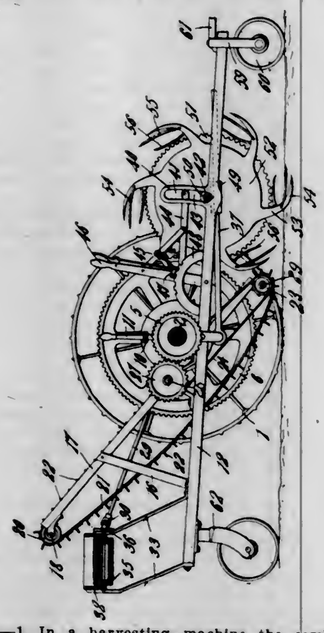
10. In a machine of the character described, a framework, a hoisting attachment detachably secured thereto, a drum journaled on the framework adapted to coöperate with the hoisting attachment, a foot and a post slidable in guides carried by the hoisting attachment, alining holes in the guides, a pin for passing through a set of said holes for holding the post in adjusted relation, a pin passing through a set of said holes for holding the foot in adjusted relation, and a lever adapted to raise and lower the foot.

11. In a machine of the character described, a framework, a drum journaled thereon, a pair of levers journaled on the framework, said levers having depending pawls, ratchet-wheels with which said pawls are adapted to engage, a shaft journaled in the framework, a pinion fixed to one end of said shaft, gearing carried by said ratchet-wheels adapted to drive said pinion, a pinion fixed to the opposite end of said shaft, and means adapted to mesh

with said pinion for driving the drum in opposite directions.

12. In a machine of the character described, a carriage, a framework mounted thereon, a double-ended lever journaled on the framework, depending pawls carried by the lever, ratchet-wheels journaled on the framework adapted to be engaged by the pawls, pinions fixed to the ratchet-wheels, a longitudinal shaft journaled in the framework having a pinion fixed thereon adapted to mesh with one of the pinions fixed to the ratchet-wheels, a beveled pinion fixed to the opposite end of the longitudinal shaft, a drum journaled on the framework, a transverse shaft slidably connected to the drum, pinions fixed to the transverse shaft adapted to mesh alternately with the pinion fixed to the longitudinal shaft, means for shifting the transverse shaft in its bearings for changing the direction of rotation of the drum, and mechanism intermediate the transverse shaft and the carriage for moving the latter about from place to place, as described.

843,412. BEET-HARVESTER. WILLIAM H. MCCALL, New Windsor, Colo. Filed Sept. 28, 1906. Serial No. 336,656.



Claim.—1. In a harvesting-machine the combination with a portable frame; of a rotatable series of pulling devices each comprising diverging tines, and means adjacent and movable with the tines for holding material engaged by the tines.

2. In a harvesting-machine the combination with a portable frame; of a rotatable series of pulling devices each comprising diverging tines, and a screen disposed adjacent and movable with the tines.

3. In a harvesting-machine the combination with a portable frame; of a rotatable series of pulling devices comprising diverging tines, and an arched screen movable with the tines and constituting a guard.

4. A pulling device for harvesting-machines comprising an arm, diverging tines extending from one end thereof, and an arched screen disposed upon said arm adjacent the tines and constituting a guard.

5. In a harvesting-machine the combination with a portable frame; of a rotatable series of pulling devices comprising diverging tines, guard-arms adjacent thereto, and a fabric guard arranged upon the arms.

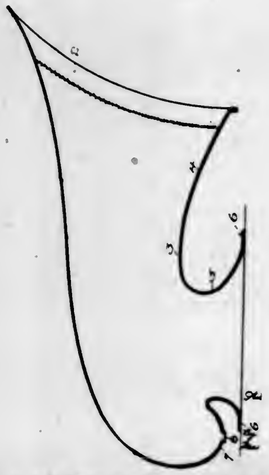
6. In a harvesting-machine the combination with a portable frame; of a rotatable series of pulling devices comprising diverging tines, guard-arms adjacent thereto, a fabric guard arranged upon the arms, an elevator carried by the frame, and means operated by the movement of the frame for actuating the pulling devices and elevator, the fabric guard of said devices being adapted to direct material from the tines onto the elevator.

7. In a harvesting-machine the combination with a rotatable disk; of a plurality of arms radiating therefrom, diverging tines extending from the end of each arm, guard-arms extending from opposite portions of each arm and adjacent the tines, and an intermediate guard-arm extending from each radiating arm.

8. In a harvesting-machine the combination with a rotatable disk; of a plurality of arms radiating therefrom, diverging tines extending from the end of each arm, guard-arms extending from opposite portions of each arm and adjacent the tines, an intermediate guard-arm extending from each radiating arm, and an open fabric guard arranged upon the arms.

9. A pulling device for harvesting-machines comprising an arm, diverging tines extending from one end thereof, diverging curved guard-arms extending from the first-mentioned arm and adjacent the tines, an intermediate guard-arm, and an open fabric guard disposed upon the guard-arms and open at one end.

843,413. VENTILATOR-HOOD. WILLIAM R. MCKEEN, Jr., Omaha, Nebr. Filed May 15, 1905. Serial No. 260,524.

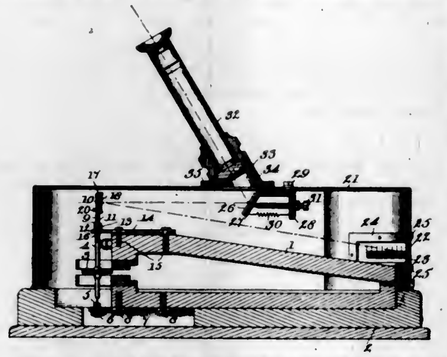


Claim.—1. A ventilator-hood, comprising a casing having an intake and a discharge passage, the casing being formed of side walls, an upper and rear wall and a lower and front wall, the upper and rear wall being curved in a continuous, smooth line downwardly from the intake-opening over and across the discharge-passage and downwardly in the rear of the discharge-passage, and upwardly forming a pocket at the rear of said discharge-passage, and thence downwardly forming a portion of the wall of the discharge-passage, the lower and front wall of the casing being curved in a continuous smooth line upwardly and rearwardly from the point of the intake-opening to a point at the beginning of the discharge-passage, and thence downwardly forming a portion of the wall of the discharge-passage, the discharge-passage being unobstructed.

2. A ventilator-hood, comprising a casing having an intake-opening and a discharge-passage, said casing being formed of vertical walls, and an upper and rear wall and a lower wall, the upper and rear wall curving from the point of the intake-opening downwardly and rearwardly to a point in front of the discharge-passage, then curving upwardly across the discharge-passage forming a swell or enlargement in the casing, and thence downwardly to the rear of the discharge-passage, and thence upwardly to the discharge-passage forming a pocket in the rear of the discharge-passage, the lower wall curving from the point of the intake-opening upwardly and rearwardly to the point of beginning of the discharge-passage, the discharge-passage being unobstructed.

3. A ventilator-hood, comprising a casing formed into an intake and discharge passage, the discharge-passage leading downwardly from the intake-pasage at the rear end thereof, the intake-passage in front of the discharge-passage being relatively long and gradually restricted in transverse area from the front rearwardly to the point of discharge into the discharge-passage, the upper wall of the casing curving downwardly and rearwardly continuously of and into the rear wall, which rear wall curves continuously into the form of a pocket or receptacle in the rear of the discharge-passage.

843,414. OPTICAL READING DEVICE FOR ELECTRICAL MEASURING INSTRUMENTS. EDWIN F. NORTHRUP, Philadelphia, Pa., assignor to Leeds and Northrup Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Mar. 27, 1906. Serial No. 308,368.



Claim.—1. In an electrical measuring instrument, the combination with a moving system, of a mirror mounted for angular movement by said system, a cover for said instrument, a scale mounted to be reflected by said mirror, a mirror mounted to receive the reflected image of said scale from the first mirror, and a reading-telescope mounted to receive the reflected image of said scale from the second-mentioned mirror, the said telescope being directed away from the movable mirror, and in the direction of said scale, and the longitudinal axis of said telescope lying in a plane which intersects said scale.

2. In an electrical measuring instrument, the combination with a moving system, of a mirror mounted for angular movement by said system, a cover for said instrument, a scale mounted on said cover to be reflected by said mirror, a mirror mounted to receive the reflected image of said scale from the first mirror, and a reading-telescope mounted on the outside of said cover to receive the reflected image of said scale from the second-mentioned mirror, the said telescope being directed away from the movable mirror and in the direction of said scale, and the longitudinal axis of said telescope lying in the plane which intersects said scale.

3. An electrical measuring instrument, comprising a moving system, a mirror mounted for angular movement by said system, a scale mounted to be reflected by said mirror, a mirror mounted to receive the reflected image of said scale from the first mirror, a cover inclosing said system and mirrors, and a reading-telescope mounted upon the outside of said cover to receive the reflected image of said scale from the second-mentioned mirror, the axis of rotation of the first-mentioned mirror and longitudinal axis of said telescope and the center of said scale lying in substantially the same plane, and the telescope directed away from said movable mirror and toward said scale.

4. An electrical measuring instrument, comprising a moving system, a mirror mounted for angular movement by said system, a cover inclosing said system and mirror and having an opening in its top, a scale mounted to be reflected by said mirror, a mirror mounted within said cover to receive the image of said scale reflected by the first-mentioned mirror, and a reading-telescope mounted on the outside of said cover and registering with said opening in the top thereof to receive the image of said scale reflected by the second-mentioned mirror, the axis of rotation of the first-mentioned mirror and longitudinal axis of said telescope and the center of said scale lying in substantially the same plane, and the telescope directed away from said movable mirror and toward said scale.

5. An electrical measuring instrument, comprising a moving system, a mirror mounted for angular movement by said system, a cover inclosing said system and mirror, a scale mounted within said cover to be reflected by said mirror, a mirror mounted on the inside of said cover to receive the reflected image of said scale from the first-mentioned mirror, said mirror being angularly adjustable from the outside of said cover and a reading-telescope adapted to receive the reflected image of said scale from the second-mentioned mirror and having its eye-piece outside of said cover.

6. An electrical measuring instrument, comprising an electromagnetically movable system, a mirror mounted for angular movement by said system, a cover inclosing said system and mirror and having an elongated opening in one end and an opening in its top, a scale mounted to register with said elongated opening and to be reflected by said mirror, a mirror mounted within said cover to receive the reflected image of said scale from the first-mentioned mirror and angularly adjustable in two directions, and a reading-telescope mounted on the outside of said cover to register with the opening in the top thereof and adapted to receive the reflected image of said scale from the second-mentioned mirror, the axis of rotation of the first-mentioned mirror and longitudinal axis of said telescope and the center of said scale lying in substantially the same plane, and the telescope directed away from said movable mirror and toward said scale.

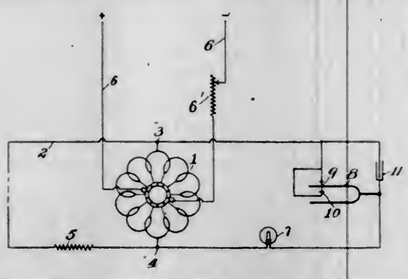
7. An electrical measuring instrument, comprising a movable system, a mirror mounted for angular movement by said system, a cover inclosing said system and mirror and having an elongated opening at one end and an opening through its top, a scale mounted to register with said elongated opening and to be reflected by said mirror, a bracket pivotally secured to the inside of said cover and provided with means to adjust the angular position of the same on said pivot, a support hinged to said bracket, means to maintain said support in a slanting position and to adjust the angle thereof, a mirror mounted on said support to receive the reflected image of said scale from the first-mentioned mirror, a slanting collar mounted on top of said cover and registering with the said opening therein, and a telescope adapted to be secured to said collar, and arranged to receive the reflection of said scale from the last-mentioned mirror.

8. An electrical measuring instrument, comprising an electromagnetically movable system, a mirror mounted for angular movement by said system, a cover inclosing said system and mirror and having an elongated opening at one end and an opening through its top, a scale mounted to register with said elongated opening and to be reflected by said mirror, a bracket pivotally secured to the inside of said cover and provided with means to adjust the angular position of the same on said pivot, a support hinged to said bracket, means to maintain said support in a slanting position and to adjust the angle thereof, a mirror mounted on said support to receive the reflected image of said scale from the first-mentioned mirror, a slanting collar mounted on top of said cover and registering with the said opening therein, and a telescope adapted to be secured to said collar, and arranged to receive the reflection of said scale from the last-mentioned mirror.

9. The combination with a moving system, of a mirror

mounted for angular movement by said system, a cover inclosing said parts and having an elongated opening, a translucent scale registering with said opening and adapted to be reflected by said mirror, a second mirror mounted inside of said cover to receive the image of the scale reflected from the first mirror, a reading-telescope mounted on the top of said cover to receive the image of said scale reflected from the second mirror and having its eye-piece on the outside of said cover, the longitudinal axis of said telescope lying in a plane which intersects said scale.

843,415. ELECTRICAL SYNCHRONISM. EDWIN F. NORTHRUP, Philadelphia, Pa., assignor to Leeds and Northrup Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Oct. 18, 1906. Serial No. 339,469.



Claim.—1. The combination with one or more coils arranged to develop a periodically-varying electric current, of a circuit including said coils and a synchronizing ohmic resistance, means to vary the load of said resistance on said coils at regular intervals the natural frequency of which is less than the natural frequency of the said electric current, the latter being damped down to synchronism with the period of said load-varying means by the load of said resistance.

2. The combination with one or more coils arranged to develop a periodically-varying electric current, of a circuit including said coils and a synchronizing ohmic resistance which decreases as the current through it increases, means to vary the load of said resistance on said coils at regular intervals the natural frequency of which is less than the natural frequency of the said electric current, the latter being damped down to synchronism with the period of said load-varying means by the load of said resistance.

3. The combination with one or more coils arranged to develop a periodically-varying electric current, of a circuit including said coils and a synchronizing ohmic resistance which decreases as the current through it increases, means to vary the load of said resistance on said coils at unvarying intervals, once for each electric impulse developed by said coils or multiple thereof, the natural frequency of which intervals is less than the natural frequency of the said electric current, the latter being damped down to synchronism with the period of said load-varying means by the load of said resistance.

4. The combination with a rotary alternating-current generator, of a circuit including the armature-coils of said generator and a synchronizing ohmic resistance which decreases as the current through it increases, means to vary the load of said resistance on said coils at unvarying intervals once for each alternating-current semicycle or multiple thereof developed by said generator the natural frequency of which intervals is less than the natural frequency of the said generator, the speed of the latter being damped down to synchronism with the period of said load-varying means by the load of said resistance.

5. The combination with one or more coils arranged to develop a periodically-varying electric current, of a circuit including a synchronizing ohmic resistance inductively connected to said coils, means to vary the load of said resistance on said coils at regular intervals the natural frequency of which is less than the natural frequency of the said electric current, the latter being damped down to synchronism with the period of said load-varying means by the load of said resistance.

6. The combination with a rotary alternating-current generator, and means to drive the same, of an external working circuit connected to the armature-terminals of said generator, a synchronizing-circuit connected to the same terminals of said generator with said working circuit and including a synchronizing resistance comprising an incandescent lamp to act as a load on said generator, a contact device comprising a tuning-fork arranged to make and break the electrical continuity of said circuit at unvarying intervals the natural period of which is greater than that of the current developed by said generator, the said load being thrown on said generator once for every semicycle or multiple thereof developed by said generator and acting to damp the speed of the generator down to synchronism with the periodicity of said tuning-fork.

7. The combination with a rotary alternating-current generator and means to drive the same, of an external working circuit connected to the armature-terminals thereof, a transformer having its primary connected to said armature-terminals, a synchronizing-circuit including the secondary of said transformer and a synchronizing resistance comprising one or more incandescent lamps to act as a load on said generator, a contact device comprising a tuning-fork arranged to make and break the electrical continuity of said circuit at unvarying intervals the natural period of which is greater than that of the current developed by said generator, the said load being thrown on said generator once for every semicycle or multiple thereof developed by said generator and acting to damp the speed of the generator down to synchronism with the periodicity of said tuning-fork.

843,416. POSTAL-CARD PROTECTOR. HYDESABURO OHASHI, New York, N. Y. Filed Sept. 1, 1906. Serial No. 332,888.

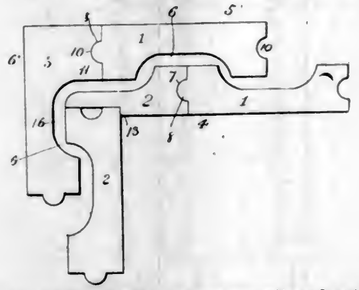


Claim.—1. As a new article of manufacture, a postal card having an independently-formed protecting-sheet composed of light-weight material and arranged to cover the reverse face of the card and permanently attached at one edge to the latter, said sheet being formed for detachable engagement with an opposite edge of the card and being wholly free from engagement with the latter except at the points named.

2. As a new article of manufacture, a postal card having a protecting-sheet composed of light-weight material, arranged to cover the reverse face of the card and permanently attached at one edge to the latter, said sheet having a pocket to receive an opposite edge of the card and being wholly free from engagement with the latter except at the points named, and a finger-piece provided on the sheet at its pocketed edge.

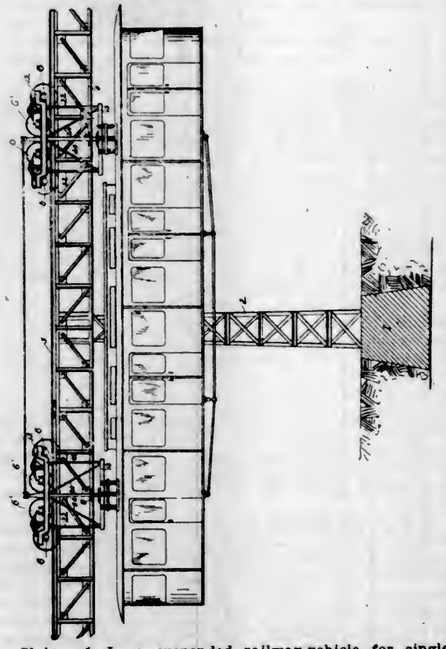
843,417. BUILDING-BLOCKS. PAUL OLSON, Stoughton, Wis. Filed Apr. 6, 1906. Serial No. 310,363.

Claim.—Series of building-blocks, forming the two opposed courses, both for the lateral and end walls, and having three different structural outlines, each block of one series having one right-lined lateral surface, its ends of corresponding formation and provided with a projection or extension and a recess, respectively, and its opposite lateral surface having a longitudinal recess; each block of the second series being of approximately right-angled formation, one arm of the angle having a recess facing at right angles to the extension or projection of the other arm of the angle; and each block of the third series having one end approximately rectangular and provided with a recess receiving a projection upon the adjoining block of one of the other aforesaid block series, said third-series block



also having an elongated narrow opposite-end extension laterally abutting one end of a block of another of the aforesaid block series and also a shoulder facing at right angles to said laterally-abutting surface and itself abutting one side of said end-abutted block.

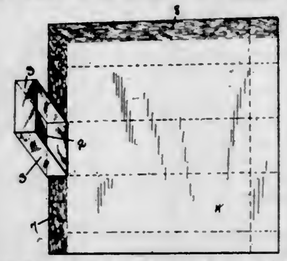
843,418. SINGLE-RAIL ELECTRIC OVERHEAD RAILWAY WITH SUSPENDED VEHICLE. HIPPOLYTE ROMANOFF, St. Petersburg, Russia. Filed June 1, 1905. Serial No. 263,314.



Claim.—1. In a suspended railway-vehicle for single-rail railways, a wheel-frame consisting of upper and lower frames connected together by tie-bars and struts, such as 20, 22, of which the tie-bars 20 are situated nearer to the vertical plane passing through the rail and the middle of the vehicle, than the struts 22, so that the load on the wheel-frame shall put a tension on the tie-bars and a compression upon the struts, substantially as described.

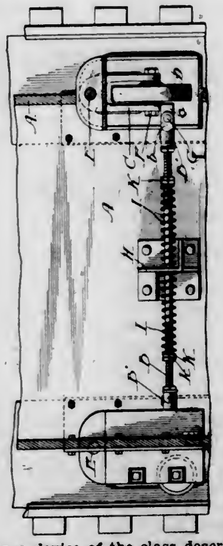
2. In a wheel-frame for a suspended single-rail railway-vehicle, a turn-table such as 38 bearing with antifriction-balls upon a ring riveted to the under frame 13 and having a central opening, through which passes the pin 39 of a bolt 40 fixed to the yoke 35 formed in one with the said ring, a box-shaped frame 42 with box-shaped beam 43 being suspended from the turn-table by means of bolts from which beam are suspended with spring action the suspension-rods of the carriage-body, substantially as described.

843,419. DISPLAY-PACKAGE. HARRY C. SCHULTZ, Rutledge, Pa., assignor of one-half to William A. Flamm, Baltimore, Md. Filed Aug. 30, 1905. Serial No. 276,344.



Claim.—A display-package wrapper comprising a sheet to be folded about the package and having a cap-receptacle at one edge—said receptacle having walls which project and face inwardly from the edge of the sheet and having a transparent wall facing outwardly from the edge of the sheet.

843,420. RUNNING-GEAR FOR VEHICLES. WILLIAM H. STRICKLER, Chicago, Ill., assignor to Federal Construction Company. Filed Jan. 29, 1906. Serial No. 298,470.



Claim.—1. In a device of the class described the combination with the body of the car and its supporting-wheels, said supporting-wheels including a pair of caster-wheels—of means for yieldingly holding said wheels parallel, substantially as described.

2. In a device of the class described, the combination with the body of the car and its supporting-wheels, said supporting-wheels, including a pair of caster-wheels, of means for yieldingly holding said wheels parallel and at an angle to the track, substantially as described.

3. In a device of the class described, the combination

with the body of the car and its supporting-wheels, including a pair of caster-wheels, of rigid means connecting the caster-wheels and yielding means for holding the wheels in any desired position and with relation to the track, substantially as described.

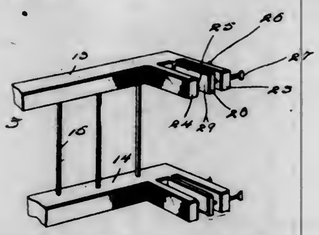
4. In a device of the class described, the combination with the body of the car and its supporting-wheels, including a pair of caster-wheels, of a rigid connection between said wheels whereby they are held parallel and spring mechanism interposed between said connection and the body of the car for yieldingly holding the wheels in the desired position with relation to the track, substantially as described.

5. In a device of the class described, the combination with the body of the car and its supporting-wheels, including a pair of caster-wheels, of a rigid connection between said wheels, a pair of springs each engaging said connection at one of its ends, and a part carried by the car-body and engaged by said springs at their other ends, substantially as described.

6. In a device of the class described, the combination with a car-body and the supporting-wheels, including a pair of caster-wheels, of means including a rod, connecting said caster-wheels, a spring engaging said rod, and the car-body for yieldingly holding said wheels in the desired positions relatively to the track, and means for adjusting the tension of said spring, substantially as described.

7. In a device of the class described, the combination with the car-body of a pair of yokes secured thereto and adapted to swing horizontally, supporting-wheels for said yokes, a rod connecting said yokes, and a yielding device engaging the rod and the car-body for holding the rod in the desired position, substantially as described.

843,421. GUARD-RAIL FOR BEDSTEADS. CAROLINE E. UHDE, Mount Vernon, Ind. Filed July 9, 1904. Serial No. 215,850.

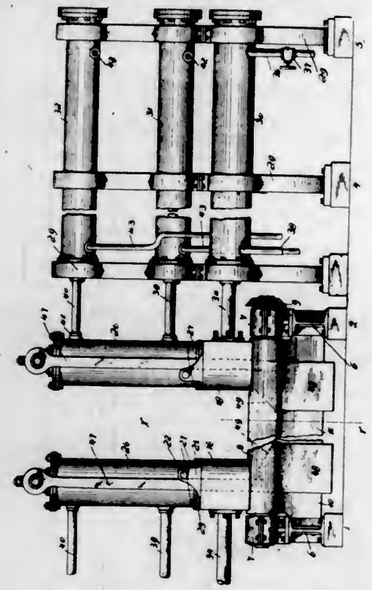


Claim.—1. A device of the class described comprising upper and lower rails, fingers extending laterally from the ends of the rails and in the same direction, a resilient plate formed integral with each of the rails and lying intermediate the fingers of each pair, a pair of set-screws engaged through one of the fingers of each pair and impinging against the said resilient plate, and pads secured upon the opposing faces of the other of the fingers and the said resilient plate.

2. A device of the class described comprising upper and lower rails, fingers extending laterally from the ends of the rails and in the same direction, a resilient plate formed integral with each of the rails and lying intermediate the fingers of each pair, a set-screw engaged through one of the said fingers adjacent its junction with the rail, and a set-screw engaged through the finger adjacent its end, said set-screw being adapted to bear against the resilient plate, at different points.

843,422. MANIPULATOR. JOHN W. WEBER, Pittsburg, Pa. Filed Apr. 2, 1906. Serial No. 309,340.

Claim.—1. In a manipulator, the combination with rollers, and guideways mounted between said rollers, a head slidably mounted upon said guideways, a cylinder carried by said head, a piston slidably mounted within said cylinder, depending turning-bars raised and lowered by said piston-head, a frame mounted adjacent to said rollers, cylinders supported by said frame, a piston-rod mounted in one of said cylinders and connecting with said head to move said head upon said guideways, tubes extending into the other of said cylinders and connecting with the first-named cylinder, substantially as described.



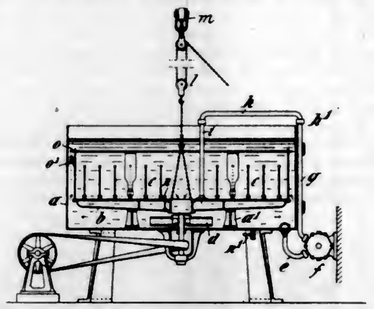
2. In a manipulator, a table comprising a suitable support and a plurality of rollers transversely arranged thereon, guideways arranged transversely of the support, a head slidably mounted on said guideways, a vertically-disposed cylinder mounted on said head, a piston therein having its rod extending through the upper end of the cylinder, a cross-head on said rod, turning-bars suspended from said cross-head, a plurality of transversely-disposed cylinders arranged adjacent the table, a piston in one of said cylinders having its rod connected to said head, and tubes communicating with the vertical cylinder and extending into the others of said horizontal cylinders.

3. In a manipulator, a table embodying a support and a plurality of rollers arranged transversely of the support, guideways arranged transversely of the support, a head mounted to slide on said guideways and having upwardly-extending brackets, a cylinder mounted on said head, a piston in said cylinder having its rod extending through the upper end of the cylinder, a cross-head on said rod, turning-bars suspended from said cross-head and extending through the sliding head and guided by said brackets, and hydraulic means for actuating the sliding head and the piston in said vertical cylinder to operate the turning-bars.

4. In a manipulator, a work-receiving table, a head mounted thereon, a vertical cylinder carried by said head, a piston within said cylinder having its rod extending through the upper end of the cylinder, a cross-head on said rod, turning-bars carried by said cross-head and extending through the sliding head, and hydraulic means for actuating the sliding head and the piston in said vertical cylinder for operating the turning-bars.

5. In a manipulator for ingots, the combination of a work-receiving table, a slidably-mounted head, a cylinder carried by the head, a piston in said cylinder having its rod extending through the end of the cylinder, a cross-head on said rod, turning-bars carried by said cross-head and extending through the slidable head, and hydraulic means for operating the sliding head to move it across the work-receiving table and other hydraulic means for actuating the piston to operate the turning-bars.

843,423. APPARATUS FOR CLEANING BOTTLES AND SIMILAR VESSELS. EMIL WEYMAR, Mülhausen, Germany. Filed Sept. 12, 1905. Serial No. 278,199.



Claim.—1. In an apparatus for cleaning bottles and the like, the combination of a vessel containing washing liquid, means for supporting a plurality of bottles immersed in the liquid in said vessel in the same horizontal plane, and means for driving washing liquid into said bottles, substantially as described and for the purpose set forth.

2. In an apparatus for cleaning bottles and the like, the combination of a vessel containing washing liquid, means for letting down a plurality of bottles into the washing liquid and for lifting the same out of said liquid, means for supporting said bottles in the same horizontal plane immersed in the liquid, in said vessel, and means for driving washing liquid into said bottles, substantially as described and for the purpose set forth.

3. In an apparatus for cleaning bottles and the like, the combination of a vessel containing washing liquid, a holder having a plurality of vertical supports arranged in the same horizontal plane and over which a plurality of bottles can be placed upside down, said holder supporting said bottles immersed in the liquid, and means for driving washing liquid into said bottles, substantially as described and for the purpose set forth.

4. In an apparatus for cleaning bottles and the like, the combination of a vessel containing washing liquid, a holder having a plurality of vertical tubes for supporting a plurality of bottles arranged upside down, said holder supporting said bottles immersed in the liquid in said vessel, means for driving washing liquid from the vessel containing the same through said tubes and into the bottles, and out into said vessel again, and means for setting the liquid outside the bottles, in a state of rapid motion substantially as described and for the purpose set forth.

5. In an apparatus for cleaning bottles and the like, the combination of a vessel containing washing liquid, a holder consisting of a hollow vessel provided with a plurality of vertical tubes communicating with the interior of said holder, said tubes being adapted to support a plurality of bottles arranged upside down immersed in the washing liquid, a pump, a suction-pipe leading from the vessel containing the washing liquid to the pump, and a delivery-pipe leading from the pump to the interior of the holder, said pump being adapted to drive washing liquid from the vessel containing the same, through said tube, and into the bottle and out into the vessel again, substantially as described and for the purpose set forth.

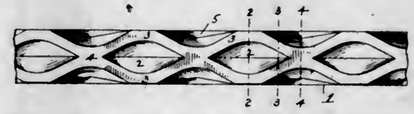
6. In an apparatus for cleaning bottles and the like, the combination of a vessel containing washing liquid, means for supporting a plurality of bottles in the same horizontal plane and immersed in the liquid in said vessel, and means for setting the liquid outside the bottles, in a state of rapid motion, substantially as described and for the purpose set forth.

7. In an apparatus for cleaning bottles and the like, the combination of a vessel containing washing liquid, a holder consisting of a horizontally-disposed ring-shaped hollow vessel having a central opening and provided with a plurality of vertical tubes communicating with the interior of said holder, said tubes being adapted to support a plurality of bottles arranged upside down immersed in the washing liquid, a pump, a suction-pipe leading from the vessel containing the washing fluid to the pump, a delivery-pipe leading from the pump to the interior of the holder, said pump being adapted to drive washing liquid from the vessel containing the same, through the said tubes and into the bottles and out into the vessel again, substantially as described and for the purpose set forth.

8. In an apparatus for cleaning bottles and the like, the combination of a vessel containing washing liquid, a holder consisting of a hollow vessel provided with a plurality of vertical tubes communicating with the interior of said holder, said tubes being adapted to support a plurality of bottles arranged upside down immersed in the washing liquid, a pump, a suction-pipe leading from the vessel containing the washing liquid, to the pump, a delivery-pipe, consisting of the fixed vertical tube *g*, a swinging tube *h* and the vertical tube *i* connected with the interior of the holder, said pump being adapted to drive washing liquid from the vessel containing the same, through the tubes on the holder, to the bottles and out into the vessel again, substantially as described and for the purpose set forth.

9. In an apparatus for cleaning bottles, and the like, the combination of a vessel containing washing liquid, a holder having a plurality of vertical tubes for supporting a plurality of bottles arranged upside down immersed in the liquid, supporting-rods *c'* mounted on said holder, a perforated cover *o* engaging on said rods and resting upon the bottoms of the bottles, means for driving washing liquid from the vessel containing the same, through said tubes and into the bottles and out into the vessel again, substantially as described and for the purpose set forth.

843,424. REINFORCING-BAR FOR CONCRETE AND LIKE MATERIAL. SYDNEY B. WILLIAMSON, Baltimore, Md. Filed Aug. 10, 1905. Serial No. 273,555.



Claim.—1. A bar for the purpose specified, said bar being polygonal in cross-section and having entirely within each face thereof recesses extending into and only partly through the body thereof, said bar having at the intersection of its faces recesses intermediate the recesses in the faces and diminishing in depth from the longitudinal central portion to the ends thereof, whereby a very high proportion of the original cross-sectional area of the stock is preserved throughout its length, shearing is reduced to a minimum and the bar is of substantially constant cross-sectional area throughout its length, substantially as specified.

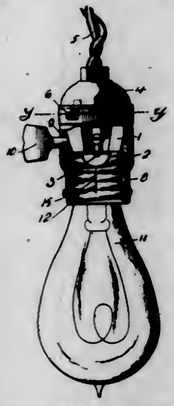
2. A bar for the purpose specified, said bar being polygonal in cross-section and having each face thereof provided with recesses extending only partly through the bar, said recesses tapering or diminishing in depth from the center thereof and having their centers in the same transverse plane, said bar being also provided with recesses formed in the corner edges thereof, intermediate of the recesses in the faces and diminishing uniformly in depth from the longitudinal center to the ends thereof, substantially as specified.

3. A bar for the purpose specified, said bar being polygonal in cross-section and having each face thereof provided with diamond or lozenge shaped recesses, the centers of said recesses being in the same transverse plane and said bar being also provided with corner-recesses intermediate of those in the faces and each diminishing uniformly in depth from the longitudinal center to the ends thereof, substantially as specified.

4. A bar for the purpose specified, said bar being polygonal in cross-section and having within each face thereof diamond or lozenge shaped recesses, said recesses being shallow and diminishing uniformly in depth from the cen-

ter thereof to the face of the bar, said bar being also provided with recesses in the corner edges thereof intermediate of the former recesses and each diminishing uniformly in depth from the longitudinal center to the ends thereof, substantially as specified.

843,425. INCANDESCENT-LAMP SOCKET. FREDRICK WUNDERLICH, Swissvale, Pa. Filed Nov. 28, 1906. Serial No. 345,419.



Claim.—1. In an incandescent-bulb lock, the combination with a socket having a threaded shell, of a spring secured to said shell and protruding therein, a threaded sleeve adapted to engage in said shell and having a beveled groove to receive the end of said spring, and an outer casing detachably secured to said socket and bearing upon said spring.

2. The combination with a socket having an inner threaded shell, a spring secured to said shell and protruding therein, a threaded sleeve adapted to engage in said shell and be engaged by said spring, and means detachably secured to said socket to hold said spring in engagement with said shell and sleeve.

843,426. METHOD OF DISINTEGRATING AMORPHOUS BODIES. EDWARD G. ACHESON, Stamford township, Welland county, Ontario, Canada. Filed Dec. 31, 1906. Serial No. 350,100.

Claim.—1. The method substantially as hereinbefore set forth of disintegrating and deflocculating amorphous bodies, which consists in mixing them with a solution having effects thereon like those due to tannin, grinding the mass, and separating the deflocculated particles.

2. The method substantially as hereinbefore set forth of disintegrating and deflocculating amorphous bodies, which consists in mixing them with a solution having effects thereon like those due to tannin, grinding the mass, and separating the deflocculated particles by decantation.

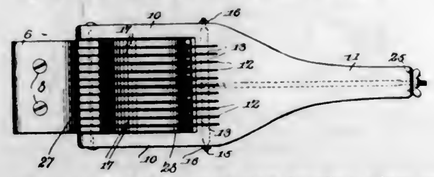
3. The method substantially as hereinbefore set forth of disintegrating and deflocculating amorphous bodies, which consists in mixing them with a solution having effects thereon like those due to tannin, grinding the mass, separating the deflocculated particles by decantation, and subjecting the suspended particles to a flocculating material.

4. The method substantially as hereinbefore set forth of disintegrating and deflocculating amorphous bodies, which consists in mixing them with a solution having effects thereon like those due to tannin, grinding the mass, separating the deflocculated particles by decantation, subjecting the suspended particles to a flocculating material, by adding a solution of alum.

5. The method substantially as hereinbefore set forth of disintegrating and deflocculating amorphous bodies, which consists in mixing them with a solution having effects thereon like those due to tannin, grinding the mass, separating the deflocculated particles, and drying and molding the same into articles.

6. The method substantially as hereinbefore set forth of disintegrating and deflocculating amorphous bodies, which consists in mixing them with a solution having effects thereon like those due to tannin, grinding the mass, separating the deflocculated particles, drying and molding the same into articles, and subjecting the articles to the action of heat.

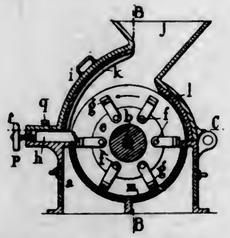
843,427. POTATO-SLICER. RICHARD E. ATKINSON, Iamonia, Fla., and THOMAS A. TEATE, Thomasville, Ga., assignors of one-third to Ralph H. Neel, Thomasville, Ga. Filed Oct. 30, 1905. Serial No. 285,142.



Claim.—1. In a device of the class described, a base provided with a supporting-seat, a pin extending transversely of the base, a frame mounted for swinging movement on the pin and provided with a series of kerfs defining spacing-blocks, there being a transverse recess formed in the frame and piercing said spacing-blocks, a bar mounted for lateral movement in the recess, cutting-blades seated in the kerfs and carried by the bar and transverse pin, respectively, and a rod extending longitudinally of the frame and engaging the bar for adjusting the tension of the cutting-blades.

2. In a device of the class described, a base having one end thereof reduced and its opposite end provided with a concave supporting-seat having a series of spaced recesses formed therein, a frame having one end thereof bifurcated and mounted for swinging movement on the base and its opposite end provided with an operating-handle, a plurality of cutting-blades carried by the frame and adapted to engage the recesses in the supporting-seat, a rod extending longitudinally of the handle and having one end thereof operatively connected with the cutting-blades and its opposite end threaded and a nut engaging the threaded end of the rod and bearing against the handle for adjusting the tension of the cutting-blades.

843,428. CRUSHING AND PULVERIZING MACHINE. JACQUES ANCEL, Asnières, France, assignor to Charles Brodbeck, Paris, France. Filed Oct. 4, 1904. Serial No. 227,161.



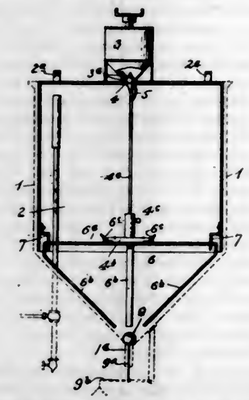
Claim.—1. In a machine of the character described, the combination with a casing provided with a hopper and a rotatably-mounted hammer in said casing, of an anvil-block, and a corrugated breaking-plate extending inwardly and upwardly from said anvil-block and terminating in a position, within the limits of said casing, at a distance from the axis of said hammer-support greater than the distance between the axis of said hammer-support and anvil-block and coöperating with said hammer to initially break up the material to be crushed and further crush

same during its delivery to the anvil-block, substantially as described.

2. In a machine of the character described, the combination with a rotatable shaft and a toothed hammer supported thereby, of a casing and a cover therefor, one wall of said cover being curved in an arc concentric with said shaft, and the opposite wall of said cover being curved in an arc eccentric with said shaft and spirally disposed with relation to the arc of travel of said hammer, and the upper end of said cover terminating in a hopper, concave plates on the inside faces of said cover-walls provided with longitudinally-corrugated surfaces for coöperating with said toothed hammer, and an anvil-block provided with teeth disposed in the arc of rotation of said hammer and coöperating therewith, substantially as described.

3. In a machine of the character described, the combination with a casing provided with a semicircular grid and a cover therefor having one wall concentric with said grid, and an opposite wall eccentric therewith, said walls terminating in a hopper, of longitudinally-corrugated curved plates located on the inside face of said walls, an anvil-block provided with teeth adapted to project beyond said grid, means for adjusting said anvil-block, a plurality of rotatably-supported pivoting-hammers provided on their free ends with teeth for coöperating with the teeth of said anvil-block and the corrugated surface of said plates, and means for rotating said hammers, substantially as described.

843,429. ACETYLENE-GAS GENERATOR. TELESPHORE BABIN and JAMES COLOMB, Houma, La. Filed June 11, 1906. Serial No. 321,226.



Claim.—1. An acetylene-gas generator having its carbid-holder valve equipped with a scraper effective to engage the valve-seat when the valve is open.

2. An acetylene-gas generator having its carbid-holder valve equipped with a scraper comprising a laterally-arranged bar, with one end connected to the valve below the seating-point thereof and the other end connected to the valve-stem.

3. An acetylene-gas generator having its carbid-holder valve equipped with a scraper effective to engage the valve-seat when the valve is open, a gas-bell and means arranged intermediately of the latter and the stem of said valve, adapted to provide for manipulating said scraper by manually actuating said gas-bell.

4. An acetylene-gas generator having its carbid-holder valve equipped with a scraper effective to engage the valve-seat when the valve is open, a gas-bell provided upon its interior, near the lower open end, with offset studs or projections and means intermediate of the valve-stem adapted for engagement with said studs and valve-stem as the gas-bell is manually reciprocated, for actuating said scraper.

5. An acetylene-gas generator having its carbid-holder valve equipped with a scraper adapted to engage the valve-seat when the valve is open, and a weight applied to the valve-stem for the retention of the valve in position as the gas-bell rises.

6. An acetylene-gas generator having its carbid-holder valve provided with a scraper for engaging the valve-seat when the valve is open, and a weight adjustably applied to the valve-stem.

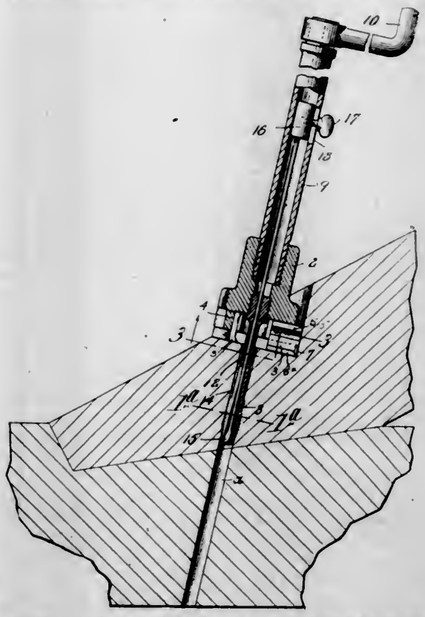
7. An acetylene-gas generator having arranged in the bottom of its tank a scraper, a gas-bell, and means intermediate of said scraper and gas-bell adapted, as the latter is manually actuated, for operating said scraper.

8. An acetylene-gas generator having arranged in the bottom of its tank a scraper comprising secured-together crossing-bars provided with inward and downward inclined arms for engagement with said bottom, and a gas-bell provided with means for operating said scraper as the latter is manually actuated.

9. An acetylene-gas generator having arranged in the bottom of its tank a scraper comprising secured-together crossing-bars provided with downward and inward inclined arms or scrapers proper, and a gas-bell provided upon its interior, near the lower end, with offset studs adapted to engage said bars as the gas-bell is manually actuated for operating said scraper.

10. An acetylene-gas generator having its carbid-valve provided with a scraper for engagement with the valve-seat when the valve is open, a weight attachment for the stem of said valve, a second scraper for engaging the inner surface of the bottom of the tank of the generator, and comprising secured-together crossing-bars provided with downward and inward inclined arms and with upstanding studs or projections for engagement with the base of said weight attachment and a gas-bell equipped upon its interior with offset studs or projections adapted to engage said bars of the latter scraper.

843,430. COUNTERBORING-TOOL. VINCENT BAIL, Holyoke, Mass. Filed Aug. 6, 1906. Serial No. 329,315.



Claim.—1. In a tool of the class described and in combination, a tool-stock, counterboring-cutters carried thereby, and an expansible feed-bit mounted centrally of said tool-stock to center and feed the tool.

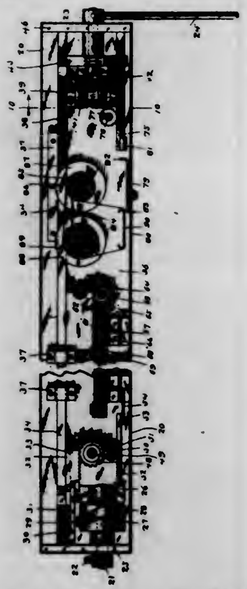
2. In a tool of the class described and in combination, a tool-stock, counterboring-cutters carried thereby, a centrally-placed feed-bit carried by said stock and having expansible limbs at its lower end, and means for spreading said limbs and holding them in expanded condition.

3. In a tool of the class described and in combination, a tool-stock, counterboring-cutters carried thereby, a hollow feed-bit having expansible limbs, a core-rod to spread said limbs, and means for securing said core-rod in adjusted position.

4. In a tool of the class described and in combination, a tool-stock, counterboring-cutters carried thereby, an operating-handle secured to said stock, a hollow feed-bit having spring-limbs secured to said stock, a core-rod traversing said bit and handle and adapted to spread said spring-limbs, and means for securing said core-rod in adjusted position.

5. In a tool of the class described and in combination, a tool-stock having a bore; counterboring-cutters carried by said stock, a hollow operating-handle having a slotted wall secured to said stock; a hollow feed-bit having a slitted lower end to form expansible limbs secured to said stock; a longitudinally-adjustable core-rod having a coned head to spread said limbs traversing said bit, stock, and handle; and a set-screw engaging said core-rod through the slotted wall of the handle to secure the core-rod in adjusted positions.

843,431. ENTRANCE AND EXIT ACTUATING MECHANISM FOR VOTING-MACHINES. CARL G. BARNUM and JEDEDIAH N. SHEPARDSON, Pittsfield, Mass., assignors to Triumph Voting Machine Company, Pittsfield, Mass., a Corporation of New Jersey. Filed Oct. 29, 1906. Serial No. 340,984.



Claim.—1. In a mechanism of the character described the combination with a driving-bar, an exit member and connections intermediate the driving-bar and the exit member, of an entrance member, connections intermediate the driving-bar and the entrance member and means controlled by the exit member for locking the entrance member as soon as the movement of the exit member commences.

2. In a mechanism of the character described the combination with a driving-bar, an exit member and connections intermediate the driving-bar and the exit member, of an entrance member, an entrance-slide actuated thereby and provided with a locking-recess, an entrance-rack lying intermediate the entrance-slide and the driving-bar, pins extending from the entrance-slide and the driving-bar for moving the entrance-rack in opposite directions and a pawl adapted to engage the locking-recess to lock the entrance-slide and entrance member.

3. In a mechanism of the character described the combination with a driving-bar, an exit member and connections intermediate the driving-bar and the exit member, of an entrance member, an entrance-slide actuated thereby and provided with a locking-recess, an entrance-rack lying intermediate the entrance-slide and the driving-bar and provided with a longitudinal slot, pins extending from the entrance-slide and the driving-bar and engaging the ends of said slots respectively to move the entrance-rack in opposite directions, and a pawl adapted to engage the locking-recess.

4. In a mechanism of the character described the combination with a driving-bar provided with a dog, an exit member and connections intermediate the driving-bar and the exit member, of an entrance member, an entrance-slide actuated thereby and provided with a locking-recess, an entrance-rack lying intermediate the entrance-slide and the driving-bar and provided with a longitudinal slot, pins extending from the entrance-slide and the driving-bar and engaging the ends of said slot respectively to move the entrance-rack in opposite directions, a pawl adapted to engage the locking-recess to lock the entrance-slide and entrance member and a pin extending from the pawl which is engaged by the dog to lift the pawl and release the entrance-slide and entrance member near the end of the movement of the exit member.

5. In a mechanism of the character described the combination with a driving-bar provided with a dog, an exit member having rotary movement in opposite directions and connections intermediate the driving-bar and the exit member, of an entrance member having rotary movement in opposite directions, an entrance-slide actuated thereby and provided with a locking-recess, an entrance-rack lying intermediate the entrance-slide and the driving-bar and provided with a longitudinal slot, a pin extending from the entrance-slide and engaging one end of said slot to move the entrance-rack in one direction, a pin extending from the driving-bar and engaging the other end of said slot to move the entrance-rack in the opposite direction, and a pawl having a pin extending therefrom which is engaged by the dog, said pawl being released by the dog and engaging the locking-recess to lock the entrance-slide and entrance member at the beginning of the first movement of the exit member and being lifted by the dog and disengaged from said locking-recess near the end of the second movement of the exit member.

6. In a mechanism of the character described the combination with a driving-bar having a rack 38, a slide-bar having a rack 74, and an exit member carrying a gear-wheel, of shafts carrying pinions engaging said racks and at their opposite ends bevel-pinions, and a shaft at right angles to said shafts carrying a pinion engaging the gear-wheel and a bevel-pinion engaging the other bevel-pinions and acting to reciprocate the driving-bar and slide-bar when the exit member is actuated.

7. In a mechanism of the character described the combination with a driving-bar having a rack 38 and a paper-feed rack 84, paper-feeding mechanism actuated by rack 84 and a slide-bar having a rack 74, of an exit member carrying a gear-wheel, shafts carrying pinions engaging racks 38 and 74 and at their opposite ends bevel-pinions, and a shaft at right angles to said shafts carrying a pinion engaging the gear-wheel and a bevel-pinion engaging the other bevel-pinions and acting to reciprocate the driving-bar and slide-bar when the exit member is actuated.

8. In a mechanism of the character described the combination with a driving-bar having a rack 38, a slide-bar having racks 74 and 76, and shutter-closing mechanism actuated by rack 76, of an exit member carrying a gear-wheel, shafts carrying pinions engaging racks 38 and 74 and at their opposite ends bevel-pinions, and a shaft at right angles to said shafts carrying a pinion engaging the gear-wheel and a bevel-pinion engaging the other bevel-pinions and acting to reciprocate the driving-bar and slide-bar when the exit member is actuated.

9. In a mechanism of the character described the combination with a driving-bar having a rack 38 and a counter-rack 61, counter-operating mechanism actuated by rack 61 and a slide-bar having a rack 74, of an exit member carrying a gear-wheel, shafts carrying pinions engaging racks 38 and 74 and at their opposite ends bevel-pinions, and a shaft at right angles to said shafts carrying a pinion engaging the gear-wheel and a bevel-pinion engaging the other bevel-pinions and acting to reciprocate the driving-bar and slide-bar when the exit member is actuated.

10. In a mechanism of the character described the combination with a driving-bar having a rack 38, a slide-bar having a rack 74, a shutter-closing bar carried by the slide-bar and a shutter engaged by the shutter-closing bar, of an exit member carrying a gear-wheel, shafts carrying pinions engaging racks 38 and 74 and at their opposite ends bevel-pinions, and a shaft at right angles to said shafts carrying a pinion engaging the gear-wheel and a bevel-pinion engaging the other bevel-pinions and acting to reciprocate the driving-bar and slide-bar when the exit member is actuated.

11. In a mechanism of the character described the combination with a driving-bar, an exit member and connections intermediate the driving-bar and the exit member, of an entrance member, an entrance-slide actuated thereby and provided with a locking-recess, an entrance-rack lying intermediate the entrance-slide and the driving-bar, wedge-bar connections actuated by the entrance-rack, pins extending from the entrance-slide and the driving-bar for moving the entrance-rack in opposite directions and a pawl adapted to engage the locking-recess to lock the entrance-slide and the entrance member.

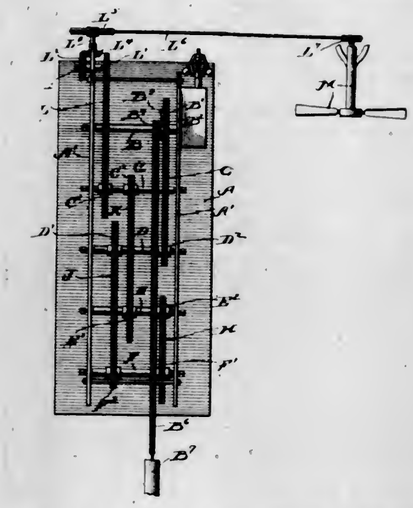
12. In a mechanism of the character described the combination with a driving-bar provided with a dog and an exit member and connections intermediate the driving-bar and the exit member, of an entrance member, an entrance-slide actuated thereby and provided with a locking-recess, an entrance-rack lying intermediate the entrance-slide and the driving-bar, wedge-bar connections actuated by the entrance-rack, pins extending from the entrance-slide and the driving-bar for moving the entrance-rack in opposite directions and a pawl adapted to engage the locking-recess to lock the entrance-slide and the entrance member and provided with a pin which is engaged by the dog to lift the pawl and release the entrance-slide and entrance member.

13. In a mechanism of the character described the combination with a driving-bar having a rack 38, an exit member carrying a gear-wheel, a shaft carrying a pinion engaging said rack and at its opposite ends a bevel-pinion and a shaft at right angles to said shaft and carrying a pinion engaging a gear-wheel and a bevel-pinion engaging the other bevel-pinion, of an entrance member, an entrance-slide actuated thereby, an entrance-rack lying intermediate the entrance-slide and the driving-bar and pins extending from the entrance-slide and the driving-bar for moving the entrance-rack in opposite directions.

14. In a mechanism of the character described the combination with a driving-bar having a rack 38, an exit member carrying a gear-wheel, a shaft carrying a pinion engaging said rack and at its opposite end a bevel-pinion and a shaft at right angles to said shaft and carrying a pinion engaging the gear-wheel and a bevel-pinion engaging the other bevel-pinion, of an entrance member, an entrance-slide actuated thereby and provided with a locking-recess, an entrance-rack lying intermediate the entrance-slide and the driving-bar, pins extending from the entrance-slide and the driving-bar for moving the entrance-slide in opposite directions and a pawl adapted to engage the locking-recess.

15. In a mechanism of the character described the combination with a driving-bar provided with a dog and a rack 38, an exit member carrying a gear-wheel, a shaft carrying a pinion engaging said rack and at its opposite end a bevel-pinion and a shaft at right angles to said shaft carrying a pinion engaging the gear-wheel and a bevel-pinion engaging the other bevel-pinion, of an entrance member, an entrance-slide actuated thereby and provided with a locking-recess, an entrance-rack lying intermediate the entrance-slide and the driving-bar, pins extending from the entrance-slide and the driving-bar for moving the entrance-rack in opposite directions and a pawl adapted to engage the locking-recess, for the purpose set forth, and provided with a pin which is engaged by the dog to lift the pawl.

843,432. FAN-MOTOR. SAMUEL C. BAUCUM, Krebs, Ind. Ter. Filed June 24, 1905. Serial No. 266,808.

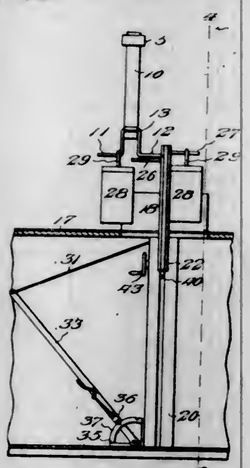


Claim.—1. A device of the kind described comprising a frame, a plurality of shafts journaled therein in vertical alinement, a gearing-wheel fixed upon one of said shafts, a ratchet loose upon the said shaft, and having a hub portion, a pinion carried by the hub portion, a sprocket-chain running over said pinion and having a weight at one end, a pawl carried by the gear-wheel and adapted to engage the ratchet, and means for transmitting in an increasing ratio the rotation of the said shaft to a fan.

2. A fan-motor comprising a plurality of shafts in vertical alinement, a pinion on one of the said shafts, a sprocket-chain running over said pinion, a weight upon the free end of the said chain, said pinion being loose upon the shaft, a gear-wheel on the said shaft, means for locking the gear-wheel to the pinion, a pinion upon one of the other shafts, a sprocket-chain running over the gear-wheel and the last-mentioned pinion, a stub-shaft having a bevel-gear at one end, a second stub-shaft at right angles to the first, and having a beveled gear meshing with the beveled gear of the first stub-shaft, a pulley carried by the second stub-shaft, belting running over the said pulley and adapted to rotate a fan, and means for transmitting the rotation of the first-mentioned shafts to the first-mentioned stub-shafts.

3. A motor of the kind described comprising a shaft, a pinion loose upon the said shaft, a sprocket-chain running over the said pinion, a weight connected to the chain, at one end, a drum upon which the opposite end of the chain can be wound, a gear-wheel fixed to said shaft, means for locking the gear-wheel to the pinion, a fan, a plurality of shafts in vertical alinement with the first-mentioned shaft, means for driving the said shafts at an increasing rate of speed from the first-mentioned shaft and means for transmitting the rotation of the last of the said shafts to the fan, as and for the purpose specified.

843,433. MAIL-BAG CATCHER AND DELIVERER. CLARENCE W. BELL, Alexandria, Ind. Filed Aug. 2, 1905. Serial No. 272,427.



Claim.—1. In a mail-bag catcher and deliverer, the combination with a relatively stationary element provided with oppositely-projecting pairs of catching and delivering fingers, of a traveling element provided with a support carrying oppositely-projecting pairs of coacting catching and delivering fingers, and means for raising and lowering said support.

2. The combination with a relatively stationary element provided with pairs of catching and delivering fingers, of a traveling element provided with coacting pairs of catching and delivering fingers, the fingers of the pairs being arranged in parallel relation, and the fingers of one of the elements spaced apart a greater distance than the fingers of the other element.

3. In a mail-bag catching and delivering mechanism, coacting stationary and movable elements, each provided with pairs of oppositely-projecting catching and delivering fingers, the fingers of each pair being arranged in parallel relation and the fingers of one element spaced apart a greater distance than the fingers of the other element.

4. In a mail-bag catcher and deliverer, the combination with a relatively stationary element provided with catching and delivering devices, of a traveling element provided with coacting catching and delivering devices, a vertically-movable frame on the traveling element carrying the catching and delivering devices thereof, means for raising and lowering the said frame, and means for locking the same in raised position.

5. In a mail-bag catcher and deliverer, the combination with a relatively stationary element provided with catching and delivering devices, of a traveling element provided with coacting catching and delivering devices, a closure carried by the traveling element, a vertically-movable frame adapted to automatically open said closure to allow the same to project from the traveling element, said frame being vertically movable on the traveling element, and carrying the catching and delivering devices thereof, and means for raising and lowering said frame.

6. In a mail-bag catcher and deliverer, the combination with a relatively stationary element provided with catching and delivering devices, of a traveling element provided with coacting catching and delivering devices, doors on the traveling element, a vertically-movable frame carried by the frame and adapted when elevated to open said doors and project therethrough, said frame carrying the catching and delivering devices of the traveling element, and means for raising and lowering said frame.

7. In a mail-bag catcher and deliverer, the combination with a relatively stationary element provided with catching and delivering devices, of a traveling element provided with coacting catching and delivering devices, a vertically-movable frame mounted on the traveling element and carrying the catching and delivering devices thereof, a traveler for raising and lowering said frame, and means for operating said traveler.

8. In a mail-bag catcher and deliverer, the combination with a traveling element provided with mail-bag catching and delivering devices, of a relatively stationary element provided with coacting mail-bag catching and delivering devices, said relatively stationary element being yieldingly mounted to swing in a horizontal plane and cushion the impact of the bag caught thereby.

9. A mail-bag catching and delivering mechanism, cooperating relatively fixed and movable elements, each element provided with oppositely-projecting pairs of spaced catching and delivering fingers, the fingers of one pair being spaced a greater distance apart than the fingers of the other pair, the fingers of one pair also being arranged in the same plane and the fingers of the other pair in different planes.

10. In a mail-bag catcher and deliverer, a car provided with projectable and retractable mail-bag supports, and an interposed device normally out of connection with and engageable with either support to project the same at will.

11. In a mail-bag catcher and deliverer, a car provided with vertically-movable bag-holding frames provided with catching and delivering devices, an interposed traveler, and means for connecting the traveler with either frame for projection, substantially as described.

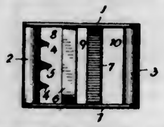
12. In a mail-bag catcher and deliverer, a car provided with a pair of vertically-movable bag-supporting frames having catching and delivering devices, an interposed traveler, an element carried by the traveler and adapted to be projected into engagement with either frame, means for operating said element, and means for raising and lowering the traveler.

13. In a mail-bag catcher and deliverer, a car having an opening in the roof thereof, a vertically-movable catching and delivering device adapted to be projected through said opening, means for manipulating said device, and a closure for said opening.

14. In a mail-bag catcher and deliverer, a car provided with openings in the roof thereof, vertically-movable catching and delivering devices adapted to be projected through said openings, and a common operating mechanism for projecting either catching and delivering device at will.

15. In a mail-bag catcher and deliverer, a car provided with projectable and retractable mail-bag supports, and operating means independent of connection with either support and having a member adjustable to engage one or the other at will, whereby either support may be projected and retracted independent of the other.

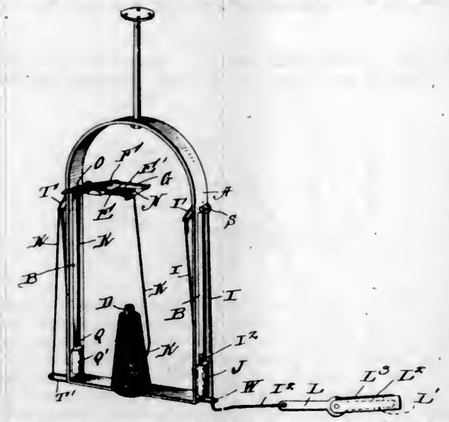
843,434. BUCKLE. ISAAC BLUM, Baltimore, Md., assignor to Alma Manufacturing Company of Baltimore City, Baltimore, Md., a Corporation of Maryland. Filed Oct. 10, 1906. Serial No. 338,252.



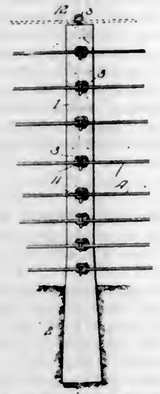
Claim.—As an improved article of manufacture, a buckle having flange-like sides, concavo-convex end bars, one of which end bars is provided with rearwardly-projecting teeth of different length, an elevated, flat cross-bar next to the toothed end bar, and a depressed flat cross-bar between the elevated cross-bar and the other end bar, the end bars and cross-bars being separated by slots, the whole adapted for use substantially as described.

843,435. TWINE-HOLDER. JOHN D. BOUDREAUX, Patterson, La. Filed Sept. 28, 1906. Serial No. 336,653.

Claim.—A twine-holder comprising a frame having a laterally-projecting shelf upon one of the upright portions thereof, said shelf having apertures adjacent to its ends, a roughened surface upon said shelf, leaf-springs fastened to projections upon the longitudinal edges of said shelf adjacent to its end, a block having a flat under surface adapted to rest upon the upper roughened face of said shelf, a string passing through said apertures and frictionally held between said block and roughened surface of the shelf, a weighted member, an eye thereon through which said string passes, and a loop positioned above the weight and through which said string is adapted to be passed, as set forth.



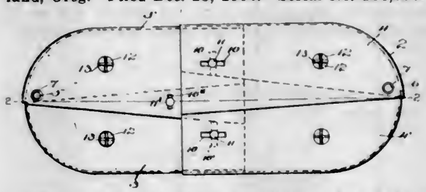
843,436. FENCE-POST. ANDREW BOWERS, Stroud, Okla. Filed Nov. 24, 1906. Serial No. 344,888.



Claim.—1. A plastic fence-post provided with line-wire holders having anchoring portions embedded therein, the projecting portions of the holders being bent to provide each of the holders with superposed eyes and an interconnecting guard portion, the eyes being spaced to form a passage for the line-wire and the guard arranged to form a bearing for the wires, and a keeper member adapted to be fitted in the eyes of each holder to retain the wire in position.

2. A line-wire holder for fence-posts comprising a single length of wire bent to form a pair of spaced horizontal loops or eyes, a pair of anchoring-arms, one arranged above and in the plane of the other and a union connection arranged vertically at one side of the plane of the eyes and laterally offset therefrom and forming the bight of the wire, said eyes being adapted to receive a keeper-pin and the union connection to serve as a shield or guard against which the wire bears.

843,437. WASHING-BOILER. ALBERT L. BRAZEE, Portland, Oreg. Filed Dec. 15, 1904. Serial No. 236,996.

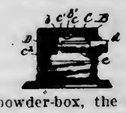


Claim.—1. In a device of the character described, the combination with overlapping sections, each section comprising members, of transverse supporting and partitioning means comprising overlapping, longitudinally-adjustable sections, each section provided with elongated apertures and removable fastening means for securing said sections in an assembled position with said first-mentioned sections.

2. In a device of the character described, the combination with sections formed with apertures, of transverse partitions formed of overlapping members, said members being formed with elongated apertures, and bolts passing through the apertures and securing said sections and members together, said partitions supporting the center of the device.

3. In a device of the character described, the combination with overlapping sections, each section comprising members, said members each provided with an aperture, the apertures of the members of one section registering with and formed at right angles to the apertures of the members of the other section, a supporting and partitioning device positioned beneath said overlapping sections, said device comprising overlapping, longitudinally-movable sections, each of said sections provided with elongated apertures, the apertures of said partitioning device registering with the apertures of said first-mentioned sections, and removable fastening means positioned within the apertures of said device and within the apertures of said sections for securing said device to said sections.

843,438. POWDER-BOX. JULIUS A. BUCKE, Lincoln, Ill. Filed Apr. 2, 1906. Serial No. 309,473.



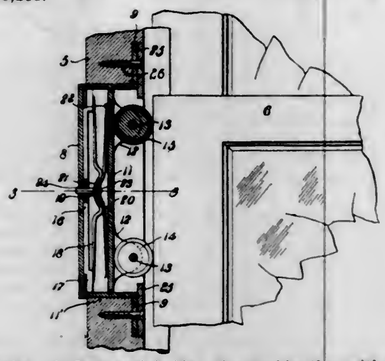
Claim.—1. In a powder-box, the combination with the perforated top, of a plate or cut-off slidably mounted thereon and having corresponding perforations, an ear on said plate having a threaded aperture, a rod having at one end a threaded portion which engages the ear and at the other end a slotted head, and a spring engaging the rod, whereby the plate may be moved to open the top either temporarily by pushing the rod or permanently by turning said rod, as herein shown and described.

2. In a powder-box, the combination with the perforated top, of a plate or cut-off having corresponding perforations and a central slot, a headed pin passed through the slot and engaging the top to slidably connect the plate thereto, an ear on said plate having a threaded aperture, a rod having at one end a threaded portion which engages the ear and at the other end a head and shoulder, the head being slotted, and an actuating-spring engaging the rod at the shoulder thereof; whereby the plate may be moved to open the perforations in the top either temporarily by pushing the rod against the action of the spring or permanently by turning said rod, substantially as shown and described.

3. In a powder-box, the combination with the perforated top, of a plate or cut-off slidably mounted on the inner side of the top and having perforations corresponding with those in the top, an ear on the plate having a threaded aperture, a rod having at one end a threaded portion engaging the ear and at the other end a slotted

head and a shoulder, the head projecting through one side of the top, and a plate-spring secured to the top and bifurcated for engagement with the rod at the shoulder thereof, substantially as shown and for the purpose set forth.

843,439. WINDOW-SASH HOLDER. EMIL BUJEWSKI, St. Louis, Mo. Filed Oct. 10, 1906. Serial No. 338,283.



Claim.—1. In a sash-holder, the combination with relatively stationary and movable members, of a casing secured to one of said members and having an aperture formed therein, a roller-supporting frame slidably mounted in the casing, rollers journaled on said frame and adapted to bear against the adjacent member, a spring bearing against the casing and provided with a central depression, an auxiliary spring bearing against the roller-supporting frame and having its convex portion adapted to engage said depression, and a pin uniting said springs and extending through the aperture in the casing.

2. In a sash-holder, the combination with relatively movable and stationary members, of a casing secured to one of said members and provided with an aperture, a roller-supporting frame slidably mounted within the casing, a plate secured to the casing and having its opposite ends offset, a spring bearing against the offset ends of the plate, an auxiliary spring bearing against the roller-supporting frame, and a pin connecting said springs and slidably mounted within the aperture of the casing.

3. In a sash-holder, the combination with relatively stationary and movable members, of a casing secured to one of said members, a clamping member arranged within the casing and adapted to bear against the adjacent member, a spring having a depression formed therein and defining oppositely-disposed shoulders, and an auxiliary spring bearing against the clamping member and provided with a convex portion adapted to engage the walls of the depression.

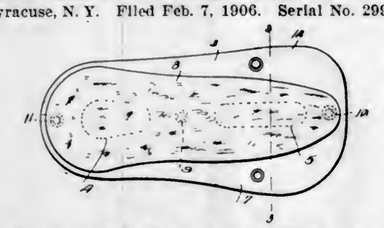
843,440. GATHERING ATTACHMENT FOR SEWING-MACHINES. ENOCH H. BURRAGE, Winston Salem, N. C. Filed Sept. 27, 1906. Serial No. 336,469.



Claim.—1. An attachment of the class described comprising an upper branch and a lower branch, the latter being longer than the former, the upper branch being curved to arch over the upper surface of a presser-foot and the lower branch being curved to arch under said presser-foot, and the inner ends of the two branches being adapted to engage the upper and lower surfaces, respectively, of said presser-foot.

2. An attachment of the class described comprising an upper branch and a lower branch, the latter being longer than the former, the upper branch being curved to arch over the upper surface of a presser-foot and the lower branch being curved to arch under said presser-foot, and the inner ends of the two branches being adapted to engage the upper and lower surfaces respectively of said presser-foot, said attachment being of integral construction and the branches thereof uniting upon a curve.

843,441. ELECTRIC INSOLE. HENRY O. CAN DEE, Syracuse, N. Y. Filed Feb. 7, 1906. Serial No. 299,992.



Claim.—1. In a device of the class described, a spring-metal base-plate, a voltaic couple applied thereto and comprising a pair of coacting metal plates arranged one over the other, fastening members at the ends of and for securing said plates together, and an intermediate fastening member connecting the plates together and to the base-plate, the uppermost plate of the couple having openings through which portions of the underlying plate are exposed.

2. In a device of the class described, a metal base-plate, a voltaic couple applied thereto and comprising a pair of coacting metal plates arranged one over the other, a fastening member applied through the plates of the couple and the base-plate at the forward end of the latter, a second fastening member connecting the plates of the couple at their rear ends, a pad applied over the couple, and an intermediate fastening member extended through the base-plate, couple and pad for connecting said parts together, the uppermost plate of the couple having openings through which portions of the underlying plate are exposed.

3. In a device of the class described, a metal base-plate, an electric couple attached thereto and comprising a pair of coacting metal plates, said couple having its rear portion wholly free from engagement with the base-plate and adapted to yield relative thereto for yieldably supporting the heel of the wearer.

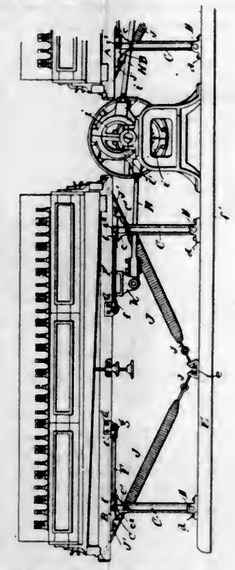
843,442. SHAKING-SCREEN &c. JOHN B. CORNWALL, Moline, Ill., assignor to Barnard and Leas Manufacturing Company, Moline, Ill. Filed Mar. 21, 1906. Serial No. 307,243.

Claim.—1. The combination of rocker-arms pivoted at their lower ends and having their upper ends curved, a shaker-frame, bearing-plates attached to the shaker-frame and resting upon the curved upper ends of the arm, and rods pivotally connected to the said arms and said frame to prevent longitudinal displacement of the arms.

2. In combination, upstanding rocker-arms pivoted at their lower ends and having their upper ends curved on arcs concentric with their pivots; a shaker-frame supported upon the upper ends or heads of said rocker-arms, and rods pivotally connected to the upper ends of said arms and to the shaker-frame.

3. In combination, upstanding rocker-arms pivoted at their lower ends and having heads on their upper ends curved on arcs concentric with their pivots; a shaker-frame supported upon the said rocker-arms, bearing-plates attached to the under side of the shaker-frame and engaging the rocker-heads of the arms, and rods pivotally connected at one end to said arms and at the other end to a fixed point on the frame.

4. The combination of a base, a shaker-frame, rocking arms supporting said frame, said arms being pivoted to the base and having a rocking connection with the frame, and means for reciprocating said frame; with opposing inclined springs attached at their upper ends to the opposite ends of the frame exterior to the rocker-arms, and at their lower inner ends secured to fixed points on the base about centrally below the frame.



5. The combination of a shaker-frame, rocking arms pivoted at their lower ends and having curved upper ends supporting said frame, and means for reciprocating said frame; and rods pivotally connected at one end to said arms and at the other end to a fixed point on the frame; with opposing springs attached at their outer upper ends to the opposite ends of the frame, and at their lower inner ends to fixed points below the shaker-frame.

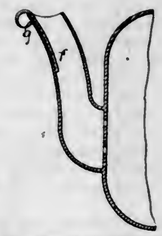
6. In combination, a shaker-frame, upstanding rocker-arms pivoted at their lower ends and having heads on their upper ends supporting said frame; bearing-plates attached to the under side of the shaker-frame and engaging the rocker-heads of the arms, and rods pivotally connected at one end to said arms and at other end to fixed points on the frame; with springs connected to the base below the shaking-frame and extending upwardly and outwardly in opposite directions and having their upper ends respectively connected to the opposite ends of the shaker-frame.

7. In combination, upstanding rocker-arms pivoted at their lower ends and having their upper ends curved on arcs concentric with their pivots; a shaker-frame supported upon the upper ends of said rocker-arms, and bearing-plates attached to the under side of the shaker-frame and engaging the upper ends of the arms; with rods pivotally connected at one end to said arms and at other end to a fixed point on the frame; and springs connected at their lower ends to the base and having their upper ends respectively connected to the opposite ends of the shaker-frame, and means for reciprocating the frame.

843,443. DRIPLESS SPOUT FOR TEAPOTS, &c. WILLIAM COX, London, England. Filed Aug. 6, 1906. Serial No. 329,447.

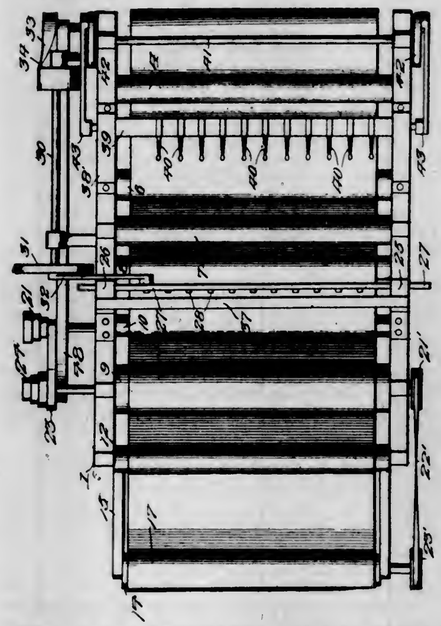
Claim.—1. A pouring-spout, a capillary passage associated therewith into which the drop left after pouring gravitates, said passage leading from a point outside the pouring-spout below the pouring edge to the interior of the spout.

2. A teapot-spout having a member provided with a capillary passage leading from a point below the pouring edge to the interior of the spout said passage being arranged to fall below a horizontal line drawn from its point of contact with the exterior of the spout, substantially as described.



3. In combination with a pouring-spout a double-wire beak provided with a hooked portion arranged near the pouring edge and forming a capillary passage into which the drop of liquid left after pouring gravitates and by capillary action is drawn into the interior of the pouring-receptacle, substantially as described.

843,444. DEVICE FOR CUTTING FLOAT-THREADS OF FABRICS. JOHN CUNANE, Philadelphia, Pa., assignor to George R. Randall, Philadelphia, Pa. Filed Nov. 18, 1905. Serial No. 289,049.



Claim.—1. In a textile-machine, means for feeding a fabric therethrough, a warp-cutter operating transversely of the machine and serving to cut the warp float-threads of the fabric, and a weft-cutter operating longitudinally of the machine and serving to cut the weft float-threads.

2. In a textile-machine, fabric-feeding means, a warp-float-thread cutter carried by and operated in the movement of the machine, and a friction device to hold the severed ends of the warp-threads immediately succeeding the action of the cutter.

3. In a textile-machine, fabric-feeding means, a transversely-operated warp-cutter, and means to hold the severed ends of the warp-threads immediately succeeding the action of the cutter.

4. In a textile-machine fabric-feeding means, a weft-cutter operating longitudinally of the machine, and a warp-cutter operating transversely of the machine, and

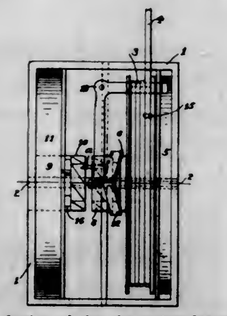
means for operating said cutters during the travel of the fabric.

5. In a textile-machine fabric-feeding means, a weft-cutter operating longitudinally of the machine, and a warp-cutter operating transversely of the machine, the weft-cutter operating upon the fabric in advance of the warp-cutter.

6. In a textile-machine a fabric-feeding means, a warp-cutter designed to sever the warp-loop to provide warp-threads of unequal lengths, and means to secure the warp-threads of greatest length immediately succeeding the action of the cutter, whereby to prevent subsequent operation of the cutter from withdrawing the warp-threads from the fabric.

7. In a textile-machine a fabric-feeding means, a thread-cutter for the fabric, and means for securing the ends of the threads severed in one operation of the cutter and holding them in fixed relation to the fabric during the immediate succeeding operation of the cutter.

843,445. TROLLEY-CONTROLLING DEVICE. JONATHAN DALE, Kinston, N. C., and HARVEY LE ROY DALE, Newport News, Va. Filed July 9, 1906. Serial No. 325,371.



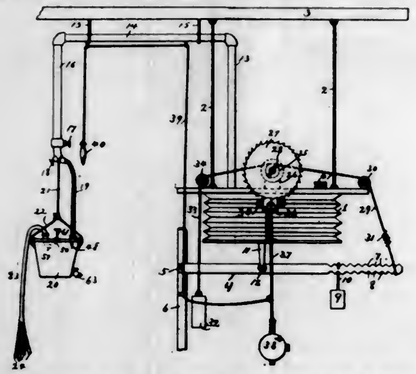
Claim.—1. A device of the character described, comprising a spring-actuated drum for initially controlling the trolley-pole-manipulating line, a lever actuated by said line, a second lever operated by the aforesaid lever, itself adapted to impart a sliding movement to said drum, a spring-actuated collar arranged upon the shaft of said drum and effective for imparting additional spring action to said drum, and a dog-and-ratchet retaining means for said collar said lever having an offset or stud for tripping said collar-retaining means.

2. A device of the character described, comprising a spring-actuated drum for initially controlling the trolley-pole-manipulating line provided with a collar having a clutch-face, a lever actuated by said line, a shipping-lever actuated by the aforesaid lever and provided with an offset or stud, a spring-operated collar arranged upon the shaft of said drum and having a clutch-face, said clutch-faces adapted for mutual engagement, a ratchet-pinion attached to the latter collar, and a pawl or dog engaging said ratchet, said shipping-lever having its offset or stud engaging or tripping said dog.

843,446. COW-MILKING DEVICE. MONROE H. DANIELS, Waverly Iowa. Filed May 21, 1906. Serial No. 318,028.

Claim.—1. A device of the type set forth comprising a suction-bellows, means for operating same, an escapement device for regulating the action of said bellows, a container, a conductor having air-tight connection with said container and leading to said bellows, and devices carried by said container and designed to engage the udder of an animal to conduct milk therefrom into said container, under the influence of said bellows.

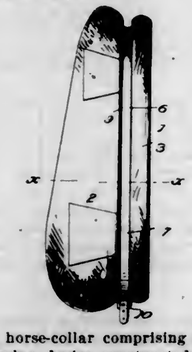
2. A device of the type set forth comprising a suction-bellows, means for operating same, a container having air-tight communication with said bellows, conductor-tubes leading from said container and designed to engage the udders of an animal, liquid-controlled means for maintaining communication between said conductor-tubes and said container, and means for interrupting communication therebetween upon the cessation of the flow of the liquid from the animal.



3. A device of the type set forth comprising a suction-bellows, means for operating the same, a container having air-tight communication with said bellows, conductor-tubes leading from said container and designed to engage the udders of an animal, and liquid-controlled means for interrupting communication between said container and said bellows, when the liquid in said container shall have reached a selected height.

4. A device of the type set forth comprising a suction-bellows, means for operating the same, a container, a conductor having air-tight connection with said container and leading to said bellows, conductors carried by said container and designed to engage the udders of an animal, and a regulatable safety-valve interposed in said first-named conductor and designed to open under a predetermined degree of suction.

843,447. HORSE-COLLAR. WILLIAM B. ESTES, Atlanta, Ga., assignor to The Gate City Horse Collar Company, Atlanta, Ga., a Corporation of Georgia. Filed May 21, 1906. Serial No. 318,013.



Claim.—1. A horse-collar comprising a rim and a body portion, a fastening device constructed of yielding material throughout its entire length and extending entirely around the collar and secured between the rim and the body portion, and a buckle on one free end of the yielding fastening device with which the opposite free end of said yielding fastening device coöperates to secure the collar in position.

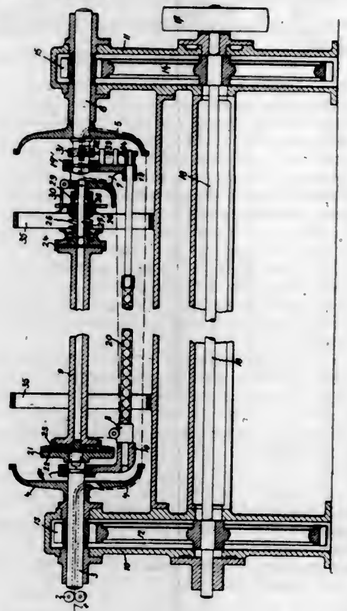
2. A fabric horse-collar comprising a rim and a body portion, the ends of the blanks of the rim and body portion overlapping a leather strap over the overlapping ends of said rim and body blanks, said leather strap extending beyond the collar, a buckle secured to one free end of the leather strap with which the other free end of said leather strap coöperates to secure the collar in position.

3. A horse-collar comprising a rim and a body portion, a row of stitches securing the ends of the body-blank, a row of stitches securing the edges of the rim-blank and a strap, a strap extending entirely around the collar and somewhat beyond the same, a row of stitches securing the strap and edges of the rim and body blanks, a buckle on one free end of the strap with which the other free end of said strap coöperates to secure the collar in position.

4. In combination, a fabric horse-collar, and a fastening device constructed of material which yields throughout its entire length and extends entirely around the collar and somewhat beyond the same, a locking device on one free end of the yielding fastening device with which the other free end of said device coöperates.

5. A fabric horse-collar comprising rim and body sections, a fastening-strap extending entirely around the collar for holding the sections together, and means for securing the strap and the rim and body sections together.

843,448. SPINNING-MACHINE. JOHANN G. FAHR, Gottmadingen, Baden, Germany. Filed Aug. 6, 1903. Serial No. 168,469.

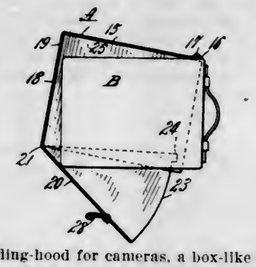


Claim.—1. In spinning-machines, the combination with a bobbin, of two independent arms revolving at equal speeds, said arms being located on each side of the bobbin, means for revolving the arms and bobbin and means for preventing ballooning of the thread.

2. In spinning-machines, the combination with a bobbin, of two independent arms located on each side of the bobbin, means for revolving said arms at equal speeds, and a plurality of rings encircling the bobbin and lying between the arms, substantially as described.

843,449. SHADING-HOOD FOR CAMERAS. JULIUS D. GARFIELD, Springfield, Mass. Filed July 16, 1906. Serial No. 326,403.

Claim.—1. In a shading-hood for cameras, a box-like casing comprising a top wall which is adapted to be hinge-connected to the camera-box, opposite side walls, an end wall provided with a sight-opening, and a bottom wall hinge-connected to the end wall, and light-excluding means connected with the opposite edges of the bottom wall, movable therewith when said bottom wall is swung relatively to the end wall, and operable to exclude light from opposite side spaces between the side walls and said bottom wall.



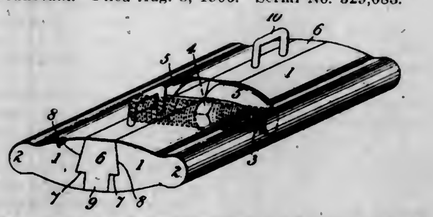
2. In a shading-hood for cameras, a box-like casing comprising a top wall which is adapted to be hinge-connected to the camera-box, opposite side walls, an end wall provided with a sight-opening, and a bottom wall hinge-connected to the end wall, and having oppositely-located side wings extending from, and at right angles to, the bottom wall, which wings are slidable closely relatively to the said side walls.

3. In a shading-hood for cameras, a box-like casing comprising a top wall which is adapted to be hinge-connected to the camera-box, an end wall provided with a sight-opening, a bottom wall hinge-connected to the end wall, and having angular side wings formed thereon, and two side walls, each comprising double slightly-separated sections, the intervening space between said separated sections forming pockets for the reception of the bottom wall side wings.

4. The combination with a camera-box, of a shading-hood constructed in the form of a box-like casing comprising a top wall which is hinge-connected to the camera-box, opposite side walls, an end wall provided with a sight-opening, a bottom wall hinge-connected to the end wall, and having oppositely-located side wings extending from, and at right angles to, the bottom wall, and means for limiting the extent of swinging movement of said box-like casing relatively to the camera-box.

5. In a shading-hood for a camera, a box-like casing comprising a top wall which is adapted to be hinge-connected to the camera-box, opposite side walls, an end wall provided with a sight-opening, a bottom wall hinge-connected to the end wall, having oppositely-located side wings extending from, and at right angles to, the bottom wall, which wings are slidable closely relatively to the said side walls, and means for limiting the extent of the outward swinging movement of the said bottom wall relatively to the side walls.

843,450. TOGGLE-ARM. BERTRAM GRAY, Johannesburg, Transvaal. Filed Aug. 3, 1906. Serial No. 329,083.

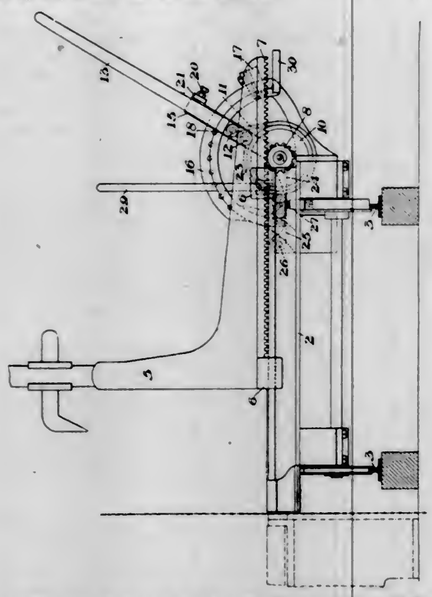


Claim.—1. A toggle-arm comprising end pieces, a screw engaging said end pieces and a packing-piece between said end pieces, adapted to be supported by the end pieces when the latter are separated sufficiently to permit of the withdrawal of said packing piece or pieces in the opposite direction.

2. A toggle-arm comprising end pieces a screw having differing threads engaging said end pieces, a tapered packing-piece between said end pieces, and shoulders to said packing-piece, said end pieces having recesses corresponding to such shoulders and tapered faces corresponding to the tapered faces of the packing-pieces.

3. A toggle-arm comprising end pieces a screw having right and left handed threads engaging said end pieces, a packing-piece having tapered faces, and a rectangular portion, and shoulders to said packing-pieces, said end pieces having recesses corresponding to such shoulders, tapered faces corresponding to the tapered faces of the packing-piece and straight faces corresponding to the straight face of the packing-pieces.

843,451. SAWMILL SET-WORKS. FRANK H. GROVE, Columbiana, Ohio, assignor to Enterprise Manufacturing Company, Columbiana, Ohio, a Partnership. Filed May 18, 1906. Serial No. 317,442.



Claim.—1. In a clutch device for the purpose described, a shaft having two friction-surfaces thereon, an operating-lever fulcrumed outside of said shaft, a gripping-band engaging one of the friction-surfaces and having its ends secured to said lever upon opposite sides of its pivot, a second friction-band engaging the other friction-surface, and a toggle device for controlling the second band; substantially as described.

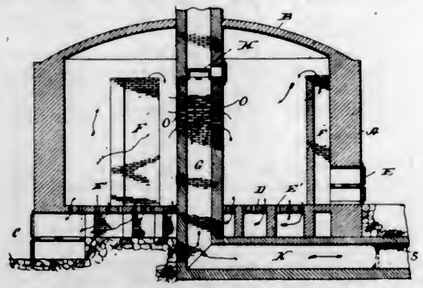
2. In a clutch device of the character described, a shaft having two friction-surfaces thereon, a friction-band engaging one of said surfaces, an actuating-lever for said band, a second band engaging the other friction-surface, a toggle device to which the ends of the second band are connected upon opposite sides of the toggle center, and means for actuating the toggles; substantially as described.

3. In a clutch device of the character described, a shaft having a friction-wheel thereon, an arm fulcrumed on said shaft and having an abutment thereon, a lever pivoted to said arm and arranged to engage the abutment, and a friction-band engaging said wheel and having its ends connected to the lever at opposite sides of its pivot; substantially as described.

4. In a clutch device of the character described, a shaft having a friction-wheel thereon, an arm fulcrumed on said shaft and having an abutment thereon, a lever pivoted to said arm and arranged to engage the abutment, a friction-band engaging said wheel and having its ends connected to the lever at opposite sides of its pivot, and means for limiting the throw of said lever; substantially as described.

5. In a clutch device of the character described, a shaft having two friction-surfaces thereon, a friction-band engaging one of said surfaces, an actuating-lever for said band, means for adjusting the throw of the lever in both directions, and a second friction-band engaging the other friction-surface, and means for controlling the action of the second band; substantially as described.

843,452. BRICK-KILN. DAVID P. GUISE, Williamsport, Pa., assignor to Guise Construction Company, Altoona, Pa. Filed Feb. 14, 1906. Serial No. 301,043.



Claim.—1. In a kiln of the character described, a set of furnaces conveying heat through the floor, to the lower part of the burning-chamber, a separate and distinct set of furnaces conveying heat to the upper part of the burning-chamber, and a central stack in the kiln having side openings about midway of the height of the burning-chamber, said stack forming the draft-flue for both sets of furnaces acting simultaneously.

2. In a brick-kiln, a lower set of furnaces communicating with the lower part of the burning-chamber through the floor, an upper series of furnaces communicating with the upper part of the burning-chamber, a central stack having openings about midway of the burning-chamber, and means for directing the draft either upward or downwardly in said stack.

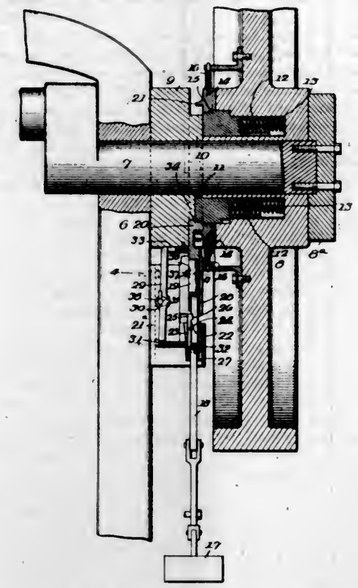
3. In a brick-kiln, an upper and a lower series of furnaces communicating with the upper and lower parts of the burning-chamber respectively, a rectangular stack having a plurality of openings about mid-height of the burning-chamber, and means for guiding the direction of the draft in the stack.

843,453. CLUTCH-OPERATING MECHANISM. CHARLES W. HAMANN, Cleveland, Ohio. Filed Nov. 1, 1906. Serial No. 341,640.

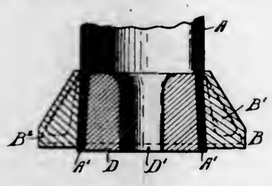
Claim.—1. In a clutch-operating mechanism, in combination, a supporting-bracket having guides, a trip-rod slidable in a guide and operatively connected to the clutch, to engage or disengage the same, a treadle, a connecting-rod between the trip-rod and treadle, having a block at the top slidable in a guide, a latch pivoted to the block and arranged to engage the trip-rod, a spring tending to move the trip-rod to position to disengage the clutch, a trip-lever pivoted on the bracket beside the latch and engageable therewith to release the same and disconnect the said rods, means to automatically trip the lever after each engagement of the clutch, and means to re-engage the latch with the trip-rod when the treadle is released.

2. In a clutch-operating mechanism, in combination, a clutch having a circular block 9 the rim of which has a cam, and means to automtaically release the clutch after cam, and means to automatically release the clutch after block connected to a treadle and having a latch engageable with the rod, and a trip-lever one end of which projects into the path of the cam and the other end of which is

arranged to strike the latch, and means to throw the lever out of action when desired.



843,454. SPOOL. PETER HARDMAN, Willimantic, Conn. Filed May 17, 1906. Serial No. 317,294.



Claim.—1. In a spool, a tubular body portion, and a head portion therefor made from homogeneous material, the inner wall and end wall of said head being hardened, the tapered thread-bearing wall being relatively soft.

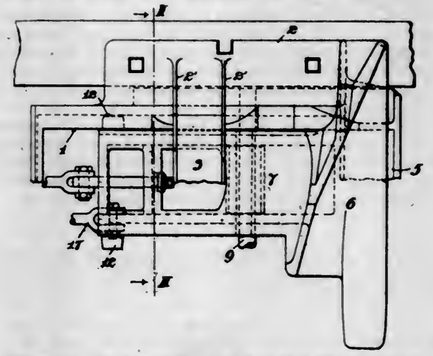
2. A spool comprising a hollow or tubular body, a head for each end of said body portion, said heads being formed of pulp, the thread-supporting surfaces thereof being relatively softer than the other portions thereof, and means for securing the heads in place on the ends of the body portion.

3. In a spool, a laminated tubular body formed by winding a strip of paper upon itself, a head for each end of said body, each of said heads being formed of pulp, the inner bore of each of said heads flaring outwardly, a plug for each end of said body portion, the external wall of each of said plugs having a flare corresponding to the flare of the bore in each of the heads, and a central spindle passage or bore in each of said plugs, the thread-supporting surface of each of said heads being relatively softer than the other portions of said head.

4. A spool comprising a tubular body, homogeneous heads formed of pulp hardened on the ends and relatively soft at the thread-bearing portions, and means for securing the heads to the body.

5. A spool comprising a tubular body, homogeneous heads formed of pulp hardened on the ends and relatively soft at the thread-bearing portions, and wood plugs in the body for securing the heads to the body.

843,455. DERAILER. STANLEY W. HAYES, Geneva, N. Y. Filed Aug. 16, 1906. Serial No. 330,786.



Claim.—1. In a derailer, a wheel-derailing member, a rocking link supporting the derail-block end of said member and adapted to impart a lifting movement thereto, means for slidingly supporting the other end of said member and an operating connection attached directly to said derailing member.

2. In a derailer, a wheel-derailing member, a base member therefor, a link supported by said base member and adapted to swing over its point of support, the derail-block end of said derailing member being pivotally carried by the upper end of said link, in combination with a slideway formed in the rear of said base member and an operating connection attached to the rear end of said derailing member and adapted to force the said member and link toward the rail.

3. In a derailer, a wheel-derailing member, a rocking link supporting the derail-block end of said member and adapted to impart an up-and-over movement thereto, in combination with means for slidingly supporting the rear end of said member, and a connection-lug extending downwardly from the rear portion of said member, adapted to be engaged by the means for operating the derailer.

4. In a derailer, a wheel-derailing member, a rocking link supporting the derail-block end thereof, a base to which said link is pivoted, means on the base for slidingly supporting the other end of said member, and a connection-lug formed on the rear end of said derailing member and extending downwardly below the level of the said means.

5. In a derailer, a wheel-derailing member, a link supporting the derail-block end thereof, and means for slidingly supporting the other or rear end thereof, in combination with a base, a cross-pin carried thereby supporting said link, and an operating means connected to said rear end of the member, adapted to operate below the level of said cross-pin.

6. In a derailer, a wheel-derailing member having a recess in its under side, a rocking link having its upper end within said recess and a cross-pin held in perforations in the sides of said member and passing through said link, the said link being of sufficient width to fit snugly in said recess, in combination with a base member provided with means for slidingly supporting the rear end of the derailing member.

7. In a derailer, a base member having base-flanges adapted to rest on the ties, tie-flanges on the under side of said base-flanges farther apart than the width of the base member and adapted to space the ties, and a cross-pin carried by said tie-flanges, in combination with a link pivoted to swing over said cross-pin, a wheel-derailing member carried by said link and means for moving the same and said link toward and from the rail.

8. In a derailer, a wheel-derailing member, a base member formed of side walls, base-flanges adapted to rest on the ties, and a cross-piece joining said side walls at the top, in combination with a rocking link pivotally carried by the front portion of said base and adapted to support and impart a lifting movement to said derailing member,

a slideway formed in said base member in the rear of said cross-piece, and a connection means on the rear of said derailing member.

9. In a derailer, a wheel-derailing member, a rocking link supporting the derail-block end thereof and adapted to impart a lifting movement thereto, means for slidingly supporting the other end of said member and a locking connection for the device applied directly to the said derailing member.

10. In a derailer, a wheel-derailing member, means for imparting an up-and-over movement to one end thereof and a slideway supporting the other end, in combination with a cross-flange on said derailing member and a bolt having a connection-head, reversibly secured in said cross-flange.

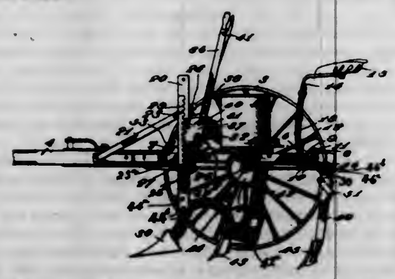
843,456. BEDSTEAD-JOINT. CLEMENT W. HIGBEE and WILLIAM SCHENCK, Atlantic City, N. J. Filed Oct. 31, 1906. Serial No. 341,473.



Claim.—1. A bedstead-joint comprising a sleeve secured to the corner-post and provided with outwardly-projecting spaced lugs which gradually converge from top to bottom forming a wedge-shaped opening between the same, cross bars or pins extending through said lugs and spanning the intermediate space between the same, and a male member of the joint having downwardly-extending hooks and inclined recesses back of said hooks to engage the cross-bars, said hooks being thicker at the top than the bottom to fit the wedge-shaped opening between the lugs, and oppositely-disposed shoulders, substantially as described.

2. A bedstead-joint comprising a sleeve secured to the corner-post and provided with spaced lugs which gradually converge from top to bottom, pins secured to said lugs and spanning the space between the same, and a side rail provided with downwardly-extending hooks to engage said cross-bars formed upon a forwardly-projecting flange on the side rail, said flange being provided with upwardly and backwardly extending recesses, and said flange being wedge shape or tapering to fit the space between the lugs, whereby the joint is wedged vertically by means of the corresponding construction of the flanges and hooks, and said side rail is wedged horizontally by means of the contour of said recesses.

843,457. PLANTER. WILFORD H. HOLSCLAW, Louisville, Ky., assignor to B. F. Avery & Sons, Louisville, Ky., a Corporation of Kentucky. Filed Sept. 10, 1903. Serial No. 172,647.



Claim.—1. A planter, comprising an axle, carrying-wheels supporting the same, sleeves loosely surrounding said axle, and having upstanding shoulders, a framework resting upon said sleeves and connected with said shoulders, a pivoted frame connected with the framework and resting upon some of said sleeves, a seed mechanism carried by said pivoted frame and adapted, when the pivoted frame is swung pivotally, to be moved therewith out of operative position, and means for swinging said pivoted frame.

2. In a planter, the combination with a framing and supporting means therefor, of a draft-receiving standard shiftably mounted in said framing, means carried by said standard for preparing soil for the reception of seed, seed mechanism arranged for delivering seed in the rear of said soil-preparing means, the seed-delivering means being movably mounted and capable of movement out of operative condition, means connected with the framing and movable independent thereof for covering the delivered seed, and means for simultaneously shifting said standard and moving said seed mechanism and covering means to inoperative positions.

3. In a planter, the combination with a framing and means supporting the same, a shiftable standard mounted in said framing, soil-preparing means carried by the lower end of said standard, a bar adjustably connected to said standard, a furrow-opener carried by said bar in the rear of the standard, and seed mechanism arranged for delivering seed in the rear of the furrow-opener.

4. In a planter, the combination with a framing and means supporting the same, of a standard shiftable in said framing, soil-preparing means carried by the lower end of said standard, a bar adjustably connected with said standard, a grain-chute arranged contiguous to said bar, seed mechanism arranged for delivering seed into said grain-chute, and a boot carried by said adjustable bar, and telescopically engaging said grain-chute.

5. In a planter, the combination with a framing and means for supporting the same, of a standard shiftably mounted in said framing, soil-preparing means carried by the lower end of said standard, a bar adjustably connected to said standard near the lower end thereof, a grain-chute arranged with its lower end contiguous to said bar, seed mechanism disposed for delivering seed to said grain-chute, and a boot connected to said bar and telescopically engaging the lower end of the grain-chute.

6. In a planter, the combination with a framing, and means for supporting the same, a longitudinally-shiftable, vertical standard arranged in said framing, soil-preparing means carried by the lower end of said standard, a bar connected with said standard and adjustable longitudinally thereof, a furrow-opener carried by said bar, and means for delivering seed in the rear of the furrow-opener.

7. In a planter, the combination with a framing and means for supporting the same, of a longitudinally, shiftable, vertical standard arranged in said framing, soil-preparing means carried by the lower end of said standard, a bar connected with said standard and adjustable longitudinally thereof, seed mechanism sustained by said framing, a delivery-chute for said seed mechanism, and a boot carried by said bar and telescopically engaging said chute.

8. In a planter, the combination with a framing and means for supporting the same, of a vertical standard longitudinally shiftable in said framing, soil-preparing means carried by the lower end of said standard, seed mechanism sustained by said framing, a delivery-chute for said seed mechanism, a bar connected with said standard and adjustable longitudinally thereof, a furrow-opener carried by said bar in front of said chute, and a boot carried by said bar and telescopically engaging said chute.

9. In a planter, the combination with a framing and means for supporting the same, of a vertical standard longitudinally shiftable in said framing, a furrow-opener connected with said standard, a movably-mounted seed-box, seed mechanism, operable only when the seedbox is in its normal position, for delivering seed from said box to a point in the rear of said furrow-opener, and means adjustably connected with the standard for moving the seedbox from its normal position when the standard is shifted.

10. In a planter, the combination with a framing and means for supporting the same, of a longitudinally-shiftable standard arranged in said framing, a furrow-opener connected with said standard, a movable seed mechanism, a gear for actuating said seed mechanism and arranged for being disconnected therefrom when the seed mechanism is moved, means for delivering seed from said seed mechanism to a point in the rear of the furrow-opener, and means connected with the standard and adjustable longitudinally of the standard for moving said seed mechanism when the standard is shifted.

11. In a planter, the combination with a framing and means for supporting the same, of a longitudinally-shiftable standard arranged in said framing, a furrow-opener connected with said standard, a movable seed mechanism adapted to deliver seed at the rear of the furrow-opener, a gear for actuating said seed mechanism arranged for being disconnected therefrom when the seed mechanism is moved, means for moving the seed mechanism, and flexible means connected with the standard for actuating the seed-mechanism-moving means when the standard is shifted.

12. In a planter, the combination with a framing and means for supporting the same, of a standard longitudinally shiftably mounted in said framing, a furrow-opener carried by said standard, a movable seed mechanism arranged to deliver seed at the rear of the furrow-opener, a gear for actuating said seed mechanism arranged for being disconnected therefrom when the seed mechanism is moved, means for moving the seed mechanism, and a chain connected with the standard and arranged for actuating the seed-mechanism-moving means when the standard is shifted.

13. In a planter, the combination with an axle and means for supporting the same, of a frame and draft-tongue, said frame comprising an inner loop having parallel side bars converging at their front ends and terminating in forwardly-extending parallel portions overlapping the sides of said tongue, bearing-boxes for said axle some of which are secured to the rear ends of said side bars of the inner loop, outer bracing side bars secured to other of said bearing-boxes, said outer side bars converging at their forward ends and terminating in forwardly-extending parallel portions overlapping the forward ends of said inner side bars, and securing means extending through the forward ends of said inner and outer bars and said tongue.

14. In a planter, the combination with an axle and means for supporting the same, of a frame and tongue, said frame comprising inner and outer side bars spaced apart at their rear ends, and having converging forward end portions secured to said tongue, bearing-boxes for said axle secured to the rear separated ends of said side bars, rearwardly-extending drag-bars pivoted to move between said inner and outer side bars above some of said bearing-boxes, and covering devices carried by said drag-bars.

15. In a planter, the combination with an axle and means for supporting the same, of a frame and tongue, said frame comprising inner and outer side bars spaced apart at their rear ends and having parallel portions at the rear part of the frame, and converging forward ends secured to said tongue, pivot-bolts extending through the outer side bars, rearwardly-extending drag-bars having their forward ends pivoted on said bolts, bearing-boxes for said axle secured to said inner and outer side bars, seats on some of said boxes for said drag-bars, and covering devices carried by said drag-bars.

16. In a planter, the combination with a frame, seedbox and delivery-chute, of a vertical shiftable furrow-opener, at the lower end of said chute, a plow and standard in front of said chute, means for vertically shifting said plow and standard, and adjustable connections between said standard and furrow-opener for causing the furrow-opener to move with the standard.

17. In a planter, the combination with a frame, seedbox and delivery-chute, of a vertically-shiftable chute-section and furrow-opener at the lower end of said chute, a plow and standard in front of said chute, means for vertically shifting said plow and standard, and adjustable means connecting said standard with said shiftable chute-section and furrow-opener, said means comprising a bar connected to said chute and furrow-opener, and adjustable bolt connections between said bar and standard.

18. In a planter, the combination with a frame and seed mechanism thereon, of a furrow-forming device and standard therefor, vertically adjustable in front of said seed mechanism, braces connected at their front ends to said frame and embracing said standard, and a roller supported between said braces and engaging said standard.

19. In a planter, the combination with a frame and seed mechanism thereon, said frame having side bars arranged adjacent each other at their forward ends, of a furrow-forming device in front of said seed mechanism, a standard for said furrow-forming device, said standard being vertically shiftable between the forward adjacent ends of said side bars, a roller on said frame engaging said standard, a pair of brace-bars secured to said side bars at their ends and extending on opposite sides of said standard, and a roller journaled between the ends of said brace-bars and engaging the standard.

20. In a planter, the combination with a frame and a seed mechanism thereon, of a furrow-forming device and standard therefor, vertically adjustable in front of said seed mechanism, a roller engaging the front face of said standard, straps between which said roller is arranged and by which said roller is supported extending forwardly from the roller and connected to the frame, and draft means connected to the standard beneath said rollers.

21. In a planter, the combination with a frame and seed mechanism thereon, of a furrow-forming device and a vertical standard therefor shiftable in front of said seed mechanism, guides arranged out of line and engaging the front and rear faces of said standard, and tension-straps extending between said guides and said frame to take the thrust on said guides.

22. In a planter, the combination with a frame and a seed mechanism thereon, of a furrow-forming device and a vertical standard therefor shiftable in front of said seed mechanism, guide-rollers arranged out of line and engaging the front and rear faces of said standard, and tension-braces for taking the thrust on said rollers extending from the rollers to the frame.

23. In a planter, the combination with a frame and seed mechanism thereon, of a standard freely shiftable in said frame, a plow sustained by said standard in front of said seed mechanism, rearwardly-extending drag-bars carried by the frame independently of said plow, covering devices carried by said drag-bars, and a common shifter having means for shifting said standard and raising the drag-bars.

24. In a planter, the combination with a frame, and a seedbox and delivery-chute sustained thereby, of a furrow-forming device mounted in the frame in front of said chute, rearwardly-extending drag-bars pivoted to said frame independently of said furrow-forming device, covering devices carried by said bars, a shifter rock-shaft on the frame, an operating handle-lever therefor, and means operated by said shaft for raising said furrow-forming device and said drag-bars.

25. In a planter, the combination with a framing, an axle sustaining the same, and seed mechanism sustained by the framing, of gearing between said axle and said seed mechanism, a shiftable furrow-forming device, and rearwardly-extending drag-bars mounted on the framing independently of the furrow-forming device, covering devices carried by said drag-bars, and a common shifter for raising said furrow-forming device and drag-bars and simultaneously moving said seed mechanism to a position out of gear.

26. In a planter, the combination with a framing, an axle and seed mechanism, of gearing between said axle and seed mechanism, a shiftable furrow-forming device, and rearwardly-extending drag-bars mounted on the frame independently of said furrow-forming device, covering devices carried by said drag-bars, a rock-shaft on said frame, an operating hand-lever therefor, and means on said rock-shaft for raising said furrow-forming device and drag-bars and for disconnecting said gearing.

27. In a planter, the combination with a framing, an axle and a support therefor, of a seedbox mounted on said framing, seed mechanism for controlling the delivery of seed from said box, gearing between said axle and said seed mechanism for actuating the seed mechanism when the axle is revolved, said seedbox being shiftable to disconnect said gearing, a vertically-shiftable furrow device in front of said seed mechanism, rearwardly-extending drag-bars pivoted to the frame independently of the fur-

row-forming device, covering devices carried by said bars, a cross rock-shaft, and means on said shaft for raising said furrow-forming device and said drag-bars, and for shifting said seedbox.

28. In a planter, the combination with a frame, of a seed-hopper mounted thereon and capable of being moved to an inoperative position, a vertically-movable standard carried by said frame, and means interposed between the standard and the hopper for moving the hopper to an inoperative position when the standard is elevated.

29. A planter comprising a frame, a vertically-movable standard mounted therein, a draft-rigging carried by the frame, the said standard having a movable engagement in and through the draft-rigging, a seed mechanism mounted on the frame and capable of being moved to an inoperative position, means for raising and lowering the standard, and means for moving the seed mechanism to an inoperative position simultaneously with the upward movement of the standard.

30. In a planter, a supporting-frame comprising a rigid portion and a pivoted portion, a seed-hopper movably mounted on said frame, a standard movable vertically in said frame, soil-preparing means carried by said standard, said standard being guided by the rigid portion of said frame, covering means carried by said pivoted frame portion, and means for elevating said feed-hopper with said pivoted frame portion.

31. In a planter, the combination with a frame, a draft-rigging therefor, a vertically-movable standard movably engaging said rigging, a furrow-opener carried by the standard, a seed mechanism mounted adjacent to the standard and capable of being lifted out of operative position, and lifting means interposed between the standard and the seed mechanism and adapted when the standard is raised beyond a certain point to lift the seed mechanism.

32. A planter comprising a frame, draft means therefor, a vertically-movable standard mounted in the draft means, and directly engaging the draft means, a soil-preparing means carried by said standard, a gearing engaging the standard, and means for operating the gearing for moving the standard vertically.

33. A planter, comprising a frame, a vertically-reciprocating standard arranged therein, a soil-preparing device carried by said standard, draft means for said standard, the standard having a movable engagement with said draft means, a rock-shaft journaled in said frame adjacent to said standard, means adapted to be actuated by the rock-shaft for raising the standard, a seed mechanism mounted on the frame adjacent to the standard, a frame movably connected with the first-mentioned frame, means extending from the seed mechanism in the path of movement of the movable frame in position for being struck by the movable frame when the said movable frame is moved, the said mechanism being movably mounted and adapted to be moved out of operative position, and means whereby the rocking of the rock-shaft for raising the standard moves the seed mechanism to an inoperative position.

34. A planter comprising a frame, a vertically-adjustable furrow-opener carried thereby, a seed-dropping mechanism operating in conjunction with said furrow-opener, the seed-dropping mechanism being movably mounted and capable of being elevated out of operative position, a drag-bar frame pivoted to the first-mentioned frame independently of the furrow-opener, and connections between the furrow-opener, drag-bar frame and seed mechanism for enabling simultaneous lifting thereof.

35. In a planter, the combination with a frame, of a vertical standard longitudinally shiftable in said frame, soil-preparing means carried by the lower end of said standard, draft means connected directly with the standard beneath said frame, bracing means for the standard above the frame, movably-mounted seed mechanism in the rear of the standard, and connections between the standard and the seed mechanism whereby vertical movement may be imparted to both simultaneously.

36. In a planter, a frame, a vertical shiftable standard therein, soil-preparing means carried at the lower end of the standard, a frame surrounding and guiding said standard, draft means connected directly with the standard, seed mechanism movably connected with the frame and capable of being moved out of operative position, and means for moving said standard vertically and for moving said seed mechanism out of operation.

37. A planter, comprising a frame, seed-dropping mechanism movably mounted thereon and capable of being moved out of operative position, a reciprocating standard arranged in said frame in position for being subjected directly to draft, a furrow-opener carried by said standard in front of the seed-dropping mechanism, means for raising and lowering said standard and furrow-opener, and means actuated by said last-mentioned means for moving the seed-dropping mechanism out of operative position.

38. A planter comprising a frame, a standard vertically shiftable therein, means for guiding the standard in its movement and yet capable of exerting draft upon the same, means connected with the frame engaging said standard for preventing displacement thereof due to draft, and means for shifting said standard vertically.

39. A planter, comprising a frame, a seed-dropping mechanism carried thereby, and movably mounted and capable of movement to an inoperative position, a vertically-shiftable standard mounted in the frame adjacent to said seed-dropping mechanism, soil-preparing means carried by said standard, a rack carried by said standard, a gear engaging said rack, means for oscillating said gear, and means for communicating movement from the standard to the seed-dropping mechanism for moving the same to an inoperative position when the standard is elevated.

40. A planter, comprising a frame, a seed mechanism movably mounted on the frame and capable of being moved out of operative position, a chute for said seed-dropping mechanism, a shiftable standard arranged in said frame, soil-preparing means carried by said standard, a draw-bar engaging said standard, means for shifting said standard with respect to the draw-bar for moving the soil-preparing means to an inoperative position, and means for moving the seed-dropping mechanism to an inoperative position when the standard is thus shifted.

41. In a planter, the combination with a frame, of a vertically-adjustable standard sustained thereby, a shovel carried by said standard, a seed-dropping mechanism sustained by the frame and capable of being moved out of operative position, means connected with said standard for raising the same, means for elevating the seed-dropping mechanism, and means projecting from the seed-dropping mechanism for engaging the elevating means when the standard is raised above a certain position.

42. A planter, comprising a frame, a liftable seed-dropping mechanism carried thereon, a gear for actuating said dropping mechanism, beams independently pivoted to said frame, seed-covering means carried by said beams, means for raising the said pivoted beams for elevating the covering means, and means whereby the continued elevation of the pivoted beams above a certain point results in the elevating of the seed-dropping mechanism for disconnecting the gear thereof.

43. A planter, comprising a frame, a seed-dropper sustained thereby, operating mechanism for said seed-dropper arranged capable of disconnection from the dropping mechanism, a shiftable standard arranged in front of said seed-dropper, guiding means carried by said frame and engaging the front and rear edges of said standard, means engaging the standard for raising and lowering the same within said guiding means, and means for disconnecting the seed-dropper from the operating mechanism thereof.

44. In a planter, a supporting-frame, a vertically-shiftable standard movably mounted in the frame, a furrow-opener carried thereby, seed mechanism movably mounted upon said frame and capable of being moved to an inoperative position, covering means movably connected with the frame, and means connected with the standard for elevating said covering means, the said seed mechanism being disposed in the path of movement of said elevating means in position for being struck thereby and moved to an inoperative position when the covering means are elevated.

45. A planter, comprising a frame, a standard vertically adjustable therein, soil-preparing means carried by said standard, a drag-bar frame pivoted to the first-mentioned frame, covering means carried by said drag-bar frame, a hook connected to the standard, and a chain connected to the drag-bar frame having one of its links detachably engaging the hook, means for shifting the standard, and means for depositing seed between the soil-preparing means and the covering means.

46. A planter, comprising a frame, a standard shiftable therein, soil-preparing means carried by said standard, a seed-dropper arranged for depositing seed in the rear of said soil-preparing means, a drag-bar frame pivoted to the first-mentioned frame, and comprising bars disposed on opposite sides of said seed-dropper, covering means carried by said bar, flexible means connecting both of said bars with said standard, and means for raising and lowering the standard.

47. A planter, comprising a frame, a seed-dropper carried thereby, a standard shiftable in said frame, a furrow-opener carried by said standard, the standard comprising substantially parallel plates spaced apart, and a rack secured therebetween, a gear engaging the said rack for shifting the standard, and means for operating the gear.

48. A planter, comprising a frame, a standard shiftable therein, soil-preparing means carried by said standard, a rack carried by the standard, a rock-shaft journaled on said frame, a gear carried thereby in position for meshing with said rack, a lever connected with the rock-shaft for facilitating actuation thereof, and independently-adjustable means interposed between the lever and the shaft by which the extent of movement imparted by the lever to the standard may be varied.

49. A planter, comprising a frame; draft means therefor, a standard vertically shiftable in the frame and movably engaging the draft means, a furrow-opener carried by said standard, seed mechanism movably mounted adjacent to the standard and adapted when moved to be thrown out of operation, covering means in the rear of the seed mechanism, and means interposed between the standard and the covering means by which the standard, when elevated, may also elevate the covering means, and move said seed mechanism.

50. In a planter, a frame, comprising a rigid portion and a portion pivotally connected thereto, a standard vertically shiftable in said rigid position, seed mechanism in the rear of said standard, said seed mechanism being renderable inoperative, a furrow-opener carried by said standard in advance of the seed mechanism, covering means carried by said pivoted portion, the pivoted portion being constructed and arranged to be freely vibratory within a predetermined limit, means whereby said covering means may be elevated beyond said limit, and means actuated by said elevating means for rendering said seed mechanism inoperative when the said pivoted portion is elevated beyond the said predetermined limit.

51. A planter, comprising a frame, a standard shiftable therein, soil-preparing means carried by said standard, a rock-shaft connected with the standard for shifting the same, a lever loosely mounted on said shaft, a sector rigidly secured to the shaft, a latch carried by the lever and engaging the said sector for adjustably connecting the lever and sector, a rack carried by the said frame, a slotted latch arranged at one side of the lever in position for engaging the rack, and a bolt passed through the lever and the latches, said bolt being arranged to rigidly clamp the first-mentioned latch to the lever and extending through the slot of the second-mentioned latch for permitting movement thereof, and for guiding the second-mentioned latch in its movement.

52. A planter, comprising a frame, an actuating-gear carried thereby, a seed mechanism movably mounted on said frame in position for normally engaging said gear for being actuated thereby, and capable of being moved out of engagement therewith, beams pivotally carried by said frame, means for lifting said beams, projections extending from said seed mechanism into the path of movement of the beams whereby said seed mechanism may be moved by said beams through engagement of said beams with said projections.

53. A planter, comprising a frame, a standard vertically shiftable therein, soil-preparing means carried by said standard, beams pivotally connected with said frame, covering means carried thereby, said beams having curved portions at one end, separate standards carrying the covering means, and clamps carried by the last-mentioned standards and adjustably fitted upon the curved portions of the beams for adjustably retaining the last-mentioned standards at various angles with respect to the surface of the ground.

54. A device of the class described, comprising a frame, a tongue secured thereto, a draw-bar connected to the tongue and projecting rearwardly therefrom, a shiftable standard engaged by said draw-bar and subjected to the draft thereof, soil-preparing means connected with said standard, a bracing-frame rising from the main frame of the standard, and guiding means carried by the bracing-frame and engaging the upper portion of the standard, and means for shifting said standard.

55. A planter, comprising a frame, seed-dropping mechanism carried thereby, a standard shiftable in said frame, soil-preparing means connected therewith, means for shifting said standard, a draw-bar, antifriction means carried by said draw-bar in position for engaging the rear edges of the standard for subjecting the standard directly to draft independently of the frame, and means above the frame for bracing the standard.

56. In a planter, a main frame, a standard vertically shiftable therein, a bracing-frame rising from the main frame, means on the main frame engaging the standard for guiding the same, antifriction-rollers carried by the bracing-frame and engaging the upper portion of the standard, and means for shifting the standard.

57. A planter, comprising a frame, draft means connected therewith, a standard vertically shiftable in said frame and directly engaged by said draft means for subjecting the said standard to draft, means for shifting the said standard, a seeding device movably mounted adjacent to the standard and adapted when moved to be thrown out of operation, means for moving the seeding device, and flexible means depending from said standard and engaging said seeding device moving means for causing the same to be moved with said standard.

58. A planter, comprising a frame, a standard vertically shiftably mounted therein, a seed-dropper movably mounted and adapted when moved to be thrown out of operation, movement-transmitting means interposed between the standard and seed-hopper and comprising a pivoted member, means connecting said pivoted member with said standard, and means projecting from the seed-dropper into the path of the movement of the pivoted member for causing the seed-dropper to be moved when struck by the said pivoted member.

59. A planter, comprising a rigid frame, a frame pivoted thereon, a cultivator-standard movably mounted in the rigid frame, a seeding device carried by the pivoted frame, means for operating the seeding device arranged for being in operative relation thereto when the pivoted frame is in one position and out of operative relation thereto when the pivoted frame is swung from such position, means for elevating the cultivator-standard, means for raising the pivoted frame for moving the seeding device into an inoperative position when the cultivator-standard is operated, and covering means pivotally connected with said rigid frame independently of the standard.

60. A planter, comprising a rigid frame, pivoted frames carried thereby, a seeding mechanism carried by one of said pivoted frames in position for being thrown out of operation when the frame carrying the same is swung upon its pivot, covering means carried by the other of said pivoted frames, means for moving the last-mentioned pivoted frame, and means actuated thereby for moving the frame carrying the seeding mechanism for throwing the seeding mechanism out of operation.

61. In a planter, the combination with a frame, of a standard vertically shiftable therein, soil-preparing means

carried by said standard, draft means connected directly with the standard, a movable seed-dropper carried by the frame and adapted when moved to be thrown out of operation, and means capable of lifting said cultivator and by its continued movement of lifting the seed-dropper.

62. In a planter, the combination with a main frame, of a supplementary frame pivoted to the main frame and extending rearwardly of such pivotal connection, a furrow-opener, seedbox and covering-shovels adapted to be elevated when said supplementary frame is elevated, the said seedbox being adapted in operation to deposit seed, and said seedbox being inoperative when elevated, and a sweep supported in advance of the furrow-opener and in line therewith.

63. In a planter, the combination with a main frame, of a supplementary frame connected therewith and free to swing in vertical planes, a furrow-opener and seedbox adapted to be moved when the pivoted frame is swung upon its pivot, said seedbox being inoperative when thus moved, the said seedbox being adapted in operation to deposit seed, covering-shovels carried by the supplementary frame, and a sweep arranged in advance of the furrow-opener.

64. In a planter, the combination with a main frame, of a supplimentary frame pivotally connected thereto, and free to swing in vertical planes, a seedbox adapted to be moved by the pivoted frame, the said seedbox being inoperative when thus moved, said seedbox being adapted in operation to deposit seed, a furrow-opener arranged beneath said seedbox, covering-shovels arranged in the rear of said furrow-opener and out of line therewith, and a sweep arranged in advance of said furrow-opener in line therewith.

65. In a planter, the combination with a main frame, of a supplementary frame pivotally connected thereto and extending rearwardly from the point of its pivot, means for swinging said supplementary frame in vertical planes, a seedbox disposed above said supplementary frame and adapted to be moved with said frame, the said seedbox being adapted in operation to deposit seed, and being arranged to be thus moved out of operative position, a furrow-opener arranged in advance of the discharge from the seedbox, and covering means carried by the supplementary frame in the rear of said furrow-opener.

66. In a planter, the combination with a main frame, of a supplementary frame pivotally connected thereto, and comprising bars spaced apart, a seedbox disposed between the vertical planes of said bars and adapted to be moved when said pivoted frame is moved upon its pivot, the seedbox being constructed in operation to deposit seed, and being adapted to be thrown out of operation when moved with said pivoted frame, a furrow-opener disposed in advance of the discharge from said seedbox, covering means carried by said supplementary frame in the rear of the furrow-opener, and a vertically-adjustable sweep arranged in advance of the furrow-opener.

67. In a planter, the combination with a main frame, of a supplementary frame pivoted thereto, and comprising side bars, a seedbox arranged betwen the vertical planes of the said side bars, the seedbox being constructed in operation to deposit seed, and being adapted to be thrown out of operation when moved, means for effecting movement of said seedbox when said supplementary frame is moved upon its pivot, a furrow-opener disposed in advance of the discharge from the seedbox, and covering means carried by said supplementary frame in the rear of said furrow-opener.

68. In a planter, the combination with a main frame, of a supplementary frame connected thereto, a movably-mounted seedbox adapted in operation to deposit seed and being arranged to be thrown out of operation when moved, a furrow-opener disposed beneath the same, covering means carried by said supplementary frame, a sweep arranged in front of said furrow-opener, and means for effecting simultaneous upward movement of said seedbox, sweep, furrow-opener and covering means.

69. In a planter, the combination with a main frame, of a supplementary frame pivotally connected therewith, and extending rearwardly from the pivot-point, said pivoted frame comprising side bars, a seedbox disposed between the extended planes of said side bars and arranged to be moved for being thrown out of operation, said box in operation being constructed to deposit seed, means for moving said seedbox when the supplementary plane is swung on its pivot, means for opening a furrow for the deposited seed and covering means carried by said supplementary frame.

70. In a planter, the combination with a main frame, of a supplementary frame movable in vertical planes with respect to the main frame, a movable seed-hopper supported independently of said supplementary frame and arranged for permitting independent movement of the supplementary frame to a certain degree and movable with the supplementary frame beyond such degree, and operating-gear for the seed-hopper adapted to be thrown out of operation by movement of the hopper.

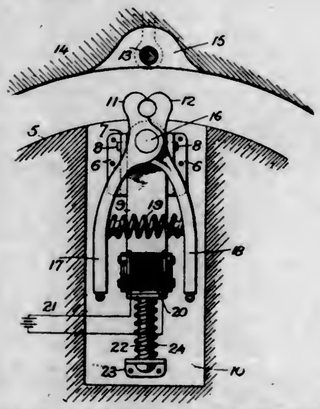
71. In a planter, the combination with a main frame, a seed-hopper movably mounted thereon, a seed-dropping mechanism for the hopper adapted to be thrown out of operation when the hopper is moved, a supplementary frame movable independently of said hopper, and means for imparting movement from the supplementary frame to the hopper.

72. In a planter, the combination with a frame, of a seed-hopper mounted thereon and capable of being moved to an inoperative position, a standard vertically movable in said frame, means for applying draft directly to the standard, and means interposed between the standard and the seed-hopper for moving the hopper to an inoperative position when the standard is elevated.

73. In a planter, a frame, a cultivator sustained thereby, a movable seed-hopper adapted when moved to be thrown out of operation, a vertically-movable standard, and means whereby said standard when elevated will pull said seed-hopper and cultivator to inoperative positions.

74. In a planter, the combination with a frame, of a standard shiftable therein, a movable seed mechanism sustained by said frame and adapted when moved to be thrown out of operation, a chain for transmitting movement from the standard to the seed mechanism, and means detachably connecting the chain with the standard, the said connecting means being adapted to be engaged by any one of several of the links of the chain.

843,458. ANCHOR FOR FERRY-BOATS. MARTIN M. HOOS, Long Island City, N. Y. Filed Nov. 10, 1906. Serial No. 342,854.



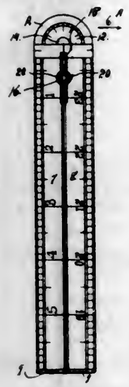
Claim.—1. In an anchor for ferry-boats the combination of a pair of jaws adapted to engage means on the dock or slip, means for forcing the jaws into engagement, and means for automatically opening the jaws to release them.

2. In an anchor for ferry-boats the combination of a yielding block attached to the boat, yielding jaws pivoted to the block, armatures connected with the jaws, an electromagnet between the armatures, and an electric circuit for the magnet.

3. In an anchor for ferry-boats the combination of slotted plates carried at the end of the boat, a block playing between the plates and having lateral pins which enter the slots, a spring at the rear of the block, a pair of jaws normally closed and pivoted to the block, and an electromagnet situated between the jaws and adapted to open them when energized.

4. In an anchor for ferry-boats the combination of a pin carried by the dock or slip, a sliding block carried by the boat and having a spring at its rear end so that it will yield when subjected to a blow, a pair of jaws pivoted to the block, a spring adapted to force the jaws together, an electromagnet adapted to open the jaws when energized, and an electric circuit.

843,459. COMBINED RULE AND SQUARE. HARRY S. HUMES, Denver, Colo., assignor of one-half to The Young Building and Investment Company, Denver, Colo. Filed Feb. 7, 1905. Serial No. 244,528.



Claim.—1. An instrument of the class described comprising two substantially twin members having a joint provided with overlapping disk portions, the said members being jointed to travel in the same plane two hundred and seventy degrees from the parallel position, causing them to assume positions perpendicular to each other and forming an unobstructed ninety-degree angle, one of the disk portions being graduated and the other being provided with an indicator for the purpose set forth.

2. An instrument of the class described comprising two members having a joint provided with overlapping disk portions, the said members being jointed to travel in the same plane two hundred seventy degrees from a parallel position, causing them to form an unobstructed ninety-degree angle, the said members being provided with means to prevent farther travel.

3. An instrument of the class described, comprising two members jointed to travel in the same plane two hundred seventy degrees from the parallel position causing them to assume positions perpendicular to each other and forming an unobstructed ninety-degree angle, one of the members having a graduated dial and the other an indicator for measuring on the dial-angles assumed by the members during their travel.

4. An instrument of the class described comprising two members having a joint provided with overlapping disk portions, the said members being jointed to travel in the same plane two hundred seventy degrees from the parallel position causing them to assume at their limit of travel positions perpendicular to each other and with the apex of their interior angle unobstructed at the point where the members intersect, and means for locking the two members against movement at any point of travel.

5. In an instrument of the class described, the combination of two members having a pivotal joint provided with overlapping parts, the two members when in the parallel position being adapted to meet each other, one member having a lug located at its inner extremity adjacent to the overlapping parts of the joint, and the other member a recess to receive the lug when the parts are closed, and a fastening device passed through the lug of one member and having its center in the meeting line of the two members when parallel, the parts being connected to interlock when the fastening device is tightened.

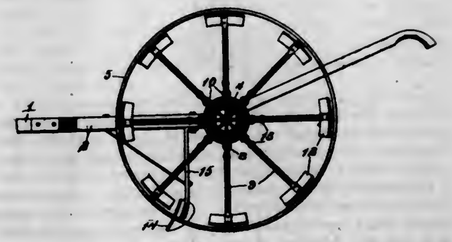
6. In an instrument of the class described, the combination of two members having a pivotal joint provided with overlapping disk portions, the two members when in the parallel position being adapted to meet each other, one member having a lug located at its inner extremity adjacent to the overlapping parts of the joint, and the other member having a recess to receive the lug when the parts are closed, and a screw passing through the lug of the one member and having its center in the line of division of the two members, the parts being connected to interlock when the screw is tightened.

7. In an instrument of the class described, the combination of two members having a pivotal joint provided with overlapping parts, the two members when in the parallel position being adapted to meet each other, one member having a lug at its inner extremity adjacent to the overlapping parts of the joint, and the other member a recess to receive the lug when the parts are closed, a screw passing through the lug of the one member and having its center in line with the division of the two members when parallel, and a thumb-nut applied to the screw, the parts being connected to interlock when the nut is tightened.

8. In an instrument of the class described, the combination of two members having a pivoted joint, the two members when in the parallel position being adapted to engage each other beyond the joint, one member having a lug located just beyond the jointed parts, and the other member a recess to receive the lug when the parts are closed, a screw passing through the lug of the one member and having its center in line with the line of division of the two members when parallel, and a thumb-nut applied to the screw, the parts being connected to interlock when the nut is tightened, the device also having folding auxiliary members recessed to receive the thumb-nut, substantially as described.

9. A carpenter's rule composed of two main jointed members and auxiliary folding members, a locking-screw centrally located between the members, and a thumb-nut applied to the screw, the folding members being recessed to receive the thumb-nut.

843,460. COTTON-CHOPPER. HENRY R. HURST, Cairo, Ga. Filed July 21, 1906. Serial No. 327,183.



Claim.—1. A cotton-chopper embodying a frame, carrying-wheels therefor, a stationary cam, and chopping-blades carried around by the wheels and operated upon by said cam to move said chopping-blades laterally, substantially as and for the purpose described.

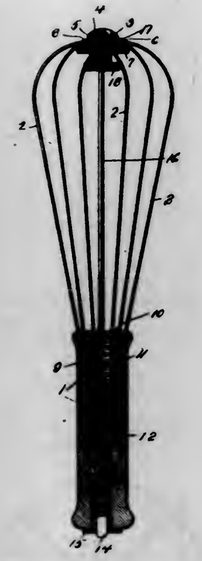
2. A cotton-chopper embodying a frame, carrying-wheels therefor, a stationary frame, chopper-arms carrying blades and pivotally connected with and carried by said wheels and operated upon by the cam, the latter acting to swing the chopper-arms and move the blades transversely of the direction of movement of the machine.

3. A cotton-chopper embodying a frame, carrying-wheels therefor, a stationary axle, a cam fast thereon, a drum carried by said wheels and revolving therewith, and a plurality of choppers fulcrumed on said drum and coöperating with said cam which acts to throw the choppers from one side to the other, substantially as described.

4. A cotton-chopper embodying a frame, carrying-wheels therefor, a drum connecting said wheels and turning therewith, a stationary axle, a cam fast on said axle, chopper-arms fulcrumed on the drum and extending within the same to coöperate with the cam, springs for throwing the chopper-arms in a reverse direction to that in which they are thrown by the cam, and chopping-blades carried by said chopper-arms.

5. A cotton-chopper embodying a frame, carrying-wheels therefor, a stationary cam, choppers carried by the wheels and operated upon by said cam to swing transversely of the path of movement of the machine, and shovels connected with the frame and operating in advance of the choppers at opposite sides of the row of plants, substantially as described.

843,461. BEATER. JULES HUSSER, Pittsburg, Pa. Filed Dec. 17, 1906. Serial No. 348,217.



Claim.—1. In a beater, the combination with a handle, and a balloon-shaped wire frame, of a cap carried by the upper end of said wire frame, said cap having an opening formed therein, said handle having a bore formed therein, a spring-held plunger mounted in said bore, a rod carried by said plunger and extending upwardly centrally of said frame, and a cone-shaped head carried by the upper end of said rod and adapted to protrude beyond said cap when said plunger is pressed, substantially as described.

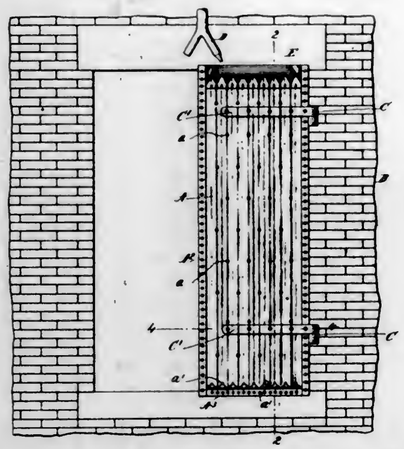
2. In a beater, the combination with a handle and a balloon-shaped wire frame supported thereby, of a cap carried by the upper end of said frame, said cap having an opening formed therein, a spring-held plunger mounted in said handle, a cone-shaped head supported by said plunger and adapted to move in said cap.

3. A beater comprising a handle, a plurality of wires carried thereby, a cap connecting the upper ends of said wires, a cone-shaped head movably mounted in said cap, and means mounted in said handle to move said head and said cap.

4. A beater comprising a handle, a balloon-shaped wire frame carried thereby, a cap carried by said frame, a cone-shaped head mounted in said cap, means carried by said handle to move said head, and means carried by said head to expand said frame lengthwise.

5. A beater embodying a handle, a balloon-shaped resilient frame carried thereby, a cap carried by the upper end of said frame, and means mounted within said handle and engaging said cap to expand said frame.

843,462. FIRE-RESISTING SHUTTER. WILLIAM S. HUTCHINSON, Boston, Mass. Filed Sept. 23, 1905. Serial No. 279,762.



Claim.—1. A fire-resisting shutter, containing in combination two metal sheets, whereof one is corrugated, and secured in contact with the other along tangent lines to form parallel vertical water-spaces, and a transverse water-receptacle communicating with each of the vertical spaces.

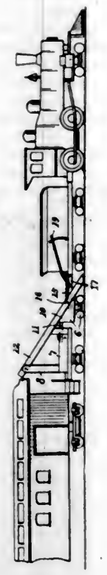
2. A fire-resisting shutter, containing in combination two metal sheets whereof one is vertically corrugated and secured in contact with the other along tangent lines to form parallel vertical water-spaces, and a funnel-shaped receptacle at the top of the shutter, extending transversely across the same in communication with each of the vertical spaces.

843,463. RAILWAY-TRAIN SAFETY DEVICE. DANIEL KEREKES, Bridgeport, Conn., assignor of one-third to Stephen Lasko and one-third to John Palovics, Bridgeport, Conn. Filed Sept. 10, 1906. Serial No. 334,074.

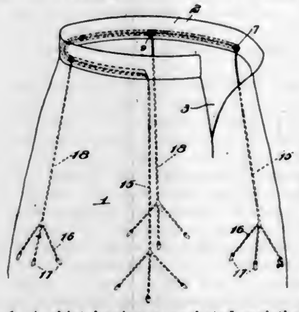
Claim.—1. In a derailing-car for railway-trains, the combination with a rear truck, of a pair of rails pivotally connected thereto and arranged at an incline, a front truck to support the lower ends of the rail close to and in line with the rails of the truck.

2. In a derailing-car for railway-trains, the combination with a pair of trucks pivotally connected together, a pair of rails mounted at an angle upon the forward truck and pivotally connected to the rear truck, and means for connecting said car intermediate of a railway-train.

843,463.



843,464. SKIRT-SUPPORTER. WILLIAM KLINGE, Washington, D. C. Filed Apr. 10, 1906. Serial No. 310,989.

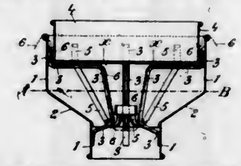


Claim.—1. A skirt having a pocketed waistband, coiled spring-guides at the sides thereof, a tubular coupling and stays connecting and staying the springs and provided with guiding portions projecting respectively through the exterior and interior of the waistband, lifting-cords extending through said springs and provided with operating and suspending portions projecting upon the exterior and interior of the waistband through said guiding portions of the coupling and stays, the said suspending portions thereof being provided with skirt-engaging members, and means upon the waistband to engage and hold the exteriorly-projecting ends of the cords in adjusted position.

2. A skirt having a pocketed waistband, coiled spring-guides arranged therein, a tubular coupling connecting the forward ends of the springs, tubular stays receiving the rear ends of the springs, and lifting-cords extending through said springs and projecting respectively at their front and rear ends through the tubular coupling to the exterior of the waistband and through the rear tubular stays through the waistband down upon the interior of the skirt, the rear ends of the cords being provided with skirt-engaging devices.

3. A skirt having a pocketed waistband, coiled spring-guides disposed therein, a tubular coupling and stays connecting and staying the springs and provided with guide-lips projecting respectively through the exterior and interior of the waistband, lifting-cords extending through said springs and provided with operating and suspending portions projecting upon the exterior and interior of the waistband through said guiding portions of the coupling-stays, the said suspending portions thereof being provided with skirt-engaging members, and a clamp upon the front of the waistband to engage and hold the exteriorly-projecting ends of the cords in adjusted position.

843,465. FILTER. ROBERT KOEHLER, Prenzlau, Germany. Filed Oct. 19, 1906. Serial No. 339,733.



Claim.—1. In a device of the class described, the combination of a strainer-funnel having a plurality of radially-disposed arms, a stretcher-ring having a radially-disposed frame interposed between the arms of the funnel, and a filter-cloth arranged between the said arms and frame.

2. In a device of the class described, in combination, a strainer-funnel having a plurality of longitudinally-disposed arms providing a seat, a stretcher-ring resting on said seat and having a radially-disposed frame interposed between the arms, and a filter-cloth arranged between the said arms and frame.

3. In a device of the class described, in combination, a strainer-funnel having a plurality of radially-disposed divergent arms, a stretcher-ring carrying a plurality of radially-disposed convergent arms interposed between the arms of the frame, and a filter-cloth arranged between said arms.

4. In a device of the class described, the combination of a strainer-funnel having a plurality of radially-disposed arms secured on the inner side of said funnel, a stretching-ring carrying a plurality of radially-disposed arms interposed between the arms of the funnel, all of said arms being arranged at regular intervals respectively on the funnel and the ring, and a filter-cloth arranged between the arms.

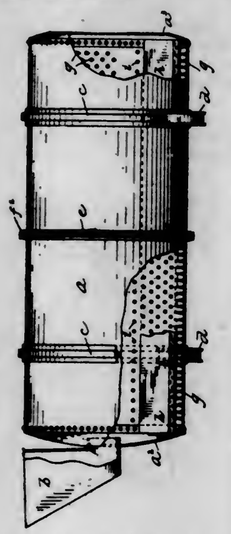
843,466. ROTARY CLEANING-CYLINDER. WILLIAM M. KRICKBAUM, Cleveland, Ohio, assignor to The Grasselli Chemical Company, Cleveland, Ohio, a Corporation of Ohio. Filed July 31, 1902. Serial No. 117,872.

Claim.—1. In a rotary cleaning-cylinder, the combination with the rotatably-mounted drum wherein the treated material is acted upon, the same being inclined as desired, of a plurality of spike-studded sections therein, corresponding carrying-aprons adapted to convey and direct the treated material against the latter, screens or perforated areas for separating out the refuse, means for supporting the drum rotatably, a central toothed driving-rail, a stationarily-mounted driving-sprocket, and a driving-chain flexibly connecting the driving rail and sprocket, substantially as set forth.

2. In a device of the class described, the combination with a drum or cylinder wherein the material is acted upon, of supporting bands or rails encircling the same, supporting-wheels rotatably mounting the drum, and flexible driving mechanism comprising a laterally-disposed gear-wheel, a toothed driving-rail upon the cylinder and a loose and relatively long driving-chain connecting the same for rotating said drum upon its supporting-wheels, substantially as set forth.

3. In a device of the class described, the combination with a rotatably-mounted metal shell or cylinder, of a plurality of sections therein studded with sharpened parts, a plurality of carrying parts or aprons adapted to convey and direct the treated material against the same, and a screen or perforated section provided in said drum or cyl-

inder, beyond each of the studded sections, and immediately before the carrying-aprons, for separating out the smaller particles of the treated material, as broken therefrom, substantially as set forth.



4. In a device of the class described, the combination with a rotatably-mounted drum wherein the material is acted upon, of a plurality of spike-studded sections therein, corresponding carrying-aprons adapted to convey and direct the treated material against the same, and corresponding screens or perforated sections extending over different displaced areas, for separating out the smaller particles of the treated material, substantially as set forth.

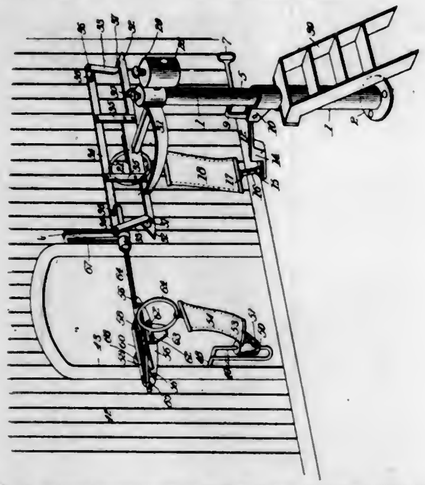
5. In a device of the class described, the combination with a drum wherein the material is acted upon, the same being inclined from end to end as desired, of a plurality of sharpened parts disposed therein, means comprising a conveying-apron for directing the material against the same, a screen or perforated section for separating the smaller particles, supporting-wheels rotatably mounting the drum, and flexible driving mechanism comprising a laterally-disposed gear-wheel, a toothed driving-rail upon the cylinder and a loose and relatively long driving-chain connecting the same for rotating said drum upon the wheels, substantially as set forth.

6. In a device of the class described, the combination with a rotatably-mounted drum or cylinder wherein the treated material is acted upon, of a plurality of spike-studded sections within the drum, corresponding carrying-aprons adapted to convey and direct the treated material against the same, screens or perforated sections for separating out the smaller particles of said material, supporting bands or rails encircling the drum, supporting-wheels engaging the same and rotatably mounting said drum, and flexible driving mechanism for rotating the drum upon said wheels, substantially as set forth.

843,467. MAIL-CRANE. MATHIAS LASKA, New Orleans, La. Filed May 4, 1906. Serial No. 315,262.

Claim.—1. A device of the character described comprising a track-crane provided with a weight, and a car-crane pivotally mounted within the car and provided with a weight, each weight being adapted to exert a pull upon the mail-pouch.

2. A device of the character described comprising a track-crane mounted for swinging movement, means for limiting the swinging movement of the track-crane, means for detachably supporting a mail-pouch upon the track-crane, means for locking the track-crane at one limit of its movement, means for detachably connecting the last-named means to the mail-pouch, a car-crane, means for supporting a mail-pouch upon the car-crane, the car-crane having swinging movement, means for locking the car-crane at one limit of its movement, a weight carried by the car-crane, means connecting the weight and the mail-pouch carried by the car-crane, and means carried by each crane to take the mail-pouch form the other crane.



3. A crane comprising a hollow base member provided with an internal projection, a standard provided with a cam-surface at its lower end to ride upon said projection upon rotation of the standard, and an arm pivoted upon said base member to lock the standard at one limit of its movement.

4. A crane comprising a hollow base member provided with an internal projection, a standard provided with a cam-surface at its lower end to ride upon said projection upon rotation of the standard, an arm pivoted upon said base member to lock the standard at one limit of its movement, and another crane arranged for coöperation with the first-mentioned crane, and means for locking the second-mentioned crane at one limit of its movement.

5. A crane mounted to swing upwardly upon rotation, a counterbalancing means adjustably mounted upon the crane, and a second crane coöperating with the first-mentioned crane.

6. A device of the character described comprising a track-crane including a standard mounted at its lower end to swing upwardly bodily, means for locking the standard in its upward position and permitting it to return automatically to its normal position, a counterbalancing-weight, a car-crane coöperating with the track-crane, and means for locking the car-crane in its position for coöperation with the track-crane.

7. A device of the character described comprising a track-crane provided with a weight, and the car-crane provided with a weight, each weight having means for detachable engagement with the mail-pouch.

8. A device of the character described comprising a track-crane including a rotatable standard mounted at its lower end to force it upwardly upon rotation in one direction, a counterbalancing-weight and a car-crane coöperating with the track-crane.

9. A device of the character described comprising a track-crane including a standard mounted for upward rotation, means for locking the standard in its upward position, means carried by the crane to support a mail-pouch, the pouch having connection with the said locking means, a car-crane coöperating with the track-crane, and means whereby the standard of the track-crane may return to its normal position automatically when the pouch is taken therefrom by the car-crane.

10. A device of the character described comprising a track-crane including a base, a standard mounted for upward swinging movement within the base, means at the upper end of the standard to support and receive separate mail-pouches, an arm pivoted to the base for locking the standard at the limit of its upward swinging movement, said arm being weighted at its outer end and having connection with one end of the mail-pouch supported by the crane, a counterbalance-weight carried by the crane, a car-crane mounted for swinging movement into and out of the car, means mounted at the upper end of the car-crane to support and receive separate mail-pouches, a weight carried at the lower end of the car-crane, said weight having sliding movement and arranged for connection with the lower end of the mail-pouch supported by the car-crane, a bar for locking the car-crane at the limit of its outward swing, the two cranes coöperating with each other whereby each crane may take from and deliver to the other crane the mail-pouch carried thereby, the track-crane returning to its normal position automatically when the pouch is taken therefrom by the car-crane.

11. A device of the character described comprising a track-crane including a standard mounted to rotate upwardly, an arm adjustably connected to the upper end of the standard, means carried by the said arm to counterbalance the movement of the standard, a second arm carried by the first-named arm, means carried by the second arm for support of a mail-pouch, and a car-crane coöperating with the track-crane.

12. A device of the character described comprising a track-crane, means carried by the crane to support a mail-pouch, a ring connected to the mail-pouch and provided with a laterally-directed member for engagement with said means, and a car-crane coöperating with the track-crane.

13. A device of the character described comprising a crane, means carried by the crane for the support of a mail-pouch, a weight and means pivotally connected with the weight for connection with the mail-pouch.

14. A device of the character described comprising a crane for the support of a mail-pouch, a car-crane for the support of a mail-pouch, a weight for each pouch and means pivotally connected to each weight for connection with the respective pouch.

15. The combination with a crane provided at its upper end with spaced seats and a lip beneath the seats; of a mail-pouch having a ring connected at one end thereof, the ring having a cross-piece for engagement upon opposite sides of the ring in said seats, the ring lying between the seats and provided with a shoulder for engagement with said lip.

16. The combination with a crane provided at its upper end with spaced seats and a lip beneath the seats; of a mail-pouch having a ring connected thereto and provided with a cross-bar for engagement with said seats, the ring having a shoulder upon each side of the cross-piece for engagement interchangeably with the aforesaid lip.

17. The combination with a crane provided with a seat; of a mail-pouch; a ring having connection with the pouch and provided with a laterally-directed member for engagement in said seat.

18. The combination with a crane provided with spaced seats; of a mail-pouch provided with means having projections for engagement in said seats.

19. The combination with a crane provided with spaced seats and a lip; of a mail-pouch provided with means having projections for engagement with the seats and lip.

20. The combination with a crane provided with spaced seats and a lip; of a mail-pouch provided with means having projections for engagement in said seats and other projections for interchangeable engagement with said lip.

21. As a new article of manufacture, a supporting-ring for mail-pouches provided with a cross-bar and with a projection upon each side of the cross-bar.

22. As a new article of manufacture, a supporting-ring for mail-pouches provided with a cross-bar and with a projection for coöperation with the cross-bar.

23. A rotatable crane for the support of a mail-pouch, and weighted means for locking the crane at one limit of its rotatable movement, the mail-pouch having connection with said locking means to hold the latter in operative position.

24. A rotatable crane for the support of a mail-pouch, and a vertically-swinging weighted member for locking the crane at one limit of its movement, said member being held in operative position by the mail-pouch.

25. A rotatable crane, a swinging crane, the cranes coöperating with each other to take away and deliver a mail-pouch from and to each other, a weighted member having engagement with the pouch to be taken from one crane to the other, one of said weighted members coöperating with the rotatable crane to lock it in operative position.

26. A rotatable crane carrying a swinging weighted member, a swinging crane, carrying a sliding weighted member, each weighted member having detachable engagement with a mail-pouch.

27. A rotatable crane having a swinging weighted member, a swinging crane having a sliding weighted member, each weighted member having means for detachable engagement with a mail-pouch and one of the said members coöperating with the rotatable crane to hold the latter in operative position.

28. A rotatable crane for the support of a mail-pouch, and means for locking the crane in operative position, said means being released from its operative position when the mail-pouch is taken from the crane.

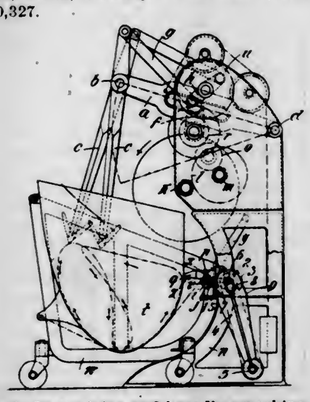
29. A rotatable crane for the support of a mail-pouch, and means for locking the crane in operative position, said means having detachable connection with the mail-pouch and released upon withdrawal of the pouch from the crane.

30. In a device of the class described, a rotatable crane for the support of a mail-pouch, means for locking the crane in operative position, said means having connection with the mail-pouch and released from operative position when the pouch is taken from the crane, and another crane coöperating with the first-named crane.

31. A rotatable crane for the support of a mail-pouch, means for locking the crane in operative position, said means having connection with the mail-pouch and released from operative position when the pouch is taken from the crane, and a counterbalancing-weight mounted upon the crane.

32. A crane comprising a base provided with a projection and a standard provided with a cam-surface at its lower end to ride upon said projection upon rotation of the standard.

843,468. MIXING AND KNEADING MACHINE. CARL LAURICK, Berlin, Germany. Filed June 5, 1906. Serial No. 320,327.



Claim.—1. In a mixing and kneading machine, the combination with the trough, vertically and laterally swinging mixing and kneading arms, a vertically-swinging carrying-lever having a fixed fulcrum-point and pivotally connected with a mixing and kneading arm, a rotating operating-crank arranged to oscillate the carrying-lever for each arm, a push-rod for each mixing and kneading arm, and a sepa-

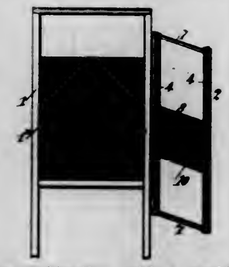
rate operating-crank for the push-rod, the cranks for the push-rods and the carrying-levers rotating respectively at different speeds.

2. In a mixing and kneading machine, the combination with the machine-frame and the mixing and kneading arms, of a trough-holder a coupling device for connecting the trough-holder with the machine-frame, a trough, a raising and lowering device for the trough, and a locking mechanism for the coupling comprising means for also operating said raising and lowering device.

3. In a mixing and kneading machine, the combination with the machine-frame, of a trough-carriage, a swinging trough mounted in the carriage, coupling-bolts supported by the carriage and arranged to engage the trough and also the machine-frame, a swinging raising and lowering device for the trough and a locking mechanism operatively engaging said bolts and geared with said raising and lowering device.

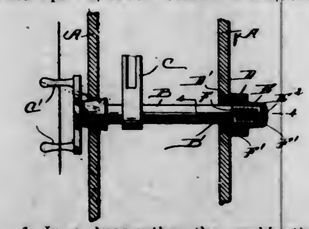
4. In a mixing and kneading machine, the combination with the machine-frame, of a trough-carriage, a swinging trough, coupling-bolts arranged to engage the trough and also the machine-frame, a swinging raising and lowering device for the trough, and a ratchet-held shaft carrying sleeve members arranged to interlock with the said bolts, and also having a geared connection with said raising and lowering device.

843,469. WASHBOARD. WILLIAM B. LICHTIG, New York, N. Y. Filed Aug. 11, 1906. Serial No. 330,208.



Claim.—The combination, with a washboard having a corrugated rubbing-surface, of a guide-frame hinged to one side of said board and embodying grooved side pieces and transverse end pieces, a rubbing-block also provided with a corrugated rubbing-surface and guided in upward and downward direction in the grooves of the guide-frame, and a handle applied to said block, the grooves in said side pieces of the guide-frame being of greater width than the thickness of the block, so as to provide for the varying thickness of the articles to be washed.

843,470. HARP-ACTION. CHARLES A. LINDEMAN, Chicago, Ill. Filed Apr. 25, 1906. Serial No. 313,669.

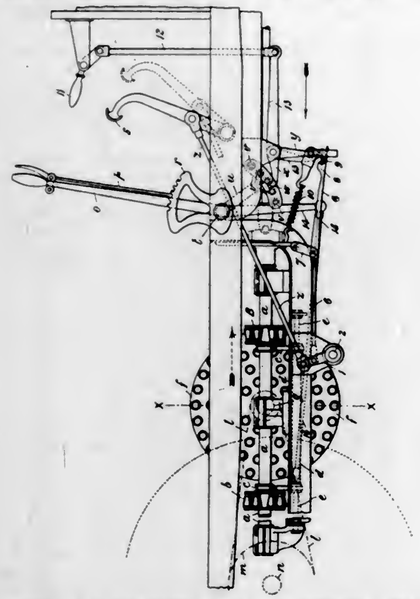


Claim.—1. In a harp-action the combination with a spindle, and an action-plate, of a nut threaded into said action-plate, said nut being tubular, a sleeve adjustably secured within the nut, an end of the spindle resting in said sleeve and a spring arranged within the sleeve and bearing at one end upon the end of the sleeve and at its opposite end upon the end of the spindle.

2. In a harp-action the combination with a spindle, an action-plate, of a sleeve adjustably secured in said action-plate and open at one end, the said sleeve being slotted at its outer end, the said spindle being slotted at one end and the slotted end of the spindle resting in the sleeve and a spring arranged in said sleeve and having one end secured in the slot of the sleeve and the other end in the slot of the spindle.

3. A device of the kind described comprising an action-plate, a tubular nut threaded into said action-plate, said nut being interiorly and longitudinally fluted, a conical knurled sleeve fitting within the said nut and projecting outwardly therefrom, said sleeve being adjustable within the nut, a slotted spindle projecting within the sleeve, and a spring bearing at one end upon an end of the sleeve and having its other end secured in the slot of the spindle, as and for the purpose set forth.

843,471. GEARING. WALTER J. ILOYD, Birmingham, England. Filed July 12, 1906. Serial No. 325,923.



Claim.—1. A mechanism of the class described, consisting of a driving-shaft, pinions slidable in unison on said shaft and rotative with the latter, a secondary slidable shaft, a disk carried by said shaft and having a series of concentrically-arranged rollers thereon, means associated with the slidable shaft and driven thereby to impart motion to a vehicle, means for shifting the pinions to bring one of the same in position for engagement with the disk, and means for imparting sliding motion to the secondary shaft.

2. A mechanism of the class described, consisting of a driving-shaft, pinions slidable in unison on said shaft and rotative with the latter, a secondary slidable shaft, a disk carried by said shaft and having a series of longitudinally-arranged rollers thereon, means associated with the slidable shaft and driven thereby to impart motion to a vehicle, means for shifting the pinions to bring one of the same in position for engagement with the disk, means for imparting sliding motion to the secondary shaft, and means for locking the means for shifting the pinions against movement of the latter with respect to the disk.

3. In a mechanism of the class described, a driving-shaft, a pair of lantern-wheels rotatable therewith and slidable longitudinally on said shaft, a shiftable secondary shaft, a disk having a series of concentrically-arranged rollers thereon, said secondary shaft being at right angles to the driving-shaft, a driven wheel associated with and actuated by said driving-shaft for imparting motion to a vehicle, a foot-lever having connection with the secondary shaft, means having connection with the lantern-wheels to move the same in unison, and means for locking and releasing the latter means.

4. In combination with a vehicle, a driving-shaft, a pair of lantern-wheels slidable longitudinally on the shaft and rotatable with the same, each of said lantern-wheels having connection and being adapted to move in unison, a secondary shaft having a disk carried thereby, a series of rollers arranged in circles concentrically on said disk, a foot-lever associated with said secondary shaft for moving the same toward and from the driving-shaft, a lever having a segment provided with spaced rollers and having connection with the lantern-wheels, and a hand-operable lever having means for engagement in the spaces between the wheels carried by the segment to lock the first-mentioned lever against movement.

843,472. FORK. FRANK LOTTER, Elkton, Mich. Filed Sept. 12, 1906. Serial No. 334,309.



Claim.—1. A fork, comprising a back, a handle-receiving portion projecting therefrom, a plurality of prongs diverging from the back, said prongs having their upper surfaces concaved throughout a portion of their length to provide knife-edges, substantially as shown and described.

2. A fork comprising a back, a handle-receiving portion projecting therefrom, a plurality of prongs diverging from the back, said prongs having their upper surfaces concaved throughout the major portion of their length.

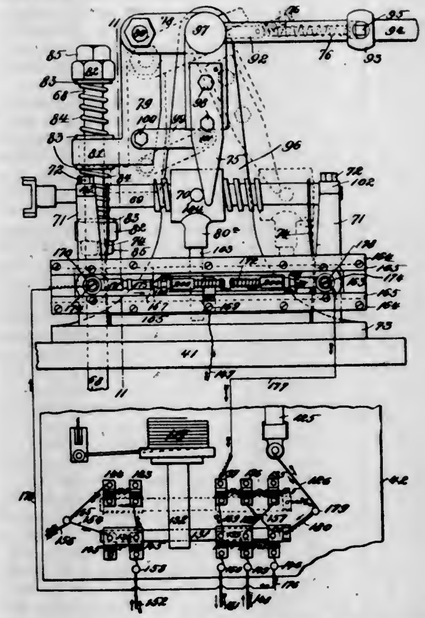
3. A fork, comprising a back, a handle portion, and a plurality of prongs projecting from the back, said prongs having their upper surfaces concaved in cross-section from the back toward the points and having the portion of the upper surface of the prongs adjacent the points flat, substantially as shown and described.

4. A fork, comprising a back, a handle portion, and a plurality of prongs projecting from the back, said prongs having their upper surfaces concaved in cross-section from the back toward the points and having the portion of the upper surface of the prongs adjacent the points flat, said prongs being curved in side elevation and diverging from the back to the points.

843,473. SWITCHING DEVICE. JOHN N. MAKLEY, EDWARD F. MANETT, and FRANK M. DANNELLY, Dallas, Tex., assignors to Standard Electric Company, Dallas, Tex., a Corporation of Delaware. Filed July 17, 1906. Serial No. 326,600.

Claim.—1. In a switch-thrower of the class described, a contact-making device interposed in the circuit of a trolley-wire, a circuit-changer having a magnet in electrical connection with said contact-making device, a movable armature having contact-points and controlled by said magnet, a plurality of contact-brushes for engagement with the contact-points of the armature, electrical connections between the contact-plates for directing the current, a motor having electrical connection with said contact-brushes, mechanism for actuating the switch and operable by the motor, and a circuit-breaker in electrical connection with said circuit-changer and controlled by said switch-operating mechanism.

2. In a switch-thrower of the class described, a contact-making device having oppositely-disposed contact-plates insulated from one another and from the current of the main circuit, a circuit-changer having a magnet electrically connected to one of the contact-plates and with the current of the main circuit, an armature having contact-points controlled by said magnet, a series of oppositely-disposed contact members in electrical connection with one another and for engagement with the contact-points of the armature, and also in electric connection with the other of said contact-plates, a reversing-motor having connection with said contact members and controlled in its movement by the current passing therethrough, and frictional-controlled mechanism coöperative with said motor and in connection with the switch for operating the same.



3. In a switch-thrower of the class described, a contact-making device interposed in the main circuit and insulated therefrom, a circuit-changer having a core-magnet provided with a movable armature, and in electrical connection with said contact-making device and the circuit of the main line, switches for said electrical connection, a series of contact-plates arranged in the circuit-changer, and in electrical connection with said contact-making device, an insulated arm carried by the armature and having contact-points for engagement with the contact-plates for changing the direction of flow of the current, a motor having electrical connection with said contact-plates, switch-coupling mechanism, and switch-throwing mechanism connected with the said coupling mechanism and with the motor.

4. In a switch-thrower of the class described, a contact-making device interposed in the main circuit and insulated therefrom, a circuit-changer having a core-magnet provided with a movable armature, and in electrical connection with said contact-making device and the circuit of the main line, switches for said electrical connection, a series of contact-plates arranged in the circuit-changer and in electrical connection with said contact-making device, an insulated arm carried by the armature and having contact-points for engagement with the contact-plates for changing the direction of flow of the current, a motor having electrical connection with said contact-plates, switch-coupling mechanism, switch-throwing mechanism connected with said coupling mechanism and with

the motor, and a circuit-breaker arranged in circuit with the circuit-changer and actuated by the switch-throwing mechanism.

5. In a switch-thrower of the class described, a contact-making device interposed in the main circuit and insulated therefrom and having a roofing, oppositely-disposed contacting plates carried by said contact-making device and insulated from one another and the main circuit, a circuit-changer having a core-magnet provided with a movable armature and in electrical connection with one of the contact-plates and the main circuit, a series of contact members separated from one another, an insulated arm having contact-points carried by said armature and for engagement with the contact members, a non-arc fuse in electrical connection with said contact members and with the other of said contact-plates on the contact-making device, a reversing-motor having electrical connection with said contact members and controlled by the current fed therefrom, and mechanism coöperative with the motor for actuating the switch.

6. In a switch-thrower of the class described, a contact-making device interposed in the main circuit and insulated therefrom and having a roofing, oppositely-disposed contacting plates carried by said contact-making device and insulated from one another and from the main circuit, a circuit-changer having a core-magnet provided with a movable armature and in electrical connection with one of the contact-plates and the main circuit, a series of contact members separated from one another, an insulated arm having contact-points carried by said armature and for engagement with the contact members, a non-arc fuse in electrical connection with said contact members and with the other of said contact-plates on the contact-making device, a reversing-motor having electrical connection with said contact members and controlled by the current fed therefrom, mechanism coöperative with the motor for actuating the switch, and a circuit-breaker actuated by said mechanism and in electrical connection with the circuit-changer.

7. In a switch-thrower, a contact-making device arranged in the main circuit and insulated therefrom, contact-bars supported by said contact-making device and of varying lengths, a roofing for said contact-making device, protector members for the contact-bars, a circuit-changer having connection with the said bars and with the main circuit, a plurality of contact members electrically connected for changing the course of the current of the main circuit and arranged in the circuit-changer, a motor connected with said contact members, a switch-throwing device coöperative with the motor, and adjustable coupling means connected with the switch and with the switch-throwing device.

8. In an electric switch-throwing mechanism, a contact-making device interposed in the main circuit, a circuit-changer having a squared core-magnet electrically connected with the contact-making device and the main circuit, a squared armature movable in the core-magnet and having an insulated arm provided with contact-points, a plurality of contact-brushes electrically connected to one another and adapted for engagement with the contact-points of the armature, a reversible motor electrically connected with the contact-brushes, a switch-throwing device actuated by said motor, and switch-coupling mechanism in engagement with the switch-throwing device and the switch for actuating the latter.

9. In an electric switch-throwing mechanism, a contact-making device interposed in the main circuit, a circuit-changer having a squared core-magnet electrically connected with the contact-making device and the main circuit, a squared armature movable in the core-magnet and having an insulated arm provided with contact-points, a plurality of contact-brushes electrically connected to one another and adapted for engagement with the contact-points of the armature, a reversible motor electrically connected with the contact-brushes, a switch-throwing device actuated by said motor, switch-coupling mechanism in engagement with the switch-throwing device and the switch for actuating the latter, and adjustable stops for limiting the movement of the switch-throwing device.

10. In an electric switch-throwing mechanism, a contact-making device interposed in the main circuit, a circuit-changer having a squared core-magnet electrically connected with the contact-making device and the main circuit, a squared armature movable in the core-magnet and having an insulated arm provided with contact-points, a plurality of contact-brushes electrically connected to one another and adapted for engagement with the contact-points of the armature, a reversible motor electrically connected with the contact-brushes, a switch-throwing device actuated by said motor, switch-coupling mechanism in engagement with the switch-throwing device and the switch for actuating the latter, adjustable stops for limiting the movement of the switch-throwing device, and a circuit-breaker connected with the contact-brushes and automatically actuated by the switch-throwing mechanism.

11. In a switch-thrower of the class described, a contact-making device interposed in the main circuit, a circuit-changer electrically connected with said contact-making device and the main circuit, a motor electrically connected with the circuit-changer, a switch-throwing device involving a worm-gear, a movable member controlled by the latter, a trip-arm actuated by said member and connected to the switch for operating the same, and means for regulating the same.

12. In a switch-thrower of the class described, a contact-making device interposed in the main circuit, a circuit-changer electrically connected with said contact-making device and the main circuit, a motor electrically connected with the circuit-changer, a switch-throwing device involving a worm-gear, a movable member controlled by the latter, a trip-arm actuated by said member and connected to the switch for operating the same, means for regulating the same, and a circuit-breaker connected with the circuit-changer and the switch-throwing device and automatically actuated by the same.

13. The combination of a trolley-wire, separated conducting-strips associated with the trolley-wire and insulated therefrom and to be traversed by a trolley-wheel, a magnet having an electrical connection with one of said strips, a motor having an electrical connection with the other strip, pole-changing means for the motor operable by said magnet, and connections between the motor and the switch for throwing the latter.

14. The combination of a switch-operating electric motor, pole-changing means for the motor, a magnet for controlling the pole-changing means, and a current-carrying conductor to supply current to the magnet for energizing the same and causing the operation of the pole-changing means.

15. The combination of a reciprocatory power-operated member having a projection, an oscillatory device to be operated by said projection on each stroke of said power-operated member, means for holding the oscillatory device in operative relation with said projection, switch-throwing mechanism operable by said oscillatory member, and electrically-controlled mechanism automatically actuated by said member for cutting off the power.

16. The combination of a reciprocatory power-operated member having a reversible worm-shaft, the terminals of the worm thereof being short of the extent of the shaft, a shiftable member in engagement with the worm and adapted to be actuated thereby, projections on said member, an oscillatory device in engagement with the projections on each stroke of said power-operated member, means for holding the oscillatory device in operative relation with said projections, and switch-coupling mechanism operable by said oscillatory member.

17. In a switch-thrower of the class described, a contact-making device arranged in line with a main circuit, a circuit-changer having a magnet in electrical connection with said contact-making device, a movable armature having yieldable contact-points and controlled by said magnet, a plurality of contact elements for engagement with the contact-points of the armature, at least two of the contact elements in electrical connection with each other, a motor having electrical connection with said contact elements, an automatic governor for controlling the speed of the motor, and mechanism for actuating the switch and operable by the motor.

18. In a switch-thrower of the class described, a contact-making device arranged in line with a main circuit, a circuit-changer having a magnet in electrical connection with said contact-making device, a movable armature having yieldable contact-points and controlled by said magnet, a plurality of contact elements for engagement with the contact-points of the armature, at least two of the contact elements in electrical connection with each other, a motor having electrical connection with said contact elements, an automatic governor for controlling the speed of the motor, mechanism for actuating the switch and operable by the motor, and a circuit-breaker in electrical connection with said circuit-changer and controlled by said switch-operating mechanism.

19. In a switch-thrower of the class described, a contact-making device arranged in a main circuit and insulated therefrom, a circuit-changer having a core-magnet provided with a movable armature and in electrical connection with said contact-making device and the main circuit, switches for said electrical connections, a series of contact elements arranged in the circuit-changer, yieldable contact members carried by the armature for engagement with the said elements for changing the direction of the flow of the current, a motor having electrical connection with said contact elements, a switch-coupling mechanism, switch-throwing mechanism operative by the coupling mechanism, said coupling mechanism connected directly to the motor, and an automatic governor controlled by the speed of the motor for regulating the said speed and for cutting off the current to the motor when the same reaches an excessive speed.

20. An electric switch-throwing device for railways comprising a switch-throwing motor, a trolley-wire and a motor supply-bar coöperating with the trolley-wire, circuit-changing mechanism consisting of a solenoid in circuit with said trolley-wire, a movable core-armature operating in said solenoid and carrying contact-making points, and stationary contacts capable of coacting with said movable contact-making points, a part of said stationary contacts being on one side of said movable contact-points and connected to one pole of said motor and the other part of said stationary contacts being on the other side of said movable contact-points and connected to the reverse pole of said motor, said movable contact-points being electrically connected to said motor supply-bar.

21. In combination, a track-switch, a reversible electric motor mechanically connected therewith, a pole-changing switch, a magnet for operating the same, and two contacts arranged to coöperate successively with a trolley-wheel, the first being connected with said magnet, and the second with said motor through said pole-changing switch.

22. In an electrical switch-tongue-throwing mechanism for electric railways, a contact-making device embodying a pair of contacts insulated from each other, a magnet in circuit with the main conductor of the railway and with one of the contacts of said contact-making device, a reversing-motor operatively connected with the switch-tongue for causing the shifting thereof in either direction, a circuit-changer electrically connected with the other of the contacts of the contact-making device and with said motor, the said contacts of said device adapted to be engaged by the traveling contact of the car to bridge the circuit in which is the circuit-changer and motor.

23. An electrical switch-tongue-throwing mechanism for electric railways comprising a contact-making device adapted to be engaged by a traveling contact carried by the car, a magnet in circuit with the main conductor of the railway and with said device, a reversing-motor, a circuit-changer in circuit with said device and motor, and a switch-tongue-throwing mechanism frictionally geared with said motor and operated thereby.

24. An electrical switch-tongue-throwing mechanism for electric railways comprising a magnet in circuit with the main conductor, a contact-making device in circuit with said magnet and adapted to be engaged by a traveling contact carried by the car for bridging the circuit, a reversing-motor, a circuit-changer in circuit with said device and motor, a switch-tongue-throwing mechanism operated by said motor, said contact device provided with means for causing the energizing of the magnet in advance of the operation of the motor and the discontinuing of the operation of the motor in advance of the deënergizing of the magnet.

25. In an electric switch-tongue-throwing mechanism for electric railways, mechanism for throwing the switch-tongue, a reversing-motor for actuating said mechanism in either direction, means electrically connected with the main conductor of the railway for forming the switch-throwing circuit, thereby operating the motor, said means embodying a magnet, a circuit-changer, and a contact-making device the latter engaged by a traveling contact carried by the car for bridging the circuit, the said contact-making device provided with means for causing the energizing of the magnet in advance of the operation of the motor and the discontinuing of the operation of the motor in advance of the deënergizing of the magnet.

26. In an electric switch-tongue-throwing mechanism for electric railways, a reversing-motor, means for frictionally gearing the motor with a switch-tongue for throwing the latter when the motor is operated in either direction, a circuit-forming means controlled by the controller of and operated through a traveling contact carried by the car, said means embodying a contact-making device electrically connected with the main conductor of the line, and a circuit-changer electrically connected to the motor.

27. In combination, a track-switch, a reversible electric motor mechanically connected therewith, a pole-changing switch, a magnet for operating the same, two contacts arranged to coöperate successively with the trolley-wheel, the first being connected with the magnet, and the second with the motor through the pole-changing switch, and means associating with the contacts for causing energizing of the magnet in advance of the operation of the motor and discontinuing the operation of the motor in advance of the deënergizing of the magnet.

28. In an electrical switch-throwing mechanism for electric railways, mechanical means for throwing the switch, a reversible electric motor connected with said means, a pole-changing switch, a magnet for operating the same, two contacts arranged to coöperate successively with a traveling contact carried by the car, one of said contacts being connected with the magnet and the other with said motor through said pole-changing switch, and a circuit-breaker having electrical connections with said pole-changing switch and controlled by the movement of said means.

29. An electrical switch-throwing mechanism for electric railways comprising means for throwing the switch, a reversible electric motor frictionally clutched with said means for operating it, a pole-changing switch, a magnet for operating the same, and a pair of contacts arranged to coöperate successively with a traveling contact carried by the car, one of said contacts being connected with the magnet and the other with said motor through said pole-changing switch.

30. An electrical switch-throwing mechanism for electric railways comprising means for throwing the switch, a reversible electric motor, frictionally clutched with said means for operating it, a pole-changing switch, a magnet for operating the same, and a circuit-breaker electrically connected with said pole-changing switch and automatically operated by said means.

31. An electrical switch-throwing mechanism for electric railways comprising an electric motor for throwing the switch, a pole-changing means for the motor, a magnet for controlling the pole-changing means, circuit-forming means for the motor, electrical connections between the magnet and the source of electrical supply, electrical connections for the motor, and means for energizing the magnet in advance of the operation of the motor and for discontinuing the operation of the motor in advance of the deënergizing of the magnet.

32. In an electrical switch-throwing mechanism for electric railways, a reversible electric motor connected with the switch for throwing it, a pole-changing switch, a magnet for operating the same, a pair of contacts arranged to coöperate successively with a traveling contact carried by the car, one of said contacts connected with the magnet, and the other with said motor through said pole-changing switch, and means for controlling the speed of the motor.

33. In an electric switch-throwing mechanism for elec-

tric railways, a magnet in circuit with the main conductor of the line, a pair of contacts arranged to be successively engaged by a traveling contact carried by the car, one of the contacts of said pair of contacts connected with the magnet, a circuit-changer operated by said magnet, a reversible motor in circuit through said circuit-changer with the other contact of said pair, and a switch-tongue-throwing means connected to and operated by the motor.

34. In an electrical switch-throwing mechanism for electric railways, a magnet in circuit with the main conductor of the line, a pair of contacts arranged to be successively engaged by a traveling contact carried by the car, one of the contacts of said pair of contacts connected with the magnet, a circuit-changer operated by said magnet, a reversible motor in circuit through said circuit-changer with the other contact of said pair, means for throwing the switch-tongue, and a frictional clutch mechanism between said means and motor for actuating said throwing means when the motor is operated.

35. In an electrical switch-throwing mechanism for electric railways, a magnet in circuit with the main conductor of the line, a pair of contacts arranged to be successively engaged by a traveling contact carried by the car, one of the contacts of said pair of contacts connected with the magnet, a circuit-changer operated by said magnet, a reversible motor in circuit through said circuit-changer with the other contact of said pair, a switch-tongue-throwing means connected to and operated by the motor, and means for regulating the movement of said switch-tongue-throwing means.

36. In an electrical switch-throwing mechanism for electric railways, a magnet in circuit with the main conductor of the line, a pair of contacts arranged to be successively engaged by a traveling contact carried by the car, one of the contacts of said pair of contacts connected with the magnet, a circuit-changer operated by said magnet, a reversible motor in circuit through said circuit-changer with the other contact of said pair, means for throwing the switch-tongue, a frictional clutch mechanism between said means and motor for actuating said throwing means when the motor is operated, and means for regulating the movement of the said switch-tongue-throwing means.

37. A switch-tongue-throwing mechanism for electric railways comprising a contact-making device interposed in the main conductor and having contact-plates of varying lengths, said plates insulated from one another and adapted to be successively engaged by a traveling contact carried by the car, a circuit-forming means embodying an electromagnet and a circuit-changer, means for connecting the magnet to the main conductor of the line and to said elongated contact-plate, a reversible motor in circuit with said short contact-plate through said circuit-changer, said circuit-changer operated by said magnet, and a switch-tongue-throwing means connected to and operated by the motor.

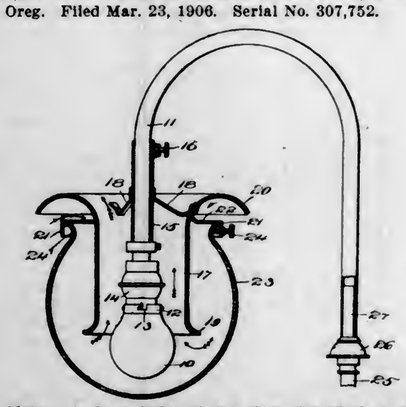
38. A switch-tongue-throwing mechanism for electric railways comprising the combination with a switch-tongue, of a pair of receptacles arranged in proximity thereto and having removable lids, a conduit leading from one of said receptacles and communicating therewith, a hollow supporting-post communicating with the conduit, a lever-arm arranged within one of said receptacles, connections extending through said receptacles and connected at one end with the switch-tongue and at the other end to one end of said lever-arm, an actuating-rod extending through said conduit and having one end projecting in said post and the other end connected to the other end of said lever-arm, means arranged in said post and connected with said rod for actuating it, a frictional clutch mechanism for operating said means, a reversible motor adapted to actuate the frictional clutch mechanism, a pole-changing switch, a magnet for operating the same, and a pair of contacts arranged to coöperate successively with a traveling contact carried by the car, one of said contacts connected with the magnet, and the other of said contacts connected with said motor through said pole-changing switch, combined with a circuit-wire connection between the magnet and the main conductor of the line.

39. An electrical switch-throwing mechanism for electric railways comprising an electric motor connected with the switch-tongue for throwing it in either direction, a pole-changing switch for said motor controlled by the controller of the car through a traveling contact carried by the car, means for actuating said switch connected with the main conductor, a pair of contacts adapted to be engaged by the traveling contact of the car, one of said contacts connected with the means for actuating the switch and the other of said contacts connected with said motor through said pole-changing switch.

40. An electrical switch-throwing mechanism for electric railways comprising an electric motor connected with the switch-tongue for throwing it in either direction, a pole-changing switch for said motor controlled by the controller of the car through a traveling contact carried by the car, means for actuating said switch connected with the main conductor, a pair of contacts adapted to be engaged by the traveling contact of the car, one of said contacts connected with the means for actuating the switch and the other of said contacts connected with said motor through said pole-changing switch, and electrically-controlled means for automatically breaking the circuit.

41. A switch-tongue-throwing mechanism for electric railways comprising the combination with a switch-tongue, of a pair of receptacles arranged in proximity thereto and having removable lids, a conduit leading from one of said receptacles and communicating therewith, a hollow supporting-post communicating with the conduit, a lever-arm arranged within one of said receptacles, connections extending through said receptacles and connected at one end with the switch-tongue and at the other end to one end of said lever-arm, an actuating-rod extending through said conduit and having one end projecting in said post and the other end connected to the other end of said lever-arm, means arranged in said post and connected with said rod for actuating it, a frictional clutch mechanism for operating said means, a reversible motor adapted to actuate the frictional clutch mechanism, a pole-changing switch, a magnet for operating the same, and a pair of contacts arranged to coöperate successively with a traveling contact carried by the car, one of said contacts connected with the magnet, and the other of said contacts connected with said motor through said pole-changing switch, combined with a circuit-wire connection between the magnet and the main conductor of the line.

843,474. GAS-LIGHT. HARRY W. MANNING, Portland, Oreg. Filed Mar. 23, 1906. Serial No. 307,752.



Claim.—1. In a light of the class described, a sleeve belled at its lower end and provided with an outturned curved flange at its upper end, a gas-mantle disposed partially within the lower belled end of the said sleeve, and a globe surrounding the said sleeve and mantle and open at its upper side, and with the periphery of its open side disposed beneath the center of curvature of the flange.

2. In a gas-light of the character described, a sleeve provided with a belled lower end, and with an outturned flange at its upper end, curved to form a downwardly-opening annular concavity, a gas-mantle disposed partially within the lower belled end of the sleeve, and a globe surrounding the said mantle and sleeve, and having an open upper side with the periphery of its open side disposed substantially beneath the center of curvature of the flange.

3. In a gas-light of the class described, a sleeve arranged in a substantially vertical position and having a belled lower end, and with an outturned flange at its upper end, curved to form a downwardly-open annular concavity, a pipe extending axially within the said sleeve and provided with a mantle at its lower end disposed partially within the belled end of the said sleeve, and a globe surrounding the said mantle and sleeve and open at its upper side, and with the periphery of its open side disposed substantially at the center of curvature of the said flange.

843,475. METALLIC RAIL-TIE. WILLIAM G. MARTAN, Otter Creek, Fla. Filed Sept. 20, 1906. Serial No. 335,476.



Claim.—1. A hollow metallic tie provided at opposite ends with a pair of spaced bearers interiorly arranged therein and located below the rails mounted on the tie, one side of said tie having an opening communicating with the space between each pair of bearers, to permit access thereto.

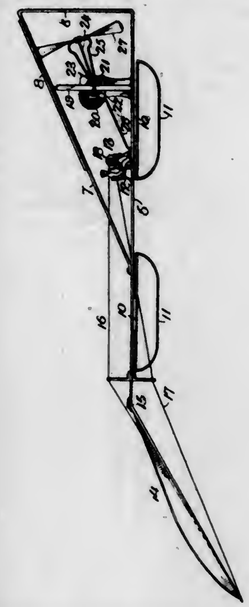
2. The combination, with a hollow metallic tie, and rails mounted thereon, of bolts for securing said rails in place, the lower ends of said bolts extending into the interior of the tie, and means located adjacent the under face of the tie for retaining said bolts in place, one side of said tie being provided with openings communicating with its interior for permitting access to said means.

3. The combination, with a hollow metallic tie, and rails mounted thereon, of bolts for securing said rails in place, the lower ends of said bolts extending into the interior of the tie, nuts mounted on the lower ends of said bolts for retaining said bolts in place, and means mounted upon the under face of the top portion of the tie for preventing movement of the nuts, one side of said tie being provided with openings communicating with its interior for permitting access to said means.

4. The combination, with a hollow metallic tie, and rails mounted thereon, of bolts for securing said rails in place, the lower ends of said bolts extending into the interior of the tie, nuts mounted on the lower ends of said bolts, and an X-shaped brace secured to the under face of the top portion of the tie at opposite ends thereof and in contact with one side of the nuts, for preventing movement thereof, one side of said tie being provided with openings communicating with its interior for permitting access to said nuts, bolts, and braces.

843,476. FLYING-MACHINE. WILLIAM MORGAN, Fort Plain, N. Y. Filed Mar. 31, 1906. Serial No. 309,156.

Claim.—1. A flying-machine comprising a horizontal backbone, a vertical member secured to the front end of said backbone, an inclined member extending from the upper end of said vertical member back to the backbone, an aeroplane secured to said inclined member and extending upon opposite sides of the same, a tail pivoted to the rear end of the backbone and flexible connections extending from said tail to a steering-wheel, a motor, supported upon said backbone, propellers actuated by said motor, and means for moving said propellers in different directions, substantially as described.



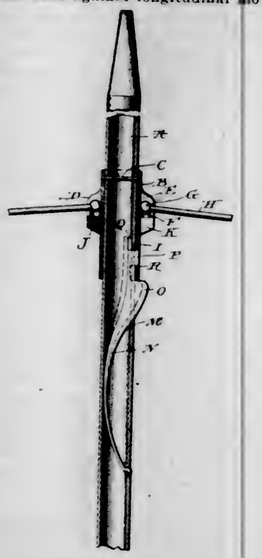
2. A flying-machine provided with a frame comprising a horizontal backbone, a vertical member extending upward from the front end of said backbone, an inclined member extending backward from the upper end of said vertical member, and secured at its rear end to said backbone, an aeroplane secured to said inclined member, a pivoted steering-tail, a motor supported upon the backbone, propeller-wheels operatively connected to said motor, means for moving said propellers in various directions, and runners secured in parallel relation to opposite sides of the backbone near the front and rear of the machine, substantially as described.

843,477. UMBRELLA. WALTER E. MOULTON, Plain City, Ohio, assignor to The Moulton Wireless Umbrella Company, Plain City, Ohio, a Corporation of Ohio. Filed July 5, 1906. Serial No. 324,807.

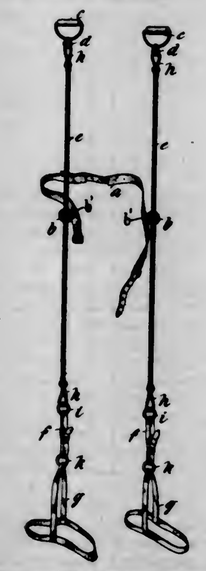
Claim.—1. In combination with an umbrella-staff; a member fixed thereto, said member being provided with a series of radially-disposed slots, and a series of sockets formed in the under face of said member in line with the slots; a slotted retaining member mounted on the staff below the fixed member, said retaining member being formed with an opening in its side wall; and a retaining-spring mounted within the staff, said spring having a locking projection in line with the opening and likewise provided with a thumb-piece which extends outwardly beyond the retaining member and locking projection, whereby the spring may be moved inward by pressure on the thumb-piece and the retaining member released so as to permit rotary movement thereof.

2. In combination with an umbrella-staff; a member fixed thereto, said member being provided with a series of radially-disposed slots, and a series of sockets in its under face in line with the slots; a retaining member slidably mounted upon the staff below the fixed member, said retaining member being formed with a series of radial slots and with an opening for withdrawal of a rib end; and a spring located within the staff, said spring being formed with a locking projection adapted to enter a slot in the retaining member, and with a second projection or finger-piece which projects beyond the lower end of the retainer,

whereby the retaining member may be freed so that it may be rotated while held against longitudinal movement.



843,478. PHYSICAL EXERCISER. GEORG MÜLLER, Berlin, Germany, assignor to The Firm Kolberger Anstalten für Exterikultur Wilhelm Anhalt Gesellschaft mit Beschränkter Haftung, Kolberg, Prussia, Germany. Filed Jan. 6, 1905. Serial No. 239,929.

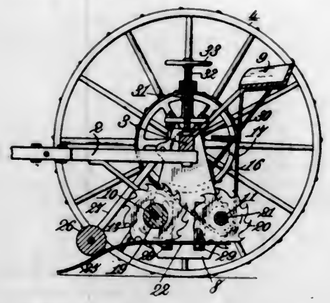


Claim.—1. An exercising apparatus comprising elastic bands or cords, each provided at one end with a handle and at the other end with a foot attachment or stirrup, and a waist-belt adjustable at the front and back and provided with guide-rings for the elastic bands fixed on opposite sides of its front ends.

2. An exercising apparatus consisting of elastic bands, each provided at one end with a handle and at the other end with a foot attachment or stirrup, a waist-belt provided with means for taking in and letting out the same at the front and back, loops fixed to opposite ends of said waist-belt near the front thereof, and guide-rings carried by said loops.

3. An exercising apparatus comprising elastic bands, foot-stirrups, means for adjusting said bands to said stirrups, handles upon the upper ends of said elastic bands, and a waist-belt provided with fixed means through which the elastic bands pass freely and adjusting means for said belt at the front and back thereof to provide for varying the size of the belt without changing the position of the guide-rings relatively to the body of the user.

843,479. SUGAR-CANE-STRAW-CUTTING MACHINE. JOSÉ Mª CALLEJAS Y BECERRA, Havana, Cuba. Filed July 27, 1906. Serial No. 328,058.



Claim.—1. In a machine of the class described, a platform along which material may move, and two sets of cutting devices for cutting the material while on said platform.

2. In a machine of the class described, a vehicle, a platform connected with said vehicle and along which material may move, two sets of cutting mechanism arranged to cut the material at separated places longitudinally of the platform, and means for feeding the material positively from the first set of cutting devices to the second set of cutting devices.

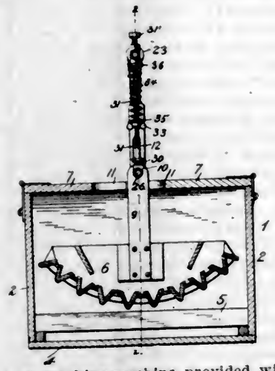
3. In a machine of the class described, a vehicle, a platform connected with said vehicle and along which material may move, two sets of cutting mechanisms arranged to cut the material at separated places longitudinally of the platform, and means movable with the first set of cutting devices for positively moving the material from said first set of cutting devices to the second set of cutting devices.

4. In a machine of the class described, a wheeled vehicle, a platfrom connected with said wheeled vehicle and along which material may move, said platform comprising a substantially horizontally disposed body having a downwardly and forwardly inclined portion, a flexibly-suspended roller to act against the material while on said inclined portion, and cutting mechanism for cutting material while on the horizontal portion of said platform.

5. In a machine of the class described, a vehicle, a platform connected with said vehicle and along which material may move, cutting mechanism for cutting the material while on the platform, and a roller for securing even feed of the material to the cutting mechanism, said roller being flexibly mounted.

6. In a machine of the class described, a wheeled vehicle, a platform connected with the vehicle and along which material may move, the platform having a substantially horizontally disposed body provided with a downwardly and forwardly extending angular portion, two sets of cutting mechanisms for acting upon the material while on said horizontal portion, means for feeding the material from one cutting mechanism to the other cutting mechanism, and a flexibly-mounted roller arranged to engage the said angular portion and for securing even feed of the material to the cutting mechanisms.

843,480. WASHING-MACHINE. JOSEPH A. MCCLURE, Philadelphia, Pa. Filed Apr. 2, 1906. Serial No. 309,487.

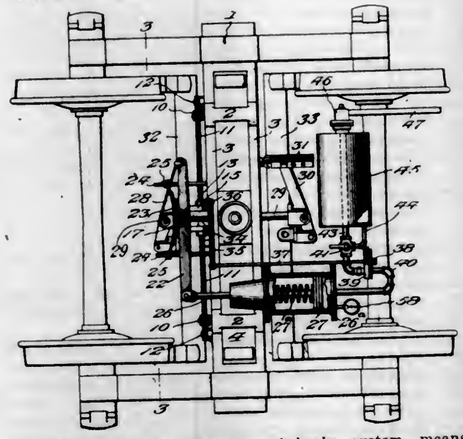


Claim.—1. A washing-machine provided with a rocker, operating-levers having elongated openings therein, a pressure-producing device supported on said levers and comprising one member fixed on the levers and a member movable in the levers, and connections between said movable member and the rocker.

2. A washing-machine provided with a rocker, vertical arms extending therefrom, operating-levers having elongated openings therein, a fixed bar connecting the levers, a movable bar in said openings in the levers and engaging said vertical arms, and an adjustable spring between said bars.

3. A washing-machine provided with a rocker, vertical arms extending therefrom, operating-levers having elongated openings therein, a fixed transverse bar, a movable bar in said openings and engaging said vertical arms, a vertical rod connected to the movable bar, a spring supported on said rod and engaging the fixed bar, and a nut adjustable on the rod for regulating the tension of said spring.

843,481. AUTOMATIC AIR-BRAKE MECHANISM. WILLIAM MCCOOK, Walton, N. Y. Filed Oct. 16, 1905. Serial No. 282,955.



Claim.—1. In an automatic air-brake system, means controlled by variations in the brake-cylinder pressure whereby the weight of the load on a car may be determined.

2. In an automatic air-brake mechanism, a truck carrying a movable car-supporting bolster, brake mechanism supported by the truck, a cut-off valve between the auxiliary reservoir and brake-cylinder of said mechanism, a bell-crank lever fulcrumed upon the truck, lever connections between said bolster and horizontal arm of the bell-crank lever to transmit the resistance of the weight of the load to the movement of said lever, a spring bearing on the vertical arm of the bell-crank lever and opposing an added resistance to the movement thereof, a cylinder-lever fulcrumed to the vertical arm of the bell-crank, and means for communicating motion to close the cut-off valve when the fulcrum pressure of the cylinder-lever in the bell-crank lever overcomes the resistances and causes the bell-crank lever to tilt.

3. In an automatic air-brake mechanism, a truck carrying a movable car-supporting bolster, brake mechanism supported by the truck, a cut-off valve between the auxiliary reservoir and brake-cylinder of said mechanism, a bell-crank lever fulcrumed upon the truck, lever connections between said bolster and horizontal arm of the bell-crank lever to transmit the resistance of the weight of the load to the movement of said lever, a spring bearing on the vertical arm of the bell-crank lever and opposing an added resistance to the movement thereof, means for adjusting the spring to vary the pressure thereof, a cylinder-lever fulcrumed to the vertical arm of the bell-crank, and means for communicating motion to close the cut-off valve when the fulcrum pressure of the cylinder-lever on the bell-crank lever overcomes the resistances and causes the bell-crank lever to tilt.

4. In an automatic air-brake mechanism, a truck carrying a movable car-supporting bolster, brake mechanism supported by the truck, lever connections between said bolster and horizontal arm of the bell-crank lever to transmit the resistance of the weight of the load to the movement of said lever, a spring bearing on the vertical arm of the bell-crank lever and opposing an added resistance to the movement thereof, a cylinder-lever fulcrumed to the vertical arm of the bell-crank lever, a cut-off valve between the auxiliary reservoir and brake-cylinder of the brake mechanism, and means for communicating motion to close the cut-off valve under a prescribed movement of the bell-crank lever when the fulcrum pressure of the cylinder-lever on said bell-crank lever overcomes the resistances and causes the bell-crank lever to tilt, the valve being adapted to move to a further extent under a greater range of movement of the bell-crank lever to permit excess pressure in the cylinder to escape.

5. In an automatic air-brake mechanism, a truck carrying a movable car-supporting bolster, brake mechanism supported by the truck, a cut-off valve between the auxiliary reservior and brake-cylinder of said mechanism, a bell-crank lever fulcrumed on the truck, load-sustaining levers supporting the bolster, transmitting-levers pivotally connected to the load-sustaining levers and horizontal arm of the bell-crank lever to transmit the resistance of the weight of the load to the movement of said lever, a spring bearing on the vertical arm of the bell-crank lever and opposing an added resistance to the movement thereof, a cylinder-lever fulcrumed to the bell-crank lever, and means for communicating motion to close the cut-off valve when the fulcrum pressure of the cylinder-lever on the bell-crank lever overcomes the resistances and causes the bell-crank lever to tilt.

6. In an automatic air-brake mechanism, a truck carrying a movable car-supporting bolster, brake mechanism supported by the truck, a pipe connection leading from the brake-cylinder and having branches leading to the triple valve and auxiliary reservoir, a test-valve controlling said branches, a cut-off valve between said test-valve and the brake-cylinder, a bell-crank lever fulcrumed upon the truck, lever connections between said bolster and horizontal arm of the bell-crank lever to transmit the resistance of the weight of the load to the movement of said lever, a spring bearing on the vertical arm of the bell-crank lever and opposing an added resistance to the movement thereof, a cylinder-lever fulcrumed to the vertical arm of the bell-crank lever, and means for communicating motion to close the cut-off valve when the fulcrum pressure of the cylinder-lever on the bell-crank lever over-

comes the resistances and causes the bell-crank lever to tilt.

7. In an automatic air-brake system, means controlled by said system whereby the respective weights of the portions of the load sustained by each truck may be determined.

8. In an automatic air-brake system, means whereby the weight of the load is carried by brake-cylinder pressure, and means for determining by variations in such pressure the weight of the load.

9. An air-brake mechanism constructed and arranged for individually supporting portions of the load sustained by the respective trucks of a car by associated brake-cylinder pressures, and means for determining by variations in such pressures the weights of such individual portions of the load.

10. In an automatic air-brake system, means whereby the weight of the load is carried by the brake-cylinder pressure and balanced when the brakes are applied, means for determining by variations in such pressure the weight of the load, and means for preventing variations in the pressure after the brakes have been applied and the proper balancing pressure established.

11. In an automatic air-brake system, load-balancing devices, brake mechanism operatively connected with said devices, whereby the weight of the load is balanced by brake-cylinder pressure when the brakes are fully applied, means for determining through the brake-cylinder pressure the weight of the load and faulty action of the load-balancing devices, and means for establishing a greater or less resistance to the movement of the load-balancing devices to set the same to accurately balance the weight of the load as indicated by said weight-determining means.

12. In an automatic air-brake system, load-balancing devices, brake mechanism operatively connected with said devices, whereby the weight of the load is balanced by brake-cylinder pressure when the brakes are fully applied, a valve device controlled by the balancing devices for cutting off the flow of air from the auxiliary reservoir to the brake-cylinder when the load is balanced, a second valve for connecting the brake-cylinder directly with the auxiliary reservoir or indirectly therewith through the triple valve, means for determining through the brake-cylinder pressure the weight of the load and the balancing capacity of the load-balancing devices, and means for establishing a greater or less resistance to the movement of the load-balancing devices to set the same to accurately balance the weight of the load as indicated by said weight-determining means.

13. An air-brake system provided with means for applying a load resistance to braking pressure, said resistance being normally ineffective against the action of the brake-gear and rendered effective and balanced by brake-cylinder pressure when the brakes are fully applied, and means for preventing an augmentation of braking pressure in the event of an overbalancing of such resistance by the brake-cylinder pressure, said means being adapted to relieve the brake-cylinder of any excess pressure.

14. An air-brake system provided with means for applying a load resistance to braking pressure, said resistance being normally ineffective against the action of the brake-gear and rendered effective and balanced by brake-cylinder pressure when the brakes are fully applied, and a pressure-controlling valve operated by such means for cutting off the flow of air to the brake-cylinder when the pressure in the latter is more than sufficient to balance the load, said valve being adapted to permit of the escape of excess pressure in the cylinder when a considerable augmentation beyond a balancing pressure occurs.

15. In an automatic air-brake system, an auxiliary reservoir, a brake-cylinder, a pressure-regulating valve between said reservoir and cylinder, said valve having a cut-off and an exhaust position, devices for instituting a resistance to the movement of said valve equivalent to the weight of the mass to be braked, and a brake-lever movable independently of said devices and adapted to act thereon to balance the resistance when in full applying position, said devices being actuated by the lever under different degrees of abnormal movement thereof when the pressure in the brake-cylinder exceeds the maximum to adjust the valve to its cut-off and exhaust positions.

16. In an air-brake mechanism, a brake-cylinder, an auxiliary reservoir, a test-valve for connecting the brake-cylinder directly with the reservoir or indirectly therewith through the triple valve, a pressure-regulating valve between the test-valve and brake-cylinder, devices connected with said valve and adapted to oppose a resistance to the movement thereof equivalent to the weight resistance of the mass to be braked, and a brake-lever adapted in its full-brake-applying position to impart power to said devices equivalent to said resistance to balance the same, and upon an abnormal movement thereof to move said devices to actuate the regulating-valve.

17. In an air-brake mechanism, load-balancing means including a lever normally held from movement thereby, a brake-lever fulcrumed upon said lever and normally movable independently thereof and adapted to transmit an opposing power equal to the resistance thereto when the brakes are fully applied to balance such resistance, brake mechanism actuated by the brake-lever, and a pressure-regulating valve controlled by the resistance-lever to cut off the supply of air to the brake-cylinder when the pressure therein balances the resistance, said valve having an abnormal range of movement to allow air to exhaust from the brake-cylinder when the pressure therein materially overbalances the resistance.

18. In an air-brake system, the combination of an auxiliary reservoir, a brake-cylinder, a pressure-regulating valve between the reservoir and cylinder comprising a casing having a feed-passage and a by-pass, a regulating-valve controlling said passage, and a check-valve controlling the by-pass and normally held closed by auxiliary-reservoir pressure, load-resistance devices, and a connection between said devices and the regulating-valve, and a brake-lever adapted to impart motion to said devices when the brake-cylinder pressure overbalances the resistance.

19. In an automatic air-brake system, the combination of a truck having a movable bolster, load-balancing devices associated with the bolster, a spring mounted upon a stationary part of the truck and adjustable to vary its resistance to the movement of said load-balancing devices, a brake-lever operatively connected with the load-balancing devices to actuate the same when the weight of the load is overbalanced by brake-cylinder pressure, and pressure-controlling means operated upon the actuation of said load-balancing devices to prevent further augmentation of pressure in the brake-cylinder.

20. In an automatic air-brake system, load-balancing devices, brake mechanism associated therewith and operative to balance the weight of the load when the brakes are fully applied, and a pressure-controlling valve connected with the load-balancing devices and operated thereby to cut off the supply of air to the brake-cylinder when the pressure therein balances the weight of the load, said valve being further operative by the load-balancing devices to allow excess pressure to exhaust from said cylinder when the load-balancing devices are moved to an abnormal extent thereby.

21. In an automatic air-brake system, the combination of load-balancing devices, fluid-pressure brake mechanism associated therewith, means actuated by the load-balancing devices when the braking pressure balances the load to maintain a balancing pressure and prevent an augmentation of pressure, and means for adjusting the load-balancing devices for varying the balancing pressure.

22. In an automatic air-brake system, the combination with fluid-pressure brake mechanism including a brake cylinder and piston and an auxiliary reservoir, of load-balancing devices, brake-applying mechanism including a brake-lever connected with the load-balancing devices and operated by the brake-piston, a regulating-valve controlling the supply of air from the auxiliary reservoir to the brake-cylinder and governed in action by the load-balancing devices, and a second valve for directly and indirectly connecting the auxiliary reservoir with the brake-cylinder.

23. In an automatic air-brake system, the combination with fluid-pressure brake mechanism including a brake cylinder and piston and an auxiliary reservoir, of load-balancing devices, brake-applying mechanism including a brake-lever connected with the load-balancing devices and actuated by the brake-piston, a regulating-valve actuated by the load-balancing devices and controlling the supply of air from the auxiliary reservoir to the brake-cylinder, a valve for directly and indirectly connecting the auxiliary reservoir with the brake-cylinder, and means for adjusting the load-balancing devices for setting the brake mechanism for operation at varying balancing pressures.

24. In an automatic air-brake mechanism, the combination of a truck having a movable bolster, a system of load-balancing levers mounted on the truck and normally held from movement by the weight of the load on the bolster, brake mechanism connected with said levers and adapted to balance the resistance to movement thereof when the brakes are fully applied, whereby the levers will be moved against the load resistance when the latter is overcome by the braking pressure, and means actuated by such movement of the levers to control the feed of air to prevent an augmentation of braking pressure.

25. In an automatic air-brake system, the combination of a truck having a movable bolster, a system of load-balancing levers mounted on the truck and normally held from movement by the weight of the load on the bolster, an adjustable spring on the bolster operative upon one of said levers to increase the resistance to the movement thereof, brake mechanism connected with said levers and adapted to balance the resistance to movement thereof when the brakes are fully applied, whereby the levers will be moved against the load resistance when the latter is overcome by the braking pressure, and means actuated by such movement of the levers to control the feed of air to prevent an augmentation of braking pressure.

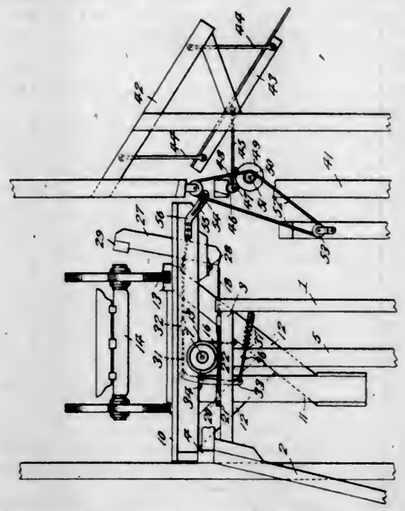
26. In an automatic air-brake mechanism, the combination of a truck having a movable bolster, load-supporting levers fulcrumed to the truck and carrying the bolster, a resistance-lever fulcrumed to the truck and connected to the supporting-levers, a resistance-spring adjustably mounted on the truck and acting on said resistance-lever, a brake-lever fulcrumed upon the resistance-lever, and a regulating-valve connected with the resistance-lever.

27. In combination with a car and its trucks, independent air-brake devices mounted upon each truck and each including a brake cylinder and piston, an auxiliary reservoir and a triple valve, and means sustained solely by the truck and associated with each set of brake devices for establishing a resistance to the action of the brake-piston equivalent to the weight of the car and load, each set of devices thus being supported *in toto* by its truck and independently governable through the action of its own triple valve, whereby, in the event of the brake mechanism on either truck becoming disabled, the other may operate to apply its braking pressure to control the car.

28. In combination with a car and its trucks, independent air-brake devices mounted upon each truck and each including a brake cylinder and piston, an auxiliary reservoir and a triple valve, means restrained solely by the truck and associated with each set of brake devices for establishing a resistance to the action of the brake-piston equivalent to the weight of the car and load, and coacting means for establishing an added resistance equivalent to the weight of the truck, each set of devices thus being supported *in toto* by its truck and independently governable through the action of its own triple valve, whereby, in the event of the brake mechanism on either truck becoming disabled, the other may operate to apply its braking pressure to control the car.

29. In an air-brake system, the combination of a truck having stationary and movable bolsters, load-sustaining levers fulcrumed to the stationary bolster and supporting the movable bolster, load-transmitting levers connected with said load-sustaining levers, a bell-crank resistance-lever having one of its arms connected with the load-transmitting levers, an adjustable spring mounted on the stationary bolster and bearing on the vertical arm of the resistance-lever, a brake-lever fulcrumed to the vertical arm of the resistance-lever, a pressure-regulating valve in the supply connection between the auxiliary reservoir and brake-cylinder, and connecting means for operating said valve when the resistance-lever is moved.

843,482. AUTOMATIC DUMPING APPARATUS. RALPH Z. MCCOY, Loveland, Colo. Filed Aug. 17, 1906. Serial No. 331,076.



Claim.—1. The combination with a supporting-frame, and a shaft mounted to rotate thereon; of a platform secured to and movable with the shaft, said shaft being disposed longitudinally on the platform and removed from the center thereof, and a counterbalance for holding the platform normally in a horizontal position.

2. The combination with a supporting-frame; of a shaft rotatably mounted thereon, a platform mounted off center upon the shaft and movable therewith, a counterbalance connected to the platform for holding the same normally horizontal, and means for locking the shaft against movement.

3. The combination with a supporting-frame; of a shaft rotatably mounted thereon, a platform mounted off center upon the shaft and movable therewith, a counterbalance connected to the platform for holding the same normally horizontal, brakes at the ends of the shaft, and means for simultaneously actuating the brakes.

4. The combination with a supporting-frame; of a shaft journaled thereon, a platform mounted off center upon, and movable with the shaft, a vehicle-holding device movably mounted upon the platform, and means operated by the tilting of the platform for swinging said device against a vehicle upon the platform.

5. The combination with a tiltable platform, and a vibratory screen-chute, of means operated by the tilting of the platform for vibrating said screen-chute.

6. The combination with a tiltable platform, and a support therefor; of a vehicle-holding device movably mounted on the platform, and resilient means operated by the tilting of the platform for moving said device against a vehicle upon the platform.

7. The combination with a tiltable platform, and a support therefor; of wheel-guides upon the platform, a vehicle-holding device movably connected to the platform, means operated by the tilting of the platform, for shifting the holding device against wheels within the guides, and a cushioning device carried by said means.

8. The combination with a tiltable platform and a support therefor; of a vehicle-engaging arm pivotally connected to the platform, a lever fulcrumed on the platform, a pivoted connection between the lever and arm, and a resilient retarding device connected to the lever and movably mounted upon the support.

9. The combination with a tiltable platform and a support therefor; of a vehicle-holding arm fulcrumed upon the platform, a lever fulcrumed on the platform adjacent the pivot thereof, a pivoted connection between the lever and

arm, a rod extending from the lever and movably engaging the support, and a cushion upon said rod.

10. The combination with a tiltable platform and a support therefor; of a vehicle-holding arm fulcrumed upon the platform, a lever fulcrumed upon said platform adjacent the pivot thereof, an adjustable pivoted connection between the arm and lever, a rod extending from the lever and movably engaging the support, and a cushioning-spring upon said rod and adapted to be compressed against the support when the platform is tilted.

11. The combination with a tiltable platform and a support therefor; of a suspended guiding device carried adjacent the platform, and means operated by the tilting of the platform for oscillating said device.

12. The combination with a tiltable platform, and a support therefor; of a guiding device suspended adjacent the platform, mechanism for oscillating said device, and means operated by the tilting of the platform for actuating said mechanism.

13. The combination with a tiltable platform, and a support therefor; of a suspended guiding device adjacent the platform, an eccentric for oscillating said device, a drum, means operated by the drum for rotating the eccentric, and a flexible connection between the drum and the platform for rotating said drum when the platform is tilted.

14. The combination with a tiltable platform, and a support therefor; of a vehicle-holding device movably connected to the platform, means operated by the tilting of the platform for swinging the holding device against the vehicle on the platform, and manually-operated means for controlling the tilting of the platform.

15. The combination with a support; of a platform mounted to tilt thereon, a counterbalance for holding the platform normally in a horizontal position, said counterbalance adapted to be overbalanced by a loaded vehicle upon the platform, and a manually-operated brake for controlling the tilting of the platform.

16. The combination with a support; of a shaft journaled thereon, a platform fixed to and movable with the shaft, a vehicle-holding arm fulcrumed upon the platform, a lever fulcrumed upon the platform, a pivotal connection between the holding-arm and the lever, a rod extending from the lever and movably engaging the support, a cushioning device upon the rod and adapted to bear against the support, and a brake upon the shaft for controlling the rotation thereof.

17. The combination with a support therefor; of a shaft journaled thereon, a platform fixed to and movable with the shaft, a vehicle-holding arm fulcrumed upon the platform, a lever fulcrumed upon the platform, a pivotal connection between the holding-arm and the lever, a rod extending from the lever and movably engaging the support, a cushioning device upon the rod and adapted to bear against the support, a brake upon the shaft for controlling the rotation thereof, a screen suspended adjacent the platform, and means operated by the tilting of the platform for oscillating the screen.

18. The combination with a supporting-frame, and a platform mounted to tilt thereon, of a vehicle-holding device movably mounted upon the platform, and a controlling connection between said holding device and the frame, whereby the holding device is automatically operated by the tilting of the platform.

19. The combination with a laterally-tiltable platform, and a support therefor; of a holding device movably mounted upon the descending side of the platform, and controlling connections between said holding device and the support, whereby the tilting movement of said platform will throw said holding device into engagement with the adjacent wheels of a vehicle supported upon the platform.

20. The combination with a laterally-tiltable platform, and a support therefor, of a guide upon the support, a holding device pivotally mounted upon the descending side of the platform, a lever mounted upon the platform and having one of its arms connected with the holding device, a rod connected with the other arm of the lever and movable through the guide, whereby in the tilting of the platform the lever will be operated to throw the holding device into action, and spring means associated with the rod for exerting a yielding resistance to the movement of said lever.

21. The combination with a laterally-tiltable platform, and a support therefor, of a pivotally-mounted vehicle-holding device upon the descending side of the platform, controlling connections between said holding device and support, whereby the tilting movement of the platform is caused to throw said support into action, and means for yieldingly opposing a cushioning resistance to the action of said connections.

22. In a dumping apparatus, the combination of an eccentrically-pivoted laterally-tilting platform, means for supporting a vehicle thereon so that the greater portion of the weight of the load will be on the longer or dumping side of the platform, and a counterweight acting on the shorter side of the platform and adapted to be overcome by the preponderance of the weight of the load to adapt the latter to automatically tilt the platform to dumping position, and serving upon the discharge of the load to restore the platform and vehicle to normal position.

23. In a dumping apparatus, the combination of a tilting platform adapted to tilt automatically under the weight of the load to be dumped, a counterweight for automatically restoring the platform to normal position after the discharge of the load, and braking means for controlling the tilting of the platform.

24. In a dumping apparatus, a laterally-tilting platform, means for counterbalancing the platform and automatically returning the same to normal position, means for supporting a vehicle upon the platform so that the weight of the load will cause the automatic tilting thereof to dumping position, means for controlling the tilting of the platform, vehicle-holding means, and means controlled by the tilting of the platform for automatically throwing said holding means into holding position.

25. In a dumping apparatus, the combination of a laterally-tilting platform, means for supporting a vehicle thereon so that the weight of the load therein will automatically tilt the platform, and a counterweight suspended from the ascending side of the platform, operating to normally maintain the platform in horizontal position and return the same to such position after the load is dumped.

26. In a dumping apparatus, the combination of a laterally-tilting platform, means for supporting a vehicle thereon so that the weight of the load therein will automatically tilt the platform, and a counterbalance suspended from the ascending side of the platform, said counterbalance being adapted to support the weight of the platform and empty vehicle and maintain the same in normal position, to be overbalanced by the weight of the load in the vehicle and to automatically return the vehicle and platform to normal position after the discharge of the load.

27. In a dumping apparatus, the combination of a laterally-tilting platform, and a support therefor, said platform being eccentrically pivoted upon said support, means for supporting a vehicle upon the platform so that the weight of the load therein will automatically tilt the platform, a counterbalance suspended from the short side of the platform and adapted to be overbalanced by the weight of the load and to return the platform and empty vehicle to normal position, and means for controlling the tilting of the platform.

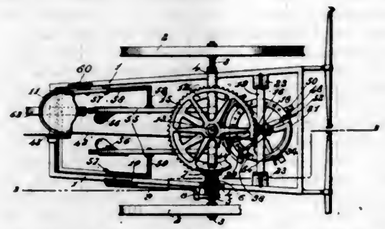
843,483. PRINTING-BLOCK. LAWRENCE MCGOVERN, Boston, Mass. Filed Nov. 27, 1903. Serial No. 182,873.



Claim.—1. A printing-block comprising a base, a plate, and an intermediate sheet of an adhesive substance.

2. A printing-block comprising a base, a plate, and an intermediate sheet of gelatin.

843,484. COTTON CHOPPING AND SCRAPING MACHINE. JAMES NELSON, Silver Creek, Miss. Filed Nov. 11, 1905. Serial No. 286,870.



Claim.—1. In a device of the class described, a frame, transporting-wheels therefor, a plurality of scraping members, means for automatically moving said members independently and successively into and out of action, and means for varying at will the time of movement of the individual members into action.

2. In a device of the class described, a frame, transporting-wheels therefor, a rotary shaft sustained in the frame, a plurality of pivoted scraper members adapted to swing from active to inactive position, means on the shaft for actuating the members, and means for automatically swinging said members independently and successively to active position and maintaining them in such position at determined intervals.

3. In a device of the class described, a frame, transporting-wheels therefor, a rotary shaft sustained in the frame, a plurality of pivoted scraper members, means on the shaft for actuating the members, a fixed track beneath which the members pass and by which they are maintained in active cutting position, said members being adapted to move to inactive position upon passing from beneath the track, and means for automatically turning the members to active position prior to their passage beneath the track.

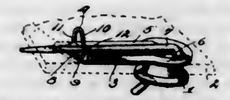
4. In a device of the class described, a frame, transporting-wheels therefor, a rotary shaft sustained in the frame, a plurality of pivoted scraper members adapted to swing from active to inactive position, means for actuating the members, a fixed track beneath which the members pass and by which they are maintained in active cutting position, and means for automatically elevating and turning the members prior to passage beneath the track.

5. In a device of the class described, a frame, transporting-wheels therefor, a rotary shaft sustained in the frame, a plurality of pivoted scraper members operatively connected with and for actuation by the shaft, said members being provided with projecting engaging arms and adapted to swing from active to inactive position, a track beneath which the arms ride for holding the members in active cutting position, and means for automatically turning the members to such position prior to their passage beneath the track.

6. In a device of the class described, a frame, transporting-wheels therefor, a rotary shaft sustained in the frame, a scraper-blade operatively connected with and for actuation by the shaft, said blade being attached to swing from active to inactive position and having a projecting bearing-arm, a fixed track beneath which the arm rides for maintaining the blade in active cutting position, and means for automatically turning the blade to active position prior to its entrance beneath the track.

7. In a device of the class described, a frame, transporting means therefor, a rotary shaft sustained in the frame, a plurality of scraping-blades operatively connected with and for actuation by the shaft, said blades being pivoted to swing from active to inactive position and each having a projecting bearing-arm, a track beneath which the blades successively pass and with which the arms contact for holding the blades in active cutting position, means for automatically turning the blades to such position prior to their passage beneath the tracks, and means for controlling the time of entrance of the blades beneath the tracks.

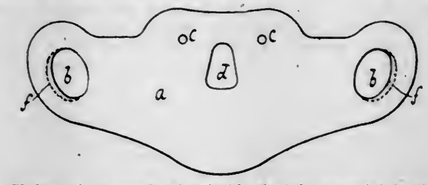
843,485. SHOE-LACE HOLDER. JOHN P. OLSEN, Minneapolis, Minn. Filed May 16, 1906. Serial No. 317,170.



Claim.—1. A shoe-lace holder comprising an eyelet having a lateral extension, a lace-engaging member pivoted to said extension and provided with teeth formed to project into the eyelet and engage the lacing-cord, and a pivoted member for connecting the engaging member with the extension, said pivoted member having a clamping portion adapted to coöperate with the adjacent portion of the holder for clamping the cord.

2. A shoe-lace holder comprising an eyelet having a lateral extension, a lace-engaging member pivoted to the extension and provided with a tooth formed to project into the eyelet and engage the lacing-cord, and a pivoted member for hingedly connecting the engaging member with the extension, said pivoted member being in the form of a bail bent to form an entrance-space for the cord and a clamping portion adapted to coöperate with the adjacent portion of the holder for clamping the cord.

843,486. MASK. ARTHUR OTTO, New York, N. Y. Filed Oct. 2, 1906. Serial No. 337,153.

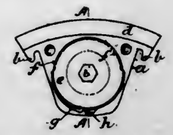


Claim.—1. A mask of suitable flexible material having eye and nose perforations, and ear-engaging loops integral with the main or face portion of the mask.

2. A one-piece mask comprising a face portion and ear-engaging portions, the edges of which have enlarging means.

3. A mask of suitable flexible material having eye and nose perforations and ear-engaging loops integral with the main or face portion of the mask and being further provided with a mouth-opening.

843,487. MACHINE FOR THREADING AND UNTHREADING LACE-MACHINE CARRIAGES. FREDERICK W. PARE, Nottingham, and JOHN C. RICHMOND, Chilwell, England. Filed Apr. 14, 1905. Serial No. 255,550.



Claim.—1. The combination of a box for holding the carriages, means for removing the carriages from the box, means for holding the carriages stationary while the empty bobbin is being removed, means for removing the bobbins, means for stopping the machine when a carriage is wrongly inserted in the carriage-box, or the bobbin is not removed from the carriage, means for inserting a full bobbin in the carriage, and a receiving-table for the carriages, substantially as set forth.

2. The combination of a box for holding the bobbin-carriages, a sliding plate for moving the carriages from the box, means for holding the carriage, a depressor and pin for removing the bobbin from the carriage, and stopping means comprising feelers for stopping the machine when

a carriage is wrongly placed in the carriage-box, or the bobbin is not removed from the carriage, substantially as set forth.

3. The combination of a box for holding the bobbin-carriages, or bobbins and carriages, a reciprocating slide-plate for moving the carriages one at a time from the box, pins for holding the carriages stationary after they are operated on by the slide-plate, a depressor and pin for removing the empty bobbins from the carriage, and means for automatically stopping the machine when a carriage is wrongly inserted in the carriage-box or the bobbin is not removed from the carriage, substantially as set forth.

4. In a bobbin removing and inserting machine, the combination with the driving-shaft, the source of power and a clutch mechanism for connecting the shaft with the source of power, of means for removing the empty bobbin from the carriage, a reciprocating slide-plate for feeding the carriages to the bobbin-removing means, a cam on the driving-shaft, a pin and feelers arranged to cause the said pin to engage said cam and automatically release the clutch mechanism to stop the machine when a bobbin is not removed, or the carriage is wrongly inserted in the machine, substantially as set forth.

5. In a machine for the purpose described the combination with the frame, of a box mounted thereon for holding the bobbin-carriages, means for intermittently feeding a carriage to the bobbin-removing mechanism, a bracket pivoted to the frame, conically-shaped pins arranged to slide in said bracket for holding the bobbin-carriages, a loose collar on said pins, springs for holding the pins in one position, a cam-operated lever for operating the pins against the action of the said springs, and cam-operated mechanism for removing the bobbins from the carriages while the latter are held by the said pins, substantially as set forth.

6. In a machine for the purpose described, the combination with the frame, of a box for holding the bobbin-carriages, means for feeding the carriages through the machine, means for removing the empty bobbins from the carriages, a bracket pivoted to the said frame, pins arranged to slide therein for holding the carriages while a full bobbin is being inserted, fixed and loose collars on the pins, springs for holding the pins in position, a presser for holding the bobbin in position while the carriage-spring is placed on its edge, and cam-operated means for operating the pins and presser, substantially as set forth.

7. In a machine for the purpose described, the combination with the frame, of a box for holding the carriages with the empty bobbins, and a separate box for holding the full bobbins, of a series of pins for holding the carriages stationary, means for feeding the carriages to the holding-pins, a reciprocating plate for feeding a bobbin to the carriage, means for inserting the bobbin in the carriage, a presser for holding the bobbins and carriage while the carriage-spring is placed in position, means for threading the carriage, and a roller for preventing the thread ends from getting entangled, substantially as set forth.

8. In a machine for the purpose described, the combination with the frame, of a box for holding the carriages and empty bobbins, and a separate box for holding the full bobbins, of a series of pins for holding the carriages stationary, means for feeding the carriages to the holding-pins, a reciprocating plate for feeding a bobbin to the carriage, means for placing the carriage-spring in position, a presser for holding the bobbin and carriage while the carriage-spring is placed in position, means for threading the carriage, a roller for preventing the thread ends from getting entangled, and means for continuously rotating the roller, substantially as set forth.

9. In a machine for the purpose described, the combination with the frame, of a box for holding the carriages and empty bobbins, and a separate box for holding the full bobbins, of a series of pins for holding the carriages stationary, means for feeding the carriages to the holding-pins, a reciprocating plate for feeding a bobbin to the carriage, means for inserting the bobbin therein and means for placing the carriage-spring in position a presser for holding the bobbin and carriage while the carriage-spring is placed in position, means for threading the carriage, a roller provided with card-clothing, bristles or the like, and means for rotating the roller, substantially as set forth.

10. In a machine for the purpose described the combination with the feed-table, of a slide-plate for intermittently moving the bobbin-carriages along the feed-table, means for inserting the full bobbins in the carriages, means for holding the carriages stationary while the inserting operation takes place, and a spring-arm connected with the slide-plate for removing a bobbin when it has not been placed properly in the carriage, substantially as set forth.

11. In a machine for the purpose described, the combination of a box for the bobbins, a reciprocating slide for delivering the bobbins to the carriage, a roller for engaging with the thread ends to prevent them from entangling with each other, a lever provided with a blade for clipping the thread, and a receiving-table for the carriages, substantially as set forth.

12. In a machine for the purpose described the combination of the carriage fixing and holding pins, the upper and lower parts of the inserting-frame, a bobbin-inserting pin, a slide carrying the pin, side plates for raising the pin and moving the slide horizontally, a brake-spring on the slide, a block and spring inside the slide pins carried by the block, the slide and side plates being provided with slots in which the pins carried by the block move, and cam-operating mechanism substantially as herein set forth.

13. In a machine for the purpose described, the combination with the driven shaft and the receiving-table provided with ratchet-teeth, of a worm-wheel and broken worm arranged to be driven by the shaft, an oscillating lever, a cam arranged to be rotated by the worm-wheel for operating the lever, a gear arranged to be moved by the oscillating lever, a pawl on the gear arranged to engage with the ratchet-teeth on the receiving-table, a lever for locking the receiving-table in position, and a nose secured to the cam arranged to engage with the locking-lever to release the receiving-table, substantially as set forth.

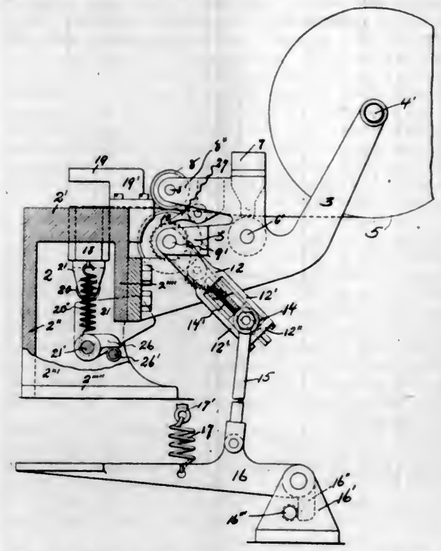
14. In a machine for the purpose described, the combination of a box for the bobbins, means for holding the bobbins consisting of a series of plates, shanks to which the plates are secured, and a guide-bar for the shanks, springs for holding the plates against the bobbins, a reciprocating slide for moving one of the bobbins out of the box for insertion in a carriage, and connections between the reciprocating slide and the plates for releasing the bobbin, substantially as set forth.

15. In a machine for the purpose described, the combination of a box for the bobbins, means for feeding the carriages, means for feeding the bobbins to the carriages, a pair of knife-blades, one of which is pivoted for cutting the thread ends, and a cam for operating the pivoted knife-blade, substantially as set forth.

16. The combination with the box for the carriages, and means for moving the carriages therefrom, pins for holding a carriage stationary while the inserting operation takes place, a slide for delivering a bobbin to the carriage for insertion therein, a pin and lever for inserting the bobbin in the carriage, a presser-foot for pressing the bobbin on the verge of the carriage, a pin for placing the carriage-spring on the bobbin, an arm for laying the thread in position, a threading-hook arranged to engage the thread, and a cam for operating the hook, a roller for keeping the threads from getting tangled, knives for cutting the thread, a receiving-table, and means for delivering the carriages to the receiving-table, substantially as set forth.

843,488. EYELET-STAY-JOINING MACHINE. WINFIELD H. PARKHURST, Swampscott, and ARTHUR O. NOYES, Wakefield, Mass., assignors of one-fourth to John C. Noyes, Wakefield, Mass., and one-fourth to Henry P. Connell, Lynn, Mass. Filed Jan. 13, 1906. Serial No. 295,884.

Claim.—1. A machine of the character described, comprising a fixed table laterally open and having a slot at the rear thereof, mechanism for feeding a reinforcing adhesive tape through the said slot, a sliding presser-block supported by and moving through the fixed table against the opening of said slot, a knife-edge on the rear margin of said presser-block in contact with the said slot-opening, a stationary presser-plate against which the pressure-block is adapted to move, an operating-lever, and mechanism between the lever and presser-block whereby on the depression of the lever the presser-block shall be moved against the stationary presser-plate.



2. A machine of the character described comprising a fixed table laterally open and having a slot at the rear thereof, a reel carrying a reinforcing adhesive tape, means for dampening the gummed face of said adhesive tape, mechanism for feeding the said tape intermittently through said slot, a sliding presser-block supported by and moving through the fixed table against the opening of said slot, a knife-edge on the rear margin of the presser-block in contact with said slot-opening, a stationary presser-plate against which the presser-block is adapted to move, an operating-lever and mechanism between the lever and presser-block whereby on the depression of the lever the presser-block shall be moved against the stationary presser-plate.

3. A machine of the character described, comprising a fixed table laterally open and having a slot at the rear thereof, rolls for feeding an adhesive tape through the said slot, a sliding presser-block supported by and moving through the fixed table against the opening of said slot, a knife-edge on the rear margin of the said presser-block in contact with said slot-opening, a stationary presser-plate against which the presser-block is adapted to move, and mechanism whereby the feed-rolls shall be turned to force a section of the adhesive tape forward onto the face of the presser-block, and whereby the presser-block may be raised against the stationary plate immediately after the said tape is fed forward.

4. A machine of the character described comprising a fixed table laterally open and having a slot at the rear thereof, rolls for feeding an adhesive tape through the said slot, a sliding presser-block supported by and moving through the fixed table against the opening of said slot, a knife-edge on the rear margin of said presser-block in contact with said slot-opening, a stationary presser-plate against which the presser-block is adapted to move, an operating-lever movable downwardly, a spring for returning the operating-lever, and connections between the operating-lever, the feed-rolls and the shaft whereby a downward stroke upon the operating-lever will move the said presser-block against the face of the stationary plate, and the return of said operating-lever will act to move the feed-rolls to force the said tape forward onto the face of the presser-block.

5. A machine of the character described, comprising a fixed table, a sliding presser-block moving therein, a stationary presser-plate against which the presser-block is adapted to move, a reciprocating cam mounted below the presser-block and its acting faces bearing at all times against the lower end of said presser-block, one of said acting faces of the said cam being tangential to a circle whose center is the axis of the cam and the other face being concentric therewith, whereby the presser-plate is lifted rapidly to a position with its upper face against the stationary plate and there held until the cam is reversely moved, and mechanism for reciprocating said cam.

6. A machine of the character described, comprising a fixed table, a sliding presser-block moving therein, and having a roller on its lower end, a stationary presser-plate against which the presser-block is adapted to move, a reciprocating cam mounted below the presser-block, its acting faces bearing at all times against the lower end of said presser-block, one of said acting faces of the said cam being tangential to a circle whose center is the axis of the cam, and the other face being concentric therewith, a shaft on which said cam is mounted, an arm on said shaft, a spring for returning the cam to its lowered position, intermittently-rotating tape-feed rolls, a reciprocating arm on the shaft of said feed-rolls, engaging with the arm on the cam-shaft, and mechanism for giving a reciprocating motion to said feed-roll arm.

7. A machine of the character described comprising a fixed table, a stationary presser-plate above said table and provided with a downwardly-projecting base at its rear margin attached to the said table having a tape-slot therethrough on a level with the table, a sliding presser-block forming part of and moving through the table and having a cutting edge on its rear margin in contact with the opening of said slot, a roll for carrying adhesive tape, means for moistening said tape as it leaves the roll, step-by-step mechanism for feeding the tape, a treadle beneath said table, and connections between the treadle and the presser-block for raising and lowering the block, and between the treadle and the step-by-step feed mechanism for operating it as the treadle is raised and the block has been lowered to the level of the slot.

8. A machine of the character described comprising a table, a sliding presser-block connected thereto, a presser-plate against which the block is adapted to be moved, a shaft located beneath said table, a cam on said shaft acting against the presser-block to raise it, an arm projecting from the cam-shaft, a shaft parallel to the cam-shaft and carrying an arm adapted to engage with and raise the arm of said cam-shaft, means for holding adhesive tape, a roll for feeding said tape on the table, a treadle connected to the last-referred-to arm for operating it, and mechanism for intermittently operating the said tape-feeding mechanism from the last-referred-to shaft.

9. A machine of the character described comprising a fixed table, a movable presser-block, a stationary presser-plate and mechanism for actuating the presser-block, a tape-roll, feed-rolls engaging with said tape to force it into position between the presser block and plate, a ratchet mounted on the shaft of one of said rolls, an arm carrying a pawl engaging with said ratchet and mounted on the said shaft to move it in one direction, longitudinal guides formed on said arm, a pivot-block movable between said guides, a longitudinal screw mounted on said arm between the said guides and engaging with the pivot-block, means whereby the screw may be turned to adjust the distances between the pivot-block and the arm-shaft, a treadle and a connection between the treadle and the said pivot-block.

10. A machine of the character described comprising a fixed table, a sliding presser-block, a presser-plate against which the presser-block is adapted to be moved, a shaft located beneath the said table, a cam on said shaft acting against the presser-block to raise it, an arm projecting from the cam-shaft, means for holding adhesive tape, a roll for feeding said tape into position between the presser block and plate, a shaft on which said feed-roll is mounted,

a treadle connected to the feed-roll shaft for giving it reciprocating rotary motion, and an arm on said feed-roll shaft engaging with the arm on the cam-shaft to raise the latter on a downward movement of the treadle.

11. A machine of the character described, comprising a table, a sliding presser-block, a presser-plate against which the block is adapted to be moved, a shaft located beneath said table, means on said shaft for acting against the presser-block to raise it, an arm projecting from said shaft, a second shaft parallel to the first shaft and carrying an arm projecting out therefrom, a catch-piece pivoted on the end of said arm adapted to be rigid with said arm and to engage with the arm on the first-named shaft when the first-named shaft is raised, and to be tripped by the first-named shaft-arm when the second-named arm is lowered, means for holding adhesive tape, a roll for feeding said tape onto the table, a treadle connected to the second-named shaft for operating it, and mechanism for intermittently operating said tape-feed roll from the said shaft.

12. A machine of the character described comprising a table, a sliding presser-block connected thereto, a presser-plate against which the block is adapted to be moved, a shaft located beneath said table, a cam on said shaft acting against the presser-block to raise it, an arm projecting from the cam-shaft, a spring for holding the cam in its lowered position, a second shaft parallel to the cam-shaft and carrying an arm, a catch-piece pivoted on the end of said arm and adapted to engage with the cam-shaft arm, a stop for holding the catch-piece rigid with said arm when the arm is being raised, means for holding adhesive tape, a roll for feeding said tape onto the table, a treadle connected to the last-referred-to arm for operating it, and mechanism for intermittently operating said tape-feed mechanism from the last-referred-to shaft.

13. A machine of the character described, comprising a fixed table, a sliding presser-block, a presser-plate against which the block is adapted to be moved, a shaft located beneath said table, a cam on said shaft adapted to act against the presser-block to raise it, a spring for drawing down said presser-block, a spring for holding said cam in its lowered position, an arm projecting from the cam-shaft, an actuating-shaft parallel with the cam-shaft and carrying an arm adapted to engage with and raise the arm on the said cam-shaft when moving in one direction, but to slip by the said cam-shaft when moving in the other direction, means for holding adhesive tape, a roll for feeding said tape onto the table mounted on said actuating-shaft but independently movable therefrom, mechanism carried by said shaft for engaging with the said roll when the shaft is rotated in one direction, but disengaged from said roll when the shaft is rotated in the other direction, a shaft-operating arm extending outward therefrom, a treadle, and an adjustable connection between the treadle and the said shaft-operating arm.

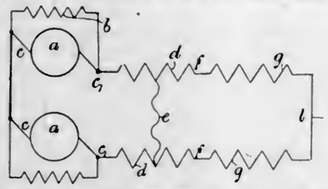
14. In a machine of the character described, a fixed table, a presser-block movable upward through said table and having a cutting edge on its rear margin, a presser-plate supported by the said block a free space being left between said presser-block and said table on three of its sides for the insertion of the strips to be reinforced, a base for supporting said presser-plate whose outer wall is in alinement with the inner edge of said presser-block, said base extending only along the rear edge of said table, said base being provided with a slot on a level with the upper face of the table for the passage of a strip of adhesive tape, mechanism for raising and lowering the presser-block, means for holding a strip of adhesive tape, and mechanism for feeding said tape onto the face of the presser-block when it is at its lowermost position and on a level with the upper face of said table, and means for moistening the said adhesive tape before it passes onto the said table.

15. A machine of the character described, comprising a fixed table, an upwardly-moving presser-block operating through said table, a stationary presser-plate supported on the said presser-block by a base the inside face of which coincides with the inner edge of said presser-block, said base having a slot therethrough for the passage of adhesive tape, a tape-roll, a moistening device adapted to moisten the tape before it enters the slot in the base of the presser-plate, mechanism for intermittently feeding said tape forward onto said presser-block, and mechanism for raising said block against the face of the presser-plate after the tape-feeding mechanism has acted to feed a section of tape forward.

16. A machine of the character described, comprising a fixed table, an upwardly-moving presser-block operating through said table, a stationary presser-plate supported above said presser-block by a base the inside face of which coincides with the inner edge of said presser-block, said base having a slot therethrough for the passage of adhesive tape, feed-rolls located rearward of said slot through which said tape passes, a tape-roll, a moistening device adapted to moisten the tape prior to its passage through the feed-rolls, mechanism for intermittently feeding said tape forward onto said presser-block, and mechanism for raising said block against the face of the presser-plate after the tape-feeding mechanism has acted to feed a section of tape forward.

17. A machine of the character described comprising a fixed table having downwardly-projecting standards, a movable presser-block reciprocating in said table, a stationary presser-plate supported on a base resting on the said table, said base being slotted for the passage of adhesive tape, rearwardly-projecting supports on said table, feed-rolls carried on said supports immediately behind the slotted base, a moistening device carried on said supports behind the feed-rolls, mechanism below the said supports for intermittently actuating the feed-rolls and raising the reciprocating presser-block, and a treadle for operating said mechanism.

843,489. PARALLEL RUNNING OF DYNAMO-MACHINES. CHARLES A. PARSONS and GEORGE G. STONEY, Newcastle-upon-Tyne, England; said Stoney assignor to said Parsons. Filed July 25, 1905. Serial No. 271,248.



Claim.—1. In combination, a plurality of continuous-current dynamo-machines having series coils compensating for armature reaction; and an equalizing-wire cross-connecting certain points within the compensating windings of the two machines, as and for the purpose described.

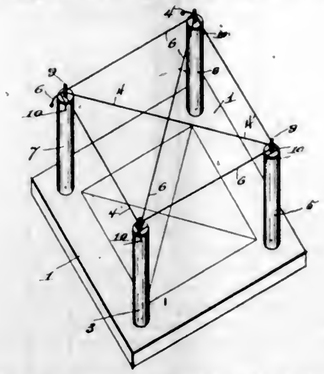
2. In combination; a plurality of continuous-current dynamo-machines having series coils compensating for armature reaction; compounding coils on said dynamo machines; and an equalizing-wire cross-connecting certain points within the compensating windings of the two machines as well as the compounding coils; as and for the purpose described.

3. In combination: a plurality of continuous-current dynamo-machines having series coils compensating for armature reaction and compounding the machine, said coils being divided into two parts one of which compensates for armature reaction, while the other gives the compounding, and an equalizing-wire cross-connecting certain points within the compensating windings of the two machines, as and for the purpose described.

4. In combination, a plurality of continuous-current dynamo-machines having series coils compensating for armature reaction and compounding the machine said coils being divided into two parts, one of which compensates for armature reaction, while the other gives the compounding, reverse compounding turns; and an equalizing-wire cross-connecting certain points within the compensating windings of the two machines, as and for the purpose described.

5. In combination; a plurality of continuous-current dynamo-machines having series coils compensating for armature reaction and compounding the machine, said coils being divided into two parts, one of which compensates for armature reaction, while the other gives the compounding, reverse compounding turns incorporated with said compensating coils, and an equalizing-wire cross-connecting certain points within the compensating windings of the two machines, as and for the purpose described.

843,490. PUZZLE. JOSEPH M. PUSEY, Wilmington, Del. Filed Aug. 24, 1906. Serial No. 331,907.



Claim.—1. A puzzle comprising a board, a pair of posts provided with separate cords, and a pair of posts without cords and adapted to be connected to the cord-posts by the cords without lapping the latter.

2. A puzzle comprising a board, a series of posts, independent cords fixed to certain of the posts and adapted to connect the other posts and the cord-posts together to form an inclosure without lapping the cords.

3. A puzzle comprising a board, a series of posts adjustable on the board in pairs, a separate cord attached to each post of one pair, said cords adapted to be crossed diagonally and to connect all of the posts together without lapping the cords, and means for anchoring the cords.

843,491. BELT. ANTON REŽNIČEK, Jersey City, N. J., assignor to Caspar Bloomberg, New York, N. Y. Filed Sept. 21, 1906. Serial No. 335,634.



Claim.—A belt comprising a sheath formed of an outer wider strip and an inner narrower strip sewed together at their side edges, the wider strip being folded over near both of its side edges to form the edges of the belt, and a filling-strip of canvas or similar material inclosed by said sheath.

843,492. METAL RAILWAY-TIE. ARTHUR O. RIDGWAY, Denver, Colo. Filed June 11, 1906. Serial No. 321,286.

Claim.—1. A metal tie composed of inverted arch-shaped end members, and a central member approximately rectangular in cross-section.

2. A metal tie composed of end members having the shape in cross-section of an inverted arch, and an intermediate or central member approximately rectangular in cross-section.

3. A metal tie having inverted-arch-shaped end members, and a central member approximately rectangular in cross-section, all of the members being provided with horizontal flanges on opposite sides, and tie-plates applied to the end members and secured thereto.

4. A metal tie, a portion of which has the shape of an inverted arch in cross-section while another portion is approximately rectangular in cross-section.



5. A metal tie having inverted-arch-shaped end members provided with horizontal flanges, and tie-plates applied to the end members and having their edges bent around the outer edges of the flanges of the ties, the central part of the tie being approximately rectangular in cross-section.

6. A hollow metal tie open at the top and having flanged edges, the tie having inverted-arch-shaped end portions, and a central portion approximately rectangular in cross-section; tie-plates applied to the opposite extremities of the tie, and angle-plates having one member located below the flange of the tie while another member passes up through openings formed in the flange of the tie and the tie-plate, its upper extremity being bent over the base of the rail, the upper surface of the lower member being inclined to the upwardly-projecting member, thus permitting a limited degree of rocking movement, and a bolt passing through the lower member of the angle-plate together with the flange of the tie and the tie-plate.

7. A metal tie having inverted-arch-shaped end portions, and a central portion approximately rectangular in cross-section, the said tie also having flanged edges, tie-plates applied to the opposite extremities of the tie, and angle-plates having one part located below the flange of the tie while another part passes up through openings formed in the flange of the tie and the tie-plate, its upper extremity being bent over the base of the rail.

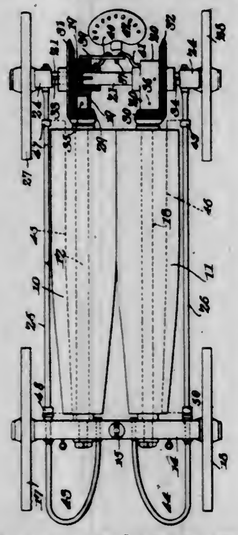
8. A hollow metal tie having arch-shaped end portions, and a central portion approximately rectangular in cross-section, the said tie being also open at the top and having flanged edges, tie-plates applied to the opposite extremities of the tie, and suitable means for connecting the rails to the tie.

9. The combination of a metal tie having inverted-arch-shaped end portions and a central portion approximately rectangular in cross-section, the said tie also having flanged edges, tie-plates applied to the opposite extremities of the tie, and angle-plates having one part located below the flange of the tie and another part passing above the tie-plate, its upper extremity engaging the rail.

10. The combination with a railroad-rail, of a flanged metal tie, having inverted-arch-shaped end portions, and a central portion approximately rectangular in cross-section of a fastening device consisting of an angle-plate having one part engaging the under surface of the flange of the

tie while another part passes up through the flange of the tie and engages the base of the rail, and suitable means for connecting the lower part of the angle-plate with the tie.

843,493. STALK-PULLER. COLUMBUS J. RICHARDSON, Caldwell, Tex. Filed Apr. 20, 1906. Serial No. 312,832.



Claim.—1. In an apparatus of the class described, a rear axle having the rear carrier-wheels and a rear bolster, a forward axle having the forward carrier-wheels and swinging from the forward bolster, a frame connecting said bolsters, rollers carried by said swinging bolster and said rear axle, means for communicating the motion of said rear axle to said rollers, and means for adjusting said rollers and the operating means of the same laterally at the rear ends.

2. In an apparatus of the class described, a supporting-frame including a rear axle, carrier-wheels and bolster, a forward axle, carrier-wheels and swinging bolster, and coupling means between said bolsters, in combination with opposing rollers mounted for rotation between said rear axle and swinging bolster, and means whereby the motion of said rear carrier-wheels is simultaneously communicated to said rollers.

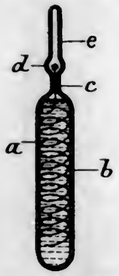
3. In an apparatus of the class described, a supporting-frame including a rear axle carrier-wheels and bolster, a forward axle, carrier-wheels and swinging bolster, and coupling means between said bolsters, in combination with rods spaced apart and connected between said swinging bolster and rear axle, rollers mounted for rotation on said rods, and means for communicating the motion of the rear wheels to said rollers.

4. In an apparatus of the class described, a supporting-frame including a rear axle and carrier-wheels, a forward axle and carrier-wheels and a swinging bolster, opposing rollers mounted for rotation between said swinging bolster and rear axle, and means for communicating the motion of said rear wheels to said rollers.

5. In an apparatus of the class described, a supporting-frame including a rear axle and carrier-wheels, a forward axle and carrier-wheels and a swinging bolster, rods spaced apart and extending between said bolster and rear axle, opposing rollers mounted for rotation upon said rods, and means for communicating the motion of said rear wheels to said rollers.

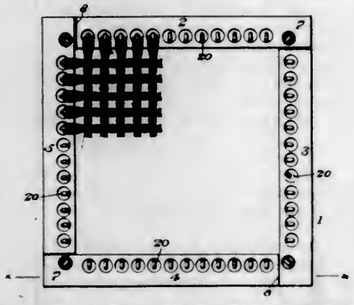
6. In an apparatus of the class described, a supporting-frame including the rear axle and carrier-wheels, a forward axle and carrier-wheels and a swinging bolster, opposing rollers mounted for rotation between said swinging bolster and rear axle, means for communicating the motion of the rear wheels to said rollers, and gather-rods connected at one end to said swinging bolster and extending in advance of the rollers.

843,494. CONTAINER FOR SURGICAL LIGATURES. HUGO ROSENBERG, Berlin, Germany. Filed June 8, 1906. Serial No. 320,853.



Claim.—A container for ligatures comprising a glass vessel closed at one end and provided near the opposite end with a reduced portion or neck, an enlarged knot-receiving portion formed integral with the vessel beyond said neck, and a closed tubular portion formed integral with said enlarged knot-receiving portion and extending beyond the same.

843,495. FRAME FOR FANCY WORK. CHARLES SANDER, Philadelphia, Pa., assignor to Palma Manufacturing Co., a Corporation of Pennsylvania. Filed Mar. 25, 1905. Serial No. 252,020.



Claim.—1. In a device of the character described, interchangeable frame-sections and thread-engaging prongs thereon projecting from between the edges of said frame-sections.

2. In a device of the character described, interchangeable frame-sections one end of each section of which is depressed, in combination with thread-engaging prongs formed upon the sections.

3. In a device of the character described, interchangeable frame-sections having depending flanges.

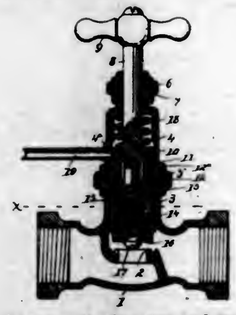
4. In a device of the character described, interchangeable frame-sections provided with prongs and apertures beneath said prongs.

5. In a device of the character described, interchangeable frame-sections, one end of each section of which is depressed, in combination with depending flanges thereon extending between the sections when in position.

6. In a device of the character described, interchangeable frame-sections, the upper surfaces of which are in the same plane when the sections are secured together and thread-engaging prongs on said sections.

7. In a device of the character described, interchangeable frame-sections and thread-engaging prongs projecting above the plane of the upper surface of said frame-sections.

843,496. COMPRESSION STOP AND WASTE. ANTON C. SCHUERMANN, Decatur, Ill., assignor to H. Mueller Manufacturing Company, Decatur, Ill., a Corporation of Illinois. Filed Mar. 15, 1906. Serial No. 306,311.



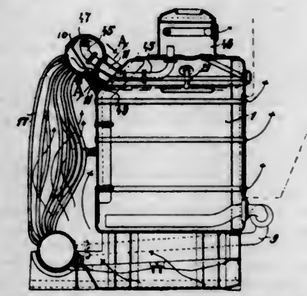
Claim.—1. In a compression stop and waste, the combination of a body having a through passage and a main-valve seat, a lateral extension of the body in line with the main-valve seat, a bonnet attached to the body extension and provided with a waste-outlet, an interiorly-screw-threaded valve-plunger slidable in the extension of the body and non-rotatable therein, a valve-disk in the plunger adapted to close against the main-valve seat, a valve-stem extending through the bonnet and having its inner end screw-threaded to engage the plunger, a valve-collar on the stem inside the bonnet, a valve-ring in the collar, a seat for the valve-ring below the waste-outlet, and a spring in the bonnet above the collar pressing downward on the collar, substantially as described.

2. In a compression stop and waste, the combination of a body having a through passage and a main-valve seat, a lateral extension of the body in line with the main-valve seat, a bonnet attached to the body extension and provided with a waste-outlet, an internal shoulder in the bonnet forming a stop for the opening movement of the waste-valve, an interiorly-screw-threaded valve-plunger slidable in the extension of the body and non-rotatable therein, a valve-disk in the plunger closable against the main-valve seat, a valve-stem extending through the bonnet and having its inner end screw-threaded to engage the plunger, a valve-collar on the stem inside the bonnet, a valve-ring in the collar, a seat for the valve-ring below the waste-outlet, and a spring in the bonnet above the collar pressing downward on the collar, substantially as described.

3. In a compression stop and waste, the combination of a body having a through passage and a main-valve seat, a lateral extension of the body in line with the main-valve seat, a bonnet attached to the body extension and provided with a waste-outlet, a flanged ring for the waste-valve seat the flange whereof is held between the bonnet and the body extension, an interiorly-screw-threaded valve-plunger slidable in the body extension and non-rotatable therein, a valve-disk in the plunger adapted to close against the main-valve seat, a valve-stem extending through the bonnet and having its inner end screw-threaded to engage the plunger, a valve-collar on the stem inside the bonnet, a valve-ring in the collar adapted to seat against a bearing on the flanged ring, said valve-ring being below the waste-outlet, and a spring in the bonnet above the collar pressing downward on the collar, substantially as described.

843,497. STEAM-GENERATOR. JOHANN SCHÜTTE, Bremerhaven, Germany. Filed Mar. 26, 1904. Serial No. 200,099.

Claim.—1. In a steam-boiler the combination of a fire-tube boiler having the top part of its rear wall inclined, a steam-chamber above the water-level of the fire-tube boiler, a roomy short tube forming an open connection between the fire-tube boiler and said steam-chamber, the lower open end of said roomy tube being connected to the inclined top part of the rear wall of the fire-tube boiler, a water-chamber, water-tubes connecting said water-chamber with the steam-chamber, and a fire-grate below the fire-tube boiler, as set forth.



2. In a steam-boiler the combination of a fire-tube boiler, a steam-chamber arranged above the water-level of the fire-tube boiler, a roomy short tube forming an open connection between the fire-tube boiler and said steam-chamber, a steam-tube passing through said roomy connecting-tube and adapted to lead steam from the steam-chamber into the steam-receiver of the fire-tube boiler, a water-chamber, water-tubes connecting said water-chamber with the steam-chamber, and a fire-grate below the fire-tube boiler, as set forth.

3. In a steam-boiler the combination of a fire-tube boiler having the top part of its rear wall inclined, a steam-chamber above the water-level of the fire-tube boiler, a roomy short tube having its lower open end connected to the inclined top part of the rear wall of the fire-tube boiler forming an open connection between the fire-tube boiler and said steam-chamber, a steam-tube passing through said connecting-tube and conveying steam from the steam-chamber into the steam-receiver of the fire-tube boiler, a water-chamber, and water-tubes connecting said water-chamber with the steam-chamber, and a fire-grate below the fire-tube boiler, as set forth.

4. In a steam-boiler the combination of a cylindrical fire-tube boiler having the top part of its rear wall inclined, a steam-chamber above the water-level of the fire-tube boiler, a roomy short tube forming an open connection between the fire-tube boiler and said steam-chamber, the lower open end of said roomy tube being connected to the inclined top part of the rear wall of the fire-tube boiler, a water-chamber, water-tubes connecting said water-chamber with the steam-chamber, and a fire-grate below the fire-tube boiler, as set forth.

5. In a steam-boiler the combination of a cylindrical fire-tube boiler, a steam-chamber arranged above the water-level of the fire-tube boiler, a roomy short tube forming an open connection between the fire-tube boiler and said steam-chamber, a steam-tube passing through the roomy connecting-tube to conduct steam from the steam-chamber into a steam-receiver of the fire-tube boiler, a water-chamber, water-tubes connecting said water-chamber with the steam-chamber, and a fire-grate below the fire-tube boiler, as set forth.

6. In a steam-boiler the combination of a cylindrical fire-tube boiler having the top part of its rear wall inclined, a steam-chamber above the water-level of the fire-tube boiler, a roomy short tube forming an open connection between the fire-tube boiler and said steam-chamber, the lower open end of said roomy tube being connected to the inclined top part of the rear wall of the fire-tube boiler, a steam-tube passing through the roomy connecting-tube and conducting steam from the steam-chamber into a steam-receiver of the fire-tube boiler, a water-chamber, water-tubes connecting said water-chamber with the steam-chamber, and a fire-grate below the fire-tube boiler, as set forth.

7. In a steam-boiler the combination of a fire-tube boiler, a steam-chamber above the water-level of the fire-tube boiler, a roomy short tube forming an open connection between the fire-tube boiler and said steam-chamber, a water-chamber, water-tubes connecting said water-chamber with

the steam-chamber, a fire-grate below the fire-tube boiler, two roomy water-tubes, connecting the fire-tube boiler with the water-chamber of the water-tube boiler, one of said roomy tubes opening into the front wall of the fire-tube boiler, while the other passes through the front wall of the fire-tube boiler and extends therein to near the back wall of fire-tube boiler, as set forth.

8. In a steam-boiler the combination of a fire-tube boiler having the top part of its rear wall inclined, a steam-chamber above the water-level of the fire-tube boiler, a roomy short tube forming an open connection between the fire-tube boiler and said steam-chamber, and having its lower end connected to the inclined top part of the rear wall of the fire-tube boiler, a water-chamber, water-tubes connecting said water-chamber with the steam-chamber, a fire-grate provided below the fire-tube boiler, two roomy water-tubes, connecting the fire-tube boiler with the water-chamber of the water-tube boiler, one of said roomy tubes being connected to the front wall of the fire-tube boiler, and the other passing through the front wall of the fire-tube boiler and extending therein to a point near the back wall thereof as set forth.

9. In a steam-boiler the combination of a fire-tube boiler, a steam-chamber above the water-level of the fire-tube boiler, a roomy short tube forming an open connection between the fire-tube boiler and said steam-chamber, a steam-tube passing through the roomy connecting-tube and adapted to lead steam from the steam-chamber into the steam-dome of the fire-tube boiler, a water-chamber, water-tubes connecting said chamber with the steam-chamber, a fire-grate below the fire-tube boiler, two roomy water-tubes connecting the fire-tube boiler with the water-chamber of the water-tube boiler, one of said water-tubes opening into the front of the fire-tube boiler, while the other passes through the front wall of the fire-tube boiler, and opens therein near the back wall thereof.

10. In a steam-boiler the combination of a fire-tube boiler having the top part of its rear wall inclined, a steam-chamber above the water-level of the fire-tube boiler, a roomy short tube forming an open connection between the fire-tube boiler and said steam-chamber, the lower open end of said roomy tube being connected to the inclined top part of the rear wall of the fire-tube boiler, a steam-pipe passing through the said connecting-tube and adapted to lead steam from the steam-chamber into the fire-tube boiler, a water-chamber, water-tubes connecting said chamber with the steam-chamber, a fire-grate provided below the fire-tube boiler, two roomy water-tubes, connecting the fire-tube boiler with the water-chamber of the water-tube boiler, one of said water-tubes being connected to the front wall of the fire-tube boiler, while the other passes through the front wall of the fire-tube boiler, and has its inlet near the back wall thereof.

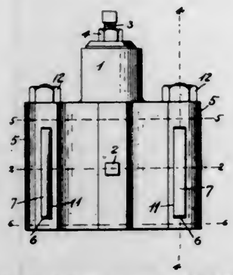
11. In a steam-boiler the combination of a cylindrical fire-tube boiler, a steam-chamber arranged above the water-level of the fire-tube boiler, a roomy short tube forming an open connection between the fire-tube boiler and said steam-chamber, a water-chamber, water-tubes provided to connect said water-chamber with the steam-chamber, a fire-grate below the fire-tube boiler, two water-tubes, connecting the fire-tube boiler with the water-chamber of the water-tube boiler, one of said tubes opening into the front of the fire-tube boiler, while the other passes through the front wall of the fire-tube boiler and opens therein near the back wall thereof.

12. In a steam-boiler the combination of a cylindrical fire-tube boiler having the top part of its rear wall inclined, a steam-chamber above the water-level of the fire-tube boiler, a short tube forming an open connection between the fire-tube boiler and said steam-chamber, the lower end of said tube being connected to the inclined part of the rear wall of the fire-tube boiler, a water-chamber, water-tubes connecting said water-chamber with the steam-chamber, a fire-grate below the fire-tube boiler, two water-tubes connected to the water-chamber of the water-tube boiler, one of said tubes being also connected to the front wall of the fire-tube boiler, while the other tube passes through the front wall of the fire-tube boiler, and has its inlet near the back wall thereof as set forth.

13. In a steam-boiler the combination of a cylindrical fire-tube boiler, a steam-chamber above the water-level of the fire-tube boiler, a roomy short tube forming an open connection between the fire-tube boiler and said steam-chamber, a steam-tube passing through the roomy connecting-tube and conducting steam from the steam-chamber into a steam-receiver of the fire-tube boiler, a water-chamber, water-tubes connecting said water-chamber with the steam-chamber, a fire-grate below the fire-tube boiler, two roomy water-tubes, connecting the fire-tube boiler with the water-chamber of the water-tube boiler, one of said roomy tubes being connected to the front wall of the fire-tube boiler, while the other passes through the front wall of the fire-tube boiler and opens thereinto near the back wall thereof as set forth.

14. In a steam-boiler the combination of a cylindrical fire-tube boiler having the top part of its rear wall inclined, a steam-chamber above the water-level of the fire-tube boiler, a roomy short tube forming an open connection between the fire-tube boiler and said steam-chamber, the lower end of said tube being connected to the inclined top part of the rear wall of the fire-tube boiler, a steam-tube passing through the roomy connecting-tube and conducting steam from the steam-chamber into the fire-tube boiler, a water-chamber, water-tubes connecting said water-chamber with the steam-chamber, a fire-grate below the fire-tube boiler, two water-tubes, connecting the fire-tube boiler with the water-chamber of the water-tube boiler, one of said water-tubes being connected to the front wall of the fire-tube boiler, while the other passes through said front wall and has its inlet end near the back wall of the fire-tube boiler, as set forth.

843,498. CUTTER-HEAD. ELMER S. SHIMER, Milton, Pa., assignor to Samuel J. Shimer and Sons, Incorporated, Milton, Pa. Filed Sept. 11, 1906. Serial No. 334,097.

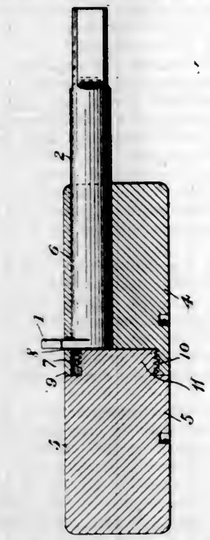


Claim.—1. A radial-arm cutter-head having wings provided with mortises and vertical bores intersecting the mortises and of a diameter exceeding the width of the mortises, movable members seated in the bores above and below the mortises and having slots registering with the mortises, cutters extending through the slots and mortises, and nuts threaded upon the upper ends of the movable members and bearing upon the cutter-head.

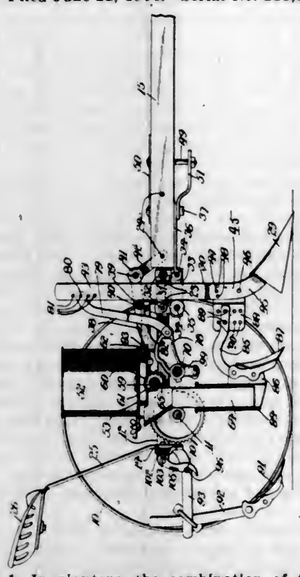
2. A radial-arm cutter-head having wings provided with mortises disposed relatively near the lower end of the cutter-head, the material of the latter being of greater thickness above than below the mortises, said wings being also provided with vertical bores intersecting the mortises, movable members seated in the bores above and below the mortises and having slots registering with the mortises, cutters extending through the slots and mortises, and nuts threaded upon the upper ends of the movable members and bearing against the relatively thick or reinforced portion of the cutter-head above the mortises.

843,499. FLUE-CUTTER. FRANK E. SHIMER, Elkhart, Ind. Filed Sept. 14, 1906. Serial No. 334,643.

Claim.—A device of the character described, comprising a cylindric casing formed of two separable members screw-threaded together, one member having a longitudinal passage arranged eccentrically to its axis and having a recess in that end joining the opposed member and a slot extending laterally through it and communicating with said recess, and a mandrel arranged within said passage and having an integral cutter extending at right angles therefrom, with parallel inner edges terminating in tapering outer cutting edges, said cutter adapted to practically describe an arc beyond the casing member, through which it passes, when performing the cutting operation.



843,500. PLANTER. WILLIAM SOBEY, Racine, Wis., assignor to J. I. Case Plow Works, Racine, Wis., a Corporation. Filed June 22, 1904. Serial No. 213,608.



Claim.—1. In planters, the combination of the wheel-axle, frame and draft-tongue, said frame comprising inner and outer side bars spaced apart at their rear ends, and having forward converging ends secured to said tongue and bearing-boxes for said wheel-axle extending between and secured to the separated rear ends of said inner and outer side bars.

2. In planters, the combination of the wheel-axle, frame and draft-tongue, said frame comprising inner and outer side bars spaced apart at their rear ends, and having forward converging ends secured to said tongue, bearing-boxes for said wheel-axle, and shouldered lugs on opposite ends of said bearing-boxes engaging and secured respectively to rear separated ends of said inner and outer side bars.

3. In planters, the combination of the wheel-axle, frame and draft-tongue, said frame comprising an inner loop having parallel side bars converging at their front ends and terminating in forwardly-extending parallel portions overlapping the sides of said tongue, bearing-boxes for said axle secured at their inner ends to the rear ends of said side bars, outer bracing side bars secured at their rear ends to the outer ends of said bearing-boxes, said outer side bars converging at their forward ends and terminating in forwardly-extending parallel portions overlapping the forward ends of said inner side bars, and bolts extending through the forward ends of said inner and outer side bars and said tongue.

4. In planters, the combination of the wheel-axle, frame and tongue, said frame comprising inner and outer side bars spaced apart at their rear ends having parallel portions at the front part of the frame and converging forward ends secured to said tongue, pivot-bolts extending through the parallel portions of said inner and outer side bars, rearwardly-extending drag-bars having their forward ends extending between the parallel portions of said inner and outer side bars and pivoted on said bolts, bearing-boxes for said wheel-axle secured to the rear ends of said inner and outer side bars, seats on said boxes for said drag-bars and covering devices carried by said bars.

5. In planters, the combination with a frame and seed mechanism thereon, of a vertical standard in front of said seed mechanism, a guide-pocket on said frame through which said standard shifts, said standard having its lower end portion reduced in width, a foot comprising side pieces embracing and adjustably connected to the lower reduced end of said standard, the outer sides of said standard and foot being on the same vertical planes, and a furrow-forming device connected to said foot.

6. In planters, the combination with a frame, seedbox and delivery-chute, of a vertically-shiftable section and furrow-opener at the lower end of said chute, a plow-and standard in front of said chute, means for vertically shifting said plow and standard and adjustable means connecting said standard with said lower chute-section and furrow-opener for common shift, said means comprising a pair of plates secured to opposite sides of said standard, a bar connected to said chute-section and furrow-opener and extending between said plates and adjustable bolt connections between said bar and plates.

7. In planters, the combination with the frame and seed mechanism thereon, of a furrow-forming device, an upright standard therefor vertically shiftable in front of said seed mechanism, a guide on the frame for said standard, braces connected at the rear end of said frame and extending upwardly and forwardly therefrom to embrace said standard above said guide and a roller held between the front end of said braces and engaging the forward edge of said standard, substantially as described.

8. In planters, the combination with the frame and seed mechanism thereon, said frame having side bars arranged adjacent each other at their forward ends, of a furrow-forming device in front of said seed mechanism, an upright standard therefor vertically shiftable between the forward adjacent ends of said side bars, a guide-roller on the frame engaging the rear face of said standard, a pair of brace-bars secured to said side bars at their rear ends and extending upwardly and forwardly on opposite sides of said standard and a roller above said first-mentioned roller journaled between the forward ends of said brace-bars and engaging the front end of said standard, substantially as described.

9. In planters, the combination with the frame and seed

mechanism thereon, of a furrow-forming device and standard therefor vertically shiftable in front of said seed mechanism, lugs on the forward ends of the side bars of said frame connecting straps between said lugs forming a pocket to receive said standard, and a roller supported between said straps and engaging the rear face of said standard.

10. In planters, the combination with the frame and seed mechanism thereon, of a furrow-forming device and a vertical standard therefor shiftable in front of said seed mechanism, guides for said standard arranged out of line, one above the other and engaging the front and rear faces respectively of the standard and tension-straps extending rearwardly from the upper front guide to the frame and forwardly from the lower rear guide to the frame for taking the thrust on said guides, substantially as described.

11. In planters, the combination with the frame and seed mechanism thereon, of a furrow-forming device and a vertical standard therefor shiftable in front of said seed mechanism, guide-rollers arranged out of line one above the other and engaging the front and rear faces respectively of said standard and tension-braces for taking the thrust on said rollers extending rearwardly from the upper front roller to the frame and forwardly from the lower-rear roller to the frame.

12. In planters, the combination with the frame and seed mechanism, of a cross rock-shaft, a pair of drag-bars pivoted to said frame and extending over said shaft and cams on said shaft arranged to engage and elevate said drag-bars.

13. In planters, the combination with the frame and seed mechanism thereon, of a cross rock-shaft on the frame, an operating shift-lever therefor, drag-bars pivoted to said frame and extending rearwardly over said shaft, covering devices carried by said drag-bars and cams adjustably mounted on said rock-shaft for engaging and elevating said drag-bars.

14. In planters, the combination with the frame and seed mechanism thereon, of rearwardly-extending drag-bars connected to the frame, covering devices carried by said drag-bars, a rock-shaft on the frame, cams on said shaft engaging and shifting said drag-bars, said cams being rotable adjustably on said shaft, arms fixed on said shaft adjacent said cams and adjustable bolt-and-slot connections between said arms and cams.

15. In planters, the combination with the frame and seed mechanism thereon, of drag-bars pivoted to said frame, covering means carried by said bars, shift mechanism for raising said drag-bars, stop devices on the frame for holding said drag-bars in working position and means operated by said shift mechanism for releasing said stop devices, substantially as described.

16. In planters, the combination with the frame and seed mechanism thereon, of covering devices connected to said frame, a shifter rock-shaft having means for raising said covering devices, a lock for holding the same in working position, and a connection between said rock-shaft and lock whereby the latter is released when said rock-shaft is shifted to lift said covering devices.

17. In planters, the combination with the frame and seed mechanism thereon, of rearwardly-extending drag-bars pivoted to said frame, covering devices carried by said bars, a cross rock-shaft extending beneath said bars, cams on said shaft for lifting said bars, a lock on the frame for holding said bars in working position and means operated by said rock-shaft for releasing said lock.

18. In planters, the combination with the frame and seed mechanism thereon, of covering devices connected to the frame, a lock arranged to automatically engage and hold said covering devices in working position and a latch for holding said lock out of operation.

19. In planters, the combination with the frame and seed mechanism thereon, of drag-bars connected to the frame, covering means carried by said bars, a spring-held stop device for automatically holding said bars in working position and means for holding said stop device out of operation.

20. In planters, the combination with the frame and seed mechanism thereon, of drag-bars pivoted to the frame, covering devices carried thereby, a cross-bar connecting said drag-bars, a spring-actuated lock pivoted on the frame arranged to automatically engage said cross-bar and hold said drag-bars in working position and a pivoted latch for holding said lock out of operation.

21. In planters, the combination with a frame and seeding mechanism thereon, of drag-bars hung on the frame, covering devices carried thereby, stop device arranged to automatically engage and hold said bars in working position and means for releasing said stop device.

22. In planters, the combination with the frame and seeding mechanism thereon, of drag-bars hung on the frame, covering devices carried thereby, a spring-held stop device arranged to automatically engage and hold said bars in working position, means for releasing said stop device and means for holding the same out of operation.

23. In planters, the combination with the frame and seeding mechanism thereon, of drag-bars hung on the frame, ground-tools carried thereby, means arranged to automatically engage and hold said bars in working position, a shifter arranged to raise said bars from working position, means actuated by said shifter for releasing said locking means and means for holding said locking means out of operation.

24. In planters, the combination with the frame and seed mechanism thereon, of drag-bars pivoted on the frame, covering devices carried thereby, a spring-held lock arranged to automatically engage and hold said bars in working position, a shifter for lifting said bars from working position, connections between said shifter and lock for releasing the latter and a latch for holding said lock out of operation.

25. In planters, the combination with the frame and drive-axle, of a seedbox mounted on said frame, a rotatable seed-plate and an actuating beveled gear in the bottom of said seedbox, a spur-gear on said wheel-shaft, a counter-shaft and a combined pinion having beveled and spur portions formed integral with each other mounted on said counter-shaft and meshing with said spur-gear on the wheel-shaft and with the bevel-gear in the seedbox-bottom.

26. In planters, the combination with the frame and seed mechanism thereon, of a plow mounted on said frame in front of said seed mechanism, rearwardly-extending drag-bars carried on the frame independently of said plow, covering devices carried by said bars, a shifter rock-shaft journaled on the frame below said drag-bars, an operating hand-lever for said rock-shaft, connections between said rock-shaft and said plow for raising the latter and cam arm on said rock-shaft for engaging and raising said drag-bars, substantially as described.

27. In planters, the combination with the frame, seed-box and delivery-chute thereon, of a furrow-forming device mounted on said frame in front of said chute, rearwardly-extending drag-bars pivoted to said frame, covering devices carried by said bars, a rock-shaft on the frame, a crank on the rock-shaft, a link connecting said crank and furrow-forming device for shifting the latter, and cams on said shaft for raising said drag-bars.

28. In planters, the combination with the frame, drive-axle and seed mechanism, of gearing between said drive-axle and seed mechanism, a shiftable furrow-forming device and rearwardly-extending drag-bars independently mounted on said frame, covering devices carried by said drag-bars, a rock-shaft on the frame below said drag-bars, an operating hand-lever therefor, means on said rock-shaft for raising said furrow-forming device and for disconnecting said gearing and cam-arms on said rock-shaft for engaging and raising said drag-bars, substantially as described.

29. In planters, the combination with the frame and drive-axle, of a seedbox mounted on said frame, seed mechanism in the box-bottom, gearing between said drive-axle and said seed mechanism, said seedbox being shiftable to disconnect said gearing, a vertically-shiftable furrow-forming device in front of said seed mechanism, rearwardly-extending drag-bars pivoted to the frame, covering devices carried by said bars, a rock-shaft journaled on the frame below said drag-bars and seedbox connected to raise and lower said furrow-forming device and arms on said rock-shaft for engaging and raising said seedbox, and said drag-bars, substantially as described.

30. In planters, the combination with the frame and drive-axle, of a seedbox mounted on said frame, seed mechanism in the box-bottom gearing between said drive-axle and said seed mechanism, said seedbox being shiftable to disconnect said gearing, a vertically-shiftable furrow-forming device in front of said seed mechanism, rearwardly-extending drag-bars pivoted to the frame, covering devices carried by said bars, a cross rock-shaft, cams on said shaft for raising said drag-bars and seedbox and a crank-and-link connection between said shaft and said furrow-forming device for raising the latter.

31. In planters, the combination with the frame and drive-axle, of a seedbox mounted on said frame, seed mechanism in the box-bottom, gearing between said drive-axle and said seed mechanism, said seedbox being shiftable to disconnect said gearing, a furrow-forming device shiftably mounted on the frame in front of said seed mechanism, a cross rock-shaft, an arm on said shaft, connection between said arm and furrow-forming device for raising the latter and a cam on said arm for raising said seed-can.

32. In planters, the combination with the frame, drive-axle and seed mechanism, of gearing between said drive-axle and seed mechanism, a furrow-forming device shiftably mounted on the frame in front of said seed mechanism, a cross rock-shaft, an arm on said shaft, connections between said arm and furrow-forming device for raising the latter and means on said arm for disconnecting said gearing.

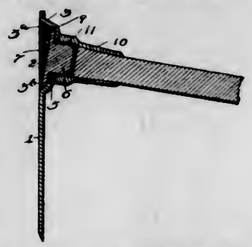
33. In planters, the combination with the frame and seed mechanism thereon, of a furrow-forming device vertically shiftable in front of said seed mechanism, rearwardly extending drag-bars pivoted to the frame, covering devices carried thereby, a shifter rock-shaft below said drag-bars, means on said rock-shaft for engaging and raising said drag-bars and independent adjustable connections between said shaft and furrow-forming device for raising the latter.

34. In planters, the combination with the frame and drive-axle, seed mechanism on said frame, gearing between said axle and said seed mechanism, said seed mechanism being vertically movable into and out of gear, a shiftable furrow-forming device in front of said seed mechanism, rearwardly-extending drag-bars pivoted to said frame and covering devices, a rock-shaft journaled on the frame below said drag-bars and seed mechanism, arms on said shaft for engaging and raising said drag-bars and said seed mechanism and an adjustable connection between said shaft and said furrow-forming device for raising the latter, substantially as described.

35. In planters, the combination with the frame and drive-axle, of seed mechanism on said frame, gearing between said axle and seed mechanism, said seed mechanism being shiftable to connect and disconnect said gearing, a shiftable furrow-forming device in front of said seed mechanism, rearwardly-extending drag-bars pivoted to the frame, covering devices carried by said drag-bars, a shifter rock-shaft on the frame beneath said drag-bars and seed mechanism, cams on said shaft for raising said drag-bars, an arm fixed to said shaft, a cam on said arm for lifting said seed mechanism out of gear and an adjustable link connection between said arm and furrow-forming device.

36. In planters, the combination of the wheel and wheel-axle frame and draft-tongue, said frame comprising side bars connected at their forward ends to said tongue, bearing-boxes for said wheel-axle secured to said side bars, rearwardly-extending drag-bars pivoted at their forward ends to said side bars and extending over said bearing-boxes, covering devices carried by said drag-bars and lugs on said bearing-boxes for limiting the lateral movement of said drag-bars.

843,501. HOE. WILLIAM A. SPARKS, Parkersburg, W. Va. Filed Nov. 28, 1906. Serial No. 345,457.



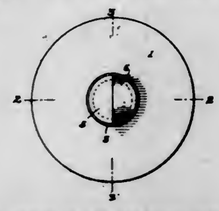
Claim.—1. A hoe comprising a handle, a blade having a socket therein and means arranged in said socket to clamp the blade to the handle whereby said blade is set at an angle to the handle while the socket and said means for clamping the blade to the handle are in line with said handle.

2. A hoe comprising a handle having a socket-piece secured thereto, a blade having a depression therein, an aperture arranged in the rear face of the said depression, a shank-piece having an integral shank and an extending flange, said shank adapted to extend through said aperture and clamp the blade to the socket-piece.

3. A hoe comprising a handle having a socket-piece secured thereto, a blade having a depression therein, an aperture arranged in the rear face of the said depression, said rear face being arranged at an angle with the blade, and a shank-piece having an integral shank and a perpendicularly-extending flange, said shank extended through the aperture, whereby the blade is clamped to the socket-piece.

4. A hoe comprising a handle, a socket-piece secured to said handle, a blade having a depression therein, said depression having a wall extending rearwardly and tapering inward, an aperture arranged in the rear face of the said depression, said rear face being inclined to the blade, a socket-piece having an integral shank and a perpendicularly-extending flange, said flange adapted to engage the walls of the depression, and said shank adapted to extend through the aperture and clamp the blade to the socket-piece.

843,502. EYEPIECE FOR OPTICAL INSTRUMENTS. WILLIAM THOMSON and ARCHIBALD G. THOMSON, Philadelphia, Pa., assignors to Fox Optical Manufacturing Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Mar. 6, 1906. Serial No. 304,519.



Claim.—1. A device of the character described, comprising a plurality of pieces of glass arranged near enough together to be simultaneously within the field of vision of an eye, one of which pieces of glass is colored, and the other of which is a section or portion of a segment of a cylinder or rod of white glass.

2. An eye piece for optical instruments, comprising a plurality of pieces of glass, one of which pieces of glass has its opposite surfaces arranged in parallel relation to each other, and the other one of which is plane upon one side and the other side of which is curved in one direction only, the said pieces of glass being arranged out of alinement so as to permit light to enter the eye through either

of the said pieces of glass without passing through the other of said pieces.

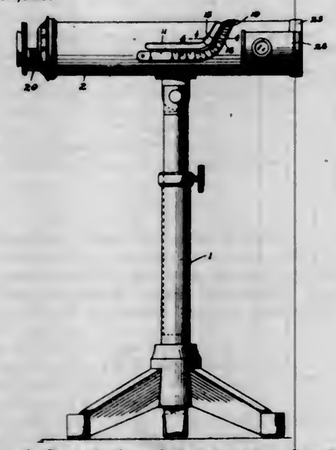
3. A device of the character described, comprising a plurality of pieces of glass arranged side by side and in contact with each other, one of which is colored, and the opposite surfaces of which are plane, and the other one of which is a section or portion of a segment of a cylinder or rod of white glass.

4. A device of the character described, comprising a plurality of semi-circular pieces of glass having straight edges which are arranged in contact, one of the said pieces of glass being colored and having its opposite surfaces parallel, and the other of said pieces of glass being a section or portion of a segment of a cylinder of white glass.

5. In an eye piece for optical instruments, in combination, a plate having a central opening therein, and a plurality of semi-circular pieces of glass secured to the said plate in line with the said opening, one of the said glasses being colored and having its opposite surfaces parallel, and the other of said glasses being plano-convex in one direction, each of the said pieces of glass having a straight edge, which edges are arranged in parallel relation to each other.

6. In a device of the character described, the combination of a cylinder of glass and means associated therewith for permitting light to enter the eye without passing through the cylinder, whereby the presence of defects of refraction of an eye may be ascertained.

843,503. OPTOMETER. WILLIAM THOMSON and ARCHIBALD G. THOMSON, Philadelphia, Pa., assignors to Fox Optical Manufacturing Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Mar. 6, 1906. Serial No. 304,520.



Claim.—1. In a device of the character described, the combination of a tube carrying an eye lens, a movable tube located within the first mentioned tube, an object lens located in the said movable tube, a crooked slot provided in the first mentioned tube, a scale located upon the said first mentioned tube adjacent to the said slot, and an indicator or pointer connected to the said movable tube, the said indicator or pointer being movable to different position, within the said slot, and co-operating with the said scale to indicate the position of the movable tube.

2. In a device of the character described, a lens carrying tube provided with a slot, one portion of which extends longitudinally of the said tube, and another portion of which extends transversely thereof, a scale located upon the said tube, a movable lens located within the said tube, and an indicator or pointer connected to the said lens and being located within the said slot and adapted to be moved to different positions therein.

3. In a device of the character described, a lens carrying tube provided with a slot having portions which are angularly related with respect to each other, a scale located adjacent to the said slot and in parallel relation thereto, a movable lens within the said tube, and an indicator connected to the said lens, the said indicator being movable to different positions within the said slot and co-operating with the said scale to indicate at any moment the position of the said lens.

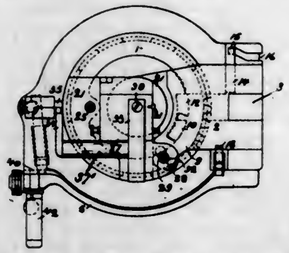
4. In a device of the character described, a tube, a crooked slot provided in the said tube, a scale upon the said tube adjacent to the said slot, a movable lens located in the said tube, an indicator connected to the said lens and located in the said slot and adapted to be moved to different positions therein, the said indicator being provided with opposite flat or plain surfaces which are adapted to contact with the opposite edges of the said slot, whereby when the said indicator is moved from one portion of the said slot to another, rotation about its axis may be occasioned.

5. In a device of the character described, a lens carrying tube provided with a slot, one portion of which extends longitudinally of the said tube, and another portion of which extends transversely of the said tube, and a scale located adjacent to and parallel with the said slot.

6. In a device of the character described, a lens carrying tube provided with a slot, one portion of which extends longitudinally of the said tube, another portion of which extends transversely of the said tube, and the said two portions being connected together by means of an intermediate curved portion, and a scale located adjacent to and parallel with the said several portions of the slot.

7. In a device of the character described, a lens carrying tube provided with a slot, one portion of which extends longitudinally of the said tube, another portion of which extends transversely thereof, a movable lens within the said tube, and an indicator or pointer connected to the said lens and movable within the said slot and co-operating with the said scale to indicate the position of the lens.

843,504. BREECH-LOADING MECHANISM. HARALD T. J. THRONSEN, Finspong, Sweden, assignor to Aktiebolaget Nordiska Artillerwerkstaderna, Finspong, Sweden. Filed Mar. 17, 1906. Serial No. 306,537.



Claim.—1. In combination, in a breech-loading mechanism, a breech-block having a turning movement about its axis, a second movement lengthwise of its axis and a swinging movement, a guide member having a detachable connection to the breech-block, a slide associated with the guide member capable of movement manually when the breech-block is at rest and movable automatically during the turning movement of the breech-block, an extractor pivoted to the guide having an operating part projecting into the path of movement of the slide, and a spring-pressed retaining-tooth carried by the slide and having a part normally in register with the cartridge-seat, substantially as described.

2. The combination, in a breech-loading mechanism, a breech-block having a turning movement about its axis, a second movement lengthwise of its axis, and a swinging movement, a toothed segment coacting with the breech-block, and an arm for rocking the segment, a carrier for the breech-block, means controlled by the arm for retaining the carrier against movement during the first two movements of the breech-block whereby the carrier will move with the segment, during the third movement only, substantially as described.

3. The combination, in a breech-loading mechanism, the breech-block having a turning movement about its axis, a second movement, a toothed segment coacting with the breech-block for imparting movement thereto, and arm for rocking the segment, a carrier for the breech-block, a guide member, a slide movable relatively thereto, a hammer pivotally mounted on the slide, a spring for tensioning the hammer, means for cocking the hammer comprising a trigger-bolt, slidably mounted in the breech of the gun, a spring-pressed trigger-piece carried thereby and an arm movable with the hammer and coacting with said spring-pressed trigger-piece, substantially as described.

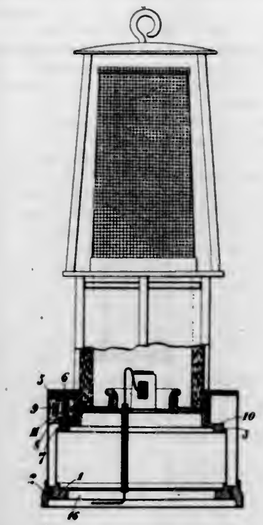
4. The combination, in a breech-loading mechanism, a breech-block having a turning movement about its axis, a second movement lengthwise of its axis and a swinging movement, a toothed segment coacting with the breech-block for imparting movement thereto, an arm for rocking the segment, a carrier for the breech-block, a guide member, a slide movable relatively thereto, a hammer pivotally mounted on the slide, a spring for tensioning the hammer and means for cocking the hammer comprising a lengthwise-movable trigger-bolt slidably mounted in the breech of the gun, and means for controlling the latter comprising an abutment on the trigger-bolt, a second bolt having a surface normally in engagement with the abutment and means for shifting the second bolt, to disengage said surface from the abutment, controlled by the arm which rotates the segment, substantially as described.

5. In combination, a breech-loading mechanism, a breech-block, having a turning movement about its axis, a second movement lengthwise of its axis and a swinging movement, said breech-block having an axially-disposed stem, a segment, a spindle carrying the same pivotally mounted in the breech of the gun, an arm 5 secured to the spindle for rocking the same, coacting gears on the segment and breech-block, a carrier mounted on said spindle having a tubular portion engaging the stem of the breech-block, coacting means on the carrier and breech-block for limiting the turning movement of the latter, a guide member, a slide associated with the guide member, an extractor secured to the guide and operated by the slide, a connection between the slide and breech-block for shifting the slide during the turning movement of the breech-block, a hammer secured to the slide, a trigger-bolt guided in the breech of the gun, means controlled by the arm 5 for controlling the movement of the trigger-bolt, and means also controlled by the arm 5 for retaining the carrier against movement during the first two movements of the breech-block, substantially as described.

6. In combination, a breech-loading mechanism a breech-block having a turning movement about its axis, a second movement lengthwise of its axis and a swinging movement, said breech-block having an axially-disposed stem, a segment, a spindle carrying the same pivotally mounted in the breech of the gun, an arm 5 secured to the spindle for rocking the same, coacting gears on the segment and breech-block, a carrier mounted on said spindle having a tubular portion engaging the stem of the breech-block, coacting means on the carrier and breech-block for limiting the turning movement of the latter, a guide member, a slide associated with the guide member, an extractor secured to the guide and operated by the slide, a connection between the slide and breech-block for shifting the slide during the turning movement of the breech-block, a hammer secured to the slide, a trigger-bolt guided in the breech of the gun, means controlled by the arm 5 for controlling the movement of the trigger-bolt, means also controlled by the arm 5 for retaining the carrier against movement during the first two movements of the breech-block, and means for locking the carrier to the segment during the first stage of the closing movement of the breech-block, substantially as described.

7. In combination, in a breech-loading mechanism, a breech-block having a turning movement about its axis, a second movement lengthwise of its axis and a swinging movement, a guide member having a detachable connection to the breech-block, a slide associated with the guide capable of movement independently of the breech-block, means for shifting the slide during the turning movement of the breech-block and an extractor having an operating part projecting into the path of the movement of the slide, substantially as described.

843,505. SAFETY CLOSING DEVICE FOR MINERS' LAMPS. ALEXANDRE L. TOMBELAINE, Chaptelat, France. Filed Oct. 9, 1905. Serial No. 282,079.



Claim.—1. A safety closing device for miners' lamps comprising the combination with the body of the lamp and a receptacle constituting a reservoir extending in the lamp-body and provided with notches at the upper part thereof, of a casing secured to and extending at right angles with respect to the body of the lamp, a fluid-operated piston arranged within the cylinder and having a depending projection adapted to engage in the notches of the receptacle, a spring acting on the piston for causing the projection thereof to engage in said notches, and means for separating the said projection from the notches of the base.

2. A safety closing device for miners' lamps comprising the combination with the lamp-body having the chamber communicating with a motive-fluid supply, and a receptacle constituting a reservoir adapted to be detachably secured in said body and provided with notches, of a cylinder arranged within the body of the lamp, extending at right angles with respect thereto and communicating with the chamber of the lamp-body, a piston arranged within said cylinder and having a depending projection adapted to engage in the notches of the receptacle, a spring acting on the piston for causing the projection thereof to engage in the notches of the receptacle.

843,506. ADJUSTING-LEVER ARRANGEMENT FOR CALCULATING-MACHINES. FRANZ TRINKS, Brunswick, Germany. Filed Mar. 5, 1906. Serial No. 304,340.

Claim.—In a calculating-machine, the combination with operating-wheels provided with radially-displaceable teeth and shiftable cam-disks for adjusting the teeth, of means arranged in close proximity to the cam-disks and adapted to move the operating-wheels simultaneously with the movement of the cam-disks, and an indicating mechanism operated during such movement of the operating-wheels simultaneously with the movement of the cam-disks.

843,506.

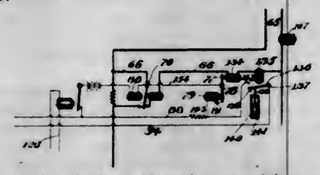


843,507. BROOM. NICANOR VILLALAZ, Panama, Panama. Filed Nov. 29, 1905. Serial No. 289,703.



Claim.—A fastening device for broom-handles formed of a plurality of parts or sections, comprising a metallic sleeve fitting over the ends of the handle parts or sections, and having tangs and spurs formed by cutting the metal of the sleeve at either end as described, the spurs being adapted to be driven or forced into the wood of the handle parts or sections, the said sleeve being also provided with apertures for the passage of fastening devices such as screws or nails which act in conjunction with the spurs to hold the handle parts or sections firmly together, substantially as described.

843,508. PRINTING-TELEGRAPH. JAMES D. WHITE, London, England. Filed July 3, 1906. Serial No. 324,599.



Claim.—1. A printing-telegraph, comprising rotary adjustable printing-type, a series of electromechanical devices each giving a different throw to said printing-type, a main-line circuit, a series of selective branch circuits all connected to the main line and each connected to and operating its own electromechanical type-moving mechanism, each of said selective branch circuits comprising a local-battery circuit with two paths, one of which paths passes through the electromechanical type-moving device, and an electrically-differentiating device in each branch circuit acted upon by differentiated impulses of the main line, and adapted to throw each local branch circuit through either of its two paths to operate or not operate the electromechanical type-moving mechanism.

2. A printing-telegraph, comprising rotary adjustable printing-type, a series of electromechanical devices each giving a different throw to said printing-type, a main-line circuit, a series of selective branch circuits all connected to the main line and each connected to and operating its own electromechanical type-moving mechanism, each of said selective branch circuits comprising a local-battery circuit with two paths, one of which paths passes through the electromechanical type-moving device, an electrically-differentiating device in each branch circuit acted upon by differentiated impulses of the main line and adapted to throw each local branch circuit through either of its two paths to operate or not operate the electromechanical type-moving device, a type-hammer with electromagnet and circuit operating the same, a circuit-closing device for the hammer-circuit and an electromagnetic device arranged in the main line and adapted to operate upon and close the hammer-circuit at the end of a differentiating movement.

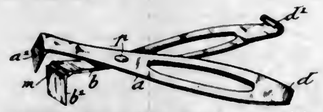
4. A printing-telegraph, comprising rotary adjustable printing-type, a series of electromechanical devices each giving a different throw to said printing-type, a main-line circuit, a series of selective branch circuits all connected to the main line and each connected to and operating its own electromechanical type-moving mechanism, each of said selective branch circuits comprising a local-battery circuit with two paths, one of which paths passes through the electromechanical type-moving device, an electrically-differentiating device in each branch circuit acted upon by the differentiated impulses of the main line and adapted to throw each local branch circuit through either of its two paths to operate or not operate the electromechanical type-moving device, a type-hammer with electromagnet and circuit operating the same, a circuit-closing device for the hammer-circuit, an electromagnetic device arranged in the main line and adapted to operate upon and close the hammer-circuit at the end of a differentiating movement, an armature-switch holding each local branch circuit closed, and an electromagnet for each switch for opening each local branch circuit, said electromagnet being arranged in a circuit opened by the printing mechanism, a single battery operating both the circuit of the printing-hammer and the circuit of the opening-magnets of the branch circuits, and a resistance placed in the latter circuit.

6. The compound selective relay for working a printing-telegraph as described, consisting of main-line branches

local circuits and electromagnets arranged in groups corresponding to the main-line branches, whereby the successive impulses of a series of impulses sent along the main circuit serve to operate the local circuits in succession, printing mechanism arranged to operate in the intermission at the close of such impulses, and circuit-opening devices for the groups operated by the return from the printing stroke, whereby all the parts are returned to their normal positions, ready for the next series of impulses.

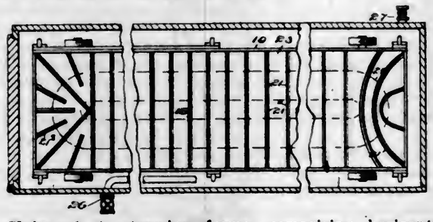
7. The combination with a series of electromagnets each arranged to perform a separate work, of a corresponding series of selective branch circuits and a main-line circuit extending through all of them, each of said selective branch circuits having also a local-battery circuit with two paths, one of which passes through the said electromagnet, an electrically-differentiating device in each branch circuit acted upon by differentiated impulses of the main line and electromechanical shunting devices for sending the differentiated impulses of each series of impulses transmitted along the main-line circuit consecutively through the several branch circuits in regular succession.

843,509. LIFTER. THADDEUS B. WHITLOCK and WILLIAM D. BECKER, New York, N. Y. Filed Apr. 25, 1906. Serial No. 313,713.



Claim.—A lifter for cooking vessels, comprising handle-sections pivoted together laterally intermediately of their length, the shorter ends of the sections being provided with jaws bent up in the same direction and at substantially right angles to the plane in which said sections are pivoted, one of the opposite ends being straight and the other being bent up in a direction at right angles to the aforesaid plane to form a hook the end of which meets and is alined with said straight end, there being a bail-receiving space between said hook and said end.

843,510. STEAMING APPARATUS. WALTER G. WILLIAMS, Thompsonville, Conn., assignor of eleven-twentieths to Charles J. McLain, New York, N. Y. Filed June 13, 1905. Serial No. 265,101.



Claim.—1. A steaming-frame, comprising horizontal girders, and rigid cross-supports carried thereby, said cross-supports being placed closer together near the ends of the frame than along the central portion.

2. The combination of a multiplicity of steaming-frames, one resting above the other, each frame comprising a corrugated member of sheet metal, and means for supporting said member extending crosswise with reference to the corrugations, spaces being left between said supporting means at substantially the same elevation in the upper surfaces of the corrugation and between the corrugated member and said supporting means, for the purpose of permitting full flow of steam along the upper and lower surfaces of the corrugated member.

3. A steaming-frame, comprising a member provided with a series of ridges extending upward therefrom, said member constituting a drip-pan, the under side of said member forming hoods open only at the bottom.

4. An apparatus for steaming yarn, comprising a member provided with a series of ridges extending upward therefrom, said member forming hoods open only at the bottom, a housing around said steaming-frame, and means for introducing steam into said housing and into said hoods and above the same.

5. In an apparatus for steaming yarns, the combination of a steaming-frame, comprising a member provided with a series of ridges extending upward therefrom, said member constituting a drip-pan, the under side of said member forming hoods open only at the bottom, a housing around said steaming-frame, means for introducing steam into said housing and into said hoods and for circulating said steam above and below the same.

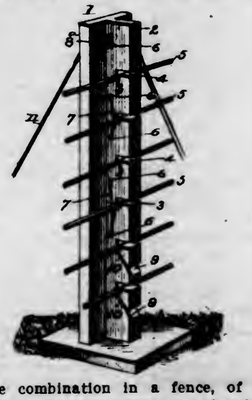
6. In an apparatus for steaming yarns, the combination of a steaming-frame, comprising a corrugated member, the cross-sections of the corrugated portions of said member being constructed as hoods closed laterally by walls placed crosswise with reference thereto, a housing around said steaming-frame, means for conducting steam into said housing and into said hoods and into the space adjoining the upper surfaces of said corrugated portions.

7. In an apparatus for steaming yarns, the combination of a steaming-frame, comprising horizontal girders, a member provided with raised portions, carried by said girders, said member constituting a drip-pan, the raised portions substantially V-shaped in cross-section and said portions placed crosswise with reference to said girders, said girders serving to close said raised portions laterally, a housing around said steaming-frame, and means for introducing steam into said housing and into the hoods formed by said raised portions and for passing steam into the space above and adjoining said raised portions.

8. A steaming-frame, comprising girders, a member provided with a transverse raised portion open at both ends carried by said girders, said girders serving to close the ends of said raised portion for forming a hood open only at its bottom.

9. A steaming-frame comprising separate girders, a corrugated or fluted member carried by said girders, and said girders closing the ends of the corrugations of said member for forming hoods.

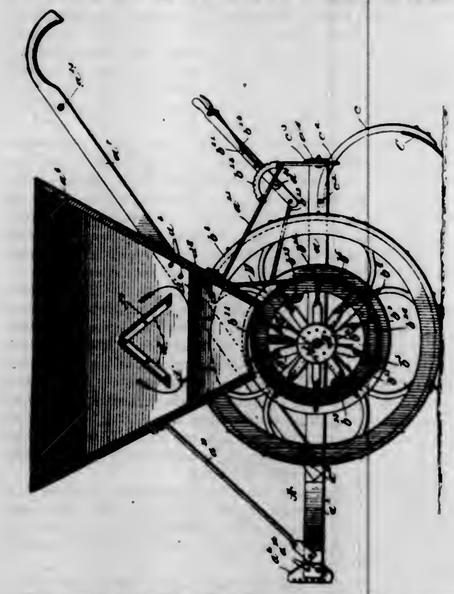
843,511. FENCE-POST. MONROE C. WIX, Milburn, Ky. Filed July 14, 1906. Serial No. 326,273.



Claim.—The combination in a fence, of a post constructed with transverse slots in one longitudinal edge thereof, ending with pockets on a lower plane, and also an opening located in the post between said pockets, the slots being adapted to permit insertion of the fence-wire strands in the pockets, and a securing-wire passed through one of said post-openings, then coiled around a strand-wire on that side of the post, thence arranged extending to and through the next opening in the post to its opposite side, then coiled around the next strand-wire and passed through the next opening in the post, to its opposite side, and so on in zigzag arrangement, with coils around the

several strand-wires securing them in their pockets, the ends of the securing-wire being fastened, substantially as described.

843,512. FERTILIZER-DISTRIBUTER. HENRY T. YOUNG, Florence, S. C. Filed Dec. 24, 1906. Serial No. 349,236.



Claim.—1. A fertilizer-distributer comprising a frame, a shaft journaled thereon, a plurality of sleeves journaled on the shaft, said sleeves having outwardly-projecting circular flanges on their adjacent edges, knives arranged parallel with the shaft and having shanks pivoted between the flanges of the sleeves, collars on the outer side of the sleeves, said collars having radial arms and eccentric openings to receive the shaft, wheels journaled on the collars, each of said wheels having an annular web provided with an annular groove on the inner face thereof, a cylinder comprising a plurality of abutting transversely-curved plates, the ends of the plates being received in the annular grooves, and each plate having its edges recessed, the recesses of the adjacent plates coacting to form openings for receiving the knives, bolts within the cylinder and engaging the wheels for securing the parts together, a hopper supported by the frame above the cylinder, said cylinder forming the bottom of the hopper, and means connected with the arms of the collars for varying the position of the collars and shaft.

2. A fertilizer-distributer comprising a frame, a shaft journaled thereon, sleeves journaled on the shaft, said sleeves having outwardly-projecting circular flanges on their adjacent edges, knives arranged parallel with the shaft and having shanks pivoted between the flanges of the sleeves, collars on the outer sides of the sleeves, said collars having radial arms and eccentric openings to receive the shaft, wheels journaled on the collars, each of said wheels having an annular web provided with an annular groove on the inner face thereof, a cylinder having its ends engaging the grooves, and provided with a plurality of spaced longitudinal openings to receive the knives, a hopper supported by the frame above the cylinder, said cylinder forming the bottom of the hopper, and means connected with the arms of the collars for varying the position thereof with respect to the shaft.

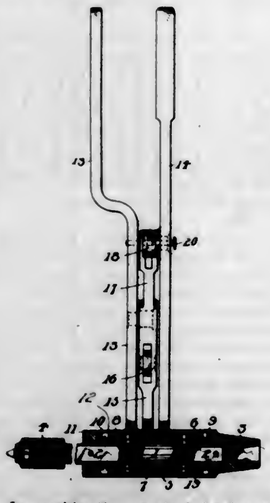
3. A fertilizer-distributer comprising a shaft, sleeves journaled on the shaft, said sleeves having outwardly-projecting circular flanges on their adjacent edges, knives arranged parallel with the shaft and having shanks pivoted between the flanges of the sleeves, collars on the outer sides of the sleeves, said collars having radial arms and eccentric openings to receive the shaft, wheels journaled on the collars, a cylinder secured concentrically between the wheels, a hopper supported above the cylinder, said cylinder forming the bottom thereof, and means connected with the arms of the collars for adjusting the position thereof with respect to the wheels.

4. A fertilizer-distributer comprising a shaft, a sleeve journaled on the shaft, knives arranged parallel with the shaft and having shanks connected with the sleeve, collars on each side of the sleeve, said collars having radial arms and eccentric openings to receive the shafts, a cylinder secured between the wheels and concentrically therewith said sleeves having openings to permit the passage of the knives, a hopper supported above the cylinder, said cylinder forming the bottom thereof, a yoke having its arms connected with the arms of the collars, and a lever connected with the body portion of the yoke whereby to manipulate the arms.

5. A fertilizer-distributer comprising a shaft, a sleeve journaled on the shaft, knives arranged parallel with the shaft and having shanks connected with the sleeve, collars on each side of the sleeve, said collars having radial arms and eccentric openings to receive the shafts, a cylinder secured between the wheels and concentrically therewith said sleeve having openings to permit the passage of the knives, a hopper supported above the cylinder said cylinder forming the bottom thereof, and means connected with the arms of the collars for adjusting the position thereof with respect to the wheels.

6. A fertilizer-distributer comprising a shaft, a sleeve journaled on the shaft, knives arranged parallel with the shaft and having shanks connected with the sleeve, collars on each side of the sleeve, said collars having radial arms and eccentric openings to receive the shafts, a cylinder secured between the wheels and concentrically therewith said sleeve having openings to permit the passage of the knives, a hopper supported above the cylinder, said cylinder forming the bottom thereof, means connected with the arms of the collars for adjusting the position thereof with respect to the wheels, and a scraper on the hopper engaging the periphery of the hopper.

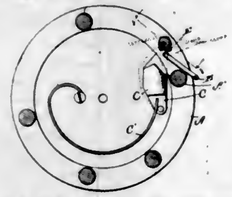
843,513. RATCHET-DRILL. JAMES H. AIKEN, Ingram, and THOMAS M. AIKEN, Allegheny, Pa. Filed May 22, 1905. Serial No. 261,581.



Claim.—1. In combination, a stock having end portions therefor angular in section, collars on the stock, levers carried by the collars, collars slidable on the angular portions of the stock, teeth on the sliding collars normally engaging the teeth of the first-named collars, springs for holding the teeth in mesh, a sleeve for the stock, a lever carried by the sleeve and a connection between the lever of the sleeve and the levers of the collars for imparting a continuous movement to the stock and means carried by the stock for holding the tool.

2. In combination, a stock, collars on the stock, levers carried by the collars, teeth on the collars, collars slidable on the stock, teeth on the sliding collars normally engaging the teeth of the first-named collars, springs for holding the teeth of the sliding collars normally in mesh with the teeth of the first-named collars, a sleeve for the stock, a lever on the sleeve, a projection on the lever of the sleeve, a bell-lever pivoted to the projection, a lever pivoted at one end to the bell-lever and at the opposite end of one of the levers of the collars and a lever pivoted at one end to the opposite end of the bell-lever and at the opposite end to the lever of the remaining collar and means carried by the stock for holding the tool.

843,514. FISH-LINE REEL. HENRY BAUMGARTEL, Sturgis, Mich., assignor of one-half to Jay G. Wait, Sturgis, Mich. Filed Apr. 9, 1906. Serial No. 310,768.



Claim.—1. In a fish-line reel, the combination with the reel-frame, of a spool; a pivoted brake; an adjustable screw on which said brake is mounted; a spring arranged to hold said brake normally in its engaging position; a bail-like brake-lever journaled in said frame, arranged across the front thereof, adapted to be actuated by the fish-line; a crank-like arm on said brake-lever arranged to engage said brake; and a line-guide roller by which the line is delivered to said brake-lever arranged across the reel-frame above said brake-lever, for the purpose specified.

2. In a fish-line reel, the combination with the reel-frame, of a spool; a pivoted brake; means for adjusting said brake; a spring arranged to hold said brake normally in its engaging position; a bail-like brake-lever journaled in said frame, arranged across the front thereof, adapted to be actuated by the fish-line; a crank-like arm on said brake-lever arranged to engage said brake; and a line-guide roller by which the line is delivered to said brake-lever arranged across the reel-frame above said brake-lever, for the purpose specified.

3. In a fish-line reel, the combination with the reel-frame, of a spool; a pivoted brake; a spring arranged to hold said brake normally in its engaging position; a bail-like brake-lever journaled in said frame, arranged across the front thereof, adapted to be actuated by the fish-line; a crank-like arm on said brake-lever arranged to engage said brake; and a line-guide roller by which the line is delivered to said brake-lever arranged across the reel-frame above said brake-lever, for the purpose specified.

4. In a fish-line reel, the combination with the reel-frame, of a spool; a pivoted brake; an adjustable screw on which said brake is mounted; a spring arranged to hold said brake normally in its engaging position; a bail-like brake-lever journaled in said frame, arranged across the front thereof, adapted to be actuated by the fish-line; and a crank-like arm on said brake-lever arranged to engage said brake, for the purpose specified.

5. In a fish-line reel, the combination with the reel-frame, of a spool; a pivoted brake; means for adjusting said brake; a spring arranged to hold said brake normally in its engaging position; a bail-like brake-lever journaled in said frame, arranged across the front thereof, adapted to be actuated by the fish-line; and a crank-like arm on said brake-lever arranged to engage said brake, for the purpose specified.

6. In a fish-line reel, the combination with the reel-frame, of a spool; a pivoted brake; an adjustable screw on which said brake is mounted; a spring arranged to hold said brake normally in its engaging position; a bail-like brake-lever journaled in said frame, arranged across the front thereof, adapted to be actuated by the fish-line; and a line-guide roller by which the line is delivered to said brake-lever arranged across the reel-frame above said brake-lever, for the purpose specified.

7. In a fish-line reel, the combination with the reel-frame, of a spool; a pivoted brake; means for adjusting said brake; a spring arranged to hold said brake normally in its engaging position; a bail-like brake-lever journaled in said frame, arranged across the front thereof, adapted to be actuated by fish-line; and a line-guide roller arranged across the reel-frame above said brake-lever, for the purpose specified.

8. In a fish-line reel, the combination with the reel-frame, of a spool; a pivoted brake; a screw on which said brake is mounted; a spring arranged to hold said brake normally in its engaging position; and a bail-like brake-lever journaled in said frame, arranged across the front thereof, adapted to be actuated by the fish-line, for the purpose specified.

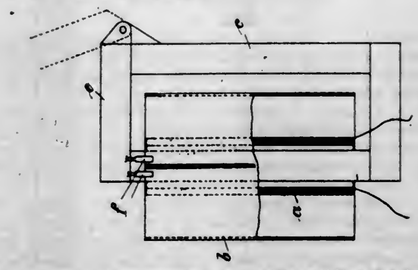
9. In a fish-line reel, the combination with the reel-frame, of a spool; a pivoted brake; means for adjusting said brake; a spring arranged to hold said brake normally in its engaging position; and a bail-like brake-lever journaled in said frame, arranged across the front thereof, adapted to be actuated by the fish-line, for the purpose specified.

10. In a fish-line reel, the combination of a spool; a brake arranged to normally act on said spool; means for adjusting said brake; a fish-line; a brake-lever adapted to be actuated by the fish-line when the same is under tension; and a roller from which the fish-line is delivered to said brake-lever for the purpose specified.

11. In a fish-line reel, the combination of a spool; a brake arranged to normally act on said spool; a fish-line; a friction-lever adapted to be actuated by the fish-line when the same is under tension; and an adjustable support for said brake whereby it may be adjusted to bring it into proper relation to said spool to compensate for wear and the like, as specified.

12. In a fish-line reel, the combination with a reel, of a spool having a concaved flange; a brake arranged to move in a plane substantially at right angles to the axis of said spool whereby it engages said concaved flange of said spool when moved outwardly; and means for adjusting said brake, for the purpose specified.

843,515. PROCESS FOR ELECTRICALLY WELDING THE LONGITUDINAL JOINTS IN TUBULAR OBJECTS. EMIL BIER, London, England. Filed Sept. 10, 1906. Serial No. 333,914.



Claim.—1. A process for electrically welding the longitudinal joints of tubular objects, such as boiler-shells, tubes, pipes and the like, by means of induction-current, produced within the tubular objects consisting in that the tubular object embodies the secondary coil of an alternat-

ing-current transformer, substantially as described and shown and for the purpose set forth.

2. In a process for electrically welding the longitudinal joints of tubular objects, such as boiler-shells, tubes, pipes and the like, by means of induction-current produced within the tubular objects, the longitudinal edges of said objects being formed to obtuse angles and pressed against each other during the welding process, substantially as described and shown and for the purpose set forth.

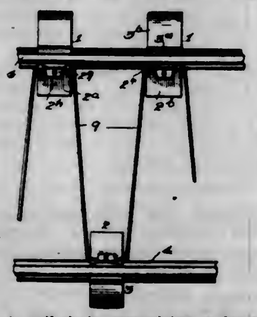
3. In a process for electrically welding the longitudinal joints of tubular objects, such as boiler-shells, tubes, pipes and the like, by means of induction-current produced within the tubular objects, the combination of means by which besides the tangential pressure, a slight to-and-fro motion is imparted to the edges to be welded, substantially as described and shown and for the purpose set forth.

843,516. CAN-CLOSURE. ALEXANDER L. CAPRINI, Pittsburg, Pa. Filed May 2, 1906. Serial No. 314,828.



Claim.—The combination with a can having an opening in its top surrounded by an annular countersunk flange, of a closure comprising a flanged cap or socket internally threaded, and having an integral diaphragm partly severed from the body of the cap by an annular weakening cut or indentation in alinement with the vertical walls of the cap, a spout having an externally-threaded lower end to fit the socket, a funnel-shaped body portion, and a removable plug or stopper fitting within the spout and adapted to be employed as a means for detaching the weakened diaphragm from the cap prior to the insertion of the threaded spout.

843,517. RAILWAY-TIE. WILLIAM H. CASTLE, Geneva, Ohio. Filed June 9, 1906. Serial No. 320,970.



Claim.—1. A rail-chair comprising a lower horizontal portion having its ends bent downward for the purpose specified, a vertical portion and an upper horizontal portion having integral means to grip a rail.

2. A rail-chair comprising a lower horizontal portion having one end bent down vertically and the other end curved downward for the purpose specified, a vertical portion and an upper horizontal portion having means to grip a rail.

3. A rail-chair comprising two bent plates, suitably secured together, each plate having a lower horizontal portion with a downwardly-extending flange, a vertical portion, and an upper horizontal portion, the last-named portion of one plate having its edge turned over to engage one edge of the base of a rail and said portion of the other plate having two lugs arranged at the edges thereof and adapted to be turned over upon the other edge of the base of said rail.

4. A rail-chair comprising two bent plates, suitably secured together, each plate having a lower horizontal portion with a downwardly-extending flange, a vertical portion, and an upper horizontal portion, the last-named portion of one plate having its edge turned over to engage one edge of the base of a rail and said portion of the other plate having two lugs arranged at the edges thereof and adapted to be turned over upon the other edge of the base of said rail and a horizontal extension arranged between said lugs and provided with a slot, and a rail-locking piece adapted to be adjustably secured to said extension through said slot.

5. In a device of the character described, the combination, with rail-chairs for each of the rails of a track, each of said chairs having a passage therein extending in line with the rails and below the same and pieces arranged in said passage, of tie-bars having bent recessed ends fitting into the passages in said chairs over the pieces therein and retained in position by the rails.

6. In a device of the character described, the combination, with rail-chairs for each of the rails of a track, of tie-bars for connecting the chairs on the opposite rails, each chair having a passage therein extending in line with its rail and below the same and two pieces arranged in said passage, each tie-bar having its ends bent and recessed, one fitting into the passage in one of the chairs and engaging one of the pieces therein, the passage in each chair holding the ends of two tie-rods which are retained in position by the rail supported upon said chair.

7. In a device of the character described, the combination, with rail-chairs for each of the rails of a track, each chair comprising two bent plates having vertical portions extending in line with the rails and secured together by rivets but spaced apart by pieces inserted between said plates around said rivets, of tie-bars having bent recessed ends fitting between the vertical portions of said plates over the pieces carried by the securing-rivets, said tie-bars retained in position by the rails when in place on said chairs.

8. In a device of the character described, the combination, with rail-chairs, each chair comprising two plates having vertical portions extending in line with the rails and secured together by bolts or rivets but spaced apart by pieces inserted around said bolts or rivets, oppositely-extending lower horizontal portions having downwardly-bent ends and oppositely-extending upper vertical portions having means to grip a rail, of tie-bars having bent recessed ends fitting between the vertical portions of said plates over the pieces carried by the securing-bolts or rivets, said tie-bars retained in position by the rails when in place on said chairs.

843,518. APPARATUS FOR SPINNING SHEET METAL. RALPH CLARKE, New Castle, Pa., assignor of one-half to New Castle Stamping Company, New Castle, Pa., a Corporation of Pennsylvania. Filed June 12, 1905. Serial No. 264,758.

Claim.—1. In spinning apparatus, a sectional bottom, in combination with an eccentric former coöperating therewith; substantially as described.

2. In spinning apparatus, a sectional bottom, means for holding the bottom sections in place, and an eccentric forming-roller coöperating therewith; substantially as described.

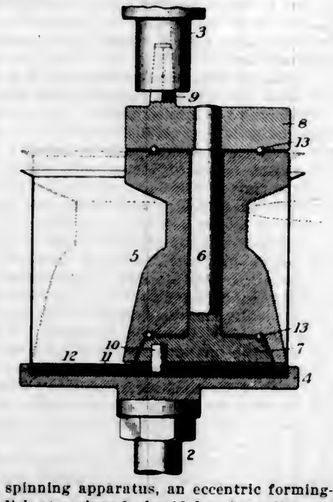
3. In spinning apparatus, a sectional bottom, and an eccentric forming-roller having an end bearing supported in said bottom; substantially as described.

4. In spinning apparatus, a sectional bottom having a central plate interfitting with the sections, and an eccentric roller having an inner end bearing supported in the bottom; substantially as described.

5. In spinning apparatus, a sectional bottom having a center support, and an eccentric roller having a bearing carried on said central support; substantially as described.

6. In spinning apparatus, a sectional bottom plate having a central removable plug, an eccentric roller having an inner bearing coacting with the plug, and an outer bearing for the roller having a stem in alinement with the bottom ping; substantially as described.

7. In spinning apparatus, an eccentric forming-roller, a disk bearing against the upper end of said roller, and a stem eccentrically mounted upon said disk, substantially as described.



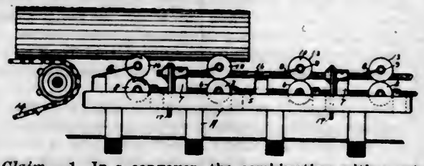
8. In spinning apparatus, an eccentric forming-roller, a bearing-disk at each end of said forming-roller, and a stem eccentrically mounted on one of said disks, substantially as described.

9. In spinning apparatus, a sectional bottom having a central recess, a central plate fitted flush into said recess, and an eccentric forming-roller having an end bearing supported by the central plate, substantially as described.

10. Forming mechanism for spinning apparatus comprising a stem, a forming-roller journaled thereon, bearing-plates carried by the stem and engaging the ends of the roller, and journals carried by the bearing-plates eccentric with respect to the stem.

11. Forming mechanism for spinning apparatus comprising a stem having a permanent bearing-plate at one end, a forming-roller journaled upon the stem and engaging the bearing-plate, a removable bearing-plate carried by the opposite end of the stem and bearing against the adjacent end of the roller, and journals upon the bearing-plates eccentric to the stem.

843,519. TRACTION-ROLL MECHANISM. DANIEL CRANE, Saginaw, Mich. Filed May 31, 1906. Serial No. 319,646.



Claim.—1. In a conveyer, the combination with a set of live rolls, a single drive-shaft extending transversely of the ends of the rolls for imparting a single speed to the rolls, and gearing for connecting the respective rolls to the shaft, of a set of traction-rolls located above the live rolls and frictionally driven thereby.

2. A conveyer comprising live rolls, means for positively driving the rolls, and a set of traction-rolls located yieldingly above the live rolls and frictionally engaging the same to permit a slipping of the traction-rolls relative to the live rolls or vice versa.

3. In a conveyer, the combination with a set of live rolls a drive-shaft, gearing connecting the drive-shaft with each of the rolls, a log-chain and separate means for driving the chain, of a set of traction-rolls projecting into a plane above the drive-rolls and frictionally driven thereby.

4. A conveyer comprising a plurality of live rolls, means for driving all the rolls at the same speed, certain of the live rolls being larger than others and a plurality of traction-rolls projecting into a plane above the live rolls and being frictionally driven thereby, the highest points of all the traction-rolls being in horizontal alinement.

5. A conveyer comprising a plurality of live rolls, means for driving all the rolls at the same speed, certain of the live rolls being smaller than others and a plurality of traction-rolls projecting into a plane above the live rolls and being frictionally driven thereby, the highest points of all the traction-rolls being in the same horizontal alinement.

6. A conveyer comprising a plurality of live rolls, means for actuating all the rolls at the same speed, a plurality of traction-rolls projecting into a plane above the live rolls and frictionally driven thereby, the pairs of traction and live rolls being suitably proportioned relative to each other to impart a greater or lesser speed of travel to the material being conveyed.

7. The combination in a conveyer, of a plurality of live rolls, friction-surfaces carried thereby, a plurality of traction-rolls arranged parallel with the live rolls, and projecting into a plane above the live rolls, the traction-rolls each comprising a pair of truncated cones, the reduced ends of which lie opposite each other and a smaller neck connecting the cones, the traction-rolls being frictionally driven by the live rolls.

8. A frictionally-driven traction-roll comprising a pair of truncated cones, the reduced ends of which lie opposite each other, teeth formed on the reduced ends of the cones, a neck of less diameter than the reduced ends of the cones for connecting the latter and a friction-surface on the roll.

9. A frictionally-driven traction-roll comprising a pair of truncated cones, the reduced ends of which lie opposite each other, a neck of less diameter than the reduced ends of the cones for connecting the latter and a friction-surface on the roll.

10. The combination in a conveyer, with a plurality of live rolls, of a plurality of traction-rolls arranged parallel therewith and supported above the live rolls, the traction-rolls being frictionally driven by the live rolls, a kicker-shaft located between the pairs of live and traction rolls and kickers mounted on the shaft intermediate the pairs of rolls.

11. The combination in a conveyer with a plurality of live rolls, of a plurality of traction-rolls arranged parallel therewith, the live and traction rolls arranged in pairs and flexible arms for supporting the traction-rolls above their respective live rolls, the traction-rolls being frictionally driven from the live rolls.

12. The combination in a conveyer with a plurality of live rolls, of a plurality of traction-rolls arranged parallel therewith, the live and traction rolls arranged in pairs, and resilient arms supporting the traction-rolls above their respective live rolls, the traction-rolls being frictionally driven from the live rolls.

843,520. ELECTRIC TRAM SYSTEM. ORRIN J. DAVY, Washington, D. C., assignor to Industrial Motor Company, a Corporation of the District of Columbia. Filed Nov. 5, 1906. Serial No. 342,060.

Claim.—1. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley-arm attached to the carrier, and means connecting the trolley-arm with the seat-back to cause the same to swing simultaneously.

2. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, and means connecting the trolley with the seat-back to cause the same to swing simultaneously, and at all times incline in the same general direction with relation to the seat.

3. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to

ing-current transformer, substantially as described and shown and for the purpose set forth.

2. In a process for electrically welding the longitudinal joints of tubular objects, such as boiler-shells, tubes, pipes and the like, by means of induction-current produced within the tubular objects, the longitudinal edges of said objects being formed to obtuse angles and pressed against each other during the welding process, substantially as described and shown and for the purpose set forth.

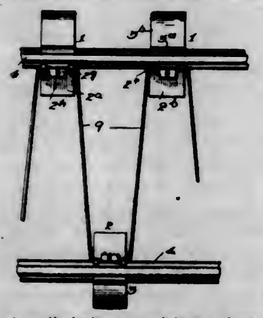
3. In a process for electrically welding the longitudinal joints of tubular objects, such as boiler-shells, tubes, pipes and the like, by means of induction-current produced within the tubular objects, the combination of means by which besides the tangential pressure, a slight to-and-fro motion is imparted to the edges to be welded, substantially as described and shown and for the purpose set forth.

843,516. CAN-CLOSURE. ALEXANDER L. CAPRINI, Pittsburg, Pa. Filed May 2, 1906. Serial No. 314,828.



Claim.—The combination with a can having an opening in its top surrounded by an annular countersunk flange, of a closure comprising a flanged cap or socket internally threaded, and having an integral diaphragm partly severed from the body of the cap by an annular weakening cut or indentation in alinement with the vertical walls of the cap, a spout having an externally-threaded lower end to fit the socket, a funnel-shaped body portion, and a removable plug or stopper fitting within the spout and adapted to be employed as a means for detaching the weakened diaphragm from the cap prior to the insertion of the threaded spout.

843,517. RAILWAY-TIE. WILLIAM H. CASTLE, Geneva, Ohio. Filed June 9, 1906. Serial No. 320,970.



Claim.—1. A rail-chair comprising a lower horizontal portion having its ends bent downward for the purpose specified, a vertical portion and an upper horizontal portion having integral means to grip a rail.

2. A rail-chair comprising a lower horizontal portion having one end bent down vertically and the other end curved downward for the purpose specified, a vertical portion and an upper horizontal portion having means to grip a rail.

3. A rail-chair comprising two bent plates, suitably secured together, each plate having a lower horizontal portion with a downwardly-extending flange, a vertical portion, and an upper horizontal portion, the last-named portion of one plate having its edge turned over to engage one edge of the base of a rail and said portion of the other plate having two lugs arranged at the edges thereof and adapted to be turned over upon the other edge of the base of said rail.

4. A rail-chair comprising two bent plates, suitably secured together, each plate having a lower horizontal portion with a downwardly-extending flange, a vertical portion, and an upper horizontal portion, the last-named portion of one plate having its edge turned over to engage one edge of the base of a rail and said portion of the other plate having two lugs arranged at the edges thereof and adapted to be turned over upon the other edge of the base of said rail and a horizontal extension arranged between said lugs and provided with a slot, and a rail-locking piece adapted to be adjustably secured to said extension through said slot.

5. In a device of the character described, the combination, with rail-chairs for each of the rails of a track, each of said chairs having a passage therein extending in line with the rails and below the same and pieces arranged in said passage, of tie-bars having bent recessed ends fitting into the passages in said chairs over the pieces therein and retained in position by the rails.

6. In a device of the character described, the combination, with rail-chairs for each of the rails of a track, of tie-bars for connecting the chairs on the opposite rails, each chair having a passage therein extending in line with its rail and below the same and two pieces arranged in said passage, each tie-bar having its ends bent and recessed, one fitting into the passage in one of the chairs and engaging one of the pieces therein, the passage in each chair holding the ends of two tie-rods which are retained in position by the rail supported upon said chair.

7. In a device of the character described, the combination, with rail-chairs for each of the rails of a track, each chair comprising two bent plates having vertical portions extending in line with the rails and secured together by rivets but spaced apart by pieces inserted between said plates around said rivets, of tie-bars having bent recessed ends fitting between the vertical portions of said plates over the pieces carried by the securing-rivets, said tie-bars retained in position by the rails when in place on said chairs.

8. In a device of the character described, the combination, with rail-chairs, each chair comprising two plates having vertical portions extending in line with the rails and secured together by bolts or rivets but spaced apart by pieces inserted around said bolts or rivets, oppositely-extending lower horizontal portions having downwardly-bent ends and oppositely-extending upper vertical portions having means to grip a rail, of tie-bars having bent recessed ends fitting between the vertical portions of said plates over the pieces carried by the securing-bolts or rivets, said tie-bars retained in position by the rails when in place on said chairs.

843,518. APPARATUS FOR SPINNING SHEET METAL. RALPH CLARKE, New Castle, Pa., assignor of one-half to New Castle Stamping Company, New Castle, Pa., a Corporation of Pennsylvania. Filed June 12, 1905. Serial No. 264,758.

Claim.—1. In spinning apparatus, a sectional bottom, in combination with an eccentric former coöperating therewith; substantially as described.

2. In spinning apparatus, a sectional bottom, means for holding the bottom sections in place, and an eccentric forming-roller coöperating therewith; substantially as described.

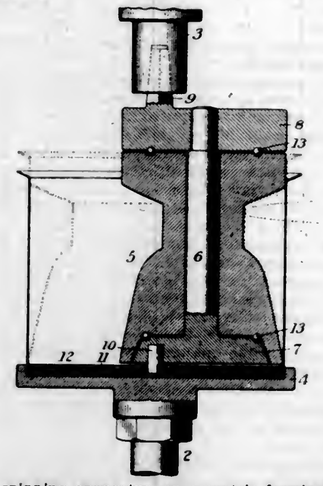
3. In spinning apparatus, a sectional bottom, and an eccentric forming-roller having an end bearing supported in said bottom; substantially as described.

4. In spinning apparatus, a sectional bottom having a central plate interfitting with the sections, and an eccentric roller having an inner end bearing supported in the bottom; substantially as described.

5. In spinning apparatus, a sectional bottom having a center support, and an eccentric roller having a bearing carried on said central support; substantially as described.

6. In spinning apparatus, a sectional bottom plate having a central removable ping, an eccentric roller having an inner bearing coacting with the plug, and an outer bearing for the roller having a stem in alinement with the bottom plug; substantially as described.

7. In spinning apparatus, an eccentric forming-roller, a disk bearing against the upper end of said roller, and a stem eccentrically mounted upon said disk, substantially as described.



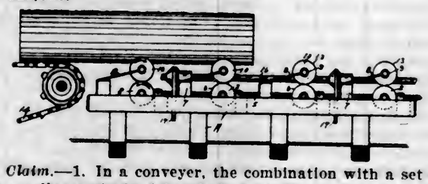
8. In spinning apparatus, an eccentric forming-roller, a bearing-disk at each end of said forming-roller, and a stem eccentrically mounted on one of said disks, substantially as described.

9. In spinning apparatus, a sectional bottom having a central recess, a central plate fitted flush into said recess, and an eccentric forming-roller having an end bearing supported by the central plate, substantially as described.

10. Forming mechanism for spinning apparatus comprising a stem, a forming-roller journaled thereon, bearing-plates carried by the stem and engaging the ends of the roller, and journals carried by the bearing-plates eccentric with respect to the stem.

11. Forming mechanism for spinning apparatus comprising a stem having a permanent bearing-plate at one end, a forming-roller journaled upon the stem and engaging the bearing-plate, a removable bearing-plate carried by the opposite end of the stem and bearing against the adjacent end of the roller, and journals upon the bearing-plates eccentric to the stem.

843,519. TRACTION-ROLL MECHANISM. DANIEL CRANE, Saginaw, Mich. Filed May 31, 1906. Serial No. 319,646.



Claim.—1. In a conveyer, the combination with a set of live rolls, a single drive-shaft extending transversely of the ends of the rolls for imparting a single speed to the rolls, and gearing for connecting the respective rolls to the shaft, of a set of traction-rolls located above the live rolls and frictionally driven thereby.

2. A conveyer comprising live rolls, means for positively driving the rolls, and a set of traction-rolls located yieldingly above the live rolls and frictionally engaging the same to permit a slipping of the traction-rolls relative to the live rolls or vice versa.

3. In a conveyer, the combination with a set of live rolls a drive-shaft, gearing connecting the drive-shaft with each of the rolls, a log-chain and separate means for driving the chain, of a set of traction-rolls projecting into a plane above the drive-rolls and frictionally driven thereby.

4. A conveyer comprising a plurality of live rolls, means for driving all the rolls at the same speed, certain of the live rolls being larger than others and a plurality of traction-rolls projecting into a plane above the live rolls and being frictionally driven thereby, the highest points of all the traction-rolls being in horizontal alinement.

5. A conveyer comprising a plurality of live rolls, means for driving all the rolls at the same speed, certain of the live rolls being smaller than others and a plurality of traction-rolls projecting into a plane above the live rolls and being frictionally driven thereby, the highest points of all the traction-rolls being in the same horizontal alinement.

6. A conveyer comprising a plurality of live rolls, means for actuating all the rolls at the same speed, a plurality of traction-rolls projecting into a plane above the live rolls and frictionally driven thereby, the pairs of traction and live rolls being suitably proportioned relative to each other to impart a greater or lesser speed of travel to the material being conveyed.

7. The combination in a conveyer, of a plurality of live rolls, friction-surfaces carried thereby, a plurality of traction-rolls arranged parallel with the live rolls, and projecting into a plane above the live rolls, the traction-rolls each comprising a pair of truncated cones, the reduced ends of which lie opposite each other and a smaller neck connecting the cones, the traction-rolls being frictionally driven by the live rolls.

8. A frictionally-driven traction-roll comprising a pair of truncated cones, the reduced ends of which lie opposite each other, teeth formed on the reduced ends of the cones, a neck of less diameter than the reduced ends of the cones for connecting the latter and a friction-surface on the roll.

9. A frictionally-driven traction-roll comprising a pair of truncated cones, the reduced ends of which lie opposite each other, a neck of less diameter than the reduced ends of the cones for connecting the latter and a friction-surface on the roll.

10. The combination in a conveyer, with a plurality of live rolls, of a plurality of traction-rolls arranged parallel therewith and supported above the live rolls, the traction-rolls being frictionally driven by the live rolls, a kicker-shaft located between the pairs of live and traction rolls and kickers mounted on the shaft intermediate the pairs of rolls.

11. The combination in a conveyer with a plurality of live rolls, of a plurality of traction-rolls arranged parallel therewith, the live and traction rolls arranged in pairs and flexible arms for supporting the traction-rolls above their respective live rolls, the traction-rolls being frictionally driven from the live rolls.

12. The combination in a conveyer with a plurality of live rolls, of a plurality of traction-rolls arranged parallel therewith, the live and traction rolls arranged in pairs, and resilient arms supporting the traction-rolls above their respective live rolls, the traction-rolls being frictionally driven from the live rolls.

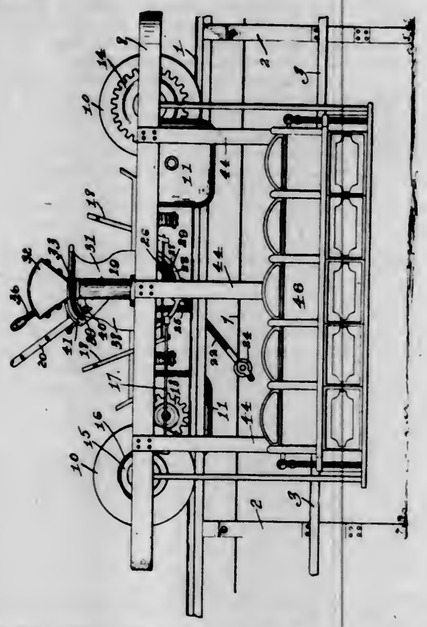
843,520. ELECTRIC TRAM SYSTEM. ORRIN J. DAVY, Washington, D. C., assignor to Industrial Motor Company, a Corporation of the District of Columbia. Filed Nov. 5, 1906. Serial No. 342,060.

Claim.—1. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley-arm attached to the carrier, and means connecting the trolley-arm with the seat-back to cause the same to swing simultaneously.

2. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, and means connecting the trolley with the seat-back to cause the same to swing simultaneously, and at all times incline in the same general direction with relation to the seat.

3. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to

the seat, a swinging trolley attached to the carrier, a means connecting the trolley with the seat-back to cause the same to swing simultaneously, and a spring attached at one end to the seat-back, and at the other end to said trolley.



4. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a means connecting the trolley with the seat-back to cause the same to swing simultaneously, and at all times incline in the same general direction with relation to the seat, and a spring attached at one end to the seat-back, and at the other end to said trolley.

5. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, said seat-back having means for engagement with the trolley to cause the same to move simultaneously, one of the said swinging members having a resilient means for compensating for the different arcs described by the said swinging members.

6. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, said seat-back having means for engagement with the trolley to cause the same to move simultaneously, and at all times incline in the same general direction with relation to the seat, one of the said swinging members having a resilient means for compensating for the different arcs described by the said swinging members.

7. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, said seat-back having means for engagement with the trolley to cause the same to move simultaneously, said trolley having a resilient means for compensating for the different arcs described by the said swinging members.

8. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, said seat having means for engagement with the trolley to cause the same to move simultaneously, and at all times incline in the same general direction with relation to the seat, said trolley having a resilient means for compensating for the different arcs described by the swinging members.

9. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, said seat having means for engagement with the trolley to cause the same to move simultaneously, said trolley having a spring-actuated element for engagement with the seat-back to compensate for the different arcs described by the swinging members.

10. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, said seat having means for engagement with the trolley to cause the same to move simultaneously, and at all times incline in the same general direction with relation to the seat, said trolley having a spring-actuated element for engagement with the seat-back to compensate for the different arcs described by the swinging members.

11. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a rack attached to said seat-back, and a spring-actuated element attached to the trolley for engagement with the rack.

12. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a rack attached to the seat-back, a spring-actuated element attached to the trolley for engagement with the rack, and a spring attached at one end to the seat-back, and at the other end to said trolley.

13. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a trolley attached to the carrier, and a pivoted pole-changing lever located in the path of the said swinging back.

14. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, and a pivoted pole-changing lever located in the path of the said swinging back.

15. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, means for causing the seat-back and the trolley to swing simultaneously, and a pivoted pole-changing lever located in the path of the said swinging back.

16. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, means for causing the said swinging back and the trolley to move simultaneously, and at all times incline in the same general direction with relation to the seat, and a pivoted pole-changing lever located in the path of the swinging seat-back.

17. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, means for causing the seat-back and the trolley to swing simultaneously, and a pivoted pole-changing lever located in the path of the swinging seat-back, the parts being so arranged as to incline at all times in the same general direction with relation to the seat.

18. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a trolley attached to the carrier, and a pivoted pole-changing lever located in the path of said swing seat-back and moving in a different arc therefrom.

19. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, and a pivoted pole-changing lever located in the path of the said swinging seat-back and moving in a different arc therefrom.

20. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, means for causing the seat-back and the trolley to swing simultaneously, and a pivoted pole-changing lever located in the path of the said swinging seat-back and moving in a different arc therefrom.

21. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, means for causing said swinging back and the trolley to move simultaneously, and at all times incline in the same general direction with relation to the seat, and a pivoted pole-changing lever located in the path of the swinging seat-back and moving in a different arc therefrom.

22. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, means for causing the seat-back and the trolley to swing simultaneously, and a pivoted pole-changing lever located in the path of the swinging seat-back and moving in a different arc therefrom, the parts being so arranged as to incline at all times in the same general direction with relation to the seat.

23. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a means connecting the trolley with the seat-back to cause the same to swing simultaneously, and a spring attached at its ends to the seat-back and the trolley at opposite sides of the pivotal points thereof.

24. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a means connecting the trolley with the seat-back to cause the same to swing simultaneously, and at all times incline in the same general direction with relation to the seat, and a spring attached at its ends to the seat-back and the trolley at opposite sides of the pivotal points thereof.

25. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a rack attached to the seat-back, a spring-actuated element attached to the trolley for engagement with the rack, and a spring attached at its ends to the seat-back and the trolley at opposite sides of the pivotal points thereof.

26. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a means connecting the trolley with the seat-back to cause the same to swing simultaneously, and a rotating controller-lever operated by the swinging seat-back.

27. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a means connecting the trolley with the seat-back to cause the same to swing simultaneously, and at all times incline in the same general direction with relation to the seat, and a rotating controller-lever operated by the swinging seat-back.

28. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a means connecting the trolley with the seat to cause the same to swing simultaneously, a spring attached at one end to the seat-back, and at the other end to said trolley, and a rotating controller-lever operated by the swinging seat-back.

29. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a means connecting the trolley with the seat to cause the same to swing simultaneously, and at all times incline in the same general direction with relation to the seat, a spring attached at one end to the seat-back, and at the other end to said trolley, and a rotating controller-lever operated by the swinging seat-back.

30. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, said seat-back having means for engagement with the trolley to cause the same to move simultaneously, one of the said swinging members having a resilient means for compensating for the different arcs described by the said swinging members, and a rotating controller-lever operated by the swinging seat-back.

31. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, said seat-back having means for engagement with the trolley to cause the same to move simultaneously, and at all times incline in the same general direction with relation to the seat, one of the said swinging members having a resilient means for compensating for the different arcs described by the said swinging members, and a rotating controller-lever operated by the swinging seat-back.

32. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, said seat-back having means for engagement with the trolley to cause the same to move simultaneously, said trolley having a resilient means for compensating for the different arcs described by the said swinging members, and a rotating controller-lever operated by the swinging seat-back.

33. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, said seat having means for engagement with the trolley to cause the same to move simultaneously, and at all times incline in the same general direction with relation to the seat, said trolley having a resilient means for compensating for the different arcs described by the swinging members, and a rotating controller-lever operated by the swinging seat-back.

34. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, said seat having means for engagement with the trolley to cause the same to move simultaneously said trolley having a spring-actuated element for engagement with the seat-back to compensate for the different arcs described by the swinging members, and a rotating controller-lever operated by the swinging seat-back.

35. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, said seat having means for engagement with the trolley to cause the same to move simultaneously, and at all times incline in the same general direction with relation to the seat, said trolley having a spring-actuated element for engagement with the seat-back to compensate for the different arcs described by the swinging members, and a rotating controller-lever operated by the swinging seat-back.

36. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a rack attached to said seat-back, and a spring-actuated element attached to the trolley for engagement with the rack, and a rotating controller-lever operated by the swinging seat-back.

37. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a rack attached to the seat-back, a spring-actuated element attached to the trolley for engagement with the rack, and a spring attached at one end to the seat-back, and at the other end to said trolley, and a rotating controller-lever operated by the swinging seat-back.

38. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a trolley attached to the carrier, and a pivoted pole-changing lever located in the path of the said swinging back, and a rotating controller-lever operated by the swinging seat-back.

39. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, and a pivoted pole-changing lever located in the path of the said swinging back, and a rotating controller-lever operated by the swinging seat-back.

40. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, means

for causing the seat-back and the trolley to swing simultaneously, and a pivoted pole-changing lever located in the path of the said swinging back, and a rotating controller-lever operated by the swinging seat-back.

41. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, means for causing the said swinging back and the trolley to move simultaneously, and at all times incline in the same general direction with relation to the seat, and a pivoted pole-changing lever located in the path of the swinging seat-back, and a rotating controller-lever operated by the swinging seat-back.

42. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, means for causing the seat-back and the trolley to swing simultaneously, and a pivoted pole-changing lever located in the path of the swinging seat-back, the parts being so arranged as to incline at all times in the same general direction with relation to the seat, and a rotating controller-lever operated by the swinging seat-back.

43. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a trolley attached to the carrier, and a pivoted pole-changing lever located in the path of said swing seat-back, and moving in a different arc therefrom, and a rotating controller-lever operated by the swinging seat-back.

44. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, and a pivoted pole-changing lever located in the path of the said swinging seat-back and moving in a different arc therefrom, and a rotating controller-lever operated by the swinging seat-back.

45. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, means for causing the seat-back and the trolley to swing simultaneously, and a pivoted pole-changing lever located in the path of the said swinging seat-back and moving in a different arc therefrom, and a rotating controller-lever operated by the swinging seat-back.

46. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, means for causing said swinging back and the trolley to move simultaneously, and at all times incline in the same general direction with relation to the seat, and a pivoted pole-changing lever located in the path of the swinging seat-back and moving in a different arc therefrom, and a rotating controller-lever operated by the swinging seat-back.

47. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, means for causing the seat-back and the trolley to swing simultaneously, and a pivoted pole-changing lever located in the path of the swinging seat-back and moving in a different arc therefrom, the parts being so arranged as to incline at all times in the same general direction with relation to the seat, and a rotating controller-lever operated by the swinging seat-back.

48. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a means connecting the trolley with the seat-back to cause the same to swing simultaneously, and a spring attached at its ends to the seat-back and the trolley at opposite sides of the pivotal points thereof, and a rotating controller-lever operated by the swinging seat-back.

49. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a means connecting the trolley with the seat-back to cause the same to swing simultaneously, and at all times incline in the same general direction with relation to the seat, and a spring attached at its ends to the seat-back and the trolley at opposite sides of the pivotal points thereof, and a rotating controller-lever operated by the swinging seat-back.

50. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a rack attached to the seat-back, a spring-actuated element attached to the trolley for engagement with the rack, and a spring attached at its ends to the seat-back and the trolley at opposite sides of the pivotal points thereof, and a rotating controller-lever operated by the swinging seat-back.

51. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a swinging pole-changer lever located in the path of the seat, and a rotating controller-lever operated by the swinging seat-back.

52. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, and a rotating controller-lever operated by the swing seat-back.

53. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a rotating controller-lever located in the path of the swinging back, and means attached to the swinging back for engagement with the rotating controller-lever for operating the same at the intermediate portion of the stroke of the swinging seat-back.

54. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a rotating controller-lever located in the path of the swinging back, a segment connected with said lever and having gear-teeth, said controller-lever casing having gear-teeth which mesh with the gear-teeth of the said segment, and means connecting said segment with said swinging seat-back.

55. In a system of the character indicated, a carrier, a seat located upon the carrier, a swinging back attached to the seat, a swinging trolley attached to the carrier, a rotating controller-lever located in the path of the swinging back, a segment connected with said lever and having gear-teeth and an elongated slot, said controller-lever casing having gear-teeth which mesh with the gear-teeth of said segment, a pin carried by the swinging seat-back and being located in the said elongated slot.

56. In a system of the character described, a carrier, a trolley-arm carried thereby, a pole-changer, and means for simultaneously reversing said trolley-arm and shifting said pole-changer.

57. In a system of the character described, a carrier, a trolley-arm carried thereby, a rotatable controller also carried thereby, and means for simultaneously reversing said trolley-arm and rotating said controller.

58. In a system of the character described, a carrier, a rotatable casing, a controller carried thereby, a pole-changer, and means for simultaneously shifting said pole-changer and rotating said controller-casing to reverse the same.

59. In a system of the character described, a carrier, a trolley-arm carried thereby, a rotatable controller also carried by said carrier, a pole-changer, and means for simultaneously reversing said trolley-arm, rotating said controller and shifting said pole-changer.

60. In a system of the character described, a carrier, a seat thereupon provided with a movable member, a trolley-arm carried by said carrier, and means operated by said movable seat member to reverse said trolley-arm.

61. In a system of the character described, a carrier, a seat thereupon provided with a movable member, a pole-changer, and means operated by said movable seat member for shifting said pole-changer.

62. In a system of the character described, a carrier, a seat thereupon provided with a movable member, a rotatable controller-casing mounted on said carrier, a controller in said casing and means operated by the movable member of said seat to rotate said controller-casing to reverse the same.

63. In a system of the character described, a carrier, a seat thereupon provided with a movable member, a trolley-arm mounted on said carrier, a pole-changer, and means operated by the movable member of said seat to reverse said trolley-arm and simultaneously shift said pole-changer.

64. In a system of the character described, a carrier, a seat thereupon provided with a movable member, a trolley-arm mounted on said carrier, a rotatable controller, and means operated by the movable member of said seat to reverse said trolley-arm and simultaneously rotate said controller.

65. In a system of the character described, a carrier, a seat thereupon provided with a movable member, a rotatable controller mounted on said carrier, a pole-changer, and means operated by the movable member of said seat to rotate said controller and simultaneously shift said pole-changer.

66. In a system of the character described, a carrier, a seat thereupon provided with a movable member, a trolley-arm mounted on said carrier, a rotatable controller also mounted on said carrier, a pole-changer, and means operated by the movable member of said seat to reverse said trolley-arm and to simultaneously rotate said controller and shift said pole-changer.

843,521. STAIR-ROD FASTENER. LOUISA DEITRICK, New Brighton, Pa. Filed Nov. 24, 1906. Serial No. 344,846.



Claim.—1. In a stair-rod fastener, the combination with a rod, of a permanent member adapted to be secured to a step and comprising a bifurcated piece of metal having pierced ends, a movable member detachably connected to one of the pierced ends of said permanent member, said movable member embodying a U-shaped piece of metal adapted to support the end of a stair-rod, and a set-screw connecting said movable member to said permanent member.

2. In a stair-rod fastener, the combination with a rod, of a permanent member adapted to be secured to a step and comprising a bifurcated piece of metal having pierced ends, a movable member detachably connected to one of the pierced ends of said permanent member, said movable member embodying a U-shaped piece of metal adapted to support the end of a stair-rod, and means for detachably connecting said movable member to said permanent member.

843,522. COMPRESSED-AIR BRAKE FOR GUNS THAT RECOIL ON THEIR CARRIAGES. JOSEPH A. DEPORT, Paris, France. Filed Dec. 11, 1906. Serial No. 347,366.



Claim.—1. A compressed-air brake for a gun that recoils on its carriage, comprising a cylinder, a piston working therein, a hollow rod fixed axially within the cylinder and provided with independent passages for establishing communication between the portions of the cylinder on opposite faces of the piston on recoil and return, and means operative on the recoil and return movements of the gun for alternately opening and closing said passages.

2. A compressed-air brake for a gun that recoils on its carriage comprising in combination an air-tight cylinder, a piston sliding therein, passages through the said piston, an automatic valve controlling the said passages, a hollow rod fixed axially within the said cylinder, a longitudinal groove on the external surface of the said rod adapted only for passage of air during the recoil, a second longitudinal groove on the external surface of the said rod adapted only for passage of air during the return to the firing position, the said grooves being of such cross-section that a differential pressure is set up on the faces of the piston.

3. A compressed-air brake for a gun that recoils on its carriage comprising a cylinder, a hollow rod fixed axially within the cylinder and provided with independent passages, a piston working within the cylinder over said rod and provided with independent ports therein coöperating with the passages in the hollow rod to establish communication between the portions of the cylinder on opposite faces of the piston on recoil and return, and means for automatically alternately opening and closing the ports in the piston during the recoil and return movements of the gun.

4. A compressed-air brake for a gun that recoils upon its carriage, comprising in combination two cylinders inverted in respect to each other and coupled together, and means for engaging the mass of the brake with the gun at the beginning of the recoil, and means for subsequently disengaging the mass from the gun automatically at a suitable time.

5. A compressed-air brake for a gun that recoils on its carriage comprising a cylinder, a hollow rod fixed axially within the cylinder and provided with independent passages, a piston working within the cylinder over said rod and provided with independent ports of different area cooperating with the passages in the hollow rod to establish communication between the portions of the cylinder on opposite faces of the piston, and means for automatically alternately opening and closing the ports in the piston during the recoil and return movements of the gun.

6. A compressed-air brake for a gun that recoils on its carriage comprising a cylinder, a hollow rod fixed axially within the cylinder and provided with independent passages, a piston working within the cylinder over said rod and provided with independent ports of different area therein coöperating with the passages in the hollow rod to establish communication between the portions of the cylinder on opposite faces of the piston, and a flap-valve carried by said piston and adapted to close one of said ports during the movement of the piston in one direction and the other of said ports during the movement of the piston in the other direction.

843,523. BRAKE-SHOE. EDWARD DETTELBACH, Denver, Colo. Filed Mar. 12, 1906. Serial No. 305,522.



Claim.—1. A brake-shoe having a grooved face, each side wall of the groove being composed of two members inclined outwardly as they extend inwardly, the two wall members on each side of the groove being separated by a longitudinal offset which forms the inward limit of the outer wall member and the outward limit of the inner wall member.

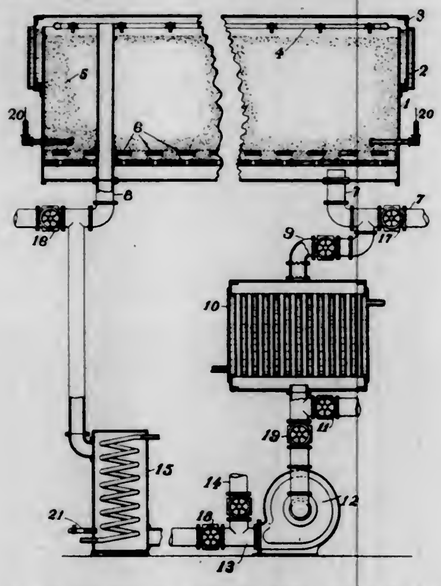
2. A brake-shoe having a grooved face and projections dividing the groove into compartments, the grooved part of the shoe also having laterally-extending recesses, the side walls of the groove being provided with offsets, the hollow and recessed portion of the shoe being filled with a suitable composition to increase the braking efficiency.

843,524. PROCESS OF REVIVIFYING GAS-PURIFYING MATERIALS. HENRY L. DOHERTY, Madison, Wis. Filed Nov. 12, 1906. Serial No. 343,054.

Claim.—1. The process of recovering spent purifying oxids which consists in reoxidizing with a regulated current of air diluted with gases.

2. The process of recovering spent purifying oxids which consists in reoxidizing with a regulated current of air diluted with gases, the dilution being proportional to the observed tendency to rise in temperature.

3. The process of recovering spent purifying oxids which consists in circulating a gas mass through said oxids in closed circuit and progressively adding increasing amounts of air to said gas mass.



4. The process of recovering spent purifying oxids which consists in producing a closed circulation of an indifferent gas mass bathing said spent oxids, removing a portion of said gas at one point in the circulation and replacing it with a portion of air, and continuing the introduction of air and removal of excess gas until the oxidation of the spent oxids is complete.

5. The process of recovering spent oxids which consists in producing a closed circulation of an indifferent gas mass bathing said spent oxids and gradually replacing it with air, the introduction of air being inversely proportional to the observed tendency of the spent oxids to rise in temperature.

6. The process of recovering spent oxids which consists in producing a closed circulation of an indifferent gas mass bathing said spent oxids and gradually replacing it with air, the introduction of air being inversely proportional to the observed tendency of the spent oxids to rise in temperature, and developed heat being removed by a cooling device placed in the gas-circuit.

7. The process of recovering spent oxids which consists in reoxidizing said spent oxids with a cooled, diluted air-current.

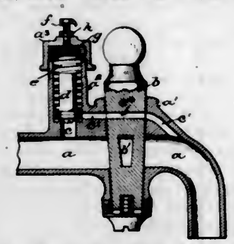
8. The process of recovering spent oxids which consists in reoxidizing with a regulated current of cooled diluted air, the dilution being proportional to the observed tendency of the spent oxids to rise in temperature, and finally finishing the oxidation with warmed air.

9. The process of recovering spent oxids which consists in producing a closed circulation of an indifferent gas mass bathing said spent oxids, removing a portion of the gas at one point in the circuit and replacing it with a portion of air, the amount of air introduced being inversely proportional to the observed tendency of the spent oxids to rise in temperature, removing developed heat during the first stages of the oxidation by passing the circulating gas mass through a cooling device, and finally finishing the oxidation by a circulation of warmed, progressively-purer air.

10. The process of recovering spent oxids used in purifying gas which consists in reoxidizing said spent oxids in the purifier-box by a circulation of diluted air therethrough, the dilution being so proportioned as to prevent said spent oxids rising above 120° Fahrenheit.

11. The process of recovering spent oxids used in purifying gas which consists in producing a closed circulation of thermally-tempered, diluted air therethrough, the tempering and dilution being regulated to prevent said spent oxids rising above 120° Fahrenheit in temperature.

843,525. AUTOMATIC STEAM AND HOT-WATER SAFETY-COCK. JOHN A. FREY, Washington, D. C. Filed Feb. 13, 1906. Serial No. 300,893.



Claim.—1. An automatic steam and hot-water safety cock or faucet comprising the usual body or pipe and a rotatable plug having the usual transverse discharge-aperture, and a supplemental escape or discharge passage provided in the upper portion of the pipe and extending from a point in rear of the plug to a point in front of the same, and a spring-pressed valve seated in such passage and normally closing the same, the plug having a transverse bore arranged at right angles to the usual discharge-aperture therein and adapted when the plug is closed to register with other portions of the supplemental passage, substantially as described.

2. The improved cock or faucet for the purpose specified comprising the usual pipe or body and a rotatable apertured plug, said plug having in its upper portion a supplemental transverse bore at right angles to the main discharge-aperture, and a supplemental discharge-passage communicating with such bore and with the main passage of the faucet in rear of the plug, and a spring-pressed valve normally seated in the rear portion of the passage, substantially as described.

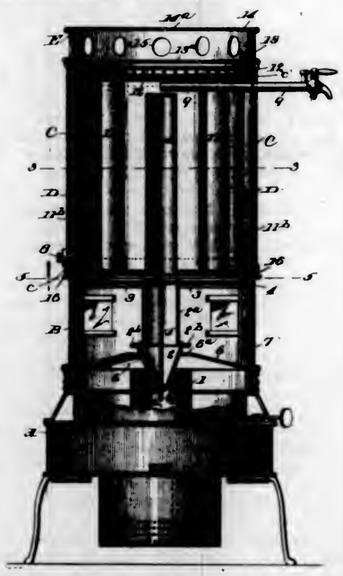
843,526. WATER-HEATER. JOHN A. FREY, Washington, D. C. Filed May 29, 1906. Serial No. 319,393.

Claim.—1. In a water-heater of the class indicated, the combination, with a burner, of a water-heater and a subbase interposed between it and the burner and including a concentrator or hood having a central opening and arranged above the burner, an inverted conical deflector projecting downward through such opening and into proximity to the burner, and means arranged within the subbase-casing for supporting the hood and deflector, substantially as described.

2. The combination, with a burner and a water-heater, of an interposed subbase comprising a surrounding casing, a skeleton frame secured in its upper portion horizontally, a conical inverted flame-deflector and a rod suspending it from the center of the skeleton frame in the required proximity to the burner, substantially as described.

3. The combination, with a burner and a water-heater, of an interposed subbase having a skeleton frame secured in its upper portion, and a hood or conical concentrator provided with a central opening and arranged in the lower portion of the subbase, and rods pendent from the skeleton frame and serving to support said hood, substantially as described.

4. The combination, with a water-heater comprising a cylindrical casing and a series of vertical open-end flues which traverse the same, and a burner located below the heater, of an interposed subbase comprising a surrounding casing, a transverse flame-concentrator consisting of a metal plate provided with a central opening, and a conical flame-deflector suspended in said opening, the means for the suspension extending to and being connected with the subbase substantially as described.



5. The combination, with a water-heater and a burner, of an interposed subbase comprising a casing, a skeleton frame arranged and secured in the upper portion thereof, and a suspended and detachable conical deflector, the upper extension of the same abutting said skeleton frame, and a screw-rod pendent from the latter and extending through the deflector and having a nut applied to its lower end whereby the deflector may be readily attached and detached, substantially as described.

6. The combination, with a burner and a water-heater, of an interposed subbase comprising a casing upon which the heater is arranged, of an inverted conical deflector having a lateral flange, a conical hood or concentrator having a large central opening through which the conical deflector projects, the flange of the latter being a short distance above the hood whereby free passage is left, and means for suspending the deflector and hood within the casing, substantially as described.

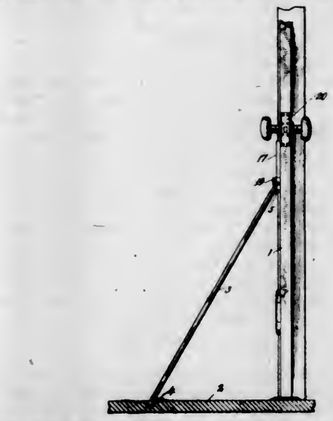
7. A water-heater comprising a cylinder with flues traversing the same, a casing surrounding the water-heater but spaced therefrom and having a base-flange projecting below the water-heater whereby it is adapted to serve as a means for support of the two parts upon a stove or other heater, substantially as described.

8. A water-heater proper comprising a cylinder having a series of open-end flues traversing it from end to end and a central flue whose upper end is closed and terminates below the top of the cylinder thus leaving a free space for circulation of water, and the water-outlet pipe 9 extending horizontally into such space and through the side of the cylinder, it being provided exteriorly with a stop-cock, as shown and described.

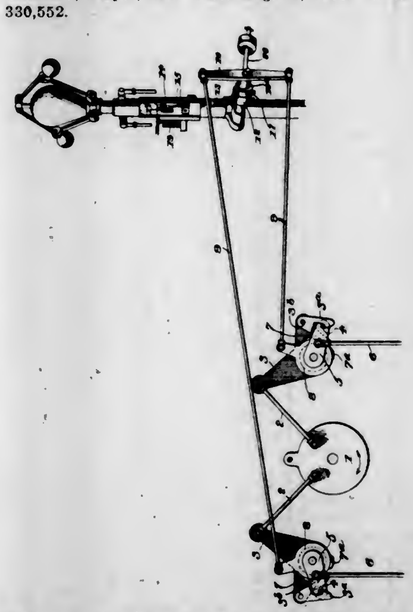
843,527. DOOR-SECURER. EMIEL R. FUCHS, New York, N. Y. Filed Apr. 23, 1906. Serial No. 313,243.

Claim.—1. A door-securing mechanism comprising a bar adapted to rest against the door, an abutment on the floor against which the lower end of said bar is set, a fixed abutment secured to the door, and a single or common key-actuated means for moving said bar laterally and positively in both directions so as to carry it into or out of engagement with the door-abutment.

2. A door-securing means comprising a bar, an abutment on the floor against which the lower end of said bar is set, an abutment secured to said door, a key-controlled bolt also secured to said door said bolt having laterally-projecting walls between which the upper end of the bar is adapted to rest, whereby when the bolt is thrown the bar will be positively moved by said bolt into or out of engagement with the abutment on the door.



843,528. STOP MECHANISM FOR STEAM-ENGINES. ALLEN A. FULLER and DAVID K. CARTTER, Jasper, Ala.; said Fuller assignor to James H. Craig and James M. Cranford, Jasper, Ala. Filed Aug. 14, 1906. Serial No. 330,552.



Claim.—1. An engine stop device comprising means for rendering the engine inoperative, a lever with one or more rods connected thereto, means for tilting the lever, a collar with locking-slot, a latch fitting in said slot, and electromagnetic means for releasing the latch.

2. An engine stop device, comprising a valve-gear with steam-hooks and knock-off cam-levers, two rods connecting with the latter, a tilting lever fulcrumed in the center and having its ends connected to the rods, a slotted collar con-

nected to the tilting lever, a locking-latch for the slotted collar and electromagnetic means for releasing the latch.

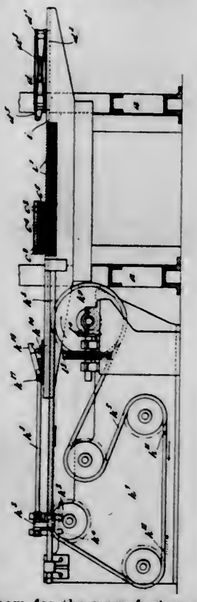
3. An engine stop device, comprising mechanical means for throwing the engine out of gear, a tripping device for setting this into action, an electromagnetic device for the tripping devices and a battery-circuit with circuit-closer connected with and operated by the governor.

4. A steam-engine having knock-off cams for the steam cut-off, combined with a stop device operating through the knock-off cams, said stop device consisting of a tripping mechanism, an electromagnetic releasing device for the tripping mechanism and a circuit with circuit-closer.

5. A steam-engine having an automatic cut-off, an automatic governor regulating the same and an electromagnetic stop device acting through the cut-off mechanism.

6. A stop mechanism comprising a valve-gear, two rods, a centrally-hung lever with opposite ends connected to said rods and provided with means for tilting it and a slotted collar, a locking-latch for the collar having an elbow extension, a swinging tappet-bar arranged to strike the latch, a catch-lever engaging the tappet and electromagnetic means for releasing the catch.

843,529. LOOM FOR MAKING WIRE FABRIC. GIOVANNI GIUSSANI, Ealing, London, England, assignor to Samuel Shaw Crisp and Herbert Grice, Trading as Firm Duke, Waring, Crisp & Co., London county, England. Filed July 21, 1904. Serial No. 217,462.



Claim.—1. A loom for the manufacture of fabric of helically-twisted wire in sheets having a selvage, comprising devices for stretching wires to form a warp, devices for forming successive sheds in such warp, a shuttle carrying a continuous weft-wire, a single device adapted to move the said shuttle through the whole of each shed and then to be withdrawn before the next shed is formed, and a device at each side of the warp adapted to intercept the continuous weft-wire at each passage.

2. A loom for the manufacture of fabric of helically-twisted wire in sheets having a selvage, comprising devices for stretching wires to form a warp, devices for forming successive sheds in such warp, a shuttle carrying a continuous weft-wire, a single device adapted to move the said shuttle through the whole of each shed and then to be withdrawn before the next shed is formed, a device at each side of the warp adapted to intercept the continuous weft-wire at each passage, a device for beating up the said weft-wire after each passage, and a device for taking up the woven fabric after the weft has been beaten up.

3. A loom for the manufacture of fabric of helically-twisted wire in sheets having a selvage, comprising devices for stretching wires to form a warp, devices for forming successive sheds in such warp, a shuttle carrying a continuous weft-wire, a single device adapted to move the said shuttle through the whole of each shed and then to be withdrawn before the next shed is formed, and a pin at each side of the warp adapted to be projected through the plane of the warp before each passage of the said weft-wire.

4. A loom for the manufacture of fabric of helically-twisted wire in sheets having a selvage, comprising devices for stretching wires to form a warp, devices for forming successive sheds in such warp, a shuttle carrying a continuous weft-wire, a single device adapted to move the said shuttle through the whole of each shed and then to be withdrawn before the next shed is formed, a device for beating up the said weft-wire after each passage and a pin adapted to be projected in rear of the said weft-wire after each beat-up through the plane of the warp at that side thereof from which the said weft-wire is next to be passed.

5. A loom for the manufacture of fabric of helically-twisted wire in sheets having a selvage, comprising devices for stretching wires to form a warp, devices for forming successive sheds in such warp, a shuttle carrying a continuous weft-wire, a single device adapted to move the said shuttle through the whole of each shed and then to be withdrawn before the next shed is formed, a device for beating up the said weft-wire, a pin at each side of the warp adapted to be projected through the plane thereof in rear of the weft-wire last beaten up, a shaft adapted to be rotated and a number of sprocket-wheels fixed on the said shaft and adapted to engage the mesh of the fabric as it is made.

6. A loom for the manufacture of fabric of helically-twisted wire in sheets having a selvage, comprising devices for stretching wires to form a warp, devices for forming successive sheds in such warp, a device for passing a continuous weft-wire to and fro through such sheds, a reed, mechanism for moving this reed in such a path that it descends in rear of the weft-wire, moves forward to beat up the weft, and then ascends, a pin at each side of the warp adapted to be projected through the plane thereof in rear of the weft-wire last beaten up, a shaft adapted to be rotated and a number of sprocket-wheels fixed on the said shaft and adapted to engage the mesh of the fabric as it is made.

7. In a loom for the manufacture of fabric of helically-twisted wire in sheets having a selvage, in combination, warp-wires, healds and tubes hinged to the said healds through which tubes the said wires pass.

8. In a loom for the manufacture of fabric of helically-twisted wire in sheets having a selvage, in combination, a framework, warp-wires, healds, tubes hinged to the said healds through which tubes the said wires pass, and means carried by one heald and other means carried by the framework adapted to keep the said tubes from lateral movement.

9. In a loom for the manufacture of helically-twisted wire in sheets having a selvage, in combination, healds, tubes hinged to the said healds, a continuous weft-wire, a guideway extending transversely of the loom and transverse slots in the said guideway adapted to receive the said tubes.

10. A loom for the manufacture of fabric of helically-twisted wire in sheets having a selvage, comprising devices for stretching wires to form a warp, healds, tubes hinged to the said healds through which tubes the said warp-wires pass, means for keeping the said tubes from lateral movement, means for moving the said healds to form successive sheds, means for causing a pause at the end of each stroke of the said healds, a guideway extending transversely of the loom, transverse slots in the said guideway adapted to receive the said tubes, a slide adapted to move in the said guideway, a drum pivotally mounted on the said slide, there being a continuous weft-wire wound on the said drum, means for moving the said slide to and fro in the said guideway, a reed adapted to descend in rear of the said weft-wire and to beat it up, a pin at each side of the warp adapted to be projected through the plane thereof in rear of the said weft-wire immediately after it has been beaten up, a roller adapted to be rotated through a small angle after each beat-up, and means on the said roller adapted to engage in the meshes of the fabric as it is made.

843,530. METHOD OF IMPROVING COFFEE. AXEL E. B. GRAM, Copenhagen, Denmark. Filed June 5, 1906. Serial No. 320,366.

Claim.—1. The process of improving the odor and flavor of coffee, consisting in mingling unroasted coffee with an acid forming oxid of nitrogen whereby the gas reacts on said coffee to develop its odor and flavor.

2. The process of improving the odor and flavor of coffee consisting in mingling unroasted coffee with nitrogen dioxid whereby the gas reacts on said coffee to develop its odor and flavor.

3. The process of improving the odor and flavor of coffee consisting in mingling unroasted coffee with nitrogen dioxid and air whereby the gas reacts on said coffee to develop its odor and flavor.

4. The process of improving the odor and flavor of coffee consisting in mingling unroasted coffee with nitrogen dioxid to react on the coffee to develop its odor and flavor and then roasting the resulting product.

843,531. EYEGLASSES AND SPECTACLES. JOHN D. HARPER, New York, N. Y., assignor to The Harper Optical Company, a Corporation of New York. Filed July 23, 1904. Serial No. 217,859.



Claim.—A lens having an orifice therein, an elastic tube having a permanent head on one of its ends inserted in the said orifice and snugly fitting the same, the said tube being longer than the thickness of the lens, and said head being larger than the orifice in the lens, a metal mounting having apertured cheek-pieces to embrace the sides of the lens and to bind the head of the said tube against the lens, one of said apertures being screw-threaded, and a screw having a smooth extension at its end of less diameter than the apertures in said cheek-pieces and inserted through one of the cheek-pieces, through the elastic tube and through the opposite cheek-piece and screwed down therein, substantially as described.

843,532. MILKING DEVICE. LEWIS G. HARPER, West Chester, Pa. Filed June 8, 1906. Serial No. 320,799.

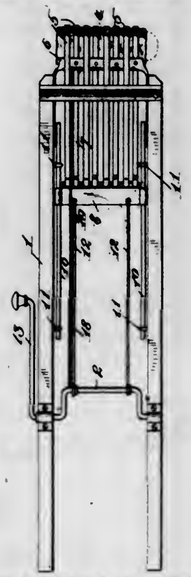
Claim.—1. A milking device having a flexible compressible body, flexible means passing around the body and operating to contract the latter, and a shut-off means engaging the body and operating prior to the said flexible means.

2. A milking device having a compressible tubular body and compressing means passing around the said body, and a shut-off means engaging the body and operating to close the upper part of the teat prior to the operation of the compressing means.

3. A milking device having a compressible tubular body, and a teat-shut-off means engaging the upper portion of the body to shut off the corresponding part of the teat and operative prior to and during the compression of the said body.

4. A milking device having a resilient compressible body, compressing means around the body, and a shut-off device coöperating with the body to close the teat prior to the operation of the compressing means.

5. A milking device having a tubular body to engage a teat, a slidable shut-off means for engaging the upper portion of the body and teat to close the latter, and means for compressing the said body subsequent to the operation of the shut-off means, the movement of the said shut-off being independent of the compression of the body.



6. A milking device having a compressible tubular body, means for compresing said body, and a plunger engaging the upper portion of the said body to close the upper part of the teat prior to the operation of the means for compressing the body, the plunger moving independently of the compressing movement of the body.

7. In a milking device, the combination with a teat-compressing tubular means, of a teat-closing means operating prior to the said compressing means, the said teat-closing means moving independently of the teat-compressing means.

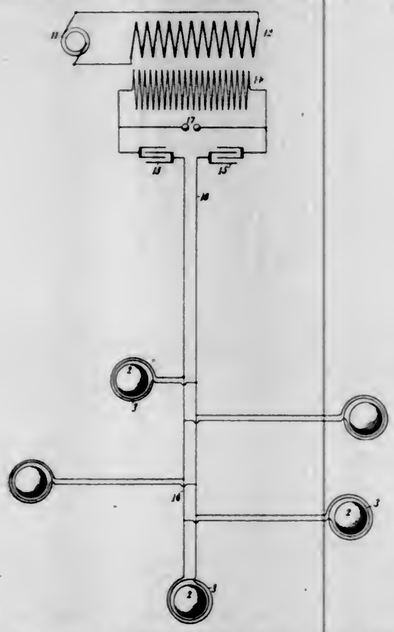
843,533. INDUCTION VAPOR OR GAS ELECTRIC LAMP. PETER C. HEWITT, New York, N. Y., assignor, by mesne assignments, to Cooper Hewitt Electric Company, a Corporation of New York. Filed Apr. 18, 1900. Serial No. 13,291.

Claim.—1. A gas or vapor device consisting of an inclosing chamber, a gas or vapor contained therein of such density and electrical resistance as to become conductive of electric currents and to constitute the secondary circuit of an electric transformer, a primary coil therefor, and means for transmitting rapidly-varying electric currents through the primary, the number of turns of said coil and the quantity and rate of variation of said currents, being predetermined with respect to the characteristics of said gas or vapor so as to induce therein currents of sufficient quantity to cause said vapor to conduct current in the low-resistance condition.

2. A vapor or gas device having an inclosing chamber, a primary exciting-coil, the vapor or gas constituting a secondary circuit for said primary, the vapor or gas having such quality as to be traversed by induced electric currents and absorb practically all the energy from an oscillatory circuit in the first oscillation, and means for transmitting rapidly-varying electric currents through the primary, thereby rendering the secondary luminous.

3. The combination of a gas or vapor having an inclosing chamber, a primary coil in inductive relation thereto, a secondary therefor consisting of said inclosed gas or vapor having such density and resistance as to convey currents of sufficient wattage as to be rendered highly

luminous under the influence of said currents, means for transmitting rapidly-varying electric currents through said primary coil, and thereby inducing currents in the secondary, the length of the primary coil being so proportioned to the electrical conditions of the circuit that variations in the current flowing in the primary will be in direct proportion to the current absorbed by the secondary.



4. In a system of electric lighting, two or more primary coils connected in parallel, gas or vapor inclosing chambers in inductive proximity to the respective primary coils, secondary circuits in the respective inclosing chambers consisting of conducting vapor or gas of such density and resistance as to conduct induced currents under the influence of rapidly-varying currents supplying the respective primary coils, and thereby inducing a flow of currents in said secondaries, the primary coils and the source being so proportioned with reference to each other and to the respective secondaries that the currents flowing through the primaries shall vary in approximately direct proportion to the currents absorbed in the secondaries.

5. A source of rapidly-varying electric currents of approximately definite quantity, and a localized field actuated by said currents, in combination with an inclosed gas or vapor in inductive relation to the field, the said gas or vapor having such a density and conductivity that it is adapted to absorb practically all the energy of said primary currents at each alternation.

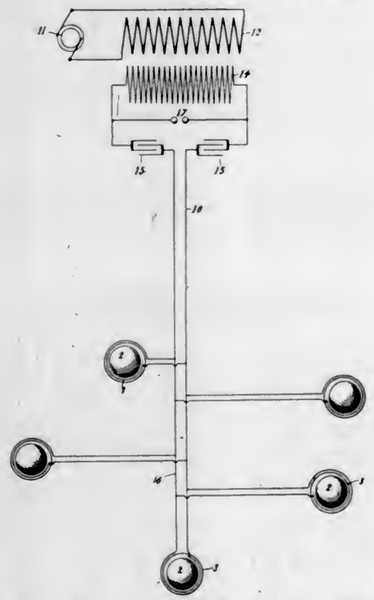
6. A source of rapidly-varying electric currents of approximately definite quantity, and a localized field to which said currents are applied, in combination with an inclosed gas or vapor in inductive relation to the field, the density and conductivity of the gas or vapor being specifically adapted to the applied currents so that the gas or vapor will become a low-resistance conductor and light-radiant by the electromagnetic inductive effect of said currents on said field.

7. The combination with a source of dynamic electricity, and means for transforming the current into rapidly-varying current, a localized field to which said rapidly-varying currents are applied, a body of gas or vapor in said field of such volume, density, and conductivity, as to absorb by electromagnetic induction and to transform into heat, light, &c., all the energy of said field at each variation of said currents.

8. The combination with an electric circuit carrying dynamic currents of quantity, of means for transforming the same into rapidly-varying currents, independent localized fields created by said rapidly-varying currents, and an inclosed gas or vapor in each field of such volume, density, and conductivity as to be capable of absorbing the energy present at each variation of the field.

9. The combination with an electric circuit carrying dynamic currents of quantity, of means for transforming the same into rapidly-varying currents, independent localized fields created by said rapidly-varying currents, an inclosed gas or vapor in each field of such density as to be capable of absorbing and transforming into light the energy present at each variation of the field.

843,534. METHOD OF PRODUCING ELECTRIC LIGHT. PETER C. HEWITT, New York, N. Y., assignor, by mesne assignments, to Cooper Hewitt Electric Company, a Corporation of New York. Original application filed Apr. 18, 1900, Serial No. 13,291. Divided and this application filed Sept. 28, 1900. Serial No. 31,346.



Claim.—1. The method of producing light through the medium of an inclosed gas or vapor, which consists in inclosing in a suitable chamber, a gas or vapor of such density as to be capable of becoming the secondary of an inductive circuit, and subjecting the gas or vapor to the influence of such inductive circuit, the said circuit being of such a character as to induce in the vapor-circuit currents of sufficient quantity to cause the gas or vapor to attain its state of maximum conductivity.

2. The method of producing light from the energy of a varying electric current, which consists in opposing to the flow of the current through a circuit, a counter electromotive force approximately equal to the applied electromotive force, and subjecting an inclosed gas or vapor to the inductive influence of said circuit, thereby modifying the counter electromotive force in proportion to the energy consumed by the current traversing the gas or vapor.

3. The method of operating a vapor-lamp by electromagnetic induction, which method consists in subjecting said lamp to a rapidly-varying magnetic field of such rapidity of variation and of such total energy as will cause the inclosed vapor to become a low-resistance vapor-conductor.

4. The method of operating a vapor device which method consists in transferring to the vapor by electromagnetic induction, sufficient electric current to cause said vapor to pass its critical breaking-down point as a dielectric and to become a low-resistance vapor-conductor.

5. The method of operating a vapor device which method consists in transferring to the vapor by electromagnetic induction, sufficient electric current to cause said vapor to pass its critical breaking-down point as a dielectric and to become a conducting secondary of a resistance so low as to absorb substantially all the energy flowing in the primary circuit.

6. The method of increasing the efficiency of a high-frequency transformer, having a secondary composed of an inclosed vapor, normally non-conducting but adapted to become a low-resistance vapor-conductor acting as a single-turn secondary, which method consists in adjusting the ratio of the step-down transformation to the characteristic and conditions of the inclosed vapor constituting the secondary.

7. The method of increasing the efficiency of a transformer having a secondary composed of a material normally non-conducting but adapted to become a low-resistance, conductor, which method consists in adjusting the ratio of step-down transformation to the characteristics and conditions of the material constituting the secondary, by adjusting the number of turns of a multiple-turn primary coil.

8. The method of increasing the quantity of current flowing in the secondary of a step-down transformer comprising a primary circuit and a single-turn secondary consisting of an inclosed vapor normally non-conducting but capable of becoming a conductor of low resistance, which method consists in predetermining the number of turns of the primary to decrease the voltage and increase the quantity of the said current to a ratio most suitable to the characteristics and conditions of said inclosed vapor.

9. The method of increasing the quantity of current flowing in the secondary of a step-down transformer comprising a primary circuit and a secondary consisting of a material normally non-conducting but capable of becoming a conductor of negative temperature coefficient and low resistance, which method consists in predetermining the number of turns of the primary to secure the interlinkage and quantity current with respect to the characteristics and conditions of said material in such manner as to cause said secondary to reach the condition of a low-resistance conductor.

10. The method of breaking down a dielectric consisting of a body of vapor, which method consists in subjecting the vapor to a rapidly-varying electromagnetic field of which the energy and interlinkage is predetermined to the reluctance and current-carrying capacity of said vapor.

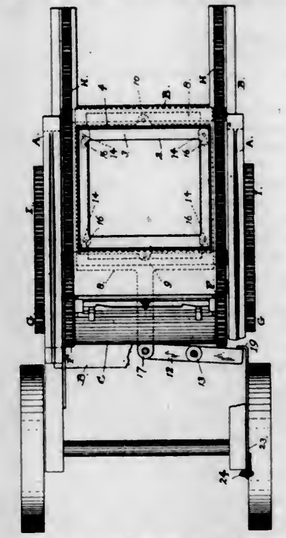
11. The method of preventing oscillations in an excited oscillatory circuit which method consists in absorbing the energy thereof in a vapor secondary of such volume, density and conductivity and so interlinked with the primary circuit as to absorb substantially all of the energy of the latter within the time of the natural period of a single oscillation thereof.

12. In the art of producing light by electromagnetic induction in an inclosed vapor, the method of impressing large amounts of energy upon said vapor, which method consists in causing rapidly-varying currents to traverse the multiplicity of turns of a primary coil in inductive relation to said vapor and predetermining or adjusting the quantity of the current-supply in accordance with the number of turns of the primary and the characteristics and conditions of the vapor.

13. In the art of operating vapor-lamps by electromagnetic induction, the method which consists in constituting the vapor of said lamp the secondary of a step-down transformer and compensating for the resulting reduction of the voltage impressed upon the vapor by increasing the quantity of the current flux in the primary coil.

14. The method of operating a vapor-lamp which method consists in transferring to the vapor by electromagnetic induction, sufficient current to cause said vapor to pass its critical breaking-down point as a dielectric to pass the condition of high resistance and to become a low-resistance vapor-conductor.

843,535. PRINTING-PRESS. JAMES W. HOAG, Oakland, Cal., assignor to The Hoag Rapid Press Co., San Francisco, Cal., a Corporation. Original application filed Apr. 8, 1903, Serial No. 151,691. Divided and this application filed June 22, 1905. Serial No. 266,387.



Claim.—1. In a printing-press, a rotary impression-cylinder, a traveling type-bed, a type-carrier thereon movable vertically into and out of operative relation with the impression-surface of the cylinder, and means for producing such movements in time with the cylinder comprising a slidable frame beneath the type-carrier having standing projections on which the type-carrier is mounted, the bottom of the type-carrier being provided with inclines located in line with the projections, and means for operating the slide-frame from the movement of the type-bed.

2. In a printing-press, a cylinder, a traveling type-bed, a type-carrier thereon movable vertically relative to the type-bed, and means for alternately raising and lowering the type carrier from the movement of the type-bed.

3. In a printing-press, a cylinder, a traveling type-carrier, movable vertically into and out of the printing-line with reference to the cylinder, and means to cause said carrier to move into operative relation when traveling in one direction, and out of operative position when traveling in the opposite direction.

4. In a printing-press, the combination of a cylinder, a reciprocative type-carrier, means to cause the said carrier to move into the printing-line when traveling in one direction and out of such line when traveling in the reverse direction, and means for reciprocating said carrier.

5. In a printing-press the combination of a cylinder, a reciprocative bed, a type-carrier to be operated thereby, means to cause said carrier to move into and out of printing-line when traveling in opposite directions and means to reciprocate said frame and carrier.

6. The combination of a cylinder, a reciprocative bed, a type-carrier movably connected with said bed to have vertical movement relatively thereto, means to raise and lower said type-carrier and means to operate the bed.

7. The combination of a cylinder, a reciprocative type-bed, a type-carrier movably connected with said type-bed, means for guiding said carrier, means for moving said carrier into and out of the printing-line and means to reciprocate said bed and carrier.

8. In a printing-press, the combination of a cylinder, a reciprocative type-carrier, means to cause said carrier to move toward the cylinder when traveling in one direction and away from the cylinder when traveling in the reverse direction, and means for operating said carrier.

9. In a printing-press, the combination of a cylinder, a

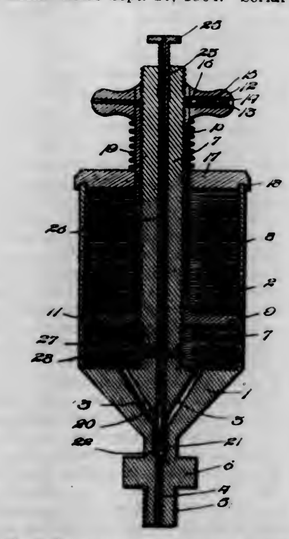
reciprocative type-carrier, and means for moving said carrier into and out of the printing-line, comprising a slidable frame beneath the carrier, standing projections on said frame, supporting the carrier, depressions in the carrier having inclined faces, a lever for moving the said frame, and adjustable stops on the frame of the press for operating the lever.

10. In a printing-press the combination of a cylinder, a reciprocative type-carrier, and means for moving said carrier into and out of the printing-line, comprising a slidable frame beneath the carrier, standing projections on said frame supporting the carrier, depressions in the carrier having inclined faces, a lever for moving the said frame, and adjustable stops on the frame of the press for operating the lever.

11. In a printing-press, the combination of a cylinder, a reciprocative type-carrier, means for raising said carrier into and lowering it out of operative relation to the cylinder, comprising a slidable frame beneath the carrier, means for moving said frame at intervals in opposite directions in the reciprocations of the carrier and means for regulating the length of such movement of the frame.

12. In mechanism of the character described, the combination of a reciprocating bed, a platen vertically movable therein, and means for raising and lowering said platen comprising a reciprocating frame, and devices secured upon the frame of the printing-press against which said reciprocating frame alternately impinges in the movement of the bed to impart movement to said reciprocating frame, first in one direction and then in the other, substantially as described.

843,536. LUBRICATOR. GEORGE W. INGHAM, Sault Ste. Marie, Mich. Filed Sept. 17, 1904. Serial No. 224,807.



Claim.—1. A lubricator comprising a base element, a compressor element, and a supporting element connected with said base and compressor elements, the length of the supporting element being such as to permit the base and compressor elements to be separated without losing their engagement with the supporting element.

2. A lubricator comprising a threaded base element, a threaded compressor element, and a threaded supporting element connected with said elements, the length of the supporting element being such as to permit the base and compressor elements to be separated from each other without losing their engagement with the supporting element.

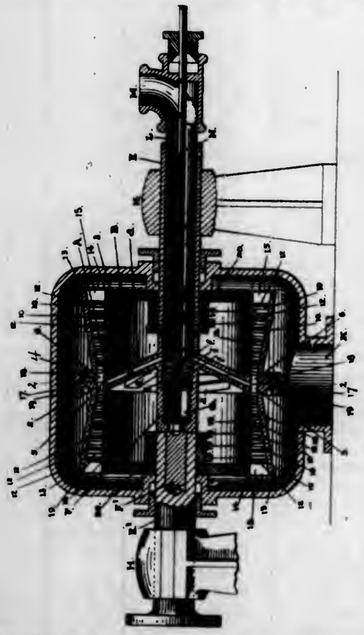
3. A lubricator comprising a base element, a compressor element, and a threaded supporting element connected with said base and compressor elements, the length of the supporting element being greater than the combined lengths of said base and compressor elements, whereby they can be separated from each other without losing their engagement with the supporting element.

4. A lubricator comprising a base element, a compressor element, a supporting element connected with said base and compressor elements, the length of said supporting element being such as to permit the base and compressor elements to be separated from each other without losing their engagement with the supporting element, and means for destroying a vacuum between said base and compressor elements.

5. A lubricator comprising a base element, a supporting element, a compressor element having a sleeve, a cover surrounding said sleeve and adapted to engage said base element, and means for maintaining said cover normally in position upon said base element.

6. A lubricator comprising a base element, having a plurality of passages merging into a single passage formed with a valve-seat, a supporting element having a bore formed with lateral passages, a needle-valve in said bore adapted to coöperate with said valve-seat, and having a central bore formed with lateral passages adapted to register with the lateral passages of the supporting member, a compressor element having a sleeve surrounding the supporting element, a handle on the sleeve, a spring-pressed follower in the handle bearing against the supporting element, a cover surrounding the sleeve and having an annular groove to fit the base element, and a coil-spring surrounding the sleeve and bearing against the handle and the cover.

843,537. STEAM-TURBINE. HENRY KESSLER, San Francisco, Cal. Filed Apr. 3, 1906. Serial No. 309,624.



Claim.—1. In a steam-turbine a stationary circular abutment having a plurality of delivery ports or nozzles in its circumference adapted to deliver propelling-jets at an angle to the axis of rotation and divergently outward from a central plane perpendicular to said axis toward the ends of the piston, in combination with a rotary piston having steam-grooves in its periphery arranged in two sets on opposite sides of and separated by the stationary abutment at an angle to the axis of rotation, the grooves composing the set on one side of the abutment being disposed on the periphery of the piston at equal but opposing angles with relation to the axis to those composing the other set.

2. In a steam-turbine a rotary piston having helically-set grooves in its periphery arranged in two sets on opposite sides of a central plane passing through the piston perpendicular to the axis of rotation and extending from said plane outward to the ends of the piston at opposing angles, in combination with a stationary abutment centrally situated between the said sets of grooves and having correspondingly divergent delivery ports and passages in two sets adapted to deliver propelling-jets in the direction of the helically-set grooves on opposite sides of the abutment.

3. In a steam-turbine, a rotary piston formed with helically-arranged grooves in two oppositely divergent sets extending from the center outward to the ends of the piston and on its periphery, in combination with a stationary circular abutment inclosed by and around which the piston is adapted to rotate, said abutment having delivery ports and passages at intervals apart around the circumference adapted to deliver propelling-jets against the piston in the general direction of the helical grooves and from the center outward to the ends of the piston at equal angles to the axis.

4. In a steam-turbine, a casing, a rotary piston mounted therein, a tubular shaft extending through the casing on which the piston is fixed, said piston having helically-arranged steam-grooves in its periphery in two sets extending from the center of the piston-body outward to the ends thereof all around the circumference at equal but opposing angles, a stationary circular abutment centrally supported within the piston having delivery-ports and divergently-set passages extending from the ports through the sides of the abutment and adapted to deliver propelling-jets against the piston-grooves, means connecting said ports with a source of steam outside through the tubular shaft, and means for controlling the passage of the steam to the ports in the abutment.

5. In a steam-turbine, a cylindrical piston having helical grooves in its periphery and formed of two separable sections united by flanges, the grooves in one section of the piston-body extending from the inner end to the outer end thereof at equal but opposing angles to the grooves in the other section, in combination with a stationary abutment-ring containing delivery ports and passages interposed between the two sets of grooves and around which the piston-body is adapted to rotate.

6. In a steam-turbine a casing, a hollow cylindrical piston rotatably mounted therein, a stationary circular abutment within the piston having steam-passages leading from the center radially to the circumference and each terminating in separate and oppositely-diverging ports which are adapted to deliver propelling-jets against the piston at an angle to the axis of rotation, a shaft comprising a tubular middle section forming a support for the stationary abutment and rotatable sections at opposite ends of the middle section having the piston secured thereon, one of said rotatable outer sections being a tubular continuation of the middle section to the outside of the casing, means for connecting the said tubular shaft-section with a source of steam outside the casing, and a valve in the middle section for controlling the communication between the passages in the abutment with the tubular shaft-section.

843,538. PROCESS FOR TREATING LEAF-TOBACCO. HERBERT KNOX, Warehouse Point, Conn. Filed July 8, 1904. Serial No. 215,786.

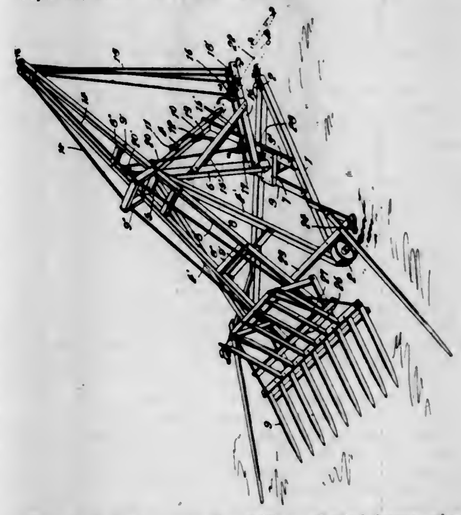
Claim.—1. The process of treating tobacco and analogous substances with a chemical agent, which consists in applying the chemical agent at the butt or broken ends of the leaves while the latter are closely compacted together.

2. The process of treating leaf-tobacco and analogous substances, which consists in compressing the leaf and applying the desired chemical agency at the butt or broken end of the leaf.

3. The process of treating leaf-tobacco and analogous substances, which consists in compressing the leaves laterally and applying an infusion of wild cherry to the butts or broken ends of the leaves.

4. The process of treating leaf-tobacco in bulk, which consists in spraying the butt-ends of the compacted leaves with an infusion of wild-cherry bark.

843,539. HAY AND GRAIN LOADER, UNLOADER, AND STACKER. AUGUST LAGE, Everly, Iowa. Filed Sept. 11, 1905. Serial No. 277,887.



Claim.—1. The combination with a wheeled frame, of a fork-arm mounted about a vertical and a horizontal axis and a fork pivoted to said arm and adapted to be thrown to a position to act as a rake.

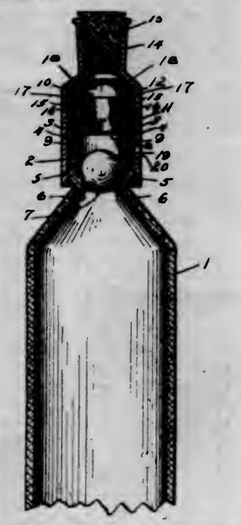
2. The combination of the triangular-shaped base, wheels at the three corners of the same, a fork-arm mounted to swing about a vertical and a horizontal axis, a fork pivoted to said arm, and an adjustable post carried by the base and adapted to be thrown into engagement with the ground to prevent the machine tilting over when the fork is thrown to deliver its load.

3. The combination with the base of wheels supporting the base, a vertical post or shaft mounted to have a limited rotary motion on the base, a head in which said shaft or post turns, supports connecting the head and the base, an arm pivoted intermediate its ends to said post or shaft, a fork pivoted to one end of the arm, and adapted to be thrown by said arm to a position to act as a rake, a frame secured to and extending from the post or shaft, a windlass and cable carried by the frame and connected to the fork for operating it, and a windlass and cable carried by the frame, and connected to the arm for operating it.

843,540. NON-REFILLABLE BOTTLE. PATRICK J. LEONARD, St. Louis, Mo. Filed Aug. 9, 1905. Renewed July 11, 1906. Serial No. 325,616.

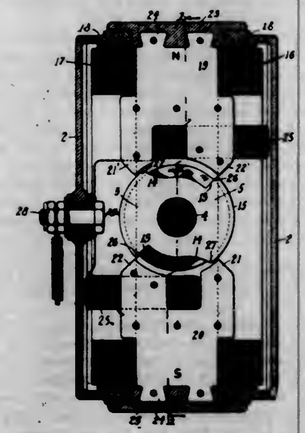
Claim.—1. A bottle comprising a neck provided with external threads and an internal valve-seat at its base and an annular shoulder at its top, a perforated disk fitted upon said shoulder, a shield upon the disk the shield being open at both ends a hood provided with ports in its sides, and a supplemental neck provided with internal screw-threads at its lower end for engagement with the external screw-threads at the base of the aforesaid neck and provided intermediate its ends with an internal annular shoulder for engagement with the aforesaid hood to

clamp the hood, the shield and the perforated disk upon the aforesaid shoulder.



2. A bottle comprising a neck provided with external threads and an internal valve-seat at its base and an annular shoulder at its top, a perforated disk fitted upon said shoulder, a shield upon the disk the shield being open at both ends, a hood provided with ports in its sides, a supplemental neck provided with an internal screw-thread at its lower end for engagement with the external screw-threads at the base of the aforesaid neck and provided intermediate its ends with an internal annular shoulder for engagement with the aforesaid hood to clamp the head, the shield and the perforated disk upon the aforesaid shoulder, and plastic material arranged between the neck proper of the bottle and the supplementary neck for cementing the necks together.

843,541. INDUCTOR MAGNETO-ALTERNATOR. LEON J. LE PONTOIS, New Rochelle, N. Y., assignor to Polyphase Ignition System Company, a Corporation of New York. Filed Dec. 11, 1905. Serial No. 291,261.



Claim.—1. An inductor magneto-alternator comprising a permanent field-magnet, bifurcated polar projections adjacent to the poles of said magnet, stationary windings surrounding two of the diametrically opposite bifurcations, and an inductor-rotor adapted to modify by its rotation the distribution of the magnetic flux through the oppositely-disposed bifurcations, whereby the reluctance of the magnetic circuit comprising the permanent magnet, the bifurcated polar projections, the inductor-rotor, and the air-gaps existing between the rotor and the said polar projections is kept down to a fairly constant value for the purpose stated.

2. An inductor magneto-alternator comprising a permanent field-magnet, bifurcated polar projections adjacent to the poles of said magnet, stationary windings surrounding two of the diametrically opposite bifurcations, and a dissymmetric inductor-rotor adapted to modify by its rotation the distribution of the magnetic flux through the oppositely-disposed bifurcations, for the purpose described.

3. An inductor magneto-alternator comprising a permanent magnet formed of a permanently-magnetized ring wound from a continuous hardened-steel ribbon, laminated polar projections adjacent to the consequent poles of said magnet said poles being bifurcated, stationary windings surrounding two of the diametrically opposite bifurcations and an inductor-rotor adapted to modify by its rotation the distribution of the magnetic flux through the oppositely-disposed bifurcations, whereby the reluctance of the magnetic circuit comprising the permanent magnet, the bifurcated polar projections, the inductor-rotor, and the air-gaps existing between the rotor and the said polar projections is kept down to a fairly constant value for the purpose stated.

4. An inductor magneto-alternator comprising two annular permanent magnets so mounted that poles of the same polarity face each other, polar projections mounted between and adjacent to the magnetic poles of said magnets said projections being bifurcated, stationary windings surrounding two of the diametrically opposite bifurcations, a shaft located between and having its axis in a plane parallel to the plane of said magnets, and an inductor-rotor mounted on said shaft and adapted to rotate between the faces of said polar projections.

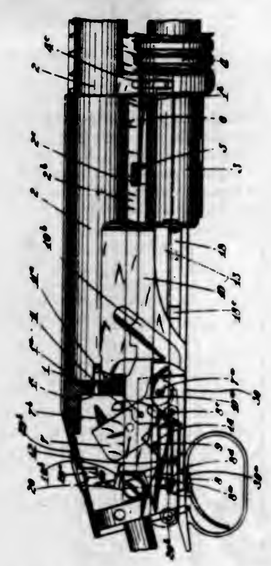
5. An inductor magneto-alternator comprising two annular permanent magnets so mounted that poles of the same polarity face each other, polar projections mounted between and adjacent to the magnetic poles of said magnets said projections being bifurcated, stationary windings surrounding two of the diametrically opposite bifurcations, a shaft located between and having its axis in a plane parallel to the plane of said magnets, and a dissymmetric inductor-rotor mounted on said shaft and adapted to rotate between the faces of said polar projections.

6. An inductor magneto-alternator comprising two similar annular permanent magnets each formed of a permanently-magnetized ring wound from a continuous hardened-steel ribbon said magnets being so mounted that poles of the same polarity face each other, polar projections mounted between and adjacent to the magnetic poles of said magnets said projections being bifurcated, stationary windings surrounding two of the diametrically opposite bifurcations, a shaft located between and having its axis in a plane parallel to the plane of said magnets, and an inductor-rotor mounted on said shaft and adapted to rotate between the faces of said polar projections.

7. An inductor magneto-alternator comprising two annular permanent magnets so mounted that poles of the same polarity face each other, polar projections mounted between and adjacent to the magnetic poles of said magnets, stationary windings adjacent to said polar projections, a shaft located between and having its axis of rotation in a plane parallel to the plane of said magnets, and an inductor-rotor mounted on said shaft and adapted to rotate between the faces of said polar projections.

8. An inductor magneto-alternator comprising an annular permanent magnet, polar projections adjacent to the consequent poles of said magnet, stationary windings adjacent to said polar projections, a shaft having its axis of rotation in a plane parallel to the plane of said magnet, and an inductor-rotor mounted on said shaft and adapted to rotate between the faces of said polar projections.

843,542. FIREARM. JOHN E. MASON, Columbus, Ohio, assignor of one-fourth to John H. Smith and three-eighths to Charles E. Holstein, Columbus, Ohio. Filed Sept. 10, 1906. Serial No. 333,884.



Claim.—1. In a firearm the combination of a breech-frame, a barrel slidingly mounted therein, a grip sliding with the barrel, a shell-carrier, a firing mechanism including a cocking device, and a single sliding rod operated by the sliding grip said rod being provided with a single projection that operates in its forward movement both the cocking device and the shell-carrier.

2. In a firearm, the combination of a breech-frame, a barrel slidingly mounted therein, a grip sliding with the barrel, a shell-carrier, a firing mechanism including a cocking device, and a single sliding rod operated by the sliding grip said rod being provided with a single projection that operates successively the cocking device and shell-carrier.

3. In a firearm the combination of a breech-frame, a barrel slidingly mounted therein, a grip sliding with the barrel, a hammer, a pivoted shell-carrier, a cocking-lever fulcrumed on the shell-carrier, a sliding rod operated by the sliding grip to operate successively the cocking-lever and the carrier.

4. In a firearm, the combination of a breech-frame, a barrel slidingly mounted therein, a grip sliding with the barrel and having a limited sliding movement with reference thereto, a barrel-latch, a hammer, a pivoted shell-carrier, a lever fulcrumed on the shell-carrier, a sliding rod operated by the sliding grip to operate successively the cocking-lever and the carrier, and means on the grip for operating the barrel-latch.

5. In a firearm, the combination of a breech-frame, a barrel slidingly mounted therein, a grip sliding with the barrel and having a limited sliding movement with reference thereto, a barrel-latch, a hammer, a pivoted shell-carrier, a lever fulcrumed on the shell-carrier, a sliding rod operated by the sliding grip to operate successively the cocking-lever and the carrier, means on the grip for operating the barrel-latch when slid forward on the barrel while the latter is in closed position, the aforesaid rod operating successively the cocking-lever and the carrier after the operation of the barrel-latch.

6. In a firearm, the combination of a breech-frame, a barrel slidingly mounted therein, a grip slidingly attached to the barrel, a firing mechanism including a cocking device, a shell-carrier, a cocking-rod attached to the grip, said rod provided with a projection to successively operate the cocking device and the shell-carrier, and said rod provided with a projection to lock said carrier in closed position with the gun after the shell-carrier-operating projection is disengaged from the carrier.

7. In a firearm, the combination of a breech-frame, a barrel slidingly mounted therein, a barrel-latch, firing devices including a trigger, a trigger-locking device, and means adapted to lock the barrel-latch operated by the firing devices when the gun is closed to unlock the barrel-latch and lock the trigger.

8. In a firearm, the combination of a breech-frame, a barrel slidingly mounted therein, a barrel-latch, firing devices including a trigger, a trigger-locking device, means adapted to lock the barrel-latch operable by the firing device when the gun is closed to unlock the barrel-latch and lock the trigger, and means to hold said barrel-latch in position to prevent the operation of the first-mentioned means until the gun is closed.

9. In a firearm, the combination of a breech-frame, a barrel slidingly mounted therein, a latch for latching the barrel in its closed position, a trigger-locking device, a hammer, means for locking the barrel-latch and operating the trigger-locking device, said hammer being operative independently of said means, and a spring adapted to be placed under tension by the cocking of said hammer, said spring to operate the means for locking the barrel-latch and the trigger-locking device.

10. In a firearm, the combination of a breech-frame, a barrel slidingly mounted therein, a latch for latching the barrel in its closed position, a sliding grip for operating said barrel and barrel-latch, a trigger, a trigger-locking device, means for automatically moving said device into trigger-locking position when the gun is fired and for retaining it in said position until the gun is opened and closed.

11. In a firearm, the combination of a breech-frame, a barrel slidingly mounted therein, a latch for latching the barrel in its closed position, a grip for operating the barrel and barrel-latch, a trigger, a spring-actuated trigger-locking device, spring-actuated means operative upon the firing of the gun to release the trigger-locking device to trigger-locking position, the barrel-latch being constructed to permit the last-named device to move the trigger to releasing position when the gun is closed.

12. In a firearm, a breech-frame, a barrel slidingly mounted therein, a device for latching the barrel in its closed position, a grip for operating the barrel, a spring-actuated trigger-locking device, spring-actuated means operable by the hammer in firing the gun to permit the trigger-locking device to move into trigger-locking position, the barrel-latch being constructed to permit the last-named device to move the trigger-locking device to release the trigger when the gun is closed.

13. In a firearm, the combination of a breech-frame, a barrel slidingly mounted therein, a latch for latching the barrel in its closed position, a grip for operating the barrel and barrel-latch, a spring-actuated trigger-locking device, spring-actuated means operative upon the firing of the gun to permit the trigger-locking device to move into trigger-locking position, said trigger-locking device being movable independently of said last-named spring-actuated means.

14. In a firearm, the combination of a breech-frame, a barrel slidingly mounted therein, a latch for latching the barrel in its closed position, a trigger-locking device, and means operable by the firing of the gun to release the barrel-latch and move the trigger-locking device to trigger-locking position.

15. In a firearm, the combination of a breech-frame, a barrel slidingly mounted therein, a latch for latching the barrel in its closed position, a trigger-locking device, a hammer, means for locking the barrel-latch and operating the trigger-locking device, means operatively connecting the hammer and the means for locking the barrel-latch and operating the trigger-locking device, said hammer being also operative independently of said means.

16. In a magazine-firearm, the combination with a breech-frame and a sliding barrel therein, of a shell-car-

rier, means for raising and depressing the carrier upon the movement of the barrel, an extractor, a spring-actuated shell-ejector, devices to latch the ejector in ejecting position when the gun is closed, and means on the carrier for operating said latching devices to liberate the ejector upon the depression of the carrier.

17. In a firearm, a magazine, a first and a second shell-stop in said magazine, combined with a device coöperating with the second stop to retain the shell from movement longitudinally in the magazine.

18. In a firearm, the combination of a breech-frame, a sliding barrel therein, a magazine, a shell-carrier and means for operating it, a first and a second shell-stop in said magazine, means for releasing the first stop by the closing of the barrel, the shell-carrier constructed to release the second stop, and a device coöperating with the second stop to retain the shell from movement longitudinally in the magazine.

843,543. HITCHING-WEIGHT. IKKO MATSUMOTO. Indianapolis, Ind. Filed June 8, 1906. Serial No. 320,903.



Claim.—1. A hitching-weight having an orifice therein with a restriction to form a shoulder near one end of the orifice, a plate located within the orifice, a spiral spring between the plate and said shoulder, a spiral spring within the first spring having one end fastened to said plate and a chain attached to the other end of said last spring.

2. In a hitching-weight, a heavy body having an orifice with a restriction to form a shoulder at one end, a plate mounted loosely in said orifice, a spirally-wound spring between said plate and shoulder, a spirally-wound spring within said first spring having one end attached to the plate and having an eye at its other end, a chain entering the orifice through its restricted end, said chain being attached to the eye in the second spring, and a third spring on the outside of said body through which the chain passes, the ends of the spring being connected with links of the chain, the chain being normally slack within the spring.

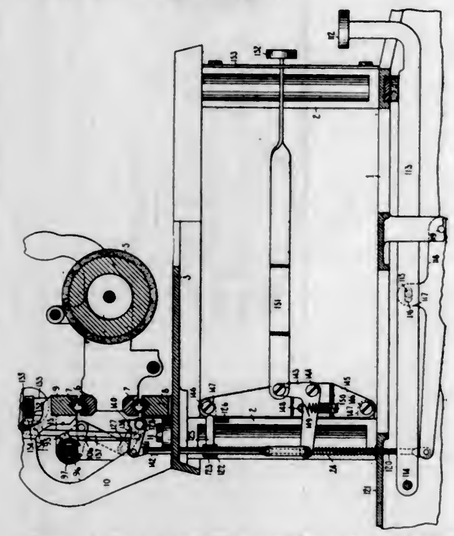
843,544. METHOD OF MAKING BRUSHES. JOHN MORRISON, Troy, N. Y. Filed Feb. 17, 1905. Serial No. 246,034.

Claim.—The method herein described of making brushes which consists in assembling bristles into tufts, applying a plastic material about the bases of said tufts, forming the face of said plastic material opposite the projecting bristles with a plane surface, applying an adhesive coating to the plane surface of the brush-back, and forcing the said face of the said brush-back into engagement with the



plane surface of the said plastic material to cause it to adhere thereto.

843,545. TYPE-WRITING MACHINE. CHARLES P. MOSHER, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Original application filed July 6, 1904, Serial No. 215,526. Divided and this application filed Oct. 11, 1904. Serial No. 227,997.



Claim.—1. In a type-writing machine, the combination of a carriage; a stationary rail for supporting said carriage; a bracket secured to the main frame and supporting said rail; a tabulator-bar lying between said bracket and said carriage; a tabulator-stop on said bar; and a coöperating stop on said carriage.

2. In a type-writing machine, the combination of a carriage; a stop mounted on said carriage; a rail for supporting said carriage; a bracket for supporting said rail; a bar lying between said bracket and said carriage; and a stop adapted to coöperate with said carriage-stop and mounted on said bar.

3. In a type-writing machine, the combination of a carriage; a stop on said carriage; two parallel stationary rails for supporting said carriage; a bracket for supporting one of said rails; a bar lying between said bracket and said carriage; and a stop adjustably mounted on said bar and adapted to coöperate with said carriage-stop.

4. In a type-writing machine, the combination with the main frame, of a carriage; two parallel rails for supporting said carriage, the length of said rails exceeding the width of said main frame; brackets mounted on said main frame and supporting one of said rails; a bar lying between said brackets and said carriage; and a stop adjustably mounted on said bar.

5. In a type-writing machine, the combination of a carriage; two parallel rails for supporting said carriage, one of said rails being disposed above the other; brackets supported by the main frame behind said rails; a bar lying between said brackets and said carriage; a stop adjustably mounted on said bar; and a coöperating stop mounted on the carriage.

6. In a type-writing machine, the combination with the

carriage, of a stationary rail for supporting said carriage; a bracket for supporting said rail intermediate its ends, said bracket being arched to leave a space between the bracket and the carriage; a bar lying in the space between the bracket and the carriage; a stop adjustably mounted on said bar; and a coöperating stop mounted on the carriage.

7. In a type-writing machine, the combination of a carriage; a pair of stationary rails for supporting said carriage, one of said rails being disposed above the other; a pair of brackets for supporting the upper rail, said brackets being connected to said rail between the ends of the latter and being arched to leave a space between the brackets and the carriage; a bar lying between said brackets and said carriage; a stop adjustably mounted on said bar; and a coöperating stop mounted on the carriage.

8. In a type-writing machine, the combination with the main frame, of carriage-rails the length of which exceeds the width of said main frame; a carriage mounted on said rails; brackets near the ends of said rails; a bar supported by said brackets; a stop adjustably mounted on said bar; and rail-supports, said bar lying between said rail-supports and said carriage.

9. In a type-writing machine, the combination of a carriage; a rail for supporting said carriage; a bracket for supporting said rail intermediate its ends; a bar lying between said bracket and said carriage; a stop adjustably mounted on said bar; and a coöperating stop mounted on said carriage; said bar being movable endwise to facilitate the adjustment of said adjustable stop beneath said bracket.

10. In a type-writing machine, the combination with the framework, of a carriage; a bar passing through an opening in said framework and having a stop adjustably mounted thereon, said bar being movable in such wise that the part of said bar that normally lies within said opening may be withdrawn from said opening to facilitate the adjustment of the stop; and a coöperating stop on the carriage.

11. In a type-writing machine, the combination with the framework, of a carriage; a bar, a portion of which lies in an opening in the framework; a stop adjustably mounted on said bar, said bar being mounted for limited endwise movement, so that the portion thereof which normally lies within said opening may be withdrawn to facilitate the adjustment of said stop; and a coöperating stop on the carriage.

12. In a type-writing machine, the combination with the framework, of a carriage; a stop on said carriage; a stop-bar mounted on the framework and extending through an opening in said framework; a stop adjustably mounted on said bar; means for affording an endwise movement of said bar to facilitate the adjustment of said stop within said opening; and means for rocking said bar to move said adjustable stop into and out of the path of said carriage-stop.

13. In a type-writing machine, the combination with the carriage having a stop, of a bar which is slidably mounted at one end in the framework; a pin which supports the other end of said bar by a telescope connection, said pin being threaded through a part of the framework of the machine and having a shoulder that is engaged by the end of said bar, whereby said pin serves both as a support for said bar and as a means for adjusting said bar; and a stop adjustably mounted on said bar.

14. In a type-writing machine, the combination with the carriage having a stop, of a bar which is slidably mounted at one end in the framework; an adjustable pin which supports the other end of said bar by a telescope connection and which limits the longitudinal motion of said bar, whereby said pin serves both as a support for said bar and as a means for adjusting said bar; and a stop adjustably mounted on said bar.

15. In a type-writing machine, the combination of an oscillatory and endwise-movable bar; a stop adjustably mounted on said bar; a carriage having a stop adapted to coöperate with said adjustable stop; an arm on said bar adapted to oscillate said bar to move said adjustable stop into the path of said coöperating stop; means for preventing said arm from moving with said bar when the latter is moved endwise; and a key connected with said arm.

16. In a type-writing machine, the combination with the framework, of a carriage; a bar which is partially covered by a part of the machine; a stop adjustably mounted on said bar, said bar being mounted for limited endwise movement so that the portion thereof which is normally covered may be withdrawn to facilitate the adjustment of said stop; a detent for holding said bar in its normal position; and a stop on said carriage coöperating with said adjustable stop.

17. In a type-writing machine, the combination with the main frame, of carriage-rails, the length of which exceeds the width of said main frame; an oscillatory bar supported near the ends of said rails; a stop adjustably mounted on said bar; an arm on said bar near one end thereof; a key mounted in the main frame; and connections between said key and said arm, said connections including a rock-shaft for carrying the motion derived from said key out to said arm near the end of the stop-bar.

18. In a type-writing machine and in tabulating mechanism, the combination of a carriage; tabulator mechanism comprising a stop mounted on said carriage; a stationary rail for said carriage; and brackets on the main frame supporting said stationary rail, said brackets being arched away from the carriage over the path of said stop.

19. In a type-writing machine and in tabulating mechanism, the combination of a carriage; two stationary rails for said carriage; brackets on the main frame supporting said stationary rail; and tabulator mechanism comprising a part mounted on the carriage and projecting therefrom, said brackets between said rails arching away from said carriage around the path of said tabulator part.

20. In a type-writing machine and in tabulating mechanism, the combination of a carriage: two stationary rails for said carriage lying one above the other; tabulator mechanism comprising a part mounted on the carriage and projecting toward the rear of the machine; and brackets on the main frame supporting said rails, said brackets being arched toward the rear of the machine around the path of said tabulator part.

21. In a type-writing machine and in tabulating mechanism, the combination of a carriage; a stationary rail for said carriage; arched brackets supporting said stationary rail; and tabulator mechanism comprising a movable part which runs through the arches of said brackets.

22. In a type-writing machine, the combination of a carriage; a stationary rail for said carriage; arched brackets supporting said stationary rail; and a stop device mounted on the carriage and moving during the traverse of said carriage through the arches of said brackets.

23. In a type-writing machine, the combination of a carriage; two stationary rails for supporting said carriage; arched brackets for supporting said stationary rails; and a stop device projecting from said carriage and moving during the traverse of said carriage through the arches of said brackets.

24. In a type-writing machine and in tabulating mechanism, the combination of a carriage; a stationary rail for said carriage; arched brackets for supporting said stationary rail; and tabulator mechanism comprising a column-stop bar having one or more column-stops and a coöperating stop, one of said stops being mounted on the main frame and the other on the carriage and said brackets arching over said column-stop bar.

25. In a type-writing machine and in tabulating mechanism, the combination of a carriage; carriage rails or tracks; tabulating devices; and rail or track supporting brackets made in arch form to accommodate said tabulating devices.

843,546. COTTON-HARVESTER. DANIEL MURPHY, St. Paul, Minn. Filed Mar. 18, 1905. Serial No. 250,722.

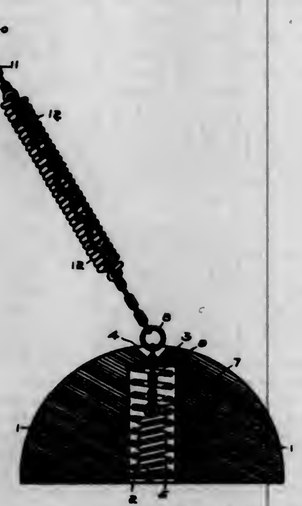
Claim.—1. Apparatus of the class set forth, comprising, in combination, an exhaust-receiver, a removable basket in said receiver, a plurality of antifriction-rollers on said basket, a swinging pipe connected with said receiver and adapted to turn on either side thereof, a flexible suction-

rier, means for raising and depressing the carrier upon the movement of the barrel, an extractor, a spring-actuated shell-ejector, devices to latch the ejector in ejecting position when the gun is closed, and means on the carrier for operating said latching devices to liberate the ejector upon the depression of the carrier.

17. In a firearm, a magazine, a first and a second shell-stop in said magazine, combined with a device coöperating with the second stop to retain the shell from movement longitudinally in the magazine.

18. In a firearm, the combination of a breech-frame, a sliding barrel therein, a magazine, a shell-carrier and means for operating it, a first and a second shell-stop in said magazine, means for releasing the first stop by the closing of the barrel, the shell-carrier constructed to release the second stop, and a device coöperating with the second stop to retain the shell from movement longitudinally in the magazine.

843,543. HITCHING-WEIGHT. IKKO MATSUMOTO, Indianapolis, Ind. Filed June 8, 1906. Serial No. 320,903.

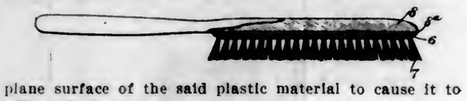


Claim.—1. A hitching-weight having an orifice therein with a restriction to form a shoulder near one end of the orifice, a plate located within the orifice, a spiral spring between the plate and said shoulder, a spiral spring within the first spring having one end fastened to said plate and a chain attached to the other end of said last spring.

2. In a hitching-weight, a heavy body having an orifice with a restriction to form a shoulder at one end, a plate mounted loosely in said orifice, a spirally-wound spring between said plate and shoulder, a spirally-wound spring within said first spring having one end attached to the plate and having an eye at its other end, a chain entering the orifice through its restricted end, said chain being attached to the eye in the second spring, and a third spring on the outside of said body through which the chain passes, the ends of the spring being connected with links of the chain, the chain being normally slack within the spring.

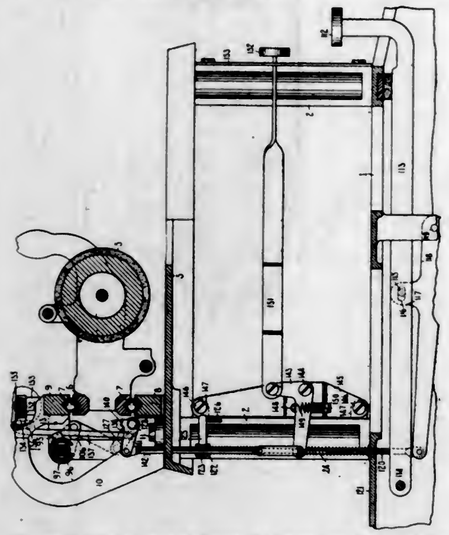
843,544. METHOD OF MAKING BRUSHES. JOHN MORRISON, Troy, N. Y. Filed Feb. 17, 1905. Serial No. 246,034.

Claim.—The method herein described of making brushes which consists in assembling bristles into tufts, applying a plastic material about the bases of said tufts, forming the face of said plastic material opposite the projecting bristles with a plane surface, applying an adhesive coating to the plane surface of the brush-back, and forcing the said face of the said brush-back into engagement with the



plane surface of the said plastic material to cause it to adhere thereto.

843,545. TYPE-WRITING MACHINE. CHARLES P. MOSHER, Syracuse, N. Y., assignor to The Monarch Typewriter Company, Syracuse, N. Y., a Corporation of New York. Original application filed July 6, 1904, Serial No. 215,526. Divided and this application filed Oct. 11, 1904. Serial No. 227,997.



Claim.—1. In a type-writing machine, the combination of a carriage; a stationary rail for supporting said carriage; a bracket secured to the main frame and supporting said rail; a tabulator-bar lying between said bracket and said carriage; a tabulator-stop on said bar; and a coöperating stop on said carriage.

2. In a type-writing machine, the combination of a carriage; a stop mounted on said carriage; a rail for supporting said carriage; a bracket for supporting said rail; a bar lying between said bracket and said carriage; and a stop adapted to coöperate with said carriage-stop and mounted on said bar.

3. In a type-writing machine, the combination of a carriage; a stop on said carriage; two parallel stationary rails for supporting said carriage; a bracket for supporting one of said rails; a bar lying between said bracket and said carriage; and a stop adjustably mounted on said bar and adapted to coöperate with said carriage-stop.

4. In a type-writing machine, the combination with the main frame, of a carriage; two parallel rails for supporting said carriage, the length of said rails exceeding the width of said main frame; brackets mounted on said main frame and supporting one of said rails; a bar lying between said brackets and said carriage; and a stop adjustably mounted on said bar.

5. In a type-writing machine, the combination of a carriage; two parallel rails for supporting said carriage, one of said rails being disposed above the other; brackets supported by the main frame behind said rails; a bar lying between said brackets and said carriage; a stop adjustably mounted on said bar; and a coöperating stop mounted on the carriage.

6. In a type-writing machine, the combination with the

carriage, of a stationary rail for supporting said carriage; a bracket for supporting said rail intermediate its ends, said bracket being arched to leave a space between the bracket and the carriage; a bar lying in the space between the bracket and the carriage; a stop adjustably mounted on said bar; and a coöperating stop mounted on the carriage.

7. In a type-writing machine, the combination of a carriage; a pair of stationary rails for supporting said carriage, one of said rails being disposed above the other; a pair of brackets for supporting the upper rail, said brackets being connected to said rail between the ends of the latter and being arched to leave a space between the brackets and the carriage; a bar lying between said brackets and said carriage; a stop adjustably mounted on said bar; and a coöperating stop mounted on the carriage.

8. In a type-writing machine, the combination with the main frame, of carriage-rails the length of which exceeds the width of said main frame; a carriage mounted on said rails; brackets near the ends of said rails; a bar supported by said brackets; a stop adjustably mounted on said bar; and rail-supports, said bar lying between said rail-supports and said carriage.

9. In a type-writing machine, the combination of a carriage; a rail for supporting said carriage; a bracket for supporting said rail intermediate its ends; a bar lying between said bracket and said carriage; a stop adjustably mounted on said bar; and a coöperating stop mounted on said carriage; said bar being movable endwise to facilitate the adjustment of said adjustable stop beneath said bracket.

10. In a type-writing machine, the combination with the framework, of a carriage; a bar passing through an opening in said framework and having a stop adjustably mounted thereon, said bar being movable in such wise that the part of said bar that normally lies within said opening may be withdrawn from said opening to facilitate the adjustment of the stop; and a coöperating stop on the carriage.

11. In a type-writing machine, the combination with the framework, of a carriage; a bar, a portion of which lies in an opening in the framework; a stop adjustably mounted on said bar, said bar being mounted for limited endwise movement, so that the portion thereof which normally lies within said opening may be withdrawn to facilitate the adjustment of said stop; and a coöperating stop on the carriage.

12. In a type-writing machine, the combination with the framework, of a carriage; a stop on said carriage; a stop-bar mounted on the framework and extending through an opening in said framework; a stop adjustably mounted on said bar; means for affording an endwise movement of said bar to facilitate the adjustment of said stop within said opening; and means for rocking said bar to move said adjustable stop into and out of the path of said carriage-stop.

13. In a type-writing machine, the combination with the carriage having a stop, of a bar which is slidably mounted at one end in the framework; a pin which supports the other end of said bar by a telescope connection, said pin being threaded through a part of the framework of the machine and having a shoulder that is engaged by the end of said bar, whereby said pin serves both as a support for said bar and as a means for adjusting said bar; and a stop adjustably mounted on said bar.

14. In a type-writing machine, the combination with the carriage having a stop, of a bar which is slidably mounted at one end in the framework; an adjustable pin which supports the other end of said bar by a telescope connection and which limits the longitudinal motion of said bar, whereby said pin serves both as a support for said bar and as a means for adjusting said bar; and a stop adjustably mounted on said bar.

15. In a type-writing machine, the combination of an oscillatory and endwise-movable bar; a stop adjustably mounted on said bar; a carriage having a stop adapted to coöperate with said adjustable stop; an arm on said bar adapted to oscillate said bar to move said adjustable stop into the path of said coöperating stop; means for preventing said arm from moving with said bar when the latter is moved endwise; and a key connected with said arm.

16. In a type-writing machine, the combination with the framework, of a carriage; a bar which is partially covered by a part of the machine; a stop adjustably mounted on said bar, said bar being mounted for limited endwise movement so that the portion thereof which is normally covered may be withdrawn to facilitate the adjustment of said stop; a detent for holding said bar in its normal position; and a stop on said carriage coöperating with said adjustable stop.

17. In a type-writing machine, the combination with the main frame, of carriage-rails, the length of which exceeds the width of said main frame; an oscillatory bar supported near the ends of said rails; a stop adjustably mounted on said bar; an arm on said bar near one end thereof; a key mounted in the main frame; and connections between said key and said arm, said connections including a rock-shaft for carrying the motion derived from said key out to said arm near the end of the stop-bar.

18. In a type-writing machine and in tabulating mechanism, the combination of a carriage; tabulator mechanism comprising a stop mounted on said carriage; a stationary rail for said carriage; and brackets on the main frame supporting said stationary rail, said brackets being arched away from the carriage over the path of said stop.

19. In a type-writing machine and in tabulating mechanism, the combination of a carriage; two stationary rails for said carriage; brackets on the main frame supporting said stationary rail; and tabulator mechanism comprising a part mounted on the carriage and projecting therefrom, said brackets between said rails arching away from said carriage around the path of said tabulator part.

20. In a type-writing machine and in tabulating mechanism, the combination of a carriage; two stationary rails for said carriage lying one above the other; tabulator mechanism comprising a part mounted on the carriage and projecting toward the rear of the machine; and brackets on the main frame supporting said rails, said brackets being arched toward the rear of the machine around the path of said tabulator part.

21. In a type-writing machine and in tabulating mechanism, the combination of a carriage; a stationary rail for said carriage; arched brackets supporting said stationary rail; and tabulator mechanism comprising a movable part which runs through the arches of said brackets.

22. In a type-writing machine, the combination of a carriage; a stationary rail for said carriage; arched brackets supporting said stationary rail; and a stop device mounted on the carriage and moving during the traverse of said carriage through the arches of said brackets.

23. In a type-writing machine, the combination of a carriage; two stationary rails for supporting said carriage; arched brackets for supporting said stationary rails; and a stop device projecting from said carriage and moving during the traverse of said carriage through the arches of said brackets.

24. In a type-writing machine and in tabulating mechanism, the combination of a carriage; a stationary rail for said carriage; arched brackets for supporting said stationary rail; and tabulator mechanism comprising a column-stop bar having one or more column-stops and a coöperating stop, one of said stops being mounted on the main frame and the other on the carriage and said brackets arching over said column-stop bar.

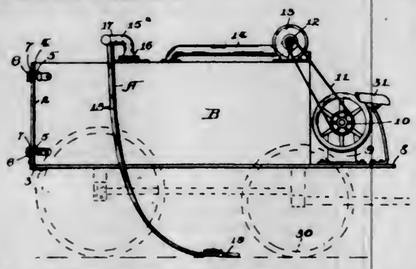
25. In a type-writing machine and in tabulating mechanism, the combination of a carriage; carriage rails or tracks; tabulating devices; and rail or track supporting brackets made in arch form to accommodate said tabulating devices.

843,546. COTTON-HARVESTER. DANIEL MURPHY, St. Paul, Minn. Filed Mar. 18, 1905. Serial No. 250,722.

Claim.—1. Apparatus of the class set forth, comprising, in combination, an exhaust-receiver, a removable basket in said receiver, a plurality of antifriction-rollers on said basket, a swinging pipe connected with said receiver and adapted to turn on either side thereof, a flexible suction-

tube connected with said swinging pipe, and means for automatically closing said tube.

2. Apparatus of the class set forth, comprising, in combination, a suitable exhaust-receiver, a basket in said receiver, a plurality of antifriction-rollers on said basket, a horizontal pipe pivotally connected with said receiver to swing on either side thereof, a flexible suction-tube connected with the free end of said pipe, and an intake on the free end of said tube.

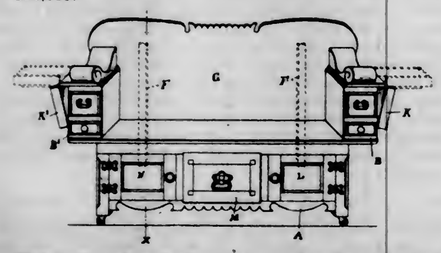


3. Apparatus of the class set forth, comprising, in combination, a receiver, an exhaust-blower connected with said receiver, means for driving said exhaust-blower, a flexible suction-tube connected with said receiver, an intake on the free end of said tube, a valve in said intake, means for closing said valve, a door on said receiver, a basket in the receiver for the material from the suction-tube, and a plurality of antifriction-rollers on the lower wall of said basket.

4. Apparatus of the class set forth, comprising, in combination, a suitable receiver, a door in said receiver, means for holding said door closed, an open-work basket in said receiver having an inlet, a horizontal pipe pivoted upon said receiver to swing on either side thereof and having the passage-way through its pivot end registering with said inlet, a series of antifriction-rollers on the lower wall of said basket, a plurality of suction-tubes connected with the free end of said pipe, an intake on each of said tubes, a valve in each intake, an exhaust-blower connected with the receiver, a strainer over the inlet leading into said exhaust-blower, and means for driving said exhaust-blower.

5. Apparatus of the class set forth, comprising, in combination, a suitable receiver, a door on said receiver, means for sealing said door to close said receiver, a removable basket in said receiver, a plurality of antifriction-rollers on said basket, a suction-pipe pivoted upon the receiver and adapted to swing on either side thereof, a flexible suction-tube connected with the free end of said suction-pipe, an intake on said suction-tube, a valve in said intake, means for automatically closing said valve, and means for exhausting air from said receiver.

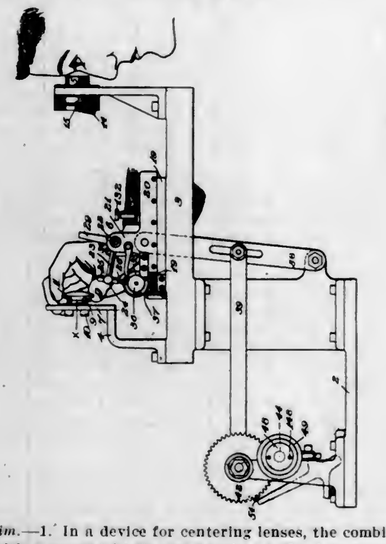
843,547. COMBINATION FURNITURE. JAMES L. McKENSEY, Millville, N. J. Filed Mar. 3, 1906. Serial No. 304,015.



Claim.—1. A combination piece of furniture consisting of a piece having a board hinged to its upper rear edge, a back-section adapted to be adjusted into place to form the back of a sofa or so adjusted at the head of the base as to form the head of a bed, two cabinet-sections hinged to the base and a series of drawers or cabinets arranged within the base, as specified.

2. The herein-described combination of a base having a series of cabinets formed therein, a board hinged to the rear upper edge thereof adapted to swing downward to a vertical position and leave a space between the base and said board, a back-section, strips secured to said back-section adapted to pass into the space between the board and the base and also adapted to pass into slots at the head of the base and board for forming the head of a bed, two cabinet-sections hinged to the base, table-sections hinged to the cabinet-sections and a footboard hinged to the first-named board, as and for the purpose set forth.

843,548. INSTRUMENT FOR CENTERING LENSES. ARTHUR PELLOW, Rochester, N. Y., assignor to Bausch & Lomb Optical Company, Rochester, N. Y., a Corporation of New York. Original application filed Apr. 24, 1905, Serial No. 257,240. Divided and this application filed Oct. 4, 1906. Serial No. 237,384.



Claim.—1. In a device for centering lenses, the combination with a support having an eyepiece and a lens-support thereon, of an object centered with respect to the line of vision between the eyepiece and lens-support and adapted to direct its rays upon a lens upon the lens-support.

2. In a device for centering lenses, the combination with a support having an eyepiece and a lens-support thereon, of an object located at the same point as the eyepiece for directing its rays upon the surfaces of a lens on the lens-support.

3. In a device for centering lenses, the combination with a support having an eyepiece and a lens-support thereon, of a mirror arranged between the eyepiece and lens-support having a clear spot thereon in line with the aperture of the eyepiece.

4. In a device for centering lenses, the combination with a support having an eyepiece and a lens-support thereon, of a pivoted mirror having an object thereon, and capable of tilting to enable rays from the object thereon to be directed on the surfaces of a lens on the lens-support.

5. In a device for centering lenses, the combination with a support having an eyepiece and a lens-support thereon, of a pivoted mirror having a clear spot thereon centered with respect to the line of vision between the eyepiece and lens-support, the mirror being adjustable to enable an image of the clear spot of the mirror to be readily observed from the eyepiece.

6. In an instrument for centering lenses, the combination with a support having an eyepiece and a lens-support

thereon, of a mirror having a clear spot therein centered with respect to the line of vision between the eyepiece and the lens-support, and having cross-lines thereon intersecting at the clear spot.

7. In an instrument for centering lenses, the combination with a support having an eyepiece thereon, of a lens-support in alinement with the eyepiece for engaging the surface of a lens, embodying a series of pins capable of adjustment to bring their lens-engaging portions in a given plane.

8. In an instrument for centering lenses, the combination with a support having an eyepiece thereon, of a lens-support for engaging one of the surfaces of a lens embodying a series of pins capable of being adjusted to bring their lens-engaging portions in a plane arranged perpendicularly to the line of vision between the eyepiece and a central point of the lens-support.

9. In an instrument for centering lenses, the combination with a support having an eyepiece thereon, of a lens-support embodying a plate, and a series of spaced pins disposed in predetermined arrangement and adjustable transversely of the plate so as to bring the lens-engaging portions of the several pins into the same plane.

10. In an instrument for centering lenses, the combination with a base having a lens-support and an eyepiece thereon, of a marking device mounted to move into and out of the line of vision between the eyepiece and lens-support for marking a lens upon the lens-support, and means for moving the marking device into coincidence with the line of vision and for reciprocating said marking device directly in the line of vision relatively to a lens on the lens-support.

11. In an instrument for centering lenses, the combination with a base having a lens-support and eyepiece thereon, of a reciprocatory carriage, a swinging arm on the carriage having a marking device thereon, and means for swinging the marking device into and out of the line of vision between the eyepiece and lens-support automatically during the reciprocatory movements of the carriage.

12. In an instrument for centering lenses, the combination with a base having a lens-support and eyepiece thereon, of a reciprocatory carriage a swinging arm pivoted thereon having a marking device, in fixed relation thereon, a lever for operating said arm and a projection on the base coöperating with said lever during the reciprocatory movement of the carriage to move the marking device into the line of vision between the eyepiece and the lens-support for marking a lens on the latter, and an inking device for applying ink to the marking devices when the latter is moved out of operative position.

13. In an instrument for use in centering lenses, the combination with a base having a lens-support and eyepiece thereon, and a mirror mounted in alinement with the lens-support and eyepiece, and having an object thereon adapted to be reflected onto the surfaces of a lens on the lens-support, of a marking device arranged to move into and out of coöperative relation with a lens on the lens-support, and means for setting the marking device into operation at the proper moment to mark the lens under test.

14. In an instrument adapted for use in testing lenses, the combination with a base having a lens-support and eyepiece thereon, of a luminous object arranged in alinement with the lens-support and eyepiece and adapted to reflect rays therefrom onto a lens positioned on the lens-support.

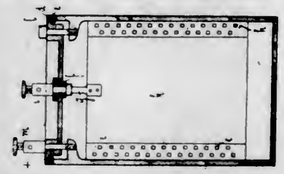
15. In an instrument adapted for use in testing lenses, the combination with a suitable base having a lens-support thereon, and an eyepiece, of a marking device arranged to move into and out of coöperative relation with a lens on the lens-support, an operating-shaft, and a clutch for operatively connecting the latter and the marking device for setting the latter in operation.

16. In an instrument adapted for use in testing lenses, the combination with a suitable base having a lens-support thereon, and an eyepiece, of a carriage mounted to reciprocate on the base between the lens-support and eyepiece, a swinging arm on the carriage having a marking device arranged to coöperate with a lens on the lens-support, and devices coöperating with a part connected to said arm during the reciprocatory movement of said carriage for automatically moving the marker into and out of coöperative relation with a lens on said support.

17. In an instrument adapted for use in testing lenses, the combination with a suitable base, and a lens-support and eyepiece mounted thereon, of a reciprocatory carriage mounted to operate on the base in line with the lens-support and eyepiece, a swinging arm mounted on said carriage and having a marking device thereon arranged to move into and out of coöperative relation with a lens on said lens-support, an inking-roller on said carriage arranged to coöperate with said marker and means arranged between the base and carriage for rotating said roller by means of the reciprocatory movement of said carriage.

18. In an instrument adapted for use in testing lenses, the combination with a suitable base, an eyepiece, and a lens-support, of a carriage mounted to reciprocate on the base in line with the eyepiece and lens-support, a marking device mounted on the carriage and arranged to coöperate with a lens on the lens-support, and devices arranged between said marking device and base for operating the former at a predetermined point in the movement of the carriage.

843,549. RECEPTACLE FOR ELEMENTS. HEINRICH P. R. L. PÖRSCKE and GUSTAV A. WEDEKIND, Hamburg, Germany; said Pörscke assignor to said Wedekind. Filed July 25, 1904. Serial No. 218,156.



Claim.—1. The battery-container electrode, having walls of cast-iron bulging outwardly to coöperate with the opposite electrode, a plurality of dovetailed holding projections formed on the inside of said bulging walls and hardened, coherent copper oxid material on said walls engaging said projections forming a substantially flush surface.

2. The battery-container electrode formed of cast-iron and having inner walls provided with a plurality of holding projections and hard coherent copper oxid material on said walls engaging said projections so as to be capable of reoxidization by heating said container-electrode.

3. The battery-container electrode formed of heat-resisting conductive material and having hard coherent copper oxid material on its inner walls, means on the walls to hold copper oxid, so as to readily reoxidize said material by heating said container-electrode.

4. The battery-container electrode formed of heat-resisting conductive material, having hard coherent oxid material on the inner walls of said container-electrode, the melting-point of said electrode being higher than the temperature of reoxidization of said oxid material, so that said oxid material may be readily reoxidized by heating said container-electrode.

5. The battery-electrode formed of heat-resisting conductive material and provided with holding projections and having hard coherent copper oxid material on its walls the melting-point of said electrode being higher than the temperature of reoxidization of said oxid material, so that said oxid material may be readily reoxidized by heating said electrode.

6. The battery-electrode formed of heat-resisting conductive material, and having hard coherent oxid material on its walls, means on the walls to hold said oxid material, the melting-point of said electrode being higher than the temperature of reoxidization of said oxid material, so that said oxid material may be readily reoxidized by heating said electrode.

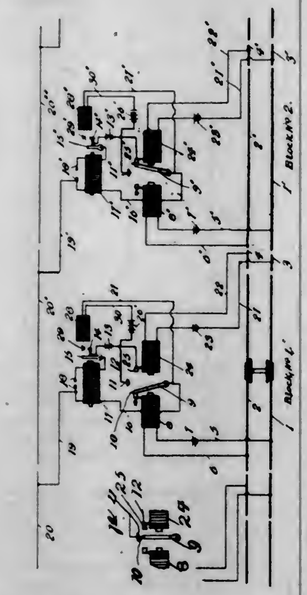
7. The battery-container electrode, having walls of cast-iron, a plurality of dovetailed holding projections formed

on the inside of said walls and copper oxid material on said walls engaging said projections, forming a substantially flush surface.

8. The battery-container electrode formed of heat-resisting conductive material and having walls serving as a support for hard coherent copper oxid material.

9. The battery-container electrode formed of heat-resisting conductive material having walls bulging outwardly to coöperate with the opposite electrode and a plurality of holding projections formed on the inside of said bulging walls, and hard coherent oxid material on said walls engaging said projections forming a substantially flush surface, the melting-point of the electrode being higher than that of the oxid material.

843,550. ELECTRIC SIGNALING SYSTEM. FRANK W. PRENTICE, Chicago, Ill. Filed Mar. 24, 1906. Serial No. 307,852.



Claim.—1. In a railway block-signaling system, a generator of electrical oscillations for each block normally operating to indicate a condition of safety and means operating under conditions of danger in any block to suspend the operation of the generator transmitting oscillations to the next adjacent block.

2. In a railway block-signaling system, a series of blocks or sections, a generator of electrical oscillations for each block normally operating to indicate a condition of safety in its block to the adjacent block and means controlled by the presence of a car or train in any block to suspend the operation of the generator, thereby indicating danger in next adjacent block.

3. In a railway signaling system, a generator of Hertzian waves controlled by conditions of safety to propagate such oscillations and by conditions of danger to suspend the propagation thereof, and means at the place of warning to indicate the presence or absence of such oscillations.

4. In a railway signaling system, a generator of electrical oscillations, a track-circuit controlling said generator to propagate such oscillations during the continuance of safety conditions within the area guarded by said track-circuit and to suspend said oscillations during the presence of conditions of danger within said area, and means at the place of warning to indicate the presence or absence of such oscillations.

5. In a railway signaling system, a generator of electrical oscillations, a track-circuit controlling said generator to propagate such oscillations during the continuance of safety conditions within the area guarded by said track-circuit and to suspend said oscillations during the presence of conditions of danger within said area and means on a car or train approaching the track-circuit to indicate the presence or absence of such oscillations.

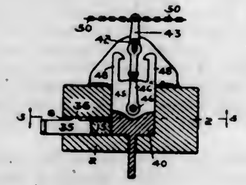
6. In a railway cab and block signaling system, a series of blocks, generators of Hertzian waves for the respective blocks normally operative to propagate oscillations along an adjacent block when the respective blocks are safe track-circuits controlling the respective generators and operative to stop said generators when the corresponding blocks are at danger and means on a car or train to indicate the presence or absence of oscillations from the generator of the block being approached.

7. In a railway cab and block signaling system, a series of blocks generators of Hertzian waves for the respective blocks normally operative to propagate oscillations along an adjacent block when the respective blocks are safe, track-circuits controlling the respective generators and operative to stop said generators when the corresponding blocks are at danger, a rotary coherer on a car or train capable of responding to the oscillations, an electromagnet controlled by said coherer for rotating and deënergizing the latter, a pneumatic system controlled by the movement of the coherer, and signals controlled by said pneumatic system.

8. In a railway cab and block signaling system, a generator of Hertzian waves for each block, a wire for conducting the same, parallel with the block adjacent thereto, a track-circuit for each block operative to stop the generator when a car is in the corresponding block and a coherer-controlled signal on each car for indicating the condition of the generator in the adjacent block.

9. In a railway cab and block signaling system, a generator of Hertzian waves for each block, a wire for conducting the same parallel with the block adjacent thereto, a track-circuit for each block operative to stop the generator when a car is in the corresponding block, a track-circuit for each block to start the generator when a car leaves the same, and a coherer-controlled signal on each car for indicating the condition of the generator in the adjacent block.

843,551. AUTOMATIC CAR-COUPLING. OTTO F. RICHTER, Indianapolis, Ind., assignor of one-half to John T. Glazier and Frank T. Glazier, Indianapolis, Ind. Filed Mar. 20, 1906. Serial No. 306,962.



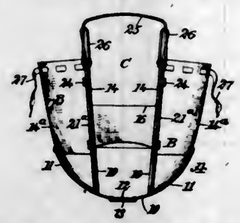
Claim.—1. In a car-coupler, a knuckle pivotally mounted therein and provided with a shank that terminates in a blade which moves in an arc concentric with the pivot on which the knuckle swings, a locking means intersecting the path traveled by said blade so that the locking means will lock the knuckle when the latter stands in closed position and is susceptible of support by the blade when the knuckle stands in open position, engaging means on the locking means, movable actuating means supported by the coupler-body and adapted to raise and hold the locking means before the knuckle is opened.

2. In a car-coupler provided with a horizontal slot and a vertical aperture that crosses said slot, a knuckle pivotally mounted in the coupler-head and provided with a shank that terminates in a blade that engages and moves within said slot, a locking means engaging the vertical aperture and adapted to stand across the horizontal slot when in its lower position to lock the knuckle when the latter stands in closed position, hooks formed on the locking means, and movable actuating means to raise and hold the locking means, and means for operating the movable actuating means.

3. In a car-coupler, a knuckle pivotally mounted therein and provided with a shank that terminates in a blade, a locking means passing through the path traveled by said blade, so that the locking means will lock the knuckle when the latter stands in closed position and is susceptible of support by the blade when the knuckle stands in open position, catch devices on the locking means, lift means for lifting the locking means, and supporting means to engage the catch devices on the locking means and support the latter when in elevated position, means for disconnecting the locking means from its support.

4. In a car-coupler, a knuckle pivotally mounted therein and provided with a shank that terminates in a blade, a locking means passing through the path traveled by said blade, so that the locking means will lock the knuckle when the latter stands in closed position and will be susceptible of support by said blade when the knuckle stands in open position, means formed on said blade to engage the locking means when the knuckle stands in open position to prevent its manipulation, hooks secured to the locking means, a rocker-shaft adapted to be moved into the path of the hooks and support the locking means, a rocker-arm secured to the rocker-shaft, means connecting the arm and locking means together, and means engaging the rocker-arm to actuate the locking means.

843,552. FEED-BAG. WILLIAM H. ROBINSON, New York, N. Y., assignor of one-half to Frederick Hulberg, New York, N. Y. Filed Feb. 20, 1906. Serial No. 302,060.



Claim.—1. A feed-bag consisting of a tray, opposing receptacles located at opposite sides of the tray, having openings leading thereto, valves for the said openings, and supports for the bag connected with said valves, whereby when the bag is in position for feeding the said valves are opened and so held.

2. A feed-bag, comprising a tray, opposing receptacles at the sides of the tray and having openings leading into the same, slide-valves for closing said openings, and a strap having its ends attached to the said valves.

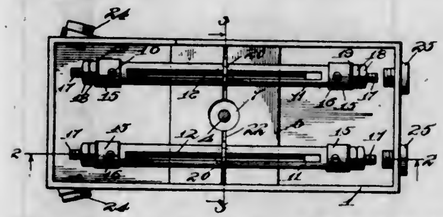
3. A feed-bag, comprising an oblong tray having opposing offsets, plates secured to the tray at the junction of the offsets with the tray, said plates having openings in their lower ends, and strips of fabric attached to the longitudinal edges of the plates and to the upper edges of the offsets of the tray.

4. A feed-bag, comprising an oblong tray having opposing offsets, plates secured to the tray at the junction of the offsets with the tray, said plates being provided with openings in their lower ends, strips of fabric attached to the upper edges of the offsets and to the longitudinal edges of the plates, valves for controlling the openings, and means for operating the valves.

5. A feed-bag, comprising a tray having opposing offsets, plates secured to the tray at the junction of the offsets with the tray, said plates having openings in their lower ends, strips of fabric secured to the upper edges of the offsets and to the longitudinal edges of the plates, and forming with the plates receptacles, valves mounted to slide on the said plates and adapted to close the openings therein, a strap having its ends secured to the upper ends of the valves, and means for closing the upper ends of the receptacles.

6. In a feed-bag, the combination with a tray, of a plate secured to the tray and having an opening at its lower end, a strip of fabric secured to the tray and to the longitudinal edges of the plate, a valve for closing the opening in the plate, and means for operating the valve.

843,553. FUSE-BOX. CHARLES A. ROLFE, Rochester, N. Y., assignor to Rolfe Electric Company, Rochester, N. Y., a Corporation of New York. Filed Apr. 19, 1905. Serial No. 256,512.



Claim.—1. In a fuse-box, the combination with the casing, of a block of insulating material, devices for removably securing said block to the bottom of the casing, said block being provided with a longitudinally-extending slot or groove, and a cross slot or groove, a fuse-holding device adapted to fit in the longitudinally-extending slot or groove and provided with a projection adapted to fit in the cross-slot.

2. In a fuse-box, the combination with the casing, of a block of insulating material having a pair of longitudinally-extending slots, and a cross-slot crossing both of said longitudinal slots, screws for detachably securing said block to the bottom of the casing, a pair of insulating-sleeves adapted to fit into said longitudinal slots and containing inclosed fuses, and clips on said sleeves adapted to fit into said cross-slot.

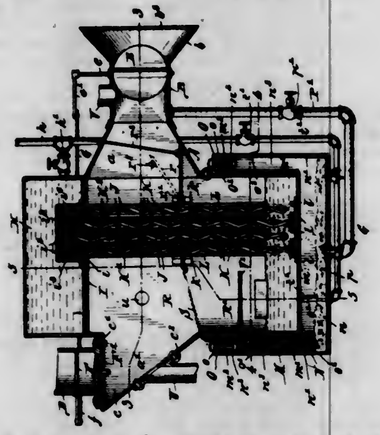
3. A fuse-box comprising a casing having its bottom provided with a centrally-disposed upwardly-extending post, a block of insulating material adapted to fit in the central portion of said casing and over said central post, said block having a pair of longitudinally-extending slots and a cross-slot cut in both of said longitudinal slots, screws for securing said block to the bottom of the casing, a pair of insulating-sleeves containing inclosed fuses, said sleeves being adapted to fit into said longitudinal slots and being provided with clips adapted to fit in said cross-slot, a cover and screw for securing the same detachably in position.

843,554. CARBURETER. JOHN R. SCHRADER, Buffalo, N. Y., assignor, by direct and mesne assignments, to Buffalo Gas Generator and Manufacturing Company, a Corporation of New York. Filed Sept. 27, 1905. Serial No. 280,297.

Claim.—1. A carbureter comprising a casing open at its lower end and having an air-inlet, a gas-outlet, and outstanding flanges secured to the walls thereof, a removable bottom having upstanding walls provided with an outstanding flange, a suitable packing between the flanges on said casing and the bottom, a casing surrounding the upstanding walls of said removable bottom and being separated from said removable bottom by an intervening space, said last-mentioned casing having inwardly-directed flanges, bolts passing through said flanges to secure the parts together, and means for carbureting the air within said casing.

2. In a carbureter, the combination of a casing having an air-inlet and a gas-outlet, an absorbent material located in said casing between said inlet and outlet, a pivoted valve extending from said absorbent material to the wall of the casing, and a screen extending from said absorbent material to the opposite wall of the casing, means for

manipulating said valve to permit the air to pass through the absorbent material below the valve as well as above the same, and a fluid-supply to saturate the absorbent material with liquid hydrocarbon.



3. In a carbureter, the combination of a casing having an air-inlet and a gas-outlet, an absorbent material located in said casing between said inlet and outlet, a wall dividing said casing into two chambers and consisting of a screen on one side of the absorbent material and a pivoted valve on the other side thereof, the lower chamber having a supply of liquid hydrocarbon into which the lower end of the absorbent material is held, and a baffle-plate between said liquid and the screen.

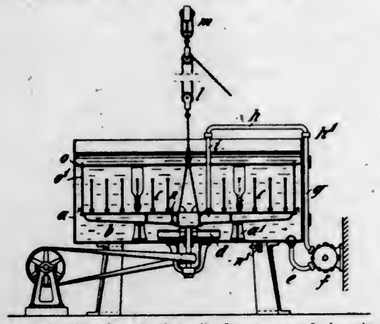
4. In a carbureter, the combination with a carbureter-casing having an air-inlet and a gas-outlet, said casing being open at its lower end and provided with outstanding flanges at the sides thereof, a removable bottom for said casing having outstanding flanges at its upper end situated beneath the flanges on the casing, a casing surrounding said removable bottom and separated therefrom by an intervening space, an air-pipe connecting said last-mentioned casing with the inlet of the carbureter-casing, the casing surrounding said removable bottom having inwardly-directed flanges at its upper end situated beneath the above-mentioned flanges, bolts for securing said flanges together, and means within the carbureter-casing for carbureting the air passing therethrough.

5. In a carbureter, the combination of a casing having an air-inlet and a gas-outlet, a valve in said inlet and a valve in said outlet, connections between said valves to cause them to move in unison, a series of absorbent bodies located in the casing, means for directing the air through the upper portion of the absorbent bodies only or through the entire length of said bodies, and an air-pipe entering the casing near the gas-outlet thereof to cause the current of air to be drawn into the outlet with the carbureted air.

6. In a carbureter, the combination of a casing having an air-inlet and a gas-outlet and containing a quantity of liquid hydrocarbon, a superposed liquid-hydrocarbon receptacle having an opening in its bottom and a perforated hood closing said opening, and removable racks having absorbent material thereon and having their upper ends extending into said hood and the lower ends immersed in the liquid hydrocarbon contained in said casing.

7. In a carbureter, the combination of a casing having an air-inlet and a gas-outlet and containing a quantity of liquid hydrocarbon, a superposed liquid-hydrocarbon receptacle having an opening in its bottom and a perforated hood closing said opening, removable racks having absorbent material thereon and having their upper ends extending into said hood and the lower ends immersed in the liquid hydrocarbon contained in said casing, a valve in the air-inlet, a valve in the gas-outlet, mechanism between said valves to cause the same to act in unison, and a check-valve between said valve in the outlet and the interior of the casing.

843,555. PROCESS FOR CLEANING BOTTLES AND THE LIKE. EMIL WEYMAR, Mühlhausen, Germany. Filed Nov. 3, 1904. Serial No. 231,220.



Claim.—1. The herein-described process of cleaning bottles which consists in immersing them inverted in a body of cleaning fluid, and forcing washing fluid into the interior of the bottles with compressed air, substantially as described.

2. The herein-described process of cleaning bottles which consists in simultaneously immersing a plurality of bottles in an inverted position in a body of washing liquid, agitating the liquid, and forcing a portion of said liquid into the interior of the bottles, substantially as described.

843,556. AUTOMATIC SPRINKLER-CLOSER. GEORGE BODEN, Watertown, Conn., assignor of one-half to Julius H. Bronson, Waterbury, Conn. Filed June 1, 1904. Serial No. 210,639.



Claim.—1. The combination of a sprinkler-closer, a staff for inserting said closer in place in a sprinkler, and a hammer or striker for operating said closer to close the outlet of the sprinkler, substantially as described.

2. The combination of a sprinkler-closer comprising a member adapted to act as a valve, and a wedge-shaped member for forcing said valve to its seat, a staff for inserting said closer in place in a sprinkler, and a hammer or striker for actuating said wedge-shaped member, substantially as described.

3. The combination of a sprinkler-closer comprising a member adapted to act as a valve, and a wedge-shaped member for forcing said valve to its seat, a staff for inserting said closer in place in a sprinkler, a hammer or striker for actuating said wedge-shaped member, and a cord for operating said hammer, substantially as described.

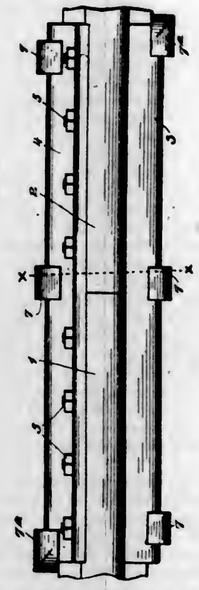
4. An automatic sprinkler-closer comprising a member adapted to act as a valve to close the outlet of a sprinkler, said member being provided with means to locate the same with relation to said outlet, and a wedge-shaped member for forcing said valve to its seat, substantially as described.

5. An automatic sprinkler-closer comprising a member provided with a valve to close the outlet of a sprinkler, said member being provided with means to locate said valve with relation to said outlet, and a wedge-shaped member for forcing said valve to its seat, substantially as described.

6. An automatic sprinkler-closer comprising a member adapted to act as a valve to close the outlet of a sprinkler, and a wedge-shaped member for forcing said valve to its seat, said valve member being provided with means to engage the frame of the sprinkler to prevent the movement of said valve member under the action of said wedge-shaped member, substantially as described.

7. An automatic sprinkler-closer comprising a member adapted to act as a valve to close the outlet of a sprinkler, and a wedge-shaped member for forcing said valve to its seat, said valve member being provided with means to engage the frame of the sprinkler to locate the same with relation to said outlet and to prevent the movement of said valve member under the action of said wedge-shaped member, substantially as described.

843,557. RAIL-JOINT. DAVID B. BOGARD, Carterville, Ill. Filed Mar. 20, 1906. Serial No. 307,083.



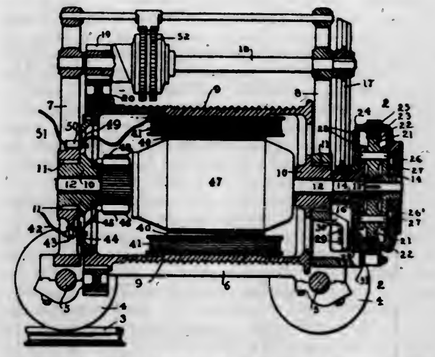
Claim.—The combination of a pair of rails, having fish-plates bolted thereto, said rails having a chair thereunder and provided with arms engaging said fish-plates, said chair having a device at one end, engaging the upper face, side and end of one fish-plate, whereby said chair is held against longitudinal movement in one direction, and a similar device at the other end whereby said chair is held against longitudinal movement in the opposite direction.

843,558. HOISTING APPARATUS. VICTOR R. BROWNING and EARL H. BROWNING, Nottingham, Ohio. Original application filed Oct. 4, 1901, Serial No. 77,612. Divided and this application filed May 10, 1904. Serial No. 207,342.

Claim.—1. In a hoisting apparatus, a drum, a shaft passing through said drum, a motor mounted within said drum for turning said shaft; a pinion secured to the shaft, a planet-gear in mesh with said pinion and mounted to revolve about the same, an internal gear surrounding the orbit of said planet-gear with which it is in mesh, a frame in which the planet-gear is trunnioned, a pinion connected with said frame, and gearing connecting said pinion with the drum.

2. In a hoisting apparatus, a drum, a shaft, a motor for driving said shaft, a pinion secured to the shaft, a planet-gear in mesh with said pinion and mounted to revolve around the same, an internal gear surrounding the orbit of said planet-gear with which it is in mesh, means for holding said internal gear from rotation, a frame in which the planet-gear is trunnioned, a pinion connected with said frame, and gearing connecting said pinion with the drum.

3. In a hoisting apparatus, a drum, a shaft, a motor for driving said shaft, a pinion secured to the shaft, a planet-gear in mesh with said pinion and mounted to revolve about the same, an internal gear surrounding the orbit of said planet-gear with which it is in mesh, a friction-brake for normally holding said internal gear from rotation, a frame in which the planet-gear is trunnioned, a pinion connected with said frame, means for loosening the friction-brake, means for securing the internal gear to the trunnion-frame, and gearing connecting said pinion with the drum.



4. In a hoisting apparatus, a drum, a shaft, a motor for driving said shaft, a pinion secured to the shaft, planet-gears in mesh with said pinion and mounted to revolve around the same, an internal gear surrounding the orbit of said planet-gears with which it is in mesh, a friction-brake for normally holding said internal gear from rotation, a frame in which the planet-gears are trunnioned, a pinion connected with said frame, means for loosening the friction-brake, means for simultaneously securing the internal gears to the trunnion-frame, and gearing connecting said pinion with the drum.

5. In a hoisting apparatus, a drum, a shaft passing through said drum, a motor for driving said shaft, a pinion secured to the shaft, planet-gears in mesh with said pinion and mounted to revolve about the same, an internal gear surrounding the orbit of said planet-gears with which it is in mesh, a friction-brake for normally holding said internal gear from rotation, a frame in which the planet-gears are trunnioned, a pinion connected with said frame, an electromagnet for loosening the friction-brake, a magnetic clutch for securing the internal gear to the trunnion-frame, and gearing connecting said pinion with the drum.

6. In a hoisting apparatus, a drum, a shaft passing through said drum, a motor mounted within said drum for turning said shaft, a pinion secured to the shaft, planet-gears in mesh with said pinion and mounted to revolve about the same, an internal gear surrounding the orbit of said planet-gears with which it is in mesh, a friction-brake for normally holding said internal gear from rotation, a frame in which the planet-gears are trunnioned, a pinion connected with said frame, an electromagnet for loosening the friction-brake, a magnetic clutch for securing the internal gear to the trunnion-frame at the same time that the friction-brake is loosened, and gearing connecting said pinion with the drum.

7. In a hoisting apparatus, a drum, a driven member, mechanism connecting said driven member with the drum to drive the same at a low speed, other mechanism connecting the driven member with the drum to drive the same at a high speed, frictional devices in each of said mechanisms to render them operative and means for controlling the friction and the slip in said devices so as to secure intermediate speeds for the drum.

8. In a hoisting apparatus, a drum, a shaft, a motor for driving said shaft, mechanism for connecting said

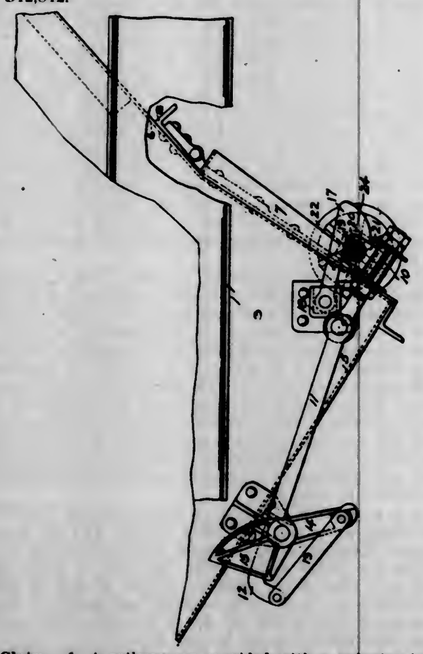
shaft with the drum to drive the same at a slow speed, other mechanism connecting the shaft with the drum to drive the same at a high speed, frictional devices in each of said mechanisms, and means for regulating the friction and the slip in said devices to secure any intermediate speed of the drum desired.

9. In a hoisting apparatus, a drum, a shaft passing through said drum, a motor mounted in said drum for driving said shaft, a train of low-speed gearing connecting said shaft and drum, another train of high-speed gearing also connecting said shaft and drum, frictional devices in each of said mechanisms, and means for regulating the friction and the slip in said devices to secure any intermediate speed of the drum desired.

10. In a hoisting apparatus, a drum, a shaft passing through said drum, a motor mounted in the drum for driving the shaft, a train of low-speed gearing connecting the drum and shaft, a friction-brake coöperating with said gearing to secure the low speed, another train of high-speed gearing also connecting the drum and shaft, a friction-clutch coöperating with the latter train to secure the high speed, and means for simultaneously regulating the friction and the slip in the said brake and clutch in order to secure any intermediate speed desired.

11. In a hoisting apparatus, a drum, a shaft passing through said drum, a motor mounted in the drum for driving the shaft, a train of low-speed gearing connecting the drum and shaft, a magnetically-controlled friction-brake coöperating with said gearing to secure the low speed, another train of high-speed gearing also connecting the drum and shaft, a magnetic friction-clutch coöperating with the latter train to secure the high speed, and means for simultaneously regulating the friction and the slip in the said brake and clutch in order to secure any intermediate speed desired.

843,559. SAFETY DEVICE FOR HOPPER-CAR DOORS. ANDREW CHRISTIANSON, Butler, Pa., assignor to Standard Steel Car Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Nov. 10, 1906. Serial No. 342,842.



Claim.—1. A railway-car provided with a swinging bottom door, closing mechanism for said door, a safety device comprising a movable latch, and a movable member in position to be engaged by the latch and therethrough hold the door closed and arranged, when moved, to release said latch.

2. A railway-car provided with a swinging bottom door, closing mechanism for said door, a safety device comprising a latch movably mounted on the body, and a movable member on the door in position to be engaged by the latch when the door is closed and arranged when moved to release said latch.

3. A railway-car provided with a swinging bottom door, closing mechanism for said door, a safety device comprising a latch movably mounted on the body, and a movable member on the door in position to be engaged by the latch and arranged when moved to release the latch, said movable member and latch being provided with interengaging connections.

4. A railway-car provided with a swinging bottom door, closing mechanism for said door, a safety device comprising a latch movably mounted on the body, a movable member on the door in position to be engaged by the latch when the door is closed and arranged when moved to release the latch, said movable member and latch being provided with toothed or serrated engaging faces.

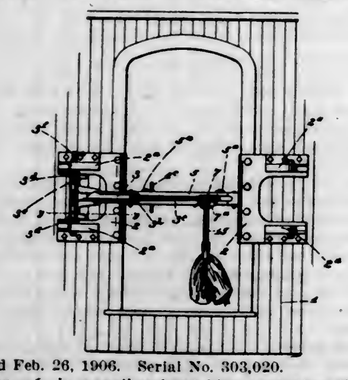
5. A railway-car provided with a swinging bottom door, closing mechanism for said door, a safety device comprising a hook pivoted to the body, and a movable member on the door in position to be engaged by the hook and arranged when moved to disengage the hook.

6. A railway-car provided with a swinging bottom door, closing mechanism for said door, a safety device comprising a hook pivotally mounted on the body and a rotatable member on the door in position to be engaged by the hook when the door is closed, said rotatable member and hook being provided with toothed or serrated engaging faces.

7. A railway-car provided with a swinging bottom door, a shaft rotatably mounted on the door, closing mechanism for said door, and a safety-hook pivoted on the car-body in position to engage the shaft when the door is closed, said hook and shaft being provided with interengaging connections.

8. A railway-car provided with center sills, a hopper on either side of the sills, transverse doors for said hoppers, door-closing mechanism, a safety device comprising a hook pivotally connected to the body between the hoppers, and a shaft mounted on the door transversely on the car and having a serrated member in position to be engaged by the hook when the door is closed and provided at its outer end with rotating means.

843,560. MAIL-BAG CATCHING AND DELIVERING DEVICE. MONTRAVILL D. CUMMINGS, Columbus, Ohio.



Filed Feb. 26, 1906. Serial No. 303,020.

Claim.—1. In a mail-sack-catching apparatus, the combination with a car bracket or shoe provided with a tapering recess, of a car-crane arm provided with a spring adapted to be placed under tension by insertion in said recess.

2. In a mail-sack-catching apparatus, the combination with a car bracket or shoe provided with a recess, of a car-crane arm provided with a spring adapted to be placed under tension by insertion in said recess and means for locking said car-crane arm pivotally to said bracket or shoe after insertion therein.

3. In a mail-sack-catching apparatus, the combination with a car provided with a doorway, a spring-actuated car-crane arm, a rod pivotally connected therewith, a bar extending across the car-doorway, and a hook pivoted on said bar to engage and hold said rod.

4. In a mail-sack-catching apparatus, the combination with a car provided with a doorway, a spring-actuated car-crane arm, a spring-held clip on said arm, a rod connected with said clip, a bar extending across the car-door and a hook pivoted on said bar to engage and hold said rod.

5. In a mail-sack-catching apparatus, the combination with a car provided with a doorway, a car-crane arm composed of an inner and an outer member, a spring between them a clip or abutment held by said spring to take the impact of a sack sliding onto said arm.

6. In a mail-sack-catching apparatus, the combination with a car provided with a doorway, a car-crane arm composed of an inner and an outer member, a spring between them, a clip or abutment held by said spring to take the impact of a sack sliding onto said arm, and a device to catch and hold the sack when slid onto said arm.

7. In a mail-sack-catching apparatus, the combination with a car provided with a doorway, a car-crane arm provided with a sack-catching device comprising a spring-actuated arm having its end bent inwardly and in engagement with said crane-arm when in sack-catching position, said catch adapted to be opened to receive the sack by the impact of the sack thereon.

8. In a mail-sack-catching apparatus, the combination with a car provided with a doorway, a car-crane arm provided with sack-support swiveled on its free end and a spring-latch to hold the sack on said support.

9. In a mail-sack-catching apparatus, the combination with a car-crane arm provided with a sack-support at its end a spring-actuated latch secured to said support, said latch and support being swiveled on said arm.

10. In a mail-sack-catching apparatus, the combination with a track spindle or post, a platform supported thereon, a frame provided with a yielding sack-catching device, said frame being supported on elongated pivotal bearings above said platform.

11. In a mail-sack-catching apparatus, the combination with a track spindle or post, a platform supported thereon, a frame provided with a yielding sack-catching device, said frame being supported on elongated pivotal bearings above said platform, and means for latching said frame with respect to the platform.

12. In a mail-sack-catching apparatus, the combination with a track spindle or post having a spiral cam or shoulder extending entirely around it, of a tube carrying the sack-catching apparatus fitted upon said spindle, said tube having a shoulder to engage the spiral shoulder around the spindle.

13. In a mail-sack-catching apparatus, the combination with a track spindle or post with a spiral shoulder or cam extending entirely around it and having a notch in its upper portion, of a tube carrying the sack-catching apparatus fitted upon said spindle, said tube having a tooth or projection to engage said notch and to rest and move on said shoulder or cam.

14. In a mail-sack-catching apparatus, the combination with a track spindle or post having a spiral cam or shoulder extending entirely around it, of a tube carrying the sack-catching apparatus fitted upon said spindle, said tube having a shoulder to engage the spiral shoulder around the spindle.

15. In a mail-sack-catching apparatus, a sack-holder consisting of a ring of stiff leather.

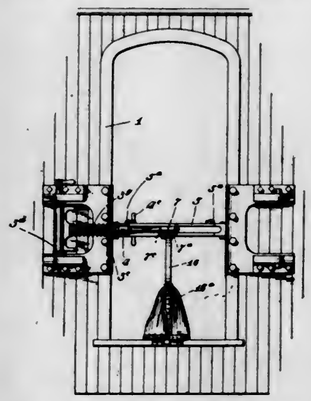
16. In a mail-sack-catching apparatus, a sack-holder consisting of a ring comprising several layers of leather secured together.

17. In a mail-sack-catching apparatus, a sack-holder comprising in combination a ring of stiff leather and means for attaching a sack to said ring.

18. In a mail-sack-catching apparatus, a sack-holder comprising in combination a ring of stiff leather, and means for attaching a sack to said ring consisting of a collar, a clamping device and a strap adapted to be clamped to said collar.

19. In a mail-sack-catching apparatus, the combination with a track spindle or post having a spiral cam or shoulder extending entirely around it, of a tube carrying the sack-catching apparatus fitted upon said spindle, said tube having a corresponding spiral cam or shoulder to engage the spiral shoulder around the spindle, and means for yieldingly holding said tube in elevated position.

843,561. MAIL-SACK CATCHING AND DELIVERING APPARATUS. MONTRAVILL D. CUMMINGS, Columbus, Ohio. Filed Apr. 2, 1906. Serial No. 309,273.



Claim.—1. In a mail-sack-catching apparatus, the combination with a car provided with a sack-delivering arm, of means for removably suspending the sack, and means extending from the car for holding the lower portion of the sack to keep it from swaying independently of the car.

2. In a mail-sack-catching apparatus, the combination with a car provided with a sack-delivering arm, of means for removably suspending the sack, and means for holding the lower portion of the sack to keep the sack from swaying independently of the car comprising an arm hinged to the car and provided at its free end with a clip to engage the sack.

3. In a mail-sack-catching apparatus, the combination with a car provided with a sack-delivering arm, of means for removably suspending the sack, and means for holding the lower portion of the sack to keep it from swaying independently of the car, comprising a foldable arm hinged to the car and provided at its free end with a clip to engage the sack.

4. In a mail-sack-catching apparatus, the combination with a car provided with a sack-delivering arm, of means for removably suspending the sack, and means for holding the lower portion of the sack to keep it from swaying independently of the car, comprising an arm hinged to the car and provided at its free end with a clip movable on the arm.

5. In a mail-sack-catching apparatus, the combination of a track-crane including a pivoted standard, means for latching the standard in upright position and means for pneumatically cushioning the standard against the impact of a sack delivered to said crane.

6. In a mail-sack-catching apparatus, the combination of a track-crane including a pivoted standard adapted to be precipitated, of pneumatic means for preventing the violent precipitation of said standard.

7. In a mail-sack-catching apparatus, the combination of a track-crane including a pivoted standard adapted to

be precipitated, means for yieldingly latching the same in erect position and means for pneumatically preventing the violent precipitation of said standard.

8. In a mail-sack-catching apparatus, the combination of a track-crane including a pivoted standard, means for yieldingly latching the same in erect position, and means for pneumatically cushioning the standard against the impact of a sack delivered to said crane.

9. In a mail-sack-catching apparatus, the combination of a track-crane including a pivoted standard adapted to be precipitated, and means for preventing the violent precipitation of said standard comprising a cylinder 14 pivoted near the standard, a piston in said cylinder, and a rod connecting said piston and standard, said piston being provided with a small vent only at its upper end, substantially as described.

10. In a mail-sack-catching apparatus, the combination with a standard, of a sack-catching device reversibly mounted thereon comprising a long arm and a short arm projecting laterally from said long arm, and means secured to the standard for engaging said short arm to maintain the catching device in sack-catching position.

11. In a mail-sack-catching apparatus, the combination with a standard, of a sack-catching device reversibly mounted thereon comprising a long arm and a short arm projecting laterally on either side of the long arm adjacent its connection with the standard, and a clip slidably secured to the standard and adapted to engage the said projections to hold the catching device in either of its reversible positions.

12. In a mail-sack-catching apparatus, a mail-sack-holding device comprising a ring, two straps loosely connected therewith, and a cross-strap connecting the two loose straps.

13. In a mail-sack-catching apparatus, a mail-sack-holding device comprising a ring, two straps loosely connected therewith, and an adjustable cross-strap connecting the two loosely-connected straps.

14. In a mail-sack-catching apparatus, the combination of a track-crane including a pivoted standard adapted to be precipitated, a stationary part adjacent said standard, and a latch sliding on said standard, said latch having an inclined end to engage the stationary part adjacent said standard.

15. In a mail-sack-catching apparatus, the combination with the car-crane arm, a hook for receiving a sack-holding ring or loop and from which a sack may be drawn by a track-crane arm, said hook provided with yielding means for spreading said ring or loop beyond the opposite sides of the hook.

843,562. SHOE-POLISHING DEVICE. GEORGE B. DUNN, Brockton, Mass., assignor to Charles G. Burbank, Somerville, Mass. Filed Jan. 18, 1906. Serial No. 296,639.

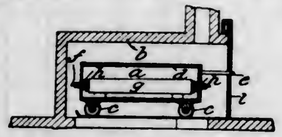


Claim.—1. In a shoe-polishing device, the combination with a shoe-support, of a cloth-guide conforming in shape to the shape of the portion of the shoe to be polished, and a toe-guide having two portions adapted to contact with the sides of the shoe near the front end and prevent the cloth from running off over the toe.

2. In a shoe-polishing device, the combination with a shoe-support, of a cloth-guide, and a toe-guide provided with loops for the reception of the polishing-cloth and with portions to contact with the sides of the shoe to be polished.

3. In a shoe-polishing device, the combination with a support for the shoe, of a cloth-guide for the polishing-cloth and a toe-guide hinged to the shoe-support.

843,563. PROCESS OF TOUGHENING OR ANNEALING STEEL, IRON, AND OTHER METALS. WILLIAM F. L. FRITH, London, England. Filed Feb. 24, 1902. Serial No. 95,468.



Claim.—1. A process of treating steel and other metals, comprising a subjection of the metal to heat and to direct action of metallic vapor under pressure in a closed receptacle, said pressure varying with and corresponding to the temperature to which the metal is subjected.

2. A process of treating steel and other metals, comprising a subjection of the metal to heat and to direct action of mercuric vapor under pressure in a closed receptacle, said pressure varying with and corresponding to the temperature to which the metal is subjected.

3. A process of treating steel and other metals comprising a successive heating and cooling of the metal under pressure by the direct action of metallic vapor in a closed receptacle, said pressure varying with and corresponding to the temperature to which the metal is subjected.

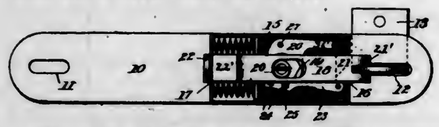
4. A process of treating steel or other metals comprising a successive heating and cooling of the metal under pressure by the direct action of mercuric vapor in a closed receptacle, said pressure varying with and corresponding to the temperature to which the metal is subjected.

5. A process of treating steel and other metals comprising a subjection of the metal to heat and to the direct action of vapor under pressure in a closed receptacle, said pressure corresponding to the temperature to which the metal is subjected, while an electric current is being passed through the metal.

6. A process of treating steel or other metals comprising a subjection of the metal to heat and to the direct action of gaseous vapor in a closed receptacle, said pressure corresponding to the temperature to which the metal is subjected, and the passing of an electric current through the metal while heated.

7. A process of treating steel or other metals, comprising a subjection of the metal to heat and to direct action of mercuric vapor in a closed receptacle, said pressure corresponding to the temperature to which the metal is subjected, and the passing of an electric current through the metal while heated.

843,564. HASP-LOCK. PETER GRABLER, Cleveland, Ohio. Filed Apr. 5, 1905. Serial No. 253,969.



Claim.—1. A lock of the character described comprising a spring-pressed bolt provided with a depending shoulder, a pivoted locking member adapted to engage said shoulder, the body of said locking member being provided with an approximately central opening forming a key-engaging portion, and locking means for said member extending across said key-engaging portion.

2. A lock of the character described comprising a spring-pressed bolt provided with a depending shoulder, a locking member provided with a tangentially-arranged arm adapted to engage said shoulder, the body of said locking member being provided with an approximately central opening forming a key-engaging portion, and locking means for said member extending across said key-engaging portion.

3. A lock of the character described comprising a spring-pressed bolt provided with a depending shoulder, a pivoted locking member provided with a tangentially-arranged arm or extension having a downturned end forming a shoulder adapted to engage the shoulder on said bolt, the body of said locking member being provided with an approximately central opening forming a key-engaging portion, and locking means for said member extending across said key-engaging portion.

4. A lock of the character described comprising a spring-pressed bolt provided with a depending shoulder, and a pivoted locking member adapted to engage said shoulder, a pin carried by said locking member, and locking means engaging said pin.

5. A lock of the character described comprising a spring-pressed bolt having a depending thickened portion forming a locking-shoulder, and an angular portion forming a finger-piece, a pivoted locking member adapted to engage said shoulder, the body of said locking member being provided with an approximately central opening forming a key-engaging portion, and locking means for said member extending across said key-engaging portion.

6. The combination with a hasp, of a casing having a keyhole therein, a spring-pressed bolt located in said casing and provided with a depending shoulder, a pivoted locking member adapted to engage said shoulder, the body portion of said locking member being provided with an approximately central key-engaging opening coinciding with said keyhole, and locking means for said member extending across said key-engaging opening.

7. The combination with a hasp of a spring-pressed bolt provided with a forward thickened end forming a shoulder, a pivoted locking member provided with a key-engaging notch, a forwardly-extended arm provided with a shoulder adapted to engage the thickened portion of said bolt, and locking means for said member extending across said key-engaging notch.

8. A lock of the character described comprising a spring-pressed bolt provided with a locking shoulder, a locking member having an approximately circular body provided with a key-engaging portion and a tangentially-arranged arm adapted to engage said shoulder, a pin carried by said body, and locking means engaging said pin and extending across said key-engaging portion.

9. A lock of the character described comprising a spring-pressed bolt provided with a shoulder at one end, a locking member comprising an approximately circular body provided with a tangentially-arranged arm adapted to engage said shoulder, a pin carried by said body, and tumblers engaging said pin.

10. A lock of the character described comprising an approximately circular, pivoted locking member having a central opening forming a key-engaging portion, said body being provided with a tangentially-arranged locking-arm, tumblers engaging said body at a point opposite said locking-arm, and a locking-bolt reciprocating across the face of said locking member and tumblers, said locking-bolt being provided with a thickened portion forming a shoulder to be engaged by said locking-arm.

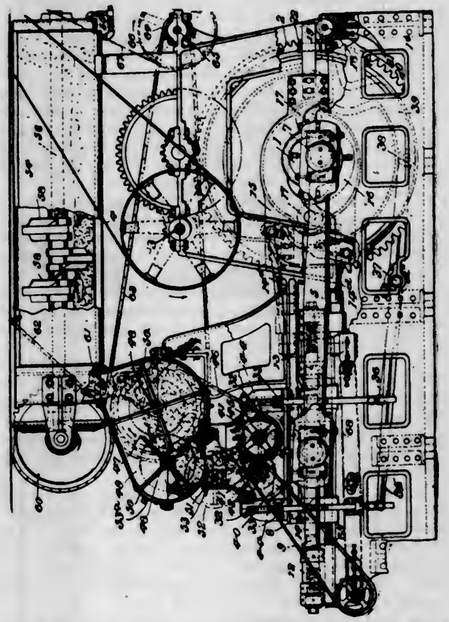
11. A lock of the character described comprising a pivoted locking member provided with an approximately circular body having a central opening forming a key-engaging portion, a tangentially-arranged arm extending from said body, a pin secured to said body at a point opposite the pivot of the latter, tumblers arranged approximately parallel with said arm and engaging said pin, and a locking-bolt reciprocating across the face of said locking member and tumblers, said locking-bolt being provided with a thickened portion forming a shoulder to be engaged by said arm.

12. A lock of the character described comprising an approximately circular, pivoted locking member having a central opening provided with inclined edges forming a key-engaging notch, said body being provided with a tangentially-arranged locking-arm, a pin secured to said body adjacent said notch, tumblers arranged parallel with said arm and engaging said pin, said tumblers extending across said notch, and a locking-bolt reciprocating across the face of said locking member and tumblers, said locking-bolt being provided with a thickened portion forming a shoulder to be engaged by said arm.

13. A lock of the character described comprising a locking member provided with a central opening forming a key-engaging portion, said member being provided with a tangentially-arranged shouldered locking-arm, tumblers arranged approximately parallel with said arm and engaging said body, and a locking-bolt mounted to reciprocate across the face of said locking member, said bolt having a thickened portion forming a shoulder to be engaged by the shouldered portion of said arm.

14. A lock of the character described comprising a pivoted locking member provided with an arm or extension and a central key-engaging portion, tumblers extending across said key-engaging portion and approximately parrallel with said arm or extension, and a spring-pressed bolt formed of a plate provided with a depending shoulder at one end to be engaged by said arm or extension, the opposite end of said bolt being provided with an offset, whereby the bolt spans the space occupied by the locking member and tumblers and reciprocates across the face of said locking member and tumblers.

843,565. BRIQUET-MAKING MACHINE. EDGAR D. MISNER, St. Louis, Mo., assignor to William C. Renfrow, Joplin, Mo. Filed July 27, 1906. Serial No. 328,137.



Claim.—1. A molding-machine comprising a die-housing, two series of coöperating dies, a hopper out of line with the die-housing, a feeder for supplying pulverulent material from said hopper to said die-housing, means located in line with said die-housing for positively removing all material from said feeder into said die-housing, and means for simultaneously operating the dies for compressing the material within such die-housing.

2. A molding-machine comprising a die-housing, two series of coöperating dies, a hopper out of line with the die-housing, a feeder for supplying pulverulent material from said hopper to said die-housing, means located in line with said die-housing for positively removing all material from said feeder into said die-housing, such means comprising wire brushes for entering openings in the feeder and die-housing, and means for simultaneously operating the dies for compressing the material within said die-housing.

3. A molding-machine comprising two die-housings, dies located between the die-housings, means for reciprocating

said dies, two end sets of dies movable each toward and away from one die-housing, means for simultaneously operating all of said dies so that one end set of dies will always be coöperating with the first-mentioned dies, means for supplying pulverulent material to said die-housings, and means for ejecting the material from said last-mentioned means into said die-housings.

4. A molding-machine comprising two die-housings, dies located between the die-housings, means for reciprocating said dies, two end sets of dies movable each toward and away from one die-housing, means for simultaneously operating all of said dies so that one end set of dies will always be coöperating with the first-mentioned dies, means for supplying pulverulent material to said die-housings, and two series of ejectors, one for each die-housing, for forcing the material from the last-mentioned means into the respective die-housings.

5. The combination, in a molding machine, of a die-housing, two series of coöperating dies, a reciprocating feeder having a series of pockets for conveying the pulverulent material to said die-housing, and vertically-movable ejectors normally located above the plane of said feeder and designed to eject the material from the pockets thereof into said die-housing, and means for reciprocating said dies.

6. The combination, in a molding-machine, of two die-housings, double series of dies located between the two die-housings, means for reciprocating said dies, two end sets of dies movable each toward and away from one die-housing, means for simultaneously operating all of the dies so that one set of end dies will always be coöperating with the first-mentioned dies, a reciprocating feeder having two series of pockets for supplying pulverulent material to said die-housings, and two series of ejectors, designed to be alternately operated, for forcing the material from said pockets into said die-housings.

7. The combination, in a molding-machine, of a die-housing having vertical supply-openings, two series of coöperating dies, means for actuating said dies, a feeder for pulverulent material having a series of pockets designed to coincide with said supply-openings, a series of vertically-disposed ejectors designed to force the material from said pockets and through said supply-openings into said die-housing, a lever for actuating said ejectors, and means for intermittently actuating said lever.

8. The combination with the die-housings, the series of dies, and the feeder, of the supply-hopper having two shafts located therein and movable in opposite directions, and agitator-arms carried by said shafts, the arms of each shaft being deflected from a plane at right angles thereto and designed to extend to within a short distance of the other shaft.

9. The combination with the die-housings, the series of dies, and the feeder, of the supply-hopper located above said die-feeder and having two shafts designed to operate in opposite directions, each shaft having separate series of arms consisting of rods extending obliquely from the shaft, the arms of each shaft being designed to extend within a short distance of the other shaft.

10. In a molding-machine comprising hot mixers, agitators therein, means for operating such agitators, a die-housing, hoppers interposed between said hot mixers and said die-housing, said hoppers having agitators therein, means for operating said agitators, coöperating dies, and means for operating said dies, the respective operating means of said hot-mixer agitators, said hopper-agitators, and said dies being each capable of being independently operated.

11. The combination with the die-housing and the feed-supply hopper, of the feeder interposed between the hopper and said die-housing, the rods connected to said feeder, the levers to which said rods are secured, the movable frame engaging said levers, and means for actuating said frame.

12. The combination with the die-carrying body, of the dies mounted therein and projecting laterally therefrom, and the springs mounted in said body and forming bearings for said dies.

13. The combination with the main frame, the die-carrying body, two series of dies mounted therein, inner and outer end series of dies, and means connecting them together, of the main operating-shaft, rods connecting the latter to said die-carrying body, the movable frames connected to one of said end set of dies, cams on said shaft for actuating said frames, said frames having end extensions, idlers for said extensions, adjustable bearings for said idlers, and loops carried by said bearings through which said extensions project.

843,566. PROCESS OF REDUCING INDIGO COLORING-MATTERS. ROBERT WIMMER, Ludwigshafen-on-the-Rhine, Germany, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany, a Corporation. Filed Dec. 1, 1905. Serial No. 289,854.

Claim.—1. The process of reducing indigo coloring-matters by heating them with iron powder in a solution of a hereinbefore-mentioned alkali salt.

2. The process of reducing indigo coloring-matters by heating them with iron powder in a solution of an alkali salt of indigo-white.

843,567. PROCESS OF EXTRACTING RUBBER. GEORGE B. BRADSHAW, Brooklyn, N. Y. Filed Dec. 19, 1906. Serial No. 348,644.

Claim.—1. The continuous process of extracting rubber from rubber-bearing plants or portions of plants which consists, first, in reducing the material in the presence of water by a cutting action to its almost individual fibers, and at the same time comminuting the rubber so that the resulting pulp of rubber and fiber will sink or tend to sink in water, second, in separating this pulp into a floating and sinking portion by any suitable means, third, in collecting the floating portion containing the rubber, and in further cleansing this portion to obtain clean rubber.

2. The process of extracting rubber from rubber-bearing plants or materials which consists in reducing such material to practically its individual fibers by cutting action in the presence of an emulsifying liquid, subjecting the pulp thus formed to rubbing and agitation in the presence of an excess amount of liquid until the rubber portion of the pulp has become agglomerated into such sized particles that it will float in water, collecting the mixture in suitable receptacles, where, if necessary, the specific gravity of the liquid is modified by suitable means to permit gravitational separation, allowing gravity to act and skimming off the resulting floating rubber.

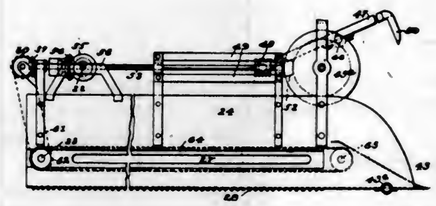
3. The process of extracting rubber from rubber-bearing plants or materials which consists in reducing such material to practically its individual fibers by cutting action in the presence of a liquid, subjecting the pulp thus formed to rubbing and agitation in the presence of an excess amount of liquid until the rubber portion of the pulp has become agglomerated into such sized particles that it will float in water, collecting the mixture in suitable receptacles, where, if necessary, the specific gravity of the liquid is modified by suitable means to permit gravitational separation, allowing gravity to act and skimming off the resulting floating rubber.

843,568. COKE-DRAWING MACHINE. MCCLELLAN F. STUNKARD, Fayette county, Pa. Filed Oct. 29, 1906. Serial No. 341,027.

Claim.—1. In coke-drawing machines, a chute adapted to be introduced into a coke-oven, a digger adapted to draw the coke onto said chute and means for imparting a rotary and sliding motion to said digger.

2. In coke-drawing machines, a chute adapted to be introduced into a coke-oven, a conveyer forming the floor of said chute, a digger adapted to draw the coke onto said conveyer and means for imparting a rotary and sliding motion to said digger.

3. In coke-drawing machines, a chute adapted to be introduced into a coke-oven, an incline forming the front of said chute and adapted to be introduced beneath said coke, a conveyer forming the floor of said chute at the rear of said incline, a digger adapted to draw said coke up said incline and onto said conveyer and means for imparting a rotary and sliding motion to said digger.



4. In coke-drawing machines, a chute adapted to be introduced into a coke-oven, a digger carried by said chute and adapted to draw the coke onto the same, means for imparting a longitudinal sliding motion to said digger and means for imparting a rotary motion to the forward end of said digger.

5. In coke-drawing machines, a truck, a table pivoted on said truck, a chute capable of longitudinal movement mounted on said table, a digger adapted to draw the coke into said chute and a second chute attached to said truck and adapted to receive the discharge from said first chute.

6. In coke-drawing machines, a truck, a table pivoted on said truck, a chute capable of longitudinal movement mounted on said table, a conveyer forming the floor of said chute, a rotary, reciprocating digger mounted on said chute, a motor mounted on said table and operative connection between said motor and said chute, conveyer, digger and table, respectively.

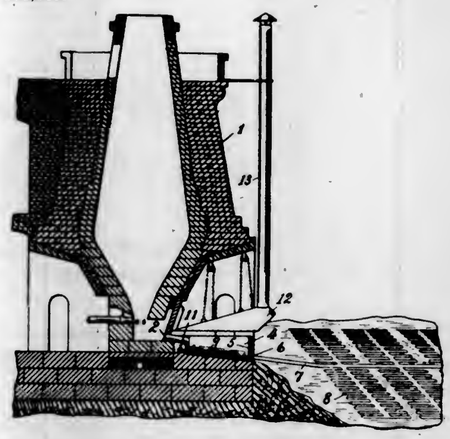
7. In coke-drawing machines, a truck, a table pivoted on said truck, a chute capable of longitudinal movement mounted on said table, a conveyer forming the floor of said chute, a rotary, reciprocating digger mounted on said conveyer, a frame carried by said table, a motor mounted on said frame and means whereby said motor serves to rotate said table, and operate said chute, said conveyer and digger, respectively.

8. In coke-drawing machines, a truck, a table pivoted on said truck, a chute capable of longitudinal movement mounted on said table, a conveyer forming the floor of said chute, a rotary, reciprocating digger mounted on said chute, a motor mounted on said table and adapted to operate said table, said chute, said conveyer and said digger, respectively, a second chute carried by said truck and a motor mounted on said truck and adapted to operate said truck and said second conveyer.

843,569. TREATMENT OF IRON AND STEEL. HARRY LUCKENBACH, San Francisco, Cal., assignor of part interest to William H. Kelly, San Francisco, Cal., George L. Robinson, Frederick E. Fishel, and Joseph J. Robinson, New York, N. Y., and Frederick F. Nolte. Filed Feb. 10, 1906. Serial No. 300,385.

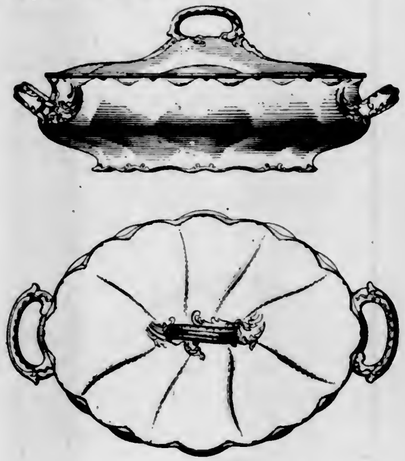
Claim.—The process of purifying iron which consists in generating steam, superheating the steam, passing the superheated steam into the bottom of a vessel adapted to contain molten iron until the issuing steam is entirely free from moisture, then tapping the molten iron into said vessel from the blast-furnace, and continuing the injection of the superheated steam into the molten iron while at rest in said vessel, substantially as described.

843,569.



DESIGNS.

38,439. COVER-DISH. ROBERT LEWIS JOHNSON, Stoke-upon-Trent, England. Filed Jan. 4, 1907. Serial No. 350,855. Term of patent 3½ years.



Claim.—The ornamental design for a cover-dish, as shown.

38,440. GLASS DISH. BENJAMIN W. JACOBS, Lancaster, Ohio. Filed Jan. 9, 1907. Serial No. 351,571. Term of patent 7 years.



Claim.—The ornamental design for a glass dish, as shown.

TRADE-MARKS

PUBLISHED FEBRUARY 5, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

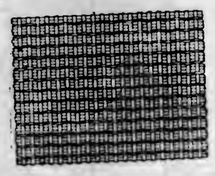
Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 3,668. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) IVINS, DIETZ & METZGER CO., Philadelphia, Pa. Filed Apr. 29, 1905. Used ten years.



The threads of the back are salmon pink and impart thereto a salmon-pink tint.

Particular description of goods.—Wilton Carpets and Rugs.

Ser. No. 4,660. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CAROLINE W. PATRICK, Norwalk, Ohio. Filed May 8, 1905.

LISTEROL

Particular description of goods.—Salves and Ointments.

Ser. No. 5,543. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BASILIUS WINTER, Rock Island, Ill. Filed May 13, 1905. Used ten years.

WINTER'S

Particular description of goods.—Bitters.

Ser. No. 6,453. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) SUNSET DISTILLING CO., Chicago, Ill. Filed May 24, 1905.

GOLD BROOK

Particular description of goods.—Whisky

Ser. No. 6,964. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) GEORGE F. HEWETT CO., Worcester, Mass. Filed May 29, 1905. Used ten years.

PERUVIAN

Particular description of goods.—Tonic.

Ser. No. 7,666. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) ALBERT LIPMAN, Cincinnati, Ohio. Filed June 8, 1905.

"Y.Z."

Particular description of goods.—Whisky.

Ser. No. 8,045. (CLASS 71. TOBACCO PRODUCTS.) EDWARD F. SCHWEIKERT, Springfield, Ohio. Filed June 13, 1905.

SNAPPER

Patricular description of goods.—Cigars and Scrap-Tobacco Used for Smoking and Chewing.

Ser. No. 8,338. (CLASS 54. SEA FOODS.) H. C. BAXTER & BRO., Brunswick, Me. Filed June 16, 1905.

IRIS

Particular description of goods.—Canned Lobster.

Ser. No. 8,339. (CLASS 54. SEA FOODS.) H. C. BAXTER & BRO., Brunswick, Me. Filed June 16, 1905.

LILAC

Particular description of goods.—Canned Lobster.

Ser. No. 8,590. (CLASS 3. VEGETABLE.) THE ALBERT DICKINSON COMPANY, Chicago, Ill. Filed June 20, 1905.

Particular description of goods.—Grass-Seeds, Grain-Seeds, Timothy-Seed, and Clover-Seed.

Ser. No. 8,919. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) CASEY BROS., Scranton, Pa. Filed June 24, 1905.

TRIUMPH

Particular description of goods.—Whisky.

Ser. No. 8,986. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) CELLULAR CLOTHING COMPANY, LIMITED, London, England. Filed June 24, 1905.

AERTEX

Particular description of goods.—Men's, Women's, and Children's Undershirts, Drawers, and Combination Suits, Men's and Boys' Shirts, Night-Shirts, and Pajamas, Socks, Waistcoats, Body-Belts, and Women's, Misses', and Children's Bodices, Camisoles, Chemises, Night-Dresses, Corsets, and Sleeping-Suits Made of Woven Fabric.

Ser. No. 10,579. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) P. BEIERSDORF & CO., Hamburg, Germany. Filed July 3, 1905.

PEBECO

Particular description of goods.—Tooth-Paste and Tooth-Powder.

Ser. No. 10,768. (CLASS 8. DETERGENTS.) MEXICAN AMOLE SOAP CO., Peoria, Ill. Filed July 24, 1905. Used ten years.

AMOLE

Particular description of goods.—Soap.

Ser. No. 11,558. (CLASS 5. ADHESIVES.) JEAN BAPTISTE SANS, Brussels, Belgium. Filed July 28, 1905.



Particular description of goods.—A Solution for Repairing Pneumatic Tires, Composed of India-Rubber Dissolved in Alcohols and Hydrocarbids.

Ser. No. 12,035. (CLASS 48. DAIRY PRODUCTS.) WISCONSIN CONDENSED MILK CO., Burlington, Wis., and New York, N. Y. Filed Aug. 26, 1905.

SNOW FLAKE BRAND CONDENSED MILK

Particular description of goods.—Condensed Milk.

Ser. No. 12,036. (CLASS 48. DAIRY PRODUCTS.) WISCONSIN CONDENSED MILK CO., Burlington, Wis., and New York, N. Y. Filed Aug. 26, 1905.

STAR BRAND CONDENSED MILK

Particular description of goods.—Condensed Milk.

Ser. No. 12,437. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) THE CRAVENETTE COMPANY, LIMITED, Bradford, England. Filed Sept. 9, 1905. Used ten years.

CRAVENETTE

Particular description of goods.—Cotton, Woolen, Worsted, Silk, and Hair Piece Goods.

Ser. No. 13,457. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) MERIDIONAL CHEESE AND OIL CO., New York, N. Y. Filed Oct. 9, 1905.



Particular description of goods.—Olive-Oil

Ser. No. 15,109. (CLASS 47. CONFECTIONERY.) WALLACE & CO., New York, N. Y. Filed Dec. 1, 1905. Used ten years.

WALLACE

Particular description of goods.—Candy.

Ser. No. 15,660. (CLASS 47. CONFECTIONERY.) AMBROSIA CHOCOLATE COMPANY, Milwaukee, Wis. Filed Dec. 26, 1905.

Ambrosia

Particular description of goods.—Cocoa, Chocolate, and Chocolate Candy.

Ser. No. 16,026. (CLASS 54. SEA FOODS.) NO. LUBEC MFG. & CANNING CO., North Lubec, Me. Filed Jan. 8, 1906. Used ten years.

EAGLE

Particular description of goods.—Canned Sardines.

Ser. No. 16,534. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) HOLZAPFEL'S COMPOSITIONS COMPANY LIMITED, Newcastle-upon-Tyne, England. Filed Jan. 26, 1906.

HOLZAPFEL'S

Particular description of goods.—Anticorrosive and Antifouling Paint, Mixed Paint, and Enamels.

Ser. No. 16,767. (CLASS 8. DETERGENTS.) LEVER BROTHERS COMPANY, Cambridge, Mass. Filed Feb. 5, 1906. Used ten years.

LEVER'S

Particular description of goods.—Soaps.

Ser. No. 16,862. (CLASS 52. PACKING-HOUSE PRODUCTS.) BRAUN & FITTS, INC., Chicago, Ill. Filed Feb. 9, 1906.

BISC-OLA

Particular description of goods.—Prepared Animal Fats for Baking and Cooking.

Ser. No. 16,948. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) THE MANGANESE BRONZE & BRASS CO. LD., London, England. Filed Feb. 12, 1906. Used ten years.

PARSONS WHITE BRASS

Particular description of goods.—An Alloy of Metals Used for Bearings and other Purposes.

Ser. No. 17,756. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) THE PLUME & ATWOOD MFG. CO., Waterbury, Conn., and New York, N. Y. Filed Mar. 12, 1906.

PAMCO

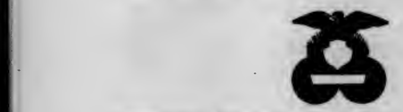
Particular description of goods.—Incandescent Gas-Burners.

Ser. No. 17,790. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) W. AND F. WALKER LIMITED, Liverpool, England. Filed Mar. 13, 1906.

BLOCKETTE

Particular description of goods.—Disinfectants, Air-Purifiers, and Deodorizers.

Ser. No. 18,689. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany. Filed Apr. 11, 1906.



Particular description of goods.—Films, Plates, and Photographic Papers.

Ser. No. 18,877. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE BRITISH PLUVIUSIN COMPANY, LIMITED, Manchester, England. Filed Apr. 17, 1906.



Particular description of goods.—Imitation Leather.

Ser. No. 19,155. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) ROYAL TYPEWRITER CO., Newark, N. J. Filed Apr. 28, 1906.

ROYAL

Particular description of goods.—Type-Writing Machines.

Ser. No. 19,401. (CLASS 48. DAIRY PRODUCTS.) WISCONSIN CONDENSED MILK CO., Burlington, Wis., and New York, N. Y. Filed May 9, 1906.

LION BRAND

Particular description of goods.—Evaporated Cream.

Ser. No. 19,783. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) OTTO F. DREYER, New York, N. Y. Filed May 22, 1906.

"O. F. D."

Particular description of goods.—Maids', Waitresses', and Nurses' Caps.

Ser. No. 19,925. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) ALLEN M. BRADLEY, Marion, Ind. Filed May 28, 1906.

Praeparata

Particular description of goods.—Flavoring-Syrups.

Ser. No. 19,931. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) MORRIS ROSENBAUM'S SONS, New York, N. Y. Filed May 29, 1906.



IMPERIAL

Particular description of goods.—Broadcloths.

Ser. No. 20,173. (CLASS 71. TOBACCO PRODUCTS.) MONOPOL TOBACCO WORKS, New York, N. Y. Filed June 9, 1906. Used ten years.

Khédive

Particular description of goods.—Cigarettes

Ser. No. 20,253. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) CHARLES C. COPELAND & CO., New York, N. Y. Filed June 13, 1906.

Princess

Particular description of goods.—Cotton Piece Goods Finished in Imitation of Taffeta Silk, Used for Dress-Linings.

Ser. No. 20,267. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) PLATT & CLARK CO., New York, N. Y. Filed June 14, 1906.

P&C

Particular description of goods.—Sweaters, Cardigan Jackets, Knitted Bathing-Suits, Stockings.

Ser. No. 20,484. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) X-RAY VARNISH COMPANY, Chicago, Ill. Filed June 22, 1906.



Particular description of goods.—Varnishes and Stains.

Ser. No. 20,491. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) WM. SIMPSON, SONS & CO., Philadelphia, Pa.; New York, N. Y.; Baltimore, Md.; Chicago, Ill., and St. Louis, Mo. Filed June 22, 1906.



The background is red, and the surrounding concentric circles and the border of the central shield-shaped figure are gold.

Particular description of goods.—Dyed Cotton Piece Goods.

Ser. No. 20,506. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) BLACK CAT GARTER COMPANY INCORPORATED, Chicago, Ill. Filed June 23, 1906.

SAMSON

Particular description of goods.—Hose-Supporters.

Ser. No. 20,513. (CLASS 33. GLASSWARE NOT OTHERWISE CLASSIFIED.) MACBETH-EVANS GLASS COMPANY, Pittsburg, Pa. Filed June 23, 1906.



Particular description of goods.—Lamp Glasses and Globes.

Ser. No. 20,688. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) BLACK HAWK COFFEE & SPICE COMPANY, Waterloo, Iowa. Filed July 2, 1906.

BLACKHAWK

BAKING POWDER

Particular description of goods.—Baking-Powder.

Ser. No. 20,690. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) BLACK HAWK COFFEE & SPICE COMPANY, Waterloo, Iowa. Filed July 2, 1906.

Black Hawk Mills

Particular description of goods.—Spices.

Ser. No. 21,003. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE JOY CASTORIA COMPANY, Mineola and New York, N. Y. Filed July 18, 1906.

JOY'S CASTORIA

Particular description of goods.—A Liquid Medicinal Preparation to Correct the Ailments of Infants and Children.

Ser. No. 21,082. (CLASS 68. PUBLICATIONS.) THE STUYVESANT COMPANY, New York, N. Y. Filed July 23, 1906.

THE HOME JOURNAL

Particular description of goods.—An Illustrated Weekly Journal Whose Subject-Matter Consists Chiefly of Art and Society Notes and Information Relating to Music and the Drama in Large Cities, Sports, and the Histories of Cities and Their Buildings.

Ser. No. 21,093. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) FREDERICK C. RENZIEHAUSEN, Pittsburg, Pa. Filed July 23, 1906.



Particular description of goods.—Whisky.

Ser. No. 21,197. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE CUTLER M'F'G Co., Rochester, N. Y. Filed July 27, 1906.



Particular description of goods.—Mail-Chutes.

Ser. No. 21,522. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) LEONARD DANIEL MORRIS, Chicago, Ill. Filed Aug. 13, 1906.

Pedola

Particular description of goods.—Pipe-Organs.

Ser. No. 21,620. (CLASS 51. MALT LIQUORS.) THE INDIANAPOLIS BREWING COMPANY, Indianapolis, Ind. Filed Aug. 16 1906.



Particular description of goods.—Beer.

Ser. No. 21,642. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) THE PORCELA CO., Pittsburg, Pa. Filed Aug. 17, 1906.

RADAX

Particular description of goods.—Preparations for Purifying and Softening Water.

Ser. No. 21,712. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOSEPH M. LIEBERMANN, New York, N. Y. Filed Aug. 22, 1906.

NURORADIONE

Particular description of goods.—A Restorative and Nutritive Tonic.

Ser. No. 21,851. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) T. LLOYD OWENS, Savannah, Ga. Filed Sept. 1, 1906.

ELKHORN

Particular description of goods.—Coffee.

Ser. No. 22,002. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) GERVAISE GRAHAM, Chicago, Ill. Filed Sept. 10, 1906.

KOSMEO

Particular description of goods.—Toilet Cream, Toilet Powder, a Preparation for Tan and Sunburn, a Depilatory, and Preparations for the Treatment of the Hair and Scalp.

Ser. No. 22,041. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) FRANK FULLER, New York, N. Y. Filed Sept. 12, 1906.

PROTO PUFFS

Particular description of goods.—Bread.

Ser. No. 22,120. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE PNEUMELECTRIC MACHINE COMPANY, Syracuse, N. Y. Filed Sept. 15, 1906.

Pneumelectric

Particular description of goods.—Coal-Cutting Machines.

Ser. No. 22,361. (CLASS 68. PUBLICATIONS.) THE COLLVER TOURS COMPANY, Boston, Mass. Filed Sept. 28, 1906.



Particular description of goods.—Books and Pamphlets of Travel.

Ser. No. 22,386. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) ARTHUR HOROWITZ, Berlin, Germany. Filed Sept. 29, 1906.

Jodofan

Particular description of goods.—Antiseptics.

Ser. No. 22,397. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) AMÉDÉE CASTAING, New York, N. Y. Filed Oct. 1, 1906.



The cross being printed in red.
Particular description of goods.—Javelle Water.

Ser. No. 22,410. (CLASS 31. FILTERS AND REFRIGERATORS.) PITTSBURGH FILTER MFG. CO., Pittsburg, Pa. Filed Oct. 1, 1906.



Particular description of goods.—Apparatus for Purifying Water.

Ser. No. 22,418. (CLASS 17. WOOD MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE UDELL WORKS, Indianapolis, Ind. Filed Oct. 1, 1906.

EXCELSIOR

Particular description of goods.—Ladders.

Ser. No. 22,469. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) MARY DARLINGTON COATES, 2d, Chester, Pa. Filed Oct. 3, 1906.



Particular description of goods.—Toy-Holding Belts, Hoops, or Girdles.

Ser. No. 22,688. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) SOCIETY OF CHEMICAL INDUSTRY IN BASLE, Basel, Switzerland. Filed Oct. 13, 1906.

SALEN

Particular description of goods.—A Liquid Mixture of Methylsalicylglycollate with Ethylsalicylglycollate, Designed to be Employed as External Remedies for Rheumatism.

Ser. No. 22,713. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) EDNA BOYD, Anadarko, Okla. Filed Oct. 15, 1906.



Particular description of goods.—A Remedy Put Up in Soft Capsules for the Cure of Malaria, Chills, Fever, and Ague.

Ser. No. 22,815. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) GEORGE J. C. FIEDLER, Chicago, Ill. Filed Oct. 20, 1906.

Usona

Particular description of goods.—Metal-Polish.

Ser. No. 22,832. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE JAMES W. FOSTER Co., Bath, N. H. Filed Oct. 22, 1906.

LADY POORE

Particular description of goods.—An Ointment for Piles, Cuts, Burns, and All Eruptions of the Skin.

Ser. No. 22,931. (CLASS 54. SEA FOODS.) ROSENSTEIN BROTHERS INC., New York, N. Y. Filed Oct. 26, 1906.

ARGADIA

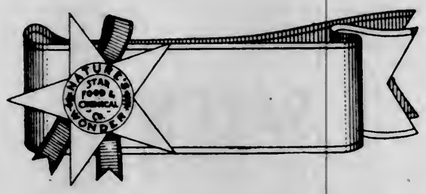
Particular description of goods.—Preserved Fish.

Ser. No. 22,960. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) GUY, CURRAN & Co., Washington, D. C. Filed Oct. 29, 1906.

Capitol Mills

Particular description of goods.—Knitted Hosiery, Knitted Undershirts and Drawers.

Ser. No. 22,991. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) STAR FOOD & CHEMICAL CO., Chicago, Ill. Filed Oct. 29, 1906.



Particular description of goods.—A Stock Food for Horses, Cattle, Sheep, and Hogs.

Ser. No. 23,009. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) CHAS. T. WILT, Chicago, Ill. Filed Oct. 30, 1906.

KRUGERHIDE

Particular description of goods.—Leather for Making Trunks, Satchels, Dress-Suit Cases, Valises, Pocket-Books, and Similar Articles.

Ser. No. 23,077. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) WILLIAM L. BARRELL CO., New York, N. Y. Filed Nov. 3, 1906.



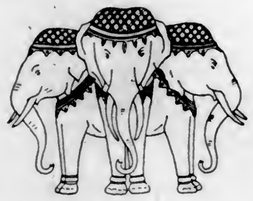
Particular description of goods.—Waterproofed Cotton Piece Goods.

Ser. No. 23,112. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) WILLIAM L. BARRELL CO., New York, N. Y. Filed Nov. 5, 1906.



Particular description of goods.—Waterproofed Cotton Piece Goods.

Ser. No. 23,258. (CLASS 7. CORDAGE NOT INCLUDED IN CLASS 13.) THE PUTNAM-HOOKER COMPANY, Cincinnati, Ohio. Filed Nov. 10, 1906.



ECLIPSE

Particular description of goods.—Cotton Carpet-Warp and Cotton Twine.

Ser. No. 23,305. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) RADWAY & COMPANY, New York, N. Y. Filed Nov. 13, 1906.

RRR

Particular description of goods.—A Remedy for Rheumatism, Neuralgia, Nervous Complaints, Malarious Complaints, and All Bodily Aches and Pains.

Ser. No. 23,307. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) RADWAY & COMPANY, New York, N. Y. Filed Nov. 13, 1906.

RRR

Particular description of goods.—Pills.

Ser. No. 23,389. (CLASS 8. DETERGENTS.) HALL & RUCKEL, New York, N. Y. Filed Nov. 16, 1906.

SOZODERMA

Particular description of goods.—An Antiseptic Toilet Soap.

Ser. No. 23,407. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) GEO. BENZ & SONS, St. Paul, Minn. Filed Nov. 16, 1906. Used ten years.

UNCLE SAMS MONOGRAM

Particular description of goods.—Whisky.

Ser. No. 23,526. (CLASS 12. MASONRY MATERIALS.) BARRETT MANUFACTURING COMPANY, New York, N. Y. Filed Nov. 21, 1906.

Specification

Particular description of goods.—Roofing and Sheathing Felt.

Ser. No. 23,567. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DR. RAINEY MEDICINE CO., Chicago, Ill. Filed Nov. 24, 1906. Used ten years.

Vitaline

Particular description of goods.—Remedies for Nervous Debility, Neurasthenia, General Weakness, Brain-Fag, Anemia, and Dyspepsia.

Ser. No. 23,633. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WILLIAM H. MAPLE, Newark, N. J. Filed Nov. 27, 1906.

ACHE-NO-MORE.

Particular description of goods.—Liniment.

Ser. No. 23,687. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THEODORE W. LARWILL, Henderson, Tenn. Filed Nov. 30, 1906.



Particular description of goods.—A Medicinal Preparation for Coughs, Colds, and Croup.

Ser. No. 23,699. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) NATIONAL COAL TAR COMPANY, Wilmington, Del., and Boston, Mass. Filed Dec. 1, 1906.

EVERJET

Particular description of goods.—Paints and Varnishes.

Ser. No. 23,740. (CLASS 60. INKS AND INKING MATERIALS.) CORONA SUPPLY CO., Rochester, N. Y. Filed Dec. 3, 1906.

CORONA BRAND

Particular description of goods.—Carbon-Paper and Type-Writer Ribbons.

Ser. No. 23,757. (CLASS 8. DETERGENTS.) ALBERT J. KAYSER, Joplin, Mo. Filed Dec. 4, 1906.



CHAMPION

Particular description of goods.—A Grease-Eradicator for Removing Grease Spots, Paints, Oil, &c., from All Wool Goods, Silks, and Ribbon and for Cleaning Kid Gloves.

Ser. No. 23,776. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) WALTER J. ZUILL, Syracuse, N. Y. Filed Dec. 5, 1906. Used ten years.

"EASY"

Particular description of goods.—Washing-Machines.

Ser. No. 23,786. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) W. W. LAWRENCE & COMPANY, Pittsburg, Pa. Filed Dec. 5, 1906. Used ten years.

W.W. LAWRENCE & CO. SERIOUS PURE WHITE LEAD PITTSBURGH

Particular description of goods.—White Lead.

Ser. No. 23,822. (CLASS 57. DENTAL MACHINES, APPARATUS, AND SUPPLIES.) CHARLES A. FONES, New York, N. Y. Filed Dec. 6, 1906. Used ten years.

PLATINOID

Particular description of goods.—Dental Alloys and Dental Instruments Made Therefrom.

Ser. No. 23,873. (CLASS 54. SEA FOODS.) REISS & BRADY, New York, N. Y. Filed Dec. 8, 1906.

CRESCA

Particular description of goods.—Sardines, Sardine Paste, Sprats, Mackerel, Tuny Fish, Herring, Neunaugen, Shrimps, Bueklinge, Sardelles, Caviar, Anchovies, Salmon, Silds.

Ser. No. 23,889. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FARBENFABRIKEN VORM. FRIEDR. BAYER & Co., Elberfeld, Germany. Filed Dec. 8, 1906.

SAJODIN

Particular description of goods.—Substitutes for Iodids.

Ser. No. 23,916. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) FRANK FULLER, New York, N. Y. Filed Dec. 10, 1906.

BROTO BUFFS

Particular description of goods.—Bread.

Ser. No. 23,992. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MARY L. BABCOCK, New York, N. Y. Filed Dec. 13, 1906. Used ten years.

CORYLOPSIS

Particular description of goods.—Perfumeries, Toilet and Talcum Powders.

Ser. No. 24,012. (CLASS 61. JEWELRY, AND SOLID AND PLATED PRECIOUS-METAL WARE.) MCRAE AND KEELER, Attleboro, Mass. Filed Dec. 14, 1906.

The Teddy Bears

Particular description of goods.—Brooches, Stick-Pins, Scarf-Pins, Hat-Pins, and other Ornamental Pins, Buckles, Fobs, and other Articles of Similar Character for Personal Adornment of Plated Precious Metal.

Ser. No. 24,018. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) J. R. BAKER & SONS CO., Kendallville, Ind. Filed Dec. 14, 1906. Used ten years.

BAKER

Particular description of goods.—Eaves-Trough Hangers.

Ser. No. 24,023. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) JAEGER MINIATURE LAMP MANUFACTURING COMPANY, New York, N. Y. Filed Dec. 14, 1906.

SANTA CLAUS

Particular description of goods.—Decorative Electric-Lighting Outfits.

Ser. No. 24,060. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) H. JACOB & SONS, New York, N. Y. Filed Dec. 15, 1906.



Particular description of goods.—Leggings.

Ser. No. 24,072. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) SIDNEY C. GUYON, New York, N. Y. Filed Dec. 15, 1906.

REFUND

Particular description of goods.—Silk Ribbon, Silk Piece Goods, and Silk Linings.

Ser. No. 24,091. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) THE LEADITE COMPANY OF AMERICA, Philadelphia, Pa. Filed Dec. 17, 1906.

LEADITE

Particular description of goods.—Cement Compounds for Making Pipe-Joints.

Ser. No. 24,095. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE OHIO INJECTOR COMPANY, Wadsworth, Ohio. Filed Dec. 17, 1906. Used ten years.

OHIO

Particular description of goods.—Injectors for Stationary and Locomotive Steam-Boilers.

Ser. No. 24,096. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE SPINOL COMPANY, Pottsville, Pa. Filed Dec. 17, 1906.

Spinol

Particular description of goods.—A Remedy for Whooping Cough, Used Externally.

Ser. No. 24,113. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) THEO H. GARY & Co., New York, N. Y. Filed Dec. 18, 1906.

UNICUM

Particular description of goods.—Hair-Nets.

Ser. No. 24,144. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE KALINE COMPANY, Nashville, Tenn. Filed Dec. 19, 1906.

KALINE

Particular description of goods.—A Compound Used as an Antiperiodic, a Febrifuge, and as a Substitute for Quinin.

Ser. No. 24,148. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) RICHMOND CEDAR WORKS, Richmond, Va. Filed Dec. 19, 1906.

TYPHOON

Particular description of goods.—Washing-Machines.

Ser. No. 24,165. (CLASS 48. DAIRY PRODUCTS.) MOHAWK CONDENSED MILK CO., Rochester, N. Y. Filed Dec. 20, 1906.

GLORIA

Particular description of goods.—Evaporated Milk, Condensed Milk, Evaporated Cream, and Condensed Cream.

Ser. No. 24,176. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) WATCHMAN & REYNOLDS, Baltimore, Md. Filed Dec. 20, 1906.

ANTISEPTIC P.M.C. POWDER

Particular description of goods.—An Antiseptic Powder Compound.

Ser. No. 24,179. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE THOS. MOORE DISTILLING CO., McKeesport, Pa. Filed Dec. 20, 1906.

POSSUM HOLLOW

Particular description of goods.—Rye Whisky.

Ser. No. 24,204. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) MARDEN, ORTH & HASTINGS, Boston, Mass. Filed Dec. 21, 1906. Used ten years.

CRESCENT

Particular description of goods.—Sumac, Gambier, Oak, Hemlock, Quebracho, Myrobolams, Chestnut-Oak, and Mangrove in Extracts.

Ser. No. 24,233. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) PLUVIUS-FEUERLÖSCHER-GESELLSCHAFT MIT BESCHRÄNKTER HAFTUNG, Hamburg, Germany. Filed Dec. 22, 1906.

Pluvius

Particular description of goods.—Fire-Extinguishing Compounds.

Ser. No. 24,234. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) CHARLES SACKMAN, Jamaica, N. Y. Filed Dec. 22, 1906.

Uncle Remus

Particular description of goods.—Toy Figures.

Ser. No. 24,254. (CLASS 61. JEWELRY, AND SOLID AND PLATED PRECIOUS-METAL WARE.) FREED & PEIKES, New York, N. Y. Filed Dec. 24, 1906.

1906 M. FREED & CO.

Particular description of goods.—Chains and Bracelets.

Ser. No. 24,258. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) PEPSIN SYRUP CO., Monticello, Ill. Filed Dec. 24, 1906.



Particular description of goods.—A Remedy for Diseases of the Stomach and Bowels.

Ser. No. 24,262. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) NEUSS, HESSLEIN & CO., New York, N. Y. Filed Dec. 24, 1906.



Particular description of goods.—Damask Table-Cloths, Napkins, and Towels.

Ser. No. 24,265. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) H. C. MILLER COMPANY, Milwaukee, Wis. Filed Dec. 24, 1906.

Durabilt

Particular description of goods.—Loose-Leaf Binders.

Ser. No. 24,266. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) CHAS. K. FOX, Haverhill, Mass. Filed Dec. 26, 1906.



Particular description of goods.—Leather Boots and Shoes.

Ser. No. 24,267. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) CHAS. K. FOX, Haverhill, Mass. Filed Dec. 26, 1906.



Particular description of goods.—Leather Boots and Shoes.

Ser. No. 24,272. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) BUEGELEISEN & JACOBSON, New York, N. Y. Filed Dec. 26, 1906.

Majestic

Particular description of goods.—Violin, Mandolin, Guitar, and Banjo Strings.

Ser. No. 24,278. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ESTHER LAWSON, Moline, Ill. Filed Dec. 26, 1906.

"BUX"

Particular description of goods.—A Salve for the Cure of Eczema and Kindred Diseases.

Ser. No. 24,283. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) D. W. SHOYER & Co., New York, N. Y. Filed Dec. 26, 1906.

The "Teddy" Bear

Particular description of goods.—Hammocks.

Ser. No. 24,295. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) THOMAS HETHERINGTON, Philadelphia, Pa. Filed Dec. 27, 1906.

"Skiddoo"

Particular description of goods.—An Insecticide.

Ser. No. 24,303. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE CAMPBELL PRINTING PRESS & MANUFACTURING CO., New York, N. Y. Filed Dec. 20, 1906.

AUTOPLATE

Particular description of goods.—Apparatus for Making Stereotype Printing-Plates.

Ser. No. 24,316. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) PHILIP BOURNE, New York, N. Y. Filed Dec. 28, 1906.



Particular description of goods.—Remedies for Burns, Cuts, Bruises, Sprains, Eruptions, Pimples, Stiff Joints, and Muscular Pains.

Ser. No. 24,318. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CLARENCE HUGHEL, Indianapolis, Ind. Filed Dec. 28, 1906.



Particular description of goods.—Hair-Tonics and Dandruff Cures.

Ser. No. 24,333. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) DAVID CHAMBERS, Portland, Oreg. Filed Dec. 29, 1906.



Particular description of goods.—Eyeglasses, Spectacles, Eyeglass-Guards, and Artificial Eyes.

Ser. No. 24,334. (CLASS 8. DETERGENTS.) CHEMISCHE FABRIK GRIESHEIM-ELEKTRON, Frankfort-on-the-Main, Germany. Filed Dec. 29, 1906.

Tetrapol

Particular description of goods.—A Detergent Cleaning Preparation.

Ser. No. 24,344. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) WHITE SEWING MACHINE CO., Cleveland, Ohio. Filed Dec. 29, 1906.

THE WHITE IS KING

Particular description of goods.—Family and Manufacturing Sewing-Machines, Sewing-Machine Covers, Tables, and Stands, and the Attachments Pertaining to and Used with Sewing-Machines, Embracing Rufflers, Tuckers, Chain-Stitch, Embroidery, and other Attachments.

Ser. No. 24,351. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) HENRY DISSTON & SONS, INCORPORATED, Philadelphia, Pa. Filed Dec. 31, 1906.

KEYSTONE

Particular description of goods.—Files and Rasps.

Ser. No. 24,370. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) GEORGE C. KRUSEN, Philadelphia, Pa. Filed Dec. 31, 1906.



DR. LOBB

Particular description of goods.—Remedies for Coughs, Colds, Rheumatism, Anemia, Piles, Catarrh, Dyspepsia, Constipation, Headaches, Female Complaints, Diseases of the Kidneys, Diseases of the Bladder, Diseases of the Liver, Diseases of the Blood, and Diseases of the Nerves, a Skin-Lotion, and a Vigorizer.

Ser. No. 24,381. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) MORTIMER DU PEROW, Washington, D. C. Filed Jan. 2, 1907.



Particular description of goods.—A Cleaning and Polishing Compound for Use Upon the Commutators, Collector-Rings, &c., of Electrical Machinery.

Ser. No. 24,395. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) BERNARD J. ROTHWELL, Boston, Mass. Filed Jan. 2, 1907.

SPECIAL PATENT
MAGNIFICENT
SELECTED EXPRESSLY FOR INTERESTS OF PURITY AND QUALITY GUARANTEED HIGH GRADE PRODUCTS
MINNESOTA

Particular description of goods.—Wheat-Flour.

Ser. No. 24,403. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) DOWNING-TAYLOR CO., Springfield, Mass. Filed Jan. 3, 1907.

FOREST PARK

Particular description of goods.—Canned Vegetables, Fruits, and Berries.

Ser. No. 24,408. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) GEORGE FROST COMPANY, Boston, Mass. Filed Jan. 3, 1907.

Kool-Knit

Particular description of goods.—Hose-Supporters.

Ser. No. 24,409. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) GEORGE FROST COMPANY, Boston, Mass. Filed Jan. 3, 1907.

Needraw

Particular description of goods.—Hose-Supporters.

Ser. No. 24,420. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOHN S. EVANS, Brookfield, Mo. Filed Jan. 3, 1907.

CHESTOLEUM.

Particular description of goods.—A Remedy for Throat and Lung Affections.

Ser. No. 24,425. (CLASS 5. ADHESIVES.) S. ISAACS & Co., New York, N. Y. Filed Jan. 3, 1907.

SCHUTZMARKE
I
Extra

Particular description of goods.—Glue.

Ser. No. 24,426. (CLASS 8. DETERGENTS.) ELMO D. WARD, Paragould, Ark. Filed Jan. 3, 1907.

W.F.

Particular description of goods.—Soap.

Ser. No. 24,437. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) FRANK A. FLYNN, Fall River, Mass. Filed Jan. 4, 1907.

SUNSET CLUB

The background being printed with a green central band having a golden band at its upper edge and a like band at its lower edge.

Particular description of goods.—Whisky.

Ser. No. 24,448. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) PENN PETROLEUM CO., Philadelphia, Pa. Filed Jan. 4, 1907.

MOTOR
PRIMUS
OILS

The word "Primus" being printed in red.

Particular description of goods.—Lubricating-Oils.

Ser. No. 24,456. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BAUER & BLACK, Chicago, Ill. Filed Jan. 5, 1907.

Blue-jay

Particular description of goods.—Corn and Bunion Plasters.

Ser. No. 24,459. (CLASS 9. EXPLOSIVES.) COAST MANUFACTURING & SUPPLY CO., Berkeley, Cal. Filed Jan. 5, 1907.



Particular description of goods.—Fuses.

Ser. No. 24,474. (CLASS 51. MALT LIQUORS.) STAR BREWING COMPANY, Greensburg, Pa. Filed Jan. 5, 1907.

STAR-GREENSBURG

Particular description of goods.—Beer.

Ser. No. 24,479. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) THE CITIZENS' WHOLESALE SUPPLY COMPANY, Columbus, Ohio. Filed Jan. 7, 1907.

GOLDEN RULE
C.W.S. CO.

Particular description of goods.—Metal, Stove, Silver, and Glass Polishes.

Ser. No. 24,480. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE CITIZENS' WHOLESALE SUPPLY COMPANY, Columbus, Ohio. Filed Jan. 7, 1907.

GOLDEN RULE
C.W.S. CO.

Particular description of goods.—Wood and Furniture Polishes.

Ser. No. 24,481. (CLASS 9. EXPLOSIVES.) COAST MANUFACTURING & SUPPLY CO., Berkeley, Cal. Filed Jan. 7, 1907.

American Eagle

Particular description of goods.—Fuses.

Ser. No. 24,482. (CLASS 9. EXPLOSIVES.) COAST MANUFACTURING & SUPPLY CO., Berkeley, Cal. Filed Jan. 7, 1907.

"PACIFIC"



Particular description of goods.—Fuses.

Ser. No. 24,488. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) ELMIRA SHIRT MANUFACTURING COMPANY, Elmira, N. Y. Filed Jan. 7, 1907.



Particular description of goods.—Men's Cotton and Woolen Outer Shirts.

Ser. No. 24,495. (CLASS 47. CONFECTIONERY.) THE M. HYMAN CONFECTIONERY & CATERING CO., Denver, Colo. Filed Jan. 7, 1907.

Hyman's
NATURAL
TOFFEE

Particular description of goods.—Taffy or Toffee.

Ser. No. 24,500. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) THE MILLERS PRODUCTS COMPANY, Chicago, Ill. Filed Jan. 7, 1907.

Par Excellence

Particular description of goods.—Wheat-Flour.

Ser. No. 24,503. (CLASS 60. INKS AND INKING MATERIALS.) ELISHA F. RYCHEN, Buffalo, N. Y. Filed Jan. 7, 1907.



Particular description of goods.—Printing and Lithographing Inks.

Ser. No. 24,504. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) SEABURY & JOHNSON, East Orange, N. J., and New York, N. Y. Filed Jan. 7, 1907.



The cross being printed in red.
Particular description of goods.—Surgical Ligatures.

Ser. No. 24,517. (CLASS 2. MINERAL.) THE BRIDGEPORT CRUCIBLE CO., Bridgeport, Conn. Filed Jan. 8, 1907.

CHAMPION

Particular description of goods.—Stove-Clay.

Ser. No. 24,520. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE KOHN DISTILLING CO., Montgomery, Ala. Filed Jan. 8, 1907. Used ten years.

Kentucky Rose

Particular description of goods.—Whisky.

Ser. No. 24,522. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) ALBERT MÜLLER, New York, N. Y. Filed Jan. 8, 1907.

"POROX"

Particular description of goods.—Accumulators.

Ser. No. 24,531. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) N. ERLANGER, BLUMGART & CO., New York, N. Y. Filed Jan. 9, 1907.

CHEVREAU

Particular description of goods.—Velveteens.

Ser. No. 24,532. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) N. ERLANGER, BLUMGART & CO., New York, N. Y. Filed Jan. 9, 1907.

TYRIAN

Particular description of goods.—Velveteens in a Black Shade.

Ser. No. 24,556. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) M. W. DENTON AND COMPANY, Providence, R. I. Filed Jan. 10, 1907.



Particular description of goods.—Soldering-Flux.

Ser. No. 24,559. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) LANZA SILK COMPANY, Hazleton, Pa. Filed Jan. 10, 1907.

LANZA TOURIST

Particular description of goods.—Silk Fabrics.

Ser. No. 24,560. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE MIST RHEUMATIC COMPANY, (NOT INCORPORATED,) Chicago, Ill. Filed Jan. 10, 1907.



The monogram is printed in brown.
Particular description of goods.—A Cure for Rheumatism, Pleurisy, Sprains, and Bruises.

Ser. No. 24,564. (CLASS 63. MEASURING AND SCIENTIFIC APPARATUS, APPLIANCES, AND INSTRUMENTS.) TECHNICAL SUPPLY COMPANY, Scranton, Pa. Filed Jan. 10, 1907.



Particular description of goods.—Blue-Print Paper.

Ser. No. 24,566. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) STEARNS ELECTRIC PASTE CO., Buffalo, N. Y. Filed Jan. 10, 1907.



Particular description of goods.—Rat and Roach Exterminator.

Ser. No. 24,576. (CLASS 1. ANIMAL.) DANL. S. PRATT, Boston, Mass. Filed Jan. 11, 1907.

P.E.R.

Particular description of goods.—Fine and Crossbred Grades of Wool.

Ser. No. 24,578. (CLASS 68. PUBLICATIONS.) STERLING ELECTRIC CO., La Fayette, Ind. Filed Jan. 11, 1907.

THE TELEPHONE WORLD

Particular description of goods.—Magazines.

TRADE-MARKS

REGISTERED FEBRUARY 5, 1907.

60,249. POULTRY FEED. The Albert Dickinson Company, Chicago, Ill.
Filed April 14, 1906. Serial No. 18,820. PUBLISHED DECEMBER 11, 1906.

60,250. VARNISH-LIKE PRESERVATIVE FOR LINOLEUM, OIL-CLOTH, AND LIKE MATERIAL. Geo. H. Baker, New Haven, Conn.
Filed November 14, 1906. Serial No. 23,336. PUBLISHED DECEMBER 11, 1906.

60,251. CHEESE. F. X. Baumert & Company, New York, N. Y.
Filed November 5, 1906. Serial No. 23,126. PUBLISHED DECEMBER 11, 1906.

60,252. VARNISH, JAPAN, DRIERS, AND LIQUID FILLERS. Boston Varnish Company, Everett, Mass.
Filed March 19, 1906. Serial No. 18,006. PUBLISHED DECEMBER 11, 1906.

60,253. HAM AND BREAKFAST-BACON. Charles Wolff Packing Company, Topeka, Kans.
Filed June 6, 1906. Serial No. 20,081. PUBLISHED DECEMBER 11, 1906.

60,254. SOAP. The Comfort Powder Company, Hartford, Conn.
Filed November 14, 1906. Serial No. 23,353. PUBLISHED DECEMBER 11, 1906.

60,255. TRADING-STAMPS. Eagle Trading Stamp Co., St. Louis, Mo.
Filed November 10, 1906. Serial No. 23,253. PUBLISHED DECEMBER 11, 1906.

60,256. GRANULATED SOAP. Thos. Hersom, New Bedford, Mass.
Filed May 1, 1905. Serial No. 3,933. PUBLISHED DECEMBER 11, 1906.

60,257. FRUIT FILLINGS FOR BISCUITS AND CRACKERS. H. A. Johnson & Co., Boston, Mass.
Filed June 21, 1905. Serial No. 8,715. PUBLISHED DECEMBER 11, 1906.

60,258. WHEAT-FLOUR. The Kingman Milling Company, Kingman, Kans.
Filed May 5, 1906. Serial No. 19,309. PUBLISHED DECEMBER 11, 1906.

60,259. CANNED FISH AND CANNED OYSTERS. Klauber Wangenheim Co., San Diego, Cal.
Filed September 24, 1906. Serial No. 22,310. PUBLISHED DECEMBER 11, 1906.

60,260. SOAP. Lever Brothers Company, Portland, Me., and Cambridge, Mass.
Filed August 2, 1905. Serial No. 11,125. PUBLISHED DECEMBER 11, 1906.

60,261. CLEANING, POLISHING, OR SCOURING PREPARATION IN POWDERED FORM. Lever Brothers Company, Portland, Me., and Cambridge, Mass.
Filed August 2, 1905. Serial No. 11,132. PUBLISHED DECEMBER 11, 1906.

60,262. SEASONING-SAUCE. Saheiji Moki, Nota, Chiba-Ken, Japan.
Filed May 28, 1906. Serial No. 19,888. PUBLISHED DECEMBER 11, 1906.

60,263. CANDIES COMPOSED OF OR CONTAINING CHOCOLATE. National Candy Company, Jersey City, N. J.; St. Louis, Mo., and Chicago, Ill.
Filed November 6, 1906. Serial No. 23,140. PUBLISHED DECEMBER 11, 1906.

60,264. JAPAN TEA. Smith Thorndike & Brown Co., Milwaukee, Wis.
Filed June 22, 1906. Serial No. 20,478. PUBLISHED DECEMBER 11, 1906.

60,265. COTTON-SEED OIL. Union Oil Company, West New York, Union Township, N. J.
Filed June 14, 1906. Serial No. 20,275. PUBLISHED DECEMBER 11, 1906.

60,266. COTTON-SEED OIL. Union Oil Company, West New York, Union Township, N. J.
Filed June 14, 1906. Serial No. 20,276. PUBLISHED DECEMBER 11, 1906.

60,267. WHEAT-FLOUR. Valier & Spies Milling Company, Marine and St. Jacob, Ill., and St. Louis, Mo.
Filed July 16, 1906. Serial No. 20,946. PUBLISHED DECEMBER 11, 1906.

60,268. WHEAT-FLOUR. Valier & Spies Milling Company, Marine and St. Jacob, Ill., and St. Louis, Mo.
Filed July 16, 1906. Serial No. 20,948. PUBLISHED DECEMBER 11, 1906.

60,269. CATTLE FOOD. Atlantic Export Company, New York, N. Y.
Filed June 16, 1906. Serial No. 20,351. PUBLISHED DECEMBER 11, 1906.

60,270. PAINTS, VARNISHES, AND ANTICORROSIVE PAINTS. The Copal Varnish Co. Ltd., London, England.
Filed June 21, 1906. Serial No. 20,467. PUBLISHED DECEMBER 11, 1906.

60,271. WHEAT-FLOUR. The Crete Mills, Crete, Nebr.
Filed November 25, 1905. Serial No. 14,977. PUBLISHED JUNE 12, 1906.

60,272. COTTON-SEED MEAL AND COTTON-SEED OIL. Dallas Oil & Refining Co., Dallas, Tex.
Filed July 10, 1906. Serial No. 20,846. PUBLISHED DECEMBER 11, 1906.

60,273. SMALT. Webster C. Estes, New York, N. Y.
Filed November 10, 1906. Serial No. 23,254. PUBLISHED DECEMBER 11, 1906.

60,274. COMPRESSED YEAST. The Fleischmann Co., Cincinnati, Ohio, and New York, N. Y.
Filed June 21, 1905. Serial No. 8,705. PUBLISHED DECEMBER 11, 1906.

60,275. CANNED CORN. Henry L. Forhan, Portland, Me.
Filed October 5, 1906. Serial No. 22,521. PUBLISHED DECEMBER 11, 1906.

60,276. SHREDDED COCOANUT. The Franklin Baker Company, Philadelphia, Pa.
Filed July 12, 1906. Serial No. 20,878. PUBLISHED DECEMBER 11, 1906.

60,277. WHITE ZINC. John Lucas & Co., Philadelphia, Pa.
Filed August 16, 1906. Serial No. 21,604. PUBLISHED DECEMBER 11, 1906.

60,278. WHITE ZINC. John Lucas & Co., Philadelphia, Pa.
Filed August 16, 1906. Serial No. 21,607. PUBLISHED DECEMBER 11, 1906.

60,279. SILVER-POLISHING COMPOUND. Dudley E. Mackey, Springfield, Ohio.
Filed June 6, 1906. Serial No. 20,090. PUBLISHED DECEMBER 11, 1906.

60,280. BOUILLON. The Maggi Co., Kempthal, Switzerland.
Filed June 19, 1906. Serial No. 20,413. PUBLISHED NOVEMBER 27, 1906.

60,281. CANNED VEGETABLES. NORTHERN MAINE PACKING COMPANY, Corinna, Me.
Filed October 24, 1906. Serial No. 22,887. PUBLISHED DECEMBER 11, 1906.

60,282. OIL-BURNING LAMPS AND LANTERNS AND BURNERS THEREFOR. R. E. DIETZ COMPANY, New York, N. Y.
Filed November 15, 1905. Serial No. 14,671. PUBLISHED DECEMBER 11, 1906.

60,283. CANNED MEATS AND LARD. SCHWARZSCHILD & SULZBERGER COMPANY, Kansas City, Kans.; Chicago, Ill., and New York, N. Y.
Filed November 13, 1906. Serial No. 23,310. PUBLISHED DECEMBER 11, 1906.

60,284. LARD. SCHWARZSCHILD & SULZBERGER COMPANY, Kansas City, Kans.; Chicago, Ill., and New York, N. Y.
Filed November 13, 1906. Serial No. 23,311. PUBLISHED DECEMBER 11, 1906.

60,285. SOAP. AUGUST W. STADLER, Cleveland, Ohio.
Filed May 8, 1905. Serial No. 4,663. PUBLISHED AUGUST 21, 1906.

60,286. BUTTER. J. R. THOMAS' SONS, Youngstown, Ohio.
Filed June 22, 1906. Serial No. 20,483. PUBLISHED DECEMBER 11, 1906.

60,287. PAINTS AND CERTAIN PAINTERS' MATERIALS. ADAMS & ELTING CO., Chicago, Ill.
Filed April 12, 1905. Serial No. 1,300. PUBLISHED DECEMBER 11, 1906.

60,288. ILLUMINATING-GAS BURNERS. ALTON M'F'G CO., New York, N. Y.
Filed November 1, 1906. Serial No. 23,030. PUBLISHED DECEMBER 11, 1906.

60,289. CHEESE. F. X. BAUMERT & COMPANY, New York, N. Y.
Filed November 5, 1906. Serial No. 23,125. PUBLISHED DECEMBER 11, 1906.

60,290. CANDY MADE OF POPCORN AND MOLASSES. SEYMOUR W. BONSALL, New York, N. Y.
Filed October 17, 1906. Serial No. 22,746. PUBLISHED DECEMBER 11, 1906.

60,291. DRIED AND EVAPORATED FRUITS. WALTER D. JAMESON, New York, N. Y.
Filed June 4, 1906. Serial No. 20,034. PUBLISHED DECEMBER 11, 1906.

60,292. CANDIES. NATIONAL CANDY COMPANY, St. Louis, Mo.; Jersey City, N. J., and Chicago, Ill.
Filed October 18, 1906. Serial No. 22,759. PUBLISHED DECEMBER 11, 1906.

60,293. PRETZELS. OAKDALE BAKING COMPANY, Philadelphia, Pa.
Filed October 5, 1906. Serial No. 22,530. PUBLISHED DECEMBER 11, 1906.

60,294. CHOCOLATE AND COCOA. PENNSYLVANIA CHOCOLATE COMPANY, Pittsburg, Pa.
Filed November 1, 1906. Serial No. 23,026. PUBLISHED DECEMBER 11, 1906.

60,295. CHOCOLATE AND COCOA. PENNSYLVANIA CHOCOLATE COMPANY, Pittsburg, Pa.
Filed November 1, 1906. Serial No. 23,027. PUBLISHED DECEMBER 11, 1906.

60,296. LEAD PIGMENTS. PICHER LEAD COMPANY, Joplin, Mo.
Filed October 29, 1906. Serial No. 22,973. PUBLISHED DECEMBER 11 1906.

60,297. LEAD PIGMENTS. PICHER LEAD COMPANY, Joplin, Mo.
Filed October 29, 1906. Serial No. 22,975. PUBLISHED DECEMBER 11, 1906.

60,298. COTTON-SEED OILS. UNION OIL COMPANY, Providence, R. I.
Filed March 20, 1906. Serial No. 18,063. PUBLISHED DECEMBER 11, 1906.

60,299. TEA. ROSS W. WEIR & COMPANY, New York, N. Y.
Filed October 4, 1906. Serial No. 22,472. PUBLISHED DECEMBER 11, 1906.

60,300. BRAN. THE WELLS FLOUR MILLING COMPANY, Wells, Minn.
Filed November 5, 1906. Serial No. 21,123. PUBLISHED DECEMBER 11, 1906.

60,301. SPOOL-COTTON, SEWING-COTTON, AND THREAD. THE AMERICAN THREAD COMPANY, Jersey City, N. J.
Filed October 17, 1906. Serial No. 22,734. PUBLISHED DECEMBER 11, 1906.

60,302. HYDRAULIC AND OTHER BUILDING CEMENT. THE ATLAS PORTLAND CEMENT COMPANY, Northampton, Pa.
Filed January 25, 1906. Serial No. 16,501. PUBLISHED DECEMBER 11, 1906.

60,303. LIGHTING AND LUBRICATING OILS AND GREASE. E. BROOKSBANK AND COMPANY LIMITED, Keighley, England.
Filed September 14, 1906. Serial No. 22,114. PUBLISHED DECEMBER 11, 1906.

60,304. ASBESTOS ROOFING. H. W. JOHNS-MANVILLE COMPANY, New York, N. Y.
Filed October 13, 1905. Serial No. 13,578. PUBLISHED DECEMBER 11, 1906.

60,305. SMOKING-TOBACCO AND PLUG AND TWIST CHEWING-TOBACCO. ROBT. HARRIS & BRO., Reidsville, N. C.
Filed June 21, 1906. Serial No. 20,468. PUBLISHED DECEMBER 11, 1906.

60,306. PETROLEUM-OILS. FRANK B. HOOPER, Baltimore, Md.
Filed November 8, 1906. Serial No. 23,172. PUBLISHED DECEMBER 11, 1906.

60,307. SEWING-COTTON ON SPOOLS OR REELS. J. & P. COATS, LIMITED, Paisley, Scotland.
Filed October 17, 1905. Serial No. 13,689. PUBLISHED DECEMBER 11 1906.

60,308. SEWING-COTTON WOUND ON SPOOLS OR REELS. J. & P. COATS, LIMITED, Paisley, Scotland.
Filed October 17, 1905. Serial No. 13,691. PUBLISHED DECEMBER 11, 1906.

60,309. YARN PRODUCED FROM WOOD-PULP, CELLULOSE, OR VISCOSE. GEORGE LUND, London, England.
Filed July 16, 1906. Serial No. 20,960. PUBLISHED DECEMBER 11, 1906.

60,310. DECOYS. HERBERT W. MASON, Detroit, Mich.
Filed November 3, 1906. Serial No. 23,071. PUBLISHED DECEMBER 11, 1906.

60,311. DECOYS. HERBERT W. MASON, Detroit, Mich.
Filed November 3, 1906. Serial No. 23,072. PUBLISHED DECEMBER 11, 1906.

60,312. BROOMS. MERKLE-WILEY BROOM CO., Paris, Ill.
Filed October 19, 1906. Serial No. 22,788. PUBLISHED DECEMBER 11, 1906.

60,313. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y.
Filed November 13, 1906. Serial No. 23,308. PUBLISHED DECEMBER 11, 1906.

60,314. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y.
Filed November 13, 1906. Serial No. 23,309. PUBLISHED DECEMBER 11, 1906.

60,315. CERTAIN SPORTING GOODS. WILLIAM READ & SONS, Boston, Mass.
Filed July 5, 1906. Serial No. 20,733. PUBLISHED DECEMBER 11, 1906.

60,316. STONE BUILDING-BLOCKS. FRIEDRICH ADOLF RICHTER, Rudolstadt, Germany, and New York, N. Y.
Filed April 26, 1905. Serial No. 3,063. PUBLISHED DECEMBER 11, 1906.

60,317. CORDS, TWINES, AND ROPES. SILVER LAKE COMPANY, Boston, Mass.
Filed May 20, 1905. Serial No. 6,134. PUBLISHED DECEMBER 11, 1906.

60,318. CERTAIN ADHESIVES. EDWARD G. SOLTMANN, New York, N. Y.
Filed April 6, 1905. Serial No. 536. PUBLISHED DECEMBER 11, 1906.

60,319. CERTAIN MINERALS. THE UNITED STATES GRAPHITE COMPANY, Saginaw, Mich.
Filed September 13, 1905. Serial No. 12,531. PUBLISHED DECEMBER 11, 1906.

60,320. WATERPROOF LIQUID CEMENT. THE WATERPROOF AND ENAMEL COMPANY, Jersey City, N. J., and New York, N. Y.
Filed May 12, 1906. Serial No. 19,474. PUBLISHED DECEMBER 11, 1906.

60,321. TIMOTHY-SEED. THE ALBERT DICKINSON COMPANY, Chicago, Ill.
Filed March 10, 1906. Serial No. 17,710. PUBLISHED DECEMBER 11, 1906.

60,322. CARBURETERS FOR AUTOMOBILES. BERNARD F. BRADLEY, New York, N. Y.
Filed December 8, 1905. Serial No. 15,282. PUBLISHED DECEMBER 11, 1906.

60,323. CORSETS. DAYTON DRY GOODS CO., Minneapolis, Minn.
Filed July 13, 1906. Serial No. 20,912. PUBLISHED NOVEMBER 6, 1906.

60,324. CERTAIN NAMED CLOTHING. THE DENISON DODD BOWERS CO., New Philadelphia, Ohio.
Filed August 9, 1906. Serial No. 21,430. PUBLISHED DECEMBER 11, 1906.

60,325. PIANOS. OSCAR DREHER, Cleveland, Ohio.
Filed July 25, 1906. Serial No. 21,157. PUBLISHED DECEMBER 11, 1906.

60,326. BICYCLE CRANK-SHAFTS, CRANK-HANGERS, SPROCKETS, AND BEARINGS. GREAT WESTERN MANUFACTURING COMPANY, Laporte, Ind.
Filed November 21, 1905. Serial No. 14,878. PUBLISHED DECEMBER 11, 1906.

60,327. WRENCHES. JOHN A. ROEBLING'S SONS CO., Trenton, N. J.
Filed June 26, 1906. Serial No. 20,585. PUBLISHED DECEMBER 11, 1906.

60,328. SUSPENSORY BANDAGES. JOHNSON & JOHNSON, New Brunswick, N. J.
Filed October 28, 1905. Serial No. 13,996. PUBLISHED DECEMBER 11, 1906.

60,329. DOUGH-MIXING MACHINES. JOSEPH BAKER & SONS AMERICAN OVEN COMPANY, Chicago, Ill.
Filed August 20, 1906. Serial No. 21,682. PUBLISHED DECEMBER 11, 1906.

60,330. KNIVES, FORKS, SPOONS, TABLE-STEELS, NUT-PICKS, AND CHEESE-SCOOPS. LANDERS, FRARY & CLARK, New Britain, Conn.
Filed October 3, 1905. Serial No. 13,255. PUBLISHED DECEMBER 11, 1906.

60,331. CERTAIN NAMED TOOLS. WALTER MCKITTRICK, St. Louis, Mo.
Filed June 21, 1906. Serial No. 20,451. PUBLISHED DECEMBER 11, 1906.

60,332. ROLLED STEEL. NATIONAL TUBE COMPANY, Pittsburg, Pa.
Filed June 25, 1906. Serial No. 20,554. PUBLISHED DECEMBER 11, 1906.

60,333. RATCHET-HAND-TOOL HANDLES. NORTH BRO'S. M'F'G. CO., Philadelphia, Pa.
Filed September 14, 1906. Serial No. 22,091. PUBLISHED DECEMBER 11, 1906.

60,334. CORSET COVERS AND WAISTS. CHAS. A. POWELL, Whitesboro, N. Y.
Filed August 13, 1906. Serial No. 21,526. PUBLISHED DECEMBER 11, 1906.

60,335. EXPLOSIVE-ENGINES. THE ROBERTSON MANUFACTURING COMPANY, Buffalo, N. Y.
Filed November 9, 1905. Serial No. 14,469. PUBLISHED DECEMBER 11, 1906.

60,336. ELECTRIC SPARKING APPARATUS AND ELECTRIC IGNITING APPARATUS. SOCIÉTÉ GÉNÉRALE DES HUILES ET FOURNITURES INDUSTRIELLES L'OLÉO, Paris, France.
Filed February 23, 1906. Serial No. 17,252. PUBLISHED DECEMBER 11, 1906.

60,337. SILK DRESS GOODS IN THE PIECE. THE VALENTINE & BENTLEY SILK CO., Newton, N. J., and New York, N. Y.
Filed September 30, 1905. Serial No. 13,169. PUBLISHED DECEMBER 11, 1906.

60,338. STIFFENING CORDS, BLADES, TAPES, AND FABRICS. THE WARREN FEATHERBONE CO., Three Oaks, Mich.
Filed September 4, 1906. Serial No. 21,898. PUBLISHED DECEMBER 11, 1906.

60,339. SEWING-MACHINES, ATTACHMENTS, STANDS, TABLES, AND COVERS. WHITE SEWING MACHINE CO., Cleveland, Ohio.
Filed August 6, 1906. Serial No. 21,341. PUBLISHED OCTOBER 16, 1906.

60,340. TIMOTHY-SEED. THE ALBERT DICKINSON COMPANY, Chicago, Ill.
Filed March 10, 1906. Serial No. 17,713. PUBLISHED DECEMBER 11, 1906.

60,341. CERTAIN NAMED CUTLERY. BUTLER BROTHERS, New York, N. Y.
Filed November 14, 1906. Serial No. 23,343. PUBLISHED DECEMBER 11, 1906.

60,342. SCARFS, CRAVATS, AND TIES. EARL & WILSON, Troy, N. Y.
Filed November 1, 1906. Serial No. 23,039. PUBLISHED DECEMBER 11, 1906.

60,343. PRIMARY BATTERIES, PARTS THEREOF, AND FAN-MOTORS. EDISON MANUFACTURING COMPANY, West Orange, N. J.
Filed November 12, 1906. Serial No. 23,298. PUBLISHED DECEMBER 11, 1906.

90,344. AUGERS, AUGER-BITS, AND GIMLET-BITS. HIBBARD, SPENCER, BARTLETT & COMPANY, Chicago, Ill.
Filed May 7, 1906. Serial No. 19,324. PUBLISHED DECEMBER 11, 1906.

60,345. UPPER-LEATHER FOR SHOES. HERMANN LOEWENSTEIN, Morristown, N. J.
Filed November 2, 1906. Serial No. 23,050. PUBLISHED DECEMBER 11, 1906.

60,346. INHALING DEVICES. JOHN LEWIS PERKINS, Holyoke, Mass.
Filed May 19, 1906. Serial No. 19,689. PUBLISHED DECEMBER 11, 1906.

60,347. CERTAIN RAILWAY EQUIPMENT. RAILWAY STEEL-SPRING COMPANY, Jersey City, N. J., and New York, N. Y.
Filed September 22, 1906. Serial No. 22,232. PUBLISHED DECEMBER 11, 1906.

60,348. LEATHER BOOTS AND SHOES. SAMUEL GANS COMPANY, Chicago, Ill.
Filed May 9, 1906. Serial No. 19,392. PUBLISHED DECEMBER 11, 1906.

60,349. HOSE-CLAMPS. W. D. ALLEN MFG. CO., Chicago, Ill.
Filed July 24, 1905. Serial No. 10,756. PUBLISHED DECEMBER 11, 1906.

60,350. UPPER-LEATHER FOR BOOTS AND SHOES AND LEATHER FOR SADDLERY AND BOOKBINDING. LASSOR AGOOS, Dorchester, Mass.
Filed June 12, 1906. Serial No. 20,230. PUBLISHED DECEMBER 11, 1906.

60,351. TIMOTHY-SEED. THE ALBERT DICKINSON COMPANY, Chicago, Ill.
Filed March 10, 1906. Serial No. 17,711. PUBLISHED DECEMBER 11, 1906.

60,352. CERTAIN KNITTED GOODS. AMERICAN HOSIERY COMPANY, New Britain, Conn.
Filed October 13, 1906. Serial No. 22,694. PUBLISHED DECEMBER 11, 1906.

60,353. FILES. BUTLER BROTHERS, Chicago, Ill.
Filed November 9, 1906. Serial No. 23,193. PUBLISHED DECEMBER 11, 1906.

60,354. AUTOGRAPHIC REGISTERS. THE CARTER-CRUME CO. LIMITED, Niagara Falls, N. Y.
Filed May 15, 1905. Serial No. 5,705. PUBLISHED DECEMBER 11, 1906.

60,355. CERTAIN NAMED HEADWEAR. DUNLAP & Co., New York, N. Y.
Filed June 30, 1905. Serial No. 9,500. PUBLISHED DECEMBER 11, 1906.

60,356. CERTAIN NAMED HEADWEAR. DUNLAP & Co., New York, N. Y.
Filed July 1, 1905. Serial No. 9,605. PUBLISHED DECEMBER 11, 1906.

60,357. SAWS. HENRY DISSTON & SONS, INCORPORATED, Philadelphia, Pa.
Filed June 14, 1905. Serial No. 8,105. PUBLISHED DECEMBER 11, 1906.

60,358. SAWS. HENRY DISSTON & SONS, INCORPORATED, Philadelphia, Pa.
Filed June 14, 1905. Serial No. 8,106. PUBLISHED DECEMBER 11, 1906.

60,359. EDUCATIONAL GLOBES. J. L. HAMMETT Co., Boston, Mass.
Filed April 7, 1906. Serial No. 18,595. PUBLISHED OCTOBER 2, 1906.

60,360. LEATHER BOOTS AND SHOES. JOS. ROSENHEIM SHOE Co., Savannah, Ga.
Filed November 9, 1906. Serial No. 23,183. PUBLISHED DECEMBER 11, 1906.

60,361. LEATHER BOOTS AND SHOES. JOS. ROSENHEIM SHOE Co., Savannah, Ga.
Filed November 9, 1906. Serial No. 23,185. PUBLISHED DECEMBER 11, 1906.

60,362. LEATHER BOOTS AND SHOES. JOS. ROSENHEIM SHOE Co., Savannah, Ga.
Filed November 9, 1906. Serial No. 23,186. PUBLISHED DECEMBER 11, 1906.

60,363. LEATHER BOOTS AND SHOES. JOS. ROSENHEIM SHOE Co., Savannah, Ga.
Filed November 9, 1906. Serial No. 23,188. PUBLISHED DECEMBER 11, 1906.

60,364. DRESS-SHIELDS. JORDAN MARSH COMPANY, Boston, Mass.
Filed June 24, 1905. Serial No. 8,868. PUBLISHED JUNE 12, 1906.

60,365. LEATHER BOOTS AND SHOES. LUDDY & CURRIER, Boston, Mass.
Filed November 12, 1906. Serial No. 23,285. PUBLISHED DECEMBER 11, 1906.

60,366. FEED-GRINDERS. LORREN B. MCCARGAR, Savannah, Mo.
Filed November 5, 1906. Serial No. 23,116. PUBLISHED DECEMBER 11, 1906.

60,367. PROPELLER-WHEELS. MICHIGAN MOTOR COMPANY, Grand Rapids, Mich., assignor to Michigan Wheel Company, Grand Rapids, Mich., a Corporation of Michigan.
Filed June 15, 1906. Serial No. 20,307. PUBLISHED DECEMBER 11, 1906.

60,368. CERTAIN NAMED PARTS OF MACHINERY. RAILWAY STEEL-SPRING COMPANY, Jersey City, N. J., and New York, N. Y.
Filed September 22, 1906. Serial No. 22,234. PUBLISHED DECEMBER 11, 1906.

60,369. INSULATED ELECTRIC WIRE AND CABLE. THE SAFETY INSULATED WIRE & CABLE Co., Bayonne, N. J., and New York, N. Y.
Filed May 19, 1905. Serial No. 6,083. PUBLISHED DECEMBER 11, 1906.

60,370. INSULATED ELECTRIC WIRE AND CABLE. THE SAFETY INSULATED WIRE & CABLE Co., Bayonne, N. J., and New York, N. Y.
Filed May 19, 1905. Serial No. 6,084. PUBLISHED DECEMBER 11, 1906.

60,371. TRY, STEEL, AND FRAMING SQUARES. SIMMONS HARDWARE COMPANY, St. Louis, Mo.
Filed November 12, 1906. Serial No. 23,294. PUBLISHED DECEMBER 11, 1906.

60,372. CERTAIN KNITTED GOODS. AMERICAN HOSIERY COMPANY, New Britain, Conn.
Filed October 13, 1906. Serial No. 22,693. PUBLISHED DECEMBER 11, 1906.

60,373. SPRING-WATER. ANITA SPRING WATER Co., near La Grange, Ky.
Filed October 9, 1905. Serial No. 13,456. PUBLISHED DECEMBER 11, 1906.

60,374. WATCHES. WEBSTER C. BALL, Cleveland, Ohio.
Filed October 17, 1906. Serial No. 22,745. PUBLISHED DECEMBER 11, 1906.

60,375. WATCH-MOVEMENTS AND WATCHCASES. EISENSTADT MANUFACTURING Co., St. Louis, Mo.
Filed October 8, 1906. Serial No. 22,590. PUBLISHED DECEMBER 11, 1906.

60,376. BEER. F. A. POTH & SONS, INC., Philadelphia, Pa.
Filed November 6, 1906. Serial No. 23,135. PUBLISHED DECEMBER 11, 1906.

60,377. LAGER-BEER. FORTUNE BROS. BREW. Co., Chicago, Ill.
Filed October 22, 1906. Serial No. 22,826. PUBLISHED DECEMBER 11, 1906.

60,378. VALVES, BATH AND BASIN COCKS, AND PARTS OF SAME. H. MUELLER MANUFACTURING COMPANY, Decatur, Ill.
Filed September 22, 1906. Serial No. 22,244. PUBLISHED NOVEMBER 20, 1906.

60,379. PREPARATION FOR KILLING INSECTS. CHARLES LUSTGARTEN, Chicago, Ill.
Filed September 19, 1906. Serial No. 22,192. PUBLISHED DECEMBER 11, 1906.

60,380. GIN. MALLARD DISTILLING Co., Jersey City, N. J., and New York, N. Y.
Filed November 14, 1906. Serial No. 23,349. PUBLISHED DECEMBER 11, 1906.

60,381. WHISKY. PATRICK T. O'BRIEN, Philadelphia, Pa.
Filed July 5, 1906. Serial No. 20,736. PUBLISHED NOVEMBER 20, 1906.

60,382. CERTAIN AGRICULTURAL MACHINERY AND PARTS THEREOF. TAYLOR IRON & STEEL Co., High Bridge, N. J.
Filed October 19, 1906. Serial No. 22,777. PUBLISHED NOVEMBER 27, 1906.

60,383. WINES. TO-KALON VINEYARD Co., Chicago, Ill.
Filed August 9, 1906. Serial No. 21,444. PUBLISHED SEPTEMBER 18, 1906.

60,384. BEER. UNEEDA BREWING Co., Wheeling, W. Va.
Filed November 1, 1906. Serial No. 23,029. PUBLISHED DECEMBER 11, 1906.

60,385. CERTAIN NAMED CHEMICAL. THE BANK SAFE PROTECTION Co., Jerseyville, Ill.
Filed August 20, 1906. Serial No. 21,679. PUBLISHED DECEMBER 11, 1906.

60,386. BEER. C. KERN BREWING Co., Port Huron, Mich.
Filed March 22, 1906. Serial No. 18,139. PUBLISHED DECEMBER 11, 1906.

60,387. COMPOUND IN SUPPOSITORY FORM FOR THE CURE AND ALLEVIATION OF FEMALE DISORDERS. HERSCHEL E. CURREY, Baker City, Oreg.
Filed July 7, 1906. Serial No. 20,779. PUBLISHED DECEMBER 11, 1906.

60,388. EYE-WATER. HAISLIP & HAISLIP, Greenville, Tex.
Filed July 3, 1906. Serial No. 20,720. PUBLISHED DECEMBER 11, 1906.

60,389. REMEDY FOR CERTAIN NAMED DISEASES. GARLAND D. HORTON, Singer, La.
Filed June 15, 1906. Serial No. 20,309. PUBLISHED DECEMBER 11, 1906.

60,390. PREPARATION FOR THE CURE OF CHILLS AND FEVER. HUTCHISON MEDICINE Co., Queen City, Tex.
Filed October 11, 1906. Serial No. 22,650. PUBLISHED DECEMBER 11, 1906.

60,391. PASTE-SOAPS. FRANK LEE, Newport News, Va.
Filed October 8, 1906. Serial No. 22,594. PUBLISHED DECEMBER 4, 1906.

60,392. PORTABLE WATCHMEN'S CLOCKS AND DIALS THEREFOR. NEWMAN CLOCK COMPANY, Chicago, Ill.
Filed August 30, 1906. Serial No. 21,808. PUBLISHED DECEMBER 11, 1906.

60,393. FRUIT-TREES, BUDS, AND SCIONS THEREOF. OREGON NURSERY COMPANY LTD., Salem, Oreg.
Filed October 13, 1906. Serial No. 22,683. PUBLISHED DECEMBER 11, 1906.

60,394. YEAST-POWDER AND BAKING-POWDER. RUMFORD CHEMICAL WORKS, Providence, R. I.
Filed October 10, 1906. Serial No. 22,634. PUBLISHED DECEMBER 11, 1906.

60,395. RAT AND ROACH EXTERMINATOR. STEARNS ELECTRIC PASTE Co., Buffalo, N. Y.
Filed November 10, 1906. Serial No. 23,242. PUBLISHED DECEMBER 11, 1906.

60,396. RAT AND ROACH EXTERMINATOR. STEARNS ELECTRIC PASTE Co., Buffalo, N. Y.
Filed November 10, 1906. Serial No. 23,244. PUBLISHED DECEMBER 11, 1906.

60,397. COTTON PIECE GOODS CONSISTING OF SHEETINGS, SHIRTINGS, AND DRILLS. ROBERT A. SUFFERN, New York, N. Y.
Filed October 31, 1906. Serial No. 23,018. PUBLISHED DECEMBER 11, 1906.

60,398. OIL FOR MEDICINAL PURPOSES AND APPLICATIONS. C. DE KONING TILLY, Haarlem, Netherlands.
Filed June 26, 1906. Serial No. 20,591. PUBLISHED NOVEMBER 6, 1906.

60,399. EJECTORS, INSPIRATORS, AND TANK-WELLS. THE UNITED INJECTOR Co., New York, N. Y.
Filed October 26, 1906. Serial No. 22,918. PUBLISHED NOVEMBER 27, 1906.

60,400. REMEDY FOR DISEASES OF THE EYE, NOSE, FACE, AND EAR. JOHN C. ALLEN, Cincinnati, Ohio.
Filed September 26, 1906. Serial No. 22,349. PUBLISHED DECEMBER 11, 1906.

60,401. CERTAIN KNITTED GOODS. AMERICAN HOSIERY COMPANY, New Britain, Conn.
Filed October 13, 1906. Serial No. 22,692. PUBLISHED DECEMBER 11, 1906.

60,402. CERTAIN BEVERAGES AND PREPARATIONS FOR MAKING SAME. HENRY C. ANDERSON, Atlanta, Ga.
Filed September 6, 1906. Serial No. 21,935. PUBLISHED DECEMBER 11, 1906.

60,403. UNBLEACHED COTTON PIECE GOODS. ASHTON HOARE & COY, LIMITED, Manchester, England.
Filed November 23, 1905. Serial No. 14,949. PUBLISHED DECEMBER 11, 1906.

60,404. SOLDER-PASTE. W. H. BLOOD, Jr., Boston, Mass.
Filed November 8, 1906. Serial No. 23,168. PUBLISHED DECEMBER 11, 1906.

60,405. REMEDIES FOR COLDS. M. FRANCES BROWN, Kalamazoo, Mich.
Filed April 16, 1906. Serial No. 18,851. PUBLISHED DECEMBER 11, 1906.

60,406. STRINGS FOR VIOLINS. BUEGELEISEN & JACOBSON, New York, N. Y.
Filed October 31, 1906. Serial No. 23,019. PUBLISHED DECEMBER 11, 1906.

60,407. SODA, SALERATUS, BAKING-POWDER, AND SAL-SODA. CHURCH & DWIGHT Co., New York, N. Y.
Filed October 13, 1906. Serial No. 22,680. PUBLISHED DECEMBER 11, 1906.

60,408. COTTON PIECE GOODS. CHARLES C. COPELAND & Co., New York, N. Y.
Filed June 13, 1906. Serial No. 20,235. PUBLISHED DECEMBER 11, 1906.

60,409. TONICS, BLOOD, HEART, AND NERVE MEDICINES. THE DR. MILES MEDICAL Co., Elkhart, Ind.
Filed April 28, 1905. Serial No. 3,425. PUBLISHED APRIL 3, 1906.

60,410. ANODYNE POWDERS. DR. N. C. DAVIS COMPANY, Indianapolis, Ind.
Filed May 12, 1906. Serial No. 19,478. PUBLISHED DECEMBER 11, 1906.

60,411. BRANDY. J. DUPONT & Co., Cognac, France.
Filed November 13, 1905. Serial No. 14,569. PUBLISHED DECEMBER 11, 1906.

60,412. WHISKY. THE FERNCLIFF DISTILLERY Co., Louisville, Ky.
Filed April 28, 1905. Serial No. 3,498. PUBLISHED JUNE 20, 1905.

60,413. INSECTICIDE FOR BUGS AND BLIGHT. BENJAMIN HAMMOND, Fishkill Landing, N. Y.
Filed October 13, 1906. Serial No. 22,697. PUBLISHED DECEMBER 11, 1906.

60,414. SPECIFIC FOR THE CURE OF EXTERNAL AND INTERNAL PAINS. HARRY F. LINDEMAN, Baltimore, Md.
Filed October 13, 1906. Serial No. 22,682. PUBLISHED DECEMBER 11, 1906.

60,415. LINIMENT AND SALVE. ALFRED W. LOWRIE, Hartford, Conn.
Filed October 15, 1906. Serial No. 22,706. PUBLISHED DECEMBER 11, 1906.

60,416. BITTERS. FRIEDRICH ADOLF RICHTER, Rudolstadt, Germany, and New York, N. Y.
Filed April 18, 1905. Serial No. 2,192. PUBLISHED DECEMBER 11, 1906.

60,417. BAKING-POWDER. SHERER-GILLETT COMPANY, Chicago, Ill.
Filed November 3, 1906. Serial No. 23,069. PUBLISHED DECEMBER 11, 1906.

60,418. SHOES, BOOTS, AND SLIPPERS MADE OF LEATHER. J. E. & W. G. WESSON, Worcester, Mass.
Filed October 19, 1906. Serial No. 22,791. PUBLISHED DECEMBER 11, 1906.

60,419. WHISKY. THE WM. BERGENTHAL Co., Milwaukee, Wis.
Filed May 29, 1905. Serial No. 6,973. PUBLISHED JUNE 19, 1906.

60,420. RATCHET, SCREW, AND TRACK JACKS. A. O. NORTON INCORPORATED, Boston, Mass.
Filed September 17, 1906. Serial No. 22,127. PUBLISHED DECEMBER 11, 1906.

60,421. RATCHET, SCREW, AND TRACK JACKS. A. O. NORTON INCORPORATED, Boston, Mass.
Filed September 17, 1906. Serial No. 22,128. PUBLISHED DECEMBER 11, 1906.

60,422. CERTAIN MALT PREPARATIONS. BORCHERDT MALT EXTRACT COMPANY, Chicago, Ill.
Filed July 13, 1906. Serial No. 20,907. PUBLISHED DECEMBER 11, 1906.

60,423. MONTHLY MAGAZINE. THE CENTURY Co., New York, N. Y.
Filed October 1, 1906. Serial No. 22,421. PUBLISHED DECEMBER 11, 1906.

60,424. CERTAIN EDGE-TOOLS. THE COLLINS COMPANY, Collinsville, Conn.
Filed October 29, 1906. Serial No. 22,962. PUBLISHED DECEMBER 11, 1906.

60,425. KID GLOVES. DAYTON DRY GOODS Co., Minneapolis, Minn.
Filed October 17, 1906. Serial No. 22,736. PUBLISHED DECEMBER 11, 1906.

60,426. COCKTAILS. P. DEMPSEY & Co., Boston, Mass.
Filed September 15, 1905. Serial No. 12,671. PUBLISHED DECEMBER 11, 1906.

60,427. CERTAIN TOILET PREPARATIONS. EDITH W. DWIGHT, Hartford, Conn.
Filed July 25, 1906. Serial No. 21,158. PUBLISHED NOVEMBER 13, 1906.

60,428. SILK PIECE GOODS. S. L. FEIBER, New York, N. Y.
Filed September 26, 1906. Serial No. 22,342. PUBLISHED DECEMBER 11, 1906.

60,429. PIPE-CLEANERS. JOHN F. FORTH, New York, N. Y.
Filed October 15, 1906. Serial No. 22,705. PUBLISHED DECEMBER 11, 1906.

60,430. CRANKS, CRANK-AXLES, PITMEN, PISTON-RODS, AND SHAFTS. FRIED. KRUPP AKTIENGESELLSCHAFT, Essen-on-the-Ruhr, Germany.
Filed October 11, 1906. Serial No. 22,643. PUBLISHED DECEMBER 11, 1906.

60,431. INKING-PADS. JOSEPH B. LAUGHTON, Westfield, Mass.
Filed October 8, 1906. Serial No. 22,593. PUBLISHED DECEMBER 11, 1906.

60,432. CERTAIN BEVERAGES. ALBERT LUDORFF, New York, N. Y.
Filed July 18, 1905. Serial No. 10,524. PUBLISHED DECEMBER 11, 1906.

60,433. WATCHES. MERMOD JACCARD & KING JEWELRY CO., St. Louis, Mo.
Filed August 7, 1905. Serial No. 11,403. PUBLISHED DECEMBER 11, 1906.

60,434. ELASTIC WEBBING. THE NARROW FABRIC CORPORATION, Orange, Conn.
Filed October 29, 1906. Serial No. 22,972. PUBLISHED DECEMBER 11, 1906.

60,435. LEATHER BOOTS, SHOES, AND SLIPPERS. THE PRESTON B. KEITH SHOE COMPANY, Brockton, Mass.
Filed October 23, 1906. Serial No. 22,860. PUBLISHED DECEMBER 11, 1906.

60,436. METAL PIPE-FLANGES AND MISCELLANEOUS METAL BANDS AND RINGS. RAILWAY STEEL-SPRING COMPANY, Jersey City, N. J., and New York, N. Y.
Filed September 22, 1906. Serial No. 22,233. PUBLISHED DECEMBER 11, 1906.

60,437. CERTAIN RAILWAY EQUIPMENT. TAYLOR IRON & STEEL CO., High Bridge, N. J.
Filed October 19, 1906. Serial No. 22,776. PUBLISHED DECEMBER 11, 1906.

60,438. OINTMENT AND SKIN FOOD. A. B. SEELYE MED. CO., Abilene, Kans.
Filed September 18, 1906. Serial No. 22,177. PUBLISHED DECEMBER 11, 1906.

60,439. LIQUID PREPARATIONS FOR AFFECTIONS OF THE RESPIRATORY SYSTEM. B. C. ANSLEY, Los Angeles, Cal.
Filed June 4, 1906. Serial No. 20,054. PUBLISHED DECEMBER 11, 1906.

60,440. CERTAIN CHEMICALS. BADISCHE ANILIN- & SODA-FABRIK, Ludwigshafen-on-the-Rhine, Germany.
Filed July 20, 1905. Serial No. 10,606. PUBLISHED DECEMBER 11, 1906.

60,441. REMEDY USED AS A TONIC FOR THE DIGESTIVE TRACT. HARRY J. FRITZ, Philadelphia, Pa.
Filed August 11, 1905. Serial No. 11,552. PUBLISHED DECEMBER 11, 1906.

60,442. HEADACHE-TABLETS AND COUGH REMEDIES. HAWKEYE MANUFACTURING CO., Des Moines, Iowa.
Filed December 20, 1905. Serial No. 15,545. PUBLISHED DECEMBER 11, 1906.

60,443. HEALING-OIL. J. H. HOOVER, Ossian, Ind.
Filed December 14, 1905. Serial No. 15,411. PUBLISHED DECEMBER 11, 1906.

60,444. REMEDIES FOR CERTAIN NAMED DISEASES. Prof. MAX LICHTENSTEIN, Jerome, Ariz. Ter.
Filed June 15, 1906. Serial No. 20,308. PUBLISHED DECEMBER 11, 1906.

60,445. COUGH MEDICINE. MAIRS & TRIPPEER, Browning, Mo.
Filed October 31, 1905. Serial No. 14,132. PUBLISHED DECEMBER 11, 1906.

60,446. REMEDIES FOR DYSPEPSIA. WILLIAM E. RYAN, French Lick, Ind.
Filed May 3, 1906. Serial No. 19,266. PUBLISHED DECEMBER 11, 1906.

60,447. PREPARATIONS OF ERGOT. HENRY SOLOMON WELLCOME, London, England.
Filed June 15, 1906. Serial No. 20,301. PUBLISHED DECEMBER 11, 1906.

LABELS

REGISTERED FEBRUARY 5, 1907.

13,341.—*Title:* "ARBITER HAND PLATED VELLUM." (For Writing-Papers.) WHITE & WYCKOFF MFG. CO., Holyoke, Mass. Filed December 31, 1906.

13,342.—*Title:* "ARBITER HAND PLATED EXTRA SUPERFINE." (For Writing-Papers.) WHITE & WYCKOFF MFG. CO., Holyoke, Mass. Filed December 31, 1906.

13,343.—*Title:* "ARBITER HAND PLATED LINEN FABRIC." (For Writing-Papers.) WHITE & WYCKOFF MFG. CO., Holyoke, Mass. Filed December 31, 1906.

13,344.—*Title:* "VANILLA SUBSTITUTE." (For Vanilla Substitute.) THE VANILLA SUBSTITUTE CO., Philadelphia, Pa. Filed December 24, 1906.

13,345.—*Title:* "MINT-SELTZER." (For Granular Effervescent Salts.) THE BUFFALO PHARMACAL CO., Buffalo, N. Y. Filed January 11, 1907.

13,346.—*Title:* "SAWYER'S CRYSTAL BLUING FOR THE LAUNDRY." (For Washing-Blue.) THE SAWYER CRYSTAL BLUE COMPANY, Boston, Mass. Filed January 12, 1907.

13,347.—*Title:* "YALE." (For Underwear.) HOLMES KNITTING CO., Malden, Mass. Filed January 16, 1907.

13,348.—*Title:* "THE BUTE OIL SHOE DRESSING." (For Leather-Dressing.) THE WOLFF CHEMICAL COMPANY, Philadelphia, Pa. Filed January 12, 1907.

PRINTS

REGISTERED FEBRUARY 5, 1907.

1,901.—*Title:* "DOG'ON FINE COFFEE." (For Coffee.) THE WOOLSON SPICE COMPANY, Toledo, Ohio. Filed January 2, 1907.

1,902.—*Title:* "CREOSOTONIC (SCOTT)." (For a Tonic.) THE DAWSON PHARMACAL CO., Dawson Springs, Ky. Filed January 11, 1907.

1,903.—*Title:* "CREAM OF WHEAT IS GOOD FOR YOU." (For a Breakfast Food.) CREAM OF WHEAT COMPANY, Minneapolis, Minn. Filed January 11, 1907.

1,904.—*Title:* "THE FRIENDS OF LABOR." (For Overalls.) SWEET-ORR & CO., New York, N. Y. Filed January 14, 1907.

1,905.—*Title:* "EDUCATOR SHOE." (For Boots and Shoes.) WILLIS E. PATTISON, Boston, Mass. Filed January 14, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

EX PARTE HIPP.

Decided December 6, 1906.

OATH—BEFORE NOTARIES PUBLIC—APPLICATION OF ACT OF JUNE 29, 1906.

The act of June 29, 1906, amending section 558 of the code of the District of Columbia relative to the powers of notaries public, is of local application only.

ON PETITION.

FISH-HOOK.

Messrs. Paul & Paul for the applicant.

ALLEN, *Commissioner:*

This is a petition that the Primary Examiner be directed to withdraw his requirement for a new oath.

The oath of the inventor forming part of the application was sworn to before Richard Paul, a member of the firm of Paul & Paul, the inventor's attorneys of record. Under the provisions of the act of June 29, 1906, amending section 558 of the code of the District of Columbia, the Examiner held that Paul was disqualified from administering the oath in this case by reason of the fact that he is the applicant's attorney of record.

The provision of the act of June 29, 1906, relied upon by the Examiner reads as follows:

> And provided further, that no notary public shall be authorized to take acknowledgments, administer oaths, certify papers, or perform any official acts in connection with matters in which he is employed as counsel, attorney, or agent or in which he may be in any way interested before any of the Departments aforesaid.

In an opinion rendered on October 12, 1906, the Assistant Attorney-General for the Interior Department made the following statement:

> It cannot be properly inferred that Congress intended by this provision in an act having local application only, to amend the general laws (section 4892, Revised Statutes) prescribing the officers before whom applicants for patents may make the oath required.

In view of the construction placed upon the statute in the opinion referred to the petition is granted.

CLEMENT *v.* BROWNE *v.* STROUD.

Decided January 10, 1907.

1. INTERFERENCE—DISSOLUTION—INOPERATIVENESS—MOTION TO TAKE TESTIMONY.

In presenting a motion to dissolve based upon alleged inoperativeness there is no necessity for a showing on the part of the moving party that his own structure is not inoperative, since dissolution will be necessary whether one or both of the structures is inoperative; but such showing is necessary to support a motion before the Examiner of Interferences for permission to take testimony on the question of operativeness.

2. SAME—SAME—SAME—AFFIDAVITS IN SUPPORT OF MOTION TO TAKE TESTIMONY.

Where affidavits are presented in support of a motion to take testimony on the question of the operativeness of the opposing party's device, they will not be transmitted to the Primary Examiner to consider the sufficiency thereof, as they are not pertinent to the motion to dissolve, but only to the motion to take testimony, which is a matter for the consideration of the Examiner of Interferences.

ON MOTION.

TELEPHONY.

Mr. Edward E. Clement pro se.

Mr. Charles Neave and *Messrs. Mauro, Cameron, Lewis & Massie* for Browne.

Mr. George L. Cragg and *Messrs. Bacon & Milans* for Stroud.

ALLEN, *Commissioner:*

This case comes up on motion by Stroud that the interference be transmitted to the Primary Examiner with instructions to fix a date for hearing the parties on the following questions:

1. The sufficiency of the showing made by Browne to warrant granting his motion to take testimony relative to the inoperativeness of the Stroud system, and

2. Whether the showing of inoperativeness made by Browne is as fully applicable to his own device as to that of Stroud.

The third ground involves the questions referred to in the second ground mentioned above.

The record shows that Browne filed a motion to dissolve the interference on the ground that Stroud's application does not disclose an operative telephone system. This motion was denied by the Primary Examiner. Thereupon Browne moved before the Examiner of Interferences for permission to take testimony relative to the question of the operativeness of the system disclosed in Stroud's application. The Examiner of Interferences granted the motion; but upon appeal it was held that as Browne had failed to show that the arguments and statements of facts directed against the operativeness of Stroud's device did not apply to the system shown in his own application the motion should not have been granted, and the case was remanded to the Examiner of Interferences for the purpose of permitting Browne to cure the defect referred to. Browne has now filed additional affidavits for this purpose, and it is the object of the motion now under consideration to have this additional showing considered by the Primary Examiner. There is nothing in Rule 130 or in the decisions relative to the practice to be followed in cases of this kind warranting such action. In presenting a motion to dis-

solve based upon alleged inoperativeness there is no necessity for a showing on the part of the moving party that his own structure is not inoperative. Dissolution will be necessary whether one or both of the structures is inoperative. It is only on motion before the Examiner of Interferences for permission to take testimony that the necessity arises for a showing that the alleged ground of inoperativeness does not apply to the structure of the moving party, and the necessity for such showing at that time arises from the fact that an attack upon the operativeness of the devices disclosed by both parties does not relate to the question of priority of invention. In the present case all matters necessary to the determination of Browne's motion to dissolve have already been before the Primary Examiner, and no reason is apparent for remanding the interference to him again for the consideration of the additional affidavits filed by Browne, as these affidavits have been filed solely for the purpose of showing that the questions raised by his motion relate to priority of invention, a matter not within the jurisdiction of the Primary Examiner.

The motion is denied.

THE UNITED STATES PLAYING CARD COMPANY *v.* C. M. CLARK PUBLISHING COMPANY.

Decided January 10, 1907.

1. TRADE-MARK INTERFERENCE—MARK USED TO INDICATE GRADE INSTEAD OF ORIGIN OF GOODS NOT A TRADE-MARK.

The price-lists and sample pack of cards indicate that the company adopted the mark to designate a certain grade or style of cards which they offered for sale at a specified price and to distinguish this variety of cards from numerous other styles made and sold by said company. There is no evidence that the mark was used to indicate the origin or manufacture of the cards; but, on the contrary, a fanciful figure labeled "Trade Mark" appears to be for the purpose of indicating the origin of the goods and to constitute properly the trade-mark of the company. *Held* that the mark in controversy was used by said company as a grade, quality, or style mark, and not as a technical trade-mark.

2. SAME—GRADE-MARK NOT A VALID TRADE-MARK.

Where a mark is adopted and used primarily to indicate style, grade, or quality of goods, and not for the purpose of indicating origin or manufacture of the goods, *Held* that it does not constitute a valid trade-mark.

APPEAL from Examiner of Interferences.

TRADE-MARK FOR PLAYING-CARDS.

Messrs. Briesen & Knauth for The United States Playing Card Company.

Mr. A. H. Spencer and *Mr. F. A. Spencer* for C. M. Clark Publishing Company.

ALLEN, *Commissioner:*

This is an appeal by C. M. Clark Publishing Company from the decision of the Examiner of Interferences awarding priority of adoption and use to The United States Playing Card Company of the word "Stage" as a trade-mark for playing-cards.

The senior party, C. M. Clark Publishing Company, has a registration of the mark issued November 29, 1904, on an application filed October 20, 1904. It took no testimony and stands on its record date.

The United States Playing Card Company took the testimony of three witnesses and has filed several exhibits in evidence. This evidence is not contradicted and must be held to establish that The United States Playing Card Company adopted and used the word "Stage" in connection with a certain style of playing-cards as early as 1897.

The decision in this case turns on whether the evidence is held to show that The United States Playing Card Company adopted and used the mark as a trade-mark or merely as a style or grade mark. The decision of the Examiner of Interferences that The United States Playing Card Company adopted and used the mark as a trade-mark as early as 1897 is believed to be in error.

Exhibits 1 to 19 are the semiannual price-lists of The United States Playing Card Company and cover the period from January 1, 1897, to January 1, 1906. On the first page of each of these circulars is a mark apparently consisting of the ace of spades bearing a conventional figure of Columbia, together with the label "Trade Mark." At the bottom of page 1 of Exhibits 1, 2, and 3 is the statement:

"Bicycle" and other brands of "U. S." and "National" Playing Cards (nearly 1,000 different kinds) received the "Highest Awards" at the World's Fair, Chicago. The highest official mark of distinction ever bestowed upon playing cards in America.

The other pages of the price-lists quote the prices of a large number of different styles, brands, or grades of cards. Under "Class D" of the "Wholesale Price List 'U. S.' Playing Cards" is the statement:

No.		Per gross.
65x.	The Stage Playing Cards, gold edges.....	$72.00

Professional stars, actors and actresses of the stage.
The most attractive edition of playing cards ever issued. New and beautiful court card designs, showing portraits of world-renowned celebrities of the stage. Handsome backs in gold and colors; finest linen stock; double enameled and highly finished, and put up in handsome embossed cases.

The price-lists contain no reference to the use of the words "The Stage" or "The Stage Playing Cards" as a trade-mark.

Exhibit 20 consists of a pack of cards having the inscription—

No. 65x. The Stage Playing Cards. Gold Edges.
Copyrighted, 1896, by The U. S. Playing Card Co. Cincinnati, U. S. A.

on the face of the box, while the ace-of-spades card in the pack has the same figure, labeled "Trade Mark," as the price-lists mentioned above. The significance of the word "Stage" appears to lie in the fact that the aces and court cards are decorated with the portraits of actors and actresses.

The price-lists and the sample pack of cards indicate that The United States Playing Card Company adopted the term including the word "Stage" to indicate a certain grade or style of cards which they offered for sale at the price specified. It distinguishes this variety of cards from the numerous other styles made and sold by the company, but it nowhere appears that it was used to indicate the origin or manufacture of the cards. On the contrary, the fanciful figure labeled "Trade Mark," noted above, appears to be for the purpose of indicating the origin of the goods and to constitute properly the trade-mark of the company.

Concerning the testimony the witness Ansley states that he is the superintendent of the stationery department of the American News Company, and in answer to the leading question—

Q. 9. Have you ever handled any of the U. S. Playing Card Company's cards which were marked with a trade-mark "Stage?"

he says:

I have. I have a pack here.

This pack is then offered in evidence as "Exhibit No. 20." It is evident that this witness does not mean by this

answer that the mark was used otherwise than is indicated on the pack itself.

The witness Crusius refers to "these 'stage' cards," but makes no mention of the use of the mark specifically as a trade-mark.

McCutcheon, the secretary and manager of The United States Playing Card Company, testifies:

The word "Stage" was adopted as a trade-mark in 1896 by the United States Playing Card Company, and has been used continuously since that time by said company; and at all times since there have been for sale at the New York office cards marked as shown by Exhibit 20; we have published in price-lists and catalogues and offered for sale, cards marked "Stage." A copyright was applied for by the company under my instructions through Briesen & Knauth, in 1896. Shortly after this copyright was issued, the cards were put upon the market and sold both in this country and foreign countries. It will be noted that all the price-lists produced by Mr. Ansley, marked from 1 to 19, contain advertisements of our trade-mark "Stage." (Q. 3.)

While this witness refers to the use of the mark as a trade-mark, he does not state that it was used to indicate the origin of the cards or otherwise than to indicate a certain kind of cards.

The principle that where a mark is adopted and used primarily to indicate style, grade, or quality of goods it is not a valid trade-mark is well settled by the following decisions of the United States Supreme Court: *Canal Company* v. *Clark*, (13 Wall., 311;) *Manufacturing Company* v. *Trainer*, (101 U. S., 51;) *Lawrence Manufacturing Company* v. *Tennessee Manufacturing Company*, (138 U. S., 537;) *Columbia Mill Company* v. *Alcorn*, (150 U. S., 460.)

Chief Justice Fuller in *Lawrence Manufacturing Company* v. *Tennessee Manufacturing Company*, *supra*, said:

Nothing is better settled than that an exclusive right to the use of words, letters or symbols, to indicate merely the quality of the goods to which they are affixed, cannot be acquired. And while if the primary object of the mark be to indicate origin or ownership, the mere fact that the article has obtained such a wide sale that it has also become indicative of quality, is not of itself sufficient to debar the owner from protection, and make it the common property of the trade, (*Burton* v. *Stratton*, 12 Fed. Rep., 696,) yet if the device or symbol was not adopted for the purpose of indicating origin, manufacture or ownership, but was placed upon the article to denote class, grade, style or quality, it cannot be upheld as technically a trade-mark.

In *Columbia Mill Company* v. *Alcorn*, *supra*, the Court stated:

These cases establish the following propositions: (1) That to acquire the right to the exclusive use of a name, device, or symbol, as a trade-mark, it must appear that it was adopted for the purpose of identifying the origin or ownership of the article to which it is attached, or that such trade-mark must point distinctively, either by itself or by association, to the origin, manufacture, or ownership of the article on which it is stamped. It must be designed, as its primary object and purpose, to indicate the owner or producer of the commodity, and to distinguish it from like articles manufactured by others. (2) That if the device, mark, or symbol was adopted or placed upon the article for the purpose of identifying its class, grade, style, or quality, or for any purpose other than a reference to or indication of its ownership, it cannot be sustained as a valid trade-mark.

The evidence is found to show that The United States Playing Card Company adopted and used a mark the prominent feature of which is the word "stage" in 1897 as a grade, quality, or style mark for playing-cards, but fails to show that it adopted and used it as a trade-mark to indicate origin or manufacture of the goods prior to the filing date of the senior party.

The decision of the Examiner of Interferences is reversed.

WERT *v.* BORST AND GROSCOP.

Decided November 17, 1906.

INTERFERENCE—APPEAL—DISCLAIMER BY APPELLEE—APPEAL DISMISSED.

Where appeal is taken from a decision of the Examiners-in-Chief on the question of priority and the appellee files a motion to dismiss the appeal, accompanied by a disclaimer of the invention in issue signed by the appellant, *Held* that the disclaimer will be considered a concurrence in the motion of the appellee to dismiss the appeal.

APPEAL from Examiners-in-Chief.

CEMENT-BLOCK MACHINE.

Messrs. C. A. Snow & Co. for Wert.

Mr. Edward N. Pagelsen for Borst and Groscop.

MOORE, *Acting Commissioner:*

This case comes before me on appeal by Wert from the decision of the Examiners-in-Chief affirming the decision of the Examiner of Interferences awarding priority of invention to Borst and Groscop and also on motion by Borst and Groscop that the appeal be dismissed. The motion to dismiss is based upon a duly-executed disclaimer of the invention by Wert, which disclaimer accompanies the motion. Under the rules the disclaimer cannot be given effect as such, for the reason that parties are not permitted to terminate an interference by disclaimer after the preliminary statements have been opened and approved. The filing of the disclaimer in this case, however, clearly indicates Wert's concurrence in the motion to dismiss his appeal and his consent that the judgment of priority of invention rendered against him by the Examiners-in-Chief shall become final. The appeal is therefore dismissed.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

IN RE AMERICAN CIRCULAR LOOM COMPANY.

Decided December 4, 1906.

1. TRADE-MARK—REGISTRATION—SYMBOLS INDICATING MERELY QUALITY NOT REGISTRABLE.

A trade-mark consisting of "flakes of mica impressed or otherwise applied to the external surface of an insulating-tube or tubular coverings for electric wires" was properly refused registration, for the reason that the registration would operate, so far as it could have any effect, to give the applicant a monopoly of conduits or tubular coverings of flake-mica composition. The office of a trade-mark in a legal sense is to point out distinctly the origin or ownership of the article to which it is affixed, or, in other words, to give notice who was the producer. Words, letters, or symbols which indicate merely the quality of the goods to which they are affixed cannot be appropriated as trade-marks. (*Canal Co.* v. *Clark*, 1 O. G., 279; 13 Wall., 311, 322; *Lawrence Mfg. Co.* v. *Tennessee Mfg. Co.*, 55 O. G., 1,528; 138 U. S., 537, 547.)

2. SAME—SAME—COLOR THE ESSENTIAL FEATURE.

If the sole purpose of the use of the flakes of mica is to obtain protection "for the distinctive appearance obtained by placing bright scales on a dark background," registration was properly denied, on the ground that it was an ingenious attempt to obtain a trade-mark of which color, unconnected with some symbol or design, is the essential feature. (*Leschen Rope Co.* v. *Broderick*, 201 U. S., 166, 171.)

Mr. Wm. S. Hodges, *Mr. Everett N. Curtis*, and *Mr. Charles F. Perkins* for the appellant.

Mr. Fairfax Bayard for the Commissioner of Patents.

SHEPARD, *J.:*

The American Circular Loom Company appeals from the refusal of registration of a trade-mark for insulating-tubes or tubular coverings for electric wires, described as follows:

The trade-mark is shown in the accompanying drawing and consists of flakes of mica impressed in or otherwise applied to the external surface of an insulating-tube or tubular coverings for electric wires.

The articles of manufacture, as shown by specimen tube-sections submitted to the Office Examiner, consist of a fiber spiral, a covering of fiber and tape, a protective cotton tube, and an outer covering of the insulating-tube. The applicant states that the trade-mark is usually applied by—

pressing small flakes of mica against the surface of an insulating-tube or tubular covering while the said surface is in a somewhat soft and yielding condition, the flakes being partially embedded in and caused to adhere to the surface of the tube.

The trade-mark is represented also as—

displayed on the goods by attaching thereto a tag having thereon a printed representation of sparkling flakes or scales or a picture of a section of tubing.

Registration was refused by the Examiner on the ground that it—

is not a distinctive mark, indicative of origin and ownership, but a mere representation of the goods—

that is to say, of their character or quality.

Mica is itself an insulating material or substance, and the specimen sections of the tubes appear to the ordinary observer to have a thin covering of it, sparkling more at some points than at others. The trade-mark drawing or print shows something like a similar mica covering with a number of larger sparkling spots distinct from each other.

Regarding this as intended to represent, in probably an exaggerated form, what is shown on the tubes themselves, we agree with the Examiner, that permission to register this trade-mark would be, so far as registration could have any effect, to give the applicant a monopoly of conduits or tubular coverings of flake-mica composition. The office of a trade-mark in a legal sense is to point out distinctively the origin or ownership of the article to which it is affixed; or in other words to give notice who was the producer. Words, letters, or symbols which indicate merely the quality of the goods to which they are affixed cannot be appropriated as trade-marks. (*Canal Co.* v. *Clark*, 1 O. G., 279; 13 Wall., 311, 322; *Lawrence Mfg. Co.* v. *Tennessee Mfg. Co.*, 55 O. G., 1528; 138 U. S., 537, 547.) This doctrine, in our opinion, was correctly applied to the conditions of this case by the Commissioner in the following words:

Custom and reason require that a trade-mark shall have an existence so distinct from the goods to which it is applied that it will be readily recognized by the public and by purchasers as an arbitrary symbol adopted to authenticate origin. The surface effect which the applicant calls his trade-mark is not so clearly distinct from the article upon which it appears as to be readily recognized as an arbitrary symbol for this purpose, and, in my opinion, it would not be so recognized by those not specifically informed.

It is earnestly contended for the appellant that mica is not in fact used, or intended to be represented as used to form any part of the insulating-covering of the tubes, and that the sole purpose of its use, illustrated by the drawing, is to seek protection—

for the distinctive appearance obtained by placing bright scales on a dark background.

Viewed in this light alone, we are of the opinion that registration was properly denied, for it is nothing more, substantially, than an ingenious attempt to obtain a trade-mark of which color, unconnected with some symbol or design, is the essential feature. (*Leschen Rope Co.* v. *Broderick*, 201 U. S., 166, 171.) The trade-mark was claimed in that case by a rope manufacturer, and consisted of a red or other distinctively-colored streak applied, or woven into a wire rope. It was also stated that the color of the streak might be varied at will so long as it is distinctive from the color of the body of the rope, though it was usually applied by painting one strand of the rope red. In delivering the opinion of the Court, Mr. Justice Brown said:

Certainly a trade-mark could not be claimed of a rope, the entire surface of which was colored; and if color be made the essential feature, it should be so defined or connected with some symbol or design, that other manufacturers may know what they may safely do.

After discussing and pointing out the great breadth of the trade-mark as described, it was further said:

Whether mere color can constitute a valid trade-mark may admit of doubt. Doubtless it may be, if it be impressed in a particular design, as a circle, square, triangle, a cross, or a star. But the authorities do not go farther than this. In the case of Handon's trade-mark, (37 Ch. Div., 112,) in which a trade-mark was claimed for a red, white and blue label, in imitation of the French tricolor, for French coffee, it was held not entitled to registration under the English statute which requires a trade-mark to be distinctive in order to be valid. The court remarked as follows: "It is the plain intention of the act that, where the distinction of a mark depends upon color, that it will not do. You may register a mark which is otherwise distinctive, in color, and that gives you the right to use it in any color you like; but you cannot register a mark of which the only distinction is the use of a color, because practically under the terms of the act, that would give you a monopoly of all the colors of the rainbow."

The English case cited and quoted above arose under an act which provided for the registration of a trade-mark in color. (See also, *Putnam Nail Co.* v. *Dulany*, 140 Pa. St., 205; *Mumm* v. *Kirk*, 40 Fed. Rep., 589.)

For the reasons given the decision will be affirmed.

The clerk is directed also to certify this decision to the Commissioner of Patents as the law provides. Affirmed.

Court of Appeals of the District of Columbia.

THE SCHUSTER CO. *v.* MULLER.

Decided December 4, 1906.

1. TRADE-MARK—PRIORITY—GOODS OF THE SAME DESCRIPTIVE PROPERTIES.

In determining the question of priority of adoption and use of a trade-mark for bitters made from certain roots and barks and bottled, evidence of the use of such mark on a package containing a mixture of ground roots and bark with directions how to make the bitters by steeping them in Holland gin may be properly considered, the goods being of the same descriptive properties.

2. SAME—DECEPTIVE MARKS.

Where any symbol or label claimed as a trade-mark is so worded as to contain a distinct assertion which is false, no property right can be claimed, nor can the right to the exclusive use of it be maintained by a court of equity. Courts of equity will not interfere by injunction where there is any lack of proof in the applicant's case or any misrepresentation in his trade-mark or label, nor will the courts uphold in any one a privilege of deceiving the public. An exclusive privilege to deceive the public is not one that a court of equity can sanction nor one which the Commissioner of Patents should aid.

3. SAME—SAME—EVIDENCE OF DECEPTION INSUFFICIENT.

Evidence submitted by a party to a trade-mark interference tending to show that the mark as used by the opposing party was deceptive considered and *Held* insufficient to establish the fact.

Mr. A. E. Wallace for the appellant.

Mr. F. M. Phelps for the appellee.

McCOMAS, *J.*:

This appeal is from a decision of the Commissioner of Patents concerning a trade-mark for bitters. Wm. H. Muller filed his application October 5, 1905, and therein claimed to have continuously used the work "Bismarck" as his trade-mark for bitters since January, 1892. On May 25, 1905, the Schuster Company filed its application for a trade-mark consisting of the work "Bismarck" and the picture of Bismarck inclosed in a circle, which trade-mark for bitters it claimed to have continuously used since the year 1895.

The question is, priority of adoption and use of the word "Bismarck" as a trade-mark for bitters. The Schuster Company as a corporation succeeded to a copartnership of the same name in 1900 and to the title of the firm to all trade-marks. The firm conducted the business from 1890 until 1900. The company is a wholesale dealer in wines and liquors.

Edard L. Schuster, its vice-president, testified that the firm adopted the mark, he should judge, about 1892 and it was used while the firm still sold its goods at retail, and his company he thinks has been engaged in the wholesale business since 1898. The only book entry he produced was the entry of a sale on March 17, 1899, of one gallon of "Bismarck Pepsin Bitters" to a clergyman, although he said the company had been selling to the trade, of late years, about two thousand cases annually; he knew that the firm had sold goods under this trade-mark seven or eight years previous to the time, 1898, when the company engaged in the wholesale business. Upon cross-examination he said he could not accurately fix the date, it might have been six, or seven, or eight, or nine years prior to the entry into the wholesale business. The firm kept no cash-books, no entry of sales while in the retail business.

Charles F. Schuster, aged twenty-nine years, secretary of the company, testified that for eleven years he had been connected with the business of the company; since he was eighteen, he had been engaged with it in a business capacity; previous to that, while going to school, he had assisted in the retail sales after school hours, and he knew that the firm had used this trade-mark for a good many years prior to his connection with the company. This witness had signed the application fixing the date of use as 1895 and he said he had fixed the date without any research, because he remembered that the firm sold the goods under this trade-mark at that time. Upon cross-examination he said that as far as he can remember the firm used the trade-mark about sixteen years back while he was going to school, but he could not produce any records to confirm his memory. The vice-president, he said, had fixed the date for this application.

The third and last witness was Jacob Schuster, aged twenty-one years, who for four years has been compounder for the Schuster Company, and during all that time this trade-mark had been used. He was positive of its use in 1899 when the witness was fourteen years old, for then he had started to assist in the business after school hours.

The Schuster Company in its application claimed continuous use since 1895, while Muller, the appellee, claimed continuous use since 1892. When the Schuster Company endeavored to prove adoption and use of the trade-mark, prior to January, 1892, all three witnesses were members of the Schuster family and officers of the company, and taking together their statements, their best recollection appears to be that the trade-mark was used six or seven, or eight, or nine years prior to 1898, when the retail business and the wholesale business commenced. In January, 1892, one of these witnesses was a boy of fourteen, another a child of eight years of age and the only record of sale produced was of a sale of a gallon of bitters in March, 1899. All of these witnesses are parties in interest.

Muller, the other applicant, in his own behalf testified that he adopted this mark in December, 1891. He registered it in the trade-mark record in January, 1892, and in that month commenced selling a mixture of ground roost and barks to be used in making bitters, each package being inclosed in a wrapper, bearing the words "Bismarck Bitters" and other printed matter, including directions for making the bitters by steeping the contents in Holland gin. In 1894, he commenced selling the bitters in liquid form, each bottle having a label bearing the identical label accompanying the application for registration. A package of the mixture of roots and barks, and a bottle of the bitters each bearing the label "Bismarck Bitters" were introduced in evidence. He also introduced his ledger, which shows sales of "Bismarck Bitters" during 1892, 1893, 1894, 1895.

One Kennedy, of the firm of Charles N. Crittenton and Company, testified that the firm books show that his firm purchased "Bismarck Bitters" from Muller, first on May 14, 1892, and at other times during that year and the two following years and regularly since 1894. He produced his firm's catalogue, listing Muller's "Bismarck Bitters" in the issues for the years 1893 and 1894, and he identified the bottle bearing the label "Bismarck Bitters."

Gazley, a printer, testified that on January 5, 1892, he had printed the identical wrapper with the mark "Bismarck Bitters," and also circulars containing it and again had printed circulars on January 13, 1892, and had printed the like in each of the next succeeding years. He identified the label as one he had printed on the package of ground roots and barks in 1892.

Lowenherz, an advertising agent, employed by Muller, testified that he had caused advertisements of the "Bismarck Bitters" to be published in the German *Morgen Journal* from April 18, 1892, up to October of that year, and he identified clippings as such printed advertisements and he also identified like advertisements in the *Evening Sun*, probably in 1892 or 1893, in *Frank Leslies* in 1892, and in the *Evening World* as early as June, 1894. Refreshed by the advertisements he had clipped from the newspapers and placed in his scrap-book, the witness testified from personal recollection. This evidence on the part of Muller, who produced in addition to his own recollection his ledger and also the important testimony of three disinterested witnesses, clearly establishes that as early as January, 1892, Muller adopted the trade-mark in issue and has used it continuously since that time. The mixture of ground roots and bark having on the wrapper of the package containing the mixture, directions how to make the bitters by steeping the contents in Holland gin, was properly considered by the Commissioner to be goods of the same descriptve property as bitters made from these roots and barks and bottled. We have stated in detail the testimony produced in support of each application and it so clearly preponderates in favor of the prior adoption and use of this trade-mark by Muller, the appellee, that it needs no further discussion. Schuster and Company have failed to establish by clear and convincing proof that they were using the mark prior to January 5, 1892, and, as we have said, the proof is convincing that ever since that date, when Muller adopted it, he has been continuously using this trade-mark for bitters.

The appellant evidently appreciating the weakness of its testimony, introduced testimony the object of which was to show that the printed matter on the label of Muller is deceptive.

The Examiner of Interferences decided that the testimony does not show such deception and the Commissioner

of Patents concluded that the contention of the Schuster Company that the bitters of Muller are without effect upon the kidneys and are not proper medicine for children should not deprive Muller of the trade-mark, because the truth of these contentions is not satisfactorily established. Recent, salutary laws restrain manufacturers and dealers from imposing upon the public, preparations injurious to health. The courts grow increasingly careful and cautious in restraining false representations to the public in vending such preparations. Where any symbol or label claimed as a trade-mark is so worded as to contain a distinct assertion which is false, no property right can be claimed nor can the right to the exclusive use of it be maintained by a court of equity. Courts of equity will not interfere by injunction where there is any lack of proof in the applicant's case or any misrepresentation in his trade-mark or label, nor will the courts uphold in any one a privilege of deceiving the public. An exclusive privilege to deceive the public is not one that a court of equity can sanction nor one which the Commissioner of Patents should aid. While there is a right of property in a trade-mark in connection with a vendible commodity it is essential that the vender should not in his trade-mark or in the printing connected therewith, or in the business use of the trade-mark, himself be guilty, of any false or misleading representations. It is settled that where the owner of such a trade-mark applies for an injunction to restrain another, his petition will be denied. (See *Worden* v. *California Fig Syrup Co.*, 187 U. S., 516; *California Fig Syrup Co.* v. *Stearns & Co.*, 73 Fed. Rep., 812; *Leathercloth Co.* v. *American Leathercloth Co.*, 4 De Gex, J. & S., 137; *Eleven House of Lords Cas.*, 523; *Fetridge* v. *Wells*, 4 Abbott, N. Y., 144; *Manhattan Medicine Co.* v. *Wood*, 23 O. G., 1925; 108 U. S., 218; *Siegert et al.* v. *Gandolfi et al.*, 139 Fed. Rep., 917.)

These considerations require us to carefully scrutinize the testimony of the two witnesses produced by the appellant upon the point of deceptive use of this trade-mark by Muller.

John G. Spenzer, a chemist in Cleveland, Ohio, of twenty years' experience, testified that he had analyzed a bottle of Muller's "Bismarck Bitters" and found that it contained cardamom, calamus, galangal, aloes, capsicum, coriander, rhubarb, sugar, alcohol and water. The alcohol was forty-two and five-tenths per cent. This bottle was not purchased directly from Muller, the manufacturer. Schuster and Company notified the witness that the package would arrive from New York and he received it by express from Hageman's pharmacy in that city with the seal unbroken. Counsel after cross-examination appear to be satisfied that the bottle and the contents were the same Muller usually sold under this trade-mark. Dr. J. B. McGee, a physician of Cleveland, Ohio, was asked respecting the contents of the bottle as stated by the preceding witness and to tell whether or not in his opinion (following the language on the printed label on the bottle under the words "Bismarck Bitters") a cordial-glassful of bitters taken once or twice a day from a bottle containing the contents just read to the witness, is a tonic preparation, or a small wineglassful before breakfast or at bedtime is a health-preserving preparation, and for children in proportion, beneficial or otherwise for regulating the bowels, eliminating tendency to catarrh of the stomach and liver and diseases of the kidney; and Doctor McGee testified that the bitters would be stomachic and the action good in dyspepsia; that the only agents mentioned therein that would have any special effect upon the liver are aloes and rhubarb and that he did not recall any ingredient that has any action upon the kidneys. As he recalled it, the physician pronounced it a very good bitter. He would not use the preparation as a routine remedy for children for he would have no alcohol. The physician stated that possibly twenty per cent. of alcohol was necessary to preserve the bitters, and any percentage beyond that would be a stimulant and that this bitter tonic appeared to contain the ordinary ingredients of bitters.

Upon this testimony we cannot say that the Commissioner of Patents erred in determining that the contention of the appellant that the printed matter upon Muller's label is deceptive, was not satisfactorily established. The order of the Commissioner of Patents in so far as it relates to this interference is affirmed and this opinion will be certified to the Commissioner of Patents in accordance with law. Affirmed.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 9, 1907.

Charles B. Hull, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of The J. F. Zahm Tobacco Company, of Toledo, Ohio, for registration of a trade-mark, and a trade-mark registered to the said company, and also a trade-mark registered to Charles B. Hull, of Detroit, Mich. It has been impossible to locate said Hull, and his attorney of record is no longer in business.

Notice is therefore hereby given to the said Charles B. Hull, his assigns or legal representatives that if they or any of them desire to contest the said interference, they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 2, 1907.

Lyman F. Palmer and H. H. Wetherbee & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Crescent Manufacturing Company, of Seattle, Wash., for registration of a trade-mark, a trade-mark registered to Lyman F. Palmer, of Topeka, Kans., and a trade-mark registered to H. H. Wetherbee & Company, of Boston, Mass. The notices of declaration mailed by the Patent Office in the usual manner to the said Lyman F. Palmer and H. H. Wetherbee & Company have been returned by the Post-Office Department undelivered, and it appears of record in the interference that both of said parties are probably out of business.

Notice is therefore hereby given to the said Lyman F. Palmer and to H. H. Wetherbee & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 2, 1907.

Charles A. Raymond, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for registration of a trade-mark filed by the Bay State Shoe & Leather Company, of Worcester, Mass., a registered trade-mark to the same company, and a trade-mark registered to Charles A. Raymond, of Boston, Mass., and New York, N. Y. The notice of declaration of said interference mailed by the Patent Office in the usual manner to the said Charles A. Raymond, 195 Congress street, Boston, Mass., has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said Charles A. Raymond, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

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[BY AUTHORITY OF CONGRESS.]

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TO CITIZENS OF THE UNITED STATES.

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Florida	3	.....	Oregon	1	.....
Georgia	2	1	Pennsylvania	66	25
Hawaii Territory	1	.....	Philippine Islands	.....	.....
Idaho	1	.....	Porto Rico	.....	.....
Illinois	70	17	Rhode Island	7	1
Indian Territory	2	.....	South Carolina	.....	.....
Indiana	24	2	South Dakota	4	.....
Iowa	18	1	Tennessee	8	1
Kansas	5	1	Texas	11	2
Kentucky	10	.....	Utah	1	.....
Louisiana	3	1	Vermont	2	.....
Maine	1	6	Virginia	4	2
Maryland	12	3	Washington	9	1
Massachusetts	35	20	West Virginia	5	2
Michigan	26	7	Wisconsin	20	3
Minnesota	11	1	Wyoming	.....	.....
Mississippi	3	1	U. S. Army	.....	.....
Missouri	14	8	U. S. Navy	1	.....
Montana	2	.....			
Nebraska	7	1	Total to citizens of the United States	661	183
Nevada	1	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Natal	.....	.....
Austria-Hungary	5	3	Netherlands	.....	.....
Belgium	2	.....	Newfoundland	.....	.....
Brazil	.....	.....	New South Wales	3	.....
British West Indies	.....	.....	New Zealand	1	.....
Canada	7	.....	Norway	.....	2
Cape Colony	.....	.....	Prussia	.....	1
Chile	.....	.....	Queensland	.....	.....
China	.....	.....	Roumania	.....	.....
Costa Rica	.....	.....	Russia	.....	.....
Cuba	.....	3	Scotland	1	.....
Denmark	1	.....	South Australia	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	18	.....	Sweden	3	.....
France	9	2	Switzerland	6	2
Germany	25	11	Venezuela	2	.....
Haiti	.....	.....	Transvaal, South Africa	1	.....
Ireland	.....	.....	Western Australia	.....	.....
Italy	.....	.....			
Japan	.....	.....			
Java	.....	.....	Total to citizens of foreign countries	84	25
Mexico	.....	1			

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., February 2, 1907.

James M. McClave, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for patent filed by Walter G. Swart, of Denver, Colo., and an application for patent filed by James M. McClave, of the same place. It appears from the record of the interference that the said James M. McClave has removed from his known address, No. 1034 Broadway, Denver, Colo., and his present whereabouts is unknown. Notice is therefore hereby given to the said James M. McClave, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 22, 1907.

Francis Sedziak, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for patent filed by Joseph M. Bosenbury, of Decatur, Ill., and an application for patent filed by Francis Sedziak, of St. Louis, Mo. It appears from the record of the case that the present address of the said Francis Sedziak is unknown, and it has been impossible to notify him of the interference.

Notice is therefore hereby given to the said Francis Sedziak, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business February 6, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Feb. 1	Jan. 31	55
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Jan. 25	Jan. 14	160
321	I. Tillage, etc., Fences, and Railway Draft Appliances.	Jan. 25	Jan. 8	120
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Jan. 24	Jan. 7	188
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Jan. 23	Jan. 12	91
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Presses, Store-Service, Tobacco, etc.	Jan. 23	Jan. 9	185
327	XVIII. Steam-Engineering, etc ...	Jan. 23	Jan. 9	150
109	XVI. Telegraphy and Telephony..	Jan. 23	Jan. 9	135
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Jan. 23	Jan. 8	208
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Jan. 23	Jan. 7	136
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Jan. 22	Jan. 9	198
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Jan. 22	Jan. 8	212
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Jan. 21	Jan. 8	320
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Jan. 21	Jan. 5	223
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Jan. 21	Jan. 2	232
167	V. Bookbinding, Harvesters, Jewelry, and Music.	Jan. 19	Jan. 9	226
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Jan. 19	Jan. 9	383
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Jan. 18	Jan. 14	234
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Jan. 18	Jan. 2	181
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Jan. 17	Jan. 8	277
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	Jan. 17	Jan. 5	101
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Jan. 15	Jan. 5	237
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	Jan. 15	Jan. 4	155

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Jan. 14	Jan. 7	222
329	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making.	Jan. 14	Jan. 7	267
122	XIX. Stoves and Furnaces and Steam-Boiler Furnaces.	Jan. 12	Jan. 7	334
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Signals, Time Controlling Mechanism.	Jan. 12	Dec. 31	272
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Jan. 11	Jan. 10	305
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Jan. 10	Jan. 10	456
142	IX. Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	Jan. 10	Jan. 10	395
332	X. Carriages and Wagons.....	Jan. 10	Jan. 9	404
382	XXVIII. Air and Gas Engines, Air and Gas Pumps, Pneumatics.	Jan. 9	Jan. 11	260
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Jan. 8	Jan. 5	313
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Jan. 7	Jan. 3	378
343	XXXIX. Cushion and Pneumatic Tires, Fine Arts, and Water Distribution.	Jan. 5	Jan. 5	574
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	Jan. 3	Jan. 2	248
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	Jan. 2	Dec. 19	369
175	III. Annealing and Tempering, Coating with Metal, Electrochemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Dec. 29	Dec. 26	274
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Dec. 26	Jan. 5	207

Total number of applications awaiting action 9,595

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Trade-Marks	Feb. 4	Jan. 30	192
	Designs	Feb. 1	Jan. 24	32
	Labels and Prints	.....	.....	....

Interference Notice.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 22, 1907.

Alexander Speer & Sons, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Star Manufacturing Company, of Carpentersville, Ill., for registration of a trade-mark and a trade-mark registered to Alexander Speer & Sons, of Pittsburg, Pa. It has been found impossible to locate the said Alexander Speer & Sons, and their attorneys of record are dead.

Notice is therefore hereby given to Alexander Speer & Sons, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

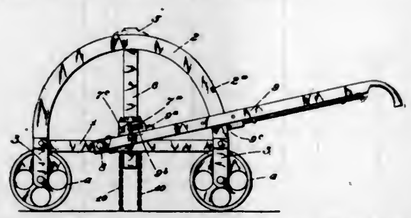
This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

PATENTS

GRANTED FEBRUARY 12, 1907.

843,570. TRUCK. WILLIAM H. ARMSTRONG, Lima, Ohio. Filed Apr. 7, 1906. Serial No. 310,398.



Claim.—1. In a truck, the combination of two separate frames movable toward and from each other, vertically-sliding bars in said frames to grip the article to be carried, levers engaging said bars, and flexible means to support the load and connect the frames.

2. In a truck, the combination of two separate frames movable toward and from each other, sliding bars in said frames to grip the article to be carried, means for elevating said bars and flexible means to support the load and connect the gripper-bars.

3. In a truck, the combination of two separate frames movable toward and from each other, sliding bars in said frames to grip the article to be carried, means for elevating said bars, and means adapted to support the load connecting said bars.

4. In a truck, the combination of two separate frames movable toward and from each other, vertically-sliding bars in said frames, a lever attached to each of said frames and operatively engaging the bar, and a flexible load-supporting device connecting the sliding bars.

5. In a truck, the combination of two separate frames movable toward and from each other, sliding bars in said frames to grip the article to be carried, means for elevating said bars, and detachable means adapted to support the load and to connect said bars.

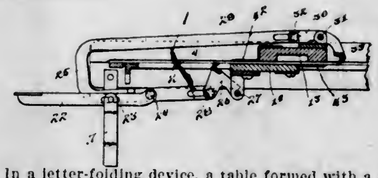
6. In a truck, the combination of two separate frames movable toward and from each other, sliding bars in said frames to grip the article to be carried, detachable means connecting the gripper-bars and adapted to support the load, levers to elevate the gripper-bars, and a latching device to hold the lever when the gripper-bars are elevated.

7. In a truck, the combination of two separate frames, vertically-sliding gripper-bars in said frames, blocks on said gripper-bars containing a laterally-projecting pin and means to retain a flexible load-supporting device between the frames, handled levers fulcrumed on said frames and provided with slots in which the aforesaid pins project, said levers being adapted to elevate said gripper-bars, and means for latching the levers after movement to elevate said gripper-bars.

843,571. LETTER-FOLDING DEVICE. JACOB BAUM, Cincinnati, Ohio. Filed June 19, 1906. Serial No. 322,492.

Claim.—1. In a letter-folding device, a table formed with a slideway, a folding-blade, means for reciprocating said blade in said slideway, folding devices adapted to bend the paper over the opposite edges of said table to form two folding-lines transverse to the first fold, and means for actuating said folding devices, substantially as described.

2. In a letter-folding device, a table formed with a slideway, means for supporting the letter in front of and transversely to the slideway, a folding-blade between which blade and the table the letter is initially supported, means for reciprocating said blade in said slideway, folding devices adapted to bend the letter over the side edges of said table to form two folding-lines transverse to the first fold, and means for reciprocating said folding devices, substantially as described.



3. In a letter-folding device, a table formed with a slideway, means for adjustably supporting the letter in front of and transversely to the slideway, a folding-blade between which blade and the table the letter is initially supported, means for reciprocating said blade in said slideway, folding devices adapted to bend the letter over the side edges of said table to form two folding-lines transverse to the first fold, and means for reciprocating said folding devices, substantially as described.

4. In a letter-folding device, a table formed with a slideway, means for adjusting the width of the table, means for adjustably supporting the letter in front of and transversely to the slideway, a folding-blade between which blade and the table the letter is initially supported, means for reciprocating said blade in said slideway, folding devices adapted to bend the letter over the side edges of said table to form two folding-lines transverse to the first fold, and means for reciprocating said folding devices, substantially as described.

5. In a letter-folding device, a table composed of two plates suitably secured together with a space between them to form a slideway horizontally extended, a folding device, means for supporting the letter initially between said device and the slideway, means for reciprocating the said device whereby it moves into and out of said slideway, folding devices adapted to crimp the paper against the opposite edges of the table to form two folding-lines transverse to the first, and lever mechanism for simultaneously operating the said transverse folding devices, substantially as described.

6. In a letter-folding device, a table, a slideway formed therein, a folding-blade, means for reciprocating said blade in the slideway to impart the first fold to the letter, folding devices adapted to crimp the paper against the opposite edges of the table to impart two transverse folds to the letter, and lever mechanism adapted to simultaneously actuate said folding devices, substantially as described.

7. In a letter-folding device, top and bottom members forming a slideway between them, a folding-blade, means for reciprocating the blade in the slideway to impart the first fold to a letter, plates extensibly attached to said top and bottom members, crimping devices adapted to crimp the paper against the outer edges of said plates to impart two transverse folds to the letter, and lever mechanism adapted to operate the said crimping members, substantially as described.

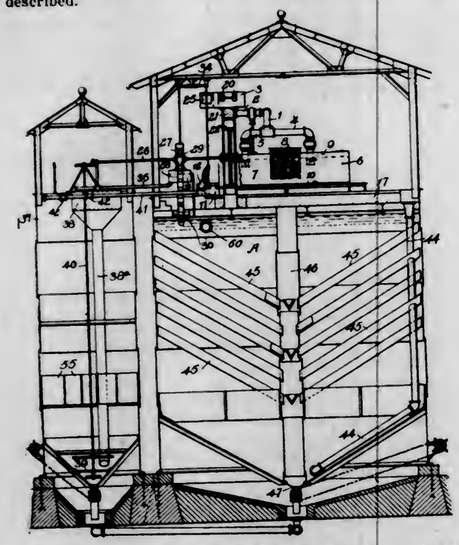
843,572. WATER-SOFTENING PLANT. ARTHUR B. BELLOWS, Pittsburg, Pa. Filed Dec. 13, 1904. Serial No. 236,733.

Claim.—1. In water-softening apparatus, a vertically-movable weir having a notch whose edges define the outflowing stream; substantially as described.

2. In water-softening apparatus, a tank having a mov-

able outlet-weir provided with a notch whose edges define the outflowing stream, and connections arranged to automatically move the weir according to the supply of water to be treated; substantially as described.

3. In water-softening apparatus, a stationary tank having a movable weir at one side thereof over which the water flows out of said tank, said weir having a notch whose edges define the outflowing stream; substantially as described.



4. In water-softening apparatus, a stationary tank having a movable weir at one side thereof over which the water flows out of said tank, said weir having a notch whose edges define the outflowing stream, and connections arranged to move the weir vertically proportionately to the supply of water to be treated; substantially as described.

5. In a water-softening plant, the combination of a hard-water-receiving tank, a treating water-supply, a vertically-movable weir controlling the flow of treating liquid and having a notch whose edges define the outflowing stream, and means for shifting the weir by and in accordance with changes of level of water in the receiving-tank; substantially as described.

6. In a water-softening plant, the combination of a hard-water-receiving tank, a shaft operated by the flow of water from said tank, a regulating-tank, means operated by said shaft for raising water to said tank, a vertically-movable weir controlling the flow of liquid from said tank and having a notch whose edges define the outflowing stream, and means for shifting the weir in accordance with the changes of level of water in the hard-water-receiving tank; substantially as described.

7. In a water-softening plant, the combination of a hard-water-receiving tank, a receptacle for receiving water from said tank, a regulating-tank, means operated by the flow of water from the hard-water tank for supplying water to the tank, a reservoir for treating liquids, a vertically-movable weir controlling the flow of water from the regulating-tank to said reservoir and having a notch whose edges define the outflowing stream, means for shifting the weir by and in accordance with changes of level of water in the receiving-tank, an outlet from said reservoir at normal level of water in the reservoir and arranged to discharge into the receptacle; substantially as described.

8. In a water-softening plant the combination of a hard-water-receiving tank, two sources of treating liquid, a receptacle arranged to receive the treating liquid and the water from the receiving-tank, vertically-movable weirs controlling the flow of the treating liquid into said receptacle and having notches whose edges define the outflowing stream, and means for shifting said weirs by and in accordance with the changes of level of water in the receiving-tank; substantially as described.

9. In a water-softening plant, the combination of a hard-water-receiving tank, a receptacle arranged to receive water from said tank, a regulating-tank, means for supplying water to said tank, a reservoir, a vertically-movable weir controlling the flow of water from the regulating-tank to the reservoir and having a notch whose edges define the outflowing stream, means for shifting the weir by and in accordance with the changes of level of water in the receiving-tank and a connection from the reservoir to the receptacle; substantially as described.

10. In a water-softening plant, the combination of a mixing trough or channel, a supply of hard water and supplies of treating liquids connected to the trough, vertically-movable weirs having notches whose edges define the outflowing streams, and means for regulating the flow of treating liquids from the weirs proportionately to the flow of hard water; substantially as described.

11. In a water-softening plant, the combination of a mixing trough or channel, a supply of hard water connected to the trough or channel, supplies of treating liquids having a common connection to the trough or channel, and vertically-movable weirs for regulating the flow of treating liquids proportionately to the flow of hard water, said weirs having notches whose edges define the outflowing stream; substantially as described.

12. In water-softening apparatus, a treating-tank having a supply-pipe leading to near its bottom and connected to a supply of water mixture, said pipe being arranged to cause a swirl in the water in the lower part of the tank, a water-outlet near the top of the tank for treating the water, and a stilling device between the level of the water-outlet and the end of the entering-pipe; substantially as described.

13. In water-softening apparatus, a treating-tank having a supply-pipe leading to near its bottom and connected with a supply of water mixture, said pipe being curved in its lower portion to cause a swirl in the contained water in the lower part of the tank, a water-outlet near the top of the tank for the treated water, and stilling-plates between the level of the water-outlet and the end of the entering-pipe; substantially as described.

14. In a water-softening plant the combination of a mixing trough or channel, a supply of hard water and one or more supplies of treating liquids connected to the trough or channel, a reservoir and pipe extending from the trough or channel to or approximately to the bottom of the reservoir, stilling-plates arranged in the reservoir above the point of discharge of water into the reservoir, a central tube or pipe extending to or approximately to the bottom of the reservoir, and inclined troughs having their inner or lower ends connected to the central tube or pipe; substantially as described.

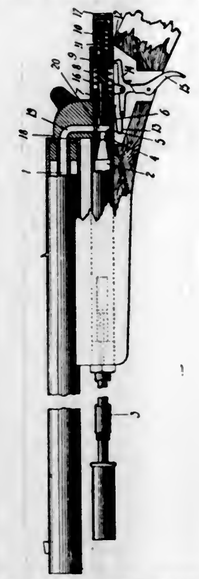
843,573. AIR-GUN. AXEL L. BLOMÉN, Sundbyberg, and PER S. EWERLÖF, Stockholm, Sweden. Filed Sept. 7, 1905. Serial No. 277,366.

Claim.—1. The combination with an air-gun having an air-reservoir, an air-pump and a valve acted upon by a trigger device and pawl and adapted to close and open a passage between the reservoir and the barrel, of a body adapted to engage the pawl, and a spring between said body and said valve, substantially as and for the purpose set forth.

2. The combination with an air-gun having an air-reservoir, an air-pump and a valve acted upon by a trigger device and adapted to close and open a passage between the reservoir and the barrel, of a sleeve passed on the rear end of the valve-stem, a spring inserted between the valve-stem and the bottom of the sleeve, and a screw fastened in the stem and passing through a hole in the bottom of the sleeve, so that the backward movement of the sleeve relatively to the stem is stopped by the head of the screw, substantially as set forth.

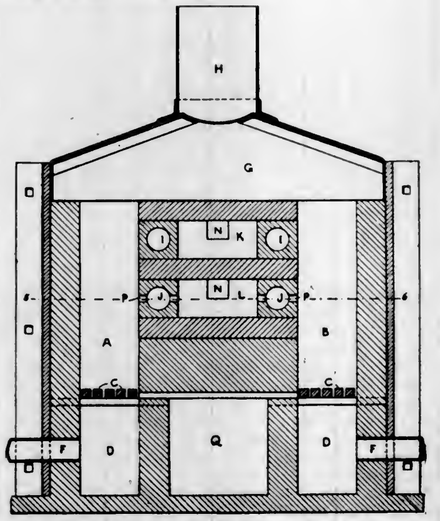
3. The combination with an air-gun, having an air-reservoir, an air-pump, and a valve controlling the communication between the reservoir and the barrel, of a sleeve

passed on the valve-stem, a spring adapted to move the sleeve rearward on the stem, a stop connected to the stem and adapted to limit the backward movement of the sleeve on the stem, another spring adapted to open the valve by pressing on the front edge of the sleeve, a shoulder on the



sleeve adapted to engage a pawl engaged by the trigger, and a cap screwed on the rear end of the sleeve and leaving a space between its bottom and the said stop so as not to interfere with the movements of the sleeve relatively to the stem, substantially as set forth.

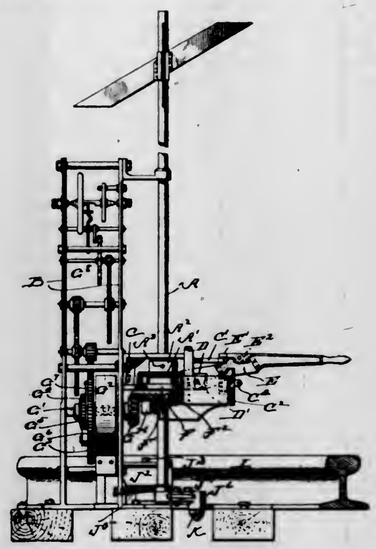
843,574. HEATING AND ANNEALING FURNACE. GEORGE BODSWORTH, Sheffield, England. Filed Sept. 22, 1906. Serial No. 335,749.



Claim.—1. A furnace having a central group of chambers located between two firing-chambers, the outside chambers I and J, being tubular with open ends, and the inner chambers K and L, being oblong, and provided with a door T, and openings N, as hereinbefore described and shown.

2. The combination within the walls of a furnace of a central group of heating and annealing chambers, built in series of three, one series above another, the outside ones being open tubes, and the inner ones being oblong, all opening at the back into a vertical flue, and located between two side firing-chambers, with an annealing or cooling oven below the said group, as hereinbefore described and illustrated.

843,575. AUTOMATIC SWITCH. ALBERT N. BRADLEY, Washington, Ind. Filed Dec. 20, 1905. Serial No. 292,635.



Claim.—1. A device of the kind described comprising a vertical shaft, a housing fixed to said shaft, a guide-plate through which the shaft passes and having an edge cut out, a lever movable along said guide-plate and adapted to rotate the housing, a spring, a gear-train actuated by movement of the lever in one direction to wind the spring, a bar secured to the shaft and at right angle thereto, a switch-point operatively connected to said bar, and means for automatically returning the parts to their normal position at the expiration of a predetermined time.

2. A device of the kind described comprising a rotatable vertical shaft, a frame arranged adjacent said shaft, a platform carried by the frame, the said shaft passing loosely through the platform, guide-plates carried by said platform, a housing secured to said shaft and slotted, a lever pivotally connected to said housing to permit vertical movement of the lever, with respect to the housing, the inner end of the lever working in the slot, the said lever being adapted to travel upon the guide-plate and to rotate the housing and shaft, a beveled gear loosely mounted upon the shaft and having a boss extending into the housing, said boss being provided with a shoulder adapted to be engaged by the inner end of the lever, a spring carried by the frame, a beveled gear meshing with the first-mentioned bevel-gear and adapted to wind said spring, a bar carried by the shaft, a switch-point operatively connected to said shaft and means for returning the switch to its normal position.

3. The combination with a switch-point, means for closing the switch, a spring arranged between the switch-point and the closing mechanism, means for winding said spring during the closing of the switch, means for locking the

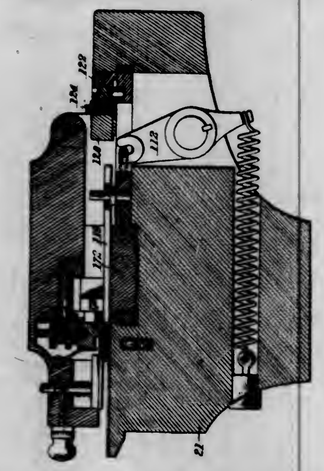
said spring for a predetermined time, the unwinding of said spring restoring the parts when unlocked to their normal position, and a bar arranged parallel to the track and movable lengthwise by the unwinding of the said spring, the said bar being in position to be engaged by wheels of a train entering said switch.

4. A switch-closing device comprising a rotatable shaft, an arm connected to said shaft, a switch-point-operating bar pivoted to said arm, a lever adapted to partially rotate the shaft and close the switch-point, means for locking said lever against movement when the switch is closed, an adjustable cam adapted to unlock said lever, a spring wound by rotation of the shaft during the closing of the switch and adapted by its unwinding to actuate the cam, and a second spring wound by action of the switch-closing bar adapted to restore the parts to their normal position upon the releasing of the lever.

5. A device of the kind described comprising a switch-opening mechanism, said mechanism locking the switch in open position, a spring wound by the action of the said mechanism means driven by the said spring for unlocking the switch within a predetermined time, and means for closing the said switch when unlocked, said switch-closing means comprising a spring, and means for automatically increasing the tension of said spring, when the switch is open.

6. The combination with switch-opening mechanism, means for locking the said switch in open position, a spring wound by action of the switch-opening mechanism, means for controlling the unwinding of the said spring, means actuated by the unwinding of the spring for unlocking the switch, spring-actuated means for closing the switch, and an angled bar adapted to overlap a portion of the rail-tread, said bar being movable lengthwise, and means connecting said bar to the switch-operating means.

843,576. MACHINE FOR MAKING TYPE. FRANK H. BROWN and JOHN E. HANRAHAN, Baltimore, and GEORGE A. BOYDEN, Mount Washington, Md., assignors to National Compositype Company, Baltimore, Md., a Corporation of Delaware. Filed May 13, 1904. Serial No. 207,812.



Claim.—1. In a device for casting type of one or more characters, the combination of means for supplying molten metal, adjustable mold mechanism, and a single matrix adapted to coact therewith, by which the same parts can produce one or more characters, as desired.

2. In a device for casting type, the combination of adjustable mold parts, and a single matrix provided with a plurality of characters, whereby a varying number of characters can be produced by the same parts.

843,577. MATRIX-MAKING PLATE AND BLOCK ATTACHED. FRANK H. BROWN and JOHN E. HANRAHAN, Baltimore, and GEORGE A. BOYDEN, Mount Washington, Md., assignors to National Compositype Company, Baltimore, Md., a Corporation of Delaware. Filed May 18, 1905. Serial No. 261,035.

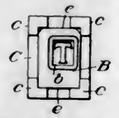


Claim.—1. The combination of a master-block and a matrix-plate the faces of which are of approximately the same dimensions, whereby said plate and block may be accurately assembled for subsequent processing.

2. The combination of a master-block and a matrix-plate, the faces of which are of approximately the same dimensions, and means for holding said block and matrix-plate rigidly together, whereby they are accurately positioned for further processing.

3. The combination of a master-block and a matrix-plate, the faces of which are of approximately the same dimensions, said plate and block being rigidly united by tips of solder applied to their contiguous edges, whereby they are accurately positioned for further processing.

843,578. MATRIX-MAKING, MEANS TO POSITION PLATES AND BLOCKS. FRANK H. BROWN and JOHN E. HANRAHAN, Baltimore, and GEORGE A. BOYDEN, Mount Washington, Md., assignors to National Compositype Company, Baltimore, Md., a Corporation of Delaware. Filed May 18, 1905. Serial No. 261,037.



Claim.—1. A master-block provided with an integral type character, a matrix-plate, and means to properly position the two, one upon the other, whereby the type character will be in its proper position relative to the plate.

2. A master-block provided with a type character, a matrix-plate, and means for holding said block and plate with their edges in juxtaposition.

3. A master-block provided with a type character, a matrix-plate.

4. A master-block provided with an integral type character, a matrix-plate provided with an opening, and means for engaging the edges of said matrix-plate to bring the opening thereof opposite said type character.

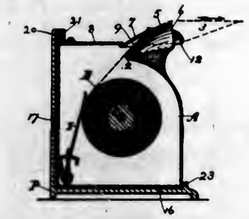
5. A master-block provided with a type character, and a matrix-plate, said block being provided with means for engaging said plate, whereby the type character will be properly positioned relative to said plate.

6. A master-block provided with a type character, and a matrix-plate, said block being provided with means for engaging the edges of said plate, whereby the type character will be properly positioned relative to said plate.

843,579. MEANS FOR HOLDING AND DETACHING RIBBON-STRIP LABELS. GUY W. BURR and GEORGE H. DAVIS, Worcester, Mass. Filed Dec. 21, 1906. Serial No. 348,851.

Claim.—1. A label delivering and detaching guide or mouthpiece, comprising a transversely-arched under guide member, and an arched overlying guide member provided with a central thumb-space, and having extended downwardly-curved corners that project beyond the edge of the under guide member for deflecting the edges of the label, as set forth.

2. A label detaching and delivering guide having its opposite guiding members transversely and longitudinally arched, rendering the median line of the guideway longer than the edge lines of the guideway, whereby excess of strain is brought upon the central portion of the label-strip to cause primary rupture of the weakened portions at the center of the strip.

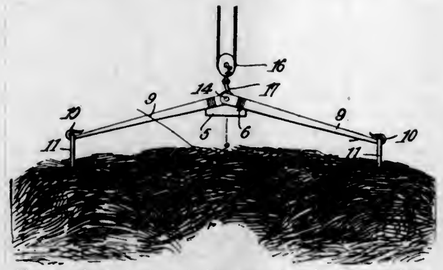


3. A label delivering and detaching means, comprising a guideway inclosed between a pair of frictional guide-plates arched or dually inclined to bend the label both transversely and longitudinally as it passes through, one of said guide-plates having a recess or cut-away space to facilitate seizing the end of the label-strip, the other guide-plate terminating on an approximately transverse line and of shorter length than the recessed plate.

4. A holder for ribbon-strip labels and the like, comprising a containing-box having a projecting delivery mouth or guide, consisting of a compoundly-arched under-lip member having a plain terminal edge in transverse or slightly-curved relation, and an overlying compoundly-arched plate having an open thumb-space reaching to rearward of said terminal edge, and also provided with forwardly-projecting portions that overhang the terminal edge of the under-lip member.

5. In a mechanism for the purpose specified, the combination, of the box for containing ribbon-strip labels or the like, the delivery-mouthpiece comprising guide-plates that bend the label longitudinally and transversely as it passes through the same, means for supporting the roll of ribbon-strip labels within the box, and a yieldable presser or brake acting against said roll.

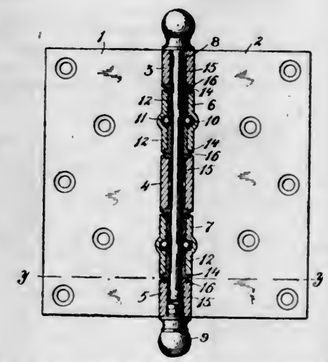
843,580. HAY-CARRIER. CAREY D. BARKER, Westfield, Ind. Filed Oct. 15, 1906. Serial No. 339,124.



Claim.—1. A device of the class described comprising a supporting-block having its upper face inclined in opposite directions and provided with spaced vertically-disposed lugs defining an intermediate recess, arms having their inner ends bifurcated and bearing against the inclined faces of the supporting-block and their outer ends provided with means for engagement with a hay-fork, a pin extending transversely through the lugs and arms, respectively, and intersecting the intermediate recess, and a draft device seated in said recess and engaging the pin.

2. A device of the class described comprising a supporting-block having its upper face inclined downwardly in opposite directions and provided with spaced vertically-disposed lugs defining an intermediate recess, arms having their inner ends bifurcated and bearing against the inclined faces of the block and their outer ends provided with terminal hooks for engagement with a hay-fork, a pin piercing the lugs and engaging the bifurcated ends of the arms, the juncture of the inclined faces of the block being disposed in alinement with the longitudinal axis of the pin, and a draft device seated in the intermediate recess and engaging said pin.

843,581. HINGE. CHARLES J. CALEY, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Filed May 24, 1906. Serial No. 318,454.



Claim.—1. A hinge, having interlocking knuckles, a series of balls carried in one of the knuckles, and oppositely-faced cone-bearing members located in said knuckles, and coacting with the balls and also coacting at the outer ends with the adjacent knuckles.

2. A hinge comprising leaves having interlocking knuckles, a series of antifriction devices housed within one of said knuckles and bearing members carried by the same knuckle each coacting with the antifriction device and each bearing member also coacting with the adjacent knuckle.

3. A hinge comprising leaves having interlocking knuckles, antifriction-bearings carried within one of said knuckles, bearing members carried by the same knuckle coacting with the said antifriction devices and said bearing members projecting beyond the ends of the knuckle and coacting bearing members carried by the adjacent knuckles.

4. A hinge comprising leaves having knuckles, one of said knuckles having a groove around a central passage, a series of antifriction devices located in said groove and oppositely-faced bearing members coacting with said antifriction devices, projecting beyond the opposite ends of said knuckle and being removable independently of said antifriction devices.

5. A hinge comprising leaves having knuckles one of said knuckles having a groove, a ball-race with balls mounted in said groove and bearing members coacting with said balls and protruding slightly beyond the opposite ends of said knuckle.

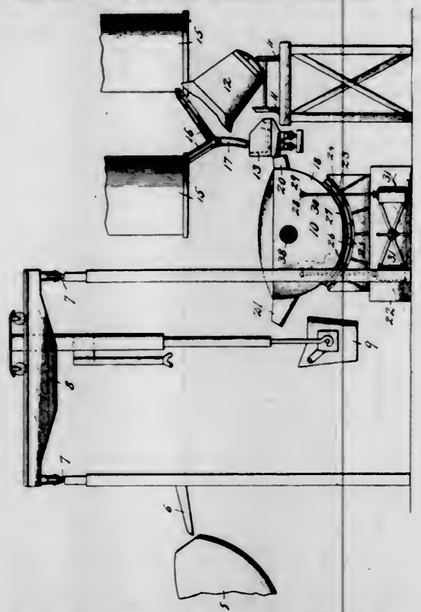
6. A hinge comprising leaves having interlocking knuckles, a pintle connecting said knuckles antifriction devices located in one of said knuckles, bearing members coacting with said antifriction devices and extending beyond the opposite ends of said knuckles and bearing members carried by adjacent knuckles and projecting slightly beyond the ends thereof and engaging said first-named bearing members.

7. A hinge comprising leaves having interlocking knuckles, a pintle connecting said knuckles, antifriction devices located in one of said knuckles, bearing members coacting with said antifriction devices and extending beyond the ends of said knuckles and bearing members carried by adjacent knuckles and projecting slightly beyond the ends thereof, the coacting faces of the adjacent bearing members being roughened.

843,582. CONVERTER PLANT. HARRY H. CAMPBELL, Steelton, Pa. Filed Nov. 22, 1904. Serial No. 233,857.

Claim.—1. The combination with a line of converters and an air-main to supply them with air, of a pair of

receivers for molten metal, means to direct a blast of air onto the surface of the metal, a connection between said means and the air-main, a transfer-ladle, a reciprocable runner between said ladle and receivers, cupolas, means to run metal direct from the cupolas to a receiver and a suitable charging-ladle, substantially as described.



2. The combination with a line of converters and an air-main to supply them with air, of a pair of receivers for molten metal, means located between the receivers and connected to the air-main to direct a blast of air onto the surface of the metal therein, a plurality of cupolas, runners therefrom that unite at their ends, and a movable continuation of said runners, whereby metal can be run directly into a receiver and a charging-ladle to charge molten iron from the receivers into the converters, substantially as described.

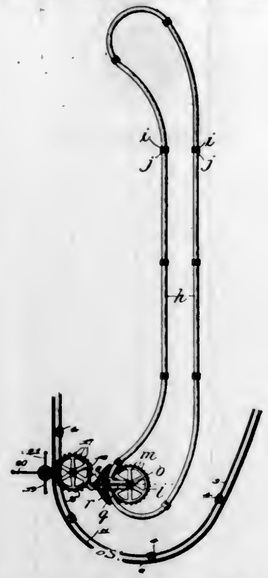
843,583. THEATRICAL SCENERY. LINCOLN J. CARTER, Chicago, Ill. Filed July 28, 1905. Serial No. 271,577.

Claim.—1. In an apparatus of the class described, an endless curtain composed of two continuous sheet portions suitably united together, and means engaging one of the portions for driving and operating the curtain.

2. In an apparatus of the class described, an endless curtain the body of which is composed of two parts—a lower continuous relatively soft sheet portion and an upper continuous relatively hard sheet portion secured thereto, and means engaging the relatively hard sheet portion for driving and operating the curtain, substantially as described.

3. In an apparatus of the class described, an endless sheet-curtain the body of which is formed of a lower relatively soft sheet portion and of an upper relatively hard sheet portion provided with a series of perforations, and gear mechanism engaging the perforations in the sheet-metal portion for driving and operating the curtain, substantially as described.

4. In an apparatus of the class described, the combination of a loop or track portion formed of an endless tube slitted on its under side, an endless sheet-curtain the body of which is formed of a lower relatively soft fabric portion and of an upper sheet portion of relatively hard material extending in through the slitted portion of the track and provided with a series of perforations, roller mechanism secured to the sheet-metal portion of the curtain inside the tubular track portion so as to support said curtain, and gear mechanism engaging the perforations in the sheet-metal portion of the curtain for driving and operating the same, substantially as described.

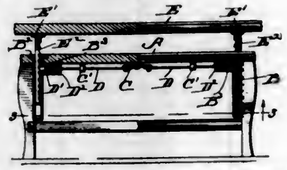


5. In an apparatus of the class described, the combination of an endless curtain the body of which is formed of two parts—a lower relatively soft portion and an upper portion of relatively hard material having perforations therein, means for movably suspending said curtain, a toothed sprocket-wheel in engagement with the perforations in the sheet-metal portion of the endless curtain, and guiding mechanism contacting the opposite side of the curtain and adjacent the teeth of said sprocket-wheel to hold the sheet-metal portion of the curtain in operative engagement therewith, substantially as described.

6. In an apparatus of the class described, the combination of an endless composite curtain the body of which is formed of a relatively soft fabric lower portion and of a sheet-metal relatively hard upper portion said upper portion being suitably perforated, means for movably supporting said curtain in position, a sprocket-wheel having its teeth in engagement with the perforations in the sheet-metal portion of the curtain for driving the same, and a pair of guiding wheels or rolls contacting with the side of the curtain opposite the toothed sprocket-wheel and straddling the perforations in the said metal portion of the curtain for holding the same in operative engagement with the sprocket-wheel, substantially as described.

7. In an apparatus of the class described, the combination of a loop formed of a hollow tubular track portion slitted on its under side, an endless curtain portion formed of a lower relatively soft fabric portion and an upper sheet-metal portion extending in through the slitted portion of the circular track and provided with a series of perforations, a plurality of supporting trolley-wheels secured to the sheet-metal portions inside of the tubular track, sprocket-wheel mechanism having its teeth in engagement with the perforations of the sheet-metal portion of the curtain for driving and operating the same, an outer curtain formed of an upper perforated sheet-metal portion, an outer depending continuous portion formed of relatively softer fabric forming the face portion of such curtain, a track arranged inside of and below the upper edge of the sheet-metal portion of said curtain, trolley-wheels secured to the inner side of said sheet-metal portion and resting upon said track, and a toothed sprocket-wheel engaging the perforations of the sheet-metal portion for driving and operating the curtain, substantially as described.

843,584. ADJUSTABLE PIANO SEAT OR BENCH. JAMES P. CLARK, Chicago, Ill. Filed Oct. 5, 1905. Serial No. 281,479.



Claim.—1. In a device of the kind described, a bench, a supplemental top, casings, threaded at their upper ends into end portions of the bench, and arranged on the line of the major axis of the bench, said casings having laterally-extending casings, metal plates carried by the under side of the supplemental top, depending rack-bars formed integral with said plates, said bars working in the casings, and spring-actuated bolts, working in the lateral casings.

2. A device of the kind described, comprising a bench, casings carried thereby, said casings opening upwardly through the top of the bench, lateral extensions carried by the casings, a supplemental top, rack-bars carried by the top and working in the casings, spring-pressed bolts in the extensions of the casings adapted to engage the rack-bars, and means for simultaneously disengaging the said bolts.

843,585. WASHING APPARATUS. FRANK H. COLE, Groveton, N. H. Filed Feb. 8, 1906. Serial No. 300,117.

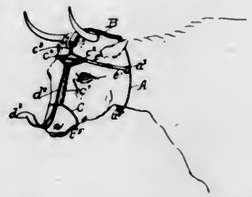


Claim.—1. The combination with a tubular body, of a two-part hollow body at one end of the tubular body, a cut-off valve in one said hollow part, a handle secured to the other said hollow part, a lateral tubular extension on the latter hollow part, a nozzle at the other end of the tubular body a scrubbing medium, and jaws on the nozzle for holding the scrubbing medium, substantially as described.

2. A washing apparatus employing a tubular body, means for delivering water into the tubular body, a cut-off valve in the water passage-way, a nozzle at the far end of the tubular body, the nozzle being constructed with longitudinal and transverse grooves, a scrubbing medium, extension means arranged in said longitudinal groove, to carry the scrubbing medium at its projecting end, and collars arranged in said transverse grooves, to secure the extension means.

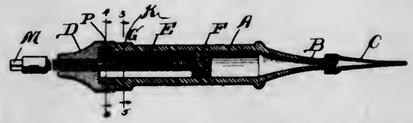
3. A washing apparatus employing a tubular body, means for delivering water into the tubular body, a cut-off valve in the water passage-way, a nozzle at the far end of the tubular body, a scrubbing medium, means on the nozzle for carrying the scrubbing medium, and a jacket arranged on the nozzle, inclosing same and portions of the carrying means for the scrubbing medium, substantially as described.

843,586. CATTLE-YOKE. GEORGE J. DEAN, Campbell, Tex. Filed July 8, 1905. Serial No. 268,820.



Claim.—A cattle-yoke consisting of a wire member bent to encircle the neck of the animal and having its ends detachably connected, a second wire member bent to embrace the muzzle of the animal and having portions extending upwardly between the animal's eyes and over the frontal bone, the ends of said wire being detachably connected, adjustable straps connecting said first and second members, and a third wire member loosely connected with said second member and extending along the upper side of the animal's muzzle and terminating in two upturned hooks.

843,587. SURGICAL INSTRUMENT. HENRY H. DE PEW, Chicago, Ill. Filed Jan. 29, 1906. Serial No. 298,311.



Claim.—A surgical syringe comprising a tubular body, having a gradually-tapering outlet, a needle secured to the outlet so as to provide an unobstructed tapering passage, a cap secured upon the opposite end of the body and having a threaded bore, a piston-rod adjustably passing through the threaded bore in screw-threaded engagement therewith and having a piston within the body and its exposed end shaped to receive a removable operating-tool, the body having a seat for a removable holding-tool.

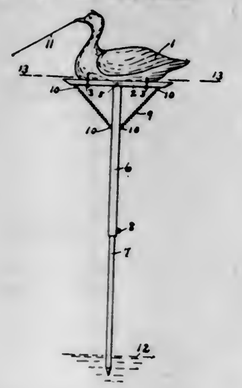
834,588. DECOY. CHARLES H. DITTO, Keithsburg, Ill. Filed May 21, 1906. Serial No. 317,857.

Claim.—1. In a decoy for water-fowl, the combination of telescoping anchoring means, a transverse pivot at the upper end thereof, an imitation of a bird mounted thereon, and means to normally hold said parts in proper position.

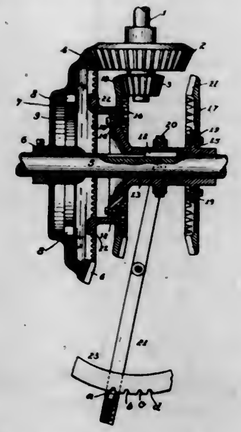
2. In a decoy for water-fowl, the combination of a tube, a plate pivoted to the upper end thereof, springs to normally hold said plate in position, a decoy secured to said plate, and an anchoring-rod slidable in said tube.

3. In a decoy for water-fowl, the combination of a tube, a plate pivoted to the upper end of the tube, a spring secured to each end of said plate and to said tube to hold

said plate at right angles to the tube, a decoy secured to the plate, an anchoring-rod slidable in the tube, and means to lock the rod in any desired position.



843,589. REVERSING AND CHANGE-SPEED GEAR FOR AUTOMOBILES. CHARLES W. DUER, Chicago, Ill. Filed May 24, 1906. Serial No. 318,497.

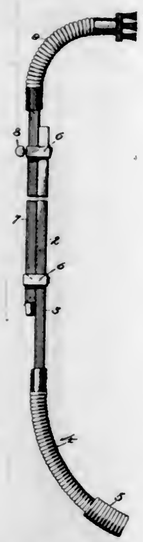


Claim.—1. The combination of a power-shaft, a driven shaft operated thereby, a bevel gear-wheel on the power-shaft and also a pinion of lesser diameter and number of teeth, a bevel-gear loosely mounted upon the driven shaft and held in constant engagement with the gear-wheel on the power-shaft, a bevel-gear splined to the driven shaft and adapted to be engaged with, or disengaged from, the pinion to rotate in the same direction as the loose gear, opposing clutch elements upon the two gears of the driven shaft, and means whereby the splined gear may be engaged with its pinion, disengaged therefrom to throw the driven shaft out of action, and its clutching element engaged with the converse element of the loose gear to connect the latter to the driven shaft and increase the speed of drive.

2. The combination of a power-shaft, a transverse driven shaft operated thereby, a bevel-gear and a pinion of lesser diameter on the power-shaft, a bevel-gear loosely mounted upon the driven shaft and held in constant mesh with the gear on the power-shaft, a bevel-gear splined to the driven shaft and adapted to be meshed with the pinion to rotate in the same direction as the loose gear, opposing clutch elements upon these two latter gears, a third gear splined to the driven shaft and adapted to be meshed with the reverse side of the pinion, and means whereby the first splined gear may be engaged with the pinion, disengaged therefrom, clutched to the loose gear, and finally unclutched therefrom and the second splined gear concurrently meshed with the pinion to reverse the drive.

3. The combination of a power-shaft, a transverse driven shaft operated thereby, a bevel-gear and a pinion of lesser diameter on the power-shaft, a bevel-gear loosely mounted upon the driven shaft and held in constant mesh with the gear on the power-shaft, a couple of bevel-gears rigidly connected together on opposite sides of the pinion and splined to the driven shaft to be thrown, one or the other into mesh with said pinion, to drive or reverse said shaft, a clutch element upon the driver of said couple, a converse clutch element upon the loose gear, there being an annular recess or chamber provided between said latter clutch element and the body of the loose gear, and means whereby the splined pair of gears may be operated, first to engage the driving member with the pinion, next to move it away therefrom, then to engage the clutch elements, and finally to disengage said elements and mesh the reversing member of the pair with the pinion.

843,590. HOUSEHOLD CLEANING APPLIANCE. WILLIAM B. DUNN, Jr., and JOHN TAYLOR, Jr., Washington, D. C., assignors of one-seventh to John Hammond, one-seventh to James W. Jones, one-seventh to Harold E. Dunn, one-seventh to La Mont A. Williams, and one-seventh to James F. Sellers, Washington, D. C. Filed Sept. 7, 1905. Serial No. 277,440.

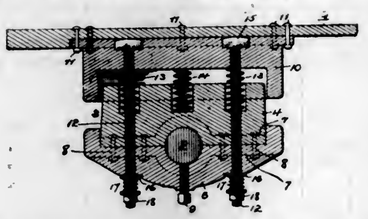


Claim.—A handle for household cleaning devices comprising a plurality of slidably-connected rigid sections, the upper of said sections being reversible and having differently-shaped terminals whereby cleaning devices having differently-shaped sockets may be attached thereto, the lower of said sections having a curved yielding portion terminating into a handhold.

843,591. SPRING-BEARING. RICHARD J. EDWARDS, Galena, Ill. Filed July 12, 1906. Serial No. 325,927.

Claim.—1. A spring-bearing for vehicles comprising two blocks having recesses to receive an axle, means securing said blocks together, a cap-block, rods or bolts passing through all of said blocks, springs between the cap-block and the upper of the first-mentioned blocks, nuts on the lower ends of said bolts, and springs on the bolts between said nuts and the lower ends of the first-mentioned blocks.

2. A spring-bearing for vehicles, comprising a block, a cap-block having telescopic relation thereto, bolts passing through said blocks, springs between the blocks and springs on the bolts below the lower block.



3. A spring-bearing for vehicles, comprising two blocks having bearings for an axle, each of said blocks provided with flanges, fastening devices passing through said flanges, a cap-block, bolts passing through the cap-block and the first-mentioned blocks, springs interposed between said cap-block and the upper of the first-mentioned blocks, nuts on said bolts and springs on the bolts between said nuts and the lower block.

4. In a bearing for vehicles, the combination of a block having a recess in its top, another block seated in said recess, each of said blocks having a recess to receive an axle, means for securing said blocks together, a cap-block, rods or bolts passing through the cap-block and the first-mentioned blocks, nuts on the bolts, springs on the lower ends of the bolts, springs between said nuts and the lower block, and springs between the cap-block and the upper of the first-mentioned blocks.

5. A spring-bearing for vehicles, comprising a block having an axle half-bearing in its bottom, a block secured to the bottom of the first-mentioned block and having an axle half-bearing in its top, a cap-block movable on the first-mentioned block, a vehicle-frame to which said cap-block is secured, headed bolts passed through all of said blocks, springs around the bolts between the cap-block and upper block, a third spring between the blocks, and springs on the lower ends of the bolts to cushion the rebound.

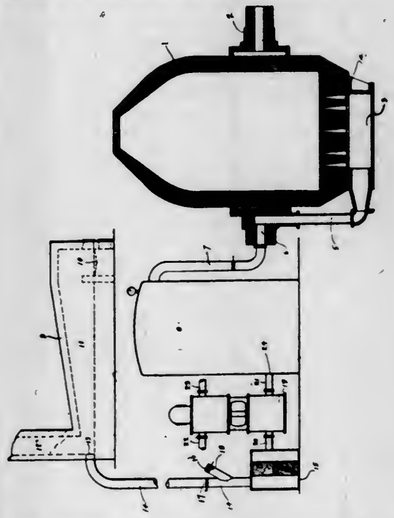
843,592. PROCESS OF MANUFACTURING STEEL. BYRON E. ELDRED, New York, N. Y., assignor to Combustion Utilities Company, New York, N. Y., a Corporation of New York. Filed May 20, 1905. Serial No. 261,442.

Claim.—1. The method of preventing premature oxidation of carbon during the making of steel by the pneumatic or Bessemer process, which consists in maintaining the temperature during the oxidation of the silicon at a point below the critical point at which selective oxidation of carbon in preference to silicon begins, by introducing a diluting non-oxidizing endothermic agent into the draft-current in the proportion necessary to maintain such temperature.

2. The method of preventing premature oxidation of carbon during the making of steel by the pneumatic or Bessemer process, which consists in maintaining the temperature during the oxidation of the silicon at a point below the critical point at which selective oxidation of carbon in preference to silicon begins, by introducing carbon dioxid into the draft-current in the proportion necessary to maintain such temperature.

3. The method of preventing premature oxidation of carbon during the making of steel by the pneumatic or Bessemer process, which consists in maintaining the temperature during the oxidation of the silicon at a point below the critical point at which selective oxidation of carbon in preference to silicon begins, by introducing furnace-gases into the draft-current in the proportion necessary to maintain such temperature.

4. The method of preventing premature oxidation of carbon during the making of steel by the pneumatic or Bessemer process, which consists in maintaining the temperature during the oxidation of the silicon at a point below the critical point at which selective oxidation of carbon in preference to silicon begins, by introducing cooled furnace-gases into the draft-current in the proportion necessary to maintain such temperature.

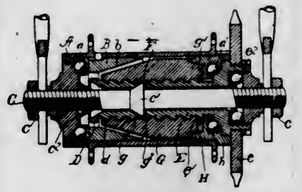


5. The process of controlling the temperature in a Bessemer blow which consists in continuously admixing with the air-blast varying amounts of a diluting endothermic gas, said amounts being proportioned to the observed tendency of the Bessemerized metal to rise in temperature above a desired point.

6. The process of controlling the temperature in a Bessemer blow which consists in diluting the air-draft used with progressively-increasing amounts of an endothermic gas.

7. The process of controlling the temperature in a Bessemer blow which consists in diluting the air-draft used with progressively-increasing amounts of products of combustion.

843,593. BACK-PEDALING BRAKE. CHARLES A. FENN, Bloomington, Ill. Filed Mar. 2, 1906. Serial No. 303,873.



Claim.—1. In a back-pedaling brake, the combination with a barrel having a brake-clutch cylinder fixed within it and provided with a tapering interior, of a spindle, the said spindle being provided with enlargements, sleeves encircling the spindle, a sprocket-wheel attached to one of said sleeves, and one sleeve being located between and adapted to rotatively engage the enlargements of the said spindle, the said sleeves having oppositely-formed threads exteriorly, and a brake-shoe having one end constructed to enter and engage the said brake-clutch, the said barrel being provided with means adapted to engage the remaining end of the said brake-shoe, and the said shoe being provided with internal threads arranged to engage the threads of the said sleeves.

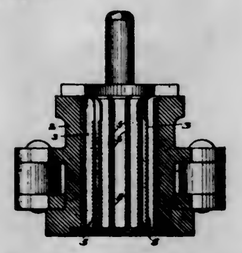
2. In a back-pedaling brake, the combination with a barrel having a brake-clutch cylinder fixed within it and provided with a tapering interior, of a spindle, the said spindle being provided with conical enlarged portions, sleeves encircling the spindle, a sprocket-wheel attached to one of said sleeves, and one sleeve being located between and adapted to rotatively engage alternatively the enlargements of the said spindle, the said sleeves having oppositely-formed threads exteriorly, and a brake-shoe having one end constructed to enter and engage the said brake-clutch, the said barrel being provided with means adapted to engage the remaining end of the said brake-shoe, and the said shoe being provided with internal threads arranged to engage the threads of the said sleeves.

3. In a back-pedaling brake, the combination with a barrel having a brake-clutch cylinder fixed within it and provided with a tapering interior, of a spindle, the said spindle being provided with a fixed cone and an adjustable cone, sleeves encircling the spindle, a sprocket-wheel attached to one of said sleeves, and one sleeve being located between and adapted to rotatively engage the cones of the said spindle, the said sleeves having oppositely-formed threads exteriorly, and a brake-shoe having one end constructed to enter and engage the said brake-clutch, the said barrel being provided with means adapted to engage the remaining end of the brake-shoe, and the said brake-shoe being provided with internal threads arranged to engage the threads of the said sleeves.

4. In a back-pedaling brake, the combination with a combined drive and brake shoe, of a revoluble barrel having surfaces constructed and arranged to be alternately engaged by said shoe, a relatively stationary axis, sleeves arranged upon the axis and having opposite external threads, a sprocket-wheel secured to one of said sleeves, means borne by said axis whereby the longitudinal movements of another sleeve upon the said axis are limited and its rotation resisted, the said shoe having internal threads engaging the threads of said sleeves.

5. In a back-pedaling brake, the combination with a barrel having a brake-clutch cylinder fixed within it and provided with a tapering interior, of a spindle, a sleeve encircling the spindle, a sprocket attached to the end of said sleeve, the said sleeve having exterior threads, a combined drive and brake shoe having one end constructed to enter and engage the said hollow cylinder, and adjustable retarding means whereby the rotation of said shoe may be yieldingly retarded, the said barrel being provided with means adapted to engage the remaining end of the brake-shoe, and the said brake-shoe being provided with internal threads arranged to engage the threads of said sleeve.

843,594. METHOD OF MANUFACTURING GLASSWARE. LAWRENCE A. FLETCHER, Cumberland, Md., assignor to National Glass Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed July 22, 1905. Serial No. 270,750.

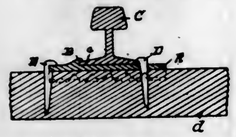


Claim.—1. The method of manufacturing articles of glassware, consisting in first forming a blank having two or more series of ornamentations on either face of the glass and then smoothing either ornamented face of the glass more or less, substantially as described.

2. The method of manufacturing articles of glassware, consisting in first forming a blank having two or more series of vertical serrated recesses on its outer surface and corresponding vertical serrated ribs on its inner surface, and then smoothing either ornamented surface of the glass more or less, substantially as described.

3. An improvement in the manufacture of articles of glassware, consisting in first forming a double series of indentations on a glass blank by blowing the blank in a suitable mold, and then removing the blank from said mold and smoothing either ornamented surface of the glass more or less by a paste mold, substantially as described.

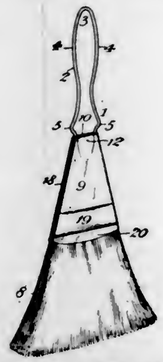
843,595. TIE-PLATE. EDWARD L. FLINN, Forestville, Ohio, assignor of one-half to Arthur O. Herzog, Madisonville, Ohio. Filed May 5, 1906. Serial No. 315,316.



Claim.—1. The combination of a tie-plate; an overlapping shoulder at one side adapted to engage the rail-flange; holes along the edge of the rail-flange at the other side adapted to receive spikes; notches in the edge of the plate outside the shoulder adapted to receive spikes, and notched blades upon the bottom of the plate adapted to enter the tie, substantially as specified.

2. The combination of tie-plate A; openings *a* and notches *a'* in the plate for the reception of spikes; overlapping shoulder B on the plate; blades F and G having thicker outer portions and narrower inner portions, and notches *f* and *g* in the blades, and out of alinement with each other, substantially as specified.

843,596. SINK-BRUSH. CHARLES A. FOGARTY, Brooklyn, N. Y. Filed June 8, 1906. Serial No. 320,763.

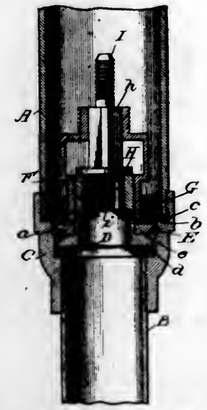


Claim.—1. In a brush, a sealing-jacket for the bristles formed of a blank of sheet metal and having its meeting edges overlapped and interlocked and crimped, substantially as and for the purpose set forth.

2. A brush, comprising a frame, a bristle-anchor carried by the frame, bristles turned over and embracing the bristle-anchor at their central portion, and a sealing-jacket surrounding the bristle-anchor and having its sides bowed or curved to compress the portion of the bristles embracing the anchor above and below said anchor, substantially as and for the purpose set forth.

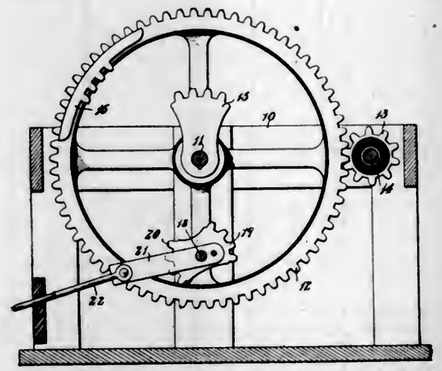
3. A brush, comprising a frame, a bristle-anchor carried by the frame, bristles turned over and embracing the bristle-anchor at their central portion, and a sealing-jacket formed of a blank of sheet metal surrounding the bristle-anchor and upper portion of the bristles and retaining the latter by compression and having the meeting edges of the sheet-metal blank interlocked and crimped at the side or edge corner of the brush.

843,597. SEAT FOR PUPPET OR FOOT VALVES OF PUMPS. LOUIS M. GERWE, Davenport, Iowa. Filed July 7, 1905. Serial No. 268,683.



Claim.—In a wall a lower cylinder, a depending well-pipe and a coupling connecting said cylinder and pipe, in combination with a removable valve-seat, a suitable cage secured to the upper end of the body of said valve-seat, a valve retained and vibrating within said cage, a suitable packing interposed between said seat-body and said lower cylinder, and means independent of said packing for removably locking said valve-seat in said coupling and allowing a limited vertical play therein.

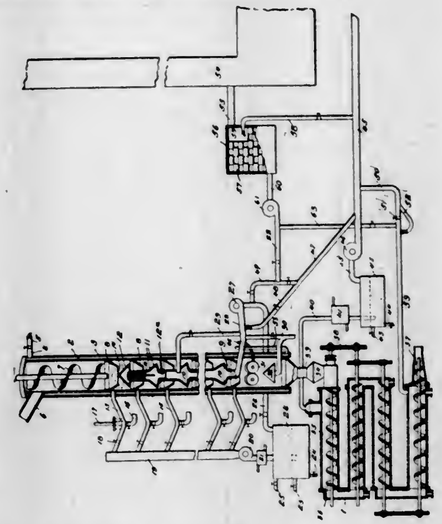
843,598. STEAM AND AIR VALVE OPERATOR. DAVID H. GREESON, Bowie, Tex., assignor to Greeson, Burnett & Co., Bowie, Tex. Filed Apr. 20, 1906. Serial No. 312,850.



Claim.—In apparatus of the class described, a double-segment gear, the segments being of the same radius, a valve-operating arm projecting from said gear, a rod extending from the free end of the arm, a revoluble wheel or disk, and a pair of spaced racks revoluble with the wheel or disk and arranged to successively engage the gear-segment and oscillate the same.

843,599. PROCESS OF DISTILLING WOOD. CLARENCE S. HAMMATT, Jacksonville, Fla. Filed June 12, 1906. Serial No. 321,379.

Claim.—1. The process of recovering turpentine from coniferous wood which consists in sweeping a body of heated non-oxidizing indifferent permanent gas, maintained at a temperature too low to cause destructive decomposition of wood or turpentine, in a closed circuit over said wood, to and through a condenser, through a reheater and back into contact with the wood.



2. The process of recovering valuable products from wood which consists in distilling wood in an atmosphere of indifferent non-oxidizing permanent gas at a temperature too low to cause destructive decomposition of natural constituents to remove such natural constituents, and in then destructively distilling said wood.

3. The process of recovering valuable products from wood which consists in producing a thin traveling layer of such wood progressively passing through a plurality of closed heating-chambers of progressively-increasing temperature and in each such chamber contacting with it a current of gas circulating in a closed circuit, said closed circuit including a condenser.

4. The process of recovering volatile oils from wood which consists in sweeping a current of heated wood-gas at a temperature too low to cause destructive decomposition of wood or oil, in a closed circuit over said wood, to and through a condenser, through a reheater and back into contact with the wood.

5. The process of recovering volatile oils from wood which consists in producing a thin traveling layer of such wood and passing transversely through such layer at a plurality of points gas-currents circulating in closed circuits to and through a condenser each succeeding gas-current being of a higher temperature, through a reheater and back through the wood.

6. The process of recovering turpentine from wood which consists in transversely passing through a thin traveling layer of wood a plurality of isolated gas-currents of different temperatures at different points along its line of travel.

7. The process of recovering valuable products from wood which consists in distilling off natural volatile constituents by means of a current of heated non-oxidizing indifferent, permanent gas circulating past said wood in closed circuit, and in then destructively distilling said wood.

8. The process of recovering valuable products from wood which consists in distilling off natural volatile constituents by means of a rapid current of heated non-oxidizing indifferent permanent gas circulating past said wood in a closed circuit and in then destructively distilling said wood by a current of heated gas also circulating past said wood in closed circuit.

9. The process of fractionally recovering valuable constituents of wood which consists in distilling off natural volatile constituents of said wood by a plurality of isolated successive currents of indifferent gases, successively increasing in heat, circulating past said wood in closed circuits, and in then destructively distilling said wood by a heated current of indifferent gas, also circulating past said wood in closed circuit.

10. The process of regaining turpentine and rosin from wood which consists in stripping said wood of turpentine by a current of heated non-oxidizing permanent indifferent gas circulating past said wood in closed circuit, and in then transmitting past said wood another current of hotter non-oxidizing permanent indifferent gas circulating in closed circuit, both said currents being maintained at a temperature too low to destructively decompose the wood.

11. The process of regaining rosin from wood which consists in transmitting past said wood a rapid current of heated indifferent gas at a temperature just below the decomposing-point of rosin.

12. The process of recovering valuable products from wood which consists in transmitting said wood down a heated shaft in annular layers, and passing through the wood at different points along its line of travel, a plurality of transverse currents of heated indifferent gases.

13. The process of recovering valuable products from wood which consists in passing said wood through a plurality of heated chambers isolated from each other, each succeeding chamber being at a higher temperature though at a temperature below the decomposing-point of said wood, and in separately collecting the vapors evolved from such wood in each chamber.

14. The process of recovering valuable products from wood which consists in passing said wood through a plurality of heated isolated chambers at temperature below the decomposing-point of wood to strip said wood of turpentine treating it in each such chamber with a current of indifferent gas, and in then pressing the heated wood to extract rosin.

15. The process of recovering valuable products from wood which consists in passing wood through a series of compartments having isolated inlets and outlets, whereby the wood itself substantially seals such inlets and outlets against gas-passage, in passing heated gas through each compartment separately, and separately collecting the vapor-charged gas from each compartment.

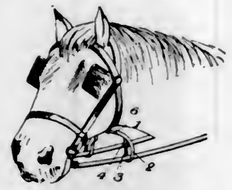
16. The process of recovering valuable products from coniferous wood which consists in stripping the same of turpentine with currents of heated inert gases, recovering rosin at a higher temperature by distillation with inert gas-currents and by pressure, and in then destructively distilling the residual wood.

17. The process of recovering valuable products from wood which consists in transmitting said wood in a moving layer through a series of heated zones of successively-increasing temperature, stripping it of volatile natural constituents in each such zone by a current of inert gas of appropriate temperature, and in then transmitting the so-treated wood through a zone of sufficient temperature to char it, removing produced volatile bodies by another current of inert gas of appropriate temperature.

18. The process of recovering valuable products from wood which consists in transmitting said wood in a moving layer through a series of heated zones of successively-increasing temperature, stripping it of volatile natural constituents in each such zone by a current of inert gas of appropriate temperature traveling in closed circuit through a condenser, and in then transmitting the so-treated wood through a zone of sufficient temperature to char it, removing produced volatile bodies by another current of inert gas of appropriate temperature traveling in closed circuit through a condenser.

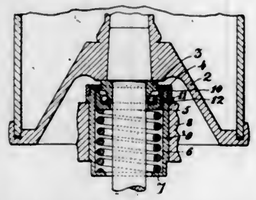
843,600. REIN-HOLDING ATTACHMENT FOR HARNESS. ROY F. HAYNER, Coin, Iowa. Filed July 12, 1906. Serial No. 325,900.

Claim.—1. In combination, a throat-latch for harness, and an attachment therefor comprising a rein-holding device consisting of a body, a plurality of fastenings rigidly connecting the central portion of the body of the attachment to the lower extreme portion of the throat-latch, opposite end portions of the attaching device being curved downwardly and provided with rein-holding hooks or members to receive the reins of a harness.



2. In combination, a throat-latch for harness, and a rein-holding attachment therefor, consisting of a body secured to the throat-latch, the opposite end portions of the body curving downwardly, and thence upwardly to form rein-supporting hooks, and gravity-mousings pivotally connected with the downwardly-extending end portions of the attachment and normally assuming positions closing the mouths of the hooks aforesaid.

843,601. BOX-BEARING. ARVID O. HEDFORS, Upsala, Sweden. Filed June 29, 1905. Serial No. 267,583.



Claim.—In a box-bearing for quickly-revolving shafts the combination of, a substantially cylindrical bushing having an inwardly-projecting shoulder, a ball-bearing part with spherical outer surface arranged therein so as to be free to oscillate within the bushing, a spring actuating the said ball-bearing part in axial direction against the said shoulder, another ball-bearing part provided on the shaft, and balls between said ball-bearing parts, substantially as and for the purpose set forth.

843,602. CORN-KNIFE. WILLIAM C. HEIMERDINGER, Louisville, Ky. Filed Nov. 11, 1905. Serial No. 286,941.



Claim.—1. In a corn-trimming knife, a thin flexible blade having a cutting edge at one end and a holder having a seat for the blade and provided at its sides and forward end with portions projecting beyond said seat to receive the sides and forward end of the blade, said side portions coöperating with the blade to bow the latter transversely when it is inserted into the holder.

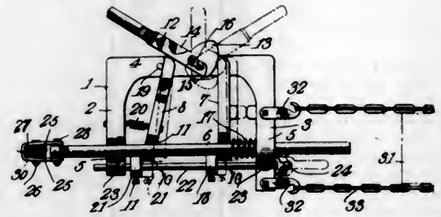
2. In a device of the character described, the combination with a holder having parallel flanges, of a thin sheet-steel blade to be forced between said flanges and said blade made wider at its cutting edge than the width of the space between the flanges of the holder, whereby the blade will be bowed when forced into the holder.

3. In a device of the character described, the combination with a holder having parallel side flanges and an end flange, said side flanges being bent at an angle to form a dovetailed pocket, of a blade to be forced into said pocket and made widest at its cutting edge to bow this end of the blade.

4. In a device of the character described, the combination with a holder and flanges at the bottom of the holder to form a pocket, of a blade to be forced into the pocket and held in place by said flanges, and having a hole to receive a suitable device to force the blade into and out of the holder, said holder having a hole over the cutting end of the blade for the escape of clippings.

5. In a corn-trimming knife, a thin flexible blade having a curved cutting edge at one end and a holder provided with means for bowing said blade transversely.

843,603. WIRE-STRETCHER. CHARLES S. HEMENWAY and FRANCIS M. THOMSON, Covelo, Cal. Filed Oct. 13, 1906. Serial No. 338,839.



Claim.—1. In a device of the class described, the combination of a supporting-frame, a draft member positively movable on the frame, an operating-lever, and means coöperating with the lever for gripping the draft member to move the latter during each stroke of the lever.

2. In a device of the class described, the combination of a supporting-frame, a longitudinally-movable draft member on the frame, a step-by-step mechanism for actuating the said member, a hand-operated means on the supporting-frame having a back-and-forth movement for actuating the said mechanism on each stroke, and means on the supporting-frame and arranged to operate on the said mechanism for rendering the same inoperative.

3. In a device of the character described, the combination of a supporting-frame, a longitudinally-movable draft member on the frame, a step-by-step mechanism for actuating the said member, an oscillating lever on the frame, and means on the lever arranged to actuate said mechanism during each stroke of the lever.

4. In a device of the class described, the combination of a supporting-frame, a draft member mounted thereon, a pair of dogs coöperating to move the member, a lever mounted on the frame for actuating one of the dogs, and a stop mechanism arranged on the frame for rendering the dogs operative and inoperative.

5. In a device of the class described, the combination of a supporting-frame having a pair of arms, a longitudinally-movable draft member mounted in the arms, dogs disposed between the arms and arranged to coact for actuating the said member, an elastic means between each dog and the adjacent arm of the frame for moving the dog, and a lever mounted on the frame and provided with a double cam arranged in operative relation to one of the dogs for actuating the latter during each forward and rearward movement of the lever.

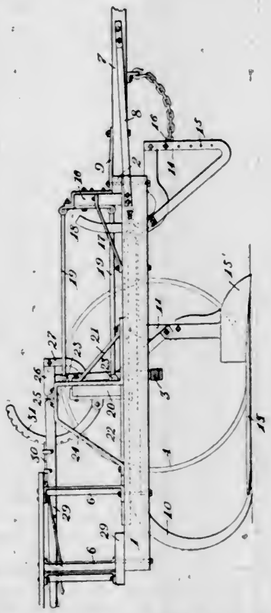
6. In a device of the class described, the combination of a supporting-frame having a pair of arms, a longitudinally-movable draft member mounted in the arms, dogs disposed between the arms and arranged to coact for actuating the said member, an elastic means between each dog and the adjacent arm of the frame for moving the dog, a lever mounted on the frame in operative relation to one of the dogs, and adjustable stops carried by the said arms for engagement with the dogs.

7. In a device of the class described, the combination of a supporting-frame having a pair of arms, a longitudinally-movable draft member mounted in the arms, dogs disposed between the arms and arranged to coact for actuating the said member, an elastic means between each dog and the adjacent arm of the frame for moving the dog, a lever mounted on the frame in operative relation to one of the dogs, a longitudinally-movable rod mounted on the arms, adjustable stops on the rods arranged in engagement with the dogs, and means for adjusting the said rod.

8. In a device of the class described, the combination of a supporting-frame having a body portion and arms extending therefrom, a longitudinally-movable draft member mounted in the arms, dogs arranged between the said arms and each having an opening through which the said member extends and a bifurcated portion spanning the said body of the frame, springs disposed between each dog and the adjacent arm, an operating-lever having a bifurcated portion spanning the body, cams on the bifurcations of the lever which engages the bifurcations of one of the dogs, and a stop device on the frame coöperating with the dogs.

9. In a device of the class described, the combination of a supporting-frame having a pair of arms, a longitudinally-movable draft member mounted in the arms, dogs disposed between the arms and arranged to coact for actuating the said member, an elastic means between each dog and the adjacent arm of the frame for moving the dog, a lever mounted on the frame and provided with a double cam arranged in operative relation to one of the dogs for actuating the latter on each stroke of the lever, and an anchor means attached to one of the arms.

843,604. BRUSH-CUTTING MACHINE. THOMAS B. HENDRICKS, Twin Falls, Idaho. Filed Apr. 23, 1906. Serial No. 313,354.



Claim.—1. A main frame comprising side and end cross members, an axle disposed intermediate the ends of the main frame to support the same, in combination with a blade-carrying frame arranged under the main frame with its front end suspended free of the latter and extending to the front and rear sides of the axle, means for supporting the blade-carrying frame on the main frame, and a mechanism for raising the blade-carrying frame and preserving the horizontal disposition of the blades thereof.

2. In a brush-cutting machine, comprising a main frame, an axle supporting the same, and wheels on the axle, in combination with a blade-carrying frame, a system of horizontally-disposed links for guiding the movement of the blade-carrying frame with respect to the main frame, a transverse shaft on the main frame, means for actu-

ating the shaft, and connections between the shaft and blade-carrying frame for moving the latter.

3. A brush-cutting machine, comprising a main frame, an axle supporting the same, and wheels on the axle, in combination with a blade-carrying frame, a system of links between the two frames for guiding the movement of the blade-carrying frame, means for supporting the blade-carrying frame in substantially the line of gravity, a transverse shaft on the main frame connected with said means for raising or lowering the blade-carrying-frame, and a lever for actuating the shaft.

4. In combination, with a main frame provided with brackets, of an axle supporting the same, wheels on the axle, a blade-carrying frame, parallel members arranged one on the main frame and the other on the blade-carrying frame, pairs of horizontally-disposed parallel links attached to the members for guiding the blade-carrying frame, a shaft journaled on the brackets, forwardly-extending crank-arms on the shaft, links adjustably connecting the crank-arms with the blade-carrying frame, a rearwardly-extending hand-lever on the shaft for actuating the latter, and a toothed segment and latch mechanism for the lever.

5. A main frame of rectangular form, an axle disposed approximately midway of the ends of the frame, and a cross member at the forward end of the frame, in combination with a blade-carrying frame, a cross member on the latter frame located above the axle, parallel links disposed above and longitudinally of the main frame and pivoted at their ends to the said cross members, and a mechanism connected with the last-mentioned member for raising and lowering the blade-carrying frame.

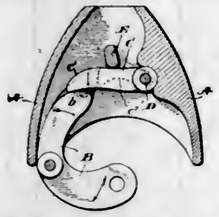
6. A main frame of rectangular form, a transversely-extending axle at about the middle thereof, in combination with a blade-carrying frame having rearwardly and outwardly extending blades whose front ends are disposed in front of the axle, means for supporting the blade-carrying frame on the main frame, parallel links connecting the blade-carrying frame to the front of the main frame and disposed parallel to the line of draft, a mechanism for raising and lowering the blade-carrying frame, and an operator's seat at the rear of the main frame from which said mechanism is operated.

7. A main frame comprising side and end members, an axle supporting the frame, a transverse beam at the front end of the main frame and above the side members, a platform at the rear end of the frame, in combination with a blade-carrying frame arranged with its front end suspended free of the main frame, links extending from the transverse beam in a rearward direction, means at approximately the middle of the blade-carrying frame for connecting the latter with the links, and a mechanism arranged to be operated from the platform for raising and lowering the blade-carrying frame.

8. A main frame comprising side and end members, an axle supporting the frame, a transverse beam at the front end of the main frame, a platform at the rear end of the frame, in combination with a blade-carrying frame comprising parallel side members and transverse members connected therewith, a transverse beam supported on the side members of the blade-carrying frame, parallel links connected at their front and rear ends respectively to the cross-beams of the main and blade-carrying frames, a transverse rock-shaft on the main frame, means for connecting the blade-carrying frame to the shaft, and a mechanism for rocking the shaft for raising and lowering the blade-carrying frame.

843,605. CAR-COUPLING. WILLIAM N. HENSLEY, Columbus, Nebr., assignor of one-half to Clinton C. Gray, Columbus, Nebr. Filed May 25, 1905. Serial No. 262,106.

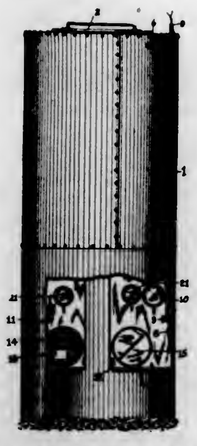
Claim.—1. In a car-coupler the combination of a draw-head, a knuckle pivoted thereto, a rotary and axially-movable knuckle-engaging arm, said arm having a knuckle-engaging surface to lock the knuckle in its closed position that is placed in and out of knuckle-locking position by its axial movement simply, a line from the surface of the knuckle that is engaged by said arm and passing through the arm-axis being parallel, or approximately parallel with the path of such knuckle-surface in moving from its closed position, the said arm also having a knuckle-engaging surface to swing the knuckle into open position, and means to automatically rock said arm to cause it to swing the knuckle into open position when the arm is moved axially to disengage it from the knuckle.



2. In a car-coupler the combination of a draw-head, a knuckle pivoted thereto, an arm carried by a vertically moving and turning pin, said pin being integral with the arm and journaled on opposite sides of the latter in the draw-head having an end portion to engage a surface on the knuckle-tailpiece to lock the knuckle in a closed position, and having an extension to engage a surface on the knuckle-tailpiece forward of the locking-surface thereof and a cam-rib in the draw-head to engage said arm when it is lifted with its carrying-pin said cam-rib acting when the arm is lifted with its carrying-pin to swing the arm and thereby open the knuckle.

3. In a car-coupler, the combination of a draw-head, a knuckle pivoted thereto having a tailpiece extending rearwardly from the pivot into the draw-head when in a closed position, a rotary and axially-movable knuckle-engaging arm extending transversely of the draw-head when in knuckle-engaging position and having a surface that engages the knuckle and is movable into and out of engagement with the knuckle by the simple axial movement of the arm, coöperating surfaces on the arm and knuckle, whereby the rotary movement of the arm imparts a swinging movement to the knuckle, and automatic means for rotating said arm to actuate the knuckle when the arm is moved axially.

843,606. DEVICE FOR PROSPECTING AND MINING FOR GOLD. ROBERT HORNBECK, GEORGE B. CAMPBELL, and BASIL F. HITE, Sacramento, Cal.; said Campbell assignor to said Hornbeck. Filed Jan. 19, 1905. Serial No. 241,893.



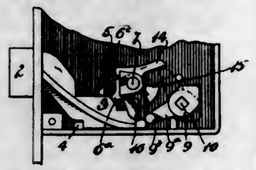
Claim.—1. In a device of the character described, a main bottomless tube, an air-tight cap on the upper end of said tube, a plurality of smaller tubes arranged within said main tube and suspended from the top thereof, said smaller tubes being closed at both ends and having openings near their lower ends, air-tight covers for said openings, said main tube and smaller tube adapted to be filled with compressed air, and hoisting means arranged within the smaller tubes, substantially as described.

2. In a device of the kind described, a main bottomless tube, a head or closure on the upper end of said tube and having an opening, an air-tight closure for said opening, a smaller tube suspended within the main tube and closed at its lower end, an air-tight closure for the upper end of said smaller tube, said smaller tube having an opening near its lower end, an air-tight closure for said opening, hoisting means within said smaller tube, said smaller tube and the main tube adapted to receive compressed air, and gages for indicating the air-pressure in said tubes, substantially as described.

3. In a device of the kind described, a main, bottomless tube, means for forcing air into said tube, an escape-valve located within said tube and leading to the outside thereof, and means for hoisting material from the bottom to the top of said tube, as set forth.

4. In a device of the kind described the combination of a main, bottomless tube, an air-tight cap on the top of said tube, a large pipe leading into said tube and provided with a stop-cock, two small tubes located within said main tube and having openings through the top of said main tube, said openings being provided with air-tight caps, openings in the sides of said small tubes near the bottom thereof, escape-valves leading from the inside of the small tubes to the outside of the main tube, air-tight caps for said last-named openings, small pipes leading from said large pipe into said small tubes, said pipes being provided with stop-cocks, and a hoisting apparatus arranged within each of said small tubes as set forth.

843,607. LOCK. NORMAN B. HURD, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Nov. 28, 1906. Serial No. 345,476.



Claim.—1. In a device of the character described, a dead-bolt, means for reciprocating the same comprising a roll-back coöperating with said bolt, and independently oppositely arranged manually-controlled devices coöperating with said roll-back, whereby when both manually-controlled devices are retracted the bolt will be retracted and when either manually-controlled device is advanced said bolt will be projected.

2. In a device of the character described, a dead-bolt, a roll-back coöperating therewith, said roll-back having a step-by-step action, two independent devices for moving said roll-back independently, and means whereby said bolt will remain projected until both roll-back-actuating devices are retracted.

3. In a device of the character described, a dead-bolt, a pivoted roll-back coöperating therewith, three arms on said roll-back, one of said arms being shorter than the others, and spindle-controlled devices arranged to cooperate with each of said arms to move said roll-back step by step.

4. In a device of the character described, a dead-bolt, a pivoted roll-back coöperating therewith, three arms on said roll-back, one of said arms being shorter than the others, and spindle-controlled devices arranged to cooperate with each of said arms to advance and retract said roll-back step by step.

5. In a lock, a dead-bolt, two independent manually-controlled operating devices manually accessible from opposite sides of the lock, and means intermediate said manually-controlled devices and said bolt whereby when either of said manually-controlled devices is advanced said bolt will be projected.

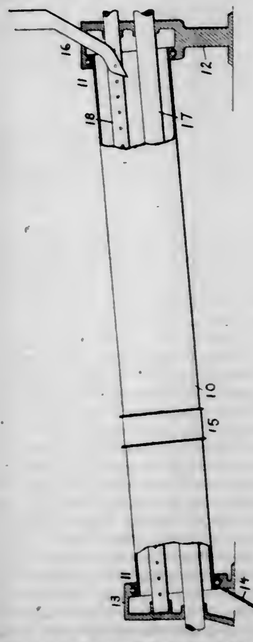
6. In a lock, a dead-bolt, two independent manually-controlled operating devices manually accessible from opposite sides of the lock, and means intermediate said manually-controlled devices and said bolt whereby when either of said manually-controlled devices is advanced said bolt will be projected, and when both of said manually-controlled devices are retracted said bolt will be retracted.

7. In a lock, a dead-bolt, a roll-back coöperating therewith, said roll-back having three positions of rest, means for frictionally holding said roll-back in any one of said three positions of rest, and means coöperating with said roll-back and accessible from opposite sides of the door to move said roll-back into any one of said three positions.

8. In a device of the character described, a dead-bolt, a roll-back pivotally mounted and coöperating therewith, three arms thereon, the middle arm being shorter than the end arms, two independent operating devices accessible from opposite sides of the lock, said operating devices arranged to coöperate independently and at different times with said roll-back to impart to the latter a step-by-step movement forward or back.

9. In a device of the character described, a dead-bolt, a roll-back pivotally mounted and coöperating therewith, two independent operating devices accessible from opposite sides of the door, said operating devices being arranged to coöperate independently and at different times with said roll-back to impart to the latter a step-by-step movement forward or back, the first step forward and the last step back only moving said bolt.

843,608. DRIER. WILLIAM F. HUTCHINSON, Nyack, N. Y., assignor to Sweetwood Tooth Pick Company, Nyack, N. Y., a Corporation of New York. Filed May 4, 1906. Serial No. 315,254.



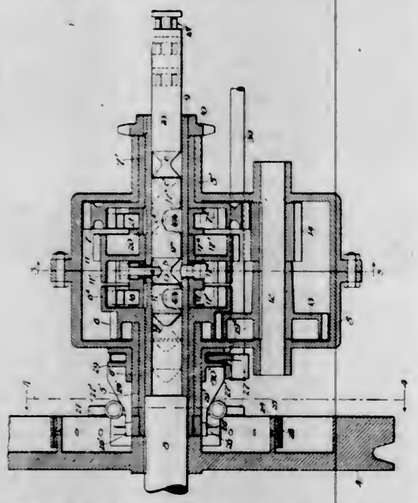
Claim.—1. A drier comprising a rotary inclined drum having closed heads at the ends, means for delivering ma-

terial into the upper part of the drum, means for discharging material from the lower part of the drum, a steam-pipe extending longitudinally through the drumheads, and a perforated exhaust-pipe also supported in the drumheads and leading from the drum.

2. A drier, comprising a rotary drum having stationary heads at the ends in which the drum turns, means for delivering material into one end of the drum, means for discharging material from the opposite end of the drum, a steam-pipe supported in the drumheads and extending longitudinally through the drum, and a perforated exhaust-pipe extending longitudinally through the drum.

3. A drier, comprising a rotary inclined drum having stationary end heads serving to support the drum-bearings, means for feeding material into the upper end of the drum, a discharge for said material at the lower end of the drum, a heating medium extending longitudinally through the drum, and a perforated exhaust-pipe arranged longitudinally in the drum and leading from same.

843,609. CHANGEABLE-SPEED GEARING. EDWARD A. JOHNSTON, Sterling, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Oct. 4, 1906. Serial No. 337,338.



Claim.—1. In a changeable-speed gearing, in combination, a hollow driving-spindle, a plurality of clutch members secured thereto, a corresponding number of gears, loosely mounted thereon and having coöperating clutch members in connection therewith, a driving element adapted to frictionally engage one of said gears, a gear connection extending between the gear which connects with the driving element and the remaining gears, and means for engaging and disengaging said clutch members.

2. In a changeable-speed gearing, in combination, a hollow driving-spindle, a plurality of clutch members secured thereto, a corresponding number of gears loosely mounted thereon and having coöperating clutch members in connection therewith, a casing inclosing said gears and forming a journal-support therefor, a driving element adapted to frictionally engage one of said gears, a gear connection extending between the gear which connects with the driving element and the remaining gears, and a longitudinally-movable stem located within said hollow driving-spindle for engaging and disengaging said clutch members.

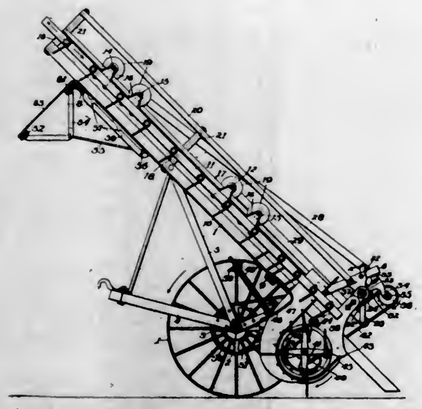
3. In a changeable-speed gearing, in combination, a hollow driving-spindle, a plurality of positive clutch members secured thereto, a corresponding number of gears loosely mounted thereon and having coöperating clutch members in connection therewith, a driving element, a friction-clutch interposed between said driving element and one of said gears on the driving-spindle, a gear connection extending between the gear which connects with the friction-clutch and the remaining gears and single means for actuating both the positive and friction clutch members.

4. In a changeable-speed gearing, in combination, a hollow driving-spindle, positive clutch members fixed thereto, three gears loosely mounted on said spindle and each provided with an internal ratchet-toothed rim adapted to cooperate with said clutch members, a driving element, a friction-clutch interposed between said driving element and one of said gears on the driving-spindle, a forward and a reverse gear connection extending between the gear which connects with the friction-clutch and the remaining gears, a longitudinally-moving stem and rod for actuating respectively the positive clutch members and the friction-clutch, and a single lever for controlling same.

5. In a changeable-speed gearing, in combination, a hollow driving-spindle, positive clutch members fixed to said spindle and provided with pawls pivotally mounted thereon, three gears loosely mounted on said spindle and each provided with an internal ratchet-toothed rim adapted to coöperate with said clutch members, a driving element, a friction-clutch interposed between said driving element and one of said gears on the driving-spindle, a forward and a reverse gear connection extending between the gear which connects with the friction-clutch and the remaining gears, a longitudinally-moving stem provided with necks or portions of reduced cross-section and adapted to actuate the pawls of said positive clutches, a longitudinally-moving rod for actuating the friction-clutch, and single means for controlling both the rod and stem.

6. In a changeable-speed gearing, in combination, a hollow driving-spindle, a plurality of positive clutch members fixed thereto, a corresponding number of gears loosely mounted thereon and having coöperating clutch members in connection therewith, a driving element, a friction-clutch adapted to frictionally engage said driving element with one of said gears on the spindle, a gear connection extending between the last-mentioned gear and the remaining gears on said spindle, separate longitudinally-movable means for actuating the friction-clutch and the several positive clutch members, and a single lever for controlling the clutch-actuating means.

843,610. HAY-LOADER. EDWARD A. JOHNSTON, Sterling, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Oct. 8, 1906. Serial No. 337,892.



Claim.—1. A hay-loader comprising, in combination, an axle supported by carrying-wheels, a carrier-frame mounted upon said axle and inclined forward and upward, a raking-cylinder pivotally suspended from the carrier-frame, the axis of its pivotal connection being in rear of and above said axle, said raking-cylinder being adjustable toward or from said axle.

2. A hay-loader comprising, in combination, an axle supported by carrying-wheels, a carrier-frame mounted upon said axle and inclined forward and upward, a raking-cylinder pivotally suspended from the carrier-frame, the axis of its pivotal connection being in rear of and above said axle, said raking-cylinder being yieldingly held against movement in a direction away from said axle.

3. A hay-loader comprising, in combination, an axle supported by carrying-wheels, a carrier-frame mounted upon said axle and inclined forward and upward, a raking-cylinder pivotally suspended from the carrier-frame, the axis of its pivotal connection being in rear of and above said axle, means for adjusting the axis of said cylinder toward or from the axis of suspension, said raking-cylinder being adjustable toward or from said axle.

4. A hay-loader comprising, in combination, an axle supported by carrying-wheels, a carrier-frame mounted upon said axle and inclined forward and upward, a series of rakes mounted in said frame in a manner to be reciprocated longitudinally relative thereto, a transverse shaft journaled in said frame in rear of and above said axle, double cranks secured to opposite ends of said shaft, said cranks being operatively connected with said rakes, a raking-cylinder suspended from the axis of said transverse shaft and adapted to be adjusted toward or from said axle.

5. A hay-loader comprising, in combination, an axle supported by carrying-wheels, a carrier-frame mounted upon said axle and inclined forward and upward, a series of rakes mounted in said frame in a manner to be reciprocated longitudinally relative thereto, a transverse shaft journaled in said frame in rear of and above said axle, double cranks secured to opposite ends of said transverse shaft, said cranks being operatively connected with said rakes, a raking-cylinder suspended from the axis of said transverse shaft in a manner to be adjusted toward or from said axis, said cylinder being adapted to swing about said axis in a direction toward or from said axle.

6. A hay-loader comprising, in combination, an axle supported by carrying-wheels, a carrier-frame mounted upon said axle and inclined forward and upward, a series of rakes mounted in said frame in a manner to be reciprocated longitudinally relative thereto, a transverse shaft journaled in brackets secured to said frame in rear of and above said axle, double cranks secured to opposite ends of said shaft, said cranks being operatively connected with said rakes, depending members pivotally mounted upon said brackets and adapted to swing about the axis of the shaft journaled therein, a raking-cylinder having journal-bearings at opposite ends thereof, said journals being mounted in sleeves forming part of the lower ends of cylinder-supporting members, said members having their upper ends adjustably secured to said depending members in a manner permitting said raking-cylinder to be adjusted toward or from the axis of said transverse shaft.

7. A hay-loader comprising, in combination, an axle supported by carrying-wheels, a carrier-frame mounted upon said axle and inclined forward and upward, said frame comprising rearwardly and upwardly inclined frame-supporting members, brackets secured to the upper ends of said frame-supporting members, said brackets provided with laterally-projecting sleeve portions, a transverse shaft journaled in said sleeve portions, means for conveying the hay along said carrier-frame comprising said shaft, depending members pivotally mounted upon said sleeve portions, a raking-cylinder, a supporting-frame for said cylinder, said frame comprising end members having sleeve portions at their lower ends forming bearings for the journals of said cylinder, transverse bars connecting said end members, the upper ends of said end members being adjustably secured to said depending members in a manner permitting said cylinder-supporting frame to be adjusted toward or from the axis of said transverse shaft.

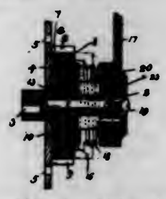
8. A hay-loader comprising, in combination, an axle supported by carrying-wheels, a carrier-frame mounted upon said axle and inclined forward and upward, said frame comprising rearwardly and upwardly inclined frame-supporting members, brackets secured to the upper ends of said frame-supporting members, said brackets provided with laterally-projecting sleeve portions, a transverse shaft journaled in said sleeve portions, means for conveying the hay along said carrier-frame comprising said shaft, depending members pivotally mounted upon said sleeve portions, a raking-cylinder, a supporting-frame for said cylinder, said frame having end members secured to said depending members, sprocket-wheels mounted upon said axle and operatively connected with said carrying-wheels, sprocket-wheels secured to opposite ends of said transverse shaft, brackets pivotally mounted upon the sleeve portion of the brackets in which said transverse shaft is journaled and adjustably connected with said rearwardly-inclined frame-supporting members, sprocket-wheels rotatably mounted upon said pivoted brackets and above the axis of said transverse shaft, sprocket-wheels secured to the ends of said raking-cylinder, sprocket-chains connecting the cylinder with said sprockets carried by said pivoted brackets, and sprocket-chains connecting the sprocket-wheels secured to said transverse shaft with those mounted upon said axle.

9. A hay-loader comprising, in combination, an axle supported by carrying-wheels, a carrier-frame mounted upon said axle and inclined forward and upward, a series of reciprocatory rakes operatively mounted upon said carrier-frame, a raking-cylinder rotatably mounted at the lower end of said carrier-frame below said rakes, said cylinder being journaled in a frame, said frame comprising end members and transverse bars connecting said end members, one of said bars being in rear of the axis of said cylinder, and a series of curved stripper-bars partially encircling said raking-cylinder and having their rear ends secured to said rear transverse bar, and their forward free ends projecting above said cylinder and said reciprocatory rakes.

10. A hay-loader comprising, in combination, an axle supported by carrying-wheels, a carrier-frame mounted upon said axle and inclined forward and upward, a series of reciprocatory rakes operatively mounted upon said carrier-frame, a raking-cylinder rotatably mounted at the lower end of said carrier-frame below said rakes, said cylinder being journaled in a frame, said frame comprising end members and transverse bars connecting said end members, one of said bars being in the rear of the axis of said cylinder, a series of curved stripper-bars partially encircling said raking-cylinder and having their rear ends secured to said rear transverse bar and their forward free ends projecting above said cylinder and said reciprocatory rakes, and a series of guard-bars having their lower ends loosely encircling the axle and extending rearward and upward and then forward and having their free ends resting upon a transverse member of the carrier-frame below the reciprocatory rakes, with an intervening feeding-throat between said series of guard-bars and said stripper-bars.

11. A hay-loader comprising, in combination, an axle supported by carrying-wheels, a carrier-frame mounted upon said axle and inclined forward and upward, a series of reciprocatory rakes operatively mounted upon said carrier-frame, said carrier-frame comprising rearwardly and upwardly inclined frame-supporting members, brackets secured to the upper ends of said frame-supporting members, a transverse shaft journaled in said brackets, double cranks secured to opposite ends of said shaft, said cranks being operatively connected with said rakes, a raking-cylinder, a frame in which said cylinder is mounted, said frame being suspended from said brackets in a manner to swing about the axis of said transverse shaft, with said cylinder in rear of and below the axle of said machine, a series of guard-straps extending rearward and upward from said axle and then forward and having their free ends resting upon a transverse member of said frame, a transverse bar comprising part of said raking-cylinder frame and located in rear of said cylinder, stripper-bars having one end secured to said transverse bar and then extending downward and partially encircling said cylinder and having their free ends extended above said cylinder and said reciprocatory rakes, with an intervening feeding-throat between said strippers and said guard-bars, said cylinder being yieldingly held toward said guard-bars in a manner to cause the feeding-throat to be variable in its capacity.

843,611. STARTING MECHANISM FOR EXPLOSIVE-ENGINES. PETER W. KANE, Mason City, Iowa. Filed Dec. 31, 1904. Serial No. 239,182.



Claim.—1. The combination with a shaft, of a lever-arm journaled on said shaft, said arm provided with locking-surfaces inclined toward said shaft in one direction of movement of said arm, locking-rolls interposed between said surfaces and shaft and movable to lock and unlock said arm upon said shaft, wedges arranged to move against said rolls, and means whereby said wedges are moved against said rolls to release same from locking engagement with said shaft when the latter is rotated in the opposite direction.

2. The combination with a rotary shaft, of an arm journaled on said shaft, a locking-roll interposed between said shaft and arm, the latter provided with a recess for said roll, having an inclined locking-surface, and a wedge-opening communicating with said recess, a wedge movable through said opening and normally out of engagement with said roll, and means for forcing said wedge against said roll moving the latter out of clutch engagement with said shaft and arm.

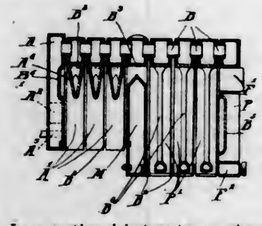
3. The combination with a rotary shaft, of an arm, journaled on said shaft, an outer and an inner clutch member, the outer member arranged to remain stationary relative to said inner member and shaft, the inner member journaled on said shaft, clutch-rolls interposed between said inner member and shaft, and similar rolls interposed between said arm and shaft, the rolls between the latter arranged to clutch the shaft when said arm is rotated in one direction and the rolls between said inner clutch member and shaft arranged to clutch the shaft when rotated in opposite direction, and a mechanism, actuated by said inner clutch member, for releasing said arm and shaft when the latter is rotated in opposition to the positive movement of said arm.

4. The combination with a rotary shaft, of a bearing for said shaft, an inner and an outer clutch member, the former normally journaled on said shaft and the latter secured to said bearing, friction-rolls interposed between said inner member and said shaft, said rolls coöperating with said inner member and shaft to interlock same for movement together and to release said inner member from said outer member, an oscillatory arm also journaled on said shaft and having friction-rolls interposed between same and said shaft, said rolls arranged to interlock said shaft and arm when the former is rotated by the latter, to free the friction-rolls between said inner member and shaft from interlocking engagement, and means whereby said inner member, when interlocked with said shaft by said rolls, releases the rolls between said arm and shaft from engagement.

5. The combination with a rotary shaft, of an arm journaled thereon, clutch-rolls arranged between said arm and shaft to interlock same when said arm is oscillated in one direction, a rotary clutch member also journaled on said shaft, clutch-rolls arranged between said rotary clutch member and shaft, a stationary clutch member arranged to coöperate with said rotary clutch member, a series of wedges, and means whereby said rotary clutch member, when moved out of engagement with said stationary clutch member actuates said wedges to force the clutch-rolls interposed between said arm and shaft out of operative engagement therewith.

6. The combination with a rotary shaft of an arm journaled on said shaft, clutch-rolls interposed between said arm and shaft and arranged to lock same together when the shaft is rotated forward by said arm, said rolls releasing said arm from said shaft when the latter is rotated backward, a series of wedges arranged around said shaft and movable against said rolls, but normally held out of engagement with same, an actuating member for said wedges, journaled on said shaft, inclined ribs on said actuating member, a stationary ring or member having slide-grooves therein for said ribs, clutch-rolls interposed between said actuating member and shaft, said rolls arranged to lock said actuating member upon said shaft and thereby move its ribs out of engagement with said slide-grooves when the shaft is rotated backward, and a spring interposed between said arm and actuating member, tending to hold the latter in engagement with said stationary member.

843,612. SECTIONAL BOILER OR FURNACE. JOSEPH M. W. KITCHEN, East Orange, N. J. Filed Dec. 22, 1905. Serial No. 292,945.



Claim.—1. In a sectional hot-water or steam heater, the combination of means, (first) for distributing heating-gases equably over the heating-surface of said heater and to gain pressure from atmospheric weight acting in said heater against said surfaces by a restricted size of the gas apertures and passages in the sections of the heater, (second) for varying the amount of water passing through the various sections to prevent too rapid loss of heat in the burning fuel and to provide a water-recipient of low temperature at varying locations in said heater for the absorption of large volumes of low degrees of heat; (third) for the progressive absorption of the heat generated by the apposition of counter-currents of heating-gases and feed-water, the gases being applied progressively to the heating-surfaces from the front of the heater to the rear and from a high level of the heater to a low level, the water being introduced at the rear of the heater at a low level and conveyed from the rear to the front of said heater and from a low level to a high level; (fourth) for preventing the passage of heating-gases over heat-absorbing surfaces of a temperature higher than the temperature of the gases in contact with the surfaces, thus losing heat to the gases, (fifth) for applying the most intense heat first to the heat-absorbing surfaces at a high level, and for a progressive application of said gases in horizontal strata of equal temperatures at progressively-lower levels and a final exit of said gases at a low level; (sixth) for inducing a direct updraft in said heater and for inducing an indirect plunging-draft in said heater; (seventh) for smoke prevention and for perfecting the combustion of volatilized gases, said seventh-named element comprising means for mixing air with said smoke and gases by over-fire mass of air introduction in divided currents distributed around the periphery of the combustion-chamber at a lower level and a vertically-elongated run in the combustion-chamber for mixing and combining air with the volatilized gases; (eighth) for preventing premature loss of heat from the fuel at a low level of said heater by interposition of non-conducting means; (ninth) for protecting said means for air introduction from destructive heat; (tenth) for varying the relative areas of the heat-absorbing surfaces receiving directly the radiant heat of the fire, of the so-called fire-surfaces receiving indirectly the conveyed heat in the gases, and of the grate-surfaces, said tenth-named element comprising a combustion-chamber and an adjacent heat-economizing cavity and provision for adding to or removing sections in said chamber and in said cavity without damage or loss to the original structure of said heater;

(eleventh) and for preventing the escape of coal-gas from said heater by construction and arrangement of the parts for an equilibrious balance of gases of equal densities in horizontal strata at the same levels.

2. In a sectional boiler, the combination of a water-conveying conduit at a low level, heat-absorbing sections supplied from and rising above said conduit, and gas apertures and passages in said sections, said apertures and passages being contracted in size and constructed, located and disposed to retard the passing of gases therethrough and to distribute the said gases over the heating-surfaces of said boiler, for preventing short-circuiting of said gases through a part of said passages, and to gain through atmospheric weight and upward pressure acting in said boiler measurable increase of pressure of said gases against the heating-surfaces of said sections and to gain time for the absorption of the heat from said gases.

3. In a sectional boiler, the combination of a plurality of sections constructed and located to convey currents of heating-gases away from the zone of greatest heat production and to convey water in a current reverse to the route traveled by said heating-gases, the water in said sections progressively absorbing heat of progressively-lowering temperatures in the travel of said gases away from said zone of greatest heat production, the water in the section furthest from said zone and being first introduced in said section, being the coldest and absorbing the lowest degrees of heat, and the water in the section nearest said zone being hottest and absorbing the higher degrees of heat, said gases not passing over heat-absorbing surfaces having a higher temperature than the gases brought unto contact with said surfaces, a horizontal water-conduit at a low level of said sections supplying water to said sections, means for regulating the flow of water traversing each section, and a high-level conduit connected with the top of each section for conveying away the heat absorbed into the water of each section.

4. In a sectional boiler, the combination of water-containing sections forming a combustion-chamber, said combustion-chamber having a high run free from heat-absorbing surfaces in the line of rising products of combustion, except at a high level, to gain time for perfecting combustion, water-containing sections forming a heat-economizing cavity, the said chamber and said cavity being separated by a water-containing section impervious to gases between said chamber and said cavity except at the highest level of said chamber, and gas-passages at said high level, said passages being no larger in size than is necessary to collectively pass the gases combined in said chamber and being contracted in size and located to spread out the gases laterally over the full width of said combustion-chamber at a high level and to gain pressure of heating-gases against the heat-absorbing surfaces of said chamber, said cavity having a highly-located exit for waste gas and a low exit for waste gas, and said cavity extending from said high level to the floor-line on which the boiler rests.

5. In a sectional boiler, the combination of water-containing sections forming a combustion-chamber having a high run for combining gases, water-containing sections forming a heat-economizing cavity, waste-gas exits at both high and low levels of said cavity, said chamber and cavity being separated by a water-containing section impervious to gas except at a high level, and having gas-apertures of contracted size at a high level for distributing gases and gaining increase of pressure against the heating-surfaces, said cavity being extended to the floor-line on which the heater rests, and means for introducing over-fire air for combustion through the front of said boiler.

6. In a sectional boiler, the combination of a combustion-chamber having a high run for preventing loss of heat at low levels in said combustion-chamber, and a heating-cavity, said chamber and said cavity being formed by a front section, a middle section, a rear section, and intermediate combustion-chamber sections, said sections having corrugations cast in the face of such parts of the sections as are exposed to the heat generated, said middle section having at a high level apertures of a restricted size to spread laterally the gases of combustion, said intermediate sections having wedge-shaped downwardly-prolonged processes having gas-apertures of restricted size at a high level in said processes and located at one side of the median line of said intermediate sections, said intermediate sections by alternation in assembling having said apertures staggered on first one side and then on the other side of said median line for increasing the line of travel of the heating-gases in the vault of said combustion-chamber, said rear section having both high and low level exits for the waste gases of combustion.

7. In a sectional boiler, the combination of means for progressively absorbing the heat traversing said boiler in progressively-located sections, said means comprising contracted apertures and passages in the sections of said boiler, said apertures being constructed and disposed to spread out laterally over each section the heating-gases and to gain increased pressure against the heating-surfaces of each section and to gain time for the absorption of the heat in the gases passing successively through the sections of said boiler.

8. In a sectional heater, comprising a high-run combustion-chamber and an adjacent heat-economizing cavity, the combination of a front section, a middle section, a rear section, multiple intermediate sections in the combustion-chamber, and multiple intermediate sections in the heating-cavity, said sections being constructed and formed for the flow of heating-gases and water in counter-currents through said heater, the water being introduced at the back of the rear section at a low level.

9. In a sectional boiler, the combination of a combustion-chamber and an adjacent heating-cavity comprising a front section, a middle section, a rear section, multiple intermediate combustion-chamber sections, and multiple intermediate heating-cavity sections, said intermediate sections being perforated with gas-passages of restricted size and disposed to prevent the too free passage of gases through only a few of said passages for spreading the gases the entire width of said boiler and for preventing short-circuiting of gas through part of the passages to the neglect of other passages and to gain pressure against heating-surfaces.

10. In a sectional boiler, the combination of water-containing sections forming a combustion-chamber, water-containing sections forming a heat-economizing cavity, and a grate, said sections comprising a front section, a middle section, a rear section, intermediate combustion-chamber sections, and intermediate heat-economizing sections, said intermediate sections being attachable and detachable without damage or loss to the original structure of said boiler, said grate being extensible, said middle section being impervious to gases except at a high level but having contracted communicating passages at said high level, said sections being constructed and disposed to convey counter-currents of heating-gases and water through said boiler without passing said gases over said heating-surfaces of a higher temperature than the gases brought in contact with said surfaces, said water being introduced at a low level and at the rear of said boiler, said combination being for varying the relative areas of heat-absorbing surfaces to grate-surfaces, and to gain increase of efficiency of absorbing heat from the varying conditions of chimney-draft and rates of combustion.

11. In a sectional heater, the combination of a front section, a middle section, and a rear section, said sections forming a combined furnace and combustion-chamber having a high run and an adjoining heat-economizing cavity, the surfaces of the said front and rear sections where exposed to the heat generated in said heater having corrugations and dependent processes for enlarging the area of heating-surfaces and for forming the vault and sides of said chamber and cavity, said middle section having no corrugations, but having highly-located gas-apertures of contracted size, said rear section having both high and low exits for smoke and gas, feed-water being first introduced at a low level of said rear section, the hottest heating-gases being first applied to the heating-surfaces in the upper part of said chamber and then being applied at the highest level of said cavity and then being progress-

ively applied in successive strata of declining temperatures to the lowest level of said cavity without again passing over the heating-surfaces of said heater.

12. In a sectional boiler, the combination of a high-run combustion-chamber and an adjoining heat-economizing cavity constructed and arranged for the ascent of heating-gases in the combustion-chamber and for their descent in the economizing-cavity, a waste-gas exit at a low level of said cavity, said chamber and said cavity being separated by a partition impervious to gas except at a high level, dependent wedge-shaped processes projecting from the vault of said chamber with the apices directed downwardly, contracted gas-apertures at the highest level in the said chamber communicating with said economizing-cavity and disposed in horizontal relation to pass the gases equably through each of said apertures and to spread out heating-gases horizontally in the upper part of said chamber.

13. In a sectional boiler, the combination of a high-run combustion-chamber, an adjoining heat-economizing cavity, said combustion-chamber having a front section and a section which divides imperviously said combustion-chamber from said cavity except as to contracted apertures at a high level, said contracted apertures being for spreading gases, said cavity having a rear section having both high and low level gas-exits, intermediate attachable and detachable sections for said chamber and said cavity, and push-nipples connecting said sections at a high level and at a low level, the push-nipples joining the sections of the combustion-chamber being of a smaller caliber than the push-nipples joining the sections forming the said cavity.

14. In a sectional boiler, the combination of sections forming a combustion-chamber having a high run and heating-surface at a high level open to the impact of the direct radiant heat of the fire, and an adjacent heat-economizing part containing heat-absorbing surfaces or so-called flue-surfaces for the indirect absorption of the lesser degrees of heat of the heating-gases remaining in the gases after leaving said combustion-chamber, said combustion-chamber and said heat-economizing part being separated imperviously except at a high level, gas-passages at a high level of contracted size for spreading gases and increasing gas-pressure against absorbing surfaces, said sections being attachable and detachable without damage to the original structure of the boiler, said boiler being substantially free from so-called flue-surface in said combustion-chamber, said sections being arranged for the passing in apposition of heating-gases and water in counter-currents through said boiler.

15. In a sectional boiler, the combination of a high-run combustion-chamber, dependent processes or deep corrugations in the vault of said chamber for intercepting and holding back risen hot gases and for receiving directly the impact of radiant heat, contracted gas-passages at a high level to spread gas and gain increase of pressure against absorbing-surfaces, and flue-surfaces outside of said combustion-chamber arranged and disposed for a temperature of said flue-surfaces lower than the temperature of the gases in contact with said flue-surfaces, the sections of said boiler being free from said flue-surfaces at levels and positions where the temperature of said flue-surface is higher than the temperature of the gases that are brought in apposition with said flue-surfaces at said levels and positions.

16. In a sectional boiler, the combination of a combustion-chamber and an accessory heating-cavity, said chamber and said cavity being composed of sections comprising means to increase or decrease their number in said boiler without damage or loss to the original structure of said boiler for varying the relative areas of grate-surface and direct heat-absorbing surfaces for radiant heat to the area of so-called flue or indirect heating-surfaces, the heating-surfaces receiving direct radiant heat from the fire being in the said combustion-chamber and the surfaces receiving indirectly the heat from gases being in the said cavity, the sections comprising surfaces receiving directly radiant heat from the fire being substantially free from fine-surface so called at a level where said surfaces are of a temperature above the temperature of the gases which are brought in contact with said surfaces, the construction and arrangement of said flue-surfaces preventing the passing of gases over surfaces having a higher temperature than the temperature of gases brought in contact with said surfaces.

17. In a sectional boiler, the combination of a combustion-chamber having heating-surfaces to receive the directly-radiated heat of the fire at a high level of said chamber but being substantially free from so-called flue-surface in said chamber, and flue heating-surfaces accessory to said combustion-chamber, said flue-surfaces being back of said combustion-chamber opposite to the fuel-feed doors of said boiler and being arranged to receive at a high level of said accessory surfaces the heating-gases and to convey the said gases from said high level to or near to the floor-line on which said boiler stands and through an exit for waste gas at a low level without said gases being again brought in contact with heating-surfaces of a temperature equal to or higher than the gases brought in contact with said surfaces, and a high-level exit for waste gases in said boiler for a direct updraft in said boiler.

18. In a sectional boiler, the combination of means for securing a high run for combining gases in said boiler to gain time for combining the gases, means for preventing the absorption of heat into the water of said boiler from said gases before the completion of combustion, means for making application of the greatest intensity of the heat generated and for its absorption at a high level of said boiler, means for securing progressively the absorption of the heat at progressively-increasing horizontal distances from its place of generation and at progressively-lower levels and for preventing the repassing of heating-gases over absorbing-surfaces of a higher temperature than the temperature of the gases, means for securing accurately the necessary admission of air and its diffusion with the combustible gases traversing said boiler for the completion of the combustion of said gases, means for preventing the short-circuiting of the heating-gases through a part only of the gas-passages of said boiler, means for preventing the corrosive immobilization of the parts controlling the functions of said boiler, means for preventing the escape of the gases of combustion through the avenues for air admission, means for varying the relative areas of the heat-absorbing surfaces of said boiler, and means for protecting from destructive heat the means for introducing air into said boiler, said combination coacting to secure completion in the combustion processes and the more complete transmission in said boiler of the heat generated.

19. In a sectional boiler, the combination of sections so constructed and disposed as to form a combustion-chamber and also a heating-cavity, said chamber and said cavity being separated imperviously by a water-traversing section except as to communicating gas-passages at a high level, the said combustion-chamber having a high run and having dependent processes in the vault of said chamber, said processes being pierced by gas-passages of a restricted caliber, some of said sections forming said cavity being detachable intermediate heat-absorbing sections, the sections forming the combustion-chamber being constructed to assemble with and coact with means for feeding and coking fuel at both sides of said combustion-chamber and for moving said fuel to the center of said combustion-chamber and for shaking and dumping said fuel, said combination being arranged for securing free access to the front of said boiler and to said combustion-chamber for the management thereof.

20. In a sectional boiler, the combination of means for forming with sections of said boiler a high-run combustion-perfecting cavity, said cavity and its formative sections comprising means for the introduction into said cavity of divided currents of air for securing the highest heat in the upper level of said cavity, said combination providing water-traversing sections so constructed and arranged as to secure the progressive absorption of heat traversing said boiler into the water of said sections, the highest heat being absorbed in the sections nearest the source of heat, and the lowest degree of heat being absorbed in the sections farthest from the source of heat, a water-conveying conduit, each of said sections being connected at a low level with said water-conveying conduit, and a conduit connecting all of said sections at their highest level for conveying from said boiler the heat thereinto transmitted, said elements coacting to secure a higher evolution of heat from volatilized gases passing through said boiler and a more complete transmission of the heat generated.

21. In a sectional boiler the combination of sections with water and steam cavities therein, part of said sections forming the upper part of the dome of a combustion-chamber, part of said sections forming a heat-economizing cavity, said sections assembling with and coacting with means for introducing overfuel air for combustion, said combustion-chamber part of said boiler being composed of a front section having apertures for fuel introduction and apertures for feeding air through said section, a section that is the rear section of the combustion-chamber and the front section of the heating-cavity, intermediate sections comprising the sides and vault of the combustion-chamber part, said heating-cavity comprising a rear section and intermediate detachable sections for extending the heat-absorbing surfaces of said boiler, a highly-located exit from said cavity for waste gases of combustion, and a second exit for exhaust-gases located at a low level in said cavity.

22. In a sectional boiler, the combination of sections so constructed and arranged as to form a combustion-chamber and also a heating-cavity, said chamber and said cavity being imperviously divided by a water-traversing section except as to gas-passages at a high level, a conduit for conveying away the transmitted heat, said sections being connected at a high level with said conduit, a low-level conduit for conveying water to the several sections, said sections being connected at a low level with the low-level conduit, the apertures of the last-named conduit leading into the sections of the heating-cavity being relatively large for allowing a free flow of water into the sections of said heating-cavity, the apertures of the conduit leading into the sections of the combustion-chamber being relatively small to retard the flow of water into the sections comprising the combustion-chamber to prevent premature loss of heat in the fuel to the water in the combustion-chamber sections before combustion has been perfected.

23. In a sectional water or steam boiler, the combination of sections constructed to form a high-run combustion-chamber, a heating-cavity of sections arranged to absorb progressively the heat from the heating-gases from the front of said cavity to the rear of said cavity and from a high level of said cavity to a low level of said cavity, the structure of said sections restricting the flow of water through the sections forming the combustion-chamber for preventing too great reduction of the heat in said chamber, means for air introduction through the front of said combustion-chamber, and means for protecting said air-introducing means from too much heat, for heating said air and for assisting in the retention of heat in burning gases at a low level of the sections of said chamber.

24. In a combined sectional boiler and furnace the combination of sections comprising a heating-cavity and a combustion-chamber having a high vertical run for securing time and space for air admixture and combination with volatilized gases and structure for retaining said combined gases in the vault of said chamber and for securing pressure of said gases against the heat-absorbing surfaces of said vault, and means for the introduction of air for combustion through the front of said combustion-chamber and for its diffusion low down in said chamber and for accurately controlling air thus introduced and for preventing the immobilization through rusting of said controlling means, said sections being constructed for restricting the flow of water through the sections forming the said combustion-chamber and for gaining a larger flow of water through the sections forming the said heating-cavity for preventing in said boiler the lateral loss of heat from the lower levels of said combustion-chamber and for gaining the heat of a perfected combustion of gases at a high level in said boiler and for the more perfect transmission of large volumes of low degrees of heat in said heating-cavity.

25. In a combined sectional boiler and furnace, the combination of sections forming a heating-cavity, sections forming a combustion-chamber having a high vertical run, said cavity and said chamber being imperviously separated by a water-traversing section except as to communicating gas-apertures of a restricted area at a high level in said last-named section, and a non-conducting wall lining the lower surface of said separating-section in the combustion-chamber for preventing the heating of the water in said separating-section at a low level and thus depriving the opposite absorbing-surfaces of said section in the heating-cavity of heat-absorbing abilities for absorbing heat of low degrees of temperature.

26. In a steam or hot-water heater, the combination of sections forming a combustion-chamber having a high run, dependent processes in the vault of said chamber, staggered apertures of restricted caliber in said processes, means for introducing air around the periphery of said chamber and for accurately controlling said air both as to amount and continuity of introduction, means for protecting the lower sides of the section of the combustion-chamber from excessive heat and for protecting said air-introducing means from destructive heat, sections forming a heating-cavity adjacent to said chamber, gas-passages at a high level between said chamber and said cavity, the sections forming said cavity being constructed and disposed to spread the heating-gases over the full width of said cavity and for progressively losing heat to said sections commencing at said gas-passages and extending to the sections farthest from said passages and for losing heat progressively to all the sections of said cavity from a high level to a low level, a highly-located gas-exit for said cavity and a low gas-exit for said cavity, controlling-dampers to said exits, and rods for the control of said dampers carried to the front of said heater, means on said sections coacting with said rods for holding said rods in desired positions, and means for preventing escape of coal-gas from said combination against the upward action of atmospheric pressure including a check-draft, said sections being connected with push-nipples at a high level and at a low level, the push-nipples of the sections forming the heating-cavity being of larger diameter, the push-nipples of the sections forming the combustion-chamber being of small diameter, said variation in the size of the push-nipples being for varying the recipient temperatures of the water in the various sections and to prevent some lateral transmission of heat low down in said combustion-chamber, said sections being attachable and detachable for varying the relative areas of heat-absorbing surfaces to the grate-surface used in combination with said boiler, the various sections, gas-passages and coacting parts being so constructed and disposed as to maintain in said combination an equilibrious balance of gases of equal temperature in horizontal strata.

27. In a sectional boiler and in combination therewith, sections containing gas-traversing apertures of contracted area, said apertures having an inverted-V-shaped formation at their lowest level for preventing the deposition and accumulation of dust in said apertures from the gases carried through passages of said boiler.

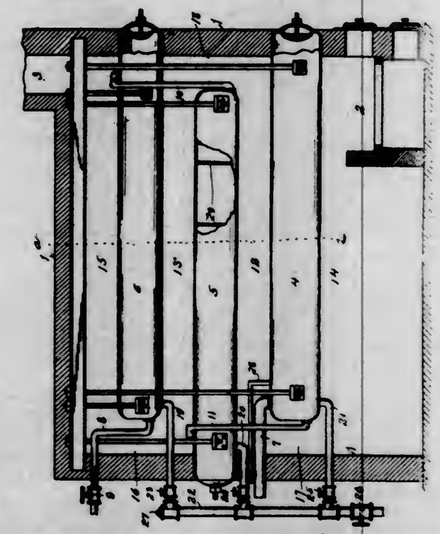
28. In a combined sectional boiler and furnace, the combination of sections forming a combustion-chamber having a high run, sections forming a heating-cavity, said chamber and said cavity being divided by a water-traversing section impervious to gases except as to gas-apertures at a high level, said sections comprising attachable and detachable intermediate combustion-chamber sections and attachable and detachable intermediate heating-cavity sections, said sections being constructed and disposed for a restricted circulation of water through the sections forming the combustion-chamber and for a larger flow of water through the sections forming the heating-cavity, and means for introducing, conveying and diffusing air for admixture with volatilized gases around the lower part of the inner periphery of said chamber, and for preventing the downward flow of hot gases through said means against the

upper pressure of atmosphere and for controlling the air thus introduced and for preventing immobilization of said controlling means through rusting and for protecting from excessive heat such air-introducing means.

29. In a sectional water or steam boiler comprising a combustion-chamber and an adjacent heat-economizing cavity, means for restricting the flow of water through the sections forming the said combustion-chamber for preventing imperfect combustion through a too rapid loss of heat from the fuel in said chamber at a low level, and means for securing a full flow of water through the sections forming the said heating-cavity for providing water of a low or good recipient temperature in the sections of the said heat-economizing cavity.

30. In a sectional water or steam boiler, the combination of individual sections, a water-conduit connected with each section at a low level, a conduit connected with each section at a high level, means for controlling the flow of water into each section or each group of sections having analogous functions, means for burning fuel, means for admixing air in divided currents with volatilized gases, a high-run combustion-chamber, said sections being constructed, arranged and disposed to distribute the gases of combustion over the whole of the heat-absorbing surfaces of each section and to absorb the heat of said gases progressively from the location of most intense heat generation away from said location, said construction comprising contracted gas-passages, the water in the sections nearest to said location being the hottest and the water in the section farthest from said location of heat generation being the coolest.

843,613. STEAM-MAKING APPARATUS. PETER M. KNOPP, Kansas City, Mo. Filed Jan. 30, 1906. Serial No. 298,638.



Claim.—1. The combination with a plurality of boilers disposed one above the other with flue-spaces between adjacent boilers, the highest boiler having an inlet through which is received the water-supply for the boilers, and the lowest boiler having a steam-outlet, of water-conveying means connecting the boiler in series, and means for conveying a heating fluid upwardly successively in contact with said boilers and through said flue-spaces.

2. The combination with a plurality of boilers disposed in series one above the other, the highest boiler having an inlet for receiving the water-supply of the boilers, and the lowest boiler having a steam-outlet, of a series of water-conductors connecting adjacent boilers respectively, the upper ends of said conductors being connected to the upper sides of the boilers to which said upper ends are connected, and means for conveying a heating fluid upwardly and in contact successively with said boilers.

3. The combination with a furnace-casing having adjacent one end a fire-box and adjacent the other end a smoke-stack, of a plurality of boilers arranged in series in said furnace-casing between the fire-box and the smoke-stack, water-conducting means connecting adjacent boilers, water-supplying means connecting with the boiler adjacent the smoke-stack, and means for conveying steam from the boiler adjacent the fire-box.

4. The combination with a furnace-casing having a fire-box adjacent the lower end thereof and a smoke-stack adjacent the upper end thereof, of a plurality of boilers disposed one above the other between the fire-box and the smoke-stack within the casing, whereby the heating fluid from the fire-box will come successively in contact with the boilers, water-conductors connecting adjacent boilers, water-supplying means connected with the upper boiler, and means for conveying steam from the lower boiler.

5. The combination with a furnace-casing having a fire-box adjacent the lower end and a smoke-stack adjacent the upper end, of a plurality of boilers disposed in series one above the other in the casing between the fire-box and the smoke-stack and flue-spaces between said boilers and the casing, a plurality of water-conductors connecting said boilers in series, the upper ends of said conductors being connected to the upper sides of the boilers to which said upper ends are connected, means for supplying water to the upper boiler, and means for conveying steam from the lower boiler.

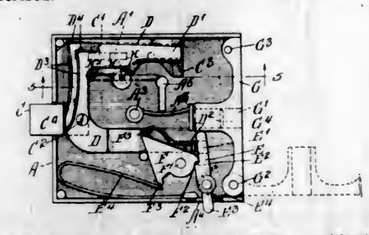
6. The combination with a furnace-casing having a fire-box adjacent the lower end and forward side of the casing and having a smoke-stack at its upper end, of a plurality of boilers disposed one above the other between the fire-box and the smoke-stack and with flue-spaces between adjacent boilers and at the under side of the lowest boiler and at the upper side of the highest boiler, connecting flue-spaces being provided between the casing-walls and alternate ends of adjacent boilers, water-conductors connecting the boilers in series, means for conducting a water-supply to the upper boiler, and means for conducting steam from the lowest boiler.

7. The combination with a furnace-casing having a fire-box adjacent the lower end and a smoke-stack adjacent the upper end, of a plurality of boilers disposed horizontally one above the other, horizontal flue-spaces being provided between the boilers and at the lower side of the lower boiler and at the upper side of the upper boiler, the boilers being disposed so that a vertical connecting-flue space is provided at one end of each boiler, said vertical flue-spaces being disposed adjacent opposite ends of adjacent boilers, a series of water-conductors connecting said boilers in series, the upper ends of said water-conductors being connected to the upper sides of the boilers to which said ends are connected, means for conducting a water-supply to the upper boiler, and a steam-conductor connected to the upper side of the lower boiler.

8. The combination with a water-heating receptacle provided with means for retaining water under pressure and having a portion adapted to contain steam produced by heating the water, said receptacle having means by which the water-supply enters the receptacle at a point distant from the portion containing the steam and passes from said place of entrance to the portion in which the steam is generated, of means for conducting a heated fluid in contact with said receptacle and in a direction leading from the portion in which the steam is generated to the place in which the water enters said receptacle.

843,614. BURGLAR-ALARM. CHARLES W. KUEN, Chicago, Ill. Filed Oct. 12, 1905. Serial No. 282,461.

Claim.—1. In a device of the kind described the combination of a case consisting of a main body and a back plate, said main body having an interior wall adapted to engage and support the head of a cartridge; with a latch slidable in said case and adapted to be moved therein by a key and by a striking-plate; a pair of double-ended levers pivotally supported on said latch and movable therewith; a key insertible in said case adapted to move said latch and levers; an eccentric pivotally supported in said case and adapted to engage and raise said levers; a spring-pressed trigger pivotally supported in said case, said trigger being adapted to be engaged and moved by one or both of said levers; a hammer pivotally supported in said case, said hammer having a spring-pressed arm, a lip adapted to be engaged by said trigger and a head adapted to strike and explode a cartridge; a cartridge-holder pivotally supported in said case and having a barrel adapted for the support of said cartridge in contact with said wall in said case and thereby adapted to be exploded by said hammer as described.



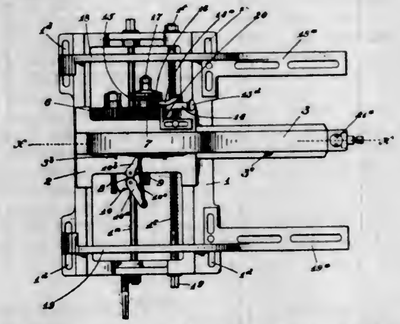
2. In a device of the kind described the combination of parts consisting of a main body and back plate forming a case; an interior wall in said main body; a latch supported in said case and slidable therein as described; a double-ended lever pivotally supported on said latch; a key adapted to move said lever and latch; an eccentric supported in said case adapted to be moved and to engage and raise said lever; a spring-pressed trigger pivotally supported in said case and adapted to be moved by said lever; a hammer pivotally supported in said case having a spring-pressed arm, a lip adapted for engagement with said trigger and a head adapted to extend through said wall in said case and to thereby strike and explode a cartridge; a cartridge-holder pivotally supported in said case adapted to hold said cartridge in contact with the said wall in said case and thereby adapted to be exploded by said hammer as described.

3. In a device of the kind described the combination consisting of a case having an interior wall; a latch slidably supported in said case; a plurality of double-ended levers pivotally supported on said latch; a striking-plate adapted to move said latch; a key adapted to move said levers and said latch; a spring-pressed trigger supported in said case adapted to be moved by one or more of said levers; a spring-pressed hammer pivoted in said case, said hammer having a lip adapted to be engaged by said trigger and a head adapted to strike a cartridge in contact with said wall in said case; a cartridge-holder pivotally supported in said case and adapted to hold said cartridge in contact with said wall.

4. In a device of the kind described, the combination comprising a case having an internal wall adapted to engage the head of a cartridge and to resist its movement when it is exploded in said case against said wall; a latch slidably supported in said case and a double-ended lever or levers pivotally supported on said latch and movable with it, said latch and lever or levers being adapted to be moved in said case by a striking-plate affixed on the frame of a door and adapted to engage said latch, and by a key insertible in said case; a striking-plate and a key as described; a spring-pressed trigger movable by said lever or levers; a spring-pressed hammer in said case adapted to be held and released by said trigger and to strike and explode a cartridge in contact with said wall in said case; means for holding a cartridge against said wall, as and for the purposes described.

843,615. MACHINE FOR REFACING VALVE-SEATS. RAYMOND F. LACE and JOHN ULRICH, Columbus, Ohio. Filed Dec. 12, 1905. Serial No. 291,385.

Claim.—1. In a machine for refacing the valve-seats of cylinders or other objects, the combination of a bed or frame, a carriage slidably mounted on said bed, a reciprocative tool-holder on said carriage, a rack on said tool-holder, hollow shafts mounted in said carriage and having pinions thereon engaging said rack, spur-gears having annular inwardly-facing rims, the said spur-gears being loosely mounted on said hollow shafts and engaging each other, clutching devices adapted to engage said rims, rods slidable in said hollow shafts to actuate said clutches, means operated by the tool-holder to alternately operate said rods, a driving-shaft and pinion thereon engaging one of said spur-gears, and means for imparting to said carriage intermittent progressive movement lateral with respect to the reciprocative movement of the tool-holder.



2. In a machine for refacing the valve-seats of cylinders or other objects, the combination of a bed or frame, a carriage slidably mounted on said bed, a reciprocative tool-holder on said carriage, a rack on said tool-holder, hollow shafts mounted in said carriage and having pinions thereon engaging said rack, spur-gears having annular inwardly-facing rims, said spur-gears being loosely mounted on said hollow shafts and engaging each other, clutching devices adapted to engage said rims, rods slidable in said hollow shafts to actuate said clutches, a pivoted block engaging said rods, a toothed sector-arm secured to said block, a second toothed sector-arm engaging the first-mentioned sector-arm, a spring connecting said sector-arms, lugs on the tool-holder near its ends to strike the second-mentioned sector-arm whereby the said pivoted block is oscillated to move said rods, a driving-shaft and pinion thereon engaging one of said spur-gears, and means for imparting to said carriage intermittent progressive movement lateral with respect to the reciprocative movement of the tool-holder.

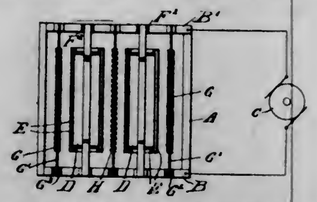
3. In a machine for refacing the valve-seats of cylinders or other objects, the combination of a bed or frame, a carriage sliding on said bed and a tool-holder sliding on said carriage in a direction at right angles to the direction in which the carriage slides, said tool-holder having a rack-bar thereon, means for reciprocating said tool-holder including a pinion to engage said rack-bar, said pinion having a shaft, a driven gear-wheel on the shaft of the pinion with means for clutching it to the shaft, and means for sliding said carriage with an intermittent motion comprising a stationary screw in the bed, an internally-threaded and externally-ratcheted sleeve swiveled to the carriage, a pawl engaging said sleeve, a slipping friction-clutch between the shaft of the pinion and the ratchet, means connecting said slipping-clutch and pawl whereby the latter may be oscillated to turn the sleeve on the stationary screw, a stop to limit the movement of said pawl, and means whereby the pawl may be reversed to slide the carriage in an opposite direction.

4. In a machine for refacing the valve-seats of cylinders or other objects, the combination of a bed or frame provided with means for attaching it to the work, a carriage sliding on said bed and a tool-holder sliding on said carriage in a direction at right angles to the direction in which the carriage slides, said tool-holder having a rack-bar thereon, means for reciprocating said tool-holder including a pinion to engage said rack-bar, said pinion having a shaft, a driven gear-wheel on the shaft

of the pinion with means for clutching it to the said shaft, and means for sliding said carriage with an intermittent motion comprising a stationary screw in the bed, an internally-threaded and externally-ratcheted sleeve swiveled to the carriage, a pawl engaging said sleeve, a slipping friction-clutch between the shaft of the pinion and the ratchet, means connecting said slipping clutch and pawl whereby the latter may be oscillated to turn the sleeve on the stationary screw, and means whereby the pawl may be reversed to slide the carriage in an opposite direction.

5. In a machine for refacing the valve-seats of cylinders, the combination of a bed or frame provided with means for attaching it to the cylinder, a carriage sliding on said bed and a tool-holder sliding on said carriage in a direction at right angles to the direction in which the carriage slides, said tooth-holder having a rack-bar thereon, and means for reciprocating said tool-holder including a pinion to engage said rack-bar, said pinion having a shaft, a driven gear-wheel on the shaft of the pinion with means for clutching it to said shaft and means for sliding said carriage with an intermittent motion comprising a stationary screw in the bed, an internally-threaded and externally-ratcheted sleeve on the screw, said sleeve being swiveled to the carriage, a pawl engaging said sleeve, a slipping friction-clutch between the shaft of the pinion and the ratchet and means connecting said slipping-clutch and pawl whereby the latter may be oscillated to turn the sleeve on the stationary screw.

843,616. DETINNING APPARATUS. MEREDITH LEITCH, Elizabeth, N. J., assignor to American Can Company, Jersey City, N. J., a Corporation of New Jersey. Filed July 5, 1906. Serial No. 324,825.



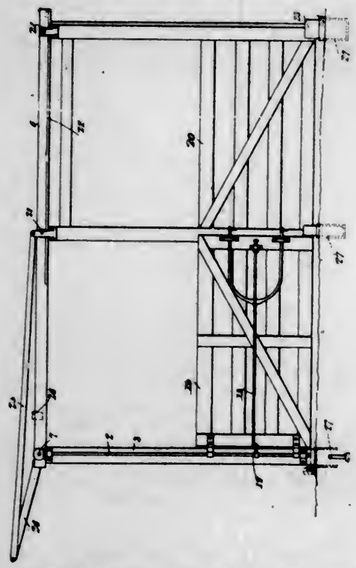
Claim.—1. In an electrolytic detinning-bath the combination of a containing vessel adapted to contain an electrolyte, a receptacle for tin-scrap having a metallic base provided with an insulating coating exposed to the electrolyte, and also an exposed metallic surface for making contact with its contents a cathode and a source of continuous current having its positive pole electrically connected to said base and its negative pole to the cathode.

2. In an electrolytic detinning-bath the combination of a containing vessel adapted to contain an electrolyte, a receptacle for tin-scrap consisting of a metallic base having an exterior surface covered with an insulating-coating and having its interior surface partially covered with an insulating-coating, a cathode and a source of continuous current having its positive pole electrically connected to the base of said basket and its negative pole electrically connected to the cathode.

3. In an electrolytic detinning-bath the combination of a containing vessel adapted to contain an electrolyte, a receptacle for tin-scrap having a metallic base provided with an insulating-coating exposed to the electrolyte and also an exposed metallic surface for making contact with its contents; a metallic cathode having a plurality of oppositely-disposed surfaces and a source of continuous current having its positive pole electrically connected to the base of said basket and its negative pole to the cathode.

4. In an electrolytic detinning-bath the combination of a containing vessel adapted to contain an electrolyte, a receptacle for tin-scrap havng a metallic base provided with an insulating-coating exposed to the electrolyte, and also an exposed metallic surface for making contact with its contents, a cathode having numerous opposed surfaces of small dimensions and a source of continuous current having its positive pole electrically connected to the base of said basket and its negative pole to the cathode.

843,617. GATE MECHANISM. AUSTIN E. MILLER, Cheney, Wash. Filed May 21, 1906. Serial No. 317,998.



Claim.—1. In a gate-controlling mechanism, the combination of a vertical shaft, a rock-shaft extending parallel to the roadway and geared to the first shaft for actuating the same, a swinging gate, a latch for locking the gate closed, a spring arranged to move the latch to its closed position, a crank on the vertical shaft, a pitman attached at one end of the crank and arranged to engage at the other end the latch for moving the latter to its open position, and means for mounting the gate on the vertical shaft so as to cause the rotation of the latter to first unlock the latch and then swing the gate open.

2. In a gate-controlling mechanism, the combination of a plurality of gates, a gearing for opening one of the gates, a crank-and-link connection for opening the other gate, and an actuating means common to the said connection and gearing for opening the gates simultaneously.

3. In a gate-controlling mechanism, the combination of a swinging and a sliding gate arranged normally end to end to close a passage, a supporting structure for the gates, and a mechanism arranged to simultaneously move the gates away from each other to open the passage or toward each other to close the passage.

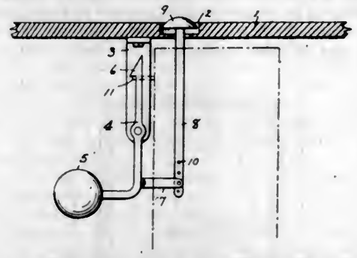
4. In a gate-controlling mechanism, the combination of a swinging gate, a sliding gate, a rock-shaft, a gearing between the rock-shaft and the swinging gate for actuating the latter, and a crank-and-link connection between said shaft and sliding gate for actuating the said gate.

5. In a gate-controlling mechanism, the combination of a gate mounted to swing on a fixed axis, a second gate, means on which the second gate slides, a latch mechanism for locking both of the gates closed, and a single actuating means for unlocking the latch and swinging the one gate and sliding the other open or closed.

6. In a gate-controlling mechanism, the combination of a gate mounted to swing on a fixed axis, a second gate, means on which the second gate slides, a latch for locking the gates in closed position, and actuating means including a lost-motion device for first unlocking the latch and then simultaneously swinging the one and sliding the other gate open or closed.

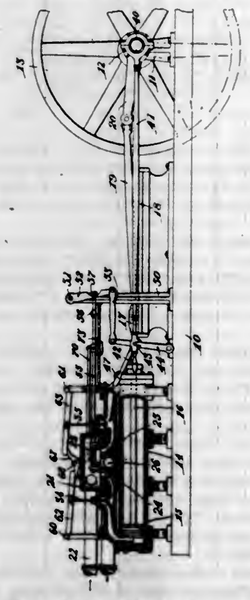
7. In a gate-controlling mechanism, the combination of a sliding and a swinging gate, a frame supporting them, a shaft on which the swinging gate is loosely journaled, a rock-shaft geared thereto, operating-levers for actuating the rock-shaft, and a crank-and-link connection between the rock-shaft and the sliding gate for opening the latter simultaneously with the swinging gate.

843,618. RELEASING DEVICE FOR DUMB-WAITERS. JOHN H. MILLER, Hamburg, Pa. Filed Oct. 20, 1906. Serial No. 339,803.



Claim.—In a device of the character described, a hanger, a trigger-arm pivotally mounted at approximately its center to said hanger, a catch formed on the upper end of said arm, a weight formed on its lowered angled end, an angled bar secured to said lower end and a releasing-rod adjustably secured to said bar, said rod having a head on its upper end adapted to be operated by the foot in combination with a vertically-movable car having a projecting hook near its top adapted to engage said catch, all substantially as and for the purpose described.

843,619. ENGINE. CHARLES H. MOORE, Mobile, Ala., assignor of one-half to Joseph Bohn, Mobile, Ala. Filed June 4, 1906. Serial No. 320,099.

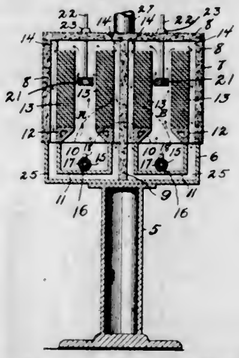


Claim.—1. In a steam-engine, a cylinder, a piston therein, a steam-chest, a slide-valve within the steam-chest, cylinder and exhaust ports under the control of the slide-valve, an auxiliary valve arranged in each cylinder-port, and means for operating the valves to effect gradual opening of the auxiliary valves during gradual closing of the ports by the slide-valves.

2. In a steam-engine, a cylinder, a piston therein, a steam-chest, a slide-valve in the steam-chest, cylinder and exhaust ports under the control of the slide-valve, a pair of ports arranged in the cylinder-valves, stems carrying said valves, pivotally-mounted rocker-arms to which the stems are secured, and a rocking cam-block engaging said arms.

3. In a steam-engine, a cylinder, a piston therein, a steam-chest, a slide-valve in the steam-chest, cylinder and exhaust ports under the control of the slide-valve, auxiliary controlling-valves in the steam-ports, stems carrying said valves, rocker-arms to which the stems are connected, a rocking cam-block engaging said arms, a valve-operating eccentric, a stem connected to the slide-valve and receiving motion from the eccentric, and means for connecting the rocker-block to said stem.

843,620. FURNACE FOR HEATING NAIL-PLATES. WILLIAM S. MYERS, Ashland, Ky., assignor to Norton Iron Works, Ashland, Ky., a Corporation of Kentucky. Filed Sept. 20, 1906. Serial No. 335,402.



Claim.—1. In a furnace of the character set forth, a combustion-chamber, means for supporting piles of nail-plates above said combustion-chamber, means for spacing said nail-plates from the walls of the furnace, and a deflector arranged to direct the products of combustion from the combustion-chamber against said nail-plates.

2. In a furnace of the character set forth, a combustion-chamber, means for supporting piles of nail-plates above said combustion-chamber, means for spacing said nail-plates from the walls of the furnace, and a movable deflector arranged to direct the products of combustion from the combustion-chamber against said nail-plates.

3. In a furnace of the character set forth, a combustion-chamber, means for supporting piles of nail-plates above said combustion-chamber, means for spacing said nail-plates from the walls of the furnace, a deflector arranged to direct the products of combustion from the combustion-chamber against said nail-plates, and means for moving said deflector from the exterior of the furnace.

4. A furnace of the character set forth having a combustion-chamber, a chamber located at the base of the furnace, and a flue with which said chamber is in communication, means spaced from the wall of the combustion-chamber for supporting piles of nail-plates above the combustion-chamber, the products of combustion passing up between the piles of nail-plates from the combustion-chamber and down the outer sides of said piles of nail-plates to the bottom of the furnace and thence to the flues, and a deflector located between said piles of nail-plates.

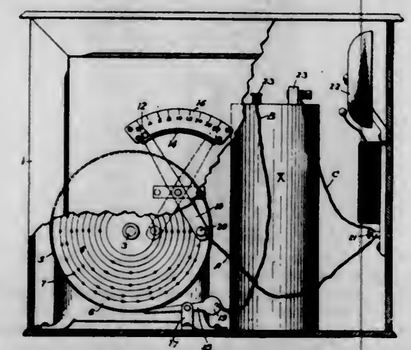
5. A furnace of the character described having an inclined rear wall, and means for supporting piles of nail-plates in said furnace in such manner that the front ends of said nail-plates will overhang each other.

6. A furnace of the character described having an inclined rear wall, an inclined door which closes the front of the furnace, and means for supporting piles of nail-plates in said furnace, the rear ends of said nail-plates being adapted to contact with the rear wall of the furnace in such manner that the front ends of said nail-plates overhang each other.

7. In a furnace of the character set forth, a central dividing-wall which divides said furnace into two compartments, combustion-chambers located in each of the compartments of the furnace, mixing mechanism located in said combustion-chambers, means for conducting air and gas to said mixing mechanisms, means for supporting piles of nail-plates above and at each side of the combustion-chambers, means for spacing said nail-plates from the walls of the compartments, and means for directing the products of combustion against said nail-plates.

8. A furnace of the character set forth having a combustion-chamber, a chamber located at the base of the furnace, a flue leading from said last-named chamber, and means for supporting piles of material to be heated above the combustion-chamber, said piles of material forming flues between themselves and the walls of the furnace, the products of combustion passing up between the piles of material and down between the piles of material and the walls of the furnace and thence through the flue.

843,621. ELECTRIC TIMING DEVICE. HERVEY H. MCINTIRE, South Bend, Ind. Filed Mar. 29, 1904. Serial No. 200,642.

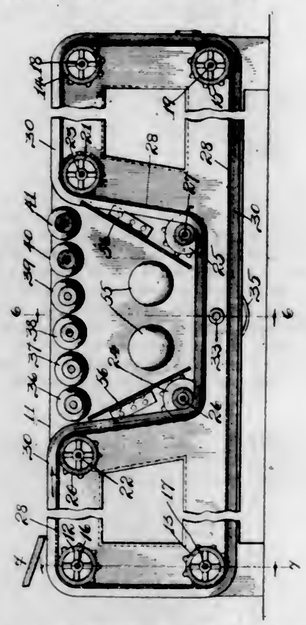


Claim.—1. In a device of the class described, the combination of a rotary disk having rows of contact-pins arranged therearound, a pivoted member having one end arranged to engage the contact-pins and constituting one terminal of an electric circuit and its other end formed into a pointer, a contact member permanently held in contact with the periphery of the disk and constituting the other terminal of the circuit, and an alarm included in the circuit, substantially as specified.

2. Means for signaling or measuring certain units or divisions of time of a predetermined period embodying a continuously-driven member having contact-pins spaced apart at equal distance thereon, a switch movable relatively to the contact-points of the continuously-driven member and adapted to engage therewith, an indicator on one end of the switch to adjust the latter and vary the period of contact between the switch and the contact-pins of the continuously-driven member, a scale, over which the indicator moves, having characters to indicate the number of units of time that elapse between the contacts, a contact member constantly held engaged with the disk, an annunciator, and an electric connection for the switch, the annunciator and the last-mentioned contact member.

3. Means for signaling or measuring certain units or divisions of time of a predetermined period embodying a continuously-driven disk having contact-pins projecting from the face thereof and also having an insulating pad or block through which the pins project, a pivoted arm having a contact-pin in its lower end to constitute a switch and its upper end formed into an indicator and constituting a means for adjusting the switch with relation to the contact-pins on the disk, a scale, over which the indicator moves, having characters to indicate the number of units of time that elapse between the contacts, a weighted contact-lever constantly engaged with the disk, an annunciator, and electrical connections for the switch, the annunciator and the weighted contact-lever, substantially as specified.

843,622. MACHINE FOR TESTING EGGS. ALEXANDER I. MCTAGGART, Chicago, Ill., assignor to Fairbank Canning Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 27, 1906. Serial No. 332,166.



Claim.—1. In an egg-testing machine, the combination with a light-chamber, of a series of rollers over said chamber adapted to have an axial movement only, a conveyer for delivering eggs to the rollers, and meaps for rotating the rollers, substantially as described.

2. In an egg-testing machine, the combination with a light-chamber, of a series of rollers over said chamber adapted to receive and support eggs, a conveyer for delivering eggs to the rollers, and means for rotating some of the rollers at less speed than the others, substantially as described.

3. In an egg-testing machine, the combination with a series of rollers and a stationary support therefor, of an endless conveyer leading toward under and away from said rollers, and means for rotating the rollers, substantially as described.

4. In an egg-testing machine, the combination with a support comprising a pair of side frames, of a series of rollers journaled in said side frames, an endless conveyer-belt leading toward under and away from said rollers, said conveyer-belt forming the ends and bottom of a well or chamber, and means for rotating the rollers, substantially as described.

5. In an egg-testing machine, the combination with a support comprising a pair of side frames, of an endless conveyer-belt extending substantially horizontal at opposite ends of the support and depressed at its central portion whereby it forms the ends and bottom of a well or chamber, and means over such well or chamber adapted to receive eggs from the said conveyer-belt, substantially as described.

6. In an egg-testing machine, the combination with a support comprising a pair of side frames, of an endless conveyer-belt extending substantially horizontal at opposite ends of the support and depressed at its central portion whereby it forms the ends and bottom of a well or chamber, and means over said well or chamber adapted to receive and transport eggs from the said conveyer-belt, substantially as described.

7. In an egg-testing machine, the combination with a fixed supporting-frame, of a series of rollers arranged side by side journaled therein, said rollers being located in different horizontal planes, and a conveyer for conducting eggs to said rollers, substantialy as described.

8. In an egg-testing machine, the combination with a fixed supporting-frame, of a series of rollers arranged side by side journaled therein, said rollers being located in different horizontal planes, means for rotating said rollers, and a conveyer for conducting eggs to the rollers, substantially as described.

9. In an egg-testing machine, the combination with a fixed supporting-frame, of a series of rollers journaled therein adapted to support eggs placed thereon, said rollers being located in different horizontal planes, means for rotating two adjacent rollers at different speeds, and a conveyer for conducting eggs to the rollers, substantially as described.

10. In an egg-testing machine, the combination with a supporting-framework having a light-chamber formed therein, of a series of rollers journaled over said light-chamber, said rollers being located in different horizontal planes, means for rotating the end rollers at one speed and intermediate rollers at another speed, and a conveyer for conducting eggs to the rollers, substantially as described.

11. In an egg-testing machine, the combination with a supporting-framework having a light-chamber formed therein, of a series of rollers journaled over said light-chamber, the axes of said series being in an inclined plane, and a conveyer for conducting eggs to the lowermost roller, substantially as described.

12. In an egg-testing machine, the combination with a supporting-framework having a light-chamber formed therein, of a series of rollers journaled over said light-chamber, the axes of said series being in an inclined plane, a conveyer for conducting eggs to the lowermost roller, and means for rotating the rollers, substantially as described.

13. In an egg-testing machine, the combination with a supporting-framework having a light-chamber formed therein, of a series of rollers journaled over said light-chamber, and a conveyer-belt for conducting eggs to the rollers, one face of said conveyer-belt being divided longitudinally into a plurality of spaces, substantially as described.

14. In an egg-testing machine, the combination with a well or chamber and a lighting means therein, of a series of rollers over said well or chamber, said rollers being located in different horizontal planes, and a conveyer for conducting eggs to said rollers, substantially as described.

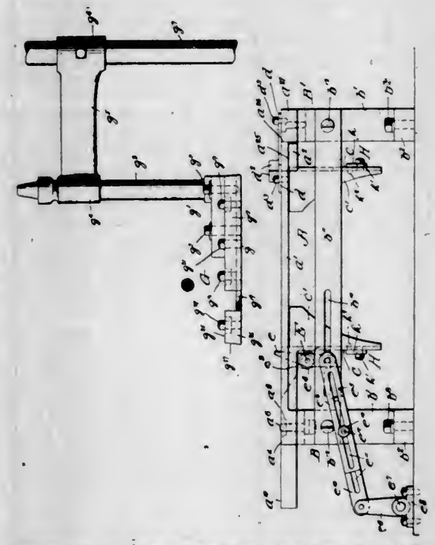
15. In an egg-testing machine, the combination with a well or chamber and a lighting means therein, of a series of rollers over said well or chamber, said rollers being located in different horizontal planes, and a conveyer for conducting eggs to and away from said rollers, said conveyer extending under said rollers, substantially as described.

16. In an egg-testing machine, the combination with a well or chamber and a lighting means therein, of a series of rollers over said well or chamber, said rollers being located in different horizontal planes, means for rotating said rollers, and a conveyer for conducting eggs to and away from said rollers, said conveyer extending under said rollers, substantially as described.

17. In an egg-testing machine, the combination with a well or chamber and a lighting means therein, of a series of rollers over said well or chamber, said rollers being located in different horizontal planes, means for rotating some of the rollers at a less speed than the others, and a conveyer for conducting eggs to and away from said rollers, said conveyer extending under said rollers, substantially as described.

18. In an egg-testing machine, the combination with a series of rollers located in different horizontal planes, of a conveyer for conducting eggs to and away from said rollers, said conveyer extending under said rollers and forming the end walls and bottom of a light-chamber, substantially as described.

843,623. FORMING WELL AND PLUNGER FOR ENVELOP-MACHINES. BRUNO PAHLITZSCH, Berlin, Germany, assignor to United States Envelope Company, a Corporation of Massachusetts. Filed Sept. 24, 1906. Serial No. 335,884.



Claim.—1. In a machine of the class described, a forming-well having two of the adjacent walls thereof fixed and the opposite walls movable toward and from the fixed walls, one of said movable walls comprising a plurality of sections, one of said sections being movable toward and from the other sections.

2. In a machine of the class described, a forming-well having two of the adjacent walls thereof fixed, and the opposite walls movable toward and from the fixed walls, and means whereby to expand and contract one of said movable walls.

3. In a machine of the class described, a forming-well having two of the walls thereof fixed, and the opposite walls movable toward and from the fixed walls, gages for the blank adjustably secured to the fixed walls near the junction thereof, and gages adjustably secured to one of the movable walls at the junction thereof with one of the fixed walls.

4. In a machine of the class described, a forming-well comprising a plurality of rails spaced apart from each other, a fixed side, a movable side adjustably connected with the rails, a fixed end secured to one of the rails, and a movable end connected to the other rail, said end comprising a plurality of sections, and means for adjusting said sections toward and from each other and toward and from the fixed end.

5. In a machine of the class described, a forming-well comprising a plurality of spaced parallel rails, a fixed side, a movable side adjustably connected with the rails, a fixed end connected with one of the rails, a movable end connected with the other rail, said end comprising a plurality of sections adjustable toward and from each other and toward and from the fixed end, gages for the blank ad-

justably connected with the fixed side and end near the junction thereof, and gages adjustably connected with movable side at the end thereof adjacent to the fixed end.

6. In a machine of the class described, a forming-well having a fixed side and end wall, and a movable side and end wall, said movable end wall comprising a plurality of sections, one of said sections being movable toward and from the other section, gages for the blank at one end of the well, and means at the other end of the well for engaging the edges of the blank whereby to retain it in contact with the gages.

7. In a machine of the class described, a forming-well having a fixed side and end wall, and a movable side and end wall, said movable end wall comprising a plurality of sections, one of said sections being movable toward and from the other section, gages for the blank at one end of the well, and means at the other end of the well for engaging the edges of the blank whereby to retain it in contact with the gages, said means comprising an arm connected with each of the movable end sections and normally lying below the plane thereof, and means for moving the arms.

8. In a machine of the class described, a forming-well having a fixed side and end wall, and a movable side and end wall, said movable end wall comprising a plurality of sections, one of said sections being movable toward and from the other section, gages for the blank at one end of the well, and means at the other end of the well for engaging the edges of the blank whereby to retain it in contact with the gages, said means comprising a shaft journally on the movable end sections, an arm on the shaft adjacent to each of the end sections, said arms normally lying below the plane of the sections, and means for oscillating the shaft.

9. In a machine of the class described, a forming-well having a fixed side and end wall, and a movable side and end wall, said movable end wall comprising a plurality of sections, one of said sections being adjustable toward and from the other, gages for the blank at the fixed end of the forming-well, and means for retaining the blank in contact with the gages, comprising a shaft journaled on the sections of the movable end wall, arms on the shaft adjacent to the sections and normally lying below the plane thereof, means whereby to permit the arms to move with the sections, a second shaft, means for oscillating said second shaft and an adjustable connection between the shafts whereby to operate the arms to engage the edge of the blank.

10. In a machine of the class described, a forming-well having a fixed side and end wall and a movable side and end wall, said movable end wall comprising a plurality of sections, one of said sections being movable toward and from the other section, a corner-plate secured to the end of the movable side adjacent to the fixed end, a corner-plate secured to the fixed end adjacent to the fixed side, and corner-plates secured to each of the sections of the movable end.

11. In a machine of the class described, a forming-well having a fixed side and end wall and a movable side and end wall, said movable end wall comprising a plurality of sections, one of said sections being movable toward and from the other section, a corner-plate secured to the end of the movable side adjacent to the fixed end, a corner-plate secured to the fixed end, adjacent to the fixed side, and stopping devices adjustably connected with each of the corner-plates.

12. In a machine of the class described, a forming-well having a fixed side and end wall and a movable side and end wall, said movable end wall comprising a plurality of sections, one of said sections being movable toward and from the other section, a corner-plate secured to the end of the movable side adjacent to the fixed end, a corner-plate secured to the fixed end, adjacent to the fixed side, and a plurality of stopping devices, said stopping devices comprising a bar adjustably connected with each of the corner-plates and having a pin projecting into the path of the blank.

13. In a machine of the class described and in combination, an adjustable forming-well, a plunger coöperating therewith, means for adjusting the plunger as to length, and independent means for adjusting the plunger as to width.

14. In a machine of the class described and in combination, an adjustable forming-well, a plunger coöperating therewith and comprising a relatively fixed section, a section adjustably mounted on said fixed section for adjustment of the width of said plunger, and a second independently-adjustable section mounted on said fixed section for adjustment of the length of said plunger.

15. In a machine of the class described and in combination, an adjustable forming-well, a plunger coöperating therewith and comprising a relatively fixed section, a longitudinally-adjustable section mounted on said fixed section to vary the length of said plunger, and laterally-adjustable sections mounted on said fixed and longitudinally-adjustable sections to vary the width of said plunger.

16. In a machine of the class described, a forming-well comprising a fixed side and end wall and a movable side, and end wall, and a plunger for coöperating therewith, said plunger comprising a relatively fixed section, sections connected with said fixed section and movable toward and from the same, and at right angles with respect to each other and a section connected with one of said movable sections and movable with respect thereto in a line parallel with the other movable section.

17. In a machine of the class described, an adjustable forming-well, and a plunger for coöperating therewith, said plunger comprising a relatively fixed section having parallel grooves in the upper face thereof, and a groove in the lower face thereof at right angles to the parallel grooves, arms slidably mounted in the upper grooves a plate connected to the arms, an arm slidably mounted in the lower groove, a plate secured thereto and provided in its upper face with a groove parallel to the parallel grooves of the fixed section, an arm slidably mounted in the groove and a plate secured to the arm, one of the edges of the plate being parallel to the edge of the first-named plate and the other being parallel to the edge of the second-named plate.

18. In a machine of the class described, a forming-well having a fixed side and end wall constituting a non-adjustable corner, a movable side and end wall by which the width and length of the well can be varied, a coöperating plunger having a fixed plate forming one corner of said plunger in registration with the non-adjustable corner of said well, and adjustable plates carried by said fixed plate for increasing the width and length of said plunger.

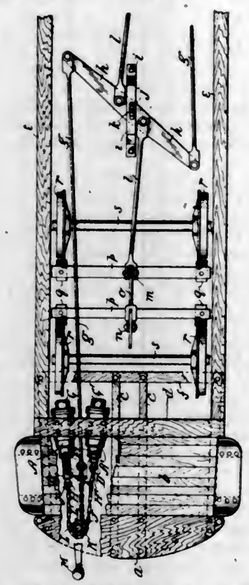
843,624. MARBLE-POLISHING MACHINE. JOHN R. PEIRCE, New York, N. Y. Filed June 4, 1906. Serial No. 319,976.



Claim.—1. A tool for polishing marble or the like, including in combination a number of sections A of fixed polishing material, and a common metallic plate B having a central opening, said sections A being cemented to the under face of the plate B in such positions as to leave passages D between them, and a central opening C communicating with said passages and with the central opening in the plate, said plate having ribs E F and G on its under face projecting only sufficiently to determine the location of the sections of polishing material, so that said sections are separated from each other and their vertical faces are exposed throughout substantially their entire depth, whereby the face of the tool is provided with a number of cutting edges in front of which are clear spaces for carrying a supply of water for keeping the marble cool, and which edges are automatically maintained operative throughout the entire usable depth of the tool.

2. A tool for polishing marble or the like, including in combination a number of sections A of fixed polishing material, and a common metallic plate B having a central opening, said sections A being cemented to the under face of the plate B in such positions as to leave passages D between them, and a central opening C communicating with said passages and with the central opening in the plate, said plate having ribs E F and G on its under face projecting only sufficiently to determine the location of the sections of polishing material, so that said sections are separated from each other and their vertical faces are exposed throughout substantially their entire depth, whereby the face of the tool is provided with a number of cutting edges in front of which are clear spaces for carrying a supply of water for keeping the marble cool, and which edges are automatically maintained operative throughout the entire usable depth of the tool, said plate having also radial ribs H on its upper face forming between them sockets for receiving the teeth of a rotating driving member.

843,625. POWER-BRAKE. LOUIS PFINGST, Boston, Mass., assignor, by mesne assignments, to Pfingst Electric Manufacturing Company, Kittery, Me., a Corporation of Maine. Filed Nov. 19, 1904. Serial No. 233,469.



Claim.—1. In an apparatus of the character described, a chain-winding brake-spindle, a solenoid for operating said spindle to apply the brakes, and a handle capable of engagement with or disengagement from said spindle.

2. In an apparatus of the character described, a chain-winding brake-spindle, a solenoid for operating said spindle to apply the brakes, and a ratchet-handle capable of engagement with or disengagement from said spindle.

3. In an apparatus of the character described, a chain-winding brake-spindle, a solenoid for operating said spindle to apply the brakes, and another solenoid for operating said spindle to release the brakes.

4. In an apparatus of the character described, a chain-winding brake-spindle, a solenoid for operating said spindle to apply the brakes, another solenoid for operating said spindle to release the brakes, and a handle capable of engagement with or disengagement from said spindle.

5. In an apparatus of the character described, a chain-winding brake-spindle, a solenoid for operating said spindle to apply the brakes, another solenoid for operating the spindle to release the brakes, and a ratchet-handle capable of engagement with or disengagement from said spindle.

6. In an apparatus of the character described, a chain-winding brake-spindle operated by a solenoid for applying the brakes and provided with hand-power mechanism independent of said solenoid for operating said spindle.

7. In an apparatus of the character described, a chain-winding brake-spindle operated by solenoids for applying and releasing the brakes and provided with hand-power mechanism independent of said solenoids for operating said spindle.

8. In an apparatus of the character described, a chain-winding brake-spindle in combination with a solenoid and hand-power mechanism to simultaneously or independently wind up the brake-chain to apply the brakes.

9. In an apparatus of the character described, a chain-winding brake-spindle in combination with solenoids and hand-power mechanism to simultaneously or independently wind or unwind the brake-chain to apply or release the brakes.

10. In an apparatus of the character described, a chain-winding brake-spindle, a solenoid for operating said spindle to apply the brakes, a brake-handle capable of engagement with or disengagement from said spindle, and means for normally causing the engagement of said handle and spindle.

11. In an apparatus of the character described, a chain-winding brake-spindle, a solenoid for operating said spindle to apply the brakes, a brake-handle capable of engagement with or disengagement from said spindle, and yielding means for normally causing the engagement of said handle and spindle.

12. In an apparatus of the character described, a chain-winding brake-spindle, a solenoid for operating said spindle to apply the brakes, and a brake-handle capable of engagement with or disengagement from said spindle and provided with a chamber in which said spindle is free to rotate when the handle is disengaged from the spindle.

13. In an apparatus of the character described, a chain-winding brake-spindle, a solenoid for operating said spindle to apply the brakes, a solenoid for operating the spindle to release the brakes, and a brake-handle capable of engagement with or disengagement from said spindle and provided with a chamber in which said spindle is free to rotate when the handle is disengaged from the spindle.

14. In an apparatus of the character described, a chain-winding brake-spindle, a solenoid for operating said spindle to apply the brakes, a sprocket-wheel fast on said spindle, and a sprocket-chain for communicating motion from said solenoid to said sprocket-wheel and brake-spindle.

15. In an apparatus of the character described, a chain-winding brake-spindle, a solenoid for operating said spindle to apply the brakes, a solenoid for operating said spindle to release the brakes, a sprocket-wheel fast on said spindle, and a sprocket-chain for communicating motion from said solenoids to said sprocket-wheel and brake-spindle.

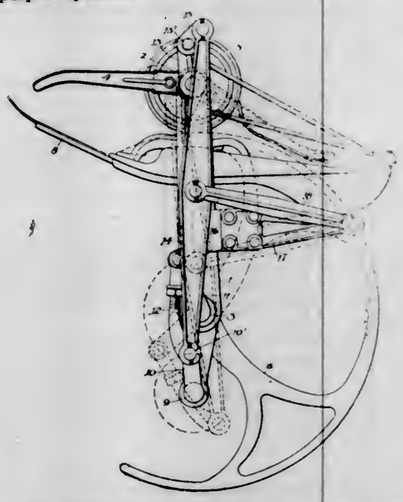
16. In an apparatus of the character described, a chain-winding brake-spindle, a magnetic device independent of said spindle, and yielding means interposed between said spindle and said magnetic device for rotating said spindle to operate said brake mechanism.

17. In an apparatus of the character described, a chain-winding brake-spindle, a magnetic device independent of said spindle, yielding means interposed between said spindle and said magnetic device for rotating said spindle to operate said brake mechanism, and a brake-handle capable of engagement with or disengagement from said spindle.

843,626. GRAIN-BINDER. GEORGE L. PHELPS, Chicago, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Nov. 22, 1906. Serial No. 344,559.

Claim.—1. In a binder attachment for harvesters, in combination, a binder-frame, a knotter-shaft and a needle-

shaft journaled in said frame, an intermittently-rotating driving-shaft, a crank connection between said driving-shaft and needle-shaft, a lever having a crank connection with the driving-shaft, and a link connection with the knotter-shaft, the said lever imparting a differential motion to the knotter-shaft through said link connection a movable fulcrum for said lever, and means for guiding said fulcrum in a curved path, substantially as and for the purpose specified.



2. In a binder attachment for harvesters, in combination, a binder-frame, a knotter-shaft and a needle-shaft journaled in said frame, an intermittently-rotating driving-shaft, a crank connection between said driving means and needle-shaft, a lever having a crank connection with the driving-shaft, and a link connection with the knotter-shaft, the said lever imparting a differential motion to the knotter-shaft through said link connection and a fulcrum for said lever adapted to move in the arc of a circle, substantially as and for the purpose specified.

3. In a binder attachment for harvesters, in combination, a binder-frame, a knotter-shaft and a needle-shaft journaled in said frame, an intermittently-rotating driving-shaft, a crank connection between said driving-shaft and needle-shaft, a lever having a crank connection with the driving-shaft, and a link connection with the knotter-shaft, the said lever imparting a differential motion to the knotter-shaft through said link connection, a movable fulcrum for said lever, a laterally-projecting bracket fixed to said binder-frame, and a fulcrum-link pivotally mounted on said bracket and pivotally connecting with said lever, substantially as and for the purpose specified.

4. In a binder attachment for harvesters, in combination, a binder-frame, a knotter-shaft and a needle-shaft journaled in said frame, intermittently-rotating driving means, a lever interposed between said driving means and knotter-shaft, a movable fulcrum for said lever, and means for guiding the said fulcrum to cause retardation of the movement of the knotter-shaft at that portion of its stroke where it encounters the greatest resistance and to cause an acceleration of the movement of said shaft at that portion of its revolution where it does little work.

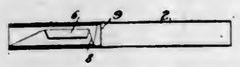
843,627. GARTER. GEORGE H. PHELPS, Boston, Mass., assignor to George Frost Company, Boston, Mass., a Corporation of Massachusetts. Filed Dec. 3, 1906. Serial No. 346,042.

Claim.—A garter comprising a leg-band and a clasp suspended therefrom, the leg-band being made from knit goods having elasticity and resiliency both longitudinally and crosswise of the band.

843,627.



843,628. CIGARETTE-SHELL. SYDNEY I. PRESCOTT, New York, N. Y., assignor to The American Tobacco Company, New York, N. Y., a Corporation of New Jersey. Filed Dec. 8, 1905. Serial No. 290,893.



Claim.—1. A shell for cigarettes comprising a tube and a mouthpiece, the interior of said mouthpiece being provided with a tobacco-stop which is rigid against the thrust of the tobacco rod as it is inserted into the shell.

2. A shell for cigarettes comprising a tube and a mouthpiece the interior of the mouthpiece having a tobacco-stop extending across and in contact with the bore of the mouthpiece.

3. A shell for cigarettes comprising a tube and a mouthpiece, the interior of the mouthpiece being provided with a tobacco-stop consisting of a strip of material, said strip being wide enough to extend for a considerable distance lengthwise of the bore of the mouthpiece.

4. A shell for cigarettes comprising a tube and a mouthpiece, the interior of the mouthpiece having a tobacco-stop consisting of a strip of material, said strip being wide enough to extend for a considerable distance lengthwise of the bore of the shell and being in contact with the bore of the shell at points removed from each other.

5. A shell for cigarettes comprising a tube and a mouthpiece formed from a coil of material the interior end of the coil having a bend which causes it to stand across the bore of the mouthpiece, said end being in contact with the wall of the bore at a point removed from the bend and forming a rigid tobacco-stop.

6. A shell for cigarettes comprising a tube and a mouthpiece formed from a coil, the interior end of the coil standing edgewise across the bore of the mouthpiece near its inner end, the edge of said interior bent end being in contact with the wall of the bore for a considerable distance along its length.

7. A shell for cigarettes comprising a tube and a mouthpiece formed from a coil, the interior end of the coil standing across the bore of the mouthpiece and being in contact with the wall of the bore, this interior end forming a tobacco-stop having a bend which divides it into two parts lying at an angle to each other.

8. A shell for cigarettes comprising a tube and a mouthpiece formed from a coil, the interior end of the coil standing edgewise across the bore of the mouthpiece and being in contact therewith for a considerable portion of the length of the mouthpiece, this interior end having a bend therein which divides it into two parts lying at an angle to each other.

9. A shell for cigarettes comprising a tube and a mouthpiece, the mouthpiece being formed to provide a short tobacco-pocket and being provided with a tobacco-stop which is rigid against the thrust of the tobacco rod as it is inserted into the shell.

10. A shell for cigarettes comprising a tube and a mouthpiece, the inner end of the mouthpiece being formed to provide a short tobacco-pocket and having a tobacco-stop extending across and in contact with the bore of the mouthpiece and at points removed from each other.

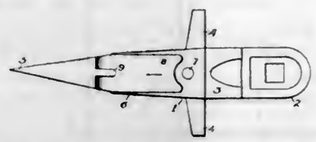
11. A shell for cigarettes comprising a tube and a mouthpiece, the inner end of the mouthpiece being formed to provide a tobacco-pocket and having a tobacco-stop consisting of a strip of material, said strip being wide enough to extend for a considerable distance lengthwise of the bore of the mouthpiece.

12. A shell for cigarettes comprising a tube and a mouthpiece, the inner end of the mouthpiece being formed to provide a short tobacco-pocket and being provided with a tobacco-stop consisting of a strip of material, said strip being wide enough to extend for a considerable distance lengthwise of the bore of the mouthpiece and being in contact with the mouthpiece at points removed from each other.

13. A shell for cigarettes comprising a tube and a mouthpiece formed from a coil, the coil being formed to provide a short tobacco-pocket and the interior end of the coil standing edgewise across the bore of the mouthpiece and being in contact with the wall thereof for a considerable portion of the length of the mouthpiece.

14. A shell for cigarettes comprising a tube having a mouthpiece formed from a coil, the coil being formed to provide a short tobacco-pocket and the interior end of the coil standing edgewise across the bore of the mouthpiece and being in contact with it for a considerable portion of its length, said bent end having a bend which divides it into two parts.

843,629. HARVESTER-GUARD. JOHN W. PRIDMORE, Chicago, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Nov. 2, 1906. Serial No. 341,798.



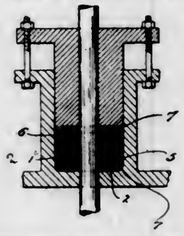
Claim.—1. A harvester-guard comprising, in combination, a tongueless body portion, a ledger-plate having its rear end secured to said body portion, a guard-tongue integral with said ledger-plate, and one or more vertically-arranged and rearwardly-extending lugs forming part of said body portion and engaging with said combined ledger-plate and tongue at its front end in a manner to prevent lateral movement thereof.

2. A harvester-guard comprising, in combination, a tongueless body portion, a ledger-plate having its rear end secured to said body portion, a guard-tongue integral with said ledger-plate, and one or more vertically-arranged and rearwardly-extending lugs forming part of said body portion and overlapping a portion of said ledger-plate and engaging with said combined ledger-plate and tongue at its front end in a manner to prevent lateral movement thereof.

3. In a harvester-guard comprising, in combination, a body portion, a ledger-plate having its rear end secured to said body portion, a guard-tongue integral with said ledger-plate, a vertically-arranged and rearwardly-extending lug forming part of said body portion, said tongue and ledger-plate having a vertically-arranged slot extending longitudinally thereof, said lug being received by said slot in a manner to prevent lateral movement of said tongue and ledger-plate.

4. A harvester-guard comprising, in combination, a body portion, a ledger-plate having its rear end secured to said body portion, a guard-tongue integral with said ledger-plate, a vertically-arranged and rearwardly-extending lug forming part of said body portion, said tongue and ledger-plate having a vertically-arranged slot extending longitudinally thereof, said lug entering said slot and overlapping a portion of said ledger-plate.

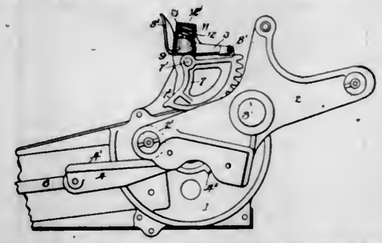
843,630. PACKING. CLEMENT RESTEIN, Philadelphia, Pa. Filed Sept. 21, 1905. Serial No. 279,384.



Claim.—1. A packing comprising a wrapper or envelop, a rubber cushion and two wedge-shaped sections each consisting of a consolidated roll of wired asbestos cloth, substantially as described.

2. A packing comprising an asbestos wrapper or envelop, a rubber cushion and two wedge-shaped asbestos each consisting of a consolidated roll of wired asbestos cloth, substantially as described.

843,631. POWER ATTACHMENT FOR HAY-BALERS. FRANK A. RYTHER, Chicago, Ill., assignor to the International Harvester Company, a Corporation of New Jersey. Filed Sept. 1, 1906. Serial No. 332,904.



Claim.—1. In a power attachment for hay-balers, in combination, a power-frame, a sweep-arm, a power-arm eccentrically mounted with respect to said sweep-arm, contact-points on each of said arms, and a retarding-lever pivotally mounted on said frame and operatively connected to said power-arm, said lever arranged to be engaged by the contact-point on the sweep-arm after normal engagement between the contact-points on the sweep and power arms has ceased.

2. In a power attachment for hay-balers, in combination, a power-frame, a sweep-arm, a power-arm eccentrically mounted with respect to the sweep-arm, contact-points on each of said arms, and a yieldingly-held retarding-lever pivotally mounted on said frame and operatively connected to said power-arm, said lever arranged to be engaged by the contact-point on the sweep-arm after normal engagement between the contact-points on the sweep and power arms has ceased.

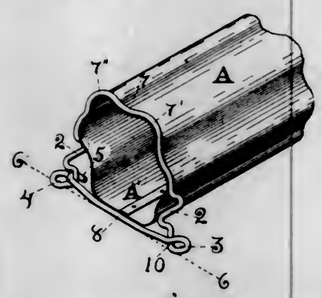
3. In a power attachment for hay-balers, in combination, a power-frame, a sweep-arm, a power-arm eccentrically mounted with respect to the sweep-arm, contact-points on each of said arms, and pivotally-mounted means operatively connected to said power-arm for either positively returning the plunger-arm or for retarding same in its return, said means arranged to be engaged by the contact-point on the sweep-arm after normal engagement between the contact-points on the sweep and power arms has ceased.

4. In a power attachment for hay-balers, in combination, a power-frame, a sweep-arm, a power-arm eccentrically mounted with respect to the sweep-arm, contact-points on each of said arms, and means pivotally mounted on said frame and provided with a rigid and a yielding point of engagement, the said means having an operative connection with the power-arm, and the said points of engagement thereof arranged to be engaged by the contact-

point on the sweep-arm after normal engagement between the contact-points on the sweep and power arms has ceased.

5. In a power attachment for hay-balers, in combination, a power-frame, a sweep-arm, a power-arm eccentrically mounted with respect to the sweep-arm and provided with a toothed segment, contact-points on each of said arms, a gear-segment pivotally mounted on the said frame and meshing with said toothed segment on the power-arm, a point of engagement on said segment adapted to be engaged by the contact-point on the sweep-arm and positively return the power-arm, a retarding-lever pivotally mounted upon and yieldingly held against said gear-segment, said retarding-lever arranged to be engaged by the contact-point on the sweep-arm after normal engagement between the contact-points on the sweep and power arms has ceased.

843,632. ADJUSTABLE AND ELASTIC PIPE-HANGER. AUGUST F. SCHAFER, Kennard, Nebr. Filed Dec. 11, 1905. Serial No. 291,340.

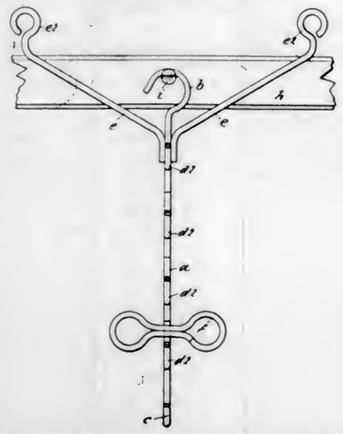


Claim.—1. An adjustable and elastic pipe-hanger consisting of a single piece of wire adapted to be bent to semicircular form to clasp the pipe, the ends bent to form attaching-eyes and an intermediate part bent to form a reverse curve to serve as a longitudinal spring in the body of the clasp and adapted to be further bent to shorten the clasp or partly unbent to lengthen it.

2. A pipe-hanger made of a single piece of wire and consisting of an end portion made straight to form a base adapted to be interposed between the pipe and the surface attached to, and the opposite end portion adapted to be bent to semicircular form to clasp the pipe, the terminal end of the base portion bent to form an open hook and the terminal end of the clasp portion bent to form an attaching-eye and adapted to be engaged, back of said eye, in said open hook and bent outward to bring said eye into a plane agreeing with said base, and an intermediate portion integrally connecting the base and clasp portions and bent to form an attaching-eye in a plane agreeing with said base with the connected end of the base portion overlapping the connected end of the clasp portion.

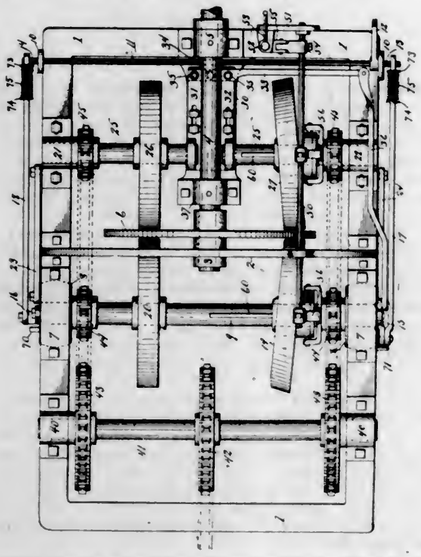
3. An adjustable and elastic pipe-hanger comprising a base and a pipe-clasp made of a single piece of wire, said base consisting of an end portion of said wire made straight to interpose between the pipe and surface attached to and terminating in an open hook, and integrally connected to the clasp by an intermediate portion bent to form an attaching-eye in a plane agreeing with said base with the connected end of the base overlapping the connected end of the clasp, said clasp consisting of an opposite end portion of the wire having its terminal end bent to form an attaching-eye and adapted to be bent to semicircular form to clasp the pipe and be engaged back of its terminal attaching-eye in the terminal open hook on said base and bent outward to bring said eye into a plane agreeing with said base, an intermediate portion of said clasp bent to form a reverse curve to act as a longitudinal spring in the body of the clasp and adapted to be further bent to tighten the clasp on the pipe or partly unbent to loosen it thereon.

843,633. CLOTHES-HANGER. MARY L. SCHOONMAKER, Rondout, N. Y. Filed May 16, 1906. Serial No. 317,117.



Claim.—A clothes-hanger, comprising a main rod having a hook, ring or eye at its upper end and a forwardly-directed hook at its lower end, forwardly-directed arms connected with said main rod between the top and bottom thereof and provided at their free ends with hooks, said arms increasing in length upwardly from the bottom of the main rod to the top thereof, and said main rod being also provided at the upper end thereof with outwardly and upwardly directed arms.

843,634. FRICTION-GEAR. WILLIAM J. SEITZ, Grape, Mich. Filed Aug. 10, 1906. Serial No. 330,072.



Claim.—1. In a friction-gear, the combination of a driving-shaft, a friction-disk mounted thereon, a frame to support said shaft, a second shaft mounted on said frame substantially parallel to one face of the disk, a pair of friction-wheels mounted on said second shaft, the ends of said shaft being so mounted as to be movable toward and from the face of said disk and thereby carry one or the other of said friction-wheels in contact therewith, a driven shaft,

and gearing connecting said second shaft to said driven shaft.

2. In a friction-gear, the combination of a driving-shaft, a friction-disk mounted thereon, a frame to support said shaft, a second shaft mounted on said frame substantially parallel to one face of the disk, a pair of friction-wheels mounted on said second shaft, the ends of said shaft being so mounted as to be movable toward and from the face of said disk and thereby carry one or the other of said friction-wheels in contact therewith, and thereby determine the direction of revolution of said second shaft, means to move the ends of said shafts in opposite directions at the same time, a driven shaft, and gearing connecting said second shaft to said driven shaft.

3. In a friction-gear, the combination of a driving-shaft, a friction-disk mounted thereon, a frame to support said shaft, a second shaft mounted on said frame substantially parallel to one face of the disk, a pair of friction-wheels mounted on said second shaft, the ends of said shaft being so mounted as to be movable toward and from the face of said disk and thereby carry one or the other of said friction-wheels in contact therewith, eccentric boxes for the ends of said shaft, a lever mounted on said frame, connections between said lever and said boxes whereby the actuation of said lever will move the ends of said shaft in opposite directions, a driven shaft, and gearing connecting said second shaft to said driven shaft.

4. In a friction-gear, the combination of a frame, a driving-shaft mounted thereon, a friction-disk secured on said shaft, a second shaft mounted on said frame across the rear face of the disk, a friction-wheel mounted on said second shaft on each side of the driving-shaft, a pair of shafts axially mounted on said frame across the front face of the disk, a friction-wheel mounted on each shaft and respectively opposite the friction-wheels on the second shaft, and means to move the wheel-carrying shafts laterally in such a manner that the pairs of friction-wheels may alternately separate and approach each other, thereby forming an operative contact between the wheels on either side of the driving-shaft and the friction-disk.

5. In a friction-gear, the combination of a frame, a driving-shaft mounted thereon, a friction-disk secured on said shaft, a second shaft mounted on said frame across one face of said friction-disk, a friction-wheel mounted on said second shaft on each side of the driving-shaft, a pair of shafts axially mounted on said frame across the other face of said friction-disk, one shaft on each side of the driving-shaft, a friction-wheel mounted on each of these shafts and opposite to and forming pairs with the friction-wheels on the second shaft, and means to cause the pair of friction-wheels on one side of the driving-shaft to engage the friction-disk while the pair on the other side of the driving-shaft are separated from said disk.

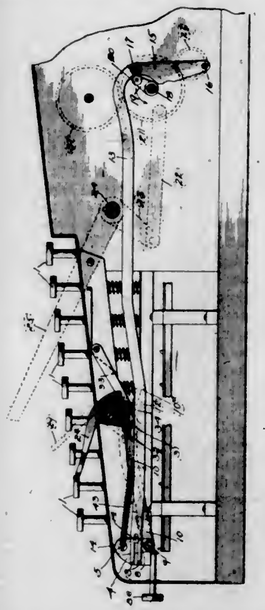
6. In a friction-gear, the combination of a frame, a driving-shaft mounted thereon, a friction-disk secured on said shaft, a second shaft mounted on said frame across one face of said friction-disk, a friction-wheel mounted on said second shaft on each side of the driving-shaft, a pair of shafts axially mounted on said frame across the other face of said friction-disk, one shaft on each side of the driving-shaft, a friction-wheel mounted on each of these shafts and opposite to and forming pairs with the friction-wheels on the second shaft, and means to cause the pair of friction-wheels on one side of the driving-shaft to engage the friction-disk while the pair on the other side of the driving-shaft are separated from said disk, and means to slide one pair of wheels radially of the driving-shaft to control the speed of the second shaft.

7. In a friction-gear, the combination of a frame, a driving-shaft mounted thereon, a friction-disk secured to said driving-shaft, a second shaft mounted on said frame substantially parallel with a face of said disk, a grooved hub slidable on the second shaft and revoluble therewith, said hub provided with a spherical portion, a friction-wheel mounted on said spherical portion and adapted to revolve therewith but permitted to swing thereon, said wheel provided with a grooved collar, and a sleeve whose ends are at an angle to each other and provided with flanges to engage in the grooves in said hub and collar, and a lever in engagement with said sleeve whereby the angle between the plane of the wheel and its shaft is kept constant.

8. In a friction-gear, the combination of a frame, a driving-shaft mounted thereon, a friction-disk secured to said driving-shaft, a second shaft mounted on said frame substantially parallel with a face of said disk, a grooved hub slidable on the second shaft and revoluble therewith, said hub provided with a spherical portion, a friction-wheel mounted on said spherical portion and adapted to revolve therewith but permitted to swing thereon, said wheel provided with a grooved collar, and a sleeve whose ends are at an angle to each other and provided with flanges to engage in the grooves in said hub and collar, and a lever in engagement with said sleeve whereby the angle between the plane of the wheel and its shaft is kept constant, and means to determine the position of said lever and thereby the distance between said friction-wheel and driving-shaft.

9. In a friction-gear, the combination of a frame, a driving-shaft, a friction-disk mounted on the same, eccentric bearings on said frame, a second shaft mounted therein and across one face of the disk, friction-wheels mounted on said shaft and adapted to alternately contact with said disk, a pair of shafts mounted across the other face of the disk, slidable bearings for said shafts, a friction-wheel mounted on each shaft opposite a wheel on the second shaft, connections between the eccentric bearings and said slidable bearings, and operating means comprising levers and links whereby the forward movement of the operating-lever will cause one pair of wheels to engage the disk and its rearward movement will cause the engagement of the other pair of wheels and the disk.

843,635. KEY-RELEASING MECHANISM FOR COMPUTING-MACHINES, &c. DANIEL W. SHIEK, Chicago, Ill., assignor to Addison Bybee, Milford, Utah. Filed Nov. 14, 1903. Serial No. 181,255.



Claim.—1. In a computing or similar machine having keys, the combination of key-releasing devices, a transversely-extended releasing-bar common to and adapted to actuate all of said devices, an operating-lever, a movable rod, and mechanism arranged to loosely connect with said

rod and move therewith to actuate said releasing-bar, and means controlled by the operator for removing said mechanism from the paths of the rod whereby it will not be operated by the latter when the said lever is operated.

2. In a computing or similar machine having keys, the combination, with key-releasing bars, of a transversely-extended releasing-bar arranged adjacent the forward end of the bars and adapted to simultaneously actuate said bars, and means actuated by operation of the machine for securing said simultaneous action including two longitudinally-movable members having a detachable hook engagement with one another; substantially as described.

3. In a computing or similar machine having keys, the combination, with key-releasing bars, of a releasing-bar adapted to engage the forward end of said bars; an operating-lever, and means actuated by said lever for moving said releasing-bar said means including a rearwardly-extended arm on said releasing-bar having an operative engagement with a reciprocatory reach-rod connected to said operating-lever; substantially as described.

4. In a computing or similar machine having keys, an operating-lever, key-releasing mechanism actuated thereby, said mechanism comprising two longitudinally-movable members, said members when in normal position having an operative connection with one another, and a lever for moving the one member from its normal position and disengaging said operative connection to prevent the key-releasing operation, in combination with means for separately releasing each section of keys.

5. In a computing or similar machine having keys, the combination of a main operating-lever, key-releasing means actuated thereby, said means comprising two longitudinally-movable members normally adapted to engage each other, a detachable hook connection between the members and means for spacing said members from one another for preventing coengagement when said lever is operated; substantially as described.

6. In a computing or similar machine having keys, the combination, of a key-releasing device including a hooked finger and bar; key-releasing mechanism including a rod; said finger being normally in position to be actuated by said rod; and means for moving said finger from its normal position rendering the releasing device inoperative; substantially as described.

7. In a computing or similar machine having keys, the combination with key-detents and a main operating-lever, of a rod actuated by movement of said lever, a finger normally actuated by said rod, a rockable bar actuated by said finger; said bar being adapted to reset all of said key-detents and means for spacing said finger out of the path of said rod; substantially as described.

8. In a computing or similar machine having keys, the combination, with key-detents, and a main operating-lever, of a rod actuated by said lever, means for restoring said rod to normal position, a finger normally actuated by said rod, a rockable bar actuated by said finger; said bar being adapted to reset all the said key-detents and means for spacing said finger out of the path of said rod; substantially as described.

9. In a computing-machine having a plurality of sections of keys, a separately-operable key-releasing device for each section, and a supplemental releasing device arranged to simultaneously release all the sections of keys, and means whereby said supplemental device may be rendered inoperative during the operation of the aforementioned releasing devices.

10. In a computing-machine having a plurality of sections of keys, a separately-operable key-releasing device for each section, and a supplemental releasing device arranged to simultaneously release all the sections of keys, said supplemental releasing device including reciprocatory members normally in operable engagement with one another, and means for releasing said engagement whereby said supplemental releasing device may be rendered inoperative during the operation of the aforementioned releasing devices.

11. In a computing-machine having a plurality of sections of keys, a separately-operable key-releasing device for each section, and a supplemental releasing device arranged to simultaneously release all the sections of keys, said supplemental releasing device including oppositely-disposed reciprocatory members normally in operable engagement with one another, and means for separating said reciprocatory members from one another, whereby said supplemental releasing device may be rendered inoperative during the operation of the aforementioned releasing devices.

12. In a machine of the character described, having a plurality of sections of keys, a plurality of releasing devices, one for each section, adapted to act separately thereupon, a supplemental releasing device arranged to simultaneously release all the keys, and means whereby the supplemental releasing device may be rendered inoperative during the operation of the aforesaid releasing devices.

13. In a machine of the character described, the combination with key-releasing bars, of a transversely-extended releasing-bar arranged to engage all of said first-mentioned bars to simultaneously actuate the same, and means actuated by the operation of the machine for securing said simultaneous action, including two longitudinally-movable members having a detachable hooked engagement with one another.

14. In a machine of the character described, the combination with key-releasing bars, of a transversely-extended releasing-bar arranged to engage one end of all of said bars and simultaneously actuate the same, means actuated by the operation of the machine for securing said simultaneous action, including two longitudinally-movable members having a detachable hooked engagement with one another, and means for separately operating said key-releasing bars.

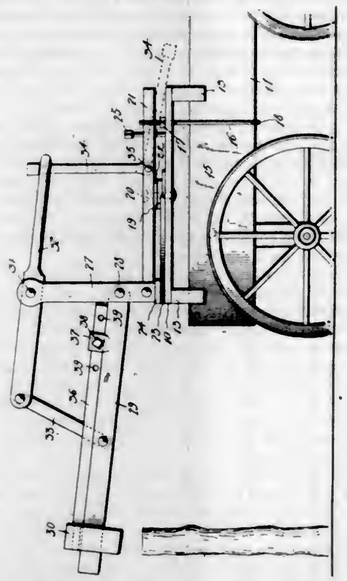
15. In a machine of the character described, a series of transversely-extended keys, a transversely-extended releasing-bar common to all of said keys, a rock-shaft for the bar, two longitudinally-extended members having a detachable engagement with one another, one of said members being connected to the rock-shaft, an actuating-lever for the other member adapted to operate said releasing-bar, and means for spacing said longitudinally-extended members from one another, whereby the releasing-rod will remain stationary upon the movement of said actuating-lever.

16. In a machine of the character described, a series of sections of keys, a transversely-extended releasing-bar common to all of said keys, a rock-shaft for the bar, two longitudinally-extended members having a detachable engagement with one another, one of said members being connected to the rock-shaft, an actuating-lever for the other member adapted to operate said releasing-bar, means for spacing said longitudinal members from one another whereby the releasing-bar will remain stationary upon the movement of said actuating-lever, and means for separately actuating each section of keys after said spacing operation.

17. In a computing or a similar machine having keys, the combination of a key-releasing bar, a movable arm operatively connected with said bar, means actuated by the operation of the machine for imparting movement to said arm whereby said bar is actuated to release the keys, releasing means for said last-mentioned means, and said releasing means having connection with said arm whereby the latter may be operated by said releasing means, independent of the means actuated by the operation of the machine.

18. In a computing or similar machine having keys, the combination of a key-releasing bar, a movable arm operatively connected with said bar, means actuated by the operation of the machine for imparting movement to said arm whereby said bar is actuated to release the keys, releasing means for said last-mentioned means including a lever pivoted to a stationary part of the machine and having a pin-and-slot engagement with said arm, whereby the arm may be operated thereby to release the keys, independent of the means actuated by the operation of the machine.

843,636. POST-MAUL. ELMER SIMMONS, Turners, Mo. Filed Oct. 18, 1906. Serial No. 339,468.



Claim.—1. A post-maul comprising a platform, a horizontally-swinging arm pivoted thereon, uprights on the arm, a maul-handle and an operating-lever pivoted to the uprights, and a connection between said handle and lever.

2. A post-maul comprising a platform, a horizontally-swinging arm pivoted thereon, uprights on the arm, a maul-handle and an operating-lever pivoted to the uprights, a link connecting one end of the lever to the maul-handle, and a holder pivoted to the arm and engageable with the other end of the lever.

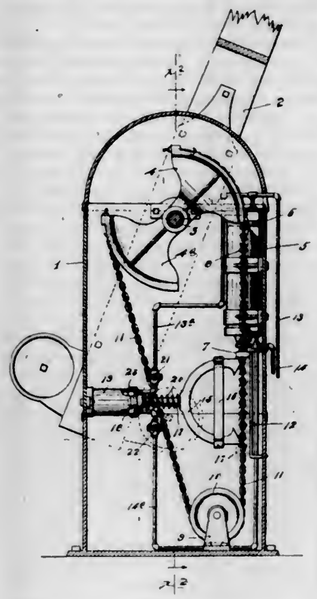
3. The combination with a handle, of a maul-head slidable lengthwise thereon, an adjusting-rod secured to the maul-head, and means for holding the rod in adjusted position.

843,637. LOCK FOR CROSSING-GATES. WILLIAM C. SMITH, Minneapolis, Minn. Filed Sept. 24, 1906. Serial No. 336,054.

Claim.—1. The combination with an oscillatory device, of a single cylinder and piston-engine having connections for oscillating the same, a pair of locks connected for simultaneous movements and operative to lock the movable part of said engine in extreme positions, a second cylinder and piston-engine operative to move said locks, and connections to the cylinders of said two engines for delivering the motive fluid thereto, substantially as described.

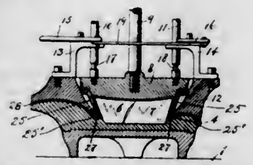
2. The combination with a cylinder and piston-engine and the part receiving motion therefrom, of a lock arranged to lock the piston of said engine in extreme positions, a second cylinder and piston-engine for actuating said lock, main conduits for conveying the motive fluid to the opposite ends of the cylinder of the first-noted engine, and branch conduits leading from said main conduits and opening into the same end of the cylinder of said lock-actuating engine, and check-valves in said branch conduits arranged to permit the flow of air into the cylinder of said latter engine, substantially as described.

3. The combination with a device, of a cylinder, and piston-engine the piston thereof having connections for moving the same, a lock operative on a part carried by said piston, to secure the same in extreme positions, a second cylinder and piston-engine, the piston thereof being connected to said lock for actuating the same, a spring operative to move the lock in one direction, main air-conduits leading to the opposite ends of the cylinder of the first-noted engine, branch conduits leading from said main conduits to the same end of the cylinder of the lock-actuating engine, and check-valves in said branch



conduits arranged to permit the flow of air into the cylinder of said latter engine, but checking a reverse flow, the said lock-actuating engine having a small leakage-passage for permitting the slow escape of air from the air-receiving end thereof, substantially as described.

843,638. MACHINE FOR FORMING HATS. CHARLES W. STEVENS, Elizabeth, N. J. Filed Aug. 17, 1904. Serial No. 221,156.



Claim.—1. In a hat-forming machine, the combination of a supporting-bed, a cross-frame movable with relation thereto, lower brim and crown forming dies carried by said bed, upper crown-forming dies, an upper brim-forming die, means for supporting said crown-forming dies from said cross-frame, means for supporting said brim-forming die from the supporting means for said crown-forming dies, and locking and releasing means for causing said brim-forming die to descend in advance of said crown-forming dies and permitting said crown-forming dies to descend after said brim-forming die.

2. A shaping-machine, including segmental inner and outer dies, the segments of one of said dies being more than four in number and arranged in two sets movable toward and from each other, the segments of one set of said segments being substantially wider at the lower edge than at the upper, and the segments of the other set being substantially wider at the upper edge than at the lower

and constantly overlapping the segments of the first set at their free edges.

3. In a hat-forming machine, the combination of a cross-frame with operating-rods, an upper crown-forming die carried thereby, an upper brim-forming die and locking and releasing levers 15 and 16 for connecting said brim-forming die to cause it to descend in advance of said crown-forming die but to permit said crown-forming die to afterward descend independently thereof.

4. In a hat-forming machine, the combination of lower brim and crown forming dies, an upper brim-forming die having an opening for the crown, a top crown-forming die and a plurality of side-shaping members pivotally carried around said top forming-die, said members having overlapping edges with rounded corners, each member having an outer bearing and operating-surface adapted to coact with the sides of the opening in said brim-forming die.

5. In a hat-forming machine, the combination of lower brim and crown forming dies, an upper brim-forming die having an opening for the crown, a top crown-forming die and a plurality of side-shaping members pivotally carried around said top forming-die, said members having overlapping edges, each of said members having an inner shaping-surface, a lower shaping-surface and an outer shaping-surface.

6. In a hat-forming machine, the combination of a bed, lower brim and crown forming dies supported thereby, a cross-frame, operating-rods therefor, a top crown-forming die carried by said cross-frame, an upper brim-forming die also carried by said cross-frame, a plurality of movable side-shaping members carried around said top forming-die and means of connection between said brim-forming die and said crown-forming dies for causing said upper brim-forming die to descend in advance of said crown-forming die and to ascend in reverse order, substantially as described.

7. In a hat-forming machine, the combination of lower brim and crown forming dies, an upper brim-forming die having an opening for the crown and a plurality of movable side-shaping members each having overlapping edges inclined to each other with rounded inner corners each member having an inner shaping-surface adapted to be brought into operation, substantially as described.

8. In a hat-forming machine, the combination of lower brim and crown forming dies, an upper brim-forming die having an opening for the crown and a plurality of movable side-shaping members having overlapping edges inclined to each other with rounded inner corners each member having an inner shaping-surface and a lower shaping-surface adapted to be brought into operation, substantially as described.

9. In a hat-forming machine, the combination of lower brim and crown forming dies having an annular groove between the crown and brim forming portions, an upper brim-forming die having an opening for the crown and a plurality of side-shaping members having overlapping edges each of said members having an inner shaping-surface and an outer shaping-surface adapted to be brought into operation, substantially as described.

10. In a hat-forming machine, the combination of a lower brim-forming die having an upwardly-curved and flared surface, a lower crown-forming means leaving an annular groove at the base of the brim-forming die, an upper brim-forming die having an opening for the crown and corresponding to a portion of said lower brim-forming die and a plurality of movable side-shaping members having inner, lower and outer shaping-surfaces and means for bringing said dies and shaping members into operation for the purpose specified.

11. In a machine for forming hats and the like, the combination of a crown-forming die, a plurality of movable outer crown-forming members having overlapping, inclined inner edges in the shaping-surfaces, alternate members being arranged to close inside of the adjacent members and having tapering shaping-surfaces considerably wider near the bottom than at the top, and means for bringing said members into operation.

12. In a machine for forming hats and the like, the combination of an inner crown-forming die, a plurality of movable outer crown-forming members having overlapping edges with inclined inner shaping-surfaces and also having lower shaping-surfaces, the alternate members having rounded lower corners, above the lower shaping-surfaces and means for bringing said members into operation.

13. In a hat-forming machine, the combination of inner crown-forming dies, and two sets of movable outer crown-forming members, each member of one set having a recess at each end cut back from its shaping-surface to receive a portion of the adjacent member of the other set, the edge of the recess which lies in the shaping-surface being inclined throughout a portion of its extent and terminating in a curve, the opposite edges of each of the members of the other set being inclined relative to each other for a portion of their extent and terminating in rounded lower corners and corresponding to the recesses substantially as described.

14. In a hat-forming machine, the combination of upper and lower brim-forming dies, inner and outer sets of crown-forming members, one of said sets of members being movable vertically and laterally relative to the other set, and one of said brim-forming dies being movable vertically, means for simultaneously operating one of said brim-forming dies and said movable set of crown-forming members, with the brim-forming die in advance of the crown-forming members, and means for disconnecting the brim-forming die to permit the crown-forming members to move independently.

15. In a hat-die, a plurality of outer crown-shaping members arranged in two sets movable toward and from each other and having inner shaping-surfaces, the members of one set being arranged to swing outside of the other set and having recesses at the inner sides, and the members of the other set being arranged to fit in said recesses and being wider at the lower edges in the shaping-surface than the members of the outer set at the lower edges in the shaping-surface.

16. In a hat-forming machine, the combination of inner crown-forming dies and two sets of movable outer crown-forming members, each member of one set having a recess at each end cut back from its shaping-surface to receive a portion of the adjacent member of the other set, the edge of the recess which lies in the shaping-surface being inclined throughout a portion of its extent, the opposite edges of each of the members of the other set being inclined relative to each other for a portion of their extent and corresponding to the recesses substantially as described.

17. In a hat-machine, lower brim and crown forming dies, an upper brim-forming die having an opening, and a plurality of pivoted outer crown-forming members vertically movable through said opening and constantly overlapping at their adjacent edges and engaging one another during the entire contracting period.

18. In a hat-machine, lower brim and crown forming dies, an upper brim-engaging die having an opening for the crown, a plurality of relatively movable outer crown-forming members, a vertically-movable press supporting said upper brim-die and said outer crown-forming members, and lever-controlled means for disconnecting said brim-die so as to permit said crown-forming members to descend through said opening.

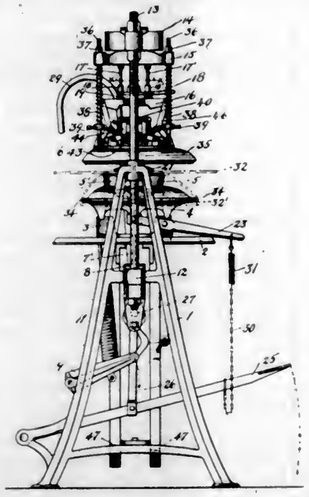
19. A shaping-machine, including an annular segmental die, the segments of which have overlapping edges and are movable relatively to each other, each segment having inner, lower and outer shaping-surfaces.

20. A shaping-machine, including two upper and two lower dies, and lever-releasable means of connection between said upper dies whereby one of said upper dies positively prevents the other upper die from coming into operation until released.

843,639. MACHINE FOR FORMING HATS. CHARLES W. STEVENS, East Orange, N. J. Filed Sept. 23, 1905. Serial No. 279,815.

Claim.—1. A hat-forming machine, including brim-shaping dies, a separate outer crown-shaping die, two series of movable inner crown-shaping members supported above said dies, and means for bringing one series into operation in advance of the other.

2. In a hat-forming machine, brim-shaping dies, a separate sectional outer crown-shaping die, inner crown-shaping members pivotally mounted above said dies, and a foot-lever with connections for bringing said members into operation.



3. In a hat-forming machine, two brim-shaping dies, an outer crown-shaping die, a tip-plate, controllable means for bringing said tip-plate into operation to draw the crown, manually-controllable means for subsequently bringing the brim-shaping dies into coöperation, and means for adjusting the extent of movement of said tip-plate.

4. In a hat-forming machine, a sectional outer crown-shaping die, a plurality of movable inner crown-shaping members supported above said die, a foot-lever and connections therewith for bringing said inner crown-shaping members down into operation and retracting the same.

5. In a hat-forming machine, an outer crown-shaping die, a series of movable inner crown-shaping members, a tip-plate movable vertically independently thereof, and a lever-operable press for bringing said tip-plate into operation to draw the crown before said shaping members are operated.

6. In a hat-forming machine, a frame having a table, a brim-shaping die supported thereon, a press including a brim-shaping die, a tip-plate, means for bringing the tip-plate into operation to draw the crown of the hat, and means for releasing the tip-plate and subsequently bringing the press-die into position.

7. In a machine for forming hats, a sectional outer crown-shaping die, two series of inner crown-shaping members, means for bringing one series of said members into operation in advance of the other, and means for producing a supplemental wedging action after the operation of the second series.

8. In a hat-forming machine, a stationary brim-shaping die, a press, means for operating said press, a second brim-shaping die carried by said press, an outer crown-shaping die, a forming-plate for the top of the crown normally supporting said outer crown-shaping die above said stationary brim-shaping die, a tip-plate carried by said press, and means for automatically depressing the top crown-plate and outer crown-shaping dies in advance of the action of said tip-plate.

9. In a hat-forming machine, a frame, a stationary brim-shaping die, a vertically-movable outer crown-shaping die, a top crown-plate, means for rigidly holding it in its normal position, means for releasing it, and means for subsequently yieldingly pressing it into operation.

10. In a hat-forming machine, a stationary brim-shaping die, a movable brim-shaping die, an outer crown-shaping die, a tip-plate, inner crown-shaping members, means for bringing said tip-plate into operation to draw the crown of the hat, means for subsequently bringing said movable brim-shaping die into operative position, and means for subsequently bringing said inner crown-shaping members into operation.

11. In a hat-forming machine, an outer crown-shaping die, a plurality of inner crown-shaping members, means for bringing them into operation, locking means therefor, and means for subsequently increasing the pressure of said inner crown-shaping members.

12. In a hat-forming machine, a stationary brim-shaping die, a segmental outer crown-shaping die adapted to be seated in said brim-shaping die, a plurality of inner crown-shaping members and means for automatically lifting said outer crown-shaping die out of said brim-shaping die when the hat is completed.

13. In a hat-forming machine, a die for shaping the upper brim-surface, means for holding the edge of the blank, an outer crown-forming ring, means for normally holding it above the brim-die, and means for depressing it simultaneously with the drawing out of the crown.

14. In a hat-machine, dies for shaping the brim, an outer bell-crown die, an inner tip-plate, and means for moving said plate a distance sufficient to draw out enough of the blank to subsequently form the "bell" without material thinning of the stock.

15. In a hat-machine, a plurality of crown-forming members arranged in two series, one series being normally above and free from the other, and means for bringing the two series down into a common plane.

16. In a hat-machine, a vertically-movable support, two series of crown-shaping members pivotally carried thereby, two plates vertically movable with relation to each other, and links connecting said plates to said shaping members.

17. In a hat-machine, a vertically-movable support, two series of crown-shaping members pivotally carried thereby, two plates vertically movable with relation to each other, a spring operating between said plates, and links connecting said plates to said shaping members.

18. In a hat-machine, a vertically-movable support, two series of crown-shaping members pivotally carried thereby, two plates vertically movable with relation to each other, links connecting said plates to said shaping members, and means for bringing the series connected to one plate into yielding operation in advance of the other series.

19. In a hat-machine, an upper brim-forming die, two series of crown-forming members mounted above said die, and means for bringing the brim-forming die, one series of crown-forming members and then the other series of crown-forming members down into operation successively.

20. In a hat-machine, a brim-forming die, two series of crown-forming members, a tip-plate, and means for bringing the tip-plate, the brim-forming die, one series of crown-forming members and then the other series of crown-forming members into operation successively.

21. In a hat-machine, a lower brim-forming die, an outer crown-forming die, a plate for normally sustaining the crown-forming die, an upper brim-forming die, a tip-plate, and means for simultaneously lowering the sustaining-plate and the tip-plate in advance of the upper brim-forming die.

22. In a hat-machine, a lower brim-forming die, an outer crown-forming die, a plate for normally sustaining the crown-forming die, an upper brim-forming die, a tip-plate, means for simultaneously lowering the sustaining-plate and the tip-plate in advance of the upper brim-forming die, and means for raising the tip-plate a short distance while the upper brim-forming die is in operation.

23. In a hat-machine, a brim-forming die, two series of crown-forming members, a movable press carrying said die and members, means for bringing said die and members successively into operation, and means for giving a final supplemental action to said crown-forming members.

24. In a hat-machine, a press, a brim-forming die yieldingly supported thereby, two series of crown-forming members, and means carried by said press for bringing one of said series of members into operation yieldingly in advance of the other series.

25. In a hat-machine, a press, a brim-forming die yield-

ingly supported thereby, a tip-plate, two series of crown-forming members, and means carried by said press for bringing said tip-plate into operation and then bringing one of said series of members into operation yieldingly in advance of the other series.

26. A hat-machine, including two series of crown-forming members, a support therefor, two operating-plates, means of connection between said plates and said members, and a spring between said plates.

27. A hat-machine, including a series of crown-forming members, an operating-plate connected to said members, a press, and yielding means of connection between said press and said plate.

28. A hat-machine, including a press, crown-shaping members operable thereby, a lever for operating said press, a lower crown-plate, and a yielding connection between said plate and said press-lever.

29. In a hat-machine, a segmental outer crown-forming die and eight inner crown-forming members arranged in two series, the members of one series being substantially wider at the bottom than at the top and alternating with the members of the other series, the members of which are substantially wider at the top than at the bottom, and means for bringing the members of the two series into operation with the members of one series forcibly wedged in between the members of the other series.

30. In a hat-machine, an outer crown-forming die having an entrance-opening smaller at the top than at the bottom, two series of inner crown-forming members pivotally mounted above said outer crown-forming die, and means for moving said inner crown-forming members down and wedging them out inside the outer crown-forming die.

31. In a shaping-machine, two annular members, one of said members being divided into two series of independently-movable parts, two vertically-movable plates, one of said series of parts being connected to one plate and the other series of parts connected to the other plate, and means for moving said plates relative to each other for bringing the two series of parts into operation successively.

32. In a shaping-machine, a tip-plate, an annular shaping member divided into two series of relatively movable parts, one series being normally elevated above the other series, and means for successively bringing the tip-plate and the two series of parts into operation upon a blank.

33. In a shaping-machine, a lower annular die member having an upper shaping-surface, a segmental die member supported therein and having inner and upper shaping-surfaces, an upper die member having a lower shaping-surface, a plurality of relatively movable inner shaping members, and means for bringing said upper die member and said inner shaping members into operation successively.

34. In a shaping-machine, a lower die member having an upper shaping-surface, a segmental die member having inner and upper shaping-surfaces, a tip-plate, an upper die member having a lower shaping-surface, a plurality of inner shaping members, and means for successively bringing into operation the tip-plate, the upper die and the inner shaping members.

35. In a shaping-machine, a lower die having an upper shaping-surface, a segmental die having an upper shaping-surface and an inner shaping-surface, an upper die having a lower shaping-surface, a pluralty of inner shaping members, a vertically-movable press supporting said upper die and said inner shaping members, and means for operating said members to bring said upper die into operation in advance of said inner shaping members.

36. In a shaping-machine, a lower segmental die having an opening with an undercut shaping-surface and having an upper shaping-surface, a vertically-movable upper die having an opening, a vertical post, two plates movable thereon relative to each other, and a plurality of inner shaping members connected to said plates.

37. In a shaping-machine, a segmental die having an inner shaping-surface, a post, a tip-plate carried by the end thereof, and a plurality of inner shaping members vertically movable relative to said post and said tip-plate.

38. In a shaping-machine, a die having an undercut inner shaping-surface, a post, a tip-plate carried thereby, an inner shaping-die divided into two series of relatively movable parts, one of said series being normally above the other, and means for bringing said tip-plate into operation in advance of both of said series of parts.

39. In a shaping-machine, a die having an undercut inner-shaping-surface, a relatively movable bottom plate having an upper shaping-surface, and a plurality of relatively movable inner shaping members.

40. In a shaping-machine, a die having an undercut inner shaping-surface, a relatively movable bottom plate having an upper shaping-surface, a plurality of relatively movable inner shaping members, a tip-plate, and means for bringing said tip-plate into operation in advance of said inner shaping members.

41. In a shaping-machine, a lower die having an upper shaping-surface, a relatively movable annular die adapted to be seated therein and having inner and upper shaping-surfaces, a plurality of inner shaping members, and means for lowering said annular die in advance of the operation of said inner shaping members.

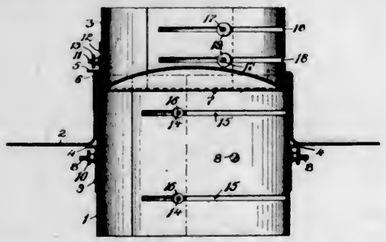
42. In a shaping-machine, a lower die having an upper shaping-surface, a relatively movable annular die adapted to be seated therein and having inner and upper shaping-surfaces, a plurality of inner shaping members, means for lowering said annular die in advance of the operation of said inner shaping members, and means for retracting said inner shaping-dies in advance of the upward movement of said annular die.

43. In a shaping-machine, a die having an undercut shaping-surface, two vertically-movable plates, a plurality of inner shaping members arranged in two series, the members of one series being connected to one plate and being substantially wider at the bottom than at the top, and the members of the other series being connected to the other plate and being substantially wider at the top than at the bottom.

44. A shaping-machine including a plurality of relatively movable shaping members, a lever-operable press for bringing all of said members together into an annular arrangement and lever-operable means for giving a supplemental wedging action to said members.

45. A shaping-machine including a plurality of relatively movable shaping members forming a complete annular die, and a tip-plate adjustable and movable independently of all of said members.

843,640. APPARATUS FOR SHAPING HAT-CROWNS. CHARLES W. STEVENS, East Orange, N. J. Filed Apr. 14. 1906. Serial No. 311,694.



Claim.—1. Apparatus for producing telescopic effects in soft felt hats and the like comprising two rings adjustable in size, one larger than the other, and outwardly-projecting vertically-adjustable stops carried by each ring for the purpose specified.

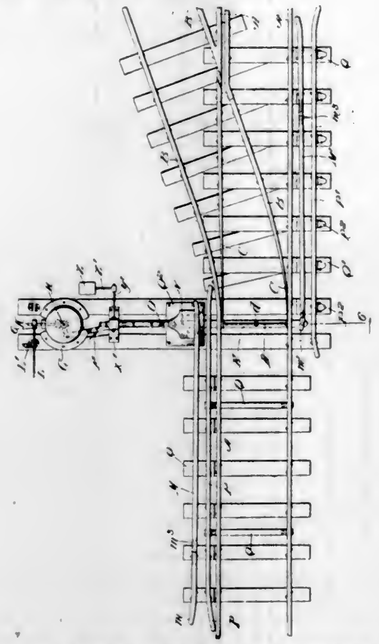
2. Apparatus for producing telescopic effects in soft hats and the like comprising two rings, adjustable in size, and outwardly-projecting stops carried by each ring.

3. Apparatus for producing telescopic crown effects in soft hats comprising two rings one larger than the other, and vertically-adjustable stops carried by each ring for the purpose specified.

4. Apparatus for producing telescopic crown effects in soft hats comprising an inner ring, four adjustable stops outwardly projecting therefrom, an outer ring of smaller diameter, and three outwardly-projecting stops carried thereby.

5. Apparatus for producing telescopic crown effects in soft hats comprising a sheet-metal ring formed with overlapping flaps, screw-posts carried by one of said flaps and projecting through slots in the other flap, clamp-nuts for said posts, and outwardly-projecting independent vertically-adjustable lugs carried by said ring for the purpose specified.

843,641. AUTOMATIC SWITCH-OPERATING MECHANISM. CISCO R. TRAXLER, Winston Salem, N. C. Filed Apr. 28, 1906. Serial No. 314,245.



Claim.—1. Automatic switch-operating mechanism, comprising a rail arranged substantially parallel with the main track but in a horizontal plane above it, connections between this rail and the switch, and an abutment-rail substantially parallel with the switch-operating rail.

2. Automatic switch-operating mechanism, comprising a switch-operating rail arranged substantially parallel with the main track but elevated above it, connections between this rail and the switch, an abutment-rail arranged substantially parallel with the switch-operating rail and in the same horizontal plane, and hand-operated switch-shifting mechanism also connected with the switch.

3. Automatic switch-operating mechanism, comprising a switch-operating rail connected with the switch and arranged substantially parallel with the main track but to one side thereof and in a horizontal plane above it, devices carried by a train for moving this rail laterally, mechanism operated by hand for opening and closing the switch and means movable independently of said mechanism for opening and closing the switch and for automatically locking the switch after it is closed.

4. Automatic switch-operating mechanism, comprising a switch-operating rail connected with the switch arranged substantially parallel with the main track, but to one side thereof and in a horizontal plane above it, and an abutment-rail also arranged to one side of the main track but in the same horizontal plane with the switch-operating rail.

5. Automatic switch-operating mechanism, comprising a switch-operating rail arranged substantially parallel with the main track and connected with the switch, an abutment-rail parallel with the switch-operating rail, devices carried by a train for moving this rail laterally and an automatic locking device for holding the switch closed after it is shifted by the switch-operating rail.

6. Automatic switch-operating mechanism, comprising a sliding bar connected with the switch, a switch-stand for moving this bar manually, a switch-operating rail connected with the sliding bar and arranged to one side of the main track above the plane thereof and substantially parallel therewith, and an abutment-rail parallel with the switch-operating rail.

7. The combination with switch-rails, a sliding bar connected therewith, mechanism for shifting said bar by hand to open and close the switch, a locking device movable independently of said mechanism for shifting the bar and engaging the bar when the switch is open and serving to automatically lock the switch closed after the bar is shifted.

8. The combination of switch-rails, a sliding bar connected therewith, means for shifting the bar, a locking-cam engaging the bar when the switch is open but which automatically locks the bar against movement after the latter is shifted to close the switch, said cam being movable independently of the means for shifting the bar.

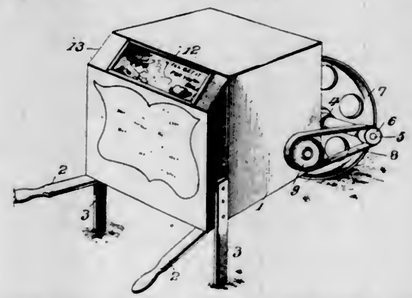
9. The combination of a switch, a switch-operating rail, another rail parallel therewith, and a shoe carried by a train adapted to engage both switch-operating rail and said other rail and to move the former to close the switch, said shoe being adapted to move freely laterally to a limited extent without strain upon the engine-frame.

10. The combination of a switch, a switch-operating rail connected therewith, an abutment-rail and a shoe carried by a train adapted to engage the switch-operating rail and the abutment-rail and which is free to move laterally to a limited extent without strain upon the engine.

11. The combination of a switch, a switch-operating rail connected therewith, an abutment-rail and a swinging shoe suspended from a car or engine and adapted to pass between the switch-rail and the abutment-rail.

12. The combination with an engine-frame, of switch-operating shoes, pivoted bars to which they are attached, hangers to which the bars are pivoted, a shaft to which the hangers are secured and devices extending to an engine-cab for rocking the shaft.

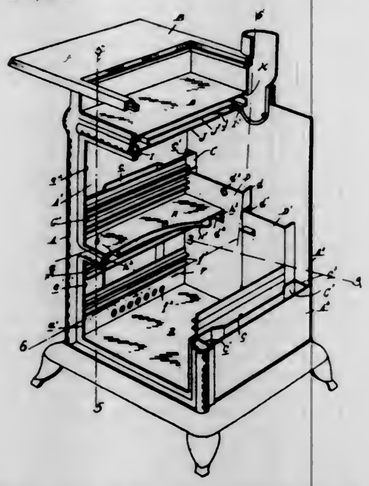
843,642. TOY. PETER F. VAN HALDER, Sharon, Pa. Filed Aug. 27, 1906. Serial No. 332,226.



Claim.—The herein-described toy embodying a closed casing provided with a sight-opening, forwardly-converging handles secured to the bottom of the casing and on which the latter is mounted, the said handles projecting forward of the casing, an axle journaled between the front ends of said handles, a traveling wheel mounted on said axle, the said axle extending transversely and projecting at one end beyond one side of the casing, a series of rollers mounted in the casing, one of said rollers projecting out of one side of the casing, pulleys on the projected ends of the said roller and axle, said pulleys being in alinement with each other, a driving connection be-

tween said pulleys, and a web mounted to travel around said rollers.

843,643. STOVE. EDWIN G. VAN DIE, Detroit, Mich., assignor to The Detroit Stove Works, Detroit, Mich., a Corporation of Michigan. Filed Jan. 16, 1906. Serial No. 296,397.



Claim.—1. In a stove, the combination with a frame and sides, back and doors mounted thereon, of side linings and a back lining formed of complementary interlocking channeled sections, for the purpose described.

2. In a stove, the combination with a frame and sides, back and doors mounted thereon, of detachable side linings and a back lining formed of interlocking trough-shaped sections engaging said side linings, for the purpose described.

3. In a stove, the combination with a frame and sides, back and doors carried thereby, of detachable side and back linings, a flange on said frame and lugs on said back lining and a detachable horizontal partition supported by said flange, lugs and side linings, for the purpose described.

4. In a stove, the combination with a frame and sides, back and doors carried thereby, of detachable side linings, flanges thereon spacing said linings from said sides and a back lining wedged between the rear ends of said side linings, for the purpose described.

5. In a stove, the combination with a frame and sides, back and doors secured thereto, of a top supported on said frame and back, side linings supported on said frame, a bottom supported on said side linings, a back lining supported on said frame and a horizontal partition supported on said frame and back lining.

6. In a stove, the combination with a frame and sides, back and doors carried thereby, of a flange on said frame and lugs on said back, an oven-top supported on said flange and lugs and having apertures in its rear end, a drip-lining supported above said top and a baffle-plate secured to said top and extending from a point in the rear of said apertures to a point near the forward end of said top, said baffle-plate being spaced from said lining and top, for the purpose described.

7. The combination with a stove, of vertically-channeled side linings therein, a horizontal member forming two compartments, supports for said horizontal member secured to said linings and bridging the channels whereby said channels form air-passages communicating between said compartments.

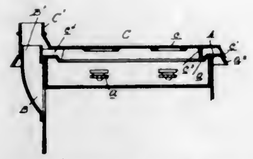
8. In a stove, a detachable back lining formed of complementary interlocking trough-shaped sections provided with the apertures d^3, for the purpose described.

9. In a stove, the combination with a frame and sides, back, and doors carried thereby, of side linings, back linings formed of complementary sections and horizontal members, all supported on said side and back linings and arranged to be inserted and withdrawn through one of said door-openings, for the purpose described.

10. In a stove, an oven, an outlet therefor and a false back for the oven having apertures forming supplementary outlets for said oven, for the purpose described.

11. In a gas-stove oven, an oven-top having flue-apertures near its rear end and a baffle-plate spaced from the upper side of said top to lead forward the products of combustion, for the purpose described.

843,644. GAS-STOVE. EDWIN G. VAN WIE, Detroit, Mich., assignor to The Detroit Stove Works, Detroit, Mich., a Corporation of Michigan. Filed Jan. 16, 1906 Serial No. 296,398.



Claim.—1. The combination with a gas-stove, an open top therefor, top burners therein, an oven having a flue-passage, and a stovepipe-sleeve for said flue-passage, of a removable closed top, a downwardly-extending flange thereon engaging said open top and supporting said closed top, and a stovepipe-sleeve integral with said closed top and larger than and alined with said stovepipe-sleeve for said flue-passage.

2. The combination with a gas-stove, an open top therefor, top burners therein, an oven having a flue-passage, and a stovepipe-sleeve for said flue-passage, of a removable closed top, downwardly-extending flanges thereon engaging said open top on the inside and outside of the edge thereof and supporting said closed top, and a stovepipe-sleeve for said closed top larger than and alined with the stovepipe-sleeve, for said flue-passage.

843,645. SOLDERING-IRON. EDWARD L. VIETH, Chicago, Ill. Filed Apr. 9, 1906. Serial No. 310,751.

Claim.—1. A soldering-iron comprising a tubular holder; means for projecting a jet of gas through the same; a socket fitting the end of said holder opposite said jet having its outer end increased in diameter, a removable bit inserted in the enlarged end of said socket provided with a groove extending longitudinally from its retained end toward its sharpened extremity; and a nipple connecting the end of said holder and socket and projecting into the enlarged portion of the latter.

2. A soldering-iron comprising a tubular holder, a gas-jet consisting of a bushing inserted in one end of said holder; a socket fitting the end of said holder opposite said jet having its outer end increased in diameter, a removable bit inserted in the enlarged end of said socket provided with a groove extending longitudinally from its retained end toward its sharpened extremity, and a nipple connecting the end of said holder and socket and projecting into the enlarged portion of the latter.

3. A soldering-iron comprising a tubular holder having air-inlets therein near one end; a gas-jet consisting of a bushing inserted in said holder between said inlets and the contiguous end thereof; a socket fitting the end of said holder opposite said jet having its outer end increased in diameter; a removable bit inserted in the enlarged end of said socket provided with a groove extending longitudinally from its retained end toward its sharpened extremity; and a nipple connecting the end of said holder and socket and projecting into the enlarged portion of the latter.

4. A soldering-iron comprising a tubular holder; means for projecting a jet of gas through the same; a socket fitting the end of said holder opposite said jet having its outer end increased in diameter; a removable bit inserted in the enlarged end of said socket provided with a groove extending longitudinally from its retained end and gradually decreasing in depth as it extends toward its sharpened extremity; and a nipple connecting the end of said holder and socket and projecting into the enlarged portion of the latter.

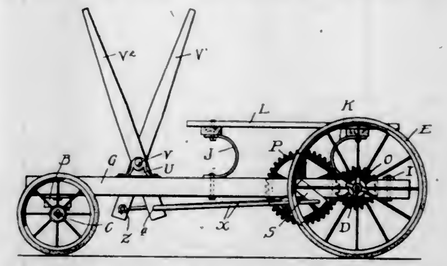


5. A soldering-iron comprising a tubular holder having air-inlets therein near one end; a gas-jet consisting of a bushing inserted in said holder between said inlets and the contiguous end thereof; a socket fitting the end of said holder opposite said jet having its outer end increased in diameter; a removable bit inserted in the enlarged end of said socket provided with a groove extending longitudinally from its retained end toward its sharpened extremity; a nipple connecting the end of said holder and socket and projecting into the enlarged portion of the latter; a handle, and a tube extending longitudinally through said handle the extended end of which is screw-threaded and tapped into the portion of the gas-jet having an enlarged bore.

6. A soldering-iron comprising a tubular holder having air-inlets therein near one end; a gas-jet consisting of a bushing inserted in said holder between said inlets and the contiguous end thereof; a socket fitting the end of said holder opposite said jet having its outer end increased in diameter; a removable bit inserted in the enlarged end of said socket provided with a groove extending longitudinally from its retained end and gradually increasing in depth as it extends toward its sharpened extremity; a nipple connecting the end of said holder and socket and projecting into the enlarged portion of the latter; a handle, and a tube extending longitudinally through said handle the extended end of which is screw-threaded and tapped into the portion of the gas-jet having an enlarged bore.

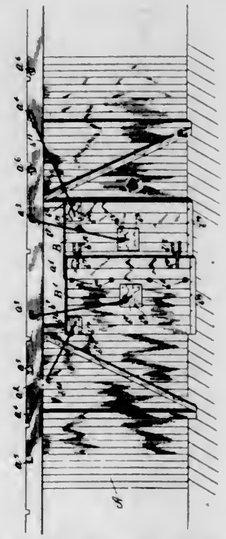
843,646. CHILD'S HAND-CAR. JOSHUA F. VOGEL, Toledo, Ohio, assignor to Gendron Wheel Company, Toledo, Ohio, a Corporation of Ohio. Filed Apr. 23, 1906. Serial No. 313,246.

Claim.—1. In a hand-propelled vehicle, the combination with the front and rear wheeled axles, of spaced longitudinal rails thereon comprising a main supporting-frame, complementary hand-levers fulcrumed on the frame intermediate their ends and extending through and below the frame, cranks operatively connected to said rear axle, and drive connections between said levers and said cranks, said drive connections at the forward end being below the rails and entirely between the vertical planes thereof.



2. In a hand-propelled vehicle, the combination with front and rear wheeled axles, of a main supporting-frame thereon composed of spaced parallelly-arranged rails, hand-levers pivoted intermediate their ends between the rails at the forward end of the frame, cranks operatively connected to said rear axle, and drive connections between the lower ends of said levers and said cranks, said drive connections being located entirely between the vertical planes of the rails at the forward end of the frame and extending to without and on opposite sides of said vertical planes near the rear end of said frame, for the purpose described.

843,647. CAR-DOOR. JOSEPH J. VORHES and HIRAM CRISMAN, Seneca, Kans. Filed Mar. 7, 1906. Serial No. 304,693.



Claim.—1. Means for closing an opening in a car or other supporting structure, consisting of two complementary door-sections, means for detachably interlocking the sections, hanging bars loosely connected with the middle portion and one corner of each section and loosely connected with the structures.

2. Means for closing an opening in a car or other supporting structure, consisting of two complementary door-sections adapted to overlap each other, means for detachably interlocking the edge of one section with the adjacent face of the complementary section, hanging bars loosely

connected with the structure, and means for pivotally connecting said bars with the middle portion and means for connecting said bars with one corner of each section.

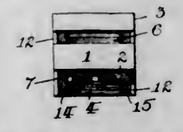
3. Means for closing an opening in a car or other supporting structure consisting of two complementary door-sections adapted to overlap each other, means for detachably interlocking the overlapped portions of said sections, hanging bars loosely connected with the supporting structure, adjustable connections between said bars and the central portions of said door-sections, and pivotal connections between one corner of each door-section and the supporting structure.

4. Means for closing an opening in a car or other supporting structure, comprising two complementary door-sections, means for interlocking said doors when inclosed position, bars for hanging said doors from the structure, devices adjustably connecting said bars with said door-sections and means for locking said devices in their adjusted positions.

5. Means for closing an opening in a car, consisting of two independently-supported complementary door-sections, a locking-bar rotatably mounted on one of said sections and means for engaging said bar, said means secured to the other section and adapted to embrace said bar from opposite sides.

6. Means for suspending a car-door consisting of eye-bolts pivotally mounted on said door, rods or bars loosely connected with said eyebolts and means for loosely connecting the other ends of said bars with the car overhead framing.

843,648. PRINTER'S HOOK. THEODOR WENSEL, St. Paul, Minn. Filed July 16, 1906. Serial No. 326,371.



Claim.—1. A printer's hook, comprising a block, clamping jaw and screw, said block containing a central cavity and two longitudinal slots extending from the central cavity to the outer surfaces of the block and said jaw being provided with lateral flanges respectively adapted to slide in and above said slots.

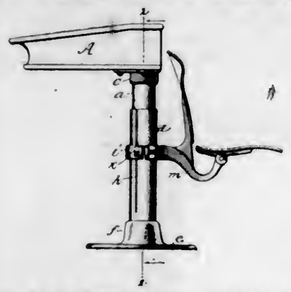
2. A printer's hook comprising a block, clamping-jaw and screw, said block containing two longitudinal slots extending transversely to its outer surfaces and substantially midway between its upper and lower surfaces and a central, threaded cavity of uniform diameter adapted to receive the screw while said jaw is provided with lateral flanges respectively adapted to slide in and above said slots.

3. A printer's hook comprising a block, clamping-jaw and screw, said block containing two longitudinal slots and a central, threaded cavity of uniform diameter, parallel with said slots, said jaw, being provided with lateral flanges adapted to slide in said slots and a yoke for said screw formed to fit over the central portion thereof, while both ends of the screw are threaded in the central cavity of the block.

4. A printer's hook comprising a block formed with a central threaded cavity, a screw having an intermediate shaft and threaded ends adapted to fit, and move through, said threaded cavity, and a clamping-jaw provided with a yoke adapted to span said shaft and connect the jaw with the screw.

5. A printer's hook comprising a block, clamping-jaw and screw, said block containing two longitudinal slots and a central, threaded cavity of uniform diameter, parallel with said slots, said jaw, being provided with lateral flanges adapted to slide in said slots and a yoke for said screw formed to fit over the central portion thereof, while both ends of the screw are threaded in the central cavity of the block, whereby the screw in said cavity is adapted to follow the jaw as it moves the length of the block.

843,649. SCHOOL-DESK FURNITURE. JOHN A. WILKINSON, New York, N. Y., assignor to Mark Cohn, Albany, N. Y. Filed June 13, 1905. Serial No. 265,004.



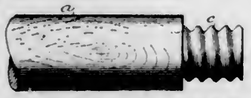
Claim.—1. A desk having a supporting-standard consisting of a telescoping leg, and a seat carried by said leg by means of a releasable clamp, said clamp also serving to lock the telescopic leg in the adjustment desired; substantially as described.

2. A desk, having a supporting-standard consisting of a split tube and a coöperating adjustable member fitted thereto, and a seat provided with a clamp for locking the split tube and coöperating member at the desired height of adjustment and for simultaneously locking the seat in place upon the standard; substantially as described.

3. A desk having a supporting-standard consisting of a split clamping-tube having a filling at its lower end, a base-flange surrounding said lower end, and a coöperating inner tube having a filling, said inner tube passing through the lower panel of the desk and supporting the upper panel thereof, and a guide-casing through which the inner tube passes at the place where it enters the lower panel; substantially as described.

4. A desk, having a supporting-standard, consisting of a split clamping-tube having a filling at its lower end, a base-flange surrounding said lower end, and a coöperating inner tube having a filling and supporting the upper panel of the desk; substantially as described.

843,650. JOINTING OR UNITING WOODEN PARTS. JOHN A. WILKINSON, New York, N. Y., assignor to Mark Cohn, Albany, N. Y. Filed June 13, 1905. Serial No. 265,005.



Claim.—1. The method of providing a wooden element of a joint with a non-shrinkable thread, which consists in providing it at the joint with a section of stout metal tubing and then forming a screw-thread entirely through the walls of the tubing inside and out, and simultaneously driving the screw-threads firmly into the wood, thereby compressing the wood and intimately locking the steel tubing section thereto; substantially as described.

2. The method of providing the wooden spigot element of a joint with a non-shrinkable thread, which consists in driving a section of stout metal tubing over the wooden spigot, and then upsetting the tubing and at the same time compressing the wood and uniting it to the tubing, by forming a screw-thread entirely through the walls of the tubing inside and out and simultaneously driving the screw-threads into the body of the wood; substantially as described.

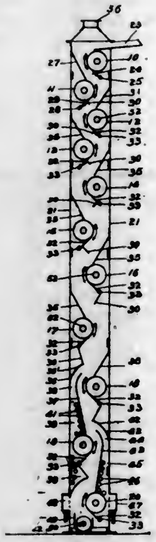
843,651. FISHING-TACKLE. CLAUDE R. WILLING, Nanticoke, Md., assignor of one-half to Robert H. Young, Nanticoke, Md. Filed July 16, 1906. Serial No. 326,349.

Claim.—The herein-described bait-holder comprising a triangular-shaped body constructed of a single strand of resilient wire and having a line-engaging eye at one of its angles formed by coiling the strand upon itself, an integral hook at another of its angles formed by bending one end of the strand upon itself, and a pointed bait-receiving pin



projecting from the third angle of the triangular-shaped body and adapted to engage said hook, substantially as shown and for the purpose set forth.

843,652. SLOP-DRIER. FREDERICK G. WISELOGEL, Indianapolis, Ind., assignor to United States Construction and Utilization Company, Rochester, N. Y., a Corporation of New York. Filed Oct. 8, 1906. Serial No. 338,067.



Claim.—1. A drier consisting of a plurality of rotary drums arranged in vertical series, and spaced at gradually-increasing intervals from top to bottom, scrapers arranged adjacent said drums, and means for heating said drums.

2. A drier consisting of a plurality of rotary drums arranged in vertical series, and spaced at gradually-increasing intervals from top to bottom, scrapers arranged adjacent said drums, means for heating said drums, and means for admitting an upward current of air around the drums during the downward passage of the drying material.

3. A drier consisting of an inclosing casing, a plurality of rotary drums arranged therein in vertical series, means for heating said drums, a scraper arranged adjacent each drum, and deflector-plates for deflecting material scraped from one drum upon the next lower drum.

4. A drier consisting of an inclosing casing, a plurality of rotary drums arranged therein in vertical series, means for heating said drums, a scraper arranged adjacent each drum, deflector-plates for deflecting material scraped from one drum upon the next lower drum, and means for permitting the injection of a blast of air into the lower end of said casing.

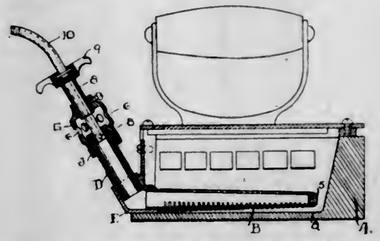
5. A drier consisting of an inclosing casing, a plurality of rotary drums arranged therein in vertical series, means for heating said drums, a scraper engaging each drum, deflectors arranged above the lower drums, and means for heating some of the lower deflectors.

6. A drier consisting of an inclosing casing, a plurality of rotary drums arranged therein in vertical series, means for heating said drums, deflectors arranged above the lower drums, and means for heating some of the lower deflectors.

7. A drier consisting of an inclosing casing, a plurality of rotary drums arranged therein in vertical series means for heating said drums, a scraper engaging each drum, deflectors arranged above the lower drums, an air-chamber formed behind some of the lower deflectors, heating means arranged in the air-chamber for heating the chamber, and the deflector, and means for permitting a flow of air through said air-chamber and thence upward through the casing through the downwardly-flowing material.

8. A drier consisting of an inclosing casing, a plurality of rotary drums arranged therein in vertical series, means for heating said drums, a scraper engaging each drum, deflectors arranged above the lower drums, an air-chamber formed behind some of the lower deflectors, heating means arranged in the air-chamber for heating the chamber, and means for permitting a flow of air through said air-chamber and thence upward through the casing through the downwardly-flowing material.

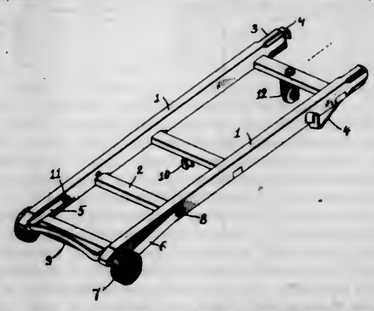
843,653. GAS-BURNER FOR SAD-IRONS. ROBERT WUFFLI, Cleveland, Ohio. Filed June 28, 1906. Serial No. 323,892.



Claim.—1. A gas-burner for sad-irons having a bore tapered in straight lines uniformly from end to end and outlets for the gas along the bottom of the burner having greatest area nearest the inlet for the gas and smallest area at the opposite extremity of the burner.

2. A gas-burner for sad-irons tapering uniformly internally from its base to its opposite end and provided with transverse slots in its bottom diminishing in length in proportion to the diminution of the cross-section of the bore of said burner.

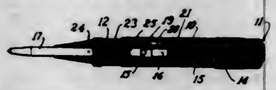
843,654. SKID AND TRUCK. FREDERICK W. YOUNG, Rock Island, Ill., assignor of one-half to Robert M. Pearce, Rock Island, Ill. Filed Jan. 4, 1906. Serial No. 294,508.



Claim.—In a skid and truck, the combination, substantially as set forth, of a pair of rails whose upper surfaces form an unobstructed runway, the rear ends of the rails being formed as handles, cross-bars connecting the rails, downwardly-open hooks movably mounted upon the handle ends of the rails and adapted to be moved out of the way

of the handles, arms pivoted to the sides of the rails, a shaft carried by the free ends of the arms, and wheels carried by the shaft, the arms being so pivoted to the rails that the shaft and wheels may alternatively occupy positions at the front end of the rails or at substantially the mid-length of the rails.

843,655. AUTOMATIC PRICK-PUNCH. JOHN A. ADELL and LEROY S. STARRETT, Athol, Mass., assignors to The L. S. Starrett Co., Athol, Mass., a Corporation of Massachusetts. Filed Mar. 3, 1906. Serial No. 303,993.



Claim.—1. In automatic prick-punches, the external casing composed of a plurality of connected sections and, within them, a reciprocating hammer and its spring, and a spring-actuated punch protruding terminally from the tip-section, in combination with a releasing member having a slight reciprocating movement transversely through the hammer and with means for automatically actuating said member when the punch is sufficiently retracted, for the purpose set forth.

2. In automatic prick-punches, the external casing composed of a plurality of connected sections, a spring-actuated hammer and punch adapted to reciprocate therein, the hammer having an axial perforation to receive the butt of the punch and a transverse perforation intersecting it, in combination with a spring-actuated stud movable in such transverse perforation and with an inclined shoulder or tapering portion within the body or casing, serving to move said stud when the punch is detracted, for the purpose set forth.

3. In automatic prick-punches, the casing formed of a plurality of connected sections, a spring-actuated punch therein, the tip-section having an adjustable bushing through which the punch reciprocates and the punch being shouldered and reduced terminally, in combination with the spring-actuated reciprocating hammer having intersecting axial and transverse perforations, the operating-stud located in such transverse perforation to engage the punch-shoulder, and perforated for passage of the punch transversely through it, and with the stud-spring and the inclined shoulder in the punch-body, serving to actuate the stud, for the purpose set forth.

843,656. DEVICE FOR FASTENING LEGS TO FURNITURE. NIS ANDERSEN, Clinton, Iowa. Filed Aug. 28, 1906. Serial No. 332,377.

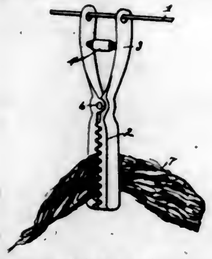


Claim.—1. A means for attaching furniture-legs comprising a bridging having a perforation, a disk located upon the bridging and having a flange which enters the bridge-perforation said flange being provided with a threaded perforation which is eccentrically located, a leg having at its upper end a threaded pin which is adapted to engage and disengage the perforation of the said flange.

2. A means for attaching furniture-legs comprising a bridging having a perforation, a disk located upon the bridging and having a threaded perforation, a leg having its upper end concaved and provided with a threaded pin which is adapted to pass through the perforation and engage and disengage the disk-perforation.

843,657. COW-TAIL HOLDER. NATHAN A. ANGEL, Coldwater, Mich. Filed Dec. 20, 1906. Serial No. 348,802.

Claim.—1. A tail-holder comprising a supporting-wire and a clamp consisting of a pair of transversely-fluted jaws, one of which is provided with a longitudinal rib and the other with a groove adapted to receive the same, handles for said jaws perforated to receive said supporting-wire so that the same may be adjusted longitudinally thereon and a spring arranged between said handles.



2. A tail-holder comprising a pair of transversely-fluted jaws, one of which is provided with a longitudinal rib and the other with a groove adapted to receive the same, handles for said jaws, and a spring arranged between said handles.

843,658. COMBINED SHADE AND CURTAIN FIXTURE. SAMUEL R. AUKER, Altoona, Pa. Filed June 5, 1906. Serial No. 320,321.

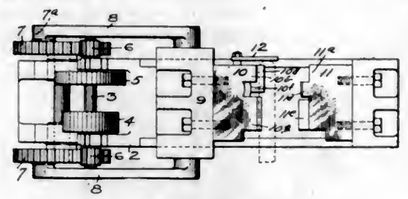


Claim.—1. A fixture of the class described comprising oppositely-arranged hanger-brackets each having a holding-clip and a socket at its upper end, a supporting-bar having its end portions adapted to fit over and engage behind said holding-clips, said supporting-bar carrying at the ends shade-roller brackets, a supplemental bracket-piece for each hanger-bracket having a supporting-leg at one end for engagement with the socket of said bracket, and an adjustable curtain-holder arm slidably fitted to and adjustably connected with each of said bracket-pieces and provided at its outer end with a holder-hook having retaining means.

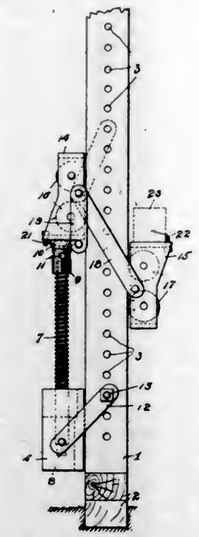
2. A fixture of the class described comprising oppositely-arranged hanger-brackets each having an angled holding-clip and a socket at its upper end, an extensible supporting-bar having end sections adapted to fit over and engage behind said holding-clips, said end sections of the bar carrying shade-roller brackets, a supplemental bracket-piece for each hanger-bracket having a longitudinal play-slot, a supporting-leg at one end for engagement with the socket of said hanger-bracket and at its opposite end provided with an upstanding keeper-lug having a wedge opening therein, and an adjustable curtain-holder arm extending through the opening of said keeper-lug and provided at its inner end with a downturned headed slide-foot engaging the play-slot of the bracket-piece, said holder-arm being provided at the outer end with a holder-hook having a retaining-screw.

843,659. METHOD OF FORMING BRAKE-BEAM FULCRUMS. FREDERICK W. BAUMANN, Montcott borough, Pa., assignor to Oliver Iron and Steel Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Mar. 27, 1906. Serial No. 308,295.

Claim.—The method of forming parts for brake-beam fulcrums consisting in subjecting a straight bar to pressure applied to its edges between dies, thereby twisting said bar to throw opposite portions obliquely to each other, at the same time forming between said portions a rounded depression deepest and widest along one edge of said bar and gradually decreasing in width and depth to the opposite edge, and finally subjecting said bar to further pressure increasing the depth of said depression and decreasing its width.



843,660. HOISTING-JACK. CHARLES O. BREWSTER, St. Paul, Minn. Filed Jan. 5, 1906. Serial No. 294,794.



Claim.—1. In a device of the kind described, the combination with a column or post, of a thrust-block securable in different positions longitudinally of said column, a presser-head adapted to travel on said column, and a reversible jack-screw and coöperating nut arranged to coöperate with said thrust-block and presser-head to cause the latter to travel with respect to the former, substantially as described.

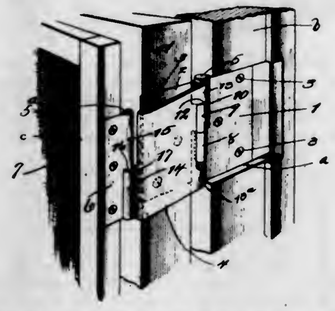
2. In a device of the kind described, the combination with a column, of a thrust-block, and a presser-head, means for securing said thrust-block and presser-head to said column in different positions longitudinally thereof, and a reversible jack-screw and coöperating nut, which nut is adapted to be seated on said thrust-block either side up, and which screw is adapted to operate on said presser-head when turned either end up, substantially as described.

3. In a device of the kind described, the combination with a column, of a thrust-block and a presser-head, links and bolts for anchoring said thrust-block and presser-head to said column in different positions longitudinally thereof, a displaceable and reversible nut-block seated in said thrust-block, and a jack-screw working through said nut-block and adapted to operate on said presser-head when turned either end up, substantially as described.

4. In a device of the kind described, the combination with a column 1, having perforations 3, of a channel-shaped thrust-block 4, links 12 and coöperating bolts 13 adjustably securing said thrust-block to said column 1, a reversible nut-block 6 seated in said thrust-block 4, the jack-screw 7 working in said nut-block and having an angular shank at each end, a socket 9 adapted to receive either angular end of said jack-screw and provided with a swiveled head 10, a primary presser-head 14 adapted to rest upon said head 10 and provided with rollers 16, the secondary presser-head 15 provided with rollers 17, links 18 connecting said presser-heads 14 and 15, and anchoring-links 19 attached to said primary head 14 and adapted to be secured to said column, substantially as described.

5. In a device of the kind described, the combination with a column, of primary and secondary presser-heads provided with rollers engageable with the opposite sides of said column, links connecting said presser-heads, a thrust-block anchored to the lower portion of said column, and a jack-screw and nut coöperating with said thrust-block and primary presser-head, substantially as described.

843,661. DOOR-HINGE. JAMES F. BRICE, Lexington, Ky. Filed Aug. 1, 1906. Serial No. 328,784.



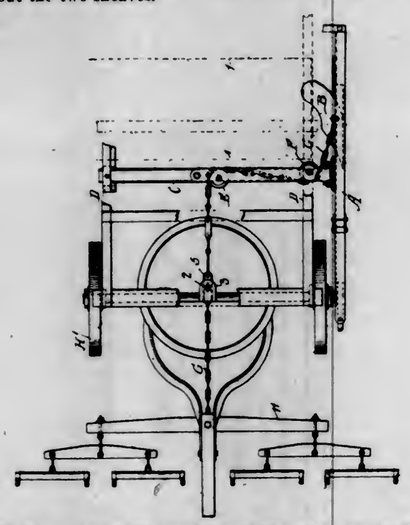
Claim.—In combination with a door-jamb having a recess, a door, a supplemental or screen door; of a hinge composed of four leaves, one leaf 2 being secured to the door proper by screws 3; the leaf 1 being secured to the door-jamb within said recess; the said leaf 2 having a hollow roll integral therewith, said roll having a shoulder; the said leaf 1 having a hollow roll; the third leaf 4 having a pair of hollow rolls upon one edge thereof, one of which having an offset to engage said shoulder, a pivot-pin for the leaves 2, 4 and 1 and adapted to hold the said rolls in relation to one another; a fourth leaf secured to the supplemental door having a hollow roll, said hollow roll having an offset, the said third leaf having a hollow roll integral with the opposite edge thereof, said roll having a shoulder to be engaged by said offset carried by the fourth leaf, and a pivot-pin for the fourth and third leaves, said recess adapted to receive the third leaf when the supplemental door is closed.

843,662. ELEVATING-GRADER. LUKE V. BROPHY, Fort Wayne, Ind., assignor to Indiana Road Machine Company, Fort Wayne, Ind., a Corporation of Indiana. Filed Dec. 10, 1906. Serial No. 347,083.

Claim.—1. In an excavating-machine of the class set forth, a plow; a transverse stay member connected with the plow; a draft chain or cable attached to a part or member of the machine forward of the stay member and extended back to and connected with the plow at a point back of the connection between the plow and stay member; a sheave supported ahead of the connection between the draft chain or cable and the plow, and a sheave supported relatively nearer the longitudinal middle line of the machine, the draft chain or cable being extended back to and about the sheave which is relatively nearer the middle longitudinal line of the machine, and thence extended laterally to and about the sheave which is relatively nearer the plow, and thence extended back to its point of connection with the plow in rear of the connection between the plow and stay member.

2. In an excavating-machine of the class set forth, a plow; a transverse member connected with the plow; a draft chain or cable attached to a part or member of the machine forward of the stay member and extended back to

and connected with the plow at a point back of the connection between the plow and stay member; a sheave supported upon the stay member adjacent to the plow and ahead of the connection between the plow and draft chain or cable, and a sheave supported relatively nearer the middle longitudinal line of the machine, the draft chain or cable between its attached ends being arranged to pass about the two sheaves.

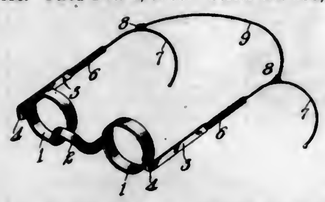


3. In an excavating-machine of the class set forth, a plow supported at one side of the machine; a transversely-arranged stay-bar having hinge connections with the body-frame and the plow; a draft chain or cable attached to a part or member of the machine ahead of the middle portion of the stay-bar and extended back and connected with the plow in rear of the connection between the plow and stay-bar; a sheave supported for bodily movement in unison with the stay-bar and arranged ahead of the connection between the plow and the chain or cable, and a second sheave supported upon the machine relatively toward the middle longitudinal line thereof, the chain or cable being arranged to pass about the two sheaves and thereby having its portion between the sheaves deflected laterally with relation to the line of progression of the plow.

4. In a machine of the class set forth, a wheeled carriage provided with an elevating-conveyer; a plow arranged at or toward one side of the wheeled carriage; a transversely-arranged hinged or pivoted stay-bar for laterally staying the plow; a pair of sheaves supported upon the stay-bar, one of said sheaves being supported upon the stay-bar adjacent to the plow and the other being supported upon the stay-bar relatively nearer the longitudinal middle line of the machine, and a draft chain or cable attached to a part or member of the machine ahead of the sheave which is relatively nearer the middle longitudinal line of the machine, said draft chain or cable being arranged to pass about the sheave last mentioned and thence to and about the sheave which is nearer the plow, and thence rearwardly to a point where it is secured to the plow.

5. In a machine of the class set forth, a wheeled carriage; a plow supported at or toward one side of the carriage; a transversely-arranged stay-bar having hinge connection with the plow at one side of the machine and with the body-frame of the carriage toward the opposite side of the machine; a sheave supported on the draft-bar adjacent to the plow; a sheave supported on the draft-bar toward the longitudinal middle portion thereof; and a draft chain or cable connected with the evener and extending back therefrom to and about the sheave which is arranged at or toward the middle of the stay-bar, and thence extending laterally to and about the sheave which is adjacent to the plow, and thence extending back to and connected with the plow.

843,663. EYE-EXERCISER. GEORGE BULLOCK, Poplar Bluff, Mo. Filed Dec. 4, 1905. Serial No. 290,086.



Claim.—1. An eye-exerciser, comprising two rings, a bridge connecting said rings, a temple-piece connected to each ring, eyes formed on said temple-pieces, and an elastic connection fastened to said eyes, substantially as specified.

2. An instrument for maintaining continuous and uniform pressure against the upper and lower eyelids comprising, two rings arranged to press against the eyelids within the eye sockets or cavities, a bridge connecting said two rings and arched beyond possible engagement with the nose, forwardly-arched temple-pieces connected to said rings, springs connected to the rear ends of said temple-pieces, and ear-hooks on the rear ends of said springs to coöperate with said springs to force said two rings against the eyelids continuously and uniformly with any desired degree of pressure, substantially as and for the purpose specified.

3. In an eye-exerciser, the combination of two rings arranged to bear against the eyelids within the eye sockets or cavities, a bridge connecting said two rings and arched beyond possible engagement with the nose while in use, forwardly-arched temple-pieces connected to said rings, and automatic means in connection with said arched temple-pieces to force said rings against the eyelids with any predetermined degree of pressure when the device is in use, substantially as specified.

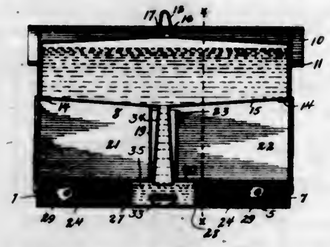
4. As an article of manufacture, an eye-exerciser comprising in combination, two rings arranged to bear against the upper and lower eyelids within the eye sockets or cavities, a bridge connecting said two rings and arched beyond possible engagement with the nose while in use, a forwardly-arched member attached to the outer side of each ring, a temple-piece hinged to each of said arched members, hooks at the rear ends of said temple-pieces adapted to engage behind the ears, means whereby an elastic connection may be connected to said temple-pieces, and automatic means separate from such connection in connection with said temple-pieces and hooks to press said rings continuously and uniformly against the eyelids when the device is in use, substantially as specified.

5. An eye-exerciser comprising two rings arranged to bear against the eyelids, forwardly-arched members 4 connected to said rings, temple-pieces hinged to said members, automatic means to hold said rings against the eyelids, and a bridge connecting said two rings and arched beyond possible engagement with the nose, substantially as specified.

6. An instrument of the character described comprising two rings, a bridge connected to said rings, a forwardly-arched temple-piece fastened to each ring, a spring connected to each temple-piece, a hook connected to each spring, eyes formed on said hooks, and an elastic connection fastened to said hooks.

843,664. POULTRY FEEDING AND WATERING DEVICE. ALBERT A. CONRAD and GEORGE F. CONRAD, Amanda, Ohio. Filed Aug. 31, 1906. Serial No. 332,738.

Claim.—1. A device of the character described, comprising a casing which is divided into feed-compartments, and a water-cup extending entirely beneath said compartments and projecting beyond each side of the casing, the side walls of the feed-compartments terminating short of the bottoms of said feed-compartments, means for controlling the flow of feed from said compartments and a centrally-located water-tank for supplying water to said water-cup.



2. A device of the character described, comprising a casing which is divided into feed-compartments, and a water-cup extending entirely beneath said compartments and projecting beyond each side of the casing, the side walls of the feed-compartments terminating short of the bottoms of said feed-compartments, slides for controlling the flow of feed from said compartments and a centrally-located water-tank for supplying water to the water-cup.

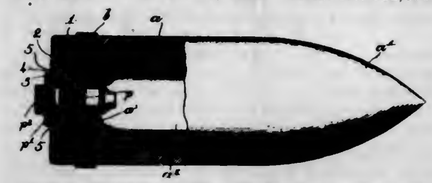
3. In a device of the character described, the combination with a rectangular base divided into feed-compartments and a water-cup, of a casing of less width at its bottom than said base, the side walls of said casing terminating short of the bottom of said casing, slides for controlling the flow of feed from said casing to said feed-compartments, a water-tank located centrally above the feed-compartments, and a pipe carried by said water-tank which projects into said water-cup.

4. In a poultry feeding and watering device, the combination with a casing having inclined side walls, of a rectangular base portion, the side walls of the casing terminating short of the bottom of said base portion, slides which extend the full length of the base portion for controlling the flow of feed from the casing to the rectangular base portion, vertical bars the ends of which are secured to the upper portion of the casing and to the outer wall of the rectangular base portion, transversely-extending walls extending across said base portion beneath the casing and forming a water-cup which projects upon opposite sides of the casing, and a water-tank centrally located within the casing and having a depending pipe which projects into the water-cup.

5. In a poultry feeding and watering device, the combination with a casing having inclined side walls, of a rectangular base portion, the side walls of the casing terminating short of the bottom of said base portion, slides which extend the full length of the base portion for controlling the flow of feed from the casing to the rectangular base portion, vertical bars the ends of which are secured to the upper portion of the casing and to the outer wall of the rectangular base portion, transversely-extending walls extending across said base portion beneath the casing and forming a water-cup which projects upon opposite sides of the casing, a water-tank centrally located within the casing and having a depending pipe which projects into the water-cup, and a guard-tube surrounding said depending pipe for preventing the passage of feed into the water-cup.

6. In a poultry feeding and watering device, the combination with a casing having inclined side walls, of a rectangular base portion, the side walls of the casing terminating short of the bottom of said base portion, slides which extend the full length of the base portion for controlling the flow of feed from the casing to the rectangular base portion, vertical bars the ends of which are secured to the upper portion of the casing and to the outer wall of the rectangular base portion, transversely-extending walls extending across said base portion beneath the casing and forming a water-cup which projects upon opposite sides of the casing, a water-tank centrally located within the casing and having a depending pipe which projects into the water-cup, a guard-tube surrounding said depending pipe for preventing the passage of feed into the water-cup, a lever pivoted in said water-cup, the outer end of which lies outside of the casing, and a valve carried by the inner end of said lever and adapted to close the lower end of said pipe.

843,665. PROJECTILE AND FUSE-PLUG THEREFOR. CHARLES F. COWDREY and HENRY E. COWDREY, Fitchburg, Mass. Filed Nov. 9, 1906. Serial No. 342,600.



Claim.—1. In a chambered projectile having a threaded opening in its base and a concentric recess, and a flanged fuse or firing plug having an annular portion on the inner face of the flange to enter and seat in said recess and seal the thread when the plug is screwed into place.

2. A chambered projectile having a threaded opening in its base and a recess concentric with said opening, a flanged fuse or firing plug adapted to be screwed into the opening, an annular projection on the inner face of the flange to enter the recess when the plug is screwed into place, and means to cause said projection and recess to form a gas-seal for the thread.

3. A chambered projectile having a threaded opening in its base and a recess concentric with said opening, a flanged fuse or firing plug adapted to be screwed into the opening, an annular projection on the flange to enter the recess when the plug is screwed into place, and means to expand the projection against the walls of the recess when the plug is screwed into place, to form a gas-seal for the thread.

4. A threaded fuse or firing plug having a flange at its outer end, and an annular projection on the inner face thereof to seat tightly in a recess in the projectile-base, to form a gas-seal for the thread.

5. A chambered projectile having a threaded opening in its base and a recess concentric with said opening and having its outer wall beveled, a fuse or firing plug adapted to be screwed into the opening, an annular projection on the plug to enter the recess when the plug is screwed into place, and sealing material introduced into the annular clearance formed in the recess between the leveled outer wall thereof and the adjacent face of the projection on the plug.

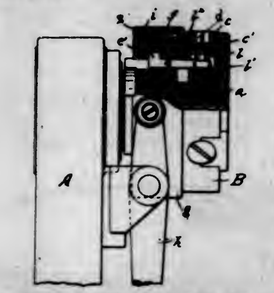
6. A chambered projectile having a threaded opening in its base and a concentric recess having its inner wall inwardly beveled, and a fuse or firing plug having an annular projection to enter the recess, the inner surface of said projection being beveled to engage the inner wall of the recess and be forced into sealing engagement therewith as the plug is screwed home.

843,666. CHUCK. WILLIAM S. DAVENPORT, New Bedford, Mass., assignor to Brown and Sharpe Manufacturing Company, Providence, R. I., a Corporation of Rhode Island. Filed Nov. 4, 1901. Serial No. 81,111.

Claim.—1. In a chuck, the combination, with the chuck-body, of radially-adjustable jaws, screws for adjusting said jaws toward or from the axis of the chuck, wedges mounted in ways in the chuck-body and arranged to act upon said adjusting-screws, and means for actuating said wedges to close and open the jaws.

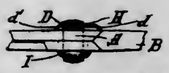
2. In a chuck, the combination, with the chuck-body, of a radially-adjustable jaw, a screw for adjusting said jaw toward or from the axis of the chuck, said adjusting screw being provided with a shoulder, a wedge mounted in ways in the chuck-body and bearing against said shoulder, and means for actuating said wedge to close and

open said jaw, said wedge also constituting a bearing for said adjusting-screw.



3. In a chuck, the combination, with the chuck-body, of radially-adjustable jaws, screws for adjusting said jaws, each of said adjusting-screws being provided with a shoulder, wedges mounted in ways in the chuck-body and arranged to bear against said shoulders, and a sliding sleeve for actuating said wedges to close and release the jaws, said wedges constituting bearings for the adjusting-screws.

843,667. SHEARS OR THE LIKE. FREDERICK D. DAVIES, Brooklyn, N. Y. Filed Aug. 28, 1905. Serial No. 276,131.



Claim.—1. A pair of shear members or the like connected by a freely-rotatable pivot having a head at one end and an annular groove near the other end, together with a flat spring-plate having one end downturned and resting thereby upon the nail-surface to dispose its body portion in a longitudinal plane at an angle to the horizontal of the nail, said plate having a slot in slidable engagement with the groove in the pivot and having a seating portion, and said nail-surface being provided with depressions, arranged longitudinally of the nail, to adjustably seat said plate, and prevent lateral movement thereof.

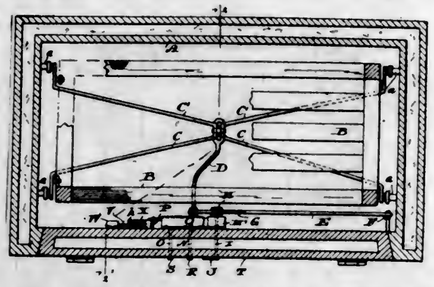
2. A pair of shear members or the like connected by a freely-rotatable pivot having a head at one end and an annular groove near the other end, said groove having a right-angular bearing-surface, together with a flat spring-plate having one end downturned and resting thereby upon the nail-surface to dispose its body portion in a longitudinal plane at an angle to the horizontal of the nail, said plate having a slot in slidable engagement with the bearing-surface in the pivot-groove, and having a seating portion, and said nail-surface being provided with depressions, arranged longitudinally of the nail, to adjustably seat said plate, and prevent lateral movement thereof.

3. A pivot for shears or the like having an annular groove near one end thereof and a retaining-shoulder near its other end, a tensional device fitting in the groove and bearing against a shear member, and a tensional head retained by the shoulder at the other end of the pivot and bearing against the other shear member.

4. In a pair of shears, a shear member provided with depressions arranged longitudinally of the nail, a pivot, an adjustable tensional device at one end of said pivot adapted to engage with said depressions, and a tensional head at the other end of said pivot whereby pressure applied against the tensional head will cause the pivot to move to relax the tension of the adjustable device permitting the latter to be more easily freed from the depression in which seated, to facilitate adjustment.

843,668. REFRIGERATOR. CHARLES DUKELOW, MARTIN J. KIER, and HERMAN A. JAEGER, Oconomowoc, Wis. Filed Jan. 2, 1906. Serial No. 294,090.

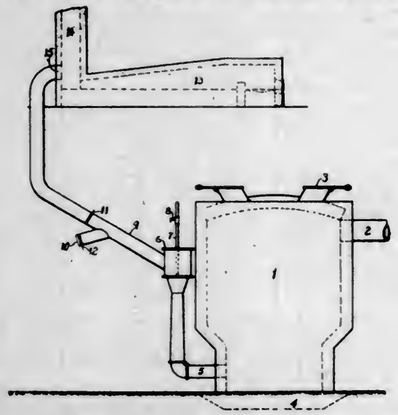
Claim.—1. In a refrigerator, an ice-chamber, scale-supporting mechanism for the same, a register in connection with the scale-supporting mechanism for indicating the initial weight of ice, and a supplementary register arranged to be thrown into gear with the first-named register, whereby the amount of ice consumed is registered.



2. In a refrigerator, an ice-chamber, scale-supporting mechanism for the same, a communicating door for the chamber, a fixed register mechanism in permanent gear connection with the scale mechanism, a supplementary register mechanism for engagement with the first-named register, and means in connection with the supplementary register and ice-chamber door, whereby the said supplementary register is thrown into engagement with the fixed register when the door is closed.

3. In a refrigerator, provided with a filling-door and a dispensing-door, a suspended ice-chamber, scale-supporting mechanism therefor, a fixed register mechanism in permanent gear connection with the scale mechanism, a supplementary register for engagement with the fixed register, and means in connection with the supplementary register and filling-door, whereby said supplementary register is thrown into engagement with the fixed register when the door is closed.

843,669. APPARATUS FOR PRODUCING GAS. CARLETON ELLIS, New York, N. Y., assignor to Combustion Utilities Company, New York, N. Y., a Corporation of New York. Filed May 11, 1905. Serial No. 259,925.

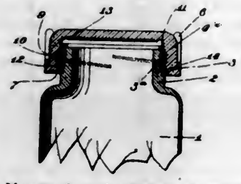


Claim.—1. In a gas-producing plant, the combination of a gas-producer adapted to contain a deep bed of fuel, a gas-delivery-pipe therefor, a source of products of combustion, a direct pipe connection between such source and the draft-inlet of the producer, a valved inlet opening to the air on such pipe connection, a valve in the pipe connection between the source of products of combustion and the air-inlet, an injector-collar on the pipe connection between the air-inlet and the producer, and a valved pipe passing through the collar and ending in a jet-nozzle inside the pipe connection, whereby a controllably-proportioned mixture of products of combustion and air may be introduced into the draft-inlet of said producer by the action of said jet-nozzle.

2. In a gas-producing plant, the combination of a gas-producer adapted to contain a deep bed of fuel, a gas-delivery pipe therefor, a source of products of combustion, a direct pipe connection between such source and the draft-inlet of the producer, a valved inlet opening to the air on such pipe connection, a valve in the pipe connection between the source of products of combustion and the air-inlet, an injector-collar on the pipe connection between the air-inlet and the producer, and a valved steam-pipe passing through the collar and ending in a jet-nozzle inside the pipe connection whereby a controllably-proportioned mixture of steam, products of combustion and air may be introduced into the draft-inlet of said producer by the action of said jet-nozzle.

3. In a gas-producing plant, the combination of a gas-producer adapted to contain a deep bed of fuel, a gas-delivery pipe therefor, a fuel-burning furnace provided with a chimney-stack, a pipe connection between the said stack and the draft-inlet of the producer, a valved air-inlet open to the atmosphere on said connection, a valve in the pipe connection between the stack and the producer, an injector-collar on the pipe connection between the air-inlet and the producer, and a valved steam-pipe passing through the collar and ending in a jet-nozzle inside the pipe connection, whereby a controllably-proportioned mixture of air, products of combustion from said stack and steam may be introduced into the draft-inlet of said producer by the action of said jet-nozzle.

843,670. CLOSING DEVICE FOR VESSELS. WILLIAM B. FENN, Columbus, Ohio. Filed Mar. 28, 1906. Serial No. 308,383.



Claim.—1. Means for closing a vessel consisting of a cover provided with a flange having on its inner side projections lying at angles to each other, and a sealing-ring to fit between said flange and the vessel.

2. Means for closing a vessel consisting of a cover provided with a flange having on its inner side a plurality of projections lying at angles to each other and alternating with each other around the flange, and a sealing-ring to fit between said flange and the vessel.

3. Means for closing a vessel consisting of a cover provided with a flange having on its inner side a plurality of projections arranged in groups and at angles to each other and a sealing-ring to fit between said flange and the vessel.

4. Means for closing a vessel having the periphery of its end provided with projections, said closing means consisting of a cover provided with a flange having on its inner side projections lying at angles to each other, and a sealing-ring to fit between said flange and the vessel and adapted to engage the projections of the vessel and cover.

5. Means for closing a vessel having the periphery of its end provided with a thread, said closing means consisting of a cover provided with a flange having on its inner side projections lying at angles to each other, and a sealing-ring adapted to engage the projections of the cover and the threads of the vessel.

6. Means for closing a vessel consisting of a cover provided with a flange adapted to engage a sealing material, said flange also being tapered inward at its upper end whereby it is adapted, when the cover is applied to the vessel, to compress the sealing material between the vessel and flange and into engagement with the flange.

7. Means for closing a vessel having an annular shoulder below the upper end thereof, said means consisting of a sealing material, a flanged cover adapted to engage the sealing material, the flange of said cover also being tapered inward at its upper end whereby it is adapted to coöperate with the shoulder on the vessel to compress said sealing material into engagement with said flange.

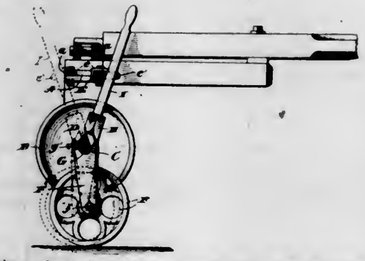
8. Means for closing a vessel having a thread on its end and a shoulder below said thread, said means consisting of a sealing material and a flanged cover adapted to be engaged by the sealing material, said flange being also tapered inward at its upper end to coöperate with said shoulder to compress the sealing material into engagement with said flange.

9. Means for closing a vessel having a tapering end provided with means for engaging a sealing material and a shoulder below said engaging means, said closing means comprising a sealing material and a cover provided with a flange having means thereon for engaging the sealing material and an inwardly-tapering wall above said engaging means, said tapering wall and said shoulder adapted to cooperate to press the sealing material into engagement with the flange of the cover.

10. A vessel having a downwardly-facing shoulder around its neck and threads below said shoulder, combined with a cover for said vessel and a sealing-ring therein to coöperate with said shoulder and threads.

11. A vessel having a downwardly-facing shoulder around its neck, with an inwardly-tapering face above said shoulder and threads on the neck below said shoulder, combined with a cover for said vessel and a sealing-ring therein to coöperate with said shoulder and threads.

843,671. DISK-HARROW ATTACHMENT. WILLIAM FETZER, Middletown, Ohio. Filed Nov. 22, 1905. Serial No. 288,556.



Claim.—1. A knockdown truck for disk harrows comprising a wheel, a member carrying said wheel having a socket for the reception of the axle of the disks, and another socket opening at a point above said first-mentioned socket, and a handle portion adapted to be detachably inserted in said last-mentioned socket.

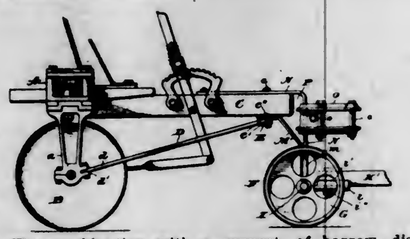
2. In combination with a disk harrow, a truck therefor comprising a wheel, a member carrying said wheel having a socket for the reception of the axle of the disks, a handle projecting upwardly with respect thereto, a transverse bar on the harrow against which said extension abuts, and a slidable catch shiftable longitudinally of said bar to engage said extension to hold the truck in place.

3. A truck for disk harrows comprising a wheel, a member carrying the wheel projecting upwardly therefrom and occupying an approximately true vertical position, said member having a socket projecting thereinto to a point substantially directly above the axle of the wheel carried by said member, and an extension projecting upwardly from the socketed portion of said member and at a slight inclination with respect thereto.

843,672. DISK HARROW WITH TONGUE-TRUCK. WILLIAM FETZER, Middletown, Ohio. Filed May 23, 1906. Serial No. 318,339.

Claim.—1. The combination with a support, of harrow-disks thereon, a stub-tongue projecting forwardly from a point above the disks, a truck comprising a pair of wheels

universally connected to the forward end of said stub-tongue, and a tongue proper secured to said truck at a point below the plane of the axis of the disks and projecting forwardly from the truck, in combination with a hitch arranged above the truck.

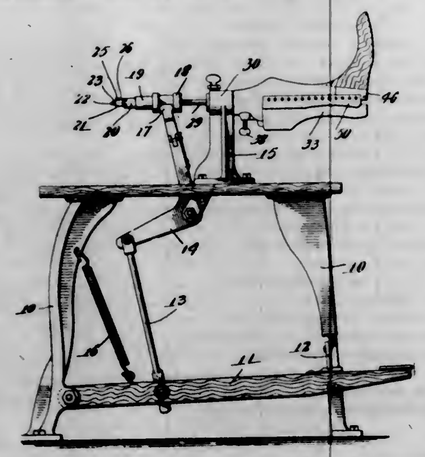


2. The combination with a support, of harrow-disks thereon, a stub-tongue projecting forwardly from a point above the axis of the disks, a truck connected to the forward end of said stub-tongue, and a tongue proper secured to said truck at a point located within the planes of the axis of the disk and the lower edges thereof and projecting forwardly from the truck, in combination with a hitch arranged above the truck.

3. In a disk harrow, the combination with a frame located above the plane of the disks, a stub-tongue having its rear ends secured to the frame and projecting forwardly from the frame and above the plane of the disks, a tongue-truck flexibly secured to the forward end of the stub-tongue and located below the stub-tongue, a hitch located adjacent the forward end of the stub-tongue, and a tongue proper secured to the truck at a point adjacent the axis thereof and below the plane of the stub-tongue.

4. In a disk harrow, the combination with the harrow-disks, of a stub-tongue projecting forwardly from a point above the axis of the disks, a tongue-truck flexibly secured to the outer end of the stub-tongue and located below the same, a hitch above the truck, and a tongue proper secured to the truck at a point adjacent the plane of the axis of the disks.

843,673. BOOT AND SHOE TREE LEG. GUSTAF E. FINQUIST, Worcester, Mass., assignor to The Golbert Last Company, Worcester, Mass., a Corporation of Massachusetts. Filed May 23, 1906. Serial No. 318,352.



Claim.—1. A boot and shoe tree leg having undercut ways and a movable side section, a last provided with a T-iron adapted to enter said ways, and a pin on said side section projecting into said ways, said T-iron having a cut-away portion to receive said pin.

2. A boot and shoe tree leg having ways, a last provided with a T-shaped projection for entering said ways, an expansible side, and a pin carried by said expansible side and adapted to project into said ways, the T-shaped projection being provided with a notch for receiving said pin.

3. The combination of a boot and shoe tree leg having ways, and a movable section with a last provided with a guide for said ways, the guide having a notch, means for securing the guide in stationary position on the ways, and a pin on the movable section for entering the notch and for preventing the removal of the last.

4. The combination of a boot and shoe tree leg having ways, with a last provided with a guide for said ways, the guide having a notch, a pin on the tree-leg for entering the notch and preventing the removal of the last, an expansible heel portion on the tree-leg, means for expanding the heel portion, and means operable by the expanding means for locking the guide on the ways.

5. The combination of a boot and shoe tree leg having ways, a last provided with a guide for said ways, said tree-leg having an expansible heel portion, means for expanding the heel portion, and means operable by the expanding means for locking the guide on the ways.

6. In a boot and shoe tree leg, the combination of a laterally-expansible back or heel portion, a replaceable toe or last, means for expanding the back or heel portion, and means operable by said expanding means for locking the toe or last on the back or heel portion.

7. In a boot and shoe tree leg the combination of an expansible, resilient, split metal back or heel portion, a replaceable last, means for expanding the back or heel portion, and means operable by the expanding means for locking the last on the back or heel portion.

8. A tree-back split to form two integral resilient side sections.

9. A boot and shoe tree leg having a laterally-expansible and rearwardly-movable back portion or heel.

10. In a boot and shoe tree leg, the combination with a movable split back of resilient material, means for expanding the back, and means for moving the back rearwardly.

11. In a boot and shoe tree leg, the combination with a movable split back of resilient material, means for expanding the back, and means for moving the back rearwardly, a lever for operating both of said means, and means connected with the lever for adjusting the back-expanding means and moving means.

12. In a boot and shoe tree leg, the combination of a back portion of resilient metal, the end of said back portion being slit, means for forcing the slit portions away from each other, means for forcing the said back portion away from the main part of the tree, a sleeve constituting a portion of one of said means, and a rod passing through the sleeve and constituting a portion of the other of said means.

13. In a boot and shoe tree leg, the combination of a back portion of resilient metal, the end of said back portion being slit, means for forcing the slit portions away from each other, means for forcing the said back portion away from the main part of the tree, a sleeve constituting a portion of one of said means, and a rod passing through the sleeve and constituting a portion of the other of said means, a lever directly connected with said sleeve, and an adjusting element adapted to engage said rod and to be engaged by an element connected with the lever.

14. In a boot and shoe tree leg, the combination of a back formed of resilient material and slit at the end, a sleeve, a rod passing through said sleeve, means connected with said sleeve for forcing said back toward and from the last, means connected with said rod for expanding the back, means for moving said sleeve, and means for transmitting motion from the sleeve to the rod, said last-named means being adjustable.

15. In a boot and shoe tree leg, the combination of a movable expansible element, a sleeve for moving said element, a rod for expanding said element, means for moving said sleeve, and a connection between the sleeve and rod comprising a head having a shoulder, and a rotatably-mounted collar having projections of different lengths adapted to engage said shoulder thereby holding the head at adjusted distances from the sleeve.

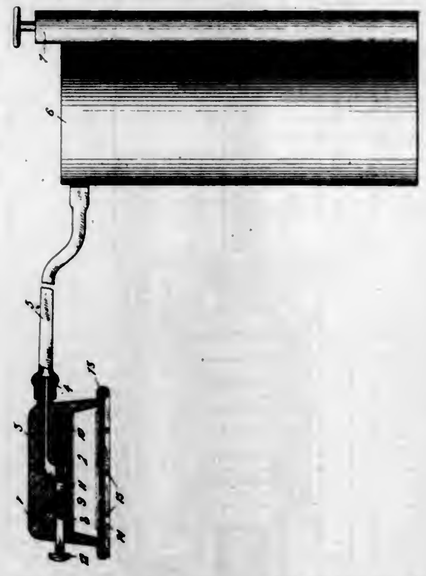
16. In a boot and shoe tree leg, the combination of a movable expansible back, a pair of relatively movable elements, one of said elements having means for moving the back, and the other having means for expanding the back, means for moving one of said elements, a head connected with the other element and having a shoulder, and a collar having projections of different lengths for engaging said shoulder, said collar being located in contact with the other of said elements.

17. In a boot and shoe tree leg, the combination of a movable expansible back, a treadle, a bell-crank operable thereby, a collar connected with the bell-crank, a sleeve to which the collar is secured, a rod passing through said sleeve and having a shoulder projecting therefrom, said sleeve and rod having means for operating said back, and a second collar having projections of different lengths adapted to engage said shoulder, the opposite end of the second collar being located in position to be engaged by the first collar whereby the distance traveled by the sleeve and collar upon the depression of the treadle may be adjusted.

18. In a boot and shoe tree leg, the combination of a pair of reciprocable elements, means for adjusting the location of said elements with respect to each other, means for moving one of said elements into engagement with the other, a split metal back, a pin connected with the tree upon which said back is pivoted, resilient means for holding said back in a certain position, and connections between one of said elements and the back for moving the back out of said position.

19. In a boot and shoe tree leg, the combination of a movable back having a slot, a stationary pin passing through said slot and supported by the frame of the tree, a spring projecting from said back, and an adjustable screw bearing on said spring for normally holding the back in contracted position.

843,674. MASSAGING APPARATUS. EDGAR M. FUNK, Wytheville, Va. Filed June 20, 1906. Serial No. 322,629.



Claim.—1. In an apparatus of the character described the combination with a head and means for establishing suction therethrough; of intersecting cross-bars connected to the head in the line of suction and constituting rubbing devices.

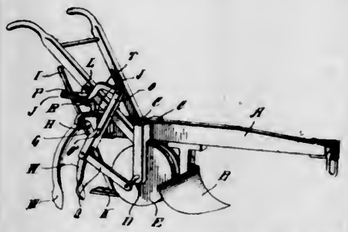
2. In an apparatus of the character described the combination with a head, means for establishing suction therethrough, and means for regulating the suction; of a frame fitted upon the head, and intersecting cross-bars secured within the frame and extending in the line of suction, said bars constituting rubbing devices.

3. In an apparatus of the character described the combination with a recessed head; of a massage-frame surrounding the head adjacent the recessed face thereof, a flexible covering upon the frame, cross-bars within the frame and intersecting the end of the recess, and means for establishing suction through the frame and recess.

4. In an apparatus of the character described the combination with a recessed head; of a massage-frame surrounding the head adjacent the recessed face thereof, a flexible covering upon the frame, cross-bars within the frame and intersecting the end of the recess, means for establishing suction through the frame and recess, and spring-pressed means under control of the operator for regulating the suction.

5. In an apparatus of the character described the combination with a head, and means for establishing suction therethrough; of cross-bars connected to the head in the line of the suction and constituting rubbing devices.

843,675. COTTON-CHOPPER. WILLIAM M. GIBSON, Poplar Creek, Miss. Filed Nov. 22, 1906. Serial No. 344,571.



Claim.—1. A cotton-chopper comprising, in combination with a beam, a plow secured thereto, grooved wheel mounted in suitable hangers fixed to the beam, an angle-lever pivotally mounted upon the beam, a pivotal lever mounted upon the beam, a crank-shaft with which said wheel rotates, pitman connection between said crank-shaft and lever, connections between said crank and pivotal levers, a pivotal rod with scraper at the lower end thereof, said rod being adapted to be tilted by said angle-lever, as set forth.

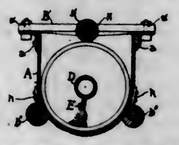
2. A cotton-chopper comprising, in combination with a beam, a plow secured thereto, grooved wheel mounted in suitable hangers fixed to the beam, an angle-lever pivotally mounted upon the beam, a pivotal lever mounted upon the beam, a crank-shaft with which said wheel rotates, pitman connection between said crank-shaft and lever, connections between said crank and pivotal levers, a pivotal rod with scraper at the lower end thereof, said rod being adapted to be tilted by said angle-lever and said angle-lever having an aperture through which said rod passes, as set forth.

3. A cotton-chopper comprising a beam, a hanger fixed thereto, a crank-shaft mounted in said beam, a grooved wheel fixed to said shaft, pivotal lever mounted upon the beam, pitman connections between said lever and crank-shaft, an angle-bar fixed to the beam, an angle-lever pivotally mounted in a horizontal plane upon the angle end of said bar, a tilting rod connected to the beam, scraper upon said rod, the upper end of said rod extending through an aperture in said angle-lever adapted to be tilted thereby and connections between said angle and tilting levers, as set forth.

4. A cotton-chopper comprising a beam, a hanger fixed thereto, a crank-shaft mounted in said beam, a grooved wheel fixed to said shaft, pivotal lever mounted upon the beam, pitman connections between said lever and crank-shaft, an angle-bar fixed to the beam, an angle-lever pivotally mounted in a horizontal plane upon the angle end of said bar, a tilting rod connected to the beam, scraper upon

said rod, the upper end of said rod extending through an aperture in said angle-lever adapted to be tilted thereby, a pin projecting from said angle-lever, an angled link pivotally mounted upon said pin and having its free end engaging an aperture in said tilting lever, as set forth.

843,676. CONVEYER. CHARLES O. GUSTAVSEN, Columbus, Ohio, assignor to Joseph A. Jeffrey, Columbus, Ohio. Filed Apr. 27, 1906. Serial No. 313,998.



Claim.—1. In a screw conveyer, the combination with a trough of a spiral flight-bearing attached to the ends of sections of conveyer-screws and to the shafts thereof, means projecting inward or upward from the surface of the trough for supporting said spiral flight-bearing above the bottom of the trough, and a clamp-bar and wearing device at the top of the trough for holding the spiral flight-bearing in place, substantially as described.

2. In a screw conveyer, the combination with a trough and adjacent screw-sections, of a spiral flight-bearing of greater diameter than the screw-sections and forming one complete revolution, attached to the ends of the screw-sections and shaft, means projecting inward from the trough and supporting said spiral flight-bearing and a clamping and wearing device at the top of the trough, serving to hold the spiral flight-bearing in place, substantially as described.

3. In a screw conveyer, the combination with a trough and adjacent screw-sections, of a spiral flight-bearing of greater diameter than the screws and having a right-angle peripheral flange and attached to the ends of the screw-sections and shafts, a trough liner of suitable thickness supporting said spiral flight-bearing and clamp-bar and wearing-bar secured to the top of the trough above the spiral flight-bearing, substantially as described.

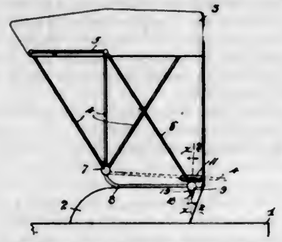
4. In a screw conveyer, the combination with two alining flight-sections and a trough in which they are mounted, of a spiral flight-bearing interposed between the ends of the said flight-sections and comprising a section of a spiral conveyer, a bearing carried by the trough upon which the said spiral flight-bearing rests, and a bearing arranged above the said spiral flight-bearing and engaging therewith for holding it down and in place in the trough, substantially as set forth.

5. In a screw conveyer, the combination with two alining spiral flight-sections, E, of a spiral flight-bearing interposed between the ends of the said flight-sections, and comprising a section of a spiral conveyer provided at its edge with a peripheral bearing-flange, and means for uniting the spiral flight-bearing with the ends of the spiral flight-sections, substantially as set forth.

6. In a screw conveyer, the combination with a trough and two alining spiral flight-sections E, arranged therein, of a spiral flight-bearing interposed between the ends of the said flight-sections, and comprising a section of a spiral conveyer provided at its edge with a bearing-flange, means for uniting the spiral bearing-flight with the ends of the flight-sections E, and a bearing supported by the trough upon which the flanged edge of the spiral flight-bearing rests.

843,677. BUGGY-TOP REST. PERRY D. HICKERSON, Grantsburg, Wis. Filed Aug. 16, 1906. Serial No. 330,821.

Claim.—In a rest for buggy-tops, the combination with a metallic channel-strip 11 lined with a pliable material 12, of a pair of clamping members 13 and 14, having approximately semicircular clamping portions 17 and depending perforated lugs 18, said member 13 being permanently secured to said channel-strip 11, and said member 14 having an elongated slot 16, of a nutted bolt 15 seated in said channel-strip 11 and working through said slot 16, and a nutted bolt 19 passed through said perforated lugs 18, the said nutted bolt serving to hold the clamping portions



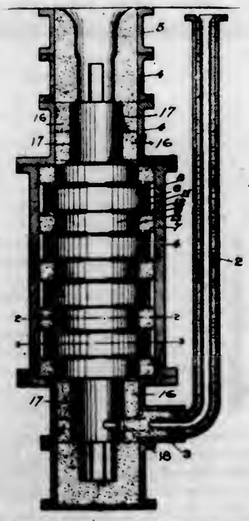
17 of said clamping members clamped upon the hub or trunnion of a buggy-top, with the said channel-strip in position to receive the legs of the rear bow of the buggy-top, substantially as described.

843,678. JEWELRY-HOLDER. MAX JERSEMANN, New York, N. Y., assignor to Schultz, Jersemann Manufacturing Company, New York, N. Y., a Firm. Filed Dec. 8, 1906. Serial No. 346,842.



Claim.—A jewelry-holder having a body provided with an upwardly-extending face, having an aperture therein and a spring secured within the body and projecting through the aperture and the face, and an abutment above the aperture, and having a periphery for engagement with the interior of the ring or similar article of jewelry, such spring being adapted to move away from the abutment whereby the spring and abutment form a grip for securing the ring or similar article against the face of the holder.

843,679. MOLD FOR MANUFACTURING ROLLS. CHARLES JOHNS, Pittsburg, Pa. Filed Oct. 26, 1906. Serial No. 340,654.



Claim.—1. A mold having in combination a cylindrical flask, a series of sand rings forming the collars and grooves

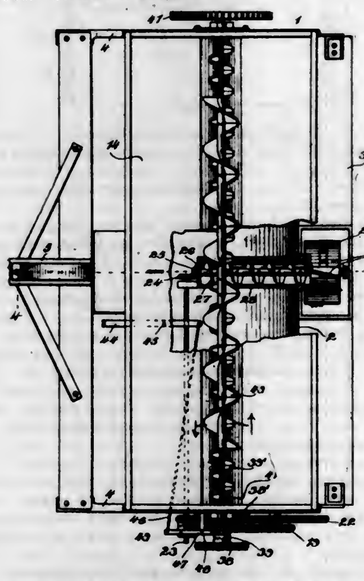
respectively resting one upon the other, said rings having cores composed of a cooling material, whereby the molten metal coming in contact with said rings is cooled more rapidly.

2. A mold having in combination a cylindrical flask, a series of sand rings forming the collars and grooves respectively of the roll, resting one upon the other, and metal-cooling cores embedded within said rings, whereby the molten metal coming in contact with said rings is cooled more rapidly.

3. A mold having in combination a cylindrical flask, a series of sand rings forming collars and grooves respectively resting one upon the other, metal-cooling cores embedded in said rings, and supports on said cores engaging the inner walls of said flask, whereby the molten metal coming in contact with said rings is cooled more rapidly.

4. A mold having in combination a cylindrical flask, a series of sand rings forming the collars and grooves respectively of the roll resting one upon the other, said rings being formed in sections, and metal-cooling cores in said sections, whereby the molten metal coming in contact with said rings is cooled more rapidly.

843,680. LIME-SPREADER. JOSEPH H. KEFAUVER and DANIEL E. KEFAUVER, Middletown, Md. Filed May 14, 1906. Serial No. 316,714.



Claim.—1. In a distributing device of the character described, the combination of a suitable roller, a hopper for carrying material to be distributed, means for distributing the material from said hopper, and means for swinging the said hopper forwardly or backwardly over said roller on the axle of said roller, substantially as described.

2. In a distributing device of the character described, the combination of a suitable roller, a frame associated therewith, a hopper means for distributing the material from said hopper, a frame supporting said hopper, means for connecting said hopper-supporting frame with said first-mentioned frame, and means for moving said hopper-supporting frame relatively to said first-mentioned frame, said hopper-supporting frame being pivoted on the axle of said roller, substantially as described.

3. In a distributing device of the character described, the combination of a suitable roller, a shaft therefor, a frame carried on said shaft, a hopper, means for distributing the material from said hopper, a frame supporting said hopper, said frame being carried on said shaft, means for locking said hopper, supporting frame to said first-mentioned frame, and means for adjusting position of said hopper-supporting frame relatively to said first-mentioned frame said hopper-supporting frame being pivoted on the axle of said roller, substantially as described.

4. In a distributing device of the character described, the combination of a roller, a hopper associated with said roller and provided with an opening therein, a worm-screw secured in said hopper for forcing the lime toward said opening, and a similar worm-screw in said hopper for forcing the lime away from said opening, substantially as described.

5. In a distributing device of the character described, the combination of a hopper and two independent worm-screws in said hopper one of said worm-screws being arranged above the other, substantially as described.

6. In a distributing device of the character described, the combination of a hopper, a worm-screw in said hopper and a similar worm-screw arranged above said first-mentioned worm-screw, both of said worm-screws being located with the hopper, substantially as described.

7. In a distributing device of the character described, the combination of a hopper provided with an opening therein, a worm-screw in said hopper arranged to force the lime toward said opening, and a similar worm-screw in said hopper arranged to force the lime away from said opening, substantially as described.

8. In a distributing device of the character described, the combination of a hopper provided with an opening in the center thereof, a worm-screw in said hopper arranged to lead the lime from the ends of the hopper toward the opening in the center thereof, and a similar worm-screw in said hopper above first-mentioned worm-screw for agitating the lime, substantially as described.

9. In a distributing device of the character described, the combination of a roller, a shaft and hopper associated therewith, a worm-screw in said hopper, a worm-screw below said hopper arranged to receive the lime from said hopper, means for rotating said two worm-screws, a clutch associated with said worm-screw in said hopper and a clutch associated with the driving mechanism of said worm-screw below said hopper, a lever pivoted between said two clutches, means for operating said lever for throwing said clutches in and out of engagement, substantially as described.

10. In a distributing device of the character described, the combination of a hopper, screws located in said hopper, a worm-screw under said hopper arranged to receive the material passing from said hopper, and means for distributing the material passing from said last-mentioned worm-screw, substantially as described.

11. In a distributing device of the character described, the combination of a hopper provided with an opening therein, a worm-screw below said hopper and arranged to receive the material passing from said hopper, a distributing-wheel connected to said worm-screw, a casing for said worm-screw, the blades of said wheel extending over the end of said casing, substantially as described.

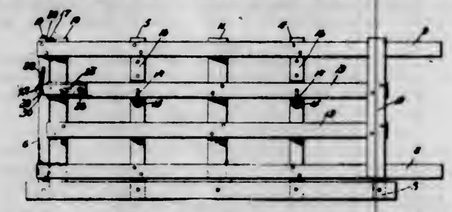
12. In a distributing device of the character described, the combination of a hopper provided with an opening therein, a worm-screw under said hopper and arranged to receive the lime passing from said hopper, a casing for said worm-screw, a distributing-wheel rotated with said worm-screw, the blades of said wheel extending over the end of said casing, said blades having their inner edges turned at substantially right angles to the blades, substantially as described.

13. In a distributing device of the character described, the combination of a hopper provided with an opening therein, means arranged below said hopper for receiving the lime passing therefrom, a distributing-wheel provided with blades, the inner edges of said blades being turned at substantially right angles to the blades, substantially as described.

843,681. SLIDING GATE. LEOPOLD KERBER and WILLIAM H. BAKEHAUS, Sigourney, Iowa. Filed Aug. 21, 1906. Serial No. 331,406.

Claim.—1. In a gate, the combination of a base-beam provided with notches, vertical standards positioned with-

in said notches, a cleat secured to said base-beam and retaining said standards within said notches, a guide-bar secured to said standards near said base-beam, a guide-bar secured to said standards near their upper ends, guide-blocks secured to some of said standards near the upper guide-bar, rollers carried by some of said standards, and a movable gate portion positioned between said rollers and said guide-blocks and in engagement with said guide-bars.



2. In a gate, the combination of a series of standards, including a front and a rear standard, guide-bars secured to said standards, said guide-bar extending beyond the rear standard, a slidable portion, comprising vertical guide members positioned between some of said standards, a vertical guide member positioned upon the outside of said guide-bars, and a bar secured to all of said guide members.

3. In a gate, the combination of standards, an upper and a lower horizontal guide-bar secured to said standards, guiding-blocks secured to some of said standards in engagement with the upper guide-bar, a slidable portion, comprising bars interposed between said upper and lower guide-bars and one of said bars positioned contiguous to said guide-blocks, roller-supporting members secured to some of said standards, and rollers in engagement with one of said bars and journaled upon said supporting members.

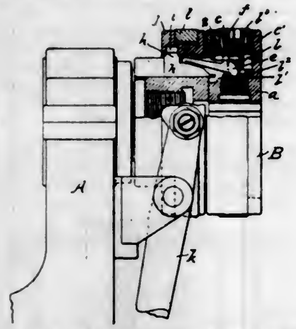
4. In a gate, the combination of standards, roller-supporting members secured to said standards, each supporting member provided with a horizontal body portion and a vertical portion, rollers journaled upon the horizontal portions of said members, a sliding gate portion in engagement with said rollers, said gate portion comprising a pair of horizontal bars, a pair of vertical guide members secured to one side of said bars, and a guide member secured to the opposite side of said bars, the vertical portion of said roller-supporting members engaging one side of one of said bars.

5. In a gate, the combination of a base-beam provided with a plurality of notches, standards positioned within the notched portions of said base-beam, a cleat secured to said base-beam and retaining said standards in said notched portions, vertical guide members positioned between pairs of said standards, a bar connecting said guide members, and a vertical guide member secured to the outer face of said bar and upon opposite sides to that engaged by said first-mentioned guide members.

6. In a sliding gate, the combination of a base-beam provided with notches formed upon one side, vertical standards positioned within the notches of said base-beam, a cleat secured to the base-beam and retaining said standards in said notches, an upper and a lower horizontal bar secured to said standards, said bars extending a considerable distance beyond one of the end standards, guide-blocks secured to said standards below and in engagement with the upper bar, a pair of vertical, movable guide members positioned between some of said standards, a single, vertical guide member on the outside of said bars, a pair of bars between the first-mentioned bars and fixedly secured to said guide members, roller-supporting members carried by some of said standards, each member provided with a horizontal and a vertical portion, the vertical portion normally engaging one side of a bar of said pairs, and rollers in engagement with one of the bars of said pair and journaled upon the horizontal portions of said supporting members.

7. In a gate, the combination with vertical standards, of horizontal guide-bars secured to said standards and extending beyond one of said standards, a pair of vertical guide members, each guide member positioned between two contiguous standards, horizontal bars fixedly secured to said guide members, a vertical guide member secured to said horizontal bars upon the opposite side to said first-mentioned members, the last-mentioned guide member being secured to the end of said horizontal bars contiguous to and adapted to engage the extended ends of said guide-bars.

843,682. CHUCK. FRANK N. MACLEOD, East Providence, and CHARLES A. RICH, Providence, R. I., assignors to Brown & Sharpe Manufacturing Company, Providence, R. I., a Corporation of Rhode Island. Filed Nov. 15, 1901. Serial No. 82,398.



Claim.—1. In a chuck, the combination, with the chuck-body, of radially-movable jaws, levers for actuating said jaws, wedges for operating said levers, and a sliding sleeve overlying said wedges for actuating the same, substantially as described.

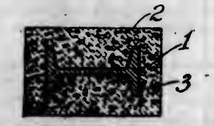
2. In a chuck, the combination, with the chuck-body, of radially-adjustable jaws, screws for adjusting said jaws toward or from the axis of the chuck, levers arranged to act upon said adjusting-screws, wedges for operating said levers, and a sliding sleeve overlying said wedges for actuating the same, substantially as described.

3. The combination with a chuck-body of two jaws arranged to slide radially therein, each of said jaws being provided with converging faces adapted to engage and hold round or hexagonal stock and with a notch or recess at the angle between said converging faces, whereby said jaws are also adapted to engage and hold stock which is square in cross-section.

4. The combination with a chuck-body of two jaws arranged to slide radially therein, each of said jaws being provided with converging faces adapted to engage and hold round or hexagonal stock, and with supplemental faces adapted to engage and hold stock which is square in cross-section.

5. In a chuck, the combination, with the chuck-body, of radially-adjustable jaws, screws for adjusting said jaws toward or from the axis of the chuck, levers arranged to bear on said adjusting-screws and also to bear against the chuck-body, wedges for operating said levers, and a sliding sleeve for actuating said wedges, the end of the lever extending between its operating-wedge and said sliding sleeve, substantially as described.

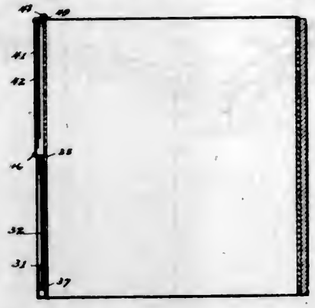
843,683. METAL AND CONCRETE STRUCTURE. HANS MANNHARDT, Chicago, Ill. Filed Nov. 7, 1906. Serial No. 342,378.



Claim.—1. A metal core having its surface coated with a non-corrosive, non-hygroscopic film formed by the evaporation of a volatile solvent carrying in solution a non-corrosive, non-hygroscopic adhesive body, free from drying-oil, and having a concrete covering in contact with said film.

2. A metal core having its surface coated with a film formed by the evaporation of a volatile solvent carrying in solution a resinate of lime, being free from drying-oil, and having a concrete covering in contact with said film.

843,684. COLLAPSIBLE BOX OR CAN. WILLIAM C. MARSHALL, Chicago, Ill., assignor to National Biscuit Company, Jersey City, N. J., a Corporation of New Jersey. Filed July 6, 1905. Serial No. 268,442.



Claim.—1. A knockdown box comprising two L-shaped pieces forming the sides of the box and an open front, each piece being provided on two edges with disengageable interlocking means having a sliding engagement with each other, a guideway on the open front, and a removable box-front having one portion fitting in said guideway, and a second portion hinged to the first portion and fitting over the guideway when in closed position, substantially as described.

2. A knockdown box comprising a plurality of pieces forming the sides of the box and an open front, each piece being provided on two edges with disengageable interlocking means, a guideway formed on the front of said box, and a two-piece box-front having the lower piece fitting in said guideway and the upper portion hinged to the lower portion and fitting over the guideway when in closed position, substantially as described.

3. A box-body provided with a guideway, in combination with a box-front having one portion fitting in said guideway and another portion fitting over said guideway and lying substantially in the same plane with said first-named portion when in closed position, substantially as described.

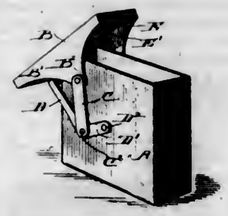
4. A box-body provided with a guideway, in combination with a removable box-front comprising two paneled portions hinged together, one of said portions containing a transparent panel-covering to display the goods, and the other containing a name-plate, substantially as described.

5. A box-body provided with a guideway, in combination with a removable box-front comprising upper and lower paneled portions hinged together, the upper of said portions containing a name-plate, and the lower a transparent panel-covering adapted to display the goods, substantially as described.

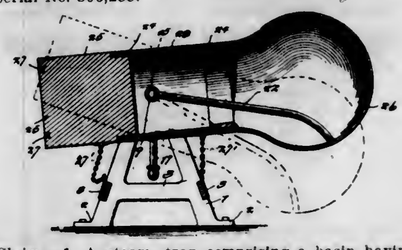
843,685. MATCH-SAFE. MALCOLM E. MITCHELL, Taylor, Tex., assignor of one-half to James J. Conroy, Taylor, Tex. Filed Mar. 30, 1906. Serial No. 308,950.

Claim.—A match-box having a flange-cover provided with depending sides, a locking-bail provided with elbow-shaped members pivotally connected to the side of the box by rivets, links connected to the depending side and to the bend of the elbow-shaped members, of the bail, a piece of packing material arranged on the inner face of said cover and a plate riveted on said packing material to the cover for the purpose described.

843,685.



843,686. STEAM-TRAP. WILLIAM Y. MOFFAT and THOMAS W. BUTLER, Dunmore, Pa. Filed Mar. 15, 1906. Serial No. 306,255.



Claim.—1. A steam-trap comprising a basin having a weighted end, a hollow shaft extending transversely through said basin and having rigid connection therewith, and bearings in which the ends of said shaft are journaled, said shaft being provided with a central partition dividing the same into independent compartments, one of said compartments serving as an inlet-chamber and being formed at its free end with an opening adapted to be in constant registry with an inlet-conductor, and at its other end with openings communicating with the interior of the basin, and the other of said compartments serving as an outlet-chamber and being formed at its free end with an opening adapted to be in registry in a predetermined position of the basin with an outlet-conductor and at its other end with an opening communicating with the interior of the basin.

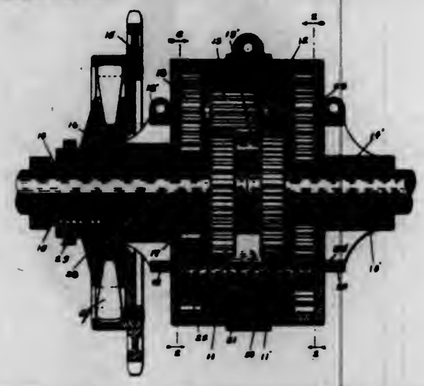
2. A steam-trap comprising a basin having a weighted end, a hollow shaft extending transversely through said basin and having rigid connection therewith, and bearings in which the ends of said shaft are journaled, said shaft being provided with a central partition dividing the same into independent compartments severally having communication with the interior of the basin, one of said compartments serving as an inlet-chamber, and being formed at its free end with an enlarged opening adapted to be in constant registry in any position of the basin with an inlet-conductor extending through the adjacent bearing and the other of said compartments serving as an outlet-chamber and being formed with an opening adapted to be in registry with an outlet-conductor provided in the adjacent bearing for the end of the shaft in a predetermined position.

3. A steam-trap comprising a basin, having a weighted end, a hollow shaft extending transversely through said basin and having rigid connection therewith, bearings in which the ends of said shaft are journaled, conductors extending through said bearings and communicating with said shaft adjacent to the ends thereof and adjustable means embodied in said bearing for taking up wear between the shaft and the conductors in their contacting relation, said shaft being formed with a central partition dividing the same into independent compartments severally having communication with the basin-interior.

843,687. POWER-TRANSMISSION GEAR. JOSHUA H. MORRISON, Connersville, Ind., assignor to Connersville Motor Vehicle Company, Connersville, Ind., a Corporation of Indiana. Filed Jan. 29, 1906. Serial No. 298,383.

Claim.—1. The combination with a pair of shafts, a pair of gears carried by the adjacent ends of said shafts, plan-

etary compensating gears connecting said first-mentioned gears, a carrier for said planetary compensator-gears rotatably mounted upon said shafts, a driving-gear concentric with said shafts, a second gear also concentric with said shafts, a planetary gear carried by the compensator-carrier and meshing with said two last-mentioned gears, and means for directly connecting the driving-gear and compensator-carrier.



2. The combination, with a pair of coaxial shafts, a compensator-casing journaled thereon, and compensator-gearing between said shafts, of a driving-gear coaxial with said shafts, a pair of internal gears coaxial with said shafts, means for holding either of said internal gears against rotation, and planetary gearing between the driving-gear and each of said internal gears.

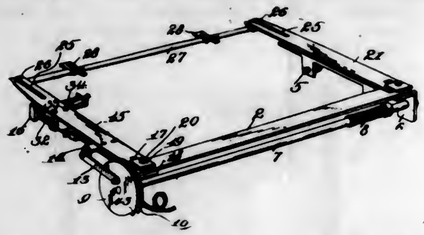
3. The combination, with a pair of shafts, of a compensator connecting the same, a driving element, means for directly connecting said driving element with or disconnecting said driving element from the compensator, and intermediate connecting-gearing between said driving element and the compensator.

4. The combination, with a pair of shafts, of a compensator connecting the same, a driving element, means for directly connecting said driving element with or disconnecting said driving element from the compensator, intermediate speed-reducing gearing connecting said driving element with the compensator, and other intermediate reversing-gearing connecting said driving element with the compensator.

5. The combination, with a pair of coaxial shafts, of a pair of gears carried by the adjacent ends of said shafts, a compensator-body coaxial with said shafts, planetary compensator-gears carried by said body and connecting the shaft-gears, a main drive-gear coaxial with said shaft, an internal gear a planetary shaft carried by the compensator-body, a pinion carried by said planetary shaft and meshing with the main drive-gear and with said internal gear, means for holding said internal gear against rotation, a second pinion carried by the planetary shaft, an idler-pinion meshing therewith, a second internal gear meshing with said idler-pinion, means for holding said second internal gear against rotation, and means for directly connecting the main drive-gear with the compensator-body.

6. The combination, with a pair of main shafts, of a pair of gears carried by the adjacent ends of said main shafts, a compensator-body journaled upon said main shafts, planetary compensator-gears carried by said compensator-body and connecting the main-shaft gears, a main drive member rotatably mounted upon the compensator-body, means for directly clutching said main drive member to the compensator-body, a main driving-gear driven by said driving member, a planetary shaft journaled in the compensator-body, a pinion carried by said planetary shaft and meshing with said main driving-gear, an internal gear coaxial with the main shafts and meshing with said pinion, means for holding said internal gear against rotation, a second pinion carried by said planetary shaft, an idler carried by the compensator-body and meshing with said second pinion, a second internal gear coaxial with the main shafts and meshing with said idler, and means for holding said second internal gear against rotation.

843,688. AUTOMATIC SHEET-GAGE FOR PRINTING-PRESSES. CHARLES M. MORRISON, Philadelphia, Pa., assignor to Theodore Hedinger, Jr., Philadelphia, Pa. Filed Mar. 29, 1906. Serial No. 308,778.



Claim.—1. In a printing-press, a platen, a feed-gage device mounted thereon and having shiftable bars arranged in parallelism with respect to each other and at opposite sides of the platen, a strip carried at the terminals of the bars, stops movable on said strip, an automatically-movable stop carried by one of the shiftable bars, and means for actuating simultaneously the shiftable bars and the automatically-movable stop.

2. In a printing-press, a movable platen, a feed-gage device carried thereby involving slide-bars, a strip for connecting the same and having manually-adjustable stops, an automatically-movable stop carried by one of the slide-bars, and mechanism for simultaneously operating the automatically-movable stop and the slide-bars.

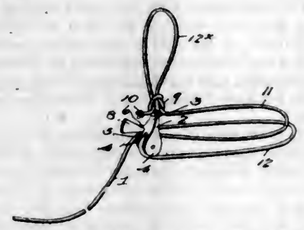
3. In a printing-press, in combination with a movable platen, a feed-gage device carried thereby involving slide-bars extending parallel with the sides of said platen, a strip secured at opposite ends to the outer ends of said slide-bars, means for imparting longitudinal movement to said slide-bars in both directions, and a stop movable in a line at right angles to the line of movement of one of said slide-bars and actuated thereby.

4. In a printing-press, in combination with a movable platen, a feed-gage device carried thereby involving slide-bars extending parallel with the sides of said platen, a strip secured at opposite ends to the outer ends of said slide-bars, means for imparting longitudinal movement to said slide-bars in both directions, and an adjustable stop movable in a line at right angles to the line of movement of one of said slide-bars and actuated thereby.

5. In a printing-press, in combination with a movable platen, a feed-gage device carried thereby involving slide-bars extending parallel to the sides of said platen, a strip adjustably mounted at opposite ends in the outer ends of said slide-bars, stops slidably mounted on said strip, means for imparting longitudinal movement to said slide-bars in both directions, and an adjustable stop movable in a direction at right angles to the line of movement of one of said slide-bars and actuated thereby.

6. In a printing-press, in combination with a movable platen, a feed-gage device mounted thereon involving an upper cross-bar having arms extending at right angles thereto, a spring-controlled shaft mounted in said cross-bar, slide-bars slidably mounted on said cross-bar and said arms and extending parallel to the latter, crank connections between said slide-bars and said shaft, a strip secured at opposite ends in the outer ends of said slide-bars, stops slidably mounted on said strip, guides secured to the under side of one of said slide-bars, a stop slidably mounted between said guides, a link pivotally connected at one end to said guide and at its other end to the corresponding arm, and means operatively connecting said shaft with a fixed part of the press to cause said shaft to be rotated in the movement of the platen.

843,689. COMPOUND TWITCH-HALTER. CHARLES MCCLINTOCK, Elwood, Ind. Filed Apr. 25, 1906. Serial No. 313,642.



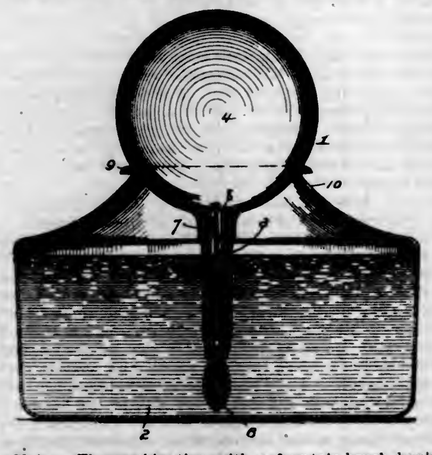
Claim.—1. A twitch-halter of the class described consisting of a single-length halter-rope arranged to form a neck and throat engaging loop, and a pair of twitch-nooses extending from said loop and adapted to engage about the upper gum of the animal, and a guide arranged to receive the runs of the rope forming the two nooses.

2. A twitch-halter of the class described consisting of a single-length halter-rope arranged to form a neck and throat engaging loop, and a pair of duplicate twitch-nooses extending forwardly from the loop and adapted to engage about the upper gum of the animal, and a guide supported on the neck and throat engaging loop and receiving the runs of the rope forming the two nooses.

3. A twitch-halter comprising a duplex pulley-block adapted to be arranged at the animal's throat and provided with a pair of guiding-pulleys, and a rope-locking wedge loosely mounted in one of the housings above the pulley therein, and a single-length halter-rope reeved about the pulleys of the block to form a pair of twitch-nooses adapted to extend about the animal's head and engage the upper gum of the mouth, the free end portion of the rope passing beneath said locking-wedge, and one portion of the rope having a fast connection with the pulley-block and extended into a neck and throat engaging loop.

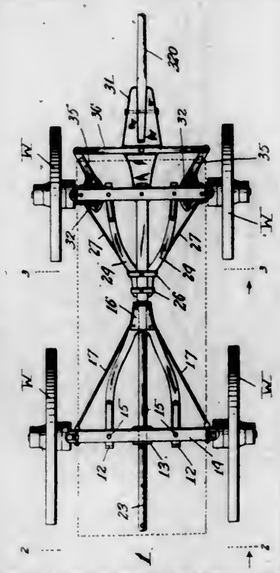
4. A twitch-halter consisting of a single-length halter-rope arranged to form a neck and a throat engaging loop, and a twitch-noose extending from said loop and adapted to engage about the upper gum of the animal, and a pulley-block arranged at the animal's throat and having a pulley receiving the free portion of the rope, and a rope-locking wedge loosely mounted in the housing above said pulley.

843,690. FOUNTAIN-BRUSH. ROBERT H. MCDOWELL, Salem, Ohio. Filed Apr. 27, 1906. Serial No. 314,025.



Claim.—The combination with a fountain-brush having a filling and discharging bulb at one end, of a reservoir having an opening to receive the brush and support the bulb, said reservoir having a vent to admit air and permit the contents of the reservoir to be drawn into the device by means of the bulb while said bulb is resting on the reservoir.

843,691. RUNNING-GEAR FOR WAGONS. WILLIAM MCINTOSH, Iron River, Wis. Filed Apr. 21, 1904. Serial No. 204,147.



Claim.—1. In a running-gear for wagons, the combination of a fixed front-axle construction, having stub-axles pivotally connected therewith and carrying the forward wheels, outwardly-bowed hounds extending rearwardly from the front axle, a rear-axle construction, outwardly-bowed hounds extending forward from the rear axle, and a reach rigidly connected to the front-axle construction and forward hounds and pivoted loosely in the rear-axle construction and rear hounds, a rocking bolster pivoted on the front-axle construction, and a wagon-body connected rigidly to the rear-axle construction and rocking bolster.

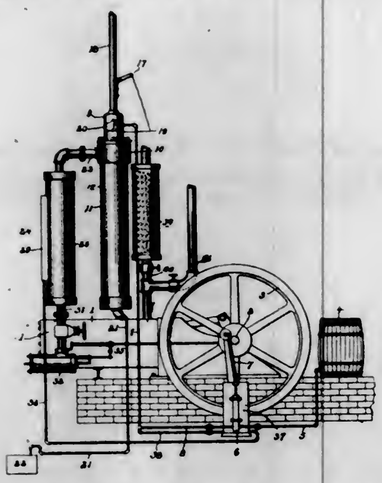
2. In a running-gear for wagons, the combination of a fixed front-axle construction, a rear-axle construction, a reach rigidly connected with the front-axle construction and pivoted loosely in the rear-axle construction, whereby either of the axle constructions can turn on a horizontal axis without interfering with the other, a rocking bolster pivoted on the front-axle construction on an axis parallel to the length of running-gear, and a wagon-body connected rigidly with the rear-axle construction and with the rocking bolster.

3. In a running-gear for wagons, the combination of a forward-axle construction, a reach having a circular cross-section at its rear end, and a rear-axle construction comprising a fixed axle, hounds extending therefrom, a center bearing for the circular part of the reach whereby the rear axle is pivotally connected with the reach and bolster, and means for clamping the bolster down onto the center bearing and onto the ends of the hounds to fasten them in place whereby a central draft may be secured on the rear axle without having a perforation or hole at the center of its rear bolster.

4. In a running-gear for wagons, the combination of a front-axle construction, hound, extending rearwardly therefrom, a rear-axle construction comprising a fixed rear axle, a bolster thereon, a center-bearing piece and forwardly-extending hounds having their ends clamped in place between the bolster and rear axle, and a reach rigidly con-

nected with the front-axle construction and forward hounds and pivotally mounted in the rear-axle construction and rear hounds.

843,692. DEVICE FOR GENERATING GAS FROM CRUDE OIL. MICHAEL G. NORTON, Gibsonburg, Ohio. Filed July 2, 1906. Serial No. 324,344.



Claim.—1. The combination with a carbureter adapted to receive crude oil and vaporize the volatile part thereof, of means for drawing the heavy part of the oil from the carbureter, a separator connected to the carbureter for separating the heavy from the lighter part of the mixture received from the carbureter, and means for returning the heavy part of the mixture to the carbureter.

2. The combination with a carbureter adapted to receive crude oil and vaporize the volatile part thereof, of an oil-pump, a delivery-pipe leading from said pump into the carbureter, a separator connected to the carbureter to separate the heavier from the lighter parts of the mixture received from the carbureter, a pump connected to the separator to draw the heavy parts of the mixture therefrom and connected to the delivery-pipe of the oil-pump to force the said parts into said delivery-pipe, said pump being operated so that the oil-pump will discharge in advance of the separator-pump.

3. The combination with a carbureter, of a separator consisting of a casing connected to the carbureter, a diaphragm extending across the casing, a plurality of open-ended tubes extending through the diaphragm, and means for drawing the oil from the upper surface of the diaphragm.

4. The combination with a carbureter, of a separator consisting of a casing connected to the carbureter to receive mixed air and gas therefrom, a diaphragm in the casing, a plurality of vertical tubes extending through the diaphragm, and a chamber at one side of the casing connected with the interior of the casing adjacent to the upper surface of said diaphragm to receive the heavy parts of the mixture.

5. The combination with a carbureter, of a casing, a pipe connecting the upper end of the casing with the upper end of the carbureter, diaphragms dividing the interior of the casing, a plurality of open-end tubes extending through each diaphragm, a chamber at one side of the casing communicating through openings in the casing with the interior of the casing at the upper sides of the diaphragms, and a pipe connecting the said chamber and carbureter.

6. The combination with a carbureter, of a casing, a pipe connecting the upper end of the casing with the upper end of the carbureter, and an outlet-pipe at the bottom of the casing, a series of diaphragms extending across the casing, a plurality of open-ended tubes extending through each of said diaphragms with the upper ends of the tubes lapping by the lower ends of the tubes of the diaphragm above, a chamber at one side of the casing communicating with the interior thereof through holes at the upper sides of the diaphragms, and a pump connected to said chamber to draw the contents therefrom and deliver the same to the carbureter.

7. The combination of a casing closed at each end, an oil-supply pipe opening into the upper end of said casing, a tube of lesser diameter than the diameter of the casing suspended therein with its upper end open to receive the oil and its lower open end at a distance from the closed lower end of the casing, a series of screens in said tube, means for restricting the opening into the lower end of said tube, and a discharge-pipe for the gas leading from the upper end of the casing.

8. The combination of a casing having a dome at its upper end and closed at its lower end, an air-inlet pipe opening into the dome, an oil-supply pipe opening into the dome, a tube extending downward in the casing and its upper end open into the dome and its lower open end at a distance from the lower closed end of the casing, a series of discous screens in said tube, a valve to close the lower end of the tube, a rod extending upward in the axis of the tube and attached at its lower end to said valve, and an operating-lever attached to the upper end of said rod.

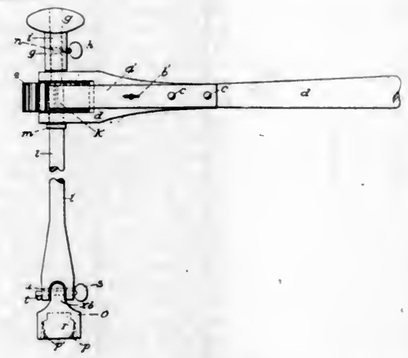
9. The combination of a casing having a closed lower end, a head on the upper end of the casing provided with an outlet for gas, an open-ended tube secured at its upper end within the head and extending downward within the casing to near the closed lower end thereof, a dome secured to the head over the open end of the tube and provided with openings in its sides closed by flaps, an air-supply pipe opening into the upper end of the dome, an oil-supply pipe opening into the side of the dome, a series of discous screens secured within the tube, an axial rod extending through the screens upward into the air-tube, a cup-shaped valve attached to the lower end of said rod to close the lower end of the tube, an operating-lever attached to the upper end of the rod, and an oil-pipe leading from the lower end of the casing.

10. The combination of a carbureter consisting of a vertical cylindrical casing, an open-ended tube in said casing, a dome over the upper open end of said tube having an air-inlet, a series of screens in said tube, a valve to close the lower end of said tube; a separator consisting of a tubular casing closed at each end, a series of cone-shaped diaphragms in said casing, a plurality of tubes extending vertically through each of said diaphragms, a chamber at one side of the casing communicating with the interior thereof through openings at the upper side of each diaphragm; an oil-supply tank; an oil-pump; a pipe connecting the tank and pump; a supply-pipe connecting the pump and dome of the carbureter; a separator-pump; a pipe connecting the separator-pump and the chamber of the separator; a pipe connecting the separator-pump and the oil-supply pipe; and means for operating said pumps.

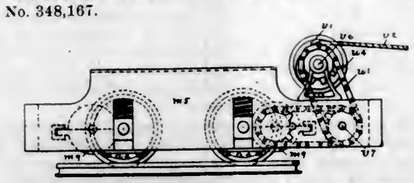
843,693. CYLINDER-WRENCH. CHARLES T. O'HARA, Deepcreek, Wash. Filed June 2, 1906. Serial No. 319,828.

Claim.—In the combination of a cylinder-wrench, having a perpendicular shaft, with wrench-head secured to the bottom of the shaft, the upper portion of such shaft being suitably set to provide a round axle for the receiving of a handle operating at right angles with the shaft and a square axle for a cog-wheel operating between two forks of a handle, with arms on either side of the handle secured to the same, and a clutch secured to the end of each arm operating in the grooves of the cog-wheel, such arms being thrown into or out of the grooves of the cog-wheel by means of a thumb-screw operating through such arms and against the handle, substantially as set forth.

843,693.



843,694. REEL FOR MINE-LOCOMOTIVES. CHARLES O. PALMER, Cleveland, Ohio. Filed Dec. 17, 1906. Serial No. 348,167.



Claim.—1. The combination of a car-frame supported on wheels and having a motor and reel attached thereto, a flexible conductor wound on said reel, conductor connections from the reel to the motor, a frictionally-controlled driving-train from the car-axle to the reel, a ratchet or clutch in said driving-train acting to wind up said conductor or cable, and a clutch or ratchet holding said reel-disk from unwinding substantially as set forth.

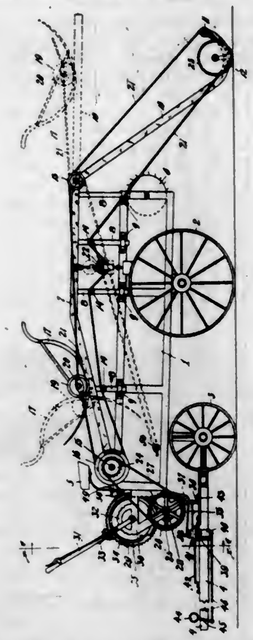
2. The combination of a car-frame supported on wheels and having a motor and reel attached thereto, a flexible conductor wound on said reel, a friction-disk on the side of said reel, ratchet-teeth on said friction-disk, a stationary pawl engaging said ratchet to prevent the unwinding of the reel and a driving-train with a clutch or ratchet from the car-axle to the reel for winding up the conductor on the reel substantially as and for the purpose set forth.

843,695. WAGON-LOADING DEVICE. RASMUS PEDERSON, Parkersburg, Iowa. Filed Mar. 15, 1906. Serial No. 306,192.

Claim.—1. The combination with a wagon, of track-rails extending therefrom to a position for loading, a fork or scoop mounted to travel over said track-rails, from a position for filling into a position for dumping into the wagon-box, and trips located at different points and arranged to intercept said fork or scoop and cause the same to dump its load into the wagon-box, substantially as described.

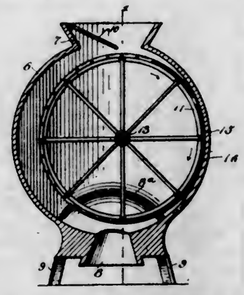
2. The combination with a wagon of track-rails extending therefrom to a position for loading, a fork or scoop mounted to travel over said track-rails, from a position for filling into a position for dumping into the wagon-box, a cable attached to said fork or scoop at both ends, a draft-equalizing beam mounted to slide on the wagon-pole, and driving connections between said equalizing-beam and said cable, whereby the power of the horses is rendered available for causing the loaded fork or scoop to travel over said track-rails, and a device operative on said cable to impart return movements to said fork or scoop, substantially as described.

3. The combination with a wagon, of track-rails extending therefrom to a position for loading, a fork or scoop having a crank-like bail with wheels on its trunnions, which wheels run over said track-rails, a cable attached to said fork, for causing the same to travel over said rails, and trip-fingers located along certain of the track-rails, in



position to engage the crank portion of said bail, and cause said fork or scoop to rock and dump its load into the wagon-box, substantially as described.

843,696. MEAT-CUTTER. JOSEPH POSKOCIL and KATHARINE POSKOCIL, Cleveland, Ohio. Filed Aug. 18, 1906. Serial No. 331,198.



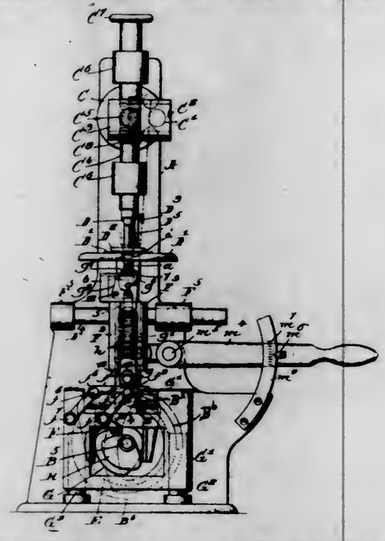
Claim.—1. A meat-cutter comprising a casing having a feed-opening at the top and a discharge-opening at the bottom, and a rotary cutter within said casing having crossed blades at the periphery thereof, in close proximity to one wall of the casing.

2. A meat-cutter comprising a cylindrical casing having feed and discharge openings, and a circular rotatable cutter therein having series of crossed circumferential and longitudinal blades at the periphery thereof forming openings therebetween, the edges of the blades passing very close to one wall of the cylinder.

3. A meat-cutter comprising a cylindrical casing set with its axis horizontally and having a feed-hopper at the top and a discharge-opening at the bottom, and a circular cutter rotatable in the casing and set eccentrically therein.

and having crossed blades at its periphery cutting against one side of the casing.

843,697. HOOK-SETTING MACHINE. ANDREW RAICHE, Quincy, Mass., assignor, by mesne assignments, to The Peerless Machinery Company, a Corporation of Massachusetts. Filed July 2, 1904. Serial No. 215,093.



Claim.—1. In a hook-setting machine, an anvil, a work-table, a spindle, a hook-sustaining plate slidably mounted therein and adapted to receive upon it and hold the hook while the latter is being thrust through the stock and the anvil is expanding the shank of the hook to set the same in the stock, means to move laterally the spindle and hook-sustaining plate while the plate is in engagement with the hook to thereby feed the stock over the work-table, and means to slide said hook-sustainer in said spindle at an angle to the longitudinal axis thereof to withdraw said plate from the throat of a set hook.

2. In a hook-setting machine, an anvil, a work-table having a slot open at its work-delivering end from which end the stock is fed after a hook has been set therein, a device to enter the throat of, clamp, and hold a hook while the same is being set in the stock, means to move said device while yet in engagement with the said hook after a hook has been set to effect the feeding of the stock over said work-table.

3. In a hook-setting machine, a horizontally-slidable block, a spindle carried thereby and provided with a hook-sustaining plate, a rod connected with said hook-sustaining plate and within said spindle, a work-table to sustain the stock above said spindle, means to move said spindle vertically in said sliding block that said plate may enter the throat of, hold, and clamp a hook to be set, means to raise said spindle and its hook-setting plate in engagement with the hook to force the shank of the hook through the stock on the upper side of said work-table, means to move horizontally said slidable block while the hook-setting plate yet engages the hook, the shank of the latter having been upset in the stock, and a device to retain said hook-sustaining plate in engagement with said hook while said block is being moved horizontally to effect the feeding of the stock over said work-table.

4. In a hook-setting machine, a slidable block, a spindle carried thereby and provided with a hook-sustaining plate for holding and clamping on the spindle a hook to be set, a work-table to sustain the stock, means to move said spindle to set the hook in the stock, a lever, means to actuate said lever to move said block, a fulcrum for said lever, and means for adjusting said fulcrum to vary the extent of movement of said block through said lever.

5. In a hook-setting machine, a slidable block, a spindle carried thereby and provided with a work-sustaining plate for holding and clamping on the spindle a hook to be set, a work-table to sustain the stock, means to move said spindle to set the hook in the stock, a lever, means to actuate said lever to move said block, a fulcrum for said lever, means for adjusting said fulcrum to vary the extent of movement of said block through said lever, and means for moving said work-sustaining plate to release said hook.

6. In a hook-setting machine, a work-table to sustain the stock, an anvil, means to place the same in contact with the stock on the work-table, a block, a spindle held loosely in said block, a hook-sustaining plate carried by said spindle, means for causing said plate to enter the throat of the hook, means for moving said spindle toward the work-table and anvil, an actuator sustained by the means for moving said spindle toward said table, and means for moving said actuator to withdraw the hook-sustaining plate from the hook.

7. In a hook-setting machine, a work-table to sustain the stock, an anvil, a block, a spindle held loosely in said block, a hook-sustaining plate carried by said spindle, means for moving said spindle toward the work-table and anvil, an actuator sustained by the means for moving said spindle toward said table, and means intermediate said hook-sustaining plate and said actuator for sliding the hook-sustaining plate at right angles to the longitudinal axis of said spindle, and means to slide said block at right angles to the longitudinal axis of the anvil.

8. In a hook-setting machine, a spindle, a hook-sustaining plate guided thereby and having a shoulder, and a notch; combined with means to supply a hook to said plate, that the throat of the hook may embrace said shoulder, and means to thereafter move said plate that its notch may embrace the neck of the hook sustained by said shoulder and clamp the same to the spindle.

9. In a hook-setting machine, a spindle, a hook-sustaining plate guided thereby having a shoulder against which the inner side of the neck of the hook contacts, and a notch; combined with means to supply a hook to the said plate, means to move the hook-sustaining plate longitudinally that the notch may embrace the neck of the hook and clamp the same to the spindle, means to hold said hook-sustaining plate in position to retain the hook fixedly in the spindle while setting the shank of the hook in the stock and means for moving said plate to feed the stock after setting each hook substantially as described.

10. In a hook-setting machine, a work-table, an anvil, means to place the anvil against the upper side of the stock, a spindle having a device to enter the throat of a hook and clamp the same in said spindle, means to impart to said spindle upward movement in the operation of setting a hook in the stock, and means for moving said spindle horizontally for feeding the stock.

11. In a hook-setting machine, a work-table, an anvil, means to place the anvil against the upper side of the stock, a spindle, means to feed a hook to said spindle, means to impart to said spindle four motions, an upward movement when setting the shank of a hook in the stock, a lateral movement during the feeding of the stock, and then a downward and backward movement, a hook-sustaining plate carried by said spindle, means to reciprocate said plate to enter the throat of a hook prior to setting the same in the stock, and means for withdrawing said plate after setting the hook and prior to the descent of the spindle.

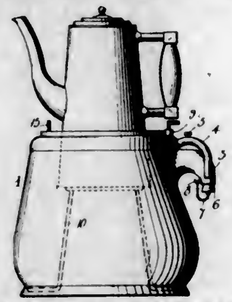
12. In a hook-setting machine, a hollow spindle having at its upper end a recess for the reception of the head of a hook, a hook-sustaining plate mounted loosely at the upper end of said spindle, a lever engaging said hook-sustaining plate, a rod connected with said lever, a spring coacting with said rod and contained in said hollow spindle to cause said hook-sustaining plate to enter the throat of a hook, and means to effect the withdrawal of said hook-sustaining plate from the throat of said hook as and for the purpose described.

13. In a hook-setting machine, a hollow spindle having at its upper end a recess for the reception of the head of a hook, means to raise and lower said hollow spindle a hook-sustaining plate mounted loosely in the upper end of said spindle, a lever, a rod connected with said lever, and means for automatically moving said rod vertically to move said lever in a direction to withdraw the hook-setting plate from the throat of the hook.

14. In a hook-setting machine, a table-plate, an anvil, a block located below said table-plate, a guide-rod, devices located in said block to engage and hold a hook, means to move said hook-holding means vertically in said block to pass the shank of a hook upwardly through the stock and upset said shank against said anvil, an adjustable feed-controller, and means to move said block and the hook-holding devices automatically in a horizontal plane below said table-plate while said devices engage the hook, the shank of which has been set in the stock to effect accuracy in movement of the stock to space the hooks with relation one to the other, according to the size of the shoe.

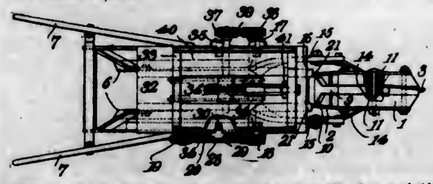
15. In a hook-setting machine, a yoke, means to move the same, means to guide said yoke, a spindle sustained by said yoke, a block having an attached slide-rod, guides for said rod, a spindle mounted loosely in said block, devices carried by said spindle to engage and clamp a hook and hold the same while being set in the stock, and to then release the hook, means to move said yoke vertically, and independent means for moving said block and spindle in a line transverse the longitudinal axis of said spindle for a greater or less distance according to the spacing desired between one and the next set-hook.

843,698. KETTLE. ARCHIBALD G. REDWOOD, Houston, Tex. Filed Nov. 6, 1905. Serial No. 286,103.



Claim.—A kettle having an opening in its top, an inturned flange extending around said opening, and a pivot-pin projecting up from one side of said flange, an inner cover for the kettle, having a flat flange to bear on that of the kettle, mounted on the pivot-pin, having a perforated, depressed concavo-convex central portion extending downwardly into the kettle and forming a receptacle, a flat outer cover, on the inner cover and mounted independently thereof on the pivot-pin, said flange and inner and outer covers having openings which register when said covers are closed, and a locking-pin for insertion in said openings, substantially as described.

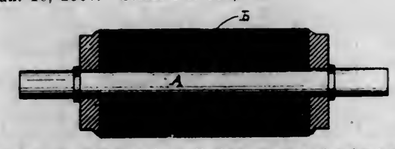
843,699. CORN AND COTTON PLANTER. ALFRED J. H. REID, Henderson, Tenn. Filed July 23, 1906. Serial No. 327,385.



Claim.—1. An implement such as described consisting of a frame, furrow openers and closures attached to the frame, a wheel supporting the same, a hopper superimposed upon the frame, laterally-adjustable valves attached to the bottom of the hopper and adapted to be moved to form the outlet of the hopper, a reversible belt located below the hopper said belt having upon one of its sides recesses adapted to receive seed and upon its opposite sides spurs adapted to engage the seed and which are adapted to operate between the adjustable valves, a chute located at the end of the hopper and the end of said belt, and means for operating the said belt.

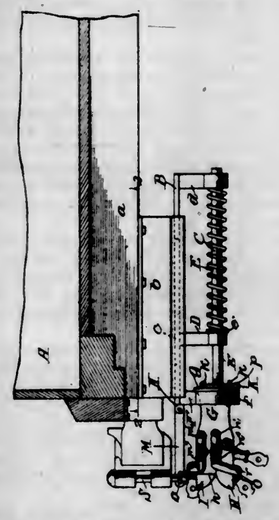
2. An implement such as described consisting of a frame, a wheel supporting the same, a hopper superimposed upon the frame, said hopper having an outlet, a reversible belt located below the hopper, said belt having upon one of its sides recesses adapted to receive seed and upon its opposite side spurs adapted to engage the seed.

843,700. ROLL FOR FINISHING PAPER AND TEXTILE GOODS. ETHELBERT A. RUSDEN, Warren, R. I. Filed Jan. 10, 1907. Serial No. 351,581.



Claim.—In making the roll the cotton and asbestos are thoroughly mixed together, placed about the shaft A, pressed down by hydraulic pressure, and afterward turned down to the proper size in a lathe in the usual manner of making similar rolls of other materials.

843,701. AUTOMATIC AIR-BRAKE COUPLING FOR RAILWAY-CARS. FRANK H. RUTHERFORD, Chicago, Ill. Filed June 13, 1906. Serial No. 321,547.



Claim.—1. An automatic coupler for air-brakes comprising a longitudinally-movable coupler-head having a limited swiveled movement oblique to the line of draft, and a longitudinally-reciprocal plunger normally pressing forward against the rear end of the said coupler-head.

2. An automatic coupler for air-brakes comprising a longitudinally-yielding coupler-head having a limited movement oblique to the line of draft, a hanging supporting-frame for said coupler movable longitudinally independently of the car-coupler in which the forward movement of said coupler-head is limited, and a longitudinally-

reciprocal plunger normally engaging and pressing forward against the rear end of said coupler-head.

3. An automatic coupler for air-brakes comprising a longitudinally-yielding coupler-head having a limited movement oblique to the line of draft, a hanging supporting-frame for said coupler in which the forward movement of said coupler-head is limited, and a longitudinally-reciprocal plunger normally engaging and pressing forward against the rear end of said coupler-head at a point back of said supporting-frame.

4. An automatic coupler for air-brakes comprising a longitudinally-yielding coupler-head which is capable of a limited movement oblique to the line of draft and having a transverse flange on its rear end, a hanging supporting-frame having an opening therein through which said head is inserted until the flanged end thereof engages said supporting-frame, and a longitudinally-reciprocal plunger normally pressing forward against the rear end of said coupler-head.

5. An automatic coupler for air-brakes comprising a longitudinally-movable coupler-head having a limited swiveled movement oblique to the line of draft, and a longitudinally-reciprocal plunger having its forward end removably connected to and normally pressing forward against the rear end of the said coupler-head.

6. An automatic coupler for air-brakes comprising a longitudinally-yielding coupler-head having a limited movement oblique to the line of draft, a hanging supporting-frame for said coupler in which the forward movement of said coupler-head is limited, and a longitudinally-reciprocal plunger having its forward end removably connected to and normally engaging and pressing forward against the rear end of said coupler-head.

7. An automatic coupler for air-brakes comprising a longitudinally-yielding coupler-head having a limited movement oblique to the line of draft, a hanging supporting-frame for said coupler in which the forward movement of said coupler-head is limited, and a longitudinally-reciprocal plunger having its forward end removably connected to and normally engaging and pressing forward against the rear end of said coupler-head at a point back of said supporting-frame.

8. An automatic coupler for air-brakes comprising a longitudinally-yielding coupler-head which is capable of a limited movement oblique to the line of draft and having a transverse flange on its rear end, a hanging supporting-frame having an opening therein through which said head is inserted until the flanged end thereof engages said supporting-frame, and a longitudinally-reciprocal plunger having its forward end removably connected to and normally pressing forward against the rear end of said coupler-head.

9. An automatic coupler for air-brakes comprising a longitudinally-yielding coupler-head having a limited swiveled movement oblique to its line of draft, a longitudinally-reciprocal plunger engaging the rear end of said coupler-head and a spring normally pressing said plunger forward against said coupler.

10. An automatic coupler for air-brakes comprising a longitudinally-yielding coupler-head having a limited movement oblique to the line of draft, a hanging supporting-frame for said coupler movable longitudinally independently of the car-coupler in which the forward movement of said coupler-head is limited, a longitudinally-reciprocal plunger normally engaging and pressing forward against the rear end of said coupler-head, and a spring normally thrusting said plunger forward.

11. An automatic coupler for air-brakes comprising a longitudinally-yielding coupler-head having a limited movement oblique to the line of draft, a hanging supporting-frame for said coupler in which the forward movement of said coupler-head is limited, a longitudinally-reciprocal plunger normally engaging and pressing forward against the rear end of said coupler-head at a point back of said supporting-frame, and a spring normally thrusting said plunger forward.

12. An automatic coupler for air-brakes comprising a longitudinally-yielding coupler-head which is capable of a limited movement oblique to the line of draft and having a transverse flange on its rear end, a hanging supporting-frame having an opening therein through which said head is inserted until the flanged end thereof engages said supporting-frame, a longitudinally-reciprocal plunger normally pressing forward against the rear end of said coupler-head and a spring normally thrusting said plunger forward.

13. An automatic coupler for air-brakes comprising a longitudinally-movable coupler-head having a limited swiveled movement oblique to the line of draft, a longitudinally-reciprocal plunger having its forward end removably connected to and normally pressing forward against the rear end of the said coupler-head, and a spring normally thrusting said plunger forward.

14. An automatic coupler for air-brakes comprising a longitudinally-yielding coupler-head having a limited movement oblique to the line of draft, a hanging supporting-frame for said coupler in which the forward movement of said coupler-head is limited, a longitudinally-reciprocal plunger having its forward end removably connected to and normally engaging and pressing forward against the rear end of said coupler-head and a spring normally thrusting said plunger forward.

15. An automatic coupler for air-brakes comprising a longitudinally-movable coupler-head having a limited movement oblique to the line of draft, a longitudinally-reciprocal plunger normally pressing forward against the rear end of the said coupler-head and a longitudinally-reciprocal carrier tied to the car-coupler by which said coupler-body and plunger are sustained.

16. An automatic coupler for air-brakes comprising a longitudinally-yielding coupler-head having a limited movement oblique to the line of draft, a hanging supporting-frame for said coupler in which the forward movement of said coupler-head is limited, a longitudinally-reciprocal plunger normally engaging and pressing forward against the rear end of said coupler-head and a longitudinally-reciprocal carrier removably tied to the car-coupler of the car which sustains said coupler-body, hanging supporting-frame and plunger.

17. An automatic coupler for air-brakes comprising a longitudinally-movable coupler-head having a limited movement oblique to the line of draft, a longitudinally-reciprocal plunger having its forward end removably connected to and normally pressing forward against the rear end of the said coupler-head, and a longitudinally-reciprocal carrier suitably tied to the car-coupler by which said coupler-body and plunger are sustained.

18. An automatic coupler for air-brakes comprising a longitudinally-yielding coupler-head having a limited movement oblique to the line of draft, a hanging supporting-frame for said coupler in which the forward movement of said coupler-head is limited, a longitudinally-reciprocal plunger normally engaging and pressing forward against the rear end of said coupler-head, a spring normally thrusting said plunger forward and a longitudinally-reciprocal carrier suitably tied to the car-coupler by which said coupler-body and plunger are sustained.

19. An automatic coupler for air-brakes comprising a coupler-head having a longitudinally-disposed passage extending rearwardly from the engaging face thereof and having a laterally-elongated arched mouth.

20. An automatic coupler for air-brakes comprising a coupler-head having a longitudinally-disposed passage extending rearwardly from the engaging face thereof and having a laterally-elongated arched mouth and a gasket inserted in and conforming to the shape of said mouth.

21. An automatic coupler for air-brakes comprising a coupler-head having a longitudinally-disposed passage extending rearwardly from the engaging face thereof and having a laterally-elongated curved mouth both the upper and lower edges of which conform to the arc of a circle.

22. An automatic coupler for air-brakes comprising a coupler-head having a longitudinally-disposed passage extending rearwardly from the engaging face thereof and having a laterally-elongated curved mouth both the upper and lower edges of which conform to the arc of a circle and a gasket seated in and conforming in shape to the edges of said mouth.

23. An automatic coupler for air-brakes comprising a coupler-head having a longitudinally-disposed passage extending rearwardly from the engaging face thereof and having a laterally-elongated curved mouth both the upper and lower rabbeted edges of which conform to the arc of a circle and a gasket seated in and conforming in shape to the rabbeted edges of said mouth.

24. An automatic coupler for air-brakes comprising a coupler-head having a longitudinally-disposed passage extending rearwardly and obliquely from the engaging face thereof, a stub projecting from the longitudinal side of said coupler with the bore of which said passage connects, and the bore of an emergency-passage communicating with said stub at an angle to the axis of said passage and a valve at the point of intersection of said emergency-passage.

25. An automatic coupler for air-brakes comprising a coupler-head having a longitudinally-disposed passage extending rearwardly and obliquely from the engaging face to the longitudinal side of the same, an emergency-passage tapping said first-mentioned passage at a suitable angle, and a suitable two-way valve at the point of intersection of said passages.

26. An automatic coupler for air-brakes comprising a coupler-head having a longitudinally-disposed passage extending rearwardly and obliquely from the engaging face to the longitudinal side of the same, an emergency-passage tapping said first-mentioned passage at a suitable angle, and a suitable two-way valve at the point of intersection of said passages whose axis is transverse to said coupler-head.

27. An automatic coupler for air-brakes comprising a coupler-head having a longitudinally-disposed passage extending rearwardly and obliquely from the engaging face to the longitudinal side of the same, an emergency-passage tapping said first-mentioned passage at a suitable angle, a suitable two-way valve at the point of intersection of said passages whose axis is transverse to said coupler-head and a spindle therefor extending transversely through said body and having means on its extremity for turning it.

28. An automatic coupler for air-brakes comprising a coupler-head having a plurality of longitudinally-disposed passages extending rearwardly from the engaging face thereof and having laterally-elongated arched mouths.

29. An automatic coupler for air-brakes comprising a coupler-head having a plurality of longitudinally-disposed passages extending rearwardly from the engaging face thereof and having laterally-elongated arched mouths and a gasket inserted in and conforming to the shape of each mouth.

30. An automatic coupler for air-brakes comprising a coupler-head having a plurality of longitudinally-disposed passages extending rearwardly from the engaging face thereof and having laterally-elongated curved mouths both the upper and lower edges of which conform to the arc of a circle.

31. An automatic coupler for air-brakes comprising a coupler-head having a plurality of longitudinally-disposed passages, the mouths of which in the engaging face of the coupler are arranged one above the other, and are elongated laterally and conform in curvature to the arc of a circle.

32. An automatic coupler for car-brakes comprising a coupler-head having a plurality of longitudinally-disposed passages arranged one above the other and extending rearwardly and obliquely from the engaging face of the coupler, some of which passages are deflected to one side and some to the other.

33. An automatic coupler for car-brakes comprising a coupler-head having a plurality of longitudinally-disposed passages arranged one above the other and extending rearwardly and obliquely from the engaging face of the coupler, some of which passages are deflected to one side and some to the other, emergency-passages extending at an angle into said first-mentioned passages, and transverse valves intersecting the point of intersection of said passages.

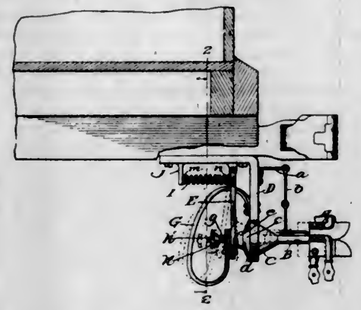
34. An automatic coupler for car-brakes comprising a coupler-head having a plurality of longitudinally-disposed passages arranged one above the other and extending rearwardly and obliquely from the engaging face of the coupler, some of which passages are deflected to one side and some to the other, emergency-passages extending at an angle into said first-mentioned passages and transverse valves intersecting the points of intersection of said passages and spindles extending transversely through said coupler-head beyond the sides thereof and means for turning said spindles.

35. An automatic coupler for car-brakes comprising a coupler-head having a plurality of longitudinally-disposed passages of unequal length arranged one above the other and extending rearwardly and obliquely from the engaging face of the coupler, some of which passages are deflected to one side and some to the other.

36. An automatic coupler for car-brakes comprising a coupler-head having a plurality of longitudinally-disposed passages of unequal length arranged one above the other and extending rearwardly and obliquely from the engaging face of the coupler, some of which passages are deflected to one side and some to the other, emergency-passages extending at an angle into said first-mentioned passages and transverse valves intersecting the point of intersection of said passages.

37. An automatic coupler for car-brakes comprising a coupler-head having a plurality of longitudinally-disposed passages of unequal length arranged one above the other and extending rearwardly and obliquely from the engaging face of the coupler, some of which passages are deflected to one side and some to the other, emergency-passages extending at an angle into said first-mentioned passages and transverse valves intersecting the points of intersection of said passages and spindles extending transversely through said coupler-head and beyond the sides thereof and means for turning said spindles.

843,702. AUTOMATIC AIR-BRAKE COUPLING FOR RAILWAY-CARS. FRANK H. RUTHERFORD, Chicago, Ill. Filed Sept. 17, 1906. Serial No. 334,904.



Claim.—1. The combination with a car, and a longitudinally-yielding integral train-pipe coupler, of a spring located and exerting a forward pressure in a plane parallel to the axis of the coupler, and means for applying said pressure to the rear portion of said coupler.

2. The combination with a car, and a longitudinally-yielding train-pipe coupler, of a longitudinally-disposed spring located and exerting a forward pressure in a plane parallel to the axis of the coupler, and means for applying said pressure to the rear portion of said coupler.

3. The combination with a car, and a longitudinally-yielding integral train-pipe coupler, of a longitudinally-disposed coil-spring located and exerting a forward pressure in a plane parallel to the axis of the coupler, and means for applying said pressure to the rear portion of said coupler.

4. The combination with a car, and a longitudinally-yielding integral train-pipe coupler, of a spring located and exerting a forward pressure in a plane parallel to the

axis of said coupler, and an arm for transmitting and applying the pressure of said spring to the rear portion of the coupler.

5. The combination with a car, and a longitudinally-yielding integral train-pipe coupler, of a spring located and exerting a forward pressure in a plane parallel to the axis of said coupler, and a pivoted arm for transmitting and applying the pressure of said spring to the rear portion of the coupler.

6. The combination with a car, a longitudinally-yielding train-pipe coupler, and a hanger having an opening in its lower part through which said coupler passes, and a horizontal portion secured in suitable manner to said car having a lug projecting down therefrom, of an arm pivoted at its upper end to said lug and having its lower end engaging the rear portion of the coupler, and a spring pressing said arm forward.

7. The combination with a car, a longitudinally-yielding train-pipe coupler, and a hanger having an opening in its lower part through which said coupler passes, and a horizontal portion secured in suitable manner to said car having lugs projecting down therefrom, of an arm pivoted at its upper end to said lug and having its lower end engaging the rear portion of the coupler, and a longitudinally-disposed coil expansion-spring interposed between the rearmost of said lugs and said arm and normally pressing said arm forward.

8. The combination with a car, and a longitudinally-yielding integral train-pipe coupler, of an arm engaging the rear portion of said coupler, a spring pressing forward against one end of said arm, and an independent spring engaging the other end of the same.

9. The combination with a car, and a longitudinally-yielding integral train-pipe coupler, of a pivoted arm engaging the rear portion of said coupler, a spring pressing forward against one end of said arm, and an independent spring engaging the other end of the same.

10. The combination with a car, and a longitudinally-yielding integral train-pipe coupler, of an arm pivoted at one end and engaging the rear portion of said coupler at the other, a coil expansion-spring engaging said arm near its pivoted end and a curved spring of flat material engaging the other end of said arm.

11. The combination with a car, and a longitudinally-yielding integral train-pipe coupler, of an arm pivoted at one end and engaging the rear portion of the coupler at the other, a coil expansion-spring engaging said arm near its pivoted end and a curved spring of material one end of which is secured at a point collateral to said coupler and the other end engages the movable end of said arm.

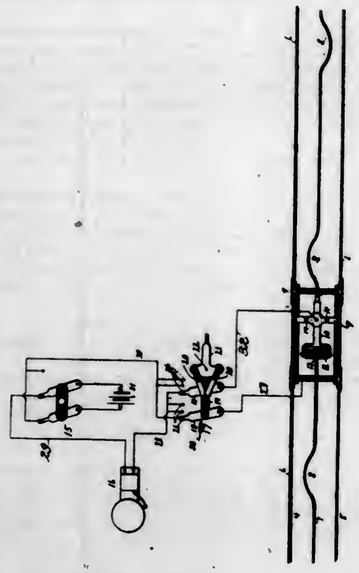
12. The combination with a car, a longitudinally-yielding train-pipe coupler, and a hanger therefor, of an arm pivoted at its upper end to the horizontal part of said hanger and its lower end engaging said coupler, and having an opening therein mediate its ends, a horizontally-disposed coil expansion-spring pressing forward against said arm above said opening, and a C-shaped spring secured at one end to the vertical portion of said hanger, extending rearwardly through the opening in said arm and having its upturned lower end engaging the lower end of said arm.

13. The combination with a car and a longitudinally-yielding integral train-pipe coupler, of a spring located and exerting a forward pressure on a plane parallel to the axis of the coupler, which normally keeps said coupler at the limit of its forward movement.

14. The combination with a car and a longitudinally-yielding integral train-pipe coupler, of a coil-spring located and exerting a forward pressure on a plane parallel to the axis of the coupler which normally keeps said coupler at the limit of its forward movement.

843,703. RAILWAY SIGNAL SYSTEM. ALFRED L. RUTHVEN, Topeka, Kans. Filed Apr. 20, 1906. Serial No. 312,919.

Claim.—1. In a railway danger-signal system, a series of overlapping sectional conductors arranged along the track, suitable connecting means with the train, and a signaling device, a manually-operable pole-changer, a battery, and an automatically-operable pole-changer on each train, together with means arranged at intervals along the track for automatically shifting the automatic pole-changer.



2. In a railway signal system, a series of conductors, one of the conductors having offsets at intervals along the line, means for connecting with the conductors, signaling devices, batteries, manually-operable pole-changers, and automatically-operable pole-changers.

3. In a railway signal system, a series of conductors, one of the conductors having offsets, suitable signaling apparatus on the trains including an automatic pole-changer operable by said offsets.

4. In a railway signal system, a series of conductors, one of the conductors of said circuits having offsets at intervals along the line, a trolley and trolley-rod for connecting said conductor with the train, and suitable signaling devices on the trains including an automatic pole-changer operable by the engagement of said trolley and trolley-rod with said offsets.

5. In a railway signal system, a track whose rails are insulated and divided alternately into blocks as set forth, a third rail between said two rails, said third rail being electrically continuous and having offsets arranged at intervals therealong; a trolley on the train for engaging said third rail and operable by said offsets; and a battery, a signaling device, and an automatic pole-changer operable by said offsets, on the train.

6. In a railway signal system, a track whose rails are insulated and divided alternately into blocks as set forth, a third rail between said two rails, said third rail being electrically continuous and having outturned portions at the points of insulation of the other rails; a pivoted trolley on the train for engaging with said third rail and operable by said offsets; and a battery, a signaling device, and an automatic pole-changer operable by said trolley and offsets, on each train.

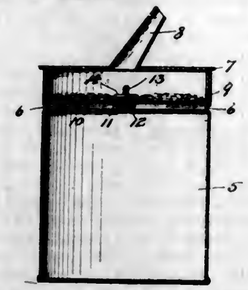
7. In a railway signal system, a track whose rails are insulated and divided alternately into blocks as set forth, a third rail which is electrically continuous and has offsets at intervals along the line, a trolley on the train movable laterally by said offsets and continuously engaging said third rail; and a battery, a signaling device, a manually-operable pole-changer, and an automatically-operable pole-changer controlled by said trolley, on the train.

843,704. NUT-LOCKING WASHER. ROBERT A. SCHINDLER, Pittsburg, Pa. Filed Nov. 22, 1906. Serial No. 344,600.



Claim.—A nut-locking washer, having upon each face an annular boss about the bolt-hole thereof and a thinner portion surrounding said boss, there being one or more angular, radial cuts in said thinner portion, the acute edges formed by said cut being carried outward in opposite directions beyond the respective faces of said boss for the purpose set forth, in combination with a nut and holden material having plain opposing faces.

843,705. VAPORIZER. MORRIS SELIGSOHN, Lincoln, Nebr., assignor of two-thirds to John S. Bishop and one-third to James E. Riggs, Lincoln, Nebr. Filed Dec. 11, 1905. Serial No. 291,232.



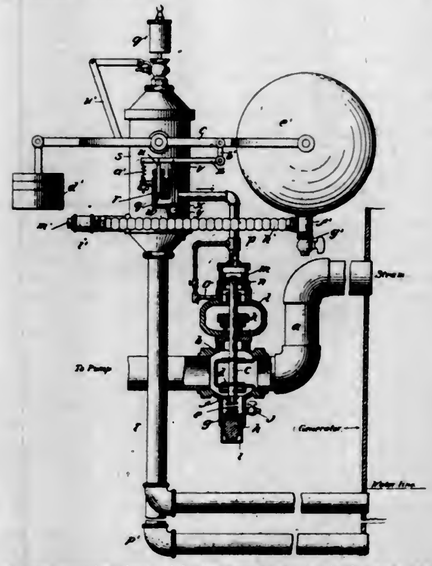
Claim.—1. A vaporizer consisting of a vessel adapted to contain hot water and having means to support a perforated plate designed to have absorbent material saturated with a medicament placed thereon, and means for assisting in the handling of said plate and also for retaining absorbent material thereon, comprising a shank passing through said plate and having a head abutting against the lower surface of the same, and a removable disk placed above said plate having a hoe adapted to frictionally engage said shank, substantially as described.

2. A vaporizer comprising a boiler with a perforated plate designed to have absorbent material placed thereon saturated with a medicament, a projection on the side of the boiler for supporting said plate, a cover having its lower edge abutting against the upper surface of said plate for the purpose of retaining the plate in position on said projection, and means for retaining the absorbent material on said plate and also for assisting in the removal of the plate, comprising a shank having a head at its lower end and a removable disk having a hole and designed to frictionally engage said shank, substantially as described.

843,706. BOILER-FEEDER. JOHN F. SENTER, Chattanooga, Tenn., assignor to Senter Manufacturing Company, Chattanooga, Tenn., a Corporation of Tennessee. Filed Oct. 29, 1906. Serial No. 341,064.

Claim.—1. In an apparatus of the class set forth, a tank supported above the water-line of the generator and connected thereto only at the water-line so as to thereby be at all times filled with water while the water is above the water-line in the generator, a gravitating tank above the water-line and connected to the aforesaid tank so as to be kept normally filled with water and a pivoted lever for supporting the same, a weight on said lever normally tending to raise the tank and being of such weight that the tank when filled with water will overbalance it, flexible pipe connections between the gravitating tank and the stationary tank, and valve-operating means connected to said lever and adapted to operate when the tank is elevated by the weight.

2. In a boiler-feeder, the combination of a pump cut-off valve normally tending to open and means whereby said valve is held closed when the water-line is at or above normal, said means embodying a pipe connected to the generator at said water-line, a stationary tank above the water-level of the generator and connected with this pipe, a gravitating tank above the water-level of the generator and flexible pipe connections between the same and said stationary tank, means for raising the gravitating tank when the water runs out of the same, a conduit connecting said stationary tank with the pump cut-off and normally filled with water from the generator, and a valve arrangement in said conduit whereby when the movable tank rises communication is cut off between the stationary tank and the pump cut-off, thereby preventing either water or steam reaching the pump cut-off, and communication is established between the pipe leading to the pump cut-off and the exhaust-passage to thereby release the pump cut-off and permit it to open.

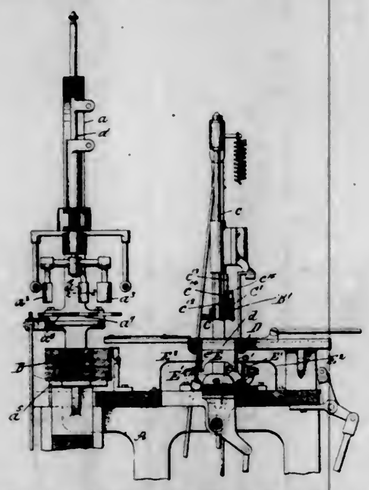


3. In combination with a generator, a stationary tank connected to the same at the water-line thereof so as to be kept normally filled with water, a gravitating tank and means keeping it in constant communication with said stationary tank, whereby this gravitating tank will be kept filled with water while the stationary tank is filled and will be emptied of water when the stationary tank is emptied, means for normally raising the gravitating tank, a pump cut-off in the steam-line of the pump, a water-conduit connecting the stationary tank to this pump cut-off and serving to normally hold the cut-off closed while said stationary tank is filled with water, an inlet-valve in said conduit, an exhaust or outlet pipe in said conduit, and means connected to the gravitating tank whereby when said tank is lowered by the water in it the outlet-valve will be closed and the inlet-valve opened and vice versa.

4. In combination with a generator, a stationary tank connected to the same at the water-line thereof so as to be kept normally filled with water, a gravitating tank and means keeping it in constant communication with said stationary tank, whereby this gravitating tank will be kept filled with water while the stationary tank is filled and will be emptied of water when the stationary tank is emptied, means for normally raising the gravitating tank, a pump cut-off in the steam-line of the pump, a water-conduit connecting the stationary tank to this pump cut-off and serving to normally hold the cut-off closed while said stationary tank is filled with water, an inlet-valve in said conduit, an exhaust or outlet pipe in said conduit, and

means connected to the gravitating tank whereby when said tank is lowered by the water in it the outlet-valve will be closed and the inlet-valve will be opened and vice versa, said means embodying a lever pivotally connected to the gravitating tank and to both the stems of the valves, and a spring connecting the free end of the lever to the stationary part and normally tending to close both valves.

843,707. ENVELOP-MACHINE. JOHN A. SHERMAN, Worcester, Mass. Filed Jan. 11, 1906. Serial No. 295,533.



Claim.—1. In a machine for making envelops, the picker mechanism and combined therewith, means for gumming an envelop-blank around a hole or opening therein, the plunger mechanism to which the envelops are fed from said picker mechanism in the operation of the machine, and combined with said plunger mechanism, means whereby a transparency or paper may be automatically applied to said gummed portion of the blank to cover the hole or opening therein.

2. In a machine for making envelops, the picker mechanism, a picker forming a part thereof and operatable simultaneously therewith, which picker is adapted to gum that portion of an envelop-blank around a hole or opening therein, a plunger mechanism, a base against which the plunger is adapted to operate, and carried by said plunger and operatable simultaneously therewith, means whereby transparencies or paper may be applied to said gummed portion of the envelop-blank to cover the said hole or opening therein.

3. In a machine for making envelops, the picker mechanism and reciprocating simultaneously therewith means for gumming that portion of an envelop-blank around a hole or opening therein, the plunger mechanism to which said gummed blanks are fed in the operation of the machine, the plunger carrying a stack of transparencies adapted to be successively applied to said gummed portion of the envelop-blank to cover the hole or opening therein, a base against which the plunger is adapted to reciprocate for applying said transparencies to the envelop-blank, and means for retaining said transparencies whereby they may be independently and successively drawn away from the plunger after being applied to the envelop-blank.

4. In a machine for making envelops, the picker mechanism, a picker forming a part thereof and operatable simultaneously therewith, which picker is adapted to gum that portion of the envelop-blank around a hole or opening therein, the plunger mechanism, a creasing-table and folding-box to which parts said gummed envelop-blank is carried in the ordinary operation of the machine, a box or casing carried by said plunger and operatable simultaneously therewith, said box being open at the bottom, and clips for holding said blank transparencies or paper in said box of the plunger, whereby a transparency or paper may be applied to said gummed portion of the envelop-blank to cover the hole or opening therein substantially as described.

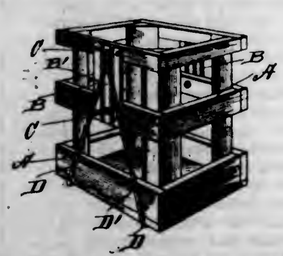
5. In an envelop-machine, the plunger mechanism and in combination therewith, a box carried by said plunger and operatable therewith, a base against which the plunger is adapted to reciprocate, said box of the plunger being open at the bottom and adapted to contain a stack of transparencies or paper destined to be applied through the open bottom of said box to a gummed envelop-blank for covering a hole or opening in said blank, and clips for retaining said stack of transparencies or paper within the box of the plunger, whereby a transparency or paper may be extracted from the stack therein after being applied to said gummed blank upon the reciprocation of the plunger against said base.

6. In an envelop-making machine, the picker mechanism and in combination therewith, adjustable means for gumming an envelop-blank around a hole or opening therein, plunger mechanism to which the envelop is fed in the operation of the machine and in combination therewith, adjustable means whereby a transparency or paper may be automatically applied to the gummed portion of the envelop-blank to cover the hole or opening therein.

7. In a machine for making envelops, the picker mechanism, a picker forming a part thereof and operatable simultaneously therewith, which picker is adapted to gum that portion of an envelop-blank around a hole or opening therein, means whereby the lateral adjustment of said picker may be effected, the plunger mechanism, a base against which the plunger is adapted to operate, a box or casing carried by said plunger, said box carried by the plunger being open at the bottom and adapted to contain a stack of transparencies or paper destined to be applied through the open bottom of said box to be gummed envelop-blank for covering the hole or opening in said blank, means for retaining said stack of transparencies or paper within the box of said plunger whereby a transparency or paper may be extracted from the stack therein upon the reciprocation of said plunger against said base, and means whereby said box may be adjustably mounted upon said plunger.

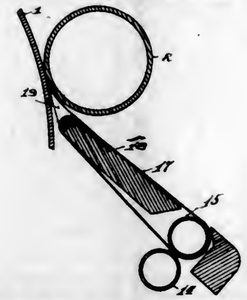
8. In an envelop-making machine, the plunger mechanism having a plunger consisting of rectangularly-arranged side bars with a yoke connecting the same to the plunger-rod, a box or casing within said side bars, means for adjustably connecting the same therewith, whereby said box or casing may be adjusted to assume different positions on said plunger, which box or casing is open at the bottom and adapted to contain a stack of transparencies or paper destined to be applied through the open bottom of said box to a gummed envelop-blank for covering a hole or opening in said blank, and means for retaining said transparencies or paper within said box or casing whereby they may be independently and successively applied as aforesaid.

843,708. CRATE-TILTING DEVICE. NICHOLAS J. SHERRILL, Charlotte, N. C. Filed Apr. 2, 1906. Serial No. 309,525.



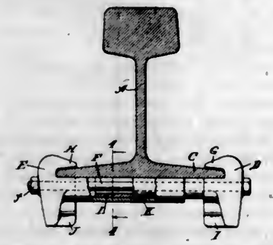
Claim.—A tilting receptacle-holder comprising a crate, plates secured to two of the outer faces upon opposite sides of the crate, each plate provided with projecting ribs upon its outer face and each plate being apertured between said ribs, a standard comprising bail-shaped wires, the upper ends of which are fastened together and bent at right angles and adapted to engage said apertures in said plates, parallel portions of the standard which are held together being adapted to bear against said ribs to normally hold the crate from tilting, as set forth.

843,709. FEEDING ATTACHMENT FOR MANGLES. JOHN H. SLACK, Cincinnati, and WATKIN W. RILEY, Norwood, Ohio, assignors to The American Laundry Machinery Company, Norwood, Ohio, a Corporation. Filed Feb. 5, 1906. Serial No. 299,522.



Claim.—In a device of the class described, a large drum and a coacting roller, a feed-table having a series of acute-angle fingers projected from its front end into position between the roller and drum, a driving-roller at the rear end of the feeding-table, a series of feed-belts passed around the said driving-roll and feed-table, and passing between the fingers at the front end of the table, a friction-roller contacting the belts and driving-roller, and means for imparting rotation to the friction-roller, substantially as described.

843,710. RAILWAY RAIL-STAY. HIRAM H. SPONENBURG, Wadsworth, Ill., assignor of one-half to Edward Laas, Chicago, Ill. Filed Oct. 29, 1906. Serial No. 341,020.



Claim.—1. In a rail-stay, the combination of a pair of jaws adapted to grip the opposite edges of the base-flange of a rail, each of said jaws being provided with a horizontal portion which extends beneath the rail-base and which overlaps such horizontal extension of the opposite jaw, and means for holding said jaws in gripping engagement with the rail-base.

2. A rail-stay, comprising a pair of jaws each constructed to engage the upper and lower face of a rail-base, said jaws being arranged to grip the opposite edges of the rail-base and to overlap each other beneath the rail-base, and means for holding said jaws in gripping engagement with the rail-base.

3. A rail-stay, comprising a pair of jaws adapted to engage the opposite edges of the base-flange of a rail, said jaws overlapping each other beneath the rail-base so as to be mutually guided in the line of movement at right angles to the length of the rail, and means for holding said jaws in gripping engagement with the rail-base.

4. In a rail-stay, the combination with a pair of jaws adapted to grip the base of a rail between them, each of said jaws having an overhanging lip and one of said jaws having a downwardly-extending member adapted to abut against the tie, of means adapted to draw said jaws toward each other, each of said jaws being formed with means thereon extending toward the opposite jaw, said means adapted to engage each other when the jaws are drawn together.

5. In a rail-stay, the combination with a pair of jaws adapted to grip the base of a rail between them, each of said jaws having an overhanging lip, and one of said jaws being formed with a downwardly-extending part adapted to abut against the tie, of means adapted to draw said jaws toward each other, each of said jaws being formed with means thereon extending toward the opposite jaw, said means adapted to engage each other and the bottom of the rail when the jaws are drawn together.

6. In a rail-stay, a pair of jaws adapted to hook over the opposite edges of a rail-base, means extending downward from a jaw and adapted to engage a tie and means for drawing said jaws toward each other and into engagement with the rail-base, each of said jaws having formed thereon a projection adapted to extend toward the other jaw beneath the rail, said projections engaging each other and the bottom of the rail when the jaws are drawn together and thereby preventing tilting of said jaws.

7. In a rail-stay, a pair of jaws adapted to hook over the opposite edges of a rail-base, means extending downward from a jaw and adapted to engage a tie and means for drawing said jaws toward each other and into engagement with the rail-base, each of said jaws having formed thereon a projection adapted to extend toward the other jaw beneath the rail, said projections engaging each other and the bottom of the rail when the jaws are drawn together and thereby preventing tilting of said jaws.

8. A rail-stay, comprising a pair of jaws adapted to hook over the opposite edges of a rail-base, each of said jaws having formed thereon an extension adapted to project toward the other jaw, said extensions adapted to overreach each other, means extending from one of said jaws to the other below said extension for drawing the jaws together, and means upon a jaw for contacting with a tie.

9. A rail-stay, comprising a pair of jaws adapted to hook over the opposite edges of a rail-base, means extending from one jaw to the other below the rail-base for drawing said jaws toward each other, and means between said last-named means and the rail-base adapted to engage the base of the rail, said means extending toward each other from the jaws and overlapping each other.

10. A rail-stay, comprising, in combination, a pair of jaws adapted to hook over the edges of a rail-base, each of said jaws having formed thereon an extension adapted to project beneath the base of the rail toward the other jaw, and a bolt adapted, when tightened, to draw said jaws toward each other and to force said extensions into contact with the base of the rail and with each other.

11. An anticreeping device for rails, comprising a pair of clamping-jaws adapted to grip over the opposite edges of a rail-base, each of said jaws being provided with means extending toward the other jaw, said means being formed to have telescoping engagement with each other, and means for drawing said jaws toward each other.

12. In an anticreeping device for rails, the combination of a pair of jaws arranged to grip over the edges of the rail-base, means for drawing said jaws toward each other, and means for maintaining said jaws in alinement with each other, said means comprising a projection formed integral with each jaw and adapted to overlap, beneath the rail, the corresponding projection on the other jaw.

13. In an anticreeping device for rails, the combination of a pair of jaws adapted to grip over the opposite edges of the rail-base, each of said jaws having a projection formed integral therewith and so disposed that said projections will engage each other beneath the rail-base and have slid-

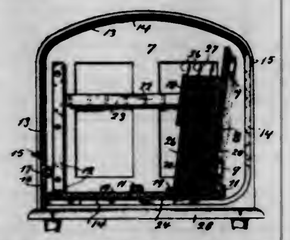
ing, longitudinal movement, the one upon the other, as the jaws are brought together, and means adapted to tighten said jaws upon the rail-base.

14. An anticreeping device, comprising a pair of oppositely-disposed jaws adapted to grip the base of a rail, each of said jaws being provided with a lug extending toward the other jaw beneath the rail, each of said lugs extending more than one-half the distance between said jaws and adapted to engage the lug on the other jaw, and means for drawing said jaws toward each other to secure the device to the rail.

15. A rail-stay, consisting of jaws disposed to grip the rail betwen them and formed with transverse extensions adapted to meet each other beneath the rail, one of said jaws being formed with a downward extension adapted to abut against a tie, and a bolt for drawing said jaws toward each other.

16. A rail-stay, consisting of jaws disposed to grip the rail between them and formed with downward extensions and with transverse extensions adapted to meet each other beneath the rail, said extensions overlapping each other and adapted to maintain the jaws in alinement with each other, and a bolt for drawing said jaws together and into engagement with the rail.

843,711. CABINET FOR SHEET-MUSIC. OTIS H. STEWART, Middleport, Ohio. Filed May 31, 1906. Serial No. 319,437.



Claim.—1. In a cabinet for storing sheet-music, the combination of parallel sides, a bottom and an inclined back for holding them in place, a flap pivotally supported between the sides which sustains the sheets in an upright position against the back and a sliding cover which constitutes front and top of the cabinet.

2. In a cabinet for storing sheet-music, the combination of an inclosure having parallel sides and an inclined back, retaining devices for holding the sheets in place, they consisting of a flap adjustably supported between the sides for holding the sheets in an upright position against the back by engaging them between their upper and lower edges and a stop adjustably supported on the bottom of the cabinet to prevent them from sliding forward by engaging their lower edges, the adjustment of one being independent of that of the other.

3. In a cabinet for storing sheet-music, the combination of an inclosure having parallel sides and an inclined back, supporting-strips provided opposite each other on the sides which have openings in their upper side, and a retaining-flap having pins at opposite ends adapted to be inserted in these openings.

4. In a cabinet for storing sheet-music, the combination of an inclosure having parallel sides and an inclined back, the bottom being provided with alined openings 25, a stop 19, and pins 24, thereon, adapted to engage these openings whereby the stop is adjustably supported on the bottom of the cabinet to retain music-sheets in upright position while leaning against the inclined back.

5. In a cabinet for storing sheet-music, the combination of a bottom, an inclined back and parallel, opposite sides connected to them which have each a continuous groove on their inner side near their edges and substantially parallel to these edges, the upright part of the grooves at the front edge of the sides being open downwardly, a sliding cover constituting top and upper part of the cabinet when closed fitted to occupy these grooves, a permanent lower front fitted to occupy the lower part of the grooves at the front edges and reaching upwardly to a limited extent and against the upper edge of which the front edge of the sliding cover closes and means whereby it is held in position and which when detached permit removal of said front downwardly out of the grooves which it occupies.

843,712. IMITATION TREE. ENGELBERT A. STRAUB, Rodney, Mich. Filed Sept. 13, 1906. Serial No. 334,553.



Claim.—1. A device of the class described comprising a base, a staff projecting therefrom, cross-bars removably secured upon the top of said staff, a plurality of foldable frame-sections superposed upon said staff, said frame-sections decreasing in size from the bottom up toward the top of the staff, each of said frame-sections comprising a head fixed upon said staff, radial arms pivoted to said head and adapted to fold downwardly, a runner slidable upon said staff, braces pivotally connected with said runner and with said arms, and a spring-catch for holding said runner in raised position.

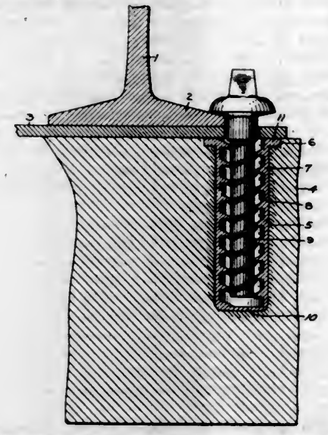
2. A device of the class described comprising a base having cross-bars and a central socket, a staff removably secured in said socket, cross-bars removably secured upon the top of said staff, a plurality of foldable frame-sections superposed upon said staff, said frame-sections decreasing in size from the bottom toward the top of the staff and each comprising a head fixed upon said staff, radial arms pivoted to said head, a runner slidable upon said staff, braces pivotally connected to said runner and to said arms and catches upon said staff to engage said runners to hold them in raised position.

843,713. BUSHING FOR RAILWAY SCREW-SPIKES. ARNOLD STUCKI, Allegheny, Pa. Filed Feb. 13, 1906. Serial No. 300,937.

Claim.—1. A screw bushing or sleeve for railway cross-ties comprising an internally-threaded solid metal sleeve having an outer surface adapting it to be driven into a hole in the tie and provided at its upper end with a flange for supporting the rail-plate.

2. A screw bushing or sleeve for railway cross-ties comprising an internally-threaded solid metal sleeve having an outer surface adapting it to be driven into a hole in the tie and having a closed lower end for resting on the bottom of the hole, and its upper end having a flange for supporting the rail-plate.

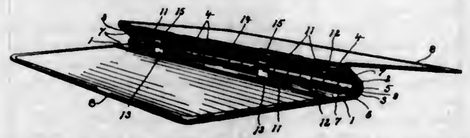
3. A railway-track structure comprising a wooden cross-tie provided with a hole countersunk at its top and a metal bushing or sleeve internally threaded and fitting in said hole with its lower end resting on the bottom of the hole, and having a flange fitting in the countersink and resting on the shoulder formed thereby.



4. A railway-track structure comprising a wooden cross-tie provided with a hole countersunk at its top and a metal bushing or sleeve internally threaded and fitting in said hole with its lower end resting on the bottom of the hole, having threads or projections on its outside to increase friction against pulling, and having a flange fitting in the countersink and resting on the shoulder formed thereby.

5. A screw bushing or sleeve for railway cross-ties comprising an internally-threaded solid metal sleeve adapted to be driven into a hole in the tie and provided on its outer surface with projections for increasing friction against vertical movement.

843,714. LOOSE-LEAF MEMORANDUM-BOOK. EDWARD C. SUCKERT, Detroit, Mich. Filed July 1, 1905. Serial No. 267,943.



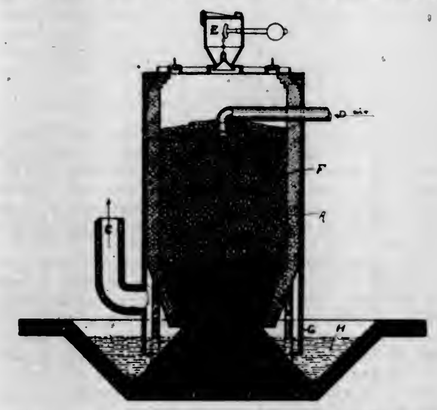
Claim.—1. In a loose-leaf book, the combination with covers, of strips of sheet metal hinged together at one edge and curved adjacent to said hinge to form a back with said hinge extending along its longitudinal center line and to form side flanges to which the covers are secured, and binding-fingers to extend between and engage the free edges of said flanges.

2. In a loose-leaf book, the combination with covers, of strips of sheet metal hinged together at one edge to form a back and side flanges to which flanges the covers are secured, and yielding binding-fingers formed integral with one flange and adapted to engage the free edge of the opposite flange.

3. In a loose-leaf book, the combination with covers, of side flanges to which the covers are secured, said flanges being curved toward each other along one edge, inwardly-turned eyes formed along said curved edges, a pintle to engage said eyes, and integral binding-fingers on one flange formed with hooks at their free ends and bent to yieldingly hold said hooks engaged with the free edge of the opposite flange.

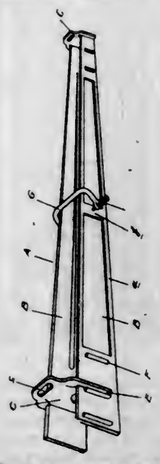
4. In a loose-leaf memorandum-book, the combination with covers, of a protecting-back uniting said covers consisting of two strips of leather or other pliable material, metal securing-strips inserted between the strips forming the protecting-back, metal strips hinge-connected at one edge and curved adjacent to said hinge to form a rounded back having the hinge extending along its longitudinal center line and to form side flanges having openings, binding-fingers formed integral with the free edge of one flange and provided with hooked ends to engage the opposite flange, and prongs struck up from the securing-strips extending through the openings in the flanges and clenched down upon the inner surface of said flanges to secure the covers to the flanges and the protecting-back over the metal back.

843,715. GAS-GENERATING APPARATUS. GODFREY M. S. TAIT, Montclair, N. J., assignor to Combustion Utilities Company, New York, N. Y., a Corporation of New York. Filed Aug. 16, 1905. Serial No. 274,497.



Claim.—A continuous-operating downdraft gas-producer comprising a producer with an open-ended reduced lower portion, an annular collar surrounding such reduced portion and spaced apart therefrom to form a gas-chamber, said collar extending downwardly below the open end of the reduced portion, a gas-outlet pipe tapping the gas-chamber, a water-sealing device adapted to maintain a normal liquid-level below the end of the producer and above the end of the collar, and an air-draft-inlet pipe at the upper end of the producer.

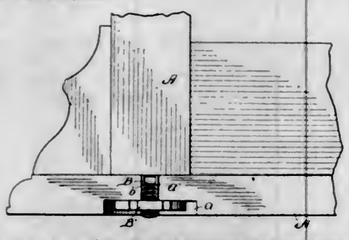
843,716. MOLD. GEORGE H. TERRY, Leslie, Mich., assignor of one-half to Norton M. Terry, Jackson, Mich. Filed Mar. 12, 1906. Serial No. 305,718.



Claim.—In a mold, the combination with the mold sides, of a plurality of pairs of oppositely-disposed vertical sta-

tionary abutments upon the exterior of the sides, an end gate fitting between the sides, and retaining members integral with the gate embracing the sides and adapted to bear against any pair of abutments, for the purpose described.

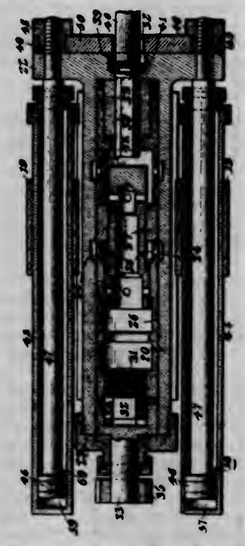
843,717. FURNITURE-FASTENING DEVICE. DANIEL W. TOWER, Grand Rapids, Mich. Filed Feb. 12, 1906. Serial No. 300,635.



Claim.—1. In a furniture-fastening, the combination of a top board A, having the recess *a* and an open slot *a'* therein; a superstructure A'; a bolt B flattened at *b* provided with a wood-screw thread for insertion into the superstructure; and a notched and threaded nut B' on the lower end of the bolt, arranged to clamp the top board at each side of the open slot *a'*, as specified.

2. In a fastening device, the combination of two parts to be joined, one of which contains a recess with an open slot through to the central part thereof; a bolt for joining the parts together, provided at one end with a wood-screw thread and provided with a threaded nut on the opposite end, the wood-screw being inserted into the one member and the nut being arranged in the recess in the opposite member, in position to clamp at the opposite sides of said slot, coacting for the purpose specified.

843,718. ROCK-DRILL-FEEDING MECHANISM. THOMAS TURNER, Ottumwa, Iowa. Filed May 9, 1906. Serial No. 315,978.



Claim.—1. In mechanism of the class described, the combination with a motor, of a plurality of fluid-actuated feeding devices for moving the motor, and means for admitting motive fluid to one or more of the feeding devices to vary the pressure thereof upon the motor.

2. In mechanism of the class described, the combination with a motor, of means for feeding the same to its work, said means including a plurality of cylinders and pistons, and means for admitting motive fluid to one or more of the cylinders.

3. In mechanism of the class described, the combination with a motor, of means for feeding the same to its work, said means including a plurality of cylinders and pistons, and means for admitting motive fluid to each cylinder independently of the other and on either or both sides of the piston of such cylinder.

4. In mechanism of the class described, the combination with a motor, of means for feeding the same to its work, said means including a plurality of cylinders and pistons, and means for separately admitting motive fluid to each cylinder on either or both sides of the pistons thereof, or simultaneously to all of the cylinders on either or both sides of the pistons thereof.

5. In mechanism of the class described, the combination with a motor, of a plurality of fluid-actuated feeding devices of different powers for moving the motor, and means for admitting actuating fluid to either of the feeding devices to vary the pressure thereof upon the motor.

6. In mechanism of the class described, the combination with a motor, of a plurality of fluid-actuated feeding devices of different powers connected to the motor for moving the same, and means for admitting actuating fluid to either of the feeding devices separately or to all simultaneously.

7. In mechanism of the class described, the combination with a motor, of a plurality of fluid-actuated feeding devices, for moving the motor, said devices comprising cylinders and pistons of different areas operating therein, and means for admitting motive fluid to either or both of the cylinders.

8. In mechanism of the class described, the combination with a motor, of a plurality of fluid-actuated feeding devices for moving the motor, said devices comprising cylinders and pistons of different areas operating therein, and means for admitting motive fluid to either or both of the cylinders, and on either or both sides of the pistons thereof.

9. In mechanism of the class described, the combination with a motor, of a plurality of fluid-actuated feeding devices connected to the motor for moving the same, said devices being located at different sides of the motor, and means for admitting motive fluid to each feeding device independently of the other.

10. In mechanism of the class described, the combination with a motor, of a plurality of fluid-actuated feeding devices connected to the motor for moving the same, said devices being located at different sides of the motor and comprising cylinders and pistons operating in said cylinders, and means for separately supplying motive fluid to each of the cylinders to feed the motor by one or more of the devices.

11. In mechanism of the class described, the combination with a motor, of a plurality of fluid-actuated feeding devices connected to the motor for moving the same, said devices being located on opposite sides of the motor and comprising cylinders and pistons of different diameters, and means for supplying motive fluid separately to each of the cylinders.

12. In mechanism of the class described, the combination with a support, of a motor having a cross-head, cylinder members located on opposite sides of the motor, piston members operating in the cylinder members, certain of said members being connected to the cross-head, the others being connected to the support, and means for introducing motive fluid separately into each of the cylinder members.

13. In mechanism of the class described, the combination with a support, of a motor having a cross-head, cylinders of different diameters located on opposite sides of the motor and connected to the support, piston members of different diameters operating in the cylinders and connected to the cross-head, and means for introducing motive fluid into any or all of the cylinders upon either or both sides of the pistons therein.

14. In mechanism of the class described, the combination with a support including clamps and a guideway mounted between the clamps, of a motor slidably mounted on the guideway, cylinders secured to the support by the clamps, pistons operating in the cylinders and connected to the motor, and means for admitting motive fluid to the cylinders.

15. In mechanism of the class described, the combination with a support, of a motor thereon, cylinders adjustably secured to the support, pistons operating in the cylinders and connected to the motor, a motive-fluid-supply pipe connected to the motor, separate pipes connected to the cylinders on opposite sides of the pistons, controlling-valves therein, and flexible conduits connecting the supply-pipe and the pipes of the cylinders.

16. In mechanism of the class described, the combination with a support including a head, said head having a longitudinally-disposed guideway, and clamps disposed on opposite sides of the guideway, of a motor including a cylinder slidably mounted in the guideway, feeding devices comprising cylinders of different diameters, adjustably held by the clamps and located on opposite sides of the motor, pistons of different diameters operating in the cylinders and connected to the motor, and means for admitting motive fluid to the motor and to the cylinders on opposite sides of the pistons.

17. In mechanism of the class described, the combination with a support, of a motor movably mounted thereon, a feeding device comprising a cylinder member and a piston member operating therein, a clamp engaging one member and connected to the support for holding said member against movement thereon, and means connecting the other member to the motor.

18. In mechanism of the class described, the combination with a support, of a motor movably mounted thereon, a feeding device comprising a cylinder member and a piston member operating therein, a clamp mounted on the support and embracing the cylinder member to hold it against movement thereon, and means connecting the piston to the motor.

19. In mechanism of the class described, the combination with a support, including a head, and a guideway formed in the head, of a motor having a slide movable in the guideway, a clamp carried by the head, a cylinder engaged and secured by the clamp, and a piston operating in the cylinder and connected to the motor.

20. In mechanism of the class described, the combination with a motor, of means for feeding the same to and withdrawing it from its work, a tool-stem operated on by the motor, and a latch pivoted at one end to the motor and having its axis of movement substantially parallel to the same, the other end of the latch having a detachable engagement with the motor, and an intermediate portion of such latch detachably engaging the tool-stem.

21. In mechanism of the class described, the combination with a motor, of means for feeding the same to and withdrawing it from its work, said means including a cylinder and a piston operating in the cylinder and connected to the motor, a tool operated on by the motor, and a latch pivoted on the piston connection and having a detachable engagement with the tool.

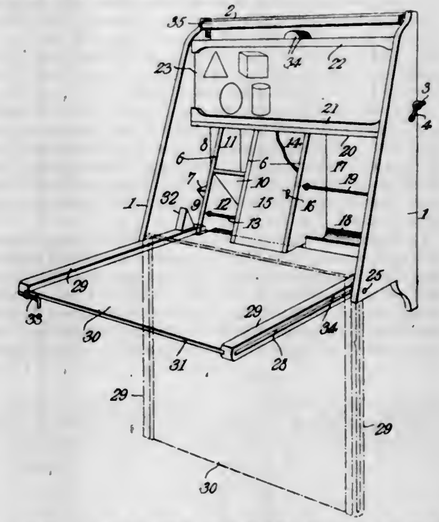
22. In mechanism of the class described, the combination with a motor having a tool-receiving socket, of fluid-actuating means for moving the motor including a cylinder member and a piston member, a connection between one of said members and the motor, a tool having a stem that engages in the socket, and a latch mounted on the said connection and engaging the tool-stem to move it with the motor during the movement of said motor in one direction.

23. In mechanism of the class described, the combination with a motor having a head at one end, and a tool-receiving socket that extends through the head, of fluid-actuated means for moving the motor, said means comprising cylinders located on opposite sides of the motor, pistons operating in the cylinders, and piston-rods carried by the pistons and connected to the head of the motor, a tool-stem having an enlargement that engages in the tool-receiving socket, and a latch pivotally mounted on one of the piston-rods and detachably engaging the other, said latch having an intermediate portion that extends across the tool-receiving socket and the enlargement of the stem that is located therein.

24. In mechanism of the class described, the combination with an outer casing, of an inner casing revolubly mounted in the outer casing, a piston-hammer operating in the inner casing, said inner casing having an angular socket in one end, and an angular stud projecting from its other end, a tool having an angular portion slidably mounted in the socket and rotatable with the casing, a shaft projecting through the outer casing and having a cap that fits over the stud, and means for rotating the shaft.

25. In mechanism of the class described, the combination with an outer casing having an angular fluid-conducting channel, of motive-fluid-supply means communicating with the channel, an inner casing rotatably mounted in the outer casing and having ports communicating with the channel of the outer casing, said inner casing having an angular socket in one end, and a stud projecting from its other end, a tool having an angular stem projecting through the socket, a reciprocatory hammer-piston operating in the inner casing against the tool-stem, a shaft journaled in the outer casing and having a cap that engages the shaft of the inner casing, the end of the shaft having a pinion and a hand-wheel rotatably mounted on the outer casing and having a gear-wheel meshing with the pinion.

843,719. DESK. BASCOM L. UMBERGER, Concord, N. C. Filed Aug. 20, 1906. Serial No. 331,365.



Claim.—1. In a desk the combination with a casing having connecting devices fixedly disposed upon the lower portion thereof and in alinement; of a closure interposed between and rotatably and slidably mounted on said devices whereby said closure may be suspended from the casing with either face thereof outward.

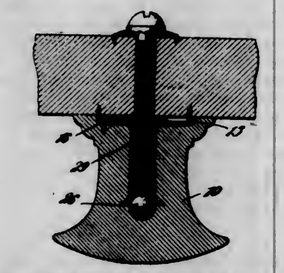
2. In a desk the combination with a casing; of a closure having longitudinally-extending grooves in opposite edges thereof, said closure adapted to overlap the bottom of the casing, stops upon the casing adapted to be engaged by the closure, and connecting devices extending from the casing and into the grooves, said closure being slidably and rotatably mounted upon said devices.

3. In a desk the combination with a casing; of a closure having longitudinal grooves in opposite edges thereof, the walls of said grooves being notched, connecting devices extending from the disk and into the grooves, said devices adapted to be seated in the notches, and said closure being slidably and rotatably mounted on the devices, and means for supporting the closure at an angle to the casing.

4. In a desk the combination with a casing having com-

partments therein, a chart upon its rear wall, and a chart-rack above the compartments; of a closure having longitudinal grooves in opposite edges thereof, pivot-bolts extending from the casing and into the grooves, heads rotatably mounted on said bolts and within the grooves, said closure being adapted to slide and rotate upon the heads, means for supporting the closure at an angle to the casing, and a lock for securing the closure in closed position.

843,720. KNOB. JOHN WADDELL and DANIEL W. TOWER, Grand Rapids, Mich. Filed July 3, 1906. Serial No. 324,627.

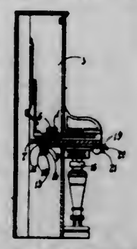


Claim.—1. A furniture-trimming having an opening and provided with a recessed inner face, a locking-ring having spurs for engaging the trimming and spurs for engaging the article to which the trimming is attached, an internally-threaded sleeve fitted within the opening and provided with ring engaging and locking members, and locking-spurs at the inner end of said sleeve.

2. A furniture-trimming having an opening and provided with a recessed inner face, a flanged ring seated within the recess and provided with oppositely-directed spurs, an internally-threaded sleeve fitting within the opening and having lugs or teats at one end for engagement with the ring, the opposite end of said sleeve being provided with locking-spurs.

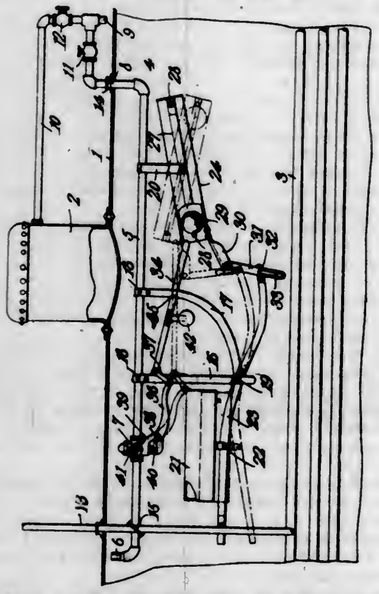
3. A furniture-trimming having an opening and provided with a recessed inner face, a flanged ring seated within the recess and provided with oppositely-directed spurs, the wall of the opening in said ring being notched, and a sleeve adapted to the opening in the trimming and having lugs at one end which interlock with said notches, the opposite end of the sleeve being provided with locking-spurs.

843,721. TOUCH-REGULATOR FOR PIANOS. ANDREW B. WALLACE and HERBERT J. JONES, Masterton, New Zealand. Filed Nov. 23, 1905. Serial No. 288,769.



Claim.—Apparatus for the purpose indicated comprising in combination, a tubular rocking shaft journaled within the casing of a piano, springs having one end projecting from the rocking shaft and their other ends passed through the rocking shaft and secured thereto, key-levers upon which the springs bear, a lever projecting from the rocking shaft, a vertically-vibrating bell-crank lever pivoted below the keyboard, a connecting-rod coupling together the rocking-shaft lever and the vertical bell-crank lever, a horizontally-vibrating bell-crank lever, a link connecting together the vertical and horizontal bell-crank levers, an arm of the horizontal bell-crank lever extending toward the front of the piano and having a screwed end, a socket screwed upon the end of the said arm, a slotted head having a tapered end, a quadrant-bracket having indication-markings and adapted to pass within the slotted head, and a set-pin for clamping the head to the quadrant substantially as described.

843,722. AUTOMATIC FEEDWATER REGULATOR FOR BOILERS. JAMES E. WALLACE, Briceville, Tenn. Filed July 27, 1906. Serial No. 328,139.



Claim.—1. In a regulator, the combination with a boiler, and a pipe arranged in the steam-space thereof for supplying steam to a water-delivering device, of a mechanism for controlling the supply of steam through said pipe, the same comprising a valve, a float, a lever supported on the pipe and connected with the float, and a means supported on the pipe and actuated by the lever for opening and closing the valve.

2. In a regulator, the combination of a boiler, a pipe arranged in the steam-space thereof for supplying steam to a water-delivering device, a water-delivering pipe extending into the boiler, and means for supporting the first on the second pipe, with a controlling mechanism for regulating the supply of steam through the first-mentioned pipe.

3. In a regulator, the combination of a boiler, a pipe arranged in the steam-space thereof for supplying steam to a water-delivering device, a water-delivering pipe extending into the boiler, and means for supporting the first on the second pipe, with a mechanism supported on the first-mentioned pipe for controlling the supply of steam through the latter, said mechanism including a float that is guided by the second pipe.

4. In a regulator, the combination with a boiler, and a pipe therein receiving steam from the same, of a float, a controlling-valve for the pipe, a tilting device mounted on the pipe and arranged to tilt suddenly, a lost-motion connection between the float and device whereby the latter is tilted first by the float and then automatically, and means between the valve and device arranged to cause the latter to open the valve suddenly.

5. In a regulator, the combination of a float, a controlling-valve, a holder containing a weighted ball, a connection between the float and holder whereby the latter is

gradually tilted first by the float and then suddenly by the change in position of the ball, and a mechanism between the holder and valve for opening and closing the latter, with a boiler containing the foregoing mechanism of the regulator, and a steam-pipe in the boiler supporting the entire regulator mechanism and containing the controlling-valve.

6. In a regulator, the combination of a lever, a tilting member, means carried thereby for assisting in the tilting of the same, a link connected with the member, a slot-and-pin connection between the link and lever, a controlling-valve, and means between the valve and member and unattached to the latter and arranged to be actuated thereby.

7. In a regulator, the combination of a tilting device, means carried thereby for assisting in the tilting of the same, a lever arranged with one end extending into the device so as to be struck by a hammer-blow from the device, and a mechanism actuated by the lever.

8. In a regulator, the combination of a tilting device having an open end, a support for the device on which the latter is journaled at its center, means arranged to assist in the tilting of the device, a weighted lever having one end extending into the open end of the device to be actuated thereby, and a mechanism operated by the lever.

9. In a regulator, the combination of a float, a lever on which the float is pivotally mounted, a tilting device arranged to first move gradually and then suddenly, a link connected with the device, a slot-and-pin connection between the link and lever, and a valve arranged to be opened or closed only during the sudden movement of the said device, said device comprising a hollow structure, a movable weight therein, and means for pivoting the structure at its center to oscillate in a horizontal axis.

10. In a regulator, the combination of a float, a lever on which the float is mounted, a hollow tiltable member, a ball-weight movable from end to end of the member, stops on the member for retaining the ball, a structure on which the member is fulcrumed at its center, a lost-motion connection between the member and lever, and a mechanism arranged to be engaged by the said member directly.

11. In a regulator, the combination of a float, a lever actuated by a float, a tilting device arranged to first move gradually and then suddenly, a lost-motion connection between the lever and device, separate levers arranged to coöperate for transmitting motion from the device, a link connecting the adjacent ends of the levers, a weight adjustably mounted on one of the levers, and a valve controlled by the other of the separate levers.

12. In a regulator, the combination of a float, a valve, and means between the valve and float for receiving motion from the latter to actuate the valve suddenly, said means comprising a tubular member, fixed pivots on which the member tilts, retaining devices at the ends thereof, and a freely-movable body arranged in the member.

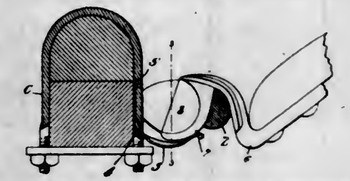
13. In a regulator, the combination of a support, a bracket mounted thereon, a float-actuated lever fulcrumed at one end of the bracket, a lever fulcrumed above the first lever on the bracket, a device between the levers for moving one by the other with a hammer-blow, and means on the support for holding said device.

14. In a regulator, the combination of a steam-supply pipe, a bracket mounted thereon, a float-actuated lever fulcrumed on the bracket, a lever fulcrumed above the first on the bracket, a device between the levers for suddenly moving one by the other, a structure for adjustably supporting the device on the pipe, a valve in the pipe for controlling the supply of steam therethrough, and a lever connected with the second lever for actuating the valve.

843,723. THILL-COUPLING. LLOYD W. WARD, Buckhannon, W. Va., assignor of one-half to William S. O'Brien, Buckhannon, W. Va. Filed Apr. 12, 1906. Serial No. 311,300.

Claim.—1. In a thill-coupling, a coupling-box including side members connected by a cross-bar at their front ends and having convex bearing-cheeks upon their inner sides, the bearing-surfaces of which are spaced from the cross-bar, in combination with a thill-iron having a cheek-engaging hook.

2. In a thill-coupling, a box having side members connected by a cross-bar at their front ends and provided on their inner sides with convex cheeks, in combination with a thill-iron having a curved cheek-engaging hook provided with a web adapted to enter between the faces of the cheeks.



3. A coupling-box having side members connected by a cross-bar at their front ends and provided with cheeks on their inner sides, said cheeks being spaced apart to form a slot and having approximately circular bearing edges, in combination with a thill-iron having a rearwardly-curved cheek-engaging hook adapted also for engagement with the cross-bar at the front end of the box, and provided with a vertical web adapted to enter said slot.

4. In a thill-coupling, a coupling-box having side members connected by a cross-bar at their front ends and provided with approximately circular bearing-cheeks upon their inner sides, the bearing-surfaces of which are spaced from the cross-bar and housed by the latter in combination with a thill-iron having a hook adapted to engage between the cheeks and the cross-bar, and a suitably-supported spring adapted to engage the hook.

5. In a thill-coupling, an axle-clip having a coupling-box including side members connected by a cross-bar at their front ends and having approximately circular cheeks upon their inner sides, a spring extending through an obliquely-disposed slot in the clip and having one end secured upon said clip, the other end of the spring being curved forwardly and normally supported against the cross-bar of the coupling-box; and a thill-iron having a hook adapted to engage between the cheeks and the cross-bar of the coupling-box and to be engaged by said spring.

6. An axle-clip having a coupling-box including side members connected by a cross-bar and having approximately circular cheeks upon their inner sides, a thill-iron having a hook adapted for pivotal engagement with the cheeks, and a spring secured upon the inside of the clip, extending obliquely through a slot in the latter, and normally resting against the cross-bar of the coupling-box for engagement with the coupling-hook when the latter is assembled with the coupling-box.

843,724. THILL-COUPLING. LLOYD W. WARD, Buckhannon, W. Va., assignor of one-half to William S. O'Brien, Buckhannon, W. Va. Filed June 4, 1906. Serial No. 320,106.



Claim.—1. A thill-coupling comprising a yoke, a core, a scoop-shaped tongue adapted to fit between the yoke and core, a semicircular guard-flange concentric to the scoop-shaped tongue, and a protecting-web to cover the core.

2. A thill-coupling comprising an axle-clamp, a yoke con-

nected with said axle-clamp, a core having trunnions engaging said yoke, a shaft-iron having a head, a scoop-shaped tongue connected with said head and adapted to fit between the yoke and core, a guard-flange connected with said head, and a protecting-web connected with said head.

3. A thill-coupling comprising an axle-clamp, a yoke connected with said axle-clamp, a core carried by said yoke, a shaft-iron having a head provided with a scoop-shaped tongue to engage the yoke, a protecting-web to cover the core, and a spring connected with said axle-clamp and bearing against said protecting-web for the purposes set forth.

4. A thill-coupling comprising an axle member and a shaft member, a yoke extending from one of said members and a core mounted therein, the other member engaging the core and straddling the yoke.

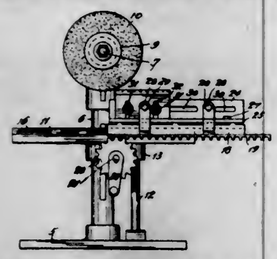
5. A thill-coupling comprising a shaft member and an axle member, one of said members having a yoke extending therefrom, a core therein, and trunnions extending from the core and within the yoke, the other member engaging the core and adapted to straddle the yoke.

6. A thill-coupling comprising an axle member and a shaft member, one of said members having a yoke extending therefrom and a core therein and spaced therefrom, and the other member being adapted to straddle the yoke and having substantially concentric sockets for receiving the core and yoke respectively.

7. A thill-coupling comprising an axle member and a shaft member, one of said members having a yoke extending therefrom and a core therein and spaced therefrom, and the other member being adapted to straddle the yoke and having substantially concentric sockets for receiving the core and yoke respectively, and resilient means for exerting a constant pressure upon the socketed member to prevent rattling.

8. A thill-coupling comprising an axle member and a shaft member, one of said members having a yoke extending therefrom and a core therein and spaced therefrom, and the other member being adapted to straddle the yoke and having substantially concentric sockets for receiving the core and yoke respectively, a web projecting from the socketed member, and resilient means for bearing upon the web to hold said socketed member in either of two positions.

843,725. GRINDING-MACHINE. JOHN T. WHEATMAN, Seattle, Wash. Filed Jan. 17, 1906. Serial No. 296,501.



Claim.—In combination with a bed of a grinding-machine, a work-table, a face-plate composed of rectangular side flanges, and a vertically-extending part, said flanges being clamped to said table, upwardly-projecting lugs carried by the table, set-screws extending through said lugs and bearing against said central part of the face-plate on opposite sides thereof, said central part being slotted to receive means to clamp the work thereto.

843,726. EXPANDED METAL STRUCTURE. ALEXANDER P. WHITE, Caldwell, N. J., assignor to The General Fireproofing Company, Youngstown, Ohio, a Corporation of Ohio. Filed July 27, 1906. Serial No. 328,019.

Claim.—1. An expanded metal construction comprising outer members extending at an angle to each other connected by a plurality of tie-pieces, the entire structure made of a single piece of metal.

2. An expanded metal construction comprising outer members extending at an angle to each other connected by a plurality of tie-pieces which progressively increase in length, the entire structure made of a single piece of metal.

3. An expanded metal construction comprising outer members extending at an angle to each other, and tie-pieces integrally connected to each member, the entire structure made of a single piece of metal.



4. An expanded metal construction comprising outer members extending at an angle to each other, and tie-pieces integrally connected to said members and extending substantially parallel to each other between said members, the entire structure made of a single piece of metal.

5. An expanded metal construction comprising a longitudinal member in one plane, a plurality of longitudinal members in another plane, both arranged at an angle to said first member, and tie-pieces connecting said first member with the other members, the entire structure made of a single piece of metal.

6. An expanded metal construction comprising a longitudinal member or base, a plurality of members arranged at an angle to the base and extending downwardly and inwardly toward the central portion of the base, and tie-pieces connecting said base with said upper members, the entire structure made of a single piece of metal.

7. An expanded metal construction comprising a longitudinally-extending member or base, longitudinal members in a different plane from the base, and sets of diverging tie-pieces connecting the base with said members, the entire structure made of a single piece of metal.

8. An expanded metal construction comprising a longitudinally-extending member or base, longitudinal members in a different plane from the base and arranged end to end, and inclined in opposite directions from the center and sets of tie-pieces connecting the base with said members, the entire structure made of a single piece of metal.

9. An expanded metal construction comprising a longitudinal member or base, longitudinal members in a different plane from the base and arranged end to end, and inclined in opposite directions from the center and sets of diverging tie-pieces connecting the base with said members, the entire structure made of a single piece of metal.

10. An expanded metal construction comprising a longitudinally-extending member or base, longitudinal members in a different plane from the base increasing in cross-sectional area from the center outwardly, and sets of tie-pieces connecting the base with said members.

11. An expanded metal construction comprising a longitudinally-extending member or base decreasing in cross-sectional area in each direction from the center outwardly, longitudinal members in a different plane from the base increasing in cross-sectional area from the center outwardly, and sets of tie-pieces connecting the base with said members.

12. An expanded metal construction comprising a longitudinally-extending member or base, longitudinal members, each extending at an angle to said base, and sets of tie-pieces connecting the base with said members, all of said parts being integral.

13. An expanded metal structure consisting of a main base member and a second member in another plane, the said second member being inclined in opposite directions from the center, so that the distance between the second member and the base member increases from the center toward the ends, the two members being tied together with slats, the whole structure being integral.

14. An expanded metal structure, consisting of a main longitudinal straight member, and an inclined second member in a different plane, both members being connected together with slats or ribs, the whole structure being integral.

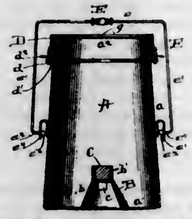
15. An expanded metal structure, consisting of two main members in different planes connected with slats, the main members diverging so that the distance between them is greater at one end than at the other end, the whole structure being integral.

16. An expanded metal structure, consisting of a main longitudinal member, two members in another plane, said two members being oppositely inclined so that the distance between them and the main longitudinal member increases as the outer ends are approached, the inclined members being tied to the main member with slats, the whole structure being integral.

17. An expanded metal structure, consisting of a main member serving as a base having a portion in the center uncut, and two members oppositely inclined from the central uncut portion, so that the distance between them and said main base member increases toward the outer ends, the said two members being connected with the main base member by slats, the whole structure being integral.

18. An expanded metal structure, consisting of a plurality of main members in one plane connected with a main member in another plane, the said members being connected with slats which increase in length progressively from one end to the other end, the whole structure being integral.

843,727. COFFEE-MAKER. ARTHUR E. WHITE, Chicago, Ill. Filed Jan. 19, 1905. Serial No. 241,872.

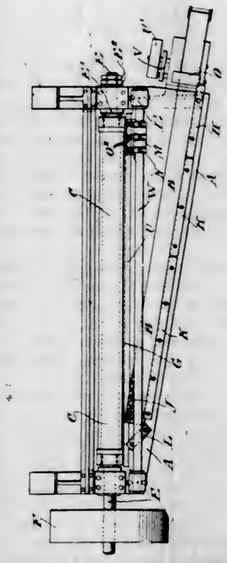


Claim.—1. In a coffee-maker, the combination of an invertible vessel having side walls and a wall at one end furnishing an unobstructed base or support for the vessel, and open at the other end, a funnel for the end wall inwardly projecting into the chamber of the vessel and adapted to direct the flow of liquid thereinto, a closure for the vessel adapted to be rigidly inserted into place to prevent leakage when the vessel is supported on its closed end, a band encircling the exterior of the vessel at its open end and furnishing a rest for the vessel on the urn with the open end of the vessel entered into the top of the urn, and a strainer encircled by the band and clamped thereby over the open end of the vessel, substantially as described.

2. In a coffee-maker, the combination of an invertible vessel having a tapered side wall and a wall at the larger end and open at the smaller end, a band encircling the exterior of the vessel at its open end and having a stop supporting the vessel on the urn, spring catches on the band, and a flange circumferal on the side wall engaged by the spring-catches and detachably connecting the band with the end of the vessel, and a strainer entered over the open end of the vessel and drawn taut and held in place by inserting the band in position on the end of the vessel, substantially as described.

3. In a coffee-maker, the combination of a vessel having a tapered side wall and a wall at the larger end and open at the smaller end, a band encircling the exterior of the vessel at its open end and furnishing a rest for the vessel on the urn with the open end of the vessel entered into the top of the urn, a circumferential flange on the side wall, a spring connection between the band and circumferential flange, and a strainer entered onto the open end of the vessel and drawn taut by forcing the band into position on the end of the vessel, substantially as described.

843,728. MACHINE FOR EXPANDING METAL. HERBERT E. WHITE, Youngstown, Ohio, assignor to The General Fireproofing Company, Youngstown, Ohio, a Corporation of Ohio. Filed July 19, 1905. Serial No. 270,327.



Claim.—1. In a machine for expanding slitted sheet metal, the combination of a suitable table for supporting the slitted sheet of metal in substantially one plane, and rotary means constructed to engage the portions of the sheet adapted to form the strands of the mesh and bend and open said strands without stretching over the edge of the table out of the plane of the sheet, the axis of said rotary means extending longitudinally of the table.

2. In a machine for expanding slitted sheet metal, the combination of a suitable table for supporting the slitted sheet of metal in substantially one plane, and rotary means operating continuously in one direction constructed to engage the portions of the sheet adapted to form the strands of the mesh and bend and open said strands over the edge of the table out of the plane of the sheet, the

axis of said rotary means extending longitudinally of the table.

3. In a machine for expanding slitted sheet metal, the combination of a suitable table or support for the slitted sheet of metal, and a toothed drum for bending the strands over the edge of the table whereby the sheet is at the same time drawn toward the drum.

4. In a machine for expanding slitted sheet metal, the combination of a suitable table or support for the slitted sheet of metal, an drotary means for bending and opening the slitted strands without substantially stretching over the edge of the table to expand the sheet into mesh-like form, the axis of said rotary means extending longitudinally of the table.

5. In a machine for expanding slitted sheet metal, the combination of a suitable table or support for the slitted sheet of metal, and rotary means continuously operating in the same direction for bending and opening the slitted strands over the edge of the table to expand the sheet, the axis of said rotary means extending longitudinally of the table.

6. In a machine for expanding slitted sheet metal, the combination of a suitable table or support for the slitted sheet of metal, and a toothed drum revolving continuously in the same direction on an axis substantially parallel to the edge of the table for bending the strands over the table to expand the sheet.

7. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal and a toothed drum for expanding the sheet, said drum revolving upon an axis extending longitudinally of the support, whereby the slitted edge of the sheet is continually presented to the action of the teeth on the drum.

8. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal and a revolving toothed drum operating continuously in the same direction adapted to coact with the slitted edge of the sheet and bend and open the same, said drum extending longitudinally of the support.

9. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal and a toothed drum adapted to revolve on an axis substantially parallel to the working edge of said support, and means for presenting the slitted sheet of metal to the action of the drum at an angle to the working edge of the support.

10. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal and a toothed drum adapted to revolve continuously in the same direction on an axis substantially parallel to the working edge of the support.

11. In a machine for expanding slitted sheet metal, the combination of a suitable table for supporting the slitted sheet of metal in substantially one plane and operative means extending longitudinally of the table constructed to engage the uncut portions of the sheet between the slits and bend and open the strands without stretching out of the plane of the sheet to form the mesh.

12. In a machine for expanding slitted sheet metal, the combination of a suitable table for supporting the slitted sheet of metal in substantially one plane, and rotary means operating continuously in one direction and extending longitudinally of the table for engaging the uncut portions of the sheet between the slits and thereby bending and opening the strands to form the mesh, out of the plane of the sheet.

13. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal, a toothed drum adapted to coact with the sheet to expand the same, and means for first presenting the corner of the sheet to the action of the toothed drum.

14. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal, a toothed drum adapted to coact with the sheet to expand the same, and means for presenting the sheet to the drum at an angle so that the corner of the sheet will first be acted upon by the teeth of the drum.

15. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal, and a revolving toothed drum operating continuously in one direction adapted to coact with the slitted sheet to bend and open the strands, the edge of the support or table adjacent the drum being provided with teeth of a depth substantially equal to the width of the strands to be formed in the completed mesh.

16. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal, a toothed drum revolving continuously in one direction on an axis substantially parallel to the working edge of the table or support for expanding the sheet and means for preventing the sheet from tilting up from the support when engaged by the drum.

17. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal, a toothed drum revolving on an axis substantially parallel to the working edge of the table or support for expanding the sheet and yielding means for preventing the sheet from tilting up from the support when engaged by the drum.

18. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal, a toothed drum revolving on an axis substantially parallel to the working edge of the table or support for expanding the sheet and adjustable yielding means in the form of holddown-guides for preventing the sheet from tilting up from the support when engaged by the drum.

19. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal, a revolving toothed drum for expanding the sheet, revolving on an axis extending longitudinally of the support, and means for feeding the sheet up to the drum.

20. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal, a revolving toothed drum for expanding the sheet, revolving on an axis extending longitudinally of the support, means for feeding the sheet up to the drum, and means for releasing the hold of the feeding means on the sheet when the drum engages the sheet.

21. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal, a revolving toothed drum for expanding the sheet, revolving on an axis extending longitudinally of the support, and feed-rolls for feeding the sheet up to the drum.

22. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal, a revolving toothed drum for expanding the sheet, revolving on an axis extending longitudinally of the support, feed-rools for feeding the sheet up to the drum, and means for releasing the hold of the feed-rolls on the sheet when the drum engages the sheet.

23. In a machine for expanding slitted sheet metal, the combination of a suitable support for the slitted sheet of metal and a toothed drum revolving on an axis substantially parallel to the working edge of the support or table for expanding the sheet, and means for presenting the sheet to the toothed disk at an angle so that the corner of the sheet is first acted upon, the face of the teeth on the disk being beveled at an angle substantially equal to the angle at which the sheet is presented to the drum.

24. In a machine for expanding slitted sheet metal, the combination of a suitable table for the slitted sheet of metal, a toothed drum arranged longitudinally of the table for expanding the sheet and means for first presenting an uncut portion of a corner of the sheet to the action of the drum.

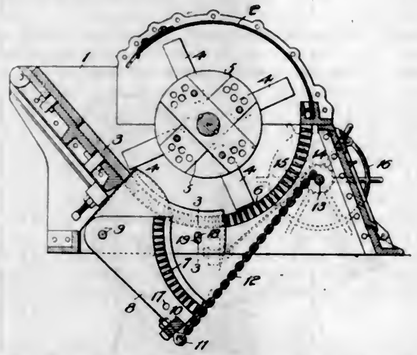
25. In a machine for expanding slitted sheet metal, the combination of a suitable table for the slitted sheet of metal, a revolving toothed drum arranged longitudinally of the table opposite the working edge thereof, and means for varying the clearance between the working edge of the table and the teeth of the drum.

26. In a machine for expanding slitted sheet metal, the combination of a suitable table for the slitted sheet of metal, a revolving toothed drum arranged longitudinally of the table opposite the working edge thereof, and means for varying the height of the drum relatively to the table.

27. In a machine for expanding slitted sheet metal, the combination of a suitable table for the slitted sheet of metal, a revolving toothed drum arranged longitudinally of the table opposite the working edge thereof, and means for varying the relative height of the drum and table.

28. In a machine for expanding slitted sheet metal, the combination of a suitable table for the slitted sheet of metal, a revolving toothed drum arranged longitudinally of the table opposite the working edge thereof for expanding the sheet, means for varying the clearance between the working edge of the table and the teeth of the drum, and means for varying the height of the drum relatively to the table.

843,729. DUMPING-CAGE FOR CRUSHERS AND PULVERIZERS. MILTON F. WILLIAMS, St. Louis, Mo., assignor to Williams Patent Crusher & Pulverizer Company, St. Louis, Mo., a Corporation of Missouri. Filed July 24, 1905. Serial No. 271,016.



Claim.—1. In a machine of the character described the combination of a casing, a shaft arranged horizontally in the casing and carrying pivotally-mounted hammers, a frame pivotally mounted in the casing below said shaft, a rigid grinding-surface carried by said frame, a flexible device connected to said frame and winding-mechanism for said flexible device, the pivot of said frame being located below the grinding-surface when the frame is in operative position.

2. In a machine of the character described, the combination of a casing, revolving hammers or beaters mounted therein, a frame pivotally mounted in said casing, a grinding-surface carried by said pivotally-mounted frame, said frame being adapted to be actuated to dump the material resting on said grinding-surface, a chain connected to the free end of said frame, a winding-shaft around which said chain is wound to restore said frame and grinding-surface to normal position, a hand-wheel on said shaft for rotating same, a ratchet-wheel carried by said shaft, and a coöperating pawl for engaging said wheel to prevent retrograde movement of said shaft; substantially as described.

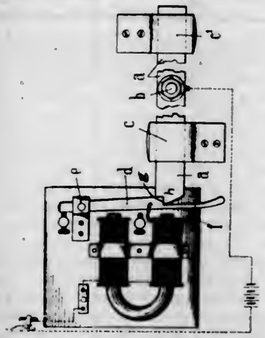
3. In a machine of the character described the combination of the casing, revolving hammers or beaters arranged therein, a pivotally-mounted frame inside of the casing and provided with a rigid grinding-surface, removable devices projecting laterally from said frame through openings in the side walls of the casing, and wedges coöperating with said devices for adjusting the free end of the frame to take up wear between the grinding-surface and the ends of the hammers.

4. In a machine of the character described, the combination with a casing, pivotally-mounted revolving hammers or beaters, a frame pivotally mounted in said casing, a grinding-surface carried by said frame, a flexible device connected to said frame, winding mechanism for said flexible device, and independent means for adjusting the frame when in operating position; substantially as described.

5. In a machine of the character described, the combination of a casing, pivoted revolving hammers or beaters, a pivoted frame mounted in the casing, a grinding-surface carried by said frame, a chain connected to said grinding-surface, a winding mechanism coöperating with said chain, removable projections which are designed to be connected to and disconnected from said frame from the outside of the casing, and means coöperating with said projections for adjusting the free ends of said pivoted frame and its carried grinding-surface when the same is in operating position; substantially as described.

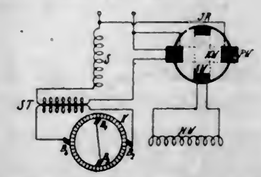
6. In a machine of the class described, the combination with a casing, of revolving beaters mounted therein, a pivotally-mounted grinding-surface arranged inside of the casing and provided with members that project laterally through slots in the side walls of the casing, and wedges at each side of the casing coöperating with the laterally-projecting members on the grinding-surface to change its position relatively to the ends of the beaters; substantially as described.

843,730. LOCKING DEVICE FOR DOORS AND WINDOWS. JOSEF WITTMANN, Munich, Germany. Filed May 24, 1905. Serial No. 262,053.



Claim.—In a device for locking doors, shutters, &c., the combination of a bolting-bar, longer than the width of the door, said bolting-bar being pivoted on the door and adapted to turn from the horizontal position to the vertical position by the action of gravity, retaining-hooks for the bolting-bar on each door-post, one open downward and the other open upward, an electromagnet on the door-post, a pivoted armature in conjunction with said electromagnet, a projection on the armature adapted to maintain the bar in the horizontal position and in engagement with the hooks, a prolongation of the armature shaped and adapted as a handle, an electric current operating said electromagnet all substantially as set forth.

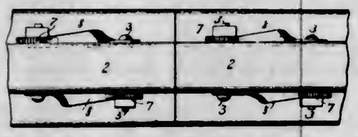
843,731. ARRANGEMENT FOR REGULATION OF SPEED OF COMPENSATED SINGLE-PHASE MOTORS. ENGELBERT ARNOLD, Karlsruhe, Germany, and JENS LASSEN LA COUR, Edinburgh, Scotland. Filed June 1, 1905. Serial No. 263,319.



Claim.—1. The combination with a single-phase compensated motor, of an induction-regulator for starting and speed regulating, said motor having an auxiliary stator-winding with a variable number of effective ampere-turns and said induction-regulator comprising a primary and a secondary coil movable with relation to one another, and a compensating coil connected to the main line, substantially as described.

2. The combination with a single-phase compensated motor, of an induction-regulator for starting and speed regulating, said motor having an auxiliary stator-winding with a variable number of effective ampere-turns and said induction-regulator comprising a primary and a secondary coil movable with relation to one another, and a compensating coil connected to the main line, one part of the auxiliary stator-winding being fed with current by the secondary coil of the induction-regulator, while the other part of the auxiliary stator-winding is connected in series with the primary coil of the induction-regulator and the non-short-circuiting brushes of the armature.

843,732. RAILWAY-SPLICE. JOSEPH S. BECK, Medina, Ohio. Filed Nov. 7, 1906. Serial No. 342,365.

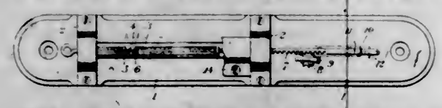


Claim.—1. In a railway, splice-bars applied to opposite sides of the rail-sections, screw-bolts inserted through said rail-sections and splice-bars and equipped with ratchet-nuts, two such screw-bolts with their nuts being arranged upon each side of the rail-joint, and means of connection between said bolts and nuts, such connection being effected upon each side of each rail-section between a bolt immediately adjacent to the rail-joint and a nut of a successive bolt, said connecting means comprising dogs fixed to diagonally opposite ends of said bolts and engaging correspondingly-arranged nuts of said bolts respectively, for the purpose set forth.

2. In a railway, splice-bars applied to opposite sides of the rail-sections, screw-bolts inserted through said rail-sections and splice-bars and equipped with ratchet-nuts, two such screw-bolts with their nuts being arranged upon each side of the rail-joint, and means of connection between said bolts and nuts, such connection being effected upon each side of each rail-section between a bolt immediately adjacent to the rail-joint and a nut of a successive bolt, said connecting means comprising spring-dogs fixed to diagonally opposite ends of said bolts and engaging correspondingly-arranged nuts of said bolts, respectively, said spring-dogs having lateral pendent lips depending intermedially of said splice-bars and said ratchet-nuts, all substantially as and for the purpose set forth.

3. In a railway, the splice-bars applied to opposite sides of the rail-sections, screw-bolts applied for effective action upon each side of the rail-joint, ratchet-equipped nuts, said nuts being arranged upon diagonally opposite ends of said bolts, and spring dogs or pawls engaging said ratchet-nuts, and each having a depending lateral lip adapted to extend down behind said nuts said spring-dogs having angular apertures receiving corresponding portions of said bolts.

843,733. ELECTRIC REGULATOR. AUGUSTUS C. CAREY, Boston, Mass. Filed July 15, 1904. Serial No. 216,695.



Claim.—1. The combination of an electrically-non-conductive tube, a mass of loose particles of electrically-conductive material arranged therein, and electrically-conductive wire-wound plungers arranged in said tube and between which the loose particles are more or less intimately confined.

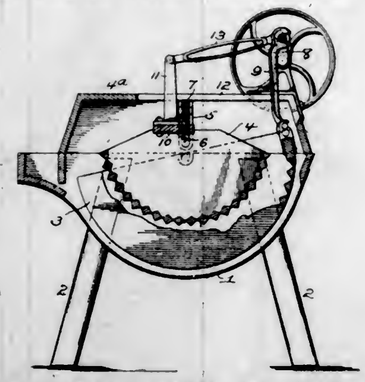
2. The combination of an electrically-non-conductive tube, a mass of loose particles of electrically-conductive material arranged therein, and electromagnetic plungers arranged in said tube and between which the loose particles are more or less intimately confined.

3. The combination of an electrically-non-conductive tube, a mass of loose particles of electrically-conductive material arranged therein, and plungers arranged in said tube, and between which the loose particles are more or less intimately confined, one of said plungers being an electromagnet or inductorium.

4. The combination of a non-conductive tube, a mass of loose particles of conductive material arranged therein, electromagnetic plungers arranged in said tube on opposite sides of said mass, and means for adjusting said plungers to vary the compactness of the loose particles.

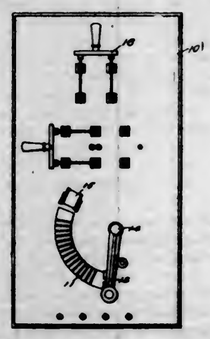
5. The combination of a non-conductive tube, a mass of loose particles of conductive material arranged therein, electromagnetic plungers arranged in said tube on opposite sides of said mass, one of said plungers having a rack, a pinion coöperating with said rack for adjusting said plunger to vary the compactness of the loose particles, and an indicating mechanism for determining the effective movement of the plunger.

843,734. WASHING-MACHINE. JOHN R. CARTER, Augusta, Ky., assignor to Ernst H. Huenefeld, Cincinnati, Ohio. Filed Feb. 7, 1905. Serial No. 244,576.



Claim.—In a washing-machine, the combination with a tub or body, a crank-shaft, and an oscillatory rubber having a standard on the side thereof remote from the crank-shaft, of a pitman between the crank-shaft and standard, the connection between the pitman and standard being in approximately the same horizontal plane with the crank-shaft.

843,735. STARTING-RHEOSTAT. LEWIS S. CHAPMAN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 9, 1906. Serial No. 321,001.



Claim.—1. The combination with a starting-rheostat having a no-voltage magnet, of a reversing-switch, and means controlled thereby for deënergizing the said magnet.

2. The combination with a starting-rheostat having a no-voltage magnet, of a switch in the motor-circuit, and means controlled by the opening of said switch for short-circuiting the said magnet.

3. The combination with a starting-rheostat having a no-voltage magnet, of a reversing-switch, and means controlled by the opening of said switch for short-circuiting the said magnet.

4. The combination with a starting-rheostat having a no-voltage magnet connected across the line, of a reversing-switch in the motor-circuit, and means controlled by the actuation of said switch for deënergizing the said magnet.

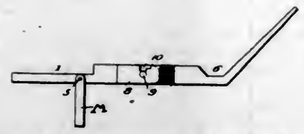
5. The combination with a starting-rheostat having a no-voltage magnet connected across the line, of a reversing-switch in the motor-circuit, and means for short-circuiting the said magnet on the opening of said switch.

6. The combination with an electric motor, of a switch in the motor-circuit biased to open position, an electroresponsive device for maintaining said switch in the closed position, a reversing-switch, and means for deënergizing the said electroresponsive device on the actuation of said reversing-switch.

7. The combination with an electric motor, of a switch in the motor-circuit biased to open position, an electromagnetic device responsive to no voltage connected across the line and arranged to maintain said switch in the closed position, a reversing-switch, and means for deënergizing the electromagnetic device by the actuation of the said switch.

8. The combination with an electric motor, of a switch in the motor-circuit biased to open position, an electromagnetic device responsive to no voltage connected across the line and arranged to maintain said switch in the closed position, a reversing-switch, and means for short-circuiting said electromagnetic device by the opening of said reversing-switch.

843,736. ANTIRATTLER THILL-COUPLING. WALTER COX, Provo, Utah. Filed Apr. 18, 1906. Serial No. 312,398.

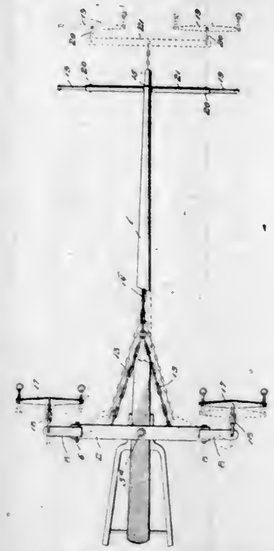


Claim.—1. In a thill-coupling, the combination of thill and axle members, one of which has a slot provided with a narrower entrance-mouth and the other having a fork straddling the member which has the slot, said forked member having a projection received in the slot, and said forked member also having a notched edge, and a filling or antirattler member adapted to be entered in the slot and entrance-mouth by passage through the notch aforesaid and to hold the projection in the slot.

2. In a thill-coupling, the combination of thill and axle members, one of which has a slot provided with a narrower entrance-mouth and the other having a fork straddling the member which has the slot, said forked member having a projection received in the slot, and said forked member also having a notched edge, and an elastic filling or antirattler-cushion adapted to be entered in the slot by passage through the notch aforesaid and by its elasticity hold the projection in the slot to take up lost motion.

3. In a thill-coupling, the combination of thill and axle members, one of which has a slot provided with a narrower entrance-mouth and the other having a fork straddling the member which has the slot, said forked member having a projection received in the slot, and said forked member also having a notched edge, and a filling or antirattler member of such conformation as to fit the slot and the entrance-mouth thereof and adapted to be entered in the slot and entrance-mouth by passage through the notch aforesaid when the thill-coupling members are in a certain predetermined position, said filling member being adapted to hold the projection in the slot.

843,737. DRAFT-EQUALIZER. GEORGE B. ELLIOTT, Barney, N. D. Filed July 30, 1906. Serial No. 328,447.



Claim.—1. In a draft-equalizer, the combination with a tongue, of a draft-bar carried by said tongue, eveners pivotally mounted upon said draft-bar, each evener comprising an upper and a lower portion, a vertical shaft connecting said portions near their inner end, each portion provided with an aperture formed therein near its outer end, flexible means connecting said eveners, and means for directly attaching a draft-animal to said flexible means.

2. In a draft-equalizer, the combination of a tongue, a draft-bar pivotally mounted upon said tongue, said draft-bar provided with bifurcated ends, eveners positioned within the bifurcated ends of said draft-bar, removable fastening means securing said eveners within said ends, each evener comprising an upper and a lower, flat portion, a shaft integral with the inner ends of said portions, whiffletrees, means connecting said whiffletrees to the upper portions of said eveners, and means for directly attaching a draft-animal to the lower portions of said eveners.

3. In a draft-equalizer, the combination with a tongue, of a draft-bar carried by said tongue, eveners carried by said draft-bar, each of said eveners comprising an upper and a lower portion, whiffletrees, means connecting said whiffletrees to the upper portions of said eveners, a flexible member, means connecting the inner end of said flexible member to the lower portions of said eveners, a ring secured to said flexible member and adapted to be positioned upon the end of said tongue for limiting pivotal movement of said eveners, a whiffletree, and means connecting said whiffletree to the flexible member near said ring.

4. In a draft-equalizer, the combination with a tongue, of a pivotally-mounted draft-bar carried by said tongue, said draft-bar provided with bifurcated ends, each end provided with horizontal apertures, sleeves positioned within the apertured ends of said draft-bar, eveners pivotally mounted within the bifurcated ends of said draft-bar, removable fastening means positioned within said sleeves and securing said eveners upon said draft-bar, whiffletrees, means connecting said whiffletrees to said eveners, and means for limiting pivotal movement of said eveners.

5. The combination with a tongue, of a draft-bar carried by said tongue, eveners pivotally mounted upon said draft-bar, each evener provided with an upper and a lower portion, whiffletrees, means connecting said whiffletrees to the upper portions of said eveners, a doubletree, means con-

necting said doubletree to the lower portions of said eveners, whiffletrees, and means connecting said whiffletrees to said doubletree.

6. In a draft-equalizer, the combination with a tongue, of a draft-bar pivotally mounted upon said tongue, eveners pivotally mounted upon said draft-bar, each evener comprising an upper and a lower portion, a vertical shaft integral with said portions, a chain, chain-sections connected at their outer end to the lower portions of said eveners and at their inner ends to said chain, means for attaching draft-animals to the upper portions of said eveners, and means for attaching draft-animals to said chain.

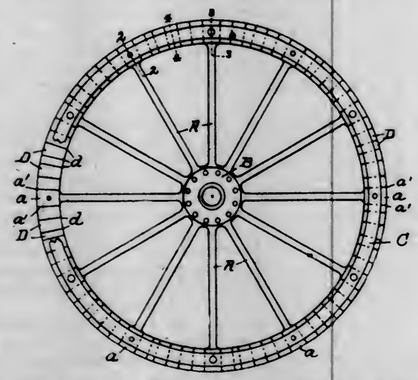
7. In a draft-equalizer, the combination with a tongue, of a draft-bar carried by said tongue, eveners mounted upon said draft-bar, each evener provided with a portion extending through said draft-bar and with portions extending in opposite directions upon opposite sides of said draft-bar, means for attaching draft-animals to the outer ends of said eveners, and means for attaching a draft-animal to the inner ends of said eveners.

8. In a draft-equalizer, the combination with a tongue, of a draft-bar carried by said tongue, eveners pivotally mounted upon said tongue and extending in opposite directions upon the upper and lower sides thereof, means for attaching draft-animals to said eveners, means connecting the inner ends of said eveners, and means for attaching a draft-animal to the inner ends of said eveners.

9. In a draft-equalizer, the combination with a tongue, a draft-bar carried by said tongue, of eveners pivotally mounted upon said draft-bar and extending in opposite directions upon the upper and lower sides thereof, means for attaching draft-animals to said eveners, and means for holding said eveners substantially parallel with said draft-bar, and in operative position with said bar and said tongue.

10. In a draft-equalizer, the combination with a tongue, a draft-bar carried by said tongue, of eveners pivotally mounted upon said draft-bar, each evener extending in opposite directions upon opposite sides of said draft-bar, and means connecting said eveners.

843,738. VEHICLE-WHEEL. ALPHEUS FAY, Louisville, Ky. Filed Aug. 26, 1905. Serial No. 275,935.



Claim.—1. In a vehicle-wheel, the combination of spokes having heads extending to the rim-periphery and wedge-shaped blocks, having their grain in the lines of the radii of the wheel, set between said spoke-heads to complete the wheel-rim, substantially as specified.

2. In a vehicle-wheel, the combination of spokes having heads extending to the rim-periphery; wedge-shaped blocks, having their grain in the lines of the radii of the wheel, set between said spoke-heads to complete the wheel-rim; and metallic bands secured to said spoke-heads and adapted to hold the wedge-shaped blocks against lateral displacement, substantially as specified.

843,739. ELECTRIC INSULATOR. FREDERICK A. FEIGERT, Shelbyville, Ind. Filed Mar. 19, 1906. Serial No. 306,846.



Claim.—1. An insulator comprising the combination of an outer casing the upper portion of which is formed with a retaining-flange and the lower portion of which is provided with a water-drip; a carrier secured in said casing by cementitious insulating material and projecting at both ends from said casing, said carrier being provided at its top with a grooved knob for the attachment of the messenger-wire thereto and at its lower edge with a water-drip just below the water-drip formed on said casing; and a core-pin mounted in said carrier for the attachment of the trolley-wire thereto.

2. An insulating device comprising the combination of a mast-arm formed with a loop at one end; a casing formed with a flange which rests upon the upper face of said loop and is adjustably secured thereto, said casing extending downwardly through said loop and having a water-drip at its lower edge; a carrier which extends through said casing and is formed at its lower edge with a water-drip and at its top with means for attaching the messenger-wire thereto; and a core-pin mounted in said carrier for the attachment of the trolley-wire.

3. An insulator comprising the combination of an outer casing of metal having an outwardly-extending flange around its top edge and a water-drip extending around its lower edge; a carrier made of insulating material seated in said casing and secured thereto by cementitious material, said carrier projecting above and below said casing and formed with a central socket and with a water-drip at its lower edge and means for securing the messenger-wire at its top; and a core-pin mounted in said socket for the attachment of the trolley-wire.

4. An insulator comprising the combination of an outer casing of metal provided at its upper edge with means for holding the casing in position and with a water-drip at its lower edge; a carrier secured and seated in said casing and extending therethrough, said carrier being of insulating material and formed with a water-drip at its lower edge and with means for the attachment of the messenger-wire to its top; and means mounted in and projecting from said carrier for the attachment of the trolley-wire.

843,740. RING FOR SEALING JARS AND THE LIKE. WILLIAM B. FENN, Columbus, Ohio. Filed Apr. 16, 1906. Serial No. 311,904.



Claim.—1. A sealing-ring consisting of a coiled strip adapted to slip upon itself.

2. A sealing-ring consisting of a coiled strip of pliable material adapted to slip upon itself.

3. A sealing-ring consisting of a coiled strip of pliable and elastic material adapted to slip upon itself.

4. A sealing-ring consisting of a coiled strip the parts of which are free to move with reference to each other when subjected to pressure.

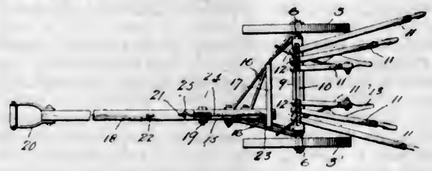
5. A sealing-ring consisting of a strip coiled to form three plies movable upon each other when subjected to pressure.

6. A sealing-ring consisting of a strip of pliable and elastic material coiled to form three plies movable upon each other and adapted to move with reference to each other when subjected to pressure.

7. A frusto-conical ring composed of several coils or plies of sealing material adapted to slip upon each other when subjected to pressure.

8. A sealing-ring consisting of a coiled strip adapted to slip upon itself, said ring being of frusto-conical form.

843,741. AGRICULTURAL IMPLEMENT. EDWARD V. FIELDER, Adelphia, N. J. Filed July 31, 1906. Serial No. 328,642.

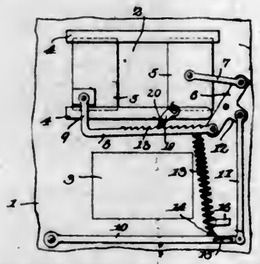


Claim.—1. An agricultural implement comprising a wheeled frame embodying stationary sections and sections secured thereto in vertically-adjustable relation, a cross-bar uniting said last-named sections and tool-shanks suspended from said cross-bar.

2. An agricultural implement embodying a wheeled frame comprising stationary sections and sections carried thereby, and vertically adjustable with relation thereto, a cross-bar uniting said last-named sections and having a slot longitudinally thereof, and tool-shanks having adjustable connection with said cross-bar by fastening devices passing through said slot.

3. A device of the type set forth comprising a wheeled frame, tool-shanks carried thereby, a stationary tongue-section carried thereby, a tongue-section pivoted to said first-named tongue-section, a rod pivotally carried by said first-named tongue-section and adapted to engage said last-named tongue-section, and fastening devices provided in spaced relation upon said pivoted tongue-section for detachable engagement with said rod.

843,742. FURNACE-DOOR FOR BOILERS. FRANK L. FOX, Seymour, Ind. Filed Mar. 13, 1906. Serial No. 305,807.

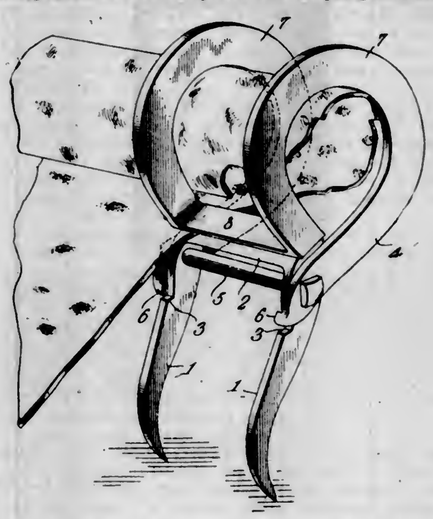


Claim.—The combination with a furnace having guides thereon, and a pair of doors slidably mounted between the guides; of a treadle pivotally connected to the furnace, a lever pivotally connected to the furnace, an arm extending from the lever adjacent its pivot, a link connection between said arm and the treadle, arms extending from opposite portions of the lever and pivotally connected to the sliding doors, a supporting-spring connected to the treadle, and means for automatically engaging one of the pivoted arms to secure the parts against the tension of the spring, said arms, lever and treadle and their connections being disposed in substantially the same plane.

843,743. LINOLEUM AND CARPET STRETCHER. ROY W. GIDDINGS and WILLIAM F. EMERICK, Colorado Springs, Colo. Filed Sept. 12, 1906. Serial No. 334,316.

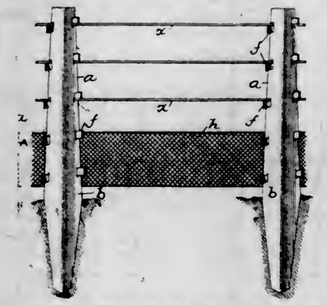
Claim.—1. A stretcher comprising a pronged member having a shoulder, and a loop member pivoted to the prong member and having a shoulder which coöperates with the shoulder of the prong member, said members having adjacent ends which constitute a floor-cover clamp.

2. A stretcher comprising a floor-engaging member having prongs, a cross-bar connecting said prongs together, said prongs having shoulders provided in their edges, a loop member pivoted to the sides of the said prongs and having shoulders which coöperate with the prong-shoulders,



said loop member having vertically-disposed loops, and a cross-bar connecting the ends of said loops together, the cross-bar of the floor-engaging member and the cross-bar of the loop member constituting a floor-cover clamp.

843,744. FENCE. HARRY GREENE and HUGO A. KREPSKY, Colby, Wis. Filed July 13, 1906. Serial No. 326,109.



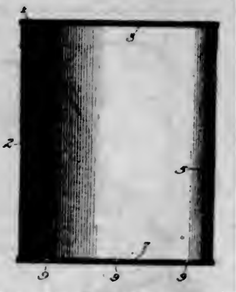
Claim.—1. In combination, a metal fence-post provided with wings formed with recesses; a block constructed to fit between said wings; and means for securing said block in place, said means being driven into said recesses.

2. A metal fence-post provided with wings the rear edge of each of which is formed with a slot from which extends a V-shaped recess for the reception of the fence-wire; said recesses extending upwardly in one wing and downwardly in the other wing.

843,745. TOBACCO PACKING AND SHIPPING CAN. ALBERT H. GREGG, New York, N. Y., assignor to Havana Tobacco Company, New York, N. Y., a Corporation of New Jersey. Filed June 19, 1906. Serial No. 322,410.

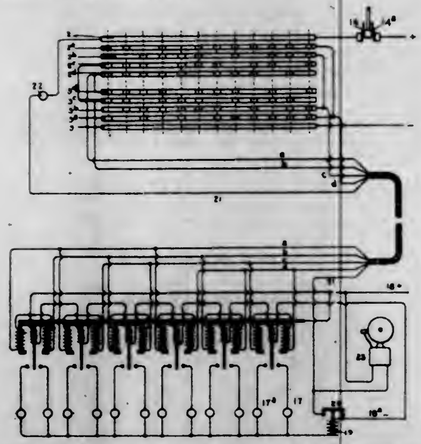
Claim.—1. A composite case for transporting and preserving cigars and the like, comprising an outer case of metal, an inner shell of cedar veneer loosely nested within said outer case, said case and shell being of such shape in cross-section as to prevent their relative rotary movement,

and a top for said composite case having a filling-piece of veneer, said case having registering ventilating-openings piercing its metal case and veneer shell.



2. A composite case for transporting and preserving cigars and the like, comprising an elliptically-shaped outer case of tin having ventilating-openings therethrough, an inner shell of cedar veneer nested within said outer case and provided with openings registering with the openings in the outer case, a slip-cover of tin fitted to said outer case, and a filling-piece or lining of veneer in said cover.

843,746. SELECTIVE TRANSMITTING SYSTEM. JOHN L. HALL, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Dec. 9, 1901. Serial No. 85,133.



Claim.—1. A selective transmission system comprising a plurality of wires between the transmitting and receiving apparatus, polarized receiving apparatus comprising a plurality of magnets respectively connected across different pairs of wires, a source of electric energy, and transmitting apparatus for throwing said source with either polarity across different pairs of wires a pair at a time.

2. A selective transmission system comprising a plurality of wires between the transmitting and receiving apparatus, transmitting apparatus for coupling the wires in different pairs and connecting a pair at a time to the terminals of a source of voltage with either polarity, a plurality of polarized receivers connected respectively across the different pairs of wires, and indicators controlled by the several polarized receivers.

3. A selective transmission system comprising a plurality of transmission-wires extending from the transmitting to the receiving apparatus, a source of electric energy, transmitting apparatus for selecting said wires a pair at a time and connecting them to the terminals of said source with either polarity, electromagnetically-actuated receivers connected respectively across the different pairs of wires, indicators controlled by the armatures of the receivers in opposite directions of movement, and means for biasing the armatures against movement in either direction.

4. A selective transmission system comprising a plurality of wires between the transmitting and receiving apparatus, a source of electric energy, transmitting apparatus for imposing said source on different pairs of wires taken a pair at a time, the several wires occurring in more than one pair respectively, a plurality of receiving-electromagnets respectively connected across the several pairs, and electric lamps selectively controlled by said receiving-magnets.

5. A selective signal-transmission system comprising a plurality of wires between the transmitting and receiving apparatus, a source of electric energy, transmitting apparatus for imposing said source on different pairs of wires taken a pair at a time, the several wires occurring in more than one pair, a plurality of receiving-magnets connected respectively to the different pairs of wires, a return signal-circuit actuated by each receiver, and an indicator in said circuit at the transmitting-station.

6. A selective signal system comprising a transmitter, a receiver, a plurality of wires between them, a source of difference of potential, means in the transmitter for selecting the wires a pair at a time and connecting them to said source with either polarity, and a plurality of polarized magnets in the receiver connected respectively across the different pairs of wires.

7. A selective signal system comprising a transmitter, a receiver, a plurality of wires between them, and a manually-operated switch in the transmitter to which the several wires and the mains from a source of electric supply are connected and which is arranged in its different positions for selecting any pair of the wires and connecting them a pair at a time to said mains with either polarity.

8. A selective signal system comprising a transmitter, a receiver, a plurality of wires between them, mains from a source of electric supply, means in the transmitter for selecting any pair of the wires and connecting them a pair at a time to the mains with either polarity, polarized relays in the receiver connected respectively between the several pairs of wires, a circuit closed by a relay when operated, and an indicating device in said circuit.

9. A selective signal system comprising a transmitter, a receiver, a plurality of wires between them, a source of difference of potential, means in the transmitter for selecting any pair of the wires and connecting them with said source with either polarity, a switch in the circuit of said source closed only when said selecting means is in operative position, and means in the receiver affected by said connection to give an indication.

10. A selective signal system comprising a transmitter, a receiver, and a plurality of wires between them, said transmitter having a plurality of conducting-segments, positive and negative mains from a source of electric energy, each wire of the system being connected to two of said segments and each of said mains being connected to a segment, a contact device coöperating with the segments, an operating-handle therefor, and break-points in the several segments distributed so that any pair of wires may be selected and connected to the supply-mains with either polarity.

11. A selective signal system comprising a transmitter, a receiver, and a plurality of wires between them, said transmitter having two sets of conducting-segments, the several wires of the system being connected to a segment of each set, a contact for each set, leads from a source of electric supply connected to said contacts, break-points in the several segments distributed to connect different wires with said leads in different angular positions, and an operating-handle for shifting the contacts to cut different groups of wires into circuit.

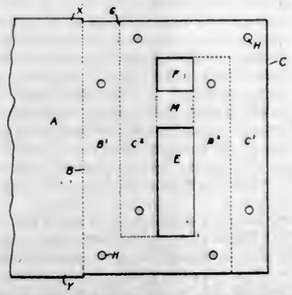
12. A selective signal system comprising a transmitter having a pivoted operating-arm, a receiver, a plurality of wires between them, a source of difference of potential, means in the transmitter controlled by said operating-arm for selecting any pair of the wires and connecting them with said source with either polarity, a switch in the circuit of said source closed only when said operating-arm is in operative position, means in the receiver affected by said connections to give an indication and to close a circuit, and indicating means at the transmitter actuated when said circuit is closed.

13. A selective signal system comprising a transmitter, a receiver, and a plurality of wires between them, said transmitter having a plurality of conducting-segments, positive and negative mains from a source of electric energy, each wire of the system being connected to two of said segments and each of said mains being connected to a segment, a contact device coöperating with the segments, an operating-handle therefor, break-points in the several segments distributed so that any pair of wires may be selected and connected to the supply-mains with either polarity, means in the receiver actuated when such connection is made to give an indication and to close a circuit, and indicating means at the transmitter actuated when said circuit is closed.

14. A selective signal system comprising a transmitter, a receiver, and a plurality of wires between them, said transmitter having a plurality of conducting-segments, positive and negative mains from a source of electric energy, each wire of the system being connected to two of said segments and each of said mains being connected to a segment, a contact device coöperating with the segments, an operating-handle therefor, break-points in the several segments distributed so that any pair of wires may be selected and connected to the supply-mains with either polarity, a switch in the supply-circuit, and means preventing closure of said switch except when the operating-handle is in an operative position.

15. A selective signal system comprising a transmitter, a receiver, a plurality of wires between them, said transmitter having two sets of conducting-segments, the several wires of the system being connected to a segment of each set, a contact for each set, leads from a source of electric supply connected to said contacts, break-points in the several segments distributed to connect different wires with said leads in different angular positions, an operating-handle for shifting the contacts to cut different groups of wires into circuit, a switch in the supply-circuit, and means preventing closure of said switch except when the operating-handle is in an operative position.

843,747. METHOD OF PRODUCING LAMINÆ FOR TRANSFORMER-CORES. WALTER A. HALL, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Mar. 5, 1901. Serial No. 49,694.



Claim.—1. The method of producing from sheet metal, U-shaped laminæ having the space between their legs equal to twice the width of one leg, the difference between the lengths of the legs being equal to one-half the distance between them, which consists in punching a portion out of the sheet to provide a space in front of a portion to be sheared, and then in conducting the shearing operation, beginning at the edge of the free space prepared by the punching operation, whereby the extra strip remaining is of the same width as the legs of the U-shaped laminæ.

2. The method of preparing transformer core-pieces consisting of U-shaped portions and straight portions from strips of sheet metal which consists in punching a straight portion from between the interleaved legs of a pair of U-shaped portions and adjacent the end piece of one of the U-shaped portions, and punching a waste portion from the material between the interleaved legs of the U-shaped portions adjacent the end piece of the other U-shaped portion and then separating the U-shaped portions by shearing.

3. The method of preparing transformer core-pieces consisting of U-shaped portions from plates of sheet metal, which consists in punching out of the plate, a portion of the material between the interleaved legs of the U-shaped portions adjacent the end piece of each U-shaped portion and then separating the U-shaped portions by shearing cuts.

4. The method of preparing from strips of sheet metal transformer-laminæ composed of U-shaped portions and straight end-closed portions, the legs of each U-shaped portion being separated by a space double the width of a leg, which consists in punching out the material from between the interlocked legs of a pair of U-shaped portions, one of said U-shaped portions being reversed with respect to the other, and then separating the U-shaped portions by shearing, the portion punched out being of length to form the end-closing piece and its removal leaving a free space from which a shearing cut may start.

5. The method of simultaneously producing a pair of U-shaped laminæ from a plate of sheet metal which consists in punching out of the plate a portion of material to form a space between the interlocked legs of the laminæ, then completing the shaping of the laminæ by shearing cuts, some of which start from the space left by the punching.

6. The method of preparing transformer core-pieces consisting of U-shaped portions, one leg of which is longer than the other by the width of the yoke or base connecting the legs, and straight end-closing portions, which consists in punching a straight portion from a strip of sheet metal of a width equal to the length of a long leg of a U-shaped portion plus the width of the connecting base portion thereof, so that the hole formed which extends transversely to the length of the strip is separated from one side of the strip by a distance equal to its width and from the end of the strip by a distance equal to twice its width, punching another portion of material from the strip so that the hole left is in line with the first-mentioned hole and of the same width and is separated from the opposite side of the strip by a distance equal to the width of said base and then separating from the strip by shearing cuts two U-shaped laminæ of the form described, the outer edge of the base of one of which is one side edge of the strip and the outer edge of the base of the other is the other side edge of the strip, the inner edges of the interlocked inner legs of the U-shaped punchings being in line with the edges of and separated by said holes.

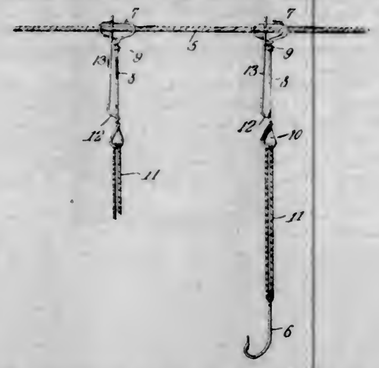
7. The method of preparing from a strip of sheet metal transformer core pars consisting of U-shaped portions and straight end-closing portions, each of which is of a width equal to the width of each leg of the U-shaped portions, the legs of each U-shaped portion being separated by a space double the width of a leg, which consists in punching out of the strip an end-closing portion and a waste portion in line therewith, and then shearing from the strip two U-shaped portions, parts of the inner edge surface of one leg of each of said U-shaped portions being formed by said punching-out operation.

843,748. FISHING-TACKLE. JOSEPH B. HARRIS, Branson, Mo. Filed Nov. 30, 1906. Serial No. 345,735.

Claim.—1. The combination with a supporting member, of a suspension device having means at one end thereof for the reception of the supporting member and provided at its opposite end with means for attaching a fish-hook, and a locking member adapted to engage the supporting member.

2. The combination with a supporting member, of a sus-

pension device having means at one end thereof for the reception of the supporting member and provided at its opposite end with means for attaching a fish-hook, and a locking member forming a part of the suspension device and adapted to engage the supporting member.



3. The combination with a trot-line, of a suspension device having means at one end thereof for the reception of the trot-line and provided at its opposite end with means for attaching a fish-hook, and a locking member forming a part of the suspension device and extending transversely across the line-engaging means for engagement with said line.

4. The combination with a supporting member, of a suspension device having a loop at one end thereof for the reception of the supporting member and provided at its opposite end with means for attaching a fish-hook, and a locking member forming a part of the suspension device and extending transversely across the loop for engagement with the supporting member.

5. The combination with a supporting member, of a suspension device having a loop at one end thereof for the reception of the supporting member and provided at its opposite end with an eye for attaching a fish-hook, and a locking-tongue forming a part of the suspension device and having one end thereof extended across the loop for engagement with the supporting member.

6. A suspension device including a body portion having means at its opposite ends for attaching a supporting member, and hook, respectively, and a locking member forming a part of the suspension device and adapted to engage the supporting member.

7. A suspension device comprising a body portion having one end thereof bent to form a terminal loop and its opposite end provided with an eye, there being a locking-tongue extending laterally from the body portion at said eye and having its free end extended across the loop.

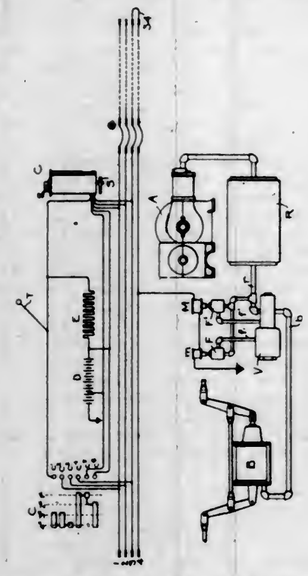
8. A suspension device formed of a single piece of wire having one end thereof bent to form a loop and thence extended to form a shank terminating in an eye, the wire forming the eye being extended in the direction of the loop to form a locking-tongue.

9. A suspension device formed of a single piece of wire one end of which is bent to form a loop, and thence extended to form a shank terminating in an eye, the end of the wire forming the eye being twisted around the shank and thence extended laterally and in the direction of the loop to form a locking-tongue the free end of which is extended across and beyond said loop.

843,749. BRAKE-CONTROL SYSTEM. LAURENCE A. HAWKINS, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 8, 1904. Serial No. 227,634.

Claim.—1. In combination with a train of cars equipped with independent air-brake systems, a valve on each car adapted and arranged to move automatically into position to establish braking connections, and electrically-controlled means for each valve adapted to move it to lap and to release positions.

2. In combination with a train of cars equipped with independent air-brake systems, valve mechanism on each car adapted to connect brake-cylinder to reservoir or to atmosphere or to disconnect it from both and arranged to move automatically into position to connect it to reservoir, electrically-operated controlling means for said valve mechanism, and a control-circuit for said means extending through the train.



3. In combination with a train of cars equipped with independent air-brake systems, a valve on each car adapted and arranged to move automatically into position to connect brake-cylinder to reservoir, electrically-controlled means adapted to move said valve to lap or to release position according to the amount of voltage impressed thereon, a control-circuit extending through the train and connected to said electrically-controlled means on each car, and means at a distant point for impressing different voltages on said control-circuit.

4. In combination with a train of cars equipped with independent air-brake systems, an automatic valve on each car adapted and arranged to move automatically into position to connect brake-cylinder to reservoir, electrically-controlled means adapted to move said valve to lap or to release position according to the amount of voltage impressed thereon, a control-circuit extending through the train and connected to said electrically-controlled means on each car, a battery, and a manually-operated switch adapted to connect different portions of said battery to said control-circuit.

5. In combination with a train of cars equipped with independent air-brake systems, an automatic valve on each car adapted and arranged to move automatically into position to connect brake-cylinder to reservoir, two relay-valves controlling said valve and adapted when moved to move said valve respectively to lap and to release positions, two magnet-windings adapted to operate said relay-valves and to respond to different impressed voltages, a control-circuit extending through the train and connected to the several windings, and means under the control of the motorman for impressing different voltages on said circuit.

6. In combination with a train of cars equipped with independent air-brake systems, a valve on each car arranged to move automatically into position to connect brake-cylinder to reservoir, electrically-operated controlling means

therefor, two train-wires of the same polarity extending through the train and connected in series at one end of the train, one of said train-wires being connected to said electrically-operated means on each car, and a controlling-switch connected to the other train-wire.

7. In combination with a motor-operated train of cars each equipped with an independent air-brake system, a valve on each car arranged to move automatically into position to connect brake-cylinder to reservoir, electrically-operated controlling means therefor, control-circuits for said electrically-operated means and for the driving-motors extending through the train, and a switch for controlling both circuits.

8. In combination with a motor-operated train of cars each equipped with an independent air-brake system, a valve on each car arranged to move automatically into position to connect brake-cylinder to reservoir, electrically-operated controlling means therefor, control-circuits for said electrically-operated means and for the driving-motors extending through the train, a switch for controlling both circuits, and means for returning said switch to off position when released by the motorman.

9. In combination with a motor-operated train of cars each equipped with an independent air-brake system, an automatic valve on each car adapted and arranged to move automatically into position to connect brake-cylinder to reservoir, electrically-operated controlling means for said valve adapted to move said valve to lap and to release position, a control-circuit for said means extending through the train, a second control-circuit for the driving-motors, and a controlling-switch adapted and arranged when moved from off position to energize the first control-circuit to move the automatic valves to lap position then to move them to release position, and then to energize the motor-control circuit.

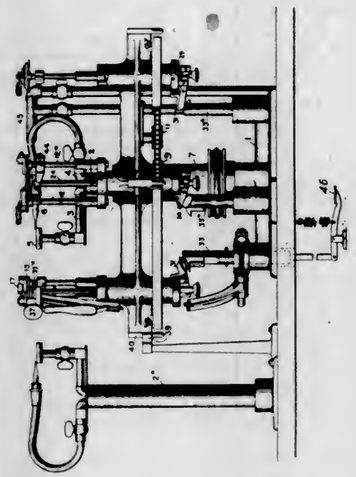
10. In combination with a motor-operated train of cars each equipped with an independent air-brake system, an automatic valve on each car adapted and arranged to move automatically into position to connect brake-cylinder to reservoir, electrically-operated controlling means for said valve adapted to move said valve to lap and to release position, a control-circuit for said means extending through the train, a second control-circuit for the driving-motors, a controlling-switch adapted and arranged when moved from off position to energize the first control-circuit to move the automatic valves to lap position, then to move them to release position, and then to energize the motor-control circuit, and means for returning said switch to off position when released by the motorman.

11. In combination with a motor-operated train of cars each equipped with an independent air-brake system, an automatic valve on each car adapted and arranged to move automatically into position to establish braking connections, electrically-operated means for moving said valve to lap or to release position according to the amount of voltage impressed thereon, a control-circuit for said means extending through the train, a second control-circuit for the driving-motors, a controlling-switch adapted and arranged when moved from off position to impress a definite voltage on the first control-circuit, then to increase said voltage, and then to energize the motor-control circuit, and means for returning said switch to off position when released by the motorman.

12. In combination with a train of cars equipped with independent air-brake-systems, a valve on each car arranged to move automatically into position to connect brake-cylinder to reservoir, electrically-operated means for breaking said connection and connecting brake-cylinder to atmosphere, a control-circuit for said electrically-operated means extending through the train, a manually-operated switch controlling said control-circuit, and means for returning said switch to off position when released by the operator.

13. In combination with a train of cars equipped with independent air-brake systems, a brake-controlling valve on each car, electrically-operated controlling means therefor, a source of current for said controlling means, and electrical connections from said controlling means to said source, the connection from the controlling means on each car to the source passing in series through all the cars in the train.

843,750. MACHINE FOR MAKING STEMS OF INCANDESCENT LAMPS. JOHN W. HOWELL and WILLIAM R. BURROWS, Newark, N. J., assignors to General Electric Company, a Corporation of New York. Filed July 11, 1902. Serial No. 115,183.



Claim.—1. A stem-making machine for incandescent lamps, comprising a flare-support adapted to be brought into coöperative relation to a blowpipe-flame, rests for the leads below the edge of the flare, and means for squeezing together the walls of the flare when softened by the flame.

2. A stem-making machine for incandescent lamps, comprising a flare-support adapted to be brought into coöperative relation to a blowpipe-flame, rests for the leads below the edge of the flare, and an anchor-wire support beneath the flare-support, said flare-support having an opening to admit the anchor-wire, and means for squeezing together the walls of the glass to seal the wires.

3. A stem-making machine for incandescent lamps, comprising a flare-clamp, rests for the lead-wires, and means for squeezing the lower end of the flare.

4. A stem-making machine for incandescent lamps, comprising a flare-support, rests for the lead-wires below the edge of the flare, a vertically-movable support for an anchor-wire, means for squeezing the flare, and a stop for arresting the squeezing devices at an exact position to make a uniform seal.

5. A stem-making machine comprising a support for the glass flare and the wires to be sealed in, gas-burners to afford a blowpipe-flame, movable pincers to squeeze the glass into a seal when soft, and a stop to limit the movement of the pincers.

6. A stem-making machine comprising a rotary head, a flare-support, blowpipe-burners, and movable pincers to squeeze a seal at the end of the flare.

7. A stem-making machine comprising a rotary head, a flare-support having a ridge for the flare, rests on a lower plane for the leads, blowpipe-burners to maintain a flame around the end of the flare, and means for effecting a seal around the leads.

8. A stem-making machine comprising a support for the flares and wires, blowpipe-burners, means for rotating the flare in the flame, a clutch for arresting or imparting rotary movement to the support, and means for operating the clutch.

9. A stem-making machine comprising a flare-support for maintaining the flare and leads in proper relative position, blowpipe-burners, means for rotating the support in the flame, a clutch for arresting or imparting the rotary motion, a stop for operating the clutch and arresting the head in a definite position, and movable pincers for squeezing the end of the flare to make a seal.

10. A stem-making machine comprising a revoluble frame carrying a plurality of rotary flare-supports, blow-pipe-burners, a stop to arrest the frame when the flares are in the focus of the flame, means for arresting the rotation of the supports, and pincers for squeezing the end of the flare into a seal.

11. A stem-making machine comprising a revoluble frame carrying a plurality of rotary flare-supports, a preliminary heater and a final heater for the flare at different circumferential positions in the path of travel of the flare, means for arresting the flare in the several heaters, and pincers for squeezing the end of the flare into a seal around the leads.

12. A stem-making machine comprising a revoluble frame carrying a plurality of rotary flare-supports at different angular positions, means for arresting the frame at definite positions, a heater to soften the glass, and a pivoted squeezing device adapted to be shifted to and from the frame and to engage and disengage the flare.

13. A stem-making machine comprising a revoluble frame carrying a plurality of rotary flare-supports at different angular positions, a spring-clamp for the flare on each support, means for arresting the frame at definite positions, a heater to soften the glass, and movable pincers to squeeze a seal around the wires at the end of the flare.

14. A stem-making machine comprising a revoluble spider, a plurality of flare-supporting heads on the several arms thereof, a spring-clamp for each flare, a heater to soften the glass, means for arresting the spider when the flare is in the heater, and a squeezing device for effecting a seal.

15. A stem-making machine for incandescent lamps comprising a flare-support, means for supporting the leads with their ends projecting from the flare and in a definite relative position, and means for heating the parts to fuse the walls of the flare together about the leads.

16. A stem-making machine for incandescent lamps, comprising a flare-support, means for supporting the leads and anchor-wire in proper relative positions, and means for heating the parts to fuse the walls of the flare together.

17. In a machine for making stems for incandescent lamps, a supporting member, and a ridge thereon of greater length than the inside diameter of the tube from which the stem is made, on the top of which the tube is adapted to rest.

18. In a machine for making stems for incandescent lamps, a supporting member, and a ridge thereon of greater length than the inside diameter of the tube from which the stem is made, on the top of which the tube is adapted to rest, said ridge having an opening therethrough for the anchor-wire.

19. A stem-making machine for incandescent lamps comprising a flare-support, rests for the lead-wires below the edge of the flare, a support for an anchor-wire, and means for effecting the seal.

20. A machine for making stems for incandescent lamps comprising a support for the flare, means for assembling the lead-wires in a fixed relation to the flare with their ends projecting therefrom, and means for heating the flare to effect a seal around the lead-wires.

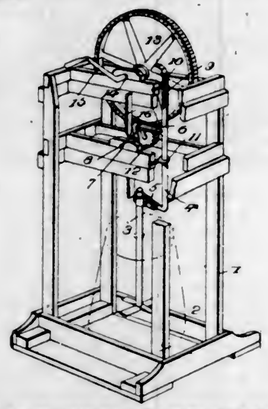
21. A machine for forming incandescent-lamp mounts comprising a heater, a rotatable support for the mount-tube, and means for feeding the anchor-wires rotatable with said support, substantially as described.

22. A machine for forming incandescent-lamp mounts comprising a heater, a rotatable support for the mount-tube, and means for supporting the anchor-wires rotatable with said support, substantially as described.

23. A machine for forming incandescent-lamp mounts comprising a rotatable frame having rotatable apparatus thereon comprising a support for the mount-tube and a support for the anchor-wire, substantially as described.

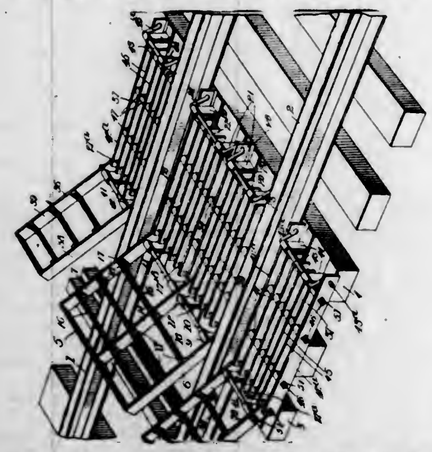
24. The combination in a machine for forming incandescent-lamp mounts, of a ridge beneath the mount-tube, and means for forming the mount, the faces of said forming means being parallel to said ridge, substantially as described.

843,751. CHURN-OPERATING MECHANISM. WILLIAM I. KERSH, Chapman, Miss. Filed Nov. 19, 1906. Serial No. 344,089.



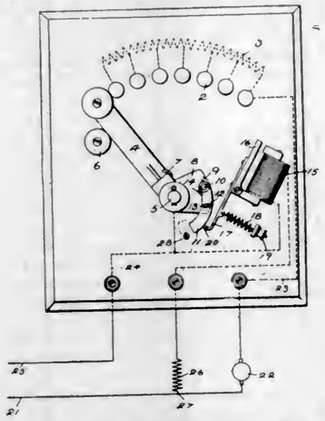
Claim.—In combination, a framework, a shaft journaled thereto and having a crank portion, a fan and a pinion secured to said shaft upon opposite sides of the crank portion thereof, a drive-shaft, a gear-wheel fast to said drive-shaft and in mesh with the aforesaid pinion, an operating-rod having its lower end bent laterally and its upper portion longitudinally slotted, a headed fastening passed through the slot of the operating-rod to hold the same to the framework and assist in directing the rod in its reciprocating movements, other means connecting the lower portion of the operating-rod to the framework and acting jointly with the headed fastening to give proper direction thereto, an arm projected from the operating-rod and having a slot to receive the crank portion of the aforementioned shaft, and a dasher secured to the lower bent portion of the said operating-rod.

843,752. CATTLE-GUARD. STEPHEN C. KETTNER, Woodboro, Wis. Filed June 6, 1906. Serial No. 320,458.



Claim.—A cattle-guard, comprising a series of fixed shafts, a gate mounted to swing upon each shaft, a series of rock-shafts, one for each gate, a series of crank-shafts arranged opposite the second-mentioned shafts, a platform mounted to aline with each gate and supported upon the corresponding rock and crank shafts, the rock-shafts having permanent connection with the corresponding gates and platforms and connections between the platforms, whereby all platforms and gates will be operated upon movement of one of the platforms, the upper outer faces of the platforms and gates being roughened.

843,753. STARTING DEVICE FOR ELECTRIC MOTORS. ARTHUR C. KING, Madison, Wis., assignor to Northern Electrical Manufacturing Company, a Corporation of Wisconsin. Filed June 9, 1906. Serial No. 320,973.



Claim.—1. A starting-rheostat, comprising a controlling-arm, a magnet responsive to predetermined decrease of excitation, and means controlled by said magnet for normally preventing the movement of the arm to running position.

2. A starting-rheostat, comprising a controlling-arm, a no-voltage magnet in the field-circuit, and means controlled by said magnet for preventing the movement of said arm beyond the starting position.

3. A starting-rheostat, comprising a controlling-arm, a no-voltage magnet, and means in connection with said arm and controlled by the magnet for preventing the movement of the arm to running position.

4. A starting-rheostat, comprising a controlling-arm biased to off position and normally restrained from movement to running position, a no-voltage magnet in the field-circuit, and means controlled by said magnet for releasing the restraining means and retaining the arm in running position.

5. A starting-rheostat, comprising a controlling-arm biased to off position and normally restrained against movement to running position, a no-voltage magnet, and a single armature controlled thereby for releasing the restraining means and locking the arm in running position.

6. A starting-rheostat, comprising a controlling-arm biased to off position and normally restrained against movement to the running position, a no-voltage magnet, and a single armature controlled thereby and arranged to first release the restraining means when said magnet is energized and then lock the arm in running position.

843,754. POISING AND TRUING TOOL FOR BALANCE-WHEELS. JOHN S. KIRSTEIN, Canton, S. D. Filed Sept. 4, 1906. Serial No. 333,204.



Claim.—1. In poising mechanism for balance-wheels, the combination of a support, plates disposed thereon and formed with knife-edges at the upper edge portion for contact with and adapted to support the arbors of a balance-wheel, means slidably connecting one of the supporting-plates with the support, means for adjusting the position of the slidably-connected supporting-plate, and comprising an adjusting-screw mounted on the support and engaging the last-mentioned supporting-plate, and springs normally coöperating with the slidably-connecting supporting-plate to hold the same in a position spaced from the other of the supporting-plates.

2. In poising mechanism for balance-wheels, the combination of a support, spaced supporting-rods adjustably mounted thereon, spaced supporting-plates mounted on the supporting-rods, members carried by the supporting-rods for holding one of the supporting-plates in an adjusted position, an adjusting-screw coöperating with the other of the supporting-plates to adjust the position of the latter upon the supporting-rods, and springs mounted on the supporting-rods and bearing against the last-mentioned supporting-plate for the purpose specified, said springs being interposed between said last-mentioned supporting-plate and the adjusting members on the supporting-rods.

3. A poising mechanism for balance-wheels, comprising a stand or support, plates disposed thereon and formed at their upper edge portions with beveled knife-edges and notches 11^a, the notches being designed to receive the ends of the balance-wheel shaft, means slidably connecting one of the supporting-plates with the support, means for adjusting the position of the slidable supporting-plate, said means consisting of an adjusting-screw mounted on a support and engaging the last-mentioned supporting-plate, and springs normally coöperating with the slidable supporting-plate to hold the same in a position spaced from the other supporting-plate.

4. A poising mechanism for balance-wheels, comprising a support provided with an opening therein, spaced-apart supporting-rods adjustably mounted in said opening and extending across the same with their ends projecting out of the end of the support in convenient position for manipulation, vertically-disposed spaced-apart plates mounted on said rods, one of said plates being slidable along the rod, springs interposed between the plates and pressing the slidable plate outwardly, and an adjusting-screw working through the end of the support and adapted to impinge against the outer side of the said plate whereby to move the same inwardly toward the other plate.

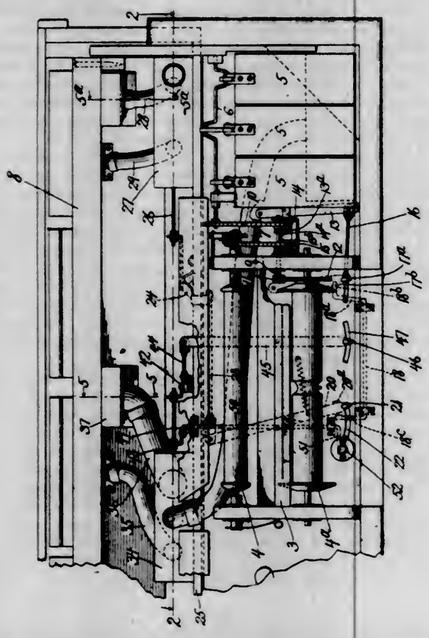
843,755. AUTOMATIC MUSICAL INSTRUMENT OR PLAYER. PAUL B. KLUGH, Chicago, Ill., assignor to The Cable Company, Chicago, Ill., a Corporation of Illinois. Filed June 3, 1905. Serial No. 263,629.

Claim.—1. In an automatic musical instrument or player, in combination with the wind-chest and the air-chamber of the pneumatic-action, two passages connecting them; a separate valve for each passage; a governor in one passage between the valve and the wind-chest; a stop for operating both valves and connections by which the movement of the stop in one direction closes the valves, one after the other.

2. In an automatic musical instrument or player, in combination with the wind-chest and the air-chamber of the pneumatic-action, two passages connecting them; a governor in the first passage, and a valve controlling the passage between the governor and the air-chamber; a gradually-closing valve in the second passage; a stop for operating both valves and connections from said stop to the valves respectively by which the movement of the stop in one direction first closes the second valve and afterward closes the first.

3. In an automatic musical instrument or player, in combination with the wind-chest and the air-chamber of the pneumatic-action, two passages connecting them; a governor in one passage; a valve for the governed passage; a separate gradually opening and closing valve for the other passage; a stop and connections by which it operates the second valve for gradual opening and closing, and additional connections by which it operates the first valve by a range of movement not included in that by which it opens and closes the second valve.

4. In an automatic musical instrument or player, in combination with the wind-chest and the air-chamber of the pneumatic-action, a valve-box; a passage connecting it with the air-chamber; two passages connecting it with the wind-chest; a governor in one of said two passages; a valve in the valve-box controlling said governed passage; a second valve in the box controlling the other passage and movable independently of the first valve; means holding the first valve normally fully open; means for gradually opening and closing the second valve; a stop for operating said means and connections operated by the stop for closing the first valve while the second valve remains closed.



5. In an automatic musical instrument or player, in combination with the wind-chest and the air-chamber of the pneumatic-action, a valve-box; a passage connecting it with the air-chamber; two passages connecting it with the wind-chest; a governor in the first of said passages; a valve normally open controlling said passage; a valve for controlling the second passage; a longitudinally-reciprocating rod protruding from the valve-box connected therein with the second valve, and abutments on the rod and on the first valve which collide for seating the first valve after the rod is moved longitudinally for fully closing the second; a stop and connections therefrom for reciprocating the rod.

6. In an automatic musical instrument or player, in combination with the pneumatic-action; two passages through which it derives, respectively, higher and lower tension; valves controlling such passages respectively; an accent-stop and connections therefrom for closing the higher and lower tension-valves in the order named, by movement of the stop in one direction; a stop-arresting device; a rewind-stop and connections therefrom for withdrawing the stop-arresting device.

7. In an automatic musical instrument or player, in combination with the wind-chest and the pneumatic-action; means for controlling the communication between them for varying the intensity of the playing comprising a governed passage and an ungoverned passage; a separate valve for each passage; an accent-stop and connections therefrom to the valve whose movement in one direction closes first the valve in the ungoverned passage and afterward the valve in the governed passage; the roll-actuating mechanism and its controlling devices comprising a rewinding-stop; means which normally arrest the accent-stop at the limit of the movement which closes the first valve, and connections thereto from the rewind-stop for withdrawing the arresting device.

8. In an automatic musical instrument or player, in combination with the pneumatic motor and the wind-chest, two passages connecting them; a valve controlling each passage; a governor in one passage between the wind-chest and the valve; a tempo-stop and connections by which it operates the valve of the governed passage; a rock-shaft having two lever-arms; connections from one of them for operating the valve of the ungoverned passage; a stop-button connected with the other arm and a spring which acts on the rock-shaft to hold the last-mentioned valve closed and the stop-button protruded.

9. In an automatic musical instrument or player, in combination, a wind-chest; a pneumatic-action; a playing and rewind stop, and means by which said stop controls the communication of the pneumatic-action with the wind-chest; a pneumatic motor; two communications between the motor and the wind-chest; a governor in one of said communications; a tempo-valve for controlling said governed communication; a separately-operated valve controlling the ungoverned communication; an accelerando-stop and connections for operating thereby the last-mentioned valve independently of the action of the playing and rewind stop.

843,756. AZO COLORING-MATTER. RICHARD KOTHE, Vohwinkel, and ANTON OSSENBECK, Elberfeld, Germany, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Nov. 6, 1906. Serial No. 342,288.

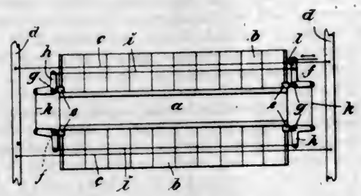
Claim.—1. The herein-described new azo dyestuffs obtainable by combining diazo compounds of non-sulfonated chloro-ortho-aminophenolic compounds with 2-arylamino-5-naphthol-7-sulfonic acids, which dyestuffs are, after being dried and pulverized, in the shape of their alkaline salts dark powders soluble in water; yielding upon reduction with stannous chlorid and hydrochloric acid, chloroortho-aminophenolic compounds and 2-arylamino-5-naphthol-6-amino-7-sulfonic acids and dyeing wool from acid-baths generally from red to violet shades, which on chroming change to from violet to blue to black shades, substantially as hereinbefore described.

2. The herein-described new azo dyestuff, which can be obtained by combining diazotized 4-chloro-2-aminophenol with 2-phenylamino-5-naphthol-7-sulfonic acid, which dyestuff is, after being dried and pulverized, in the shape of its sodium salt a dark powder soluble in water with a violet color and in concentrated sulfuric acid with a violet color; yielding upon reduction with stannous chlorid and hydrochloric acid 4-chloro-2-aminophenol and 2-phenylamino-5-naphthol-6-amno-7-sulfonic acid; and dyeing wool from acid-baths red shades, which are changed to blue-black when chromed after dyeing, substantially as hereinbefore described.

843,757. APPARATUS FOR OPERATING MILKING-MACHINES. BIRGER LJUNGSTRÖM and FREDRIK LJUNGSTRÖM, Stockholm, Sweden, assignors to Aktiebolaget Separator, Stockholm, Sweden, a Company. Filed Apr. 28, 1906. Serial No. 314,214.

Claim.—1. In an apparatus of the character described, the combination with the milking mechanism of a supporting member, a motion-transmitter supported thereby, a rod connected with the motion-transmitter, means to reciprocate the rod to actuate the motion-transmitter and means connecting the transmitter and the milking mechanism.

2. In an apparatus of the character described, the combination with the milking mechanism of a supporting member, a cylinder supported thereby, a plunger in the cylinder, a rod connected with the plunger, means to reciprocate the rod to actuate the plunger, and a conduit connecting the cylinder and milking mechanism.



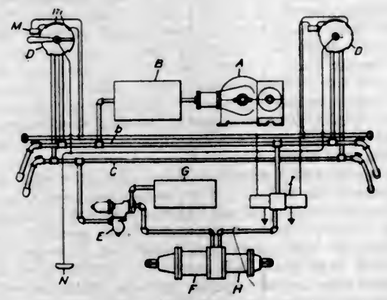
3. In an apparatus of the character described, the combination with the milking mechanism, of a supporting member, a cylinder secured thereto, a plunger in the cylinder adapted to reciprocate parallel to the supporting member, a rod to which the plunger is connected, means to reciprocate the rod to actuate the plunger, and a conduit connecting the cylinder and milking mechanism.

4. In an apparatus of the character described, the combination with the milking mechanism of two parallel stationary supporting members, a plurality of cylinders mounted thereon and connected with the milking mechanism, a plunger in each cylinder adapted to reciprocate parallel to the supporting members, an operating member mounted parallel to and in proximity to each supporting member, means to connect the operating members, means to connect the latter with each plunger, and means to rock the connections of the operating members.

5. In an apparatus of the character described, the combination with the milking mechanism of two horizontally-mounted parallel supporting-rods, a plurality of supports, a rocking member pivoted on each support, wires parallel to the supporting-rods connecting the rocking members, and means connecting the said members with the milking mechanism.

6. In an apparatus of the character described, the combination with the milking mechanism, of two stationary horizontally-mounted supporting-rods, a plurality of perpendicular supports, a bell-crank lever pivoted on each perpendicular support, wires parallel to the supporting-rods connecting the bell-crank levers in pairs, laterally-disposed wires connecting the pairs of levers, means to rock the levers and wires connecting the levers with the milking mechanism.

843,758. AIR-BRAKE SYSTEM. GEORGE MACLOSKIE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 22, 1906. Serial No. 322,845.



Claim.—1. In an air-brake system, two brake-cylinders on a car, and means for automatically releasing the pressure in one cylinder upon the admission of pressure to the other.

2. In an air-brake system, two brake-cylinders on a car, a movable member exposed to the pressure in one of said cylinders, and a valve operatively connected to said member adapted to connect the other cylinder to atmosphere.

3. In an air-brake system, two brake-cylinders on a car, two independent valves controlling the pressures in said cylinders respectively, and means for automatically releasing the pressure in one cylinder upon the admission of pressure to the other cylinder.

4. In an air-brake system, two brake-cylinders on a car, two independent valves controlling the pressures in said cylinders respectively, a movable member exposed to the pressure in one of said cylinders, and a valve operatively connected to said member adapted to connect the other cylinder to atmosphere.

5. In an air-brake system, two brake-cylinders on a car, two independent valves controllable from a distance, each arranged to connect one of said cylinders to a source of pressure or to atmosphere, a movable member exposed to the pressure in one of said cylinders, and a valve operatively connected to said member adapted to connect the other cylinder to atmosphere.

6. In an air-brake system, two brake-cylinders on a car, an electrically-actuated valve controlling the pressure in one cylinder, a pneumatically-actuated valve controlling the pressure in the other cylinder, and means for releasing the pressure in the electrically-controlled cylinder upon the admission of pressure to the pneumatically-controlled cylinder.

7. In an air-brake system, two brake-cylinders on a car, an electrically-actuated valve controlling the pressure in one cylinder, a pneumatically-actuated valve controlling the pressure in the other cylinder, a movable member exposed to the pressure in the pneumatically-controlled cylinder, and a valve operatively connected to said member adapted to connect the electrically-controlled cylinder to atmosphere.

8. In an air-brake system, two brake-cylinders on a car, an electric-control system for one cylinder, a pneumatic-control system for the other cylinder, automatic means for rendering the pneumatic system inoperative when the electric system is in use, and automatic means for rendering the electrically-controlled cylinder inoperative when the pneumatically-controlled cylinder is in use to apply the brakes.

9. In an air-brake system, two brake-cylinders on a car, an electric-control system for one cylinder, a pneumatic-control system for the other cylinder, automatic means for rendering the pneumatic system inoperative when the electric system is in use, and automatic means for releasing the pressure in the electrically-controlled cylinder upon the admission of pressure to the pneumatically-controlled cylinder.

10. In an air-brake system, two brake-cylinders arranged back to back with their pistons connected to the same brake-rigging, a member extending through the backs of said cylinders and subjected to the differential pressures in said cylinders, and a valve carried by said member adapted to connect one of said cylinders to atmosphere.

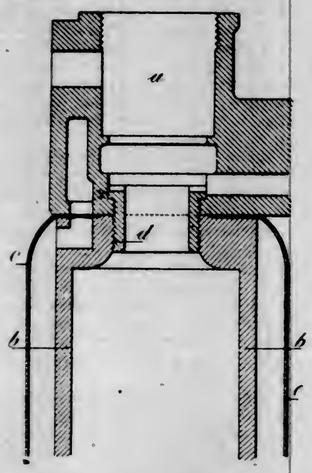
11. In an air-brake system, two brake-cylinders back to back arranged with their pistons connected to the same brake-rigging, and a valve device arranged between the cylinders responsive to pressure in one cylinder and adapted to connect the other cylinder to atmosphere.

843,759. CYLINDER FOR INTERNAL-COMBUSTION ENGINES. HENRI P. MARTIN, Paris, France. Filed May 16, 1904. Serial No. 208,212.

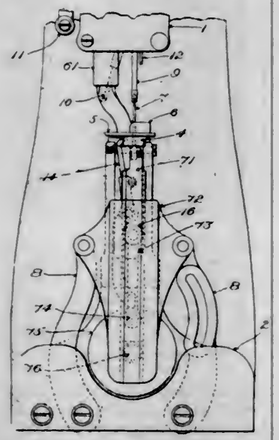
Claim.—1. The combination, with the cylinder and its head having alined apertures, one being threaded, of a ring having a reduced threaded portion engaging the threaded aperture to clamp the parts together.

2. The combination, with the cylinder and its head having alined threaded apertures, of a jacket having a flange located betwen the cylinder and head, and a ring having a reduced threaded portion engaging the threaded apertures to clamp the parts together.

843,759.



843,760. LOOP-LOCK-STITCH SEWING-MACHINE. FRANK W. MERRICK, Boston, Mass. Filed Oct. 12, 1905. Serial No. 282,432.



Claim.—1. In a loop-lock-stitch sewing-machine, the combination with the needle, needle-bar, and feed-post, supporting the needle-bar, of a looper constructed to introduce loops of the loop-lock thread within loops of another thread passed by the needle through the material being stitched, said looper mounted upon the feed-post and accompanying the latter in its movements and means for operating the said looper.

2. In a loop-lock-stitch sewing-machine, the combination with the needle, needle-bar, and feed-post, supporting the needle-bar of a looper for the loop-lock thread operated by the said needle-bar and supported by the said feed-post said looper constructed to introduce loops of the loop-lock thread within loops of another thread drawn by the needle through the material being stitched.

3. In a loop-lock-stitch sewing-machine, the combination with the needle, needle-bar, and feed-post, supporting the needle-bar of a looper for the loop-lock thread constructed to introduce loops of the loop-lock thread within loops of another thread drawn by the needle through the material being stitched, a looper-carrier pivotally connected with the said feed-post, and a roll or projection carried by the needle-bar and engaging with the said looper-carrier to operate the said looper.

4. In a loop-lock-stitch sewing-machine, the combination with the reciprocating hooked needle, of the reciprocating looper constructed and operating to insert a doubled portion of locking-thread into the loop of thread drawn by the needle, and also acting to cast off the said loop from the needle and means for actuating the said looper.

5. In a loop-lock-stitch machine, in combination, a reciprocating needle by which a loop of thread is passed through the material being operated upon, a looper working in close proximity to one surface of the said material and having a delivery end which enters the said loop and around which the latter tightens in being drawn, the said looper having a guide-eye for the loop-lock thread delivering the said thread at the surface of the looper next the adjacent surface of the said material, and the looper operating by its return movement to buckle the loop-lock thread upon itself within the embracing loop of needle-thread, and operating means for the needle and looper.

6. In a loop-lock-stitch machine, in combination, a reciprocating needle by which a loop of thread is passed through the material being operated upon, a looper working in close proximity to one surface of the said material and having a delivery end which enters the said loop and around which the latter tightens in being drawn, the said looper having a guide-eye for the loop-lock thread delivering the said thread at the surface of the looper next the adjacent surface of the said material, and the looper operating by its return movement to buckle the loop-lock thread upon itself within the loop of needle-thread, actuating means for the needle and looper, and a take-up operating to draw the needle-loop to clasp the buckled loop-lock thread at the tip of the looper as the latter withdraws.

7. In a loop-lock-stitch machine, in combination, a reciprocating needle by which a loop of thread is passed through the material being operated upon, a looper having a delivery end which enters the said loop and around which the later tightens, the said looper having a guide-eye for the loop-lock thread delivering the said thread at the adjacent surface of the said material, and being grooved to confine the thread at such surface, the looper operating by its return movement to buckle the loop-lock thread upon itself within the loop of needle-thread, and operating means for the needle and looper.

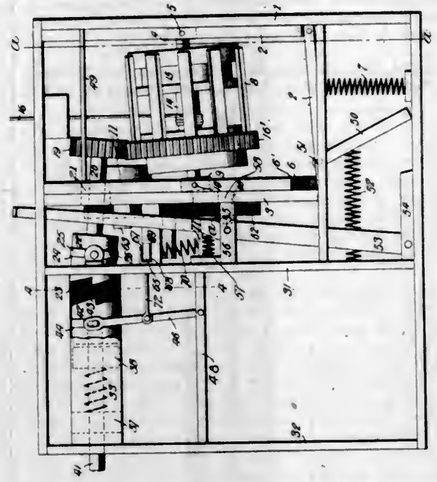
8. In a loop-lock-stitch sewing-machine, the combination with the reciprocating needle, and looper constructed and operating to introduce a doubled or buckled portion of thread into the needle-loop, of a tension device for the loop-lock thread mounted upon or in connection with the said looper and actuating means for the looper.

843,761. TROLLEY-RETRIEVER. FRANCIS M. MILLER, Arcadia, Ind. Filed Apr. 22, 1905. Serial No. 256,977.

Claim.—1. In a trolley-retriever, the combination with a casing secured to the car, of a continuously-revolving shaft mounted therein, a second shaft mounted for coöperation with the first-named shaft, a pinion carried by the second shaft, a drum revolubly mounted in said casing and provided with ratchet-teeth, means for automatically throwing said pinion and ratchet-teeth into engagement, means for automatically locking said drum when the trolley-pole has been drawn down, and means for releasing said drum.

2. In a trolley-retriever, the combination with a casing secured to the car, of a continuously-revolving shaft mounted therein, a second shaft arranged for coöperation with the first shaft, a drum revolubly mounted in said casing, the said second shaft carrying a pinion, means whereby said drum will permit a limited play of the trolley-rope, ratchet-teeth on said drum, means for automatically throwing said pinion and ratchet-teeth into engagement, means for automatically locking said drum when the trolley-pole has been withdrawn, and means for releasing said drum.

3. In a trolley-retriever, the combination with a casing secured to the car, of a continuously-revolving shaft mounted therein, a drum revolubly mounted in said casing and provided with ratchet-teeth, a second shaft mounted within the casing for coöperation with the first-named shaft, said second shaft carrying a pinion, means for locking said drum, a smaller drum revolubly mounted within the larger drum, the amount of rotation of said smaller drum being limited, means for automatically unlocking said larger drum, and throwing the teeth thereof into engagement with said pinion, means for automatically locking said larger drum when the trolley-pole has been drawn down, and means for releasing said drum to permit the trolley-rope to be unwound therefrom.



4. In a trolley-retriever, the combination with a casing secured to the car, of a continuously-rotating shaft mounted therein, a second shaft arranged for detachable engagement with the first shaft for coöperation therewith, said second shaft carrying a pinion, a frame hinged to and within said casing and normally retained in a lowered position, a drum revolubly mounted in said frame and provided with ratchet-teeth, means for automatically raising said frame to throw the teeth on said drum into engagement with said pinion, means for automatically locking said drum when the trolley-pole has been drawn down, and means for releasing said drum.

5. In a trolley-retriever, the combination with a casing secured to the car, of a continuously-revolving shaft mounted therein, a second shaft arranged for detachable engagement with the first shaft for coöperation therewith, said second shaft carrying a pinion, a frame hinged to and within said casing and normally retained in a lowered position, a drum revolubly mounted in said frame, means whereby said drum will permit a limited play of the trolley-rope, ratchet-teeth on said drum, means for automatically raising said frame to throw said teeth on said drum into engagement with said pinion, means for automatically locking said drum when the trolley-pole has been drawn down, and means for releasing said drum.

6. In a trolley-retriever, the combination with a casing secured to the car, of a continuously-revolving shaft mounted therein, a second shaft arranged for detachable engagement with the first shaft for coöperation therewith, the said second shaft carrying a pinion at one end, a frame hinged to and within said casing, and normally retained in a lowered position, a drum revolubly mounted in said frame and provided with ratchet-teeth, means for locking said drum when said frame is lowered, a smaller drum revolubly mounted in said larger drum, the amount of rotation of said smaller drum being limited, means for automatically unlocking said drum, and raising said frame to throw the teeth on said drum into engagement with said pinion, means for automatically locking said larger drum when the trolley-pole has been drawn down, and means for releasing said drum.

7. In a trolley-retriever, the combination with a casing secured to the car, of a continuously-rotating revolving shaft mounted therein, a second shaft arranged for detachable engagement with the first shaft for coöperation therewith, the said second shaft carrying a pinion, a drum revolubly mounted in said casing, a series of ratchet-teeth extending partially around said drum, said drum being provided with a notch between the terminals of said series of teeth, means for automatically throwing said drum and ratchet-teeth into engagement, means for automatically locking said drum when said notch arrives under said pinion, and means for releasing said drum.

8. In a trolley-retriever, the combination with a casing secured to the car, of a continuously-revolving shaft mounted therein, a second shaft mounted within the casing for coöperation with the first-named shaft, said second shaft carrying a pinion, a drum revolubly mounted in said casing, a series of ratchet-teeth extending partially around said drum, said drum being provided with a notch between the terminals of said series of teeth, means for locking said drum, a smaller drum revolubly mounted in said larger drum the rotation of said smaller drum being limited, means for automatically unlocking said larger drum and throwing the teeth thereof into engagement with said pinion, means for automatically locking said larger drum when said notch arrives under said pinion and means for releasing said drum, substantially as and for the purpose described.

9. In a trolley-retriever, the combination with a casing secured to the car, of a continuously-revolving shaft mounted therein, a second shaft mounted within the casing for detachable engagement and coöperation with the first shaft, said second shaft carrying a pinion, a frame hinged to and within said casing and normally retained in a lowered position, a drum revolubly mounted in said frame, a series of ratchet-teeth extending partially around said drum, said drum being provided with a notch between the terminals of said series of teeth, means for automatically raising said frame to throw said teeth into engagement with said pinion, means for automatically locking said drum when said notch arrives under said pinion and means for releasing said drum, substantially as and for the purpose described.

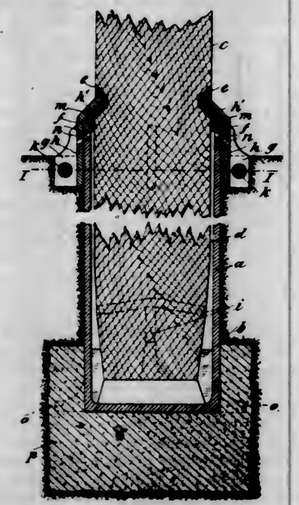
10. In a trolley-retriever, the combination with a casing secured to the car, of a continuously-rotating shaft mounted therein, said shaft having a clutching-face at one end, a second shaft mounted within the frame and having a clutch-face for engagement with the clutch-face of the first shaft, a pinion carried by the second shaft, a drum revolubly mounted in said casing and provided with ratchet-teeth, means for automatically throwing said pinion and ratchet-teeth into and out of engagement, means for automatically locking said drum when the trolley-pole has been drawn down, means for releasing said drum, and means for throwing the aforesaid clutch-faces into and out of operative engagement.

11. In a trolley-retriever, the combination with a casing secured to the car, of a continuously-rotating shaft mounted therein, the said shaft having a clutch-face at one end, a second shaft mounted within the casing and having a clutch-face for engagement with the clutch-face of the said first shaft, a pinion carried by the said second shaft, a drum revolubly mounted in said casing and provided with ratchet-teeth, means for throwing said pinion and ratchet-teeth into and out of engagement, means for locking said drum when the trolley-pole has been drawn down, means for releasing said drum, and means for automatically throwing the said clutch-faces into and out of operative engagement.

12. In a trolley-retriever, the combination with a casing secured to the car, of a continuously-revolving shaft mounted therein, said shaft having a clutch-face at one end, a second shaft mounted within the casing and having a clutch-face at one end for coöperation with the clutch-face of the first shaft, said second shaft having a rocking movement within the frame and carrying a pinion at one end adapted to raise and lower with the rocking move-

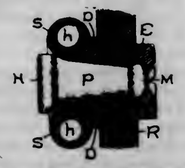
ment of its shaft, a drum revolubly mounted in said casing and provided with ratchet-teeth, means for automatically throwing said pinion and ratchet-teeth into and out of engagement, means for automatically locking said drum when the trolley-pole has been thrown down, means for releasing said drum, and means for automatically throwing the aforesaid clutch-faces into and out of operative relation with each other.

843,762. SHOE FOR WOODEN POLES. CARL O. MÜLLER, Blankenese, near Hamburg, Germany. Filed July 9, 1906. Serial No. 325,427.



Claim.—In a shoe for wooden poles, the combination of an iron tube closed at the bottom, of an outer jacket around the upper part of the tube, the upper part of which jacket is inclined inward, there being a notch provided round the pole adapted to receive the end of the inclined part of the jacket, and flanges on the outer surface of the jacket, all substantially as described, and for the purpose specified.

843,763. CONNECTOR OR TERMINAL FOR ELECTRICAL CONDUCTORS. JAMES MCLAUGHLIN, New York, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Sept. 11, 1901. Serial No. 74,995.



Claim.—1. The combination of a terminal, receptacles for conductors, a cross-piece connecting said receptacles, and a pin or key for expanding said terminal and deforming said receptacles.

2. The combination of a terminal, receptacles for conductors, cross-pieces holding certain portions of said receptacles at fixed distances apart, and a pin or key for securing said terminal to a support and simultaneously securing conductors in said receptacles.

3. The combination of a terminal, receptacles for conductors, attached to said terminal, and wedging means for simultaneously securing the conductors in said receptacle and securing said terminal to a support.

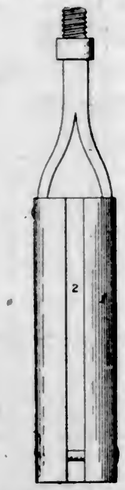
4. The combination of a terminal, conductor-receptacles carried thereby, cross-pieces joining together said receptacles, and a wedge arranged to be driven between said receptacles.

5. The combination of a terminal having a hollow stud, conductor-receptacles secured to said terminal and means for wedging apart said receptacles and expanding said stud.

6. The combination of a terminal having a hollow stud, conductor-receptacles integral with said terminal, and a wedge arranged to be driven between said receptacles and into said hollow stud.

7. The combination of a terminal having a hollow stud, conductor-receptacles secured transversely to said terminal, cross-pieces joining the ends of said receptacles, and wedging means arranged between said receptacles and in said hollow stud.

843,764. EARTH-AUGER. THOMAS M. MCWHORTER, Big Spring, Tex. Filed July 9, 1906. Serial No. 325,366.



Claim.—A device of the character described, comprising an "earth-socket," forming the auger proper, having a longitudinal lateral opening, with effective earth-removing edges, said "earth-socket" having its bottom edge adapted to form a bit and having arranged centrally therein, just above the plane of said beveled bottom edge a plain unequipped cross-pin.

843,765. POST-HOLE DIGGER. WAYLAND B. NICHOLSON, Holly, Mich. Filed July 26, 1906. Serial No. 327,869.



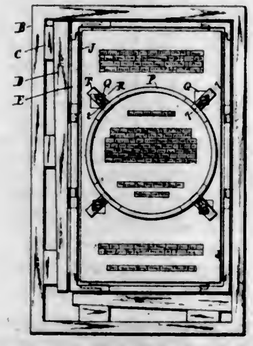
Claim.—1. A post-hole digger comprising a pair of attaching-supports, blades secured to said supports, handle-engaging shanks formed integral with the latter, a double knuckle-joint arranged on said shanks, means to prevent a lateral movement of the latter, and means to securely clamp the handles of the digger thereto, substantially as described.

2. A post-hole digger comprising a pair of digging-blade supports, consisting of segmental blade-attaching plates, inwardly and upwardly projecting handle-engaging shanks, said shanks comprising parallel side plates, one of which has formed thereon a segmental lug forming a hinge member, the companion plate having formed therein a segmental recess to receive the segmental lug of the shank of the opposing blade-support, a pivot-bolt arranged in alined apertured in said lugs, means to prevent lateral movement of said shanks and handle-engaging clips arranged on the upper ends of the latter, substantially as described.

3. A post-hole digger comprising a pair of digging-blade supports consisting of segmental blade-attaching plates, inwardly and upwardly projecting handle-engaging shanks, said shanks comprising parallel side plates, one of which has formed thereon a segmental lug forming a hinge member, the companion plate having formed therein a segmental recess to receive the segmental lug of the shank of the opposing blade-support, semicircular side plates formed on the recessed side plate of the shanks to overlap the engaging side plate of the opposing shank, a pivot-bolt arranged through alined openings in said lugs and overlapping plates, a socket formed in the upper ends of said shanks to receive the lower end of handle-bars, bolts to secure the lower ends of said handles in said sockets, and means to clamp the upper ends of the shanks to the handles, substantially as described.

4. A post-hole digger comprising a pair of digging-blade supports consisting of segmental blade-attaching plates, inwardly and upwardly projecting handle-engaging shanks, said shanks comprising parallel side plates, one of which has formed thereon a segmental lug forming a hinge member, the companion plate having formed therein a segmental recess to receive the segmental lug of the shank of the opposing blade-support, semicircular side plates formed on the recessed side plate of the shanks to overlap the engaging side plate of the opposing shank, a pivot-bolt arranged through alined openings in said lugs and overlapping plates, integrally-formed base-plates to connect the inner edges of the sides of said shank thereby forming a handle-engaging socket, said base-plates having formed therein near their lower ends centrally-disposed bolt-holes, securing-bolts passed through said holes and the lower ends of the handles of the digger, clip-ties formed integral with the upper ends of said shanks, handle-engaging clips arranged in said ties, and nuts adapted to be screwed onto the threaded ends of said clips, said nuts forming bumpers to limit the inward movement of the handle-bars, substantially as described.

843,766. PRINTER'S BORDER. WARREN D. PALMER, Brooklyn, N. Y. Filed May 7, 1906. Serial No. 315,470.



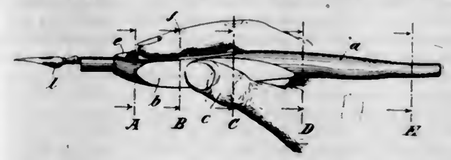
Claim.—1. A border for printers' use extending continuously around the form and provided with windows, in combination with a bar adapted to be applied from the interior and to extend across a number of such windows, and with a slide and provisions for guiding such slide longitudinally relatively to such bar at one end so as to lock and unlock the bar and border by an easy movement as herein specified.

2. A border for printers' use extending continuously around the form and provided with windows, in combination with a bar adapted to be applied from the interior and to extend across a number of such windows and having portions thinned where the bar extends across the bridges between the windows and a thick portion matching in each window and with a slide and provisions for guiding such slide longitudinally relatively to such bar at one end so as to lock and unlock the bar and border by an easy movement as herein specified.

3. A border for printers' use extended continuously around and provided with windows, in combination with a quad Q carrying a pivot-pin, and a button carried on such quad with capacity for adjustment adjacent to a window so as to secure and release the border, all substantially as herein specified.

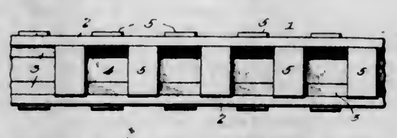
4. A border for printers' use extended continuously around and provided with windows in combination with a quad Q carrying a pivot-pin mounted out of the center of the quad so that it can be adjusted by partially revolving the quad and a button carried on such quad with capacity for adjustment adjacent to a window so as to secure and release the border, all substantially as herein specified.

843,767. PENHOLDER. JOSEF PLACH, Komotau, Austria-Hungary. Filed Apr. 27, 1906. Serial No. 314,042.



Claim.—In a penholder a stock characterized by two grooves on the under side adapted to the contour of the under surface of the thumb, and the left side of the middle finger respectively, a shallow groove on the upper side adapted to the contour of the under surface of the forefinger, narrow ridges separating the said grooves, and a bend adapted to the part of the hand between the thumb and forefinger, all substantially as described, and for the purpose specified.

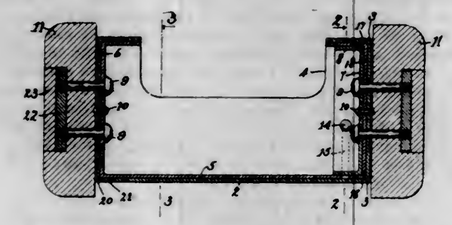
843,768. CONCRETE BUILDING CONSTRUCTION. ALBERT S. REAVIS, Washington, D. C. Filed Oct. 29, 1906. Serial No. 341,110.



Claim.—1. A bar adapted to be used as a core to be embedded in concrete, comprising a solid flat-sided body angular in cross-section, a series of straight ribs extending lengthwise of the body along the angles or corners thereof, and short transverse ribs extending at right angles to the longitudinal ribs, said short ribs crossing the flat sides of the body and interrupting the channels formed by the longitudinal ribs.

2. A bar adapted to be used as a core to be embedded in concrete, comprising a square body, ribs extending lengthwise of the body and and located at the corners of the body, and cross-ribs extending at right angles to the longitudinal ribs crossing and interrupting the channels left between the longitudinal ribs, said cross-ribs projecting outward beyond the outer ends of the longitudinal ribs.

843,769. PNEUMATIC CARRIER. MARION B. RIFFO, Philadelphia, Pa. Filed Dec. 18, 1905. Serial No. 292,396.



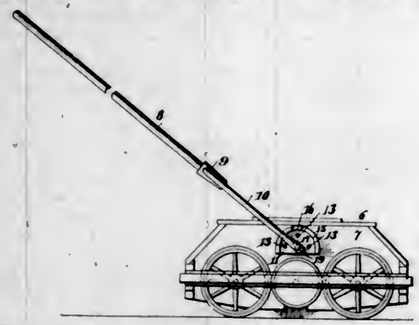
Claim.—1. A carrier for pneumatically-operated service systems, comprising a pair of cylindrical tubular members, peripherally slotted longitudinally and arranged sleeve-like one within the other so as to be relatively rotatable, and means to prevent normal longitudinal separation of the tubes and also limit the relative rotation thereof, said means consisting of an interiorly-arranged flanged disk fixedly secured to the head end of one of said tubular members, and a fixed barrier or stop with coacting engaging means arranged operatively between said relatively rotatable tubular members, one of said last-mentioned coacting elements being mounted on one of said tubular members and the other thereof being fixedly mounted on the other of said tubular members and also on the said interiorly-arranged flanged disk secured thereto.

2. A carrier for pneumatically-operated service systems consisting of a pair of cylindrical tubular members, peripherally slotted longitudinally and arranged sleeve-like one within the other so as to be relatively rotatable, a disk within the outer tubular member and having an annular flange in alinement with the open end of the inner tubular member, a disk having an annular flange adapted to enter the open end of the inner tubular member, means to fixedly secure said flanged disks and the head end of the outer tubular member to each other and to its adjacent buffer-head, and means to limit the rotation of the inner tube relatively to the outer tube consisting of a radial slot in the periphery of the inner tube and a stop-pin secured at its ends to the flange of the interior disk and to the peripheral wall of the outer tubular member.

3. A carrier for pneumatic service systems consisting of a pair of cylindrical tubular members, each provided with a closed head end and an open end, each peripherally slotted longitudinally and arranged sleeve-like one within the other, whereby they may be relatively rotated, a flanged disk at the open end of each tube, the flange being in alinement with said open end, means to fixedly attach said flanged disks to the respective head ends of the inner and outer tubes, a third flanged disk also secured by the same attaching means, said last-mentioned flanged disk being mounted within the inner tube at one end thereof, and means to limit the relative rotation of the tubes, consisting of a radial slot cut in the periphery of one of the rotatable tubular members and a coacting stop-pin mounted fixedly on the flange of said third disk and on the peripheral wall of the other of said rotatable tubular members.

4. A carrier for pneumatic service systems consisting of a pair of cylindrical tubular members, each provided with a closed head end and an open end, each peripherally slotted longitudinally and arranged sleeve-like one within the other, whereby they may be relatively rotated, a flanged disk at the open end of each tube, the flange being in alinement with said open end, means to fixedly attach said flanged disks to the respective head ends of the inner and outer tubes, a third flanged disk also secured by the same attaching means, said last-mentioned flanged disk being mounted within the inner tube at one end thereof, a radial slot cut in the periphery of one of the tubular members, a coacting stop-pin mounted fixedly on the flange of said third disk and on the peripheral wall of the other of said rotatable tubular members, and a name or number plate secured to that end of said pin which passes through the periphery of the outer tubular member.

843,770. CARPET-SWEEPER. HIRAM W. RU TON, Goshen, Ind. Filed July 11, 1906. Serial No. 325,683.



Claim.—1. In a device of the character described, the combination with a sweeper-case, of a plate secured thereto, a handle member, a single pivotal connection between the lower end of the handle member and the central portion of the plate that permits a limited longitudinal movement of the handle member in both directions and prevents its detachment from the plate, an outstanding curved rib on the upper edge of the plate projecting beyond the outer face of said plate and disposed substantially concentric to the pivot connection, and a shoulder carried by the handle member and bearing against the inner side of the rib upon the movement of said handle member in one direction.

2. In a device of the character described, the combination with a plate having an opening, and a curved marginal rib, of a handle-bail having an arm provided with an opening, a shouldered bolt passing through the opening of the arm and of less diameter than the same, said bolt passing through the opening in the plate and having its shoulder bearing against the same, and a draft-shoulder carried by the bail-arm and operating against the inner side of the marginal rib.

3. In a device of the character described, the combination with an outstanding curved rib having a notch, of a pivoted handle member having a shoulder bearing against the inner side of the rib and being movable into and out of the notch thereof.

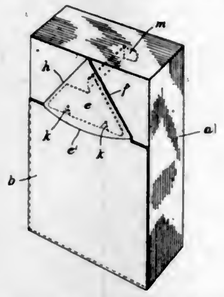
4. In a device of the character described, the combination with a plate having a pivot-opening, and a rib concentric thereto, said rib having a notch, of a bail having a pivot engaged in the opening, said bail including an arm extending across and slidably associated with the rib, the arm being movable into and out of the notch thereof, and a shoulder carried by the arm and coacting with the inner side of the rib.

5. In a device of the character described, the combination with a sweeper-case, of a plate secured to the end thereof and having an opening, a marginal outstanding rib carried by the plate and having a curved portion disposed substantially concentric to the opening, said rib having a notch in an intermediate portion, a handle-bail having an arm provided with a head that operates over the plate, said arm being movable into and out of the notch of the marginal rib, and said head having a shoulder that operates against the inner side of the rib, and a pivot connecting the head and plate, said pivot engaging in the opening in the plate and permitting a slight longitudinal movement of the arm and head with respect to said plate.

843,771. PACKAGE OF TOILET-PAPER. ARTHUR H. SCOTT, Philadelphia, Pa. Filed Feb. 6, 1906. Serial No. 299,675.

Claim.—1. The backing-card for packages of toilet-paper provided at the top with an open inverted pocket formed of the material of the card and having a continuous front flap and the end beyond said front flap bent over and secured to the back of the card.

2. The backing-card for packages of toilet-paper provided at the top with an open inverted pocket formed of the material of the card and having a continuous front flap and the end beyond said front flap bent over and secured to the back of the card and extending down at the back to a substantial distance beyond the lower edge of the pocket.



3. The backing-card for packages of toilet-paper provided at the top with an open inverted triangular pocket composed of a strip extending at an angle from the top of the body of the card and bent over upon itself and fastened at the back to form at the front a continuous angular flap.

4. The backing-card for packages of toilet-paper provided at the top with an open inverted triangular pocket composed of a strip extending at an angle from the top of the body of the card and bent over upon itself and fastened at the back to form at the front a continuous angular flap the extremity of said strip extending down on the back of the card to a substantial extent beyond the lower edge of the pocket, in combination with a package of toilet-paper secured to said backing-card and lying over the extended extremity of said strip.

5. A backing-card for packages of toilet-paper provided at the top with an open inverted pocket formed of the material of the card and having a continuous front flap and the end beyond said front flap bent over on the back, and a metal piece at the front face of the back of said pocket having a clip extending through said back and securing the bent-over end.

6. A backing-card for packages of toilet-paper provided at the top with an open inverted pocket formed of the material of the card and having a continuous front flap and the end beyond said front flap bent over on the back, and a metal piece at the front face of the back of said pocket having a clip extending through said back and securing the bent-over end, said bent-over end being extended down to a substantial distance beyond to point at which it is fastened by said clip.

7. A backing-card for packages of toilet-paper provided at the top with an open inverted pocket formed of the material of the card and having a continuous front flap and the end beyond said front flap bent over on the back, and a metal piece at the front face of the back of said pocket having a clip extending through said back and securing the bent-over end and provided with a tongue adapted to be passed through a package of toilet-paper to attach the same to the backing-card.

8. A backing-card for packages of toilet-paper provided at the top with an open inverted pocket formed of the material of the card and having a continuous front flap and the end beyond said front flap bent over and secured to the back, and having secured to the inside of the pocket at the back a metal plate having a fastening-tongue projecting through the card.

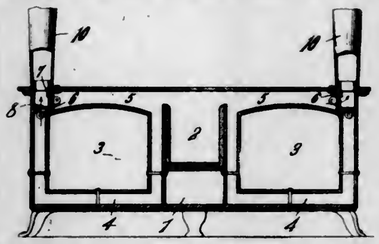
843,772. WAGON-JACK. ISAAC SHUPE, Newmarket, Ontario, Canada. Filed Oct. 14, 1905. Serial No. 282,851.

Claim.—1. A wagon-jack comprising a lifting-lever, a supporting-rack connected to one side thereof, consisting of a unitary casting composed of a series of steps, a connecting-piece uniting the steps, and rearwardly-projecting pins to enter corresponding holes in the lifting-lever to detachably fasten the rack thereto, a brace pivotally connected to the lifting-lever and a stop connected to the lifting-lever, to engage and hold the brace in its operative position.



2. A wagon-jack comprising a lifting-lever, a supporting-rack connected to one side thereof consisting of a unitary casting composed of a series of steps, a connecting-piece uniting the steps, and pins projecting rearwardly from the connecting-piece and contained in corresponding holes in the lifting-lever detachably fastening the rack thereto, a brace pivotally connected at one end to the lifting-lever intermediate the ends of the latter, and a stop consisting of an angularly-bent piece of metal comprising two arms one of which is securely fastened to the lifting-lever and the other projects into the path of the rearward extension of the brace to engage it when extended to enable it to rigidly brace the lifting-lever.

843,773. COOK-STOVE. WILLIAM R. K. STANFORD, Sheffield, Ala. Filed Sept. 29, 1906. Serial No. 336,696.

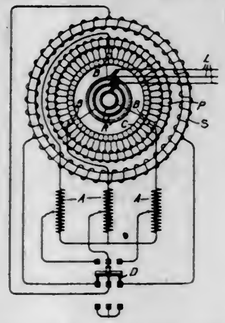


Claim.—A stove comprising a fire-box and an oven with a passage between the fire-box and the oven and a passage between the top of the stove and the oven, a backing-plate located at the upper corner of the oven and having a vertically-disposed leaf which extends from the oven to the top of the stove and a horizontally-disposed leaf which extends from the oven to the side of the stove said leaves being perforated in staggered relation to each other, the said vertically-disposed leaf having on its side a guide, a damper composed of leaves at right angles to each other and having perforations located transversely opposite each other one of the leaves of the damper having its upper edge fitting under the guide of the vertically-disposed leaf of the backing-plate and the outer edge of its other leaf fitting against a wall of the stove and a means for shifting said damper longitudinally.

843,774. ALTERNATING-CURRENT DYNAMO-ELECTRIC MACHINE. CHARLES P. STEINMETZ, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Nov. 28, 1905. Serial No. 289,442.

Claim.—1. In a dynamo-electric machine, relatively rotatable primary and secondary members, connections for

supplying alternating current to the primary member, and means for supplying to the secondary member low-frequency currents derived from the primary member.



2. In a dynamo-electric machine, relatively rotatable primary and secondary members, connections for supplying polyphase current to the primary member, and means for supplying to the secondary member currents of a frequency equal to the difference in the speeds of rotation of the primary magnetic field and of the secondary member.

3. In a dynamo-electric machine, relatively rotatable primary and secondary members, connections for supplying alternating current to the primary member, a commutator carried by the primary member and having its segments connected to points on the primary winding, brushes bearing on said commutator, and connections for supplying current from said brushes to the secondary member.

4. In a dynamo-electric machine, relatively rotatable primary and secondary members, connections for supplying polyphase currents to the primary member, a commutator carried by the primary member and having its segments connected to points on the primary winding, a polyphase arrangement of brushes bearing on said commutator, and connections for supplying current from said brushes to the secondary member.

5. In a dynamo-electric machine, a rotatable primary member provided with a commutator and collector-rings, brushes bearing on said collector-rings and connected to a source of alternating current, brushes bearing on said commutator, a stationary secondary member, and connections for supplying current from the commutator-brushes to the secondary member.

6. In a dynamo-electric machine, relatively rotatable primary and secondary members, connections for supplying alternating current to the primary member, means for supplying to the secondary member low-frequency currents derived from the primary member, and means for controlling the amount of said low-frequency currents.

7. In a dynamo-electric machine, relatively rotatable primary and secondary members, connections for supplying polyphase currents to the primary member, means for supplying to the secondary member currents of a frequency equal to the difference in the speeds of rotation of the primary magnetic field and of the secondary member, and means for controlling the amount of said derived currents.

8. In a dynamo-electric machine, relatively rotatable primary and secondary members, connections for supplying alternating current to the primary member, a commutator carried by the primary member and having its segments connected to points on the primary winding, brushes bearing on said commutator, connections for supplying current from said brushes to the secondary member, and current-controlling means in the last-mentioned connections.

9. In a dynamo-electric machine, relatively rotatable primary and secondary members, connections for supplying polyphase currents to the primary member, a commutator carried by the primary member and having its segments connected to points on the primary winding, a polyphase arrangement of brushes bearing on said commutator, connections for supplying current from said brushes to the secondary member, and current-controlling means in the last-mentioned connections.

10. In a dynamo-electric machine, relatively rotatable primary and secondary members, connections for supplying alternating current to the primary member, means for supplying to the secondary member low-frequency currents derived from the primary member, and means for short-circuiting the secondary member.

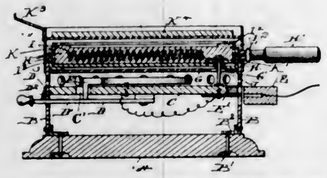
11. In a dynamo-electric machine, relatively rotatable primary and secondary members, connections for supplying polyphase currents to the primary member, means for supplying to the secondary member currents of a frequency equal to the difference in the speeds of rotation of the primary magnetic field and of the secondary member, and means for short-circuiting the secondary member.

12. In a dynamo-electric machine, relatively rotatable primary and secondary members, connections for supplying alternating current to the primary member, a commutator carried by the primary member and having its segments connected to points on the primary winding, brushes bearing on said commutator, connections for supplying current from said brushes to the secondary member, and means for short-circuiting the secondary member.

13. In a dynamo-electric machine, relatively rotatable primary and secondary members, connections for supplying alternating current to the primary member, connections for supplying to the secondary member low-frequency currents derived from the primary member, and means for breaking the last-mentioned connections and short-circuiting the secondary member.

14. In a dynamo-electric machine, relatively rotatable primary and secondary members, connections for supplying alternating current to the primary member, a commutator carried by the primary member and having its segments connected to points on the primary brushes bearing on said commutator connections for supplying current from said brushes to the secondary member, and means for breaking said connections and short-circuiting the secondary member.

843,775. ELECTRIC HEATER. SAMUEL W. TALIAFERRO, San Francisco, Cal. Filed July 31, 1905. Serial No. 271,981.



Claim.—1. In an electric heater, the combination with a suitable casing, of heating-coils within the casing, a conducting-plate within the casing, and a thermostatic bar provided with a contact-arm normally resting upon the plate and arranged to cross the margin of the latter as the bar bends under changes of temperature, and means for connecting the coils, bar and plate, in series, with a source of current.

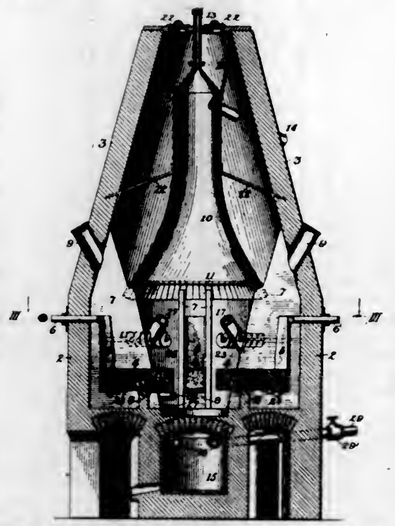
2. In an electric heater, the combination with a suitable casing, of a conducting-plate within the casing, a thermostatic bar provided with an arm normally resting upon the plate and arranged to move back and forth across the margin of the latter as the bar bends under alternate increase and decrease of its temperature, means for at will fixing the normal distance of said margin from said arm, heating-coils within the casing, and means for connecting the coils, bar and plate, in series, with a source of current.

3. In an electric heater, the combination with a suitable casing, of a thermostatic circuit-breaker mounted in the casing, a freely-removable heating-tray in the upper part of the casing, heating-coils in said tray, means whereby seating the tray in place connects said coils in series with the thermostatic circuit-breaker, and means for connecting the coils and circuit-breaker with a source of current.

4. In an electric heater, the combination with a suitable casing, of a heating-plate removably mounted in the upper part of the casing, a thermostatic circuit-breaker governing the current through the heating plate or tray, and a freely-detachable cup seated upon the upper end of the casing and provided with an outwardly and upwardly extending handle adapted to serve as a rest for instruments to be heated in the cup, substantially as set forth.

5. The combination with an electric heater, of a removable heater plate or tray which makes an electric circuit through the heater when placed in position and breaks it when removed therefrom.

843,776. ELECTRIC FURNACE. EDWARD R. TAYLOR, Penn Yan, N. Y. Filed May 15, 1902. Serial No. 107,483.



Claim.—1. A metallurgical furnace having a reaction zone, and means for feeding portions of the charge through a surrounding body of the charge to said chamber.

2. A metallurgical furnace having a reaction zone, and means for feeding a suitable charge downwardly in proximity to the periphery of the furnace and then feeding portions of said charge inwardly through a surrounding body of the charge to said chamber.

3. A metallurgical furnace having a reaction zone, a collecting-chamber below said reaction-chamber, and intermediate conduits, said conduits arranged to traverse the incoming charge.

4. A metallurgical furnace having a reaction zone, a collecting-chamber below said reaction-chamber, and intermediate tortuous conduits, said conduits arranged to traverse the incoming charge.

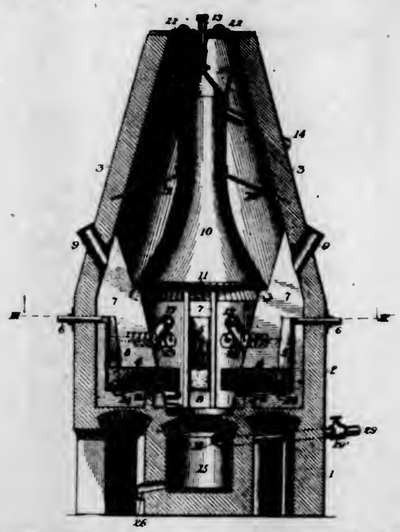
5. An electric furnace, electrodes therein forming a central reaction zone, means for feeding portions of the charge through a surrounding body of the charge to the reaction zone, and condensing-flues arranged to traverse the charge, whereby the heat liberated by condensation of the volatile products is imparted to the incoming charge.

6. An electric furnace, electrodes therein forming a central reaction zone, and means for feeding portions of the charge inwardly through a surrounding body of the charge to said reaction zone.

7. An electric furnace, electrodes therein, a gas-uptake, means for feeding the charge around said uptake and to the electrodes, and a vapor-outlet adjacent the electrodes.

843,777. METALLURGICAL PROCESS. EDWARD R. TAYLOR, Penn Yan, N. Y. Filed May 27, 1902. Serial No. 109,213.

Claim.—1. The herein-described metallurgical process, which consists in feeding a suitable charge downwardly in proximity to the periphery of a furnace, and feeding portions of said charge inwardly through a surrounding body of the charge to a central reaction zone.



2. The herein-described metallurgical process, which consists in feeding a suitable charge downwardly in proximity to the periphery of a furnace, feeding portions of said charge inwardly through a surrounding body of the charge to a central reaction zone, and causing volatile products to impart heat to incoming portions of said charge.

3. The herein-described metallurgical process, which consists in feeding a suitable charge downwardly in proximity to the periphery of a furnace and feeding portions of said charge inwardly along radial lines through a surrounding body of the charge to a reaction zone.

4. The herein-described metallurgical process, which consists in feeding a suitable charge downwardly in proximity to the periphery of a furnace, feeding portions of said charge inwardly along radial lines through a surrounding body of the charge to a reaction zone, and causing volatile products to impart heat to incoming portions of the charge.

5. The herein-described metallurgical process, which consists in subjecting one portion of a suitable charge to heat to volatilize a component thereof, conveying said volatilized component outwardly toward the periphery of the furnace through incoming portions of the charge, and condensing it by causing it to impart heat to such portions.

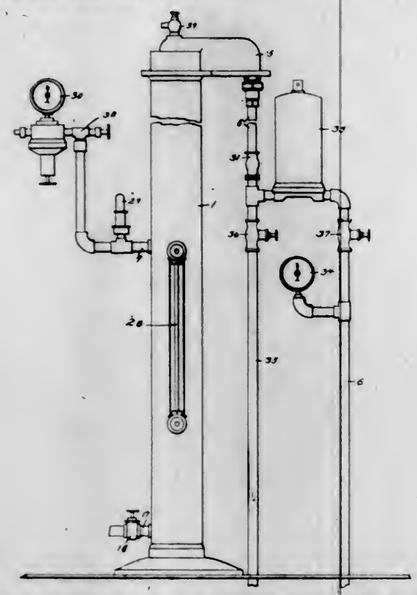
6. The herein-described process, which consists in passing an electric current through a granular resistance body to establish a zone of reaction, and feeding a suitable charge along radial lines to such zone.

7. The herein-described process, which consists in passing an electric current through a granular resistance body to establish a zone of reaction, and separately feeding a suitable charge and divided conductive material along radial lines to such zone.

843,778. CARBONATOR. FREDERICK R. H. THOMAS, Troy, N. Y. Filed Jan. 27, 1906. Serial No. 298,149.

Claim.—1. In a carbonator, the combination with a charging-chamber; and a subjacent liquid-chamber communicating with the charging-chamber; of means for supplying gas under pressure to the charging-chamber; a valve-case mounted in connection with an inlet to said charging-chamber and having a portion of said case located within said charging-chamber and provided with spray-apertures; a valve controlling said inlet and having a stem projecting through said valve-case into said charg-

ing-chamber; a float located in said liquid-chamber; and connections extending through the charging-chamber between said float and valve-stem.



2. In a carbonator, the combination with a cylindrical inclosure having in its lower end a liquid-chamber, and in its upper end a charging-chamber communicating with the liquid-chamber, and having at its upper end a valve-chamber offset from, and open to, the charging-chamber; of a valve-case, secured in connection with an inlet, to said valve-chamber and having a portion of the valve-case located within said valve-chamber, and provided on the side adjacent to the charging-chamber with spray-apertures; a valve controlling said inlet and having a stem extending through said case into said valve-chamber; a valve-operating lever connected with said stem and located in said valve-chamber, and with one end overhanging the charging-chamber; a float located in said liquid-chamber; and a rod extending through said charging-chamber and connecting together said float and valve-lever.

3. In a carbonator, the combination with a charging-chamber having a percolator; and a subjacent liquid-chamber communicating with the charging-chamber; of means for supplying gas under pressure to said charging-chamber; a valve controlling a liquid-inlet to said percolator; a float located in said liquid-chamber; a tube extending upwardly from said liquid-chamber through said percolator; and a controlling connection between said float and valve extending through said tube.

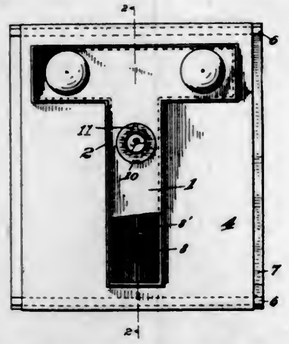
843,779. SIGN. ARAL G. WALIN, Seattle, Wash. Filed Apr. 26, 1906. Serial No. 313,894.

Claim.—1. A sign of the type set forth consisting of a sign-board, and electric-light socket projecting beyond the face of the sign-board, a removable letter arranged on the sign-board and having the projecting portion of said socket projecting through the same, and means securing said letter to the sign-board consisting in its entirety of means adjustably mounted on said lamp-socket.

2. A sign of the type set forth consisting of a sign-board, a letter secured thereto, illuminating means for said letter, and removable means for concentrating the light-rays about said letter secured against displacement by said letter.

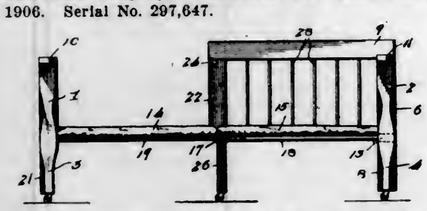
3. In a sign of the type set forth, a sign-board, a letter-frame having an inwardly-projecting part, and a removable letter arranged in said letter-frame in front of the inwardly-projecting part thereof, said letter being secured to the sign-board and engaging the inwardly-projecting part of the letter-frame to secure said letter-frame in position.

4. In a sign of the type set forth, a sign-board, a letter thereon, a socket projecting through said board and letter, a lug on said socket for preventing turning thereof, and means threaded on said socket for clamping the letter on the sign-board.



5. In a sign of the type set forth, a sign-board consisting of a support, and a facing secured to but spaced from said support, said facing being formed with openings, a letter arranged on said facing and being formed with openings registering therewith, and electric-light sockets mounted in the sign-board and projecting through the openings thereof and of said letter, and means on the projecting portions of said sockets for securing said letter to the sign-board.

843,780. CONVERTIBLE COUCH. ARTHUR WHEATLEY, Philadelphia, Pa., assignor to The Convertible Couch and Chair Company, Philadelphia, Pa. Filed Jan. 24, 1906. Serial No. 297,647.



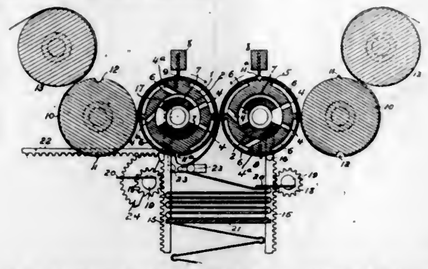
Claim.—1. A convertible couch and chair comprising an extensible bottom embodying stationary outer tubular slat members, and movable inner slat members arranged to telescope into the outer tubular members and together therewith forming a support for a flexible and sectional cushion; a frame-bar connecting and supporting the receiving ends of the tubular slat members, and a draw-bar connecting the outer ends of the inner slat members and constituting a section of one of the frame-bars.

2. A convertible couch and chair embodying a frame having certain bars and uprights thereof composed of longitudinally-divided sections one of each pair of which is movable toward and away from its complement in the plane in which the stationary section lies, tubular slat members connecting the stationary sections of the frame-bars with the opposite stationary sections, and other slat members carried by the movable section of one of the frame-bars and arranged to telescope into and be entirely inclosed by the tubular slat members.

843,781. APPARATUS FOR CUTTING, FOLDING, AND INTERFOLDING SHEETS OR UNITS. SETH WHEELER, Albany, N. Y. Filed Dec. 31, 1904. Serial No. 239,275.

Claim.—1. In an apparatus of the character described, the combination of two rolls, pneumatic means temporarily holding cut sheets or units on said rolls, fixed cutter-blades, and blades on the rolls coöperating therewith to sever strips or webs into sheets or units of several sheets.

2. In an apparatus of the character described, the combination of two rolls, hollow shafts on which said rolls turn and which form pneumatic suction-tubes, perforated shells or casing on said rolls and openings or ports connecting said hollow shells with the suction-chamber during a part of the revolution of the rolls to temporarily hold sheets or units thereon.



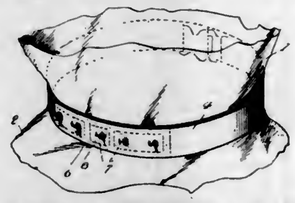
3. In an apparatus of the character described, the combination with two rolls, of means for feeding paper thereto, fixed cutters, cutters on the rolls coöperating with the fixed cutters to sever the paper into proper length of sheets or units, means for impressing the sheets or units and the cutters on the rolls being so positioned as to compel the ends of the sheets or units to be overlapped and the rolls being so constructed as to hold the severed sheets or units on the rolls temporarily.

4. In an apparatus of the character described, the combination with means for severing strips into sheets or units of several sheets, overlapping the sheets or units and impressing said sheets or units on their lines of fold, a platform, a reciprocating frame, and rods or pins on said frame between which the sheets pass, said reciprocating frame adapted to properly lay the interfolded sheets.

5. In an apparatus of the character described, the combination with rolls between which impressed and overlapped sheets or units are passed, of a table or platform, a horizontally-reciprocating rack, rods or pins on said rack between which the sheets or units are passed and laid thereby in proper folds upon the table, folder-blades pressing down the folds of the pile on the table, and vertically-reciprocating racks operating said folders and horizontal rack.

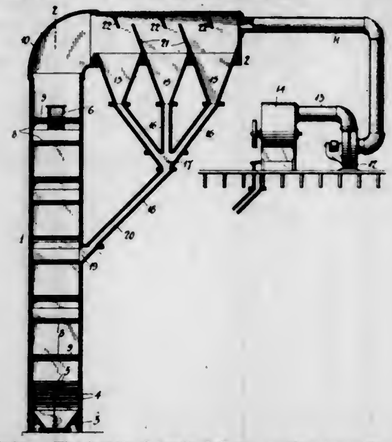
6. In an apparatus of the character described, the combination of hollow suction tubes or shafts, rolls mounted on said shafts and having suction openings or ports therein, perforated shells or casings on the rolls and said rolls constructed to open and close said ports to hold or release sheets or units against the perforated shells or casings.

843,782. SKIRT-SUPPORTER. WILLIAM R. WHITE, Nogal, N. Mex. Filed July 2, 1906. Serial No. 324,444.



Claim.—A skirt-supporter comprising inner and outer belts, each belt consisting of double-ply material, a reinforcing-plate received between the plies of each belt, the plate of the outer belt being provided with slots or openings in its length, while the plate of the inner belt is formed with projections in its length adapted to enter the slots or openings in the plate of the outer belt.

843,783. FLOUR PURIFIER, ASPIRATOR, AND BLEACHER. SAMUEL T. WILSON, Charleston, W. Va. Filed Feb. 1, 1906. Serial No. 299,011.



Claim.—The herein-described flour purifier aspirator and bleacher, comprising a vertical chute having reversely-disposed deflectors in opposite sides and outwardly and inwardly inclined air-intakes near its lower end, a valved feed-spout communicating with said chute near the upper end thereof and feeding flour thereto, a separator connected to and communicating with the upper end of said chute, said separator having pockets in its under side, baffle-valves extending upwardly from the division-walls of said pockets, and downwardly-extending baffle-valves in its upper side intermediate the first-named baffle-valves, an inclined pipe discharging into said chute at a point between the upper and lower ends thereof, said pipe communicating at its upper ends with the pockets and having a gravity-acting valve near its lower end, and a fan-blower to create an exhaust-current of air upwardly through the chute and through the separator, over the pockets of the latter.

843,784. MACHINE FOR LEVELING AND SCRAPING. MATTHIAS P. ZINDORF, Everett, Wash. Filed June 8, 1906. Serial No. 320,012.

Claim.—1. In a machine of the type set forth, spaced-apart runners connected for independent lengthwise adjustment, and a scraper supported by said runners.

2. In a machine of the type set forth, spaced-apart runners pivotally connected, whereby they can be independently advanced, a scraper arranged in advance of said runners and supported thereby, and means to hold said runners in their adjusted positions.

3. In a machine of the type set forth, spaced-apart runners means extending between the runners to which said runners are pivoted, and a scraper pivotally supported by said runners, for the purpose specified.

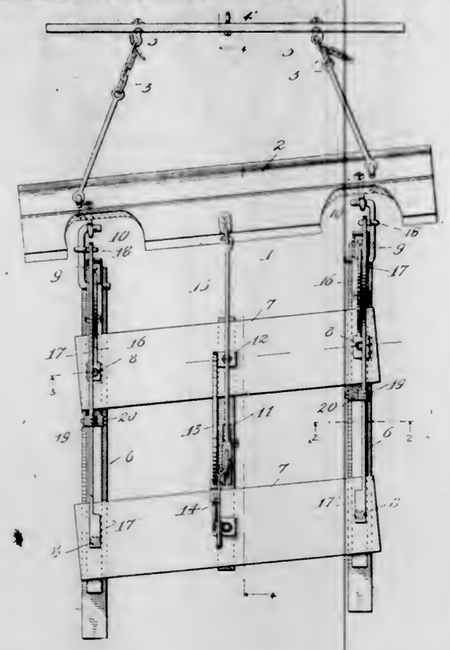
4. In a machine of the type set forth, spaced-apart runners, means to which said runners are pivoted, a scraper supported by said runners, and means for tilting said scraper rearwardly including a member pivotally supported on said first means.

5. In a machine of the type set forth, a supporting means, runners pivoted thereto, a scraper, flexible connections between said scraper and the runners, and independent mechanisms for raising the respective ends of said scraper.

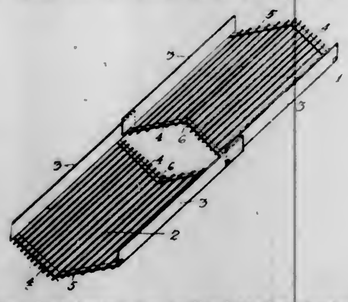
6. In a machine of the type set forth, a scraper, means to support said scraper, link connections between said means and scraper connected so as to allow independent raising of the respective ends of the scraper, and independent means for raising said scraper each connected to one of said link connections, for the purpose specified.

7. In a machine of the type set forth, spaced-apart runners, a means to which said runners are pivoted, a scraper

connected to said runners for tilting movement, a support pivoted to said means, and means for tilting said scraper including a lever pivoted to said support.



843,785. SCREEN. CHARLES R. ALLEN, San Francisco, Cal. Filed Dec. 19, 1905. Serial No. 292,476.

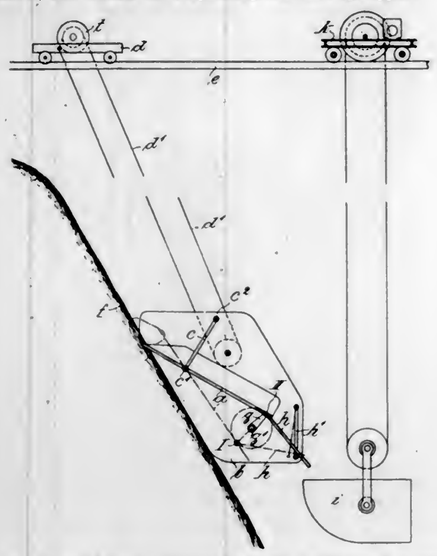


Claim.—In a screen, two inclined sections arranged end to end one above the other, with their adjacent ends overlapping and each section comprising side pieces, cross-pieces and longitudinal bars, the cross-pieces being bent so as to hold the bars in oppositely-arranged inclined planes, those of the upper section being roof-shaped and those of the lower section trough-shaped.

843,786. AUTOMATICALLY-OPERATED SHOVEL. EMIL ARNST, Benrath, near Düsseldorf, Germany, assignor to the Firm of Benrather Maschinenfabrik Actiengesellschaft, Benrath, near Düsseldorf, Germany. Filed July 16, 1906. Serial No. 326,445.

Claim.—1. An automatically-operated shovel, comprising in combination the shovel proper, a suspension device at the front end of the shovel, a moving device at the rear end of the shovel, a bearing-support carrying the shovel and the moving device, and means for suspending the bearing-support.

2. An automatically-operated shovel, comprising in combination the shovel proper, suspending-rods pivotally joined to the front end of the shovel, a crank-lever pivotally joined to the rear end of the shovel, means for operating the crank-lever, a bearing-support carrying the shovel, and means for suspending the bearing-support.



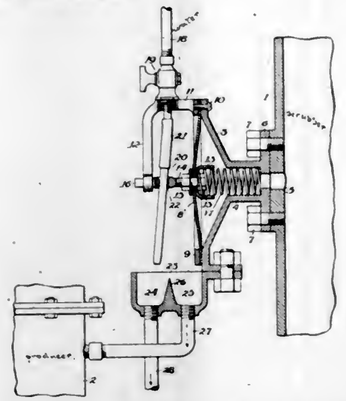
3. An automatically-operated shovel, comprising in combination the shovel proper, suspending-rods joined to the front end of the shovel, a crank-lever pivotally joined to the rear end of the shovel, means for operating the crank-lever, a bearing-support carrying the shovel, a traveler carrying the bearing-support, a taking-up receptacle and means for conveying the goods to be supplied from the shovel to said receptacle.

4. An automatically-operated shovel comprising in combination the shovel proper, suspending-rods at the front end of the shovel, a crank-lever at the rear end of the shovel, means for operating the crank-lever, a bearing-support carrying the shovel, a traveler carrying the bearing-support, a taking-up receptacle, a traveler from which the receptacle is suspended, a conveying sheet-iron pivotally connected with the rear end of the shovel and adapted to follow the motion of the shovel.

843,787. GAS-PRODUCER. CYRIL J. ATKINSON, Milwaukee, Wis., assignor to International Harvester Company, a Corporation of New Jersey. Filed Nov. 2, 1906. Serial No. 341,695.

Claim.—1. In a gas-producer of the type described, the combination of a vaporizer, a scrubber, means for supplying water to said vaporizer, said means comprising a feed-cup having two compartments open at their tops and separated by a dividing-wall, a pipe connection between one of said compartments and said vaporizer, and a waste-pipe connected with the other compartment, a pipe connected with a source of water-supply and having its delivery end adapted to swing from one compartment to the other of said cup in a manner to deliver water thereto, means for swinging the delivery end of said pipe, said means comprising a collapsible vacuum-chamber communicating with said scrubber and having a yielding wall connected with said swinging pipe.

2. In a gas-producer of the type described, the combination of a vaporizer, a scrubber, means for supplying water to said vaporizer, said means comprising a feed-cup, a dividing-wall across said cup forming two compartments open at their upper ends, a pipe connection between one of said compartments and said vaporizer, a waste-pipe connected with the other compartment, a pipe connected with a source of water-supply and having its delivery end adapted to swing from side to side of said dividing-wall in a manner to deliver water to either of said compartments, means for swinging said pipe from side to side of said wall, said means comprising a collapsible vacuum-chamber communicating with said scrubber and having a yielding wall connected with said swinging pipe.



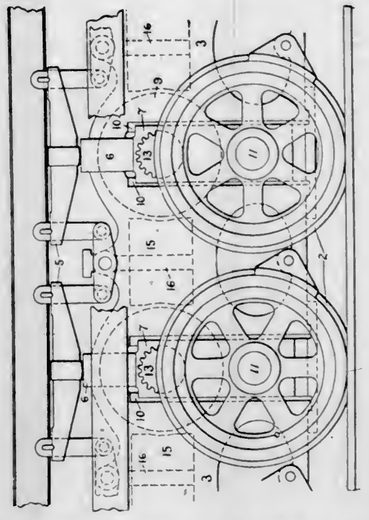
3. In a gas-producer of the type described, the combination of a vaporizer, a scrubber, means for supplying water to said vaporizer, said means comprising a feed-cup, a dividing-wall across said feed-cup forming two compartments open at their upper ends, a pipe connection between one of said compartments and said vaporizer, a waste-pipe connected with the other compartment, a flexible pipe connected with a source of water-supply and having its delivery end adapted to swing from side to side of said dividing-wall in a manner to deliver water to either of said compartments, means for swinging said flexible pipe from side to side of said wall, said means comprising a vacuum-chamber connected with said scrubber, said chamber comprising a yielding wall, a stem connected to said yielding wall and embracing said flexible pipe in a manner to cause the pipe to swing when the yielding wall is moved.

4. In a gas-producer of the type described, the combination of a vaporizer, a scrubber, means for supplying water to said vaporizer, said means comprising a saucer-shaped disk having a projecting central tubular portion provided with an external flange at its outer end, said flange being secured to said scrubber and said tubular portion communicating with the interior thereof, a flexible plate secured to the face of the disk, a laterally-projecting stem having its inner end secured to the central portion of said plate, a spring contained in said tubular portion and operative to press said plate outward, a flexible pipe connected with a source of water-supply and having its delivery end free to swing from side to side, a feed-cup communicating with said vaporizer and normally outside the flow of water from said flexible pipe, a connection between said pipe and stem whereby the latter will cause the pipe to swing in a manner to cause the water to flow into said cup when said plate is influenced by a partial vacuum caused by the exhaustion of gas from said scrubber.

843,788. ELECTRIC LOCOMOTIVE. ASA F. BATCHELDER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Dec. 11, 1905. Serial No. 291,195.

Claim.—1. In an electric locomotive, a driving-axle, a locomotive-frame, bearing members journaled on said axle and supporting said frame, a motor having an armature revolubly supported by said bearing members, and a driving connection between said armature and said axle.

2. In an electric locomotive, a driving-axle, a locomotive-frame, bearing members journaled upon said axle and supporting said frame, an electric motor having an armature journaled in said bearing members, and a driving connection between said armature and said axle.



3. In an electric locomotive, a driving-axle, a locomotive-frame, bearing members journaled on said axle and supporting said frame, a motor-armature supported by said bearing members in operative relation to the axle, pole-pieces carried by said frame, and a driving connection between said armature and said axle.

4. In an electric locomotive, a driving-axle, a locomotive-frame, members journaled on said axle and supporting said frame, an electric motor having an armature journaled in said members above and in alinement with said axle, and a driving connection between said armature and said axle.

5. In an electric locomotive, a driving-axle, a locomotive-frame, bearing members journaled at one end upon said axle and arranged to support said frame at the other end, an electric motor having an armature journaled in said bearing members at points intermediate the ends thereof, and a driving connection between said armature and said axle.

6. In an electric locomotive, a plurality of driving-axles, a locomotive-frame, bearing members on the several axles adapted to support said frame, motor-armatures journaled in said bearing members in operative relation to the axles, pole-pieces carried by said frame in operative relation to said armatures, and driving connections between the several armatures and axles.

7. In an electric locomotive, a locomotive-frame, a driving-axle provided with wheels at its opposite ends, bearing members journaled on said axle and adapted to support said frame, a motor having an armature journaled in said bearing members, and intermeshing gears located respectively on said wheels and on opposite ends of the shaft of said armature.

8. In an electric locomotive, a locomotive-frame, a driving-axle provided with wheels at its opposite ends, bearing members journaled on said axle and adapted to support said frame, a motor-armature having its shaft journaled in said bearing members, intermeshing gears located respectively on said wheels and on opposite ends of said armature-shaft, and pole-pieces carried by said frame in operative relation to said armature.

9. In an electric locomotive, a locomotive-frame, a driv-

ing-axle provided with wheels at its opposite ends, bearing members journaled on said axle intermediate said wheels and adapted to support said frame, a motor having an armature-shaft journaled in said bearing members, and intermeshing gears located respectively on said wheels and on opposite ends of the armature-shaft.

10. In an electric locomotive, a locomotive-frame, a driving-axle provided with wheels at its opposite ends, bearing members journaled at one end on said axle intermediate said wheels and supporting said frame at the other end, a motor having an armature-shaft journaled in said bearing members and in alinement with said axle, and intermeshing gears located respectively upon said wheels and upon opposite ends of the armature-shaft.

11. In an electric locomotive, a locomotive-frame, a driving-axle, bearing members journaled at one end upon said axle, yielding supports for said frame at opposite ends of said members, guides on said frame on opposite sides of said bearing members, a motor having its armature journaled in said members, and a driving connection between said armature and said axle.

12. In an electric locomotive, a locomotive-frame, driving-axles, bearing members journaled upon said driving-axles at their lower ends and adapted to support said frame at their other ends, motors having armatures revolubly supported by said bearing members, and driving connections between said armatures and said axles.

13. In an electric locomotive, a locomotive-frame, driving-axles, bearing members journaled at their lower ends upon said axles and arranged to yieldingly support said frame at their upper ends, motor-armatures supported in operative relation to the axles by said bearing members, pole-pieces carried by said frame in operative relation to the armatures, and driving connections between said armatures and said axles.

14. In an electric locomotive, a locomotive-frame, driving-axles, bearing members journaled at their lower ends upon said axles and arranged to yieldingly support said frame at their upper ends, motors having armatures supported in operative relation to the axles by said bearing members, driving connections between said armatures and said axles, and guides on said frame arranged to maintain said bearing members in vertical alinement.

843,789. MACHINE FOR MAKING SHELLS FOR ELECTRIC-LAMP SOCKETS. JACOB BECK, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Mar. 21, 1904. Serial No. 199,268.

Claim.—1. In a machine for making screw-shells, the combination of means for cutting the shells to desired lengths, means for screw-threading the side walls of the shells, and means for automatically positioning the shells with respect to said cutting and screw-threading means.

2. In a machine for making screw-shells, the combination of means for cutting the shells to desired lengths, means for screw-threading the side walls of the shells, means for punching holes in the shell ends, and means for automatically positioning the shells with respect to said operating means.

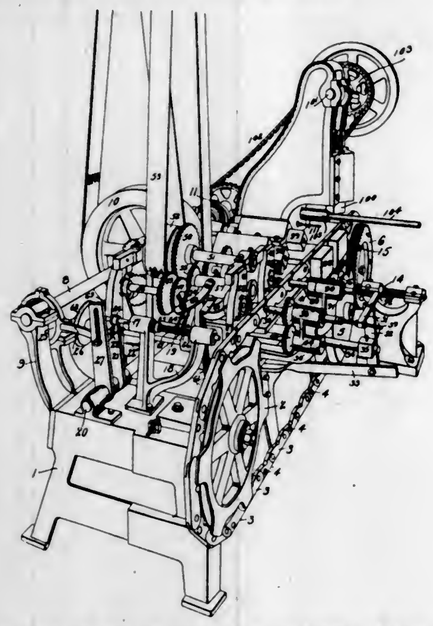
3. In a machine for making screw-shells, the combination of means for screw-threading the side walls of the shells, means for punching holes in the ends and side walls, and means for automatically positioning the shells with respect to said operating means.

4. In a machine for making screw-shells, the combination of means for cutting the shells to desired lengths, means for screw-threading the side walls, means for punching and countersinking holes in the end walls, means for removing portions of the side walls, and means for automatically positioning the shells with respect to said operating means.

5. In a machine for operating on cup-shaped blanks, an endless carrier for the blanks consisting of a chain having holes in its links to receive said blanks.

6. In a machine for operating on cup-shaped blanks, an endless carrier consisting of a chain having in some of its links holes extending transversely therethrough, of a size to receive and hold said blanks.

7. In a machine for operating on cup-shaped blanks, the combination with an endless carrier, of sprocket-wheels for supporting the same, a lock for holding said carrier stationary, means for intermittently actuating the carrier, and an unlocking device controlled by said means.



8. In a machine for operating on cup-shaped blanks, the combination with an endless carrier, of sprocket-wheels for supporting the same, a gear-wheel on the shaft of one sprocket, a lock for holding said gear-wheel stationary, a mutilated gear for intermittingly actuating said gear-wheel, and an unlocking device carried by said mutilated gear.

9. In a machine for operating on cup-shaped blanks, the combination with an endless carrier, of a gear-wheel for actuating the same provided with sockets, a spring-bolt arranged to engage therewith, a mutilated gear for driving said gear-wheel intermittingly, and a cam on said mutilated gear for withdrawing the bolt when the gear-wheel is to be driven.

10. In a machine for operating on cup-shaped blanks, the combination with a carrier provided with receptacles for said blanks, of a spring-retracted plunger working transverse to the path of said receptacles, and a rock-arm moving in the plane of said plunger and adapted to engage therewith during a portion of its movement.

11. In a machine for operating on cup-shaped blanks, the combination with a carrier provided with receptacles for said blanks, of a spring-retracted plunger, a rock-arm moving in the plane of the same, and a finger pivoted on the rock-arm to engage with said plunger.

12. In a machine for operating on cup-shaped blanks, the combination with a carrier provided with receptacles for said blanks, of a spring-retracted plunger, a rock-arm moving in the plane of the same, a finger pivoted on the rock-arm to engage with said plunger, and means for disengaging said finger at a predetermined point in its movement.

13. In a machine for operating on cup-shaped blanks, the combination with a carrier provided with receptacles for said blanks, of a spring-retracted plunger, a rock-arm moving in the plane of the same, a finger pivoted on the rock-arm to engage with said plunger, operative connections between a power-driven shaft of the machine and the rock-arm, and a fixed stop to trip said finger at a predetermined point.

14. In a machine for operating on cup-shaped blanks, the combination with a carrier having receptacles for said blanks, of a rotatable arbor, a rotary cutter coöperating therewith, and rotatable means for transferring a blank from a receptacle to the arbor and coöperating therewith to rotate the blank.

15. In a machine for operating on cup-shaped blanks, the combination with a carrier having receptacles for said blanks, of a rotatable arbor, a rotary cutter coöperating therewith, and rotatable means for transferring a blank from a receptacle to the arbor and for holding it thereon and rotating therewith while the cutter is operating.

16. In a machine for operating on cup-shaped blanks, the combination with a carrier having receptacles for said blanks, of a rotatable arbor, a rotary cutter coöperating therewith, rotatable means for transferring a blank from a receptacle to the arbor and coöperating therewith to rotate the blank, and means for returning the blank to the receptacle after the cutter has operated on it.

17. In a machine for operating on cup-shaped blanks, the combination with a power-driven shaft, of an arbor geared thereto, a rocking frame mounted on said shaft, an arbor journaled in said frame and geared to said shaft, a cam for rocking said frame to cause said arbors to approach each other, and a spring for separating said arbors after the cam has acted.

18. In a machine for operating on cup-shaped blanks, the combination with a power-driven shaft, of a tubular arbor geared thereto, a rocking frame carrying an arbor to coöperate with the tubular arbor, means for rocking said frame, means for supplying said tubular arbor with a cup-shaped blank, and an ejector-rod passing through said arbor.

19. In a machine for operating on cup-shaped blanks, the combination with a carrier having receptacles for said blanks, of a tubular arbor, a rotating and reciprocating plunger for transferring a blank from the carrier to the arbor and coöperating therewith to rotate the blank, and an ejector-rod in said arbor.

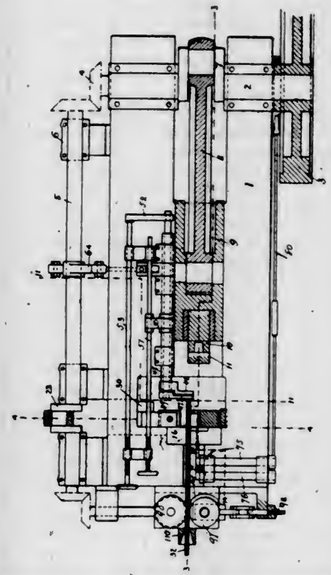
20. In a machine for operating on cup-shaped blanks, the combination with a carrier having receptacles for said blanks, of a tubular arbor, a rocking frame carrying an arbor to coöperate with the tubular arbor, means for rotating the arbors, means for rocking the frame, a reciprocating and rotating plunger for transferring a blank from the carrier to the tubular arbor, and an ejector-rod reciprocable in said arbor.

21. A machine for operating on cup-shaped blanks, comprising an endless carrier, a reciprocating plunger for feeding the blanks to said carrier, a rotating arbor, a trimming-cutter coöperating therewith, a rotatable plunger for transferring a blank from the carrier to said arbor, an ejector-rod for returning the trimmed blank to the carrier, a rotating screw-threaded arbor, a screw-threading roll coöperating therewith, a plunger for transferring a blank from the carrier to said arbor, and an ejector-rod for returning the threaded blank to the carrier.

22. A machine for operating on cup-shaped blanks, comprising an endless carrier, a reciprocating plunger for feeding the blanks to said carrier, a rotating arbor, a trimming-cutter coöperating therewith, a rotatable plunger for transferring a blank from the carrier to said arbor, an ejector-rod for returning the trimmed blank to the carrier, a rotating screw-threaded arbor, a screw-threading roll cooperating therewith, a plunger for transferring a blank from the carrier to said arbor, an ejector-rod for returning the threaded blank to the carrier, means for simultaneously operating said plungers, and means for simultaneously operating said ejector-rods.

843,790. UPSETTING-MACHINE. RUDOLPH G. BEKER, Pittsburg, Pa., assignor to Carl Schmidt, Cleveland, Ohio. Filed June 6, 1904. Serial No. 211,315.

Claim.—1. In a metal-upsetting machine, the combination with shearing and gripping dies and an upsetting-punch, of a pair of positively-driven feed-rollers mounted on vertical shafts, a rocker bearing at the lower end of one of said shafts, toggle-links connected to the upper end of said shaft, means tending to hold said toggle-links straight to keep the rollers in contact, and means for flexing said links.



2. In a metal-upsetting machine, the combination with shearing and gripping dies and an upsetting-punch, of a pair of positively-driven feed-rollers mounted on vertical shafts, a rocker bearing at the lower end of one of said shafts, toggle-links connected to the upper end of said shaft, a spring connected to said links and tending to hold them straight, and a lever for flexing said links.

3. Feeding mechanism for upsetting and like machines comprising a pair of positively-driven rollers, movable bearings for one of said rollers, a cam extending partly around one of said rollers and arranged to engage the other roller to separate the same, and means for holding said rollers normally in contact.

4. Feeding mechanism for upsetting and like machines, comprising a pair of positively-driven rollers, movable bearings for one of said rollers, a cam extending partly around one of said rollers and arranged to engage the other roller to separate the same, and a spring for normally holding said rollers in contact.

5. Feeding mechanism for upsetting and like machines comprising a pair of positively-driven rollers, movable bearings for one of said rollers, toggle-links connected to said bearings, a spring connected to said toggle-links and tending to hold the same straightened, and a cam extending partly around one of said rollers and arranged to engage the other roller to separate the same.

6. Feeding mechanism for upsetting and like machines comprising a pair of positively-driven rollers, a movable bearing for one of said rollers, toggle-links having one end connected to said movable bearing and their opposite end connected to an adjustable support, means tending to normally straighten said links and thereby to hold the rollers in contact, and a lever for flexing said links.

7. Feeding mechanism for upsetting and like machines comprising a pair of rollers, and means for driving said rollers, one of said rollers being provided with a pair of feeding-grooves and the other with plain feeding-faces and one of said rollers being so mounted as to oscillate about a point intermediate its ends to vary its axial position with reference to the other roller.

8. Feeding mechanism for upsetting and similar ma-

chines comprising a pair of rollers one of which is provided with a pair of feeding-grooves and the other with plain feeding-faces, driven shafts on which said rollers are mounted, said shafts being movable toward and from one another, one of said rollers having an enlarged bore, and an annular projection on the shaft bearing against the roller-bore at one point only whereby the axial position of the roller with reference to the other roller can be varied.

9. Feeding mechanism for upsetting and similar machines comprising a pair of rollers one of which is provided with a pair of feeding-grooves and the other with plain feeding-faces, and driven shafts on which said rollers are mounted, said shafts being movable toward and from one another and one of said shafts being provided with a double conical portion whereby it bears against the roller-bore at its central portion only.

10. In a metal-upsetting machine, the combination with an upsetting-punch, of a stationary shearing and gripping die, a movable shearing and gripping die, a rocker-arm on which the latter is mounted, mechanism for rocking said arm, and a chute secured to said rocker-arm and in position to receive the upset articles and deliver the same from the machine.

11. In a metal-upsetting machine, the combination with stationary and movable shearing and gripping dies each having a plurality of gripping-recesses, means for opening and closing said dies, a reciprocating head, a plurality of upsetting-punches carried thereby, two stop-gages movable as an integer into and out of the path of the punches but being independently adjustable toward and from the dies, mechanism for simultaneously moving said gages into and out of the path of the punches, two independent adjusting means, one for each gage, and independent connections from the outside of the machine to each of said adjusting means for imparting movement thereto.

12. In a metal-upsetting machine, the combination with stationary and movable shearing and gripping dies having a plurality of gripping-recesses, means for opening and closing said dies, a reciprocating head, a plurality of upsetting-punches carried thereby, two stop-gages movable as an integer into and out of the path of said punches but being independently adjustable toward and from the dies, two independent adjusting means, one for each gage, and two actuating devices, one connected to each adjusting means and being so mounted as not to partake of the movement of said gages, whereby the gages can be adjusted independently and without stopping the machine.

13. In a metal-upsetting machine, the combination with stationary and movable shearing and gripping dies having a plurality of gripping-recesses, means for opening and closing said dies, a reciprocating head, a plurality of upsetting-punches carried thereby, a plurality of stop-gages mounted concentrically and angularly movable, independent mechanism for adjusting said gages toward and from the dies, and mechanism for simultaneously moving said gages angularly.

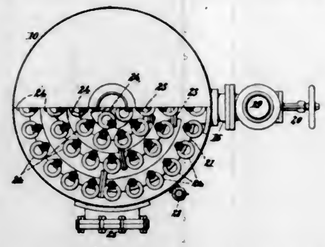
14. In an upsetting-machine, the combination of shearing and gripping dies having a plurality of gripping recesses, means for opening and closing said dies, a reciprocating head carrying a plurality of upsetting-punches, a plurality of stop-gages, a rocking bar on which one of said gages is mounted, a sleeve encircling said bar and on which the other gage is mounted, and independent means for adjusting said sleeve and bar longitudinally.

15. In an upsetting-machine, the combination of a pair of shearing and gripping dies provided with a plurality of gripping-recesses, means for opening and closing said dies, a reciprocating head carrying a plurality of upsetting-punches, a sleeve and a bar passing through the same arranged to have independent longitudinal movement and simultaneous rotary movement, independent means for adjusting the same longitudinally, means for rocking the same, and a stop-gage carried by each of said bar and sleeve.

16. In an upsetting-machine, the combination with the plurality of shearing and gripping dies and upsetting-punches arranged to operate simultaneously on a plurality of articles, mechanism for actuating the same, a pair of ejectors, a pair of rock-shafts, arms on said shafts of different lengths and connected to said ejectors, actuating arms or cranks on said shafts, and a link connecting said actuating-arms and attached thereto at distances from the centers of the rock-shaft proportional to the length of the arms carrying the ejectors.

17. In a metal-upsetting machine, the combination with the shearing and gripping dies, of feed-rollers, and a guide between said rollers and dies, said guide comprising a series of funnels placed in line with each other, whereby scale and the like can escape.

843,791. FEED-WATER HEATER. MARK K. BOWMAN, Montclair, N. J., assignor to The James Reilly Repair and Supply Company, Jersey City, N. J., a Corporation of New Jersey. Filed Aug. 6, 1906. Serial No. 329,335.



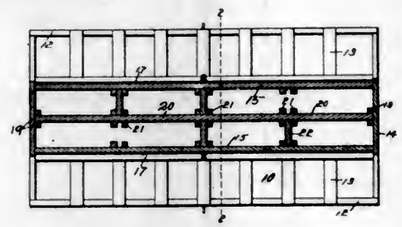
Claim.—1. A feed-water heater comprising a shell having pipe connections for admitting steam thereto and an outlet, lower and upper manifolds within said shell and each composed of a series of concentric hollow communicating rings, and several series of pipe-coils connecting the rings of the lower manifold with those of the upper manifold, combined with a supply-pipe for feed-water leading to one of said manifolds, and a delivery-pipe for the heated feed-water leading from the other manifold; substantially as set forth.

2. A feed-water heater comprising a shell having pipe connections for admitting steam thereto and an outlet, a safety-valve for said shell, a vacuum-breaker for the heater, lower and upper manifolds within said shell and each composed of a series of concentric hollow communicating rings, and several series of pipe-coils connecting the rings of the lower manifold with those of the upper manifold, combined with a supply-pipe for feed-water leading to one of said manifolds, and a delivery-pipe for the heated feed-water leading from the other manifold; substantially as set forth.

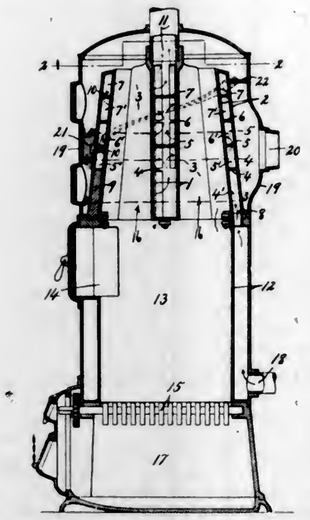
3. A feed-water heater comprising a shell having pipe connections for admitting steam thereto and an outlet, lower and upper manifolds within said shell and each composed of a series of concentric hollow communicating rings, and several series of pipe-coils connecting the rings of the lower manifold with those of the upper manifold, combined with a supply-pipe for the feed-water leading to one of said manifolds, a delivery-pipe for the heated feed-water leading from the other manifold, valves for said supply and delivery pipes, a by-pass connecting said pipes, and a valve for said by-pass; substantially as set forth.

843,792. STOCK-FEEDING TROUGH. SAMUEL N. BOYD, Russell, Iowa. Filed Feb. 12, 1906. Serial No. 300,783.

Claim.—An improved feeding-trough, comprising a base with an arched central portion, uprights at the sides of the base, upright longitudinal hopper sides supported above the arched center of the base and with their lower edges spaced apart therefrom, end pieces for the hopper and trough, a cover for the top of the hopper, slats extending upwardly and inwardly from the trough sides to the hopper sides, hinged covers at the sides of the hopper to overlap the said slats, a pair of strips on each end piece and a detachable longitudinal partition to enter between said pairs of strips and to rest upon the arched bottom, a number of pairs of strips on the sides of the central detachable partition and on the inner faces of the hopper sides and transverse partitions to be detachably inserted between said pairs of strips.



843,793. HOT-WATER HEATER. ROYAL H. BRADLEY, Syracuse, N. Y., assignor to Kelsey Heating Company, Syracuse, N. Y., a Corporation of New York. Filed Dec. 29, 1905. Serial No. 293,793.



Claim.—1. In a hot-water heater, the combination with a combustion-chamber, of a water-dome above the combustion-chamber and comprising a central water-tube, a water-ring surounding the tube, radial water-legs extending from top to bottom of the ring and connecting the tube with the ring, said legs being spaced apart forming intervening fire-passages extending from the bottom to the top of the dome.

2. In a hot-water heater, the combination with a combustion-chamber, of a hollow dome comprising a central water-tube, a water-ring surrounding the tube and spaced apart therefrom and radial water-legs connecting the tube with the ring and a series of horizontal partitions dividing the interior of the tube, ring and radial legs into horizontal compartments, the lower compartment having an inlet opening into the ring and the upper compartment having an outlet opening from the upper end of the central tube.

3. In a hot-water heater, the combination with a combustion-chamber, of a water-dome comprising a central water-tube, a concentric water-ring surrounding said tube and spaced apart therefrom, and radial water-legs connecting the ring and tube and spaced apart forming intervening fire-passages between the tube and ring, the upper end of the ring being of less interior diameter than the lower end, the ring having an inlet in its base, and the central tube having an outlet in its top, said water-legs being divided into compartments one above the other, each compartment communicating with the water-ring.

4. In combination with a combustion-chamber, a water-dome comprising a central tube, a water-ring surrounding the tube and communicating therewith, but spaced apart therefrom forming upright fire-flues between the tube and ring and converging toward their upper ends, the ring having an inlet in its base and the tube having an outlet in its top, said ring and tube being provided with horizontal partitions dividing their interiors into compartments, one above the other.

5. In a hot-water heater, the combination with a combustion-chamber, of a water-dome comprising a central water-tube, a water-ring surrounding the tube and spaced apart therefrom, radial water-legs connecting the tube with the ring and spaced apart forming intervening fire-passages, a jacket surrounding the dome and provided with a smoke-outlet below the upper ends of the fire-passages, and a baffle-plate between the dome and jacket having a portion thereof movable and located above the smoke-outlet, the opposite sides of said baffle-plate extending forwardly and downwardly from opposite ends of the damper-section and terminating some distance apart at the front of the dome.

6. In a hot-water heater, a hollow dome comprising a water-ring forming corrugated sides in combination with a central water-tube and radial water-legs connecting the tube with the ring.

7. In a hot-water heater, a hollow dome comprising an upwardly-tapering water-ring having corrugated sides, a central upright water-tube and radial water-legs connecting the tube with the ring.

8. In a hot-water heater, a dome comprising a hollow water-ring of less diameter at the top than at the base, a central water-tube and radial water-legs connecting the tube with the ring and having corrugated sides, said radial water-legs being spaced apart forming intervening vertical fire-passages.

9. In a hot-water heater, a dome comprising a hollow water-ring having an inlet in its base, a central tube and radial water-legs connecting the tube with the ring, said tube having an outlet in its top and divided into a series of compartments, one above the other, each compartment communicating through the water-legs with the ring.

10. In a hot-water heater, a dome comprising a hollow water-ring tapering upwardly from its base and having an inlet near the bottom, a central water-tube and radial water-legs connecting the tube with the ring, said tube having an outlet in its top, the ring and tube being spaced apart forming intervening fire-passages between the radial water-legs.

11. In a hot-water heater, a dome comprising an upwardly-tapering hollow water-ring having corrugated sides and an inlet in its base, the central water-tube having an outlet in its top, and corrugated radial water-legs connecting the tube and ring, and spaced apart forming intervening fire-passages.

12. In a hot-water heater, a dome comprising a forwardly-tapering hollow water-ring having an opening in its base, a central water-tube having an outlet in its top, radial water-legs connecting the top and ring and spaced apart forming intervening fire-passages and horizontal projections in the water-chambers of the ring, water-legs and tube dividing the water-space into a series of compartments one above the other.

13. In a hot-water heater, a dome comprising an upwardly-tapering water-ring having corrugated sides and an inlet in its base, a central water-tube having an outlet in its top and corrugated radial water-legs connecting the tube with the ring and spaced apart forming intervening fire-passages between the tube and ring, and water-legs having a series of horizontal partitions dividing the water-space into compartments one above the other.

843,794. SKIRT-HANGER. MARION H. CAZIER, Chicago, Ill. Filed Dec. 7, 1903. Serial No. 184,016.

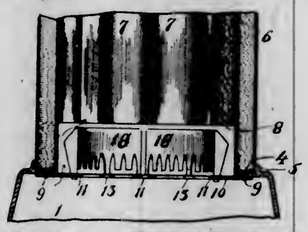
Claim.—1. In a skirt-hanger, a spreader comprising a central depending loop, arms springing from said loop, and a wire suspending-hook attached to said arms at their point of crossing so as to secure them rigidly together.

2. In a skirt-hanger, a spreader comprising a central depending loop, arms springing from said loop, a garment-supporting clip and a suspending-hook of wire



adapted to secure the arms rigidly together and to secure the clip to said loop.

843,795. FIRE-POT. ALFRED G. CRIPPS, Akron, Ohio, assignor to The Prudential Heating Company, Akron, Ohio, a Corporation of Ohio. Filed Oct. 20, 1906. Serial No. 339,809.



Claim.—1. The combination in a device of the class described, of an ash-pit provided with an opening in the top thereof for establishing communication with the fire-pot of the device, a seat surrounding said opening, a boiler or furnace section mounted on said seat provided with inwardly-projecting and upwardly-extending ribs terminating at a point removed from the bottom of said section thereby forming an enlarged chamber below said ribbed portion, lugs supported by said ash-pit projecting into the opening therein provided with perforations, segmental fire-pot sections each arranged to be mounted on adjoining lugs and extend therebetween and be substantially positioned within said enlarged chamber.

2. The combination in a device of the class described, of an ash-pit provided with an opening in the top thereof for establishing communication with the fire-pot of the device, a seat surrounding said opening, a boiler or furnace section mounted on said seat, a plurality of lugs each provided with a plurality of perforations supported by said ash-pit and projecting into the opening thereof, and a plurality of segmental fire-pot sections each of which is provided with a plurality of downwardly-extending pins arranged to enter said perforations whereby said sections may be positioned about the interior of said fire-pot.

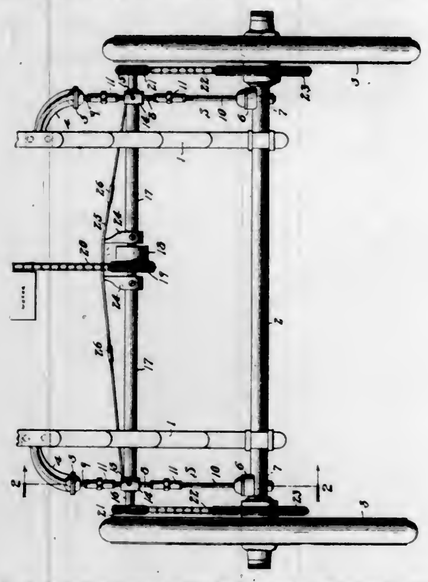
843,796. AUTOMOBILE-GEARING. DARWIN D. CULVER, Aurora, Ill. Filed Mar. 16, 1906. Serial No. 306,433.

Claim.—1. In a motor-vehicle, the combination of an axle, a body-supporting spring mounted thereon, a stay member connected at its ends with the spring and axle respectively, and a bearing for a counter-shaft carried by the said member.

2. In a motor-vehicle, an axle and springs supported thereby, stay-rods between said springs and axle, boxes supported by the stay-rods, a driven counter-shaft supported for rotation in said boxes, and means for transmitting motion from said counter-shaft to wheels upon the axle.

3. In a motor-vehicle, an axle and springs supported thereby, brackets upon the springs, stay-rods provided with terminal balls having bearings in sockets upon the brackets and the axle, a driven counter-shaft supported for rotation in bearings upon the stay-rods, and means for transmitting motion from the counter-shaft to wheels upon the axle.

4. A wheel-carrying axle and springs terminally supported thereby, in combination with extensible and collapsible stay-rods interposed between the axle and the springs, a driven counter-shaft journaled in bearings upon the stay-rods, and means for transmitting motion from the counter-shaft to the wheels upon the axle.



5. A wheel-carrying axle and springs terminally supported thereby, in combination with extensible and collapsible stay-rods interposed between the axle and the springs and having terminal ball-and-socket joints, a driven counter-shaft journaled in bearings upon the stay-rods, and means for transmitting motion from the counter-shaft to the wheels upon the axle.

6. A wheel-carrying axle, springs terminally supported thereby, brackets upon the springs, stay-rods including middle members and front and rear end members connected extensively and collapsibly with said middle members, terminal balls upon the front and rear end members of the stay-rods, sockets for said balls upon the brackets and the axle, a driven counter-shaft supported for rotation by the middle members of the stay-rods, and means for transmitting motion from the counter-shaft to the wheels upon the axle.

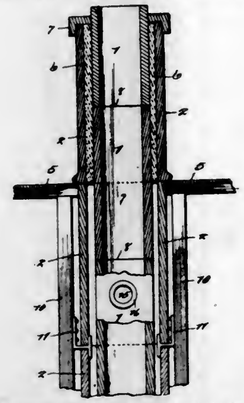
7. In a motor-vehicle, a resiliently-supported driven counter-shaft for transmitting motion between the motor and the drivers, housing-sleeves for said shaft having struts, and a truss engaging said struts and having tightening means.

8. In a motor-vehicle, an axle, springs supported thereby, brackets upon the springs, stay-rods having ball-bearings upon the brackets and the axle, a driven counter-shaft supported for rotation by the stay members, housing-sleeves for said shafts having struts, a truss engaging said struts and having tightening means, and means for transmitting motion from the counter-shaft to the wheels upon the axle.

843,797. FIREPROOF CHIMNEY. JOSEPH DAUBEN and FRANK M. RYAN, Columbus, Ohio. Filed Dec. 2, 1905. Serial No. 290,038.

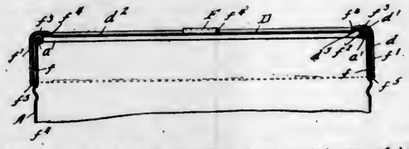
Claim.—A fireproof chimney comprising inner and outer fire-clay flues each formed of sections and the joints of the outer flue-sections alternating with those of the inner flue-sections, the inner sections being formed with integral vertical ribs engaging the inner faces of and lapping the joints of the outer sections thereby spacing apart the

inner and outer flue-sections to form an air-space therebetween, the upper edges of some of the outer flue-sections being formed with notches, headed stays seated in said notches with their heads in said air-space and their opposite ends suitably anchored, the inner and outer flue-sections being formed with registering openings, the inner flue-



section being formed with an integral boss encircling the opening therein and engaging the inner face of the outer flue-section about its opening to establish communication between the openings, and said space between the inner and outer flues being completely filled above the roof-line with cement forming a substantial integral mass.

843,798. SHEET-METAL SLIP-COVER CAN FOR LARD AND OTHER MATERIALS. JOSEPH DISTER, Hamilton, Ohio, assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Nov. 9, 1905. Serial No. 286,504.



Claim.—1. In a lard or other sheet-metal can of large size, the combination with the can-body provided at its upper end with an annular rim or shoulder on the inside thereof, of a slip-cover therefor having a depending flange and provided with a raised rim or bead on its top at the periphery thereof, of a plurality of sheet-metal slip-cover holders, having inner and outer members fitting astride the flange of the cover, said inner member being provided with a flange engaging and secured to an annular shoulder on the can-body, and said outer member thereof having a hook or flange engaging said rim or head on the top of the cover, substantially as specified.

2. In a lard or other sheet-metal can of large diameter, the combination with the can-body provided at its upper end with an annular rim or shoulder on the inside thereof, of a slip-cover therefor having a depending flange and provided with a raised rim or bead on its top at the periphery thereof, of a plurality of sheet-metal slip-cover holders, having inner and outer members fitting astride the flange of the cover, said inner member being provided with a flange engaging and secured to an annular shoulder on the can-body, and said outer member thereof having a hook or flange engaging said rim or bead on the top of the cover, said hook or flange on said outer member having a terminal depending flange, substantially as specified.

3. The combination with a can-body and flanged cover, of a holder having two members fitting astride the flange of the cover, the inner member having a flange engaging and secured to the can-body, and the outer member having a flange engaging the rim of the cover, substantially as specified.

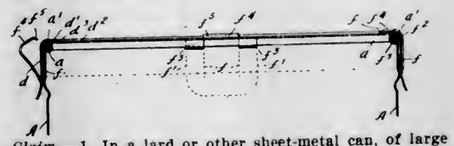
4. The combination with a can-body having a shoulder at its upper end, of a cover having a raised rim or bead, and a holder having two members fitting astride the flange of the cover, the inner member having a flange embracing said shoulder on the can-body and the outer member having a hook or flange engaging the rim of the cover, substantially as specified.

5. The combination with a can-body having a shoulder at its upper end, of a cover having a raised rim or bead, and a holder having two members fitting astride the flange of the cover, the inner member having a flange embracing said shoulder on the can-body and the outer member having a hook or flange engaging the rim of the cover, said hook or flange on said outer member being provided with a depending terminal flange, substantially as specified.

6. A sheet-metal slip-cover holder for cans, comprising two members adapted to fit astride the flange of the cover, one provided with means for engaging the can-body and the other provided with means for engaging the cover, said cover-engaging member being resilient or bendable to permit engagement and disengagement of the cover, substantially as specified.

7. A sheet-metal spring-acting holder for covers for cans, consisting of a piece of sheet metal F having a fold f^5 thereon forming two members f and f', adapted to fit astride the flange of the can-cover, said member f having an inwardly-extending curved flange f^2 at its upper end, and said member f' having an inwardly-extending flange f^3 furnished with a depending flange f^4 at its extremity, substantially as specified.

843,799. SHEET-METAL SLIP-COVER CAN FOR LARD AND OTHER ARTICLES. JOSEPH DISTER, Hamilton, Ohio, assignor to American Can Company, New York, N. Y., a Corporation of New Jersey. Filed Mar. 31, 1906. Serial No. 309,050.



Claim.—1. In a lard or other sheet-metal can, of large size, the combination with the can-body, provided at its upper end with an annular rim or shoulder on the inside thereof, of a slip-cover therefor having a depending flange and provided with a raised rim or bead on its top at the periphery thereof, of a plurality of single-piece slitted sheet-metal slip-cover holders, each having inner and outer members fitting astride the flanges of the cover and separated from each other by a slit in the single piece of sheet metal of which the holder is formed, the inner member being provided with a flange engaging and secured to the annular shoulder on the can-body, and the outer member having a hook or flange engaging said rim or bead on the top of the cover, substantially as specified.

2. In a lard or other sheet-metal can of large size, the combination with the can-body, provided at its upper end with an annular rim or shoulder on the inside thereof, of a slip-cover therefor having a depending flange and provided with a raised rim or bead on its top at the periphery thereof, of a plurality of single-piece slitted sheet-metal slip-cover holders, each having inner and outer members fitting astride the flanges of the cover and separated from each other by a slit in the single piece of sheet metal of which the holder is formed, the inner member being provided with a flange engaging and secured to the annular shoulder on the can-body, and the outer member having a hook or flange engaging said rim or bead on the top of the cover, said hook or flange on the outer member having a terminal depending flange, substantially as specified.

3. The combination with a can-body and flanged cover,

of a single-piece sheet-metal holder for the cover having two members fitting astride the flange of the cover and separated from each other by a slit in the single piece of sheet metal of which the holder is formed, the inner member having a flange engaging and secured to the can-body, and an outer member having a flange engaging the rim of the cover, substantially as specified.

4. The combination with a can-body and flanged cover, of a single-piece slitted sheet-metal holder having a central member and two side members separated from each other by slits and provided with flanges for engaging and embracing the can body and cover, substantially as specified.

5. The combination with a can-body having a shoulder at its upper end, of a flanged cover having a raised rim or bead at its top and a single-piece slitted sheet-metal holder having two members fitting astride the flange of the cover and separated from each other by a slit extending the depth of the cover-flange, the inner member having a flange embracing said shoulder on the can-body and the outer member having a hook or flange engaging the rim of the cover, substantially as specified.

6. The combination with a can-body having a shoulder at its upper end, of a flanged cover having a raised rim or bead at its top and a single-piece slitted sheet-metal holder having two members fitting astride the flange of the cover and separated from each other by a slit extending the depth of the cover-flange, the inner member having a flange embracing said shoulder on the can-body and the outer member having a hook or flange engaging the rim of the cover, said hook or flange on said outer member being provided with a depending terminal flange, substantially as specified.

7. A single-piece slitted sheet-metal slip-cover holder for cans, comprising members adapted to fit astride the flange of the cover and divided from each other by a slit extending the depth of the cover-flange, one provided with means for engaging the can-body and the other provided with means for engaging the cover, substantially as specified.

8. A single-piece slitted sheet-metal slip-cover holder for cans, comprising members adapted to fit astride the flange of the cover and divided from each other by a slit extending the depth of the cover-flange, one provided with means for engaging the can-body and the other provided with means for engaging the cover, said member engaging the cover being resilient or bendable to permit its engagement and disengagement with the cover, substantially as specified.

9. A single-piece slitted sheet-metal slip-cover holder for cans, comprising a plurality of inner members and an outer member adapted to fit astride the flange of the cover and divided from each other by slits extending the depth of the cover-flange, the inner members being provided with means for engaging the can-body and the outer member provided with means for engaging the cover, substantially as specified.

10. A single-piece slitted sheet-metal slip-cover holder for cans, comprising a plurality of inner members and an outer member adapted to fit astride the flange of the cover and divided from each other by slits extending the depth of the cover-flange, the inner members being provided with means for engaging the can-body and the outer member provided with means for engaging the cover, said cover-engaging member being resilient or bendable to permit its engagement and disengagement with the cover, substantially as specified.

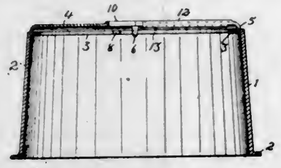
843,800. POST-HOLE DIGGER. JOSEPH S. DURNING, Avalon, Pa., assignor to Jacob O. Bower, Avalon, Pa. Filed Apr. 25, 1906. Serial No. 313,550.

Claim.—1. A post-hole-digger blank having a plurality of series of teeth, the teeth being separated from each other by narrow vertical slots and the series being separated from each other by greater intervals.

2. In a post-hole digger having a cylindrical bucket formed of a single piece of metal, and having a plurality of series of teeth, each series being composed of a cutting-tooth and a lifting-tooth, the series being separated from each other by an interval.



843,801. CISTERN-COVER. GEORGE ERTEL, Fort Wayne, Ind. Filed May 19, 1906. Serial No. 317,841.



Claim.—1. In a cistern-cover, a beveled tapering metal neck having a vertically-slotted flange on its upper end; a cap having upon its lower face pendent lugs adapted to engage the said flange, and provided with a radial opening whose inner end terminate in right-angular sides; an adjustable slide or cover for the said opening whose inner end has angular sides to coöperate with the said angular sides to form a rectangular vertical central opening, and provided with means for rigidly securing the said slide in position.

2. In a cistern-cover, the combination of an open-ended metal neck; a circular cap having a radial opening and means for interlocking the same with the said neck; and an adjustable slide or cover for the said opening adapted to form a central angular opening, and provided with means for rigidly securing the same in position.

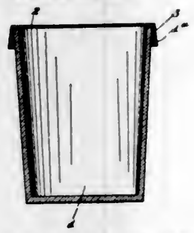
3. In a cistern-cover a circular cap having a radial slot or opening, and provided with means for securing the same in position; an adjustable slide or cover for the said opening; and means for rigidly securing the said slide in position.

4. In a cistern-cover a circular cap having a radial slot whose inner end terminates in angular sides, and opposite obtuse angles; an adjustable slide or cover for the said slot whose inner end is provided with angular sides for the purpose described; and means for rigidly securing the said slide in position.

843,802. CLOSING DEVICE FOR VESSELS. WILLIAM B. FENN, Columbus, Ohio. Filed Mar. 31, 1906. Serial No. 309,030.

Claim.—1. The combination with a vessel having an external shoulder, of a flanged cover for said vessel, and a sealing-ring between the cover and vessel, said sealing-ring adapted to engage said shoulder and extend over the rim of the jar.

2. The combination with a vessel having its upper end tapered inwardly and formed with a corner at its upper edge and with a shoulder below the tapered portion, of a flanged cover flared to conform to the taper of the upper end of said vessel, and a sealing-ring between said upper end and the cover, the said ring being adapted to engage said shoulder and the said corner.



3. The combination with a vessel having its upper end tapered inwardly and formed with a corner at its upper edge and with a shoulder below the tapered portion, of a flanged cover, and a sealing-ring between the tapered end of the vessel and the cover, the said ring being adapted to engage said shoulder and the said corner.

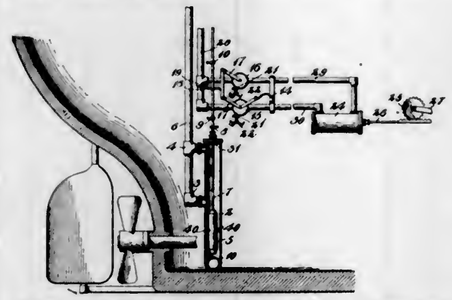
4. The combination with a vessel having a tapering upper end, of a flanged cover for said vessel, and a sealing-ring between the jar and cover adapted to be pressed over the upper edge of the jar and between the tapering portion thereof and the flange of the cover, substantially as described.

5. A cover for a preserving vessel having a flange to receive a sealing-ring, said flange provided with external projections.

6. A cover for a preserving vessel having a flange to receive a sealing-ring, said flange provided with internal projections.

7. A cover for a preserving vessel having a flange to receive a sealing-ring, said flange provided with internal and external projections.

843,803. MARINE-ENGINE GOVERNOR. SIMON A. FRASER and JOHN M. NICHOLS, Lorain, Ohio, assignors of one-third to John J. Kelley, Lorain, Ohio. Filed Mar. 5, 1906. Serial No. 304,294.



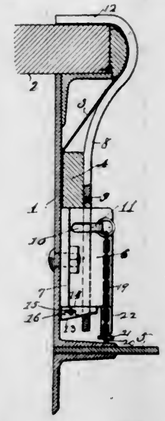
Claim.—1. In a marine-engine governor, the combination of a stand-pipe open at the bottom, an air-pipe having upper and lower connections thereto, a float in the stand-pipe, movable above and below the said lower connection, the upper connection being above the upper limit of movement of the float, and means actuated by the float to control the throttle.

2. In a marine-engine governor, the combination of a stand-pipe open to the water at the lower end, an air-pipe of greater height having one connection with the stand-pipe at its upper end and another connection with the same near its lower end, a float in the stand-pipe normally located above said lower connection, which connection is adapted to discharge water from the air-pipe into the stand-pipe below the float when the water lowers therein, and means actuated by the float to control the throttle.

3. In a marine-engine governor, the combination with a stand-pipe having an opening through the hull at its lower end, a float therein, a rod extending above the top of the pipe and carrying adjustable tappets, a steam-cylinder having a piston therein and connections to control the throttle, pipes leading to the cylinder, and valves in said pipes controlling the inlet to and exhaust from the cylinder, said valves being connected together for simultaneous operation and having an operating-arm in position to be struck by the tappets.

4. In a marine-engine governor, in combination, a stand-pipe having therein a float and a rod connected to the float and extending above the tap of the pipe, tappets adjustable on the rod, means actuated by the contact of the tappets to control the throttle, and an adjustable stop on the rod, arranged to limit the drop of the float.

843,804. HATCH-FASTENER. ERNEST H. FREY, Glenville, Ohio. Filed May 11, 1903. Serial No. 156,580.



Claim.—1. The combination with the coaming of a hatchway and a cover therefor, of a bracket secured to the coaming provided with a transverse slot, a clamp passing over the cover at its outer edge, provided with a vertically-elongated slot through which the bracket passes, a wedge in said slot between the clamp and outer portion of the bracket and a wedge between the bottom of the bracket and lower edge of the vertical slot in the clamp, substantially as described.

2. The combination with the coaming and cover therefor of a hatchway, of a bracket secured to the coaming provided with a transverse slot, a clamp provided with an upper portion adapted to overlap and engage the cover, and a vertical portion vertically slotted, through which the bracket extends, a wedge in the transverse slot in the bracket between the clamp and the outer portion of the bracket, a wedge passing through the lower end of the vertical slot in the clamp engaging the bottom of the bracket, and means for adjustably fixing the wedge in its position, substantially as described.

3. The combination with the coaming of a hatchway, the cover, tarpaulin and batten, of a bracket secured to the coaming, a clamp having a horizontal upper portion adapted to extend over the cover and top of the tarpaulin and a lower vertical portion engaging the bottom provided with an elongated slot through which the bracket extends, a wedge engaging the bottom of the bracket inserted in the lower end of the vertical slot in the clamp, the engaging edges of the wedge and bracket being fluted, and a downwardly-turned arm upon the bracket upon which the clamp pivots when detached from engagement with the cover, substantially as described.

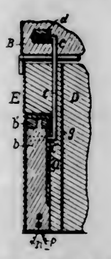
4. The combination with the coaming of a hatchway, the cover, the tarpaulin, and the batten, of a bracket secured to the coaming and provided with a transverse slot, and a

fluted lower surface, of a clamp passing over the outer edge of the cover and engaging the batten and provided with a vertically-elongated slot through which the bracket passes, an upper wedge in the transverse slot in the bracket between the clamp and outer portion of the bracket, a lower wedge in the lower end of the vertical slot in the clamp adjustably fixed in engagement with the bracket, an arm on the bracket upon which the clamp is adapted to pivot when released from the cover, a washer on the outer end of said arm, and a chain connecting the said upper wedge and arm, substantially as described.

5. The combination with the coaming of a hatchway and a cover therefor, of a bracket secured to the coaming, a clamp with a vertical portion vertically slotted through which the bracket extends, and provided with an upper portion adapted to overlap and engage the cover, a wedge in the transverse slot in the bracket between the clamp and the outer portion of the bracket, and means for continuously drawing down the clamp to engage the cover, acting simultaneously with the action of the wedge in the transverse slot in the bracket, substantially as described.

6. The combination with the coaming of a hatchway, and a cover therefor, of a bracket secured to the coaming provided with a transverse slot, a clamp provided with an upper portion adapted to overlap and engage the cover, and a vertical lower portion provided with a vertical slot through which the bracket extends, a wedge in the transverse slot in the bracket between the clamp and the outer edge of the bracket, means for forcing down the clamp upon the cover simultaneously with the movement of the wedge to force in the clamp against the batten, and means for securing the clamp movably to the bracket, substantially as described.

843,805. RESIDENCE MAIL-BOX. WILLIAM H. GRANGER, Oklahoma, Okla., assignor of one-half to H. F. Stone, Oklahoma, Okla. Filed Feb. 26, 1906. Serial No. 302,899.

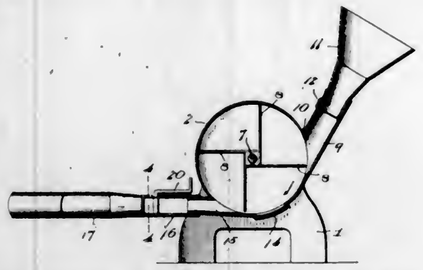


Claim.—In combination with a mail-box; the annunciating device consisting of the vertical post *a*, secured within the box A, and within a housing or casement, the said post having upon its face one or more swells or elevations *e*, its back having two longitudinal grooves with insulated wires *p* and *n*, embedded therein, their upper ends being secured to the screws *a'*, which penetrate said post from the rear having their points project beyond the post's face adapted to engage the copper *b'* secured to the upper end of the vertical spring *b* secured to the lower end of said post in a manner to leave an open space, indefinite and irregular, between the post and spring, the said open space being adapted to the vertical movement of the arm *c'* of the rod *c*, having its upper end secured to and operated by the box-lid B, the said device being properly connected by wires *p* and *n*, to the battery G, and the bell H, for the purposes set forth.

843,806. PNEUMATIC CONVEYER. CLARENCE L. GROVES, Hartford City, Ind., assignor, by direct and mesne assignments, of one-half to George R. Meyers and one-half to T. J. D. Larmoyeux, Hartford City, Ind. Filed Apr. 27, 1906. Serial No. 314,028.

Claim.—1. A pneumatic conveyer having a fan, a fan-chamber, a tangential feed-pipe, an air-inlet to the fan-chamber adjacent to the point where the tangential feed-pipe connects with the chamber, a door in the lower portion of the fan-chamber, and a tangential outlet-pipe.

2. A pneumatic conveyer having a fan, a fan-chamber, a tangential feed-pipe, an air-inlet to the fan-chamber adjacent to the point where the tangential feed-pipe connects with the chamber, a door in the lower portion of the fan-chamber, and a tangential outlet-pipe having a pair of branch pipes connected thereto and a gate or valve therein for deflecting the grain into either one of the branch pipes.

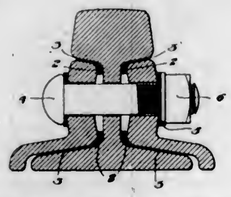


3. A pneumatic conveyer having a fan, a fan-shaft, a fan-chamber, integral castings secured to the sides of the fan-chamber and formed with journal-boxes for the fan-shaft, a supporting-frame connected with the castings, a tangential feed-pipe leading into the fan-chamber, and a tangential outlet-pipe for the fan-chamber.

4. A pneumatic conveyer having a fan, a fan-chamber, a tangential feed-pipe, a hopper connected with the upper end of the said feed-pipe and being smaller at its lower end than said feed-pipe so as to provide a plurality of air-inlets at the upper end of the feed-pipe, and a tangential outlet for the fan-chamber.

5. A pneumatic conveyer having a fan, a fan-shaft, a fan-chamber, integral castings secured to the sides of the fan-chamber and formed with journal-boxes for the fan-shaft, an upwardly-inclined tangential feed-pipe leading into the fan-chamber, an air-inlet to the fan-chamber adjacent to the tangential feed-pipe, a hopper having a flange fitting over the upper edge of the feed-pipe and being smaller at its lower end than the feed-pipe so as to provide a plurality of air-inlets, a sliding door in the lower portion of the fan-chamber, a tangential outlet adjacent to the sliding door, a conveying-pipe having a deflecting-valve, and a pair of branch pipes connected with the conveying-pipe and controlled by the deflecting-valve.

843,807. SEATING-STRIP FOR RAIL-JOINTS. BARTON GRUBBS, Allegheny, Pa. Filed Nov. 10, 1904. Serial No. 232,066.



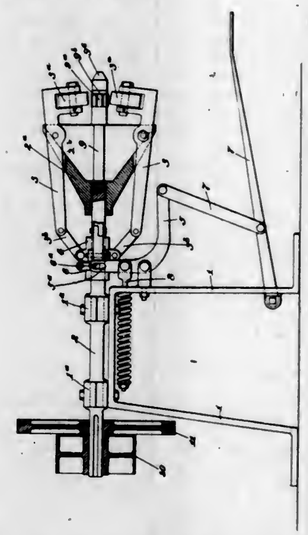
Claim.—The combination with the meeting ends of rails and the connecting fish-plates therefor, of seating-strips of hard compressible material as fiber having thin web portions adapted to interfit between the adjacent sloping faces of the rail flange and head and the lower and upper faces of the fish-plate respectively and having abruptly-turned space-filling flanges extending upwardly and downwardly between the web of the rail and the fish-plates above and below the securing-bolts, substantially as set forth.

843,808. BLACK AZO DYE AND PROCESS OF MAKING SAME. KARL HAGEMANN and OTTO STANGE, Leverkusen, near Cologne, Germany, assignors to Farbenfabriken vorm. Fried. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Mar. 28, 1906. Serial No. 308,452.

Claim.—1. The herein-described new azo dyestuffs obtainable by combining diazo compounds with 1-aryiamino-8-naphthol-sulfonic acids, which dyestuffs are, after being dried and pulverized, in the shape of their alkaline salts dark powders soluble in water, soluble in concentrated sulfuric acid with from a red to a violet to blue color; and dyeing wool from acid-baths from violet to blue to black shades, substantially as hereinbefore described.

2. The herein-described new azo dyestuff, which can be obtained by combining diazotized paranitranilin with 1-phenylamino-8-naphthol-3-6-disulfonic acid, which dyestuff is, after being dried and pulverized, in the shape of its sodium salt a black powder soluble in water with a violet-black and in concentrated sulfuric acid with a red color; yielding upon reduction with stannous chlorid and hydrochloric acid para-phenylenediamin and 1-phenylamino-7-amino-8-naphthol-3-6-disulfonic acid; and dyeing wool from acid-baths black shades, substantially as hereinbefore described.

843,809. FLUE-WELDING MACHINE. WILLIAM B. HANKINS, Mount Vernon, Ohio, assignor of one-half to William E. Sefton, Mount Vernon, Ohio. Filed Apr. 28, 1904. Serial No. 205,301.



Claim.—1. In a machine for treating tubular metal, the combination with a supporting-frame, of a rotatable shaft journaled in said frame, a weighted cone-shaped bracket fixed at its apex end on one end of said shaft, levers pivoted to the base or flared end of said cone, means on one end of said levers to act on the exterior of a tube or tubes, means for operating said levers at their other ends, a cooperating mandrel to act on the interior of a tube or tubes, and a counterbalancing device mounted on the end of the shaft remote from said cone.

2. In a machine for treating tubular metal, the combination with a supporting-frame, of a rotatable shaft journaled in said frame, a weighted cone-shaped bracket mounted at its apex end on one end of said shaft, said bracket having a continuous outer rim provided with slits, levers pivoted in said slits, means on one end of said levers for acting on the exterior of a tube or tubes, means for operating said levers at their other ends, a coöperating mandrel to act on the interior of a tube or tubes, and a counterbalancing device mounted on the end of the shaft remote from said cone.

843,810. RING SPINNING AND TWISTING APPARATUS. JOEL HAYDEN, Jr., Boston, Mass., assignor to Hayden Machinery Company, Boston, Mass., a Corporation of Maine. Filed Jan. 27, 1906. Serial No. 298,204.



Claim.—1. The combination of a spinning-ring, a supporting plate or holder, a weighted member secured to said ring normally resting upon the upper horizontal face of said plate and provided with a plurality of engaging shoulders, and means secured to said plate or holder coacting with said shoulders whereby said member is permitted to move horizontally in contact with the upper surface of said plate or holder or vertically to a limited degree but is prevented from continuous movement.

2. In a spinning-ring, a supporting plate or holder, a weighted member secured to said ring resting normally on the horizontal surface of said plate or holder, and provided with a plurality of engaging shoulders, and means secured to said plate or holder coacting with said shoulders whereby said member is permitted to move laterally on the horizontal surface of said plate or holder or vertically to a limited degree but is prevented from continuous movement.

3. The combination of a spinning-ring, a two-part weighted member secured thereon, and means permitting said member lateral movement but preventing continuous rotative movement.

4. The combination of a spinning-ring, a two-part weighted member secured thereon, and means permitting said member limited vertical movement but preventing continuous rotative movement.

5. The combination of a spinning-ring, a weighted member provided with an annular threaded flange, and an annular threaded ring coöperating with said flange.

6. The combination of a spinning-ring, a weighted member provided with an annular segmental threaded flange, and an annular threaded ring coöperating with said flange to cause said segmental flange to impinge upon the spinning-ring.

7. The combination of a spinning-ring, a weighted member provided with an annular threaded flange, and an annular threaded ring provided with a tapered inner threaded face coöperating with said flange.

8. The combination of a spinning-ring, a weighted member provided with an annular segmental threaded flange, and an annular threaded ring provided with a tapered inner threaded face coöperating with said flange to cause said segmental flange to impinge upon the spinning-ring.

9. The combination of a spinning-ring, a supporting plate or holder provided with a plurality of clips and two projections diametrically opposite, and a weighted member secured to said ring and provided with shouldered recesses for the reception of said clips and slots diametrically opposite and removed from said recesses for the reception of said projections, said clips and shouldered recesses and said projections and slots coöperating to permit said weighted member slight lateral movement in either direction upon the horizontal face of said holder but greater movement in one direction than in a direction at right angles thereto.

10. The combination of a spinning-ring, a supporting plate or holder provided with a plurality of clips and two projections diametrically opposite located transversely of the ring-rail, and a weighted member secured to said ring and provided with shouldered recesses for the reception of said clips and slots diametrically opposite and removed from said recesses for the reception of said projections, said clips and shouldered recesses and said projections and slots coöperating to permit said weighted member slight lateral movement in either direction upon the horizontal

face of said holder but greater movement in one direction than in a direction at right angles thereto.

843,811. GAS-RETORT. GUSTAV A. HECKERT, Munich, Germany. Filed Dec. 4, 1905. Serial No. 290,132.



Claim.—1. In combination, a retort, interchangeable tubular sections of refractory material together forming an independent duct removably combined with the retort, and passages leading from the interior of said duct into the interior of the retort.

2. In combination, a retort, an independent duct of refractory material, removably combined therewith, so as to form a continuation thereof in cross-section, downwardly-inclined passages leading from the interior of the said duct into the interior of the retort, and a longitudinal projection on the said duct over the said passages.

3. In combination, a retort and interchangeable sections of refractory material together forming an independent duct, the said sections being removably combined with the retort so as to form a continuation thereof in cross-section, downwardly-inclined passages leading from the interior of each section into the interior of the retort, and a longitudinal projection on each section over the said passages.

4. In combination, a retort, a longitudinal rib on the bottom thereof, longitudinal ribs on the sides thereof overhanging the bottom angles thereof, duct-sections of refractory material, a longitudinal shoulder on each section adapted to engage the said longitudinal rib on the side of the retort, a vertical side to each section adapted to engage against the said longitudinal rib on the bottom of the retort, and downwardly-directed passages leading from the interior of each section into the interior of the retort.

843,812. COMPOSITION OF MATTER FOR COATING GILDED SURFACES. JAMES A. HENRY, New York, N. Y. Filed Apr. 28, 1906. Serial No. 314,241.

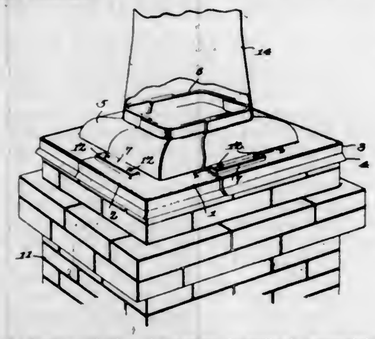
Claim.—1. The herein-described composition of matter for coating gilded surfaces, consisting of the following ingredients, viz: white glue, gelatin, white shellac, gum-mastic, gum-benzoin, stick lac, and white arsenic; substantially as described.

2. The herein-described composition of matter for coating gilded surfaces, consisting of the following ingredients in the following relative proportions, viz: of white glue, five ounces; gelatin, one and one-half ounces; white shellac, four and one-half ounces; gum-mastic, one-half ounce; gum-benzoin, one-half ounce; stick lac, forty grains; and white arsenic, fifteen grains.

843,813. BASE FOR CHIMNEY-STACKS. JEREMIAH HERRIN, Warsaw, Ind. Filed Feb. 5, 1906. Serial No. 299,563.

Claim.—1. A device of the character described comprising complementary sections each provided with a hood portion capable of being adjustably overlapped when assembled and adapted to partially close the open end of a chimney and form a support for a chimney-stack, each section being provided at its outer edge with a depending flange and at its inner edge with an upstanding flange, and fastenings to connect the overlapped portions of the sections.

2. A device of the character described comprising four duplicate corner-sections capable of being adjustably overlapped when assembled and each provided with an inwardly-extending hood adapted to partially close the open end of a chimney and form a support for a chimney-stack, said sections being provided at their outer edges with depending flanges and at the inner edges with upstanding flanges, one of said sections being provided with an upstruck perforated socket and the mating section with a slotted boss adapted to engage said socket, and fastening devices extending through the perforations and slots of the several sections.



3. A device of the character described comprising duplicate sections capable of being adjustably overlapped when assembled, each section being provided with a depending flange at its outer edge, an arched flange at its inner edge, an upstanding flange at the free edge of the arched flange, and fastenings to adjustably connect the overlapped portions of the sections.

4. A device of the character described comprising adjustable overlapped sections each provided with a hood portion adapted to partially close the open end of a chimney and form a support for a chimney-stack, one section having a socket, which is open in its under side and pierced by an opening, the adjacent overlapped section having an upstanding hollow boss to fit within the socket and provided with a slot for registration with the opening of the socket, and a fastening to extend through the slot and the opening.

5. A device of the character described comprising a series of duplicate corner-sections each provided with a hood portion adapted to partially close the open end of a chimney and form a support for a chimney-stack, one member of each corner-section having a longitudinal slot open throughout its under side and provided with an opening through its back, the other member of the section having an upstanding hollow boss open throughout its under side and provided with a longitudinal slot, the boss of each section being adapted to adjustably fit within the socket of the adjacent overlapping section, and fastenings to pass through the openings of the sockets and the slots of the bosses.

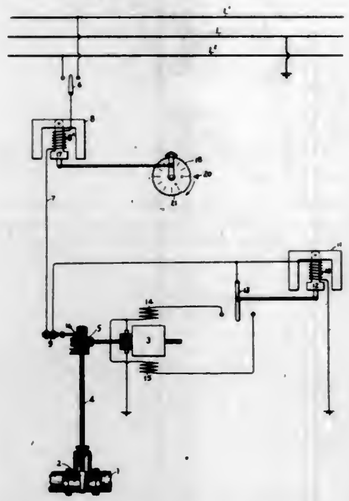
6. A device of the character described comprising four duplicate corner-sections each section including a substantially L-shaped body having a depending flange throughout its outer edge, an arched flange rising from the inner edge of the body, and an upstanding flange at the free edge of the arched flange, one body member of each section being provided with an upstanding socket leading inwardly from one end and open throughout its under side with openings adjacent its ends, the other body member having an upstanding boss open throughout its under side and provided with a longitudinal slot, the bosses being adjustably received within the successive sockets when the sections are assembled, bolts passing through the openings of the sockets and the slots of the bosses, and nuts fitted to the bolts and received within the bosses.

843,814. MEANS FOR CONTROLLING VALVES OR OTHER MOVABLE DEVICES FROM A DISTANT STATION. EDWARD M. HEWLETT, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 29, 1906. Serial No. 319,306.

Claim.—1. In a system of control, a motor, a reversing-switch, a polarized relay for operating said reversing-switch, a control-station, a single wire conductor and a return connection between said motor and relay and said

control-station, and means for causing current to flow in either direction through said conductor.

2. In a system of control, a motor, a reversing-switch, a control-station, a single wire conductor and a return connection between said motor and relay and said control-station, means at the control-station for causing current to flow in either direction through said conductor, an indicator at the control-station, a second polarized relay for operating said indicator and having a coil in series with said conductor, and means controlled by the motor for momentarily opening the circuit including said conductor after each predetermined number of revolutions of the motor.



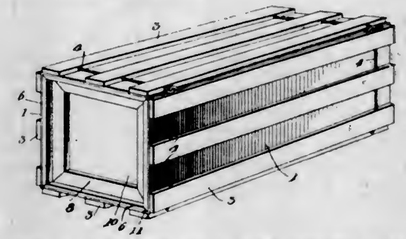
3. In a system of control, a motor having independent field-windings for forward and reverse rotation, a control-station, a single conductor connecting said station and said motor, a switch for connecting said conductor to the motor through either field-winding, a polarized relay for operating said switch and having a coil in parallel to the switch, and means at the control-station for producing a flow of current in either direction through said conductor.

4. In a system of control, a motor having independent field-windings for forward and reverse rotation, a control-station, a single conductor connecting said control-station to said motor, a switch for connecting said conductor to the motor through either field-winding, a polarized relay for operating said switch having a coil connected in parallel to said switch, means at the control-station for producing a flow of current in either direction through said conductor, an indicator at the control-station, a second polarized relay for operating said indicator and having a coil in series with said conductor, and means controlled by the motor for momentarily interrupting the circuit through said conductor after each predetermined number of revolutions of the motor.

5. In combination, a movable member, a motor for operating said member, a control-station, a single conductor connecting said motor to said control-station, a reversing-switch between said conductor and the motor, a polarized relay for operating said switch and having a coil connected in parallel to said switch and said motor, a circuit-breaker in series with said conductor, means for momentarily opening said circuit-breaker when the said member reaches predetermined positions, and means at the control-station for causing current to flow in either direction through said conductor.

6. In combination, a movable member, a motor for operating said member, a control-station, a single conductor connecting said motor to said control-station, a reversing-switch between said conductor and the motor, a polarized relay for operating said switch having a coil connected in parallel to said switch and said motor, a circuit-breaker in series with said conductor, means for momentarily opening said circuit-breaker when the said member reaches predetermined positions, means at the control-station for causing current to flow in either direction through said conductor, an indicator at the control-station, and a polarized relay for operating said indicator, said latter relay having a coil in series with said conductor.

843,815. KNOCKDOWN SHIPPING BOX OR CRATE. JOHN E. HITCH, Snyderville, Ohio, assignor of one-half to Daniel H. Snyder, Snyderville, Ohio. Filed Mar. 21, 1906. Serial No. 307,236.



Claim.—1. A shipping box or crate composed of an inner fabric lining forming sections or panels, an outer framing consisting of slats secured to the lining at intervals, continuous wires each running through each of the several slats, and removable ends or heads detachably fitted within this general body and adapted to be removed when the top is thrown back.

2. A shipping box or crate composed of an inner fabric lining forming sections or panels, an outer framing consisting of slats secured to the lining at intervals, continuous binding-strips secured to the several slats, and removable ends or heads detachably fitted within this general body and adapted to be removed when the top is thrown back.

3. A shipping box or crate composed of an inner continuous lining of flexible material, an outer framing of slats or wood secured at intervals to said lining, continuous wires running through the several slats, guide-strips on the inner face of the lining at the front and back of the structure, and ends or heads removably interlocked with said guide-strips to hold the parts intact when wires are unfastened at their ends and to permit the box to be knocked down.

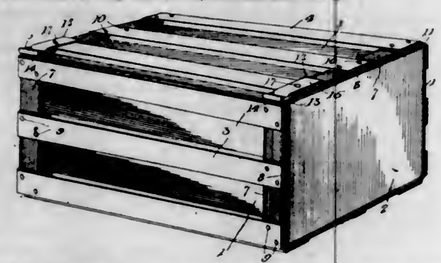
4. A shipping box or crate composed of an inner continuous lining of pasteboard scored at intervals, an outer frame consisting of a series of wooden slats secured on the outer surface of the lining, continuous wires running through said slats and adapted at their ends to be interconnected and disconnected, guide-strips secured upon the inner surface of the lining, one of which is beveled, and heads composed of strips and a sheet of pasteboard secured thereto, the heads being formed to fit between and interlock with the guide-strips.

843,816. SHIPPING BOX OR CRATE. JOHN E. HITCH, Snyderville, Ohio, assignor of one-half to Daniel H. Snyder, Snyderville, Ohio. Filed Mar. 21, 1906. Serial No. 307,237.

Claim.—1. A shipping box or crate composed of an inner lining, an outer framing consisting of a series of strips having each a slot, bands or tapes extending around said outer framing and each fitted into the slots of the strips and each adapted to have its ends interconnected, and ends or heads secured permanently to the lining and strips along the front, bottom and back.

2. A shipping box or crate composed of an inner lining, an outer framing consisting of a succession of strips each having its ends slotted, and a band or tape inserted in said

slots at each end of the strips extending around said outer framing, means for interconnecting the ends of each band to each other and ends or heads permanently secured to said strips along the front, bottom and back.



3. A shipping box or crate composed of an inner lining for front, bottom, back and top, an outer framing consisting of a series of strips having each a slot near its end, a band or tape fitted into said slots at either end of the strips, a link loosely secured to one end of each band or tape and adapted to receive the other end and to fold down over the lining near the adjacent strip when such end is bent back and secured, ends or heads each also having a lining and each permanently secured to the strips and other lining.

843,817. FLOORING. WILLIAM HOLT and JOHN A. SMITH, Los Angeles, Cal. Filed Sept. 4, 1906. Serial No. 333,259.



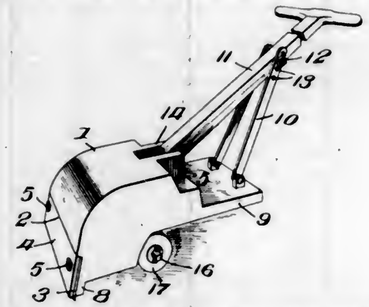
Claim.—1. A flooring-board provided on its front edge with a base-rabbet and a driving and nailing edge extending rearwardly from the rabbet gradually to the surface of the board the termination of said edge being on a line vertical with that of the rabbet and extending over a greater area of the board edge than the rabbet, and a downwardly and inwardly sloping edge formed on the other side of said board, terminating in a lip at right angles to the body of the board, the extremity of the lip being on a line vertical with that of the sloping edge.

2. A flooring-board comprising a strip having on one edge a convex curve extending from the top surface of the strip forwardly thereof and downwardly at a gradually-increasing width to approximately two-thirds of the thickness thereof and terminating in a ledge at right angles to the vertical line of said strip and forming a rabbet, the other edge of said strip having a concave curve extending from the top surface of said strip rearwardly and downwardly and terminating at approximately two-thirds of the strip in a lip at right angles to the vertical line of said strip.

3. A flooring-board comprising a thin strip having on one edge a convex curve extending from the top surface of the strip forwardly thereof and downwardly to approximately two-thirds of its thickness at a gradually-increasing width, and then rearwardly to a depth equal to the width of said convex curve at the point of terminus thereof, the greatest depth of said convex curve being on a line vertical with the incipient point of said forwardly-extending curve and forming substantially a rabbet, the other edge of said strip having a concave curve extending from the top surface of the strip rearwardly thereof and downwardly at a gradually-increasing depth, and terminating in a lip.

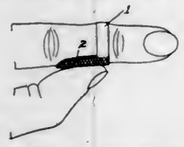
843,818. PLANER. CORNELIUS HOOGHOUSE, Odell, Ill. Filed Oct. 10, 1906. Serial No. 338,285.

Claim.—1. A planer of the class described comprising a weighted body portion having a recess at one edge thereof, a bit, means to removably secure said bit in the recess, a depending nose on said body, in the rear of said bit, a platform on said body, propelling means secured to said body and platform, a rib on the lower side of said body-forming recess at each side thereof, an axle carried by said rib and carrying wheels on said axle disposed at one side of the center of the body and in said last-named recesses.



2. A planer of the class described comprising a weighted body having a recess at its rear edge, a bit adapted to be seated in said recess, a plate disposed over said bit, bolts disposed through openings in said plate and bit, and into the body whereby the bit and bolt will be held in position, a depending nose integral with the body and in rear of said bit, a rib on said body and forming recesses at each side thereof, an axle secured to said rib and at one side of the center of the body, carrying-wheels mounted upon said axle and resting in said recesses, a platform extending forwardly therefrom, a handle pivotally secured at one end to the body and arms pivotally secured at one end to said platform and having their opposite ends adjustably secured to said handle.

843,819. FINGER-SHIELD. HENRY F. HUNTLEY, Seattle, Wash. Filed Dec. 5, 1905. Serial No. 290,460.



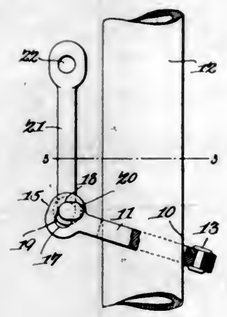
Claim.—1. A device of the type set forth comprising a ring, and a rearwardly-extending plate formed integral with the inner side edge thereof, said plate having its outer surface roughened, for the purpose specified.

2. A device of the character described comprising a split resilient ring, a rearwardly-extending plate formed integral with the inner side edge thereof and opposite the split portion, said plate being of a curvature corresponding to that of the ring, and having its outer surface roughened.

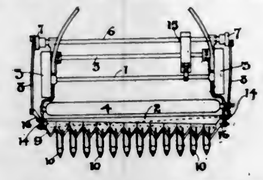
843,820. CLAMP. LOUIS P. IMHOFF, Georgetown, Tex. Filed May 5, 1906. Serial No. 315,435.

Claim.—In an implement of the class described, the combination of two hingedly-connected semicircular jaws having biting edges on the top at one point and on the bottom at a diametrically opposite point, each biting edge being formed partly on one and partly on the other jaw, with a single device connected with the free ends of the jaws for drawing the latter together and for lifting the objects gripped by the jaws, said device comprising spaced apertured extensions on the free ends of the jaws, a T-shaped structure having its cross member extending through the apertures of the extensions and its other member disposed between the extensions, means on the ends of the cross-member engaging the extension for forcing the jaws toward each other, and means on the outer end of the structure for attachment with a draft-cable.

843,820.



843,821. LAWN-MOWER. JOHN P. JASPER, Cave City, Ky. Filed Dec. 6, 1905. Serial No. 290,640.



Claim.—1. In a lawn-mower, the combination of driving means, a crank-shaft rotated by said driving means, a pitman at each end of said crank-shaft, a cutter-bar disposed in front of said driving means, a sickle mounted in said cutter-bar having a cam-shank extending at an angle from each end and operatively connected to said pitman, fingers mounted on said cutter-bar and wings pivoted on said fingers, substantially as specified.

2. In a mower, a driving-gear, a cutter-bar on the front of said driving-gear, a sickle mounted in said cutter-bar, cam-shanks at the ends of said sickle, a crank-shaft driven by said driving-gear, pitmen connecting said crank-shaft and said cam-shanks, antifriction cam-rollers mounted on said cutter-bar disposed in the path of said cam-shanks, substantially as specified.

843,822. REEFING-GEAR. DANIEL C. JENNINGS, North Falmouth, Mass., assignor of one-half to Arthur M. Alger, Taunton, Mass. Filed May 2, 1906. Serial No. 314,769.

Claim.—1. A reefing-gear for sailing vessels having, in combination with a sail and its spar, a set of eyes and a co-operating set of hooks, one of said sets being attached fixedly to the sides of the spar and the other being attached loosely to the sail above its margin, substantially as described.

2. A reefing-gear for sailing vessels having, in combination with a sail and its spar, a set of eyes attached fixedly to each side of the spar, and a set of coöperating fastening devices loosely attached to each side of the sail above its margin, substantially as described.

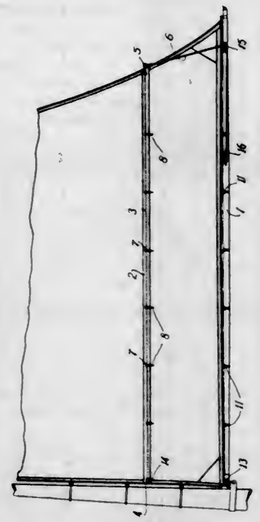
3. A reefing-gear for sailing vessels having, in combination with a sail and its spar, a set of eyes attached to each side of the spar, and a coöperating set of hooks loosely attached to each side of the sail above its margin, substantially as described.

4. A reefing-gear for sailing vessels having, in combination with a sail and its spar, a line secured to the sail above its margin, a set of hooks loosely secured to the line, and a coöperating set of eyes on the spar, substantially as described.

5. A reefing-gear for sailing vessels having, in combination with a sail and its spar, a pocket on the sail above its margin, a line in the pocket, fastening devices secured to the line, and coöperating fastening devices on the spar, substantially as described.

6. A reefing-gear for sailing vessels having, in combination with a sail and its spar, a pocket with elongated openings on the sail above its margin, a line in the pocket, fastening devices secured to and longitudinally movable on the line and passing through said openings, and coöperating fastening devices on the spar, substantially as described.

7. A reefing-gear for sailing vessels having, in combination with a sail and its spar, two pockets on opposite sides of the sail, lines in the pockets, fastening devices secured to the lines, and coöperating fastening devices on each side of the spar, substantially as described.



8. A reefing-gear for sailing vessels having, in combination with a sail and a boom, a pocket on the sail above its lower margin, a line secured to the luff of the sail and passing through the pocket, an earing secured to the other end of the line and to the leech of the sail, fastening devices secured to the line at intervals, and coöperating fastening devices on the boom, substantially as described.

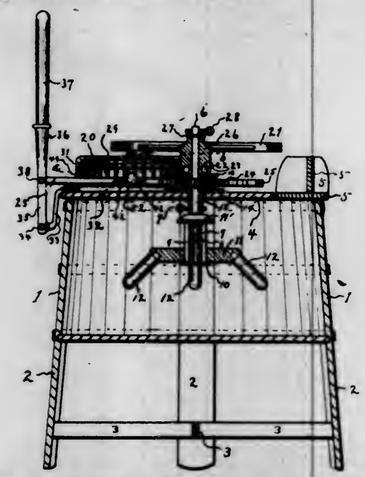
9. A reefing-gear for sailing vessels having, in combination with a sail and its spar, a line secured to the sail, at a distance from the spar, and substantially parallel thereto, means for removably connecting one end of the line with the spar in reefing the sail, an earing for drawing the other end of the line to the spar to gather the slack of the sail against the spar, and a set of fastening devices to secure the sail in reefed position, substantially as described.

843,823. MECHANICAL MOVEMENT. JOHN D. A. JOHNSON, Omaha, Nebr. Filed Sept. 28, 1906. Serial No. 336,610.

Claim.—1. A mechanical movement as described, comprising a vertical shaft, a pinion rigidly mounted thereon between its ends; a horizontally-disposed rack-bar mounted engagingly with the rigidly-mounted pinion of the vertical shaft and having a horizontally-extending oval trackway formed transversely upon one of its ends; a pinion seated pivotally on said vertical shaft and having a part of its periphery extended to form a balance-wheel; a horizontally-disposed rotatable annular gear engaging the pivotally-seated pinion on said vertical shaft and having an arm thereon transversely formed and extended to a seating within the oval trackway formed upon the end of the rack-bar; and means to cause a lengthwise movement of the rack-bar.

2. A mechanical movement as described, comprising a vertical shaft, a pinion rigidly mounted thereon between its ends; a horizontally-disposed rack-bar mounted engagingly with the rigidly-mounted pinion of the vertical

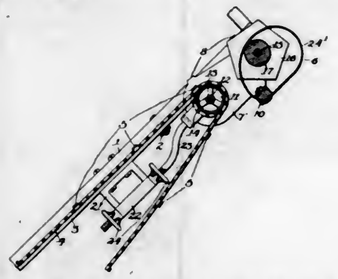
shaft and having a horizontally-extending double-faced trackway formed transversely upon one of its ends; a pinion seated pivotally on said vertical shaft and having a part of its periphery horizontally extended to form a balance-wheel; a horizontally-disposed rotatable annular gear engaging the pivotally-seated pinion on said vertical shaft and having an arm thereon transversely formed and extending to a seating within the double-faced trackway formed upon the end of the rack-bar; and means to cause a lengthwise movement of the rack-bar.



3. In a mechanical movement, the combination of a vertical shaft, a yoke, a horizontally-disposed rack-bar, a pinion rigidly mounted upon said vertical shaft; said yoke having a transverse seating upon said vertical shaft and having adjacent and downwardly-extending arms passing said rigidly-mounted pinion, to form guides; said horizontally-disposed rack-bar being formed with a parallel and adjacently-extending guide-arm thereon and with a base portion thereon having a transversely-formed slot therein, said rack-bar and connected guide-arm being seated between said downwardly-extending arms of said yoke; a pinion seated pivotally upon said vertical shaft and having a part of its periphery extended horizontally to form a balance-wheel; a horizontally-disposed rotatable annular gear engaging the pivotally-seated pinion upon the vertical shaft and having an arm thereon transversely formed and extended to a seating within said transversely-formed slot of the base portion of said rack-bar; and means to cause a lengthwise movement of said rack-bar.

4. In a mechanical movement, the combination of a vertical shaft, a yoke, a horizontally-disposed rack-bar, a series of balls, a pinion rigidly mounted upon said vertical shaft; said yoke having a transverse seating upon said vertical shaft and having adjacent and downwardly-extending arms passing said rigidly-mounted pinion, to form guides; said horizontally-disposed rack-bar being formed with a parallel and adjacently-extending guide-arm thereon, and with a base portion thereon having a transversely-formed slot therein, said rack-bar and connected guide-arm being seated between said downwardly-extending arms of said yoke; a pinion seated pivotally upon said vertical shaft, formed with an annular groove upon its lower end and having a part of its periphery extended horizontally to form a balance-wheel; a horizontally-disposed rotatable annular gear engaging the pivotally-seated pinion upon the vertical shaft and having an arm thereon transversely formed and extended to a seating within said transversely-formed slot of the base portion of said rack-bar; said series of balls being seated upon said yoke and in the annular groove of said pivotally-seated pinion; and means to cause a lengthwise movement of said rack-bar.

843,824. HAY-LOADER. EDWARD A. JOHNSTON, Sterling, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Oct. 13, 1906. Serial No. 338,692.



Claim.—1. In a hay-loader the combination of a carrier-frame, an endless carrier mounted upon said frame and adapted to convey the hay toward the delivery end of said loader, a supplemental forwarding device operatively connected with said endless carrier at its delivery end in a manner to receive the hay therefrom, said supplemental forwarding device comprising a rotatable shaft having a series of angular plates mounted thereon and having a series of strippers mounted between the plates.

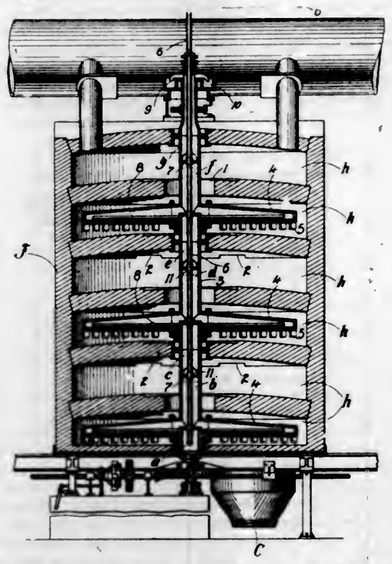
2. In a hay-loader the combination of a carrier-frame, an endless carrier mounted upon said frame and adapted to convey the hay toward the delivery end of said loader, a supplemental forwarding device operatively connected with said endless carrier at its delivery end in a manner to receive the hay therefrom, said supplemental forwarding device comprising a longitudinally-movable frame mounted upon the delivery end of said carrier-frame, a rotatable shaft mounted in said supplemental frame, said shaft having a series of angular plates mounted thereon and a series of strippers mounted between the plates.

3. In a hay-loader the combination of a carrier-frame, an endless carrier mounted upon said frame and adapted to convey the hay toward the delivery end of said loader, a supplemental forwarding device operatively connected with the delivery end of said endless carrier, said device comprising a frame supported upon said carrier-frame at its delivery end, rearwardly-extending bars secured to said supplemental frame, depending brackets secured to said carrier-frame and adapted to receive the rear ends of said bars, and means for adjusting the bars longitudinally relative to the brackets.

4. In a hay-loader the combination of a carrier-frame, said frame comprising side members, an endless carrier mounted upon said frame and adapted to convey the hay toward the delivery end of said loader, a supplemental forwarding device operatively connected with the delivery end of said endless carrier, said device comprising a frame having side members, said side members connected by means of a transverse bar, outwardly-projecting lips integral with said side members and forming a channel in which is received the delivery ends of the side members of said carrier-frame, a transverse shaft mounted at the rear ends of the side members of the supplemental forwarding device and adapted to receive one end of said endless carrier, a transverse shaft mounted at the opposite end of said side members, hay-forwarding members secured to said last-mentioned shaft, means for transmitting motion to said shaft, and means for moving said supplemental forwarding device bodily in a longitudinal direction relative to the endless-carrier frame.

843,825. ROASTING-FURNACE. FRANK KLEPETKO, New York, N. Y. Filed Sept. 6, 1904. Serial No. 223,539.

Claim.—1. In a furnace having a plurality of hearths, a rotatable hollow shaft passing through the hearths, a series of hollow arms radiating from said shaft and extending into the several hearths, a series of chambers distributed throughout the shaft and communicating with the hollow arms, and a feed-pipe communicating with one of the terminal chambers of the series for conveying a cooling medium thereinto, substantially as set forth.



2. In a furnace having a plurality of hearths, a rotatable hollow shaft passing through the hearths, a series of hollow arms radiating from said shaft and extending into the several hearths, a series of chambers distributed throughout the shaft and communicating with the hollow arms, and a water-feed pipe extending through the several chambers and discharging its water into the same, substantially as set forth.

3. In a furnace having a plurality of hearths, a rotatable hollow shaft passing through the hearths, a series of hollow arms radiating from said shaft and extending into the several hearths, a series of chambers distributed throughout the shaft and communicating with the hollow arms, and a water-feed pipe extending through the several chambers and discharging its water into the bottom chamber of the series, substantially as set forth.

4. In a furnace having a plurality of hearths, a rotatable hollow shaft passing through the hearths, a series of hollow arms radiating from said shaft and extending into the several hearths, a series of chambers distributed throughout the shaft and communicating with the hollow arms, and a stationary water-feed pipe extending through the several chambers and discharging its water into the bottom chamber of the series, substantially as set forth.

5. In a furnace having a plurality of hearths, a rotatable hollow shaft passing through the hearths, a series of hollow arms radiating from said shaft and extending into the several hearths, a series of chambers separated by transverse partitions, distributed throughout the shaft, distributing-conduits leading from the respective chambers and opening into the adjacent series of hollow arms, and a feed-pipe extending through the several chambers and discharging its circulating medium into the bottom chamber of the series, substantially as set forth.

6. In a furnace having a plurality of hearths, a rotatable hollow shaft passing through the hearths, a series of hollow arms radiating from said shaft and extending into the several hearths, a series of chambers distributed throughout the shaft, distributing-pipes leading from the respective chambers into the adjacent series of hollow arms and opening into the latter, and a water-feed pipe extending through the several chambers and discharging its water into the bottom chamber of the series, substantially as set forth.

7. In a furnace having a plurality of hearths, a rotatable hollow shaft passing through the hearths, a series of hollow arms radiating from said shaft and extending into the several hearths, a series of chambers distributed throughout the shaft and communicating with the hollow arms, and a feed-pipe extending through the several chambers for conveying a cooling medium to one end of the shaft and allowing the same to circulate through the shaft and the hollow arms thereof, substantially as set forth.

8. In a furnace having a plurality of hearths, a rotatable hollow shaft passing through the hearths, a series of hollow arms radiating from said shaft and extending into the several hearths, an inner water-feed pipe located within the shaft and discharging thereinto, a series of conduits or distributing-pipes coupled to the shaft and located within the hollow arms and communicating respectively therewith and with the shaft, the water discharged from the feed-pipe freely circulating through said conduits or pipes and through the hollow arms and shaft, substantially as set forth.

9. In a furnace having a plurality of hearths, a rotatable hollow shaft passing through the hearths, a series of hollow arms radiating from said shaft and extending into the several hearths, an inner stationary water-feed pipe located within the shaft and discharging thereinto, a series of conduits or distributing-pipes coupled to the shaft and located within the hollow arms and communicating respectively therewith and with the shaft, the water discharging from the feed-pipe freely circulating through said conduits or pipes and through the hollow arms and shaft, substantially as set forth.

10. In a furnace having one or more hearths, a rotatable hollow shaft passing through the same, a series of hollow arms radiating from said shaft and extending into the several hearths, an inner water-feed pipe located within and discharging into the shaft, and conduits or distributing-pipes disconnected from the feed-pipe located within the hollow arms and conveying the water discharged into the shaft from the feed-pipe into the hollow arms, substantially as set forth.

11. In a roasting-furnace, a hollow shaft, hollow stirrer-arms on the shaft, means for circulation through the shaft and arms vertically in series, means independent of the arms providing for circulation from the shaft radially in multiple, said independent means discharging into the hollow arms, and the latter discharging their contents into the shaft, substantially as set forth.

12. In a roasting-furnace, a hollow shaft, hollow stirrer-arms on the shaft, means for circulation through the shaft and arms vertically in series, means for discharging the circulating medium into the bottom of the shaft, means independent of the arms providing for circulation from the shaft radially in multiple, said independent means discharging into the hollow arms, and the latter discharging their contents into the shaft, and means for conducting the circulating medium out of the shaft from the top thereof, substantially as set forth.

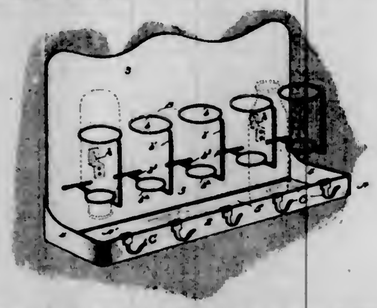
13. In a roasting-furnace, a hollow shaft, hollow stirrer-arms on the shaft, means for circulation through the shaft and arms vertically in series, means independent of the arms providing for circulation from the shaft radially outward in multiple, and through the arms radially inward in multiple, and outlet means for the circulating medium at one end of the shaft, substantially as set forth.

14. In a roasting-furnace, a hollow shaft, hollow stirrer-arms on the shaft, means for circulation through the shaft and arms vertically in series, means independent of the arms providing for circulation from the shaft radially outward in multiple, and through the arms radially inward in multiple, and inlet means and outlet means for the circulating medium respectively at opposite ends of the shaft, substantially as set forth.

15. In a roasting-furnace, a hollow shaft, hollow stirrer-arms on the shaft, means for circulation through the shaft and arms vertically in series, means independent of the arms providing for circulation radially in multiple in one

direction, and through the arms radially in multiple in a reverse direction, and outlet means for the circulating medium at one end of the shaft, substantially as set forth.

843,826. HOLDING AND DRAINING RACK. MATHILDA C. KLOEPPINGER, Washington, D. C. Filed May 26, 1906. Serial No. 318,943.



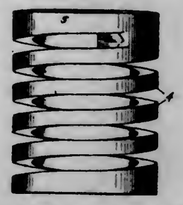
Claim.—1. In a holder and rack for nursery accessories, the combination with a support which comprises a horizontal shallow trough upon which a bottle may be supported in an upright position, and a vertical back, of a series of racks fixed to said back and disposed vertically over said trough, said racks including a shank having one end connected to said back said shank being disposed vertically in front of and substantially parallel with the back and having holders at the upper and lower ends, said upper holder adapted to embrace the body of the bottle and said lower holder adapted to support the bottle and to receive and inclose the exterior of the bottle-neck.

2. In a holder and rack for nursery accessories the combination with a support which comprises a horizontal trough and a vertical back, of a pair of holding-racks placed side by side and relatively close together to form an intermediate space to allow the neck of an upright bottle to be entered therebetween, and to be substantially embraced thereby, each of said racks comprising a vertical shank spaced from and arranged in parallelism with the back and having one end bent horizontally and connected to said back, said shank being provided with upper and lower horizontally-disposed holders for the reception of a bottle when inverted.

3. In a holder and rack for nursery accessories, the combination with a support which includes a horizontal trough and a vertical back, of a pair of holding-racks arranged in close relation to each other, each of said racks comprising a vertically-disposed shank spaced from and arranged parallel with the back and having one end fixed to said back, and having horizontally-disposed upper and lower holders whose sides are compressible to allow the neck of an upright bottle supported on the trough to be pressed laterally between the sides of adjacent racks whereby said bottle is allowed but a limited side movement.

843,827. COIL-SPRING. JACOB B. KNUDSEN, Dalton Station, Ill. Filed May 12, 1906. Serial No. 316,450.

Claim.—1. As a new article of manufacture, a coil-spring composed of cast metal.

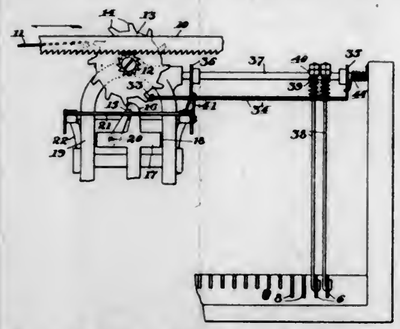


2. As a new article of manufacture, a coil-spring composed of cast metal and having its respective ends integral with the next adjacent coil.

3. As a new article of manufacture, a coil-spring composed of cast metal having an annular flange formed integral with an end coil.

4. As a new article of manufacture, a coil-spring composed of cast-iron.

843,828. TYPE-WRITING MACHINE. EDWARD F. KUNATH, Jersey City, N. J., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Apr. 25, 1904. Serial No. 204,770.



Claim.—1. In a type-writing machine, the combination with types, type-keys, and a carriage, of a universal bar operable by the type-keys, a ribbon-vibrator operable by said universal bar, an escapement-rack for said carriage, carriage-feeding devices operable by said universal bar and coöperating with said rack, and a detent normally out of engagement with said rack and inoperable by said universal bar but directly operable by one of said type-keys and caused thereby to engage said rack independently of said carriage-feeding devices, to prevent a feeding movement of the carriage.

2. In a type-writing machine, the combination with types, type-keys, and a carriage, of carriage-feeding mechanism controlled by the type-keys, a stop-detent movable to set position by certain of said keys and non-returnable therewith, to prevent feeding movement of the carriage, a ribbon-vibrator movable to the printing-point by all of the keys, means being provided for causing the ribbon-vibrator to return to normal position together with all of the keys, and means for enabling any of the keys except the stop-detent keys to release the carriage from the control of said detent after the return of the detent-operating key to normal position.

3. In a type-writing machine, the combination with types, type-keys and a carriage, of a ribbon-vibrator, means for enabling each of said keys to move the vibrator to the printing-point, means being provided for causing the vibrator to return to normal position together with each of said type-keys, and a carriage-detent movable to set position by certain of said type-keys and non-returnable therewith, but releasable by the remaining type-keys after the return of the detent-operating key to normal position.

4. In a type-writing machine, the combination with types, type-keys, and a carriage, of a universal bar operable by the type-keys, means being provided for causing the universal bar to return to normal position together with each of said keys, a ribbon-vibrator operable by said universal bar, an escapement-rack for said carriage, carriage-feeding devices operable by said universal bar and coöperating with said rack, a carriage-detent, certain of the type-keys having means for setting the detent to effective position but ineffective for returning the detent, and means for enabling a succeeding operation of the universal bar to release said detent.

5. In a type-writing machine, the combination with types, type-keys, and a carriage, of a universal bar operable by the type-keys, means being provided for causing the universal bar to return to normal position together with each of said keys, a ribbon-vibrator operable by said universal bar, key-operated carriage-feeding devices, a carriage-detent, certain of the type-keys having means independent of the universal bar for setting the detent to effective position but ineffective for returning the detent, and means for enabling the universal bar to release said detent after the return to normal position of the key which set the detent.

6. In a type-writing machine, the combination with types, type-keys, and a carriage, of a universal bar operable by all the type-keys, means being provided for causing the universal bar to return to normal position together with each of said keys, a carriage-feeding mechanism controlled by said universal bar, a carriage-detent, means operated by certain of said keys independently of the universal bar for setting said detent to and holding it in effective position after their return to normal positions, means for enabling the universal bar to release said detent so that the latter may return to normal position, and means operated by said detent-setting keys for rendering said releasing means ineffective only during their depression.

7. In a type-writing machine, the combination with types, type-keys, and a carriage, of a universal bar operable by all the type-keys, means being provided for causing the universal bar to return to normal position together with each of said keys, a carriage-feeding mechanism controlled by said universal bar, a carriage-detent, means operated by certain of said keys independently of the universal bar for setting said detent to and holding it in effective position after their return to normal positions, a yielding device operated by the universal bar to release said detent so that the latter may return to normal position, and a spring stronger than said yielding device and caused by said detent-setting key or keys to retain said detent in effective position only during the depression of said detent-setting keys.

8. In a type-writing machine, the combination with types, type-keys, and a carriage, of a universal bar operable by the type-keys, means being provided for causing the universal bar to return to normal position together with each of said keys, a carriage-detent, means for enabling certain of said type-keys to set said detent to effective position and to return to normal position independently of said detent, and a yielding device for enabling said universal bar to release said detent at a subsequent operation of the universal bar by one of the remaining keys.

9. In a type-writing machine, the combination with types, type-keys, and a power-driven carriage, of a normally ineffective detent for the carriage, means for enabling certain of said type-keys to set said detent to effective position and to elevate and lower the ribbon and to return to normal position independently of said detent, and means for enabling a subsequent stroke of any of the other type-keys to release said detent after the return to normal position of the detent-setting key.

10. The combination with types, including an accent-type, type-keys, a carriage, an escapement-rack, and the usual carriage-feeding devices under the control of the keys, of a pivoted detent for engaging the rack, a yielding connection from said detent to the accent-type key whereby the latter may set the detent to effective position, and a yielding key-operated member for releasing said detent.

11. In a type-writing machine, the combination with types, including a plurality of accent-types, a carriage, an escapement-rack, and type-keys, of a universal bar operable by the keys, a ribbon-vibrator operable by the universal bar, carriage-feeding devices controlled by the universal bar, an independent detent to engage said rack, means for enabling any of the accent-type keys to set said detent to effective position, and means operable by the remaining type-keys for releasing said detent.

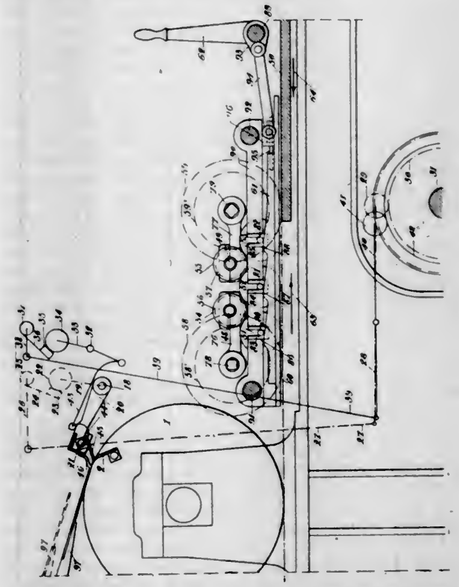
12. In a type-writing machine, the combination with types, including a plurality of accent-types, a carriage, an escapement-rack, and type-keys, of the usual carriage-feeding devices controlled by the keys, a detent inoperable by the ordinary type-keys, yielding means for enabling any of the accent-type keys to set said detent to engage said rack, and a yielding device controlled by the ordinary keys for releasing said detent.

13. In a type-writing machine, the combination with types, including a plurality of accent-types, a carriage, an escapement-rack, and type-keys, of a universal bar operable by the type-keys, a ribbon-vibrator operable by the universal bar, the usual carriage-feeding devices under the control of the universal bar, an independent detent for the rack, an arm or bar for causing said detent to engage the rack, and a set of yielding devices controlled by the accent-type keys for enabling either of the latter to actuate said arm or bar; means being also operable by said universal bar and including a yielding member, for releasing said detent.

14. In a type-writing machine, the combination with types, including a plurality of accent-types, a series of key-levers for operating said types, and a carriage, of a universal bar operable by the key-levers, a ribbon-vibrator operable by the universal bar, an escapement-rack, the usual carriage-feeding devices under the control of the universal bar, an independent tooth for engaging the rack, a pivoted frame whereon said tooth is mounted, said frame including a bar or arm extending transversely of the series of key-levers, connections from the accent-key levers to said bar or arm, and means for enabling the universal bar to release said detent.

15. In a type-writing machine, the combination with types, type-operating key-levers, a carriage, and a universal-bar frame operable by the keys, of letter-spacing devices operable by said universal-bar frame, a pivoted carriage-detent, a link and spring connecting said detent to one of said key-levers for setting said detent, and a yielding device upon said universal-bar frame for engaging said detent to release the same.

843,829. SYSTEM OF MACHINERY FOR PRINTING IN SEVERAL COLORS. EDOUARD LAMBERT, Paris, France. Filed Feb. 15, 1905. Serial No. 245,746.



Claim.—1. An improved system of machinery for printing in several colors, including the combination with a single impression-cylinder having a plurality of portions disposed side by side and provided respectively with sets of grippers, of a bed having a plurality of printing-forms corresponding respectively to the several portions of the

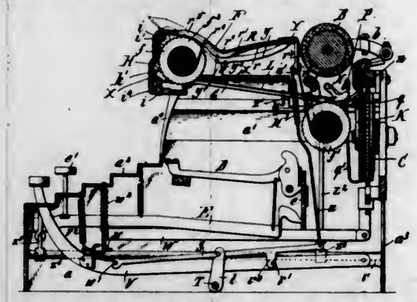
impression-cylinder, of a transporting device having a reciprocating motion in a direction parallel with the axis of the impression-cylinder, and provided with a plurality of sets of grippers and counter grippers, of suitable means for imparting suitable reciprocating motion to the carriage carrying the said transporting device and for exactly limiting the stroke of the motion of the transporting device proper, of suitable means for raising or lowering the bars on which are keyed the sets of grippers on the transporting device, and for closing or opening the grippers themselves, and of suitable means for adjusting the inking-rollers with respect to the bed, and for raising or lowering the inking-cylinders as regards the inking-rollers, substantially as described.

2. In an improved system of machinery for printing in several colors, including a single impression-cylinder having a plurality of portions disposed side by side and provided respectively with sets of grippers; a bed having a plurality of printing-forms corresponding respectively to the several portions of the impression-cylinder, a transporting device having a reciprocating motion in a direction parallel with the axis of the impression-cylinder, and provided with a plurality of sets of grippers and counter grippers; several sets of grippers on the impression-cylinder, mounted on independent bars, each bar being operated by independent sector-levers and each lever being operated, in order to close the grippers, by a separate spring, and, in order to open the grippers, by a friction-roller on said lever, each friction-roller being engaged free in a separate fork or cam, and all the forks or cams being keyed on the same longitudinal shaft, the latter being operated by means of a lever, friction-roller and cam, so that this shaft turns all the cams or forks in order to open all the sets of grippers simultaneously, whereas a separate spring closes each separate set of grippers.

3. In an improved system of machinery for printing in several colors, including the combination with a single impression-cylinder having a plurality of portions disposed side by side and respectively provided with sets of grippers, of a bed having a plurality of printing-forms corresponding respectively to the several portions of the impression-cylinder, of a transporting device having a reciprocating motion in a direction parallel with the axis of the impression-cylinder and provided with a plurality of sets of grippers and counter grippers; a sliding piece traveling in a direction parallel with axis of the impression-cylinder under action of a toothed wheel gearing with a rack on the said sliding device, the said toothed wheel being driven by the bed through suitable transmission; a carriage bearing the transporting device gripper-bars, the said carriage being moved by a connecting-rod linked on a toothed wheel hinged on the sliding piece and the said toothed wheel running on a fixed rack provided at its end with two notches engaging a stud lying on the periphery of the said toothed wheel, in order to permit pivoting on the said stud during the end of the stroke of the sliding piece, while the carriage of the transporting device and the grippers of the latter are stopped exactly in longitudinal position, the said system including further suitable means for raising or lowering the bars on which are keyed the sets of the grippers on the transporting device, and for closing or opening the grippers themselves, substantially as described.

4. In an improved system of machinery for printing in several colors, including the combination with a single impression-cylinder having a plurality of portions disposed side by side and respectively provided with sets of grippers, of a bed having a plurality of printing-forms corresponding respectively to the several portions of the impression-cylinder, of a transporting device having a reciprocating motion in a direction parallel with the axis of the impression-cylinder, and provided with a plurality of sets of grippers and counter grippers, and of suitable means for adjusting the inking-rollers with respect to the bed and for raising or lowering the inking-cylinder with respect to the inking-rollers, the means consisting in establishing a frame receiving three or more sets of inking-rollers, the sets of the rollers lying in bearing adjustable separately, by means of a screw working a bar provided with proper wedges in order to move the studs of the rollers in their bearings, the said rollers being raised all together, by means of a control-lever working all the bars provided with wedges; the frame above specified receiving two or more sets of metallic cylinders, each set being keyed on a single shaft and resting against the inking-rollers in order to give motion to the latter, the bearing-shafts of the metallic cylinders having a rotative and a to-and-fro motion imparted to them and being hinged on a pivoted lever in order to be raised from or lowered on the inking-rollers; substantially as described.

843,830. RIBBON MECHANISM FOR TYPE-WRITING MACHINES. EMMIT G. LATTA, Friendship, N. Y., assignor of one-half to Harvey A. Moyer, Syracuse, N. Y. Filed Mar. 3, 1904. Serial No. 196,282.



Claim.—1. In a type-writing machine having a power-driven carriage, the combination of a main frame, two spools connected by a ribbon, a single support on which both of said spools are carried and which is movable in the machine to shift the ribbon, a power device for moving said spool-support and spools to shift the ribbon relative to the printing-point, and means connected to the carriage-driving mechanism for controlling said movement of the spool-support, substantially as set forth.

2. In a type-writing machine, the combination of a power-driven carriage, a ribbon, a support for the ribbon which is movable to shift the ribbon relative to the printing-point, a power device independent of the carriage-driving mechanism for moving said support, and means connected with the carriage-driving mechanism for controlling said movement of said support, substantially as set forth.

3. In a type-writing machine having a power-driven carriage, the combination of a movable spool-support, spools and a ribbon carried by said support, a spring for moving said support to shift the ribbon crosswise relative to the printing-point, and means movable in unison with the carriage to control said movement of the spool-support, substantially as set forth.

4. In a type-writing machine having a power-driven carriage, the combination of a movable spool-support, a ribbon and spools supported thereby, a spring for moving said support to shift the ribbon relative to the printing-point, and means connected with the carriage and acting to move the spool-support to shift the ribbon in the opposite direction when the carriage is returned by hand, substantially as set forth.

5. In a type-writing machine having a power-driven carriage, the combination of a pivoted ribbon-support, a spring acting to swing said support in one direction, and a rotary cam actuated by the carriage-driving power to control the swing of the ribbon-spool support in the opposite direction, substantially as set forth.

6. In a type-writing machine having a power-driven carriage, the combination of a pivoted ribbon-support, a spring acting to swing it in one direction, and a rotary cam actuated by the carriage-driving power for controlling the movement of said support by its spring and acting

to compress said spring with the return movement of the carriage, substantially as set forth.

7. In a front-strike type-writing machine having a laterally-moving platen, the combination of a ribbon-support pivoted at its front end on a substantially vertical axis and extending rearwardly toward the platen, and means for swinging the rear end of the ribbon-support laterally to shift the ribbon crosswise relative to the printing-point, substantially as set forth.

8. In a front-strike type-writing machine having a laterally-moving carriage, the combination of a ribbon-spool support pivoted to the machine-frame in front of the platen, and connections with the carriage for swinging the rear end of the spool-support laterally with the carriage, substantially as set forth.

9. In a front-strike type-writing machine having a laterally-movable carriage, the combination of a ribbon-support pivoted in front of the platen and extending rearwardly, a spring connecting the ribbon-support to a stationary part of the machine and acting to swing the ribbon-support in one direction, and means connected with the carriage-driving mechanism to swing the support in the opposite direction and compress its spring, substantially as set forth.

10. In a front-strike type-writing machine having a laterally-movable carriage, the combination of a ribbon-support movable laterally therewith, two independent driving powers, one for the ribbon-support and one for the carriage, and means connected with the carriage-driving mechanism for moving the ribbon-support in one direction against the action of its driving power by the return of the carriage for a new line, and for controlling the movement of the ribbon-support in the opposite direction, substantially as set forth.

11. In a front-strike type-writing machine having a power-driven laterally-movable carriage and platen, the combination of a ribbon passing downwardly in the direction of its length in front of the platen, and a power device other than the carriage-driving power for moving the ribbon in the direction of its width relative to the printing-point, substantially as set forth.

12. In a front-strike type-writing machine having a power-driven carriage, the combination of a ribbon-spool support having a spool at each end, and a supporting-pivot at one end, a spring acting to turn said support on its pivot in one direction, and means connected with the carriage-driving mechanism for turning the support on its pivot in the opposite direction and compressing its spring when the carriage is set back, substantially as set forth.

13. In a front-strike type-writing machine, the combination of a pair of of ribbon-spools arranged one in front and the other in rear of the printing-point, of a substantially horizontal connecting-support for the spools pivoted to swing laterally on a substantially vertical axis and having a central opening through which the type-bars vibrate to and from the printing-point, substantially as set forth.

14. In a front-strike type-writing machine, the combination of a pair of ribbon-spools arranged one in front and the other in rear of the printing-point, a support for said spools having a vertical pivot at its front end, and means to swing the rear end of said support from side to side so as to move the ribbon past the printing-point a distance equal to its available width with each full run of the carriage, substantially as set forth.

15. In a type-writing machine, the combination with a laterally-movable carriage, platen, and means for feeding the paper on the platen, of a ribbon-spool and ribbon supported independently of the carriage so that the relation of the carriage and ribbon changes with the movements of the carriage, and means actuated by the paper-feeding means for winding the ribbon on the spool, whereby the ribbon is wound on said spool simultaneously with the feeding of the paper, substantially as set forth.

16. In a type-writing machine, the combination of a carriage having a paper-platen, printing mechanism, means controlled by the printing mechanism to move the platen lengthwise, a hand-lever acting to feed the paper on the platen, a ribbon-spool mounted on the frame of the machine independently of the carriage, and connections actuated by the paper-feed lever for winding the ribbon on its spool whenever the lever is manually moved to feed the paper, substantially as set forth.

17. In a type-writing machine, the combination with a movable carriage, a platen, means for feeding the paper thereon, printing mechanism, and driving mechanism controlled by the printing mechanism for moving the carriage endwise step by step, of a ribbon, means controlled by the carriage-driving mechanism for moving the ribbon crosswise, and connections actuated by said paper-feeding means for moving the ribbon lengthwise, substantially as set forth.

18. In a type-writing machine, the combination with a movable carriage, a platen, means for feeding the paper thereon, printing mechanism, and driving mechanism controlled by the printing mechanism for moving the carriage endwise step by step, of a ribbon, and spool for the same, means connected with the carriage-driving mechanism for moving the ribbon crosswise, and connections actuated by said paper-feeding means for rotating said spool to wind the ribbon thereon, substantially as set forth.

19. In a type-writing machine, the combination with a laterally-movable platen, type-bars working against the platen-actuating means for the type-bars, and means for feeding the paper on the platen, of a ribbon supported independently of the carriage so that the relation of the carriage and ribbon changes with the movements of the carriage, and connections actuated by said paper-feeding means independently of said type-bar-actuating means for feeding the ribbon lengthwise, substantially as set forth.

20. In a type-writing machine, the combination with a rotatable laterally-movable platen, of a rotatable ribbon-spool supported independently of the carriage, means for rotating the platen, a bar or rod moving laterally with the platen, and connections between the bar or rod and the spool and platen rotating means for rotating the spool by the actuation of said platen-rotating means regardless of the lateral position of the platen, substantially as set forth.

21. In a type-writing machine, the combination with a platen, and means for feeding the paper thereon, of a ribbon, a vibrator acting to move the ribbon to and from the printing-point, means for moving the ribbon crosswise, and connections between said paper-feeding means and the ribbon for feeding the latter lengthwise, substantially as set forth.

22. In a front-strike type-writing machine, the combination of a pair of ribbon-spools arranged one in front and the other in rear of the printing-point, a spool-support having a vertical pivot at its front end on which it swings laterally, and a ribbon-guide pivoted to the spool-support at one end and adapted to vibrate the ribbon in a vertical direction, substantially as set forth.

23. In a front-strike type-writing machine, the combination of a pair of ribbon-spools arranged one in front and the other in rear of the printing-point, a spool-support hung on a vertical pivot at its front end and acting to swing the ribbon laterally, and a pivoted ribbon-carrier and means for vibrating the same vertically, substantially as set forth.

24. In a front-strike type-writing machine, the combination of a pair of ribbon-spools arranged one in front and one in rear of the printing-point, a pivoted support for said spools having a central opening for the passage of the type-bars, and a ribbon-guide pivoted on said support and holding the ribbon over the opening in the spool-support above the vibrating type-bars, substantially as set forth.

25. In a front-strike type-writing machine, the combination of a pair of ribbon-spools arranged one in front and one in rear of the printing-point, a spool-support pivoted to swing about a vertical axis at its front end, a ribbon-guide supported by a horizontal pivot at its front end and acting to lead the ribbon downwardly in front of the printing-point, and independent means for moving the spool-support and ribbon-guide on their pivots, substantially as set forth.

26. In a front-strike type-writing machine, the combination of a pair of opposable ribbon-spools arranged one in front and one in rear of the printing-point, a sliding bar,

and means for operating the same to turn either of the spools to wind the ribbon thereon, substantially as set forth.

27. In a front-strike type-writing machine, the combination of opposable ribbon-spools arranged one in front and one in rear of the printing-point, an offset bar having its front end under the front spool, and its rear end over the rear spool, means for operatively connecting either of its ends with the spool adjacent thereto and means for operating said bar to turn one spool, substantially as set forth.

28. In a front-strike type-writing machine, the combination of a pair of opposable ribbon-spools arranged one in front and one in rear of the printing-point, a bent bar for turning the spools, and a bent lever acting to hold one end of said bar out of connection with its spool, substantially as set forth.

29. In a front-strike type-writing machine, the combination of a pair of opposable ribbon-spools arranged one in front and one in rear of the printing-point, a curved bar for turning the spools, and a curved bar acting to hold one end of said bar out of connection with its spool and to release the other end and permit it to engage the other spool, substantially as set forth.

30. In a front-strike type-writing machine, the combination of a pair of opposable spools arranged one in front and one in rear of the printing-point, a curved bar for turning either of the spools, and a curved lever acting as a detent to guard against backward movement of the spool that is turned, substantially as set forth.

31. In a front-strike type-writing machine, the combination of a pair of opposable ribbon-spools arranged one in front and one in rear of the printing-point, a curved bar acting to turn one of the spools, and a curved lever acting as a positive detent on the spool that is turned, and as a friction-brake on the other spool, substantially as set forth.

32. In a front-strike type-writing machine, the combination of a pair of opposable ribbon-spools arranged one in front and one in rear of the printing-point, a ribbon-feed comprising a sliding curved bar acting to turn either one of the spools, and a pivoted curved lever acting to reverse the ribbon-feed by being turned on its pivot, and acting as a positive detent for either one of the spools and as a friction-brake for the other spool, substantially as set forth.

33. In a front-strike type-writing machine, the combination of opposable ribbon-spools arranged one in front and one in rear of the printing-point, a sliding curved bar acting to feed one of the ribbon-spools, and a ribbon-feed-reversing device consisting of a pivoted curved lever acting as a detent for one spool and a brake for the other, and means for holding the reversing-lever in either of two positions, substantially as set forth.

34. In a front-strike type-writing machine, the combination with a space-key, and a universal bar, of a ribbon, and means for connecting the ribbon with either the space-key or universal bar for vibrating the same, substantially as set forth.

35. In a front-strike type-writing machine, the combination with a space-key, and a universal bar, of a vibrating ribbon-carrier, and means for moving the vibrator to expose the printing-point with each movement of the space-key or with each movement of the universal bar as desired, substantially as set forth.

36. In a front-strike type-writing machine, the combination of a ribbon-vibrator, and a space-key arranged to move the ribbon-vibrator and expose the printing-point by its partial depression, and to release the carriage-escapement by its complete depression, substantially as set forth.

37. In a front-strike type-writing machine, the combination with a vertically and laterally movable ribbon-vibrator, of a pivoted indicator adapted to vibrate vertically with the ribbon, substantially as set forth.

38. In a front-strike type-writing machine, the combination with a laterally-movable ribbon-vibrator, of a scale bar or plate having pivots on each side of the ribbon-vibrator and arranged to vibrate up and down without lateral movement, substantially as set forth.

39. In a front-strike type-writing machine, the combination with a ribbon-vibrator, of a scale or center indicator which vibrates with said vibrator and is mounted to be moved independently of the vibrator away from the printing-point when so desired, substantially as set forth.

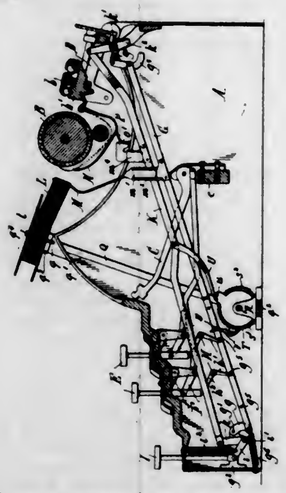
40. In a front-strike type-writing machine, the combination of a pair of opposable ribbon-spools arranged one in front and one in rear of and below the printing-point, a support for the spools, and a sheet-metal plate which has a central opening for the front spool and ribbon and covers and conceals the spool-support, substantially as set forth.

41. In a front-strike type-writing machine, the combination of a ribbon-spool support, ribbon-spools carried thereby one in front of the printing-point, a removable cover-plate which conceals the spool-support, and a scale or indicator pivoted on said removable cover-plate, substantially as set forth.

42. In a front-strike type-writing machine, the combination of a removable ribbon-spool support, ribbon-spools mounted thereon, and a removable cover-plate which conceals said spool-support and is removable therewith, substantially as set forth.

43. In a front-strike type-writing machine, the combination of a removable ribbon-spool support, ribbon-spools mounted thereon, a ribbon-vibrator mounted on said support, and a scale or indicator removably mounted on the machine independently of said spool-support, substantially as set forth.

843,831. TYPE-WRITING MACHINE. EMMIT G. LATTA, Friendship, N. Y., assignor of one-half to Harvey A. Moyer, Syracuse, N. Y. Filed Feb. 2, 1905. Serial No. 243,834.



Claim.—1. The combination in a type-writing machine, having a keyboard at the front and a carriage-escapement at the rear of the machine, of a universal bar extending rearwardly from the keyboard to the carriage-escapement, and a ribbon guide or vibrator supported by and moving with said universal connection, substantially as set forth.

2. The combination in a type-writing machine having a keyboard at the front and a carriage-escapement at the rear of the machine, of a universal bar extending rearwardly from the keyboard to the escapement, and a ribbon guide or vibrator rigidly connected to the universal bar, substantially as set forth.

3. The combination in a type-writing machine having a keyboard at the front and a carriage-escapement at the rear of the machine, of a universal connection extending rearwardly from the keyboard to the escapement, and a ribbon guide or vibrator detachably connected to and supported by the universal connection, substantially as set forth.

4. The combination in a type-writing machine, having a carriage-escapement, and a series of finger-keys in front thereof, of a universal connection extending rearwardly from the finger-keys to the escapement, and a ribbon guide or vibrator connected to the universal bar and acting to move the ribbon in a line substantially paralliel witn the connection, substantially as set forth.

5. The combination in a type-writing machine, having a platen, carriage-escapement, and a series of finger-keys arranged in front thereof, of a centrally-arranged universal bar extending rearwardly from the keys beneath the platen and movable in the direction of its length, and a ribbon guide or vibrator operatively connected to the universal bar, substantially as set forth.

6. The combination in a type-writing machine, having a carriage-escapement, and a series of finger-keys, of a universal-bar connection extending from the finger-keys to the escapement and movable in the direction of its length, and a ribbon guide or vibrator secured directly to the universal-bar connection and moving therewith, substantially as set forth.

7. The combination in a type-writing machine, having a carriage-escapement, and a space-key, of a connection between the carriage-escapement and the space-key, and a ribbon guide or vibrator mounted on said connection, substantially as set forth.

8. The combination in a type-writing machine, having a carriage-escapement, and a space-key, of a connection acting to transmit power from the space-key to the escapement, and a ribbon guide or vibrator rigidly secured to the space-key connection, substantially as set forth.

9. The combination in a type-writing machine, having a carriage-escapement, and a space-key, of a connecting-rod between the escapement and space-key, and a ribbon guide or vibrator detachably connected to and supported by the said rod, substantially as set forth.

10. The combination in a type-writing machine, having a platen, a carriage-escapement, and a space-key arranged in front thereof, of a connection extending from the space-key rearwardly beneath the platen to the carriage-escapement and movable in the direction of its length, and a ribbon guide or vibrator operatively connected to said connection, substantially as set forth.

11. The combination in a type-writing machine, having a carriage-escapement, and a space-key arranged in front thereof, of a connection extending rearwardly from the space-key to the escapement and movable in the direction of its length, and a ribbon guide or vibrator secured directly to the space-key connection and moving therewith, substantially as set forth.

12. The combination in a type-writing machine, having a carriage-escapement, and a series of finger-keys, of a universal connection, a key-operated connection for feeding the carriage independently of the universal connection, and means for vibrating the ribbon adapted to be supported by either the universal connection or the key-operated connection, substantially as set forth.

13. The combination in a type-writing machine, having a carriage-escapement, and finger-keys, of a universal bar, a key-actuated connection for operating the escapement independently of the universal bar, and means for vibrating the ribbon adapted to be supported either by the universal bar or by said key-operated connection, substantially as set forth.

14. The combination in a type-writing machine, having a carriage-escapement, and a series of finger-keys, of a universal bar, a space bar or lever, a ribbon-vibrator, and means for mounting the vibrator on either the universal bar or the space-bar, substantially as set forth.

15. The combination in a type-writing machine, having a carriage-escapement, and finger-keys, of a universal bar, a space-key and connection acting to release the escapement, the universal bar and space-bar moving in opposite directions from their normal position to actuate the escapement, and a ribbon guide or vibrator adapted to be connected fo either the universal bar or to the space-bar, substantially as set forth.

16. The combination in a type-writing machine, having a carriage-escapement, and finger-keys, of a universal bar, a ribbon-vibrator adapted to be supported by the universal bar to vibrate the ribbon upon the actuation of the several finger-keys, a key and connection for actuating the carriage-escapement independently of the universal bar, and a ribbon-vibrator adapted to be supported by said connection to vibrate the ribbon only when said key and connection are actuated, substantially as set forth.

17. The combination in a type-writing machine, having a carriage-escapement, and finger-keys, of a universal bar, a space-key and connection for actuating the escapement independently of the universal bar, said universal bar and space-key connection being constructed to independently support a ribbon-vibrator adjacent to the printing-point, substantially as set forth.

18. The combination in a type-writing machine, of a support for a ribbon-vibrator which is actuated each time an impression is made, an independent support for a ribbon-vibrator which is manually operated at will, and a ribbon-vibrator constructed for attachment to and adapted to be supported by one of said supports, substantially as set forth.

19. The combination in a type-writing machine, having a series of type-actuating keys, of a part which is moved by the actuation of the several keys, a part which is actuated independently of said other part by a special key, both of said parts being constructed to support a ribbon-vibrator, and a ribbon-vibrator constructed for attachment to one of said parts, substantially as set forth.

20. The combination in a type-writing machine, of a support for a ribbon-vibrator which is actuated each time an impression is made, an independent support for a ribbon-vibrator which is manually operated at will, a vibrator for a narrow ribbon constructed for attachment to said first support, and a vibrator for a wider ribbon constructed for attachment to said other support, substantially as set forth.

21. The combination in a type-writing machine, of a universal-bar connection, and a space-key connection both having a reciprocating movement but in opposite directions from their normal positions, and a ribbon guide or vibrator attachable to either connection, whereby the machine may be made to expose the printing-point either after each impression or upon the actuation of the space-key, substantially as set forth.

22. The combination in a type-writing machine having a movable carriage, drive means therefor, and a ribbon, of power-driven mechanism independent of the carriage drive means for feeding the ribbon, means independent of the carriage for operating said ribbon-feed mechanism to store power therein, and means for controlling the ribbon-feed mechanism and allowing it to feed the ribbon, substantially as set forth.

23. The combination in a type-writing machine, having a series of type-bars, a movable carriage, and a ribbon, of power-driven mechanism for feeding the ribbon, a key for operating said ribbon-feeding mechanism to store power therein, and a universal connection with the type-bars whereby the ribbon is caused to feed with each impression of one of the type-bars, substantially as set forth.

24. The combination in a type-writing machine, having a ribbon-feed shaft, and a series of type-bars, and a universal connection with the type-bars, of a driving-spring connected to the ribbon-feed shaft, and means controlled by said universal connection for releasing the spring to turn the shaft after each vibration of one of the type-bars independently of the movement of the other parts of the machine, substantially as set forth.

25. The combination in a type-writing machine, of a carriage-escapement, a ribbon-feed shaft, a power-driving mechanism for the same, a series of type-bars, a universal connection, and a ribbon-feed escapement independent of the carriage-escapement actuated by the universal connection to feed the ribbon with each vibration of one of the type-bars, substantially as set forth.

26. The combination in a type-writing machine having a ribbon and a space-key, of power-driving mechanism for the ribbon, and means by which the space-key operates to store power in said driving mechanism for the ribbon, substantially as set forth.

27. The combination in a type-writing machine having a ribbon, a space-key, and a universal bar, of motor-driven mechanism for moving the ribbon, and means operated by

the space-key for storing power in said motor and by the universal bar for releasing the motor, substantially as set forth.

28. The combination in a type-writing machine having a driven carriage, of a ribbon-driving mechanism independent of the carriage drive means, comprising an oscillating coiled spring, an escapement therefor, and means for oscillating the spring and releasing the escapement to move the ribbon, substantially as set forth.

29. The combination in a type-writing machine, having a ribbon-feed device and a series of type-operating keys, of a power-driven wheel, an escapement-wheel connected to said ribbon-feed device, a ratchet and pawl connecting said power-driven wheel and escapement-wheel, and means for turning said power-driven wheel to store power therein and for permitting the escapement-wheel to rotate upon the operation of the type-actuating keys, substantially as set forth.

30. The combination in a type-writing machine, having a carriage, and a ribbon, of a power-driven mechanism acting to feed the ribbon with each impression by one of the type, and means independent of the carriage for operating said power-driven mechanism to store power therein except at such times as it is fully stored, substantially as set forth.

31. The combination in a type-writing machine, having a ribbon, of a power-driven mechanism for moving the ribbon with each impression of a type-bar, a movable part acting to store power in the ribbon-driving mechanism, and means to cause the movable part to pass the power driving mechanism without action at such times as it is fully stored, substantially as set forth.

32. The combination in a type-writing machine, of a printing-point index, a space-bar, and a universal bar, and means to operatively connect either the space-bar or the universal bar to the index, substantially as set forth.

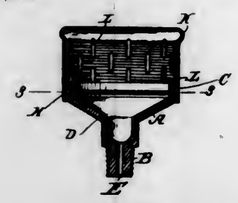
33. The combination in a type-writing machine, of a printing-point index, a space-key connection, a universal-bar connection, and a part adapted for connection with either the space connection or universal connection to operate the index, substantially as set forth.

843,832. COMBINATION-AUGER. MATT LINGOL, Telluride, Colo. Filed Feb. 24, 1906. Serial No. 302,803.



Claim.—The herein-described device comprising a shank having an externally-screw-threaded lower end and its upper end shaped to fit a rotating element, a cutting-disk having a central opening threaded to screw upon the threaded lower end of said shank, said disk being also formed with an irregular-shaped slot having one of its walls bent downwardly and beveled to provide a cutting edge, a sleeve having its upper portion internally screw threaded to screw upon the threaded lower end of said shank, the upper end of said sleeve being adapted to impinge against the bottom face of said cutting-disk to adjustably secure the latter upon said shank, the lower end of said sleeve being formed with a polygonal socket, a bit or auger having its polygonal-shaped inner or upper end removably engaged with the similar-shaped socket in the lower end of said sleeve, and a set-screw for retaining the bit or auger in said sleeve, substantially as shown and for the purposes set forth.

843,833. GREASE-CUP. CHARLES C. MARTENS, Long Island City, N. Y., assignor to Nathan Manufacturing Company, New York, N. Y. Filed Dec. 10, 1906. Serial No. 347,159.



Claim.—1. In a grease-cup, a stationary base provided with an externally-threaded rim, an internally-threaded cap screwing on said rim, a spring-acting detent-pin mounted upon the inside of the base, passing loosely through, and protruding slightly from, an opening in the rim on said base, there being depressions in the interior circumferential screw-threaded face of the cap, the arrangement being such that rotary movement of the cap upon the base will bring one or another of said depressions opposite to the point of the spring-acting detent-pin, in position to be engaged thereby, substantially as and for the purposes hereinbefore set forth.

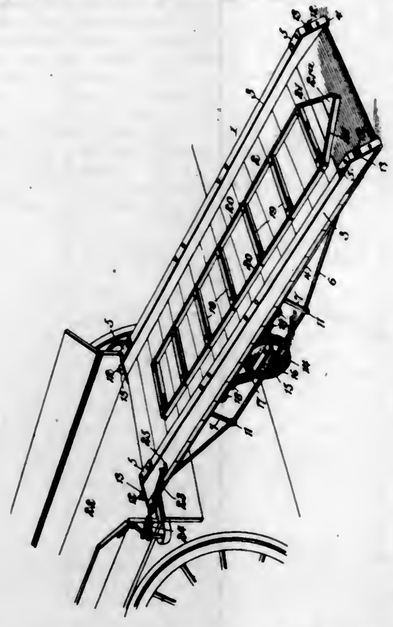
2. In a grease-cup and in combination with the base and the cap screwing on the base, a spring-yielding detent mounted on and protruding laterally from the base and a series of superposed grooves formed in the meeting face of the cap, extending crosswise of the same and distributed in offset and staggered position thereon for operation in connection with the detent, substantially as hereinbefore set forth.

843,834. HEADLIGHT-OPERATING MECHANISM. LOUIS J. MARTINEAU, Franklin, Mass. Filed Nov. 7, 1906. Serial No. 342,344.



Claim.—The combination in a headlight-operating mechanism, of a car-body, a horizontally-swinging truck pivotally connected therewith and carrying a bolt on which is an antifriction-roller, a vertical rock-shaft journaled in a bearing on the body and equipped with a headlight-carrier, a crank-arm fixed on the lower portion of the rock-shaft and carrying a bolt on which is an antifriction-roller, and a horizontally-swinging lever fulcrumed on the car-body and having a longitudinal slot in its forward arm receiving the antifriction-roller on the bolt of the crank-arm and also having a longitudinal slot in its rear arm receiving the antifriction-roller of the bolt on the truck.

843,835. TRUCK-SKID. FRANK G. MCGINNIS, Lynchburg, Va. Filed July 31, 1906. Serial No. 328,597.



Claim.—1. A skid comprising a platform, truss-rods located beneath the platform and connected at their ends to the same, struts depending from the platform and receiving the truss-rods, brackets secured to the platform and arranged beneath the same, an axle connected at its ends with the brackets, and wheels mounted on the axle.

2. A skid comprising a platform provided at its upper face with longitudinal side bars forming outer guards or guides, cleats mounted on the platform and terminating short of the side bars, and inner guards or guides arranged at the ends of the cleats.

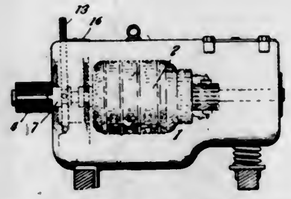
3. A skid comprising a platform provided at its upper face with longitudinal side bars forming outer guards or guides, cleats mounted on the platform and terminating short of the side bars, and inner guards or guides arranged at the ends of the cleats and having converging lower portions.

4. A skid comprising a platform, truss-rods located beneath and connected at their ends to the platform, struts depending from the platform and arranged in pairs and connected with the truss-rods, brackets secured to the lower face of the platform and located between the same and the intermediate portions of the truss-rods, an axle connected at its ends to the brackets and located above the truss-rods, and wheels mounted on the axle.

5. A skid comprising a platform provided at its upper face with longitudinal side bars forming outer guards or guides, and cleats mounted on the platform and projecting above the same and terminating short of the side bars.

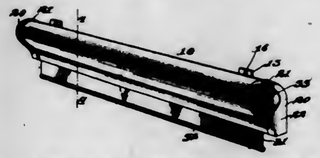
843,836. ATTACHMENT FOR MOTOR-ARMATURES. JOSEPH W. MCMANIMAN, Washington, N. J. Filed Oct. 11, 1906. Serial No. 338,476.

Claim.—1. In a car of the character described, the combination with a motor, its case, its armature and shaft, and the driving-axle of the car, of a driving-gear loose on the armature-shaft and operatively connected to the driving-axle, a clutch-collar mounted to slide on said shaft and held to turn therewith and arranged for engagement with the driving-gear on said shaft, and means for operating said collar, said means including a lever provided with an upwardly-projecting handle and means for locking the handle to the case of the motor, at the limit of movement of said lever.



2. In a car of the character described, the combination with a motor, its case, its armature and shaft, and the driving-axle of the car, of a driving-gear loose on the armature-shaft and operatively connected to the driving-axle, a clutch-collar mounted to slide on said shaft and held to turn therewith and arranged for engagement with the driving-gear on said shaft, and means for operating said collar, said means including a lever provided with an upwardly-projecting handle, the case being provided with a slot in which said handle works and with a removable lid adapted to lock the lever at the limit of its movement.

843,837. MAP-CASE. WELLS MCMASTER, Sound Beach, Conn. Filed Mar. 14, 1906. Serial No. 305,995.



Claim.—A sheet-metal map-case comprising a resilient longitudinal slotted body portion having a flattened rear face provided with a series of vertical dentations at each end thereof, cupped end portions provided with a series of vertical dentations which engage the dentations in said body portion, a map-roll within said body portion rotatably supported in said end portions, said end portions being provided with map-passing recesses in their rims of less depth than said rims, and means extending upwardly from said rear face of said body portion and in the plane thereof for suspending the case with the rear face against a wall, substantially for the purposes specified.

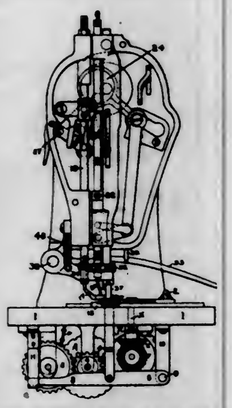
843,838. FOLDING ATTACHMENT FOR SEWING-MACHINES. HERMAN NEDERMAN, Troy, N. Y., assignor, by mesne assignments, to National Folding & Sewing Machine Co., Troy, N. Y., a Corporation. Filed Apr. 26, 1905. Serial No. 257,553.

Claim.—1. A device for folding over the edges of fabric to be stitched, consisting of a fold-guide, means coöperating therewith for folding the fabric, said means including a rotary hook; a means for causing said hook to rotate and in its rotation to press the edges of the goods into said fold-guide, substantially as described.

2. An attachment for sewing-machines, consisting of a fold-guide provided with an opening along one edge means coöperating therewith for folding the fabric, said means including a rotary hook; a means for imparting motion to said hook; said hook in its rotation forcing the edges of the goods into said opening in the edge of said fold-guide, substantially as described.

3. An attachment for sewing-machines, consisting of a fold-guide secured to the table of a sewing-machine; a bottom foot beneath the work; a means for causing said bottom foot to raise and lower in unison with the respectively lowering and raising of the presser-foot; a projection on the operating-surface of the bottom foot, near one edge thereof; a presser-foot; a projection along the operating-surface near one edge thereof; a rotary hook with means

for imparting motion to said hook, all substantially as described.



4. An attachment for sewing-machines, consisting of a fold-guide, means coöperating therewith for folding the fabric; a vertical post; a pivoted lever carrying said post; a ratchet on the end of said post; a dog engaging said ratchet; a lever connected with said dog, engaging a shaft; a means for imparting motion to said post corresponding to the feed motion of the machine; a lever by the operation of which said post is brought in contact with the work on the table of the machine, all substantially as described.

5. In a sewing-machine attachment; a fold-guide, means coöperating therewith for folding the fabric; a feeding mechanism; a device for turning the goods, consisting of a post having one end engaging with the goods to be operated upon; a ratchet attached to the other end of said post; a dog arranged to engage said ratchet; a pivoted lever supporting said post, ratchet and dog; a lever for operating said post; a means for imparting motion to said dog, whereby the dog will move the ratchet, and therefore, the post, in unison with the feed motion of the machine.

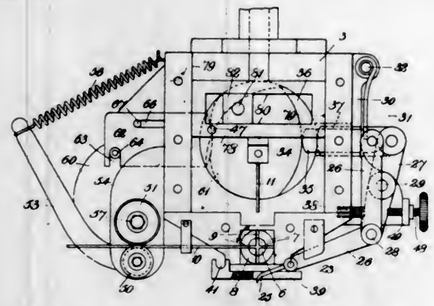
6. In an attachment for sewing-machines; a shaft; a means for applying power thereto; a series of gears operated by the movement of said shaft; beveled gears; a rotary hook set in motion by said gears; a fold-guide provided with a groove along one edge thereof secured to the table of a sewing-machine, means coöperating therewith for folding the fabric, said means including said rotary hook, substantially as described.

7. In an attachment for sewing-machines; a fold-guide, means coöperating therewith for folding the fabric; a shaft; means for applying power thereto; gears on said shaft; a gear with which one of said last-mentioned gears engages; a shaft; a cam thereon; a lever with which said cam engages; said coöperating means including a bottom foot; a spring holding said lever in contact with said cam.

8. In an attachment for sewing-machines; a fold-guide provided with an opening along one edge thereof; means for turning the edges of the material to be sewed over said fold-guide; a rotary hook, a means for causing said hook in its rotation to press said folded-over edges in the opening in said fold-guide; a walking-foot arranged to engage said material; and hold the same as the needle of the machine is withdrawn therefrom; all substantially as described.

843,839. BOOT AND SHOE MACHINERY. JONATHAN NORTHERN, Rushden, England. Filed Nov. 6, 1905. Serial No. 286,011.

Claim.—1. In a machine of the kind herein described the combination with means for feeding the wire and means for driving the slugs formed therefrom, of a stationary cutter disk formed with grooves or wire-passages, and an inner cutter-disk rotatable within said stationary disk and formed with passages to correspond, a cutter-shaft carrying said inner disk, a driving-shaft, an eccentric thereon, a sleeve on said cutter-shaft, an eccentric flange on said sleeve, a collar fixed on said cutter-shaft in close proximity to said flange and provided on its periphery with as many notches or teeth as there are wire-passages in the cutter-disks, a pawl on said flange engaging said collar so that as the driving-shaft rotates the eccentric thereon actuates the sleeve and flange, and hence the pawl, to move the cutter-shaft through a predetermined angle, and means for preventing the cutter-shaft at each such movement being moved beyond the point where the passages in the inner cutter-disk are in alinement with the passages in the stationary cutter-disk substantially as and for the purposes described.



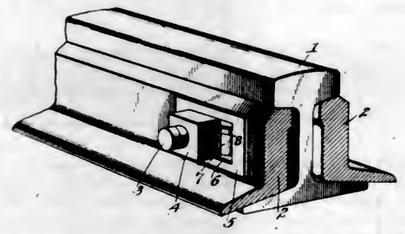
2. In a machine of the kind herein described the combination with means for feeding the wire and with means for driving the slugs formed therefrom, of a stationary cutter-disk formed with grooves or wire-passages, and an inner cutter-disk rotatable within said stationary disk and formed with passages to correspond, a cutter-shaft carrying said inner disk, a driving-shaft, an eccentric thereon, a loose sleeve on said cutter-shaft, an eccentric flange on said sleeve, a collar fixed on said cutter-shaft in close proximity to said flange and provided with a notched periphery, a pawl on said flange engaging said notched collar, a roller riding on said eccentric flange, a pivoted detent supported by said roller, so that toward the end of each movement of said cutter-shaft the flange allows the detent to drop into engagement with the notched collar and prevent the inner cutter-disk being moved beyond the point where the passages therein are in alinement with the passages in the stationary cutter-disk substantially as and for the purposes described.

3. In a slugging-machine of the kind herein described, means for feeding and perforating the stock comprising an awl, a pivoted carrier therefor, a rocking lever carrying said carrier, means for moving said carrier on its pivot to lower and raise the awl toward and from the stock in perforating the latter, and mechanism for actuating said rocking lever to move the awl and awl-carrier bodily backward and forward in feeding the stock substantially as described.

4. In a slugging-machine of the kind herein described means for feeding and perforating the stock comprising a pricker, a pivoted carrier therefor, a rocking lever carrying said carrier, a cam and springs for moving said carrier on its pivot to lower and raise the awl toward and from the stock in perforating the latter, a cam and spring for actuating said rocking lever to move the awl-carrier and awl bodily forward and backward in feeding the stock and means for determining the extent of said movement to regulate the pitch of the slugs substantially as described.

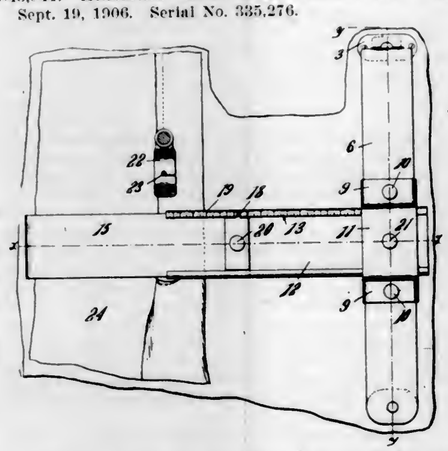
843,840. NUT-LOCK. ALBERT E. OGDEN, Birmingham, Ala. Filed Mar. 16, 1906. Serial No. 306,451.

Claim.—1. In a nut-lock the combination with a railroad-rail having fish-plates, a bolt passing through said plates and rail and a nut on said bolt to secure said rail and plates together; of a locking-plate having a slot therein to receive said nut and a locking-tongue at one end of said slot formed integral with the plate and normally extending at an acute angle to the longitudinal plane of the plate, the free end of said tongue being adapted to be directed into engagement with one side of the nut said locking-plate being of sufficient length to engage the fish-plate and prevent rotation of the locking-plate.



2. In a nut-lock the combination with a railroad-rail having fish-plates, a bolt passing through said plates and rail and a nut on said bolt to secure said rail and plates together; of a locking-plate having a slot therein to receive said nut the lower edge of said plate being adapted to engage a portion of the fish-plate and prevent the rotation of the plate, a locking-tongue at one end of said slot and integral with the plate, said tongue being normally at an acute angle to the longitudinal plane of the plate and engaging means at the free end of said tongue adapted to engage one side of the nut when said tongue is directed inwardly.

843,841. HEMMER. EMMA PAGE, Whittier, Cal. Filed Sept. 19, 1906. Serial No. 335,276.

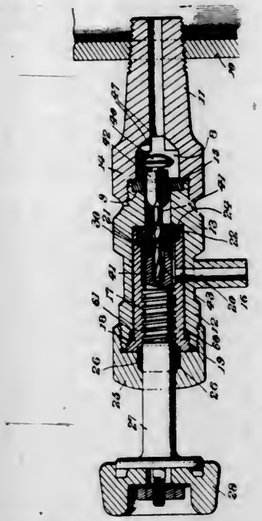


Claim.—An attachment for sewing-machines comprising a connecting-strip, means for fastening it to a sewing-machine, a sleeve adjustably mounted upon said strip, a guide-sleeve integral with and interposed between the ends of said sleeve, a graduated scroll-plate longitudinally adjustable within the guide-sleeve, means for fastening said plate in adjusted position, a strip longitudinally adjustable upon the scroll-plate and folded thereunder, said strip constituting a hem-guide, an index extending from said strip, and means for locking the strip in adjusted position, and a scroll upon the scroll-plate.

843,842. GAGE-COCK. ALOIS P. PRENDERGAST, Baltimore, Md. Filed June 14, 1906. Serial No. 321,776.

Claim.—1. In a gage-cock, the combination with the casing, of a valve and a seat therefor both within the casing; a stem for said valve; a sleeve removably fitting in the casing about the valve-stem and having screw-thread engagement with the latter, said sleeve being inclosed by the casing and held against rotation therein; and means removably holding the sleeve in the casing.

2. In a gage-cock, the combination with the casing, of a valve-seat therein; a valve-stem; a detachable valve on the stem adapted to coöperate with said valve-seat; a sleeve removably fitting in the casing about the valve-stem and having screw-thread engagement with the latter, said sleeve being inclosed by the casing and held against rotation therein; and means removably holding the sleeve in the casing.



3. In a gage-cock, the combination with the casing, of a valve and a valve-stem therefor; a sleeve removably fitting in the casing about the valve-stem and having screw-thread engagement therewith, said sleeve being inclosed by the casing and held against rotation therein; a separate valve-seat for the valve removably held in place by the sleeve; and means removably holding the sleeve in the casing.

4. In a gage-cock, the combination with the casing, of a valve and a valve-stem therefor; a separate removable seat for the valve; a sleeve removably fitting in the casing around the valve-stem and in screw-thread engagement with the latter, said sleeve being held against rotation in the casing and at its inner end engaging the valve-seat and securing it in place against an interior shoulder on the casing; and a cap-nut at the outer end of the casing about the valve-stem removably securing the sleeve within the casing.

5. In a gage-cock, the combination with the casing, of a valve and a valve-stem therefor; a sleeve removably fitting in the casing around and in screw-thread engagement with the valve-stem, said sleeve being held against rotation in the casing; a separate removable seat for the valve fitting in a counterbored seat at the inner end of the sleeve and held by the latter against an interior shoulder on the casing; and a cap-nut screw-threaded onto the end of the casing and removably securing the sleeve within the casing.

6. In a gage-cock, the combination with the casing, of a valve and a valve-stem therefor; a separate removable seat for the valve; a sleeve removably fitting in the casing around the valve-stem and in screw-thread engagement with the latter, the inner end of said sleeve engaging the valve-seat and securing it in place against an interior shoulder on the casing; a projecting lug on the sleeve engaging a notch in the casing when the sleeve is properly positioned in the latter; and a cap-nut screw-threaded onto the end of the casing and removably holding the sleeve in the casing.

7. In a gage-cock, the combination with a casing com-

prising two separably-connected parts, of a try-valve and a seat therefor within the outer part of the casing; a check-valve; and a removable seat for the check-valve independent of and apart from the try-valve seat, and held in place at the joint between said parts of the casing, and released upon detachment of said parts.

8. In a gage-cock, the combination with a casing comprising a spud and a valve-section, of a try-valve in a valve-section and means for opening and closing the same against a seat in said valve-section; a check-valve removable upon detaching the valve-section from the spud; and a seat for the check-valve secured between the spud and valve-section at the joint thereof and removable upon disconnection of said parts, said check-valve seat being independent of and apart from the try-valve seat.

9. The combination with a casing, of a try-valve mounted in the casing, and means for operating the same; a check-valve; and a connection between said valves holding the check-valve open in all ordinary positions of the try-valve and adapted to pull the check-valve to its closed position when the try-valve is opened to an extraordinary degree.

10. The combination with a casing, of a try-valve removably mounted in the casing, and means for operating the same; a check-valve; and a connection between said valves holding the check-valve open in all ordinary positions of the try-valve and adapted, upon opening of the try-valve to an extraordinary degree and removal of said try-valve from the casing, to first pull the check-valve to its closed position and then become disengaged to free the try-valve.

11. The combination with a casing, of a try-valve removably mounted in the casing; means for operating said try-valve including a valve-stem; a check-valve and stem therefor within the casing; and a connection between said valves including the stem of the check-valve engaging a socket in the inner end of the try-valve stem, said connection being adapted, upon opening of the try-valve to an extraordinary degree and removal of said valve from the casing, to first pull the check-valve to its closed position and then permit disengagement of the valve-stems to free the try-valve.

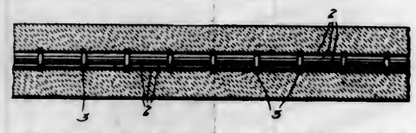
12. The combination with a casing, of a try-valve removably mounted in the casing and a stem for operating said valve; a check-valve; a flat-sided spiral stem therefor passing through a flat-sided opening in the try-valve, thereby forming a connection between said valve-stems transmitting to a check-valve ordinary movements of the try-valve, but permitting disconnection of the valve-stems upon withdrawal of the try-valve and its stem from the casing.

13. In a gage-cock, the combination with the casing, of a try-valve and a valve-stem therefor; a sleeve removably fitting in the casing around and in screw-thread engagement with the valve-stem, said sleeve being held against rotation in the casing; a removable seat for the try-valve held by the inner end of the sleeve against an interior shoulder on the casing; a cap-nut screw-threaded onto the outer end of the casing and removably securing the sleeve within the casing; a check-valve and seat therefor; and a flat-sided spiral on the check-valve stem passing through a flat-sided opening in the try-valve into a socket in the try-valve stem.

14. In a gage-cock, the combination with the casing, consisting of a spud and a valve-section, of a try-valve and a valve-stem therefor; a sleeve removably fitting in the valve-section around and in screw-thread engagement with the valve-stem, said sleeve being held against rotation in the casing; a removable seat for the try-valve held by the inner end of the sleeve against an interior shoulder on the valve-section; a cap-nut screw-thread onto the outer end of the valve-section and removably securing the sleeve therein; a check-valve in a chamber in the outer end of the spud; a seat for the check-valve secured between opposing shoulders on the spud and valve-section at the joint thereof; and a flat-sided spiral stem on the check-valve passing through a flat-sided opening in the try-valve into a socket in the try-valve stem.

15. The combination with a casing, of a try-valve and means for operating the same; a seat for said valve removably mounted in the casing, said seat consisting of an annulus or ring having an inwardly-projecting annular yielding flange with which the valve is adapted to engage.

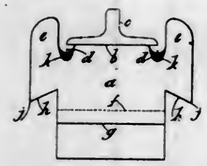
843,843. CONCRETE BUILDING CONSTRUCTION. ALBERT S. REAVIS, Washington, D. C. Filed Oct. 29, 1906. Serial No. 341,111.



Claim.—1. A bar adapted to be used as a core to be embedded in concrete, comprising an integral body having the outer surface thereof longitudinally fluted, and circumferential ribs interrupting the flutes and forming continuous annular shoulders for the purpose set forth.

2. A bar adapted to be used as a core to be embedded in concrete, comprising a solid body having the outer surface thereof longitudinally fluted, and circumferential ribs interrupting the longitudinal flutes and extending outward beyond the same and forming continuous annular shoulders for the purpose set forth.

843,844. THIRD-RAIL INSULATOR. ROBERT N. REDMAYNE, Newcastle-upon-Tyne, England. Filed Mar. 12, 1906. Serial No. 305,557.



Claim.—1. An insulator for electric conductors such as "live" rails comprising a body part, a supporting-surface on and longitudinal grooves in said body part, said longitudinal grooves forming lateral limits to said surface.

2. An insulator for electric conductors such as "live" rails comprising a body part, a supporting-surface and longitudinal flanges on said body part and longitudinal grooves in said body part, said longitudinal grooves forming lateral limits to said surface, and said flanges forming the outer sides of said longitudinal grooves.

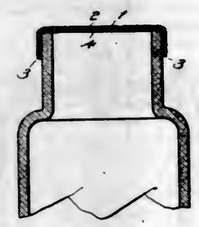
3. An insulator for electric conductors such as "live" rails comprising a body part, a supporting-surface on and longitudinal grooves in said body part, said longitudinal grooves forming lateral limits to said surface and means to prevent a continuous film of moisture between the surface of the insulator and the earth.

4. An insulator for electric conductors such as "live" rails comprising a body part, a supporting-surface on and longitudinal grooves in said body part, and undercut recesses in said body part, said undercut recesses forming dripping edges, and said longitudinal grooves forming lateral limits to said surface.

5. The combination with an electric conductor of an insulator, said insulator comprising a body part, a supporting-surface on and longitudinal grooves in said body part, said longitudinal grooves forming lateral limits to said surface, and said supporting-surface being of less width than the electric conductor.

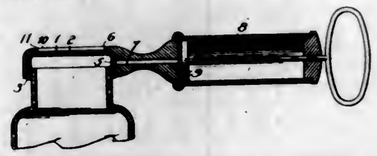
843,845. SEALING-CLOSURE FOR VESSELS. GEORGE T. REED, Baltimore, Md., assignor to Continental Jar and Bottle Stopper Company, Baltimore, Md., a Corporation of West Virginia. Original application filed Nov. 13, 1905, Serial No. 287,138. Divided and this application filed June 30, 1906. Serial No. 324,184.

Claim.—The herein-described closure for vessels consisting of a cap having a depending band and formed of a layer of adhesive fibrous lining supplemented by a layer of wire-cloth both layers being united under pressure to



cause the wire-cloth to be embedded into the surface of the adhesive fibrous lining.

843,846. VACUUM-CREATING DEVICE FOR JARS, &c. GEORGE T. REED, Baltimore, Md., assignor to Continental Jar and Bottle Stopper Company, Baltimore, Md., a Corporation of West Virginia. Filed June 30, 1906. Serial No. 324,185.



Claim.—1. For creating a vacuum in vessels, the combination with a sealing-cap, having an orifice in its wall, an air-pump having an elastic hood adapted to yieldingly envelop the sealing-cap and having an orifice adapted to effect communication with the pump and with the orifice in the sealing-cap.

2. The combination with a sealing-cap having a circumferential band pierced with an orifice, of an air-pump terminating in an elastic hood adapted to yieldingly envelop the sealing-cap and having an orifice adapted to register with the orifice in said cap, said hood having a top rim overhanging the sealing-cap to expose its top whereby communication with the pump-chamber and with the chamber of the vessel is effected by the registering orifices and cut off by depressing the cap carrying with it the pump-hood whereby the air is extracted and the vessel sealed before removing the air-pump.

3. Means for extracting air from vessels consisting of a sealing-cap and an enveloping-hood for said cap, the hood and the cap having registering orifices, and a pump having a channel in communication with the orifice in the hood.

843,847. RELEASE FOR FIRE-EXTINGUISHING APPARATUS. HERMANN SANDVOSS, Neuss, Germany. Filed July 13, 1906. Serial No. 326,000.

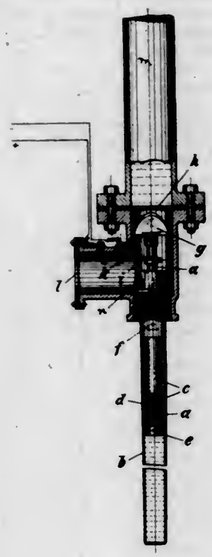
Claim.—1. In a controlling device for fire-extinguishers, a mercury-tube, an inclosed stem, a diaphragm, and means carried by the stem for breaking the diaphragm, substantially as specified.

2. In a controlling device for fire-extinguishers, a mercury-tube, an inclosed stem, a cutter carried thereby, and a diaphragm adapted to be engaged by the cutter, substantially as specified.

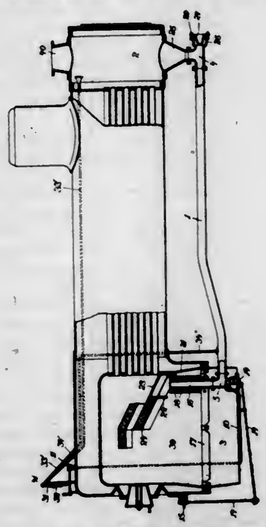
3. In a controlling device for fire-extinguishers, a mercury-tube, an inclosed stem, a flexible bag within the tube that embraces the stem, a cutter carried by the stem, and a diaphragm adapted to be engaged by the cutter, substantially as specified.

4. In a controlling device for fire-extinguishers, a mercury-tube, an inclosed stem, a diaphragm, means carried by the stem for breaking the diaphragm, and an alarm-contact controlled by the stem, substantially as specified.

843,847.



843,848. SMOKE-CONSUMER FOR LOCOMOTIVE AND LIKE BOILERS. KARL SCHLEYDER, Rakonitz, Austria-Hungary. Filed May 28, 1906. Serial No. 319,093.



Claim.—1. In a steam-boiler, in combination, a furnace, a smoke-chamber, a smoke and air ejector located in the furnace, a pipe connecting the bottom of the smoke-chamber with the ejector, means for regulating the air-supply to the ejector and to the said connecting-pipe, and a differential liquid draft-meter, the one side of which is exposed to the action of the main current from the furnace, while the other side is exposed to the return-current from the smoke-chamber, substantially as set forth.

2. In a steam-boiler, in combination, a furnace having an ash-pan, a grate, a smoke-chamber, a smoke and air ejector comprising a vertical pipe open at both ends and projecting from the ash-pan, through the grate into the furnace-chamber, superposed internally-ribbed rings sur-

rounding the said vertical pipe, means for regulating the air-inlet to the pipe, and a perforated device for admitting steam into the said pipe, a pipe connecting the bottom of the smoke-chamber with the ejector, means for regulating the air-supply to the said connecting-pipe, and a differential liquid draft-meter, the one side of which is exposed to the action of the main current from the furnace, while the other side is exposed to the return-current from the smoke-chamber, substantially as set forth.

3. In a steam-boiler, in combination, a furnace, an ash-pan therein, a grate, a smoke-chamber, a smoke and air ejector comprising a vertical pipe open at either end and projecting from said ash-pan, through the grate into the furnace-chamber, superposed internally-ribbed rings surrounding the said vertical pipe, means for regulating the air-inlet to the pipe, and a perforated device for admitting steam into the said pipe, a pipe connecting the bottom of the smoke-chamber with the ejector, means for regulating the air-supply to the said connecting-pipe, consisting of a truncated, flanged hollow cone, adjustably secured at the mouth of the pipe which is widened for its reception, and a differential liquid draft-meter one side of which is exposed to the action of the main current from the furnace and the other side to the return-current from the smoke-chamber, substantially as set forth.

4. In a steam-boiler, in combination, a furnace, an ash-pan therein, a grate, a smoke-chamber, a smoke and air ejector comprising a vertical pipe open at both ends and projecting from the said ash-pan, through the grate into the furnace-chamber, superposed internally-ribbed rings surrounding the said vertical pipe, means for regulating the air-inlet to the pipe, and a perforated device for admitting steam into the said pipe, a refractory inverted box located at the furnace-arch, and presenting a dependent screen protecting the top of the said vertical ejector-pipe, a pipe connecting the bottom of the smoke-chamber with the ejector, means for regulating the air-supply to the said connecting-pipe, and a differential liquid draft-meter, one side of which is exposed to the action of the main current from the furnace and the other side to the return-current from the smoke-chamber, all substantially as and for the purpose set forth.

843,849. GLASS-PRESS. ERNEST C. SCHRADER, Knoxville, Pa. Filed Dec. 22, 1905. Serial No. 292,948.

Claim.—1. In a pressing mechanism, the combination of a pressing mechanism, a mold-table, a continuously-operating power-shaft, continuously in driving relation to the table, and means operative by the shaft for alternately nullifying the function due to such relation and connecting the pressing mechanism to the shaft.

2. In a pressing mechanism, the combination of a continuously-operating power-shaft, a table having a frictional driving connection with said shaft, a pressing mechanism and means controlled by the pressing mechanism for locking the table.

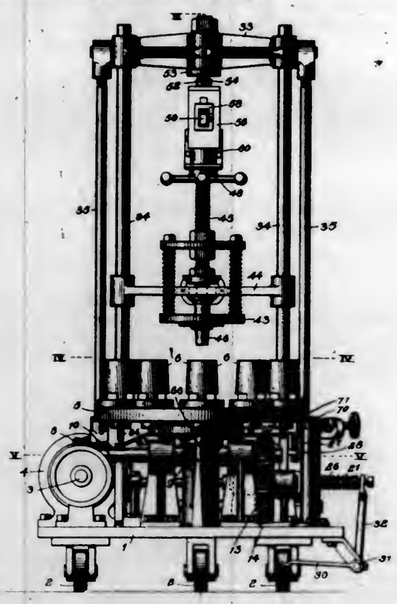
3. In a pressing mechanism, the combination of a continuously-operating power-shaft, a table having a frictional driving connection with said shaft, a pressing mechanism, a table-lock, means for connecting the pressing mechanism to the power-shaft, said lock and connecting means being controlled by the pressing mechanism.

4. In a pressing mechanism, the combination of a continuously-operating power-shaft, a table having a frictional driving connection with said shaft, a pressing mechanism, and means controlled by the table for connecting the pressing mechanism with the power-shaft.

5. In a pressing mechanism, the combination of a plunger, a cross-head, means for operating the cross-head and a yielding connection between the cross-head and plunger whereby the pressure exerted by the plunger may vary automatically in proportion to the resistance to the plunger.

6. In a pressing mechanism the combination of a plunger, a cross-head, means for operating the cross-head and an adjustable and varying yielding connection between the cross-head and plunger, whereby the pressure exerted by the cross-head may vary automatically in proportion to the resistance to the plunger.

7. In a pressing mechanism, the combination of a plunger, a cross-head, means for operating the cross-head, a connection from the cross-head to the plunger presenting a gradually-decreasing resistance to the movement of the cross-head independent of the plunger.



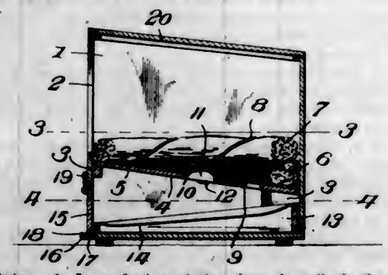
8. In a pressing mechanism, the combination of a plunger, levers pivotally connected to the plunger, weights movably mounted on the levers, and a cross-head operative on the levers to shift the plunger.

9. In a pressing mechanism, the combination of a mold-table, means for rotating the table, ejectors for forcing articles from the molds, a track for shifting the ejectors and means for shifting the track.

10. In a pressing mechanism, the combination of a continuously-operating power-shaft, a mold-table having a frictional driving connection to said shaft, a pressing mechanism and means for intermittently connecting the pressing mechanism to the power-shaft.

11. In a pressing mechanism, the combination of a continuously-operating power-shaft, a mold-table having a frictional driving connection to said shaft, means for arresting the movement of the table, a pressing mechanism, a clutch mechanism for connecting the pressing mechanism to the power-shaft, and means operative by the pressing mechanism to open the clutch and to shift the table-arresting means.

843,850. NEST. PEDER E. SMIDESANG, Wylie, Minn. Filed Sept. 19, 1906. Serial No. 335,338.



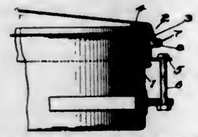
Claim.—1. In a device of the class described, the combination with a suitable housing having an opening in one end thereof, of an inclined floor in said housing, a padding on said floor, a cushioning-ring disposed around the edges of said floor and resting upon said padding, said floor having an opening therethrough near its inclined end and means below said opening to catch the eggs descending through the opening.

2. In a device of the class described, the combination with a housing having an opening in one end thereof, of an inclined floor having an opening therein, a covering on said floor, a padding for said floor, a cushioning-ring resting on said padding, a frame below said floor and a flexible device on said frame adapted to receive and prevent the breakage of eggs descending through said opening in the floor.

3. In a device of the class described, the combination with a housing having an opening in one end thereof, of an inclined floor in said housing having an opening near its rear end, a padding on said floor, a flexible cushioning-ring disposed upon said padding, a decoy-egg secured in an opening in said floor, a tapered frame below said floor, a flexible covering for said frame and a door in the forward end of said housing.

4. In a device of the class described, the combination with a housing having an opening in one end thereof, a removable cover for said housing and a door in one end of said housing below the opening therein, of an inclined floor having an opening near its rear end, a covering for said floor, a padding secured to said floor, a cushioning-ring above said padding, said ring and floor being removably secured in said housing, a tapered frame below said floor and a flexible covering for said frame.

843,851. TAILPIECE FOR STRINGED MUSICAL INSTRUMENTS. ELEANOR D. SON, Utica, N. Y. Filed Nov. 9, 1906. Serial No. 342,634.



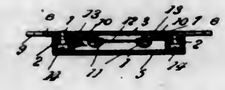
Claim.—1. As a new article of manufacture, a tailpiece for stringed musical instruments comprising a body portion having a transverse rib formed therefrom by bending the body portion upon itself, said rib having a plurality of open string-slots each provided with an enlarged terminal.

2. As a new article of manufacture, a tailpiece for stringed musical instruments comprising a body portion provided with a transverse corrugation having spaced walls, said corrugation having continuous string-slots provided in both walls, said slots having in one wall enlarged portions permitting the passage of the string-knots to the open space between said walls, whereby said knots may be housed within said transverse corrugation.

3. As a new article of manufacture, a tailpiece for stringed musical instruments comprising a body portion formed of a single piece of metal, and provided with a transverse corrugation having spaced walls, said corrugation having continuous string-slots provided in both walls, said slots having in one wall enlarged portions permitting the passage of the string-knots to the open space between said walls, whereby said knot may be housed within said transverse corrugation.

4. As a new article of manufacture, a tailpiece for stringed musical instruments formed of a single piece of sheet metal and comprising a body portion and oppositely-bent end portions, one end portion having provisions for securing the tailpiece to the instrument, said body portion having a transverse corrugation struck therefrom and having spaced walls provided with string-slots, said slots being provided in one of the walls with enlarged terminal portions permitting the passage of string-knots to the space between said walls, whereby said knots may be housed within said transverse corrugation.

843,852. FUSE OR ELECTRIC CUT-OUT. CHARLES A. STELLER, Jr., Jersey City, N. J. Filed May 28, 1906. Serial No. 319,192.



Claim.—1. In a device of the character described, the combination of a case comprising end pieces and oppositely-disposed sides, a cover loosely mounted upon the case, a bottom, the ends of which are spaced from the before-mentioned end pieces of the case, terminals secured to the case, one end of each of the terminals extending into the case through the space formed between the bottom and the end pieces, while the opposite end of each of the terminals projects outwardly and is provided with means for forming a connection, and a fuse-wire having its ends detachably connected to the inwardly-extending ends of the terminals.

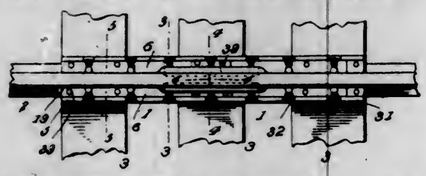
2. In a device of the character described, the combination of a case comprising end pieces and oppositely-disposed sides, a cover removably connected to the case, a bottom having the ends thereof spaced from the before-mentioned end pieces of the case, a pair of terminals, each of which comprises a head and a shank, the shanks being secured to the end pieces and extending inwardly within the case, while the heads project outwardly and are provided with means for forming a connection, and a fuse-wire having its ends detachably connected to the inwardly-extending shanks of the terminals.

3. In a device of the character described, the combination of a case comprising end pieces and oppositely-disposed sides, a cover detachably connected to the case, a bottom having the ends thereof spaced from the before-mentioned end pieces of the case, a pair of terminals each of which comprises a shank and a head, the shanks being secured to the before-mentioned end pieces and projecting inwardly within the case, while the heads project outwardly and are provided with means for forming a connection, plastic material placed at the points where the shanks of the terminals enter the case, and a fuse-wire having its ends detachably connected to the inwardly-extending shanks of the terminals.

4. In a device of the character described, the combination of a case comprising end pieces and oppositely-disposed sides, the lower edges of the sides projecting somewhat beyond the end pieces, a removable cover for the case, a pair of terminals each of which comprises a shank and a head, the shanks being secured to the end pieces between the before-mentioned outwardly-projecting edges of the sides and extending inwardly within the case, while the heads are provided with means for forming a connection, a bottom for the case, the ends of which are spaced from the before-mentioned end pieces, and a fuse-wire having its ends detachably connected to the inwardly-extending shanks of the terminals.

5. In a device of the character described, the combination of a case comprising end pieces and oppositely-disposed sides, the longitudinal edges of which project outwardly beyond the end pieces, a cover slidably mounted between the outwardly-projecting portions of the sides upon the front of the case, a bottom located between the outwardly-projecting edges of the sides upon the back of the case, the ends of the bottom being spaced from the before-mentioned end pieces, a pair of terminals each of which comprises a shank and a head, the shanks being secured to the end pieces between the outwardly-projecting edges of the sides and extending within the case where they are bent upwardly and inwardly and reduced in cross-section, while the heads of the terminals extend outwardly and are provided with means for making a connection, and a fuse-wire having its ends detachably connected to the inwardly-projecting portions of the shanks of the terminals.

843,853. RAIL-JOINT. JESSE A. J. VANCE, Mohawk, Tenn. Filed May 29, 1906. Serial No. 319,325.



Claim.—1. In a rail-joint, an inner chair member, an outer chair member, and intermediate chair members or fish-plates, the latter engaging said outer member and said inner member and the rails therein.

2. In a rail-joint, an inner chair member, an outer chair member, intermediate chair members, and adjustable braces between the latter and said outer member.

3. In a rail-joint, an inner chair member to engage the bases, base-flanges and web portions of the meeting ends of two rails, an outer chair member, intermediate chair members or fish-plates to engage said outer member, said inner member and said rails, transverse pins in said rails engaged with said intermediate members, and adjustable braces between said outer member and said intermediate members.

4. In a rail-joint, an inner chair member to engage the bases, base-flanges and web portions of the meeting ends of two rails, an outer chair member, intermediate chair members or fish-plates to engage said outer member, said inner member and said rails, transverse pins in said rails engaged with said intermediate members, means for permitting sand and the like entering between the ends of the rails to pass out of the joint, and tension-screws arranged between said outer member and said intermediate members.

5. In a rail-joint, an inner chair member to engage the bases, base-flanges and web portions of the meeting ends of two rails, an outer chair member, intermediate chair members or fish-plates to engage said outer member, said inner member and said rails, transverse pins in said rails engaged with said intermediate members, an apertured block or lug upon said inner member and engaged with recesses in the ends of said rails, a transverse outlet-passage in said outer member beneath the aperture in said block, screws engaged with seats in said outer member and said intermediate member, and nuts upon said screws, substantially as described.

6. In a rail-joint, an inner chair member to engage the bases, base-flanges and web portions of the meeting ends of two rails, an outer chair member, intermediate chair members or fish-plates to engage said outer member, said inner member and said rails, transverse pins in said rails engaged with said intermediate members, an apertured block or lug upon said inner member and engaged with recesses in the ends of said rails, a transverse outlet-passage in said outer member beneath the aperture in said block, screws engaged with seats in said outer member and said intermediate member, nuts upon said screws, means for preventing said screws from rotating, and tongues upon said inner member to engage grooves in said intermediate members, the latter and said outer member having alining apertures to receive spikes or the like, substantially as described.

7. In a rail-joint, an inner chair member to engage the meeting ends of two rails, an outer chair member, and an adjustable brace between said members.

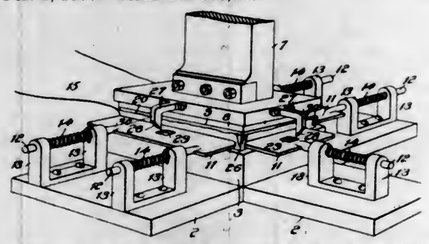
8. In a rail-joint, an inner chair member to engage the meeting ends of two rails, an outer chair member, a tension-screw between said members, and a nut upon said screw.

9. In a rail-joint, an inner chair member to engage the meeting ends of two rails, an outer chair member, an intermediate member between said outer and inner members, and an adjustable brace between the outer member and the intermediate member.

10. In a rail-joint, an inner chair to engage the meeting ends of two rails, the latter having recesses formed in their ends, an apertured block upon said member and seated in said recesses, and an outer chair member having a transverse groove to aline with the aperture in said block, for the purpose set forth.

11. In a rail-joint, an inner chair member to engage the bases, base-flanges and web portions of the meeting ends of two rails, said member having alining apertures to register with apertures in said rails, transverse pins in said apertures, an outer chair member having side flanges, spike-receiving apertures, screw-receiving apertures and a transverse groove upon its bottom, intermediate chair members engaged with the flanges of said outer member and with the outer faces of the inner member and the two rails, said intermediate members having spike-receiving apertures, screw-receiving sockets, and pin-receiving sockets, screws engaged with the screw-receiving sockets in said outer member and said intermediate members, and nuts upon said screws, substantially as described.

843,854. MACHINE FOR PRESS-FORMING FIBER DISHES. FRANK W. WATERMAN, Baltimore, Md., assignor to Continental Jar and Bottle Stopper Company, Baltimore, Md., a Corporation of West Virginia. Filed Feb. 2, 1906. Serial No. 299,138.



Claim.—1. In a machine for press-forming fiber dishes, a fixed chambered die of rectangular form the chamber-walls flaring upward and terminating in shearing edges, a bottom of the chambered die spring-sustained to support the dish-blank on a level with the top of the die-chamber, a vertically-movable conical die having corresponding shearing edges and adapted to press the dish-blank upon the bottom to form the dish within the die-chamber and to depress the bottom during such formation, and spring-pressed plates each forming a straight edge fixed in its relation to the die-chamber supported on top of and at the sides of the die-chamber, each plate normally overhanging the shearing edges of the die-chamber whereby to engage the under side of the dish-blank as it is depressed and force it against the conical die-forming walls, and means adapted to engage and retract the spring-pressed plates to uncover the shearing edges of the die-chamber in the descent of said conical die.

2. In a machine for press-forming fiber dishes, a fixed chambered die of rectangular form the chamber-walls flaring upward and terminating in shearing edges, a movable conical die having corresponding shearing edges, plates slidable horizontally on top of and at the sides of the die-chamber each plate normally overhanging the shearing edges of said chambered die, means consisting of a spring-pressed guide-stem for yieldingly sustaining each plate in being forced outward by the descent of the die, means carried by the movable die whereby in its descent each plate is caused positively to be engaged and moved outward and held to allow the shearing action of the dies.

3. In a machine for press-forming fiber dishes, a fixed chambered die of rectangular form the chamber-walls flaring upward terminating in shearing edges; a movable conical die having corresponding shearing edges, spring-pressed plates slidable horizontally on top of at each side and at one end of the chambered die, each plate normally overhanging the shearing edges of said chambered die, means for yieldingly sustaining each plate in being forced outward by the descent of the die, means carried by the movable die whereby in its descent each plate is caused to engage and be moved outward and held to allow the shearing action of the dies, a roll supported at the other end of the chambered die adapted to contain a roll of paper in position to allow it to be fed therefrom over the die-chamber and caused to be pressed therein from the roll by the descent of the die, and a spring-sustained bottom of the die-chamber adapted to support the paper under the clamping action of the movable die and to descend with it in the die-chamber.

4. In a machine for press-forming fiber dishes, a fixed chambered die of rectangular form the chamber-walls flaring upward terminating in shearing edges, a movable conical die having corresponding shearing edges, spring-pressed plates slidable horizontally on top of at each side and one end of the chambered die, each plate normally overhanging the shearing edges of said chambered die, means for yieldingly sustaining each plate in being forced outward by the descent of the die, means carried by the movable die whereby in its descent each plate is caused to be engaged and moved outward and held to allow the shearing action of the dies, and a roll supported at the other end of the chambered die adapted to contain a roll of paper in position to allow it to be fed therefrom over the die-chamber and caused to be pressed therein from the roll by the descent of the die.

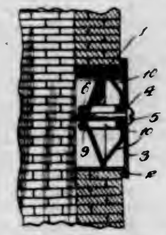
5. In a machine for press-forming fiber dishes a fixed chambered die of rectangular form the chamber-walls flaring upward terminating in shearing edges, a movable die having corresponding shearing edges, a bottom for the chambered die normally spring-sustained on a level with the top of said die-chamber to form a yielding support on which the paper is clamped by the movable die, horizontal plates slidable on top of the chambered die, each plate normally overhanging the shearing edges of the chambered die, means for feeding a continuous sheet of paper to said die upon said plates, means for yieldingly sustaining each plate in its function of forming the dish, whereby the bottom and the sides of the dish are formed under pressure with fullness or crimps compacted or welded in the corners.

6. In a machine for press-forming fiber dishes, a fixed chambered die of rectangular form the chamber-walls flaring upward terminating in shearing edges, a movable die having corresponding shearing edges, a plate slidable horizontally on top of and at the sides of the chambered die, each plate having its edge normally overhanging the shearing edge of said chambered die and provided with a slot, means for yieldingly sustaining each plate in being forced outward by the descent of the die, means carried by the movable die adapted to enter and engage the slot of each plate to move it outward by the descent of said die, said means also adapted for holding each plate in its retracted position to allow the shearing action of the dies.

7. In a machine for press-forming fiber dishes, a fixed chambered die of rectangular form the chamber-walls flaring upward terminating in shearing edges, a movable conical die having corresponding shearing edges, a plate slidable horizontally on top of and at the sides of the chambered die, each plate normally overhanging the shearing edge of said chambered die and provided with a slot, means for yieldingly sustaining each plate in its outward movement caused by the descent of the die, brackets projecting from the sides of the movable die, the end of each bracket having a vertical face terminating in a depending wedge point and adapted by the descent of the die to enter the slot of each plate to move it outward and to hold it retracted to allow the shearing action of the dies.

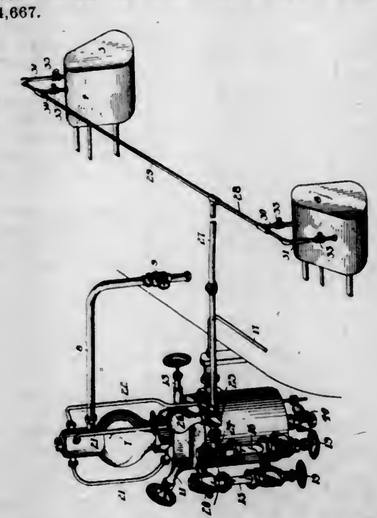
8. In a machine for press-forming fiber dishes, a fixed chambered die of rectangular form the chamber-walls flaring upward and terminating in shearing edges, a movable die having corresponding shearing edges, plates slidably mounted on the top of and at the sides of the die-chamber, each plate normally overhanging the shearing edges of said chambered die and arranged to be forced outward by the descent of the movable die and spring forced inward in forming the dish, a yielding bottom for the chambered die, and means carried by the movable die whereby each plate is caused to be moved outward and held to allow the shearing action of the dies.

843,855. FLUE-STOP. WILLIAM WELLER, Mineral City, Ohio. Filed Feb. 21, 1906. Serial No. 302,301.



Claim.—The combination of a flue, a cover-plate fitting over the mouth of the flue, a clamping member spaced from the cover-plate and fitting within the flue, the said clamping member being formed from a piece of sheet material having a radial cut therein and bent to cause the edges of the radial cut to overlap each other and give the clamping member an aproximately conical formation, the hollow side of the clamping member facing the cover-plate, intersecting strips of material interposed between the clamping member and the cover-plate, the intermediate portions of the intersecting strips bearing against the cover-plate, while the ends thereof are bent outwardly to form arms which engage with the base of the clamping member and hold the same a fixed distance from the cover-plate, a nut located at the apex of the clamping member and held in position by means of tongues bent outwardly therefrom, and a clamping-bolt passing through the cover-plate and intersecting strips and engaging with the before-mentioned nut whereby the apex of the clamping member can be drawn inwardly toward the cover-plate and the base of the clamping member expanded and thrown into a close engagement with the flue.

843,856. SIGHT-FEED LUBRICATOR. PETER WERTZ, McKees Rocks, Pa. Filed July 3, 1906. Serial No. 324,667.



Claim.—1. In a sight-feed lubricator, the combination of an oil-reservoir, means for supplying steam-pressure thereto, an oil-pipe including a regulating-valve leading therefrom, a plurality of tallow-pipes connected to said oil-pipe, and a choke-plug in each tallow-pipe adjacent to its outer end.

2. In a sight-feed lubricator, the combination of an oil-reservoir, an oil-pipe leading therefrom, an equalizing-pipe connected to the oil-pipe for feeding the oil, and an auxil-

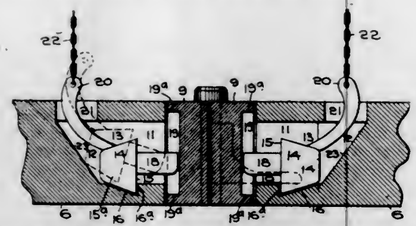
liary equalizing-pipe constantly open to steam-pressure and connected to the outlet of the oil-pipe and acting as an injector.

3. In a sight-feed lubricator, the combination of an oil-reservoir, means for supplying steam-pressure thereto, an oil-feed pipe leading from the reservoir, an equalizing-pipe connected to the outlet end of the oil-pipe, a pipe connected to the exit-opening of the oil-feed pipe, a fitting into which said pipe projects, and an auxiliary equalizing-pipe connected to said fitting and acting as an injector.

4. In a sight-feed lubricator, the combination of an oil-reservoir, an oil-pipe leading therefrom and provided with a regulating-valve, an equalizing-pipe connected to said oil-pipe and acting to draw the oil therefrom, a pipe leading from the outlet of said equalizing and oil-feed pipes, a fitting into which said pipe projects, an auxiliary equalizing-pipe connected to said fitting to the rear of the end of said pipe, and connections for a plurality of tallow-pipes from said fitting.

843,857. WITHDRAWN.

843,858. CAR-COUPLING. SOLOMON W. WIBEL, WILLIAM R. CUNNINGHAM, and WILLIAM G. WHEELER, Denver, Colo. Filed Sept. 6, 1906. Serial No. 333,545.



Claim.—1. A car-coupler comprising in combination a draw-head, a recessed knuckle pivoted therein, a key adapted to maintain the latter in locked position, the said key having a projection arranged to enter the recess in the knuckle of a similar coupler when the two knuckles are interlocked.

2. A car-coupler comprising in combination a draw-head, a knuckle pivoted therein and having a vertical groove in its outer face, a key adapted to maintain the knuckle in locked position, the said key having a projection arranged to enter the groove in the knuckle of a similar coupler, when the two knuckles are interlocked.

3. A car-coupler comprising in combination a draw-head, a vertically-grooved knuckle pivoted therein and a horizontally-elongated projection on the said draw-head, adapted to enter the groove in the knuckle on a similar coupler when the two knuckles are interlocked.

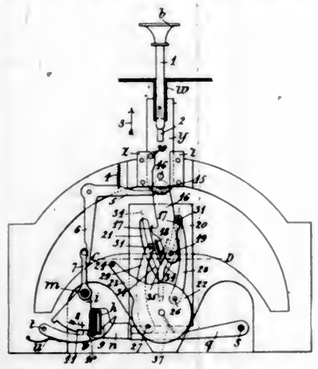
4. A car-coupler comprising in combination a draw-head, a recessed knuckle pivoted therein, and a longitudinally-movable locking-key having a projection arranged to enter the recess in the knuckle on a similar coupler when the two knuckles are interlocked.

5. A car-coupler comprising in combination a draw-head having a recess terminating in an inclined plane and having a shoulder, a recessed knuckle pivoted therein, a locking-key held against lateral displacement within the recess and arranged to engage the shoulder and to be propelled upon the said plane, the said key having a projection adapted to enter the recess in the knuckle on a similar coupler when the two knuckles are interlocked.

6. A car-coupling comprising in combination two draw-heads, knuckles pivoted therein, and having recesses in their outer faces, and a locking-key on each draw-head having an integral projection arranged to enter the recess in the knuckle on the opposite draw-head, when the knuckles are in the locked position.

7. A car-coupler comprising in combination, a draw-head, a knuckle pivoted therein, and means on the said draw-head to hold the knuckle of a similar coupler against lateral and arcuate movement while allowing a limited vertical movement of its draw-head.

843,859. COIN-FREED APPARATUS FOR PICTURE POST-CARDS AND THE LIKE. SÖREN WISTOFT, Copenhagen, Denmark. Filed Mar. 6, 1906. Serial No. 304,480.



Claim.—1. In an apparatus for delivering post-cards and the like, an angular card-frame rigidly secured within an outer box and arranged to contain the card groups, the frame being provided with two slots for passage of the cards and with a bottom having a slot, a pin projecting through the slot, and means for moving said pin, the parts being arranged and combined substantially as set forth.

2. The combination of a pin 24 for ejecting the cards, an oscillating disk 22 carrying said pin, two links 28, 29 each pivotally connected with disk 22 at one end and at the other end arranged to slide in guide-groove 21, a plate 16 carrying a guide-pin 19 sliding in the guide-groove 21 and provided with two hooks 17, and means for moving the plate 16 forward and backward.

3. In an apparatus for delivering post-cards and the like, the combination with the frame for containing the cards, of two pins for ejecting the cards, one of said pins arranged to lie below the lowest of the cards and the other below the lowest but one, and means for moving both said pins, substantially as explained.

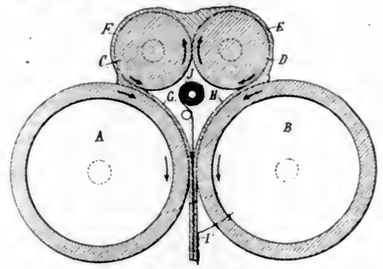
4. In an apparatus for delivering post-cards and the like, the combination with the frame for containing the cards, of two pins for ejecting the cards, one of said pins arranged to lie below the lowest of the cards and the other below the lowest but one, both said pins being arranged behind the rear edge of the lowest card, and means for moving the pins, substantially as explained.

5. In an apparatus for delivering post-cards and the like, the combination with the frame for containing the cards, of two pins for ejecting the cards, one of said pins arranged to lie below the lowest of the cards and the other below the lowest but one, both said pins being arranged behind the rear edge of the lowermost card, links carrying said pins, and a reciprocating bar, substantially as set forth.

6. In an apparatus for delivering post-cards and the like, the combination with the frame for containing the cards, of pins for ejecting said cards and means for operating the pins, the heads of the pins being made conical and elastic in the direction of their length, substantially as and for the purposes set forth.

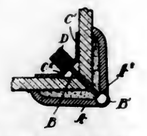
843,860. APPARATUS FOR MAKING SHEET-GLASS WITH OR WITHOUT AN EMBEDDED STRENGTHENING STRUCTURE. ARTHUR J. BALDWIN, East Orange, N. J. Filed July 21, 1905. Serial No. 270,604.

Claim.—1. In a machine of the kind described, the combination of a pair of rollers coöperating with each other and a pair of rollers above the first, coöperating with each other, and each arranged to coöperate with its adjacent roller of the first pair, as set forth.



2. In an apparatus of the kind described, the combination of a pair of spaced rollers coöperating with each other, and a pair of rollers above the first pair, coöperating with each other, and each arranged to coöperate with its adjacent roller of the first pair and spaced therefrom a less distance than the space between the rollers of the first pair, as set forth.

843,861. CORNER-CLAMP FOR GLASS PLATES. LOUIS BARTELSTONE, New York, N. Y. Filed Feb. 17, 1906. Serial No. 301,541.



Claim.—1. A device of the class described comprising, in combination, a pair of angularly-disposed glass plates, a V-shaped clamping-piece exteriorly abutting each of said plates and having in its apex a spherical seat, a link having a spherical head freely movable within said seat, said link terminating interiorly of said plates, a clamping-piece interiorly abutting each of said plates opposite to the exterior piece, and means for adjustably securing said link to said interior piece, whereby said plates may be clamped between said pieces and yieldably held together.

2. A device of the class described comprising, in combination, a pair of angularly-disposed glass plates, a V-shaped clamping-piece exteriorly abutting each of said plates and having in its apex a spherical seat, the plate abutting portions of said piece being recessed, an adhesive within said recess adapted to impose friction between said piece and abutted plates, a link having a spherical head freely movable within said seat, said link terminating interiorly of said plates, a clamping-piece interiorly abutting each of said plates opposite to the exterior piece, and means for adjustably securing said link to said interior piece whereby said plates may be clamped between said pieces and yieldably held together.

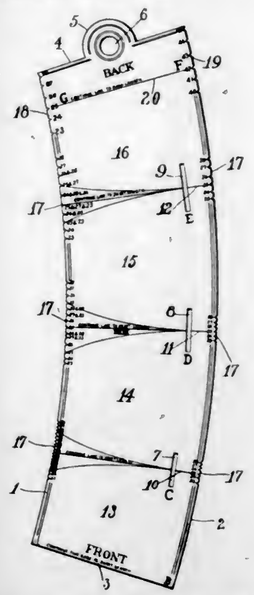
3. A device of the class described comprising, in combination, a pair of angularly-disposed plates, a V-shaped clamping-piece exteriorly abutting each of said plates, a link having a universal-joint connection with said piece, a clamping-piece interiorly abutting each of said plates opposite to the exterior piece, and means adjustably securing said link to said interior piece whereby said plates may be clamped between said pieces and yieldably held together.

843,862. CHART FOR DRAFTING GARMENTS. RICHARD H. BLACKBURN, New York, N. Y. Filed Aug. 21, 1906. Serial No. 331,479.

Claim.—1. A chart for drafting garments having a substantially rectangular form, the longitudinal edges of which are formed of concentric curves joined at one end by a straight edge, and each of said curved edges being provided with a plurality of scales of different character.

2. A chart for drafting garments having a substantially rectangular outline, the longer edges of which are provided with scales arranged in opposing sets, the scales of the respective sets being joined by converging curved lines extending transversely of the chart.

3. A chart for garments having a substantially rectangular outline, and having formed in the body thereof a plurality of separated slots arranged in alinement with each other and extending longitudinally of the chart near one edge of the latter, and also having a plurality of sets of oppositely-curved lines extending transversely across its surface, the lines of each set converging at and intersecting, respectively, the said slots.



4. A chart for drafting garments having a substantially rectangular outline, and its longitudinal edges formed of substantially concentric curves joined at one end by a straight edge, a plurality of proportional scales disposed along said curved edges in opposite sets, and said chart having at one end means by which it may be hung or suspended.

5. A chart for drafting garments having applied to its longitudinal edges a series of proportional scales, said scales being disposed in opposing pairs along the edges of the chart, and the latter also having a plurality of slots extending longitudinally thereof and disposed one between the scales of each pair.

6. A chart for drafting garments having a substantially rectangular outline and having a plurality of scales of different character disposed along each longitudinal edge thereof, and said edges having at each calibration of the several scales an open-sided notch for the reception of a pencil.

7. A chart for drafting garments having a substantially rectangular outline and having applied thereto a plurality of sets of oppositely-curved lines which divide said chart into at least four spaces, the lines of each set having between them a straight line, and each set of lines having a scale at each end which bear a determinate relation to each other.

8. A chart for drafting garments having a substantially rectangular outline and the surface thereof divided into a front-gore space, a first side-gore space, a second side-gore space and a back-plait-gore space, the division being produced by curved lines representing darts which extend from side to side of the chart and converge at one side thereof.

9. A chart for garments having a substantially rectan-

gular outline and also having on its surface a plurality of sets of dart-scales, the scales of each set being disposed oppositely to each other along the longitudinal edges of said chart, and the latter also having on the surface thereof a waist-scale on one side and hip-scale on the other side, the several dart-scales of the respective sets being joined by converging lines extending transversely of the chart.

10. A chart for drafting garments having a substantially rectangular form, the longitudinal edges of which are formed of concentric curves joined at one end by a straight edge, said chart having in its body adjacent one of said curved edges a plurality of separated slots extending one in alinement with the others, and having along its said curved edges at opposite points a plurality of proportionate scales of different character, and the top surface of said chart being divided into four spaces by a plurality of sets of converging and intermediate straight lines, the vertex of the angle of each set intersecting an adjacent slot.

843,863. BAIL FOR COOKING UTENSILS. CHARLES H. BOWMAN and CHARLES B. MCINTOSH, Lodi, Wis. Filed Jan. 3, 1906. Serial No. 294,436.



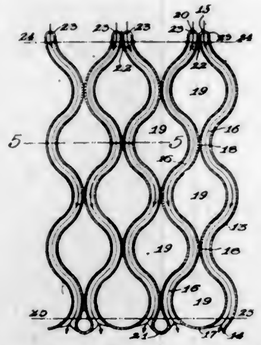
Claim.—1. The combination with a receptacle having ears extending therefrom; of a bail interposed between said ears and consisting of a single length of wire bent upon itself adjacent each end and at right angles to the bail to form laterally-retaining extending loops, each loop terminating in an eye formed by directing the free end of the wire around one section of the loop and stems projecting from the eyes and through the ears, said stems being bent upon themselves and overlapping the ears.

2. As an article of manufacture, a bail for cooking utensils formed of a single length of wire, a portion of which is directed at right angles near each end thereof and folded upon itself to form loops, each loop having an eye formed by directing the free ends of the wire around one section of the loop adjacent its juncture with the bail, and ear-engaging stems extending from the eyes.

843,864. COOLER. LOUIS H. BRINKMAN, West Hartford, Conn., assignor to Whitlock Coil Pipe Company, West Hartford, Conn., a Corporation of Connecticut. Filed Jan. 29, 1903. Serial No. 140,999.

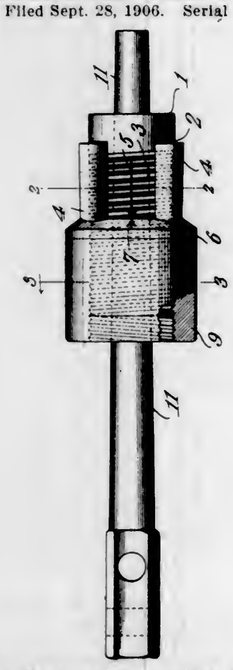
Claim.—1. In an apparatus of the class described, the combination with a water-chamber 5 and a water-chamber 7, of an interposed refrigerating-section consisting of a continuous strip of corrugated sheet metal doubled upon itself in a series of folds, with the ends of the folded sections attached to said water-chambers, and inclosing a series of restricted water-spaces communicating at the ends of the folds with said water-chambers, substantially as described.

2. In an apparatus of the class described, the combination with water-chambers, of an interposed refrigerating-section consisting of a continuous strip of corrugated sheet metal having offset edges, said sheet-metal strip being doubled upon itself in a series of folds separated by said offset edges to form water-spaces, with the ends of said folds attached to said chambers and with the inclosed water-spaces communicating therewith, substantially as described.



3. In an apparatus of the class described, the combination with upper and lower water-chambers, of a refrigerating section between said water-chambers, said refrigerating-section consisting of restricted water-passages between said chambers, said water-passages having inclosing walls of sheet metal with their edges offset in opposite directions, brought into contact and soldered together, and of a series of parallel air-passages between said water-passages and transversely thereto, formed by the contact of said inclosing walls.

843,865. FLUE-EXPANDER. JOSEPH F. BROWN, Bristol, Tenn. Filed Sept. 28, 1906. Serial No. 336,606.



Claim.—1. A flue-expander comprising a tubular body having elongated apertures therein, said body being externally screw-threaded, a collar adapted to be screwed upon the body, a sleeve adapted to be screwed upon the body and against the collar, said sleeve and collar having interior grooves, tapered rollers seated within the apertures and projecting into the grooves, and a mandrel insertible into the body for forcing the rollers laterally.

2. A flue-expander comprising an externally-screw-threaded body having elongated openings arranged longitudinally therein, tapered rollers mounted within the openings, a collar screwed upon the body and having interior grooves adapted to receive the rollers, a sleeve screwed upon the body and having interior grooves adapted to receive the rollers, said sleeve being adapted to abut against the collar, and means insertible into the body for moving the rollers laterally and into the grooves.

3. A flue-expander comprising an externally-screw-threaded body having elongated openings arranged longitudinally therein, tapered rollers mounted within the openings, a collar screwed upon the body and having interior grooves adapted to receive the rollers, means insertible into the body for moving the rollers laterally into the grooves, said lateral movement being varied by the adjustment of the collar, means upon the body and collar for indicating when the grooves and the openings register and a sleeve screwed upon the body and adapted to abut against and lock the collar.

843,866. CORN-HUSKING MACHINE. HORACE H. BURSELL, Truman, Minn., assignor of forty-nine one hundredths to Ray E. Van Amber, Truman, Minn. Filed Mar. 31, 1906. Serial No. 309,149.



Claim.—1. In a machine of the class described, a pair of driven coöperating rolls having conical auger members, and longitudinally-corrugated portions adjacent to said conical members, the greater portion of the rolls having smooth cylindrical faces disposed approximately in contact with each other.

2. In a machine of the class described, a pair of rolls, geared together for rotation in opposite directions, said rolls having contacting cylindrical faces for a portion of their lengths and provided at their forward ends with conical auger-shaped stalk-engaging members and with longitudinally-corrugated portions adjacent to said conical members; in combination with ear-snapping plates rigidly supported adjacent to the corrugated portions of the rolls.

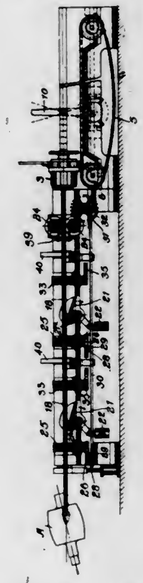
3. In a machine of the class described, a pair of rolls supported in an inclined plane and geared together for rotation, bars angular in cross-section supported adjacent to the upper faces of the rolls, and snapping-plates supported by said bars adjacent to the forward portions of the rolls.

4. In a machine of the class described, a pair of rolls supported in an inclined plane and geared together for rotation, said rolls having contacting cylindrical faces for a portion of their lengths, conical stalk-engaging points, longitudinally grooved or corrugated portions adjacent to said points, and reduced cylindrical shanks at their rear ends; in combination with guide-bars angular in cross-section supported adjacent to the faces of the rolls, snapping-plates secured to the guide-bars adjacent to the corrugated portions of the rolls, and conveyer-chains guided over the bars.

5. In a machine of the class described, a frame having forwardly-extending bars with terminal divergent gatherers, bearing-blocks supported upon said bars, a pair of rolls stepped in the bearing-blocks and having auxiliary bearings upon the frame said rolls being provided with reduced shanks at their rear ends, intermeshing gears upon said shanks, means for driving one of the rolls, bars angular in cross-section supported adjacent to and spaced from the upper faces of the rolls, shafts journaled in the bearing-blocks, reels carried by said shafts sprocket-wheels upon the reel-carrying shafts, endless driven chains guided over the angular bars and over the sprocket-wheels upon the reel-carrying shafts, and driving means for the rolls.

6. In a machine of the class described, a pair of coöperating driven rolls having auger-shaped conical stalk-engaging members and corrugated portions adjacent to said members, reel-carrying shafts supported for rotation adjacent to the stalk-engaging members of the rolls, reels carried thereby sprocket-wheels upon the reel-carrying shafts, bars angular in cross-section supported adjacent to the upper faces of the rolls, ear-snapping plates supported by the bars adjacent to the corrugated portions of the rolls, endless driven chains guided over the bars and over the sprocket-wheels upon the reel-carrying shafts said chains being provided with stalk and ear engaging fingers, a discharge-chute adjacent to the rear ends of the rolls, and an elevator disposed to receive material discharged over the chute.

843,867. MECHANISM FOR THE MANUFACTURE OF SEAMLESS TUBES. MARSHALL F. CAPRON, Elyria, Ohio. Filed May 26, 1905. Serial No. 262,468.



Claim.—1. The combination of rolls of a billet-piercing mill, a mandrel-bar, and wings or doors mounted to move horizontally to and from operative position and arranged in pairs and of any desired number of pairs for engaging and holding the mandrel-stem in the axial line of roll delivery.

2. The combination of rolls of a billet-piercing mill, a mandrel-bar, doors or wings mounted to move horizontally to and from operative position and in pairs and of any desired number for engaging and holding the mandrel-stem in the axial line of roll delivery and movable to open position by the billet as it is formed along the mandrel-bar.

3. The combination of rolls of a billet-piercing mill, a mandrel-bar, wings or doors mounted to move horizontally to and from operative position and in pairs of any desired number for engaging and holding the mandrel-stem in the axial line of roll delivery and mechanism for shifting the doors or wings from an open to a closed position.

4. The combination of rolls of a billet-piercing mill, a mandrel-bar, wings or doors mounted to move horizontally to and from operative position and in pairs of any desired number, and provided in their meeting faces with grooves properly proportioned for receiving and guiding the billet as formed and arranged with the groove-centers in the axial line of roll delivery.

5. The combination of rolls of a billet-piercing mill, a

mandrel-bar, swinging wings or doors mounted to move horizontally to and from operative position and in pairs and of any desired number of pairs for engaging and guiding the billet as formed along the mandrel, and mechanism for opening and closing such guides.

6. The combination of rolls of a billet-piercing mill, a mandrel-bar, wings or doors in pairs and of any desired number or pairs for engaging and guiding the billet as it is formed along the mandrel, a movable carriage for shifting the mandrel and means interposed between the carriage and doors whereby the latter may be shifted to open and closed position on the movement of the carriage.

7. The combination of rolls of a billet-piercing mill, a mandrel-bar, wings or doors horizontally movable to and from operative position and arranged in pairs and of any desired number of pairs for engaging and guiding the billet as it is formed along the mandrel, mechanism for opening the wings or doors and mechanism for lifting the completed billet from between the open wings or doors.

8. The combination of rolls of a billet-piercing mill, a mandrel-bar, wings or doors horizontally movable to and from operative position and arranged for engaging and supporting the billet as it is formed along the mandrel-bar, mechanism for opening the wings or doors, means for withdrawing the mandrel from the billet and means for lifting the completed billet from between the open wings or doors.

9. The combination of rolls of a billet-piercing mill, a mandrel-bar, horizontally-swinging wings or doors for guiding the billet as it is formed along the mandrel, a movable carriage connected to the mandrel-bar, an abutment for engaging the end of the completed billet during the longitudinal movement of the mandrel-bar and mechanism operative during the longitudinal movement of the mandrel-bar for opening the wings or doors.

10. The combination of rolls of a billet-piercing mill, a mandrel-bar, guiding wings or doors horizontally movable to and from operative position and arranged in pairs of any desired number, means for operating the wings or doors, a pivotally-mounted frame arranged along and below the mandrel-bar, and means for lifting the completed billet from the wings or frames.

11. The combination of rolls of a billet-piercing mill, a mandrel-bar, a traveling carriage connected to the mandrel-bar, means for shifting the carriage and a lock for holding the carriage as against movement along its guides, and means for adjusting the mandrel-bar relative to the carriage.

12. A combination of rolls of a billet-piercing mill, a hollow mandrel-bar, a traveling carriage; a head movable on the carriage and having a loose connection to the mandrel-bar, a hollow screw engaging a nut carried by the carriage and having a swivel connection to the head, tubes extending through the screw and head and connected to the mandrel-bar and a lock for holding the carriage as against longitudinal movement.

13. The combination of rolls of a billet-piercing mill, a mandrel-bar, a traveling carriage, a frame arranged in the path of the forward end of the mandrel-bar and pivoted to swing in the direction of movement of the mandrel-bar and provided with a bell-mouthed opening in the direction of the forward movement of the mandrel-bar to operative position.

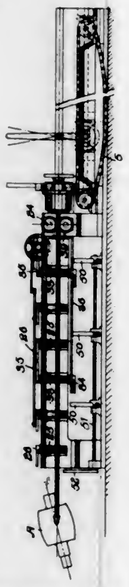
14. The combination of rolls of a billet-piercing mill, a mandrel-bar, a traveling carriage, a guide-frame provided with a friction-roller and pivoted to swing in the direction of the movement of the mandrel-bar, the portion of the frame in the rear of the friction-roller being constructed to guide and direct the mandrel-bar onto the friction-roller, and means tending to hold the frame in operative position.

15. The combination of rolls of a billet-piercing mill, a mandrel-bar, a traveling carriage connected with the mandrel-bar, a guide-frame arranged in the path of the forward end of the mandrel-bar as it is shifted to operative position, and pivoted to swing in the direction of movement of the mandrel-bar, a friction-roller mounted on the frame forward of the vertical plane passing through the pivot of the frame, and means tending to hold the frame in operative position and a stop for limiting the movement of the frame.

16. The combination of rolls of a billet-piercing mill, a mandrel-bar, a traveling carriage connected to the mandrel-bar, a frame arranged in the path of the forward end of the mandrel-bar as it is shifted to operative position, and pivoted to swing in the direction of movement of the mandrel-bar, a friction-roller mounted on the frame forward of the vertical plane passing through the pivot of the frame, the frame being so pivotally mounted as to permit of its being tilted backward by the billet as it is formed along the mandrel-bar, means tending to hold the frame in operative position and a stop for limiting the movement of the frame.

17. The combination of rolls of a billet-piercing mill, a mandrel-bar, a series of horizontally-swinging wings or doors for engaging and guiding the mandrel-bar, a second series of horizontally-swinging wings or doors for engaging and guiding the billet as it is formed along the mandrel-bar, the mandrel-bar-supporting doors being movable to open position in the direction of the development of the billet along the mandrel-bar and the billet-supporting wings or doors being movable to open position in the opposite direction.

843,868. MECHANISM FOR THE MANUFACTURE OF SEAMLESS TUBES. MARSHALL F. CAPRON, Elyria, Ohio. Filed May 31, 1905. Renewed June 29, 1906. Serial No. 324,054.

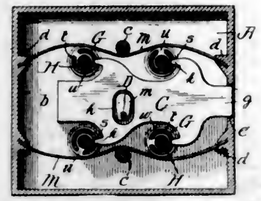


Claim.—1. A combination of rolls of a billet-piercing mill, a mandrel-bar, doors or wings movable horizontally to and from operative position for supporting the billet and movable arms below the doors or wings for the discharge of the billet to one side of the machine.

2. A combination of rolls of a billet-piercing mill, a mandrel-bar, wings or doors for supporting the billet, a carriage for shifting the mandrel-bar, means for shifting the doors or wings operative by the carriage and movable arms below the doors or wings for the discharge of the billet.

3. A combination of rolls of a billet-piercing mill, a mandrel-bar, wings or doors for guiding the mandrel-bar to operative position, wings or doors for holding the mandrel-bar in operative position, the guiding and holding doors adapted to be shifted to open position by the billet, wings or doors for supporting the billet, a carriage for shifting the mandrel-bar, means for shifting the billet-supporting doors by the carriage and movable arms below the billet-supporting doors for directing the completed billet to the side of the machine.

843,869. LOCK. WILLIAM F. CLAY, Camden, N. J. Filed Aug. 10, 1906. Serial No. 330,048.



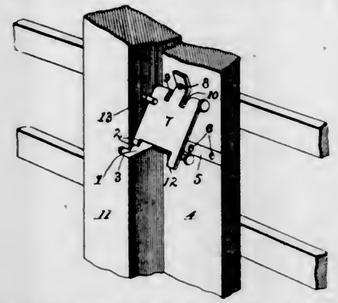
Claim.—1. The combination in a permutation-lock, of a casing having a large circular opening in one of its walls, a slidable bolt arranged in the casing and having a rearwardly-directed projection, a spring secured in the casing, a spindle journaled in the casing and having a portion of angular form in cross-section extending through the said large circular opening, a dial detachably secured on the spindle at the outer side of and adjacent to the wall in which the large circular opening is formed, a rotatable disk mounted in the casing with its periphery in frictional contact with the spring and having a notch in its periphery to receive the projection on the bolt and also having a ward, and a circular tumbler having an angular aperture receiving the angular portion of the spindle, whereby it is caused to turn with the spindle and yet is removable therefrom, and also having a stud movable in the disk and arranged to bring up against the ward thereof; said tumbler being arranged and adapted to turn in the large circular opening in the wall of the casing with its outer side flush with the outer side of said wall and opposed to the inner side of the removable dial.

2. In a permutation-block, the combination with a casing having bifurcated lugs on its end walls and also having large circular openings in one of its side walls, a transverse shaft journaled in the side walls of the casing and having a head, a slidable bolt arranged in the casing and having rearwardly-directed projections at its opposite sides and also having an opening receiving the head on the transverse shaft, and springs secured at their ends in the bifurcated lugs of the casing and extending longitudinally of the casing between the lugs at the ends thereof; of spindles extending transversely through the casing and having dials at its ends, the dials adjacent to the large openings in the wall of the casing being detachable, rotary disks mounted in the casing concentric with the spindles and with their peripheries in frictional contact with the springs at intermediate points in the length thereof and having notches in their peripheries and also having wards, and rotary tumblers removably arranged on the spindles so as to turn therewith and with their outer sides flush with the outer side of the wall having the large circular openings in which openings they are disposed and being provided with studs movable in the disks and adapted to bring up against the wards.

843,870. GATE-LATCH. JIM CRAWFORD, Paden, Ind. Ter. Filed Aug. 9, 1906. Serial No. 329,809.

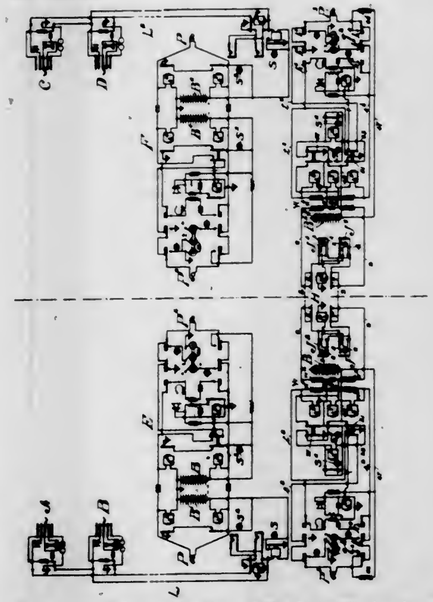
Claim.—1. A gate-latch comprising a latch member having means for connection with a gate, a swinging detent provided with a pair of incisions intersecting its upper edge and dividing the same into tongues, the terminal tongues being bent into eyes and the intermediate tongue constituting a finger-piece, a fastening passing through the eyes and upon which the detent is adapted to swing, and a stop for limiting the swinging movement of the latch.

2. A gate-latch comprising a latch-bar having means for connection with the gate, a swinging detent having a finger-piece rising from its upper edge substantially midway between its operating edges, there being bearing-eyes at opposite sides of the finger-piece, a bearing element upon which the eyes are mounted, the lower free end of the detent being provided with a pair of spaced



depending projections, a stop alined vertically below the bearing and in the path of the projections, another stop in front of the detent and adjacent the bearing, the latch being adapted to engage the lower free edge of the detent between the projections thereof.

843,871. TELEPHONE TRUNKING SYSTEM. WILLIAM W. DEAN, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed July 19, 1902. Serial No. 116,148.



Claim.—1. The combination with a trunk-circuit extending between multiple switchboards, adapted for reciprocal operation, and provided with multiple-switch connections at each switchboard; of testing-terminals for said connections connected with the talking-circuit during conversation, and means when connection is established at any of said switch connections for placing said testing-terminals at the other of said switch connections in condition to test busy, substantially as described.

2. The combination with a trunk-circuit extending be-

tween multiple switchboards, adapted for reciprocal operation, and provided with multiple-switch connections at each switchboard; of testing-terminals for said connections connected with one side of the talking-circuit during conversation, and an operator's connecting-circuit for establishing connection with one of said switch connections, and means when said connection is established for placing the said test testing-terminals at all of the other switch connections in condition to test busy, substantially as described.

3. The combination with a trunk-circuit extending between multiple switchboards, adapted for reciprocal operation, and provided with multiple-switch connections at each switchboard; of testing-terminals for said connections connected with one side of the talking-circuit during conversation, an operator's connecting-circuit for establishing connection with one of said switch connections, and a source of current associated with said connecting-circuit and adapted to be connected with the trunk-talking circuit when said connection is established, whereby said testing-terminals at all of the other switch connections have their electrical condition altered and are placed in condition to test busy, substantially as described.

4. The combination with a trunk-circuit extending between multiple switchboards, adapted for reciprocal operation, and provided with multiple-switch connections at each switchboard; of testing-terminals for said connections, and means actuated wholly at any one of said switch connections for placing the testing-terminals at all of the other switch connections in condition to test busy during conversation, substantially as described.

5. The combination with a trunk-circuit extending between multiple switchboards, adapted for reciprocal operation, and provided with multiple-switch connections at each switchboard; of testing-terminals for each of said connections, a cord-circuit adapted to be connected with said connections, and a source of current associated with said cord-circuit, and means for altering the potential of all of the testing-terminals of said switch connections from said source when the said cord-circuit is connected with any of the switch connections, substantially as described.

6. The combination with a trunk-circuit extending between multiple switchboards, adapted for reciprocal operation, and provided with multiple-switch connections at each switchboard; of testing-terminals for said connections connected directly with one side of the talking-circuit during conversation, a cord-circuit adapted to be connected with any of said switch connections, a source of current associated with the cord-circuit and adapted to be connected with the trunk-circuit when a connection is established therewith by said cord-circuit, signaling apparatus connected with the cord-circuit and adapted to be operated by said source of current, said source of current also serving to vary the potential of said testing-terminals at both ends of the trunk to place them in condition to test busy, substantially as described.

7. The combination with a trunk-circuit extending between different switchboard-sections and having a switch-socket and a flexible cord terminating in a connecting-plug at each end of the trunk to adapt the same for reciprocal operation in interconnecting telephone-line circuits for conversation, of operator's connective circuits at each end of the trunk to establish connections with said sockets, the said connections being completed by means of the incoming cords and plugs at the opposite end of the trunk, substantially as described.

8. The combination with a trunk-circuit extending between different switchboard-sections and having multiple-switch sockets in the form of spring-jacks and a flexible cord terminating in a connecting-plug at each end of the trunk to adapt it for reciprocal operation in interconnecting telephone-line circuits for conversation, of operator's connective circuits at each of said switch-sockets to establish connections therewith, said connections being completed at the opposite end of the trunk through the medium of the flexible cord and connecting-plug, substantially as described.

9. The combination with a trunk-circuit extending between different switchboard-sections and having multiple-switch sockets and a flexible cord terminating in a connecting-plug at each end of the trunk-circuit to adapt the same for reciprocal operation in interconnecting telephone-line circuits for conversation, of operator's connective circuits at each end of the trunk to initiate connections between the calling-lines and said sockets, said connections being completed at the opposite ends of the trunk by connecting the trunk-cord with the called-subscriber's line, and means actuated when connection is established at one of said switch connections for placing the other switch connections of the trunk in condition to test busy, substantially as described.

10. The combination with a trunk-circuit extending between different switchboard-sections and having a multiple number of switch-sockets and a flexible cord terminating in a connecting-plug at each end of the trunk-circuit to adapt the same for reciprocal operation in interconnecting telephone-line circuits for conversation, of operator's connective circuits at each end of the trunk to initiate connections between the calling-lines and said sockets, said connections being completed at the opposite ends of the trunk by connecting the trunk-cord with the called-subscriber's line, and means actuated wholly at the section where the connection is established for placing all of the switch connections in both ends of the trunk in condition to test busy during conversation, substantially as described.

11. The combination with a trunk-circuit extending between the different switchboard-sections and having a plurality of switch-sockets and a flexible cord terminating in a connecting-plug at each end of the trunk-circuit to adapt the same for reciprocal operation in interconnecting telephone-line circuits, of means for establishing connection from the calling telephone-line at either switchboard with the proper switch-socket of the trunk in initiating the connection, said connection being completed at the other end of the trunk by connecting the trunk-plug at said end with the called line, substantially as described.

12. The combination with a trunk-circuit extending between different switchboard-sections and having a flexible cord terminating in a connecting-plug and a switch-socket in the form of a spring-jack at each end to adapt the trunk-circuit for reciprocal operation in interconnecting telephone-line circuits for conversation, of operators' connective circuits at each end of the trunk to establish connections with the said sockets, signaling apparatus at each end of the trunk, and means actuated when connection is established with one end of the trunk for disconnecting the apparatus associated with said end, substantially as described.

13. The combination with a trunk-circuit extending between different switchboard-sections and having a flexible cord terminating in a connecting-plug and a switch-socket in the form of a spring-jack at each end to adapt the trunk-circuit for reciprocal operation in interconnecting telephone-line circuits for conversation, of operators' connective circuits at each end of the trunk to establish connections with the said sockets, signaling apparatus at each end of the trunk, and means actuated when a connection is established with one end of the trunk for disconnecting the apparatus associated with said end, and for actuating the said apparatus at the opposite end of the trunk, substantially as described.

14. The combination with a trunk-circuit extending between different switchboard-sections and having a flexible cord terminating in a connecting-plug and a switch-socket in the form of a spring-jack at each end to adapt the trunk-circuit for reciprocal operation in interconnecting telephone-line circuits for conversation, of operators' connective circuits at each end of the trunk to establish connections with the said sockets, signaling apparatus at each end of the trunk, and means when a connection is established with one end of the trunk for disconnecing the apparatus and plug associated with said end, substantially as described.

15. The combination with a trunk-circuit extending between multiple-switchboard sections adapted for reciprocal operation and provided with a switch connection at each switchboard, a disconnect-signal at each end of the trunk normally connected therewith, and means when connection is established with one end of the trunk for disconnecting the said signal at said end, substantially as described.

16. The combination with a trunk-circuit extending between switchboard-sections adapted for reciprocal operation and provided with a plug and switch at each switch board, a disconnect-signal at each end of the trunk, and means when a connection is established at one end for disconnecting the signal and the plug at said end of the trunk, substantially as described.

17. The combination with a trunk-circuit extending between switchboard-sections and having a flexible cord terminating in a connecting-plug, and a switch-socket in the form of a spring-jack, at each end to adapt the trunk for reciprocal operation in interconnecting telephone-line circuits for conversation; of operators' connective circuits at each end to establish connections with said sockets, and a cut-off relay for each end of the trunk actuated when a connection is established at said end to cut off the associated trunk-plug, substantially as described.

18. The combination with a trunk-circuit extending between multiple switchboards and provided with a switch connection at each switchboard, of operators' connective circuits at each end of the trunk to establish connections with said connection, a cut-off relay for each end of the trunk actuated over a portion of the talking-circuit when connection is established with said end to cut off the remaining portion of the trunk at said end, substantially as described.

19. The combination with a trunk-circuit extending between different switchboard-sections and having a flexible cord terminating in a connection-plug, signaling apparatus, and a switch-socket in the form of a spring-jack at each end of the trunk to adapt the trunk for reciprocal operation in interconnecting telephone-line circuits for conversation; of operators' connective circuits at each end to establish connections with the said sockets, a cut-off relay for each end of the trunk actuated over a portion of the talking-circuit at said end when connection is established with any of the associated sockets to cut off the corresponding plug and signaling apparatus, substantially as described.

20. The combination with a trunk-circuit extending between multiple switchboards adapted for reciprocal operation and provided with switch connections at each switchboard, of a signaling apparatus at each end of the trunk, a cut-off relay at each end normally disconnected therefrom, and means when connection is established at one end to connect said cut-off relay with the trunk-circuit and to operate the same over a portion of the talking-circuit, said normal disconnection preventing the operation of the other cut-off relay by the current impressed upon the trunk-line, substantially as described.

21. The combination with a trunk-circuit extending between different switchboard-sections and having a switch-socket at one end and a flexible cord and connecting-plug at the other, of a signal at the end having the switch-socket to adapt the trunk-circuit for reciprocal operation, a cut-off relay associated with said socket, means for operating said relay when connection is established with said socket to render the said signal inoperative, and a supervisory relay at said socket end adapted to operate in series with said cut-off relay when a connection is established at said end, substantially as described.

22. The combination with a trunk-circuit extending between different switchboard-sections, of a switch-socket at one end and a flexible cord and connecting-plug at the other, a calling-signal at the end of the trunk at which the said socket is located and having its operation controlled by current from the opposite end of the trunk whereby the trunk is adapted for reciprocal operation, a cut-off relay associated with the said socket and adapted to be operated by current flowing over a portion of the talking-circuit when connection is established with said socket, said relay serving to render said signal inoperative, substantially as described.

23. The combination with a trunk-circuit extending between different switchboard-sections, of a switch-socket at one end of the trunk-circuit and a flexible cord terminating in a connecting-plug at the other end, a calling-signal at the socket end of the trunk having its operation controlled by the other end of the trunk whereby the trunk is adapter for reciprocal operation, a cut-off relay associated with the said socket but normally disconnected from the trunk, means when connection is established with the said socket to connect the coil of said cut-off relay with one side of the talking-circuit of the trunk and to operate the same, said latter relay serving when operated to render said signal inoperative and a supervisory relay at said socket end adapted to operate in series with said cut-off relay when a connection is established at said end, substantially as described.

24. The combination with a trunk-circuit extending between different switchboard-sections and having a flexible cord terminating in a connecting-plug and multiple-switch connections at each end to adapt the trunk-circuit for reciprocal operation for interconnecting telephone-line circuits for conversation; of a calling-signal for each end of the trunk, and means when a connection is established with the switch-socket at either end to render inoperative the signal at said end, and to actuate the signal at the other end, substantially as described.

25. The combination with a trunk-circuit extending between different switchboard-sections and having at one end a flexible cord terminating in a connecting-plug and multiple-switch connections at each end to adapt the trunk-circuit for reciprocal operation for interconnecting telephone-line circuits for conversation, of a calling-signal for each end of the trunk, a cut-off relay for each end of the trunk-circuit adapted to be actuated over a portion of the talking-circuit when connection is established with the switch-sockets, said relay serving to render the calling-signal at the same end of the trunk inoperative, and means for actuating the calling-signal at the other end of the trunk-circuit as soon as the connection is established, substantially as described.

26. The combination with a trunk-circuit extending between different switchboard-sections and having a flexible cord terminating in a connecting-plug and multiple-switch connections at each end to adapt the trunk-circuit for reciprocal operation for interconnecting telephone-line circuits for conversation, of a calling-signal for each end of the trunk, a cut-off relay at each end of the trunk-circuit normally disconnected therefrom, means for connecting said relay with one side of the trunk-circuit and actuating it by current thereover when connection is established with one of the switch-sockets, said relay serving to render the signal at the same end inoperative, while the signal at the other end is operated upon the establishing of the said connection, substantially as described.

27. The combination with a trunk-circuit extending between different switchboards adapted for reciprocal operation, and provided with multiple-switch connections at each switchboard; of a ringing-signal at each end of the trunk to indicate the response of the called subscriber at the end employed as the incoming end, and means for rendering inoperative the similar signal at the other and outgoing end of the trunk, substantially as described.

28. The combination with a trunk-circuit extending between different switchboards, adapted for reciprocal operation and provided with multiple-switch connections at each switchboard; a ringing-signal at each end of the truck to indicate the response of the called subscriber at the end employed as an incoming end of the trunk, means for rendering inoperative the similar signal at the other and outgoing end of the trunk, and means for locking out the first signal at the incoming end during the remainder of the connection, substantially as described.

29. The combination with a trunk-circuit extending between different switchboards, adapted for reciprocal operation in connecting subscribers' lines for conversation, and provided with multiple-switch connections at each switchboard; of a ringing-signal at each end of the trunk to indicate the response of the called subscriber at the end employed as an incoming end, a disconnect-signal at each end of the trunk to indicate at the incoming end when the connection has been severed at the end employed as the outgoing end of the trunk, and means for rendering

the corresponding signals inoperative at the outgoing end when connection is established at said end of the trunk, substantially as described.

30. The combination with a trunk-circuit extending between different switchboard-sections, adapted for reciprocal operation, and provided with multiple-switch connections at each switchboard; of a ringing-signal at each end of the trunk to indicate the response of the called subscriber when the end is employed as an incoming end, a disconnect-signal at each end of the trunk to indicate at the said incoming end when connection has been severed at the corresponding outgoing end of the trunk, means for locking out said ringing-signal at the incoming end after the subscriber has responded, and means for rendering the corresponding signals inoperative at the outgoing end when connection is established with the trunk, substantially as described.

31. The combination with a trunk-circuit extending between different switchboards adapted for reciprocal operation and provided with both switch connections and plugs at each switchboard; of a signal at each end of the trunk, means for disconnecting the signal at the outgoing end of the trunk when connection is established with said end in initiating a connection, the signal at the other end of the trunk being actuated at such time to indicate a call, said latter signal also serving as a disconnect-signal when the conversation has terminated and the connection with the trunk has been severed at the initiating end, substantially as described.

32. The combination with a trunk-circuit extending between different switchboards and having multiple-switch sockets and a connecting-plug at each end to adapt a circuit for reciprocal operation, a socket at one end and a plug at the other being employed in each connection for conversation, of means associated with each plug to indicate when a connection has been established with a socket at the opposite end and at the close of the conversation, when the connection has been severed at said socket, and means for disconnecting the plug and associated apparatus at the same end as the said socket when connection is established therewith, substantially as described.

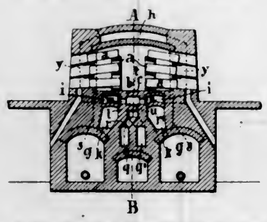
33. The combination with a trunk-circuit extending between different switchboards and terminating in both multiple-switch sockets and a connecting-plug at each end to adapt the circuit for reciprocal operation, a socket at one end and a plug at the other being employed in each connection for conversation, means associated with each plug to indicate when a connection has been established with a socket at the opposite end of the trunk, the said sockets at both of said ends being placed in condition to test busy when the connection has been established at one of said sockets, and means for disconnecting the plug and associated apparatus at the said socket end of the trunk when the connection is established, substantially as described.

34. A trunk-circuit extending between different switchboards and having multiple-switch sockets and a connecting-plug at each end to adapt the circuit for reciprocal operation, a socket at one end and a plug at the other being employed in each connection for conversation; of means associated with each plug to indicate when a connection has been established at a socket at the opposite end of the trunk and, at the close of the conversation, when the connection has been severed at said end; means associated with each plug to indicate the response of the called subscriber when the plug is employed in making the connection, and means for disconnecting the plug and associated apparatus at the opposite end of the trunk when connection is established with the corresponding socket, substantially as described.

35. The combination with a trunk-circuit extending between different switchboard-sections having multiple-switch sockets and a connecting-plug at each end to adapt the circuit for reciprocal operation, a socket at one end and a plug at the other being employed in each connection for conversation, of a signal associated with each plug to indicate when a connection has been established with a socket at the opposite end of the trunk and at the close of the conversation when the connection has been severed at said socket, a ringing-signal associated with each plug to indicate the response of the called subscriber with which the plug is connected, said ringing-signal being prevented from again operating after the response of the called subscriber during the existence of the connection, means associated with each plug for selectively calling the subscribers upon a party-line, and further means for disconnecting the plug and its associated apparatus at the same end as the socket employed for the connection, said disconnection taking place when the connection is established therewith, substantially as described.

36. The combination with a trunk-line terminating at each end in both jacks and plugs, of cord-circuits adapted to be connected with said trunk at either end, and subscribers' lines at either end with which said trunk is adapted to connect, suitable signals for said trunk, and means whereby said signals will be suitably actuated when said trunk is used in either direction, substantially as described.

843,872. FURNACE FOR OBTAINING ZINC FROM ZINC ORES. ADOLPHE DESGRAZ and PAUL SCHMIDT, Hanover, Germany. Filed Sept. 13, 1906. Serial No. 334,466.



Claim.—1. A furnace for treating zinc ores having rows of muffles with a free flame-space between them, pairs of burners in the bottom of said space, gas-flues leading to a pair of burners, air-flues leading to said burners, and means for controlling the flow through all said flues.

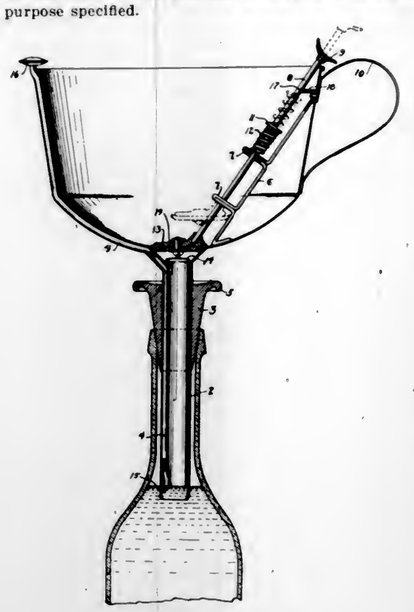
2. A furnace for treating zinc ores having rows of muffles with a free space between them, burners arranged in pairs in the bottom of said space, chambers below the burners each common to a pair of burners, flues supplying gas to said chambers, air-flues communicating with the said chambers, and means for controlling the flow to said chambers.

3. A furnace for treating zinc ores having rows of muffles with a free space between them, pairs of burners arranged in the bottom of said space, mixing-chambers below the burners each common to a pair of burners, gas-flues communicating with said mixing-chambers, air-chambers below the mixing-chambers provided with pairs of nozzles leading to the mixing-chambers and registering with the burners, air-flues leading to said air-chambers, and means for controlling the flow through the flues.

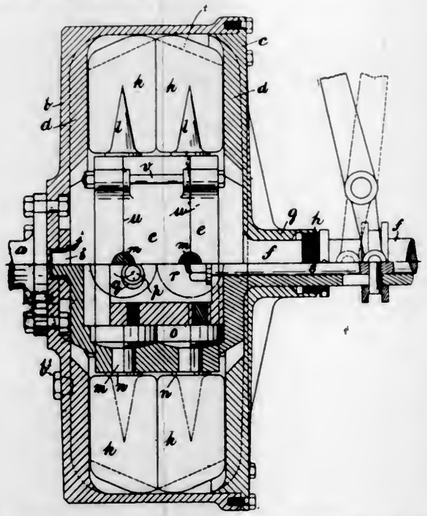
4. A furnace for treating zinc ores having rows of muffles with a free space between them, pairs of burners in the bottom of said space, chambers below the burners each common to a pair of burners, means for supplying gas and air to said chambers, and a gas cut-off for each chamber.

843,873. FUNNEL. HARRY G. DE VEAUX, Robertsville, Ohio. Filed Mar. 31, 1906. Serial No. 309,153.

Claim.—In a funnel of the class described, the combination of a bowl and a spout therefor, an air-tube extended from the top of the bowl downward and into the spout, said air-tube provided at its bottom or lower end with an air-passage, a tapered sleeve located upon the spout and provided at its top or upper end with a grooved flange, a valve adapted to close the spout of the funnel, a bar secured to the bowl, said bar provided with flanges and a valve-operating rod passing through apertures in said flanges and guided thereby, said rod provided with a notch, a catch adapted to engage said notch and means for holding the valve in elevated position, substantially as and for the purpose specified.



843,874. HYDRAULIC POWER-TRANSMISSION APPARATUS. GOTTFRIED L. M. DÖRWALD, East Putney, London, England, assignor of one-half to Joseceline Charles Henry Grant, London, England. Filed July 2, 1906. Serial No. 324,459.



Claim.—1. In a power-transmission apparatus, the combination of a driving-shaft, a driven shaft, a drum revoluble with one of said shafts, a hub revoluble with the other shaft and within said drum, radial blades mounted upon said hub and arranged in pairs with one blade cooperating with the other one of a pair, and radial ribs upon the interior of the drum, said blades having stems and being rotatably adjustable upon the stems so that they may be turned to vary the resistance offered to liquid within the drum.

2. In a power-transmission apparatus, a drum revoluble with a shaft, a hub revoluble with a second shaft and within said drum, said hub being fitted with a number of twin blades, said blades being arranged in pairs with one blade of a pair coöperating with the other blade of same pair, and said blades, being adjustable to vary the width of opening between each pair.

3. In a power-transmission apparatus, a drum revoluble with a driving-shaft, a hub revoluble with a second shaft, said hub being provided with radial twin blades and said hub and blades being inclosed within said drum, radial ribs upon the interior of said drum and means for turning said blades about their axes so that the width of opening between each pair of blades may be varied from zero to the maximum available.

4. In a power-transmission apparatus, a liquid-containing driver-drum, a follower-hub, radial blades mounted in pairs upon said hub, said blades being rotatable on their radial axes, and means for adjusting the position of said blades so that each pair may be set more or less obliquely to the axis of the drum and the impelling effect of the liquid on the said blades varied accordingly.

5. In a power-transmission device of the character described, the combination of a liquid-containing driver-drum, a hub therefor, twin blades axially mounted on the hub, and means operated from without the drum to rotate the blades on their own axes to vary the width of the opening between the blades of each pair.

6. In a power-transmission device of the character described, the combination of a liquid-containing driver-drum, a hub therefor, a plurality of twin blades mounted radially on said hub and partly revoluble about their own axes said blades being arranged in pairs with one blade of a pair coöperating with the other blade of the same pair, crank-pins on the axis of the blades, and connections from said crank-pins to outside of the drum whereby the blades may be axially turned and adjusted as to position.

7. In a power-transmission device of the character described, the combination of a driving-shaft, a driven shaft, a liquid-containing driver-drum, a plurality of blades arranged obliquely to the axis of said driving-shaft, said blades being arranged in pairs with one blade of a pair cooperating with the other blade of the same pair, and means connecting the blades with the driven shaft whereby their obliquity to the axis of the drum can be varied.

8. In a power-transmission device of the character described, the combination of a liquid-containing driver-drum, a follower-hub, a plurality of blades arranged obliquely to the axis of the driver and pivotally connected with the follower, said blades being arranged in pairs and provided with means controlled from outside the drum whereby the obliquity of the blades may be varied and the angle between each pair of blades may be simultaneously varied.

9. In a power-transmission device of the character described, the combination with a liquid-containing driver-drum and a shaft therefor, and a follower, of a plurality of blades arranged obliquely to said shaft and pivotally connected with the follower, said blades being arranged in pairs and provided with means operated from the outside of the drum whereby the obliquity of all the blades may be synchronously altered.

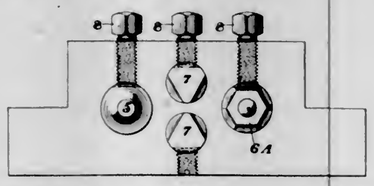
10. In a power-transmission device of the character described, the combination of a rotatable driver, a follower, a plurality of blades arranged obliquely to the axis of the driver and radially mounted on the follower so as to be rotatable at right angles thereto, said blades being arranged in pairs and provided with crank-arms, an operating-slide, said slide having elongated holes engaging said crank-arms, and a controlling device actuated from the outside of the apparatus to control the position and obliquity of said blades.

11. In a power-transmission device of the character described, the combination with a driver and a follower, of a plurality of blades arranged in pairs radially of the follower, said blades having stems seated in the casing of the follower and said stems having enlarged bases within said

casing, eccentrically-placed pins upon said stem-bases, a slide having slots engaging said pins, and a reciprocable spindle connected to said slide whereby the blades may be turned to vary the opening between the inner edges of each pair.

12. In a power-transmission device of the character described, the combination with a driver, an operating-spindle, a tubular transmission-shaft, an actuating-lever, and a follower-hub, of a plurality of blades having stems mounted radially upon the follower, said stems being retained in said hub, eccentrically-placed pins upon said stems, bushes to said pins, and a slide having an elongated hole engaging said pins, said slide being fast to the operating-spindle, and said spindle passing through the tubular transmission-shaft and connected to the actuating-lever.

843,875. DIES AND PUNCHES FOR MAKING HEXAGONAL NUTS. GEORGE DUNHAM, Unionville, Conn. Filed Feb. 7, 1905. Serial No. 244,572.

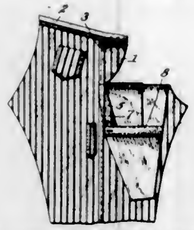


Claim.—1. In a set of dies and punches for making hexagonal nuts, the combination of a finishing or blanking die of a hexagonal form in plan view, with a punch of corresponding form, a pair of notching-dies of substantially a V form in plan view, the same being arranged in pairs with the apices of the V's extended inwardly from opposite directions with their inclined sides at an angle corresponding with the sides of the said finishing or blanking die, a pair of notching-punches of a form corresponding with that of the said notching-dies, a connecting-plate for maintaining the said dies in their relation to each other, and a punch-holder for maintaining the said punches in their relation to each other, the said dies and punches being located in their relation to each other with the centers of the notching and blanking dies a distance from each other equal to one-half the width of the said blanking-die, plus the width of a given number of nut-blanks.

2. In dies and punches for making hexagonal nuts, the combination of a finishing or blanking die of a hexagonal form in plain view with a punch of corresponding form, a pair of notching-dies and coacting punches in the form of an acute-angled V with a truncated apex, the said dies being set so as to substantially meet at their points were it not for the said truncated apices, a connecting-plate for maintaining the said dies in their relation to each other, and a punch-holder for maintaining the said punches in their relation to each other, the said dies and punches being located with the centers of the notching and blanking dies a distance from each other equal to one-half the width of said blanking-die, plus the width of a given number of nut-blanks.

3. In dies and punches for making hexagonal nuts, the combination of a finishing or blanking die of a hexagonal form in plain view with a punch of corresponding form, a pair of notching-dies and coacting punches in the form of an acute-angled V with a truncated apex, the said dies being arranged together for notching the opposite edges of a bar of metal on lines corresponding with the confronting sides of two adjoining nut-blanks and with the said truncated apices at the bottom of each notch, a connecting-plate for maintaining the said dies in their relation to each other, and a punch-holder for maintaining the said punches in their relation to each other, the said dies and punches being located with the centers of the notching and blanking dies a distance from each other equal to one-half the width of said blanking-die, plus the width of a given number of nut-blanks.

843,876. OVERALLS. GEORGE ECKEL and WILLIAM H. TEGEDER, Indianapolis, Ind. Filed May 9, 1906. Serial No. 315,942.

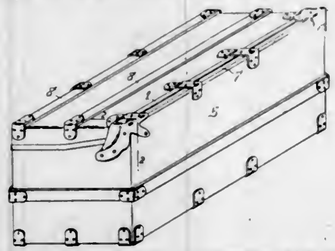


Claim.—1. The combination with a garment of the class described, of an insert-piece having a body portion, two edges of which are straight and one edge thereof curved, and an auxiliary portion integral with said body portion, one edge of which is straight and in line with one straight edge of said body portion, said body and auxiliary portion being secured to the garment.

2. The combination with a garment of the class described, having a waistband and a flap portion, of an insert-piece comprising a body portion adapted to be secured to the waistband and having its free edge curved, an auxiliary section integral with and of less width than said body portion and adapted to be secured to said flap and means to adjustably secure said flap to the band whereby the size of the garment may be increased or decreased.

3. The combination with a garment of the class described having a waistband and flap; of an insert-piece comprising a body portion secured to said band and body of the overalls, and an auxiliary portion integral therewith and secured to said flap, and means to adjustably secure said flap to said waistband whereby the size of the garment will be increased.

843,877. TRUNK. GODFREY S. EGGEMAN, Denver, Colo. Filed Apr. 20, 1906. Serial No. 312,902.

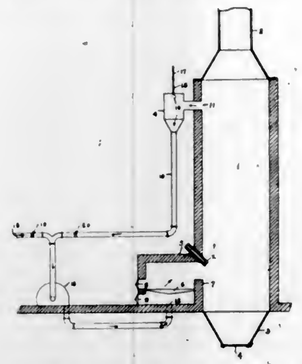


Claim.—1. In a trunk, the combination with the body, of a flat lid, a stationary top ledge extending forward from the back of the body, longitudinally-disposed reinforcing-strips applied to the ledge and the top of the lid, and hinges connecting the lid with the ledge forward of the joint between the ledge and the lid, the axes of the pintles of all the hinges being located below the plane of the reinforcing-strips and in alinement with one another.

2. In a trunk, the combination with a trunk-body, of a stationary ledge extending forwardly from the back of the body and forming a part of the top of the trunk, a lid hinged to the top of the trunk forwardly of the joint between the lid and ledge, the lid of the trunk in the rear of the hinged pintles being provided with a bar having a groove open at the top and filled with a suitable packing material adapted to form a water-tight joint forward of the joint between the lid and the ledge when the trunk is closed.

843,878. PROCESS OF CALCINING LIME AND CEMENT FORMING MATERIAL. CARLETON ELLIS, White Plains, N. Y. Filed Dec. 6, 1905. Serial No. 290,580.

Claim.—1. The herein-described process of calcining limestone, &c., which consists in passing through a shallow bed of ignited fuel an accelerated draft-current of commingled air, water-vapor and diluent gas at a rate greater than the fuel can react therewith and burning the resultant gaseous mixture in contact with limestone.



2. The process of calcining limestone, &c., which consists in passing through a shallow bed of ignited fuel an accelerated draft-current of commingled air, water-vapor and limekiln-gases at a rate greater than the fuel can react therewith, and burning the resultant gaseous mixture in contact with limestone.

3. The process of calcining limestone, &c., which consists in passing through a shallow bed of ignited fuel an accelerated draft-current of commingled air, water-vapor and limekiln-gases, the water-vapor being present in not to exceed four per cent. and burning the resultant mixture in contact with limestone.

4. The process of calcining limestone, &c., which consists in mixing a predetermined amount of water with hot products of combustion, whereby said water is vaporized, adding a predetermined amount of air, passing the resultant mixture through a shallow bed of ignited fuel at a rate greater than said fuel can react therewith and burning the resultant mixture in contact with limestone.

5. The process of calcining limestone, &c., which consists in mixing a predetermined amount of water with hot limekiln-gases, whereby said water is vaporized, adding a predetermined amount of air, passing the resultant mixture through a shallow bed of ignited fuel at a rate greater than said fuel can react therewith and burning the resultant mixture in contact with limestone.

843,879. TONGUE-SWITCH. EDWARD B. ENTWISLE, Johnstown, Pa., assignor to The Lorain Steel Company, a Corporation of Pennsylvania. Filed Apr. 11, 1906. Serial No. 311,049.

Claim.—1. In a tongue-switch, a body structure having depressed floor portions forming the bed for the tongue, the bed for the heel of the tongue being at an angle to the bed for the body of the tongue, for the purpose set forth.

2. In a tongue-switch, a body structure having a depressed floor portion forming the bed for the body of the tongue, and a rearwardly and downwardly diverging portion forming the bed for the heel of the tongue.

3. In a tongue-switch, a body structure having a depressed floor portion forming the bed for the body of the tongue, and a rearwardly and downwardly diverging orifice forming the seat for the heel of the tongue.

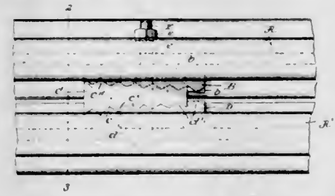
4. In a tongue-switch, a body structure having depressed floor portions at an angle to each other, a tongue seated thereon, the body of the tongue seated on one portion and the head of the tongue on the other portion at an angle thereto.

5. In a tongue-switch, a body structure having depressed floor portions at an angle to each other, a tongue seated thereon, the body of the tongue seated on one portion, and the heel of the tongue on the other portion, and a pivot-pin at right angles to heel of the tongue.

6. In a tongue-switch, a body structure having an overhung opening diverging at an angle to the body of the tongue, in combination with a tongue having its heel portion at a corresponding angle and seated on said diverging portion.



843,880. ADJUSTABLE GUARD-RAIL CHOCK. GEORGE M. ERVIN, Johnstown, Pa., assignor to The Lorain Steel Company, a Corporation of Pennsylvania. Filed Apr. 11, 1906. Serial No. 311,046.



Claim.—1. In an adjustable chock, two or more tapered members, the adjacent faces of each member having interlocking teeth, the teeth on one line of each member being out of alinement with the teeth on another line of the same member.

2. In an adjustable chock, two or more tapered members, the adjacent faces of each member having interlocking diverging teeth for the purpose set forth.

3. In an adjustable chock, two or more tapered members, the adjacent faces of the members having interlocking teeth, the teeth on one line being at an angle with the teeth on another line.

4. An adjustable rail-chock, having a plurality of wedge members, whose adjacent faces are provided with sets of teeth at different angles.

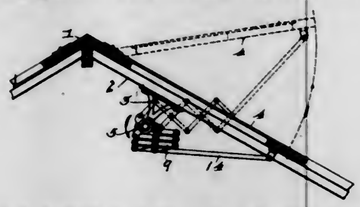
5. An adjustable rail-chock, composed of three wedge members, the adjacent faces of said members having interlocking teeth at different angles substantially as described.

6. An adjustable rail-chock, composed of three wedge members, the central member having sets of teeth or projections on both sides at different angles, and the lateral members having teeth or projections adapted to interlock with those of the central member.

843,881. WINDOW-LIFTER. NEWTON R. EVANS, Richmond, Ind., assignor to John A. Evans, Richmond, Ind. Filed May 27, 1905. Serial No. 262,604.

Claim.—1. In a window or other lifter, the combination of a power or operating shaft, a hub on the shaft, a lazy-

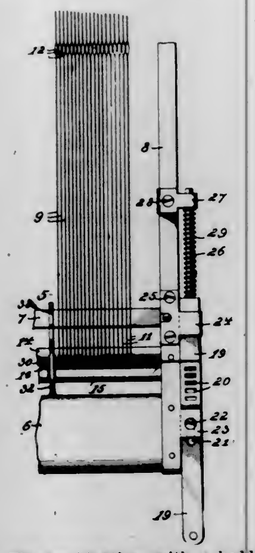
tongs having arms engaging the hub on opposite sides, and a connecting-arm to which the lazy-tongs is pivoted.



2. In a window or other lifter, the combination of a power or operating shaft, a hub on the shaft having opposite ears, a lazy-tongs having a short arm engaging one ear, a longer arm engaging the other ear, and a connecting-arm to which the lazy-tongs is pivoted.

3. In a window or other lifter, the combination of a power or operating shaft, a hub on the shaft, a lazy-tongs whose arms are pivoted to the hub, one pulling, the other pushing, and a connecting-arm to which the lazy-tongs is pivoted.

843,882. WARP-STOP-MOTION DETECTOR. WILLIAM FEHR, Philadelphia, Pa. Filed July 14, 1906. Serial No. 326,181.



Claim.—1. The combination, with a heddle-frame having heddles movably arranged therein, of a warp-stop-motion detector, consisting of a rod mounted in the frame, a rib projecting from said rod, a bar carried by said frame, means slidably connected with said frame and adapted to rock said rod and oscillate the rib thereof, except when one of the heddles descends between the rib and bar, and means carried by said sliding means adapted to depress the same in said frame so as to hold the rib of said rod in a normally inoperative position.

2. The combination, with a heddle-frame having heddles movably arranged therein, of a warp-stop-motion detector, consisting of a rod mounted in the frame, a rib projecting from said rod, a bar carried by said frame, means slidably connected with said frame and adapted to rock said rod and oscillate the rib thereof, except when one of the heddles descends between the rib and bar, and means for connecting said rod and bar with each other and said frame, and for preventing yielding of the same when said rib engages a descended heddle.

3. The combination with a heddle-frame having side straps and heddles movably arranged therein, of a warp-stop-motion detector, consisting of a rod mounted in the side straps, a rib projecting from the rod, a bar carried by the straps and held by the same above said rod and rib thereof, a gear connected with said rod, and a bar having slots slidably connected with one of the side straps engaged by the teeth of said gear and said slotted and said first bar, gear-wheel, rod and rib of said rod arranged so as to not extend laterally beyond said frame.

4. The combination with a heddle-frame having side straps and heddles movably arranged therein, of a warp-stop-motion detector, consisting of a rod mounted in the side straps, a rib projecting from the rod, a bar carried by the straps and held by the same above said rod and rib thereof, teeth carried by said rod, a bar having slots slidably connected with one of the side straps engaged by the teeth of said rod, said slotted bar, when shifted, adapted to rock said rod and oscillate the rib thereof by the teeth, except when one of the heddles descends between said rib and first bar, means carried by said slotted bar adapted to normally depress the same in said frame, and a brace or hook for connecting said rod and first bar with each other and with said heddle-frame.

5. In combination, a heddle-frame having side straps and a cross-bar, a series of heddles having elongated mortises arranged on the cross-bar, each heddle being vertically movable independently of the others and having an eye for a warp-thread, and a warp-stop-motion detector, consisting of a rod mounted in said side straps, a rib projecting from the rod, a bar carried by the straps and held by the same above the rod and rib thereof, a gear connected with the rod, a bar having slots slidably connected with one of the side straps, a spring for depressing the slotted bar in the supporting-strap thereof and by the same and gear holding the rod and rib thereof, in a position to permit of descent of a heddle between the rib and said first-mentioned bar, and said slotted bar adapted, when raised, to rock the rod and oscillate the rib thereof, except when one of the heddles is dropped in the frame.

6. In combination, a heddle-frame having an end bar, side straps and a cross-bar, a series of heddles having elongated mortises arranged on the cross-bar, each heddle being vertically movable independently of the others and having an eye for a warp-thread, and a warp-stop-motion detector, consisting of a rod mounted in said side straps, a rib projecting from said rod, a bar carried by the straps and held by the same above the rod and rib thereof, a gear connected with the rod, a bar having slots slidably connected with one of the side straps, a spring for depressing the slotted bar in the supporting-strap thereof and by the same and gear holding the rod and rib thereof, in a position to permit of descent of a heddle between the rib and said first-mentioned bar, said slotted bar adapted, when raised, to rock the rod and oscillate the rib thereof, except when one of the heddles is dropped in the frame, and a hook connecting the rod and first-mentioned bar with the end bar and cross-bar and for holding the same in a fixed and parallel position with respect to each other.

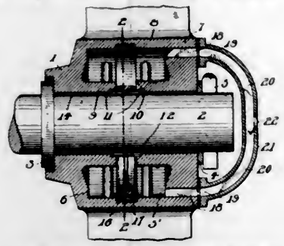
843,883. PIT-CAR WHEEL. WILLIAM C. FOWNES, JR., and ROBERT J. GARDNER, Pittsburg, Pa., assignors to Jarvis Adams Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed July 12, 1906. Serial No. 325,763.

Claim.—1. In a rotary device, a hollow hub serving as an oil-receptacle, an oiling-ring therein, and means for causing the said ring to feed oil to the axle intermittently.

2. In a rotary device, a hollow hub serving as an oil-receptacle, a sleeve surrounding the axle and carried by the hub, and an oiling-ring encircling said sleeve, said sleeve having a portion arranged to lift said ring out of contact with the axle intermittently.

3. In a rotary device, a hollow rotatable hub serving as an oil-receptacle, a sleeve encircling the axle and carried by said hub, said sleeve having a peripheral slot for a portion of its circumference, and an oiling-ring adapted to feed oil through said slot during a portion of the revolution of the wheel.

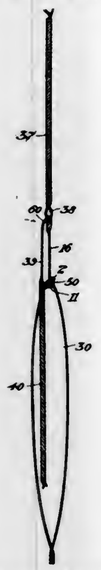
4. In a rotary device, a hollow hub serving as an oil-receptacle, a sleeve encircling the axle but out of contact therewith and carried by said hub, and an oiling-ring encircling said sleeve, there being a slot in the sleeve for causing the ring to feed oil to the axle intermittently.



5. In a rotary device, a hollow rotatable hub serving as an oil-receptacle, and an oiling-ring therein encircling the axle, there being a slot for a portion only of the circumference of the wall between the oil-receptacle and the axle, whereby the ring may during a portion of the revolution of the wheel feed oil through said slot to the axle.

6. In a rotary device, a hollow hub serving as an oil-reservoir and having a slot through the inner wall thereof, and an oiling-ring having a flange adapted to extend through said slot and supply the bearing with oil.

843,884. SELVAGE-FORMING ATTACHMENT FOR LOOMS. THEODORE GARISIO, West Hoboken, N. J. Filed Apr. 9, 1906. Serial No. 310,599.



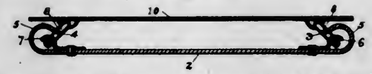
Claim.—1. A selvage-forming attachment for looms, comprising a selvage-thread carrier having two extensions, and a lifter slidable on each of said extensions and being provided with a bend or offset to position that part of the lifter extending beyond the carrier in line about central of the latter, for the purpose set forth.

2. A selvage-forming attachment for looms, comprising a loop having a selvage-thread eye at one end, and a lifter slidable on each member of said loop and being provided with a bend or offset to position that part of the lifter extending beyond the said eye in line about central of the latter, for the purpose set forth.

3. A selvage-forming attachment for looms, comprising a wire loop having a selvage-thread eye at one end, and a wire lifter slidable on each member of said loop and being provided with a bend or offset to position that part of the lifter extending beyond the said eye in line about central of the latter, for the purpose set forth.

4. A selvage-forming attachment for looms, comprising a selvage-thread carrier, a pair of wire lifters slidable on said carrier, and wire retractors connecting with said lifters, the said retractors each being provided with a bend or offset adjacent to its point of connection with the lifter, for the purpose set forth.

843,885. COLLAR-SUPPORTER. MARY L. GASTON, New York, N. Y., and HORACE E. MOORE, Plainfield, N. J. Filed Nov. 21, 1906. Serial No. 344,388.



Claim.—1. A collar-supporter comprising a strip having at each end thereof a bent portion forming a retaining means within another bent retaining means.

2. A collar-supporter comprising a strip having at each end thereof a hook within a hook, one hook extending in a direction opposite to that of the other.

3. A collar-supporter comprising a strip having each end bent upon itself, and a member adjacent to each end thereof and having a bent portion located within such bent portion of the strip.

4. A collar-supporter comprising a resilient strip having a pair of bent ends, and a second member projecting from said strip and having within each of said bent ends a bent portion.

5. A collar-supporter comprising a resilient supporting-strip having turned-over ends, and a member between the body and ends of said strip provided with a portion having a contour substantially corresponding to that of such turned-over ends for connection to the collar.

6. A collar provided at its inner side adjacent to its top and bottom edges with eyes or loops and a plurality of supporters each comprising a strip having at each end thereof a part bent to form a hook and having a portion bent to form a tongue within such hook, said strips having their ends hooked into the said eyes or loops.

7. A collar-supporter comprising a strip having each end thereof bent to form a hook, and having a portion of such strip bent to form a tongue within such hook.

843,886. COLLAR-SUPPORTER. MARY L. GASTON, New York, N. Y., and HORACE E. MOORE, Plainfield, N. J. Filed Dec. 7, 1906. Serial No. 346,741.



Claim.—1. A collar-supporter comprising a strip having at each end thereof a pair of laterally-extending opposed spring-acting projections forming a retaining means for the loop or eye of a collar.

2. A collar-supporter comprising a relatively flat strip having at each end thereof a pair of integral laterally-extending opposed projections forming a retaining means for the loop or eye of a collar.

3. A collar-supporter comprising a strip having at each end thereof a pair of resilient curled projections.

4. A collar-supporter comprising a strip having at each end thereof a pair of bent portions, one extending in a direction opposite to that of the other.

5. A collar-supporter comprising a strip having at each end thereof a pair of bent portions one curved toward the other.

6. A collar-supporter comprising a strip having at each end thereof a pair of bent portions one curved toward the

other and each bent upon itself to form an enlarged portion or head.

7. A collar-supporter comprising a strip having at each end thereof a pair of bent portions forming a loop or eye, each of said bent portions having an enlarged portion.

8. A collar-supporter comprising a strip having at each end thereof a pair of integral, resilient bent portions to form an enlarged loop or eye, each of said bent portions having its end bent upon itself.

9. A collar-supporter comprising a resilient strip having each end bent to form a hook or projection, a part of the metal of said strip being struck up to form adjacent thereto a companion hook or projection.

10. A collar-supporter comprising a resilient strip having each end bent to form a hook or projection, a part of the metal of said strip adjacent thereto being struck up to form a companion hook or projection, said projections being curved toward each other to form an enlarged eye or loop.

11. A collar-supporter comprising a resilient strip having each end bent to form a hook or projection, a part of the metal of said strip adjacent thereto being struck up to form a companion hook or projection, each of said projections having an enlargement or head.

12. A collar-supporter comprising a resilient strip having each end bent to form a hook or projection, a part of the metal of said strip adjacent thereto being struck up to form a companion hook or projection, each of said projections having an enlargement or head formed by bending the end of the projection upon itself.

13. The herein-described collar-supporter comprising a strip having adjacent to each end thereof a pair of hooks or projections, each formed from the metal of said strip and each having a thickened or reinforced portion or head adjacent to the end thereof.

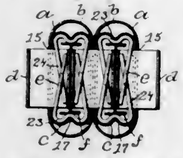
843,887. STOP-WATCH. ADOLPH GERSON, New York, N. Y. Filed Feb. 19, 1906. Serial No. 301,722.



Claim.—1. In combination with a watch-movement provided with a longitudinally-movable winding-stem, an idle gear, a pointer operated by said gear, a rocking spindle provided with a gear in mesh with the seconds-hand gear of said watch-movement, a pinion carried by said spindle adapted to mesh with said idle gear, a star-wheel having a plurality of arms of different lengths, a lever having at one end thereof a circular arm adapted to impinge upon the periphery of the long arms of said star-wheel, said lever being pivoted intermediate of its ends and adapted to operate said rocking spindle and cause the pinion carried thereby to mesh with said idle gear when the short arm of said star-wheel is brought adjacent to the circular arm carried by said lever, a heart-cam carried by said idle gear, a lever operated by the said star-wheel adapted to impinge upon said heart-cam and throw said pointer to a zero-point, and means operated by said stem adapted to operate said star-wheel.

2. In combination with a watch-movement provided with a longitudinally-movable winding-stem, an idle gear, a pointer operated by said gear, a rocking spindle provided with a gear in mesh with the seconds-hand gear of said watch-movement, a pinion carried by said spindle adapted to mesh with said idle gear, a star-wheel having a plurality of arms of different lengths, a lever having at one end thereof a circular arm adapted to impinge upon the periphery of the long arms of said star-wheel, said lever being pivoted intermediate of its ends and adapted to operate said rocking spindle and cause the pinion carried thereby to mesh with said idle gear when the short arm of said star-wheel is brought adjacent to the circular arm carried by said lever, a heart-cam carried by said idle gear, a lever operated by the said star-wheel adapted to impinge upon said heart-cam and throw said pointer to a zero-point, a rocking frame operated by said stem, said frame being provided with a plurality of fingers, one of said fingers being adapted to strike said star-wheel and advance it to operate said levers, the other of said fingers being adapted to hold said wheel in the advanced position.

843,888. BRACELET. THOMAS D. GIGUERE, North Attleboro, Mass. Filed Oct. 19, 1906. Serial No. 339,715.



Claim.—1. In a bracelet, a plurality of units having connecting-links, and springs in the units straddling the adjacent ends of the connecting-links, whereby the units are held in their contracted or normal position under spring tension.

2. A bracelet composed of a plurality of units consisting of a shell, a frame in the shell, connecting-links extending through slots in the frame and shell, and springs in the frame straddling the adjacent ends of the connecting-links, whereby the units are held in their normal or contracted position under spring tension.

3. A bracelet composed of a plurality of units consisting of a shell, a frame in the shell, tubular connecting-links extending through openings in the frame and shell, springs in the frame straddling the adjacent ends of the connecting-links, and means for holding the springs in their operative positions in the frame, whereby the units are held in their normal or contracted position under spring tension.

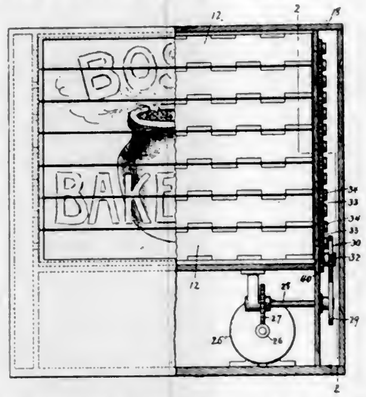
4. A bracelet composed of a plurality of spring-actuated units consisting of a shell, a frame in the shell, tubular connecting-links extending through openings in the shell and frame, springs in the frame having spring-arms straddling the adjacent ends of the connecting-links, whereby the units are held in their normal or contracted position under spring tension, and means for limiting the expansion movement of the units, consisting of the spring-arms engaging with the sides of the frame, as described.

5. A bracelet comprising a plurality of spring-actuated units consisting of a shell, a frame in the shell, tubular connecting-links extending through openings in the shell and frame, wire springs in the frame having spring-arms straddling the adjacent ends of the connecting-links in the frame, means for holding the springs in their operative positions in the frames, whereby the units are held in their normal or contracted position under spring tension, and means for limiting the expansion or opening movement of the units, as described.

6. A bracelet comprising a plurality of spring-actuated units *a a*, each unit consisting of a double shell *b*, a box-frame *c*, a tubular connecting-link *d*, two heart-shaped wire springs *e e* in the frame straddling the adjacent ends of the connecting-links, and a spring-retaining member *f*, as shown and described.

843,889. APPARATUS FOR ADVERTISING, &c. WILLARD H. GILMAN, Medford, and CHARLES B. KENDALL, Malden, Mass., assignors, by mesne assignments, to Charles B. Kendall. Filed May 8, 1905. Serial No. 259,278.

Claim.—1. An apparatus of the character stated, comprising a series of plates of uniform width, hinges connecting said plates in an endless belt, and rotary trilateral supports for said belt having faces corresponding in width with the body portion of the plates between the hinges, the projection of said hinges from the edges of the faces being wholly inward, whereby the outer face of the belt is left free from projections or protuberances.



2. An apparatus of the character stated, comprising a series of plates of uniform width, hinges connecting said plates in an endless belt and projecting wholly from the inner surface of the belt, and rotary trilateral supports for said belt having truncated corners accommodating said hinges, and faces between said corners corresponding in width with the body portions of the plates between the hinges.

3. An apparatus of the character stated, comprising a series of plates flexibly connected to form an endless belt, said plates having coupling members between their edges, sign-strips having complemental coupling members adapted to detachably engage the coupling members of the plates, and rotary prismatic supports for said belt, one of the said coupling members being a stud and the other a socket.

4. An apparatus of the character stated, comprising a series of plates flexibly connected to form an endless belt, said plates having socket-coupling members between their edges, sign-strips having inwardly-projecting stud-coupling members adapted to detachably engage the said socket members and rotary prismatic supports for said belt having faces which are recessed to coincide with and receive the stud members of the sign-strips.

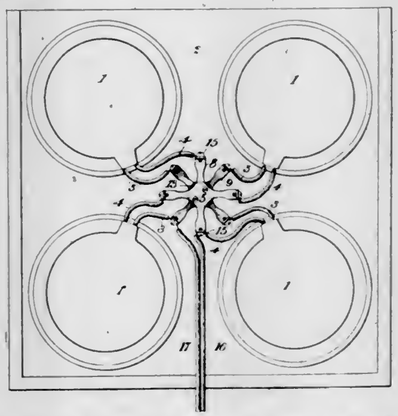
5. An apparatus of the character stated, comprising a series of endless belts, each having a plurality of panels, and rotary trilateral supports engaged with said belts and having faces substantially equal in width to the width of the panels, the supports being arranged to hold a series of the panels edge to edge in the same plane for simultaneous exposure, the trilateral form of said supports permitting the edges of the exposed panels to stand in close proximity to each other, means being provided to cause the supports, when actuated, to rotate in unison in the same direction.

6. An apparatus of the character stated, comprising a series of endless belts, each having a plurality of panels, and rotary trilateral supports engaged in pairs with said belts and having faces substantially equal in width to the width of the panels, and mechanism for causing an intermittent synchronous rotation of said supports in the same direction, said mechanism being organized to hold a series of the panels in the same plane when the supports are at rest, the trilateral form of said supports permitting the edges of the exposed panels to stand in close proximity to each other.

7. An apparatus of the character stated, comprising a series of endless belts, each having a plurality of panels, and rotary trilateral supports engaged in pairs with said belts and having faces substantially equal in width to the width of the panels, a motor, and a train of gears connecting the motor with the supports, to cause the synchronous rotation of said supports, the said train comprising gears affixed to one series of supports, intermediate gears connecting the first-mentioned gears, and coöperating interrupted gears, one engaged with the motor to receive continuous rotation therefrom, and the other adapted to be intermittently rotated by the motor-driven gear, and causing an intermittent rotation of the said supports.

8. An apparatus of the character stated, comprising a series of endless belts, each having a plurality of panels, and rotary trilateral supports engaged with said belts and having faces corresponding in width with the panels, the supports being arranged to carry the intermediate stretches of the belts side by side and in close proximity to each other, and means for preventing rubbing contact between adjacent stretches.

843,890. CONNECTION FOR ACOUSTICONS. HOWELL W. HAFF, Babylon, N. Y., assignor to Kelley M. Turner, New York, N. Y. Filed Mar. 17, 1906. Serial No. 306,584.



Claim.—1. An electric connection comprising a pair of plates having rigidly-projecting arms integral therewith, said plates being insulated from one another.

2. An electric connection for receivers in an acousticon comprising a pair of metallic plates having arms integral therewith, an insulating-disk between said plates, means for holding the plates in such relation, and means for connecting the receivers to said arms.

3. An electric connection for receivers in an acousticon, comprising a pair of metallic plates having arms, an insulating-disk between said plates, screws passed through openings in said plates for securing them in such relation, and means for connecting the various terminals of the receivers to said arms, whereby the receivers are arranged in a multiple circuit.

4. An electric connection for receivers in an acousticon, comprising a pair of metallic plates each having a pair of openings and having radial arms, an insulating-disk between said plates also having openings, perforated washers in the openings of one of said plates and having openings adapted to lie in alinement with the openings of said disk and the other plate, screws passed through the alined openings for securing the plates in spaced relation with their arms alternating within the acousticon, and means for connecting the terminals of the various receivers to said arms, whereby the receivers are arranged in a multiple circuit.

5. A connection for grouping electrical instruments in a multiple circuit, comprising a plurality of superposed plates in insulated relation from one another, and having arms in alternating or staggered relation, and means for connecting the terminals of the various instruments to the arms of the respective plates.

6. In combination, a plurality of electric translating devices grouped around a central point, a plurality of plates

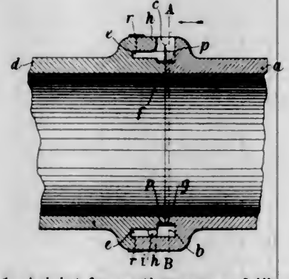
superposed at such point and insulated from one another, radial arms on the respective plates in alternating or staggered relation with one another, and means for connecting said arms to the various translating devices.

843,891. TELEPHONE-RECEIVER. HOWELL W. HAFF, New York, N. Y., assignor to Kelley M. Turner, New York, N. Y. Filed Aug. 27, 1906. Serial No. 332,094.



Claim.—In a telephone instrument, a collar constituting a fixed electrical terminal, a switch element also constituting an electrical terminal and having means thereon whereby it may be moved to and fro by hand manipulation, and a plug having a tip-contact adapted to enter said collar and having a sleeve-contact adapted to fall into the path of said switch element.

843,892. PIPE-JOINT. JAMES C. HALLER and ROBERT H. MACHELL, Dewsbury, England, assignors to Edward England, a Company. Filed Oct. 21, 1905. Serial No. 283,847.

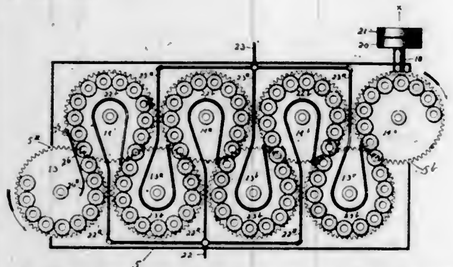


Claim.—1. A joint for earthenware and like pipes, comprising an annular groove in the butt of the socket, an annular groove in the spigot, a bead on the spigot at the invert, a reduced end on the spigot corresponding in thickness and diameter to the rim on the butt formed by said groove said reduced end forming a shoulder with which the end of the socket engages, a flexible strip surrounding the joint made by the end of the socket with the shoulder, and a cement filling, as set forth.

2. A joint for earthenware and like pipes, comprising a groove in the butt of the socket, a shoulder on the end of the spigot a groove in the shoulder of the spigot, a bead on the spigot at the invert a reduced end on said spigot corresponding in thickness and diameter to the rim on the butt formed by said groove a flexible strip surrounding the joint made thereby, securing means for said strip, a flexible strip surrounding the joint made by the end of the socket with the shoulder, and a cement filling, as set forth.

843,893. APPARATUS EMPLOYED IN CANNING OPERATIONS. MILLARD J. HAWKINS, Hoopeston, Ill. Filed May 25, 1905. Serial No. 262,204.

Claim.—1. In an apparatus of the character described, the combination with a heating-chamber, of a conveyer therein comprising a plurality of rows of revoluble carrier-disks, the disks of one row being geared with the disks of an adjacent row, and guides for deflecting the cans back and forth between the disks of adjacent rows, substantially as described.



2. In an apparatus of the character described, the combination with a casing constituting a heating-chamber, of a conveyer therein comprising a pair of rows of peripherally-toothed carrier-disks disposed longitudinally of said casing, the disks of each row being geared with the disks of the other row, guides for deflecting the cans back and forth between the disks of the two rows, and driving means applied to one of said disks, substantially as described.

3. In an apparatus of the character described, the combination with a casing constituting a heating-chamber, of a conveyer therein comprising a pair of rows of revoluble carrier-disks disposed longitudinally of said casing, the disks of each row being geared with the disks of the other row, guides for deflecting the cans back and forth between the disks of the two rows, and a driving-shaft suitably geared to an end disk of one of said rows, substantially as described.

4. In an apparatus of the character described, the combination with a casing constituting a heating-chamber, of a conveyer therein comprising a pair of rows of revoluble carrier-disks disposed longitudinally of said casing, the disks of each row being geared with the disks of the other row, the end disk of one of said rows projecting through one end wall of the casing and constituting the receiving end of the conveyer, and the opposite end disk of the other row projecting through the opposite end wall of the casing and constituting the discharging end of the conveyer, guides for deflecting the cans back and forth between the disks of the two rows, and a driving-shaft suitably geared to one of said end disks, substantially as described.

5. In an apparatus of the character described, the combination with a heating-chamber, of a conveyer therein comprising a plurality of rows of revoluble carrier-disks so arranged that adjacent coöperating disks rotate in opposite directions, guides for deflecting the cans back and forth between the disks of adjacent rows, and means for injecting a heating agent into said chamber, substantially as described.

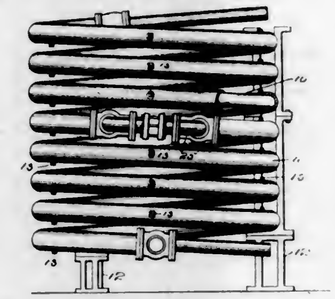
6. In an apparatus of the character described, the combination with a heating-chamber, of a conveyer therein comprising a pair of rows of revoluble carrier-disks, the disks of each row being geared with the disks of the other row, guides for deflecting the cans back and forth between the disks of the two rows, and a steam-inlet pipe tapping said chamber, substantially as described.

7. In an apparatus of the character described, the combination with a casing constituting a heating-chamber, of a conveyer therein comprising a pair of rows of revolubly-connected carrier-disks, and a steam-inlet pipe tapping said casing and provided with a plurality of perforated branches so formed and disposed as to direct jets of steam against the cans during their travel through said casing and deflect said cans from disk to disk, substantially as described.

8. In an apparatus of the character described, the combination with a casing constituting a heating-chamber, of a conveyer therein comprising a pair of rows of revoluble carrier-disks disposed longitudinally of said casing, the disks of each row being geared with the disks of the other row, and a pair of steam-inlet pipes tapping the sides of the casing, respectively, each pipe having a plurality of perforated branches extending between adjacent disks of one row and overlying the disks of the other row, substantially as described.

9. In an apparatus of the character described, the combination with a casing constituting a heating-chamber, of a conveyer therein comprising a pair of rows of revoluble carrier-disks disposed longitudinally of said casing, the disks of each row being geared with the disks of the other row, and a pair of steam-inlet pipes tapping the sides of the casing, respectively, each pipe having a plurality of perforated branches extending between adjacent disks of one row and terminating in looped ends overlying the disks of the other row, and serving to guide the cans from one disk onto the next, substantially as described.

843,894. REFRIGERATING APPARATUS. JULIUS H. HOLMGREEN, San Antonio, Tex. Filed Apr. 22, 1904. Serial No. 204,377.



Claim.—1. In refrigerating apparatus, a coil composed of helically-arranged pipes of comparatively long sections and free from joints and of different diameters placed one inside of the other, and plugs adjustably mounted in the outer pipe and impinging on the inner pipe to hold said pipes concentric to each other thus forming an annular passage of uniform cross-area throughout and said plugs being spirally disposed to form a spiral course in the annular space between the pipes.

2. In refrigerating apparatus, a coil composed of helically-arranged pipes of comparatively long sections and free from joints and of different diameters placed one inside of the other thus forming an annular passage between the same, and guides mounted at intervals in said annular passage and spirally disposed therein to form a spiral course around the inner pipe.

3. In refrigerating apparatus, a coil composed of helically-arranged pipes of comparatively long sections and free from joints and of different diameters placed one inside of the other thus forming an annular passage between the same, and guides adjustably mounted at intervals in said annular passage and spirally disposed therein to form a spiral course around the inner pipe.

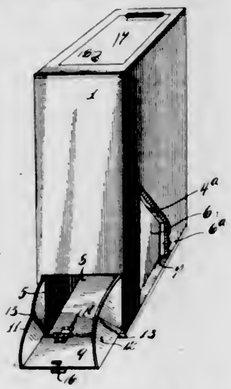
4. In refrigerating apparatus, a coil composed of pipes of different diameters placed one inside of the other and helically arranged, and plugs with flattened inner ends turned into the outer pipe and impinging on the inner pipe to hold said pipes concentric to each other thus forming an annular passage between the same of a uniform cross-area throughout its length and with the flattened inner ends so disposed in said passage as to form a spiral course around the inner pipe.

5. In refrigerating apparatus, a coil composed of pipes of different diameters placed one inside of the other and helically arranged, and plugs with flattened inner ends and provided with indicating marks on their outer ends coincident with said flattened inner ends turned into the outer pipe and impinging on the inner pipe to hold said pipes concentric to each other thus forming an annular passage between the same of uniform cross-area throughout its length and with the flattened inner ends so disposed in said passage as to form a spiral course around the inner pipe.

6. In refrigerating apparatus, a coil composed of helically-arranged pipes of different diameters placed one inside of the other, and plugs with guides on their inner ends adjustably mounted in the outer pipe and impinging on the inner pipe to hold the said pipes concentric to each other thus forming an annular passage of uniform cross-area throughout and said plugs being spirally disposed and the guides adjusted to form a spiral course around the inner pipe.

7. In refrigerating apparatus, a coil composed of sections of pipes of different diameters placed one inside of the other and helically arranged, means for holding said pipe-sections concentric to each other to form an annular passage between the same, a joint connecting two inner pipe-sections, and a by-pass consisting of two members joined at their inner ends and connected by couplings at their outer ends with the ends of two outer pipe-sections and extending around the joint connecting two inner pipe-sections.

843,895. COAL-BIN. AUGUST H. KOCH, New York, N. Y. Filed Oct. 31, 1906. Serial No. 341,397.



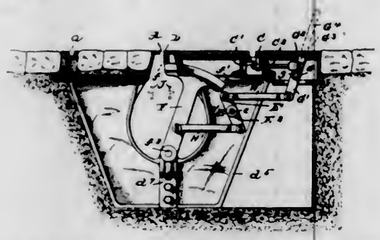
Claim.—1. A coal-bin, comprising a casing, a coal-slide therein, said coal-slide being adapted to snugly fit in said casing and provided with depending sides, the distance between said sides being less than the inside width of said casing, whereby a space is provided at each side thereof, the inner ends of said depending sides being bent outwardly to meet the sides of said casing, whereby said space is inclosed, a pivotally-mounted door having resilient side wings adapted to frictionally work within said inclosed space, and a projection upon said wings adapted to limit the outward movement of said door.

2. A coal-bin, comprising a casing, a coal-slide therein, said coal-slide being adapted to snugly fit in said casing and provided with depending sides, the distance between said sides being less than the inside width of said casing, whereby a space is provided at each side thereof, the inner ends of said depending sides being bent outwardly to meet the sides of said casing, whereby said space is inclosed, a pivotally-mounted door having side wings adapted to work in said inclosed space, said wings being offset, intermediate the ends thereof, to an extent equal to the width of said space, whereby a frictional contact between said wings, the sides of said casing and said depending sides is effected, and a projection upon said wings adapted to limit the outward movement of said door.

843,896. SLOT-SWITCH. CLARENCE C. KORNS, Johnstown, Pa., assignor to The Lorain Steel Company, a Corporation of Pennsylvania. Filed Apr. 11, 1906. Serial No. 311,044.

Claim.—1. In a slot-switch, a tongue having an oscillating supporting and operating member.

2. In a slot-switch, a tongue having a support for its heel, and an oscillating supporting and operating member for its point.



3. In a slot-switch, a tongue having an oscillating supporting and operating member whose movement is greater than the movement of said tongue.

4. In a slot-switch, a tongue having a support for its heel, and an oscillating supporting and operating member for its point whose movement is greater than the movement of the tongue.

5. In a slot-switch, a tongue having an oscillating supporting and operating member, and devices on the oscillating support to move the tongue from one side of the slot to the opposite side of said slot, substantially as set forth.

6. In a slot-switch, a tongue having an oscillating supporting and operating member, devices on the support to move the tongue from one side of the slot to the opposite side of said slot, the oscillating support having a greater movement than the movement of the tongue.

7. In a slot-switch, a tongue having an oscillating supporting and operating member, projections on the oscillating support to move the tongue from one position to the other position, and indents in the tongue to receive the projections on the oscillating support, substantially as set forth.

8. In a slot-switch, a tongue having an oscillating supporting and operating member, projections on the oscillating support to move the tongue from one position to the other position, and indents in the tongue to receive the projections on the oscillating support, the movable support having a greater movement than the movement of the tongue.

9. In a slot-switch, a tongue having a movable support, devices on the movable support to move the tongue from one position to the other position, the center of gravity of the movable support passing beyond the center in each position, for the purpose set forth.

10. In a railway switch mechanism, a slot-switch tongue having a movable support, devices on the movable support to move the slot-switch tongue, in combination with a track-switch, and connections between the movable support and the movable member of the track-switch.

11. In a railway switch mechanism, a slot-switch tongue having a movable support, projections on the movable support to shift the tongue, indents in the tongue to receive the projections on the support in combination with a track-switch and connections between the movable support and the track-switch, for the purpose set forth.

12. In a railway switch mechanism, a slot-switch tongue having a movable support, devices on the movable support to shift the slot-switch tongue, in combination with a track-switch tongue, operative connections between the movable support and the track-switch tongue, the center of gravity of the movable support passing beyond the center in each position, for the purpose set forth.

13. In a railway-switch mechanism, a slot-switch tongue, supported on a sector provided with projections to shift the tongue.

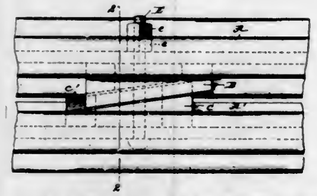
14. In a railway switch mechanism, a slot-switch tongue supported on a sector provided with projections to shift the tongue in combination with a track-switch and connections between the sector and the track-switch for the purpose set forth.

15. In a railway switch mechanism, a slot-switch tongue, supported on the sector provided with projections to shift the tongue, the center of gravity of the sector passing beyond the center in each position.

16. In a railway switch mechanism, a slot-switch tongue, supported on a sector provided with projections to shift the tongue in combination with a track-switch and connections between the sector and the track-switch for the purpose set forth.

17. In a railway switch mechanism, a slot-switch tongue, supported on a sector provided with projections to shift the tongue, the center of gravity of the sector passing beyond the center in each position in combination with a track-switch and connections between the sector and the track-switch for the purpose set forth.

843,897. ADJUSTABLE GUARD-RAIL FASTENER. CLARENCE C. KORNS, Johnstown, Pa., assignor to The Lorain Steel Company, a Corporation of Pennsylvania. Filed Apr. 11, 1906. Serial No. 311,045.

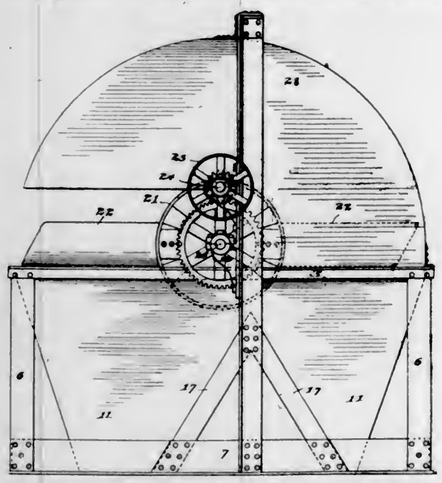


Claim.—1. An adjustable chock, tapering chock members provided with an interlocking tapered tongue and groove.

2. An adjustable chock, tapered chock members provided with an interlocking wedge-shaped tongue and groove.

3. An adjustable rail-chock having a plurality of wedge members, provided with wedge-shaped frictionally-interlocking tongue-and-groove connections.

843,898. MEAT-CHOPPING MACHINE. EDWARD LACE, Chicago, Ill. Filed Jan. 18, 1906. Serial No. 296,669.



Claim.—1. In a machine for the purpose described, the combination of a table adapted to support a carcass to be divided, a rotatable shaft, a cleaver-blade secured radially to said shaft and adapted to rotate therewith, means for rotating said shaft in a direction to drive said cleaver-blade edge foremost downwardly to effect the cutting operation, and means to maintain said cleaver-blade wet, substantially as described.

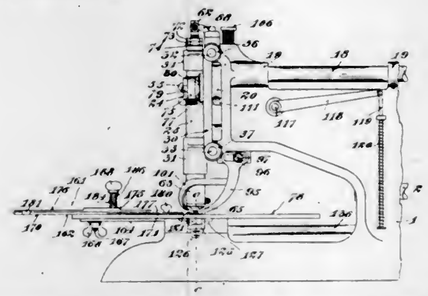
2. In a machine for the purpose described, the combination of a table adapted to support a carcass to be divided, a rotatable shaft, a cleaver-blade secured radially to said shaft and adapted to rotate therewith, means for rotating said shaft in a direction to drive said cleaver-blade edge foremost downwardly to effect the cutting operation, and means to maintain said cleaver-blade hot and wet, substantially as described.

3. In a machine for the purpose described, the combination of a table adapted to support a carcass to be divided, a rotary shaft, a cleaver-blade secured radially to said shaft and adapted to rotate therewith, a tank adapted to be supplied with hot water into which said cleaver-blade dips in its revolution whereby said blade is maintained hot, and means for rotating said shaft, substantially as described.

4. In a machine for the purpose described, the combination with a slotted table adapted to support a carcass to be divided, a shaft mounted above and across said table, a cleaver-blade secured radially to said shaft in the vertical plane of the slot of said table, a tank adapted to be supplied with hot water beneath said table into which said cleaver-blade dips whereby said blade is maintained hot, and means for rotating said shaft in a direction to drive said cleaver-blade edge foremost downwardly through the slot of said table, substantially as described.

5. In a machine for the purpose described, the combination of a slotted table adapted to support a carcass to be divided, a shaft mounted above and across said table, one or more cleaver-blades secured radially to said shaft in the vertical plane of the slot of said table, means for rotating said shaft in a direction to drive said blade or blades edge foremost downwardly through the slot of said table, a shield covering the major part of the path of travel of said blade or blades above said table, and a hot-water tank beneath said table, said blade or blades being adapted to be immersed in the hot water of said tank during their rotation whereby they are maintained hot and wet, substantially as described.

843,899. PUNCHING-MACHINE. WILLIAM F. LAUTENSCHLAGER, Cincinnati, Ohio. Filed Sept. 15, 1905. Serial No. 278,545.



Claim.—1. In an imitation-tip-vamp punch-feeding punching-machine, the combination with a feeding-punch, of a cushion-strip thereunder, a pivoted vamp-support, means for automatically feeding said punch for causing the punches on the vamp to follow one another, and means automatically feeding said cushion-strip for causing the punch-marks thereon to overlap one another, for the purpose specified.

2. In an imitation-tip-vamp punch-feeding punching-machine, the combination with a feeding-punch, of a cushion-strip thereunder, a pivoted vamp-support, a clamp thereon comprising a vamp-gage, means for shifting said gage beyond said support for positioning the vamp and retracting said gage when clamping the vamp, means for automatically feeding said punch for causing the punch-marks on said vamp to follow one another, and means automatically feeding said cushion-strip for causing the punch-marks thereon to overlap one another, for the purpose specified.

3. In an imitation-tip-vamp punch-feeding punching-machine, the combination with a feeding-punch, of a cushion-strip thereunder, a vamp-support, a pivot on which the latter swings, means for automatically feeding said punch for causing the punch-marks on the vamp to follow one another, and means automatically feeding said cushion-strip for causing the punch-marks thereon to overlap one another, said pivot located in a transverse plane between the transverse planes of the limits of feeding motion of said punch, for the purpose specified.

4. In a punch-feeding punching-machine, the combination with the frame, punch-ram head, and slideway between said frame and punch-ram head, of a rocker-arm having articulation with said punch-ram head in substantially the vertical plane of said slideway, said articulation being adjustable lengthwise of said rocker-arm for adjusting the length of transverse reciprocation of said punch-ram head, substantially as described.

5. In a punch-feeding punching-machine, the combination with the frame, punch-ram head, and slideway between said frame and punch-ram head, of a rocker-arm, and means adjustable along said rocker-arm and up and down on said punch-ram head for articulating said rocker-arm to said punch-ram head for combined movement, said rocker-arm and last-named means being in substantially the vertical plane of said slideway, substantially as described.

6. In a punch-feeding punching-machine, the combination with the punch-ram head, of a rocker-arm, and means adjustable along said rocker-arm for uniting said rocker-arm and punch-ram head for combined movement, and a gage at said uniting means for determining the point of said uniting.

7. In a punch-feeding punching-machine, the combination, with the punch-ram head, of a rocker-arm having a guideway extending along said rocker-arm, said punch-ram head having a guideway, articulating means between said rocker-arm and punch-ram head adjustable along said guideways, and a gage along one of said guideways for indicating the desired position of said articulating means, substantially as described.

8. In a punching-machine, the combination, with a punch-ram head and punch-ram, of a cushion for the punch of said machine, means for automatically feeding the stock in a direction transverse of the longitudinal axis of said punch-ram, and means for feeding said cushion a substantially less distance than the distance of feed of said stock.

9. In a punching-machine, the combination, with the punching means, of automatic step-by-step feeding means for the stock, a cushion under said stock, automatic means for feeding said cushion, said feeding means for said stock feeding said stock across the face of said cushion, the distance of feeding of said stock being materially greater than the distance of ultimate feed of said cushion.

10. In a punch-feeding punching-machine, the combination, with a punch-feeding punch having cross-reciprocation, and a cushion under said punch having automatic travel of materially less extent than the distance of cross-reciprocation of said punch.

11. In a punch-feeding punching-machine, the combination, with a punch-ram head and punch-ram, of means automatically cross-reciprocating said punch-ram head and reciprocating said punch-ram up and down, of a cushion-strip under said punch-ram at its downward reciprocation, and means for automatically feeding said cushion-strip a less distance than the distance of cross-reciprocation of said punch, for the purpose specified.

12. In a punch-feeding punching-machine, the combination with a punch-ram head and punch-ram, of means automatically cross-reciprocating said punch-ram head for feeding the stock, means for automatically reciprocating said punch-ram up and down, of a cushion-strip, and means for automatically feeding said cushion-strip, the resulting feeding of said cushion-strip being materially less than the resulting cross-feeding of said stock, substantially as described.

13. In a punching-machine, the combination with a punch, of a cushion-strip thereunder, means for automatically reciprocating said punch, means for automatically

feeding the stock in step-by-step movements, means for automatically feeding said cushion-strip under said punch in step-by-step movements of less distances than the distances of the step-by-step movements of feed of said stock, for causing successive punch-markes of said punch upon said cushion-strip to overlap and for causing successive punch-marks of said punch upon said stock to follow one another, for the purpose specified.

14. In a punching-machine, the combination, with a punch-ram head and means for feeding the stock, of a cushion-strip, a feed-wheel acting thereon, a rock-shaft and rocker-arm, a link having connection with said feed-wheel for operating the same, means for articulating said link adjustably along said rocker-arm, and tensioning means for said cushion-strip, said tensioning means acting in advance of said punch-ram head upon said cushion-strip for the purpose specified.

15. In a machine having a reciprocating tool for operating on the stock, the combination of a swinging supporting-plate for stock, and a tension-clamp acting on said stock swinging therewith and independently of said reciprocating tool, substantially as described.

16. In a machine having a reciprocating tool for operating on the stock, the combination of a swinging stock-supporting plate, a tension-clamp for the stock mounted on and swinging with said plate, and means for shifting said clamp on said plate toward and from the vertical plane of said tool, substantially as described.

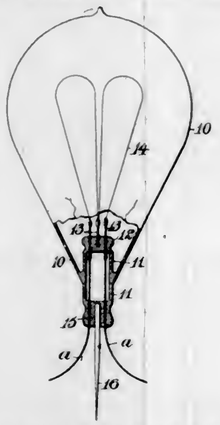
17. In a punching-machine, the combination, with a punch-ram head, of a step-by-step feeding means for the stock, a swinging support for the stock being fed, a clamp thereon for said stock, a pivot on which said support swings, said pivot being located in transverse plane between the limits of said step-by-step feeding motion of said feeding means, substantially as described.

18. In a machine having a reciprocating tool for operating on the stock, the combination of a swinging support for the stock, a pivot therefor, means for adjusting said pivot laterally toward and from the vertical plane of said tool, means for adjusting the pivotal position of said pivot on said support, a stock-clamp on said support moving therewith, said stock-clamp having a guide edge adjacent the vertical plane of said tool, and means permitting movement of said stock-clamp for shifting said guide edge laterally beyond said support for guiding the positioning of said stock on said support and for returning said clamp to clamping position, substantially as described.

19. In a punching-machine, the combination, with a punch-ram head and punch-ram, of a swinging support for the stock, a pivot therefor, means for adjusting said pivot laterally toward and from the vertical plane of said punch-ram, means for adjusting the pivotal position of said pivot on said support, a stock-clamp having a guide edge adjacent the vertical plane of said punch-ram and means permitting movement of said stock-clamp for shifting said guide edge laterally beyond said support for guiding the positioning of said stock on said support and for returning said clamp to clamping position, feeding means for the stock traveling within limits, the said pivot being located in lateral plane intermediate of the lateral planes of said limits of travel of said feeding means.

20. In a punch-feeding punching-machine, the combination, with the punch-ram head and punch-ram of means for automatically cross-reciprocating said punch-ram head, means automatically reciprocating said punch-ram up and down, an anvil under said punch at its downward reciprocation, a cushion-strip above said anvil under said punch, means for automatically feeding said cushion-strip, the resulting feeding of said cushion-strip being materially less than the feed imparted to the stock by said punch, a swinging stock-support, an adjustable pivot therefor, a stock-clamp on said support having a stock-gage adjacent the vertical plane of the punch-ram position, means for shifting said clamp for bringing said gage beyond said support and for permitting retraction of said gage to initial position, and constructed and arranged for feeding the stock in an arc described from said pivot above said cushion-strip and causing the punch-marks on said stock to follow one another and the punch-marks on said cushion-strip to overlap, substantially as described.

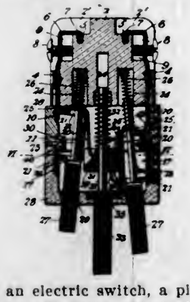
843,900. ELECTRIC-LIGHT BULB. FRANK E. LEBERG, Newark, N. J. Filed Mar. 8, 1906. Serial No. 305,013.



Claim.—1. An article of the kind described comprising a bulb having a neck, a hollow glass stem in the neck of the bulb, having its inner end sealed and supporting a filament, and a pin secured to the sealed outer end of the stem.

2. An article of the kind described comprising a bulb, having a neck, a hollow glass stem secured in the neck and projecting from the lamp, a seal on the inner end of the stem, circuit-wires extending through the aforesaid seal, a filament supported on the wires, a seal on the end of the stem projecting from the lamp and encompassing the aforesaid circuit-wires, and a pin embedded in the seal on the outer end of the stem.

843,901. ELECTRIC SWITCH. HERMAN J. S. LEWIS, New York, N. Y., assignor to John H. Dale, New York, N. Y. Filed July 2, 1906. Serial No. 324,338.



Claim.—1. In an electric switch, a plurality of concentrically-disposed metallic clips, switch elements contacting therewith, and a single means for releasing all of said switch elements from such contact.

2. In an electric switch, a plurality of circuit-closing buttons, and a single button coaxially arranged thereto for releasing said circuit-closing buttons.

3. In an electric switch, a block of insulating material having a series of circumferential notches and terminal clips in said notches, said clips projecting below the lower edge of the block, and means for closing an electric circuit between any desired pairs of said clips.

4. In an electric switch, a block having a plurality of circumferential notches, clips in said notches each having a terminal screw, and means for connecting any desired number of adjacent clips whereby different electrical circuits are completed.

5. In an electric switch, an insulating-block having a plurality of metallic clips embedded therein, spring-impelled means for electrically connecting any desired pair of adjacent clips, and a spring-impelled button for releasing said means.

6. In an electric switch, a block of insulating material having notches around its circumference, clips contained in said notches each having a terminal screw, and movable switch elements having springs by which they are impelled to connect adjacent clips by an abrupt movement into circuit-closing relation.

7. In an electric switch, a block of insulating material having a plurality of terminal clips separated by insulating-partitions, switch elements for electrically connecting adjacent clips, and a releasing-button for releasing said elements into circuit-opening relation.

8. In an electric switch, an insulating-block having a plurality of circumferential notches, alternate notches having a recess therein, terminal clips having a bent-over portion contained in said recesses, additional clips lying intermediate said first-mentioned clips, and switch elements for connecting any desired number of such clips.

9. In an electric switch, a plurality of blocks of insulating material adapted to be fitted together in coaxial relation, terminal clips secured on one of said blocks and extending opposite the interior surface of another of said blocks, and a plurality of switch elements arranged to move over and connect any desired number of said terminal clips.

10. In an electric switch, a block of insulating material having notches, terminal clips in said notches and extending below the lower edge of said block, a second insulating block or ring of annular shape arranged to surround the lower ends of said terminal clips, switch elements inside said second block and means for moving each switch element into engagement with a pair of the terminal clips.

11. In an electric switch, a block of insulating material having notches, terminal clips in said notches and extending below the lower edge of said block, a ring of insulating material surrounding said lower ends of the clips, switch elements within said ring, and means for moving each switch element into engagement with a pair of the terminal clips.

12. In an electric switch, a porcelain block having circumferential notches, terminal clips in said notches and extending below the lower edge of said block, an insulating-ring surrounding said lower ends, and switch elements each having springs by which they are impelled into electrical contact with said terminal clips.

13. In an electric switch, a porcelain block having a plurality of notches, said notches being of two different characters, a set of terminal clips having bent-over extremities to fit into one group of said notches, and having lower ends which extend below the lower edge of said block, and another set of clips formed in two parts secured together and having lower ends with lateral arcuate extensions arranged to lie directly below the lower ends of said first-mentioned clips, and switch elements arranged to be moved into spring-impelled engagement with said clips.

14. In an electric switch, a plurality of metallic clips or contacts, a plurality of switch elements movable into spring-impelled contact therewith, and a releasing-button having a ledge to trip said switch elements out of contact with the clips.

15. In an electric switch, a pair of clips connected to the wires of an electric circuit, a switch element having a spring by which it is impelled into contact with said clips, and a releasing-button having a ledge serving as an abutment for said spring and adapted to release said switch element when the button is depressed.

16. In an electric switch, a pair of clips connected to the wires of an electric circuit, a switch element spring-impelled into contact therewith, and a releasing-button having a ledge constituting an abutment for said spring and adapted to release the switch element when the button is depressed.

17. In an electric switch, a plurality of terminal clips arranged in a circle around a central axis, and a plurality of switch elements surrounded by said clips and movable to connect the different clips in separate pairs.

18. In an electric switch, a plurality of clips arranged in a circle around a central axis, and a plurality of switch elements surrounded by said clips and each longitudinally movable in the direction of said axis to connect the clips in separate pairs, and means for simultaneously moving all of the switch elements to disconnect all of the clips from one another.

19. In an electric switch, a pair of terminal clips connected to the wires of an electric circuit, a rod or spindle supported adjacent to said clips, a switch element of generally U-shaped form and loosely disposed on said rod or spindle, and a spring on said switch element whereby it is impelled toward the clips.

20. In an electric switch, a pair of terminal clips, a circuit-closing button having a spindle, a switch element loosely supported on said spindle and having a spring, and a releasing-button having an abutment for said spring whereby the switch element may be impelled into engagement with said clips.

21. In an electric switch, a plurality of porcelain blocks having terminal clips and switch elements disposed therein, and having a releasing-button whereby the switch elements may be moved into circuit-opening relation, and a casing having an insulating-bushing surrounding said blocks and arranged to lead away the circuit-wires therefrom.

22. In an electric switch, a pair of terminal clips separated by an insulating wall or ledge, a U-shaped switch element arranged to extend over said ledge and connect the terminal clips when desired, and means for releasing said switch element whereby it is spring-impelled into circuit-opening relation.

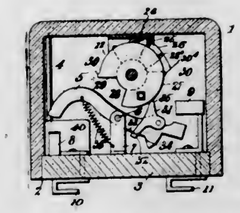
23. In an electric switch, a pair of terminal clips, a switch element with a spring having a protuberance thereon, an abutment for said spring having a ledge to engage said protuberance, and means whereby said abutment may be displaced so as to release the switch element into circuit-opening relation.

24. In an electric switch, a plurality of concentrically-arranged circuit-closing buttons and a centrally-disposed releasing-button arranged to move all of said first-named buttons into circuit-opening relation when it is depressed.

25. In an electric switch, a porcelain block having a plurality of circumferentially-disposed terminal clips, a plurality of circuit-closing buttons arranged to connect adjacent pairs of said terminal clips, and a central releasing-button.

26. In an electric switch, a plurality of terminal clips having portions symmetrically disposed around a central axis, a plurality of switch elements also supported around said central axis, and spring-impelled into contact with said clips, and means for releasing said buttons whereby they are impelled into circuit-opening relation.

843,902. MULTIPLE ELECTRIC SWITCH. HERMAN J. S. LEWIS, New York, N. Y., assignor to John H. Dale, New York, N. Y. Filed Aug. 9, 1906. Serial No. 329,841.



Claim.—1. In a multiple electric switch, a plurality of pivoted switch-levers, springs for impelling said levers normally into circuit-closing relation, and a cam having a reverse movement for actuating the switches into circuit-opening and circuit-closing relation respectively.

2. In a multiple electric switch, a plurality of pivoted switch-levers, springs for impelling said levers normally into circuit-closing relation, and a cam having a reverse movement for actuating the switches simultaneously into

circuit-opening and successively into circuit-closing relation.

3. In a multiple electric switch, a rotarily-mounted insulating-cam, a plurality of switch-levers in the path of said cam and adapted to be tripped into circuit-closing relation thereby, and means for impelling said cam to have an abrupt rotary movement whereby said levers are moved into circuit-opening relation.

4. In a multiple electric switch, a plurality of knife-blade switch-levers adapted to close a plurality of independent circuits, a button for moving said levers into circuit-closing relation by an abrupt movement and another depressible button for moving them into circuit-opening relation by an abrupt movement.

5. In a multiple electric switch, a switch-lever having a pivoted finger thereon and a cam arranged to act upon said finger, whereby the same acts as a detent to release the switch-lever, and has a cam-surface to reposition said lever by reverse movement of said cam.

6. In a multiple electric switch, a spring-impelled switch-lever, a finger on said switch-lever, a cam in the path of said finger and arranged to move the same in a direction to trip the switch-lever into action and reposition said lever by reverse movement of said cam.

7. In a multiple electric switch, a plurality of switch-levers each having a pivoted finger thereon, a cam moving in the path of said fingers to successively trip the switch-levers into circuit-closing relation, and means for abruptly rotating the said cam in the reverse direction whereby said levers are repositioned in circuit-opening relation.

8. In a multiple electric switch, a plurality of switch-levers, a cam spring-impelled in one direction and acting on said switch-levers to move them into circuit-opening relation by such rotation, and means for rotating said cam in the other direction when desired, whereby the switch-levers are successively tripped into circuit-closing relation.

9. In a multiple electric switch, a plurality of switch-levers, a button for moving said switch-levers successively into circuit-closing relation by continued rotation of said button, and separate depressible means for simultaneously moving the switch-levers into circuit-opening relation.

10. In a multiple electric switch, a plurality of switch-levers spring-impelled into circuit-closing relation, a button arranged to trip said levers successively into circuit-closing relation by continued rotation of said button and separate depressible means for impelling all of the switch-levers abruptly into circuit-opening relation.

11. In a multiple electric switch, a plurality of switch-levers spring-impelled into circuit-closing relation, means for tripping the levers successively into such relation, and a separate spring connected to impel the switch-levers into circuit-opening relation when released.

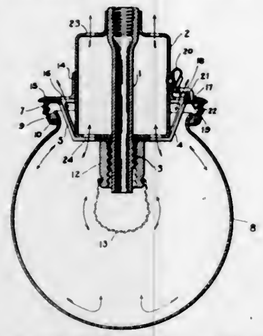
12. In a multiple electric switch, a plurality of switch-levers spring-impelled into circuit-closing relation, a button arranged to trip said levers successively into such relation, a spring for impelling said levers into circuit-opening relation, and a spindle coaxial with said button and adapted to release said last-mentioned spring whereby the levers are simultaneously moved into circuit-opening relation.

13. In a multiple electric switch, a spindle capable of movement in one direction, a cam on said spindle, and spring-impelled in the other direction, a clutch for connecting said spindle and cam, switch-levers in the path of said cam, and means for releasing said clutch.

14. In a multiple electric switch, a plurality of switch-levers, springs for impelling the levers into circuit-closing relation, means for tripping the levers into such relation, and means for impelling the switch-levers into circuit-opening relation by an abrupt movement against the tension of said springs.

15. In a multiple electric switch, a spindle capable of longitudinal movement, a sleeve splined thereon and capable of rotary movement in one direction, a cam on said spindle, and spring-impelled in one direction, a clutch connecting said spindle and cam and pivoted switch-levers in the path of said cam.

843,903. INCANDESCENT-GAS-LAMP BULB. CHARLES M. LUNGREN, Bayonne, N. J., assignor to The Safety Car Heating & Lighting Company, a Corporation of New Jersey. Filed Mar. 28, 1905. Serial No. 252,606.



Claim.—1. A detachable gas-lamp bulb comprising a supporting member detachably secured to the lower end of a gas-conduit, a mantle mounted thereon, and a globe detachably mounted upon said supporting member and adapted to be detached without affecting the relation of said gas-mantle and said gas-conduit, said member, mantle and globe being adapted to be removed as a unit from said conduit.

2. In a device of the class described, in combination, a gas-conduit, a supporting member detachably supported thereby, a mantle detachably mounted upon said supporting member, and a globe detachably secured to said supporting member, said supporting member being free from communication with the passage through said conduit, said member, mantle and globe being adapted to be removed as a unit from said conduit.

3. In a device of the class described, in combination, a conduit terminating in a gas-nozzle, a supporting member detachably mounted upon the lower portion of said conduit, a mantle detachably mounted upon said supporting member, and a globe detachably mounted upon said supporting member adapted to be removed without affecting the relative position of said mantle and said gas-nozzle, said conduit having an unbroken passage from the point at which said supporting member is mounted thereon to and through said gas-nozzle, said member, mantle and globe being adapted to be removed as a unit from said conduit.

4. A detachable gas-lamp bulb, comprising a supporting member, a translucent globe detachably mounted directly thereto, a mantle and a mantle-support, said mantle-support being mounted directly upon said supporting member, said member, mantle and globe being adapted to be removed as a unit from a conduit.

5. A gas-lighting apparatus comprising in combination, a vertical gas-conduit terminating in a nozzle, a combined globe and mantle-support carrier having a vertically-extending central hub adapted to be detachably secured to said conduit adjacent its termination, a mantle-support mounted upon said hub and a mantle arranged to interiorly receive the gas issuing from said nozzle, said carrier providing an outer portion adapted to carry a globe, and a globe detachably secured to said portion, whereby said globe, mantle and support may be removed as a unit from said conduit.

6. In a device of the class described, in combination, a conduit terminating at its lower end in a gas-nozzle, a supporting member detachably mounted upon said nozzle, a mantle-supporting member mounted upon said supporting member substantially opposite said gas-nozzle, and a translucent globe detachably mounted upon said supporting member, said member, mantle and globe being adapted to be removed as a unit from said conduit.

7. A detachable gas-lamp bulb, comprising a supporting member having a centrally interiorly extending threaded portion, a mantle, a mantle-support upon which said mantle is directly mounted, said mantle-support being tapped upon the threaded portion of said supporting member.

8. In a device of the class described, in combination, a conduit provided with a gas-nozzle, a supporting member having a detachable connection about said gas-nozzle, a mantle, a mantle-support upon which said mantle is directly mounted, said mantle-support being adapted to be mounted upon said supporting member with said mantle opposite said gas-nozzle and a translucent globe secured to said supporting member and detachable with reference thereto.

9. In a device of the class described, in combination, a conduit provided with a gas-nozzle having a threaded portion, a supporting member provided with an internal thread adapted to coact with the threaded portion of said gas-nozzle and with an external thread, a mantle, and a mantle-support having said mantle mounted directly thereon and provided with an internal thread adapted to act with the external thread upon said supporting member.

10. In a device of the class described, in combination, a conduit provided with a gas-nozzle having a threaded portion, a supporting member provided with an internal thread adapted to coact with the threaded portion of said gas-nozzle and with an external thread, a mantle, a mantle-support having said mantle mounted directly thereon and provided with an internal thread adapted to act with the external thread upon said supporting member, said supporting member being provided with a depending portion having a thread formed thereon and a globe provided with means adapted to coact with said last-mentioned thread and support said globe from said supporting member.

11. In a device of the class described, in combination, a supporting member adapted to be detachably connected to a relatively fixed member, a globe detachably connected with said supporting member, one of said detachable connections being normally inoperative, and means adapted simultaneously to render inoperative the other of said detachable connections and render said normally inoperative connection operative.

12. In a device of the class described, in combination, a supporting member adapted to be detachably connected with a relatively fixed member, a globe detachably connected with said supporting member, one of said detachable connections being normally inoperative and a single means adapted simultaneously to lock the other of said connections, and render operative said normally inoperative connection.

13. In a device of the class described, in combination, a supporting member, a mantle, a mantle-support upon which said mantle is mounted, said mantle-support being mounted upon said supporting member and said supporting member being adapted to be detachably connected with a relatively fixed member, a translucent globe having a detachable connection with said supporting member, one of said detachable connections being normally inoperative, and a single means adapted to render inoperative the other of said connections and render operative said normally inoperative connection.

14. In a device of the class described, in combination, a supporting member having means adapted to mount the same upon a relatively fixed member and adapt the same to be detached from said fixed member by a relative turning movement, a globe mounted upon said supporting member adapted to be detached therefrom by a relative turning movement and means adapted to prevent said relative turning movement between said supporting member and the relatively fixed member upon which it is mounted.

15. In a device of the class described, in combination, a supporting member, a relatively fixed member, means adapted to mount said supporting member upon said relatively fixed member and adapt the same to be detached from said fixed member by a relative turning movement, a globe mounted upon said supporting member and adapted to be detached therefrom by a relative turning movement, and releasable means adapted to prevent said turning movement between said supporting member and the relatively fixed member upon which it is mounted.

16. In a device of the class described, in combination, a supporting member adapted to be mounted upon a relatively fixed member, means adapted to release said supporting member from said fixed member upon a relative turning movement taking place in one direction and means adapted positively to lock said supporting member against movement in any direction and arranged to be brought into engagement with said member upon the same being turned in the opposite direction.

17. In a device of the class described, in combination, a fixed member, a supporting member adapted to be mounted thereon, means adapted to release said supporting member from said fixed member upon being turned in one direction with reference to said fixed member, means adapted, upon being turned in another direction, positively to lock said supporting member against movement in any direction, a globe mounted upon said supporting member and means adapted to reuder said globe detachable therefrom upon said supporting member being locked.

18. In a device of the class described, in combination, a fixed member, a supporting member adapted to be mounted thereon, means adapted to release said supporting member from said fixed member upon being turned in one direction with reference to said fixed member, means adapted, upon being turned in the opposite direction with reference to said fixed member, positively to lock said supporting member against movement in any direction, a translucent globe mounted upon said supporting member, means adapted to render said translucent globe detachable with reference to said supporting member upon the latter member being locked, a gas-nozzle formed upon said fixed member, a mantle and a mantle-support upon which said mantle is mounted, adapted to be detachably connected with said supporting member and hold said mantle in operative relation to said gas-nozzle.

19. In a device of the class described, in combination, a conduit, a supporting member mounted thereon and adapted to be released therefrom by a relative turning movement, spring-pressed means adapted in operative position to lock said supporting member against said turning movement and a translucent globe mounted upon said supporting member and adapted to be detached therefrom by a relative turning movement.

20. In a device of the class described, in combination, a conduit terminating in a gas-nozzle having a threaded portion, a supporting member mounted upon said threaded portion and adapted to be detached therefrom by a relative turning movement, a spring-pressed latch mounted in fixed relation to said conduit adapted to engage and lock said supporting member against movement in any direction, a mantle, a mantle-support upon which said mantle is mounted, said mantle-support being detachably mounted upon said supporting member about said gas-nozzle with said mantle in operative relation to said gas-nozzle, and a translucent globe mounted upon said supporting member adapted to be detached therefrom by a relative turning movement.

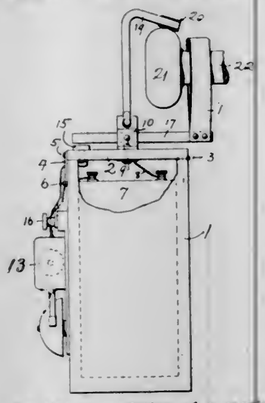
21. In a device of the class described, in combination, a conduit terminating in a gas-nozzle having a threaded portion, a supporting member mounted upon said threaded portion and adapted to be detached therefrom by a relative turning movement, a spring-pressed latch mounted in fixed relation to said conduit adapted to engage and lock said supporting member against movement in any direction, a mantle, a mantle-support upon which said mantle is mounted, said mantle-support being detachably mounted upon said supporting member about said gas-nozzle with said mantle in operative relation to said gas-nozzle, a globe and a threaded band fixed upon said globe adapted to coact with a threaded portion formed upon said supporting member.

22. In a gas-lighting apparatus, a combined globe and mantle-support comprising a tubular inner member having its end exteriorly and interiorly threaded, and an outer portion terminating in a downwardly-turned threaded rim adapted to carry a globe.

23. In a gas-lighting apparatus, an inverted burner having an exteriorly-threaded lower end, and a combined globe and mantle-support comprising a tubular inner member having interiorly-disposed threads adapting the same for

attachment to said burner end, and having exteriorly-disposed threads adapted to detachably carry a mantle and an outer annular member adapted to carry a globe.

843,904. ALARM. CHARLES MAHLA, West Hoboken, N. J. Filed Aug. 21, 1906. Serial No. 331,532.



Claim.—1. An alarm consisting of a carrier, a battery and an electric bell on said carrier, means for suspending said carrier from the top of a rotary part, said suspension means slipping off the rotary part on the rotation thereof, a circuit-closer, and means for catching and suspending said carrier and closing the circuit of said bell after the release of said first-named suspension means.

2. An alarm consisting of a carrier, an electric bell on said carrier, means for suspending said carrier from a rotary part, said suspension means slipping off the rotary part on the rotation thereof, a circuit-closer, a lever fulcrumed on said carrier and arranged to make and break the circuit of said bell, and means whereby said lever suspends the carrier after the first-named suspension means are released.

3. An alarm consisting of a carrier, an electric bell on said carrier, a hook for suspending said carrier from a rotary part, said hook slipping off said rotary part on the rotation thereof, a circuit-closer, and means for catching and suspending said carrier and closing the circuit of said bell after the release of said hook.

4. An alarm consisting of a carrier, an electric bell on said carrier, a hook for suspending said carrier from a rotary part, said hook slipping off the rotary part on the rotation thereof, and a lever fulcrumed on said carrier and arranged to make and break the circuit of said bell, and means whereby said lever suspends the carrier after the first-named suspension means are released.

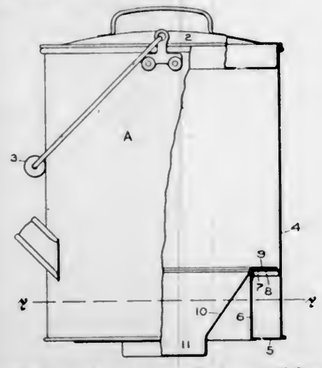
843,905. COOKING UTENSIL. ALBERT H. MEYER, St. Paul, Minn. Filed Dec. 11, 1905. Serial No. 291,187.

Claim.—1. A utensil of the class described comprising an outer wall, an inwardly-extending rim secured to the lower end of said outer wall, a comparatively short inner wall extending upwardly from the inner edge of said rim, and a funnel-shaped bottom extending downwardly from the upper edge of said inner wall.

2. A utensil of the class described provided at its lower end with double interspaced side walls, a perforated partition connecting the top of said inner side wall with the outer wall, and a bottom portion within said inner wall terminating in a well extending below the lower ends of said walls.

3. A utensil of the class described comprising double side walls at its lower end, a funnel-shaped bottom extending downwardly from the upper end of said inner wall, and a water-jacket surrounding said outer wall and communicating with the space inside said inner wall.

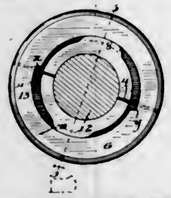
4. A utensil of the class described comprising in combination an outer wall, an inwardly-extending rim secured to the lower end of said wall, an inner wall extending upwardly from the inner edge of said rim, a funnel-shaped bottom extending downwardly from the upper end of said inner wall, and a perforated ring connecting the upper end of said inner wall and said outer wall.



5. A utensil of the class described, comprising an outer wall, an inwardly-extending rim secured to the lower end of said wall, a wall extending upwardly from the inner edge of said rim, a funnel-shaped bottom extending downwardly from the upper end of said inner wall and terminating in a central well depending below said rim, and an open-work horizontal wall connecting the upper end of said inner wall with said outer wall.

6. A utensil of the class described, having at its lower end double side walls, a bottom extending inwardly and downwardly from the upper edge of said inner wall, a water-jacket surrounding said outer wall, and conduits connecting said water-jacket with the space within the inner wall.

843,906. CLAMP-COLLAR FOR SHAFTING. SYLVANUS T. MURCHIE, Kaukauna, Wis., assignor of one-half to Lucius G. Fisher, Chicago, Ill. Filed Jan. 4, 1906. Serial No. 294,623.



Claim.—1. A clamp-collar comprising two annular members adapted to surround a shaft or bearing, one of said members having a compression part unitary therewith adapted to be clamped upon said shaft or bearing, and the other having cam-surfaces adapted to effect such compression, substantially as described.

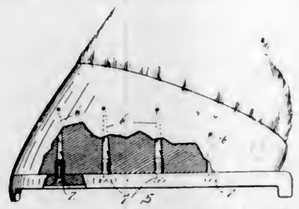
2. A clamp-collar comprising two annular members having relative rotation and adapted to surround a shaft or bearing, one of said members having a lateral compression part unitary therewith adapted to be clamped upon said shaft or bearing, and the other member having internal cam-surfaces adapted to effect such compression, substantially as described.

3. A clamp-collar comprising two annular members having relative rotation and adapted to surround a shaft or bearing, one of said members having a longitudinally-slotted lateral flange unitary therewith adapted to be clamped upon said shaft or bearing, and the other member having internal cam-surfaces adapted to effect such compression, substantially as described.

4. A clamp-collar consisting of two members, one having a lateral flange split to adapt it for compression about a shaft or the like, and provided on its surfaces with bosses or enlargements with grooves at their ends, and a cam-ring having inwardly-projecting lips or shallow flanges to coöperate with said bosses and grooves and cam-surfaces to engage said bosses when rotated whereby to effect the clamping, substantially as described.

5. In a clamp-collar, the combination of a collar member having a lateral compression-flange slotted to permit contraction thereof, bosses or enlargements on the periphery of said flange, a cam-ring having internal retaining-flanges to coöperate with grooves in said bosses, and cam-surfaces to coöperate with the peripheries of the bosses whereby to effect the clamping, substantially as described.

843,907. MEANS FOR FASTENING HORSESHOES. JOHN P. O'BRIEN, Castle Rock, Colo., assignor of one-fourth to George Cole Briscoe, Castle Rock, Colo. Filed June 20, 1906. Serial No. 322,623.



Claim.—1. Means for fastening horseshoes, comprising two detachable members, one consisting of a nail adapted to be applied directly to the hoof of the animal, while the other consists of a screw adapted to pass through the shoe and connect in operative relation with the nail member.

2. Means for fastening horseshoes, comprising a hoof member consisting of a nail, and a shoe member consisting of a screw, one of the members being provided with a threaded recess and the other member with a threaded shank adapted to enter the said recess.

3. Means for fastening horseshoes, comprising a hoof member consisting of a nail, having a head provided with a threaded recess, and a shoe member comprising a screw having a shank adapted to enter the threaded recess of the hoof member.

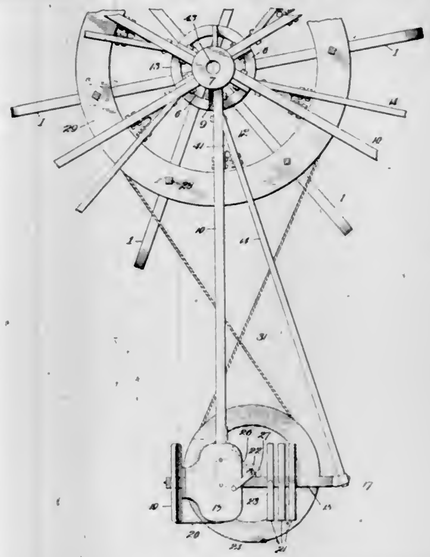
843,908. CAROUSEL. OLOF R. OLSON, Carrollton, Mo. Filed Dec. 5, 1905. Serial No. 290,346.

Claim.—1. In a carousel, a stationary base, a rotatable frame thereon, one or more seats carried by said frame, a sun-and-planet gearing comprising a wheel, a ring, and an endless crossed flexible connection between the same, and means to operate the same.

2. In a carousel, a stationary base, a rotatable frame thereon, one or more seats carried by said frame, a sun-and-planet gearing comprising a grooved wheel, a grooved ring and an endless crossed flexible connection between the same, and means to operate the same.

3. In a carousel, a stationary base, a peripherally-grooved ring rigid with said base, a rotatable frame mounted on the base with its axis coincidental with that of the ring, said frame embodying substantially radial arms 10, arms 14 diverging outward with respect to arms 10, a curved or rocker-shaped frame connecting one of the arms 10 with an arm 14, a seat secured to said frame and arm 10, a vertical shaft journaled in said frame contiguous to the seat, a vertically-grooved wheel secured on the lower end of said shaft, and an endless crossed flexible connection between said wheel and said grooved ring.

4. In a carousel, a stationary base, a peripherally-grooved ring rigid with said base, a rotatable frame mounted on the base with its axis coincidental with that of the ring, said frame embodying substantially radial arms 10, arms 14 diverging outward with respect to arms 10, a curved or rocker-shaped frame connecting one of the arms 10 with an arm 14 and underlying the frame, a seat secured to the upper end of the rocker-shaped frame, an arm connecting the outer edges of the seat and back as a precaution against the occupant of the seat falling outward, a vertical shaft journaled in said frame contiguous to the seat, a crank-handle at the upper end of the shaft and a vertically-grooved wheel secured on the lower end of said shaft, and an endless crossed flexible connection between said wheel and said grooved ring.



5. In a carousel, a cup having an outwardly-projecting flange at its lower end, a ring surrounding its upper portion, vertical ribs connecting said ring with the cup, and radial legs fitting against said ribs and secured thereto and resting upon said flange and provided with upwardly-projecting shoulders between the cup and the ring.

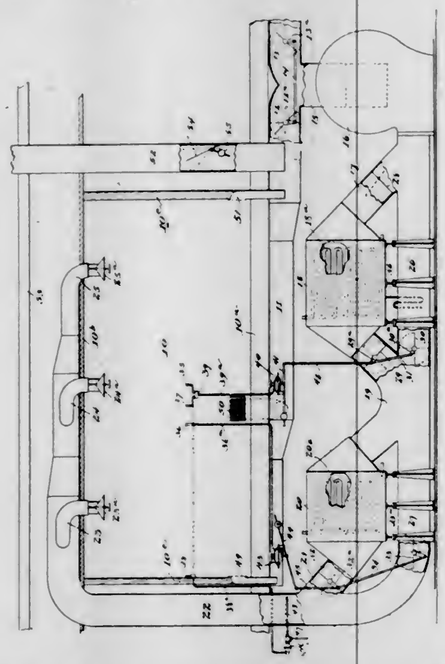
6. In a carousel, a cup having an outwardly-projecting flange at its lower end, a ring surrounding its upper portion, vertical ribs connecting said ring with the cup and radial legs fitting against said ribs and secured thereto and resting upon said flange and provided with upwardly-projecting shoulders between the cup and the ring, in combination with a rotatable hub depending in and journaled upon the cup and provided at its upper end with an outwardly-projecting flange and near its lower end with a surrounding ring and with radial ribs connecting the hub and the ring, arms secured to the ribs of the hub, seats carried at the outer ends of said arms, and a sun-and-planet gearing to enable the occupant of a seat to effect the rotation of the seat-carrying-hub arms.

843,909. ATMOSPHERE-REGULATING SYSTEM. FRANK M. PETERS and HENRY H. HUNGERFORD, Chicago, Ill.; said Hungerford assignor to said Peters. Filed June 8, 1903. Serial No. 160,620.

Claim.—1. In an atmosphere-regulating system for rooms, the combination with an air-forcing device and a conduit extending from the discharge side thereof to and through a wall of the room, of an air-heater interposed in said conduit, a by-pass around said heater, an air-cooler also interposed in said conduit, a by-pass around said cooler, and separate thermostatically-operated means serving to control the passage of the air-current through said heater and cooler and their respective by-passes respectively according to the temperature in the room, one of said means operating when the maximum and the other when the minimum desired temperature is attained, substantially as described.

2. In an atmosphere-regulating system for rooms, the

combination with an air-forcing device and a conduit extending from the discharge side thereof to and through a wall of the room, of an air-cooler interposed in said conduit, a by-pass around said cooler, an air-heater also interposed in said conduit, a by-pass around said heater, thermostatically-operated means serving to control the passage of the air-current through said heater and cooler and their by-passes according to the temperature in the room, and humidostatically-controlled means also serving to control the passage of the air-current through said cooler, substantially as described.



3. In an atmosphere-regulating system for rooms, the combination with an air-forcing device and a conduit extending from the discharge side thereof to and through a wall of the room, of a moisture-condenser interposed in said conduit, a by-pass around said condenser, and means operated by a humidostat located in the room serving to direct the air-current through said condenser or said by-pass, substantially as described.

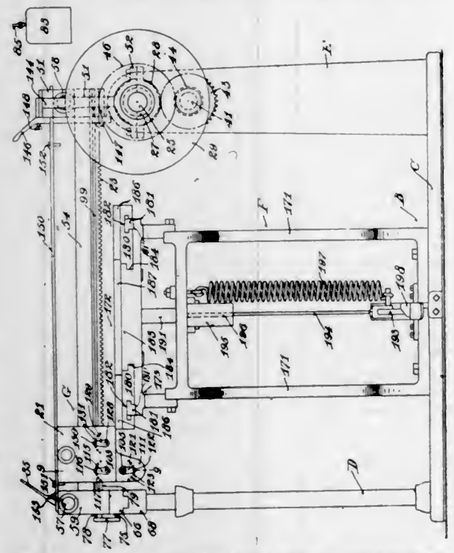
4. In an atmosphere-regulating system for rooms, the combination with an air-forcing device and a conduit extending from the discharge side thereof to and through a wall of the room, of a moisture-condenser interposed in said conduit, a by-pass around said condenser, means operated by a humidostat located in the room serving to direct the air-current through said condenser when the humidity of the air in the room exceeds a predetermined point, a vapor-injector interposed in said conduit, and means operated by the humidostat located in the room serving to admit vapor through said injector when the humidity of the air in the room falls below a predetermined point, substantially as described.

5. In an atmosphere-regulating system designed to maintain substantially constant temperature and humidity conditions in a room, the combination with an air conduit or circuit in which the room is interposed, of an air-forcing device in said conduit, air heating and cooling means also interposed in said conduit, valve-controlled by-passes around the same, thermostatically-controlled means for controlling the engagement of the circulating current with said heating and cooling means, and humidostatically-controlled means for injecting steam or other vapor into the circulating air-current, substantially as described.

6. In an atmosphere-regulating system designed to maintain substantially constant temperature and humidity conditions in a room, as well as to control the ventilation thereof, the combination with an air conduit or circuit in which the room is interposed, of an air-forcing device in said conduit, air heating and cooling means also interposed in said circuit, valve-controlled by-passes around the same, thermostatically-controlled means for controlling the engagement of the circulating current with said heating and cooling means, humidostatically-controlled means for controlling the engagement of the circulating current with said cooling means, and other humidostatically-controlled means for extracting moisture from said air-current, air inlet and outlet passages also communicating with said circuit, and means whereby the circuit may be maintained open, closed, or partially opened and closed relatively to the outer air, substantially as described.

7. In an atmosphere-regulating system for rooms, the combination with an air conduit or circuit in which the room is interposed, of an air-forcing device in said circuit, the intake member of said air-forcing device having means whereby it may be connected wholly with the circuit or wholly with the external atmosphere, or partially with both, air heating and cooling means interposed in said circuit, valve-controlled by-passes around the same, separate, thermostatically-controlled means for controlling the engagement of the circulating current with said heating and cooling means respectively, and a vent-pipe tapping said conduit between the room and the air-forcing device, substantially as described.

843,910. BENDING-MACHINE. GEORGE F. PROSS, Cincinnati, Ohio, assignor to Ernst H. Huenefeld, Cincinnati, Ohio. Filed Jan. 22, 1906. Serial No. 297,227.



Claim.—1. In a bending-machine, the combination with a stationary frame, of a swinging frame, bending-heads having bending-tools thereon arranged to reciprocate upon said swinging frame, and means actuated from the stationary frame for reciprocating said heads, substantially as described.

2. In a bending-machine, the combination with a stationary frame, a work-support thereon comprising a collapsible table arranged to be received by an opening in the work to be operated on, and means for distending said table within the work to be operated on, said opening being smaller than said table when distended, a swinging frame pivoted on said stationary frame, a bending-frame arranged to reciprocate on the latter, and operating means for the latter on said stationary frame having its rotary axis coincident with the pivotal axis of said swinging frame, substantially as described.

3. In a bending-machine, the combination with a stationary frame, a work-support thereon comprising a collapsible table arranged to be received by an opening in the work to be operated on, and means for distending said table within the work to be operated on, said opening being smaller than said tube when distended, a swinging frame pivoted on said stationary frame, a bending-frame arranged to reciprocate on the latter, and operating means for the latter on said stationary frame having its rotary axis coincident with the pivotal axis of said swinging frame, said bending-frame comprising bending-heads and means for adjusting the distance between them, substantially as described.

4. In a bending-machine, the combination with a frame, a swinging frame on said frame comprising longitudinal rods, bending-heads having sliding movement on said rods, longitudinal racks secured to said bending-heads, a shaft, gears thereon meshing with said racks, said swinging frame pivoted about said shaft, and means for driving said shaft.

5. In a bending-machine, the combination with a frame, of a swinging frame thereon, said swinging frame comprising longitudinal rods, bending-heads having sliding movement on said rods, longitudinal racks secured to said bending-heads, a shaft, gears thereon meshing with said racks, said swinging frame pivoted about said shaft, means for driving said shaft in reverse directions, and shifting means for the latter comprising a tappet-rod having tappets thereon arranged for automatically operating said shifting means, and mauual controlling means for said shifting means.

6. In a bending-machine, the combination of a work-support comprising an overhanging pedestal, lateral slides thereon, corner-slides having diagonal slideway connection with said pedestal and with said lateral slides, with a swinging frame, and bending-heads reciprocating thereon and arranged to be swung into position adjacent to said work-support, substantially as described.

7. In a bending-machine, the combination of a work-support comprising an overhanging pedestal, lateral slides thereon, corner-slides having diagonal slideway connection with said pedestal and with said lateral slides, with a swinging frame, bending-heads reciprocating thereon and arranged to be swung into position adjacent to said work-support, a plunger on the pedestal, said plunger and side slides having inclined guideways between them, and means for operating the plunger, substantially as described.

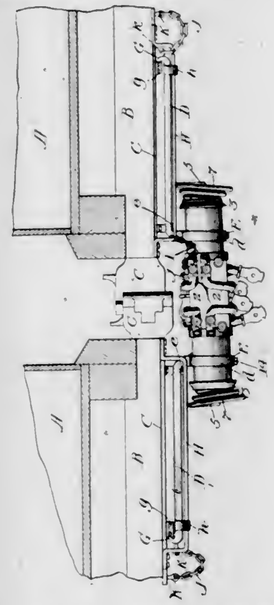
8. In a bending-machine, the combination of a frame comprising a pedestal at each end thereof, and an intermediate work-supporting table-pedestal, said last-named pedestal comprising a work-supporting table with the pedestal thereof having clearance on three sides of and underneath said table, a swinging frame extending from one to the other of said first-named pedestals across said table-pedestal, bending-heads reciprocating on said swinging frame across said table-pedestal, a rack having connection with the latter, a gear meshing with said rack, a shaft about which said gear is mounted in one of said first-named pedestals, said swinging frame having bearings taking about said shaft, and means for clamping said swinging frame to the other of said first-named pedestals, substantially as described.

9. In a bending-machine, the combination of a bending-head comprising a housing, a stud mounted therein, said stud having a supporting-journal and a roll-journal eccentric to said supporting-journal, a bending-roll on said eccentric journal, an arm secured to said stud, said housing and arm having a series of engaging means between them, and constructed and arranged for swinging said stud upon its supporting-journal for adjusting said eccentric journal and the position of the roll upon said housing.

10. In a bending-machine, the combination of a bending-head comprising a housing having an outwardly-flaring inclined apron, a bending-roll journaled in said housing and a bending-roll journaled on said apron, with means for adjusting the distance between said rolls, substantially as described.

11. In a bending-machine, the combination with a frame and work-support, of a swinging frame comprising a transverse rod at each end thereof and longitudinal rods extending therebetween, with means for adjusting said longitudinal rods upon said transverse rods, bending-heads having sliding connection on said longitudinal rods, means for adjusting the distance between said heads, and means for reciprocating said heads with their adjusting means upon said longitudinal rods, substantially as described.

843,911. AUTOMATIC TRAIN-PIPE COUPLING. FRANK H. RUTHERFORD, Chicago, Ill. Filed Aug. 4, 1906. Serial No. 329,266.



Claim.—1. The combination with a car and a car-coupler, of an automatic train-pipe coupler, a carrier therefor non-shearably secured to said car-coupler, and means independent of said car-coupler for preventing the simultaneous accidental withdrawal of said carrier with said car-coupler from said car.

2. The combination with a car and a car-coupler, of an automatic train-pipe coupler, a carrier therefor non-shearably secured to and longitudinally removable from said car-coupler, and means independent of said car-coupler for preventing the simultaneous accidental withdrawal of said carrier with said car-coupler from said car.

3. The combination with a car and a car-coupler, of an automatic train-pipe coupler, a carrier therefor detachably secured to said car-coupler, and means independent of said car-coupler that guide said carrier in a longitudinal direction only and prevent the simultaneous accidental withdrawal of said carrier with said car-coupler from said car.

4. The combination with a car and a car-coupler, of an automatic train-pipe coupler, a carrier therefor non-shearably secured to and longitudinally removable from said car-coupler, and means independent of said car-coupler that guide said carrier in a longitudinal direction only and prevent the simultaneous accidental withdrawal of said carrier with said car-coupler from said car.

5. The combination with a car, and a car-coupler, of an

automatic train-pipe coupler, a carrier therefor detachably secured to and movable with said car-coupler, and supplemental means secured to the car-body parallel to and at each side of said car-coupler for supporting said carrier independently of said car-coupler.

6. The combination with a car, and a car-coupler having a staple depending from its rear end, of an automatic train-pipe coupler, a carrier therefor having a hook adapted to engage the eye of said staple, and supplemental means connected to the car-body for supporting said carrier independently of said car-coupler.

7. The combination with a car, a car-coupler, and a bolt depending from said car-coupler, of an automatic train-pipe coupler, a carrier having its forward end turned downward and adapted to support said automatic coupler, and provided with a longitudinal slot intersecting said bend and engaged by said bolt.

8. The combination with a car, a car-coupler having a staple depending from its rear end, and a bolt depending from said car-coupler, of an automatic train-pipe coupler, a carrier having a hook adapted to engage the eye of said staple and having its forward end turned downward, and adapted to support said automatic coupler, and provided with a longitudinal slot intersecting said bend and engaged by said bolt.

9. The combination with a car, a car-coupler, and a bolt tapped into and depending down from said car-coupler of an automatic train-pipe coupler, a carrier having a downturned forward end in which said automatic coupler is supported and having a slot in its forward bend engaged by said bolt, arms projecting laterally from said carrier, and means on each side of said car-coupler adapted to be engaged by said arms.

10. The combination with a car, a car-coupler, and a bolt tapped into and depending down from said car-coupler, of an automatic train-pipe coupler, a carrier having a downturned forward end in which said automatic coupler is supported and having a slot in its forward bend engaged by said bolt, arms projecting laterally from said carrier, and horizontal rails secured to the car-body on each side of said car-coupler adapted to be engaged by said arms.

11. The combination with a car, and a car-coupler, of an automatic train-pipe coupler, a carrier therefor detachably secured to and movable with said car-coupler, and having transverse arms projecting therefrom, and means on each side of said car-coupler adapted to be engaged by said arms.

12. The combination with a car and a car-coupler, of an automatic train-pipe coupler, a carrier therefor detachably secured to and movable with said car-coupler, and having transverse arms projecting therefrom, and horizontal rails secured to the car-body on each side of said car-coupler adapted to be engaged by said arms.

13. The combination with a car, a car-coupler having a staple depending from its rear end, and a bolt depending therefrom nearer its front end, of an automatic train-pipe coupler, a carrier having a hook adapted to engage the eye of the staple, having its forward end downturned and at its bend having a longitudinal slot therein into which said bolt enters and having transverse arms projecting therefrom, and horizontal rails secured to the car-body at each side of said car-coupler and adapted to be engaged by said arms.

14. The combination with a carrier having a downturned forward end and a suitable opening therein, and a pivot-head projecting from the edge of said opening into the same, of a train-pipe coupler having a suitable extension passing through said opening, into the bore of which said pivot-head extends, and having its rear end flanged outward, and a helical spring one end of which bears against the rear end of said extension and the other end of which is returned through the coils of the spring and is connected to the pivotal head.

15. The combination with a carrier having a downturned forward end having a suitable opening therein and a removable pivot-head projecting from the edge of said opening into the same, of a train-pipe coupler having a suitable extension passing through said opening into the bore of which said pivot-head extends, and means for maintaining said coupler normally in a horizontal position.

16. The combination with a carrier having a downturned forward end having a suitable opening therein and a pivot-head projecting from the edge of said opening into the same and its engaging edge protected with a metallic facing, of a train-pipe coupler having a suitable extension passing through said opening, into the bore of which through a longitudinal slot said pivot-head projects, a metallic lining for the bore of said extension, and means for maintaining said coupler normally in a horizontal position.

17. The combination with a carrier having a downturned forward end having a suitable opening therein, and a removable pivot-head projecting from the edge of said opening into the same and its engaging edge protected with a metallic facing, of a train-pipe coupler having a suitable extension passing through said opening, into the bore of which through a longitudinal slot said pivot-head projects, a metallic lining for the bore of said extension, and means for maintaining said coupler normally in a horizontal position.

18. The combination with a train-pipe coupler having a rearward extension having a longitudinal slot therein, of a suitable support for said coupler, pivot-head having a screw-threaded shank removably secured in said support, and means for maintaining said coupler normally in a horizontal position.

19. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler, and an automatic train-pipe coupler supported thereby, of a chain connecting said carrier to the body of the car.

20. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler, and an automatic train-pipe coupler supported thereby, of a chain connecting said train-pipe coupler to the body of the car.

21. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler, and an automatic train-pipe coupler supported thereby, of a chain connecting said carrier, and an independent chain connecting said train-pipe coupler to the body of the car.

22. The combination with a car, and a car-coupler, of an automatic train-pipe coupler, a carrier therefor detachably secured to and movable with said car-coupler, supplemental means connected to the car-body for supporting said carrier independently of said car-coupler and a chain connecting said carrier to the car-body.

23. The combination with a car, and a car-coupler, of an automatic train-pipe coupler, a carrier therefor detachably secured to and movable with said car-coupler, supplemental means connected to the car-body for supporting said carrier independently of said car-coupler and a chain connecting said train-pipe coupler to the car-body.

24. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler, and an automatic train-pipe coupler supported thereby, supplemental means connected to the car-body for supporting said carrier independently of said car-coupler, and a chain connecting said carrier to the body of the car.

25. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler, and an automatic train-pipe coupler supported thereby, supplemental means secured to the car-body at each side of the car-coupler for supporting said carrier independently of said car-coupler and a chain connecting said train-pipe coupler to the body of the car.

26. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler and having transverse arms projecting therefrom, and an automatic train-pipe coupler supported thereby, supplemental means secured to the car-body at each side of the car-coupler which are adapted to be engaged by said carrier, and a chain connecting said carrier to the body of the car.

27. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler, and an automatic train-pipe coupler supported thereby, supplemental means connected to the car-body for supporting said carrier independently of said car-coupler, and a chain connecting said train-pipe coupler to the body of the car.

28. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler, and an automatic train-pipe coupler supported thereby, supplemental means secured to the car-body at each side of the car-coupler for supporting said carrier independently of said car-coupler and a chain connecting said train-pipe coupler to the body of the car.

29. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler and having transverse arms projecting therefrom, and an automatic train-pipe coupler supported thereby, supplemental means secured to the car-body at each side of the car-coupler which are adapted to be engaged by said carrier, and a chain connecting said train-pipe coupler to the body of the car.

30. The combination with a car and a car-coupler, of a longitudinally-yielding automatically-returnable train-pipe coupler capable of movement at an angle to the line of draft of the car, a carrier therefor detachably secured to said car-coupler and means independent of said car-coupler for preventing the simultaneous accidental withdrawal of said carrier with said car-coupler from said car.

31. The combination with a car, and a car-coupler, of a longitudinally-yielding automatically-returnable train-pipe coupler capable of movement at an angle to the line of draft of the car, a carrier therefor non-shearably secured to and movable with said car-coupler, and supplemental means connected to and parallel with the car-body for supporting said carrier independently of said car-coupler.

32. The combination with a car, and a car-coupler, of a longitudinally-yielding automatically-returnable train-pipe coupler capable of movement at an angle to the line of draft of the car, a carrier therefor non-shearably secured to and movable with said car-coupler, and supplemental means secured to and parallel with the car-body at each side of said car-coupler for supporting said carrier independently of said car-coupler.

33. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler, and a longitudinally-yielding, automatically-returnable train-pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, of a chain connecting said carrier to the body of the car.

34. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler, and a longitudinally-yielding, automatically-returnable train-pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, of a chain connecting said train-pipe coupler to the body of the car.

35. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler, and a longitudinally-yielding, automatically-returnable train-pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, supplemental means connected to the car-body for supporting said carrier independently of said car-coupler, and a chain connecting said carrier to the body of the car.

36. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler, and a longitudinally-yielding, automatically-returnable train-pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, supplemental means secured to the car-body at each side of the car-coupler for supporting said carrier independently of said car-coupler and a chain connecting said train-pipe coupler to the body of the car.

37. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler and having transverse arms projecting therefrom, and a longitudinally-yielding, automatically-returnable train-pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, supplemental means secured to the car-body at each side of the car-coupler which are adapted to be engaged by said carrier, and a chain connecting said carrier to the body of the car.

38. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler, and a longitudinally-yielding, automatically-returnable train-pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, supplemental means connected to the car-body for supporting said carrier independently of said car-coupler, and a chain connecting said train-pipe coupler to the body of the car.

39. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler, and a longitudinally-yielding, automatically-returnable train-pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, supplemental means secured to the car-body at each side of the car-coupler for supporting said carrier independently of said car-coupler and a chain connecting said train-pipe coupler to the body of the car.

40. The combination with a car, a car-coupler, a carrier detachably secured to said car-coupler and having transverse arms projecting therefrom, and a longitudinally-yielding, automatically-returnable train-pipe coupler movable to a position at an angle to the line of draft of the car supported thereby, supplemental means secured to the car-body at each side of the car-coupler which are adapted to be engaged by said carrier, and a chain connecting said train-pipe coupler to the body of the car.

843,912. LOOM-SHUTTLE. FRANK H. STETSON, Lawrence, Mass., assignor to U. S. Bobbin & Shuttle Co., Providence, R. I. Filed Mar. 9, 1904. Serial No. 197,335.



Claim.—1. In a loom-shuttle, an automatic threading device, consisting of a cylindrical body having a central vertical slot forming inlet and outlet openings for the weft-thread, a recessed and rounded portion forming the mouth of the inlet-opening, a downwardly-curved arm in the mouth of the inlet-opening, a cut-away portion and an inclined depressed portion having a downwardly-inclined groove forming the mouth of the outlet-opening, an overlapping arm having a downwardly-bent point adapted to enter the inclined groove in the mouth of the outlet-opening, a downwardly-extending arm adjacent the outlet-opening, and means for operatively securing the threading device in the shuttle, as described.

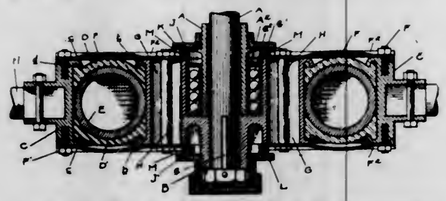
2. In a loom-shuttle, an automatic threading device consisting of a tapering cylindrical body having a circular base and a circular flanged top, a central vertical slot extending from the base upward through the top and forming inlet and outlet openings for the weft-thread, a recessed and rounded portion forming the mouth of the inlet-opening, a semicircular ring secured to the top and having a downwardly-curved end adapted to enter the mouth of the inlet-opening, a cut-away portion and an inclined depressed portion with a downwardly-inclined groove forming the mouth of the outlet-opening, an overlapping end on the semicircular ring having a downwardly-bent point adapted to enter the inclined groove in the mouth of the outlet-opening, a downwardly-extending arm secured to the top adjacent the outlet-opening, and means for operatively securing the threading device in the shuttle, as described.

3. In a loom-shuttle, the combination of the body of the shuttle having walls forming a circular recess in the bottom of which is a circular cavity, walls forming a central hole extending from the cavity through the bottom of the shuttle and an offset hole in the bottom of the cavity, walls forming a slot connecting the circular recess with the bobbin-cavity, walls forming a slot in the side connecting the circular recess with the delivery-eye of the shuttle, said slot being shaped at its upper end to extend partly around the circumference of the recess below the surface of the shuttle, and from a point near the top of the recess to incline upward toward the point of the shuttle, and an automatic threading device consisting of a tapering cylindrical body having a circular base and a circular flanged top, a central vertical slot forming inlet

and outlet openings, a recessed and rounded portion forming the mouth of the inlet-opening, a semicircular ring secured to the top, a downwardly-curved end on the ring adapted to enter the mouth of the inlet-opening, a cut-away portion and an inclined depressed portion with a downwardly-inclined groove forming the mouth of the outlet-opening, an overlapping end on the semicircular ring having a downwardly-bent point adapted to enter the inclined groove, a wire arm secured to the top adjacent the outlet-opening, and means for securing the threading device in the circular recess, consisting of a screw through the central hole in the circular cavity, as described.

4. In a loom-shuttle, an automatic threading device consisting of a cylindrical body having a central vertical slot forming inlet and outlet openings for the weft-thread, a downwardly-curved arm in the mouth of the inlet-opening, a downwardly-bent point in the outlet-opening, and a downwardly-extending arm adjacent to the outlet-opening, as described.

843,913. VEHICLE-WHEEL. JOHN S. STEVENSON, Detroit, Mich. Filed Mar. 5, 1906. Serial No. 304,367.



Claim.—1. In a hub for vehicle-wheels the combination with a central member, of an annular member thereabout, complementary members between and secured to said central and annular members and a resilient member between said complementary members, for the purpose described.

2. In a vehicle-wheel the combination with a central hub, of an annular hub therearound, complementary yielding members between said hubs and an annular resilient tube between complementary members, for the purpose described.

3. In a vehicle-wheel the combination with a central hub having radially-located parallel apertures therein, of an annular hub around said central hub and spaced therefrom, annular flanges on opposite sides of said annular hub and overlapping said central hub, members passing loosely through said apertures and connecting said flanges and a resilient member between said hubs, for the purpose described.

4. In a vehicle-wheel the combination with a central hub having radially-located parallel apertures therein, of an annular hub around and spaced from said central hub, annular plates secured on opposite sides of said annular hub, forming flanges overlapping said central hub, members connecting said flanges and passing loosely through said apertures and a resilient member between said hubs, for the purpose described.

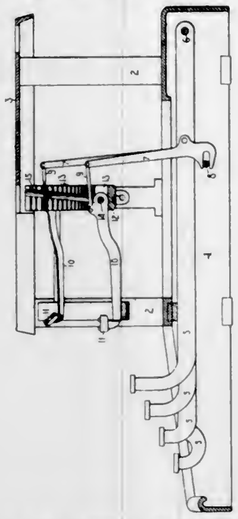
5. In a vehicle-wheel the combination with an inner and an outer hub, of a yielding member between and secured to said hubs and flanges on opposite sides of one of said hubs and overlapping the other, for the purpose described.

6. In a vehicle-wheel the combination with an inner and an outer hub, of a yielding member between said hubs, flanges on opposite sides of one of said hubs and overlapping the other hub and bolts connecting said flanges and passing loosely through apertures in said last-mentioned hub.

7. In a vehicle-wheel the combination with an inner and an outer hub, of complementary yielding members between and secured to said hubs and a resilient member between and supporting said yielding members, for the purpose described.

8. In a vehicle-wheel the combination with an inner and an outer hub, of a yielding member between said hubs, a flange on said outer hub overlapping said inner hub, a flange on said inner hub contacting with said first-mentioned flange and a packing-ring associated therewith, for the purpose described.

843,914. TYPE-WRITING MACHINE. BURNHAM C. STICKNEY, Elizabeth, N. J., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Sept. 8, 1903. Serial No. 172,358.



Claim.—1. In a type-writing machine, the combination with a system of type-bars, of a segment having slots in which the hubs of said type-bars work; and a curved fulcrum-rod upon which said type-bars are pivoted; said rod being skewed relatively to the direction of the slots, with the ends of the rod directed away from the type-bar system.

2. In a front-strike writing-machine, the combination with a system of rearwardly-striking radial type-bars, of a segment having radial slots in which said type-bars work, and a curved skewed fulcrum-rod on which said type-bars are pivoted; said rod lying in a groove provided in said segment, said groove and rod being inclined rearwardly from the bottom to the upper portion of the segment; and each type-bar being provided with a multiple type.

3. In a front-strike writing-machine, the combination with a system of rearwardly-striking radial type-bars, of a segment having radial slots in which said type-bars work, and a curved skewed fulcrum-rod upon which said type-bars are pivoted; said rod lying in a groove provided in said segment, said groove and rod being inclined rearwardly from the bottom to the upper portion of the segment; each type-bar being provided with a multiple type, and said type-bars being approximately equal in length, and being mounted at approximately equal intervals throughout the system.

4. In a type-writing machine, a system of radially-arranged type-bars, and a curved, skewed pivot-wire on which said type-bars are pivoted.

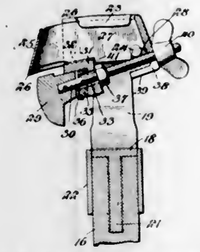
5. In a type-writing machine, a system of radially-arranged type-bars, and a curved, skewed pivot-wire on which said type-bars are pivoted, the type ends of said bars lying in skewed positions corresponding to the skew of the pivot-wire.

6. In a type-writing machine, the combination of a system of radial type-bars; a curved, skewed pivot-wire on which said type-bars are pivoted; and a multiple type upon the end of each type-bar, said types lying at gradually-increasing angles to the type-bars from the center to the sides of the system, and overlapping one another at the sides of the system and each type being slightly staggered with relation to the next.

7. In a type-writing machine, the combination of a system of type-bars of approximately equal length; a curved pivot-wire formed as a skewed arc and on which said type-bars are pivoted, the ends of said arc being inclined away from the type-bar system, and the type ends of the bars lying in a correspondingly-skewed arc whose ends incline toward the type-bar system; and a multiple type upon the end of each bar, said types lying at gradually-increasing angles to the type-bars from the center to the sides of the system, and overlapping one another at the sides of the system, each being slightly staggered with relation to the next by reason of the skewing of the pivot-wire.

8. In a front-strike writing-machine, the combination of a system of rearwardly-striking radial type-bars; a type-bar segment with radial slots therein in which said type-bars work; a skewed wire contained in a groove in the segment and on which said type-bars are pivoted, each type-bar carrying a multiple type, the types lying at gradually-increasing angles to the type-bars from the center to the sides of the system, and overlapping one another at the sides of the system.

843,915. TURPENTINE-HACK. NATHANIEL B. STONE, Outlook, Wash. Filed May 29, 1906. Serial No. 319,321.



Claim.—1. In a device of the character described, the combination with a handle, of a yoke carried thereby and comprising side arms having spaced ends, and a cutting-blade bridging the space between the side arms and having side arms engaged therewith.

2. In a device of the character described, the combination with a handle, of a yoke carried thereby and comprising side arms disposed longitudinally of the handle and having spaced outer ends, and a substantially U-shaped cutting-blade disposed transversely of the arms and bridging the space between the same, said blade having spaced side arms engaged with the side arms of the yoke.

3. In a device of the character described, the combination with a handle, of a yoke carried thereby and comprising side arms disposed longitudinally of the handle and having spaced outer ends, and a substantially U-shaped cutting-blade disposed transversely of the arms and bridging the space between the same, said blade having spaced side arms located against and interlocked with the inner sides of the arms of the yoke.

4. In a device of the character described, the combination with a handle, of a yoke carried thereby and comprising side arms having spaced ends provided with inset transversely-disposed lips, and a substantially U-shaped cutting-blade bridging the space between the side arms of the yoke, said blade having spaced side arms located against the inner sides of the yoke-arms and having their outer edges abutted against the lips.

5. In a device of the character described, the combination with a handle, of a yoke projecting therefrom and having longitudinally-disposed spaced side arms, said side arms being provided at their outer spaced ends with transversely-arranged heads, inset lips and studs carried by the heads, and a substantially U-shaped blade having side arms arranged between the heads and located against their inner sides, said side arms of the blades being engaged with the lips and studs.

6. In a device of the character described, the combination with a handle, of a substantially U-shaped cutting-blade having side arms connected to the handle, and a gage also connected to the handle and disposed in advance of the cutting-blade.

7. In a device of the character described, the combination with a handle, of a substantially U-shaped cutting-blade having side arms connected to the handle, and a gage-head connected to the handle and of less width than the blade.

8. In a device of the character described, the combination with a support, of a cutting-blade mounted on the support, a gage associated with the blade, and means for detachably connecting the gage to the support.

9. In a device of the character described, the combination with a support, of a cutting-blade mounted on the support, and a gage-head associated with the blade and having a shank connected to the support.

10. In a device of the character described, the combination with a support including a yoke having spaced side arms, of a cutting-blade having arms connected to the yoke, a cross-web connecting the arms, a gage associated with the cutting-blade and having a shank that passes through the web, and a holding-nut adjustably mounted on the shank.

11. In a device of the character described, the combination with a support, of a cutting-blade carried thereby, and a gage adjustably mounted on the support, said gage being associated with the blade and adjustable with respect to the same.

12. In a device of the character described, the combination with a support, of a substantially U-shaped cutting-blade carried by the support, and a gage mounted on the support and adjustable toward and from the outer portion of the blade.

13. In a device of the character described, the combination with a handle having a yoke comprising longitudinally-disposed arms, of a cutting-blade carried by the arms, a gage-head associated with the blade and having a shank that is adjustably associated with the arms, a cross-bar through which the shank passes, and a removable washer interposed between the head and cross-bar.

14. In a device of the character described, the combination with a support, of a cutting-blade detachably mounted thereon, and gage mechanism adjustably mounted on the support and coacting with the cutting-blade, said gage mechanism constituting retaining means for the blade.

15. In a device of the character described, the combination with a handle having a yoke, of a substantially U-shaped cutting-blade detachably mounted thereon and having side arms provided with offset shoulders, and gage mechanism associated with the cutting-blade and including a cross-bar that engages the shoulders of the side arms and constitutes means for securing the blades upon the handle-yoke.

16. In a device of the character described, the combination with a handle, of a yoke carried by one end of the same and comprising longitudinally-extending spaced side arms having inturned transversely-disposed lips at their outer ends, a substantially U-shaped cutting-blade having side arms disposed transversely of the yoke, said side arms being arranged against the inner sides of the yoke-arms and abutted against the lips, a gage-head located in advance of the cutting-blade and having a shank that extends transversely between the arms, and means engaging the arms and the shank for maintaining the gage in position.

843,916. INSULATING SADDLE-STAPLE. WALTER T. H. TAYLOR, Brockton, Mass., WILLIAM J. JENKS, New York, N. Y., and RICHARD N. DYER, East Orange, N. J., assignors to Insulating Staple Company, New York, N. Y., a Corporation of New York. Filed Nov. 20, 1906. Serial No. 344,200.

Claim.—1. As a new article of manufacture, an insulating saddle-staple having a saddle which is pierced by the

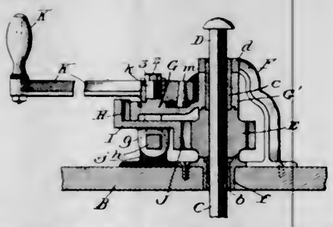
legs of the staple and is held thereon by friction, such saddle presenting a single thickness of insulation on the inner sides of the legs of the staple, and a double thickness of insulation under the head of the staple, both thicknesses of insulation under the head of the staple being continuous or unbroken, substantially as set forth.



2. As a new article of manufacture, an insulating saddle-staple having a saddle made of two thicknesses of insulating material formed of one piece of material folded upon itself at right angles to the plane of the legs of the staple, one of such thicknesses only being pierced by the legs of the staple, substantially as set forth.

3. As a new article of manufacture, an insulating saddle-staple having a saddle made of two thicknesses of insulating material formed of one piece of material folded upon itself at right angles to the plane of the legs of the staple, the upper thickness only being pierced by the legs of the staple, substantially as set forth.

843,917. MECHANICAL MOVEMENT. WILLIAM H. VOSS, Davenport, Iowa. Filed Oct. 26, 1906. Serial No. 340,676.



Claim.—1. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon through which said shaft extends and has independent longitudinal movement but revolves therewith and by which alone said shaft is actuated, a segmental gear loosely journaled on said shaft, and means connecting said segmental gear and pinion.

2. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon by which alone said shaft is actuated, a segmental gear loosely journaled on said shaft, and means connecting said segmental gear and pinion.

4. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon through which said shaft extends and has independent longitudinal movement but revolves therewith, a segmental gear loosely journaled on said shaft, and a longitudinally-reciprocal rack connecting said segmental gear and pinion.

4. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon, a segmental gear loosely journaled on said shaft, and a longitudinally-reciprocal rack connecting said segmental gear and pinion.

5. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon through which said shaft extends and has independent longitudinal movement but revolves therewith, a segmental gear loosely journaled on said shaft, a handle therefor which together with said gear constitute a lever of the second class, and means connecting said segmental gear and pinion.

6. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon, a segmental gear loosely journaled on said shaft, a handle therefor, which together with said gear constitute a lever of the second class, and means connecting said segmental gear and pinion.

7. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon through which said shaft extends and has independent longitudinal movement but revolves therewith, a segmental gear loosely journaled on said shaft, a handle therefor, which together with said gear constitute a lever of the second class, and a longitudinally-reciprocal rack connecting said segmental gear and pinion.

8. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon, a segmental gear loosely journaled on said shaft, a handle therefor, which together with said gear constitute a lever of the second class, and a longitudinally-reciprocal rack connecting said segmental gear and pinion.

9. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon through which said shaft extends and has independent longitudinal movement but revolves therewith, a segmental gear loosely journaled on said shaft, and a longitudinally-reciprocal double rack having parallel series of teeth and adapted to engage both said segmental gear and pinion.

10. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon, a segmental gear loosely journaled on said shaft, and a longitudinally-reciprocal double rack having parallel series of teeth and adapted to engage both said segmental gear and pinion.

11. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon through which said shaft extends and has independent longitudinal movement but revolves therewith, a segmental gear loosely journaled on said shaft, and a longitudinally-reciprocal rack having parallel series of teeth and adapted to engage both said segmental gear and pinion.

12. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon, a segmental gear loosely journaled on said shaft, and a longitudinally-reciprocal double rack having parallel series of teeth and adapted to engage both said segmental gear and pinion.

13. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon through which said shaft extends and has independent longitudinal movement but revolves therewith, a segmental gear loosely journaled on said shaft, a handle therefor which together with said gear constitute a lever of the second class, and a longitudinally-reciprocal double rack having parallel series of teeth and adapted to engage both said segmental gear and pinion.

14. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon, a segmental gear loosely journaled on said shaft and handle therefor, which together with said gear constitute a lever of the second class, and a longitudinally-reciprocal double rack having parallel series of teeth and adapted to engage both said segmental gear and pinion.

15. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon through which said shaft extends and has independent longitudinal movement but revolves therewith, a segmental gear loosely journaled on said shaft, a handle therefor, which together with said gear constitute a lever of the second class, and a longitudinally-reciprocal double rack having parallel series of teeth and adapted to engage both said segmental gear and pinion.

16. In a washing-machine the combination with a rotary reciprocal shaft, of a pinion thereon, a segmental gear loosely journaled on said shaft, a handle therefor, which together with said gear constitute a lever of the second class, and a longitudinally-reciprocal double rack having parallel series of teeth and adapted to engage both said segmental gear and pinion.

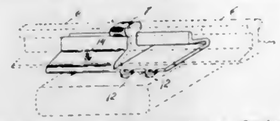
17. In a washing-machine the combination with a rotary reciprocal shaft, a pinion thereon and revoluble therewith, and a segmental gear loosely journaled on said shaft, of a longitudinally-reciprocal carrier having a longitudinal rack near one longitudinal edge thereof engaging said segmental gear and a longitudinal rack near its opposite longitudinal edge engaging said pinion.

18. In a washing-machine the combination with a rotary reciprocal shaft, a pinion thereon and revoluble therewith, and a segmental gear loosely journaled on said shaft, of a longitudinally-reciprocal carrier having a longitudinal rack above it near one longitudinal edge thereof engaging said segmental gear and a longitudinal rack below and near its opposite longitudinal edge engaging said pinion.

19. In a washing-machine the combination with a rotary reciprocal shaft, a pinion thereon revoluble therewith, and a segmental gear loosely journaled on said shaft, and a handle which together with said gear constitute a lever of the second class, of a longitudinally-reciprocal carrier having a longitudinal rack near one longitudinal edge thereof engaging said segmental gear and a longitudinal rack near its opposite longitudinal edge engaging said pinion.

20. In a washing-machine the combination with a rotary reciprocal shaft, a pinion thereon and revoluble therewith, a segmental gear loosely journaled on said shaft, and a handle which together with said gear constitute a lever of the second class, of a longitudinally-reciprocal carrier having a longitudinal rack above it near one longitudinal edge thereof engaging said segmental gear and a longitudinal rack below and near its opposite longitudinal edge engaging said pinion.

843,918. RAILWAY-RAIL JOINT. JAMES C. WALLACE, Denver, Colo. Filed Jan. 26, 1906. Serial No. 297,969.



Claim.—1. A rail-joint comprising a device shaped to conform to the shape of the rails and open at both ends to receive the rail extremities to be joined, the device being open at the top to allow the top of the rail to project above, and closed at the bottom, which forms a support for the rail, the said device being provided with a removable angle-plate on one side, said plate being of a length equal to the length of one of the rail ends inclosed by the joint.

2. A rail-joint comprising a device shaped to conform to the shape of the rails and open at both ends to receive the rail extremities to be joined, the joint including a removable angle-plate on one side, said plate being of a length equal to the length of one of the rail ends inclosed by the joint, and bolts threaded in the joint and whose inner extremities engage the flanges of the rails for the purpose set forth.

3. A rail-joint comprising a device open at both extremities to receive the rail ends, the said device being provided on one side with a removable angle-plate of a length equal to the length of one of the rail ends inclosed by the joint.

4. A rail-joint of the class described comprising a device open at both ends to receive the adjacent extremities of two rails, the said device having a central stop and provided with a removable angle-plate member extending on one side of the rail from the end of the joint to the stop for the purpose set forth.

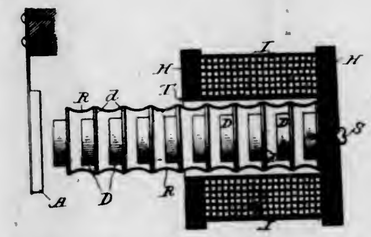
843,919. ELECTROMAGNET. JOHN E. WASHBURN, Egmont, Fla. Filed July 28, 1906. Serial No. 328,173.

Claim.—1. An electromagnet whose core is composed of a series of imperforate disks, each having a thick and a thin portion of different diameter.

2. An electromagnet whose core is composed of a series of imperforate disks, each having a thick body of smaller diameter and a thin flange of larger diameter.

3. An electromagnet comprising a spool having a tubular shank wound with insulated wire, and a core composed of a series of imperforate disks, each having an enlarged flange loosely mounted and guided within the tubular shank of said spool.

4. An electromagnet comprising a spool having a tubular shank wound with insulated wire, and a core composed of a series of disks each having a portion of smaller diameter and a portion of larger diameter, the latter fitting and guided within the tubular shank of the spool and all the disks standing in the same position relatively to each other.



5. An electromagnet whose core is composed of a series of disks which are normally slightly out of contact with each other, resilient connecting devices along the edges of said series, a fixed support for the disk at one end of the series, and an armature adjacent to but disconnected from the disk at the other end.

6. An electromagnet whose core is composed of a series of disks which are normally slightly out of contact with each other, resilient connecting devices along the edges of said series, a fixed support for the disk at one end of the series, and a flexibly-mounted armature at the other end.

7. In an electromagnet, the combination with the heads connected by a tubular shank, and the insulated wire wound around the latter; of an armature consisting of a series of disks each composed of a thicker portion of smaller diameter and a thinner portion of larger diameter, the parts being in the same position relatively to each other and the portions of larger diameter fitting loosely within said shank, resilient connecting devices extending longitudinally of the series and connecting the parts of larger diameter, a screw connecting the disk at one end of the series to one of said heads, and an armature at the other end of the series.

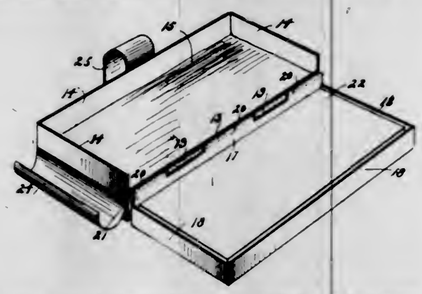
8. In an electromagnet, the combination with the heads connected by a tubular shank, and the insulated wire wound around the latter; of an armature consisting of a series of disks each composed of a thicker portion of smaller diameter and a thinner portion of larger diameter, the parts being in the same position relatively to each other and the portions of larger diameter fitting loosely within said shank, longitudinal rubber bands connecting the edges of said parts of larger diameter, means for attaching the disk at one end to one of said heads, and an armature at the other end of the series.

9. In an electromagnet, the combination with the heads connected by a tubular shank, and the insulated wire wound around the latter; of an armature consisting of a series of disks each composed of a thicker portion of smaller diameter and a thinner portion of larger diameter, the parts being in the same position relatively to each other and the portions of larger diameter fitting loosely within said shank, longitudinal rubber bands connecting the edges of said parts of larger diameter, means for attaching the disk at one end to one of said heads, and a flexibly-mounted armature at the other end of the series.

843,920. STENCILING APPLIANCE. CHARLES D. WHITE, Quincy, Mass., assignor to Ernest L. Porter, Boston, Mass. Filed May 4, 1906. Serial No. 315,233.

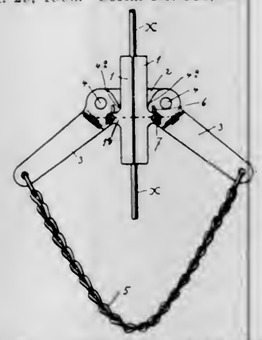
Claim.—A stenciling appliance comprising a rectangular box having a side wall which is narrower than the other side walls, an ink-pad resting on the bottom of the box and partly filling the same, a rectangular flanged cover having a flange which is wider than the other flanges, and is hinged to the reduced wall of the box, the body of the cover being adapted to be seated on the wider walls of the box with its narrower flanges overlapping said wider walls, and a palette secured to the inner side of the cover

and separated at its edges from the narrower flanges of the cover by spaces which receive the wider side walls of the box when the cover is closed, the outer surface of the



palette being substantially flush with the outer edges of the narrower flanges.

843,921. WIRE-GRIP. VASSEL W. WHITE, Utica, N. Y. Filed Sept. 29, 1906. Serial No. 336,680.



Claim.—1. The combination in a wire-grip of parallel jaws, a slide-bar passing through openings in the jaws respectively and on which the jaws are slidably mounted, levers pivoted in the bar at each side of the jaws and having respectively cam-faces acting against and adapted to move the jaws toward each other, and a connection between the swinging ends of the levers, substantially as set forth.

2. The combination in a wire-grip of a main bar, a pair of parallel jaws having openings to receive and being slidably mounted on the main bar, and having gripping-faces at each side of the bar, levers pivoted on the main bar at each side of the jaws and having cam-faces acting against and adapted to move the jaws toward each other, and a connection between the swinging ends of the levers, substantially as set forth.

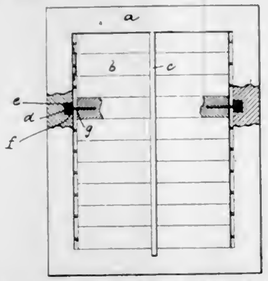
3. The combination in a wire-grip of a main bar, a pair of parallel jaws having openings respectively to receive said bar and on which said jaws are respectively mounted for movement toward and from each other, and cam-levers pivotally mounted in the outer ends of the bar and adapted to move the jaws toward each other, substantially as set forth.

4. The combination in a wire-grip of the main bar, a pair of jaws having openings to receive the main bar and on which the jaws are slidably mounted, the said jaws being provided with gripping-faces extending their full length and passing said main bar, and cam-levers pivotally mounted in the outer ends of the said main bar respectively and adapted to act against the jaws to force them toward each other, substantially as set forth.

5. The combination in a wire-grip of the main bar, a pair of parallel jaws having openings to receive the main bar and slidably mounted on said bar, and having gripping-faces throughout their length at each side of the openings to receive the main bar, cam-levers pivoted in the outer ends of said main bar respectively and adapted to engage with and force the said jaws toward each other, and means connecting the jaws with the cam-levers, whereby the cam-levers also serve to open the jaws, substantially as set forth.

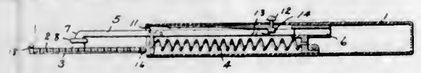
6. The combination in a wire-grip of the main bar, a pair of parallel jaws having openings to receive the bar, cam-levers pivoted in the outer ends of said bar respectively and adapted to engage with and force the jaws toward each other, and means connecting said jaws and levers, whereby the cam-levers also serve to open the jaws, substantially as set forth.

843,922. WINDOW-BLIND AND THE LIKE. DAYTON I. ANDREWS, Southington, Conn. Filed Aug. 24, 1904. Serial No. 221,998.



Claim.—A blind comprising rocking slats having pins *g* at the ends thereof in combination with a frame having recesses, and thimbles snugly seated in the said recesses with their closed ends substantially flush with the inner faces of the stiles and having central apertures in said closed ends receiving the pins *g* of the slats; the body of said thimbles being larger than said pins so as to allow a space into which paint and other foreign substances work.

843,923. SAFETY-RAZOR. FREDERICK H. ARNOLD, Reading, Pa. Filed Sept. 15, 1906. Serial No. 334,789.



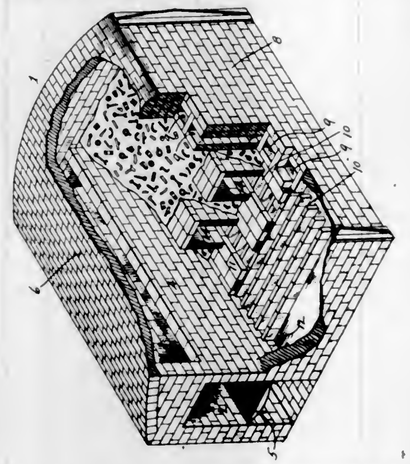
Claim.—1. In a safety-razor a guard, a blade hinged thereto at one end and provided with a snap-hook at its opposite end, a carrying-rod, means for adjustably securing said guard to said rod in combination with a hollow handle, a spring located therein adapted to engage said rod in open or closed position and a coiled spring adapted to operate said rod.

2. In a safety-razor, a hollow handle, a spring-backed rod located therein, means for engaging said rod in open or closed position, a guard secured to the end of said rod, means for setting said guard at any angle to said rod, and a blade hinged to said guard at one end and provided with means for securing it to said guard at the other end, the entire device capable of being housed in the handle.

843,924. FURNACE. AUGUST BERGMAN, Bellevue, Ohio. Filed Oct. 3, 1906. Serial No. 337,175.

Claim.—1. In a furnace, the combination of the side and end walls and roof, of a fire-box adjacent one of said side walls, an oven, a bridge-wall extending between said fire-pot and the oven, one or more downwardly-extending flues in the other side wall of the furnace, one or more transverse flues beneath the oven-bottom and communicating with the flue or flues in the side wall, one or more longitudinal chambers or pockets in said oven and communicating through the bottoms thereof directly with the said transverse flue or flues, and an offtake-flue communicating with the transverse flue or flues, substantially as specified.

2. In a furnace, the combination of a fire-box, an oven adjacent thereto, one or more downwardly-extending flues in a side wall of the furnace, one or more transverse flues beneath the oven-bottom and communicating with the flue or flues in the side wall, one or more longitudinal chambers or pockets in said oven and communicating through the bottoms thereof directly with the said transverse flue or flues, and an offtake-flue communicating with the transverse flue or flues, substantially as specified.



3. In a furnace, the combination of the side and end walls, of a fire-box adjacent one of said side walls and having a bridge-wall, a plurality of downwardly-extending flues in the other side wall, a plurality of transverse flues beneath the oven-bottom communicating with the first-mentioned flues, a common offtake-flue communicating with the discharge ends of said transverse flues, and a plurality of longitudinal chambers or pockets extending from end wall to end wall of the furnace and provided with open bottoms communicating with the transverse flues, substantially as specified.

4. In a furnace, the combination of the side and end walls of a fire-box adjacent one of said side walls and having a bridge-wall, a downwardly-extending flue in the other side wall, a transverse flue beneath the oven-bottom communicating with the first-mentioned flue, an offtake-flue communicating with the discharge end of said transverse flue and a longitudinal chamber or pocket in the oven provided with an open bottom of substantially the full length thereof and communicating directly with the transverse flue, substantially as specified.

5. In a furnace, the combination of the side and end walls and roof, of a bridge-wall adjacent one of said side walls and extending from end wall to end wall, a fire-box between said bridge-wall and the adjacent side wall, one or more downwardly-extending flues in the other side wall, one or more transverse flues communicating with the lower ends of the first-mentioned flue or flues and extending transversely of the oven beneath the floor thereof as far as said bridge-wall, an offtake-flue beneath the transverse flue or flues and communicating with the discharge end or ends thereof, and one or more pockets or chambers projecting upwardly into the oven to a point a short distance below the top of the bridge-wall, the bottom of the oven being open or removed beneath said chamber or chambers to provide a free communication between the latter and the transverse flue or flues, substantially as specified.

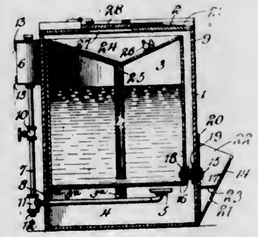
6. In a furnace, the combination of a fire-box, an oven adjacent thereto, said oven having beneath the bottom wall thereof a flue-space, and a pocket or chamber projecting upwardly from the bottom of the oven and having means establishing communication throughout substantially the length thereof with the flue-space, substantially as specified.

7. In a furnace, the combination of a fire-box, an oven adjacent thereto, one or more flues extending beneath the bottom of said oven, and a pocket projecting upwardly into the oven, extending transversely of said flue or flues and being closed at the ends and communicating through the bottom thereof for substantially its full length with said flue or flues, substantially as specified.

8. In a furnace, the combination of a fire-box, an oven having a flue-space in one of the walls thereof the width of which is substantially equal to the length of the oven, said oven also having beneath the same a flue-space communicating with the former flue-space, the width of the latter flue-space being also substantially equal to the length of the oven, and a pocket projecting upwardly into said oven, extending substantially the length thereof and communicating freely through the bottom thereof with the latter flue-space, substantially as specified.

9. In a furnace, the combination of a fire-box, an oven having beneath the bottom wall thereof a flue-space the width of which is substantially equal to the length of said oven, and a chamber or pocket projecting from the bottom wall of the oven upwardly into the oven and extending substantially the length thereof, said pocket or chamber having closed ends and an opening in the bottom communicating with the flue-space, substantially as specified.

843,925. HOG-WATERER. PHILIP BERNARD, Jefferson, S. D. Filed Apr. 3, 1906. Serial No. 309,645.

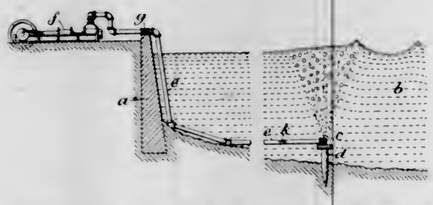


Claim.—1. An apparatus of the class described comprising an outer jacket having inlet and outlet openings at the upper and lower portions, an inner tank located within the jacket and spaced from the top, bottom and walls of the same to provide intervening air-spaces, a burner located in the space between the bottom of the tank and the bottom of the jacket, an exterior reservoir mounted on the jacket at the back thereof and connected with the burner for supplying the same with fuel, an exterior trough located at the front of the jacket, a short tube or nipple piercing the tank and the trough and extending through the contiguous wall of the jacket, and means mounted on the short tube or nipple for clamping the tank and for engaging the jacket and the trough.

2. An apparatus of the class described, comprising an outer jacket, an inner metallic tank located within the jacket and spaced from the top, bottom, and walls of the same, an outer metallic trough arranged exteriorly of the jacket, a short tube or nipple piercing the inner tank and the trough and extending through the contiguous wall of the jacket, means mounted on the short tube or nipple for clamping the inner tank and for engaging the jacket and the trough, and a heating device located beneath the tank.

3. An apparatus of the class described comprising an outer jacket having a hinged lid, said lid being provided with an opening and having guides at opposite sides thereof, a sliding door mounted in the guides for covering the said opening, an inner tank located within the jacket and provided at the top with means for filling it, said means being located below the sliding door, and an exteriorly-arranged trough connected with the tank.

843,926. PROTECTING OBJECTS FROM WAVE ACTION. PHILIP BRASHER, New York, N. Y. Filed Nov. 22, 1906. Serial No. 344,553.



Claim.—1. The method of protecting objects from the action of water-waves which consists in discharging a compressed elastic fluid below the surface of the water between the object and the approaching waves and at a substantial distance from the object.

2. The method of protecting objects from the action of water-waves which consists in discharging compressed air below the surface of the water between the object and the approaching waves and at a substantial distance from the object.

3. The method of protecting objects from the action of water-waves which consists in discharging a compressed elastic fluid below the surface of the water between the object and the approaching waves and at a substantial distance from the object and at a depth below the disturbance of the water by surface waves.

4. The method of protecting objects from the action of water-waves which consists in discharging compressed air below the surface of the water between the object and the approaching waves and at a substantial distance from the object and at a depth below the disturbance of the water by surface waves.

5. Means for protecting objects from the action of water-waves comprising a conduit immersed between the object and the approaching waves and at a substantial distance from the object and having a plurality of discharge-openings therein, and means for supplying the conduit with a compressed elastic fluid.

6. Means for protecting objects from the action of water-waves comprising a conduit immersed between the object and the approaching waves and at a substantial distance from the object and at a depth below the disturbance of the water by surface waves and having a plurality of discharge-openings therein, and means for supplying the conduit with a compressed elastic fluid.

7. Means for protecting objects from the action of water-waves comprising a conduit immersed between the object and the approaching waves and at a substantial distance from the object and having a plurality of discharge-openings therein, and an air-compressor for supplying the conduit with compressed air.

8. Means for protecting objects from the action of water-waves comprising a conduit immersed between the object and the approaching waves and at a substantial distance from the object and at a depth below the disturbance of the water by surface waves and having a plurality of discharge-openings therein, and an air-compressor for supplying the conduit with compressed air.

9. Means for protecting objects from the action of water-waves comprising a conduit immersed between the object and the approaching waves and at a substantial distance from the object and having a line of discharge-openings along its upper surface, and means for supplying the conduit with a compressed elastic fluid.

10. Means for protecting objects from the action of water-waves comprising a conduit immersed between the object and the approaching waves and at a substantial distance from the object and at a depth below the disturbance of the water by surface waves and having a line of discharge-openings along its upper surface, and means for supplying the conduit with a compressed elastic fluid.

11. Means for protecting objects from the action of water-waves comprising a conduit immersed between the object and the approaching waves and at a substantial distance from the object and having a plurality of discharge-openings therein, means for supplying the conduit with a compressed elastic fluid, and means for breaking up the discharged fluid into bubbles and for scattering the bubbles.

12. Means for protecting objects from the action of water-waves comprising a conduit immersed between the object and the approaching waves and at a substantial distance from the object and at a depth below the disturbance of the water by surface waves and having a plurality of discharge-openings therein, means for supplying the conduit with a compressed elastic fluid, and means for breaking up the discharged fluid into bubbles and for scattering the bubbles.

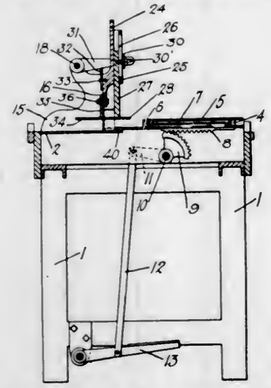
13. Means for protecting objects from the action of water-waves comprising a conduit immersed between the object and the approaching waves and at a substantial distance from the object and having a line of discharge-openings along its upper surface, means for supplying the conduit with a compressed elastic fluid, and combined fluid-subdividing and fluid-scattering rotary elements for the conduit.

14. Means for protecting objects from the action of water-waves comprising a conduit immersed between the object and the approaching waves and at a substantial distance from the object and at a depth below the disturbance of the water by surface waves and having a line of discharge-openings along its upper surface, means for supplying the conduit with a compressed elastic fluid, and combined fluid-subdividing and fluid-scattering rotary elements for the conduit.

15. Means for protecting objects from the action of water-waves comprising a conduit immersed between the object and the approaching waves and at a substantial distance from the object and having a line of discharge-openings along its upper surface, means for supplying the conduit with a compressed elastic fluid, and turbines rotated by the discharging fluid for distributing the fluid.

16. Means for protecting objects from the action of water-waves comprising a conduit immersed between the object and the approaching waves and at a substantial distance from the object and at a depth below the disturbance of the water by surface waves and having a line of discharge-openings along its upper surface, means for supplying the conduit with a compressed elastic fluid, and turbines rotated by the discharging fluid for distributing the fluid.

843,927. CIGAR-FILLER-CUTTING MACHINE. RICHARD A. BRIGHT and ARTHUR W. DAVIS, Cranston, R. I., assignors to The Acme Tobacco Company, a Corporation of Maine. Filed Mar. 22, 1906. Serial No. 307,525.



Claim.—1. In a machine of the character described the combination with the base-plate, of an inclined cutting-blade mounted upon the base-plate, a slide mounted upon the base-plate movable toward and from the blade, and means for moving the slide.

2. In a machine of the character described the combination with a stationary inclined cutting-blade adapted to operate upon filler-strips, of a slide adapted to press the strips against the blade, and means for reciprocating the slide.

3. In a machine of the character described the combination with the base-plate, of an inclined cutting-blade mounted upon the base-plate, a slidable presser-plate adjacent the blade, a slide upon the base-plate movable toward and from the blade, means for reciprocating the presser-plate, and means for actuating the slide.

4. In a machine of the character described the combination with a stationary inclined cutting-blade adapted to operate upon filler-strips, of means adjacent the blade for compressing the strips, a slide adapted to press the compressed strips against the blade, and means for actuating the slide.

5. In a machine of the character described the combination with the frame, of a cutting-blade fixed to the frame, a slide movable toward and from the blade mounted upon the frame in horizontal alinement with the blade, a rack upon the slide, a crank-shaft in the frame below the slide, a segmental gear upon the shaft and engaging the rack, an arm upon the shaft, a pedal mounted in the frame, a rod connecting the arm and pedal, and spring means upon the frame for forcing the slide away from the blade.

6. In a machine of the character described the combination with the base-plate, of an inclined cutting-blade mounted upon the base-plate, a presser-plate adjacent the blade, means for limiting the travel of the presser-plate, a slide upon the base-plate movable toward and from the blade, means for reciprocating the presser-plate, and means for actuating the slide.

7. In a machine of the character described the combination with two upwardly and inwardly inclined cutting-blades adapted to operate upon filler-strips, of a slide adapted to press the strips against the blades, means for actuating the slide, and means intermediate the blades for guiding the cut filler-strips.

8. In a machine of the character described the combination with the base-plate, of two upwardly and inwardly inclined cutting-blades mounted upon the base-plate, a vertically-movable presser-plate adjacent the blades, a horizontal guide-plate intermediate the blades and above the base-plate, a reciprocating slide upon the base-plate movable toward and from the blades, and means for actuating the slide.

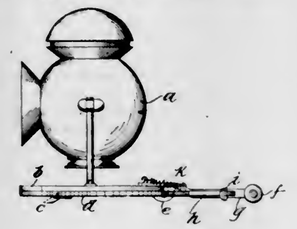
9. In a machine of the character described the combination with a stationary cutting-blade adapted to operate upon filler-strips said blade being inclined longitudinally of the strips and means for pressing the strips against the blade.

10. In a machine of the character described the combination with a plurality of inclined cutting-blades adapted to operate upon filler-strips, means for adjusting the cutting-blades toward and away from each other, and means for pressing the strips against the blades.

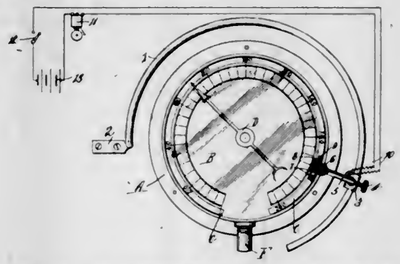
11. In a machine of the character described the combination with the frame-yoke and base-plate, of a rock-shaft mounted in the yoke, arms upon the shaft, a cross-bar supported by the arms, a guide upon the yoke, a plunger in the guide and fixed to the cross-bar, a presser-plate upon the end of the plunger, a lever-arm upon the rock-shaft, a pedal upon the frame, a rod connecting the pedal and lever-arm, and means for elevating the connecting-rod.

843,928. LAMP. CHARLES B. BROUGHTON, Chicago, Ill. Filed Feb. 13, 1906. Serial No. 300,855.

Claim.—The combination with a lamp, a mounting for the lamp permitting its bodily rotation, a handle moving with the lamp structure, and a locking device for maintaining the lamp in the position in which it is adjusted, said locking device including one member carried by the handle and another member substantially stationary, the stationary locking member being in the form of a rack that is concentric with the axis of rotation of the lamp and with which the locking member carried by the handle may be separably engaged, the locking member carried by the handle being movable with respect thereto.



843,929. ALARM FOR GAGES, CLOCKS, &c. ADELARD CHARLAND, Lake Megantic, Quebec, Canada. Filed Dec. 30, 1905. Serial No. 293,980.



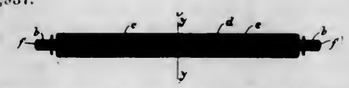
Claim.—1. In combination with a dial and a pointer adapted to travel thereover, a support independent of the dial, a collar adjustably disposed on the support, means for locking the collar and the support, a plurality of contacts connected with the collar and disposed in the path of movement of the pointer, and wires forming a circuit between the contacts.

2. In combination with a dial and a pointer adapted to travel thereover, an arc-shaped support provided with a flattened end, a collar on the support, a set-screw carried by the collar, an arm carried by the collar, a body of insulation carried by the arm, contacts carried by the insulation, wires adapted to form a circuit between the contacts, and a body of insulation on one of the contacts in the path of movement of the pointer.

3. In combination with a dial and a pointer adapted to travel thereover, an arc-shaped support, a collar on the support, means for securing the collar on the support, a curved tubular arm carried by the collar, a pair of flexible electrically-separated contacts carried by the arm, wires disposed through the tubular arm and adapted to form a circuit between the contacts, and a body of insulation on one of the contacts in the path of movement of the pointer.

4. In combination with a dial and a pointer adapted to travel thereover, a slotted cover for the dial, an arc-shaped support secured adjacent the dial, a movable member adjustably secured on the support, electrically-separated flexible contacts carried by the movable member and disposed through said slot, wires adapted to form a circuit between said contacts, and a body of insulation on one of the contacts in the path of movement of the pointer.

843,930. NON-ARCING MUFFLED FUSE. FRANK B. COOK, Chicago, Ill. Filed June 12, 1905. Serial No. 264,937.



Claim.—1. In an inclosed electric fuse, a tubular casing, suitable terminals for the ends of the casing, and a

fusible conductor and an asbestos string extending through the tube side by side and filling same, the asbestos being squeezed into the tube whereby the fusible conductor is embedded in the asbestos, the fusible conductor being secured to the said terminals.

2. An inclosed fuse comprising a suitable tube or casing, terminal caps on the ends of the casing, and a bore extending longitudinally through the casing and end caps, a fluffy asbestos cord extending through the bore in the casing and end caps and filling same, and a fuse-wire extending through the bore in the casing and end caps, side by side with the asbestos cord, and soldered to the end caps so as to seal the outlets to the said bore, the fuse-wire being embedded in the asbestos and compressing same whereby the latter expands and fills up the space normally occupied by the fuse-wire when the latter is fused, the porous asbestos also taking up the gases formed by the fusing of the fuse-wire.

3. An inclosed fuse comprising a suitable tube or casing, and a fusible conductor and an asbestos cord extending through the tube, side by side, and filling same under a slight pressure whereby the fusible conductor is embedded in the cord.

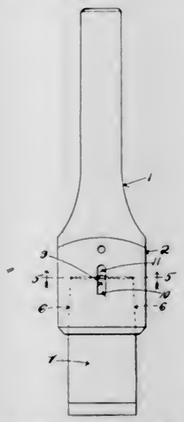
4. An inclosed fuse comprising a suitable tube or casing having a small bore therein, and a fusible conductor, and asbestos cord extending through the bore, side by side, the conductor being embedded in the cord and the latter completely filling the bore and being somewhat compressed.

5. An inclosed fuse comprising a suitable tube or casing, and an asbestos cord and a fusible conductor extending through the tube side by side, the said cord being squeezed into the tube.

6. An inclosed fuse comprising a suitable tube or casing, an asbestos cord and a fusible conductor side by side in the tube.

7. An inclosed fuse comprising a suitable tube or casing, an asbestos cord and a fusible conductor in the tube, the said cord being squeezed into the tube.

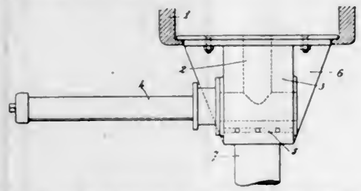
843,931. SELF-TIGHTENING TOOL-HOLDER AND TOOL. ENOS S. COSTA, Quincy, Mass. Filed July 11, 1906. Serial No. 325,665.



Claim.—1. A tool-holder having a head formed with a socket-recess in the end thereof, the recess having opposite inner faces inclined toward each other from the outer end inwardly the full depth of the recess, a plurality of working tools having shanks adapted to be inserted in the socket in parallel relation with each other, the outer faces of the shanks which bear against the inclined outer faces of the socket being tapered to correspond with the inward taper of the socket, the inner end of the recess forming a solid seat for the inner ends of the tools, the shanks of the tools being adapted to be frictionally held in the socket by engagement with the sides thereof when inserted part way into the socket and before being forced to their seat, the head being formed with a slot transversely through the head and intersecting the tool-socket and extending both above and below the upper end of said socket, the upper side of said transverse slot being inclined and the lower side of said slot being horizontal and at right angles with the axes of the tools when inserted in the holder, a tapered key having the upper edge inclined with relation to the other edge at the same angle that the inclined edge of said transverse slot bears to the horizontal edge thereof, said key being removable and said shank so fitting the socket that after the key is withdrawn they may be forced inward the full depth of the socket, the solid inner end of the socket forming a stop for the inner ends of the shanks and said key-slot being of sufficient depth back of the socket whereby when the working tools are all seated on the rear end of the socket, the said key may be again passed through said slot and engage with the rear ends of the shanks of the working tools.

2. A tool-holder having a head formed with a socket-recess in the end thereof walled on all sides except the entrance end, the recess having opposite inner faces inclined toward each other from the outer end inwardly the full depth of the recess, a plurality of working tools having shanks adapted to be inserted in the socket in parallel relation with each other, the outer faces of the shanks which bear against the inclined outer faces of the socket being tapered to correspond with the inward taper of the socket, the inner end of the recess forming a solid seat for the inner ends of the tools, the shanks of the tools being adapted to be frictionally held in the socket by engagement with the sides thereof when inserted part way into the socket and before being forced to their seat, the head being formed with a slot transversely through the head and intersecting the tool-socket and extending both above and below the upper end of said socket, the upper side of said transverse slot being inclined and the lower side of said slot being horizontal and at right angles with the axes of the tools when inserted in the holder, a tapered key having the upper edge inclined with relation to the other edge at the same angle that the inclined edge of said transverse slot bears to the horizontal edge thereof, said key being removable and said shank so fitting the socket that after the key is withdrawn they may be forced inward the full depth of the socket, the solid inner end of the socket forming a stop for the inner ends of the shanks and said key-slot being of sufficient depth back of the socket whereby when the working tools are all seated on the rear end of the socket the said key may be again passed through said slot and engage with the rear ends of the shanks of the working tools.

843,932. MACHINE FOR MANUFACTURING AND BUNDLING VERMICELLI AND THE LIKE. BENJAMIN F. A. COURTINE, Maisons-Alfort, France. Filed May 13, 1905. Serial No. 260,356.



Claim.—1. In a machine of the character described, the combination of a dough-feeding device, means for cutting the dough into uniform lengths, means for folding said cut dough, means for again folding said folded dough, and means for feeding sheets of paper to the folded dough.

2. In a machine of the character described, the combination of movable knives, means to deliver yarns of dough in front of said knives, a counter-blade for each knife, means to advance the yarns and means to advance the knives to said counter-blades.

3. In a machine of the character described the combination of a pair of movable knives, means to deliver yarns of dough in front of said knives, counter-blades mounted in front of the knives, at different distances, therefrom, means to advance the dough to the counter-blades, and means to advance the knives at different speed to the latter.

4. In a machine of the character described, the combination of a pair of movable knives, means to deliver yarns of dough in front of said knives, counter-blades mounted in front of the knives at different distances therefrom, means to advance the dough to the counter-blades, means to advance the knives at different speed to the latter, pallets to receive the cut dough, and means to rotate the pallets.

5. In a machine of the character described, the combination of a pair of horizontally-movable knives mounted in different planes, a counter-blade mounted in front of each knife, means to deliver yarns of dough between the knives and counter-blades, means to advance the dough to the latter, means to advance the knives to said blades, two pallets to receive the cut dough, means to rotate the pallets at different periods, and means to move said pallets laterally.

6. In a machine of the character described, the combination of a die having holes arranged in groups, means for heating dough before passing through the die, a pair of knives movable in different planes, counter-blades mounted at different distances from the knives, means for advancing the knives at different speeds, a pivoted member connected with one of the knives for advancing the dough to the counter-blades, means for rotating said pivoted member toward the die, pivotally-mounted pallets, means to rotate, and means to simultaneously move the pallets laterally.

7. In a machine of the character described, the combination of a pair of horizontally-movable knives mounted in different planes, a counter-blade mounted in front of each knife, means to deliver yarns of dough between the knives and counter-blades, means to advance the dough to the latter, means to advance the knives to said blades, two pallets to receive the cut dough, means to rotate the pallets at different periods, and means to independently rotate and simultaneously move the pallets laterally.

8. In a machine of the character described, the combination of a pair of horizontally-movable knives mounted in different planes, a counter-blade mounted in front of each knife, means to deliver yarns of dough between the knives and counter-blades, means to advance the dough to the latter, means to advance the knives to said blades, two pallets to receive the cut dough, means to rotate the pallets at different periods, means to independently rotate and simultaneously move the pallets laterally, and means to feed wrappers to one of the pallets.

9. In a machine of the character described, the combination of a pair of horizontally-movable knives mounted in different planes, a counter-blade mounted in front of each knife, means to deliver yarns of dough between the knives and counter-blades, means to advance the dough to the latter, means to advance the knives to said blades, two pallets to receive the cut dough, means to rotate the pallets at different periods, means to independently rotate and simultaneously move the pallets laterally, and endless bands adapted to feed wrappers to one of the pallets.

10. In a machine of the character described, the combination of a pair of horizontally-movable knives mounted in different planes, a counter-blade mounted in front of each knife, means to deliver yarns of dough between the knives and counter-blades, means to advance the dough to the latter, means to advance the knives to said blades, two pallets to receive the cut dough, means to rotate the pallets at different periods, means to independently rotate and simultaneously move the pallets laterally, means to feed wrappers to one of the pallets, endless bands adapted to feed wrappers to one of the pallets, and means for partly drying the yarns of dough before bundling them.

11. In a machine of the character described, the combination of a press for the dough a die fed by the press having groups of holes arranged in line, means for heating the dough before it passes through the die, an upper and lower horizontally-movable knife, stationary counter-blades mounted opposite the knives at different distances therefrom, means for imparting a greater speed to the upper knife than the lower one, to cause the latter to cut in advance of the former, a pivoted board moving with the upper knife supporting the yarns of dough, a guide adapted to rotate the board in the direction of the die, pivotally-mounted pallets, means to simultaneously rotate and laterally shift the pallets.

12. In a machine of the character described, the combination of a press for the dough, a pipe communicating therewith, a die in said pipe having groups of holes arranged in line, means for heating the dough before it passes through the die, an upper and lower knife, a stationary counter-blade opposite each knife, a lever, a cam to actuate the latter, means connecting the lever and knives, adapted to advance the lower knife, to a counter-blade in advance of the upper knife, a board moving with the upper knife supporting the yarns, a guide adapted to slant the board toward the die, two pivoted pallets, and means to simultaneously rotate and laterally shift the pallets.

13. In a machine for manufacturing and bundling vermicelli and the like, the combination of a press for the dough, a pipe connected therewith, a die in said pipe having groups of holes arranged in line, a group for each bundle; means for heating the dough before it passes through said die; an upper and a lower knife, stationary counter-blades, opposite the knives to cut both ends of the yarns of dough of which the bundles are to be made, a cam, a slotted lever actuated by said cam, a rod connecting the lever and lower knife, a stationary rack, a movable rack connected to said upper knife, a pinion movable mounted in said slot engaging the stationary and movable racks, a board moving with the upper knife and supporting the yarns, a guide keeping such board slanting toward the die, and two pallets arranged side by side capable of moving around an axis and simultaneously moving transversely to the machine.

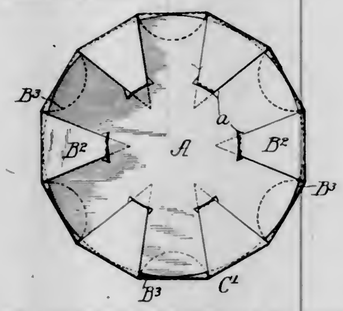
14. In a machine for manufacturing and bundling vermicelli and the like, the combination of a press for the dough, a pipe connected to said press, a die in said pipe having groups of holes arranged in line, a group for each bundle, means for heating the dough before it passes through said die, two knives, stationary counter-blades, arranged opposite said knives to cut both ends of the yarns of dough of which the bundles are to be made, a cam, a slotted lever actuated thereby, a rod connecting the lower knife and lever, a stationary rack, a movable rack connected to said upper knife, a pinion movably mounted in said slot engaging said stationary and movable racks, a board moving with the upper knife and supporting the yarns, a guide keeping such board slanting toward the die, two pallets arranged side by side, and spindles for said pallets, capable of rotating in both directions, screw-threaded portions on said spindles and stationary nuts adapted to receive the threaded portions.

843,933. PAPER-TRAY. FRANK B. DAVIDSON, Marseilles, Ill., assignor to Howe and Davidson Company, East Orange, N. J., a Corporation of New Jersey Filed Mar. 31, 1904. Serial No. 200,948.

Claim.—1. A tray comprising a flat bottom and a rim consisting of a strip having locking means at its ends and provided with a plurality of projections or flaps which are folded beneath the said bottom and enter a series of slits in said bottom, said rim being provided between said projections with a plurality of flaps which overlap the margin of the bottom.

2. A knockdown paper-tray consisting of three parts, to wit, a flat circular bottom, a rim consisting of a straight strip bent into circular form, and which has on its lower edge a plurality of flaps or projections adapted for interlocking connection with said bottom and is provided at its ends with interlocking parts by which they are secured together, and a divider resting on said bottom within the rim and consisting of a rimless sheet provided with a plurality of integral upwardly-folded parts forming radial partitions in the tray.

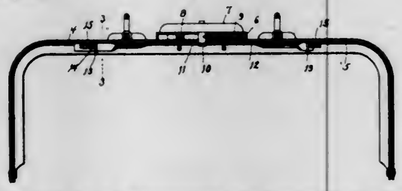
3. A tray comprising a flat bottom, a rim and a divider comprising a bottom part which rests on the bottom of the tray, said divider being provided with a plurality of integral, radial partitions formed by folding upwardly parts of the divider, each partition comprising parallel partition-sections which are folded into contact with each other, and are provided at their inner ends with tabs for locking said partitions together.



4. A tray comprising a flat bottom, a rim comprising a strip provided with a plurality of projections or flaps which engage slits in said bottom, and with flaps adapted to overlap said bottom, and a divider comprising a bottom which rests on the bottom of the tray and is provided with a plurality of integral, radial partitions formed by folding upwardly parts of said divider.

5. A tray comprising a flat bottom, a rim consisting of a strip provided with a plurality of flaps or projections adapted to engage slits in said bottom, and a divider comprising a bottom which rests on the bottom of the tray, and is provided with a plurality of integral radial partitions which are formed by folding upwardly parts of said divider, said partitions being interlocked with each other at their inner ends and fitting closely within the rim at their outer ends.

843,934. BAG-FASTENER. EDWARD S. ERICKSON and WILLIAM A. HEILMAN, Milwaukee, Wis., assignors to Romadka Brothers Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Mar. 5, 1904. Serial No. 196,692.

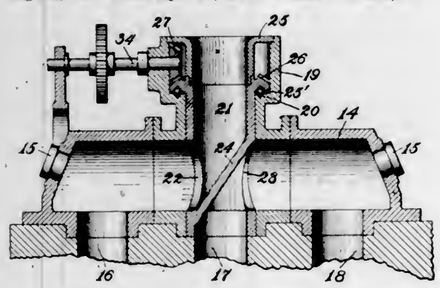


Claim.—1. In a bag-fastening, the combination of frame members L-shaped in cross-section pivoted together, the flange of one member overlapping the flange of the other member, dependent guides formed from the flange of the overlapping member, a flat slidable bar the plane of the ends thereof being disposed at right angles to the middle portion mounted on the under side of said flange and playing through said guides, said slidable bar provided with a slot near one end thereof, the underlapping flange provided with hook members, one of said hook members adapted to engage the slidable bar through the slot and the other hook member to engage the end thereof, a central mechanism mounted on the outer side of the overlapping flange to lock the two members centrally, and a slide controlling said locking mechanism provided with a lug depending through a slot in the overlapping member, said lug secured to the slidable bar to release the hook members therefrom, by the same movement which unlocks the central mechanism.

2. In a bag-fastening, the combination of frame members L-shaped in cross-section pivoted together, the flange of one member partially overlapping the flange of the other member, dependent guides cut and bent down from the overlapping flange, said dependent guides provided with vertical slots, a flat slidable bar playing in said slots, the middle portion of said slidable bar being twisted and bent so that its flat face is at right angles to the ends thereof and in substantially the same plane as the upper edges of the ends, a slot provided near one end of the slidable bar, the other frame member provided with hooks, one of said hooks adapted to engage the slidable bar through the slot and the other hook to engage the end thereof, a central mechanism mounted on the outer side of the overlapping flange to lock the two members centrally, and a slide controlling said locking mechanism provided with a lug depending through a slot in the overlapping member, said lug secured to the slidable bar to release the hooks therefrom by the same movement which unlocks the central mechanism.

3. A slidable bar for bag-fasteners, comprising a flat slidable bar, the middle portion of which is twisted and bent so that its upper flat face is at right angles to the ends thereof and in substantially the same plane as the upper edges of the ends of the bar, said bar provided with a slot near one end adapted to receive and engage a hook, the other end of the bar also adapted to engage a hook, the said bar being adapted to be actuated by means of a lug depending from a central locking mechanism engaging the middle portion of the bar.

843,935. HOT-BLAST VALVE. EDWIN FARGO, Washington, Pa. Filed Apr. 17, 1906. Serial No. 312,073.

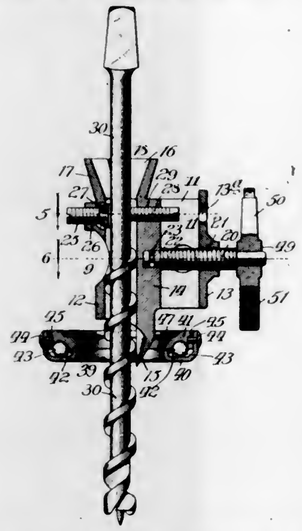


Claim.—1. In combination in regenerator apparatus, a casing having a transverse passage enlarged at its top and provided with a shoulder, a tubular perforated valve member fitting therein and provided with a projecting annulus fitting the enlarged portion of the casing and comprising a bevel gear on the upper side and a bearing on the lower side seated rotatively on the shoulder, a power shaft journaled in the enlarged portion of the casing and carrying a beveled gear for driving the gear on the annulus, and a protective casing resting upon the top of the valve casing and upon the top of the valve whereby a tight joint is provided and the gears and bearings protected.

2. In combination in regenerator apparatus, a casing having a transverse passage enlarged at its top and provided with a shoulder, a tubular perforated valve member fitting therein and provided with a projecting annulus fitting the enlarged portion of the casing and comprising a bevel gear on the upper side and a bearing on the lower side resting rotatively upon the shoulder, interposed anti-friction balls, a power shaft journaled in the enlarged portion of the casing and carrying a beveled gear for driving the gear on the annulus and a removable protective casing resting upon the top of the valve casing and upon the top of the valve whereby a tight joint is provided and the gears and bearings protected.

843,936. COMBINATION-TOOL. AARON GALPERIN, Chicago, Ill. Filed Oct. 19, 1906. Serial No. 339,722.

Claim.—1. In a combination-tool, the combination of a frame provided with means for adjustably and removably supporting upon it a boring-bit to project beyond the frame, a countersink-bit projecting beyond an end of said frame to coöperate with such boring-bit, a presser-foot adjustably supported at one side on said frame to adapt it to be raised and lowered relative to said frame, and turned on said frame, and provided with a shoulder at which said device is adapted to be engaged by said countersink-bit, and means for releasably securing said presser-foot in adjusted position, for the purpose set forth.



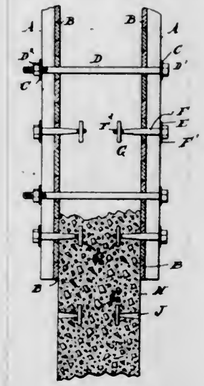
2. In a combination-tool, the combination of a frame provided with means for adjustably and removably supporting upon it a boring-bit to project beyond the frame, a countersink-bit projecting beyond an end of said frame to coöperate with such boring-bit, a screw adjustably mounted on said frame, a presser-foot secured to said screw to be adjustable therewith, toward and away from said frame, and comprising a lower ring and an upper ring on said lower ring and relatively movable therewith, and means for holding said rings against separation from each other, for the purpose set forth.

3. In a combination-tool, the combination of a frame provided with means for adjustably and removably supporting upon it a boring-bit to project beyond the frame, a countersink-bit projecting beyond an end of said frame to coöperate with said boring-bit, a screw adjustably secured on said frame, an annular presser-foot surrounding said bits and carried by said screw to be adjustable therewith, and comprising a lower ring and an upper ring provided with a series of sockets and secured to said screw and movable with relation to said lower ring, said upper ring being provided with a shoulder with which in the adjustment of said presser-foot the countersink-bit engages, and a screw adjustably mounted on said frame and adapted to engage any one of said sockets, for the purpose set forth.

4. In a combination-tool for the purpose set forth, the combination with a frame, a countersink-bit on one side of the frame, and a chamfering implement on the opposite side of said frame, said frame being adapted to be fitted to a boring-bit with which to coöperate with said countersink-bit, of a stop-bit adapted to coöperate with said implement, and means on the frame constructed and arranged to adjustably and removably support the frame upon said boring-bit to cause the latter to project beyond said countersink-bit for boring and countersinking a hole and for similarly supporting said stop-bit upon the frame relative to said implement for regulating the extent of chamfering.

5. In a combination-tool, the combination of a frame provided with means for adjustably and removably supporting upon it a boring-bit to project beyond the frame, a member adjustably mounted in said frame, a countersink-bit on said member projecting beyond an end of said frame to coöperate with said boring-bit, and means for adjusting said member and with it said countersink-bit relative to such boring-bit, comprising a screw working in the frame and connected with the said countersink-bit-equipped member.

843,937. MAKING CONCRETE WALLS. JOHN L. GIVEN, Thompkins Cove, N. Y. Filed Oct. 4, 1906. Serial No. 337,362.



Claim.—1. In an improved device for making concrete walls, the combination with side walls, between which the concrete is to be filled, of transverse connections for preventing the spreading of these side walls, independent bolts projecting from each of said side walls into the spaces to be filled with concrete, which bolts are tapered toward their inner ends, and a detachable piece mounted on the inner end of said bolts within the spaces to be filled with concrete, substantially as set forth.

2. In an improved device for making concrete walls, the combination with side walls, between which the concrete is to be filled, of transverse connections preventing the spreading of these side walls, bolts projecting from each side wall into the spaces to be filled with concrete, which bolts are tapered toward their inner ends and have the inner tapered ends screw-threaded, and nuts screwed on said tapered inner ends of the bolts within the spaces to be filled with concrete, substantially as set forth.

843,938. MANUFACTURE OF MILK-POWDER. ADOLF GLAS. Berlin, Germany. Filed June 20, 1904. Serial No. 213,382.

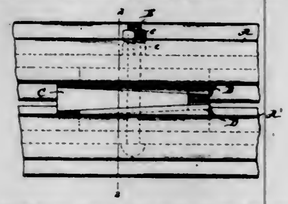
Claim.—1. The improved method of manufacturing milk-powder, consisting in minutely subdividing the fat particles of milk by homogenizing the same, and then drying the homogenized liquid and converting the product into a dry powder in which the fat particles are completely enveloped by the other solid constituents of the milk, substantially as set forth.

2. A dry homogenized milk-powder containing substantially the same proportion of butter-fat as is contained by whole or unskimmed milk and in which milk-powder the fat particles are in a state of fine subdivision and are completely enveloped by the other solid constituents of the milk so as to be protected from the air, substantially as set forth.

843,939. ADJUSTABLE GUARD-RAIL FASTENER. FEDERICO GLENTON, Jr., Johnstown, Pa., assignor to The Lorain Steel Company, a Corporation of Pennsylvania. Filed Apr. 11, 1906. Serial No. 311,042.

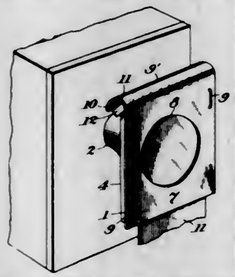
Claim.—1. In an adjustable chock, a main rail, and a guard-rail, tapered chock members having contiguous con-

caved and convexed surfaces, and transversely-fluted orifices, and a locking-bolt engaging said orifices.



2. An adjustable chock, formed of wedge members having their contiguous faces provided with interfitting portions, and also having elongated orifices for a locking-bolt, said orifices having retaining means for the bolt.

843,940. ANTISEPTIC GUARD FOR TELEPHONE-TRANSMITTERS. GERHARDT E. GRIMM, Camden, N. J. Filed Aug. 12, 1905. Serial No. 273,879.



Claim.—1. In a guard of the character described, a plate having an opening, two of the sides of said plate being parallel and each provided with a rearwardly-directed attaching-wing, and a second apertured plate arranged over said first-named plate and connected thereto at the sides bearing the wings, said second plate being formed on one of its unattached edges with an extension bent upon itself to form a housing, adapted to receive a roll of antiseptically-treated material in position to have said material pass from the roll between said plates over the openings therein.

2. In a guard of the character described, a plate having an opening, two of the sides of said plate being parallel and each provided with a rearwardly-directed attaching-wing, a second apertured plate arranged over said first-named plate and connected thereto at the sides bearing the wings, said second plate being formed on one of its unattached edges with an extension bent upon itself to form a housing, a roll of antiseptically-treated material mounted in said housing in position to have said material pass from the roll between said plates over the openings therein, and means to prevent displacement of the roll from the housing.

3. In a guard of the character described, a plate having an opening, two of the sides of said plate being parallel and each provided with a rearwardly-directed attaching-wing, a second apertured plate arranged over said first-named plate and connected thereto at the sides bearing the wings, said second plate being formed on one of its unattached edges with an extension bent upon itself to form a housing, and a roll of antiseptically-treated material mounted in said housing in position to have said material pass from the roll between said plates over the openings therein, said extension being formed with tongues bent to close the ends of the housing.

4. In a guard of the character described, a plate having an opening, two of the sides of said plate being parallel and each provided with a rearwardly-directed attaching-wing, a second apertured plate arranged over said first-named plate and connected thereto at the sides bearing the wings, said second plate being formed on one of its unattached edges with an extension bent upon itself to form an open-ended housing, a roll of antiseptically-treated material mounted in said housing in position to have said material pass from the roll between said plates over the openings therein, and means to prevent displacement of the roll from the housing.

5. In a guard of the character described, a plate having an opening, means for securing the plate in position upon the mouth of a transmitter, one edge portion of said plate being bent to constitute a cylindrical housing.

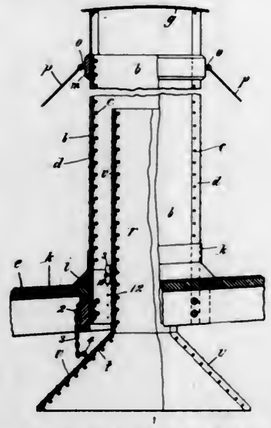
6. In a device of the class described, a plate having an opening, means for securing the plate in position upon a mouthpiece, one edge portion of said plate being bent to constitute an open-ended cylinder-housing.

7. In a device of the class described, a plate having an opening, means for securing the plate in position upon a mouthpiece, one edge portion of said plate being bent to constitute a cylindrical housing, and means for partially closing the ends of said housing.

8. In a device of the class described, a plate having an opening, means for securing the plate in position upon a mouthpiece, one edge portion of said plate being bent to constitute a cylindrical housing, and tongues struck up from the plate and bent across the ends of the housing.

9. In a guard of the character described, a plate having an opening, means for securing the plate in position upon a mouthpiece, one edge portion of said plate being bent to constitute a cylindrical housing for a roll of sanitary material a section of which may be moved over the said opening, and means to hold said section against the plate.

843,941. SMOKE-JACK FOR ENGINE-HOUSES. FREDERICK P. GUTELIUS, Montreal, Quebec, Canada. Filed May 24, 1905. Serial No. 261,979.



Claim.—1. A smoke-jack for a railway engine-house comprising supporting-posts and hardened rigid asbestic plates secured thereto.

2. The combination with the roof of a railway engine-house having an opening therein, of a smoke-jack consisting of a series of vertical supporting members, a series of hardened rigid asbestic plates secured at their side edges to the supporting members and extending from the roof to within a short distance of the top of such members, a hardened rigid asbestic cowl-plate supported by and extending over the space between the supporting members, and means for bracing the jack thus constructed, substantially as described and for the purpose set forth.

3. The combination with the roof of a railway engine-house having a rectangular opening therein, of a ventilating smoke-jack consisting of four posts secured rigidly in the corners of such opening, a series of hardened rigid asbestic plates secured at their side edges to the posts and forming the sides of the jack, such plates extending from the roof to within a short distance of the top of the posts, a cowl-plate supported by the tops of the posts and consisting of a hardened rigid asbestic plate, an auxiliary jack or hood comprising a throat portion and a flared mouth portion and consisting of a series of rigid asbestic plates, and connecting members securing the same together, means for bracing the main stack thus constructed, and means adjustably supporting such auxiliary jack or hood in the lower end of the main jack, substantially as described and for the purpose set forth.

4. The combination with the roof of a railway engine-house having a rectangular opening therein, of a ventilating smoke-jack consisting of four angle-iron posts secured rigidly in the corners of such opening, a series of hardened asbestic plates secured at their side edges to the posts and forming the sides of the jack, such plates extending from the roof to within a short distance of the top of the posts, a cowl-plate supported by the tops of the posts and consisting of a hardened asbestic plate, an auxiliary jack or hood comprising a throat portion and a flared mouth portion and consisting of a series of asbestic plates and connecting members securing the same together means for bracing the main stack thus constructed, and means slidably supporting such auxiliary jack or hood in the lower end of the main jack, substantially as described and for the purpose set forth.

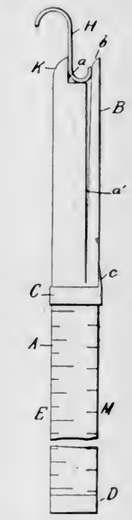
5. The combination with the roof of a railway engine-house having a rectangular opening therein, of a ventilating smoke-jack consisting of four posts secured rigidly in the corners of such opening, a series of hardened asbestic plates secured at their side edges to the posts and forming the sides of the jack, such plates extending from the roof to within a short distance of the top of the posts, a cowl-plate supported by the tops of the posts and consisting of a hardened rigid asbestic plate, an auxiliary jack or hood comprising a throat portion and a flared mouth portion and consisting of a series of asbestic plates and connecting members securing the same together, means for bracing the main jack thus constructed, and means adjustably supporting such auxiliary jack or hood in the lower end of the main jack, packing-strips extending along the line of juncture of the main jack with the roof, and roofing material extening over such strips and partially up the sides of the said main jack, substantially as described and for the purpose set forth.

6. The combination with the roof of a railway engine-house having a rectangular opening therein, of a ventilating smoke-jack consisting of angle-iron posts secured rigidly in corners of such opening and extending vertically from a short distance below the roof, a series of hardened asbestic plates secured at their side edges to the inside faces of the posts and forming the sides of the jack, such plates extending from the roof to within a short distance of the top of the posts, a concavo-convex cowl-plate supported by the tops of the posts with its convex side uppermost and consisting of a hardened asbestic plate, an auxiliary jack or hood comprising a throat portion and a flared mouth portion and consisting of a series of asbestic plates and a series of angle-irons extending along the exterior of the corners formed by the abutting edges of such plates and from the bottom of the mouth portion to the top of the throat portion and securing the same together, means for bracing the main jack thus constructed, a series of brackets secured to the lower portions of the posts and adjustably supporting such auxiliary jack or hood in the lower end of the main jack, and a safety-chain connected at one end to a stationary part of the structure and at its other end to the auxiliary jack or hood, substantially as described and for the purpose set forth.

843,942. PICTURE-HANGER. THOMAS P. HALL, Vancouver, British Columbia, Canada. Filed Oct. 16, 1906. Serial No. 339,269.

Claim.—1. A picture-hanger comprising a rod having a hook-receiving recess in one end thereof and an integrally-formed spring-finger adjacent said recess, said finger acting to maintain in operative position a hook placed within said recess.

2. A picture-hanger comprising a rod having a hook-receiving recess in one end thereof and an integrally-formed spring-finger adjacent one side of said recess and having a rounded or beveled inner portion, said spring-finger acting to maintain in operative position a hook placed in said recess.

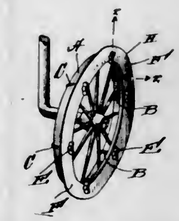


3. A picture-hanger comprising a rod having a hook-receiving recess in one end, a spring-finger formed integral with said rod, said finger having a narrow free end and gradually widening to the point of its integral union with the rod.

4. A picture-hanger comprising a rod having a hook-receiving recess in one end, a spring-finger formed integral with said rod, said finger having a narrow free end and gradually widening to the point of its integral union with the rod, and a band clamping the rod adjacent the lower end of the spring-finger.

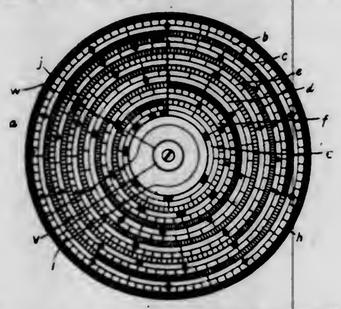
5. A picture-hanger comprising a rod having a measuring-scale thereon, a hook-receiving recess in one end of the rod, and a spring-finger adjacent one side of said recess.

843,943. ATTACHABLE FLANGE FOR WHEELS. HARRY L. HEGLAND, Canton, Minn. Filed Mar. 16, 1906. Serial No. 306,409.



Claim.—In combination with an angled axle, a wheel mounted upon the angled end of the axle and positioned at an inclination, a rim to said wheel having its outer surface convexed and its inner surface flat, a ring tapering upon one face thereof, hooks engaging over one edge of the rim and having shank portions which pass through the ring, nuts for holding said ring against one edge of the rim, a portion of the convexed surface of the rim being adapted to bear against the face of the ring as the latter has a tendency to yield under the weight upon the wheel, as set forth.

843,944. CALCULATING DEVICE. ROBERT L. HIBBARD, Bellevue, Pa. Filed Aug. 7, 1905. Serial No. 273,031.



Claim.—1. A calculating device that comprises a body portion having a plane surface, a plurality of logarithmic scales mounted thereon, a transparent disk, having a radial index-line, rotatably mounted on the plane surface of the body portion, a second independently-rotatable, transparent index-bearing member that is mounted at the center of the disk and a two-part clamping device for said rotatable members.

2. A calculating device that comprises a body portion having a plane surface, a plurality of scales mounted thereon, a pair of axial clamping-sleeves, a transparent disk and a transparent arm rotatably mounted on the plane surface of the body portion and clamped in position relative thereto by said clamping-sleeves.

3. A calculating device that comprises a body portion having a plane surface, a plurality of concentric annular scales mounted thereon, a pair of axial clamping-sleeves that are provided with annular engaging surfaces a transparent disk which is clamped between said surfaces, cylindrical bearing portions, said disk being rotatably mounted on one of said portions, and a transparent arm which is rotatably mounted on the other bearing.

4. A calculating device that comprises a suitable disk-shaped body portion, a plurality of relatively fixed, concentric, annular scales mounted thereon, and a pair of axial clamping members that are provided with cylindrical engaging surfaces a transparent disk which is clamped between said surfaces, said body portion being rotatably mounted in engagement with said transparent disk and upon a cylindrical portion of said axial clamping members.

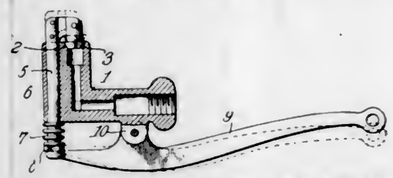
5. In a disk slide-rule, the combination with a suitable body portion that is provided with plane surfaces, a plurality of relatively fixed, concentric, annular scales mounted thereon, and a pair of axial clamping members that are provided with annular engaging surfaces, and a transparent disk that is provided with a radial index-line and is rigidly supported between said clamping-sleeves, said body portion being rotatably mounted in engagement with said transparent disk and upon a cylindrical portion of said axial clamping-sleeves, of a second independently-rotatable index that is mounted at the common center.

6. A calculating device that comprises a suitable body portion that is provided with a plane surface, a plurality of relatively fixed concentric, annular, logarithmic scales mounted thereon, a transparent disk and a transparent arm that are rotatably mounted, with respect to said body portion, at the common center of said scales and are provided with radial index-lines.

7. In a disk slide-rule, the combination with a suitable body portion that is provided with a plane surface, a plurality of scales mounted thereon and a pair of axial clamping members that are provided with annular engaging surfaces, and a transparent disk that is provided with a radial index-line and is rigidly supported between said clamping sleeves, said body portion being rotatably mounted in engagement with said transparent disk, of a second independently-rotatable index that is mounted at the common center.

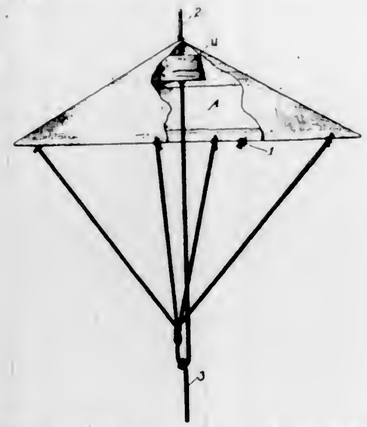
8. A calculating device that comprises a disk-shaped portion, a plurality of scales mounted thereon, an axial clamping member on which said body-disk is rotatably mounted that comprises two similar flanged collars which are provided with complementary, annular, engaging surfaces, a transparent disk that is fixed to said axial member and is provided with a radial index-line, and a second transparent disk portion that is rotatably mounted on the first and is similarly provided with a radial index-line.

843,945. NOZZLE. ISAAC W. HOOVER, Avery, Ohio. Filed Aug. 29, 1906. Serial No. 332,506.



Claim.—In a nozzle the combination with a tube having an oil-passage therethrough, and an imperforate sleeve integral with the tube and parallel with a portion of said passage; of a plug movably mounted within the outlet end of the tube and having a groove normally constituting the outlet from the tube, a stem slidably mounted within the imperforate sleeve and parallel with a portion of the oil-passage, said stem being connected to the plug, means upon the stem for holding the plug normally seated, and means for actuating the stem to move the plug from its seat and along a line extending through the oil-passage.

843,946. FISH-PARACHUTE. FERDINAND J. HOWALD, Santa Cruz, Cal. Filed Nov. 27, 1906. Serial No. 345,326.



Claim.—1. As an article of manufacture, a parachute attached to a fishing-line.

2. A parachute attached to a fishing-line and a float located within the parachute.

3. The combination with a fishing-line, of a collapsible parachute of textile fabric secured at its apex to the line and branch devices extending from the line to the edge of the parachute.

843,947. PHOTOMECHANICAL PRINTING. JOHN W. IFFERS, New York, N. Y., assignor to Albert Henry Walker, New York, N. Y. Filed Nov. 26, 1906. Serial No. 345,012.

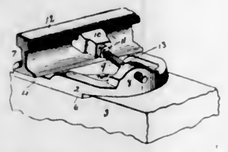
Claim.—1. Making a photographically-sensitive surface on a lithographic stone or metal plate: exposing that sensitive surface to light through a sheet which is partly transparent and partly opaque: developing that exposed

surface into a condition in which whatever area of the stone or plate was under a transparent area of the sheet during the exposure, will resist etching liquid, while whatever area of the stone or plate was then under an opaque area of the sheet, will not resist etching liquid: etching down into a depressed area, whatever area of the stone or plate is thus made subject to etching: putting the stone or plate into a condition in which it will receive ink over any undepressed area, and will receive ink on parallel lines on the floor of any depressed area thereof, but will not receive ink on the parallel spaces between those parallel lines: applying ink to those surfaces and lines of the stone or plate which will receive ink: printing a continuous area from any undepressed surface of the stone or plate upon a sheet of cardboard, while printing parallel lines upon the same sheet from whatever area of the stone or plate is depressed, but which parallel lines stop short of intersecting with any continuous printed area on the cardboard.



2. Preparing a surface on a lithographic stone or metal plate, so that some of its areas will resist etching liquid, while other of its areas will not resist etching liquid: etching down into a depressed area, whatever area of the stone or plate is thus made subject to etching: putting the stone or plate into a condition in which it will receive ink over any undepresed area, and will receive ink on parallel lines on the floor of any depressed area thereof, but will not receive ink on the parallel spaces between those parallel lines: applying ink to those surfaces and lines of the stone or plate which will receive ink: printing a continuous area from any undepressed surface of the stone or plate upon a sheet of cardboard, while printing parallel lines upon the same sheet from whatever area of the stone or plate is depressed, but which parallel lines stop short of intersecting with any continuous printed area on the cardboard.

843,948. BRACE-BLOCK. HENRY KAMERZEL and CLARENCE W. SCHOFIELD, Naugatuck, Conn. Filed Dec. 20, 1906. Serial No. 348,717.

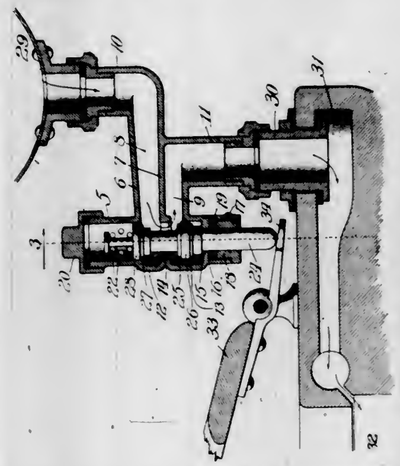


Claim.—1. The herein-described brace-block comprising a U-shaped plate having hooked ends, and a centrally-arranged bearing, a screw extending through said bearing, a block swiveled to the end of said screw, substantially as described.

2. The herein-described brace-block comprising a U-shaped plate having its arms formed with downwardly-extending fingers, said arms terminating in hooks, said plate formed at its central portion with a screw-bearing, a screw extending through said bearing, a block swiveled to the outer end of said screw, substantially as described.

843,949. WATER-CLOSET FLUSH-VALVE. JOHN KELLY, Chicago, Ill. Filed Dec. 3, 1906. Serial No. 346,178.

Claim.—1. In a flush-valve device of the character described, the combination of a casing provided between its ends with a laterally-extending hollow arm adapted to be coupled with a flush-tank and containing a partition dividing it into passages open to said casing, one of said passages being adapted to be coupled to the flush-rim of a closet-bowel, an inlet leading into the upper part of the casing and adapted to be connected with a source of water-supply, a valve-stem reciprocably confined in the casing to extend at one end beyond the same and provided with a valve normally closing communication between said inlet and one of said passages for supplying the tank, and with a second valve normally opening communication between said passages, for the purpose set forth.



2. In combination with a hinged water-closet seat having a finger extending from its hinge, a valve device of the character described, comprising a casing provided between its ends with a laterally-extending hollow arm adapted to be coupled with a flush-tank and containing a partition dividing it into passages open to said casing, one of said passages being adapted to be coupled to the flush-rim of a closet-bowl, an inlet leading into the upper port of the casing and adapted to be connected with a source of water-supply, and a valve-stem reciprocably confined in the casing to extend at one end into engagement with said finger and provided with a valve normally closing communication between said inlet and the one of said passages for supplying the tank, and with a second valve closing communication between said passages when the valve-stem is raised from its normal position, for the purpose set forth.

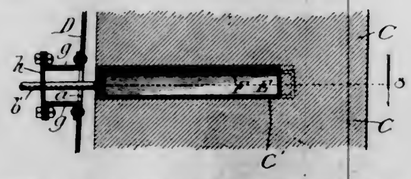
3. In combination with a hinged water-closet seat having a finger extending from its hinge, a valve device of the character described, comprising a casing provided between its ends with a laterally-extending hollow arm adapted to be coupled with a flush-tank and containing a partition dividing it into passages open to said casing, one of said passages being adapted to be coupled to the flush-rim of a closet-bowl, an inlet leading into the upper part of the casing and adapted to be connected with a source of water-supply, a valve-stem reciprocably confined in the casing to extend at one end into engagement with said fingers and provided with a valve normally closing communication between said inlet and the one of said passages for supplying the tank, and with a second valve closing communication between said passages when the valve-stem is raised from its normal position, and a cap removably fastened on and closing the upper end of the casing, for the purpose set forth.

4. In a flush-valve device of the character described, the combination of a casing provided between its ends with enlargements forming chambers and with a hollow arm extending laterally from it at said chambers and adapted to be coupled to a flush-tank, a partition in said arm dividing it into passages each opening into a different one of said chambers, and one of said passages being

adapted to be coupled to the flush-rim of a closet-bowl, an inlet leading into the casing above said chambers and adapted to be connected with a source of water-supply, and a valve-stem reciprocably confined in the casing to extend at one end beyond the same and provided with a valve normally closing communication between said inlet and the one of said passages for supplying the tank, and with a second valve interposed between said chambers when the valve-stem is raised from its normal position, for the purpose set forth.

5. In combination with a hinged water-closet seat having a finger extending from its hinge, a valve device of the character described, comprising a casing provided between its ends with enlargements forming chambers and with a hollow arm extending laterally from it at said chambers and adapted to be coupled to a flush-tank, a partition in said arm dividing it into passages each opening into a different one of said chambers, and one of said passages being adapted to be coupled to the flush-rim of a closet-bowl, an inlet leading into the casing above said chambers and adapted to be connected with a source of water-supply, and a valve-stem reciprocably confined in the casing to extend at one end into engagement with said finger and provided with a valve working in said upper chamber and with a second valve working between said chambers, for the purpose set forth.

843,950. BLAST-FURNACE. SAMUEL A. KENNEDY, Chicago, Ill. Filed Feb. 23, 1906. Serial No. 302,458.



Claim.—1. In a blast-furnace, the combination with the lining and its surrounding shell, of a plurality of chambers in the lining, hollow cooling-plates removably confined in said chambers, openings in the shell registering with said chambers, and means coöperating with said cooling-plates for closing said openings in the shell to render said shell substantially gas-tight.

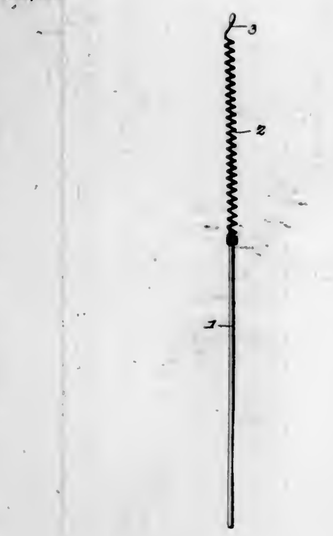
2. In a blast-furnace, the combination with the lining and its surrounding shell, of a plurality of chambers in the lining, hollow cooling-plates removably confined in said chambers, openings in the shell registering with said chambers through which said cooling-plates extend, and means coöperating with said cooling-plates for closing said openings in the shell to render said shell substantially gas-tight.

3. In a blast-furnace, the combination with a lining and its surrounding shell, of a plurality of chambers in the lining, hollow cooling-plates flanged at their outer ends and removably confined in said chambers, and openings in the shell registering with said chambers, said cooling-plates extending at their flanged ends through said openings and being fastened to the shell, and said flanges affording means for rendering the shell gas-tight at its portion containing the openings.

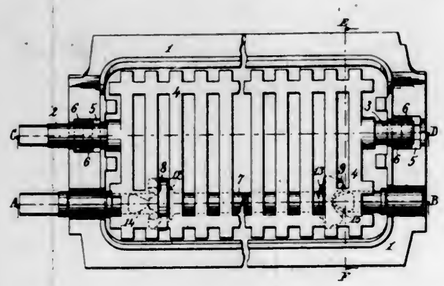
843,951. GAPE-WORM EXTRACTOR. JOSEPH S. KLOCK, Urban, Pa. Filed Apr. 24, 1906. Serial No. 313,450.

Claim.—A device of the character described comprising a stem, a flexible wire coil of uniform diameter secured around one end of the stem and extending therefrom, the longitudinal axis of the coil being normally in alinement with the stem, a finger at the free end of the coil and terminating substantially in alinement with the longitudinal axis thereof, and a rounded tip upon the end of the finger and beyond the coil.

843,951.



843,952. SHAKING-GRATE. CHARLES H. LANGILL, Boston, Mass. Filed Oct. 3, 1906. Serial No. 337,307.

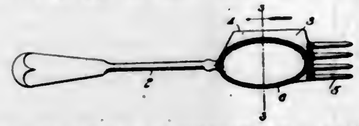


Claim.—1. A grate-frame, a grate within the frame trunnions on the grate having bearings within the grate-frame and within which the grate may be rotated and reciprocated, and two projections from the under side of the grate, combined with a rotary shaft below the grate, and two cams on the shaft having oppositely-disposed cam-surfaces which engage the projections on the grate.

2. A grate-frame, a grate within the frame, trunnions on the grate having bearings within the frame and within which the grate may be rotated and reciprocated, and projections on the under side of the grate, combined with a rotary shaft below the grate, and detachable cams on the shaft engaging said projections on the grate and held in engagement with the said projections.

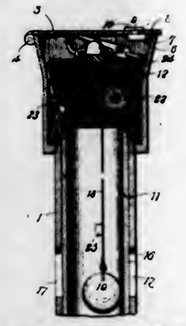
3. A grate-frame, a grate within the frame, trunnions on the grate having bearings within the grate-frame and within which the grate may be rotated and reciprocated, and a plurality of projections from the under side of the grate, combined with a rotary shaft below the grate, collars on the shaft, polygonal portions on the shaft adjacent said collars but oppositely disposed in relation thereto, and crown-cams placed loosely upon the polygonal portions of the shaft engaging the projections on the grate to reciprocate the grate, said cams held in place upon the shaft by engagement with said projections.

843,953. TABLE UTENSIL. GEORGE LABAMY, Enfield, N. H. Filed Mar. 29, 1906. Serial No. 308,798.



Claim.—An article of the class described comprising an oval spoon-bowl having a handle at one end, a straight enlargement on one side of the bowl and having an annular recess extending longitudinally in the outer edge thereof, a cutting-blade inserted and secured within said recess, an enlargement at one end of the bowl and merging into said enlargement at the side of the bowl, said end enlargement having a straight edge extending from side to side, and tines extending from the straight edge and of uniform length, the crotches between the tines being rounded.

843,954. HITCHING-POST. BURTON R. LONG, Pueblo, Colo. Filed Oct. 2, 1906. Serial No. 337,093.



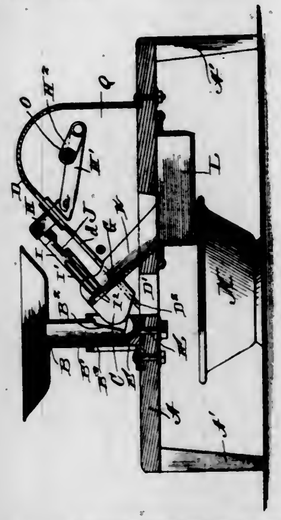
Claim.—1. In a device of the class described, the combination of a stationary housing, a post mounted for vertical movement therein, a hitching-strap arranged within the post and adapted to be drawn therefrom, means on the strap for drawing the same into the post, a stop on the strap arranged to prevent the latter from being completely withdrawn from the post, and a detent mounted in the post and arranged to engage the said stop to hold the strap in its normal operative position.

2. In a device of the class described, the combination of a post having a slot at its upper end, a hitching-strap movable through the slot, a weight on one end of the strap tending to draw the latter into the post, a snap on the outer end of the strap forming the sole means for preventing the strap from passing completely into the post, a stop on the strap for limiting its outward movement, and a gravity-acting detent arranged in the path of the stop and adapted to engage behind the same for preventing the weight from drawing the strap into the post.

3. In a device of the class described, the combination of a post having a slot at its upper end, a hitching-strap movable through the slot, means on the inner end of the strap tending to maintain the strap within the post, a fastening device on the opposite end of the strap which limits the inward movement of the latter, a roller arranged to guide the movement of the strap, a detent pivoted at one side of the roller and inclined upwardly over the same in coöperative relation with the strap, and a stop on the strap which near the outward limit of the movement of the strap engages and passes by the detent to permit the latter to interlock behind the stop.

4. In a device of the class described, the combination with a post, a removable cap thereon having a slot, a strap arranged within the post and movable through the slot, a weight on the inner end of the strap, a fastening device on the outer end of the strap which limits the inward movement of the latter and normally suspends the same on the cap, a roller arranged in the cap and removable therewith for guiding the movement of the strap, a detent pivoted within the cap and removable therewith which is arranged in coöperative relation with the strap, and a stop on the strap arranged to be engaged by the detent for preventing the strap from moving inwardly under the action of the said weight.

843,955. CHERRY-STONER. BERNHARDT MAI, Erfurt, Germany, assignor to Leonard May, Newport, R. I. Filed July 13, 1906. Serial No. 326,152.



Claim.—1. An apparatus for removing stones from cherries comprising a hopper having a hollow shank portion, a tray mounted underneath the exit end of said shank portion and on which cherries are adapted to fall, a hollow reciprocating shell having fingers which are provided with hooked ends, an apertured plate through which said fingers are adapted to move and pierce a cherry, the marginal outlines of the aperture in said plate being adapted to hold the pulp of the cherry while the stone is pulled by said fingers through the aperture, as set forth.

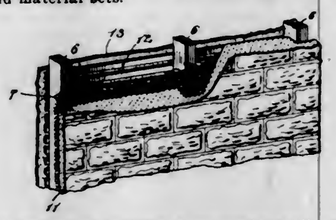
2. An apparatus for removing the stones from cherries comprising a hopper having a hollow shank portion, an adjustable tray positioned underneath the exit end of said shank portion and upon which cherries are adapted to fall singly, a hollow reciprocating shell having fingers which are provided with hooked ends, an apertured plate through which said fingers are adapted to move and against the marginal edges of which the cherry pierced by said fingers is adapted to contact, whereby the stone may be pulled through the aperture and separated from the pulp of the cherry, said shell having an opening in the wall thereof through which the stones are adapted to pass, as set forth.

3. An apparatus for removing the stones from cherries comprising a table, a hopper having a hollow shank portion, a tray positioned underneath the exit end of said shank portion, an arched bar fixed to the table and having a slot therein, a post adapted to reciprocate in said slot, means for moving said post, a hollow shell fixed to said post and having fingers which are spaced apart and provided with hooked ends, and a plate secured to said arched bar and provided with an aperture through which said fingers are adapted to move, as set forth.

843,956. METHOD OF MAKING COMPOSITE WALLS. ELI MARTIN, Detroit, Mich. Filed Nov. 19, 1906. Serial No. 344,088.

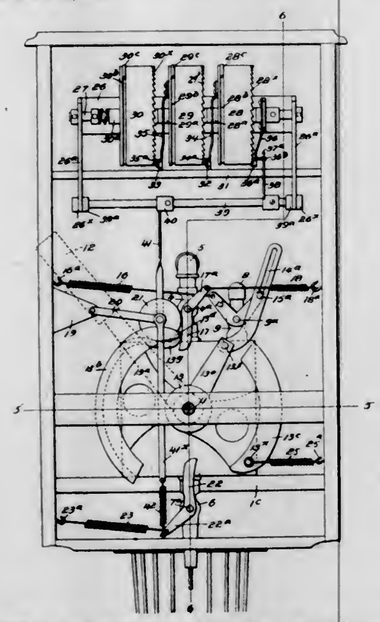
Claim.—1. The method of building a composite wall consisting in erecting a frame including studding, attaching

lathing to the face thereof, supporting a design face-plate at a space in front of the lathing, placing back boards between the studding at the inside, filling the space between the face-plate, back boards and studding with cementitious material, and removing the face-plate and back boards after said material sets.



2. The method of building a composite wall consisting in erecting a frame including studding, attaching lathing to the face thereof, driving nails partly into the face of the studding, placing a design face-plate against the heads of said nails and supporting the same temporarily in place, placing a temporary backing at the back of the studding, filling between the face-plate and backing with cementitious material, and removing the face-plate and backing after said material sets.

843,957. BEER MEASURE AND REGISTER. WILLIAM H. MINER, Tomah, Wis., assignor of one-half to Fred C. Warren, Valley Junction, Wis. Filed Feb. 17, 1906. Serial No. 301,687.



Claim.—1. An apparatus of the class described, comprising a receptacle, a valved inlet-pipe therefor, a valved outlet-pipe therefor and a valved air-inlet pipe for said receptacle, a controlling mechanism for all of said valves, said controlling mechanism arranged to normally hold the inlet-valve open, the outlet-valve closed and the air-valve closed and when moved out of its normal position to first close the inlet-valve, then open the outlet-valve and then open the air-valve, substantially as shown and described.

2. An apparatus of the class described, comprising a receptacle, a valved inlet-pipe therefor, a valved outlet-pipe therefor and a valved air-inlet pipe for said receptacle, a controlling mechanism for all of said valves, said controlling mechanism arranged to normally hold the inlet-valve open, the outlet-valve closed and the air-valve closed and when moved out of its normal position to first close the inlet-valve, then open the outlet-valve and then open the air-valve, and a registering mechanism coöperatively connected with said valve-controlling mechanism, substantially as shown and described.

3. An apparatus of the class described, comprising a receptacle, a valved inlet-pipe therefor, a valved outlet-pipe therefor and a valved air-inlet pipe for said receptable, a controlling mechanism for all of said valves, said controlling mechanism arranged to normally hold the inlet-valve open, the outlet-valve closed and the air-valve closed and when moved out of its normal position to first close the inlet-valve, then open the outlet-valve and then open the air-valve, and means for returning the said valve-controlling mechanism and said valve to their normal position.

4. An apparatus of the class described, comprising a receptacle, a valved inlet-pipe therefor, a valved outlet-pipe therefor and a valved air-inlet pipe for said receptacle, a controlling mechanism for all of said valves, said controlling mechanism arranged to normally hold the inlet-valve open, the outlet-valve closed and the air-inlet valve closed and when moved out of its normal position to first close the inlet valve, then open the outlet-valve and then open the air-valve, a registering mechanism connected with said valve-controlling mechanism and means for returning said valve-controlling mechanism to its normal position substantially as shown and described.

5. An apparatus of the class described, comprising a reservoir adapted to receive a given quantity of liquid, a feed-pipe connecting said reservoir with the source of liquid-supply, an inlet-valve in said feed-pipe, said inlet-valve having a control-lever, means for normally holding said inlet-valve open, an outlet-faucet for said reservoir, an outlet-valve for controlling said outlet-faucet, said outlet-valve having an operating-lever, means for normally holding said outlet-valve closed, a valve-operating mechanism comprising a segmental wheel, a handle for turning said wheel, said wheel being arranged to first close the inlet-valve and then open the outlet-valve, substantially as shown and described.

6. An apparatus of the class described, comprising a reservoir adapted to receive a given quantity of liquid, a feed-pipe connecting said reservoir with the source of liquid-supply, an inlet-valve in said feed-pipe, said inlet-valve having a control-lever, means for normally holding said inlet-valve open, an outlet-faucet for said reservoir, an outlet-valve for controlling said outlet-faucet, said outlet-valve having an operating-lever, means for normally holding said outlet-valve closed, a valve-operating mechanism comprising a segmental wheel, a handle for turning said wheel, said wheel being arranged to first close the inlet-valve and then open the outlet-valve, and means for normally holding said wheel in its non-valve-lever-engaging position, substantially as shown and described.

7. An apparatus of the class described, comprising a reservoir adapted to receive a given quantity of liquid, a feed-pipe connecting said reservoir with the source of liquid-supply, an inlet-valve in said feed-pipe, said inlet-valve having a control-lever, means for normally holding said inlet-valve open, an outlet-faucet for said reservoir, an outlet-valve for controlling said outlet-faucet, said outlet-valve having an operating-lever, means for normally holding said outlet-valve closed, a valve-operating mechanism comprising a segmental wheel, a handle for turning said wheel, said wheel being arranged to first close the inlet-valve and then open the outlet-valve, a valved air-supply for said reservoir, the air-supply valve having an operating-lever, means for normally holding said air-supply valve closed, said valve-controlling wheel having a radial arm, means coöperatively connected with said air-valve lever for operating the same, after the inlet-valve has been closed, substantially as shown and described.

8. An apparatus of the class described, comprising a reservoir adapted to receive a given quantity of liquid, a feed-pipe connecting said reservoir with the source of liquid-supply, an inlet-valve in said feed-pipe, said inlet-valve having a control-lever, means for normally holding said inlet-valve open, an outlet-faucet for said reservoir, an outlet-valve for controlling said outlet-faucet, said outlet-valve having an operating-lever, means for normally holding said outlet-valve closed, a valve-operating mechanism comprising a segmental wheel, a handle for turning off said wheel, said wheel being arranged to first close the inlet-valve and then open the outlet-valve, and a registering mechanism coöperatively connected with the valve-controlling means for indicating the number of times the reservoir has been emptied and the value of the material drawn therefrom.

9. An apparatus of the class described, comprising a reservoir adapted to receive a given quantity of liquid, a feed-pipe connecting said reservoir with the source of liquid-supply, an inlet-valve in said feed-pipe, said inlet-valve having a control-lever, means for normally holding said inlet-valve open, an outlet-faucet for said reservoir, an outlet-valve for controlling said outlet-faucet, said outlet-valve having an operating-lever, means for normally holding said valve closed, a valve-operating mechanism comprising a segmental wheel, a handle for turning said wheel, said wheel being arranged to first close the inlet-valve and then open the outlet-valve, and means for normally holding said wheel in its non-valve-lever-engaging position, and a registering mechanism coöperatively connected with the valve-controlling means for indicating the number of times the reservoir has been emptied and the value of the material drawn therefrom.

10. An apparatus of the class described, comprising a reservoir adapted to receive a given quantity of liquid, a feed-pipe connecting said reservoir with the source of liquid-supply, an inlet-valve in said feed-pipe, said inlet-valve having a control-lever, means for normally holding said inlet-valve open, an outlet-faucet for said reservoir, an outlet-valve for controlling said outlet-faucet, said outlet-valve having an operating-lever, means for normally holding said outlet-valve closed, a valve-operating mechanism comprising a segmental wheel, a handle for turning said wheel, said wheel being arranged to first close the inlet-valve and then open the outlet-valve, a valved air-supply for said reservoir, the air-supply valve having an operating-lever, means for normally holding said air-supply valve closed, said valve-controlling wheel having a radial arm, means coöperatively connecting said arm with said air-valve lever for operating the same after the inlet-valve has been closed, and a registering mechanism coöperatively connected with the valve-controlling means for indicating the number of times the reservoir has been emptied and the value of the material drawn therefrom.

11. An apparatus of the class described, a reservoir, an inlet-pipe connected thereto, an inlet-valve in said inlet-pipe, a lever for operating said inlet-valve, spring devices for normally holding said lever to hold the inlet-valve open, an air-valve for said reservoir, a lever for said air-valve, spring devices for holding said lever in its normal position to hold the air-valve closed, an outlet-valve for said reservoir, a lever for controlling said outlet-valve, spring devices for normally holding said outlet-valve closed, a rotary shaft mounted adjacent said reservoir, an operating-handle connected with said shaft to turn the same, a valve-controlling segmental wheel carried by said shaft adapted to first engage the inlet-valve to close the same, and then to engage the outlet-valve to open the same, said segmental wheel having a radial arm, a supplemental arm pivotally connected thereto and having a slotted end, said supplemental arm and said air-valve lever being coöperatively connected to said slotted end, and so arranged as to open the air-valve after the inlet-valve has been closed and as the outlet-valve is opened, spring devices for returning said wheel to its normal position, substantially as shown and described.

12. An apparatus of the class described, a reservoir, an inlet-pipe connected thereto, an inlet-valve in said inlet-pipe, a lever for operating said inlet-valve, spring devices for normally holding said lever to hold the inlet-valve open, and air-valve for said reservoir, a lever for said air-valve, spring devices for holding said lever in its normal position to hold the air-valve closed, an outlet-valve for said reservoir, a lever for controlling said outlet-valve, spring devices for normally holding said outlet-valve closed, a rotary shaft mounted adjacent said reservoir, an operating-handle connected with said shaft to turn the same, a valve-controlling segmental wheel carried by said shaft adapted to first engage the inlet-valve to close the same and then to engage the outlet-valve to open the same, said segmental wheel having a radial arm, a supplemental arm connected thereto and having a slotted end, said supplemental arm and said air-valve lever being coöperatively connected to said slotted end, and so arranged as to open the air-valve after the inlet-valve has been closed and as the outlet-valve is opened, spring devices for returning said wheel to its normal position, substantially as shown and described.

13. An apparatus of the class described, a reservoir, an inlet-pipe connected thereto, an inlet-valve in said inlet-pipe, a lever for operating said inlet-valve, spring devices for normally holding said lever to hold the inlet-valve open, an air-valve for said reservoir, a lever for said air-valve, spring devices for holding said lever in its normal position to hold the air-valve closed, an outlet-valve for said reservoir, a lever for controlling said outlet-valve, spring devices for normally holding said valve closed, a rotary shaft mounted adjacent said reservoir, an operating-handle connected with said shaft to turn the same, a valve-controlling segmental wheel carried by said shaft adapted to first engage the inlet-valve to close the same, and then to engage the outlet-valve to open the same, said segmental wheel having a radial arm, a supplemental arm pivotally connected thereto and having a slotted end, said supplemental arm and said air-valve lever being coöperatively connected to said slotted end, and so arranged as to open the air-valve after the inlet-valve has been closed and as the outlet-valve is opened, spring devices for returning the wheel to its normal position, said wheel including a cam portion, a bracket, an arm pivotally mounted on said bracket, a friction-roller carried by said arm for engaging the cam portion of the wheel, a rod secured to said friction-roller to be moved thereby, a spring for normally holding said rod and said friction-roller in engagement with said wheel, and a registering mechanism coöperatively connected with said rod.

843,958. KEY-RING TAG. THOMAS F. MOORE, Newark, N. J., assignor to The Whitehead & Hoag Company, Newark, N. J., a Corporation of New Jersey. Filed Nov. 20, 1905. Serial No. 288,218.

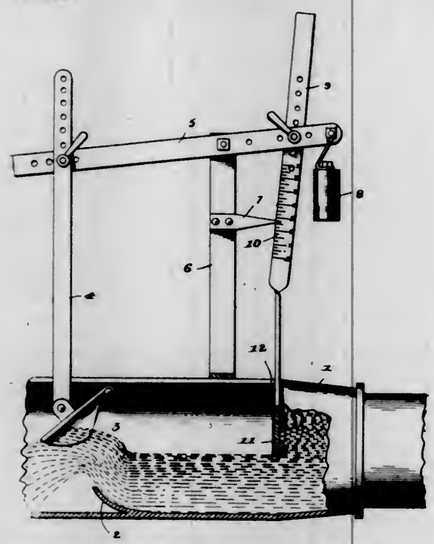


Claim.—1. A key-ring tag comprising a disk having an angular slot open at one end through the edge of the disk forming a hook at one side of the open end of the slot, a U-shaped clasp pivoted to the disk at the opposite side of the slot and having its opposite sides movable to and from a position across the slot and hook, the hook and clasp being provided with frictional locking members and the outer portion of the clasp uniting the sides having a portion thereof extending across the open end of the slot when the clasp is closed.

2. In a key-ring tag of the class described, a disk having an angular slot open at one end through the periphery of the disk, a chain attached at one end of the disk and having one of its links removably inserted in said slot, and a

U-shaped clasp pivoted to the disk and having its opposite side pieces and outer portion uniting the side pieces movable to and from a position across the slot, and means on the clasp for frictionally locking it in its closed position.

843,959. AUTOMATIC ADJUSTABLE WATER RATING AND CONTROLLING MACHINE. WILLIAM J. MCBRIDE, Las Animas, Colo. Filed Aug. 21, 1906. Serial No. 331,492.



Claim.—1. A device for regulating the rate and controlling the flow of liquid consisting of a casing, a valve located in said casing and adapted to be operated by the current, a rod attached to said valve and adapted to move therewith, a beam suitably fulcrumed and attached to said rod, a counterbalance-weight carried by said beam, a second rod attached to said beam, a reciprocating valve located in the casing and being attached to said second rod

2. A device of the character described consisting of a casing, a valve located in said casing and adapted to be moved by the force of the current, a rod attached to said valve, a beam suitably fulcrumed and connected with said rod, a counterbalance-weight attached to said beam, a second rod attached to said beam and having a series of graduations, an indicator-point suitably supported and having its end associated with the said graduations, a valve located in the casing and adapted to reciprocate and being attached to said second rod.

3. A device of the character described consisting of a casing, a movable valve located in said casing and adapted to be operated by the force of the current, a diverter located in the said casing in advance of said valve and adapted to direct the current against said valve, a reciprocating valve located in the casing and being operatively connected with the first said valve whereby the flow of the current is regulated as the first said valve is operated upon by the force of the current.

4. A device of the character described consisting of a casing, a valve located in said casing and adapted to be operated by the force of the current, a rod attached to said valve, a beam suitably fulcrumed, and a means for adjustably attaching one end of said beam to the said rod, a second rod adapted to be adjustably attached to the opposite end of said beam, a counterbalance-weight attached to said beam, a reciprocating valve located within the casing and attached to said second rod.

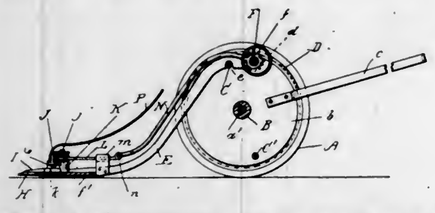
5. A device of the character described consisting of a casing, a valve located in said casing and adapted to be operated by the force of the current, a rod attached to said valve, a beam suitably fulcrumed and being adapted to have one of its ends adjustably secured to said rod, a counterbalance-weight attached to said beam, a second rod having a series of graduations and being adapted to be adjustably attached to the opposite end of said beam, an indicator-point suitably supported and having its end associated with the graduations of the second said rod, a reciprocating valve located in the casing and being attached to the second said rod.

843,960. TAG-CLIP. ALEXANDER MCCALLUM, Northampton, Mass. Filed Oct. 31, 1906. Serial No. 341,333.



Claim.—A tag-clip consisting of two arms and two oppositely-disposed transverse interior ribs, said ribs being so located on said arms as to leave two projecting portions at the free ends of the arms and being so arranged relative to each other as to be spaced apart when the clip is closed as well as when it is open, the whole being made out of a single strip of ductile metal bent to form the different members.

843,961. LAWN-MOWER. WILLIAM W. MCCARTY, Diamond, Ind. Filed July 31, 1906. Serial No. 328,590.



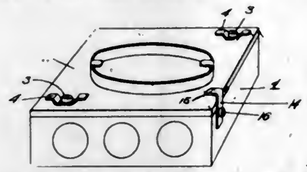
Claim.—1. The combination, with the main frame of a mower having a cross-bar, and a toothed driving-wheel; of an auxiliary frame provided with arms having notches near their upper ends for engaging with the said cross-bar, cutting-blades carried by the lower parts of the said arms, a shaft journaled at the upper parts of the said arms, a toothed pinion secured on the said shaft and engaging with the teeth of the said driving-wheel, and driving mechanism for reciprocating one of the said blades from the said shaft.

2. The combination, with a mowing-machine provided with an axle, a driving-wheel mounted on the said axle, and a main frame pivoted on the said axle and provided with a cross-bar above the said axle; of a detachable auxiliary frame engaging with the said cross-bar, a driving-shaft journaled in the said auxiliary frame and provided with means for operatively connecting it with the said driving-wheel, cutting-blades carried by the said auxiliary frame, and intermediate driving mechanism for reciprocating one of the said blades from the said shaft.

3. The combination, with a frame provided with a ground-plate, guides projecting upwardly from the said ground-plate, and an upper plate secured to the said guides; of two cutting-blades slidable vertically on the said guides between the two said plates, and means for reciprocating one of the said cutting-blades crosswise of the other cutting-blade.

4. The combination, with a frame provided with a ground-plate, guides projecting upwardly from the said ground-plate, and an upper plate secured to the said guides; of two cutting-blades slidable vertically on the said guides, a bell-crank lever pivoted to the said upper plate and engaging with one of the said cutting-blades, and means for oscillating the said bell-crank lever and thereby reciprocating one blade crosswise of the other.

843,962. PLASTER-HOLDER FOR OUTLET-BOXES. ADNAH MCMURTRIE, New York, N. Y., assignor to Thomas & Betts Company, New York, N. Y., a Corporation of New York. Filed June 14, 1906. Serial No. 321,616.



Claim.—1. A plaster-retaining device for electrical outlet-boxes and the like, comprising a plaster-engaging portion, and an attaching portion having fastening means, substantially as described.

2. A plaster-retaining device for electrical outlet-boxes and the like, comprising a body or attaching portion, and a plurality of plaster-engaging wings, substantially as described.

3. A plaster-retaining device for electrical outlet-boxes and the like, comprising a body member having a threaded attaching portion to permit said device to be secured removably to said box, and a plaster-engaging wing, substantially as described.

4. A plaster-retaining device for electrical outlet-boxes and the like, said device having means to permit its attachment to said box in position to secure in place the cover of said box, and plaster-engaging means to project above said cover, substantially in the manner and for the purpose set forth.

843,963. DEVICE WHEREBY FIRE-HOSE IS COUPLED TO HYDRANTS. HERBERT J. PAGE, Montreal, Quebec, Canada, assignor of one-third to Eugene Shelton Randall, and one-third to Thomas Palmer Howard, Montreal, Canada. Filed Dec. 14, 1904. Serial No. 236,904.



Claim.—1. The combination with a device for coupling a hose to a hydrant and having a high-pressure connection, of valvular means adapted to be controlled by the hydrant-pressure to close the high-pressure connection and also controlled by the high-pressure to cut the communication with the hydrant and simultaneously effect a communication between the high-pressure connection and the hose.

2. A casing having a discharge-port and a pair of openings, means whereby a hose length is coupled to the said port, means whereby one of the openings is coupled to the hydrant, means whereby the force-pump of a fire-engine is coupled to the other of the opening, and valvular means moved by the pressure of the water flowing from the hydrant, into position closing the opening for receiving the fire-engine connection and such means being also adapted to be moved by the pressure from the engine into position closing the hydrant connection.

3. A device for coupling a hose to a hydrant and subsequently a fire-engine to the hose without reducing the pressure in the latter during the operation, consisting of a casing having a discharge-port in the sides thereof and openings in its opposite ends, means whereby a hose length is coupled to the said port, means for coupling the opening in one end of the casing to the hydrant the opposite end being formed with an encircling flange adapted to have the force-pipe of a fire-engine coupled thereto, a cap screwed upon such flange, a valve within the casing and movable from one to the other of the openings in the ends thereof, and means effecting an operative connection between the cap and the valve.

4. A device for coupling a hose to a hydrant and subsequently a fire-engine to the hose without reducing the pressure in the latter during the operation, consisting of a casing having a discharge-port in the sides thereof and opening in its opposite ends, means whereby a hose length is coupled to the said port, means for coupling the opening in one end of the casing to the hydrant the opposite end being formed with an encircling flange adapted to have the force-pipe of a fire-engine coupled thereto, a cap screwed upon such flange, a valve within the casing and movable from one to the other of the openings in the ends thereof, and, a device carried by the cap and adapted to bear upon the valve and retain the same seated upon the opening communicating with the hydrant when the cap is screwed onto the flange.

5. A device for coupling a hose to a hydrant and subsequently a fire-engine to the hose without reducing the pressure in the latter during the operation, consisting of a casing having a discharge-port in the sides thereof and openings in its opposite ends, means whereby a hose length is coupled to the said port, means for coupling the opening in one end of the casing to the hydrant the opposite end being formed with an encircling flange adapted to have the force-pipe of a fire-engine coupled thereto, a cap screwed upon such flange, a valve within the casing and movable from one to the other of the openings in the ends thereof, a screw carried adjustably by the cap and adapted to bear upon the valve and retain the same seated upon the opening communicating with the hydrant when the cap is screwed onto the flange.

6. A device for coupling a hose to a hydrant comprising a valve-casing having an intake-port and an outtake-port, of a second intake-port the seat whereof is parallel to and a short distance from the seat of the first intake-port and a valve adapted to be seated upon either of such seats, and means for guiding the said valve to cause it to move from one seat to the other in a rectilineal line lying in a plane extending at right angles to the seats for the purpose of causing one of the ports to be closed when the other is open.

7. The combination with a valve-casing having a pair of intake-ports at opposite sides thereof and an outtake-port, of a valvular disk located movably between such intake-ports and whereby one of the said intake-ports is closed when the other is opened and guiding-ribs upon the disk and slidably within one of the intake-ports for guiding the said disk in its movement from one port to the other such disk being free to play between the ports and adapted to be moved by the excessive pressure in one of the ports into closing relation with the other port.

8. The combination with a valve-casing having a pair of ports in opposite sides and a third port, of a valvular disk adapted to play freely between and be seated upon either of the said pair of ports, a cap outside of the casing and closing one of such pair of ports and a screw carried by the said cap in line with the disk and in bearing relation therewith.

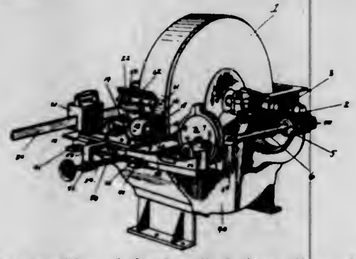
9. An oblate spheroidal valve-casing having an intake-port in one of its flattened ends and a series of outtake-ports in a side at an angle to the intake-port, of a rectilinearly-movable valvular disk for closing such intake-port, and a screw carried by the opposite flattened end of such casing and in line with the disk and for the purpose of retaining the latter in variable adjacency to the intake-port.

10. The combination with a hydrant having a pair of discharge-ports, of a device for coupling a hose to one of such ports, means for connecting the suction end of a fire-engine to the other of such ports, and means for connecting the discharge end of the engine to such hose without disturbing the first-mentioned connection.

843,964. GRINDING-MACHINE. EMIL A. PETERSON, Appleton, Wis. Filed Apr. 16, 1906. Serial No. 311,903.

Claim.—1. In a machine of the described class, the combination with a grinding-wheel; of an adjustable table, movable to and from the wheel; a carrier guided for transverse movement to the table; a grinding-wheel shaft provided with a worm-thread; a transmission-shaft having a worm-wheel splined thereon in mesh with the thread on

the grinding-wheel shaft; an eccentric-wheel on the transmission-shaft; a crank-rod connecting the eccentric-wheel with the carrier; and a knife-holder pivotally mounted on the carrier.



2. In a machine of the described class, the combination with a grinding-wheel; of a support; a set of shafts mounted thereon; gearing connecting said shafts; a knife-holder supported from one of the shafts; and a tension device connected with the other shaft and adapted to actuate the shafts to normally press the knife-holder in the direction of the grinding-wheel.

3. In a machine of the described class, the combination with a grinding-wheel; of a support; a set of shafts mounted thereon; gearing connecting said shafts; a knife-holder supported from one of the shafts; and a tension device connected with the other shaft and adapted to actuate the shafts to normally press the knife-holder in the direction of the grinding-wheel; together with means for reciprocating said support transversely to the plane of the wheel.

4. In a machine of the described class the combination with a grinding-wheel; of a carrier arranged to reciprocate laterally across the face of the grinding-wheel; a set of rock-shafts mounted on the carrier and having gear connection with each other; a knife-holder connected with one of the shafts, and a lever connected with the other shaft and provided with an adjustable weight.

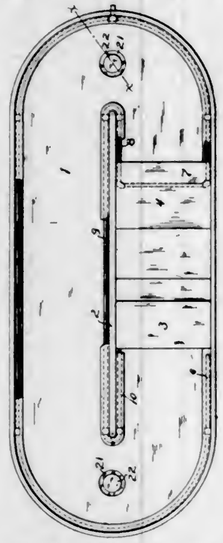
5. In a machine of the described class, the combination with a casing; of a grinding-wheel having a supporting-shaft journaled in the casing; a table mounted upon ways on the casing and adjustable to and from the grinding-wheel; a rotary transmission-shaft mounted in a plurality of bearings on said table, and slidingly mounted in a casing-bearing; a worm-wheel slidingly mounted on the transmission-shaft; an eccentric fixed to the transmission-shaft between the table-bearings and serving to hold said shaft against relative longitudinal movement; a carrier guided for lateral movement on the table; a connecting-rod operatively connecting the eccentric and carrier; and a knife-holder mounted on the carrier.

843,965. FLUSHING DEVICE FOR RAG-ENGINE VATS. EMIL A. PETERSON, Appleton, Wis., assignor of two-thirds to Valley Iron Works Company, Appleton, Wis., a Corporation of Wisconsin. Filed Sept. 10, 1906. Serial No. 333,889.

Claim.—1. The combination with the vat of a rag-engine, of a pipe connected with a source of water-supply and extending along the base of the outer wall and provided with perforations adapted for the discharge of water inwardly along the floor of the vat, and a shield extending over the pipe downwardly and inwardly from the side of the vat to a point near the floor thereof.

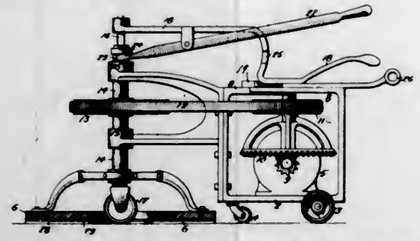
2. The combination with the vat of a rag-engine, of a pipe connected with a source of water-supply and extending along the base of the outer wall and provided with perforations adapted for the discharge of water inwardly along the floor of the vat, and a shield extending over the pipe downwardly and inwardly from the side of the vat to a point near the floor thereof, the lower margin of said shield being supported from the floor at intervals by suitable spacing-blocks.

3. The combination with a vat of a rag-engine, of a pipe connected with a source of water-supply and extending along the inner face of the outer wall, and substantially continuous with the exposed base thereof; and a shield covering said pipe to a point in close proximity to the



floor; said pipe being provided with perforations adapted to permit the discharge of water from the pipe along the floor and under the shield.

843,966. FLOOR-POLISHING MACHINE. PETER SASS, Vancouver, British Columbia, Canada. Filed May 14, 1906. Serial No. 316,699.



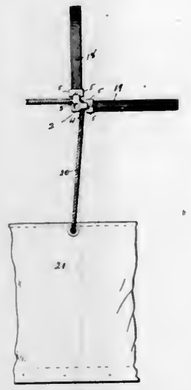
Claim.—1. In a floor-polishing machine, the combination with a wheeled frame, an electric motor mounted thereon, of a vertical hollow shaft rotatable and endwise slidable in bearings projecting from the motor-carrying portion of the wheeled frame, an annular polishing-head secured to the lower end of said shaft, a stem movable in the center of the polishing-head shaft upon which said wheeled shaft is endwise movable, a steering-wheel secured to the stem in the center of the polishing-head, means for rotating the hollow shaft from the motor, and means controlled by the operator for endwise moving said hollow shaft substantially as shown and described.

2. In a floor-polishing machine, the combination with a motor-carrying wheeled frame, of a vertical hollow shaft rotatable and endwise slidable in bearings projecting from the motor-carrying frame and having at its lower end an annular polishing-head, a steering-wheel on the lower end of a stem passing through the hollow shaft on which stem the hollow shaft is rotatable and endwise slidable, a lever secured to the upper end of the steering-wheel stem and passing toward the after end of the motor-carrying frame, means for driving the hollow shaft and its polishing-head from the motor and means for endwise lifting the hollow shaft in its bearings.

3. In a polishing-machine, the combination with a motor-carrying wheeled frame, a bracket-frame secured to the motor-carrying frame and projected forwardly thereof, said bracket-frame having bearing portions, a tubular shaft rotatably mounted in said bearing portions, a spindle held within said tubular shaft, a floor-engaging wheel carried by said spindle, a control-lever secured to said spindle for turning the same, and means mounted on the control-lever for moving the tubular shaft on its longitudinal axis, a clamp secure to the tubular shaft near its lower end, arms pivotally mounted in said clamp, a polishing-head secured to said arms, a drive-motor on said motor-carrying frame and connections between the drive-motor and the tubular shaft whereby motion of the drive-motor is imparted to the tubular shaft, substantially as shown and described.

4. In a polishing-machine, the combination with a motor-carrying wheeled frame, a bracket-frame secured to the motor-carrying frame and projected forwardly thereof, said bracket-frame having bearing portions, a tubular shaft rotatably mounted in said bearing portions, a spindle held within said tubular shaft, a floor-engaging wheel carried by said spindle, a control-lever secured to said spindle for turning the same, and means mounted on the control-lever for moving the tubular shaft on its longitudinal axis, a clamp secured to the tubular shaft near its lower end, arms pivotally mounted in said clamp, a polishing head secured to said arms, a drive-motor on said motor-carrying frame, connections between the drive-motor and the tubular shaft whereby the motion of the drive-motor is imparted to the tubular shaft, said connections comprising a pinion on the motor-shaft, a rim-gear coöperating with said pinion, a spider-frame having a bearing portion for supporting said rim-gear, a spindle on the motor-carrying frame for said last-named bearing portion, a pulley on said last-named bearing portion, a pulley on said tubular shaft and an endless belt taking around said pulleys, substantially as shown and described.

843,967. FEED-BAG. ALBERT M. SCHAPPA, Westfield, Mass. Filed Oct. 26, 1906. Serial No. 340,664.

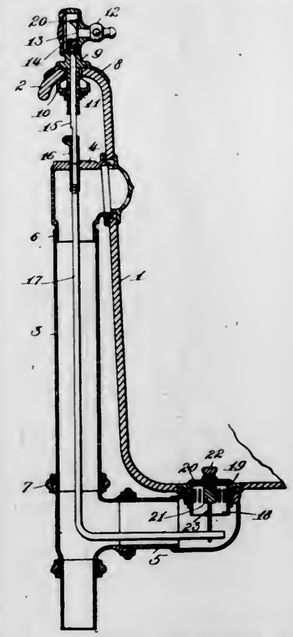


Claim.—1. The combination with feed-bag and supporting-cord therefor, of a headstall attachment including headstall-straps and right-angled plates formed with pockets at their outer ends, said pockets adapted to receive the ends of the headstall-straps, and right-angled clamping-plates secured to said plates and adapted to clamp the ends of said straps in said pockets and provide a support for the bag, substantially as described.

2. The combination with feed-bag and supporting-cord therefor, of a headstall attachment including headstall-straps, and right-angled plates having pockets arranged at their outer ends to receive the ends of the said headstall-straps, said plates also formed with a conical boss, and clamping-plates having arms entering said pockets means for securing said plates so as to clamp the headstall-straps thereto, said clamping-plates also formed with a boss in line with the boss on the first plate, the two bosses forming a runway for the bag-supporting cord, substantially as described.

3. The combination with feed-bag and supporting-cord therefor, of a headstall attachment including headstall-straps, and angle-plates having pockets arranged at their outer ends to receive the ends of the said headstall-straps, said plates also formed with an inwardly-extending conical boss and with an inwardly-extending stud having a reduced end, and clamping-plates having arms entering said pockets means for securing said plates together so as to clamp the headstall-straps thereto, said clamping-plates also formed with a boss in line with the boss on the first plates, the two bosses forming a runway for the bag-supporting cord, said clamping-plates also formed with perforations adapted to pass over the reduced end of the studs, substantially as described.

843,968. BATH-TUB WASTE-FITTING. JOSEPH W. SHARP, Jr., Philadelphia, Pa., assignor to Haines, Jones & Cadbury Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Mar. 19, 1906. Serial No. 306,830.



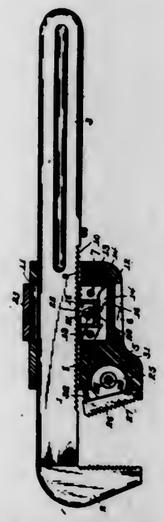
Claim.—1. A waste-fitting for bath-tubs and the like, comprising a closed waste-pipe adapted to be removably attached to a tub-wall, and having a vertical limb and two horizontal limbs connected, respectively, with bottom and overflow openings of the tub; a plug for said bottom opening; an L-shaped plug-lifting rod traversing the lower horizontal and vertical limbs of said waste-pipe and projecting through the closed top thereof; a rod-operating device mounted on the rim of the tub; and an adjustable connection between said operating device and said projecting lifting-rod, located between the tub-rim and the top of the waste-pipe in open and accessible position.

2. In combination with a rolled-rim tub; a waste-pipe lying within the overhang of the rim and having bottom

and overflow connections with said tub; a bottom plug; an L-shaped plug-lifting rod traversing said waste-pipe and projecting from the top thereof; a rod-operating device mounted on the tub-rim and depending therethrough; and an adjustable connection between said device and said rod, located between the tub-rim and the top of the waste-pipe in open and accessible position.

3. In combination with a rolled-rim tub, a waste-pipe lying within the overhang of the rim and having bottom and overflow connections with said tub; a bottom plug; an L-shaped plug-lifting rod traversing said waste-pipe and projecting from the top thereof; a supporting plate or scutcheon mounted on the tub-rim; rod-operating instrumentalities secured on said scutcheon and depending through said rim; and an adjustable connection between said rod and said operating instrumentalities, located between the tub-rim and the top of the waste-pipe in open and accessible position.

843,969. NUT AND PIPE WRENCH. HUSTEAD B. SHAVER, Flemington, W. Va., assignor of one-half to John W. Davidson, Flemington, W. Va. Filed July 11, 1906. Serial No. 325,642.



Claim.—1. In a wrench, the combination with a rack-bar, of a sliding jaw carried by said rack-bar, a spring-pressed detent carried by the jaw and coöperatively engaging the rack-bar, said detent being provided with a recess intermediate its ends constituting two rack-engaging portions, one at each end of said detent, a second detent mounted in said recess, the teeth of said detents being arranged so that but one of the detents at a time is in clutching engagement with the teeth of the rack-bar, the other detent being partially withdrawn therefrom, and a stirrup operatively connected with said detents whereby, when the former is depressed, the latter are removed from engagement with the rack-bar.

2. A wrench comprising a coarse-toothed rack-bar having an integral jaw, a jaw slidable upon said rack-bar, a spring-controlled detent vertically movable in a chamber provided in said movable jaw, said detent having a recess therein intermediate its ends constituting two separate rack-engaging portions a second spring-controlled detent mounted and vertically movable in said recess, each detent having coarse teeth corresponding with the teeth of the rack-bar, said detents being adapted to ride on the face of the rack-bar as moved forward thereon and having their teeth relatively arranged so that they alternately fall into clutching engagement with the rack-bar, and means whereby said detents may be simultaneously disengaged from the rack-bar.

3. A wrench comprising a coarse-toothed shank having a fixed jaw, a jaw slidably mounted on the shank, a series of spring-pressed detents within the movable jaw, each detent being vertically movable and having teeth spaced to correspond with the teeth of the shank, said detents working independent of each other to operatively engage the teeth of the shank one at a time, and a stirrup having direct separate and independent connections with said detents whereby pressure applied to its head simultaneously removes all the detents from engagement with the shank.

4. A wrench comprising a coarse-toothed shank having a fixed jaw, a jaw slidably mounted on the shank, said movable jaw comprising a body having a shankway therethrough, a tailpiece carried by said body, a lug having a shankway therethrough connected with said tailpiece, a stirrup vertically movable over the shank between said body and said lug, and spring-pressed detents mounted over said tailpiece between the body and the lug and inclosed by the members of the stirrup, each of said detents being bifurcated constituting two separate shank-engaging portions, detents mounted upon the first-mentioned detents in the bifurcations thereof, all of said detents being normally held in engagement with the toothed face of the shank, the teeth of said detents being so arranged that but one of the detents at a time is in clutching engagement with the shank, and connections between the stirrup and said detents whereby when the stirrup is depressed the detents are simultaneously disengaged from the shank said connections normally admitting of free and independent vertical movement in each of said detents.

5. A wrench comprising a toothed shank, a sliding jaw on said shank and having a chamber therein, a series of spring-pressed detents arranged to be vertically movable in said chamber parallel to the shankway, said detents being provided with teeth spaced to correspond with the teeth of the shank, the teeth of the different detents being staggered relatively to each other, one set of said detents being recessed intermediate their ends constituting in each detent two separate rack-engaging portions, and the remaining detents being mounted in the recesses of the detents composing the set, a stirrup embracing said shank intermediate the ends of said movable jaw and having connections with said detents whereby, when pressure is applied thereto, the detents are simultaneously disengaged from the shank, said connections admitting of a freedom of vertical movement in said detents.

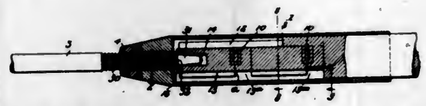
6. A wrench comprising a toothed shank, a fixed jaw carried by said shank, a movable jaw upon said shank, parallel spring-pressed detents independently carried by said movable jaw, each of said detents being substantially of one-half the width of the shank and each being bifurcated, constituting two separate shank-engaging portions freely movable toward and away from the shank, the teeth of said detents being so arranged that the teeth of but one detent is in perfect engagement with the teeth of the rack at a time, said detents having transverse apertures therethrough, a detent mounted in the bifurcations of the first-mentioned detents, a stirrup embracing said detents on opposite sides thereof, pins projected through the apertures in said detents and rigidly mounted in the opposite members of said stirrup, said pins being relatively smaller in diameter than the apertures in the detents and constituting connections whereby a depression of the stirrup disengages said detents and whereby the latter normally stand independent of the stirrup.

7. In a wrench, a shank carrying a fixed jaw, a movable jaw on said shank, clutching means carried by said movable jaw, a shouldered recess in the face of the movable jaw, a rocking jaw member having a lug integral therewith, said lug being mounted in said recess, a washer mounted upon the shoulder in said recess, a pin projected through said washer and lug for retaining them in place, said lug having an enlarged aperture through which said pin passes whereby a strain upon the rocking jaw member is prevented from being communicated to said pin.

843,970. HANDLE-FASTENING MEANS. WILLIAM D. STANCIL and JOHN H. NUNNELEE, Doniphan, Mo. Filed Mar. 19, 1906. Serial No. 306,811.

Claim.—1. A fastener device of the character described, comprising a socket having a means for interlocking with the handle, a threaded shank adjustably mounted in the socket having a portion adapted to engage the handle whereby to shift it and hold it to its locked engagement with the socket.

2. In a fastener means of the character stated, a socket having a member for interlocking with the handle, a threaded aperture in its outer end and a threaded implement-carrying shank movable in the socket aperture and adapted to engage and clamp the handle whereby to fixedly hold it interlocked with the socket, as set forth.

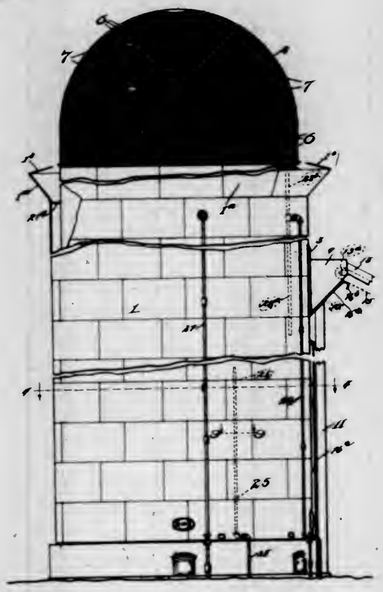


3. The combination with the socket having a threaded aperture in its lower end, a handle, a socket having an internal lug and a handle having a longitudinal groove, a transverse groove that merges with the longitudinal groove, and provided with shoulders at the mouth of the transverse groove; of a threaded shank movable in the threaded portion of the socket, adapted to engage the handle whereby to shift it in the socket, substantially as shown and described.

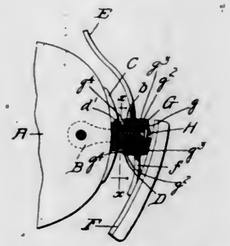
4. The hereinbefore-described improvement in handle-fastener means, which comprises in combination a socket having a threaded aperture in its lower end and a longitudinal locking-lug, a threaded shank movable through the threaded aperture in the socket, said shank having a reduced end and a shoulder at such end, and a handle having a longitudinal groove and a transverse groove that merges with the longitudinal groove, said transverse groove having a seat portion at the forward side, said handle also having a socket at its front end to receive the forward end of the shank and a jam-nut on the shank, all being arranged substantially as shown and described whereby when the handle is turned so its transverse groove receives the socket-lug, the fitting in of the shank will shift the handle to bring the socket-lug to engage the seat in the transverse groove in the handle, for the purposes described.

5. The combination with a handle having a bayonet-groove, and a socket having a lug to interlock with the bayonet-groove in the handle, said socket also having a threaded aperture in its end; of a threaded shank for engaging with said aperture and the lower end of the handle and means for holding the shank to its adjusted positions, as set forth.

843,971.



843,972. EYEGLASS CONNECTION. SAMUEL N. STONE, Attleboro, Mass. Filed Aug. 14, 1906. Serial No. 330,602.



Claim.—1. In an eyeglass connection, the combination with a post having a head, of a box having a closed top and two opposite continuous side walls and two opposite side walls having corresponding openings, the bottom of said box being open, the said box being arranged to inclose the head of the post and the bottom edges of the box being turned inwardly beneath said head, a bow-spring and a nose-guard having ends passed one on the other through the openings in the said walls of the box, and a screw passing through the top of the box and through said bow-spring and nose-guard and into the post whereby the parts are clamped together, substantially as described.

2. In an eyeglass connection, the combination with a post having a head having lugs provided with exterior inclined surfaces, of a box having a closed top and two opposite continuous side walls having interior inclined surfaces and two opposite side walls having corresponding openings, the bottom of said box being open, the said box being arranged to inclose the head of the post and the bottom edges of the box being turned inwardly beneath said head, a bow-spring and a nose-guard having ends passed one on the other through the openings in the side walls of the box, and a screw passing through the top of the box and through said bow-spring and nose-guard and into the post whereby the parts are clamped together, the inclined surfaces of the box engaging the inclines of said lugs and

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843,973. REFUSE-BURNER. CLIFTON D. STEVENS, Muskegon, Mich. Filed Nov. 24, 1905. Serial No. 288,945.

Claim.—1. An incinerating-furnace comprising inner and outer spaced walls, a radially-projecting circumferential flange secured to the periphery of the inner wall and provided with a plurality of apertures, braces secured to the inner face of the outer wall, said braces being provided with a slot in the free end thereof, each of said slots being adapted to register with an aperture in the flange, and a bolt passing through the registering apertures.

2. An incinerating-furnace comprising inner and outer spaced walls, a radially-projecting circumferential flange secured to the periphery of one wall, and braces secured to the inner face of the other wall, the free ends of said braces being slidably connected with the flange.

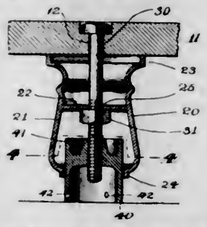
3. An incinerating-furnace comprising spaced concentric walls, forming a water-space, a vertical water-supply pipe within the space and provided with a plurality of oppositely-disposed radial openings, arranged to discharge the water radially into the space and substantially parallel with the walls thereof.

pressing the lugs inwardly against the nose-guard and bow-spring, substantially as described.

3. In an eyeglass connection, the combination with a lens-clamp having a threaded sleeve, of a crescent or edge brace and hollow post, the said crescent having a transverse recess at the base of the post, the said clamp engaging said recess and the sleeve of the clamp being inserted into the hollow of the post, the said post having a head, a box having a closed top and two opposite continuous side walls and two opposite side walls having corresponding openings, the bottom of said box being open, the said box being arranged to inclose the head of the post and the bottom edges of the box being turned inwardly beneath said head, a bow-spring and a nose-guard having ends passed one on the other through the openings in the side walls of the box, and a screw passing through the top of the box and through said bow-spring and nose-guard and into the sleeve of said clamp whereby the parts are clamped together, substantially as described.

4. In an eyeglass connection, the combination with a lens-clamp having a threaded sleeve, of a crescent or edge brace and hollow post, the said crescent having a transverse recess at the base of the post, the said clamp engaging said recess and the sleeve of the clamp being inserted into the hollow of the post, the said post having a head, a box having a closed top and two opposite continuous side walls having interior inclined surfaces and two opposite side walls having corresponding openings, the bottom of said box being open, the said box being arranged to inclose the head of the post and the bottom edges of the box being turned inwardly beneath said head, a bow-spring and a nose-guard having ends passed one on the other through the openings in the side walls of the box, and a screw passing through the top of the box and through said bow-spring and nose-guard and into the sleeve of said clamp whereby the parts are clamped together, the inclined surfaces of the box engaging the inclines of said lugs and pressing the lugs inwardly against the nose-guard and bow-spring, substantially as described.

843,973. ADJUSTABLE LEG FOR SHOW-CASES AND THE LIKE. JOSEPH TAUSSIG, Chicago, Ill. Filed Aug. 23, 1906. Serial No. 331,716.

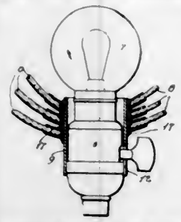


Claim.—1. In a device of the class described, the combination with a hollow casing or leg having a perforated web, of a bolt having an integral head, a nut threaded upon the bolt and adapted to be screwed up upon the bolt and against the web to clamp the object to be supported between the head of the bolt and the top of the leg, and a foot threaded upon the bolt and extending through the lower end of the casing.

2. In a device of the class described, the combination with casing having a perforated web and a cylindrical opening in its lower end and somewhat removed from the web, of a connecting-bolt, a nut threaded upon said bolt and forming a shoulder upon which the web rests, and a foot threaded upon said bolt beyond the nut and fitted to said opening and having a portion extending beyond the casing.

3. In a device of the class described, the combination with a casing or leg having a central perforated web and an opening in its lower end, of a connecting-bolt arranged to connect the leg to the object to be supported, a nut threaded upon the bolt and forming a shoulder upon which the web rests, a cylindrical foot threaded upon the bolt having a portion fitted to the opening in the lower end of the casing and formed with means for engagement by a suitable tool whereby its rotation may be effected to raise and lower the bolt upon the same.

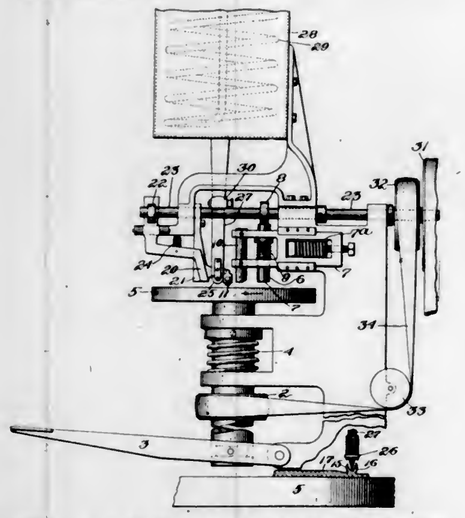
843,974. LAMP-SHADE. FRANK THIEDIO, Chicago, Ill. Filed Aug. 16, 1906. Serial No. 330,865.



Claim.—1. The combination with a support, and a glass shade-section having projecting lugs at the base thereof, of a metal clamp secured to the support and having arms bent around the shade-section above the lugs.

2. The combination with a support, and a glass shade-section having projecting lugs at the base, of a metal clamp soldered to the support and having arms embracing the shade-section above the lugs, and a slotted portion to which the solder is applied.

843,975. MACHINE FOR MAKING INNERSOLES. ANDREW THOMA, Cambridge, Mass. Filed May 17, 1905. Serial No. 260,761.



Claim.—1. In an innersole-forming machine, the combination with means for upturning the contiguous lips, feeding mechanism, and automatic means for cementing said upturned lips together as they are being fed.

2. In an innersole-forming machine, the combination with means for upturning the opposite lips, and means for pressing said lips together, of mechanism for applying cement in the lip-channel between said two means.

3. In an innersole-forming machine, feeding mechanism, means for pressing together the upturned lips of the innersole, and mechanism for applying cement in the lip-channel as the feeding mechanism delivers the same to be pressed.

4. In an innersole-forming machine, feeding mechanism, means for pressing together the upturned lips of the innersole, cement-heating means, and mechanism for applying the hot cement in the lip-channel as the feeding mechanism delivers the same to be pressed.

5. In an innersole-forming machine, feeding mechanism, means for pressing together the upturned lips of the innersole, and mechanism for applying cement in the lip-channel as the feeding mechanism delivers the same to be pressed, said applying mechanism including means for spreading the cement on the contiguous walls of the lips.

6. In an innersole-forming machine, feeding mechanism, means for pressing together the upturned lips of the innersole, and mechanism for applying cement in the lip-channel as the feeding mechanism delivers the same to be pressed, including wedging means for holding said lips apart for receiving said cement.

7. In an innersole-forming machine, feeding mechanism, means for pressing together the upturned lips of the innersole, and mechanism for applying cement in the lip-channel as the feeding mechanism delivers the same to be pressed, including means for maintaining the channel open and delivering the cement at the rear thereof.

8. In an innersole-forming machine, feeding mechanism, means for pressing together the upturned lips of the innersole, and mechanism for applying cement in the lip-channel as the feeding mechanism delivers the same to be pressed, including a small cement-delivering roller traveling in said channel.

9. The combination with an innersole-lip-channel-forming mechanism, of means for applying cement to the channel-surface only.

10. The combination with pressing means for joining together two narrow leather surfaces, of automatic mechanism for applying cement to said two surfaces to be joined, including means for restricting the cement to said narrow surfaces.

11. The combination with pressing means for joining together two narrow leather surfaces, of automatic mechanism for applying cement to said two surfaces to be joined, including means for heating said cement before application.

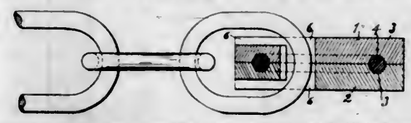
843,976. BOILER-FLUE CLEANER. JAMES P. THOMPSON, Hagan, Georgia. Filed Apr. 12, 1906. Serial No. 311,350.



Claim.—The herein-described boiler-flue cleaner consisting essentially of a flat stock of greater width than thickness having longitudinal flanges extending laterally in opposite directions from its side edges, resilient blades arranged against opposite sides of the intermediate portion of the stock and occupying the spaces between the flanges of the stock and having blades at their forward ends extending outward at right angles to their main portions; one of said blades also having a threaded aperture at an intermediate point of its length, means extending through one of the blades, the intermediate portion of the stock and the other blade in the order named and connecting the blades to the stock, a screw bearing in the threaded aperture of one blade and arranged with its inner end against the inner side of the other blade and having its outer end flattened to form a finger-piece, and a wing-nut mounted on the said screw between the outer side of the blade in which the screw bears and the outer flat end of the screw.

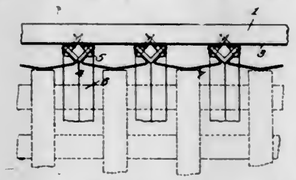
843,977. CHAIN-CASTING MOLD. JOHN TRAUM, Walhonding, Ohio. Filed July 30, 1906. Serial No. 328,303.

Claim.—A chain-casting mold, consisting of a pair of mold-blocks inclosing a link-forming groove, a transverse link-opening notch or recess formed in the sides thereof and terminating within said link-forming groove near the center of said mold-blocks, a longitudinally-extending way offset from said link-opening notch or recess and extending from the outer edges of said blocks to a point intermediate the termination of said notch or recess and said link-forming groove, and auxiliary companion blocks slidably mounted in said longitudinally-extending slot and



inclosing a groove forming a part of said link-forming groove, said blocks being adapted to be inserted in and removed from said way when the main blocks are in their closed position.

843,978. REFRIGERATOR. FRANK C. TROTTER, Rochester, N. Y. Filed Feb. 3, 1905. Serial No. 243,922.



Claim.—1. In a refrigerator, the combination with the ice-chamber having the inclosing walls, of a series of grooved members secured rigidly to the walls of the ice-chamber and forming vertical flues, and casings clamped against the chamber-walls by the spaced members and inclosing the spaces between said members.

2. In a refrigerator, the combination with the ice-chamber having the substantially vertical walls, of a series of grooved spaced members arranged and secured upon the walls of the ice-chamber and forming flues, and separate casings having their vertical edges secured by the spaced members and inclosing the spaces between the said members, the said members and casings forming a substantially continuous air-space around the walls of the ice-chamber.

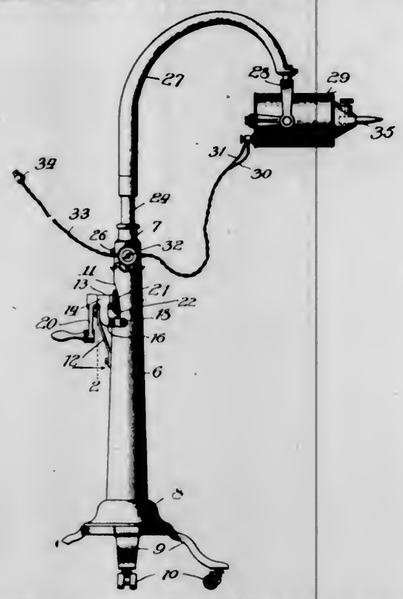
3. In a refrigerator, the combination with an ice-chamber having substantially vertical walls, of a series of spaced angle-iron members secured in vertical arrangement on said walls in positions to sustain the blows of the ice in said chamber, the apexes of said members projecting inwardly and a series of flue-casings arranged alternately between said members having their vertical edges securely clamped against the said walls by the adjacent members, and having portions inclosing the spaces between the said members to form vertical flues.

4. In a refrigerator, the combination with an ice-chamber provided with suitable inclosing walls, of a series of spaced rigid members secured in vertical arrangement on the walls of the ice-chamber, and vertically-extending flue-casings inclosing the spaces between said members, each casing having its sides clamped between the adjacent members and the chamber-walls to secure the casings in position.

5. In a refrigerator, the combination with an ice-chamber having vertically-extending walls inclosing it, of a series of longitudinally-grooved members having vertically-extending portions secured to opposite walls of the ice-chamber, and having intermediate portions extending across the chamber to form an ice-support, and a series of casings extending from a point adjacent to the tops of said members to a point near the ice-support and forming a set of separate air-flues inclosing the spaces between said members.

6. In a refrigerator, the combination with the ice-chamber, of a series of spaced members secured to the walls thereof, and a casing forming a flue between the said members comprising an inner wall extending between the members, the outwardly-extending sides and the attaching ends forming continuations of the sides and extending beneath the said members for securing the casing in position.

843,979. SURGICAL EYE-MAGNET APPLIANCE. JULIUS B. WANTZ, Chicago, Ill., assignor to Victor Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Nov. 24, 1906. Serial No. 344,830.



Claim.—1. In a surgical eye-magnet appliance, the combination of a standard, a threaded magnet-carrier working in the standard, gear mechanism engaging with the threaded carrier for raising and lowering it, and an electromagnet adjustably supported on said carrier, for the purpose set forth.

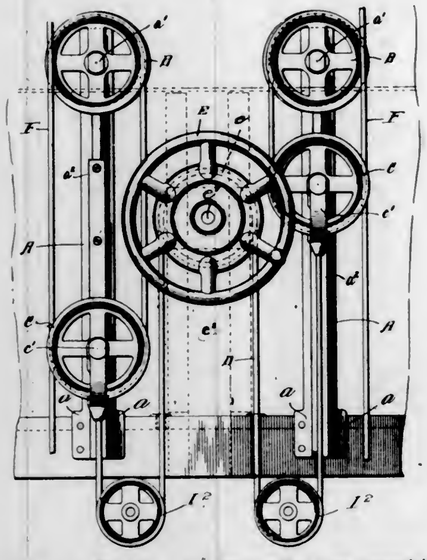
2. In a surgical eye-magnet appliance, the combination of a standard, a threaded magnet-carrier non-rotatably working in said standard, gear mechanism engaging with the threaded carrier for raising and lowering it, and an electromagnet adjustably suspended on said carrier, for the purpose set forth.

3. In a surgical eye-magnet appliance, the combination of a portable standard, a bracket on the standard having journaled in it a shaft carrying on its outer end an operating-handle and on its inner end a miter-gear, a second miter-gear journaled on said bracket to mesh with said first-named gear and screw-threaded internally, a magnet-carrier comprising a threaded post passing through said threaded gear to engage with the threads of the latter, and confined against rotation, an extension on the upper end of the post, and an electromagnet adjustably supported on said extension, for the purpose set forth.

4. In a surgical eye-magnet appliance, the combination of a portable hollow standard containing an opening, a bracket on the standard having journaled in it a shaft carrying on its outer end an operating-handle and on its inner end a miter-gear, a second miter-gear journaled on said bracket within the standard to mesh with said first-named gear and screw-threaded internally, a magnet-carrier comprising a threaded post passing through said threaded gear to engage with the threads of the latter, and confined against rotation, an extension on the upper end of the post, and an electromagnet adjustably supported on said extension, for the purpose set forth.

5. In a surgical eye-magnet appliance, the combination of a hollow standard on a base provided with caster-equipped feet and terminating at its upper end in a neck portion, a bracket on said standard having journaled in it a shaft carrying on its outer end an operating-handle and on its inner end a miter-gear, a second miter-gear journaled on said bracket within the standard to mesh with said first-named gear and screw-threaded internally, a magnet-carrier comprising a screw-threaded post passing through said threaded gear to engage with the threads of the latter, and confined against rotation, a gooseneck extension on the upper end of the post, and an electromagnet adjustably suspended on the end of said extension, for the purpose set forth.

843,980. CONTROLLING APPARATUS FOR ELEVATORS. JOHN J. WESTBROOK, Danville, Va. Filed May 18, 1906. Serial No. 317,609.



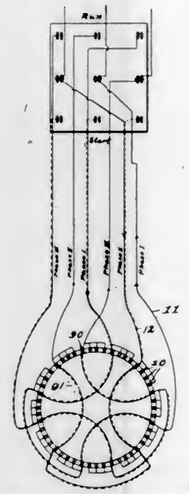
Claim.—1. Elevator controlling apparatus comprising among its members two separate and independent track-stands, a stationary sheave mounted on each of said stands, a movable sheave mounted on each of said stands and capable of movement toward and from the stationary sheave, a hand-operated controlling device separate from said track-stands, and mechanism operatively connecting said hand-operated controlling mechanism to said movable sheaves whereby said track-stands and controlling mechanism may be secured to the elevator-car on the same or different sides of the car, substantially as described.

2. Elevator controlling apparatus comprising among its members, two separate and independent track-stands, each provided with a longitudinal dovetailed guide, and means for attaching the track-stand to the elevator-car, a stationary sheave mounted on each of said track-stands in line with its longitudinal guide, a slide mounted on each of said guides, a movable sheave mounted on each of said slides, a separate hand-wheel, an operating-wheel operatively connected therewith, means separate from the track-stands for supporting said hand-wheel and operating-wheel, and operative connections between said operating-wheel and the said movable sheaves, whereby said track-stands and the hand-wheel and operating-wheel may be secured to the same or different sides of the elevator-car, substantially as described.

3. In an elevator controlling mechanism, the combination with two separate and independent track-stands, of a stationary sheave mounted on each track-stand, a movable sheave slidingly mounted on each track-stand and capable of moving toward and from the stationary sheave thereof, one of said sheaves of each track-stand being set at an angle to the other, a controlling-rope connected with the elevator mechanism and engaging the stationary and movable sheaves, a hand-operated controlling device, means for securing the same to the car independent of said track-stands and operative connections between said hand-operated controlling device and said movable sheaves, substantially as described.

4. In an elevator controlling mechanism, the combination with two independent track-stands each provided with means for attaching it to a car, a bearing-stud secured to each of said track-stands and inclined to the face of the same, a longitudinal rib on each of said track-stands in line with one of said studs, and a plate of greater width than said ribs, secured to each of the same to form a dovetailed guide, of a fixed sheave mounted on the inclined stud of each of said track-stands, a sliding sheave on each of said track-stands having provision for engaging the dovetailed guide thereof, a controlling-rope engaging said fixed and sliding sheaves, a hand-wheel, a supporting-plate for said hand-wheel having means for attaching it to a car independently of said track-stands, an operating-wheel connected with said hand-wheel, and flexible connections between said operating-wheel and said sliding sheaves, substantially as described.

843,981. INDUCTION-MOTOR. EDWARD J. WILLIS, Richmond, Va. Filed Nov. 9, 1905. Serial No. 286,536.



Claim.—1. An induction-motor having a slotted stator running-coils of relatively large wire disposed within the slots of said stator, starting-coils of relatively small wire also disposed within the slots of said stator, and means for throwing said starting-coils into or out of series with the running-coils.

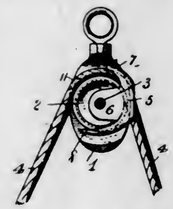
2. An induction-motor having a slotted stator, starting-coils disposed within the slots of said stator and at one end of said slots, running-coils similarly wound and disposed in the same manner within another portion of the said slots and at the opposite end thereof, and means for throwing the starting-coils into and out of circuit with the running-coils.

3. A polyphase induction-motor having a slotted stator, starting-coils disposed within a portion of the slots thereof, running-coils similarly wound and disposed in the same manner within another portion of the said slots and means for throwing the starting-coils into and out of circuit with the running-coils.

4. A polyphase induction-motor having a stator provided with slots therein extending outward from the central portion thereof, starting-coils disposed within the outer portion of said slots and running-coils similarly wound and disposed in the same manner within the inner portion of said slot.

5. A polyphase induction-motor having a stator provided with slots extending outward from the central portion thereof, starting-coils of relatively small wire disposed within the outer portion of said slots and running-coils of relatively large wire similarly wound and disposed in the same manner within the inner portion of said slots.

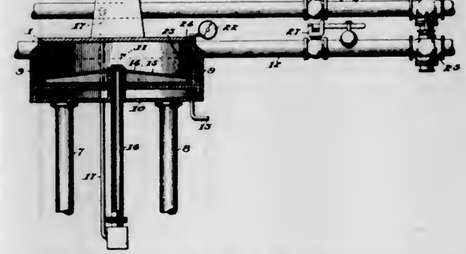
843,982. PULLEY-BLOCK. ERASTUS K. WOELFLY, Lebanon, Pa. Filed Sept. 27, 1906. Serial No. 336,496.



Claim.—1. A pulley provided with a metallic guard-plate having lugs for attachment to the pin or axle of the pulley, and extensions on opposite sides of said lugs, one of the extensions having an opening for the passage of the cord, and the other extension having a concave seat for the cord adjacent to the said opening.

2. A pulley-case, a pulley within said case, a pin or axle supporting the pulley, and a guard-plate having lugs connected to said pin, and having extensions on both sides of said lugs, the upper extension having an opening in a plane above the pin to guide the cord on the upper surface of the pulley and at a right angle to the plane of the vertical center of the pulley, a concave seat for the cord adjacent to said opening, and stops to limit the movement of the guard-plate.

843,983. PROCESS OF EXTRACTING OIL FROM OLEAGINOUS SEEDS. ROBERT S. WOODWARD, Jr., New York, N. Y. Filed June 16, 1906. Serial No. 321,985.



Claim.—1. The process of cooking oleaginous-seed meats, which consists in mixing with batches of air-dried meats having a predetermined moisture content, the amount of moisture, as indicated by the predetermined moisture content of the meats, which is required to produce in said batch of meats a fixed moisture content at the termination of a fixed cooking period and simultaneously indirectly supplying to the said meats for a fixed period, a heating medium maintained at a constant temperature, whereby the treatment of a plurality of separate batches of meats is absolutely uniform and the maximum yield of oil is obtainable therefrom, substantially as described.

2. The process of cooking oleaginous-seed meats, which consists in mixing with batches of air-dried meats having a predetermined moisture content, the amount of moisture, as indicated by the predetermined moisture content of the meats, which is required to produce in said batch of meats a fixed moisture content at the termination of a fixed cooking period and indirectly supplying to the said meats for a fixed period, a heating medium maintained at a constant temperature, whereby the treatment of a plurality of separate batches of meats is absolutely uniform

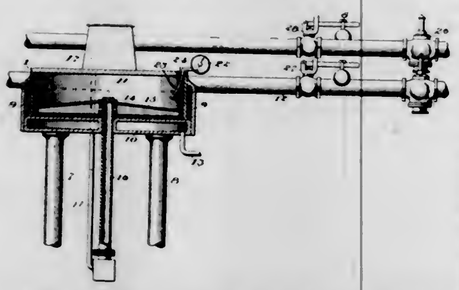
and the maximum yield of oil is obtainable therefrom, substantially as described.

3. The process of cooking oleaginous-seed meats, which consists in indirectly supplying to successive batches of meats during fixed periods a heating medium maintained at a constant temperature, simultaneously mixing with the meats a fixed amount of moisture, observing the time rate of increase in temperature of each batch, and regulating the amount of moisture supplied to a succeeding batch of meats upon any variation in the time rate aforesaid, said amount of moisture being determined by reference to the predetermined moisture content of the fresh meats to be treated, substantially as described.

4. In the process of cooking oleaginous-seed meats, the step which consists in intimately mixing with the meats a known quantity of superheated steam, whereby "balling" during the cooking is prevented, substantially as described.

5. In the process of cooking oleaginous-seed meats, the step which consists in intimately mixing with the meats, superheated steam, whereby "balling" during the cooking is prevented, substantially as described.

843,984. APPARATUS FOR EXTRACTING COTTON-OIL. ROBERT S. WOODWARD, Jr., New York, N. Y. Filed June 16, 1906. Serial No. 321,986.



Claim.—1. The combination of a battery of jacketed heaters, two steam-mains, independent connections between one main and the jacket of each heater, means provided with graduated stop-valves adapted to admit known amounts of steam during definite periods, independently connecting the interior of each heater with the other main, and a reducing-valve on each main, adapted to maintain the steam supplied to said heaters at an even pressure, substantially as described.

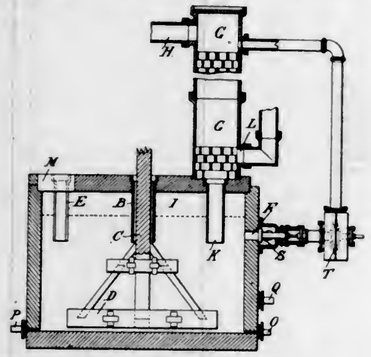
2. The combination of a battery of jacketed heaters, two steam-mains, independent connections between one main and the jacket of each heater, means, provided with graduated stop-valves adapted to admit known amounts of steam during definite periods, independently connecting the interior of each heater with the other main, a reducing-valve on each main, adapted to maintain the steam supplied to said heaters at an even pressure, and safety-valves on each main intermediate the said reducing-valves and the battery of heaters, substantially as described.

843,985. ENAMELING OR GLAZING METALLIC AND OTHER SURFACES. WILLIAM ATKINSON and JOSEPH SMITH, Bradford, England. Filed Oct. 6, 1906. Serial No. 337,776.

Claim.—1. A process of enameling or glazing metallic and other surfaces, characterized by the use of a flux comprising white opal cullet, bicarbonate of soda, and boracic acid, in suitable proportions, the said constituents being melted together in a furnace, run into water, pounded into powder, and ground with water into an impalpable paste.

2. A flux consisting of a mixture of white opal cullet, bicarbonate of soda, and boracic acid.

843,986. PROCESS FOR THE TREATMENT OF SULFID ORES. HARRY BAKER and ANDREW T. SMITH, Weston Point, England. Filed June 22, 1906. Serial No. 322,869.



Claim.—1. The process of treating sulfid ores which consists in submitting the ores to the action of chlorin, in the presence of water and a metal capable of forming both higher and lower chlorids, in such a manner as to form the higher chlorid which immediately reacts on the ore to form chlorids of the metals contained therein and is itself reduced to the lower chlorid, treating the solution in such a manner as to reconvert the lower chlorid into the higher chlorid without permitting free chlorin to come into contact with any sulfur which may have separated, again submitting the ore to the action of the regenerated solution and so on continuously until the desired metals are fully extracted from the ore.

2. The process of treating sulfid ores which consists in submitting the ores to the action of chlorin, in the presence of water and a metal capable of forming both higher and lower chlorids, in such a manner as to form the higher chlorid which immediately reacts on the ore to form chlorids of the metals contained therein and is itself reduced to the lower chlorid, removing the sulfur set free, treating the solution in such a manner as to reconvert the lower chlorid into the higher chlorid, again submitting the ore to the action of the regenerated solution and so on continuously until the desired metals are fully extracted from the ore.

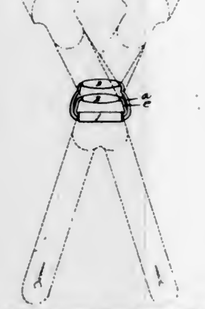
3. The process of treating sulfid ores which consists in submitting the ores to the action of chlorin, in the presence of water and a metal capable of forming both higher and lower chlorids, in such a manner as to form the higher chlorid which immediately reacts on the ore to form chlorids of the metals contained therein and is itself reduced to the lower chlorid, removing the sulfur set free, treating the solution in such a manner as to reconvert the lower chlorid into the higher chlorid, again submitting the ore to the action of the regenerated solution and so on continuously until the desired metals are fully extracted from the ore, treating the resultant chlorid product with a metal which will combine with chlorin as a soluble chlorid and throw down the metals previously existing as practically insoluble chlorids such as lead chlorid.

4. The process of treating sulfid ores which consists in submitting the ores to the action of chlorin, in the presence of water and a metal capable of forming both higher and lower chlorids, in such a manner as to form the higher chlorid which immediately reacts on the ore to form chlorids of the metals contained therein and is itself reduced to the lower chlorid, removing the sulfur set free with the lower chlorids, separating the sulfur therefrom and treating the solution in such a manner as to reconvert the lower chlorid into the higher chlorid, again submitting the ore to the action of the regenerated solution and so on continuously until the desired metals are fully extracted from the ore.

5. The process of treating sulfid ores which consists in submitting the ores to the action of chlorin, in the presence of water and a metal capable of forming both higher and lower chlorids, in such a manner as to form the higher chlorid which immediately reacts on the ore to form chlorids of the metals contained therein and is itself reduced to the lower chlorid, removing the sulfur set free with the lower chlorids, separating the sulfur therefrom and treating the solution in such a manner as to reconvert the lower chlorid into the higher chlorid, again submitting the ore to the action of the regenerated solution and so on continuously until the desired metals are fully extracted from the ore, treating the resultant chlorid product with a metal which will combine with chlorin as a soluble chlorid and throw down the metals previously existing as practically insoluble chlorids such as lead chlorid, then separating the metals thrown down by reconverting them into chlorid salts in the presence of but little water, separating the chlorid solution so produced from the practically insoluble salts and again but separately throwing down the metals from their chlorids by the addition of a metal having a greater affinity for chlorin.

6. The process of treating sulfid ores which consists in submitting the ores to the action of chlorin, in the presence of water and a metal capable of forming both higher and lower chlorids, in such a manner as to form the higher chlorid which immediately reacts on the ore to form chlorids of the metals contained therein and is itself reduced to the lower chlorid, removing the sulfur set free, treating the solution in such a manner as to reconvert the lower chlorid into the higher chlorid, again submitting the ore to the action of the regenerated solution and so on continuously until the desired metals are fully extracted from the ore, treating the resultant chlorid product with a metal which will combine with chlorin as a soluble chlorid and throw down the metals previously existing as practically insoluble chlorids such as lead chlorid.

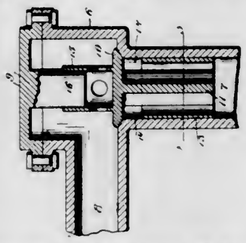
843,987. SUSPENDER-LINK. BYRON J. BALLIETT, Mansfield, Ohio. Filed Feb. 23, 1905. Serial No. 247,049.



Claim.—In an attachment for suspenders comprising a two-part link, one of said link parts adapted to swing within the other, both of said link parts having their ends turned inwardly parallel with each other, a hollow band to pivotally connect said link parts together to permit independent movement; said link parts having their upper portions formed straight to provide journals, both straight portions lying parallel with each other when in use, antifriction crown-rollers rotatably mounted upon said straight portions of said link parts.

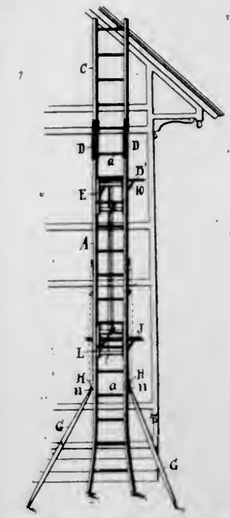
843,988. VALVE. THOMAS BARTON, Tamaqua, Pa. Filed Oct. 4, 1905. Serial No. 281,284.

Claim.—The combination with a valve-casing having a pipe terminating in a valve-seat and a cap having a depending plug, of a valve in the casing comprising a disk having extending from one side a cylinder fitting in said pipe and provided with lateral openings, and having extending from the other side a guide-tube fitting over the plug projecting from the casing, the tube and plug forming



a compression-chamber, substantially as and for the purpose described.

843,989. COMBINED LADDER AND SCAFFOLD. MARTIN BAUER, Cleveland, Ohio. Filed July 9, 1906. Serial No. 325,260.



Claim.—1. As a new article of manufacture, a ventilating-ferrule for the ends of the rounds of ladders.

2. As a new article of manufacture, a sectional ventilating-ferrule for the rounds of ladders provided with corrugations for circulation of air about the confined end of the round.

3. As a new article of manufacture, a ventilating-ferrule for the rounds of ladders having a flange portion about its inner end of a greater cross-section than the body of the ferrule and adapted to come on the inside of the ladder.

4. A ladder provided with ventilating-ferrules in the sides thereof and the rounds of the ladder locked in said ferrules.

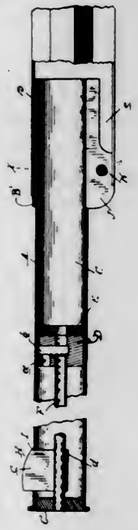
5. In a combined ladder and scaffold, a ladder and braces at the bottom thereof, eyebolts fixed in said ladder and hooks upon said braces, and said hooks and eyebolts constructed to disconnect the hooks at one side of said eyebolts.

6. In ladders, a ladder provided with bolts at its sides and lower portion, in combination with braces having hooks engaging the eyes of said bolts and constructed to be engaged and disengaged therewith, and lateral stops on said eyes to prevent the said hooks from turning into strained position therein.

7. In ladders, a ladder provided with eyebolts in its lower portion, in combination with braces hooked upon said bolts,

the eyes of said bolts having outward projections adapted to limit the turning of the hooks therein, thus preventing the said hooks from coming into locked and breaking relation with the said eyebolts.

843,990. AIR-GUN. FREDERICK F. BENNETT, Plymouth, Mich., assignor to Daisy Manufacturing Company, Plymouth, Mich., a Corporation of Michigan. Filed June 2, 1906. Serial No. 319,861.



Claim.—1. In an air-gun, the combination with a false barrel, of a separate air-compression cylinder telescopically engaging said false barrel, and a longitudinal anchoring-lug on said cylinder.

2. In an air-gun, a false barrel formed in two sections, a separate air-compression cylinder telescopically engaging one section of said false barrel, and a common clamping means for securing said sections and cylinder in fixed relationship.

3. In an air-gun, the outer casing formed in two sections, one corresponding in form to the true barrel and the other to the frame of a powder-gun, and a separate air-compression cylinder inclosed within the forward section of said outer casing at the junction of said sections.

4. In an air-gun, an air-compression cylinder, a true barrel permanently secured thereto, and a false barrel formed in two detachable sections detachably engaging the true barrel and cylinder.

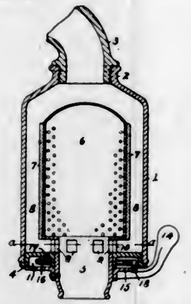
5. In an air-gun, a sight engaging a closed ended slot in the false barrel and having a shank sleeved upon the true barrel and free from the false barrel.

843,991. FILTER. WILLIAM BODGE, Brooklyn, N. Y. Filed Mar. 12, 1906. Serial No. 305,460.

Claim.—1. A filter provided with a valve for controlling the flow of liquid therethrough, means for closing said valve to permit the discharge of the filtered liquid and means for automatically opening said valve to cause the free discharge of the raw liquid for flushing the filter, substantially as set forth.

2. A filter comprising a casing having a raw-liquid inlet, a filtering-chamber mounted in said casing and provided with a filtrate-discharge, a valve-controlled raw-liquid outlet leading from the casing, and means for automatically actuating said valve to discharge the raw liquid, substantially as set forth.

3. A filter provided with a valve for controlling the flow of liquid therethrough, means for manually closing said valve to permit the discharge of the filtered liquid and means for automatically opening said valve to cause the free discharge of the raw liquid for flushing the filter, substantially as set forth.



4. A filter comprising a casing having a raw-liquid inlet, a filtering-chamber mounted in said casing and provided with a common discharge-nozzle for both the raw liquid and the filtrate, ports communicating between the interior of the casing and the discharge-nozzle, means for closing said ports and means for automatically opening said ports, substantially as set forth.

5. A filter provided with a common discharge for both the raw liquid and the filtrate, a valve therefor controlling the flow of the liquid therethrough, means for manually closing said valve to permit the discharge of the filtrate and means for automatically opening the valve to cause the free discharge of the raw liquid for flushing the filter, substantially as set forth.

6. A filter comprising a casing having a raw-liquid inlet, a filtering-chamber rotatably mounted in said casing and provided with a common discharge-nozzle for both the raw liquid and the filtrate, ports communicating between the interior of the casing and the discharge-nozzle, manually-operated means for rotating said filtering-chamber to close said ports, and automatically-operated means for rotating said filtering-chamber to open said ports, substantially as set forth.

7. In a filter, the combination with a filter-case provided with a raw-liquid inlet at the upper end thereof, of a screw-cap closing the lower end of said casing, a filtering-chamber mounted in said casing and provided with an outlet-nozzle for the discharge of both the raw liquid and the filtrate, a valve formed on the outlet-nozzle and seating in the screw-cap, means for manually closing said valve to permit the discharge of the filtrate and means for automatically opening said valve to cause the free discharge of the raw liquid for flushing the filter.

8. A filter comprising a casing having a raw-liquid inlet at one end thereof and a screw-cap closing the opposite end, a filtering-chamber rotatably mounted within said casing and provided with a common discharge-nozzle for both the raw liquid and the filtrate, said discharge-nozzle being journaled in said screw-cap and provided with ports communicating with the interior of the casing, projections formed on the screw-cap and adapted to cover said ports, and means for manually closing said ports, and automatic means for opening said ports, substantially as set forth.

9. In a filter, the combination of a casing, having an opening in one end thereof for the introduction of a filtering-chamber, a screw-cap detachably closing said opening, a filtering-chamber rotatably mounted within the casing and provided with a nozzle or neck journaled in said screw-cap and downwardly projecting therefrom, ports formed in said nozzle communicating with the interior of the casing, projections formed on the screw-cap to cover the ports, a handle exteriorly secured on said nozzle, and stops formed on the screw-cap to limit the movement of the handle for opening and closing the ports, substantially as set forth.

10. In a filter, the combination of a casing having an opening in one end thereof for the introduction of a filtering-chamber, a screw-cap detachably closing said opening, a filtering-chamber rotatably mounted within the casing and provided with a nozzle or neck journaled in said screw-cap and downwardly projecting therefrom, ports formed in said nozzle communicating with the interior of the casing, projections formed on the screw-cap to cover the ports, a handle exteriorly secured on said nozzle, and stops formed on the screw-cap to limit the movement of the handle for opening and closing the ports, substantially as set forth.

11. In a filter, the combination with a casing and a filtering-chamber rotatably mounted therein, of an actuating-lever secured to the filtering-chamber, limiting-stops secured to the casing and engaging the lever and a spring engaging the lever to normally contact it with one of said stops, substantially as set forth.

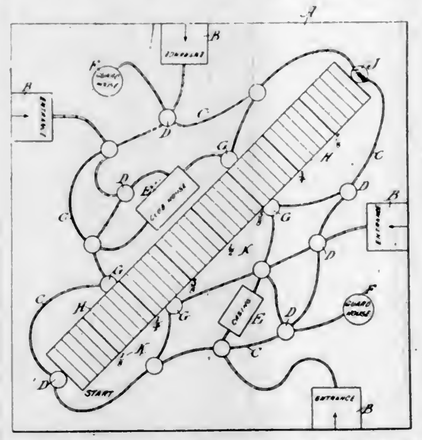
12. In a filter, a spring-actuated valve therefor normally retained in open relation to permit the free discharge of the raw liquid for flushing the filtering media, and means for closing said valve.

13. In a filter, a valve therefor provided with a spring for normally maintaining it in open relation for the passage of unfiltered water and manually-operated means for closing the same to permit the discharge of filtered water.

14. In a filter the combination with a casing, of a filtering-chamber mounted to turn therein, a common outlet-nozzle formed on said filtering-chamber for the alternate discharge of the filtered and unfiltered water, ports communicating between the interior of the casing and the outlet-nozzle for the discharge of the unfiltered water, manual means for turning said filtering-chamber to close said ports to permit the discharge of the filtered water, and automatic means for returning the filtering-chamber to open said ports to permit the free discharge of the unfiltered water.

15. In a filter the combination with a casing, of a filtering-chamber mounted to turn therein, a common outlet-nozzle formed on said filtering-chamber for the alternate discharge of the filtered and unfiltered water, ports communicating between the interior of the casing and the outlet-nozzle for the discharge of the unfiltered water, and means for turning said filtering-chamber to close said ports to permit the discharge of the filtered water, and automatic means for returning the filtering-chamber to open said ports to permit the free discharge of the unfiltered water.

843,992. GAME-BOARD. ARTHUR BOSWELL, Philadelphia, Pa. Filed June 14, 1906. Serial No. 321,646.

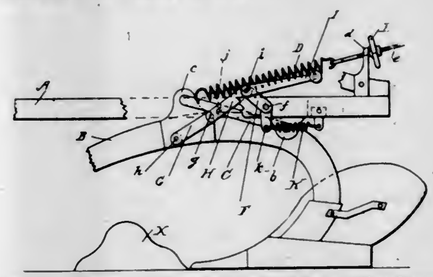


Claim.—1. A game-board comprising a field and roads, entrances, safeties at the crossings of the roads, a speedway extending diagonally across the field within said roads and safeties and guard-places thereon.

2. A game-board comprising a field and crossed roads, entrances, safeties at the crossings of the roads, a speedway extending across the field within said roads and safeties, and guard-places.

3. A game-board comprising a field and roads, entrances, safeties at the crossings of the roads, a speedway extending diagonally across the field within said roads and safeties and guard-places thereon in combination with chips adapted to have flags or markers removably supported thereon.

843,993. PLOW. MICHEAL J. BREEN, Rockford, Ill. Filed June 11, 1906. Serial No. 321,170.



Claim.—1. The combination, with a supporting-frame, and a plow-beam; of lifting mechanism provided with foldable toggle-links and pivotally connecting the said plow-beam with the said frame and permitting the plow-beam to rise and fall without folding the toggle-links when the plow passes over an obstruction, means for folding the said toggle-links at will, and a spring which raises the plow-beam when the said toggle-links are folded.

2. The combination, with a supporting-frame, and a plow-beam; of lifting mechanism comprising an arm, and a pair of toggle-links arranged diagonally of the said arm, said arm and toggle-links being pivotally connected with the said frame and plow-beam and permitting the plow-beam to rise and fall without folding the toggle-links when the plow passes over an obstruction, means for folding the said toggle-links at will, and a spring which raises the plow-beam when the said toggle-links are folded.

3. The combination, with a supporting-frame, and a plow-beam; of an arm pivoted between the said frame and plow-beam, a lifting-spring for the plow-beam connected to the said frame, a pair of toggle-links arranged diagonally of the said arm and pivotally connected with the said frame and plow-beam and permitting the plow-beam to rise and fall without folding the said toggle-links when the plow passes over an obstruction, means for depressing the said plow-beam automatically when the said toggle-links are not folded, and means for folding the said toggle-links at will and thereby causing the said lifting-spring to raise the plow-beam.

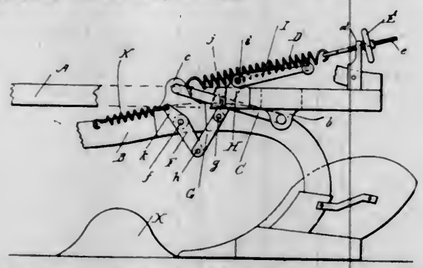
4. The combination, with a supporting-frame, and a plow-beam; of an arm pivoted between the said frame and plow-beam, a lifting-spring for the plow-beam connected to the said frame, a pair of toggle-links arranged diagonally of the said arm and pivoted at one end to the said plow-beam, an arm pivotally connecting the other end of the said toggle-links with the said frame, a return-spring operatively connected with the last said arm and with the said frame, and means for folding the said toggle-links at will.

5. The combination, with a supporting-frame, and a plow-beam; of an arm pivoted between the said frame and plow-beam, a lifting-spring for the plow-beam connected to the said frame, a pair of toggle-links arranged diagonally of the said arm and pivoted at one end to the said plow-beam, an arm having its lower end pivoted to the said frame and having its upper end pivoted to the other end of the said toggle-links, a return-spring secured to the upper end portion of the last said arm and to the said frame in front of the pivot of the last said arm, and means for folding the said toggle-links at will.

843,994. PLOW. MICHEAL J. BREEN, Rockford, Ill. Filed June 11, 1906. Serial No. 321,171.

Claim.—1. The combination, with a supporting-frame, and a plow-beam; of an arm pivoted between the said

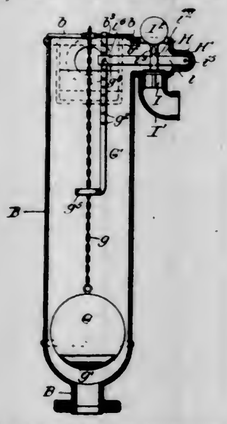
frame and plow-beam, a lifting-spring for the plow-beam connected to the said frame, a pair of toggle-links arranged diagonally of the said arm and pivoted at their upper end to the said frame, a yieldable spring connection between the lower end of the said toggle-links and the said plow-beam, said arm and toggle-links permitting the plow-beam to rise and fall without folding the toggle-links when the plow passes over an obstruction, and means for folding the said toggle-links at will and thereby causing the said lifting-spring to raise the plow-beam.



2. The combination, with a supporting-frame, and a plow-beam; of an arm pivoted between the said frame and plow-beam, a lifting-spring for the plow-beam connected to the said frame, a pair of toggle-links arranged diagonally of the said arm and pivoted at their upper end to the said frame, an arm pivotally connecting the lower end of the said toggle-links with the said plow-beam, a return-spring operatively connected with the last said arm and with the said plow-beam, and means for folding the said toggle-links at will.

3. The combination, with a supporting-frame, and a plow-beam; of an arm pivoted between the said frame and plow-beam, a lifting-spring for the plow-beam connected to the said frame, a pair of toggle-links arranged diagonally of the said arm and pivoted at their upper end to the said frame, an arm pivotally connecting the lower end of the said toggle-links with the said plow-beam and projecting downwardly and rearwardly from its pivot and provided with a lug or extension on the front side of its pivot, a return-spring connected to the said lug and to the said plow-beam in front of the last said arm, and means for folding the said toggle-links at will.

843,995. RECEIVER FOR VAPOR HEATING SYSTEMS. ALBERT P. BROOMELL, York, Pa., assignor to Vapor Heating Company, York, Pa., a Corporation of Pennsylvania. Filed May 26, 1906. Serial No. 318,858.



Claim.—1. In a steam-heating apparatus, a receiver for the water of condensation from the radiators, a connection at the upper end of the receiver for the return water, a connection at the lower end of the receiver for returning the water to the boiler, a damper-actuating float in the receiver, a relief-valve chamber at one side of and opening into the upper end of the receiver, and having a connection for the steam-space of the boiler, a relief-valve in the said chamber, and a lever for lifting the valve extending into the receiver for operation by said float.

2. In a steam-heating apparatus, a receiver for the water of condensation from the radiators, a connection at the upper end of the receiver for the return water, a connection at the lower end of the receiver for returning the water to the boiler, a damper-actuating float in the receiver, a relief-valve chamber opening into the upper end of the receiver and having a connection with the steam-space of the boiler, a relief-valve in the chamber, a lever for lifting the valve, and a rod depending from the lever into the path of the said float.

3. In a steam-heating apparatus, a receiver for the water of condensation from the radiators, a connection at the upper end of the receiver for the return water, a connection at the lower end of the receiver for returning the water to the boiler, a float in the receiver provided with an upwardly-extending damper-actuating chain, a relief-valve chamber opening into the upper end of the receiver, and having a connection for the steam-space of the boiler, a relief-valve in the chamber, a weight secured to the upper side of the valve, and a lever connected to the valve and extending into the receiver for operation by the float.

4. In a steam-heating apparatus, a receiver for the water of condensation from the radiators, a connection at the upper end of the receiver for the return water, a connection at the lower end of the receiver for returning the water to the boiler, a float in the receiver having a damper-actuating chain, a relief-valve having a connection for the steam-space of the boiler, and provided with an operating-lever extending into the receiver, an adjustable rod depending from the inner end of the lever, and having an abutment at its lower end in the upward path of the float.

5. In a steam-heating apparatus, a receiver for the water of condensation from the radiators, a connection at the upper end of the receiver for the return water, a connection at the lower end of the receiver for returning the water to the boiler, a damper-actuating float in the receiver, a relief-valve chamber opening into the upper end of the receiver and open at its top and bottom, an elbow-coupling to connect with the steam-space of the boiler, and entering the lower open side of said chamber, means for securing said elbow to the chamber, a relief-valve seating on the upper end of the elbow, a lever in the chamber connected to said valve and at its free end entering the receiver in operative relation to the float.

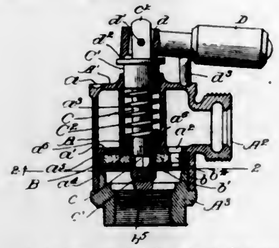
6. In a steam-heating apparatus, a receiver for the water of condensation from the radiators, having a trap-chamber at its upper end, a return-pipe connection for said chamber, a vent-pipe connection for the top of said chamber, a connection from the lower end of the receiver to return the water to the boiler, a float in the receiver having a damper-actuating chain and weighted at its lower end to keep the chain connection on top, a relief-valve having a boiler connection and a valve-operating lever entering the receiver for operation by the float.

7. The combination with the relief valve-chamber having a seat at its lower end and open at its top and side, of a valve seated on the said seat and provided with a weighted extension extending up through the top opening and an actuating-lever removably connected to the valve, whereby on removing the lever the valve may be rotated on its seat by means of its projecting extension.

8. In a steam-heating apparatus, a receiver for the water of condensation from the radiators, a connection at the upper end of the receiver for the return water, a connection at the lower end of the receiver for returning the water to the boiler, a damper-actuating float in the receiver, a relief-valve for the steam-space of the boiler, a lever extending from the valve into the receiver, a vertically-adjustable rod depending from the inner end of the lever and having a lateral abutment at its lower end in the path of the float.

9. In a steam-heating apparatus, a receiver for the water of condensation from the radiators, a connection at the upper end of the receiver for the return water, a connection at the lower end of the receiver for returning the water to the boiler, a guide-frame or spider on the upper open end of the receiver, and having an interlocking connection therewith, a damper-actuating float in the receiver, a relief-valve connected with the steam-space of the boiler, a lever for lifting the valve extending into the receiver, a vertical rod adjustably connected to said lever, guided at its upper end in the guide-frame, or spider, and having a ring-like abutment at its lower end in the path of the float.

843,996. VALVE FOR HEATING SYSTEMS. ALBERT P. BROOMELL, York, Pa., assignor to Vapor Heating Company, York, Pa., a Corporation of Pennsylvania. Filed May 26, 1906. Serial No. 318,859.



Claim.—1. A valve comprising a casing provided with locking-recesses, a rotary valve controlling the passage of fluid through the casing, a stem for the valve, a handle on the stem having a portion to engage any one of said recesses, and a spiral spring between the handle and a part of the casing to hold the valve to its seat and also hold the handle in its locked positions.

2. A valve comprising a casing provided with locking-recesses and a horizontal valve seat or partition, a rotary valve seating upwardly against the lower side of the said seat or partition, a stem extending upwardly through the casing from the valve, a handle pivoted to the upper end of the stem and having a depending lug to engage any one of the said recesses, and a spiral expansion-spring on the stem between the inner end of the handle and a portion of the casing, and holding the handle locked and the valve seated.

3. A valve comprising a casing provided with a horizontal seat or partition between its inlet and outlet openings, a tube connecting the said seat or partition with the closed upper end of the casing; a shoulder being formed at the lower end of the tube, a rotary disk valve seating upwardly against the under side of the partition or seat, a stem extending down through the tube and secured to the valve, a loose collar on the stem in the upper end of the tube, an expansion-spring on the stem between the collar and shoulder, a horizontal handle pivoted to the upper end of the stem and engaged at its under side of its inner end by the spring-pressed collar; the handle having a depending lug to engage the upper side of the valve-casing and hold the handle in its adjusted position.

4. A valve comprising a casing provided with a horizontal seat or partition between its inlet and outlet openings, said seat having a curved slot, a tube connecting the partition with the closed upper end of the casing, a shoulder at the lower end of the tube, a valve-stem extending down through the tube, a valve-disk on the lower end of the stem, having a series of apertures to register with said opening, a horizontal handle having a slotted inner end in which the upper end of the stem is pivoted, a spiral spring on the stem within the tube, a collar on the stem in the upper end of the tube and forced upward by said spring against the handle; the inner end of the handle having a projection engaging the collar and the handle having at the opposite side of its pivot a depending locking-lug to engage the top of the casing and hold the handle in its adjusted position.

5. A valve comprising a casing, a rotary valve controlling the passage through the casing, a stem for the valve, a handle on the stem, means for locking the handle to the casing, a spiral spring on the stem between the handle and a shoulder on the casing to hold the handle in its adjusted position, and packing around the stem between the shoulder and spring and constantly compressed against the stem by said spring.

6. A valve comprising a casing, a rotary upwardly-seating valve controlling the passage through the casing, a stem for the valve, a pivoted handle on the upper end of the stem and adapted to engage the casing at its outer portion, an annular shoulder in the valve-casing above the valve-seat, packing on the shoulder around the stem, a washer on the stem over the packing, and a spiral expansion-spring on the valve-stem between the inner end of the handle and the said washer and acting to hold the outer end of the handle down to the casing, press the valve upwardly to its seat and compress said packing around the valve-stem.

7. A valve comprising a casing, a rotary upwardly-seating valve controlling the passage therethrough; said valve consisting of a metallic disk having an annular recess in its upper face and a non-metallic ring therein and projecting above the walls of the recess to prevent engagement of the metal valve-disk with the seat, a stem extending up through the casing from the valve, a packing for the stem over the valve-seat, a locking-handle for the stem and a spring on the stem between the handle and packing and serving to hold the valve to the seat, hold the packing around the stem and hold the handle in locking engagement with the casing.

8. A valve comprising a casing, an upwardly-seating rotary valve therein having a semicircular series of apertures to control the passage through the valve, a central opening in the valve having a flattened or guiding portion, a valve-stem extending down through the casing and valve-seat and shaped at its lower end to correspond with the central valve-opening so that it may be placed properly thereon with respect to the valve-apertures, a spring holding the valve to its seat and a locking-handle for the valve acted on by the spring to hold it in its locked position.

9. A valve comprising a casing, a rotary valve controlling the passage through the casing, a locking-handle on the valve-stem and a spiral spring on the stem seating the valve and throwing the handle into locking engagement with the casing.

10. A valve comprising a casing, a valve-seat therein having a slot therethrough, a rotary valve seating upwardly against the seat and having a plurality of openings to successively register with said slot, a stem extending down through the casing, means for predetermining the correct position of the valve on the stem with respect to the openings, a locking-handle on the upper end of the stem and a spiral spring, holding the valve to its seat and the outer end of the handle in locking engagement with the casing.

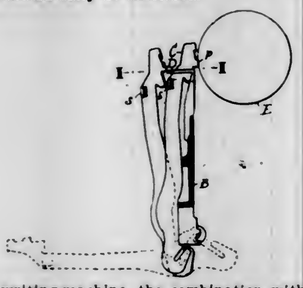
11. A valve comprising a casing having a valve-seat, and a series of interchangeable valve-disks each having a series of different-sized apertures to enable a single-size valve to be used with different-sized radiators.

843,997. TYPE-WRITER. CLARK T. BROWN, New York, N. Y. Filed Jan. 24, 1906. Serial No. 297,554.

Claim.—1. In a writing-machine, the combination with a platen of a guide with a flaring slot in proximity to the printing-point of the platen, and a series of type-bars mounted to strike into the slot, the back of each type-bar having a width at a point adjoining the head and clear of the guide sufficient when the type-bar is in the guide to prevent the entrance and wedging of a second type-bar, substantially as described.

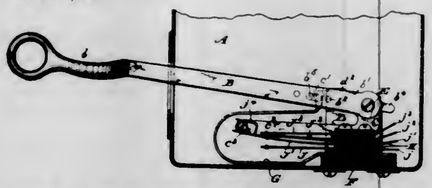
2. In a writing-machine, the combination with a platen of a guide with a flaring slot in proximity to the printing-point of the platen, and a series of type-bars mounted to strike into the slot, the back of each type-bar having a width at a point adjoining the head and between the head and type-bar pivot sufficient when the type-bar is in the

guide to prevent the entrance and wedging of a second type-bar, substantially as described.



3. In a writing-machine, the combination with a platen of a guide with a flared slot in proximity to the printing-point, and a series of type-bars mounted to strike in the slot, each of the type-bars having a portion of its rear thicker than the front portion of the bar entering the slot, and of sufficient width when the type-bar is in the guide to prevent the entrance therein of a second type-bar.

843,998. TELEPHONE HOOK-SWITCH. CHARLES C. CADDEN, Cleveland, Ohio. Filed Mar. 15, 1905. Serial No. 250,233.



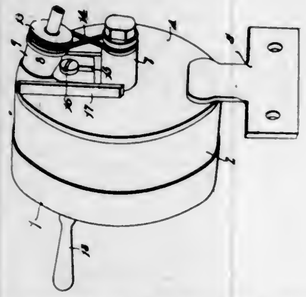
Claim.—1. In an electric switch mechanism, the combination of an insulating-base, a standard secured thereto, a U-shaped spring and a series of insulated spring switch-fingers secured upon the top of the base by the same means, a lever pivoted on the standard and engaged by the free end of the U-shaped spring, the lever lying out of the plane of the switch-fingers and having an insulated pin which extends into said plane and engages one of said fingers, substantially as set forth.

2. In an electric switch mechanism, the combination of an insulating-base, a series of insulated switch-fingers imposed on the base, a standard secured to the base and a pivot-pin projecting from standard above the heel ends of the switch-fingers, a lever pivoted on said pin extending in the direction of the free ends of said fingers and having a lower member also extending in said direction but out of the plane of the switch-fingers, an insulated pin on said member extending into the plane of and adapted to engage and operate the switch-fingers, and a U-shaped spring secured on the base its free end bowing around the free ends of the switch-fingers and the lower member of the lever and engaging the main portion of the lever near the standard, substantially as set forth.

3. In an electric switch mechanism, the combination of an insulated base, a series of insulated spring switch-fingers imposed on said base, a standard secured to one side of the base, a lever pivoted on said standard out of the plane of said switch-fingers, with an insulated pin on said lever extending into the plane of said switch-fingers one of which is bifurcated at its free end and engages the said insulated pin between its forks substantially as set forth.

843,999. PENCIL-SHARPENER. WILLIAM E. CARY, Springfield, Vt. Filed May 9, 1906. Serial No. 315,902.

Claim.—1. In a pencil-sharpener, a support, a bearing in the support, a revoluble abrading member, a spindle on the member mounted in the said bearing, a post having a removable threaded engagement with the spindle, a revoluble pencil-holder, and operating connections between the post and pencil-holder arranged to rotate the latter and serving as a means for preventing the spindle from accidentally disengaging from the post.



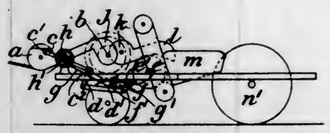
2. In a pencil-sharpener, a support, a bearing in the support, a revoluble abrading member, a spindle on the member removably mounted in the bearing of the support, a post having a removable threaded engagement with the spindle, a shoulder arranged to engage the support to prevent endwise displacement of the spindle, a revoluble pencil-holder, and operating connections between the post and pencil-holder arranged and adapted to rotate the pencil-holder and at the same time tighten the connection between the post and the spindle.

3. In a pencil-sharpener, the combination of a cylindrical member having an internal post that is threaded, a head having a tubular bearing in which the post rotates, a threaded device engaging the threads of the said post for holding the member and head together and for rotating with the former, said device having a circumferential groove, a pencil-holder mounted on the head and having a circumferential groove, and a driving-belt running in the said grooves for rotating the holder by the rotation of said member.

4. In a pencil-sharpener, the combination of a support, a bearing in the support, a hollow revoluble abrading member having an internal abrading-surface and provided with a hollow spindle mounted in the bearing in the support, a shouldered post having a threaded extension interiorly engaging the hollow spindle and having a bearing against the support to prevent endwise displacement of the spindle, a revoluble pencil-holder, and operating connections between the post and the pencil-holder for transmitting motion from the former to the latter.

5. In a pencil-sharpener, the combination of a rotating member having an internal grinding-surface, means for rotating therewith, a relatively stationary pencil-holder, and an elastic cross-belt and pulley transmission between said means and the pencil-holder, said pencil-holder comprising an adjustable base-piece and sleeve rotatably mounted therein with its axis disposed at an angle to the grinding-surface of said member, spring-jaws carried by said sleeve for holding the pencil, and a grooved pulley on the sleeve forming part of said transmission.

844,000. STRIPPER-HARVESTER. JOHN J. CHARLEY, Harefield, New South Wales, Australia. Filed Dec. 9, 1904. Serial No. 236,254.

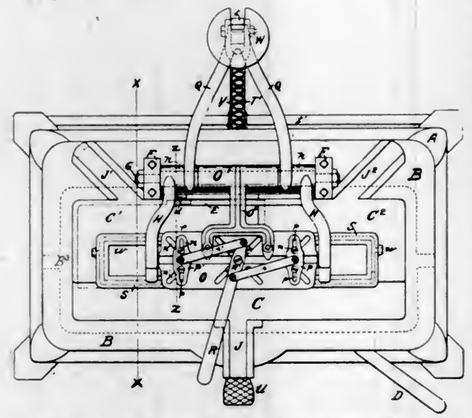


Claim.—1. A stripper-harvester comprising a comb-drum, a shaft, means for rockably suspending the comb-drum from said shaft, arms supporting the comb-drum, a rock-shaft for the supporting-arms provided with a crank-arm, a counter-shaft having a crank-arm, a link connection for the crank-arms of the rock and counter shafts, a pulley-arm for the counter-shaft and a rope-pulley carried thereby, a winding-drum and a rope connected at one end to the harvester-frame, passed over the rope-pulley, and wound on the winding-drum to actuate the counter-shaft.

2. A stripper-harvester comprising a comb-drum, a shaft, means for rockably suspending the comb-drum from said shaft, arms supporting the comb-drum, a rock-shaft for the supporting-arms, a crank-arm for the rock-shaft, a counter-shaft having a crank-arm, a link connection coupling the crank-arms of the rock and counter shafts, a pulley-arm for the counter-shaft, a rope-pulley carried by the pulley-arm, a winding-drum, a rope connected at one end to the harvester-frame passed over the rope-pulley and wound on the winding-drum to actuate the counter-shaft, a threshing-drum, an Archimedean screw to convey the grain from the comb-drum to the threshing-drum and a winnower to receive the grain from the threshing-drum.

3. A stripper-harvester comprising a harvester-frame, a comb-drum, means for pivotally supporting the comb-drum so that it can be adjusted to the height of the crop, means to uphold the comb-drum in its adjusted position consisting of a rock-shaft, rocker-arms actuated by the rock-shaft, a crank-shaft, a link connection for the crank-shaft and rock-shaft, a winding-drum, a rope attached at one end to the harvester-frame and engaging a part of the crank-shaft and wound on the winding-drum, a threshing-drum, an Archimedean screw to convey the grain from the comb-drum to the threshing-drum, and a winnower to receive the grain from the threshing-drum.

844,001. MACHINE FOR FOLDING COLLARS, CUFFS, &c. HARLEY M. CLEARWATER, Troy, and JOHN TEMPLE, Watervliet, N. Y. Filed Jan. 25, 1906. Serial No. 297,757.



Claim.—1. In a folding-machine, the combination of a bed; a series of folders placed thereon; a means for causing said folders to fold the goods over the edges of the collapsible die and then to withdraw from contact therewith; a collapsible die; a pivotally-supported die-head carrying said collapsible die; a pivotally-supported presser-head; a detent to prevent the presser-head from moving to its operative position while the folders are in operative position and permitting said head to move to operative position when said folders have been moved from their operative position; a means for causing said presser-head to press the folded-over portion of the goods after the folders and collapsible die have been withdrawn from contact with the folded-over portion; a means in said presser-head for admitting the passage of a heating agent, substantially as described.

2. In a folding-machine, a bed; a series of folders placed thereon; a means for causing said folders to fold the goods over the edges of the collapsible die and then to be withdrawn from contact therewith; a collapsible die; a pivotally-supported head carrying said die; a pivotally-supported presser-head provided with an opening through which said die passes; a means for holding said presser-head out of contact with the work on the bed until the folders and collapsible die have been withdrawn from the folded-over portion; with a means for bringing said presser-head in contact with the work after said folders have been removed from contact therewith.

3. In a folding-machine, a bed; a series of folders placed thereon; a means for causing said folders to move toward the center of the bed, whereby the goods are folded over the edges of a collapsible die; a collapsible die; a support for said die; a presser-head; a detent to prevent the presser-head from moving to its operative position while the folders are in operative position and permitting said head to move to operative position when said folders have been moved from their operative position; a means for causing said presser-head to engage the folded-over portion of the goods when said folders and dies have been withdrawn therefrom.

4. A folding-machine consisting of a frame; a bed; a series of folders; a means for causing said folders to fold the goods over the edges of a collapsible die; a collapsible die; a means for supporting same; a presser-head; a detent to prevent the presser-head from moving to its operative position while the folders are in operative position and permitting said head to move to operative position when said folders have been moved from their operative position; a means for causing said presser-head to engage said folded-over portion of the goods after the removal of the folders and collapsible die from the folded-over portion.

5. In a folding-machine the combination of a bed for supporting the goods; a series of folders secured thereto and movable thereon; a means for operating said folders; a collapsible die; a hinged support therefor; a presser-head; the bottom of said presser-head provided with a pattern corresponding to the form that the goods to be operated upon are to be caused to assume; a means for adjusting said pattern on said presser-head; a means for raising and lowering said presser-head, substantially as described.

6. In a folding-machine the combination of a bed; a series of folders secured to and movable upon said bed; a means for operating said folders so as to fold the edges of the goods over the edges of a collapsible die; a collapsible die; a pivotal support for said die; a presser-head; a detent to prevent the presser-head from moving to its operative position while the folders are in operative position and permitting said head to move to operative position when said folders have been moved from their operative position; a means for bringing said presser-head in contact with said turned-over portion of the goods after the removal of the dies and folders from contact with the folded-over portion thereof.

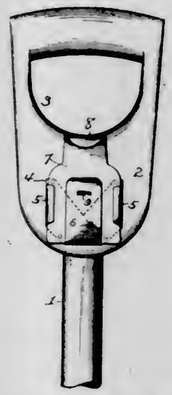
7. In a folding-machine; a bed upon which the goods are placed; a series of folders secured to and movable upon said bed; a means for operating said folders; a collapsible die; a hinged support therefor, a presser-head; a pattern adjustably secured to said presser-head; a means for heating said presser-head and said bed; a means for operating said presser-head, all substantially as described.

8. In a folding-machine; a bed; a series of folders secured to and movable upon said bed; a collapsible die; a support therefor; a presser-head; a shaft upon which said presser-head is mounted; a compensating weight mounted on the shaft supporting said presser-head; a lever provided with a shoulder adapted to engage the support of said compensating weight; a pedal-lever fulcrumed to the machine; a spring connecting said levers; a stop secured to one of said levers and against which the other of said levers may engage; with a spring connecting the pedal-lever to the frame of the machine, substantially as described.

844,002. SCRAPER ATTACHMENT FOR SHOVELS. WILLIAM H. COLCLOUGH, East Liverpool, Ohio. Filed Nov. 27, 1906. Serial No. 345,330.

Claim.—1. A holder for a scraper, comprising a plate provided at one edge with a tongue lying approximately

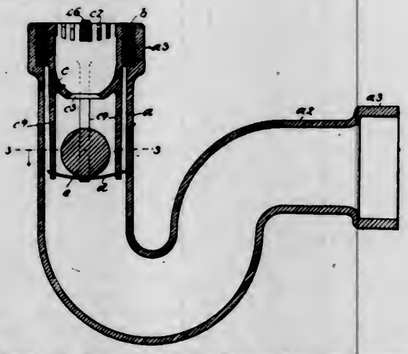
parallel to the plate, said plate provided at opposite edges with flanges, said flanges being disposed at opposite sides of the tongue.



2. A holder for a scraper, comprising a plate provided at its side edges with flanges to receive a scraper between them, said plate provided with a tongue projecting upwardly from its lower edge and disposed in front of the plate between the side flanges thereof.

3. The combination with a shovel-handle, of a scraper-holder secured to the flat portion of the handle and comprising a back plate having side flanges and an upwardly-projecting spring-tongue, a scraper comprising a flat blade to be moved beneath the tongue and side flanges, a finger-hold on the scraper, and a lug on the tongue to engage over a lug on the scraper-blade.

844,003. BACK-PRESSURE VALVE FOR DRAIN-TRAPS. JOHN F. CONRAD, Elizabeth, N. J. Filed Apr. 20, 1906. Serial No. 312,842.



Claim.—1. A combination strainer and back-pressure-valve device adapted for use in the inlet side of a drain-trap, comprising a cup-shaped member having a port in the bottom thereof and a strainer at the top, said cup-shaped member being also provided below the bottom thereof with a cage adapted to receive a ball-valve, said cage consisting of downwardly-directed fingers connected with said cup-shaped member and detachable parts connected with said fingers, and a ball-valve which is adapted to be placed in said cage or removed therefrom by detaching said detachable parts.

2. A combination strainer and back-pressure-valve device adapted to be secured in the inlet side of a drain-trap, comprising a cup-shaped member having a port in the bottom thereof and an open-work top, said cup-shaped member being also provided at the bottom thereof with downwardly-directed fingers connected by detachable transverse members and forming a cage, and a ball-valve placed in said cage and adapted to close said port.

844,004. APPARATUS FOR BURNING LIQUID FUEL IN CONJUNCTION WITH STEAM. FRANK COTTON, Hornsby, New South Wales, Australia. Filed May 12, 1905. Renewed Jan. 5, 1907. Serial No. 351,018.



Claim.—1. An apparatus for burning liquid fuel in conjunction with steam, having a burner comprising four compartments namely, a mixing-chamber, an insulated valve-chamber containing a check-valve, a heating-coil, a retort, a controlling-valve for regulating the supply of emulsion from the mixing-chamber, a valve for regulating and spraying the emulsion into the heating-coil, and means for the admission of steam and oil into the mixing-chamber.

2. An apparatus for burning liquid fuel in conjunction with steam having a burner comprising a tubular shell divided into four intercommunicating compartments namely, a mixing-chamber with inlets for the steam and oil, an insulated valve-chamber, a heating-coil, and a retort having an outlet for the emulsion, a regulating-valve for controlling the means of communication between the mixing and valve chambers, a check-valve for the valve-chamber, and a valve controlling the means of communication between the valve-chamber and the heating-coil.

3. An apparatus for burning liquid fuel in conjunction with steam having a burner comprising a tubular shell divided into four intercommunicating compartments namely, a mixing-chamber with inlets for the steam and oil, an insulated valve-chamber, a heating-coil, and a retort having an outlet for the emulsion, a regulating-valve for controlling the means of communication between the mixing and valve chambers, a check-valve for the valve-chamber, a valve controlling the means of communication between the valve-chamber and heating-coil, and a spreader opposed to the outlet of the retort.

4. An apparatus for burning liquid fuel in conjunction with steam, having a burner comprising four compartments namely, a mixing-chamber, an insulated valve-chamber containing a check-valve, a heating-coil, a retort, a controlling-valve for regulating the supply of emulsion from the mixing-chamber, a valve for regulating and spraying the emulsion into the heating-coil, in combination with means for introducing steam into the mixing-chamber and other means for introducing oil into the mixing-chamber at the same pressure as the steam.

5. An apparatus for burning liquid fuel in conjunction with steam having a burner comprising a tubular shell divided into four intercommunicating compartments namely, a mixing-chamber with inlets for the steam and oil, an insulated valve-chamber, a heating-coil, and a retort having an outlet for the emulsion, a regulating-valve for controlling the means of communication between the mixing and valve chambers, a check-valve for the valve-chamber, a valve controlling the means of communication between the valve-chamber and heating-coil, in combination with means for introducing steam into the mixing-chamber and other means for introducing oil into the mixing-chamber at the same pressure as the steam.

6. An apparatus for burning liquid fuel in conjunction with steam having a burner comprising a tubular shell divided into four intercommunicating compartments namely, a mixing-chamber with inlets for the steam and oil, an insulated valve-chamber, a heating-coil, and a retort having an outlet for the emulsion, a regulating-valve for controlling the means of communication between the mixing and valve chambers, a check-valve for the valve-chamber, a valve controlling the means of communication between the valve-chamber and heating-coil, a spreader opposed to the outlet of the retort, in combination with means for introducing steam into the mixing-chamber, and other means for introducing oil into the mixing-chamber at the same pressure as the steam.

7. An apparatus for burning liquid fuel in conjunction with steam, having a burner comprising four compartments

namely, a mixing-chamber, an insulated valve-chamber containing a check-valve, a heating-coil, a retort, a controlling-valve for regulating the supply of emulsion from the mixing-chamber, a valve for regulating and spraying the emulsion into the heating-coil, means for the admission of steam and oil into the mixing-chamber, and auxiliary means for heating the coil and retort.

8. An apparatus for burning liquid fuel in conjunction with steam having a burner comprising a tubular shell divided into four intercommunicating compartments namely, a mixing-chamber with inlets for the steam and oil, an insulated valve-chamber, a heating-coil and a retort having an outlet for the emulsion, a regulating-valve for controlling the means of communication between the mixing and valve chambers, a check-valve for the valve-chamber, a valve controlling the means of communication between the valve-chamber and heating-coil, and auxiliary means for heating the coil and retort.

9. An apparatus for burning liquid fuel in conjunction with steam having a burner comprising a tubular shell divided into four intercommunicating compartments namely, a mixing-chamber with inlets for the steam and oil, an insulated valve-chamber, a heating-coil, and a retort having an outlet for the emulsion, a regulating-valve for controlling the means of communication between the mixing and valve chambers, a check-valve for the valve-chamber, a valve controlling the means of communication between the valve-chamber and heating-coil and a spreader opposed to the outlet of the retort, and auxiliary means for heating the coil and retort.

10. An apparatus for burning liquid fuel in conjunction with steam, having a burner comprising four compartments namely, a mixing-chamber, an insulated valve-chamber containing a check-valve, a heating-coil, a retort, a controlling-valve for regulating the supply of emulsion from the mixing-chamber, a valve for regulating and spraying the emulsion into the heating-coil, in combination with means for introducing steam into the mixing-chamber, other means for introducing oil into the mixing-chamber at the same pressure as the steam, and auxiliary means for heating the coil and retort.

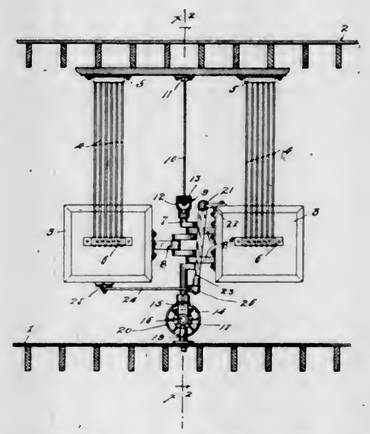
11. An apparatus for burning liquid fuel in conjunction with steam having a burner comprising a tubular shell divided into four intercommunicating compartments namely, a mixing-chamber with inlets for the steam and oil, an insulated valve-chamber, a heating-coil, and a retort having an outlet for the emulsion, a regulating-valve for controlling the means of communication between the mixing and valve chambers, a check-valve for the valve-chamber, a valve controlling the means of communication between the valve-chamber and heating-coil, in combination with means for introducing steam into the mixing-chamber and other means for introducing oil into the mixing-chamber at the same pressure as the steam, and auxiliary means for heating the coil and retort.

12. An apparatus for burning liquid fuel in conjunction with steam having a burner comprising a tubular shell divided into four intercommunicating compartments namely, a mixing-chamber with inlets for the steam and oil, an insulated valve-chamber, a heating-coil, and a retort having an outlet for the emulsion, a regulating-valve for controlling the means of communication between the mixing and valve chambers, a check-valve for the valve-chamber, a valve controlling the means of communication between the valve-chamber and heating-coil, a spreader opposed to the outlet of the retort, in combination with means for introducing steam into the mixing-chamber, other means for introducing oil into the mixing-chamber at the same pressure as the steam, and auxiliary means for heating the coil and retort.

13. An apparatus for burning liquid fuel in conjunction with steam having a burner comprising four compartments namely, a mixing-chamber, an insulated valve-chamber containing a check-valve, a heating-coil, a retort, a controlling-valve for regulating the supply of emulsion from the mixing-chamber, a valve for regulating and spraying the emulsion into the heating-coil, in combination with means for introducing steam into the mixing-chamber, and other means for introducing oil into the mixing-chamber at the same pressure as the steam, consisting of an oil-reservoir, a pump connected therewith and an accumulator connected with the pump and oil-inlet of the mixing-chamber.

14. An apparatus for burning liquid fuel in conjunction with steam, having a burner comprising four compartments namely, a mixing-chamber, an insulated valve-chamber containing a check-valve, a heating-coil, a retort, a controlling-valve for regulating the supply of emulsion from the mixing-chamber, a valve for regulating and spraying the emulsion into the heating-coil, in combination with means for introducing steam into the mixing-chamber, and other means for introducing oil into the mixing-chamber at the same pressure as the steam, consisting of an oil-reservoir, a pump connected therewith and an accumulator connected with the pump and oil-inlet of the mixing-chamber, and auxiliary means for heating the coil and retort.

844,005. MEANS FOR IMPARTING GYRATORY MOTION TO SIEVE-BOXES AND OTHER BODIES. EMIL R. DRAYER, Richmond, Ind. Filed Sept. 17, 1906. Serial No. 334,922.



Claim.—1. The combination with freely-suspended sieve boxes or bodies, of means connecting said boxes and positively holding the same parallel to each other, but permitting the said boxes or bodies to move toward and from each other and each to make its own gyratory motion, inertia of the one box offsetting that of the other, and means for imparting reverse gyratory movements to said boxes or bodies, involving a freely-suspended power-driven crank-shaft connected to said boxes or bodies, substantially as described.

2. The combination with a pair of freely-suspended sieve boxes or bodies, and means for imparting reverse gyratory movements thereto, of means for holding said boxes parallel while permitting their reverse gyratory movements, comprising a rock-shaft mounted on one of said boxes and provided with parallel arms and links connecting said arms to the other boxes, substantially as described.

3. The combination with a pair of freely-suspended sieve boxes or bodies, of a rock-shaft mounted on one of said boxes and provided with parallel arms, links connecting said arms to the other box, and a freely-suspended power-driven crank-shaft having reversely-extended cranks connected to said two boxes, substantially as described.

4. The combination with a pair of freely-suspended sieve boxes or bodies, of a rock-shaft mounted on one of said boxes and provided with parallel arms, links connecting said arms to the two boxes, a freely-suspended crank-shaft located between said boxes and provided with reversely-

projecting cranks connected to said two boxes, a power-driven counter-shaft mounted for freedom for limited endwise and oscillatory movements in a substantially horizontal plane, and gears connecting said counter-shaft to said crank-shaft, substantially as described.

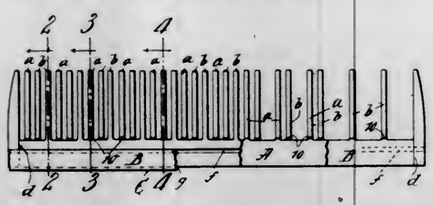
844,006. PROCESS OF MAKING UNWELDED CHAINS. STEFAN KISS V. ECSEGHY, Vienna, Austria-Hungary, assignor to the Firm of Handelsgesellschaft Kleinberg & Co., Vienna, Austria-Hungary. Filed June 2, 1906. Serial No. 319,954.



Claim.—1. A process for manufacturing unwelded chains, the links of which consist each of two eyes crossing each other at right angles, such process consisting in threading through an eye of a completed link, a blank then forming each end portion of such blank into a ring, such rings being on a plane substantially parallel to the central portion of the blank and finally bending the central portion of the blank until the said rings are brought into coincidence and contact with each other, substantially as and for the purpose described.

2. A process for manufacturing unwelded chains, the links of which consist each of two eyes crossing each other at right angles, such process consisting in threading through an eye of a completed link, a blank, then jumping the end portions of such blanks whereby they are thickened, then forming each end portion of such blank into a ring, such rings being on a plane, substantially parallel to the central portion of the blank and finally bending the central portion of the blank until the said rings are brought into coincidence and contact with each other, substantially as and for the purpose described.

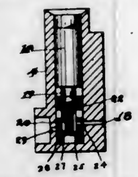
844,007. COMB. ABRAHAM EHRLICH, Springfield, Mass. Filed Dec. 11, 1906. Serial No. 347,378.



Claim.—1. In a comb, a back composed of an intermediate section, and two opposite side sections, the intermediate section having regularly-spaced teeth projecting oppositely from its inner edge and each side section having regularly-spaced teeth wider than the side section and projecting across the inner edges of both the intermediate and the relatively opposite side section, the teeth of each section being separated by spaces considerably wider than the thickness of two teeth and relatively located and arranged in the assemblage of the parts to constitute a comb having suitably close, regularly-spaced, teeth, and means for detachably uniting the three comb-back sections.

2. A comb consisting of a back composed of three separately-formed sections each having teeth which at their junction with their respective section are wider than such section, the teeth of each section being separated by spaces considerably wider than the thicknesses of two teeth, and relatively located and arranged to constitute a comb having regularly and suitably spaced teeth, and means for detachably uniting the three comb-back sections.

844,008. OIL-PUMP. GUY T. FERGUSON, Minooka, Ill. Filed Sept. 11, 1905. Serial No. 277,808.



Claim.—1. In a device of the character described, the combination with an oil-chamber, of a cylindrical valve-chamber mounted upon said oil-chamber, there being a port or passage leading from said oil-chamber to the interior of the valve-chamber, and an eduction-port leading from the interior of said valve-chamber, a piston operating in said valve-chamber, a cylindrical valve mounted upon the end of said piston, said valve having passages therein which lead respectively from the induction-port to the interior of the valve and from the interior of the valve to the eduction-port, said valve being split to permit the expansion of the metal to take up the wear, and means to impart a reciprocating motion to said piston, for the purpose set forth substantially as described.

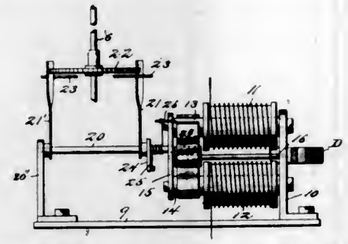
2. In a device of the character described, the combination with an oil-chamber, of a cylindrical valve-chamber mounted upon said oil-chamber, there being a port or passage leading from the interior of the oil-chamber to the interior of the valve-chamber, and an eduction port leading from the interior of said valve-chamber, a piston operating in said valve-chamber, a cylindrical valve mounted upon the end of said piston, a pin securing the said valve to the end of the piston, said valve having slots in the side thereof, fitting to and coinciding with said pin to prevent the rotation of the valve and to permit it to slide upon the end of the piston, said valve having passages therein which lead respectively from the induction-port to the interior of the valve and from the interior of the valve to the eduction-port, said valve being split to permit the expansion of the metal to take up the wear, and means to impart a reciprocating motion to said piston, for the purpose set forth substantially as described.

3. In a device of the character described, the combination with an oil-chamber of a cylindrical valve-chamber mounted upon said oil-chamber, there being an induction port or passage leading from said oil-chamber to the interior of the valve-chamber and an eduction port or passage leading from the interior of the valve-chamber, a piston operating in said valve-chamber, said piston being provided with means to prevent the leakage of oil, the end of said piston being reduced and having a shoulder thereon, a tubular valve mounted upon the said reduced end, the periphery of which corresponds in diameter to the diameter of the piston, said valve being slidable upon the said reduced end, and a pin to prevent the rotation of the said valve and securing it to the end of the piston, said valve having slots in the sides thereof, fitting to and coinciding with said pin to permit it to slide upon the reduced end of the piston, said valve having passages therein which lead respectively from the induction-port to the interior of the valve and from the interior of the valve to the eduction-port, said valve being split to permit the expansion of the tubing to take up the wear, and means to impart a reciprocating motion to said valve and piston, for the purpose set forth substantially as described.

844,009. ELECTRIC SYMPATHETIC OR SECONDARY CLOCK FOR INDUCTION-CURRENTS. MARTIN FISCHER, Zürich, Switzerland, assignor to Actiengesellschaft "Magneta," Zürich, Switzerland. Filed July 24, 1901. Serial No. 69,607.

Claim.—1. The combination with the driving-wheel of an electric clock of a shaft, spring driving and retaining pawls on the shaft to operate the wheel, an electromagnet and its armature, and a spring secured at one end to the shaft and at the other end to the armature, whereby the armature is yieldingly connected to the shaft.

2. The combination with a driving-wheel of an electric clock of a shaft parallel with the plane of the wheel, a spring driving and retaining pawl secured to the shaft one on each side of the center of the wheel and projecting from the shaft substantially normal to the wheel, an electromagnet, an oscillating armature therefor and a spring connecting the armature and shaft, substantially as described.



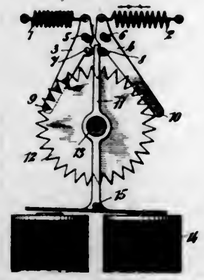
3. A secondary electric clock, comprising an electromagnet and an armature therefor; in combination with a toothed wheel, feed and retaining pawls engaging the same, a rock-shaft to which said pawls are secured, a crank on said shaft and a spring connecting said crank to the armature, for the purpose set forth.

4. In a secondary electric clock, a toothed wheel, an oscillating member, feed and retaining pawls secured thereto and engaging said wheel and an electromagnet-armature; in combination with a coil-spring located between the armature and oscillating member and through which the latter is oscillated by said armature.

5. In electrically-operated clocks, a receiving instrument comprising an electromagnet, a permanent magnet and a bipartite armature 18 19 in the field of force of said permanent magnet and of the cores of the electromagnet; in combination with a toothed wheel, two pawls engaging the same, a rock-shaft to which said pawls are secured, a crank on said shaft and a spring coiled on the latter and having its ends connected to said crank and to one of the parts of the aforesaid armature, for the purpose set forth.

6. The combination with a driving-wheel of an electric clock of a shaft, spring driving and retaining pawls secured to the shaft at different points of its length and engaging the wheel, an electromagnet having projecting poles, a forked armature actuated by the magnet the forks of which engage the poles and limit its movement and a coil-spring connecting the armature and shaft.

844,010. CLOCK CONTROLLED BY REVERSALS OF ELECTRIC CURRENT. MARTIN FISCHER, Zurich, Switzerland. Filed Sept. 1, 1904. Serial No. 223,047.



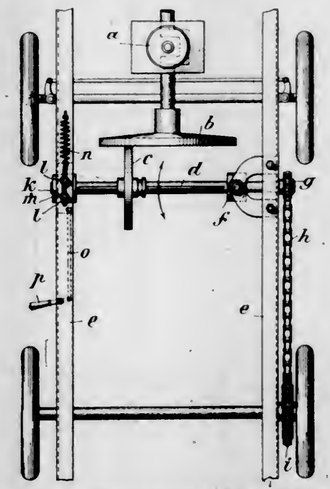
Claim.—1. In a secondary clock, a time mechanism having a ratchet-wheel, a pair of independently-mounted ratchet-levers, a spring for each lever to urge it against the wheel and means operated by electric-current impulses to alternately move one lever out of contact with the wheel against its spring action and simultaneously release the other lever to permit its spring to urge said other lever against the wheel to drive the wheel one tooth forward.

2. In a secondary clock, a time mechanism having a ratchet-wheel, a pair of independently-mounted ratchet-levers, springs to urge each lever to move the wheel, means to limit the movement of the independent levers from the wheel and mechanism actuated at time intervals by electric impulses to alternately move one lever from the wheel and simultaneously release the other lever to allow its spring to urge said other lever against the wheel to drive it.

3. In a secondary clock, a time mechanism controlled and operated by electric impulses having a time-wheel, two independently-pivoted ratchet-levers of different lengths, springs to urge the levers against the wheel, means to engage one of the levers above and the other below its pivot-point to give said levers their idle movement, said means actuated at time intervals by electric-current impulses, substantially as described.

4. In a secondary clock, a time-wheel having two independently-pivoted ratchet-levers of different lengths, springs to urge the levers against the wheel, means to limit their idle movement, pawls pivoted at the ends of the levers to trail on said wheel and means actuated by timed electric-current impulses to give said levers and pawls their idle movement, said means engaging one of the levers above and the other below its pivot-point, substantially as described.

844,011. MOTOR-VEHICLE. MARTIN FISCHER, Zurich, Switzerland assignor to The Firm of Martin Fischer & Co., Zurich, Switzerland. Filed Nov. 3, 1905. Serial No. 285,760.

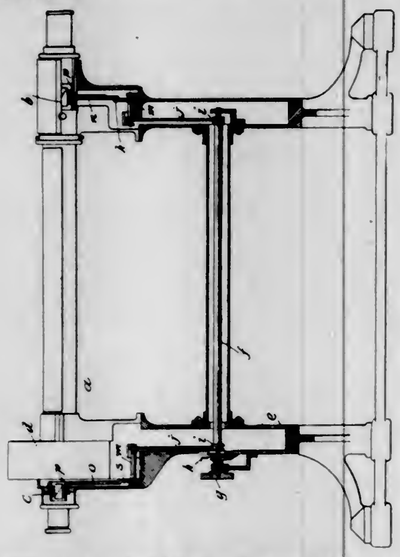


Claim.—1. In a motor-vehicle a driven friction-disk in combination with a shaft and friction-wheel slidable thereon, contacting with and driven by the disk, means to pivotally mount the shaft near one end and means to slidably mount the other end of the shaft, a driving-pinion on the shaft, and a road-wheel chain connected to the pinion, said shaft free to move on its pivot by reason of the tractive force of the road-wheel, whereby the pressure of the friction-wheel against the disk will increase with said tractive force.

2. In a motor-vehicle a driven friction-disk in combination with a shaft and a friction-wheel slidably mounted thereon contacting with and driven by the friction-disk, a pivoted bearing near one end of the shaft and a slidable bearing near the other end of the shaft, a spring to urge this bearing toward the plane of the friction-disk, an actuating-lever connected to this bearing to move it against the stress of its spring away from the disk, a driving-pinion on the shaft and a road-wheel chain connected to the

pinion whereby the increased tractive force of the road-wheel will swing the shaft toward the friction-wheel aided by the direct pull of the spring.

844,012. OPTICAL INSTRUMENT. JOSEF J. FRIČ, Prague, Austria-Hungary. Filed June 23, 1906. Serial No. 323,025.



Claim.—1. A quartz-wedge polariscope having an analyzing-prism and a polarizing-prism suitably mounted in order to illuminate the subject-matter of analyzation provided with means to rotate the polarizing and the analyzing prisms upon their axis, one of such prisms adapted to describe thereby an angular travel equal to one-half of the other prism.

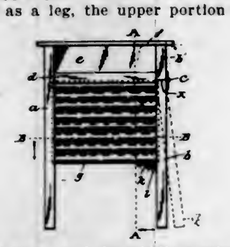
2. A quartz-wedge polariscope having an analyzing and a polarizing prism provided with means of rotating both prisms simultaneously in a manner securing by such rotary movement a rotation of the analyzing-prism over half the angle of the simultaneously-rotating polarizing-prism.

3. In a quartz-wedge polariscope having an analyzer and an analyzing-prism and a polarizing-prism, both prisms suitably mounted and adapted to rotate in a common axis, geared lever-arms which are pivotally rotating around the axis of the prisms and adapted to rotate the prisms, such geared lever-arms being of predetermined radial lengths and operated by means of engaging gears of predetermined length with the object of rotating one of the prisms over double the angular distance to that of the other prism, and means for simultaneously operating each of said gears from a common point of application.

844,013. RENEWABLE-FRONT WASHBOARD. WILLIAM G. FROST, Indianapolis, Ind. Filed July 20, 1903. Serial No. 166,212.

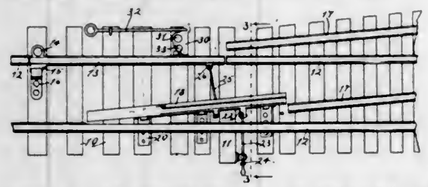
Claim.—1. A washboard comprising a combined side bar and leg composed of a part fixed to the upper portions of the washboard-frame and terminating at the plane of the upper edge of the rubbing-plate with a hinge attached to the outer side of said terminating end, and a grooved part attached at its upper end to said hinge with its lower end movable away from the opposite leg of the frame and formed as a leg, said grooved part receiving edges of the back and the rubbing-plate of the washboard and holding them one against the other.

2. A washboard comprising a side bar and leg with a back and upper frame parts secured thereto, and a combined side bar and leg composed of a part fixed to the upper frame parts and terminating at the top of the back of the washboard with a hinge attached to the outer side of said terminating end, and a movable part having a groove in the upper portion thereof and having its lower portion formed as a leg, the upper portion thereof being



attached to said hinge, and the middle portion of said movable part having an eye at the inner side thereof, with a hook connected to the washboard-frame opposite the eye, said groove receiving edges of the back and the rubbing-plate of the washboard, as shown and described.

844,014. RAILWAY-SWITCH. CARL D. FULLER, Bourbon, Ind. Filed Oct. 18, 1906. Serial No. 339,568.



Claim.—1. The combination with the main-track rails of a railway, a section of one of said main-track rails being pivoted at one end and slidable at the other, side-track rails with one of which said movable main-track section is slidable into alinement, a switch-rail adapted to be rocked into an open position or into position to make connection between the other side-track rail and the other main-track rail, and a connection between said switch-rail and said movable main-track section that causes their simultaneous action in opening and closing the switch.

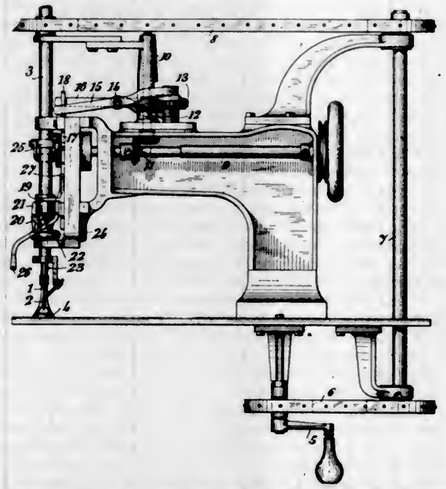
2. A railway-switch in connection with suitable main and side track rails, that includes a rocking switch-rail pivotally mounted beside the main-track rail so that it can be turned upward against the main-track rail and in alinement with the side-track rail downward away from said rails, a slidable switch-rail on the other side of the track that is pivotally mounted at one end in line with the main track and free to be laterally shifted at the other end into alinement with either the main-track rail or side-track rail, a connection between said switch-rails that moves and holds them in alinement with the side-track rail when the rocking switch-rail is in its upper position and holds said slidable switch-rail in alinement with the main track when the rocking switch-rail is in its downward position, and means for actuating either of said switch-rails.

3. A railway-switch in connection with suitable main and side track rails, that includes a switch-rail beside one of the main-track rails and in line with one of the side-track rails pivotally mounted upon the cross-ties so as to be turned upon its side away from the main-track rail, rigid arms extending downwardly from the inner flange of said switch-rail, a companion switch-rail pivoted at one end in line with the main-track rail and at the other end free to be shifted in a line with either the main-track rail or the side-track rail, a bar connecting said last-mentioned switch-rail with the arm of the next-mentioned switch-rail of such length that when the first-mentioned switch-rail is on its side the other switch-rail will be in line with the main track, and a lever connection with the arm from said rocking switch-rail whereby the same is actuated.

4. A railway-switch in connection with suitable main and side track rails, that includes a rocking switch-rail pivotally mounted beside the main-track rail so that it can be turned upward against the main-track rail and in alinement with the side-track rail or downward away from said rails, a slidable switch-rail on the other side of the track that is pivotally mounted at one end in line with the main track and free to be laterally shifted at the other end into alinement with either the main-track rail or side-track rail, a connection between said switch-rails that moves and holds them in alinement with the side-track rail when the rocking switch-rail is in its upper position and holds said slidable switch-rail in alinement with the main track when the rocking switch-rail is in its downward position, means for actuating either of said switch-rails, and a stop to limit the movement of said sliding switch-rail.

5. A railway-switch in connection with suitable main and side track rails, that includes a rocking switch-rail pivotally mounted beside the main-track rail so that it can be turned upward against the main-track rail and in alinement with the side-track rail or downward away from said rails, a slidable switch-rail on the other side of the track that is pivotally mounted at one end in line with the main track and free to be laterally shifted at the other end into alinement with either the main-track rail or side-track rail, a connection between said switch-rails that moves and holds them in alinement with the side-track-rail when the rocking switch-rail is in its upper position and holds said slidable switch-rail in alinement with the main track when the rocking switch-rail is in its downward position, means for actuating either of said switch-rails, a lock-plate pivotally mounted on the cross-tie outside of said sliding switch-rail that locks and holds it in line with the main-track rail, and means for turning said lock-plate away from said sliding switch-rail when it is desired to open the switch.

844,015. EMBROIDERING-MACHINE. FRIEDRICH GEGAUF, Steckborn, Switzerland, assignor to The Firm of Gebr. Gegauf, Steckborn, Switzerland. Filed Oct. 9, 1905. Serial No. 281,990.



Claim.—1. In a crank hemstitch embroidering-machine having two needles, a material-shifting device and a hand-crank for turning these parts corresponding to the progress of the hem to be made, hand-operated means for temporarily suspending the shifting action of the material-shifting device for any period of time during the sewing of the seam, substantially as described and for the purpose set forth.

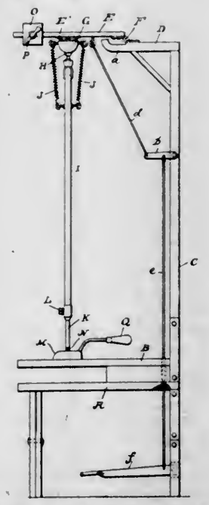
2. In a crank hemstitch embroidering-machine having two needles, a material-shifting device, and a hand-crank for moving these parts a series of transmitting members for shifting the material-shifting device, and a member adapted to be operated by hand for locking one of the transmitting members, substantially as described and with the object set forth.

3. A crank hemstitch embroidering-machine with two needles, a material-shifting device, a hand-crank for turning these parts and a series of transmitting members adapted to displace the material-shifting device, and a slide-bar placed beneath them, in combination with a lever adapted to be operated by hand, provided with a hook and a notch located on the slide-bar with which the hook may be brought into engagement in order to lock the slide-bar, substantially as described and shown.

4. In a crank hemstitch embroidering-machine, a material-shifting device on the head of the machine, mechanism to vertically reciprocate the same, mechanism to horizontally move the device in any direction and a hand-operated lever on the head of the machine to temporarily hold the last-named mechanism in inoperative position for any length of time during the sewing of the seam without preventing the vertical reciprocation of the material-shifting device, and hand-operated mechanism to control the direction of movements of the device, substantially as and for the purpose set forth.

5. In a crank hemstitch embroidering-machine, a material-shifting device mounted to have universal movement, mechanism to vertically reciprocate the same, and independently-operated mechanism to horizontally move the device, needles, means to rotate the needles and simultaneously rotate the mechanism for horizontally moving the material-shifting device in the direction of the seam, and hand-operated means to temporarily render the mechanism for horizontally moving the material-shifting device inoperative for any length of time without preventing its vertical reciprocation, substantially as described.

844,016. IRONING-MACHINE. GEORGE F. GLAZER, Philadelphia, Pa., asignor to Quong King Long Company, New York, N. Y., a Partnership. Filed Nov. 18, 1905. Serial No. 287,935.

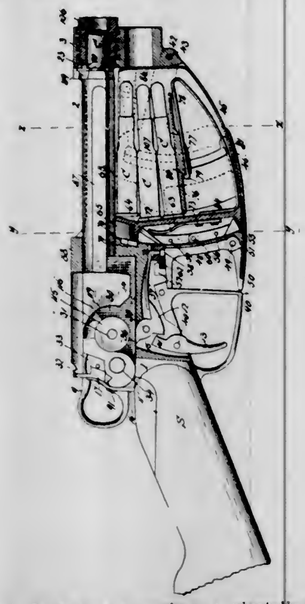


Claim.—1. The herein-described combination of a table, an overhanging board supported by said table, a standard projecting upward from the board, a lever hinged to said standard, a weight adjustably fitted upon said lever, a head secured to the lever, a presser-rod connected to said head by a ball-and-socket joint, springs attached to the presser-rod and the head, an adjustable pin secured on the lower end of the presser-rod, an iron upon which said

pin is adapted to bear and an extended bent handle attached to the iron, as and for the purpose specified.

2. In an apparatus of the character described, an overhanging board, a standard, a bracket extending from said standard, a lever hinged to the bracket, a stop projecting from the bracket to limit the downward movement of the lever, a presser-rod connected to the lever by a ball-and-socket joint, springs for drawing upon opposite sides of the presser-rod, a treadle and means for connecting said treadle with the lever, as and for the purpose specified.

844,017. MAGAZINE-GUN. CARL HANSEN, Johnson, N. Y. Original application filed Apr. 25, 1906, Serial No. 313,567. Divided and this application filed Aug. 10, 1906. Serial No. 329,978.



Claim.—1. In a gun, a receiver, a pivotally-suspended swinging magazine-lever and magazine, the latter containing a cartridge-carrier therein and moving radially to the pivotal center of the magazine and magazine-lever and provided with a lifting-spring within the magazine.

2. In a magazine-gun, a gun-barrel, a receiver, a pivotally-connected magazine-lever, a magazine also pivotally connected to the same center of an arc-describing path, a spring-actuated cartridge-lifter within the magazine, means for forcing the carrier into a locked position when the magazine is being filled, means for unlocking the same when filled.

3. In a magazine-gun, a gun-barrel, a receiver, a pivotally-connected magazine-lever, a magazine also pivotally connected to the same center of an arc-describing path, a spring-actuated cartridge-lifter within the magazine, means for forcing the carrier into a locked position when the magazine is being filled, means for unlocking the same when filled, and means for retaining the inserted cartridge when the magazine is locked to the receiver.

4. In a magazine-gun, the combination of a barrel, a receiver, a pivoted magazine, an arc-describing magazine-lever, a cartridge-carrier within the magazine, and magazine-stop springs which are attached to the interior of the receiver and designed to prevent the cartridges from being forced from the magazine.

5. In a magazine-gun, the combination of a barrel, a receiver, a pivoted magazine, an arc-describing magazine-lever, a cartridge-carrier within the magazine, magazine-stop springs which are attached to the interior of the receiver and designed to prevent the cartridges from being forced from the magazine, means for releasing automatically the magazine-stop springs to permit the insertion of the cartridges, and means for placing the magazine-stop springs into their restraining position again when the magazine is locked to the receiver.

6. A magazine-gun provided with a swinging magazine and encompassing swinging magazine-lever, means for locking and unlocking the magazine-lever means whereby the magazine is automatically locked and unlocked, and means whereby the cartridges contained within the magazine are automatically held within the same except during the time of filling the latter.

7. A magazine-gun provided with pivotally-connected swinging magazine and magazine-lever, and a receiver containing cartridge-stop springs placed on either side of the magazine and within the receiver, said cartridge-stop springs having means whereby they may be spread apart from, or refolded over the magazine-entrance to the receiver and having retaining-wings which prevent the passage of cartridges from the magazine to the receiver unless the former is locked.

844,018. PROCESS OF UTILIZING MARL, MAKING CARBID. HERMAN L. HARTENSTEIN, Constantine, Mich. Filed Apr. 17, 1905. Serial No. 255,965.

Claim.—1. The process of utilizing marl in the manufacture of carbid, which consists in mixing marl with carbonaceous material, and subjecting the mixture to the fusing or melting action of the electric current, as and for the purpose set forth.

2. The process of utilizing marl in the manufacture of carbid, which consists in calcining marl, mixing the same with carbonaceous material, and fusing the resultant mixture, as and for the purpose set forth.

3. The process of utilizing marl in the manufacture of carbid, which consists in preheating a quantity of marl, introducing the same into a mixture containing coke or carbonaceous material, and subjecting the resulting mixture to the fusing or melting action of the electric current, as and for the purpose set forth.

4. The process of utilizing marl in the manufacture of carbid, which consists in drying and disintegrating marl, mixing the same with carbonaceous material, and subjecting the mixture to the fusing or melting action of the electric current, as and for the purpose set forth.

5. The process of utilizing marl in the manufacture of carbid, which consists in subjecting moistened marl to the calcining or burning action of heat, mixing the same with carbonaceous material, and introducing into an electric furnace, as and for the purpose set forth.

6. The process of utilizing marl in the manufacture of carbid, which consists in forming a mixture of marl containing from ninety-eight to ninety-nine per cent. calcium carbonate with carbonaceous material, and subjecting the mixture to the fusing or melting action of the electric current, as and for the purpose set forth.

7. The process of utilizing marl in the manufacture of carbid, which consists in calcining a mixture of limestone with dried and disintegrated marl, mixing the same with carbonaceous material, and subjecting the mixture to the fusing or melting action of the electric current, as and for the purpose set forth.

8. The process of utilizing marl in the manufacture of carbid, which consists in calcining a mixture of dried and disintegrated marl and native marl, adding carbonaceous material, and subjecting the mixture to the fusing or melting action of the electric current, as and for the purpose set forth.

9. The process of utilizing marl in the manufacture of carbid, which consists in calcining a mixture of limestone, native marl and dried and disintegrated marl, adding carbonaceous material, and subjecting the mixture to the fusing or melting action of the electric current, as and for the purpose set forth.

10. The process of utilizing marl in the manufacture of carbid, which consists in calcining marl, adding carbonaceous material thereto, and introducing the mixture into an electric furnace while in a heated condition, as and for the purpose set forth.

11. The process of utilizing marl in the manufacture of carbid, which consists in calcining marl, and adding to the heated product a quantity of heated carbonaceous material, and at once introducing the mixture into an electric furnace, as and for the purpose set forth.

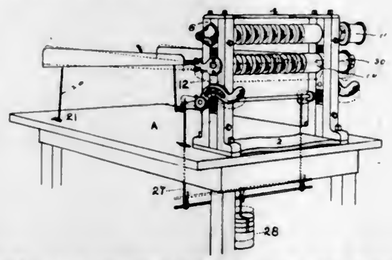
12. The process of utilizing marl in the manufacture of carbid which consists in calcining marl, passing the same while heated into a mixing-chamber, adding carbonaceous material to said mixing-chamber, and leading the product from the mixing-chamber directly into an electric furnace, as and for the purpose set forth.

13. The process of utilizing marl in the manufacture of carbid, which consists in introducing marl into a rotary calcining-furnace, passing the same into a mixing-chamber, introducing carbonaceous material into said mixing-chamber, leading the product into an electric furnace and subjecting it to the fusing or melting action of the electric current, as and for the purpose set forth.

14. The process of utilizing marl in the manufacture of carbid, which consists in calcining marl, adding carbonaceous material, introducing into an electric furnace, adding a superheating compound, and drawing off the melted product into molds, as and for the purpose set forth.

15. The process of utilizing marl in the manufacture of carbid, which consists in calcining marl having a certain percentage of moisture and limestone, adding carbonaceous material, introducing into a mixing-chamber and passing into an electric furnace, as and for the purpose set forth.

844,019. BURNISHING-MACHINE. HENRY HAUBERT, St. Paul, and MATHIAS OLSEN, Minneapolis, Minn. Filed Jan. 19, 1904. Serial No. 189,657.



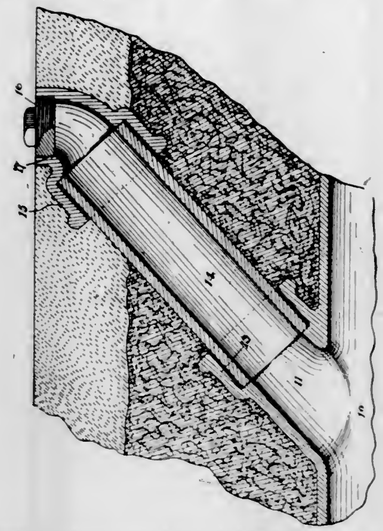
Claim.—1. A burnishing-machine of the class described, comprising in combination, framework, a corrugated roller having fixed journal-support therein, a coöperating roller slidably supported near the same, adjusting-cams fulcrumed upon the framework and each provided with a curved slot, pins connected with said slidable roller and projecting into said slots, means pressing downwardly upon the rear ends of said cams, and outwardly-extending handles carried by the forward ends of said cams.

2. A burnishing-machine of the class described comprising in combination a framework, a corrugated roller having fixed journal-support therein, a slidably-supported roller journaled near said fixed roller, adjusting-cams fulcrumed upon said framework, a slot-and-pin connection between said cams and the adjacent ends of said slidable rollers and counterbalancing means for said cams so as to hold said slidable roller in adjusted positions.

3. A burnishing-machine of the class described, comprising in combination, framework, a corrugated roller having fixed journal-support therein, a coöperating roller journaled in blocks slidably supported below said fixed roller, adjusting-cams fulcrumed upon said framework and formed with upwardly-arched slots, pins extending outwardly from said blocks into said slots, counterbalancing means connected with said cams, and outwardly-extending handles carried by said cams.

4. A burnishing-machine of the class described, consisting of parallel vertical uprights, a horizontal roller having fixed journal-support between the upper ends of said uprights, a similar roller having journal-support in blocks slidable in said uprights below said fixed roller, adjusting-cams fulcrumed upon said uprights and having pin-and-slot connection with said slidable blocks, a weight connected with said cams, and a receptacle connected to, and adjustable with, said slidable roller.

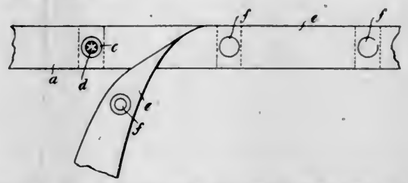
844,020. CLEAN-OUT FOR DRAINAGE SYSTEMS. LOUIS A. HOFFMAN, Elizabeth, and THOMAS H. HOOVER, Newark, N. J.; said Hoffman assignor to said Hoover. Filed Dec. 4, 1903. Serial No. 183,686.



Claim.—1. The combination of a drain or like pipe, a clean-out pipe connected thereto at an oblique angle and a floor-terminal for said clean-out pipe comprising an elbow-fitting having a bell-shaped lower end fitting over the upper end of the clean-out pipe and a closable upper end substantially parallel to floor and drain-pipe, the orifice in said upper end being in line with at least half the lumen of said clean-out pipe.

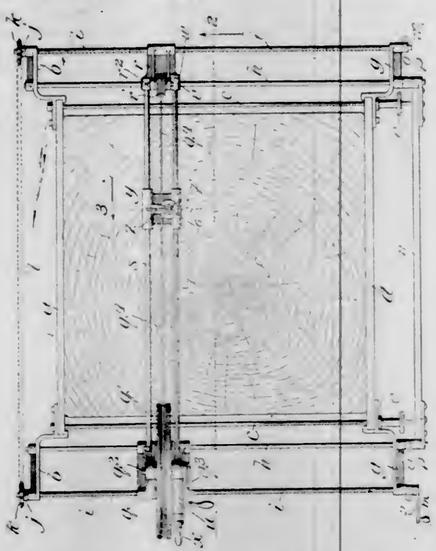
2. As an article of manufacture, a floor-terminal for oblique-angled drainage connections, said terminal comprising an elbow-fitting having at one end a bell-mouth adapted to receive the spigot end of a clean-out pipe and at the other end a closable mouth provided with a closure, at least half the orifice in the bell-mouth being in line with the orifice in the closable mouth.

844,021. SKIRT-SUPPORT AND BLOUSE-STAY. INEZ B. HOGAN, London, England. Filed June 17, 1905. Serial No. 265,680.



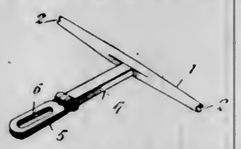
Claim.—In combination the detachable belt *a* the corrugated friction-pads *b* on the inner side of said belt, the rivets *c* adapted to secure the pads to the belt, the spring-studs *d* on said rivets projecting outside said belt *a* and the eyelets *f* adapted to engage with the studs *d* and secured to a garment.

844,022. MACHINE FOR SURFACING BUTCHERS' BLOCKS. DANA R. INGRAM, Chicago, Ill. Filed July 9, 1906. Serial No. 325,378.



Claim.—In a device of the class described, the combination of parallel clamping-bars connected at the respective ends by means of screw-threaded rods having clamping-nuts thereon, parallel supporting-rods connected with arms attached to the respective ends of said clamping-bars at right angles thereto, one of each pair of said supporting-rods being screw-threaded, means for rotating one of said rods, means for connecting said rods to cause them to rotate in unison, frames mounted upon each of said pairs of supporting-rods, parallel rods for connecting said frames, one of which is screw-threaded, a carriage mounted upon said last-named parallel rods, a vertical shaft having bearings in said carriage with a revoluble cutter upon its lower end, and means for actuating said shaft as the carriage is being moved in either direction.

844,023. BRACE FOR HEEL-SWEEPS. JOHN H. INGRAM, Quitman, Tex. Filed Aug. 15, 1906. Serial No. 330,758.

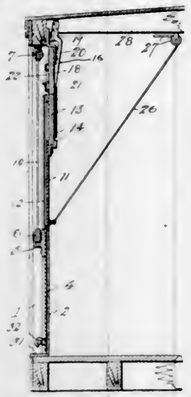


Claim.—1. A brace for heel-sweeps comprising a cross-bar having notched ends for engagement with the wings of the sweep, an arm or member extending forwardly from said cross-bar, and a plate loosely connected with said arm or member and adapted to be connected with the nose of the sweep.

2. A brace for heel-sweeps consisting of a cross-bar having notched ends, means for connecting said cross-bar with the nose of the sweep, and means for forcing said cross-bar forwardly to engage the upper edges of the wings of the sweep.

3. A brace for heel-sweeps comprising a cross-bar having notched ends, an eyebolt extending through said cross-bar and having a nut bearing against the rear side of the cross-bar, and a plate loosely connected with the eye at the front end of the bolt and adapted to be connected with the nose of the sweep.

844,024. GRAIN-CAR DOOR. JOHN JOHNSON, Duluth, Minn. Filed Mar. 10, 1906. Serial No. 305,236.

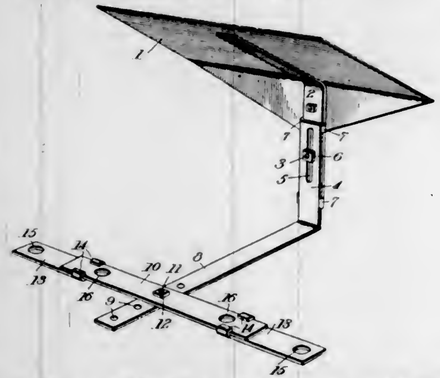


Claim.—1. A grain-door comprising a door-frame, an upper door-section pivotally slidable in said frame, retaining-flanges near the inner edges of said door-section, a lower door-section slidable within said retaining-flanges, and guide-bars for the upper door-section adapted to form pivotal supports to said section.

2. In a grain-door, the combination with a frame, an upper door-section pivotally slidable in said frame, retaining-flanges near the edges on the inner side of said section, a lower door-section slidable in said flanges, and a supplementary door-section hinged to the roof of the car and adapted to engage the upper door-section.

3. A grain-door comprising a door-frame, an upper door-section pivotally slidable in said frame and provided with a cut-away portion along its upper edge, removable panels covering said portion, guide-bars adapted to form pivotal supports for the upper door-section, retaining-flanges on the inner face of the upper section, a lower door-section slidable within said flanges, a supplementary door-section hinged to the roof of the car and adapted to engage the upper door-section, and means for locking said supplementary section to the upper section or to the roof.

844,025. DEVICE FOR TEACHING TOUCH TYPE-WRITING. HARBIN O. KEESLING and ORTON E. BEACH, Lawrence, Mass.; said Beach assignor to said Keesling. Filed Jan. 26, 1906. Serial No. 298,082.



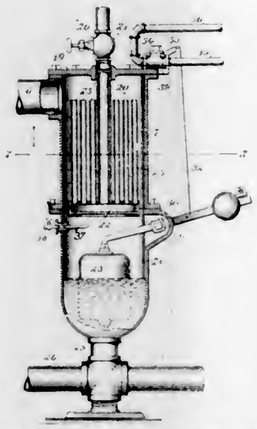
Claim.—1. A device for teaching touch type-writing, comprising a shield designed to extend over and conceal the keys of the type-writing machine, a support for said shield comprising an upright arm and a horizontally-extending arm to extend beneath the machine, and a cross-arm secured to the horizontally-extending arm.

2. A device for teaching touch type-writing, comprising a shield adapted to extend over and conceal the keys of the machine, a support for said shield comprising an upright arm to which the shield is attached, a horizontally-extending arm adapted to extend beneath the machine, and a cross-arm secured to said horizontally-extending arm and formed with perforations to receive the rubber feet of the type-writing machine.

3. A device for teaching touch type-writing, comprising a shield adapted to extend over and conceal the keys of the type-writing machine, a support for said shield comprising an upright arm to which the shield is attached, a horizontally-extending arm, a cross-arm carried by said horizontally-extending arm, and extensible portions carried by said cross-arm and formed with perforations to receive the rubber feet of the type-writing machine.

4. A device for teaching touch type-writing comprising a shield adapted to extend over and conceal the keys of the type-writing machine, a support for said shield comprising an upright arm to which the shield is attached, a horizontally-extending arm to extend beneath the machine, and an extensible cross-arm carried by said horizontally-extending arm having the members thereof formed with perforations to receive the rubber feet of the type-writing machine.

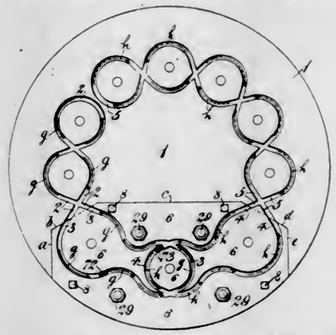
844,026. FEED-WATER HEATER. TIMOTHY J. KIELEY and FREDERICK T. MUELLER, New York, N. Y. Filed Sept. 28, 1905. Serial No. 280,432.



Claim.—1. A feed-water heater comprising a tank having a steam-exhaust pipe leading therein, a feed-water pipe, a reservoir within the tank, a vertical feed-water pipe entering the top of the tank and having its lower end connected to said reservoir, an annular series of vertical pipes surrounding the feed-water pipe and having their lower ends connecting with the reservoir and their upper ends terminating short of the top of the tank whereby the feed-water admitted to the reservoir flows upwardly through the vertical pipes and discharges over the upper ends thereof, said tank having a chamber for said feed-water and an outlet therefrom, and means including a float and a lever and connections for regulating the boiler-feed by the height of water in said chamber.

2. A feed-water heater, comprising a tank having a steam-exhaust pipe leading into the upper end thereof, a feed-water pipe passing downwardly through the top thereof, and at its lower end connected centrally with a reservoir a concentric series of vertical pipes surrounding the feed-water pipe having their lower ends connected to the reservoir and their upper ends terminating near the top of the tank, an outlet-pipe leading from the lower end of said tank, said tank having a reservoir for feed-water with which said outlet-pipe connects, and a buoyant member in the tank-reservoir and coöperating mechanism actuated thereby whereby the boiler-feed is automatically controlled by the height of water in said tank-reservoir.

844,027. MACHINE FOR MAKING BRAIDS AND TRIMMINGS. JACOB E. KIRBERG, Philadelphia, Pa., assignor to Hensel Colladay Company, a Corporation of Pennsylvania. Filed Aug. 2, 1905. Serial No. 272,366.



Claim.—1. In a braiding-machine, the frame having a raceway therein, said raceway having an intermediate removable section, racers for said raceway, means for actuating said racers, said removable section having a portion of a raceway therein forming a plurality of separate intersecting race-rings.

2. In a braiding-machine, the frame having a raceway therein, said raceway having an intermediate removable section having a portion of a raceway therein forming with the raceway of the frame a plurality of separate intersecting race-rings, racers for said race-rings and means for causing each racer to travel in its respective race-ring.

3. In a braiding-machine, the frame having a raceway therein, said raceway having an intermediate removable section having a portion of a raceway therein forming with the raceway of the frame a plurality of separate intersecting race-rings, racers for said race-rings and means carried by the removable section coacting with said racers to cause each racer to travel in its respective race-ring.

4. In a braiding-machine, a frame having a continuous raceway therein, said raceway having an intermediate removable section provided with portions of separate intersecting race-rings, racers for said race-rings, collars carried by said racers and guides carried by said replacing-section adapted to engage said collars to vary the direction of said racers.

5. In a braiding-machine, a frame having a raceway therein, said raceway having an intermediate removable section provided with intersecting raceways coacting with the raceways of the frame to form a plurality of separate continuous and intersecting race-rings, sets of racers for said race-rings, and means for deflecting each set of racers into its respective race-rings.

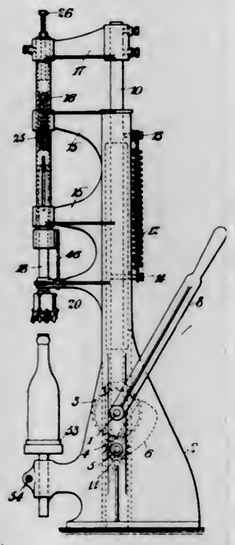
6. In a braiding-machine, a frame having a raceway therein, said raceway having an intermediate removable section having a plurality of portions of raceways therein intersecting at diametrically opposite points to form, with the raceways of the frame, a plurality of separate continuous and intersecting race-rings, sets of racers for said race-rings, and means for causing each set of racers to travel in its respective race-ring.

7. In a braiding-machine, a frame having a continuous raceway therein, said raceway having an intermediate removable section provided with portions of intersecting raceways registering with the raceways of said frame to form a plurality of separate continuous and intersecting race-rings, sets of racers for said race-rings and guides carried by the replacing section coacting with said sets to cause each to travel in its respective race-ring.

8. In a braiding-machine, a mutilated frame having a raceway therein, incomplete intermediate its ends, and a removable section for said frame having portions of a race-

way therein adapted to coöperate with the raceway of the frame.

844,028. BOTTLE-CAPPING MACHINE. GEORG KIRKEGAARD, New York, N. Y. Original application filed Dec. 21, 1905, Serial No. 292,693. Divided and this application filed Dec. 20, 1905. Serial No. 293,277.



Claim.—1. In a bottle-capping machine, a vertically movable main operating-spindle, and a pawl-carrying cap-applying head swiveled thereto and having a spring connection therewith to exert a turning force thereon.

2. In a bottle-capping machine, a vertically-movable main operating-spindle having a cap-applying head with depending pawls, and means whereby said head is initially depressed and subsequently rotated.

3. In a bottle-capping machine, a vertically-movable main operating-spindle having a cap-applying head with depending pawls, and means whereby said head is initially depressed and subsequently rotated by a non-positive connection with the main operating-spindle.

4. In a bottle-capping machine, a reciprocating main operating-spindle, a cap-applying head guided thereby and spring-pressed axially outward therefrom and carrying depending pawls, and means for imparting a final rotary movement to said cap-applying head.

5. In a bottle-capping machine, a reciprocating main operating-spindle having an independently-revoluble core spring-pressed outward therefrom, and a cap-applying head having a spring connection with said core to exert a turning force thereon.

6. In a bottle-capping machine, a main operating-spindle having a core spring-pressed outward therefrom and carrying a cap-applying head, said head having a series of depending pawls with teeth or dogs at their lower extremities for engaging a bottle-cap.

7. In a bottle-capping machine, a main operating-spindle having an independently-revoluble cap-applying head guided thereby, and rack-and-pinion connections for imparting a final rotary movement to the cap-applying head as the spindle is depressed.

8. In a bottle-capping machine, a main operating-spindle carrying an independently-revoluble cap-applying head, pawls depending from said head and guided thereby, a cam, and rack-and-pinion connections for imparting a final rotary movement to said cap-applying head.

9. In a bottle-capping machine, a main operating-spindle having a cap-applying head with depending pawl-levers, and depending spring-fingers intermediate said levers for grasping a bottle-cap.

10. In a bottle-capping machine, a main operating-spindle having a cap-applying head, pawl-levers depending from said cap-applying head and having teeth offset or tangentially directed from their lower extremities.

11. In a bottle-capping machine, a main operating-spindle having a cap-applying head, pawl-levers depending from said head, and intermediate spring-fingers having notches for receiving and holding a bottle-cap.

12. In a bottle-capping machine, a main operating-spindle having a cap-applying head at its lower end, spring means intermediate said head and spindle, and means for imparting a rotation to said cap-applying head through said spring means.

13. In a bottle-capping machine, a main operating-spindle having a core projecting therefrom, a housing on said core, a spring connection between said core and housing, and pawls depending from said housing.

14. In a bottle-capping machine, a cap-applying head having a central core and housing revoluble thereon, spring connections between said core and housing, and means for initially depressing the core and subsequently rotating it.

15. In a bottle-capping machine, a cap-applying head having a central core and an independently-revoluble housing, spring connections between said core and housing, and pawls depending from said housing and arranged to grasp the bottle-cap.

16. In a bottle-capping machine, a main operating-spindle having a depending cam-plate, a core projecting from said main operating-spindle and carrying a cap-applying head, and rack-and-pinion devices acted on by said cam-plate for imparting a rotation to said cap-applying head after the spindle has been depressed through a certain distance.

17. In a bottle-capping machine, a main operating-spindle having a core spring-pressed outward therefrom and carrying a cap-applying head, a cam-plate attached to said spindle, and rack-and-pinion connections for revolving said core after a certain predetermined movement of the main operating-spindle.

18. In a bottle-capping machine, a main operating-spindle having a depending cam-plate, a core spring-pressed outward from the main operating-spindle and carrying a cap-applying head, a rack and pinion guided by the frame of the machine, said rack being in the path of said cam-plate, whereby the rack is moved when the main operating-spindle is depressed, said cap-applying head being connected to said pinion so as to rotate therewith.

19. In a bottle-capping machine, a main operating-spindle having a core spring-pressed axially therefrom and carrying a cap-applying head, and a collar swiveled upon said core and guided by said spindle.

20. In a bottle-capping machine, a main operating-spindle having a longitudinal groove therein, a collar having lugs guided in said groove, and a core having a cap-applying head, and swiveled in said collar and spring-pressed axially from the spindle.

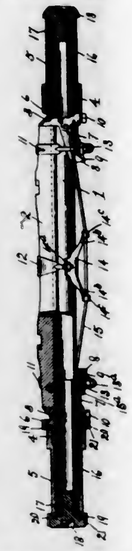
21. In a bottle-capping machine, a main operating-spindle having a longitudinal groove, a collar having lugs guided by said groove, a core carrying a cap-applying head and having a reduced portion swiveled within said collar, and a cap upon said core for holding it in proper relation with the collar.

844,029. AXLETREE. JESSE A. LEASE, Toledo, Ohio. Filed May 14, 1906. Serial No. 316,857.

Claim.—1. The combination with a hollow axletree, of tubular reinforcing-linings secured in its ends and extending inwardly beyond the point of strain of the axletree and internally threaded at their outer ends, and headed plugs threaded to said linings, substantially as described.

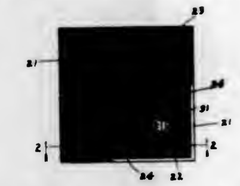
2. The combination with an axletree, of a center truss-block secured thereto and having its ends projecting outwardly and downwardly and each formed with a pair of hooked fingers, double truss-rods locking with said finger, and means for tightening said rods at their ends.

3. The combination with an axletree, of skeins mounted thereon and having tapered-faced lugs formed on the under sides thereof, a center truss-block, double truss-rods having their central portions in engagement with the center block and their ends connected and looped over the skeins, and means disposed between said looped ends and the tapered faces of said lugs adapted when drawn toward the axletree to cause a tightening of the truss-rods.



4. The combination with an axletree, of skeins mounted thereon and each provided on its under surface with tapered lugs, stay-chain-hook clips clamped to the axletree with their cross-bars shaped to seat against the skeins and their inner edges coacting with the tapered faces of the lugs, a center truss-block, having hooked fingers, and a pair of truss-rods having their central portions in sliding engagement with the fingers of the center block and their contiguous ends connected and bowed around the under sides of the skeins and in contact with the outer edges of said cross-bar, whereby as the clip is tightened the cross-bar is forced inwardly and laterally to effect a tightening of the truss-rods.

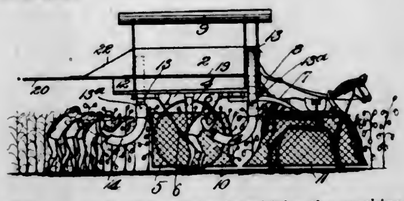
844,030. SIEVE-CLEANER. DANIEL W. MARMON, Indianapolis, Ind., assignor to Nordyke & Marmon Company, Indianapolis, Ind., a Corporation of Indiana. Filed Nov. 12, 1906. Serial No. 342,954.



Claim.—1. A sieve-cleaner composed of woven fabric strongly stitched close to the margin, and a metal support arranged centrally thereof and secured to the under side and which forms the bearing of the cleaner on the supporting-floor in operation.

2. A sieve-cleaner composed of woven fabric strongly stitched close to the margin, there being a multiplicity of rows of stitches near together which come into use successively as the ends wear away, and a metal support arranged centrally thereof and secured to the under side and which forms the bearing of the cleaner on the supporting-floor in operation.

844,031. COTTON-PICKER'S VEHICLE. THOMAS J. MERRITT, St. Louis, Mo. Filed Oct. 22, 1906. Serial No. 339,931.



Claim.—1. In a cotton-picker's vehicle, the combination of running-gear, and a tubular cotton-conveyer carried by said running-gear, substantially as set forth.

2. In a cotton-picker's vehicle, the combination of running-gear, a receptacle supported by said running-gear, and tubular conducting means through which cotton is delivered to said receptacle, substantially as set forth.

3. In a cotton-picker's vehicle, the combination of running-gear, a bed carried by said running-gear, and a tubular conveyer-chute leading to said bed, substantially as set forth.

4. In a cotton-picker's vehicle, the combination of running-gear, a bed carried by said running-gear, and a conveyer-chute leading to said bed; said conveyer-chute being provided with a detachable portion, substantially as set forth.

5. In a cotton-picker's vehicle, the combination of running-gear, a bed carried by said running-gear, a conveyer-chute proper leading to said bed, a receiving-chute detachably fitted to said conveyer-chute proper and provided with a coupling, and means for connecting said coupling to said conveyer-chute proper, substantially as set forth.

6. In a cotton-picker's vehicle, the combination of a main frame, an axle attached to said main frame, ground-wheels, and means in which said ground-wheels are journaled shiftably fitted to said axle, substantially as set forth.

7. In a cotton-picker's vehicle, the combination of a main frame, an axle attached to said main frame, ground-wheels, and yokes in which said ground-wheels are journaled shiftably fitted to said axle, substantially as set forth.

8. In a cotton-picker's vehicle, the combination of running-gear a main frame carried by said running-gear, means for receiving cotton carried by said frame-gear, and sectional screens hinged to said frame and projecting outward therefrom, substantially as set forth.

9. In a cotton-picker's vehicle, the combination of running-gear having a main frame, cotton-receiving means carried by said running-gear, main screens hinged to said main frame, and auxiliary screens hinged to said main screens, substantially as set forth.

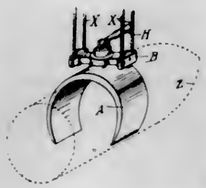
10. In a cotton-picker's vehicle, the combination of running-gear having a main frame, cotton-receiving means carried by said running-gear, main screens hinged to said main frame, and supplemental screens detachably connected to said main screens, substantially as set forth.

11. In a cotton-picker's vehicle, the combination of running-gear, cotton-receiving means carried by said running-gear, draft-shafts attached to said running-gear and adapted to receive a draft-animal, and a fender carried by said shafts, substantially as set forth.

12. In a cotton-picker's vehicle, the combination of running-gear including ground-wheels, and a signal carried by said running-gear and adapted to be operated through the medium of said ground-wheels, substantially as set forth.

13. In a cotton-picker's vehicle, the combination of a main frame, yokes supporting said main frame, ground-wheels journaled in said yokes, a gong supported by one of said yokes, a hammer supported by said yoke adjacent to said gong, and a trip carried by the ground-wheel associated with said yoke and adapted to engage said hammer during the movement of said ground-wheel, substantially as set forth.

844,032. GRAPPLE. EDWARD Y. MOORE, Cleveland, Ohio. Filed Aug. 4, 1906. Serial No. 329,269.



Claim.—1. In a grapple, the combination of a rigid arc-shaped member extending peripherally for over a semicircumference and uninterruptedly throughout its width, and supporting means adapted to carry such member with its opening downward, whereby the member may be passed longitudinally over the end of a substantially horizontal cylindrical object.

2. In a grapple, the combination of a rigid arc-shaped member extending for over a semicircumference, a swivel-pin secured at substantially the mid-point of such member and a supporting-bar swiveled to such member by such pin.

3. In a grapple, in combination, a rigid arc-shaped member extending for more than a semicircumference, a supporting-bar, means swiveling said bar to the member, and clamping mechanism for holding the load within said member.

4. In a grapple, in combination, a rigid arc-shaped member extending for more than a semicircumference, a supporting-bar, a pin swiveling said bar to the member, and a clamping-pin mounted in the swivel-pin.

5. In a grapple, in combination, load-holding mechanism, a bar swiveled thereto, a clamping-pin passing through such swivel, and a cam for operating such pin.

6. In a grapple, in combination, load-holding mechanism, a supporting-bar, a swivel-pin holding said bar to said mechanism, a clamping-pin passing through such swivel-pin, a spring within the swivel-pin tending to force the clamping-pin outwardly, and means for operating such clamping-pin.

7. In a grapple, the combination of load-holding mechanism, a supporting-bar, a tubular pin swiveling said bar to such mechanism, a nut screwing onto the pin, a cam-lever mounted on the nut, and a clamping-plunger mounted in the swivel-pin and operated by said cam-lever.

8. In a grapple, the combination of load-holding mechanism, a supporting-bar, a tubular pin swiveling said bar to such mechanism, a nut screwing onto the pin, ears on said nut, a cam-lever mounted between said ears, a clamping-plunger mounted in the swivel-pin and operated by said cam-lever, and a helical spring surrounding the plunger within the swivel-pin.

9. In a grapple, the combination of a rigid arc-shaped member extending for over a semicircumference, a supporting-bar swiveled to such member, said swivel-bar having near its ends recesses extending crosswise of the bar, and sheaves mounted in said recesses.

10. In a grapple, the combination of a rigid U-shaped member formed to grasp a round body by extending for more than a semicircumference thereof, and supporting means on the outer side of said member and carrying it at substantially the mid-point thereof, whereby said member may depend with its opening downward.

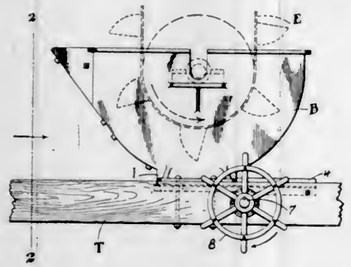
11. A grapple comprising a rigid U-shaped member, and a supporting-bar swiveled to the mid-point of such member.

12. In a grapple, the combination of a rigid U-shaped member, a supporting-bar swiveled to the mid-point of such member by a swivel-pin, and a clamping-pin mounted in such swivel-pin.

13. The combination of flexible mechanism, load-supporting mechanism, a bar swivelly secured to said load-supporting mechanism and supported by said flexible mechanism, a clamping-pin passing through the swivel, and a cam for operating such pin.

14. The combination of depending flexible raising mechanism, load-supporting mechanism, a bar swiveled to said load-supporting mechanism, and supported by said flexible raising mechanism, a clamping-pin passing through the swivel, a spring surrounding said clamping-pin and adapted to be compressed between shoulders on the pin and the swivel, a lever pivotally carried by the swivel, and a cam on said lever for operating said pin.

844,033. ELEVATOR-BOOT. RODGER MUNN, Anaconda, Mont. Filed June 28, 1906. Serial No. 323,970.

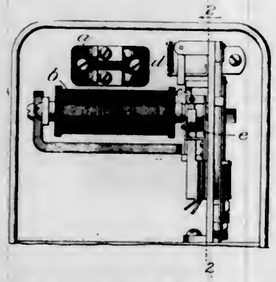


Claim.—1. An elevator-boot having plane side walls, and curved walls opposite the elevator of the boot, the curved walls being provided with an opening, and a sliding door for closing said opening operating tangentially to the curvature of the curved walls, substantially as set forth.

2. An elevator-boot having a bottom depending flanged mouth, a horizontally and rectilinearly sliding door for normally closing the mouth, means for guiding the door in its travel to and from its closed position, a centrally-disposed rack carried by the bottom of the door, a transversely-disposed shaft mounted below the boot to one side of the mouth aforesaid, a pinion on the shaft coöperating with the rack, and a hand-wheel at one end of the shaft, the parts operating substantially as and for the purpose set forth.

3. An elevator-boot having curved walls opposite the elevator operating within the boot, and plane side walls connecting the curved walls and having a bottom opening in the path of said curved walls, and a sliding door for closing said opening, operating tangentially to the curvature of the curved walls, substantially as set forth.

844,034. COIN-COLLECTOR FOR TELEPHONE-LINES. FRANK R. MCBERTY, Evanston, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Sept. 28, 1905. Serial No. 280,523.



Claim.—1. The combination with a lever provided with a slot extending transverse to the direction of movement of said lever, of contacts controlled by said lever, a coin-chute adapted to guide a coin in position to actuate said lever, an electromagnet, an armature therefor provided with means for controlling the disposal of said coin, and a pin on said armature in position to enter said slot and lock said lever against movement when said armature is in its attracted position.

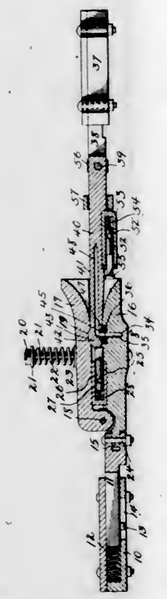
2. The combination with a lever provided with a horizontally-extending slot, of contacts controlled by said lever, a coin-chute arranged to guide a coin in position to depress said lever, an electromagnet, a tilting armature therefor provided with means for controlling the disposal of said coin, and a pin on said armature in position when the lever is depressed and said armature is tilted, to enter said slot and lock said lever against movement.

3. The combination with a lever provided with an angular-shaped slot, of contacts controlled by said lever, a coin-chute arranged to guide a coin in position to actuate said lever, an electromagnet, a tilting armature therefor provided with means for controlling the disposal of said coin, and a pin on said armature in position when the armature is in its attracted or unattracted position, to enter the one or the other arm of the slot to permit or to prevent, respectively, the movement of said lever.

4. The combination with a pivoted lever provided with a T-shaped slot, of contacts controlled by said lever, a coin-chute adapted to guide a coin in position to depress said lever, an electromagnet, a tilting armature therefor provided with means for controlling the disposal of said coin, and a pin on said armature in position to enter the horizontal or vertical portion of said T-slot, when said armature is in its attracted or unattracted position, respectively, to control the movement of said lever.

5. In a coin-collector, the combination with a coin-chute, an electromagnet, a vertically-pivoted armature adapted to be tilted in one of two opposite positions when attracted, and provided wtih means for controlling the disposal of a coin deposited in said chute, a lever arranged to be actuated by said deposited coin, and a pin in said armature arranged to engage said lever and hold the same against movement when said armature is in its attracted position.

844,035. AIR-HOSE COUPLING FOR TRAIN-LINES. WILLIAM E. MCKINLEY, Columbus, Ohio, assignor of one-half to James R. Boyles, Columbus, Ohio. Filed Oct. 13, 1906. Serial No. 338,704.



Claim.—1. In a device of the character described, a socket member comprising a body portion having a port formed therethrough, a cap portion hinged to said body portion, yielding devices for holding said cap portion down upon said body portion, said cap portion and said body portion having flaring mouths, a member adapted to enter said socket portion, and a valve controlling the flow of air through said port and adapted to be actuated by said member.

2. In a device of the character described, the combination with a slidably-disposed yielding bar, of a socket member pivoted to the outer end of said bar, said socket member comprising a body portion having a port formed therethrough, and a cap portion which is yieldingly mounted upon said body portion, a valve which controls ports formed through the body portion, and a member adapted to enter said socket portion and to actuate said valve.

3. In a device of the character described, the combination with a slidably-disposed yielding bar, of a socket member pivoted to the outer end of said bar, said socket member comprising a body portion having a port formed therethrough, and a cap portion which is yieldingly mounted upon said body portion, a valve which controls ports formed through the body portion, and a member adapted to enter said socket portion and to actuate said valve, said member having a port formed therethrough, a valve controlling the passage of air through said port, and means for automatically opening said valve when said member enters said socket member.

4. In a device of the character described, the combination with a slidably-disposed yielding bar, of a socket member pivoted to the outer end of said bar, said socket member comprising a body portion having a port formed therethrough, and a cap portion which is yieldingly mounted upon said body portion, a valve which controls ports formed through the body portion, a member adapted to enter said socket portion and to actuate said valve, said member having a port formed therethrough, a valve controlling the passage of air through said port, means for automatically opening said valve when said member enters said socket member, and a slidably-mounted yielding bar to which said member is pivoted for limited movement.

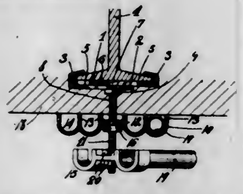
5. In a device of the character described, the combination with a socket member comprising a body portion and a yielding cap portion, of a valve adapted to control a port formed through said body portion, a coupling member having a head which is adapted to enter the socket member, said head having a port formed therethrough which is adapted to be brought into communication with the port of the socket member, means for forming an air-tight connection between said ports, and means for opening said valve.

6. In a device of the character described, the combination with a socket member comprising a body portion and a yielding cap portion, of a valve adapted to control a port formed through said body portion, a coupling member having a head which is adapted to enter the socket member, said head having a port formed therethrough which is adapted to be brought into communication with the port of the socket member, means for forming an air-tight connection between said ports, and means for opening said valve, the head of the coupling member having a removable plug screwed therein, and a gasket surrounding said plug.

7. A socket member for a device of the character described, comprising a bottom portion having a port formed therethrough, a yielding seat at which said port terminates, a cap portion hinged at one end to the socket member, and springs for holding said cap portion down upon the base portion.

8. A socket member for a coupling of the character described, comprising a bottom portion having a port formed therethrough, and a yielding seat carried by said body portion at which said port terminates, a cap portion hingedly connected to said body portion, bolts passing through the bottom portion and the cap portion, and springs surrounding said bolts and arranged to bear upon the cap portion and to hold said cap portion in yielding engagement with the bottom portion, said bottom portion and said cap portion having flaring mouths.

844,036. PIPE-HANGER. ADNAH MCMURTRIE, New York, N. Y., assignor to Thomas & Betts Company, New York, N. Y., a Corporation of New York. Filed Jan. 15, 1906. Serial No. 296,039.

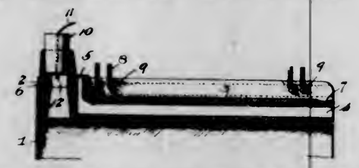


Claim.—1. A pipe-rack for devices of the class described comprising a web having a central aperture and a plurality of fingers extending above said web and curved to form pipe-seats on each side of said web said fingers being of sufficient height to reach above the pipe when in place, substantially in the manner and for the purpose set forth.

2. A hanger or rack for pipes or the like comprising a supporting member and a rack member having a web having a central aperture and a plurality of fingers extending above said web and curved to form a plurality of pipe-seats, one or more on each side of said web said fingers forming with said web a seat for a lock-nut substantially as described.

3. A pipe-hanger comprising a supporting member, and a rack member having a central web with a central aperture to receive said supporting member, fingers extended above the plane of said web to form a socket for a lock-nut, and curved pipe-seats outside said fingers and having their curved bottom portions below the plane of said web to form a seat for another lock-nut, substantially as described.

844,037. LIQUID-RECEPTACLE. EDWARD NEWBEGIN, Portland, Oreg., assignor to Adam Appell Co., Portland, Oreg. Filed Dec. 29, 1905. Serial No. 293,829.



Claim.—1. A water-bag comprising a flexible body, and an air-conduit located between the bag-walls and open at both ends to the atmosphere.

2. A water-bag comprising a flexible body, and a hollow bar extending along one margin of the bag and having its outer surface exposed within the bag and the inner surface exposed to the atmosphere.

3. A water-bag comprising a flexible body, and an air-conduit in the form of a tubular bar connected with the bag and extending through the interior thereof, the ends of said bar being open and communicating with the outer atmosphere.

4. The combination with a flexible water-bag and a flexible handle, having its ends attached to one margin of the bag, of a combined air-conduit and handle-bar extending along the same margin of the bag to which the handle ends are attached.

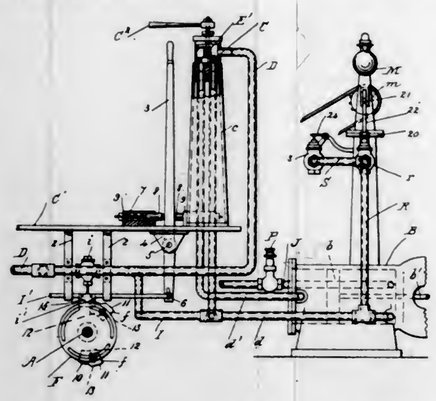
5. The combination with a flexible water-bag, of a combined mouthpiece and air-conduit extending along one margin of the bag and secured between the plies thereof.

6. The combination with a flexible water-bag, of a mouthpiece, and a combined air-conduit and handle-bar formed in one piece with the mouthpiece and extending along one margin of the bag and secured between the plies thereof.

7. The combination with a flexible water-bag, of a mouthpiece located adjacent to one corner thereof, and an air-conduit formed in one piece with the mouthpiece and extending along the margin of the bag, the mouthpiece and air-conduit having separate and independent passages respectively for water and air.

8. The combination with a flexible water-bag having the plies of one margin thereof permanently connected, a handle-bar interposed between the plies adjacent to said margin, and a flexible carrying-handle, the opposite ends of which are held between the connected plies in juxtaposition to the ends of the handle-bar.

844,038. BRAKE-OPERATING MECHANISM. ROBERT H. NICHOLSON, Wilkes-Barre, Pa. Filed Aug. 3, 1906. Serial No. 329,037.



Claim.—1. The combination, with a brake-cylinder provided with a steam-supply pipe, of an inlet-valve arranged in the said pipe, driving mechanism provided with a disk, and a tappet secured to the said disk and provided with steps of different height for opening the said valve step by step.

2. The combination, with a brake-cylinder provided with an inlet-valve, of driving mechanism provided with a tappet, a longitudinally-slidable tappet-bar arranged intermediate of the said tappet and valve and provided with a projection, and means for sliding the said bar longitudinally to move its said projection into and out of the path of the said tappet.

3. The combination, with a brake-cylinder provided with a steam-supply pipe, of an inlet-valve arranged in the said pipe, driving mechanism provided with a disk, a tappet secured to the said disk, a tappet-bar arranged between the said disk and valve and provided with a projection for the said tappet to engage with, a hand-lever for sliding the said tappet-bar, and means for normally holding the said tappet-bar stationary.

4. The combination, with a brake-cylinder provided with a steam-supply pipe, of an inlet-valve arranged in the said pipe, driving mechanism provided with a disk, a tappet and a stop secured to the said disk, and a movable tappet-bar arranged between the said disk and valve and provided with a projection for the said tappet to engage with and a second projection which is engaged by the said stop when the said first projection is moved out of engagement with the said tappet.

5. The combination, with a brake-cylinder provided with a steam-supply pipe, of an inlet-valve arranged in the said pipe, a by-pass pipe connected to the said supply-pipe on opposite sides of the said valve and also provided with an inlet-valve, driving mechanism provided with two disks, and tappets secured to the two said disks and arranged to open the two said valves respectively.

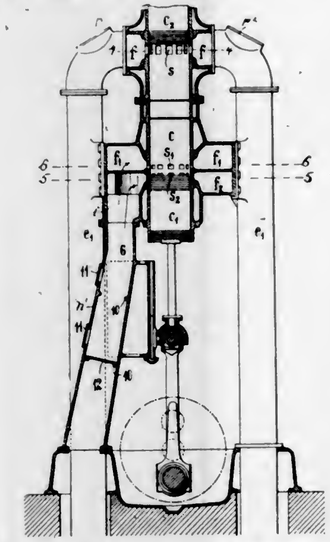
6. The combination, with a brake-cylinder provided with two steam-supply pipes, of inlet-valves arranged in the said pipes, a pressure-reducing valve arranged in one of the said pipes, driving mechanism provided with two disks, and tappets secured to the two said disks and arranged to open the two said inlet-valves respectively.

844,039. BOX FOR CARD-INDEXES OR THE LIKE. JOHN S. NOWOTNY, Madisonville, Ohio. Filed May 11, 1905. Serial No. 260,037.



Claim.—A box comprising a body portion having an open top, said body having a continuously-extended marginal seat around each of its four sides at points adjacent the top edge thereof, a single pair of lids hinged to two of said sides, the longitudinal edge of one of said lids being provided with a groove on its under side, a tongue projecting from the under side of the longitudinal edge of the other lid to be received by said groove, a projecting knob on the end of each lid, a head on each knob, and a single horizontally-disposed endless rubber band engaging each knob and the head thereof and extending across the joint formed by the meeting edges of said lids.

844,040. VERTICAL GAS-ENGINE. WILHELM VON OECHELHAEUSER, Dessau, Germany. Filed Feb. 1, 1906. Serial No. 299,006.

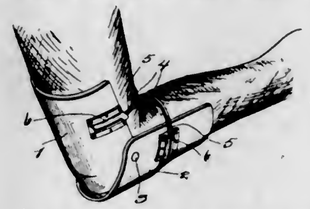


Claim.—1. The combination in a gas-engine, of a supporting-frame, a working cylinder having exhaust-ports, a piston in said cylinder controlling said ports, an additional wall around the cylinder near the exhaust-ports forming an exhaust-chamber, and exhaust-pipes leading from opposite sides of the chamber and forming part of the engine-frame.

2. The combination in a gas-engine, of a supporting-frame, a working cylinder having inlet-ports for gas and air, means in said cylinder controlling said ports, an additional wall around the central part of said cylinder forming an air-receiving and a gas-receiving chamber, and an extension from one of said chambers in the supporting-frame, and means for varying the capacity of said chamber.

3. The combination in a gas-engine, of a supporting-frame, a working cylinder having three rings of ports, oppositely-moving pistons controlling said ports, additional walls around said cylinder forming separate receiving-chambers for air, gas and exhaust, respectively, around said three rings of ports in said cylinder, an extension from said air-chamber in the supporting-frame, and means for varying the capacity of said extension-chamber.

844,041. KNEE-PROTECTOR. FLETCHER W. OWENS, Palmetto, Fla. Filed June 26, 1906. Serial No. 323,431.



Claim.—1. A knee-protector, adapted to protect the knee from wear, and having a strap secured to one side, and comprising a notched bar, and a dog adapted to engage the notches therein, for locking the same.

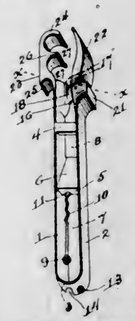
2. A metallic knee-protector, comprising two members, pivoted together and adapted to conform to the action of the wearer in walking, and a strap secured to one side and terminating in a notched end, and a dog adapted to engage said notches for locking the same.

844,042. FIREPROOFING TEXTILE MATERIAL. WILLIAM H. PERKIN, Jr., Manchester, England, assignor of one-half to Whipp Brothers & Todd Limited, Manchester, England. Filed Apr. 18, 1902. Serial No. 103,637. (Specimens.)

Claim.—1. The process described of fireproofing fibrous and textile materials, said process consisting in preparing two separate baths, the first bath being a solution of a stannate, and the second bath being a solution of metallic salt free from the oxid of a metal in its acid radical, but capable of forming an insoluble compound with the stannate, saturating the goods first with the stannate-bath, then drying the goods, and afterward saturating the goods with the aforesaid second bath, and thereby forming an insoluble compound upon the goods to make them fireproof, and finally drying, for the purpose set forth.

2. The process described of fireproofing fibrous and textile materials, said process consisting in first treating the same with a solution of a stannate, then drying, and then treating with a solution of an acetate capable of forming an insoluble compound with the deposit from the first bath, and finally drying.

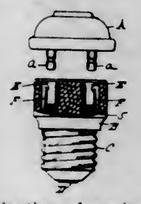
844,043. COMPOUND TOOL AND TOOL-HOLDER. ORLANDOW S. PERKINS, Newbern, N. C. Filed July 11, 1904. Serial No. 216,118.



Claim.—As a new article of manufacture, a tool-holder comprising arms joined at one end by a portion having a groove adapted to hold round tools, a shoulder on each side of the groove and adapted for square or angular

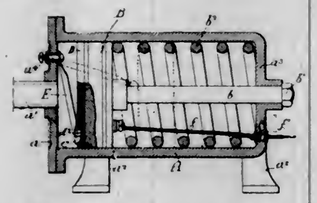
tools, the bar 5 standing edgewise across the interval between the arms and flush with each side edge of the arms, the flange 6 inclined from one edge of the bar to the edge of the arms opposite said bar edge and forming a wedge abutment for all of said tools, and the bar 4 located between the grooved portion and the flange, substantially as shown and described.

844,044. ATTACHMENT-PLUG. JOHANN G. PETERSON, Bridgeport, Conn., assignor to The Perkins Electric Switch Manufacturing Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Jan. 7, 1907. Serial No. 351,194.



Claim.—The combination of an insulating-body carrying a terminal pin with a separate insulating-body having a chamber containing a metallic socket cut away on one side, and a spring-plate having a free end to engage the terminal pin, and at its other end a ring to go under and be clamped by the socket and a securing-screw passing through said ring into the bottom of the socket.

844,045. ELECTRIC SWITCH. JAMES C. PINKERTON, Philadelphia, Pa. Filed May 9, 1906. Serial No. 315,951.



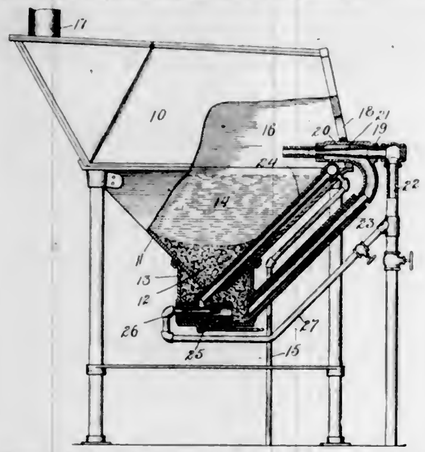
Claim.—1. The combination of a cylinder, a piston movable therein, a pair of switch-contacts having terminals, means for moving the piston in the cylinder, one of said contacts being movable relatively to the other and being provided with means including a channel and a piece fitting therein whereby said contact is moved into or out of engagement with the other contact as the piston is moved in the cylinder, substantially as described.

2. The combination of a cylinder, a piston therein, a spring acting between one face of the piston and one end of the cylinder, said cylinder being connected to a source of fluid under pressure, and there being a groove in the face of the piston provided with a metallic contact-piece, a spring-actuated piece, terminals for said piece and for the contact carried by the piston, said grooves being formed to permit the spring-actuated piece to engage the metallic piece carried on the piston only when said piston is moving in one direction, substantially as described.

3. The combination of a cylinder, a piston movable therein and provided with a plate of insulating material held to one face, a spring acting between one head of the cylinder and the piston, a connection between the cylinder and a source of fluid under pressure, insulating material carried by the piston and having a groove formed in it, a metallic strip placed in a portion of said groove, a terminal for the attachment of an electric conductor connected to said strip, a spring-pressed arm having a second terminal and provided with a portion operative in the groove, said groove being formed to guide said spring-pressed arm into engagement with the metallic strip only when the piston is moved in one direction, substantially as described.

4. The combination of a cylinder, a piston movable therein, there being a plate of insulating material carried by the piston and having a groove made in two parts joined to each other, a metallic strip in one of said parts of the groove having a terminal for the attachment of an electric conductor, a spring-actuated contact-piece supported by the cylinder so as to be capable of moving in one part of the groove as the piston moves in one direction and in the other part thereof, as the piston moves in the opposite direction, and a terminal for said contact-piece, substantially as described.

844,046. ART OF ABRADING. ANTHONY H. RADELL, Chicago, Ill., assignor to Benjamin M. Frees, Chicago, Ill. Filed Sept. 12, 1904. Serial No. 224,207.



Claim.—1. Improvements in the art of abrading by the projection of moist abrasive material by a steam-injector, which consists in heating the moist abrasive material to a high degree and supplying the same to the injector in a highly-heated condition.

2. In the art of abrading by the projection of moist abrasive material by a steam-injector, the step of supplying moist abrasive material and highly-heated gaseous matter to the vacuum-chamber of the ejector.

3. In the art of abrading by the projection of moist abrasive material by a steam-injector, the steps of highly-heating air, and supplying the highly-heated air to the injector with the moist abrasive material.

4. In the art of abrading by the projection of moist abrasive material by a steam-injector, the improvement which consists in highly heating air, supplying the same to the abrasive material before it reaches the injector to heat said abrasive material, and supplying said mixture of highly-heated air and abrasive material to the injector while in a heated condition.

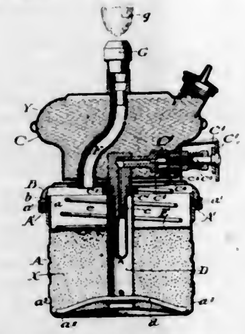
5. In the art of abrading by the projection of abrasive material and air by a steam-injector, the step of heating the air before it reaches the injector.

6. The process of sharpening files which consists in subjecting the files to a blast of abrasive material, steam and heated air.

7. In the art of abrading by the projection of abrasive material, the step of supplying a moist mixture of carborundum and quartz to the injector with a volume of highly-heated gaseous matter.

8. In the art of sharpening files by the projection of moist abrasive material against them by a steam-injector, the step of supplying the mixture of the moist abrasive material and gaseous mater to the vacuum-chamber of the injector at a temperature above the point of condensation of the injector-steam.

844,047. ACETYLENE-GAS GENERATOR. EDWIN M. ROSENBLUTH, Philadelphia, Pa. Filed Apr. 29, 1901. Serial No. 57,933.



Claim.—1. In an acetylene-gas generator, the combination with a carbid-chamber; of a removable lid for said chamber; a water-chamber fixed upon said lid; a detached and removable water-column within said carbid-chamber; radial feeders extending from the bottom of said column; a water-inlet tube, extending from said water-chamber through said carbid-chamber lid, in registry with said water-column; and resilient means to engage said column in dustproof relation with said inlet-tube, substantially as set forth.

2. In an acetylene-gas generator, the combination with a carbid-chamber; of a water-chamber above said carbid-chamber; a water-column open at its bottom and arranged to deliver water from said water-chamber to the bottom of said carbid-chamber; and water-feeders carried by said column and extending radially therefrom within and in contact with the carbid mass, adjacent to the floor of the carbid-chamber, substantially as set forth.

3. In an acetylene-gas generator, the combination with a carbid-chamber; of a water-chamber above said carbid-chamber; a removable water-column arranged to deliver water from said water-chamber to the bottom of said carbid-chamber; and water-feeders carried by said column, supported by the floor of the carbid-chamber, and comprising channels extending radially from the bottom of said column within the carbid mass, adjacent to the floor of said carbid-chamber, substantially as set forth.

4. In an acetylene-gas generator, the combination with a carbid-chamber; of a removable lid for said chamber; a water-chamber fixed upon said lid; a detachable water-column within said carbid-chamber; radial feeders extending from the bottom of said column; a water-inlet tube extending from said water-chamber through said carbid-chamber lid in registry with said water-column, and comprising a detachable nozzle with a restricted outlet; a resilient gasket arranged on said inlet-tube to engage said column in dustproof relation therewith; and, means on said tube arranged to normally prevent removal of said gasket, substantially as set forth.

5. In an acetylene-gas generator, the combination with a carbid-chamber; of a removable lid for said chamber; a water-chamber fixed upon said lid; a detached water-column within said carbid-chamber; radial feeders extending from the bottom of said column; a water-inlet tube extending from said water-chamber through said carbid-chamber lid in registry with said water-column; resilient means arranged to engage said column in dustproof relation with said inlet-tube; and, a valve arranged to control communication between said inlet-tube and said water-chamber, substantially as set forth.

6. In an acetylene-gas generator, the combination with a carbid-chamber; of a removable lid for said chamber; a water-chamber fixed upon said lid; a detached water-column within said carbid-chamber; radial feeders extending from the bottom of said column; a water-inlet tube extending from said water-chamber through said carbid-chamber lid in registry with said water-column; resilient means arranged to engage said column in dustproof relation with said inlet-tube; and, a check-valve arranged to automatically control communication between said inlet-tube and said water-chamber, substantially as set forth.

7. In an acetylene-gas generator, the combination with a carbid-chamber; of a removable lid for said chamber; a water-chamber fixed upon said lid; a detached water-column within said carbid-chamber; radial feeders extending from the bottom of said column; a water-inlet tube extending from said water-chamber through said carbid-chamber lid in registry with said water-column; resilient means arranged to engage said column in dustproof relation with said inlet-tube; a check-valve arranged to automatically control communication between said inlet-tube and said water-chamber; and, a manually-operative valve arranged to control communication between said check-valve and said water-column, substantially as set forth.

8. In an acetylene-gas generator, the combination with a carbid-chamber; of a removable lid for said chamber; a water-chamber fixed upon said lid; a detached water-column within said carbid-chamber; radial feeders extending from the bottom of said column; a water-inlet tube extending from said water-chamber through said carbid-chamber lid in registry with said water-column and comprising a detachable nozzle with a restricted outlet; a resilient gasket arranged on said inlet-tube to engage said column in dustproof relation therewith; means on said tube arranged to normally prevent removal of said gasket; a check-valve arranged to automatically control communication between said inlet-tube and said water-chamber; and, a manually-operative valve arranged to control communication between said check-valve and the restricted outlet, substantially as set forth.

9. In an acetylene-gas generator, the combination with a carbid-chamber; of a removable lid for said chamber; a water-chamber fixed upon said lid; a detached and removable metallic water-column within said carbid-chamber; radial metallic feeders extending from the bottom of said column in integral relation therewith; a water-inlet tube, extending from said water-chamber through said carbid-chamber lid in registry with said water-column; and, resilient means arranged to engage said column in dustproof relation with said inlet-tube, substantially as set forth.

10. In an acetylene-gas generator, the combination with a carbid-chamber; of a removable lid for said chamber; a water-chamber fixed upon said lid; a gas-tube extending through said water-chamber and lid, connecting them in rigid relation; a metallic water-column within said carbid-chamber; radial metallic feeders extending from the bottom of said column in integral relation therewith; and, means arranged to supply said column with water from said water-chamber, substantially as set forth.

11. In an acetylene-gas generator, the combination with a carbid-chamber; of a water-chamber fixed upon said carbid-chamber; a gas-tube extending through said water-chamber and lid, connecting them in rigid relation; a detached and removable water-column within said carbid-chamber and radial metallic feeders extending from the bottom of said column in integral relation therewith; and, means arranged to supply said column with water from said water-chamber, substantially as set forth.

844,048. CLASP FOR GARTERS OR THE LIKE. CLARENCE E. SCHAFFNER, Cincinnati, Ohio. Filed Mar. 30, 1906. Serial No. 308,976.

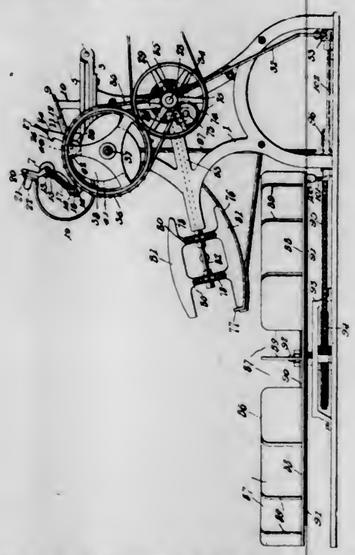


Claim.—1. A clasp or fastening comprising two independent parts or members, one member being a triangular sheet-metal plate and provided with a convex-headed post or pin and the other member being a sheet-metal plate and provided with a keyhole-slot and a rearwardly-disposed and resiliently-supported concavo-convex presser-cap overhanging the narrow portion of said keyhole-slot, and an

upwardly-flaring tongue or extension projecting from the fore edge of said presser-cap over a portion of the larger portion of said keyhole-slot.

2. A clasp or fastening comprising two parts or members, one member having a headed pin or post and the other member having a keyhole-slot provided with a tapered raised edge around the circular portion thereof and an overhanging resilient presser-cap connected integrally to the outer end of the last-named member.

844,049. MACHINE FOR SIZING TOBACCO-LEAVES. HENRY SCHUMACHER, Dayton, Ohio. Filed Apr. 26, 1906. Serial No. 313,791.



Claim.—1. A machine for sizing tobacco-leaves comprising a main frame, a frame movable relatively to said main frame, sizing-rolls mounted in said movable frame, power-driven mechanism for intermittently rotating said sizing-rolls, and mechanism similarly driven for lifting and dropping said movable frame, substantially as described.

2. A machine for sizing tobacco-leaves, comprising a main frame, a movable frame pivoted thereon, and sizing-rolls mounted in said movable frame, in combination with a shaft mounted in the main frame and provided with cam-wheels for lifting and dropping the movable frame at intervals, and gearing connecting said shaft and one of the sizing-rolls to impart an intermittent rotary motion to said rolls, substantially as described.

3. A machine for sizing tobacco-leaves comprising a main frame, an oscillating frame pivoted thereon, and sizing-rolls mounted in said oscillating frame and provided with a driving-gear in combination with a driving-gear mounted on the main frame between the rod-driving gear and the pivotal axis of the oscillating frame, said gears being in constant mesh, substantially as described.

4. A machine for sizing tobacco-leaves comprising a main frame, an oscillating frame pivoted thereon, and sizing-rolls mounted in said oscillating frame and provided with a driving-gear, in combination with a driving-gear mounted on the main frame between the roll-driving gear and the pivotal axis of the oscillating frame, said gears being in constant mesh, said main-frame-driving gear being rotated with a speed and a direction such that the rolls are rotated during their downward movement only, substantially as described.

5. In a machine for sizing tobacco-leaves, a frame, and two sizing-rolls mounted thereon, one in fixed relation thereto, the other movable toward and from its companion roll, in combination with a feed-table carried by said frame, said feed-table and the movable roll being located on opposite sides of the fixed roll, substantially as described.

6. In a machine for sizing tobacco-leaves, the combination, with sizing-rolls, of a feed-table located at one side of said sizing-rolls and provided with an elevated portion extending over one of said rolls and forming a shoulder for positioning the leaf-clamping holder, substantially as described.

7. In a machine for sizing tobacco-leaves, a frame, in combination with two sizing-rolls supported thereon, one of said rolls being supported in fixed position relatively to said frame, the other roll being movable toward and from said fixed roll, springs acting to separate said rolls, and means for holding said movable roll against the action of said springs, substantially as described.

8. In a machine for sizing tobacco-leaves, a frame, in combination with two sizing-rolls, one roll having a fixed position relatively to said frame, the other roll being movable toward and from the fixed roll, springs acting to separate said rolls, and a releasable latching mechanism for holding the movable roll in working position against the action of said springs, substantially as described.

9. In a machine for sizing tobacco-leaves, a frame, in combination with sizing-rolls mounted thereon, one of them having a fixed position relatively to said frame, the other being movable toward and from the fixed roll, springs acting to press said rolls into yielding engagement with each other, other springs acting to separate said rolls, and means for holding said rolls in engagement against the action of said separating-springs, substantially as described.

10. In a machine for sizing tobacco-leaves, a frame, and a sizing-roll mounted in fixed position thereon, in combination with a movable sizing-roll, a frame in which said movable sizing-roll is mounted, said last-mentioned frame being pivotally connected to the first-mentioned frame so as to swing the movable roll toward and from the fixed roll, and having also a sliding connection therewith, springs acting to slide the movable roll and its frame toward the fixed roll, other springs acting to swing the movable roll and its frame away from the fixed roll, and means for holding said movable-roll frame in position with the two rolls in contact, substantially as described.

11. In a machine for sizing tobacco-leaves, a frame, and a sizing-roll mounted in fixed position thereon, said frame having trunnions pivoted therein, in combination with a movable roll provided with bearings, rods carried by said bearings and sliding transversely through said trunnions, springs for forcing the movable roll and its bearings outward from said trunnions, other springs acting to swing the movable roll and its bearings on said trunnions away from the fixed roll, and means for holding said movable roll and its bearings against the action of the last-mentioned springs, substantially as described.

12. In a machine for sizing tobacco-leaves, a frame having a sizing-roll mounted in fixed position thereon, in combination with a movable sizing-roll, and a frame therefor comprising a cross-bar having bearings for the movable roll, C-springs connecting said cross-bar with the frame of the fixed roll, said last-mentioned frame having trunnions pivoted therein, rods forming part of the movable-roll frame sliding transversely through said trunnions, and springs mounted on said rods and acting to move the movable roll outward from the trunnions, substantially as described.

13. In a machine for sizing tobacco-leaves, sizing-rolls and their shafts, a gear-train for driving said rolls, the last gear of said train being loosely mounted on one of the roll-shafts, a locking member rotating with said gear, a hand-crank secured to said roll-shaft, and a locking-pin for connecting and disconnecting said hand-crank and locking member, substantially as described.

14. In a machine for sizing tobacco-leaves, a main frame, an oscillating frame pivoted thereto at one of its ends, and sizing-rolls mounted on said oscillating frame and provided with a gear, in combination with a shaft

mounted on the main frame and provided with a driving-pinion, a gear-supporting frame pivoted on said shaft and adjustably connected with the main frame, and a train of gears supported on said gear-supporting frame and driven from said pinion, the last gear of said train being located between the roll-gear and the pivot of the oscillating frame, so as to remain in mesh with said roll-gear, substantially as described.

15. In a machine for sizing tobacco-leaves, sizing-rolls between which the leaves are fed, in combination with an agitator arranged below said rolls and comprising a rotatable shaft provided with projections acting on the leaves depending therefrom to separate and free the same, substantially as described.

16. In a machine for sizing tobacco-leaves, sizing-rolls, means for rotating said rolls, a movable frame in which said rolls are mounted, means for lifting and dropping said frame at regular intervals to discharge the leaves which have passed free of the rolls, and an agitator arranged below said rolls and operating on the leaves to separate and free the same from each other to insure their discharge, substantially as described.

17. In a machine for sizing tobacco-leaves, sizing-rolls, in combination with an agitator located below said rolls at one side of the path of the leaves and comprising a shaft driven at a high speed and provided with blades having uneven edges, substantially as described.

18. In a machine for sizing tobacco-leaves, the combination, with sizing devices for discharging the leaves in batches of similar size, of an inclined receiving-plate located below said sizing devices to receive the leaves as they fall therefrom, said plate being provided with a terminal stop to arrest and aline the leaves, for which the lower portion of said plate constitutes a receptacle, and mechanical means for removing the leaves from said receptacle after the discharge of each batch, substantially as described.

19. In a machine for sizing tobacco-leaves, the combination, with sizing devices for discharging the leaves in batches of similar size, of an inclined receiving-plate located below said sizing devices to receive the leaves as they fall therefrom, said plate being provided with a terminal stop to arrest and aline the leaves, for which the lower portion of said plate constitutes a receptacle, and a sweep moving transversely across said receptacle to remove the leaves therefrom after each operation of the sizing devices, substantially as described.

20. In a machine for sizing tobacco-leaves, the combination, with sizing devices for discharging the leaves in batches of similar size, of an inclined receiving-plate located below said sizing devices to receive the leaves as they fall therefrom, said plate being provided with a terminal stop to arrest and aline the leaves, for which the lower portion of said plate constitutes a receptacle, and an endless sweeping conveyer located above said receptacle and provided with sweeps adapted to fit said receptacle and remove the leaves therefrom, substantially as described.

21. A machine for sizing and distributing tobacco-leaves, comprising sizing mechanism for discharging the leaves in batches of successive sizes, a distributing-receptacle provided with compartments corresponding with said sizes, and means for moving said receptacle in unison with the sizing mechanism to successively present its compartments at the point of discharge of the leaves from the sizing mechanism, substantially as described.

22. A machine for sizing and distributing tobacco-leaves, comprising sizing devices for discharging the leaves in batches of successive sizes, an inclined receiving-plate located below said sizing devices and having a trough-like receptacle for the batches of leaves thus discharged, a distributing-receptacle provided with compartments corresponding with the sizes of the batches delivered by the sizing devices, means for moving said distributing-receptacle in unison with the sizing devices to successively present its compartments at one end of the receiving-plate trough, and a sweep working across said receiving-plate after the discharge of each batch of leaves from the sizing devices to sweep said batch of leaves into the corresponding compartment of the distributing-receptacle, substantially as described.

23. In a machine for sizing and distributing tobacco-leaves, sizing-rolls acting to discharge the leaves in batches of successive sizes, a rotatory distributing-receptacle having compartments corresponding with said sizes, and power-driven mechanism for actuating said rolls and distributing-receptacle in unison, substantially as described.

24. In a machine for sizing and distributing tobacco-leaves, sizing-rolls acting to discharge the leaves in batches of successive sizes, a rotatory receptacle having compartments corresponding with said sizes, and power-driven mechanism for actuating said rolls and distributing-receptacle in unison, in combination with means for disconnecting said rolls from their driving mechanism and for manually operating them when so disconnected, substantially as described.

25. A machine for sizing and distributing tobacco-leaves, comprising sizing mechanism for discharging the leaves in batches of successive sizes, a rotatory distributing-receptacle having an annular series of compartments corresponding with the said sizes, and means for rotating said receptacle in unison with the sizing mechanism to successively present its compartments at the point of discharge of the leaves from the sizing mechanism, substantially as described.

26. A machine for sizing and distributing tobacco-leaves, comprising sizing mechanism for discharging the leaves in batches of successive sizes, a distributing-receptacle provided with compartments corresponding with said sizes, means for moving said receptacle in unison with the sizing mechanism to successively present its compartments at the point of discharge of the leaves from the sizing mechanism, and means for automatically stopping the movement of said parts after a predetermined number of batches of leaves have been discharged, substantially as described.

27. A machine for sizing and distributing tobacco-leaves, comprising sizing mechanism for discharging the leaves in batches of successive sizes, a distributing-receptacle provided with compartments corresponding with said sizes, means for moving said receptacle in unison with the sizing mechanism to successively present its compartments at the point of discharge of the leaves from the sizing mechanism, and means for automatically stopping the movement of said parts after all of said compartments have been so presented, substantially as described.

28. A machine for sizing and distributing tobacco-leaves, comprising sizing mechanism for discharging the leaves in batches of successive sizes, said sizing mechanism comprising sizing-rolls between which the leaves are passed, a distributing-receptacle provided with a plurality of compartments for the several sizes of leaves, means for moving said receptacle in unison with the sizing mechanism to successively present its compartments at the point of discharge of the leaves from the sizing mechanism, and means for automatically separating the sizing-rolls and stopping the machine after a predetermined number of batches of leaves have been delivered, substantially as described.

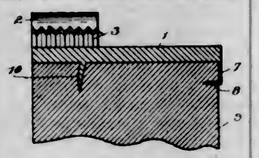
29. A power-driven machine for sizing and distributing tobacco-leaves, comprising sizing mechanism and a rotatory distributing-receptacle, the latter provided with a tripping projection, a clutch controlling the driving connections of said parts, a tilting double foot-lever controlling said clutch, and a rock-shaft on which said foot-lever is mounted, said rock-shaft having a trip-arm arranged in the path of the tripping projection of the distributing-receptacle, substantially as described.

30. In a machine for sizing tobacco-leaves, sizing-rolls between which the leaves are passed, said rolls being in proximity when in operation, and means for automatically separating said rolls after a definite operative period, substantially as described.

31. In a machine for sizing tobacco-leaves, sizing-rolls between which the leaves are passed, said rolls being in proximity when in operative position, springs acting to separate said rolls, latches for holding said rolls against separation, and a gear for driving said rolls, said gear being provided with a cam which operates to trip said

latches and permit the springs to separate the rolls after a definite operative period, substantially as described.

844,050. RAIL-CHAIR. JESSE H. SNELL, Ilion, N. Y. Filed July 26, 1906. Serial No. 327,950.

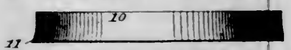


Claim.—1. A chair for railway-rails, comprising a base portion having a jaw formed integral therewith, said jaw having vertical and horizontal teeth or serrations on the inner face thereof, apertures for the reception of spikes, shoulders for bracing said spikes, substantially as described.

2. A device of the class described, having a dog engaging the side of a railroad-tie, and a pointed lug adapted to engage the center of said tie, substantially as described.

3. A chair for railway-rails, having an integral jaw for engaging the outer flange of a rail, said jaw being provided with vertical and horizontal teeth, apertures for spiking said chair to the tie, one of said apertures having a shoulder 5, with teeth 11, for preventing the spike from becoming loose, substantially as described.

844,051. PRESERVING-JAR. CHARLES A. STENIUS, Columbus, Ohio. Filed Mar. 22, 1906. Serial No. 307,323.



Claim.—1. A jar having outwardly-flaring walls and a pair of annular ribs extending around the jar at the top thereof, and a cap which closes the jar and has a depending flange engaging the under side of the upper of the ribs, the lower of said ribs being of greater diameter than the upper rib whereby when a plurality of said jars are placed side by side, said lower ribs prevent the caps from contacting with each other.

2. A jar having outwardly-flaring walls and a pair of annular ribs extending around the jar at the top thereof, and a cap which closes the jar and has a depending flange engaging the under side of the upper of the ribs, the lower of said ribs being of greater diameter than the upper rib whereby when a plurality of said jars are placed side by side, said lower ribs prevent the caps from contacting with each other, and an elastic ring located in the recess formed about the upper edge of the jar.

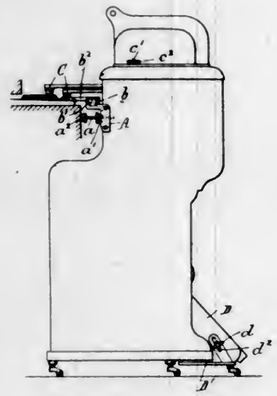
844,052. APPARATUS FOR AUTOMATICALLY PLAYING KEYED INSTRUMENTS. FRANK STONE, London, England. Filed May 18, 1903. Serial No. 157,667.

Claim.—1. In apparatus for automatically playing keyed instruments an arrangement at each end of the apparatus, each such arrangement having a rod adjustable inward and outward by a screw-thread thereon and combined with a lock-nut to secure the same in position, a head on each rod, adapted to bear against the front of the keyed instrument and padding on such head the whole rod and head arrangement on each side combined with a slide, a dovetailed block moving in such slide a bar on said block and a set-screw to hold the block in position.

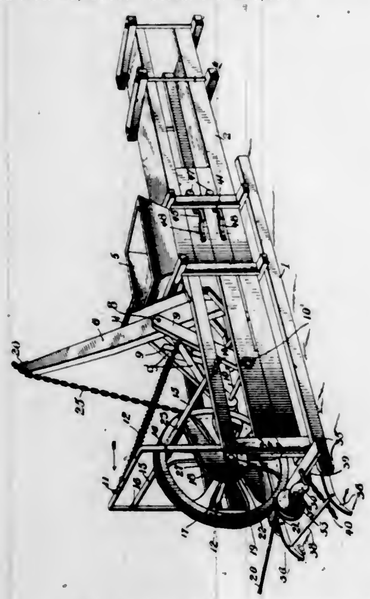
2. In apparatus for playing keyed musical instruments pedals, a shoe or bracket hinged to lower ends of the pedals and capable of adjustment, screw-threaded studs on the brackets wing-pieces on the instrument, having slots for the said studs, and thumb-nuts on the said studs.

3. In apparatus for playing keyed instruments the combination of adjustable stops limiting the forward movement of the whole, adjustable stops limiting the sidewise movement, and means for raising or lowering the fulcra of the fingers all provided with set-screws fixing the same in relative position.

844,052.



844,053. BALING-PRESS. JOHN J. STOPPLE, Dallas, Tex. Filed Dec. 23, 1905. Serial No. 293,107.



Claim.—1. In a baling-press, the combination with a framework, a compression-chamber formed in said framework, a plunger therefor and means for operating said plunger, of a brake comprising a plurality of pins pivotally secured to said framework, and means for limiting the downward movement of said pins.

2. In a baling-press, the combination with framework provided with a compression-chamber, a plunger operating in said compression-chamber, a lever engaging said plunger, an eccentric-disk, provided with a cut-away portion, mounted upon said framework, said cut-away portion of the disk being formed for permitting the lever to pass said disk without engaging the same upon the compression-stroke of the plunger, means for connecting said eccentric-disk and lever, and means for rotating said eccentric-disk and thereby imparting movement to said lever and plunger.

3. In a baling-press, the combination with a framework provided with a compression-chamber, a plunger operating in said compression-chamber, a lever engaging said plunger, of an eccentric-disk provided with a tangential arm and with a cut-out portion, carried by said framework, flexible connecting means secured to said arm and lever, and means for imparting rotary movement to said disk for actuating said lever and plunger.

4. In a baling-press, the combination with a framework, provided with a compression-chamber, a plunger operating in said compression-chamber, of links pivotally mounted at their lower ends upon said framework, a lever pivotally connected at its lower end to said plunger and fulcrumed upon the upper ends of said links, a shaft carried by said framework, an eccentric-disk, provided with a tangential arm and with a cut-out portion, fixed to said shaft, said disk and arm provided with a groove, flexible connecting means secured to said arm and lever, means for exerting an upward pull upon said links, and means for imparting rotary movement to said shaft and disk and thereby actuating said lever and plunger, said lever, links and eccentric-disk constituting progressive, double-lever means.

5. In a baling-press, the combination with a framework provided with a compression-chamber, a plunger operating in said compression-chamber, of a pair of links pivotally mounted upon said framework, a lever fulcrumed upon said links and engaging said plunger, flexible means for moving said lever for operating said plunger, an eccentric-disk for operating said flexible means, a pulley for rotating said disk, means secured to said pulley for rotating the same, and means for guiding the means for rotating the said pulley.

6. In a baling-press, the combination with a framework provided with a compression-chamber, a plunger operating in said compression-chamber, of links carried by said framework, a lever fulcrumed upon said links and engaging said plunger, a yoke pivotally mounted upon said framework, springs connecting said yoke and links, each spring connected at one end to said yoke and at its opposite end to a link, means for adjusting said yoke for controlling the tension of said springs, and means for moving said lever upon its fulcrum for actuating said plunger.

7. In a baling-press, the combination with a framework, provided with a compression-chamber, a plunger operating in said compression-chamber, of a link pivoted upon said framework, a lever fulcrumed upon said link and engaging said plunger, a yoke movably mounted upon said framework, a spring connected at one end to said yoke and at its opposite end to said link, a brace connected at one end to said yoke and adjustably secured at its opposite end to said framework, and means for moving said lever upon said fulcrum for actuating said plunger.

8. In a baling-press, the combination with a framework, provided with a compression-chamber, a plunger operating in said compression-chamber, of a link pivotally mounted upon said framework, a lever fulcrumed upon said link and engaging said plunger, a substantially U-shaped, inverted yoke pivoted upon said framework, and adjustable bracing means carried by said framework and yoke and being capable of securing said yoke in an adjustable position for tensioning said spring, and means for moving said lever upon its fulcrum for actuating said plunger.

9. In a baling-press, the combination with a framework, provided with a compression-chamber, a plunger operating in said compression-chamber, of lever means for actuating said plunger, a yoke pivotally mounted upon said framework, elastic means for connecting said yoke and lever means, and adjustable bracing means secured to said lever and framework and being capable of controlling the tension of said elastic means.

10. In a baling-press, the combination with a framework provided with a compression-chamber, a plunger operating in said compression-chamber, a pair of links pivotally mounted upon said framework, a lever fulcrumed upon the upper ends of said links and connected to said plunger at its lower end, a substantially U-shaped, inverted yoke pivotally mounted upon said framework, springs connecting said yoke and links, a brace adjustably secured to each side of said yoke and framework, and means for moving said lever upon its fulcrum for actuating said plunger.

11. In a baling-press, the combination with a framework provided with a compression-chamber, a plunger operating in said compression-chamber, lever means for actuating said plunger, of a yoke pivotally mounted upon said framework, a spring connecting said yoke and lever means, a pair of braces carried by said yoke and framework, each brace comprising a straight body provided at one end with an aperture, and at its opposite end with a plurality of apertures, and means engaging the apertured ends of said brace, yoke, and framework for securing said yoke in an adjusted position, whereby said yoke and braces are capable of controlling the tension of said spring.

12. In a baling-press, the combination with a framework provided with a compression-chamber, a plunger operating in said compression-chamber, a shaft carried by said frame, lever means carried by said framework and coöperating with said plunger, means connecting said shaft and lever means, of a wheel provided with a groove, carried by said shaft, a pulley provided with a peripheral groove, carried by said framework, the grooved portion of said pulley overlapping part of the grooved portion of said wheel, power-conveying means secured within the groove of said wheel and adapted to pass between the overlapped portion of said wheel and the overlapping portion of said pulley, said overlapped and overlapping portions of said wheel and pulley, respectively, constituting guiding means.

13. In a baling-press, the combination with a framework provided with a compression-chamber, a plunger operating in said compression-chamber, lever means for actuating said plunger, of a wheel provided with a peripheral groove, carried by said framework, revoluble guiding means carried by said framework and secured contiguous to said wheel, and means connecting said wheel and lever means.

14. In a baling-press, the combination with a framework, provided with a compression-chamber, a plunger operating in said compression-chamber, lever means carried by said framework and coöperating with said plunger, of a wheel carried by said framework, said wheel provided with a peripheral groove, means connecting said wheel to said lever means, a bracket carried by said framework, said bracket comprising a plate provided with a flange upon one edge, parallel arms integral with said flange and plate, a shaft carried by said arms, a grooved pulley carried by said shaft, said pulley overlapping a portion of said wheel, and power-conveying means secured within the peripheral groove of said wheel and pulley.

15. In a baling-press, the combination with a framework, provided with a compression-chamber, a plunger operating in said compression-chamber, of a wheel carried by said framework, said wheel provided with a peripheral groove, means connecting said wheel to said lever means, a bracket carried by said framework, said bracket provided with a shaft, a pulley loosely mounted and capable of longitudinal movement upon said shaft, the pulley overlapping a portion of said wheel, and power-conveying means positioned within the overlapped portion of said wheel and the overlapping portion of said pulley.

16. In a baling-press, the combination with a framework provided with a compression-chamber, a plunger operating in said compression-chamber, lever means for actuating said plunger, of a grooved wheel carried by said framework, means for connecting said wheel and lever means, and laterally movable and revoluble guiding means positioned contiguous to and coöperating with said wheel.

17. In a baling-press, the combination with a framework provided with a compression-chamber and a plunger operating therein, the side walls of said compression-chamber being formed with longitudinal slots, of a retainer pivotally mounted within each of said slots, said retainer comprising a body provided at its rear end with a curved portion terminating in a rearward extension, the extension parallel with said body, a head and a nose formed upon the forward end of said body, and means for exerting an outward pressure upon the rearward extension for normally holding the nose within said compression-chamber.

18. In a baling-press, the combination with a framework provided with a compression-chamber and a plunger operating therein, the side walls of said compression-chamber being formed with longitudinal slots, of a retainer pivotally mounted within each of said slots, said retainer

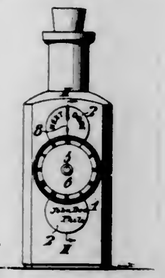
comprising a body provided with a head positioned at substantially right angles to said body, said head constituting a stop for limiting the inward, pivotal movement of said retainer, a nose formed upon said body, and means for normally retaining said nose in the compression-chamber.

19. In a baling-press, the combination with a framework provided with a compression-chamber and a plunger operating therein, the side walls of said compression-chamber being formed with longitudinal slots, of a retainer pivotally mounted within each of said slots, said retainer comprising a substantially straight body, provided at each end with oppositely-extending extensions, means for limiting inward, pivotal movement of said retainer, and means for exerting an outward pressure upon one end of said retainer.

20. In a baling-press, the combination with a framework provided with a compression-chamber and a plunger operating therein, the side walls of said compression-chamber being formed with longitudinal slots, of a retainer positioned within each of said slots, said retainer comprising a body provided at one end with an extension and at the opposite end with a head and a nose, the head constituting a stop, and means for exerting an outward pressure upon said extension.

21. In a baling-press, the combination with a framework, a compression-chamber formed in said framework, a plunger operating in said compression-chamber, means for reciprocating said plunger, runners secured to said framework, of a transverse beam positioned upon said runners, near the front ends thereof, a brake-pin pivotally mounted upon each of said runners near its front end, the rear end of each brake-pin extending beneath said transverse beam, and a rod connecting said pins, said beams constituting a stop for limiting the pivotal downward movement of said pins.

844,054. INDICATOR FOR MEDICINE-BOTTLES. ALFRED R. SWOPE, Philadelphia, Pa. Filed Feb. 13, 1906. Serial No. 300,874.



Claim.—1. A time-indicator for medicine-bottles, comprising a rotary dial provided with indications of time; a base of flexible material, having a central body portion and distinct independently-flexible flaps extending therefrom; one of said flaps having thereon a stationary index; a coacting of adhesive material on each of said flaps; and, a pivotal connection between said dial and said base, supporting said dial upon the face of said base opposite to that having said adhesive coating, substantially as set forth.

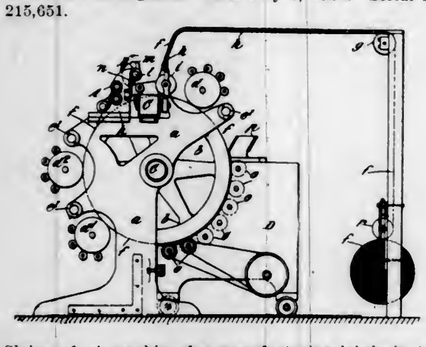
2. A time-indicator for medicine-bottles comprising a rotary dial provided with indications of time; a base of flexible material, having a central body portion and distinct independently-flexible flaps extending therefrom; one of said flaps having thereon directions for the user and a stationary index; a coating of adhesive material on each of said flaps; and, a pivotal connection between said dial and said base supporting said dial upon the face of said base opposite to that having said adhesive coating, substantially as set forth.

3. A time-indicator for medicine-bottles, comprising a rotary dial provided with indications of time; an imperforate base of flexible material, having a central body portion and distinct independently-flexible flaps extending therefrom; one of said flaps having thereon a stationary index; a coating of adhesive material on each of said flaps; and, a pivotal connection between said dial and said base, supporting said dial upon the face of said base opposite to that having adhesive coating, substantially as set forth.

4. A time-indicator for medicine-bottles, comprising a rotary dial provided with indications of time; a base having a central body portion covered by said dial; distinct independent flexible flaps in unitary relation with said base, extending laterally beyond said dial, and having thereon means arranged to inform the user of the identity of the party issuing said indicator, substantially as set forth.

5. A time-indicator for medicine-bottles, comprising a rotary dial provided with indications of time; a base having a central body portion covered by said dial; distinct independent flexible flaps in unitary relation with said base extending laterally beyond said dial; one of said flaps having thereon means arranged to inform the user of the identity of the party issuing said indicator, and the other of said flaps having thereon directions for the user, substantially as set forth.

844,055. LABEL-PRINTING MACHINE. ELMER Z. TAYLOR, London, England. Filed July 7, 1904. Serial No. 215,651.



Claim.—1. A machine for manufacturing labels in two or more colors from a continuous roll of paper, comprising a color-printing mechanism, a curved guide for tensioning the web of paper as it is fed off the roll to the printing mechanism, a pair of rotatable spindles arranged forward of the guide, circular cutting-disks fixed upon the spindles suitable distances apart and adapted to automatically cut the printed web into longitudinally-extending strips as the printed web leaves the printing mechanism, a transversely-extending fixed and a transversely-extending revoluble cutting-blade arranged forward of said guide and in suitable relation with respect to said circular cutting-disks and adapted to transversely cut the said longitudinal strips, thereby completing the labels, and a delivery apparatus adapted to receive the finished labels and automatically transport them to any desired place.

2. A machine for manufacturing labels in two or more colors from a continuous roll of paper, comprising a color-printing mechanism, a curved guide for tensioning the web of paper as it is fed off the roll to the printing mechanism, a pair of rotatable spindles arranged forward of the guide, circular cutting-disks fixed upon the spindles suitable distances apart and adapted to automatically cut the printed web into longitudinally-extending strips as the printed web leaves the printing mechanism, and a transversely-extending fixed and a transversely-extending revoluble cutting-blade arranged forward of said guide and in suitable relation with respect to said circular cutting-disks and adapted to transversely cut the said longitudinal strips, thereby completing the labels.

3. A machine for manufacturing labels in two or more colors from a continuous roll of paper, comprising a color-printing mechanism, a curved guide for tensioning the web of paper as it is fed off the roll to the printing mechanism, a pair of rotatable spindles arranged forward of the guide, circular cutting-disks fixed upon the spindles suitable distances apart and adapted to automatically cut the printed web into longitudinally-extending strips as the printed web leaves the printing mechanism, a transversely-extending fixed and a transversely-extending revoluble cutting-blade arranged forward of said guide and in suitable relation with respect to said circular cutting-disks and adapted to transversely cut the said longitudinal strips, thereby completing the labels, and a delivery apparatus adapted to receive the finished labels and automatically transport them to any desired place, and a detachable bronzing mechanism driven from and associating with said printing mechanism.

4. A machine for manufacturing labels in two or more colors from a continuous roll of paper, comprising a color-printing mechanism, a curved guide for tensioning the web of paper as it is fed off the roll to the printing mechanism, a pair of rotatable spindles arranged forward of the guide, circular cutting-disks fixed upon the spindles suitable distances apart and adapted to automatically cut the printed web into longitudinally-extending strips as the printed web leaves the printing mechanism, and a transversely-extending fixed and a transversely-extending revoluble cutting-blade arranged forward of said guide and in suitable relation with respect to said circular cutting-disks and adapted to transversely cut the said longitudinal strips, thereby completing the labels, and a detachable bronzing mechanism driven from and associating with said printing mechanism.

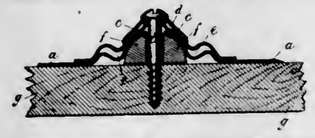
5. A machine for manufacturing labels in two or more colors from a continuous roll of paper, comprising a color-printing mechanism, supporting means for said mechanism, a curved guide arranged in operative relation with respect to said mechanism and adapted to tension the web of paper as it is fed off the roll to the printing mechanism, a pair of revoluble spindles arranged forward of said guide, one superposed over the other, circular cutting-disks fixed upon the spindles suitable distances apart and adapted to act as shears to draw the web between them and cut the web into longitudinally-extending strips as the web leaves the printing mechanism, and a transversely-extending fixed and a transversely-extending revoluble cutting-blade arranged forward of said guide and in operative relation with respect to the cutting-disks and adapted to transversely cut the said longitudinal strips, thereby completing the labels.

6. A machine for manufacturing labels in two or more colors from a continuous roll of paper, comprising a color-printing mechanism, supporting means for said mechanism, a curved guide arranged in operative relation with respect to said mechanism and adapted to tension the web of paper as it is fed off the roll to the printing mechanism, a pair of revoluble spindles arranged forward of said guide, one superposed over the other, circular cutting-disks fixed upon the spindles suitable distances apart and adapted to act as shears to draw the web between them and cut the web into longitudinally-extending strips as the web leaves the printing mechanism, and a transversely-extending fixed and a transversely-extending revoluble cutting-blade arranged forward of said guide and in operative relation with respect to the cutting-disks and adapted to transversely cut the said longitudinal strips, thereby completing the labels, and a detachable bronzing mechanism driven from and associating with the said printing mechanism.

7. A machine for manufacturing labels in two or more colors from a continuous roll of paper, comprising a color-printing mechanism, supporting means for said mechanism, a curved guide arranged in operative relation with respect to said mechanism and adapted to tension the web of paper as it is fed off the roll to the printing mechanism, a pair of revoluble spindles arranged forward of said guide, one superposed over the other, circular cutting-disks fixed upon the spindles suitable distances apart and adapted to act as shears to draw the web between them and cut the web into longitudinally-extending strips as the web leaves the printing mechanism, and a transversely-extending fixed and a transversely-extending revoluble cutting-blade arranged forward of said guide and in operative relation with respect to the cutting-disks and adapted to transversely cut the said longitudinal strips, thereby completing the labels, and a delivery apparatus for receiving the completed labels and adapted to transport them to any desired place.

8. A machine for manufacturing labels in two or more colors from a continuous roll of paper, comprising a color-printing mechanism, supporting means for said mechanism, a curved guide arranged in operative relation with respect to said mechanism and adapted to tension the web of paper as it is fed off the roll to the printing mechanism, a pair of revoluble spindles arranged forward of said guide, one superposed over the other, circular cutting-disks fixed upon the spindles suitable distances apart and adapted to act as shears to draw the web between them and cut the web into longitudinally-extending strips as the web leaves the printing mechanism, and a transversely-extending fixed and a transversely-extending revoluble cutting-blade arranged forward of said guide and in operative relation with respect to the cutting-disks and adapted to transversely cut the said longitudinal strips, thereby completing the labels, a detachable bronzing mechanism driven from and associating with said printing mechanism, and a delivery apparatus for receiving the finished labels and adapted to transport them to any desired place.

844,056. METALLIC COVERING FOR ROOFS, WALLS, AND BUILDINGS. SAMUEL TAYLOR, Birmingham, England. Filed Jan. 27, 1906. Serial No. 208,221.



Claim.—1. In metal roofs or metal-covered roofs, walls and buildings the presented edges of the metallic sheets of which are separated a short distance apart and have each a small convex corrugation passing by a concave channel or corrugation into a larger convex quadrant-like corrugation at the edge of the sheet, the quadrant-like corrugation of one sheet forming with the presented quadrant-shaped corrugation of the adjacent sheet a semicircular or nearly semicircular convex corrugation the corrugations of the said sheets being covered by a similarly-corrugated covering-strip or cap which covers the opening between the sheets making the small convex and concave corrugations of the caps or strips of such a height that water-conduits are formed between the corrugations of the sheets and the corrugations of the caps or covering-strips which carry away water of condensation or other water and prevent water gaining, by capillary attraction or otherwise, access to the under sides of the sheets.

2. Metallic roofing comprising the combination with a pair of metallic sheets the presented edges of which are separated a short distance apart and have each a small convex corrugation passing by a concave channel or corrugation into a larger convex quadrant-like corrugation at the edge of the sheet, the quadrant-like corrugation of one sheet forming with the presented quadrant-shaped corrugation of the adjacent sheet a semicircular or nearly semicircular convex corrugation, of similarly-corrugated covering-strips or caps which cover the openings between the sheets the small convex and concave corrugations of which caps or strips have such a height that water-conduits are formed between the corrugations of the sheets and the corrugations of the caps or covering-strips, a series of washers, short detached blocks and fixing-screws substantially as set forth.

844,057. SHOE-SOLE ATTACHMENT. ALBERT W. TILLINGHAST, Philadelphia, Pa. Filed Feb. 12, 1906. Serial No. 300,678.

Claim.—1. A shoe-sole attachment of the type comprising an annular plate having a raised circumference form-

ing a projecting rim being designed for contact with the ground and connected by an integral web, said projecting rim having its inner wall undercut.



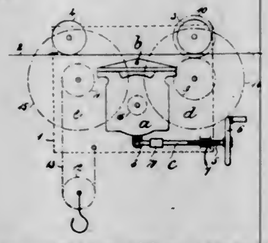
2. A shoe-sole attachment of the type comprising an annular projecting wall or rim connected by an integral web, characterized by having said web strengthened by a body of canvas applied to the under side, which canvas is stopped short of the edge of the attachment, and a flange projecting beyond said canvas to be flattened against the shoe-sole.

3. A shoe-sole attachment of the type comprising an annular projecting wall or rim connected by an integral web, characterized by having an undercut inner wall for said annular projecting portion, an annular ring fitting said wall, and fastening means passing through said ring to secure said attachment to the sole of a shoe.

4. A shoe-sole attachment of the type comprising an annular projecting wall or rim connected by an integral web, characterized by having its body recessed or undercut, a metallic member fitting said undercut or recessed portions, and fastening means passing through said metallic member.

5. A shoe-sole attachment of the type comprising an annular projecting wall or rim connected by an integral web, characterized by having an undercut inner portion for said annular projecting rim or wall, a metallic member fitting said undercut portion and serving as a stiffening means for said rim or wall, and fastening means passing through the metallic member and serving to hold the structure to the sole of the shoe.

844,058. CRANE-OPERATING GEARING. MAX TROYER, Prague, Austria-Hungary. Filed Dec. 15, 1905. Serial No. 291,904.



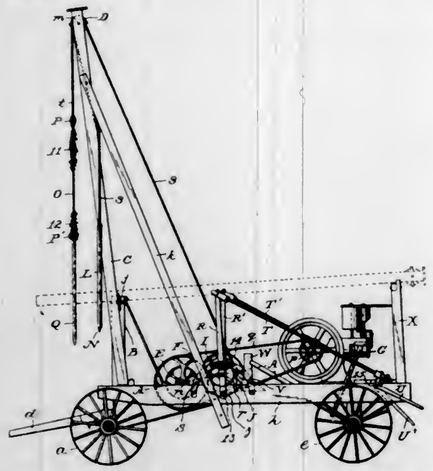
Claim.—In combination with a crane-carriage adapted to run on an overhead track and a running mechanism adapted to drive such carriage along said track, a hoisting mechanism mounted in such carriage, a plurality of gearing elements mounted in the carriage, part of which are adapted to drive the running mechanism and the remainder of which to drive the hoisting mechanism, a casing pivotally mounted in the carriage, a motor and a gearing element adapted to be driven thereby, such motor and gearing elements being mounted in the said casing and means for rocking the casing to and fro whereby the gearing element driven by the motor may be brought into engagement with any of the gearing elements of the running mechanism and hoisting mechanism, substantially as and for the purpose described.

844,059. NEWSPAPER-RECEPTACLE. MARY D. TURTELOT, Syracuse, N. Y. Filed Sept. 26, 1905. Serial No. 280,196.



Claim.—A structure of the character described comprising a base-plate, a semicylindrical body portion having open opposite ends and also provided with opposite side edge marginal flanges, means for detachably securing said flanges of the body portion to the base-plate and also to a support, a hinged door for closing one of the openings, a partition arranged near said door, forming a coin-receptacle between said door and said partition, a newspaper-receptacle arranged on the other side of said partition, said body portion having an opening in its upper side which serves to communicate with the coin-receptacle, substantially as specified.

844,060. MACHINE FOR REVIVING GAS-WELLS. WILLIAM D. VAN ARSDALE and DAVID R. SPEARMAN, Pendleton, Ind. Filed Apr. 28, 1906. Serial No. 314,227.



Claim.—1. A portable machine including a wheeled vehicle having a shaft mounted rotatively thereon, a pulley secured to the shaft, an engine mounted on the vehicle and having a drive-pulley, a belt connecting the drive-pulley with the pulley of the rotative shaft, a pair of bearings mounted on the vehicle of which one of the bearings is movable and provided with a controlling-lever, a drum-shaft mounted in the bearings, a winding-drum and a pulley secured together and mounted on the drum-shaft with the pulley opposite to the pulley that is on the rotative shaft, a derrick on the vehicle having a pulley, and a cable connected to the drum and extending over the pulley of the derrick.

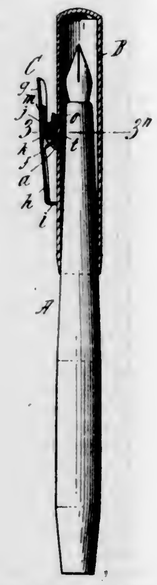
2. A machine including a frame having a drive-shaft mounted rotatively thereon and provided with two pulleys, one secured on either end part thereof, a pair of bearings mounted movably on the frame and provided with controlling-levers, a drum-shaft mounted in the pair of bearings, two winding-drums mounted rotatively on the drum-shaft and having each a pulley secured thereto opposite to either one of the pulleys of the drive-shaft and means for securing the controlling-levers against movement thereof.

3. A machine including a frame having a drive-shaft mounted rotatively thereon and provided with two pulleys, one secured on either end part thereof, a pair of bearings mounted movably on the frame and provided with controlling-levers, a drum-shaft mounted in the pair of bearings, two winding-drums mounted rotatively on the drum-shaft and having each a pulley secured thereto opposite to either one of the pulleys of the drive-shaft, a derrick on the frame, two guide-pulleys mounted on the derrick, a cable connected to one of the drums and extending over one of the guide-pulleys, and a second cable connected to the other one of the drums and extending over the other one of the guide-pulleys.

4. A machine including a frame having a drive-shaft mounted rotatively thereon and provided with two pulleys, one secured on either end part thereof, a pair of bearings mounted movably on the frame and provided with controlling-levers, a drum-shaft mounted in the pair of bearings, two winding-drums mounted rotatively on the drum-shaft and having each a pulley secured thereto opposite to either one of the pulleys of the drive-shaft, a brake-head mounted fixedly on the frame opposite to one of the drum-pulleys, and a second brake-head mounted fixedly on the frame opposite to the other one of the drum-pulleys.

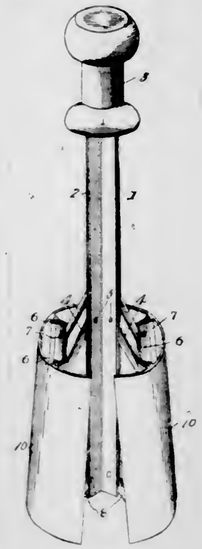
5. A machine for reviving gas-wells, the same comprising a frame provided with carrying-wheels, a hinged derrick mounted on one end of the frame, an explosive-engine mounted on the opposite end of the frame and having a driving-pulley, a drive-shaft mounted rotatively on the frame in proximity to the derrick and having a pulley secured thereto, a pair of bearings mounted on the frame in a plane between the engine and the drive-shaft, one of the bearings being movable and provided with a controlling-lever, an operating-rod connected to the controlling-lever and extending approximately to the end of the frame on which the engine is mounted, a drum-shaft mounted in the pair of bearings, a drum and a pulley secured together on the drum-shaft with the pulley opposite to the pulley of the drive-shaft, and a belt extending from the driving-pulley of the engine beyond the drum-shaft to the pulley of the drive-shaft.

844,061. FOUNTAIN-PEN RETAINER. LEVI D. VAN VALKENBURG, Holyoke, Mass. Filed Aug. 1, 1906. Serial No. 328,757.



Claim.—The combination with a cap for a fountain-pen, of a permanently-attached sheet-metal plate comprising a curved base portion conforming in shape to and extending only partially around the outside of the cap and having a central aperture and perforations on opposite sides of said aperture, said plate being further provided with outstanding ears, a sheet-metal lever concavo-convex in cross-section pivotally connected to said outstanding ears and having an inturned end to bear against the side of the cap, a U-shaped staple having its uniting member engaging within the inner wall of the cap and having its legs extending through the cap and the said perforations in the plate and riveted against the latter, and a spring comprising a looped portion lying within and bearing against the concavo-convex part of the said lever, coils accommodated in part within the aperture in the plate and extremities bearing against the outer face of said plate, substantially as described.

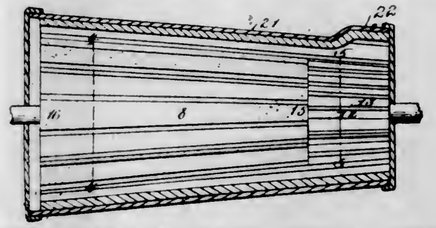
844,062. CAN-SOLDERING IMPLEMENT. SAMUEL A. VARNEY, Washington, Kans. Filed Feb. 2, 1906. Serial No. 299,185.



Claim.—1. In a can-holding implement, the combination of a shaft, a handle thereon, a plurality of curved plates, a link connecting each plate with the shaft at one end, another link connecting each plate with the shaft at the other end, the links at the opposite ends of the plates being of different lengths so that when the plates are collapsed the ends nearest the handle are drawn closer to the shaft than the other ends.

2. In a can-holding implement, the combination of a shaft, a handle thereon, a plurality of curved plates, a link pivoted to the lower end of each plate and to the corresponding end of the shaft, and another link pivoted to the upper end of each plate and to the shaft at an adjacent point, the upper links being longer than the others and so arranged that when the plates are collapsed toward the shaft the upper ends of said plates are nearer the shaft than the lower ends.

844,063. REFINING-ENGINE. SOLOMON R. WAGG, Appleton, Wis. Filed May 24, 1905. Serial No. 262,071.



Claim.—1. In a refining-engine employing a conical shell, a series of bars secured about the interior of the shell and extending longitudinally thereof, said bars gradually increasing in width toward the larger end of the shell.

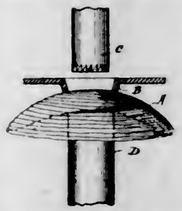
2. In a refining-engine of the class described, a series of stone bars arranged around the interior of the shell of the

engine, the bars in the lower portion of the shell being of greater width than the bars in the upper portion.

3. In a refining-engine of the class described, a series of stone bars arranged around the interior of the shell of the engine, the spaces between the bars in the upper portion of the shell being greater in width than the spaces between the bars in the lower portion of the shell.

4. In a refining-engine, a plug provided with a series of metal bars, and a strip of wood located at the striking side of each of said bars and extending to the cutting edge thereof for the purpose described.

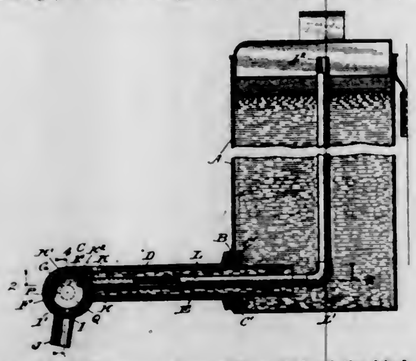
844,064. METHOD OF CUTTING BUTTON-BLANKS FROM SHELLS. ARCHIE P. WALLACE, Keithsburg, Ill. Filed Feb. 14, 1906. Serial No. 301,046.



Claim.—1. The herein-described method of producing button-blanks from concavo-convex shells which consists in cutting through the shell from back to face in a direction substantially perpendicular to that portion of the concave face of the shell forming the face of the blank to be cut, substantially as described.

2. The herein-described method of producing button-blanks from concavo-convex shells which consists in holding the shell with its back toward a cutter and with its concave face upon a steadying-abutment having a contact or bearing surface of approximately the area of that portion of the shell forming the face of the blank to be cut and relatively moving the abutment and cutter in lines perpendicular to the face of the abutment, substantially as described.

844,065. FAUCET. JAMES WARES and ADOLPH HOLMAN, Chicago, Ill. Filed Aug. 29, 1906. Serial No. 332,517.



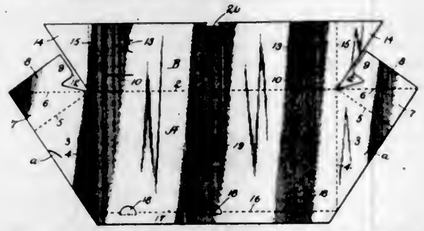
Claim.—1. In combination with a tank of the kind described having a threaded bushing, a faucet having a threaded part and being supported thereby in said bushing and tank and by a nut secured on said threaded part and engaging the interior of said tank, said faucet consisting of a main longitudinal hollow body projecting horizontally from said bushing and tank and ending in a horizontal transverse cylindrical head having a spout and forming the body part of a valve, said valve consisting of a taper barrel formed by the interior of said head adapted to support a plug, said barrel having three apertures, one of said apertures constituting an inlet from said tank into said barrel, another adjacent to said inlet and constituting an air-vent, said aperture being connected with the air-space above the fluid-line in said tank by a vent-pipe affixed in the interior of the main body of said faucet and extending vertically in said tank, the other aperture connecting the interior of said barrel with said spout forming the outlet of said valve; a plug supported in said barrel adapted to be rotated therein, said plug having a stem and lever thereon and a pivot end adapted for connection with a spring, and an interior chamber, said chamber being connected with the interior of said barrel by four apertures in said plug, two of said apertures being adapted to register at the same time with said inlet and said vent in said barrel, the other two apertures being adapted to register at the same time, one with the outlet and one with the vent in said barrel; two shoulder-stops in the large end of said barrel formed by a recess therein and adapted to engage a stop in said plug; a stop-lug in said plug adapted to engage one or the other of said shoulders and to thereby limit the rotative movement of said plug and thereby insure the registration of said apertures in said barrel and plug in the closed and in the open positions of the valve; a flat coiled spring supported within said barrel and attached to the pivot end of said plug and to said barrel, said spring being adapted to hold said plug under its pressure in the closed position and to return it thereto when released from the pressure on the lever by which it is forced into the open position; caps adapted to fit on the ends of said head and to close the ends of said barrel as described.

2. In a faucet adapted to be inserted in a supply-tank, the combination with a main body having a transverse head with a spout, said head forming a barrel adapted to support a plug, said barrel having three internal apertures, one forming an inlet from said tank into said barrel, another an air-vent from said barrel into said tank the other an outlet from said barrel into said spout; a plug supported in said barrel, said plug having a stem and operating-lever on said stem, and a pivot end adapted to support a spring, said plug having an interior chamber with four apertures therein, two of said apertures being adapted to register, one with the inlet and one with said vent in said barrel when said plug is in the closed position, the other two apertures being adapted to register, one with the outlet and the other with the vent when the plug is in the open position; a spring inclosed in said barrel and attached to said barrel and to said plug, said spring being adapted to hold said plug in the closed position under the pressure of said spring and to return said plug to the closed position when released from the pressure applied to open said faucet; a cap or caps adapted to close the end or ends of said barrel as described.

3. In a faucet adapted to be inserted in a tank of the kind described, the combination consisting of a hollow main longitudinal body having a transverse head provided with a spout, said head forming a barrel adapted for the support of a plug and having three internal apertures, one of said apertures forming an inlet into said barrel from said tank, and another aperture forming an outlet from said barrel into said spout, the third aperture forming the opening in said barrel of an air-vent; an air-vent consisting of a pipe affixed in said main body and extending from the interior of said barrel into said tank above the fluid-line therein; a plug supported in said barrel adapted to be rotated therein, said plug having an interior chamber provided with four apertures, two of said apertures being adapted to register alternately with the air-vent in said barrel, and the other two apertures being adapted to register, one with said inlet, and one with said outlet; means for rotating said plug in said barrel; means for limiting the rotative movement of said plug and thereby insuring the registration of the apertures therein with the apertures in said barrel; a spring inclosed in said barrel and attached thereto and to said plug, said spring being adapted

to hold said plug in the closed position under the pressure of said spring and to return said plug to the closed position when released from the pressure applied to open said faucet; a cap or caps adapted to close the end or ends of said barrel as described.

844,066. KNOCKDOWN DISPLAY-STAND. PETER R. WARREN, Brookline, Mass., assignor to The P. R. Warren Company, Boston, Mass., a Corporation of Maine. Filed Feb. 6, 1905. Serial No. 244,256.



Claim.—1. A knockdown display-stand formed of a blank having a body forming a display-face, foldable rear and side supports, one or more stops or rests upon said display-face, and means for interlocking the rear and side supports.

2. A knockdown display-stand comprising a body forming a display-face, folding portions or flaps integral with said body and forming rear and side supports, one or more stops or rests upon said display-face, and means for interlocking said rear and side supports consisting of tongues on the side supports adapted to engage slots in the rear support.

3. A knockdown display-stand comprising a body forming a display-face, folding portions or flaps integral with said body and forming rear and side supports, one or more stops or rests upon said display-face, and means for interlocking said rear and side supports consisting of tongues on the side supports adapted to engage slots in the rear support, and tabs on said rear support adapted to engage the edges of the side supports when folded over upon the outer side of the rear support.

4. A knockdown display-stand comprising a body forming a display-face provided with one or more stops or rests, folding portions integral with said body and forming rear and side supports, said rear support having foldable flaps or extensions at its ends adapted to lie against the inner faces of the side supports, and said side supports each having a foldable portion adapted to lie against the outer side of the rear support, and the foldable portion of each side support being again foldable upon itself, and means for interlocking said rear and side supports.

5. A knockdown display-stand comprising a body forming a display-face provided with one or more stops or rests, folding portions integral with said body and forming rear and side supports, the rear support having foldable flaps or extensions at its ends adapted to lie against the inner faces of the side supports, and said side supports each having a foldable portion adapted to lie against the outer side of the rear support, the foldable portion of each side support being again foldable upon itself, means for interlocking said rear and side supports, and means for locking the several parts in their folded knockdown form.

6. A knockdown display-stand comprising a body forming a display-face, provided with one or more stops or rests, folding portions integral with said body and forming rear and side supports, the rear support having foldable flaps or extensions at its ends adapted to lie against the inner faces of the side supports, and said side supports each having a foldable portion adapted to lie against the outer side of the rear support, and the foldable portion of each side support being again foldable upon itself, means for interlocking said rear and side supports, and means for locking the several parts in their folded knockdown form.

7. A knockdown display-stand comprising a body having a display-face provided with one or more stops or rests, folding portions integral with said body and forming rear and side supports, the rear support having foldable flaps or extensions at its ends adapted to lie against the inner faces of the side supports, and said side supports each having a foldable portion adapted to lie against the outer side of the rear support, and the foldable portion of each side support being again foldable upon itself, means for interlocking said rear and side supports, and means for locking the several parts in their folded knockdown form, consisting of a tab on the body and a slot in the rear support for the reception of said tab, and tongues on the side supports adapted to lie over the edge of the rear support.

8. A knockdown display-stand comprising a body forming a display-face and having foldable rear and side supports, the latter having portions adapted to be folded over upon the outer side of the rear support, and means for locking the parts together when folded in knockdown form.

9. A knockdown display-stand formed of a blank having a body forming a display-face, foldable rear and side supports, and means for interlocking said rear and side supports.

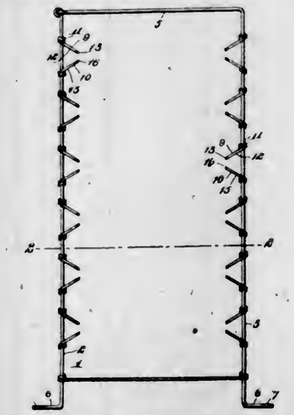
10. A knockdown display-stand comprising a display-face, rear and side supports integral therewith, and interlocking means for the said rear and side supports.

11. A knockdown display-stand comprising a display-face and rear and side supports therefor formed from a single blank, and means for connecting said rear and side supports.

12. A knockdown display-stand comprising a display-face, a rear support therefor integral with the upper edge of the said display-face and side supports therefor integral with the side edges of the display-face, and means integral with the said side and rear supports for connecting the said side and rear supports when the stand is in use.

13. A knockdown display-stand comprising a display-face and rear and side supports therefor formed from a single blank, means for connecting the side and rear supports when the stand is in position for use, and independent means for connecting the rear support with the display-face when the stand is in its folded position.

844,067. RACK. IKE B. WEBB, Zwolle, La. Filed Nov. 7, 1906. Serial No. 342,423.



Claim.—1. A rack comprising a main frame and holding members secured in transversely-alined pairs, said members lying wholly within the plane of the main frame.

2. A rack comprising end standards arranged in pairs, and holding members connecting the longitudinally-alined standards of each pair, said holding members being arranged in pairs and each comprising a bar extending longitudinally of the main frame and sections connecting the end of the bar with the respective standards.

3. A rack comprising end standards arranged in pairs, and holding members connecting the longitudinally-alined

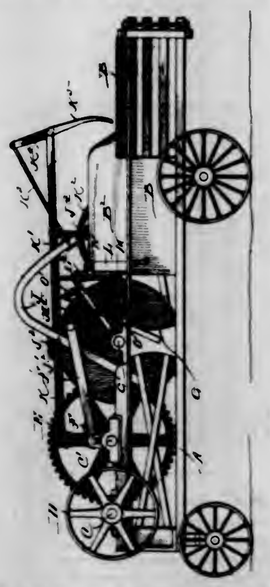
standards of each pair, said holding members being arranged in pairs and each comprising a bar extending longitudinally of the main frame and sections connecting the end of the bar with the respective standards, said sections being inclined downwardly and inwardly with relation to the adjacent standard.

4. A rack comprising end standards arranged in pairs, and holding members connecting the longitudinally-alined standards of each pair, said holding members being arranged in pairs and each comprising a bar extending longitudinally of the main frame and sections connecting the end of the bar with the respective standards, said sections being inclined downwardly and inwardly with relation to the adjacent standard, the connecting sections of one member being reversely inclined with respect to the similar section of the coöperating member.

5. A rack comprising end standards laterally bent at their lower ends to provide feet, cross-bars uniting the standards in pairs, and holding members uniting the standards at right angles to the cross-bars, said holding members being arranged in pairs and including bars, and end sections connecting the terminals of the bars with the standards, said end sections being inclined in two directions from the adjacent standard.

6. A rack comprising end standards laterally bent at their lower ends to provide feet, cross-bars uniting the standards in pairs, holding members uniting the standards at right angles to the cross-bars, said holding members being arranged in pairs and including bars, and end sections connecting the terminals of the bars with the standards, said end sections being inclined in two directions from the adjacent standard, the end sections of the bar of one holding member inclining in one direction reverse from the inclination of the end sections of the holding bar of the coöperating member.

844,068. BALING-PRESS. CHARLES E. WEHRENBERG, Mound City, Ill. Filed May 7, 1906. Serial No. 315,613.



Claim.—1. A baling-press comprising a disk, means for alternately giving a partial rotation to the disk in opposite directions, a plunger, a plunger-rod pivoted to the plunger and to the disk, a feeder-arm pivotally connected to the said disk, a spring connecting at one end to said disk, and to the feeder-arm, a block-holder, a lever, adapted to bear upon the block held in the block-holder, a lug formed on the disk adapted to engage said lever, and means for throwing the lever into the path of said lug.

2. A baling-press comprising a plunger, a disk, a plunger-rod, pivotally connected to the plunger and to the disk, a feeder-arm pivotally connected to the disk, means for automatically bringing material to be baled into position to be operated upon by the feeder-arm, a divisional block-holder, means for discharging the block from the holder, means carried by the said disk for operating the block-discharging means, and means for alternately giving a partial rotation to the disk in opposite directions.

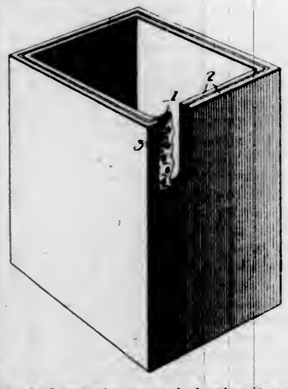
844,069. HINGE. FRANKLIN WEIL and WILLIAM A. GROSS, Northampton, Pa. Filed Sept. 22, 1906. Serial No. 335,790.



Claim.—1. A device of the character described comprising leaves, each leaf consisting of a body offset to respectively provide a socket and a guide open at one side, bracket-plates permanently secured to the leaves and projecting at the sides beyond the same, said plates closing the open sides of the guide and socket and being arranged for attachment with the ends of the leaves to a trunk or other container, and a link pivotally engaging the guide, said link being adapted when the leaves are in alinement to extend vertically and bear against the extended side edges of the bracket-plates.

2. A device of the character described comprising two leaves, one formed with a socket and the other with a guide-passage open at the rear side, said leaves being spaced apart at their adjacent edges for the passage of the knuckle and pintle of an independent hinge therebetween, bracket-plates permanently fastened to the leaves and closing said socket and guide, said plates projecting at all sides beyond the leaves, and a link pivotally engaging the socket and slidably and pivotally engaging the guide-passage, said link being adapted when the leaves are in alinement to bear against the extended sides of the bracket-plates and to lie vertically with the sides thereof in line with the ends of the hinge-pintle, whereby displacement of the latter from the hinge-knuckles is prevented.

844,070. CHEMICAL-RECEPTACLE. HARRY WEIDA and EDWARD K. HARDY, Akron, Ohio. Filed Apr. 30, 1906. Serial No. 314,558.



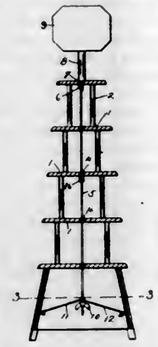
Claim.—1. A chemical-receptacle having its walls formed of a sheet of perforated metal and a layer of hard rubber, the latter being forced into the perforations of the former.

2. A chemical-receptacle having its walls formed of a sheet of perforated metal, and a layer of hard rubber, the latter being forced into the perforations of the former before vulcanization.

3. A chemical-receptacle having its walls formed of a sheet of perforated metal and an interior and exterior layer of hard-rubber compound forced into the perforations of the metal and the whole vulcanized.

4. A composite material formed of two layers of hard-rubber compound and an intermediate sheet of perforated metal, the layers of hard-rubber compound being forced into the perforations of the latter before vulcanization.

844,071. DISPLAY-RACK. EDWARD B. WESTON, Dayton, Ohio. Filed Feb. 12, 1906. Serial No. 300,672.



Claim.—1. In a display-rack, a series of shelves, and removable supports for holding same in position, with a rod extending centrally from the top to the bottom shelf, wire loops secured to the bottom supports and embracing said rod, with a nut on the lower end of said rod bearing against said loops, whereby upon the tightening of the nut the shelves will be securely braced together.

2. In a display-rack, a series of shelves, and removable supports for holding same in position, a panel with its support mounted at the middle of the top shelf and a rod extending centrally through said shelves, from the panel-support to the bottom shelf, and a nut for tightening the draft of the rod to hold the panel and the shelves and their supports rigidly together.

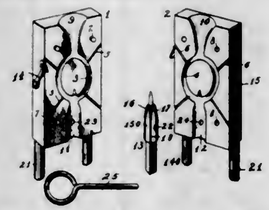
3. In a display-rack, a series of shelves, and removable supports for holding same in position, a panel with its support mounted at the middle of the top shelf and a rod extending centrally through said shelves, from the panel-support to the bottom shelf, and wire loops secured to the bottom supports and embracing said rod, with a nut on the lower end of said rod bearing against said loops, whereby upon the tightening of the nut the shelves and panel and their supports will be securely braced together.

4. In a display-rack, a series of shelves, and removable supports for holding same in position, with a rod extending centrally from the top to the bottom shelf, wire loops secured to the bottom supports and embracing said rod, with a nut on the lower end of said rod bearing against said loops, and panels inserted between the bottom supports, whereby upon the tightening of the nut the shelves and panels will be securely braced together.

844,072. RING-MOLD. FRANK C. WIDMANN, Cleveland, Ohio. Filed May 14, 1906. Serial No. 316,605.

Claim.—1. In a ring-mold, the combination of a body portion having therein a mold-groove for the body of the ring, and a core for forming the head of the ring, said core being provided with diverging grooves and a vent-passage extending from the outer end of each of said last-mentioned grooves to the exterior of the mold, substantially as specified.

2. In a ring-mold, the combination of the body of the mold having a mold-groove therein for the body of the ring, of a core for forming the head of the ring, said core having a conical body portion at the inner end thereof with diverging grooves communicating with the mold-groove and vent-passages formed in the body of the core and extending from the outer ends of the diverging grooves, substantially as specified.



3. In a ring-mold, the combination of the body of the mold having a mold-groove therein for the body of the ring, of a core for forming the head of the ring, said core having a conical body portion at the inner end thereof with diverging grooves communicating with the mold-groove and vent-passages formed in the body of the core and extending from the outer ends of the diverging groove, substantially as specified.

4. In a ring-mold, the combination of a body portion having therein a mold-groove for the body of the ring provided with vent-grooves communicating with the atmosphere, and a core for forming the head of the ring, said core being provided with grooves for forming the arms or claws of the head and vent-grooves communicating with the outer ends of said grooves and with the atmosphere, substantially as specified.

5. In a ring-mold, the combination of a body having therein a mold-groove for the body of the ring, and a core for forming the head of the ring, said core comprising a substantially cylindrical body portion having a frusto-conical head, said head being provided with grooves for forming the arms or claws of the ring, said body portion being provided with vent-passages therein extending from the ends of the grooves to the atmosphere, substantially as specified.

6. In a ring-mold, the combination of a body having therein a mold-groove for the body of the ring, and an opening extending from said mold to the exterior of said body, and a core removably fitted in said opening and having grooves for forming the claws or arms of the ring-head, and vent-passages extending from said grooves to the atmosphere, substantially as specified.

7. In a ring-mold, the combination of a body having therein a ring-mold groove and a passage-way extending from the lower portion of said groove to the outer surface of the mold, said passage-way having a tarpered inner portion communicating with the ring-mold groove and a cylindrical outer portion extending to the lower portion of the mold, a core having a cylindrical body portion and a tapered inner end adapted to fit the corresponding portions of the passage-way, the tapered portion being provided with grooves for forming a ring-head and with vent-passages extending from said grooves to the exterior of the mold, and means for securing said core in place in said body, substantially as specified.

8. In a ring-mold, the combination of a body having a mold-groove therein and a passage-way extending from said groove to the outer surface of the mold, said passage-way being substantially frusto-conical in section at its inner end, and a core for said passage-way having an inner conical body portion, and a frusto-conical portion fitting the corresponding portion of said passage-way, grooves being formed in said frusto-conical portion of the core-body extending from the outer surface thereof to the conical body portion, substantially as specified.

9. In a ring-mold, the combination of a body having therein a mold-groove for the body of the ring and a core for forming the head of the ring, said core comprising an inner end portion provided with grooves for forming diverging arms or claws and an outer portion extending through and to the exterior of the mold and having vent-passages therein extending from the outer ends of said

grooves to the atmosphere, said mold-body having vent-passages therein extending from the mold-groove to the atmosphere, substantially as specified.

844,073. HANDLE ATTACHMENT. LOUIS WOJIDKOW, Brooklyn, N. Y., assignor to New York Stamping Company, Brooklyn, N. Y., a Corporation of New York. Filed Apr. 10, 1906. Serial No. 310,984.



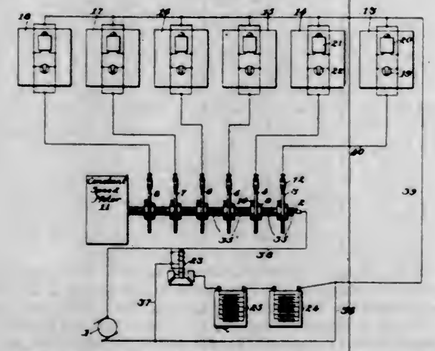
Claim.—1. In combination with a handle and utensil, of a tube secured to the latter for receiving the handle, and a shell within the tube, a part of said tube being flattened to connect said tube and shell, and the latter having a seat for the engagement of the handle.

2. In combination with a handle and utensil, of a tube and shell within the latter, said tube being flattened at the part containing the shell to secure the same and left tubular at the remaining part so as to inclose the shell, said shell having a perforation for affixing the handle thereto.

3. In combination with a handle and a utensil, of an attachment comprising a tube secured to the utensil and a shell in said tube at the portion where the same is secured to the utensil, said part of the tube with inclosed shell being flattened to form a suitable face for securing the same to the utensil, and the remaining portion of the tube being left unflattened to prevent withdrawal of the flattened shell, said shell having a perforation for the insertion of the handle.

4. A handle attachment of a utensil, comprising a handle, a tube for receiving the handle and a shell in said tube at the portion where the tube is to be secured to the utensil, said part of the tube with inclosed shell being flattened to form a suitable face for securing the handle attachment to the utensil and the remaining portion of the tube being left unflattened to prevent withdrawal of the flattened shell, said shell having a perforation for affixing the handle thereto.

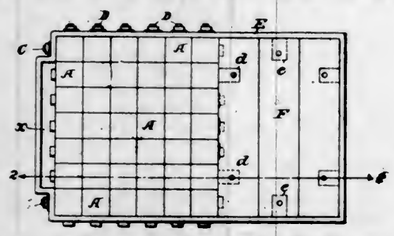
844,074. CHRONOMETRIC CULINARY SYSTEM. ROBERT S. WOODWARD, Jr., Washington, D. C. Filed Oct. 31, 1905. Serial No. 285,337.



Claim.—1. The combination of an electric alarm-circuit including signaling means therein, a time-shaft, a series of disks thereon each provided with a large and a relatively minute commutator-bar, means for accurately adjusting all of said commutator-bars peripherially of the time-shaft, brushes adapted to independently engage each commutator-bar and normally serving to automatically close the circuit through the signaling means and successively operate the same for periods exactly corresponding to the length of the respective commutator-bars, and means for independently disengaging each brush, substantially as described.

2. The combination of an electric alarm-circuit, a time-shaft, a series of disks provided with hollow shoulders, sleeved thereon, graduated dials upon the vertical faces of said shoulders, an opposing index upon the time-shaft, means for locking the disks upon the time-shaft, commutator-bars on each disk, brushes, having loose engagement with the terminals of the circuit and normally serving to automatically close the circuit through the signaling means and successively operate the same for periods exactly corresponding to the length of the respective commutator-bars, means for locking the said brushes in engagement with the circuit-terminals, and means for supplying an uninterrupted current through the circuit when closed, substantially as described.

844,075. CUTTING-BOARD. HARRY ZIMMERMAN, Fremont, Ohio. Filed June 25, 1906. Serial No. 323,299.

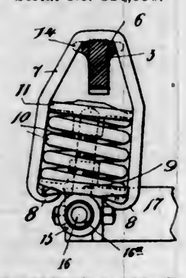


Claim.—1. The combination in a cutting-board, of a series of separable blocks arranged in rows and in contact with each other, each having recesses at right angles to each other, and tie-rods extending at right angles to each other through said recesses.

2. The combination in a cutting-board, of a series of separable blocks arranged in contact, each having recesses at right angles to each other, a frame inclosing said blocks, and tie-rods extending at right angles to each other through the said recesses and connected to the frame.

3. The combination in a cutting-board, a series of blocks arranged in contact, means for connecting the blocks together, a frame inclosing and extending at one side beyond the blocks, and a platform supported by the extended portion of the frame.

844,076. CAR-TRUCK. WALTER S. ADAMS, Philadelphia, Pa., assignor to John A. Brill, Philadelphia, Pa. Filed May 16, 1906. Serial No. 317,090.



Claim.—1. In a car-truck, a side frame having a top cord, ears extending from said top cord, said ears and cord being so shaped as to have a flattened surface; a strap so shaped as to engage said flattened surface, and elastic means connected with said strap for supporting a spring-plank so that the link will hang in its position of rest except when under unusual tension, and will resume said position as soon as this tension is removed.

2. In a car-truck or similar device, a side frame having a top cord with a flattened surface, an outwardly-splayed strap supported by said flattened surface, and elastic means supported by said strap for supporting a spring-plank so that the link will hang in its position of rest except when under unusual tension, and will resume said position as soon as this tension is removed.

844,077. PROCESS FOR THE PRODUCTION OF AQUEOUS CAOUTCHOUC SOLUTIONS AND THE REGENERATION OF RUBBER WASTE. PAUL ALEXANDER, Charlottenburg, Germany. Filed Nov. 30, 1906. Serial No. 345,724.

Claim.—1. The process herein described of producing solutions of caoutchouc, which consists in dissolving caoutchouc first in one of its well-known solvents, next treating the solution thus obtained with a strong alkaline aqueous liquid, adding water to the resulting product and then subjecting this mixture to the action of steam until the solvent is distilled off from the solution, separating the resulting alkaline liquid from the resulting viscous caoutchouc mass and dissolving this mass by stirring with water.

2. The process herein described of producing solutions of caoutchouc, which consists in dissolving caoutchouc first in one of its well-known solvents, next treating the solution thus obtained with a strong alkaline aqueous liquid, adding water to the resulting product and then subjecting this mixture to the action of steam until the solvent is distilled off from the solution, separating the resulting alkaline liquid from the resulting viscous caoutchouc mass and dissolving this mass by stirring with hot water.

3. The process herein described of producing solutions of caoutchouc, which consists in dissolving caoutchouc first in one of its well-known solvents, next treating the solution thus obtained with a strong alkaline aqueous liquid, adding water to the resulting product and then subjecting this mixture to the action of steam until the solvent is distilled off from the solution, separating the resulting alkaline liquid from the resulting viscous caoutchouc mass and dissolving this mass by stirring with hot water under pressure.

4. The process herein described of treating rubber waste, which consists in dissolving rubber waste first in one of the ordinary solvents of caoutchouc, separating this solution mechanically from the impurities, next treating the solution thus obtained with a strong alkaline aqueous liquid, adding water and subjecting the mixture to the action of steam until the solvent is distilled off from the solution, separating the resulting viscous caoutchouc mass from the resulting alkaline liquid, dissolving the viscous caoutchouc mass by stirring with water, separating the solution of caoutchouc thus obtained from the remaining impurities and precipitating the caoutchouc from the purified solution by means of an acid agent.

5. The process herein described of treating rubber waste, which consists in dissolving rubber waste first in one of the ordinary solvents of caoutchouc, separating this solution mechanically from the impurities, next treating the solution thus obtained with a strong alkaline aqueous liquid, adding water and subjecting the mixture to the action of steam until the solvent is distilled off from the solution, separating the resulting viscous caoutchouc mass from the resulting alkaline liquid, dissolving the viscous caoutchouc mass by stirring with hot water, separating the solution of caoutchouc thus obtained from the remaining impurities and precipitating the caoutchouc from the purified solution by means of an acid agent.

6. The process herein described of treating rubber waste, which consists in dissolving rubber waste first in one of the ordinary solvents of caoutchouc, separating this solution mechanically from the impurities, next treating the solution thus obtained with a strong alkaline aqueous liquid, adding water and subjecting the mixture to the action of steam until the solvent is distilled off from the solution, separating the resulting viscous caoutchouc mass from the resulting alkaline liquid, dissolving the viscous caoutchouc mass by stirring with hot water under pressure, separating the solution of caoutchouc thus obtained from the remaining impurities and precipitating the caoutchouc from the purified solution by means of an acid agent.

844,078. SCREEN-DOOR CHECK. DAVID W. ANDERSON, La Fayette, Ind. Filed Apr. 19, 1906. Serial No. 312,642.

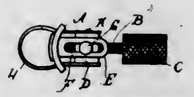


Claim.—1. The combination with a door, and a door-casing, of a stop on one of said members, and a door-check on the other member adapted to engage said stop, said door-check consisting of a pivoted portion and another portion slidable thereon, and an automatically-releasable trip for checking the sliding movement of said sliding portion before the closing movement of the door is completed.

2. The combination with a spring-door and a door-casing, of an adjustable stop on one of said members and a door-check on the other of said members, said door-check consisting of a spring-controlled pivoted portion and another portion slidable thereon, a spring that tends to hold said movable portion in its outer position, a gravity-trip mounted on said pivoted portion, and lugs on said movable portion in position to engage said trip during the closing movement of the door.

3. The combination with a door and a door-casing, of a stop on one of said members, and a door-check on the other member adapted to engage said stop, said door-check consisting of a pivoted portion and another portion slidable thereon, a trip pivotally mounted on said pivoted portion adjacent said sliding portion and so as to be held in a certain position by gravity and that is provided with two trip projections, and two lugs upon the movable portion adapted to engage said trip projections during the movement of said movable portion and stop its movement when the trip is actuated, whereby after the checking movement the trip will by gravity move out of engagement with said lugs and permit the final movement of the door.

844,079. DENTAL MATRIX. ELLSWORTH ARMSTRONG, Collingdale, Pa. Filed July 26, 1906. Serial No. 327,811.



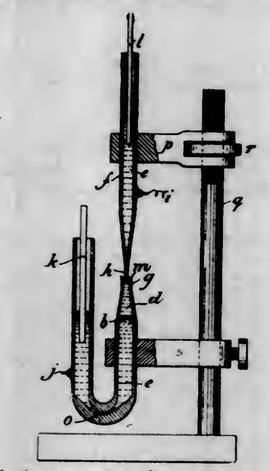
Claim.—1. A dental matrix consisting of an operating-screw, a clamp swiveled thereto, said clamp having elongated eyes, a curved band, the ends of which are adapted to pass through said eyes, a collar threaded upon the operating-screw, pins projecting from the sides of said collar adapted to engage holes formed in the ends of the band, a pin projecting from the top of the collar, a guide extending rearward from the clamp having a slot through which the last-named pin passes, and a knuried handle for operating the screw as and for the purpose set forth.

2. In combination, a clamp, a threaded stem swiveled thereto, a collar threaded on the stem, a band engaging the clamp and secured to the collar and means carried by the clamp and engaging the collar for holding said clamp against rotation independently of the stem.

3. In combination, a clamp, a threaded stem swiveled thereto, a sleeve threaded on the stem, a band engaging the clamp and secured to the sleeve, a slotted exten-

sion on the clamp and means carried by the collar extending within the slot for holding the clamp against rotation independently of the stem.

844,080. ELECTROCAPILLARY APPARATUS. JAMES T. ARMSTRONG and AXEL ORLING, London, England. Filed Mar. 21, 1905. Serial No. 251,331.



Claim.—1. An apparatus for observing or recording electrical phenomena consisting of a bent tube containing in one part mercury and in the other a conductor other than mercury, a capillary tube containing a liquid conductor and dipping into the end of the bent tube and means for passing an electric current through the tubes and the liquids therein.

2. In an apparatus for observing or recording electrical phenomena the combination of a capillary tube of a U-shaped tube having legs of unequal lengths, one end containing a conductor other than mercury and the remaining part of the U-shaped tube containing mercury.

3. In an apparatus for observing or recording electrical phenomena the combination with a capillary tube of a U-shaped tube containing mercury in one part and a conductor other than mercury in the other part and a level-regulating rod in the U-tube.

4. In apparatus for observing or recording electrical phenomena the combination of a capillary tube containing a liquid conductor with a level-regulating rod in the said tube and of a U-shaped tube containing a conductor other than mercury in one part and mercury in the other part.

5. In apparatus for observing or recording electrical phenomena the combination of a capillary tube containing a conducting liquid and a level-regulating rod dipping into the same with a U-shaped tube containing a conductor other than mercury in one part, mercury in the other part, and a level-regulating rod entering the open part of the U-shaped tube.

6. In an apparatus for observing or recording electrical phenomena the combination with a capillary tube with a U-shaped tube the curved part of the U-shaped tube being of constricted internal diameter.

7. In an apparatus for observing or recording electrical phenomena a U-shaped tube having a curved part of constricted internal diameter, one leg with a narrow end and a terminal leading into the tube.

8. In an apparatus for observing or recording electrical phenomena a U-shaped tube with a constricted curved portion combined with a level-regulating rod.

9. In an apparatus for observing or recording electrical phenomena a U-shaped tube having a restricted curved part combined with a reduced portion at the end of one leg and a level-regulating rod entering the other leg.

10. In an apparatus for observing or recording electrical phenomena a tube having a capillary part at one end and an open, wider, part at the other, fitted with a terminal and combined with a level-regulating rod entering the wide end of such tube.

11. An apparatus for observing or recording electrical phenomena consisting of a capillary tube containing a conducting liquid a bent tube containing mercury in one part and a conductor other than mercury in the other part, means for passing current through the conductors, a support for said tubes and means for adjusting the position of the tubes on the support.

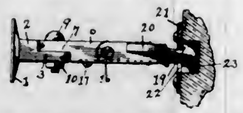
12. An apparatus for observing or recording electrical phenomena consisting of a capillary tube containing a liquid conductor, a bent tube containing mercury in one part and a conductor other than mercury in the other part, means for passing current through the conductors, means for regulating the level of the conductors in the tubes, a support for the tubes and means for adjusting the tubes on the supports.

13. In an apparatus for observing or recording electrical phenomena a capillary tube opaque at its end, and having transparent parts in the opaque end.

14. In an apparatus for observing or recording electrical phenomena a tube drawn out to capillary dimensions at its end, the capillary end being opaque and having transparent portions, and an electrically-operated column of liquid in said tube combined with a source of light deflected by the column of liquid.

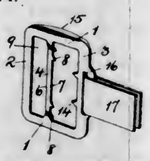
15. In an apparatus for observing or recording electrical phenomena an opaque tube provided with a passage for light and an electrically-operated column of liquid adapted to move across the said passage.

844,081. DOOR-HOLDER. CHARLEY F. ASH, Louisville, Ky., assignor of one-half to Albert Klopf, Louisville, Ky. Filed Jan. 31, 1906. Serial No. 298,782.



Claim.—A door-holder comprising a wall-bracket formed with an outstanding and shouldered head, the upper face of the head being radially furrowed, an arm having complementary furrows to engage the furrows in the head, an adjustable securing-bolt passing through the head and arm, the lower face of the arm having a groove therein and a lug or extension provided on the free end of the arm, a detent having a pair of ears formed at one end to embrace said lug, a bolt passing through the ears and lug, a pedal secured to the detent, the detent being formed with a groove in its lower face in alinement with the groove in the arm, a flat spring located in said groove and secured to the arm by a screw, said spring having a rounded end to engage the detent and a keeper for the detent.

844,082. ATTACHABLE STITCHLESS BUCKLE. MIECZYSLAW BARABASZ, Baltimore, Md. Filed Nov. 2, 1906. Serial No. 341,674.



Claim.—1. A buckle comprising a single plate having two side bars; two end bars which connect the side bars and one of said end bars having teeth at its inner edge, and an inclined toothed bar between the end bars—the teeth of the inclined bar confronting the teeth of the end bar.

2. A buckle comprising a single plate having two side bars, two end bars connecting the side bars and one of said end bars having a plurality of teeth which project from the inner side and beyond the inner surface of the buckle-plate and said buckle also having an inclined cross-bar with teeth along its outer edge.

3. A buckle comprising a single plate having side bars, end bars connecting the side bars and one of said end bars having a plurality of teeth along its inner edge and said buckle also having a central bar with a pair of teeth at each end thereof—said pairs of teeth on the central bar projecting toward the end bar with the teeth.

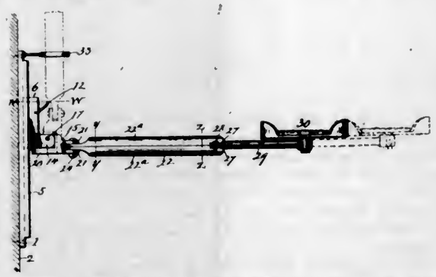
4. A buckle comprising a single plate having side bars, end bars connecting the side bars and one of the end bars having teeth which are pointed and are bent inwardly beyond the inner surface of the buckle-plate and said buckle having a cross-bar between the end bars—said cross-bar also having pointed teeth which project outwardly and beyond the outer surface of the buckle-plate.

5. A buckle comprising a single plate having side bars, end bars connecting the side bars and one of the end bars having a plurality of inwardly-bent teeth, while the other end bar is toothless—said side bars and toothless end bar having a flange at their outer edges, and a central cross-bar having teeth which project outwardly beyond the buckle-plate and which confront the teeth on the end bar.

6. A buckle comprising a single plate having side bars, a toothless flanged end bar connecting one end of the side bars; a flangeless toothed bar connecting the other end of the side bars and provided with a slot and a cross-bar also connecting the side bars between the two end bars and said cross-bar having teeth at that side which confronts the teeth of the end bar.

7. A buckle comprising a single plate having side bars, end bars connecting the side bars and one of said end bars having teeth; means attached to the toothed end bar by which the latter may be drawn laterally, and a cross-bar also connecting the side bars and having teeth which project laterally toward the end bar with the teeth.

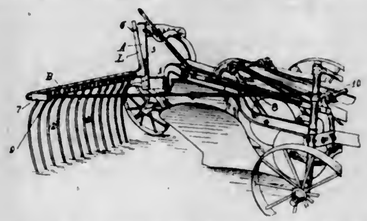
844,083. ARM-SUPPORT FOR TELEPHONES. LOUIS BARRELLA, Syracuse, N. Y. Filed Oct. 31, 1906. Serial No. 341,431.



Claim.—1. An arm-support for telephone consisting of a stationary plate provided with a vertical series of apertures and parallel undercut ribs at opposite sides of said apertures, a vertically-adjustable block provided with flanges engaging said ribs and with a cavity in the side of the block facing the aforesaid plate and with vertical ears projecting from the exterior of the block, a dog inclosed in said cavity and disposed to enter the apertures of the plate, a spring located in the cavity and forcing the dog into the aperture, a thumb-latch pivoted to the block and connected to the dog, a bracket pivoted to the aforesaid ears to swing vertically thereon, and provided with bearings engaging the block to support the bracket in its horizontal position, and horizontal ears projecting from the end of the bracket, a hollow bar pivoted to the horizontal ears, a rod supported longitudinally adjustable in said bar, and an arm-rest attached to the free end of said rod as set forth.

2. An adjustable arm-support for telephone comprising a bracket formed with perforated horizontal ears, a supporting-bar divided longitudinally and formed in the inner sides of its sections with longitudinal channels shaped angular in cross-section and meeting smaller channels extending through the outer ends of the sections, the rear ends of said sections formed with rearwardly-extending horizontal lips inserted jointly between the ears of the bracket and pivoted thereto, screws clamping together the outer ends of the bar-sections, a rod sliding in the channels of the bar-sections and provided at its inner end with an angular head conformed to the angular channels, and an arm-rest attached to the outer end of said rod as set forth and shown.

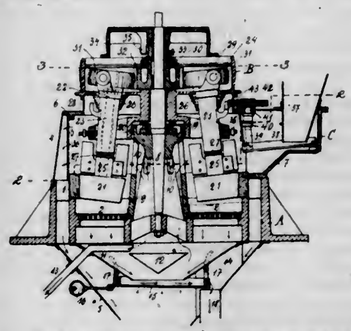
844,084. PLOW ATTACHMENT. EMERSON B. BARROWS, Sandwich, Ill. Filed Sept. 26, 1906. Serial No. 336,233.



Claim.—1. The combination with a plow, an arm secured thereto and an upright extending upwardly from the arm, said upright having an elongated, vertically-disposed slot at or near its lower edge with a tooth-supporting bar and teeth secured thereto, one end of said bar extending through the slot in the upright, a lever secured to the bar and means at its upper end for connecting it to the upright.

2. The combination with a plow, an arm secured thereto and an upright extending upwardly from the arm, said upright having an elongated, vertically-disposed slot at or near its lower edge with a tooth-supporting bar and teeth secured thereto, one end of said bar extending through the slot in the upright, a lever secured to the bar, means at its upper end for connecting it to the upright and means extending from the outer end of the bar to a portion of the plow to support the bar at the outer end.

844,085. RING AND ROLLER AND LIKE MILL. EMIL BARTHELMESS, Neuss, Germany. Filed Mar. 2, 1903. Serial No. 145,747.



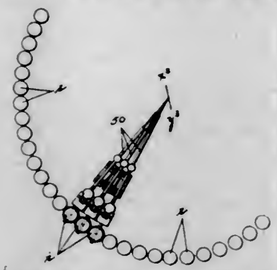
Claim.—1. In a pendulum-mill for wet or dry grinding to flour or grains, a main driving-pulley, a pendulum-roll suspended therefrom, gear-wheels arranged in operative relation with respect to said pulley and said pendulum and inclosed in said pulley in a dust-tight manner, a grinding-vat in which operates the said pendulum, a hollow column arranged centrally in said vat and provided with openings for the entrance of air or water, a main shaft carrying the pulley and secured in said hollow column, and a hopper arranged below the column.

2. In a pendulum-mill, for wet or dry grinding to flour or grains, a grinding-vat, a hollow column arranged centrally therein and provided with openings for the entrance of air or water, a main shaft fixedly secured in said hollow column, a hopper arranged below the column and a deflector located within the hopper and at a distance from the lower end of said hollow column.

3. In a pendulum-mill, for wet or dry grinding to flour or grains, a grinding-vat, a hollow column arranged centrally therein and provided with openings for the entrance of air or water, a main shaft fixedly secured in said hollow column, a hopper arranged below the column, a deflector located within the hopper and at a distance from the lower end of said hollow shaft, and a suction-pipe having its mouth interposed between the deflector and the end of said shaft.

4. In a pendulum-mill for wet or dry grinding to flour or grains, a grinding-vat, a hollow column arranged centrally therein and provided with openings for permitting the entrance of air or water, a deflector located below and at a distance from the lower end of said column, a hollow frusto-conical deflector surrounding said first-named deflector at a distance therefrom, a hopper surrounding said latter deflector, a shaking-screen interposed between said hopper and said deflector, and a discharge-pipe extending through said hopper and adapted to receive material passing off of said screen.

844,086. TELEGRAPHIC PICTURE-TRANSMITTING MECHANISM. EDOUARD BELIN and MARCEL BELIN, Paris, France. Filed Dec. 6, 1904. Serial No. 235,749.



Claim.—1. Apparatus for transmitting to a distance optical images, and comprising a transmitter and a receiver, the transmitter having a dark chamber with elements of a selenium basis and means for successively switching them into a local circuit, a relay and system of contacts to cause a line-circuit to act on the receiver in varying proportions, the receiver having a system of contacts moving synchronously with those in the relay-circuit.

2. An apparatus for transmitting optical images, comprising a dark chamber provided with an objective and a movable mirror, and containing plurality of rows of sensitive elements intended to receive the luminous rays reflected by the movable mirror on which fall the emergent rays of the objective, each row of elements corresponding to a proportional part of the image.

3. In an apparatus for transmitting optical images having a dark chamber with sensitive receiving elements therein, a local current connected therewith and a line-current, in combination with a relay comprising two series of rotating resistant windings, arranged inversely and on each of which is applied a roller, one of said windings being switched into the local current of the transmitter and the other into the line-curfent so as to cause the latter to vary proportionately with the variations of the local current influenced by the sensitive elements.

4. In an apparatus for transmitting optical images, a contact arrangement for switching the elements successively into an electric circuit, comprising rotatable notched disks, flexible strips intended to form a connection with contact-pieces carried by the notched disks, the latter being juxtaposed and displaced angularly relatively to one another.

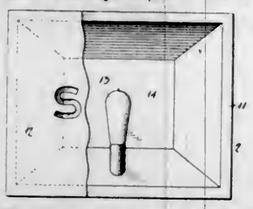
5. An apparatus for transmitting optical images, having a transmitting apparatus comprising a dark chamber, an objective, a movable mirror and sensitive elements, in combination with a system of switches having disks and strips successively switching these elements into a local circuit, a relay in said circuit intended to influence the line-current, and an electromagnet operating a double switch opening the local circuit of the transmitter when the line-circuit is closed, and vice versa.

6. An apparatus for the transmission of optical images, having a transmitter with sensitive elements therein, in combination with means corresponding to the sensitive elements of the transmitter for recording the real optical image on a suitable support, as a band of paper or the like, by means of circular perforations of variable diameters proportionate or inversely proportionate to the luminous intensity of the rays striking the sensitive elements, said points being operated by a suitable electromagnetic apparatus subjected to the variable line-current.

7. An apparatus for the transmission of optical images or pictures, having a receiver and recording-points therein, an electromagnetic apparatus operating each of the recording-points, and comprising an electromagnet with two distinct windings, the one traversed by a local current and the other by the variable line-current and modifying more or less at will, the local current.

8. An apparatus for the transmission of optical images having a transmitting apparatus with disks and strips and a receiving apparatus connected in a variable line-circuit, such receiving apparatus comprising recording means and a series of differential electromagnets operating the recording means, in combination with a contact system having disks and strips working synchronously with those of the transmitting apparatus, and successively switching the electromagnets into the variable line-circuit.

844,087. ILLUMINATED SIGN. ELMER E. BELLAMY, Cleveland, Ohio. Filed Apr. 30, 1906. Serial No. 314,452.

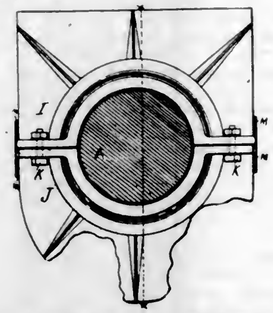


Claim.—1. The combination with a casing or holder having an opening therein, of a transparent plate covering said opening, guides within said casing or holder, a removable transparency behind said opening and slidably engaged with said guides, a reflector carried by said transparency, and an illuminating device supported within said reflector.

2. In a sign, a casing or holder having an opening covered by a transparent plate, longitudinal guide-strips within said casing or holder, a rectangular frame slidably engaged with said guide-strips, a perforated sign upon the front of said frame and behind said opening, a reflector upon the rear of said frame having inwardly-converging sides, an illuminating device mounted within said reflector, and a closure for said casing or holder.

844,088. JOURNAL-BOX. HERMAN BENSCH, Davenport, Iowa. Filed Nov. 29, 1905. Serial No. 289,670.

Claim.—1. A journal-box provided with a flange which extends outwardly from the box-body and is made integral therewith, and a groove or depression in the outer face of the box-body and contiguous to said flange; a dust-guard comprising two principal members adapted to be loosely secured upon the journal-box and around a journal mounted therein by placing said members together edgewise from opposite directions, their outer edges so constructed that they may be connected with the journal-box by loosely interlocking such edges with the outwardly-extending flange of the journal-box, means for securing said members firmly together, means comprising springs retained in housings made integral with the dust-guard, said springs adapted to be engaged at their extremities by lugs projecting from and made integral with the journal-box, all for the purposes herein stated.



2. A journal-box for car-axles, whose rear wall extends beyond its top, bottom and sides, and which is provided with a depression or groove in and around its body parallel with and contiguous to said extensions of the rear wall; a dust-guard composed of an upper and a lower member adapted to surround the axle, said members being flared or thickened at their inner edges, the outer edges of said members formed with overlapping flanges and adapted to overlap and interlock with the extensions of the rear wall of the journal-box; means for securing said members together; spiral springs mounted and sustained in housings, formed on the dust-guard members; said springs adapted to be engaged by lugs made integral with the journal-box, for the purposes herein stated.

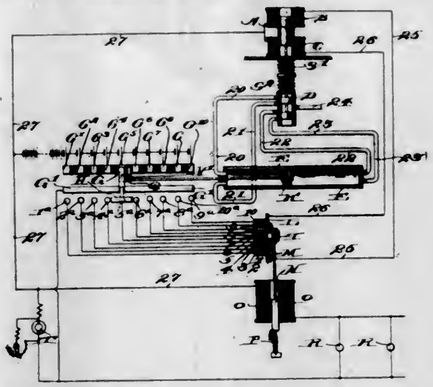
844,089. HOOK AND EYE. ANDRÉ BESSON, Paris, France, assignor to The Firm of Treuherz, & Fuss, Berlin, Germany. Filed Nov. 4, 1904. Serial No. 231,421.



Claim.—A clasp for garments and the like comprising in combination a hooked member arranged to be attached to a part to be fastened and having a resilient tongue stamped centrally out of said hooked member and bent so as to present a depression at the bend of the hooked member, and a straight bar located transversely of the said tongue and terminally perforated in its longitudinal axis to receive thread for securing it to a second part to be fastened to the said first part, the said bar being of such a length as to allow longitudinal movement of the said hooked member thereon, the whole being arranged in such manner that when the said bar is located in said depression in the hooked member the action of the said tongue on the said bar is transverse to the longitudinal axis of the bar and parallel with the terminal perforations therein, whereby all tendency of the said bar to twist on its longitudinal axis while engaging and disengaging said hooked member is obviated, substantially as described.

844,090. AUTOMATIC END-CELL SWITCH. JOSEPH BIJUR, New York, N. Y., assignor to The General Storage Battery Company, a Corporation of New York. Filed Sept. 13, 1905. Serial No. 278,337.

Claim.—1. The combination with a supply-circuit and end cells of a storage battery, of an end-cell switch, a pressure-cylinder and piston connected to operate the switch, means for continuously circulating the working fluid on each side of the piston, an electroresponsive device for controlling said piston and cylinder, and means including circuits and connections devised and arranged for controlling said electroresponsive device and thereby automatically changing the position of the switch to include more or less cells in series, according to changes in the current conditions of the supply-circuit.



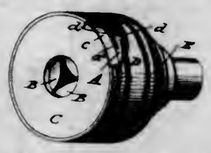
2. The combination with a supply-circuit and the end cells of a storage battery, of an end-cell switch, a pressure-cylinder and piston connected to operate the switch, means for continuously circulating the working fluid on each side of the piston, a controlling-valve for controlling the circulation of the fluid on both sides of the piston and thereby actuating the piston, means for controlling said valve in accordance with changes in the current conditions of the working circuit, including circuits and connections devised and arranged for automatically changing the position of the switch to include more or less cells in series, according to changes in the current conditions of the supply-circuit.

3. The combination with a supply-circuit, and the end cells of a storage battery, of an end-cell switch having a main switch-brush and main contacts, a fluid-pressure device for actuating said switch, a bus-bar and set of auxiliary contacts corresponding to the main contacts, a set of commutator-bars corresponding to said sets of contacts, electric connections between the auxiliary contacts and the commutator-bars, a pair of sliding contact-pieces movable together over said bars and insulated from each other, a contact-piece electrically connected to the main switch-brush and movable over the auxiliary contacts, a valve for the fluid-pressure device controlled by magnets jointly connected at one side to the storage battery, and separately connected at the other side to the said sliding contact-pieces, whereby the motion of said contact-pieces energizes one or the other of said magnets.

4. The combination with a supply-circuit and the end cells of a storage battery, of an end-cell switch, a fluid-pressure device for actuating said switch, two separate controlling contact-pieces insulated from each other, a set of contacts or bars over which said contact-pieces are movable, electric connections between the bars and the switch, a valve controlling the fluid-pressure device, an electric regulator controlling the contact-pieces, and electric means for actuating said valve whenever the regulator actuates the said contact-pieces.

5. The combination with a supply-circuit and the end cells of a storage battery, of an end-cell switch having main contacts and a brush cooperating therewith, a fluid-pressure device for actuating said switch, two separate controlling contact-pieces insulated from each other, a set of contacts or bars over which said contact-pieces are movable, electric connections between the bars and the switch, a valve controlling the fluid-pressure device, an electric regulator controlling the contact-pieces, and electric means for actuating said valve whenever the regulator actuates the said contact-pieces, and means whereby the switch-brush is caused to come to rest substantially centrally upon one of said main contacts.

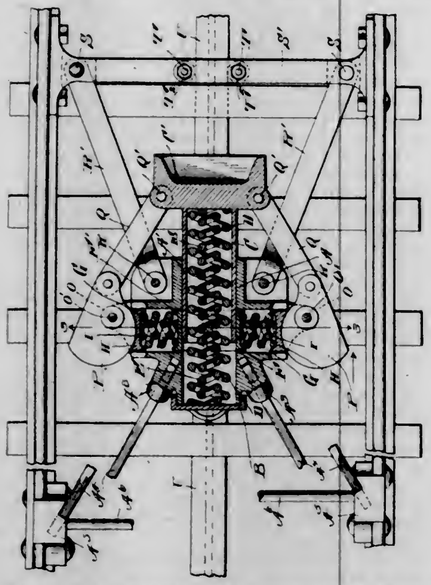
844,091. DRILL-CHUCK. WILLIAM BORCHERT, Reno, Nev., assignor of one-half to Richard Kirman, Reno, Nev. Filed Nov. 26, 1906. Serial No. 345,149.



Claim.—1. A chuck comprising a body, gripping-jaws pivoted within the body, an inclosing shell upon the body and engaging lugs on said jaws, a tension-sleeve circumferentially adjustable on the shank of the head, and a volute spring secured at one end to the shell and at the other end to the tension-sleeve.

2. A chuck comprising a body having a shank and an open head, the wall of which has symmetrically-spaced bearing-grooves terminating at the inner end in circular bearing-apertures and intersected by openings having outwardly-diverging walls, an annular face-plate secured to the open end of the head, said plate having bearing-apertures registering with the grooves of the head, gripping-jaws journaled in the bearing-groove of the head and in the bearing-apertures of the head and face-plate, said jaws having lugs which project through the openings intersecting the bearing-grooves, an inclosing shell having grooves to engage the lugs of the gripping-jaws, and a spring connected at one end to the shell and at the other end to the chuck-body.

844,092. RAILWAY-BUFFER. WILLIAM F. BOSSERT, Utica, N. Y. Filed Oct. 23, 1906. Serial No. 340,230.



Claim.—1. A railway-buffer comprising a movable, spring-actuated hollow piston provided with a head, clamping-jaws adapted to contact with the circumference of the piston, and means actuated by the head of the piston to cause said clamping-jaws to frictionally engage the piston, as set forth.

2. A railway-buffer comprising a frame, a piston mounted in an opening in said frame, jaws having a movement at right angles to the length of said piston and adapted to frictionally contact with the outer circumference thereof, cams having pivotal connection with a head or shoulder of said piston, and springs interposed between said cams and jaws, as set forth.

3. A railway-buffer comprising a frame, a hollow piston mounted in an opening therein, friction-jaws mounted in an opening at right angles to the opening in which said piston is mounted, springs interposed between the outer faces of said jaws and the head of said piston, cams pivotally mounted upon the frame, springs interposed between said cams and said jaws, and link connections between said cams and head of the piston, as set forth.

4. A railway-buffer comprising a frame, a hollow piston mounted in an opening therein, friction-jaws mounted in an opening at right angles to the opening in which said piston is mounted, springs interposed between the outer faces of said jaws and the head of said piston, cams pivotally mounted upon the frame, plates mounted in openings at right angles to the opening in which said piston is mounted and against which said cams are adapted to frictionally contact, springs interposed between said plates and said jaws, and link connections between said cams and the head of said piston, as set forth.

5. A railway-buffer comprising a frame having openings at right angles to each other formed therein, a hollow piston mounted in one of said openings and provided with a head, one face of which is recessed and adapted to receive the impact of a coupler-head, interlocking jaws mounted in the other opening and adapted to contact with the circumference of said hollow piston, cams mounted upon the frame, plates mounted in the openings in which said jaws have play, springs interposed between said jaws and cams, links pivotally connecting said cams and the head of said piston, and springs interposed between the jaws and the head of said piston, as set forth.

6. A railway-buffer comprising a frame having openings at right angles to each other formed therein, a hollow piston mounted in one of said openings and provided with a head, one face of which is recessed and adapted to receive the impact of a coupler-head, interlocking jaws mounted in the other opening and adapted to contact with the circumference of said hollow piston, cams mounted upon the frame, plates mounted in the openings in which said jaws have play, springs interposed between said jaws and cams, links pivotally connecting said cams and the head of said piston, a closure to one end of the opening in which said piston is mounted, springs interposed between said closure and piston-head and springs interposed between the opposite sides of the jaws and the piston-head, as set forth.

7. A railway-buffer comprising a frame having openings at right angles to each other formed therein, a piston mounted in one of said openings and provided with a head with a recessed face, friction-jaws mounted in the opening at right angles to the opening in which said piston is mounted, plates mounted in the opening in which said jaws have play, springs interposed between said plates and jaws and between the latter and the head of the piston, cams, pivot-pins mounted at one side of the center of the opening in which said jaws are mounted and upon which said cams are pivotally mounted, the latter being adapted to bear against the concaved surfaces of said plates, and links connecting said cams with the head of the piston, as set forth.

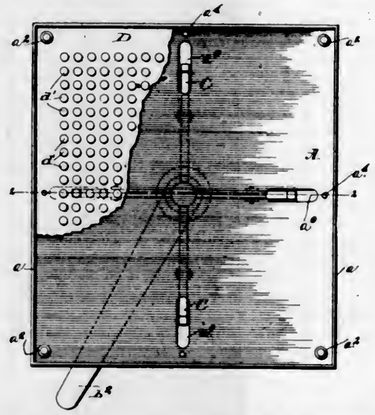
8. A railway-buffer comprising a casing, a spring-pressed piston mounted therein, clamping-jaws, means for throwing said jaws into contact with the circumference of the piston when the same is moved longitudinally, brace-bars pivotally connected at corresponding ends to said frame and connected to the rails of a railway at their opposite ends, and a cross-piece connecting said brace-bars, as set forth.

9. A railway-buffer comprising a casing, a spring-pressed piston mounted therein, clamping-jaws, means for throwing said jaws into contact with the circumference of the piston when the same is moved longitudinally, brace-bars pivotally connected at corresponding ends to said frame, a cross-piece pivoted to the outer ends of said brace-bars, means for fastening said cross-piece to the rails of a railway, a U-shaped rod passing through apertures in said cross-piece, an I-beam underneath the ties of a railway and underneath which said U-shaped rod passes, and nuts mounted upon the threaded end of the latter and adapted to bear against said cross-piece, as set forth.

10. A railway-buffer comprising a casing, a spring-pressed piston mounted therein, clamping-jaws, means for throwing said jaws into contact with the circumference of the piston when the same is moved longitudinally, brace-bars pivotally connected at corresponding ends to said frame, a cross-piece pivoted to the outer ends of said brace-bars, means for fastening said cross-piece to the rails of a railway, a U-shaped rod passing through apertures in said cross-piece, an I-beam underneath the ties of a railway and underneath which said U-shaped rod passes, nuts mounted upon the threaded end of the latter and adapted to bear against said cross-piece, bars engaging socket members in said frame at their inner ends, and blocks fastened to the railway-rail to which the outer ends of said bars engaging the sockets of the frame, are held, as set forth.

11. A railway-buffer comprising a casing, a spring-pressed piston mounted therein, clamping-jaws, means for throwing said jaws into contact with the circumference of the piston when the same is moved longitudinally, brace-bars pivotally connected at corresponding ends to said frame, a cross-piece pivoted to the outer ends of said brace-bars, means for fastening said cross-piece to the rails of a railway, a U-shaped rod passing through apertures in said cross-piece, an I-beam underneath the ties of a railway and underneath which said U-shaped rod passes, nuts mounted upon the threaded end of the latter and adapted to bear against said cross-piece, bars engaging socket members in said frame at their inner ends, blocks fastened to the railway-rail to which the outer ends of said bars engaging the sockets of the frame, are held, and an I-beam supporting said frame, as set forth.

844,093. TABLET-MACHINE. JOHN V. BRANN, Knoxville, Iowa. Filed May 18, 1906. Serial No. 317,462.



Claim.—1. In a tablet-machine and in combination, a base having upwardly-projecting flanges at the edges thereof, a vertical shaft journaled centrally in the base, a drum on the shaft beneath the base and provided with diagonally-arranged slots in the peripheral surface thereof, a handle for the shaft below the drum, levers pivoted upon the under surface of the base at intervals of ninety degrees from each other, rollers on the inner ends of the levers engaging the slots of the drum, extensions in the outer ends of the levers projecting upwardly through slots in the base, posts having shoulders at the four corners of the table, a plate provided with openings at its corners for engaging the posts fitting within the flanges of the base and resting upon the upward extensions of the levers,

a plurality of cylindrical projections having cup-shaped depressions in their upper ends on the upper face of the plate, a second plate having openings to receive the posts above the shoulders, and resting upon the shoulders, and having a plurality of perforations of a diameter equal to that of the projections on the first plate, and corresponding in position and number thereto, and a third plate having openings to receive the corner-posts and cup-shaped depressions corresponding to the cylindrical projections of the first plate.

2. In a tablet-machine and in combination, a base, a shaft journaled centrally of the base, a drum on the shaft beneath the base and provided with a plurality of diagonally-arranged slots in the peripheral surface thereof, a handle on the shaft below the drum, and projecting beyond the base, levers pivoted on the under surface of the base at intervals of ninety degrees from each other, rollers on the inner ends of the levers for engaging the slots of the drum, extensions in the outer ends of the rollers projecting upwardly through slots in the base, posts having shoulders at the four corners of the table, a plate provided with openings at its corners for engaging the posts and resting upon the upward extensions of the levers, a plurality of cylindrical projections on the upper face of the plate, a second plate having openings to receive the posts above the shoulders and resting thereupon, a plurality of perforations of a diameter equal to that of the projections on the first plate and corresponding in number and position thereto, and a third plate having openings to receive the corner-posts and resting upon the second plate.

3. In a tablet-machine, and in combination, a base, a shaft journaled centrally of the base, a drum on the shaft beneath the base and provided with a plurality of diagonally-arranged slots in the peripheral surface thereof, a handle on the shaft below the drum, and projecting beyond the base, levers pivoted on the under surface of the base at intervals of ninety degrees from each other, rollers on the inner ends of the levers for engaging the slots of the drum, extensions in the outer ends of the rollers projecting upwardly through slots in the base, posts having shoulders at the four corners of the table, a plate provided with openings at its corners for engaging the posts and resting upon the upward extensions of the levers, a plurality of cylindrical projections on the upper face of the plate, and a second plate having openings to receive the posts above the shoulders and resting thereupon, and having a plurality of perforations of a diameter equal to that of the projections on the first plate and corresponding in number and position thereto.

4. In a tablet-machine and in combination, a base, levers pivoted to the under surface of the base and having extensions projecting upwardly therethrough, posts having shoulders at the four corners of the base, a plate provided with openings at its corners for receiving the posts and resting upon the upward extensions of the levers, a plurality of cylindrical projections on the upper face of the plate, a second plate having openings to receive the posts above the shoulders, a plurality of perforations of a diameter equal to that of the projections on the first plate and corresponding in number and position thereto, and means to operate the levers to force the plates into contact with each other.

5. In a tablet-machine and in combination, a base, a plate provided with a plurality of cylindrical projections having cup-shaped upper ends and supported by the base, a plate having perforations to receive the projections means for supporting said plate above the first plate a distance equal to the length of the projections, a third plate having cup-shaped depressions on its lower surface corresponding in position and number to those of the base and supported by the second plate, means for securing the plates to the base, and means whereby to press the first plate toward the other plates.

6. In a tablet-machine and in combination, a base, a plate provided with a plurality of cylindrical projections, and supported by the base, a second plate having perforations to receive the projections of the first plate means for supporting said plate thereabove a distance equal to

the length of the projections, a third plate resting upon the second plate, and means whereby to press the first plate toward the remaining plate.

7. In a tablet-machine, and in combination, a plate provided with a plurality of cylindrical projections, a second plate having perforations to receive the projections means for supporting said plate above the first plate a distance equal to the length of the projections, a third plate resting upon the second plate, and means whereby to move the first plate toward the remaining plate.

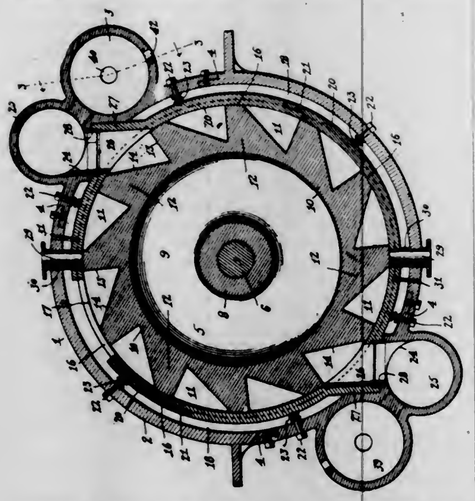
8. In a tablet-machine, and in combination, a plate provided with a plurality of cylindrical projections, a second plate having perforations to receive the projections means for supporting said plate above the first plate a distance eqnal to the length of the projections, and means whereby to elevate the first plate to force the projections thereof through the openings in the second plate.

9. In a tablet-machine, and in combination, a plate having a plurality of cylindrical projections on the upper face thereof, a second plate having perforations to receive the projections means for supporting said plate above the first plate a distance equal to the length of the projections, and means for moving the plates toward each other to force the projections through the perforations.

10. In a tablet-machine and in combination, a plurality of plates, one of the plates having cylindrical projections, and the other having perforations to receive the projections, means for supporting the plates in such position that the tops of the projections form bottoms for the perforations, means for moving the plates toward each other whereby to force the projections through the perforations, and means on the opposite side of the plate having perforations for resisting the passage of the projections.

11. In a tablet-machine, and in combination, a plurality of plates, one of the plates having cylindrical projections and the other having perforations to receive the projections, means for supporting the plates in position such that the tops of the projections form bottoms for the perforations, and means for moving the plates toward each other whereby to force the projections through the perforations.

844,094. ROTARY ENGINE. AUGUST BRETSCHER, Muskegon, Mich. Filed Dec. 18, 1906. Serial No. 348,442.



Claim.—1. In a rotary engine, a casing provided with supply and exhaust ports, a wheel rotatable in said casing and provided with buckets and having an annular groove in its periphery to form openings in said buckets to register with said ports, and a ring seated in said annular groove to close the openings in the buckets between the ports.

2. In a rotary engine, a casing provided with supply and exhaust ports, a wheel rotatable in said casing provided with buckets and having an annular groove in its periphery to form openings in said buckets to register with said ports, and an adjustable ring seated in said annular groove in the periphery of the wheel to close the openings in the buckets between the ports, and means for adjusting said ring into and out of said groove.

3. In a rotary engine, a casing having supply and exhaust ports, a wheel rotatable in said casing and provided with buckets and having an annular groove in its periphery to form openings in said buckets to register with said ports, and a ring adjustably mounted in said casing and engaging with the annular groove in the periphery of said wheel to close the openings in the buckets between the ports.

4. In a rotary engine, a casing provided with supply and exhaust ports, a wheel rotatable in said casing provided with buckets and having an annular groove in its periphery to form openings in said buckets to register with said ports, a ring adjustably mounted in said casing and engaging with the annular groove in the periphery of said wheel to close the openings in said buckets between the ports, and set-screws in said casing and impinging on said ring to adjust the latter in said annular groove in the periphery of the wheel.

5. In a rotary engine, a casing provided with supply and exhaust ports, a wheel rotatable in said casing and provided with buckets and having an annular groove in its periphery to form openings in said buckets to register with said ports, a ring adjustably mounted in said casing and engaging with the annular groove in the periphery of said wheel to close the openings in the buckets between the ports, and springs bearing on said ring to normally press the latter into said groove.

6. In a rotary engine, a casing provided with supply and exhaust ports, a wheel rotatable in said casing and provided with buckets having an annular groove in its periphery to form openings in said buckets to register with said ports, a ring adjustably mounted in said casing and engaging with the annular groove in the periphery of said wheel to close the openings in the buckets between the ports, set-screws in said casing impinging on said ring to adjust the latter in said annular groove, and springs on said set-screws bearing on said ring to normally press the latter into said groove.

7. In a rotary engine, a casing provided with supply and exhaust ports, a wheel rotatable in said casing provided with buckets and having an annular groove in its periphery to form openings in said buckets to register with said ports, and a ring formed of relatively movable sections seated in said annular groove to close the openings in said buckets between said ports.

8. In a rotary engine, a casing provided with supply and exhaust ports, a wheel rotatable in said casing provided with buckets and having an annular groove in its periphery to form openings in said buckets to register with said ports, a ring seated in said annular groove and having openings to register with said ports and with the openings in said buckets, and sleeves inclosing said ports and the openings in said ring.

844,095. CORDING AND WIRING SEAL-PRESS. EDWARD J. BROOKS, East Orange, N. J. Filed Dec. 1, 1906. Serial No. 345,910.

Claim.—1. The combination with a seal-press, having a head and dies adapted to hold an unpressed seal in proper position for pulling a cord or wire therethrough, of a rotatable drum supported in juxtaposition to said dies upon said head and provided with means for temporarily attaching such cord or wire to the periphery of the drum and for turning the drum on its axis to tighten such cord or wire by pulling it through such seal preliminary to securing it by pressing such seal by means of said dies and for subsequently releasing such cord or wire from the drum, and means for locking said drum against retrogression during the operation of pressing such seal.

2. The combination with a seal-press, having a head and dies adapted to hold an unpressed seal in proper position for pulling a cord or wire therethrough, of a rotatable drum supported in juxtaposition to said dies upon said head and provided with means including a combined clamping-jaw and tightening-lever and a latch interacting therewith for temporarily attaching such cord or wire to the periphery of the drum and for turning the drum on its axis to tighten such cord or wire by pulling it through such seal preliminary to securing it by pressing such seal by means of said dies and for subsequently releasing such cord or wire from the drum, and means for locking said drum against retrogression during the operation of pressing such seal.



3. The combination with a seal-press, having a head and dies adapted to hold an unpressed seal in proper position for pulling a cord or wire therethrough, of a rotatable drum supported in juxtaposition to said dies upon said head and provided with means for temporarily attaching such cord or wire to the periphery of the drum and for turning the drum on its axis to tighten such cord or wire by pulling it through such seal preliminary to securing it by pressing such seal by means of said dies and for subsequently releasing such cord or wire from the drum, and a pawl-and-ratchet device for locking said drum against retrogression during the operation of pressing such seal.

4. The combination with a seal-press having a head and dies adapted to hold an unpressed seal in proper position for pulling a cord or wire therethrough, of a rotatable drum supported in juxtaposition to said dies upon said head and provided with means for temporarily attaching such cord or wire to the periphery of the drum and for turning the drum on its axis to tighten such cord or wire by pulling it through such seal preliminary to securing it by pressing such seal by means of said dies and for subsequently releasing such cord or wire from the drum, and a pawl-and-ratchet device adapted to lock said drum against retrogression during the pressing operation and to subsequently permit the drum to be restored to its starting position.

5. The combination with a seal-press, having a head and dies adapted to hold an unpressed seal in proper position for pulling a cord or wire therethrough, including a bed-die having a recess in the form of a reëntrant angle fitted to an angular seal and a movable die interacting therewith, of a rotatable drum supported in juxtaposition to said dies upon said head and provided with means for temporarily attaching such cord or wire to the periphery of the drum and for turning the drum on its axis to tighten such cord or wire by pulling it through such seal preliminary to securing it by pressing such seal by means of said dies and for subsequently releasing such cord or wire from the drum, and means for preventing retrogression of the cord or wire during the operation of pressing such seal.

6. The combination with a seal-press having a head and dies adapted to hold an unpressed seal in proper position for pulling a cord or wire therethrough, and provided with means for insuring completed pressing movements, of a rotatable drum supported in juxtaposition to said dies upon said head and provided with means for temporarily attaching such cord or wire to the periphery of the drum and for turning the drum on its axis to tighten such cord or wire by pulling it through such seal preliminary to securing it by pressing such seal by means of said dies and for subsequently releasing such cord or wire from the drum, and means for preventing retrogression of the cord or wire during the operation of pressing such seal.

7. The combination with a seal-press having a head and dies adapted to hold an unpressed seal in proper position for pulling a cord or wire therethrough, of a movable die, and provided with a pawl-and-ratchet device for locking said movable die in contact with such unpressed seal and for insuring the subsequent completion of the pressing operation, of a rotatable drum supported in juxtaposition to said dies upon said head and provided with means for temporarily attaching such cord or wire to the periphery of the drum and for turning the drum on its axis to tighten such cord or wire by pulling it through such seal preliminary to securing it by pressing such seal by means of said dies and for subsequently releasing such cord or wire from the drum, and means for preventing retrogression of the cord or wire during the operation of pressing such seal.

8. The combination with a seal-press having a head and dies adapted to hold an unpressed seal in proper position for pulling a cord or wire therethrough, including a movable die, and provided with a pawl-and-ratchet device adapted to lock said movable die in contact with such unpressed seal and to insure the subsequent completion of the pressing operation and having reversing-notches to release the pressed seal and to permit said movable die to return to its open position, of a rotatable drum supported in juxtaposition to said dies upon said head and provided with means for temporarily attaching such cord or wire to the periphery of the drum and for turning the drum on its axis to tighten such cord or wire by pulling it through such seal preliminary to securing it by pressing such seal by means of said dies and for subsequently releasing such cord or wire from the drum, and means for preventing retrogression of the cord or wire during the operation of pressing such seal.

9. A cording or wiring seal-press having, in combination, a movable die and an opposing part adapted to hold an unpressed seal between them in proper position for pulling a cord or wire therethrough, means for operating said movable die, means for pulling such cord or wire through such impressed seal so held to tighten the cord or wire and for subsequently releasing it from the pulling means, means for preventing the retrogression of such cord or wire during the pressing operation and for subsequently permitting the pulling means to be returned to its starting position, and means for locking said movable die against retrogression during the tightening operation, insuring the subsequent completion of the pressiug operation and releasing the pressed seal.

10. A cording or wiring seal-press having, in combination, a movable die and an opposing part adapted to hold an unpressed seal between them in proper position for pulling a cord or wire therethrough, means for operating said movable die, means for pulling such cord or wire through such unpressed seal so held to tighten the cord or wire and for subsequently releasing it from the pulling means, a pawl-and-ratchet device for preventing the retrogression of such cord or wire during the pressing operation and for subsequently permitting the pulling means to be returned to its starting position, and means for locking said movable die against retrogression during the tightening operation, insuring the subsequent completion of the pressing operation and releasing the pressed seal.

11. A cording or wiring seal-press having, in combination, a movable die and an opposing part adapted to hold an unpressed seal between them in proper position for pulling cord or wire therethrough, means for operating said movable die, means for pulling such cord or wire through such unpressed seal so held to tighten the cord or wire and for subsequently releasing it from the pulling means, means.

for preventing the retrogression of such cord or wire during the pressing operation and for subsequently permitting the pulling means to be returned to its starting position, and a pawl-and-ratchet device for locking said movable die against retrogression during the tightening operation, insuring the completion of the pressing operation and releasing the pressed seal, substantially as hereinbefore specified.

844,096. PREPARING HAM FOR MARKET. LOUIS BURK, Philadelphia, Pa. Filed June 30, 1904. Serial No. 214,832.

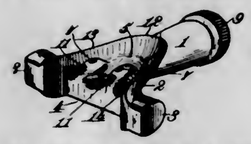


Claim.—1. A ham retaining thereon a part of the natural skin of the animal from which it has been cut, and having the flesh portion at the butt-end inclosed in an envelop formed of said skin.

2. A ham having its shank portion retaining intact therewith the natural skin of the animal from which it has been cut, and the flesh portion at the butt-end covered by flaps of skin integral with said intact skin and having their edges secured together.

3. A ham having the shank portion retaining intact therewith the natural skin of the animal from which it has been cut, and having the flesh portion at the butt-end covered by integral flaps of skin extending from said intact skin and having their adjoining edges secured together; flaps of said intact skin also inclosing the shank end of the ham from which the bone may be removed.

844,097. INHALER. YANCEY Q. CALDWELL, Paris, Tenn. Filed Aug. 7, 1906. Serial No. 329,566.



Claim.—1. An inhaler comprising a chambered stem and arms disposed in planes at right angles thereto, the body of the inhaler between the stem and arms being laterally projected and having on one side a nose-cavity projecting over the stem and provided with apertures opening therethrough and in communication with the chamber of the stem, the arms being intersected at the inner edge portion thereof by a lip-cavity, and an apertured plug adjustably fitted in the free extremity of the stem to control the admission of air to the chamber.

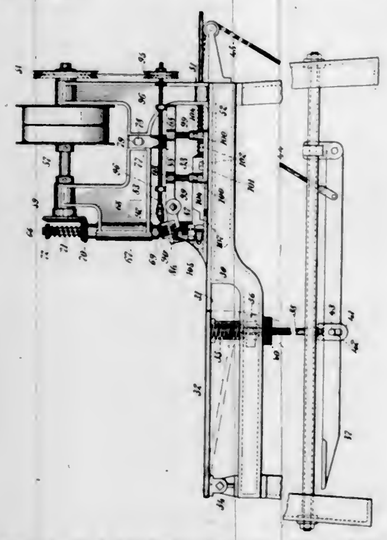
2. An inhaler having an upper cavity adjacent to one extremity shaped to receive the lower part of the nose, and arms projecting in opposite directions intersected at the inner edge portion thereof by a lip-receiving cavity, the lip-receiving cavity continuing into the upper nose-receiving cavity, a chambered stem projecting from the inhaler and provided with adjustable air-admitting means, the nose-receiving cavity being provided with apertures communicating with the chambered stem.

3. An inhaler comprising a body with a chambered stem projecting therefrom and arms extending from the opposite extremity in planes at right angles to the stem, the upper side of the body having a nose-receiving cavity extending longitudinally over the stem and the arms intersected at their inner portions by a lip-cavity continuing into the nose-receiving cavity, the nose-cavity being surrounded by an upstanding rim and having apertures opening therethrough and in communication with the chambered stem, and a hollow plug adjustably fitted in the free end of the stem and provided with apertures to admit air to the said stem, the arms serving as means for closely pressing the cavitied portions of the inhaler against the upper lip and nose.

4. An inhaler having a body with a chambered stem projecting therefrom and provided with adjustable means in the free end thereof for controlling the admission of air thereto, the opposite end of the body having arms laterally extending in planes at right angles to the stem and intersected by a lip-receiving cavity at the inner edge portion thereof, the upper portion of the inhaler having a nose-receiving cavity continuous with the lip-receiving cavity and nostril-plugs therein, said plugs projecting upwardly within the nose-receiving cavity adjacent to the lip-receiving cavity and provided with inwardly and downwardly inclined apertures communicating with the chambered stem.

5. An inhaler comprising a longitudinal body including a chambered stem, the body having at one extremity arms disposed in planes at right angles thereto and projecting outward equally therefrom, one side of the body of the inhaler having a nose-cavity formed therein and extending in the direction of the length of said body, and the latter between the arms at the inner edge being also formed with a lip cavity or recess which continues into the nose-cavity, the chambered stem projecting beyond the termination of the nose-cavity and having an open free end, inwardly and downwardly inclined ducts being formed in the body and opening at opposite extremities respectively through the nose-cavity and the inner terminal of the chamber of the stem, the outlets of the ducts of the nose-cavity being close to the lip-cavity, and an apertured plug adjustably fitted in the free extremity of the stem to control the admission of air to the inhaler.

844,098. HAT-BRIM-CURLING MACHINE. DOMINICK CLERICO, Yonkers, N. Y. Filed Oct. 23, 1906. Serial No. 340,150.



Claim.—1. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, a slidably-mounted table for supporting the hats, means for sliding said table horizontally in a direction from said former for releasing the hat, and means for restoring said table to its initial position; substantially as set forth.

2. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, a slidably-mounted hat-supporting table having a convexly-curved end adjacent to said former, a foot-treadle connected with said table for sliding the same horizontally in a direction from said former, and a spring for restoring said table to its initial position; substantially as set forth.

3. In a hat-brim-curling machine, a movably-mounted former, a curling-tool for coöperation therewith, a movably-mounted table for supporting the hats, and means for moving said table and former from each other and imparting to the former a movement in a direction from the curling-tool before said table starts its movement; substantially as set forth.

4. In a hat-brim-curling machine, a former having a concaved grooved end, a curling-tool for coöperation therewith, and means for feeding a hat-brim to said former and tool, said former having at its upper edge a deflecting-lip for directing the hat-brim into the groove thereof; substantially as set forth.

5. In a hat-brim-curling machine, a hollow former, a curling-tool for coöperation therewith, a gas-burner for heating the former, and a plate between the top of the former and said gas-burner and creating an air-space between itself and the former; substantially as set forth.

6. In a hat-brim-curling machine, a hollow former open at its lower end, a casing below said former and forming a chamber leading thereto, a gas-burner mounted in said casing for heating said former, and a plate secured to said casing and having a horizontal member intermediate said burner and the top of the former; substantially as set forth.

7. In a hat-brim-curling machine, a hollow former having flanges at its opposite sides, a supporting-plate having a slot to receive said former and at the edges of said slot entering between said flanges, means for heating said former, a curling-tool for coöperation with said former, means for sliding said former in a direction from said curling-tool to release the hat, and means for restoring said former to its initial position; substantially as set forth.

8. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, and means for imparting to said tool sliding ironing actions against the hat-brim as the latter passes a definite location on said former; substantially as set forth.

9. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, means for heating said tool, and means for imparting to said tool sliding ironing actions against the hat-brim as the latter passes a definite location on said former; substantially as set forth.

10. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, means for vertically adjusting said tool, and means for imparting to said tool sliding ironing actions against the hat-brim as the latter passes a definite location on said former; substantially as set forth.

11. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, means for axially adjusting said tool, and means for imparting to said tool sliding ironing actions against the hat-brim as the latter passes a definite location on said former; substantially as set forth.

12. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, means for axially adjusting said tool, means for vertically adjusting the same, and means for imparting to said tool sliding ironing actions against the hat-brim as the latter passes a definite location on said former; substantially as set forth.

13. In a hat-brim-curling machine, a former having a segmental end longitudinally grooved, a curling-tool in the form of an arm having a curved end for coöperation with said former, and means for imparting to said tool sliding ironing actions against the hat-brim as the latter passes a definite location on said former; substantially as set forth.

14. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, means for feeding a hat-brim along between said former and tool, and means for imparting to said tool sliding ironing actions against the hat-brim as the latter passes a definite location on said former; substantially as set forth.

15. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, means for feeding a hat-brim along between said former and tool, an upwardly-curved guide for directing the brim to said feeding means, a gage for engaging the edge of the brim near said feeding means, and means for imparting to said tool sliding ironing actions against the hat-brim as the latter passes a definite location on said former; substantially as set forth.

16. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, an eccentric connected with said tool for imparting to the same ironing actions against the hat-brim as the latter moves along said former, a shaft carrying said eccentric, and means connecting said shaft with the driving-shaft of the machine; substantially as set forth.

17. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith and comprising a chambered body portion and an arm for engaging the hat-brim, a vertical shaft carrying on its lower end an eccentric within the chamber of said body portion for driving said tool, means for preventing the tool from rotating with said eccentric, and means connecting said shaft with the driving-shaft of the machine; substantially as set forth.

18. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith and comprising a chambered body portion and an arm for engaging the hat-brim, a vertical shaft carrying on its lower end an eccentric within the chamber of said body portion for driving said tool, means for preventing the tool from rotating with said eccentric, means for adjusting said tool vertically, means for adjusting said tool axially, and means connecting said shaft with the driving-shaft of the machine; substantially as set forth.

19. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith and comprising a chambered body portion and an arm for engaging the hat-brim, a vertical shaft carrying on its lower end an eccentric within the chamber of said body portion for driving said tool, means for preventing the tool from rotating with said eccentric, a vertical bearing for said shaft, an adjustable collar on said shaft below said bearing, a spring and a nut on said shaft above said bearing, a gear-wheel feathered on said shaft, and driving means between said gear-wheel and the driving-shaft of the machine; substantially as set forth.

20. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith and comprising a chambered body portion and an arm for engaging the hat-brim, a vertical shaft carrying on its lower end an eccentric within the chamber of said body portion for driving said tool, means for preventing the tool from rotating with said eccentric and comprising pivoted arms connected with said body portion and with a stationary part of the machine, and means connecting said shaft with the driving-shaft of the machine; substantially as set forth.

21. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith and comprising a chambered body portion and an arm for engaging the hat-brim, a vertical shaft carrying on its lower end an eccentric within the chamber of said body portion for driving said tool, means for preventing the tool from rotating with said eccentric and comprising pivoted arms connected with said body portion and with a stationary part of the machine, means for adjusting said tool vertically, means for adjusting said pivoted arms vertically, and means connecting said shaft with the driving-shaft of the machine; substantially as set forth.

22. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, and brim-feeding mechanism operable from the driving-shaft and comprising a pair of rollers in the form of truncated cones reversely disposed; substantially as set forth.

23. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, and brim-feeding mechanism operable from the driving-shaft and comprising a pair of rollers in the form of truncated cones reversely disposed and grooved annularly and vertically to form teeth over their surfaces; substantially as set forth.

24. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, and brim-feeding mechanism operable from the driving-shaft and comprising a pair of rollers in the form of truncated cones reversely disposed and grooved annularly and vertically to form teeth over their surfaces, the vertical grooves being undercut at one side to give a pitch to said teeth and said teeth having blunt outer faces; substantially as set forth.

25. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, and brim-feeding mechanism operable from the driving-shaft and comprising a pair of rollers in the form of cones, gearing connecting said rollers, a spring for pressing one of said rollers toward the other, a bar supporting said rollers, and a shaft connected with the driving-shaft of the machine and geared to one of said rollers; substantially as set forth.

26. In a hat-brim-curling machine a former, a curling-tool for coöperation therewith, and brim-feeding mechanism operable from the driving-shaft and comprising a pair of rollers in the form of cones, gearing connecting said rollers, a spring for pressing one of said rollers toward the other, a bar supporting said rollers, a shaft supported by said bar and geared to one of said rollers, means for adjusting said bar vertically and longitudinally, and means connecting said shaft with the driving-shaft of the machine; substantially as set forth.

27. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, and brim-feeding mechanism operable from the driving-shaft and comprising a pair of rollers grooved annularly and vertically to form teeth over their surfaces, the vertical grooves being undercut at one side to give a pitch to said teeth and said teeth having blunt outer faces; substantially as set forth.

28. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, and brim-feeding mechanism operable from the driving-shaft and comprising a pair of rollers, gearing connecting said rollers, a spring for pressing one of said rollers toward the other, a bar supporting said rollers, a shaft supported by said bar and geared to one of said rollers, means for adjusting said bar vertically and longitudinally, and means connecting said shaft with the driving-shaft of the machine; substantially as set forth.

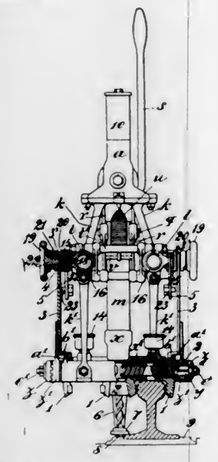
29. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, and brim-feeding mechanism operable from the driving-shaft and comprising a pair of rollers and means for adjusting said rollers angularly, vertically and longitudinally; substantially as set forth.

30. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, feed mechanism for feeding the hat-brim to said former and tool, and a gage for engaging the edge of said brim and comprising a pivoted bar having a slotted head through which said edge must pass, a spring pressing said bar in one direction, a set-screw for operating said bar in the reverse direction, and a vertical plate carrying said bar, set-screw and spring; substantially as set forth.

31. In a hat-brim-curling machine, a former, a curling-tool for coöperation therewith, feed mechanism for feeding the hat-brim to said former and tool, and a combined guide and gage for the hat-brim and comprising an upwardly-curved plate having secured by a pivot upon it a bar having a slotted head through which the edge of the brim must pass, a spring for pressing said bar in one direction and an adjusting-screw for controlling the position of said head; substantially as set forth.

844,099. BORING-MACHINE. ALBERT COLLET, Paris, France. Filed June 30, 1905. Serial No. 267,864.

Claim.—1. A machine for boring holes in railway ties or sleepers, having a supporting-frame for the operative mechanism, the base of which is adapted to rest on the rail that is to be secured to the ties, two like pairs of rail-gripping jaws depending below the frame, guides for the said jaws, means for operating the respective pairs of jaws, a bit-holder and bit disposed at a point in a plane which is situated half-way between said pairs of jaws and with their common axes at right angles to the base of the machine, a guide for said bit and holder, and means for operating the same.



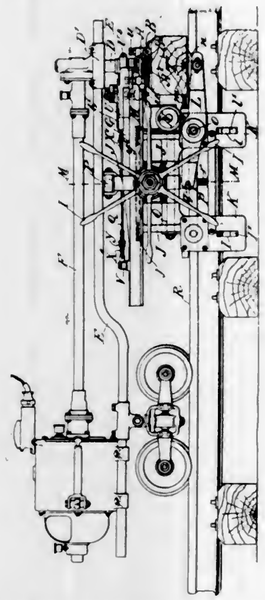
2. A machine for boring holes in railway ties or sleepers, having a frame to support the operative mechanism, a bit-holder and bit mounted in the frame, means for operating said holder and bit, a pair of jaws for gripping the track-rail and securing the machine firmly thereto, a guide for the said gripper-jaws, a bar 2 mounted rotatively in said guide and having on it steep-pitched right and left screws which engage the respective jaws for moving them, and having also a square at its other end, a lever, the boss of which turns loosely on said square and has teeth on its outer face, a washer with teeth on its face to interlock with those on the lever, said washer fitting slidably but non-rotatively on said square, and a nut which screws onto the outer end of the bar 2 and bears on said washer.

3. A machine for boring holes in railway ties or sleepers, having a frame to support the operative parts, a bit-holder and bit upright in the frame, a guide for said holder and bit, means for operating said holder and bit, and means for securing the machine firmly to a track-rail, said means comprising a transversely-extending tubular guide for gripper-jaws, said guide being provided with a circular projection a', the bar 2, rotatable in said guide and provided with right and left screws, the gripper-jaws playing in said guide and having screw-threads which engage the respective screws on said bar, the lever for operating said bar, said lever having a hooked finger b' which takes behind the projection a', and means for securing said lever to said bar.

4. A machine for boring holes in railway ties or sleepers, having a frame to support the operative mechanism, a boring-bit and its holder, means for guiding and operating said bit and holder, and means for securing the machine firmly to a track-rail during the boring operation, said means comprising a pair of gripper-jaws for gripping the rail, a guide for said jaws, a rotatable screw-threaded bar in said guide for operating the jaws, a lever for operating said bar, a guide-sector adjacent to said lever, and a screw device which embraces said lever and guide-sector and serves to clamp the lever to the sector at any point desired.

5. A boring-machine for the purpose specified, having a frame, a casing a, an upright sleeve h rotatable in said casing, said sleeve being square interiorly, a wheel c secured on said sleeve, means for driving said wheel and sleeve, a tool shaft or holder having a squared upper portion which plays in the sleeve h, a boring-tool carried by said holder, a tube m secured at its upper end to the casing a and alined with the sleeve h, said tube m guiding the holder and having in it slots p, an operating-lever, and means between said lever and the tool-holder whereby the latter may be moved longitudinally in its guide.

844,100. MACHINE FOR CUTTING RAIL-SEATS IN RAILWAY-SLEEPERS. ALBERT COLLET, Paris, France. Filed Jan. 27, 1906. Serial No. 298,234.



Claim.—1. A machine for the purpose specified, having a frame to be supported on the rails of a railway-track and provided with two pairs of slotted jaws K depending below the frame, the jaws of the pairs being spaced to embrace the track-rail, keys in the slots in said jaws, said keys adapted to take under and bear on the foot of the rail to secure the frame firmly thereto, a carriage displaceable on the frame, a rack and pinion for moving the carriage on the frame, a horizontally-rotating cutting means on the carriage for forming the recess in the tie, and mechanism for driving said cutting means.

2. In a machine for cutting a cross recess or gain in a railway-tie, a fixed frame, a carriage which reciprocates horizontally on said frame, a rotating cutting mechanism carried by said carriage, and means for supporting and adjusting said tie vertically to regulate the depth of the gain cut in the tie, said means consisting of a lever, a shoe n on one arm of the lever and supporting the tie, and mechanism for depressing the other arm of the lever.

3. In a machine for cutting a cross recess or gain in a railway-tie, means for supporting and elevating the tie, means for limiting the extent to which the tie may be raised, said means comprising the arms M and a plurality of screws u driven through said arms and adapted to bear on the upper surface of the tie, and reciprocating cutting means for recessing the tie.

4. The combination with a railway-track, of a means for cutting gains in railway-ties, said means comprising a frame secured firmly to the rails of said track, a carriage G slidable on said frame, a rotative cutting mechanism on said carriage G, a motor and wheeled carriage therefor on said railway-track, means connecting the motor with the carriage G, mechanism through which said motor drives the cutting mechanism, and means for holding the tie in position to be recessed.

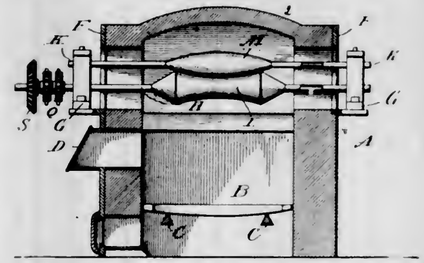
5. In a machine for the purpose specified, the combination with a motor, a cutter, the upright cutter-shaft C, and the lateral rods E of the motor, said rods being so disposed that a plane passing through their axes will be slightly inclined laterally from the horizontal, of the upright bearing D of the cutter-shaft, and sleeves D' on and rigid with said bearing and fixed on the respective rods E, the axis of the cutter-shaft being disposed perpendicular to said inclined plane, for the purpose specified.

6. In a machine for the purpose specified, the combination with the carriage G, provided with a fixed bearing-plate U', of the plate U pivotally mounted on plate U' at X, and the cutting-tool and its shaft, the means for carrying the cutting-tool, said means carried by the plate U and movable about the axis X, whereby the tool may be swung about the axis X as a center.

7. In a machine for the purpose specified, the combination with the plate U' and the plate U mounted movably thereon, of the means for securing together said plates in a temporary manner, said means comprising the spring-bolts k' and k^2 on the plate U adapted to engage recesses or openings i' and i^2 in the plate U^2, the elbow-levers m' and m^2 coupled by one arm to the respective bolts, and the lugs V and V' which engage the other arms, respectively, of the said elbow-levers.

8. In a machine for the purpose specified, the combination with the fixed plate U', and the movable plate U mounted thereon at X, the former being provided with a recess i', and the latter with slots o' and r', of the tubular, screw-threaded socket n', provided with a flange-like holder q' and a nut p', the holder adapted to play in the wider slot r' in effecting adjustments, the covering-plate u' between the plate U and the nut p', the bolt k' movable in the socket n', and adapted to engage at its lower end a bolting-recess i', and the spring j' behind the bolt k', substantially as set forth.

844,101. CONTINUOUS ANNEALING AND BLUING FURNACE. THOMAS J. COSTELLO, Youngstown, Ohio. Filed May 16, 1906. Serial No. 317,214.

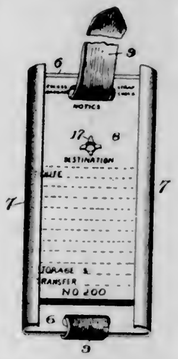


Claim.—1. An annealing and bluing furnace having a series of rollers arranged in pairs therein, one roller of each pair being concaved and the other convexed, and adapted to hold light sheets of metal on the arc of a circle to make the same rigid while being annealed as they pass through the furnace, as set forth.

2. An annealing and bluing furnace having a series of rollers arranged in pairs therein, one rollers of each pair being concaved and the other convexed, and adapted to hold light sheets of metal on the arc of a circle to make the same rigid while being annealed as they pass through the furnace, the shafts of said rollers being hollow and adapted to receive a cooling liquid, as set forth.

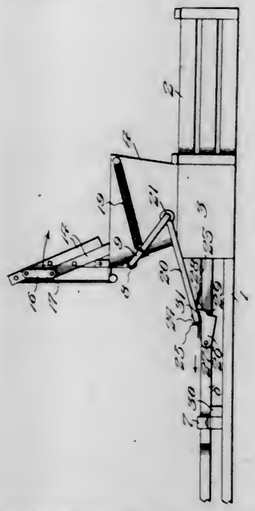
3. An annealing and bluing furnace having bracket-hangers upon the walls thereof, bearing members upon said bracket members, shafts mounted in said bearing members and passing through the side walls of the furnace, rollers arranged in pairs upon said shafts, one roller of each pair being concaved and the other convexed, and designed to receive and hold thin sheets upon the arc of a cylinder while passing through the furnace, and means for driving said rollers, as set forth.

844,102. EXCESS-BAGGAGE COUPON-CHECK. FRANK H. CRUMP, Los Angeles, Cal. Filed Aug. 1, 1906. Serial No. 328,713.



Claim.—The combination with an ordinary baggage-check, of an excess-baggage check secured thereto and having a series of coupons provided with perforations which register when said coupons are folded, and a fastener secured to the back of the ordinary check and having prongs which may be inserted through said perforations to hold the coupons.

844,103. FEED MECHANISM FOR BALING-PRESSES. GILMAN V. DAVIS, Atkinson, Nebr. Filed Aug. 1, 1906. Serial No. 328,781.



Claim.—1. In a baling-press, the combination of a compression-chamber, a reciprocating plunger operating therein, a swinging spring-retracted feeder, an operating connection therefor, a latch for coupling said connection to the plunger-rod, said latch and connection being automatically thrown into engagement when the plunger reaches the limit of its working stroke, and means for releasing the connection from engagement with said latch when the plunger reaches the limit of its return stroke.

2. In a baling-press, the combination of a compression-chamber, a reciprocating plunger operating therein, a spring-retracted feeder, and operating connections between the plunger and feeder, said connections being adapted to automatically connect the feeder for operation upon the return stroke of the plunger and to disconnect said feeder for return to normal position when the plunger reaches the limit of its return stroke.

3. In a baling-press, the combination of a compression-chamber, a reciprocating plunger operating therein, a swinging spring-retracted feeder, a connection for transmitting motion to the feeder, a latch upon the plunger-rod adapted to engage said connection when the plunger reaches the limit of its working stroke, and automatic means for releasing said connection from the latch to permit the feeder to return to normal position when the feeder reaches the limit of its return stroke.

4. In a baling-press, the combination of a compression-chamber, a reciprocating plunger operating therein, a swinging feeder, an operating connection therefor, a latch for engaging and coupling said connection to the plunger when the latter reaches the limit of its working movement, trip devices for throwing said connection out of engagement with the latch when the plunger reaches the limit of its return movement, and means in the path of movement of said trip devices for actuating the same.

5. In a baling-press, the combination of a compression-chamber, a reciprocating plunger operating therein, a swinging spring-retracted feeder, an operating connection therefor, a latch for coupling said connection to the plunger-rod when the plunger reaches the limit of its working stroke, one or more dogs for throwing said connection out of engagement with the latch when the plunger reaches the limit of its return stroke, and means for actuating the dogs.

6. In a baling-press, the combination of a baling-chamber, a swinging spring-retracted feeder, a reciprocating plunger operating in the compression-chamber, a swinging element for operating the feeder, a connection for actuating said feeding element, means for coupling said connection to the plunger-rod at the limit of the working stroke of the latter, and means for releasing said connection at the limit of the return stroke of the plunger.

7. In a baling-press, the combination of a compression-chamber having a hopper, of a yoke pivotally mounted upon the hopper, feeders carried by the yoke, spring means for retracting the yoke and feeders, a connecting-rod attached to the yoke, and means for throwing said connecting-rod into and out of engagement with the plunger-rod for operating and releasing the feeder at prescribed periods in the operation of the plunger.

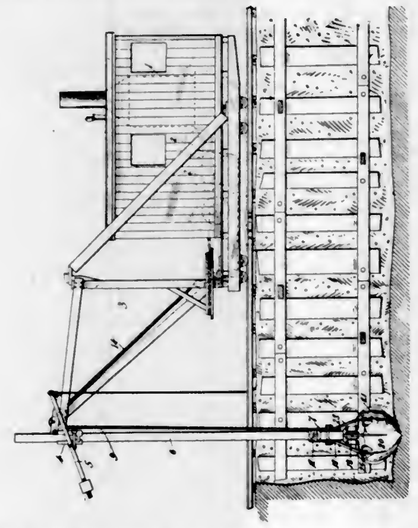
8. In a baling-press, the combination of a compression-chamber, a plunger operating therein, a yoke pivotally mounted upon the compression-chamber, a feeder carried thereby, one or more springs for retracting the yoke and feeder, a connecting-rod attached to the yoke, a latch for coupling said rod to the plunger-rod at the end of the working stroke of the latter, and means for releasing said connecting-rod when the plunger reaches the limit of its return stroke.

844,104. EXCAVATING APPARATUS. LOUIS A. DÉSY, Montreal, Quebec, Canada, assignor to Joseph William Harris, Montreal, Canada. Filed Dec. 12, 1905. Serial No. 291,448.

Claim.—1. In an excavating apparatus, the combination comprising a beam, a casing slidably disposed on the beam, braces secured to the casing and provided with bifurcated lower ends having bearings thereon, a bucket comprising a plurality of members pivotally secured to the bearings on the lower ends of the braces, and pivotally connected with the beam, and means for raising and lowering the casing.

2. In an excavating apparatus, the combination comprising a beam, a casing slidably disposed on the beam, braces secured to the casing and provided with bifurcated lower ends having bearings thereon, a bucket comprising a plurality of members each provided with ears on opposite sides thereof, pivots connecting said ears to the bifurcated ends of the braces, a pivotal connection between the members of the bucket and the beam, and means for raising and lowering the casing.

3. In an excavating apparatus, the combination comprising a movable beam, means for locking the beam against movement a casing slidably disposed on the beam, a bucket comprising a plurality of members each having an extension thereon pivotally connected with the beam, a pivotal connection between each of said members and the casing, and means for raising and lowering the casing.



4. In an excavating apparatus, the combination comprising a beam, a casing slidably disposed on the beam, a bucket comprising a plurality of members, each provided with a longitudinal strengthening-rib and each pivotally connected with the casing and the beam, and means for raising and lowering the casing.

5. In an excavating apparatus, the combination comprising a beam, a movable member on the beam, means for raising and lowering the movable member, a bearing-plate secured on the beam, and a bucket comprising a plurality of members, each pivotally connected with the casing and the bearing-plate.

6. In an excavating apparatus, the combination comprising a beam, a movable member on the beam, means for raising and lowering the movable member, a bearing-plate secured on the beam and provided with lugs thereon, links pivoted to the lugs, and a bucket comprising a plurality of members, each pivotally connected with the casing and pivotally connected with the links.

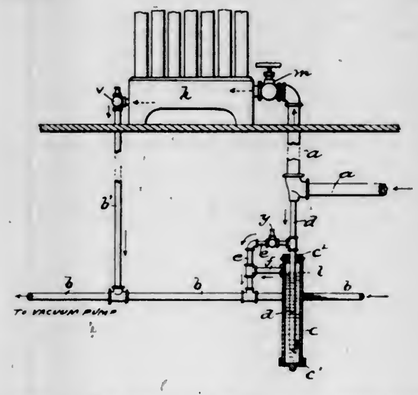
7. In an excavating apparatus, the combination comprising a beam, a casing movably disposed on the beam, grooved pulleys on the beam and the casing, a flexible member disposed over the pulleys and having one end secured to the beam, a bucket comprising a plurality of members pivotally connected with the casing, and the beam, and means for raising the casing.

8. In an excavating apparatus, the combination comprising a movable beam, a movable member disposed on the beam, a bucket comprising a plurality of parts each pivotally connected with the beam and the movable member, means for forcing the movable member downward and closing the parts of the bucket, means for raising and lowering the beam, means for locking the beam against movement and a flexible member secured to the casing and adapted to open the bucket.

9. In an excavating apparatus, the combination comprising a construction-engine, a friction-clutch carried by the engine, a solid beam disposed in the clutch, an "orange-peel" bucket carried by the beam, and means for opening and closing the bucket.

10. In an excavating apparatus, the combination comprising a solid beam, means for raising and lowering the beam, means for locking the beam against movement an "orange-peel" bucket on the beam, and means adapted to be operated independently of the raising and lowering of the beam and adapted to open and close the bucket.

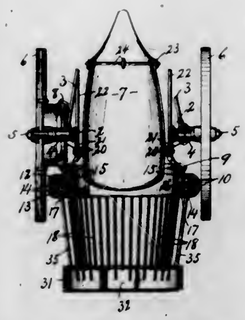
844,105. COMBINED STEAM AND WATER TRAP FOR STEAM-HEATING SYSTEMS. THOMAS F. DEXTER, Providence, R. I. Filed Nov. 25, 1905. Serial No. 289,066.



Claim.—1. The combination with the steam-supply main and the exhaust or return main of a low-pressure steam-heating system, of a valveless trap device or water seal in continuous open communication with said mains and located with respect to them so that the water of condensation flows into and out of said trap by gravity, and a continuously-open by-pass connection for the passage of air or vapor from the said steam-supply main into the return-main, substantially as described and for the purpose hereinbefore set forth.

2. In a low-pressure steam-heating system, the combination with a heater or radiator, and steam supply and return mains connected therewith, of a valveless well constituting a water seal or trap device located below and being in continuous open communication with said supply-main, a connection in continuous open communication with the said return-main and the upper portion of the well, and a continuously-open by-pass connection for permitting the passage of air and vapor from the supply-main to the return-main, all constructed and arranged so that the water of condensation from the supply-main flows into said well by gravity and overflows therefrom into the return-main, substantially as hereinbefore described.

844,106. SULKY POTATO-DIGGER. ISAAC A. DODGE, Fayetteville, N. Y. Filed Nov. 6, 1906. Serial No. 342,218.



Claim.—1. In a sulky potato-digger, the combination with the frame and wheels, of a rotary separator actu-

ated by one of the wheels and provided with fingers arranged concentrically around the axis of rotation and converging rearwardly, and a hood surrounding the rear ends of the fingers and having an opening in its bottom.

2. In combination with the frame and wheels of a sulky potato-digger, a rotary frusto-conical separator actuated by one of the wheels, said separator having alternate fingers of unequal lengths and terminating at their rear ends in different vertical planes.

3. The combination with the frame and wheels of a sulky potato-digger, of a rotary frusto-conical separator actuated by one of the wheels and provided with rearwardly-projecting fingers terminating at their rear ends in different vertical planes, and a hopper inclosing the rear ends of the fingers and having a constricted opening in its bottom.

4. In combination with the frame and wheels of a sulky potato-digger, a rotary separator actuated by one of the wheels and provided with rearwardly-projecting fingers, and a hopper rigidly secured to the frame and inclosing the rear ends of the fingers, said hopper having a constricted opening in its lower side.

5. In combination with the frame and wheels of a sulky potato-digger, an annulus rigidly secured to the frame and composed of telescoping annular sections and a rotary separator journaled in said annulus and provided with rearwardly-converging fingers.

6. In combination with a frame and wheels of a sulky potato-digger, an annulus rigidly secured to the frame and composed of telescoping annular sections, and a rotary separator journaled in said annulus and provided with rearwardly-converging fingers, alternate fingers terminating at their rear ends in different planes, and a plow discharging into the front end of the separator.

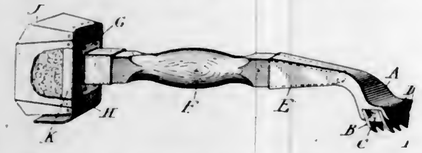
7. In combination with the frame and wheels of a sulky potato-digger, a gear secured to one of the wheels, an annulus rigidly secured to the frame, a rotary separator journaled in the annulus and provided with a gear meshing with the first-named gear, said separator having rearwardly-converging fingers of different lengths, and a plow pivotally connected to the frame and discharging into the front end of the separator.

8. In combination with the frame and wheels of a sulky potato-digger, an axle-section having its central portion arched upwardly and secured to the frame, brace-bars secured to and depending from opposite sides of the axle-section, a plow having its rear end pivoted to the brace-bars below the axis of the wheels, a hand-lever pivotally mounted upon the frame, connections between the hand-lever and front end of the plow for raising and lowering the digging-point of the plow as the lever is adjusted, means for holding the lever and plow in its adjusted position, a rotary separator actuated by one of the wheels, an annulus secured to the frame and supporting the separator, said separator having rearwardly-projecting fingers and a hopper inclosing the rear ends of the fingers and having a constricted discharge-opening in its lower side.

9. In combination with the frame and wheels of a sulky potato-digger, an annulus rigidly secured to the frame at the rear of the axis of the wheels, a rotary separator journaled in the annulus and provided with rearwardly-projecting fingers of different lengths, and a hopper rigidly secured to the frame and inclosing the rear ends of the fingers, said hopper having a constricted opening in its lower side, and a plow pivotally mounted upon the frame and having its front end adjustable vertically, and means for holding the plow in its adjusted position.

10. In combination with the frame and wheels of a sulky potato-digger, an axle for the wheels having its central portion arched upwardly and secured to the frame, the opposite sides of said arch having depending braces, an annulus rigidly secured to the frame, a rotary separator journaled in the annulus, and actuated by one of the wheels, said separator being provided with rearwardly-converging fingers, a plow pivoted to said braces below the axis of the wheel, means for raising and lowering the front end of the plow, and additional means for holding the plow in its adjusted position.

844,107. CARPET-STRETCHER. JOHN DRIVER, San Leandro, Cal., assignor to Driver, Aper & Company, San Leandro, Cal. Filed Mar. 29, 1905. Serial No. 252,779.



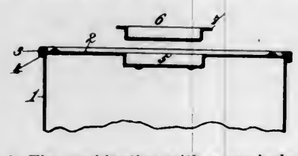
Claim.—1. The improved carpet-stretcher comprising a handle, a claw, and a claw-holder having a socket to receive one end of said handle, a knee-cushion, and a plate to which said cushion is attached, the plate being curved and adapted to slide upon the carpet, and a handle-socket also secured to said plate, substantially as described.

2. The improved carpet-stretcher comprising a claw and downwardly-bent claw-holder, a knee-cushion, and an intervening handle to which the claw-holder and cushion are detachably connected, substantially as described.

3. The improved carpet-stretcher comprising a claw and a claw-holder having a socket, a knee-cushion having a socket, and a handle intervening the claw-holder and cushion and detachably secured in the respective sockets, substantially as described.

4. The improved carpet-stretcher comprising a claw and claw-holder, a cushion, and a handle intervening said claw-holder and cushion, and a plate secured to the holder and curved underneath the same, whereby it is adapted to slide upon the carpet and support and protect the cushion, substantially as described.

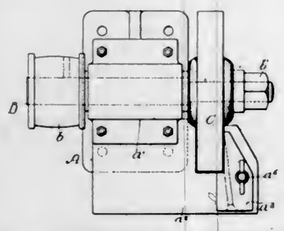
844,108. CAN-CLOSURE. GEORGE H. DUNBAR, New Orleans, La. Filed Mar. 6, 1906. Serial No. 304,557.



Claim.—1. The combination with a can-body, of a one-piece top connected to the upper edge of the can by a hermetic joint, said top having an integral depression with an imperforate bottom adapted to be cut out, and a removable cap for such depression, said cap having a downwardly-extending wall which fits snugly in the side walls of said depression in the top.

2. The combination with a can-body, of a one-piece top seamed to the upper edge of the body and having an integral depression with an imperforate bottom adapted to be cut out, and a removable cap frictionally fitted within the depression.

844,109. WIRE-POINTING MACHINE. JAMES P. FAMOUS, Norristown, Pa. Filed May 4, 1906. Serial No. 315,178.



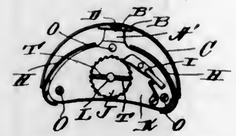
Claim.—1. The combination with an abrading-wheel, of a guide-piece for a wire to be sharpened, said guide-piece having a portion provided with a substantially cylindrical, elongated channel arranged to support the end of a wire at an acute angle to the abrading-surface of the wheel and in close proximity thereto, substantially as described.

2. The combination with an abrading-wheel, of a guide-piece having a surface in close proximity to and parallel with an abrading-surface of the wheel, there being a substantially cylindrical, elongated channel extending through said guide-piece and intersecting said surface at an acute angle thereto, substantially as described.

3. The combination with a standard, of a shaft carried therein, means for driving the shaft, an abrading-wheel on the shaft, a table supported by the standard, and a wire-guide clamped to said table, said wire-guide having through it a substantially cylindrical, elongated channel whose line is inclined at an acute angle to the abrading-surface, and being constructed to support the end of a wire in said channel while it is in engagement with the wheel, substantially as described.

4. The combination with an abrading-wheel, of a supporting structure having a table, a block having means for clamping it to said table including a bolt extending through it, said block being elongated and having a portion of one of its sides offset and extending in close proximity to the side of the wheel, there being a substantially cylindrical channel for the reception of the wire, extending through said block in a line intersecting the side of the wheel at an acute angle, and substantially at right angles to the line of the clamping-bolt, substantially as described.

844,110. NECKBAND-STRETCHER. JULIUS FISCHER, Philadelphia, Pa., assignor of one-half to Gustav Shiema, Philadelphia, Pa. Filed July 10, 1906. Serial No. 325,551.



Claim.—1. A device for stretching collar-bands of shirts, comprising a plate, a curved resilient band fixed thereto, rack-bars mounted upon said plate, means for holding the rack-bars upon said plate, curved wings upon said rack-bars adapted to be thrown against said band and cause the same to expand and means for moving the rack-bars, as set forth.

2. A device for stretching collar-bands of shirts, comprising a plate, a curved resilient band fixed thereto, rack-bars mounted upon said plate, means for holding the rack-bars upon said plate, curved wings upon said rack-bars adapted to be thrown against said band and cause the same to expand, a pinion adapted to engage the teeth of said rack-bars and cause the same to move simultaneously in opposite directions, as set forth.

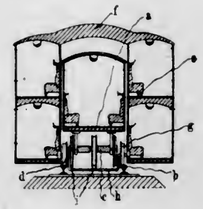
3. A device for stretching collar-bands of shirts, comprising a plate, a curved resilient band fixed thereto, rack-bars mounted upon said plate, means for holding the rack-bars upon said plate, curved wings upon said rack-bars adapted to be thrown against said band and cause the same to expand, a pinion adapted to engage the teeth of said rack-bars and cause the same to move simultaneously in opposite direction, a ratchet-wheel rotating with said pinion and a spring-pressed pawl adapted to hold the ratchet-wheel from rotary movement in one direction, as set forth.

4. A device for holding the collar-band of a shirt taut while being ironed, comprising a plate, a semicircular band of resilient metal fixed to said plate, ribs projecting from one face of the plate, curved rack-bars movably held between said ribs, a cover fixed to said plate and adapted to hold the rack-bars in place, a curved wing at the end of each rack-bar adapted to bear against an end of said band, a pinion adapted to engage the teeth of said rack-bars, a ratchet-wheel rotatable with said pinion, a spring-pressed pawl for engagement with the teeth of said ratchet-wheel, as set forth.

5. A device for holding the collar-band of a shirt taut while being ironed, comprising a plate, a semicircular band of resilient metal fixed to said plate, ribs projecting from one face of the plate, curved rack-bars movably held between said ribs, a cover fixed to said plate and adapted to hold the rack-bars in place, wings at the outer ends of said rack-bars adapted to bear against an end of said band, a pinion engaging the teeth of said rack-bars and means connected to said pinion-wheel for rotating the same, as set forth.

6. A device for holding the collar-band of a shirt taut while being ironed, comprising a plate, a semicircular band of resilient metal fixed to said plate, ribs projecting from one face of the plate, curved rack-bars movably held between said ribs, wings at the outer ends of said rack-bars adapted to bear against an end of said band, a cover held against said ribs, a shaft passing through said cover, a pinion-wheel fixed to said shaft and in engagement with the side of said rack-bars and means for rotating said shaft, as set forth.

844,111. SINGLE-TRACK RAILWAY SYSTEM. PAUL VON FIRCKS, Dresden, Germany. Filed May 3, 1906. Serial No. 314,987.



Claim.—1. In single-track railway systems, two sets of cars; one provided with a longitudinal tunnel, and the other small enough to pass through this tunnel, and means carried by the tunnel-car within the tunnel for guiding the smaller car through the tunnel-car, substantially as described.

2. In a single-track railway system, a large car adapted to run upon the rails in the usual manner having a tunnel or opening longitudinally therethrough, rails carried by the car within the tunnel, and a smaller car adapted to run upon said inner rails, through the tunnel substantially as set forth.

3. In single-track railway systems a large car adapted to run upon the rails in the usual manner having a tunnel or opening longitudinally therethrough, a smaller car adapted to pass through the tunnel-car, and means for supporting the smaller car above the axles of the tunnel-car while passing therethrough, substantially as described.

4. In single-track railway systems a large car adapted to run upon the rails in the usual manner having a tunnel or opening longitudinally therethrough, a smaller car adapted to pass through the tunnel-car, cranked axles in the tunnel-car and rails thereon to support the smaller car while passing through, substantially as described.

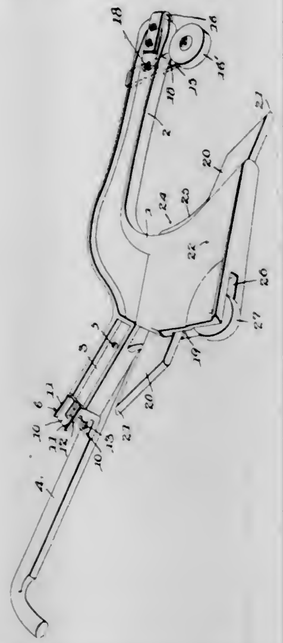
5. In single-track railway systems a large car adapted to run upon the rails in the usual manner having a tunnel or opening longitudinally therethrough, a smaller car adapted to pass through the tunnel-car, and means for reducing the length of the axles of the smaller car while passing through said tunnel, substantially as described.

6. In single-track railway systems, two sets of cars, the smaller adapted to pass longitudinally through the larger tunnel-cars, telescoping axles for the running-wheels of the smaller cars, cranked axles for the running-wheels of the tunnel-cars, and a contracted track on said cranked axles for guiding the wheels on the telescoping

axles past the wheels of the cranked axles, substantially as set forth.

844,112. PLOW. NELSON O. FLINT, Walton, N. Y. Filed Feb. 17, 1906. Serial No. 301,672.

Claim.—1. A plow-body having vertical side walls, a wheel journaled between said walls at their lower edges, a longitudinal aperture which is inclined at an angle to the lower edge of the body, a pointed bar seated in said aperture and extending over said wheel.

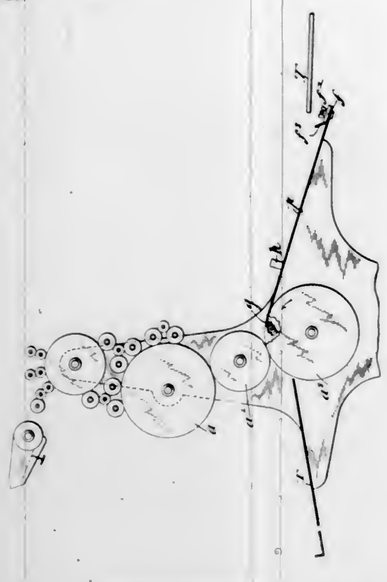


2. A breaking-plow including a solid body having draft-attaching and handle-carrying members integral therewith and provided with an inclined longitudinal aperture, a recess at its front edge adjacent to said aperture, and a recess at the heel end of the bottom, in combination with a pointed bar seated in the longitudinal aperture, a cutting member seated in the recess adjacent to the aperture, and a wheel supported for rotation in the recess at the heel end of the plow.

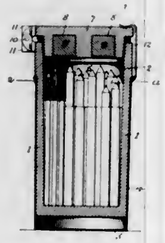
844,113. FEED DEVICE FOR SHEET-METAL-PRINTING MACHINES. ALBERT J. FORD, New York, N. Y., assignor to The Fuchs & Lang Manufacturing Co., New York, N. Y., a Corporation of New York. Filed Feb. 28, 1906. Serial No. 303,473.

Claim.—In a feed device for sheet-metal-printing machines, the combination, with the transfer and impression cylinders, of a longitudinally-disposed row of grippers carried by the latter cylinder, a feed-plate having one end in close proximity to the path of travel of said grippers and inclined downwardly from said end, and a sheet-retaining bar disposed transversely of said feed-plate at the lower end thereof, said bar being adjustable longitudinally of said feed-plate in order to make the sheet project at its upper edge slightly beyond the upper edge of said feed-plate and into the path of said grippers, the sheet being fed upwardly along said feed-plate and between said cylinders solely by the action of said grippers.

844,113.



844,114. SCHOLAR'S COMPANION. ALBERT FOSTER, Philadelphia, Pa. Filed Feb. 26, 1903. Serial No. 145,258.



Claim.—1. The combination of the pencil and crayon casing having a tapered mouth, a recessed cover or pan-like member having tapering inner and outer walls fitting said tapered mouth, and a covering block or plug for said structure having a tapered portion fitting said recessed or pan-like member.

2. The combination of the pencil and crayon casing having a tapered mouth, a recessed cover for the same shaped to fit said tapered mouth, a plug or cap for said structure having a tapered portion fitting the recessed cover, and means for retaining said parts in position with relation with the casing.

3. The combination of the case for carrying the pencils, crayons, &c., the pan-like member fitting said casing, and a block fitting said pan-like member and having recesses for the reception of coloring-matter.

4. The combination of a pencil and crayon casing, and a block or plug for covering the same, said block or plug having recesses for the reception of coloring-matter.

5. The combination of the pencil and crayon casing having a reduced portion on the outside of the same, a hollow receptacle fitting the reduced portion of said casing, a two-part tapering cover for the casing, and means for holding the hollow receptacle and cover in proper position with relation to the casing.

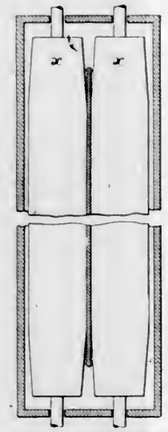
6. The combination of the case, the pan-like member fitting the open end of the casing, and a block hinged to said casing and fitting within the pan-like member, and a catch carried by the hollow receptacle engaging the block and serving to hold the entire structure together.

7. The combination of the case, the hollow receptacle fitting the outside of the same, a block hinged to said casing at the top of the same, and a catch carried by the hollow receptacle and arranged to engage the block and hold the parts of the structure together.

8. The combination of the case, the hollow receptacle fitting the outside of the same, the pan-like member fitting the open end of the casing, a block hinged to said casing and fitting within the pan-like member, and a catch carried by the hollow receptacle, engaging the block and serving to hold the entire structure together.

9. The combination of a pencil and crayon casing, and a block or plug hinged thereto for covering the same, said block or plug having recesses for the reception of coloring-matter.

844,115. ROLLERS FOR DRAWING SHEETS OF GLASS. EMILE FOURCAULT, Lodelinsart, Belgium. Filed May 21, 1906. Serial No. 318,044.



Claim.—1. Rollers coated with asbestos for drawing continuous sheets of glass, the ends of which have a lesser diameter than their central part, substantially as described.

2. Rollers for drawing sheets of glass having a coating and their ends of less diameter than the intermediate portions between the ends, the intermediate portions of the rollers being of uniform diameter.

3. Rollers for drawing sheets of glass having tapered ends, the intermediate portions of the rollers being of uniform diameter.

4. Rollers for drawing sheets of glass coated with asbestos and having tapered ends.

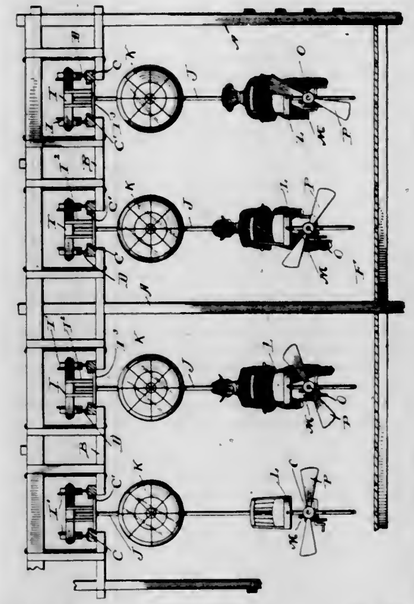
844,116. AMUSEMENT DEVICE. AUGUSTE FRANCOVICH, Paris, France. Filed Feb. 10, 1906. Serial No. 300,471.

Claim.—1. In a device of the kind described, the combination with elevated inclined tracks, of a truck carrying a bicycle mounted on said track, a propeller carried by said bicycle and means for connecting said propeller to the pedals of the bicycle for the purpose described.

2. In an amusement device the combination with a series of pairs of elevated inclined tracks, of trucks arranged on said tracks supporting bicycles, propellers mounted on said bicycles and means for connecting the pedals of the bicycle to the propellers for the purpose described.

3. In an amusement device, the combination with a series of pairs of elevated inclined tracks, of trucks arranged on said tracks, shafts pivotally mounted on said trucks, bicycles carried by said shafts, and propeller carried by said bicycles connected to the pedals, for the purpose described.

4. In an amusement device, the combination with a series of pairs of elevated inclined tracks formed oval-shaped, of trucks arranged on said tracks supporting bicycles provided with propellers adapted to be driven by the pedals of the bicycles, retaining means carried by said cars, and means for raising said cars from the stopping-point to the starting-point, for the purpose described.



5. In an amusement device, the combination with a series of pairs of elevated oval-shaped tracks, carried by frames of unequal height, of trucks arranged on said tracks, shafts pivoted on said trucks, bicycles carried by the end of said shafts provided with propellers adapted to be driven by the pedals of the bicycles, and means arranged between said tracks for raising said cars from the stopping-point to the starting-point, for the purpose described.

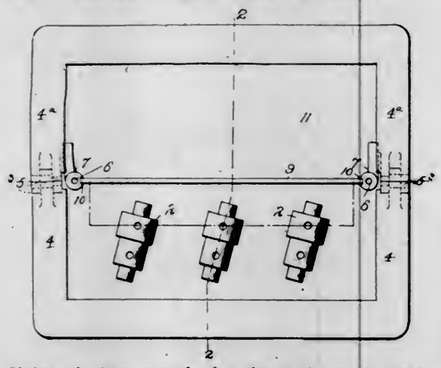
6. In a device of the kind described, the combination with a series of pairs of oval-shaped tracks, arranged on frames of unequal height, of trucks mounted on said tracks provided with supporting-shafts, bicycles mounted on said shafts, provided with propellers and operating means connecting the said propellers to the pedals of the bicycles for the purpose described.

7. In a device of the kind described, the combination with a pair of elevated oval-shaped inclined tracks, of trucks mounted on said tracks provided with locking means, a cross-bar pivoted in said trucks carrying a shaft, a bicycle secured to said shaft, provided with crank and sprocket wheels, a shaft carried by said bicycle provided with a propeller at one end and a bevel-gear at the other, a sprocket provided with a bevel-gear meshing with the bevel-gear of the shaft and a chain passing over the sprocket-chain and the sprocket carrying the bevel-gear, for the purpose described.

8. In a device of the kind described, the combination with a series of pairs of oval-shaped elevated inclined tracks, of trucks mounted on said tracks provided with downwardly-projecting bars at each end connected by horizontal bars adapted to lock the trucks on said tracks, shafts loosely suspended on said trucks, bicycles provided with propelling means secured on said shafts, endless chains arranged between said tracks between the highest

and loweat points of said tracks, and means carried by said chains adapted to engage the horizontal bars of the trucks, for the purpose described.

844,117. APPARATUS FOR LOCATING PATTERNS ON PATTERN-PLATES. HENRY R. FRISBIE, Belleville, N. J. Filed Mar. 1, 1906. Serial No. 303,729.



Claim.—1. Apparatus for locating patterns on a pattern or master plate, comprising in combination a two-part frame having its parts movably fastened together by means adapting them to be placed parallel or in the same plane at will, and removable means for fastening counterpart patterns in the respective parts, in fixed relation to each other.

2. Apparatus for locating patterns on a pattern or master plate, comprising in combination a two-part frame having its parts hinged together and adapted to be placed parallel or opened up to occupy the same plane, and removable means for fastening a half-pattern in one part and a counterpart pattern in the other part in fixed relation to the first.

3. Apparatus for locating patterns on a pattern or master plate, comprising in combination a two-part frame having its parts hinged together and adapted to be placed parallel or opened up to occupy the same plane, a setting cement for fastening a half-pattern in one part and a counterpart pattern in the other part in fixed relation to the first.

4. Apparatus of the character described, comprising a two-part frame having its parts adapted to respectively receive and hold the counterparts of patterns and movably connected together by means adapting them to be placed parallel to each other or to be opened out and applied to the pattern or master plate, and dam-pieces supported in the two parts, substantially as and for the purpose set forth.

5. Apparatus of the character described, comprising a two-part frame having its parts adapted to respectively receive and hold the counterparts of patterns and movably connected together by means adapting them to be placed parallel to each other or to be opened out and applied to the pattern or master plate, a dam-piece supported upon one of said parts, and a removable dam-piece for the other part, substantially as and for the purpose set forth.

6. Apparatus of the character described, comprising a two-part frame having its parts adapted to respectively receive and hold the counterparts of patterns and movably connected together by means adapting them to be placed parallel to each other or to be opened out and applied to the pattern or master plate, removable means for fastening counterpart patterns in the respective parts in fixed relation to each other and means for positioning and rigidly holding the frame on the pattern or master plate.

7. Apparatus for placing patterns on a pattern or master plate comprising in combination a frame made in two parts hinged together, the two parts adapted to respectively receive and hold the counterparts of patterns, setting cement for fastening counterpart patterns in the respective frame-parts, the frame having positioning and holding apertures for pins corresponding to like apertures for the pattern or master plate.

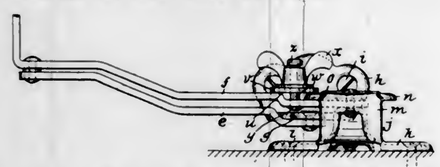
8. Apparatus of the character described, comprising a two-part frame having its parts adapted to respectively receive and hold the counterparts of patterns and movably connected together by means adapting them to be placed parallel to each other or to be opened out and applied to the pattern or master plate, a dam-piece supported upon one of said parts, and a removable dam-piece for the other part, having dowel-apertures corresponding to like apertures in the frame, substantially as and for the purpose set forth.

9. Apparatus of the character described, having a part for the reception of a set of half-patterns and holding cement therefor, a part hinged to the first part to be folded thereon and receive the counterparts of said half-patterns and holding cement therefor, and means for positioning and holding the said frame when open in like position on any pattern or master plate.

10. Apparatus of the character described, having a part for the reception of a set of half-patterns and holding cement therefor, a part hinged to the first part to be folded thereon and receive the counterparts of said half-patterns and holding cement therefor, a removable dam, and means for positioning and holding said dam to such second part when the parts are folded together, and for holding the said frame when open in like position on any pattern or master plate.

11. Apparatus of the character described having a part for the reception of the half-patterns and holding cement therefor, a part hinged to the first part to be folded thereon and receive the counterparts of such half-patterns and holding cement therefor, pivot-pins arranged between the said parts and parallel to the meeting edges of the same, and pivot lugs or bearings upon the said parts engaged by said pins whereby the parts are maintained in fixed and predetermined relation to each other whether in closed or open condition.

844,118. BLIND-ADJUSTER. IRAD L. GARSIDE, Paterson, N. J., assignor to The Garside Manufacturing Company, Paterson, N. J., a Corporation of New Jersey. Filed Apr. 20, 1906. Serial No. 312,851.



Claim.—1. The combination of a bracket adapted to be secured to a window-frame and having a substantially horizontal portion, a pivoted arm movable in a plane parallel with said horizontal portion, and a clamping device arranged in the arm radially beyond said horizontal portion and outside of said bracket and adapted to clamp the edge of the latter to said arm, substantially as described.

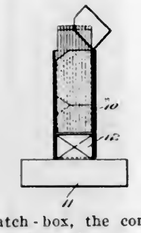
2. The combination of a bracket adapted to be secured to a window-frame and having a substantially horizontal portion, a pivoted arm movable in a plane parallel with said horizontal portion and having a shoulder disposed radially beyond said horizontal portion, and a clamping device arranged in the arm between said shoulder and said horizontal portion and adapted to act against said horizontal portion and the shoulder, on the one hand, and the arm on the other hand, to clamp the edge of said portion to said arm, substantially as described.

3. The combination of a bracket adapted to be secured to a window-frame and having a substantially horizontal portion, an arm pivoted in said horizontal portion and projecting under the same, said arm having a shoulder on its upper side radially beyond said horizontal portion, and a clamping device having one part thereof arranged in the arm between said horizontal portion and the shoulder and another part adapted to bear against the top of said shoulder and the top of said horizontal portion, whereby to clamp the edge of said horizontal portion to the arm, substantially as described.

4. The combination of a bracket adapted to be secured to a window-frame and comprising, integrally formed, a base portion, a raised portion, and a substantially horizontal rebent portion disposed above said raised portion, a pivot mounted in said raised portion and said rebent portion, an arm having a bearing on said pivot, and means for clamping said arm to the rebent portion, substantially as described.

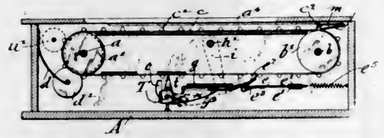
5. The combination of a bracket adapted to be secured to a window-frame and comprising, integrally formed, a base portion, a raised portion, and a substantially horizontal rebent portion disposed above said raised portion, an arm having one end extending in between said raised portion and the rebent portion, a pivot arranged in said bracket and forming a bearing for said end of said arm, and means for clamping said arm to the rebent portion, substantially as described.

844,119. MATCH-BOX. ERNST A. GERKEN, Molenbeek, near Brussels, Belgium. Filed Mar. 2, 1905. Serial No. 248,133.



Claim.—In a match-box, the combination of a shell adapted to be supported on a base, a sliding tray polygonal in cross-section, proportioned to fit the shell and divided transversely by inwardly-projecting folds of the material and oppositely-disposed notches located in the top edges of the sliding tray, and leading to the folds whereby a portion of the sliding tray may be easily removed.

844,120. CALCULATING-MACHINE. NATHAN J. GOLDFARB, New York, N. Y., assignor to The Commercial Adding Machine Co., New York, N. Y., a Corporation of New York. Filed Jan. 4, 1906. Serial No. 294,572.



Claim.—1. In a calculating-machine, the combination, with a plurality of endless numeral-carrying bands provided with longitudinally-arranged teeth, of a spring-actuated carrier for engaging the teeth of each band and shifting said band to the extent of one tooth, and a stirrup-shaped trigger operable to hold each carrier in energized position, but releasable by every tenth tooth of the adjacent band.

2. In a calculating-machine, in combination, a casing divided into a plurality of parallel compartments, an endless numeral-carrying band operating in each of said compartments, teeth carried by said band, one for each number, every tenth tooth being of greater length than the other teeth, a spring-actuated carrier in each compartment adapted to engage all the teeth of the corresponding band and shift said band to the extent of one tooth, and a trigger coacting with each carrier and extending into the adjacent compartment and into the path of the longer teeth of the adjacent band.

3. The combination, with a plurality of numeral-carrying elements, of spring-actuated carriers for shifting said elements to the extent of one number, a trigger coacting with each carrier and releasable by the adjacent element upon a predetermined actuation thereof, and a reciprocating bar for retracting all of said carriers.

4. The combination, with a plurality of numeral-carrying elements, of spring-actuated carriers for shifting said elements to the extent of one number, a trigger coacting with each carrier and releasable by the adjacent element upon a predetermined actuation thereof, a reciprocating bar for retracting all of said carriers, and a lever mechanism for operating said bar.

5. The combination, with a plurality of endless numeral-carrying elements, of a spring-actuated carrier for shifting each element to the extent of one number, a trigger coacting with each carrier and releasable by the adjacent element upon a predetermined actuation thereof, a reciprocating bar for retracting all of said carriers, a lever for operating said bar, and a pawl-and-ratchet mechanism for insuring a complete movement of said lever.

6. The combination, with the endless numeral-carrying bands *c* having the teeth c', c^2, of the carriers *e* having the pawls e^2 for engaging said teeth, and the triggers *t* having the lateral extension t^3 to coöperate with said carriers and the upwardly-disposed tooth t' to engage the teeth of the next adjacent band.

7. The combination, with a casing divided by partitions into a plurality of parallel compartments, of endless numeral-carrying bands operating in said compartments, a carrier in each compartment for shifting the corresponding band to the extent of one number, and a trigger operating in an opening in each partition and having one portion to set the carrier in one compartment, and another part to engage and be released by the band in the next adjacent compartment.

8. In a calculating-machine, the combination, with a plurality of numeral-carrying bands, of a carrier to shift each band to the extent of one number, a trigger for setting each carrier and releasable by the adjacent band, a shaft extending transversely of said bands, levers carried by said shaft, a retracting-bar for said carriers connecting the ends of said levers, and means for rocking said shaft.

9. A calculating-machine including in its construction a plurality of numeral-carrying bands, teeth carried by said bands, one for each number, every tenth tooth being of greater length than the other teeth, and a reciprocating zero-setting bar having means to engage the longer teeth of all of said bands.

10. A calculating-machine including in its construction a plurality of numeral-carrying bands, teeth carried by said bands, one for each number, every tenth tooth being of greater length than the other teeth, a reciprocating zero-setting bar having means to engage the longer teeth of all of said bands, and a spring for normally holding said bar in inoperative position.

11. A calculating-machine including in its construction a plurality of numeral-carrying bands, teeth carried by said bands, one for each number, every tenth tooth being of greater length than the other teeth, a reciprocating zero-setting bar having means to engage the longer teeth of all of said bands, a spring for normally holding said bar in inoperative position, pulleys journaled at the front and rear of the machine and at either side thereof, and wires wound about the corresponding front and rear pulleys and attached to said zero-setting bar.

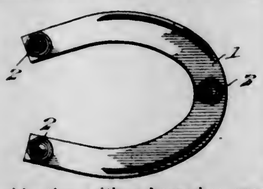
12. The combination, with a casing having a transversely-disposed slot in the cover thereof, at the side of said cover, of a plurality of numeral-carrying bands operating in said casing, and a reciprocating bar, for setting all of said bands at zero, carrying a finger-piece extending through said slot in the casing.

844,121. HORSESHOE-CALK. RICHARD N. GOODWIN, Wichita, Kans., assignor, by mesne assignments, of one-half to Charles W. Snyder, Wichita, Kans. Filed Apr. 14, 1906. Serial No. 311,726.

Claim.—1. The combination with a horseshoe, of a spirally-formed spring-calk adapted to be secured to the shoe and having the under surfaces of its convolutions rough-

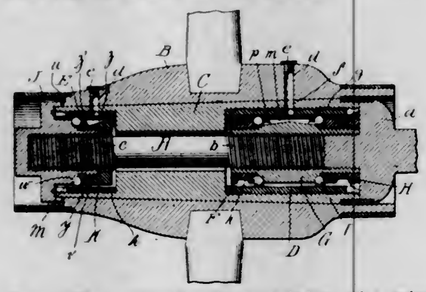
ened, the convolutions being adapted to occupy a common plane to provide a roughened tread when the calk is compressed.

2. The combination with a horseshoe, of a spirally-formed spring-calk having the under surfaces of its convolutions roughened, the convolutions being adapted to fit one within the other and occupy a common plane to provide a roughened tread when the calk is compressed.



3. The combination with a horseshoe provided with a threaded socket, of a spirally-formed spring-calk having the under surfaces of its convolutions roughened, the convolutions being adapted to occupy a common plane to provide a roughened tread when the calk is compressed, the extremity of the uppermost convolution being projected centrally and vertically and threaded for engagement in the socket of the shoe.

844,122. AXLE-BOX. WILLIAM F. GRAFFIS, Manito, Ill. Filed Aug. 13, 1906. Serial No. 330,463.



Claim.—The combination in an axle-box, of a spindle having threaded portions, a boxing surrounding the spindle, an interiorly-threaded ball-race section secured on the inner threaded portion of the spindle and having exteriorly-threaded end portions, interiorly-threaded end ball-race sections mounted on the first-mentioned section, balls arranged in the races formed by said sections, an interiorly and exteriorly threaded ball-race section mounted on the outer threaded portion of the spindle, an interiorly-threaded section mounted on the latter section, and antifriction-balls held between the two latter sections.

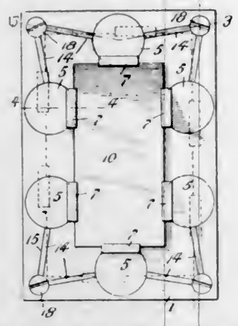
844,123. BLOCK. ARCHIBALD GRAINGER and ERNST KLEPSCH, Saginaw, Mich. Filed Apr. 17, 1906. Serial No. 312,277.

Claim.—1. A block or holder for printing-plates comprising a plurality of swiveled carriers, clamping jaws or blocks held by said carriers, and slides movable toward and away from the edges of the carriers for clamping the same.

2. A block or holder for printing-plates comprising a plurality of swiveled jaw-carriers, clamping-jaws mounted thereon, a clamping-slide engaging each carrier, and a clamp-actuating device coöperating with said slide.

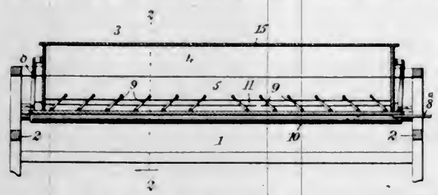
3. A block or holder for printing-plates comprising a plurality of swiveled jaw-carriers, clamping-jaws mounted thereon, a slide for holding each carrier, and a clamp-actuating device for operating the slide, said clamp-actuating device and slide having inclined coöperating shoulders.

4. A block or holder for printing-plates comprising a plurality of swiveled jaw-carriers, jaws carried thereby, slides engaging the carriers, and clamp-actuating devices in the form of screws having a threaded engagement with the body of the block or holder and provided with inclined shoulders which coöperate with corresponding shoulders on the slides.



5. A block or holder for printing-plates comprising a plurality of swiveled jaw-carriers, jaws carried thereby, slides for holding the carriers, clamping-shoes interposed between the slides and carriers, and clamp-actuating devices coöperating with said slides to shift the same.

844,124. FEED-REGULATOR. GEORGE HALLIDAY, Superior, Wis. Filed June 14, 1906. Serial No. 321,642.



Claim.—1. In a feeding-machine, a hopper comprising parallel side walls at its lower end, and having an opening through one of said side walls extending the length of the hopper, a gate carried by the side wall adjacent to the opening adapted to regulate the extent thereof, U-shaped conveyers pivotally mounted in the side walls arranged in two independent series reversely inclined from the center, an oscillatory bottom on the hopper for operating the conveyers, a roller journaled at one side of the gate and of the opening, having its axis substantially in the same horizontal plane as the bottom of the hopper, whereby as the roller revolves a continuous flow of material is delivered over its periphery.

2. In a feeding-machine, a hopper having an oscillatory bottom, said hopper having an opening in one side thereof adjacent to the bottom, and two independent series of conveyers or distributers inclined in opposite directions from the center of the hopper adapted to coöperate with the oscillatory bottom, for the purpose described.

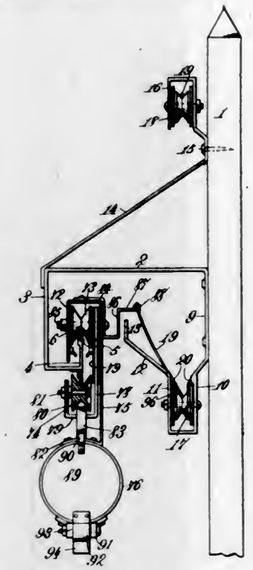
3. In a feeding-machine, a hopper having an oscillatory bottom, distributers reversely inclined from the center of the hopper and coöperating with the bottom, the hopper having an opening at one side thereof, a gate adjustable over the opening, and a feed-roller journaled adjacent to the bottom at one side of the opening for delivering a continuous flow of material over its periphery as it is revolved.

4. In a feeding-machine, a hopper having an oscillatory bottom, and disconnected U-shaped members each pivotally suspended in the hopper crosswise of said bottom and coacting therewith for distributing the material in the hopper.

844,125. MAIL-DELIVERY APPARATUS. JAMES R. HARRIS, Oxford, Ohio. Filed Aug. 21, 1906. Serial No. 331,523.

Claim.—1. A mail-delivery device, consisting of a track-wire, a support for the same embodying a track having upper and lower guide-pulleys, an endless operating-wire having portions engaging the said guide-pulley, and a conveyer engaging the track-wire and connected to said endless operating-wire.

2. A mail-delivery device, consisting of a track-wire, supports for the latter, an endless operating-wire having parts thereof above and below the track-wire, means on the supports for engaging and directing the endless operating-wire, and a conveyer movably arranged on the track-wire and having a depending mail-receptacle.



3. In a mail-delivery apparatus, the combination of posts having brackets thereon, each bracket having upper and lower direction-pulleys and intermediate post means, a track-wire secured on the intermediate post means of the bracket, an endless operating-wire engaging the upper and lower pulleys, and a conveyer movable on the track-wire and having a depending mail-receptacle.

4. In a mail-delivery apparatus, the combination of supporting devices, brackets on the supporting devices, each bracket having upper and lower adjustable pulley-supports, pulleys mounted in said supports, a post forming a part of the bracket and located outwardly from the vertical plane of the pulleys, a track-wire engaging the posts on the brackets, an endless operating-wire engaging the said pulleys, and a conveyer movably mounted on the track-wire and having a depending mail-receptacle.

5. In a mail-delivery apparatus, the combination of a plurality of posts, brackets mounted on the posts, each bracket having upper and lower direction-pulleys standing outwardly at a distance from the posts and also provided with an upstanding wire-support, a track-wire secured to the upstanding supports of the brackets, an endless operating-wire engaging the pulleys, and a conveyer movably mounted on the track-wire and having a mail-receptacle suspended therefrom.

6. In a mail-delivery apparatus, the combination with a track-wire, an endless operating-wire, and a conveyer on the track-wire having a mail-receptacle suspended therefrom, of a supporting pole or post, and a bracket on the pole or post having a horizontal member with a depending extension terminating in an upwardly-projecting post to which the track-wire is secured, and upper and lower adjustable direction-pulleys for engagement by the endless operating-wire, the said pulleys being held outwardly at a distance from the pole or post.

7. In a mail-delivery apparatus, the combination of a support, a track-wire held by the support, an endless operating-wire, and a conveyer disposed on the track-wire and having arms connected to the operating-wire and also provided with a suspended mail-receptacle.

8. In a mail-delivery apparatus, the combination of a support, a track-wire held by the support, and a conveyer movably engaging the track-wire and consisting of a carriage provided with upper and lower grooved rollers and a mail-receptacle suspended therefrom, and an operating-wire connected to the upper portion of the carriage.

9. In a mail-delivery apparatus, the combination of a support having brackets thereon at angles to each other, a track-wire, an arcuate track-rail secured to portions of the brackets and also having the track-wire attached thereto, a lower guide-rail, a conveyer disposed on the track-wire and provided with rollers engaging the said wire and also with a lower guide-roller to coöperate with the guide-rail under the arcuate track-rail, the conveyer having a mail-receptacle suspended therefrom, and means connected to the conveyer for propelling the same.

10. In a mail-delivery apparatus, the combination of a support, an arcuate track-rail held by the support, upper and lower direction-pulleys, the lower direction-pulley having guards projecting outwardly therefrom, a track-wire connected to the said-rail, a conveyer movably arranged on the track-wire and adapted to pass over the rail, the conveyer having a mail-receptacle suspended therefrom, and an endless operating-wire attached to the conveyer, the upper and lower portions of the said operating-wire coöperating with the said direction-pulleys.

11. In an apparatus of the class set forth, the combination of a supporting-post, a bracket thereon, a track-rail secured to a depending portion of the bracket, a guide-rail held by a part of the bracket below the track-rail, a carriage having upper and lower wheels to engage the said rails and also provided with a mail-receptacle, a track-wire secured to the guide-rail, and an operating-wire connected to the carriage.

12. In an apparatus of the class set forth, the combination with a support, a bracket secured to the support, a track-rail held by the bracket, a guide-rail below the track-rail, a track-wire secured to the track-rail, a carriage having upper grooved wheels to engage the track-wire and track-rail, and a lower vertically-movable wheel to engage the guide-rail, a mail-receptacle connected to the carriage, and operating means for the carriage.

13. In an apparatus of the class set forth, the combination of a support, a bracket on the support carrying a track-rail and a guide-rail below the said track-rail, and upper and lower guide-pulleys, a track-wire secured to the track-rail, an operating-wire having upper and lower portions engaging the said pulleys, and a carriage having a mail-receptacle attached thereto and provided with upper wheels to engage the track-rail and a lower wheel to engage the guide-rail, the lower wheel being vertically movable and spring-controlled, the carriage being connected to the operating-wire.

14. In an apparatus of the class set forth, the combination of a support, a bracket secured thereto and having upper and lower guide-pulleys, the lower guide-pulley being provided with guards thereover and a guide projecting therefrom, an operating-wire engaging the said pulleys, upper and lower rails carried by the bracket, a track wire or cable secured to the upper rail, a carriage having upper and lower wheels engaging the rails and provided with a mail-receptacle, and arms projecting inwardly from the carriage and connected to the lower portion of the operating-wire.

15. In an apparatus of the class set forth, the combination of a support, a bracket held by said support and provided with upper and lower adjustable guide-pulleys, upper and lower rails held by portions of the bracket, a track-wire secured to the upper rail, an operating-wire having upper and lower portions thereof engaging the pulleys, and a carriage provided with upper and lower wheels engaging the rails and also connected to the operating-wire.

16. In an apparatus of the class set forth, the combination of a support, a bracket having an upper adjustable pulley, a lower pulley provided with an arm movable to vary the angle of said lower pulley and also shiftable

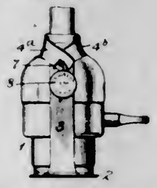
outwardly and inwardly on a part of the bracket, upper and lower rails held by portions of the bracket, and a carriage provided with upper and lower wheels to engage the rails and also having a mail-receptacle connected thereto, the carriage being attached to the operating-wire.

17. In an apparatus of the class set forth, the combination of a support, a series of brackets secured to the said support at angles to each other, an arcuate track-rail held by the brackets, an arcuate guide-rail also held by the brackets and located below the track-rail and having its ends deflected upwardly toward the ends of the track-rail, a track-wire attached to the terminals of the track-rail, guide-pulleys held by portions of the brackets, an operating-wire engaging the guide-pulleys, and a carriage having upper and lower wheels to engage the said rail and also provided with a mail-receptacle.

18. In an apparatus of the class set forth, the combination of a support, a series of brackets secured to the support and disposed at angles to each other, an arcuate track-rail engaging portions of the brackets, an arcuate guide-rail secured to portions of the brackets and located below the track-rail, the said guide-rail having the opposite extremities thereof deflected upwardly toward the ends of the track-rail, a track-wire secured to the ends of the track-rail, an arcuate bar horizontally disposed on portions of the brackets at a distance inwardly from the said rails and having the ends thereof downwardly deflected, upper and lower horizontally-disposed guide-pulleys, the lower guide-pulleys being held on the said bar, an operating-wire having the upper and lower portions thereof engaging the guide-pulleys, and a carriage having a mail-receptacle depending therefrom and also provided with upper and lower wheels to engage the rails, the carriage being connected to the operating-wire.

19. In an apparatus of the class set forth, the combination with a plurality of uprights having brackets carrying track-rails, a track-wire secured to the brackets, guide-pulleys held by the brackets, an operating-wire engaging the guide-pulleys, mechanism at one end of the apparatus for actuating the said operating-wire, a support at the opposite end of the apparatus having a cross-bar and a horizontal pulley thereon, the track-wire being secured at its ends to the opposite extremities of the cross-bars, and a carriage having wheels to engage the track-rails and track-wire and also provided with means for connection to the operating-wire, the said carriage also having a mail-receptacle.

844,126. SOCKET-SEAL FOR ELECTRIC LAMPS, &c. LLEWELLYN T. HATFIELD, Sacramento, Cal. Filed Oct. 4, 1905. Serial No. 281,290.



Claim.—1. A sealing device for electric sockets for preventing electrical connection with the contacts in said sockets, comprising a closure constructed to close the open end of the socket against admission of the contacting device sought to be introduced within the socket, and means for securing the said closure in closing relation to the socket and preventing the removal of said closure except upon destroying a portion of the device.

2. A sealing device for electrical sockets comprising a barrier formed to be attached to a socket, to prevent electrical connection with the socket-contacts, and a seal securing said barrier to the socket.

3. A sealing device for electrical sockets comprising a barrier formed to be attached to a socket, to prevent electrical connection with the socket-contacts, and destructible means for securing said barrier to the socket.

4. A sealing device for electrical sockets comprising a barrier constructed to form a closure for the socket and to engage therewith in position to prevent introduction of means for establishing electrical connection with the socket-contacts, and destructible means for securing said barrier to the socket.

5. A sealing device for electrical sockets comprising means constructed to fit within the socket and prevent bringing the conductors of a current-consuming device into electrical connection with the socket-contacts, and sealing means for securing said first-named means in position and preventing the removal of the same except upon the destruction of the sealing means.

6. A sealing device for electrical sockets comprising means to fit within the socket to prevent electrical connection of a current-consuming device with the socket-contacts, and a seal securing the first-named means in place.

7. A sealing device for electrical sockets comprising means to fit within the socket to prevent electrical connection with the socket-contacts, and flexible members extending from said first-named means to hold the said first-named means to the socket.

8. In combination with an electrical socket, means barring said socket against the introduction of current-consuming means, securing means for the barring means, and a seal for the securing means.

9. A sealing device for electrical sockets comprising means preventing the insertion of a current-consuming device in a socket, and a seal for holding said means.

10. A sealing device for electric sockets comprising a disk formed to fit the socket and prevent electrical connection with the contacts thereof, and a seal for holding the disk to the socket.

11. A device of the class described, comprising a disk having a projection adapted to fit within a socket, and arms extending from said disk.

12. A device of the class described, comprising a disk having a projection adapted to fit within a socket, arms extending from said disk, and a seal secured to the arms.

13. The combination of means for preventing a contact of an electrical lamp-plug or the like engaging a contact in a socket, and a seal preventing the removal of said means except upon destruction.

844,127. THEATER. HENRY HELBIG, Munich, Germany. Filed Aug. 13, 1906. Serial No. 330,418.

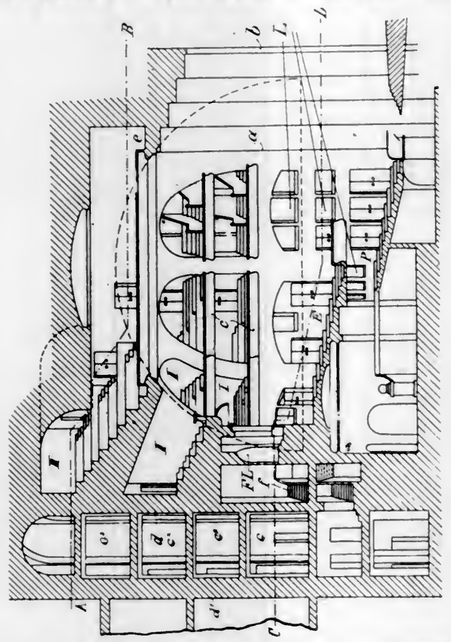
Claim.—1. An auditorium for theaters and the like comprising an outer inclosing wall, a plurality of galleries extending inwardly above and beyond each other, with inwardly-converging pillars supporting the galleries and forming binding-arches of a vault over the stall-floor.

2. An auditorium for theaters and the like, comprising an outer inclosing wall, a plurality of galleries extending inwardly above and beyond each other, with inwardly-converging pillars supporting the galleries and forming binding-arches of a vault over the stall-floor, such vault being cut vertically at one side by the proscenium-walls.

3. An auditorium for theaters and the like, comprising an outer inclosing wall, a plurality of galleries extending inwardly above and beyond each other, with inwardly curving and converging pillars supporting the galleries and forming binding-arches of a vault over the stall-floor, such vault having a domed top with a central opening bounded by the uppermost gallery and a passage opposite the same.

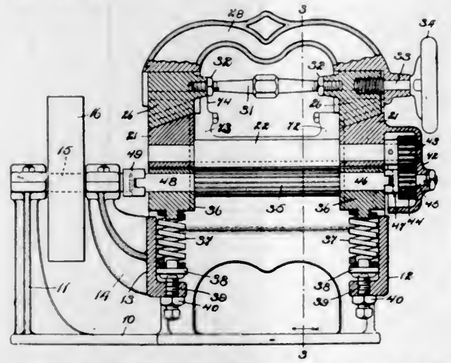
4. An auditorium for theaters and the like, comprising an outer inclosing wall, a plurality of galleries extending inwardly above and beyond each other, with inwardly curving and converging pillars supporting the galleries and forming binding-arches of a vault over the stall-floor, such vault being cut vertically at one side by the proscenium-walls and having a domed top with a central opening bounded by the uppermost gallery and a passage opposite the same above the proscenium.

5. An auditorium for theaters and the like, comprising a vertical inclosing wall, a plurality of galleries extending therefrom inwardly above and beyond each other, with inwardly curving and converging pillars supporting the galleries and forming the binding-arches of a vault, a main stall-floor arranged within the vault, and a second stall-floor projecting from the inclosing wall above the main stall-floor to a point beyond the lower gallery, the



vault cut vertically at one side by the proscenium-walls and having a domed top with a central opening bounded by the uppermost gallery and a passage above the proscenium.

844,128. LEATHER-SPLITTING MACHINE. JOHN J. HEYS, Lynn, Mass., assignor of one-half to Maurice V. Bresnahan, Lynn, Mass. Filed Oct. 17, 1902. Serial No. 127,691.



Claim.—1. A leather-splitting machine comprising a rigidly-mounted knife, coacting feed-rolls between which is arranged the cutting edge of said knife, and which consists of a yielding lower roll, and a rigidly-supported top roll adjustable relatively to the knife, means for adjusting said top roll to vary the thickness of the slice, and gears invariably spaced and in constant intermeshed relation for transmitting power from one roll to the other, and means for connecting said gears to said rolls respectively.

2. A leather-splitting machine comprising a knife, coacting feed-rolls comprising a yielding corrugated lower roll, a rigidly-supported smooth top roll adjustable with relation to the knife and the lower roll, means for adjusting said top roll to vary the thickness of the slice, gears invariably spaced and in constant intermeshed relation for transmitting power from one roll to the other, and a differential coupling interposed between one of said gears and its roll to compensate for varying distance between the axes of said roll and its gear.

3. A leather-splitting machine comprising a knife, coacting feed-rolls comprising a yielding corrugated lower roll, a rigidly-supported smooth top roll adapted to be adjusted toward and from the knife and lower roll, and to be moved into and out of parallelism with said lower roll, means for adjusting said top roll to vary the thickness of the slice, a single pair of gears in constant inseparable intermeshed relation, and means connecting said gears to said rolls, for transmitting power from one roll to the other.

4. A leather-splitting machine comprising a knife, a top roll, rigid supports for said top roll, a yieldingly-supported lower roll, means for adjusting said supports to adjust said top roll toward and from the knife, invariably-spaced gears, and a compensating coupling for connecting said rolls and gears and for compensating for variable distance between said rolls.

5. A leather-splitting machine comprising coacting top and bottom rolls, yielding boxes for the bottom roll, adjustable boxes for the top roll, wedges having an interlocked relation with said last-mentioned boxes for rigidly supporting and adjusting them, a driving-shaft coupled directly to one of said rolls, and a single pair of coacting gears in constant intermeshed relation for connecting said rolls.

6. A leather-splitting machine, comprising a frame, a knife rigidly mounted thereon, a driving-shaft journaled in fixed bearings, a top roll, a lower roll, yielding bearings for the lower roll, rigid bearings on the frame for the top roll, a pair of invariably-spaced intermeshing gears, one of said gears being fast to the top roll, a differential coupling interposed between said lower roll and the other of said gears, and a differential coupling interposed between said lower roll and said shaft.

7. A leather-splitting machine, comprising a frame, a knife rigidly mounted thereon, a driving-shaft mounted in fixed bearings, coacting feed-rolls consisting of a top roll and a lower roll, yielding bearings for said lower roll, rigid simultaneously-adjustable bearings for the top roll, a pair of intermeshing gears, one of said gears being fast on the top roll, and the other of said gears being supported by and movable with one of said rigid adjustable bearings, and rotary differential couplings interposed between the shaft and the lower roll, and between the lower roll and the second-mentioned gear to compensate for the yielding of the first-mentioned bearings.

8. A leather-splitting machine comprising a frame, a knife rigidly mounted thereon, a top roll, rigid bearings in the frame for the top roll, a gear fast to the top roll, a complemental gear secured in positive intermeshing relation to the first-mentioned gear, a driving-shaft mounted in fixed bearings in approximate alinement with the axis of the latter gear, a lower roll interposed between said driving-shaft and said latter gear and in approximate alinement therewith, and coacting with the top roll, yielding bearings for the lower roll, and two differential couplings, one interposed between the latter gear and the lower roll, and the other coupling between the lower roll and the driving-shaft, both of which couplings transmit power from the driving-shaft to the lower and top rolls and consist of relatively movable members, the relative movement of which compensates for any displacement of the lower roll.

9. A leather-splitting machine comprising a knife, coacting feed-rolls, and provisions for swinging said knife and feed-rolls bodily about an axis longitudinal of said rolls.

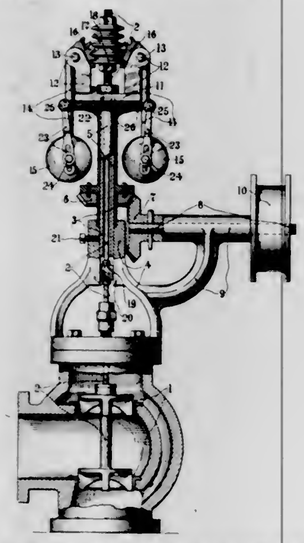
10. A leather-splitting machine comprising a knife, coacting feed-rolls, and provisions for bodily adjusting said knife and rolls without disturbing their relation, to locate the knife horizontally or at an angle to the horizontal.

11. A leather-splitting machine comprising a frame, a knife and feed-rolls mounted on said frame, and supports on which said frame is rotatively mounted.

12. A leather-splitting machine comprising a frame, a knife and feed-rolls mounted on said frame, stationary supports, and trunions secured to said frame and journaled in said supports.

13. A leather-splitting machine comprising a frame, a knife and feed-rolls mounted on said frame, stationary supports, trunnions secured to said frame, and mounted in said supports, one of said trunnions being hollow, and a driving-shaft for the feed-rolls passed through said hollow trunnion.

844,129. GOVERNOR. ARTHUR HILL and SAMUEL PURCELL, Pontefract, England. Filed Mar. 8, 1906. Serial No. 304,835.

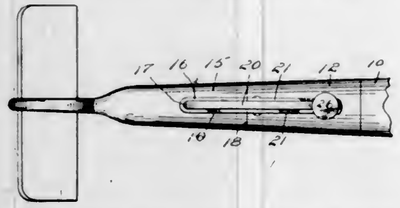


Claim.—In a centrifugal governor for steam-engines, the combination with the bracket 4 and its tubular guide 3, of a valve-rod 2 passing upward within the said guide 3 and carrying at its upper end a fluted or toothed barrel 17, an external sleeve 5 on the guide 3 adapted to be rotated by gear-wheels driven from the engine, a cross-head 11 on the sleeve 5 having upstanding brackets 12 carrying studs 13, pending arms 14 pivoted on the studs 13 carrying balls 15 at their lower ends and being provided at their upper ends with toothed segments 16 gearing with the toothed barrel 17 on the valve-rod 2, together with springs 26 carried on cross-rails 25 supported at the back of the pending arms 14 by links 23, substantially as described.

844,130. TOOL-HANDLE. JASPER N. HOWARD, Lagrange, Ind. Filed Apr. 19, 1906. Renewed Jan. 9, 1907. Serial No. 351,569.

Claim.—1. A tool-socketed ferrule provided on its upper side with two ribs, a longitudinal groove between said ribs, a hole at the end of said groove opening into the socket, combined with a handle-socketed ferrule having its forward end reduced to extend into the socket of the tool-ferrule, a recess formed in the upper side of the said reduced portion, a spring-pressed lever pivoted on the handle-ferrule and having a pin on its end adapted to pass through the hole in the tool-ferrule and at its end to enter the recess formed in the reduced portion of the handle-ferrule, the forward portion of said spring-pressed lever resting between the said ribs and in said groove.

2. A handle-socketed ferrule provided with a hole opening into the socket, a reduced portion at its forward end forming a shoulder, a V-shaped projection on said shoulder, two ribs on upper side of said ferrule, a spring-pressed pin-bearing lever arranged between said ribs and pivoted on said ferrule, combined with a tool-socketed ferrule adapted to receive in its socket the reduced part of the first-mentioned ferrule and having a V-shaped notch on its edge to receive the said V-shaped projection, a hole formed through the said tool-socketed ferrule, and a recess made in the upper surface of said reduced part of the first-mentioned ferrule, the pin on the said spring-pressed lever entering the hole in the opposite ferrule and resting at its end in the recess formed in the said reduced portion, and a pin driven through the hole formed through the first-mentioned ferrule into the wooden handle.



3. A tool having a shank provided with a socketed ferrule having a groove on its upper side, a hole opening into the socket at the end of said groove and a V-shaped notch in its rear edge, combined with a handle having a ferrule provided with a socket into which the end of the handle extends, a hole formed in the ferrule and opening into the socket, a pin driven through said hole into the portion of the handle in the socket, the forward part of the latter ferrule being reduced, forming a shoulder at the base of the reduced portion, the latter extending into the socket of the first-mentioned ferrule, a V-shaped projection on said shoulder to fit into the V-shaped notch on the former ferrule, and a spring-pressed lever provided with an inwardly-projecting pin to extend at its forward end through the hole in the first-mentioned socket and at its end into the recess of the reduced end.

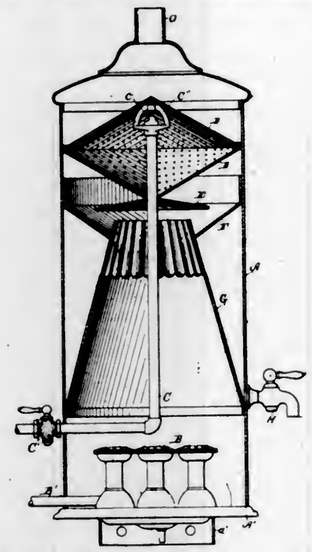
844,131. WATER-HEATER. HERBERT S. HUMPHREY, Kalamazoo, Mich., assignor to Humphrey Company, Kalamazoo, Mich. Filed July 22, 1904. Serial No. 217,621.

Claim.—1. In a water-heater, the combination of a casing; an open-ended conical tube arranged in said casing, having longitudinal corrugations therein at its top, the base of said tube closely fitting the walls of said casing and secured thereto; an inverted conical plate having a central opening therein, through which the upper end of said conical tube is arranged, closely fitting and secured to the walls of said casing; a deflector-plate supported above the open upper end of said conical tube; a water-spraying head; perforated conical baffle-plates oppositely arranged, one above and the other below said head, forming partitions in said casing; and means for introducing heated gases to the base of said casing, for the purpose specified.

2. In a water-heater, the combination of a casing; an open-ended conical tube arranged in said casing, the base of said tube closely fitting the walls of said casing and secured thereto; an inverted conical plate having a central opening therein, through which the upper end of said conical tube is arranged, closely fitting and secured to the walls of said casing; a deflector-plate supported above the open upper end of said conical tube; a water-spraying head; perforated conical baffle-plates oppositely arranged, one above and the other below said head, forming partitions in said casing; and means for introducing heated gases to the base of said casing, for the purpose specified.

3. In a water-heater, the combination of a casing; an open-ended conical tube arranged in said casing, having

longitudinal corrugations therein, at its top, the base of said tube closely fitting the walls of said casing and secured thereto; a deflector-plate supported above the open upper end of said conical tube; a water-spraying head; perforated conical baffle-plates oppositely arranged, one above and the other below said head, forming partitions in said casing; and means for introducing heated gases to the base of said casing, for the purpose specified.



4. In a water-heater, the combination of a casing; an open-ended conical tube arranged in said casing, the base of said tube closely fitting the walls of said casing and secured thereto; a deflector-plate supported above the open upper end of said conical tube; a water-spraying head; perforated conical baffle-plates oppositely arranged, one above and the other below said head forming partitions in said casing; and means for introducing heated gases to the base of said casing, for the purpose specified.

5. In a water-heater, the combination of a casing; perforated conical baffle-plates oppositely arranged in said casing forming complete partitions therein, adapted to finely divide the water fed thereto, so as to seal or partially seal the said perforations therein; a water-spraying device arranged between said baffle-plates; and means for introducing heated gases into said casing below said baffle-plates, whereby said gases are caused to pass upwardly through the perforations in baffle-plates, for the purpose specified.

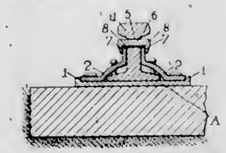
6. In a water-heater, the combination of a casing; an open-ended conical tube arranged in said casing having longitudinal corrugations at its upper end, the base of said tube closely fitting the walls of said casing and secured thereto; an inverted conical plate having a central opening therein through which the upper end of said conical tube is arranged, closely fitting and secured to the walls of the casing; a deflector-plate supported above the open end of said conical tube; a perforated baffle-plate arranged above said deflector-plate; a water-spraying head arranged to deliver water to the under side of said baffle-plate; and means for introducing heated gases to the base of said casing, for the purpose specified.

7. In a water-heater, the combination of a casing; a perforated conical baffle-plate arranged in said casing, forming a complete partition therein; a water-spraying device arranged beneath the apex of said conical baffle-plate, adapted to deliver the water across the same so as to seal, or partially seal, the said perforations therein; and means for introducing heated gases into said casing, whereby said gases are caused to pass upwardly through the perforations in said baffle-plate, for the purpose specified.

8. In a water-heater the combination of a casing; a water-spraying head; perforated baffle-plates arranged one above the other below said head, forming partitions in said casing; and means for introducing heated gases to the base of said casing whereby the gases are caused to pass upwardly through the perforations in the said baffle-plates.

9. In a water-heater, the combination of a casing; a water-spraying device arranged therein; a perforated conical baffle-plate arranged below said spraying device, forming partitions in said casing; a perforated baffle-plate arranged above said spraying-head, forming a partition in said casing; and means for introducing heated gases to the base of said casing, whereby the gases are caused to pass upwardly through the perforations in the baffle-plates.

844,132. RAIL-JOINT. DONALD J. IRWIN, Buffalo, Mo., and HALBERT J. STRAWN, Albion, Ill. Filed Sept. 26, 1906. Serial No. 336,261.



Claim.—1. The combination with a flanged base-plate and rails having notched base-flanges, of fish-plates fitted to the base-plate and base and webs of the rails and having notched upper edges adapted to receive a clamp, the downwardly-turned ends of which embrace the two fish-plates, one of said fish-plates having a plurality of holes arranged in position to register with the notches in the base of the rails, whether they go together or are separated a short distance, said holes adapted to receive spikes for fastening the rails in place.

2. The combination with a flanged base-plate and rails having notched base-flanges, of fish-plates fitted to the base-plate and base and webs of the rails and having notched upper edges adapted to receive a clamp, the downwardly-turned ends of which embrace the two fish-plates, one of said fish-plates having a plurality of holes arranged in position to register with the notches in the base of the rails whether they go together or are separated a short distance, said holes adapted to receive spikes for fastening the rails in place, and a removable center block adapted to be interposed between the ends of the rails and having a slot therethrough to receive the clamp.

844,133. PASSENGER-CAR. WALTER A. JACOBS, Adamant, Vt. Filed Feb. 27, 1906. Serial No. 303,187.

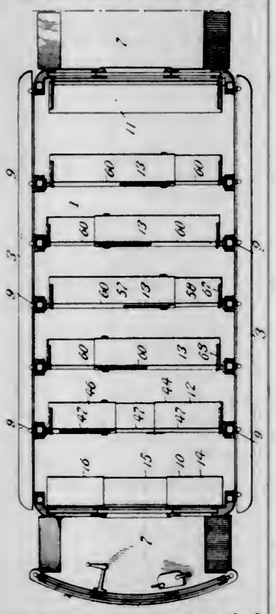
Claim.—1. A car comprising a body, and seats movably connected to the body and adapted to be arranged transversely of or longitudinally of the body, a portion of said seats being arranged directly beneath other of said seats when in longitudinal engagement.

2. A car comprising a body, and seats movably connected to the body and adapted to be arranged transversely or longitudinally of the body, the seats being alternately connected to opposite sides of the body, whereby in their longitudinal arrangement they may be arranged adjacent both sides of the car-body.

3. A convertible car comprising a body, and seats movably connected to the body, said seats comprising telescopic sections adapted when extended to project transversely of the car-body and when in telescoped relation to provide an endless seat arrangement extending longitudinally of the car.

4. A convertible car comprising a body, a plurality of seats movably connected to the body and adapted when arranged transversely thereof to provide the seating arrangement of a car of the open type, a number of said seats less than the whole being adapted to be turned longitudinally of the car and provide the seating arrangement of a car of the closed type, the seats not in use in the longitudinal arrangement being arranged in a plane beneath the seats in use.

5. A convertible car comprising a car-body, a plurality of seats movably connected with the car and adapted to be arranged transversely thereof, one of the seats comprising two fixed sections and a movable section telescoping with one of the fixed sections, said fixed section having hinged connection with the car-body and adapted to be turned up into contact with the same when not in use.



6. A convertible car comprising a car-body, a plurality of seats movably connected with the car and adapted to be arranged transversely thereof, one of the seats comprising two fixed sections and a movable section telescoping with one of the fixed sections, said fixed section having hinged connection with the car-body and adapted to be turned up into contact with the same when not in use, and means for maintaining said section in elevated position.

7. A convertible car comprising a car-body, and a plurality of seats having movable connection with the car-body, one of said seats comprising two fixed sections and a telescopic section, the fixed sections having movable connection with opposite sides of the car-body respectively and being adapted to be arranged transversely of or longitudinally of the car-body, one of said connections operating to move the fixed section into a plane below the normal feeding plane when said section is arranged longitudinally of the car-body.

8. A convertible car comprising a car-body, end seats supported by said body, and a plurality of seats arranged intermediate the end seats and respectively connected in succession to opposite sides of the car-body, each of said latter seats comprising duplicate sections pivotally connected to the car-body and telescopic sections connected with one of said duplicate sections.

9. A convertible car comprising a car-body, end seats supported by the body, and a plurality of seats arranged intermediate the end seats and respectively connected in succession to opposite sides of the car-body, each of said seats comprising a fixed section having connection with the car-body and a telescopic section arranged for removable connection to the opposite side of the car-body.

10. A convertible car comprising a car-body, end seats connected therewith, and a plurality of seats connected to the car-body intermediate the end seats, one of the end seats being hinged to the car-body to permit its being folded thereagainst when not in use, and the remaining end seat being movably connected to the body to permit its arrangement transverse or longitudinally of said body, one of the intermediate seats comprising independent sections connected respectively to opposite sides of the car-body and adapted to be arranged transversely or longitudinally of said body.

11. A seat structure for convertible cars comprising a fixed section formed with a guideway at each side edge, a sliding section mounted for telescopic movement in the guideway of the fixed section, and means to move the sliding section into a plane with the fixed section when the sections are fully extended.

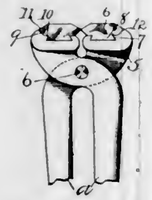
12. A seat structure for convertible cars comprising sections constructed wholly of metal, the side edges of one section being bent to form guideways, the side edges of the other section being bent to form guides adapted for movement in the guideways, the walls of the guideways being formed with guide-slots, and pins projecting from the guides and working in said slots, the walls of said slots and the adjacent walls of the guideways being inclined to coöperate with the guides and move the sliding section into a plane with the main section when said sections are extended.

13. A convertible car comprising a car-body, hollow roof-standards forming part of said body, and side walls for said body arranged in sections and slidably mounted in offset planes in the standards, each of said sections coöperating with the adjoining sections to insure relative operation of all sections through movement of one section, and means for counterbalancing the lower section.

14. A convertible car comprising a car-body, hollow roof-standards forming part of said body, metallic strips forming the end walls of said standards and provided with guideways, side walls for the body arranged in sections mounted respectively in the guideways, interengaging means carried by the respective sections whereby to insure the operation of all in the complete operation of any one, and a counterbalancing means for the lowermost section.

15. A convertible car comprising a car-body, hollow roof-standards forming part of said body, metallic strips forming the end walls of said standards and provided with guideways, side walls for the body arranged in sections and slidably mounted in the guideways, the ends of the respective sections being provided with projections for engagement in the operation of the sections, the sections intermediate the upper and lower section being provided on each end with said projections, and a counterbalancing means connected to the lower section and movable within the hollow standard.

844,134. NIPPERS. WILLIAM J. JENKINS, Rockfall, Conn. Filed Nov. 7, 1906. Serial No. 342,387.



Claim.—1. A pair of handles operatively connected, heads borne on said handles and movable toward and from each other, each head having a depressed portion for the reception of a cutter and a beveled seat, a cutter having a plural number of beveled cutting edges, each cutting edge comprising an inner and outer beveled surface extending transversely one to the other, the inner beveled surface fitting said beveled seat, and means for holding the cutters in place.

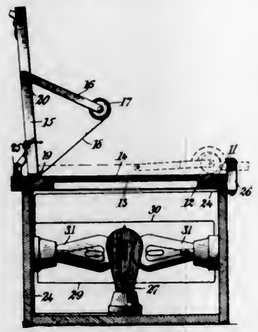
2. A pair of handles operatively connected, heads borne on said handles and movable toward and from each other, each head having a depressed portion for the reception of a cutter and a beveled seat at the outer edge thereof, cutters each having a plural number of beveled cutting edges, each cutting edge comprising an inner and outer beveled surface extending transversely one to the other, the inner surface fitting said beveled seat, and means for holding the cutters in place.

3. A pair of handles operatively connected, heads borne on said handles and movable toward and from each other, each head having a depressed portion for the reception of a cutter and a beveled seat at the outer side thereof, cutters each having oppositely-disposed beveled cutting edges, said cutting edges each comprising an inner and outer beveled surface extending transversely one to the other, the inner beveled surface fitting said beveled seat, and means for holding the cutters in place.

4. A pair of handles operatively connected, heads borne by said handles and movable toward and from each other, each head having a depressed portion with a beveled seat at the outer side thereof for the reception of a cutter and a recess for the reception of the stem of a cutter, and cutters each having oppositely-disposed beveled cutting edges, each cutting edge comprising inner and outer beveled surfaces extending transversely each to the other, the inner beveled surface fitting said beveled seat, and means for holding the cutter in place.

5. A pair of handles operatively connected, heads borne by said handles and movable toward and from each other, each head having a depressed portion with a beveled seat at the outer side thereof for the reception of a cutter and a groove extending crosswise of the head for the reception of the stem of the cutter, and cutters each having oppositely-disposed beveled cutting edges, each cutting edge including inner and outer beveled surfaces extending transversely each to the other, the inner surface fitting said beveled seat, and means for holding the stems of said cutters in place in said groove.

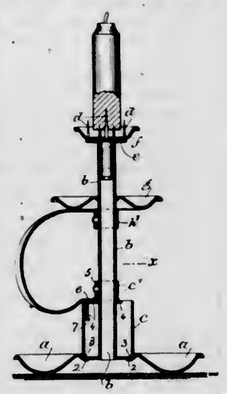
844,135. PHOTOGRAPHIC-PRINTING MACHINE. JOHN F. JUNGKIND, Little Rock, Ark. Filed Sept. 28, 1905. Serial No. 280,439.



Claim.—1. A printing device, comprising a casing having electrical connections, two pairs of resilient plates mounted respectively on the front and rear of the casing near the top thereof, a cover for the casing, said cover having a plate adapted to engage the rear resilient plates when the cover is open, and a plate adapted to engage the front resilient plates when the cover is closed, whereby said resilient plates assist in holding the cover in either closed or open position.

2. A printing device, comprising a casing, a cover therefor, a pair of contact members mounted upon said casing, a pair of contact members mounted upon said cover, each contact member upon said cover mating a contact member upon said casing, the arrangement being such that when said cover is opened the contact member carried by said cover engages one of said contact members mounted upon said casing, and when said cover is closed the other of said contact members mounted upon said cover engages the other of said contact members mounted upon said casing, electric lamps of different colors connected respectively with said contact members upon said casing, and electric connections from said lamps to said contact members upon said casing.

844,136. CANDLE-HOLDER. OTTO KAMPFE, New York, N. Y. Filed May 1, 1906. Serial No. 314,628.



Claim.—1. A candle-holder comprising a base, a tubular stem, a handle secured to the tubular stem, a series of candle-holding prongs, a base to which the same are secured, a stem formed with said base and adapted to fit in the upper end of the tubular stem and a drip-saucer having series of perforations coinciding in position with the series of prongs and adapted to fit over the prongs and rest upon the base to which the prongs are secured.

2. A candle-holder comprising a saucer-shaped base, a tubular central stem, a bent band or handle secured to the tubular stem intermediate of its length, a base and series of candle-holding prongs secured thereto and rising therefrom and a stem formed with the said base and adapted to pass into and to be removable from the upper open end of the tubular stem and a drip-saucer having a series of perforations agreeing with the location of the said prongs and adapted to pass over the prongs and to rest upon their support.

3. A candle-holder comprising a base, a tubular stem, a handle secured to the tubular stem, a candle-holding device and a support for the same, a tubular shell concentric with and surrounding the tubular stem and at its lower end resting upon and secured to the saucer-shaped base and forming a match-holder and a device intermediate of the candle-holder and match-holder for intercepting the drippings of the candle.

4. A candle-holder comprising a saucer-shaped base, a tubular central stem, a bent band or handle secured to the tubular stem intermediate of its length, a candle-holding device and a support therefor, a drip-saucer associated with the candle-holder and a tubular shell concentric with and surrounding the tubular stem and at its lower end resting upon and secured to the saucer-shaped base and forming a match-holder and a saucer-shaped member *g* intermediate of the candle-holder and match-holder for the function described.

5. In a candle-holder, the combination with a tubular support, of a stem adapted to fit in the upper end of the tubular support, a base at right angles to the stem and adapted to rest upon the end of the said tubular stem, and a series of candle-holding prongs, consisting of a long center prong, a series of short prongs surrounding the same and a series of outside prongs of a length intermediate of the short prongs and the central prongs.

6. A candle-holder comprising a saucer-shaped base, a tubular central stem, a bent band or handle secured to the tubular stem intermediate of its length, a base and series of candle-holding prongs secured thereto and rising therefrom, a stem formed with the said base and adapted to pass into and to be removable from the upper open end of the tubular stem, a drip-saucer having a series of perforations agreeing with the location of the said prongs and adapted to pass over the prongs and to rest upon their support, a tubular shell concentric with and surrounding the tubular stem and at its lower end resting

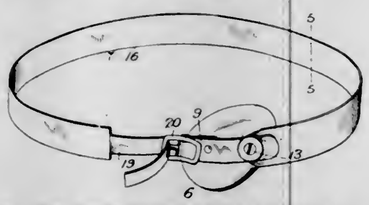
upon and secured to the saucer-shaped base and forming a match-holder, and a drip-saucer having a flat base and series of perforations agreeing in number, position and in diameter with a series of candle-holding prongs and adapted to pass over the same and to rest upon their base-support.

7. In a candle-holder, the combination with a saucer-shaped base and a central tubular stem, of tubular members or sleeves *c' h'* surrounding and secured to the tubular stem, a bent handle *h* at its upper end secured to the member *h'* and at its lower end secured to the member *c'*.

8. In a candle-holder, the combination with a saucer-shaped base and a central tubular stem, of a tubular shell *c* resting upon the said base and placed concentric with the tubular stem and having lugs passing through openings in said base which are overturned to secure the shell in position and means secured to the upper edge of the said shell and spanning the space between the same and the tubular stem as support-arms for centering and supporting the upper end of the said shell.

9. In a candle-holder, the combination with a saucer-shaped base and a central tubular stem, of a tubular shell *c* resting upon the said base and placed concentric with the tubular stem and having lugs passing through openings in said base which are overturned to secure the shell in position and a bent handle in the form of a loop secured at its upper end to the said stem and at its lower end secured both to the stem and to the upper edge of the shell and having a part extending across from the shell to the stem as a support-arm.

844,137. TRUSS. PETER KASELER, Brooklyn, N. Y. Filed Mar. 21, 1906. Serial No. 307,263.

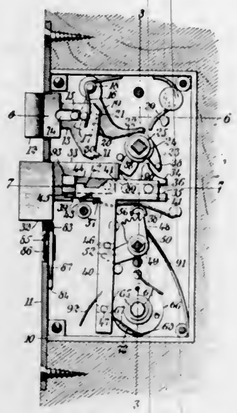


Claim.—The herein-described truss consisting of a belt having spring-wire strands extending partially around within said belt, said wire strands forming a loop outside of the belt, an ovoid pad provided with a slot extending across the outer face of said pad, the loop in the wire being seated in said slot, a buckle-loop secured in said slot, a buckle secured to said loop, the loop in the wire and the buckle-loop lying flush with the outer surface of the pad, screws passing through the buckle-loop and between the strands of the wire loop to secure said loops in said slot, and a strap secured to the end of the belt for engagement with said buckle.

844,138. LOCK. OSCAR KATZENBERGER, San Antonio, Tex. Filed June 20, 1906. Serial No. 322,569.

Claim.—1. A lock comprising a casing, a bolt slidable therein and having a slot at its inner end, a pin extended from the casing into said slot, a lug carried by the bolt, a locking-lever having a horizontally-disposed head portion arranged to swing on said pin, the opposite end of the head portion being adapted to swing into and out of engagement with said lug, a rack-plate, a part extended from said rack-plate for engaging with the locking-lever, to swing it in one direction, and a key for engaging the said rack-plate.

2. A lock comprising a casing, a locking-bolt slidable in the casing, an arm mounted to swing on the bolt, and having a lug at its free end, the inner end of said bolt being slotted, a pin extended from the casing into said slot, a locking-lever having a vertical portion and a horizontal head portion, the said head portion being mounted to swing on said pin; the free end of said head being movable into and out of engagement with said lug, a lug on the vertical portion of the lever, a rack-plate, a finger extended from said plate to engage with said last-named lug, and a longitudinally-fluted key for engaging the said rack-plate.



3. A lock comprising a casing, a locking-bolt slidable therein, means for causing the slidable movements of the bolt, a lug carried by the bolt, an arm on which said lug is arranged, the said arm being pivoted to the bolt, a locking-lever comprising a vertical portion and a horizontal head portion, the said lever being mounted to swing, a lug extended from the vertical portion of the lever, a rotary block, a spindle for turning the block, a finger extended from the block for engaging with said lug on the lever, a rack-plate extended from the block, and a key for engaging with the rack of said plate.

4. A lock comprising a casing, a locking-bolt slidable in the casing, an arm mounted to swing on the bolt, a lug on the free end of said arm, a knob-actuated means for moving the bolt, a locking-lever having a vertical portion and a horizontal head portion, the said head portion having pivotal connection with the casing, the free end of said head portion being adapted for movement into and out of engagement with the lug on the arm, and a combination mechanism for permitting said head portion to drop below the plane of said lug on the arm, and also operating to move said head portion into engagement with said lug.

5. In a door-lock, a casing, a locking-bolt slidable therein, a lug carried by said bolt, a swinging locking-lever having a vertical portion and a horizontal head portion, the free end of said head portion being adapted for movement into and out of engagement with said lug, a lug at the lower end of the vertical portion of said lever, a plurality of combination-disks, one of said disks having a straight peripheral surface at one side, the other disks being notched at the periphery, the said other disks being provided with segmental slots, the slot of one disk having a greater length than the slot of the other disk, a pin extended from the first-named disk into said slots, a spindle for manipulating the disks, and a click device for indicating the position of the disks.

6. In a lock, a casing, a locking-bolt slidable in the casing, a swinging arm carrying a lug, a swinging locking-lever having a vertical portion and a horizontal head portion, the said head portion having a shoulder at the top near its free end, and a shoulder at the lower side near its free end, the said upper shoulder being adapted for engagement with said lug to hold the bolt in said unlocking position, and the said lower shoulder being arranged for engagement with the lug to limit the inward movement of the bolt, means for causing swinging movements of said lever, and a knob-and-spindle-actuated means for moving the locking-bolt inward and outward.

7. A lock comprising a casing, a locking-bolt slidable therein, a securing device for holding said bolt in locking position, means for operating said device, opposite shoulders formed on the inner end of said bolt, a rotary block, a spindle extending through said block and having knobs at its ends, a lug on said block for engagement with either one of said shoulders, a finger extended from the block, a swinging plate having an extension adapted to be engaged by said finger, the said plate having a slot, a sliding latch-bolt, and a pin extended from the latch-bolt into said slot.

844,139. INSULATING MATERIAL AND METHOD OF MANUFACTURING SAME. GEORGE KELLY, Hinsdale, Ill. Filed Apr. 24, 1906. Serial No. 313,427.



Claim.—1. That improvement in the process of manufacturing insulating articles, which consists in impregnating material having printers' ink thereon with a vulcanizing-binder, and vulcanizing the composition.

2. That improvement in the process of manufacturing insulating articles, which consists in impregnating printed sheets with a binder that frees the inks in said sheets, and afterward vulcanizing the sheets.

3. That improvement in the process of manufacturing insulating articles, which consists in impregnating paper sheets having printers' ink thereon with a vulcanizing-binder, and then vulcanizing the same.

4. That improvement in the process of manufacturing insulating articles, which consists in pressing and vulcanizing a body of material having printers' ink thereon and impregnated with a vulcanizing-binder.

5. That improvement in the process of manufacturing insulating articles, which consists in pressing and vulcanizing a body of printed sheets that is impregnated with a binder which acts on the print in said sheets.

6. That improvement in the process of manufacturing insulating articles, which consists in producing a body of layers of superposed sheets having printers' ink thereon and that is impregnated with a vulcanizing-binder, and pressing and vulcanizing the body.

7. That improvement in the process of manufacturing insulating articles, which consists in moistening sheets, printed material having an alkali incorporated therein, and pressing and vulcanizing the body.

8. That improvement in the process of manufacturing insulating articles, which consists in producing a body of printed material having a vulcanizing agent and an alkali incorporated therein, and pressing and vulcanizing said body.

9. That improvement in the process of manufacturing insulating articles, which consists in moistening sheets, having printers' ink thereon, with vulcanizing material that includes a vulcanizing agent and an alkali, forming said sheets into a body, and pressing and vulcanizing the body.

10. That improvement in the process of manufacturing insulating articles, which consists in forming a body of printed material having incorporated therein a vulcanizing material that includes rubber and liquid glass, and pressing and vulcanizing the body.

11. That improvement in the process of manufacturing insulating articles, which consists in moistening sheets of printed material with a vulcanizing material that includes rubber and liquid glass, forming said sheets into a body, and pressing and vulcanizing the body.

12. That improvement in the process of manufacturing insulating articles, which consists in laying printed sheets one upon the other in a vulcanizing compound, removing the body of sheets from the compound, and vulcanizing the same.

13. That improvement in the process of manufacturing insulating articles, which consists in impregnating sheets with a compound comprising liquid glass, rubber and sulfur, forming the sheets into a body, pressing the body, and finally vulcanizing the same.

14. As an article of manufacture, a body comprising a vulcanized composition of matter having printers' ink thereon, and a binder.

15. As an article of manufacture, a vulcanized body, comprising layers of sheets having printers' ink thereon, and a vulcanizing-binder.

16. As an article of manufacture, a vulcanized body, comprising layers of printed sheets, and a vulcanizing-binder, including an alkali.

17. As an article of manufacture, a vulcanized body comprising layers of printed sheets, and a vulcanizing-binder comprising rubber and liquid glass.

18. As an article of manufacture, a vulcanized body comprising layers of printed sheets, and a vulcanizing-binder comprising sulfur, rubber and liquid glass.

19. That improvement in the process of manufacturing insulating articles, which consists in impregnating material having printers' ink thereon, with a vulcanizing-binder.

20. That improvement in the process of manufacturing insulating articles, which consists in impregnating material having printers' ink thereon, with a vulcanizing-binder that frees and becomes incorporated with the materials of said ink.

844,140. INSULATING MATERIAL AND METHOD OF MANUFACTURING THE SAME. GEORGE KELLY, Hinsdale, Ill. Filed Apr. 24, 1906. Serial No. 313,428.

Claim.—1. That improvement in the process of manufacturing an insulating article, which consists in disintegrating printed material, mixing it with a liquid alkaline and vulcanizing solution, and afterward vulcanizing the same.

2. That improvement in the process of manufacturing an insulating article, which consists in disintegrating printed material, mixing it with liquid glass and vulcanizing material, and afterward vulcanizing the same.

3. That improvement in the process of manufacturing an insulating article, which consists in pulping paper with a vulcanizing agent including rubber and liquid glass.

4. That improvement in the process of manufacturing an insulating article, which consists in pulping waste printed paper with a vulcanizing agent, including rubber dissolved in liquid glass, afterward removing the pulped and saturated material, pressing the same, and vulcanizing it under pressure and heat.

5. As an article of manufacture, a body comprising disintegrated material having printers' ink thereon mixed and vulcanized with a vulcanizing agent.

6. As an article of manufacture, a vulcanized body comprising printed material pulped in a compound that includes rubber and liquid glass.

7. As an article of manufacture, a vulcanized body comprising fibrous material pulped in a compound that includes rubber and liquid glass.

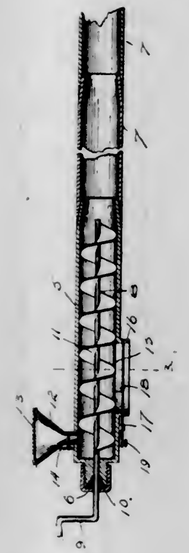
8. As an article of manufacture, a vulcanized body comprising disintegrated material having printers' ink thereon pulped in a compound including rubber and liquid glass.

844,141. VETERINARY INSTRUMENT. ANDREW KEPLER, Springview, Nebr. Filed Mar. 28, 1906. Serial No. 308,554.

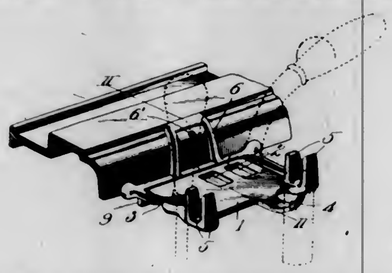
Claim.—1. An instrument of the class described comprising a cylinder, a valved hopper opening into said cylinder, said cylinder being opened at one of its ends, and a valved spout leading from said cylinder intermediate its ends.

2. An instrument of the class described comprising a cylinder, a hopper opening into said cylinder, a spout leading from said cylinder, and a valve-plate slidably mounted upon said cylinder in position to close said spout at times.

844,141.



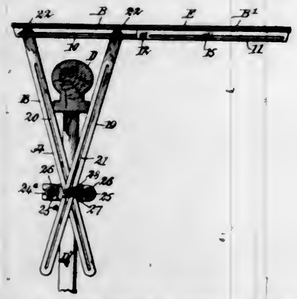
844,142. ATTACHMENT FOR STOVES AND RANGES. FREDERICK C. KESSLER and ERNEST L. KESSLER, St. Louis, Mo. Filed Apr. 27, 1906. Serial No. 313,978.



Claim.—1. An attachment for stoves or ranges comprising a plate adapted to receive implements appertaining to said stove or range and having a tongue slanting upwardly from the plate and adapted to rest against the outer face of the top rim of the stove or range to hold the plate against downward movement when clamped, and means for clamping said plate to the top rim of the stove or range, said clamping means comprising a downwardly-extending lug and rearwardly-extending arms carried by said plate and forming parts thereof, a clamp-plate adapted to receive said arms, and a binding-bolt for connecting said lug and clamp-plate, substantially as set forth.

2. An attachment for stoves and ranges, comprising a plate adapted to receive implements appertaining to said stove or range and having a tongue slanting upwardly from the plate and adapted to rest against the outer face of the top rim of the stove or range to hold the plate against downward movement when clamped, and means for clamping said plate to the top rim of the range or stove; said clamping means comprising a central bifurcated lug extending downwardly from the plate, arms extending rearwardly from the plate, a clamp-plate having perforations through which said arms are adapted to pass and having a central aperture, and a binding-bolt adapted to pass through said central aperture to connect the clamp-plate to the lug, substantially as set forth.

844,143. PAPER-HANGER'S TRESTLE. JAMES R. KINGSLEY, New York, N. Y. Filed Feb. 21, 1906. Serial No. 302,215.



Claim.—1. A paper-hanger's trestle consisting of supports adapted to straddle the hand-rail of a stairway, which supports comprise crossed connected legs, an arm connecting the legs at one of their ends, the said arm being adapted to carry a pasting or cutting board, and means for securing the legs of the support to the banisters of a stairway.

2. A trestle consisting of supports, comprising crossed adjustably-connected legs, the legs being adapted to straddle the hand-rail of a stairway, adjustably-connected arms, one of which arms is adjustably connected with the said legs of the supports, and means for adjustably securing the said legs to the banisters of a stairway.

3. In paper-hangers' trestles, a support consisting of crossed connected legs, which legs are adapted to straddle the hand-rail of a stairway, means for securing the support to the banisters of a stairway, and an arm for a pasting or cutting board connected with the legs of the support.

4. In a paper-hanger's trestle, a support consisting of crossed adjustably-connected legs adapted to straddle the hand-rail of a stairway, means for adjustably clamping the legs to the banisters of a stairway at that point where said legs cross, and holding the legs in engagement with opposing side faces of the hand-rail, arms for a pasting or cutting board, means for adjusting one arm on the other, and devices for adjustably connecting the upper portions of the legs for the support to one of the said arms.

5. In a paper-hanger's trestle, a support consisting of legs provided each with a longitudinal slot therein, an adjustable clamp for a banister, said clamp being provided with a locking device which adjustably enters the slots in the said legs when the legs are crossed one over the other, supporting-arms for the pasting or cutting board, the inner arm being adjustably attached to the said legs of the support and the outer arm being adjustable upon the inner arm, for the purpose described.

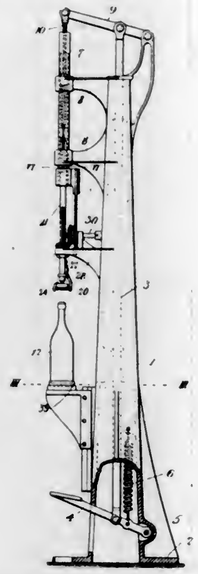
844,144. MACHINE FOR CAPPING BOTTLES. GEORGE KIRKEGAARD, New York, N. Y. Filed Jan. 2, 1906. Serial No. 294,064.

Claim.—1. In a bottle-capping machine, a main operating-spindle having an independently-revoluble core spring-pressed outward therefrom, means for depressing the spindle, and rack-and-pinion connections for rotating the core after a predetermined movement of the spindle.

2. In a bottle-capping machine, a main operating-spindle arranged to be depressed upon a bottle, a core spring-pressed outward therefrom and having means for holding a cap thereon, and rack-and-pinion connections for rotating the core after a predetermined movement of the spindle.

3. In a bottle-capping machine, a main operating-spindle arranged to be depressed upon a bottle, a core spring-pressed outward therefrom and having means for engaging the cap, and rack-and-pinion connections for rotating said core after a predetermined movement of the spindle.

4. In a bottle-capping machine, a main operating-spindle arranged to be depressed upon a bottle, a core spring-pressed outward therefrom, a rack depending from the spindle, a gear arranged to be turned by said rack, and connections from said gear for rotating the core after a predetermined movement of the spindle.



5. In a bottle-capping machine, a main operating-spindle having a core spring-pressed outward therefrom, a bevel-gear splined to said core, a second bevel-gear engaging said first-named gear and having a lug thereon, a spur-gear having a lug coöperating with that of the bevel-gear, and means for imparting movement to said spur-gear whereby the bevel-gear and core are rotated after a predetermined movement thereof.

6. In a bottle-capping machine, a main operating-spindle having a core spring-pressed outward therefrom, a bevel-gear splined to said core, a second bevel-gear having a lug, a spur-gear having a lug arranged to contact with that of the bevel-gear after a predetermined movement, spring means for normally positioning the bevel-gears, and rack connections from the main operating-spindle for rotating them after a predetermined movement of said spindle.

7. In a bottle-capping machine, a main operating-spindle having a core spring-pressed outward therefrom, and bevel-gear connections for imparting a rotary movement to said core after a predetermined movement of the spindle.

8. In a bottle-capping machine, means for engaging and supporting a cap, pawl-levers arranged in normally spread-apart relation, means for contracting said pawl-levers upon a bottle-cap when the latter is pressed upon a bottle, and means for subsequently rotating the levers bodily about a central axis to lock the cap to the bottle.

9. In a bottle-capping machine, means for engaging and supporting a cap, pawl-levers normally held out of contact therewith, means for contracting said pawl-levers upon the cap when the latter is depressed upon the bottle, and means for subsequently turning the levers upon a central axis to lock the cap to the bottle.

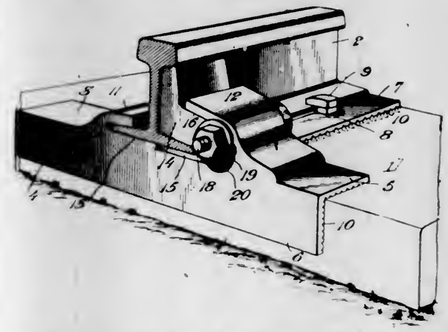
10. In a bottle-capping machine, means for engaging and supporting a cap, pawl-levers normally out of contact therewith, cam means for contracting said levers upon the cap when the latter is pressed upon a bottle, and means for subsequently turning the levers upon a central axis to lock the cap to the bottle.

11. In a bottle-capping machine, a vertically-depressible core having a plunger spring-pressed outward from its lower end, a bearing-plate on said plunger, pawl-levers, and cam means on said plunger for moving said pawl-levers into contact with the bottle-cap.

12. In a bottle-capping machine, a vertically-depressible core having a plunger spring-pressed outward from its lower end, a bearing-plate on said plunger, spring-fingers depending from said bearing-plate, pawl-levers on said core, and cam means on said plunger for moving said pawl-levers into contact with the bottle-cap.

13. In a bottle-capping machine, a depressible main operating-spindle, a rack secured thereto, a spur-gear in mesh with said rack and having a lug, a bevel-gear loosely supported adjacent to said spur-gear and having a lug in the path of the lug on said spur-gear, a volute spring for normally positioning said beveled gear, a core projecting from the main operating-spindle, a bevel-gear splined to said core and in mesh with said first-named bevel-gear, and means on said core for holding a bottle-cap, whereby the cap is initially depressed and subsequently rotated upon a bottle.

844,145. ANTICREEPER AND BRACE FOR RAILWAY-RAILS. ELLSWORTH L. KNIGHT, Coaldale, W. Va., assignor of one-half to Henry W. Rawson, Coopers, W. Va. Filed Sept. 13, 1906. Serial No. 334,494.



Claim.—1. A rail-fastening comprising a chair of T form, the same comprising a horizontal plate adapted to extend transversely under the rail, a vertical web projecting downwardly from the outer edge of said plate and coextensive in length therewith and adapted to bear against one side of the tie on which the plate is seated, and an extension projecting centrally from the opposite side of the plate, said plate and extension being provided with means for securing a rail thereto and to the tie.

2. A rail-fastening comprising a chair of T form, said chair comprising a horizontal plate adapted to extend transversely beneath the rail, a vertical plate or web depending from one of the sides of said plate and coextensive in length therewith, an extension projecting centrally from the opposite side of the plate and adapted to extend longitudinally beneath the rail, said extension being formed with openings for the passage of a securing-spike, clips upon the horizontal plate, and means associated with said clips for clamping the rail therebetween.

3. A rail-fastening comprising a chair adapted to be secured to a tie and provided with integral clips, one of said clips being adapted to engage one of the flanges of the rail-base and the other to project over the opposite flange of the rail-base, the first-named clip being formed with an underlying seat-support and the other clip with a recess below the plane of said support, a clamping-block arranged within the latter-named clip and having a projection to fit within said recess and extending beneath the adjacent rail-flange, and a wedge adapted to be inserted between said block and the overhanging clip to clamp the rail between the clips.

4. A rail-fastening comprising a chair provided with a clip to engage one of the base-flanges of a rail, said clip being formed with a recess, a bowed spring-key seated in said recess, said key being formed with projecting end teeth to engage the rail-flange and being confined from longitudinal movement in the recess, and means engaging the opposite side of the rail-flange and coöperating with said clip to secure the rail in position and force the same into engagement with the key.

5. A rail-fastening comprising a chair having a clip to engage one of the flanges of a rail-base, said clip being formed with a longitudinal recess having end stop-shoulders, a bowed spring-key seated within said recess with its convex side inwardly disposed, said key being of greater length than the recess and having terminal teeth projecting therefrom and adapted to engage said shoulders under the pressure of the rail, and means for engaging the other side of the rail-base to clamp the rail between the clips and hold the rail in engagement with the key.

6. A rail-fastening comprising a chair having integral clips arranged respectively to engage and projecting over the flanges of the base of a rail, the plate being provided below said clips with seat portions arranged one below the other, the seat portion below the engaging clip forming a support for the adjacent flange of the rail-base, a clamping-block fitting within the overhanging clip and arranged to bear against the opposite side of the rail, said block having a projection resting upon the other seat and extending beneath the other flange of the rail, the opposing faces of the block and overhanging clip being concaved to form a tapering circular recess, a correspondingly-shaped key fitting in said recess, and means engaging said key to clamp the block in applied position.

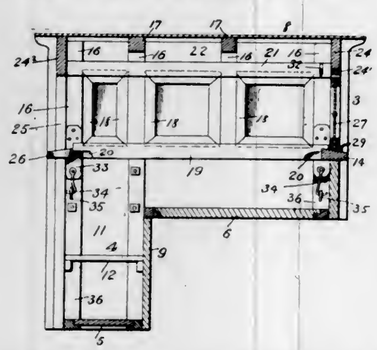
844,146. ICE-CRUSHER. ORREL T. LARKIN, Plattsburg, N. Y. Filed Apr. 13, 1906. Serial No. 311,540.



Claim.—An ice-crusher comprising a head, the under side of which is inclined upward and outward at opposite sides of its longitudinal center, and blades secured transversely and rigidly in said head, the said blades having perforations receiving metal integral with the head.

844,147. WAGON-BODY. CHARLES LEAVITT, St. Johnsville, N. Y. Filed May 22, 1906. Serial No. 318,154.

Claim.—1. In a wagon-body 1, the combination of a box 2, the rear portion of said box forming a downwardly-extending compartment 4; seats 12, secured to the inner faces of the walls of said box; a detachable top 3; longitudinal base-beams 13, located at the base of said top; front transverse base-beam 14, connecting the front ends of said beams; vertical braces, their lower ends secured in said base-beams; longitudinal beams 22, secured to the outer sides and near the upper ends of said vertical braces; a front transverse beam 24, provided in its lower edge and near its ends with recesses 24', connecting the front ends of said longitudinal beams; an end transverse beam 24², connecting the rear end of said longitudinal beams; a cover 8, secured to the top of said longitudinal beams 22; rein-supports, secured to the inner sides of the foremost of said vertical braces 16; a window 27, pivoted to the front end of said top; window-frames 18, adjustably secured in the sides of said top; vertical elongated plates 33, secured to the inner sides of the foremost and rearmost of said vertical braces 16, their lower ends projecting below the ends of said braces; hooks 34, fulcrumed at their upper ends to said plates, and staples 35, secured to the inner faces of the side walls of said box 2, substantially as shown and described and for the purposes set forth.



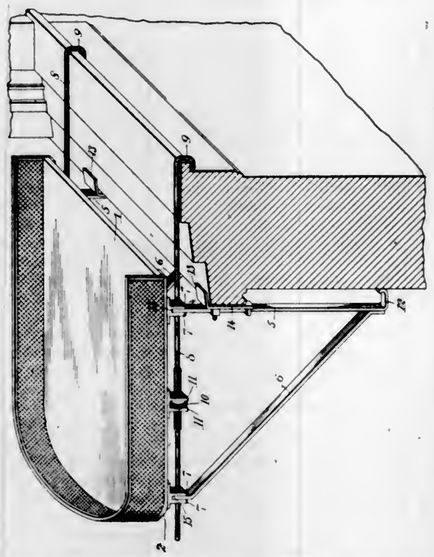
2. In a wagon-body 1, the combination of a box 2, the rear portion of said box forming a downwardly-extending compartment 4; seats 12, secured to the inner faces of the side walls of said box; a detachable top 3; longitudinal base-beams 13, located at the base of said top; front transverse base-beam 14, connecting the front ends of said beams; vertical braces 16, their lower ends secured in said base-beams; longitudinal beams 22, secured to the outer sides and near the upper ends of said vertical braces; a front transverse beam 24, provided in its lower edge and near each end with a recess 24', connecting the front ends of said longitudinal beams; an end transverse beam 24², connecting the rear ends of said longitudinal beams; a cover 8, secured to the top of said longitudinal beams; rein-supports 32, secured to the inner sides of the foremost of said vertical braces 16; a window 27, pivoted in the front end of said top, and window-frames 18, adjustably secured in the sides of said top, substantially as shown and described and for the purposes set forth.

3. In a wagon-body, the combination of a box having a rear downwardly-extending compartment; a detachable top, having window-openings in its sides and front end; longitudinal base-beams, located at the base of said top; a front transverse beam, connecting the front ends of said base-beams; vertical braces, their lower ends secured in said longitudinal base-beams; a cover, covering said top; window-frames, adjustably secured in the sides of said top between said vertical braces, and a window, pivoted in the window-opening at the front end of said top, substantially as shown and described and for the purposes set forth.

4. In a wagon-body, the combination of a box having a rear downwardly-extending compartment; a detachable top, having window-openings in its sides and front end; longitudinal base-beams, located at the base of said top; a front transverse base-beam, connecting the front ends of said longitudinal base-beams; vertical braces, their lower ends secured in said longitudinal base-beams; a cover, covering said top; window-frames, adjustably secured in the sides of said top; a window, pivoted in the front end of said top, with means for detachably securing said top to said box, substantially as shown and described and for the purposes set forth.

5. In a wagon-body, the combination of a box having a rear downwardly-extending compartment; a detachable top, having window-openings in its sides and a window-opening in its front end; a cover, covering said top; window-frames, adjustably secured in the window-openings in the sides of said top; a window, pivoted in the window-opening at the front end of said top, with means for detachably securing said top to said box, substantially as shown and described and for the purposes set forth.

844,148. ADJUSTABLE WINDOW-CHAIR. DOMINICK S. LEGER, Lynn, Mass., assignor of one-half to Marc F. Richard, Lynn, Mass. Filed Sept. 10, 1906. Serial No. 333,958.



Claim.—1. A window-chair, comprising a chair-bottom, non-rotatable rods extending along the opposite sides thereof beneath said chair, hooks on the inner ends of said rods adapted to engage with the inner side of a window-sill, brackets pivotally connected to said rods and adapted to engage with the wall of a building, and means for longitudinally adjusting said rods, said means comprising nuts screw-threaded on the rods and held from longitudinal movement in respect to the chair-bottom.

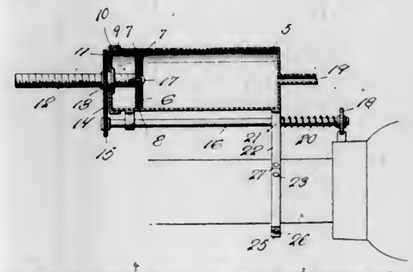
2. A window-chair, comprising a chair-bottom, brackets pivotally connected to the under side thereof and adapted to engage with the wall of the building below the window, vertically-adjustable sill-rests mounted on said brackets, and means carried by said chair-bottom and adapted to engage with the inner side of a window-sill for holding the device in place.

3. A window-chair, comprising a chair-bottom, rods mounted below said bottom and extending along the opposite edges thereof, means on the inner ends of said rods for engaging with a window-sill, brackets pivotally mounted to said rods and adapted to engage with the wall of a building below the window, and vertically-adjustable sill-rests carried by said brackets and adapted to engage with the outer surface of the sill.

4. A window-chair, comprising a chair-bottom, rods extending along the sides thereof and adapted to engage with the inner side of a window-sill, brackets pivotally mounted on said rods and depending therefrom, said brackets adapted to engage with the wall of the building below the window, sill-rests carried by said brackets, means for preventing said brackets from swinging out beyond the chair-bottom, and means for longitudinally adjusting the rods.

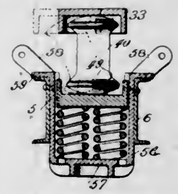
5. A window-chair, comprising a chair-bottom, downwardly-extending lugs located adjacent the corners thereof, brackets comprising vertical members and inclined members mounted between said lugs, projections upon the lower end of the brackets adapted to engage with the wall of a building, below the window, sill-rests adjustably mounted upon the vertical members and adapted to engage with the outer and the top sides of the window-sill, rods extending through said lugs and said vertical members and inclined members of the brackets to pivotally connect the brackets to the chair-bottom, means for longitudinally adjusting the position of said rods, and means on the ends of said rods for engaging with the inner side of the window-sill.

844,149. WAGON-OILER. HARVEY LEIDY, Carrington, N. D. Filed May 18, 1906. Serial No. 317,570.



Claim.—A lubricator for wagon-axles comprising, in combination, a grease or oil cylinder provided with a plunger, a cap, an externally-threaded stem extended through the cap, an internally-threaded sleeve in the cap surrounding the stem, a cog-wheel on the sleeve, bearings secured to said cylinder, a counter-shaft journaled in said bearings and extending at one end beyond its bearing, a sprocket-wheel mounted on said extended end, a spring surrounding the counter-shaft and interposed between the sprocket-wheel and the said outer bearing, a cog-wheel on the opposite end of said counter-shaft in mesh with the cog-wheel on said sleeve, a base connected with said cylinder, and detachable clamps secured to the base for attaching the base to a part of the wagon or other contrivance.

844,150. CAR-TRUCK. GUSTAV LINDENTHAL, New York, N. Y. Filed Apr. 4, 1905. Serial No. 253,784.



Claim.—1. In a car-truck, the combination with a truck-bolster, of elongated side bearing columns or rockers carried by said bolster and adapted to support the load, and springs exterior to said columns or rockers and coacting therewith; said columns or elongated rockers having spherical ends permitting rolling movement.

2. In a car-truck, the combination with a truck-bolster, of a center pivot or king-pin having a yielding connection, elongated side bearing columns or rockers carried by said bolster and adapted to support the entire load, and springs exterior to said columns or elongated rockers and coacting therewith.

3. In a car-truck, the combination with a truck-bolster,

of elongated side bearing columns or rockers carried by said bolster and supporting the load, and springs located between said bolster and said columns or rockers; said columns or rockers having spherical ends permitting rolling movement.

4. In a car-truck, the combination with a truck-bolster, of a center pivot or king-pin having a yielding connection, elongated side bearing columns or rockers carried by said bolster and supporting the entire load, and springs located between said bolster and said columns or rockers.

5. In a car-truck, the combination with a truck-bolster, of a center pivot or king-pin, elongated side bearing columns or rockers carried by said bolster and supporting the load, and springs located between said bolster and said columns or rockers; said columns or rockers having spherical ends permitting rolling movement.

6. In a car-truck, the combination with a truck-bolster, of a center pivot or king-pin having a yielding connection, elongated side bearing columns or rockers carried by said bolster and supporting the entire load, and springs located between said bolster and said columns or rockers; said columns or rockers having spherical ends permitting rolling movement.

7. In a car-truck, the combination with truck and car bolsters, of elongated side bearing columns or rockers carried by said truck-bolster and supporting said car-bolster, and springs located between said columns or elongated rockers and one of said bolsters; said columns or elongated rockers having spherical ends permitting rolling movement.

8. In a car-truck, the combination of truck and car bolsters, elongated side bearing columns or rockers carried by said truck-bolster and entirely supporting said car-bolster, springs located between said columns or elongated rockers and one of said bolsters; and a center pivot or king-pin supporting no part of the load; said columns or elongated rockers having spherical ends permitting rolling movement.

9. In a car-truck, the combination with truck and car bolsters, of a center pivot or king-pin having a yielding connection, elongated side bearing columns or rockers carried by said truck-bolster and entirely supporting said car-bolster, and springs located between said columns or elongated rockers and one of said bolsters.

10. In a car-truck, the combination with truck and car bolsters, of a center pivot or king-pin having a yielding connection, elongated side bearing columns or rockers carried by said truck-bolster and entirely supporting said car-bolster, and springs located between said columns or elongated rockers and one of said bolsters; said columns or elongated rockers having spherical ends permitting rolling movement.

11. In a car-truck, the combination of a car-bolster and a truck-bolster having dropped or depending pockets, elongated side bearing columns or rockers carried by said pockets and supporting said car-bolster; and springs between said columns or elongated rockers and one of said bolsters; the said rockers having spherical ends permitting rolling movement.

12. In a car-truck, the combination of a car-bolster, a truck-bolster and a center pivot or king-pin carrying none of the load, dropped pockets depending from said truck-bolster, elongated side bearing columns or rockers carried by said dropped pockets and entirely supporting said car-bolster; and springs located between said columns or elongated rockers and one of the bolsters; said columns or elongated rockers having spherical ends permitting rolling movement.

13. In a car-truck, the combination with a truck-bolster having dropped pockets, of springs carried by said dropped pockets, rocker-seats resting upon said springs, and elongated side bearing columns or rockers resting upon said seats and supporting the load; said columns or rockers having spherical ends permitting rolling movement.

14. In a car-truck, the combination of a bolster, springs supported near the opposite ends thereof, rocker-seats resting upon said springs; and elongated side bearing columns or rockers resting upon said rocker-seats and supporting the load, said columns or rockers having spherical ends permitting rolling movement.

15. The combination of a bolster, springs supported near the opposite ends thereof, a center pivot or king-pin carrying none of the load, rocker-seats resting upon said springs; and elongated side bearing columns or rockers resting upon said rocker-seats and carrying all of the load; said columns or rockers having spherical ends permitting rolling movement as the truck turns on the center pivot or king-pin.

16. In a car-truck, the combination of a bolster having rocker-seats, elongated side bearing columns or rockers resting on said seats and supporting the load; said seats having flanges coacting with said columns or rockers, and said columns or rockers having spherical ends permitting rolling movement.

17. In a car-truck, the combination of a bolster having seats for rockers, and elongated side bearing columns or rockers resting upon said seats and supporting the load; said columns or rockers having spherical ends permitting rolling movement, and said seats having flanges coacting with said columns or rockers.

18. In a car-truck, the combination of elongated side bearing columns or rockers, seats under and bearing plates over said rockers having flanges; said columns or rockers having spherical ends permitting rolling movement; and said flanges limiting this rolling movement in one direction.

19. In a car-truck, the combination of a truck-bolster having dropped pockets, springs within said pockets, seats supported in said pockets by said springs; and side bearing-rockers resting on said seats and having spherical ends permitting rolling movement; said seats having means for preventing tilting movement.

20. In a car-truck, the combination of a truck-bolster having dropped pockets, springs within said pockets, seats supported in said pockets by said springs; and side bearing-rockers resting on said seats and having spherical ends permitting rolling movement; said seats having flanges coacting with said rockers.

21. In a car-truck, the combination of a truck-bolster having dropped pockets, springs within said pockets, seats supported in said pockets by said springs, and side bearing-rockers resting on said seats and having spherical ends permitting rolling movement; said seats having means preventing tilting movement in the pockets and flanges coacting with the rockers.

22. In a car-truck, the combination with centering means and a truck-bolster having dropped pockets, of spring-supported elongated side bearing columns or rockers supported in said dropped pockets and supporting the car-body, said rockers or columns having spherical ends designed to rock as the bolster turns on the centering means.

23. In a car-truck, the combination of a center pivot or king-pin, a truck-bolster having a yielding connection with said pin and having dropped pockets, spring-supported columns or elongated rockers supported in said pockets and carrying the load and rocking upon their ends as the bolster turns on said king-pin.

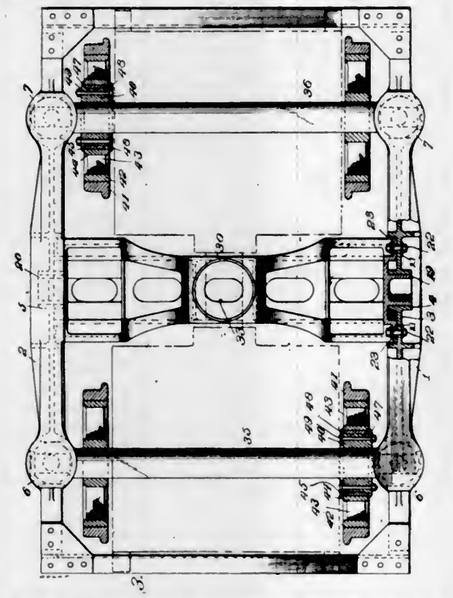
24. In a car-truck, the combination of a truck-bolster formed of channel-iron and having dropped pockets secured near the ends thereof, spring-supported spherical-ended rockers seated in said pockets, a top plate secured to said channel-irons and bracing the same, and a socket for the king-pin secured to said top plate and the flanges of said channel-irons.

25. In a car-truck, the combination of a truck-bolster formed of structural iron, dropped pockets formed of substantially U shape fitting between the members of said bolster, and spherical-ended rockers resting in said U-shaped pockets.

26. In a car-truck, the combination of a truck-bolster formed of structural iron and having dropped pockets formed of substantially U shape secured near the ends thereof, said pockets having flanges at the upper extremities of the U secured to said bolster, and spherical-ended rockers resting in said pockets.

27. In a car-truck, the combination with a car-bolster and a truck-bolster, a center or king-pin, one of said bolsters having a center or king-pin and the other bolster a pivot-opening for said pin, and spring-supported side bearing spherical-ended columns or rockers resting on said truck-bolster and designed to rock upon their spherical ends as the bolsters turn with respect to the axis of said king-pin.

844,151. CAR-TRUCK EQUIPMENT. GUSTAV LINDENTHAL, New York, N. Y. Filed Apr. 4, 1905. Serial No. 253,785.



Claim.—1. In car-truck equipment, the combination of side frames, a bolster connecting said frames, said connection comprising a trunnion on one of said parts and a bearing on the other, a king-pin having a yielding connection with said bolster, a pair of axles supporting said side frames, and a fixed and a "loose" or movable wheel on each axle, whereby there is one fixed wheel and one "loose" or movable wheel on each side of the truck.

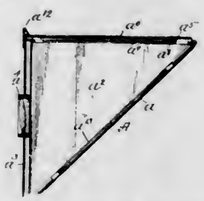
2. In car-truck equipment, the combination of side frames, a bolster connecting said frames, said connection comprising a trunnion on one of said parts and a bearing on the other, said bolster being provided with a socket for the king-pin, a spring within said socket, a pair of axles supporting said side frames, and a fixed and a "loose" or movable wheel on each axle, said wheels being arranged "diagonally" with the resultant passing through the spring-socket.

4. In car-truck equipment, the combination of a pair having a pair of axles, a fixed wheel and a "loose" or movable wheel on each axle, said truck having a socket for the king-pin, and a spring within said socket, said wheels being arranged "diagonally" with the resultant passing through the spring-socket.

4. In a car-truck equipment, the combination of a pair of side frames, a bolster having dropped pockets or recesses therein, side-bearing columns resting in said pockets and adapted to support the truck-bolster and to freely rock upon their ends as the truck turns, a fixed wheel and a "loose" or movable wheel on each axle, said truck having a socket for the king-pin, and a spring within said socket, said wheel being arranged diagonally with the resultant passing through the spring-socket.

844,152. CAMERA. WILLIAM J. LITTLE, Newton, Mass. Filed Feb. 21, 1906. Serial No. 302,175.

Claim.—1. A camera of the character specified comprising a closed, knockdown box of triangular form, the same having a bottom or base plate, triangularly-shaped sides, a face-plate hinged to one end of said bottom or base plate, and a frame hinged to the other end thereof, which frame is adapted to receive a plate or film, and which face-plate and frame fold over said triangular sides and meet at the apex thereof, means for retaining said sides, face-plate and frame thus in conjunction, a bull's eye disposed in said face-plate, and a reflecting-surface inside the camera on the bottom or base plate, and which parts are so disposed that the image of an exterior object passing through said bull's-eye will fall upon said reflecting-surface, be reflected thereby and projected upon the under surface of said plate or film.



2. A camera of the character specified comprising a closed, knockdown box of triangular form, the same having a bottom or base plate, triangularly-shaped side plates hinged thereto, a face-plate hinged to one end of said bottom or base plate, and a frame hinged to the other end thereof, which face-plate and frame are adapted to fold over said triangular sides and meet at the apex thereof, means for retaining said sides, face-plate and frame thus in conjunction, a bull's-eye disposed in said face-plate, a reflecting-surface inside the camera on the bottom or base plate and a plate or film having a translucent etching surface or ground arranged inside said frame, which parts are so disposed that the image of an exterior object passing disposed that the image of an exterior object passing through said bull's-eye will fall upon said reflecting-surface, be reflected thereby and projected upon the under side of said etching plate or film.

844,153. PIGS'-FEET DRIER AND SINGEING-OVEN. HENRY LOESCHER, Chicago, Ill., assignor of one-half to Henry Rennpath, Chicago, Ill.; Jeannette Rennpath administratrix of said Henry Rennpath, deceased. Filed Feb. 15, 1904. Serial No. 193,497.

Claim.—1. In an apparatus of the character herein set forth, the combination of a singeing-oven provided with a plurality of oppositely-directed offsetting burners opposed respectively to blank deflecting-walls of said oven, a drying extension on said oven through which the products of combustion and heated air may pass, and means for conducting the articles to be singed through said extension and oven.

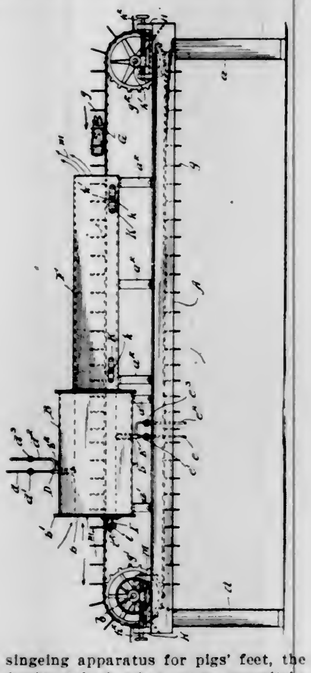
2. In an apparatus for singeing pigs' feet, the combination of a horizontal singeing-oven, burners directed into said oven on opposite sides thereof, at a suitable distance apart, lengthwise of the oven, and opposed respectively to blank deflecting-walls thereof, and means for conveying material through said oven, and through the burner-flames therein.

3. In a singeing apparatus for pigs' feet, the combination of a suitable frame, a horizontal singeing-oven mounted on said frame, two oppositely-disposed burners directed into said oven, one above and one below, a drier connected with one end of said singeing-oven, sprocket-wheels mounted on said frame, a chain passing over said wheels and through said drier and oven, projections on said chain for holding the pigs' feet, and idlers for supporting said chain as it passes through said drier and oven.

4. In an apparatus for drying pigs' feet, the combination of a singeing-box provided with singeing-burners, an extension on said box forming a drying-chamber through which the products of combustion and heated air are drawn, and a conveyer adapted to pass through said extension and through said box, substantially as described.

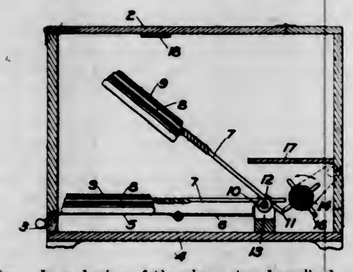
5. In an apparatus of the character set forth, the combi-

nation with a horizontal singeing-box provided with a non-combustible lining and suitable gas-burners for singeing purposes, of an extension at one end of the box corresponding with a longitudinal opening through said box and through which the heated gases arising from the combustion within the box are drawn at a drying temperature, a conveyer-chain passing through said extension and box, and means for supporting said chain above the bottom of the two.



6. In a singeing apparatus for pigs' feet, the combination of a horizontal singeing-oven, oppositely-disposed burners directed into said oven, so arranged that the flames from said oppositely-disposed burners will not meet or be concentrated at any point, a drier connected with one end of said singeing device, and a conveyer for conveying the pigs' feet through said drier and oven.

844,154. CLEANING APPARATUS FOR BLACKBOARD-ERASERS. SAMUEL W. LONG, Rochester, N. Y., assignor of one-half to Harvey F. Remington, Rochester, N. Y. Filed Aug. 25, 1904. Serial No. 222,191.



Claim.—In a device of the character described, a casing, a grating above the bottom of said casing, a series of holders adapted to hold blackboard-erasers over the grating and each composed of a doubled wire twisted together and having at one end parallel arms constituting a spring-fork, and at the other end having a pivoted loop and an end loop constituting a terminal projection, a pivot-pin passing through the pivot-loops, supports for said pivot-pin, and a rotatable shaft having projections for engaging the respective terminal projections for tilting said eraser-holders and for releasing the same so as to drop upon the grating, as and for the purpose described.

844,155. LEUCO DERIVATIVES OF GALLOCYANINS AND AROMATIC AMINS AND PROCESS OF MAKING SAME. HERMAN LORÉTAN, Basel, Switzerland, assignor to the Firm of Dye Works, formerly L. Durand, Huguenin & Co., Basel, Switzerland. Filed Oct. 19, 1906. Serial No. 339,673. (Specimens.)

Claim.—1. The described process for the manufacture of leuco derivatives of the dyestuffs derived from the gallocyanins and the aromatic diamins, which consists in subjecting the said dyestuffs to a reducing action.

2. As new products, the described leuco derivatives of the dyestuffs derived from the gallocyanins and the aromatic diamins, being in dry state greenish-gray powders, stable in the form of their salts, which are much more easily soluble and may be fixed under better conditions by printing, than the dyestuffs from which they are derived, oxidizing rapidly in air when in the free state or in presence of alkalies, dissolving in sulfuric acid to a pale brownish-red solution, which turns dark red on addition of a small quantity of an oxidant.

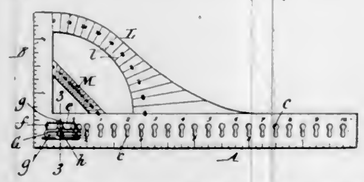
844,156. GREENISH-BLUE DYE AND PROCESS OF MAKING SAME. HERMAN LORÉTAN, Basel, Switzerland, assignor to the Firm of Dye Works formerly L. Durand, Huguenin & Co., Basel, Switzerland. Filed Oct. 19, 1906. Serial No. 339,674. (Specimens.)

Claim.—1. The described process for the manufacture of green-blue dyestuffs by condensing a gallocyanin with an aromatic diamin having at least one free amido group.

2. The described process for the manufacture of green-blue dyestuffs by condensing a gallocyanin with an aromatic diamin having at least one free amido group, in presence of a nitro body.

3. As new products, the described green-blue dyestuffs fast to fulling and to chlorin, derived from a gallocyanin and an aromatic diamin and constituting in dry state green crystalline powders appearing bronze by reflected light, little soluble in water and alochol, soluble in acetic acid to a blue solution and in concentrated sulfuric acid to a red solution becoming yellow-brown on addition of water.

844,157. DRAFTING INSTRUMENT. LEROY R. LOUGHBOROUGH, Rochester, N. Y. Filed Feb. 20, 1905. Serial No. 246,396.



Claim.—1. An instrument of the character described, comprising a ruler provided with a longitudinal series of holes adapted to receive a marking-point and near one of its ends with a longitudinal slot, a slotted plate arranged adjacent to said slot, a set-screw for said plate passing through its slot and engaging the ruler, and a pin or center carried by the plate and passing through the slot of the ruler, substantially as set forth.

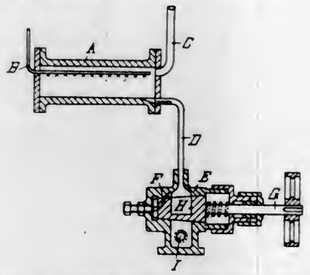
2. An instrument of the character described, comprising a ruler provided with a longitudinal series of holes adapted to receive a marking-point and near one of its ends with a pair of longitudinal slots, a slotted plate having a guide arranged in one of said slots and a pointer extending across the other slot, a set-screw passing through the slot of the plate into the ruler, and a pin or

center carried by the plate and passing through the slot bridged by said pointer, substantially as set forth.

3. An instrument of the character described, comprising a ruler provided with a main scale or series of graduations, a longitudinal series of holes coinciding with graduations of said scale, an auxiliary scale arranged at one end of said main scale and having smaller graduations than the same, and a pin or center adjustably mounted on the ruler opposite said auxiliary scale, substantially as set forth.

4. An instrument of the character described, comprising a ruler provided with a main scale or series of graduations, a longitudinal series of holes coinciding with graduations of said scale, and a longitudinal slot arranged at one end of the series of holes and provided along its edge with an auxiliary scale having smaller graduations than said main scale, a plate adjustably secured to the ruler adjacent to said slot and having a pointer coöperating with the auxiliary scale, and a pin or center carried by said plate and passing through said slot, substantially as set forth.

844,158. STEAM-GENERATOR. CARL LUCKE, Ellenburg, near Leipzig, Germany. Filed Dec. 18, 1906. Serial No. 348,435.



Claim.—1. A steam-generator comprising an evaporating-chamber combined with a discharge-tube for the water deposited in such evaporating-chamber, and a continuously-actuated discharge-valve made to alternately communicate with the discharge-tube and with the open air.

2. A steam-generator comprising an evaporating-chamber combined with a discharge-tube for the water deposited in such evaporating-chamber, and a continuously-actuated two-piston valve made to communicate with the discharge-tube.

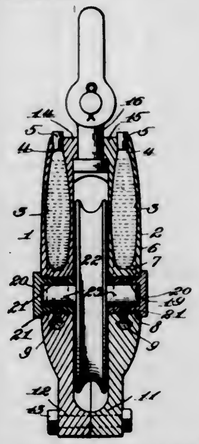
844,159. SHEAVE-BLOCK. ENOCH LUDFORD, Hickory, Va. Filed May 22, 1906. Serial No. 318,224.

Claim.—1. A sheave-block comprising a pair of side plates each formed with a pocket, the outer wall of the pocket being connected with the body portion of the plate by an inner wall at a point removed from the end of the pocket so as to cause the pocket to surround said inner wall, said inner wall having a port in its lower portion, a bearing mounted in each of the plates and surrounded by said inner wall, and each of said bearings having a port adapted to register with the port in the inner wall.

2. A sheave-block comprising a pair of side plates each provided with a pocket, the outer wall of said pocket connected with the body portion of the plate by an inner wall, said inner wall having its lower portion provided with a port, an adjustable bearing mounted in each of said plates and surrounded by said inner wall, each of said adjustable bearings provided with a plurality of ports, one of which is adapted to register with the port in said inner wall.

3. A sheave-block comprising a pair of side plates, each provided with a lubricant-reservoir, each of said reservoirs provided with an outlet for discharging the lubricant in an upward direction, and a bearing mounted in each of said plates and provided with a port adapted to register with the outlet of the reservoir.

4. A sheave-block comprising a pair of side plates, each provided with a lubricant-reservoir, each of said reservoirs provided with an outlet for discharging the lubricant in an upward direction, and an adjustable bearing mounted in each of said plates and provided with a plurality of ports, one of which is adapted to register with the outlet of the reservoir.



5. The combination with a pulley-shaft, of a pair of members, each provided with a lubricant-reservoir, each of said reservoirs provided with an outlet for discharging the lubricant in an upward direction, a bearing for each end of said shaft, said bearings mounted in said members and provided with ports adapted to register with the outlets of the reservoirs, said shaft adapted to close said ports when stationary.

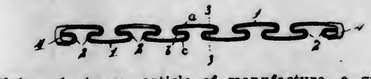
6. The combination with a shaft and its pulley, of a sheave-block therefor, said block provided with means for automatically feeding a lubricant in an upward direction during the operation of said pulley, thereby lubricating said shaft, said shaft adapted to discontinue the discharge of said lubricant when the said shaft is stationary.

7. A sheave-block having a pair of adjustable bearings for the sheave-shaft, said block furthermore provided with a lubricant-reservoir, and said bearings provided with ports for establishing communication between the interior thereof and the reservoir.

8. A sheave-block provided with a plurality of lubricant-reservoirs, each having an inner and an outer wall, each of said inner walls having a port for discharging lubricant from said reservoirs in an upward direction, said block furthermore provided with a plurality of bearings for a sheave-shaft, each of said bearings provided with a port for establishing communication between the interior thereof and said reservoirs, thereby lubricating the sheave-shaft.

9. A sheave-block provided with a plurality of lubricant-reservoirs, each having an inner and an outer wall, each of said inner walls having a port for discharging the lubricant from said reservoirs in an upward direction, said block furthermore provided with a plurality of adjustable bearings for a sheave-shaft, said bearings provided with a plurality of ports, one of which is adapted to register with the outlet of the reservoirs, thereby establishing communication between the reservoir and the interior of the bearings for lubricating the shaft.

844,160. GARMENT-STAY. ANTHONY E. MAGORIS, Binghamton, N. Y. Filed Nov. 28, 1906. Serial No. 345,579.

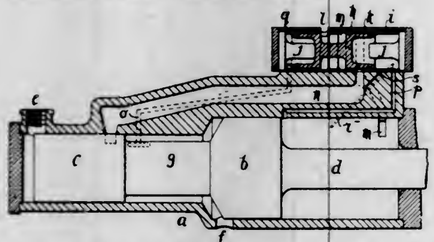


Claim.—1. As an article of manufacture, a garment-stay composed of a single piece of wire bent to form a

succession of approximately parallel oppositely-located and oppositely-opened loops, the said loops elongated and extending longitudinally of the stay.

2. A garment-stay composed of a single piece of wire bent in a succession of elongated and oppositely-disposed loops, the ends of which are capped, the caps embracing three approximately parallel plies of wire whereby the caps maintain a fixed relation with the portions of the wire which they embrace.

844,161. RECIPROCATING ENGINE. WILHELM MAUSS, Brakpan, Transvaal, assignor to The Konomax Rock Drill Syndicate, Limited, Johannesburg, Transvaal. Filed Dec. 21, 1906. Serial No. 348,917.



Claim.—1. In a reciprocating engine having a small rear piston area exposed to constant pressure and a relatively larger front piston area against which the air acts expansively, the improved means for controlling the air as hereinbefore described, comprising an air-operated valve for controlling admission to and exhaust from the front cylinder, a port for conducting live air from the rear cylinder to the valve, which port is arranged to be covered by the small piston upon its rearward stroke to cause expansion in the front cylinder, air-ducts from the cylinders controlled by the piston to operate the valve, a small leakage-hole at the rear of the valve-chest, a small auxiliary pressure-duct from the front cylinder to the front of the valve-chest adapted to be opened by the piston after a certain fraction of its rearward stroke and a means for supplying full-pressure air to insure the final throw-over of the valve to exhaust the front cylinder.

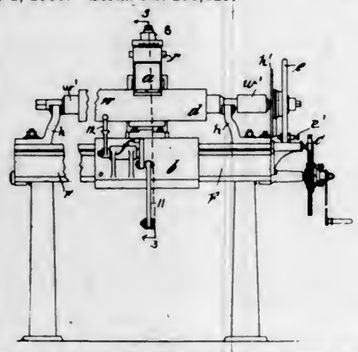
2. In a reciprocating engine having constant full pressure on the rear piston-face and in which the air operates expansively on the front piston-face, and having a piston-controlled valve for controlling admission to and exhaust from the front cylinder, an air-port from the rear cylinder to the valve for the supply of full-pressure air to the front cylinder which port is adapted to be covered by the rear piston during its backward stroke to produce expansion in the front cylinder.

3. In a reciprocating percussive engine having an air-operated piston-controlled distributing-valve; a means for moving the valve to exhaust the front cylinder independently of the normal pressure and exhaust ducts for the valve, comprising in combination a hole permitting a continuous small leakage from one side of the valve, and a relatively small pressure-duct to the other side of the valve from the front cylinder adapted to be opened by the piston at a certain fraction of its backward stroke.

4. In a reciprocating percussive engine having an air-operated piston-controlled distributing-valve, a means for moving the valve to exhaust the front cylinder independently of the normal pressure and exhaust ducts for the valve, comprising in combination a hole permitting a continuous small leakage from one side of the valve, a relatively small pressure-duct to the other side of the valve from the front cylinder adapted to be opened by the piston at a certain fraction of its backward stroke, and means for admitting full-pressure air to the latter side of the valve immediately before the valve exhausts the front cylinder.

5. In a reciprocating percussive engine having an air-operated piston-controlled distributing-valve, means for admitting full-pressure air during the travel of the valve to exhaust the front cylinder, in combination with means for exhausting the air at the opposite end of the valve independently of the regular exhaust.

844,162. APPARATUS FOR PRODUCING PRINTING SURFACES. EDUARD MERTENS, Berlin, Germany. Filed May 1, 1905. Serial No. 258,429.



Claim.—1. The combination of a main frame and means for holding thereon a printing-body having a sensitized surface, with a table, a photographic-printing frame thereon and means to adjust the table on the frame for the repetition of the photographic printing.

2. The combination of a main frame and means for holding thereon a printing-body having a sensitized surface, with a table, a photographic-printing frame thereon, means to adjust the printing-frame to and from the sensitized surface and means to adjust the table on the main frame for the repetition of the photographic printing.

3. The combination of a main frame and means for holding thereon a printing-body having a sensitized surface with a table, a photographic-printing frame thereon, means to adjust the printing-frame to and from the sensitized surface, means to adjust the table longitudinally on the main frame and means to adjust the printing-body in a direction perpendicular to the direction of adjustment of the table.

4. The combination of a main frame and means for holding thereon a printing-cylinder having a sensitized surface with a table, a photographic-printing frame thereon, means to adjust the printing-frame to and from the cylinder, means to adjust the cylinder rotarily and means to adjust the table longitudinally.

5. The combination of a main frame and means for holding thereon a printing-body having a sensitized surface, a photographic-printing frame carrying the design to be printed and lighting devices, means to adjust the printing frame to and from the sensitized surface and means to bring different parts of printing-body into position under the printing-frame for the repetition of the design.

6. The combination of a main frame and means for holding thereon a printing-body having a sensitized surface, a photographic-printing frame carrying the design to be printed and lighting devices, means to adjust the printing-frame to and from the sensitized surface and means, including a feed-motion, to bring different parts of printing-body into position under the printing-frame for the repetition of the design.

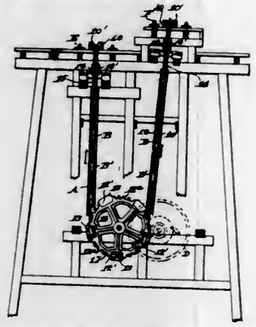
844,163. CULTIVATOR. CLAUS P. MICHAELSEN, Dusty, Wash. Filed Oct. 30, 1906. Serial No. 341,209.

Claim.—A tooth of the class described comprising a shank which is triangular in cross-section and pointed at one end, said shank being provided at its opposite end with a blade-shank formed by beating down the forward edge of the tooth-shank, the said blade-shank being curved forwardly and slightly downwardly in the arc of a circle, and a blade formed integral with the shank and by beating down or flattening the end portion thereof, the said blade being abruptly broadened at its rear edge and of greater width than the blade-shank, the rear face of the tooth-shank and the rear under face of the blade-shank and the



under face of the blade forming a continuous unbroken surface, the upper face of the blade and the upper face of the blade-shank being convexed.

844,164. CAR-HAUL. CHARLES W. MILLER, Columbus, Ohio, assignor to Joseph A. Jeffrey, Columbus, Ohio. Filed Jan. 9, 1906. Serial No. 295,304.



Claim.—1. In a car-haul system, the combination of an endless draft device arranged to travel around a circuit having a pathway for upward-moving cars and a pathway for return or downward-moving cars, supporting and guiding devices for said endless draft device arranged to deflect it and to direct it from one to the other of said pathways, a car-engaging element carried by said draft device, and means arranged to engage with and to travel with said car-engaging element while it is being deflected from one of said paths of travel to the other to prevent it from turning and twisting the cable.

2. In a car-haul system, the combination of an endless draft device arranged to travel around a circuit having a pathway for upward-moving cars and a pathway for return or downward-moving cars, supporting and guiding devices for said endless draft device arranged to deflect it and direct it from one to the other of said pathways, means for guiding said element along the said pathways, and means arranged to engage with it and to travel with it while it is being deflected from one to the other of said pathways to prevent it from turning and twisting the cable.

3. In a car-haul system, the combination with an endless draft device arranged to travel around a circuit having an upleading and a downleading path of travel for cars, of car-engaging elements secured to said endless draft device having upwardly-extending arms adapted along said upleading and downleading runs to be maintained above the endless draft device at all times and to control the travel of the cars along both of the said runs, means for deflecting the endless draft device from one path of travel to the other, and means for engaging said car-engaging elements as they leave one path of travel and for traveling with them and directing them to their other path of travel and adapted to prevent their turning or rocking out of position between said paths of travel.

4. In a car-haul system, the combination with an endless draft device having an upleading and a downleading path of travel, car-engaging elements carried by said draft device having arms adapted to normally project upwardly along both of said paths of travel and to engage and control the movements of the car thereinalong, and deflecting devices for directing said endless draft device from one of its paths of travel to the other, of guiding devices adapted to engage said car-engaging elements and to travel with them from one of the said paths of travel to the other so as to maintain them in their upright positions and to prevent their swinging out of the same and twisting the cable.

5. In a car-haul system, the combination with an endless draft device arranged to travel around a circuit having an upleading and a downleading path of travel for the cars, a series of attachments carried by said draft device and having car-engaging elements adapted to control the travel of the cars along both their upward and downward paths of travel, each of said elements being for this purpose maintained in upright position along each of said paths, and rotary guiding mechanism for deflecting said endless carrier from one of said paths to the other, of means carried by said guiding mechanism for preventing the turning of the said attachments while they are traveling thereon and for directing them from one path of travel to the other so that their car-engaging elements remain above the endless draft device along both of said paths of travel.

6. In a car-haul system, the combination with an endless draft device arranged to travel around a circuit having an upleading and a downleading path of travel for the cars, and a series of attachments carried by said endless draft device and having car-engaging elements each adapted to at all times project upwardly from said endless draft device and to control the movement of the cars along either of said paths of travel, of rotary devices for guiding said endless draft device from one of its paths of travel to the other, each of said rotary devices having guides adapted to engage with the attachments on the said draft device and to prevent their turning and twisting the cable while they are being directed from one to the other of said paths of travel.

7. In a car-haul system, the combination with an endless draft device arranged to travel around a circuit having an upleading and a downleading path of travel for the cars, and a series of attachments carried by said endless draft device having car-engaging elements each adapted to extend normally upward from the draft device along both its paths of travel, of guide-sheaves for directing said endless draft device from one path to the other, each of said sheaves having guides arranged to engage with the said attachments on the endless draft device and to prevent their turning and twisting the cable as they pass from one to the other of said paths of travel.

8. In a car-haul system, the combination with an endless draft device arranged to travel around a circuit having an upleading and downleading path of travel for the cars, and a series of attachments carried by said endless draft device having car-engaging elements each adapted to extend normally upward from the draft device along both its paths of travel, of guide-sheaves for directing said endless draft device from one path to the other, each of said sheaves having recesses adapted to receive said attachments, and guide-plates arranged at the recesses and adapted to engage said attachments and prevent their turning and twisting the cable as they pass from one to the other of said paths of travel.

9. In a car-haul system, the combination with an endless draft device arranged to travel around a circuit having an upleading and downleading path of travel for the cars, and a series of attachments carried by said endless draft device having car-engaging elements each adapted to extend normally upward from the draft device along both its paths of travel, of guide-sheaves for directing said end-

less draft device from one path to the other, each of said sheaves having a series of recesses around its periphery adapted to receive said attachments on the draft device, and a series of guides arranged at said recesses and adapted to engage and support said attachments and to prevent their turning and twisting the draft device as it is deflected from one to the other of said paths of travel

10. For a car-haul system having a single endless draft device arranged to travel around a circuit having an upleading and a downward-leading path of travel for the cars and carrying car-engaging elements adapted to be maintained normally above the said draft device along both of its paths of travel, a sheave for deflecting the course of travel of said endless draft device having a series of recesses arranged to receive the car-engaging elements on said draft device, and a series of guides arranged at said recesses and adapted to engage the said car-engaging elements and to prevent their turning and twisting the flexible draft device as it is deflected in its course of travel by the sheave.

11. A sheave for directing the course of travel in a car-haul system of the endless draft device with a series of car-engaging elements thereon, said sheave having a series of recesses arranged to receive the car-engaging elements on the said draft device and a series of guides arranged at said recesses and adapted to engage the said car-engaging elements and to prevent their turning and twisting the endless draft device as its course of travel is deflected by the said sheave.

12. A sheave for directing the course of travel in a car-haul system of an endless draft device having a series of car-engaging elements thereon, said sheave having a series of recesses about its periphery arranged to receive the car-engaging elements on said endless draft device, and a series of guide-plates each arranged at one of said recesses on the under side thereof and adapted to engage the car-engaging elements on the said endless draft device and to prevent their turning and twisting the cable while their course of travel is being deflected.

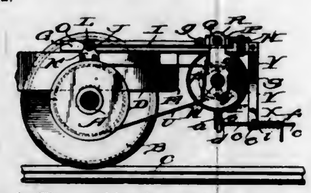
13. A sheave for directing the course of travel in a car-haul system of an endless draft device having a series of car-engaging elements thereon, said sheave having a series of recesses about its periphery adapted to receive the car-engaging elements on said endless draft device, and guides arranged at either side of and longitudinally of each of said recesses and adapted to engage the said car-engaging elements at either side thereof while they are on the sheave and their course of travel is being deflected, in order to prevent their turning and twisting the cable.

14. In a car-haul system, the combination with an endless draft device arranged to travel around a circuit having an upleading and a downleading pathway for the cars, and a series of cable-trucks carried by said endless draft device and having car-engaging elements normally extending upward therefrom along both of said paths of travel, of guide-sheaves for deflecting the course of travel of said endless draft device from one to the other of said pathways, each sheave having a series of recesses adapted to receive said cable-trucks, and a series of guide-plates adapted to engage with said trucks and prevent their turning and twisting the cable while the course of the endless draft device is being deflected.

15. In a car-haul system, the combination of an endless draft device, supporting and guiding devices for said endless draft device arranged to deflect and direct it from one to the other of its paths of travel, a cable attachment secured to said draft device, and means arranged to engage with and travel with said cable attachment while it is being deflected from one of said paths of travel to the other to prevent it from turning and twisting the cable.

16. In a car-haul system, the combination of an endless draft device, supporting and guiding devices for said endless draft device, a cable attachment secured to said draft device and having an arm adapted to be maintained in upright position to engage a car while moving along the paths of travel of said draft device, and means arranged to engage with and travel with said cable attachment while it is being deflected from one of its paths of travel to the next to prevent it from turning and twisting the cable.

844,165. POWER TRANSMISSION. MORRIS MOSKOWITZ, New York, N. Y., assignor to The United States Light & Heating Company, New York, N. Y., a Corporation of New Jersey. Filed Sept. 11, 1905. Serial No. 278,062.



Claim.—1. The combination with a car-truck, of a dynamo suitably supported thereon, a belt operatively connected to drive the dynamo from the car-axle, and means for preventing transverse strain on the armature-shaft.

2. The combination with a car-truck, of a dynamo suitably supported thereon, a belt operatively connected to drive the dynamo from the car-axle, and means for preventing substantial wear upon the armature-shaft or its bearings.

3. The combination with a car-truck, of a dynamo suitably supported thereon, a belt operatively connected to drive the dynamo from the car-axle, and means for preventing irregular wear upon the armature-shaft or its bearings caused by transverse strains on the dynamo-shaft.

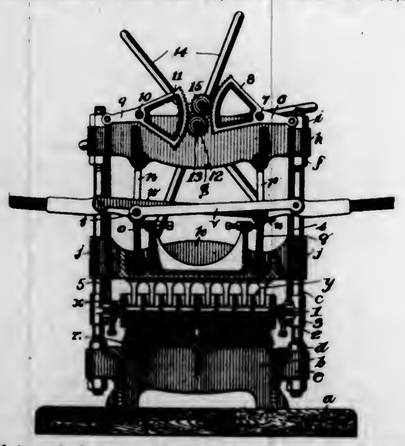
4. The combination with a car-truck, of a dynamo supported thereon, a frame supported adjacent the armature-shaft, a pulley supported thereon, a dog connecting the pulley with the armature-shaft to drive said shaft from the pulley, and means for driving the shaft from the axle.

5. The combination with a car-truck, of a dynamo suitably supported thereon, a frame connected to the field of the dynamo, a pulley supported thereon, a dog connecting the pulley with the armature-shaft to drive said shaft from the pulley, and means for driving the shaft from the axle.

6. The combination with a car-truck, of a dynamo suitably supported thereon, a frame connected to the field of the dynamo, a pulley revolubly supported thereon, operative connections between the pulley and the armature-shaft, and connections for driving the pulley from the axle.

7. The combination with a car-truck, of a dynamo suitably supported thereon, a frame connected to the field of the dynamo, a pulley supported thereon, a dog connecting the pulley with the armature-shaft to drive said shaft from the pulley and belt for driving the shaft from the axle.

844,166. HAND BRICK-PRESS. HORACE B. MURDOCK, Detroit, Mich. Filed Mar. 13, 1906. Serial No. 305,930.



Claim.—1. In a hand brick-press, the combination of a base, rods secured thereto, a frame carrying plungers slidably mounted on said rods, hand-levers and toggle-joints for operating said frame so arranged as to lock said frame after the hand-levers have been operated, a mold adapted to be placed in position beneath said plungers, and means for lifting said mold while keeping the pressed bricks in position, substantially as described.

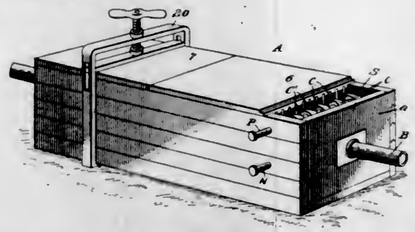
2. In a hand brick-press, the combination of a base, rods secured thereto, a frame secured to said rods near their upper ends, a frame carrying plungers supported on said rods, operating-levers, toggle-joints connected to said frames and said operating-levers said levers and toggle-joints being so arranged as to lock said frame after the levers have been operated, a mold adapted to be placed in position beneath said plungers, securing devices on said rods with which said mold engages, and operating means for raising said rods, substantially as described.

3. In a hand brick-press, the combination of a base, rods secured to said base, a frame secured to said rods near their upper ends, a frame carrying plungers mounted on said rods, means for operating said plungers, securing devices mounted on said rods, a mold adapted to engage with said securing devices, and means for operating said securing devices and raising said mold consisting of vertical rods, sector-shaped gears operating said rods, pinions engaging with said gears respectively, and a pilot-wheel for operating said pinions, substantially as described.

4. In a hand brick-press, the combination of a base provided with an upwardly-projecting rod at each corner, a frame secured to said rods near their tops, a palette adapted to be placed in position on said base-piece, a frame carrying plungers, said frame being slidably mounted on said rods, means for moving said last-named frame, securing devices slidably mounted on said rods, a mold adapted to engage with said securing devices, means for raising said securing devices and therefore raising said mold, consisting of a pilot-wheel, pinions operated thereby, sector-shaped gears operated by said pinions respectively, and rods operated by said gears and connected to said securing devices, substantially as described.

5. In a hand brick-press, the combination of a base, vertical rods secured thereto, a frame having plungers thereon, said frame being slidably mounted on said rods, a support connecting said rods at their upper ends, toggle-joints connected respectively to said support and to said frame, hand-operating levers, each of which is connected to both of said toggle-joints and so arranged that when the levers are operated to press the bricks the parts will be locked in that position by the toggle-joints, substantially as described.

844,167. WATER-PURIFYING APPARATUS. JOHN M. MURPHY, Danbury, Conn., assignor, by mesne assignments, to American Filtration Company, Phillipsburg, N. J., a Corporation of New Jersey. Filed Oct. 6, 1906. Serial No. 337,819.

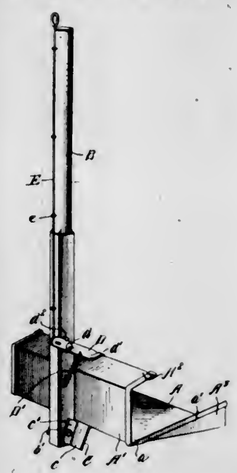


Claim.—1. An apparatus of the character described, comprising an electrolyzing-chamber having an inlet at one end and an outlet at the other end, a series of positive and negative electrodes detachably supported lengthwise in the said chamber, an electric circuit in connection therewith, and a deflector over the inlet end adapted to distribute the inflow over the ends of all the plates, as set forth.

2. An apparatus as described comprising in combination with a box having an inlet at one end and an outlet at the other end, and a negative and positive pole-piece projected transversely over the entrant end of the box; said pieces being in different horizontal planes, the bottom of the box having longitudinal grooves, of the plates C and C′ adapted to seat in the said grooves, said plates each having a projecting hook member at the receiving end, the hooks on the two sets of plates being disposed in different horizontal planes whereby to interengage with the pole-pieces, substantially as shown and described.

3. The combination with the box, the separate lids therefor, the central lid having longitudinal grooves, the bottom of the box having longitudinal grooves to coact with the lid-grooves, the box having an inlet at one end and an outlet at the other end, the pole-pieces extended across the entrant end of the box, said pieces being in different horizontal planes, of the plates C C′ adapted to detachably seat in the upper and lower grooves of the box, said plates each having a projecting lug at the receiving end, the lugs on the two sets of plates being disposed in different horizontal planes to interlock with the respective pole-pieces, and means for electrically energizing the pole-pieces, as set forth.

844,168. DUST-PAN. ERIC R. MURRAY, Orange, Mass. Filed Nov. 14, 1906. Serial No. 343,407.



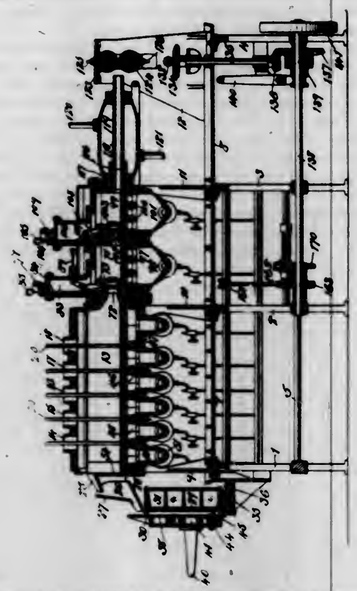
Claim.—1. In a dust-pan, the combination of a pan having an upturned back portion A′, and its end portions A^2 upturned angularly in such manner as to leave passages *a* for the dirt at each end of the pan and adjacent the back portion, so that the pan can be emptied by tilting it to either side; with a handle connected to the rear edge of the pan below the portion A′, substantially as described.

2. The herein-described dust-pan comprising a pan having an upstanding rear portion A′ provided with a forwardly-projecting flange A^2 on its upper edge; with a handle hinged to the rear edge of the bottom of the pan below the upstanding portion A′, and a catch D pivoted on the handle and adapted to overlie and engage the forwardly-projecting flange A^2 and lock the pan at right angles to the handle when the pan is swung to such position, and a catch-operating rod E connected with the handle and said catch, substantially as described.

3. In a dust-pan, the combination of a sheet-metal pan having an upstanding rear portion A′, provided with a forwardly-projecting flange A^2 on its upper edge, a hinge member C attached to the rear edge of the bottom of the pan and adapted to elevate its rear edge when resting upon the floor, and a handle pivoted to said hinge member below the bottom of the pan; with a catch D pivoted to the handle, and adapted to engage the flange A^2 and lock the pan at right angles to the handle when the pan is swung into such position; a spring connected to the handle and catch for holding the catch in engaging position, and an operating-

rod E connected with the handle and catch, substantially as described.

844,169. CASTING-MACHINE. WILLIAM A. MCADAMS, New York, N. Y. Filed June 21, 1902. Serial No. 112,646.



Claim.—1. A casting-machine comprising a crucible, a die or mold through which the molten mass is to be passed, a fluid-pressure chamber intermediate of the crucible and the die or mold, means for admitting fluid under pressure to the said fluid-pressure chamber to force the molten mass through the die or mold and means for controlling the speed of the mass through the die or mold.

2. A casting-machine comprising a crucible, a fluid-pressure chamber for receiving the molten mass from the crucible, a die or mold through which the mass to be cast is caused to pass, means for admitting fluid under pressure to the fluid-pressure chamber to force the mass through the die or mold and means for gripping the cast material as it leaves the die or mold to control the speed of the mass through the die or mold.

3. A casting-machine comprising a crucible, a fluid-pressure chamber for receiving the molten mass from the crucible, a die or mold through which the mass is caused to pass, means for admitting fluid under pressure into the fluid-pressure chamber to force the mass through the die or mold, rollers for receiving the cast material as it leaves the die or mold and means for regulating the speed of the rollers and thereby controlling the rate at which the cast mass shall pass through the die or mold.

4. A casting-machine comprising a die or mold through which the material to be cast is caused to pass, means for forcing the material to be cast through the die or mold, gripping-rollers arranged to engage the cast material as it leaves the die or mold and means for determining the speed at which the gripping-rolls shall rotate and thereby controlling the speed of the mass through the die or mold.

5. A casting-machine comprising a crucible, a fluid-pressure chamber, a discharge-chamber, valves arranged to open and close communication between the crucible and fluid-pressure chamber and between the fluid-pressure chamber and discharge-chamber, a die or mold for receiving the mass from the discharge-chamber, means for admitting the fluid under pressure into the fluid-pressure chamber at intervals and means for maintaining pressure in the discharge-chamber constant.

6. A casting-machine comprising a crucible, a mold arranged to receive the metal overflowing from the crucible, a second mold and means for conducting the metal into the said second mold under pressure.

7. A casting-machine comprising a crucible, openings for admitting bars of metal of a predetermined size and shape into the crucible to be melted, a mold, means for conducting the molten metal from the crucible and discharging it into the mold under pressure and another mold having its cavity corresponding in cross-section to the opening for the admission of bars into the crucible, the last-named mold being arranged to receive the molten mass which may overflow from the crucible.

8. In a casting-machine, the combination with the crucible and a fluid-pressure chamber in communication therewith, of a valve for opening and closing communication between the crucible and fluid-pressure chamber, the said valve being projected beyond its seat to form a recess between it and a part of the wall of the chamber for receiving the molten mass to form a seal between the valve and its seat during the discharge of the metal from the fluid-pressure chamber.

9. The combination with the crucible having a cover provided with openings for the reception of ingots, said openings being shaped to leave open spaces between their walls and the sides of the ingots, of a crucible-support spaced from the crucible to form fire-chambers, the said fire-chambers being in communication with the openings.

10. The combination with the crucible and fluid-pressure chamber, of a valve for opening and closing communication between the crucible and fluid-pressure chamber, means for rocking the valve on its seat and means for lifting the valve bodily in a direction parallel with its seat.

11. The combination with a crucible, of a fluid-pressure chamber, a valve for opening and closing communication between the two, a valve-operating rod and a refractory coupling-piece arranged to connect the valve-lifting rod with the valve and at the same time protect the rod from contact with the molten metal.

12. The combination with the crucible and fluid-pressure chambers and a valve for opening and closing communication between the two, of a valve-operating rod and a piece of suitable refractory material for connecting the valve, the said valve having a limited rocking movement on the piece of refractory material to permit it to adjust itself to its seat.

13. The combination with the crucible, fluid-pressure chamber, die or mold and means for controlling the speed of the casting from the die or mold, of a drive-shaft, means connected with the drive-shaft for controlling the flow of metal into and through the die or mold and mechanism for connecting the said means for controlling the speed of the casting with and disconnecting it from the drive-shaft at pleasure.

14. The combination with the crucible and discharge-chambers and means for transmitting the metal from the crucible to the discharge-chamber, of means for conducting fluid under pressure to the discharge-chamber and an escape-valve in connection with the discharge-chamber for maintaining the fluid-pressure in said chamber constant.

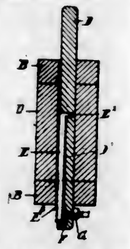
15. The combination with the crucible, the fluid-pressure chamber and the discharge-chamber, of means for admitting fluid at intervals into the fluid-pressure chamber under high pressure and means for admitting fluid to the discharge-chamber constantly under low pressure.

16. The combination with the crucible provided with an overflow lip or conduit, of a mold for receiving the overflow metal, and means for adjusting the overflow lip or conduit vertically with respect to the crucible to cause the metal to overflow at a higher or lower level at pleasure.

17. The combination with the crucible and discharge-chamber and means for transmitting fluid from the crucible to the discharge-chamber, of a die or mold for receiving the metal from the discharge-chamber, the said discharge-chamber being provided with a projection of suitable refractory material for directing the metal to the metallic die or mold and means for maintaining a cooling medium around said projection and metallic die or mold whereby the inlet end of the die or mold is kept cool.

18. The combination with the fluid-pressure chamber provided with a cover having depending flanges in position to engage the inner faces of the walls of the chamber, of angle-iron pieces secured to the cover with one flange engaging the outer face of the walls of the crucible.

844,170. COTTER. THOMAS F. MCANDREWS, Cohoes, N. Y., assignor of one-half to John E. Bleibtrey, Waterford, N. Y. Filed May 19, 1906. Serial No. 317,822.



Claim.—1. A taper key for motion-rods, provided with a longitudinal recess in one side, a gib held in the said recess, and means on the key for adjusting the said gib.

2. A taper key for motion-rods, provided with a recess, a gib held in the said recess and formed at its outer face with teeth, and means for adjusting the said gib.

3. The combination with a motion-rod, of a taper key for the same, a gib held in a recess in the said key and engaging the motion-rod, and means on the said key outside the motion-rod for adjusting the said gib.

4. The combination with a motion-rod, of a taper key for the same, a toothed gib held in a recess in the said key and engaging the motion-rod, and means on the said key outside the motion-rod for adjusting the said gib.

5. The combination with a motion-rod, of a taper key for the same, a gib held in a recess in the said key and having a pin for engaging a hole in the key, the gib also having teeth for engaging the motion-rod, and means on the said key outside the motion-rod for adjusting the said gib.

6. A key for motion-rods provided with a longitudinal recess in one side, a gib held in the said recess, and adjusting means for the said gib extending transversely of the key and engaging the inner face of the gib near one end thereof.

7. A taper key for motion-rods provided with a longitudinal recess in one side having a hole at one end, a gib held in said recess and provided at one end with a pin engaging the said hole, and a set-screw screwing transversely in the key and adapted to engage the back or inner face of the gib at its other end to adjust the gib.

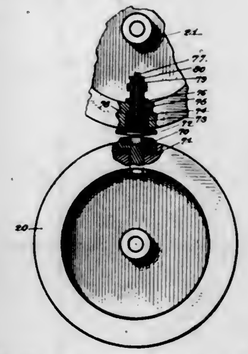
844,171. COUNTER-BLOCK AND DIE FOR STAMPING-MACHINES. JOHN A. MCANULTY, Baltimore, Md., assignor, by direct and mesne assignments, to The Sanitary Stopper Company, of Baltimore City. Filed Dec. 14, 1905. Serial No. 291,916.

Claim.—1. In a rotary machine for cutting articles from sheet material, the combination of a pair of members rotating relatively to one another and provided respectively with a cutting-die and a counter-block adapted to coöperate to cut the material as the members rotate, one of said coöperating parts being mounted to yield at an angle to the direction of the cutting pressure.

2. In a rotary machine for cutting articles from sheet material, the combination of a pair of members rotating relatively to one another and provided respectively with a cutting-die and a counter-block adapted to coöperate to cut the material as the members rotate, one of said coöperating parts being mounted to yield at an angle to the direction of the cutting pressure, and the other of said parts being mounted to yield in the direction of the cutting pressure.

3. In a rotary machine for cutting articles from sheet material, the combination of a roll, cutting-dies yieldingly mounted on said roll, a second roll, and counter-blocks yieldingly mounted on said second roll and adapted to coöperate with the cutting-dies to cut the material as the rolls are rotated.

4. In a rotary machine for cutting articles from sheet material, the combination of a roll, cutting-dies on said roll, a second roll, and counter-blocks mounted on said second roll to coöperate with the cutting-dies; said blocks being adapted to yield transversely to the direction of the cutting pressure.



5. In a machine for cutting blanks or articles from sheet material, the combination of a pair of rotary members provided respectively with circumferentially-disposed knife-edge cutting-dies and counter-blocks coöperating therewith to cut the material by the action of the dies rolling over the blocks one of each pair of cutting parts being adapted to yield transversely to the direction of the cutting pressure in order to avoid breaking the cutting edge by the rolling action.

6. In a machine of the character described having a knife-edge die and a counter-block adapted to coöperate and mounted to rotate relatively to one another, a mounting for the counter-block permitting the block to yield transversely to the cutting pressure.

7. In a machine of the character described, comprising relatively rotating members provided respectively with knife-edge dies and coöperating counter-blocks, mountings for the counter-blocks which permit them to yield transversely to the direction of the cutting-pressure and mountings for the knife-edge dies which permit them to yield in the direction of the cutting pressure.

8. In a machine of the character described comprising relatively rotating members provided respectively with knife-edge dies and coöperating counter-blocks, mountings for the counter-blocks which permit them to yield both in the direction of the cutting pressure and laterally thereto.

9. In a machine of the character described comprising rotary members formed with peripheral openings and with knife-edge dies and counter-blocks mounted in the openings of the respecive rotary members in position to provide pairs of coöperating cutting members; a packing of yielding or cushioning material interposed between each cutting member and the rotary member in which it is mounted.

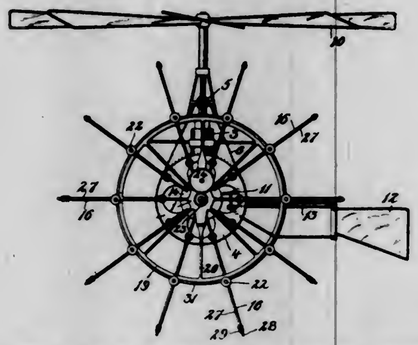
10. In a machine of the character described, comprising rotary members provided respectively with knife-edge dies and coöperating counter-blocks, said counter-blocks being mounted in depressions or seats in one of the members movable transversely therein and having a set-screw which sustains it in the direction of cutting pressure by permitting such transverse movement.

11. In a machine of the character described, the combination of the rotary member, the counter-block inserted therein for the purpose set forth, the set-screw for sustaining said counter-block in the direction of cutting pressure and a draw-bolt connected with said counter-block and adapted to draw it in a direction opposite to the pressure imposed by the set-screw.

12. In a machine of the character described, the com-

bination of the rotary member, the counter-block inserted therein for the purpose set forth, the set-screw for sustaining said counter-block in the direction of cutting pressure and a draw-bolt connected with said counter-block and adapted to draw it in a direction opposite to the pressure imposed by the set-screw, said draw-bolt extending through the set-screw and connected with the counter-block.

844,172. AERONAUTICAL MACHINE. ALEXANDER MCCARTHY, New York, N. Y. Filed Mar. 17, 1906. Serial No. 306,510.



Claim.—1. In an aeronautical machine, an overhead propeller and two fan-wheels having folding blades, each blade provided with a rigid central rib.

2. In an aeronautical machine, an overhead propeller, two fan-wheels having folding blades, each blade provided with a rigid central rib and means for opening and closing the blades so as to simultaneously raise and advance the machine.

3. In an aeronautical machine, a pair of wheels on a horizontal axis and having folding fan-like blades, each blade provided with a rigid central rib.

4. In an aeronautical machine, a wheel mounted on a horizontal axis and having folding fan-like blades, each blade provided with a rigid central rib.

5. In an aeronautical machine, a wheel comprising a rotatable hub, a series of pairs of arms pivoted thereto, fabric carried between said arms and an arm secured to the said hub between each pair of pivoted arms.

6. In an aeronautical machine, a wheel comprising a rotatable hub, a series of pairs of arms pivoted thereto, fabric carried between said arms, and spokes having cross-pieces reinforcing said arms.

7. In an aeronautical machine, a wheel comprising a rotatable hub, a series of pairs of arms pivoted thereto, fabric carried between said arms, spokes having cross-pieces reinforcing said arms, and frames carried by said spokes providing backing for said fabric.

8. In an aeronautical machine, a pair of relatively stationary sleeves, a main driving-shaft, fan-wheels mounted on said sleeves, carrying fan-blades, each blade provided with a rigid central rib, operative means for connecting said shaft and wheels, and cams carried by said sleeves for controlling the blades of said wheels.

9. In an aeronautical machine, a pair of rotatable wheels having folding fan-like blades, each blade provided with a rigid central rib and cams for opening and closing said blades.

10. In an aeronautical machine, an overhead propeller and two fan-wheels comprising hubs having folding blades, each blade comprising a pair of arms pivoted to the hub and a center arm rigidly secured to the hub, a cross-bar secured to the ends thereof, and a fabric secured to the pivoted arms and to the cross-bar.

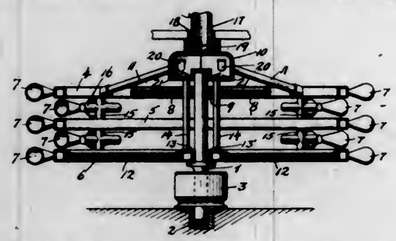
11. In an aeronautical machine, an overhead propeller and two fan-wheels comprising hubs having folding blades, each blade comprising a pair of arms pivoted to the hub and a center arm rigidly secured to the hub, a guiding and supporting bar secured thereto engaging said pivoted arms, and a fabric secured to the pivoted arms.

12. In an aeronautical machine, an overhead propeller and two fan-wheels comprising hubs having fan-blades, each blade comprising a pair of arms pivoted on the hub, and a center arm rigidly secured to the hub, a plurality of guiding and supporting bars secured thereto engaging said pivoted arms, and a fabric secured to the pivoted arms.

13. In an aeronautical machine, an overhead propeller and two fan-wheels comprising hubs having fan-blades, each blade comprising a pair of arms pivoted on the hub, and a center arm rigidly secured to the hub, a plurality of guiding and supporting bars secured thereto engaging said pivoted arms, and a fabric secured to the pivoted arms and additional means carried by said rigid center arm for supporting the rear surface of said fabric.

844,173. AIR-COMPRESSOR. ALEXANDER MCCARTHY, New York, N. Y. Filed Dec. 2, 1905. Serial No. 289,943.

Claim.—1. In an air-compressor, a plurality of tubular rings, means for supporting and rotating said rings, and a plurality of air-receiving buckets carried by said rings.



2. In an air-compressor, a rotating shaft, a tubular annular member, a plurality of air-receiving buckets carried by said member, a receiver mounted on said shaft, and connecting-tubes from said member to said receiver.

3. In an air-compressor, a tubular annular member, a plurality of air-receiving buckets carried by said member, a hollow hub, and a plurality of hollow spokes connecting said member to said hub.

4. An air-compressor comprising a tubular annular member, a plurality of air-receiving buckets, a hollow hub, a receiver, a plurality of hollow spokes connecting said member to said hub, and a conduit connecting said hub and said receiver.

5. In an air-compressor, a plurality of air-collecting rings carrying air-receiving buckets, connecting-tubes between said rings, and intermediate air-receiving buckets carried by said tubes.

6. In an air-compressor, a plurality of collecting-rings, a hollow hub, hollow spokes connecting one of said rings to said hub, and means for supporting an intermediate ring from the adjacent upper and lower rings.

7. In an air-compressor, a plurality of collecting-rings, a hollow hub, hollow spokes connecting one ring to said hub, a receiver, and conduits from said hub to said receiver.

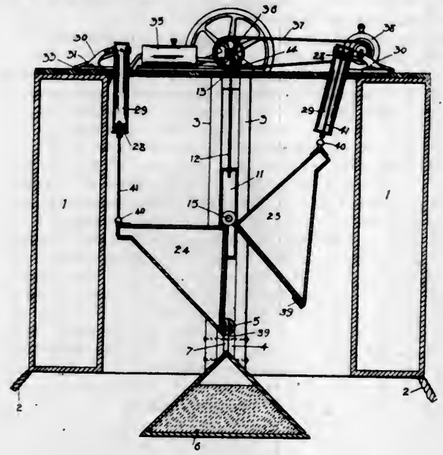
8. In an air-compressor, a plurality of collecting-rings, tubes connecting said rings, a receiver, and pipes connecting one of said rings to said receiver.

844,174. WAVE-MOTOR. HENRY L. MCDUFFEE, Gilroy, Cal. Filed Aug. 22, 1906. Serial No. 331,609.

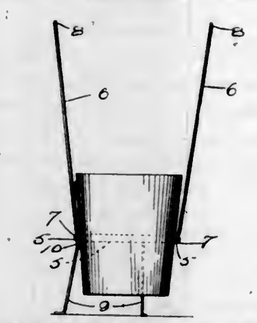
Claim.—1. In a wave-motor, an outer supporting-float, an inner working float, a deflector below said working float to deflect the waves thereagainst, and means carried by the first float and connected with the second float for transmitting the power obtained from the latter, substantially as described.

2. In a wave-motor, an outer supporting-float, an inner working float, a deflector below said working float to deflect the waves thereagainst, rollers for suspending the deflectors, and means carried by the first float and connected with the second float for transmitting the power obtained from the latter, substantially as described.

3. In a wave-motor, an outer supporting-float, an inner working float, comprising twin floats and a common shaft upon which they swing independently, and means carried by the first float and connected with the second float for transmitting the power obtained from the latter, substantially as described.



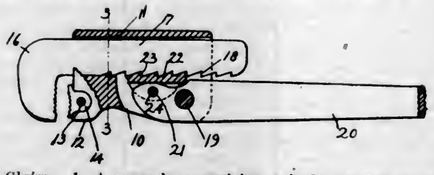
844,175. PAIL-SUPPORT. ARCHIBALD W. MCINTYRE, Alexander, N. D. Filed June 27, 1906. Serial No. 323,637.



Claim.—1. A device of the class described comprising a pail-receiving member, and means connected with the member for supporting the same from the shoulders of the user of the device.

2. A device of the class described comprising a pail-receiving member, and rods connected with the member for supporting the same from the shoulders of the user of the device.

844,176. WRENCH. DANIEL J. MCOSKER, Providence, R. I. Filed Sept. 25, 1905. Serial No. 279,886.



Claim.—1. A wrench comprising a body portion carrying a stationary jaw and provided with an opening having tapered walls, a handle pivoted to said body, a sliding jaw working in said opening and tapered in cross-section, and means carried by said handle for simultaneously imparting an upward and rearward movement to said movable jaw.

2. A wrench comprising a body portion carrying a stationary jaw and provided with an opening having tapered walls, a handle pivoted to said body, a sliding jaw working in said opening and tapered in cross-section, said sliding jaw being provided with teeth, and teeth carried by said handle and meshing with the teeth of said jaw to cause a simultaneous upward and rearward movement of said movable jaw.

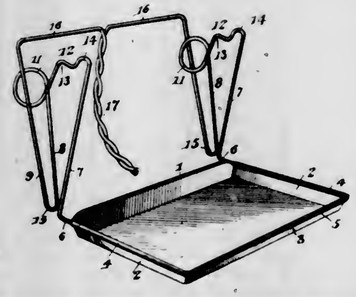
3. A wrench comprising a body portion carrying a stationary jaw and provided with an opening having tapered walls, a sliding jaw working in said opening and tapered in cross-section, a handle having its forward end pivoted to said body, and means carried by the pivoted end of said handle for simultaneously imparting an upward and rearward movement to said movable jaw.

4. A wrench comprising a body portion carrying a stationary jaw and provided with an opening having tapered walls, a handle pivoted to said body, a sliding jaw working in said opening and tapered in cross-section, and a pivoted member carried by said handle for simultaneously imparting an upward and rearward movement to said movable jaw.

5. A wrench comprising a body portion carrying a stationary jaw and provided with an opening having tapered walls, a handle pivoted to said body, a sliding jaw working in said opening and provided with teeth on its lower edge, said sliding jaw having a shank tapered in cross-section, and a pivoted member carried by said handle and provided with teeth for engaging the teeth of said movable jaw to impart a simultaneous upward and rearward movement to the latter.

6. A wrench comprising a body portion provided with a stationary jaw and provided with an opening having tapered walls, a movable jaw provided with a shank working in said opening, said shank being tapered in cross-section, and a handle pivoted to said body portion and provided with means for engaging the under side of the shank of said movable jaw to impart an upward locking movement thereto.

844,177. SOAP AND BRUSH HOLDER FOR BUCKETS. HORACE F. NEUMEYER and FRANK E. NEUMEYER, Macungie, Pa. Filed Mar. 23, 1906. Serial No. 307,746.



Claim.—1. A device of the class described comprising a soap-dish, downwardly-converging jaws arranged in pairs at opposite sides of the device, said jaws being separable at their lower ends and connected at their upper ends, the top connecting portions being coiled beyond the jaws to form springs and being provided between the jaws with inner V-shaped bends and outer U-shaped bends, the latter bends being adapted to engage the upper edge of a receptacle, and means for connecting the dish with the jaws.

2. A device of the class described, comprising inner and outer clamping-jaws arranged to engage a receptacle at the upper edge thereof, a soap-holder carried by the outer jaws, and brush-holding means connected with the inner jaws and arranged to support a brush within a receptacle to cause the drip to drop into the same.

3. A device of the class described, comprising inner and outer jaws arranged in pairs and spaced apart, said jaws being adapted to engage a receptacle at the upper edge

thereof, resilient arms carried by the inner jaws, an intermediate jaw operating in the space between the pairs of jaws for engaging and supporting a brush, and means for connecting the intermediate jaw with the said arms.

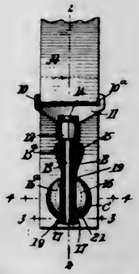
4. A device of the class described, comprising inner and outer jaws arranged in pairs and spaced apart, said jaws being separable at the bottom and connected at the top, arms extending upwardly from the lower ends of the inner jaws, an intermediate jaw operating in the space between the pairs of jaws for engaging and supporting a brush, and means for connecting the upper end of the intermediate jaw with the upper ends of the said arms.

5. A device of the class described, comprising inner and outer clamping-jaws arranged in pairs and spaced apart, said jaws being separable at the bottom and connected at the top, a soap-holder connected with the outer jaws at the lower ends thereof, resilient arms extending upwardly from the lower ends of the inner jaws, an intermediate jaw operating opposite the space between the said jaws, and a top portion connecting the upper end of the intermediate jaw with the said arms.

6. A device of the class described, comprising inner and outer clamping-jaws arranged in pairs, a supporting-loop extending from the lower ends of the outer jaws, a substantially rectangular back portion carried by the inner jaws and having an intermediate depending jaw, the inner and outer jaws, the loop, and the back portion being constructed of a single piece of wire and the intermediate jaw being formed by twisting the terminals of the wire, and a soap-holder supported by the said loop.

7. A device of the class described comprising inner and outer downwardly-converging jaws, the outer jaws being provided with horizontal extensions, top connecting portions spacing the upper ends of the jaws and coiled at the inner jaws and provided at the upper ends of the outer jaws with narrow U-shaped bends of a width less than the space between the upper ends of the jaws, and a receptacle supported by horizontal extensions of the outer jaws.

844,178. GARMENT-FASTENER. WILLIAM A. NICKLESS, New York, N. Y. Filed Nov. 23, 1905. Serial No. 288,787.



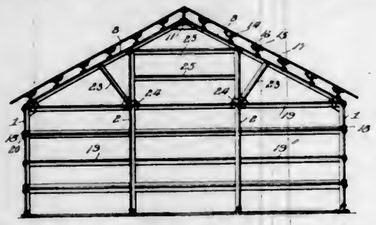
Claim.—1. In garment-fasteners, a suspension device, a bolt mounted to turn in said suspension device, which bolt is provided with opposing enlargements at a point in its length, and a shell provided with an elongated chamber to receive the enlarged portion of the bolt, which shell is also provided with opposing openings leading into the chamber for the bolt to turn in, and an intermediary opening connecting with said opposing openings and said chamber, for the introduction of the bolt and material into said chamber.

2. In garment-fasteners, a suspension device, a bolt mounted to turn in the said suspension device, which bolt is provided with opposing fins at opposite sides, the outer edges of the fins being curved, and a circular shell provided with an elongated chamber and openings leading into said chamber, sundry of the said openings being adapted for the reception of the bolt and another opening for the passage of the bolt and for the introduction of material into the said chamber.

3. A garment-fastener, consisting of a suspension-plate having a socket connected therewith, a locking-bolt mounted to turn at its upper end in the said socket member of the suspension-plate, the said bolt being provided with opposing fins having their outer edges convexed, and with corresponding enlargements at its lower end, a circular shell adapted to receive the section of the bolt carrying the said fins, which shell has an elliptical chamber and a front slot and top and bottom slots leading into the said chamber, the front slots being also in communication with the top and bottom slots.

4. In a garment-fastener, the combination with a strip of fabric, a suspension-plate attached to the said strip of fabric, which plate is provided with a ring-socket, and a locking-bolt held to turn in the said ring-socket at its upper end, which locking-bolt is provided with fins at opposite sides near its lower end, the outer edges of which fins are convexed, the said bolt being likewise provided with projections above the fins and on the same sides, and with projections at its bottom portion likewise on the same sides as the said fins, of a semicircular shell secured to the said strip of fabric below the suspension-plate, and a circular shell carried and partially surrounded by the said casing, the said shell being provided with an elliptical chamber adapted to receive the fin portion of the locking-bolt, and top and bottom and front openings leading into the said chamber, the front opening connecting with the top and bottom openings, whereby to introduce material into the said chamber of the shell, and to introduce and turn the bolt also in said chamber.

844,179. METAL BUILDING. HUBERT NIESEN, Marinette, Wis. Filed Oct. 24, 1906. Serial No. 340,392.



Claim.—1. A metal building comprising upright posts, purlins secured by plates to said posts, angle-iron girders secured to said purlins, and wooden nailing-strips bolted to said girders to provide means for securing the roof thereto.

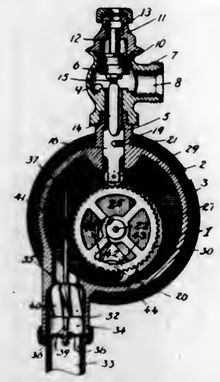
2. A metal building comprising angle-iron uprights and corner-posts, angle-iron purlins, an I-beam ridge secured to the inner ends of said purlins by means of plates bolted thereto, wooden nailing-strips secured to channel-beams supported upon said purlins, and nailing-strips secured to said upright posts, for the purpose described.

844,180. SELF-CLOSING VALVE. NILS NILSON, New York, N. Y., assignor of fifty one-hundredths to Charles B. Grimshaw, New York, N. Y. Filed Aug. 16, 1906. Serial No. 330,832.

Claim.—1. A device of the class described, comprising a chamber having an inlet and an outlet, a valve adapted to close said inlet and having a rod extending into said chamber, a cam-wheel within said chamber engaging with said rod and adapted to move the same by its rotation, and a motor operated by the flow of water through the device and adapted to rotate said cam-wheel.

2. A device of the class described, comprising a chamber having an inlet and an outlet, a valve adapted to close said inlet, and having a rod extending into said chamber, a cam-wheel within said chamber engaging with said rod and adapted to move the same by its rotation, a motor operated by the flow of water through the device, and means for transmitting the rotation of said motor to said cam-wheel.

3. A device of the class described, comprising a chamber having an inlet and an outlet, a valve adapted to close said inlet and having a rod extending into said chamber, a cam-wheel within said chamber having a recess adapted to receive said rod when the valve is closed and being adapted to return said rod to said recess by its rotation, when the valve is open, and means actuated by the flow of water through the device, for rotating said wheel.



4. A device of the class described, comprising a chamber having an inlet and an outlet, a valve adapted to close said inlet and having a rod extending into said chamber, and provided at its end with a roller, a cam-wheel within said chamber, having a spiral periphery and a recess adapted to receive said roller when the valve is closed, and being adapted to return said roller to said recess by its rotation, when the valve is open, and means actuated by the flow of water through said device, to rotate said wheel.

5. A device of the class described, comprising a chamber having an inlet and an outlet, a valve adapted to close said inlet and having a rod extending into said chamber provided at its end with a roller, a cam-wheel within said chamber having a spiral periphery and a recess adapted to receive said roller when the valve is closed, and being adapted to return said roller to said recess by its rotation when the valve is open, means on said wheel to prevent the return of said roller to said recess before the wheel has completed one revolution, a motor actuated by the flow of water through the device, and means for transmitting the rotation of said motor to said wheel.

6. A device of the class described, having an inlet and an outlet, a valve adapted to close said inlet and having a rod projecting into said chamber, a cam-wheel having a recess and a spiral periphery, said rod resting in said recess when said valve is closed, a member pivoted to said wheel and having a toe and a weighted end adapted to swing said toe adjacent to said recess to ride said rod onto said periphery, and means actuated by the flow of water through the device for rotating said wheel.

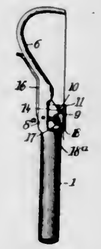
7. A device of the class described, comprising a chamber having an inlet and an outlet, a valve adapted to close said inlet and having a rod projecting into said chamber provided at its end with a roller, a cam-wheel having a recess and a spiral periphery, said roller being adapted to rest in said recess when said valve is closed, means for raising said rod to open said valve, a member pivoted to said wheel, having a toe and a weighted end adapted to swing said toe adjacent to said recess to ride said roller onto said periphery, and means actuated by the flow of water through the device for rotating the said wheel, said roller displacing said toe and entering said recess when said wheel completes a rotation.

8. In a device of the class described, comprising a chamber having an inlet and an outlet, a valve adapted to close said inlet and having a rod extending into said chamber, a cam-wheel within said chamber having a recess adapted to receive said rod when the valve is closed and being adapted to return said rod to said recess by its rotation, a motor adapted to be actuated by the flow of water through the device and having a shaft extending into said chamber provided with a worm, and a gear-wheel rigid with said cam-wheel and engaging with said worm.

9. A device of the class described, comprising a chamber having an inlet and an outlet, a valve adapted to close said inlet and having a rod extending into said chamber provided with a roller, a cam-wheel within said chamber having a recess and a spiral periphery, said roller being adapted to ride upon said periphery and to rest within said recess when said inlet-valve is closed, a gear-wheel rigid with said cam-wheel, a motor adapted to be actuated by the flow of water through the device and having a shaft extending into said chamber, and a worm on said shaft engaging with said gear-wheel.

10. A device of the class described, comprising a chamber having an inlet and an outlet, a valve-seat within said inlet, a valve normally resting upon said valve-seat and having a rod projecting into said chamber provided with a roller, a cam-wheel within said chamber having a recess, and a spiral periphery, said roller being adapted to rest in said recess when said valve rests upon said valve-seat, and to ride upon said periphery when said valve is open, said cam-wheel having a member pivoted thereto provided with a toe and a weighted end, said toe being adapted to displace said roller onto said periphery when said valve is open, a gear-wheel rigid with said cam-wheel, a motor adapted to be actuated by the flow of water through the device and having a shaft projecting into said chamber, and a worm upon said shaft engaging with said gear-wheel.

844,181. DENTAL FLOSS-HOLDER. CHARLES M. OVERBAUGH, Clarion, Iowa. Filed Oct. 26, 1906. Serial No. 340,675.



Claim.—1. A dental floss-holder comprising a tubular handle adapted to receive a floss-cartridge, a curved portion extended from the handle; cheek-pieces at the junction of the curved portion of the handle, one of said cheek-pieces having a fixed jaw member, an angle-lever pivoted between the cheek-pieces, and a jaw member operated by said lever.

2. A dental floss-holder comprising a tubular resilient handle, the said handle being longitudinally slitted at one side, a floss-cartridge adapted to engage in the handle, a cap frictionally held in the handle having a perforation through which the floss may pass, a curved portion at one end of the handle, and a clamping device at the junction of the curved portion and the handle.

3. A dental floss-holder comprising a tubular handle, a curved portion at one end of the handle, cheek-pieces at the junction of the curved portion and the handle, one of the said cheek-pieces having a laterally-extending portion forming a fixed jaw member, a cutting device in said cheek-pieces, an angle-lever pivoted between the cheek-pieces, a pair of jaws carried by the angle-lever, the said jaws being spring-yielding and having a substantially triangular connection at one end, the said connection being perforated, and a plate-like member connected to the inner one of the said last-named jaws, there being a perforation at the junction of the said plate and jaw.

844,182. FISHING-FLOAT. WILLIAM S. PETTIS, Jr., Pass Christian, Miss. Filed Oct. 5, 1906. Serial No. 337,552.

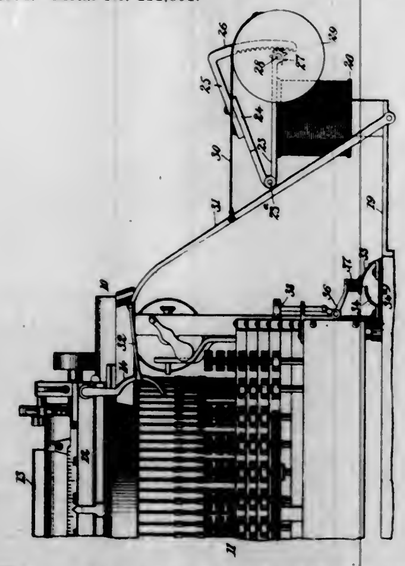


Claim.—1. A fish-line-attaching device, consisting of helical coils of wire, one intermediate coil thereof being bent, forming an eye adapted to receive the line and hold it clamped against adjacent coils of the device.

2. A fish-line-attaching device, comprising a ring constructed of helical coils of wire, a projecting loop in one intermediate coil, the loop being adapted to receive the line and hold it clamped against the other coils of the device.

3. A fish-line-attaching device, comprising a ring constructed of helical coils of wire one intermediate coil of the ring being bent into a loop made projecting beyond the outer cylindrical side of the ring.

844,183. TYPE-WRITER. EDGAR B. PIERCE, U. S. Navy, assignor to Wiley P. Sugg, Oakland, Cal. Filed June 15, 1904. Serial No. 212,601.



Claim.—1. The combination with a type-writer frame, a carriage movable thereon, and a bracket secured to the frame, of an electromagnet carried by the bracket, an armature for the magnet pivoted at one side thereof, a segmental rack carried by the armature, a pinion meshing with the rack, a roll rotatable with the pinion, a lever fulcrumed at its lower end on the bracket carrying the electromagnet and connected at its upper end by a link with the carriage, and a band secured to the roll and connected with the lever between its ends.

2. The combination with a type-writer frame, a type-writer carriage, and its spacing-lever, and a bracket secured to the frame, of an electromagnet carried by the bracket, an armature for the magnet pivoted at one side thereof, a segmental rack carried by the armature, a pinion meshing with the rack, a roll rotatable with the pinion, a lever fulcrumed at its lower end on the bracket carrying the electromagnet and connected at its upper end by a link with the spacing-lever, and a flexible band secured to the roll and connected with the lever between its ends.

3. The combination with a type-writer frame and a carriage movable thereon, of an electromagnetic device acting upon the carriage, an energizing-circuit for the electromagnetic device, a contact device comprising a fixed contact member and a movable contact member included in the circuit and carried by the frame, and a spring operated by the carriage and movable against the movable contact member to move the same to open the circuit.

4. The combination with a type-writer frame and a carriage movable thereon, of an electromagnetic device acting upon the carriage, an energizing-circuit for the electromagnetic device, a contact device comprising a fixed contact member and a movable contact member included in the circuit and carried by the frame, and a spring movable by contact with the carriage into coaction with the movable contact member to move the same to open the circuit.

5. The combination with a type-writer frame and a carriage movable thereon, of an electromagnetic device acting upon the carriage to cause a reversal of the same, an energizing-circuit for the electromagnetic device, a contact device comprising fixed and movable members included in the circuit and carried by the frame, means controlled by the carriage for closing the circuit and a spring movable by the carriage into coaction with the movable contact member to open the circuit.

6. The combination with a type-writer frame, its carriage, a movable member coöperating with the carriage and movable from its normal position in one direction thereby, and means for preventing said movable member from being moved from the normal position, in the opposite direction, of an electromagnetic device acting upon the carriage, an energizing-circuit for the electromagnetic device, a spring carried by the movable member, and a contact device coacting with the movable member, and with the spring.

7. The combination with a type-writer frame, its carriage, and a movable member coöperating with the carriage and movable from its normal position in one direction, and a stop engaged by said member when in the normal position, of an electromagnetic device acting upon the carriage, an energizing-circuit for the electromagnetic device, a spring carried by the said movable member, and a contact device coacting with the movable member upon the forward movement of the carriage and with the spring upon the rearward movement of said carriage.

8. The combination with a type-writer carriage, and a member movable thereby, of automatic means for reversing the carriage controlled by said movable member, a spring mounted upon the movable member and with which the carriage contacts upon its reversed movement, and means for holding the said member against movement when the carriage contacts with the spring.

9. The combination with a type-writer carriage, of an electromagnet and its armature, means for energizing the magnet, and connecting means between the armature and carriage whereby said armature when attracted by the magnet exerts a continuous force accomplishing a reversal of the carriage, the said connecting means comprising a rack moving with the armature, a pinion meshing with the rack, a roll rotatable with the pinion, a lever fulcrumed at one end to a bracket carrying the magnet and connected at its other end by a link with the carriage, and a flexible band secured to the roll and connected with said lever between its ends.

10. The combination with a type-writer frame, a carriage movable thereon, and a movable member comprising a lever pivotally supported upon the frame, of an electromagnet and its armature, means for energizing the magnet, connecting means between the armature and carriage whereby said armature when attracted by the magnet exerts a continuous force accomplishing a reversal of the carriage, a spring mounted upon the movable member and with which the carriage contacts, for yieldingly arresting the reversed movement of the carriage, and means for holding the lever against movement when the carriage contacts with the spring.

11. The combination with a type-writer carriage, the platen operating therein, and the spacing-lever carrying the spacing-dog for coaction with the platen, of an electromagnet and its armature, means for energizing the magnet, a rotatable device, an arm on the armature provided with means for directly actuating the rotatable device, a lever fulcrumed at its lower end on a bracket carrying the electromagnet and connected at its upper end by a link with the spacing-lever, and connecting means between the rotatable device and the said lever, whereby the armature when attracted by the magnet, exerts a continuous force to accomplish a reversal of the carriage and a rotation of the platen.

12. The combination with a type-writer frame and a carriage movable thereon, of an electromagnetic device acting upon the carriage, an energizing-circuit for the electromagnetic device normally open, a contact device comprising a fixed and a movable contact member included in the circuit and carried by the frame, a movable member comprising a lever pivoted on the frame and coacting with the movable contact member upon the forward movement of the carriage to move said contact member in one direction, and means coacting with the movable contact member upon the rearward movement of the carriage to move said contact member in the opposite direction.

13. The combination with a type-writer frame, and a carriage movable thereon, of an electromagnetic device, connecting means between the electromagnetic device and the carriage to cause a reversal of the carriage when the electromagnetic device is energized, an energizing-circuit for the electromagnetic device normally open, a contact device comprising a fixed and a movable contact member included in the circuit and carried by the frame, a movable member comprising a lever pivoted on the frame and coacting with the movable contact member upon the forward movement of the carriage to move said contact member to close the circuit, means coacting with the movable contact member upon the rearward movement of the carriage to move said contact member to open the circuit, and manually-operated means for applying the current.

14. The combination with a type-writer frame, and a carriage movable thereon, of an electromagnetic device connected with the carriage to act thereon, an energizing-circuit for the electromagnetic device normally open, means for controlling the application of the energizing-current to the electromagnetic device operable through the movement of the carriage and comprising a fixed and a movable contact member included in the circuit and carried by the frame, a movable member comprising a lever pivoted upon the frame and coacting with the movable contact member upon the forward movement of the carriage to move said contact member to close the circuit, and a spring-arm carried by the lever and coacting with the movable contact member upon the rearward movement of the carriage to move said contact member to open the circuit, and manually-operated means for applying the current.

15. The combination with a type-writer frame and a carriage movable thereon, of an electromagnetic device acting upon the carriage, an energizing-circuit for the electromagnetic device, a contact device comprising a fixed and a movable contact member included in the circuit and carried by the frame, a movable member comprising a lever pivotally supported upon the frame, a spring for returning the lever to normal position, a stop projection on the carriage for engaging the lever upon the forward movement of the carriage to move the same against the tension of the spring, the said lever when moved against the tension of the spring actuating the movable contact member to close the circuit, a spring-arm carried by the said lever and adapted to engage the movable contact member to move the same to open the circuit upon the rearward movement of the carriage, the carriage having a stop projection for engaging and moving the said spring-arm, and means for holding the lever against movement when the carriage contacts with the spring-arm.

16. The combination with a type-writer carriage, a member movable in the forward direction by the forward movement of the carriage, means for returning said member to normal position, and a stop for the member when in normal position, of automatic means for reversing the carriage controlled by the movable member, and a spring mounted upon the said member and with which the carriage contacts upon its reversed movement.

17. The combination with a type-writer frame and a carriage movable thereon, of an electromagnetic device, connecting means between the electromagnetic device and the carriage to cause a reversal of the carriage when the electromagnetic device is energized, an energizing-circuit for the electromagnetic device normally open, a contact device included in the circuit, means actuated by the carriage on its forward movement and coacting with the contact device to move the same to close the circuit, means actuated by the carriage on its rearward movement and coacting with the contact device to move the same to open the circuit, and manually-operated means for applying the current.

18. The combination with a type-writer carriage, its platen and spacing-lever, of an electromagnetic device, a connection between the electromagnetic device and the spacing-lever, whereby when the electromagnetic device is energized a continuous force is exerted on the spacing-lever to reverse the carriage and rotate the platen, an energizing-circuit for the electromagnetic device, a member movable by the carriage in the forward direction, but held from movement in the opposite direction when in normal position, a contact device coacting with the movable member, upon the forward movement of the carriage, to close the circuit, a spring carried by said movable member and with which the carriage contacts upon its reversed movement, the said spring coacting with the contact device to open the circuit.

19. The combination with a type-writer carriage, the platen operating therein, and the spacing-lever carrying the spacing-dog for coaction with the platen, of an electromagnet and its armature, a connection between the armature of the electromagnet and the spacing-lever whereby when the electromagnet is energized a continuous force is exerted on the spacing-lever to reverse the carriage and rotate the platen, an energizing-circuit for the electromagnet, normally open, a member movable by the carriage in the forward direction, but held from movement in the opposite direction when in normal position, a contact device coacting with the movable member upon the forward movement of the carriage to close the circuit, a spring carried by said movable member and with which the carriage contacts upon its reversed movement, the said spring coacting with the contact device to open the circuit, and manually-operated means for applying the current.

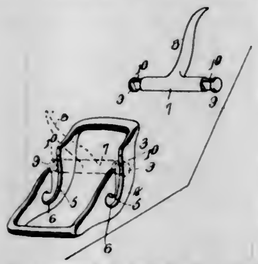
20. The combination with a type-writer frame, a carriage movable thereon, a movable member supported on the frame, and a stop for said member when in its normal position, of automatic means for reversing the carriage controlled by said movable member, and means carried by the movable member for yieldingly arresting the reversed movement of the carriage.

21. The combination with a type-writer frame, a carriage movable thereon, and a movable member supported by the frame, of an electromagnetic device acting upon the carriage to reverse the same, an energizing-circuit for the electromagnetic device, means controlled by the movable member for applying the energizing-current to the magnet, a spring mounted upon said movable member and with which the carriage contacts upon its reversed movement, thereby yieldingly arresting the reversed movement of the

carriage, and means for holding the member against movement when the carriage contacts with the spring.

22. The combination with a type-writer frame, a carriage movable thereon, a movable member comprising a lever pivotally supported on the frame, and a stop for said lever when in its normal position, the said lever being operated by the carriage on its forward movement, of an electromagnetic device acting upon the carriage to reverse the same, an energizing-circuit for the electromagnetic device, normally open, means controlled by the said lever for applying the energizing-current to the magnet, means carried by the lever for yieldingly arresting the reversed movement of the carriage, and manually-controlled means for applying the current.

844,184. CROSS-LINE BUCKLE. HERMAN H. PIJAN, Wausau, Wis. Filed May 3, 1906. Serial No. 315,039.



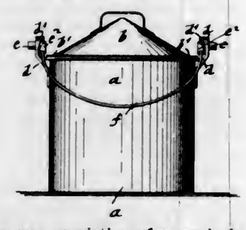
Claim.—1. In a cross-line buckle, the combination of a frame embodying spaced sides, each of said sides being formed with a slot leading from an edge thereof and enlarged at its inner terminal, a cross-bar mounted on the frame and having its opposite end portions recessed to reduce the same diametrically and thereby admit of passage of the end portions of said cross-bar through the slots to the inner terminals of the latter, whereupon rotary movement of said cross-bar will interlock the wider end portions thereof with the side portions of the frame, and a tongue carried by said cross-bar.

2. In a cross-line buckle, the combination of a frame embodying spaced sides, each of said sides being formed with a slot leading from an edge thereof and enlarged at its inner terminals, a cross-bar mounted on the frame and having its opposite end portions recessed to reduce the same diametrically and thereby admit of passage of the end portions of said cross-bar through the slots to the inner terminals of the latter, whereupon rotary movement of said cross-bar will interlock the wider end portions thereof with the side portions of the frame, a tongue carried by said cross-bar, and heads integrally formed at opposite extremities of the cross-bar and engaging the outer sides of the frame to reinforce the latter.

3. The combination with a cross-line buckle composed of a frame embodying spaced sides, each of said sides being formed with a slot leading from an edge thereof and enlarged at its inner terminal, a cross-bar mounted on the frame and having its opposite end portions recessed to reduce the same diametrically and thereby admit of passage of the end portions of said cross-bar through the slots to the inner terminals of the latter, whereupon rotary movement of said cross-bar will interlock the wider end portions thereof with the side portions of the frame, a tongue carried by said cross-bar, of a cross-line having an end looped about the cross-bar and formed with an opening through which the tongue aforesaid passes, and a long line passed beneath the ends of the buckle and engaged by the tongue.

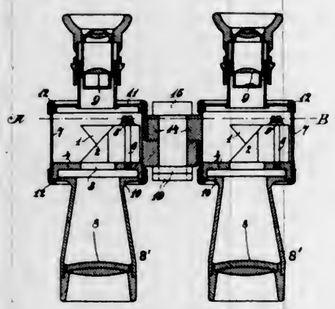
844,185. GARBAGE-CAN. FRITZ POSTHOFF, New York, N. Y., assignor to Paul von Boeckmann, New York, N. Y. Filed Apr. 6, 1906. Serial No. 310,220.

Claim.—1. A garbage-can, comprising a can-body having perforated bail-ears provided with inclined cams at their inner faces, a cover for the can-body, and a bail provided with angular pivots at its ends, said pivots having inclined faces adjacent to the cams of the ears so as to permit the lateral motion of the angular pivots for retaining or releasing the cover on or from the can-body.



2. A garbage-can, consisting of a can-body, a cover provided with a circumferential rim resting on the rim of the can-body, perforated bail-ears attached at diametrically opposite points to the can-body and provided with inclined cams, and a bail provided with angular pivots, the inner ends of said pivots being provided with inclined cams working in connection with the cams of the bail-ears in moving the angular pivots for retaining the cover in closed position on the can-body or for permitting the return of the pivots into normal position for removing the cover.

844,186. TELESCOPE WITH PRISMS. PETER F. PÜTZ, Cassel, Germany. Filed Oct. 15, 1906. Serial No. 338,995.



Claim.—1. In a telescope, the combination with a cylindrical casing provided with screw-threads at both ends, of a cover with an eccentric eyepiece, a bottom with an eccentric objective, two internally-screw-threaded rings for fastening said cover and said bottom on the screw-threads of said cylindrical casing, said eyepiece and said objective being placed with their axes in the same central longitudinal plane of said cylindrical casing and parallelly and symmetrically to its axis, a frame in said cylindrical casing, two like Nachet's prisms placed side by side on said frame and so that a ray of light passing from the objective to one prism be twice deflected in each prism and be allowed to pass from the second prism to the eyepiece, and means for adjusting said two prisms in a direction at right angles to the axis of said cylindrical casing.

2. In a telescope, the combination with a cylindrical casing provided with screw-threads at both ends, of a cover with an eccentric eyepiece, a bottom with an eccentric objective, two internally-screw-threaded rings for fastening said cover and said bottom on the screw-threads of said cylindrical casing, said eyepiece and said objective being placed with their axes in the same central longitudinal plane of said cylindrical casing and parallelly and symmetrically to its axis, a plate inserted between said bottom and the edge of said cylindrical casing and provided with a round aperture in the axis of said objective, two like Nachet's prisms placed side by side on said plate and so that a ray of light passing from the objective to one prism be twice deflected in each prism and be allowed to pass from the second prism to the eyepiece, a bridge bearing on said two prisms, and two adjusting-screws for connecting said plate with said bridge.

3. In a telescope, the combination of two substantially similar Nachet's prisms placed side by side on a plane at right angles to the longitudinal axis of the telescope, their inclined faces parallel to the telescope-axis forming a right angle, the adjacent parallel faces of said prisms being in surface contact and the non-adjacent corresponding parallel faces being directed one toward the objective and the other toward the eyepiece.

4. In a telescope, the combination with a cylindrical prism-casing, of an eyepiece and an objective both placed with their axis in the same central longitudinal plane of said cylindrical prism-casing and parallelly and symmetrically to its axis, a frame in said cylindrical prism-casing at right angles to its axis, two like Nachet's prisms placed side by side on said frame, their inclined faces parallel to the longitudinal axis of the casing forming a right-angled corner and the adjacent parallel faces of said prisms being in surface contact and the non-adjacent corresponding parallel faces being directed one toward the eyepiece and the other toward the objective, and means for adjusting said two prisms on said frame.

5. In a telescope, the combination with a cylindrical prism-casing provided with screw-threads at both ends, of a cover with an eccentric eyepiece, a bottom with an eccentric objective, two internally-screw-threaded rings for fastening said cover and said bottom on the screw-threads of said cylindrical casing, said eyepiece and said objective being placed with their axes in the same central longitudinal plane of said cylindrical prism-casing and parallelly and symmetrically to its axis, a frame in said cylindrical prism-casing at right angles to its axis, two like Nachet's prisms placed side by side on said frame, their inclined faces parallel to the longitudinal axis of the casing forming a right-angled corner and the adjacent parallel faces of said prisms being in surface contact and the non-adjacent corresponding parallel faces being directed one toward the eyepiece and the other toward the objective and means for adjusting said two prisms on said frame.

6. In a telescope, the combination with a cylindrical prism-casing provided with screw-threads at both ends, of a cover with an eccentric eyepiece, a bottom with an eccentric objective, two internally-screw-threaded rings for fastening said cover and said bottom on the screw-threads of said cylindrical prism-casing, said eyepiece and said objective being placed with their axis in the same central longitudinal plane of said cylindrical casing and parallelly and symmetrically to its axis, a plate inserted between said bottom and the edge of said cylindrical prism-casing and provided with a round aperture in the axis of said objective, two like Nachet's prisms placed side by side on said plate, their inclined faces parallel to the longitudinal axis of the casing forming a right-angled corner and the adjacent parallel faces of said prisms being in surface contact and the non-adjacent corresponding parallel faces being directed one toward the eyepiece and the other toward the objective, a bridge bearing on said two prisms, and two adjusting-screws for connecting said plate with said bridge.

7. In a binocular telescope, the combination with two cylindrical prism-casings parallel to each other, of means for combining said two cylindrical prism-casings, two eyepieces and two objectives placed with their axes in the same central longitudinal planes of said two cylindrical prism-casings and parallelly and symmetrically to their axes, two frames in said two cylindrical prism-casings at right angles to their axes, two pairs of like Nachet's prisms on said two frames, the prisms of each pair being placed side by side in the same direction in each prism-casing, so that their inclined faces parallel to the axis of the casing form a right-angled corner and the adjacent parallel faces of said prisms being in surface contact and the non-adjacent corresponding parallel faces being directed one toward the eyepiece and the other toward the objective, and means for adjusting said two pairs of prisms on said two frames.

8. In a binocular telescope, the combination with two cylindrical prism-casings parallel to each other and each provided with screw-threads at both ends, of means for combining said two cylindrical prism-casings, two covers with two eccentric eyepieces, two bottoms with two eccentric objectives, four internally-screw-threaded rings for fastening said two covers and said two bottoms on the screw-threads of said two cylindrical prism-casings, each eyepiece and each objective being both placed with their axes in the same central longitudinal plane of the respective prism-casing and parallelly and symmetrically to its longitudinal axis, two frames in said two cylindrical prism-casings at right angles to their axes, two pairs of like Nachet's prisms on said two frames, the prisms of each pair being placed with their axes side by side in the same direction in each prism-casing, so that their inclined faces parallel to the axis of the casing form a right-angled corner and the adjacent parallel faces of said prisms being in surface contact and the non-adjacent corresponding parallel faces being directed one toward the eyepiece and the other toward the objective, and means for adjusting said two pairs of prisms on said two frames.

9. In a binocular telescope, the combination with two cylindrical prism-casings parallel to each other and each provided with screw-threads at both ends, of means for combining said two cylindrical prism-casings, two covers with two eccentric eyepieces, two bottoms with two eccentric objectives, four internally-screw-threaded rings for fastening said two covers and said two bottoms on the screw-threads of said two cylindrical prism-casings, each eyepiece and each objective being both placed with their axes in the same central longitudinal plane of the respective prism-casing and parallelly and symmetrically to its axis, two plates inserted between said two bottoms and the edges of said two cylindrical prism-casings and each provided with a round aperture in the axis of the objective, two pairs of like Nachet's prisms on said two plates, the prisms of each pair being placed side by side in the same direction in each prism-casing, so that their inclined faces parallel to the longitudinal axis of the casing form a right-angled corner and the adjacent parallel faces of said prisms being in surface contact and the non-adjacent corresponding parallel faces being directed one toward the eyepiece and the other toward the objective, two bridges bearing on said two pairs of prisms, and four adjusting-screws for connecting said two plates with said two bridges.

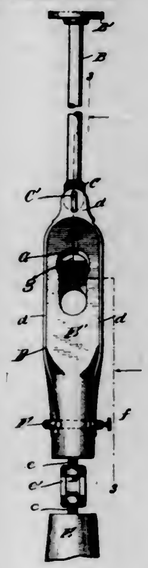
844,187. HAND DEVICE FOR OPERATING SEWING-MACHINES. MILDRED J. RAPIER, Beaumont, Tex. Filed Aug. 11, 1906. Serial No. 330,241.

Claim.—1. An attachment for sewing-machines consisting of an upright rod adapted to pass upwardly through an opening in the table of the machine and having its lower end threaded, a clamp member adapted to be detachably secured to the upper end of the pitman of the machine, said clamp having spaced upwardly-extending ears, and a joint-rod pivotally held at its lower end between said ears, and having a threaded upper end adapted for engagement with the threaded lower end of the upright rod.

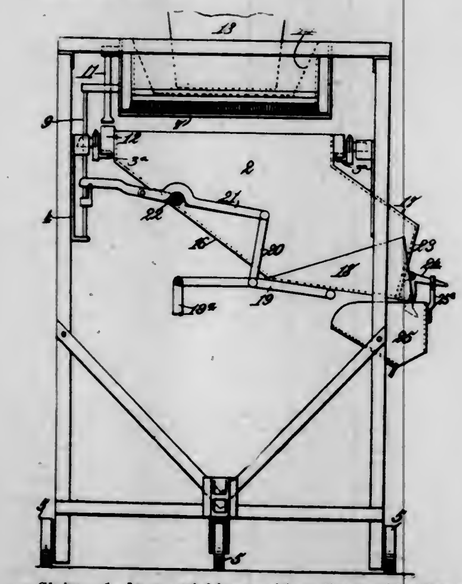
2. An attachment for sewing-machines consisting of an upright rod adapted to pass upwardly through an opening in a machine-table, and having its lower end threaded, a clamp member having downwardly-extending arms adapted to be detachably secured to the upper end of the pitman of the machine, spaced upwardly-extending ears at the upper end of the clamp, said clamp having an opening through the same between the ears adapted to receive the upper end of a pin in the upper end of the pitman, a joint-rod pivotally held at its lower end between said ears and having its upper end threaded for engagement with the threaded lower end of the upright rod.

3. An attachment for sewing-machines consisting of an upright rod adapted to pass upwardly through an opening in a machine-table and having its lower end threaded, a clamp member having resilient downwardly-extending arms adapted to fit the upper end of the pitman of the machine, a slidable ring surrounding said resilient arms, said

clamp member having its upper end pivotally secured to the lower end of the upwardly-extending rod which extends through the machine-table.



844,188. AUTOMATIC WEIGHING-MACHINE. HENRY RICHARDSON, New York, N. Y. Filed Nov. 22, 1905. Serial No. 288,740.

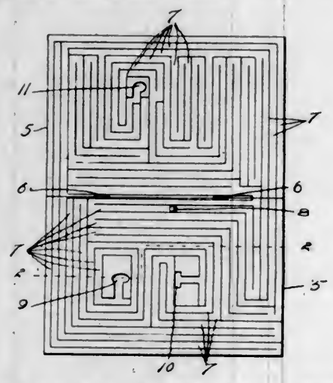


Claim.—1. In a weighing-machine, the combination of a scale-beam, a weighing-bucket mounted upon the scale-beam solely for rising-and-falling motion and having opposite sloping walls, one of which initially receives a stream of material directed into the bucket, the other wall having at its lower end a depending wall separated from the companion sloping wall to provide an outlet for the discharge of material from the bucket, and a valve to close said outlet and to fit when closed substantially against said depending wall.

2. The combination of weighing mechanism including a bucket provided with a closer, and a latch for holding the closer shut, stream-supplying means for the bucket, and a sacking-spout under the bucket having means to trip the latch.

3. In a weighing-machine, the combination with a beam, a bucket supported by said beam, provided with a sloping wall and with an outlet for the delivery of a load of material from said bucket, an oscillatory valve on the bucket for controlling said outlet, the axis of motion of said valve being at right angles to the axis of motion of the beam, a latch to hold said valve shut, and a sacking-spout under the bucket, having means to trip said latch.

844,189. PUZZLE. FELIX RINGL, Arnold, Pa. Filed Apr. 5, 1906. Serial No. 310,163.



Claim.—A device of the class described comprising a pair of hinged members having intercommunicating grooves formed therein.

844,190. PAPER-BOX MACHINE. EDWARD N. ROWELL and JAMES LITTLE, Batavia, N. Y., assignors to E. N. Rowell Company, Batavia, N. Y. Filed May 15, 1894. Serial No. 511,314.

Claim.—1. The combination with the movable table or support, of a mandrel movable toward and from said table or support, substantially as set forth.

2. The combination with the reciprocating table, of a mandrel adapted to bear against said table, and a movable frame supporting said mandrel, substantially as set forth.

3. The combination with the reciprocating table, of mandrels adapted to bear successively against said table, and a rotary frame provided with bearings supporting said mandrels, substantially as set forth.

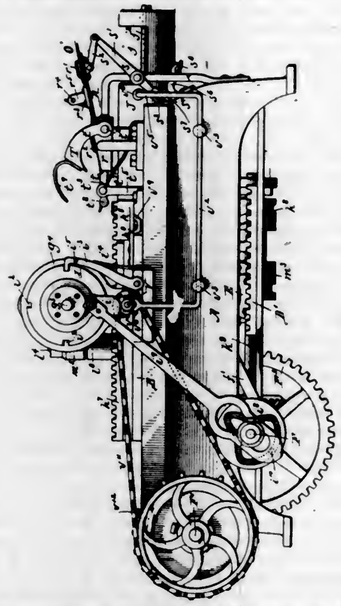
4. The combination with the movable table or support, of a mandrel for receiving the body portion of the box, a frame supporting the mandrel and movable toward and from the table, and a wheel mounted on the shaft of the mandrel and engaging with said table, substantially as set forth.

5. The combination with the movable table, of a rotary frame, shafts journaled in said frame and provided with mandrels adapted to bear against said table, substantially as set forth.

6. The combination with the movable table provided with a gear-rack and the standard arranged adjacent to the table, of a rotary frame pivoted on said standard, shafts journaled in said frame and provided with mandrels adapted to bear against the table and gear-wheels mounted on said shafts and adapted to engage with said gear-rack, substantially as set forth.

7. The combination with the movable table, of a rotary frame provided with mandrels adapted to bear against the table, a ratchet-wheel connected with said frame and a ratchet-lever provided with a pawl engaging with said ratchet-disk, substantially as set forth.

8. The combination with the movable table, of a rotary frame provided with mandrels adapted to bear against said table, a ratchet-wheel connected with said frame, a detent-pawl engaging with said ratchet-wheel, and a ratchet-lever adapted to engage with the detent-pawl for throwing the same out of engagement with the ratchet-wheel, and provided with a pawl engaging with said ratchet-wheel, substantially as set forth.



9. The combination with the movable table, of a rotary frame provided with mandrels adapted to bear against said table, a ratchet-wheel connected with said frame, a ratchet-lever connected with the ratchet-wheel and a cam for actuating said ratchet-lever, substantially as set forth.

10. The combination with the movable table provided with a fixed gear-rack, of a yielding gear-rack arranged at one end of the fixed gear-rack, a shaft journaled on a frame and provided with a mandrel, and a gear-wheel secured to said shaft and adapted to engage with the fixed and yielding gear-racks, substantially as set forth.

11. In a box-machine, the combination with a horizontal magazine in which the box-heads are adapted to stand on edge, of a vertically-movable feed-plate for successively removing the box-heads from said magazine, a mandrel mounted on a horizontal shaft, and a horizontally-swinging carrier-arm which is provided with means for seizing said box-heads and whereby the latter are conveyed from the magazine to said mandrel, substantially as set forth.

12. The combination with a horizontal magazine adapted to contain the box-heads, of a mandrel mounted on a horizontal shaft, and an oscillating horizontal carrier-arm having depending jaws adapted to grasp the box-heads in said magazine, substantially as set forth.

13. In a box-machine, the combination with a horizontal magazine in which the box-heads are adapted to stand on edge, of a vertically-movable feed-plate for successively removing the box-heads from said magazine, a mandrel mounted on horizontal shaft and a horizontally-swinging carrier-arm provided with a fixed jaw and an opposing yielding jaw movable toward and from the fixed jaw, substantially as set forth.

14. The combination with the magazine and the mandrel, of a carrying-arm which carries the box-heads from the magazine to the mandrel, a rock-sleeve, and a spindle supporting the carrier-arm and capable of sliding in said sleeve, but compelled to turn therewith, substantially as set forth.

15. The combination with the magazine and the mandrel, of a carrying-arm which carries the box-heads from the magazine to the mandrel, a rock-sleeve provided with a rock-arm, a spindle supporting the carrying-arm and capable of sliding in said sleeve but compelled to turn therewith, an elbow-lever for rocking said sleeve, an elbow-lever for reciprocating the spindle and cams whereby the elbow-levers are actuated, substantially as set forth.

16. The combination with the magazine, the mandrel and the mandrel-frame, of a carrying-arm which carries the box-heads to the mandrel, and a guide arranged on the mandrel-frame for steadying the carrying-arm, substantially as set forth.

17. The combination with a magazine which receives a stack of box-heads, of a mandrel adapted to receive the body of the box, a feeder which removes the foremost head from the magazine, a carrier which receives such head from the feeder and conveys the head to the mandrel, and a holding-disk which removes the head from the carrier and holds the head against the mandrel, substantially as set forth.

18. The combination with the mandrel and the carrier which carries the box-heads to the mandrel, a sliding rod provided at one end with a holding-disk which is adapted to hold said heads against the mandrel, a rock-lever loosely connected at one end with said sliding rod, a follower arranged upon the sliding rod and yieldingly held against the rock-lever by a spring and a cam whereby the rock-lever is actuated, substantially as set forth.

19. The combination with the band-supporting rail, of a mandrel adapted to bear against said rail, substantially as set forth.

20. The combination with the band-supporting rail, of a mandrel adapted to bear against said rail and a turning-rail arranged adjacent to the supporting-rail, substantially as set forth.

21. The combination with the band-supporting rail, of a mandrel adapted to bear against said rail and a turning-rail made adjustable toward and from the supporting-rail, substantially as set forth.

22. The combination with the band-supporting rail and the mandrel, of a turning-roll arranged adjacent to the supporting-rail and guide-rails arranged on opposite sides of the turning and supporting rails, substantially as set forth.

23. The combination with the mandrel, of a band-supporting rail and a gripper arranged on said rail, substantially as set forth.

24. The combination with the mandrel and the band-supporting rail, of a rock-shaft provided with a trip-arm, a gripper secured to the rock-shaft and adapted to seize a band of paper, and a trip-cam adapted to engage against the trip-arm for opening the gripper, substantially as set forth.

25. The combination with the mandrel and the band-supporting rail provided with a gripping-face, a rock-shaft provided with a trip-arm, a gripper secured to the rock-shaft, a spring whereby the gripper is held against the gripping-face, a movable trip-cam adapted to engage with the trip-arm and capable of moving in one direction to clear the trip-arm but held against movement in the opposite direction for actuating the trip-arm, substantially as set forth.

26. The combination with the mandrel and the band-supporting rail provided with a gripper, of a band-feeding plate adapted to move toward and from the gripper, substantially as set forth.

27. The combination with the mandrel and the movable band-supporting rail provided with a gripper, of a movable feed-plate and intermediate mechanism connecting the feed-plate with the band-supporting rail, substantially as set forth.

28. The combination with the mandrel, the reciprocating table provided with a pin and the band-supporting rail provided with a gripper, of a movable feed-plate for

feeding the band to the gripper, a rock-lever connected at one end with said feed-plate, and adapted to engage its opposite end with said pin and a catch for holding the rock-lever in its normal position, substantially as set forth.

29. The combination with the mandrel, the reciprocating table, and the band-supporting rail provided with a gripper of a movable feed-plate whereby the band is fed to the gripper, a rock-lever having one of its arms connected with the feed-plate and having its other arm provided with a fork, a pin arranged on the reciprocating table and adapted to engage with said fork for actuating the rock-lever, and a pivoted catch having a notch engaging with said fork for holding the rock-lever in its normal position, substantially as set forth.

30. The combination with the mandrel and the band-supporting rail provided with a gripper, of a movable feed-plate adapted to feed the band to said gripper and a detent-plate adapted to bear upon the band, substantially as set forth.

31. The combination with the mandrel and the band-supporting table provided with a gripper, of a movable feed-plate whereby the band is fed to the gripper, a detent-plate pivoted on the feed-plate and a spring whereby the detent-plate is yieldingly held against the band, substantially as set forth.

32. The combination with the band-supporting rail provided with a gripper, of a feed-plate for delivering the band to the gripper, a cutter for severing the band, and a mandrel bearing on said supporting-rail, substantially as set forth.

33. The combination with the mandrel and the band-supporting rail provided with a gripper, of a feed-plate for delivering the band to said gripper, a cutter for severing the band arranged adjacent to the feed-plate, a rock-shaft supporting the cutter and provided with a rock-arm and a cam connected with said arm for actuating the cutter, substantially as set forth.

34. The combination with the mandrel and the band-supporting rail provided with a gripper, of a feed-plate for delivering the band to said gripper, a cutter for severing the band arranged adjacent to the feed-plate and a holding-finger whereby the band is guided and held upon the supporting-rail, substantially as set forth.

35. The combination with the mandrel and the band-supporting rail, of a finishing-roller adapted to press the band against the body and the head of the box, substantially as set forth.

36. The combination with the mandrel, of a pivoted swivel-ring and finishing-rollers pivoted on said ring, substantially as set forth.

37. The combination with the mandrel, of a pivoted supporting-plate, a swivel-ring pivoted on said plate and finishing-rollers pivoted on the swivel-ring, substantially as set forth.

38. The combination with the mandrel, of a pivoted frame, a supporting-plate pivoted on said frame, a swivel-ring pivoted on said plate, and finishing-rollers pivoted on said ring, substantially as set forth.

39. The combination with the mandrel, of a pivoted frame, a spring for yieldingly holding the frame in a raised position, a supporting-plate pivoted on the frame, a swivel-ring pivoted on the supporting-plate, finishing-rollers pivoted on the swivel-ring and a stop for shifting the position of the finishing-rollers, substantially as set forth.

40. The combination with the mandrel and the sliding rod provided with a holding-disk, of a supporting-plate provided with finishing-rollers and an arm formed on the supporting-plate and adapted to engage with the sliding rod for shifting the finishing-rollers, substantially as set forth.

41. The combination with the band-supporting rail, the finishing-roller and the rotary mandrel adapted to engage alternately with the rail and the roller, of driving mechanism adapted to increase the rotary movement of the mandrel when the latter engages with the finishing-roller, substantially as set forth.

42. The combination with the band-supporting rail, the finishing-roller and the rotary mandrel, of a driving-shaft adapted to be coupled with the mandrel when the latter engages with the finishing-roller, substantially as set forth.

43. The combination with the band-supporting rail, the finishing-roller and the rotary mandrel provided with a gear-wheel, of a movable gear-rack adapted to engage with the mandrel gear-wheel when the mandrel engages with the band-supporting rail, and a driving gear-wheel adapted to engage with the mandrel gear-wheel when the mandrel engages with the finishing-roller, substantially as set forth.

44. The combination with the band-supporting rail, the finishing-roller and the rotary mandrel provided with a gear-wheel, of a movable gear-rack adapted to engage with the mandrel gear-wheel when the mandrel engages with the band-supporting rail, a driving gear-wheel adapted to engage with the mandrel gear-wheel when the mandrel engages with the finishing-roller, and a longitudinally-movable shaft carrying the driving gear-wheel, substantially as set forth.

45. The combination with the band-supporting rail, the finishing-roller and the rotary mandrel provided with a gear-wheel, of a movable gear-rack adapted to engage with the mandrel gear-wheel when the mandrel engages with the band-supporting rail, a driving gear-wheel adapted to engage with the mandrel gear-wheel when the mandrel engages with the finishing-roller, a longitudinally-movable shaft carrying the driving gear-wheel, and a cam adapted to move the shaft lengthwise, substantially as set forth.

46. The combination with the folding-head provided with a folding face or cavity, of a plunger whereby the box is carried against said face for partly folding the band over the edge of the box-body, and a movable finishing-head constructed to enter the box-body and adapted to fold the partly-turned band against the inner side of the box-body, substantially as set forth.

47. The combination with a hollow folding-head provided with a folding face or cavity, of a plunger whereby the box is carried against said face for partly folding the band over the edge of the box-body, and a finishing-head arranged to move in the hollow head toward and from said plunger and constructed to enter the box-body, for folding the partly-turned band against the inner side of the box-body, substantially as set forth.

48. The combination with the folding-head provided with a folding-face, of a plunger whereby the box is carried against said face for turning the band over the edge of the box-body, a finishing-head whereby the band is turned against the inner side of the box-body and actuating mechanism whereby a combined reciprocating and rotary movement is imparted to the finishing-head, substantially as set forth.

49. The combination with the folding-head provided with a folding-face, of a plunger whereby the box is carried against said face for turning the band over the edge of the box-body, a finishing-head arranged in the folding-head and adapted to turn the band against the inner side of the box-body, a longitudinally-movable rod connected with said finishing-head and provided with a spiral groove and a stationary pin engaging with said groove, substantially as set forth.

50. The combination with the folding-head provided with a folding-face, of a plunger whereby the box is carried against said face for turning the band over the edge of the box-body, a finishing-head arranged in the folding-head and adapted to turn the band against the inner side of the box-body, a longitudinally-movable rod connected with said finishing-head and provided with a spiral groove, a stationary pin engaging with said groove, a rock-lever connected with said rod, and cams for actuating the plunger and the rock-lever, substantially as set forth.

51. The combination with the folding-head and the plunger whereby the boxes are carried against the folding-head for turning the band over the edge of the body, of a movable finishing-head arranged within the folding-head and adapted to turn the band against the inner side of the body, and a spring-pressed ejector arranged in the face of the finishing-head, substantially as set forth.

52. The combination with the reciprocating table, of a mandrel for receiving the body portion of the box, a frame supporting the mandrel and made movable toward and from the table, and a friction-wheel mounted on the shaft of the mandrel and running in contact with the table, substantially as set forth.

53. The combination with a reciprocating table having a band-supporting rail and a wheel-operating rail, of a rotary frame, shafts journaled in said frame and provided with mandrels adapted to bear against said band-supporting rail, and wheels mounted on said shafts and adapted to bear against said operating-rail, substantially as set forth.

54. The combination with the mandrel, of a carrying-head adapted to carry the bottom heads of the box to the mandrel, and a holding-disk whereby the bottom head is removed from the carrying-head and held against the mandrel, substantially as set forth.

55. The combination with the reciprocating table and the mandrel, of a band-supporting rail arranged on said table in line with the mandrel, substantially as set forth.

56. The combination with the reciprocating table and the mandrel, of a band-supporting rail arranged on said table, and a turning-rail arranged adjacent to the band-supporting rail, substantially as set forth.

57. The combination with the reciprocating table and the mandrel, of a band-supporting rail arranged on said table, and a turning-rail made adjustable toward and from the band-supporting rail, substantially as set forth.

58. The combination with the reciprocating table and the mandrel, of a band-supporting rail arranged on said table, a turning-rail arranged adjacent to the band-supporting rail, and guide-rails arranged on opposite sides of said turning and band-supporting rails, substantially as set forth.

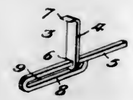
59. The combination with the reciprocating table and the mandrel, of a band-supporting rail arranged on said table, and a gripper arranged on said band-supporting rail, substantially as set forth.

60. The combination with the reciprocating table and the mandrel, of a band-supporting rail arranged on said table, a rock-shaft journaled on the table, and provided with a trip-finger, a gripper secured to the rock-shaft and adapted to seize the band of paper, and a trip-block adapted to engage against the finger of the rock-shaft for opening the gripper, substantially as set forth.

61. The combination with the mandrel and the reciprocating table provided with a gripper, of a band-feeding table movable toward and from the gripper, substantially as set forth.

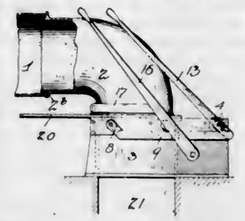
62. The combination with the reciprocating table carrying a gripper, of a feed-table for delivering the band upon the reciprocating table, a cutter for severing the band, arranged in front of the feed-table, and a mandrel running in contact with the reciprocating table, substantially as set forth.

844,191. DOOR-SECURER. CHARLES SCHEER, Silverton, Colo. Filed Feb. 27, 1906. Serial No. 303,197.



Claim.—A door-securer comprising as a whole a retaining-bar and a locking-bar, said retaining-bar consisting of a length of strap metal provided adjacent one end with a lateral non-circular opening having the locking-bar fitted for sliding movement therein, the other end of the retaining-bar being bent at right angles to the plane of its flattened faces and sharpened to form an engaging portion, said locking-bar consisting of a length of bar metal having a portion thereof folded backward upon itself, an elongated link for permanently and movably connecting the locking-bar with the retaining-bar, the locking-bar being of non-circular cross-sectional form corresponding to the shape of the opening and for non-rotation in the latter.

844,192. VALVE. REINHOLD SCHNEIDER, Sharon, Pa. Filed Aug. 24, 1906. Serial No. 331,948.



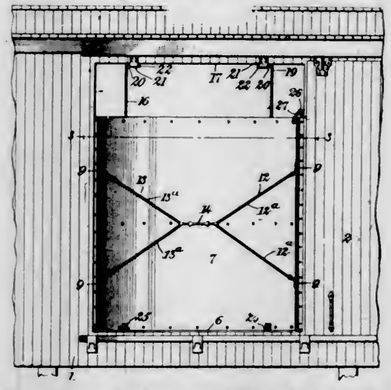
Claim.—1. The combination with a reciprocating valve and its seat, of antifriction devices, and means whereby said valve and devices are out of contact with each other when the valve is stationary and in closing position.

2. The combination with a valve-seat and a horizontally-moving valve adapted to rest thereon by gravity, of antifriction-rollers, and means for raising them into contact with the under side of the valve to lift it off its seat.

3. The combination with a horizontal valve-seat and a horizontally-moving valve-body, of a track or guide on one of said elements, a plurality of coacting, antifriction-rollers on the other, eccentric-shafts upon which said rollers are journaled, and means for rocking said shaft in unison.

4. The combination with the chimney-flue and oven-flue, of a valve-base upon the chimney-flue having a horizontal valve-seat, a valve-body capable of longitudinal movement upon said base to and from said oven-flue, antifriction-rollers carried outside the valve-base, and means for raising them into contact with the base of the valve-body.

844,193. GRAIN-DOOR FOR CARS. EMILE SCHREIBER, Atchison, Kans. Filed Feb. 28, 1906. Serial No. 303,374.



Claim.—1. A grain-door, consisting of a curved plate having means adapted to draw the edges thereof toward each other or force the same apart.

2. A grain-door, consisting of a flexible plate having a link of adjustable length and attached substantially at the opposite edges thereof, whereby said edges may be drawn together or forced apart.

3. A grain-door consisting of a flexible plate having a link formed of sections attached near the vertical edges of said plate, and a turnbuckle connecting said link-sections and affording means for contracting or extending said link.

4. A car having a doorway, a grain-door mounted in said doorway and consisting of a curved, flexible plate having means for extending the same, said doorway having means at the jambs thereof for retaining the edges of said plate.

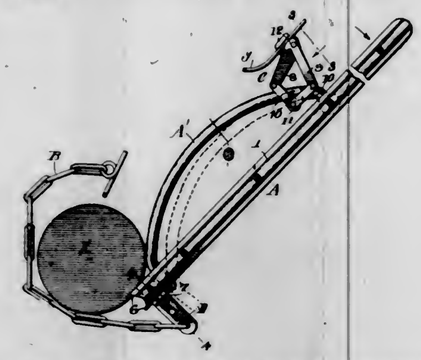
5. A car having a doorway presenting jambs with ver-

tical grooves therein, in combination with a grain-door consisting of a curved, flexible plate the edges whereof are adapted to engage said grooves, and means for contracting or extending the width of said plate.

6. A car having a doorway presenting substantially vertical guide-grooves in the jambs thereof, a curved sill resting on the car-floor and having its convex side disposed between the central, longitudinal axis of the car, a flexible plate constituting a door having its lower edge normally resting against said sill and having its edges received in said grooves, and an adjustable link connecting said edges and affording means for drawing said edges inwardly or forcing the same apart.

7. A car presenting oppositely-disposed doorways, doors mounted in said doorways and adapted to swing inwardly into the interior of said car, said doors consisting of curved plates having their convex faces disposed inwardly and having links connecting their vertical edges, and means for supporting one of said doors, when sprung inwardly, from the roof of the car, the other of said doors having a hook adapted to engage the link on the opposite door to support the same.

844,194. WIRE-STRETCHER. OTTO C. A. SCHWIEN, Davenport, Iowa. Filed July 28, 1906. Serial No. 328,178.



Claim.—1. The improved wire-stretcher comprising a lever, and an arc-bar attached thereto, a wire-clamp adapted to travel on said arc-bar, and a chain connected with the inner end of the lever adjacent to the arc-bar, substantially as described.

2. The improved wire-stretcher comprising a lever, a curved bar attached thereto and extending backward from the inner end of the lever, a wire-clamp adapted to travel on said arc-bar, and means for connecting the lever temporarily with the post, substantially as described.

3. The improved wire-stretcher comprising a lever formed of two longitudinal parts spaced apart in the body portion, an arc-bar whose ends are inserted and secured between said portions of the lever, a wire-clamp adapted to travel on the arc-bar, and means connecting the lever with the post during the stretching operation, substantially as described.

4. In a wire-stretcher, a lever comprising two parts each having a longitudinal central rib and laterally-projecting flanges, and means for spacing the two parts from each other, and means for rigidly connecting them, substantially as described.

5. The improved wire-stretcher comprising a lever, a wire-clamp and a curved part upon which it travels, the inner end of the lever having points adapted to take into and engage a post, and a chain for temporarily attaching the lever to a post, substantially as described.

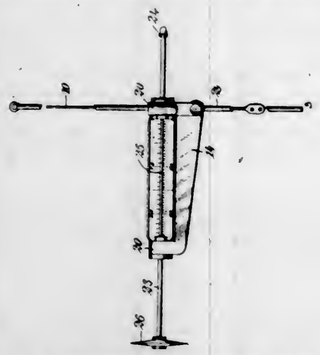
6. In a wire-stretcher, the improved lever comprising two longitudinal parts which are rigidly connected, the inner end of the said parts being provided with teeth on opposite sides, as and for the purpose specified.

7. In a wire-stretcher, the combination with a lever, an arc-bar attached thereto, and a wire-clamp adapted to travel on the arc-bar, of a chain, and a lateral arm rigidly attached to the inner end of the lever with which said chain is connected, and means for engaging the free end of the chain when drawn around the post as required for the stretching operation, substantially as described.

8. In a wire-stretcher, the combination with the lever, the wire-clamp and a guide on which the latter travels, of a chain connected with the inner end of the lever, and means for engaging and temporarily locking the free end of the chain, as described.

9. In a wire-stretcher, the combination with a lever having its inner end toothed, a curved part upon which a wire-clamp is adapted to travel, a chain loosely connected with the inner end of the lever, and notched plates adapted for engagement with the free end of the chain for temporarily locking it, substantially as described.

844,195. PLANIMETER. EUGENE M. SCOVILLE, Waipahu, Hawaii. Filed Feb. 16, 1906. Serial No. 301,371.



Claim.—1. A planimeter comprising a frame, a shaft movable through the frame and provided with a tracing-wheel, and means on the frame for detachably supporting a plurality of scales longitudinally of the shaft and with their edges adjacent thereto and in spaced relation with respect to each other.

2. In a planimeter, the combination with a frame, of a pair of rotatable collars thereon, a shaft movable through the collars and a plurality of scales held by said collars, said frame having bearings and the collars having bearing-surfaces adjacent to said bearings.

3. In a planimeter, the combination of a frame having a pair of projections provided with passages therethrough in alinement with each other, and a pair of collars, one on the inside of each of the said projections extending into the passages, said collars having slots for receiving scales between them.

4. In a planimeter, the combination of a frame having a pair of projections provided with passages therethrough in alinement with each other, a pair of collars, one on the inside of each of the said projections extending into the passages, said collars having slots for receiving scales between them, a pair of collars located on the outside of said projections, said last-named collars having screw-threaded extensions located in said passages for permitting adjustment of the collars, a shaft passing through the several collars and having a registering-mark, and ball-bearings located between the adjacent ends of the inside and outside collars.

5. In a planimeter, the combination of a frame having adjustable bearings, a shaft passing through said bearings, a knife-edged wheel secured to the shaft, an adjustable bar at right angles to said shaft, and a tracing-point on the bar.

6. In a planimeter, the combination of a frame having adjustable bearings, a shaft passing through said bearings, a knife-edged wheel secured to the shaft, an adjustable bar at right angles to said shaft, a tracing-point on the bar, a caster swiveled to the frame, and means for adjusting the caster.

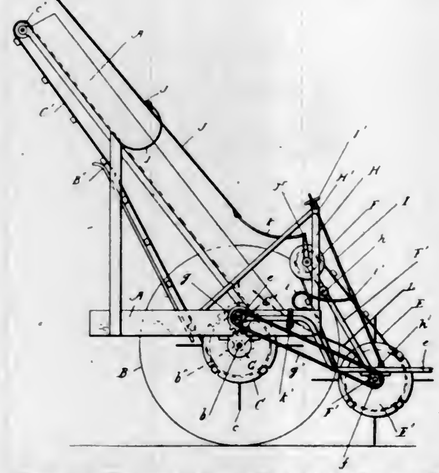
7. In a planimeter, the combination with a frame of a shaft mounted for rotation and longitudinal movement thereon, a knife-edged wheel thereon, a bar on the frame at right angles to said shaft and longitudinally movable, and a member swiveled to turn on an axis at right angles to the shaft and to the bar, said member having a pointer, and a caster rotatably mounted on said member and located with its axis in a vertical plane passing through the pointer.

8. A planimeter having a swiveled member, a pair of pointers extending downwardly therefrom, a pair of pointed screws adjustably mounted in said members, their points extending inwardly toward each other, and a caster having depressions for receiving said points and located between said pointers, the extremities of said pointers being below the bottom of the caster and vertically below the adjustable points.

9. In a planimeter, the combination with a frame of a shaft mounted for rotation and longitudinal movement thereon, a knife-edged wheel thereon, a bar on the frame at right angles to said shaft and longitudinally movable, a member swiveled to turn on an axis at right angles to the shaft and to the bar, said member having a pointer, and a caster rotatably mounted on said member and located with its axis in a vertical plane passing through the pointer, and a track on which the caster is adapted to run, said track having means for holding an indicator-card.

10. The combination of a planimeter having a swiveled caster, and a track upon which said caster is adapted to run, said track having a clip for receiving and holding an indicator-card.

844,196. HAY-LOADER. CHARLES J. SHAW, Owosso, Mich. Filed Mar. 12, 1906. Serial No. 305,607.



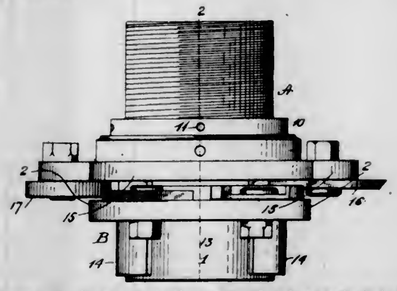
Claim.—1. The combination, with a hay-loader provided with a main elevator having a toothed hay-cylinder at its lower part, of an auxiliary frame pivoted to the frame of the said hay-loader, a driven shaft journaled in the said pivoted frame and provided with a driven wheel, a driving-wheel journaled concentric with the pivot of the said auxiliary frame, a driving device connecting the said wheels, upwardly-projecting guide-bars secured to the frame of the said hay-loader, side bars having their lower ends pivoted on the said shaft and provided with bearing-pieces at their upper parts which run on the said guide-bars, and an auxiliary endless elevator carried by the said shaft and the upper end portions of the said side bars, said auxiliary elevator being movable bodily in an upward direction and its upper part being arranged above the level of the said hay-cylinder and being movable rearwardly independent of its lower part.

2. The combination, with a hay-loader provided with a main elevator, of an auxiliary frame pivoted to the frame of the said hay-loader, a driven shaft journaled in the said pivoted frame and provided with a driven wheel, a driving-wheel journaled concentric with the pivot of the said auxiliary frame, a driving device connecting the said wheels, guides secured to the frame of the said hay-loader, inclined side bars having their lower end portions pivoted concentric with the said shaft and having bearing-pieces at their upper parts which run on the said guides, means for limiting the downward movement of the free end portion of the said auxiliary frame, springs connected to the frame of the said hay-loader and assisting the upward movement of the said auxiliary frame, and an auxiliary endless elevator carried by the said shaft and the upper portion of the said side bars, said auxiliary elevator being movable bodily in an upward direction and its upper part being movable rearwardly independent of its lower part.

3. The combination, with a hay-loader provided with a main elevator having a toothed hay-cylinder at its lower part, of an auxiliary frame pivoted to the frame of the said hay-loader, a driven shaft journaled in the said pivoted frame and provided with a driven wheel, a driving-wheel journaled concentric with the pivot of the said auxiliary frame, a driving device connecting the said wheels, upwardly-projecting guide-bars secured to the frame of the said hay-loader, side bars having their lower ends pivoted on the said shaft and provided with bearing-pieces at their upper parts which run on the said guide-bars, wind-break slats having their lower ends connected with the upper ends of the said side bars, springs connecting the upper parts of the said wind-break slats with the frame of the said main elevator, and an auxiliary endless elevator carried by the said shaft and the upper end portions of the said side bars, said auxiliary elevator being movable bodily in an upward direction and its upper part being arranged above the level of the said hay-cylinder and being movable rearwardly independent of its lower part.

4. The combination, with a hay-loader provided with a main endless elevator, of an auxiliary frame connected to the said hay-loader, an auxiliary endless elevator having side bars the lower ends of which are pivotally connected with the said auxiliary frame, and presser-springs having their lower end portions secured to the said side bars and having free upper end portions which project between the two said elevators.

844,197. ROTARY CUTTER-HEAD. ELMER S. SHIMER, Milton, Pa., assignor to Samuel J. Shimer and Sons Incorporated, Milton, Pa. Filed Nov. 24, 1906. Serial No. 344,890.



Claim.—1. In an expansion cutter-head, a main hub having radially-extending tool-carrying flanges, and an adjustable hub-sleeve slidable upon the main hub having radially-extending tool-carrying flanges, said hub-sleeve being bodily bifurcated to form extension-lugs engaging the interspaces between the tool-carrying flanges of the main hub, projecting longitudinally of the head beyond the tool-carrying flanges.

2. In an expansion cutter-head, a main hub having diametrically opposite radially-extending tool-carrying flanges, an auxiliary hub-sleeve slidable upon the main hub and having a longitudinal bifurcation forming segmental extension-lugs that engage the interspaces between the tool-carrying flanges of the main hub, said auxiliary hub being provided with radially-extending tool-carrying flanges projecting radially beyond the extension-lugs and registering with the interspaces between the tool-carrying flanges of the main hub, and means for effecting adjustment of the auxiliary hub upon the main hub.

3. In a cutter-head of the class described, a main hub having a bore of large diameter and provided with an internal annular flange at its lower end, said hub being externally screw-threaded at its upper end and provided with radially-extending tool-carrying flanges below its threaded portion, in combination with an adjustable hub-sleeve slidable upon the threaded portion of the main hub, said adjustable hub-sleeve having a longitudinal bifurcation forming segmental extension-lugs engaging the interspaces between the tool-carrying lugs of the main hub and diametrically-extending tool-carrying flanges on the main body of the hub-sleeve and a nut engaging the threaded portion of the main hub and connected for rotation with the adjustable hub.

844,198. CATAMENIAL SACK. JACOB J. SHTUCHKA, Rochester, N. Y. Filed Oct. 10, 1906. Serial No. 338,292.



Claim.—1. A device of the character described having its pouch portion bulged inward at the rear, and a strip secured to the outer wall of the rear of said pouch to retain the bulged portion in position to form an inwardly-projecting part to fit the reëntrant form of the wearer.

2. A catamenial sack having its pouch portion provided with an integral horizontal inturned flap projecting forwardly from the rear near the top thereof and an integral inwardly-bulged rear part to fit the reëntrant form of the wearer and means secured to the rear wall of said pouch for maintaining such bulge.

3. A catamenial sack having its pouch portion provided with a discharge-passage, and means within the thicknesses of the material of the pouch for normally distending such discharge-passage said means being independent of and separate from the material of the said passage.

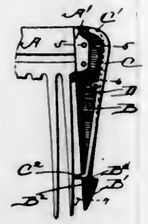
4. A catamenial sack having its pouch portion provided with an elongated flap, means for holding the flap in folded position, and means normally open and closed by the folding of the flap for automatically distending the walls of the discharge-opening when the folded closure is unfastened.

5. A catamenial sack having its pouch portion provided with a discharge-opening with foldable closure and fastening means therefor, and elastic bands on the pouch portion for normally distending the walls of the discharge-passage and adapted to be collapsed by the closing of the foldable closure.

844,199. COMB-FASTENER. JOHN L. SIMPSON, Marion Center, Pa. Filed May 28, 1906. Serial No. 319,167.

Claim.—1. The combination with a comb, of a hollow tooth secured to said comb and an arm pivoted in said tooth adapted to engage the adjacent tooth, for the purpose described.

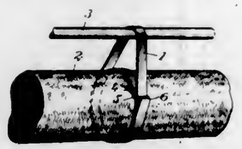
2. The combination with a comb, of a hollow tooth carried by said comb, provided with an opening, and a spring-actuated pivoted arm mounted in said tooth provided with a hooked end adapted to extend out through the opening in said tooth across the slot between the teeth, for the purpose described.



3. The combination with a comb, of a hollow tooth secured to one end of said comb provided with an opened outer edge, an arm mounted in said tooth adjacent said edge, having an angled lower end adapted to extend out through an opening in the tooth, and a spring for holding said end into engagement with the adjacent tooth, for the purpose described.

4. The combination with a comb, of a hollow tooth secured thereon provided with an enlarged point forming a shoulder, an arm pivoted in said tooth provided with an angled end and a spring arranged in said tooth adapted to force the angled end through an opening in the tooth into engagement with the adjacent tooth, for the purpose described.

844,200. CABLE-HANGER. BENJAMIN H. SKINNER, Canton, Ohio. Filed Sept. 11, 1906. Serial No. 344,185.



Claim.—1. A cable-hanger, comprising an imperforate metal band adapted to twice encircle the cable, and a metal ring through which the band passes and to which the ends of the band are secured.

2. A cable-hanger, comprising an imperforate metal band adapted to once encircle the cable and once encircle the cable and supporting-wire, and a metal ring through which the band passes and to which the ends thereof are secured.

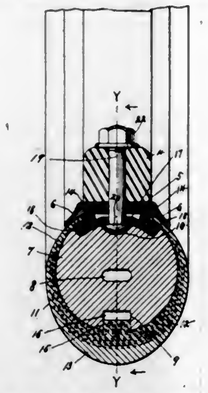
3. A cable-hanger, comprising an imperforate metal band adapted to encircle the cable and also encircle the cable and supporting-wire, and a metal ring through which the band passes and to which the ends thereof are secured.

4. A cable-hanger, comprising an imperforate metal band adapted to encircle the cable and the supporting-wire, and a metal ring through which the band passes and to which the ends thereof are secured.

5. A cable-hanger, comprising a metal band adapted to encircle the cable and also encircle the cable and supporting-wire, and a metal ring through which the band passes and to which the ends of the band are secured by being passed downwardly through said ring and folded back beneath the parts of the band adjacent the ring.

6. In combination, a cable, a supporting-wire, an imperforate metal band encircling said cable and also encircling the cable and supporting-wire, and a metal ring through which the band passes and to which the ends thereof are secured, the ends of said band being inserted through said ring and held between the band and the cable.

844,201. TIRE. HENRY L. SLAGER, Springfield, Ohio, assignor of one-half to Charles Swigart, Cincinnati, Ohio. Filed Aug. 7, 1905. Serial No. 272,956.



Claim.—1. The combination, with a vehicle-wheel, of a tire therefor comprising a central body or core composed of a vulcanized, resilient rubber compound of low wear-resisting qualities, and an outer removable sheath composed of fabric and a rubber compound of high wear-resisting qualities, and means for detachably securing said sheath to the wheel-rim, said core or body having longitudinal grooves or air-spaces on opposite sides thereof and an internal air-space between said first-mentioned air-spaces, said air-spaces being in radial alinement with the rim of said wheel.

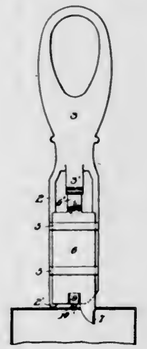
2. The combination, with a vehicle-wheel, of a tire therefor comprising a body or core of vulcanized, resilient rubber compound of relatively low wear-resisting qualities, provided with a longitudinal groove in its outer periphery, and a removable inclosing sheath composed of fabric and a rubber compound of relatively high wear-resisting qualities, said sheath having on the inner surface of its tread portion a rib to engage the grooves of the body or core, and means for detachably connecting said sheath to the wheel-rim, substantially as described.

3. The combination, with a vehicle-wheel, of a tire therefor comprising a body or core of vulcanized, resilient rubber compound of relatively low wear-resisting qualities, provided with a longitudinal groove in its outer periphery, and a removable inclosing sheath composed of fabric and a rubber compound of relatively high wear-resisting qualities, said sheath having on the inner surface of its tread portion a rib to engage the groove of the body or core, and means for detachable connecting said sheath to the wheel-rim, said rib fitting between the side walls of said groove and being of less depth than said groove, whereby an air-space is formed, substantially as described.

4. The combination, with a vehicle-wheel having a channeled metallic rim, of a tire therefor comprising a core or body composed of a vulcanized, resilient rubber compound of relatively low wear-resisting qualities, having a longitudinal groove in the side adjacent to said rim and an outer removable sheath composed of fabric and a rubber compound of relatively high wear-resisting qualities, said sheath being circumferentially rifted at its inner portion, the margins thus formed being provided with engaging devices, and retaining means comprising a metallic band, the margins of which are provided with engaging devices to coöperate with those of the sheath, and bolts having heads adapted to enter the groove in said core and to engage said band from the outside thereof, said bolts extending through the metal rim and wheel-felly and being provided with nuts on their projecting ends, substantially as described.

5. The combination, with a vehicle-wheel having a channeled metallic rim, of a tire therefor comprising a core or body composed of a vulcanized, resilient rubber compound of relatively low wear-resisting qualities, having a longitudinal groove in the side adjacent to said rim and an outer removable sheath composed of fabric and a rubber compound of relatively high wear-resisting qualities, said sheath being circumferentially rifted at its inner portion, the margins thus formed being provided with engaging devices, and retaining means comprising a metallic band, the margins of which are provided with engaging devices to coöperate with those of the sheath, and bolts having heads adapted to enter the groove in said core and to engage said band from the outside thereof, said bolts extending through the metal rim and wheel-felly and being provided with nuts on their projecting ends, said retaining-band being discontinuous and provided with longitudinal slots for the passage of the bolts, substantially as described.

844,202. CAN-OPENER. FREDERICK C. SMALTSTIG, Allegheny, Pa. Filed Dec. 30, 1905. Serial No. 293,940.



Claim.— 1. A can-opener comprising a body formed with a shank portion and a handle portion, a tongue projecting from the handle portion and overhanging the shank portion, a cutter slidable on the shank portion, and a spring projecting from the cutter and adapted to engage said tongue for holding the cutter in adjusted position.

2. A can-opener comprising a body formed with a shank portion and a handle portion connected by an offset whereby the shank and handle portions are out of line with each other, the shank portion constituting a slideway with its inner end open beneath the handle portion, a slidable cutter adapted to be inserted in said open end, and a spring projection on the cutter adapted to bear against the handle portion for holding the cutter positioned.

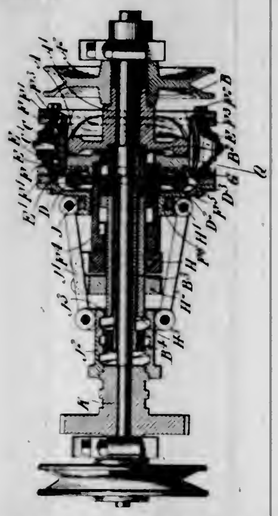
3. A can-opener comprising a body having a slideway, a fulcrum at the forward end of the body, a cutter movable in the slideway, and a spring carried by the cutter and adapted to engage the body for holding the cutter positioned with relation to the fulcrum.

4. A can-opener comprising a body having a slideway and with its forward end provided with two fulcrum-points operative respectively with the cutter in horizontal and in upright position, a cutter movable in the slideway and provided with two blades extending at right angles to each other, and means for holding the cutter in position in the slideway.

5. A can-opener comprising a body having a slideway, one edge of the forward end of the body forming a fulcrum and a second fulcrum projecting forwardly from the body between its edges, a cutter movable in the slideway, forwardly and laterally projecting blades on the cutter, and means for holding the cutter in position in the slideway.

6. A can-opener comprising a body having a slideway, an enlargement at the forward end of the top or front face of the body, a cutter movable in the slideway and notched at its forward end to embrace said enlargement, a blade projecting forwardly from said notched end, the body being constructed with a fulcrum or turning point, and means for holding the cutter in position within the slideway.

844,203. VARIABLE-SPEED GEAR. MAXWELL M. SMITH, London, England, assignor of one-half to Arthur H. Constable, Penshurst, England. Filed Feb. 20, 1906. Serial No. 302,021.



Claim.—1. In a variable-speed gear the combination of a disk member operatively connected to a source of power a second disk member arranged coaxially with the first disk member and held against rotation, a driven member, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a floating cage operatively connected to the driven member and carrying the disk units and having means for adjusting their radial distances from the axis of the disk members and means for axially varying the relative positions of the disk units and the disk members substantially as set forth.

2. In a variable-speed gear the combination of a disk member operatively connected to a source of power a second disk member arranged coaxially with the first disk member, a driven shaft, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a floating cage, carrying the disk units and having means for adjusting their radial distances from the axis of the disk members means for axially varying the relative positions of the disk units and the disk members and means for alternatively holding the second disk member against rotation and coupling the cage to the driven shaft or holding the cage against rotation and coupling the second disk member to the driven shaft, substantially as set forth.

3. In a variable-speed gear the combination of a disk member operatively connected to a source of power a second disk member arranged coaxially with the first disk member, a driven shaft, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a floating cage, carrying the disk units and having means for adjusting their radial distances from the axis of the disk members, means for imparting axial movement to the cage and disk units with relation to the disk members and means for alternatively holding the second disk member against rotation and coupling the cage to the driven shaft or holding the cage against rotation and coupling the second disk member to the driven shaft, substantially as set forth.

4. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member of the same diameter as the first disk member arranged coaxially therewith and held against rotation, a driven member, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, the diameter of each disk unit being not greater than the diameters of the disk members, a floating cage operatively connected to the driven member and carrying the disk units and having means for adjusting their radial distances from the axis of the disk members and means for axially varying the relative positions of the disk units and the disk members substantially as set forth.

5. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member of the same diameter as the first disk member arranged coaxially therewith, a driven shaft, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, the diameter of each disk unit being not greater than the diameters of the disk members, a floating cage, carrying the disk units and having means for adjusting their radial distances from the axis of the disk members means for imparting axial movement to the cage and disk units with relation to the disk members and means for alternatively holding the second disk member against rotation and coupling the cage to the driven shaft or holding the cage against rotation and coupling the second disk member to the driven shaft, substantially as set forth.

6. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member arranged coaxially with the first disk member and held against rotation means for allowing one disk member to have limited axial movement relative to the other disk member, a driven member, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a floating cage operatively connected to the driven member and carrying the disk units and having means for adjusting their radial distances from the axis of the disk members and means for axially varying the relative positions of the disk units and the disk members substantially as set forth.

7. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member arranged coaxially with the first disk member, means for allowing one disk member to have limited axial movement relative to the other disk member, a driven shaft, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a floating cage carrying the disk units and having means for adjusting their radial distances from the axis of the disk members means for axially varying the relative positions of the disk units and the disk members and means for alternatively holding the second disk member against rotation and coupling the cage to the driven shaft or holding the cage against rotation and coupling the second disk member to the driven shaft, substantially as set forth.

8. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member arranged coaxially with the first disk member, a driven shaft, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the periphery of the disk members, a floating cage carrying the disk units and having means for adjusting their radial distances from the axis of the disk members, means for imparting axial movement to the cage and disk units with relation to the disk members, two clutch members on the second disk member, two clutch members connected to the floating cage, a clutch member rotating with but axially movable upon the driven shaft and adapted to be engaged alternatively with one of the clutch members connected to the cage and one of the clutch members connected to the second disk member, a clutch member held against rotation but axially movable and adapted to engage alternatively with the second clutch member on the second disk member and the second clutch member connected to the cage and means for operating the clutch member on the driven shaft and the non-rotatable clutch member substantially as set forth.

9. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member arranged coaxially with the first disk member and held against rotation, a driven member, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a bearing for the spindle of each disk unit, a carrier for each bearing having a conical outer surface, a floating cage operatively connected to the driven member and adjustably holding the conical carriers and disk units so that their radial distances from the axis of the disk members may be varied and means for axially varying the relative positions of the disk units and the disk members substantially as set forth.

10. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member arranged coaxially with the first disk member, a driven shaft, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a bearing for the spindle of each disk unit, a carrier for each bearing having a conical outer surface, a floating cage operatively connected to the driven shaft and adjustably holding the conical carriers and disk units so that their radial distances from the axis of the disk members may be varied and means for imparting axial movement to the cage and disk units with relation to the disk members and means for alternatively holding the second disk member against rotation and coupling the cage to the driven shaft or holding the cage against rotation and coupling the second disk member to the driven shaft, substantially as set forth.

11. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member arranged coaxially with the first disk member and held against rotation, a driven member, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a bearing for the spindle of each disk unit, a carrier for each bearing having a conical outer surface annular members against which the conical carriers rest means for adjusting the annular members with relation to each other and the conical carriers so that the radial distances of the disk units from the axis of the disk members can be varied the annular members and their means of adjustment forming a floating cage operatively connected to the driven member and means for axially varying the relative positions of the disk units and the disk members substantially as set forth.

12. In a variable-speed gear the combination of a disk member operatively connected with a source of power, a second disk member arranged coaxially with the first disk member, a driven shaft, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface annular members against which the conical carriers rest means for adjusting the annular members with relation to each other and the conical carriers so that the radial distances of the disk units from the axis of the disk members can be varied the annular members and their means of adjustment forming a floating cage operatively connected to the driven shaft, means for imparting axial movement to the cage and disk units with relation to the disk members and means for alternatively holding the second disk member against rotation and coupling the cage to the driven shaft or holding the cage against rotation and coupling the second disk member to the driven shaft, substantially as set forth.

13. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member arranged coaxially with the first disk member, means for allowing one disk member to have limited axial movement relative to the other disk member, a driven shaft, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the periphery of the disk members, a floating cage carrying the disk units and having means for adjusting their radial distances from the axis of the disk members means for imparting axial movement to the cage and disk units with relation to the disk members, two clutch members on the second disk member, two clutch members connected to the floating cage, a clutch member rotating with but axially movable upon the driven shaft and adapted to be engaged alternatively with one of the clutch members connected to the cage and one of the clutch members connected to the second disk member, a clutch member held against rotation but axially movable and adapted to engage alternatively with the second clutch member on the second disk member and the second clutch member connected to the cage and means for operating the clutch member on the driven shaft and the non-rotatable clutch member substantially as set forth.

14. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member of the same diameter as the first disk member arranged coaxially therewith and held against rotation, a driven member, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, the diameter of each disk unit being not greater than the diameters of the disk members, a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface a floating cage operatively connected to the driven member and adjustably holding the conical carriers and disk units so that their radial distances from the axis of the disk members may be varied and means for axially varying the relative positions of the disk units and the disk members substantially as set forth.

15. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member of the same diameter as the first disk member arranged coaxially therewith and held against rotation, a driven member, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, the diameter of each disk unit being not greater than the diameters of the disk members, a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface, annular members against which the conical carriers rest means for adjusting the annular members with relation to each other and the conical carriers so that the radial distances of the disk units from the axis of the disk members can be varied the annular members and their means of adjustment forming a floating cage operatively connected to the driven member and means for axially varying the relative positions of the disk units and the disk members substantially as set forth.

16. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member of the same diameter as the first disk member and arranged coaxially therewith, a driven shaft, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, the diameter of each disk unit being not greater than the diameters of the disk members, a bearing for the spindle of each disk unit, a carrier for each bearing having a conical outer surface a floating cage operatively connected to the driven shaft and adjustably holding the conical carriers and disk units so that their radial distances from the axis of the disk members may be varied means for imparting axial movement to the cage and disk units with relation to the disk members and means for alternatively holding the second disk member against rotation and coupling the cage to the driven shaft or holding the cage against rotation and coupling the second disk member to the driven shaft, substantially as set forth.

17. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member of the same diameter as the first disk member and arranged coaxially therewith, a driven shaft, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, the diameter of each disk unit being not greater than the diameters of the disk members, a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface annular

members against which the conical carriers rest means for adjusting the annular members with relation to each other and the conical carriers so that the radial distances of the disk units from the axis of the disk members can be varied the annular members and their means of adjustment forming a floating cage operatively connected to the driven shaft means for imparting axial movement to the cage and disk units with relation to the disk members and means for alternatively holding the second disk member against rotation and coupling the cage to the driven shaft or holding the cage against rotation and coupling the second disk member to the driven shaft, substantially as set forth.

18. In a variable-speed gear the combination of a disk member operatively connected with a sonrce of power a second disk member arranged coaxially with the first disk member, a driven shaft, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a bearing for the spindle of each disk unit, a carrier for each bearing having a conical outer surface annular members against which the conical carriers rest means for adjusting the annular members with relation to each other and the conical carriers so that the radial distances of the disk units from the axis of the disk members can be varied the annular members and their means of adjustment forming a floating cage means for imparting axial movement to the cage and disk units with relation to the disk members, two clutch members on the second disk member two clutch members connected to the floating cage, a clutch member rotating with but axially movable upon the driven shaft and adapted to be engaged alternatively with one of the clutch members connected to the cage and one of the clutch members connected to the second disk member, a clutch member held against rotation but axially movable and adapted to engage alternatively with the second clutch member on the second disk member and the second clutch member connected to the cage and means for operating the clutch member on the driven shaft and the non-rotatable clutch member substantially as set forth.

19. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member arranged coaxially with the first disk member, means for allowing one disk member to have limited axial movement relative to the other disk member, a driven shaft a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface annular members against which the conical carriers rest, means for adjusting the annular members with relation to each other and the conical carriers so that the radial distances of the disk units from the axis of the disk members can be varied the annular members and their means of adjustment forming a floating cage, means for imparting axial movement to the cage and disk units with relation to the disk members, two clutch members on the second disk member two clutch members connected to the floating cage a clutch member rotating with but axially movable upon the driven shaft and adapted to be engaged alternatively with one of the clutch members connected to the cage and one of the clutch members connected to the second disk member, a clutch member held against rotation but axially movable and adapted to engage alternatively with the second clutch member on the second disk member and the second clutch member connected to the cage and means for operating the clutch member on the driven shaft and the non-rotatable clutch member substantially as set forth.

20. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member arranged coaxially with the first disk member and held against rotation, a driven member, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a bearing for the spindle of each disk unit, a carrier for each bearing having a conical outer surface, annular members against which the conical carriers rest, means for adjusting the annular members with relation to each other and the conical carriers so that the radial distances of the disk units from the axis of the disk members can be varied the annular members and their means of adjustment forming a floating cage, a rotatable member operatively connected to the driven member and having peripheral projections in such engagement with the floating cage and carriers for the disk units as to allow the cage and disk units to have axial movement relative to this rotatable member and means for imparting axial movement to the cage and disk units, substantially as set forth.

21. In a variable-speed gear the combination of a disk member operatively connected with a sonrce of power a second disk member arranged coaxially with the first disk member, a driven shaft, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface annular members against which the conical carriers rest means for adjusting the annular members with relation to each other and the conical carriers so that the radial distances of the disk units from the axis of the disk members can be varied the annular members and their means of adjustment forming a floating cage, a rotatable member operatively connected to the driven shaft and having peripheral projections in such engagement with the floating cage and carriers for the disk units as to allow the cage and disk units to have axial movement relative to this rotatable member and means for imparting axial movement to the cage and disk units and means for alternatively holding the second disk member against rotation and coupling the cage to the driven shaft or holding the cage against rotation and ccupling the second disk member to the driven shaft, substantially as set forth.

22. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member arranged coaxially with the first disk member, a driven shaft, a series, comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface annular members against which the conical carriers rest means for adjusting the annular members with relation to each other and the conical carriers so that the radial distances of the disk units from the axis of the disk members can be varied the annular members and their means of adjustment forming a floating cage, a rotatable member operatively connected to the driven member and having peripheral projections in such engagement with the floating cage and carriers for the disk units as to allow the cage and disk units to have axial movement relative to this rotatable member and means for imparting axial movement to the cage and disk units, two clutch members on the second disk member two clutch members connected to the floating cage one of which is carried by the rotatable member a clutch member rotating with but axially movable upon the driven shaft and adapted to be engaged alternatively with the clutch member carried by the rotatable member of the cage and one of the clutch members connected to the second disk member a clutch member held against rotation but axially movable and adapted to engage alternatively with the second clutch member on the second disk member and the second clutch member connected to the cage and means for operating the clutch member on the driven shaft and the rotatable clutch member substantially as set forth.

23. In a variable-speed gear the combination of a disk member operatively connected to a source of power a second disk member arranged coaxially with the first disk member and held against rotation, a driven member, a series of rotatable disk units arranged in groups of three each member in each group being equidistant from the other members in the same group and all the disk units being equidistantly disposed around and in contact with the peripheries of the disk members, a floating cage operatively connected to the driven member and carrying the disk units and having means for adjusting the radial distances from the axis of the disk members of each group of three disk units and means for axially varying the relative positions of the disk units and the disk members substantially as set forth.

24. In a variable-speed gear the combination of a disk member operatively connected to a source of power a second disk member arranged coaxially with the first disk member, a driven shaft, a series of rotatable disk units arranged in groups of three each member in each group being equidistant from the other members in the same group and all the disk units being equidistantly disposed around and in contact with the peripheries of the disk members a floating cage operatively connected to the driven shaft and carrying the disk units and having means for adjusting the radial distances from the axis of the disk members of each group of three disk units and means for axially varying the relative positions of the disk units and disk members, means for alternatively holding the second disk member against rotation and coupling the cage to the driven shaft or holding the cage against rotation and coupling the second disk member to the driven shaft, substantially as set forth.

25. In a variable-speed gear the combination of a disk member operatively connected to a source of power a second disk member arranged coaxially with the first disk member and held against rotation, a driven member, a series of rotatable disk units arranged in groups of three each member in each group being equidistant from the other members in the same group and all the disk units being equidistantly disposed around and in contact with the peripheries of the disk members, a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface annular members against which the conical carriers rest means for adjusting the annular members with relation to each other and the conical carriers so that the radial distances from the axis of the disk members of each group of three disk units can be varied, the annular members and their means of adjustment forming a floating cage operatively connected to the driven member and means for axially varying the relative positions of the disk units and the disk members substantially as set forth.

26. In a variable-speed gear the combination of a disk member operatively connected to a source of power a second disk member arranged coaxially with the first disk member, a driven shaft a series of rotatable disk units arranged in groups of three each member in each group being equidistant from the other members in the same group and all the disk units being equidistantly disposed around and in contact with the peripheries of the disk members, a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface annular members against which the conical carriers rest means for adjusting the annular members with relation to each other and the conical carriers so that the radial distances from the axis of the disk members of each group of three disk units can be varied, the annular members and their means of adjustment forming a floating cage, means for imparting axial movement to the cage and disk units with relation to the disk members and means for alternatively holding the second disk member against rotation and coupling the cage to the driven shaft or holding the cage against rotation and coupling the second disk member to the driven shaft, substantially as set forth.

27. In a variable-speed gear the combination of a disk member operatively connected to a source of power a second disk member arranged coaxially with the first disk member, a driven shaft, a series of rotatable disk units arranged in groups of three each member in each group being equidistant from the other members in the same group and all the disk units being equidistantly disposed around and in contact with the peripheries of the disk members, a floating cage operatively connected to the driven shaft and carrying the disk units and having means for adjusting the radial distances from the axis of the disk members of each group of three disk units, means for imparting axial movement to the cage and disk units with relation to the disk members, two clutch members on the second disk member two clutch members connected to the floating cage a clutch member rotating with but axially movable upon the driven shaft and adapted to be engaged alternatively with one of the clutch members connected to the cage and one of the clutch members connected to the second disk member, a clutch member held against rotation but axially movable and adapted to engage alternatively with the second clutch member on the second disk member and the second clutch member connected to the cage and means for operating the clutch member on the driven shaft and the non-rotatable clutch member substantially as set forth.

28. In a variable-speed gear the combination of a disk member operatively connected to a source of power a second disk member arranged coaxially with the first disk member means for allowing one disk member to have limited axial movement relative to the other disk member a driven shaft a series of rotatable disk units arranged in groups of three each member in each group being equidistant from the other members in the same group and all the disk units being equidistantly disposed around and in contact with the peripheries of the disk members a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface annular members against which the conical carriers rest means for adjusting each pair of annular members with relation to each other and the conical carriers of a group of disk units so that the radial distances from the axis of the disk members of each group of three disk units can be varied, the annular members and their means of adjustment forming a floating cage, means for imparting axial movement to the cage and disk units with relation to the disk members, two clutch members on the second disk member two clutch members connected to the floating cage a clutch member rotating with but axially movable upon the driven shaft and adapted to be engaged alternatively with one of the clutch members connected to the cage and one of the clutch members connected to the second disk member, a clutch member held against rotation but axially movable and adapted to engage alternatively with the second clutch member on the second disk member and the second clutch member connected to the cage and means for operating the clutch member on the driven shaft and the non-rotatable clutch member substantially as set forth.

29. In a variable-speed gear the combination of a disk member operatively connected with a source of power a second disk member arranged coaxially with the first disk member a driven member, a series of rotatable disk units arranged in groups of three each member in each group being equidistant from the other members in the same group and all the disk units being equidistantly disposed around and in contact with the peripheries of the disk members a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface annular members against which the conical carriers rest means for adjusting each pair of annular members with relation to each other and the conical carriers of a group of disk units so that the radial distances from the axis of the disk members of each group of three disk units can be varied the annular members and their means of adjustment forming a floating cage, a rotatable member operatively connected to the driven member and having peripheral projections in such engagement with the floating cage and carriers for the disk units as to allow the cage and disk units to have axial movement relative to this rotatable member means for imparting axial movement to the cage and means for alternatively holding the second disk member against rotation and coupling the cage to the driven member or holding the cage against rotation and coupling the second disk member to the driven member substantially as set forth.

30. In a variable-speed gear the combination with a disk member operatively connected with the source of power a second member arranged coaxially with the first disk member a driven shaft a series of rotatable disk units arranged in groups of three each member in each group being equidistant from the other members in the same group and all the disk units being equidistantly disposed around and in contact with the peripheries of the disk members a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface annular members against which the conical carriers rest, means for adjusting each pair of annular members with relation to each other and the conical carriers of each group of disk units so that the

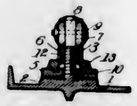
radial distances from the axis of the disk members of each group of three disk units can be varied the annular members and their means of adjustment forming a floating cage, a rotatable member having peripheral projections in such engagement with the floating cage and carriers for the disk units as to allow the cage and disk units to have axial movement relative to this rotatable member and means for imparting axial movement to the cage and disk units, two clutch members on the second disk member two clutch members connected to the floating cage one of which is carried by the rotatable member a clutch member rotating with but axially movable upon the driven shaft and adapted to be engaged alternatively with the clutch member carried by the rotatable member of the cage and one of the clutch members connected to the second disk member a clutch member held against rotation but axially movable and adapted to engage alternatively with the second clutch member on the second disk member and the second clutch member connected to the cage and means for operating the clutch member on the driven shaft and the rotatable clutch member substantially as set forth.

31. In a variable-speed gear the combination of a disk member operatively connected to a source of power a second disk member arranged coaxially with the first disk member and held against rotation, a driven member a series of rotatable disk units arranged in groups of three each member in each group being equidistant from the other members in the same group and all the disk units being equidistantly disposed around and in contact with the peripheries of the disk members, a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface, annular members arranged in pairs each pair lying in contact with and supporting the conical carriers of a group of disk units means for drawing each pair of annular members together and so adjusting the conical carriers of the group of disk units that they support that the radial distances from the axis of the disk members of this group of disk units can be varied, the annular members and their means of adjustment forming a floating cage operatively connected to the driven member and means for imparting axial movement to the cage and disk units with relation to the disk members substantially as set forth.

32. In a variable-speed gear the combination of a disk member operatively connected to a source of power a second disk member arranged coaxially with the first disk member, a driven shaft a series of rotatable disk units arranged in groups of three each member in each group being equidistant from the other members in the same group and all the disk units being equidistantly disposed around and in contact with the peripheries of the disk members, a bearing for the spindle of each disk unit a carrier for each bearing having a conical outer surface annular members arranged in pairs each pair lying in contact with and supporting the conical carriers of a group of disk units means for drawing each pair of annular members together and so adjusting the conical carriers of the group of disk units that they support that the radial distances from the axis of the disk members of this group of disk units can be varied, the annular members and their means of adjustment forming a floating cage, means for imparting axial movement to the cage and disk units with relation to the disk members and means for alternatively holding the second disk member against rotation and coupling the cage to the driven shaft for holding the cage against rotation and coupling the second disk member to the driven shaft substantially as set forth.

33. In a variable-speed gear, the combination of a disk member operatively connected to a source of power, a second disk member arranged coaxially with the first disk member and held against rotation, a series comprising more than two rotatable disk units disposed equidistantly around and in contact with the peripheries of the disk members, a floating cage operatively connected to the disk members, and carrying the disk units and having means for adjusting the radial distances of said disk units from the axis of the disk members, and means for axially varying the relative positions of the disk units and the disk members, substantially as set forth.

844,204. TOOL FOR CEMENT-WORK. RALPH L. SOHN, Arrowsmith, Ill. Filed Dec. 19, 1906. Serial No. 348,647.



Claim.—1. The combination, with a tool of the character described having a projecting screw-threaded bolt, of a handle attachment having a slotted portion to fit said bolt and provided with a circular groove in its upper surface, and a nut having a ring-flange adapted to fit in said groove for the purpose specified.

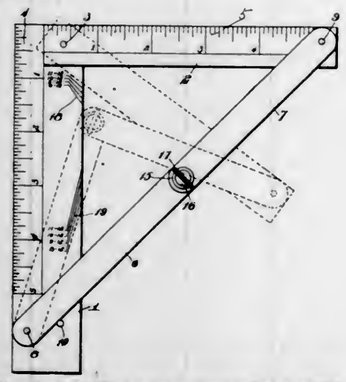
2. The combination, with a tool of the character described having a raised platform provided with a projecting screw-threaded bolt, of a handle attachment having a slotted portion to fit said bolt and provided with a circular groove in its upper surface, and a nut having a ring-flange adapted to fit in said groove for the purpose specified.

3. The combination, with a tool of the character described having a raised platform riveted thereto and provided with a projecting screw-threaded bolt, of a handle attachment having a slotted portion to fit said bolt and provided with a circular groove in its upper surface, and a nut having a ring-flange adapted to fit in said groove for the purpose specified.

4. The combination, with a tool of the character described having a raised platform provided with a projecting screw-threaded bolt, of a handle attachment having a slotted portion to fit said bolt and provided with a circular groove in its upper surface, the surface of said platform and the under surface of said slotted portion of said handle attachment being cupped, and a nut having a ring-flange adapted to fit in said groove for the purpose specified.

5. The combination, with a tool of the character described having a projecting screw-threaded bolt, of a handle attachment having a slotted portion to fit said bolt and provided with a circular groove in its upper surface, said handle attachment also having a slotted upstanding portion for connection with a handle, and a nut having a ring-flange adapted to fit in said groove for the purpose specified.

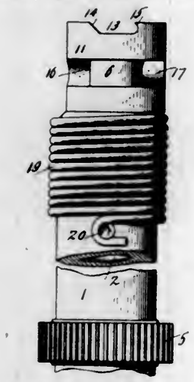
844,205. FOLDING SQUARE. ALBERT E. SOLLERS, Mount Union, Pa. Filed Sept. 17, 1906. Serial No. 334,837.



Claim.—1. A folding square comprising a stock, a blade pivoted at one end to one end of the stock and adapted to fold over upon the same, bracing arms or links pivoted at their inner ends to the outer ends of the stock or blade, one of said arms being provided at its outer end with a threaded opening and a pivot-boss and the other arm having an opening for engagement with said boss, and a screw engaging the threaded opening in one arm and having a clamping portion overlying the opening in the other arm and bearing on said arm, whereby the arms or links are pivotally connected and are adapted to be clamped at any position in their range of adjustment.

2. A square comprising a stock, a blade pivoted at one end to one end of the stock and adapted to be folded over upon the same, said stock being provided with series of pitch-lines arranged respectively obliquely and obtusely to the axis thereof, bracing-links pivoted at their inner ends to the outer ends of the stock and blade and pivotally connected together at their outer ends, and a clamping device associated with said pivotal connection between the links to secure them in adjusted position.

844,206. COILING-SPINDLE. JOSEPH W. SOMMER, Peoria, Ill. Filed Apr. 25, 1904. Serial No. 204,921.



Claim.—1. A device of the character specified, comprising a coiling-spindle through which is passed a strand-wire, an intermittingly-revoluble member carried on one end of said spindle and provided with means for receiving a stay-wire, and means on the member adapted to lock the position of the stay-wire relative to its strand-wire, during the rotation of the spindle.

2. A device of the character specified, comprising a coiling-spindle through which is passed a strand-wire, an intermittingly-revoluble member carried on one end of the spindle and provided with means for receiving a stay-wire, and means provided on said member adapted to clench the stay on the strand preliminary to coiling the said stay around the strand.

3. A device of the character specified, comprising a spindle through which is passed a strand-wire, a stay-wire-receiving member on one end of said spindle, provided with means for retaining and locking the position of a stay relative to its strand, for tightly wrapping said stay-wire around the strand-wire, and means on the sleeve adapted during its rotation to direct the end of a stay always under as the same is wound upon said strand-wire.

4. A device of the character specified, comprising a spindle through which is passed a strand-wire, an intermittingly-revoluble member carried on one end of said spindle and provided with means for receiving a stay-wire, means for locking the position of the stay-wire on the member during its period of rest, means on the spindle for imparting an intermittent rotation to the member, and means for momentarily increasing the speed of rotation of said member preceding its period of rest.

5. In a device of the character specified, the combination of a revoluble spindle through which is passed a strand-wire, a stay-wire-receiving member carried by said spindle and adapted to be intermittingly rotated therewith, means for rotating the member, means on the member for receiving and retaining a stay-wire, and means on the member adapted during its rotation to direct the end of such stay-wire always under as the same is wound upon the strand-wire, substantially for the purposes set forth.

6. A device of the character specified, comprising a continuously-revoluble spindle, a sleeve eccentrically carried on one end of said spindle and intermittingly revoluble therewith.

7. A device of the character specified, comprising a continuously-revoluble member, a stem attached to and extending above the end of said member, the extension thereof being eccentric to the axis of said member, and a sleeve carried on said extension and intermittingly revoluble therewith.

8. A device of the character specified, comprising a continuously-revoluble spindle having a wire-groove therethrough, a sleeve carried by said spindle and eccentrically disposed to its wire-groove, and means on said sleeve for retaining a wire adapted to be coiled around a wire passed through said spindle.

9. A device of the character specified, comprising a continuously-revoluble spindle and stem having a wire-groove, a sleeve carried on said stem and disposed eccentrically to the wire-groove in said stem, means for intermittingly revolving the sleeve with said spindle, and means for increasing the speed of rotation of such sleeve at predetermined intervals during the rotation of the spindle.

10. In a device of the character specified, the combination of a continuously-revoluble spindle, a sleeve carried on the upper end of the spindle and so carried thereby that the spindle may make one-half of a revolution and during such period the sleeve is at rest, means on the spindle for causing the sleeve to rotate therewith after making one-half of a revolution, and means for increasing the speed of rotation of such sleeve at predetermined intervals during the rotation of the spindle.

11. In a device of the character specified, the combination of a tubular spindle, a stem carried in one end of the spindle and having a reduced extension which is eccentric to the axis of said spindle, a sleeve carried on the extension of the stem and provided with a semicircular slot, a transverse pin in the extension of the stem of the spindle, movable in the slot of the sleeve, the sleeve adapted to be retained in a fixed position relative to the rotation of the spindle until the transverse pin thereof travels the distance of the slot when the sleeve is caused to rotate therewith, and means operating at predetermined intervals for increasing the speed of rotation of the sleeve, substantially for the purposes set forth.

12. In a device of the character specified, the combination of a spindle having a reduced extension which is eccentric to the axis of the spindle and a wire-groove extending through the spindle and its extension, the groove in the extension being disposed eccentric to the axis thereof, a sleeve carried on the extension of the spindle and adapted to be intermittingly revoluble therewith, the face of the sleeve having a cut-out portion, one wall of which is concave and the opposite wall beveled, substantially as described.

13. In a device of the character specified, the combination of a spindle having a reduced extension, and provided with a wire-groove, a sleeve carried on the extension of the stem eccentric to the wire-groove therein and the body of said sleeve provided with a semicircular slot, a pin carried in the extension of the spindle and normally engaging the wall at one end of said slot and adapted to make a one-half revolution without disturbing the position of said sleeve, and adapted when reaching the wall at the opposite end of said slot to cause said sleeve to revolve therewith a predetermined distance, and means operating at predetermined intervals for increasing the speed of rotation of the sleeve, substantially as described.

14. In a device of the character specified, the combination of spindle having a wire-groove, a sleeve carried on one end of the spindle and disposed eccentrically to the wire-groove therein, means on the spindle for intermittingly causing the sleeve to rotate therewith, and a coil-spring wound around the spindle one end secured thereto and the opposite end secured to the sleeve for the purpose of increasing the speed of rotation of the sleeve on the spindle at predetermined intervals, for the purposes set forth.

15. In a device of the character specified, the combination of a continuously-revoluble spindle having a wire-

groove, a member carried on one end of the spindle and intermittingly revoluble therewith, means on the spindle for causing the member to rotate therewith, a wire-receiving recess in the upper face of the member and a coil-spring having one end secured to the member and its opposite end secured to the spindle, substantially as described.

16. In a device of the character specified, the combination of a tubular spindle having a gear secured to the body thereof, a stem secured in one end of the spindle and having an extended portion and a wire-groove passing longitudinally therethrough, a sleeve on the extension of the stem and disposed eccentrically to the wire-groove therein, the sleeve provided with a semicircular slot and the stem having a transverse pin movable in said slot for the purposes set forth, the upper face of the sleeve provided with a transverse slotted portion, one wall of which is grooved and the opposite wall beveled, and a spring coiled around the spindle having one end secured to the spindle and the opposite end to the sleeve, substantially as described.

17. In a device of the character specified, the combination of a tubular spindle, a gear on one end thereof, a stem carried in the opposite end of the spindle and having a reduced extension, a pin for locking the spindle and stem in their relative positions, a pin carried transversely in the reduced extension of the stem and having a protruding portion, the stem having a wire-groove longitudinally therethrough which said groove also passes through the aforesaid pins, a member carried on the extension of the stem eccentric to the wire-groove therein and adapted by means of the transverse pin to be intermittingly rotated therewith, the upper face of the member adapted for receiving and retaining a wire, and a coil-spring for increasing the speed of rotation of said member at predetermined intervals, substantially as described.

18. A device of the character specified, comprising a spindle through which is passed a strand-wire, and a stay-wire-receiving member on one end of said spindle provided with means adapted during a partial rotation of the spindle to clench a stay-wire on the strand preliminary to the coiling of said stay on the strand.

19. A device of the character specified, comprising a spindle through which is passed a strand-wire, an intermittingly-revoluble member carried on one end of said spindle and provided with means for receiving a stay-wire, and means for locking the position of the stay-wire on the member during its alternate period of rest.

20. A device of the character specified, the combination of a spindle through which is passed a strand-wire, a sleeve carried on one end of the spindle and having a stay-wire-receiving seat, between which and the strand a stay-wire is adapted to be placed, and means for clenching the stay against the strand.

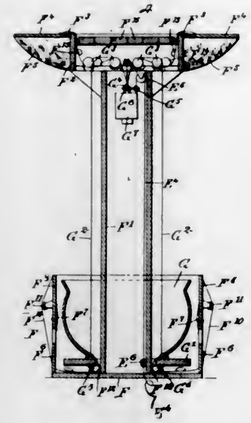
844,207. THEATRICAL APPARATUS. RICHARD F. STALEY, Rochester, N. Y. Filed Feb. 1, 1906. Serial No. 298,936.

Claim.—1. A theatrical apparatus comprising a plurality of theatrical properties, each representing a plurality of distinct articles, means for actuating the said properties from a single source for transforming the articles into another form, and means for actuating the said properties from a single source for returning them to their original form.

2. A theatrical apparatus comprising a group of theatrical properties, each representing distinct articles and capable of being transformed from one article to another, means connected with the several properties for simultaneously transforming the same, and means connected with the several properties for simultaneously returning them to their original form.

3. A theatrical apparatus comprising a group of theatrical properties, each representing distinct articles and each capable of being transformed from one article to another and without changing the positions of the properties on the stage, concealed means connected with the several properties for simultaneously transforming the same to instantly change the scene, and concealed means connected with the properties for simultaneously returning them to their original form.

4. A theatrical apparatus comprising a group of theatrical properties, each representing an article belonging to a cooper-shop, and a piece of furniture for a room, means for transforming the said properties in unison from one form to the other form, and means for returning them in unison to their original form.



5. A theatrical apparatus comprising the following theatrical properties, namely: a combination barrel and screen, a combination anvil and pedestal, a combination tub and chair, and a combination barrel and table, means for simultaneously transforming the articles from the one form to the other form, and means for simultaneously returning them to their original form.

6. A theatrical apparatus comprising a group of theatrical properties, each representing an article belonging to a cooper-shop, and a piece of furniture for a room, means for transforming the said properties in unison from the one form to the other form, and means for returning them in unison to their original form, each of said means being manually controlled from a common source.

7. A theatrical apparatus comprising a group of theatrical properties, each representing an article belonging to a cooper-shop and a piece of furniture for a room, means for simultaneously transforming the said properties from the one form to the other, and means for simultaneously returning them to their original form, the said properties remaining in their relative positions on the stage during the transformation and the return to their original position.

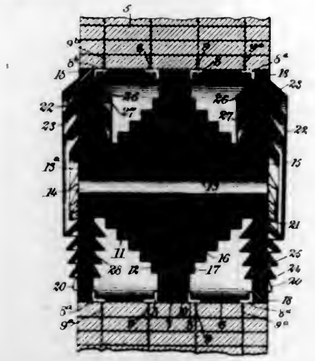
844,208. INSULATOR FOR LEADING-IN CABLES, &c. LOUIS STEINBERGER, New York, N. Y. Filed Feb. 21, 1906. Serial No. 302,209.

Claim.—1. The combination of a supporting-plate provided with an aperture, a frusto-conical member engaging said supporting-plate and provided with a tubular stem projecting through said aperture, and means for locking said frusto-conical member against said supporting-plate.

2. An insulator, comprising a supporting-plate provided with an aperture, a member of insulating material provided with a surface for engaging said supporting-plate and further provided with a tubular member for extending through said aperture, and a member connected with said tubular member and engaging said supporting-plate for the purpose of locking said member of insulating material in position.

3. An insulator, comprising a supporting-plate of insulating material, a frusto-conical member engaging the same and provided with annular steps for preventing surface leakage, said frusto-conical member being further provided with a tubular stem, and a nut of insulating material mounted upon said stem and engaging said supporting-plate.

4. An insulator, comprising a supporting-plate of insulating material provided with an aperture, a substantially frusto-conical member of insulating material engaging said supporting-plate and provided with a tubular stem passing through said aperture, and a nut of insulating material engaging said stem and also engaging said supporting-plate.



5. An insulator, comprising a supporting-plate provided with a central aperture, a member of insulating material provided with a central bore and with a tubular portion extending through said aperture, said tubular portion being threaded, and a nut of insulating material also threaded, said nut engaging said supporting-plate and also engaging said tubular portion.

6. An insulator, comprising a supporting-plate of insulating material provided with an aperture, a member of insulating material provided with a portion extending through said aperture and threaded, and a threaded nut engaging said portion last mentioned and also engaging said supporting-plate, said threaded nut having substantially a frusto-conical form.

7. An insulator, comprising a central supporting-plate provided with an aperture, inner and outer supporting-plates mounted upon opposite sides of said first-mentioned supporting-plate, a member of insulating material provided with a cylindrical bore and engaging all of said supporting-plates, and means for locking said member of insulating material rigidly in relation to said first-mentioned supporting-plate.

8. An insulator, comprising a supporting-plate provided with an aperture, an insulating member having a substantially frusto-conical portion provided with annular steps concentric to each other, said member being further provided with a tubular stem projecting through said aperture, and a nut of insulating material engaging said tubular stem and also engaging said supporting-plate.

9. An insulator, comprising a plate of insulating material provided with an aperture, a member of insulating material provided with a cylindrical bore for engaging a conductor, and a nut of insulating material engaging said supporting-plate and also engaging said member of insulating material, said nut of insulating material being provided with a plurality of concentric annular steps for preventing surface leakage.

10. As an article of manufacture, a supporting-plate provided with longitudinal hoods provided with drip edges inclined relatively to the horizon for the purpose of drifting moisture, said supporting-plate being further provided with a central aperture.

11. As an article of manufacture, a supporting-plate provided upon one of its faces with a plurality of longitudinal hoods integral therewith, said hoods each being provided with an undercut, said plate being further provided with a central aperture.

12. As an article of manufacture, a supporting-plate provided with a plurality of projecting hoods, one overhanging another, and one projecting farther than another from the body portion of said supporting-plate so as to overhang the same, said supporting-plate being provided with an aperture.

13. As an article of manufacture, a supporting-plate provided adjacent to its outer edge with an annular smooth portion, and provided with a central aperture, said supporting-plate being further provided with hoods disposed intermediate of its outer edge and said aperture.

14. The combination of a supporting plate or partition provided with an aperture, an insulating member engaging said supporting-plate and provided with a tubular stem projecting through said aperture, and a detachable insulating locking member engaging said tubular stem.

15. An insulator, comprising a member of insulating material provided with a tubular stem, and a detachable insulating locking member connected to said tubular stem.

16. An insulator, comprising a body member of insulating material provided with a reduced portion and with an aperture extending through said body member and said reduced portion, and a locking member of insulating material provided with an aperture for engaging the said reduced portion of said body member.

17. An insulator, comprising a member of insulating material provided with a threaded stem, and a nut engaging said threaded stem for the purpose of locking said member to a partition or wall.

18. An insulator, comprising a body portion of insulating material provided with a threaded stem, and a detachable member of insulating material connected to said threaded stem for the purpose of locking said body portion to a partition or wall.

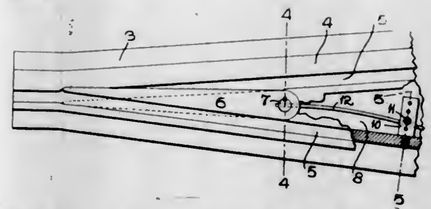
19. An insulator, comprising a body member provided with a substantially conical head portion having annular surfaces of different diameters, and also provided with a stem, an aperture extending through said body member and said stem, a detachable insulating member provided with a substantially conical head portion having annular surfaces of different diameters connected to said stem, and means for locking said detachable member on said stem.

20. In an insulator, the combination of a supporting plate or partition provided with an aperture, an insulating member provided with a substantially conical portion connected to said supporting plate or partition and provided with a threaded tubular stem projecting through said aperture.

21. In an insulator, the combination of a supporting plate or partition provided with an aperture, an insulating member provided with a substantially conical head portion connected to said supporting plate or partition, and further provided with a threaded tubular stem extending through said aperture, and a detachable insulating threaded locking member engaging said threaded tubular stem.

22. An insulator, comprising a body member provided with a substantially conical head portion having annular surfaces of different diameters, and also provided with a stem, an aperture extending through said body member and said stem, a detachable insulating member connected to said stem, and means for locking said detachable insulating member on said stem.

844,209. RAILWAY-SWITCH. GEORGE E. STEWART, East St. Louis, Ill. Filed Oct. 23, 1906. Serial No. 340,218.



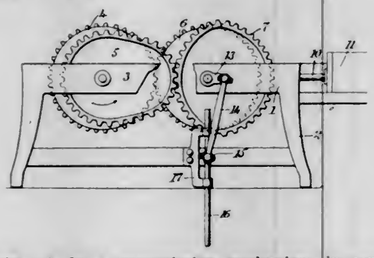
Claim.—1. In a railway-switch, a movable switch-tongue arranged at the juncture of the track-rails, a pin carried by the rear end of said switch-tongue and which

pin is journaled for horizontal rotation, a leaf-spring fixed at one end to said pin, and means whereby the tension of said leaf-spring is varied; substantially as specified.

2. In a railway-switch, a movable switch-tongue arranged at the juncture of the track-rails, a vertically-arranged pin the upper end of which is fixed to the rear end of the switch-tongue, a leaf-spring fixed to the lower end of said pin, a pair of ears fixed to one of the track-rails between which ears the rear end of the spring passes, and a pin adjustably arranged in the ears for engaging the rear end of said spring; substantially as specified.

3. In a railway-switch, a plate, the upper portion of which conforms with the track-rails, there being a pocket formed in one end of said plate, a movable switch-tongue arranged on top of said plate, a pin fixed to the rear end of said switch-tongue and which pin is journaled for horizontal rotation, a leaf-spring fixed at one end to the lower end of said pin, which leaf-spring is positioned in the pocket, and means arranged in said pocket for engaging the free end of the spring to create tension therein; substantially as specified.

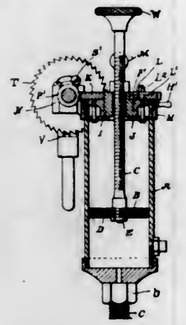
844,210. TRANSMISSION MECHANISM. FRANK STRICKLAND, Muskogee, Ind. Ter. Filed June 9, 1906. Serial No. 320,960.



Claim.—1. In a transmission mechanism, in combination, a substantially rectangular frame, a gear-wheel of substantially circular form mounted in said frame, a second gear-wheel of substantially circular form mounted in said frame and meshing with said first gear-wheel, a third gear-wheel rigid with said second gear-wheel, a fourth gear-wheel having the same axis of rotation with said first gear-wheel and independently rotatable with respect to the same, said fourth gear-wheel meshing with said third gear-wheel, said third and fourth gear-wheels having an irregular form producing a variable-speed ratio between the same, a crank carried by said first gear-wheel, a connecting-rod attached to said crank and affording means for rotating the same at a substantially uniform speed, a crank rigid with said fourth gear-wheel, a plunger, means for guiding the same to slide longitudinally, and a connecting-rod connecting said second crank with said plunger whereby said plunger may be driven at a slow speed on its forward stroke and at a high speed on the return stroke.

2. In a transmission mechanism, in combination, a substantially rectangular frame, a gear-wheel of substantially circular form mounted in said frame, a second gear-wheel of substantially circular form mounted in said frame and meshing with said first gear-wheel, a third gear-wheel rigid with said second gear-wheel, a fourth gear-wheel having the same axis of rotation with said first gear-wheel and independently rotatable with respect to the same, said fourth gear-wheel meshing with said third gear-wheel, said third and fourth gear-wheels having an irregular form producing a variable-speed ratio between the same, a crank carried by said first gear-wheel, a connecting-rod attached to said crank and affording means for rotating the same at a substantially uniform speed, a crank rigid with said fourth gear-wheel, a plunger, means for guiding the same to slide longitudinally, a connecting-rod connecting said second crank with said plunger whereby said plunger may be driven at a slow speed on its forward stroke and at a high speed on the return stroke, a tubular shaft carrying said first gear and said first crank, and a shaft carrying said fourth gear-wheel and rotatably mounted in said tubular shaft and in said frame.

844,211. LUBRICATOR. FREDERICK G. TEES, Philadelphia, Pa., assignor of one-half to William G. T. Marcellus, Philadelphia, Pa.



Claim.—1. A lubricator consisting of a body forming a container for the lubricant, a plunger adapted to slide vertically within said body, a plunger-rod rigidly secured to the plunger, means for holding rod against rotation, a nut through which said rod is threaded, a worm-gear fitted to revolve around the nut, means for locking or unlocking said gear to or from said nut and means for revolving the worm-gear, as specified.

2. In a lubricator of the character described, a plunger-rod, a plunger rigidly secured to the lower end of said rod, said plunger consisting of a compressible washer locked between two disks, a latch for embracing the flattened sides of said rod whereby the latter is prevented from revolving, a nut through which said nut is threaded, a cover in which said nut is fitted to revolve, a gear-wheel fitted to revolve upon the nut, a plug journaled in the gear-wheel, the periphery of said plug adapted to pass into a notch formed in the nut so as to lock the gear-wheel and nut together, said plug also having a notch formed therein for registering with the periphery of the nut whereby the latter will be unlocked leaving the gear free to revolve independent of the nut, and means for revolving the gear-wheel, for the purpose set forth.

3. The herein-described combination of a multiple lubricator consisting of a series of two or more containers, a plunger fitted to slide in each container, a plunger-rod rigidly secured to each of the plungers, a nut through which each of the plunger-rods is threaded, means for holding said plunger-rods against rotation when the nuts are revolved, a gear-wheel fitted to revolve around each of said nuts, the gear-wheel of each container meshing with the gear-wheel of the next adjacent container, means for locking each gear-wheel to its nut and actuating mechanism adapted to revolve the gear-wheel of one of the containers whereby the remaining gear-wheels will be revolved in unison therewith, for the purpose set forth.

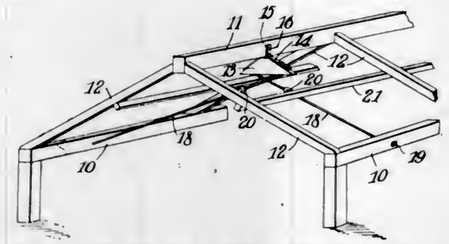
844,212. ROOF STRUCTURE. HERMAN THADEN, Atlanta, Ga. Filed July 17, 1906. Serial No. 326,579.

Claim.—1. In a roof structure, a ridge, wall-plates spaced on opposite sides of the ridge, and means connecting the wall-plates and ridge arranged to equalize the strain.

2. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, means tying the plates and ridge together, means for exerting tension upon the tying means, and means whereby the tension upon opposite sides is equalized.

3. In a roof structure, a ridge, wall-plates upon opposite sides of the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions, and means connecting and arranged to equalize the strain upon the truss-rods.

4. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, rafters extending from the plate to the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions, and approaching nearer the rafters at their lower ends, and means connecting and arranged to equalize the strain upon the truss-rods.



5. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions, and means connecting the truss-rods and ridge and arranged to equalize the strain upon the truss-rods.

6. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, rafters extending from the plates to the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions and approaching nearer the rafters at their lower ends, means connecting and arranged to equalize the strain upon the truss-rods, and purlins carried upon the truss-rods and positioned to support the rafters intermediate their ends.

7. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, rafters extending from the plates to the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions, and approaching nearer the rafters at their lower ends, means connecting the truss-rods and ridge and arranged to equalize the strain upon the truss-rods, and purlins carried upon the truss-rods and positioned to support the rafters intermediate their ends.

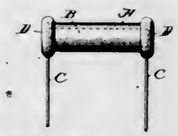
8. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions, and a block yieldingly secured to the ridge and arranged to equalize the strain upon the truss-rod.

9. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, rafters extending from the plates to the ridge, truss-rods running from the wall-plates in reversely-inclined directions and approaching nearer the rafters at their lower ends, and a block yieldingly secured to the ridge, and arranged to equalize the strain upon the truss-rods.

10. In a roof structure, a ridge, wall-plates spaced upon opposite sides of the ridge, rafters extending from the plates to the ridge, truss-rods running from the wall-plates in reversely-inclined upward directions, and approaching nearer the rafters at their lower ends, a block yieldingly secured to the ridge, and connecting the truss-rods and ridge and arranged to equalize the strain upon the truss-rods, and purlins carried upon the truss-rods and positioned to support the rafters intermediate their ends.

844,213. ILLUMINANT FOR INCANDESCENT ELECTRIC LAMPS. ORLANDO M. THOWLESS, Newark, N. J. Filed Aug. 13, 1903. Serial No. 169,344.

Claim.—1. In an incandescent electric lamp, a current-carrying glower, normally non-conductive, but a good conductor when properly heated, consisting of a combination of normally non-conductive materials and a binding substance for holding the materials together while the glower is being made, remaining entirely unchanged as an integral part of the same, and possessing the further properties of making the glower structurally solid and non-porous, and enabling it to be readily made conductive when heated.



2. In an incandescent electric lamp, a current-carrying glower, normally non-conductive, but a good conductor when properly heated, consisting of a combination of refractory material and a binding substance mixed and vitrified therewith, said substance remaining entirely unchanged by the vitrification and having conducting-wires attached to the ends of the glower by means of cement made of like material as that of the glower.

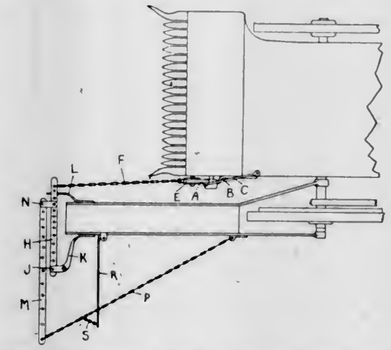
3. In an incandescent electric lamp, a current-carrying glower, normally non-conductive throughout, but a good conductor when properly heated, made of rare earths and a vitrifiable binding substance mixed and vitrified therewith, having connecting-wires attached thereto, combined with means for heating it to a conductive temperature.

4. In an incandescent electric lamp, a dense, non-porous current-carrying glower composed of a mixture of rare earths and flux vitrified therewith.

5. In an incandescent electric lamp, a dense, non-porous current-carrying glower comprising a mixture of rare earths and flux vitrified therewith.

6. In an incandescent electric lamp, a structurally-solid, non-porous vitrified and homogeneous current-carrying glower, which is practically an insulator at ordinary temperatures, but a relatively good conductor when properly heated.

844,214. DRAFT-GEAR FOR AGRICULTURAL MACHINES. JABEZ TILLY, Kilkerran, South Australia, Australia. Filed Sept. 8, 1906. Serial No. 333,783.



Claim.—1. Improved draft-gear, comprising an arc-shaped loop attached to the near side of the machine-body toward the front and carrying a roller and shackle attached by a suitable connection to the off end of the rear draft-bar, the near end of such draft-bar being connected to a beam extending forward and outward from the near side of the machine-platform, such rear draft-bar being connected by a clip to the off end of a front draft-bar the near end of which is connected by a chain to the rear of the near side of the platform, substantially as described and for the purpose set forth.

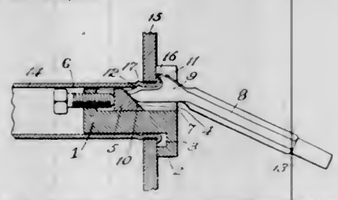
2. Improved draft-gear, comprising an arc-shaped loop attached to the near side of the machine-body toward the front and carrying a roller and shackle, in combination with front and rear draft-bars and suitable connections, such connections comprising a chain connection between the front of the shackle and the off end of the rear draft-bar, a clip connection between the near end of the rear draft-bar and a beam extending forward and outward from the near side of the machine-platform, a clip connection

between the rear draft-bar and the off end of the front draft-bar, and a chain connection between the near end of the front draft-bar and the rear of the near side of the platform, substantially as described.

3. In a draft-gear, an arc-shaped loop attached to the near side of the machine-body toward the front, preferably to the bottom beam of the machine, and a roller and shackle carried by such loop the front end of the shackle being connected to a draft-bar the other end of which is connected to the machine-platform, substantially as described and for the purpose set forth.

4. In a draft-gear of the kind described, an outrigger-beam hung on a vertical pivot near the front of the near side of the platform, and a short chain or connection between the outer end of the beam and the main chain connecting the off end of the front draft-bar to the rear of the platform, substantially as described and for the purpose set forth.

844,215. TOOL AND HOLDER FOR ROLLING, EXPANDING, AND BEADING BOILER-TUBES IN ONE OPERATION. ALEXANDER B. TODD and FRANK W. SHUPERT, San Bernardino, Cal. Filed May 14, 1906. Serial No. 316,610.



Claim.—1. A tool comprising a bead-forming and metal-expanding member, a guide therefor composed of a body portion having a base, a slot common to both body portion and base, said base being rabbeted and arranged to accommodate the bead, and an adjustable abutting surface slidable in said slot for maintaining a normal outward thrust of said member.

2. The combination with a tool having a plurality of projections formed thereon, and a holder, of adjustable means for imparting an outward thrust to said tool, and means for preventing the lateral withdrawal of said tool.

3. A beading-tool comprising a cylindrical body portion having a rabbeted base arranged to accommodate the bead and a lateral tapering slot common to both body portion and base, and a separable tool-head operable in said slot, and arranged to expand and bead a flue into which the body portion is inserted.

4. A tool comprising a base having a rabbet and a cylindrical body portion having a slot, said slot extending through one side thereof, a tool-head having projections operable in said slot, and means in said slot for maintaining an outward thrust of said tool in the direction of the free end of said slot.

5. A tool comprising a body portion and a rabbeted base having a tapering lateral slot common to both body portion and base, a tool-head having extensions operable in said slot and conforming to the taper thereof, means in said slot for maintaining an outward thrust of said tool-head, and means for controlling said means.

6. A tool comprising a bead-forming and metal-expanding member, a guide therefor comprising a slotted cylindrical portion having a rabbeted base, means for preventing the lateral withdrawal of said tool, and adjustable means for imparting a lateral thrust to said member.

7. A tool comprising a bead-forming and metal-expanding member, a guide therefor composed of a body portion having a base and a tapering slot common to both body portion and base, said base being rabbeted and arranged to accommodate the bead.

8. A tool comprising a bead-forming and metal-expanding member, a guide therefor composed of a body portion having a base, a slot common to both body portion and base, said base being rabbeted and arranged to accommodate the bead, and means slidable in said slot for maintaining a normal outward thrust of said member.

9. A tool comprising a cylindrical body and a base, having in common a slot on one side thereof, a block slidable in said slot and means for operating said block, and a tool-head operable in said slot and arranged to abut against said block.

10. A tool comprising a cylindrical body and a base having in common a tapering groove, a block loosely fitting said slot, means for operating said block, and a beading-tool operable in said slot and arranged to abut against said block.

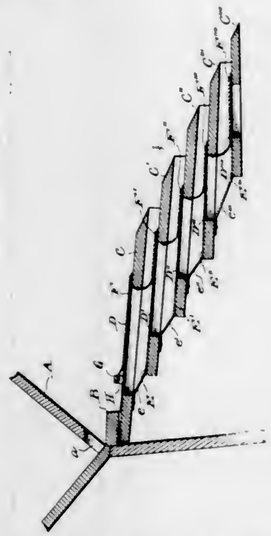
11. A tool comprising a cylindrical body and a base having in common a tapering groove, a block having a corresponding taper with that of said cylindrical body and an inclined face, operable in said slot, means for operating said block, and a tool-head operable in said slot and arranged to abut against said block.

12. A tool comprising a body portion having a groove, a block in said groove, means for operating said block, and a tool-head operable in said groove and against said block.

13. A tool comprising a body adapted to enter into a flue having a groove in one side thereof and a base, a block slidable in said groove, and a tool-head operable in said groove and against said block.

14. A tool comprising a body portion having a lateral groove which is tapered, a block slidable in said groove, and a tool-head operable against said block and in said groove.

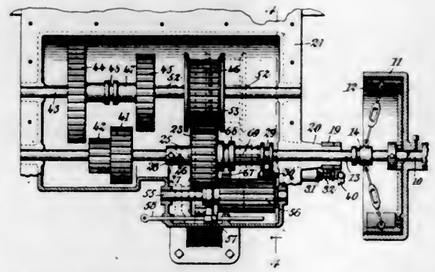
844,216. GRAIN-SCREEN. ORLANDO F. TRACE and WARREN FIFIELD, Sauk Rapids, Minn. Filed Dec. 12, 1905. Serial No. 291,457.



Claim.—A grain-screen consisting of a plurality of inclined frames arranged one below the other and each having sieves secured therein, each of said sieves being inclined at a greater angle than the sieve immediately beneath it, the upper edge of each frame being arranged beneath the sieve in the frame immediately above it, an inclined plate connecting the upper and lower sides of adjacent frames, said inclined plate being under the upper end of the sieve in the frame immediately above it, and aprons secured above each sieve, substantially as shown and described.

844,217. TRANSMISSION MECHANISM. JESSE J. TROEGER, Chicago, Ill. Filed Jan. 31, 1906. Serial No. 298,802.

Claim.—1. A transmission mechanism comprising a clutch, a shaft connected with said clutch, a sleeve mounted to slide and to turn on said shaft, a gear on said sleeve, means for locking the sleeve to the shaft, a second shaft, a power-receiving shaft, means including a lever for rendering the clutch inoperative, means controlled by said lever for unlocking the sleeve from said shaft, and means controlled by the lever for transmitting power from the first shaft, through the second shaft and the gear on the sleeve of the first shaft to the power-receiving shaft at a plurality of different rates of speed.



2. A power-transmission mechanism comprising two shafts, a clutch for connecting said shafts, a sleeve mounted to slide and to turn on one of said shafts, means for locking the sleeve to said shaft, a power-receiving shaft, a gear on the power-receiving shaft meshing with the gear on said sleeve, whereby when the sleeve is locked to the shaft the power is transmitted from the first two shafts to the power-receiving shaft at one rate of speed, a pair of gears of different diameters on the shaft on which the said sleeve is mounted, a shaft parallel with the first two shafts, a gear on said shaft in mesh with the gear on the sleeve, a pair of gears of different diameters mounted to slide on said parallel shaft and each adapted to be moved into mesh with one of the gears of the first-mentioned pair, and means for rendering the clutch inoperative, for unlocking the sleeve from the shaft, and for moving the said pair of gears on the parallel shaft, for transmitting motion to the power-receiving shaft at either of two different rates of speed.

3. A power-transmitting mechanism, comprising a shaft, a collar having a tooth and secured to said shaft, a sleeve slidably mounted on the shaft and provided with a notch for engagement by said tooth for transmitting rotation from the shaft to the sleeve, a gear on said sleeve, a power-receiving shaft, a gear on said shaft meshing with the first-named gear, an additional shaft, a gear on said additional shaft, meshing with the first-named gear, another gear secured to said first shaft, and a gear on the last-named shaft adapted to be brought into mesh with the second gear on the first shaft, and means for disengaging said sleeve from the collar.

4. A power-transmitting mechanism comprising a shaft, a sleeve slidably mounted thereon, means for preventing the sleeve from rotating independently of the shaft, means for rendering said first-named means inoperative, a gear on said sleeve, a second gear on said shaft, a second shaft, two gears on the second shaft, each being adapted to mesh with one of the gears on the first shaft, a third shaft, and a gear on the third shaft meshing with the gear on the sleeve.

5. A power-transmitting mechanism comprising a shaft, a sleeve thereon, means for locking the sleeve to the shaft, a gear on the sleeve and rotatable therewith, a plurality of additional gears on the shaft, a second shaft, a gear on the second shaft meshing with said gear on the sleeve, a plurality of gears slidably mounted on the second shaft and rotatable therewith for engaging the plurality of gears on the first shaft, and means for sliding one of the gears on the second shaft into mesh with one of the gears on the first shaft and unlocking the sleeve from the first shaft.

6. A power-transmitting mechanism comprising a shaft, a sleeve thereon, means for locking the sleeve to the shaft, a gear on the sleeve and rotatable therewith, a plurality of additional gears on the shaft, a second shaft, a gear on the second shaft meshing with said gear on the sleeve, a plurality of gears slidably mounted on a second shaft and rotatable therewith for engaging the plurality of gears on the first shaft, and means for sliding one of the gears on the second shaft into mesh with one of the gears on the first shaft and unlocking the sleeve from the first shaft, said means comprising a lever connected with said slidable gears on the second shaft, and means operable by said lever for moving said sleeve longitudinally on the first shaft.

7. In a transmission mechanism the combination of a shaft, a sleeve rotatably mounted thereon, a collar fixed to said shaft and adapted to lock the sleeve thereto, a gear mounted on the sleeve and rotatable therewith, a plurality of gears fixed to the shaft, a second shaft, a sleeve slidably mounted on the second shaft and rotatable therewith, a plurality of gears on said last-named sleeve adapted to mesh with the plurality of gears on the first shaft, an additional gear on the second shaft meshing with the gear on the first sleeve, a rod connected wtih said sleeve for sliding it into locked and unlocked positions, means for normally forcing said rod into a position for unlocking the sleeve from the first shaft, a lever connected with the sleeve on the second shaft for manipulating it, and means operable by the lever for forcing the rod into position to lock the first-named sleeve to the first-named shaft.

8. In a transmission mechanism the combination of a shaft, a sleeve rotatably mounted thereon, a collar fixed to said shaft and adapted to lock the sleeve thereto, a gear mounted on the sleeve and rotatable therewith, a plurality of gears fixed to the shaft, a second shaft, a sleeve slidably mounted on the second shaft and rotatable therewith, a plurality of gears on said last-named sleeve adapted to mesh with the plurality of gears on the first shaft, an additional gear on the second shaft meshing with the gear on the first sleeve, a rod connected with said first sleeve for sliding it into locked and unlocked positions, means for normally forcing said rod into a position for unlocking the sleeve from the first shaft, a lever connected with the sleeve on the second shaft for manipulating it, and means operable by the lever for forcing the rod into position to lock the first-named sleeve to the first-named shaft, said means operable by the lever, comprising a reciprocable pin, a spring for forcing said pin toward the lever, said lever being adapted to engage the pin and force it in the opposite direction, and a bell-crank having an arm in the path of motion of said pin and connected with said rod.

9. In a transmission mechanism the combination of a shaft, a sleeve rotatably mounted thereon, a collar fixed to said shaft and adapted to lock the sleeve thereto, a gear mounted on the sleeve and rotatable therewith, a plurality of gears fixed to the shaft, a second shaft, a sleeve slidably mounted on the second shaft and rotatable therewith, a plurality of gears on said last-named sleeve adapted to mesh with the plurality of gears on the first shaft, an additional gear on the second shaft meshing with the gear on the first sleeve, a rod connected with said sleeve for sliding it into locked and unlocked positions, means for normally forcing said rod into a position for unlocking the sleeve from the first shaft, a lever connected with the sleeve on the second shaft for manipulating it, and means operable by the lever for forcing the rod into position to lock the first-named sleeve to the first-named shaft, said means operable by the lever, comprising a reciprocable pin adapted to be engaged by the lever and forced in one direction, a spring for forcing the pin in the opposite direction, a roller on the pin, a bell-crank, one arm of which is connected with said rod and the other arm having an inclined surface adapted to be engaged by said roller, whereby the forcing of the pin in one direction by the lever will manipulate the bell-crank.

10. In a transmission mechanism the combination of a shaft, a sleeve rotatably mounted thereon, a collar fixed to said shaft and adapted to lock the sleeve thereto, a gear mounted on the sleeve and rotatable therewith, a plurality of gears fixed to the shaft, a second shaft, a sleeve slidably mounted on the second shaft and rotatable therewith, a plurality of gears on said last-named sleeve adapted to

mesh with the plurality of gears on the first shaft, an additional gear on the second shaft meshing with the gear on the first sleeve, a rod connected with said first sleeve for sliding it into locked and unlocked positions, means for normally forcing said rod into a position for unlocking the sleeve from the first shaft, a lever connected with the sleeve on the second shaft for manipulating it, and a reversing means connected with said first-named gear.

11. A power-transmitting mechanism comprising a shaft, a sleeve thereon, means for locking the sleeve to the shaft, a gear on the sleeve and rotatable therewith, a plurality of additional gears on the shaft, a second shaft, a gear on the second shaft meshing with said gear on the sleeve, a plurality of gears slidably mounted on a second shaft and rotatable therewith for engaging the plurality of gears on the first shaft, and means for sliding one of the gears on the second shaft into mesh with one of the gears on the first shaft and unlocking the sleeve from the first shaft, said means comprising a lever connected with said slidable gears on the second shaft, means operable by said lever for moving said sleeve longitudinally on the first shaft, and reversing means comprising a slidable pinion adapted to engage the first-named gear, and means for sliding said pinion in one direction and the first-named gear in the other direction.

12. In a power-transmision mechanism the combination of a shaft, a sleeve rotatably and slidably mounted thereon, means on the shaft for locking the sleeve to the shaft when the sleeve moves to a certain position, a gear slidably mounted on said sleeve and rotatable with the sleeve, a plurality of gears on said shaft, a second shaft, a sleeve on the second shaft, a plurality of gears on said last-named sleeve for engaging the gears on the first-named shaft, an additional gear on the second shaft for engaging the gear on the first sleeve and slidable longitudinally on its shaft, a gear adapted to mesh with the first-named gear and receive power therefrom, a pinion, and means for moving said pinion into engagement with the last-named gear, moving the first-named gear out of engagement with the last-named gear, and bringing the first-named gear into mesh with the pinion for reversing the motion of the last-named gear, and means for changing the speed of the last-named gear both when the motion thereof is in its normal direction and when it is reversed.

13. In a power-transmission mechanism the combination of a shaft, a sleeve rotatably and slidably mounted thereon, means on the shaft for locking the sleeve to the shaft when the sleeve moves to a certain position, a gear slidably mounted on said sleeve and rotatable with the sleeve, a plurality of gears on said shaft, a second shaft, a sleeve on the second shaft, a plurality of gears on said last-named sleeve for engaging the gears on the first-named shaft, an additional gear on the second shaft for engaging the gear on the first sleeve and slidable longitudinally on its shaft, a gear adapted to mesh with the first-named gear and receive power therefrom, a pinion, and means for moving said pinion into engagement with the last-named gear, moving the first-named gear out of engagement with the last-named gear and bringing the first-named gear into mesh with the pinion for reversing the motion of the last-named gear.

14. In a power-transmission mechanism the combination of a shaft, a sleeve rotatably mounted thereon and slidable thereon, a gear slidably mounted on said sleeve, means on the shaft for locking the sleeve with respect thereto when the latter is in a certain position a second gear on said shaft, a second shaft, a gear slidably mounted thereon, and adapted to engage the second gear on the first shaft, a second gear on the second shaft slidably mounted thereon at all times in mesh with the gear on the sleeve, means for moving the sleeve to unlock the same from the first-named shaft, whereby motion can be transmitted from the second shaft to the gear through the gears on the first and second shafts at a different rate of speed from the speed of the first shaft, a gear meshing with the first-named gear for receiving power therefrom, a slidable pinion adapted to mesh with the first and last gears, and means for moving the first gear into engagement with the pinion, and moving the pinion into engagement with the last gear.

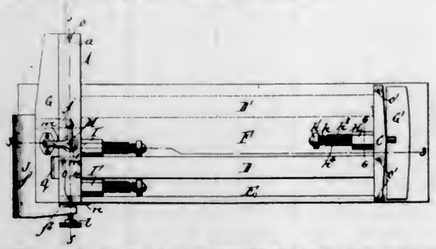
15. In a power-transmission mechanism, the combination of a shaft, a sleeve mounted to slide and to turn on said shaft, means for locking the sleeve to the shaft, means for unlocking the sleeve from the shaft, a gear slidable on said sleeve, a second shaft, a gear mounted to slide on said second shaft and to turn therewith, the said gear being at all times in mesh with the gear on the sleeve, another gear adapted to mesh with said gear on the sleeve for receiving power therefrom, a shaft, a pinion slidably mounted on the shaft, means for moving said pinion into engagement with the gear on the sleeve and the power-receiving gear and moving one of said gears out of engagement with the other, and means for transmiting motion from the first shaft to the second shaft at different rates of speed.

16. In a power-transmission mechanism the combination of a shaft, a gear slidable thereon, a gear adapted to mesh with the first-named gear for receiving power therefrom, a shaft, a pinion slidably mounted on the shaft, means for moving said pinion into engagement with both of said gears and moving one of said gears out of engagement with the other, said means comprising a sliding rod connected with said pinion, a link connected with said rod, a lever pivoted on two axes at right angles to each other for operating said rod, a second rod connected with the first gear, and means for connecting the second rod with said lever.

17. In a power-transmission mechanism the combination of a shaft, a sleeve rotatably and slidably mounted thereon, means for locking the sleeve to the shaft and unlocking the same, a gear slidable on the sleeve, a gear adapted to mesh with the first-named gear for receiving power therefrom, a shaft, a pinion slidably mounted on the shaft, means for moving said pinion into engagement with both of said gears and moving one of said gears out of engagement with the other, and an oil-tight casing for receiving said gears.

18. In a power-transmission mechanism the combination of a shaft, a sleeve rotatably and slidably mounted thereon, means on the shaft for locking the sleeve to the shaft when the sleeve moves to a certain position, a gear slidably mounted on said sleeve and rotatable with the sleeve, a plurality of gears on said shaft, a second shaft, a sleeve on the second shaft, a plurality of gears on said last-named sleeve for engaging the gears of the first-named shaft, an additional gear on the second shaft for engaging the gear on the first sleeve and slidable longitudinally on its shaft, a gear adapted to mesh with the first-named gear and receive power therefrom, a pinion, and means for moving said pinion into engagement with the last-named gear, moving the first-named gear out of engagement with the last-named gear and bringing the first-named gear into mesh with the pinion for reversing the motion of the last-named gear, means for changing the speed of the last-named gear both when the motion thereof is in its normal direction and when it is reversed, and an oil-tight casing for receiving said gears and shafts.

844,218. STANCHION-ASSEMBLING APPARATUS. CHARLES W. WASSON, Friendship, and JUDD W. HUTCHINGS, Cuba, N. Y., assignors to The Wasson Stanchion Company, Cuba, N. Y., a Corporation of New York. Filed Oct. 19, 1906. Serial No. 339,597.



Claim.—1. A stanchion-assembling apparatus, comprising a base, head and foot blocks mounted thereon against which the head and foot pieces of a stanchion are adapted to bear, holding means for said head and foot pieces arranged opposite the bearing-faces of said blocks, and a transverse clamp operating across the face of the head-block, substantially as set forth.

2. A stanchion-assembling apparatus, comprising a base, head and foot blocks mounted thereon against which the head and foot pieces of a stanchion are adapted to bear, and clamping means for the assembled members of the head-piece arranged adjacent to said head-block and operating in planes at an angle to each other, substantially as set forth.

3. A stanchion-assembling apparatus, comprising a base, head and foot blocks mounted thereon against which the head and foot pieces of a stanchion are adapted to bear, a clamping device operating lengthwise of the bearing-face of the head-block, and a second clamping device operating crosswise of said face, substantially as set forth.

4. A stanchion-assembling apparatus, comprising a base, head and foot blocks mounted thereon against which the head and foot pieces of a stanchion are adapted to bear, and clamping devices arranged adjacent to said head-block, one of said clamping devices operating lengthwise of the head-block and the other at right angles to the base, substantially as set forth.

5. A stanchion-assembling apparatus, comprising a base, head and foot blocks mounted thereon against which the head and foot pieces of a stanchion are adapted to bear, and a clamping device removably applied to the head-block and operating lengthwise of the bearing-face thereof, substantially as set forth.

6. A stanchion-assembling apparatus, comprising a base, head and foot blocks mounted thereon and against which the head and foot pieces of a stanchion are adapted to abut, and a removable clamp having a stop-arm passing through a transverse opening of said head-block and arranged to bear against the inner space-block of the head-piece of the stanchion and having a second arm arranged to extend across the end of the head-block and carrying a clamping-screw arranged opposite said stop-arm, substantially as set forth.

7. A stanchion-assembling apparatus, comprising a base, head and foot blocks mounted thereon and against which the head and foot pieces of a stanchion are adapted to abut, followers arranged opposite said blocks for holding the head and foot pieces against the same, a clamp for holding the space-blocks of said head-piece against the edges of the stanchion-bar, and a second clamp mounted on said head-block and arranged to clamp the strips and space-blocks of the head-piece together, substantially as set forth.

8. A stanchion-assembling apparatus, comprising a base, head and foot blocks mounted thereon and against which the head and foot pieces of a stanchion are adapted to abut, followers arranged opposite said blocks for holding the head and foot pieces against the same, said head-block having a transverse opening, an approximately U-shaped clamp having one of its arms passed through said opening to form a stop and having its other arm provided with a clamping-screw arranged opposite said stop-arm, a swiveling standard journaled on said head-block and having an overhanging arm, and a clamping-screw carried by the last-named arm, substantially as set forth.

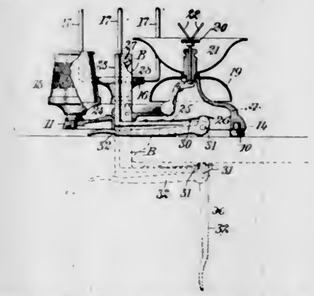
9. A stanchion-assembling apparatus, comprising a base, spaced head and foot blocks mounted thereon, a stop mounted on the base at one end of the head-block, and clamping devices arranged adjacent to said head-block and operating in planes at an angle to each other, substantially as set forth.

844,219. SERVING-TRAY. CHARLES A. WEISS, New York, N. Y. Filed Feb. 15, 1906. Serial No. 301,161.

Claim.—1. A serving-tray, comprising a base, receptacles carried thereby, a clamp-arm slidably mounted in the base, whereby the arm is adjustable to various positions below the base and a cam pivoted to the clamp-arm, and provided with a handle whereby to operate the same.

2. A serving-tray comprising a base, receptacles carried by the base, and an L-shaped clamp-arm having one of its members adjustable and slidable in the base to extend below the same, the other member being provided with a cam having a handle whereby to manipulate the same.

3. A serving-tray comprising a base, receptacles carried thereby, the base being provided with a chambered under surface, a clamp adjustably slidable in the base, a spring carried by the clamp, a cam pivotally mounted on the clamp in engagement with the said spring, and a handle for operating the cam, the cam and handle portion of the clamp in one position thereof being adapted to lie within the chambered portion of the base.



4. A serving-tray comprising a chambered base, receptacles on the base, and a clamp consisting of an L-shaped arm having its vertical member slidably mounted in the base, the horizontal member being adapted in one position of the arm to lie within the chambered portion of the base, and a cam pivoted on the horizontal member of the said arm, and provided with means whereby to operate the same.

5. A serving-tray, comprising a base having a chamber in its bottom and arms extending from the said base, receptacles mounted on the said arms and a clamp consisting of an L-shaped body-arm the vertical member whereof is slidably mounted in the base, the horizontal member being adapted in one position of the clamp to enter the chamber in the base, the said vertical member of the arm being provided with a slot, a member adjustable in the said slot whereby to limit the downward movement of the said arm, a cam pivotally mounted on the horizontal member of the arm, and means for operating the said cam.

844,220. VEHICLE-COVER. EDWARD L. WESTBROOKE, Jonesboro, Ark. Filed Sept. 15, 1906. Serial No. 334,728.

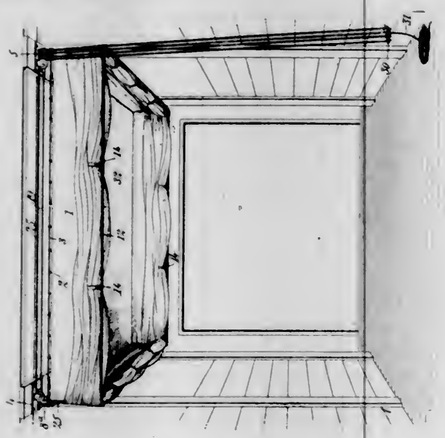
Claim.—1. A vehicle-cover comprising a rectangular body portion formed of dust-proof fabric, means for supporting the upper edges of said body portion at a definite distance above the floor, and means for simultaneously raising all the lower sides to points adjacent the upper sides, said means comprising a pulley supported above each upper corner of the body portion, and cords connected to each lower corner of the body portion and extending over said pulleys.

2. A vehicle-cover, comprising four downwardly-extending posts, a supporting-wire connecting said posts, means for tightening the said wire, curtains or side walls suspended from said wire, and means for simultaneously raising the lower edges of said side walls, said means comprising a pulley supported above each upper corner of the body portion, and cords connected to each lower corner of the body portion and extending over said pulleys.

3. A vehicle-cover, comprising four corner-plates, suitable pulleys mounted on the under sides thereof, downwardly-extending posts carried by said plates, a supporting-wire connecting the posts, means for tightening said wire, curtains or side walls suspended from said wire, and means for simultaneously raising the lower edges of said side walls, said raising means comprising cords secured to the four corners and extending over the said pulleys.

4. A vehicle-cover, comprising suitable overhead sup-

ports, downwardly-extending posts carried thereby, side walls of suitable fabric, a wire connecting said posts and adapted to support the upper edges of said side walls, a rectangular frame carried by said side walls at the lower edges thereof, pulleys carried by said overhead supports, and cords extending from the corners of said frame and over said pulleys, whereby all of said side walls may be simultaneously raised.



5. A vehicle-cover, comprising four side walls of suitable fabric, stationary means for supporting the upper edges of said side walls, a rectangular frame carried by the lower edges thereof, a plurality of U-shaped receivers supported on said frame, and means connected to the corners of said frame for raising the latter, whereby the folds of the side walls are received within the U-shaped receivers.

6. A vehicle-cover, comprising suitable overhead supports, means for adjusting the height of said supports, downwardly-extending posts carried by said supports, a supporting-wire connecting said posts, means whereby the wire may be drawn taut, side walls or curtains suspended from said wire, and means independent of said wire for simultaneously raising or lowering all of said side walls.

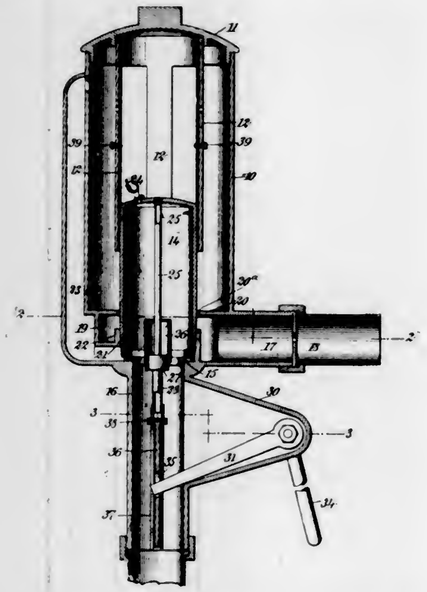
7. A vehicle-cover comprising four corner-plates, independent means for supporting said plates, a downwardly-extending post carried by each of said plates, a wire connecting the lower ends of said posts, means for tightening said wire, a pulley mounted on the under side of each of said plates, a rectangular frame, cords connecting the respective corners of said frames with said pulleys, and fabric side walls suspended from said wire and having their lower edges secured to said frame.

8. A vehicle-cover comprising suitable overhead supports, downwardly-extending posts carried by said supports, a supporting-wire connecting said posts, means whereby the wire may be drawn taut, side walls or curtains suspended from said wire, a rectangular frame secured to the lower edges of said side walls, means independent of said wire for raising said frame, and U-shaped receivers secured to said frame.

844,221. FLUSHING-VALVE. WILLIAM S. WHITE, Denver, Colo. Filed Sept. 11, 1905. Serial No. 278,047.

Claim.—1. The combination of a reservoir or receptacle having a chamber at the lower end, a water-supply pipe leading to said chamber, a water-outlet pipe communicating with said chamber, a float-valve in said reservoir and controlling the communication between said chamber and the outlet-pipe, means for raising the float-valve, and means for gradually decreasing the buoyancy of the float-valve to permit the gradual descent of the valve to its seat.

2. The combination of a reservoir, a float-valve operating therein, a supply-pipe leading to the lower part of the reservoir, an outlet-pipe communicating with the supply-pipe, such communication being controlled by said float-valve, a tubular stem adapted to withdraw air from the float-valve, for the purpose specified, a cushioning or dash-pot device in connection with said stem, and means adapted to engage the stem for raising the float-valve from its seat.



3. The combination of a reservoir, a float-valve operating therein, a supply-pipe leading to the reservoir, an outlet-pipe communicating with the supply-pipe, such communication being controlled by said float-valve, a tubular stem fastened in the float-valve and communicating at its upper portion with the interior thereof, an inverted cup or cylinder attached to the lower portion of the tubular stem, a piston-like member operating in said cup or cylinder, a tubular stem extension attached to said piston-like member and telescoping over the main tubular stem, and means adapted to engage said tubular stem extension for lifting the float-valve from its seat.

4. The combination of a reservoir, a float-valve operating therein, a supply-pipe leading to the reservoir, an outlet-pipe communicating with the supply-pipe, such communication being controlled by said float-valve, a tubular stem fastened to the float-valve and communicating at its upper portion with the interior thereof, an inverted cup or cylinder attached to the lower portion of the tubular stem, a piston-like member operating in said cup or cylinder, a tubular stem extension attached to said piston-like member and telescoping over the main tubular stem, and means adapted to engage said tubular stem extension for lifting the float-valve from its seat, said means comprising a slide operating in the outlet-pipe, a swinging arm having connection with the slide, and means for rocking said arm.

5. The combination of a reservoir, a guide therein, a float-valve contained in the reservoir and operating in the guide, a supply-pipe, walls forming a chamber at the base of the reservoir into which chamber the float-valve projects, an outlet-pipe, the supply and outlet pipes communicating with the chamber, the float-valve controlling the communication of the outlet-pipe with said chamber, means for raising the float-valve from its seat, and means for withdrawing the air from the float-valve to permit the gradual return of the valve.

6. The combination of a reservoir, a guide therein, a float-valve contained in the reservoir and operating in the guide, a supply-pipe, walls forming a chamber at the base

of the reservoir into which chamber the float-valve projects, an outlet-pipe, the supply and outlet pipes communicating with the chamber, the float-valve controlling the communication of the outlet-pipe with said chamber, means for raising the float-valve from its seat, means for withdrawing the air from the float-valve to permit the gradual return of the valve, and walls forming a by-pass passage extending from the upper part of the reservoir to the said outlet-pipe, the by-pass passage being also controlled by the float-valve.

7. The combination of a reservoir having a chamber at its lower end, a float-valve contained in the reservoir and projecting into the said chamber, a supply-pipe and an outlet-pipe communicating with said chamber, the said float-valve controlling the communication of the outlet-pipe with the chamber, means forming a passage leading from the upper part of the reservoir to said outlet-pipe, the said float-valve also controlling said passage, means for raising the float-valve from its seat, and means for gradually decreasing the buoyancy of the float-valve to permit the gradual descent of the valve to its seat.

8. The combination of a reservoir, a water-supply pipe leading to said reservoir, a water-outlet pipe communicating with the supply-pipe, a float-valve controlling said communication, means forming a passage establishing communication between the upper end of said reservoir and the outlet-pipe the said float-valve also controlling said communication, means for raising the float-valve from its seat and a tubular stem extending from the interior of the float-valve downward into the outlet-pipe and adapted to withdraw air from the float-valve.

9. The combination of a reservoir provided with an opening in its bottom, and having a chamber at its lower end communicating at its top with said opening, the said chamber having an opening in its bottom, an annular flange surrounding said opening and having its inner face tapered, a supply-pipe connected directly with said chamber at one side thereof, an outlet-pipe connected with the lower end of the reservoir and communicating with the opening in the bottom of said chamber, a float-valve located in said reservoir and adapted to extend through said chamber, the said float-valve having a tapered lower portion adapted to seat within the said flange, the said reservoir being provided with a passage leading from the upper part of the reservoir to the discharge-pipe, the said float-valve controlling the communication between the said chamber and the outlet-pipe, and also controlling the said passage, and means for raising the float-valve from its seat.

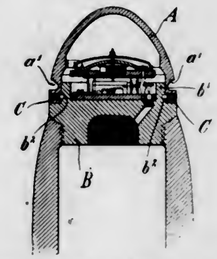
10. The combination of a reservoir, a water-supply pipe communicating therewith, the said water-supply pipe also communicating with a water-outlet pipe, a float-valve controlling said communications the said float-valve when lifted from its seat establishing communication directly between the supply-pipe and the outlet-pipe, and means for raising and lowering the said float-valve from and to its seat.

11. The combination of a reservoir, a water-supply pipe communicating therewith, the said water-supply pipe also communicating with the water-outlet pipe, the upper part of the reservoir also communicating with the water-outlet pipe by means of a by-pass passage, a float-valve controlling the said three communications, and means for raising and lowering the said float-valve from and to its seat.

12. The combination of a reservoir having a chamber at its base, a water-supply pipe leading to said chamber, a water-outlet pipe communicating with said chamber through an opening in the bottom of the chamber, the chamber having an opening in its top communicating with the reservoir, the upper part of the reservoir communicating with the water-outlet pipe, and means for controlling the said three communications.

844,222. TIME-FUSE. KARL WIESER, Essen-Rüttenscheid, Germany, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Filed Feb. 10, 1906. Serial No. 300,475.

Claim.—1. A time-fuse having a circumferentially-adjustable setting means adapted to yield under the force of its inertia to be retarded relatively to the forward movement of a projectile, at the time of firing, and constructed to interlock by such yielding, against movement in the direction of its adjustment.

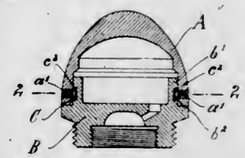


2. A time-fuse, having a rotatably-adjustable cap constructed to yield under its own inertia and bind against a relatively fixed part, at time of firing.

3. A time-fuse comprising a fuse-body, and a cap rotatably adjustable on the fuse-body and having its wall weakened to permit the cap to yield at the weakened place at time of firing, under the inertia of a part of the cap, and cause the cap to bind against the fuse-body.

4. A time-fuse, provided with a seat and a cap, between which there is rotary adjustment in timing the fuse; said cap having a circumferential groove in its wall surrounding said seat, to permit the portion of the cap thus weakened, to yield, on firing, under the inertia of the part of the cap in advance of the groove, and to permanently bind against said seat.

844,223. FUSE-HOUSING. KARL WIESER, Essen-Rüttenscheid, Germany, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Filed July 31, 1906. Serial No. 328,561.



Claim.—1. In a fuse-housing, the combination with the fuse-body and the rotatable timing-cap, of screws arranged in one of said parts, and means arranged between the ends of the screws and the other part and adapted to impart pressure from the screws to the other part.

2. In a fuse-housing, the combination with the fuse-body and the rotatable timing-cap, of screws arranged in one of said parts, and a ring interposed between the ends of the screws and the other part.

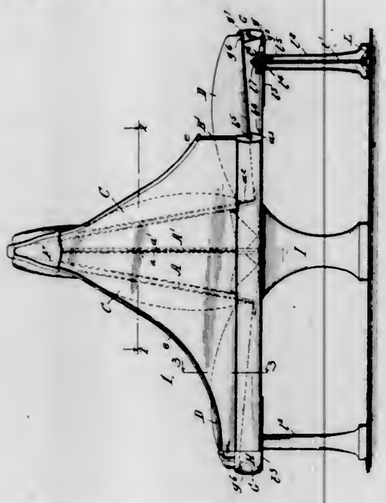
3. In a fuse-housing, the combination with the fuse-body and the rotatable timing-cap, one of said parts having an annular groove therein, of a resilient ring in said groove, and screws arranged in the other part and bearing against said ring.

844,224. CAR-SEAT. JOSEPH A. WOLLÉ, Philadelphia, Pa., assignor to Hale-Kilburn Metal Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Sept. 14, 1905. Serial No. 278,431.

Claim.—1. In a car-seat, the combination with back and seat cushions, of a side frame comprising inner and outer members, each of said members being formed in two parts, having inturned flanges, said flanges being secured together, substantially as described.

2. In a car-seat, the combination with back and seat cushions, of a side frame, comprising inner and outer sheet-metal plates secured together and an arm-rest at the upper edge thereof, said inner plate having a shoulder formed thereon coacting with the seat-cushion, substantially as described.

3. In a car-seat, the combination with back and seat cushions, of a side frame, comprising inner and outer members secured together, said inner member having a shoulder coacting with the back-cushion, substantially as described.



4. In a car-seat, the combination with back and seat cushions, of a side frame, comprising inner and outer members secured together, said inner member being provided with shoulders coacting with said back and seat cushions, substantially as described.

5. In a car-seat, the combination with back and seat cushions, of a side frame comprising inner and outer members, each of said members being formed in two parts, said parts having abutting inturned flanges secured together, substantially as described.

6. In a car-seat, the combination with back and seat cushions, of a side frame comprising inner and outer members, the lower edges thereof being flanged inwardly and secured together, substantially as described.

7. In a car-seat, the combination with cushions and means for supporting the same, of a side frame comprising two generally parallel members, the upper edges whereof are oppositely beaded and provided with an arm-rest cap and a strengthening-rib, substantially as described.

8. In a car-seat, the combination with a cushion, of a side frame comprising two generally parallel members, an arm-rest cap extending over the adjacent edges of said members, and a strengthening-rib lying within said cap, said cap being held in position, relatively to said members, under pressure, substantially as described.

9. In a car-seat, the combination with a cushion, of a side frame comprising two generally parallel members, the upper edges whereof are oppositely beaded, an arm-rest cap, the edges whereof are curved correspondingly with said beaded edges, and which extends over and covers the said beaded edges of said members, and a strengthening-rib within said cap, substantially as described.

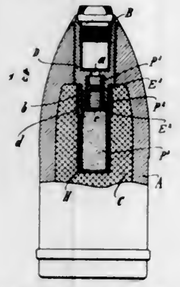
10. In a car-seat, the combination with a cushion, of a side frame and a coacting end frame or ledge, said ledge being formed in two parts, each part being provided with flanges, those of one part being secured to those of the other, substantially as described.

11. In a car-seat, the combination with a frame and cushions, of a foot adapted to be secured to the floor, a brace extending across a corner of said frame, a rod coacting at one end with said foot and at the other with said brace, and a leg inclosing said rod and supporting said frame, substantially as described.

12. In a car-seat, the combination with a frame and cushions, of a foot adapted to be secured to the floor, a rod extending upward from said foot, a leg inclosing said rod and foot, its upper end coacting with said frame, said frame having an upwardly-bowed portion adjacent to the point of coaction with said leg, a block overlying said portion, said rod extending through said portion and said block, and a nut coacting with the upper extremity of the said rod, substantially as described.

13. In a car-seat, the combination with a seat-cushion, of means for supporting the same, including a front rail formed in two joined sections having a substantially horizontal portion coacting with the under side of the cushion and a substantially perpendicular portion coacting with the forward edge of said cushion, substantially as described.

844,225. EXPLODING SHELL. ALFRED WRATZKE, Rüttenscheid, near Essen-on-the-Ruhr, Germany, assignor to Fried. Krupp, Essen-on-theRuhr, Germany. Filed Jan. 24, 1901. Serial No. 44,519.



Claim.—1. In a high-explosive shell, the combination with the fuse and the bursting charge slightly sensitive to shock, of a primary igniting charge of material slightly sensitive to shock, a secondary igniting charge of material slightly sensitive to shock, intermediate the primary igniting charge and the bursting charge, and means concentrating the heat of combustion of the primary igniting charge on the secondary igniting charge, sufficiently to cause detonation of said secondary charge.

2. In a high-explosive shell, the combination with the fuse and the bursting charge slightly sensitive to shock, of an igniting charge of material slightly sensitive to shock, and means concentrating the action of the heat of combustion of the igniting charge, sufficiently to cause detonation of the bursting charge.

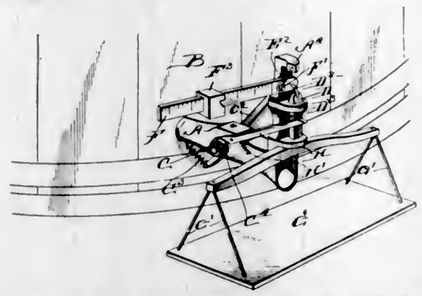
3. In a high-explosive shell, the combination with the fuse and the bursting charge slightly sensitive to shock, of a primary igniting charge, of material slightly sensitive to shock, one or more igniting charges of material slightly sensitive to shock, interposed between the said primary igniting charge and the bursting charge; and means confining and concentrating the action of the heat-waves of the primary igniting charge during burning, sufficiently to cause a detonation of the adjacent igniting charge, to develop successively-increasing violence in the action of each charge on that which follows and causing detonation of the bursting charge.

4. In a high-explosive shell, the combination with the fuse and the bursting charge slightly sensitive to shock, of an igniting charge, and means firmly confining said igniting charge and provided with a restricted opening adapted to intensify the action of the heat-waves from said igniting charge sufficiently to detonate the bursting charge.

5. In a high-explosive shell, the combination with the fuse and the bursting charge slightly sensitive to shock, of a primary igniting charge, a secondary igniting charge, and means firmly confining the primary igniting charge and provided with a restricted opening sufficiently directing the heat-waves from the primary charge on the secondary charge to detonate the same and thereby cause a detonation of the bursting charge.

6. In a high-explosive shell, the combination with the fuse and the bursting charge slightly sensitive to shock, of a primary igniting charge, a secondary igniting charge, and means concentrating the action of the heat-waves of the primary igniting charge upon the secondary igniting charge sufficiently to detonate the same and to thereby insure detonation of the bursting charge.

844,226. FAUCET. JAMES C. WRIGHT, Colorado Springs, Colo., assignor of one-half to James C. Rawlings, Colorado Springs, Colo. Filed Jan. 8, 1906. Serial No. 295,106.



Claim.—1. The combination with a faucet provided with a scale-beam, of a bar carried by said beam supporting a platform, a latch pivoted to said faucet, means carried by the turning plug of the faucet adapted to be engaged by said latch and a pin carried by the platform-supporting bar adapted to engage said latch, for the purpose described.

2. The combination with a faucet provided with a spring-actuated turning plug, of a weighing-scale carried by said faucet, and tripping means pivoted to the faucet adapted to be engaged by the scale, for the purpose described.

3. The combination with a faucet provided with a spring-actuated turning plug carrying a notched washer, of a weighing-scale carried by said faucet, and a pawl held in engagement with the notched washer of the plug adapted to be engaged by the scale, for the purpose described.

4. The combination with a faucet provided with a spring-actuated turning plug carrying a notched washer, of a spring-actuated pawl pivoted to said faucet adapted to engage the notch in said washer, a scale-beam mounted on said faucet carrying a bar supporting a platform and means connected to the bar for engaging said pawl, for the purpose described.

5. The combination with a faucet provided with a spring-actuated turning plug carrying a notched washer, of a spring-actuated pawl pivoted to said faucet adapted to engage the notch-washer, an upwardly-extending portion formed on the outer end of the faucet, a bar slidably mounted on said portion, a platform connected to said bar, a scale-beam mounted on the upper end of said portion and connected to said bar, a weight carried by said beam, and a pin carried by said bar, adapted to engage said pawl, for the purpose described.

6. The combination with a faucet provided with a turning plug, of a notched washer secured on one end of said plug, an arm secured on the other end of said plug, a spring connecting the lower end of said arm to said faucet carrying a bar, a scale-beam mounted on said faucet, supporting a platform, a spring-actuated pawl pivoted to said faucet adapted to engage said washer and a pin carried by the bar adapted to engage said pawl, for the purpose described.

844,227. COMBINED CULTIVATOR, PLANTER, AND FERTILIZER-DISTRIBUTER. JOHN T. WRIGHT, Columbia, Tenn. Filed Sept. 10, 1906. Serial No. 334,050.

Claim.—1. In a planter, the combination of a beam, a hopper thereon having an angular or V-shaped bottom and an outlet-opening in said hopper, slides for regulating the size of said outlet-opening, a longitudinally-disposed serrated agitator-bar in the hopper-bottom extending across said opening, and means for reciprocating said bar.

2. In a planter, the combination of a hopper having its bottom approximately V-shaped in cross-section, and provided with an outlet-opening, a movable agitator-bar in said hopper extending across the opening and provided with serrations on its under side, an adjustable slide attached to the bottom for regulating the size of the outlet-opening, and means for operating the agitator-bar.



3. In a planter, the combination of a hopper having its bottom formed with oppositely-inclined walls and approximately V shape in cross-section, and having a central outlet, a longitudinally-movable agitator-bar extending across the opening and provided with serrations on its under side, adjustable slides attached to the bottom at opposite sides of the bar for regulating the size of the outlet-opening, and a pitman and crank-wheel, for operating the agitator-bar.

4. The combination of a hopper having an angular or V-shaped bottom and an outlet-opening in said hopper, means for regulating the size of said outlet-opening, and a serrated agitator-bar in the hopper-bottom extending across said opening; with a bow-shaped ball attached to said agitator-bar and adapted to stir the material in the hopper.

5. The combination of a cultivator-beam, a pair of hoppers mounted thereon, one of said hoppers having a V-shaped bottom provided with an outlet-opening, a reciprocating serrated feed-bar in said hopper, the second hopper being mounted on the beam beside the first hopper and having an outlet-opening, a feed-slide in said second hopper, a detachable connection between the feed-slides, and means for operating said slides.

6. The combination of a cultivator-beam having an opener-standard, a pair of hoppers bolted side by side upon said beam, one of said hoppers having a V-shaped bottom provided with an outlet-opening, a serrated feed-bar in said hopper, a feed-slide in the other hopper, a delivery-spout running from each hopper behind the opener-standard, a cross-bar connected to the feed-slide and agitator-bar, a crank-wheel and a pitman connecting the crank-wheel to said bar.

7. The combination of a beam, the furrow-opener thereon, a hopper mounted upon said beam in rear of the opener, and provided with an outlet-opening, means for regulating the size of said opening, a serrated bar in said hopper, a spout for leading material from the opening in said hopper to the furrow-opener, a second feed-hopper beside the first hopper, an outlet-opening therein, a feed-slide reciprocating over said opening, and a spout carrying grain from the second hopper to the furrow-opener.

8. The combination of a cultivator-beam, the furrow-opener attached thereto, a pair of hoppers mounted upon said beam in rear of the opener, one of said hoppers having a V-shaped bottom provided with an outlet-opening, adjustable slides for regulating the size of said opening, a reciprocating serrated bar in the bottom of said hopper, and a spout for leading material from the opening in said hopper to the furrow-opener; the second feed-hopper having an outlet-opening, a slide reciprocating over said opening, and a spout for carrying grain from the second hopper to the furrow-opener, a detachable connection between the slides of the adjacent hoppers, and a crank-wheel and pitman for operating said slides.

9. The combination of a beam having an opening-standard and two covering-standards, a pair of hoppers bolted side by side upon the same beam, one hopper having a V-shape bottom, seed-spouts running down from said hoppers behind the opening-standards, a serrated bar in one hopper and a feed-slide in the other hopper connected together by a cross-bar so both would be operated at the same time, and a crank-wheel and pitman for operating said bar.

10. In combination with a cultivator-beam, a furrow-opener standard attached thereto, cultivator-bars attached at their upper ends to said beam and extending in rear of said standard, and handle-bars connected at their lower ends to the standard at a point below the bars and to the cultivator-bars at points in rear of the points of connection of said bars to the beam.

11. In combination wtih a cultivator-beam, furrow-opener standards attached thereto, cultivator or furrow-closing bars having their upper ends attached to said beam and extending in rear of said standards, and handle-bars at opposite sides of the beam connected at their lower ends to the standards below the bars and also connected to the cultivator-bars at points in rear of the points of connection of said bars to the beam.

12. In combination with a cultivator-beam, a furrow-opener standard attached thereto, cultivator-bars attached at their upper ends to said beam and extending in rear of said standard, and handle-bars connected at their lower ends to the standards below the bars, and to the cultivator-bars at points in rear of the points of connection of said bars to the beam; with shovels attached to the cultivator-bars, and shoes attached to said bars in rear of the shovels.

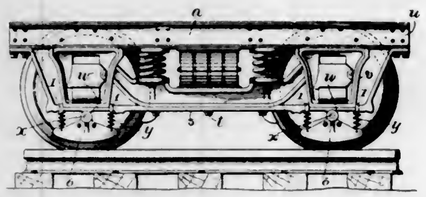
13. In combination with a cultivator-beam, furrow-opener standards attached thereto, cultivator or furrow-closing bars attached to said beam and extending in rear of said standards and handle-bars at opposite sides of the beam connected at their lower ends to the lower parts of the standards and to the cultivator-bars above and in rear of their connection to the standard and in rear of the points of connection of said bars to the beam; with an opener-blade attached to the beam in front of the furrow-opener and shovels attached to the cultivator-bars.

14. The combination of a beam, the furrow-opener thereon, a hopper mounted upon said beam in rear of the opener having V-shape bottom provided with an outlet-opening, means for regulating the size of said outlet-opening, a centrally-disposed horizontally-arranged serrated bar in said hopper, a crank-wheel at the front end of the beam, a pitman connecting the wheel to said bar, a seed-spout for carrying the material from the opening in said hopper to the furrow behind the opening-standard, a pair of covering-bars with blades to cover the same and handles connected to said standards and bars.

844,228. SAFETY APPLIANCE FOR RAILROAD-CARS. JAMES T. ANDREW, Montgomery, Ala. Filed May 18, 1906. Serial No. 317,578.

Claim.—1. In a safety appliance for cars and locomotives, the combination of trucks, pivoted shoes freely suspended from said trucks, and connections whereby in case of accident said shoes are brought in contact with the rails to automatically lift the trucks and automatically set the air-brakes, substantially as described.

2. In a safety appliance for cars and locomotives, the combination of trucks and means carried thereby for automatically lifting said trucks and setting the brakes in case of accident, substantially as described.



3. In a safety appliance for cars and locomotives, the combination of trucks, pivoted shoes carried by said trucks, tension-springs for said shoes whereby said shoes are normally kept out of contact with the rails, said shoes being provided with curved lower faces, and with flanges corresponding to the gage of the rails whereby in case of accident said shoes are brought in contact with said rails thereby causing them to be tilted and automatically lifting said truck, substantially as described.

4. In a safety appliance for cars and locomotives, the combination of a truck, shoes pivoted thereon, tension-springs between said truck and said shoes, said shoes being provided with flanges corresponding to the gage of the railroad whereby in case of accident said shoes drop upon the rails and automatically lift the truck out of harm's way above the level of the track and connections whereby the rocking of said shoes upon their pivots automatically sets the air-brakes, substantially as described.

5. In a safety appliance for cars and locomotives, the combination of a truck and a plurality of paired shoes, one pair for each wheel, the outer and inner shoes for each corresponding pair being of the same gage as the railroad, said shoes being pivotally supported by said truck, and being provided with flanges and also with tension-springs to normally hold them in level position while allowing them to be tilted in case of accident, thereby raising the wheels above the level of the rails, substantially as described.

6. In a safety appliance for cars and locomotives, the combination with truck-frame, supports thereon provided with journals, paired shoes, one pair for each wheel supported by said journals, said shoes each having a rounded lower surface and rounded ends and provided with tension-springs, said shoes being adapted to contact with the surfaces in case of accident in place of the wheel, and if tilted automatically lift the wheels above the level whereby said tilting movement sets the brakes, substantially as described.

7. In a safety appliance for cars and locomotives, the combination with a truck, of a pair of shoes for each wheel pivotally supported on said truck, tension-springs normally holding said shoes level, each of said shoes being provided with a flange located in a position thereon corresponding to the flange of the adjacent wheel whereby in case of accident said shoes will drop upon said rails and automatically lift the truck above the level of said rails, and a braced frame supporting the inner members of two of the oppositely-arranged pairs of shoes, substantially as described.

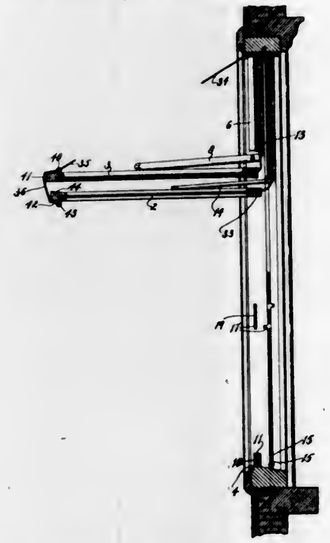
8. In a safety appliance for cars and locomotives, a supporting-bracket, said bracket having an enlarged base and curved upper surface adapted to be placed in the journal-box, but normally out of contact with said journal, substantially as described.

9. In a safety appliance for cars and locomotives, the combination with a truck-frame, of shoes pivotally supported thereby and a lifting-bracket adapted to be inserted in the journal-boxes, whereby when the shoe is tilted thereby lifting the truck-frame, the pressure is transmitted to the journal of the axle, substantially as described.

10. In a safety appliance for cars and locomotives, the combination with the truck-frame, of a pair of shoes for each wheel pivotally supported on said frame, each shoe being provided with a flange on its lower face and a braced gage-frame supporting the inner shoes of two corresponding pairs thereby being a brace and a guide to keep the whole structure in conformity with the gage of the road, substantially as described.

11. In a safety appliance for cars and locomotives, the combination of a supporting-beam, depending guide-plates provided with curved flanges connected to said beam, a journal-box, and a movable shoe provided with curved guide-grooves engaging with the projections on the guide-plates, substantially as described.

844,229. WINDOW. ANTENOR ASSORATI, New York, N. Y. Filed Jan. 5, 1906. Serial No. 294,707.



Claim.—1. A window-frame, its upper and lower sashes fitted to slide vertically and to swing away from the frame, the side front strips of the frame comprising upper stationary sections, intermediate hinged sections arranged to swing in a plane at right angles to the plane of the frame and lower hinged sections arranged to swing in the plane of the frame, the meeting ends of the intermediate and lower sections being so interlocked that the intermediate sections cannot be swung away from the frame until the lower sections have been swung downwardly, and means for removably locking the lower sections of the front side strips to the frame in their vertical position.

2. A window-frame, its upper and lower sashes fitted to slide vertically and to swing away from the frame, the side front strips and the parting-strips of the frame comprising upper stationary sections, intermediate hinged sections arranged to swing in a plane at right angles to the plane of the frame and lower hinged sections arranged to swing in the plane of the frame, the meeting ends of the intermediate and lower sections of the side front strips and of the bearing-strips being so interlocked that the intermediate sections cannot be swung away from the frame until the lower sections have been swung downwardly and means for removably locking the lower sections of the side front strips and of the parting-strips to the frame in their vertical position.

3. A window-frame, its upper and lower sashes fitted to slide vertically and to swing away from the frame, and a device for supporting the sashes when swung away from the frame comprising an upper rigid section, an intermediate rigid section and a lower flexible section.

4. A window-frame, its upper and lower sashes fitted to slide vertically and to swing away from the frame, and a device for supporting the sashes when swung away from the frame comprising an upper rigid section, an intermediate rigid section and a lower flexible section, the said window-frame being provided with means for supporting the device with the upper section arranged along the top of the frame and the intermediate and lower sections arranged along the sides of the frame when the device is not in use.

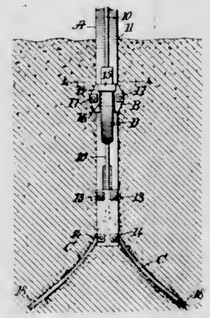
844,230. FLOOR-COVERING. CHARLES H. BACH, Brooks, Minn. Filed June 1, 1906. Serial No. 319,703.

Claim.—1. A floor-covering comprising paper, charcoal, and cotton, linen or silk.

2. A floor-covering comprising pulverized paper, pulverized charcoal, and shredded cotton, linen or silk.

3. A covering composition consisting of pulverized paper, pulverized charcoal, and cotton, linen or silk, mixed with water to form a paste and dried.

844,231. ANCHORING DEVICE FOR POSTS. PERCY T. BAILEY, Middletown, R. I. Filed Feb. 20, 1906. Serial No. 302,095.



Claim.—1. In a post-anchoring device, anchoring-bars slidable thereon, and arranged in pairs, one pair above the other and the bars of the upper pair being at approximately a right angle to those of the lower pair and guides for the bars carried by the post, which guides direct said bars outward as they are driven down.

2. In a post-anchoring device, anchoring-bars slidable upon the post, socket-plates having a bridge or strap section and below the same means for deflecting the anchor-bars, said bridge-sections operating as keepers for the bars and the deflecting means being adapted to curve the bars and direct them outward from the post as said bars are driven down.

3. In a post-anchoring device, initially straight anchoring-bars mounted to slide upon opposite side faces of the post, guides for the said bars secured to the post, at different points longitudinally along the post and directing elements carried by the guides, with which the said bars engage as they are driven downward, said directing elements having such relation to each other and to the bars as to give the said bars, when driven down, a curvature outwardly from the post.

4. A post, upper and lower sets of anchoring-bars mounted to slide at opposite faces of the posts, the anchoring-bars of the upper set being at right angles to the anchoring-bars of the lower set, independent guides for each set of anchoring-bars, and directing elements carried by the said guides, whereby as said bars are driven downward to curve and direct the bars outward from the post.

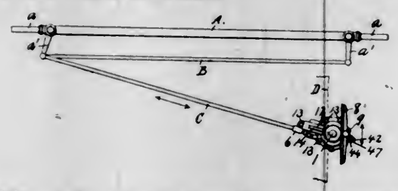
5. In an anchoring device for posts having a head member and a web, the combination with upper and lower bolts connected with the head and extending parallel with the web, of bars passing between the upper bolts and the web and along the outer side of the lower bolts, the latter serving to deflect the bars substantially as set forth.

6. In a post-anchoring device the combination of upper and lower sets of anchoring-bars, the bars of the upper set being at approximately right angles to those of the lower set, substantially as set forth.

7. The combination with a post having a head-section and a web-section, of a plate fitted against the edge of the web-section opposite the head-section, bolts connecting said plate with the head-section and adapted to form with the web a guide for anchoring-bars and means below the said bolts for deflecting the anchor-bars driven through said guides.

8. The combination of a post, a separate device alongside the post and having means arranged for operation independent of the lengthwise movement of the post for guiding and deflecting an anchoring-bar, an anchoring-bar operating in said device, and means for securing such separate device in connection with the post, substantially as set forth.

844,232. STEERING MECHANISM. FRANK BAKER, Syracuse, N. Y., assignor to Baker Gear Company, Homer, N. Y., a Corporation of New York. Filed July 18, 1905. Serial No. 270,202.



Claim.—1. In a steering mechanism, the combination with steering-axles and a connecting-rod between them, of a draw-bar connected to one of the axles, an oscillatory crank-arm connected to the draw-bar to reciprocate the latter, a gear-case in which one end of the crank-arm is mounted, a gear secured to the crank-arm, a worm meshing with the gear, both worm and gear being incased, an upright steering-post having one end journaled in the case and secured to the worm, a pinion on the upper end of the steering-post and a lever having a toothed rack engaged with the pinion, whereby the oscillation of the lever rocks the steering-post and oscillates the crank-arm through the medium of the gears.

2. In a steering mechanism, the combination of intermeshing worm-gears and an inclosing case in which said gears are mounted to rotate, a crank-arm secured to one of the gears, a steering-post secured to the other gear, a hand-lever, a toothed rack on the lever and a pinion on the steering-post meshing with the toothed rack.

3. In a steering mechanism, the combination with an upright rotary steering-post and means to rotate it, of a worm-gear secured to the post, a second gear meshing with the worm-gear, means for adjusting one of the gears radially relatively to the other gear to take up wear and a crank-arm secured to the second gear and connected to the steering-axles.

4. In a steering mechanism, the combination with steering-axles and means connecting them, of a draw-rod connected to one of the axles, a gear-case and intermeshing gears therein, a tapering pivotal pin secured to the gear-case and adjustable endwise, a crank-arm journaled on said pin and connected to the draw-bar, one of the gears being secured to the hub of the crank-arm, a steering-post journaled in the gear-case and secured to the other gear, and means to rotate the steering-post.

5. In a steering mechanism, an upright rotary steering-post having a worm at one end, a gear meshing with the worm, a gear-case inclosing the worm and gear and composed of sections, one of which is adjustable transversely of the axis of the steering-post, one of the gears being mounted upon the adjustable case-section, and means for clamping the case-sections together.

6. In a steering mechanism for automobiles, the combination of an upright rotary steering-post and operating means therefor, a worm secured to the lower end of the steering-post, and provided with end-thrust bearing-faces, end-thrust bearings at opposite ends of the worm, one of which is adjustable endwise, a worm-gear meshing with the worm, means to adjust said gear to take up the wear, a crank-arm secured to the gear and a draw-rod connected to the crank-arm and adapted to be connected to the steering-axles of the vehicle.

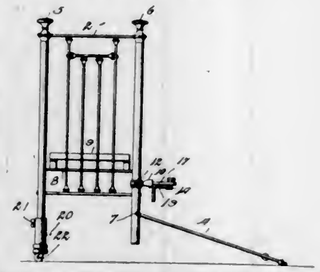
7. In steering mechanism for automobiles, the combination with intermeshing steering-gears and an inclosing case therefor, said case being composed of sections, one of which is adjustable with relation to the other and receiving and supporting one of the gears.

8. In a steering mechanism for automobiles, a gear-case consisting of a fixed section and a movable section adjustable relative to the fixed section, a gear journaled in the fixed section and a second gear journaled in the movable section and meshing with the first-named gear.

9. In a steering mechanism for automobiles, a gear-case consisting of a fixed section and a movable section, a steering-post and worm secured thereto and journaled in the fixed section, a pivotal pin mounted on the movable section, a crank-arm having a hub journaled on the pin and a gear keyed to said hub and meshing with the worm, in combination with means for adjusting the movable section of the case.

10. In a steering mechanism for automobiles, a gear-case composed of upper and lower sections, one section being adjustable relatively to the other section, a steering-post rotatingly mounted in the upper section and provided with a worm, a worm-gear journaled in the lower case-section and meshing with said worm, an end-thrust bearing axially adjustable in the lower case-section and engaging the lower face of the worm, a crank-arm secured to the worm-gear, and a tapering screw passed through the crank-arm and worm-gear and secured to the lower case-section.

844,233. CRIB. CHARLES S. BENTLEY, Corry, Pa. Filed Feb. 20, 1906. Serial No. 302,147.



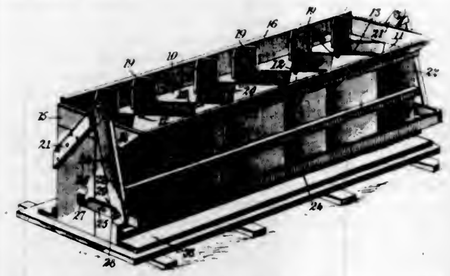
Claim.—1. A crib having an open side, fastenings on the posts of the crib at the open side for securing the crib to the side rail of a bedstead, and a let-down side wall hinged or pivoted at the open side below the fastenings and adapted when turned down to extend beneath the bed to which the crib is secured.

2. A crib having an open side and provided at the open side with fastenings, said fastenings comprising sleeves adjustably mounted on the crib and provided with upper and lower bearing-shoulders and shanks projecting outwardly therefrom, said shanks carrying reversible hooked bolts.

3. A crib having an open side and provided at the open side with fastenings for securing the same to the L-shaped rail of a metallic bed, said fastenings being adjustably mounted on the crib and provided with upper and lower bearing portions, and clamps reversible for coöperation therewith to connect the fastenings with a rail having its outer web extending vertically above or below its horizontal web.

844,234. MOLD. HERMAN BESSER, Alpena, Mich. Filed Mar. 9, 1906. Serial No. 305,082.

Claim.—1. In a mold, the combination of a pair of mold-sections, one of said sections being pivotally mounted, a lever for locking said sections together, and means connected with said lever for automatically moving one of the sections when the lever is operated to unlock them from each other.



2. In a mold, the combination of two mold-sections a lever pivotally connected with both of said sections, said lever having a slot, and a locking-lever having a pin for engaging said slot.

3. In a mold, the combination of two mold-sections, a lever pivotally connected with both of said sections, said lever having a slot, and a locking-lever having a pin for engaging said slot, said slot being located at an angle with respect to a line drawn between the pin and the point at which the lever is pivotally connected with the opposite section.

4. In a mold, the combination of two mold-sections, a lever pivotally connected with both of said sections, said lever having a slot, and a locking-lever having a pin for engaging said slot, each of said sections having mounted thereon a flange constituting a hopper, and a removable plate having tamper-guides thereon.

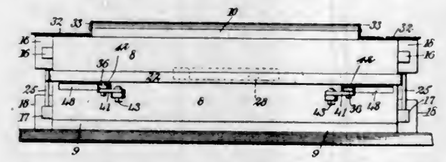
5. A mold having a flange surrounding certain sides of its upper surface, a removable plate on another side of the upper surface, said flange and plate constituting a hopper, and tamper-guides connected with said movable plate.

6. A mold provided with a removable plate constituting a part of a hopper, said plate having projections constituting tamper-guides.

7. A mold having mold-cavities, and tamper-guides mounted on its upper surface, one of said guides registering with each of the mold-cavities in the mold.

8. A mold comprising two sections, each section having a triangular mold-cavity therein, which sections register with each other along a line diagonally placed with respect to the articles to be molded, a pair of levers pivotally mounted on the opposite ends of one section, each lever having a notch, and a pin mounted on each end of the other section and adapted to engage said notch, said notch being located in the opposite side of the lever, and the levers being connected together by a handle located farther from the pivot of the levers than said notch, whereby the handle will keep the mold locked by the force of gravity.

844,235. MOLDING-MACHINE. HERMAN BESSER, Alpena, Mich. Filed May 23, 1906. Serial No. 318,325.



Claim.—1. The combination of a plurality of walls movable toward and from each other, mechanism for maintaining all of said walls in a definite relation to each other, and shields mounted upon certain of said walls for preventing the dropping of the material operated upon into the working parts of the device.

2. The combination of a plurality of walls provided with grooves, means for moving said walls relatively to each other, and metallic bands detachably mounted within said grooves for the purpose of remaining upon the block after the removal of said walls therefrom.

3. The combination of a plurality of walls movable toward each other, each of said walls being provided with a groove, the grooves of the respective walls registering with each other, and metallic bands detachable from said walls and sunken within said grooves for the purpose of acting upon the material to be molded between said walls.

4. The combination of a plurality of walls provided with grooves, said walls being movable relatively to each other, metallic bands sunken within said grooves and provided with surfaces flush with the inner surfaces of said walls, and means for permitting said walls to be taken apart.

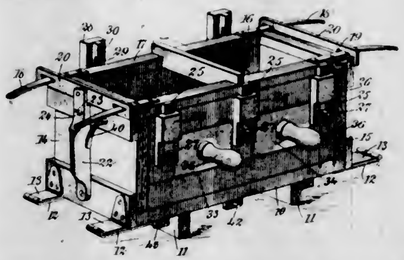
5. The combination of a mold made of parts movable relatively to each other for the purpose of releasing the finished block from said mold, said parts of said mold being provided with grooves, and a band adapted to be mounted within said grooves and to adhere temporarily to said block when finished.

6. The combination of walls movable relatively to each other for the purpose of forming and releasing a block, said walls being provided adjacent to their edges with shoulders, a metallic band of a thickness corresponding to the width of said shoulders and adapted to engage the same, and means for securing said walls together, so as to allow movement therebetween.

7. In a mold, the combination of walls movable relatively to each other, guide-rods and slideways mounted upon said walls so as to maintain the same in a predetermined relation, and a lever mounted upon one of said walls and provided with locking members for engaging said guide-rods, thereby holding the walls in predetermined fixed positions suitable for molding.

8. In a mold, the combination of a frame provided with angle-blocks and with walls connected rigidly in relation thereto, means for moving said walls relatively to each other, other walls disposed each at an angle relatively to said first-mentioned walls and provided with beveled surfaces engaging said angle-blocks, said second-mentioned walls being movable by said angle-blocks.

844,236. MOLD. HERMAN BESSER, Alpena, Mich. Filed June 29, 1906. Serial No. 324,012.



Claim.—1. In a mold, the combination of a side wall adapted to serve as a pallet and having wedges connected therewith, and a plurality of movable walls, certain of said movable walls being adapted to coact with said wedges.

2. In a mold, the combination of a pallet, movable end walls, a plurality of movable walls connected with the end walls, and means connected with the pallet for moving the last-named walls when the end walls are moved.

3. In a mold, the combination of a pallet, a bottom or side wall adapted to be mounted on the pallet, a pair of end walls connected with said bottom or side wall, and means connected with the pallet for lifting the mold when the end walls are swung outwardly therefrom.

4. In a mold, the combination of a pallet, a bottom or side wall adapted to be mounted on the pallet, a pair of end walls connected with said bottom or side wall, means

connected with the pallet for lifting the mold when the end walls are swung outwardly therefrom, said means comprising a plurality of wedges, and a guide connected with each end wall.

5. In a mold, the combination of a plate, a pair of end walls pivotally connected therewith at points beyond the end of said plate, and means for locking each end wall in closed position, the said means including a bar mounted to slide on the end wall, and a handle for moving said bar.

6. In a mold, the combination of a plate constituting one wall of the mold, a wall constituting another wall of the mold, a hinge having two sections, one section connected with the plate and the other with the wall, said hinge-section extending longitudinally from the plate, whereby the wall is adapted to swing outwardly from the plate on a center beyond the edge thereof, guides, means on the wall for engaging said guides, and means for locking the wall in closed position.

7. In a mold, the combination of a plate, a wall pivoted to the plate at a point beyond the edge thereof, a frame having guides, and means connected with said wall for moving said frame away from the plate when the wall is swung on its pivot.

8. In a mold, the combination of a plate, a wall pivoted to the plate at a point beyond the edge thereof, a frame having guides, means connected with said wall for moving said frame away from the plate when the wall is swung on its pivot, and means for moving both the plate and the frame in a direction transverse to the direction of said movement.

9. In a mold, the combination of a plate, a wall pivotally connected therewith, a movable frame having guides extending outwardly therefrom and drawn on the arcs of circles whose centers are nearer the center of the plate than the pivots on which the wall is mounted, and means connected with said wall for engaging the guides and controlling the motion of the frame.

10. In a mold, the combination of a plate, a wall pivotally connected therewith, a movable frame having guides extending outwardly therefrom and drawn on the arcs of circles whose centers are nearer the center of the plate than the pivots on which the wall is mounted, means connected with said wall for engaging the guides and controlling the motion of the frame, and means on said wall for moving it and for locking the wall with respect to the frame.

11. In a mold, the combination of a movable wall, a handle pivotally mounted thereon, a bar mounted on said handle and having a slot, a frame provided with a guide having a notch and passing through said slot, whereby the motion of the wall will cause said frame to move.

12. In a mold, the combination of a movable side wall, a movable end wall, a frame, means connected with the end wall for automatically moving the frame when the end wall moves, and means connected with the frame for moving the side wall.

13. In a mold, the combination of a movable side wall, a movable end wall, a frame, means connected with the end wall for automatically moving the frame when the end wall moves, and means connected with the frame for moving the side wall, said last-named means comprising a slide mounted on the frame and having a projection and a pair of ways on the side wall having a slotted portion adapted to be engaged by said pin.

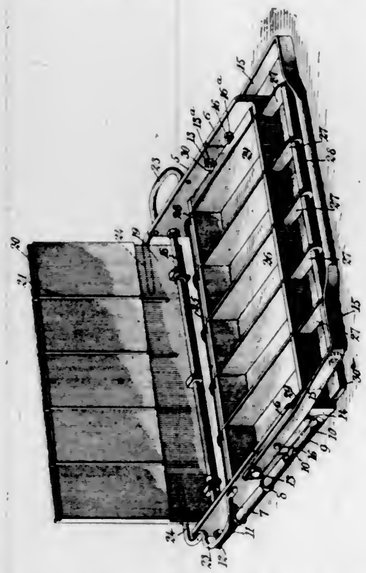
14. In a mold, the combination of a movable side wall, a movable end wall, a frame, means connected with the end wall for automatically moving the frame when the end wall moves, means connected with the frame for moving the side wall, a pallet located opposite said side wall, said pallet being provided with a slot, said side wall being provided with a perforation, and a core adapted to rest in said perforation and extend across the mold, said core having a locking device adapted to pass through the slot in the pallet.

15. In a mold, the combination of a perforated movable side wall, movable end walls, a frame, means connected with the end walls for automatically moving the frame when the end walls move, means connected with the frame for moving the said side wall, a pallet located opposite said side wall and adapted to support the mold and provided with a slot, a core adapted to rest in said perforation and extend across the mold, a locking device for said core comprising a rod passing through it, a pin on the end of the rod, and a cam-surface on the rear of the pallet for engaging said pin.

16. In a mold, the combination of a plate, constituting one wall of the mold, movable end walls pivotally connected with said plate, a pallet adapted to serve as one of the other mold-walls, and means for automatically connecting the pallet with the remainder of the mold when the end walls are closed.

17. In a mold, the combination of a plate forming the bottom wall of the mold, end walls having a hinged connection with the plate and adapted to swing outwardly therefrom, a movable side wall, a pallet adapted to serve as the other side wall, and means for automatically locking the pallet in position when the end walls are moved to closed position.

844,237. MOLDING-MACHINE. HERMAN BESSER, Alpena, Mich. Filed Sept. 21, 1906. Serial No. 335,576.



Claim.—1. A molding-machine comprising a two-part frame adapted to receive the material, means for permitting the movement of the parts toward and from each other, said means comprising tubes connected with one of said parts, and rods connected with the other of said parts and adapted to slide within the tubes, means for locking the parts in closed position, a plurality of dividing-plates spaced apart from each other and adapted to fit within the box, means for moving said plates in unison into and out of the box, a plurality of tamping-plates, and means for moving said tamping-plates in unison and independently of the dividing-plates.

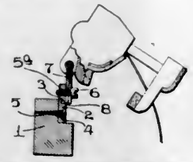
2. A molding-machine comprising a two-part frame adapted to receive the material, means for permitting the movement of the parts toward and from each other, means for locking the parts in closed position, said means comprising a pin on one of the sections, a handle pivoted to the other section and having a notch for engagement by the pin, a stop-pin on the last-named part for limiting the movement of the handle, a plurality of dividing-plates spaced apart from each other and adapted to fit within the box, a plurality of tamping-plates adapted to fit between the dividing-plates, and means for moving said tamping-plate and said dividing-plates independently of each other.

3. The combination of a two-part box for receiving the materials to be molded, means for locking together the two parts of said box, said means being provided with nuts projecting inwardly, dividing-plates disposed within said box and movable relatively thereto, certain of said dividing-plates being provided with slots for avoiding said nuts, and means for moving said dividing-plates to different angles relatively to said box.

4. The combination of a box to receive the materials to be molded, tamping-plates mounted upon said box and free to swing relatively thereto, and handles mounted upon opposite sides of said box and provided at the rear thereof with inwardly-projecting portions serving as limiting-stops for said tamping-plates.

5. The combination of a box made in two parts, a tube mounted upon one of said parts, a rod connected with the other of said parts and slidably engaging said tube, locking mechanism for securing together the two parts of said box, and means for permitting the molding material to be filled into said box.

844,238. PIANO-FLANGE-ATTACHING BAR. FREDERICK G. BILLINGS, Milwaukee, Wis. Filed Sept. 24, 1906. Serial No. 335,989.



Claim.—1. The combination with the rail of a piano-action, and the hammer-butt flanges, of a continuous metallic bar secured to the rail and provided with a longitudinally-extending groove in its front face, intermediate its top and bottom edges; for the reception of the lower ends of the flanges; substantially as described.

2. The combination with the rail of a piano-action and the hammer-butt flanges, the lower ends of which flanges are bent laterally, of a continuous metallic bar located on said rail in the front face of which bar is formed a continuous groove for the reception of the laterally-bent ends of the flanges, which bar is provided with apertures to receive the screws which fasten said bar to the rail, and said bar being also provided with apertures above the continuous groove for the reception of the screws which attach the hammer-butt flanges; substantially as described.

3. A flange-attaching bar for piano-actions, comprising a continuous metallic bar having flat front and rear faces and provided with a longitudinally-extending groove in its front face between the top and bottom edges, and which bar is provided with apertures above and below the groove for receiving attaching-screws; substantially as described.

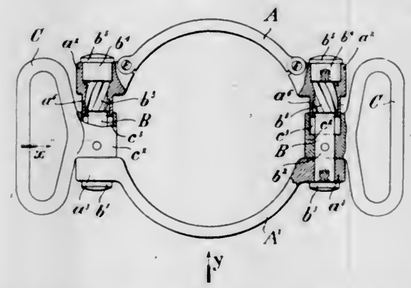
844,239. LIFTER. JOSEF BOGEL, Essen-on-the-Ruhr, Germany, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Filed June 18, 1906. Serial No. 322,343.

Claim.—1. In a lifting device, the combination of two clamping-jaws, and means connecting adjacent ends of the jaws, adapted to move the jaws relatively to one another and carrying handles positioned between the ends of the jaws and by which said means is controlled.

2. In a lifting device, the combination with a pair of jaws of a pair of handles extending from opposite ends of the jaws, one of said handles having screw connection with the jaws to cause them to close when the handles are gripped to lift an object.

3. In a lifting device, the combination of a pair of clamping-jaws, screw-threaded means engaging the adjacent ends of the jaws for moving the jaws relatively to one another and handles positioned between the ends of the jaws and controlling the screw-threaded means.

4. In a lifting device, the combination of a pair of clamping-jaws, and a handle between the ends of the jaws movably mounted in one of the jaws and having screw-threaded engagement with the other jaw to cause relative movement of the jaws when the handle is moved.



5. In a lifting device, the combination of a pair of clamping-jaws, and a handle positioned between adjacent ends of the jaws and rotatably mounted in one of the jaws and having screw-threaded engagement with the other jaw to cause relative movement of the jaws when the handle is rotated.

6. In a lifting device, the combination of a pair of clamping-jaws, and a handle rotatably mounted in one of the jaws and having screw-threaded engagement with the other jaw to cause relative movement of the jaws when the handle is rotated, and means for closing the screw-threaded parts toward the exterior.

7. In a lifting device, the combination of a pair of clamping-jaws, and handle rotatably mounted in one of the jaws and having screw-threaded engagement with the other jaw to cause relative movement of the jaws when the handle is rotated, and telescoping means for closing the screw-threaded parts toward the exterior.

8. In a lifting device, the combination of a pair of clamping-jaws, means connecting adjacent ends of the jaws and adapted to move the jaws relatively to one another; and a handle controlling said means and positioned between the adjacent ends of the jaws, one of said jaws consisting of a plurality of parts movable relatively to one another.

9. In a lifting device, the combination of a pair of clamping-jaws, screw-threaded means connecting adjacent ends of the jaws and adapted to move the jaws relatively to one another; and a handle controlling said means and positioned between the adjacent ends of the jaws, one of said jaws consisting of a plurality of parts hinged to one another to permit relative movement of the parts.

10. In a lifting device, the combination of a pair of clamping-jaws, a pair of handles positioned between the adjacent ends of the jaws rotatably mounted in the ends of the one of the jaws and having screw-threaded engagement with the ends of the other jaw to move the jaws relatively to one another when the handles are rotated.

11. In a lifting device, the combination with the lifting-jaws, of a handle extending beyond the ends of the lifting-jaws and a screw rotated by the handle and drawing the jaws together.

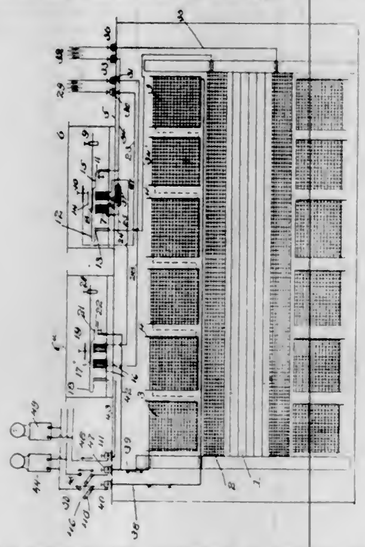
844,240. INDUCTION-COIL. CLINTON L. BOPP, Hawkeye, Iowa, assignor of one-fourth to John Beal, Whittier, Cal. Filed Oct. 21, 1905. Serial No. 283,818.

Claim.—1. The combination with an induction-coil having two separate generators of electricity, of a device for using a current of one source of generation for actuating a vibrator and the current of the other source of generation for sending pulsating currents through the primary winding of said induction-coil.

2. An induction-coil comprising a core, a primary winding and secondary winding, and means for securing

alternating and pulsating currents at will from said secondary winding.

3. The combination with an induction-coil, of a vibrator for causing pulsation of an electrical current to pass through the primary winding of said induction-coil, a second vibrator or relay for suppressing one of the alternations induced in the secondary winding.



4. An induction-coil comprising a primary and secondary winding, means for causing an electrical current to pass through the primary winding, a vibrator connected in series with the means for producing pulsation in the primary winding for transmitting pulsating currents from the secondary winding.

5. An induction-coil comprising a core, a plurality of windings, and means for securing alternating and pulsating currents from one of said windings.

6. The combination with an induction-coil of a vibrator, comprising an interrupting device, and means for permitting a pulsating current of electricity to pass through the primary winding of said induction-coil, the said current being derived from an independent source to that of a current operating said vibrator.

7. The combination with an induction-coil, of a vibrator for causing pulsating currents to pass through the primary winding of said induction-coil, a second vibrator connected in series with the first vibrator for permitting only one of the induced currents to flow from the secondary winding.

8. The combination with an induction-coil, of a vibrator for sending pulsating currents through the primary winding of said induction-coil, a second vibrator with means for adjusting the vibration thereof in order to keep step with one of the alternations of the primary winding.

9. The combination with an induction-coil, of a vibrator, means for furnishing current to the said vibrator, and independent means for furnishing pulsating current to the primary winding of said induction-coil.

10. The combination with two sources of electrical current, of an induction-coil comprising a core, a plurality of windings, means for causing the current from one of said sources to permit pulsating currents to flow from the other source of electrical energy.

11. An induction-coil comprising a primary and a secondary winding, means for causing a pulsating current to pass through said primary winding, and means for producing pulsating currents in said secondary winding.

12. An induction-coil comprising a primary winding, a secondary winding, means for causing a pulsating electrical current to pass through said primary winding, and means for securing pulsating currents from said secondary winding of higher potential than the potential of the current passing through said primary winding.

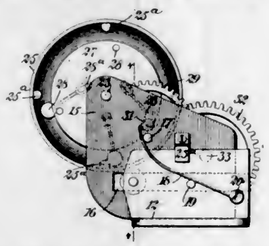
13. An induction-coil comprising a primary and secondary winding, means for causing electrical current to pass through said primary winding, and means for producing pulsating and alternating currents from said secondary winding.

14. An induction-coil comprising a primary winding, and a secondary winding, means for passing a current through said primary winding, means for receiving pulsating currents from said secondary winding, and means for varying the pulsation of said current.

15. The combination with an induction-coil, of a vibrator comprising an interrupting device, means for permitting a current of electricity to pass through the primary winding of said induction-coil, and means for producing a pulsating current in the secondary winding.

16. The combination with an induction-coil, of a vibrator for permitting pulsating currents to pass through the primary winding of said induction-coil, a second vibrator, and adjustable means positioned on said second vibrator for regulating the vibration thereof.

844,241. AUTOMATIC ALARM. PHILIP BOURNE, New York, N. Y. Filed Nov. 11, 1905. Serial No. 286,930.



Claim.—1. In an alarm device, a base having a vertical member and a horizontal rib upon the said vertical member, a cheek-plate having sliding movement on the base and having a slot to receive the said rib, a spring secured to the vertical member of the base and having bearing against the cheek-plate, the said spring normally tending to force the cheek-plate in one direction, a locking device for the cheek-plate, a gong carried by the said cheek-plate, and a train of gearing likewise carried by the cheek-plate, the said train of gearing being in operative connection with the gong and adapted to be operated by a contact of one its members with a moving object.

2. In an alarm device, a base-plate provided with a horizontal channel or recess, and having an upright member, a cheek-plate having sliding movement in the said channel, the upright member of the base and the said cheek-plate having a rib-and-slot connection, a lock for the cheek-plate, a tension device normally tending to force the cheek-plate in one direction, a gong carried by the cheek-plate, and a train of gearing carried by the cheek-plate and in operative connection with the gong, the said train of gearing being adapted to be operated by contact of one of its members with a movable object.

3. In automatic alarm devices for windows, a rack-bar adapted for attachment to an upper sash, the teeth of which rack-bar extend along at the front and at an adjacent side, the upper and the lower faces of the teeth being beveled, a body-section comprising a base adapted for attachment to the meeting-rail of the lower sash of the window-frame, a cheek piece or plate having sliding movement in the said base, a locking device for the cheek-piece, a spring carried by the base, normally acting to carry the cheek-piece in direction of the said rack, a gong carried by the cheek piece or plate, and a chain of gearing likewise carried by the cheek piece or plate and which is in operative connection with the hammer members of the gong and the said rack-bar.

4. The combination with a rack-bar adapted for attachment to the side stile of the upper sash of a window-frame, of an alarm device adapted for attachment to the meeting-rail of the lower sash of the window-frame, the said alarm device consisting of a base having a vertical member and a horizontal rib upon the said vertical member, a cheek-plate held to slide in the base and provided with a slot to receive the said rib, a spring secured to the vertical member of the base and having bearing against the cheek-piece, acting to normally force the said cheek-piece in direction of the rack-bar, a locking device for the said cheek-piece, a gong carried by the cheek-piece, and a train of gearing for operating the hammers of the said gong, which train of gearing is likewise carried by the cheek-piece and is in operative connection with the said rack-bar.

844,242. BUST-SUPPORTER. JOHANNES BREE, Charlottenburg, Germany. Filed Oct. 12, 1905. Serial No. 282,404.



Claim.—1. In a bust-support, cages covering the breasts, and two back-plates consisting of thin and stiff material which back-plates are in elastic connection to each other and also with the cages covering the breasts, and means for supporting the support on the body of the wearer.

2. In a bust-support, cages covering the breasts, a waist-belt, and two back-plates consisting of thin and stiff material which back-plates are in elastic connection to each other and also with the cages covering the breasts and in elastic connection with the waist-belt, and means for supporting the support on the body of the wearer.

3. In a bust-support, a girdle for supporting the breasts, two back-plates consisting of thin and stiff material which back-plates are in elastic connection to each other and also with the girdle of the breasts, substantially as set forth.

4. In a bust-support, a girdle for supporting the breasts, a waist-belt, and two back-plates consisting of thin and stiff material which back-plates are in elastic connection to each other and also with the girdle for the breasts and in elastic connection with the waist-belt, substantially as set forth.

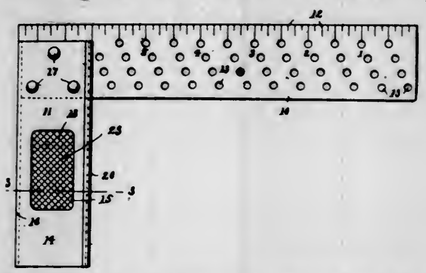
5. In a bust-support, cages for the breasts, a waist-belt, two back-plates consisting of thin and stiff material, two elastic straps for connecting the back-plates to each other, four elastic straps for connecting the back-plates with the outer side edges of the cages, four elastic straps for connecting the back-plates with two upper ends of the cages, and four elastic straps for connecting the back-plates with a waist-belt, substantially as set forth.

6. In a bust-support, a girdle for supporting the breasts, a waist-belt, two back-plates consisting of thin and stiff material, two elastic straps to connect these back-plates to each other, four elastic straps to connect the back-plates with the ends of the girdle of the breasts, two straps at the upper long edge of the girdle, four elastic straps to connect these straps with the back-plates, and four elastic straps to connect the back-plates with the waist-belt, substantially as set forth.

7. In a bust-support, cages for the breasts, a waist-belt, two back-plates consisting of thin and stiff material, two elastic straps to connect the same to each other, four elastic straps to connect the back-plates with the outer side edges of the cages, four elastic straps to connect the back-plates with two upper ends of the cages, one elastic strap to connect the two upper ends of the cages with each other, one stiff bridge to connect the elastic connection-strap of the upper ends of the cages with the elastic connection-straps of the back-plates, and four elastic straps to connect the back-plates with the waist-belt, substantially as set forth.

8. A bust-supporter, comprising back-plates adapted to fit beneath the shoulder-blades of the wearer, a bust-support in connection therewith, a member intermediate of the back-plates to bear against the spine, and elastic connections between the back-plates and said member.

844,243. TRY-SQUARE. RICHARD A. BREUL, Bridgeport, Conn. Filed Apr. 26, 1906. Serial No. 313,771.



Claim.—1. In a try-square, the combination with a blade, of a back formed of sheet metal folded together along its outer edge to form two parallel side portions, the inner edge portions of such back being turned out at a right angle and folded back upon themselves with their two ends disposed flush against each other to form a broad straight inner edge.

2. In a try-square, the combination with a blade, of a back formed of a single piece of sheet metal folded together along its outer edge to form two parallel side portions, the inner edge portions being turned outward at a right angle and folded back upon themselves with the two edges disposed together and in line with the center of the blade, said side portions containing a pocket to receive the blade.

3. In a try-square, the combination with a blade, of a back formed of sheet metal disposed to form two parallel sides, the inner edge portions of such sides being turned out at a right angle and folded back upon themselves with their two edges disposed flush against each other to form a broadened reinforced straight edge at a right angle to the blade, a pocket being formed intermediate of the upper part of said side portions to receive the blade.

4. In a try-square, the combination with a blade, of a back formed of sheet metal disposed to form two parallel side portions having orifices therein and provided with orifice-filling pieces intermediate such side portions, and having a roughened surface disposed in such orifice.

5. In a try-square, the combination with a blade, of a back having orifices and formed of sheet metal bent longitudinally through its central portion and having its inner side portions deflected out and folded over upon themselves with the edges disposed against each other, plates intermediate of said side portions and having a roughened surface disposed across the orifices therein substantially as described.

6. In a square, the combination of a back formed of sheet metal folded together along its outer edge to form two parallel sides, said sides being turned out at a right angle adjacent to the inner edge and folded back upon themselves with the two ends disposed flush against each other to form a broad straight inner face, such adjoining side portions being provided with a pocket.

7. In a try-square, the combination with a blade, of a back formed of sheet metal folded together along its outer edge and the two side portions turned out at a right angle adjacent to their inner edges and folded back upon themselves with the two ends disposed flush against each other, a plate intermediate such side portions and having a roughened portion disposed in orifices contained in said side portions.

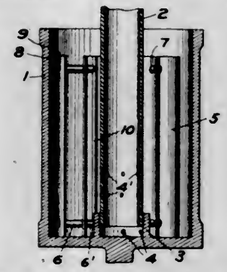
8. In a try-square, the combination of a back formed of sheet metal folded together along its outer edge and the two portions turned out at a right angle adjacent to its inner edge and folded back upon themselves with the two ends disposed flush against each other, in line with the

center of the blade, part of such side portions being cut out to form a pocket and a blade seated in such pocket.

9. In a square of the class described, the combination with a blade having a series of graduations thereon including one-eighth of an inch, consisting of a series of four holes diagonally arranged across the blade for each one-half inch thereof so graduated and adapted to serve for marking in line with said one eighth marks.

10. In a square, a graduated blade having four rows of holes lengthwise of and parallel with its edges so arranged that the holes of one of said rows are in line with the full and the half-inch graduation-marks, those of another in line with the quarter-inch marks, the holes of a third in line with eighth and three-eighth part of an inch marks, and the holes of the fourth row corresponding to the three-eighth and seven-eighths part of an inch marks, so adjusted as to permit marking through said blade-lines parallel with the back of the square.

844,244. CENTRIFUGAL CREAM-SEPARATOR. EDGAR W. BROOMALL, Rochester, N. Y. Filed Sept. 5, 1905. Serial No. 276,959.



Claim.—1. In a centrifugal separator, the combination with a bowl, of a feed-pipe centrally located therein, and having a plurality of circumferential perforations leading into said bowl; and a corresponding number of outwardly-diverging separator-blades whose inner ends lie, respectively, adjacent to and directly in front of their individual perforations, cutting, respectively, radii through said perforations, substantially as shown and described.

2. In a centrifugal separator, the combination with a bowl, of a feed-pipe centrally located therein, and having a plurality of circumferential perforations leading into said bowl; and a corresponding number of outwardly-diverging separator-blades whose inner ends lie, respectively, directly in front of their individual perforations, cutting, respectively, radii through said perforations, and are then bent inwardly around said perforations and extending behind them, respectively, to said feed-pipes; substantially as shown and described.

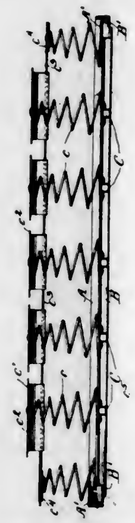
3. In a centrifugal separator, the combination with the bowl 1, of the feed-pipe 2, centrally located therein, and having a plurality of circumferential perforations 4' therein; and the corresponding number of outwardly-diverging separator-blades 5, whose inner ends 10 lie, respectively, directly in front of said perforations in the feed-pipe, and then are bent inwardly around said perforations, respectively, to the feed-pipe; substantially as shown and described.

4. A system of separator-blades for a centrifugal separator, comprising a plurality of separated blades held rigidly in proper relation to each other by bolts 7 that pass through said blades, and sleeves 6 and 6' upon said bolts that lie between and abut against said blades, substantially as shown and described.

844,245. FRAME-JOINT. EDWARD G. BUDD, Philadelphia, Pa., assignor to Hale-Kilburn Metal Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed May 26, 1905. Serial No. 262,382.

Claim.—1. In a joint, the combination with two overlaps, of a separator between such overlaps, the material of said overlaps extending into said separator, substantially as set forth.

2. In a joint, the combination with two overlaps, of a separator between said overlaps, the material of each of said overlaps being driven into said separator, substantially as set forth.



3. In a joint, the combination with two adjoining frame-sections, each comprising two members, the edges of the members of one section overlapping the edges of the members of the other section, of a separator between the overlaps of said sections, the material of both sections extending into said separator, substantially as set forth.

4. In a joint, the combination with frame members lying in substantially parallel planes and having their ends cut to form overlapping portions, of a separator between said portions, the material of the latter extending into said separator, substantially as set forth.

5. In a joint, the combination with frame members lying in substantially parallel planes and having their ends cut to form overlapping portions, of a series of separator-sleeves between said portions, the material of the latter extending into said sleeves, substantially as set forth.

6. The combination of two frame-sections each comprising two members one having a flange at its edge and the other having a flange of U-shaped cross-section inclosing the first-named flange and means securing said flanges together, said sections having their ends cut to form overlapping portions, and a separator between said ends, the material of said portions extending into said separator, substantially as set forth.

7. The combination with a sectional frame, each section having several members, of flanges formed at the edges of the members of one section and coacting with the edges of the members of the other section, and braces secured to the flanges of the members of one section and to the edges of the members of the other section, substantially as set forth.

8. The combination of a rectangular frame formed of a plurality of frame-sections secured together, each of said sections consisting of sheet metal pressed into form with the edges secured together and having open spaces between the sides thereof, said sections having a flange extending inwardly in the general plane of the frame, and slats extending across the frame and secured at their ends to said inwardly-extending portions, substantially as set forth.

9. A rectangular metallic frame made in two sections, the edges of one section being secured to those of the other section, and separators between said sections and abutting against the adjacent faces thereof, the material of each of said sections extending into said separators, substantially as set forth.

10. A rectangular metallic frame made in two sections, one of said sections having edge flanges coacting with the edges of the other section, and separators between said sections and abutting against the inner faces thereof, the material of said sections extending into said separators, substantially as set forth.

11. A rectangular metallic frame made in two sections, one of said sections having edge flanges coacting with the edges of the other section, overlaps formed in said sections, and separator-sleeves between said overlaps and abutting against the adjacent faces thereof, the material of said overlaps extending into said sleeves, substantially as set forth.

12. In a joint, the combination with two frame-sections each comprising two members, of a sleeve between said members, the ends of the members of one section overlapping those of the other, its ends abutting against the adjacent faces thereof, the material of said members being forced into said sleeve under pressure, substantially as set forth.

13. A rectangular metallic frame made in sections secured together, a series of coil-springs overlying and secured to said frame, and a series of metallic spring-plates overlying said coil-springs and arranged in parallel planes with the several members of said sectional frame, substantially as set forth.

14. A rectangular metallic frame formed of a plurality of frame-sections secured together at their ends and slats extending across said frame and secured at their ends thereto, an auxiliary metallic frame, coil-springs supporting the same upon the first-mentioned frame, a plurality of springs secured upon said slats and metallic flat springs overlying and supported on said springs, substantially as set forth.

15. A rectangular metallic frame formed of a plurality of frame-sections secured together at their end and slats extending across said frame and secured at their ends thereto, each of said sections consisting of sheet metal pressed into form with the edges secured together and having open space between the sides thereof, an auxiliary frame yieldingly supported on said frame, a plurality of springs secured upon said slats and metallic flat springs overlying and supported on said springs, substantially as set forth.

844,246. PUZZLE. WILLIAM J. BYCRAFT, Ashtabula, Ohio. Filed May 1, 1906. Serial No. 314,617.



Claim.—1. A device of the class described, comprising a tubular body, a ball adapted to roll in said tubular body and having a recess, a pea within said tubular body adapted to enter said recess to permit said ball to pass thereby beyond, and means for distinguishing the ends of said tubular body one from the other.

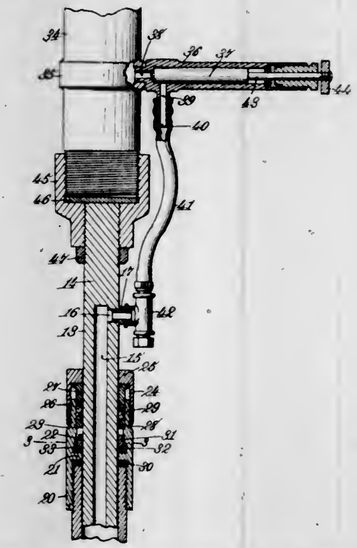
2. A device of the class described, comprising a tubular body, plugs for the ends thereof forming handles, means for distinguishing the ends of said tubular body, a ball adapted to roll in said tubular body and having a recess, and a pea within said tubular body adapted to enter said recess to permit said ball to roll over said pea.

3. A device of the class described, comprising a transparent tubular body, plugs for the ends thereof forming handles, means for distinguishing the ends of said body, a ball free to roll in said tubular body and provided with a recess, said ball having means for making the movement thereof erratic, and a second ball in said tubular body adapted to enter said recess to permit said first ball to roll over and pass beyond said second ball.

4. A device of the character described, comprising a transparent tubular body, plugs for the ends thereof, said plugs being of different colors to distinguish the ends of the device one from the other, a ball free to roll within said tubular body and provided with a recess, said ball having a chamber with a movable mass therein, a pea within said tubular body adapted to enter said recess, and means for cushioning the impact of said ball against said plugs.

5. A device of the class described, comprising a transparent tubular body, a ball free to roll within said tubular body, and provided with a recess, said ball having a bore having a movable mass therein and stoppers for the ends of said bore, a pea in said tubular body adapted to enter said recess to permit said ball to roll over said pea, and plugs of elastic material for the ends of said tubular body presenting cushions against the impact of said ball and said pea and forming handles, said plugs having inwardly-projecting bosses adapted to project beyond said pea when the latter rests against a plug.

844,247. AUTOMATIC FEEDER FOR TOOLS. CHARLES T. CARNAHAN and JEREMIAH MURPHY, Denver, Colo.; said Murphy assignor to said Carnahan. Filed July 31, 1906. Serial No. 328,595.



Claim.—1. An automatic feeder for tools comprising a cylinder adapted to be supported at one end, a fluid-operated piston within the cylinder and of a diameter as to snugly fit throughout its length the inner face of the cylinder, said piston connected at one end to the tool to be fed and having a channel terminating at a point removed from the point of connection between the piston and the tool, said piston having its channel open at one end and further provided with a pair of outlets for the channel, one of said outlets communicating with the tool for supplying a motive fluid thereto and the other of the outlets allowing for the escape of motive fluid to the atmosphere so as to indicate to the operator that the piston is near the limit of its outward stroke.

2. An automatic feeder for tools comprising a cylinder adapted to be supported at one end, a fluid-operated piston within the cylinder and of a diameter as to snugly fit throughout its length the inner face of the cylinder, said piston connected at one end to the tool to be fed and having a channel terminating at a point removed from the point of connection between the piston and the tool, said piston having its channel open at one end and further provided with a pair of outlets for the channel, one of said outlets communicating with the tool for supplying a mo-

tive fluid thereto and the other of the outlets allowing for the escape of motive fluid to the atmosphere so as to indicate to the operator that the piston is near the limit of its outward stroke, and shiftable means carried by one end of the cylinder and adapted to abut against the piston for arresting the outward movement thereof.

3. An automatic feeder for pneumatic tools comprising a cylinder communicating with a motive-fluid supply, a hollow piston arranged within the cylinder and connected at one end to the tool to be fed, said piston provided with an outlet, an exteriorly-arranged pipe connection communicating at one end with said outlet and at its other end with the tool for supplying motive fluid thereto, and shiftable means connected to one end of the cylinder and adapted to abut against the piston for arresting the outward movement thereof.

4. An automatic feeder for pneumatic tools comprising a cylinder communicating with a motive-fluid supply, a piston arranged within said cylinder and provided with a channel extending from one end and terminating at a point removed from the other end of the piston, said piston further provided with a pair of outlets for said channel and said channel communicating with the interior of the cylinder, one of said outlets adapted to communicate with the atmosphere to allow of the escape of motive fluid to indicate to an operator that the piston is near the limit of its outward stroke, and an exteriorly-arranged pipe connection communicating with the other of said outlets and with the tool to be fed for supplying a motive fluid to the tool.

5. An automatic feeder for pneumatic tools comprising a cylinder communicating with a motive-fluid supply, a piston arranged within said cylinder and provided with a channel extending from one end and terminating at a point removed from the other end of the piston, said piston further provided with a pair of outlets for said channel and said channel communicating with the interior of the cylinder, one of said outlets adapted to communicate with the atmosphere to allow of the escape of motive fluid to indicate to an operator that the piston is near the limit of its outward stroke, an exteriorly-arranged pipe connection communicating with the other of said outlets and with the tool to be fed for supplying a motive fluid to the tool, and means connected to the cylinder and adapted to abut against the piston to arrest the outward movement thereof.

6. An automatic feeder for pneumatic tools comprising a cylinder communicating with a motive-fluid supply, a piston arranged within said cylinder and provided with a channel extending from one end and terminating at a point removed from the other end of the piston, said piston further provided with a pair of outlets for said channel and said channel communicating with the interior of the cylinder, one of said outlets adapted to communicate with the atmosphere to allow of the escape of motive fluid to indicate to an operator that the piston is near the limit of its outward stroke, an exteriorly-arranged pipe connection communicating with the other of said outlets and with the tool to be fed for supplying a motive fluid to the tool, and means carried by one end of the cylinder and adapted to abut against the piston for limiting the outward movement thereof.

7. An automatic feeder for pneumatic tools comprising a recessed tailpiece connected with a source of motive-fluid supply, a cylinder connected to said tailpiece, a hollow piston operating and opening in said cylinder and connected at one end to the tool to be fed, and an automatically-shiftable means engaging the piston for arresting the outward movement thereof.

8. An automatic feeder for pneumatic tools comprising a tailpiece having a recess communicating with a motive-fluid supply, a cylinder connected to said tailpiece and opening into said recess, a piston arranged within and of a diameter as to snugly engage the inner face of the cylinder, said piston having one end connected to the tool to be fed and further provided with a channel opening at one end into the cylinder and terminating at a point removed from that end of the piston connected to the tool, said piston further provided with an outlet for said channel, and an exteriorly-arranged means communicating with said outlet and with the tool for supplying motive fluid to the latter.

9. An automatic feeder for pneumatic tools comprising a tailpiece having a recess communicating with a motive-fluid supply, a cylinder connected to said tailpiece and opening into said recess, a piston arranged within and of a diameter as to snugly engage the inner face of the cylinder, said piston having one end connected to the tool to be fed and further provided with a channel opening at one end into the cylinder and terminating at a point removed from that end of the piston connected to the tool, said piston further provided with an outlet for said channel, an exteriorly-arranged means communicating with said outlet and with the tool for supplying motive fluid to the latter, and an automatically-operable locking device engaging the piston for arresting the outward movement thereof.

10. An automatic feeder for tools comprising a cylinder supported at one end and communicating with a source of motive-fluid supply, a piston operating within said cylinder and connected with the tool to be fed, and a spring controlled locking device connected to one end of the cylinder and adapted to engage the piston to arrest the outward movement thereof.

11. An automatic feeder for tools comprising a cylinder supported at one end and communicating with a source of motive-fluid supply, a piston operated within said cylinder and having one end connected to the tool to be fed, said piston having its periphery cut away to form a shoulder, and a shiftable locking device connected to one end of the cylinder and adapted to engage the shoulder of the piston to arrest the outward movement of the piston.

12. An automatic feeder for pneumatic tools comprising a cylinder supported at one end and communicating with a motive-fluid supply, a hollow piston operating within said cylinder and having a closed end connected to the tool to be fed, said piston further provided with a peripheral shoulder, means for supplying motive fluid from the piston to the tool, and a spring-controlled locking device connected to the cylinder and adapted to engage said shoulder to arrest the outward movement of the piston.

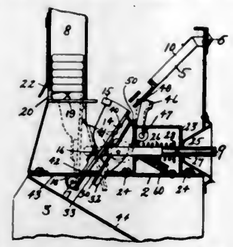
13. An automatic feeder for pneumatic tools comprising a cylinder supported at one end and communicating with a motive-fluid supply, a hollow piston operating within said cylinder and having a closed end connected to the tool to be fed, said piston further provided with a peripheral shoulder and a pair of outlets, means communicating with one of said outlets for supplying motive fluid from the piston to the tool, and a locking device connected to the cylinder and adapted to engage said shoulder to arrest the outward movement of the piston, the other of said outlets adapted to open into the atmosphere to cause an exhaust of motive fluid to indicate to an operator when the piston is near the limit of its outward stroke.

14. An automatic feeder for tools comprising a hollow cylinder, a recessed tailpiece connected to one end of the cylinder for supporting it and adapted to communicate with a source of motive-fluid supply, a pressure-operated piston within said cylinder, having a bearing for nearly its entire length within the cylinder and adapted to be connected with the tool to be fed, and a shiftable locking device carried by the cylinder and adapted to engage the piston to arrest the outward movement thereof.

15. An automatic feeder for tools comprising the combination with a cylinder communicating with a source of motive-fluid supply and a pressure-operated piston within said cylinder, said piston having a peripheral shoulder, of a plurality of automatically-shiftable stops surrounding the piston and adapted to be engaged by the peripheral shoulder of the piston to limit the outward movement thereof, and means for inclosing the stops.

16. An automatic feeder for tools comprising the combination with a cylinder communicating with a source of motive-fluid supply and a pressure-operated piston within said cylinder, said piston having a peripheral shoulder, of a plurality of spring-controlled stops surrounding the piston and adapted to be engaged by the peripheral shoulder of the piston to limit the outward movement thereof, and means for inclosing the stops.

844,248. CONTROLLED VENDING APPARATUS. CHARLES V. CASE and WILLIAM MAYO, Rochester, N. Y., assignors to Case Manufacturing Company, Rochester, N. Y. Filed Dec. 15, 1903. Serial No. 185,303.



Claim.—1. In a coin-controlled vending apparatus, a hopper having an outlet at its lower end, a swinging frame pivotally supported opposite said outlet to move the lowest article therefrom, means to hold a proper coin or token in the swinging frame during its initial movement toward the magazine, means for delivering the coin to the swinging frame, an operating device to engage the coin held in the swinging frame to actuate the latter initially toward the magazine, a device operated by the operating device and normally out of engagement with the swinging frame, means for engaging said device with the swinging frame to complete the throw of the latter after it has been given its initial movement by the plunger and coin, and means for returning the parts to their normal positions.

2. A coin-controlled vending apparatus comprising, a magazine having an outlet at its lower end, a swinging frame pivotally supported opposite said outlet to move the lowest article therethrough, means to hold a proper coin or token in the swinging frame during its initial movement toward the magazine, means for delivering the coin to the swinging frame, a plunger to engage the coin held in the swinging frame to actuate the latter initially toward the magazine, a lever permanently engaged by the plunger and normally out of engagement with the swinging frame, said parts including means for engaging the free end of the lever with the swinging frame to complete its throw after the latter has been given its initial movement by the plunger and coin, and means for returning the parts to their normal positions.

3. A coin-controlled vending apparatus, comprising a magazine having an outlet at its lower end, a vertically-swinging frame pivoted at its lower end with its upper end opposite said outlet to move the lowest article therethrough, means to hold a proper coin or token in the swinging frame during its initial movement toward the magazine, means for delivering the coin to the swinging frame, a plunger to engage a coin in the swinging frame to actuate the latter initially, a vertically-swinging lever pivotally connected to the plunger near its inner end, and normally out of engagement with said swinging frame, said parts including means for engaging the lever with the said swinging frame to complete its throw after the latter has been given its initial movement by the plunger and coin, and means for returning the parts to their normal positions.

4. A coin-controlled vending apparatus, comprising a magazine having an outlet at its lower end, a vertically-swinging frame pivoted at its lower end with its upper end opposite said outlet to move an article therethrough and provided with a longitudinal slot contracted for a portion of its length, means to hold a proper coin in said swinging frame and across the lower portion of the slot, a plunger to pass through the slot, engage the coin and actuate the swinging frame initially, a vertically-swinging lever operatively connected with the plunger with its upper end normally in line with the wider portion of the said slot, but adapted to engage the swinging frame at the contracted portion of said slot and complete its throw after said swinging frame has been given its initial movement by the plunger and coin, and means for returning the parts to their normal positions.

5. A coin-controlled vending apparatus, comprising a magazine having an outlet at its lower end, a swinging frame with its upper end opposite said outlet to move an article therethrough, means to hold a proper coin or token in the swinging frame during its initial movement toward the magazine, means for delivering the coin to the swinging frame, a plunger to engage the coin held in the swinging frame to actuate the latter initially, a lever operatively connected to the plunger near its inner end and normally out of engagement with the swinging frame, said parts including means for engaging the lever with the swinging frame to complete its throw after the latter has been given its initial movement by the plunger and coin, teeth on the outer side of the swinging frame for engagement by said lever to hold the swinging frame against premature return movement, and means for returning the parts to their normal positions.

6. A coin-controlled vending apparatus comprising a magazine having an outlet at its lower end, a swinging frame opposite said outlet to move the lowest article therethrough, means to hold a proper coin or token in the swinging frame during its initial movement toward the magazine, a coin-chute leading to the swinging frame, a coin-retaining lever pivoted below the lower end of the chute and having means to throw it into the path of a coin, a plunger to engage a coin held in the swinging frame to move the latter initially toward the magazine, an operating-lever permanently engaged by the forward end of the plunger, normally out of engagement with the swinging frame, and at the opposite side engaging the coin-retaining lever to hold it normally out of the path of a coin, said parts including means for engaging said operating-lever with the swinging frame, to complete its throw, after the latter has been given its initial movement by the plunger and coin, and means for returning the parts to their normal positions.

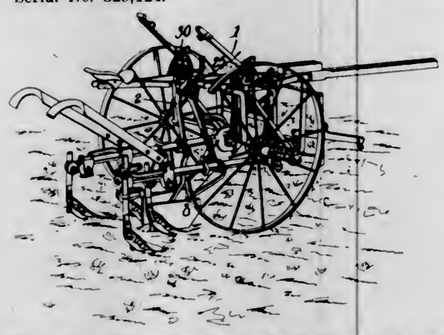
7. A coin-controlled vending apparatus, comprising a magazine having an outlet at its lower end, a swinging frame pivotally supported opposite said outlet to move the lowest article therethrough, means to hold a proper coin or token in the swinging frame during its initial movement toward the magazine, means for delivering the coin to the swinging frame, a plunger to engage the coin held in the swinging frame to actuate the latter initially toward the magazine, a lever permanently engaged by the plunger and normally out of engagement with the swinging frame, a fulcrum on which the lower end of said lever slides, said parts including means for engaging the free end of the lever with the swinging frame to complete its throw after the latter has been given its initial movement by the plunger and coin, and means for returning the parts to their normal positions.

8. A coin-controlled vending apparatus, comprising a magazine, a swinging frame opposite to the magazine-outlet to remove the articles therethrough, and provided with a slot and coin-holding flanges or projections, means for delivering a coin to said swinging frame, a fixed horizontal projection extending through the slot in the swinging frame to support a coin, a plunger to engage the coin held in the swinging frame to actuate the latter initially off of the said projection and toward the magazine, a lever permanently engaged by the plunger and normally out of engagement with the swinging frame, said parts including means for engaging the free end of the lever with the swinging frame to complete its throw after the latter has been given its initial movement by the plunger and coin and means for returning the parts to their normal positions.

9. A coin-controlled vending apparatus comprising, a magazine having an outlet at its lower end, a swinging frame pivotally supported opposite said outlet to move the lowest article therethrough and provided with a laterally-projecting arm, means to hold a proper coin or token in the swinging frame during its initial movement toward the magazine, means for delivering the coin to the swinging frame, a plunger to engage the coin held in the swinging frame to actuate the latter initially toward the magazine, a lever permanently engaged by the plunger and normally out of engagement with the swinging frame, said parts including means for engaging the free end of the lever with the swinging frame to complete its throw after the latter

has been given its initial movement by the plunger and coin and then release said frame, a spring for suddenly retracting the swinging frame when so released, a spring for retracting the plunger, and an indicator mechanism having an actuating device in the return-path of the lateral arm of the swinging frame.

844,249. ATTACHMENT FOR CULTIVATORS. CYRIL B. CLARK, Louisville, Ky., assignor to B. F. Avery & Sons, a Corporation of Kentucky. Filed Aug. 3, 1906. Serial No. 329,124.



Claim.—1. The combination with a cultivator, of a pair of cross-arms secured thereto, means for regulating the distance between the ends of said cross-arms, clamps mounted upon the lower ends of said arms for gripping the beams of said cultivator at any desired point, and means for adjusting the position of the clamp on the cultivator-beams, said clamps and said arms being adapted to move said beams laterally without interfering with the vertical reciprocatory movement of said beams.

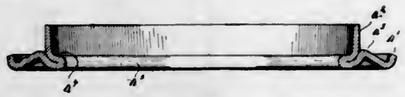
2. A device of the character described, comprising a pair of cross-arms, movable means secured to the lower ends of said cross-arms for transmitting power to the beams of the cultivator, means secured to the upper ends of said arms for operating the same, a wheel for operating said means, a weight secured to said wheel for normally holding the same against operation, said weight being formed in a plurality of parts for easy removal and adjustment, and means passing through said weight for holding the same in position.

3. A device of the character described, comprising a pair of cross-arms, means for opening and closing said arms, reciprocating clamps positioned on the lower ends of said arms for engaging the beams of a cultivator, said clamps comprising a clamping portion, means for operating said clamping portion, a bifurcated portion for partially inclosing the lower ends of the said cross-arms, means for permitting pivotal movement of said clamp, and an anti-friction-roller secured to the outer end of said bifurcated portion for holding said clamp in position, and for providing antifriction means for said clamp.

4. A device of the character described, comprising a pair of cross-arms, means for opening and closing said cross-arms, and a pivotally-mounted reciprocating clamp positioned on the lower ends of said cross-arms and carried thereby for gripping the beams of a cultivator, said clamp comprising a clamping portion, a bifurcated portion secured to said clamping portion, a double-beveled portion between said bifurcation for contacting with said cross-arms and for permitting pivotal movement of said clamp, and antifriction means secured between the outer ends of said bifurcated portion opposite said beveled portion for holding said clamp in position.

844,250. CLAMPING-RING FOR PIPE-COUPLINGS. JAMES CLARK, Bradford, Pa., assignor to S. R. Dresser Manufacturing Company, of Bradford, Pa. Filed Dec. 3, 1906. Serial No. 346,145.

Claim.—1. A clamping-ring for pipe-couplings having a flat annular ring portion disposed perpendicularly to the axis of the clamping-ring, and provided on its inner edge with an annular flange projecting on one side, portions of the ring portion extending out of the plane of said ring portion and into engagement with the flange to mutually reinforce said flange and said ring portion, substantially as described.



2. A clamping-ring for pipe-couplings formed from a single piece of wrought metal and comprising a flat annular ring portion disposed perpendicularly to the axis of the clamping-ring and having an annular flange projecting on one side thereof, said ring portion having portions thereof, at intervals around the same bent out of its plane, and into contact with said flange, to mutually reinforce said ring portion and said flange, substantially as described.

3. A clamping-ring for pipe-couplings formed in a single piece from wrought metal, comprising a flat annular ring portion disposed perpendicularly to the axis of the clamping-ring, and having separated portions thereof between its edges bent out of the plane of the said ring, without perforating the same, and having an annular flange extending sharply outwardly from the inner edge of said ring portion, and in contact with said separated bent-up portions of the ring portion, substantially as described.

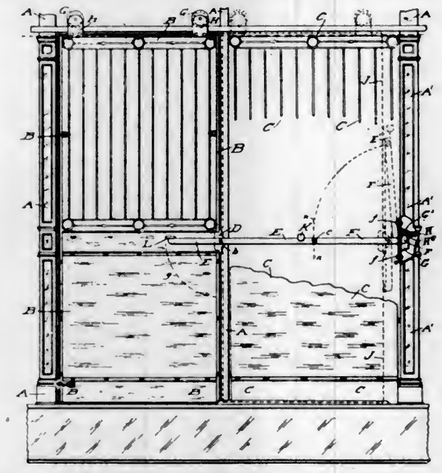
4. A clamping-ring for pipe-couplings formed in a single piece from wrought metal, comprising a flat annular ring portion disposed perpendicularly to the axis of the clamping-ring, and having separated portions thereof between its edges bent out of the plane of the said ring, without perforating the same, and having an annular flange extending sharply outwardly from the inner edge of said ring portion, and in contact with the said ring portion, adjacent to its union therewith, and also in contact with said bent-up portions of the said ring portion, the said ring portion being provided with bolt-holes between said bent-up portions, in the plane of the ring, substantially as described.

5. A clamping-ring for pipe-couplings formed in a single piece from wrought metal, comprising a flat annular ring portion disposed perpendicularly to the axis of the clamping-ring, and having separated portions thereof between its edges bent out of the plane of the said ring, without perforating the same, and having an annular flange extending sharply outwardly from the inner edge of said ring portion, and in contact with the said ring portion adjacent to its union therewith and also in contact with said separated bent-up portions of said ring portion, the inner surface of the aperture formed at the juncture of the flange with said ring portion being substantially parallel with the axis of the clamping-ring, substantially as described.

6. A clamping-ring for pipe-couplings formed in a single piece from wrought metal, comprising a flat annular ring portion, disposed perpendicularly to the axis of the clamping-ring and having a reinforcing-flange formed on its outer edge, having portions between its edges bent out of the plane of the ring portion on one side thereof and an annular flange extending from the inner edge of said ring portion outwardly, and then substantially perpendicularly to the plane of the ring portion, said flange being in contact with said bent-up portions of the ring portion, the inner wall of said flange being curved adjacent to the ring portion, and being slightly inclined outwardly therefrom to its outer edge, the ring portion being provided with bolt-holes, substantially as described.

844,251. DEVICE FOR OPENING, CLOSING, AND LOCKING SLIDING DOORS. JOHN F. CONNELL, Los Angeles, Cal. Filed Apr. 2, 1906. Serial No. 309,503.

Claim.—1. The device for opening, closing and locking, elevator-doors, consisting of the combination of a single sliding door, a lever pivoted at the edge of said sliding door and movably connected to a link whose outer end is bent upward and pivotally connected to a holder fastened to the elevator inclosure in such manner that the sliding door is enabled when open to approximate closely to the connection of the outer end of the link with the elevator inclosure, the link having a rearward extension beyond its connection with the operating-lever, the extension of said link having a stop projecting upward from its rearward end, said stop contains an elastic body for engaging with the upper edge of the operating-lever, so as to lock the sliding door, the operating-lever, the movable link and the elevator inclosure when said lever and link are horizontal, substantially as hereinbefore described.



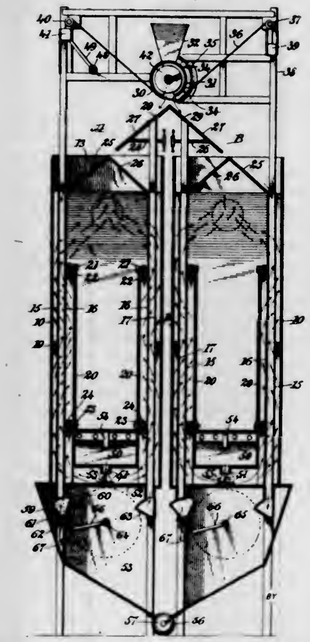
2. The device for opening, closing and locking, elevator-doors, consisting of the combination of a single sliding door, a lever pivoted at the edge of said sliding door and movably connected to a link whose outer end is bent upward and pivotally connected to a holder fastened to the elevator inclosure in such manner that the sliding door is enabled when open to approximate closely to the connection of the outer end of the link with the elevator inclosure, the link having a rearward extension beyond its connection with the operating-lever, the extension of said link having a stop projecting upward from its reaward end, said stop containing an elastic body for engaging with the upper edge of the operating-lever so as to lock the sliding door, the operating-lever, the movable link when said lever and link are horizontal, the pivotal connection of the operating-lever with the sliding door, the connection of the outer end of the operating-lever with the link and the pivotal connection of the outer end of the link with the elevator inclosure being all adjustable, substantially as hereinbefore described.

844,252. DRIER. RAMÓN F. CORDERO, Rubio, Venezuela. Filed July 3, 1906. Serial No. 324,605.

Claim.—1. A drier comprising a casing, means for circulating air through said casing, a feeder-pipe extended lengthwise of the casing and above the same, the said feeder-pipe comprising a fixed semicircular section and a semicircular section having a rotary movement with relation to the first-named section, a hopper leading into said pipe, and means for causing the movements of the movable section at intervals of time.

2. A drier comprising a casing, spaced perforated walls arranged in the casing, an air pipe or tube extending along the lower portion of the casing, means for conducting air to said pipe or tube, said pipe or tube having communication with the space between the perforated walls, removable plates inward of the perforated walls, and means for discharging material between the perforated walls.

3. A drier comprising a casing, spaced perforated walls arranged in said casing at opposite sides, means for deflecting material to the space between adjacent perforated walls, an air-conductor extended through the lower portion of the casing and having outlets in its bottom wall, and lugs extended downward in said tube.



4. A drier comprising a casing, spaced perforated walls arranged in the casing at opposite sides and designed to receive material between them, means for directing air to said walls, rocking receiving-troughs arranged below the space between adjacent perforated walls, the said troughs having discharge-openings, and means for rocking the troughs at intervals of time for causing the discharge of material.

5. A drier comprising a casing, spaced perforated walls arranged in the casing at opposite sides, removable plates inward of said walls, an air-conductor pipe arranged along the lower portion of the casing and having openings in its bottom wall, a deflector-rib arranged below said openings, rocking troughs arranged below the space between the perforated walls, the said troughs having top portions for closing said space, and also having openings at the top near one side and openings through one of the side walls, bars for closing said side-wall openings, and means for rocking the troughs at intervals of time.

6. A drier comprising a casing, spaced perforated walls in the casing at opposite sides, inclined deflectors for directing material to the space between the walls, means for causing a circulation of air through the casing, a swinging deflector above the first-named deflectors, and means for discharging material to said swinging deflector at intervals of time.

7. A drier comprising a casing, spaced perforated walls in said casing at opposite sides, the outer perforated walls being spaced inward from the outer walls of the casing, rocking troughs at the lower end of the space between the perforated walls, means for causing the rocking movement of said troughs, a hopper in which the troughs are arranged, and a screw conveyer in the lower portion of the hopper.

8. A drier comprising a casing, means for causing a cir-

culation of air through said casing, a feeder-tube extended along the upper portion of the casing and consisting of a fixed segmental section and a segmental section having a rotary movement with relation to the fixed section, weighted cords or cables having connection with the movable section, a shaft, fingers on said shaft for engaging with certain of the weights, and means for imparting motion to said shaft at intervals.

9. A drier comprising casings, spaced perforated walls in each casing, oppositely-inclined deflectors in each casing for discharging material into the spaces between adjacent perforated walls, swinging deflectors for directing material to the first-named deflectors, screws for regulating said swinging deflectors, and means for discharging material onto the swinging deflectors at intervals of time.

10. A drier comprising a casing, spaced perforated walls arranged in the casing at opposite sides, an air-conductor pipe extended along the lower portion of the casing and having openings for the discharge of air, a cold-air pipe arranged outward of the casing and communicating with said air-pipe in the casing, a hot-air pipe leading through the cold-air pipe and communicating with said pipe within the casing, means for forcing air into the cold-air pipe, and an automatic dampener on said cold-air pipe.

11. A drier, comprising a drying-chamber, an air-conductor in the lower part of the chamber and communicating therewith, a heater, a hot-air pipe leading from the heater, a cold-air pipe surrounding the hot-air pipe, a trunk with which the cold-air pipe communicates, and a connection between the trunk and the air-conductor.

12. A drier, comprising a drying-chamber, an air-conductor in the lower part of the chamber and communicating therewith, a heater, a hot-air pipe leading from the heater, a cold-air pipe surrounding the hot-air pipe, a trunk with which the cold-air pipe communicates, a connection between the trunk and the air-conductor, and an air-forcing device connected with the cold-air pipe.

13. A drier, comprising a drying-chamber, an air-conductor in the lower portion of the drying-chamber and communicating therewith, a cold-air pipe, a connection between the cold-air pipe and the conductor, a heater, a casing interposed between the heater and cold-air pipe, a hot-air pipe leading from the heater and extending through the casing and cold-air pipe, an air-forcing device connected with the said casing, and an automatic damper for said casing.

14. A drier, comprising a drying-chamber, an air-conductor in the lower portion of the drying-chamber and communicating therewith, a cold-air pipe, a connection between the cold-air pipe and the conductor, a heater, a casing interposed between the heater and cold-air pipe, a hot-air pipe leading from the heater and extending through the casing and cold-air pipe, an air-forcing device connected with the casing, a flue on the said casing, and a valve in the flue and controlled by the pressure of air in the casing.

15. In a drier, a casing, an air-conductor extending lengthwise of the lower portion of the casing, said conductor being provided with a plurality of outlets in its bottom and with depending lugs on the inner face of its top, a deflector below the outlets of the conductor, and means for forcing air into the conductor.

16. In a drier, a casing, means for circulating air through the casing, a feeding-tube for delivering the material to the casing, said feeding-tube comprising segmental sections, one of which is stationary and the other mounted to rotate, and means for rotating the said section.

17. In a drier, a casing, means for circulating air through the casing, a feeder-tube receiving the material and discharging it into the casing, said tube comprising a fixed segmental section and a segmental section mounted to rotate, a feeding device in the feeder-tube, and means for operating the movable section of the feeder-tube from the feeding device.

18. In a drier, a casing, means for circulating air through the casing, a feeder-tube receiving the material and discharging it into the casing, said tube comprising two segmental sections, one of which is stationary and the other mounted to rotate, cords attached to the movable section of the feeder-tube and provided with weights at their ends, a spiral feeder in the feeder-tube, a shaft provided with a finger adapted to engage the weight of one of the said cords, and gearing between the said shaft and the shaft of the spiral feeder.

19. In a drier, a casing, means for circulating air through the casing, a feeder-tube receiving the material and discharging it into the casing, said feeder-tube comprising segmental sections, one of which is stationary and the other mounted to rotate, cords attached to the movable section of the feeder-tube and provided with weights at their ends, a spiral feeder in the feeder-tube and provided with a driven wheel having a single tooth, a shaft provided with a finger adapted to engage the weight of one of the said cords, and a gear-wheel on the said shaft and with which the tooth of the said wheel engages.

20. In a drier, a casing having a discharge-opening, a rocking trough below the discharge-opening of the casing, and having a discharge-opening in one side, means for rocking the trough, and means for closing the discharge-opening of the trough at the time the material is passing from the casing into the said trough.

21. In a drier, a casing having a discharge-opening at its bottom, a rocking V-shaped trough below the discharge-opening of the casing, and having an inlet-opening at one side of its top and a discharge-opening in one of its sides, means for rocking the trough, and means for closing the discharge-opening of the trough when the inlet-opening is in line with the discharge-opening of the casing.

22. In a drier, a casing having a discharge-opening at its bottom, a rocking V-shaped trough below the discharge-opening of the casing and having an inlet-opening at one side of its top and a discharge-opening in one of its sides, a revoluble shaft provided with a finger for engaging the trough to rock it, and means for closing the discharge-opening of the trough when its inlet-opening is in line with the discharge-opening of the casing.

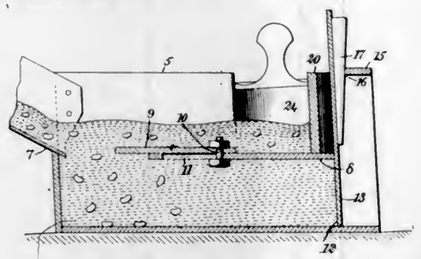
23. In a drier, a casing having a discharge-opening at its bottom, a rocking V-shaped trough below the discharge-opening of the casing and having an inlet-opening at one side of its top and a discharge-opening in one side, said trough being also provided with a finger, a revoluble shaft provided with a finger for engaging the finger of the trough and also for engaging said trough, means for imparting intermittent movement to said shaft, and means for closing the discharge-opening of the trough when its inlet-opening is in line with the discharge of the casing.

24. In a drier, a casing having a discharge-opening in its bottom, a rocking V-shaped trough below the discharge-opening of the casing and having an inlet-opening in one side of its top and a discharge-opening in one side near the bottom, a revoluble shaft provided with a finger for engaging the trough to rock it and with a gear-wheel at one end, a driving-wheel provided with a tooth engaging the gear-wheel of the shaft having the finger, and means for closing the discharge-opening of the trough when the inlet-opening thereof is in line with the discharge-opening of the casing.

25. In a drier, a casing having a discharge-opening in its bottom, a rocking V-shaped trough arranged below the discharge-opening of the casing and having an inlet-opening at one side of its top and a discharge-opening in one side, means for rocking the trough, and a fixed bar arranged adjacent to the trough and adapted to close the discharge-opening thereof when its inlet-opening is in line with the discharge-opening of the casing.

844,253. COFFEE-SEPARATOR. RAMÓN F. CORDERO, Rubio, Venezuela. Filed July 13, 1906. Serial No. 325,993.

Claim.—1. A separator or sizer, comprising communicating tanks arranged at right angles to each other, one of said tanks being the inlet-tank and the other the terminal tank, a board or plate arranged in the inlet-tank, separating it into upper and lower chambers, an opening being provided between the inlet end of said board or plate and the end of the tank, an adjustable board for regulating the discharge through the opening of water and material to be separated, the lower chamber of said inlet-tank being provided with a valve-controlled inlet, a board in the terminal tank arranged between the top and bottom, the inner end of said board or plate being spaced from the first tank, a valve-controlled inlet for the lower chamber of the last-named tank, and an outlet for the upper chamber of said last-named tank.



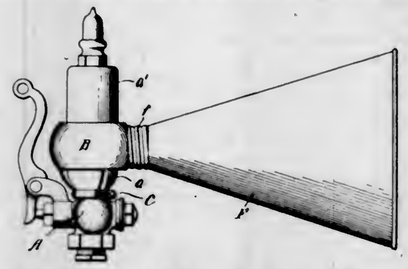
2. A coffee-separator, comprising an inlet-tank and a communicating terminal tank arranged at right angles to the first-named tank, a board or plate arranged in the first-named tank, and having its end spaced from the inlet end of said tank, a sliding valve-plate for adjusting the space, the lower chamber of said first-named tank having an outlet, a gate-valve for said outlet, means for holding the gate-valve as adjusted, a board or plate arranged between the top and bottom of said terminal tank, the end of said board or plate being spaced from the first-named tank, the chamber below said board or plate being provided with an outlet, a gate-valve for said outlet, means for holding said gate-valve as adjusted, and means for directing water with the material to be separated, into said tanks.

3. A coffee-separator, comprising an inlet-tank, and a communicating terminal tank arranged at right angles to the inlet-tank, a board or plate arranged between the top and bottom of the inlet-tank and spaced from the inlet end thereof, the said board or plate dividing said tank into upper and lower chambers, the lower chamber having an outlet-valve for regulating said outlet, a deflector arranged in the upper chamber at the outlet end, a board or plate arranged between the top and bottom of the terminal tank and dividing the same into upper and lower chambers, the lower chamber having an outlet, a valve for said outlet, an outlet for the upper chamber, a deflector at the outlet end of said terminal tank in the upper chamber, and means for directing water and material into the first-named tank.

4. A coffee-separator comprising a pair of inclined tanks arranged at right angles to each other, and communicating, one with the other, each tank being divided into upper and lower chambers, the lower chambers of the tanks having outlets, valves for regulating said outlets, and an incline for discharging water and coffee-beans of various grades, into the first tank, whereby the first or heaviest grade will pass through the water to the lower chamber of said first tank, and discharge therefrom, while the other grades are carried through the upper chamber of the first-named tank, to the second-named tank, whereby the second-grade coffee-beans will pass to the lower chamber of the second tank and discharge therefrom, while the next grade passes through the upper chamber of the second tank and discharges therefrom with the water.

844,254. MEGAPHONE ATTACHMENT FOR STEAM-WHISTLES. ROBERT H. COURTNEY, Jr., Louisville, Ky. Filed Oct. 2, 1906. Serial No. 337,065.

Claim.—1. The combination with a whistle made up of a plurality of cup-sections, of a casing having an annular chamber inclosing the space between said sections of said whistle, and provided with an orifice, a hollow screw-threaded projection on said casing adjacent to and in line with said orifice, a detachable collar on said whistle, arms connecting said collar and said casing and a megaphone having a threaded socket adapted to fit onto said threaded projection on said casing, substantially as described.



2. In combination with a whistle having a plurality of cup-sections, a clamping-band adapted to be fastened about the neck of one of said sections, a split shell, and connections between the same and said band, said shell surrounding the meeting ends of said sections and spaced therefrom, the ends of said shell being threaded, and a megaphone having threads at its tapered end designed to engage the threaded ends of said shell and hold the same together, as set forth.

844,255. VALVE. HERBERT H. CRAMER, Aspen, Colo. Filed Dec. 7, 1903. Serial No. 184,131.

Claim.—1. A valve having its casing formed in separate parts or sections, the opposite end sections being provided with lateral branches, which branches are in parallelism, but on different planes, and eyebolts encircling said branches and secured each to the opposite end section.

2. A valve having its casing formed in separate parts or sections, the opposite end sections being provided with lateral branches and apertured flanges, such flange of each section being opposite the branch of the other section, and eyebolts encircling said branches and extended each through the apertured flange of the opposite end section.

3. A valve having its casing formed in separate parts or sections, the opposite end sections being provided with lateral branches and apertured flanges, such flange of each section being opposite the branch of the other section, eyebolts encircling said branches and extended each through the apertured flange of the opposite end section, and means for preventing lateral displacement of such bolts.

4. A valve having its casing formed in separate parts or sections, the opposite end sections being provided with lateral branches, each branch having a lug projecting outwardly therefrom, eyebolts having cut-outs designed to coincide with said lugs in the positioning and removal thereof, said parts or sections having apertured flanges through which said eyebolts are passed, and nuts on such bolts, as set forth.

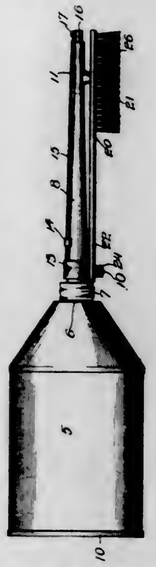
5. A valve-casing formed in two parts with lateral branches on different planes, the body portion of one part extending into the body portion of the other part and forming a valve-seat, eyebolts encircling said branches and secured each to the opposite part of the valve-casing, and a valve-disk fitted against said seat, as set forth.

6. The combination with the casing formed in two parts, each part having a laterally-extended branch, the two branches forming inlets and outlets in parallelism with each other but on different planes, a valve and seat therefor intermediate the inner ends of said branches, eyebolts

encircling the latter and secured to the opposite parts of the casing, and means for turning such valve, as set forth.

7. The combination with the casing composed of two parts, each consisting of a cylindrical body, a lateral branch, and an apertured flange, the branch of one part being opposite the flange of the other part, one of said bodies projecting into the other and forming a valve-seat, eyebolts encircling said branches designed to extend through the apertured flange of the other part, a valve on said seat, and a stem therefor, as set forth.

844,256. FOUNTAIN-BRUSH. ROCCO CURCIO, Richfield Springs, N. Y. Filed Apr. 13, 1906. Serial No. 311,531.



Claim.—1. An article of the class described comprising a body portion, a spout for the body portion, a laterally-extending stem carried by the spout, a brush including a handle having an opening therein in which the stem is removably engaged, and removable means for holding the stem in the opening, said brush being arranged to receive matter from the spout.

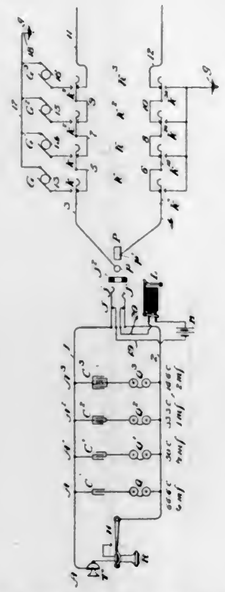
2. An article of the class described comprising a body portion, a spout for the body portion, a tube communicating with the spout, a laterally-extending stem carried by the spout, a brush having openings in which the tube and stem are received, means removably engaged with the stem to hold the brush in position, said tube being arranged to discharge to the bristles of the brush, and means for varying the discharge.

3. An article of the class described comprising a reservoir, a spout for the reservoir, a laterally-extending tube communicating with the spout, a valve movable into and out of position to prevent the discharge of liquid from the spout to the tube, a slide connected with the spout, and connections between the slide and valve for operation of the valve when the slide is moved.

844,257. HARMONIC SIGNALING FOR POLYSTATION TELEPHONE-LINES. WILLIAM W. DEAN, Elyria, Ohio, assignor to The Dean Electric Company, Elyria, Ohio, a Corporation of Ohio. Filed Aug. 8, 1906. Serial No. 329,750.

Claim.—1. The method of harmonic signaling which consists in tuning the signal-receiving devices to given frequencies, and preventing interference by regulating the amount of current of each frequency which may be effectively employed.

2. The method of harmonic selective signaling which consists in arranging a plurality of signal-receiving devices in parallel branches of the signaling-circuit, tuning said signal-receiving devices so that each will respond to a given frequency, supplying currents of suitable frequencies to operate said devices, and preventing interference by limiting the amount of current effectively transmitted at each frequency.



3. The method of harmonic selective signaling which consists in arranging tuned signal-receiving devices in parallel branches of the signaling-circuit, each device being adapted to respond to a given frequency, supplying currents of suitable frequencies to operate said devices, and suitably limiting the amount of current effectively supplied to each signal-receiving device.

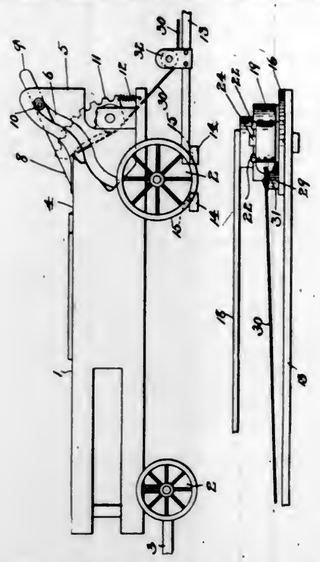
4. The method of harmonic selective signaling which consists in arranging tuned signal-receiving devices in parallel branches of the signaling-circuit, each device being responsive to a given frequency of current, supplying currents of suitable frequencies to operate any of said devices at will, and regulating voltages so that they will be approximately proportional to the frequencies and the currents supplied.

5. The method of harmonic signaling which consists in tuning signal-receiving devices so that each will respond to a given frequency, connecting the said devices in parallel branches of a signaling-circuit, and preventing interference by fixing the voltage of the signaling-current at each frequency so that the amount of current which will be effectively transmitted through each signal device will be inversely proportional to the frequency for which that device is tuned, and the amount of current at low frequencies which can be transmitted through the devices tuned for high frequencies will be insufficient to operate the same.

6. The method of harmonic selective signaling over parallel circuits without interference which consists in regulating the voltages of the several signaling-currents so as to be proportional to the frequencies.

7. The method of harmonic signaling over parallel branches without interference which consists in tuning the signal device in each branch to respond to a given frequency, adjusting the capacities of the branches so as to be approximately inversely proportional to the frequencies, and finally adjusting the voltages of the signaling-currents so as to be approximately directly proportional to the frequencies employed.

844,258. BALING-PRESS. JULES M. DE COSTER, La Grange, Mo., assignor of one-half to John T. Bauer, Quincy, Ill. Filed June 6, 1906. Serial No. 320,469.



Claim.—1. In a baling-press, a press-box, slotted uprights thereon, a plunger, a pitman secured to said plunger, a rack at the free end of said pitman, rollers on the sides of said rack to ride in the slots in the uprights, a spiral gear journaled in the end of the press-box, and engaging the rack aforesaid and means to actuate said spiral gear, substantially as shown and described.

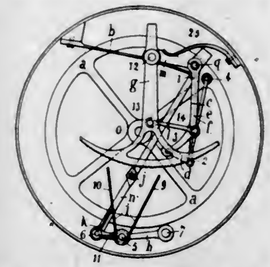
2. In a baling-press, in combination with a portable wheeled press-box, a reciprocating plunger therein, and gearing to actuate said plunger, a power-transmitter comprising a beam, cross-beams at one end thereof having notches to receive the wheels at one end of the press-box, a turn-table at the other end of the beam, and operative connections between said turn-table and the plunger-gearing, substantially as shown and described.

3. In a baling-press, in combination with a press-box, a plunger therein, and gearing to actuate said plunger, a power-transmitter comprising a turn-table, a sweep secured thereto, a slotted dog slidably mounted on the edge of said turn-table, said turn-table provided with notches adjacent to its edge, a catch slidably mounted in the slot in said dog and adapted to engage the notches in the turn-table, and operative connections between said dog and the plunger-gearing, substantially as shown and described.

4. In a baling-press, in combination with a press-box, a plunger therein, and gearing to actuate said plunger, a power-transmitter comprising a turn-table, a sweep secured thereto, a slotted dog slidably mounted on the edge of said turn-table, said turn-table provided with notches adjacent to its edge, a catch slidably mounted in the slot in said dog and adapted to engage the notches in the turn-table, a beveled block secured adjacent to said turn-table to engage said catch and raise it from engagement with the notch aforesaid, and operative connections between said dog and the plunger-gearing, substantially as shown and described.

5. In a baling-press, in combination with a portable, wheeled press-box, a reciprocating plunger therein, a pitman pivotally secured to said plunger having a rack at its free end, and a spring-actuated spiral gear journaled in the end of said press-box and meshing with the rack on the pitman, a power-transmitter comprising a turn-table, a sweep secured thereto, a slotted dog slidably mounted on the edge of said turn-table, said turn-table provided with notches adjacent to its edge, a catch slidably mounted in the slot in said dog and adapted to engage the notches in the turn-table, a beveled block secured adjacent to said turn-table to engage said catch and raise it from engagement with the notch aforesaid, and a flexible element connecting said dog and the spiral gear, substantially as shown and described.

844,259. SPEED-INDICATOR. LUC L. B. DENIS, Paris, France. Filed Sept. 20, 1904. Serial No. 225,236.



Claim.—1. A speed-indicator, comprising a standard balance or beam receiving during a portion of its oscillation an impulse determined by the shaft whose speed is to be determined and continuing freely its motion during the remaining portion of the oscillation, a spring for bringing the balance or beam to its medium position, a toothed sector adapted to assume a varying angular position and to which a reciprocating rectilinear motion is imparted by the shaft, the speed of which is to be determined, means for connecting the sector with the balance or beam, whereby its angular displacement will modify the amplitudde of the oscillating motion of the balance or beam, a two-armed fork having varying angular position about a center to which the same rectilinear reciprocating motion is imparted by the shaft, the speed of which is to be determined, means whereby the two arms of the fork will be caused to engage the toothed sector without varying the angular position of the same when the motions of the beam and shaft are in synchronism, and when the motions of said parts are out of synchronism, the arms will be caused to successively engage the sector to produce an angular displacement of the same during the remaining portion of the movement of said fork, and a hand connected with the toothed sector and indicating the angular displacement of said sector, said displacement corresponding to the variations of speed of the said shaft, substantially as described.

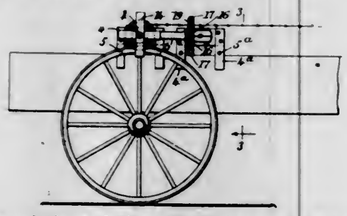
2. A speed-indicator, comprising a beam or balance, adapted to be connected with a movable part, the speed of which is to be determined, to receive an impulse therefrom, a spring for returning the beam to normal position, a pivoted toothed sector, means whereby the sector will partake of the same movement as the beam or balance, a two-armed pawl for engaging the sector, means for causing the arms of the pawl to simultaneously or successively engage the sector, according to whether the beam and shaft are in synchronism or out of synchronism, and a hand carried by the sector and indicating on a dial, substantially as described.

3. A speed-indicator, comprising a beam or balance, adapted to be connected with a movable part, the speed of which is to be determined, to receive an impulse therefrom, a spring for returning the beam to normal position, a pivoted toothed sector, means whereby the sector will partake of the same movement as the beam, a stop for engaging the sector to steady the same, a two-armed pawl for engaging the teeth of the sector, means for causing the arms of the pawl to simultaneously or successively engage the sector, according to whether the beam and shaft are in synchronism, or out of synchronism, and a hand on the arbor of the sector and indicating on a dial, substantially as described.

4. In a speed-indicator, the combination with a shaft, the speed of which is to be determined, of a beam or bal-

ance adapted to be connected with the shaft to receive an impulse therefrom, a pivoted toothed sector, means whereby the sector will partake of the same movement as the beam, a two-armed pawl for engaging the sector simultaneously or successively according to whether the shaft and beam are in synchronism or out of synchronism, a bellows operated by the shaft, a second bellows connected with the first bellows, and means for operating the pawl from the last-named bellows, substantially as described.

844,260. REELING AND UNREELING ATTACHMENT. ANTON J. DETERMANN, Beresford, S. D. Filed May 8, 1906. Serial No. 315,767.



Claim.—1. In a device of the character described, in combination, a shaft, clamping means for attaching the shaft to a wagon-body at one end thereof, clamping-arms for clamping the shaft at the opposite end thereof, a second shaft adapted to be clamped at the opposite ends of the arms, a clamp journaled on said second shaft adapted to be clamped to the wagon-body, loops secured to each of the arms adjacent to said second shaft providing alining eyes at each side of the arms, a guiding-bar for engaging the alining eyes of the loops, an eye at one end of the guiding-bar for directing the wire, a reel journaled on the first-named shaft alining with the guiding-eye, and a friction-wheel journaled on the same shaft and carrying means for driving it, for the purpose described.

2. In a device of the character described, in combination, a shaft, a reel, and a friction-wheel journaled adjacent to each other, a clamp secured to the opposite end of the shaft comprising a block with jaws secured at each end and each side of the block, means carried by the jaws for springing them together, a like clamping means journaled in a second shaft spaced from the first, clamping-arms clamping each shaft at each side of the last-named clamping means, and guiding means supported by said arms for guiding wires to or from the reel.

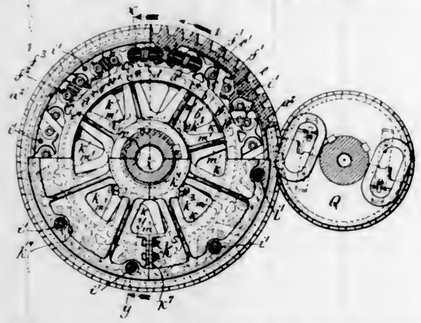
3. In a device of the character described, in combination, a shaft, a reel, and a friction-wheel journaled adjacent to each other on the shaft, clamping means carried at the opposite end of the shaft, supporting-arms clamped to the shaft adjacent to the friction-wheel, a second clamp adapted to be attached to the wagon-body supporting the free ends of the arms, guide-loops secured to the arms, a guide-bar engaging with the guide-loops, a guiding-eye in alinement with the reel at one end of the guiding-bar, and an inclined slot in the guiding-eye, for the purpose described.

4. In a device of the character described, in combination, a shaft, clamping means for attaching one end of the shaft to a wagon-body, a reel, and a friction-wheel journaled at the opposite end of the shaft, supporting-arms extending from the shaft, a second shaft secured in the clamping-arms, clamping means journaled on said second shaft, and guiding means for the reel carried by the supporting-arms whereby the arms may be turned about the first-named shaft as a center and the clamp revolved on said second shaft for disposing the guiding means at either side of the reel.

5. In a device of the character described, in combination, a shaft, a reel, and a friction-wheel adjacent to each other on the shaft, a clamp secured to the opposite end of the shaft, supporting-arms carrying a clamp for sustaining the shaft adjacent to the reel, guiding means carried by the supporting-arms and means whereby the guiding means may be disposed at either side of the reel.

6. In a device of the character described, in combination, a shaft, reeling means and means adapted to drive the reeling means from the wheel of a vehicle carried on said shaft, a horizontal arm adapted to be supported at one end from the vehicle and sustaining the shaft at its opposite end, and guiding means carried by said arm for the purpose described.

844,261. ELASTIC GEARING. LOUIS F. DIETER, Buffalo, N. Y. Filed Sept. 28, 1903. Serial No. 174,951.



Claim.—1. An elastic gear, comprising a center portion adapted to be secured to a shaft, a rim, rim-supports arranged on or in opposite sides of the rim and each having a central hub or bearing surrounding the axis of the shaft, said rim-supports being capable of oscillation independently of said center portion, and yielding or elastic members which compel the rim and said center portion to turn together, substantially as set forth.

2. In an elastic gear, a frame comprising a rim having laterally-spaced supports rigid with the rim, and elastic transmission mechanism arranged between said supports, substantially as set forth.

3. In an elastic gear, a frame comprising a rim having laterally-spaced supports and each of said supports having a hub or bearing coaxial with the gear, and elastic mechanism for transmitting power or motion from said frame to a central transmitting part, or vice versa, said elastic mechanism being arranged between said supports, substantially as set forth.

4. An elastic gear, comprising a center portion adapted to be secured to a shaft, a rim, supports for the rim arranged on or in opposite sides thereof and each provided with a central hub or bearing adapted to turn loosely on the shaft, and yielding or elastic members interposed between the rim and said center portion, substantially as set forth.

5. An elastic gear, comprising a center portion, a rim having laterally-spaced supports and each of said supports provided with a hub or bearing coaxial with the gear or with the shaft on which the gear is mounted; one of said supports being formed integral with the rim and the other detachably secured thereto, and elastic member or members interposed between the rim and said center portion, substantially as set forth.

6. An elastic gear, consisting of a rim having formed or mounted in suitable location anywhere on its outside a suitable transmitting gear or wheel, supports for said rim laterally spaced and rigid therewith and each of said supports having a hub or bearing central or coaxial with the gear, and elastic transmission mechanism arranged in the space between said rim-supports, substantially as set forth.

7. An elastic gear, comprising a rim provided on its inner circumference with pockets or seats, rim-supports arranged on or in opposite sides of the rim and each provided with a central hub or bearing, a center portion arranged between said rim-supports and adapted to be secured to the shaft on which the gear is mounted, said center portion being provided with circumferential pockets or seats, and yielding or elastic members seated in the coöperating pockets of the rim and said center portion, substantially as set forth.

8. An elastic gear, comprising a rim, rim-supports arranged on or in opposite sides of the rim and each having a central hub or bearing, a center portion adapted to be secured to the shaft on which the gear is mounted, yielding or elastic members interposed between the rim and said center portion, and a second rim surrounding the first-named rim and carried by the same, substantially as set forth.

9. In an elastic gear, a frame comprising a suitable rim having laterally-spaced supports rigid with the rim, the rim being provided with suitably-located connecting means and the adjacent rim-support being fitted thereto, substantially as set forth.

10. An elastic gear, comprising a rim provided with marginal flanges, rim-supports arranged on or in opposite sides of the rim and provided at their periphery with annular grooves which receive said rim-flanges, and fastening-bolts passing through the rim and said supports on the inner side of said grooves, substantially as set forth.

11. An elastic gear, comprising a rim provided on its inner circumference with lugs each containing a pair of oppositely-facing spring-pockets, rim-supports arranged on or in opposite sides of the rim, a center portion arranged between said rim-supports and having similar pockets, springs seated in the coöperating pockets of said rim and center portion, and fastening-bolts passing through said rim-lugs between the pockets thereof, substantially as set forth.

12. An elastic gear, comprising a rim provided on its inner surface with a seat or seats, laterally-spaced supports rigid with the rim, a center portion having at its periphery a seat or seats of the same size and form as the seat or seats of the rim, and a spring or springs arranged between the rim and the center portion and seated in the coöperating seats of the rim and said center portion, substantially as set forth.

13. An elastic gear, comprising a rim provided on its inner surface with a pocket or pockets, a center portion adapted to be secured to a shaft or to a central transmitting part and having a similar pocket or pockets on its periphery, and a spring or springs seated in the coöperating pockets of said members; the pocket or pockets of both said rim and said center portion being open at both their sides, whereby the spring or springs can from both sides be inserted and removed laterally, substantially as set forth.

14. An elastic gear, comprising a rim provided at its inner surface with a seat or seats, a center portion provided at its periphery with a similar seat or seats, an elastic member or members arranged between the rim and the center portion and seated in the coöperating seats of the rim and said center portion, and division-pieces arranged in said seats, substantially as set forth.

15. An elastic gear, comprising a rim provided on its inner circumference with pockets, a center portion adapted to be secured to a shaft and provided at its periphery with similar pockets, yielding or elastic members seated in the coöperating pockets of the rim and said center portion, and division-pieces arranged in said pockets and provided with lateral spacing projections, substantially as set forth.

16. An elastic gear, comprising a rim having laterally-spaced supports rigid therewith, a center portion adapted to be secured to a shaft or to a central transmitting part, and elastic members arranged between the rim and center portion and connecting said members; one or more of said elastic members being arranged for driving in one direction and the other elastic member or members being arranged for driving in the opposite direction, the elastic members being partly under strain in their normal or unloaded condition, whereby when the elastic member or members for driving in the one direction are under maximum strain or maximum load, the elastic member or members which are arranged for driving in the opposite direction are relieved of part of their strain and the retained strain being sufficient to prevent backlash and also to prevent rattling, substantially as set forth.

17. An elastic gear, comprising a rim having laterally-spaced supports rigid therewith, a center portion, and two sets of elastic members arranged between the rim and the center portion and connecting the rim and center portion, one set of elastic members being arranged for drivng continuously in one direction and the other set being arranged and sufficient in number to prevent backlash, substantially as set forth.

18. An elastic gear, comprisng a rim, rim-supports arranged on or in opposite sides of the rim and composed of separable halves or sections, a center portion arranged between said rim-supports, and elastic connections between said center portion and said rim, substantially as set forth.

19. The combination with an elastic gear comprising a rim having supports on or in opposite sides thereof and each of said supports having a central hub or bearing, a center portion between said supports, and elastic connection or connections between said rim and center portion, of a shaft provided on the outer sides of said rim-supports with shoulders, and retaining collars or washers applied to said shaft between said rim-supports and said shoulders for securely holding said rim-supports against lateral displacement, substantially as set forth.

20. An electric gear, comprising a rim provided with a seat or seats, laterally-spaced supports rigid with said rim, a center portion provided with a similar seat or seats, and an elastic member or members seated in the coöperating seats of the rim and center portion and provided with suitable means to limit the yield or elasticity of said member or members, substantially as set forth.

21. An elastic gear, comprising a rim provided with a pocket or pockets, laterally-spaced supports rigid with said rim, a center portion provided with a similar pocket or pockets, and an elastic member or members seated in the coöperating pockets of the rim and center portion, substantially as set forth.

22. In an elastic gear, a frame comprising a rim provided with laterally-spaced supports rigid with the rim and each of said supports having a hub or bearing coaxial with the shaft on which the gear is mounted, said frame being provided with suitably-located means on its outside for fastening thereto suitable driving or transmitting means, and elastic transmission mechanism arranged in the inside of said frame and connected therewith, substantially as set forth.

23. An elastic gear, comprising a frame consisting of a rim provided with laterally-spaced supports and each of said supports having a hub or bearing central or coaxial with the gear, said frame having formed or mounted in suitable location anywhere on its outside suitable driving or transmitting means, and elastic transmission mechanism arranged in the inside of said frame and connected therewith, substantially as set forth.

24. An elastic gear, comprising a center portion, a frame consisting of a rim having laterally-spaced supports and each of said supports having a hub or bearing central or coaxial with the gear, and elastic members arranged between the rim and center portion for transmitting power or motion from said frame to said center portion, or vice versa, one or more of said elastic members being arranged for driving in one direction and the other elastic member or members being arranged for driving in the opposite direction, substantially as set forth.

25. An elastic gear, wherein power or motion is transmitted to a frame and from said frame to an elastic transmission mechanism arranged inside of said frame, or vice versa; said frame comprising a rim having laterally-spaced supports and each of said supports having a hub or bearing central or coaxial with the gear, substantially as set forth.

26. An elastic gear, comprising an elastic member or members, a central transmitting part, a frame surrounding said elastic member or members and said central transmitting part, laterally-spaced bearings coaxial with the gear supporting said frame and arranged at opposite sides of said elastic member or members and on which bearings said frame being capable of oscillation independently of said central transmitting part, said elastic member or members connecting said frame with said central transmitting part, substantially as set forth.

27. An elastic gear, wherein power or motion is transmitted by an elastic transmission mechanism from a cen-

tral transmitting part to a frame, or vice versa; said frame surrounding said elastic transmission mechanism and being provided with laterally-spaced bearings coaxial with the gear or with the shaft on which the gear is mounted and which bearings are arranged at opposite sides of said elastic transmission mechanism and on which bearings said frame being supported and being capable of oscillation independently of said central transmitting part, substantially as set forth.

28. An elastic gear, comprising an elastic transmission mechanism, a central transmitting part, a frame having formed or mounted in suitable location on its outside a suitable transmitting gear or wheel and in the inside being provided with suitable means for connecting with said elastic transmission mechanism and having laterally-spaced bearings central or coaxial with the gear and said frame being supported on said bearings and being capable of oscillation thereon independently of said central transmitting part, said elastic transmission mechanism connecting said frame with said central transmitting part, substantially as set forth.

29. An elastic gear, comprising a center portion, a frame consisting of a rim having laterally-spaced supports and each of said supports being provided with a hub or bearing adapted to turn loosely on a journal coaxial with the shaft on which the gear is mounted, and elastic member or members interposed between the rim and said center portion; said frame being supported on said journals and being capable of oscillation thereon independently of said center portion, substantially as set forth.

30. An elastic gear, comprising a center portion provided with means to connect with a spring or springs, a frame surrounding said center portion and comprising a rim provided with laterally-separated supports and each of said supports having a hub or bearing central or coaxial with the gear or with the shaft on which the gear is mounted and said frame having formed or mounted in suitable location on its outside suitable driving or transmitting means and being provided on its inside with suitable means for connecting with a spring or springs, and a spring or springs arranged between said supports and engaging the said connecting means of the frame and said center portion, substantially as set forth.

31. An elastic gear, comprising a rim having laterally-spaced supports and each of said supports having a hub or bearing central or coaxial with the shaft on which the gear is mounted, an elastic transmission mechanism comprising an elastic member or members and a center portion and being surrounded by said rim and arranged between said supports, one of said supports having formed or mounted in suitable location on its outside a suitable transmitting gear or wheel, substantially as set forth.

32. An elastic gear, comprising a center portion surrounded by a frame and provided with a bearing or bearings for an elastic member or members, said frame comprising a rim provided with laterally-spaced supports and each of said supports having a hub or bearing central or coaxial with the gear and a bearing or bearings in the frame for an elastic member or members, suitable transmitting means formed or mounted in suitable location on the outside of said frame, and an elastic member or members arranged between said rim and center portion and connecting said frame with said center portion and engaging the said bearings thereof, substantially as set forth.

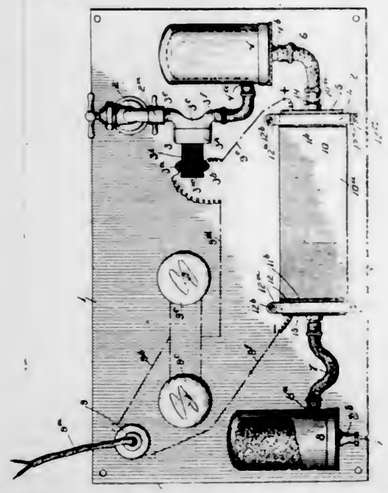
33. An elastic gear, comprising a rim provided on its inner surface with a bearing or bearings for an elastic member or members, rim-supports laterally spaced and rigid with the rim and each provided with a central hub or bearing, a center portion arranged between said rim-supports and adapted to be secured to a central transmitting part for transmitting power or motion to said center portion, or vice versa, said center portion being provided with a bearing or bearings for an elastic member or members, and an elastic member or members interposed between said rim and center portion and engaging the said bearings thereof, substantially as set forth.

34. In an elastic gear, a frame comprising a suitable rim provided with laterally-spaced supports rigid with the rim, one of said supports being formed integral with the rim and the other detachably secured thereto, substantially as set forth.

35. In an elastic gear, a central transmitting part, journals central or coaxial with the gear or with the shaft on which the gear is mounted, a frame supporting suitable driving or transmitting means, an elastic mechanism surrounded by said frame for transmitting power or motion from said frame to said central transmitting part, or vice versa; said frame being provided with laterally-spaced bearings adapted to turn loosely on said journals and on which journals said frame is supported and capable of oscillation independently of said central transmitting part, substantially as set forth.

36. In an elastic gear, a frame comprising a rim provided with laterally-spaced supports rigid with the rim and each of said supports having a hub or bearing central or coaxial with the shaft on which the gear is mounted, and elastic transmission mechanism arranged inside of said frame and connected therewith, substantially as set forth.

844,262. WATER-PURIFYING APPARATUS. ALBERT E. DIETERICH, Washington, D. C., assignor to William B. Shaffer, Nazareth, Pa. Filed Oct. 3, 1906. Serial No. 337,199.



Claim.—1. An apparatus of the class described, comprising the combination with mechanical purifiers, of an electrolytic purifier, water-conductors between the mechanical purifiers and the electrolytic purifier, and means controllable by the water-pressure for controlling the electrolytic action of the electrolytic purifier before the water enters the same, substantially as shown and described.

2. An apparatus of the class described, the combination with an electrolytic purifier including an electric circuit, of a mechanical purifier, water-conduits connecting the mechanical and the electrolytic purifiers, means for connecting said purifiers with the sources of water-supply, a circuit-controller connected in said last-named connection, said circuit-controller having means governed by the water pressure for closing the electric circuit through the electrolytic purifier, substantially as shown and described.

3. An electrolytic purifier, comprising a housing, a pair of comb-like electrodes held in said housing, interprojected and spaced apart to form zigzag water-passages from one end of the housing to the other, closure members for the ends of the housing, and means for admitting water into one end of said housing and withdrawing the same from the other end of said housing, substantially as shown and described.

4. An electrolytic purifier comprising in combination a

housing, a pair of comb-like electrodes held within said housing; closure members for the ends of said housing, means for admitting water into one end of said housing, and means for drawing the water off from the other end of said housing, and brackets coöperating with the end closures in the housing to support the same, substantially as shown and described.

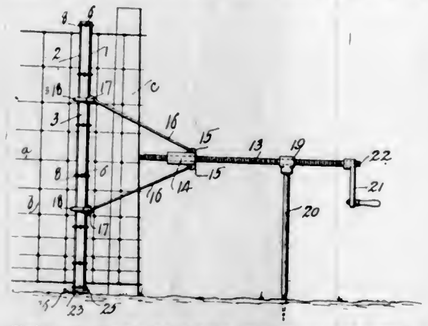
5. An electrolytic purifier comprising in combination a casing, insulating closure members for the ends of said casing, comb-like electrodes within said casing, interprojected and spaced apart to form zigzag water-passages from one end of the casing to the other, means for admitting water in the one end of said casing and withdrawing the same from the other end of said casing, and means for connecting said electrodes with the electric circuit, substantially as shown and described.

6. An electrolytic purifier comprising in combination a casing, insulating closure members for the ends of said casing, comb-like electrodes within said casing, interprojected and spaced apart to form zigzag water-passages from one end of the casing to the other, means for admitting water in the one end of said casing and withdrawing the same from the other end of said casing, means for connecting said electrodes with the electric circuit, and the bracket members for supporting said casing, substantially as shown and described.

7. A water-purifying apparatus, comprising a support, a stop-cock secured thereto and adapted to be secured to the source of water-supply, a water-pressure-operated circuit-controller, connected with said stop-cock, a mechanical filter connected with said circuit-controller, an electrolytic purifier connected with said mechanical filter, means for connecting said electrolytic purifier with the electric circuit, resistance-lamps in said connecting means, said circuit-controller being likewise connected in said connecting means, all being arranged substantially as shown and described.

8. A water-purifying apparatus, comprising a support, a stop-cock secured thereto and adapted to be secured to the source of water-supply, a water-pressure-operated circuit-controller, connected with said stop-cock, a mechanical filter connected with said circuit-controller, an electrolytic purifier connected with said mechanical filter, means for connecting said electrolytic purifier with the electric circuit, resistance-lamps in said connecting means, said circuit-controller likewise connected in said connecting means, and a second mechanical filter connected with said electrolytic purifier, all being arranged substantially as shown and described.

844,263. WIRE-STRETCHER. JOHN G. DIETRICH, Tremont, Ill. Filed Apr. 30, 1906. Serial No. 314,515.



Claim.—1. In an apparatus of the class specified, the combination of a clamp comprising a plurality of parts, one of said parts consisting of two upright angle-irons, the other part being a rectangular bar, means for detachably connecting the angle-irons and bar of the clamp together, a thread-bar, a sleeve having a threaded engagement therewith, and connections between the sleeve and clamp.

2. In an apparatus of the class specified, the combination of a clamp comprising a plurality of parts, one of said parts having pivotally connected thereto a series of fingers, the other part provided with a series of slots through which it is adapted to insert the fingers, means engaging said fingers for locking the parts together, a thread-bar, and connections between the thread-bar and the clamp.

3. In an apparatus of the class specified, the combination of a clamp comprising a plurality of parts, one of said parts having pivotally connected thereto a series of fingers, the other part provided with a series of slots through which it is adapted to insert the fingers, wedge-shaped members adapted to be inserted through the finger for locking the parts of the clamp together, a thread-bar, and connection between the thread-bar and clamp.

4. A clamp for the purposes specified, comprising a plurality of parts, a series of fingers pivotally connected with one of said parts, the other part provided with a series of slotted openings through which it is adapted to insert the said fingers, and means for locking the said fingers to prevent the separation of the said parts.

5. A clamp for the purposes specified, comprising of a plurality of parts, a series of fingers pivotally connected with one of said parts, the other part provided with a series of slotted openings through which it is adapted to insert the fingers, and wedge-shaped members adapted to engage the fingers for locking the parts of the clamp together.

6. A clamp, for the purposes specified, comprising a plurality of parts, one of said parts consisting of a pair of uprights suitably bolted together at intervals, a series of fingers interposed between said uprights and pivotally connected therebetween by said bolts, the other part provided with a series of slotted openings through which it is adapted to insert the fingers, and wedge-shaped members adapted to engage the fingers for locking the parts of the clamp together.

7. A clamp for the purposes specified, comprising a plurality of parts, one of said parts consisting of a pair of uprights suitably bolted together at intervals, a series of fingers interposed between said uprights and pivotally connected therebetween by said bolts and each of said fingers provided with transverse slots, the other part provided with a series of slotted openings through which it is adapted to insert the fingers aforesaid, and wedge-shaped members adapted to be passed through the transverse slots of the fingers for locking the parts of the clamp together.

8. A clamp for the purposes specified, comprising a plurality of parts, one of said parts consisting of a pair of uprights suitably bolted together at intervals, a series of fingers interposed between said uprights and pivotally connected therebetween by said bolts and each of said fingers provided with transverse slots, the other part provided with a series of slotted openings through which it is adapted to insert the fingers aforesaid, a series of wedge-shaped members adapted to be passed through the transverse slots of the fingers aforesaid for locking the parts of the clamp together, and means for attaching the said wedge-shaped members to one of the parts of the clamp.

9. In an apparatus of the class specified, the combination of a clamp consisting of a plurality of parts, a series of wedge-shaped members for detachably connecting the said parts, means for attaching the wedge-shaped members to one of the parts of the clamp, a thread-bar, a sleeve having a threaded engagement with the bar, a pair of rods connected with the sleeve and at their opposite ends with the clamp, a support and drag at the outer end of the bar, and means for operating said bar.

844,264. TYPE-WRITING MACHINE. SIDNEY H. DONALDSON, Hampstead, England. Filed Dec. 16, 1905. Serial No. 292,032.

Claim.—1. In a device of the character described, the combination with the platen-roller, of a frame removably mounted adjacent said roller, an adjustable stop mounted in said frame, a transverse shaft, a gear-train driving said shaft from said platen-roller, a pointer carried by said shaft and adapted to engage with said stop to prevent fur-

ther rotation of said platen-roller, means for temporarily displacing said stop to allow said pointer to pass, and means for permanently displacing said transverse shaft to move said gear-train out of operation, substantially as described.



2. In a device of the character described, the combination with the platen-roller, of a frame removably mounted adjacent said roller and comprising a base member and two side members fastened within said base member, an adjustable stop mounted between said side members, a downwardly-projecting arm extending from said stop, a spring normally holding said arm against one of said side members, a transverse shaft mounted in said side members, a gear-train driving said shaft from said platen-roller, a pointer carried by said shaft and adapted to engage with said arm on said stop to prevent further rotation of said platen-roller, and means for displacing said transverse shaft to disconnect said gear-train, substantially as described.

3. In a device of the character described, the combination with the platen-roller, of a frame removably mounted adjacent said roller and comprising a base member and two side members fastened within said base member, an adjustable stop mounted between said side members, a downwardly-projecting arm extending from said stop, a spring normally holding said arm against one of said side members, a transverse shaft mounted in said side members, a gear-train driving said shaft from said platen-roller, a pointer carried by said shaft and adapted to engage with said arm on said stop to prevent further rotation of said platen-roller, a spring normally holding said pointer against said side member, means for permanently displacing said transverse shaft to disconnect said gear-train until said shaft is released, and means for automatically moving said shaft to again connect said gear-train when released, substantially as described.

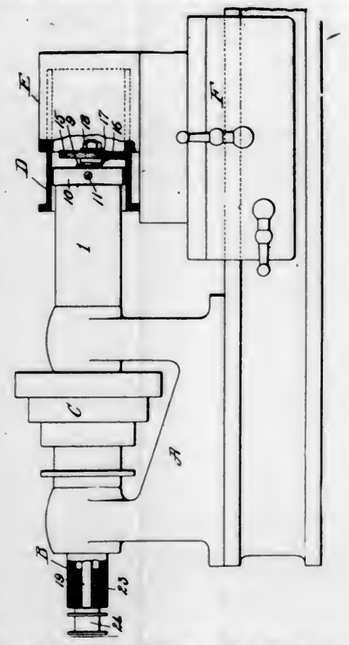
844,265. CYLINDER-GRINDING ATTACHMENT FOR LATHES. GEORGE P. DORRIS, St. Louis, Mo., assignor to Dorris Motor Car Company, St. Louis, Mo., a Corporation. Filed Jan. 2, 1906. Serial No. 294,079.

Claim.—1. In a grinding device of the character described, the combination of a spindle, a grinding-wheel shaft, adjustable means supported by said spindle for holding said grinding-wheel shaft out of alinement with the axis of said spindle, a grinding-wheel carried by said shaft, and a drive-shaft having flexible connection with said grinding-wheel shaft, substantially as set forth.

2. In a grinding device of the character described, the combination of a spindle, an adjustable bearing-block supported by said spindle, means for adjusting said bearing-block transversely of said spindle, a grinding-wheel shaft seated in said bearing-block and confined therein out of alinement with the axis of said spindle, a grinding-wheel carried by said shaft, and means for driving said grinding-wheel shaft, substantially as set forth.

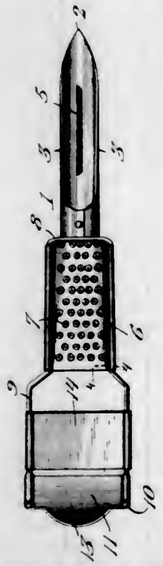
3. In a grinding device of the character described, the combination of a spindle, a pair of adjustable bearing-blocks supported by said spindle, means for adjusting said bearing-blocks transversely of said spindle, a grinding-wheel shaft seated in said bearing-blocks and confined therein out of alinement with the axis of said spindle, a grinding-wheel carried by said shaft, and means for driving said grinding-wheel shaft, substantially as set forth.

4. In a grinding device of the character described, the combination of a spindle, a barrel carried by said spindle, a pair of bearing-blocks located at the outer end of said barrel, means whereby said bearing-blocks are held to said barrel, means whereby said bearing-blocks are adjusted transversely of said barrel, a grinding-wheel shaft having bearing in said bearing-blocks, a grinding-wheel carried by



said shaft, and means for driving said shaft, substantially as set forth.

844,266. KITCHEN IMPLEMENT. JOHN F. DOTSON, Troy, N. Y. Filed Apr. 14, 1906. Serial No. 311,759.

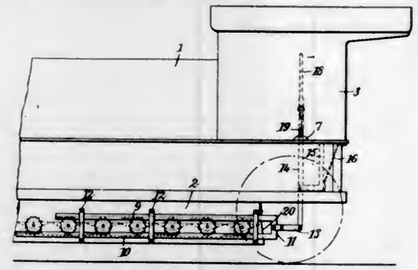


Claim.—1. A kitchen implement comprising a U-shaped frame with the end portions of its arms bent slightly upward, a piece of sheet metal having one part formed into a semitubular paring and coring blade, and the other part formed with a grating-surface, and secured by its opposite edges to the U-end portion of the frame, a gage-plate secured between the arms of the frame, and a blade secured between the inclined end portions of the frame-arms, and provided with an inner cutting edge and an outer convex scraping edge.

2. A kitchen implement comprising a U-shaped frame with the end portions of its arms bent slightly upward, a piece of sheet metal having one part formed into a semitubular paring and coring blade, and the other part formed with a concave grating-surface which merges into the inner surface of the tubular knife and secured by its opposite edges to the U-end portion of the frame, a gage-plate secured between the arms of the frame, and a blade secured between the inclined end portions of the frame-arms and provided with an inner cutting edge and an outer convex scraping edge, substantially as specified.

3. A kitchen implement comprising a U-shaped frame, the end portions of its arms bent slightly upward, and also bent near their middle to increase the width of the frame, a piece of sheet metal having one part formed into a semitubular paring and coring blade, and the other part formed with a concave scraping-surface and secured by its opposite edges to the U-end portion of the frame, and fitting between said ends and the first bends, a gage-plate secured between the arms of the frame, and a blade secured between the inclined end portions of the frame-arms, and provided with an inner cutting edge and an outer convex scraping edge, substantially as specified.

844,267. ASH-PAN FOR LOCOMOTIVES. CHARLES G. ECKENRODE and NORMON BALDWIN, Pierre, S. D. Filed Aug. 8, 1906. Serial No. 329,682.



Claim.—1. An ash-pan having a bottom composed of a plurality of sections pivotally supported, and means for simultaneously rotating each alternate section in one direction and the remaining sections in the opposite direction, said means comprising a pinion carried by each section, and two rack-bars in engagement with said pinions.

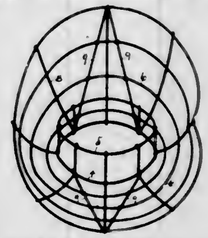
2. An ash-pan having a bottom composed of a plurality of sections, a plurality of rods each carrying one of said sections and pivoted in the walls of said pan, pinions on the ends of said rods, a rack-bar upon one side of said pinions and in engagement with only a portion of said pinions, a second rack-bar oppositely disposed to said first-mentioned rack-bar, and in engagement with the remaining pinions, and means for simultaneously moving said rack-bar.

3. An ash-pan having the bottom thereof composed of a plurality of pivotally-mounted sections, a pinion carried by each of said sections, a rack-bar in engagement with each alternate pinion, a second rack-bar in engagement with the remaining pinions, and means for simultaneously moving said rack-bars to rotate the sections.

4. In combination with a locomotive having a cab, of an ash-pan, bars extending across said pan and journaled in the walls thereof, a sectional bottom for said ash-pan, each section thereof being pivoted to one of said bars, pinions on the ends of said bars, a rack-bar mounted upon said pinions, a second rack-bar mounted below said pinions, the teeth of said rack-bars being arranged intermittently, whereby each rack-bar only engages with the alternate pinions, brackets secured to the side of said ash-pan for guiding said rack-bars, and means for simultaneously moving said rack-bars in the same direction.

5. In combination with a locomotive having a cab, of an ash-pan, bars extending across said pan and journaled in the walls thereof, a sectional bottom for said ash-pan, each section thereof being pivoted to one of said bars, pinions on the ends of said bars, a rack-bar mounted upon said pinions, a second rack-bar mounted below said pinions, the teeth of said rack-bars being arranged intermittently, whereby each rack-bar engages only with the alternate pinions, brackets secured to the side of said ash-pan for guiding said rack-bars, a lever connected to the ends of said rack-bars and extending upwardly into the cab of the locomotive, and means for normally holding said lever in a given position and preventing the accidental rotation of the sections of the ash-pan bottom.

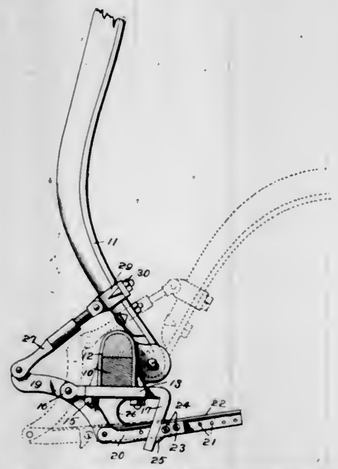
844,268. HAT-FRAME. MICHAEL W. EISER, Kansas City, Mo. Filed Mar. 26, 1906. Serial No. 307,964.



Claim.—1. A hat-frame comprising annular frame-wires, transverse wires spacing the annular frame-wires apart and the diagonal brace secured to said annular frame-wires.

2. A hat-frame comprising annular frame-wires, transverse wires spacing the annular frame-wires apart and the diagonal V-shaped brace secured to said annular frame-wires.

844,269. VEHICLE-SHAFT SUPPORT. HARRY S. ELLIOTT, Jefferson, Iowa. Filed January 29, 1906. Serial No. 298,332.



Claim.—1. In a device of the class described, the combination of a lever, a link for connecting the lever to a shaft and a latch device for automatically locking the lever in position when the shaft is elevated.

2. In a device of the class described, the combination of a support to be connected to a vehicle-axle, a lever fulcrumed to said support, a link pivoted to the lever, means for connecting the link to a shaft, an arm pivoted to the

other end of the lever, and a latch device for automatically securing the arm to the said support when the shaft is elevated.

3. In a device of the class described, the combination of a support to be connected to a vehicle-axle, a lever fulcrumed to said support, a link pivoted to the lever, means for connecting the link to a shaft, an arm pivoted to the other end of the lever, and spring-actuated latch device for automatically securing the arm to the said support when the shaft is elevated.

4. In a device of the class described, the combination of a support to be secured to a vehicle-axle, an extension on said support, an arm slidingly mounted relative to the extension and provided with a stop to engage the extension and prevent rearward movement of the arm, a lever fulcrumed to the extension and pivoted to said arm and a link pivoted to the other end of the arm and designed to be attached to a shaft.

5. In a device of the class described, the combination of a support to be secured to a vehicle-axle, an extension on said support, an arm slidingly mounted relative to the extension and provided with a stop to engage the extension and prevent rearward movement of the arm, a lever fulcrumed to the extension and pivoted to said arm, a link pivoted to the other end of the arm and designed to be attached to a shaft and a spring for yieldingly holding the arm in position with its lug engaging the extension.

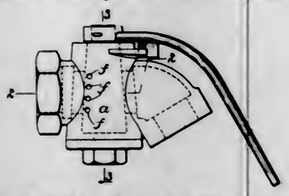
6. In a device of the class described, the combination of a support to be secured to a vehicle-axle, an extension on said support, an arm slidingly mounted relative to the extension and provided with an adjustable stop to engage the extension and prevent rearward movement of the arm, a lever fulcrumed to the extension and pivoted to said arm, and a link pivoted to the other end of the arm and designed to be attached to a shaft.

7. The combination of a support to be secured to a vehicle-axle and formed with an extension at its forward end projecting downwardly and rearwardly and provided with an opening, an arm extended through said opening, a stop adjustably mounted on said arm and formed with a projection at its rear lower point, a spring secured to the support to provide a yielding pressure downwardly upon said arm, said lug and arm so shaped that the arm may be moved forwardly through the opening and when the lug passes beyond the opening the arm will be forced downwardly by the spring to position with the lug engaging the front of the extension on the support, a lever fulcrumed to the rear end of the support, a link longitudinally adjustable pivoted to the upper end of the lever and a clip to be attached to a shaft pivotally connected with the said link.

8. In a device of the class described, the combination of a lever, a link for connecting the lever to a shaft, and a latch device for locking the lever in position when the shaft is elevated.

9. In a device of the class described, the combination of a lever, a link for connecting the lever to a shaft, and a device for automatically locking the lever in position when the shaft is elevated.

844,270. AIR-BRAKE ATTACHMENT. GEORGE EMERY, Argenta, Ark. Filed Apr. 7, 1906. Serial No. 310,444.



Claim.—1. An angle-cock for air-brake systems having a shell or casing provided with ports, and a plug mounted to turn in said casing and having a passage adapted to register with said ports, the said casing being provided with a plurality of vents leading to the atmosphere, the vents opening into the interior of the casing close to one of said ports, whereby when the plug is started toward closed position the vents are immediately uncovered for the purpose set forth.

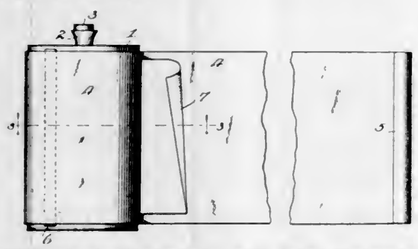
2. An angle-cock having a shell or casing, a bushing fitted therein, the shell or casing and bushing being provided with registering ports and having a vent extending from the interior of the bushing at a point close to one of said ports and passing through the shell or casing, and a plug operating in said bushing and having a passage adapted to communicate with the vent as soon as the plug is started toward closed position.

3. An angle-cock having a shell or casing, a bushing fitted therein, the said bushing and casing being provided with registering grooves in their meeting surfaces, a lock-pin fitting in said grooves to lock the bushing in place, and a plug operating in the bushing.

4. An angle-cock having a shell or casing, a bushing fitted therein, the said bushing and casing being provided at one end with registering grooves in their meeting surfaces, a lock-pin fitting in said grooves, means for holding the pin in position, and a plug operating in the bushing.

5. An angle-cock having a shell or casing, a bushing fitted therein, the casing and bushing having registering openings forming ports and a plurality of registering openings forming vents, the vent-openings being in alinement with each other and the inner ends of said openings being located close to one of said ports, means for locking the bushing in place in the casing, and a plug operating in the bushing and having a transverse passage to register with the said ports, the said plug opening the vents in the bushing and casing as soon as the plug is started toward closed position.

844,271. PHOTOGRAPHIC-PRINT DRIER. JAMES B. FARQUHARSON, Rochester, N. Y., assignor of one-half to Charles H. Ennis, Lakewood, N. J. Filed Sept. 22, 1906. Serial No. 335,773.



Claim.—1. A photographic-print drier comprising a heating-body, and a fabric-holding strip fixed at one end thereto, said strip adapted to be wound about the body and to confine the prints to be dried between its windings, for the drying of the prints by radiation of heat from the body and its passage through the strip.

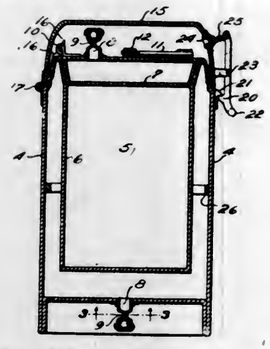
2. A photographic-print drier comprising a heating-body, a holding-strip fixed at one end thereto and adapted to be wound thereon, and means for securing the strip in wound condition.

3. A photographic-print drier comprising a hollow body adapted to receive a heating medium, and a holding-strip fastened at one end to the body and adapted to be wound therearound to confine one or more photographic prints between its folds or windings.

4. A photographic-print drier comprising a heating can or tank adapted to contain hot water or the like, a fabric-holding strip fixed at one end thereto and adapted to be wound about the same to confine one or more photographic prints between its windings, and means for holding the strip in wound condition.

844,272. RECEPTACLE FOR RETAINING OR EXCLUDING HEAT. JOHN L. FATE, Chicago, Ill., assignor of one-half to H. A. Eastman, Chicago, Ill. Filed Nov. 23, 1905. Serial No. 288,749.

Claim.—1. A device of the class described, comprising a receptacle open at one end and having hollow air-tight walls from which the air has been exhausted, a lid fitting the opening in said receptacle, said lid being hollow and having the air exhausted therefrom and a cover extending over said lid and fitting the walls of said receptacle beyond the edges of said lid, said cover being spaced away from said lid to form a dead-air space for insulating the joint between said lid and walls.



2. In a device of the class described, the combination of a receptacle having insulated walls, an insulated lid forming a closure for said receptacle; and a cover extending over said lid and fitting the walls of said receptacle beyond the edges of said lid to form a dead-air space for insulating the joint between said lid and walls.

3. In a device of the class described, the combination of a receptacle having insulated walls, an insulated lid forming a closure for said receptacle, a cover extending over said lid and fitting the walls of said receptacle beyond the edges of said lid to form a dead-air space for insulating the joint between said lid and receptacle, and a valve controlling the communication between said dead-air space and the outer air, said valve being adapted to be opened to permit the inflow of air and facilitate the opening of said cover, substantially as described.

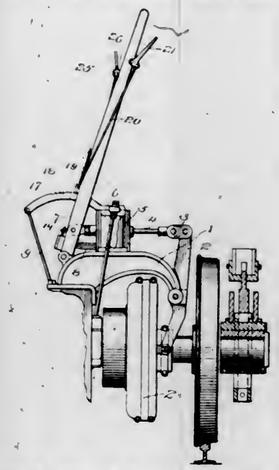
4. In a device of the class described, the combination of a receptacle having insulated walls, an insulated lid forming a closure for said receptacle, a cover extending over said lid and fitting the walls of said receptacle beyond the edges of said lid to form a dead-air space for insulating the joint between said lid and receptacle against the leakage of air, a valve controlling the communication between said dead-air space and the outer air, and a movable handle for lifting said cover, said handle being connected with said valve and adapted to open said valve to permit the inflow of air when said handle is moved for opening said cover.

5. In a device of the class described, the combination of a receptacle having insulated walls, an insulated lid forming a closure for said receptacle, a cover extending over said lid and fitting the walls of said receptacle beyond the edges of said lid to form a dead-air space for insulating the joint between said lid and receptacle, a valve controlling the communication between said dead-air space and the outer air and a spring-actuated catch for securing said cover in its closed position, said catch being connected with said valve and adapted to control the opening and closing thereof.

844,273. CLUTCH-THROWING MECHANISM. ARTHUR H. FETTERS, Omaha, Nebr. Filed May 17, 1905. Serial No. 260,827.

Claim.—1. In a mechanism of the class described, in combination, a clutch member, means for moving said member, a detent for preventing retraction of the clutch-member-moving means in its various positions, pressure-controlled means for actuating said clutch-member-moving means and manually-actuated means for operating said clutch-member-moving means.

2. In a mechanism of the class described, in combination, a clutch member, means for moving the same, a pressure-cylinder, means connected therewith for actuating the clutch-moving means, a normally open discharge for the cylinder, a spring-pressed valve adapted to be actuated for closing such discharge and supplying fluid under pressure to the cylinder, and means for governing said valve.



3. In a mechanism of the class described, in combination, a clutch member, means for moving the same, a pressure-cylinder, a piston connected therewith for operating said clutch-member-actuating means, the said cylinder having a normally open exhaust, a spring-pressed valve adapted to be actuated for closing said exhaust means for supplying pressure to said cylinder, and means for actuating the said valve.

4. In a mechanism of the class described, in combination, a clutch member, a cylinder, a piston therein connected with said clutch member, a manually-operated lever connected with said clutch member and adapted to actuate the same independently of said cylinder, a normally open spring-pressed valve controlling the exhaust from said cylinder, and means mounted adjacent said manually actuated lever for controlling said valve.

5. In a mechanism of the class described, in combination, a clutch member, a piston for actuating the same, a cylinder inclosing said piston, means for supplying pressure to said cylinder, a lever controlling the supply of pressure, a manually-operated lever mounted adjacent the first-mentioned lever and connected with said clutch member for imparting movement thereto independently of the cylinder, and means connecting the two levers for transmitting movement from one to the other.

6. In mechanism of the class described, in combination, a clutch member, a cylinder, a piston within said cylinder connected with said clutch member, a manually-actuated lever connected with said clutch member adapted to actuate the same independently of said cylinder, and means mounted upon said lever controlling the pressure within said cylinder.

7. In mechanism of the class described, in combination, a movable member, a manually-actuated lever connected therewith and adapted to move the same, a source of power, means connecting said source of power with said movable member, and means mounted upon said lever connected with and adapted to control said source of power.

8. In mechanism of the class described, in combination, a clutch member, a cylinder, a piston within said cylinder connected with said clutch member, means adapted to supply a compressed fluid to said cylinder, a manually-actuated lever adapted to actuate said clutch member independently of said cylinder, a valve controlling the admission and exhaust of said cylinder, and means mounted upon said lever controlling said valve.

9. In mechanism of the class described, in combination, a clutch member, a cylinder, a piston within said cylinder, a connection between said piston and said clutch member,

a manually-actuated lever connected with said clutch member, means adapted normally to maintain communication between said cylinder and the atmosphere, and manually-actuated means adapted to cut off said communication and lead a compressed fluid within said cylinder, said manually-actuated means being mounted upon said lever.

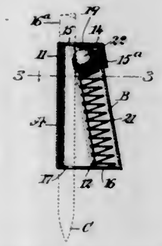
10. In mechanism of the class described, in combination, a clutch comprising fixed and movable members, a lever connected with said movable member, a cylinder, a piston within said cylinder, a rod extending from said piston, a manually-actuated lever, connections between each of said levers and said piston-rod, a valve controlling the pressure within said cylinder, and manually-controlled means controlling said valve.

11. In mechanism of the class described, in combination, a clutch comprising fixed and movable members, a lever connected with said movable member, a cylinder, a piston within said cylinder, a rod extending from said piston, a manually-actuated lever, connections between each of said levers and said piston-rod, a valve controlling the pressure within said cylinder, and manually-controlled means controlling said valve, said manually-controlled means being mounted upon said second lever.

12. In mechanism of the class described, in combination, a clutch comprising fixed and movable members, a lever connected with said movable member, a cylinder, a piston within said cylinder, a rod extending from said piston, a manually-actuated lever, connections between each of said levers and said piston-rod, a valve controlling the pressure within said cylinder, manually-controlled means controlling said valve, said manually-controlled means being mounted upon said second lever, and means adapted to restrict the movement of said second lever in one direction.

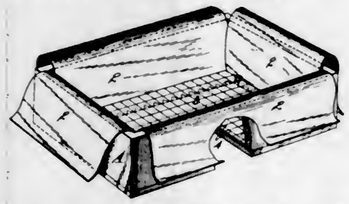
13. In mechanism of the class described, in combination, a clutch comprising fixed and movable members, a lever connected with said movable member, a cylinder, a piston within said cylinder, a rod extending from said piston, a manually-actuated lever, connections between each of said levers and said piston-rod, a valve controlling the pressure within said cylinder, manually-controlled means restricting said second lever, and a pivoted member adjacent to the free end of said second lever connected with and adapted to control said valve.

844,274. PIN-RETAINING DEVICE. ROBERT FISCHER, New York, N. Y. Filed Feb. 24, 1906. Serial No. 302,730.



Claim.—A pin-retaining device, consisting of a body-section substantially U-shaped in cross-section, having a closed top and bottom and registering openings therein for the passage of a pin, the longitudinal edges at the open portion of the said body-section being downwardly and outwardly inclined, a locking-section mounted to slide upon the body-section at its inclined portion, said locking-section being also substantially U-shaped in cross-section, its outer longitudinal edge portion being its closed portion and said locking-section being provided with an open bottom and a substantially closed top, the top of the locking-section being below the top of the body-section, a guide-lip extending down from the top of the body-section in engagement with the outer edge portion of the locking-section, a ball located within the locking-section, adapted to travel upon the inclined edges of the body-section, which ball when in the upper portion of the locking-section being in position for engagement with a pin passed through the apertures in the body-section, and a spring upon which said ball rests, the lower end of the said spring bearing upon the bottom of the body-section, and an inner side portion of said spring having bearing upon the inclined edges of the body-section, for the purpose described.

844,275. DRIED-FRUIT-PACKING DEVICE. CHARLES F. FLEMING, San Jose, Cal. Filed Sept. 17, 1906. Serial No. 334,978.

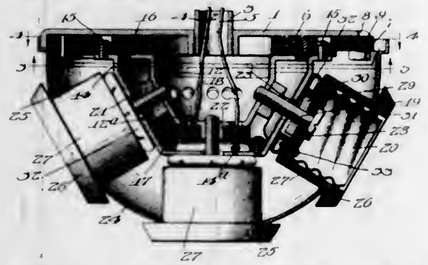


Claim.—1. The combination with a box or package for containing dried fruit, of a flexible translucent sheet fitting within the box, said sheet having longitudinal and transverse lines imprinted thereon and forming a series of symmetrical guiding-squares for the reception of a layer of fruit.

2. The combination with a fruit-package of a symmetrically-subdivided paraffin guide and cover sheet fitting within the box and forming a surface to receive a primary layer of fruit.

3. A guide for symmetrically placing a primary layer of fruit within the containing-package, said guide consisting of a sheet of paper having longitudinal and transverse lines forming symmetrical rectangles upon its surface, said sheet substantially fitting the interior of the package.

844,276. CLUSTER-FIXTURE FOR ELECTRIC LAMPS. SYLES R. FRALICK, Chicago, Ill., assignor of one-half to William P. Crockett, Chicago, Ill. Filed Oct. 26, 1905. Serial No. 284,469.



Claim.—1. In a cluster-fixture, the combination of a base, outer and inner contact members carried by said base, a plurality of lamp-sockets each provided with means for securing the same in position, and coöperating means upon said contact members for attaching a variable number of said sockets thereto, whereby the number of sockets in said cluster may be changed as desired.

2. In a cluster-fixture, the combination of a base, an inner and an outer contact member mounted upon said base, means at a plurality of points upon said contact members for attaching a lamp-socket, a plurality of lamp-sockets each provided with means for coöperating with both of said contact members to rigidly support the socket in position, whereby the number of lamp-sockets upon the cluster may be varied as desired.

3. In a cluster-fixture, the combination of a base, inner and outer contact members mounted upon said base, means at a plurality of points unevenly spaced about said contact members for attaching a lamp-socket, a plurality of lamp-sockets each provided with means for coöperating with said contact members to support said sockets in position, whereby the number and position of the sockets in said cluster may be adjusted as desired.

4. In a cluster-fixture, a base, substantially conical inner and outer contact members mounted concentrically upon said base, and means upon said contact members for adjustably attaching lamp-sockets thereto.

5. In a cluster-fixture, the combination of a base, substantially conical outer and inner contact members concentrically mounted upon said base, means at a plurality of points upon said contact members for attaching a lamp-socket, a plurality of lamp-sockets, each provided with means for coöperating with said contact members for rigidly supporting said sockets in position, whereby the number of and position of the sockets in said cluster may be adjusted as desired.

6. In a cluster-fixture, the combination of sheet or plate inner and outer contact members, and a lamp-socket carried jointly by said members.

7. In a device of the kind described, a base, contact members mounted upon said base and adapted to carry a variable number of lamp-sockets, in combination with a plurality of lamp-sockets and a casing supported by said sockets and provided with openings for limiting the number of sockets employed in said cluster.

8. In a device of the kind described, a base, contact members mounted upon said base and adapted to carry a variable number of movable lamp-sockets, in combination with a plurality of lamp-sockets, and a casing carried by said sockets and provided with openings for limiting the number of sockets in said cluster.

9. In a device of the kind described, a lamp-socket provided with a spring-contact ring upon its exterior for resiliently engaging a contact-plate.

10. In a device of the kind described, a lamp-socket provided with a shell having openings in its bottom, a threaded sleeve provided with extensions projecting through said openings to form a contact member for electrically connecting said sleeve to a conductor.

11. In a device of the kind described, a lamp-socket provided with a shell having openings through its bottom, a threaded sleeve provided with extensions projecting through said openings, and means for securing said sleeve within said shell.

12. In a device of the kind described, a lamp-socket provided with a shell having openings through its bottom, a threaded sleeve provided with longitudinal extensions projecting into said openings and lateral extensions adapted to rest upon the bottom of said shell, and means for securing said lateral projections to the shell-bottom.

13. In a cluster-fixture, a lamp-socket provided with a central stud projecting from its bottom means upon said stud for securing said socket in position in the cluster, and electrically connecting the interior of said socket to a suitable conductor.

14. In a device of the kind described, a lamp-socket provided with a central stud one end of which is exposed within the socket and the opposite end projects from the bottom of the socket means upon said stud for securing the socket in position and electrically connecting the interior of said socket to a suitable conductor.

15. In a device of the kind described, the combination of a plate provided with a plurality of depending flanges with a slot formed in each flange, and an insulating-base provided with projections formed integrally therewith adapted to engage said slots, whereby said plate and base may be locked together by a partial rotation of said base upon said plate.

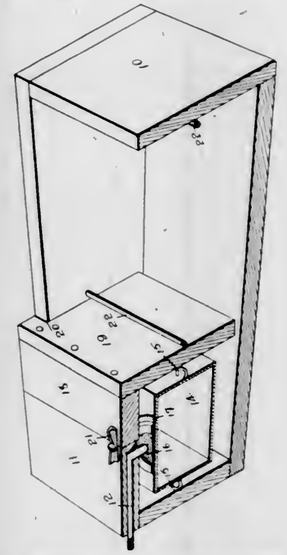
16. In a cluster-fixture, the combination of a base, substantially conical inner and outer contact members mounted upon said base concentrically to each other and a distance-piece positioned between the central portions of said members.

17. In a cluster-fixture, a contact member, a plurality of movable thimbles mounted upon said member, and means for attaching a lamp-socket to each of said thimbles, whereby a variable number of lamp-sockets may be attached to said contact member and the position of said sockets adjusted thereon by changing the positions of said thimbles.

18. In a cluster-fixture, substantially conical inner and outer contact members mounted concentrically to each other with their bases in substantially the same plane and a distance-piece positioned between the central portions of said members.

19. In a cluster-fixture substantially conical inner and outer contact members, mounted concentrically to each other, one within the other with their sides substantially parallel.

844,277. STOCK-WATERING TROUGH. GEORGE GERTZEN, Alton, and JOHN ROGHAIR, Orange City, Iowa. Filed May 14, 1906. Serial No. 316,882.



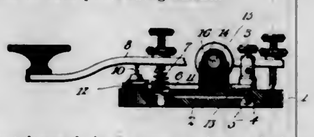
Claim.—1. An improved stock-watering trough comprising a through-body, a cover at one end thereof, a water-supply pipe projected downwardly through the cover, a detachable cover member resting on the top of the sides of the trough with one edge adjacent to the aforesaid cover member, a partition secured to the detachable cover member and extended downwardly to a point near the bottom of the trough, a transverse rod in the trough to limit the movement of the partition, a turn-button secured to the first-mentioned cover member to engage the other cover member and a float beneath the supply-pipe to engage and close it when the float is raised.

2. An improved stock-watering trough comprising a trough-body, a cover at one end thereof, a water-supply pipe projected downwardly through the cover, a detachable cover member resting on the top of the sides of the trough with one edge adjacent to the aforesaid cover member, a partition secured to the detachable cover member and extended downwardly to a point near the bottom of the trough, a transverse rod in the trough to limit the movement of the partition, a turn-button secured to the first-memtioned cover member to engage the other cover member, a float comprising a hollow rectangular body portion, guides with rounded heads projected outwardly from the sides thereof to stand close to the adjacent sides and end of the trough and the vertical partition, a yielding pad at the top of the float to engage the supply-pipe and supporting-ribs at the bottom of the trough to limit the downward movement of the float.

844,278. TELEGRAPH-KEY. JOHN J. GHEGAN, Newark, N. J. Filed Oct. 18, 1905. Serial No. 283,236.

Claim.—1. In a telegraph instrument, a base of plastic material having insulating properties, a conductor embed-

ded therein between the top and bottom surfaces thereof, alined recesses exposing a portion of said conductor from the top and bottom of said base, a screw in said recesses having a portion in abutment with said conductor and establishing electrical contact therewith, the shank of said screw protruding above the said conductor, and a binding-post affixed to said protruding shank.



2. In a telegraph instrument, a base of plastic insulating material, a make-and-break lever mounted thereon and a suitable conductor embedded therein intermediate the top and bottom surfaces thereof, said base being provided with a recess exposing a terminal of said conductor whereby electrical contact may be made therewith, and means establishing electrical communication between said lever and terminal.

3. In a telegraph instrument, a base of insulating material, and a suitable conductor embedded therein intermediate the top and bottom surfaces thereof, said base having a recess overlying one terminal of said conductor to form a seat for a suitable spring contacting directly with said conductor and provided over the opposite terminal with a recess leading thereto whereby a suitable binding-post may be affixed into direct contact with said conductor.

4. In a telegraph instrument, a base of plastic insulating material having portions thereof rising to constitute standards, metallic bushings affixed within apertures extending therethrough, said bushings being internally screw-threaded and adapted to receive adjustable pivots to resist the wear thereof, a lever carried by said pivots and a suitable conductor embedded within the base between the bottom and top surfaces thereof and entirely circumscribed by the plastic material constituting said base, said conductor rising through one of said standards into contact with said bushing.

5. In a telegraph instrument, a base composed entirely of insulating material having a portion thereof constituting a slight elevation, binding-posts mounted on said base, a suitable conductor leading from one of said posts and resting upon said elevation and terminating a distance therebeyond to form a suitable contacting clip, and a circuit-closer pivoted to another binding-post and adapted to be swung into engagement with said clip.

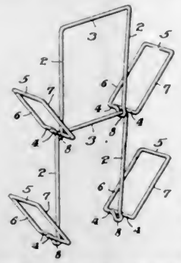
6. In a telegraph instrument, a base composed entirely of insulating material and having a portion thereof constituting a slight elevation, binding-posts mounted on said base, a suitable conductor leading from one of said posts and resting upon said elevation and overlapping the same to form a suitable contacting clip, a circuit-closer pivoted to another binding-post and adapted to be swung into contacting engagement with said clip, and a suitable conductor entirely embedded in said base and contacting at one end with one of said binding-posts and at the other end with means intermittently contacting with the aforesaid conductor.

7. In a telegraph instrument, a base of insulating material having portions integrally rising to constitute suitable standards, a make-and-break lever pivotally carried by said standards, a conductor leading from a suitable binding-post and terminating in a contact beneath said lever, a suitable conductor embedded in said base, the latter having a recess overlying one terminal of said conductor to form a seat, a suitable spring in direct contact with a support for said conductor for electrically uniting the same to said lever and a binding-post mounted on said base and contacting with the opposite terminal of said embedded conductor.

8. In a telegraph instrument, a base of insulating material having portions integrally rising to constitute suitable standards, adjustable pivot-bearings mounted in said standards, bushings interposed between said bearings and standard to take up the wear of the same, a make-and-break lever pivotally mounted in said bearings, a conductor leading from a suitable binding-post and terminating in a contact beneath said lever, a suitable conductor embedded in said base, the latter being provided with a recess overlying one terminal of said embedded conductor, a suitable spring resting directly upon said conductor within said recess and electrically uniting such conductor with the aforesaid overlying lever, said base being also provided over the opposite terminal of said embedded conductor with a suitable aperture leading thereto whereby a binding-post may be secured on said base in contact with the underlying embedded conductor, and a circuit-closing lever pivoted to said binding-post and adapted to be swung into electrical engagement with the first-mentioned conductor.

9. In a telegraph instrument, a base of insulating material, a conductor embedded therein intermediate the top and bottom surfaces thereof, said base being provided with a recess leading from its top surface to a terminal of said conductor, a spring seated within said recess and resting in direct contact upon said conductor, and a make-and-break lever pivotally carried by said base and resting in direct contact with the upper end of said spring.

844,279. DISPLAY-HOLDER FOR CARDS OR SIMILAR ARTICLES. ANDREW V. GROUPE, Philadelphia, Pa. Filed Dec. 31, 1906. Serial No. 350,104.



Claim.—1. A holder for cards or similar articles comprising wire bent to form a body portion and two oppositely-inclined loops to receive the lower corners of the cards, the tops of said loops being in one horizontal plane and the bottoms of said loops being in another horizontal plane, and one side of one loop and one side of the other loop being in one vertical plane, and the other side of one loop and the other side of the other loop being in another vertical plane.

2. A holder for cards or similar articles comprising wire bent to form laterally-disposed legs and a connecting member and two oppositely-inclined loops to receive the lower corners of the cards, the tops of said loops being in one horizontal plane and the bottoms of said loops being in another horizontal plane, and one side of one loop and one side of the other loop being in one vertical plane, and the other side of one loop and the other side of the other loop being in another vertical plane.

3. A holder for cards or similar articles comprising wire bent to form a body portion, bottom supports, side stops, and outwardly and oppositely inclined face-stops connecting the bottom supports with the side stops.

4. A holder for cards or similar articles comprising wire first bent to form a body portion, then away from the body to form bottom supports, then upwardly from the bottom supports to form face-stops, then away from the face-stops to form side stops, then downwardly to form other face-stops, and then inwardly to form other bottom supports.

5. A holder for cards or similar articles comprising wire bent to form face-stops, arranged in different vertical planes, a central body portion arranged in a vertical plane between the planes of the face-stops, and bottom supports and side stops extending through the space between the planes of the face-stops.

6. A holder for cards or similar articles comprising wire bent to form a body portion and inclined loops to receive the lower corners of the cards, the body portion being arranged in a plane intersecting the openings in said loops.

7. A holder for cards or similar articles comprising wire bent to form a body portion arranged in a vertical plane, bottom supports and side stops intersecting the plane of the body portion, and face-stops connecting the bottom supports with the side stops on each side of the plane of the body portion.

8. A series of holders for cards or similar articles, each holder comprising wire bent to form a body portion, bottom supports, side stops and outwardly and oppositely inclined face-stops connecting the bottom supports with the side stops, and means for suspending the holders one from the other.

9. A holder for cards or similar articles, comprising wire bent to form a pair of legs and a connecting member forming a body portion, and inclined loops to receive the lower corners of the cards, the body portion being arranged in a plane intersecting the openings in said loops.

10. A series of holders for cards or similar articles, each holder comprising wire bent to form a body portion and oppositely-inclined loops to receive the lower corners of the cards, said loops having their openings intersected by a common vertical plane and means for suspending the holders one from the other.

11. A series of holders for cards or similar articles, each holder comprising wire bent to form face-stops arranged in different vertical planes, a central body portion arranged in a vertical plane between the planes of the face-stops, and bottom supports and side stops extending through the space between the planes of the face-stops, and means for suspending the holders one from the other.

844,280. SNAP-FASTENER. ARTHUR J. GROVE, Halesowen, England, assignor to James Grove & Sons, Halesowen, England, a Copartnership. Filed Dec. 13, 1905. Serial No. 291,609.



Claim.—1. A snap-fastener socket member, comprising a head of solid material, capable of being shaped under pressure, and a lining therefor having a flaring circular groove adapted to receive and clench an independent attaching-eyelet, a curved wall and a back flange, about which lining the head is pressed and the head and lining thereby intimately, permanently and securely united.

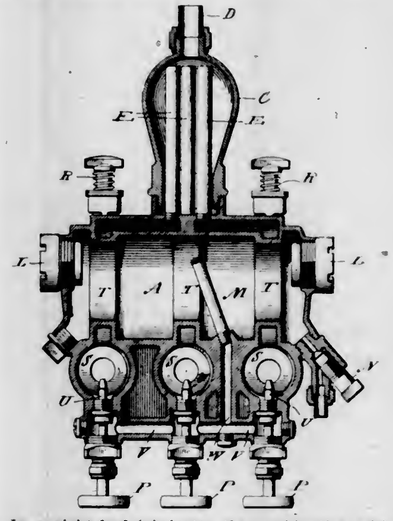
2. A snap-fastener socket member, comprising a head of solid material, capable of being shaped under pressure, and a continuous metal lining therefor having a dome, a flaring circular groove adapted to receive and clench an independent attaching-eyelet, a curved wall and a back flange, about which lining the head is pressed to shape and the head and lining thereby intimately, permanently and securely united.

844,281. LUBRICATOR. LEOPOLD KACZANDER, New York, N. Y., assignor to Nathan Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Mar. 24, 1904. Serial No. 199,779.

Claim.—1. In a sight-feed lubricator the combination with the oil-reservoir and the steam, equalizing and oil-pipe connections, of sight-chambers cast integral with the oil-reservoir and located below and outside of the oil-reservoir, as and for the purpose specified.

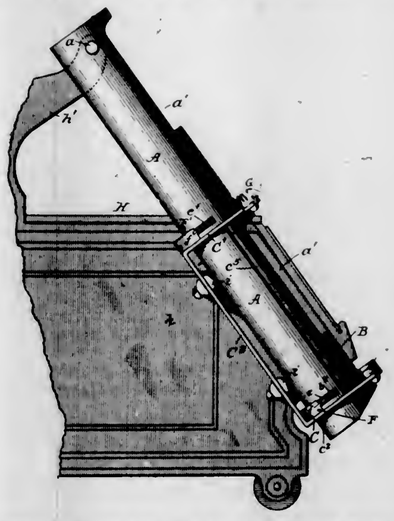
2. In a sight-feed lubricator the combination of the oil-reservoir, the steam, equalizing and oil-pipe connections and sight-chambers cast integral with the oil-reservoir, there being a horizontal oil-channel communicating with the oil-reservoir and connecting the sight-chambers with one another, said oil-channel as well as the sight-chambers being located below and outside of the oil-reservoir, substantially as specified.

3. In a sight-feed lubricator, the combination of the oil-reservoir, the steam, equalizing and oil-pipe connections and sight-chambers cast integral with the oil-reservoir, there being a horizontal oil-channel, connecting the sight-chambers, and a vertical oil-channel communicating on the one hand with the horizontal channel and on the other hand with the oil-reservoir, both oil-channels cast integral with, and located below and outside of, the oil-reservoir, as and for the purpose specified.



4. In a sight-feed lubricator the combination with the oil-reservoir and steam, equalizing and oil-pipe connections, of a structure cast integral with and located below and externally to the oil-reservoir and containing the sight-chambers and horizontal and vertical oil-passages, as and for the purpose specified.

844,282. COIN HOLDING AND DELIVERING DEVICE. JOHN W. MEAKER, Detroit, Mich., assignor to Meaker Scales Company, Detroit, Mich., a Corporation of Michigan. Filed Jan. 19, 1906. Serial No. 296,757.



Claim.—1. A receptacle for a column of coins supported so as to be bodily movable within limits, combined with a stationary support upon which the lowermost coin of the

column of coins normally rests, said receptacle being movable away from said support for releasing the coins, and means for sustaining one of the intermediate coins when the column of coins is moved with the receptacle away from said stationary support, whereby discharge of the coin or coins below said intermediate coin is effected.

2. A receptacle for a column of coins supported so as to be bodily movable within limits, combined with means adapted to uphold a column of coins therein when the receptacle is at one limit of movement and to release the coins when the receptacle is at the other limit of its movement, and means for sustaining one of the intermediate coins when the column is moved with the receptacle, whereby discharge of the coin or coins below such intermediate coin is effected.

3. A pivotally-mounted receptacle for a column of coins, combined with a stationary support adapted to uphold a column of coins therein when the receptacle is in its normal position, said receptacle being movable on its pivotal support for carrying the coins away from said support, and means for holding one of the intermediate coins stationary when the column is moved with the receptacle, whereby discharge of the coin or coins below such stationary-held coin is effected.

4. A receptacle for a column of coins pivotally mounted at its upper end, a stop or support against which the lower end of the receptacle normally rests, a stationary coin-support upon which the lowermost coin of the column of coins normally rests, said receptacle being movable on its pivot for carrying the coins away from said coin-support, and means for holding one of the intermediate coins stationary when the receptacle is moved.

5. A receptacle for a column of coins, said receptacle being pivotally mounted at its upper end, a support against which the lower end of the receptacle normally rests, said receptacle being normally held thereby in an inclined position but movable away from said support, a stationary coin-support adapted to uphold the column of coins in the receptacle when the latter is in its normal position, and to release the coins when the receptacle is moved on its pivot, and means for holding one of the intermediate coins against movement when the receptacle is moved.

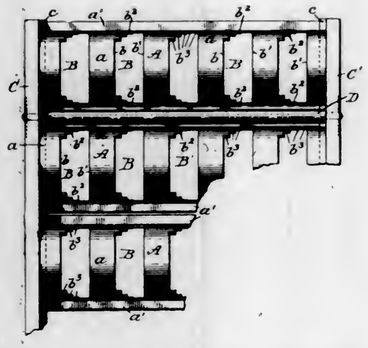
6. A receptacle for a column of coins, so supported as to be bodily movable within limits, combined with a stationary coin-support, said coin-support projecting into the receptacle through the walls thereof when the receptacle is at one limit of movement, and being relatively retracted when the receptacle is at the other limit of its movement, and means for supporting one of the intermediate coins when the receptacle is moved for relatively retracting said coin-support.

7. A receptacle for a column of coins, said receptacle being pivotally mounted at its upper end, a stop or support against which the lower end of the receptacle normally rests, the latter being normally held thereby in an inclined position but being movable away from said support, a stationary support for upholding a column of coins in the receptacle, said coin-support projecting into the receptacle through the wall thereof when the receptacle is in its normal position, but which is relatively retracted when the receptacle is moved from its normal position, a stop adapted to engage one of the intermediate coins and hold it against movement, the wall of the receptacle being provided with a slot opposite said stop to accommodate said coin, and means for partially closing said slot when the receptacle is in its normal position.

8. A coin-receptacle provided with means for supporting a column of coins therein, means for discharging one or more coins from the lower end thereof, and means for automatically supplying a like number of coins to the upper end of the receptacle simultaneously with the operation of said coin-discharging means.

9. A coin-receptacle so mounted as to be bodily movable within limits of two stationary coin-supports one located above the other, each of said supports being adapted to uphold a column of coins in the receptacle when the latter is at one limit of its movement and to release the coins when the receptacle is at the other limit of its movement, and means for holding one of the intermediate coins of both columns of coins stationary when said columns of coins are moved with the receptacle.

844,283. COIN-TRAY. JOHN W. MEAKER, Detroit, Mich., assignor to Meaker Scales Company, Detroit, Mich., a Corporation of Michigan. Filed Nov. 25, 1905. Serial No. 289,078.



Claim.—1. A coin-tray having a recess for receiving and supporting a plurality of coins of like dimensions in offset relation, said recess being provided with stepped supports for the several individual coins, each of which supports is adapted in width to accommodate only a single coin.

2. A coin-tray having a recess or opening for receiving a plurality of coins of like dimensions, said recess having parallel end walls and stepped side walls, the individual steps of the side walls being of a width substantially equal to the width of a single coin, and the series of steps serving to restrict the number of coins in the recess or opening and to hold them in offset relation to each other.

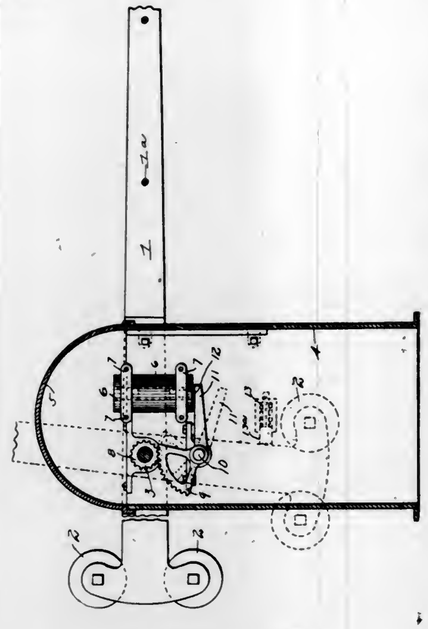
3. A coin-tray comprising a plate having a rib or ridge on its upper surface and a coin-recess formed therein transversely of said rib or ridge and adapted to receive a plurality of coins, said recess having parallel end walls and stepped side walls for maintaining the individual coins in offset relation to each other.

844,284. ELECTRIC RAILWAY-GATE FOR GRADE-CROSSINGS. CHARLES E. MENDENHALL, Dayton, Ohio, assignor of one-half to Louis P. Earnshaw, Dayton, Ohio. Filed July 9, 1906. Serial No. 325,263.

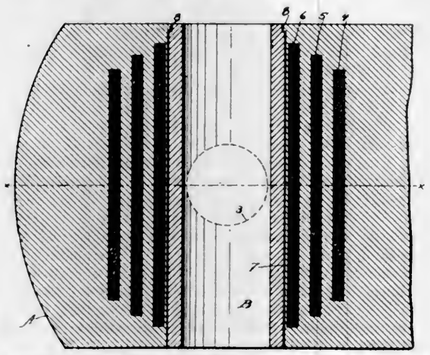
Claim.—1. In an electric railway-gate for grade-crossings, the combination with a gate-arm, a hollow standard, and a shaft supported in said hollow standard and upon which the gate-arm is supported, of a solenoid-magnet in the upper portion of said hollow standard, a pinion fixed to the shaft of the gate-arm within the hollow standard, a segment-gear engaging said pinion, a lever fixed to the shaft of said gear and projected in alinement with the core of the magnet but disconnected from said core, and means for magnetizing and demagnetizing said magnet.

2. In an electric railway-gate for grade-crossings, the combination of a gate-arm, a hollow standard supporting the shaft upon which said gate-arm is mounted, a pinion fixed to said shaft, a segment-gear engaging said pinion, said segment-gear having a fixed connection with its shaft, a solenoid-magnet mounted in the upper portion of said standard, and a lever adapted to oscillate the segment-gear, said lever being projected within the magnetic field of the solenoid-magnet but disconnected with the core of said magnet, a source of electric energy connected with the solenoid-magnet, and means for controlling the introduction of current to said magnet.

844,284.



844,285. CYLINDER FOR TREATING HEATED METAL. JAMES W. MOSHIER, Bristol, Conn., assignor to The Chase Rolling Mill Co., Waterbury, Conn., a Corporation. Filed Dec. 14, 1903. Serial No. 185,100.

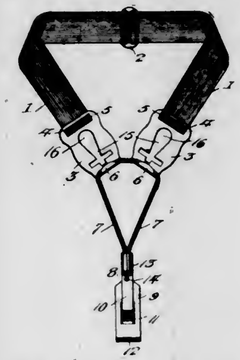


Claim.—1. A seamless-body container for machines for extruding metal, the said container having a coaxial extruding-chamber extending throughout its length and open at both ends, and formed with one or more annular spaces concentric with and encircling the said chamber and closed at their ends by the ends of the said seamless body, and each containing a heat-insulating tube entirely surrounded by and inclosed within the non-removable seamless body of the container.

2. A cylinder for treating heated metal consisting of an outer cylinder formed of one piece of cast metal and a plurality of annular heat-insulators within the body of the said casting and with the metal of the said casting inclosing all of the said insulators both inside and outside, and at both ends, and an inner cylinder fitted within the said outer cylinder, the metal between the said inner cylinder being of less thickness than the metal between two adjacent insulators, whereby the inner insulator is brought closely to the said inner cylinder for insulating the said inner cylinder.

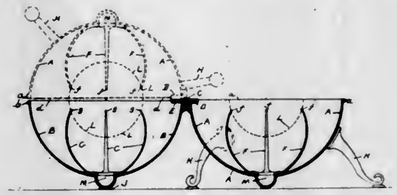
3. A cast-metal cylinder for treating heated metal, having within its body a plurality of annular heat-insulators with the inner insulator longer than the next outer one, giving the series of insulators a stepped form at both ends, the said ends being covered by a solid metal wall integral with the cast-metal body of the said cylinder, and fitting over the said stepped ends with squared faces at each end of the cylinder to gradually increase the thickness of the said end covering from the inner insulator outwardly and give the necessary strength for permanently holding the insulators in place and to prevent them from breaking.

844,286. GARTER. JOHN F. O'BRIEN, Buffalo, N. Y. Filed Feb. 28, 1906. Serial No. 303,501.



Claim.—A garter comprising a strap or band, terminal clips secured to said band and each provided with a hook, the body portions of said clips each provided with a buttonhole therein which terminates in a transverse slot for the purpose described, and a stocking grip or clasp provided with a cord or loop to engage one or both of the hooks of the clip.

844,287. DISH FOR HOLDING ORANGES, &c. HERBERT F. PROVANDIE, Melrose, Mass. Filed Feb. 14, 1906. Serial No. 301,069.



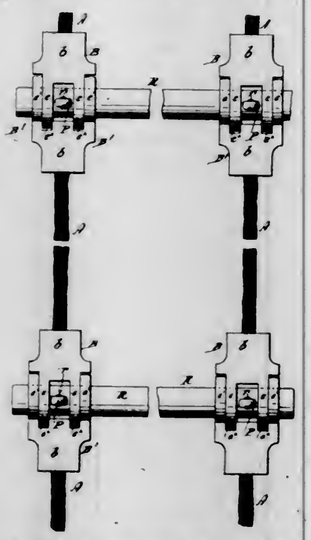
Claim.—1. A dish composed of two hollow sections or parts, together suitable to inclose or incase an orange, &c., and adapted to be located the one over the other and to be opened from and closed toward each other, and means on each section or part to support, when the sections are opened, each section independently of the other, and when the sections are closed to support both of them, in combination with devices which are within and carried by each of said sections, and those of each section suitable to grasp and hold an orange, &c., at its sides, and with said sections closed, to expose it, for being divided into parts by then passing a suitable cutting instrument across and through it and between the contiguous edges of the closed sections.

2. A dish composed of two hollow sections or parts, together suitable to inclose or increase an orange, &c., and adapted to be located the one over the other and to be opened from and closed toward each other, and means on each section or part to support, when the sections are

opened, each section independently of the other, and when the sections are closed to support both of them, in combination with a series of vertical spring-fingers, which are confined at one and free at their other ends and are within and carried by each of said sections, and those of each section suitable to grasp and hold an orange, &c., at its sides, and with said sections closed, to expose it, for being divided in two parts by then passing a suitable cutting instrument across and through it and between the contiguous edges of the closed sections.

3. A dish composed of two hollow sections or ports, together suitable to inclose or incase an orange, &c., and adapted to be located the one over the other and to be opened from and closed toward each other, means on each section or part to support, when the sections are opened, each section independently of the other, and when the sections are closed to support both of them, and a horizontal ledge or rest at one and the same side of each dish-section, and in position with the dish-sections closed for the one to abut and rest upon the other and thereby to leave an open way or space between the contiguous edges of the sections when closed, in combination with devices which are within and carried by each of said sections, and those of each section suitable to grasp and hold an orange, &c., at its sides, and with said sections closed, to expose it, for being divided into parts by then passing a suitable cutting instrument across and through it and along said open way or space between the contiguous edges of the closed sections.

844,288. ELEVATOR-CHAIN. EDWARD R. PURDY, New York, N. Y., assignor to Edmund S. Ashworth, Hasbrouck Heights, N. J. Filed Aug. 17, 1906. Serial No. 330,952.



Claim.—1. In an elevator-chain of the character designated, the combination of a series of links each consisting of a section of flexible wire rope, a female eye-head rigidly secured to one end and a male eye-head rigidly secured to its other end, said eye-heads each formed with two parallel eye-knuckles, rungs passing through said eye-heads and coupling adjoining links together, and means for holding said rungs in engagement with the eye-heads, for the purpose described.

2. In an elevator-chain of the character designated, the combination of a series of links each consisting of a section of flexible wire rope, a female eye-head rigidly secured to one end and a male eye-head rigidly secured to its other end, said female eye-head formed with parallel eye-knuckles and with recesses in its shank adjoining said eye-knuckles, said male eye-head formed with eye-knuckles coinciding with and adapted to fit in the recesses in the female eye-head, rungs passing through said eye-heads and coupling adjoining links together, and means for holding said rungs in engagement with the eye-heads, for the purpose described.

3. In an elevator-chain of the character designated, the combination of a series of links each consisting of a section of flexible wire rope, a female eye-head rigidly secured to one end and a male eye-head rigidly secured to its other end, said eye-heads each formed with two parallel eye-knuckles, rungs passing through said eye-heads and formed with transverse holes coinciding with the space between the eye-knuckles of the male eye-heads when the rungs are in position, and key-pins inserted through said holes in the rungs, for the purpose described.

4. In an elevator-chain of the character designated, the combination of a series of links each consisting of a section of flexible wire rope, a female eye-head rigidly secured to one end and a male eye-head rigidly secured to its other end, said eye-heads each formed with two parallel eye-knuckles, rungs passing through said eye-heads and formed with transverse holes coinciding with the space between the eye-knuckles of the male eye-heads when the rungs are in position, and spring key-pins inserted through said holes in the rungs, for the purpose described.

5. In a chain of the character designated, a link consisting of a section of flexible wire rope, an eye-head at each extremity, each eye-head having a flaring recess for the reception of an end of the wire rope, said flaring recess being formed with a transverse groove in its side walls, the ends of the wire of which the rope is composed being spread within said grooved flaring recess and secured therein by a setting of metallic alloy, in combination with said setting for the purpose described.

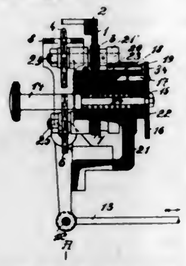
6. In an elevator-chain of the character designated, the combination of a series of links each consisting of a section of flexible wire rope, a female eye-head at one extremity and a male eye-head at the other, said eye-heads each formed with two parallel eye-knuckles and with a flaring recess in its shank for the reception of the splayed ends of the wire of which the rope is composed, a setting of metallic alloy in each recess securing the splayed ends of the wire, rungs passing through the knuckles of said eye-heads and coupling adjoining links together, and means for holding said rungs in engagement with the eye-heads, for the purpose described.

7. In an elevator-chain of the character designated, the combination of a series of links each consisting of a section of flexible wire rope, a female eye-head at one extremity and a male eye-head at the other, said eye-heads each formed with two parallel eye-knuckles and with a flaring recess in its shank for the reception of the splayed ends of the wire of which the rope is composed, a setting of metallic alloy in each recess securing the splayed ends of the wire, rungs passing through and extending beyond said eye-heads, so as to form bearings on both sides thereof for engagement with sprocket-wheels, and formed with transverse holes coinciding with the space between the eye-knuckles of the male eye-heads when the rungs are in position, and key-pins inserted through said holes in the rungs for the purpose described.

8. In a chain of the character designated, a series of links each consisting of a section of flexible metal, an eye-head at each extremity rigidly secured thereto, rungs passing through said eye-heads and coupling adjoining links together, the portions of said rungs which rest in the eye-heads being formed with transverse holes for the reception of spring-pins and said spring-pins arranged to hold the rungs in engagement with the eye-heads.

844,289. VARIABLE-FEED MECHANISM FOR TYPE-WRITERS. FRANZ SCHÜLER, Berlin, Germany. Filed Apr. 10, 1906. Serial No. 310,933.

Claim.—1. The combination, with a type-writer carriage, a rack gearing therewith to effect a step-by-step forward movement for each character printed, of a plurality of diverse escapement-wheels, and means for bringing the escapement-wheels alternatively into operative engagement with the rack to modify the step-by-step units of movement to a fractional degree.



2. The combination with a type-writer carriage propelled forward step by step to a normal minimum extent for each character printed, of a plurality of diverse escape-wheels, and means for bringing the escape-wheels alternatively into operative relation to the carriage to modify the step-by-step movement to a fractional degree.

3. The combination, with a type-writer carriage propelled forward step by step to a normal extent for each character printed, of a displacement mechanism comprising a plurality of diverse escape-wheels and a single detent member, and means for bringing the escape-wheels alternatively into operative relation with the detent member to regulate the movement of the carriage.

4. The combination, with a type-writer arranged to receive interchangeable fonts of type and having its carriage propelled forward step by step to a uniform extent for all characters printed, of a plurality of diverse escape-wheels, and means for bringing the escape-wheels alternatively into operation to modify the extent of the step-by-step movement to correspond to different fonts of type.

5. The combination, with a type-writer carriage propelled forward step by step to a normal extent for each character printed, of a plurality of escape-wheels having different pitches, detent mechanisms to fit said escape-wheels, and means for bringing said escape-wheels alternatively into engagement with said detent mechanism.

6. The combination, with a type-writer carriage propelled forward step by step to a normal extent for each character printed, of a plurality of escape-wheels having different pitch, detent mechanism, means for moving said escape-wheels to bring one of the same into operative relation with the detent mechanism and the carriage, and means for tripping the detent mechanism.

7. A feeding device for the carriage of a type-writing machine, comprising in combination, several escape-wheels having different pitches, a frame adapted to be rotated and carrying said escape-wheels concentric to its axis, means to secure said frame in the desired position, detents to fit said escape-wheels, and means to bring said escape-wheels into engagement with said detents.

8. A feeding device for the carriage of a type-writing machine, comprising in combination, several escape-wheels having different pitches, detents to fit said escape-wheels, means to bring said escape-wheels into engagement with said detents and a support to carry said detents and adapted to turn in the opposite direction to the direction of the pressure exercised by said escape-wheels.

9. The combination, with a type-writer carriage, of a feed mechanism comprising a frame rotatably mounted, a plurality of diverse escape-wheels mounted on said frame concentric to its axis, detent mechanism, means for securing said frame in position with one of the escape-wheels in operative relation with the detent mechanism and the carriage, and means for tripping the detent mechanism.

10. The combination, with a type-writer carriage and a rack fixed thereto, of a feed mechanism comprising a frame rotatably mounted in the plane of the carriage movement, a plurality of escape-wheels mounted on the frame concentric to its axis, a spur-wheel carried by the spindle of each escape-wheel in the plane of the rack, a detent carried by a support pivotally mounted, means for securing the rotatable frame in position with one of the escape-wheels in operative relation with the detent and with its spur-wheel in engagement with the rack, and means for tripping the detent-support to impart a step-by-step movement to the carriage.

11. The combination, with a type-writer carriage, of an escapement comprising a plurality of diverse control members alternatively connected with the carriage and a detent member comprising two detents arranged side by side and relatively movable in a plane at right angles to that of the engaged control member, a swinging support for the detents operating in a plane at right angles to that of the engaged control member, and means for separating the two detents to permit the passage of a tooth of the control member.

12. The combination, with a type-writer carriage, of an escapement comprising a plurality of diverse escape-wheels alternatively connected with the carriage and a detent member comprising two detents arranged side by side at different heights one of the detents being movable relative to the other in a plane at right angles to that of the engaged escape-wheel, yielding means tending to hold the detents together, and a swinging support for the detent members connected with the key-levers, said support operating to swing the detent members in a plane at right angles to that of the engaged escape-wheel.

13. The combination, with a type-writer carriage and a rack carried thereby, of a feed mechanism comprising a frame rotatably mounted in the plane of the type-writer carriage, a plurality of diverse escape-wheels carried by the frame concentric to its axis and each having upon its spindle a spur-wheel arranged in the plane of the rack, a detent member comprising two relatively movable detents arranged at different heights and connected by a spring, a swinging support for the detent member operatively connected with the type-levers and arranged to be swung in a plane at right angles to the plane of the escape-wheels, and means for securing the rotatable frame in position with one of the escape-wheels in operative relation to the detent member and with its spur-wheel in engagement with the rack.

14. The combination, with a type-writer carriage and a rack secured thereto, of a feed mechanism comprising a frame rotatably mounted in the plane of the carriage, a plurality of diverse escape-wheels carried by the frame concentric to its axis and each provided with spur-wheels arranged in the plane of the rack, a detent mounted on a swinging frame operatively connected with the key-levers, and means for securing the escape-wheels alternatively in operative relation to the detent and with their spur-wheels in engagement with the rack, said means comprising a spring-pressed rod coupled to the rotatable frame and provided with locking members arranged to coöperate with corresponding locking members in a fixed support.

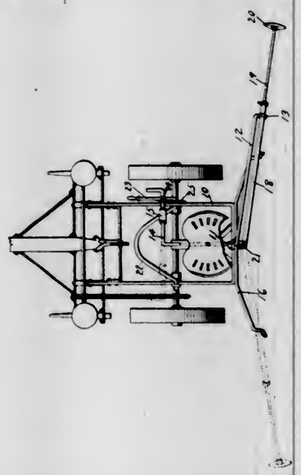
15. The combination, with a type-writer carriage and rack secured thereto, of a feed mechanism comprising a frame rotatably mounted in the plane of the carriage, a plurality of escape-wheels mounted on the frame concentric to its axis and each provided with a spur-wheel arranged in the plane of the rack, a detent mounted upon a swinging support operatively connected with type-levers, and means for securing the escape-wheels alternatively in operative relation with the detent members and with the respective gear-wheel in engagement with the rack, said means comprising a spring-pressed rod provided with a plate carrying pins adapted to engage corresponding recesses in a fixed support and other spring-pressed pins engaging the corresponding recesses in the rotatable frame.

844,290. MARKER FOR CORN-PLANTERS. AARON E. STARRETT, Kellogg, Iowa. Filed June 18, 1906. Serial No. 322,639.

Claim.—1. The combination of a planter-frame, a shaft extended longitudinally thereof, a crank-arm at the forward end of the shaft, a crank-arm at the rear end of the shaft, a marker-arm connected with the rear crank-arm and an arched shaft having a forwardly-curved portion at

its center and designed to be pivoted to a planter-frame adjacent to the forward crank-arm and a lever for operating said arched shaft.

2. The combination of a planter-frame, and a shaft extended longitudinally thereof, a crank-arm at the forward end of the shaft, a crank-arm at the rear end of the shaft, a marker-arm connected with the rear crank-arm and an arched shaft having a forwardly-curved portion at its center and designated to be pivoted to a planter-frame adjacent to the forward crank-arm, a lever for operating said arched shaft and means for securing the arched shaft in different positions.



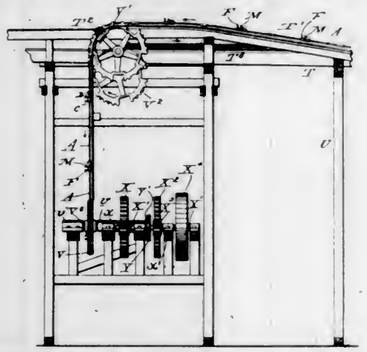
3. The combination of a planter-frame, of a rock-shaft extended longitudinally thereof, a crank-arm at the forward end of the rock-shaft, a crank-arm at the rear end thereof, a marker-arm pivoted to the frame and connected with said rear crank-arm, a shaft pivoted to the frame adjacent to the forward crank-arm and having an arched body portion provided with a forwardly-inclined central portion, said arched shaft designed to engage the forward crank-arm and to move it toward a vertical position from either side of the machine-frame.

4. The combination of a planter-frame, of a rock-shaft extended longitudinally thereof, a crank-arm at the forward end of the rock-shaft, a crank-arm at the rear end thereof, a marker-arm pivoted to the frame and connected with said rear crank-arm, a shaft pivoted to the frame adjacent to the forward crank-arm and having an arched body portion provided with a forwardly-inclined central portion said arched shaft designed to engage the forward crank-arm and to move it toward a vertical position from either side of the machine-frame, a lever fixed to the arched shaft, a pawl carried by said lever and a sector fixed to the machine-frame to be engaged by the pawl.

5. The combination of a planter-frame, of a rock-shaft extended longitudinally thereof, a crank-arm at the forward end of the rock-shaft, a crank-arm at the rear end thereof, a marker-arm pivoted to the frame and connected with said rear crank-arm, a shaft pivoted to the frame adjacent to the forward crank-arm and having an arched body portion provided with a forwardly-inclined central portion, said arched shaft designed to engage the forward crank-arm and to move it toward a vertical position from either side of the machine-frame, a lever fixed to the arched shaft, a pawl carried by said lever, a sector fixed to the machine-frame to be engaged by a pawl and two arms fixed to the rear of the machine-frame extended laterally and rearwardly and having upturned ends to engage and support the marker-arm.

6. A marker for planters, comprising a longitudinal shaft, a marker-arm connected therewith and capable of movement from one side of the planter to the other, a crank-arm at the forward end of the shaft, a transverse shaft having an arched central portion, designed to engage the crank-arm, and means for rocking the arched shaft.

844,291. CAR-HAUL. ARCHIBALD W. F. STECKEL, Columbus, Ohio, assignor to Joseph A. Jeffrey, Columbus, Ohio. Filed July 15, 1905. Serial No. 269,873.



Claim.—1. In a car-haul system, the combination of an endless draft device arranged to travel around a circuit having a run for propelling forward-moving cars, a run for controlling the travel of return or backward-moving cars, a downward run leading from said forward run, and an upward run leading from said downward run to said run for backward-moving cars, supporting and guiding devices for said endless draft device arranged at the points at which it is deflected from one of said runs to the other, power-transmitting mechanism connected with said endless draft device between said downward and upward runs for actuating it, and a traveling device for engaging and propelling a car connected to said endless traveling device.

2. In a car-haul system, the combination of an endless draft device arranged to travel around a circuit having a run for propelling forward-moving cars, a run for controlling the travel of return or backward-moving cars, a downward run leading from said forward run and an upward run leading from said downward run to said return run, power-transmitting mechanism connected with said endless draft device at the point where it is deflected from its said downward run to its said upward run, and a traveling device for engaging and propelling a car connected to said endless draft device.

3. In a car-haul system having a pathway for forward-moving cars, and a supplemental pathway for return or backward-moving cars, the combination of a traveling device for engaging a car and controlling its movements along both of said pathways, an endless draft device for said traveling device adapted to move along said pathways and to hold it in the same position relative to the horizontal when in either pathway, said endless draft device having a downward-extending loop between said forward and said return pathways, and a power-transmitting mechanism arranged beneath said pathways and connected with said endless draft device at a point on said downward-extending loop.

4. In a car-haul system having a pathway for forward-moving cars, and a supplemental pathway for return or backward-moving cars, the combination of a traveling device for engaging a car and controlling its movements along both of said pathways, an endless draft device for said car-engaging element adapted to move it along said pathways and to hold it normally in car-engaging position when in either pathway, said endless draft device having a downward-extending loop between said forward and return pathways, for the moving cars, and a power-transmitting mechanism arranged beneath said pathways and connected with said endless draft device at the lower end of said downward-extending loop.

5. In a car-haul system, the combination of an endless draft device arranged to travel around a circuit having a run for forward-moving cars, a run for controlling the travel of return or backward-moving cars, a run leading downward from the front end of said forward run, a run leading upward from the lower end of said downward run to the front end of said return run, supporting and guiding devices for deflecting said endless draft device from said forward to said downward run and from said upward to said return run, respectively, power-transmitting mechanism arranged beneath the front ends of the said runs for forward and backward moving cars connected with said endless draft device for actuating it at the point where it is deflected from said downward to said upward run, and a traveling car-engaging device connected to said endless draft device.

6. In a car-haul system, the combination of an endless draft device arranged to travel around a circuit having a run for forward-moving cars, a run for return or backward-moving cars, a downward run leading from said forward run and an upward run leading from said downward run to said return run, supporting and guiding devices for said endless draft device at the points where it is deflected from said forward to said downward run and from said upward to said return run respectively, a vertically-arranged driving-sheave for deflecting said endless draft device from said downward run to said upward run, and for applying power thereto, means for actuating said vertically-arranged sheave, and a traveling device for engaging and propelling a car connected to said endless draft device.

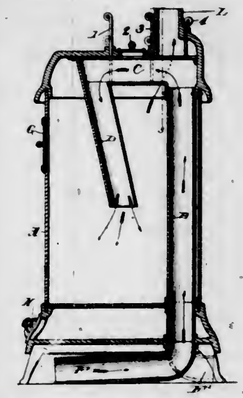
7. In a car-haul system, the combination of an endless draft device arranged to travel around a circuit having a run for forward-moving cars, a run for return or backward-moving cars, a downward pathway leading from the front end of said forward run, and an upward run leading from said downward run to the front end of said return run, a sheave inclined to the horizontal and adapted to deflect said endless draft device from said forward run to said downward run, a vertically-arranged sheave adapted to deflect said endless draft device from said downward run to said upward run, a sheave adapted to direct said endless draft device from said upward run to said return run, and a traveling device for engaging and propelling a car connected to said endless draft device.

8. In a car-haul system having an inclined pathway for forward-moving cars, and a supplemental inclined pathway for return or backward-moving cars, the combination of car-engaging elements arranged to travel along both of said pathways and to propel a car up the forward one thereof and to control its travel under the action of gravity along the return pathway, an endless draft device for said car-engaging elements arranged to cause them to travel along said pathways, suitable guiding mechanism for said endless draft device at the lower ends of said runs, vertically-disposed deflecting and guiding devices for said endless draft device at the upper end of each of said runs, having the axes of their deflecting curves arranged transverse to the longitudinal lines of the said runs, and a suitable driving mechanism for said endless draft device arranged beneath said vertically-disposed deflecting and guiding devices.

9. In a car-haul system having an inclined pathway for forward-moving cars, and a supplemental inclined pathway for backward-moving cars, the combination of a supporting and guiding sheave substantially horizontally disposed between the lower ends of said pathways, vertically-disposed supporting and guiding sheaves each arranged at the upper end of one said pathways on an axis transverse to the longitudinal lines of the pathways, a vertically-disposed sheave arranged beneath the said sheaves at the upper ends of said pathways and on an axis transverse to the axis of said vertically-disposed sheaves, an endless draft device extending around said supporting and guiding sheaves, and means for applying power to actuate said endless draft device.

10. In a car-haul system having an inclined pathway for forward-moving cars, and a supplemental inclined pathway for backward-moving cars, the combination of a supporting and guiding sheave substantially horizontally disposed between the lower ends of said pathways, vertically-disposed supporting and guiding sheaves each arranged at the upper end of one of said pathways on an axis transverse to the longitudinal lines of the pathways, a vertically-disposed sheave arranged beneath the said sheaves at the upper ends of said pathways and on an axis transverse to the axis of said vertically-disposed sheaves, an endless draft device extending around said supporting and guiding sheaves, car-engaging elements carried by said endless draft device, and a suitable power-drive connected with the lowermost vertically-disposed sheave.

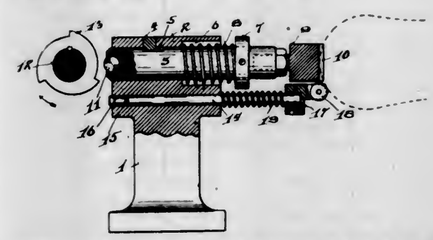
844,292. HEATING-STOVE. LLEWELLYN H. THURSTON, Belt, Mont. Filed Sept. 5, 1906. Serial No. 333,332.



Claim.—1. A heating-stove having within its heating-chamber an air-pipe opening at its lower end at the lower part of the stove into the outer air and having its upper end extended horizontally part way across the top of the stove and then extended down and terminating above the fire, a damper arranged to close the horizontal air-pipe and a second damper arranged to open the horizontal air-pipe to the outer air, said latter damper being located between the first-named damper and the inlet end of the air-pipe.

2. A heating-stove having within its heating-chamber an air-pipe opening at its lower end at the lower part of the stove into the outer air and having its upper end extended horizontally part way across the top of the stove and then extended downwardly and terminating above the fire, and four dampers; two arranged to close the horizontal portion of the air-pipe, one arranged between said last-named dampers to control communication with the outer air, and another arranged to control communication between the air-pipe and smoke-pipe.

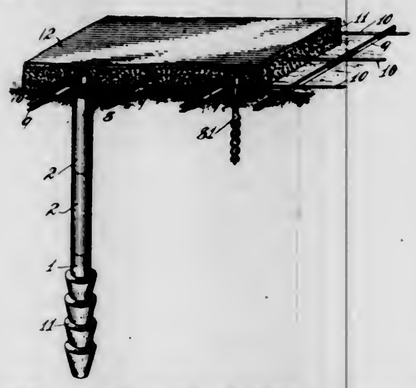
844,293. SHOE-UPPER-POUNDING MACHINE. SAMUEL J. WENTWORTH, Newport, Ky., assignor to The Wentworth Company, Cincinnati, Ohio, a Corporation. Filed Apr. 30, 1906. Serial No. 314,439.



Claim.—In an upper-pounding machine, a stock, a spindle extended through the stock and projecting beyond the

same at opposite ends, means permitting the spindle to be reciprocated in the stock, a hammer on the front end of the stock, a cam device in rear of the spindle normally out of contact therewith but adapted to engage the same when the spindle is pressed inward, and a spring-controlled guide under the hammer and in front thereof normally, but adapted to retreat under pressure independent of the hammer, substantially as described.

844,294. BUILDING CONSTRUCTION. EDWARD J. WINSLOW, Chicago, Ill. Filed Oct. 19, 1905. Serial No. 283,431.



Claim.—1. In a building construction, a floor-anchor consisting of a plurality of like superposed sections and an end section having a plurality of annular projections disposed in a barb-like manner.

2. In a building construction, a floor-anchor consisting of a plurality of like superposed sections and an end section having annular barbs, said sections being of tubular form.

3. In a building construction, a floor-anchor comprising a plurality of like sections having longitudinally-extending perforations, and a barb-shaped head having perforations matching therewith.

4. In a building construction, an impervious floor of plastic material, transversely-extending rods embedded therein and adapted to reinforce the same, tie-pieces affixed to said reinforcements at spaced intervals and depending therefrom, and an underlying anchor of plastic material affixed at its upper end to each of said pieces, said anchor being of tubular form and comprising a plurality of connecting-sections each having embedded therein longitudinally-extending tubes connected at their ends to plates having apertures corresponding to said tubes and lying flush with the ends of the sections, said end section having a plurality of annular projections disposed in a barb-like manner.

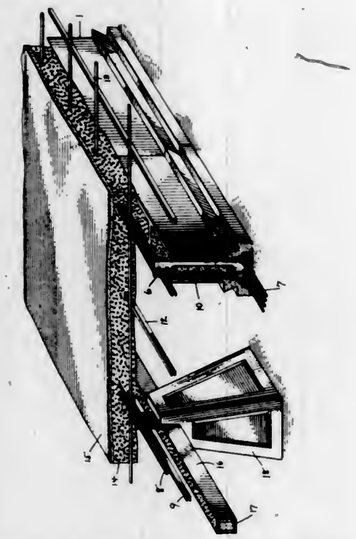
5. A building construction comprising in combination, an impervious floor, supported directly upon underlying soil, a layer of hard-wearing material surfacing said floor, reinforcing means extending transversely through said floor, an underlying anchor having an enlarged head, said anchor being embedded in soil, and means securing said anchor to said floor whereby an elevation of the latter will be resisted.

6. A building construction comprising in combination, an impervious floor of plastic material, a plurality of reinforcing-strips spaced apart and embedded in said floor, an anchor embedded in the underlying soil and having an enlarged head, and tensioned means securing said anchor to said reinforcing means, whereby an upheaval of said floor will be prevented.

7. A building construction comprising in combination, an impervious floor of plastic material, reinforcing-rods spaced apart and transversely embedded in said floor, an underlying anchor having an enlarged head embedded in the soil beneath said floor, and means directly connecting said anchor to said reinforcing-rods, whereby an upheaval of said floor will be prevented.

8. A building construction comprising in combination, an impervious floor of concrete, supported directly upon underlying soil, a layer of hard-wearing material surfacing said floor, and an anchor affixed to said floor and extending from the same into the underlying soil, said anchor being contoured to resist upward movement whereby an elevation of said floor will be resisted.

844,295. BUILDING CONSTRUCTION. EDWARD J. WINSLOW, Chicago, Ill. Filed Oct. 20, 1905. Serial No. 283,583.



Claim.—1. In a building construction an impervious floor of plastic material, a floor-anchor having a recess and means therein for securing the same to reinforcements embedded in the overlying floor.

2. In a building construction a cement floor resting directly upon underlying soil, a floor-anchor having a chamber and means for securing the same to said overlying floor said means arranged in said chamber in predetermined positions permanently maintained said anchor being embedded in the soil underlying said floor.

3. In a building construction a floor, a sectional floor-anchor embedded in the soil underlying said floor having a compartment and means therein positionable for securing the anchor to an overlying floor.

4. In a building construction a floor, a sectional floor-anchor embedded in the soil underlying said floor, having a compartment a floor resting upon the upper end of said anchor and means therein for securing the same to an overlying floor, through reinforcements embedded therein.

5. In a building construction a floor, a sectional floor-anchor embedded in the soil underlying said floor, having a compartment and means adjustable therein and adapted for being retained permanently in a predetermined position, said means extending into attachment with an overlying floor.

6. In a building construction a floor, a sectional floor-anchor embedded in the soil underlying said floor having a compartment and means located therein in a predetermined permanently-maintained position for affixing the same to reinforcements in an overlying floor.

7. In a building construction a floor, a sectional floor-anchor embedded in the soil underlying said floor, having a compartment, a device therein for connecting the same to an overlying floor, and means for permanently positioning the aforesaid parts.

8. In a building construction, a sectional floor-anchor provided with a compartment, a device therein extending to reinforcements embedded in an overlying floor, and means within said compartment for permanently positioning said device to said anchor.

9. In a building construction a floor, a sectional floor-anchor embedded in the soil underlying said floor provided with a compartment, a floor resting upon the upper end of said anchor and means therein comprising a plastic composition for securing the anchor to an overlying floor.

10. In a building construction a floor, a sectional floor-anchor embedded in the soil underlying said floor provided with a compartment and means therein comprising a hardening plastic mass for adjustable and permanently securing the same to reinforcements embedded in an overlying floor.

11. In a building construction a floor, a sectional floor-anchor embedded in the soil underlying said floor having a compartment, a device therein for connecting the same to an overlying floor, and a plastic composition within said compartment and embedding said device for permanently positioning the same.

12. In a building construction, a sectional floor-anchor provided with a compartment, a device therein extending to reinforcements embedded in an overlying floor, and a plastic composition within said compartment and embedding said device whereby the same is permanently positioned.

13. In a building construction, a floor-anchor of substantially a U shape and means embedded between the side walls thereof for permanently attaching it to reinforcements in an overlying floor.

14. In a building construction, a floor, a horizontally-elongated floor-anchor provided with vertically-extending compartments and means permanently affixed therein for attaching it to an overlying floor.

15. In a building construction, a floor-anchor provided with a compartment, a device therein extending into attachment with reinforcements embedded in an overlying floor the material whereof extends into said compartment and securely positions said device in place.

16. In a building construction, a floor-anchor provided with a compartment having an opening in the upper end thereof and an overlying floor composed essentially of plastic material which extends into and fills said compartment.

17. In a building construction, a horizontally-extending floor-anchor comprising a plurality of like sections each having compartments, and an overlying floor the material whereof extends into and fills said compartments.

18. In a building construction, a floor-anchor having a recess and an overlying floor, the material whereof extends into said recess to form an interlocking engagement with said anchor.

19. In a building construction, a floor-anchor comprising a plurality of abutting like sections each provided with compartments, devices therein and extending to engagement with suitable reinforcements embedded in an overlying floor, the material whereof extends into said compartment, whereby the whole is interlocked together.

20. In a building construction, a floor-anchor of elongated-U shape having a compartment flaring into an enlarged bottom, and a similarly-shaped retaining device therein and extending into engagement with reinforcements embedded in an overlying floor.

21. In a building construction, a floor-anchor having a compartment whereof portions flare into an enlargement, and a like-shaped retaining device interlocking in said compartment and extending into engagement with an overlying floor.

22. In a building construction, a floor-anchor provided with a horizontally-extending elongated compartment opening in the top, retaining-plates of like contour spaced at intervals in said compartment and affixed at their upper ends to reinforcements embedded in an overlying floor, and at their lower ends similarly united to reinforcements extending through said anchor.

23. In a building construction, a floor-anchor having a compartment provided with lateral extensions, a like-shaped retaining device interlocking in said compartment and extending into engagement with an overlying floor, and a plastic composition within said compartment and embedding and permanently securing in place said device.

24. In a building construction, a floor-anchor, having a substantially inverted-T-shaped compartment, a like-shaped retaining device therein extending into engagement with reinforcements in an overlying floor, the material whereof extends into said compartment and securely positions said retaining device.

25. In a building construction, a floor-anchor comprising a plurality of similar abutting sections each having one or more compartments, devices therein in interlocking engagement with the walls of said compartments and extending into attachment with reinforcements embedded in an overlying floor, the material whereof extends into said compartments and thereby securely interlocking the whole together.

26. In a building construction, a sectional floor-anchor having a compartment open at the top and closed at the bottom, a device therein for connecting the same to an overlying floor and means for permanently interlocking said device to the anchor.

27. In a building construction, a sectional floor-anchor provided with a compartment, a device therein and in an interlocking engagement therewith, and an interfitting means for permanently securing the same in place, said device extending into connection with an overlying floor.

28. In a building construction, a sectional floor-anchor provided with a compartment, a device therein adjustably extending to reinforcements embedded in an overlying floor and a plastic composition within said compartment and embedding said device in an interlocking manner whereby the same is permanently positioned.

29. In a building construction, a floor-anchor provided with a compartment, a perforate plate therein corresponding in lateral outline thereto, reinforcements embedded in an overlying floor extending through perforations in said plate, like members embedded in the anchor and extending through the lower end of said plate, and a plastic composition within said compartment and filling the interstices of the same and the perforations in said plate whereby the whole is securely interlocked together.

844,296. BUILDING CONSTRUCTION. EDWARD J. WINSLOW, Chicago, Ill. Filed Oct. 20, 1905. Serial No. 283,584.

Claim.—1. In a waterproof-wall construction, an impervious wall, eyebolts pivotally affixed thereto and at their other end pivotally and slidably affixed to a supporting-wall.

2. In a building construction, a background, eyebolts affixed therein, bars passing through the eyes of such bolts, links encircling such bar at one end and encircling transversely-extending bars at their other end, said bars being embedded within and maintaining in place a wall of impervious material.

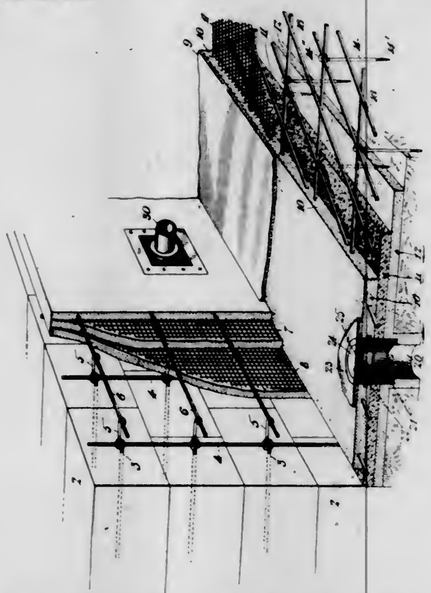
3. In a building construction, a chamber, and an integral impervious casing of plastic material set therein, said casing being rigidly anchored to the floor of said chamber and flexibly affixed to the wall thereof by a link means, said link means comprising bracing-bars embedded within the wall of said casing, and eyebolts affixed at one end to said bars, and at the other slidably-encircling bars maintained parallel to a chamber-wall.

4. In a building construction, a chamber, and an integral impervious casing set therein and bonded to the side walls thereof, said casing resting directly upon the floor of said chamber and rigidly anchored thereto by means of a series of vertically-extending anchor-bolts.

5. In a building construction, an impervious septum, forming a casing having bonded walls and a bottom having a series of bars embedded therein, and a plurality of anchor-bolts affixed at one end to said bars and at the other to the adjacent chamber-face, said bars being provided at such end with relatively wide screw-flanges.

6. In a building construction, a casing having bonded side walls and an impervious floor, bars embedded therein, and a plurality of anchor-bolts affixed to said bars at their upper end and retained in the underlying soil by means of wide spiral flanges extending from their lower end.

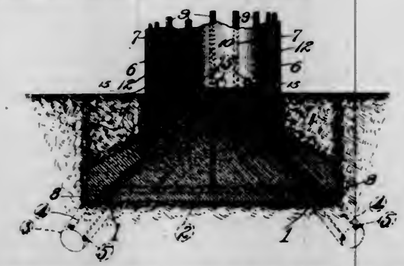
7. In a building construction, an impervious casing having bonded side walls and a floor of impervious plastic material affixed to the underlying soil by means of a plurality of anchor-bolts having wide screw-threads for engagement with the soil.



8. In a building construction, an impervious casing having bonded side walls and a relatively thin floor of impervious material, a series of bars bracing said floor and embedded therein, and a plurality of anchor-bolts affixed to said bars at points of crossing thereof and extending into the underlying soil and retained against withdrawal therein by means of wide screw-threaded flange ends.

9. In a building construction, an impervious casing having bonded side walls and a plurality of vertically-extending eyebolts screw-threaded at their lower ends and thereby affixed in soil, bracing-bars passing through eyes at the upper end of said bolts, a mesh of wire lying above said bars, and an impervious septum of plastic material surrounding and embedding said mesh and underlying bars.

844,297. CHIMNEY. JOHN V. BOLAND, St. Louis, Mo. Filed Jan. 26, 1906. Serial No. 298,025.



Claim.—1. A chimney comprising a base-frame formed with a series of metal beams the ends of certain of which beams rest upon others thereof, metallic parts fastening the ends of said metal beams together, an inner annular series of upright channel-beams, means to attach the lower ends of said beams to said base-frame, an outer annular series of upright channel-beams, means to attach their lower ends to said base-frame, and chimney-wall structure comprising two concentric concrete walls embedding said two series of channel-beams with an air-space between said two walls opening to the exterior at its upper and lower ends, and said two walls uniting and forming a single wall above the air-space, substantially as specified.

2. In a chimney, the combination of a base-frame comprising a number of metal beams arranged transversely of each other and with the ends of certain of said beams resting upon others thereof, metallic anchors attached to said metal beams and extending below the same, an annular series of upright metal beams, means to attach their lower ends rigidly with said base-frame, and a monolithic concrete structure embedding all of said parts, substantially as specified.

3. In a chimney the combination of a base-frame comprising a rectangular series of metal beams, metallic members attached to said beams and extending below the same, metallic uprights having their lower ends attached to said metal beams, and a monolithic concrete structure embedding all of said parts, substantially as specified.

4. In a chimney, a base-frame comprising a rectangular series of metal beams and metallic devices uniting the ends of said metal beams and projecting downwardly therefrom, two annular concentric series of metallic uprights having their lower ends fastened to said metal beams, solid concrete embedding the entire base-frame and the lower ends of the metallic uprights, and chimney-wall structure comprising two concentric concrete walls embedding said two series of metallic uprights with an air-space between said two walls opening to the exterior at its upper and lower ends and said two walls uniting and forming a single wall above the air-space, substantially as specified.

5. A chimney comprising a series of metal beams arranged in the form of a frame, metallic devices fastening the ends of said metal beams together and projecting obliquely outward therefrom, an annular series of upright metal beams, means for fastening the lower ends of said upright metal beams to the said beams forming a frame, a series of rings inclosing said annular series of beams, and a monolithic concrete structure embedding all of said parts, substantially as specified.

6. A chimney comprising a base-frame formed with a series of metal beams arranged transversely with the ends of certain of said beams resting upon others thereof, a metallic U-shaped member arranged over the ends of said beams and extending obliquely outward therefrom, concrete embedding said members, an inner annular series of upright metal beams, means for fastening the lower ends of said beams to said base, an outer annular series of upright metal beams of different lengths, rings encircling each series of upright beams, and monolithic concrete structure embedding all of said parts, substantially as specified.

7. In a chimney, the combination of a base-frame comprising a series of metal beams, metallic uprights, means for fastening the lower ends of said uprights to said beams, and a monolithic concrete structure embedding said base-frame and said uprights, substantially as specified.

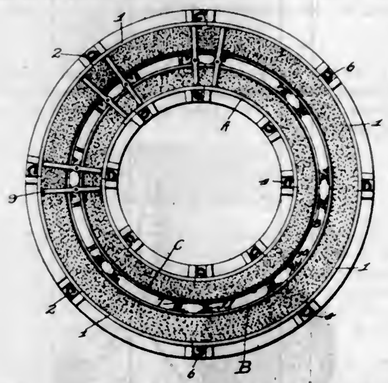
8. The combination with a monolithic concrete chimney comprising a concrete base and two annular concentric concrete walls rising above the base with an air-space between said walls opening to the exterior at its upper and lower ends and a single wall resting upon and rising above said two walls, of a series of substantially horizontal beams embedded in the base, an outer annular series of upright metal beams embedded in the said outer wall, means for fastening the lower ends of said upright metal beams to said beams in the base, and an inner annular series of upright metal beams embedded in said inner wall, substantially as specified.

9. A chimney comprising a base-frame formed with a series of metal beams, an inner annular series of upright metal beams, means fastening the lower ends of said upright metal beams and the base-frame together, a concrete base embedding the base-frame and the lower ends of the upright beams, an imperforate concrete wall rising above said base and embedding said upright beams, an outer series of upright metal beams having their lower ends embedded in the concrete base, an outer concrete wall rising above said base and embedding said outer upright beams and forming an air-space between said outer and inner walls, and having openings at the upper and lower ends of said air-space, and a single wall rising above said two walls, substantially as specified.

10. A chimney comprising a base-frame formed with a series of substantially horizontal metal beams, metallic anchors connected to and extending downward from said metal beams, an outer annular series of upright metal beams having their lower ends attached to said base-frame, rings encircling said outer series of metal beams, an inner annular series of upright metal beams having their lower ends attached to said base-frame, rings encircling said inner series of metal beams, a concrete base embedding said base-frame and the lower ends of said upright beams, an imperforate inner concrete wall embedding said inner series of metal beams, a concrete wall embedding said outer series of metal beams and forming an air-space between said two walls which opens to the exterior through said outer wall at its upper and lower ends, metal beams extending above said walls, metallic rings encircling said metal beams, and a single concrete wall rising above said two walls and embedding said last-named metal beams, substantially as specified.

11. The combination with a chimney comprising a base and two concentric walls rising above the base with an air-space opening to the exterior at its upper and lower ends and a single wall resting upon and rising above said two walls, of a series of substantially horizontal beams embedded in the base, a series of metal beams embedded in said inner wall and means for fastening the lower ends of said uprights to said beams in the base to strengthen the chimney, substantially as specified.

844,298. MOLD. JOHN V. BOLAND, St. Louis, Mo. Filed Feb. 26, 1906. Serial No. 302,967.



Claim.—1. A series of molds for forming annular concentric walls, consisting of an outer mold arranged to encircle the outer wall, and an inner mold to be within the inner wall, in combination with two annular concentric molds intermediate of the outer and inner molds, and devices carried by said intermediate molds operable for expanding one and compressing the other thereof, substantially as specified.

2. A mold, comprising a series of edgewise-abutting sections, rods and hooks on said sections to engage with each other, levers for turning the rods, and cams on the rods in position to engage the hooks, in combination with a second mold adapted to stand parallel with the first-named mold, substantially as described.

3. A series of molds for forming parallel walls, comprising two molds each composed of a series of separable sections for confining both walls, couplings for uniting said sections, two intermediate molds adapted to be positioned between the first-named molds, one or more rods supported by said intermediate molds, and means in connection with said rod or rods for spacing said intermediate molds apart, substantially as specified.

4. A series of molds for forming two walls, comprising an outer mold composed of a series of sections, means for uniting said sections, an inner mold composed of a series of sections, means for uniting said sections, two molds intermediate of the outer and inner molds, a lever or handle supported by one of said intermediate molds, and means controlled by said handle for spacing said intermediate molds apart, substantially as described.

5. A mold, comprising a series of arcuate sections adapted to fit edge to edge, a rod carried near each side of each alternate section, cams on said rods, means to turn the rods, and hooks on the other sections adapted to engage with said cams.

6. A set of molds, comprising in combination an outer mold and an inner mold each composed of a series of sections, couplings for locking the sections of each mold one to another, devices in connection with the couplings operable to draw the adjacent sections toward each other, two intermediate molds to coöperate, respectively, with said outer and inner molds, and mechanism carried by said intermediate molds operable for expanding the one and compressing the other, substantially as specified.

7. A set of molds, comprising in combination an outer and an inner mold each composed of a series of sections, couplings for locking the sections of each mold one to another, devices in connection with the couplings operable to draw the adjacent sections toward each other, two intermediate molds to coöperate, respectively, with said outer and inner molds, and each comprising a series of edgewise-abutting sections and mechanism carried by said intermediate molds operable to adjust them in proper position relative to said outer and inner molds, substantially as specified.

8. A set of molds for forming two parallel walls, comprising in combination two molds each composed of a series of sections, couplings for uniting said sections, means in connection with the couplings for drawing the sections together, two intermediate molds to coöperate, respectively, with the first-named molds, means to hold said intermediate molds in proper relation to each other and mechanism carried by said intermediate molds operable for expanding the one which coöperates with the outer mold aforesaid, substantially as specified.

9. A mold, comprising a series of edgewise-abutting sections, rods and hooks on said sections to engage with each other, levers for turning the rods, and cams on the rods in position to engage the hooks, substantially as specified.

10. A mold, comprising a series of edgewise-abutting sections, rods and hooks on said sections to engage with each other, levers for turning the rods, and cams on the rods to engage the hooks when the rods are turned, in combination with a coöperating mold, and means for holding it in proper relation to the first-named mold.

844,299. ATTACHMENT FOR TELEPHONE-RECEIVERS. JAMES R. CHALLEN, Collegeville, Pa. Filed May 12, 1906. Serial No. 316,481.



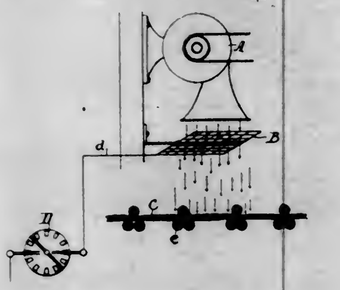
Claim.—1. The combination of the receiver-cap, the elastic dome having its base seated against the outer face of

said cap and a ring engaging said base portion of the dome and having spurs or barbs whereby it is secured to the apertured central portion of the cap.

2. The combination of the receiver-cap, the elastic dome having an inwardly-projecting base-flange bearing against the outer face of said cap, and means for securing said base-flange to the apertured central portion of the cap.

3. The combination of the receiver-cap, the elastic dome having an inwardly-projecting base-flange bearing against the outer face of said cap, and a ring bearing on said base-flange and having spurs or barbs whereby it is secured to the apertured central portion of the cap.

844,300. PROCESS OF NEUTRALIZING STATIC ELECTRICITY. WILLIAM H. CHAPMAN, Portland, Me., assignor to Chapman Electric Neutralizer Company, Portland, Me., a Corporation of Maine. Filed Feb. 12, 1906. Serial No. 300,604.



Claim.—1. The process of neutralizing static electricity in a body consisting of blowing a current of air against said body and placing in said air-current before it reaches said body a conductor charged with electricity of the opposite polarity to that contained in the body.

2. The process of neutralizing static charges of electricity in a body consisting of blowing a current of air against said body and placing in said air-current a conductor having applied to it an alternating charge of electricity.

3. The process of neutralizing static charges of electricity in a body consisting of blowing a current of air against said body and placing in said air-current a conductor having an alternating charge of electricity with a series of relatively long and short impulses of which the long impulses have a polarity opposite to that of the charged body.

844,301. SASH CONSTRUCTION. EUGENE L. CHARBOIN, Seattle, Wash. Filed Mar. 14, 1906. Serial No. 306,043.



Claim.—1. A sash consisting of sheil-like rails and stiles formed of sheet metal and having their inner walls bent to form opposite portions between which the sash-glass is received, and internal reinforcing means for rigidly holding the side walls of said rails and stiles in their spaced-apart relation.

2. A sash consisting of metal sheil-like rails and stiles, and a reinforcing means arranged in said rails and stiles and having opposite walls fitting snugly against the side walls thereof.

3. A sash formed of metal and provided with grooves for reception of the glass, said sash consisting of sheil-like rails and stiles, and reinforcing means arranged therein, said reinforcing means fitting snugly between the opposite side walls of said rails and stiles so as to reinforce the same and having the metal forced inwardly in the formation of said grooves bearing thereagainst.

4. A sash consisting of a frame having top, bottom and side walls formed in their outer edge portions with grooves, and a sheet-metal facing fitted over said frame, the outer portion of said facing being secured in said grooves and the inner portion thereof bent toward the adjacent walls of said frame to form opposite walls between which the sash-glass can be fitted.

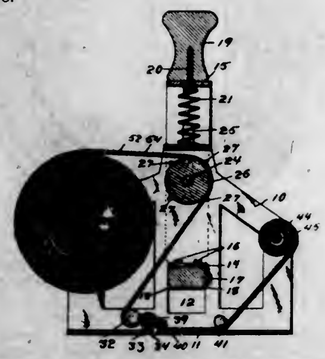
5. A sash consisting of a frame formed of top, bottom and side walls, one of said walls being formed with a slot to permit of the insertion of the glass, and a facing fitted over the walls of said frame so as to be reinforced thereby and provided with seats for the glass alining with said slot.

6. A sash consisting of a frame formed of top, bottom and side walls, said top wall having its outer edge portion formed with a channel, a facing fitting over the walls of said frame and secured in said channel, and a closure removably secured in the outer portion of said channel of the top wall.

7. A sash consisting of a frame having its top wall formed in its upper face with a channel, a facing for the frame having portions projecting into said channel whereby it is secured, and a cover removably secured in said channel and having a lip projecting beyond one side face of the sash to form a guard, for the purpose specified.

8. The combination of the window-frame, guide-beads on the opposite sides thereof, a sash, and bars in the stiles of said sash provided with grooves, said guide-beads projecting into the grooves of said bars, for the purpose specified.

844,302. POSTAGE-STAMP AFFIXER. FRANK W. CHERRY, Des Moines, Iowa, assignor of one-half to D. W. Heath, Chicago, Ill. Filed July 31, 1905. Serial No. 271,958.



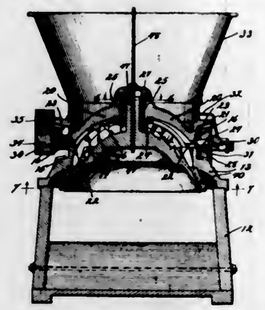
Claim.—1. In a stamp-affixer, the combination of a frame, a plunger therein, a roller having projections thereon actuated by a movement of the plunger, a loosely-mounted roller, a spring-wound roller and a web wound upon the loosely-mounted roller, said web formed with perforations to receive the projections on the roller, said web wound upon the loosely-mounted roller, passed around the roller with projections and having said projections extended through the openings thereof, and wound upon and attached to the spring-wound roller.

2. In a stamp-affixer, the combination of a frame, a web-supporting roll, a web-directing roller, a spring-actuated web, winding devices and an absorbent moistening-roller arranged adjacent to one of the directing-rollers in such manner as to have a web yieldingly held against it by the spring-actuated web-winding device.

3. In a stamp-affixer, the combination of a machine-frame formed with an opening in its bottom, a spring-actuated plunger movable to and from said opening, a web-supporting roller, a driving-wheel formed with web-engaging teeth mounted in the machine-frame, means actuated by the plunger for rotating said web-driving wheel a certain predetermined distance upon each movement of the plunger, web-directing rollers and a spring-actuated web-winding device.

4. The combination of a machine-frame, comprising sides, top and bottom, said bottom formed with an opening, a roller for supporting a paper web detachably mounted in the frame, a plunger comprising sides, top and bottom vertically movable relative to the machine-frame, a plunger-block fixed to the bottom thereof and designed to pass into the opening in the bottom of the frame, an extensible coil-spring interposed between the top of the machine-frame and the top of the plunger, a driving-wheel mounted in the machine-frame between the sides of the plunger, ratchet devices connected with the plunger and the said driving-wheel for rotating it a certain predetermined distance upon each stroke of the plunger, said driving-wheel formed with teeth, a detachable-absorbent moistening-roller in the machine-frame adjacent to the opening in its bottom, directing-rollers on both sides of the absorbent-roller, a directing-roller in the machine-frame on the opposite side of the opening in its bottom and a spring-actuated winding-roller to receive a web.

844,303. MILL. JOSEPH DAIN, Jr., Ottumwa, Iowa. Filed Feb. 26, 1902. Serial No. 95,727.



Claim.—1. In a grinding-mill, the combination of grinding devices, two annular racks spaced apart, one of said racks being connected with a movable member of the grinding devices, supporting-pinions between said racks, external supporting means and inwardly-projecting conical pivots carried by said supporting means and fitting in taper bearings in said pinions.

2. The combination of a pair of annular racks oppositely arranged, conical pinions between said racks and meshing therewith, and an external frame extending around said pinions and having conical pivots therefor, said pivots projecting inwardly from the inner face of said frame, substantially as described.

3. In a grinding-mill, the combination of grinding devices, two beveled annular racks spaced apart, one of said racks being connected with a movable member of the grinding devices, beveled pinions between and meshing with said racks, inwardly-projecting conical pivots fitting in taper bearings in said pinions, and means supporting said pinions.

4. In a grinding-mill, the combination of grinding devices, two beveled annular racks spaced apart, one of said racks being connected with a movable member of the grinding devices, beveled pinions between and meshing with said racks, an external frame extending around said pinions, and conical pivots fitting in taper bearings in said pinions, said pivots projecting inwardly from said frame.

5. A sweep, comprising a lever, a brace having its outer end extended across the outer end of said lever, and a plate secured to the lever, the brace extending through said plate.

6. A sweep, comprising a lever, a brace having its outer end bent and extending across the end of said lever, and a plate secured to the lever, the brace extending through said plate, substantially as described.

7. A sweep, comprising a lever, a brace having its outer end bent and extending across the end of the lever, means securing the brace to the lever, means for attaching the draft devices to said brace, and a bearing-block between said brace and the outer end of said lever, substantially as described.

8. In a grinding-mill, the combination of grinding devices, two annular beveled ways spaced apart, one of said ways being connected with a movable member of the grinding devices, beveled supporting-pinions between said ways, the inner portions of said ways being closer together than the outer portions thereof, and external means having inwardly-projecting conical pivots fitted in taper bearings in said pinions.

9. In a grinding-mill, the combination of grinding devices, two beveled annular racks spaced apart, the inner portions of said racks being closer together than the outer portions thereof, one of said racks being connected with a movable member of the grinding devices, beveled pinions between said racks, and external supporting means for said pinions, said supporting means having inwardly-projecting conical pivots fitted in taper bearings in said pinions, the outer portions of said pivots being of greater diameter than the inner end portions thereof.

10. In a grinding-mill, the combination of a base having a notch and a lug 42, a removable bur adapted to be fitted to said base, said bur having a lug 45 adapted to fit into said notch and to be engaged by said lug 42, and a swinging catch for holding said bur in place, substantially as described.

11. The combination of a pair of annular racks oppositely arranged, conical pinions between said racks and meshing therewith, an external frame extending around said pinions and having inwardly-projecting conical pivots upon which said pinions are mounted, and a hopper carried by said frame, substantially as described.

12. An encircling frame having one or more inwardly-projecting conical pivots having their greatest diameters outward, conical pinions mounted upon said pivots and also having their greatest diameters outward, and beveled annular racks with which said pinions mesh, substantially as described.

844,304. METHOD OF COATING LACE WITH METAL. JOHN A. DALY, Washington, D. C. Filed Oct. 15, 1901. Renewed Dec. 5, 1904. Serial No. 235,548.

Claim.—1. The method of coating lace with metal, which consists in covering the threads of lace with a conductor, then making a preliminary electrodeposit of metal thereon in a plating-bath, then removing from the bath and solidifying this preliminary deposit on the threads by mechanical action, then adding further electrodeposited metal.

2. The method of coating lace with metal, which consists in treating the lace with a solution of nitrate of silver, then with a solution of sulfid of potassium, thus securing a conducting coating, then depositing a preliminary metallic coating thereon in an electroplating-bath, then removing from the bath, compacting the metal on the lace by mechanical means, and depositing further metal thereon in an electroplating-bath.

3. The method of coating lace with metal which consists in stretching the lace on a frame, covering the threads of the lace with a thin varnish to stiffen the same, then covering the varnished threads with a solution of nitrate of sliver, then applying an aqueous solution of sulfid of potassium, then washing with water, then making

wire connections with a number of points on the lace, and electrodepositing a metal thereon.

4. The method of covering the threads of lace with metal, which consists in stretching the lace on a frame, then covering the threads or web of lace with an aqueous solution of nitrate of silver, then with an aqueous solution of sulfid of potassium, then washing with water, then making an electrodeposit on the lace in an electroplating-bath.

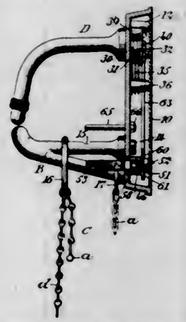
5. The method of covering lace with metal, which consists in stretching the lace on a frame, securing a conductor on the lace, connecting conducting-wires to the lace at numerous points, and depositing metal on said lace and conductor in an electroplating-bath.

6. The method of coating fibrous lace with metal, which consists in holding the mesh of the lace extended, covering the threads of the lace by a coating of sulfid of silver, connecting the threads of lace to copper conducting-wires at numerous points, making a preliminary deposit of copper thereon, then removing the conducting-wires and afterward increasing the copper deposit.

7. The method of covering fibrous lace with metal, which consists of holding the mesh of the lace in extended position, developing an electrical conductor on the threads of the lace, connecting the web at numerous points to metallic wire conductors, making a preliminary electrodeposit on the threads of lace, then removing the metallic wire conductors and subsequently electrodepositing additional metal on the lace.

8. The method of coating lace with metal, which consists in holding the mesh of the lace in extended position, securing a conductor on the surface of the lace by covering it first with a solution of nitrate of silver and then with an alkaline reagent, connecting the mesh of the extended lace at various points to conducting-wires of a plating-battery, and electrodepositing metal on the threads of the lace.

844,305. GARMENT-HANGER AND LOCK. JOHN C. EPLER, Philadelphia, Pa. Filed May 5, 1906. Serial No. 315,440.

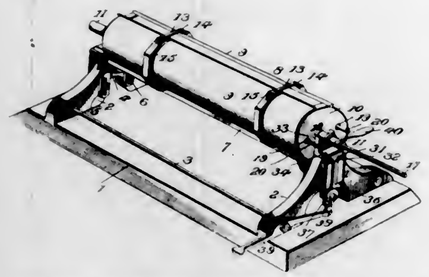


Claim.—1. In mechanisms for supporting and locking articles to their supports, a casing, a garment-support secured to said casing, a locking-arm pivotally mounted in the casing above the garment-support, the free end of the said arm being adapted in one position thereof to be over and in close proximity to the corresponding end of the garment-support, the said free end of the arm in its other position being removed from the vicinity of the said garment-support, a disk secured within the casing at the inner end of said locking-arm, which disk is provided with a peripheral recess and with a peripheral groove connecting with the recess, a spring having one end secured to the casing and the other end to the said disk at the side opposite that provided with the said groove, a key-operated bolt supported by the said casing, a series of spring-controlled tumblers arranged for simultaneous and bodily operation, all of said tumblers being adapted to enter the recess in the disk when the locking-arm is over the said garment-hanger when said locking-arm is in releasing position, whereby one of said tumblers enters the groove in the said disk, acting as a stop therefor, the associated tumblers having frictional engagement only with the said disk.

2. In mechanisms for supporting and locking articles to their supports, a rigid supporting member, a revoluble locking member having a keeper-section and mounted for movement to a position over the support and in close proximity thereto and to a position removed from the support, a tension device for the locking member, controlling its movement to open position, a locking device for holding the locking member in position over the support, the said locking device being manually operated to said latter position, and a box-casing fitting in the main casing, open at the front and provided with openings at its rear, spring-controlled retaining-arms pivoted in the said casing and having projections which extend into the openings at the back of the casing, a plate mounted to slide on the back of the casing, having openings therein capable of registry with the openings in the casing, and a connection between the locking-arm and the said plate, whereby when the locking-arm is carried to locking position the solid portion of the plate is over the projections from the retaining-arms, preventing the movement of the said arms, and whereby when the locking-arm is in releasing position the openings in the plate register with the openings in the box-casing, to permit the movement of the retaining-arms away from each other.

3. In mechanisms for supporting and locking articles to their supports, a main casing, a box-casing fitted to the main casing, being open at its front and provided with openings at its rear, spring-controlled retaining-arms pivoted in the said box-casing and adapted for movement to and from each other, projections from the retaining-arms, extending into the openings in the back of the box-casing, a disk mounted to revolve in the main casing, provided with a keeper-section, means for turning the said disk in one direction, a spring attached to the disk and to the main casing, controlling the movement of the disk in an opposite direction, a locking device for the said disk, means for limiting the rotation of the disk in a direction away from the locking device when released therefrom, a plate mounted to slide over the back of the said body-casing, having openings therein capable of registry with the back of the body-casing, and a connection between the plate and the disk, whereby the two simultaneously operate and the plate is carried either to a position for locking the said arms or to a position for releasing the said arms.

844,306. MACHINE FOR MAKING FENCE-POSTS. GEORGE FALK, La Crosse, Wis. Filed Aug. 25, 1906. Serial No. 332,020.



Claim.—1. In a molding-machine, the combination of a support, a mold movably mounted thereon, means for elevating the mold, and means for rotating the mold when elevated and independently of its elevating movement.

2. In a molding-machine, the combination of a support, a mold normally mounted upon said support, means for effecting relative movement of the mold and the support whereby said parts will be separated from one another, and means for effecting independent bodily movement of the mold.

3. In a molding-machine, the combination of a support, rests carried thereby, a mold normally adapted to be supported on said rests, means for elevating the mold from the rests, means for rotating the mold independently of its elevating movement, and means for adjusting the positions of the rests aforesaid.

4. In a molding-machine, the combination of a support, vertically-movable supporting members mounted thereon, means for actuating said supporting members, a mold rotatably mounted on the supporting members, and independent means for rotating the mold.

5. In a molding-machine, the combination of a support, rests thereon, a pallet normally supported on said rests, a sectional mold normally supported on the pallet, and separate and independent means for elevating and rotating the mold.

6. In a molding-machine, the combination of a support, rests thereon, a pallet normally supported on said rests, a mold normally supported on the pallet, and separate and independent means for elevating and rotating the mold, said mold being composed of detachable side and end pieces.

7. In a molding-machine, the combination of a support, vertically-movable supporting members mounted thereon, means for actuating said members, a mold embodying end pieces provided with journals mounted in bearings on the vertically-movable supporting members, and means for rotating the mold.

8. In a molding-machine, the combination of a support, vertically-movable supporting members mounted thereon, levers for actuating said supporting members, a mold rotatably mounted on the supporting members, and independent means for effecting rotation of the mold.

9. In a molding-machine, the combination of a support including spaced standards, vertically-movable supporting members mounted on said standards and provided with bearings thereon, a mold rotatable in the bearings of the supporting members, levers operably connected with the supporting members to elevate the mold, and means for rotating the mold.

10. In a molding-machine, the combination of a mold embodying detachable sides, end pieces, a stem passing through one of the end pieces of the mold, a plunger connected with the stem and movable in the mold, and core-rods passing through the end piece through which the stem aforesaid passes.

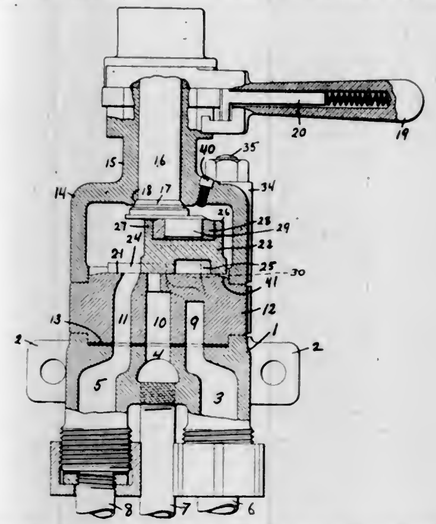
11. In a molding-machine, a mold comprising detachable sides, a pallet, a core device detachably mounted upon the pallet, said core device consisting of a transverse body member, a lateral extension at one end portion of the body member, and a diagonally-arranged core-piece extended from the outer end of the lateral extension and in contact with the body member of an end thereof, said core-piece being detachable from the core device.

12. In a molding-machine, the combination of a support, rests thereon, a pallet carried by said rest, a mold comprising spaced sides resting the pallet, means detachably connecting the sides of the mold, core devices at intervals in the length of the pallet and projecting upwardly into the space between the sides of the mold, and means for elevating the mold from the pallet.

844,307. VALVE. FREDERICK H. HARMER, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed Dec. 17, 1906. Serial No. 348,160.

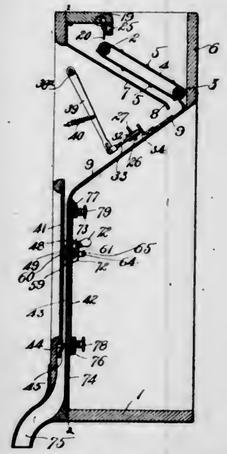
Claim.—1. The combination with a valve-seat provided with ports, of a valve member resting against said seat, said seat being provided with guides to restrain the movement of said valve member, said valve member being provided with guides disposed at an angle with respect to the guides upon said valve-seat, a stem provided with a pin eccentric to the axis thereof, a block adapted to move between the guides on said valve member, said block being provided with an aperture adapted to receive said pin.

2. The combination with a valve-seat provided with ports, of a rectangular valve member adapted to control said ports, guides for compelling said valve-chamber to move in a right line, a valve-stem provided with a pin disposed eccentrically to the axis of said stem, a rectangular block provided with an aperture adapted to receive said pin, said valve member being provided with guides



disposed at right angles with respect to the guides on the valve-seat, said guides being adapted to restrain the movement of said block to a right line.

844,308. COIN-COUNTING MACHINE. CHARLES W. JOHNSON, Litchfield, Ill. Filed Mar. 1, 1905. Serial No. 247,864.



Claim.—1. A coin-counting machine comprising a receptacle having a plurality of chambers to receive coins, movable means to prevent the discharge of coins from said chambers, and means to prevent the movement of said means until all of said chambers are full.

2. A coin-counting machine comprising a receptacle having a plurality of chambers to receive coins, means to prevent the escape of coins from said receptacle, means to actuate said means and locking means for said actuating means arranged to be thrown out of locking position by the top coins when said chambers are full.

3. A coin-counting machine comprising a hopper to receive coins in bulk, a receptacle having a plurality of

chambers to receive coins, means to conduct coins from said hopper to said receptacle, means to prevent the escape of coins from said receptacle, means to actuate said second-mentioned means and locking means for said actuating means projecting into said chambers, said locking means being arranged to be thrown out of locking position by the top coins when said chambers are full.

4. A coin-counting machine comprising a receptacle having a plurality of chambers to receive coins, movable means to prevent the escape of coins from the bottoms of said chambers, movable means to prevent the admission of coins to said chambers, and means for operating both of said means arranged to prevent the movement of said first-mentioned means until said second-mentioned means is in position to prevent the admission of coins to said chambers.

5. A coin-counting machine comprising a receptacle having a plurality of chambers to receive coins, movable means normally in position to prevent the escape of coins from said chambers, movable means normally out of position, but movable into position, to prevent the admission of coins to said chambers, and means for operating both said means arranged to move said first-mentioned means only when said second-mentioned means is in position to prevent the admission of coins to said chambers.

6. A coin-counting machine comprising a hopper to receive coins in bulk, a belt to carry coins from said hopper, adjustable means to prevent the passage of more than one layer of coins between it and said belt, a plate to receive coins discharged from said belt, an adjustable agitator to prevent the passage between it and said plate of more than one layer of coins, a receptacle having a plurality of chambers to receive coins, an agitator near the top of said receptacle, an actuating-shaft, and means to operate said belt and said agitators from said shaft.

7. In a coin-counting machine, an adjustible selector-bar, resilient fingers depending from said bar, a handle to adjust the bar for the admission of a predetermined coin, and a notched plate to be engaged by said handle.

8. In a coin-counting machine, the combination with the chutes, of means for closing the top and bottom of the chutes, means extending normally into the chutes and actuated by the coins to be counted, to prevent the opening of the bottom-closing means of the chutes before the receptacle is full.

9. In a coin-counting machine, the combination with coin-chutes, of means controlled by the coins passing through the chutes to close the top and the bottom of the chutes alternately.

10. In a coin-counting machine, the combination with coin-chutes, of means controlled by the last of a predetermined number of coins to be counted in the chutes, to close and open the top and bottom of said chutes alternately.

11. In a coin-counting machine, the combination with coin-chutes and means to close the top and bottom of said chutes, of a lever projecting into said chutes in the path of the coins to be counted and locking the closing means against movement until the last coin to be counted enters the chute which prevents said lever from again entering the chute whereupon the closing means is free to be actuated to close the top of the chute and open the bottom of the chute.

12. In a coin-counting machine, the combination with the chutes, of a slidable bar mounted near the top of the chutes and provided with projections adapted to close said chutes, a lever one end of which enters the chute, the other end being adapted to lock the sliding bar against movement, said lever being operated by the passage of the coins through the chute.

13. In a coin-counting machine, the combination with the chutes, of a movable bar near the top of the chutes, projections on said bar adapted to enter and close said chutes, a bell-crank lever, one arm of which is normally in the chute in the path of the coins and momentarily displaced by each coin except the last coin counted which holds it out of the chute, and means released by the bell-crank lever permitting the sliding bar to move.

14. In a coin-counting machine, the combination with the chute, of a movable bar near the top of the chute, pins carried by said bar and adapted to project into the chute, a movable notched bar connected to the first-named bar, and a bell-crank lever, one arm of which engages said bar, the end of said arm projecting in the chute normally but adapted to be projected from the chute by the last coin counted whereby the arm of the lever is held out of engagement with the notched bar, thus permitting the said bars to be moved and the pins carried by one of them enter and close the top of the chute.

15. In a coin-counting machine, the combination of a casing, a coin-compartment plate in said casing provided with a plurality of compartments, means for delivering the coins to said compartments, means for controlling the outlets from said compartments, a runway-plate above said coin-compartment plate and means for agitating the coins while they are passing to said compartments on said runway-plate, substantially as set forth.

16. In a coin-counting machine, the combination of a casing, a coin-compartment plate in said casing provided with a plurality of compartments, means for delivering coins to said compartments, means for controlling the outlets from said compartments, shiftable means for closing the inlets to said compartments, and means actuated upon by the coins for holding said inlet-controlling means until all of the compartments are filled, substantially as set forth.

17. In a coin-counting machine, the combination of a casing, a coin-compartment plate in said casing provided with a plurality of compartments, means for controlling the outlets from said compartments, means for delivering the coins to said compartments, a lock-bar provided with pins adapted to control the inlets to said compartments, and means acted upon by the coins adapted to control said lock-bar, substantially as set forth.

18. In a coin-counting machine, the combination of a casing, a coin-compartment plate in said casing provided with a plurality of compartments, means for controlling the outlets from said compartments, means for delivering the coins to said compartments, a lock-bar provided with pins adapted to control the inlets to said compartments, and dogs arranged to engage said lock-bar and adapted to project into said compartments to be acted upon by the coins entering thereinto to control the movement of said lock-bar, substantially as set forth.

19. In a coin-counting machine, the combination of a casing, a coin-compartment plate in said casing provided with a plurality of compartments, a gate for controlling the outlets from said compartments, means for delivering coins to said compartments, a lock-bar associated with said plate and provided with stop-pins, coin-tripped means extending into said compartments and adapted to engage said lock-bar, and means for first moving said lock-bar to carry its pins into said compartments and thereafter tripping said gate to permit the discharge of coins from said compartments, substantially as set forth.

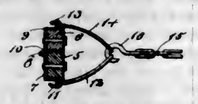
20. In a coin-counting machine, the combination of a casing, a coin-compartment member in said casing provided with a plurality of compartments, a traveling coin-delivery member, a runway member located beneath said delivery member, and an agitator located above said runway member, substantially as set forth.

21. In a coin-counting machine, the combination of a casing, a coin-compartment member in said casing provided with a plurality of compartments, a traveling coin-delivery member, a runway member located beneath said delivery member, and an adjustably-supported agitator located above said runway member, substantially as set forth.

22. In a coin-counting machine, the combination of a casing, a coin-compartment member in said casing provided with a plurality of compartments, a traveling coin-delivery member, a runway member beneath said coin-delivery member and leading to said coin-compartment member, a reciprocatory agitator mounted above said runway member, means whereby said agitator is adjustably supported, and means for imparting reciprocation to said agitator, substantially as set forth.

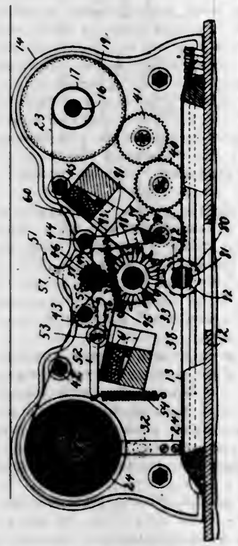
23. In a coin-counting machine, the combination of a casing, a coin-compartment member in said casing, a gate for controlling the outlets from the compartments of said member, a trip-arm fitted to said gate, a coin-controlled lock-bar associated with said coin-compartment member, a pull-rod connected to said lock-bar, and a cam carried by said pull-rod arranged to engage said gate trip-arm, substantially as set forth.

844,309. CLAMP. ROBERT MILLER, Covington, Tenn., assignor of one-half to Rufus M. Gillihan, Randolph, Tenn. Filed June 11, 1906. Serial No. 321,193.



Claim.—A clamp comprising a pair of bars, upper and lower pairs of straps secured to the bars, the straps of each pair having a hinge connection at one end, and hooks at the other end, and a pair of bails each of which is connected at its ends to the hooks of the upper and lower straps whereby a connection between each bail and the bars is had at two points, the arms of the bails being vertically spaced and extending in front of the bars, and engageable at the middle by a hauling-chain.

844,310. MECHANICAL MUSICAL INSTRUMENT. JOHN MCTAMMANY, Providence, R. I., assignor to F. A. McTammany, New York, N. Y. Filed Apr. 8, 1902. Serial No. 101,916.



Claim.—1. A mechanical musical instrument comprising tone-producing devices, pickers therefor, a grooved roll for actuating said pickers, a feeding-sprocket, and an elongated selector or music-sheet having two sets of perforations one for the feeding-sprocket and the other for the pickers, said perforations being so related that when a picker-tooth enters a perforation therefor it accurately registers with a groove in the roll.

2. A mechanical musical instrument comprising tone-producing devices, a shaft, a plurality of pickers loosely mounted on said shaft, mechanism whereby said pickers are caused to actuate said tone-producing devices, and means for setting said pickers in actuative but detained inactive position ready for operation.

3. A mechanical musical instrument comprising tone-producing devices, a plurality of rotatable pickers, a selector and a movable rack through which said selector passes, and means governed by said rack for moving said pickers into predetermined position when the said rack is moved to inoperative position and holding them in said position until the rack is returned to operative position.

4. A mechanical musical instrument comprising a plurality of rotary pickers, and a wedge for setting and rendering said pickers in inoperative position.

5. A mechanical musical instrument comprising a plurality of rotary pickers, a selector governing said pickers, a toothed actuator movable toward and from said pickers, and means for automatically moving the pickers to actuative but detained position when the actuator is moved into operative position.

6. A mechanical musical instrument comprising a plurality of rotary pickers, a selector governing said pickers and adapted to be moved bodily toward and from them, and means for automatically moving and then locking the pickers when the selector is moved out of engagement therewith.

7. A mechanical musical instrument comprising a plurality of rotary pickers, a shaft on which said pickers are mounted to rotate independently of each other, a bar for simultaneously alining said pickers and a spring for actuating said bar.

8. A mechanical musical instrument comprising a plurality of rotary pickers, a shaft on which said pickers are mounted to rotate independently of each other, a beveled or wedge-shaped bar for causing said pickers to simultaneously assume the same relative rotative positions, a winding-roll gearing for said roll, and means for holding said gearing against reverse rotation.

9. A mechanical musical instrument comprising a plurality of sounding devices, an elongated longitudinally-movable selector having a row of perforations, a driving-sprocket having teeth for engaging the perforations driving the selector at a constant speed, and pickers having fixed teeth for causing the sounding device to produce a tune, said selector having perforations of different lengths and means whereby each picker is actuated one or more times according to the length of the perforations.

10. A mechanical musical instrument comprising a string, a shaft having an aperture through which a string passes, a rotary vibrator on said shaft having a fixed point to engage the string, and means for imparting to said vibrator an intermittent rotation, said means comprising a star-wheel adapted to coact upon said vibrator, a continuously-rotating actuator with which said star-wheel is adapted to coact, and a selector for governing the action of the star-wheel.

11. A mechanical musical instrument comprising two independent series of tone-producing devices, a plurality of star-wheels or pickers having fixed teeth for causing the said tone-producing devices to produce tones simultaneously, a selector for governing the operation of said star-wheels or pickers, and a toothed actuator independent of the selector for actuating said star-wheels or pickers.

12. A mechanical musical instrument comprising a string, a rotary vibrator having points for engaging the string, and having teeth additional to said points, a selector and a selector-governed picker for engaging the teeth on said vibrator and effecting a step-by-step rotation thereof.

13. A mechanical musical instrument comprising a hollow body, strings stretched across said body, a frame supported on said body, rolls on said frame, a perforated selector above the strings movable from one roll to the other, and an action consisting of toothed mechanism above the selector, means for rotating said toothed mechanism, pickers below the selector with fixed teeth adapted to project through said selector so as to be actuated by said toothed mechanism, and a shaft for supporting the pickers.

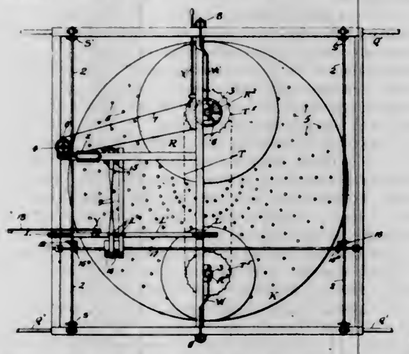
14. A mechanical musical instrument comprising a plurality of sounding devices, pickers having fixed teeth for effecting the actuation thereof, a selector having perforations for governing but not causing the action of the

pickers, and having additional perforations for engagement with the feeding-sprocket, said last-mentioned perforations being located substantially midway between its margins or side edges and means for actuating the pickers.

15. A mechanical musical instrument comprising sounding devices, rotary pickers having fixed teeth for picking said devices, a shaft substantially parallel to the axis of rotation of said pickers and having a sprocket intermediate of its ends, and a non-metallic selector having perforations for governing but not affecting the action of the pickers and having a row or rows of perforations intermediate of its side edges or margins for engagement with the sprocket and means for actuating said pickers.

REISSUES.

12,604. APPARATUS FOR GRINDING, SMOOTHING, AND POLISHING PLATE-GLASS. EDWARD BAGNALL, Pittsburg, Pa., assignor, by direct and mesne assignments, to Zoffer Plate Glass Manufacturing Company, Charleroi, Pa. Filed Mar. 30, 1905. Serial No. 252,991. Original No. 716,981, dated Dec. 30, 1902.



Claim.—1. In a glass grinding and polishing machine, the combination with a bed provided with a hollow enlargement, of a table, a central shaft depending from the table extending into said hollow enlargement on the bed, antifriction-rollers in the bottom of said hollow enlargement under the lower end of the shaft to sustain the vertical thrust thereof, and an annular series of antifriction-rollers mounted in the vertical wall of said enlargement to sustain the lateral thrust of said shaft.

2. A glass polishing and grinding table on which the glass is retained in position by a vacuum under the glass, provided with a yielding detachable perforated cushion and the vacuum-chamber on which the glass plate rests, the said cushion being constructed and having the characteristics substantially as described.

3. A glass grinding and polishing table on which the glass is retained in position by a vacuum or suction, provided with a yielding detachable cushion composed of a back or base of any suitable fabric or textile and an upper surface of soft non-porous composition, said members of the cushion having alined holes communicating with the vacuum or suction chamber substantially as described.

4. The combination with a glass grinding and polishing table having a vacuum-chamber therein and a plurality of openings through its top, of a cushion for said table composed of a series of separate sections of varying thickness, each section comprising a soft non-porous composition, and having perforations alining with the openings through the top of the table, substantially as described.

5. The combination with a glass grinding and polishing table having a vacuum-chamber therein and an opening through its top, the said opening being countersunk, of a soft non-porous cushion on said table, said cushion having an opening corresponding with the opening in the table and also provided with a depending projection which rests within the countersunk portion of said opening, substantially as described.

6. The combination with a table having a central depending shaft and means connected with the latter for rotating it, of equalizing-rollers supporting the periphery of the table and yielding and adjustable bearings for said rollers.

7. In a glass grinding and polishing machine, the combination with a hollow table having a plurality of holes through its upper face, a series of soft porous cushions resting on the table, each cushion having a single aperture therein alining with a single aperture in the table.

8. The combination of a glass-holding rotating table, and grinding and polishing runners rotating in a direction opposite to the rotation of the table, with means for simultaneously imparting to said runners a laterally-reciprocating movement, substantially as set forth.

9. The combination with a track, a table located between the rails of said track, a frame mounted on and adapted to be moved on the track, glass grinding or polishing runners supported by the frame, means for rotating the runners, and means for automatically elevating the runners.

10. The combination with a glass-holding table, a track passing the table, a frame mounted on and moving on the track, and glass grinding or polishing runners supported by the frame, of means for rotating the runners and automatic devices for imparting a to-and-fro movement of the frame on its track, as and for the purpose specified.

11. The combination with a glass-holding table and a track passing the table, of a frame mounted to travel on the track and adapted to be moved thereon into operative position over the table, glass grinding or polishing runners supported by the traveling frame, a motor mounted on the traveling frame, and means for connecting the motor with the runners, all substantially as described and specified.

12. The combination with a glass-holding table and a track adjacent thereto, of a traveling frame having wheels mounted on said track, runners mounted in said frame over the table, a motor on the frame, and gearing connecting said motor with the wheels of the frame and with the runners for simultaneously rotating the latter and causing the frame to run on the track.

13. The combination with a glass-supporting table, of a frame mounted to travel over said table, runners mounted in said traveling frame, a motor on said frame, gearing connecting the motor with the runners for rotating them, gearing operated by said motor to propel said traveling frame, and means for automatically reversing the operation of said last-mentioned gearing at each end of the travel of said frame.

14. The combination with a glass-supporting table, and a frame mounted to travel over and independent of said table, of means for rotating the table, runners carried by the traveling frame over the table, a motor mounted on the frame, and gearing connecting said motor with the runners and operating to rotate them in a direction reverse to the direction of rotation of the glass-supporting table.

15. The combination with a glass-holding table and a track passing the table, of a frame mounted on the track and adapted to be moved thereon into position over the table, revoluble glass grinding or polishing runners carried by the frame, means for rotating the runners, a motor mounted on the frame and means connecting the motor and track wheels of the frame, substantially as described and specified.

16. In a glass grinding and polishing machine, the combination with a rotary table, a movable frame carrying runners and means for rotating the runners, of a vacuum-cylinder for each runner, a piston in each cylinder, and means connecting each runner with its respective piston whereby the runners may be moved vertically, substantially as set forth.

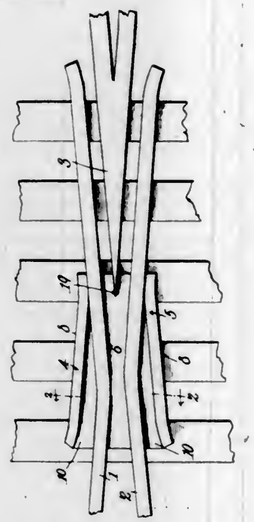
17. The combination with a rotary table, a frame carrying runners, and means for propelling the frame over the table, of automatic shifting devices for changing the direction of movement of said frame whereby it is caused to move backward and forward over the table, substantially as described.

18. In a glass grinding and polishing machine, the combination with a table on which the glass is retained in position by a vacuum under the glass, of a yielding detachable cushion on the table, and a pneumatic cushion or collar encircling the yielding cushion and adapted to support the glass plate near the edges of the latter.

19. The combination with a table provided with a supporting-cushion, of a surrounding pneumatic-cushion tube, substantially as set forth.

20. The combination with a table provided with a supporting-cushion, and means for exhausting the air from the surface recesses of the table, of a surrounding pneumatic-cushion tube, substantially as set forth.

12,605. RAILWAY-FROG. JOHN E. GRAHAM, Salem, Va., assignor to The Graham Flange Frog Company, Inc., Salem, Va., a Corporation of Virginia. Filed June 25, 1906. Serial No. 323,395. Original No. 790,629, dated May 23, 1905.



Claim.—1. A railway-frog having means to support the tread of the wheel throughout the entire distance and to engage the rim of the wheel-tread to guide and confine it to position, substantially as described.

2. As a new article of manufacture, a frog-block having one face shaped to conform to a frog-rail and having a wheel-flange disposed obliquely to the face.

3. As a new article of manufacture, a frog-block having one of its faces shaped to conform to a frog-rail, and a wheel-rim tread integral with the block and disposed obliquely to the face.

4. As a new article of manufacture, a frog-block embodying in an integral structure, a wheel-flange, a transversely-beveled wheel-rim tread and a rail-tread seat.

5. As a new article of manufacture, a frog-block provided with a wheel-flange, the terminals of which are curved, and with a wheel-rim tread, the upper face of the latter being inclined away from the wheel-flange.

6. A railway-frog embodying frog-rails, and a frog-point, in combination with a frog embodying members to embrace the frog-rails and to engage the terminal of the frog-point, and removable spacers or liners interposed between the opposed faces of the outer members of the frog and the web of the frog-rails.

7. A railway-frog embodying frog-rails having the upper faces of their treads inclined, in combination with frog-blocks provided with wheel-flanges and with wheel-rim treads, the upper faces of which are inclined to coincide with those of the treads of the frog-rails.

8. A railway-frog comprising frog-rails and a frog-point, and flanged frog-blocks to embrace the outer sides of the frog-rails and a spacing-block to engage the terminal of the frog-point.

9. A railway-frog embodying frog-rails and a frog-point, and a frog comprising frog-blocks to engage the external portions of the frog-rails, each block being provided with a guard-flange, and a spacing-block interposed between the frog-rails and having a seat to receive the terminal of the frog-point.

10. A railway-frog comprising frog-rails and a frog-point, and a frog comprising frog-blocks having their upper portions each provided with a guard-flange and their opposed faces shaped to conform to the contour of the rail-base, tread and web, and a spacing-block disposed between the rails and shaped to conform to the faces of the webs and the upper sides of the rail-bases, and provided with means for engaging the frog-point, and bolts passing through the frog-blocks, spacing-blocks and rails.

11. A railway-frog comprising frog-rails and a frog-point, and a frog comprising a spacing-block disposed between the rails and provided with a seat to receive the terminal of the frog-point, and a pair of frog-blocks disposed externally of the rails and provided on their outer upper edges with a guard-flange, the inner faces of the block being each provided with a rail-tread seat, and on its upper and lower portions with a wheel-rim tread, and bolts passing through all the parts for holding them combined.

12. As a new article of manufacture, a railway-frog comprising a pair of frog-blocks, each provided on its upper outer edge with a guard-flange, and the opposed faces of the blocks being shaped to the contour of the external portions of the frog-rails, and a spacing-block shaped to conform to the internal portions of the base and web of the frog-rails, and having at one end a seat to receive the terminal of the frog-point.

12,606. BOOKBINDER. ROBERT J. NICHOLSON, Chicago, Ill. Filed July 11, 1906. Serial No. 325,742. Original No. 800,475, dated Sept. 26, 1905.



Claim.—1. In combination with a pair of covers, connected by a back, of an attaching-plate, secured to the back, arms extending upwardly from the ends of the attaching-plate; a staple, forming prongs, extending from one arm and adapted to engage between the leaves of the book; and a wedge-shaped clamp having its wider end extending inwardly to be inserted between the leaves of the book, and having its outer end projected through an opening in the other arm.

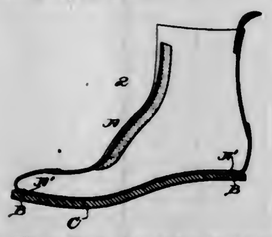
2. In a bookbinder, an attaching-plate; arms extending upwardly from the ends of the attaching-plate, there being an opening through one arm; a staple forming prongs extending from the other arm and adapted to engage between the leaves of a book; a wedge-shaped clamp adapted to be inserted wide end first between the leaves of the book and having its narrow portion located loosely in said opening, and a ring removably inserted through the outer end of said wedge-shaped clamp.

3. A device of the class described comprising an element adapted to engage the back of a book and elements for insertion between leaves thereof, the element that is adapted to engage the back of the book being provided with an upwardly-extending arm having an opening therein for the passage of one of the elements that is adapted for interposition between the leaves of the book, said latter element being reduced in size, the larger end of the latter element being disposable between the leaves of the book and serving to engage the arm to permit the projection of the smaller end outwardly to a limited extent only, and a fastening device for holding the said latter element in place after it has been projected through said arm.

4. A device of the class described comprising an element adapted to engage the back of a book and elements for insertion between leaves thereof, the element that is adapted to engage the back of the book being provided with an upwardly-extending arm having an opening therein for the passage of one of the elements that is adapted for interposition between the leaves of the book, said latter element being wedge-shaped, whereby the smaller end thereof may project through the arm outwardly to a limited extent, and a fastening device for securing the said latter element in its position with respect to the arm.

5. A device of the class described comprising an element adapted to engage the back of a book and elements for insertion between leaves thereof, the element that is adapted to engage the back of the book being provided with an upwardly-extending arm having an opening therein for the passage of one of the elements that is adapted for interposition between the leaves of the book, said latter element being so shaped at one end as to permit its projection outwardly to a limited extent only, and a fastening device for holding the said latter element in place after it has been projected through said arm.

12,607. METHOD OF SEWING SHOE-SOLES TO UPPERS. JOSEPH A. RHOULT, Haverhill, Mass., assignor of one-half to Harris W. Spaulding, Haverhill, Mass. Filed Nov. 18, 1905. Serial No. 288, 086. Original No. 789,066, dated May 2, 1905.



Claim.—1. The method of securing shoe-soles to uppers, consisting in placing a completely-formed upper with an inturned flange at the bottom in the natural or unturned position in juxtaposition to the sole, holding and guiding the flange of the upper with respect to the sole, and sewing the sole directly to the flange of the upper, as set forth.

2. A method of securing shoe-soles to uppers consisting in placing a completely-formed upper with an inturned flange at its bottom in the natural or unturned position in juxtaposition to the sole; sewing the upper directly to the sole and simultaneously utilizing the opening between the upper and the sole immediately in advance of the sewing for guiding the flange of the upper into proper relation with the sole as they are sewed.

3. A method of securing shoe-soles to uppers consisting in placing a completely-formed upper with an inturned flange at its bottom in the natural or unturned position in juxtaposition to the sole; sewing the upper directly to the sole and simultaneously utilizing the opening between the upper and the sole immediately in advance of the sewing for guiding the flange of the upper into proper relation with the sole as they are sewed for the major portion of the sewing and completing the sewing without guiding.

4. The method of securing shoe-soles to uppers consisting in placing a completely-formed upper with an inturned flange at its bottom in the natural or unturned position in juxtaposition to the sole, inserting a guide between the sole and upper and progressively guiding the upper onto the sole as the upper is progressively sewed directly to the sole in rear of the guide.

5. The method of securing shoe-soles to uppers consisting in placing a completely-formed upper with an inturned flange at its bottom in the natural or unturned position in juxtaposition to the sole, inserting a guide between the sole and upper, progressively guiding the upper onto the sole as the upper is progressively sewed directly to the sole in rear of the guide for the major portion of the stitching, and then removing the guide and completing the securing of the sole to the upper.

6. The method of securing shoe-soles to uppers, consisting in placing a completely-formed upper with an inturned flange at its bottom in the natural or unturned position in juxtaposition to the sole, inserting a thread-carrier in the upper in engagement with the flange thereof, and causing a hooked needle to pass through the sole and flange of the upper into engagement with the thread of the carrier, as set forth.

7. The method of securing shoe-soles to uppers, consisting in placing a completely-formed upper with an inturned flange at its bottom in the natural or unturned position in juxtaposition to the sole, interposing a guide between the sole and the flange of the upper, inserting a thread-carrier in the upper in engagement with the flange thereof, and causing a hooked needle to pass through the sole and flange of the upper into engagement with the thread of the carrier, as set forth.

8. The method of securing shoe-soles to uppers, consisting in placing a completely-formed upper with an inturned flange at its bottom in juxtaposition to the sole, interposing a guide between the sole and flange of the upper, inserting a thread-carrier in the upper in engagement with the flange thereof, causing a hooked needle to pass through the sole-guide and flange of upper into engagement with the thread of the carrier for a major portion of the stitches, and then removing the guide and completing the stitching, as set forth.

12,608. TOOTH FOR EXCAVATING-SHOVELS. FRANK J. THOMAS, Greencastle, Ind. Filed Nov. 27, 1906. Serial No. 345,402. Original No. 783,764, dated Feb. 28, 1905.



Claim.—1. In a tooth for excavating-shovels and the like, a body portion comprising a pair of jaws for engaging the opposite faces of the shovel, and forwardly extended in the form of a pair of spaced lugs, and a detachable point having a web fitting between said lugs.

2. A tooth having a forwardly-projecting nose divided by a recess into two lugs, and a detachable point bifurcated to form a pair of jaws that embrace the two lugs, said jaws being united by a web that fits within the recess.

3. A tooth having a body portion recessed to form a pair of jaws that embrace the edge of the shovel, and a detachable point bifurcated to form a pair of jaws that embrace the nose of the tooth, the lower jaw being extended rearward to protect the whole of the lower surface of the lower jaw of said body portion.

4. A tooth having a forwardly-extended nose formed of a pair of tapered lugs disposed in spaced relation, the inner wall of the nose between said lugs being arranged on a curved line, and a detachable point having a pair of jaws embracing the nose, said jaws being rigidly connected by a web that is provided with a curved face fitting against the curved wall of the recess.

5. The combination with a tooth having a forwardly-extended nose that is provided with a recess, and a detachable point interlocking with the nose, said point being bifurcated to embrace the nose portion and having a central web fitting snugly within said recess.

6. The combination with a body portion bifurcated to form a pair of jaws for engaging the two surfaces of the shovel-blade, the forward end of the body portion being extended to form a nose that is divided by a central recess into two lugs, and a detachable point having a pair of jaws embracing the nose, the two jaws being connected by a web that extends from the rear edge of the upper jaw to a point intermediate of the length of the lower jaw.

7. The combination with a tooth having a body portion recessed for the reception of the shovel-blade, the forward end of said body portion being further extended to form a nose that is divided by an intermediate recess into a pair of lugs, and a detachable point having jaws embracing said lugs, the two jaws being connected by a vertical web, and the base portion of said web being provided with an opening to facilitate the removal of foreign matter between the jaws.

8. A shovel-tooth having a projecting recessed nose, and a detachable point having a web fitting within said recess.

9. A shovel-tooth having a projecting recessed end, and a detachable point provided with a web fitting within said recess, the base of the web having an opening to permit cleaning of the point.

10. A detachable point of the class specified, comprising an approximately wedge-shaped piece of metal bifurcated to form a pair of jaws, and an integral web for uniting the jaws to each other, said web having an opening for the passage of a cleaning-tool.

11. A detachable point, comprising an approximately wedge-shaped piece of metal bifurcated to form a pair of jaws, and an integral web uniting the jaws to each other.

12. A detachable point for a shovel-tooth, bifurcated in rear of its point to form a pair of jaws, and a web uniting said jaws.

13. A detachable point for a shovel-tooth, bifurcated in rear of its point to form a pair of jaws, and a web uniting said jaws and having a curved wall for contact with the nose of the tooth.

14. A shovel-tooth, comprising a body portion having a pair of jaws for engaging the opposite faces of the shovel, and a forwardly-extended bifurcated nose for the reception of a detachable point.

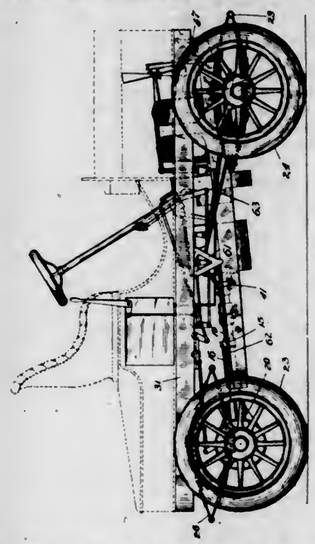
15. A shovel-tooth, having a forwardly-projecting nose provided with a recess dividing such nose into a pair of lugs for the reception of a detachable point.

16. A shovel-tooth, having a forwardly-extended nose formed of a pair of tapered lugs spaced apart for the reception of the web of a detachable point.

17. A shovel-tooth, having a forwardly-extending nose comprising a pair of tapered lugs spaced apart to form a recess for the reception of the web of a detachable point, the inner wall of said recess having a curved formation.

12,609. RUNNING-GEAR FOR MOTOR-VEHICLES. JESSE WARRINGTON and HOWARD C. MARMON, Indianapolis, Ind., assignors to Nordyke & Marmon Company, Indianapolis, Ind., a Corporation of Indiana. Filed May 9, 1906. Serial No. 316,113. Original No. 783,599, dated Feb. 28, 1905.

Claim.—1. The combination, in a running-gear for vehicles, of the axles, suitable springs carried thereby, and two frames supported at two points at or near one end and at one point at or near the other end, the supporting-points of the two frames being arranged reversely with respect to each other, each of said frames being spring-supported at the end having two points of support, and one of said frames having its single point of support carried from the spring-supported end of the other frame.



2. The combination, in a running-gear for vehicles, of the vehicle-axles, suitable springs carried by said axles, one frame carried by two spring-mounted points of support from one of said vehicle-axles, another frame likewise carried from two spring-mounted points of support from the other of said vehicle-axles, and each of said frames carried by one point of support from the axle opposite to that upon which it is carried by two points of support.

3. The combination, in a running-gear for vehicles, of two axles each carrying two springs, two frames, one of which is supported by a suitable point of support from each of the two springs upon one of the axles, and the other of which is carried by a suitable point of support from each of the two springs on the other axle, said first-mentioned frame being also supported by a single point of support carried from the opposite axle, and the second frame being carried by a single point of support upon the opposite end of the first-mentioned frame.

4. The combination, in a running-gear for vehicles, of a frame supported from the springs of the front axle and extending back in a downwardly-inclined direction toward the wheel-driving shaft where it is pivotally supported at a single point of support upon a structure carrying said wheel-driving shaft, said frame being provided with bearings for the main driving-shaft by means of which said wheel-driving shaft is driven, a second frame supported by the springs carried by the rear axle and extending forward in a substantially horizontal direction, and supported at the other end by a single pivotal point of support from the first-mentioned frame, said last-mentioned frame being adapted to carry the bed and seats of the vehicle, and said first-mentioned frame being adapted to carry the motor and driving mechanism.

5. The combination, in a running-gear for vehicles, of two frames each supported at two points at or near one end and at one point at or near the other end, the duplicate supporting-points of each being at that end where the single supporting-point of the other is located, and one of the frames having its single point of support carried rigidly from one of the axles, while the other has its single point of support carried from the first-mentioned frame at the end where it is spring-supported.

6. The combination, in a running-gear for vehicles, of a

frame carried at two points of support by the springs carried by one axle, and pivotally mounted on the sheath or casing containing the main driving-shaft which drives the wheel-driving shaft, and having at its extreme forward end a cross-bar connected thereto by means of links; and a second frame mounted by two points of support upon the springs carried by the other axle at one end, and by a pivotal connection upon the link-carried cross-bar of the first-mentioned frame at the other end.

7. The combination in a running-gear for vehicles, of two axles each carrying two springs, two frames, one of which is supported by a suitable point of support from each of the two springs carried by one of the axles, and the other of which is carried by a suitable point of support from each of the two springs carried by the other axle, and each of said frames having a single point of support from the opposite axle, and brace-rods running from each of the axles directly to one of said frames, whereby uniform distances between the corresponding ends of the axles are maintained notwithstanding the variations caused by the vibration of the springs.

8. The combination, in a running-gear for vehicles, wherein there are two separate frames, each spring-mounted, of the axles, said frames, and brace-rods running from the axles directly to a stationary connection with one of said frames.

9. The combination, in a running-gear for vehicles, of the vehicle-axles, suitable springs carried by said axles, one frame carried by two spring-mounted points of support from one of said vehicle-axles, another frame likewise carried at two spring-mounted points of support from the other vehicle-axle, one of said frames carried by one point of support from the axle opposite to that upon which it is carried by two points of support, and the other frame carried by a suitable support from the axle from which the one frame is carried by two points of support.

10. In a motor-vehicle, a running-gear consisting of a driving-axle structure, a motor-frame, a pivotal connection between said motor-frame and said driving-axle structure, substantially at right angles to said structure, a second axle structure upon which said motor-frame is in part supported, a driving-shaft having its axis coincident with the pivotal axis of said frame, a motor mounted on said motor-frame and connected to and driving said shaft, and a second frame mounted on the driving-axle structure and pivotally supported from the second axle structure.

11. In a motor-vehicle, the combination of, a pair of axles and their supporting-wheels, springs carried by said axles, a wheel-driving shaft, a motor-frame supported in part by the springs of one axle, a second frame supported in part by the springs of the other axle, a pivotal connection between the two frames forming a support for the second frame substantially at right angles to the wheel-driving shaft whereby relative movement between the two frames may be had about said pivotal connection, a motor carried by the motor-frame, and intermediate driving connections between the motor and the wheel-driving shaft held during relative movement between the two frames.

12. In a motor-vehicle, the combination of, a pair of axles and their supporting-wheels, springs carried by said axles, a wheel-driving shaft, a motor-frame supported in part by the springs of one axle, a second frame supported in part by the springs of the other axle, a pivotal connection between the two frames forming a support for the second frame substantially at right angles to the axles whereby relative movement between the two frames may be had about said pivotal connection, a motor carried by the motor-frame, and intermediate driving connections between the motor and the wheel-driving shaft held during relative movement between the two frames.

13. In a motor-vehicle, the combination of, a pair of axles and their supporting-wheels, springs carried by said axles, a motor-frame supported on the springs of one of said axles, a second frame supported on the springs of the other axle, a pivotal connection between said two frames forming a support for the second frame on an axis substantially at right angles to the axles, a wheel-driving shaft, a motor carried by the motor-frame and provided with a main drive-shaft, a pivotal support for the motor-frame, the axis of which is coincident with the axis of the main drive-shaft and substantially at right angles to the axis of the wheel-driving shaft, and intermediate driving connections between the main driving-shaft and the wheel-driving shaft undisturbed by reason of swing of the motor-frame about the axis of the main driving-shaft.

14. In a motor-vehicle, the combination of, a pair of axles and their supporting-wheels, springs carried by said axles, a motor-frame supported on the springs of one of said axles, a second frame supported on the springs of the other axle, a pivotal connection between said two frames forming a support for the second frame on an axis substantially at right angles to the axles, a wheel-driving shaft, a motor carried by the motor-frame and provided with a main drive-shaft, a pivotal support for the motor-frame, the axis of which is coincident with the axis of the main drive-shaft, and intermediate driving connections between the main driving-shaft and the wheel-driving shaft undisturbed by reason of swing of the motor-frame about the axis of the main driving-shaft.

15. In a motor-vehicle, the combination of, a pair of axles and their supporting-wheels, springs carried by said axles presenting two transversely-separated points of support at each axle, a motor-frame supported at two transversely-separated points from the springs of one axle, a second frame supported at two transversely-separated points from the springs of the other axle, a pivotal connection between the two frames forming a support for the second frame on an axis substantially at right angles to the axles, a motor carried by the motor-frame, a wheel-driving shaft, and intermediate driving connections between the motor and the wheel-driving shaft undisturbed by reason of relative movement between the two frames on the axis substantially at right angles to the axles.

16. In a motor-vehicle, the combination, of a pair of axles and their carrying-wheels, springs carried thereby, two frames supported at two transversely-separated points at or near one end and on a single pivotal axis, at or near the other end, substantially at right angles to the axles, the supporting-points of the two frames being arranged reversely with respect to each other, and each of said frames being spring-supported at the end having the two transversely-separated points of support, and one of said frame having its single pivotal axis carried by one of said frames, a wheel-driving shaft relative to which the motor-carrying frame may swing upon its single pivotal axis, and a driving connection between the motor and the wheel-driving shaft held during movement of the motor-carrying frame about its axis of support at right angles to the axles.

17. In a motor-vehicle, the combination, of a pair of axles and their carrying-wheels, springs carried thereby, two frames supported at two transversely-separated points at or near one end and on a single pivotal axis, at or near the other end, substantially at right angles to the axles, the supporting-points of the two frames being arranged reversely with respect to each other, and each of said frames being spring-supported at the end having the two transversely-separated points of support and one of said frames having its single pivotal axis carried by the spring-supported end of the other frame, a motor carried by one of said frames, a wheel-driving shaft, and a driving connection between the motor and the wheel-driving shaft held during movement of the motor-carrying frame about its axis of support at right angles to the axles.

18. In a motor-vehicle, the combination, of a pair of axles and their carrying-wheels, springs carried by said axles, one frame carried by two transversely-separated spring-mounted points of support over one of said axles, another frame likewise carried by two transversely spring-mounted points of support over the other of said axles, and a single pivotal support, the axis of which is substantially at right angles to the axles, intermediate each frame and the axle upon which it is not directly spring-mounted, a motor carried by one of said frames, a wheel-driving shaft, and intermediate driving connections between said motor and wheel-driving shaft held during oscillation of the motor-carrying frame.

19. In a motor-vehicle, the combination of a driving-axle structure, a wheel-driving shaft carried thereby, supporting-wheels connected to said shaft, a motor-frame, a pivotal connection between said motor-frame and said driving-axle structure substantially at right angles to said structure, a second axle structure, a spring connection between said second axle structure and the motor-frame, a motor carried by said motor-frame, a main driving-shaft carried by the motor-frame, driving connections between said main driving-shaft and the wheel-driving shaft held during vibration of the motor-frame about its pivotal connection with the driving-axle structure, and a pivotal connection between the said second frame and the motor-frame, the axis of which is substantially at right angles to the axle structure.

20. In a motor-vehicle, the combination of a pair of axles and their supporting-wheels, springs carried by said axles, a motor-frame pivotally supported on the springs of one axle on an axis parallel therewith, a second frame pivotally supported on the springs of the other axle on an axis parallel therewith, a pivotal connection between said second frame and the motor-frame on an axis substantially at right angles to the axles, a wheel-driving shaft, a motor carried by the motor-frame, and driving connections between the motor and wheel-driving shaft held during relative movement of the two frames about their connecting-axis.

21. In a motor-vehicle, the combination of, a pair of axles and their supporting-wheels, springs carried by said axles, a motor-frame pivotally supported on the springs of one axle on an axis parallel therewith, a second frame pivotally supported on the springs of the other axle on an axis parallel therewith, a pivotal connection between said second frame and the motor-frame on an axis substantially at right angles to the axles, a wheel-driving shaft, a motor carried by the motor-frame, and driving connections between the motor and wheel-driving shaft maintainable during relative movement of the two frames about their connecting-axis.

22. In a motor-vehicle, the combination of, a pair of axles and their supporting-wheels, springs carried by said axles, a motor-frame pivotally supported on the springs of the first axle on an axis parallel therewith and pivotally supported on the second axle on an axis at right angles thereto, a second frame pivotally supported on the springs of the second axle on an axis parallel therewith and pivotally supported on the motor-frame on an axis at right angles to the axles, a motor carried by the motor-frame, a wheel-driving shaft carried by the second axle, and driving connections between the motor and wheel-driving shaft held during relative movement of the motor-frame and the second axle about the axis at right angles to the axle.

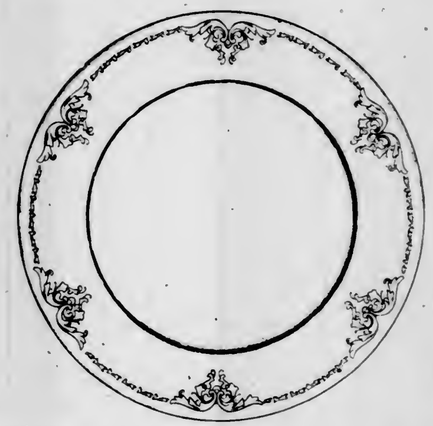
23. In a motor-vehicle, the combination, of a pair of axles and their supporting-wheels, a motor-frame supported in part by one axle, a second frame supported in part by the other axle, a pivotal connection between the two frames forming a support for the second frame substantially at right angles to the axles, a wheel-driving shaft, a motor carried by the motor-frame, and intermediate driving connections between the motor and the wheel-driving shaft held during relative movement between the two frames.

24. In a motor-vehicle, the combination, of a pair of axles and their supporting-wheels, a motor-frame supported in part by one of said axles, a second frame spring-supported by the other axle, a pivotal connection between the two frames forming a support for the second frame substantially at right angles to the axles whereby relative movement between the two frames may be had about said pivotal connection, a motor carried by the motor-frame, a wheel-driving shaft, and intermediate driving connections between the motor and the wheel-driving shaft held during relative movement between the two frames.

25. In a motor-vehicle, the combination, of a pair of axles and their supporting-wheels, a motor-frame supported in part by one of said axles and supported by the other axle on an axis substantially at right angles thereto, a wheel-driving shaft carried by said last-mentioned axle, a second frame supported by said last-mentioned axle, a pivotal connection between the two frames forming a support for the said second frame substantially at right angles to the axles, a motor carried by the motor-frame, and intermediate driving connections between the motor and the wheel-driving shaft held during relative movement between the motor-frame and the axle which carries the wheel-driving shaft.

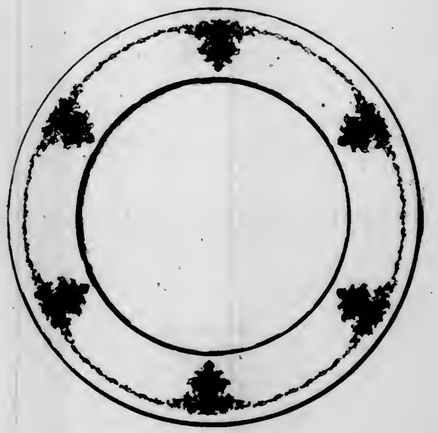
DESIGNS.

38,441. PLATE OR DISH. ELMER E. WALTER, Syracuse, N. Y. Filed Jan. 7, 1907. Serial No. 351,273. Term of patent 7 years.



Claim.—The ornamental design for a plate or dish, as shown.

38,442. PLATE OR DISH. EMIL SCHNEFF, Syracuse, N. Y. Filed Jan 7, 1907. Serial No. 351,274. Term of patent 7 years.



Claim.—The ornamental design for a plate or dish, as shown.

38,443. FONT OF TYPE. ANDREAS GOTTSCHLING, London, England. Filed Dec. 4, 1906. Serial No. 346,353. Term of patent 14 years.



Claim.—The ornamental design for a font of type, as shown.

38,444. ILLUMINATED CHANDELIER-SIGN. LOUIS K. LIGGETT, Brookline, Mass., assignor to National Cigar Stands Company, Jersey City, N. J., a Corporation of New Jersey. Filed Aug. 10, 1906. Serial No. 330,103. Term of patent 14 years.



Claim.—The ornamental design for an illuminated chandelier-sign, as shown.

TRADE-MARKS

PUBLISHED FEBRUARY 12, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 204. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE CROWN CORK AND SEAL CO. OF BALTIMORE CITY, Baltimore, Md. Filed Apr. 3, 1905.

CROWN
CORK

Particular description of goods.—Metallic Bottle-Stopper.

Ser. No. 1,547. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) KING, BRINSMADE MERCANTILE COMPANY, St. Louis, Mo. Filed Apr. 14, 1905. Used ten years.

KING



Particular description of goods.—Ladies' and Children's Felt and Straw Hats.

Ser. No. 2,771. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) ELIZA N. HALL, New York, N. Y. Filed Apr. 24, 1905.



Particular description of goods.—Caustic Potash or Lye.

Ser. No. 4,564. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) THE WASHINGTON SHIRT CO., Chicago, Ill. Filed May 6, 1905.



Particular description of goods.—Men's Overshirts.

Ser. No. 6,406. (CLASS 71. TOBACCO PRODUCTS.) M. W. DIFFLEY, INC., Chicago, Ill. Filed May 23, 1905.



Particular description of goods.—Cigars.

Ser. No. 9,025. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) CARLETON DRY GOODS COMPANY, St. Louis, Mo. Filed June 26, 1905.

Dixie

Particular description of goods.—Hosiery and Knit Gloves.

Ser. No. 9,074. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) GUSTAV B. GEHLERT, Benton Harbor, Mich. Filed June 26, 1905.



Particular description of goods.—Cider.

Ser. No. 9,380. (CLASS 53. SACCHARINE FOODS NOT INCLUDED IN CLASS 47.) THE TOWLE SYRUP COMPANY, St. Paul, Minn. Filed June 29, 1905.



Particular description of goods.—Maple Syrup and Molasses.

Ser. No. 9,381. (CLASS 53. SACCHARINE FOODS NOT INCLUDED IN CLASS 47.) THE TOWLE SYRUP COMPANY, St. Paul, Minn. Filed June 29, 1905.



Particular description of goods.—Syrup.

Ser. No. 9,382. (CLASS 53. SACCHARINE FOODS NOT INCLUDED IN CLASS 47.) THE TOWLE SYRUP COMPANY, St. Paul, Minn. Filed June 29, 1905.



Particular description of goods.—Syrup.

Ser. No. 9,383. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) THE TOWLE SYRUP COMPANY, St. Paul, Minn. Filed June 29, 1905.



Particular description of goods.—Pancake-Flour.

Ser. No. 10,766. (CLASS 8. DETERGENTS.) MEXICAN AMOLE SOAP CO., Peoria, Ill. Filed July 24, 1905. Used ten years.



Particular description of goods.—Soaps.

Ser. No. 10,845. (CLASS 57. DENTAL MACHINES, APPARATUS, AND SUPPLIES.) THE S. S. WHITE DENTAL MFG. CO., Philadelphia, Pa.; Chicago, Ill.; New York, Brooklyn, and Rochester, N. Y.; Boston, Mass.; Atlanta, Ga.; New Orleans, La.; Toronto, Canada; Buenos Ayres, Argentine Republic; Berlin, Germany, and St. Petersburg, Russia. Filed July 26, 1905.

TENAX

Particular description of goods.—Dental Wax.

Ser. No. 10,889. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J. Filed July 27, 1905.

77

Particular description of goods.—Cotton-Seed Oils.

Ser. No. 10,891. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J. Filed July 27, 1905.

88

Particular description of goods.—Cotton-Seed Oils.

Ser. No. 11,202. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Aug. 2, 1905. Used ten years.



Particular description of goods.—A Tonic for the Cure and Alleviation of Fevers and All Malarial Disorders.

Ser. No. 12,001. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) NOAKE-WHEELER-CLOUGH COMPANY, Chicago, Ill. Filed Aug. 25, 1905. Used ten years.

ROCK

Particular description of goods.—Varnishes, Stains, Japans, Surfacers, and Interior and Exterior Finishes.

Ser. No. 12,339. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany. Filed Sept. 7, 1905. Used ten years.

Rodinal

Particular description of goods.—Photographic Developers.

Ser. No. 12,805. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) R. E. BRACKETT & CO., Lansing, Mich. Filed Sept. 20, 1905. Used ten years.

BRACKETHONE

Particular description of goods.—Hones for Razors and other Edged Tools.

Ser. No. 12,861. (CLASS 57. DENTAL MACHINES, APPARATUS, AND SUPPLIES.) THE S. S. WHITE DENTAL MFG. CO., Philadelphia, Pa.; Chicago, Ill.; New York, Brooklyn, and Rochester, N. Y.; Boston, Mass.; Atlanta, Ga.; New Orleans, La.; Toronto, Canada; Buenos Ayres, Argentine Republic; Berlin, Germany, and St. Petersburg, Russia. Filed Sept. 21, 1905. Used ten years.

SPLENDID

Particular description of goods.—Dental Alloys.

Ser. No. 12,905. (CLASS 47. CONFECTIONERY.) WILLIAM H. BATMAN, Topeka, Kans. Filed Sept. 22, 1905.



Particular description of goods.—A Chocolate-Cream Candy.

Ser. No. 13,022. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) GEO. BRAY & CO., LTD., Leeds, England. Filed Sept. 26, 1905.

CETO

Particular description of goods.—Gas-Burners of Ordinary Metal.

Ser. No. 13,023. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) GEO. BRAY & CO., LTD., Leeds, England. Filed Sept. 26, 1905.

BETO

Particular description of goods.—Gas-Burners of Ordinary Metal.

Ser. No. 13,024. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) GEO. BRAY & CO., LTD., Leeds, England. Filed Sept. 26, 1905. Used ten years.

BRAY'S "SPECIAL"

Particular description of goods.—Metal Gas-Burners.

Ser. No. 13,025. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) GEO. BRAY & CO., LTD., Leeds, England. Filed Sept. 26, 1905.

CYKA

Particular description of goods.—Gas-Burners of Ordinary Metal.

Ser. No. 13,026. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) GEO. BRAY & CO., LTD., Leeds, England. Filed Sept. 26, 1905.

VIKA

Particular description of goods.—Gas-Burners of Ordinary Metal.

Ser. No. 13,027. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) GEO. BRAY & CO., LTD., Leeds, England. Filed Sept. 26, 1905.

OTA

Particular description of goods.—Gas-Burners of Ordinary Metal.

Ser. No. 13,322. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WM. H. MULLER, New York, N. Y. Filed Oct. 5, 1905.

BISMARCK

Particular description of goods.—Bitters.

Ser. No. 13,676. (CLASS 43. THREAD AND YARN.) THE CLARK THREAD CO., Newark, N. J. Filed Oct. 17, 1905.

BUFFALO BRAND



Particular description of goods.—Sewing-Cotton or Cotton Thread.

Ser. No. 13,723. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) L. HUET & E. LIGIER, Paris, France. Filed Oct. 18, 1905.

HL

Particular description of goods.—Key-Rings and Key-Chains.

Ser. No. 13,724. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) L. HUET & E. LIGIER, Paris, France. Filed Oct. 18, 1905.

JH

Particular description of goods.—Key-Rings and Key-Chains.

Ser. No. 13,948. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAN VLEET-MANSFIELD DRUG CO., Memphis, Tenn. Filed Oct. 25, 1905.

"LA CREOLE"

Particular description of goods.—A Hair-Restorer.

Ser. No. 14,990. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE GLIDDEN VARNISH COMPANY, Cleveland, Ohio. Filed Nov. 25, 1905.

SKIN-COTE

Particular description of goods.—Varnish.

Ser. No. 15,310. (CLASS 7. CORDAGE NOT INCLUDED IN CLASS 13.) JAMES E. REYNOLDS, East Orange, N. J. Filed Dec. 9, 1905. Used ten years.

EUREKA

Particular description of goods.—Cotton Twine.

Ser. No. 15,557. (CLASS 55. WINES.) OFFLEY, FORRESTER & CO., London, England. Filed Dec. 21, 1905.

OFFLEY F. & C°

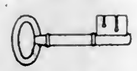
Particular description of goods.—Port-Wine.

Ser. No. 16,321. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) CORONET CORSET COMPANY, Jackson, Mich. Filed Jan. 19, 1906.

FLEXO WALO CROSBY

Particular description of goods.—Corsets, Bustles, and Bust-Forms.

Ser. No. 16,648. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE FRANKLIN ELECTRIC MFG. CO.; Hartford, Conn., and New York, N. Y. Filed Jan. 31, 1906.



Particular description of goods.—Incandescent Electric Lamps.

Ser. No. 17,788. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOHN A. NORDIN, Atlantic City, N. J. Filed Mar. 13, 1906.



Particular description of goods.—Remedy for Seasickness.

Ser. No. 17,815. (CLASS 19. BOATS AND ROAD-VEHICLES.) THE A-Z CO., New York, N. Y. Filed Mar. 14, 1906.



Particular description of goods.—Radiators for Automobiles.

Ser. No. 18,061. (CLASS 47. CONFECTIONERY.) ADVANCE NOVELTY COMPANY, New York, N. Y. Filed Mar. 20, 1906.



Particular description of goods.—All Kinds of Candles.

Ser. No. 18,356. (CLASS 17. WOOD MANUFACTURES NOT OTHERWISE CLASSIFIED.) CHARLES ESTE, Philadelphia, Pa. Filed Mar. 29, 1906.

MOA

Particular description of goods.—Lumber, Manufactured or Otherwise, and Timber in the Rough or Sawed and Planed, or Either.

Ser. No. 18,490. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) KATHAIRO CHEMICAL CO., New York, N. Y. Filed Apr. 4, 1906.

SPARROW

Particular description of goods.—Antiseptics, Disinfectants, Deodorizers, Animal-Poisons, and Insecticides.

Ser. No. 18,635. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) GOLDSCHMIDT THERMIT CO., New York, N. Y. Filed Apr. 9, 1906.



Particular description of goods.—Metal Compounds for Use in the Process of Welding Metals.

Ser. No. 18,761. (CLASS 19. BOATS AND ROAD-VEHICLES.) THE MIAMI CYCLE AND MFG. CO., Middletown, Ohio. Filed Apr. 13, 1906. Used ten years.

RACYCLE

Particular description of goods.—Bicycles, Velocipedes, and Motor-Cycles.

Ser. No. 18,762. (CLASS 19. BOATS AND ROAD-VEHICLES.) THE MIAMI CYCLE AND MFG. CO., Middletown, Ohio. Filed Apr. 13, 1906. Used ten years.

MIAMI

Particular description of goods.—Bicycles, Velocipedes, and Motor-Cycles.

Ser. No. 18,829. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) CHARLES A. SIEGEMUND, Boston, Mass. Filed Apr. 16, 1906. Used ten years.



Particular description of goods.—Tablets or Lozenges for Dyspepsia.

Ser. No. 19,145. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) M. M. FENNER COMPANY, Fredonia, N. Y. Filed Apr. 28, 1906. Used ten years.

DR. FENNER'S PEOPLE'S REMEDIES ARE USED ALL OVER THE WORLD

Particular description of goods.—Remedies for the Relief of Coughs, Colds, Asthma, Croup, and Similar Affections, for Children's Diseases, for the Blood, Liver, and Nerves, for the Kidneys and the Back, Remedies for Internal and External Application for the Relief and Cure of Pain and Inflammation Caused by and Resulting from Bruises, Cuts, Sprains, Colic, Bronchitis, Asthma, and Similar Causes and Affections, and for Dyspepsia.

Ser. No. 19,515. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) SCHUMACHER CEREAL CO., Riverside, Iowa. Filed May 14, 1906.

Scotch Thistle

Particular description of goods.—Rolled Oats.

Ser. No. 20,020. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) DULUTH-SUPERIOR MILLING CO., Duluth, Minn. Filed June 4, 1906.

WONDER

Particular description of goods.—Wheat-Flour.

Ser. No. 20,505. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) BLACK CAT GARTER COMPANY INCORPORATED, Chicago, Ill. Filed June 23, 1906.

Hercules

Particular description of goods.—Hose-Supporters.

Ser. No. 21,070. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) SAUQUOIT SILK MANUFACTURING COMPANY, Philadelphia, Pa. Filed July 21, 1906.

SEREKA

Particular description of goods.—Silk Piece Goods.

Ser. No. 21,094. (CLASS 31. FILTERS AND REFRIGERATORS.) RICHMOND CEDAR WORKS, Richmond, Va. Filed July 23, 1906.

JACK FROST FREEZER

Particular description of goods.—Ice-Cream Freezers.

Ser. No. 21,494. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HENRY SOLOMON WELLCOME, London, England. Filed Aug. 11, 1906.

PEPANA

Particular description of goods.—Medicinal Digestive Preparations.

Ser. No. 21,523. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) PARKER & THOMES CO., Portland, Me. Filed Aug. 13, 1906.

Coronet

Particular description of goods.—Shirt-Waists, Shirt-Waist Suits, and Wrappers.

Ser. No. 21,551. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOHN WYETH AND BROTHER, INCORPORATED, Philadelphia, Pa. Filed Aug. 15, 1906.

PETROGEN

Particular description of goods.—A Vehicle or Carrier in Fluid Form for the Application and Administration of Medicaments.

Ser. No. 21,619. (CLASS 51. MALT LIQUORS.) THE INDIANAPOLIS BREWING COMPANY, Indianapolis, Ind. Filed Aug. 16, 1906.

Tafel

Particular description of goods.—Beer.

Ser. No. 21,631. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) AMERICAN OLIVE COMPANY, Los Angeles, Cal. Filed Aug. 17, 1906.

AMERICAN OLIVE COMPANY

The cross is red on a circular green field surrounded by concentric annular yellow and red bands.

Particular description of goods.—Olives.

Ser. No. 21,789. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FRANZ STOHR, Vienna, Austria-Hungary. Filed Aug. 29, 1906.

Kephaldol

Particular description of goods.—A Powdered Compound for Internal Use as a Remedy for Rheumatism and Kindred Complaints.

Ser. No. 21,890. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) WRIGHT SMITH M'F'G. CO., St. Louis, Mo. Filed Sept. 4, 1906.

MULTUM IN PARVO THUNDER & LIGHTNING RELISH

Particular description of goods.—A Relish Made Out of Cabbage and other Ingredients to be Used as a Relish on Meats and Salads.

Ser. No. 21,929. (CLASS 54. SEA FOODS.) HANNAM & CO., Port Elizabeth, Cape of Good Hope, South Africa. Filed Sept. 5, 1906.

TRIPLE'X

Particular description of goods.—Canned Salmon.

Ser. No. 22,396. (CLASS 47. CONFECTIONERY.) PAUL F. BEICH CO., Bloomington, Ill. Filed Oct. 1, 1906.

Particular description of goods.—Caramels.

Ser. No. 22,750. (CLASS 53. SACCHARINE FOODS NOT INCLUDED IN CLASS 47.) BEACH AND CLARRIDGE COMPANY, Boston, Mass. Filed Oct. 18, 1906.

PINEAPPLE

The seal is red and the border is ornamented with gold scrollwork.

Particular description of goods.—Syrups.

Ser. No. 22,751. ((CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) BEACH AND CLARRIDGE COMPANY, Boston, Mass.—Filed Oct. 18, 1906.

NUT HARLEQUIN

The seal is red and the border is ornamented with gold scrollwork.

Particular description of goods.—Jams.

Ser. No. 22,843. (CLASS 23. HAND-TOOLS NOT OTHERWISE CLASSIFIED.) FRANK W. WHITCHER, Boston, Mass. Filed Oct. 22, 1906.

CRISPIN

Particular description of goods.—Shoe-Pincers and Shoe-Jacks.

Ser. No. 22,847. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) NEUSS, HESSLEIN & CO., New York, N. Y. Filed Oct. 23, 1906.

Particular description of goods.—Saws, Die-Stocks, Screw-Plates, and Pipe-Cutters.

Ser. No. 22,890. (CLASS 7. CORDAGE NOT INCLUDED IN CLASS 13.) STANDARD CORDAGE COMPANY, New York, N. Y. Filed Oct. 24, 1906.

EUREKA CORDAGE — AND — Binder's Twine.

Particular description of goods.—Rope and Binder-Twine Composed of Manila, Sisal, Ramie, Flax, Jute, and Fibers other Than Cotton.

Ser. No. 22,891. (CLASS 61. JEWELRY AND SOLID AND PLATED PRECIOUS-METAL WARE.) CARL ENTENMANN JEWELRY COMPANY, Los Angeles, Cal. Filed Oct. 24, 1906.



Particular description of goods.—Rings, Brooches, and Badges.

Ser. No. 22,968. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) GRIFFIN & SKELLEY CO., San Francisco, Cal. Filed Oct. 29, 1906.



Particular description of goods.—Raisins.

Ser. No. 22,969. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) GRIFFIN & SKELLEY CO., San Francisco, Cal. Filed Oct. 29, 1906.



Particular description of goods.—Raisins.

Ser. No. 23,036. (CLASS 72. MERCHANDISE NOT OTHERWISE CLASSIFIED.) GEORGE W. HERBEIN, Seattle, Wash. Filed Nov. 1, 1906.

GASETS

Particular description of goods.—Artificial Fuel of That Class in Which Peat and Petroleum are Used as the Combustible Bases.

Ser. No. 23,301. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) PILLSBURY-WASHBURN FLOUR MILLS CO. LTD., Minneapolis, Minn. Filed Nov. 13, 1906.



Particular description of goods.—Wheat Breakfast Food.

Ser. No. 23,302. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) PILLSBURY-WASHBURN FLOUR MILLS CO. LTD., Minneapolis, Minn. Filed Nov. 13, 1906.



Particular description of goods.—Wheat Breakfast Food.

Ser. No. 23,306. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) RADWAY & COMPANY, New York, N. Y. Filed Nov. 13, 1906. Used ten years.

Radway's
READY RELIEF

Particular description of goods.—A Remedy for Rheumatism, Neuralgia, Nervous Complaints, Malarious Complaints, and All Bodily Aches and Pains.

Ser. No. 23,502. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) RICE, STIX DRY GOODS COMPANY, St. Louis, Mo. Filed Nov. 20, 1906.

FAMILY
FAVORITE

Particular description of goods.—Cotton Piece Goods.

Ser. No. 23,680. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) AMÉDÉE CASTAING, New York, N. Y. Filed Nov. 30, 1906.

CHLOROZONE

Particular description of goods.—Disinfectants, Deodorizers, and Germicides.

Ser. No. 23,683. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) LOUIS DUSENBURY, New York, N. Y. Filed Nov. 30, 1906.

"IDEAL"

Particular description of goods.—Lap-Robes Used in Carriages, Automobiles, and the Like and Constructed of Wool, Layers of Cloth and Rubber, Rubber, Leather, Imitation Leather, Cotton, Duck, Drill, Worsted, Silk, Combination of Cotton, and Wool, and other Suitable Fabrics.

Ser. No. 23,724. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE HENRY M. RUBEL COMPANY, Cincinnati, Ohio. Filed Dec. 3, 1906.

A
ALARK

Particular description of goods.—Whisky.

Ser. No. 23,725. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE HENRY M. RUBEL COMPANY, Cincinnati, Ohio. Filed Dec. 3, 1906.

WANMORE

Particular description of goods.—Whisky.

Ser. No. 23,726. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE HENRY M. RUBEL COMPANY, Cincinnati, Ohio. Filed Dec. 3, 1906.

"Old Fidelity"

Particular description of goods.—Whisky.

Ser. No. 23,734. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) GEO. P. JONES, St. Louis, Mo. Filed Dec. 3, 1906. Used ten years.

PEERLESS

Particular description of goods.—Lubricating Oils, Engine-Oils, Cylinder-Oil, and Miners' Oil.

Ser. No. 23,742. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) AMERICAN GLUE COMPANY, Boston, Mass. Filed Dec. 3, 1906.

VELVET

Particular description of goods.—Sandpapers, Garnet-Papers, Emery-Papers, and Emery-Cloths.

Ser. No. 23,750. (CLASS 64. MEDICAL AND SURGICAL APPARATUS, APPLIANCES, AND INSTRUMENTS.) WILLIAM READ & SONS, Boston, Mass. Filed Dec. 4, 1906.

Particular description of goods.—Elastic Bandages, Shoulder-Caps, Knee and Elbow Caps, Wristlets, Anklets, Arm-Supporters, Suspensories, Ankle-Supporters, and Wrist-Supporters.

Ser. No. 23,800. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) DENISON COTTON MILL CO., Denison, Tex. Filed Dec. 6, 1906.

GREAT MALLARD

Particular description of goods.—Cotton Duck.

Ser. No. 23,808. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING.) REVERE RUBBER COMPANY, Boston, Mass. Filed Dec. 6, 1906.

SAMSON

Particular description of goods.—Hose and Machinery Packings Composed of Rubber, Rubber Compositions, Metals, or Textile Fabrics, or Combinations Thereof.

Ser. No. 23,824. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) MERRIMACK MANUFACTURING COMPANY, Lowell, Mass. Filed Dec. 6, 1906. Used ten years.

MERRIMACK

Manufacturing Co.

Particular description of goods.—Printed and Dyed Calicoes, Cloth Made from Carded and Combed Cotton Yarns, Printed and Dyed Flannels, Corduroys, Velveteens, and Fustians.

Ser. No. 23,863. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) EDWIN D. SUTTON, Millville, N. J. Filed Dec. 7, 1906.



Particular description of goods.—Roup and Gape Remedy, Liniment, Animal-Regulator, Cough Mixture, and Rheumatism Remedy.

Ser. No. 23,864. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE UNITED STATES HORSE-RADISH COMPANY, Saginaw, Mich. Filed Dec. 7, 1906.



The upper portion of the background being yellow and the lower portion red.

Particular description of goods.—Horse-Radish, Mustard, and Horse-Radish Mustard.

Ser. No. 23,888. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) UNITED BOX BOARD & PAPER COMPANY, New York, N. Y. Filed Dec. 8, 1906.



Particular description of goods.—Cardboards and Box-Boards.

Ser. No. 23,890. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) HAVEMEYER OIL COMPANY, New York, N. Y. Filed Dec. 8, 1906.

HAVOLINE

Particular description of goods.—Oils and Greases for Gas-Engines and Automobiles.

Ser. No. 23,899. (CLASS 68. PUBLICATIONS.) CUPPLES & LEON, New York, N. Y. Filed Dec. 10, 1906.

MOTOR BOYS SERIES

Particular description of goods.—Printed Books of Fiction.

Ser. No. 23,925. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE POMPEIAN MFG. CO., Cleveland, Ohio. Filed Dec. 11, 1906.



Particular description of goods.—Salve, Ointment, and Cream for the Toilet, Toilet Water and Extracts, Cologne, Lotion, Shampoo and Shampooing Preparations, Hair-Tonic and Scalp Preparations, and Bay-Rum.

Ser. No. 23,940. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) THE THOS. MOORE DISTILLING CO., McKeesport, Pa. Filed Dec. 11, 1906.



Particular description of goods.—Whisky.

Ser. No. 23,961. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BRUNO H. GOLL CHEMICAL WORKS, Chicago, Ill. Filed Dec. 12, 1906.

American Beauty CREAM

Particular description of goods.—Toilet Cream, a Preparation for Keeping the Skin Soft and Smooth, for Curing Chapped Hands, Roughness of the Skin, Tan, Sunburn, Freckles, and for the Prevention and Cure of Razor-Pimples.

Ser. No. 23,977. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE F. C. BUSHNELL CO., New Haven, Conn. Filed Dec. 13, 1906.



Particular description of goods.—Olives, Olive-Oil, and Dried and Evaporated Fruits.

Ser. No. 23,979. (CLASS 54. SEA FOODS.) THE F. C. BUSHNELL CO., New Haven, Conn. Filed Dec. 13, 1906.



Particular description of goods.—Canned Salmon.

Ser. No. 23,983. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) AMERICAN HOMINY COMPANY, Indianapolis, Ind. Filed Dec. 13, 1906.



Particular description of goods.—Toasted Corn-Flakes.

Ser. No. 23,984. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) AMERICAN HOMINY COMPANY, Indianapolis, Ind. Filed Dec. 13, 1906.



Particular description of goods.—Toasted Corn-Flakes.

Ser. No. 23,985. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) THE BLUE RIBBON MINING, MILLING, AND INVESTMENT CO., Idaho Springs and Denver, Colo. Filed Dec. 13, 1906.



The ribbon being printed in blue.

Particular description of goods.—Mineral Waters, Ginger-Ale, Root-Beer, Cider, Soda-Pop, Natural Laxative Water, and Aperient Water.

Ser. No. 23,989. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) WILSON FRUIT JUICE CO., Lawton, Mich. Filed Dec. 13, 1906.

Blood of the Grape

Particular description of goods.—Unfermented Grape-Juice.

Ser. No. 24,000. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE KNICKERBOCKER PAINT COMPANY, New York, N. Y. Filed Dec. 13, 1906.

FERROLITE

Particular description of goods.—Mixed Paints.

Ser. No. 24,016. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) THE WHITMAN & BARNES MANUFACTURING COMPANY, Akron, Ohio. Filed Dec. 14, 1906.



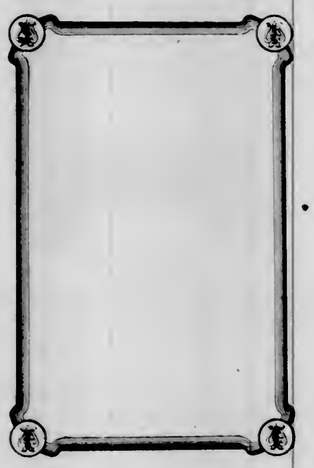
Particular description of goods.—Twist-Drills and Reamers.

Ser. No. 24,017. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) THE WHITMAN & BARNES MANUFACTURING CO., Akron, Ohio. Filed Dec. 14, 1906.



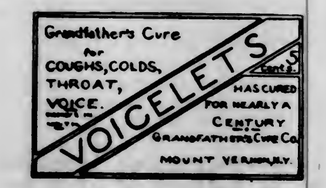
Particular description of goods.—Reamers and Twist-Drills.

Ser No. 24,031. (CLASS 68. PUBLICATIONS.) STEINWAY & SONS, New York, N. Y. Filed Dec. 14, 1906.



Particular description of goods.—Circulars, Pamphlets, and Libretti.

Ser. No. 24,064. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOHN FLETCHER FAIRCHILD, Mount Vernon, N. Y. Filed Dec. 15, 1906.



Particular description of goods.—Tablets or other Form of Medicine or Confection for the Cure of Coughs, Colds, and other Affections of the Voice or Throat.

Ser. No. 24,117. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE ELI LILLY & COMPANY, Indianapolis, Ind. Filed Dec. 18, 1906. Used ten years.

Lilly

Particular description of goods.—Medicinal Fluid Extracts, Tinctures, Solid Extracts, Powdered Extracts, Concentrations, Oleoresins, Alkaloidal Extracts, Elixirs, Sugar-Coated, Chocolate-Coated, Gelatin-Coated Pills and Tablets, Medicinal Lozenges, Capsules, Ointments, Cataplasms, Analgesics, Anodynes, Antiperiodics, Digestives, Hypnotics, Laxatives, Tonics, and Sedatives.

Ser. No. 24,155. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) WEINGARTEN BROS. INC., New York, N. Y. Filed Dec. 19, 1906.

Balenia

Particular description of goods.—Corset-Stiffeners.

Ser. No. 24,170. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MILLIGAN & DONOVAN, Kirkwood, Mo. Filed Dec. 20, 1906.
The word "Katortizo" is in red.



Particular description of goods.—Hair Tonics and Restorers.

Ser. No. 24,171. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) PURITAN CORSET CO., Kalamazoo, Mich. Filed Dec. 20, 1906.

PURITAN

Particular description of goods.—Corsets and Corset-Waists.

Ser. No. 24,177. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) GEORGIA MANUFACTURING COMPANY, Columbus, Ga. Filed Dec. 20, 1906.



The word "Southern," the paraph, and the circle are red.

Particular description of goods.—Cotton Overalls.

Ser. No. 24,200. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) JNO. T. BARBER & CO., Louisville, Ky. Filed Dec. 21, 1906. Used ten years.



Particular description of goods.—Whisky.

Ser. No. 24,217. (CLASS 8. DETERGENTS.) GEORGE C. WILSON, Tyrone, Pa. Filed Dec. 22, 1906.

CLOVINE

Particular description of goods.—Medicated Toilet Soap.

Ser. No. 24,229. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE MARTIN-SENOUR CO., Chicago, Ill. Filed Dec. 22, 1906.

WUD-LAK

Particular description of goods.—Varnish Stains, Priming, and Fillers.

Ser. No. 24,235. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) GEO. W. TAYLOE, Basic City, Va. Filed Dec. 22, 1906.



Particular description of goods.—A Remedy for Disorders of the Nervous and Digestive Systems Produced by the Motion of Passenger-Conveyances.

Ser. No. 24,239. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE PERKINS ELECTRIC SWITCH MFG. CO., Bridgeport, Conn. Filed Dec. 22, 1906.

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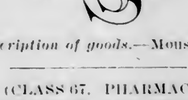
Particular description of goods.—Electrical Switches.

Ser. No. 24,255. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) MONTE VISTA MILLING & ELEVATOR COMPANY, Monte Vista, Colo. Filed Dec. 24, 1906.



Particular description of goods.—Wheat-Flour.

Ser. No. 24,285. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) ENTERPRISE NOVELTY & M. F. G. CO., Knoxville, Ill. Filed Dec. 26, 1906.



Particular description of goods.—Mouse and Rat Traps.

Ser. No. 24,286. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BOOTH'S HYOMEI COMPANY, Buffalo, N. Y. Filed Dec. 26, 1906.

Mi-O-NA

Particular description of goods.—A Preparation for the Cure of Dyspepsia.

Ser. No. 24,314. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) AMERICAN PRINTING CO., Fall River, Mass. Filed Dec. 28, 1906.

TEDDY BEAR

Particular description of goods.—An Indoor Game.

Ser. No. 24,325. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) ALBERT G. MASON, Cleveland, Ohio. Filed Dec. 29, 1906.

COLONIAL

Particular description of goods.—Sewing-Machines, Sewing-Machine Attachments, Sewing-Machine Stands, Tables, and Covers.

Ser. No. 24,326. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) ALBERT G. MASON, Cleveland, Ohio. Filed Dec. 29, 1906.

A HAPPY HOME MAKER

Particular description of goods.—Sewing-Machines, Sewing-Machine Attachments, Sewing-Machine Stands, Tables, and Covers.

Ser. No. 24,016. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) THE WHITMAN & BARNES MANUFACTURING COMPANY, Akron, Ohio. Filed Dec. 14, 1906.



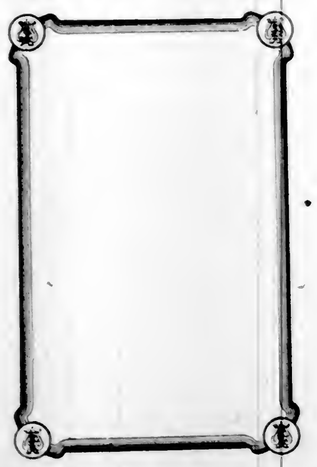
Particular description of goods.—Twist-Drills and Reamers.

Ser. No. 24,017. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) THE WHITMAN & BARNES MANUFACTURING CO., Akron, Ohio. Filed Dec. 14, 1906.



Particular description of goods.—Reamers and Twist-Drills.

Ser No. 24,031. (CLASS 68. PUBLICATIONS.) STEINWAY & SONS, New York, N. Y. Filed Dec. 14, 1906.



Particular description of goods.—Circulars, Pamphlets, and Librettl.

Ser. No. 24,064. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JOHN FLETCHER FAIRCHILD, Mount Vernon, N. Y. Filed Dec. 15, 1906.



Particular description of goods.—Tablets or other Form of Medicine or Confection for the Cure of Coughs, Colds, and other Affections of the Voice or Throat.

Ser. No. 24,117. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE ELI LILLY & COMPANY, Indianapolis, Ind. Filed Dec. 18, 1906. Used ten years.

Lilly

Particular description of goods.—Medicinal Fluid Extracts, Tinctures, Solid Extracts, Powdered Extracts, Concentrations, Oleoresins, Alkaloidal Extracts, Elixirs, Sugar-Coated, Chocolate-Coated, Gelatin-Coated Pills and Tablets, Medicinal Lozenges, Capsules, Ointments, Catnplasms, Analgesics, Anodynes, Antiperiodics, Digestives, Hypnotics, Laxatives, Tonics, and Sedatives.

Ser. No. 24,155. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) WEINGARTEN BROS. INC., New York, N. Y. Filed Dec. 19, 1906.

Balenia

Particular description of goods.—Corset-Stiffeners.

Ser. No. 24,170. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MILLIGAN & DONOVAN, Kirkwood, Mo. Filed Dec. 20, 1906.
The word "Katortizo" is in red.



Particular description of goods.—Hair Tonics and Restorers.

Ser. No. 24,171. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) PURITAN CORSET CO., Kalamazoo, Mich. Filed Dec. 20, 1906.

PURITAN

Particular description of goods.—Corsets and Corset-Waists.

Ser. No. 24,177. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) GEORGIA MANUFACTURING COMPANY, Columbus, Ga. Filed Dec. 20, 1906.



The word "Southern," the paraph, and the circle are red.

Particular description of goods.—Cotton Overalls.

Ser. No. 24,200. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) JNO. T. BARBER & CO., Louisville, Ky. Filed Dec. 21, 1906. Used ten years.



Particular description of goods.—Whisky.

Ser. No. 24,217. (CLASS 8. DETERGENTS.) GEORGE C. WILSON, Tyrone, Pa. Filed Dec. 22, 1906.

CLOVERINE

Particular description of goods.—Medicated Toilet Soap.

Ser. No. 24,229. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) THE MARTIN-SENOUR CO., Chicago, Ill. Filed Dec. 22, 1906.

WUD-LAK

Particular description of goods.—Varnish Stains, Priming, and Fillers.

Ser. No. 24,235. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) GEO. W. TAYLOE, Basic City, Va. Filed Dec. 22, 1906.



Particular description of goods.—A Remedy for Disorders of the Nervous and Digestive Systems Produced by the Motion of Passenger-Conveyances.

Ser. No. 24,239. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE PERKINS ELECTRIC SWITCH MFG. CO., Bridgeport, Conn. Filed Dec. 22, 1906.

P

Particular description of goods.—Electrical Switches.

Ser. No. 24,255. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) MONTE VISTA MILLING & ELEVATOR COMPANY, Monte Vista, Colo. Filed Dec. 24, 1906.



Particular description of goods.—Wheat-Flour.

Ser. No. 24,285. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) ENTERPRISE NOVELTY & M. F. G. Co., Knoxville, Ill. Filed Dec. 26, 1906.



Particular description of goods.—Mouse and Rat Traps.

Ser. No. 24,286. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BOOTH'S HYOMEI COMPANY, Buffalo, N. Y. Filed Dec. 26, 1906.

Mi-O-NA

Particular description of goods.—A Preparation for the Cure of Dyspepsia.

Ser. No. 24,314. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) AMERICAN PRINTING CO., Fall River, Mass. Filed Dec. 28, 1906.

TEDDY BEAR

Particular description of goods.—An Indoor Game.

Ser. No. 24,325. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) ALBERT G. MASON, Cleveland, Ohio. Filed Dec. 29, 1906.

COLONIAL

Particular description of goods.—Sewing-Machines, Sewing-Machine Attachments, Sewing-Machine Stands, Tables, and Covers.

Ser. No. 24,326. (CLASS 28. SEWING-MACHINES AND ATTACHMENTS.) ALBERT G. MASON, Cleveland, Ohio. Filed Dec. 29, 1906.

A HAPPY HOME MAKER

Particular description of goods.—Sewing-Machines, Sewing-Machine Attachments, Sewing-Machine Stands, Tables, and Covers.

Ser. No. 24,358. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) JOHNSON EDUCATOR FOOD CO., Boston, Mass. Filed Dec. 31, 1906.

Toasterettes

Particular description of goods.—Crackers.

Ser. No. 24,360. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) W. S. QUINBY COMPANY, Boston, Mass. Filed Dec. 31, 1906.



Particular description of goods.—Coffee and Tea.

Ser. No. 24,374. (CLASS 9. EXPLOSIVES.) WINCHESTER REPEATING ARMS CO., New Haven, Conn. Filed Dec. 31, 1906.

BRUSH

Particular description of goods.—Loaded Paper Shot-Shells.

Ser. No. 24,379. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) GEORGE S. COLTON, Easthampton, Mass. Filed Jan. 2, 1907.



Particular description of goods.—Elastic Webbing.

Ser. No. 24,383. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) OHIO TOOL COMPANY, Auburn, N. Y., and Columbus, Ohio. Filed Jan. 2, 1907.



Particular description of goods.—Chisels, Auger-Bits, Drawing-Knives, Gouges, Planes, Plane-Irons, Spoke-Shaves, and Scrapers with Cutting Edges.

Ser. No. 24,389. (CLASS 54. SEA FOODS.) WILLIAM T. SHUTE, Gloucester, Mass. Filed Jan. 2, 1907.

FLAKELETS

Particular description of goods.—Salt Fish.

Ser. No. 24,394. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JACOB SCHNEIDER & CO., Chicago, Ill. Filed Jan. 2, 1907. Used ten years.

SCHNEIDER'S
Rheumatic Cure



ROUGH ON CRUTCHES

Particular description of goods.—Medicines for Blood Diseases.

Ser. No. 24,457. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BAUER & BLACK, Chicago, Ill. Filed Jan. 5, 1907.



Particular description of goods.—Corn and Bunion Plasters.

Ser. No. 24,462. (CLASS 10. FERTILIZERS.) CRAVEN CHEMICAL COMPANY, Newbern, N. C. Filed Jan. 5, 1907.



Particular description of goods.—Fertilizers.

Ser. No. 24,468. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) MENDEL, WEINSTOCK & COMPANY, Louisville, Ky. Filed Jan. 5, 1907.



Particular description of goods.—Felt, Fur, Cloth, and Straw Hats and Caps.

Ser. No. 24,493. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) EVA M. HETSEL, Scranton, Pa. Filed Jan. 7, 1907. Used ten years.

CHERRYINE

Particular description of goods.—A Remedy for External Use as a Toilet Rouge for Tinting the Lips, Cheeks, and Finger-Nails and for Chapped or Sore Lips.

Ser. No. 24,499. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE FRED. J. MEYERS MANUFACTURING COMPANY, Hamilton, Ohio. Filed Jan. 7, 1907. Used ten years.

HUNTER'S SIFTER.

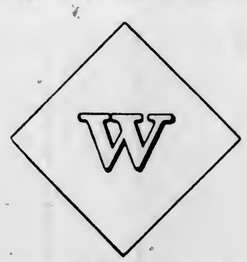
Particular description of goods.—Machine-Sifters.

Ser. No. 24,501. (CLASS 35. BELTING, HOSE, AND MACHINERY PACKING.) REVERE RUBBER COMPANY, Boston, Mass. Filed Jan. 7, 1907.



Particular description of goods.—Hose and Machinery Packings Composed of Rubber, Rubber Compositions, Metals, or Textile Fabrics, or Combinations Thereof.

Ser. No. 24,509. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) COLLINS & COMPANY, New York, N. Y. Filed Jan. 8, 1907. Used ten years.



Particular description of goods.—Cotton Shrunks.

Ser. No. 24,511. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) COLLINS & COMPANY, New York, N. Y. Filed Jan. 8, 1907. Used ten years.

IXL

Particular description of goods.—Cotton Shrunks.

Ser. No. 24,536. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) AUSTIN KIMBALL & CO., New York, N. Y. Filed Jan. 9, 1907.

T.C.K.

Particular description of goods.—Apples.

Ser. No. 24,553. (CLASS 9. EXPLOSIVES.) FRANK H. BRIGGS, Painesville, Ohio. Filed Jan. 10, 1907.

DYNALITE

Particular description of goods.—High Explosives.

Ser. No. 24,558. (CLASS 69. SMOKERS' ARTICLES NOT INCLUDED IN CLASS 71.) ALEXANDER A. KOHÁRY, Pittsburg, Pa. Filed Jan. 10, 1907.



Particular description of goods.—Cigarette-Paper.

Ser. No. 24,565. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) WIEBUSCH & HILGER LIMITED, New York, N. Y. Filed Jan. 10, 1907.

CHALLENGE

Particular description of goods.—Side-Cutting Pliers and Cutting-Nippers and Carpenters' Pincers Provided with a Cutting Edge.

Ser. No. 24,575. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) PHOENIX WOOLEN CO., Stafford, Conn. Filed Jan. 11, 1907. Used ten years.



Particular description of goods.—Woolen Fabrics in the Piece.

Ser. No. 24,594. (CLASS 53. SACCHARINE FOODS NOT INCLUDED IN CLASS 47.) ST. LOUIS SYRUP & PRESERVING COMPANY, St. Louis, Mo. Filed Jan. 12, 1907.

TEMTORS

Particular description of goods.—Table Syrups, Molasses, Sorghum, and Maple-Syrup.

Ser. No. 24,595. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) ST. LOUIS SYRUP & PRESERVING COMPANY, St. Louis, Mo. Filed Jan. 12, 1907.

TEMTORS

Particular description of goods.—Preserves, Jams, Jellies, Marmalades, Fruit-Butter, Mince-Meat, Canned Fruits, Pickles, and Sauces and Catsups.

Ser. No. 24,604. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) MARTIN WEISS, Beaumont, Tex. Filed Jan. 12, 1907.

Walk Easy

Particular description of goods.—Boots and Shoes Made of Leather and Cloth.

Ser. No. 24,605. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) SPRAGUE, WARNER & COMPANY, Chicago, Ill. Filed Jan. 12, 1907.

TOKO

Particular description of goods.—Rice.

Ser. No. 24,617. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) ERNST FICHTENAU, Friedek, Austria. Filed Jan. 14, 1907.

FICHTENIN

Particular description of goods.—Insecticides.

Ser. No. 24,626. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) ROSENBAUM CO., Pittsburg, Pa. Filed Jan. 14, 1907.



Particular description of goods.—Coats, Pants, and Vests for Men, Boys, and Youths.

Ser. No. 24,629. (CLASS 68. PUBLICATIONS.) JEFFERSON P. WEISS, Emporia, Va. Filed Jan. 14, 1907.

VIRGINIA FARMER

Particular description of goods.—A Monthly Newspaper.

Ser. No. 24,634. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) EAGLE ROLLER MILL COMPANY, New Ulm, Minn. Filed Jan. 15, 1907.

EAGLE ROLLER MILL CO.
A FLOUR OF EXCEPTIONAL MERIT
LaViolette
DESIGNED FOR THOSE WHO APPRECIATE QUALITY
NEW ULM, MINN.

Particular description of goods.—Wheat-Flour.

Ser. No. 24,635. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) EAGLE ROLLER MILL COMPANY, New Ulm, Minn. Filed Jan. 15, 1907.

LaViolette

Particular description of goods.—Wheat-Flour.

Ser. No. 24,636. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) EAGLE ROLLER MILL COMPANY, New Ulm, Minn. Filed Jan. 15, 1907.



Particular description of goods.—Wheat-Flour.

Ser. No. 24,653. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) AMERICAN WIRE BRUSH COMPANY, New York, N. Y. Filed Jan. 15, 1907.

MINERVA

Particular description of goods.—Wire Brushes.

Ser. No. 24,661. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) WILLIAM F. NYE, New Bedford, Mass. Filed Jan. 15, 1907.



Particular description of goods.—Oil for Lubricating, Cleaning, and Polishing Purposes and for Preventing Rust.

Ser. No. 24,668. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) GEORGE URBAN MILLING COMPANY, Buffalo, N. Y. Filed Jan. 16, 1907.



Particular description of goods.—Wheat-Flour.

Ser. No. 24,669. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) GEORGE URBAN MILLING COMPANY, Buffalo, N. Y. Filed Jan. 16, 1907.

LOTUS

Particular description of goods.—Wheat-Flour.

Ser. No. 24,670. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) GEORGE URBAN MILLING COMPANY, Buffalo, N. Y. Filed Jan. 16, 1907.

IROQUOIS

Particular description of goods.—Wheat-Flour.

Ser. No. 24,671. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) GEORGE URBAN MILLING COMPANY, Buffalo, N. Y. Filed Jan. 16, 1907.



Particular description of goods.—Wheat-Flour.

Ser. No. 24,677. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) L. HUET AND E. LIGIER, Paris, France. Filed Jan. 16, 1907.

JH

Particular description of goods.—Polished-Steel Buttons for Dresses and Ready-Made Clothes and Buttons for Gloves and Boots.

Ser. No. 24,678. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) L. HUET AND E. LIGIER, Paris, France. Filed Jan. 16, 1907.

HL

Particular description of goods.—Buttons for Dresses and Ready-Made Clothes and Buttons for Gloves and Boots.

Ser. No. 24,712. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) WEIL BROTHERS, New York, N. Y. Filed Jan. 17, 1907.

"X X X"

Particular description of goods.—Veilings Made of Woven Fabric.

Ser. No. 24,713. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) WEIL BROTHERS, New York, N. Y. Filed Jan. 17, 1907.

"MERCEDES"

Particular description of goods.—Veilings Made of Woven Fabric.

Ser. No. 24,723. (CLASS 33. GLASSWARE NOT OTHERWISE CLASSIFIED.) GILL BROTHERS COMPANY, Steubenville, Ohio. Filed Jan. 17, 1907.

Sunbeam

Particular description of goods.—Glass Chimneys, Lantern Globes, and Reflectors.

Ser. No. 24,724. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) WILLIAM READ & SONS, Boston, Mass. Filed Jan. 17, 1907.

Particular description of goods.—Clothing Made of Knitted or Netted Materials Used in Athletic Games and Sports, Comprising All Kinds of Knitted or Netted Clothing Used in Base-Ball, Tennis, Polo, Hockey, Golf-Links, Captive Golf, Foot-Ball, Basket-Ball, Hand-Ball, Push-Ball, Boxing, Fencing, Bowling, Track-Team, Vaulting, and Swimming, Such as Shirts, Sweaters, Jerseys, Tights, Hose, Bathing-Suits, and Bathing-Trunks.

Ser. No. 24,725. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) A. W. TEDCASTLE & CO., Boston, Mass. Filed Jan. 17, 1907.

Peter Pan

Particular description of goods.—Leather Boots and Shoes.

Ser. No. 24,726. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) 35% AUTOMOBILE SUPPLY CO., New York, N. Y. Filed Jan. 17, 1907.

PREST-O-LITE

Particular description of goods.—Acetylene-Gas Generators and Acetylene-Gas Lamps.

Ser. No. 24,732. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) I. L. LAMM CO., Superior, Wis. Filed Jan. 18, 1907.

Superior Club

Particular description of goods.—Gin, Whisky, and Brandy.

Ser. No. 24,733. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) I. L. LAMM CO., Superior, Wis. Filed Jan. 18, 1907.

THE GREAT NORTHERN

Particular description of goods.—Gin, Whisky, and Brandy.

Ser. No. 24,735. (CLASS 8. DETERGENTS.) COLGATE & CO., New York, N. Y. Filed Jan. 18, 1907. Used ten years.

Cashmere Bouquet

Particular description of goods.—Soap.

Ser. No. 24,737. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) MICHAEL LETZELTER, Pittsburg, Pa. Filed Jan. 18, 1907.

Alverton

Particular description of goods.—Whisky.

Ser. No. 24,739. (CLASS 54. SEA FOODS.) CHARLES E. MOODY & CO., Boston, Mass. Filed Jan. 18, 1907. Used ten years.

MATCHLESS

Particular description of goods.—Canned Fish.

Ser. No. 24,741. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) NEW PRAGUE FLOURING MILL COMPANY, New Prague, Minn. Filed Jan. 18, 1907.



Particular description of goods.—Wheat-Flour.

Ser. No. 24,742. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) NEW PRAGUE FLOURING MILL COMPANY, New Prague, Minn. Filed Jan. 18, 1907.

CINDERELLA

Particular description of goods.—Wheat-Flour.

Ser. No. 24,743. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) WELLS FLOUR MILLING COMPANY, Wells, Minn. Filed Jan. 18, 1907.



Particular description of goods.—Wheat-Flour.

Ser. No. 24,744. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) WELLS FLOUR MILLING COMPANY, Wells, Minn. Filed Jan. 18, 1907.

ETHAN ALLEN

Particular description of goods.—Wheat-Flour.

Ser. No. 24,746. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) BLETHENTHAL & BICKART, Atlanta, Ga. Filed Jan. 18, 1907.

HOP SCOTCH

Particular description of goods.—Whisky.

Ser. No. 24,750. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) FRIEDMAN, KELLER & CO., Paducah, Ky. Filed Jan. 18, 1907. Used ten years.

James E. Owen

Particular description of goods.—Whisky.

Ser. No. 24,752. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) JOHN H. LEEK, New York, N. Y. Filed Jan. 18, 1907.

ZIP

Particular description of goods.—Razor-Paste.

Ser. No. 24,755. (CLASS 71. TOBACCO PRODUCTS.) LEO SCHWAGER & CO., Brooklyn, N. Y. Filed Jan. 18, 1907.

LEO. SCHWAGER CO'S BANASTAR

Particular description of goods.—Cigars, Cheroots, and Little Cigars.

Ser. No. 24,757. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) WEST OVERTON DISTILLING CO., Pittsburg, Pa. Filed Jan. 18, 1907.

OLD FARM

Particular description of goods.—Whisky.

Ser. No. 24,765. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) THE UNITED STATES GRAPHITE COMPANY, Saginaw, Mich. Filed Jan. 19, 1907.

U.S.G.Co's.

Particular description of goods.—Graphite Machinery-Lubricant, Graphite Cable-Grease, Graphite Axle-Grease, Graphite Journal and Gear-Grease, Graphite Auto-Lubricant, Graphite Cup-Grease, and Lubricating-Graphite.

Ser. No. 24,774. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) MUTUAL AUTO ACCESSORIES CO. OF AMERICA, New York, N. Y. Filed Jan. 19, 1907.

C. G. V.

Particular description of goods.—Lubricating Oils and Greases.

TRADE-MARKS

REGISTERED FEBRUARY 12, 1907.

60,448. COFFEE AND TEA. C. R. MALTBY CO., Corning, N. Y. Filed July 17, 1905. Serial No. 10,461. PUBLISHED DECEMBER 18, 1906.

60,449. FIBROUS MATERIALS COVERED WITH A PLASTIC COMPOUND. THE CELLULOID COMPANY, New York, N. Y., and Newark, N. J. Filed July 1, 1905. Serial No. 9,555. PUBLISHED DECEMBER 18, 1906.

60,450. MONTHLY MAGAZINE. FRANK H. CHASE, New York, N. Y. Filed November 12, 1906. Serial No. 23,278. PUBLISHED DECEMBER 18, 1906.

60,451. TEA. CRESCENT MANUFACTURING CO., Seattle, Wash. Filed March 20, 1906. Serial No. 18,051. PUBLISHED DECEMBER 18, 1906.

60,452. MONTHLY MAGAZINE. L. DARBYSHIRE, Rochester, N. Y. Filed November 16, 1906. Serial No. 23,412. PUBLISHED DECEMBER 18, 1906.

60,453. MIXED PAINTS, ENAMELS, STAINS, AND VARNISHES. DOLPHIN WHITE LEAD & COLOR WORKS, Toledo, Ohio. Filed April 1, 1905. Serial No. 222. PUBLISHED DECEMBER 18, 1906.

60,454. CHOCOLATES AND BONBONS. F. H. DOW & COMPANY, Boston, Mass. Filed November 10, 1906. Serial No. 23,252. PUBLISHED DECEMBER 18, 1906.

60,455. WHEAT-FARINA, PEARL BARLEY, AND CORN-STARCH. E. R. DURKEE & CO., New York, N. Y. Filed May 2, 1905. Serial No. 3,969. PUBLISHED DECEMBER 18, 1906.

60,456. OLIVE-OIL. HENRI ETIENNE-BOULLE, Marseille, France. Filed April 9, 1906. Serial No. 18,621. PUBLISHED DECEMBER 18, 1906.

60,457. PENS AND PENHOLDERS AND LEAD-PENCILS. EBERHARD FABER, New York, N. Y. Filed November 6, 1906. Serial No. 23,134. PUBLISHED DECEMBER 18, 1906.

60,458. SAUSAGES, HAMS, BACON, SALT PORK, AND LARD. THE JONES DAIRY FARM, Fort Atkinson, Wis. Filed July 6, 1906. Serial No. 20,749. PUBLISHED DECEMBER 18, 1906.

60,459. LEATHER BOOTS, SHOES, AND SLIPPERS. MILTON J. MEYER & CO., New York, N. Y. Filed July 12, 1905. Serial No. 10,187. PUBLISHED NOVEMBER 13, 1906.

60,460. PRETZELS, CAKES, CRACKERS, BISCUITS, AND BREAD. OAKDALE BAKING COMPANY, Philadelphia, Pa. Filed October 5, 1906. Serial No. 22,531. PUBLISHED DECEMBER 18, 1906.

60,461. CHOCOLATE, COCOA, AND CANDY. PURITAN PURE FOOD COMPANY, New York, N. Y. Filed March 23, 1906. Serial No. 18,179. PUBLISHED DECEMBER 18, 1906.

60,462. METAL DRESSINGS AND POLISH. S. M. BIXBY & Co., New York, N. Y. Filed November 10, 1906. Serial No. 23,241. PUBLISHED DECEMBER 18, 1906.

60,463. COFFEE. SHACKLETON, ASPDEN & Co., Buffalo, N. Y. Filed November 17, 1906. Serial No. 23,439. PUBLISHED DECEMBER 18, 1906.

60,464. BREAD, CAKES, BISCUITS, AND CRACKERS. STEWART BREAD CO., Philadelphia, Pa. Filed December 9, 1905. Serial No. 15,303. PUBLISHED DECEMBER 18, 1906.

60,465. WHEAT-FLOUR. F. G. STRITZINGER & CO., Norristown, Pa. Filed April 15, 1905. Serial No. 1,747. PUBLISHED DECEMBER 18, 1906.

60,466. CATALOGUES AND PAMPHLETS. JOHN C. VIRDEN, Montgomery, Ala. Filed October 15, 1906. Serial No. 22,710. PUBLISHED DECEMBER 18, 1906.

60,467. PHOTOGRAPHIC PLATES AND FILMS. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany. Filed September 7, 1905. Serial No. 12,326. PUBLISHED DECEMBER 18, 1906.

60,468. MAGAZINE. AMERICAN CONTRACTOR PUBLISHING COMPANY, Chicago, Ill. Filed November 15, 1906. Serial No. 23,357. PUBLISHED DECEMBER 18, 1906.

60,469. LEAD-PENCILS AND POINT-PROTECTORS. AMERICAN LEAD PENCIL COMPANY, New York, N. Y. Filed June 7, 1906. Serial No. 20,098. PUBLISHED DECEMBER 18, 1906.

60,470. MAGAZINE. ARTHUR CAPPER, Topeka, Kans. Filed November 2, 1906. Serial No. 23,044. PUBLISHED DECEMBER 18, 1906.

60,471. SPICES, PEPPER, AND FLAVORING EXTRACTS. JOSEPH DE WEES, Zanesville, Ohio. Filed April 25, 1906. Serial No. 19,049. PUBLISHED DECEMBER 18, 1906.

60,472. MALT PREPARATION FOR USE IN MAKING BREAD. ERSTE WIENER EXPORT-MALZFABRIK HAUSER & SONOTKA, Stadlau, Vienna, Austria-Hungary. Filed July 24, 1906. Serial No. 21,114. PUBLISHED DECEMBER 18, 1906.

60,473. CANNED LOBSTERS. HENRY L. FORHAN, Portland, Me. Filed October 5, 1906. Serial No. 22,523. PUBLISHED DECEMBER 18, 1906.

60,474. CANNED LOBSTERS. HENRY L. FORHAN, Portland, Me. Filed October 5, 1906. Serial No. 22,524. PUBLISHED DECEMBER 18, 1906.

60,475. CANNED CORN AND SUCCOTASH. HENRY L. FORHAN, Portland, Me. Filed October 8, 1906. Serial No. 22,579. PUBLISHED DECEMBER 18, 1906.

60,476. CANNED FRUITS AND VEGETABLES. HENRY L. FORHAN, Portland, Me. Filed October 8, 1906. Serial No. 22,581. PUBLISHED DECEMBER 18, 1906.

60,477. LEATHER BOOTS AND SHOES. GEO. N. LA BONTE SHOE CO., Boston, Mass. Filed October 29, 1906. Serial No. 22,895. PUBLISHED DECEMBER 18, 1906.

60,478. FLAVORING EXTRACTS. GREEVER-LOTSPEICH MANUFACTURING COMPANY, Knoxville, Tenn. Filed August 16, 1906. Serial No. 21,596. PUBLISHED DECEMBER 18, 1906.

60,479. OATS. THE H-O (HORNBY'S OATMEAL) COMPANY, New York and Buffalo, N. Y.
Filed July 31, 1906. Serial No. 21,376. PUBLISHED DECEMBER 18, 1906.

60,480. OATS. THE H-O (HORNBY'S OATMEAL) COMPANY, New York and Buffalo, N. Y.
Filed July 31, 1906. Serial No. 21,377. PUBLISHED DECEMBER 18, 1906.

60,481. RUBBER BOOTS AND SHOES. HOOD RUBBER CO., Boston, Mass.
Filed May 31, 1906. Serial No. 19,955. PUBLISHED DECEMBER 18, 1906.

60,482. SAUSAGES, HAMS, BACON, SALT PORK, AND LARD. THE JONES DAIRY FARM, Fort Atkinson, Wis.
Filed July 6, 1906. Serial No. 20,752. PUBLISHED DECEMBER 18, 1906.

60,483. TEA. M. & J. B. KELLAM CO., Binghamton, N. Y.
Filed November 15, 1906. Serial No. 23,376. PUBLISHED DECEMBER 18, 1906.

60,484. TEA. M. & J. B. KELLAM CO., Binghamton, N. Y.
Filed November 15, 1906. Serial No. 23,377. PUBLISHED DECEMBER 18, 1906.

60,485. RUBBER BELTING, HOSE, AND PACKING. MERCER RUBBER COMPANY, Trenton, N. J.
Filed July 14, 1906. Serial No. 20,938. PUBLISHED DECEMBER 18, 1906.

60,486. CONDENSED MILK, BUTTER, AND CHEESE. NESTLÉ & ANGLO-SWISS CONDENSED MILK CO., Cham, Switzerland.
Filed July 28, 1906. Serial No. 21,244. PUBLISHED DECEMBER 18, 1906.

60,487. RUBBER HOSE, BELTING, PACKING, AND PRINTING-BLANKETS. MINERALIZED RUBBER CO., New York, N. Y.
Filed May 5, 1905. Serial No. 4,427. PUBLISHED DECEMBER 18, 1906.

60,488. MAGAZINE. PORTER, TAYLOR & CO., Chicago, Ill.
Filed November 15, 1906. Serial No. 23,363. PUBLISHED DECEMBER 18, 1906.

60,489. WHEAT-COFFEE. POTTER & WRIGHTINGTON, Boston, Mass.
Filed September 28, 1906. Serial No. 22,366. PUBLISHED DECEMBER 18, 1906.

60,490. COFFEE. REILY, TAYLOR & CO. LTD., New Orleans, La.
Filed April 27, 1906. Serial No. 19,111. PUBLISHED DECEMBER 18, 1906.

60,491. CLAM PREPARATION. ROSENSTEIN BROTHERS, INC., New York, N. Y.
Filed October 20, 1906. Serial No. 22,799. PUBLISHED DECEMBER 18, 1906.

60,492. PAPER BAGS. SCHORSCH & CO., New York, N. Y.
Filed November 14, 1906. Serial No. 23,332. PUBLISHED DECEMBER 18, 1906.

60,493. PAPER BAGS. SCHORSCH & CO., New York, N. Y.
Filed November 14, 1906. Serial No. 23,333. PUBLISHED DECEMBER 18, 1906.

60,494. PAPER BAGS. SCHORSCH & CO., New York, N. Y.
Filed November 14, 1906. Serial No. 23,334. PUBLISHED DECEMBER 18, 1906.

60,495. FERTILIZERS. THE SCOTT FERTILIZER CO. OF CECIL COUNTY, Elkton, Md.
Filed October 26, 1906. Serial No. 22,928. PUBLISHED DECEMBER 18, 1906.

60,496. CERTAIN ERASERS OR ERASING COMPOSITIONS. ADOLPH SOMMER, Cambridge, Mass.
Filed August 30, 1906. Serial No. 21,818. PUBLISHED DECEMBER 18, 1906.

60,497. AGRICULTURAL JOURNAL. LUTHER TUCKER & SON, Albany, N. Y.
Filed November 15, 1906. Serial No. 23,370. PUBLISHED DECEMBER 18, 1906.

60,498. CANDLES. THE WILL & BAUMER COMPANY, Syracuse, N. Y.
Filed July 7, 1906. Serial No. 20,766. PUBLISHED DECEMBER 18, 1906.

60,499. CANDLES. THE WILL & BAUMER COMPANY, Syracuse, N. Y.
Filed July 7, 1906. Serial No. 20,768. PUBLISHED DECEMBER 18, 1906.

60,500. CANDLES. THE WILL & BAUMER COMPANY, Syracuse, N. Y.
Filed July 7, 1906. Serial No. 20,769. PUBLISHED DECEMBER 18, 1906.

60,501. PREPARED FOODS FOR INFANTS AND INVALIDS. WOOLRICH & CO., Palmer, Mass.
Filed July 13, 1905. Serial No 10,635. PUBLISHED DECEMBER 18 1906.

60,502. COTTON PIECE GOODS. ARNHOLD, KARBERG & CO., New York, N. Y.
Filed September 12, 1906. Serial No. 22,033. PUBLISHED DECEMBER 18, 1906.

60,503. CIGARS. WILLIAM H. BARLOW, Barnesville, Ohio.
Filed November 20, 1906. Serial No. 23,490. PUBLISHED DECEMBER 18, 1906.

60,504. PAINTS AND VARNISHES. BILLINGS, KING & CO., New York, N. Y., and Boston, Mass.
Filed October 10, 1906. Serial No. 22,617. PUBLISHED DECEMBER 18, 1906.

60,505. CARPET-SWEEPERS. BISSELL CARPET SWEEPER CO., Grand Rapids, Mich.
Filed June 8, 1905. Serial No. 7,683. PUBLISHED DECEMBER 18, 1906.

60,506. CARPET-SWEEPERS. BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich.
Filed November 14, 1906. Serial No. 23,326. PUBLISHED DECEMBER 18, 1906.

60,507. CARPET-SWEEPERS. BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich.
Filed November 14, 1906. Serial No. 23,327. PUBLISHED DECEMBER 18, 1906.

60,508. CARPET-SWEEPERS. BISSELL CARPET SWEEPER COMPANY, Grand Rapids, Mich.
Filed November 14, 1906. Serial No. 23,328. PUBLISHED DECEMBER 18, 1906.

60,509. OPEN AND TOP BUGGIES AND SURREYS. BLOUNT CARRIAGE & BUGGY CO., East Point, Ga.
Filed July 27, 1906. Serial No. 21,246. PUBLISHED DECEMBER 18, 1906.

60,510. CIGARETTES AND SMOKING-TOBACCO. CALIXTO LOPEZ & CO., Jersey City, N. J.
Filed October 23, 1906. Serial No. 22,862. PUBLISHED DECEMBER 18, 1906.

60,511. WHISKY. CHARLES DENNEHY & COMPANY, Chicago, Ill.
Filed June 15, 1905. Serial No. 8,235. PUBLISHED FEBRUARY 13, 1906.

60,512. CLOTHES-DRYING MACHINES. CHICAGO DRYER COMPANY, Chicago, Ill.
Filed November 3, 1906. Serial No. 23,079. PUBLISHED DECEMBER 18, 1906.

60,513. MACHINES FOR CUTTING PAPER AND KNIVES THEREFOR. THE CHILD ACME CUTTER & PRESS CO., Boston, Mass.
Filed October 10, 1906. Serial No. 22,626. PUBLISHED DECEMBER 18, 1906.

60,514. CIGARS. CIFUENTES, FERNANDEZ Y CA., Havana, Cuba.
Filed June 24, 1905. Serial No. 8,945. PUBLISHED DECEMBER 18, 1906.

60,515. CIGARS. CIFUENTES, FERNANDEZ Y CA., Havana, Cuba.
Filed June 24, 1905. Serial No. 8,946. PUBLISHED DECEMBER 18, 1906.

60,516. CIGARS. CIFUENTES, FERNANDEZ Y CA., Havana, Cuba.
Filed July 6, 1905. Serial No. 9,841. PUBLISHED DECEMBER 18, 1906.

60,517. SAD-IRONS. THE ENTERPRISE MANUFACTURING CO. OF PENNSYLVANIA, Philadelphia, Pa.
Filed October 22, 1906. Serial No. 22,824. PUBLISHED DECEMBER 18, 1906.

60,518. AUTOMOBILES. FAIRBANKS, MORSE & COMPANY, Chicago, Ill.
Filed September 24, 1906. Serial No. 22,291. PUBLISHED DECEMBER 18, 1906.

60,519. WIRE ROPE. GEORGE CUTTER CO., South Bend, Ind.
Filed September 4, 1906. Serial No. 21,873. PUBLISHED DECEMBER 18, 1906.

60,520. COFFEE IN GRAIN. JOSÉ FERNANDEZ, Huatusco, Vera Cruz, Mexico.
Filed June 23, 1906. Serial No. 20,527. PUBLISHED OCTOBER 16, 1906.

60,521. CLEANING-PASTE. FLASH CHEMICAL COMPANY, Boston, Mass.
Filed November 5, 1906. Serial No. 23,114. PUBLISHED DECEMBER 18, 1906.

60,522. PAINT AND VARNISH BRUSHES. SAMUEL H., FRENCH & CO., Philadelphia, Pa.
Filed November 8, 1906. Serial No. 23,180. PUBLISHED DECEMBER 18, 1906.

60,523. ROSETTES. GENERAL ELECTRIC COMPANY, Schenectady, N. Y.
Filed November 20, 1906. Serial No. 23,492. PUBLISHED DECEMBER 18, 1906.

60,524. PLIERS HAVING CUTTING EDGES. HAMMEL, RIGLANDER & CO., New York, N. Y.
Filed August 8, 1905. Serial No. 11,418. PUBLISHED DECEMBER 18, 1906.

60,525. METAL ALLOY CONSISTING OF NICKEL, MANGANESE, AND COPPER. ISABELLENHÜTTE, G. M. B. H., Dillenburg, Germany.
Filed March 23, 1906. Serial No. 18,167. PUBLISHED DECEMBER 18, 1906.

60,526. ALLOY OF NICKEL, MANGANESE, AND COPPER. ISABELLENHÜTTE G. M. B. H., Dillenburg, Germany.
Filed March 23, 1906. Serial No. 18,168. PUBLISHED DECEMBER 18, 1906.

60,527. CERTAIN SURGICAL DRESSINGS AND APPLIANCES. J. ELLWOOD LEE COMPANY, Conshohocken, Pa.
Filed February 16, 1906. Serial No. 17,070. PUBLISHED DECEMBER 18, 1906.

60,528. CERTAIN SURGICAL DRESSINGS AND APPLIANCES. J. ELLWOOD LEE COMPANY, Conshohocken, Pa.
Filed February 16, 1906. Serial No. 17,071. PUBLISHED DECEMBER 18, 1906.

60,529. CERTAIN SURGICAL DRESSINGS AND APPLIANCES. J. ELLWOOD LEE COMPANY, Conshohocken, Pa.
Filed February 16, 1906. Serial No. 17,072. PUBLISHED DECEMBER 18, 1906.

60,530. CERTAIN SURGICAL DRESSINGS AND APPLIANCES. J. ELLWOOD LEE COMPANY, Conshohocken, Pa.
Filed February 16, 1906. Serial No. 17,073. PUBLISHED DECEMBER 18, 1906.

60,531. WHISKY. JOHN E. CASSIDY & SON, Boston, Mass.
Filed December 14, 1905. Serial No. 15,403. PUBLISHED DECEMBER 18, 1906.

60,532. ARTISTS' BRUSHES. L. & C. HARDTMUTH, Vienna and Budweis, Austria-Hungary, and London, England.
Filed June 14, 1905. Serial No. 8,066. PUBLISHED DECEMBER 18, 1906.

60,533. RADIATOR AIR-VALVES AND DAMPER-CLIPS. L. J. MUELLER FURNACE COMPANY, Milwaukee, Wis.
Filed May 28, 1906. Serial No. 19,926. PUBLISHED DECEMBER 18, 1906.

60,534. SADDLES AND HARNESS. LA GRANGE SADDLERY COMPANY, Lagrange, Tex.
Filed November 3, 1906. Serial No. 23,083. PUBLISHED DECEMBER 18, 1906.

60,535. CERTAIN RAILWAY EQUIPMENT. LATROBE STEEL AND COUPLER COMPANY, Philadelphia, Pa.
Filed September 1, 1906. Serial No. 21,848. PUBLISHED DECEMBER 18, 1906.

60,536. CERTAIN MACHINERY PARTS. LATROBE STEEL AND COUPLER COMPANY, Philadelphia, Pa.
Filed September 1, 1906. Serial No. 21,849. PUBLISHED DECEMBER 18, 1906.

60,537. CIGARS. HENRY B. LOCKWOOD, Philadelphia, Pa.
Filed November 13, 1906. Serial No. 23,315. PUBLISHED DECEMBER 18, 1906.

60,538. LEATHER BOOTS AND SHOES. MENZIES SHOE CO., Detroit, Mich.
Filed July 14, 1906. Serial No. 20,937. PUBLISHED OCTOBER 16, 1906.

60,539. SYRINGES AND ATOMIZERS. MINERALIZED RUBBER CO., New York, N. Y.
Filed December 11, 1905. Serial No. 15,329. PUBLISHED DECEMBER 18, 1906.

60,540. HEATING-STOVES, (FLUID-FUEL BURNING,) AND PARTICULARLY OIL-STOVES. NOVELTY MANUFACTURING COMPANY, Jackson, Mich.
Filed November 7, 1906. Serial No. 23,150. PUBLISHED DECEMBER 18, 1906.

60,541. NECKWEAR-SUPPORTERS. BLUMENKROHN CROCHET BUTTON WORKS, New York, N. Y.
Filed October 31, 1906. Serial No. 23,024. PUBLISHED DECEMBER 18, 1906.

60,542. CERTAIN CLOTHING. DAYTON CLOTHING MFG. CO., Dayton Ohio.
Filed June 27, 1906. Serial No. 20,612. PUBLISHED DECEMBER 18, 1906.

60,543. LAGER-BEER. THE EASTERN BREWING COMPANY, New York, N. Y.
Filed October 8, 1906. Serial No. 22,589. PUBLISHED DECEMBER 18, 1906.

60,544. ELECTRIC FUSES. ELECTRIC DEVICE COMPANY, New York, N. Y., and Masury, Ohio.
Filed April 28, 1906. Serial No. 19,159. PUBLISHED DECEMBER 18, 1906.

60,545. WATCHES AND PARTS THEREOF. ELGIN NATIONAL WATCH COMPANY, Elgin and Chicago, Ill.
Filed April 11, 1905. Serial No. 1,113. PUBLISHED DECEMBER 18, 1906.

60,546. HOSIERY. H. FRANK & SONS, Wheeling, W. Va.
Filed November 15, 1906. Serial No. 23,375. PUBLISHED DECEMBER 18, 1906.

60,547. LEATHER BOOTS AND SHOES. GEO. F. DITTMANN BOOT & SHOE COMPANY, St. Louis, Mo.
Filed August 12, 1905. Serial No. 11,594. PUBLISHED OCTOBER 9, 1906.

60,548. FINE-BRAIDED COTTON ROPE WITH A WEATHERPROOF FINISH. GEORGE CUTTER CO., South Bend, Ind.
Filed September 4, 1906. Serial No. 21,876. PUBLISHED DECEMBER 18, 1906.

60,549. EMBROIDERY-HOOPS. THE GIBBS MANUFACTURING CO., Canton, Ohio.
Filed June 20, 1905. Serial No. 8,585. PUBLISHED DECEMBER 18, 1906.

60,550. EMBROIDERY-HOOPS. THE GIBBS MANUFACTURING CO., Canton, Ohio.
Filed June 20, 1905. Serial No. 8,586. PUBLISHED DECEMBER 18, 1906.

60,551. EMBROIDERY-HOOPS. THE GIBBS MANUFACTURING CO., Canton, Ohio.
Filed June 20, 1905. Serial No. 8,587. PUBLISHED DECEMBER 18, 1906.

60,552. EMBROIDERY-HOOPS. THE GIBBS MANUFACTURING CO., Canton, Ohio.
Filed June 20, 1905. Serial No. 8,588. PUBLISHED DECEMBER 18, 1906.

60,553. TONIC BEVERAGE. SAUL GREENSPON, Bluefield, W. Va.
Filed November 2, 1906. Serial No. 23,047. PUBLISHED DECEMBER 18, 1906.

60,554. LACE CURTAINS. ISABELLE H. HASSALL, Boston, Mass.
Filed April 2, 1906. Serial No. 18,433. PUBLISHED DECEMBER 18, 1906.

60,555. NEGLIGEE SHIRTS AND WORKINGMEN'S OVERSHIRTS. HEYNEMANN & CO., San Francisco, Cal.
Filed September 5, 1906. Serial No. 21,930. PUBLISHED DECEMBER 18, 1906.

60,556. WHISKY. JOHN E. CASSIDY & SON, Boston, Mass.
Filed December 14, 1905. Serial No. 15,401. PUBLISHED DECEMBER 18, 1906.

60,557. RUM. JOHN E. CASSIDY & SON, Boston, Mass.
Filed December 14, 1905. Serial No. 15,402. PUBLISHED DECEMBER 18, 1906.

60,558. CORSET-COVERS AND PETTICOATS. LEUMANN, BOESCH & WEINGART, New York, N. Y.
Filed September 29, 1906. Serial No. 22,387. PUBLISHED DECEMBER 18, 1906.

60,559. DUCK COATS, VESTS, PANTS, AND OVERALLS. M. E. SMITH & CO. INC., Omaha, Nebr.
Filed December 30, 1905. Serial No. 15,778. PUBLISHED DECEMBER 18, 1906.

60,560. SPICES, MUSTARDS, AND FLAVORING EXTRACTS. MCCORMICK & CO., Baltimore, Md.
Filed September 18, 1906. Serial No. 22,167. PUBLISHED DECEMBER 4, 1906.

60,561. CIGARS. O'CONNELL & GRUSS, Chicago, Ill.
Filed November 3, 1906. Serial No. 23,088. PUBLISHED DECEMBER 18, 1906.

60,562. PLASTER FORMED OF WOOD FIBER. THE PITTSBURGH PLATE GLASS COMPANY, Pittsburg, Pa.
Filed July 18, 1906. Serial No. 21,005. PUBLISHED DECEMBER 18, 1906.

60,563. SOLE-LEATHER AND LEATHER SOLES FOR BOOTS AND SHOES. REGAL SHOE COMPANY INC., Boston, Mass.
Filed June 5, 1905. Serial No. 7,407. PUBLISHED DECEMBER 18, 1906.

60,564. CLEANSING COMPOUND AND DRESSING FOR LEATHER, SKIN, AND CANVAS ARTICLES. REGAL SHOE COMPANY INC., Boston, Mass.
Filed June 4, 1906. Serial No. 20,025. PUBLISHED DECEMBER 18, 1906.

60,565. CLEANSING COMPOUND AND DRESSING FOR LEATHER AND SKIN ARTICLES. REGAL SHOE COMPANY INC., Boston, Mass.
Filed June 4, 1906. Serial No. 20,026. PUBLISHED DECEMBER 18, 1906.

60,566. CYLINDER-LOCKS, NIGHT-LATCHES, AND PADLOCKS. RUSSELL & ERWIN MANUFACTURING COMPANY, New Britain, Conn.
Filed November 14, 1906. Serial No. 23,331. PUBLISHED DECEMBER 18, 1906.

60,567. CIGARETTES. JOHN G. SAFFA, St. Louis, Mo.
Filed November 13, 1906. Serial No. 23,322. PUBLISHED DECEMBER 18, 1906.

60,568. WHISKY. SCHUETZ, RENZIEHAUSEN & CO., Pittsburg, Pa.
Filed June 17, 1905. Serial No. 8,445. PUBLISHED DECEMBER 18, 1906.

60,569. INCANDESCENT LAMPS. THE SHELBY ELECTRIC COMPANY, Shelby, Ohio.
Filed November 21, 1906. Serial No. 23,519. PUBLISHED DECEMBER 18, 1906.

60,570. CERTAIN CUTTING AND EDGE TOOLS. SIMMONS HARDWARE CO., St. Louis, Mo.
Filed May 17, 1905. Serial No. 5,902. PUBLISHED DECEMBER 18, 1906.

60,571. ELECTRIC SPARKING APPARATUS AND ELECTRIC IGNITING APPARATUS. SOCIÉTÉ GÉNÉRALE DES HUILES ET FOURNITURES INDUSTRIELLES L'OLÉO, Paris, France.
Filed February 23, 1906. Serial No. 17,253. PUBLISHED DECEMBER 18, 1906.

60,572. STOVES AND RANGES. SOUTHERN STOVE WORKS, BRANCH CONTINENTAL STOVE CO., INCORPORATED, Richmond, Va.
Filed November 15, 1906. Serial No. 23,366. PUBLISHED DECEMBER 18, 1906.

60,573. COATS, OVERCOATS, VESTS, AND TROUSERS. THE STEIN BLOCH CO., Rochester, N. Y.
Filed September 6, 1906. Serial No. 22,017. PUBLISHED DECEMBER 18, 1906.

60,574. WHISKY. STEIN BROTHERS, Chicago, Ill.
Filed May 6, 1905. Serial No. 4,515. PUBLISHED OCTOBER 16, 1906.

60,575. LIGHTNING-RODS COVERED OR PLATED WITH A LAYER OF COPPER. ST. LOUIS LIGHTNING ROD CO., St. Louis, Mo.
Filed September 17, 1906. Serial No. 22,153. PUBLISHED DECEMBER 18, 1906.

60,576. CERTAIN METAL MANUFACTURES. TAYLOR IRON & STEEL CO., High Bridge, N. J.
Filed October 19, 1906. Serial No. 22,778. PUBLISHED DECEMBER 18, 1906.

60,577. TABLE-WATER. GEORGE TRUESDELL, Washington, D. C.
Filed October 4, 1906. Serial No. 22,491. PUBLISHED DECEMBER 18, 1906.

60,578. CERTAIN INSULATION MATERIAL. UNION FIBRE CO., Winona, Minn.
Filed June 15, 1905. Serial No. 8,199. PUBLISHED DECEMBER 18, 1906.

60,579. COTTON-SEED-OIL SOAP. UNION OIL COMPANY, Providence, R. I.
Filed March 20, 1906. Serial No. 18,067. PUBLISHED DECEMBER 18, 1906.

60,580. SEWING-MACHINES, PARTS, AND ATTACHMENTS. WHEELER & WILSON MANUFACTURING COMPANY, Bridgeport, Conn.
Filed October 27, 1906. Serial No. 22,937. PUBLISHED DECEMBER 18, 1906.

60,581. SEWING-MACHINES, PARTS, AND ATTACHMENTS. WHEELER & WILSON MANUFACTURING COMPANY, Bridgeport, Conn.
Filed October 27, 1906. Serial No. 22,938. PUBLISHED DECEMBER 18, 1906.

60,582. ELASTIC-CORD EXERCISING DEVICES. WHITELY EXERCISER COMPANY, New York, N. Y.
Filed September 7, 1906. Serial No. 21,952. PUBLISHED DECEMBER 18, 1906.

60,583. CERTAIN PARTS OF METAL AND WOOD WORKING MACHINES. THE WHITMAN & BARNES MANUFACTURING COMPANY, Akron, Ohio.
Filed July 20, 1906. Serial No. 21,036. PUBLISHED DECEMBER 18, 1906.

60,584. INSTEP OR ARCH SUPPORT. WILLIAM H. WOOD, Cleveland, Ohio.
Filed November 19, 1906. Serial No. 23,475. PUBLISHED DECEMBER 18, 1906.

60,585. WOOL-DYES. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,321. PUBLISHED DECEMBER 18, 1906.

60,586. COAL-TAR DYESTUFFS. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,323. PUBLISHED DECEMBER 18, 1906.

60,587. DYES AND CHEMICAL PREPARATIONS FOR DYEING PURPOSES. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,325. PUBLISHED DECEMBER 18, 1906.

60,588. PHOTOGRAPHIC DEVELOPERS. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,328. PUBLISHED DECEMBER 18, 1906.

60,589. PHOTOGRAPHIC DEVELOPERS. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,330. PUBLISHED DECEMBER 18, 1906.

60,590. PHOTOGRAPHIC DEVELOPERS. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,331. PUBLISHED DECEMBER 18, 1906.

60,591. CERTAIN CHEMICAL SUBSTANCES. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,338. PUBLISHED DECEMBER 18, 1906.

60,592. CERTAIN CHEMICAL SUBSTANCES. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,346. PUBLISHED DECEMBER 18, 1906.

60,593. CERTAIN SOLID AND PLATED METAL WARE. THE AMERICAN SILVER COMPANY, Bristol, Conn.
Filed July 14, 1906. Serial No. 21,100. PUBLISHED DECEMBER 18, 1906.

60,594. CERTAIN MEDICINAL REMEDY. MAX J. BREITENBACH, New York, N. Y.
Filed October 23, 1906. Serial No. 22,853. PUBLISHED DECEMBER 18, 1906.

60,595. CERTAIN MEDICINAL AND TOILET PREPARATIONS. COLGATE & CO., New York, N. Y.
Filed August 20, 1906. Serial No. 21,669. PUBLISHED DECEMBER 18, 1906.

60,596. SIZE FOR COTTON AND OTHER THREADS AND YARNS. ERSTE WIENER EXPORT-MALZFABRIK HAUSER & SOBOTKA, Stadlau, Vienna, Austria-Hungary.
Filed July 24, 1906. Serial No. 21,115. PUBLISHED DECEMBER 18, 1906.

60,597. TONIC. FERRENZYME CAPSULE COMPANY, New York, N. Y.
Filed November 9, 1906. Serial No. 23,195. PUBLISHED DECEMBER 18, 1906.

60,598. CERTAIN MEDICINES. FREDERICK STEARNS & CO., Detroit, Mich.
Filed August 17, 1906. Serial No. 21,643. PUBLISHED DECEMBER 18, 1906.

60,599. LIQUID INSECTICIDE. GERMO MANUFACTURING CO., Sedalia, Mo.
Filed June 14, 1905. Serial No. 8,142. PUBLISHED DECEMBER 18, 1906.

60,600. TOOTH-POWDER. SAMUEL H. GUNDER, Richmond, Va.
Filed July 25, 1906. Serial No. 21,143. PUBLISHED NOVEMBER 6, 1906.

60,601. CAUSTIC POTASH OR LYE. ELIZA N. HALL, New York, N. Y.
Filed April 24, 1905. Serial No. 2,769. PUBLISHED DECEMBER 18, 1906.

60,602. CAUSTIC POTASH OR LYE. ELIZA N. HALL, New York, N. Y.
Filed April 24, 1905. Serial No. 2,773. PUBLISHED JULY 4, 1905.

60,603. PERFUMERY AND COLOGNE. HALL & RUCKEL, New York, N. Y.
Filed November 6, 1906. Serial No. 23,136. PUBLISHED DECEMBER 18, 1906.

60,604. GLUE. HALL & RUCKEL, New York, N. Y.
Filed November 16, 1906. Serial No. 23,392. PUBLISHED DECEMBER 18, 1906.

60,605. MEDICINE FOR CERTAIN NAMED DISEASES. J. C. HUTCHISON, Queen City, Tex.
Filed December 18, 1905. Serial No. 15,904. PUBLISHED DECEMBER 18, 1906.

60,606. PREPARATIONS OF PEPTONIZED BEEF AND BREAD. JOHN WYETH AND BROTHER, INCORPORATED, Philadelphia, Pa.
Filed August 15, 1906. Serial No. 21,559. PUBLISHED DECEMBER 18, 1906.

60,607. CERTAIN CHEMICALS. DR. O. KNÖFLER AND COMPANY, Plotzensee, near Berlin, Prussia.
Filed August 15, 1905. Serial No. 11,672. PUBLISHED DECEMBER 18, 1906.

60,608. MEDICINE FOR CONSTIPATION. CHARLES C. LANGSDORF, New York, N. Y.
Filed July 25, 1906. Serial No. 21,159. PUBLISHED DECEMBER 18, 1906.

60,609. FUMIGANTS. THE MAAS & WALDSTEIN COMPANY, Newark, N. J., and New York, N. Y.
Filed October 17, 1906. Serial No. 22,742. PUBLISHED DECEMBER 18, 1906.

60,610. CERTAIN FASTENING DEVICES. PENN HARDWARE CO., Reading, Pa.
Filed May 19, 1906. Serial No. 19,676. PUBLISHED DECEMBER 18, 1906.

60,611. CERTAIN MEDICINES. POTTER DRUG & CHEMICAL CORPORATION, Portland, Me., and Boston, Mass.
Filed May 21, 1906. Serial No. 19,706. PUBLISHED DECEMBER 18, 1906.

60,612. PILLS. POTTER DRUG & CHEMICAL CORPORATION, Portland, Me., and Boston, Mass.
Filed October 13, 1906. Serial No. 22,672. PUBLISHED DECEMBER 18, 1906.

60,613. ROOT-BEER. S. G. PARKER COMPANY, Boston, Mass.
Filed August 10, 1906. Serial No. 21,471. PUBLISHED DECEMBER 18, 1906.

60,614. LOTION FOR SCALDS AND BURNS. EDMUND W. SHRYER, Collins, Mo.
Filed October 27, 1906. Serial No. 22,951. PUBLISHED DECEMBER 18, 1906.

60,615. PERFUMES, SACHET-POWDERS, FACE-POWDERS, TALCUM-POWDER, AND TOILET WASHES. SMITH KLINE & FRENCH CO., Philadelphia, Pa.
Filed October 22, 1906. Serial No. 22,817. PUBLISHED DECEMBER 18, 1906.

60,616. PERFUMERY AND TOILET AND BATH WASHES. SMITH KLINE & FRENCH CO., Philadelphia, Pa.
Filed October 22, 1906. Serial No. 22,818. PUBLISHED DECEMBER 18, 1906.

60,617. CERTAIN CLOTHING. THE STORK COMPANY, Boston, Mass.
Filed April 8, 1905. Serial No. 780. PUBLISHED DECEMBER 18, 1906.

60,618. PLAYING-CARDS. THE UNITED STATES PLAYING CARD CO., Cincinnati, Ohio.
Filed November 16, 1906. Serial No. 23,424. PUBLISHED DECEMBER 18, 1906.

60,619. REMEDY FOR RHEUMATISM. HOLLIE BASCUM WILSON, Vicksburg, Miss.
Filed August 20, 1906. Serial No. 21,677. PUBLISHED DECEMBER 18, 1906.

60,620. CERTAIN EQUIPMENTS AND GUN IMPLEMENTS. WINCHESTER REPEATING ARMS CO., New Haven, Conn.
Filed July 17, 1906. Serial No. 20,978. PUBLISHED DECEMBER 18, 1906.

60,621. WHISKY. THE WOLCOTT COMPANY, Rochester, N. Y.
Filed August 6, 1906. Serial No. 21,349. PUBLISHED DECEMBER 18, 1906.

60,622. WHISKY. THE WOLCOTT COMPANY, Rochester, N. Y.
Filed August 6, 1906. Serial No. 21,350. PUBLISHED DECEMBER 18, 1906.

60,623. COMPOUND LAXATIVE SALTS. BUBIER LABORATORY COMPANY, Lynn, Mass.
Filed August 1, 1906. Serial No. 21,294. PUBLISHED DECEMBER 18, 1906.

60,624. REMEDIES FOR THE CURE OF THE LIQUOR HABIT. CHARLES W. DE FREEST, Chicago, Ill.
Filed May 7, 1906. Serial No. 19,352. PUBLISHED DECEMBER 18, 1906.

60,625. EXTRACT OR PREPARATION OF THE PANCREAS GLAND. FAIRCHILD BROS. & FOSTER, New York, N. Y.
Filed July 6, 1906. Serial No. 20,758. PUBLISHED DECEMBER 18, 1906.

60,626. REMEDY FOR CONSUMPTION. HEINRICH CARL FEHRLIN, Schaffhausen, Switzerland, assignor to Firm Fabrik Chemischer und Dietätischer Produkte Schaffhausen, Schaffhausen, Switzerland.
Filed March 5, 1906. Serial No. 17,537. PUBLISHED DECEMBER 18, 1906.

60,627. OINTMENT. FREDERICK HENKELMAN, Baltimore, Md.
Filed June 6, 1906. Serial No. 20,084. PUBLISHED DECEMBER 18, 1906.

60,628. ANTISEPTIC SOLUTION. JOHN WYETH AND BROTHER, INCORPORATED, Philadelphia, Pa.
Filed August 15, 1906. Serial No. 21,552. PUBLISHED DECEMBER 18, 1906.

60,629. EMULSION OF MIXED FATS. JOHN WYETH AND BROTHER, INCORPORATED, Philadelphia, Pa.
Filed August 15, 1906. Serial No. 21,555. PUBLISHED DECEMBER 18, 1906.

60,630. ELIXIR OF THE DIGESTIVE FERMENTS. JOHN WYETH AND BROTHER, INCORPORATED, Philadelphia, Pa.
Filed August 15, 1906. Serial No. 21,556. PUBLISHED DECEMBER 18, 1906.

60,631. CANNED, PICKLED, AND PRESERVED FISH. JOHS CONRADSEN A / S., Stavanger, Norway.
Filed April 10, 1906. Serial No. 18,661. PUBLISHED DECEMBER 18, 1906.

60,632. CANNED, PICKLED, AND PRESERVED FISH. JOHS CONRADSEN A / S., Stavanger, Norway.
Filed April 10, 1906. Serial No. 18,662. PUBLISHED DECEMBER 18, 1906.

60,633. CERTAIN TOILET PREPARATIONS. JOSEPH M. LAYAT, St. Louis, Mo.
Filed February 5, 1906. Serial No. 16,748. PUBLISHED DECEMBER 18, 1906.

60,634. SMOOTHING COMPOUNDS FOR IRONS. ABRAHAM LEWIS, Chicago, Ill.: Lazarus Lewis administrator of said Abraham Lewis, deceased.
Filed December 29, 1905. Serial No. 15,751. PUBLISHED NOVEMBER 27, 1906.

LABELS

REGISTERED FEBRUARY 12, 1907.

13,349.—*Title:* "LINCKS'." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed January 23, 1907.

13,350.—*Title:* "HOP BUD." (For Beer.) KLAUSMANN BREWERY BRANCH OF THE ST. LOUIS BREWING ASSOCIATION, St. Louis, Mo. Filed January 21, 1907.

13,351.—*Title:* "LITTLE SWEET HEART PEPSIN GUM." (For Chewing-Gum.) LINWOOD F. JORDAN, Portland, Me. Filed January 5, 1907.

13,352.—*Title:* "LITTLE SWEET HEART PEPSIN GUM." (For Chewing-Gum.) LINWOOD F. JORDAN, Portland, Me. Filed January 5, 1907.

13,353.—*Title:* "GOLD KING." (For Canned Tomatoes.) ZEIGLER BROS. CANNING CO., What Cheer, Iowa. Filed December 20, 1906.

13,354.—*Title:* "PURE FOOD BRAND TOMATOES." (For Canned Tomatoes.) THOMAS ROBERTS & Co., Philadelphia, Pa. Filed January 19, 1907.

13,355.—*Title:* "PURE FOOD BRAND GARDEN GROWN SIFTED PEASE." (For Canned Peas.) THOMAS ROBERTS & Co., Philadelphia, Pa. Filed January 19, 1907.

13,356.—*Title:* "PURE FOOD BRAND EXTRA FANCY CREAM SUGAR CORN." (For Canned Corn.) THOMAS ROBERTS & Co., Philadelphia, Pa. Filed January 19, 1907.

13,357.—*Title:* "OYSTERS." (For Canned Oysters.) A. BOOTH & COMPANY, Chicago, Ill. Filed August 4, 1906.

13,358.—*Title:* "CURZON COMPLEXION CREAM." (For Complexion Cream or Paste.) JOHN W. HOSLER, Chicago, Ill. Filed January 17, 1907.

13,359.—*Title:* "SCHERMAN'S EGG SHAMPOO." (For a Shampoo.) J. SCHERMAN & Co., Chicago, Ill. Filed January 23, 1907.

13,360.—*Title:* "SCHERMAN'S LIQUID SHAMPOO." (For a Liquid Shampoo.) J. SCHERMAN & Co., Chicago, Ill. Filed January 17, 1907.

13,361.—*Title:* "DO-NO SYRUP." (For a Medicine.) LEWIS G. DENTON, Schenectady, N. Y. Filed January 17, 1907.

13,362.—*Title:* "DR. J. O. LAMBERT'S ANTI-CONSUMPTIVE SYRUP." (For a Medicinal Compound.) PAYETTE & AGNEW, Plattsburg, N. Y. Filed December 31, 1906.

13,363.—*Title:* "PINOZONE." (For a Medicinal Preparation.) THE LAKEWOOD PINE CO., Jersey City, N. J. Filed January 15, 1907.

13,364.—*Title:* "MEN'S APPAREL." (For Men's Apparel.) W. C. BOTH, Chicago, Ill. Filed January 19, 1907.

13,365.—*Title:* "THE MATCHLESS MATCH." (For Matches.) JOHN W. HENDERSON, Red Mountain, Colo. Filed November 19, 1906.

PRINTS

REGISTERED FEBRUARY 12, 1907.

1,906.—*Title:* "FASHIONABLE COAT SLEEVES." (For Coat-Sleeves.) ED V. PRICE & COMPANY, Chicago, Ill. Filed January 5, 1907.

1,907.—*Title:* "THE HOUSE OF A THOUSAND TAILORS." (For Men's and Boys' Coats, Vests, and Trousers.) ED V. PRICE & COMPANY, Chicago, Ill. Filed January 21, 1907.

1,908.—*Title:* "THE B. V. D. WAY." (For Undershirts and Drawers.) ERLANGER BROS., New York, N. Y. Filed January 14, 1907.

1,909.—*Title:* "LAPIN'S MAGIC STRAW HAT CLEANER." (For a Straw-Hat Cleaner.) ESSENTIAL CHEMICAL CO. Philadelphia, Pa. Filed January 11, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

CLEMENT *v.* BROWNE *v.* STROUD.

Decided January 10, 1907.

1. INTERFERENCE—MOTION TO TAKE TESTIMONY ON OPERATIVENESS—GOOD FAITH.

It must appear from the showing accompanying a motion to take testimony on the question of operativeness that the moving party is acting in good faith and that the matters alleged in support of the motion are such as to justify the setting of times for taking testimony.

2. SAME—SAME—HEARING ON SUFFICIENCY OF SHOWING—COUNTER AFFIDAVITS.

Motions to take testimony on the question of the operativeness of an opposing party's device will generally be disposed of on the showing made by the moving party, and when the moving party files affidavits in support of his motion the Office will hear the opposing party on the sufficiency of the showing; but counter affidavits should not be admitted.

ON PETITION.

TELEPHONY.

Mr. Edward E. Clement pro se.

Mr. Chas. Neave and *Messrs. Mauro, Cameron, Lewis & Massie* for Browne.

Mr. George L. Cragg and *Messrs. Bacon & Milans* for Stroud.

ALLEN, *Commissioner:*

This is a petition by Stroud that he be given twenty days in which to reply to certain affidavits filed on behalf of Browne in connection with the latter's motion for permission to take testimony relative to the operativeness of the structure disclosed in Stroud's application involved in this interference. It was not apparent from the showing originally made in support of Browne's motion that his reasons for considering Stroud's structure inoperative would not apply to the device disclosed in his own application, as required by the decision rendered in this case on May 21, 1906, (122 O. G., 2688.) Upon appeal from this action of the Examiner of Interferences granting Browne's motion it was held that this requirement could not be dispensed with, and the case was remanded to the Examiner of Interferences for the purpose of permitting Browne to remedy the defect in the showing accompanying his motion. Browne has now filed affidavits for this purpose, and the present petition by Stroud is that a time be assigned for a reply to these affidavits.

It must appear from the showing accompanying motions of the kind under consideration that the moving party is acting in good faith and that the matters alleged in support of the motion are such as to justify the setting of times for taking testimony. No good reason is apparent for permitting the opposing party to file counter affidavits or to make any reply other than by brief or argument. As stated in the decision in *Lowry and Cowley* v. *Spoon*, (124 O. G., 1840,) it was not intended that the question of operativeness should be exhaustively considered on motions for leave to take testimony relative to that question. To permit the opposing party to file counter affidavits would result in a complete trial of the case on *ex parte* affidavits as a condition precedent to the taking of testimony. Such a course of procedure would result in unnecessary expense and delay. The purpose of requiring a preliminary showing is to prevent the expense and delay of taking testimony in those cases where the question of operativeness can be determined from inspection of the applications or patents in interference, and this purpose will be best accomplished by deciding motions of this character on the showing made by the moving party. While counter affidavits should not be considered in the present case, Stroud should be heard upon the sufficiency of the supplemental showing made by Browne. It does not appear that so long a period as twenty days should be required to prepare for the hearing in question. The Examiner of Interferences, however, will assign such date for hearing as in his opinion may be proper.

The petition is granted to the extent indicated.

WEINTRAUB *v.* HEWITT AND ROGERS.

Decided January 11, 1907.

1. TESTIMONY UNDER RULE 130—RIGHT TO MAKE CLAIMS.

The question whether certain elements of the issue are not present in one party's structure, but can only be read into such issue by applying limitations which do not operate in the manner defined in the claims, is one of fact, upon which the opposing party may be permitted to present testimony.

2. SAME—IDENTITY OF INVENTION.

There appears to be no warrant for the taking of testimony relative to the identity of the inventions of the parties to an interference. If the inventions are not identical, it must follow either that one of the parties has no right to make the claims in issue or that the claims are indefinite and ambiguous and do not with sufficient exactness define the invention of either party. This is not a question of priority of invention.

APPEALS on motion.

GAS OR VAPOR ELECTRIC APPARATUS.

Mr. Albert G. Davis for Weintraub.

Mr. Charles A. Terry for Hewitt and Rogers.

ALLEN, *Commissioner:*

This case comes before me on appeal by Weintraub from the decision of the Examiner of Interferences denying his motion for leave to take testimony relative to the identity of the inventions of the parties to this interference and on

appeal by Hewitt and Rogers from the decision of the Examiner of Interferences granting a motion by Weintraub for permission to take testimony for the purpose of showing that Hewitt and Rogers have no right to make the claims corresponding to certain counts of the issue.

An examination of the record in connection with the briefs and arguments of the parties indicates that the motions were correctly disposed of by the Examiner of Interferences.

Counsel for Hewitt and Rogers contends that Weintraub's arguments in connection with his motion to dissolve are inconsistent with his present attitude and that Weintraub is therefore estopped from now alleging that Hewitt and Rogers have no right to make the claims. I am of the opinion that a party should be permitted to contend both that the issue has a different meaning in the different applications and that his opponent has no right to make the claims and that there is therefore nothing in the record to prevent Weintraub from now contending that Hewitt and Rogers have no right to make the claims in issue.

Weintraub contends that certain elements of the issue are not present in Hewitt and Rogers' structure and that the claims can be read upon Hewitt and Rogers' structure only by applying the limitations of the claims to parts of Hewitt and Rogers' structure which do not operate in the manner defined in the claims. This is a question of fact, and Weintraub should be permitted to take testimony relative thereto. Nothing is found in the record, however, to warrant the taking of testimony on the question raised by Weintraub in his motion relative to the identity of the inventions of the parties to the interference. If the inventions of the parties are not identical, it must follow either that one of the parties has no right to make the claims in issue or that the claims are indefinite and ambiguous and do not with sufficient exactness define the invention of either party. The Examiner of Interferences has properly granted Weintraub's motion relative to Hewitt and Rogers' right to make the claims, thus enabling him to present testimony relative to this phase of the question raised by his other motion. The record contains nothing to indicate that the claim as applied to the structure of either or both of the parties is indefinite or ambiguous or that it can be read with different meanings upon the structures of the two parties. The question raised by such a showing, if made, would not be one of priority of invention of the subject-matter defined by the issue, but would amount to a contention that the issue did not properly define an invention made by either of the parties. I am of the opinion that the character of the showing and the nature of the question raised justified the decision of the Examiner of Interferences denying Weintraub's motion for leave to take testimony relative to the identity of the inventions of the adverse parties, for the reason that this motion raises no question not involved in the motion relative to Hewitt and Rogers' right to make the claims in issue, except the question of identity of meaning of the issue when applied to the structures of the respective parties. The decisions of the Examiner of Interferences are affirmed.

EX PARTE FLEMING.

Decided January 19, 1907.

1. PETITION—AMENDMENT UNDER RULE 78.

A petition for the entry of an amendment presented under Rule 78 after the allowance of the application will be denied where the amendment includes claims which the Examiner in his report upon the petition states are not patentable.

2. AMENDMENT UNDER RULE 78—DISCRETION OF EXAMINER.

The entry of claims under Rule 78 is not a matter of right, but a privilege allowed applicants where claims are found allowable by the Examiner upon such consideration of the case as he may deem proper. The Examiner will not be directed to consider the question of patentability of claims presented after his report upon petition.

ON PETITION.

ROLLER-BEARING.

Messrs. Hazard & Harpham and *Messrs. Davis & Davis* for the applicant.

ALLEN, *Commissioner:*

This is a petition for the entry of an amendment presented under Rule 78 after allowance of the application.

The amendment includes claims which the Examiner in his report upon the petition states are not patentable. The Examiner having reported that the claims are not patentable, the petition must be denied. A review of the Examiner's position upon patentability cannot be undertaken upon petition for the entry of claims after allowance.

It is understood that the Examiner has refused to consider a proposed amendment and argument filed after the entry of his report upon the petition and that an order is desired directing consideration of these matters. Entry of claims under Rule 78 is not a matter of right, but a privilege accorded applicants where the claims are found allowable by the Examiner upon such consideration of the case as he may deem proper. He should not be forced to consider the question of patentability upon a petition of this kind. The time for amendment in this case as a matter of right has expired. No hardship or irreparable injury results from the refusal to enter the claims, as the applicant may secure consideration of the same as a matter of right by forfeiture and renewal of his application or by abandoning the same in favor of a continuing application.

The petition is denied.

THE CASEY-SWASEY COMPANY *v.* ROSENFIELD BROTHERS & COMPANY.

Decided October 15, 1906.

1. TRADE-MARK INTERFERENCE—NOT RES ADJUDICATA.

The appellants took no testimony, but contend that the rights of the respective parties are *res adjudicata* by reason of a decision of the appellate court of Kentucky. This decision, however, is not of record in this case. The judgment of the court was neither pleaded nor proved, and no certified copy of the decision has been placed in evidence. A different record from that filed in this proceeding was before the court.

2. SAME—TWO INTERFERING MARKS NOT ENTITLED TO REGISTRATION.

Where appellants do not claim to be the first to adopt and use the mark, but contend that they have as good a right to the mark as their opponent and that the mark should be registered to both parties or refused to both, *Held* that this contention is inconsistent with the provisions of section 7 of the act of February 20, 1905.

ON APPEAL.

TRADE-MARK FOR WHISKY.

Mr. A. L. Jackson for The Casey-Swasey Company.

Mr. A. E. Wallace for Rosenfield Brothers & Company.

MOORE, *Assistant Commissioner:*

This is an appeal from the decision of the Examiner of Interferences awarding priority of adoption and use to The Casey-Swasey Company of the words "Kentucky Comfort" as a trade-mark for whisky.

The Examiner of Interferences held that the testimony in behalf of The Casey-Swasey Company established that

the mark in issue was adopted by The Casey-Swasey Company not later than 1893 and has been in continuous use since its adoption by this firm and its successors and that as this date is prior to any date that can be awarded Rosenfield Brothers & Company The Casey-Swasey Company must prevail. This finding of the Examiner of Interferences is believed to be correct.

The senior party, Rosenfield Brothers & Company, took no testimony and did not contest the interference before the lower tribunal. On the appeal, however, they filed a brief in which they contend that the rights of the respective parties to the proceeding are *res adjudicata* by reason of a decision of the appellate court of Kentucky, which they state is reported in 104 Kentucky Reports, page 616. This decision, however, is not a matter of record in this case. The judgment of the court was neither pleaded nor proved, and no certified copy of this decision has been placed in evidence. A different record from that filed in this proceeding was before the court.

According to appellants' own statement as to the nature of the court's decision, moreover, it does not appear that the decision of the Examiner of Interferences should be reversed. They do not claim to be the first to adopt and use the mark, but they contend that they have as good a right to the mark as The Casey-Swasey Company and that the mark should be registered to both parties or refused to both. They state:

> It is thought by this appellant that the decision of the Kentucky court of appeals holding both parties entitled to use the mark, authorizes the honorable Commissioner of Patents, under section 7, of act of February 20, 1905, to order its registration for both parties so as to enable them to enforce their respective rights as against any one else who may attempt, at any time, to use the mark on the same class of goods, but it is insisted that if registration is refused to one party, it should be refused to both under the same section of law.

Section 7 of the act of February 20, 1905, however, provides for an interference proceeding in case applications are filed for the same or interfering marks, and states:

> The Commissioner * * * may refuse to register both of two interfering marks, or may register the mark, as a trade-mark, for the person first to adopt or use the mark, if otherwise entitled to register the same. * * *

The decision of the Examiner of Interferences is found to be in accord with the evidence of record and is therefore affirmed.

MIEL *v.* YOUNG.

Decided October 29, 1906.

1. INTERFERENCE—RIGHT TO MAKE CLAIM.

A party cannot be deprived of the right to make a claim by reason of the fact that his structure performs some function in addition to what is called for by the claim.

2. SAME—SAME—LIMITATION OF CLAIM BY CONSTRUCTION CONDEMNED.

A claim made by a patentee involved in interference with an applicant which refers broadly to reinforcing means should not be limited by construction to reinforcing means operating in a specified way where there is nothing in the record to show that such a limitation is necessary to render the claim patentable over the prior art, and where it is not clear that the reinforcing means disclosed by the applicant does not operate in the same way as that disclosed by the patentee.

3. SAME—SAME—ONE PARTY A PATENTEE—CONSTRUCTION OF CLAIM.

The fact that one of the parties to an interference has obtained a patent should have no bearing on the interpretation of a claim in issue in determining the right of an applicant to make such claim. If the terms of the claim do not in their ordinary meaning define the invention of the patentee as he wishes to have it defined, he may, as intimated in *Andrews* v. *Wilson*, (123 O. G., 1667,) apply for a reissue.

APPEAL from Examiners-in-Chief.

STONE-SAWS.

Messrs. Bartlett, Brownell & Mitchell for Miel.

Mr. F. G. Dieterich and *Messrs. F. G. Dieterich & Company* for Young.

MOORE, *Assistant Commissioner:*

This is an appeal from the decision of the Examiners-in-Chief reversing the decision of the Examiner of Interferences and awarding priority of invention to Miel.

Miel is a patentee. His application was filed and his patent issued during the pendency of Young's application. Upon the issuance of Miel's patent Young presented in his application a claim corresponding in terms to claim 1 of the patent. This claim, which is the issue of the interference, reads as follows:

> In a stone-saw, the combination of a saw-beam, a series of long bearing-blades carried thereby, and removable means for reinforcing the lower ends of the blades during the initial part of a cutting operation.

Miel filed no preliminary statement, and, being the junior party, an order to show cause why judgment should not be rendered against him was issued. Miel thereupon moved that the interference be dissolved on the ground that there was no interference in fact and that Young had no right to make the claim in issue. The motion was denied on both grounds. Miel appealed to the Commissioner from that part of the Examiner's decision relative to the question of interference in fact; but it was held that there was no reason for the contention that the claims had different meanings in the applications of the respective parties. The Examiner of Interferences thereupon rendered judgment against Miel, and the latter appealed to the Examiners-in-Chief. He based his appeal on the contention that Young had no right to make the claim in issue and that the claim had different meanings in the cases of the respective parties. Before discussing the question at issue between the parties it will be necessary to consider the structure disclosed in their applications.

The invention in issue relates to means for supporting the blades of stone-saws. These saws consist of a number of strips of steel projecting perpendicularly from a saw-beam. The blades in some cases are several feet in length. The sawing is effected by the ends of the blades forcing an abrasive material against the stone. Owing to the great length of the blades they have a tendency to vibrate; but after they have entered the stone they are prevented by the sides of the kerf from vibrating laterally.

To prevent vibration, Miel shows rigid blocks between the blades, the blocks being notched at the ends to receive the edges of the blades. The blocks are suspended from the saw-beam by screw-threaded bars and may be shifted in position by means of nuts on the rods. As the sawing progresses it is necessary either to remove or raise the blocks, as their thickness is greater than the width of the kerf formed by the saw. In his specification Miel says that he may taper the blades, and thus draw the blocks up to the narrower portion of the space between the blades, where they will press upon the edges of the blades and rigidly unite them.

Young unites the blades of his saw by thin strips of metal having hooked ends which pass through apertures in the blades. The apertures are perpendicular to the

faces of the blades with the exception of a slight inclined portion at one end. The hooks on the supporting members correspond in form with the apertures. The outer supporting members of the end blades are threaded and provided with a nut, by means of which all of the supporting members may be put under tension. The supporting-strips are thin and are so arranged that they can enter the kerf formed by the saw.

Miel contends that the supporting member shown by Young is not removable. Upon this point the Examiners-in-Chief state that it is clear that the reinforcing devices of Young—

> are not the readily-removable reinforcing means of the issue, and that they are not intended to be removed after the initial cut has been made by the saw-blades, and furthermore are not, because of the fact that they are riveted in place, adapted to be removed after the initial part of the cutting operation has been completed.

In his specification Young states that the slots in the blades are slightly beveled to receive the upset or rivet-over portion of the inserted strip end. This language has reference to the inclined portion of the aperture in the blade referred to above. From the use of the terms "upset or rivet-over" Miel argues that the connection is a permanent one and that the means for reinforcing the lower ends of the blades are not, as specified in the claim, "removable." Young, however, in his specification states that—

> the blade members are each provided with several of the slots 13 so that as the blades wear down the strip-stays 12 may be moved to the next slot higher.

The drawing of Young's application shows that the strips are not riveted to the blades in the sense in which the term "rivet" is ordinarily used. The ends of the strips are not spread or upset to form a head; but the hooked end of the strip is merely sprung into the correspondingly-shaped slot in the blade. The resiliency of the metal would doubtless be sufficient to permit the springs to be forced into the slots and out again. As no permanent connection or riveting in the ordinary sense of the term is shown and as Young specifically states that the strips can be moved from one position to another, it cannot be held that he has no right to make the claim in issue. The fact that Young's reinforcing device may not be as readily removable as Miel's and that it is not designed to be removed after the initial part of the cutting operation is completed has no bearing upon Young's right to make the claim. This claim merely specifies that the device shall be removable and is in no way limited to the manner or time of such removal. The fact that Young's reinforcing means may be used not only during the initial part of the cutting operation, but throughout the entire operation, does not deprive him of the right to a claim to "means for reinforcing the lower ends of the blades during the initial part of the cutting process." A party cannot be deprived of the right to make a claim by reason of the fact that his structure does not only what the claim calls for, but something else in addition.

The Examiners-in-Chief state in their decision that as the claim was originally made by Miel its meaning must be determined from an examination of his patent. Proceeding upon this theory, they have laid stress upon the fact that Miel's device is intended to be removed after the initial part of the cutting operation is completed. The claim, however, is silent as to whether the reinforcing means shall be removed after the completion of the initial cutting operation, merely specifying that it shall be present at that time. Furthermore, Young, if he so desired, might remove his reinforcing means at this juncture instead of permitting them to enter the kerf formed by the saw.

The Examiners-in-Chief in support of their ruling that Young has no right to make the claim also state that Miel's device is designed to prevent the blades from chattering or wabbling laterally, while Young's structure is for the purpose of enabling the blades of the saw "to stand the strain of their work"—that is, to support the saw longitudinally. There is no limitation to this effect in the claim, which refers broadly to reinforcing means, and there is nothing in the record to show that such a limitation is necessary to render the claim patentable over the prior art. Furthermore, it is not altogether clear that the blades would not be supported laterally by Young's device as fully as by Miel's. This point, however, is not important, as the claim contains no limitation to the manner in which the blades are supported. Under somewhat similar circumstances the following language was used in the case of *Podlesak and Podlesak* v. *McInnerney*, (123 O. G., 1989:)

> No better method of construing claims is perceived than to give them in each case the broadest interpretation which they will support without straining the language in which they are couched. This method would seemingly give more uniform and satisfactory results than are obtained by methods largely in vogue—such, for example, as that of importing limitations from the specification according to the exigencies of the particular situation in which the claim may stand at a given moment.

The fact that Miel is a patentee should have no bearing upon the interpretation of the claim in issue. If the terms of his claim do not in their ordinary and natural meaning define his invention as he wishes to have it defined, he may, as intimated in *Andrews* v. *Nilson*, (123 O. G., 1667,) apply for a reissue. In that case the court said:

> The reasonable presumption is that an inventor intends to protect his invention broadly, and consequently the courts have often said that the scope of a claim should not be restricted beyond the fair and ordinary meaning of the words, save for the purpose of saving it. * * *
>
> The senior party who has a patent may not be heard to ask that his claim be rewritten so that he may prevail in an interference. He would be in somewhat better position had his patent not been issued, or had he surrendered it for reissue.

I am of the opinion that Young has fully disclosed the invention defined by the terms of the interference issue and when those terms are taken in their ordinary and commonly-accepted meaning and that no reason exists for reading into the issue limitations which are not contained therein, but are found only in the specification of Miel's patent.

The decision of the Examiners-in-Chief is reversed.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

IN RE DUNCAN, PRICHARD, AND MACAULEY.

Decided December 4, 1906.

CLAIMS—NEW MATTER—"MOUNTED UPON" CONSTRUED.

A claim for a latch mounted upon a mold-blade section of a type-mold, *Held* to cover matter not within the original disclosure, the words "mounted upon" not being properly descriptive of a part which merely rides in or over another in a slot for the purpose.

Mr. J. B. Church and *Mr. Melville Church* for the appellant.

Mr. Fairfax Bayard for the Commissioner of Patents.

SHEPARD, *J.*:

This is an appeal from a decision of the Commissioner of Patents refusing the thirty-sixth claim for a patent for improvement in type-casting machines. The claim reads as follows:

> 36. In a type-mold such as described, provided with a sectional mold-blade and in combination therewith a latch mounted upon one mold-blade section in position to engage a shoulder on the other section when their casting-faces are in alinement, and an actuating connection coupled with one mold-blade section.

The invention of the application is described by the Examiner in the following words:

> The invention, generally, relates to type-casting machines wherein it is possible to cast full-body type or short or low quads and spaces, and to this end the mold-blade, as disclosed in each application, is divided longitudinally into sections, an upper and a lower section, the upper section resting upon and capable of movement independent of the lower section. When the mold is employed for casting full-body or character type, the two mold-sections are maintained in a fixed relation to each other so that their casting-faces will be in the same plane, but when short or low quads and spaces are required the sections are uncoupled so as to be capable of independent movement, the one to cut off or close the matrix end of the mold, and the other to measure the width of the mold-cavity below or in rear of the cut-off.

By the Examiner's decision, claims 32, 33, 34 and 35, as well as 36, of the appellants' application were rejected. On appeal to the Examiners-in-Chief, he was reversed as to all but No. 36. Their decision was in turn affirmed by the Commissioner. It appears from the record that three had been several interferences in the Patent Office relating to applications for improvements in type-casting machines, to some of which the appellants were parties. One Eschinger, one of the parties to one of the proceedings, it seems, had a claim substantially the same as No. 36. In those proceedings the Examiner refused to dissolve the interference in which Eschinger was a party, on the ground that the original disclosure in the appellants' application did not offer a sufficient basis for the structure as embodied in the issues in interference.

April 21, 1905, by amendment the appellants presented the aforementioned claims, 32 to 36 inclusive. The description in their original application, on which these claims are founded, is the following:

> The cross-pin 12 through which motion is transmitted from slide 2 to the mold-blade, in dimensioning the mold, is utilized for effecting this shifting of the sections one upon the other, to which end said cross-pin is rendered movable in its bearings and caused to act upon the upper section 10, to advance and retract it as desired. In the present embodiment the cross-pin 12 is longitudinally movable and is formed in cross-section with a straight section 13 riding in a slot 14 in the lower mold-blade section 11, and a flanged or cam section 15 riding in a slot 16 in the upper section 10.

The settled limitation upon the amendment of applications in respect of claims is, that there must be a basis for them in the description and specifications of the application as originally filed. (*In re Dilg*, 115 O. G., 1067; 25 App. D. C., 9, 10.) The burden is upon the appellants, therefore, to show that this claim 36, which is the only one now in issue, was within the description aforesaid. There was a difference between the decision of the Examiners-in-Chief and the Commissioner as regards the latch mechanism in the mold-board section. He sustained their decision denying the claim, however, making the following statement:

> I am not convinced, however, that the latch may be considered as being "mounted upon one mold-blade section," as stated in this claim. The latch or cross-pin is described by applicants as "* * * movable in its bearings and caused to act upon the upper section 10, to advance and retract it as desired. In the present embodiment the cross-pin 12 is longitudinally movable and is formed in cross-section with a straight section 13 riding in a slot 14 in the lower mold-blade section 11."
>
> It seems clear from applicants' disclosure that the bearings for the latch are formed in the arms of the slide 2 and the straight section 13 of the latch merely rides in the slot in the mold-blade. Manifestly, the latch is "mounted upon" the slide and not on the mold-blade, as required by this claim.

The ambiguity in the description in the application as applied to this particular mechanism, is apparently due to the fact that this claim was not in mind when the application was prepared, and has been suggested by the claim of a conflicting application. Without going into the question at length, we think it sufficient to say that we are satisfied with the statement which has been quoted above from the Commissioner's decision. The expression "mounted upon" seems to have an ordinary meaning in machine construction. The thing mounted upon another must be borne or supported by it. Mere riding in or over another in a slot for the purpose, although operating in connection therewith, is not equivalent to being mounted thereon.

Finding no error in the decision rejecting claim 36, it will be affirmed. It is ordered that the clerk certify this decision to the Commissioner of Patents, as required by law. Affirmed.

Court of Appeals of the District of Columbia.

IN RE VOLKMANN AND TRUAX.

Decided December 4, 1906.

PATENTABILITY—NON-INVENTION—CARRYING FORWARD AN OLD IDEA.

Where the prior art disclosed a train of gearing positively connecting the hour, minute, and second hands of a time mechanism, whereby the rotation of one would cause the proper relative movement of the others, and it also disclosed a winding and setting mechanism controlling the proper relative rotation of the minute and hour hands, it did not amount to invention to insert an additional gear and pinion in the latter mechanism to secure the proper position of the second-hand with relation to the minute and hour hands upon operation of the setting mechanism.

Mr. Perry B. Turpin for the appellant.

Mr. Fairfax Bayard for the Commissioner of Patents.

McCOMAS, *J.*:

This is an appeal from the decision of the Commissioner of Patents refusing to issue a patent to the appellants upon certain alleged improvements in timepieces. The appellants' specification states that the alleged invention relates to watches, clocks and like timepieces and its object is to provide certain new and useful improvements in timepieces whereby the second-hand can be set from the stem and at any point desired and the second-hand agrees at all times with the minute-hand. The appellants have set forth so much of the structure shown and described as in their view constitutes their alleged invention, in seven claims. Each of the three tribunals of the Patent Office have rejected the claims, deciding that none of them involve patentable invention in view of the state of the art. The seven claims are as follows:

> 1. In a stem-setting timepiece, the combination of a gear-wheel forming a part of a dial-train, a minute-hand arbor, a pinion secured on said arbor and meshing with the gear-wheel of the dial-train, an arbor, a pinion loose on the arbor and carrying a gear-wheel, a second pinion on the arbor and carrying a second-hand, an intermediate gear meshing with the first-named pinion of the said arbor and the pinion of the minute-hand arbor, and a loosely-mounted pinion meshing with the gear-wheel carried by the pinion on the second arbor and carrying a gear-wheel meshing with the second-hand pinion.
>
> 2. In a steam-setting timepiece, the combination of a gear-wheel carrying a pinion and forming a part of a dial-train, a minute-hand arbor, a pinion secured to the arbor and meshing with the gear-wheel of the dial-train, an hour-hand gear-wheel loose on the minute-hand arbor and meshing with the pinion carried by the gear-wheel of the dial-train, a second arbor, a pinion loose on the arbor and carrying a gear-wheel, a second-hand pinion also on the said second arbor, an intermediate gear between the pinion of the minute-hand arbor and the pinion of the second arbor carrying the gear-wheel, and a loose pinion meshing with the gear-wheel of the second arbor and carrying a gear-wheel meshing with the second-hand pinion.
>
> 3. In a stem-setting timepiece, the combination of the minute-hand arbor, a pinion secured thereto, a gear-wheel loose on the arbor, a gear-wheel meshing with the pinion of the said arbor and forming part of a dial-train, said gear-wheel being provided with a pinion meshing with the gear-wheel of the arbor, a setting mechanism for the said gear-wheel, a pinion carrying a second-hand, and gearing between the said pinion and the pinion on the minute-hand arbor.
>
> 4. In a stem-setting timepiece, the combination of a gear-wheel forming a part of a dial-train, a setting mechanism for the said gear-wheel, a minute-hand arbor, a pinion secured on said arbor and meshing with the gear-wheel of the dial-train, an arbor, a pin-

ion loose on the arbor and carrying a gear-wheel, a second pinion on the arbor and carrying a second-hand, an intermediate gear meshing with the first-named pinion of the said arbor and the pinion of the minute-hand arbor, and a loosely-mounted pinion meshing with the gear-wheel carried by the pinion on the second arbor and carrying a gear-wheel meshing with the second-hand pinion.

5. In a stem-setting timepiece, the combination of a gear-wheel carrying a pinion and forming a part of a dial-train, a setting mechanism for the said gear-wheel, a minute-hand arbor, a pinion secured to the arbor and meshing with the gear-wheel of the dial-train, an hour-hand gear-wheel loose on the minute-hand arbor and meshing with the pinion carried by the gear-wheel of the dial-train, a second arbor, a pinion loose on the arbor and carrying a gear-wheel, a second-hand pinion also on the said second arbor, an intermediate gear between the pinion of the minute-hand arbor and the pinion of the second arbor carrying the gear-wheel, and a loose pinion meshing with the gear-wheel of the second arbor and carrying a gear-wheel meshing with the second-hand pinion.

6. In a stem-setting timepiece, the combination of a setting mechanism including a pinion, a gear-wheel forming a part of a dial-train and with which the pinion of the setting mechanism is adapted to mesh, a pinion carried by the gear-wheel, a minute-hand arbor, a pinion secured to the arbor and meshing with the gear-wheel of the dial-train, an hour-hand gear-wheel loose on the minute-hand arbor and meshing with the pinion carried by the gear-wheel of the dial-train, a second arbor, a pinion loose on the arbor and carrying a gear-wheel, a second-hand pinion also on the said second arbor, an intermediate gear between the pinion of the minute-hand arbor and the pinion of the second arbor carrying the gear-wheel, and a loose pinion meshing with the gear-wheel of the second arbor and carrying a gear-wheel meshing with the second-hand pinion.

7. In a stem-setting timepiece, the combination of a setting mechanism including a pinion, and a train of gearing forming a part of a dial-train for operating the minute, hour, and second hands and with the first wheel of which the pinion of the setting mechanism is adapted to mesh, whereby provision is made for causing the second-hand to move at all times in unison with the minute-hand, whether the watch is running or is being set.

Upon this appeal, appellants do not appear to insist upon claims 3 and 7. Concerning claim 7, the Examiners-in-Chief remark that there is no invention in adding a setting mechanism such as shown in the patent to Thommen to the clock mechanism shown in Crook's patent. And the mechanism covered by claim 3 except for the setting mechanism is shown in the Crook patent and it does not appear inventive to apply a setting mechanism to Crook's device.

Four patents were cited as references and the patent of Crook appeared to all the tribunals to be an anticipation of the mechanism defined in appellants' claims for Crook's patent discloses the positive gear connection between the minute-hand and the second-hand.

Now the Crook patent for an electric clock, shows a clock in which the minute, hour and second hands are so connected by a system of gears and pinions, substantially the same system as that of the appellants, as to cause each of the three hands to rotate at the proper speed relatively. To set any one of the hands of the clock is to set each of the other hands. The Thommen patent shows a watch with a stem setting and winding mechanism, for the minute and hour hands substantially the same as that of the appellants. In the case before us, claim 1 covers the train of gearing connecting the second and minute hands, and claim 2 covers the gearing connecting the minute-hand with the hour-hand. By inserting an additional gear and pinion wheel in a train of such wheels arranged to transmit motion the appellant has not achieved invention, and the Commissioner believes that the appellants' device possesses no particular advantage over that of Crook. The remaining claims include in addition to the mechanism covered by claims 3 and 7 the intermediate gear and the pinion and gear wheel as a part of the train of gearing. While the specific detail of the train of gears connecting the pinion of the minute-hand with the second-hand does not appear in the reference cited, the Patent Office tribunals are unanimous in the opinion that it required no more than the skill of a mechanic familiar with clock and watch making to provide the needed pinions and gears of proper size and the necessary number of teeth, arranged in relation to each other, so as to include the mechanism within the desired dimensions. The appellants' application is not limited and may be applied to a clock or to a watch. The opinions cited by appellants' counsel state legal propositions to which we may give our assent. None of them, however, remove the chief difficulty, which is that the particular claims before us fail to disclose invention when compared with the state of the art disclosed by the patents of Crook and Thommen.

The decision of the Commissioner of Patents is hereby affirmed and this opinion will be certified to the Commissioner of Patents in accordance with law.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 18, 1907.

F. G. Whitney & Company, their assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of E. M. Weinberg & Company, of 134 Mott street, borough of Manhattan, New York, N. Y., for registration of a trade-mark and a trade-mark registered to F. G. Whitney & Company, of Attleboro, Mass., and the notice of said declaration mailed by the Patent Office in the usual manner to the said F. G. Whitney & Company having been returned undelivered, notice is hereby given to the said F. G. Whitney & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notice of declaration heretofore sent by and returned to the Office may be forwarded to them.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 9, 1907.

Charles B. Hull, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of The J. F. Zahm Tobacco Company, of Toledo, Ohio, for registration of a trade-mark, and a trade-mark registered to the said company, and also a trade-mark registered to Charles B. Hull, of Detroit, Mich. It has been impossible to locate said Hull, and his attorney of record is no longer in business.

Notice is therefore hereby given to the said Charles B. Hull, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 2, 1907.

Lyman F. Palmer and H. H. Wetherbee & Company, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Crescent Manufacturing Company, of Seattle, Wash., for registration of a trade-mark, a trade-mark registered to Lyman F. Palmer, of Topeka, Kans., and a trade-mark registered to H. H. Wetherbee & Company, of Boston, Mass. The notices of declaration mailed by the Patent Office in the usual manner to the said Lyman F. Palmer and H. H. Wetherbee & Company have been returned by the Post-Office Department undelivered, and it appears of record in the interference that both of said parties are probably out of business.

Notice is therefore hereby given to the said Lyman F. Palmer and to H. H. Wetherbee & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 2, 1907.

Charles A. Raymond, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for registration of a trade-mark filed by the Bay State Shoe & Leather Company, of Worcester, Mass., a registered trade-mark to the same company, and a trade-mark registered to Charles A. Raymond, of Boston, Mass., and New York, N. Y. The notice of declaration of said interference mailed by the Patent Office in the usual manner to the said Charles A. Raymond, 195 Congress street, Boston, Mass., has been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said Charles A. Raymond, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

THE
OFFICIAL GAZETTE
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United States Patent Office.

[BY AUTHORITY OF CONGRESS.]

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Designs	20	No. 38,445	to No. 38,464	inclusive.
Trade-Marks	218	No. 60,635	to No. 60,852	inclusive.
Labels	9	No. 13,366	to No. 13,374	inclusive.
Prints	1	No. 1,910.		
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Total issue	982			

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	3	.....	New Hampshire	6	1
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Idaho	2	.....	Rhode Island	5	.....
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Indiana	15	4	Tennessee	3	2
Iowa	8	4	Texas	6	2
Kansas	7	5	Utah	1	1
Kentucky	8	2	Vermont	1	.....
Louisiana	6	.....	Virginia	6	2
Maine	6	2	Washington	4	2
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Massachusetts	33	21	Wisconsin	20	7
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Montana	1	.....	Total to citizens of the United States	680	212
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TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Natal	.....	.....
Austria-Hungary	6	.....	Netherlands	.....	.....
Belgium	2	.....	Newfoundland	.....	.....
Brazil	.....	.....	New South Wales	.....	.....
British West Indies	.....	.....	New Zealand	.....	.....
Canada	11	.....	Norway	.....	.....
Cape Colony	.....	.....	Persia	.....	.....
Chile	.....	.....	Queensland	.....	.....
China	.....	.....	Roumania	.....	.....
Costa Rica	.....	.....	Russia	2	.....
Cuba	.....	2	Scotland	1	1
Denmark	.....	.....	South Australia	.....	.....
Ecuador	.....	.....	Spain	.....	.....
England	10	4	Sweden	1	.....
France	11	.....	Switzerland	2	1
Germany	18	8	Transvaal, South Africa	1	.....
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Italy	3	.....	Total to citizens of foreign countries	71	16
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Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., February 2, 1907.

James M. McClavé, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for patent filed by Walter G. Swart, of Denver, Colo., and an application for patent filed by James M. McClave, of the same place. It appears from the record of the interference that the said James M. McClave has removed from his known address, No. 1034 Broadway, Denver, Colo., and his present whereabouts is unknown. Notice is therefore hereby given to the said James M. McClave, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 22, 1907.

Francis Sedziak, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for patent filed by Joseph M. Bosenbury, of Decatur, Ill., and an application for patent filed by Francis Sedziak, of St. Louis, Mo. It appears from the record of the case that the present address of the said Francis Sedziak is unknown, and it has been impossible to notify him of the interference.

Notice is therefore hereby given to the said Francis Sedziak, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business February 12, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Feb. 8	Feb. 8	46
321	I. Tillage, etc., Fences, and Railway Draft Appliances.	Feb. 2	Jan. 18	145
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Feb. 1	Jan. 21	145
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Jan. 31	Jan. 25	204
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Jan. 31	Jan. 14	142
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Jan. 31	Jan. 12	96
109	XVI. Telegraphy and Telephony..	Jan. 30	Jan. 18	126
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	Jan. 30	Jan. 17	89
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Pneumatics, Presses, Store-Service, Tobacco, etc.	Jan. 30	Jan. 16	149
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Jan. 29	Jan. 14	205
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Jan. 28	Jan. 16	341
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Jan. 28	Jan. 15	202
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Jan. 28	Jan. 15	318
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Jan. 28	Jan. 11	232
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Jan. 25	Jan. 21	206
327	XVIII. Steam-Engineering, etc ...	Jan. 25	Jan. 15	146
167	V. Bookbinding, Harvesters, Jewelry, and Music.	Jan. 24	Jan. 16	250
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Jan. 24	Jan. 10	186
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Jan. 24	Jan. 9	230
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Jan. 22	Jan. 16	295
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Jan. 22	Jan. 14	192
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Jan. 22	Jan. 11	228
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Jan. 22	Jan. 2	206
122	XIX. Heating and Cooking Stoves, Liquid and Gaseous Fuel, Stoves and Furnaces, and Furnaces.	Jan. 19	Jan. 15	321
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Jan. 19	Jan. 15	274
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Jan. 19	Jan. 14	222
142	IX. Air and Gas Pumps, Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	Jan. 17	Jan. 18	374
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Jan. 17	Jan. 16	409
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330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making, etc.	Jan. 16	Jan. 16	279
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307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	Jan. 15	Jan. 8	152
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Jan. 14	Jan. 7	383
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343	XXXIX. Cushion and Pneumatic Tires, Fine Arts, and Water Distribution.	Jan. 12	Jan. 14	566
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Jan. 10	Jan. 12	313
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	Jan. 9	Jan. 12	248
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	Jan. 5	Dec. 20	295
175	III. Annealing and Tempering, Coating with Metal, Electro-chemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Jan. 3	Jan. 5	294

Total number of applications awaiting action 9,494

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
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	Labels and Prints	.....	.....	....

Interference Notice.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 9, 1907.

Charles B. Hull, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of The J. F. Zahm Tobacco Company, of Toledo, Ohio, for registration of a trade-mark, and a trade-mark registered to the said company, and also a trade-mark registered to Charles B. Hull, of Detroit, Mich. It has been impossible to locate said Hull, and his attorney of record is no longer in business.

Notice is therefore hereby given to the said Charles B. Hull, his assigns or legal representatives that if they or any of them desire to contest the said interference, they should immediately put themselves in communication with the Commissioner of Patents.

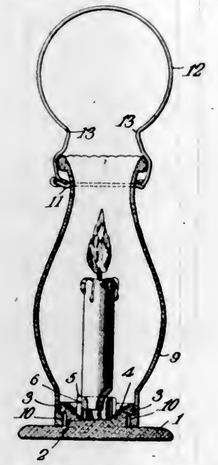
This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

PATENTS

GRANTED FEBRUARY 19, 1907.

844,311. LAMP. LEONARD W. ANDERSON, Rockymount, Va. Filed Oct. 23, 1906. Serial No. 340,196.



Claim.—1. A lamp comprising a base, a candle-receiving socket integral with the base, a retaining-flange integral with the base and having an inclined face, a chimney, and means integral with the chimney for extending between the flange and base and bearing upon the inclined face to clamp the chimney upon the base.

2. A lamp comprising a base, a candle-receiving socket integral with the base, a retaining-flange integral with the base and having an inclined face, a chimney, means integral with the chimney for extending between the flange and base and bearing upon the inclined face to clamp the chimney upon the base, and a handle formed in a single length of wire and comprising a ring embracing the chimney, and a ball integral with and extending from the ring at diametrically opposite points, said ball having inwardly-extending chimney-engaging portions.

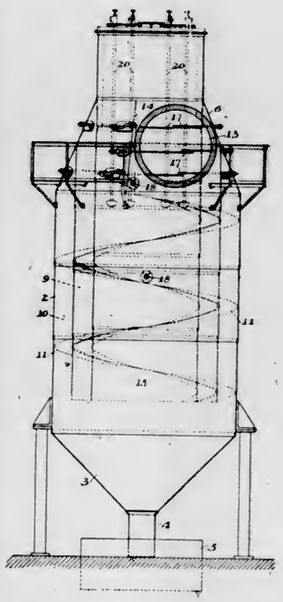
844,312. GAS-WASHER. FRANK E. BACHMAN, Port Henry, N. Y. Filed Jan. 27, 1905. Serial No. 242,947.

Claim.—1. In a gas-washer, a stationary cylindrical vertically-extending chamber, having an inlet and an outlet for the gas, means for directing the gas in a helical path through the chamber, and means for wetting the inner cylindrical wall of the chamber without spraying the gas; substantially as described.

2. In a gas-washer, a stationary cylindrical vertically-extending chamber, having an inlet and an outlet for the gas, means for directing the gas in a helical path through the chamber, and means adjacent the inner cylindrical wall of the chamber for wetting said wall without spraying the gas; substantially as described.

3. In a gas-washer, an annular chamber having a stationary spiral shelf or path therein, connections arranged to pass dust-laden gas through the chamber and over the spiral shelf, and means for wetting one cylindrical wall of the chamber without spraying the gas; substantially as described.

4. In gas-washers, an annular chamber having a stationary spiral shelf thereln, said chamber extending in a vertical direction and having water-spray pipes in its upper portion arranged to direct water against the outer wall without spraying the gas, and means for passing gases downwardly through said chamber and over the shelf; substantially as described.



5. In a gas-washer, an annular chamber having a spiral shelf extending from its inner wall to a point adjacent to its outer wall, and means for wetting the inner surface of the outer wall without spraying the gas; substantially as described.

6. In a gas-washer, a plurality of annular chambers containing stationary spiral shelves and an offtake-flue formed by the inner wall of the inner annular chamber and arranged to lead the gas in the opposite direction to that in the annular chambers; substantially as described.

7. In a gas-washer, an annular chamber containing a stationary spiral shelf, an offtake-flue formed by the inner wall of the annular chamber and arranged to lead the gas in the opposite direction to that in the annular chamber, and means for wetting the inner surface of the outer wall of the chamber without spraying the gas; substantially as described.

8. In a gas-washer, an annular chamber containing a stationary spiral shelf, an offtake-flue formed by the inner wall of the annular chamber and arranged to lead the gas in the opposite direction to that in the annular chamber, and means for wetting the inner surface of the outer wall of the chamber; substantially as described.

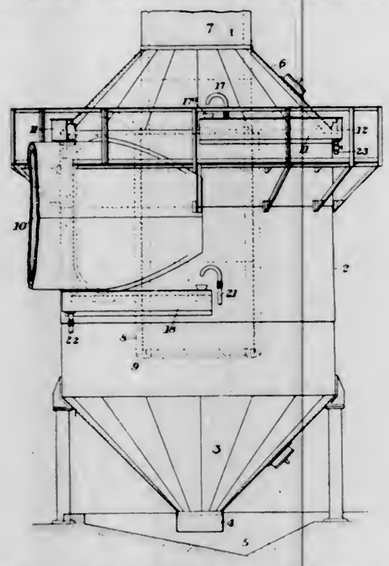
9. In a gas-washer, an annular chamber containing a stationary spiral shelf, an offtake-flue within the annular chamber and arranged to lead the gas in the opposite di-

rection to that in the annular chamber, and spray-pipes in the annular chamber; substantially as described.

10. In a gas-washer, an annular chamber containing a stationary spiral shelf, an offtake-flue within the annular chamber and arranged to lead the gas in the opposite direction to that in the annular chamber, and spray-pipes in the annular chamber and the return-flue; substantially as described.

11. In a gas-washer, a stationary vertically-extending cylindrical chamber having a gas-outlet, a gas-inlet therefor extending in a non-radial direction, and a water-distributing device arranged to flow water over the inner surface of said casing; substantially as described.

844,313. GAS-WASHER. FRANK E. BACHMAN, Port Henry, N. Y. Filed July 11, 1906. Serial No. 325,632.



Claim.—1. In a gas-washer, a casing having a non-radial inlet and water-box located entirely outside of the gas-chamber of the washer, and having openings arranged to discharge water along the inner surface of the shell or casing; substantially as described.

2. In a gas-washer, a stationary vertically-extending cylindrical casing having a gas-outlet, a gas-inlet extending in a non-radial direction, and a water-distributing device exterior to the gas-chamber of the washer, and arranged to flow water over the inner surface of the casing without spraying the gas; substantially as described.

3. In a gas-washer, a substantially cylindrical casing having a lateral, tangentially-directed non-radial inlet and a central outlet at a different level, and means for directing water along the inner surface of the casing or shell without substantially spraying of the gas; substantially as described.

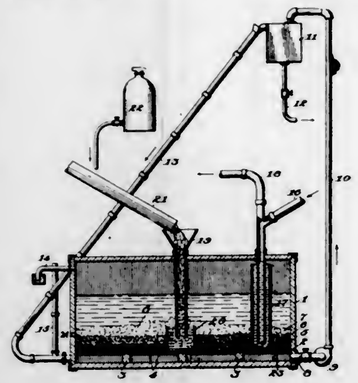
4. In a gas-washer, a chamber having a side inlet, a water-box below the inlet and extending for a part of the circumference, and another water-box above the level of said lower water-box; substantially as described.

5. In a gas-washer, a chamber having a side inlet, a water-box below the inlet and extending for a part of the circumference, and another water-box above the level of said lower water-box, and extending through the major part of the circumference; substantially as described.

6. In a gas-washer, a casing, a water-box extending around the casing, partitions dividing same into compartments and a supply-pipe for each compartment; substantially as described.

7. In a gas-washer, a casing having an external water-box, and means for maintaining a substantially constant head of water therein, just sufficient to overcome the gas-pressure, and causing the water to flow down over the interior wall of the casing; substantially as described.

844,314. APPARATUS FOR REGENERATING ELECTROLYTES. LEO H. BAEKELAND, Yonkers, N. Y., assignor to Development and Funding Company, New York, N. Y., a Corporation of New Jersey. Filed Feb. 16, 1906. Serial No. 301,420.



Claim.—1. Apparatus for regenerating electrolytes comprising a regenerating-tank, means for supporting a body of salt therein, and means for circulating electrolyte transversely through said tank beneath said body, substantially as described.

2. Apparatus for regenerating electrolytes comprising a regenerating-tank, means for supporting a body of salt therein, means for circulating electrolyte transversely through said tank beneath said body, and means for introducing spent electrolyte into said tank above said body, substantially as described.

3. Apparatus for regenerating electrolytes comprising a regenerating-tank for supporting a body of salt, an elevated supply-tank, a circulating system including said tanks, and a brine-outflow pipe leading from said supply-tank, substantially as described.

4. Apparatus for regenerating electrolytes comprising a regenerating-tank, means for supporting a body of salt therein, an elevated supply-tank, and means for circulating electrolyte in succession transversely beneath said body of salt and through said supply-tank, substantially as described.

5. Apparatus for regenerating electrolytes comprising a regenerating-tank, means for supporting a body of salt therein, an elevated supply-tank, means for circulating electrolyte in succession transversely beneath said body of salt and through said supply-tank, and means for supplying spent electrolyte to said tank above said body of salt, substantially as described.

6. Apparatus for regenerating electrolytes comprising a regenerating-tank for containing a body of salt, a sealed inlet therefor, and means for supplying a mixture of brine and salt through said inlet, substantially as described.

7. Apparatus for regenerating electrolytes comprising a regenerating-tank for containing a body of salt, a sealed inlet therefor, means for supplying a mixture of brine and salt through said inlet, and a distributing device beneath said inlet, substantially as described.

8. Apparatus for regenerating electrolytes comprising a regenerating-tank for containing a body of salt, a sealed inlet for spent brine, and a gas-escape connected with said inlet, substantially as described.

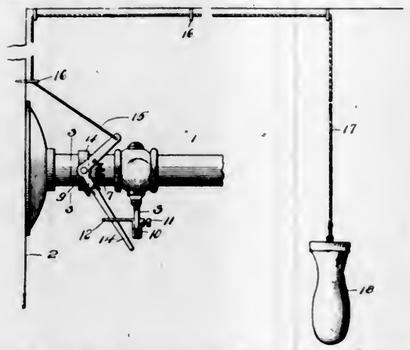
9. Apparatus for regenerating electrolytes comprising a closed regenerating-tank, a sealed overflow therefor, and a safety-overflow arranged to discharge above said sealed overflow, substantially as described.

10. Apparatus for regenerating electrolytes comprising a closed regenerating-tank, a sealed overflow therefor, a sealed inlet for spent brine, and a gas-escape connected with said inlet, substantially as described.

11. Apparatus for regenerating electrolytes comprising a regenerating-tank for containing a body of salt, said tank having an overflow and an inlet for spent brine, a gas-escape connected with said inlet, an elevated supply-tank, a brine-supply pipe leading therefrom, and means for circulating electrolyte successively through said regenerating and supply tanks, substantially as described.

12. Apparatus for regenerating electrolytes comprising a regenerating-tank, said tank having an overflow and an inlet for spent brine, a gas-escape connected with said inlet, means for supporting a body of salt in said regenerating-tank, an elevated supply-tank, a brine-supply pipe leading therefrom, and means for circulating electrolyte in succession beneath said body of salt and through said supply-tank, substantially as described.

844,315. ATTACHMENT FOR VALVES. HENRY BATES, Homestead, Pa. Filed Sept. 6, 1906. Serial No. 333,446.



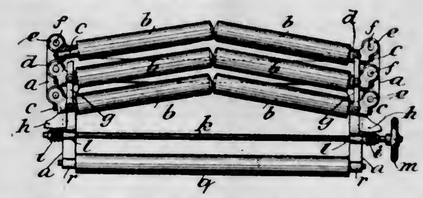
Claim.—1. The combination with a gas-burner bracket and its key, of means for turning said key comprising a bell-crank lever pivotally supported upon said bracket, a clip secured to the key and provided with a projecting arm with which one arm of the bell-crank lever engages, and a pull-cord connected to the opposite arm of the lever.

2. The combination with a gas-burner bracket, and its key, of means for turning said key, comprising a split band secured to said bracket, a bell-crank lever pivotally secured to said band, a clip removably secured to the key, an arm projecting from said key and provided with an elongated opening through which one arm of the lever extends, a pull-cord connected to the other arm of the lever, and a retracting-spring one end of which is secured to one arm of the bell-crank lever, while its opposite end is secured to said band.

3. The combination with a gas-burner-bracket arm and its key, of means for turning said key, comprising a split ring or band embracing said bracket-arm and provided with a stop-lug, a bell-crank lever pivotally secured at one side of said band, a coil-spring connecting the upper arm of the bell-crank lever and said band, a clip detachably secured to said key, and provided with an arm having an elongated opening therein through which the lower arm of the bell-crank lever extends, a pull-cord secured at one end to the upper arm of the bell-crank lever, means for guiding said cord to any desired point, and a depending weighted handle attached to the free end of the cord.

844,316. APPARATUS FOR OPENING AND STRETCHING FABRICS. WILLIAM BIRCH, Lower Broughton, England. Filed Dec. 6, 1905. Serial No. 290,645.

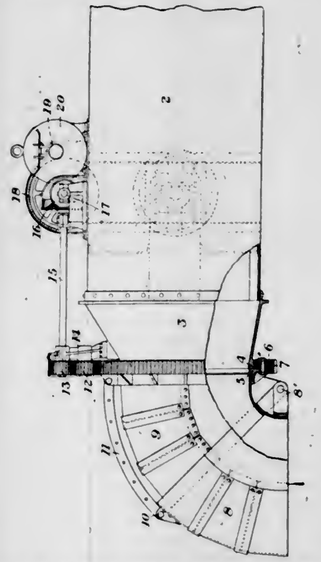
Claim.—1. In an apparatus for opening and stretching fabrics, a rigid frame, a series of sockets at each end of the said frame each of which sockets is independently fulcrumed thereto, shafts journaled in the said sockets and a roller carried by each of the said shafts, all substantially as and for the purpose set forth.



2. In an apparatus for opening and stretching fabrics, a rigid frame, a series of sockets at each end of the said frame each of which sockets is independently fulcrumed thereto, shafts journaled in the said sockets and a roller carried by each of the said shafts, a link for each of the said series of sockets connecting them together and means for jointly turning the latter on their fulcrums, all substantially as and for the purpose set forth.

3. In an apparatus for opening and stretching fabrics, a frame, a series of sockets fulcrumed to each end thereof, shafts journaled therein, a roller carried by each of the said shafts, a link for each of the said series of sockets connecting them together, a wheel-segment on the outer of the said series of sockets, a hand-actuated shaft and a worm secured at each end thereof in gear with the said segments, substantially as and for the purpose specified.

844,317. TRIMMING DEVICE FOR LOADING APPARATUS. SHERMAN J. BLAKE, Conneaut, Ohio. Filed July 20, 1906. Serial No. 326,963.



Claim.—1. In a load-trimmer, a depending section, a rotary section on the lower end of the depending section and a motor having connections on the depending section arranged to turn the rotatable section; substantially as described.

2. In a load-trimmer a depending chute, a motor on said chute, a telescopic elbow rotatably secured to the lower end of the chute and motor connections on the chute arranged to rotate the elbow; substantially as described.

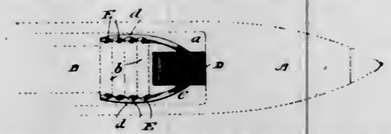
3. In a load-trimmer a depending chute, a motor on said chute, a telescopic elbow rotatably secured to the lower end

of the chute, said elbow being composed of two or more curved sections, means for adjusting the position of the curved sections, and motor connections on the chute arranged to rotate the elbow; substantially as described.

4. In a load-trimmer, a fixed section, a rotary section mounted thereon, and a motor having connections arranged to rotate the movable section; substantially as described.

5. In a load-trimmer, a chute having an electric motor mounted thereon, a rotary section at the outer end of the chute having a telescopic elbow, driving connections from the motor arranged to rotate the outer section, and connections arranged to adjust the telescopic elbow; substantially as described.

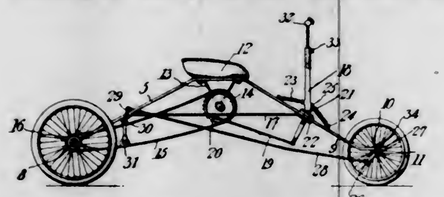
844,318. HOLDER FOR FILLING-CARRIERS. GEDEON BOISONNEAULT and THEOPHILE BOUCHER, Manchester, N. H. Filed Nov. 20, 1906. Serial No. 344,336.



Claim.—1. A device for holding a filling-carrier or bobbin in a shuttle-body, having open jaws, upright grooves in the inner sides of said jaws, and inclined grooves communicating with and extending at an angle from the upper ends of the upright grooves.

2. A device for holding a filling-carrier or bobbin in a shuttle-body, comprising a shank, open jaws extending from the shank and having in their inner sides upright grooves and inclined grooves communicating with and extending at an angle upward and outward from the upper ends of the upright grooves, and a spring resting between the open jaws and straddling the shank.

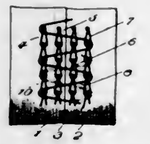
844,319. BOY'S WAGON. ALEXANDER M. BOLLINGER, Leechburg, Pa. Filed Oct. 29, 1906. Serial No. 344,158.



Claim.—1. In a wagon, the combination with the front and rear axles, of a substantially triangular-shaped supporting-frame mounted on the axles, a seat secured to the apex of the supporting-frame, a hanger depending from the seat, a sprocket-wheel journaled in the hanger for transmitting motion to the rear axle, bearings carried by the supporting-frame, a hand-operated lever passing through an opening in the supporting-frame and provided with oppositely-disposed trunnions adapted to engage the bearings, a pitman connecting the sprocket-wheel with the adjacent end of the hand-operated lever, and oppositely-disposed springs secured to the frame and lever, respectively, for normally supporting the lever in vertical position.

2. In a wagon, the combination with the front and rear axles, of a supporting-frame comprising upwardly-extending converging rear bars and a single front bar overlapping the converging ends of the rear bars, a seat secured to the overlapped ends of said bars, a hanger depending from the seat, a sprocket-wheel journaled in the hanger for communicating motion to the rear axle, a hand-operated lever passing through an opening in the front bar and having its lower end pivotally connected to the sprocket-wheel, bearings secured to the front bar, trunnions extending laterally from the lever and journaled in said bearings, oppositely-disposed springs secured to the front bar and lever, respectively, for yieldably supporting the latter in vertical position, and a handle-bar mounted for vertical movement on the hand-operated lever.

844,320. SEAM. STOCKTON BORTON, Providence, R. I., assignor to Willcox & Gibbs Sewing Machine Company, New York, N. Y., a corporation of New York. Filed May 28, 1903. Serial No. 159,174.



Claim.—1. In a seam, the combination with fabric, of four approximately parallel lines of stitches, two cross-threads on one side of the fabric one connecting the outside lines of stitches and the other the inside lines of stitches, and a cross-thread connecting two of the lines of stitches on the other side of the fabric.

2. In a seam, the combination with fabric, of four approximately parallel lines of stitches, and two cross-threads one connecting the outside line of stitches on each side of the fabric, and a cross-thread connecting the inside lines of stitches on one side of the fabric.

3. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, a cross-thread connecting the outside lines of stitches on one side of the fabric and a cross-thread on the other side of the fabric connecting the two lines of stitches on opposite sides of the line of abutment.

4. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, a cross-thread on one side of the fabric connecting the outside lines of stitches and passing under the inside lines of stitches, and a cross-thread on the other side of the fabric connecting two lines of stitches on opposite sides of the line of abutment.

5. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, and two cross-threads one on each side of the fabric connecting the outside lines of stitches and passing under the inside lines of stitches.

6. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, a cross-thread on one side of the fabric connecting the outside lines of stitches and passing under each stitch of all four lines of stitches, and a cross-thread on the other side of the fabric connecting two lines of stitches on opposite sides of the line of abutment.

7. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches and passing through the fabric two on each side of the line of division, and two cross-threads one on each side of the fabric connecting the outside lines of stitches and passing under each stitch of all four lines of stitches.

8. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, and a cross-thread connecting the outside lines of stitches on one side of the fabric and drawing the same in toward the inside lines of stitches at the points where it passes around said outside lines of stitches.

9. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, and a cross-thread on one side of the fabric passing under the inside lines of stitches and connecting the outside lines of stitches and drawing the same in toward the inside lines of stitches at the points where it passes around said outside lines of stitches.

10. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, a cross-thread on one side of the fabric passing under the inside lines of stitches and connecting the outside lines of stitches and drawing the same in toward the inside lines of stitches at the points where it passes around said outside lines of stitches, and a cross-thread on the other side of the fabric connecting two lines of stitches on opposite sides of the line of abutment.

11. In a seam, the combination with two opposing edges of fabric, of four approximately parallel lines of stitches passing through the fabric two on each side of the line of division, and a cross-thread connecting the outside lines of stitches and passing under the inside lines of stitches on one side of the fabric.

844,321. LOCK FOR INCANDESCENT LAMPS. JEROME F. BOYER, Pittsburg, Pa. Filed May 16, 1906. Serial No. 317,196.



Claim.—1. In a lock for incandescent lamps, the combination with a lamp-socket and a lamp bulb or globe in said socket, of a split cap mounted on the socket, a wire passed around the globe or bulb lengthwise thereof and having its ends fastened to the cap, and a retaining-ring carried by said wire and surrounding the upper end of the bulb or globe, substantially as described.

2. In a lock for incandescent lamps, the combination with a lamp-socket, and a bulb or globe carried thereby, of a cap fitted on the upper end of the socket, a wire carried by said cap and passing around the large end of the bulb or globe and having an opening to receive the nipple of said bulb or globe, and a retaining-ring carried by the wire and surrounding the bulb or globe at its upper end.

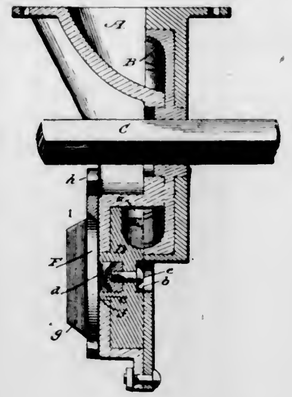
3. In a lock for incandescent lamps, the combination with a lamp-socket, and a bulb or globe carried thereby, of a split cap fitted on the upper end of the socket, pierced lugs carried by said cap, a lock engaging said pierced lugs, a wire carried by the cap and extending around the bulb or globe lengthwise thereof, and a retaining-ring carried by the wire and surrounding the upper end of the bulb or globe.

844,322. GRAIN-DISTRIBUTER. HARRISON B. BOZARD, Allegany, N. Y., assignor to The American Seeding Machine Company, Springfield, Ohio, a Corporation of Ohio. Filed Jan. 7, 1907. Serial No. 351,147.

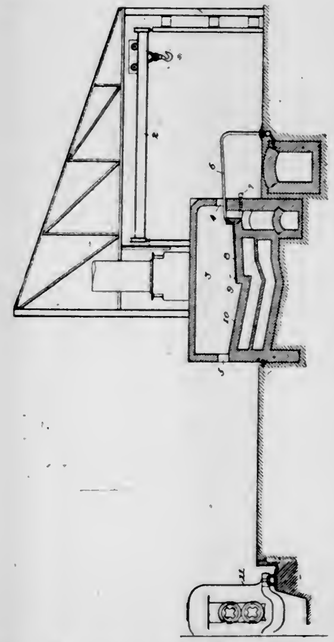
Claim.—1. In a grain-distributer, an adjustable distributing disk or wheel supported wholly by the side or sides of the wall of the seed cup or hopper, and means for adjusting the disk or wheel and holding it in its adjusted position, substantially as and for the purpose set forth.

2. In a grain-distributer, an adjustable distributing disk or wheel having a hub with interior flat sides, a holding-plate having an axle with flat sides to engage the hub and means for securing it therein, said plate having means for turning it and means for holding the plate stationary after the disk or wheel has been adjusted.

844,322.



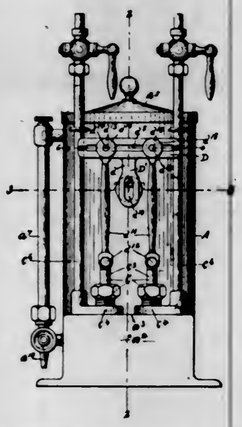
844,323. METHOD OF FINISHING METAL PACKS. CHARLES W. BRAY, Pittsburg, Pa., assignor to American Sheet & Tin Plate Company, Pittsburg, Pa., a Corporation of New Jersey. Filed Feb. 9, 1905. Serial No. 244,868.



Claim.—1. The method of finishing metal packs, consists in feeding the packs into the rear end of a heating-furnace, allowing them to lie stationary in said furnace, removing the packs from the opposite end of the furnace, and finish-rolling said packs; substantially as described.

2. The method of finishing metal packs, consisting in feeding a pack into the rear end of a heating-furnace, allowing it to rest in the rear portion thereof, then moving it forward into the front portion of the furnace, feeding another pack into the rear portion of the furnace, allowing the packs to rest stationary in said furnace, and removing them from the opposite end of the furnace and finish-rolling them; substantially as described.

844,324. LUBRICATOR. JOHN BUCKLEY and JOHN SHERRY, Rochester, N. Y., assignors, by mesne assignments, to Sterling Lubricator Company, Rochester, N. Y. a Corporation of New York. Filed Nov. 3, 1899. Serial No. 735,649.



Claim.—1. A lubricator comprising a reservoir, a plurality of pumps communicating with the reservoir and provided with pistons, a shaft supported by the reservoir, a lever pivoted to the reservoir and actuated by the shaft, means connecting the pistons to the lever, and means for varying the throw of the pistons independently of each other during the operation of the shaft, substantially as and for the purpose specified.

2. A lubricator comprising a reservoir provided with a transverse chamber connecting opposite walls thereof and opening through said walls, a plurality of pumps communicating with the reservoir and provided with pistons, a shaft for actuating the pistons passed through the transverse chamber, and means connecting the pistons to the shaft for independently varying the throw of the pistons while in operation, substantially as and for the purpose described.

3. A lubricator comprising a reservoir, a plurality of pumps communicating with the reservoir and provided with pistons, a shaft journaled in the reservoir, an actuating member consisting of a rocking substantially T-shaped lever pivoted to the reservoir and having its lengthwise branch connected beneath its axis to the shaft, and means connecting the pistons to the transverse branch of the actuating member, and means for varying the throw of the pistons independently of each other during the operation of the lever, substantially as and for the purpose set forth.

4. A lubricator comprising a reservoir provided with a transverse chamber, a pump communicating with the reservoir and provided with a piston, an actuating member having a pivotal pin journaled in the transverse chamber of the reservoir, means for actuating said member, and means connecting the piston to the actuating member for varying the throw of the piston while in operation, substantially as and for the purpose specified.

5. A lubricator comprising a reservoir provided with a pair of substantially parallel chambers, one connecting opposite walls of the reservoir and opening through said walls and the other opening through one of said walls and formed with a closed inner end, a pump communicating with the reservoir and provided with a piston, a rocking actuating member having a pivotal pin journaled in the chamber having the closed inner end, a shaft journaled in the other chamber and connected to the actuating member, and means connecting the piston to the actuating member for varying the throw of the piston while in operation, substantially as and for the purpose described.

6. A lubricator comprising a reservoir provided with a pair of substantially parallel chambers, one connecting opposite walls of the reservoir and opening through said walls and the other opening through one of said walls and formed with a closed inner end, a plurality of pumps communicating with the reservoir and provided with pistons, an actuating member consisting of a rocking substantially T-shaped lever having a pivotal pin journaled in the chamber having the closed inner end, a shaft journaled in the other chamber and connected to the lengthwise branch D′ of the actuating member beneath the pivotal pin, and means connecting the pistons to the transverse branch D of the actuating member for independently varying the throw of the pistons while in operation, substantially as and for the purpose set forth.

7. A lubricator comprising a reservoir, a pump communicating with the reservoir and provided with a piston, a shaft, an actuating member having a horizontally-disposed pivot, and a guide arranged in advance of one end of the latter and extending upon opposite sides thereof, and a link connected to the piston at its lower end and movable at its upper end in said guide, substantially as and for the purpose specified.

8. A lubricator comprising a reservoir, a plurality of pumps communicating with the reservoir, each provided with a piston, a shaft, an actuating member having a horizontally-disposed pivot, and a guide arranged in advance of one end of the latter and extending upon opposite sides thereof, and a plurality of links having their upper ends movable in the guide and their lower ends connected respectively to the pistons, substantially as and for the purpose described.

9. A lubricator comprising a reservoir, a pump communicating with the reservoir and provided with a piston, a shaft, an actuating member having a horizontally-disposed pivot, and a guide arranged in advance of one end of the latter and extending upon opposite sides thereof, other guides arranged in advance and at the rear of the first guide and extending on opposite sides of said pivot, a link connected at its lower end to said piston and having its upper end movable in the first guide, and a pivot-pin for the link movable in the second-named guides, substantially as and for the purpose set forth.

10. A lubricator comprising a reservoir, a pump communicating with the reservoir and provided with a piston, an actuating member having a portion thereof formed with a plurality of lengthwise guides d^7 d^8 d^9, one d^7 being extended through the top and bottom faces of said portion of the actuating member, a second d^8 being extended from the outer face of said portion to the contiguous side of the first guide, and a third d^9 being extended inwardly from the opposite side of said first guide, a link connected to the piston and movable in the first guide, and a clamp extending crosswise of the guides d^7 d^8 d^9 and adjustable lengthwise thereof, said clamp being normally fixed to the actuating member and pivoted to the link for connecting said actuating member and the link, substantially as and for the purpose specified.

11. A lubricator comprising a reservoir provided with a transverse chamber, a pump communicating with the reservoir and provided with a piston, an actuating member having one side provided with a pivotal pin journaled in the chamber of the reservoir and its opposite side provided with a projection formed with a lengthwise guide, a link connected to the piston, and a clamp adjustable lengthwise of the guide for connecting the actuating member to the link, substantially as and for the purpose described.

12. A lubricator comprising a reservoir provided with a pair of substantially parallel chambers, one connecting opposite walls of the reservoir and opening through said walls and the other opening through one of said walls and formed with a closed inner end, a plurality of pumps communicating with the reservoir and provided with pistons, an actuating member consisting of a rocking substantially T-shaped lever having one side provided with a pivotal pin journaled in the chamber having the closed inner end, and its opposite side provided with a projection formed with a lengthwise guide, a shaft journaled in the other chamber and connected to the lengthwise branch of the actuating member beneath the pivotal pin, links, and clamps movable lengthwise of the guide for pivotally connecting the actuating member to the links, substantially as and for the purpose set forth.

13. A lubricator comprising a reservoir, and a pump provided with inlet and outlet ports and valves for controlling the passage of the oil through the ports, said pump having its portion provided with the inlet-port extended into the internal chamber of the reservoir, and means for adjustably securing the pump to the reservoir, substantially as and for the purpose specified.

14. A lubricator comprising a shell forming a reservoir, said shell having a bottom extension or offset provided with a top having an opening leading to the reservoir-chamber, and a pump having a body portion supported upon said top and depending through said opening into the reservoir-chamber, valve-controlled inlet and outlet ports in said body, a piston, and means for actuating the latter, substantially as and for the purpose described.

15. A lubricator comprising a shell forming a reservoir, said shell having a bottom extension or offset provided with a top having an opening leading to the reservoir-chamber, and a pump having a body portion supported upon said top and depending through said opening into the reservoir-chamber, means for detachably securing the body portion to said top, a piston and means for actuating the latter, substantially as and for the purpose set forth.

16. A lubricator comprising a reservoir having a lateral extension formed with an internal chamber communicating with the internal chamber of the reservoir, said extension being provided with a supporting-face and a passage extending from said face into the internal chamber of the lateral extension, and a pump provided with valves and inlet and outlet ports, said pump having a shoulder engaged with the supporting-face and having the portion thereof provided with the inlet-port extended through the passage into the internal chamber of the lateral extension, and means for securing the pump to the lateral extension substantially as and for the purpose specified.

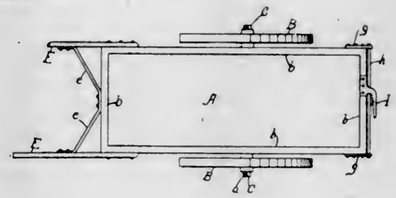
17. A lubricator comprising a reservoir having a lateral extension formed with an internal chamber communicating with the internal chamber of the reservoir, said extension being provided with a supporting-face and a plurality of passages extending from said face into the internal chamber of the lateral extension, a plurality of pumps provided with pistons, valves and inlet and outlet ports, said pumps having shoulders removably fixed to the supporting-face and having the portions thereof provided with the inlet-ports extended through the passages into the internal chamber of the lateral extension, means for actuating the pistons, and means connected to the pistons and the former means for independently varying the throw of the pistons while in operation, substantially as and for the purpose described.

18. A lubricator comprising a shell having a lateral extension provided with a top having an opening therethrough, and a pump including a body portion having a part thereof depending through said opening and a lateral extension resting upon said top, a piston-chamber in the body portion, a valve-controlled inlet-port, and an outlet-port having a portion extending through said body parallel to the piston-chamber and in communication with the latter, and a part extending through the lateral extension of the body, substantially as and for the purpose described.

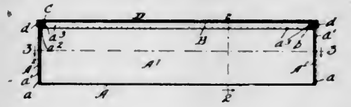
844,325. CEMENT-TRUCK. FRANK B. BURNESS, Sioux City, Iowa. Filed Sept. 4, 1906. Serial No. 333,251.

Claim.—In a portable truck the combination of a box mounted upon suitable wheels, a rim secured to the upper edge of the box and projecting inward and downward, angle-iron reinforcing the lower corners of the box, and a door at one end of the box hinged at the top and swinging outward, substantially as described.

844,325.



844,326. RECTANGULAR CAN FOR DRIED BEEF AND OTHER ARTICLES. EDWARD W. CARNES, Chicago, Ill., assignor to American Can Company, Chicago, Ill., a Corporation of New Jersey. Filed Mar. 8, 1906. Serial No. 305,012.



Claim.—1. In a sheet-metal rectangular hermetic-closure can, the combination with a bottom A, having integral upright flanges a at its ends, and integral upright sides A′ furnished with integral right-angle flanges a' at their ends, of end plates A^2 hermetically secured to said bottom and upright sides, said upright sides A′ and end plates A^2 having each an inturned, downwardly-projecting flange or fold a^2 and an upwardly-projecting flange or fold a^3, a thin or taggers tin hermetic-closure cover B having integral downturned flanges b fitting between said flanges or folds a^2 and a^3 on the upright sides and ends of the can-body, said cover B being soldered to the can-body, and an outer slip-cover D having integral flanges at its sides and ends fitting over and embracing the upper end or mouth of the can-body, substantially as specified.

2. In a sheet-metal rectangular hermetic-closure can, the combination with a bottom A, having integral upright flanges a at its ends, and integral upright sides A′ furnished with integral right-angles flanges a' at their ends, of end plates A^2 hermetically secured to said bottom and upright sides, said upright sides A′ and end plates A^2 having each an inturned, downwardly-projecting flange or fold a^2 and an upwardly-projecting flange or fold a^3, and a thin or taggers tin hermetic-closure cover B having integral downturned flanges b fitting between said flanges or folds a^2 and a^3 on the upright sides and ends of the can-body, said cover B being soldered to the can-body, substantially as specified.

3. The hermetic-closure rectangular sheet-metal can herein shown and described, and comprising a bottom having integral upright sides, upright end plates soldered to said bottom and upright sides, said upright sides and upright end plates having at their upper edges inturned downwardly-projecting and upwardly-projecting flanges, and a thin or taggers tin hermetic-closure cover having integral flanges at its sides and ends fitting between the flanges on the can-body and soldered to the can-body, substantially as specified.

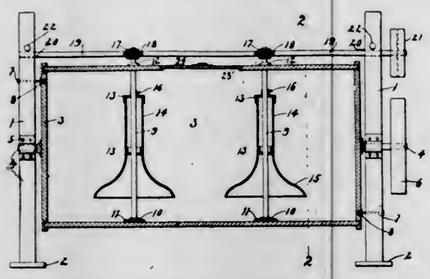
4. The hermetic-closure rectangular sheet-metal can herein shown and described, and comprising a bottom having integral upright sides, upright end plates soldered to said bottom and upright sides, said upright sides and upright end plates having at their upper edges inturned downwardly-projecting and upwardly-projecting flanges, and a thin or taggers tin hermetic-closure cover having integral flanges at its sides and ends fitting between the flanges on the can-body and soldered to the can-body, said hermetic-closure cover being provided with a vent-opening, substantially as specified.

5. The hermetic-closure rectangular sheet-metal can herein shown and described, and comprising a bottom having integral upright sides, upright end plates soldered to

said bottom and upright sides, said upright sides and upright end plates having at their upper edges inturned downwardly-projecting and upwardly-projecting flanges, and a thin or taggers tin hermetic-closure cover having integral flanges fitting between the flanges on the can-body and soldered to the can-body, and an outer slip-cover having integral flanges fitting over and embracing the upper end or mouth of the can-body, substantially as specified.

6. The hermetic-closure rectangular sheet-metal can herein shown and described, and comprising a bottom having integral upright sides, upright end plates soldered to said bottom and upright sides, said upright sides and upright end plates having at their upper edges inturned downwardly-projecting and upwardly-projecting flanges, and a thin or taggers tin hermetic-closure cover having integral flanges at its sides and ends fitting between the flanges on the can-body and soldered to the can-body, said hermetic-closure cover being provided with a vent-opening, and an outer slip-cover having integral flanges fitting over and embracing the upper end or mouth of the can-body, substantially as specified.

844,327. CHURN. THOMAS J. CHENEY, Lodi, Ohio. Filed June 19, 1906. Serial No. 322,381.



Claim.—1. A power-churn, consisting of a pair of standards suitably mounted, a churn-body mounted between said standards by means of trunnions and provided with means for holding the same in engagement with said standards, a pair of combined aerators and agitators removably mounted within said churn-body, a pair of vertically-arranged driving-shafts mounted in said churn-body and adjustably secured to said aerators and agitators, a pair of gear-wheels or pinions secured to said driving-shafts, a horizontal driving-shaft mounted above said churn-body and carrying a pair of worm-gears meshing with said gear-wheels or pinions, a pair of grooved bearings formed at the upper ends of said standards and taking over said horizontal driving-shaft, a driving-pulley mounted on said horizontal driving-shaft, and means for revolving said churn-body when said aerators and agitators have been removed therefrom.

2. A power-churn, consisting of a pair of standards carrying a revoluble churn-body, a vertically-arranged driving-shaft mounted in said churn-body and carrying an adjustably-mounted combined aerator and agitator, a gear-wheel mounted on said shaft, a socket-bearing mounted on the bottom of said receptacle and taking over the lower end of said shaft, a horizontal driving-shaft mounted in said standards and provided with a gear meshing with said gear-wheel of said shaft, means for securing said revoluble churn-body in a stationary position between said standards, a driving-pulley mounted on said horizontal driving-shaft, and means for revolving said revoluble churn-body.

3. In a power-churn, the combination with a revoluble churn-body mounted between a pair of standards, and means for securing said churn-body in a stationary position between said standards; of aerators and agitators removably and adjustably mounted within said churn-body, a horizontal driving-shaft mounted in said standards and provided with gearing adapted to revolve said aerators and agitators, and means for revolving said horizontal driving-shaft and said revoluble churn-body.

4. In a power-churn, the combination with a pair of standards, a churn-body mounted between said standards, and means for securing said churn-body thereto; of a vertically-arranged driving-shaft mounted in said churn-body and provided with a conical-shaped bearing at its lower end, a socket-bearing secured within said churn-body and taking over said conical-shaped bearing, an aerator and agitator adjustably secured to said vertically-arranged driving-shaft, a horizontal driving-shaft mounted in said standards above said churn-body, and gearing secured to said horizontal and vertical shaft whereby the latter is revolved.

5. In a churn, the combination with a pair of standards, a churn-body mounted therein by means of trunnions, a bearing-block mounted in the top of said churn-body, and a socket-bearing mounted on the bottom of said churn-body; of a vertical driving-shaft, carrying an aerator and agitator, mounted in said bearing-block and provided with a conical-shaped bearing end taking into said socket-bearing, a gear-wheel or pinion secured to said vertical driving-shaft, and a horizontal driving-shaft mounted in said pair of standards and carrying a gearing meshing with said gear-wheel or pinion.

844,328. EYEGLASS OR SPECTACLE MOUNTING. EDWARD CLARKE, Dunkirk, N. Y. Filed Dec. 23, 1905. Serial No. 293,090.



Claim.—1. In an eyeglass-mounting of the character described a split stud-post having mounted on one end thereof a rectangular-box clamping device one side of which is bisected directly opposite the device in said split stud-post and having mounted on the other end of one-half of said stud-post, lens straps and shoulders, a screw passing through one half of said split stud-post and screwing into the other half for the purposes described.

2. In a stud-post for eyeglass-mountings, the combination of a pair of lens-straps, lens-shoulders, a split post to act as lugs and a box for the reception of the nose-guard and nose-spring, said box being composed of a strip of metal bent to form a rectangular hollow figure bisected on one of its longer sides and having a half of the split post or lugs mounted on the respective ends and a screw passing through the halves of the post to draw the said lugs, or opposing ends, together, substantially as described.

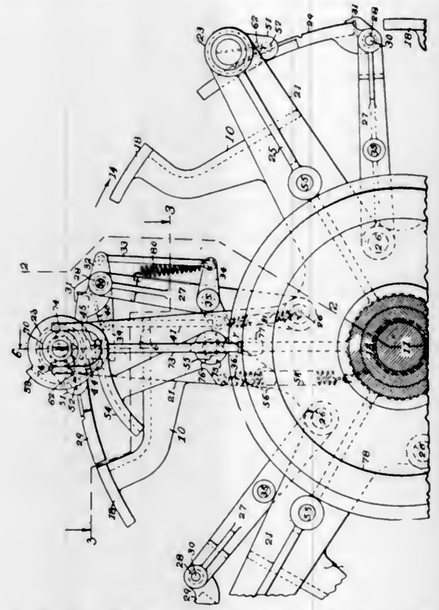
3. In an eyeglass-mounting a stud-post having rigidly mounted thereon a rectangular-box clamping device bisected on one of its longer sides and directly through the center of said stud-post, so that said stud-post, as split, acts as lugs for said clamping device, a screw passing through one of said lugs and screwing into the other for the purposes shown and described.

4. In an eyeglass-mounting, a stud-post having mounted thereon a clamping device composed of a rectangular receptacle bisected on one of its longer sides and directly through the center of said stud-post, so that said stud-post as split acts as lugs for said clamping device, and through which said lugs a screw is passed, and all so arranged that the tightening of said screw shortens and narrows said receptacle which binds the nose-spring and nose-guard sidewise as well as edgewise, substantially as described.

844,329. PAPER-BAG MACHINE. EDWARD E. CLAUSSEN, Hartford, Conn., assignor to Union Paper Bag Machinery Company, Philadelphia, Pa. Filed June 21, 1906. Serial No. 322,747.

Claim.—1. In a paper-bag machine the combination of a rotating frame, a blank-support mounted for oscillation toward and away from the center of the frame and also for reciprocation in and in a reverse direction of the rotation of the frame substantially as described.

2. In combination with a rotating frame, a blank-support mounted for reciprocation and oscillation in the frame, means for reciprocating the blank-support in the direction and in the reverse direction of the rotation of the frame and also for oscillating the same toward and away from the center of the frame substantially as described.



3. In combination with a rotating frame, the arm pivotally connected to the frame, the blank-support pivotally connected to said arm, means for reciprocating the blank-support in and in a reverse direction of the rotation of the frame and also for oscillating the same toward and away from the center of the frame substantially as described.

4. In a paper-bag machine the combination of a frame, an arm carried by the frame, a blank-support pivotally connected to the arm, the arms 51, trunnions on the blank-support and carried by the arms, means for oscillating the arms all combined and operating to carry the blank-support from its rearward position concentric with the frame to its forward position concentric with the frame.

5. The combination of the rotating frame, the arm 27 pivoted thereon, the blank-support pivoted to said arm, the arms 51, the blank-support trunnioned in said arms and means for oscillating the arms substantially as described.

6. The combination of the frame, the arm 27 pivoted to said frame, the blank-support pivoted to said arm, the arms 51, said blank-support trunnioned in said arms, the axial line of the blank-supporting trunnions coinciding with the cylindrical surface of the blank-support, substantially as described.

7. In a paper-bag machine the combination of the rotating frame, the arm 27 pivoted thereon, the blank-support pivoted to said arm, means for clamping the lower ply of the paper tube to the blank-support, trunnions extending laterally from the blank-support, the tucker-plates, means for clamping the upper ply of the tube to the tucker-plates and means for oscillating and reciprocating the blank-support, all combined and operating to unfold the tubular paper blank and refold the same into the diamond form substantially as described.

8. In a paper-bag machine the combination of a continuous rotating frame, the arm 27 pivoted to said frame, the blank-support pivoted to said arm, trunnions extending laterally from the blank-support, the arms 51, said arms journaled in the frame and carrying the trunnions of the blank-support, the tucker-plates, defining edges on said tucker-plates which correspond with the axial line of the trunnions substantially as described.

9. In a paper-bag machine the combination of the frame, the arm 27 pivoted to the frame, the blank-support pivoted to said arm, the arms 51, trunnions extending laterally from the blank-support and journaled in said arms, the tucker-plates, defining edges on the tucker-plates, which correspond with the axial alinement of the trunnions and the top surface of the blank-support substantially as described.

10. In a paper-bag machine the combination of the frame, an arm 27 pivoted to said frame, the arms 51, a blank-support connected to said arm 27 and supported in the arms 51, the tucker-plates, means for oscillating said tucker-plates and said blank-support downwardly, forwardly and upwardly, substantially as described.

11. In a paper-bag machine the combination of the frame, the arm 27 pivoted to said frame, the arms 51, the blank-support connected to said arm 27 and supported in said arms 51, means for clamping the lower ply of the tube to the blank-support, the tucker-plates, means for clamping the upper ply of the tube to said tucker-plates, means for laterally reciprocating the tucker-plates, means for oscillating the tucker-plates and the blank-support downwardly, forwardly and upwardly to unfold the tubular blank and refold the same into the diamond form, substantially as described.

12. The combination with a tucker-plate, a nipper cooperating therewith, a rod engaging said nipper, a spring engaging the rod, an arm connected to the rod, a spring engaging the nipper, means for laterally sliding the tucker-plates and means for arresting the movement of said rod on the inward motion.

13. The combination with a tucker-plate, a nipper cooperating therewith, a rod engaging the nipper, a spring engaging said rod, an arm connected to the rod, a spring engaging the nipper, means for laterally sliding the tucker-plate, means for arresting the movement of said rod, a shell 50, an arm connected to the shell and means for oscillating the arm, substantially as described.

14. In a paper-bag machine the combination of the continuous rotating frame, the arm 27 pivoted to the frame, the blank-support pivotally connected to the arm and trunnioned in arms carried by the rotating frame, the front clip and two oppositely-disposed bevel-edged side clips, cams for operating the front clip and the side clips, the tucker-plates provided with defining edges, side nippers cooperating with the tucker-plates, means for simultaneously swinging the blank-support and the tucker-plates downwardly, forwardly and upwardly to unfold a paper tube and refold the same into the diamond form, substantially as described.

15. The combination of oppositely-disposed bushings, a shaft journaled in said bushings, a frame consisting of a central portion and two side portions, the central portion mounted upon the shaft and the side portions mounted for rotation on the bushings and means for rotating the shaft.

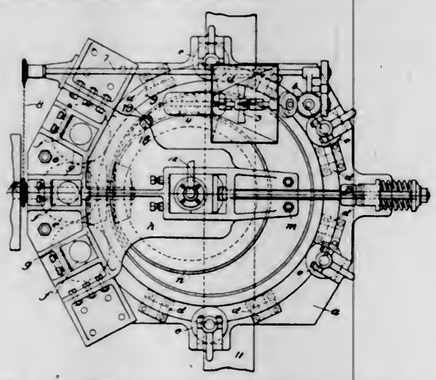
16. The combination of a frame consisting of a central portion and two side portions, cross-ties for joining the central section to the side sections, the shaft supporting the central section of the frame, stationary bushings supporting the side sections and the shaft substantially as described.

17. The combination of the frame having a central section terminating in the sectors 18, laterally-disposed side sections, cross-ties connecting the central sections to the side sections, the shaft, the stationary bushings, the shaft supporting the central section of the frame and the bushings supporting the side sections substantially as described.

844,330. MOLDING-MACHINE. HENRY W. N. COLE, New York, N. Y. Filed July 16, 1904. Renewed Apr. 10, 1905. Serial No. 254,724.

Claim.—1. In a molding-machine, the combination of two members, one within the other, having corresponding mold-cavities in their adjacent surfaces, and both revolving in

the same direction upon different axes so that corresponding edges surrounding the mold-cavities in such surfaces come together at the molding-point, to thereby compress the material in the mold-cavities solely by the pressure of the converging faces of the two members and at the same time separate it into individual briquets, means for positively rotating both members in unison and a compression-chamber, walls of which are formed by such converging surfaces adjacent the molding-point.



2. In a molding-machine, the combination of two members, one within the other, having corresponding mold-cavities in their adjacent surfaces, and both revolving in the same direction upon different axes so that such surfaces come together at the molding-point to thereby compress the material in the mold-cavities solely by the pressure of the converging faces of the two members and at the same time separate it into individual briquets, means for positively rotating both members in unison, a compression-chamber, walls of which are formed by such converging surfaces adjacent the molding-point, means for supplying material to the compression-chamber, and means for discharging the molded articles from the mold-cavities.

3. In a molding-machine, the combination of two members, one within the other, having corresponding mold-cavities in their adjacent surfaces, and both revolving in the same direction upon different axes so that such surfaces come together at the molding-point to thereby compress the material in the mold-cavities solely by the pressure of the converging faces of the two members and at the same time separate it into individual briquets, means for positively rotating both members in unison, a compression-chamber, walls of which are formed by such converging surfaces adjacent the molding-point, and means for admitting a fluid under pressure to the mold-cavities to discharge molded articles therefrom.

4. In a molding-machine, the combination of two members, one within the other, having corresponding mold-cavities in their adjacent surfaces, and both revolving in the same direction upon different axes so that such surfaces come together at the molding-point, a compression-chamber, walls of which are formed by such converging surfaces adjacent the molding-point, and a spring yieldingly supporting the inner member against molding strains.

5. In a molding-machine, the combination of two members, one within the other, having corresponding mold-cavities in their adjacent surfaces, and both revolving in the same direction upon different axes so that such surfaces come together at the molding-point, a compression-chamber, walls of which are formed by such converging surfaces adjacent the molding-point, a spring yieldingly supporting the inner member against molding strains, and equalizing devices by which such strains are transmitted to the spring.

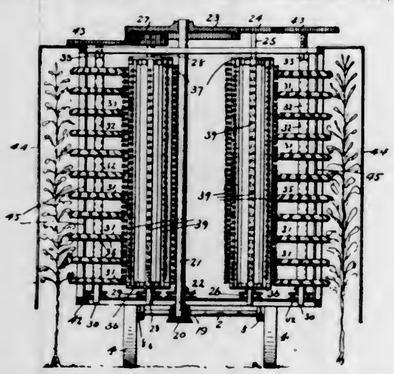
6. In a molding-machine, the combination of a ring having mold-cavities in its inner face, a wheel contained within the ring and having corresponding mold-cavities in its outer face, both wheel and ring being rotatable in the same plane but upon different centers so that corresponding edges surrounding the mold-cavities in such faces come together at the molding-point to compress the material in the mold-cavities and divide it into individual briquets, means for positively rotating the ring and wheel in unison in the same direction and means for supplying the material to be molded to the spaces between the converging surfaces of the ring and wheel adjacent the molding-point.

7. In a molding-machine, the combination of two coöperating rotating members with series of corresponding mold-cavities in their adjacent molding-surfaces, such mold-cavities having fixed walls and those in one series having apertures in the bottom thereof, passages connecting such apertures with a source of fluid under pressure, a valve in each passage, and means for opening each valve after its corresponding mold-cavity has passed the molding-point.

8. In a molding-machine the combination of two members one within the other, having corresponding molds in their adjacent surfaces and both revolving in the same direction upon different axes so that the corresponding edges of opposite molds in such surfaces come together at the molding-point whereby the material being molded is compressed solely by the pressure of the converging faces of the two members and separated into individual briquets by the edges of the molds, means for positively rotating both members in unison, and a compression-chamber, walls of which are formed by such converging surfaces adjacent the molding-point.

9. In a molding-machine the combination of two members one within the other, having corresponding molds in their adjacent surfaces and both revolving in the same direction upon different axes so that the corresponding edges of opposite molds in such surfaces come together at the molding-point whereby the material being molded is compressed solely by the pressure of the converging faces of the two members and separated into individual briquets by the edges of the molds, means for positively rotating both members in unison, and a compression-chamber, walls of which are formed by such converging surfaces adjacent the molding-point, means for supplying material to the compression-chamber, and means permitting delivery of the molded articles from the mold-cavities.

844,331. COTTON-PICKER. OLIVER H. P. CORNELL, Atlanta, Ga., assignor of one-half to Charles H. Blair and Herbert G. Ogden, Jr., New York, N. Y. Filed Apr. 4, 1905. Renewed Nov. 17, 1906. Serial No. 343,930.



Claim.—1. A cotton-picker having a vertical shaft provided with a plurality of revoluble picker-disks in different horizontal planes, detachably secured on the shaft, and detached thimbles between said disks, said disks and thimbles being secured on the shaft by a suitable clamping device; in combination with revoluble brushes engaging said disks to remove cotton therefrom.

2. A cotton-picker provided with a plurality of revoluble picker-disks having plain upper surfaces and inclined surfaces on the upper side of the disks provided with metallic teeth; in combination with revoluble brushes engaging the inclined surfaces of the disks.

3. A cotton-picker provided with a plurality of detachable picker-disks in different horizontal planes, a shaft supporting the disks, and removable thimbles separating the disks; in combination with revoluble brushes engaging said disks.

4. A cotton-picker provided with a plurality of picker-disks detachably secured in different horizontal planes, and a clearing-brush having separate members secured in heads at each end of the brush.

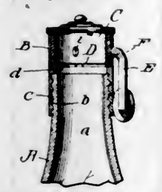
5. A cotton-picker provided with a plurality of picker-disks detachably secured in different horizontal planes, guards between the disks, and a clearing-brush common to all the disks and provided with heads at the ends in which separate members of the brush are secured.

6. A cotton-picker provided with a plurality of picker-disks detachably secured in different horizontal planes, clearing-brushes engaging the working surface of said disks, guards between the disks and gatherers on the sides to direct the plants and bolls toward the picking-disks.

7. In a cotton-picker, the combination of a revoluble vertical shaft provided with a plurality of picker-disks having teeth and a vertically-arranged revoluble substantially cylindrical brush coöperating with all of said picker-disks.

8. In a cotton-picker, the combination of a revoluble shaft and a series of revoluble picker-disks in different horizontal planes detachably mounted on said shaft, and a vertically-arranged substantially cylindrical revoluble brush coöperating with all of said picker-disks.

844,332. VALVED CLOSURE. GEORGE DEMACAKOS, New York, N. Y. Filed July 28, 1906. Serial No. 328,270.



Claim.—1. The combination in a valved closure, of a casing having a circumferential slot, a valve arranged to turn on its axis in the casing and having a stem movable in said circumferential slot, and a spring connecting the casing and valve and arranged to return the latter to and normally hold the same in one position.

2. A valved closure comprising a casing arranged to receive from a receptacle and having a discharge-aperture, a valve controlling the said aperture, and a foraminated diaphragm disposed in the casing at a point intermediate the receiving portion thereof and the discharge-aperture.

3. The combination in a valved closure, of a casing having a circumferential slot, a valve arranged to turn on its axis in the casing and having a stem movable in said circumferential slot, a forminated diaphragm arranged in and carried by the valve for preventing the passage of solid particles through the valve, and a spring connecting the casing and valve and arranged to return the latter to and normally hold the same in one position.

4. The combination in a valved closure, of a casing having a discharge-aperture, a tubular valve arranged in the casing and having an aperture adapted in one position to register with that of the casing; said valve snugly occupying and arranged to be turned on its axis in the casing, and a spring connecting the casing and valve and arranged to return the latter to and normally hold the same in one position.

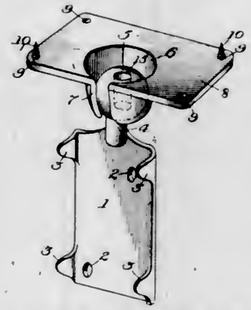
5. The combination in a valved closure, of a casing having a discharge-aperture, a tubular valve snugly fitting and arranged to turn on its axis in the casing and having an aperture adapted in one position to register with that of the casing, a foraminated diaphragm arranged in and carried by the tubular valve for preventing the passage of solid particles to the discharge-aperture thereof, and a spring connecting the casing and valve and arranged to return the latter to and normally hold the same in one position.

6. A valved closure comprising a casing having discharge and vent apertures and also having a circumferential slot, a tubular valve arranged to turn on its axis in the casing and control the discharge and vent apertures thereof and having a stem movable in the slot of the casing, and a spring connecting the casing and the valve and arranged to normally hold the latter in a closed position.

7. The combination in a valved closure, of a casing having a discharge-aperture and also having a vent-aperture, a tubular valve snugly fitting and arranged to turn on its axis in the casing and having a discharge-aperture and a vent-aperture adapted in one position of the valve to register with the discharge-aperture and the vent-aperture, respectively, of the casing, and a spring connecting the casing and valve and arranged to return the latter to and normally hold the same in one position.

8. A valved closure comprising a casing having a discharge-aperture and also having an aperture for the admission of air to assist the passage of liquid through the discharge-aperture, a valve contained in the casing and adapted to be moved in one direction; said valve being tubular and having an aperture arranged in one position of the valve to register with the discharge-aperture of the casing, and a spring for moving the valve in the opposite direction with reference to that first mentioned.

844,333. MEANS FOR ATTACHING BELT-SHIFTER RODS OR POLES. JOHN E. DE TAMBLE, Chicago, Ill., assignor of two-thirds to Rose De Tamble, Chicago, Ill. Filed Feb. 10, 1906. Serial No. 300,429.



Claim.—As an article of manufacture a ball-and-socket connection for belt-shifting rods comprising a socket member cast with an opening of uniform width from the bottom to the top thereof and an attaching-plate thereto and a ball member cast with a connection adapted to play in all directions in the said opening of the socket member.

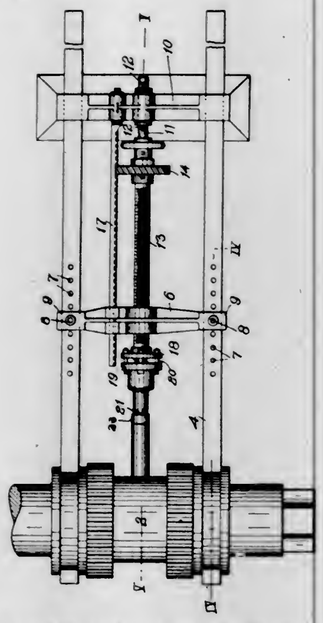
844,334. SWAGING BILLETS. SAMUEL E. DIESCHER, Pittsburg, Pa., assignor, by mesne assignments, to Pittsburg Patents Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed July 27, 1903. Serial No. 167,142.

Claim.—1. In a swaging apparatus, the combination of oscillating rolls carrying swaging-dies, a mandrel extending through between the dies, a cross-head operated by the rolls, a sleeve surrounding the mandrel and connected to the cross-head, and means for adjusting the sleeve in the cross-head, substantially as set forth.

2. In a swaging apparatus the combination of oscillating rolls carrying swaging-dies, a mandrel extending through between the dies, a cross-head operated by the rolls, a threaded sleeve arranged in a threaded opening in the cross-head, and provided with means for engaging the article operated on and automatic means for rotating the sleeve, substantially as set forth.

3. In a swaging apparatus the combination of oscillating reducing-dies, a cross-head, means for oscillating the cross-head synchronous with the dies and feed mechanism

operated by the oscillations of the cross-head, substantially as set forth.



4. In a swaging apparatus the combination of oscillating reducing-dies, a cross-head, means for oscillating the cross-head synchronous with the dies, feed mechanism and means for rotating the article, means whereby the feed mechanism and rotating means may be operated by the oscillations of the cross-head.

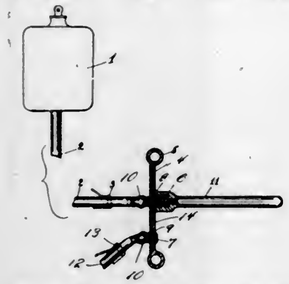
5. In a swaging-machine the combination of oscillatory dies or swages, a cross-head, rods connected to the cross-head and engaged by the dies or swages, a billet-holder movable by the cross-head, a feed mechanism having a stationary member and a member in engagement therewith and movable by the cross-head and adapted to be operated by such engagement during the movement of the cross-head.

6. In a swaging-machine the combination of oscillating dies or swages, a cross-head operated by and synchronous with the dies or swages, a billet-holder movable by the cross-head, a mechanism for feeding forward and rotating the holder having relatively movable and stationary interengaging members, the movable member being arranged to be shifted by the cross-head and operated by its engagement with the stationary member to effect the feed and rotation of the holder.

844,335. SYRINGE. JOSEPH H. DODSON, Chicago, Ill. Filed Jan. 30, 1905. Serial No. 243,180.

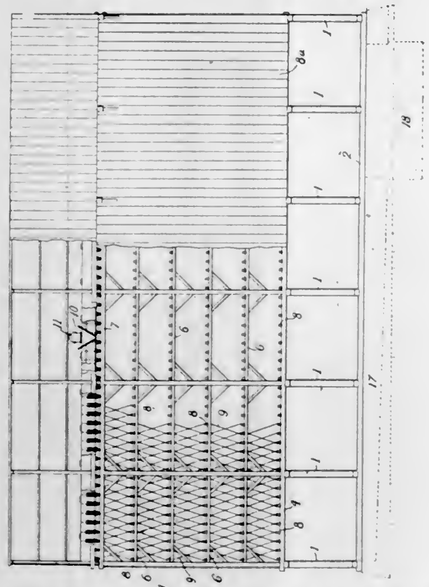
Claim.—1. In a device of the character set forth, the combination with a source of supply and a feed-tube, of an injector or nozzle-tip removably applied to a shield formed of rubber having a cushion of tubular construction extending around its periphery, said cushion being provided with an air-chamber in its interior, said shield having openings therein, nipples mounted in said openings, said shield and said cushion being formed integral, said shield being provided with a stiffening-plate of suitable material, for the purpose set forth substantially as described.

2. In a device of the character set forth, the combination with a source of supply and a feed-tube, of an injector or nozzle-tip removably applied to a shield formed of rubber having a cushion of tubular construction extending around its periphery, said cushion being provided with an air-chamber in its interior, said shield having openings therein, nipples mounted in said openings, said nipples having openings or passages extending through, one of said nipples being provided with an exterior-



threaded portion, a nozzle-tip mounted upon the said threaded portion, means to permit the inflow and outflow of the cleansing fluid and means to cut out the said flow, said shield and said cushion being formed integral, said shield being provided with a stiffening-plate of suitable material, for the purpose set forth substantially as described.

844,336. APPARATUS FOR COOLING LIQUIDS. HENRY L. DOHERTY, Madison, Wis., assignor to The Improved Equipment Company, Denver, Colo., a Corporation of Colorado. Filed Dec. 13, 1904. Serial No. 236,700.



Claim.—1. In a cooling apparatus, the combination of a frame, a plurality of radiation sheets or strips suspended vertically therein in zigzag lines in staggered relation to one another, and means for discharging liquid upon the said sheets or strips, as set forth.

2. In a cooling apparatus, the combination of a frame, a plurality of exposure strips or sheets suspended vertically therein, arranged edge to edge in one direction across the frame and side by side in another direction across the frame, forming rows or series across the apparatus, and a plurality of spaced stringers extending across the frame and engaging alternate strips, whereby the latter are given a sinuous form, as set forth.

3. In a cooling apparatus, the combination of a frame, an exposure-surface therein, and means for discharging liquid upon the said surface, comprising a plurality of conduits discharging upon said surface, and one or more sluices discharging into the conduits, said sluices being adapted to maintain a substantially uniform head of liquid throughout their extent; as set forth.

4. In a cooling apparatus, the combination of a frame, an exposure-surface therein, a plurality of transverse conduits discharging liquid upon said surface, a pair of longitudinal sluices discharging into the conduits at the ends thereof, a transverse trough discharging into the sluices, and means for maintaining a substantially uniform head of liquid in the sluices, as set forth.

5. In a cooling apparatus, a distributing-sluice of unvarying depth and varying cross-section whereby a substantially uniform head of liquid will be maintained throughout its length, as set forth.

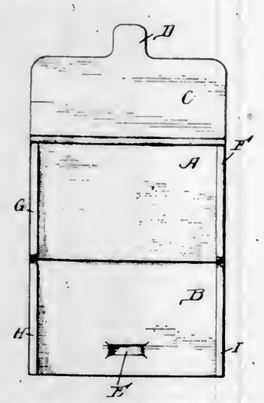
6. In a cooling apparatus, a distributing-sluice of unvarying depth, having parallel side walls, and a diagonal partition therein having ports for delivering liquid from one division of the sluice to the other, as set forth.

7. In a cooling apparatus, the combination of a distributing-sluice of unvarying depth and varying cross-section, whereby a substantially uniform head of liquid will be maintained throughout its length, a plurality of conduits extending laterally from the sluice, having discharge-apertures, and a plurality of exposure sheets or strips depending from the conduits to receive liquid therefrom, as set forth.

8. In a cooling apparatus, the combination of a distributing-sluice of unvarying depth, having parallel side walls and a diagonal aperture therein having ports for delivering liquid from one division of the sluice to the other, a plurality of conduits extending laterally from the sluice and having apertures for the discharge of liquid, and a plurality of exposure sheets or strips depending from the conduits to receive liquid therefrom, as set forth.

9. In a cooling apparatus, the combination of an open supporting-frame consisting of a plurality of trusses; a superstructure composed of vertical side members, a plurality of horizontal string-pieces carried thereby, a plurality of stringers carried by the string-pieces, and a wall surrounding the superstructure; a plurality of sheets or strips of organic fabric disposed vertically on the stringers; a distributing system for discharging liquid upon the said sheets or strips at their upper ends and at substantially the same rate upon all; a casing surrounding the distributing system; and means below the superstructure for collecting the cooled liquid; as set forth.

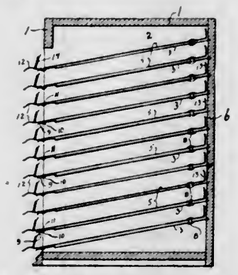
844,337. IMITATION POCKET-BOOK. FRANK S. EGLOFF, Chicago, Ill. Filed Aug. 17, 1906. Serial No. 331,036.



Claim.—1. As an article of manufacture an imitation pocket-book, comprising a rear portion, an inner and outer flap, means imitating a pocket-book for detachably securing said flaps together and plaits upon the inside ends of the rear wall and inside flap so that when the device is folded together as described it resembles a pocket-book.

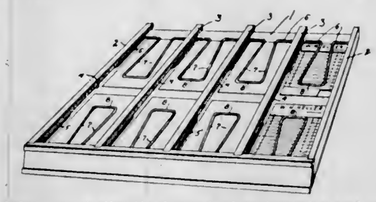
2. As an article of manufacture an imitation pocket-book comprising a rear portion, an inner and outer flap, means imitating a pocket-book for detachably securing said flaps together, and plaits inside the ends of the pocket-book resembling those of a genuine pocket-book while permitting opening of the book as described, the inner faces of the rear portion and inner and outer flaps being adapted to have printed matter placed thereon for the purposes set forth.

844,338. CREDIT-CABINET. WALTER M. ELLETT and ROLLO M. VICK, Alliance, Ohio. Filed Mar. 13, 1905. Serial No. 249,748.



Claim.—In a credit-cabinet, the combination of a casing, fixed plates provided with corrugations upon their forward edges, and movable plates located upon the fixed plates and provided with a grooved or corrugated portion upon their forward edges, said corrugated portion adapted to be seated in one of the corrugations in the fixed plates, substantially as and for the purpose specified.

844,339. FILE-CLIP. WALTER M. ELLETT and ROLLO M. VICK, Alliance, Ohio. Filed Mar. 13, 1906. Serial No. 305,795.



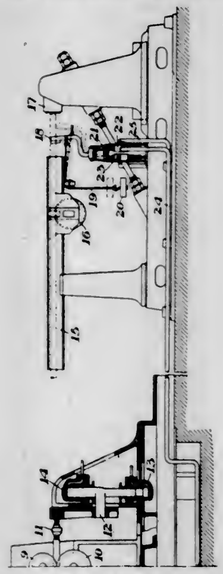
Claim.—1. A file-clip formed of spring-wire and consisting of fixed portions held in secured positions, angled members connected to said fixed portions, binding members connected to the angled members, said binding members located between the fixed members and spaced therefrom, and means adapted to join the binding members, substantially as and for the purpose specified.

2. The combination of a board or drawer provided with flanges and strips, grooves formed in the flanges and strips, a clip consisting of outer secured members, angled members and binding members, the binding members adapted to lie in parallel position with the face of the board or drawer at different spaced relation therefrom, substantially as and for the purpose specified.

844,340. TROUGH SYSTEM FOR PIPE-WELDING APPARATUS. CHARLES FELL, Elyria, Ohio, assignor to National Tube Company, Pittsburg, Pa., a Corporation of New Jersey. Filed June 7, 1906. Serial No. 320,538.

Claim.—1. In welding apparatus, a trough having pipe-ejector mechanism, stripping mechanism arranged to withdraw the welding-bar from a pipe in the trough, and a device located in position to be actuated by the movement of

the welding-bar and arranged to start the ejector mechanism into movement at a predetermined point in the travel of the welding-bar; substantially as described.



2. In welding apparatus, a trough having side ejector mechanism, a pinch-roll device arranged to strip the welding-bar from the pipe, and a device located in position to be actuated by the movement of the welding-bar, and arranged to start the ejector mechanism into movement at a predetermined point in the travel of the welding-bar; substantially as described.

3. In pipe-welding apparatus, a trough, side ejector mechanism therefor, stripping mechanism for withdrawing the welding-bar, a movable back-stop under the control of the operator, and an element in the rear of said back-stop and in the path of the welding-bar, said element being arranged to start the ejector mechanism into movement; substantially as described.

4. In pipe-welding apparatus, a trough, side ejector mechanism therefor, a motor for the ejector mechanism, a stripping device, a movable back-stop under the control of the operator, and an element in the path of the mandrel-bar and in the rear of the back-stop, said device controlling the valve for the ejector-motor; substantially as described.

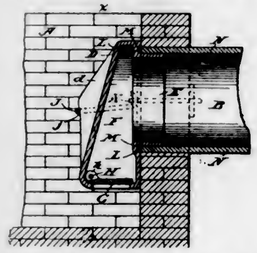
5. In welding apparatus, a trough, ejector mechanism therefor, reversible pinch-rolls, a movable back-stop, and a lever in the path of the welding-bar and in the rear of the back-stop, said lever having connections controlling the movement of the trough-ejector mechanism; substantially as described.

6. In welding apparatus, a trough or receiver, ejector mechanism therefor, a pair of pinch-rolls arranged to withdraw the welding-bar, a movable back-stop under the control of the operator, another back-stop to stop the stripping movement of the bar, a lever in the path of the bar near the rear back-stop, and a motor controlled by the movement of the latter lever and having connections arranged to actuate the trough-ejector; substantially as described.

844,341. SEWER-TRAP FOR CATCH-BASINS. FREDERICK C. FEW, Albany, N. Y., assignor of one-half to Peiatiah J. Marsh, Troy, N. Y. Filed Mar. 29, 1906. Serial No. 308,626.

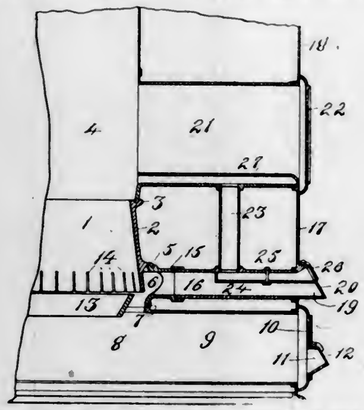
Claim.—1. The combination of a catch-basin; a sewer-pipe communicating therewith; a casting; an annular flange on one side thereof adapted to enter said sewer-pipe; an hydraulically-operated gate in said casting; a bail secured at each end to the wall of said catch-basin; a ridge on said casting with which said bail engages, for the purpose of holding the casting in operative position.

2. A sewer-trap adapted to be placed in a catch-basin, comprising a casting; an annular flange on one side thereof; an hydraulically-operated gate in said casting; a ridge on the back of said casting provided with a depression therein; a bail secured to the side of said catch-basin adapted to engage said depression in said ridge.



3. A sewer-trap adapted to be placed in a catch-basin, comprising a one-piece casting; an annular flange on one side thereof, adapted to enter the sewer-pipe; a horizontally-disposed gate hinged to the side of said casting; said gate adapted to close the port on that side of the casting which faces the bottom of the catch-basin when the trap is in position; a seal for said trap comprising the said gate and the walls of said casting below the bottom of the sewer-pipe, whereby a pocket is formed for water; with a means for removably attaching said trap to said sewer-pipe.

844,342. STOVE AND FURNACE. FRANK FIEBEGER, Akron, Ohio. Filed Nov. 14, 1906. Serial No. 343,419.



Claim.—1. A heating device of the type described, comprising in combination a heater, a fuel-pouch extending to said heater, an annular air-duct surrounding said heater, an air-inlet independent of the ash-pit of the device extending to said annular member, an air-passage extending from said air-inlet to said fuel-pouch and in open communication with both.

2. A heating device of the class described, comprising in combination a heater, a fuel-pouch extending to said heater, an annular air-duct surrounding said heater, a divided air-inlet one of the portions of which extends to said annular member, and an air-passage extending from one portion of said divided air-inlet to said fuel-pouch.

3. A heating device of the type described, comprising in combination a heater, a fuel-pouch extending to said heater, an annular air-duct surrounding said heater, an air-inlet a portion of which extends to said annular member, an air-passage extending from the other portion of said air-inlet to said fuel-pouch, and means to control the admission of air to both portions of said divided air-inlet.

4. A heating device of the type described, comprising in combination a heater, a fuel-pouch extending to said heater, an annular air-duct surrounding said heater, an air-inlet a portion of which is divided into two air-passages one of which extends to said annular member, an air-passage extending from the other portion of said air-inlet to said fuel-pouch, and means to admit air separately to one of the air-passages in said air-inlet.

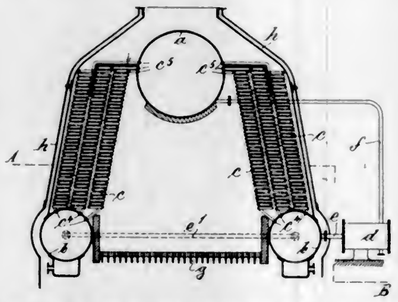
5. A heating device of the class described, comprising in combination a heater, a divided fuel-pouch extending to said heater, an annular air-duct surrounding said heater, an air-inlet independent of the ash-pit of the device extending to said annular air-duct and an air-passage leading from said air-inlet to one of the portions of said fuel-pouch.

6. A heating device of the type described, comprising in combination a heater, a fuel-pouch extending to said heater, an annular air-duct surrounding said heater, an air-inlet independent of the ash-pit of the device extending to said annular member, an air-passage extending from said air-inlet to said fuel-pouch, and means to prevent solid matter from lodging in said air-passage.

7. A heating device of the type described, comprising in combination a heater, a fuel-pouch divided into two portions extending to said heater, an annular air-duct surrounding said heater, a divided air-inlet containing two air-passages, one of which extends to said annular member, and an air-passage extending from the other air-passage in said air-inlet to one of the portions of said divided fuel-pouch.

8. A heating device of the type described, comprising in combination a heater, a fuel-pouch extending to said heater, means in said fuel-pouch to form an air-passage therein, an annular air-duct surrounding said heater, an air-inlet divided into two air-passages, one of which extends to said annular member, an air-passage extending from one of the air-passages in said air-inlet to the air-passage in said fuel-pouch, and means to control the admission of air to said annular member and the air-passage in said fuel-pouch may be controlled.

844,343. WATER-TUBE BOILER. OSWALD FLAMM, Charlottenburg and FRIEDRICH ROMBERG, Nicolasse, near Wannsee, Germany. Filed Sept. 15, 1905. Serial No. 278,688.



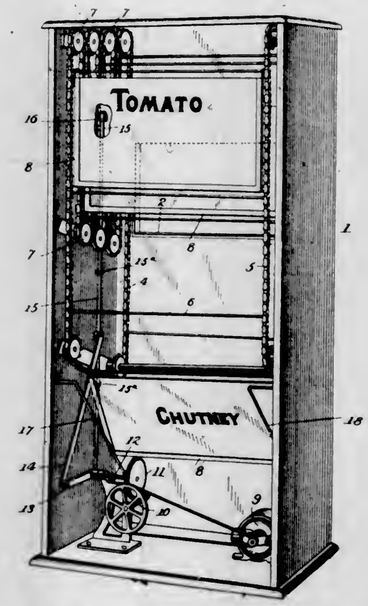
Claim.—1. A water-tube boiler comprising in combination: lower boilers, a connecting-pipe joining the said lower boilers, a circulating-pump in communication with said connecting-pipe and forcing water into said connecting-pipe and said lower boilers for producing a rapid water circulation, long and narrow water-tubes being joined with their lower ends to said lower boilers, an upper boiler in communication with the upper ends of said long narrow water-tubes, and a pipe in communication with the upper boiler and the circulating-pump for the purpose of conveying the water not evaporated to the pump.

2. A water-tube boiler comprising in combination a lower boiler, a connecting-pipe joining the said lower boilers, a circulating-pump in communication with said connecting-pipe and forcing water into said connecting-pipe and said lower boilers for producing a rapid water circulation, long and narrow water-tubes being joined with their lower ends to said lower boilers, nozzles provided at the tube ends, an upper boiler into which said nozzles discharge, a pipe in communication with the upper boiler and the circulating-pump for the purpose of conveying the water not evaporated to the pump.

3. A water-tube boiler comprising in combination lower boilers, an upper boiler, long and narrow water-tubes situated between said boiler and formed of helical tubes alternatingly right-hand and left-hand threaded, and put together with their windings, a circulating-pump forcing water into said boilers and water-tubes for producing a rapid water circulation, and a pipe in communication with the upper boiler and the circulating-pump for the purpose of conveying the water not evaporated to the pump.

4. A water-tube boiler comprising in combination lower boilers, a connecting-pipe joining said lower boilers, a circulating-pump in communication with said connecting-pipe and forcing water into the connecting-pipe and said lower boilers for producing a rapid water circulation, long and narrow water-tubes joined with their lower ends to the lower boilers and formed of serpentine tubes c^4 c^5 c^6 forming gas-passages, and of serpentine tubes c^8, an upper boiler in communication with the upper ends of said water-tubes, and a pipe in communication with the upper boiler and the circulating-pump for the purpose of conveying the water not evaporated to the pump.

844,344. ADVERTISING-CABINET. ELMER FLETCHER, Indianapolis, Ind., assignor of one-third to Edward De Groot and one-third to Ernest C. Phillips, Indianapolis, Ind. Filed May 24, 1905. Serial No. 261,968.



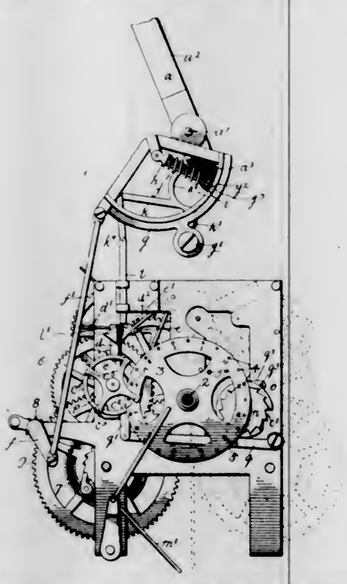
Claim.—1. The combination with a cabinet having an opening, of a flexible conveyer therein, guides for causing the conveyer to assume a series of vertical convolutions and to pass beneath said convolutions, from the end to

the beginning of said series, display devices swung from said conveyer so that they tend to maintain vertical positions, means for intermittently moving said conveyer mounted below said conveyer, and a guide arranged between said conveyer and said moving means and adapted to engage with said display devices to move them from vertical positions as the conveyer carries them beneath the convolutions, whereby the moving means may be located closer to the said conveyer.

2. The combination with a cabinet having an opening, of an endless conveyer therein, adapted during part of its circuit to travel in an approximately horizontal path, display devices swung from said conveyer and tending to maintain vertical positions, driving means for said conveyer mounted below said conveyer at a distance therefrom less than the vertical dimensions of said display devices, and a guide adapted to engage said display devices to move them from vertical positions as they are carried by said conveyer in its horizontal path.

3. The combination with a cabinet having an opening, of a suitably-mounted conveyer therein, driving means for said conveyer located below said conveyer, display devices swung from said conveyer and tending to maintain vertical positions, said display devices having vertical dimensions greater than the distance between said conveyer and said driving means, whereby the devices in their passage over the driving means would collide therewith if permitted at that time to hang vertically, and a guide adapted to engage with said devices to move them from vertical positions during their passage over the driving means.

844,345. ELECTRIC TIME-SWITCH. MALON I. FLOWERS, Lincoln, Ark. Filed Nov. 22, 1905. Serial No. 288,604.



Claim.—1. In an electric time-switch, the combination with the mechanism of a clock having strike mechanism, of a switch-lever, means including a coil-spring having operation in the direction of its axis, and having operative connection with the strike mechanism of the clock, for shifting said lever, means for releasing the clock strike mechanism to shift said lever at predetermined times, and means for stopping the action of the clock strike mechanism, substantially as specified.

2. In an electric time-switch, the combination with clock mechanism having strike mechanism, of a switch-lever, mechanical means including a coil-spring having operation in the direction of its axis, and having operative connection with the strike mechanism of the clock, for shifting said lever, means having operative connection with the clock mechanism for releasing the strike mechanism to shift said lever at predetermined times, and means for automatically stopping the action of the clock strike mechanism, substantially as specified.

3. In an electric time-switch, the combination with clock mechanism having strike mechanism, of a switch-lever, mechanical means including a coil-spring having operation in the direction of its axis, and having operative connection with the strike mechanism of the clock, for shifting said lever, a time-wheel upon the hour-hand shaft, means having operative connection with said time-wheel for releasing the strike mechanism to shift said lever at predetermined times, and means for stopping the action of the strike mechanism, substantially as specified.

4. In an electric time-switch, the combination with the mechanism of a clock having strike mechanism, of a switch-lever, means including a coil-spring having operation in the direction of its length and having operative connection with the strike mechanism of the clock, for shifting said lever, a time-wheel upon the hour-hand shaft having a series of perforations, a pin for adjustment in said perforations, means having operative connection with said pin for releasing the strike mechanism to shift said lever at predetermined times, and means for stopping the action of the strike mechanism, substantially as specified.

5. In an electric time-switch, the combination with clock mechanism having strike mechanism, of a switch-lever, means including a coil-spring having operation in the direction of its length and having operative connection with the strike mechanism of the clock, for shifting said lever, a time-wheel upon the hour-hand shaft having a series of perforations, a pin for adjustment in said perforations, a trip-lever for releasing and stopping the strike mechanism of the clock, means operated by the pin of the time-wheel at predetermined times for actuating said trip-lever to release the strike mechanism, and means operated by said switch-lever to release the trip-lever and stop the strike mechanism, substantially as specified.

6. In an electric time-switch, the combination with clock mechanism having strike mechanism, of a switch-lever, a time-wheel upon the hour-hand shaft having a series of perforations, a pin for adjustment in said perforations, a trip-lever for starting and stopping the clock strike mechanism, a trip-wheel operated by the pin of the time-wheel at predetermined times to raise said trip-lever and release the strike mechanism, a pivoted quadrant having operative connection with said strike mechanism, a spring device carried by said quadrant for shifting the switch-lever, and means operated by said switch-lever for releasing said trip-lever to stop the strike mechanism, substantially as specified.

7. In an electric time-switch, the combination with clock mechanism, having strike mechanism, of a switch-lever, a time-wheel upon the hour-hand shaft having a series of perforations, a pin for adjustment in said perforations, a trip-lever for controlling the clock strike mechanism, a trip-wheel operated by the pin of the time-wheel at predetermined times to raise said trip-lever and release the strike mechanism, a pivoted quadrant having operative connection with said strike mechanism, a spring-holding arm pivoted at the meeting radii of the quadrant and engaging a slot in the arc of the quadrant, an arm of said switch-lever having a lateral projection engaging a slot of said spring-holding arm, a coil-spring upon the spring-holding arm between the pivot thereof and the lateral projection of the switch-lever, and means operated by said switch-lever engaging the trip-wheel to release the trip-lever and stop the clock strike mechanism, substantially as specified.

8. In an electric time-switch, the combination with clock mechanism having strike mechanism, of a switch-lever, a time-wheel upon the hour-hand shaft having a series of perforations, a pin for adjustment in said perforations, a trip-lever controlling the clock strike mechanism, a trip-wheel operated by the pin of the time-wheel at predetermined times to raise said trip-lever and release the strike mechanism, a pivoted quadrant having operative connection with the strike mechanism of the clock, a spring-holding arm pivoted at the meeting radii of the quadrant and engaging a slot in the arc of the quadrant, an arm of said switch-lever having a lateral projection engaging a slot of the spring-holding arm, a coil-spring upon the spring-holding arm between the pivot thereof and the lateral projection of the switch-lever, a forked lever embracing the lateral projection of the switch-lever and operated thereby, and a rod having a double cam portion engaging the trip-wheel to release the trip-lever and stop the clock strike mechanism, and having connection with said forked lever, substantially as specified.

9. In an electric time-switch, the combination with clock mechanism having strike mechanism, of a switch-lever, a time-wheel upon the hour-hand shaft having a series of perforations, a pin for adjustment in said perforations, means having operative connection with the strike mechanism of the clock and set in action by the pin of the time-wheel for shifting said lever at predetermined times, means for stopping the action of the strike mechanism, and an alarm device having an arm extending in the path of the pin of the time-wheel to give notice at a predetermined time before the shifting of the switch-lever, substantially as specified.

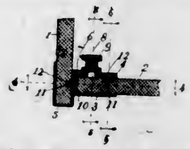
10. In an electric time-switch, the combination with clock strike mechanism, of a switch-lever, a time-wheel upon the hour-hand shaft having a series of perforations, a pin for adjustment in said perforations, means having operative connection with the strike mechanism of the clock and set in action by the pin of the time-wheel for shifting said lever at predetermined times, means for stopping the action of the strike mechanism, a second pin engaging an inner perforation of the time-wheel, and means operated by said second pin for stopping the action of the switch-lever-shifting mechanism for a predetermined time, substantially as specified.

11. In an electric time-switch, the combination with clock strike mechanism, of a switch-lever, a time-wheel upon the hour-hand shaft having a series of perforations, a pin for adjustment in said perforations, means having operative connection with the clock strike mechanism and set in action by the pin of the time-wheel for shifting said switch-lever every twelve hours at predetermined times, means for stopping the action of the strike mechanism, a second pin engaging an inner perforation of the time-wheel, and means operated by said second pin for stopping the action of the switch-lever-shifting mechanism for a given time every week longer than twelve hours, substantially as specified.

12. In an electric time-switch, the combination with clock mechanism having strike mechanism, of a switch-lever, a time-wheel upon the hour-hand shaft having a series of perforations, a pin for adjustment in said perforations, a trip-lever for controlling the clock strike mechanism, a trip-wheel operated by the pin of the time-wheel at predetermined times to raise said trip-lever and release the strike mechanism, a pivoted quadrant having operative connection with said strike mechanism, a spring device carried by said quadrant for shifting the switch-lever, means operated by said switch-lever for releasing the trip-lever to stop the strike mechanism, a second pin engaging an inner perforation of the time-wheel, a toothed wheel operated by said second pin, a notched cam-wheel upon the shaft of said toothed wheel, a lever having a lateral projection resting upon the rim of said cam-wheel and adapted to fall into the notch thereof, said lever having connection with the trip-wheel to raise and lower the same into and out of engagement with the trip-lever for stopping the action of the switch-lever-shifting mechanism for a predetermined time, substantially as specified.

844,346. CLAMP FOR HOLDING GLASS PLATES. LOUIS GALLOT, Grand Rapids, Mich., assignor to Grand Rapids Show Case Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Oct. 23, 1906. Serial No. 340,181.

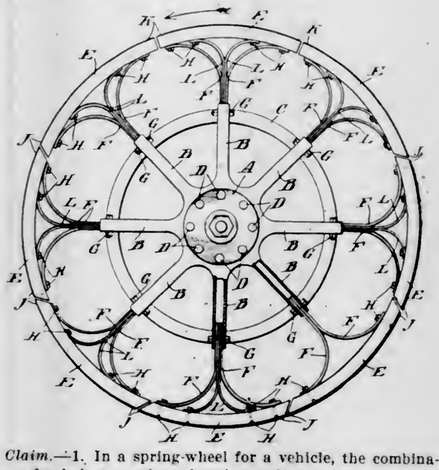
Claim.—1. In combination with two glass plates arranged with the side of one plate opposite the edge of the other plate, a U-shaped clamp embracing the edge of each plate and secured thereto, an extension on the end of one member of the clamp on the first-named plate and at an angle therewith, and means for detachably securing said extension to the inner member of the other clamp.



2. In combination with two glass plates, a U-shaped clamp embracing the edge of each plate and secured thereto, a stud fixed in one member of one clamp, an extension at one end of one member of the other clamp, and having an opening to receive the stud, and a nut on the stud to engage said extension and bind it against the clamp member having said studs therein.

3. The combination of two glass plates arranged at right angles, one plate having its edge abutting against the side of the other plate and also having a recess in said edge to receive the clamps, clamps embracing the edges of the respective plates and secured thereto by soft-metal lugs, said lugs being inserted in openings in said clamps and engaging grooves in said plates, a screw-threaded stud in one clamp, an extension on the other clamp and at right angles thereto, said extension also having a slot to receive the stud and a nut on the stud to engage said extension.

844,347. WHEEL. WILLIAM F. GRELL, New York, N. Y. Filed Jan. 27, 1906. Serial No. 298,186.



Claim.—1. In a spring-wheel for a vehicle, the combination of a hub, a number of spokes radiating from the hub, a sectional rim, one section for each spoke, flexible spring-spokes placed back to back in pairs, the inner ends attached to the end of each spoke, the outer ends being bent and attached to each end of the rim-sections.

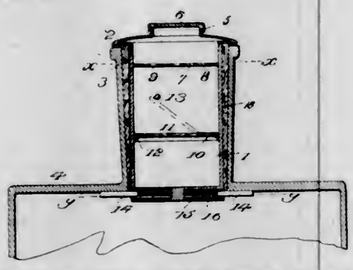
2. In a spring-wheel for a vehicle, the combination of a hub, a number of spokes radiating from the hub, a sectional rim, one section for each spoke, a number of flexible spring-spokes placed back to back in pairs, the inner ends attached to the end of each spoke, the outer ends being bent and attached to each end of the rim-sections, the ends of said rim-sections being formed so as to overlap one another.

3. In a spring-wheel for a vehicle, the combination of a hub, a number of spokes radiating from the hub, a sectional rim, one section for each spoke, a number of flexible spring-spokes placed back to back in pairs, means for attaching the inner ends of the springs to the spokes, and

means for attaching the bent outer ends of the springs to the ends of the rim-sections, said ends being formed to partially shift the load on the next preceding rim-section.

4. In a spring-wheel for a vehicle, the combination of a hub, a number of spokes radiating from the hub, a sectional rim, one section for each spoke, a number of flexible spring-spokes placed back to back in pairs, bolts for attaching the inner ends of the springs to the spokes, and bolts for attaching the bent outer ends of the springs to the ends of the rim-sections.

844,348. NON-REFILLABLE BOTTLE. CONRAD A. GRIMM, New York, N. Y. Filed Nov. 2, 1906. Serial No. 341,793.



Claim.—1. Protective means for bottles and the like, the same comprising a hollow body or shell, a partition near the outer end of the shell having an imperforate and a perforate portion, and a valved partition located within the hollow body and having an upwardly-opening valve arranged in line with the imperforate portion of the aforementioned partition.

2. In protective means for bottles and the like, a hollow body having an outer flange at its outer end and having its ends closed and egress-openings formed in the closed ends, the opening in the outer end adapted to have a closure fitted thereto, a partition arranged within the hollow body near its outer end and comprising an imperforate and a perforate portion, and a valved partition arranged about midway of the hollow body and provided with an upwardly-opening flap-valve arranged opposite to and in line with the imperforate portion of the aforesaid partition.

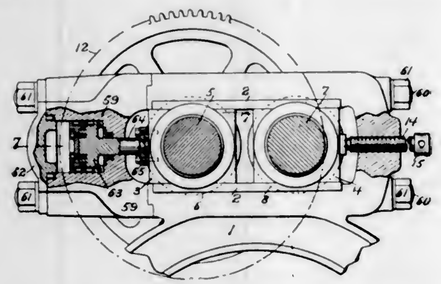
3. The herein-described protector for bottles or the like comprising a hollow body closed at opposite ends and having an outer flange at its outer end and having a series of openings in its inner end, spring-actuated lock devices fitted in the openings at the inner end of said hollow body, a partition near the outer end of the hollow body comprising an imperforate and a perforate portion, a valve-partition intermediate the ends of the hollow body and having a flap-valve adapted to open upward, a stop for limiting the opening movement of the flap-valve, the latter being arranged opposite to the imperforate portion of the aforesaid partition, and a cap for closing the opening in the outer end of the hollow body, the inner end of said hollow body having egress-openings in the portions between said spring-actuated lock devices.

844,349. MILL ROLL CONTROLLING AND POSITIONING DEVICE. BERNARD O. HALE, Derby, Conn., assignor to Farrel Foundry & Machine Company, New Haven, Conn., a Corporation of Connecticut. Filed June 14, 1906. Serial No. 321,710.

Claim.—1. The combination with a pair of rolls, of adjusting means for determining the working position of the rolls, a fluid-pressure controlling device, and means for operating said device to cause the rolls to be in or out of working position.

2. The combination with a pair of rolls, of adjusting means for determining the working position of the rolls, a fluid-pressure controlling device, means whereby said device is caused to maintain a cushioned pressure on the rolls in excess of the normal load thereon, and means for operating said device to cause the rolls to be in or out of working position.

3. The combination with a pair of rolls, of adjusting means for determining the working position of the rolls, a fluid-pressure controlling device, connections from said device to one of the rolls, and means for operating said device to move the roll out of and into its working position.



4. The combination with a pair of rolls, of adjusting means for determining the position of the rolls, a fluid-pressure controlling device, connections from said device to one of the rolls, means whereby said device is caused to maintain a cushioned pressure on the rolls in excess of the normal load thereon, and means for operating said device to move the roll into and out of working position.

5. The combination with a pair of rolls, of means including an adjusting-screw for determining the working position of the rolls, a controlling device, and means for operating said device to cause the rolls to be in or out of the working position determined by the screw.

6. The combination with a pair of rolls, of means including an adjusting-screw for determining the working position of the rolls, a fluid-pressure controlling device, and means for operating said device to cause the rolls to be in or out of the working position determined by the screw.

7. The combination with a pair of rolls, of means including an adjusting-screw for determining the working position of the rolls, a fluid-pressure controlling device, means for causing said device to maintain a cushioned pressure on the roll in excess of the normal load thereon, and means for operating said device to cause the rolls to be in or out of the working position determined by the screw.

8. The combination with a pair of rolls, of means including a screw for adjusting one of the rolls to determine the working position of the rolls, a fluid-pressure controlling device, connections from said device to the other roll, and means for operating said device to move said roll into or out of the determined working position.

9. The combination with a pair of rolls, of means for adjusting one of the rolls to determine the working position thereof, a pair of fluid-operated pistons, said pistons being located at opposite ends of the other roll, chambers in which said pistons work, and means for admitting fluid under pressure to the chambers on opposite sides of the pistons to move the rolls into and out of the determined working position.

10. The combination with a pair of rolls, of means for adjusting one of the rolls to determine the working position thereof, a pair of fluid-pistons, said pistons being located at opposite ends of the other roll, chambers in which said pistons work, means for maintaining the fluid under pressure, and valves for admitting fluid to the chambers on opposite sides of the pistons to move said roll into and out of working position.

11. The combination with a pair of rolls, of means for adjusting one of the rolls to determine the working position thereof, a pair of fluid-operated pistons, said pistons being located at opposite ends of the other roll, chambers in which said pistons work, an accumulator, connections leading from the accumulator to both sides of each piston in the chamber, and means whereby the flow from the accumulator may be directed into either chamber.

12. The combination with a frame, of a pair of rolls, bearings in which said rolls are mounted, adjusting means for determining the working position of the rolls, a pair of removable cap-pieces, controlling devices carried by the cap-pieces, and means for operating said devices to cause the rolls to be in or out of working position.

13. The combination with a frame, of a pair of rolls, mounted in the frame, adjusting means for determining the working position of the rolls, a pair of removable cap-pieces adjacent to the bearings of one of the rolls, a fluid-containing chamber in each cap-piece, a piston in each chamber, connections from the pistons to the bearings of one of the rolls, and means for admitting fluid under pressure to said chambers on each side of the pistons.

14. The combination with a frame, of a pair of rolls, sliding bearings in which the rolls are mounted, a screw adjustment operating in connection with the bearings of one of the rolls to determine the working position of the rolls a pair of removable cap-pieces adjacent the bearings of the other roll, each cap-piece being formed to provide a fluid-chamber, pistons working in said chambers, connections from the pistons to the adjacent roll-bearings, and means for admitting fluid under pressure to either side of the piston in each chamber.

15. The combination with a frame, of a pair of rolls, sliding bearings in which the rolls are mounted, a screw adjustment operating in connection with the bearings of one of the rolls to determine the working position of the rolls, a pair of removable cap-pieces adjacent the bearings of the other roll, each cap-piece being formed to provide a fluid-chamber, pistons working in said chambers, connections from the pistons to the adjacent roll-bearings, an accumulator for maintaining the fluid under pressure, and means for controlling the flow of the fluid so that it may pass to either side of the piston in each chamber.

16. The combination with a frame, of a pair of rolls, shafts on which the rolls are mounted, driving-gear on the shaft of one of the rolls, intermittent gearing between the shafts whereby the second roll is driven from the first roll, adjusting means for determining the working position of the rolls, and means for moving the roll having the drawing-gearing into and out of working relation with the other roll without disturbing the adjustment.

17. The combination with a frame, of a back roll, a shaft on which said roll is mounted, sliding bearings for the shaft, a driving-gear on one end of the shaft, a pinion on the other end of the shaft, a front roll, a shaft on which said roll is mounted, a pinion on said shaft meshing with the pinion on the back-roll shaft and driven thereby, adjusting means operating in connection with the front roll for determining the working position of the rolls, a controlling device, and means for operating said device to cause the rolls to be in or out of working position without disturbing the adjustment.

18. The combination with a frame, of a back roll, a shaft on which said roll is mounted, sliding bearings for the shaft, a driving-gearing on one end of the shaft, a pinion on the other end of the shaft, a front roll, a shaft in which said roll is mounted, a pinion on said shaft meshing with a pinion on the back-roll shaft and driven thereby, adjusting means operating in connection with the front roll for determining the working position of the rolls, a fluid-operated controlling device, and means for operating said device to cause the rolls to be in or out of working position without disturbing the adjustment.

19. The combination with a frame, of a front roll, a shaft on which said roll is mounted, sliding bearings for the shaft, a back roll, a shaft on which said roll is mounted, sliding bearings for that shaft, gearing between the roll-shafts, a screw adjustment operating in connection with the bearings of the front roll to determine the working position of the rolls, a controlling device, operating connections between said device and the bearings of the back roll, and means for operating said device to move the back roll into and out of working position without disturbing the adjustment.

20. The combination with a frame, of a front roll, a shaft on which said roll is mounted, sliding bearings for the shaft, a back roll, a shaft on which said roll is mounted, sliding bearings for that shaft, gearing between the roll-shafts, a screw adjustment operating in connection with the bearings of the front roll to determine the working position of the rolls, a fluid-operated controlling device, operating connections between said device and the bearings of the back roll, and means for operating said device to move the back roll into and out of working position without disturbing the adjustment.

21. The combination with a frame, of a front roll, a shaft on which said roll is mounted, sliding bearings for the shaft, a pair of adjusting-screws operating in connection with said bearings, a back roll, a shaft for that roll, bearings in which the shaft is mounted, a driving-gear on the shaft of the back roll, intermeshing gears between the shafts of the rolls whereby the back roll drives the front roll, fluid-operated controlling devices connected to the bearings of the back roll, and means for operating said devices to cause the rolls to be thrown into and out of working position.

22. The combination with a frame, of a front roll, a shaft on which said roll is mounted, sliding bearings for said shaft, a pair of adjusting-screws operating in connection with said bearings, a back roll, a shaft for that roll, bearings in which the shaft is mounted, a driving-gear on the shaft of the back roll, intermeshing gears between the shafts of the rolls whereby the back roll drives the front roll, a pair of removable cap-pieces adjacent to the bearings of the back roll, fluid-operated controlling devices mounted in said removable cap-pieces, connections from said devices to the bearings of the back-roll shaft, and means for operating said devices for moving the back roll into and out of working position with respect to the front roll.

23. The combination with a frame, of a front roll, a shaft on which said roll is mounted, sliding bearings for said shaft, a pair of adjusting-screws operating in connection with said bearings, a back roll, a shaft for that roll, bearings in which the shaft is mounted, a driving-gear on the shaft of the back roll, intermeshing gears between the shafts of the rolls whereby the back roll drives the front roll, a pair of removable cap-pieces adjacent to the bearings of the back roll, fluid-operated controlling devices mounted in said removable cap-pieces, connections from said devices to the bearings of the back-roll shaft, an accumulator for maintaining fluid under pressure, connections between said accumulator and said controlling devices, and means for operating said devices for moving the back roll into and out of working position with respect to the front roll.

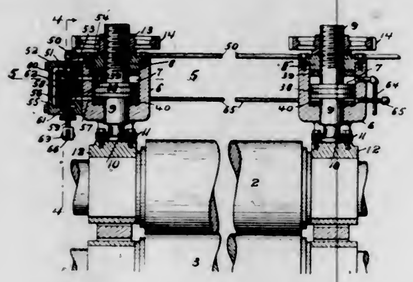
844,350. CONTROLLING AND POSITIONING DEVICE. BERNARD O. HALE, Derby, Conn., assignor to Farrel Foundry & Machine Company, New Haven, Conn., a Corporation of Connecticut. Filed June 14, 1906. Serial No. 321,711.

Claim.—1. The combination with a pair of rolls, of sliding bearings in which one of the rolls is mounted, a pair of plungers connected with the bearings, means for adjusting the plungers to determine the working position of the rolls, and means for operating the plungers to move the roll mounted in the sliding bearing into and out of working position without disturbing the adjustment.

2. The combination with a pair of rolls, of sliding bearings in which one of the rolls is mounted, a pair of threaded plungers connected to the bearings, adjusting-nuts whereby the working position of the rolls may be determined, and means for operating the plungers to move the roll mounted in the sliding bearings into and out of working position without disturbing the adjustment.

3. The combination with a pair of rolls, of means for adjusting one of the rolls to determine the working position of the rolls, and fluid-operated means for moving the adjusted roll into and out of working position without disturbing the adjustment.

4. The combination with a pair of rolls, of sliding bearings in which one of the rolls is mounted, a pair of plungers connected with the bearings, means for adjusting the plungers to determine the working position of the rolls, and fluid-operated means for operating the plungers to move the roll mounted in the sliding bearings into and out of working position without disturbing the adjustment.



5. The combination with a pair of rolls, of sliding bearings in which one of the rolls is mounted, a pair of threaded plungers connected to the bearings, adjusting-nuts whereby the working position of the rolls may be determined, and fluid-operated means for operating the plungers to move the roll mounted in the sliding bearings into and out of working position without disturbing the adjustment.

6. The combination with a pair of rolls, of sliding bearings in which one of the rolls is mounted, plungers connected to the bearings, means for adjusting the plungers to determine the working position of the rolls, fluid-containing chambers through which the plungers move, piston-heads mounted on the plungers, and means for admitting fluid under pressure on either side of the piston-heads in the chambers, whereby the roll in the sliding bearings may be moved into and out of working position without disturbing the position of the adjustment.

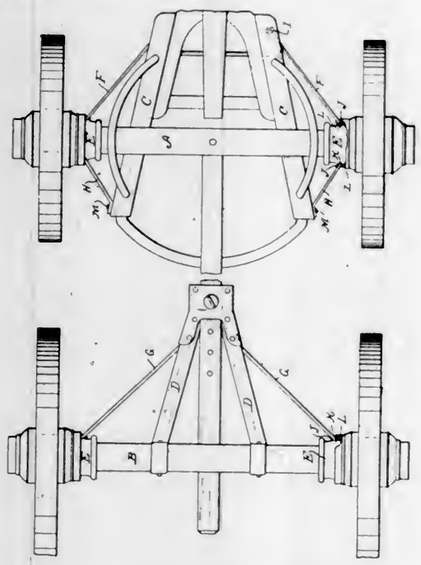
7. The combination with a pair of rolls, of sliding bearings in which one of the rolls is mounted, threaded plungers connected to the bearings, mechanically-operated nuts for adjusting the working position of the rolls, fluid-containing chambers through which the plungers move, piston-heads mounted on the plungers, and means for admitting fluid under pressure to the chambers on either side of the heads.

8. The combination with a pair of rolls, of sliding bearings in which one of the rolls is mounted, threaded plungers connected to the bearings, mechanically-operated nuts, for adjusting the working position of the rolls, fluid-containing chambers through which the plungers move, piston-heads mounted on the plungers, an accumulator for maintaining fluid under pressure, and means for delivering the fluid from the accumulator to the chambers on either side of the piston-heads.

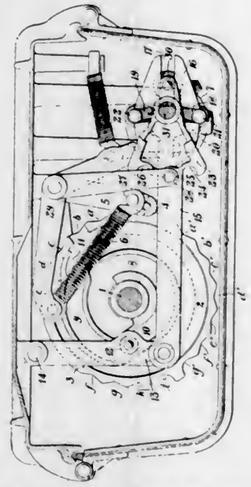
844,351. DRAFT MECHANISM FOR WAGONS. NELS HALVORSEN, Stoughton, Wis. Filed Apr. 17, 1905. Serial No. 255,903.

Claim.—The combination in a wagon of axle-inclosing skeins provided with apertured lugs formed integrally therewith, located in close proximity to the bearing-surfaces of the hubs, substantially on a plane with the longitudinal center of the skeins between their upper and lower sides, draw-bars and brace-bars provided with downwardly-projecting hooks at one end engaging said apertured lugs and connected at their opposite ends by bolts to the wagon-hounds, all substantially as and for the purpose specified.

844,351.



844,352. CONTROLLER FOR ELECTRIC MOTORS. HARRY U. HART, Le Havre, France, assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed June 12, 1905. Serial No. 264,836.



Claim.—1. The combination with an electrical supply-circuit, two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, and an electrically-operated braking device, of means for connecting the motors with and disconnecting them from the supply-circuit and for connecting them in a closed circuit having an equalizing connection for normal braking, and means for connecting the armature-windings of the motors respectively in series with the field-magnet windings of adjacent motors, without an equalizing connection for reverse braking.

2. The combination with an electrical supply-circuit, two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, and an electrically-operated braking device, of means for connecting the motors with and disconnecting them from the supply-circuit and for connecting them in a closed circuit, and means for interconnecting the armature and field-magnet windings of the motors so that the direction of current-flow in at least one field-magnet winding remains unchanged if the direction of rotation of the armatures is reversed.

3. The combination with an electrical supply-circuit and two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, of means for connecting the motors with and disconnecting them from the supply-circuit and for connecting them in parallel in a closed circuit for normal braking, and means for connecting the armature-windings of the motors respectively in series with the field-magnet windings of adjacent motors for reverse braking.

4. The combination with an electrical supply-circuit, and two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, of means for connecting the motors with and disconnecting them from the supply-circuit and for connecting them in parallel in a closed circuit for normal braking, and means for interconnecting the armature and field-magnet windings of the motors so that the direction of current-flow in at least one field-magnet winding remains unchanged when the direction of rotation of the armatures is reversed.

5. The combination with an electric supply-circuit and two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, of a controller comprising a main drum and a reversing-drum, means for automatically throwing the reversing-switch as the main drum moves from power position to braking position and vice versa, and means for connecting the motors in parallel in a closed circuit for normal braking and means for connecting the armature-windings respectively in series with field-magnet windings of adjacent motors for reverse braking.

6. The combination with an electrical supply-circuit and two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, of a controller comprising a main drum and a reversing-drum, means for automatically throwing the reversing-switch as the main drum moves from power position to braking position and vice versa, and means for interconnecting the armature and field-magnet windings of the motors in one of the braking positions so that the direction of current-flow in at least one field-magnet winding remains unchanged when the direction of rotation of the armatures is reversed.

7. The combination with an electrical supply-circuit, and two or more electric motors at least one of which has a higher electromotive force than the other or others when driven as a generator, the armature and field-magnet windings of each of said motors being normally series-connected, of a controller comprising a main drum and a reversing-switch, means for automatically throwing the reversing-switch as the main drum moves from the power position to braking position to connect the motors in parallel in a closed circuit for normal braking and means for moving the reversing-switch to another position to connect the armature-windings respectively in series with the field-magnet windings of adjacent motors for reverse braking.

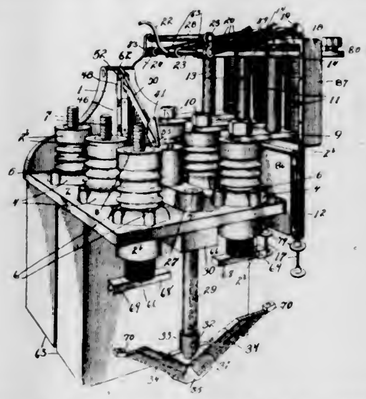
8. The combination with an electrical supply-circuit, two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, and an electrically-operated braking device, of a controller comprising a main drum and a reversing-switch, means for automatically throwing the reversing-switch as the main drum moves from power position to braking position and vice versa, and means for so interconnecting the armature and field-magnet windings of the motors in a closed circuit with the braking device that the direction of current-flow in at least one field-magnet winding remains unchanged when the direction of rotation of the armatures is reversed.

9. The combination with an electric supply-circuit and two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, of a controller comprising a main drum and a reversing-drum, means for automatically throwing the reversing-switch as the main drum moves from power position to braking position and vice versa, and means for automatically effecting further movement of the reversing-switch as the main drum moves from a given position to another.

10. The combination with an electric supply-circuit and two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, of a controller comprising a main drum and a reversing-drum, means for automatically throwing the reversing-switch as the main drum moves from power position to braking position and vice versa, and means for automatically effecting further movement of the reversing-switch as the main drum moves from a given position to another whereby the motors are connected in a closed circuit with their armature-windings respectively in series with field-magnet windings of adjacent motors.

11. The combination with a main drum and a reversing-switch, of means for automatically throwing the reversing-switch as the main drum moves from a given position to another position and vice versa, and means for automatically effecting further movement of the reversing-switch as the main drum moves from another given position to the next and vice versa.

844,353. CIRCUIT-BREAKER. FRANK O. HARTMAN, Mansfield, Ohio. Filed Feb. 25, 1904. Serial No. 195,225.



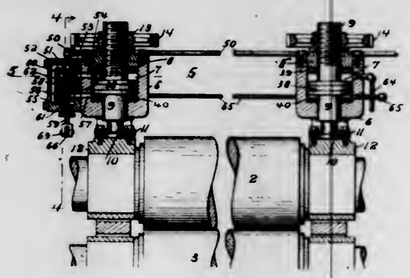
Claim.—1. The combination with a circuit-breaker, a plurality of stationary terminals, a movable bridge-contact adapted to engage the terminals and a supporting means secured to the bridge, a rod and lever, a toggle connecting the rod and lever, and a catch on one end of the lever for holding the bridge in contact with the terminals.

2. The combination with a circuit-breaker, a plurality of stationary terminals, a movable bridge-contact adapted to engage the terminals and a supporting means secured to the bridge, a rod and lever, a toggle connecting the rod and lever, a catch on one end of the lever for holding the bridge in contact with the terminals and means on the rod for operating the catch.

3. A circuit-breaker comprising a plurality of stationary terminals, a bridge-contact for engaging and connecting the terminals, a supporting member to which the bridge-contact is secured, a manually-operable rotatable rod independent of and removed from the bridge-contact-supporting member, a suitably-supported lever, a toggle connecting the rod and lever and a catch on the lever for releasably engaging the supporting member.

4. A circuit-breaker comprising a plurality of stationary terminals, a bridge-contact for connecting the terminals, a supporting member to which the bridge-contact is secured,

4. The combination with a pair of rolls, of sliding bearings in which one of the rolls is mounted, a pair of plungers connected with the bearings, means for adjusting the plungers to determine the working position of the rolls, and fluid-operated means for operating the plungers to move the roll mounted in the sliding bearings into and out of working position without disturbing the adjustment.



5. The combination with a pair of rolls, of sliding bearings in which one of the rolls is mounted, a pair of threaded plungers connected to the bearings, adjusting-nuts whereby the working position of the rolls may be determined, and fluid-operated means for operating the plungers to move the roll mounted in the sliding bearings into and out of working position without disturbing the adjustment.

6. The combination with a pair of rolls, of sliding bearings in which one of the rolls is mounted, plungers connected to the bearings, means for adjusting the plungers to determine the working position of the rolls, fluid-containing chambers through which the plungers move, piston-heads mounted on the plungers, and means for admitting fluid under pressure on either side of the piston-heads in the chambers, whereby the roll in the sliding bearings may be moved into and out of working position without disturbing the position of the adjustment.

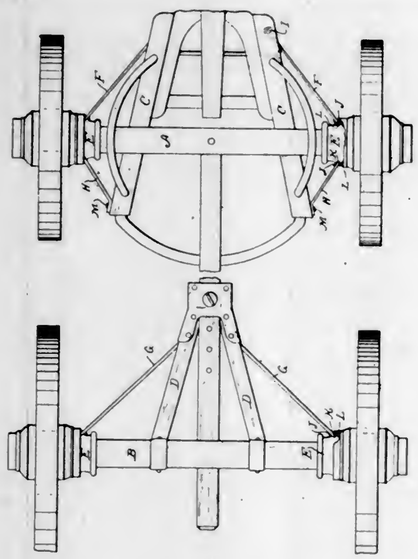
7. The combination with a pair of rolls, of sliding bearings in which one of the rolls is mounted, threaded plungers connected to the bearings, mechanically-operated nuts for adjusting the working position of the rolls, fluid-containing chambers through which the plungers move, piston-heads mounted on the plungers, and means for admitting fluid under pressure to the chambers on either side of the heads.

8. The combination with a pair of rolls, of sliding bearings in which one of the rolls is mounted, threaded plungers connected to the bearings, mechanically-operated nuts, for adjusting the working position of the rolls, fluid-containing chambers through which the plungers move, piston-heads mounted on the plungers, an accumulator for maintaining fluid under pressure, and means for delivering the fluid from the accumulator to the chambers on either side of the piston-heads.

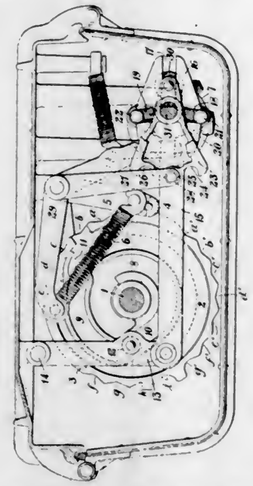
844,351. DRAFT MECHANISM FOR WAGONS. NELS HALVORSEN, Stoughton, Wis. Filed Apr. 17, 1905. Serial No. 255,903.

Claim.—The combination in a wagon of axle-inclosing skeins provided with apertured lugs formed integrally therewith, located in close proximity to the bearing-surfaces of the hubs, substantially on a plane with the longitudinal center of the skeins between their upper and lower sides, draw-bars and brace-bars provided with downwardly-projecting hooks at one end engaging said apertured lugs and connected at their opposite ends by bolts to the wagon-hounds, all substantially as and for the purpose specified.

844,351.



844,352. CONTROLLER FOR ELECTRIC MOTORS. HARRY U. HART, Le Havre, France, assignor to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed June 12, 1905. Serial No. 264,836.



Claim.—1. The combination with an electrical supply-circuit, two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, and an electrically-operated braking device, of means for connecting the motors with and disconnecting them from the supply-circuit and for connecting them in a closed circuit having an equalizing connection for normal braking, and means for connecting the armature-windings of the motors respectively in series with the field-magnet windings of adjacent motors, without an equalizing connection for reverse braking.

2. The combination with an electrical supply-circuit, two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, and an electrically-operated braking device, of means for connecting the motors with and disconnecting them from the supply-circuit and for connecting them in a closed circuit, and means for interconnecting the armature and field-magnet windings of the motors so that the direction of current-flow in at least one field-magnet winding remains unchanged if the direction of rotation of the armatures is reversed.

3. The combination with an electrical supply-circuit and two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, of means for connecting the motors with and disconnecting them from the supply-circuit and for connecting them in parallel in a closed circuit for normal braking, and means for connecting the armature-windings of the motors respectively in series with the field-magnet windings of adjacent motors for reverse braking.

4. The combination with an electrical supply-circuit, and two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, of means for connecting the motors with and disconnecting them from the supply-circuit and for connecting them in parallel in a closed circuit for normal braking, and means for interconnecting the armature and field-magnet windings of the motors so that the direction of current-flow in at least one field-magnet winding remains unchanged when the direction of rotation of the armatures is reversed.

5. The combination with an electric supply-circuit and two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, of a controller comprising a main drum and a reversing-drum, means for automatically throwing the reversing-switch as the main drum moves from power position to braking position and vice versa, and means for connecting the motors in parallel in a closed circuit for normal braking and means for connecting the armature-windings respectively in series with field-magnet windings of adjacent motors for reverse braking.

6. The combination with an electrical supply-circuit and two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, of a controller comprising a main drum and a reversing-drum, means for automatically throwing the reversing-switch as the main drum moves from power position to braking position and vice versa, and means for interconnecting the armature and field-magnet windings of the motors in one of the braking positions so that the direction of current-flow in at least one field-magnet winding remains unchanged when the direction of rotation of the armatures is reversed.

7. The combination with an electrical supply-circuit, and two or more electric motors at least one of which has a higher electromotive force than the other or others when driven as a generator, the armature and field-magnet windings of each of said motors being normally series-connected, of a controller comprising a main drum and a reversing-switch, means for automatically throwing the reversing-switch as the main drum moves from the power position to braking position to connect the motors in parallel in a closed circuit for normal braking and means for moving the reversing-switch to another position to connect the armature-windings respectively in series with the field-magnet windings of adjacent motors for reverse braking.

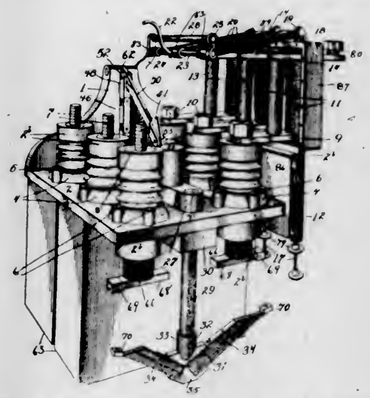
8. The combination with an electrical supply-circuit, two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, and an electrically-operated braking device, of a controller comprising a main drum and a reversing-switch, means for automatically throwing the reversing-switch as the main drum moves from power position to braking position and vice versa, and means for so interconnecting the armature and field-magnet windings of the motors in a closed circuit with the braking device that the direction of current-flow in at least one field-magnet winding remains unchanged when the direction of rotation of the armatures is reversed.

9. The combination with an electric supply-circuit and two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, of a controller comprising a main drum and a reversing-drum, means for automatically throwing the reversing-switch as the main drum moves from power position to braking position and vice versa, and means for automatically effecting further movement of the reversing-switch as the main drum moves from a given position to another.

10. The combination with an electric supply-circuit and two or more electric motors the armature and field-magnet windings of each of which are normally series-connected, of a controller comprising a main drum and a reversing-drum, means for automatically throwing the reversing-switch as the main drum moves from power position to braking position and vice versa, and means for automatically effecting further movement of the reversing-switch as the main drum moves from a given position to another whereby the motors are connected in a closed circuit with their armature-windings respectively in series with field-magnet windings of adjacent motors.

11. The combination with a main drum and a reversing-switch, of means for automatically throwing the reversing-switch as the main drum moves from a given position to another position and vice versa, and means for automatically effecting further movement of the reversing-switch as the main drum moves from another given position to the next and vice versa.

844,353. CIRCUIT-BREAKER. FRANK O. HARTMAN, Mansfield, Ohio. Filed Feb. 25, 1904. Serial No. 195,225.



Claim.—1. The combination with a circuit-breaker, a plurality of stationary terminals, a movable bridge-contact adapted to engage the terminals and a supporting means secured to the bridge, a rod and lever, a toggle connecting the rod and lever, and a catch on one end of the lever for holding the bridge in contact with the terminals.

2. The combination with a circuit-breaker, a plurality of stationary terminals, a movable bridge-contact adapted to engage the terminals and a supporting means secured to the bridge, a rod and lever, a toggle connecting the rod and lever, a catch on one end of the lever for holding the bridge in contact with the terminals and means on the rod for operating the catch.

3. A circuit-breaker comprising a plurality of stationary terminals, a bridge-contact for engaging and connecting the terminals, a supporting member to which the bridge-contact is secured, a manually-operable rotatable rod independent of and removed from the bridge-contact-supporting member, a suitably-supported lever, a toggle connecting the rod and lever and a catch on the lever for releasably engaging the supporting member.

4. A circuit-breaker comprising a plurality of stationary terminals, a bridge-contact for connecting the terminals, a supporting member to which the bridge-contact is secured,

a rotatable manually-operable shaft, a suitably-supported lever located apart from the supporting member, a toggle connecting the shaft and lever, a stop for limiting the movement of the shaft in one direction and a catch adapted to releasably engage the contact-supporting member.

5. A circuit-breaker comprising stationary terminals, a bridge-contact connecting the terminals, a supporting member to which the bridge-contact is secured, a rotary manually-operable shaft, a crank secured thereto, a link loosely secured to the crank, a shackle loosely secured to the link, a pivotally-supported lever releasably connected to the contact-supporting member to which the shackle is also loosely secured, and a catch carried by the lever and releasably engaging the contact-supporting member.

6. The combination of a plurality of electric switches, each switch consisting of separated terminals, and a bridging member for engaging said terminals, a horizontally-journaled rotatable operating-arm, a lever, a toggle connecting the arm and lever, means on the lever for engaging the bridge, bringing it in contact with the terminals, and means for releasing said bridge automatically upon the occurrence of an overload, and preventing the closing of said bridge while the overload continues.

7. A circuit-breaker comprising stationary terminals, a bridge-contact connecting the terminals, a supporting member to which the contact is secured, a suitably-pivoted lever located apart from and independent of the supporting member, means for oscillating the lever comprising a means for locking the lever in one position, a catch pivotally secured to the lever and adapted to releasably engage the supporting member to temporarily connect the lever and supporting member, an arm carried by the catch and electroresponsive means for causing the release of the catch from the supporting member.

8. A circuit-breaker comprising stationary terminals, a bridge-contact removably engaging the terminals, a supporting member to which the bridge-contact is secured, a rotary rod, a pivotally-supported lever, means connecting the rod and lever, a catch releasably engaging the supporting member, a handle loosely mounted on the rod and coöperating clutch members carried by the handle and rod respectively.

9. In a circuit-breaker, the combination with a stationary terminal, of a supporting-bar, mounted upon and in electrical connection with the terminal, a connecting-plate, and an electroresponsive means connected between and electrically connecting the connecting-plate and supporting-bar.

10. In a circuit-breaker, the combination with a stationary terminal, of a supporting-bar mounted upon and in electrical connection with the terminal, a connecting-plate, an electroresponsive device located between and electrically connecting the connecting-plate and the supporting-bar, and an insulated brace extending between and mechanically connecting the connecting-plate and supporting-bar.

11. In a circuit-breaker, the combination with a stationary terminal, of a supporting-bar secured thereto and projecting laterally therefrom, a connecting-plate, an electroresponsive device secured between the bar and plate, insulating-sleeves passing through the bar and plate and a brace received within the sleeves and connecting the bar and plate.

12. In a circuit-breaker, the combination with a stationary terminal, of a supporting-bar secured to the terminal, a connecting-plate, a solenoid-coil located between the connecting-plate and supporting-bar, a fiber-lined tube in and forming a part of the solenoid, the tube depending some distance beneath the solenoid-coil, a core adjustably located within the tube, a suitably-supported rotary shaft, a rod carried by and projecting from the shaft, an arm also carried by the shaft, the rod extending to a point adjacent the solenoid, a pin engaged by the core for actuating the rod, a movable bridge-piece, means for raising and retaining the bridge-piece in contact with the stationary terminal and an arm on the last-named means, the last-named arm adapted to be engaged by the arm on the shaft for releasing the engagement of said means and the movable bridge-piece.

13. In a circuit-breaker, the combination with stationary electrodes, a bridge-contact for connecting the electrodes and means for bringing the contact into engagement with the electrodes, of a connecting-bar secured to one of the electrodes, a solenoid carried by the connecting-bar and in circuit therewith and with the main-line circuit, a suitably-supported rotary shaft, a rod adjustably mounted on the shaft and extending to a point adjacent the solenoid whereby it is actuated, a member also carried by the shaft adapted to impinge against the contact-actuating means for releasing the contact from the means.

14. In a circuit-breaker, the combination with a frame, of stationary terminals, a bridge-contact adapted to connect the terminals and means releasably connected with and independent of the bridge-contact member for bringing it into engagement with the terminals, a solenoid connected with one of the terminals, insulating means located between the solenoid and the circuit-breaker frame, a suitably-supported stationary bar, a hanger carried by the bar, a rotatable shaft mounted in the hanger, a rod adjustably secured to the shaft, electrically-operated means for actuating the shaft, and an arm actuated by the shaft for impinging the contact-actuating means and causing the release of the bridge-contact therefrom.

15. The combination in a multipolar circuit-breaker, with a single table, of a plurality of independent casings, stationary terminals supported by the table, their lower ends received in the casings, a bridge-contact in each of the casings for connecting the terminals, a series of solenoids connected with certain of the stationary terminals, means for connecting each of the solenoids to a circuit, insulating-plates located between each two adjacent solenoids, a casing in which the solenoids are mounted, releasable manually-operated means for bringing the contacts into engagement with the stationary terminals and means actuated by the cores of the solenoids for releasing the bridge-contact from its manually-actuated engaging means.

16. In a circuit-breaker, the combination with a plurality of stationary terminals, of a movable bridge-contact for connecting the terminals, a lever, means carried by the lever for releasably engaging the movable contact, manually-operated means connected with the lever and actuating the latter to cause the engagement and disengagement of the lever and the movable contact, a solenoid in electrical circuit with one of the stationary terminals, a rocking member, means carried by the rocking member and actuated by the solenoid for rocking the member and a separate means carried by the rocking member and adapted to impinge the releasable engaging means to cause the automatic release of the movable contact.

17. In a circuit-breaker, the combination with a stationary terminal, of a supporting-bar secured thereto and projecting laterally therefrom, a connecting-plate, an electroresponsive device secured between the bar and plate, insulating-sleeves passing through the bar and plate and a brace received within the sleeves and connecting the bar and plate.

18. The combination of a plurality of electric switches, each consisting of separated terminals and a bridging member for engaging said terminals, a horizontally-positioned rotatable operating-arm journaled in the frame of the circuit-breaker for bringing said bridging members into engagement with the terminals, a toggle for locking said bridging members in such position, and means for effecting the automatic and simultaneous release of said movable contacts and positively and actually disconnecting the same from the operating-arm upon the occurrence of an overload.

19. An electric switch consisting of movable and stationary contacts, a horizontally-positioned rotatable operating-arm journaled in the frame of the circuit-breaker for bringing said movable contacts into engagement with said stationary contacts, a pivotally-supported lever located apart from the operating-arm, a toggle connecting the arm and lever and locking said switches in normal position, and one or more solenoids operating to release and absolutely disconnect said movable contacts from said operating-arm upon the occurrence of an overload on the line, and preventing the closing of said switches, while such overload exists.

20. The combination of a plurality of electric switches, each switch consisting of separated terminals, and a bridging member for engaging said terminals, a horizontally-positioned rotatable operating-arm journaled in the carrying-frame of the circuit-breaker, a single means connected with the operating-arm and temporarily engaging the bridging member for bringing said bridging member into engagement with the terminals, a toggle constituting a portion of the connecting means for locking said bridging members in such position, and one or more solenoids mounted on the carrying-frame of the circuit-breakers, energized by current from the high-potential circuit and operating to absolutely release the engagement of the bridging members with the connecting means upon the occurrence of an overload.

21. The combination of a plurality of electric switches, each switch consisting of separated terminals and a movable member for engaging said terminals, a rotatable operating-arm journaled horizontally in the carrying-frame of the circuit-breaker for bringing said movable members into engagement with the terminals, a pivotally-supported lever located apart from the operating-arm, a toggle permanently connecting the operating-arm and lever for locking said movable members in closed position, means releasably connecting the lever and movable members, means for absolutely disconnecting said movable members automatically from the lever upon the occurrence of a predetermined overload, and means for manually releasing said movable contacts and permitting the unrestricted movement of said movable members by turning said operating-arm in the direction opposite to that taken in closing the switch.

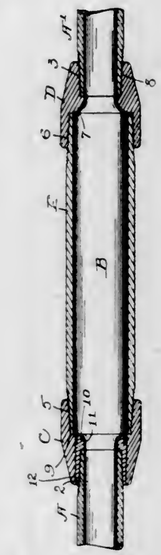
22. The combination of a plurality of electric switches, each switch consisting of separated terminals, and a bridging member for engaging such terminals, a horizontally-journaled rotatable operating-arm, a lever located apart from the operating-arm, a toggle permanently connecting the lever and arm, said arm operated for bringing the bridging member into engagement with the terminals and locking them in such position, means carried by the lever for releasably connecting the lever with the bridging member, and one or more solenoids mounted on insulators in electrical contact with one of the terminals of each switch, said solenoids operating collectively or separately for releasing the bridging contacts upon the occurrence of an overload.

23. An electric switch consisting of separable contacts to open and close the circuit, a toggle for locking the movable member of such switch in normal position, means for absolutely disconnecting said movable member automatically from its operating means upon the occurrence of a predetermined overload, and means for absolutely disconnecting said movable member manually from its operating means.

24. In a circuit-breaker, the combination with a plurality of stationary terminals and a bridging contact movable toward and from the terminals, of a rotatable manually-operated shaft, a lever pivoted at a point distant from the shaft, a link connecting the lever, and shaft, means pivotally secured to the lever, the means adapted to engage the bridging contact to raise and hold the same against the terminals, and electroresponsive means adapted to impinge against the catch to cause a total disconnection of the catch and its connected parts and the bridging contact to release the latter.

25. In a circuit-breaker, the combination with stationary terminals, and a bridging contact movable toward and from the terminals, of a catch for releasably engaging the bridge-contact, manually-operating mechanism to which the catch is pivotally secured for moving the catch into engagement with the bridging contact when the latter is in its position removed from the terminals, to move the bridge into engagement with the terminals, and electroresponsive means, a rod, a shaft, said rod connected to the shaft, and a trip mounted on the shaft adapted to engage the catch to cause it to release the bridging contact irrespective of the operating means.

844,354. PULLING-BOX FOR CONDUITS. ANDREW HAWKINSON, St. Paul, Minn. Filed Dec. 11, 1905. Serial No. 291,227.



Claim.—1. A device of the class set forth, comprising, in combination with the adjacent ends of an open conduit, a bushing on one of said ends, and a cover between said ends provided with reducers which are adapted to connect with said bushing and the opposite end of said conduit, said bushing and opposite end of said conduit being tapered in the same direction to permit said cover to pass over the conduit.

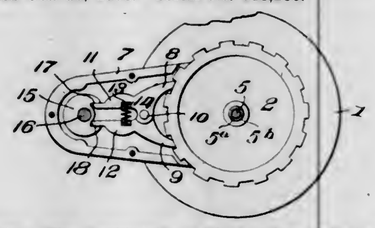
2. A device of the class set forth, comprising, in combination with the adjoining ends of a conduit spaced apart, a union between said ends adapted to pass over said conduit, a bushing on one of said ends, and a reducer carried on each end of said union, one reducer being threaded upon said bushing and the other reducer threaded upon the opposite end of the conduit, the threads between all of the parts being right hand and the joints between the reducers and the bushing and said opposite end of the conduit being tapered in the same direction, for the purposes specified.

844,355. TREATMENT OF ORES PREPARATORY TO SMELTING SAME. FERDINAND HEBERLEIN, London, England. Filed Jan. 9, 1906. Serial No. 295,257.

Claim.—1. The herein-described process of treating finely-divided metalliferous ores or compounds with a view to the production of an agglomerate containing the ore in the form of an oxid; said process consisting in mixing the fine ore or compound with any suitable fuel whence the heat necessary in sintering the ore is derived, subjecting the mixture, after ignition, to a blast of compressed air and thereby eliminating the said fuel (including sulfur, if any) and producing a porous agglomerate in the form of an oxid, substantially as set forth.

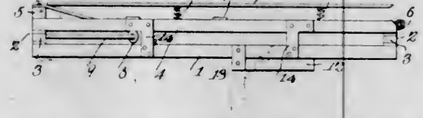
2. The herein-described process of treating finely-divided metalliferous ores or compounds with a view to the production of an agglomerate containing the ore in the form of an oxid; said process consisting in mixing the fine ore or compound with any suitable fuel whence the heat necessary in sintering the ore is derived, moistening the mixture, subjecting it, after ignition, to a blast of compressed air and thereby eliminating the said fuel (including sulfur, if any) and producing a porous agglomerate in the form of an oxid, substantially as set forth.

844,356. RATCHET. JOHN HEGERHORST, Chicago, Ill. Filed Oct. 10, 1906. Serial No. 338,286.



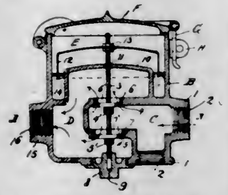
Claim.—The combination with a driving-wheel and a ratchet-wheel integral therewith; of an operating-bar pivotally secured over one face of said ratchet-wheel, a housing secured to said operating-bar and adapted to move around the edge of said ratchet-wheel, ratchet-levers pivotally mounted within said housing, arms extending from said levers and spaced apart, a spring disposed between said arms, the ends thereof resting in notches formed in said arms, a shaft extending laterally through said housing, a cam on said shaft; there being shoulders on said cam adapted to extend parallel with said arms when both levers are in engagement with the ratchet-wheel, a handle secured to said shaft above said operating-bar, a pin to hold said handle in its adjusted position, and a spring adapted to depress said pin and hold the same into engagement with openings in the operating-bar.

844,357. HOG-CARRIER. ROBERT HENDERSON, Ben Franklin, Tex. Filed June 19, 1906. Serial No. 322,440.



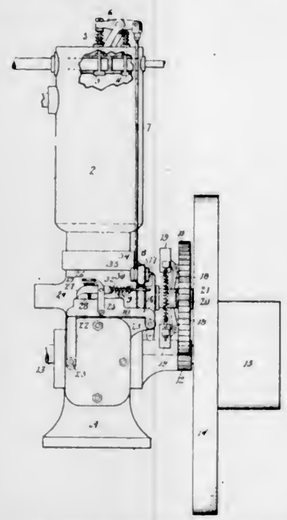
Claim.—A carrier comprising a frame, a roller superimposed at the end thereof, side rails superimposed at the edges thereof, springs supporting said rails and handles pivoted to the carrier and adapted to swing in horizontal plane and project beyond the ends or laterally beyond the edges of the frame.

844,358. GAS-CONTROLLING VALVE. HERBERT W. HILL, Chicago, Ill. Filed June 25, 1906. Serial No. 323,190.



Claim—In a gas-controlling valve, the combination, of a body consisting of one homogeneous casting comprising an inlet and an outlet chamber, with a valve-spindle, two V-shaped disks of a differential diameter mounted upon said valve-spindle, two valve-seats to correspond with the respective disks, a dome-shaped partition 10 forming one solid casting with the said body, an aperture in the dome-shaped partition 10 for the purpose of guiding the valve-spindle and allowing gas to pass from the outlet-chamber D through the same, a float secured with the upper end of the said valve-spindle, an annular chamber 14 formed by the outer shell of the valve-body and the said partition-wall 10 for retaining the fluid, a screw-plug 8 in said casting in line with the valve-seats, a bore 9 therein for the purpose of guiding the lower end of the said valve-spindle, a plurality of inlet-openings into the inlet-chamber and an outlet-opening from the outlet-chamber.

844,359. SPEED-REGULATOR FOR GAS-ENGINES. THEODORE HOLLNAGEL, Thiensville, Wis. Filed Nov. 27, 1905. Serial No. 289,145.



Claim.—1. In combination with a hit-and-miss mechanism on a gas-engine, a governor-adjusting device, consisting of a non-movable rack, a tiltable standard, a dog mounted and movable on the standard, means holding the dog to releasable engagement with the rack, a rod mounted movably endwise in the dog and adapted to be connected to the hit-and-miss mechanism, and a spring adapted to extend the rod in a direction away from the dog.

2. An adjusting device for a governor of a gas-engine, comprising a non-movable rack, a thereto-pivoted standard, a dog pivoted on the standard and adapted to engage the rack, a rod mounted and extensible on the dog, and a spring adapted to extend the rod on the dog.

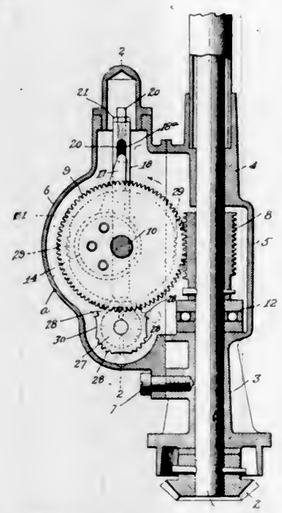
3. A device for adjusting the hit-and-miss movement of a governor on a gas-engine, comprising a stationary rack, a dog mounted and movable endwise on and along the rack and adapted to engage the rack, a rod mounted and extensible on the dog, and a spring adapted to resist the retreat of the rod on the dog.

4. An adjusting device for the governor of a gas-engine, consisting of a stationary rack, a standard pivoted on the rack and provided with a thumb-piece, a dog pivoted on the standard and having a tooth adapted to engage the rack and a finger-piece complementary to the thumb-piece on the standard, a spring holding the dog yieldingly in engagement with the rack, a rod slidable endwise in the dog and adapted to be attached to the governor mechanism, and a spring adapted to hold the rod yieldingly up to its work.

844,360. PUMP. RUSSELL HUFF, Detroit, Mich. Filed Sept. 18, 1905. Serial No. 278,078.

Claim.—1. In a fluid-distributing pump having an inlet-port and a plurality of delivery-ports, the combination with the pump-cylinder, the plunger therein and means for reciprocating the plunger, of a valve having a passage-way adapted to connect the inlet-port with the pump-cylinder, and passage-ways adapted to connect the delivery-ports successively with the pump-cylinder, and means for intermittently operating said valve to connect the inlet-port with the pump-cylinder during the suction-strokes of the plunger and to connect said delivery-ports successively to the pump-cylinder during the compression-strokes of the plunger.

2. In a fluid-distributing pump having an inlet-port and a plurality of delivery-ports, the combination with the pump-cylinder, the plunger therein and means for reciprocating the plunger, of a rotary valve and intermittently-operating means for giving the same a partial rotation at the completion of, and holding the same stationary during, each stroke of the plunger, said valve having a passage-way arranged to connect the inlet-port with the pump-cylinder during each suction-stroke, and having passage-ways arranged to connect the delivery-ports successively with the pump-cylinder during successive compression-strokes of the plunger.



3. In a fluid-distributing pump having an inlet-port and a plurality of delivery-ports, the combination with the pump-cylinder, the plunger therein and means for reciprocating the plunger, of a rotary valve and means for giving the same alternately a partial rotation and a rest for each stroke of the plunger, said valve having a passage-way extending diametrically therethrough adapted to connect the inlet-port with the pump-cylinder during each suction-stroke and having independent passage-ways arranged to connect the delivery-ports successively with the pump-cylinder during successive compression-strokes of the plunger.

4. In a fluid-distributing pump having an inlet-port and a plurality of delivery-ports, the combination with the pump-cylinder, the plunger therein and means for reciprocating the plunger, of a valve cylinder or socket adjacent to the pump-cylinder and having a port communicating therewith, said valve-cylinder also having an inlet-port and a plurality of outlet-ports, a valve within said socket having an inlet passage-way extending diametrically therethrough adapted to connect the inlet-port with the pump-cylinder port and having delivery passage-ways entering the periphery of the valve at points midway between the ends of said inlet passage-way, each adapted to connect the pump-cylinder port with one of said delivery-ports, and means for giving said valve a partial turn at the completion of each movement of the plunger.

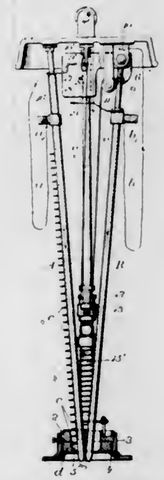
5. In a fluid-distributing pump, having an inlet-port and a plurality of delivery-ports, the combination with the pump-cylinder, the plunger therein and the rotary valve having passage-ways adapted to connect said inlet-port and one of the delivery-ports alternately to the pump-cylinder in successive positions of the valve, of means for partially rotating said valve at the completion of each stroke of the plunger and for holding said valve stationary during the operative movements of the plunger.

6. In a fluid-distributing pump, having an inlet-port and a plurality of delivery-ports, the combination with the pump-cylinder, the plunger therein and the rotary valve having passage-ways adapted to connect said inlet-port and one of the delivery-ports alternately to the pump-cylinder in successive positions of the valve, of means for partially rotating said valve at the completion of each stroke of the plunger comprising a mutilated pinion connected to the valve, a mutilated gear adapted to alternately mesh and interlock with said pinion, and means for operating said gear so that its teeth will mesh with the teeth on the pinion at the completion of each plunger-stroke.

7. In a pump of the character described, the combination with the pump-cylinder, the reciprocating plunger and a rotary valve for controlling the flow of liquid to and from the pump, of a mutilated gear and an eccentric arranged to rotate in unison, means for driving said gear and eccentric, a mutilated pinion connected to the valve and arranged to engage said gear, and a connection between said eccentric and plunger for operating the latter.

8. In a pump of the character described, the combination with the pump-cylinder, the reciprocating plunger and a rotary valve for controlling the flow of liquid to and from the pump-cylinder, of a driving-shaft having a worm thereon, a worm-wheel engaging said worm, a mutilated gear and an eccentric rotatable with the worm, a mutilated pinion connected to the valve and arranged to engage said gear and connections between said eccentric and plunger for operating the latter.

844,361. ELECTRIC-ARC LAMP. FRANZ JANECEK, Karlin, near Prague, Austria-Hungary. Filed Nov. 22, 1905. Serial No. 288,590.



Claim.—1. The combination, in an electric-arc lamp of a carbon, a series of pins projecting laterally from said carbon the lower one of which is rendered inoperative by the heat of the arc, and means for supporting the lowermost pin while it remains operative, substantially as described.

2. The combination, in an electric-arc lamp of a carbon, a series of pins projecting laterally from said carbon, the lower one of which is rendered inoperative by the heat of the arc, and adjustable means for supporting the lowermost pin while it remains operative, whereby a new, unburned portion of the supporting means may be utilized when desired, substantially as described.

3. The combination, in an electric-arc lamp of a carbon, a series of pins projecting laterally from said carbon, the

lower one of which is rendered inoperative by the heat of the arc, a ring receiving the lower end of the carbon, and an inner annular rim on said ring supporting the lowermost pin while it remains operative, substantially as described.

4. The combination, in an electric-arc lamp of a carbon, a series of pins projecting laterally from said carbon, the lower one of which is rendered inoperative by the heat of the arc, a ring receiving the lower end of the carbon, and an inner annular rim on said ring supporting the lowermost pin while it remains operative, said ring and rim being rotatably adjustable, whereby a new unburned portion thereof may be utilized when desired, substantially as described.

5. The combination, in an electric-arc lamp, of two carbons arranged side by side, a series of pins projecting laterally from one of said carbons, the lower pin being rendered inoperative by the heat of the arc, and means for supporting the lowermost pin while it remains operative, the other resting with its point lying against the supported carbon and feeding down with it, substantially as described.

844,362. INVALID-BED. SAMUEL C. KAGARICE, Sioux Falls, S. D. Filed Oct. 23, 1906. Serial No. 340,174.



Claim.—1. An attachment of the character described, comprising a vertically-swinging support for attachment to a bed, said support having side bars pivotally mounted at their lower ends, bearings for attachment to a bed, a transverse shaft rotatably mounted in said bearings and having at its ends polygonal-shaped portions, longitudinally-curved braces fixed upon the polygonal-shaped portions of said shaft so as to swing with the latter, said braces being formed with longitudinal series of transverse apertures, guide-loops surrounding the side bars of said support and fixed thereon, the rear portions of said loops being adapted to receive said braces and being formed with alining apertures with which the apertures in the braces register, and locking-pins passed through the alining apertures in said guide-loops and braces, substantially as shown and described.

2. An attachment of the character described, comprising two pairs of clamps for engagement with the side rails of a bed, side bars pivoted at their lower ends upon the clamps of one pair, a cross-bar connecting the upper ends of said side bars, a covering engaged with said cross-bar, means for attaching said covering to a bed, guides upon said side bars, a shaft rotatably mounted in the clamps of the other pair, longitudinally-curved braces fixed upon said shaft and engaged with said guides, and means for locking said braces in said guides.

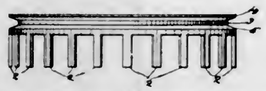
3. An attachment of the character described, comprising two pairs of clamps for engagement with the side rails of a bed, side bars pivoted at their lower ends upon the clamps of one pair, a cross-bar connecting the upper ends of said side bars, a covering engaged with said cross-bar, means for attaching said covering to a bed, guide-loops surrounding said side bars and fixed thereto and having transversely-alining apertures, a shaft rotatably mounted in the clamps of the other pair and having polygonal-shaped outer ends, longitudinally-curved braces secured upon said polygonal-shaped ends of the shaft and formed with longitudinal series of apertures, said braces being slidable in said guide-loops, and locking-pins passed through the alining apertures in said guide-loops and said braces, substantially as shown and described.

4. An attachment of the character described, comprising two pairs of clamps, each having U-shaped portions to engage the side rails of a bed, bearings projecting upwardly from their upper portions and clamping-screws in their lower portions, a vertically-swinging support having side bars pivoted at their lower ends upon the upper bearing portions of the clamps of one pair, a transverse shaft rotatably mounted in the bearing portions of the clamps of the other pair and having polygonal-shaped outer ends, guides upon the side bars of said support, and longitudinally-curved braces slidably and adjustably mounted in said guides and having their lower ends fixed upon the polygonal ends of said shaft, substantially as shown and described.

5. The combination with a bed having side rails and a bottom, of a pair of clamps engaged with said side rails, a pair of side bars pivoted upon said clamps, a cross-rod connecting said side bars, a transversely-extending band surrounding said bed-bottom, a flexible covering engaged with said band and said cross-rod, guide-loops upon said side bars, a second pair of clamps engaged with said side rails, a transverse shaft rotatable in the last-mentioned clamps, longitudinally-curved braces fixed upon said shaft and slidably engaged with said guide-loops, and means for locking said braces in said guide-loops.

6. An attachment of the character described comprising two pairs of clamps for engagement with the side rails of a bed, a swinging supporting-frame pivotally engaged with one pair of clamps and having side bars, guides upon said side bars, a shaft connecting the other pair of clamps and rotatable therein, curved braces fixed to said shaft and slidably engaged with said guides, and means for locking said braces in said guides.

844,363. PULLEY-RIM. EDWIN W. KELLER, Chicago, Ill., assignor to Armac Motor Company, Chicago, Ill., a Corporation of Illinois. Filed June 13, 1906. Serial No. 321,480½.

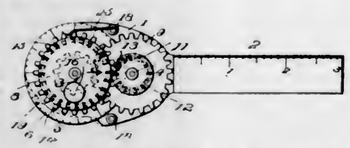


Claim.—1. A pulley-rim for motor-cycles consisting of a single continuous piece of sheet-steel, its cross-sections presenting a V shape, there being a plurality of supporting-lugs extending from one of the side walls of the said V and formed integral therewith, for the purpose set forth, substantially as described.

2. A pulley-rim for motor-cycles consisting of the pulley-rim 3 formed of a continuous piece of metal consisting of sheet-steel having walls 4 and 5 and a plurality of supporting-lugs 2 formed integral with the rim for the purpose set forth, substantially as described.

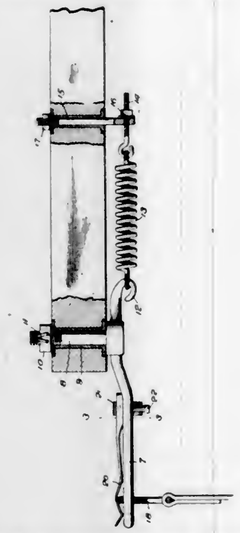
3. A pulley for motor-cycles consisting of a pulley-rim 3 formed of a continuous piece of metal having walls 4 and 5 and a plurality of supporting-lugs 2 formed integral with the rim, for the purpose set forth, substantially as described.

844,364. ROTARY MEASURING DEVICE. EDWARD G. KIMMELL, Keyser, W. Va. Filed Dec. 1, 1906. Serial No. 345,952.



Claim.—A rotary measuring device, comprising a base-plate provided with a handle portion containing linear graduations and provided also with projecting posts, a measuring-wheel journaled on one of said posts and provided with a milled periphery adapted to project beyond the base-plate into contact with the surface to be measured, the outer face of said measuring-wheel being laid off in inches and fractions thereof, a spur-pinion fast on the outer face of said measuring-wheel, a spur-wheel mounted on another post of the base-plate and adapted to mesh with said pinion, said spur-wheel being provided with a collar and a ring upon said collar, said ring being laid off with indicating-numerals designating inches and the collar being formed with a tappet, and another spur-wheel mounted on the first-named post above the measuring-wheel and its pinion and arranged with its teeth adapted for engagement with said tappet, the outer face of said last-named spur-wheel being laid off in graduations designed to indicate one foot, a spring-detent arranged to engage the teeth of said last-named spur-wheel, means for securing said spring-detent in place, and a cover-plate arranged for attachment to the base-plate and provided with slots designed to expose the graduations of the said spur-wheel and the said ring, said cover-plate being provided with a pointed offset-lug extending into close proximity to the graduations of the measuring-wheel.

844,365. MAIL-BAG HOLDER AND DELIVERER. HARRY G. KIMPLE and EDWARD EILER, Dicksonburg, Pa. Filed June 1, 1906. Serial No. 319,765.

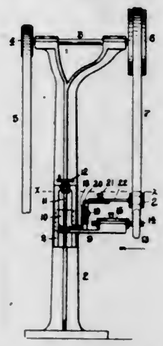


Claim.—1. The combination of a post having arms pivotally secured thereto and a distance apart, of fingers, bolts integral with said fingers and extending through said arms, spring-catches on one end of said fingers, means to adjustably secure said catches to the fingers, tension-springs secured to the opposite end of said fingers, bolts extending through said arms and means to adjustably secure said tension-springs to the bolts.

2. The combination of a post having arms pivotally secured thereto, of fingers, bolts integral with said fingers and extending through said arms, spring-catches at one end of said fingers, means to adjustably secure said catches to the fingers, hook-terminals at the opposite ends of said fingers, tension-springs secured to said terminals, retaining-bolts disposed through said arms, eyebolts secured to said tension-springs and extending through the retaining-bolts and means to adjust the tension of said springs.

3. The herein-described attachment for the arms of a crane comprising bolts, fingers secured to said bolts, spring-catches on said fingers, collars surrounding said fingers and spring-catches, means to secure said collars to the fingers, hook-terminals at the opposite ends of said fingers, springs having one of their ends secured to said hook-terminals, retaining-bolts and eyebolts secured to said springs and disposed through said retaining-bolts.

844,366. ABRADING-MACHINE. CLARENCE KITSON and WILLIAM J. REINHOLTZ, Mishawaka, Ind. Filed Dec. 5, 1905. Serial No. 290,481.



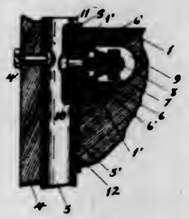
Claim.—1. In a polishing-machine, the combination with a standard, a die-roller vertically adjustable therein, said die-roller being journaled in front of and to one side of the standard, whereby an unobstructed space is formed beneath the die-roller, of a combined belt guide and tightener journaled above the die-roller and adjustable in the same vertical plane therewith and also adjustable in a plane parallel with and longitudinally of the axis of the die-roller, and an abrading-belt mounted on the die-roller, substantially as specified.

2. A polishing-machine embodying a standard, a driven pulley mounted thereon, a guide on the standard, a curved arm vertically adjustable in the guide and extending forwardly and to one side of the standard, a die-roller journaled in end of the arm, and an abrading-belt mounted on the die-roller and the driven pulley, substantially as specified.

3. A polishing-machine embodying a standard, a driven pulley journaled therein, an abrading-belt on said pulley, an arm adjustably mounted on the standard, said arm extending horizontally from the front of the standard and then curved laterally with its free end disposed substantially in the same vertical plane with the driven pulley, to provide an unobstructed space beneath the free end of the arm and a die-roller journaled in the free end of the arm and engaged with the abrading-belt, whereby curved molding may be run longitudinally and transversely under the die-roller when polished.

4. In a machine of the class described, a standard, a shaft journaled in the upper end of the standard, a driven pulley mounted on said shaft, a grooved guide on said standard, an arm having a vertical plate mounted in the grooves of the guide, a threaded adjusting-rod swiveled in the guide and engaged with the arm, said arm being curved and having its free end disposed in front of and to one side of the standard, an arbor journaled in the free end of the arm, a die-roller detachably mounted on said arbor and in the same vertical plane with the driven pulley, an abrading-belt mounted on said pulley and on the die-roller, a bracket vertically adjustable upon said arm and having a longitudinal slot in its horizontal portion thereof, an arm having a longitudinal slot coinciding with the first-mentioned slot and adjustably mounted on the bracket, and a flanged idler journaled on the end of said last-mentioned arm and adapted to engage the abrading-belt adjacent to and above the die-roller, substantially as specified.

844,367. BRACKET AND SUPPORT THEREFOR. JOHN KNAPE, Grand Rapids, Mich. Filed Nov. 6, 1906. Serial No. 342,263.



Claim.—1. The combination of a hollow C-shaped support having a longitudinal slot in the front thereof and provided with transverse corrugations on the inside along the edges of the said slot; a bracket provided at its rear end with an interiorly-shouldered opening and a rearwardly-extending projection; an inner perforated clamping-plate having one of its faces provided with transverse corrugations to engage the said corrugations on the inside of the support; an outer clamping-plate having a longitudinal depression therein and provided with perforations to register with the said opening and projection; a threaded bolt extending through the said clamping-plates and into the said opening; a washer provided with slots to engage the shoulders in the said opening; and a thumb-nut to engage said bolt, for securing the bracket in close proximity to the support.

2. The combination of a slotted hollow support having corrugations on the inside thereof; a bracket provided at its rear end with an interiorly-shouldered opening and a rearwardly-extending projection; an inner perforated clamping-plate having one of its faces provided with corrugations to engage said corrugations on the inside of the support; an outer clamping-plate having a longitudinal depression therein and provided with perforations to register with the said opening and projection; and means for fastening and securing the bracket to the support.

3. The combination of a slotted hollow support; a bracket provided at its rear end with an interiorly-shouldered opening and a rearwardly-extending projection; a perforated clamping-plate for engagement on the inside of the said support; a second clamping-plate having a longitudinal depression therein and provided with perforations to register with said shouldered opening and said projection; a threaded bolt extending through the said clamping-plates and into the said opening; a washer provided with slots to engage the shoulders in the said opening; and a thumb-nut to engage said bolt for securing the bracket closely to the support.

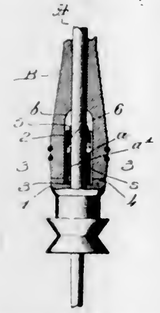
4. The combination of a slotted hollow support; a bracket having at its rear end an opening and a rearwardly-extending projection; a perforated clamping-plate for engagement on the inside of the support; an outer clamping-plate having perforations to register with the said opening and projection; and means for fastening and securing said bracket to the support.

844,368. BOBBIN-CLUTCHING MEANS FOR ROTATABLE SPINDLES. GEORGE W. KNIGHT, Hopedale, Mass., assignor to Sawyer Spindle Company, Portland, Me., a Corporation of Maine. Filed Sept. 4, 1906. Serial No. 333,090.

Claim.—1. A rotatable spindle having, in combination, centrifugally-acting bobbin-clutching members rotatable therewith and adapted to interiorly engage a bobbin, and a laterally-expansible spring to internally engage and maintain the clutching members in driving position.

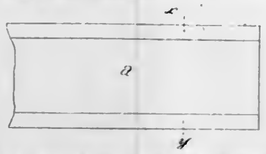
2. A rotatable spindle having, in combination, centrifugally-acting bobbin-clutching members rotatable therewith and adapted to interiorly engage a bobbin, and annular spring surrounding the spindle and having separated ends, engaging the inner sides of and pressing the clutching members outward, the spring being compressed by application of the bobbin, to maintain driving engagement between the bobbin and clutching members in addition to centrifugal action thereof.

3. A rotatable spindle having, in combination, centrifugally-acting bobbin-clutching members rotatable therewith and adapted to interiorly engage a bobbin, an annular spring-seat on the spindle within the clutching members, and a circular split spring vertically sustained in the seat and bearing against the inner faces of the clutching members, to expand them independently of the centrifugal action.



4. A rotatable spindle having, in combination, centrifugally-acting bobbin-clutching members rotatable therewith and adapted to interiorly engage a bobbin, means to support said members at their lower ends and permit outward movement thereof, and a split spring internally engaging the clutching members and loosely surrounding the spindle, application of a bobbin compressing the spring, to maintain driving engagement between the clutching members and the bobbin when the spindle speed is insufficient to cause centrifugal action of the clutching members.

844,369. METHOD OF INSULATING THE INTERIOR SIDES OF HOLLOW BODIES. OGNESLAW KOSZTOVITS, Klein-Ribatzkoi, near St. Petersburg, Russia. Filed May 25, 1906. Serial No. 318,637.



Claim.—1. A method of lining the interior of hollow bodies, bent of one or more layers of wood, the fibers of which cross one another, consisting in firmly gluing the lining material to a flat plate of wood and as one piece bending the same on the bending-machine to a hollow body.

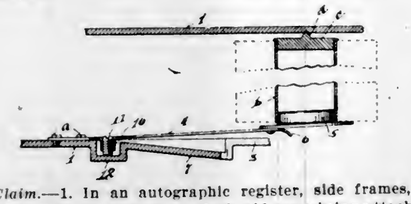
2. A method of lining the interior of hollow bodies, bent of one or more layers of wood, the fibers of which cross one another, consisting in firmly gluing and lining material onto a flat plate of wood, and as one piece bending the same on the bending-machine to a hollow body, the lining material adapted to form the inside surface of said hollow body.

3. A method of lining the interior of hollow bodies, bent of one or more layers of wood, the fibers of which cross one another, consisting in firmly gluing the lining material onto a flat plate of wood, and as one piece bending the same on the bending-machine to a hollow body, the lining material adapted to form the inside surface of said hollow body and composed of sheets of impervious material.

4. The method of forming a hollow body consisting of gluing together a layer of wood and a layer of sheet metal, then bending such secured layers into the form of a cylinder, then putting in end members, and joining the longitudinal meeting edges of the metal lining by soldering.

5. The method of forming a hollow body consisting of gluing together a layer of wood and a layer of sheet metal, then bending such secured layers into the form of a cylinder, joining the longitudinal meeting edges of the metal lining by soldering, and then putting in end members composed of a layer of wood and a layer of sheet metal glued together and uniting the metal lining of the hollow body by soldering.

844,370. AUTOGRAPHIC REGISTER. ALBERT KRAUTH, Hamilton, Ohio. Filed Nov. 27, 1905. Serial No. 289,261.



Claim.—1. In an autographic register, side frames, a pair of resilient arms, one end of said arms being attached to the side frame of the register, a disk fixed to the free end of each arm, said disks being provided with cup-shaped projections adapted to fit into the core of a roll of paper, said arms extended over the cup-shaped projections of the disks forming a handle, and means for adjusting the tension of said arms, substantially as described.

2. In a roll-holder for autographic registers, side frames, a pair of resilient arms, one end of said arms being attached to the opposite sides of the register-frame, the free end of said arms being provided with a disk, means for journaling a roll of paper centrally between the disks, and means for simultaneously adjusting the tension of the spring-arms, substantially as described.

844,371. MACHINE FOR TREATING COTTON-SEED HULLS. RICHARD G. LATTING, Jr., Chickasha, Ind. Ter., assignor of one-half to Richard K. Wootten, Chickasha, Ind. Ter. Filed Aug. 30, 1906. Serial No. 332,632.



Claim.—1. In a machine for disintegrating cotton-seed hulls or other substances and separating their components, a cylinder comprising a plurality of longitudinal sections, supporting-standards comprising rings separating the sections, and ledges on the rings and within the sections, means for passing air and the substance to be disintegrated through said cylinder, a shaft situated in the cylinder, and beaters fixed to the shaft.

2. In a machine for disintegrating cotton-seed hulls or other substances and separating their components, a cylinder comprising a plurality of longitudinal sections, supporting-standards comprising rings separating the sections, and ledges on the rings and within the sections, means for passing air and the substance to be disintegrated through said cylinder, a shaft situated in the cylinder, and beaters fixed to the shaft a part of the beaters being spirally arranged about the shaft, and a part arranged in rows in planes parallel to the axis.

3. In a machine for disintegrating cotton-seed hulls or other substances and separating their components, a cylinder comprising a plurality of longitudinal sections, supporting-rings separating the sections, means for passing air and the substance to be disintegrated through said cylinder, a shaft situated in the cylinder, and beaters fixed to the shaft and arranged spirally about it and the length of the spirals thus formed varied in the sections to vary the conveying effect of the beaters.

4. In a machine for disintegrating cotton-seed hulls or other substances and separating their components, a cylinder comprising a plurality of longitudinal sections, supporting-rings separating the sections, means for passing air and the substance to be disintegrated through said cylinder, a shaft situated in the cylinder, and beaters fixed to the shaft and spirally arranged about the shaft and situated entirely within the rings, said rings extending within the cylinder to oppose the passage of the heavier components lengthwise thereof adjacent its inner surface.

5. In a machine for disintegrating cotton-seed hulls or other substances and separating their components, a cylinder having perforate and non-perforate sections, a shaft, beaters at the inlet end of the cylinder fixed to the shaft spirally about the same, and beaters fixed to the shaft in rows parallel therewith and situated adjacent an exit from the cylinder, and perforations in said cylinder covered by reticulated material.

6. In a machine of the character described, the open-ended cylinder having a reticulated lining, said cylinder being provided with openings or perforations situated in its bottom and covered by said reticulated lining and together extending the major part of its length, means including beaters to force air and light material through the cylinder, and means to obstruct passage of comparatively coarse and heavy material lengthwise the same, said means being situated between the said openings and outside the circumferential path of the beaters.

7. In a machine of the character described, the open-ended cylinder having a reticulated lining, said cylinder being provided with openings or perforations situated in its bottom and covered by said reticulated lining and together extending the major part of its length, means including beaters to force air and light material through the cylinder, means to obstruct passage of comparatively coarse and heavy material lengthwise the same, said means being situated between said openings and outside the circumferential path of the beaters, and adjustable covers for the openings to vary the sifting operation.

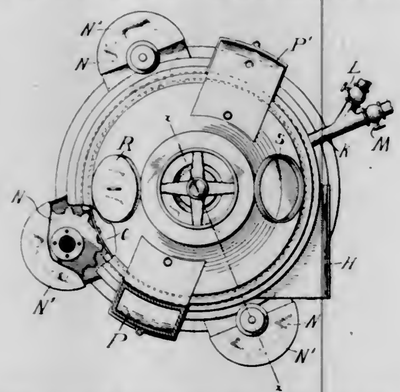
844,372. LIFE-BOAT. CARL LEHNERT, Marxloh, Germany. Filed Nov. 14, 1906. Serial No. 343,454.



Claim.—Life-boat, comprising in combination, a lower part *a* made of aluminium mixed with any suitable metal alloy, an upper part *b* hinged to said lower part and made of the same material as said lower part, a tightening placed between said two parts, fly-screws *c* passed through

the projecting inner edges of said two parts and adapted to hold the latter tightly and rigidly together, a glass *d* provided at the front end of the boat and adapted to allow an inspection toward the sea from inside the boat, paddle-wheels *e*, *f* arranged outside the boat so as to reach into the water and passed with their axles through stuffing-boxes in said upper part of the boat so as to be capable of being actuated from inside the boat, a rudder *g* provided at the rear end of the boat and also passed with its supporting-axle through a stuffing-box in the rear end of the boat so as to be capable of being operated from inside the boat, an air-inlet pipe *h* provided at the top of the boat and adapted to be closed and to be made longer if required, and a safety-flap *i* provided in the top of the boat, substantially as described and shown.

844,373. APPARATUS FOR TREATING TIN CANS AND THE LIKE. MEREDITH LEITCH, Brooklyn, N. Y., assignor to Sheet Metal Recovery Company, a Corporation of New Jersey. Filed Nov. 12, 1904. Serial No. 232,420.



Claim.—1. In a furnace for treating tin cans and the like, the combination of a casing, means for maintaining by combustion a deoxidized atmosphere within said casing, said atmosphere being maintained at a high degree of temperature by said combustion, and rotatable means within said casing for receiving material and causing said material to be subjected to mechanical blows.

2. In a furnace for treating tin cans and the like, the combination of a casing, said casing having feeding and discharge openings, and means for sealing said openings when the furnace is in use, means for producing by combustion a deoxidized atmosphere within said casing, said atmosphere being maintained at a high degree of temperature by said combustion, and rotatable means within said casing for receiving material and causing said material to be subjected to mechanical blows.

3. In a furnace for treating tin cans and the like the combination of a casing having feeding and discharge openings, a rotatable receptacle therein, means for imparting impact to the material within said receptacle when the same is rotated and means for maintaining a heated deoxidized atmosphere in and about said receptacle.

4. In a furnace for treating tin cans and the like the combination of a casing having feeding and discharge openings, a rotating receptacle having perforations therein, a series of rotatable disks having teeth protruding through said perforations and means for maintaining a heated deoxidized atmosphere in and about said receptacle.

5. In a furnace for treating tin cans and the like the combination of a casing having feeding and discharge openings, a rotating receptacle, means for imparting impact in a direction toward the discharge-opening to the material within said receptacle and means for maintaining a heated deoxidized atmosphere in and about said receptacle.

6. In a furnace for treating tin cans and the like the combination of a casing having feeding and discharge openings, a rotating receptacle within said casing having perforations therein, a series of rotatable disks having teeth protruding through said perforations, said disks having their axis of revolution inclined so that the end near the discharge-opening of said receptacle points in a direction opposite to the direction of rotation of said receptacle and means for maintaining a heated deoxidized atmosphere in and about said receptacle.

7. In a furnace for treating tin cans and the like the combination of a casing having a feeding-hopper and a discharge-opening, a liquid seal for said discharge-opening, means for creating a gas seal for the opening through said hopper and a hood covering said hopper for restraining the escape of the gases or products of combustion and permitting them to escape only at the desired point.

8. In a furnace for treating tin cans and the like the combination of a casing having a feeding-hopper and a discharge-opening, a liquid seal for said discharge-opening, means for creating a gas seal for the opening through said hopper and a hood covering said hopper for restraining the escape of the gases or products of combustion, and a feeding-chute opening into said hood through which the gases or products of combustion are forced to pass out while the material is passing in.

9. In a furnace for treating tin cans and the like the combination with a casing having a feed-hopper and a discharge-opening, of a rotatable receptacle within said casing, means for maintaining a heated deoxidized atmosphere in and about said receptacle, a hood inclosing the space above said hopper and a flue independent of said hopper connecting with the space surrounding said receptacle and leading to the inclosed space above said hopper.

10. In a furnace for treating tin cans and the like the combination of a casing having sealed feeding and discharge openings, a rotatable basket inside said casing a pipe supplying combustible gas to the interior of said basket, said pipe being located on the far side of said discharge-opening with reference to a point on the moving basket-approaching said opening.

11. In a furnace for treating tin cans and the like the combination of a rotatable shaft, a basket thereon, means for producing a heated deoxidized atmosphere in and about said basket, a casing surrounding said shaft and basket, a bearing for said shaft located within said casing and means for creating a water seal for said bearing.

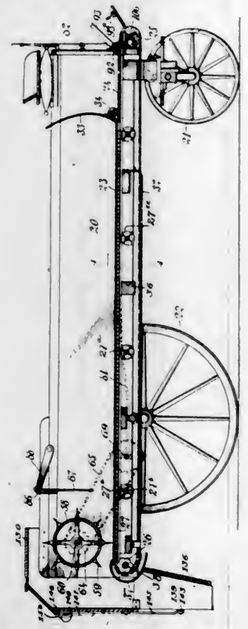
12. In a furnace for treating tin cans and the like the combination of a rotatable system consisting of a shaft and a basket thereon, means for producing a heated deoxidized atmosphere in and about said basket, a casing surrounding said shaft and basket, a bearing for said shaft located within said casing, said rotatable system having a depending flange, a cup embracing said flange, a journal-box within said cup and means for maintaining said cup filled with water so as to create a seal between said flange and the edge of said cup.

13. In an apparatus for treating material by centrifugal force, the combination of a receptacle having series of perforations in its sides, means for revolving the same about its axis, and a series of disks rotatably mounted on a second axis and provided with teeth that project through the perforations in said receptacle.

14. In an apparatus for treating material by centrifugal force, the combination of a revolving receptacle having series of perforations therein, a series of rotatable disks having teeth protruding through said perforations, said disks being mounted upon an axis eccentric to the axis of the revolving receptacle and inclined relatively thereto so that the end near the discharge-opening of said receptacle points in the direction opposite to the direction of rotation of said receptacle.

844,374. FERTILIZER-SPREADER. JOHN O. LINDEN, Prophetstown, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed June 12, 1905. Serial No. 264,862.

Claim.—1. A fertilizer-spreader comprising a wheel-mounted body, an apron mounted to reciprocate therein and forming the bottom thereof, means for moving said apron in its discharging direction, means for moving the apron in its reverse direction, both of said means being actuated from forward movement of the spreader, means for changing the speed of the discharge movement, a casing adapted to be attached to the discharge end of the body, hoppers extended downward from said casing, the side boards of said hoppers being mounted to swing toward and from each other, and devices actuated by means for changing the speed of the apron to adjust the distance between the side boards of the hoppers.



2. In a fertilizer-spreader, a wheel-mounted body, an apron mounted to reciprocate therein and forming the bottom thereof, an endless chain to which said apron is attached, a sprocket-wheel by which said endless chain is driven, ratchet-wheels mounted on the shaft of said sprocket-wheel, a longitudinally-movable shaft, eccentrics on said shaft, eccentric-rods extended from the eccentrics, pawls on the rods for engaging with the ratchet-teeth, and means operated by longitudinal movements of the eccentric-carrying shaft to change the rotary relation of said eccentrics to the shaft.

3. In a fertilizer-spreader, a wheel-mounted body, an apron arranged to reciprocate therein and forming the bottom thereof, an endless chain on which said apron is mounted, a sprocket-shaft, a sprocket on said shaft and operating to drive said chain, a sleeve loosely mounted on the sprocket-carrying shaft, means for causing said sleeve to rotate with the shaft, ratchet-wheels on said sleeve, a longitudinally-movable shaft, hubs eccentrically mounted on said shaft and extended in opposite directions, spirally-disposed ribs on said hubs, eccentrics mounted on said hubs and having interior channels for receiving said ribs, eccentric-rods extended from the eccentrics, arms mounted to swing on said sleeve with which said rods engage, and pawls carried by the arms for operating the ratchet-wheels.

4. A fertilizer-spreader comprising a wheel-mounted body, an apron arranged to reciprocate therein and forming the bottom thereof, a rotary breaker arranged over the outlet portion of the apron, a driving-gear for said breaker, a clutch arranged in said gear, a driving-gear for the apron and having a clutch mechanism, a rock-shaft having connection with members of the clutches in each of said gears, a lever for the forward end of the machine, and with which said rocking shaft connects, a sliding bar, locking-latches for engaging with said lever, a bowed spring attached to the lever, pins on the sliding bar for engaging with said spring, the said sliding bar also being adapted for engagement with the locking-latches to release the same from the levers, and a gear mechanism for moving the sliding bar in one direction.

5. In a machine of the character described, a drill sowing attachment comprising a casing, a front board extended downward from the casing, outer swinging side boards extended downward on said front board, inner swinging side boards also extending downward, rod connections between the outer boards and the inner boards whereby the side boards of a pair are moved toward and from each other, and means for causing the movements of said bars.

844,375. MOTOR-VEHICLE. WILLIAM D. LLOYD, Austin, Tex., assignor of one-half to John B. Vinson, Austin, Tex. Filed Jan. 2, 1906. Serial No. 294,142.

Claim.—1. In a motor-vehicle, the combination of a running-gear embodying front and rear axles and bolsters supported by the axles, a body, springs mounted on the bolsters and supporting the body, and a motor-receiving platform or support rigidly connected with the bolsters and mounted independently of the said springs.

2. In a motor-vehicle, the combination of a running-gear embodying front and rear arched axles and body-supporting springs, and a motor support or platform located between the axles and provided with side bars having angular extensions connected with the running-gear at the arches of the axle independently of the said springs.

3. In a motor-vehicle, the combination of front and rear axles consisting of arched bars, blocks or pieces connecting the terminals of the arched bars, and stub-axles mounted on the said blocks or pieces, bolsters supported by the axles, a body, springs mounted on the bolsters and supporting the body, and a motor-receiving platform or support rigidly connected with the bolsters and mounted independently of the said springs.

4. In a motor-vehicle, the combination of front and rear axles consisting of arched bars having extended terminals, bearings connecting the terminals, and stub-axles mounted in the bearings, bolsters supported by the axles, a body, springs mounted on the bolsters and supporting the body, a motor-receiving platform or support rigidly connected with the bolsters and mounted independently of the springs, and gearing located within the arch of the rear axle and connected with the stub-axles thereof.

5. In a motor-vehicle, the combination of front and rear axles consisting of arched bars, and stub-axles mounted on the ends of the arched bars, the stub-axles of the rear axle being independently rotatable, bolsters mounted on the front and rear axles, a body, springs mounted on the bolsters and supporting the body, a motor-receiving platform connected with the bolsters and mounted independently of the springs, and gearing located within the arch of the rear axle and connected with the stub-axles thereof.

6. In a motor-vehicle, the combination of a running-gear having an arched rear axle provided with spindles journaled at the ends of the arch of the axle, drive-shafts, sprocket-gearing connecting the drive-shafts with the spindles, and a motor having independent cylinders for operating the said drive-shafts.

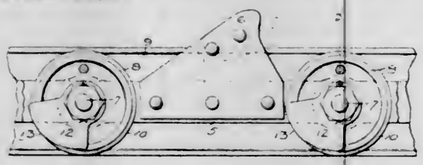
7. In a motor-vehicle, the combination of front and rear axles, each comprising spaced arched bars, spindles connected with the ends of the arched bars, bolsters supported by the axles, body-supporting springs mounted on the bolsters, and a motor support or platform rigidly connected with the bolsters and mounted independently of the said springs.

8. In a motor-vehicle, the combination of spaced front and rear arched bars, blocks or pieces connecting the ends of the bars, spindles mounted on the blocks or pieces, bolsters supported by the arched bars, body-supporting springs also mounted on the bolsters, and a platform or support arranged to receive a motor and composed of spaced bars and connecting-pieces, said platform or support being provided at the front and back with angular hangers secured to the bolsters independently of the said springs.

9. In a motor-vehicle, the combination of front and rear arched axles, the rear axle being provided with independently-rotatable spindles, bolsters supported by the axles, a body, springs mounted on the bolsters and supporting the body, a motor-receiving platform or support rigidly connected with the bolsters and mounted independently of the said springs, driving-shafts mounted on the platform or support at opposite sides thereof, and means for communicating motion from the driving-shafts to the said spindles.

10. In a motor-vehicle, the combination of front and rear arched axles, the rear axle being provided with independently-rotatable spindles, bolsters supported by the axles, a body, springs mounted on the bolsters and supporting the body, a motor-receiving platform or support rigidly connected with the bolsters and mounted independently of the said springs, driving-shafts mounted on the platform or support at opposite sides thereof, and sprocket-gearing connecting the driving-shafts with the inner ends of the said spindles.

844,376. SAFETY DEVICE FOR CAR-HAULS. WALTER W. MACFARREN, Pittsburg, Pa. Filed May 3, 1906. Serial No. 315,117.



Claim.—1. In a car-haul, the combination of a chain, a conduit, said chain traveling in said conduit, and mechanism carried by said chain and acting on said conduit for restraining said chain in case of a break.

2. In a car-haul, the combination of a stationary support, a chain, a series of safety devices carried at intervals by said chain, and adapted to be thrown into restraining engagement with said support at substantially the same time when said chain breaks.

3. In a car-haul, the combination of a chain, a conduit, rollers on said chain engaging said conduit, and means carried by said chain to engage said conduit to restrain said chain against backward movement in case of a break.

4. In a car-haul, the combination of a chain, rollers on said chain traveling on a suitable track or support, and a safety device carried by said chain adapted to engage said track or support.

5. In a car-haul, the combination of a chain, rollers on said chain traveling on a suitable track or support, and a safety device on the axle of the roller adapted to engage said track or support.

6. In a car-haul, the combination of a chain, rollers on said chain traveling on a suitable track or support, and a cam on the axle of the roller adapted to engage said track or support.

7. In a car-haul, the combination of a chain, rollers at intervals on said chain traveling on a suitable track or support, and cams on the roller-axles adapted to engage said track or support.

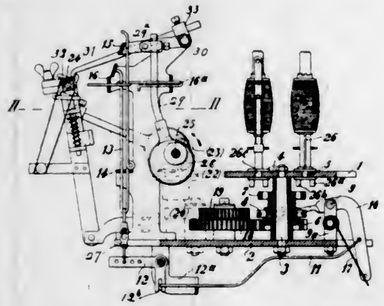
8. In a car-haul, the combination of a chain, rollers at intervals on said chain traveling on a suitable track or support, and loosely-mounted cams on the roller-axles adapted to engage said track or support.

9. In a car-haul, the combination of a chain, rollers at intervals on said chain traveling on a suitable track or support, and a loosely-mounted cam on the axle of said roller, said cam having teeth adapted to engage said track or support.

10. In a car-haul, the combination of a chain, a conduit, rollers on said chain traveling in said conduit, and one or more loosely-mounted cams on the roller-axles adapted to engage said conduit.

11. In a car-haul, a chain, a conduit, said chain traveling in said conduit and guided thereby, and means for adapting said chain to resist a compressive force in the direction of its length whereby the backward movement of said chain is prevented.

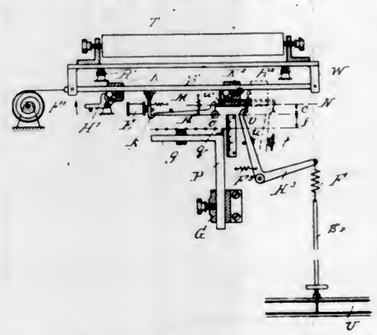
844,377. BRAIDING-MACHINE. ADOLPH MANN, Barmen, Germany. Filed June 16, 1905. Serial No. 265,551.



Claim.—1. In a braiding-machine having a lower machine-plate 2 and an upper one 1, pillars 3 fixed on the lower plate, round disks 4 carried on said pillars in proximity to the upper plate 1, and forming the wave-like bobbin-races 5 with the upper plate, in combination with driving-wheels 6 having long hubs placed rotatively on said pillars 3 each wheel meshing with those right and left of it, hook-shaped drivers 7 placed on the hubs of said wheels, rotating with the same and capable of being moved axially up and down on the same, bobbin-carriers 26 placed in said bobbin-races 5, downwardly-projecting studs 26^a, 26^b respectively at the lower side of the bobbin-carriers and means for lifting the said drivers into position to engage the said studs substantially as set forth.

2. In a braiding-machine having a lower machine-plate 2 and an upper one 1, pillars 3 fixed on the lower plate, round disks 4 carried by said pillars at the level of the upper plate 1, and arranged to form therewith bobbin-races 5, driving-wheels 6 held rotatively on said pillars and meshing each with its neighboring wheels right and left, hook-shaped drivers 7 carried by said wheels and movable thereon vertically, bobbin-carriers 26 in said races 5 and having downwardly-projecting studs 26^a, 26^b to engage drivers when raised, in combination with a forked bell-crank lever 10, held on a bracket 9^a, a ring 8 placed in a groove round said driver 7 and engaged by the forked lever 10, the bell-crank lever 12 of jacquard mechanism a rod 11 attached at one end to lever 10 and at the other end to the said bell-crank lever 12 pivoted on a bracket 12^a below plate 2, lifting wires 13 connected to said lever 12, movable lifting blades 15 capable of raising said lifting wires, stationary blades 16 holding the raised lifting wires in their raised position, a cylinder 24 capable of throwing said lifting wires off their blades 15 or 16, the whole as described and illustrated and for the purpose set forth.

844,378. DEVICE FOR THE JUSTIFICATION OF THE LENGTHS OF LINES OF TYPE-WRITING OR SIMILAR MACHINES. EDUARD M. V. MARCHTHAL, Charlottenburg, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin, Germany, a Corporation of Germany. Filed Sept. 18, 1906. Serial No. 335,068.



Claim.—1. In machines of the type specified, means for enabling the length of the lines to be equalized consisting of step-by-step lateral spacing mechanism having a detent on the part to be spaced and a movable stop against which said detent abuts at the end of each step, a detent for normally maintaining said stop in its normal position, means for releasing said latter detent at the times when it is desired to vary the amount of spacing effected during one step, a second stop for limiting the motion of the said movable stop after release of said detent, and means for adjusting the position of said second stop in order to adjust the increase in the amount of spacing effected by the first stop moving from its normal position into that determined by the second stop.

2. In machines of the type specified, means for enabling the length of the lines to be equalized consisting of step-by-step lateral spacing mechanism having a detent on the part to be spaced and a movable stop against which said detent abuts at the end of each step, a detent for normally maintaining said stop in its normal position, means for releasing said latter detent at the times when it is desired to vary the amount of spacing effected during one step, a second stop for limiting the motion of the said movable stop after the release of said detent, and means for setting the said second stop in such a position that the distance moved through by the detent on the part to be spaced while moving the first-mentioned movable stop from its normal position into its final position determined by the second stop is equal to the shortage divided by the number of steps during which the spacing is to be increased.

3. In machines of the type specified, means for enabling the length of the lines to be equalized consisting of step-by-step lateral spacing mechanism having a detent on the part to be spaced and a revoluble lever against which said detent abuts at the end of each step, a detent for normally maintaining said lever in its normal position, means for releasing said latter detent at the times when it is desired to vary the amount of spacing effected during one step, an adjustable stop for limiting the motion of said lever after the release of said detent, the distance between the pivot of the lever and the point of contact between the detent on the part to be spaced and said lever being, when said lever is against said adjustable stop, equal to the distance between the pivot of the lever and the point of contact between said adjustable stop and said lever divided by the number of steps the spacing of which is to be increased, and the adjustable stop being set in such a position with regard to the pivot of the lever, that said distance between the zero position of said adjustable stop and the point of contact between said adjustable stop and the lever is equal to the shortage divided by the tangent of the angle through which the lever is turned from its normal position, determined by the releasable detent, to its final position determined by the said adjustable stop.

4. In machines of the type specified, means for enabling the length of the lines to be equalized consisting of step-by-step lateral spacing mechanism having a detent on the part to be spaced and a revoluble lever against which said detent abuts at the end of each step, a detent for normally maintaining said lever in its normal position, means for releasing said latter detent at the times when it is desired to vary the amount of spacing effected during one step, an adjustable stop for limiting the motion of the said lever after the release of said detent, the perpendicular distance between the line of travel of the detent on the part to be spaced and the pivot of the lever being equal to the perpendicular distance between the line through the lever-pivot parallel to the line of travel of said detent and the point of contact between the adjustable stop and said lever divided by the number of steps the spacing of which is to be increased, and the perpendicular distance between lines, at right angles to said line of travel, through said point of contact and said lever-pivot being equal to the shortage.

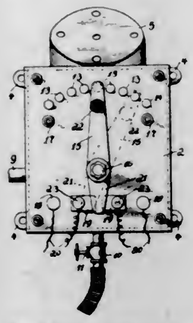
5. In machines of the type specified, means for enabling the length of the lines to be equalized consisting of step-by-step lateral spacing mechanism having a detent on the part to be spaced and a revoluble member against which said detent abuts at the end of each step, a detent for normally maintaining said member in its normal position, means for releasing said latter detent at the times when it is desired to vary the amount of spacing effected during one step, an adjustable stop for limiting the motion of said member after the release of said detent, the distance between the pivot of the member and the point of contact between the detent on the parts to be spaced and said member being, when said member is against said adjustable stop, equal to the distance between the pivot of the member and the point of contact between said adjustable stop and said member divided by the number of steps the spacing of which is to be increased, and the adjustable stop being set in such a position with regard to the pivot of the member, that said distance between the zero position of said adjustable stop and the point of contact between said adjustable stop and the member is equal to the shortage divided by the tangent of the angle through which the member is turned from its normal position, determined by the releasable detent, to its final position determined by the said adjustable stop.

6. In machines of the type specified, means for enabling the length of the lines to be equalized consisting of step-by-step lateral spacing mechanism having a detent on the part to be spaced and a spring-pressed revoluble lever against which said detent abuts at the end of each step, a detent for normally maintaining said lever in its normal position, electrically-operated means for releasing said latter detent at the times when it is desired to vary the amount of spacing effected during one step, an adjustable stop for limiting the motion of said lever after the release of said detent, the distance between the pivot of the lever and the point of said lever against which the detent of the part to be spaced abuts, being, when said lever is resting against said adjustable stop, equal to the distance between the pivot of the lever and the point of contact between said adjustable stop and said lever, divided by the number of steps the spacing of which is to be increased, and the adjustable stop being set in such a posi-

tion with regard to the pivot of the lever, that said distance between the zero position of said adjustable stop and the point of contact between said adjustable stop and the lever is equal to the shortage divided by the tangent of the angle through which the lever is turned from its normal position, determined by the releasable detent, to its final position determined by the said adjustable stop.

7. In machines of the type specified, means for enabling the length of the lines to be equalized consisting of step-by-step lateral spacing mechanism having a detent on the part to be spaced and a movable stop against which said detent abuts at the end of each step, a detent for normally maintaining said stop in its normal position, means for releasing said latter detent at the times when it is desired to vary the amount of spacing effected during one step, a second stop for limiting the motion of the said movable stop after the release of said detent, an adjustable member on which said stop is adjustably mounted, said member being rectilineally adjustable in a direction at right angles to the line of travel of the detent on the part to be spaced, and said stop being rectilineally adjustable on said member in a direction parallel to said line of travel and means for determining the distances in which said member and stop have to be adjusted.

844,379. ELECTRIC CONTROLLER. EDWIN MARSHALL, Warrensburg, Mo. Filed May 29, 1906. Serial No. 319,289.



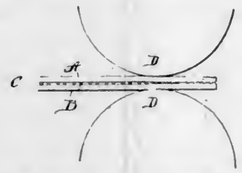
Claim.—1. In an electric controller, the combination with a casing, and a resistance-coil supported therein, of a series of contact-buttons adapted to be connected to said coil independently to provide electric circuits of varying conducting capacity, a switch-lever pivotally supported upon the casing and adapted to contact with said buttons, and two pairs of binding-posts, one of the posts of each pair serving as a switch contact-block, and a switch-plate electrically connected to said lever, and adapted to contact with one or both of said switch contact-blocks.

2. In an electric controller, the combination with a casing, a resistance-coil located therein, and a series of contact-buttons adapted to be electrically connected to said coil, of a switch-lever adapted to contact with said buttons, two pairs of binding-posts on said casing, one of the posts of each pair serving as a switch contact-block, and a switch-plate secured upon the pivotal support of said lever, and adapted to contact with one or both of said blocks.

3. In an electric controller, two pairs of binding-posts, one post of each pair being a combination binding-post and switch-contact, in combination with a pivoted switch-plate adapted to contact with one or both of said combination binding-post and switch-contacts, and binding-screws on said switch-contacts serving as stops for said switch-plate.

4. In an electric controller, the combination with a metallic casing, a resistance-coil therein, and a lamp-socket carried by the casing, of a series of contact-buttons adapted to be electrically connected to said coil, and a contact-button for said lamp-socket, a switch-lever adapted to contact with said button, stops for said switch projecting from the front of the casing, and a switch-plate pivotally secured upon the pivot of the switch-lever, and switch-contacts below said plate with which the latter is adapted to contact.

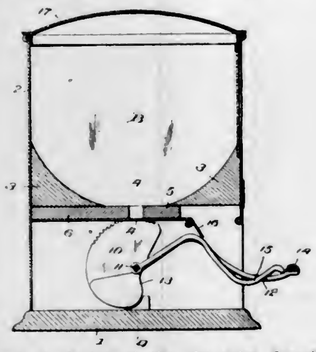
844,380. METHOD OF APPLYING DESIGNS TO SURFACES. DAVID B. MARWICK, New Britain, Conn., assignor to The Stanley Works, New Britain, Conn., a Corporation of Connecticut. Filed Oct. 3, 1906. Serial No. 337,163.



Claim.—1. The method of producing ornamental surfaces on metallic plates or sheets, comprising placing a model of suitable design between two sheets or plates and then subjecting said sheets to a rolling pressure the pressing members being spaced away from said model during said pressing operation.

2. The method of producing ornamental surfaces on two sheets or plates simultaneously, comprising placing a model of suitable design directly between two sheets or plates and subjecting the same to pressure by rolls from opposite sides said rolls being spaced away from said model by said plates.

844,381. STRAW-HOLDER. HARRY C. MAYES, Clearfield, Pa. Filed Apr. 26, 1906. Serial No. 313,892.



Claim.—1. A device of the character described comprising a receptacle having an outlet, means for withdrawing articles successively from the receptacle, a non-rotatable rod disposed adjacent said means, fingers secured to and supported by said rod to receive articles from the withdrawing means, means movably mounted upon the rod for engaging and actuating the withdrawing means, and a depressible device extending beyond the fingers and movable with said actuating means.

2. The combination with a receptacle having an outlet; of means for withdrawing articles successively from the outlet, a partly-rotatable device for engaging and actuating the withdrawing means, depressible means for actuating said device, and receiving-fingers surrounded by said depressible means and immovably supported below the withdrawing means.

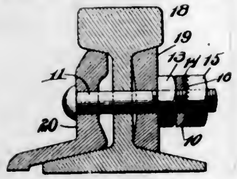
3. The combination with a receptacle having an outlet, and means for successively withdrawing articles from the outlet; of partly-rotatable gravity-controlled means engaging and adapted to actuate the withdrawing means, receiving-fingers supported below and adapted to receive articles from the withdrawing means, and a depressible actuating device disposed adjacent the fingers and connected to said device.

4. The combination with a casing having a compartment therein provided with an outlet; of a support below the outlet, a slide mounted thereon and having an opening therethrough, the bottom of said opening being normally closed by the support, fingers disposed below and projecting beyond the support, a toothed sector rotatably mounted adjacent and engaging the slide, a weight upon the sector, an arm extending therethrough and beyond the casing.

5. The combination with a casing having a compartment therein provided with an outlet; of a support below the outlet, a slide mounted thereon and having an opening therethrough, the bottom of said opening being normally closed by the support, fingers disposed below and projecting beyond the support, teeth depending from the slide, a toothed sector engaging the teeth and rotatably mounted adjacent the slide, an arm extending from the sector, a finger-bar upon the arm, and means operated by gravity for holding the sector and its connections normally in a predetermined position.

6. The combination with a casing having a compartment therein provided with an outlet; of a supporting-plate extending under the outlet, parallel strips mounted on said plate and spaced apart, end strips connecting the parallel strips, all of said strips constituting a slide and one of the end strips having teeth thereon, a rod disposed beneath the supporting-plate, a toothed sector engaging the teeth on the end strip, said sector having a weight thereon, an arm extending from the sector, a finger-bar upon the arm and in front of the casing, and receiving-fingers mounted upon the rod and extending beyond the supporting-plate.

844,382. LOCK-NUT. DAVID C. MERCER, Chicago, Ill. Filed Nov. 3, 1903. Serial No. 183,045.

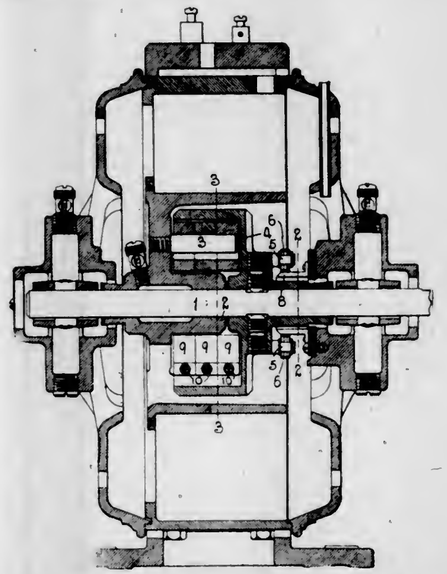


Claim.—A nut-lock consisting of a bolt passing through a plate, said plate having a smooth outer surface, a nut screw-threaded upon the bolt and having its inner and outer faces smooth, the inner faces bearing against the smooth surface of said plate, a perforated bar having one surface smooth which bears against the outer surface of said nut, the outer surface of said bar being provided with countersunk teeth radiating from the bar perforation, means for retaining said bar against rotation, a lock-nut screw-threaded upon said bolt and having its under face provided with radial ratchet-teeth adapted to engage the countersunk ratchets of said bar said smooth nut when reversely turned causing the teeth of the lock-nut and bar to intermesh.

844,383. ELECTRIC MOTOR. CHARLES R. MESTON and HERBERT I. FINCH, St. Louis, Mo., assignors to The Emerson Electric Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed Apr. 11, 1906. Serial No. 311,187.

Claim.—1. In an electric motor, the combination with an armature-shaft, an armature loosely mounted on said shaft, devices mounted on said armature constituting driving elements of a clutch, a companion clutch member fixed to the armature-shaft, and contact-making devices carried by the armature-shaft, said contact-making devices being in an operative position when said armature-shaft is stationary; substantially as described.

2. In an electric motor, the combination with an armature-shaft, of an armature loosely mounted thereon, centrifugally-operated clutch members operatively connected to said armature, a companion clutch member fixedly mounted on the armature-shaft, contact-making plates mounted on said armature-shaft, which contact-making plates occupy an operative position when the armature-shaft is stationary, and means for rendering said contact-making plates inoperative when the armature is rotated; substantially as described.



3. In an electric motor, the combination with an armature-shaft, an armature loosely mounted thereon, centrifugally-operated friction clutch devices rotatably carried by said armature, a companion clutch member fixedly mounted on the armature-shaft, and centrifugally-operated contact-making plates which, when the armature-shaft is stationary, complete the circuit through the starting-coils of the motor, and, when the armature-shaft is rotated, said plates are moved to an inoperative position so as to cut out said starting-coils; substantially as described.

4. In an electric motor, the combination with an armature-shaft, an armature loosely mounted on said shaft, a set of radially-moving plates carried by the armature and constituting the driving element of the clutch, a companion clutch member fixed to the armature-shaft, and contact-making devices carried by the armature-shaft, said contact-making devices being in an operative position when said armature-shaft is stationary; substantially as described.

5. In an electric motor, the combination with an armature-shaft, an armature loosely mounted on said shaft, a set of radially-moving plates provided with elongated slots which receive pins carried by the armature, said plates constituting the driving element of a clutch, a companion clutch member fixed to the armature-shaft, and contact-making devices carried by the armature-shaft, said contact-making devices being in an operative position when said armature-shaft is stationary; substantially as described.

6. In an electric motor, the combination with an armature-shaft, an armature loosely mounted on said shaft, a set of radially-moving plates carried by the armature and constituting the driving element of a clutch, yielding means for holding said plates normally in an inoperative position, a companion clutch member fixed to the armature-shaft, and contact-making devices carried by the armature-shaft, said contact-making devices being in an opera-

tive position when said armature-shaft is stationary; substantially as described.

7. In an electric motor, the combination with an armature-shaft, an armature loosely mounted on said shaft and provided with a plurality of pins, a radially-movable plate mounted on each pin, said plates coöperating to form the driving element of a clutch, a companion clutch member fixed to the armature-shaft, and contact-making devices carried by the armature-shaft, said contact-making devices being in an operative position when said armature-shaft is stationary; substantially as described.

8. In an electric motor, the combination with an armature-shaft, an armature loosely mounted on said shaft, a plurality of radially-moving plates carried by the armature and constituting the driving element of a clutch, a companion clutch member fixed to the armature-shaft, and contact-making devices carried by the armature-shaft, said contact-making devices being in an operative position when said armature-shaft is stationary; substantially as described.

9. In an electric motor, the combination with an armature-shaft, an armature loosely mounted on said shaft, a set of radially-moving plates carried by the armature and constituting the driving element of a clutch, a companion clutch member fixedly mounted on the armature-shaft, radially-moving contact-making plates mounted on said armature-shaft, which contact-making plates occupy an operative position when the armature-shaft is stationary and which are adapted to be rendered inoperative when the armature-shaft is rotated; substantially as described.

10. In an electric motor, the combination with an armature-shaft, an armature loosely mounted on said shaft, a set of radially-moving plates carried by the armature and constituting the driving element of a clutch, a companion clutch member fixedly mounted on the armature-shaft, radially-moving contact-making plates mounted on said armature-shaft, and yielding means for holding said contact-making plates in an operative position when the armature is stationary, said plates being adapted to move into an inoperative position when the armature is rotated; substantially as described.

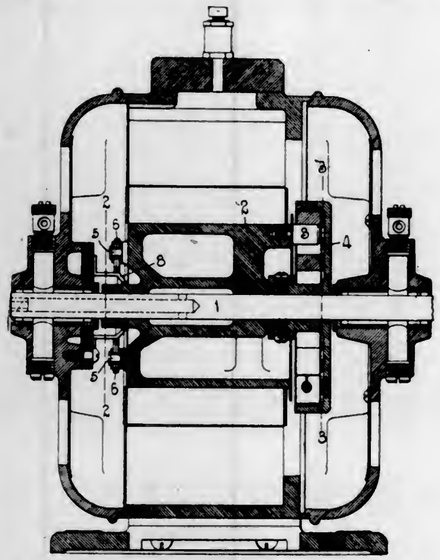
11. In an electric motor, the combination with an armature-shaft, an armature loosely mounted on said shaft, a set of radially-moving plates carried by the armature and constituting the driving element of a clutch, a companion clutch member fixedly mounted on the armature-shaft, pins carried by said companion clutch member, sets of contact-making plates provided with elongated slots through which said pins extend, and yielding means for holding said contact-making plates in an operative position when the armature-shaft is stationary, said plates being adapted to move into an inoperative position when the armature is rotated; substantially as described.

844,384. ELECTRIC MOTOR. CHARLES R. MESTON and HERBERT I. FINCH, St. Louis, Mo., assignors to The Emerson Electric Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed Apr. 11, 1906. Serial No. 311,188.

Claim.—1. In an electric motor, the combination with an armature-shaft, an armature loosely mounted on said shaft, devices mounted on said armature constituting driving elements of a clutch, a companion clutch member fixed to the armature-shaft, and current-carrying devices carried by the armature, said current-carrying devices being in an operative position when the armature is attaining speed; substantially as described.

2. In an electric motor, the combination with an armature-shaft, of an armature loosely mounted thereon, centrifugally-operated clutch members operatively connected to said armature, a companion clutch member fixedly mounted on the armature-shaft, contact-making plates mounted on said armature, which contact-making plates occupy an operative position when the armature is attaining speed, said contact-making plates being rendered inoperative when the armature attains speed; substantially as described.

3. In an electric motor, the combination with an armature-shaft, an armature loosely mounted thereon, centrifugally-operated friction clutch devices rotatably carried by said armature, a companion clutch member fixedly mounted on the armature-shaft, and centrifugally-operated contact-making plates which, when the armature is attaining speed, complete the circuit through the starting-coils of the motor, and, when the armature has attained speed, said plates are moved to an inoperative position so as to cut out said starting-coils; substantially as described.



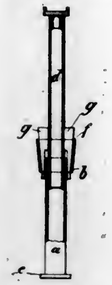
4. In an electric motor, the combination with an armature-shaft, of an armature loosely mounted thereon, a set of radially-moving plates mounted on said armature and constituting the driving element of a clutch, a companion clutch member fixedly mounted on the armature-shaft, contact-making plates mounted on said armature, which contact-making plates occupy an operative position when the armature is attaining speed and which are adapted to be rendered inoperative when the armature attains speed; substantially as described.

5. In an electric motor, the combination with an armature-shaft, of an armature loosely mounted thereon, pins on said armature, a set of plates provided with elongated slots through which said pins extend, said plates constituting a clutch member, yielding means for holding said plates in an inoperative position, a companion clutch member fixedly mounted on the armature-shaft, contact-making plates mounted on said armature, which contact-making plates occupy an operative position when the armature is attaining speed and which are adapted to be rendered inoperative when the armature attains speed; substantially as described.

6. In an electric motor, the combination with an armature-shaft, of an armature loosely mounted thereon, a set of radially-moving plates mounted on said armature and constituting the driving element of a clutch, a companion clutch member fixedly mounted on the armature-shaft, radially-moving contact-making plates mounted on said armature, which contact-making plates occupy an operative position when the armature is attaining speed and which are adapted to be rendered inoperative when the armature attains speed; substantially as described.

7. In an electric motor, the combination with an armature-shaft, of an armature loosely mounted thereon, a set of radially-moving plates mounted on said armature and constituting the driving element of a clutch, a companion clutch member fixedly mounted on the armature-shaft, radially-moving contact-making plates mounted on said armature, and yielding means for holding said contact-making plates in an operative position when the armature is attaining speed, said contact-making plates being rendered inoperative when the armature attains speed; substantially as described.

844,385. PIT-PROP. PETER MOMMERTZ, Marxloh, Germany. Filed Apr. 24, 1906. Serial No. 313,430.



Claim.—A pit-prop composed of a lower member, a casing supported thereon and having a tapering key-seat above said member, an upper member telescoped by the lower member, and a wedge within the tapering key-seat that engages the upper member, substantially as specified.

844,386. SUSPENSION-CABLEWAY. LEWIS C. MCCORMICK, Morgantown, W. Va., and SAMUEL FLORY, Bangor, Pa. Filed Mar. 29, 1906. Serial No. 308,760.



Claim.—1. In a suspension-cableway, the combination with a main cable, an A-tower, a carriage mounted upon said cable, a return rope connected to said carriage and passing over said A-tower, and a fall-block rope carried by said carriage and said A-tower, of a plurality of trolleys movably mounted upon said cable, adjustable sheaves carried by each trolley and adapted to support said fall-block rope, and means to maintain said return rope at an angle to said main cable, substantially as described.

2. In a suspension-cableway, the combination with an A-tower, a main cable, a carriage movably mounted upon said main cable and having a return rope passing over said tower, and a fall-block rope passing over said tower, of means for maintaining said return rope at an angle to said main cable, and trolleys, and adjustable sheaves carried thereby for supporting said fall-block rope at predetermined points along said main cable, substantially as described.

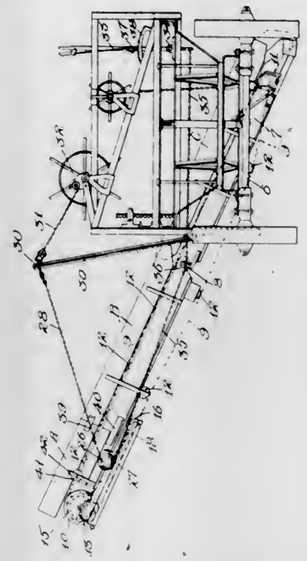
3. The combination with trolleys, of a V-shaped cableway adapted to support said trolleys and limit their movement thereon, substantially as described.

4. The combination with a V-shaped cableway, of trolleys supported thereon, and limited in movement thereby, and adjustable sheaves on said trolleys.

844,387. BELT-TIGHTENING APPLIANCE FOR ELEVATING-GRADERS. THOMAS R. MCKNIGHT, Aurora, Ill., assignor to Western Wheeled Scraper Company, Aurora, Ill., a Corporation of Illinois. Filed Dec. 29, 1905. Serial No. 293,779.

Claim.—1. The combination of an elevator-frame, an extensible frame coöperating therewith, a conveyer-belt carried by said elevator-frame and said extensible frame, and means operated by the load for positively forcing said extensible frame outward.

2. The combination of an elevator-frame, a conveyer-belt, and means positively actuated by the weight of the load for automatically increasing the tension of the conveyer-belt.



3. The combination of an elevator-frame, an extensible frame coöperating therewith, a conveyer-belt carried by said frames, and means positively actuated by the weight of the load for automatically increasing the tension on the conveyer-belt.

4. The combination of an elevator-frame, an extensible frame coöperating therewith, a conveyer-belt carried by said frames, means controlled by the weight of the load for varying the tension on said belt, and means for limiting the tension applied to the belt.

5. The combination of a carriage, an elevator-frame, an extensible frame, a conveyer-belt carried by said frames, a lever mounted on the carriage, and means connected with said lever for moving said extensible frame inwardly.

6. The combination of a carriage, an elevator-frame, an extensible frame, a conveyer-belt carried by said frames, a lever mounted on the carriage, and means connected with said lever for moving said extensible frame either inwardly or outwardly at pleasure.

7. The combination of a carriage, an elevator-frame, an extensible frame coöperating therewith, a conveyer-belt carried by said frames, and means mounted on the carriage connected with the opposite sides of said extensible frame for moving it either inward or outward at pleasure.

8. The combination of a carriage, an elevator-frame, a sliding extensible frame coöperating therewith, a conveyer-belt carried by said frames, and means mounted on the carriage for moving said extensible frame either inward or outward at pleasure to vary the tension on the belt.

9. The combination of a carriage, an elevator-frame, a slidable extensible frame coöperating therewith, a conveyer-belt carried by said frames, a shaft, pinions carried by said shaft at opposite sides of said extensible frame, racks carried by said extensible frame and meshing with said pinions, and means mounted on the carriage for rotating said shaft in either direction.

10. The combination of a carriage, an elevator-frame, an extensible frame coöperating therewith, a conveyer-belt carried by said frame, and means mounted on the carriage for applying power to the opposite sides of said extensible frame for moving it either inward or outward at pleasure.

11. The combination of a carriage, an elevator-frame,

an extensible frame coöperating with said elevator-frame, a conveyer-belt carried by said frames, and means connected with the carriage and positively actuated by the weight of the load for automatically varying the tension applied to the conveyer-belt.

12. The combination of a carriage, an elevator-frame, an extensible frame coöperating with said elevator-frame, a conveyer-belt carried by said frames, means connected with the carriage for automatically varying the tension applied to the conveyer-belt, and means mounted on the carriage for positively adjusting the position of the extensible frame.

13. The combination of a carriage, an elevator-frame, an extensible frame coöperating with said elevator-frame, a conveyer-belt carried by said frames, pulleys carried by the elevator-frame, and flexible connections running over said pulleys and connected at one end with the carriage and at the other end with the inner portions of said extensible frame for automatically varying the tension upon the belt.

14. The combination of a carriage, an elevator-frame, an extensible frame coöperating therewith, a conveyer-belt carried by said frames, a shaft carried by said elevator-frame, a sheave carried by said shaft, rack-and-pinion mechanism connecting said shaft with said extensible frame, a lever mounted on the carriage, and a flexible connection connecting said lever with said sheave whereby by operating said lever said shaft may be rotated to vary the tension on the belt.

15. The combination of a carriage, an elevator-frame, an extensible frame coöperating therewith, a conveyer-belt, sheaves carried by said elevator-frame, a strut mounted on the carriage, and flexible means running over said sheaves and strut, said flexible means being connected with the inner portion of said extensible frame and with the carriage.

16. The combination of a carriage, an elevator-frame, an extensible frame coöperating with said elevator-frame, a conveyer-belt carried by said frames, and means connected with the carriage for positively moving said extensible frame in either direction to vary the tension of the conveyer-belt.

17. The combination of a carriage, an elevator having a conveyer-belt, and positively-acting means connected with the carriage for either increasing or reducing the tension of said conveyer-belt at pleasure.

18. The combination of a carriage, an elevator-frame, an endless conveyer, lever mechanism mounted on the carriage, and means positively actuated by said lever mechanism for reducing the tension of said conveyer.

19. The combination of an elevator-frame, an endless conveyer, means controlled by the weight of the load for automatically varying the tension of said conveyer, and adjustable means for limiting the extent to which the tension may be automatically increased.

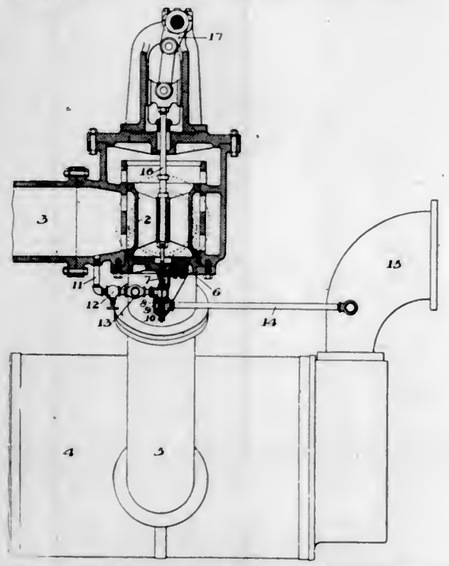
20. The combination of an elevator-frame, an endless conveyer, means positively actuated by the weight of the load for automatically increasing the tension of said conveyer, and hand-operated means for varying the tension of the conveyer.

21. The combination of an elevator-frame, an extensible frame carried by said elevator-frame, a conveyer-belt carried by said frames, one of said frames being movable to vary the tension upon said belt, and means controlled by the weight of the load for positively actuating said extensible frame to increase the tension on the conveyer-belt.

22. The combination of an elevator-frame, an extensible frame carried by said elevator-frame, a conveyer-belt carried by said frames, one of said frames being movable inward and outward to vary the tension upon said belt, and means controlled by the weight of the load for positively moving said extensible frame outward to increase the tension on the conveyer-belt.

23. The combination of a carriage, an elevator-frame, an extensible frame carried by said elevator-frame, a conveyer-belt carried by said frames, one of said frames being movable to vary the tension upon said belt, means controlled by the weight of the load for positively actuating said extensible frame to increase the tension on the conveyer-belt, a lever mounted on the carriage, and means connected with said lever for positively actuating said extensible frame to vary the tension on the conveyer-belt.

844,388. COMPOUND ENGINE. MARVIN A. NEELAND, Montclair, N. J. Filed Apr. 21, 1906. Serial No. 312,992.



Claim.—1. A compound engine having a throttle-control valve, a receiver, an auxiliary admission-valve between the live-steam pipe and the receiver, and connections arranged to close the auxiliary valve when the control-valve is opened and vice versa; substantially as described.

2. A compound engine having a throttle-control valve, a receiver, a shutting-off device between the receiver and low-pressure cylinder or cylinders, an auxiliary admission-valve between the live-steam pipe and the receiver, and connections arranged to close the auxiliary valve when the control-valve is opened and vice versa; substantially as described.

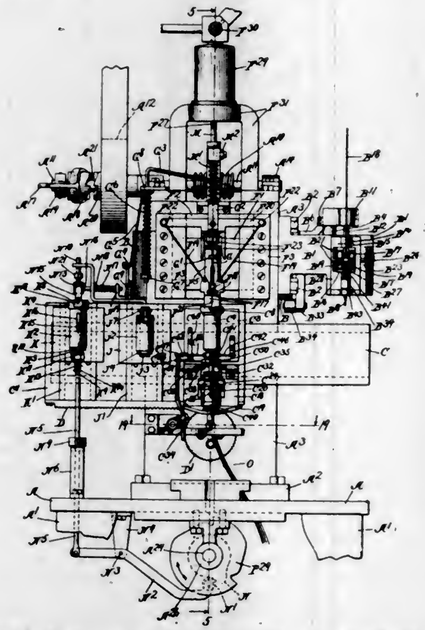
3. A compound engine having an auxiliary steam-admission valve between the live-steam pipe and receiver-pipe, a shutting-off device between the receiver and the low-pressure cylinder, and connections for opening the auxiliary valve simultaneously with the closing of the shutting-off device; substantially as described.

4. In a compound engine, a live-steam connection between the steam-main and the receiver-pipe, a reducing-valve in said pipe, a steam-admission valve located in said pipe, and connections to the throttle-valve mechanism arranged to operate said valve; substantially as described.

844,389. MACHINE FOR MANUFACTURING AND MOUNTING PINIONS AND WHEELS. ANDREW H. NEUREUTHER, Peru, Ill., assignor to The Western Clock Manufacturing Company, La Salle, Ill., a Corporation of Illinois. Filed July 5, 1902. Serial No. 114,479.

Claim.—1. In a machine for forming pinions, the combination of a pinion-wire-feeding device adapted to feed forward a continuous wire, with a pivot-wire-feeding device, which devices feed toward each other from opposite directions so as to bring the pivot and pinion wires into proper relation, means associated with a pivot-wire feeder to cut the pivot-wire off to the proper length and a driving device to actuate said cutter and feeders.

2. In a machine for forming pinions, the combination of a pinion-wire-feeding device with a pivot-wire-feeding device which devices feed toward each other from opposite directions so as to bring the pivot and pinion wires into proper relation, means associated with each of such feeding devices to cut off their respective wires at their proper lengths, and a driving device to actuate such feeders and cutters.



3. In a machine for forming pinions, the combination of a pinion-wire-feeding device with a pivot-wire-feeding device, which devices feed toward each other from opposite directions so as to bring the pivot and pinion wires into proper relation, means associated with each of such feeding devices to cut off their respective wires at their proper lengths, and a driving device to actuate such feeders and cutters, the pinion-feeding device adapted to retain in their assembled relations the several pinion-wires and the pivot-wire.

4. In a machine for forming pinions, the combination of a pinion-wire-feeding device adapted to feed forward a continuous wire, with a pivot-wire-feeding device which devices feed the wires relatively to each other so as to bring the pivot and pinion wires into proper relation, actuating mechanism to operate such feeding devices, and means associated with a pivot-wire feeder to cut the pivot-wire off to the proper length.

5. In a machine for forming pinions, the combination of a pinion-wire-feeding device with a pivot-wire-feeding device which devices feed the wires relatively to each other so as to bring the pivot and pinion wires into proper relation, actuating mechanism to operate such feeding devices, and means associated with both of such feeding devices to cut off their respective wires at their proper lengths.

6. In a machine for forming pinions, the combination of a pinion-wire-feeding device with a pivot-wire-feeding device, which devices feed the wires relatively to each other so as to bring the pivot and pinion wires into proper relation, actuating mechanism to operate such feeding devices, and means associated with both of such feeding devices to cut off their respective wires at their proper lengths, the pinion-feeding device adapted to retain in their assembled relations the several pinion-wires and the pivot-wires.

7. In a machine for making pinions, the combination of an assembling device with feeding mechanism to feed the pivot and pinion wires into proper pinion-forming relations in the assembling device, wire-cutters to sever such wires at the proper lengths, and an actuating device for such feeding and cutting mechanisms.

8. In a machine for forming pinions, the combination of feeding mechanism for bringing the ends of continuous wires into proper position to form the pinion and pivot wires, with means for then cutting off such pinion-wires from the continuous wires, a holding device for holding them in proper relation, means for forcing them through a washer in their assembled relation, and actuating mechanism to operate the feeders and cutters.

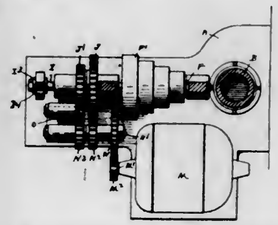
9. In a machine for forming pinions the combination of a holding device with automatic means for assembling the wires of the pinion in proper pinion-forming relation in said holding device comprising wire-feeding devices, and cams arranged to operate the same.

10. In a machine for forming pinions the combination of a transversely-movable holding device with automatic means for assembling the wires of the pinion in proper pinion-forming relation in said holding device.

11. In a machine for forming pinions the combination of a holding device with automatic means for feeding continuous wires into such holding device in proper pinion-forming relation comprising wire-feeding devices and cams arranged to operate the same.

12. In a machine for forming pinions the combination of a holding device with automatic means for assembling the wires of the pinion in proper pinion-forming relation in said holding device comprising wire-feeding devices and cams arranged to operate the same and associated therewith means for placing a washer on said wires.

844,390. GEARING FOR DRILLING-MACHINES, &c. ALBERT E. NEWTON, Worcester, Mass. Filed Aug. 3, 1901. Serial No. 70,737.



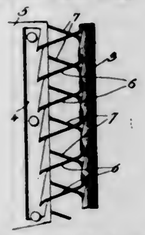
Claim.—The combination, with a motor-shaft, of a hollow counter-shaft, a plurality of sleeves secured to the counter-shaft, a hollow radial arm secured to each sleeve, the sleeves abutting each other and being of slightly-larger diameter than the arms whereby shoulders are formed, a gear-wheel loosely mounted on each sleeve and abutting the shoulders which prevent movement of the gears in one direction, the gears being recessed, journal-boxes for the counter-shaft and sleeves, the gears engaging the journal-boxes and prevented from movement in the opposite direction thereby, expansible rings located within the recesses of the gears, an oppositely-beveled rod slidably received in the hollow counter-shaft, pins carried in the hollow arms and alternately engaged by the beveled surfaces of the rod to clutch one or the other of the gears to the counter-shaft, a suitably-supported pinion meshing with one of the loose gears, an intermediate shaft driven in one direction by the motor-shaft, a gear on the intermediate shaft meshing with the pinion, a second gear on the intermediate shaft meshing directly with the remaining loose gear and means for reciprocating the rod to clutch one or the other of the loose gears alternately to the counter-shaft.

844,391. CORNER-STRIP. EDWARD NICHOLS, Cohasset, Mass. Filed Apr. 3, 1905. Serial No. 253,677.

Claim.—1. A corner-strip comprising a corner-bead, and two wings extending therefrom, each composed of metal

slitted and expanded to the same degree to form inclined straight parallel bars connecting the corner-bead with an attaching-strip.

2. A corner-strip comprising a corner-bead, and two wings extending therefrom, each composed of metal slitted and expanded to the same degree to form inclined, parallel bars connecting the corner-bead with an attaching-strip, said bars all having an inclination longitudinally of the corner-strip and the parallel bars on one wing inclining oppositely to those of the other wing.



3. A corner-strip comprising a corner-bead and two wings or side portions extending therefrom, each wing being formed of metal slitted and expanded to the same degree to present an attaching-strip and an open-work portion formed of parallel bars which connect the strip with the corner-bead, each bar of one wing crossing or standing opposite the open space between two adjacent bars of the other wing.

4. A corner-strip comprising a corner-bead and two wings or side portions extending therefrom, each wing being formed of metal slitted and expanded to the same degree to present an attaching-strip and an open-work portion formed of parallel bars inclined in the direction of the length of the corner-strip, the bars of one wing being inclined oppositely to those of the other, and each bar of either wing standing opposite and crossing the open space between two adjacent bars of the other wing.

5. An expanded metal corner-strip comprising a corner-bead portion, attaching-strips to be secured to a studding, and a portion of expanded metal connecting the corner-bead with each attaching-strip, said portions of expanded metal being expanded to the same degree and one of said strips being capable of adjustment longitudinally with relation to the other strip thereby to vary uniformly the degree to which both portions of the metal are expanded and consequently the distance between the corner-bead and attaching-strips.

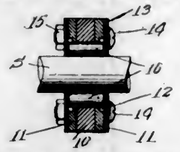
6. An expanded metal corner-strip comprising a corner-bead portion, attaching-strips to be secured to a studding, and a portion of expanded metal connecting the corner-bead with each attaching-strip, said portions of expanded metal being expanded to the same degree, one of said strips being adjustable vertically on the studding, whereby the expanded metal portion may be expanded uniformly more or less thereby to adjust the corner-bead toward and from the studding.

7. A corner-strip made in the form of a truss having similar sides and also having a corner-bead, and means to secure it in place.

8. A corner-strip comprising a corner-bead and two wings or side portions extending therefrom, each wing being formed of metal slitted and expanded to the same degree to form parallel bars connecting the corner-bead with an attaching-strip, each bar presenting a thin edge at the side of the corner-bead, and a wide face extending transversely of the corner-strip whereby the plaster may readily enter the open-work portion of the corner-strip and a wide support for the plaster is provided.

844,392. ROLLER-BEARING. FRANCIS W. NIMS, Worcester, Mass., assignor to himself and Alfred Thomas and William Richardson, Worcester, Mass. Filed Mar. 11, 1904. Serial No. 197,705.

Claim.—1. In a roller-bearing, the combination of a box-section having a bore therein forming a center track, box-sections at each side thereof having counterbores on their outsides forming tracks, a set of rolls of a length substantially equal to the combined thickness of said box-sections and of a uniform diameter throughout their lengths for supporting a shaft in the center track, and a set of separator-spools, each comprising two disks bearing on the rolls and also bearing in the enlarged tracks.



2. In a roller-bearing, the combination of a bearing-box comprising a middle part divided into two sections, two side parts each of which is also divided into two sections with the division-line in a plane at an angle to the division-line of the center part, said middle part having a center track bored therein, and said side parts being counterbored to form enlarged trackways at their outer sides, a set of rolls of uniform thickness throughout their length, each extending from the outside of one side part to the outside of the other for supporting a shaft in the main bearing-box, and a set of separating-spools, each comprising two disks running in the enlarged trackways and engaging the cylindrical surfaces of the rolls.

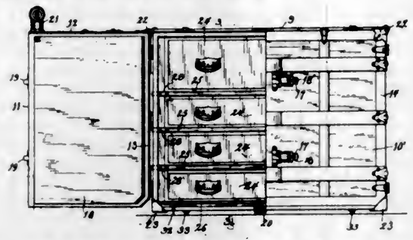
3. In a roller-bearing, the combination of a bearing-box comprising a center part divided into two sections and having a main central counterbore, two side parts each divided into two sections on a division-line at substantially right angles to the line of division of the central part, the central part being provided with a track therein, and the side parts with an enlarged trackway at their outer sides, the inner sides of the side parts being of the same diameter as the track in the central part, a set of rolls of uniform diameter throughout their length extending from the outer surface of one side part to the outer surface of the other for supporting a shaft in the track of the central part, separating-spools comprising disks running in the enlarged trackways and engaging the surfaces of the rolls, and retaining-plates at each end of the box for holding the rolls in place, said retaining-plates being divided on a line substantially parallel with the line on which the center part is divided, and bolts passing through said retaining-plates and said parts for holding them in position.

4. In a roller-bearing, the combination of a bearing-box comprising a center part divided into two sections, side parts, each divided into two sections on a division-line at an angle to the line of division of the central part, said bearing-box having a main center track therein and an enlarged trackway at each side thereof, a set of rolls of uniform diameter throughout their length supporting a shaft in the center track, separating-spools, each comprising a spindle with an enlarged disk at each end, the disks running in the enlarged trackways and engaging the rolls, and retaining-plates at each end of the box for holding the rolls in place, said retaining-plates being divided, whereby all parts of the bearing may be applied to an intermediate point of a shaft.

844,393. TRUNK. CYRUS H. PAXTON, Oshkosh, Wis. Filed Jan. 6, 1906. Serial No. 294,895.

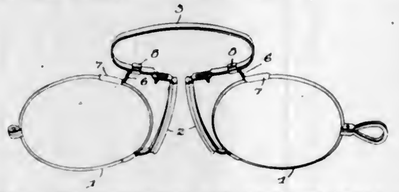
Claim.—1. In a trunk, the combination with a trunk body having an open side, of doors hinged to the ends of said trunk-body and opening outwardly, a hinge-lock secured to the bottom of the trunk-body, the swinging member of said lock adapted to engage one of the door members, and a hinge-lock secured to the upper edge of said latter door member and the swinging member of the lock adapted to engage the top of the trunk-body.

2. In a trunk, the combination with the body thereof provided with an open front side, of U-shaped drawer-supporting frames secured within the trunk-body, the front strip of each of said frames extending across the front of the trunk-body from end to end thereof, and the side strips of said frame extending along the inner sides of the end pieces of the trunk-body, and straps secured to opposite ends of each forward strip of a U-shaped frame and extending outwardly through openings in the end pieces of the trunk-body and bent at right angles against the outer sides of the end pieces of the trunk-body.



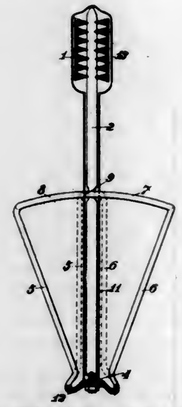
3. In a trunk, the combination with the body thereof provided with an open front side, of U-shaped drawer-supporting frames secured within the trunk-body, the front strip of each of said frames extending across the front of the trunk-body from end to end thereof, and the side strips of said frame extending along the inner sides of the end pieces of the trunk-body, the opposite ends of the forward strip of each U-shaped frame being seated in recesses in the end pieces of the trunk-body, and straps secured to opposite ends of each forward strip of a U-shaped frame and extending outwardly through openings in the end pieces of the trunk-body and bent at right angles against the outer sides of the end pieces of the trunk-body.

844,394. EYEGLASSES. PETER PECK, Southbridge, Mass. Filed Dec. 30, 1905. Serial No. 293,983.



Claim.—The combination with eyeglasses having rims thereround, the thickness of said rims being greater than that of the glasses; of a post upon each rim, a clip integral with the post and made up of oppositely-disposed bowed members clenched upon the rim at opposite sides of the glass, a bow-spring, a pair of arms upon each post adapted to be clenched around the bow-spring.

844,395. TOOTH-BRUSH. EDUARD PENKALA, Zágráb, Austria-Hungary. Filed Mar. 26, 1906. Serial No. 308,084.

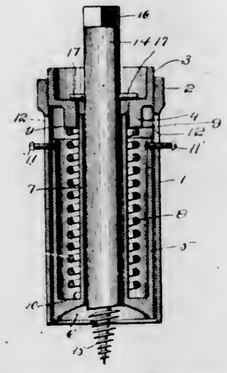


Claim.—1. In combination, a spring having oppositely-extending sector-arms, and a circular brush having its spindle rotatably held between said sector-arms.

2. In combination, a spring having a bridge and oppositely-extending sector-arms, and a rotary brush having its spindle journaled in said bridge and lying between said arms.

3. In combination, a spring having a bridge and oppositely-extending sector-arms, a rotary brush having its spindle journaled in said bridge and lying between said arms and a sleeve inclosing the spindle and having a portion to partially inclose the brush.

844,396. BUNG AND CORK EXTRACTOR. JOHN PFAB, Pittsburg, Pa. Filed May 2, 1906. Serial No. 314,843.



Claim.—1. A bung-extractor comprising a shell open at both ends, and having slots in opposite sides near its upper end, a retaining-cup mounted for movement within the shell and having pins projecting through said slots, said retaining-cup having a concave bottom and having a central tubular portion or sleeve, a cap threaded into the upper end of the shell, a shaft extending through said tubular portion or sleeve and having a screw on its lower end, transversely-extending pins carried by said shaft and resting on said cap, and a spring surrounding the tubular portion or sleeve of said retaining-cup and connected at its ends to the base of said cup and to the cap respectively.

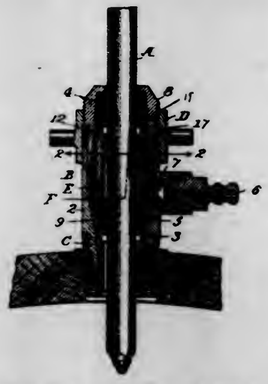
2. In a bung-extractor, a shell, a retaining-cup therein provided with a central tubular portion or sleeve, pins carried by said cup and projecting through slots provided therefor in the shell, a cap mounted in one end of the shell, a shaft extending through the cap and tubular portion or sleeve and provided with a screw, means carried by the shaft and engaging said cap to support the shaft within the tubular portion or sleeve, and means for operating said shaft.

3. In a bung-extractor, a shell open at both ends, a retaining-cup within the shell having limited vertical movement therein, means for limiting the movement of said cup, a cap secured to one end of said shell, a tubular portion or sleeve carried by the retaining-cup, a spring surrounding said tubular portion or sleeve and connected at its ends to the cap and base of the retaining-cup respectively, a shaft extending through the tubular portion or sleeve and provided on one end with a screw, and means for supporting said shaft in said tubular portion or sleeve.

844,397. BEER-TAP. FLORIAN M. PFLUGER, Portland, Oreg., assignor, by mesne assignments, to Kaufmann-Chaplin Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed May 23, 1904. Serial No. 209,211.

Claim.—1. The combination of the tap-tube and a two-part casing, the lower part adapted for application to a bung, an air-inlet to the casing, means for packing the joint between the casing and tube above the air-inlet, a packing within the lower part of the casing, and means within the casing for forcing the packing downward to close the joint between the bung and casing, substantially as set forth.

2. The combination of the tap-tube and a two-part casing, the lower part adapted for application to a bung, an air-inlet to the casing, packings surrounding the tube above and below the air-inlet, one of said packings being in each part of the casing, a sleeve extending between the packings, and means for carrying the two parts of the casing to and from each other, substantially as set forth.



3. The combination of the tap-tube and a two-part casing, the lower part adapted for application to a bung, an air-inlet to the casing, packings surrounding the tube above and below the air-inlet, one of said packings being in each part of the casing, a sleeve extending between the packings, and a screw-ring adapted to reverse threads on the two parts of the casing, substantially as set forth.

4. The combination of the tap-tube and a two-part casing, the lower part adapted for application to a bung, an air-inlet to the casing, packings surrounding the tube above and below the air-inlet, one of said packings being in each part of the casing, a sleeve extending between the packings, a screw-ring adapted to reverse threads on the two parts of the casing, and a packing between said parts and said ring, substantially as set forth.

5. The combination of the tap-tube and a two-part casing, the lower part adapted for application to a bung, an air-inlet to the casing, packings surrounding the tube above and below the air-inlet, one of said packings being in each part of the casing, a sleeve extending between the packings, a flanged sleeve extending through the lower packing, and means for carrying the two parts of the casing to and from each other, substantially as set forth.

6. The combination of the tap-tube, a two-part casing, the lower part provided with flanged projections for connection with a bung, an air-inlet, packings within the upper and lower parts of the casing to close respectively the joint between the tube and casing above the air-inlet and the joint between the lower section of the casing and the bung, a sleeve extending between said packings, and means for carrying the parts of the casing toward each other to compress the packings, substantially as set forth.

7. The combination of the tap-tube and two-part casing, means for carrying the parts of said casing to and from each other, each part having a tapering seat for a packing, packings bearing on said seats, and means for pressing said packings against their seats as the parts of the casing are carried toward each other, substantially as set forth.

8. The combination of the tap-pipe A, casing-section 2, having an air-inlet and tapering seat for a packing, casing-section 8 sliding independently of the section 2 but incapable of turning independently thereof, means for carrying the casings to and from each other, a packing in each section of the casing, and a bearing member interposed between the packings, substantially as set forth.

9. The combination of the two part reversely-threaded casing-sections, a ring D, a packing interposed between the sections and the ring, packings 4 and 5, and a sleeve interposed between said packings, substantially as set forth.

10. A tap comprising a casing adapted for insertion in the bung-hole of a cask, means for locking said casing in said cask, a discharge-pipe in said casing, packings for the joints between said casing and said discharge-pipe and between said casing and the cask, and means connecting said packing whereby both said packings may be tightened simultaneously.

11. A tap comprising a casing adapted for insertion in the bung-hole of a cask, a discharge-pipe extending through said casing, packings for the joints between said casing and said discharge-pipe and between said casing and the cask, and means connecting said packings whereby both said packings may be tightened simultaneously.

12. A tap comprising a casing adapted for insertion in the bung-hole of a cask, a discharge-pipe extending through said casing, packings for the joints between said casing and said discharge-pipe and between said casing and said cask, means for tightening one of said packings and a member for transmitting the tightening movement of said means to tighten the other of said packings.

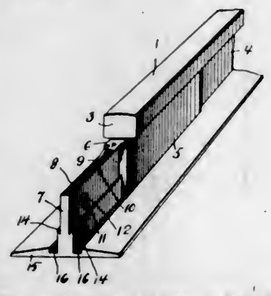
844,398. STAPLE-FASTENER. LEWIS A. PLATT and WALTER T. ABEL, Waterbury, Conn., assignors to The Platt Brothers & Company, Waterbury, Conn., a Corporation of Connecticut. Filed Jan. 30, 1906. Serial No. 698,632.



Claim.—1. A staple, comprising a circular head having its edge turned or bent under the same, said turned-over edge varying in width, and prongs extending from the wider portions of said turned-under edge, substantially as described.

2. A staple comprising a circular head having its entire edge turned or bent under the same, said turned-under edge varying in width, and prongs extending from the wider portions of said edge and curved eccentrically to the head, substantially as described.

844,399. RAIL-JOINT. EPHRAIM M. PORTER and JOHN W. DAUBENSPECK, Kellettville, Pa. Filed Nov. 12, 1906. Serial No. 343,068.



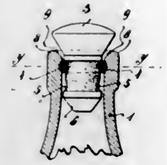
Claim.—The combination of two rails, the confronting ends of said rails being cut away to be connected together, said rails having their web portions provided with reinforcements, one of the reinforcements being cut away to form an auxiliary web portion having a groove formed therein, a lever pivoted in said groove, the other of said reinforcements being slotted to receive said auxiliary web, and recessed to receive the end of said lever, said reinforcement and auxiliary web portion having openings formed therein to permit of access being had to said lever, substantially as described.

2. In a rail-joint, the combination with the confronting ends of two sections of rails, of reinforcements carried by the ends of said rails, an auxiliary web portion carried by one of said reinforcements, a lever pivotally mounted in said auxiliary web, the other of said reinforcements being slotted to receive said web, and recessed to receive the end of said lever, and means whereby access may be had to said lever.

3. In a rail-joint, the combination with the confronting ends of two sections of rails, the head of one section being cut away, the base of the other section being cut away, an auxiliary web carried by one section, a reinforcement carried by the other section and fitting over said web, and means carried by said auxiliary web to lock said sections together.

4. In a rail-joint, the combination with the confronting ends of two sections of rails, of an auxiliary web carried by one of said sections, a reinforcement carried by the other of said sections and fitting upon said web, and means mounted in said web to lock said reinforcement upon said web.

844,400. BOTTLE-STOPPER. CHRISTIAN RADBRUCH, Lübeck, Germany. Filed Dec. 9, 1904. Serial No. 236,124.



Claim.—1. In combination, a receptacle, the neck of which presents an internal depression, a stopper having a head and a portion which fits into the receptacle-mouth and presents a rough-surfaced annular recess having two annular depressions and a swelling separating the same, and a gasket adapted to lie in the said stopper depressions and rolling from one into the other and into the said depression on the receptacle-mouth on the stopper being depressed, substantially as described.

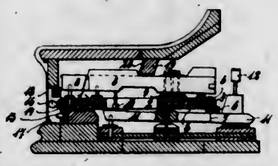
2. In combination, a receptacle, the neck of which presents an internal depression, a stopper having a head, and a portion which fits into the receptacle-mouth and presents a rough-surfaced annular recess having two annular depressions and a swelling separating the same, and a gasket adapted to lie in the said stopper depressions and rolling from one into the other and into the said depression on the receptacle-mouth on the stopper being depressed, the distance of the top of the recess in the stopper from the stopper-head being greater than the distance of the depression in the receptacle-neck from the edge of the neck, substantially as described.

3. In combination, a receptacle, the neck of which presents an internal depression, a stopper having a head and a portion which fits into the receptacle-mouth and presents a rough-surfaced annular recess having two annular depressions and a swelling separating the same, and which has a chamfered bottom end, and an annular elastic gasket passed over the said chamfered end into the lower annular stopper depression, and rolling into the upper stopper depression on the stopper being pressed into the mouth of the receptacle, substantially as described.

4. In combination, a receptacle, the neck of which presents an annular depression, and the edge of the neck of which is internally flared, a stopper having a head and a portion which fits into the receptacle-mouth and presents a rough-surfaced annular recess having two annular depressions and a swelling separating the same, and a gasket lying in the lower stopper depression and in the flared receptacle-mouth, and on the stopper being depressed rolling into the upper stopper depression and into the depression on the receptacle-mouth, substantially as described.

844,401. KEY-CHANGING DEVICE FOR KEYED INSTRUMENTS. JOSEPH RAMSPERGER, Stuttgart, Germany. Filed Dec. 10, 1903. Serial No. 184,696.

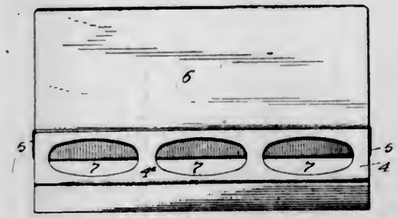
Claim.—1. A transposing device for keyed instruments, comprising an auxiliary keyboard lying below the playing-keyboard and connected directly with the hammer mechanism, a rod extending across the instrument, a frame carrying said playing-keyboard adjustably pivoted on said rod, said frame being adapted to move laterally with regard to the instrument, suitable strikers upon the keys of said playing-keyboard adapted to actuate the keys of the auxiliary keyboard, a pin 13 on the frame of the instrument, a bar on the frame carrying the playing-keyboard provided with recesses 21 with which said pin 13 is adapted to engage to hold the playing-keyboard in the desired position, the knobs 16, and the pivoted shutter 18 covering said knobs, substantially as described and shown and for the purpose set forth.



2. A transposing device for keyed instruments, comprising an auxiliary keyboard lying below the playing-keyboard and connected directly with the hammer mechanism, a rod extending across the instrument, a frame carrying said playing-keyboard adjustably pivoted on said rod, said frame being adapted to move laterally with regard to the instrument, suitable strikers upon the keys of said playing-keyboard adapted to actuate the keys of the auxiliary keyboard, a pin 13 on the frame of the instrument, a bar on the frame carrying the playing-keyboard provided with recesses 21 with which said pin 13 is adapted to engage to hold the playing-keyboard in the desired position, the knobs 16, and the pivoted shutter 18 covering said knobs, the bar 19 and the scale 20.

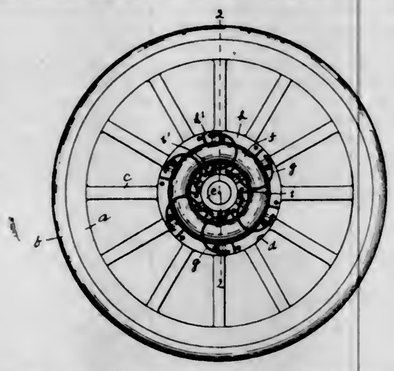
3. A transposing device for keyed instruments, comprising an auxiliary keyboard lying below the playing-keyboard and connected directly with the hammer mechanism, a rod 4 extending across the instrument, supports 6 for said rod, the cushioned rings 5, the frame 1, 2, 3 carrying said playing-keyboard, adjustably mounted on said rod, said frame being adapted to move laterally with regard to the instrument, strikers upon the keys of said playing-keyboard, adapted to actuate the keys of the auxiliary keyboard, a pin 13 on the frame of the instrument, a bar on the frame carrying the playing-keyboard provided with recesses 21 with which said pin 13 is adapted to engage to hold the playing-keyboard in the desired position, the knobs 16, the pivoted shutter 18 covering said knobs, the bar 19 and the scale 20, substantially as described.

844,402. DISPLAY-STAND. GEORGE H. RICHARDSON, Old Town, Me., assignor to Bickmore Gall Cure Company, a Corporation of Maine. Filed May 18, 1906. Serial No. 317,543.



Claim.—In a display-stand a base comprising a single piece of sheet metal having a flat top provided with receiving-openings and vertically-depending front and rear portions or flanges leaving an open-bottomed space beneath the flat top, said rear flanges having turned-over edges at the ends forming vertical grooves or channels, and a back having its lower end edges removably seated in said grooves.

844,403. WHEEL. DUNCAN ROBINSON, Brookline, Mass. Filed Aug. 11, 1906. Serial No. 330,157.



Claim.—1. A wheel comprising a felly, spokes and ring *d* connected together, a hub of lesser diameter than the ring *d*, a pneumatic ring interposed between the ring *d* and the hub and springs at opposite sides of the wheel connected at their outer ends to said ring *d* and at their inner ends to said hub, both ends of each spring occupying the same radial position with respect to the wheel, substantially as described.

2. A wheel comprising a felly, spokes and ring *d* connected together, a hub of lesser diameter than the ring *d*, a pneumatic ring interposed between said ring *d* and the hub, a plurality of C-springs at both sides of the wheel connected at their outer ends to said ring *d* and at their inner ends to the hub, both ends of each spring occupying the same radial position with respect to the wheel, substantially as described.

3. A wheel comprising a felly, spokes and ring *d* connected together, a hub of lesser diameter than the ring *d*, a pneumatic ring interposed between said ring *d* and the hub, a plurality of C-springs at both sides of the wheel, supports attached to the ring *d* to which the outer ends of said springs are attached and supports attached to the hub to which the inner ends of said springs are attached, substantially as described.

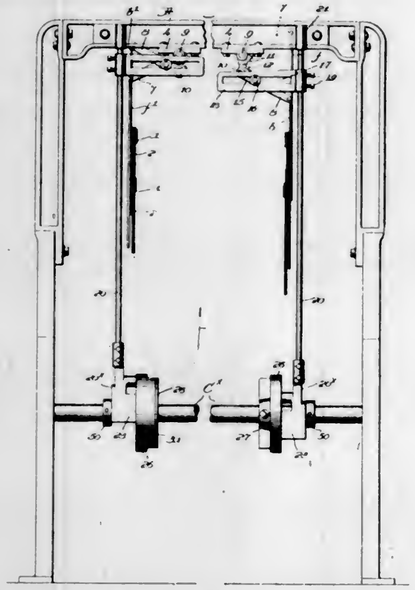
4. A wheel comprising a felly, spokes and ring *d* connected together, a hub of lesser diameter than the ring *d*, a pneumatic ring interposed between said ring *d* and the hub, a plurality of C-springs at both sides of the wheel, laterally-extended supports on the ring *d* to which the outer ends of said springs are attached and supports on the hub to which the inner ends of said springs are attached, substantially as described.

5. A wheel comprising a felly, spokes and ring *d* connected together, a hub of lesser diameter than the ring *d*, a pneumatic ring interposed between said ring *d* and the hub, a set of springs at each side of the wheel, rings attached to the opposite sides of the ring *d* to which the inner ends of said springs are attached and rings attached to the opposite ends of the hub to which the outer ends of said springs are attached, substantially as described.

6. A wheel comprising a felly, spokes and ring *d* connected together, a hub of lesser diameter than the ring *d*, a pneumatic ring interposed between said ring *d* and the hub, a set of C-springs at each side of the wheel, rings attached to the opposite sides of the ring *d* having projections to which one of the ends of said springs are attached, and rings attached to the opposite ends of the hub having projections to which the other ends of said springs are attached, substantially as described.

844,404. SELVAGE-MOTION FOR LOOMS. CHARLES F. ROPER, Hopedale, Mass., assignor to Draper Company, Hopedale, Mass., a Corporation of Maine. Filed June 18, 1906. Serial No. 322,134.

Claim.—1. In a selvage-motion for looms, in combination, two selvage-harnesses at each side of the loom, a connection between and to cause opposite reciprocation of the harnesses of each pair, two actuators, transmitting means between each actuator and one of the connections, and means on each actuator to cause the said actuators to operate the harnesses to weave plain or tape selvage.



2. In a loom, a shed-forming mechanism for each selvage, combined with a separate actuating device for each mechanism, and means, including a variable member forming a part of each actuating device, to cause said actuating devices to operate the shed-forming mechanisms to weave plain or tape selvage.

3. In a selvage-motion for looms, in combination, two selvage-harnesses at each side of the loom, a positive connection between and to cause opposite reciprocation of the harnesses of each pair, two rotatable actuators, means on and to vary each actuator to cause plain or tape selvage to be woven, and transmitting means between each actuator and one of the harness connections.

4. In a loom, a rotatable shaft, a shed-forming mechanism for each selvage, combined with a reciprocating transmitter operatively connected with each mechanism, and two actuators on the shaft to reciprocate the transmitters, each actuator comprising a main or body portion and a reversible portion, whereby by reversal of the latter portions said actuators can operate the shed-forming mechanisms to weave different kinds of selvage.

5. In a loom, a shed-forming mechanism for each selvage, including two positively-connected and oppositely-movable harness members for the selvage-warps, and means to cause a differential movement of the connected harness members, combined with an actuator for each mechanism, each actuator comprising a main portion having on its face a crossed and incomplete cam-path, and a reversible portion having on one face a double cam-path to complete the two lobes of the crossed path on the main portion, and on its opposite face a path to complete an uncrossed path, and transmitting means between each actuator and one of said shed-forming mechanisms, said means including a follower to traverse the cam-path of the adjacent actuator.

6. In a loom, separate shed-forming mechanism for each selvage, an actuator for each mechanism, each actuator having a removable, reversible portion, whereby a plain or a tape selvage may be woven, and a reciprocating transmitter between each actuator and one of said mechanisms.

7. In a loom, separate shed-forming mechanism for each selvage, an actuator for each mechanism, each actuator having a cam-path thereon, means to vary or change the cam-path to weave plain or tape selvage, a follower cooperating with the cam-path of each actuator, and a transmitter for each of said shed-forming mechanisms, the followers being mounted on the transmitters.

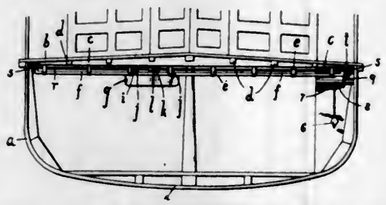
8. In a loom, a cam-shaft, two selvage-harnesses at each side of the loom, a positive, differential connection between each pair of harnesses, a rocker-arm on each connection, a vertically-reciprocating transmitter operatively connected with each rocker-arm, to operate the same, and an actuating-cam for each transmitter, fast on the cam-shaft, each cam having a reversible segment, the main portion of each cam having incomplete inner and outer lobes of a crossed groove, one face of the segment being grooved to complete both lobes and the other face having a groove to connect one end of the outer lobe with the end of the inner lobe on the opposite side of the center, forming a single, uncrossed path, whereby by reversal of the segments plain or tape selvage can be woven.

9. In a loom, separate shed-forming mechanism for each selvage, actuating means therefor, including two cam-grooved actuators, and means to vary the contours of said cam-grooves whereby tape or plain selvage may be woven.

10. In a loom, separate shed-forming mechanism for each selvage, combined with an actuator for each having a variable cam-path, means to change or vary said cam-paths, a reciprocating transmitter coöperating with each actuator, and a rocking connection between each transmitter and one of said shed-forming mechanisms.

11. In a loom, separate shed-forming mechanism for each selvage, and operating means for each mechanism including a crank-actuator and transmitting means provided with a slotted arm coöpernting with the crank-actuator, whereby the weaving of different widths of fabric is permitted.

844,405. TRIMMING-WEIGHT FOR STEAMBOATS AND THE LIKE. CHARLES C. ROUILLARD, Montreal, Quebec, Canada. Filed Feb. 17, 1906. Serial No. 301,648.



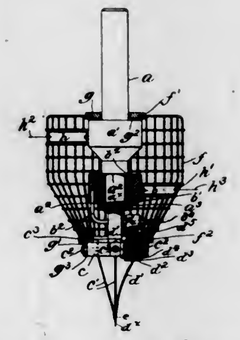
Claim.—1. In trimming-weights for steamboats and the like, the combination with the vessel, of a balancing-weight, a trackway therefor suitably supported from a deck of the vessel, a threaded shaft extending across said vessel and journaled in suitable bearings at the sides thereof in proximity to said trackway, means secured to the said weight for connecting said shaft, and means for rotating said shaft in either direction, as and for the purpose specified.

2. In trimming-weights for steamboats and the like, the combination with the vessel, of a balancing-weight, having a thimble secured thereto internally threaded and flexibly arranged, a shaft correspondingly threaded to said thimble and extending therethrough and journaled in suitable bearings in the sides in the vessel in proximity to said trackway, and means for operating said shaft, as and for the purpose specified.

3. In trimming-weights for steamboats and the like, the combination with the vessel, of a balancing-weight, having a thimble secured thereto internally threaded and flexibly arranged, a trackway therefor running across the vessel and suitably supported, a threaded shaft journaled in bearings at the sides of the vessel in proximity to said trackway, a motor having suitable connection with said shaft to drive the same in either direction, and a pivoted plumb-rod governing, through the motion of the boat, the feed to the motor from the source of power, as and for the purpose specified.

4. In trimming-weights for steamboats and the like, the combintion with the vessel, of a balancing-weight, having a thimble secured thereto internally threaded and flexibly arranged, a trackway therefor running across the vessel and suitably supported, a threaded shaft journaled in bearings at the sides of the vessel in proximity to said trackway, a reciprocating steam-engine having a link-motion reversing-gear and a swinging plumb-rod governing, through the motion of the boat, the position of the link in said reversing-gear, as and for the purpose specified.

844,406. ELECTRIC TRIMMING APPARATUS. FELIX J. RUSH, New York, N. Y. Filed Sept. 16, 1905. Serial No. 278,725.



Claim.—1. An electric trimming apparatus having in combination a conducting filament, means for supporting said filament by its ends so as to leave it free and unsupported between its ends, a guard coöperating with the free portion of said filament and means for translating an electric current to and through said filament, whereby the latter may be heated for singeing purposes.

2. An electric trimming apparatus having in combination a holder, a conducting filament, a guard, and means for translating an electric current to and through said filament, the latter being supported at one end by the holder and at the other end by the guard, whereby said filament is exposed between its ends to present singeing portions.

3. An electric trimming apparatus comprising a singeing filament capable of being heated by the passage therethrough of an electric current; a holder for said filament; means for rotating said holder; and leads in electric connection with portions of the singeing filament, the latter being extended beyond said holder and having a portion thereof exposed between its ends for contact with work to be trimmed.

4. An electric trimming apparatus comprising a singeing filament capable of being heated by the passage therethrough of an electric current, said filament being extended beyond its singeing portion to form a piercing-point; a holder for said filament; and leads in electric connection with portions of said filament, the latter being extended beyond said holder and having a portion thereof exposed between its ends for contact with work to be trimmed.

5. An electric trimming apparatus comprising a singeing filament capable of being heated by the passage therethrough of an electric current; a holder for said filament; leads in electric connection with portions of the singeing filament, the latter being extended beyond said holder and having a portion thereof exposed between its ends for contact with work to be trimmed; and a guard coöperating with said filament and connected therewith so as to aid in its support.

6. An electric trimming apparatus, having in combination a support, a trimming device carried thereby, said trimming device being provided with a piercing-point, a guard partially surrounding said trimming device, and

means whereby an electric current may be translated to and through said trimming device.

7. An electric trimming apparatus having in combination a support, a trimming device carried thereby, said trimming device being provided with a piercing-point, a guard coöperating with said trimming device, and means for translating an electric current to and through said trimming device for heating the latter without proportionately heating its piercing-point.

8. An electric trimming apparatus having in combination a support, a trimming device carried thereby, said trimming device being provided with a piercing-point, a guard coöperating with said trimming device, a handhold surrounding said support and by which the latter is carried, and means for translating an electric current to and through said trimming device.

9. An electric trimming apparatus having in combination a rotary shaft, a trimming device carried thereby, a guard coöperating with said trimming device, and means for translating an electric current to and through said trimming device.

10. An electric trimming apparatus having in combination a support, a trimming device carried thereby, a guard coöperating with said trimming device, means whereby an electric current may be translated to and through said trimming device, and means for regulating the current translated to said trimming device.

11. An electric trimming apparatus having in combination a rotary shaft, a trimming device carried thereby, a flexible driving means connected to said shaft, whereby the apparatus may be manipulated as desired, and an electric circuit for translating a current to and through the said trimming device.

12. An electric trimming apparatus having in combination a rotary shaft, a combined trimming device and guard carried by said shaft, the guard being divided into a plurality of parts, and the said parts and the said trimming device being caused to converge and being combined and formed into a piercing-point, and means whereby an electric current may be translated to and through the trimming device.

13. An electric trimming apparatus having in combination a rotary shaft, a combined guard and trimming device carried by said shaft, means for translating an electric current to and through said trimming device and guard, and a piercing-point formed in prolongation of the said guard and trimming device, said guard and trimming device being composed of a plurality of wires disposed in substantially conical form, and the trimming-wire being bowed slightly relatively to the guard-wires.

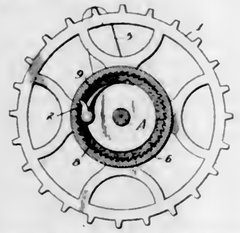
14. An electric trimming apparatus having in combination a rotary shaft, a plurality of slip-rings carried thereby, and a head secured to the end thereof, a combined trimming device and guard composed of a plurality of wires each connected to said head, said wires being combined at one end and prolonged into a piercing-point, means whereby an electric current may be translated to one of the slip-rings and thence to the trimming-wire and passing through the latter and the guard-wires, thence to and through the said shaft and to the other of the slip-rings, and thence to the return-lead, and a handhold or guard surrounding said apparatus whereby the same may be manipulated at will.

15. An electric trimming apparatus having in combination a rotary shaft, two slip-rings carried thereby, and a head supported on the end thereof, a combined guard and trimming device carried by said head, said guard and trimming device being joined and formed into a piercing-point, a handhold or guard surrounding said apparatus, and means for translating an electric current to and through the trimming device comprising the stationary brushes carried by the handhold or guard and bearing respectively upon the slip-rings, a lead connecting one of the slip-rings with the trimming device, and means electrically connecting the guard with the rotary shaft to which latter the other slip-ring is electrically connected, substantially as described.

16. An electric trimming apparatus having in combination a holder, a conducting filament having a piercing-point, means for translating an electric current to and through said filament, and means coöperating with the point of said filament to prevent the current overheating and to maintain the same at a lower temperature than the body of the filament.

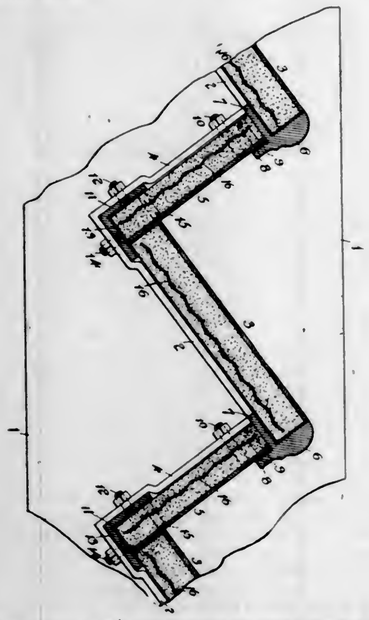
17. An electric trimming apparatus having in combination a holder, a trimming-wire, a guard composed of a plurality of wires, and means for translating an electric current to and through said trimming and guard wires, said trimming wire being composed of a metal of higher resistance than the guard-wires whereby the latter remain comparatively cool.

844,407. CLUTCH. JOHN A. RUSSELL, Indianapolis, Ind., assignor of one-third to Isaac O. Russell and one-third to John F. Messick, Indianapolis, Ind. Filed Aug. 17, 1905. Serial No. 274,560.



Claim.—A clutch comprising a revolubly-supported power-transmitting wheel, said wheel having recesses formed therein, and pawls received in the recesses and pivoted to the wheel, and operating-levers having internally-ratchet-toothed hubs which embrace the hub of the wheel, and are engaged by the pawls whereby to communicate motion therefrom to the wheel.

844,408. FIREPROOF STAIR STRUCTURE. EDWARD E. SCHACHNER, Denver, Colo. Filed Nov. 27, 1906. Serial No. 345,277.



Claim.—1. In a fireproof stair structure and in combination a pair of stringers each having horizontal and vertical flanges on their inner walls, an angle-bar seated within the angular meeting of said flanges, for connecting the stringers together, a riser seated and supported against the vertical flange and upon and within the angle of said connecting-bar, means for securing the upper part of the riser to the vertical flange, means for securing the lower part of the riser to said angle-bar, and a concrete tread seated and supported upon the horizontal flanges.

2. In a fireproof stair structure and in combination a pair of stringers each having horizontal and vertical flanges on their inner walls, an angle-bar seated within the angular meeting of said flanges, nutted screws for connecting each angle of the bar to said flanges, a concrete riser having a reinforcing metallic trellis, and seated and supported against the vertical flange and upon and within the angle of said bar, a nutted screw for securing the upper part of the concrete riser to the vertical flanges, a screw for securing the lower part of the concrete riser to the vertical angle of said bar, and a concrete tread, seated and supported upon the horizontal flanges.

3. In a fireproof stair structure a pair of stringers each having horizontal and vertical flanges on their inner walls, each flange having a recess at their angular meeting, an angular bar seated upon said flanges within the recess in each, a nutted screw for securing each angle side of the bar to the flanges, a concrete riser having a reinforcing metallic trellis and seated and supported against the vertical flange, means for securing the lower part of the riser to the vertical part of the angle-bar, means for securing the upper part of the riser to the vertical flange, a nose-casting seated upon the upper end of the riser and having an extension in the plane of the horizontal flange, said nose-casting having also an extension depending in front of and in contact with the outer face of the riser, a screw securing said depending extension to the riser, and a concrete reinforced tread seated and supported upon the horizontal flanges, upon the horizontal extension of the nose, and upon the horizontal angle part of the angle-bar.

4. In a fireproof stair structure a pair of stringers having horizontal flanges on their inner walls, a nose-casting having an extension-bar equal in length to the distance between the stringers, and in the plane of the flanges, an angle-bar connecting the stringers, and a concrete tread having a metallic trellis, the sides of the tread seated and supported upon said flanges, the front end of the tread seated and supported upon the nose extension and the rear end of the tread seated and supported upon the angle-bar and within the space between these continuous supports the tread is supported and braced.

5. In a fireproof stair structure a concrete riser having a metallic reinforcing-trellis, and a nose-casting supplementing and secured to the upper end of the riser.

6. In a fireproof stair structure a pair of stringers, angle-bars connecting the stringers, a riser for each angle-bar, means connecting the lower part of each riser to the angle-bar, and means connecting the upper part of each riser to the stringers.

844,409. CONSTRUCTION OF STEPS FOR STAIRCASES. EDWARD E. SCHACHNER, Denver, Colo. Filed Nov. 27, 1906. Serial No. 345,278.

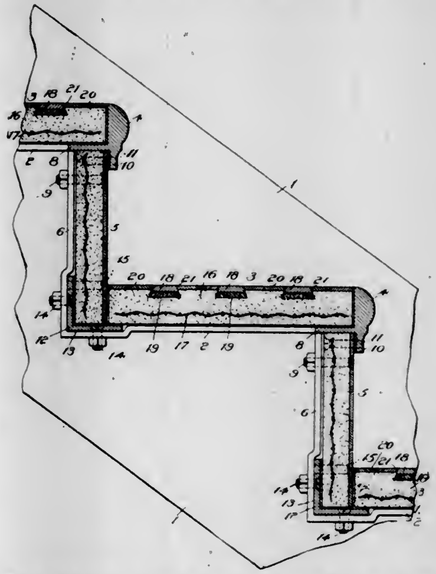
Claim.—1. A stair-step of molded concrete having in its tread-surface bodies of soft metal wholly supported in the concrete.

2. In a non-slipping stair-step, the combination with a molded concrete step, of spaced lead bars or blocks of dovetail cross-section embedded in the surface thereof, and rows of tile-sections between or within the lead bars or blocks and supported and secured on the side walls of said bars or blocks and upon the surface of the concrete.

3. A stair-step of molded concrete having in its tread-surface bodies of soft metal wholly supported therein and having interior recesses filled by the concrete forming interlocking plugs therein.

4. In a stair-step the combination with a molded concrete step, bodies of soft metal wholly supported in the concrete and having recesses on their under sides, the side walls of said tread-bodies and the side walls of said recesses having oppositely dovetail formations, whereby to form double locks to said bodies in the concrete.

5. In a non-slipping stair-step, the combination with a molded concrete step, of spaced lead bodies of dovetail cross-section embedded in the surface thereof and having recesses on their under sides interlocking with the concrete, and rows of tile-sections having beveled edges adapted to be supported and secured upon the inclined walls of said bars and upon the surface of the concrete.

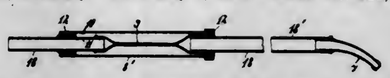


6. A stair-step of molded concrete, spaced bodies of lead embedded in the surface thereof and reinforcing the same longitudinally, tile-sections between the lead and supported and secured on the side walls of said lead and upon the surface of the concrete, and a reinforcing trellis or stay embedded in the concrete beneath the lead.

7. As a new article of manufacture a molded concrete stair-step having a tread-surface of embedded lead bodies and tile-sections supported on the side walls of said bodies and on the surface of the concrete, and an embedded metallic trellis all the parts being assembled and bound together substantially as described.

8. As a new article of manufacture a molded concrete stair-step having a tread-surface of embedded soft metal and intervening tile-sections both wholly supported by the concrete, and an embedded metallic trellis, all the parts being assembled in slab form.

844,410. PNEUMATIC CLEANER. PAUL SCHAUER, Berlin, Germany. Filed May 7, 1906. Serial No. 315,658.

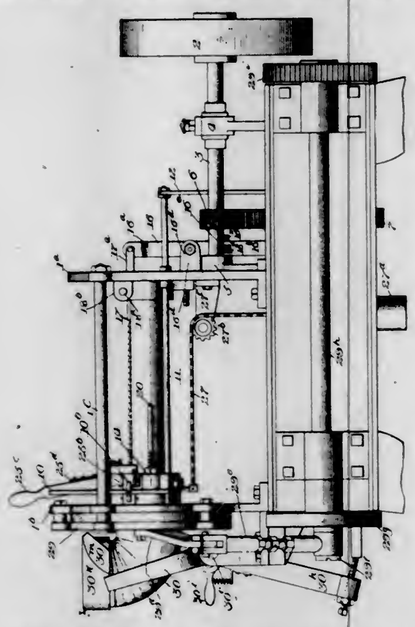


Claim.—1. A controlling-valve for the suction-pipes of pneumatic cleaners and the like comprising a collapsible tube forming a part of said suction-pipe, a non-collapsible casing surrounding said collapsible tube and having an air-passage adapted to be closed and opened as desired with means of escape for the air from within said non-collapsible casing when said air-passage is closed, substantially as described.

2. A controlling-valve for the suction-pipes of pneumatic cleaners and the like comprising a rigid tubular member having an air-passage to be opened and closed at will, rigid suction-tube sections projecting into the ends of said

tubular member, and a collapsible tube within the rigid tube and connecting the ends of said suction-tube sections with means of escape for the air from within said non-collapsible casing when said air-passage is closed, substantially as described.

844,411. MACHINE FOR MANUFACTURING SHEET-METAL ELBOWS. ALBERT G. SCHERER and CHARLES W. MCKEE, Chicago, Ill., assignors to Arthur W. Gliessner, Galena, Ill. Filed Sept. 29, 1904. Serial No. 226,475.



Claim.—1. A machine for manufacturing sheet-metal elbows having corrugated means, feeding means and means for adjusting the coaction of the forementioned means to vary the number of corrugations in elbows of the same angle.

2. In a machine for manufacturing sheet-metal elbows, corrugating means, receiving means, means for actuating the receiving means to feed metal to the corrugating means and means for adjusting the latitude of motion imparted to the receiving means.

3. In a machine for manufacturing sheet-metal elbows, corrugating means, receiving means, means for actuating the receiving means to feed metal to the corrugating means and means for adjusting the location and latitude of feed imparted to the receiving means.

4. In a machine of this character, the combination of a barrel, a spline mounted in said barrel, a receiving-head mounted on said barrel, means for adjustably connecting said head with said spline to move said head upon said barrel, corrugating means, bending means and mechanism adapted to coact with the above-mentioned means to corrugate and bend a stovepipe.

5. In a machine of this character, the combination of means for receiving a cylindrical tube, means for producing circumferential corrugations thereon and adjustable means for feeding the tube to the corrugating means consisting of two members pivoted upon the same bearing one end of one of said members being in operative connection with the receiving means the other end of said member protruding into an aperture in the second member, said second member being provided with means for adjusting the size of said aperture and for engaging an operative cam.

6. In a machine of this character, the combination of a form for holding the section of pipe, adjustable means for limiting the inward movement of the pipe, a form for receiving the other end of the pipe, means for corrugating the pipe, means for engaging the last-mentioned form to bend the pipe to form an elbow and automatic means for stopping the operating mechanism.

7. In a machine of this character, the combination of a barrel, corrugating means adapted to press the metal of a section of pipe over the end of said barrel to form a corrugation and a plate adjustably attached to the end of said barrel adapted to coact with the corrugating means to produce deeper corrugations upon one side of said pipe.

8. In a machine of this character, the combination of a frame, a power-shaft mounted therein, another shaft mounted in the frame, a clutch mechanism to cause the last-mentioned shaft to receive motion from the power-shaft, a barrel mounted in the upper portion of the frame, a spline mounted in the barrel, a cam, a lever connected with said cam and said spline to reciprocate said spline, means slidably mounted upon said barrel to receive the pipe to be corrugated adapted to be thrown forward by the motion of said spline, means for limiting the forward motion imparted by said spline, means carried by said receiving means to operate the clutch and stop the machine, means adapted to engage the outer end of the pipe and mechanism for coacting with said last-mentioned means to bend the pipe.

9. In a machine of this character, the combination of corrugating means, a barrel for supporting the material while subject to the action of the corrugating means, a head slidably mounted upon said barrel to receive the material and hold it in proper relation to the barrel and the corrugating means, a spline slidably mounted in said barrel, means for reciprocating said spline, means carried by said head adapted to engage and receive motion from said spline upon its forward stroke and means for preventing said stroke from driving said head too far forward consisting of a weight carried by a chain attached to said head and running over a sprocket in a position opposite to the direction of said stroke.

10. In a machine of the character described, the combination of a frame, a power-shaft mounted therein, an auxiliary shaft provided with means for connecting it operatively with the power-shaft, a pair of cams carried by the auxiliary shaft, a barrel mounted in said frame, a spline movably mounted in said barrel, a lever connecting said spline with one of said cams, a head mounted upon the barrel, and adapted to receive motion from said spline, to carry the material to be operated upon, a head adapted to engage the opposite end of the material provided with oppositely-arranged lugs, a yoke provided with upwardly-projecting arms for engaging the lugs, and an arm extending downwardly and operated upon by the other of said cams to operate the yoke and bend the pipe.

11. In a machine of this character, corrugating means in combination with a vertically-movable barrel or horn whereby certain of the corrugating members, after having formed the broad shallow corrugations at the back of the elbow, operate to press the barrel carrying the pipe upward into a position where the other corrugating members form the deep corrugations necessary at the throat of an elbow.

12. In a machine of this character, the combination of means for holding a section of pipe, means for feeding the section forward and means for forming circumferential corrugations upon said pipe consisting of corrugating-plates each of which forms a segment of a circle, radiating arms carrying said plates, and means for radially reciprocating said arms so that the plates are moved to form a corrugation.

13. In a machine of this character, corrugating means in combination with means for supporting the metal while subject to the action of the corrugating means adapted to coact with said corrugating means and to be moved thereby so as to present the metal unequally to the action of the corrugating means.

14. In a machine of this character, the combination of means for holding a section of pipe, means for feeding the section forward, means for forming corrugations upon said section consisting of corrugating-plates each of which forms an arc of a circle, radiating arms carrying said plates, a pin carried by each of said radiating arms and a reciprocally-revoluble member provided with oblique slots into which said pins project.

15. In a machine of this character, the combination of means for holding a section of pipe, means for feeding the section forward, means for forming corrugations upon said section consisting of corrugating-plates each of which forms an arc of a circle, radiating arms carrying said plates, means for radially reciprocating said arms so that said plates are moved to form a corrugation, and means coacting with said corrugating means to bend the section.

16. In a machine of this character, in combination with crimping means, bending means consisting of a lever-arm with means to vibrate same, one end of said lever-arm being journaled upon and capable of being thrown into operative connection with an axle carrying other arms which engage lugs carried by a collar adapted to be attached to one end of the pipe to be corrugated.

17. In a machine of this character, in combination with corrugating means, means for holding the pipe to be corrugated consisting of a collar having an annular groove into which to insert the pipe, a pin capable of being projected into said annular groove after the pipe has been inserted to hold said pipe firmly in place, a lever for depressing said pin and a cam and handle for actuating said lever.

18. In a machine of this character, in combination with corrugating means, means for holding the pipe to be corrugated, means for feeding said pipe to the crimping means, and means for automatically connecting and positively disconnecting said holding means and said feeding means consisting of a spring-actuated tooth or pawl, a spring-catch carried by said holding means to engage said tooth or pawl and positively disengage it from said feeding means, a rod carried upon the frame of the machine to contact with said spring-catch to disengage it from said tooth or pawl and permit said tooth or pawl to return to engagement with said feeding means.

19. In a machine of this character, in combination with crimping means, means for holding a pipe while being corrugated, adjustable means for feeding said pipe to said corrugating means consisting of a reciprocating toothed spline, an upper lever connected at its upper end with said reciprocating spline, said upper lever being journaled at its middle portion and provided with a lug at its lower end, a lower arm journaled at its upper end upon the same bearing as carries the upper lever and having an aperture at its middle portion in which engages the lug carried by the upper lever, set-screws limiting the play of said lug in said aperture, a pin carried upon the lower end of said lower arm and means for operatively engaging said pin.

20. In a machine of this character, in combination with corrugating means, feeding means, means for holding a pipe while being corrugated, means for preventing the forward action of the feeding means from feeding the pipe irregularly and returning the holding means to its farthest rearward position consisting of a sprocket-chain attached to said holding means and carried over a sprocket located in the direction of the desired pull and a weight attached to the other end of said sprocket-chain.

21. In a machine of this character, the combination of corrugating means, feeding means, means for holding a section of pipe while being corrugated, means for preventing the section from being fed irregularly, and means for actuating said holding means to return it to its farthest rearward position upon being released from the feeding means.

22. The combination in a stovepipe-elbow-making machine of means for holding the section, means for feeding the section forward, a series of three or more corrugation-formers adapted to form circumferential corrugations and means for bending the section and converging the corrugations thus formed.

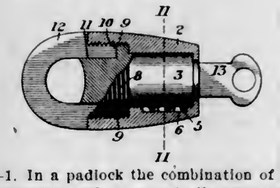
23. In a machine of this character, corrugating means, means for supporting the metal while subject to the action of the corrugating means and adjustable means adapted to coact with the corrugating means to change the presentment of the metal to the corrugating means.

24. In a stovepipe-elbow-making machine, a series of three or more radially-reciprocating corrugation-formers gradually increasing in width from one side of the elbow to the other.

25. In a stovepipe-elbow-making machine, a series of three or more radially-reciprocating corrugating-formers gradually increasing in width and means for converging the corrugations formed by said formers.

26. The combination in a stovepipe-elbow machine of a series of corrugation-formers operating to form corrugations gradually increasing in width and decreasing in depth and means for compressing the deep portions and converge the respective corrugations.

844,412. PADLOCK. FREDERICK W. SCHROEDER, London, England. Original application filed Nov. 15, 1905, Serial No. 287,499. Divided and this application filed Apr. 23, 1906. Serial No. 313,196.



Claim.—1. In a padlock the combination of a shackle, a relatively movable and concentrically-arranged shell and barrel, locking means carried by the shell adapted to engage with the shackle and retractable tumblers carried by the barrel; substantially as described.

2. In a padlock the combination of a shackle having threads, and a relatively movable and concentrically-arranged shell and barrel, said shell provided with interior threads adapted to engage the threads on the shackle; substantially as described.

3. In a padlock the combination of a shackle, a relatively movable and concentrically-arranged shell and barrel, interior threads on the shell adapted to engage corresponding threads on the shackle, and longitudinal grooves in the barrel adapted to receive the ends of the shackle; substantially as described.

4. In a padlock the combination of a shackle, a relatively movable and concentrically-arranged shell and barrel, interior threads on said shell adapted to engage corresponding threads on the barrel and on the ends of the shackle and longitudinal grooves in the barrel adapted to receive the ends of the shackle; substantially as described.

5. In a padlock the combination of a shackle, a relatively movable and concentrically-arranged shell and barrel, interior threads on the shell adapted to engage corresponding threads on the barrel and on the ends of the shackle and longitudinal grooves in the barrel adapted to receive the ends of the shackle, and means for locking the barrel against rotation; substantially as described.

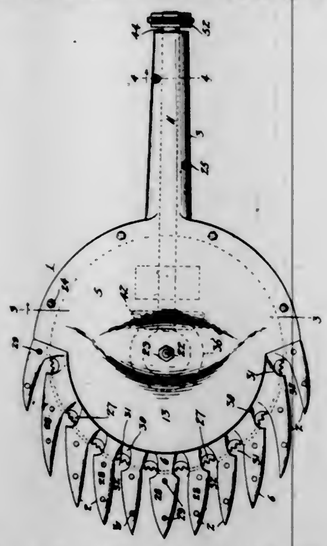
6. In a padlock the combination of a shackle, a relatively movable and concentrically-arranged shell and barrel, the interior threads on the shell adapted to engage corresponding threads on the barrel and on the ends of the shackle and longitudinal grooves in the barrel adapted to receive the ends of the shackle, and retractable tumblers carried by the barrel; substantially as described.

844,413. COMB. JUSTUS J. SCHULZ, Chicago, Ill. Filed Apr. 30, 1906. Serial No. 314,372.



Claim.—In combination with a comb means for making and clearly marking a part consisting of a blank having an edge adapted to smooth the filaments of the hair, said edge being provided with a projection for making the part.

844,414. HEDGE-TRIMMER. PEHR F. SEABLOOM, Ormond, Fla. Filed Oct. 5, 1906. Serial No. 337,586.

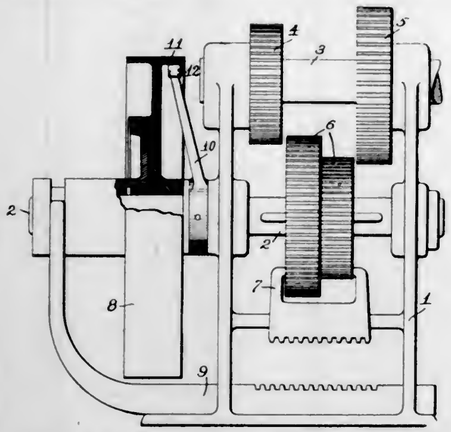


Claim.—1. The herein-described hedge-trimming tool comprising a casing having a hollow body, a hollow handle projecting from the rear of said body, a semi-annular series of spaced fingers projecting from the front of said body, twig-receiving pockets being formed at the inner ends of the spaces between said fingers, said pockets being of greater width than the width of the inner ends of said spaces, a driving-shaft mounted for rotation in said handle, a rotary cutter mounted for rotation in said hollow body and having its tooth-cutting edge working through said pockets, gearing between said rotary cutter and the inner end of said driving-shaft, and a driving element fixed upon the projecting rear end of said driving-shaft.

2. The herein-described hedge-trimming tool comprising a hollow body having a handle projecting from its rear portion and a semi-annular row of spaced fingers projecting from its front portion, the inner ends of the spaces between said fingers being contracted and opening into enlarged twig receiving and holding pockets, and a rotary cutter mounted in said casing and having its cutting edge working through said pockets.

3. The herein-described hedge-trimming tool comprising a bottom section having a substantially circular base-plate formed with a rearwardly-projecting handle-section and a semi-annular series of spaced finger-sections, a top casing-section arranged above the plate of said bottom section and having a rearwardly-extending handle-section to coact with the first-mentioned handle-section, a vertical rod uniting said top and bottom sections, a finger-plate formed with spaced finger-sections arranged upon and secured to the first-mentioned finger-sections, the spaces between the fingers formed by the coacting finger-sections having their rear ends contracted and opening into enlarged twig receiving and holding pockets, spaced guide-ribs arranged upon the said top and bottom sections concentric with said vertical connecting-rod, a sleeve mounted for rotation upon said rod and having an annular flange at its lower end, a circular cutter upon said sleeve and engaged with said flange, said cutter working between said guide-ribs and in said pockets, a beveled gear arranged upon said sleeve above said cutter, a clamping-sleeve upon the first-mentioned sleeve and engaged with said beveled gear, a clamping-nut upon the threaded upper end of the first-mentioned sleeve and engaged with said clamping-sleeve, ball-bearings at the opposite ends of the first-mentioned rotary sleeve, a drive-shaft extending through said handle-sections and mounted in bearings therein, a beveled gear fixed upon the inner end of said drive-shaft and in mesh with the first-mentioned beveled gear, and a driving element upon the projecting rear end of said drive-shaft, substantially as shown and described.

844,415. POWER-TRANSMISSION DEVICE. WILLARD T. SEARS, Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Oct. 4, 1906. Serial No. 337,342.

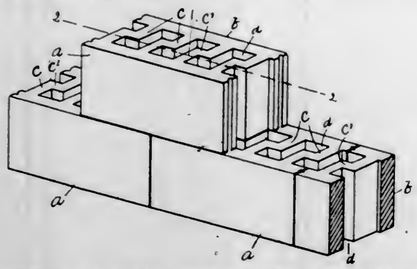


Claim.—1. A transmission device comprising a pair of toothed members, means for shifting one of said members into and out of engagement with the other, a rotary driving part for transmitting motion to the toothed members, means for connecting and disconnecting said rotary transmitting part to and from one of the toothed members, and a periodically-acting friction device between the rotary transmitting part and the toothed member to which it is connected, combined substantially as set forth.

2. A transmission device comprising a driving-shaft, a rotary driving part loose thereon, a clutch for locking the driving part to the shaft, and projections carried by the shaft and rotary driving part and adapted for periodical frictional engagement as the rotary driving part turns relative to the shaft, combined substantially as set forth.

3. A transmission device comprising a driving-shaft, a pulley loose thereon, a clutch for locking the pulley to the shaft, a projection carried by the pulley, and an arm carried by the driving-shaft and adapted to be periodically engaged by the projection of the pulley, combined substantially as set forth.

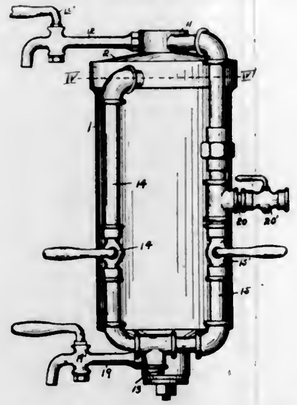
844,416. BUILDING-BLOCK. THOMAS SEWALL and GEORGE M. KEENE, Boston, Mass. Filed Apr. 9, 1906. Serial No. 310,701.



Claim.—1. A building-block composed of an outer wall and an inner wall and two or more partition-walls extending from said outer wall to said inner wall, each formed with an offset portion intermediate its length, whereby air-spaces are provided in the block at both sides of said partition-walls which extend from the outer to the inner walls, the air-spaces at each end of the block being one-half the size of the air-spaces within the block, substantially as described.

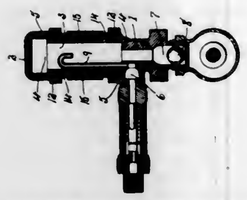
2. A building-wall consisting of blocks, each composed of an outer wall and an inner wall and a plurality of partition-walls extending from said outer to said inner wall each formed with an offset portion intermediate its length, whereby air-spaces are provided in the block between the outer and inner walls at both sides of said partition-walls, said blocks being staggered, and so disposed relative to each other that the air-spaces and also the partition-walls are arranged in vertical alinement, substantially as described.

844,417. FILTER. ANDREW J. SHERIDAN, Kansas City, Kans., assignor to James O. Wilson, Kansas City, Kans. Filed July 17, 1906. Serial No. 326,565.



Claim.—In a filter, the combination of a cylinder having wells projecting from both top and bottom, a solid filtering-body located in said cylinder with a space between same and the inner surface of the cylinder at the sides and bottom, said body having a channel of small diameter extending through its longitudinal center, a rod extending through said channel and through the top and bottom of the cylinder, means on said rod for tightening said filtering-body against the top of the cylinder, a feed-pipe opening into the space between said cylinder and filtering-body, a feed-pipe opening into the well at the top of the cylinder, and an independent outlet-pipe opening from each of said wells, for the purpose set forth.

844,418. SIGHT-FEED FOR LUBRICATORS. JOHN SHERRY, Rochester, N. Y., assignor to Sterling Lubricator Company, Rochester, N. Y., a Corporation of New York. Filed May 31, 1906. Serial No. 319,418.



Claim.—1. A sight-feed for lubricators comprising opposing sections spaced apart, a transparent shell interposed between said sections, clamping means for forcing one section toward the other and for holding the sections from movement relatively to each other, and means interposed between said sections for preventing the transparent shell from receiving the strain of the clamping means, the second-mentioned means being separable from the opposing sections and independent of the clamping means, substantially as and for the purpose described.

2. A sight-feed for lubricators comprising opposing sections spaced apart and formed with annular bearing-faces, a transparent shell interposed between said sections, and extending beyond said bearing-faces, clamping means for forcing one section toward the other and for holding the sections from movement relatively to each other, and a sleeve separable from the opposing sections and independent of the clamping means, said sleeve encircling the transparent shell and coöperating with the annular faces, and being formed with openings spaced apart, substantially as and for the purpose set forth.

3. A sight-feed for lubricators comprising opposing sections spaced apart and formed with sockets and with annular bearing-faces within the sockets, a transparent shell interposed between said sections, and having its ends arranged in the sockets and formed of less diameter than said sockets, clamping members coacting with the opposing sections and movable relatively thereto for forcing one section toward the other and for holding the sections from movement relatively to each other, means for preventing the transparent shell from receiving the strain of the clamping means, the second-mentioned means being separable from the opposing sections and independent of the clamping members and comprising a rigid element extending into the sockets, and packings between the annular bearing-faces and the rigid element, substantially as and for the purpose specified.

4. A sight-feed for lubricators comprising opposing sections spaced apart and formed with sockets and with annular bearing-faces within the sockets, a transparent shell interposed between said sections, and having its ends arranged in the sockets and formed of less diameter than said sockets, clamping-screws coacting with the opposing sections and movable relatively thereto for forcing one section toward the other and for holding the sections from movement relatively to each other, a sleeve separable from the opposing sections and independent of the clamping means, said sleeve encircling the shell and extending into the sockets, and packings between the annular bearing-faces and the ends of the sleeve, substantially as and for the purpose described.

5. A sight-feed for lubricators comprising opposing sections spaced apart and formed with sockets and with annular bearing-faces within the sockets, a transparent shell interposed between said sections, and having its ends arranged in the sockets and formed of less diameter than said sockets, clamping means coacting with the opposing sections and movable relatively thereto for forcing one section toward the other and for holding the sections from movement relatively to each other, a sleeve encircling the shell and extending into the sockets, the sleeves having beveled end faces, and packings between the annular bearing-faces and the beveled end faces of the sleeve, said packings engaging the inner faces of the sockets and the periphery of the transparent shell, substantially as and for the purpose set forth.

6. A sight-feed for lubricators comprising opposing sections spaced apart and formed with sockets and with annular bearing-faces within the sockets, a transparent shell interposed between said sections, and having its ends arranged in the sockets and extending beyond said bearing-faces, the length of said shell being less than the distance between the end wall of the sockets, clamping means coacting with the opposing sections and movable relatively thereto for forcing one section toward the other and for holding the sections from movement relatively to each other, and a sleeve encircling the transparent shell and extending into the sockets, the sleeve being formed with openings spaced apart, and having its ends coöperating with the annular bearing-faces of said sections, substantially as and for the purpose specified.

7. A sight-feed for lubricators comprising opposing sections, one a base, and the other a cap spaced apart from

the base, the base and cap being formed with sockets in their opposing surfaces and with annular bearing-faces within the sockets, and the base being formed with inlet and outlet openings, a conduit rising from the base and terminating below the cap, the lower end of the conduit communicating with the inlet-opening, and the upper end of the conduit having an exit, a transparent shell interposed between the base and the cap, and having its ends arranged in the sockets and extending beyond the bearing-faces, clamping means coacting with the base and the cap and movable relatively thereto for forcing one toward the other and for holding both from movement relatively to each other, and means interposed between the base and the cap and projecting into the sockets and coacting with the bearing-faces for preventing the transparent shell from receiving the strain of the clamping means, the second-mentioned means being separable from the opposing sections and independent of the clamping means, substantially as and for the purpose described.

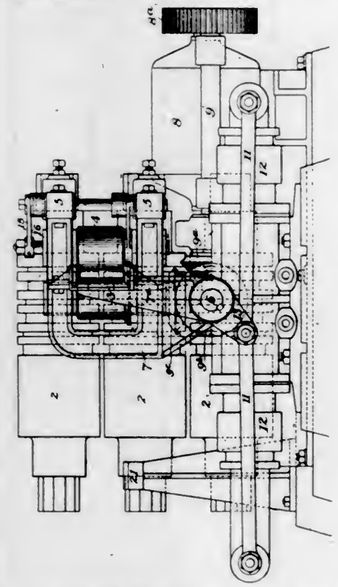
8. A sight-feed for lubricators comprising opposing sections, one a base, and the other a cap spaced apart from the base, the base and cap being formed with sockets in their opposing surfaces and with annular bearing-faces within the sockets, and the base being formed with inlet and outlet openings, the inlet-opening extending through the bottom of the socket in the base eccentric to the center thereof, and the outlet-opening extending through the center of the bottom of said socket, a conduit rising from the base and communicating with the inlet-opening, said conduit having its upper end downturned and arranged directly over the outlet-opening, a transparent shell interposed between the base and the cap, and having its ends arranged in the sockets and extending beyond the bearing-faces, the length of said shell being less than the distance between the end walls of the sockets, clamping means coacting with the base and the cap and movable relatively thereto for forcing one toward the other and for holding both from movement relatively to each other, a sleeve encircling the transparent shell and extending into the sockets, and packings between the annular bearing-faces and the ends of the sleeve, substantially as and for the purpose specified.

9. A sight-feed for lubricators comprising opposing sections, one a base, and the other a cap spaced apart from the base, the base and cap being formed with sockets in their opposing surfaces, and with annular bearing-faces within the sockets, and with outwardly-projecting lugs, a transparent shell interposed between the base and the cap, and having its ends arranged in the sockets and extending beyond said bearing-faces, the length of said shell being less than the distance between the end walls of the sockets, clamping members connecting the outwardly-projecting lugs of the base and the cap and movable relatively thereto for forcing the cap toward the base and for holding said base and cap from movement relatively to each other, and a sleeve encircling the transparent shell and extending into the sockets and coöperating with the annular bearing-faces, substantially as and for the purpose set forth.

10. A sight-feed for lubricators comprising opposing sections, one a base, and the other a cap spaced apart from the base, the base and cap being formed with sockets in their opposing surfaces, and with annular bearing-faces within the sockets, and with outwardly-projecting lugs, and the base being also formed with inlet and outlet openings, the inlet-opening extending through the bottom of the socket in the base eccentric to the center thereof, and the outlet-opening extending through the center of the bottom of said socket, a conduit rising from the base and communicating with the inlet-opening, said conduit having its upper end downturned and arranged directly over the outlet-opening, a transparent shell interposed between the base and the cap, and having its ends arranged in the sockets and extending beyond said bearing-faces, the length of said shell being less than the distance between the end walls of the sockets, clamping members connecting the outwardly-projecting lugs of the base and cap and movable relatively thereof for forcing the cap toward the base and for holding said base and cap from movement relatively to each other, and a sleeve encircling the transparent shell and extending into the sockets and coöperating with the annular bearing-faces, substantially as and for the purpose described.

11. A sight-feed for lubricators comprising opposing sections, one a base, and the other a cap spaced apart from the base, the base and cap being formed with sockets in their opposing surfaces, and with annular bearing-faces within the sockets, and the base being formed with inlet and outlet openings, the inlet-opening extending through the bottom of the socket in the base eccentric to the center thereof, and the outlet-opening extending through the center of the bottom of said socket, a conduit rising from the base and communicating with the inlet-opening, said conduit having its upper end downturned and arranged directly over the outlet-opening, a transparent shell interposed between the base and the cap, and having its ends arranged in the sockets and extending beyond said bearing-faces, the length of said shell being less than the distance between the end walls of the sockets, clamping means connecting the base and the cap, a sleeve encircling the transparent shell, the sleeve being formed with beveled end faces and with openings spaced apart, and packings between the annular bearing-faces of said base and cap and the beveled end faces of the sleeve, substantially as and for the purpose described.

844,419. FEEDING DEVICE FOR ROLLING-MILLS. EDWIN E. SLICK, Pittsburg, Pa. Filed Nov. 29, 1905. Serial No. 289,612.



Claim.—1. In a feeding device for rolling-mills or similar apparatus, reducing-rolls, a positively-driven roller, a carrier on which the roller is mounted and mechanism for moving the carrier in a plane parallel with the plane through the axis of the reducing-rolls into different angular positions; substantially as described.

2. In a feeding device for rolling-mills or similar apparatus, reducing-rolls, a positively-driven roller a carrier on which the roller is mounted, mechanism for moving the carrier in a plane parallel with the plane through the axis of the reducing-rolls into different angular positions and means for positively driving said roller in at least one position thereof; substantially as described.

3. In a feeding device for rolling-mills, reducing-rolls, a pair of rollers, a carrier therefor, mechanism for moving the carrier in a plane parallel to the plane through the axis of the reducing-rolls, into different angular positions and connections arranged to drive one of said rollers; substantially as described.

4. In a feeding apparatus for rolling-mills, reducing-rolls, a gripping device arranged to engage the metal, a carrier for the gripping device, mechanism for moving the carrier in a plane parallel to the plane through the axis of the reducing-rolls into different angular positions and mechanism for driving said gripping device and feeding forward the metal when so gripped; substantially as described.

5. In a feeding device for rolling-mills, the combination with the reducing-rolls, of pinch-rolls arranged to be moved from a horizontal position to a vertical position in line with the passes of the said rolls, means for driving said rolls; substantially as described.

6. In a feeding device for rolling-mills, the combination with the reducing-rolls, of pinch-rolls, guides thereto, and means for elevating said pinch-rolls and guides from a horizontal position to a vertical position in line with the passes of the said reducing-rolls; substantially as described.

7. In a feeding device for rolling-mills, the combination with the reducing-rolls, of pinch-rolls and guides, arms supporting said rolls and guides, means for driving said pinch-rolls, a rock-shaft carrying said arms, and power means for actuating the said shaft; substantially as described.

8. In a feeding device for rolling-mills, the combination with reducing-rolls, of pinch-rolls, a rocking carrier for said pinch-rolls, power means for actuating said carrier in a plane parallel with the plane through the axis of the reducing-rolls, and gearing for driving said pinch-rolls; substantially as described.

9. In a feeding device for rolling-mills, the combination with reducing-rolls, of power-driven pinch-rolls, a movable support for said pinch-rolls and means for turning said support to move the pinch-rolls from a horizontal into a vertical position; substantially as described.

10. In a feeding device for rolling-mills, the combination with reducing-rolls, of pinch-rolls adapted to be turned from a horizontal to a vertical position, a vertically-swinging carrier for said pinch-rolls, power actuating means for said carrier, mechanism for separating said pinch-rolls and means adapted to separate the pinch-rolls as they come to receiving position; substantially as described.

11. In a feeding device for rolling-mills, the combination with reducing-rolls, of pinch-rolls, a movable carrier adapted to turn said pinch-rolls from a horizontal to a vertical position, and means for moving the upper pinch-roll away from its fellow; substantially as described.

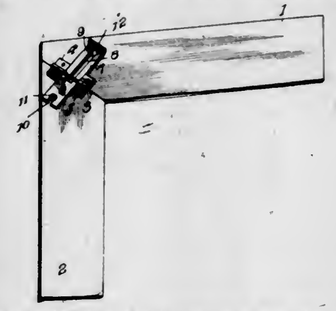
12. In a feeding device for rolling-mills, the combination with reducing-rolls, of pinch-rolls, one of which is movable in its housing, a vertically-swinging carrier for the pinch-rolls, and their housings, means for swinging said carrier in a plane parallel with the plane through the axes of the reducing-rolls and lever-and-stop mechanism for actuating the movable pinch-rolls; substantially as described.

13. In a feeding device for rolling-mills, the combination with reducing-rolls, of pinch-rolls, one of which is movable in its housing, a vertically-swinging carrier for the pinch-rolls, and their housings, a lever supported on the pinch-roll housings and connected to the journal-boxes of the movable rolls, and fixed stops arranged for engagement with the said lever; substantially as described.

14. In a feeding device for rolling-mills, the combination with reducing-rolls, of a rock-shaft, power-cylinders for actuating said shaft, arms secured to said shaft, pinch-rolls, and guides therefor, supported and carried by the said arms, and gearing for actuating the pinch-rolls in their different positions; substantially as described.

15. In a feeding device for rolling-mills, the combination with reducing-rolls, of pinch-rolls, a movable support for said pinch-rolls, means for turning said support to move the pinch-rolls into and out of a horizontal and vertical position and means for positively driving said pinch-rolls in all positions; substantially as described.

844,420. FOLDING STEEL SQUARE. ROBERT M. SMITH, Chicago, Ill. Filed Sept. 10, 1906. Serial No. 333,995.

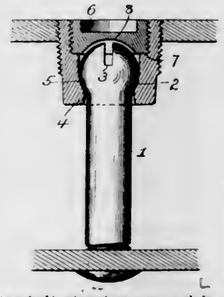


Claim.—1. A device of the character described, comprising a tongue and stock having mitered adjoining edges, two spaced-apart hinges connecting said parts together at said edges, said hinges embodying a pintle common to both hinges and extending across the space between said hinges, and a locking-plate having a sliding movement on one of said parts and designed to be slid into engagement with the other part, and arranged for frictional engagement with said pintle for the purpose specified.

2. A device of the character described, comprising a tongue and stock having mitered adjoining edges, two spaced-apart hinges connecting said parts together at said edges and embodying a pintle common to both hinges and extending across the space between the latter, a stud connected to one of said parts, a stud connected to the other of said parts, the two studs being in registry with the space between the hinges, and a locking-plate provided with a slot receiving one of said studs and designed to be slid across the space between the hinges into engagement with the other stud, the arrangement of the pintle and plate being such as to produce a frictional engagement between the two, for the purpose specified.

3. A carpenter's square comprising a tongue and stock having mitered adjoining edges, two hinges pivotally securing said tongue and stock together at said edges and spaced from each other, the tongue and stock each being provided with a stud and said studs being located in line with the space between said hinges, and a locking-plate fitted to slide snugly between said hinges and provided with a slot accommodating one stud and also provided with a bifurcated end adapted to engage the other stud.

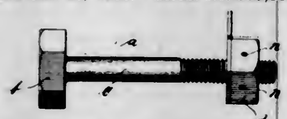
844,421. FLEXIBLE STAY-BOLT. BENJAMIN E. D. STAFFORD, Pittsburg, Pa. Filed May 16, 1905. Serial No. 260,713.



Claim.—A stay-bolt structure comprising a bolt having a head which is substantially spherical in form, a bushing having an opening for the passage of the bolt and a curved seat for that portion of the spherical head adjacent to the body of the bolt, said bushing having an enlarged opening in its upper portion terminating in an annular shoulder, the wall of said opening being threaded, and a cap screwed into said enlarged opening and bearing against said annu-

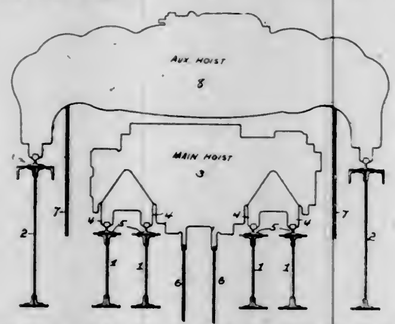
lar shoulder, the inner face of said cap being curved substantially concentric to and spaced from the outer spherical portion of the head and the outer end of said cap adapted to lie flush with the outer end of the bushing.

844,422. NUT-LOCK. ARTHUR L. STROUT, Bar Harbor, Me. Filed Oct. 20, 1906. Serial No. 339,886.



Claim.—In a nut-lock, the combination of a bolt formed with a head at one end and with a threaded portion at its other end, said threaded portion being formed with a longitudinal groove; a polygonal-shaped nut the side faces of which are each formed with a threaded hole; a polygonal-shaped washer of the same size and having the same number of sides as said nut, said washer being interposed between said nut and head and being formed with a tooth which projects into said groove; a flap hinged to one of the sides of said washer and adapted to lie flat upon one of the side faces of said nut, said flap being formed with a hole; and a screw which passes through the hole in said flap and engages in one of the holes in the side faces of said nut.

844,423. OVERHEAD TRAVELING CRANE. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed June 5, 1906. Serial No. 320,300.



Claim.—1. In a traveling crane, the combination with a bridge composed of two outer girders, and inner girders, of an auxiliary trolley mounted to travel on the outer girders, and a main hoist-trolley mounted to travel on the inner girders.

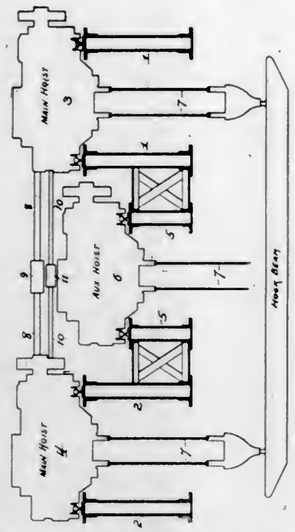
2. In a traveling crane, the combination with a pair of outer girders and two pairs of girders intermediate said outer girders of an auxiliary trolley mounted to travel on the outer girders, and a main trolley mounted to travel on the two pairs of inner girders in a plane below the auxiliary trolley.

844,424. OVERHEAD TRAVELING CRANE. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed June 7, 1906. Serial No. 320,620.

Claim.—1. The combination with a bridge having six girders arranged in three pairs, of main hoist-trolleys mounted on the outer pairs of girders and an auxiliary trolley mounted on the inner pair.

2. The combination with a bridge having six girders arranged in pairs, the top surface of the girders composing the intermediate pair being in a plane below the tops of the outer girders, of a main trolley on each pair of girders, and an auxiliary trolley mounted on the intermediate pair.

3. The combination with a bridge and three traveling trolleys thereon arranged side by side, each trolley adapted to travel throughout the length of the bridge, of means for coupling the hoist mechanism of the two outside trolleys.



4. The combination with a bridge, three parallel trackways extending lengthwise the bridge, and a traveling trolley on each trackway, of means for coupling the hoist mechanism of two of said trolleys.

5. The combination with a bridge, three parallel trackways extending lengthwise the bridge and a traveling trolley on each trackway, the intermediate trolley being in a lower plane than the other trolleys, of means for coupling the hoist mechanisms of the two outer trolleys.

6. The combination with a bridge, three parallel trackways extending lengthwise the bridge and a traveling trolley on each trackway, the intermediate trolley being in a lower plane than the other trolleys, of means for coupling the hoist mechanisms, and travel mechanisms of the two outer trolleys.

7. The combination with a bridge having six girders arranged in pairs, the inner pair of girders being connected to the inner girder of each outer pair, of a main trolley on each outer pair of girders and an auxiliary trolley mounted on the intermediate pair.

8. The combination with a bridge, three parallel trackways extending lengthwise the bridge, a traveling trolley on each trackway and means for coupling the hoist mechanism of two of said trolleys, of a hook or ladle beam carried by the hoist-chains of the two coupled trolleys.

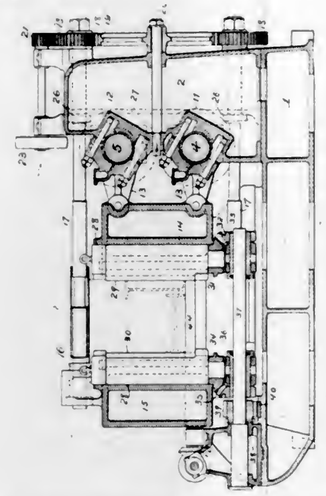
844,425. BEAM-STRAIGHTENING PRESS. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to The Morgan Engineering Company, Alliance, Ohio. Filed June 22, 1906. Serial No. 322,941.

Claim.—1. In a beam-straightening machine, the combination with two rams, and a die carried by each ram, each die being mounted on vertical trunnions so as to turn laterally, of means for throwing one die into position for action and the other out of position for action with respect to their supporting-rams, and means for forcing one ram toward the other.

2. In a beam-straightening machine, the combination with two rams, a die pivotally mounted in each and means for turning the two dies simultaneously, one into operative position and the other into inoperative position, of means for reciprocating one ram.

3. In a beam-straightening machine, the combination with two rams each having a vertical recess on its working face, a die pivotally mounted in each recess and means for turning the two dies simultaneously, one into operative position and the other into inoperative position, of means for reciprocating one ram.

4. In a beam-straightening machine, the combination with two rams each having a vertical recess in its working face and a vertical rib on each side of said recess, a die pivotally mounted in each recess and means for turning the two dies simultaneously, one into operative position and the other into inoperative position, of means for reciprocating one ram.



5. In a beam-straightening machine, the combination with two rams one of which is adjustably secured in place and means for reciprocating the other, of a die journaled within a recess in the working face of each ram, and means for simultaneously shifting both dies with respect to their supporting-rams, one into operative position and the other into inoperative position.

6. In a beam-straightening machine, the combination with two rams and means for reciprocating one of them, of a die journaled in a recess in the working face of each ram, a miter-wheel secured to each die, a shaft, means for imparting rotary motion to said shaft, and miter-wheels mounted on said shaft and meshing with the miters on the dies.

7. In a beam-straightening machine the combination with two rams and means for adjusting one and reciprocating the other, of a die journaled in a recess in the working face of each ram, a miter-wheel secured to each die, a shaft and miter-wheels having sliding connection with said shaft and meshing with the miters on the dies.

8. In a beam-straightening machine, the combination with two rams, a die carried by and pivotally connected to each ram and means for simultaneously turning one die into operative position and the other into inoperative position, of screw mechanism connected to one ram whereby the latter may be adjusted with relation to the other ram and retained in such adjusted position and means for reciprocating the other ram.

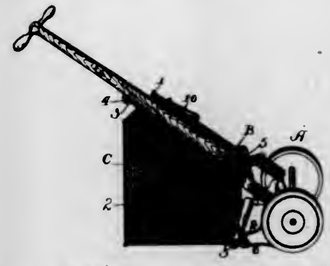
9. In a beam-straightening machine, the combination with two rams a die journaled to each, and means for simultaneously turning one die to an operative position and the other to an inoperative position, of a plurality of screws connected to one ram, means for simultaneously rotating said screws, for moving said ram toward or away from the other, and means for reciprocating said other ram.

10. The combination with two rams, a die pivoted to and carried by each ram, means for reciprocating one ram and means for adjusting the other, of beam-rollers passing through one ram, and means for simultaneously turning one die to its operative position and the other die to its inoperative position.

844,426. PROCESS OF EFFECTING A COMBINATION BETWEEN SELECTED MEMBERS OF THE ALCOHOLS AND FATTY ACID. ERNST TWITCHELL, Wyoming, Ohio. Filed Nov. 13, 1905. Serial No. 287,206.

Claim.—The herein-described process of combining a non-readily-volatile compound containing alcoholic hydroxyl and a fatty acid, which consists in bringing them together in the presence of a relatively small percentage of a sulfo fatty acid and applying sufficient heat to the mixture to evaporate any water present as well as the water formed by the reaction.

844,427. GRASS-CATCHER FOR LAWN-MOWERS. JOHN A. VYE, St. Paul, Minn. Filed Oct. 13, 1906. Serial No. 338,779.



Claim.—1. A grass-catcher, in combination with a lawn-mower, a bolt having an offset extension adapted to support the forward end of the catcher, and a loop and hook for holding the rear end thereof.

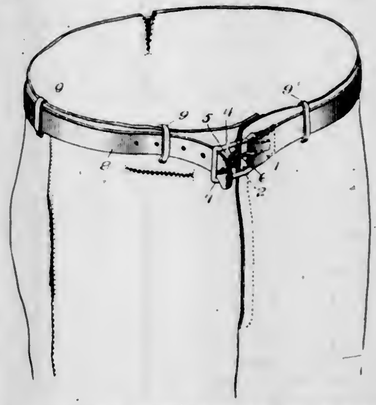
2. A grass-catcher having a bail, in combination with a lawn-mower, a bolt having an offset extension adapted to support the forward end of the catcher and a loop and hook for holding the rear end thereof.

3. A grass-catcher, having a loop on its rear and hangers with curved fingers upon its front end, in combination with a lawn-mower, bolts having offset extensions adapted to support said curved fingers and a hook upon the handle of the mower for holding said loop.

4. A grass-catcher having a bail, loop and curved fingers, bolts each of which is provided with an offset extension adapted to support one of said fingers and a hook to hold the loop.

844,428. HOOK FOR GARMENTS. ALBERT WAGNER, Elkhorn, Pa. Filed July 24, 1906. Serial No. 327,519.

Claim.—1. A trousers-hook having an integral outwardly-projecting perforated lug to receive a buckle-tongue.

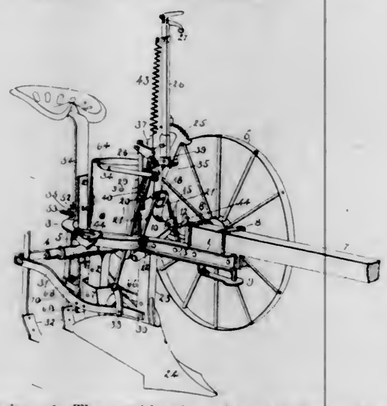


2. A combination trousers-hook and belt-support comprising a body portion adapted to be attached to a waist-

band, an inwardly-bent hook, and an outwardly-bent perforated lug.

3. A combination trousers-hook and belt-support, comprising a body portion, an inwardly-bent hook, and a perforated lug formed by cutting a portion of the metal of the hook and bending it outward in position to be engaged by the tongue of a belt-buckle.

844,429. SEEDING-MACHINE. LEWIS E. WATERMAN, Rockford, Ill., assignor to Emerson Manufacturing Company, Rockford, Ill., a Corporation of Illinois. Filed Nov. 12, 1906. Serial No. 343,048.



Claim.—1. The combination of a main frame, a guideway supported by the frame, a standard supported in the guideway, a toothed segment and hand-lever supported by the standard, and a connection between the hand-lever and main frame.

2. The combination of a main frame, a movable guideway supported by the frame, a standard supported in the guideway, a toothed segment and hand-lever supported by the standard and a connection between the hand-lever and guideway.

3. The combination of a main frame, a guideway having a pivotal connection with the main frame, a standard supported by the guideway and a lever for moving the standard supported by the standard and having a connection with the main frame.

4. The combination of a main frame, a guideway supported by the main frame, a standard supported by the guideway, a plow supported by the standard, a lever for moving the standard supported by the standard and having a connection with the main frame.

5. The combination of a main frame, a guideway supported by the main frame, means for adjusting the guideway, a standard supported by the guideway, a plow connected to the standard, a lever for moving the standard supported by the standard, and a connection between the lever and guideway.

6. The combination of a main frame, a guideway supported by the main frame, a standard supported by the guideway, a plow connected to the standard, means for moving the standard in its lengthwise direction, a frame pivotally connected to the standard, covering-shovels supported by the last-mentioned frame, a lever supported by the standard, and a connection between the lever and shovel-supporting frame.

7. The combination of a main frame, a guideway supported by the main frame, a standard supported by the guideway, a plow supported by the standard, a lever supported by the standard, a connection between the lever and main frame, a shovel-supporting frame pivotally connected to the standard, and a lever supported by the standard having a connection with the shovel-supporting frame.

8. The combination of a main frame, a plow, a movable support for the plow, a shovel-supporting frame pivotally connected to the plow-support, and means for moving the shovel-supporting frame independently of the movements of the plow-support.

9. The combination of a main frame, a plow, a movable support for the plow, a furrow-opener fixedly connected with the plow-support, a shovel-supporting frame pivotally connected with the plow-support, and means for moving the shovel-supporting frame independently of the movement of the plow-support.

10. The combination of a main frame, a plow, a movable support for the plow, a shovel-supporting frame movable with and independently of the plow-support, and a lever for moving the shovel-supporting frame.

11. The combination of a main frame, a plow, a movable support for the plow, a shovel-supporting frame movable with and independently of the plow-support, a lever for moving the plow-support, and a lever for moving the shovel-supporting frame.

12. The combination of a main frame, an axle connected to the frame, wheels supporting the axle, a seedbox, an agitator located in the seedbox, gears for rotating the agitator, a picker-wheel, and gear connection between the agitator and picker-wheel.

13. The combination of a main frame, an axle connected to the frame, wheels supporting the axle, a seedbox, an agitator located in the seedbox, gears for rotating the axle, a picker-wheel, gears for connecting the axle and picker-wheel, and means for stopping the rotation of the agitator.

14. The combination of a main frame, a plow, a support for the plow, a shovel-supporting frame capable of a vertical movement, and a guide for the shovel-supporting frame holding it from lateral movement.

15. The combination of a main frame, a plow, a support for the plow, and a shovel-supporting frame located beneath the axle of the main frame, and having a vertical movement.

16. The combination of a main frame, a plow, a vertical movable support for the plow, a shovel-supporting frame capable of a vertical movement with and independently of the plow-support, and a spring connection between the shovel-supporting frame and the plow-support.

17. The combination of a main frame, a plow, a movable support for the plow, a shovel-supporting frame movable with and independently of the plow-support, and a foot-lever for moving the shovel-supporting frame.

18. The combination of a main frame, a plow, a support for the plow, a movable shovel-supporting frame, a foot-lever, and a yielding connection between the foot-lever and shovel-supporting frame.

19. The combination of a main frame, a guideway supported by the main frame, a standard supported by the guideway, a plow connected to the standard, a lever connected to the standard, and a link connecting the lever and guideway.

20. The combination of a main frame, a guideway supported by the main frame, a standard supported by the guideway, a plow connected to the standard, a toothed segment connected to the standard, a hand-lever connected to the standard, and a link connecting the hand-lever and guideway.

21. The combination of a main frame, a guideway pivotally supported by the main frame, means for adjusting the guideway, rollers supported by the guideway, a standard supported by the guideway, a plow connected to the standard, and means for moving the standard in the guideway.

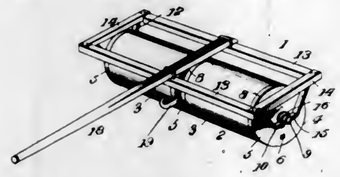
22. The combination of a main frame, a plow, a support for the plow, a shovel-supporting frame, a toothed segment supported by the plow-support, a hand-lever pivotally supported by the plow-support, a connection between the hand-lever and main frame, a lever having a pivotal connection with the hand-lever and a connection with the shovel-supporting frame.

23. The combination of a main frame, a movable shovel-supporting frame, a pivoted lever, a casing supported by the lever, a rod connected with the shovel-supporting frame and extending within the casing, a spring located within the casing and surrounding the rod, and a pin passing through the rod and engaging the spring.

24. The combination of a main frame, a guideway having a pivotal connection with the main frame, means for moving the guideway on its pivot and in the lengthwise direction of the main frame, braces holding the guideway from lateral movement, a plow-support movable in the guideway, means for moving the plow-support, and a plow connected to the plow-support.

25. The combination of a main frame, an axle connected to the frame, wheels supporting the axle, a shaft located at right angles to the axle, an agitator, a gear connection between the axle and agitator, a gear connection between the agitator and shaft, and a picker-wheel connected with the axle.

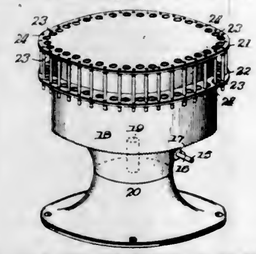
844,430. LAND-ROLLER. JOHN WEBER, Elba, N. Y. Filed May 11, 1906. Serial No. 316,400.



Claim.—1. A land-roller comprising a frame, hangers depending therefrom, a shaft supported by the hangers, and rollers rotatably mounted upon the shaft, each of said rollers comprising circular flanged heads, a tube connecting the heads and surrounding the shaft, said tube serving as a bearing whereby the roller rotates upon the shaft, strengthening-rods connecting the heads and arranged concentric of the tube, and a cement body molded upon the heads, rods and tube, substantially as described.

2. A land-roller comprising a rectangular metallic frame, a central and end hangers depending therefrom, a draft-tongue upon said frame, a draw-hook upon said central hanger, a shaft fixed in said hangers, and rollers rotatably mounted upon said shaft between said hangers, each of said rollers comprising flanged heads, rods connecting said heads, a concentric tube connecting said heads to receive said shaft, and a cement body molded upon said heads, rods and tube, substantially as described.

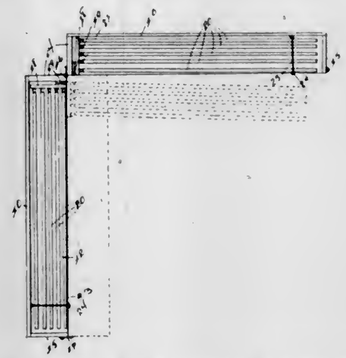
844,431. DELIVERY-CABINET. DIDRICH H. WEHAGEN, Lorain, Ohio. Filed Aug. 9, 1906. Serial No. 329,862.



Claim.—1. In a delivery-cabinet, in combination, a casing having a delivery-opening therein, and a rotatable carrier on the casing comprising a circular drum having upper and lower projecting flanges at the periphery thereof provided with a series of holes and also with a corresponding series of adjacent tubes, adapted to be successively registered with the delivery-opening and to simultaneously deliver articles from the holes and the tubes by the rotation of the carrier.

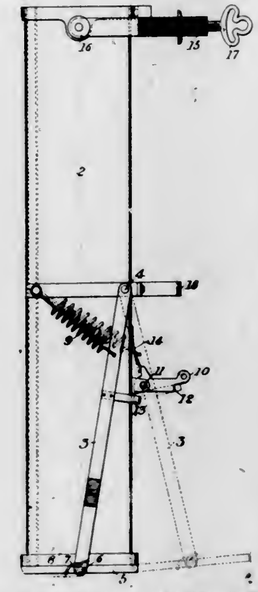
2. In a delivery-cabinet, in combination, a casing having a circular recess in the top thereof and a delivery-opening beside the recess, a drum rotatably mounted in the casing and extending up through the recess, and having an overhanging rim in the casing, a rack around the same, an operating-shaft having a pinion in mesh with the rack, and means on the drum to carry goods successively to said opening, as the drum is rotated.

844,432. LACE-CURTAIN-DISPLAY CABINET. CHARLES B. WESTBROOK, Newton, Iowa. Filed Aug. 20, 1906. Serial No. 335,308.



Claim.—A cabinet for lace curtains and the like comprising two sections each composed of a bottom, a top, two straight sides and a back all fixed together and the top sections hinged together at the front edges of their rear upright sides, a flat board hinged direct to the top portion of each of said upright sides to swing horizontally and a plurality of curtain-bearers pivotally connected direct with said hinged boards to swing horizontally, cords fixed to the hinged sections under their tops to extend over the free end portions of the curtain-bearers and weights on their ends, to retain the curtain-bearers together in parallel position, as set forth.

844,433. THIEF FOR TESTING LIQUIDS. THOMAS R. WEYMOUTH, Oil City, Pa. Filed June 3, 1905. Serial No. 263,541.



Claim.—1. A device of the class described comprising a receptacle having an open bottom constituting an inlet, a closure working edgewise across the open bottom of the receptacle, a swinging arm pivoted to the receptacle and pivotally carrying the closure, a tension device tending to

swing the arm and operating to normally maintain the closure yieldably closed, and mechanical means for holding the closure open against the action of the tension device and capable of being tripped to release the closure, substantially as described.

2. A device of the class described comprising a receptacle which is open at its bottom, an arm pivotally connected to the receptacle, a closure pivotally carried by the arm and working edgewise across the bottom of the receptacle, a tension device operating to yieldably maintain the closure in its closed position, one or more springs operating upon the closure with a tendency to tilt it upon its pivotal connection with the arm into positive engagement with the receptacle, and mechanical means for holding the closure open and capable of being tripped to release the closure, substantially as described.

3. A device of the class described comprising a receptacle having an open bottom constituting an inlet, a closure swung from the receptacle and working edgewise across the open bottom thereof, tension means tending to swing the closure and operating to yieldably maintain the closure closed, and a trigger carried by the receptacle and adapted to hold the closure in its open position against the action of the tension device, substantially as described.

4. A device of the class described comprising a receptacle having an open bottom, a closure working edgewise across the open bottom, a suspension device for the closure, a tension device to yieldably maintain the closure closed, a trigger mounted upon the receptacle, and a bail carried by the suspension device and spanning the receptacle for engagement by the trigger to hold the closure open, substantially as described.

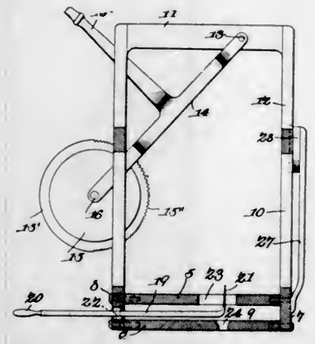
5. A device of the class described comprising a receptacle which is open at its bottom, a closure working edgewise across the open bottom of the receptacle, a suspension device for the closure pivotally connected to the receptacle adjacent one side thereof, a spring operating upon the suspension device to yieldably maintain the closure in its closed position, a trigger carried by the receptacle, and means upon the suspension device for engagement with the trigger to hold the closure open, substantially as described.

6. A device of the class described comprising a receptacle open at the bottom, a closure working edgewise across the bottom of the receptacle, a suspension device straddling the receptacle and pivoted at its upper end thereto adjacent one side thereof, the closure being pivotally carried by the suspension device, a spring engaging the suspension device and the closure and operating to tilt the closure into positive engagement with the bottom of the receptacle, a spring extending between the suspension device and the receptacle and exerting a tendency to yieldingly maintain the closure closed, a bail carried by the suspension device and spanning the receptacle, and a trigger pivotally mounted upon the receptacle in position for engagement by the bail to hold the closure open, substantially as described.

844,434. MEAT-CUTTER. SAMUEL D. WHEELER, Brinson, Ga., assignor to S. D. Wheeler & Co., Brinson, Ga. Filed Apr. 9, 1906. Serial No. 310,810.

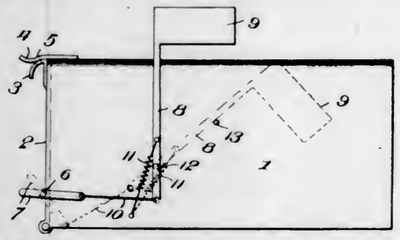
Claim.—1. In a meat-cutting machine, a platform comprising a plurality of plates spaced apart by side rails to form an intermediate chamber, one of said rails being provided with an opening, spaced uprights secured to the platform and connected by a transverse beam, inclined bars connecting the platform and beam, a hanger pivotally mounted for swinging movement on the beam and having its free end bifurcated, a cutter mounted for rotation in the bifurcated end of the hanger and having a portion of its periphery formed of saw-teeth, a longitudinally-disposed lever pivotally mounted for lateral movement within the chamber and having one end thereof extended through the opening in the side rail and its opposite end provided with a terminal point adapted to pierce the meat when feeding the latter to the cutter.

2. In a meat-cutting machine, a platform provided with spaced plates connected by side rails and defining an intermediate chamber, uprights secured to the platform and connected by a transverse beam, one of said uprights being provided with a recess, inclined braces connecting the platform and beam, respectively, a hanger pivotally mounted for swinging movement on said beam and having its free end bifurcated, a cutter mounted for rotation in the bifurcated end of the hanger, a lever pivoted within the chamber and provided with a terminal plate adapted to engage the meat for feeding the latter to the cutter, and an operating-handle extending laterally from the hanger, said hanger being adapted to enter the recess in the upright for locking the cutter in inoperative position.



3. In a meat-cutting machine, a platform comprising a pair of spaced plates connected by side rails and defining an intermediate chamber, one of said plates being formed with an opening and the adjacent plate with a series of spaced perforations disposed beneath and in alinement with the opening, uprights secured to the platform and connected by a transverse beam, one of said uprights being provided with a recess opening through the adjacent face thereof, a hanger pivotally mounted for swinging movement on the transverse beam at one side of the center of the latter and having its free end bifurcated, said hanger being provided with a laterally-extending operating-handle, a cutter mounted for rotation in the bifurcated end of the hanger, a lever pivoted within the chamber and having one end thereof extended through the opening in the adjacent plate for feeding the meat to the cutter, said hanger being adapted to enter the recess in the upright for locking the latter in inoperative position, the side rails of the platform being extended longitudinally beyond the uprights to form a support for a weighing mechanism.

844,435. SIGNAL. EDGAR A. WOLF, Nerstrand, Minn. Filed Aug. 27, 1906. Serial No. 332,232.

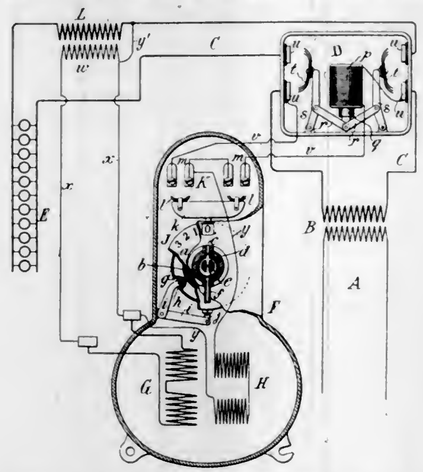


Claim.—1. A signal of the class described comprising the combination with a mail-box having a door hinged thereto; of arms on said door and projecting laterally from each edge thereof, levers pivotally mounted upon said arms, signals pivotally secured to said box, means interposed between said signals and the levers to operate the same and springs secured at one end to the box and at the opposite end to said signals whereby said signals will be held in their adjusted position.

2. A signal of the class described comprising the combination with a mail-box having a swinging door at one end thereof and arms integral with said swinging doors and extending laterally from the edges thereof; of levers pivotally mounted on said arms, signals pivotally mounted upon said box, means to yieldingly secure said signals to said levers, springs secured at their lower ends to said box and at their opposite ends to said signals, said springs being so disposed that a tension will be exerted upon said signals when disposed either to the right or left of their respective pivot-points.

3. A signal of the class described comprising the combination with a mail-box having a swinging door at one end thereof; of an arm integral with said door; of a lever pivotally secured to said arm, a signal pivoted to said box, a link disposed between the inner end of said lever and the lower end of said signal, whereby said signal may be raised or lowered by operating the lever, and a spring having one of its ends secured to said box and the opposite end to said signal, said spring being so disposed that a tension will be exerted upon the signal when disposed to the right or left of its pivot-point and means to limit the movement of said signal.

844,436. METERING AND CONTROLLING SYSTEM FOR ELECTRIC CIRCUITS. JAMES J. WOOD, Fort Wayne, Ind. Filed Sept. 12, 1905. Serial No. 278,084.



Claim.—1. The combination of an electric meter, a customer's circuit, a separate relay-switch for opening and closing the customer's circuit, means controlled by the meter for opening said switch upon the recording of a predetermined amount of electric energy, and means for applying to the meter a portion only of the energy expended in the customer's circuit to operate the meter.

2. The combination of an electric meter, a relay-switch, a customer's circuit controlled by said relay-switch, means for opening said switch under control of the meter, and means for diverting from said circuit a determined percentage of the energy consumed therein and applying the same to control said meter, whereby the latter records at a rate proportional to the consumption, until it causes the opening of said relay-switch, which breaks the customer's circuit.

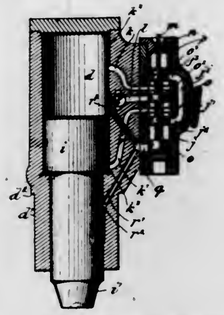
3. The combination in an alternating-current system of an electric meter, a relay-switch, a customer's circuit controlled by said relay-switch, means controlled by said meter for opening said switch, and a percentage-transformer having its primary in said customer's circuit and its secondary in circuit with the meter.

4. The combination of an electric meter comprising series and shunt coils, a cut-off switch, and means for operating said switch under control of the meter, a customer's circuit controlling the meter through its series coil, a relay-switch controlling said circuit, said switch comprising a magnet a connection between the cut-off of the meter and the magnet of said relay-switch, and a shunt-circuit including the shunt-coil of the meter.

5. The combination in an alternating-current system of an electric meter comprising series and shunt coils, a counting-down mechanism controlled by the meter, and a cut-off operated by said counting-down mechanism, a customer's circuit, a percentage-transformer therein with its secondary in circuit with said series coil, a relay-switch controlling the customer's circuit, said switch comprising a magnet a shunt including the magnet of said switch and the cut-off of the meter, and another shunt including the shunt-coil of the meter and arranged to be controlled by said cut-off.

6. The combination of an electric meter having a counting-up mechanism and a counting-down mechanism, the latter controlled by the meter, a relay-switch, means for closing said switch by the operation of the counting-up mechanism, and for opening it by the operation of the counting-down mechanism, a customer's circuit controlled by said relay-switch, and means for diverting from said circuit a determined percentage of the energy consumed therein and applying the same to control said meter, whereby the latter records at a rate proportional to the consumption, until it causes the opening of said relay-switch, which breaks the customer's circuit.

844,437. FLUID-PRESSURE ENGINE. JOHN H. ALLEN and THOMAS VICKERS, New York, N. Y. Filed June 2, 1904. Serial No. 210,780.



Claim.—1. The combination of a fluid-pressure cylinder provided with an extension and a duct in the extension and open to the air, a piston working in the cylinder and provided with an extension part adapted to open and close the said duct, a valve-chest, a valve therein, means controlled by the valve for admitting fluid to either end of the cylinder, means controlled by the valve for exhaust and means controlled by the piston for admitting pressure fluid from the cylinder to one part of said valve-chest to shift the valve in one direction, the aforesaid extension-duct also communicating with the same part of the valve-chest to shift the valve in the opposite direction.

2. The combination of a fluid-pressure cylinder provided with an extension and a duct in the extension and open to the air, a piston working in the cylinder and provided with an extension part adapted to open and close the said duct, a valve-chest, a valve therein, means controlled by the valve for admitting fluid to either end of the cylinder, means controlled by the valve for exhaust and a duct controlled by the piston for admitting pressure fluid from the cylinder to one part of said valve-chest to shift the valve in one direction, the aforesaid extension-duct also communicating with the same part of the valve-chest to shift the valve in the opposite direction.

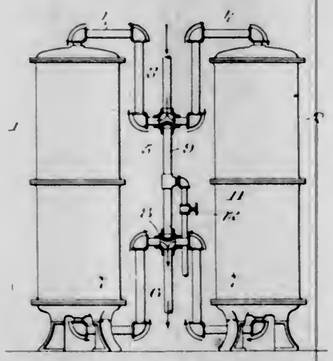
3. The combination of a fluid-pressure cylinder provided with an extension-guide having a duct therein open to the

air, a piston working in the cylinder and provided with an extension-shank adapted to open and close the said duct, a valve-chest, a valve therein, means controlled by the valve for admitting fluid to either end of the cylinder, means controlled by the valve for exhaust and means controlled by the piston for admitting pressure fluid from the cylinder to one part of said valve-chest to shift the valve in one direction, the aforesaid extension-duct also communicating with the same part of the valve-chest to shift the valve in the opposite direction.

4. The combination of a fluid-pressure cylinder provided with an extension and a duct in the extension and open to the air, a piston working in the cylinder and provided with an extension part adapted to open and close the said duct, a valve-chest, a differential valve therein, means controlled by the valve for admitting fluid to either end of the cylinder, means controlled by the valve for exhaust and means controlled by the piston for admitting pressure fluid from the cylinder to one part of said valve-chest to shift the valve in one direction, the aforesaid extension-duct also communicating with the same part of the valve-chest to shift the valve in the opposite direction.

5. The combination of a fluid-pressure cylinder provided with an extension and a valve-controlling exhaust-duct in the extension and communicating with the air, a piston within the cylinder, a piston extension connected with the piston and reciprocating in the cylinder extension and controlling the exhaust-duct therein, a valve-chest having a pressure-fluid inlet, a valve reciprocating in said chest and comprising a valve-stem and four valve-heads one of which is of less diameter than the others and is exposed on one given side to constant communication with the outer air and another of which is exposed on an opposing side to communication with the exhaust-duct, and means for establishing communication between such opposing side of the last-mentioned valve-head and the fluid-pressure cylinder while the valve-controlling exhaust-duct is closed by the piston extension.

844,438. FILTERING APPARATUS. GUY L. BAYLEY, Pittsburg, Pa., assignor to The Cummings Filter Co., a Corporation of West Virginia. Filed July 28, 1906. Serial No. 328,261.



Claim.—1. In a filter system, a plurality of filtering vessels, requisite supply, delivery, intercommunicating and waste connections for the several vessels, and two valves controlling access to all said connections.

2. In a filter system, the combination of a plurality of filtering vessels, supply and delivery mains, a four-way connection interposed between the several vessels and the supply-main, a second four-way connection interposed between the several vessels and the delivery-main, and a single valve controlling all four of the ports in each connection.

3. In a filter system, the combination of a plurality of filtering vessels, a connection from one vessel to the other at each end thereof, a pipe uniting the connections, and two valves in said pipe alone controlling all directions of flow of fluid through said connections.

4. In a filter system, the combination of a plurality of filtering vessels, a connection from one vessel to the other at each end thereof, a pipe uniting the connections and provided with a valved branch, and two valves in said pipe alone controlling all directions of flow of fluid through said connections.

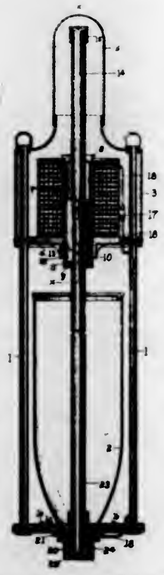
5. In a filter system, the combination of a plurality of filtering vessels, a connection from one vessel to the other at each end thereof, a pipe uniting the connections, and two four-way valves in said pipe alone controlling all directions of flow of fluid through said connections.

6. In a filter system, a plurality of filtering vessels, a connection from one vessel to the other at each end thereof, a pipe uniting the connections, two valves in the pipe alone controlling all directions of flow of fluid through the connections, and a valved by-pass bridging the valved portion of said pipe.

7. In a filter system, the combination of a plurality of filtering vessels, supply and delivery mains, a waste-pipe common to the several vessels, a single valve in the supply-main, a single valve in the delivery-main, and connections controlled by the valves whereby either vessel may be directly connected with the waste-pipe without disturbing the filtering operation in the other.

8. In a filter system, the combination of a plurality of filtering vessels, supply and delivery mains, a waste-pipe common to the several vessels, a four-way valve in the supply-main, a four-way valve in the delivery-main, connections from one valve to one end of each vessel and to the waste-pipe, and connections from the other valve to the other end of each cylinder and to the waste-pipe.

844,439. ARC-LAMP. JOHN H. BENNETT and ADRIAN I. MINER, San Francisco, Cal. Filed June 3, 1905. Serial No. 263,565.

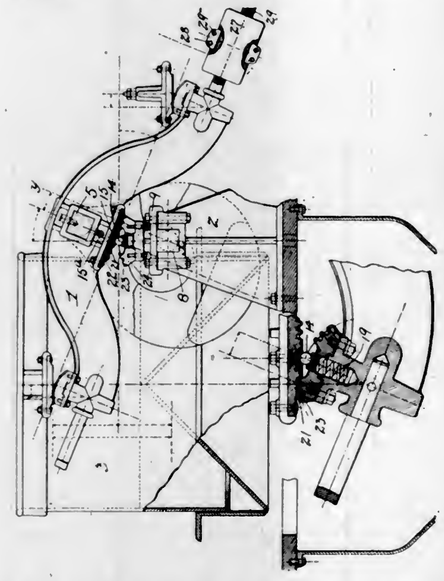


Claim.—1. In an arc-lamp a brass tube provided with top and bottom centrally-orificed caps, a two-part carbon-clutch of magnetic material arranged within said tube, a current-carrying coil surrounding said tube, two small strips of soft iron between said coil and said tube one opposite the other, a carbon disposed between the two parts of said clutch, as specified.

2. In an arc-lamp a seat for the bottom carbon composed of a conductive tube open at both ends and secured to the bottom of the lamp-frame, a small set-screw in the side of said tube, and a bottom screw-cap for said tube extending over said set-screw, as set forth.

3. In an arc-lamp, the combination with a frame, of a solenoid-coil, carried by said frame, a tube of non-magnetic material disposed within said coil, strips of magnetic material disposed longitudinally of the coil between the inner surface of the coil and the said tube, a two-part carbon-clutch composed of longitudinally-disposed bars each carrying rings adapted to embrace a carbon, said clutch being arranged within said tube.

844,440. AUTOMATIC WEIGHING-MACHINE. WILLIAM F. BRAUN, Muskegon, Mich., and WILLIAM BRAUN, Brooklyn, N. Y. Filed Nov. 13, 1905. Serial No. 287,154.



Claim.—1. In combination in a weighing-scale, a frame, a beam, a fulcrum between said parts comprising the contacting non-concentric members, one of which has a rolling movement on the other, and means for retaining the said members in operative relation to each other, comprising a yielding device at the center line of the fulcrum members projecting from one part into the other, substantially as described.

2. In combination in a weighing-scale, a beam, a frame, fulcrum members, one having rolling contact with the other, and a ball and socket arranged at the center of the length of the beam-arms forming a retaining device between the frame and the beam, substantially as described.

3. In combination in a weighing-scale, a beam, a frame, fulcrum members, one having rolling contact with the other, a ball and socket arranged at the center of the length of the beam-arms forming a retaining device between the frame and the beam, and a yielding bearing, substantially as described.

4. In combination in a weighing-scale, a frame, a beam, and fulcrum members between said parts, one member having a plain surface rolling upon the other member and yielding means between said members to control them in their action, substantially as described.

5. In combination in a weighing-scale, a frame, a beam, and fulcrum members between said parts, one member having a plain surface and the other having its surface provided with a rib or ribs in the direction of movement of the beam, said surfaces rolling one upon the other, substantially as described.

6. In combination in a weighing-scale, the frame, the beam, fulcrum members between them having rolling contact parts, and the intermeshing teeth to prevent displacement of the coöperating fulcrum members, said teeth meshing when the beam tips and being free from frictional contact with each other when the beam is at or near balanced position and the act of weighing is to be performed, substantially as described.

7. In combination in a weighing-scale, a frame, a beam, fulcrum members between them having parts in rolling contact and controlling-teeth in line with the end portions of the said rolling parts, the teeth being interrupted opposite the center of said parts, substantially as described.

8. In combination in a weighing-scale, a frame, a beam, fulcrum members having rolling contact, means for retaining the fulcrum members against displacement comprising a ball and sockets between them.

9. In combination in a weighing-scale, the frame, a beam, fulcrum members having rolling contact, yielding means at the center of the beam for preventing lateral displacement, and means for preventing displacement of the beam in the direction in which the beam tips, substantially as described.

10. In combination in a weighing-scale, the frame, a beam, fulcrum members having rolling contact, means at the center of the beam for preventing lateral movement of the beam and the teeth on opposite sides of the said means for preventing slipping of the beam, substantially as described.

11. In combination in a weighing-machine, a frame, a beam, fulcrum members between said parts having a rolling contact, and yielding controlling means maintained at one point in relation to the length of the beam to prevent displacement of said fulcrum members, substantially as described.

12. In combination, the beam, the frame, fulcrum members having a rolling contact with each other, and a ball arranged at the center line of the fulcrum, and concave sockets with which the ball engages, one of said sockets being yieldingly controlled, substantially as described.

13. In combination in a scale, the beam, the frame, fulcrum members allowing one to roll on the other, a yielding centering device at the center line of the beam, and means on opposite sides thereof for retaining the beam in proper relation when tipped, substantially as described.

14. In a weighing-scale, the combination of a beam, a frame and fulcrum members between said parts, the frame member being ribbed and the beam member being curved and flat to roll on the apices of the ribs of the frame member to vary the relative lengths of the lever-arms, substantially as described.

15. In combination in a weighing-scale, the frame, the beam, fulcrum members between them having rolling-contact parts and means to prevent displacement of the coöperating fulcrum members when the beam tips, said means being out of action when the beam reaches a balanced position, substantially as described.

16. In combination in a weighing-scale, the frame, the beam, fulcrum members between them having rolling-contact parts, intermeshing parts carried by the fulcrum members for preventing displacement of the beam when it tips, said parts being out of frictional contact when the beam is about to assume balanced position, substantially as described.

17. In combination a scale, the beam and frame with fulcrum members and yielding controlling means between the fulcrum members, maintained at the center of the beam's length and moving upon the separating and closing movement of the fulcrum members, substantially as described.

18. In combination in a scale, the beam and frame with fulcrum members and a ball-and-socket controlling device between said members, substantially as described.

19. In an automatic weighing-machine the combination of a balancing-beam, a receiver at one end and a weight at the other end, fulcrum members between the beam and the frame having rolling surfaces which are short as compared with the length of the beam and which are plain in the direction of movement of the beam, and fulcrum mem-

bers between the beam and the receiver and weight respectively, each of said fulcrum members having rolling contact with its companion member and being plain in the direction of movement of the beam, and each of limited length as compared with the length of the beam, substantially as described.

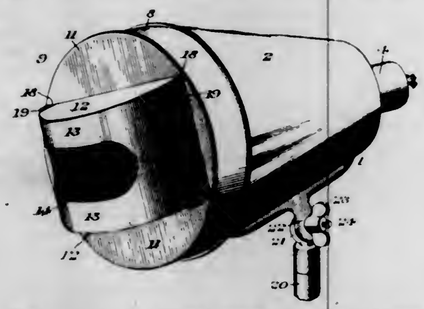
20. In combination, in a weighing-scale, a frame, a beam, a fulcrum between said parts comprising the contacting non-concentric members, one of which has rolling movement on the other, and means at the center of the beam for retaining the members against both lateral and longitudinal displacement in relation to each other, substantially as described.

21. In combination, in a weighing-scale, a frame, a beam, a fulcrum between said parts comprising the contacting non-concentric members, one of which has rolling movement on the other and means maintained at one point in relation to the length of the beam for preventing its displacement, said means comprising a rolling device between the fulcrum members, substantially as described.

22. In combination in an automatic weighing-machine, a frame, a free beam having a weight-carrying arm and a receiver-carrying arm with a fulcrum at the center of said beam where said arms join, said fulcrum being short as compared with the length of the beam and comprising non-concentric members having their bearing-surfaces plain in the direction of movement of the beam whereby one member has free rolling movement on the other, a receiver on the receiver-arm and a weight on the weight-arm, said beam being unconnected and free to balance, substantially as described.

23. In combination in an automatic weighing-machine, a frame, a beam having a weight-carrying arm and a receiver-carrying arm with a fulcrum at the center of said beam where said arms join, said fulcrum comprising non-concentric members having their bearing-surfaces plain in the direction of movement of the beam whereby one member has free rolling movement on the other, a receiver on the receiver-arm and a weight on the weight-arm, and means at the fulcrum for controlling the longitudinal relation between the beam and frame, substantially as described.

844,441. EGG-TESTER. HERBERT H. BROWN, Philadelphia, Pa. Filed Sept. 19, 1906. Serial No. 335,266.

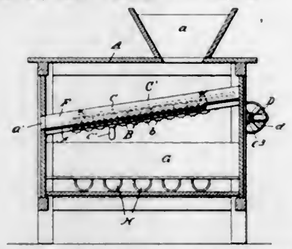


Claim.—1. An egg-testing device comprising a tubular casing, a closing-plate over the rearward end, a source of artificial light within the casing mounted on said closing-plate, a flanged closure-cap removably mounted over the forward end of said casing, said cap having a centrally-disposed projecting portion forming a chamber adapted to support within it the article to be tested, said projecting chamber having a slotted opening in alinement with the source of light within the casing, means to vary the size of said opening, and means to operatively support the device at any angle of inclination; substantially as described.

2. In an egg-testing apparatus, a conical casing 2 closed at one end, an electric-lighting device secured within said end, a reflector for said electric-lighting device, a removable closure 9 for the opposite end of said casing, said closure comprising the wall 11, the inwardly-projecting flange 10, the laterally-extending walls 12, the convex plate 13 therefor, ways 18 carried by said wall 11 and an apertured plate 15 adapted to have its ends secured in said ways.

3. In an egg-testing apparatus, a conical casing 2 closed at one end, an electric-lighting device secured within the other end, a reflector for said electric-lighting device, a movable closure 9 for the opposite end of said casing, said closure comprising the wall 11, the inwardly-projecting flange 10, the laterally-extending walls 12, the convex plate 13 therefor, ways 18 carried by said wall 11, an apertured plate 15 adapted to have its ends secured in said ways, a standard 20 having an ear 21, an ear 22 attached to the casing 2, and a device for locking said ears in position with respect to each other.

844,442. COTTON-GIN. LOUIS DAVID, Montgomery, Ala. Filed Sept. 14, 1906. Serial No. 334,652.



Claim.—1. In a ginning apparatus, the combination of a series of closely-spaced rods or shafts, and mechanism for rotating adjacent pairs of these rods or shafts alternately in opposite directions, whereby each rod will first coöperate with the rod at one side and then coöperate with the rod at the other side and so on, for the purpose set forth.

2. In a ginning apparatus, a ginning floor or surface consisting of a series of closely-spaced comparatively small flexible rods, and means for alternately rotating each adjacent pair of rods in opposite directions so that each rod will first coöperate with the rod at one side and then with the rod at the other side of it, substantially as set forth.

3. In a ginning apparatus, ginning means consisting of a series of closely-spaced rods, a pinion on one end of each rod, the pinions on each adjacent pair of rods being arranged at opposite ends of the rods and the pinions at each side being arranged in a double row so that adjacent pinions shall be out of line with each other, a rack-bar for each double row of pinions, and means for reciprocating said rack-bar simultaneously in opposite directions.

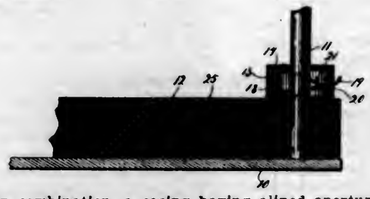
4. In a ginning apparatus, a casing, a ginning-floor inclining toward a seed-discharge and comprising a plurality of pairs of small rods contacting with each other and having bearings at their opposite ends, means for rotating adjacent pairs of these rods in opposite directions to draw the lint down from the seeds and discharge it into the lint-chamber below, a guard or deflector upon which the lint-cotton falls, and a pneumatic discharging means below this deflector.

5. In a ginning apparatus, ginning means consisting of a floor comprising a plurality of pairs of small elastic rods having their peripheries in contact, and means for rotating the rods, for the purpose set forth.

6. In a ginning apparatus, ginning means consisting of a plurality of pairs of small rods or shafts arranged close together in parallelism and in the same plane, to thus constitute a ginning-floor, and means for rotating adjacent pairs of the rods in opposite directions, for the purpose set forth.

844,443. CLUTCH. JAMES C. DAWSON, St. Louis, Mo. Filed Apr. 30, 1906. Serial No. 314,430.

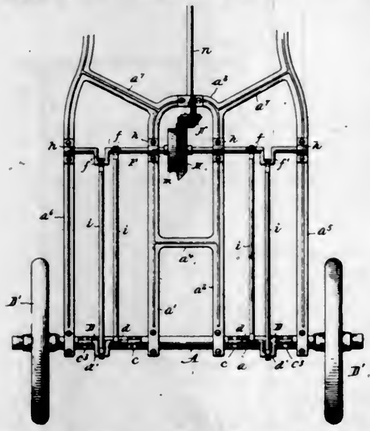
Claim.—1. In combination, a casing having alined apertures in opposite walls, an apertured clutch-plate extending obliquely across the line of the apertures and having a fixed bearing at one end against one of the apertured walls of the casing, and a spring-plate engaging the clutch member and bearing against the opposite apertured wall of the casing.



2. In combination, a casing having alined apertures in opposite walls, a clutch-plate having a fixed bearing against one of the apertured walls of the casing and extending obliquely across the casing and having an aperture in line with the wall-apertures and a socket between such aperture and its free end, and a spring-plate having a tongue engaging such socket and an aperture in line with the named casing-aperture and bearing at its free end against the wall of the casing opposite that against which the clutch-plate bears.

3. In combination, a base, a rod rising from the base, a follower running on the rod, a chambered casing independent of the follower apertured to run on the rod, and a clutch member within the casing for gripping the rod.

844,444. GEARING MECHANISM FOR MOTOR-VEHICLES. LESLIE B. FARMER, South Orange, N. J. Filed Mar. 3, 1906. Serial No. 304,001.



Claim.—1. In a motor-vehicle or automobile, the combination with the frame comprising the axle A and reach-bars extending forwardly therefrom, said axle having loops near the ends thereof, of the driving shafts or axles D bridging the loops of the axle A and having double cranks disposed in said loops, one end of each driving-shaft being extended beyond the end of the axle and formed into a spindle; together with a counter-shaft journaled on the reach-bars and having two pairs of cranks connected to the cranks of the driving-shafts by rods *i*, and means for turning the counter-shaft.

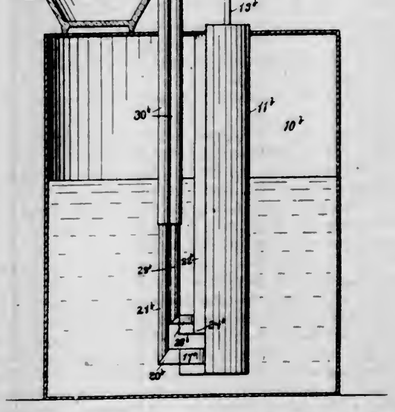
2. In a motor-vehicle or automobile, the combination with the frame comprising the axle A having the depending loops *a* near its ends, of bearing-boxes disposed at opposite sides of the loops, and crank-shafts D journaled in said bearing-boxes and extended at one end beyond the axle where it is formed into a spindle to receive the wheel; together with counter-shafts supported in boxes mounted on the reach-bars and having crank portions, rods connecting the counter-shafts to the crank-shafts, a large bevel gear-wheel connected to the counter-shafts, and means for turning said bevel gear-wheel.

3. In a motor-vehicle or automobile, the combination with the frame comprising the axle A having the depending loops *a* near its ends, parallel reach-bars extending forwardly from the axle and connected together at their forward ends; of bearing-boxes disposed at opposite sides of the loops, the bearing-box at the outer end of the axle comprising a lower section and three upper sections, the intermediate upper section forming a seat for the outer reach-bars, crank-shafts supported in said bearing-boxes and extended beyond the end of the axle where they are formed into spindles to receive the driving-wheels, and a removable loop portion the ends of which form a part of the bearing-boxes, said removable loop portion being opposed to the loop portion of the axle; together with counter-shafts supported on the reach-bars and having cranks, rods connecting the counter-shafts to the driving-shafts, and a bevel gear-wheel for imparting rotation to the counter-shafts, substantially as herein shown and described.

4. In a motor-vehicle or automobile, the combination, of independent crank-shafts carrying the drive-wheels, said shafts having each a double crank disposed at right angles to each other; together with counter-shafts having corresponding cranks, rods connecting the counter-shafts to the crank-shafts, and means for imparting motion to the counter-shafts, substantially as shown and described.

5. In a motor-vehicle or automobile, the combination, of separate shafts carrying the drive-wheels, said shafts each having a plurality of cranks disposed at an angle to each other, a counter-shaft having corresponding cranks, rods connecting the cranks on the counter-shaft to the companion cranks on the wheel-shafts, and means for imparting motion to the counter-shaft, substantially as shown and described.

844,445. NON-OVERFLOW PUMP. BERTRAM G. FOSTER, Washington, D. C., assignor to The Delphos Manufacturing Company, a Corporation of Ohio. Filed Apr. 17, 1906. Serial No. 312,243.



Claim.—1. The combination with a pump, of a combined discharge and siphon return pipe connected thereto, said pipe having a siphon-discharge opening, and a valve controlling said siphon-discharge opening.

2. The combination with a pump, of a combined discharge and siphon return pipe connected thereto and having a plurality of discharge-openings, one of which is lower than the other, and means for controlling said lower discharge-opening.

3. The combination with a pump, of a combined discharge and siphon return pipe connected thereto and having a plurality of discharge-openings, one of which is lower than the other, and an automatically-operated valve controlling said lower discharge-opening.

4. The combination with a pump, of a combined discharge and siphon return pipe connected thereto and having a plurality of discharge-openings, one of which is lower than the other, and a valve located in the path of the discharge from the pump and operated thereby to close the lower opening.

5. The combination with a pump, of a combined discharge and return pipe connected thereto, said pipe having a siphon-discharge opening between its ends, and means for controlling the passage of liquid therethrough.

6. The combination with a pump, of a combined discharge and return pipe connected thereto, said pipe having a depending discharge end and also having an opening located below the plane of the discharge end, and means for closing the opening.

7. The combination with a pump, of a combined discharge and return pipe connected thereto, said pipe having a depending discharge end and also having an opening located below the plane of the discharge end, and an automatic valve for closing the opening.

8. The combination with a pump including a cylinder, of a discharge and return pipe connected to the cylinder, said cylinder having a discharge-opening communicating with the pipe and said pipe having a discharge-opening substantially alined with the cylinder discharge-opening, and a valve interposed between the openings.

9. The combination with a pump including a cylinder, of a discharge and return pipe connected to the cylinder and having an opening contiguous to its connection with the cylinder, and a valve controlling said opening.

10. The combination with a pump, of a combined discharge and return siphon pipe connected thereto and having a siphon-discharge, and means for closing the siphon-discharge during the discharge of liquid from the pump through said pipe.

11. The combination with a pump, of a combined discharge and return siphon pipe connected thereto and having a siphon-discharge, and an automatic valve for closing the siphon-discharge during the discharge of liquid from the pump into the said pipe, said valve being operated by said discharge of liquid.

12. The combination with a pump, of a combined discharge and return pipe connected thereto and comprising sections, one of said sections being fixed to the pump and having a siphon-discharge opening, the other being slidable on the first-mentioned section and having a discharge-opening.

13. The combination with a pump, of a combined discharge and return pipe connected thereto and comprising sections, one of said sections being fixed to the pump and having a siphon-discharge opening contiguous to the juncture with the pump, the other being slidable on the first-mentioned section and having a depending discharge end, and an automatic valve disposed in the path of movement of the discharge from the pump and operating across the opening in the first-mentioned section.

14. The combination with a reservoir, of a pump located therein and having a discharge, a combined discharge and return pipe connected to the pump and having communication with the discharge thereof, said pipe having an opening disposed in substantial alinement with said discharge, and a valve interposed between the discharge and opening and automatically operating to close the latter upon the discharge of liquid from the pump, said pipe having a depending discharge end disposed exteriorly of the reservoir.

15. A pump, comprising a cylinder, a piston, a tube leading from the cylinder and having an opening intermediate its ends for the discharge of returned oil, and a valve controlling such opening.

16. A pump, comprising a cylinder, a plunger, a tube leading therefrom through which both an emission and siphoning of liquid is alternately effected during an operation of the pump, said tube having an opening intermediate its ends for the discharge of siphoned liquid, and means for controlling said opening.

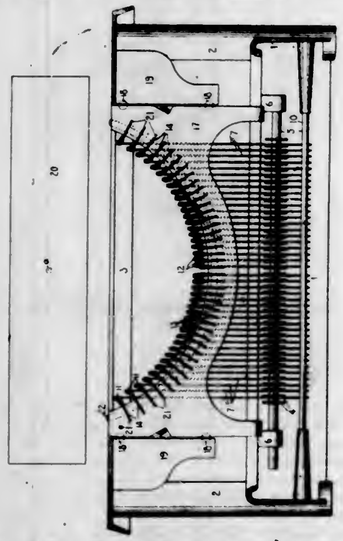
17. In a pump, a cylinder, a plunger, a tube leading therefrom having a valve-chamber intermediate its ends provided with a discharge-opening for siphoned liquid, and means for controlling the communication between the chamber and cylinder and the discharge through said opening.

18. The combination with a pump-cylinder, of a plunger operating therein, and a plurality of pipes connected to the cylinder on opposite sides of the plunger, each of said pipes comprising a combined discharge and return pipe and having a plurality of discharge-openings, one of which is lower than the other and constitutes a siphon-discharge.

19. The combination with a pump-cylinder, of a plunger operating therein, and a plurality of pipes connected to the cylinder on opposite sides of the plunger, each of said pipes comprising a combined discharge and return pipe and having a plurality of discharge-openings, one of which is lower than the other and constitutes a siphon-discharge, and valves controlling said siphon-discharge openings.

20. The combination with a reservoir, of a pump-cylinder located therein, a reciprocatory plunger operating in the cylinder, a plurality of pipes connected to the cylinder on opposite sides of the plunger, said pipes having depending discharge ends located exteriorly of the reservoir and having siphon-discharge openings communicating with the interior of said reservoir, and automatic valves controlling said siphon-dischage openings.

844,446. TYPE-WRITING MACHINE. CARL GABRIELSON, Springfield, Mass., assignor to Union Typewriter Company, Jersey City, N. J., a Corporation of New Jersey. Filed Aug. 8, 1902. Serial No. 118,875.

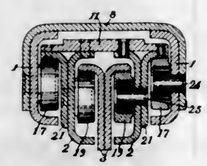


Claim.—1. In a front-strike type-writing machine, the combination of a series of segmentally-arranged type-bars, a series of upright key-actuated sublevers, the upper ends of which sublevers are segmentally arranged and their upper portions being substantially equidistant, and a curved series of connecting-links between the upper ends of the sublevers and the type-bars, the type-bars being wider apart at the ends of the series and so spaced as that the links extending from the sublevers to the type-bars are arranged in substantially straight lines and in substantial parallelism.

2. In a front-strike type-writing machine, the combination of a series of key-levers, a series of upright sublevers connected thereto and terminating at their upper ends in an arc and being equidistant at their upper portions, a type-bar support, a series of type-bars arranged in a curve or arc on said support, the curve or arc being substantially concentric or parallel with that of the upper ends of the sublevers; the said type-bars at the ends of the curve or arc being spaced apart greater distances than the type-bars at the middle of the curve or arc, and a curved or arc-shaped series of straight-line links connecting said type-bars and said sublevers.

3. In a front-strike type-writing machine, the combination of a series of segmentally-arranged type-bars spaced apart at gradually-increasing distances as the ends of the segment are approached, a segmental series of connecting-links disposed rearwardly from the type-bars in substantially straight lines, a series of sublevers, the upper ends of which are segmentally arranged to match the curvature of the type-bar arrangement, the upper portions of said sublevers being also substantially equidistant and connected to the rear ends of the said links, and a series of key-levers connected to said sublevers, the said key-levers being contracted or condensed at the points of connection to the sublevers and at such points being substantially equally spaced apart.

844,447. ARTICLE-SUPPORT FOR WARDROBES. GUSTAVE GAUTIER, Grand Rapids, Mich., assignor to Grand Rapids Show Case Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Apr. 26, 1906. Serial No. 313,890.



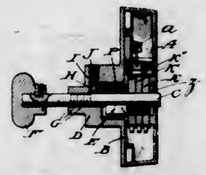
Claim.—1. A device of the class described comprising channel-bars having their channeled sides turned toward each other, angle-bars secured to the channel-bars, and with their flanges turned outward, cross-ties extending transversely of both of said channel-bars and said angle-bars and secured thereto, and means for movably supporting the angle-bars.

2. In a device of the class described, a pair of outer channel-bars spaced apart, a pair of inner channel-bars movable between the outer channel-bars and also spaced apart, each pair of said bars having their channeled sides turned inward, angle-bars attached to the outer sides of the inner channel-bars and having their flanges turned outward and within the channels of the outer channel-bars, a T-shaped bar movable between the inner channel-bars, cross-ties extending across both of the inner channel-bars and both of the angle-bars and secured thereto, rolls between the outer channel-bars and the angle-bars, to movably support the latter, and rolls between the inner channel-bars and the T-bar.

3. The combination of outer channel-bars spaced apart, cross-ties connecting the same, inner channel-bars also spaced apart, cross-ties connecting the same, angle-bars attached to the inner channel-bars and to the last-named tie-bars, rolls journaled on the inner ends of the inner bars and traversing the channels of the outer bars, rolls journaled on the outer ends of the outer channel-bars and traversing the angle-bars, a T-bar between the inner channel-bars, means for suspending articles from said T-bar, rolls on the inner end of the T-bar and traversing the channels of the inner channel-bars, and rolls on the outer ends of the inner channel-bars and traversed by the T-bar.

844,448. PERMUTATION-LOCK. LEONARD B. GAYLOR, Boston, Mass. Filed Sept. 5, 1906. Serial No. 333,314.

Claim.—1. In a lock a longitudinally-movable bitted spindle, independently-rotatable slotted and notched tumblers supported on the spindle, adapted to movement in both directions, a fixed stop which determines the starting-point of the tumblers, a bolt, a locking-dog connected with the bolt and arranged to enter the slots in the tumblers and a spring which engages with the notches in each tumbler.



2. In a lock a longitudinally-movable bitted spindle, independently-rotatable slotted tumblers supported on the spindle each adapted to unlimited rotation independently of the others in both directions, a fixed stop which determines the starting-point of the tumblers, a bolt and a locking-dog connected with the bolt and arranged to enter the slots in the tumblers.

3. In a lock a longitudinally-movable bitted spindle provided with grooves, a spring-actuated device adapted to engage in the grooves, independently-rotatable slotted tumblers supported on the spindle, a fixed stop which determines the starting-point of the tumblers, a bolt and a locking-dog carried by the bolt adapted to enter the slots in the tumblers.

4. In a lock a longitudinally-movable bitted spindle provided with grooves, a spring-actuated device adapted to engage in the grooves, independently-rotatable slotted and notched tumblers supported on the spindle, a fixed stop which determines the starting-point of the tumblers, a bolt, a locking-dog connected with the bolt and adapted to enter the slots in the tumblers and a spring which engages with the notches in each tumbler.

5. In a lock a longitudinally-movable bitted spindle provided with grooves, a fixed stop against which the bit may strike, a device to engage in the grooves, and retard the movement of the spindle, slotted tumblers adapted to rotation in both directions, a bolt and a locking-dog carried by the bolt.

6. In a lock a longitudinally-movable bitted spindle provided with grooves, a fixed stop against which the bit may strike, a device to engage in the grooves and retard the movement of the spindle, slotted and notched tumblers adapted to rotation in both directions, a bolt, a locking-dog carried by the bolt, and a spring which engages with the notches in each tumbler.

7. In a lock a longitudinally-movable bitted spindle, independently-rotatable slotted tumblers supported upon the spindle and adapted to be successively actuated and left at rest by the rotation and step-by-step withdrawal of the spindle, one of which tumblers is provided with an open-sided recess adapted to lift the locking-dog, the locking-dog itself and a bolt with which the dog engages.

8. In a lock longitudinally-movable bitted spindle, independently-rotatable slotted and notched tumblers supported upon the spindle and adapted to movement in both directions, one of which tumblers is provided with an open-sided recess adapted to lift the locking-dog, the locking-dog itself, a bolt with which the dog engages and springs which engage with the notches in the tumblers.

9. In combination with a lock of the class stated, a longitudinally-movable spindle, tumblers supported upon the spindle adapted to be successively rotated in both directions and left at rest by the outward movement of the spindle and a fixed stop which determines the starting-point for the tumblers.

10. In combination with a lock of the class stated, a longitudinally-movable spindle provided with grooves, a device adapted to engage in the grooves to retard the movement of the spindle, combination-tumblers equal in number to the grooves in the spindle and supported by and independently rotatable in both directions upon the spindle, a fixed stop and a tumbler adapted to lift the dog likewise operated by the spindle.

11. In combination with a lock of the class stated, a

longitudinally-movable spindle provided with grooves, a device adapted to engage in the grooves to retard the movement of the spindle, combination-tumblers slotted for the locking-dog and having notches on their peripheries and equal in number to the grooves on the spindle supported by and independently rotatable in both directions upon the spindle, another tumbler adapted to lift the dog likewise supported by the spindle, a fixed stop which determines the starting-point of the tumblers and springs for each of the combination-tumblers which engage with the notches in their peripheries.

844,449. INHALER. MAURICE GREEN, New York, N. Y., assignor to Schieffelin & Co., New York, N. Y., a Corporation of New York. Filed Oct. 12, 1905. Serial No. 282,480.



Claim.—1. The combination in an inhaler of a hollow branched member A, a mask and a bag connected with the ends thereof, and a tube open at both ends and extending through one branch of the member A, the inner end of said tube being in the plane of the lower end of said branch, whereby an anesthetic and air may be introduced into the bag at the same point and combined below the member A, substantially as set forth.

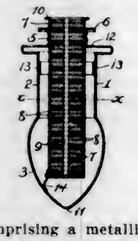
2. The combination in an inhaler, of a hollow branched member A, a mask and a bag connected with the ends thereof, and a tube opened at both ends and extending at an acute angle through the vertical branch of the member A, the inner end of said tube being concentric with and in the plane of the inner end of said branch, whereby an anesthetic and air may be introduced into the bag at the same point, substantially as set forth.

844,450. RECTAL DILATOR. CHARLES R. HARRIS, Los Angeles, Cal. Filed June 9, 1904. Serial No. 211,836.

Claim.—1. A rectal dilator comprising a metallic shell having an oval forward portion, and a cylindrical rear portion a removable battery projecting into said cylindrical portion of the shell and means at the rear end of the shell for supporting the battery within the shell and in electrical connection therewith.

2. A rectal dilator comprising a metallic shell made in insulated sections and having a tubular portion projecting from one end thereof and a battery inclosed within said shell connected with the respective portions of the shell, said battery having a portion removably supported by said tubular portion of the shell.

3. A dilator comprising a metallic shell made in insulated sections, a battery inclosed within said shell and electrically connected with said sections, and means projecting from the rear end of the shell for supporting the battery in place.

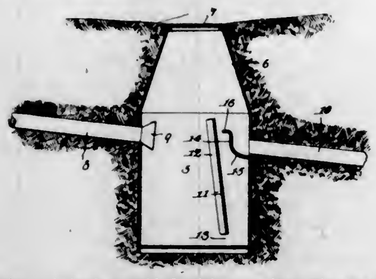


4. A dilator, comprising a metallic shell and a removable battery therein and electrically connected therewith, said battery having a screw-threaded cylindrical portion, and the shell having a threaded portion to receive the threaded cylindrical portion of the battery.

5. A dilator, comprising a metallic shell having a hole in one end, and a battery within and electrically connected with said shell, said battery comprising a shell having a hole in its end, a series of disks of different metals alternating with each other, said disks having alined openings forming an unobstructed passage through the battery.

6. A rectal dilator comprising a metallic shell divided into two parts connected by insulating material, a battery disposed within said shell and electrically connected with the two sections thereof.

844,451. CESSPOOL. EDWARD HELBER, Farmington, Mo. Filed Apr. 25, 1906. Serial No. 313,711.

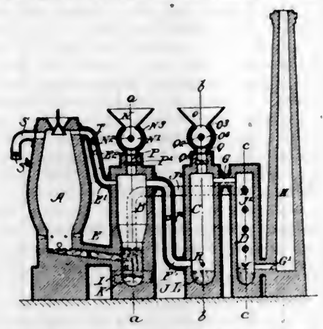


Claim.—A tank provided with oppositely-disposed openings disposed at different distances from the bottom of the tank, an inlet-pipe seated in one of said openings and having its free end flared laterally, a discharge-pipe seated in the opposite opening, an inclined partition extending transversely of the tank and spaced from the top and bottom thereof, and a guard secured to the walls of the tank at the mouth of the discharge-pipe and having its free end spaced laterally from said walls and terminating in a laterally-extending lip.

844,452. PROCESS OF OBTAINING METALS FROM SULFIDS. THOMAS J. HESKETT, Brunswick, Victoria, Australia. Filed July 16, 1906. Serial No. 326,500.

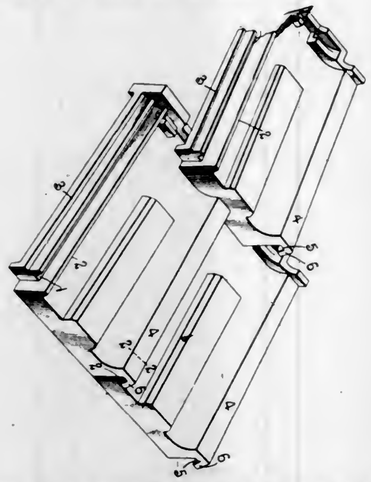
Claim.—1. The process of obtaining metals from sulfids, which consists in oxidizing and desulfurizing the melted ores in an oxidizing-chamber, precipitating the unoxidizable metals and collecting them in the bottom of the chamber, passing oxids of the metals and the sulfurous-acid gas in a highly-heated condition into a reducing-chamber, there bringing the oxids and sulfids into contact with a reducing material, collecting the less volatile metals at the bottom of the reducing-chamber, passing the more volatile metals to condensing-chambers, and there precipitating them in the order of their condensation.

2. The process of obtaining metal from sulfids, which consists in the oxidation of the oxidizable portions, separating the oxidizable and non-oxidizable portions, reducing



the oxidizable portions and precipitating first the least volatile and then the more volatile metals in order.

844,453. ROOFING-TILE. EDWARD E. JOHNSTON, St. Louis, Mo., assignor to Mound City Roofing Tile Company, St. Louis, Mo., a Corporation of Missouri. Filed Mar. 24, 1906. Serial No. 307,865.

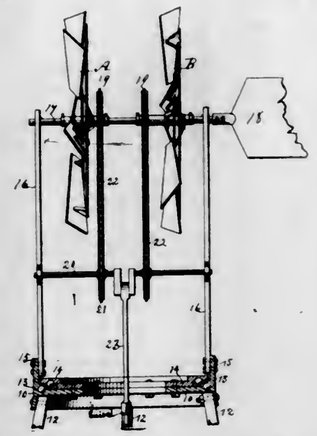


Claim.—1. A roofing-tile provided at one edge with a longitudinally-extending gutter formed below the upper surface thereof and with an upwardly-projecting rib adjacent said gutter, and the other edge portion of the tile being provided with a recess on its underneath face to receive the rib of the adjacent tile, the underneath portion of the overlapping tile covering the gutter of the adjacent tile but not extending into said gutter; substantially as described.

2. A tile provided at one edge with a gutter and with a single upwardly-projecting rib extending longitudinally of the gutter, and the other edge portion of the tile having a raised portion provided with a recess to receive the rib of the adjacent tile, the flange which forms one side of said recess resting at its lower edge upon the upper surface of the adjacent tile at a point distant from the gutter and the gutter of said adjacent tile being covered but not filled in by a portion of the overlapping tile; substantially as described.

3. A tile provided in its upper face with a gutter, a longitudinally-extending rib at one side of said gutter, and a rabbet at the edge of the tile on the other side of said gutter, a raised portion at the other edge portion of the tile provided in its underneath face with a recess to receive the rib of the adjacent tile a portion to cover but not project into the gutter of the adjacent tile and with a rabbet forming a shoulder which fits in the rabbet of the adjacent tiles when said tiles are in operative position; substantially as described.

844,454. DUPLEX WIND-MOTOR. ORLANDO KIRKHAM, Marshalltown, Iowa. Filed Sept. 17, 1906. Serial No. 335,024.



Claim.—1. In a wind-motor, a rotatable frame composed of a rigid base, two uprights fixed to the base and a horizontal shaft fixed to the top ends of the uprights, means to support the rotatable frame and two wind-wheels mounted loosely on the shaft and between the uprights to rotate in reverse ways.

2. In a wind-motor, a rotatable frame composed of a circular base, two uprights fixed to the edge of the circular base, a fixed horizontal shaft at the upper ends of the uprights, means to support the frame, two wind-wheels mounted loosely on the shaft to rotate in reverse ways and a vane fixed to one end of the shaft, to operate as set forth.

3. In a wind-motor, a rotatable frame composed of a circular base, two uprights fixed on the base, a fixed horizontal shaft at the upper end of the uprights, means to support the rotatable base of the frame, two wind-wheels mounted loosely on the shaft to rotate in reverse ways, a vane fixed to one end of the shaft and means for jointly transmitting power from the two wheels in one direction from the wheels as they rotate in reverse directions as set forth.

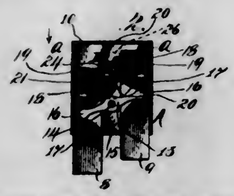
4. A duplex wind-motor comprising a fixed-frame support, a frame rotatably connected with the fixed frame, a shaft fixed to the top of the rotatable frame in a horizontal position, two wind-wheels loosely mounted on the shaft, sprocket-wheels fixed to the sides of the wind-wheels, a vane fixed to one end of the fixed horizontal shaft, a crank-shaft mounted in the rotatable frame below the two wind-wheels, sprocket-wheels fixed to the crank-shaft, chains on the sprocket-wheels and one of the chains twisted and a reciprocating rod connected with the crank of the crank-shaft, to operate as set forth.

844,455. MEANS FOR CONVERTING MOTION AND HOUSING THEREFOR. CHARLES J. KLEIN, New York, N. Y., assignor to Ralph A. Schoenberg, New York, N. Y. Filed Sept. 25, 1905. Serial No. 279,945.

Claim.—1. Improved means of the character described, comprising two actuating devices mounted for opposite movement, and an interposed member mounted for movement under the actuation of said actuating devices bearing upon said interposed member at opposite sides of the

latter; said opposite sides of said interposed member being plane surfaces.

2. Improved means of the character described, comprising two actuating devices mounted for opposite movement, and an interposed member mounted for movement under the actuation of said actuating devices in the relative passage of the latter bearing upon said interposed member at opposite sides of the latter; said opposite sides of said interposed member being plane surfaces.



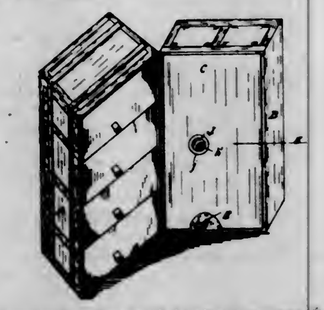
3. Improved means of the character described, comprising two actuating devices, means for giving them opposite primary movement, and an interposed member mounted for movement under the actuation of said actuating devices bearing upon said interposed member at opposite sides of the latter; said actuating devices being capable of lateral movement independent of their primary movement.

4. Improved means of the character described, comprising two push-buttons mounted for opposite movement and each provided with a separate actuating device mounted for lateral movement independent of the movement of the respective push-button; and an interposed member mounted for movement and actuated by said actuating devices bearing upon said interposed member at opposite sides of the latter.

5. Improved means of the character described, comprising a member mounted for movement, two movably-mounted push-buttons, an actuating device carried by each of said push-buttons and capable of lateral movement independent of the movement of the respective push-button, and tensional means for each of said actuating devices forcing the same into contact with said member at opposite sides of the latter.

6. In means of the character described, a two-membered housing provided with interlocking threads, one of said threads being provided with an extended mutilation, and the other of said threads being provided with a local mutilation.

844,456. LOCKING MEANS FOR TRUNK-FLAPS. ISIDOR MENDEL, Cincinnati, Ohio. Filed Apr. 14, 1906. Serial No. 311,630.

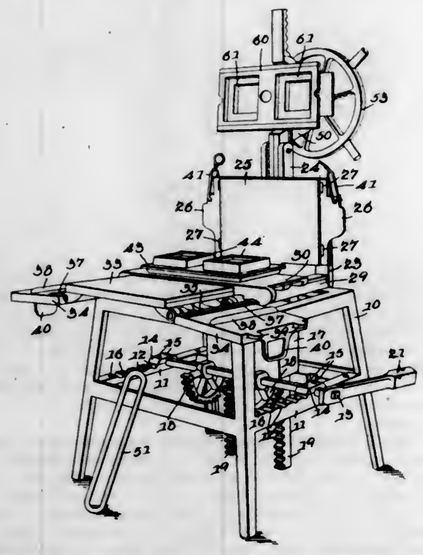


Claim.—1. A spring-catch having a rearwardly-extended shank with a shoulder at its end, a sheet-metal housing fitted to receive the same, part of the opposite sides being turned outwardly to form attaching-flanges, the remaining part of these sides being bent inwardly to inclose the catch, a spring sleeved upon the shank of this catch and a shoulder against which the inner end of the spring rests, such shoulder being formed by turning part of the metal of the housing inwardly.

2. In means for locking the inner door which closes one of the sections of a wardrobe-trunk, and which door has an opening, the combination of a housing set into this opening, a pivot-pin supported centrally in this housing, a rocker-plate and a manipulating-handle connected to opposite ends of this pin on opposite sides of the housing, the handle being hingedly connected and adapted to occupy the housing when not in use, rods connected to the rocker-plate and extending from there toward the edges of the door, housings provided at these edges into which these rods extend and within which they terminate, the end of each rod being forked, catches fitted into these housings having shoulders at their inner ends which are engaged by the forked ends of the rods, keepers one for each catch and springs provided for each catch, operating to hold them in locking engagement with their keepers when opposite them, but permitting them to yield independently of these rods when passing in or out of their catches.

3. In means for locking the inner door which closes one of the sections of a wardrobe-trunk, the combination of a number of housings secured at the edges of the door, they being open at opposite ends and provided with an internal shoulder which forms a spring-seat, catches contained therein, having shanks extending rearwardly beyond the shoulders mentioned, where they terminate into a shoulder, complementary keepers for these catches, springs within these housings adapted to engage with their outer ends the catches, to hold them normally in locking engagement with their keepers and seated with their inner ends on the shoulders mentioned, rods having forked ends engaging the shanks of the catches between the shoulders at their ends and the spring-seat so as to permit the catches to move inwardly independently of the rods and means to manipulate these rods to simultaneously unlock all catches.

844,457. CEMENT-BLOCK MACHINE. JOHN H. MILLER, Risingsun, Ohio. Filed Apr. 20, 1906. Serial No. 312,828.



Claim.—1. In a block-molding machine, a stationary back plate, a slidably-mounted bottom plate movable toward and from the back plate, a front plate pivoted to said bottom plate, and end plates pivoted to the front plate.

2. In a block-molding machine, a stationary back plate, a bottom plate mounted to slide toward and from said back plate, a front plate pivoted to the bottom plate, end plates pivoted to the front plate, and means for limiting opening movement of the front and end plates.

3. In a block-molding machine, a stationary back plate, a bottom plate, guides on which said bottom plate is mounted, a front plate pivoted to the bottom plate, means for limiting movement of the front plate, a pair of end plates pivoted to the front plate, and tongues projecting from said end plates and arranged to engage with the front plate to limit opening movement of said end plates.

4. In a block-molding machine, a stationary back plate, bottom, front and end plates movable bodily toward and from the back plate, the bottom, front and end plates being pivotally connected to each other to permit free opening movement.

5. In a block-molding machine, a stationary back plate, a slidable bottom plate, front and end plates mounted pivotally with respect to the bottom plate, and interlocking means between the end plates and the stationary back plate.

6. In a block-molding machine, a stationary back plate, a slidable bottom plate, a front plate pivoted to said bottom plate, end plates pivoted to the front plate, wings projecting from the back plate, and end plates, and links arranged to fit over said wings and lock the mold-box in closed position.

7. In a block-molding machine, a stationary back plate having openings adjacent its opposite ends, a slidable bottom plate, pivotally-mounted front and end plates, lugs projecting from the end plates, and arranged to extend into said openings, and interlocking means between the back plate and the end plates.

8. In a block-molding machine, a stationary back plate, a frame carrying the same, dovetailed guides in said frame, a bottom plate slidably mounted on said guides, a front plate pivoted to the bottom plate, means for limiting opening movement of the front plate, end plates pivoted to said front plate, means for limiting opening movement of the end plates, and interlocking means between the end plates and the back plate to hold the mold-box in closed position.

9. In a block-molding machine, the combination with a frame including shaft-supporting bars having a plurality of shaft-receiving recesses, a shaft adjustable into any one set of recesses, caps for holding the shaft in place, movable cores, core-operating means carried by the shaft, and a mold-box having openings for the reception of the cores.

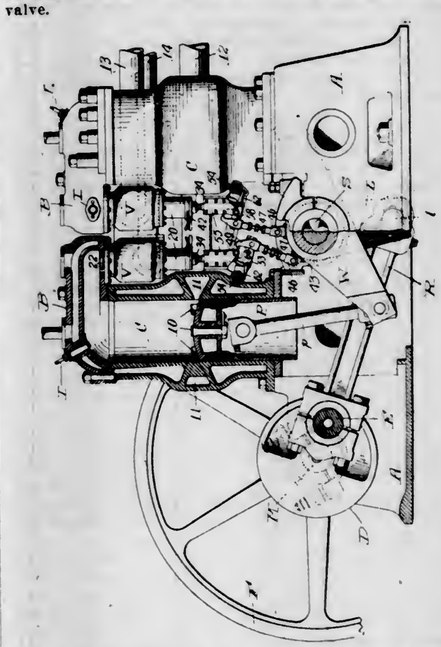
10. In a block-molding machine, the combination with a mold-box having a stationary rear wall and movable bottom, side and end walls, of standards forming a support for the back wall and projecting above the top of the same, a yoke pivoted between the standards and arranged to swing over the top of the mold-box, means for securing the free end of the yoke in operative position, the central portion of said yoke having a non-circular opening, a nut vertically adjustable through said opening, a tamping-plate secured to the lower end of the nut, and a handled screw extending through the yoke and entering said nut.

844,458. VALVE-GEAR FOR EXPLOSIVE-ENGINES. CHARLES H. MORGAN and ALBERT J. GIFFORD, Worcester, Mass.; said Gifford assignor to said Morgan. Filed Jan. 2, 1903. Serial No. 137,473.

Claim.—1. In a valve-actuating mechanism, the combination of an oscillating wrist-plate, a connection therefrom carrying a hook or catch, a lever for initially opening the valve which said hook or catch engages, an oscillating lever operated by said connection, and connections therefrom for further opening the valve.

2. In a valve-actuating mechanism, the combination of an oscillating wrist-plate, a connection extending therefrom, an oscillating lever actuated thereby, a catch and a lever arranged to impart an initial opening to the valve as the wrist-plate reaches its limit of motion in one direction, and connections from said oscillating lever for further opening the valve on the other movement of the oscillating lever.

3. In a valve-actuating mechanism, the combination of an oscillating wrist-plate, a connection therefrom, an oscillating lever actuated thereby, a catch and a lever for imparting the initial opening to the valve, and a governor-controlled trigger mounted on said oscillating lever for imparting the further or principal opening movement to the valve.



4. In a valve-actuating mechanism, the combination of an oscillating wrist-plate, a connection therefrom, a lever oscillated by said connection, a hook and a lever for imparting the initial movement to the valve, a trigger on the oscillating lever for imparting the principal movement to the valve, and a governor-controlled cam for releasing the trigger.

5. In a valve-actuating mechanism, the combination of an oscillating wrist-plate, a connection extending therefrom, a lever oscillated thereby, a catch and lever for imparting the initial opening movement to the valve, a spring-pressed trigger for imparting the principal movement to the valve, and a governor-controlled cam turning on the axis of the oscillating lever for releasing the trigger.

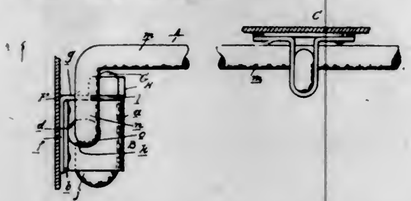
6. In a valve for explosion-motors, the combination of the valve-casing, annular air and gas supply chambers therein, a valve-lining having air-supply ports and gas-supply ports formed therein, the two sets of ports being staggered relatively to each other, a valve-stem carrying a puppet-valve and ring-valves connected by ribs, a cap secured to the valve-casing, a cup arranged on the valve-stem and having a keyway cut therein, an adjusting piece or hub having a key engaging said keyway, and means whereby said hub can be turned and set at different points.

7. In a valve mechanism for explosion-motors, the combination of a valve-casing having a puppet-valve and ring-valves working therein for changing the relative proportion of air and gas, an oscillating disk, a connection extending therefrom, a lever oscillated by said connection, a catch and lever and connections whereby the puppet-valve will be slightly raised from its seat to allow an initial entrance of air and then fully raised from its seat with the gas and air supply ports opening to allow for the changing the cylinder, and trigger connections for allowing said valves to return to normal position.

8. In a valve mechanism for explosion-motors, the combination of a valve-casing having a puppet-valve and ring-valves working therein for changing the relative propor-

tion of air and gas, an oscillating disk, a connection extending therefrom, a lever oscillated by said connection, a catch and lever and connections whereby the puppet-valve will be slightly raised from its seat to allow an initial entrance of air and then fully raised from its seat with the gas and air supply ports opened to allow for the charging of the cylinder, trigger connections for liberating said valves and allowing them to return to their normal position, and governor-actuated connections for releasing said trigger mechanism.

844,459. FENDER-SUPPORT. DAVID MCCAUSLAND, Detroit, Mich., assignor to Cadillac Motor Car Company, Detroit, Mich., a Corporation of Michigan. Filed Dec. 8, 1906. Serial No. 346,881.



Claim.—1. A fender-support comprising a pair of members struck up from sheet metal, the one having a transversely-apertured return-bend and flanged portion, and the other having a base portion, and a portion struck up at the end of the return-bend portion and apertured substantially as, and for the purpose set forth.

2. A fender-support comprising a pair of members struck up from sheet metal, one consisting of a transversely-apertured bend portion with oppositely-extending flanges, and the other consisting of a base portion secured to said flanges, an apertured struck-up portion at the end of said return-bend portion, and having a hooked portion at one side of said return-bend portion substantially as and for the purpose set forth.

3. A fender-support comprising a member struck up from sheet metal having a transversely-apertured return-bend portion and oppositely-extending flanges, a shank passing through said transverse apertures, and a clamping-bolt in the return-bend, having a threaded portion projecting out therefrom and provided with a laterally-extending portion bearing against said shank substantially as and for the purpose set forth.

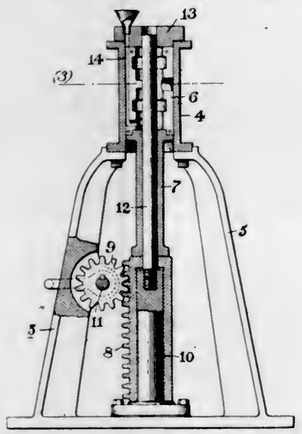
4. A fender-support comprising a member struck up from sheet metal, having a transversely-apertured return-bend portion, and oppositely-extending flanges, a shank passing through the transverse apertures in said return-bend portion, and a clamping-bolt lying between said shank and the return-bend and guided by the latter, the threaded portion of said bolt extending out from one end of the return-bend and the opposite end of said bolt being bent to form a bearing against said shank.

5. A fender-support comprising a pair of members struck up from sheet metal, one consisting of a transversely-apertured return-bend portion and oppositely-extending flanges on the other member consisting of a base portion secured to said flanges, and an apertured struck-up portion at one end of said return-bend portion, a shank extending through the transverse apertures in said return-bend portion, a clamping-bolt lying between said shank and the return-bend, and guided by the latter, the threaded end of said bolt extending out through the aperture in the second-mentioned sheet-metal member, and the opposite end of the bolt being bent to form a bearing against said shank, and a clamping-nut engaging the threaded portion of the bolt and bearing against the aperture struck-up portion through which said bolt passes.

6. A fender-support comprising a supporting shank or arm formed of a plain bar of metal and clamping-brackets for securing the opposite end of said bar respectively to the fender and vehicle-frame, each of said brackets comprising a struck-up sheet-metal member having a transversely-apertured return-bend portion, and oppositely-extending securing-flanges and a bolt lying and guided in the return-bend of said member having its threaded portion extending out from the end thereof and its opposite end bent to form a bearing against said supporting-arm when passed through said transverse aperture in the return-bend member.

7. A fender-support comprising a shank or supporting-arm formed of a plain bar of metal of round cross-section, a bracket for securing said arm or shank to the vehicle-frame comprising a sheet-metal member having a transversely-apertured return-bend portion and oppositely-extending securing-flanges, a securing-bolt extending between the sides of the return-bend portion and bearing against said shank when passed through the transverse apertures in said return-bend portion, said shank being bent, having a portion extending parallel to said return-bend portion, and a hooked bearing for engaging said parallel portion of the shank to hold the same from turning in the transverse apertures.

844,460. CASTING-MACHINE. BERNARD T. MCGLONE, Chicago, Ill., and GEORGE ROSS, Hammond, Ind. Filed Feb. 12, 1906. Serial No. 300,622.



Claim.—1. In combination in a casting-machine, an inner sectional casing, an outer casing entirely surrounding and covering the joints of the inner casing, and means whereby the inner casing may be slid through the outer casing.

2. In combination in a casting-machine, an outer casing, an inner sectional casing sliding therethrough and disconnected therefrom, and means whereby the inner casing may be slid through the outer casing.

3. In combination in a casting-machine, an outer casing, an independent inner casing divided longitudinally into sections and slidable through the outer casing and covered at its joints thereby and an ejector adapted to slide the sectional inner casing through the outer casing.

4. In combination in a casting-machine, an outer casing, an independent inner casing divided longitudinally into sections and slidable through the outer casing and covered at its joints thereby and a movable mold-section adapted to slide through the outer casing and force out the molded article and inner casing.

5. In combination in a casting-machine, an outer casing, an independent inner casing divided longitudinally into sections and provided with recesses, slidable through the outer casing and covered at its joints thereby and an ejector adapted to slide the sectional inner casing through the outer casing.

6. In combination in a casting-machine, an outer casing, an independent inner casing divided longitudinally into sections and provided with recesses, slidable through the outer casing and covered at its joints thereby and a movable mold-section adapted to slide through the outer casing and force out the molded article and inner casing.

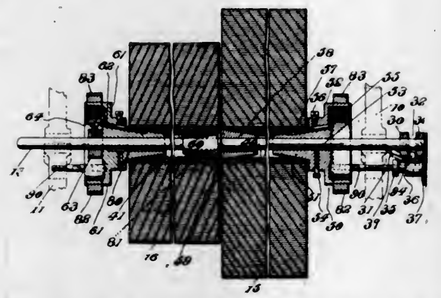
7. In combination in a casting-machine, a vertical outer casing, an independent inner casing divided longtiudinally into sections and slidable therethrough and a reciprocable bottom mold-section adapted to force out the inner casing.

8. In combination in a casting-machine, a vertical outer casing, an independent inner casing divided longitudinally into sections and provided with recesses, slidable through the outer casing and covered at its joints thereby and a reciprocable bottom mold-section adapted to force out the inner casing.

9. In combination in a casting-machine, a vertical outer casing, a guide-core, an independent inner casing divided longitudinally into sections and slidable through the outer casing and covered at its joints thereby, a bottom section reciprocable through the outer casing and adapted to force out the inner casing and the molded article.

10. In combination in a casting-machine, a vertical outer casing, and a removable independent inner casing divided longitudinally into sections and adapted to form a matrix, provided with a pouring-gate on the periphery at the juncture of the parts of the sectional casing.

844,461. ROTARY PRINTING-PRESS. FLEMING NEWBOLD, Washington, D. C. Filed May 3, 1906. Serial No. 315,049.

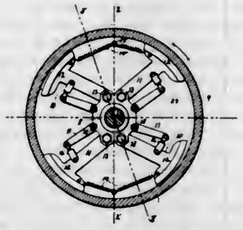


Claim.—1. In a printing-press, the combination of a single shaft supported at its ends and adapted to pass axially through two web-rolls, and means for centering and supporting the rolls upon the shaft so that said rolls are independently rotatable to deliver two webs side by side, said centering and supporting means including a sleeve or cone on the shaft for the inner end of each roll the opposing faces of said sleeves or cones making movable contact with each other.

2. In a printing-press, the combination of a single shaft supported at its ends and adapted to pass axially through two web-rolls, two sleeves or cones on the shaft having opposing faces in movable contact said cones engaging in the inner ends of the rolls respectively, two combined sleeve or cone and friction wheels on the shaft the sleeves or cones thereof engaging in the outer ends of the web-rolls respectively, the web-rolls thus supported upon the shaft being independently rotatable to deliver two webs side by side, and independent web-tensioning means for each web of which the friction-wheels of the cone-wheels form parts respectively.

3. In a printing-press, the combination of a single shaft for axially supporting two web-rolls so that they are independently rotatable to deliver two or more webs side by side; means for independently centering and supporting said rolls upon the shaft with their inner ends in approximate abutment—whereby it is possible, for example, to deliver two single-width webs instead of a double-width web to a double-width form-cylinder without material difference in the margins left in the two cases; and web-tensioning means independently tensioning the web of each roll.

844,462. COMPENSATING MECHANISM. LAFAYETTE M. OSBORN and JAMES E. MANNIS, Topeka, Kans. Filed Mar. 6, 1906. Serial No. 304,525.



Claim.—1. In a compensating mechanism, the combination with the drive-shaft of a motor-vehicle and a wheel loosely mounted thereon, of a drum secured to the wheel, a number of friction-shoes with reversely-arranged toggle-joint connections between the shaft and the shoes, and means for positively withdrawing either or both sets of shoes from engagement with the drum.

2. In a compensating mechanism, the combination with the drive-shaft of a motor-vehicle and a wheel loosely mounted thereon; of a drum secured to the wheel, a hub secured to the shaft, reversely-arranged toggle-joints and friction-shoes, springs tending naturally to force said shoes into engagement with the drum, and means for positively withdrawing either set of friction-shoes from engagement with the drum.

3. In a compensating mechanism, the combination with the drive-shaft of a motor-vehicle and a wheel loosely mounted thereon; of a drum secured to the wheel, a hub secured to the shaft, reversely-arranged toggle-joints and friction-shoes, springs tending to force said shoes into engagement with the drum, and means for postively withdrawing either or both sets of shoes from engagement with the drum.

4. In a compensating mechanism, the combination with the drive-shaft of a motor-vehicle and a wheel loosely mounted thereon; of a friction clutch mechanism between the shaft and the wheel comprising reversely-arranged toggle-joints and friction-shoes, and means for operating same.

5. In a compensating mechanism, the combination with the drive-shaft of a motor-vehicle and a wheel loosely mounted thereon; of a friction clutch mechanism between the shaft and the wheel exerting its force substantially at right angles to the shaft, and means independent of the operation of the wheel or shaft for operating said clutch.

6. In a compensating mechanism, the combination with the drive-shaft of a motor-vehicle, a traction-wheel, a drum secured to the wheel, a hub secured to the shaft, friction-shoes secured to the hub by toggle-joint connections, said shoes being rigidly secured to the adjoining members, respectively, of the toggle-joints, said joints being oppositely arranged for the different shoes, and means for engaging said shoes with said drum and for disengaging them therefrom.

7. In a compensating mechanism, the combination with the drive-shaft of a motor-vehicle, a traction-wheel; of a friction-clutch mechanism between the shaft and the wheel comprising a drum secured to one of said members and friction-shoes secured to the other of said members by toggle-joints adapted to move in a plane substantially at right angles to the shaft, some of said joints being arranged so as to face oppositely to others, and means for engaging one set of friction-shoes with the drum and disengaging the other set, for disengaging the first set and engaging the second, and for disengaging both sets; each shoe being rigidly secured to the adjoining member of the toggle-joint.

8. In a compensating mechanism, the combination with the drive-shaft of a motor-vehicle and a traction-wheel loosely mounted thereon, of a drum secured to the wheel, a number of friction-shoes with reversely-arranged toggle-joint connections between the shaft and the shoes, each shoe being rigidly secured to the adjoining member of its

toggle-joint, and means for positively withdrawing either or both sets of shoes from engagement with the drum.

9. In a compensating mechanism, the combination with a one-piece solid axle, and a traction-wheel loosely mounted on each end thereof; of a compensating clutch between each wheel and the axle, comprising a drum secured to the wheel, reversely-arranged friction-shoes and toggle-joint connections between the shoes and the axle, each shoe being made integral with the adjoining member of the toggle-joint, means for forcing either set of shoes into engagement with the drum, and means for positively withdrawing either set therefrom.

10. In a compensating mechanism, the combination with a one-piece solid axle of a motor-vehicle, and a traction-wheel loosely mounted on each end thereof, of a compensating clutch mechanism between each wheel and the axle, comprising two reversely-arranged pairs of friction-shoes and toggle-joint connections between said shoes and the axle, each shoe being made integral with the adjoining member of the toggle-joint, and the members of each pair of shoes and toggle-joints being disposed in diametrical opposition to each other, springs for drawing the shoes into engagement with the drum, and operating-levers for positively withdrawing either one or both of said pairs from engagement therewith.

11. The combination with a solid one-piece axle of a motor-vehicle, and a traction-wheel loosely mounted on each end thereof; of a drum secured to each wheel, a hub secured to the axle for each wheel, two pairs of oppositely-disposed friction-shoes, an arm between each shoe and the hub and said arm and shoe being integrally formed, the inner end of each arm being pivoted to the hub so as to permit the arm to move in a plane at right angles to the axle, the pivotal points being slightly off center so as to tend to force the shoes into engagement with the drum, this arrangement being reversely arranged for the two pairs, an operating-lever for each shoe extending away from the hub, a grooved sleeve to operate said levers respectively, and means for shifting the sleeve on the shaft.

12. In a compensating mechanism for automobiles, the combination with the drive-shaft of an automobile and a traction-wheel loosely mounted on each end of said shaft; of a compensating mechanism between each traction-wheel and the shaft comprising a drum secured to the wheel, reversely-arranged friction-shoes and toggle-joint connections between the shoes and the axle, means for forcing either set of shoes into engagement with the drum, and means for positively withdrawing either set therefrom.

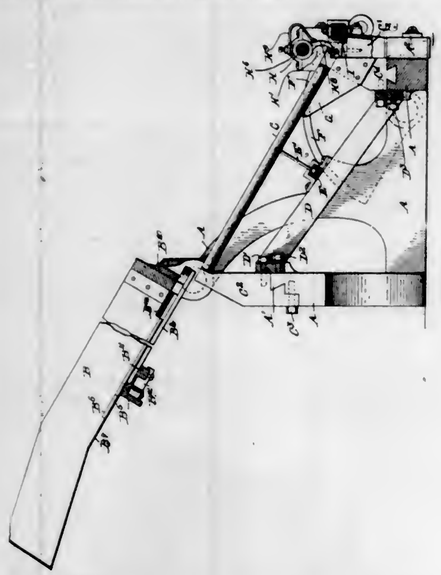
13. In a compensating friction mechanism for automobiles, the combination with the main drive-shaft and a traction-wheel loosely mounted on each end thereof; of a compensating mechanism between each traction-wheel and the drive-shaft comprising a drum rigidly secured to the wheel, reversely-arranged friction-shoes and toggle-joint connections between the shoes and the axle, means for forcing either set of friction-shoes into engagement with the drum, and means for positively withdrawing either or both of said sets from engagement therewith.

14. In a compensating mechanism for automobiles, the combination with the solid drive-shaft of the automobile and the two traction-wheels, one loosely mounted on each end of said drive-shaft; of a friction clutch mechanism between the shaft and each wheel comprising reversely-arranged toggle-joints and friction-shoes, and means for operating same, substantially as set forth.

844,463. NAIL-FEEDING APPARATUS. GEORGE D. PARKER, Riverside, Cal. Filed Mar. 8, 1905. Serial No. 248,990.

Claim.—1. The combination with a rocking hopper having nail-races in the forward portion of its bottom, of hoods cut obliquely at their rear ends and covering the forward portions of said races, respectively.

2. The combination with a main frame provided with suitable ways and having sets of race-bar bearing-blocks independently and detachably fixed thereto, of corresponding sets of similar blocks alternating with those of the first sets and slidable in said ways, a rigid frame fixed to the main frame and independently holding the blocks of said corresponding sets, means for adjusting said rigid frame to simultaneously vary the distance of all its blocks from their companions borne by the main frame, race-bars mounted in the blocks borne by the main frame, and coacting race-bars mounted in the blocks borne by the adjustable frame, substantially as set forth.



3. The combination with parallel pairs of suitably-spaced, inclined rocking bars forming nail-races, of rigid arms projecting downward from the bars, respectively, a transverse bar mounted below the plane of nails carried in said races, and engaging the lower ends of said arms, and means for oscillating said bar longitudinally.

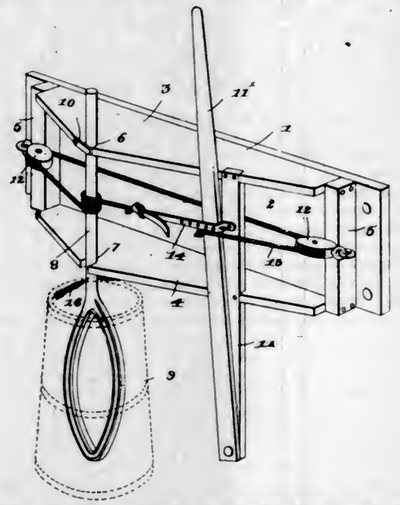
4. The combination with a suitable supporting-frame, of parallel pairs of parallel race-bars mounted to rock about their longitudinal axes, rigid arms projecting downward from the bars, respectively, a transverse sliding bar mounted in the frame at some distance below the race-bars, and connected to the lower ends of all said arms, and a rocking cam mounted upon the frame and adapted to oscillate the transverse bar longitudinally.

5. The combination with inclined bars forming nail-races, of a rock-shaft extending transversely across the lower portions of the races, yielding arms extending into position for obstructing the races, respectively, a cam automatically rocking the shaft, means whereby the shaft in rocking in one direction swings all the arms from obstructing position, and springs independently restoring the several arms to normal position as the shaft rocks in the contrary direction.

6. The combination with a series of inclined bars forming nail-races, of a shaft extending transversely over the lower ends of the races, swinging arms normally obstructing the lower ends of the races, respectively, means whereby the rocking of the shaft in one direction swings the arms out of normal position, springs resisting such swinging, a reciprocating transverse bar bearing fingers in position to separate the foremost nail in each race from its companions, and a cam arranged for simultaneously rocking said shaft and sliding said reciprocating bar.

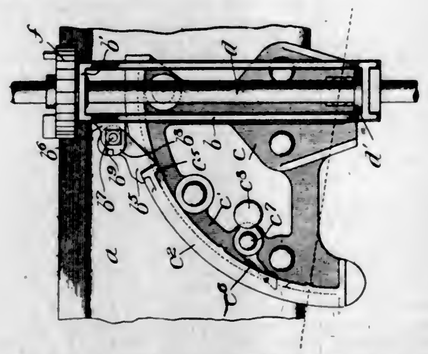
7. The combination with a set of inclined rocking bars forming nail-races, of swinging arms normally obstructing the lower ends of said races, respectively, fingers arranged to slide between the foremost nail in each race and its companions, thereby holding back said companions, and a cam automatically actuating said bars, arms, and fingers at proper intervals.

844,464. BUTTER-CHURN. SAMUEL M. PEARSON, Denmark, S. C. Filed May 5, 1906. Serial No. 315,329.



Claim.—The combination of a wall-bracket adapted to be supported at any desired height, comprising a horizontal back plate having apertures at its ends for receiving means to secure it to a wall and top and bottom plates secured to the back plate, a depending member secured to the front edges of the top and bottom plates, a lever pivoted at its lower end on the depending member with its upper end projecting above the top plate and arranged to move along the front edges of the top and bottom plates, journal-bearings on the top and bottom plates, a single-piece dasher adjustable vertically with and independently of the brackets and having a shaft portion of uniform cross-section throughout its length rotatably held in the bearings and shiftable longitudinally therein, pulleys supported on the bracket at opposite sides of the lever and paddle, and a belt passing around the pulley and lapping directly around the dasher-shaft and detachably connected at one end to the lever for rotating the paddle, the said belt serving to suspend the paddle and prevent the latter from moving longitudinally against the effect of its weight.

844,465. BRAKE-STAFF FOR RAILWAY-CARS. EDWARD POSSON, Chicago, Ill. Filed Sept. 27, 1906. Serial No. 336,491.

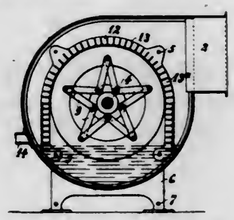


Claim.—1. A railway-car provided with the usual end sills, a track-plate provided with a segmental guide-track secured to the end sills, a housing provided with a guide-track pivotally secured at its lower end to the track-plate, and a brake-staff mounted in the housing.

2. A railway-car having the usual end sills, a track-plate secured to the end sills, said track-plate being provided with a segmental guide, a housing having a guide-track pivotally secured to the track-plate, a brake-staff carried by the housing, a retaining-lug mounted on the segmental guide, and a pawl pivoted on the housing coöperating therewith, substantially as described.

3. A railway-car having the usual end sills, a track-plate having a segmental track provided with an opening near its lower end, a pawl normally projecting through the opening, a housing pivotally secured to the track-plate, said housing being provided with a guide-track coöperating with the pawl in one position of the housing.

844,466. APPARATUS FOR MOISTENING THE AIR AND DISTRIBUTING WATER AND OTHER FLUIDS. CARL H. PRÖTT, Rheydt, Germany. Filed Sept. 21, 1905. Serial No. 279,459.



Claim.—1. In mechanism for distributing fluid, the combination of a shaft and means for rapidly rotating the same with disks carried by said shaft, a ring of baffle-plates surrounding the said disks, means for presenting fluid in position for said disks to dip into it and scatter it by centrifugal action and means for heating the moist air passing through the apparatus substantially as set forth.

2. In mechanism for distributing fluid, the combination of a shaft and means for rapidly rotating the same with a ventilating-fan and distributing-disks carried by said shaft, a ring of baffle-plates surrounding the said disks, means for presenting fluid to said disks in position for the latter to dip into it and scatter it by centrifugal action and means for heating the air driven by the said ventilator substantially as set forth.

3. In mechanism for distributing fluid, the combination of a shaft and means for rapidly rotating the same with disks carried by said shaft, ventilator-wings located between the said disks also carried by said shaft, and means for presenting fluid to said disks to be centrifugally scattered thereby substantially as set forth.

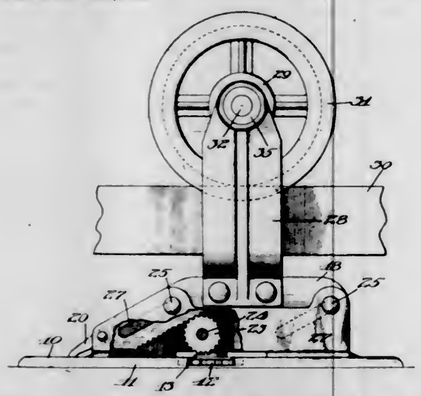
4. In mechanism for distributing fluid, the combination of a shaft and means for rapidly rotating the same with disks carried by said shaft, a fan also carried by said shaft, means for presenting fluid to said disks to be centrifugally scattered, baffle-plates and frames therefor comprising flat pipes arranged to conduct fluid through said frames and plates to heat the moist air driven by the fan substantially as set forth.

5. In mechanism for distributing fluid, the combination of a shaft and means for rapidly rotating the same, with an inclosing casing having a larger entrance-opening and a smaller discharge-opening arranged respectively near the ends of the shaft, fluid-distributing disks carried by said shaft, the disk near the entrance having a larger opening than the disk near the discharge and baffle-plates arranged to receive the fluid thrown off tangentially by said disks and carry the same away, said baffle-plates being adapted to contain water substantially as set forth.

6. In mechanism for distributing liquid the combination of a shaft and means for rapidly rotating the same with disks carried by said shaft and arranged to dip into said liquid with a series of hollow baffle-plates arranged around said disks and a hollow frame supporting said baffle-plates

and connected therewith, said frame and plates being adapted to receive hot fluid for the purpose set forth.

844,467. DOOR-HANGER. THEODORE C. PROUTY, Aurora, Ill., assignor to Wilcox Manufacturing Company, Aurora, Ill., a Corporation of Illinois. Filed Mar. 26, 1906. Serial No. 308,041.



Claim.—1. In a door-hanger, the combination of two members movably connected to each other, one of said members having a rack, a pinion rotatably mounted on the other of said members, said pinion being adapted to engage said rack, and means for connecting said two members with a wheel and a door, respectively.

2. In a door-hanger, the combination with a wheel-frame and a device adapted to be attached to a door, of two members interposed between said parts, said members being movably connected to each other and each connected to one of said first-mentioned parts, one of said interposed members being provided with a rack and a pinion rotatably mounted in the other of said members in position to mesh with said rack, substantially as described.

3. In a door-hanger, the combination with a wheel-frame and a plate adapted to be attached to the top of a door, of two members interposed between said wheel-frame and plate, one of said members being connected to the wheel-frame and the other to the plate and being movably connected to each other, one of said members having a rack, and a rotatable pinion on the other member meshing with said rack, substantially as described.

4. In a door-hanger, the combination with a wheel-frame and a plate adapted to be attached to the top of a door, of two members interposed between said wheel-frame and plate, one of said members being connected to the wheel-frame and the other to the plate and being movably connected to each other, one of said members having a rack, a rotatable pinion on the other member meshing with said rack, and a rotatable spiral carried by said plate and adapted to engage the teeth of said pinion, substantially as described.

5. In a door-hanger, the combination with a wheel-frame and a plate adapted to be attached to a door, of two members interposed between said wheel-frame and plate, one of said members being connected with the wheel-frame and the other with the plate, and being movably connected with each other, one of said members having a rack, a rotatable pinion on the other member meshing with said rack, a spiral pivotally attached to the upper face of said plate and adapted to engage the teeth of the pinion, and an operating device beneath said plate affixed to the pivot of said spiral, substantially as described.

6. In a door-hanger, the combination with a plate adapted to be attached to the top of a door, of a wheel-frame, a hanger-plate carried by said wheel-frame and provided with a rack, means for movably connecting said plates together, a pinion meshing with said rack, and means for turning said pinion, substantially as described.

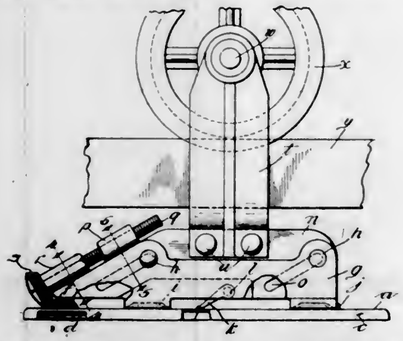
7. In a door-hanger, the combination with a wheel-frame of a plate attached to the lower end of said wheel-frame and provided with a rack portion, another frame movably connected with said plate, a pinion carried by said last-named frame and meshing with said rack, a plate adapted to be attached to the upper edge of a door, means for connecting said last-named frame and door-plate together, and means carried by said door-plate for rotating said pinion, substantially as described.

8. In a door-hanger, the combination with a wheel-frame of a plate attached to the lower end of said wheel-frame and provided with a rack portion, another frame movably connected with said plate, a pinion carried by said last-named frame and meshing with said rack, a plate adapted to be attached to the upper edge of a door, means for connecting said last-named frame and door-plate together, a rotatable disk on said door-plate, and means carried by said disk adapted to engage the teeth of the pinion to cause said pinion to turn on its axis when said disk is rotated, substantially as described.

9. In a door-hanger, the combination with a wheel-frame of a plate attached to the lower end of said wheel-frame and provided with a rack portion, another frame movably connected with said plate, a pinion carried by said last-named frame and meshing with said rack, a plate adapted to be attached to the upper edge of a door, means for connecting said last-named frame and door-plate together, and a rotatable spiral on said door-plate adapted to engage the teeth of the pinion to cause said pinion to turn on its axis when said spiral is rotated, substantially as described.

10. In a door-hanger, the combination with a wheel-frame and a hanger-plate secured to the lower end thereof, of a second frame movably secured to said hanger-plate by means of a rivet secured in one of said parts and passing through an inclined slot in the other part, and provided with an inclined rack parallel with said slot, a pinion journaled to said second frame and meshing with said rack, means for connecting said second frame to a door, and means for rotating said pinion, substantially as described.

844,468. DOOR-HANGER. THEODORE C. PROUTY, Aurora, Ill., assignor to Wilcox Manufacturing Company, Aurora, Ill., a Corporation of Illinois. Filed Mar. 26, 1906. Serial No. 308,042.



Claim.—1. In a door-hanger, the combination with a hanger-arm adapted to be suspended from a trolley-wheel, and a device adapted to be attached to a door, of two members movably connected to each other and each connected with one of said first-mentioned parts, a bevel-pinion mounted on the device that is adapted to be attached to a door, a screw-threaded rod having a bevel-pinion at one end meshing with the other bevel-pinion, means for permitting a loose engagement of said rod with one of said two members and a screw engagement with the other of said members, and a plate or disk secured to the pivot pin or stud on which said first-mentioned bevel-pinion is mounted, substantially as specified.

2. In a door-hanger, the combination with a hanger-arm adapted to be suspended from a trolley-wheel and a plate adapted to be attached to the top of a door, of two members interposed between said hanger-arm and said plate, one of the said memers being connected to the hanger-arm and the other to the plate and being movably connected to each other, a bevel-pinion on the upper face of said plate, a pin on which said bevel-pinion is secured, a disk or wheel secured to said pin and located beneath said plate, a screw-threaded rod having a bevel-pinion on one end meshing with the bevel-pinion attached to the plate, and means for permitting a loose engagement of said rod with one of said two movably-connected members and a screw engagement with the other of said members, substantially as specified.

844,469. MECHANICAL MOVEMENT. THEODORE C. PROUTY, Aurora, Ill., assignor to Wilcox Manufacturing Company, Aurora, Ill., a Corporation of Illinois. Filed Nov. 19, 1906. Serial No. 344,063.



Claim.—1. The combination with a support and a screw-threaded rod, of an expansible nut the members of which are movable into and out of engagement with said rod, and means frictionally engaging said rod and adapted through such frictional engagement to cause said nut to be moved into and out of engagement with the rod.

2. The combination with a support and a screw-threaded rod, of an expansible nut the members of which are separately pivoted to said support, and means frictionally engaging said rod and adapted through such frictional engagement to cause said nut to be moved into and out of engagement with the rod.

3. The combination with a support and a screw-threaded rod, of a member pivoted to said support and adapted to engage said rod, a cam device adapted to move said pivoted member into and out of engagement with the rod, and means carried by said cam device for frictionally engaging said rod.

4. The combination with a support and a screw-threaded rod, of a pivoted member movable into and out of engagement with said rod, a cam device adapted to move said pivoted member into and out of engagement with the rod, and a band connected with said cam device and frictionally engaging said rod.

5. The combination with a support and a screw-threaded rod, of a member pivoted at one end to said support and adapted to be moved into and out of engagement with said rod, a cam device located on said rod opposite the other end of said pivoted member, means for loosely connecting said pivoted member and cam device together, and means connected to said cam device for frictionally engaging said rod.

6. The combination with a support and a screw-threaded rod, of an expansible nut on the rod, said nut being composed of a plurality of sections, a cam device for expanding said nut by raising the several sections thereof out of engagement with the rod, and means carried by said cam device for frictionally engaging the rod.

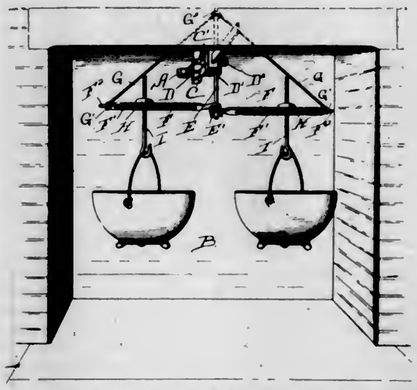
7. The combination with a support and a screw-threaded rod, of an expansible nut on the rod, said nut being composed of a plurality of sections each pivotally connected to said support, a cam device for expanding said nut by turning the several sections thereof on their respective pivots, and means secured to said cam device for frictionally engaging the rod.

8. The combination with a support and a screw-threaded rod, of an expansible nut on the rod, said nut being composed of a plurality of sections each pivotally connected to said support, a cam device for expanding said nut by turning the several sections thereof on their respective pivots, and a friction-band attached to said cam device and bearing on said rod.

9. The combination with a support and a screw-threaded rod, of an expansible nut on the rod, said nut being composed of a plurality of sections each pivotally connected at one end to said support and each having a projecting pin on the other end, a collar or ring loose on said rod, said collar or ring having cam-shaped openings into which said pins project, and means carried by said collar or ring for frictionally engaging said rod.

10. The combination with a support and a screw-threaded rod, of an expansible nut on the rod, said nut being composed of a plurality of sections each pivotally connected at one end to said support and each having a projecting pin on the other end, a collar or ring loose on said rod, said collar or ring having cam-shaped openings into which said pins project, and a band connected to said collar or ring and frictionally engaging said rod.

844,470. KETTLE-CRANE. LEVI H. REIBOLD, Glenville, Pa. Filed Jan. 24, 1906. Serial No. 297,682.



Claim.—1. In a device of the kind described, the combination with an arm, of a block mounted on said arm, a rod carried by said block, slotted arms mounted on said rod, and adjustable hooks mounted on said arms, for the purpose described.

2. In a device of the kind described, the combination with an arm, of a block mounted on said arm provided with a vertical opening, a rod mounted in said opening, slotted arms carried by said rod, and adjustable hooks arranged in said slots, for the purpose described.

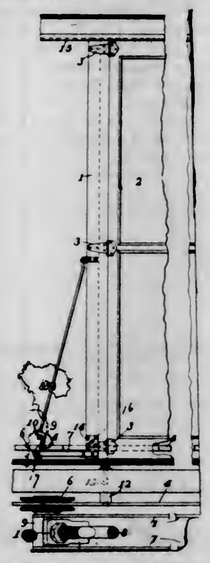
3. In a device of the kind described, the combination with an arm provided with a block having a vertical opening, of a rod adjustably mounted in said opening, slotted arms pivotally mounted on the lower end of said rod, rods connecting the outer end of said arms to said rod, blocks slidably mounted in said arms, and hooks adjustably mounted in said block, for the purpose described.

4. In a device of the kind described, the combination with a supporting-arm, of a block slidably mounted on said arm provided with a vertical opening, a rod adjustably mounted in said opening, slotted arms pivotally mounted on the lower end of said rod, rods connected to the outer end of said arms and to the upper end of said rod, a block provided with central threaded openings, and downwardly-projecting lugs, arranged on said arms, and threaded hooks secured in said blocks, for the purpose described.

844,471. ROLLER-SUPPORT FOR DOORS. LOUIS RÉMOND, Grand Rapids, Mich., assignor to Grand Rapids Show Case Company, Grand Rapids, Mich., a Corporation of Michigan. Filed Oct. 23, 1906. Serial No. 340,180.

Claim.—1. The combination of a door, a stile to which the door is hinged, a grooved rail to engage the upper end

of the door and stile, a track having its upper and lower edges unobstructed, a grooved wheel, journaled on the stile and traversing the upper edge of the track, a second grooved wheel traversing the under edge of the track and spaced apart from the stile, and a brace between the last-named wheel and the stile.



2. The combination of a door, a stile to which the door is hinged, means for guiding the upper end of the stile, a track near the lower end of the stile, two wheels traversing the respective upper and lower edges of the track and spaced apart, and means for attaching the wheels to the stile to support and move the same longitudinally of the track.

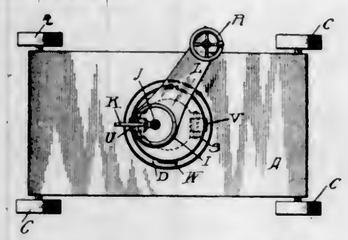
3. The combination of a door, a stile on which the door is hinged, means for guiding the upper end of the stile and door, a track near the lower end of the door and stile, a grooved wheel journaled on the stile and traversing the upper edge of the track, a grooved wheel engaging and traversing the lower edge of the track, horizontal supporting-arms between said last-named wheel and the stile and a diagonal brace between said wheel and said stile.

4. The combination of a movable stile, a door hinged to the stile, a grooved rail to guide the upper end of the stile, a track mounted on horizontally-projecting supports of less vertical diameter than the width of the track, a wheel journaled on the stile and traversing the upper edge of the track, a wheel mounted on a casting and traversing the lower edge of the track, horizontal supporting-arms connecting the casting and stile, a diagonal brace connecting the casting and stile, and adjusting-nuts on the brace and oppositely engaging the casting.

844,472. APPARATUS FOR FIRE-POLISHING GLASS ARTICLES. SOLON O. RICHARDSON, Jr., Toledo, Ohio. Filed Oct. 30, 1906. Serial No. 341,266.

Claim.—1. An appartus for fire-polishing glass articles, comprising a hinged, divided support adapted to be closed and secured upon such articles, and constructed to sufficiently conform to one surface of the articles to support the same against distortion when the opposite surface is subjected to a polishing heat.

2. An apparatus for fire-polishing glass articles, comprising a rigid, open-work support sufficiently conformed to the exterior of the glass-blank to efficiently support the same while being polished, while at the same time providing free access of air to such blank during the polishing operation and means for projecting a polishing-flame against the interior of the glass-blank while so supported, whereby distortion of the blank by the heat of the polishing-flame is prevented.



3. An apparatus for fire-polishing glass articles, comprising a hinged, divided, open-work support arranged to be closed around the article to be polished to support the same so as to prevent distortion thereof when subjected to a polishing-flame, while at the same time affording free access of air thereto.

4. A device for supporting glass articles so as to prevent distortion when subjected to a polishing-flame, consisting of a thin, metallic ring arranged to surround such article so as to support the same against distortion, and means for supporting said ring in the desired position.

5. A support for glass articles to prevent distortion thereof while being subjected to a polishing-flame, consisting of an open framework of thin metal of good heat conductivity, formed to sufficiently conform to and support the highly-heated parts of a glass article when subjected to a polishing-flame to prevent such distortion and means for applying a polishing-flame to such articles at a point opposite to the contact of such support therewith.

6. An apparatus for fire-polishing glass articles, comprising a thin metal support sufficiently conformed to such article to support the same so as to prevent distortion thereof under the polishing heat, and means for projecting a polishing-flame against a surface of the article opposite to the surface so supported.

7. An apparatus for fire-polishing glass articles, comprising a separable support arranged to be opened to receive the article to be polished and to be closed upon said article, and constructed to sufficiently conform to said article to support the same so as to prevent distortion during the polishing operation, and means for projecting a polishing-flame into the article so supported so as to polish the interior thereof.

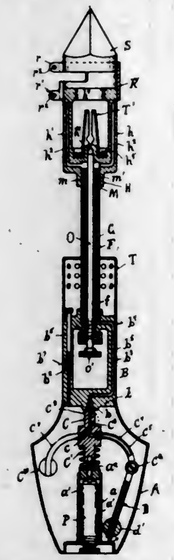
8. An apparatus for fire-polishing glass articles, comprising a rotatable base, an open-work support of thin metal conformed to one surface of such article and arranged to support the same so as to prevent distortion thereof under the polishing heat, means for projecting a polishing-flame against the opposite surface of said article, and means for simultaneously rotating said support, whereby there will be a free radiation from the side of said article opposite to the side being polished.

9. An apparatus for fire-polishing glass articles, comprising a thin metal ring arranged to receive and support the article during the polishing operation, and means for projecting a polishing-flame into the interior of the article while so supported and against the opposite side of the surface so supported.

10. An apparatus for fire-polishing glass articles, comprising means for projecting a polishing-flame against all of one side of a glass article, a thin, metallic support sufficiently conformed to the opposite side of said article to support the same and prevent distortion thereof during the polishing operation, and means for rotating said support while the polishing-flame is being applied, so that there shall be a free radiation of heat from the side of the glass article opposite to the side being polished.

11. An apparatus for fire-polishing glass articles, in combination with means for directing a polishing-flame against the entire inner surface of such articles, means for rotating the article while being polished, and means for so supporting said article during the polishing process as to prevent distortion thereof, said last-named means being so constructed as to permit free radiation therefrom.

844,473. SOLDERING-IRON. WILLIAM F. RYAN, Cincinnati, Ohio, assignor of one-third to Neil A. Sullivan and one-third to Lewis William Link, Cincinnati, Ohio. Filed Nov. 21, 1904. Serial No. 233,581.



Claim.—1. The combination of an oil-reservoir, a channel leading therefrom, a rod journaled revolubly within the reservoir, and having an oil-passage within it communicating with the channel, a feed-tube secured at one end to the revolving rod communicating with its channel and weighted near its other end.

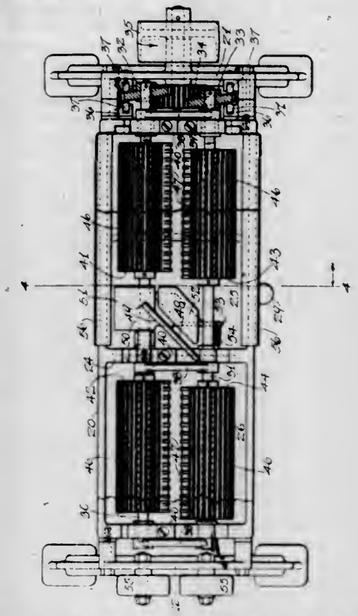
2. The combination of an oil-reservoir, a channel leading therefrom, a rod journaled revolubly within the reservoir and having an oil-passage through it communicating with the channel, a jointed feed-tube secured at one end to the revolving rod and communicating with the channel, a rotating coupling located at the joint of the feed-tube and a weight upon the end of the tube to cause it to rotate about the rod and about the joint.

3. The combination of an oil-reservoir, a central projection upon the bottom of the reservoir, a central longitudinal rod journaled between said projection and the top of the reservoir, a channel leading from the top of the reservoir, a passage through the rod communicating with the channel, a feed-tube secured to the rod at one end communicating with its passage and having a weight near its other end to cause the rod to revolve to keep the feed-tube in the oil as the reservoir is turned.

4. The combination of a reservoir having a central projection upon its bottom, a rotating rod journaled between the projection and the top of the reservoir and having a passage communicating with a passage leading from the top of the reservoir, a jointed feed-tube connected to the rod and communicating with its passage and a rotating coupling at the joint of the feed-tube, and a weight upon the end of the feed-tube to cause its end to follow the oil as its position changes with the turning of the reservoir.

5. In combination a reservoir, a vaporizer, a channel connecting the vaporizer and the reservoir, a burner, a clamping-tube over the burner, an auxiliary burner or blower consisting of two flat rings connected at their inner periphery by a cylindrical wall, the lower ring being imperforate and contacting the walls of the clamping-tube, the upper ring and the connecting-wall being perforated to pass air to the flame to assist in the combustion.

844,474. MACHINE FOR CLEANING OR TREATING PRINTERS' ROLLERS. GEORGE SAGUE, Poughkeepsie, N. Y., assignor of one-half to Edward G. Ackermann, Brooklyn, N. Y. Filed Aug. 16, 1905. Renewed Nov. 2, 1906. Serial No. 341,781.



Claim.—1. In a machine for treating a roller, a pair of conveying-rollers upon which the printer's roller is placed lengthwise and which upon one part of their circumferences have surfaces adapted to engage and longitudinally propel the printer's roller and upon another part of their circumferences have surfaces adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them alternate reverse reciprocatory motions, and means in the path of the printer's roller and engaging the same for removing the solvent applied thereto and any remaining other foreign matter therefrom; substantially as set forth.

2. In a machine for treating a roller, two pairs of end-to-end conveying-rollers upon one pair of which the printer's roller is placed lengthwise and subjected to the action of the solvent and upon the other pair of which the roller is given finishing treatment, said conveying-rollers upon one part of their circumferences having surfaces adapted to engage and longitudinally propel the printer's roller and upon another part of their circumferences having surfaces adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them alternate reverse reciprocatory motions, whereby the printer's roller is propelled along the first pair of rollers while being subjected to the action of the solvent and thereafter moved upon and along the second pair of rollers for drying and finishing treatment, and means intermediate said pairs of rollers and adapted to engage the printer's roller during its travel and remove the solvent applied thereto and any remaining other foreign matter therefrom; substantially as set forth.

3. In a machine for treating a roller, an oblique scraper-blade having a concave edge to engage the surface of said roller, a frame supporting said blade, means for yieldingly pressing said blade against the roller, and an inclined shoe carried by said frame adjacent to said blade to receive the end of said roller and effect the downward movement of said blade so that the latter may only contact with the circumferential surface of the roller, combined with means for rotating said roller and moving the same in a longitu-

dinal direction across said blade; substantially as set forth.

4. In a machine for treating a roller, a scraper to engage the surface of the roller, and a pair of conveying-rollers upon which the roller to be treated is placed lengthwise and which are adapted to rotate said roller and propel it across said scraper, said conveying-rollers having transverse surfaces on one part of their circumferences adapted to engage and longitudinally propel the roller to be treated and longitudinal surfaces on another part of their circumferences adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them an alternate reverse reciprocatory motion; substantially as set forth.

5. In a machine for treating a roller, a scraper to engage the surface of the roller, and a pair of conveying-rollers upon which the roller to be treated is placed lengthwise and which are adapted to rotate said roller and propel it across said scraper, said conveying-rollers having transverse surfaces on one part of their circumferences adapted to engage and longitudinally propel the roller to be treated and longitudinal surfaces on another part of their circumferences adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them an alternate reverse reciprocatory motion, and means for receiving the roller to be treated as it passes beyond said scraper; substantially as set forth.

6. In a machine for treating a roller, a scraper to engage the surface of the roller, and a pair of conveying-rollers upon which the roller to be treated is placed lengthwise and which are adapted to rotate said roller and propel it across said scraper, said conveying-rollers having transverse grooves on one part of their circumferences adapted to engage and longitudinally propel the roller to be treated and longitudinal grooves on another part of their circumferences adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them an alternate reverse reciprocatory motion; substantially as set forth.

7. In a machine for treating a roller, a scraper to engage the surface of the roller, and a pair of conveying-rollers upon which the roller to be treated is placed lengthwise and which are adapted to rotate said roller and propel it across said scraper, said conveying-rollers having transverse grooves on one part of their circumferences adapted to engage and longitudinally propel the roller to be treated and longitudinal grooves on another part of their circumferences adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them an alternate reverse reciprocatory motion, and means for receiving the roller to be treated as it passes beyond said scraper; substantially as set forth.

8. In a machine for treating a roller, two pairs of end-to-end rotary conveying-rollers to receive and rotate and longitudinally propel the roller to be treated, and a scraper interposed between the adjacent ends of said pairs of rollers to engage and scrape the surface of the rotating propelled roller, said conveying-rollers having transverse surfaces on one part of their circumferences adapted to engage and longitudinally propel the roller to be treated and longitudinal surfaces on another part of their circumferences adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them an alternate reverse reciprocatory motion; substantially as set forth.

9. In a machine for treating a roller, two pairs of end-to-end rotary conveying-rollers to receive and rotate and longitudinally propel the roller to be treated, and a scraper interposed between the adjacent ends of said pairs of rollers to engage and scrape the surface of the rotating propelled roller, said conveying-rollers having transverse grooves on one part of their circumferences adapted to engage and longitudinally propel the roller to be treated and longitudinal grooves on another part of their circumferences adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them an alternate reverse reciprocatory motion; substantially as set forth.

10. In a machine for treating a roller, two pairs of end-to-end rotary conveying-rollers to receive and rotate and longitudinally propel the roller to be treated, and a scraper interposed between the adjacent ends of said pairs of rollers to engage and scrape the surface of the rotating propelled roller, said conveying-rollers having transverse grooves on one part of their circumferences adapted to engage and longitudinally propel the roller to be treated and longitudinal grooves on another part of their circumferences adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them an alternate reverse reciprocatory motion, and means for applying a limited quantity of water or other suitable liquid to the conveying-rollers at the delivery end of the machine; substantially as set forth.

11. In a machine for treating a roller, two pairs of end-to-end rotary conveying-rollers to receive and rotate and longitudinally propel the roller to be treated, and a scraper interposed between the adjacent ends of said pairs of rollers to engage and scrape the surface of the rotating propelled roller, said conveying-rollers having transverse grooves on one part of their circumferences adapted to engage and longitudinally propel the roller to be treated and longitudinal grooves on another part of their circumferences adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them an alternate reverse reciprocatory motion, means for applying a limited quantity of water or other suitable liquid to the conveying-rollers at the delivery end of the machine, and an exhausting-roller to exhaust from said conveying-rollers at the delivery end of the machine any foreign matter which may reach them from the roller being treated; substantially as set forth.

12. In a machine for treating a roller, a scraper to engage the surface of the roller, and a pair of conveying-rollers upon which the roller to be treated is placed lengthwise and which are adapted to rotate said roller and propel it across said scraper, said conveying-rollers having transverse surfaces on one part of their circumferences adapted to engage and longitudinally propel the roller to be treated and longitudinal surfaces on another part of their circumferences adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them an alternate reverse reciprocatory motion, and an elongated tank receiving said conveying-rollers and adapted to hold a solvent covering the lower sides of said rollers; substantially as set forth.

13. In a machine for treating a roller, a scraper to engage the surface of the roller, and a pair of conveying-rollers upon which the roller to be treated is placed lengthwise and which are adapted to rotate said roller and propel it, across said scraper, said conveying-rollers having transverse grooves on one part of their circumferences adapted to engage and longitudinally propel the roller to be treated and longitudinal grooves on another part of their circumferences adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them an alternate reverse reciprocatory motion, and an elongated tank receiving said conveying-rollers and adapted to hold a solvent covering the lower sides of said rollers; substantially as set forth.

14. In a machine for treating a roller, two pairs of end-to-end rotary conveying-rollers to receive and rotate and longitudinally propel the roller to be treated, and a scraper interposed between the adjacent ends of said pairs of rollers to engage and scrape the surface of the rotating propelled roller, said conveying-rollers having transverse surfaces on one part of their circumferences adapted to engage and longitudinally propel the roller to be treated and longitudinal surfaces on another part of their circumferences adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them an alternate reverse reciprocatory motion, and an elongated tank receiving said conveying-rollers and adapted at one end to hold a solvent covering the lower sides of the pair of conveying-rollers at the front end of the machine; substantially as set forth.

15. In a machine for treating a roller, two pairs of end-to-end rotary conveying-rollers to receive and rotate and longitudinally propel the roller to be treated, and a scraper interposed between the adjacent ends of said pairs of rollers to engage and scrape the surface of the rotating propelled roller, said conveying-rollers having transverse grooves on one part of their circumferences adapted to engage and longitudinally propel the roller to be treated and longitudinal grooves on another part of their circumferences adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them an alternate reverse reciprocatory motion, and an elongated tank receiving said conveying-rollers and adapted at one end to hold a solvent covering the lower sides of the pair of conveying-rollers at front end of the machine; substantially as set forth.

16. In a machine for treating a roller, a pair of conveying-rollers upon which the printer's roller is placed lengthwise and which upon one part of their circumferences have surfaces adapted to engage and longitudinally propel the printer's roller and upon another part of their circumferences have surfaces adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them alternate reverse reciprocatory motions; substantially as set forth.

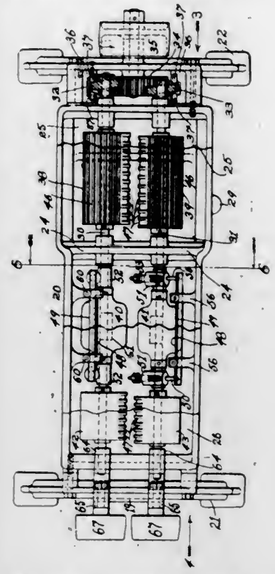
17. In a machine for treating a roller, a pair of conveying-rollers upon which the printer's roller is placed lengthwise and which upon one part of their circumferences have transverse grooves adapted to engage and longitudinally propel the printer's roller and upon another part of their circumferences have longitudinal grooves adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them alternate reverse reciprocatory motions; substantially as set forth.

18. In a machine for treating a roller, two pairs of end-to-end conveying-rollers upon one pair of which the printer's roller is placed lengthwise and subjected to the action of the solvent and upon the other pair of which the roller is given finishing treatment, said conveying-rollers upon one part of their circumferences having surfaces adapted to engage and longitudinally propel the printer's roller and upon another part of their circumferences having surfaces adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them alternate reverse reciprocatory motions, whereby the printer's roller is propelled along the first pair of rollers while being subjected to the action of the solvent and then moved upon and along the second pair of rollers for drying and finishing treatment; substantially as set forth.

19. In a machine for treating a roller, two pairs of end-to-end conveying-rollers upon one pair of which the printer's roller is placed lengthwise and subjected to the action of the slovent and upon the other pair of which the roller is given finishing treatment, said conveying-rollers upon one part of their circumferences having transverse grooves adapted to engage and propel the printer's roller and upon another part of their circumferences having longitudinal grooves adapted to slip longitudinally against said roller, combined with means for rotating said conveying-rollers and imparting to them alternate reverse reciprocatory motions, whereby the printer's roller is propelled along the first pair of rollers while being subjected to the action of the solvent and then moved upon and along the second pair of rollers for drying and finishing treatment; substantially as set forth.

844,475. MACHINE FOR CLEANING OR TREATING PRINTERS' ROLLERS. GEORGE SAGUE, Poughkeepsie, N. Y., assignor of one-half to Edward G. Ackermann, Brooklyn, N. Y. Filed July 20, 1906. Serial No. 326,990.

Claim.—1. In a machine for treating printers' rollers, a pair of rollers upon which the printer's roller is placed lengthwise, and means for rotating and reversely reciprocating said rollers, said rollers having surfaces adapted to rotate, scrub and propel the printer's roller, combined with a pair of rotary reverse reciprocatory transfer drying-rollers in the path of and to receive said printer's roller, wipers to remove the moisture from said drying-rollers; substantially as set forth.



2. In a machine for treating printers' rollers, a pair of rollers upon which the printer's roller is placed lengthwise, and means for rotating and reversely reciprocating said rollers, said rollers having surfaces adapted to rotate, scrub and propel the printer's roller, combined with a pair of rotary reverse reciprocatory transfer drying-rollers in the path of and to receive said printer's roller, wipers to remove the moisture from said drying-rollers and a pair of rotary reverse reciprocatory finishing-rollers, having grooved surfaces, to receive the printer's roller from said drying-rollers and propel the same from the machine; substantially as set forth.

3. In a machine for treating printers' rollers, a pair of rollers upon which the printer's roller is placed lengthwise, and means for rotating and reversely reciprocating said rollers, said rollers having surfaces adapted to rotate, scrub and propel the printer's roller, combined with a pair of rotary reverse reciprocatory transfer drying-rollers in the path of and to receive said printer's roller, wipers to remove the moisture from said drying-rollers, and means for reciprocating said wipers with said drying-rollers; substantially as set forth.

4. In a machine for treating printers' rollers, a pair of rollers upon which the printer's roller is placed lengthwise, and means for rotating and reversely reciprocating said rollers, said rollers having surfaces adapted to rotate, scrub and propel the printer's roller, combined with a pair of rotary reverse reciprocatory transfer drying-rollers in the path of and to receive said printer's roller, wipers to remove the moisture from said drying-rollers, and means for locking said wipers out of engagement with said drying-rollers; substantially as set forth.

5. In a machine for treating printers' rollers, a pair of rollers upon which the printer's roller is placed lengthwise, and means for rotating and reversely reciprocating said rollers, said rollers having surfaces adapted to rotate, scrub and propel the printer's roller, combined with a pair of rotary reverse reciprocatory transfer drying-rollers of printer's-roller composition in the path of and to receive said printer's roller, and wipers to remove the

moisture from said drying-rollers; substantially as set forth.

6. In a machine for treating printers' rollers, a pair of rollers upon which the printer's roller is placed lengthwise, and means for rotating and reversely reciprocating said rollers, said rollers having surfaces adapted to rotate, scrub and propel the printer's roller, combined with a pair of rotary reverse reciprocatory transfer drying-rollers having surfaces of yielding material in the path of and to receive said printer's roller, wipers to remove the moisture from said drying-rollers, and means for yieldingly pressing said wipers against said rollers; substantially as set forth.

7. In a machine for treating printers' rollers, a pair of parallel horizontal shafts, means for rotating and reversely reciprocating said shafts, and a pair of parallel rollers secured upon said shafts and upon which the printer's roller is placed lengthwise, said rollers having surfaces adapted to rotate, scrub and propel the printer's roller, combined with a pair of transfer drying-rollers secured on said shafts in the path of and to receive said printers' roller, and wipers to remove the moisture from said drying-rollers; substantially as set forth.

8. In a machine for treating printers' rollers, a pair of parallel horizontal shafts, means for rotating and reversely reciprocating said shafts, and a pair of parallel rollers secured upon said shafts and upon which the printer's roller is placed lengthwise, said rollers having surfaces adapted to rotate, scrub and propel the printer's roller, combined with a pair of transfer drying-rollers secured on said shafts in the path of and to receive said printer's roller, wipers to remove the moisture from said drying-rollers, and a pair of finishing-rollers, having grooved surfaces, to receive the printer's roller from said drying-rollers and propel the same from the machine; substantially as set forth.

9. In a machine for treating printers' rollers, a pair of parallel horizontal shafts, means for rotating and reversely reciprocating said shafts, and a pair of parallel rollers secured upon said shafts and upon which the printer's roller is placed lengthwise, said rollers having surfaces adapted to rotate, scrub and propel the printer's roller, combined with a pair of transfer drying-rollers secured on said shafts in the path of and to receive said printer's roller, wiper-frames hung upon said shafts and straddling said drying-rollers and carrying wipers to engage said rollers, means for yieldingly pressing the wipers against said rollers, means for locking said frames with their wipers out of engagement with said rollers, and means for positioning said frames with their wipers in engagement with said rollers; substantially as set forth.

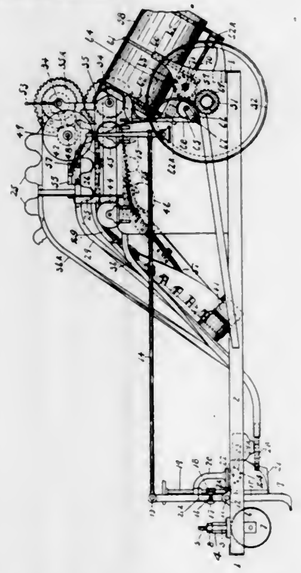
844,476. HARVESTER. THEODOR M. E. SEIERUP, Reese, Mich., assignor of one-half to Samuel Johnson, Reese, Mich. Filed Mar. 31, 1906. Serial No. 309,160.

Claim.—1. A vegetable-harvester comprising means for loosening the earth around the vegetables to be harvested, means for pulling and conveying the vegetables from the ground, and means located between the loosening means and the pulling means for collecting and bunching the tops of the vegetables and guiding them to the pulling means.

2. A vegetable-harvester comprising means for loosening the soil around the vegetables, means for bunching the tops of the vegetables, means for grasping the tops and pulling the vegetables out of the ground, and means for supporting the vegetables, the last-named means coöperating with the pulling means to convey the vegetables.

3. A vegetable-harvester comprising means for loosening the soil around the vegetables, means for seizing the tops to raise the vegetables from their beds, means for supporting the vegetables subsequent to the engagement of the tops by the raising means and a cutter to which the vegetables are conveyed and by which they are topped.

4. A vegetable-harvester comprising means for loosening the soil around the vegetables, means for seizing the tops of the vegetables to raise them from their beds, means for supporting the vegetables subsequent to their leaving the soil, a receptacle for the vegetables, the raising and supporting means coöperating to convey the vegetables to the receptacle, and being so arranged as to turn the vegetable during its progress from a vertical to a horizontal position, and a cutter for topping the vegetables while in a horizontal position.



5. A vegetable-harvester comprising means for loosening the soil around the vegetables, bunching-guides for collecting the tops, a conveyer for grasping the tops of the vegetables to raise them from their beds, traveling means for supporting the vegetables after they have beeen raised and a cutter for topping the vegetables.

6. A vegetable-harvester comprising soil-loosening means, pulling and conveying means and bunching mechanism located between the soil-loosening means and the vegetable pulling and conveying means.

7. A vegetable-harvester comprising soil-loosening means, buncning means, a conveyer for grasping the tops of the vegetables to pull the vegetables out of the ground, means for presenting the tops to the conveyer, a warped channel up which the conveyer passes, a cutter and a twisted supporting-belt traveling synchronously with the conveyer for supporting the vegetables and presenting them to the cutter in a horizontal position.

8. A vegetable-harvester comprising a frame, soil-loosening means, bunching means, a set of oppositely-located horizontally-disposed wheels, a second set of oppositely-located vertically-disposed wheels situated on a plane above the first-named set of wheels, means for imparting motion to one set of wheels, a warped double channel leading from a point intermediate the peripheries of the horizontal set of wheels to a point in approximate alinement with the inner peripheries of the vertically-disposed wheels, a plurality of toothed chains passing around and connecting the respective wheels of the sets, a cutter and a twisted supporting-belt traveling synchronously with the chains for supporting the vegetables and presenting them to the cutter in a horizontal position.

9. A vegetable-harvester comprising soil-loosening means, bunching means, a pair of endless toothed chains, adapted to grasp the tops of the vegetables when bunched, a pair of horizontally-disposed gears around which the chains pass just prior to engaging the tops, a pair of gears located rearwardly of and on a higher plane than the first-named pair, the chains passing in opposite directions, around the last-named pairs of gears to release the tops, means for imparting a twist to the chains as they travel from the first-named to the last-named pair of gears, a cutter and a twisted supporting-belt traveling synchronously with the chains for supporting the vegetables and presenting them to the cutter in a horizontal position.

10. A vegetable-harvester comprising soil-loosening means, bunching means, a pair of toothed chains adapted to grasp the vegetable-tops, after bunching, gears around which the chains pass, the chains arranged on an incline, and means for twisting the chains intermediate the gears, a cutter and a twisted supporting-belt traveling synchronously with the chains for supporting the vegetables and presenting them to the cutter in a horizontal position.

11. A harvester comprising soil-loosening means, bunching means, a conveyer for pulling the vegetables, a traveling support moving with the conveyer, the support comprising a belt on which the vegetables rest after they are raised out of the ground, and a cutter to which the vegetables are presented.

12. A harvester comprising soil-loosening means, bunching-guides, a conveyer for pulling the vegetables, a traveling support, the support comprising a belt on which the vegetables rest after they are raised out of the ground, curved fingers carried by the belt to engage the vegetables to hold them in position, the belt moving with the conveyer and a cutter to which the vegetables are presented.

13. A harvester comprising soil-loosening means, bunching means, a conveyer for grasping the bunched tops of the vegetables, and pulling the vegetables, a belt traveling with the conveyer on which belt the vegetables rest after they are raised out of the ground, curved fingers secured to the belt and adapted to engage and hold the vegetables, and a cutter for severing the tops from the vegetables.

14. A vegetable-harvester comprising straddle-row plows for loosening the soil, bunching-guides for collecting and bunching the tops, a conveyer for grasping the tops and pulling the vegetables, a flexible traveling belt for supporting the vegetables, means for imparting a twist to the belt, and to the conveyer, and a cutter for severing the tops from the vegetables.

15. A vegetable-harvester, comprising straddle-row plows for loosening the soil, bunching-guides for collecting and presenting the tops, an inclined traveling conveyer adapted to grasp the tops as presented and pull the vegetables out of the ground, the conveyer being twisted to turn the tops from a vertical to a horizontal position, a flexible traveling belt for supporting the vegetables, the belt located adjacent the conveyer and being twisted in conformity therewith, and a cutter for severing the tops from the vegetables.

16. A harvester comprising straddle-row plows for loosening the soil, bunching-guides for collecting and presenting the tops, an inclined conveyer adapted to grasp the tops as presented to pull the vegetables and turn them from a vertical to a horizontal position, and a flexible supporting-belt located adjacent the conveyer and traveling synchronously therewith, the support being twisted to sustain the vegetables in alinement with the tops, and a cutter for severing the tops from the vegetables.

17. A vegetable-harvester comprising straddle-row plows for loosening the soil, bunching-guides for collecting the tops, an inclined pulling and elevating conveyer adapted to grasp the tops as presented by the guides, a supporting-belt traveling adjacent the conveyer, rollers over which the belt passes, teeth on the rollers, links on the belt engaged by the teeth, and a cutter for severing the tops from the vegetables.

18. A vegetable-harvester comprising straddle-row plows, for loosening the soil, bunching-guides for collecting the tops, an inclined pulling and elevating conveyer, adapted to grasp the tops as presented by the guides, warped channels for twisting the conveyer, a supporting-belt traveling adjacent the conveyer, rolls lying in planes transverse to each other over which the belt passes and by which the belt is twisted in conformity with the conveyer and a cutter for severing the tops from the vegetables.

19. A vegetable-harvester comprising a main frame, a superstructure located rearwardly thereof, straddle-row plows for loosening the soil, bunching-guides for collecting the tops, a pulling and elevating conveyer for grasping the tops and delivering the vegetables to the superstructure in a horizontal position, a cutter for topping the vegetables and means for adjusting the cutter relative to the work.

20. A vegetable-harvester comprising soil-loosening means carried thereby, bunching-guides for collecting the tops, a cutter, means for adjusting the cutter and means for delivering the vegetables to the cutter in a horizontal position.

21. A vegetable-harvester comprising soil-loosening means, bunching-guides for collecting the tops, a pulling and elevating conveyer for grasping the tops as presented by the guides and pulling the vegetables, a belt supporting the vegetables, a cutter for topping the vegetables subsequent to the pulling and means for adjusting the cutter relative to the work.

22. A vegetable-harvester comprising soil-loosening means, bunching-guides for collecting the tops, a pulling and conveying member, adapted to grasp the tops as presented by the guides, a supporting-belt on which the vegetables are sustained, a cutter located between the conveyer and belt, fingers carried by the belt engaging the vegetables, and means located above the belt for frictionally bearing upon the vegetables during the cutting operation.

23. A vegetable-harvester comprising soil-loosening means, bunching-guides for collecting the tops, a pulling and conveying member adapted to grasp the tops as presented by the guides, a pocketed supporting-belt traveling adjacent thereto, a cutter located between the conveyer and belt, flexible fingers lying above the belt to engage the vegetables carried thereby and retain them in the pockets and resilient means bearing upon the fingers.

24. A vegetable-harvester comprising soil-loosening means, bunching-guides for collecting the tops, a pulling-conveyer, for grasping the tops as presented by the guides, a supporting-belt, a cutter for topping the vegetables subsequent to pulling, and a cleaner into which the topped vegetables are discharged.

25. A vegetable-harvester comprising soil-loosening means, bunching-guides for collecting the tops, a pulling-conveyer for grasping the tops as presented by the guides, a supporting-belt, a cutter for topping the vegetables subsequent to pulling, and a rotary cleaner into which the topped vegetables are discharged.

26. A vegetable-harvester comprising a pair of plows adapted to straddle the rows and loosen the soil, bunching-guides for collecting, straightening and bunching the leaves of the vegetables, endless chains for grasping the tops of the vegetables to pull them from the loosened soil and convey them, a twisted belt for supporting the vegetables and a topper to which the vegetables are conveyed by the chains and presented by the belts.

27. A vegetable-harvester comprising a pair of plows adapted to straddle the rows and loosen the soil, bunching-guides for collecting, straightening and bunching the leaves of the vegetables, endless chains for grasping the tops of the vegetables to pull them from the loosened soil and convey them, a twisted belt for supporting the vegetables and a topper to which the vegetables are conveyed by the chains and presented by the belts, and means for raising the plows out of the ground and suspending them at the end of a row.

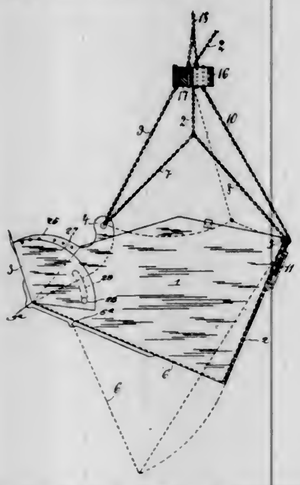
844,477. HOISTING APPARATUS. PAUL W. SIEURIN, Gothenburg, Sweden. Filed June 10, 1905. Serial No. 264,728.

Claim.—1. An improved bucket of the class described provided with a pivotally-mounted lower wall or bottom and a pivotally-mounted forward lip or nose, a dump-chain secured to said nose and bucket, and a hoist-chain connected with said lower wall, substantially as described.

2. An improved bucket of the class described provided with a pivotally-mounted lower wall or bottom and chain-locking devices, a dump-chain having branches secured to said bucket and said locking devices and serving to operate the latter, and a hoist-chain secured to said lower wall and located in operative relation with respect to said locking devices, substantially as described.

3. An improved bucket of the class described provided

with a pivotally-mounted lower wall or bottom and a pivotally-mounted lip, chain-locking devices for said bucket, a dump-chain having branches secured to said lip and locking devices and serving to operate the latter, and a hoist-chain having branches secured to said lip and said bottom wall and located in operative relation with respect to said locking devices, substantially as described.



4. An improved bucket of the class described provided with a pivotally-mounted lower wall or bottom, a dump-chain secured to said bucket, a revoluble suspension-ring interposed in said chain adjacent the bucket, said ring comprising inner and outer revoluble members, the chain extending from the bucket being secured to one member, the remainder of the chain extending from the ring being secured to the other member, and a hoist-chain passing through said ring and connected with the lower wall, substantially as described.

5. An improved bucket of the class described provided with a pivotally-mounted lower wall or bottom, a pivotally-mounted forward nose and chain-locking devices, a revoluble suspension-ring comprising inner and outer revoluble members, a dump-chain secured to one of said members and having branches secured to the other of said members, said branches being secured to said nose and locking devices, and a hoist-chain passing through said ring and having branches secured to said nose and said lower wall, said last-mentioned branch being in operative relation with said locking devices, substantially as described.

6. An improved bucket of the class described provided with a pivotally-mounted lower wall or bottom, a dump-chain secured to said bucket, means interposed in said chain for permitting the bucket to revolve, and a hoist-chain secured to said lower wall, substantially as described.

7. An improved bucket provided with a bottom wall adapted to be opened and closed in combination with a hoist-chain connected with and serving to close said wall, a dump-chain, and gripping devices connected with said dump-chain and serving to grip and release said hoist-chain.

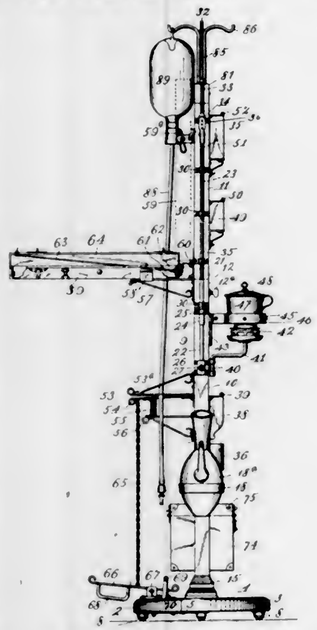
8. An improved bucket provided with a movable lip or nose, a bottom wall adapted to be opened and closed, a hoist-chain connected with said movable lip and bottom, gripping devices for said hoist-chain, and a dump-chain connected with said movable nose and said gripping devices.

9. An improved bucket provided with a bottom wall adapted to be opened and closed, hoisting means and dumping means, and mechanism whereby the weight of said bucket may be shifted from one means to the other.

10. An improved bucket provided with a bottom wall adapted to be opened and closed, a movable nose or lip, hoisting and dumping means secured to said bucket, lip and bottom wall, and mechanism for shifting the weight of said bucket from one of said means to the other.

11. An improved bucket provided with a bottom wall adapted to be opened and closed, a movable nose or lip, hoisting and dumping means secured to said bottom wall and said nose and bucket, and devices for said chains permitting said bucket to revolve.

844,478. CATHETER-USER'S MECHANICAL ASSISTANT. JAMES F. SPALDING, Kansas City, Mo. Filed Oct. 25, 1904. Serial No. 229,916.



Claim.—1. An apparatus of the character described, consisting of a standard, suitable means for supporting the same, a tubing secured to said standard, a gooseneck communicating with said tubing, a counterweight slidably arranged in the tubing, a cable attached to one end of said counterweight and having its opposite end protruding from the gooseneck, and a clasp secured to said protruding end.

2. An apparatus of the character described consisting of a base, a standard secured thereto, a tubing secured to said standard, a gooseneck swiveled to said tubing, a counterweight slidably arranged in the tubing, a cord attached to one end of said counterweight and having its opposite end protruding from the gooseneck, and a clasp secured to said protruding end.

3. An apparatus of the character described consisting of a suitably-supported standard, a gooseneck secured thereto, a cable extending through said gooseneck, a counterweight to which one end of the cable is attached, and a clasp to which the opposite end of said cable is attached.

4. An apparatus of the character described consisting of a suitably-supported standard, a gooseneck secured thereto, a cable extending through said gooseneck, a clasp attached to one end of said cable, a counterweight attached to the opposite end of said cable, and means secured to the standard for guiding said counterweight.

5. An apparatus of the character described consisting of a standard, a tubing secured to said standard and consisting of two sections, a sleeve on one of said sections for receiving the adjacent end of the other section, a gooseneck communicating with the upper section, a cushion arranged in the lower section, a counterweight slidably arranged in the tubing, a cable attached at one end to said counterweight and protruding at its opposite end from the gooseneck, and a holding device to which said protruding end is attached.

6. An apparatus of the character described consisting of a standard, a tubing secured thereto, a socket in which the lower end of said tubing is secured, a gooseneck communicating with the upper end of the tubing, a cable arranged in said tubing and having one end protruding from the gooseneck, a clasp to which said protruding end is attached, a counterweight slidingly arranged in the tubing to which the inner end of the cable is attached, and a thumb-screw carried by the socket and adapted to engage the counterweight.

7. An apparatus of the character described consisting of a circular base, ball-bearing casters upon which said base is mounted, a socket centrally disposed upon said base, a standard having one end detachably arranged within said socket, means for reliably securing said end in the socket, a tubing carried by the standard, a cable having one end protruding from said tubing, a clasp to which said protruding end is attached, and means arranged within the tubing to which the inner end of the cable is attached for normally holding said clasp in an elevated position.

8. In an apparatus of the character described, a tubing curved at its upper portion, a cable arranged in said tubing and having one end protruding from the curved portion thereof, a clasp to which said protruding end is attached, and means arranged within the tubing to which the inner end of the cable is attached for normally holding said clasp in an elevated position.

9. In an apparatus of the character described, a tubing, a gooseneck swiveled at the upper end thereof, a cable arranged in said tubing and having one end protruding from the gooseneck, a clasp to which said protruding end is attached, and means arranged within the tubing to which the inner end of the cable is attached for normally holding said clasp in an elevated position.

10. In an apparatus of the character described, a tubing curved at its upper portion, a cable arranged in said tubing and having one end protruding from the curved portion thereof, a clasp to which said protruding end is attached, and a counterweight arranged within the tubing to which the inner end of the cable is attached for normally holding said clasp in an elevated position.

11. In an apparatus of the character described, a tubing curved at its upper portion, a cable arranged in said tubing and having one end protruding from the curved portion thereof, a clasp to which said protruding end is attached, a counterweight arranged within the tubing to which the inner end of the cable is attached for normally holding said clasp in an elevated position, and a cushion arranged in the lower portion of the tubing.

12. In an apparatus of the character described, a tubing curved at its upper portion, a cable arranged in said tubing and having one end protruding from the curved portion thereof, a clasp to which said protruding end is attached, a counterweight arranged within the tubing to which the inner end of the cable is attached for normally holding said clasp in an elevated position, and means for holding the counterweight against accidental movement.

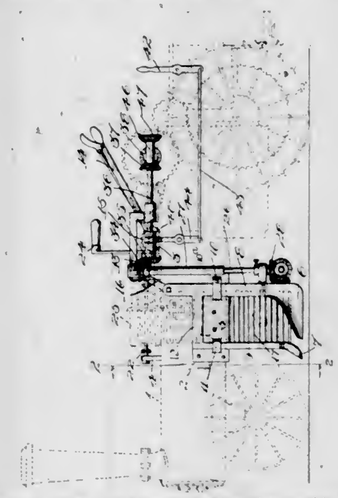
13. In an apparatus of the character described, a base made in two detachable sections, swiveled hooks on one of said sections which detachably engage members on the other section, dowel-pins on one of said sections which detachably engage counterbores in the other section, casters upon which said base is mounted, a socket on the base, and a standard having one end detachably secured in said socket.

14. In an apparatus of the character described, a base provided with a centrally-disposed socket, a standard consisting of two sections and having one end detachably arranged in the socket on the base, a socket at one end of one of the sections which receives one end of the other section, a thumb-screw extending through the wall of said socket, and a dowel-pin on one of said sections which engages a counterbore in the other section, substantially as described.

15. An apparatus of the character described, consisting of a suitable support, a tubing secured to said support and consisting of detachable sections, a gooseneck swiveled at the upper end of said tubing, a counterweight slidably arranged in the tubing, means for holding said counterweight stationary, a cable having one end protruding from the free end of the gooseneck and attached at its opposite end to the counterweight, and a clasp for supporting catheters secured to said protruding end.

16. An apparatus of the character described, the combination, of a standard, a catheter-box hinged to the standard provided with two compartments for holding used and unused catheters, means for holding the catheter-box in a folded position against the standard, and a bracket secured to the standard upon which said catheter-box rests when the latter is extended.

844,479. EXCAVATOR. LEE V. SPRINGER, Chicago, Ill. Filed Sept. 22, 1904. Serial No. 225,403.



Claim.—1. In a portable excavator the combination of a plow, an elevator supported in unison therewith, a traction-engine, guides secured directly to the traction-engine, means engaging in said guides for supporting the plow and elevator, means for raising and lowering the last said means, and means operatively connecting the elevator with the operating mechanism of the traction-engine for driving the elevator.

2. In a portable excavator the combination of two upright stems connected together, a plow secured to one of said stems, an elevator having its lower end also supported by said stems, means for raising and lowering said stems, a traction-engine, means for adjustably connecting said stems to the traction-engine, and an operative connection between the elevator and the operating mechanism of the traction-engine for driving the elevator.

3. In a portable excavator the combination of a plow, an elevator having its lower end supported in unison with the plow, means for adjustably supporting the plow and elevator upon a traction-engine, means whereby the plow and elevator may be raised and lowered with relation to the traction-engine, and means for driving the elevator from the operating mechanism of the traction-engine, comprising a telescopic shaft, one member of which rises and falls with the plow and elevator.

4. In a portable excavator the combination of a plate adapted to be attached to a traction-engine boiler, a guide carried by said plate, a stem slidable vertically in said guide, a plow carried by said stem, an elevator having its lower end supported on said stem, and means adapted to be supported upon the traction-engine for raising and lowering said stem at will.

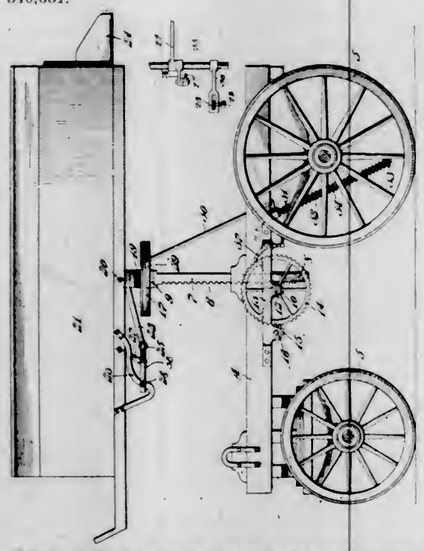
5. In a portable excavator the combination of two guides, means for securing said guides to a traction-engine, two stems connected together and movable vertically in said guides, a plow carried by one of said stems, an elevator having its lower end supported by said stems, means for raising and lowering said stems, and means for driving said elevator from the operating mechanism of the traction-engine.

6. In a portable excavator the combination of a plow-support, means for attaching said support to a traction-engine, means whereby changeable plows may be attached to said support to run in either direction, an elevator having its lower end secured to said support, and means whereby said elevator may be operatively connected with the operating mechanism of the traction-engine comprising reversing mechanism.

7. In a portable excavator, the combination of a plow, an elevator supported in unison therewith, guides for attaching the plow and elevator directly to a traction-engine, means whereby the elevator is operatively connected with the engine, and means supported upon the engine for raising and lowering the plow and elevator.

8. In a portable excavator, the combination with a traction-engine, a plow, an elevator supported in unison therewith, means supporting the plow and elevator directly upon the engine with capability of moving vertically, and means on the engine for operating the elevator and raising and lowering the plow and elevator.

844,480. COAL-DUMPING WAGON. DANIEL STAHL, Philadelphia, Pa. Filed Oct. 26, 1906. Serial No. 340,631.



Claim.—1. In a dumping-wagon, a wagon-sill, rack-bars slidably arranged in said sill, a cross-bar connecting the rack-bars with each other at their upper ends, a wagon-box, means carried by said cross-bar and means movably arranged intermediate of said rack-bars on said cross-bar and connected with said cross-bar means and wagon-box, both means adapted when said rack-bars and the cross-bar thereof are raised to permit the turning of the wagon-box in horizontal and vertical planes on said cross-bar.

2. In a dumping-wagon, a wagon-sill, an inverted-U-shaped frame having rack-bars slidably arranged in said wagon-sill, a shaft and a train of gears, certain of which mesh with said rack-bars and adapted when actuated to raise and lower said frame in said sill, a fifth-wheel mounted on said frame, a bracket secured thereto, a wagon-box pivotally connected with said bracket, means connected with said bracket and means connected with said wagon-box and adapted to hold the same in a horizontal or tilted position on said frame, and said fifth-wheel and bracket arranged to permit of the free turning of the wagon-box on said frame.

3. In a dumping-wagon, a wagon-sill, a frame having rack-bars slidably arranged in said sill, a shaft, means connected with said sill and carrying said shaft, gears carried by said shaft and adapted when actuated to raise said frame in said sill, a fifth-wheel carried by said frame, a bracket carried by said fifth-wheel, a wagon-box pivotally connected with said bracket and supported by the same on said fifth-wheel, arms connected with said wheel, brackets connected with said wagon-box and means carried by said arms and engaging the brackets of said wagon-box adapted to hold the same in a horizontal or tilted position.

4. In a dumping-wagon, a wagon-sill, a frame having rack-bars slidably arranged in said sill, a shaft, means connected with said sill and carrying said shaft, gears carried by said shaft and adapted when actuated to raise said frame in said sill, a fifth-wheel carried by said frame, a bracket carried by said fifth-wheel, a wagon-box pivotally connected with said bracket and supported by the same on said fifth-wheel, arms connected with said bracket and sector-like brackets connected with said wagon-box, a second shaft carried by said arms, and means connected with said second shaft and wagon-box, said second shaft and the means connected therewith, when actuated, adapted to tilt the wagon-box in said bracket.

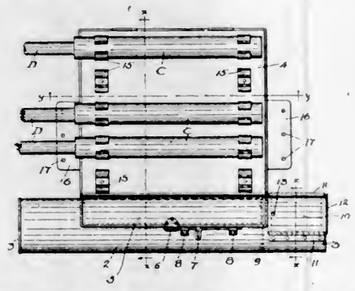
5. In a dumping-wagon, a wagon-sill, a frame having rack-bars slidably arranged in said sill, a shaft, means connected with said sill and carrying said shaft, gears carried by said shaft and adapted when actuated to raise said frame in said sill, a fifth-wheel carried by said frame, a bracket carried by said fifth-wheel, a wagon-box pivotally connected with said bracket and supported by the same on said fifth-wheel, arms connected with said bracket and sector-like brackets connected with said wagon-box, a second shaft carried by said arms, means connected with said second shaft and wagon-box, said second shaft and the means connected therewith, when actuated, adapted to tilt the wagon-box in said bracket and means carried by said second shaft and engaging said sector-brackets adapted to lock said wagon-box in a horizontal or tilted position.

6. In a dumping-wagon, a wagon-sill, a frame having rack-bars slidably arranged in said sill, a shaft, means connected with said sill and carrying said shaft, gears carried by said shaft and adapted when actuated to raise said frame in said sill, a fifth-wheel carried by said frame, a bracket carried by said fifth-wheel, a wagon-box pivotally connected with said bracket and supported by the same on said fifth-wheel, arms connected with said bracket and sector-like brackets connected with said wagon-box, a second shaft carried by said arms, crank-arms connected with said shaft and links connecting the crank-arms with said wagon-box, said crank-arms and links, when actuated by said shaft adapted to tilt the wagon-box in said bracket, means carried by said shaft engaging said sector-brackets and adapted by preventing the turning of said shaft, when clamped thereto of locking of said wagon-box in a horizontal or tilted position by said crank-arms and links.

7. In a dumping-wagon, a wagon-sill, a frame having rack-bars slidably arranged in said sill, a shaft, means connected with said sill and carrying said shaft, gears carried by said shaft and adapted when actuated to raise said frame in said sill, a fifth-wheel carried by said frame, a bracket carried by said fifth-wheel, a wagon-box pivotally connected with said bracket and supported by the same on said fifth-wheel, arms connected with said bracket and sector-like brackets connected with said wagon-box, a second shaft carried by said arms, two sets of crank-arms connected with said second shaft whereof one set engages the sector-brackets of said wagon-box, links connecting the second set of crank-arms directly with said wagon-box, and means for clamping the first set of crank-arms to said sector-brackets, said first set of crank-arms when clamped to said sector-brackets adapted to prevent the turning of said second shaft, and said second shaft when held in the given position adapted to lock said wagon-box in a horizontal and tilted position in said bracket by said second set of crank-arms and said links.

8. In a dumping-wagon, a wagon-sill, a frame having rack-bars slidably arranged in said sill, a shaft, means connected with said sill and carrying said shaft, gears carried by said shaft and adapted when actuated to raise said frame in said sill, a fifth-wheel carried by said frame, a bracket carried by said fifth-wheel, a wagon-box pivotally connected with said bracket and supported by the same on said fifth-wheel, arms connected with said bracket and sector-like brackets connected with said wagon-box, a second shaft carried by said arms, two sets of crank-arms connected with said second shaft whereof one set engages the sector-brackets of said wagon-box, links connecting the second set of crank-arms directly with said wagon-box, and means for clamping the first set of crank-arms to said sector-brackets, said first set of crank-arms when clamped to said sector-brackets adapted to prevent the turning of said second shaft, and said second shaft when held in the given position adapted to lock said wagon-box in a horizontal and tilted position in said bracket by said second set of crank-arms and said links.

844,481. RECEPTACLE FOR SIGNAL FLAGS, FUSES, AND TORPEDOES. ROBERT F. STEWART, Omaha, Nebr. Filed Jan. 4, 1907. Serial No. 350,838.

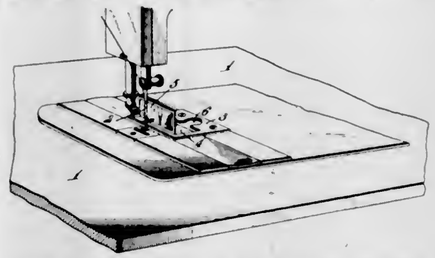


Claim.—1. In a device of the class described, a rectangular sheet-metal casing, a horizontally-disposed sheet-metal cylinder secured thereto, there being a longitudinally-extending opening in the cylinder adjacent the casing, a flanged lid hinged on the casing, an apron on said lid adapted to close the opening in the cylinder, and means on the apron for securing the lid in closed position.

2. In a device of the class described, a rectangular sheet-metal casing, a sheet-metal cylinder secured thereto, there being a longitudinally-extending opening in the cylinder adjacent the casing, a lid hinged on the casing, an apron on said lid adapted to close the opening in the cylinder, spring-clips disposed within the casing and adapted to retain therein unmounted signal-flags, and spring-clips secured on the outside of the hinged lid and adapted to retain thereon in horizontal position signal-flags mounted on staffs.

3. In a device of the class described, a rectangular sheet-metal casing, a horizontally-disposed sheet-metal cylinder secured thereto, a lid hinged on the casing, the cylinder being partitioned into two compartments each having openings thereinto through the side of the cylinder, a slidable door for closing one of said compartments, an apron on the casing-lid for closing the opening to the other of said compartments, spring-clips disposed within the casing and adapted to retain therein unmounted signal-flags, and spring-clips disposed on the outside of the lid and adapted to retain thereon in horizontal position signal-flags mounted on staffs.

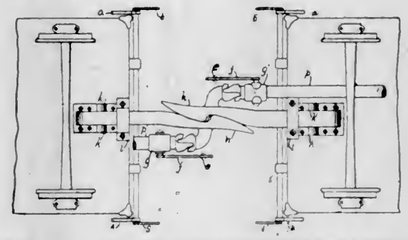
844,482. DEVICE TO ASSIST IN THREADING NEEDLES. ROBERT SUMMERS, Philadelphia, Pa. Filed Nov. 15, 1906. Serial No. 343,486.



Claim.—1. In a device of the character described, a plate located in proximity to the needle, a mirror hinged in an opening in said plate in such manner as to be flush with the same or to be raised in position to reflect an image of said needle when it is desired to thread the same.

2. In a device of the character described, a plate located in proximity to the needle, said plate having an opening within which is hinged a mirror adapted to reflect an image of the needle when said mirror is raised, said opening having an extension to permit of inserting the finger to raise said mirror.

844,483. AUTOMATIC AIR-COUPLING DEVICE. WILLIAM H. SUTHERLAND and ROBERT N. VAN HORNE, Sioux City, Iowa. Filed June 16, 1906. Serial No. 322,117.



Claim.—1. In an automatic air-coupling device the combination of a non-interlocking pair of shoes attached to draw-bars each shoe having one toe-piece, which is inclined horizontally and which also contains but one air-passage, air-passage in shoes being entirely free from valves.

2. In an automatic air-coupling device the combination of a pair of non-interlocking shoes attached to draw-bars each shoe provided with one horizontally-inclined toe-piece, and which also contains but one air-passage, which air-passage in shoes being free from valves, the air-passage in shoes connected to train line-pipe.

3. In an automatic air-coupling device the combination of a pair of non-interlocking shoes attached to draw-bars and acting in conjunction therewith and whose horizontal movements is governed by springs and whose longitudinal movement is governed by dowel-blocks and springs and whose vertical movement is governed by springs trunnions and draw-heads.

4. In an automatic air-coupling device the combination of a pair of non-interlocking shoes attached to draw-bars the upper edge of shoe coming in contact with the lower edge of the opposite draw-head during coupling.

5. In an automatic air-coupling device attached to draw-bars and connected to pipes leading to train-line the supply of air through which is controlled by cut-out valves, the combination of above-mentioned valves being operated by levers on sides of car and either independent of or simultaneously with uncoupling lever.

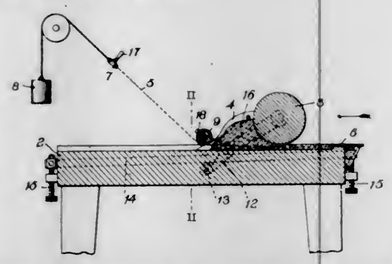
6. In an automatic air-coupling device the combination of a pair of shoes attached to draw-bars and which shoes are connected to train line-pipes the supply of air through

which is controlled by valve-levers which levers are connected to lifting-arms which in turn are operated from either side of car by means of levers tubular in form and broken in the middle, the middle ends being attached at right angles to the opposite sides of lifting-arm by means of iron strap without closing ends of tubes and holding them in a straight line, tubular lever also contains rod within it, to which is attached lifting-arm by means of set-screw, to which lifting-arm is attached coupling-pin, coupling-pin lifting-arm working through above-mentioned break in tubular lever and lifting-arm working at right angles thereto, lifting-arms thus allowing air to be handled independently or simultaneously with uncoupling-lever.

7. In an automatic air-coupling device the combination of a pair of non-interlocking shoes attached to draw-bars each shoe having but one toe-piece horizontally inclined, which shoes come in contact longitudinally being pressed together by springs, which shoes contain but one air-passage, air-passage in shoes being free from valves, air-passage being provided with gasket.

8. In an automatic air-coupling device the combination of trunnions attached to draw-bars, which hold dowel-blocks, which in turn hold shoes and yet allow for longitudinal movement and as much horizontal movement as desired.

844,484. MANUFACTURE OF WIRE-GLASS. FRANK L. O. WADSWORTH, Morgantown, W. Va., assignor to Pressed Prism Plate Glass Company, Morgantown, W. Va., a Corporation of West Virginia. Filed Jan. 30, 1905. Serial No. 243,330.



Claim.—1. The method of making wire-glass which consists in placing the mesh under tension to support it above and in spaced relation above a forming-surface, pouring molten glass on the wire mesh, causing glass to pass through interstices of the mesh and embed the same in the body of the glass, and maintaining the mesh under tension in substantially the same spaced relation while being embedded in the glass.

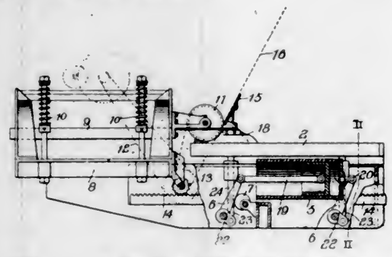
2. The method of making wire-glass which consists in placing the mesh under tension to support it above and in spaced relation above a forming-surface, pouring molten glass on the mesh, causing glass to pass through interstices of the mesh and embed the same in the body of the glass and maintaining the mesh under constant tension and thereby in said spaced relation while being embedded in the glass.

3. The method of making wire-glass which consists in placing the mesh under tension with a portion of the mesh extending upwardly, progressively forcing the mesh into spaced relation above a forming-surface, pouring molten glass onto the portion of the mesh in spaced relation to the forming-surface, causing glass to pass through interstices of the mesh and maintaining the tension on the mesh and embed the same in the body of the glass.

4. The method of making wire-glass, which consists in holding a sheet of wire mesh under yielding tension, spreading a mass of molten glass over and through the wire mesh, and varying the distance at which the sheet is held from the forming-surface to compensate for the varying pressure of the glass.

5. The method of making wire-glass, which consists in holding a sheet of wire mesh under constant tension, spreading the mass of molten glass over and through the wire mesh, varying the distance at which the sheet is held from the forming-surface to compensate for the varying pressure of the glass, releasing the tension on the sheet before the completion of the operation, and embedding the end of the mesh in the glass.

844,485. MANUFACTURE OF WIRE-GLASS. FRANK L. O. WADSWORTH, Morgantown, W. Va., assignor to Pressed Prism Plate Glass Company, Morgantown, W. Va., a Corporation of West Virginia. Filed Jan. 30, 1905. Serial No. 243,331.



Claim.—1. The method of making wire-glass which consists in forming a sheet of plastic glass, simultaneously embedding the wire mesh therein and pressing the sheet between dies without moving it from its point of initial formation.

2. The method of making wire-glass which consists in forming a sheet of plastic glass, simultaneously embedding a wire mesh therein and pressing the sheet between dies having substantially flat or uncorrugated surfaces without moving it from the point of its initial formation.

3. The method of making wire-glass which consists in superimposing the wire mesh over a body of glass, passing a roller provided with ribs over the wire mesh and glass and thereby forcing the wire mesh below the upper surface of the glass, and then subjecting a substantial portion of the area of the surface of the glass to a pressure between dies, thereby effecting a substantial equal spreading of the ribs in all directions to form a substantially flat or plain surface on both sides of the sheet or plate.

4. The method of making wire-glass which consists in superimposing the wire mesh over a body of glass, flattening such wire-glass and forcing the wire mesh into the glass by passing a ribbed roller over the same and then subjecting a substantial portion of the area of the surface of the glass to pressure between dies having flat or uncorrugated surfaces thereby effecting a substantial equal spreading of the ribs in all directions to form a substantially flat or uncorrugated surface on both sides of the sheet or plate.

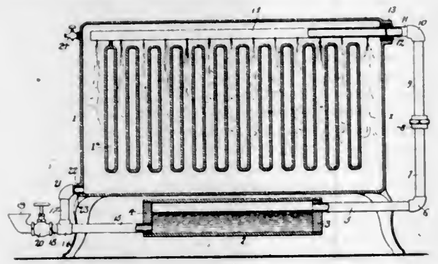
844,486. GARMENT-FASTENER. JOSEPH E. WATERMAN, Ottawa, Ill. Filed Mar. 21, 1906. Serial No. 307,271.



Claim.—1. A garment-fastener comprising a hook and an eye, the hook member embodying an anchoring-base, a hook proper formed integrally therewith and bent to extend parallel to the anchoring-base, a spring-tongue extending from the point or bill of the hook backward to the bend of the hook and provided with a crook, and an eye or keeper, the body portion of which is of a width greater than the distance between the bend of the hook and the crook of the tongue, whereby the body of the eye is held snugly within the bend of the hook and allowed to cant so as to permit the members of the fastener to assume various angles with relation to each other.

2. A garment-fastener comprising a hook and an eye, the hook member embodying an anchoring-base, and a hook proper bent to extend substantially parallel to the base, and a spring-tongue extending from the point or bill of the hook backward to the bend thereof and provided with a crook offset toward the base, and an eye or keeper having its body portion reversely beveled along its opposite edges and of a width greater than the distance between the crook of the spring-tongue and the bend of the hook, whereby the body of the eye or keeper is allowed to cant itself within the bend of the hook to permit the two members of the garment-fastener to assume various angles with relation to each other, substantially as described.

844,487. COMBINED STEAM GENERATOR AND RADIATOR. ROBERT WATT, Philadelphia, Pa. Filed June 4, 1903. Serial No. 160,113.



Claim.—The combination of a radiator-casing having top and bottom passages free from water-traps, and transverse air-conduits forming vertical passages within the casing connecting said top and bottom passages, with a generator, a steam-pipe leading therefrom to the top passage of the radiator-casing, a distributer-pipe in said top passage provided with openings placed to discharge jets of steam downwardly between the conduits into the vertical passages formed thereby, and a return-pipe leading from the lower passage of the radiator-casing to the generator, substantially as specified.

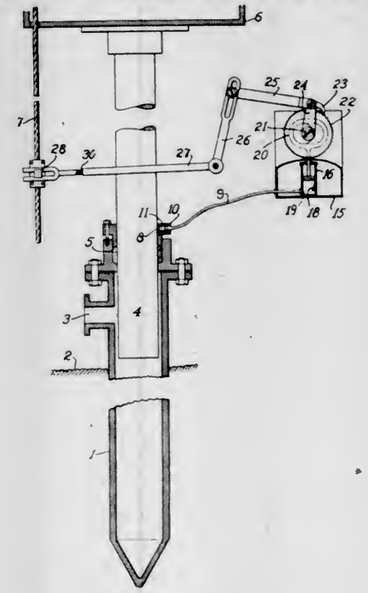
844,488. HYDRAULIC ELEVATOR. WILLIAM L. WEBER, Boston, Mass., assignor to Greene, Tweed and Company, New York, N. Y., a Corporation of New York. Filed Oct. 5, 1906. Serial No. 337,598.

Claim.—1. A hydraulic elevator, comprising a cylinder, a plunger, and a packing between them, in combination with control means to start and stop the plunger, and an oil-reservoir having a discharge upon the surface of the plunger controlled and operated by said plunger-control means.

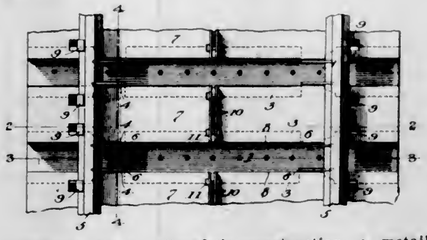
2. A hydraulic elevator, comprising a cylinder, a plunger, and a packing between them, in combination with control mechanism moving in one direction to start the plunger upward and in the opposite direction to start it downward, and an oil-reservoir having a discharge for lubricating the parts controlled and operated by movements of the plunger-controller in direction to start the car downward, but not operated by movements to start the car upward.

3. A hydraulic elevator, comprising a cylinder, a plunger, and a packing between them, in combination with control means to start and stop the plunger, an oil-reservoir, a pump connected therewith, and connections from the pump to said plunger-controlling means, whereby movement of the latter operates the pump, there being a discharge therefrom upon the surface of the plunger.

4. A hydraulic elevator, comprising a cylinder, a plunger, and a packing between them, in combination with a shipper-rope and mechanism for controlling motion of the plunger; a pawl-carrying lever actuated by the shipper-rope; said pawl; a pinion engaged thereby; an oil-pump actuated by the pinion, there being a discharge from the oil-pump upon the plunger-surface outside of said packing.



844,489. RAILROAD-TIE CONSTRUCTION. JOHN W. WEBB, Columbus, Miss. Filed Mar. 16, 1906. Serial No. 306,428.



Claim.—1. In a railroad-tie construction, a metallic trough-shaped member provided with rail-flange-gripping clips formed by struck-up portions of the side walls of the trough-shaped member extending above the side walls of said member, substantially as described.

2. In a railroad-tie construction, a metallic trough-shaped member provided with rail-flange-gripping clips formed by struck-up portions of the side walls of the trough-shaped member extending above the side walls of said member and offset therefrom, substantially as described.

3. In a railroad-tie construction, a metallic trough-shaped member provided with outwardly-turned flanges at the upper portion of the side walls of said member and having rail-flange-gripping clips formed by struck-up portions of the side walls of the trough-shaped member and extending above said side walls, substantially as described.

4. In a railroad-tie construction, a number of metallic trough-shaped members each provided with rail-flange-gripping clips, and tie-caps connecting the several trough-shaped members and provided with rail-flange-gripping clips, substantially as described.

5. In a railroad-tie construction, a number of metallic trough-shaped members each provided with rail-flange-gripping clips formed by struck-up portions of the side walls of said members, and tie-caps connecting the several

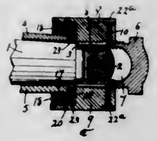
trough-shaped members and provided with depending side flanges engaging adjacent walls of the trough-shaped members, said tie-caps being provided with rail-flange-gripping clips, substantially as described.

6. In a railroad-tie construction, a number of metallic trough-shaped members each provided with rail-flange-gripping clips, and tie-caps connecting the several trough-shaped members, said tie-caps being formed in sections and provided with means for drawing them toward each other, substantially as described.

7. In a railroad-tie construction, a number of metallic trough-shaped members each formed with outwardly-turned flanges at the upper portion of the side walls of said members and having rail-flange-gripping clips formed by struck-up portions of said side walls, tie-caps formed in sections and connecting the several trough-shaped members and provided with side flanges engaging adjacent walls of the trough-shaped members and having rail-flange-gripping clips, and means for drawing toward each other the sections of each tie-cap, substantially as described.

8. In a railroad-tie construction, a number of metallic trough-shaped members, sectional tie-caps spanning the space between and connecting the several trough-shaped members and in connection therewith forming a water-shed for a railroad-bed, rail-flange clips attached to said water-shed for locking the rails thereto, and means for drawing toward each other the sections of each tie-cap to prevent the spreading of the rails, and for holding the trough-shaped members, tie-caps and rails together and preventing "creeping" of the rails, substantially as described.

844,490. ADJUSTABLE SLEEVED AXLE-NUT. RICHARD C. WILLIAMS, London, Ontario, Canada. Filed Nov. 3, 1905. Serial No. 285,797.



Claim.—1. In a device of the class described, a spindle, and a wheel-carrying axle-box on said spindle, in combination with a spindle-nut carried by said spindle, a sleeve adjustable on said spindle-nut, a washer interposed between a shoulder on said sleeve and the end of said axle-box, and a nut secured in said sleeve to hold said washer in place, substantially as shown and described and for the purpose specified.

2. In a device of the class described, a spindle, and a wheel-carrying axle-box on said spindle, in combination with a spindle-nut carried by said spindle, a sleeve adjustable on said spindle-nut, the end of which abuts against the end of said axle-box, a packing-ring located in said sleeve around said axle-box, and an annular nut secured in said sleeve around said axle-box and compressing said packing-ring on said axle-box, substantially as shown and described and for the purpose specified.

3. In a device of the class described, a spindle, and a wheel-carrying axle-box on said spindle, in combination with a spindle-nut carried by said spindle a sleeve adjustable on said spindle-nut, a washer interposed between a shoulder on said sleeve and the end of said axle-box, a packing-ring in said sleeve around said axle-box, and annular nuts for holding said washer and said packing-ring in place and for compressing the latter on the axle-box, substantially as shown and described and for the purpose specified.

4. In a device of the class described, a spindle formed with a reduced screw-threaded portion at its outer end, a wheel-carrying axle-box mounted on said spindle, and a hollow spindle-nut formed with screw-threads on its interior and exterior face secured to the reduced screw-threaded portion of said spindle, in combination with a sleeve formed in two sections and provided with a screw-threaded interior face which engages with and is adjustable on the exterior screw-threaded face of said spindle-nut, and means for securing said sleeve at the position to which it is adjusted on said spindle-nut, substantially as shown and described and for the purpose specified.

5. In a device of the class described, a spindle formed with a reduced screw-threaded portion at its outer end, a wheel-carrying axle-box mounted on said spindle, and a hollow spindle-nut formed with screw-threads on its interior and exterior face secured to the reduced screw-threaded portion of said spindle, in combination with a sleeve provided with a screw-threaded interior face which engages with and is ajustable on the exterior screw-threaded face of said axle-nut, means for securing said sleeve at the position to which it is adjusted on said axle-nut, a washer interposed between a shoulder on said sleeve and the end of said axle-box, and an annular nut in said sleeve for holding said washer in place, substantially as shown and described and for the purpose specified.

6. In a device of the class described, a spindle formed with a reduced screw-threaded portion at its outer end, a wheel-carrying axle-box mounted on said spindle, and a hollow spindle-nut formed with screw-threads on its interior and exterior face, with longitudinal grooves in its outer face and secured to the reduced screw-threaded portion of the outer end of said spindle, in combination with a sleeve formed in two sections and provided with a screw-threaded interior face, which engages with and is adjustable on the exterior screw-threaded face of said axle-nut, and set-screws extending through said sleeve and engaging with said axle-nut, substantially as shown and described and for the purpose specified.

7. In a device of the class described, a spindle formed with a reduced screw-threaded portion at its outer end, a wheel-carrying axle-box mounted on said spindle, and a hollow spindle-nut formed with screw-threads on its interior and exterior face, with longitudinal grooves in its outer face and secured to the reduced screw-threaded portion of the outer end of said spindle, in combination with a sleeve provided with a screw-threaded interior face which engages with and is adjustable on the exterior screw-threaded face of said axle-nut, set-screws extending through said sleeve and engaging with said axle-nut, a washer interposed between a shoulder on said sleeve and the end of said axle-box, an annular nut in said sleeve for holding said washer in place, and set-screws extending through said sleeve and engaging with said annular nut, substantially as shown and described and for the purpose specified.

8. In a device of the class described, a spindle formed with a reduced screw-threaded portion at its outer end, a wheel-carrying axle-box mounted on said spindle, and a hollow spindle-nut formed with screw-threads on its interior and exterior face, with longitudinal grooves in its outer face and secured to the reduced screw-threaded portion of the outer end of said spindle, in combination with a sleeve provided with a screw-threaded interior face, which engages with and is adjustable on the exterior screw-threaded face of said axle-nut, a washer interposed between a shoulder on said sleeve and the end of said axle-box, a packing-ring in said sleeve around said axle-box, nuts for securing said washer and said packing-ring in place and for compressing the latter on the axle-box, and set-screws extending through said sleeve and engaging with said nuts, substantially as shown and described and for the purpose specified.

9. In a device of the class described, a spindle formed with a reduced screw-threaded portion at its outer end, a wheel-carrying axle-box mounted on said spindle, and a hollow spindle-nut formed with screw-threads on its interior and exterior face, with longitudinal grooves in its outer face and secured to the reduced screw-threaded portion of the outer end of said spindle, in combination with a sleeve provided with a screw-threaded interior face, which engages with and is adjustable on the exterior screw-threaded face of said axle-nut, set-screws extending through said sleeve and engaging with said axle-nut, and a ring secured to said sleeve over said set-screws, substantially as shown and described and for the purpose specified.

10. In a device of the class described, a spindle formed with a reduced screw-threaded portion at its outer end, a wheel-carrying axle-box mounted on said spindle, and a hollow spindle-nut formed with screw-threads on its interior and exterior face, with longitudinal grooves in its outer face and secured to the reduced screw-threaded portion of the outer end of said spindle, in combination with a sleeve provided with a screw-threaded interior face which engages with and is adjustable on the exterior screw-threaded face of said axle-nut, set-screws extending through said sleeve and engaging with said axle-nut, a ring secured to said sleeve over said set-screws, a washer interposed between a shoulder on said sleeve and the end of said axle-box, a packing-ring inserted in said sleeve around said axle-box, nuts secured in said sleeve to hold said washer and said packing-ring in place and to compress the latter on said axle-box, and set-screws extending through said sleeve and engaging with said nuts, substantially as shown and described and for the purpose specified.

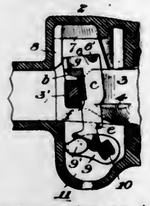
11. In a device of the class described, a spindle-nut, in combination with a sleeve formed in two sections and adjustable on said spindle-nut, and means for securing said sleeve at the position to which it is adjusted on said spindle-nut, substantially as shown and described and for the purpose specified.

12. In a device of the class described, a spindle-nut formed with screw-threads on its interior and exterior face, in combination with a sleeve formed in two sections and provided with a screw-threaded interior face, which engages with and is adjustable on the exterior screw-threaded face of said spindle-nut, and means for securing said sleeve at the position to which it is adjusted on said spindle-nut, substantially as shown and described and for the purpose specified.

13. In a device of the class described a spindle-nut, in combination with a sleeve formed in two sections, a', b', the section b', adjustable on said spindle-nut, and the section, a', adjustable on the section b', and provided with an internal flange, and means for securing said sections a', b', at the position to which they are adjusted on one another and on said spindle-nut, substantially as shown and described and for the purpose specified.

14. In a device of the class described a spindle-nut, formed with screw-threads on its interior and exterior face, in combination with a sleeve formed in two sections a', b', the section b', adjustable on said spindle-nut, and the section, a', adjustable on the section, b', and provided with an internal flange, and means for securing said sections a', b', at the position to which they are adjusted on one another and on said spindle-nut, substantially as shown and described and for the purpose specified.

844,491. CAR-COUPLING. ARTHUR J. BAZELEY, Cleveland, Ohio, assignor to The National Malleable Castings Company, Cleveland, Ohio, a Corporation of Ohio. Filed Nov. 11, 1904. Serial No. 232,310.



Claim.—1. A coupler having an integral locking and opening member adapted to move forwardly and to engage the knuckle, and means for engaging the opening member to raise and push it forward to open the knuckle; substantially as described.

2. A coupler having a locking and opening member adapted to swing forwardly at its lower portion to engage the knuckle, and a lever adapted to engage the lower portion of said member and to raise it and push it forwardly; substantially as described.

3. A coupler having an integral locking and opening member adapted to engage the knuckle, and a lever adapted to engage the lower portion of said member and to push it forwardly, said lever being set in a vertical recess in the floor of the coupler-head; substantially as described.

4. A coupler having an integral locking and opening member adapted to engage the knuckle, and means placed in a recess in the floor of the coupler-head adapted to engage said member and push it forwardly; substantially as described.

5. A coupler having an integral locking and opening piece comprising a locking head or member, and a rear opening member, and means for engaging the rear opening member and moving it forwardly to open the knuckle.

6. A coupler having a locking and opening piece, said piece having a locking member adapted to lock the front of the knuckle, an integral opening member at the rear of the knuckle, and an opening-lever adapted to engage the lower portion of the opening member and to push it against the knuckle; substantially as described.

7. A coupler having an integral angled locking and opening piece having a locking member and an opening member engaging respectively opposite sides of the knuckle, and a lever adapted to engage the opening member from below to raise said piece and push the opening member forwardly; substantially as described.

8. A coupler having an integral angled locking and opening piece, having a locking member and an opening member engaging respectively opposite sides of the knuckle, and a lever adapted to engage the lower end of said piece and to raise and push it forwardly; substantially as described.

9. A coupler having an angled locking and opening piece, a lever adapted to engage the lower end of the opening member and to raise and move it forwardly, and a rib for confining and preventing displacement of the locking and opening piece; substantially as described.

10. A coupler having a vertical recess in the floor, an opening-lever therein, and an integral locking and opening piece which rests in said recess when in locked position and is raised and moved forwardly by the lever; substantially as described.

11. A coupler having an upwardly-movable locking and opening piece, guiding portions in the coupler-head and means at its lower portion for engaging the opening member and raising it and moving it forwardly; substantially as described.

12. A coupler having a knuckle and a lock provided with a shoulder adapted to engage the under side of the knuckle-tail when in locked position and to prevent the lock from creeping; substantially as described.

13. A coupler having a knuckle and a lock provided with a shoulder adapted to engage the under side of the knuckle-tail when in locked position, and means for moving the lock forward to disengage said shoulder and for raising it above the level of the knuckle; substantially as described.

14. A coupler having a knuckle and a locking and opening piece adapted successively to assume the following positions: namely, a locking position wherein a shoulder on the locking and opening piece is in opposition to the knuckle and prevents it from creeping; second, a lock-setting position wherein it is supported in unlocked position; and third, an opening position wherein it is moved forwardly to open the knuckle; substantially as described.

15. A coupler having a knuckle and a locking and opening piece adapted successively to assume the following positions: namely, a locking position wherein a shoulder on the locking and opening piece is in opposition to the knuckle and prevents it from creeping; second, a lock-setting position wherein it is supported on the knuckle in unlocked position; and third, an opening position wherein it is moved forwardly to open the knuckle; substantially as described.

16. A coupler having a locking and opening piece, means for swinging its lower end forwardly, means for engaging it with the knuckle in lock-set position, and means for tripping it, extending through the coupler-head; substantially as described.

17. A coupler having an upwardly-opening recess at its bottom extending below the pivotal knuckle, a knuckle-opening piece arranged to engage the knuckle and having a portion in said recess, and an operating-lever mounted in the recess and arranged to engage and move the opening-piece.

18. An angled coupler locking and opening piece having at its lower end a shoe for engagement with a lever; substantially as described.

19. An angled coupler-lock having a shoulder adapted to engage the knuckle to prevent upward creeping and a guiding-surface on the knuckle to direct the lock into position where the shoulder will be confined by the knuckle; substantially as described.

20. An angled coupler locking and opening piece having on its upper member a groove adapted to engage a projection on the coupler-head; said groove extending lengthwise of the upper member of the angled piece substantially as described.

21. An angled coupler locking and opening piece having at its lower end a shoe for engagement with a lever and a locking-head on said piece; substantially as described.

22. A coupler provided with a knuckle locking and opening piece having its upper end confined by the coupler-head and its lower end free to swing, and means for engaging the lower portion of the locking and opening piece to swing the same on its upper confined end as an axis.

23. A coupler having a knuckle locking and opening piece, there being a loose rib-and-groove engagement between the top of said piece and the coupler-head upon which the piece is adapted to swing, said rib and groove extending lengthwise of the upper member of the locking and opening piece, and means for swinging said piece.

24. A coupler having a recess in the upper side of its bottom, below the pivotal knuckle, a locking and opening piece, a rotary shaft journaled in the coupler-head across the recess, and a lifting-lever operated by the shaft, working in the recess and engaging the locking and opening piece.

25. A coupler having a knuckle locking and opening piece, a lever for engaging and swinging its lower end forwardly, means for confining its upper portion, and guiding portions on the coupler-head, the lever being set in a vertical recess across which its shaft extends; substantially as described.

26. A coupler having a locking and opening piece adapted to rise and to swing forwardly at its lower end, said locking and opening piece and the rear side of the knuckle-tail being formed with projections adapted to engage in lock-setting, and the coupler being formed with means for confining the upper end of the locking and opening piece during its forward motion, and means applied to the lower portion of said piece for moving it; substantially as described.

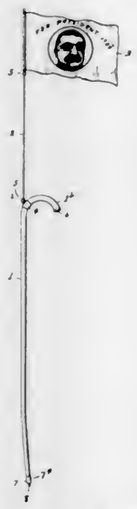
27. A coupler having an opening member adapted to swing forwardly at its lower portion to engage the knuckle at a point near its pivot, and a lever which engages the lower portion of said member and pushes it against the knuckle; substantially as described.

28. A coupler having a knuckle, and an upwardly-movable lock, having a projection adapted when the lock is locked to engage the knuckle and to prevent the lock from creeping, and means for imparting lateral motion to the lock to remove the projection from beneath the knuckle when the lock is lifted; substantially as described.

844,492. CAMPAIGN DEVICE. GEORGE A. BEIDLER, Oklahoma, Okla. Filed Sept. 18, 1906. Serial No. 335,122.

Claim.—1. A walking-cane having a hollow body, a flagstaff or banner-staff contained within said body, an opening in said body for the withdrawal of said staff, said opening having a closure in the form of a sleeve embracing said body.

2. A walking-cane having a tubular body, a flagstaff or banner-staff contained within said body, an opening in said body for the withdrawal of said staff, a closure for the opening, comprising a sleeve slidably embracing said body.

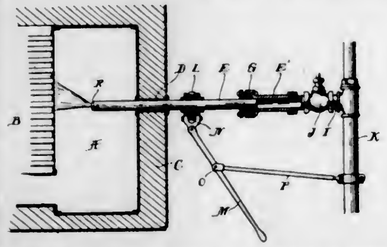


3. A walking-cane having a hollow body, the upper end of said body being formed into a semicircular handle, said body being adapted to contain a flagstaff or banner-staff and having an opening in the handle portion for withdrawing said staff, a closure for said opening comprising a slidable sleeve mounted on said handle, said staff being adapted to be withdrawn partly or wholly through said opening and be locked in said position by said closure.

4. A walking-cane having a tubular body, a flagstaff or banner-staff contained within said body, the upper end of said body being formed into a semicircular handle and having an opening for the withdrawal of said staff, a closure for said opening, said closure being slidable upon said handle and having a slot adapted to straddle said staff as it projects outward through said opening and lock the same against movement.

5. A walking-cane having a tubular body and containing a flagstaff or banner-staff, the upper end of said body being formed into a semicircular handle and having an opening for the withdrawal of said staff for display, said opening having a closure slidable on said handle and having an open slot, said staff being adapted to be projected up through said opening for display, and be locked in said position by being straddled by said slot, said staff being provided with stops to prevent it sliding downward through said slot.

844,493. STEAM TUBE-BLOWER. JAMES C. BENNETT, Detroit, Mich. Filed Jan. 15, 1906. Serial No. 296,008.



Claim.—1. In a steam-blower of the character described, the combination of a sleeve adapted to be rigidly supported in place outside of a boiler, means for supplying steam to said sleeve, a tubular nozzle member adapted to be inserted in an opening in the wall of a boiler and to move longitudinally within the sleeve, and means attached to said nozzle member outside the wall of the boiler to actuate the same.

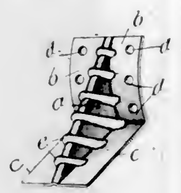
2. In a steam-blower of the character described, the combination of a sleeve adapted to be rigidly supported in place at a distance from the wall of the boiler, means for applying steam under pressure to said sleeve, a tubular nozzle member slidable and rotatable within said sleeve, and adapted to be projected through an opening in the wall of the boiler, a stuffing-box on the end of the sleeve, and a lever attached to the nozzle member outside the wall of the boiler to move said member longitudinally and to rotate the same.

3. In a steam-blower of the character described, the combination of a sleeve, a tubular nozzle member slidable in said sleeve and adapted to be projected longitudinally into an opening in the wall of a boiler or retracted therefrom, means for supplying steam to said sleeve, a nozzle consisting of a plug detachably secured within the end of the tubular nozzle member and provided with a discharge-opening and means for actuating the nozzle member.

4. In a steam-blower of the character described, the combination of a sleeve adapted to be supported adjacent to a boiler, a tubular nozzle member movable longitudinally in said sleeve and rotatable therein adapted to be projected into an opening in the wall of the boiler, a lever fulcrumed intermediate its ends and pivotally attached to said nozzle member, and means for supplying steam to said sleeve.

5. In a steam-blower of the character described, the combination with a fixed steam-supply pipe, of a sleeve rigidly attached to said pipe at one end to receive steam therefrom and extending with its opposite end at a distance from a boiler, a tubular nozzle member slidable longitudinally in said sleeve and rotatable therein and adapted to project into an opening in the wall of the boiler, a stuffing-box on the end of the sleeve, a lever fulcrumed intermediate its ends and rotatively and pivotally attached to the nozzle member, a ratchet secured upon said nozzle member, and a pawl carried by said lever to engage said ratchet.

844,494. BRACKET. THOMAS C. BEST, Chicago, Ill. Filed Oct. 26, 1906. Serial No. 340,741.



Claim.—1. A bracket formed of an integral piece of ductile metal and having a strengthening-rib, said strengthening-rib being provided with corrugated portions.

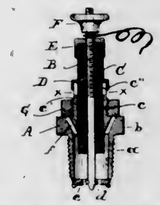
2. A bracket formed of an integral piece of ductile metal and having a substantially U-shaped strengthening-rib, said strengthening-rib being provided with corrugated portions.

3. A bracket formed of an integral piece of ductile metal and having a strengthening-rib, said strengthening-rib being provided with transverse corrugated portions.

4. A bracket formed of an integral piece of ductile metal and having a substantially U-shaped strengthening-rib, said strengthening-rib being provided with transverse parallel corrugated portions.

5. A bracket formed of an integral piece of ductile metal and having a longitudinal strengthening-rib, flanges on each side of the strengthening-rib, said strengthening-rib having corrugations extending transversely thereof and extending from one side flange to the other side flange.

844,495. SPARK-PLUG FOR EXPLOSIVE-ENGINES. ARTHUR R. BULLOCK, Cleveland, Ohio, assignor to Excelsior Spark Plug Co., Cleveland, Ohio. Filed Oct. 6, 1905. Serial No. 281,654.



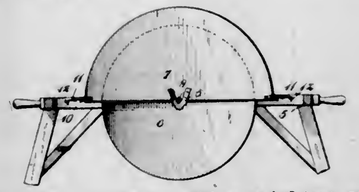
Claim.—In a jump-spark plug for explosive-engines the combination with the body part thereof having ports which lead from its internal cavity to an exterior face of an adjustable collar controlling said ports in the manner as and for the purpose set forth.

844,496. CAR-VENTILATOR. PATRICK P. CARROLL, Seattle, Wash. Filed Feb. 23, 1904. Serial No. 194,698.



Claim.—The combination with a car, of a ventilator-tube extending along the roof thereof, tapered screens adapted to deflect the dust and cinders located at the opposite open ends of the tube and projecting in advance thereof, said screens being located exteriorly of the car, finer screens located within the tube near each end thereof, a water-tank located above the ventilator-tube, means carried by the tank for moistening the first-mentioned screens, trunk-openings leading from the tube to the interior of the car, and means for closing the trunk-openings.

844,497. WATER PAN OR HOOD FOR GRINDSTONES. EMERY H. CHEESBRO, Dansville, N. Y. Filed Sept. 21, 1906. Serial No. 335,583.



Claim.—The combination with a grindstone and its frame and shaft, of a water-pan hung on said shaft, and adjustable thereon to inclose the upper or lower half of the stone, and means for holding the pan in adjusted position.

844,498. DAM AND APPARATUS FOR AND METHOD OF CONSTRUCTING THE SAME. HUGH L. COOPER, Stamford, Conn. Filed May 5, 1906. Serial No. 315,427.

Claim.—1. The method of constructing a dam, consisting in constructing sections of the dam with open spaces between for the flow of the water, then progressively excluding the water from the open spaces, and filling the open spaces, after and while the water is excluded therefrom, substantially as described.

2. The method of constructing a dam, consisting in constructing sections of the dam with open spaces between for the flow of water, then progressively excluding the water from the open spaces, and filling the open spaces to successive and approximately uniform heights, substantially as described.

3. The method of constructing a dam, consisting in constructing sections of the dam with open spaces between for the flow of the water, then progressively placing stop-logs in position across the open spaces and excluding thereby the water from the open spaces and filling the open spaces, after and while the water is excluded therefrom, substantially as described.



4. The method of constructing a dam, consisting in constructing sections of the dam with open spaces between for the flow of the water, and then, by the aid of a stop-log, progressively excluding the water from the open spaces and filling the open spaces to successive and approximately uniform heights, substantially as described.

5. The method of constructing a dam, consisting in constructing the footing-courses and upon the footing-courses sections of the dam with open spaces between for the flow of the water, then progressively closing the open spaces above the footing-courses and excluding thereby the water from the open spaces, and filling the open spaces, substantially as described.

6. The method of constructing a dam, consisting in constructing the footing-courses and upon the footing-courses sections of the dam with open spaces between for the flow of the water, then progressively excluding the water from the open spaces, and filling the open spaces to successive and approximately uniform heights, substantially as described.

7. The method of constructing a dam, consisting in constructing the footing-courses and upon the footing-courses sections of the dam with open spaces between for the flow of the water, then progressively placing stop-logs in position across the open spaces above the footing-courses and excluding thereby the water from the open spaces and filling the open spaces, substantially as described.

8. The method of constructing a dam, consisting in constructing the footing-courses and upon the footing-courses sections of the dam with open spaces between for the flow of the water, and then, by the aid of a stop-log, progressively excluding the water from the open spaces and filling the open spaces to successive and approximately uniform heights, substantially as described.

9. The method of constructing a dam, consisting in constructing the footing-courses in sections, and upon the footing-courses sections of the dam with open spaces between for the flow of the water, and then filling the open spaces, substantially as described.

10. The method of constructing a dam, consisting in constructing part of the footing-courses and, upon the part constructed of the footing-courses, sections of the dam with open spaces between for the flow of the water, then constructing the remaining footing-courses and, upon the remaining footing-courses, sections of the dam with open spaces between for the flow of the water, and then filling the open spaces, substantially as described.

11. The method of constructing a dam, consisting in constructing the dam in sections of masonry and in joining adjacent sections by means of material interposed between the sections and suitable to prevent the sections from bonding, substantially as described.

12. The method of constructing a dam, consisting in constructing the dam in sections of masonry above the footing-courses and in joining adjacent sections by means of material interposed between the sections and suitable to prevent the sections from bonding, substantially as described.

13. The method of constructing a dam, consisting in constructing the footing-courses in sections, building sections of masonry upon the footing-courses and joining the adjacent sections by means of material interposed between the sections of the footing-courses and between the sections built upon the footing-courses and suitable to prevent the sections of masonry from bonding, substantially as described.

14. In a dam, the combination of sections of the dam forming open spaces between for the flow of the water, and a stop-log in position across such an open space from which the water is excluded, substantially as described.

15. In a dam, the combination of sections of the dam forming open spaces between for the flow of the water, and a stop-log provided with a gasket in position across such an open space from which the water is excluded, substantially as described.

16. In a dam, the combination of sections of the dam forming spaces between for the flow of the water partially filled with sections of masonry to approximately uniform heights, substantially as described.

17. In a dam, the combination of sections of the dam forming spaces between for the flow of the water partially filled with sections of masonry to approximately uniform heights, and a stop-log in position across such a space from which the water is excluded, substantially as described.

18. In a dam, the combination of sections of the dam forming open spaces between for the flow of the water partially filled to approximately uniform heights, and a stop-log provided with a gasket in position across such an open space from which the water is excluded, substantially as described.

19. In a dam, the combination of footing-courses, sections built upon the footing-courses and material interposed between the sections and suitable to prevent the sections from bonding, substantially as described.

20. In a dam, the combination of footing-courses in sections, sections built upon the footing-courses and material interposed between the sections of the footing-courses and between the sections built upon the footing-courses and suitable to prevent the sections from bonding, substantially as described.

21. In a dam, the combination of footing-courses and sections built upon the footing-courses with open spaces between the sections and above and across the footing-courses for the flow of the water over the footing-courses, substantially as described.

22. In a dam, the combination of footing-courses and sections built upon the footing-courses with open spaces between the sections, partially filled to approximately uniform heights, above and across the footing-courses, for the flow of the water over the partially-filled spaces, substantially as described.

23. In a dam, the combination of footing-courses in sections and sections built upon the footing-courses with open spaces between for the flow of the water, substantially as described.

24. In a dam, the combination of footing-courses in sections and sections built upon the footing-courses with open spaces between for the flow of the water, partially filled to approximately uniform heights, substantially as described.

25. In a dam, the combination of footing-courses and sections built upon the footing-courses with open spaces between for the flow of the water, and a stop-log in position across such an open space, from which the water is excluded, substantially as described.

26. In a dam, the combination of footing-courses and sections built upon the footing-courses with spaces between for the flow of the water, partially filled to approximately uniform heights, and a stop-log in position across such a space from which the water is excluded, substantially as described.

27. In a dam, the combination of footing-courses in sections, and sections built upon the footing-courses with open spaces between for the flow of the water, and a stop-log in position across an open space, substantially as described.

28. In a dam, the combination of footing-courses in sections, and sections built upon the footing-courses with spaces between for the flow of the water, partially filled to approximately uniform heights, and a stop-log in position across one of the spaces, substantially as described.

29. A dam, consisting of footing-courses and sections built upon the footing-courses with spaces between for the flow of the water, partially filled to approximately uniform heights, and material interposed between the sections and suitable to prevent the sections from bonding, substantially as described.

30. A dam, consisting of footing-courses in sections, and sections built upon the footing-courses with spaces between for the flow of the water, partially filled to approximately uniform heights, and material interposed between the sections of the footing-courses and between the sections built upon the footing-courses and suitable to prevent the sections from bonding, substantially as described.

31. A dam, consisting of footing-courses and consecutive, independent sections of masonry built upon and across and along the footing-courses, substantially as described.

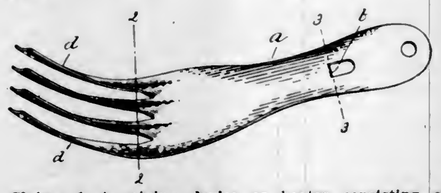
32. A dam, consisting of footing-courses in sections and consecutive, independent sections of masonry built upon and across and along the footing-courses, substantially as described.

33. A dam, consisting of independent blocks of masonry and material interposed between adjacent blocks and suitable to prevent the blocks from bonding, substantially as described.

34. A dam, consisting of consecutive sections of masonry provided with recesses and ribs projecting into the recesses, substantially as described.

35. A dam, consisting of footing-courses and consecutive sections of masonry built upon the footing-courses and provided with recesses and ribs projecting into the recesses, substantially as described.

844,499. BEATER OR MIXER. ALONZO W. CRAM, Haverhill, Mass. Filed May 22, 1905. Serial No. 261,540.



Claim.—1. A mixing device or beater consisting of a handle adapted to be held in a predetermined plane or position of use, a series of approximately parallel blades extending longitudinally of the handle from one end thereof, said blades being obliquely disposed to said plane with only their lower longitudinal edges at the front side of the device, substantially as described.

2. A mixing device or beater consisting of a handle adapted to be held in a predetermined plane or position of use, a series of approximately parallel blades extending longitudinally of the handle from one end thereof, said blades being obliquely disposed to said plane with only their lower longitudinal edges at the front side of the device, and said blades being transversely concaved on their upper sides to provide longitudinally-extending grooves therein, substantially as described.

3. A mixing device or beater consisting of a handle adapted to be held in a predetermined plane or position of use, a series of approximately parallel blades extending longitudinally of the handle from one end thereof, said blades being obliquely disposed to said plane with only their lower longitudinal edges at the front side of the device, and said blades being transversely concaved on their upper sides to provide longitudinally-extending grooves therein, and being curved upwardly approximately in said plane, substantially as described.

4. An implement embodying a plurality of longitudinally and transversely curved tines.

5. An implement embodying a plurality of longitudinally-curved and obliquely-disposed tines.

6. An implement embodying a plurality of transversely-curved and obliquely-disposed tines.

7. An implement embodying a plurality of longitudinally and transversely curved and obliquely-disposed tines.

8. An implement embodying a plurality of longitudinally and horizontally curved tines.

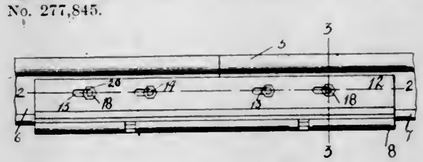
9. An implement embodying a plurality of longitudinally, horizontally and transversely curved tines.

10. An implement embodying a plurality of longitudinally and horizontally curved and obliquely-disposed tines.

11. An implement embodying a plurality of longitudinally, horizontally, transversely curved and obliquely-disposed tines.

12. An implement embodying a curved handle, and a plurality of longitudinally, horizontally and transversely curved and obliquely-disposed tines.

844,500. RAILWAY-RAIL CHAIR. JOHN CROZIER, Ste. Agathe, Quebec, Canada. Filed Sept. 11, 1905. Serial No. 277,845.



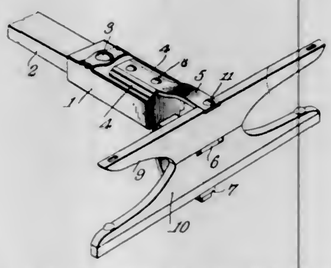
Claim.—1. A railway-rail chair comprising a base having a flange on one side and having a T-shaped groove on the opposite side thereof, a jaw having a T-shaped base disposed in said groove and having a flange extending from said base provided with slots therein, and bolts projected through the flange of said first member and through the slots of said second member and nuts on the bolts provided with rockable locking means.

2. A railway-rail chair comprising a base having a flange on one side and a groove on its opposite side, a jaw having a base disposed in said groove and having a flange extending from the base, bolts connecting said flanges and provided with longitudinal grooves therein, nuts disposed on the bolts, and a rockable locking member carried by each of the nuts adapted to engage in said grooves.

3. A railway-rail chair comprising a base having a flange on one side and a groove on its opposite side, a jaw having a base disposed in said groove and having a flange extending from its base, bolts connecting said flanges and provided with grooves therein, nuts disposed on the bolts and provided with a chamber therein, and a locking member rockably disposed in said chamber and provided with a cam edge adapted to engage in said grooves.

4. The combination comprising a rail having a tread, a web and base-flanges; a member having a base disposed under said flanges, having a flange on one side of its base and having a groove on its opposite side; a jaw having a base disposed in said groove and having a flange extending from said base; bolts disposed through said flanges and said web and provided with longitudinal grooves; nuts disposed on the bolts; and, a rockable locking member carried by the nuts adapted to engage said grooves.

844,501. VEHICLE REACH-COUPLING. JOSEPH A. DANN, Miami, Fla. Filed Nov. 13, 1906. Serial No. 343,277.



Claim.—1. A reach-coupling comprising a box having closed sides and an open end adapted to receive the reach, parallel spaced ribs located upon the upper and lower surfaces of the box, bars secured at their ends between said ribs and extending at their opposite ends to the body-bolster and axle-bed and being pivotally secured to the latter.

2. A reach-coupling comprising a box having closed sides and an open end adapted to receive a reach said box having upon its upper and lower sides parallel spaced ribs, bars secured at their rear ends between said ribs, the intermediate member of said bars being straight and the outer members being curved, said bars receiving between them the body-bolster and the axle-bed to which they are pivoted.

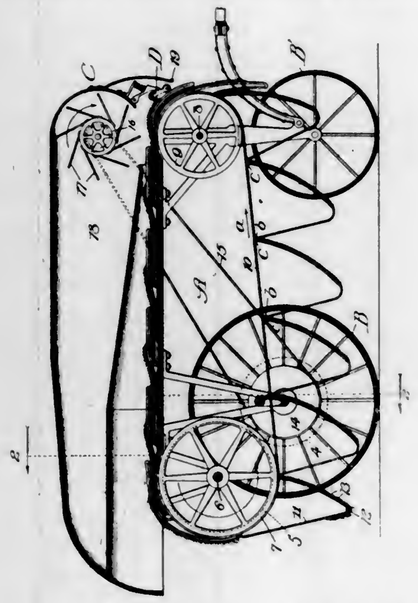
844,502. COTTON-HARVESTER. JOHN O. DICKINSON, Nashville, Tenn. Filed July 24, 1906. Serial No. 327,503.

Claim.—1. In a cotton-harvester, a frame provided with an endless belt the rear of which is nearer the ground than the forward end thereof, rows of stiff loops each attached at their ends to said belt, that portion of the surface of each loop which forms the forward outer face thereof when the loop is in dropped or depending position having upwardly-projecting teeth or spikes, and suction-blast mechanism adapted to draw cotton fiber from said teeth and spikes and deliver it to suitable receptacles, for the purposes described.

2. In a cotton-harvester, the combination with an endless belt adapted to travel in a plane at an angle to the plane of the surface of the ground upon which the harvester advances, means for propelling it and means for transporting it, of rows of loops attached to said belt, teeth or spikes on that portion of the surface of each loop which forms the forward outer face when the loop is in dropped or depending position, said loops being adapted to penetrate cotton-plants beneath said belt and draw said teeth therethrough from bottom to top to collect the fiber thereon, and blast mechanism adapted to remove the fiber from the teeth, substantially as described.

3. In a cotton-harvester, a carriage, drums driven by said carriage, an endless belt traveling on said drums, blast mechanism driven by said carriage, and rows of loops secured to said belt having teeth or spikes on that portion of the surface of each loop which forms the forward exterior face when the loop is in dropped or depending position.

4. In a cotton-harvester, a wheeled frame provided with an endless traveling apron, rows of stiff loops each attached at its ends to said apron and having capacity for flexion in curves over the cotton-plants, means for collecting the fiber on a portion of the surface of said loops, and



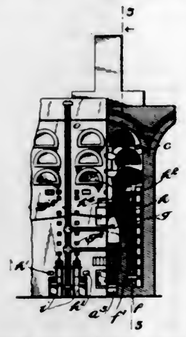
suction mechanism adapted to collect said fiber from said loops and deliver it to suitable receptacles, for the purposes described.

844,503. INSECT-TRAP. GUSTAV DITTMANN, Garwood, N. J. Filed Dec. 8, 1906. Serial No. 346,971.



Claim.—An insect-trap consisting of a receptacle having its opposite faces flat, the ends of the receptacle tapering and provided with a slot at the apex of each tapering part, springs which are bent U-shaped and bearing at their longitudinal centers against the inner surfaces of the sides of the receptacle, each spring being inwardly bent with slight spaces intervening between the same, the ends of the springs being turned into rolls and bearing against the curved ends of the receptacle, and a strap passing through the slots in the ends of the receptacle and between the bent portions of said springs, as set forth.

844,504. APPARATUS FOR REGULATING COMBUSTION IN FURNACES. HENRY L. DOHERTY, Madison, Wis., assignor, by mesne assignments, to Combustion Utilities Company, New York, N. Y., a Corporation of New York. Filed Feb. 1, 1904. Serial No. 191,404.

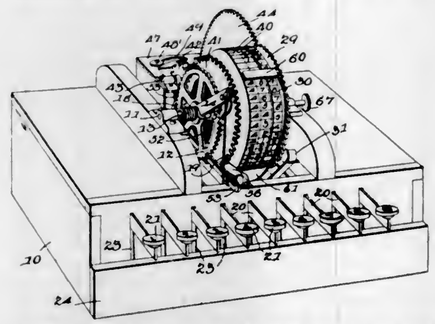


Claim.—1. In an apparatus for regulating combustion in furnaces, the combination with a gas-producing furnace comprising the producer, combustion-chamber, flues for primary air and for secondary air and flues for waste gases, of passages or channels connecting the waste-gas flues with the primary air-flues, said channels being provided with a damper-controlled opening for air and an adjustable injector projecting into said channels or passages.

2. In an apparatus of the character specified, the combination of a gas-producer, a gas-furnace having a regenerator, a discharge-passage therefrom for the waste gases, a conduit for products of combustion connecting said discharge-passage with the combustion zone of the producer, and adjustable draft-accelerating means in said conduit.

3. In apparatus of the character described, the combination of a gas-producer, a combustion-chamber, retorts therein, secondary air-flues leading to the combustion-chamber, return-flues for products of combustion leading from the combustion-chamber to the stack and arranged in proximity to the secondary air-flues, primary air-flues leading underneath the grate, an injector for conducting air and a portion of the products of combustion from the return-flues to the grate, and means in addition to the injector for regulating the mixture of air and products of combustion.

844,505. ADDING-MACHINE. STEPHEN H. DRYSDALE, Versailles, Mo. Filed Feb. 14, 1906. Serial No. 301,065.



Claim.—1. In a machine of the class described, primary and secondary totaling-disks, a key-actuated means for imparting movement to the primary disk, a transfer mechanism through which continuous movement is imparted to the secondary disk during movement of the primary disk, a reading-indicator extending over both disks and means for actuating the same at a speed corresponding to the speed of movement of the secondary disk to conceal an advancing numeral until the passage of decimals of the primary disk, and then permitting movement of said reading-indicator to expose the concealed numeral.

2. In a machine of the class described, primary and secondary totaling-disks, means for moving the primary disk, a transfer mechanism through which movement of the primary disks is continuously imparted to the secondary disk, and a reading-indicator extending over both disks and arranged to conceal an advancing numeral of the secondary disk until movement of the primary disk beyond a decimal indication.

3. In a machine of the class described, totaling-disks including a primary disk and a secondary disk, of which the secondary disk is arranged to receive continuous movement during the movement of the primary disk and at a slower speed than the latter, and a reading-indicator extending over both disks and shielding the successive numerals of the secondary disk until a transfer is to occur.

4. In a machine of the class described, a primary disk, and a secondary disk, a key-actuated mechanism for imparting movement to the primary disk, gearing connections for continuously transmitting the movement of the primary disk to the secondary disk at a reduced speed, and a reading-indicator extending over both disks and shielding the successively-advancing numerals of the secondary disk until the primary disk has advanced to indicate a total of ten or more than ten.

5. In an adding-machine, numeral-bearing members representing lower and higher values, respectively, means for actuating the member of lower value, means for continuously transmitting at reduced speed the movement of the member of lower value to the member of higher value, and means for concealing the successive numerals of the member of higher value until the member of lower value has moved to a predetermined extent.

6. In a machine of the class described, primary and secondary totaling-disks, a supporting-shaft to which the primary disk is secured, a ratchet-wheel also secured to the shaft, a pawl-carrying lever, a pawl supported thereby and engaging the ratchet-wheel, a key-actuated means for operating the lever, a pinion also secured to the shaft, a secondary disk, and a gear-wheel having an axis of rotation coincident with that of said shaft, a counter-shaft, a gear, a pinion secured to the counter-shaft, the gear intermeshing with the pinion of the first shaft, and a pinion of the counter-shaft intermeshing with the gear of the secondary disk.

7. In a machine of the class described, a primary totaling-disk, a shaft to which said disk is secured, a ratchet-wheel and a pinion rigidly secured to said shaft, a pawl, a carrying-lever pivoted on the shaft, a spring carried by the lever and engaging the ratchet-wheel, a spring for restoring the lever to initial position, key-actuated mechanism for imparting movement to said lever, a counter-shaft, a gear carried thereby and intermeshing with the pinion, a secondary totaling-disk, and a gear mounted loosely on the main shaft, and a pinion secured to the counter-shaft and intermeshing with the gear of the secondary disk.

8. In a machine of the class described, a primary disk, a main shaft to which said disk is secured, a ratchet-wheel, and a pinion rigidly secured to said shaft, a spring-returned lever pivoted on the shaft, a pawl carried by the lever and engaging the ratchet-wheel, a key-actuated means for imparting movement to the levers, a secondary disk, and a gear free to rotate on the main shaft, a movable frame, a counter-shaft supported by the movable frame and gear, a pinion carried by the counter-shaft, the gear intermeshing with the pinion of the main shaft, and the pinion of the counter-shaft meshing with the gear of the secondary disk.

9. In a machine of the class described, the combination with a primary disk, of a shaft carrying the same, a ratchet-wheel and a pinion secured to the shaft, a spring-returned lever pivoted on the shaft, a pawl carried by said lever and engaging the ratchet-wheel, and key-actuated means for imparting movement to the lever, a second disk, and a gear mounted loosely on the main shaft, a spring tending to restore said secondary disk and its gear

to zero position, interengaging stop members for stopping the disk and gear at zero position, a movable frame, an operating-bar connected thereto, a counter-shaft supported by the frame, and gears carried by the counter-shaft for transmitting movement of the main shaft-pinion to the gear of the secondary disk, said frame being movable to disconnect the train of gears and permit return of the secondary disk to zero position.

10. In a machine of the class described, a totaling-disk having a series of spaced grooves of numerals from naught to nine inclusive, the space between each group corresponding to the space occupied by any one numeral, a reading-indicator, means for moving the same in the direction in which the disk rotates but at a speed less than the speed of said disk, and for permitting rearward movement of said indicator across the blank spaces at the completion of each movement of the disk to the value of ten.

11. In a machine of the class described, a primary and a secondary totaling-disk, of which the primary disk has numerals arranged in spaced groups, each group including numerals from naught to nine, and the secondary disk having numerals indicating values in tens or higher, means for imparting movement to the primary disk, means for transmitting the movement of the primary disk continuously to the secondary disk at reduced speed, a reading-indicator extending over both disks, means for advancing said reading-indicator in the direction of rotation of the disks and at a speed corresponding to that of the secondary disk, and means for permitting rearward movement of said indicator to the extent of a single space at the completion of each movement of the primary disk to a total of ten or more.

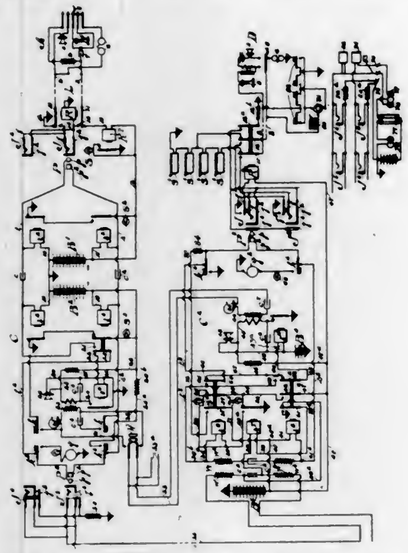
12. In a machine of the class described, a ratchet-wheel having an even number of teeth representing any multiple of ten, an indicating-disk connected to said ratchet-wheel and bearing groups of numerals from naught to nine, inclusive, there being as many groups of numerals as there are multiples of ten on the ratchet-wheel teeth, there being a blank space between each group of numerals, a pawl engaging said ratchet-wheel, a key-actuated means for operating the pawl, and a reading-indicator arranged over the disk and receiving movement at a speed less than that of said disk, and means for permitting a backward step of the indicator after each movement of the disk to the value of ten or more than ten.

13. In a machine of the class described, the combination with primary and secondary totaling-disks, of a key-actuated means for imparting movement to the primary disk, means for continuously transmitting the movement of the primary disk to the secondary disk, a reading-indicator extending over the periphery of the disk, a pivotally-mounted arm carrying the reading-indicator and provided with a curved cam-disk terminating at an abrupt shoulder, and pins or lugs projecting from the primary disk and engaging said cam-disk to impart movement to the reading-indicator at a speed corresponding to the speed of movement of the secondary disk, the passage of each pin or lug beyond the shoulder permitting a backward step of said reading-indicator.

14. In a machine of the class described, the combination with primary and secondary disks, of a key-actuated means for imparting movement to the primary disk, means for continuously transmitting movement of the primary disk to the secondary disk, a reading-indicator extending across the peripheries of the disks, a pivotally-mounted spring-engaged arm carrying the reading-indicator and provided with a curved cam-face terminating in an abrupt shoulder, a series of pins or lugs extending from the primary disk and arranged to engage said cam-face to impart to the reading-indicator a movement at a speed corresponding to that of the secondary disk, the passage of each pin or lug beyond the shoulder permitting a backward step of the reading-indicator to the extent of a single space.

15. In a machine of the class described, the combination with totaling or indicating disks, of key-actuated levers through which movement is imparted to the disks, a locking-wheel movable with one of the disks, a stop-pawl for engaging said locking-lever, a pivotally-mounted bar carrying the pawl and arranged under the entire series of key-levers, and adjustable stop-strips carried by said bar and with which the key-levers engage to effect movement of the stop-pawl.

844,506. TELEPHONE TRUNKING SYSTEM. FRANCIS W. DUNBAR, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 6, 1902. Serial No. 118,582.



Claim.—1. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect lines together for conversation, of a supervisory signal at the outgoing end of the trunk placed in condition to operate by current over one side of the same when the connection is established at said end, a relay at the incoming end and actuated by current over one side of said end when connection is established with the called line to control the path for current over the said one side of the outgoing end of the trunk, a second relay at the incoming end responsive to current in the metallic line when the called subscriber answers to short-circuit said first-named relay, to cause it to complete the metallic circuit of the outgoing end of the trunk over which current flows to render said supervisory signal inoperative, said relay serving at the same time to close a locking-circuit for itself, and means to unlock said relay by the actuation of the ringing-key after said relay has been operated, substantially as described.

2. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal at the outgoing end of the trunk placed in condition to operate by current over one side of the same when the connection is established at said end, a relay at the incoming end actuated by current over one side of said end when connection is established with the called line to control the path for current over the said one side of the outgoing end of the trunk, a second relay at the incoming end responsive to current in the metallic line when the called subscriber answers to short-circuit said first-named relay, to cause it to complete the metallic circuit of the outgoing end of the trunk over which current flows to render said supervisory signal inoperative, said relay serving at the same time to close a locking-circuit for itself, and means for opening said locking-circuit in the actuation of

the ringing-key to call the wanted subscriber, whereby the accidental crossing of the plug-contacts and the locking of the said relay does not affect the ordinary operation of the system, substantially as described.

3. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a disconnect-signal for the incoming end of the trunk, a relay actuated over a portion of the talking-circuit when connection is established with the called line to place signal in condition to operate, a second relay at the incoming end actuated by current over the trunk when the connection exists at the outgoing end to prevent the operation of said signal, a third relay at the incoming end responsive to current in the metallic line when the called subscriber answers, said relay serving to short-circuit the first-named relay and to deprive the called line of current, said relay also serving to close a locking-circuit for itself, and means for unlocking the relay after it has been locked, without disconnecting the cord from the trunk or the trunk from the called line, substantially as described.

4. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a disconnect-signal for the incoming end of the trunk, a relay actuated over a portion of the talking-circuit when connection is established with the called line, a second relay at the incoming end actuated by current over the trunk when the connection exists at the outgoing end to prevent the operation of said signal, a third relay at the incoming end responsive to current in the metallic line when the called subscriber answers, said relay serving to short-circuit the first-named relay and to deprive the called line of current, said relay also serving to close a locking-circuit for itself, and means for unlocking said relay in the actuation of the ringing-key to call the wanted subscriber, substantially as described.

5. The combination of a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a disconnect-signal for the incoming end of the trunk, a relay actuated over one side of the called line to ground at the substation when connection is established therewith to place said signal in condition to operate, a second relay at the incoming end actuated by current over the trunk when the connection exists at the outgoing end to prevent the operation of said signal, a third relay at the incoming end responsive to current in the metallic line when the called subscriber answers and serving to short-circuit the first-named relay and to deprive the called line of current, a locking-circuit for said relay, and means for opening said locking-circuit in the actuation of the ringing-key to call the wanted subscriber, substantially as described.

6. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing-signal for the incoming end of the trunk actuated when connection is established with the called line, a relay energized by current in the metallic talking-circuit when the called subscriber answers to render said signal inoperative, said relay serving when actuated to close a locking-circuit for itself, and means to open said locking-circuit in the actuation of the ringing-key to call the wanted subscriber, substantially as described.

7. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing-signal for the incoming end of the trunk actuated when connection is established with the called line, a relay energized by current in the metallic talking-circuit when the subscriber answers, said relay serving when actuated to close a locking-circuit for itself, and means for unlocking said relay in the actuation of the ringing-key to call the wanted subscriber, substantially as described.

8. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing-signal for the incoming end of the trunk, a relay actuated over one side of the telephone-line to the substation and ground to place said signal in condition to operate, a second relay responsive to current in the metallic circuit of the line to render said signal inoperative when the called subscriber responds, and a locking-circuit for said relay to prevent its undesired deënergization during the remainder of the connection, and means to open the locking-circuit without disconnecting the trunk from the called line, substantially as described.

9. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing-signal for the incoming end of the trunk, a relay actuated over one side of the telephone-line to the substation and ground to place said signal in condition to operate, a second relay responsive to current in the metallic circuit of the line to render said signal inoperative when the called subscriber responds, a locking-circuit for said relay closed by itself when actuated to prevent deënergization during the remainder of the connection, a retardation-coil included in said locking-circuit, and means to open the said locking-circuit in the actuation of the ringing-key to call the wanted subscriber, substantially as described.

10. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing-signal for the incoming end of the trunk, a relay actuated over one side of the telephone-line to the substation and ground to place said signal in condition to operate, a second relay responsive to current in the metallic circuit of the line to render said signal inoperative when a called subscriber answers, a locking-circuit for said relay closed by itself when actuated to prevent deënergization during the remainder of the connection, and a retardation-coil included in said locking-circuit, substantially as described.

11. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing-signal for the incoming end of the trunk, said signal being actuated when connection is established with the called line, and a relay energized by current in the metallic telephone-line when the called subscriber responds and serving to render said signal inoperative and to deprive the line of current, said relay also closing a locking-circuit for itself when actuated, and means for opening said locking-circuit in calling the wanted subscriber, substantially as described.

12. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing-signal for the incoming end of the trunk, a relay actuated over one side of the called line to ground at the substation to place said signal in condition to operate, a second relay at the incoming end energized by current in the metallic line when the subscriber answers, said relay serving to render said signal inoperative and as soon as actuated to close a locking-circuit for itself, said locking-circuit serving to short-circuit the line to deprive the same of current, and means for opening said locking-circuit in calling the wanted subscriber, substantially as described.

13. The combination with a telephone-line having a plurality of switch connections provided with testing-terminals, of a trunk-circuit having an operator's connective circuit, a connecting-plug therefor having a testing-contact, a pair of relays associated with said connective circuit, one responsive to current over a portion of the talking-circuit when connection is established with the line and the other to current in the metallic line when the subscriber responds, a supervisory signal whose operative condition is affected by said relays, and a testing-circuit completed from the test-contact of the plug through the contacts of said relays, substantially as described.

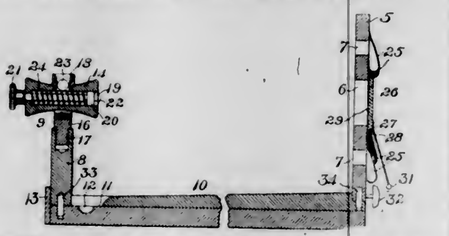
14. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect a called telephone-line with a cord-circuit which has been connected to a calling telephone-line, of a signal associated with the incoming end of said trunk-line, a relay actuated over one limb of the called subscriber's line to place said signal in condition for operation when connection is made with said line, a second relay actuated

over the metallic circuit of said line to render said signal inoperative when the called subscriber responds, means whereby the actuation of said latter relay closes a locking-circuit for itself and means actuated during ringing on the called line for breaking said locking-circuit in one place and deënergizing said relay, if said relay becomes accidentally locked in the insertion of the trunk-plug, substantially as described.

15. The combination with a telephone trunking line, of a signal at its outgoing end, a relay upon the actuation of which the condition of said signal depends, a locking-circuit for said relay, and means whereby said circuit if accidentally closed by the insertion of the trunk-plug in the jack of the called subscriber's line, will be broken by the operation of the ringing-key in calling said subscriber, substantially as described.

16. In a telephone system, the combination with a telephone-line, of a connective means adapted to be united with said line for conversational purposes, a ringing-key, a signal for said connective means, and a relay adapted to be actuated by current over said telephone-line to control the circuit of said signal, a locking-circuit for said relay, and means actuated by the operation of said ringing-key to deprive said relay of locking-current without disconnecting said connective means from said line if said relay becomes accidentally locked in the connection of said connective means with said line, substantially as described.

844,507. GAME APPARATUS. THOMAS J. FALVEY, South Boston, Mass., assignor to Joseph F. Joaquin, South Boston, Mass. Filed Oct. 5, 1906. Serial No. 337,570.



Claim.—1. In a game apparatus a target, a gun-mount, a spring-gun mounted on said gun-mount, and a convexly-curved base to which said target and said gun-mount are fast at opposite ends, respectively, thereof, the upper face of said base sloping downwardly from said target toward said gun-mount.

2. In a game apparatus a convexly-curved base, a target mounted on said base at one end thereof, a gun-mount fast to said base at the opposite ends thereof, and a spring-gun pivotally mounted on said gun-mount.

3. In a game apparatus, a convexly-curved base provided with a plurality of depressions therein, a target mounted on said base at one end thereof, a gun-mount fast to said base at the opposite end thereof, and a spring-gun pivotally mounted on said gun-mount.

4. In a game apparatus a convexly-curved base provided with a plurality of depressions therein, a target mounted on said base at one end thereof, said target provided with an aperture therein, a clapper pivotally mounted on said target normally extending across said aperture, a bell, a bell-striker, said clapper adapted to actuate said bell-striker to strike said bell, a gun-mount fast to said base opposite said target, a tube pivoted on said gun-mount, said tube provided with an orifice therein adapted to receive a projectile, a plunger located in said tube, and a spring adapted to move said plunger past said orifice.

5. In a game apparatus a target provided with an aperture therein, a clapper pivotally mounted on said target normally extending across said aperture, a spring adapted to hold said clapper in its normal position, a bell, a bell-striker, said clapper adapted to actuate said bell-striker to strike said bell, a gun-mount, a spring-gun mounted on said gun-mount, and a convexly-curved base to which said target and gun-mount are fast at opposite ends thereof, the upper face of said base sloping downwardly from said target to said gun-mount.

844,508. COMBINATION GARMENT. LEONA S. FOERSTER, Chicago, Ill. Filed Feb. 5, 1906. Serial No. 299,553.



Claim.—1. A combination garment comprising an upper or waist part open at the front, a skirt-back extending downwardly therefrom, and a skirt-front and drawers-back extending downwardly from said upper part, being of greater length than said skirt-back and having their lower edges turned inwardly and upwardly and gathered to fit the legs of the wearer, the lower exposed parts of said skirt-front and drawers-back being flush with the lower edge of said skirt-back; said drawers-back consisting of two parts united at the crotch, and said skirt-front being divided at the middle and plaited and adapted to overlap at its upper middle part.

2. A combination garment comprising an upper or waist part open at the front, a combined skirt-front and drawers-back extending downwardly therefrom and having their lower edges turned inwardly and upwardly and gathered to fit the legs of the wearer, a skirt-back extending downwardly from said upper part and secured along its outer edges to the outside of each drawers-leg, the lower edge of said skirt-back being flush with the exposed part of the skirt-front and drawers-back; said drawers-legs consisting of two parts united at the crotch, and said skirt-front being open its entire length in the line of the opening of the upper or waist part, and being plaited and adapted to overlap and present the appearance of the front of a closed plaited skirt.

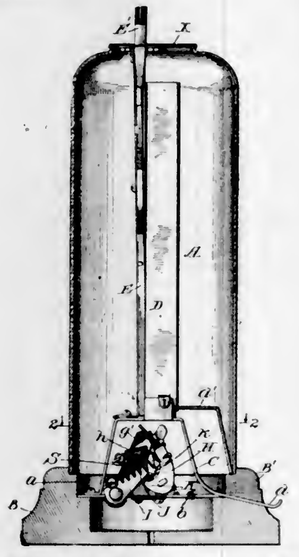
844,509. VENDING-MACHINE. CHARLES T. FRANTZ, Chicago, Ill., assignor to The National Vending Machine Company, a Corporation of Maine. Filed Apr. 27, 1905. Serial No. 257,733.

Claim.—1. In a vending-machine the combination with a suitable magazine having an open bottom, and a coin-chute, of a sweep pivoted at its end opposite said coin-chute, and constructed to receive the coin therefrom so that when said sweep moves in the proper direction the upper edge of the coin will project above the sweep and will be carried thereby through the bottom of the magazine, a rock-shaft the axis of which coincides with the center of movement of the sweep, and means, independent of the coin, for transmitting from the rock-shaft to the sweep an ejecting movement subsequent to the movement of the rock-shaft.

2. A vending-machine comprising a coin-chute, a rock-shaft, a sweep adapted to receive a coin from said chute, and means, independent of the coin, for transmitting from the rock-shaft to the sweep, an ejecting movement subsequent to the movement of the rock-shaft.

3. In a vending-machine the combination with a suitable magazine having an open bottom, and a coin-chute, of a rock-shaft, a sweep constructed to receive the coin from said chute so that the upper edge of the coin will project above the sweep and will be carried thereby in an arc through the bottom of the magazine, and means, independent of the coin, for transmitting from the rock-shaft to the sweep an ejecting movement subsequent to the movement of the rock-shaft.

4. In a vending-machine the combination with a suitable magazine having an open bottom, and a coin-chute, of a rock-shaft, a rotary reciprocal sweep loosely mounted upon and pivoted at one end to said shaft, said sweep adapted to receive a coin from said coin-chute and carry the same through the bottom of said magazine and means independent of said coin for operatively connecting said shaft and sweep.



5. In a vending-machine, the combination with a suitable magazine having an open bottom, and a coin-chute, of a rock-shaft; a sweep adapted to receive a coin from said coin-chute so that the upper edge of said coin will project above the same and will be carried thereby through the bottom of the magazine; means independent of said coin for connecting said shaft and sweep whereby the former is rocked independent of the latter to energize the means to operate the sweep; devices for retarding the ejecting movement of the sweep independent of the shaft and for releasing said sweep.

6. In a vending-machine, the combination with a coin-chute; of a rock-shaft; a sweep having an ejecting movement independent of the shaft and means, independent of the coin for transmitting from the rock-shaft a snapping motion to the sweep.

7. In a vending-machine, the combination with a coin-chute; of a rock-shaft; an arm secured to the inner end of said shaft; a sweep having an ejecting movement independent of the movement of said shaft which is operatively engaged by said arm; means for retarding the ejecting movement of said sweep until after the initial movement of the shaft and means for releasing said retarded sweep.

8. In a vending-machine, the combination with a suitable magazine having an open bottom, and a coin-chute; of a rock-shaft; a sweep adapted to receive a coin from said coin-chute so that the upper edge of said coin will project above the same and will be carried thereby through the bottom of the magazine; means independent of said coin for operatively connecting said shaft to said sweep; and devices for retarding the forward movement of said sweep and for releasing said retarded sweep when said shaft has been turned to a certain extent.

9. In a vending-machine, the combination with a suitable magazine having an open bottom, and a coin-chute; of a rock-shaft; a sweep constructed to receive a coin therefrom so that the upper edge of said coin will project above the same and will be carried thereby through the bottom of the magazine, an arm secured to the inner end of said shaft; means operatively connecting said arm and sweep; and devices for retarding the forward movement of said sweep, and for releasing the retarded sweep when said arm engages the same to permit the ejecting movement to said sweep.

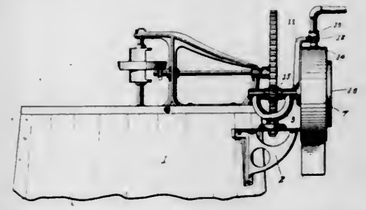
10. In a vending-machine, the combination with a coin-chute; of a rock-shaft; a sweep journaled independently of said rock-shaft and having an ejecting movement that is independent of the shaft; a spring connected to said sweep; means for retarding said sweep until said shaft has turned to a given extent; and a device for releasing said retarded sweep that releases said spring to actuate said sweep to perform the ejecting movement thereof.

11. In a vending-machine, the combination with a coin-chute; of a rock-shaft; an arm secured to the inner end of the same; a sweep journaled independently of said rock-shaft and having an ejecting movement independent of the shaft; a spring connecting said sweep and arm, which spring actuates said sweep to perform its ejecting movement; devices that detain said sweep in its normal position until said arm has moved a given distance; and means for releasing said detained sweep.

12. In a vending-machine, the combination with a coin-chute; of a rock-shaft; an arm secured to the inner end of the same; a sweep journaled independently of said rock-shaft and having an ejecting movement independent of the shaft; a spring connecting said sweep and arm, which spring actuates said sweep to perform its ejecting movement; a pawl that detains said sweep in its normal position until said arm has moved a given distance and a device for releasing said detained sweep.

13. In a vending-machine, the combination with a coin-chute; of a rock-shaft; an arm secured to the inner end of the same; a sweep journaled independently of said rock-shaft; a spring connecting said sweep and arm; a pawl actuated by said arm that detains said sweep in its normal position until said arm has moved a given distance and a device for releasing said detained sweep.

844,510. WATER-MOTOR. GEORGE D. FRASER, Sutter Creek, Cal. Filed Sept. 11, 1906. Serial No. 334,138.

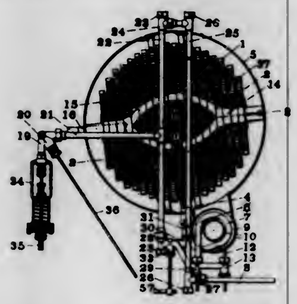


Claim.—1. In a device of the character described a bifurcated journal-box, a motor-casing securely attached thereto, and an arm forming a component part thereof and extending upward and being provided with an inclined orifice adapted to receive a water-nozzle, and means for securely holding said nozzle in said orifice, as set forth.

2. In a device of the character described a bifurcated journal-box, a threaded shoulder thereon, a flange on said shoulder, a motor-casing mounted on said shoulder and bearing against said flange, a washer mounted on said shoulder and bearing against the inner side of said casing, a nut mounted on the threads of said shoulder and bearing against said washer, and a shaft journaled in said journal-box and through said shoulder, and a motor-wheel secured to said shaft within said casing and bearing against said shoulder, as set forth.

3. In a device of the character described a bifurcated journal-box, a motor-casing securely attached thereto, an arm forming a component thereof and extending upward and being provided with an inclined interiorly-threaded orifice, a nozzle screwed into said orifice and provided with a boss bearing against the sides of said orifice, as set forth.

844,511. VAPOR-BURNER FOR MOTOR-VEHICLES. WILLIAM L. GARRELS, St. Louis, and CLINTON KIMBALL, Kirkwood, Mo. Filed Oct. 24, 1900. Serial No. 34,139.



Claim.—1. A vapor-burner comprising a burner-section having a tube perforated for the escape of vapor, an initial vaporizer and igniting device comprising a retort communicating with the source of fuel-supply, and having a nozzle connected to said tube, a drip-cup below said retort, and a casing for said burner and said retort, the inlet of said tube being located close to the initial vaporizer, substantially as described.

2. A burner comprising a main-burner section and an auxiliary-burner section and a casing therefor, said auxiliary-burner section having a mixing-tube extending through said casing and being perforated throughout the portion thereof inside of said casing, and an opening in said casing close to said mixing-tube, substantially as described.

3. A vapor-burner comprising a burner-section, a casing therefor, and a vaporizer for said burner, and an initial vaporizer comprising a retort connected to the source of fuel-supply, a drip-cup below said retort, and an annular casing of open-work or perforated metal for said retort, the casing of said initial vaporizer being arranged to provide for lighting the contents of said drip-cup, and said annular casing having an opening communicating with the interior of the burner-casing, whereby the flame from the drip-cup will ignite the vapor from said burner, substantially as described.

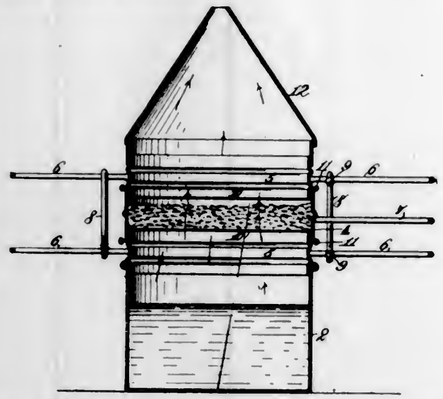
4. A vapor-burner comprising a burner-section, a casing therefor, and a vaporizer for said burner, and an initial vaporizer comprising a retort connected to the source of fuel-supply, a drip-cup below said retort, and an annular casing of open-work or perforated metal for said retort, said annular casing having an opening therein to permit the lighting of the contents of the drip-cup, and having an opening communicating with the interior of the burner-casing, whereby the flame from the drip-cup will ignite the vapor from said burner, substantially as described.

5. A vapor-burner comprising a main-burner section and an auxiliary-burner section, said main-burner section, consisting of a body portion having jet-tubes extending laterally therefrom, and said auxiliary-burner section being within the periphery of the main-burner section and having its mixing-tube located between the jet-tubes of the main-burner section, substantially as described.

844,512. APPARATUS FOR TREATING FOOD PRODUCTS. DAVID GENESE, Baltimore, Md., assignor to Genese Cereal Manufacturing Co., Baltimore, Md., a Corporation of Virginia. Filed Nov. 20, 1905. Serial No. 288,283.

Claim.—1. An apparatus of the class described, comprising a vessel, a main annular section, auxiliary annular sections fitted to opposite sides of the main section and each adapted to fit the section, a cap adapted to be fitted to each auxiliary section, and foraminous material at opposite sides of the main annular section and held in place thereto by the auxiliary annular sections, and means for clamping the several annular sections together whereby the same can be bodily reversed.

2. An apparatus of the class described involving a vessel, a main annular section, pieces of textile fabric fitted over the opposite sides of the said annular section and provided with peripheral beads, auxiliary annular sections to telescope the opposite sides of the main annular section and hold the pieces of textile fabric in place, the beads of the latter covering the joints between the sections, and each auxiliary section being adapted to fit the vessel, and a conical cap adapted to fit each auxiliary section, having a steam-outlet in its apex.



3. An apparatus of the class described comprising a vessel, a main annular section, auxiliary annular sections telescopically fitted to opposite sides of the main section and each adapted to fit the vessel, a conical cap adapted to be telescopically fitted to each auxiliary section and having central steam-outlet in its apex, and foraminous material at opposite sides of the main annular section and held thereto by the telescopic fit between said main annular section and the respective auxiliary annular sections.

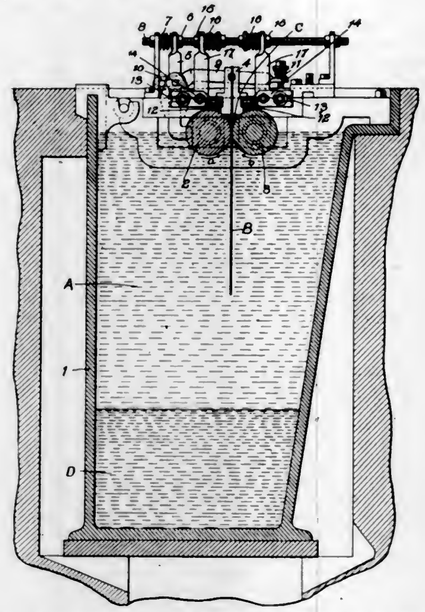
4. An apparatus of the class described comprising a vessel, a main annular section, auxiliary annular sections telescopically fitted to opposite sides of the main section and each adapted to fit the vessel, a conical cap adapted to be telescopically fitted to each auxiliary section and having a central steam-outlet in its apex, and foraminous material at opposite sides of the main annular section and held thereto by the telescopic fit between said main annular section and the respective auxiliary annular sections, said auxiliary sections having oppositely-disposed handles and the intermediate main section having a handle.

844,513. GREASE-POT. THOMAS GILL, Follansbee, W. Va., assignor to Follansbee Brothers Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Sept. 4, 1906. Serial No. 333,202.

Claim.—1. In combination with a grease-pot wherein an oil finish is given to the surfaces of metal-coated plates, and a pair of finishing-rolls rotatably mounted therein, a pair of nip-plates engaging said rolls at opposite ends and forming with the surfaces of said rolls a trough wherein oil may be poured and retained, and means for preventing the escape of oil from said trough as said rolls rotate, substantially as described.

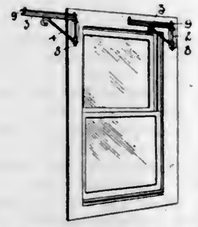
2. In combination with a grease-pot wherein an oil finish is given to the surfaces of metal-coated plates, and a pair of finishing-rolls mounted therein, of a pair of nip-plates held in yielding engagement with said rolls at opposite ends thereof and forming with the surfaces of said rolls a trough wherein oil may be poured and retained, substantially as described.

3. In combination with a grease-pot wherein an oil finish is given to the surfaces of metal-coated plates, and a pair of finishing-rolls rotatably mounted therein, a pair of nip-plates engaging said rolls at opposite ends and forming with the surfaces of said rolls a trough wherein oil may be poured and retained, and brushes contacting with the upper surfaces of said rolls, substantially as described.



4. In combination with a grease-pot wherein an oil finish is given to the surfaces of metal-coated plates, a pair of relatively adjustable finishing-rolls rotatably mounted therein, a pair of laterally-adjustable nip-plates engaging said rolls at opposite ends thereof and forming with the surfaces of said rolls a trough wherein oil may be poured and retained, and laterally-adjustable means for preventing the escape of oil from said trough as said rolls rotate, substantially as described.

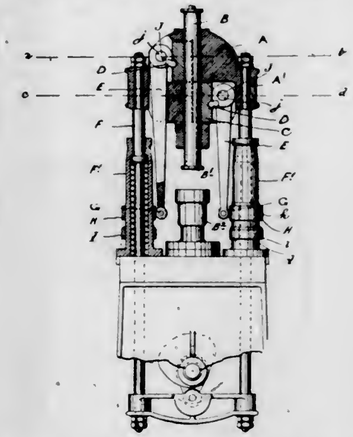
844,514. WINDOW-CURTAIN BRACKET. LILLIAN E. GILLMORE, Huron, Ohio. Filed Oct. 29, 1906. Serial No. 341,017.



Claim.—1. In curtain-fixtures, a supporting member having a pair of ears, in combination with a curtain-supporting bracket comprising a tubular standard engaged in said ears and an arm 3 rigid with said standard and resting on the upper of said ears, a separate brace 4 extending at an inclination from the bottom of said arm beneath the lower of said ears and a screw bearing against said arm from beneath and engaged with said standard and adapted to frictionally lock the bracket in any desired position.

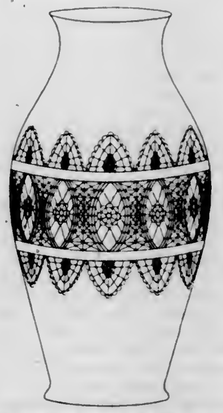
2. In curtain-fixtures, a supporting-plate 6 provided with ears 7 on its face, a bracket consisting of a standard 2 and a horizontal arm 3 rigidly connected and rotatably supported in said ears, an inclined brace 4 supporting said arm and having its lower end engage over the end of said standard 2 and shaped to rest horizontally beneath and against lower ear 7, and a screw 8 engaged in the end of said standard 2 and bearing against said brace, whereby said parts are clamped together substantially as described.

844,515. AUTOMATIC CLAMPING PRESSURE MECHANISM. JOSIAH M. GIMSON, JOSIAH GIMSON, ARTHUR J. GIMSON, and SYDNEY A. GIMSON, Leicester, England. Filed Mar. 25, 1904. Serial No. 200,070.



Claim.—In a machine of the character described the combination with upper and lower cross-heads, of rods connecting said cross-heads, springs tending normally to elevate said rods, hollow pillars in which said rods are guided, cams mounted on said pillars, a plunger loosely mounted in said upper cross-head, gripping-blocks partly surrounding said plunger, levers adjustably fulcrumed in said upper cross-head, rollers carried by said levers and engaging said cams, and transmitting-plates connecting said levers and gripping-blocks, substantially as and for the purpose set forth.

844,516. METHOD OF DECORATING ENAMEL WARE, CHINA, PORCELAIN, MAJOLICA, GLASS, &c. RUDOLF GOTTLIEB, Brünn, Austria-Hungary. Filed Dec. 15, 1905. Serial No. 291,837.

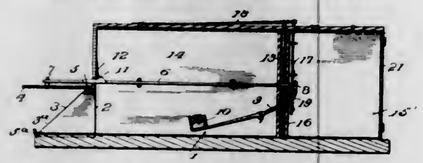


Claim.—1. The method of decorating enamel, porcelain, china, majolica, and the like surfaces with a lace-like design, consisting in directly and closely applying an orna-

mental flexible pattern of lace or the like upon the surface to be decorated, then blowing upon the portions of said surface exposed by the perforations of the lace, a thick enameling paint of a contrasting color, removing the fibrous material, and permitting the applied enamel to harden.

2. The method of decorating enamel, porcelain, china, majolica, and the like surfaces with a lace-like design, consisting in applying an ornamental flexible pattern of lace or the like so closely upon the surface to be decorated as to prevent the flowing of enamel underneath said lace, then applying to the portions of said surface exposed by the perforations of the lace, a thick enameling paint of a contrasting color, removing the fibrous material, and permitting the applied enamel to harden.

844,517. ANIMAL-TRAP. LAUNVILLE HAAS, Columbia City, Ind. Filed Aug. 9, 1906. Serial No. 329,925.



Claim.—1. An animal-trap having a suitable entrance-opening, a door closing said entrance, a longitudinally-movable trip-rod engageably coöperating with the door to hold the same in open position, a spring applied to the body of the trap and coöperating with the trip-rod to normally throw the same out of coöperation with the door, and a bait-lever arranged to engage the trip-rod to hold the same in coöperation with the door, and movable to permit of release of the door from the trip-rod.

2. An animal-trap provided with a suitable entrance, a door for said entrance, a loop projecting from the door, a longitudinal trip-rod engaging with the loop aforesaid to hold the door in open position, a projection extending from said trip-rod between its ends, a spring secured to the body of the trap, and engaging the projection of the trip-rod and normally tending to disengage the latter from the loop, and a bait-lever pivoted to the trap and provided with an extension having an aperture through which the trip-rod is slidable, said lever being arranged to engage the trip-rod and hold the same in engagement with the loop, as specified.

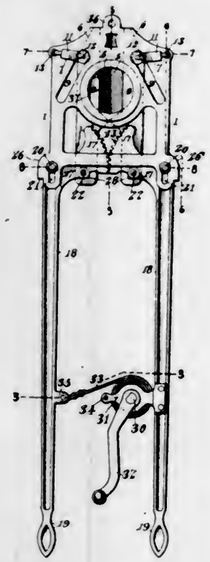
3. An animal-trap comprising a trap-body or inclosure, a partition separating the same into first and second compartments, an entrance leading to the first compartment, a door for closing said entrance, a trip-rod connected with said door, a bait-lever connected with said trip-rod, the partition aforesaid being provided with an egress-opening leading from the first compartment to the second compartment, a choke-bar mounted on the partition aforesaid and adapted to operate across the egress-opening above mentioned, a trip-bar for holding the choke-bar in a predetermined position, a spring connected with the choke and trip bars aforesaid, and a catch adapted to engage the trip-bar, said trip-bar extending so as to project across the egress-opening in the partition.

844,518. CUTTING IMPLEMENT. HARRY HARDEN, London, Ohio, assignor of one-fourth to Edward C. Helman, Waverly, Ohio. Filed Feb. 24, 1906. Serial No. 302,786.

Claim.—1. A cutting implement comprising a frame, a pair of reciprocatable blades having inner cutting edges and provided with angularly-disposed guiding edges, means mounted on the frame and arranged to be engaged by the said guiding edges to move the blades inwardly, and means for moving the blades longitudinally.

2. A cutting implement comprising a pair of reciprocatable cutting-blades having tapered outer ends, antifriction devices arranged to be engaged by the tapered ends of the blades for forcing the same inwardly, and means located at the other ends of the blades for moving the blades longitudinally.

3. A cutting implement comprising a casing, a pair of reciprocatable blades slidable in the casing and having angularly-disposed edges, relatively fixed means located within the casing and arranged to be engaged by the said edges, and means for moving the blades longitudinally, whereby the said blades will be forced inwardly by the antifriction devices.



4. A cutting implement comprising a frame having slots arranged at an angle, blades, extensible links pivotally connected with the frame and having pivots operating in the slots and connected with the blades, and means for moving the blades longitudinally.

5. A cutting implement comprising a frame having converging slots, a pair of cutting-blades, extensible links operating in the slots and connected with the frame and with the blades, and operating members or levers having link connections with the blades.

6. A cutting implement comprising a frame having angularly-disposed slots, blades having cutting edges, a pair of extensible links connected with the blades and with the frame and operating in the said slots, each link being composed of a plurality of sections or members and provided with a spring for engaging the same, and operating means for moving the blades.

7. A cutting implement comprising a frame having angularly-disposed slots, a pair of blades having cutting edges, extensible links connected with frame and having pivots operating in the slots and connected with the blades, each link being composed of slidable connected members or sections, one of the sections or members being tubular to receive the other, and having a spring which engages each of the members, and means for operating the blades.

8. A cutting implement comprising a frame, a pair of cutting-blades, extensible links connecting the cutting-blades with the frame, oscillatory levers or members connected with the frame and with the blades, and means for moving the levers or members longitudinally when the same are oscillated.

9. A cutting implement comprising a frame, a pair of blades, oscillatory levers or members fulcrumed on the frame and provided with toothed arms meshing with each other and connected with the blades for operating the same, and means for automatically shifting the fulcrum-points of the levers or members when the same are oscillated.

10. A cutting implement comprising a frame, a pair of blades, operating levers or members fulcrumed on the frame and provided with toothed arms meshing with each other and connected with the blades for actuating the same, and outer gearing for moving the levers longitudinally when the same are oscillated.

11. A cutting implement comprising a frame having fixed longitudinal racks, a pair of cutting-blades, and operating levers or members having arms connected with the blades, said arms being provided at their proximate ends with intermeshing teeth, and having teeth at their other ends for engaging the racks of the arm, whereby the levers will be moved longitudinally of the frame when they are oscillated to operate the blades.

12. A cutting implement comprising a frame provided with racks and having slots arranged in parallelism with the racks, levers having pivots operating in the slots, said levers being also provided with teeth meshing with the racks of the frame, whereby the levers are moved longitudinally of the frame when they are oscillated, and means for connecting the levers with the blades.

13. A cutting implement comprising a frame, blades, operating means for the blades provided with pivots, and reversible members carried by the blade and receiving the pivots for changing the position of the same.

14. A cutting implement comprising blades having openings, reversible plates arranged within the openings and having eccentrically-arranged pivots opening, said plates being reversible to arrange the pivot-openings at either side of the center, and operating members provided with pivots for engaging the openings of the reversible plates.

15. A cutting implement comprising a frame provided with angularly-disposed guiding means, blades having angularly-disposed guiding edges, relatively fixed devices mounted on the frame and arranged in the path of the blades to receive the guiding edges thereof, operating mechanism for actuating the blades, and means coöperating with the guiding means for connecting the blades with the frame.

16. A cutting implement comprising a frame having outwardly-converging slots, blades, links operating in the slots and connected with the blades and with the frame, and operating levers or members fulcrumed on the frame and having arms connected with the blades for actuating the same.

17. A cutting implement comprising a frame, a pair of blades, link connections between the blades and the frame, and operating levers or members forming link connections between the blades and the frame, said operating levers or members being also provided with intermeshing teeth for causing the blades to move in unison.

18. A cutting implement comprising a frame, a pair of blades, link connections between the blades and the frame, operating levers or members forming link connections between the blades and the frame, the said operating levers or members being also provided with intermeshing teeth for causing the blades to move in unison, and separate gearing carried by the operating levers or members and by the frame for moving the said levers or members longitudinally when the same are oscillated.

19. A cutting implement comprising a frame having outer converging guides and inner longitudinal guides, a pair of blades, means operating in the outer guides for connecting the blades with the frame, and operating mechanism operated on the frame and operating in the inner guides and connected with the blades.

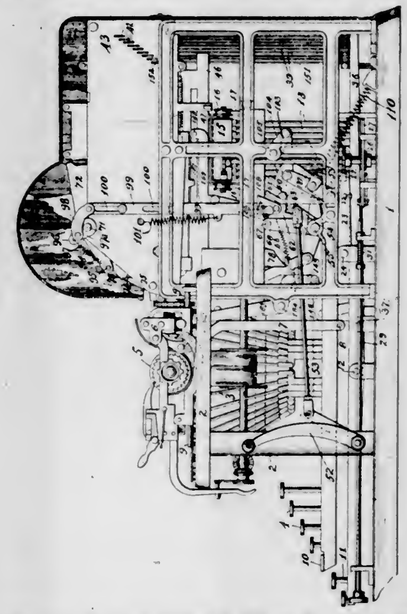
20. A cutting implement comprising a frame having angularly-disposed guides and longitudinal guides, blades, means operating in the angularly-disposed guides for connecting the blades with the frame, operating means also connected with the blades and having means operating in the other guides, and means for moving the said operating means along the longitudinal guides.

21. A cutting implement comprising a frame, blades, extensible links connected with the blades and with the frame, levers fulcrumed on the frame and connected with the blades, and means for moving the levers in a direction longitudinally of the frame when they are oscillated to operate the blades.

22. A cutting implement comprising a pair of blades, operating members or levers connected with the blades for actuating the same, a windlass-shaft carried by one of the levers or members and having operating means, and a flexible connection attached to the other lever or member with the windlass-shaft and adapted to be wound thereon to move the levers or members inwardly.

23. A cutting implement comprising a frame, a pair of blades, operating levers or members fulcrumed on the frame and provided with bifurcated arms receiving the blades and connected with the same, said arms being extended at one side and provided with teeth meshing with each other, and outer gearing for moving the levers or members longitudinally when the same are oscillated.

844,519. MULTIPLYING AND TYPE-WRITING MACHINE. WILLIAM W. HOPKINS, St. Louis, Mo., assignor to Moon-Hopkins Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed May 12, 1904. Serial No. 207,569.



Claim.—1. The combination of a movable carriage, parts adjustable therein to represent numbers, devices embodying a mechanical representation of the products of the digits multiplied by themselves and by each other, bars for controlling said devices, means for moving said bars against the parts adjusted to represent numbers in the carriage, wheels, and mechanism operable to translate the products represented by certain of the devices controlled by said bars into the wheels when the bars are so moved.

2. In a machine of the character described, a movable carriage, means to represent numbers therein, a series of movable bars, keys for operation after the number has been represented in the carriage, and devices controlled by the keys and operable in connection with the bars to register the products.

3. In a machine of the character described, a movable carriage, stops in said carriage, keys for positioning said stops and for moving said carriage laterally, multiplying devices including elements movable in one direction to obtain the tens partial product, and in the opposite direction to obtain the units partial product, and means for adding said partial products together; substantially as described.

4. In a machine of the class mentioned the combination with type-writing mechanism employing a platen, of a multiplicand-register, a movable bar for each digit regis-

tered, keys representing digits, a product-registering device operable in connection with the bars to register the product of the multiplicand multiplied by the digit of the key operated, and means for printing the product.

5. In a machine of the character described, keys and stops operable thereby to represent a number, traveling carriage in which said stops are arranged, in combination with keys separate from the first-mentioned keys, multiplying devices corresponding to the last-mentioned keys, said multiplying devices inculding elements movable in one direction to obtain the tens partial product, and in the opposite direction to obtain the units partial product, means for adding said partial products together and mechanism to operate the multiplying devices effectively to multiply any number represented by the said parts operated by the first-mentioned keys, by any number struck on the last-mentioned keys, substantially as specified.

6. The combination with the multiplicand-register, of a series of digit-keys, a series of independently-movable multiplying parts for each key, means for moving one of the independently-movable multiplying parts for each digit of the multiplicand after operation of one of the digit-keys to produce the product of the corresponding digits of the multiplicand multiplied by the digit of the key operated.

7. In a machine of the class mentioned, a multiplicand-register, keys denoting digits, a series of independently-movable multiplying devices arranged so that when operated after operation of one of said keys they will register the product of the multiplicand multiplied by the digit of the key operated, registering-wheels, and recording mechanism operable to print the product.

8. In a machine of the class mentioned, a multiplicand-register, keys denoting digits, a series of multiplying parts for each key, means for operating the required multiplying parts after operation of its key to register the product of the multiplicand multiplied by the key-digit, mechanism operable to perform the required addition, and devices for recording the product.

9. In a multiplying-machine, a multiplicand-register, product-wheels, key-controlled multiplying mechanism communicating between the multiplicand-register and the product-wheels, means for operating the multiplying mechanism to register the partial products in the wheels, means for performing the required addition and means for recording the product.

10. In a machine of class mentioned, a register, digit-keys, multiplying devices, means for operating the multiplying devices corresponding to the digit of the key operated, means for registering the product of the key-digit times the number in the register, means for performing the latter operation to register all the partial products in order, means for adding the partial products together, and means for recording the product.

11. In a multiplying-machine the combination with a register-carriage, and a series of bars movable in connection with the carriage and whose movement is determined by the number registered, of multiplying devices comprising members movable with the bars, and registering devices operable in connection with the members to register the product as determined by the relation of all the parts mentioned after their operation.

12. In a multiplying-machine, the combination with a register-carriage, a series of bars, and devices for moving the carriage and bars relatively in order to determine the scope of movement of the bars by the number registered in the carriage, of keys, multiplying devices controlled thereby and operable in connection with the bars to multiply the number registered in the carriage by the digit of the key moved, register-wheels, and means for registering the product therein.

13. In a multiplying-machine the combination with a register-carriage, means for registering numbers therein, bars, and devices for moving the bars coördinately with the number registered in the carriage, of keys denoting the digits of the multiplier, multiplying devices controlled by the keys, means for moving the required multiplying devices after operation of the required key, register-wheels for the product, gear attachments movable in two directions, movement in both directions being limited by the multiplying devices, and means for operating the register-wheels by the gear attachments to produce therein the product of the number registered in the carriage multiplied by the digit of the key operated, substantially as specified.

14. In a multiplying-machine, the combination with a register-carriage, and means for registering a number therein, of a member constructed to register by irregularities from the plane of its edges, the product of any digit in the number registered in the carriage multiplied by another digit, ten tens and units of the product being registered at different points on the same member, and means for operating said member as required to perform said function.

15. In a multiplying-machine the combination with a register-carriage and means for registering numbers therein, of members constructed to register by irregularities from the planes of their edges the products of the digits in the number registered in the carriage multiplied by another digit, means for operating said members to perform said functions, product-register wheels, and means for operating them for the purpose specified.

16. In a multiplying-machine, the combination with multiplying devices of product-register wheels, means for operating them to register the products therein, carrying devices operable in connection with the wheels, and means for operating said devices as required to carry a plurality of digits from the same orders, without completing a single process of carrying, substantially as specified.

17. In a machine of the class described, the combination of a register-carriage, means for registering numbers therein, wheels, bars and plates and gear attachments intermediate of the register-carriage and wheels, means for operating the bars, the plates and the gear attachments as required to multiply the number in the carriage, means for registering the product in the wheels, means for recording the product on a platen, and means for recording any desired words on the same platen whereon the products are recorded.

18. In a multiplying-machine, a carriage, means for registering numbers therein, digit-keys, digit-multiplying plates having irregularities on their edges arranged on a scale to indicate the digits of the products, wheels, and devices intermediate of the wheels and plates operable to register the given product in the wheels.

19. In a multiplying-machine, a register-carriage, means for registering numbers therein, a series of plates for each digit, said plates having irregularities on their edges arranged on a scale to indicate the digits in the results of multiplication of the number registered by the digit which the plate represents, wheels, means for registering the results in the wheels, means for adding different results, and means for recording the results.

20. In a machine of the character described, a traveling carriage parts therein adjustable to represent numbers, a series of multiplying devices, bars movable against the adjustable parts, wheels, and gear devices intermediate of the multiplying devices and the wheels for operating the latter to introduce products therein.

21. In a machine of the character described, a plate representing the product of a digit multiplied by itself and by the other digits, the units of the products being represented on one edge of the plate and the tens of the products being represented on the other edge.

22. In a machine of the character described, a plate for each digit, each plate representing the product of a digit multiplied by itself and by the other digits, means for adding together any desired combination of the products so represented and means to record the final product.

23. In a machine of the character described, a series of plates for each digit, each plate representing the product of a digit multiplied by itself and by the other digits and means for adding together any desired combinations of the products so represented.

24. In a machine of the character described, a series of plates representing the products of the digits multiplied by themselves and by the other digits, means for adding together any desired combination of the products so represented, and means to record the final product.

25. In a machine of the character described, a series of groups of multiplying devices, each group containing a mechanical representation of the products of the digits multiplied by themselves and by each other, a common actuating member for all the devices in each group, means for adjusting said devices to move them separately, and wheels to receive products when the multiplying devices are operated.

26. In a machine of the character described, a series of groups of multiplying devices, each group containing a mechanical representation of the digits multiplied by themselves and by each other, means for moving the multiplying devices in each group separately, wheels to receive products, and means for recording the products.

27. In a machine of the character described, a series of groups of devices, each group embodying a mechanical representation of the digits multiplied by themselves and by each other, a member for actuating all the devices of each group, means to control said devices to move them separately, wheels to receive products and recording mechanism to record the final products.

28. In a machine of the character described, a series of devices arranged mechanically to represent the products of digits multiplied by themselves and by each other, means to register products of numbers multiplied together, a platen, and means to record the products on the platen.

29. In a machine of the character described, a series of devices arranged to represent mechanically the products of the digits multiplied by themselves and by each other, means to register products of numbers multiplied together, a platen, and means to record the products on the platen, in combination with type-writing mechanism operable to record on the platen aforesaid.

30. In a machine of the character described, a series of groups of devices, each group containing a mechanical representation of the digits multiplied by themselves and by each other, means for moving the devices in each group separately, means to register products, a platen, and mechanism to record products on the platen, in combination with type-writing mechanism operable to record on the platen aforesaid.

31. In a machine of the character described, a series of multiplying-plates representing the products of digits multiplied by themselves and by each other, actuating devices, wheels to register the products, carrying mechanism associated with the wheels, and recording mechanism to record the products, substantially as specified.

32. In a machine of the character described, a series of multiplying-plates representing the products of the digits multiplied by themselves and by each other, actuating devices, wheels to register the products, carrying mechanism associated with the wheels, a platen, means to record the products on the platen, and type-writing mechanism operable to print words and figures on said platen, substantially as described.

33. In a machine of the character described, a plurality of plates arranged to represent the products of the digits multiplied by themselves and by each other, wheels, actuating devices controlled by the plates to operate the wheels, and means to operate the plates as required to multiply numbers in the manner described in combination with mechanism operable to record the products of the numbers which were multiplied together.

34. In a machine of the character described, parts adjustable to represent numbers, plates arranged to represent mechanically the products of the digits multiplied by themselves and by each other, means for moving any desired plates coincidently with the parts adjusted to represent a number; means to register the products of the number represented by the adjusted parts multiplied by the digits of the plates moved, and means to add the partial products as produced in the process of multiplication.

35. In a machine of the character described, parts adjustable to represent numbers, plates embodying a mechanical representation of the digits multiplied by themselves and by each other, wheels, means for moving the plates coördinately with the adjusted parts and effectively to multiply the number represented thereby by another number or by itself, means to register the product in the wheels, and means to record the product.

36. In a machine of the character described, parts adjustable to represent numbers, plates embodying a mechanical representation of the products of the digits multiplied by themselves and by each other, wheels, means for moving the plates coördinately with the adjusted parts effectively to multiply the number represented thereby by another number or by itself, means to register the product in the wheels, a platen, mechanism to record the product on the platen, and type-writing mechanism operable to print words and figures on the said platen.

37. In a machine of the character described, a series of keys, parts adjustable by the keys to represent numbers, a series of key-controlled parts embodying a mechanical representation of the digits multiplied by themselves and by each other, means for moving said key-controlled parts effectively to multiply the number represented by the adjusted parts by another number or by itself, and means to record the product, substantially as specified.

38. In a machine of the character described, a series of keys, parts adjustable by the keys to represent numbers, a series of key-controlled parts embodying a mechanical representation of the digits multiplied by themselves and by each other, means for moving the key-controlled plates effectively to multiply the number represented by the adjusted parts by another number or by itself, a platen, means for recording the product on the platen, and type-writing mechanism operable to print on said platen.

39. In a machine of the character described, a series of wheels, parts adjustable to represent numbers, mechanism intermediate of the said parts and wheels operable effectively to multiply the number represented by the adjusted parts by another number or by itself, means to register the product in the wheels and means to record the product, substantially as specified.

40. In a machine of the character described, a series of wheels, parts adjustable to represent numbers, mechanism operable effectively to multiply the number represented by the adjusted parts by another number or by itself, means to register the product in the wheels, a platen, mechanism to record the product on the said platen, and type-writing mechanism operable to record words and figures on the said platen.

41. In a machine of the character described, a series of multiplying parts containing a mechanical representation of the products of the digits multiplied by themselves and by each other, wheels, mechanism operable in connection with the multiplying parts and the wheels to introduce the products into the latter, and means to record the products, substantially as described.

42. In a machine of the character described a series of multiplying parts containing a mechanical representation of the digits multiplied by themselves and by each other, mechanism operable in connection therewith to carry to higher orders, and wheels controlled by said mechanism to receive the products.

43. In a machine of the character described, a series of multiplying parts, mechanism operable in connection therewith to carry to higher orders, wheels to receive the products and carrying mechanism associated with the wheels.

44. In a machine of the character described, a series of multiplying parts, mechanism operable in connection therewith to carry to higher orders, wheels to receive the products, carrying mechanism associated with the wheels, and mechanism to record the products.

45. In a machine of the character described, multiplying parts containing a mechanical representation of the products of the digits multiplied by themselves and by each other, wheels, mechanism operable in connection with the multiplying parts to carry from lower to higher orders and to operate the wheels to introduce the products therein, and means to record the products, substantially as described.

46. In a machine of the character described, multiplying parts containing a mechanical representation of the products of the digits multiplied by themselves and by each other, mechanism operable in connection therewith to carry to higher orders, wheels operated by said mechan-

ism to receive the products, carrying mechanism associated with the wheels, and means to record the products.

47. In a machine of the character described, the combination with word-printing mechanism having a platen arranged to hold paper, of wheels, number-representing parts, an operating-handle, mechanism controlled by the operating-handle to multiply the number represented by the number-representing parts by any other digit at each operation and to introduce the product into the wheels, and printing mechanism separate from the word-printing mechanism for recording the product on the platen aforesaid.

48. In a machine of the character described, the combination with word-printing mechanism having a platen arranged to hold paper, of wheels, number-representing parts, an operating-handle, mechanism controlled by the operating-handle to multiply the number represented by the number-representing parts by any other digit and to introduce and add together the tens and units partial products in the wheels, and printing mechanism separate from the word-printing mechanism for recording the product on the platen aforesaid.

49. In a machine of the character described, multiplying parts containing a mechanical representation of the products of the digits multiplied by themselves and by each other, wheels, actuating devices for the wheels and mechanism for operating the multiplying parts and actuating devices as required to introduce products into the wheels, a platen, printing-type which are positioned by the multiplying parts and means to record the products represented in the wheels on the said platen.

50. In a machine of the character described, multiplying parts containing a mechanical representation of the products of the digits multiplied by themselves and by each other, wheels, actuating devices for the wheels, and mechanism for operating the multiplying parts and actuating devices as required to introduce products into the wheels, a platen, and means to record the products represented in the wheels on the said platen in combination with word-printing mechanism operable to print any desired word on the platen aforesaid.

51. In a machine of the character described, multiplying parts containing a mechanical representation of the products of the digits multiplied by themselves and by each other, wheels, actuating devices for the wheels, and mechanism for operating the multiplying parts and actuating devices as required to introduce products into the wheels, a platen, and means to record the products represented in the wheels on the said platen in combination with word-printing mechanism operable to print any desired word on the platen aforesaid in alinement with the products recorded thereon.

52. In a machine of the character described, a series of parts representing the products of the digits multiplied by themselves and by each other, an operating-handle, means controlled by the handle to adjust the said parts to represent the product of any desired number multiplied by any desired digit, a platen, and mechanism operable to record the product on the platen, and mechanism operable to print any desired words on the said platen.

53. In a machine of the character described, a series of parts representing the products of the digits multiplied by themselves and by each other, an operating-handle, means controlled by the handle to adjust the said parts to represent the product of any desired number multiplied by and desired digit, a platen, mechanism operable to record the product on the platen, and mechanism operable to print any desired words on said platen in alinement with the product-record.

54. In a machine of the character described, the combination with means for setting up numbers to be multiplied, and multiplying devices including elements movable in one direction to obtain the tens partial product and in the opposite direction to obtain the units partial product; substantially as described.

55. In a machine of the character described, the combination with means for setting up numbers to be multiplied, and multiplying devices including elements movable in one direction to obtain the tens partial product and in the opposite direction to obtain the units partial product, and a register for adding the partial products together; substantially as described.

56. In a machine of the character described, the combination with a group of multiplying-plates, each plate having complementary shoulders for determining the tens and units partial products, and digit-keys for selecting a particular plate; substantially as described.

57. In a machine of the character described, the combination with a group of multiplying-plates, each plate having complementary shoulders for determining the tens and units partial products, a rocking element for coöperating with said complementary shoulders, and digit-keys for selecting the plate; substantially as described.

58. In a machine of the character described, the combination with a group of multiplying-plates having complementary shoulders for determining the tens and units partial products, and independently-movable part, one coöperating with the tens partial-product shoulders and the other with the units partial-product shoulders; substantially as described.

59. In a machine of the character described, the combination with multiplying-plates provided with complementary shoulders for determining tens and units partial products, a part movable in one direction to coöperate with the tens partial-product shoulders, another independently-movable part coöperating with the units partial-product shoulders, and means for registering and adding together the partial products obtained by said two moving parts; substantially as described.

60. In a machine of the character described, the combination with a group of movable gears each having projections extending in opposite directions, multiplying-plates having complementary shoulders for determining the tens and units partial products, means for positioning said multiplying-plates, and means for moving said gears first in one direction so that one projection will coöperate with a tens partial-product shoulder, and then in the opposite direction so that the projection on the adjacent gear will coöperate with the units partial-product shoulder; substantially as described.

61. In a machine of the character described, the combination with a plurality of gears having lateral projections extending from each side thereof, a group of multiplying-plates adjacent each gear, the plates in some of said groups coöperating with lateral projections of two adjacent gears, means for positioning said plates, and means for moving said gears; substantially as described.

62. In a machine of the character described, the combination with a group of multiplying-plates each having complementary shoulders identified with the tens and units partial products of the several digits multiplied by themselves and by each other, digit-keys, and connections between said keys and said plates whereby when any digit-key is operated a particular multiplying-plate is positioned thereby; substantially as described.

63. In a machine of the character described, the combination with the multiplying-plates having complementary shoulders identified with tens and units partial products, there being a group of such plates for each denomination, denominational gears coöperating with said groups of plates, means for preventing movement of the units-gear when the tens partial product is being obtained, the tens, hundreds, thousands, &c., gears being provided with lateral projections coöperating wth the plates of two groups; substantially as described.

64. In a machine of the character described, the combination with multiplying-plates and means for positioning them, of gears identified with different denominations arranged on each side of said plates and provided with projections extending in opposite directions, whereby when said gears are moved in one direction the projection on one of them will coöperate with said plate, and when said gears are moved in the opposite direction the projection on the other of said gears will coöperate with said plate; substantially as described.

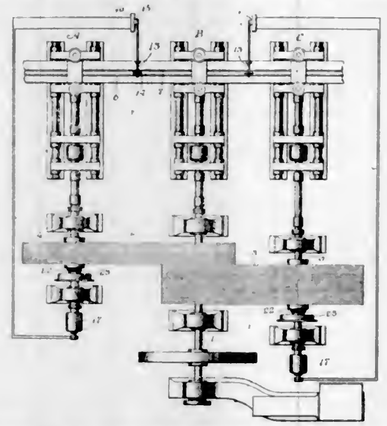
65. In a machine of the character described, the combination with multiplying-plates and means for positioning said plates, of gears identified with different denominations and arranged on each side of said positioned plates, means for controlling the movements of said gears, and means whereby one of said gears is released to move in one direction while the other gear remains stationary, and means whereby said other gear may be moved in the opposite direction when the first-mentioned gear is held stationary; substantially as described.

66. In a machine of the character described, the combination with a shiftable paper-carriage, printing-type normally out of printing-line, and means for shifting said carriage in printing position over said type, and printing-hammers which are controlled by said means; substantially as described.

67. In a machine of the character described, the combination with register-wheels; printing-type whose position is controlled by said register-wheels, a paper-carriage, and means for shifting said paper-carriage to printing position over said type previous to taking a printing impression from said type; substantially as described.

68. In a machine of the character described, the combination with multiplying devices, including shouldered plates for determining the tens and units partial products, means for adding said partial products together, printing-type for recording the product determined by said multiplying devices, a paper-carriage, and means for shifting said paper-carriage over said printing-type previous to making a printing impression of said product; substantially as described.

844,520. ROLLING-MILL. SIGMUND V. HUBER, Pittsburg, Pa. Filed Mar. 24, 1906. Serial No. 307,907.



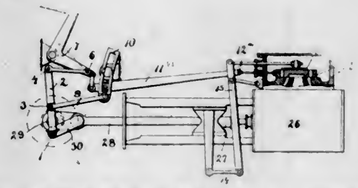
Claim.—1. A continuous rolling-mill having in combination two or more stands of rolls arranged in a common line of feed, means having a variable speed for driving said rolls, guide-troughs extending between adjacent stands of rolls and having portions movable by the article being rolled, and means controlled by said movable portions to control the roll-driving means.

2. A continuous rolling-mill having in combination two or more stands of rolls arranged in common line of feed, means having a variable speed for driving said rolls, guide-troughs having a movable section, a movable plate arranged to bear on the article being rolled, and means adapted to be shifted by the trough-section and plate to control the roll-driving means.

3. A continuous rolling-mill having in combination two or more stands of rolls arranged in a common line of feed, a power-shaft having drums or pulleys, shafts for driving the stands of rolls provided with pulleys, the driving or driven pulleys having variable perimeters and means controlled by the article being rolled for changing the perimeters of said pulleys.

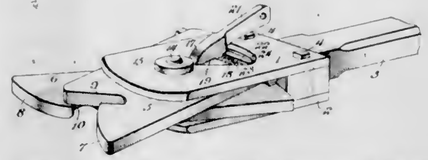
4. A continuous rolling-mill having in combination two or more stands of rolls arranged in a common line of feed, a power-shaft, shafts for driving the rolls, drums and ropes connecting the driving with the driven shafts, one of each pair of transmitting-drums having movable peripheral sections, an electric motor on the shafts carrying said drums, connections from said motors to the movable sections, and a controller operative by the article being rolled for controlling the motor.

844,521. VALVE-GEAR. JACOB IVERSEN, Tegel, near Berlin, Germany. Filed Jan. 31, 1905. Serial No. 243,592.



Claim.—In valve-gears for engines the combination of a rod 2, means to force the one end 1 of said rod to describe a closed curve, means to guide the other end 4 in an oscillating movement, means to change the position of this oscillating movement, a rod 9 pivotally connected and pivotally connecting said rod 2 with a connecting-link 10, a connecting-link 10 oscillating around a stationary center, means to transfer the motion of said connecting-link to the distributing device, and means to cut off the admission of the steam all substantially as set forth.

844,522. COUPLING FOR TRACTION-ENGINES. RICHARD JOHNSON, Sr., Freeport, Ill. Filed Apr. 25, 1906. Serial No. 313,614.



Claim.—1. In a car-coupling, the combination of a draw-head, a pair of jaws pivotally mounted in the draw-head and movable simultaneously and independently, one jaw being arranged above the other, and locking means carried by the upper jaw for engaging the lower jaw, whereby the jaws are locked in their closed position, said locking means, when released, permitting both jaws to open.

2. In a car-coupling, the combination of a draw-head, a pair of jaws pivotally mounted in the draw-head and movable simultaneously and independently, one jaw being arranged above the other, and a spring-actuated catch mounted on the upper jaw and arranged to engage the lower jaw for locking the jaws in their closed position, said catch, when released, permitting both jaws to open.

3. In a coupling, the combination of a draw-head provided in its top with an opening, a pair of jaws pivotally mounted in the draw-head, and a catch mounted on one of the jaws and engaging the other for locking the jaws in their closed position, said catch being operable in the opening of the top of the draw-head, whereby the jaws are permitted to swing laterally, when locked.

4. In a coupling, the combination of a pair of pivoted jaws provided with diverging slots which overlap and form an opening when the jaws are closed, said slots forming angularly-disposed faces to enable the jaws to be moved laterally by a coupling member, and means for locking the jaws in their closed position.

5. In a coupling, the combination of a draw-head, upper and lower jaws pivotally mounted in the draw-head and movable laterally and provided with longitudinal slots, the upper jaw being also provided with a transverse opening,

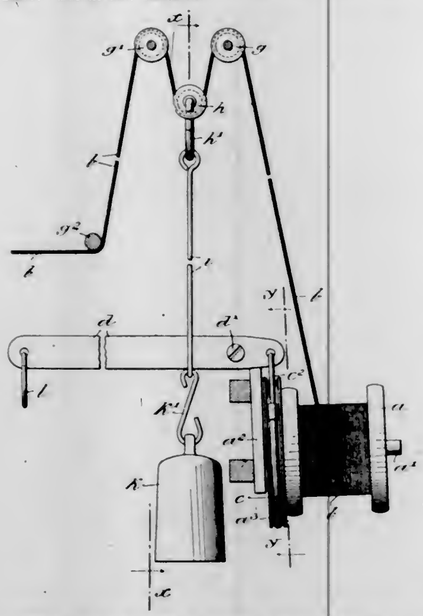
a pivot mounted on the upper jaw and extending along the transverse opening, a catch operating in the longitudinal slots and mounted on the pivot, and opposite spring-coils also mounted on the pivot and connected with the catch.

6. In a coupling, the combination of a draw-head, a vertical pivot carried by the draw-head, a pair of horizontally-movable jaws consisting of flat plates arranged one upon the other and having openings to receive the said pivot, and provided with longitudinal slots extending along the median line of the jaws, a locking device carried by one of the jaws and operating in the slots, said jaws being movable horizontally to carry the slots into and out of alinement.

7. In a coupling, the draw-head, in combination with the upper and lower overlapping jaws pivoted in the draw-head, and provided at their outer ends with diagonally and reversely arranged outwardly-diverging slots, which combine when the jaws are closed, to form a circular opening to receive the coupling-pin.

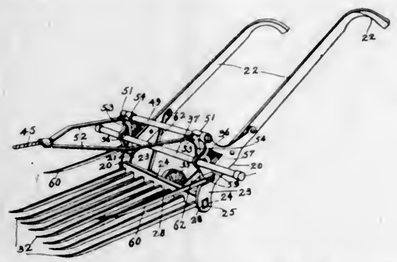
8. In a car-coupling, the combination of a draw-head, a pair of jaws pivotally mounted at an intermediate point of their length in the draw-head, one of the jaws being arranged above the other, means provided at the outer exposed ends of the jaws for connection with a coupling-pin, and locking means mounted on the upper jaw and engaging the lower jaw in rear of the pivotal point for holding the jaws in their closed position, said locking means, when released, permitting both of the jaws to open.

844,523. AUTOMATIC TENSION DEVICE FOR LOOMS. EMANUEL KEUSER, Philadelphia, Pa., assignor of one-half to Jacob Hotz, Philadelphia, Pa. Filed Dec. 18, 1905. Serial No. 292,143.



Claim.—In an automatic tension device, a spool for containing thread, a support carrying a shaft upon which said spool is mounted, a sheaf-wheel mounted on said shaft, removably connected with said spool and rotated by the same, a lever pivotally secured to said support, a band passing over said sheaf-wheel and respectively connected with said support and lever, said lever and band adapted normally to retard the rotation of said wheel and by the same said spool, fixed rollers for supporting and guiding the thread, a roller supported by the thread, a loop carried by said supported roller and passing around said lever, a weight secured to said loop, said weight, loop and roller adapted normally to hold the thread under tension and when the same breaks to permit said loop to depress said lever and by said band to stop rotation of said wheel and spool, and a stop secured to said lever and adapted when the loop slides downward upon the same to arrest further movement of said loop upon reaching the free end of said lever.

844,524. MANURE FORK OR CARRIER. LE GRAND KNIFFEN, Chicago, Ill. Filed Aug. 18, 1906. Serial No. 331,102.



Claim.—1. A fork or carrier consisting of two upright spaced-apart side members, a cross-head and a cross-bar transversely uniting the same, means on the cross-head to hold the material, and a laterally-extending pivot on each of the members above the cross-head.

2. A fork or carrier consisting of two upright spaced-apart side members each having on its inner surface a rearwardly and upwardly extending channel, a handle secured in each of said channels, a cross-head and a cross-bar transversely uniting the members, means on the cross-head to hold the material, and a laterally-extending pivot on each of members above the cross-head.

3. A fork or carrier consisting of two upright spaced-apart side members each having on its inner surface a rearwardly and upwardly extending channel, and on its outer surface means to secure a tine thereto, a handle secured in each of its channels, a tine located on the side of each of said members and extending forwardly therefrom, a cross-head and a cross-bar transversely uniting the members, means on the cross-head to hold the material and a laterally-extending pivot on each of the members above the cross-head.

4. A fork or carrier consisting of two upright spaced-apart side members, a tubular cross-head and a tubular cross-bar transversely uniting the same, means on the cross-head to hold the material, and a laterally-extending pivot on each of the members above the cross-head.

5. A fork or carrier consisting of two upright spaced-apart side members, a cross-head transversely uniting the same at their lower portions, cross-bars transversely uniting said members at their upper portions, one of said cross-bars projecting at its ends a considerable distance beyond the outer surface of said members to form pivots, and means on the cross-head to hold the material.

6. A fork or carrier consisting of two upright spaced-apart side members, a cross-head and a cross-bar transversely uniting the same, a cross-bar transversely uniting said side members, means on the cross-head to hold the material, a bail connected at its rear ends to said cross-bar, and a laterally-extending pivot on each of the side members above the cross-head.

7. A fork or carrier consisting of two upright spaced-apart side members, a cross-head and tubular cross-bars transversely uniting the same, means on the cross-head to hold the material, one of said cross-bars projecting at its ends a considerable distance beyond the outer surface of each of said members to form pivots, and reinforcing means applied to the outer portion of said tubular bar forming said pivots.

8. A fork or carrier consisting of two upright spaced-apart side members, a cross-head and a cross-bar transversely uniting said members, means on the cross-head to hold the material, said cross-bar located above the cross-head and projecting at its ends a considerable distance beyond the outer surface of each of said members to form pivots, and a bail loosely connected at its rear ends to the side members at points above and to the rear of the pivot forming the bar.

9. A fork or carrier consisting of two upright spaced-apart side members, a cross-head and a tubular cross-bar transversely uniting the same, means on the cross-head to hold the material, said cross-bar projecting a considerable distance beyond the outer surfaces of each of said members to form pivots, and a solid rod located in each end of the cross-bar to reinforce the same.

10. A fork or carrier consisting of two upright spaced-apart side members, a cross-head and a cross-bar transversely uniting the same, means on the cross-head to hold the material, said cross-bar projecting at its ends a considerable distance beyond the outer surfaces of each of said members to form pivots, a bail loosely connected at its rear ends to the side members at points above and to the rear of the pivot-forming bar, a handle secured to each of the side members, brace-bars connecting the handle and the cross-head.

11. A fork or carrier consisting of two upright spaced-apart side members, a cross-head and a cross-bar transversely uniting the same, a wheel journaled on the rear portion of the cross-head at about its middle, means on the cross-head to hold the material, a laterally-extending pivot on each side of the members above the cross-head, and a bail loosely connected at its rear ends to the side members at points above and to the rear of said pivots.

12. A fork or carrier consisting of two upright spaced-apart side members, a cross-head and a cross-bar transversely uniting the same, forwardly-projecting tines on the cross-head to hold the material, a laterally-extending pivot on each side of said members above the cross-head, and a bail loosely connected at its rear ends to the side members at points above and to the rear of said pivots.

13. A fork or carrier consisting of two upright side members each having a channel to receive a handle, a cross-head uniting the side members at their lower portions, means on the cross-head to hold the material, a transverse bar uniting the side members at their upper portions, a bail secured on said cross-bar and having on each of its sides a lateral projection, a pivot on each of the members, a spring-actuated and recessed lever fulcrumed on each of the members and adapted to engage the projections on the bail, and a handle located in each of the channels of the side members.

14. A fork or carrier consisting of two upright side members, a rearwardly-extending handle secured to each of said members, a cross-head uniting the side members at their lower portions, means on the cross-head to hold the material, a cross-bar uniting the side members at their upper portions, a bail secured at its rear ends to said cross-bar and having on each of its sides a lateral projection, a pivot on each of the sides of the fork or carrier, a spring-actuated and recessed lever fulcrumed on each of the said members and adapted to engage the projections on the bail.

15. A fork or carrier having dumping arms or pivots projecting laterally from the sides thereof near the rear of the device on which the same is rotated when being dumped.

16. A fork or carrier having dumping arms or pivots projecting laterally from the sides thereof near the rear of the device, on which the same is rotated when being dumped, a bail connected to the fork or carrier and said arms or pivots being located below the point of connection of the bail, in order that the draft through the same will assist in dumping the fork or carrier.

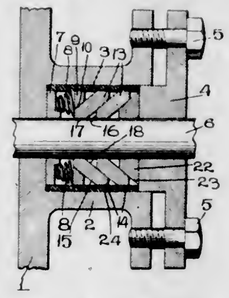
17. A fork or carrier having dumping arms or pivots projecting laterally from the sides thereof near the rear of the device, on which the same is rotated when being dumped, a wheel journaled on the rear lower portion of the fork or carrier to guide the same in its return down the chute, a bail connected with the fork or carrier and said arms or pivots being located below the points of connection of the bail in order that the draft through the same will assist in dumping the fork or carrier.

18. A fork or carrier adapted to travel on an inclined chute and having a wheel journaled on its rear lower portion at the middle thereof to assist and guide it in its movement down the chute.

19. A fork or carrier adapted to travel on an inclined chute of greater width than the carrier, means on the upper portion of the carrier to dump the same, and a wheel journaled on the rear lower portion of the carrier to assist and guide it in its movement down the chute after being dumped.

20. A fork or carrier consisting of two upright spaced-apart side members, a cross-head and a cross-bar transversely uniting the same, means on the cross-head to hold the material, a laterally-extending pivot on each side of the members above the cross-head, a bail pivotally connected at its rear ends to the fork or carrier and having on each of its sides a lateral projection, a spring-actuated and recessed lever fulcrumed on the fork or carrier near each of its sides and adapted to engage the projections on the bail.

844,525. PISTON-ROD PACKING. HENRY W. LEE, St. Louis, Mo. Filed Feb. 5, 1906. Serial No. 299,464.



Claim.—1. A piston-rod packing, comprising a series of overlapping conical packing-rings arranged on the interior of a stuffing-box, each of which packing-rings comprises a series of segmental sections, each provided with the curved periphery 14, the inclined front face 15, the straight forward end 16, the inner curved surface 17 parallel with the periphery 14, the inner inclined surface 18 parallel with the inclined front face 15, and the straight rear end 19 parallel with the straight forward end 16; substantially as specified.

2. A piston-rod packing, comprising a series of overlapping conical packing-rings arranged on the interior of a stuffing-box, each of which packing-rings comprises a series of segmental sections, each provided with the curved periphery 14, the inclined front face 15, the straight forward end 16, the inner curved surface 17 parallel with the periphery 14, the inner inclined surface 18 parallel with the inclined front face 15, the straight rear end 19 parallel with the straight forward end 16, and the meeting ends of the segmental sections of each ring overlapping one another; substantially as specified.

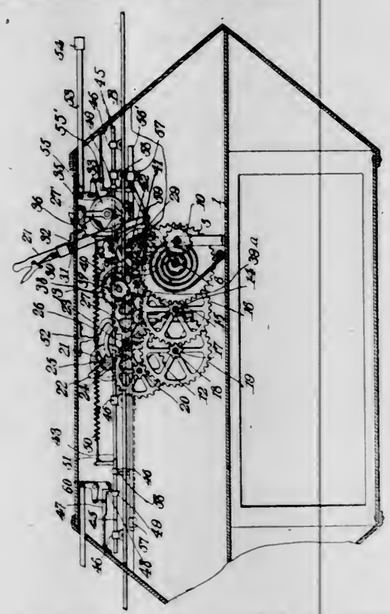
844,526. MAIL-CARRYING APPARATUS. CHARLES N. LIBEY, Lima, Ind. Filed July 24, 1906. Serial No. 327,565.

Claim.—1. In a device of the character described, the combination of a propelling-motor, a brake mechanism therefor, a propelling-wheel, means between the motor and wheel for driving the latter in either direction, and a common device for controlling said means and brake mechanism.

2. In a device of the class described, the combination of a car, a motor mounted therein, a driving-wheel, a reversible driving connection between the motor and wheel,

a brake mechanism in the car for automatically stopping the motor, and a single means for releasing the brake mechanism and reversing the driving connection.

3. In a device of the class described, the combination of a car, a line on which the car travels, a single driving-wheel on the line for propelling the car, a motor on the car for driving the wheel, a brake for the motor, and means for automatically setting the brake.



4. In a device of the class described, the combination of a car, a line on which the car is movably suspended, a single driving-wheel arranged to run over the line for propelling the car, a motor in the car, a reversing-gear between the motor and wheel, an automatically-actuated brake mechanism for the motor, and means for simultaneously releasing the brake and controlling the reversing-gear.

5. In a device of the class described, the combination of a car, a line on which the car travels, a driving-wheel which is shiftably mounted and arranged to ride on the line, a motor in the car including companion gears with which the wheel is adapted to independently engage, a manually-controlled means for shifting the driving-wheel, and a mechanism for simultaneously stopping the car and motor.

6. In a device of the class described, the combination of a car, a line on which the car travels, a driving-wheel which is shiftably mounted and arranged to ride on the line, a motor in the car including companion gears with which the wheel is adapted to be independently connected, a manually-controlled means for shifting the driving-wheel, separately-actuated brake mechanisms for the motor, means at the terminals of the line for actuating the brake mechanisms, and means for releasing the brake mechanisms.

7. In a device of the class described, the combination of a car, a line on which the car travels, a driving-wheel which is shiftably mounted and arranged to ride on the line, a motor in the car including companion gears with which the wheel is adapted to be independently connected, separately-actuated brake mechanisms for the motor, means at the terminals of the line for automatically setting the brake mechanisms, and a single device for simultaneously shifting the driving-wheel and releasing either of the brake mechanisms.

8. In a device of the class described, the combination of a car, a wheel for propelling the same, means on which the wheel is shiftable, oppositely-rotating wheels, a motor mechanism for driving the latter wheels, a manually-controlled mechanism for shifting the propelling-wheel into mesh with either of the oppositely-rotating wheels, and an automatic brake device for the motor.

9. In a device of the class described, the combination of a car, a wheel for propelling the same, means on which the wheel is shiftable, oppositely-rotating wheels, a motor mechanism for driving the latter wheels, a manually-controlled mechanism for shifting the propelling-wheel into mesh with either of the oppositely-rotating wheels, separate automatic brake devices for the motor, and a manually-controlled means for releasing the brake devices.

10. In a device of the class described, the combination of a car, a wheel for propelling the same, means on which the wheel is shiftable, oppositely-rotating wheels, a motor mechanism for shifting the latter wheels, separate automatically-actuated brake devices for the motor, and a manually-controlled means for releasing the brake devices and for shifting the propelling-wheel into mesh with either of the oppositely-rotating wheels.

11. In a device of the class described, the combination of a car, a propelling-wheel, a motor for driving the wheel in opposite directions, a balance-wheel, an escapement mechanism for the motor, and an automatically-actuated brake device arranged to engage the balance-wheel and arrest the action of the motor.

12. In a device of the class described, the combination of a car, a propelling-wheel, a motor for driving the wheel in opposite directions, a balance-wheel, separately-actuated brake-shoes arranged to engage the balance-wheel and stop the motor, and automatic means for actuating the brake-shoes.

13. In a device of the class described, the combination of a car, a propelling-wheel, a motor for driving the wheel in opposite directions, a balance-wheel, separately-actuated brake-shoes arranged to engage the balance-wheel and stop the motor, automatic means for actuating the brake-shoes, a manually-controlled means for releasing the brake-shoes from the balance-wheel, and means for setting or energizing the motor.

14. In a device of the class described, the combination of a car, a propelling-wheel, a motor, a reversible gearing between the motor and driving-wheel, a balance-wheel for the motor, an escapement for controlling the motor, separately-actuated brake-shoes arranged to engage the balance-wheel, automatic means for controlling the brake-shoes to engage the balance-wheel, and a common means for releasing the brake-shoes and actuating the reversible gearing.

15. In a device of the class described, the combination of a car, a propelling-wheel, a motor for driving the wheel, separately-actuated brake-carrying rods, springs for actuating the rods in one direction, latches for holding the said rods in their inoperative position, devices at the ends of the car for releasing the latches, and a manually-controlled device for setting the brake-carrying rods.

16. In a device of the class described, the combination of a car, a motor for propelling the same, a wheel driven by the motor, longitudinally-movable brake-carrying rods disposed on opposite sides of the said wheel for independently engaging the latter, springs for actuating the said rods, and a shipper device for resetting the said rods.

17. In a device of the class described, the combination of a car, a motor for propelling the same, a wheel driven by the motor, longitudinally-movable brake-carrying rods disposed on opposite sides of the said wheel for independently engaging the latter, stops on the rods, latches engaging the stops for holding the brakes out of engagement with the wheel, means for releasing the latches from said stops, a shipper-rod having devices adapted to engage said stops, and a manually-controlled lever for actuating the shipper-rod.

18. In a device of the class described, the combination of a car, a driving-wheel, a motor, a reversible gearing connection between the motor and wheel, a balance-wheel and escapement mechanism for the motor, brakes for engaging the balance-wheel to stop the motor, stops connected with the brake-shoes, latches for engaging the stops to hold the brake-shoes in their inoperative position, automatic devices for releasing the latches, a shipper-rod adapted to engage the stops for moving the latter into engagement with the latches, and a common mechanism for controlling the reversible gearing connection and the shipper-rod.

19. In a device of the class described, the combination of a car, a driving-wheel, a motor, a reversible gearing connection between the motor and wheel, a balance-wheel and escapement mechanism for the motor, brakes for engaging the balance-wheel to stop the motor, stops connected with the brake-shoes, latches for engaging the stops to hold the brake-shoes in their inoperative position, automatic devices for releasing the latches, a shipper-rod adapted to engage the stops for moving the latter into engagement with the latches, a lever for reversing the said gearing connection and shifting the shipper-rod, and a latch mechanism associated with the lever.

20. In a device of the class described, the combination of a car, a driving-wheel, a motor, a reversing-gear between the motor and wheel, means located outside of the car for controlling the reversing-gear, a brake mechanism for the motor, means extending outside of the car for actuating the brake mechanism, a line on which the car travels, and a device at the terminal of the line for engaging with the last-mentioned means to operate the same.

21. In a device of the class described, the combination of a car which is provided with a longitudinal passage open at the side of the car, a driving-wheel in the car located at the inner portion of the opening, a line extending through the opening, a supporting-bracket for the line which is adapted to pass through the opening, and a movably-mounted guide-wheel in the car coöperating with the driving-wheel which is adapted to suspend the car on the line.

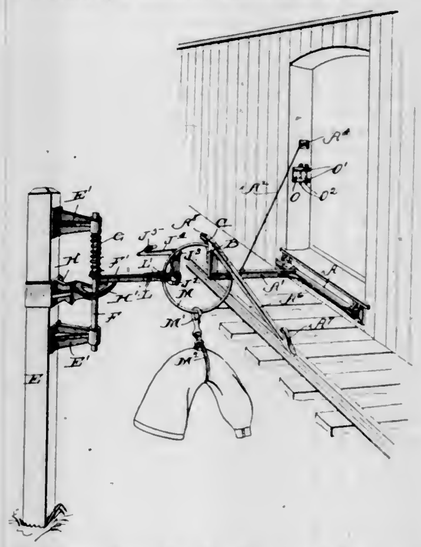
22. In a device of the class described, the combination of a car, a line on which the car travels, a driving-wheel arranged to run over the line, a motor for driving the wheel including a plurality of coiled actuating-springs, means for winding the springs, a brake mechanism for the motor, separate means for setting and releasing the brake mechanism, and means for reversing the motor.

844,527. MAIL-BAG CATCHER AND DELIVERER. ALTON L. LOGAN and WILLIAM F. GREENE, Washington, Ind. Filed Dec. 5, 1905. Serial No. 290,450.

Claim.—1. In a device of the kind described, a vertically-swinging arm, a vertical standard carried at the end of the arm, a forwardly and downwardly inclined receiving-arm carried by the standard, a rearwardly-extending arm carried by the standard, a plate carried by the rear face of the standard and terminating in a nose, a leaf-spring carried by the last-mentioned arm and engaging the nose, a plate having a nose carried by the first-mentioned arm, and a spring carried by said arm and having a free end in engagement with the nose of the last-mentioned plate.

2. A device of the kind described comprising a swinging arm carried by a car, a standard carried by said arm, lips carried by the arm and standard respectively and adapted to engage different points upon a ring, a receiving-arm carried by the standard, and parallel to the sides of the car, a horizontal swinging arm carried by a post, a standard carried by said horizontal arm, lips carried by the last-mentioned arm and standard respectively, and adapted to engage a ring at two different points, and a receiving-arm carried by the last-mentioned standard, and extending in the opposite direction to the first-mentioned receiving-arm.

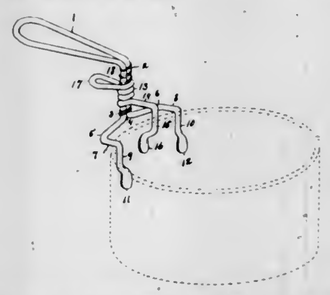
3. A device of the kind described comprising a vertically-swinging arm carried by a car, a standard carried at the free end of said arm, a forwardly and downwardly inclined receiving-arm carried by the said standard, a spear-head at the free end of said receiving-arm, an oppositely-extending arm carried by the standard, a plate having a lip carried by the standard, a spring carried by the last-mentioned arm and adapted to coact with the lip, a plate having a lip carried by the vertically-swinging arm, a spring adapted to coact with said lip, a ring adapted to engage the said lips and springs and a receiving-arm adapted to enter said ring and disengage the same from the lips and springs.



4. The combination with a post, of brackets in vertical alinement, a rod journaled therein, a horizontally-extending arm carried by the rod, a spring bearing downwardly upon said arm and a bracket carried by the post and having an arm centrally cut out and bent to guide the first-mentioned arm, as and for the purpose set forth.

5. A device of the kind described comprising a vertically-swinging arm carried by the car, a standard carried by said arm, a receiving-arm carried by the said standard and parallel to the sides of the car, fixed brackets supported adjacent a track, and in vertical alinement, a rotatable rod journaled in said brackets, an arm extending horizontally from said rod, a rotatable standard carried by said horizontal arm, means for locking the standard against rotation, a receiving-arm carried by said standard and extending in a direction opposite to the first-mentioned receiving-arm, a ring, means for detachably connecting a mail-sack to said ring, means carried by both of the arms and both of the standards for engaging the ring and holding it in position to be engaged by one of the said receiving-arms.

844,528. ADJUSTABLE PAN AND VESSEL LIFTER. ABRAHAM M. MENDELSON, New York, N. Y. Filed May 7, 1906. Serial No. 315,697.



Claim.—1. In a vessel-lifter, a handle having a depending portion at one end thereof, a plurality of arms fixed to

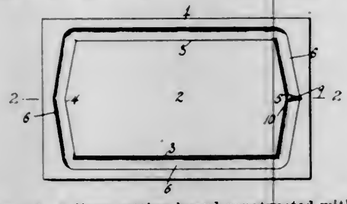
and diverging from the depending portion and adapted to engage one side of the side wall of a vessel, an arm slidably mounted on said depending portion of the handle, said arm when in one of its positions being adapted to engage the other side of the said side wall of the vessel in opposition to and coacting with said fixed arms to support the vessel when lifted.

2. In a vessel-lifter, a handle having a depending portion at one end thereof, a plurality of arms fixed to and diverging from the depending portion and adapted to engage one side of the side wall of a vessel, an arm slidably mounted on said depending portion of the handle, said arm when in one of its positions being adapted to engage the other side of the said side wall of the vessel in opposition to and coacting with said fixed arms to support the vessel when lifted, and a spring mounted on the depending portion of said handle and acting upon said arm to maintain the same yieldably under tension.

3. In a vessel-lifter, a handle having a depending portion at one end thereof, a plurality of arms fixed to and diverging from the depending portion, feet fixed to said arms and adapted to engage one side of the side wall of a vessel, an arm slidably mounted on said depending portion of the handle, spring means for retaining said arm yieldably under tension, said arm being provided with a foot at one end thereof adapted when said arm is in one of its positions to engage the other side of the said side wall of the vessel in opposition to and coacting with said feet on said fixed arms to support the vessel when lifted.

4. In a vessel-lifter, a handle having a depending portion at one end thereof, a plurality of arms fixed to and diverging from the depending portion, feet fixed to said arms and adapted to engage one side of the side wall of a vessel, an arm slidably mounted on said depending portion of the handle, a handle fixed to one end of said arm adapted for manually operating said arm in its upward movement, a depending portion at the other end of said arm being provided with a foot adapted when said arm is in one of its positions to engage the other side of the said side wall of the vessel in opposition to and coacting with said feet on said fixed arms to support the vessel when lifted.

844,529. LIVER-CUTTING BOARD. JOHN MEYERS, Philadelphia, Pa. Filed Sept. 28, 1906. Serial No. 336,619.



Claim.—1. A liver-cutting board constructed with a gutter in its surface having a gradually-sloping bottom extending from the central part of one end of the board convergingly across said end, along the sides to the other end of the board, and divergingly across the latter to the center of the board and an outlet-opening at the lowest part of the gutter.

2. A liver-cutting board constructed with a gutter in its surface having a gradually-sloping bottom extending from the central part of one end of the board across said end, along the sides to the other end of the board, and across the latter to the central part of the board, an outlet-opening at the lowest part of the gutter, and means for supporting the board out of contact with the surface upon which it is rested.

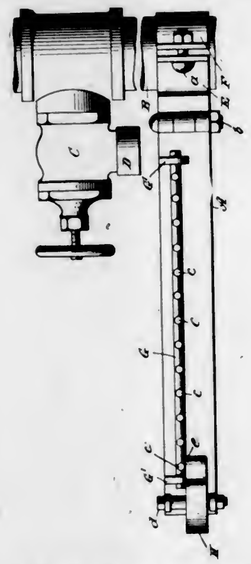
844,530. MANUFACTURE OF CEMENT. FRANZ M. E. VON MOLLENBRUCK, Linz, Austra-Hungary. Filed Sept. 22, 1906. Serial No. 335,783.

Claim.—1. The method of manufacturing cement consisting in first mixing cementitious material with fibrous material and then grinding said mixture whereby a more intimate mixture of the cementitious and fibrous materials is secured, substantially as described.

2. The method of manufacturing cement consisting in first mixing cement with a fibrous material and then grinding said mixture, whereby a more intimate mixture of cement and fibers is secured, substantially as described.

3. The method of manufacturing cement, consisting in first mixing Portland cement with a fibrous material and then grinding said mixture whereby said ingredients are more intimately mixed, substantially as described.

844,531. HOSE-RACK. WILLIAM MCCLINTOCK, New York, N. Y. Filed Jan. 25, 1906. Serial No. 297,889.



Claim.—1. In a hose-rack, the combination with a hinged supporting-bar, of a shelf composed of a bar hinged at its ends and having a series of short bars rigidly connected therewith, and a latch hinged upon the supporting-bar for sustaining the shelf in horizontal position, said shelf being arranged to swing down and deliver the hose when the sustaining-latch is withdrawn, substantially as and for the purposes set forth.

2. In a hose-rack, the combination with the supporting-bar hinged as explained, of a shelf hinged at its ends upon said hinged bar and comprising a series of rigidly-connected short bars, and a latch hinged upon the supporting-bar and engaging one of the short bars for sustaining the said hinged shelf in horizontal position, substantially as and for the purposes set forth.

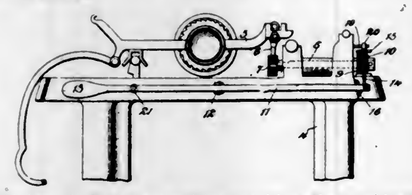
3. In a hose-rack, the combination with the supporting-bar, of a hinged shelf mounted upon said bar, said shelf being composed of a bar hinged at its ends and a series of short bars projecting therefrom and rigidly connected therewith, and a latch hinged upon the supporting-bar for sustaining said shelf in horizontal position by contact with one of the said short bars, substantially as and for the purposes set forth.

4. In a hose-rack, the combination of the hinged shelf composed of a bar and a number of short bars projecting therefrom and rigidly connected therewith mounted upon a supporting-bar, and a curved hinged latch also mounted upon the supporting-bar and arranged to receive the hose-nozzle and to sustain and release the hinged shelf, substantially in the manner and for the purposes set forth.

5. The herein-described hose-rack comprising a clamp,

a sustaining-bar hinged thereon, a shelf hinged upon the sustaining-bar, said shelf being composed of a bar or rod and short rods projecting therefrom and rigidly connected therewith, a latch hinged upon the sustaining-bar and arranged to sustain the shelf by contact with one of the rigid short bars thereof and to receive the hose-nozzle, the parts being arranged for operation substantially as set forth.

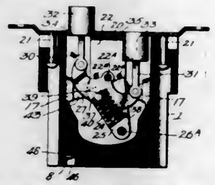
844,532. TYPE-WRITING MACHINE. JAMES F. MCELHINNY, Evansville, Ind., assignor of one-half to John H. Fendrich, Evansville, Ind. Filed Nov. 21, 1905. Serial No. 288,441.



Claim.—1. In a type-writing machine, the combination with a frame, of a carriage movably mounted thereon, and means for effecting the back spacing of the carriage, said means including a rotary ratchet-wheel associated with the carriage, a reciprocatory draft-rod extending in a horizontal plane above the wheel, means for reciprocating the rod, a dog pivoted on the portion of the rod that is adjacent to the ratchet-wheel and having a depending tooth movable downwardly into engagement with said wheel, said dog also having an upstanding lug, and a stationary stop arranged over the dog and in the path of movement of the lug to normally maintain the tooth of said dog out of engagement with the ratchet-wheel.

2. In a type-writing machine, the combination with a frame, of a carriage movably mounted thereon, and means for effecting the back spacing of the carriage, said means including a toothed device associated with the carriage, a reciprocatory draft-rod extending above the device, means for reciprocating the rod, a dog pivoted on the rod and having a tooth coöperating with the teeth of the device, said dog also having an upstanding lug, and a stop located over the dog and in the path of movement of the lug to normally maintain the tooth of said dog out of engagement with the toothed device.

844,533. ELECTRIC-LIGHT SWITCH. JAMES MCGAYOCK, Denver, Colo., assignor to The New England Electric Company, Denver, Colo., a Corporation of Colorado. Filed Apr. 6, 1906. Serial No. 310,305.



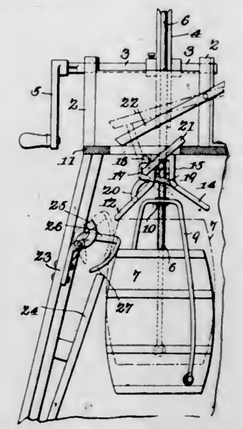
Claim.—1. In an electric-light switch, a supporting-casing, terminal poles operatively mounted in said casing, a support in said casing, rock-arms mounted in said support intermediate of their ends, reciprocating push-buttons in said support connected to the opposite ends of said rock-arms, an oscillating lever pivotally connected to said support, a spring which presses at one end against said oscillating lever and at its opposite end against said rock-arm below its pivotal center in said support, contact-brushes connected to said oscillating lever and arranged in operative make-and-break relation to said poles, as set forth.

2. In an electric-light switch, a support having a yoke secured thereto; an oscillating lever pivoted to said yoke; rock-arms pivoted to said yoke above said lever; push-arms connected to the ends of said rock-arms; an apertured plate pivoted between said rock-arms; a plate pivoted to the lever, and a pin secured to the latter plate and extending through the aperture in the other plate; a coiled spring upon said pin, between said plates, and brushes operated by said lever, in combination with a suitable casing, having terminal poles located in the path of said brushes.

3. In an electric-light switch, the combination with a casing having terminal poles, of a support secured to said casing, having a yoke; a lever comprising side plates pivotally secured at their upper ends to the yoke; a pair of similar-shaped rock-arms, pivoted centrally to said yoke, above said lever; push-arms secured between the adjacent ends of said rock-arms; an apertured plate, pivoted between said arms below their pivotal point, a plate pivoted between the side plates of the lever, and below the apertured plate, having a rigid pin which extends up through the aperture in the upper plate; a coiled spring on said pin, between said plates, and brushes rigidly secured to the pivot-pins of said side plates, and in the path of the terminal poles.

4. In an electric-light switch, a support having a yoke; a lever comprising similar-shaped side plates, pivoted to the yoke by independent pivots, and brushes rigidly secured upon the projecting ends of the pivots; a pair of rock-arms centrally pivoted to said yoke, above the lever, having push-arms pivotally secured between their ends; an apertured plate pivotally secured between the rock-arms below their pivotal point and midway of their length; a plate pivotally secured between the side plate of the lever, below the apertured plate, having a rigid pin which extends up through the apertured plate; a spring surrounding said pin, between the plates, and stops for limiting the throw of the rock-arms and of the lever in either direction.

844,534. WATER-ELEVATOR. JOSEPH B. NEIL, Filbert, S. C. Filed Jan. 22, 1906. Serial No. 297,323.



Claim.—1. In a water-elevator a hoisting-bucket, a bail pivotally connected thereto, a flexible hoisting element connected with the bucket and normally holding the bail extended thereabove, means for removably engaging the bail to support the bucket, and a guiding device above and in the path of the bucket for directing the bucket and bail toward said means.

2. In a water-elevator a hoisting-bucket, a bail pivotally connected thereto, a flexible hoisting element connected with the bucket and normally holding the bail extended thereabove, means for automatically engaging the bail to support the bucket, and a guiding device including oppositely-disposed diverging members for directing the bucket and bail in the direction of the bail-engaging means.

3. In a water-elevator a bucket, a bail pivotally connected thereto, a flexible hoisting element connected to the bucket and normally holding the bail projected thereabove, means for automatically engaging the bail to support the bucket, and a guide device for directing the bail into engagement with said means, said device including oppositely-disposed diverging yokes.

4. In a water-elevator a bucket, a bail pivotally connected thereto, a flexible hoisting element connected to the bucket and normally holding the bail projected thereabove, means for automatically engaging the bail to support the bucket, and a guide device for directing the bail into engagement with said means, said device including oppositely-disposed downwardly-divergent yokes of unequal lengths.

5. A bail, a bucket tiltably connected therewith, a flexible hoisting element connected with the bucket and guided through the bail, guiding means for the bail, a rock-shaft having an arm extended in the path of the bail and provided with a terminal hook, and means for locking or securing the rock-shaft when the latter has been turned to present the hook in bail-engaging position.

6. A bail, a bucket tiltably connected therewith, a flexible hoisting element connected with the bucket and guided through the bail, guiding means for the bail, a rock-shaft having an arm extended in the path of the bail and provided with a terminal hook, a crank upon said rock-shaft, and a latch-lever normally supported upon the crank.

7. A bail, a bucket tiltably connected therewith, a flexible hoisting element connected with the bucket and guided through the bail, means for automatically engaging the bail to support the bucket, a guiding device for directing the bail toward its engaging means, said device including divergent pointed yokes of unequal length, and means for guiding the rim of the bucket into engagement with the longer guide-yoke.

8. A bail, a bucket tiltably connected therewith, a flexible hoisting element connected with the bucket and guided through the bail, means for automatically engaging the bail to support the bucket, a guiding device for directing the bail toward its engaging means, said device including a pair of yokes of unequal length, and a tiltable guide member supported pivotally beneath the longer yoke and extended beyond the point of the latter.

9. A bail, a bucket tiltably connected therewith, a flexible hoisting element connected with the bucket and guided through the bail, means for automatically engaging the bail to support the bucket, guiding means for directing the bail toward its engaging means, said guiding means including oppositely-disposed downwardly-diverging yokes of unequal length, an inclined bucket-engaging guide member, and a tiltable guide member supported above the inclined guide, extended beneath the point of the longer guide-yoke and having a terminal curved arm.

10. A bucket, hoisting means for said bucket, a bail pivotally connected to the bucket, means for automatically engaging the bail to support the bucket, guide means for directing the bail toward its engaging means, said guide means including a pair of divergent yokes, and a tiltable member adapted to exert pushing action upon the bucket to initially tilt the bucket.

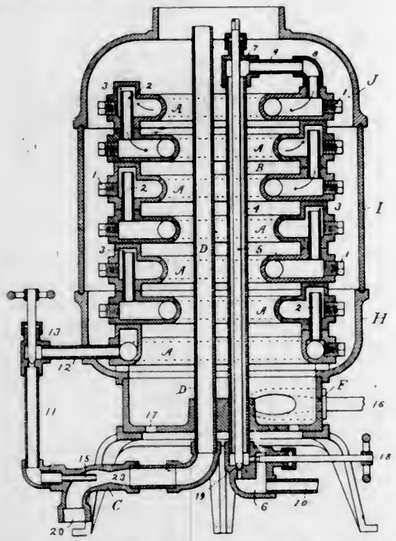
11. In a water-elevator, a bucket-supporting device including a rock-shaft, arms connected with the rock-shaft and having terminal hooks, and a crank upon the rock-shaft, in combination with a latch member normally supported upon the crank and adapted to abut upon the latter to lock the shaft against reverse rotation when it has been tilted to a bucket-supporting position.

12. In a water-elevator, a bucket-supporting device including an arm supported in the path of the bucket-bail and adapted to be tilted by contact therewith to a bail-engaging bucket-supporting position, and means for securing the arm in such position.

13. In a water-elevator, a suitably-guided hoisting element, bails carried at the ends thereof, buckets tiltably connected with the bails, guiding devices for the bails supported by the well-casing, a rock-shaft supported by said guiding devices and having a terminal crank, a latch-lever normally supported upon said crank, and arms connected with the rock-shaft in the path of the bails and having terminal bail-supporting hooks.

14. A tiltable bucket, hoisting means therefor, and a tiltable member in the path of the bucket for exerting a pushing action to initially tilt the bucket.

844,535. SANITARY DUST-REMOVING DEVICE. EMORY I. NICHOLS, San Francisco, Cal. Filed Aug. 2, 1905. Serial No. 272,389.



Claim.—1. A dust-removing device, consisting of a steam-generator having a water-inlet pipe connected to the top of the generator, and a steam-outlet pipe connected to the bottom of the generator, a steam-ejector connected to the generator and discharging into or through the generator-chamber, and a heating device located below the generator substantially as set forth.

2. A dust-removing device, consisting of a steam-generator having a water-inlet pipe connected to the top of the generator, and a steam-outlet pipe connected to the bottom of the generator, a steam-ejector connected to the generator and discharging into or through the generator-chamber, a water-regulating device consisting of the water-inlet pipe and valve-stem therein being constructed of two different kinds of metal, one having a greater expansion when exposed to the action of heat than the other, and a heating device located below the generator, substantially as set forth.

3. A dust-removing device, consisting of a steam-generator formed of a series of hollow sections connected together and arranged one above another so as to form one continuous water and steam passage through the whole series of sections, from the water-inlet at the top section, to the steam-outlet at the bottom section, and adapted to prevent the water from flowing by gravitation through the series of sections, means for forcing water into the generator through the water-inlet pipe connected to the top section, a steam-ejector connected to the generator for creating a vacuum, and a heating device located below the generator, substantially as set forth.

4. A dust-removing device, consisting of a steam-generator formed with a series of hollow sections, connected together and arranged one above another, forming one continuous water and steam passage through the whole series of sections, a self-regulating water-supply device, consisting of the water-inlet pipe being formed of a metal having a greater expansion than the valve-stem contained therein, when the same is exposed to the action of heat, a suitably-designed steam-ejector connected to the generator for creating a vacuum, a heating device located below the generator, and means for discharging the dust and refuse into or through the generator-chamber, substantially as set forth.

5. In a dust-removing device, a steam-generator consisting of a series of hollow sections arranged one above another, and connected together, pipes extending up into a recess formed for their reception in the upper side of the sections, and designed to prevent the water from flowing by gravitation to the next section below, means for forcing water into the generator through the water-inlet pipe to the top section, a steam-outlet pipe connecting the lower section of the generator to a suitably-designed ejector for creating a vacuum, and a gas or oil burner located below the generator, substantially as shown and described.

6. The combination of a steam-generator, provided with a flue for carrying off the products of the combustion by which the steam is generated, an ejector, a tube supplying steam from said generator to the nozzle of said ejector, an exhaust-tube leading to the ejector, and a pipe for conveying to said flue the matter discharged from said exhaust-tube by said ejector, said pipe extending into the generator and exposed to the heat thereof, to increase the vacuum caused by the ejector, substantially as set forth.

7. The combination of a steam-generator provided with a flue for carrying off the products of the combustion by which the steam is generated, a water-regulating device consisting of a water-inlet pipe and a valve-stem constructed of two different metals, one having a greater expansion when exposed to the action of heat than the other, an ejector, a tube supplying steam from said generator to the nozzle of said ejector, an exhaust-tube leading to the ejector, and a pipe for conveying to said flue the matter discharged from said exhaust-tube by said ejector, substantially as set forth.

844,536. EXTENSIBLE RULE AND CALIPERS. HENRY U. PRINDLE, San Francisco, Cal. Filed Mar. 27, 1905. Serial No. 252,187.

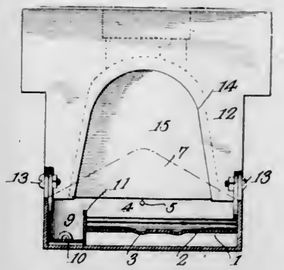


Claim.—1. An instrument of the character stated, comprising outer and inner flat sections endwise extensible and slidable on each other, the outer sections having right-angled portions at their free ends and interlocking ears at their other ends for interlocking with the intermediate section, said intermediate section having ears for engaging the outer sections, all of said sections having corresponding faces graduated and one of said outer sections having its opposite face graduated substantially as shown and described.

2. A rule comprising a central body portion having grooves in its upper and lower edge faces, bent-over clips at each end of said central portion on opposite sides thereof, a pair of sheet-metal extension members slidable against said central member through the clips thereof and provided at the central-member-engaging end with bent-over clips to enter the grooves of the central member and provided at their other ends with right-angled portions, substantially as shown and described.

3. A rule comprising a central body portion having grooves in its upper and lower edge faces, bent-over clips at each end of said central portion on opposite sides thereof, a pair of sheet-metal extension members slidable against said central member through the clips thereof and provided at the central-member-engaging end with bent-over clips to enter the grooves of the central member and provided at their other ends with right-angled portions, all of said members being provided with graduations, the calibrations of one extension member being four in number and reading from left to right to indicate inches, the calibrations of the central member being in inches reading from right to left to indicate five to eight, the other extension member having its calibrations divided into inches reading from nine to twelve, from right to left, substantially as shown and described.

844,537. HYDROCARBON-BURNER. JESSE J. RICHARDSON, Tulare, Cal. Filed Nov. 8, 1906. Serial No. 342,533.



Claim.—1. A hydrocarbon-burner comprising a sluice, a vaporizing-chamber located adjacent thereto, an oil-supply pipe connecting with said chamber, a partition pivoted to the sluice and having a draft-opening, a pendulous damper located over said opening and bowed doors hinged to said partition.

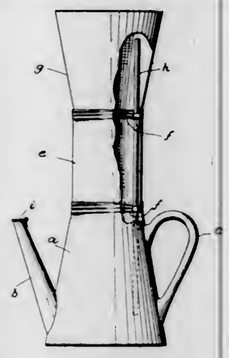
2. A hydrocarbon-burner comprising a sluice, a vaporizing-chamber located adjacent thereto, a post erected upon said chamber, a supply-pipe connecting said chamber, said chamber having an exit-port, a partition pivoted to said sluice and having a draft-opening, a pendulous damper arranged to swing over said opening and adapted to engage said post and bowed doors hinged to the partition at opposite sides of the draft-opening thereof.

844,538. APPARATUS FOR MAKING COFFEE. WILLIAM C. RICHARDSON, Philadelphia, Pa. Filed Feb. 26, 1906. Serial No. 302,974.

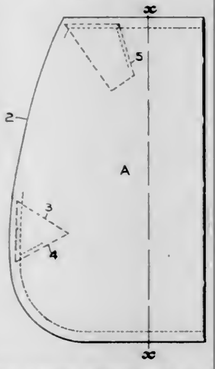
Claim.—1. An apparatus for making coffee, comprising two vessels and an intermediate vessel separated from the first-mentioned vessels by screens, the vessels being secured together so as to form a closed structure, an open-ended pipe extending from one outer vessel to the other outer vessel.

2. An apparatus for making coffee, comprising essentially a coffee-pot, an open-ended vessel, secured to the open end of said pot, a vessel having a closed end secured at its open end to said open-ended vessel, and screens interposed between said open-ended vessel and the pot and

vessel to which it is secured, and an open-ended pipe extending from the coffee-pot to the other closed vessel.



844,539. WEARING-APPAREL. EDWIN M. ROSENQUIST, St. Paul, Minn. Filed Mar. 5, 1906. Serial No. 304,160.



Claim.—A main pocket, comprising opposed walls separated at a point to form a vertically-extending hand-opening, a supplementary pocket arranged below the lower end of said hand-opening, said supplementary pocket opening toward the bottom of the main pocket, but closed toward the hand-opening, and a second supplementary pocket arranged at the upper end of the hand-opening, said second supplementary pocket opening toward the bottom and rear side of the main pocket, but entirely closed at the side adjacent to the hand-opening.

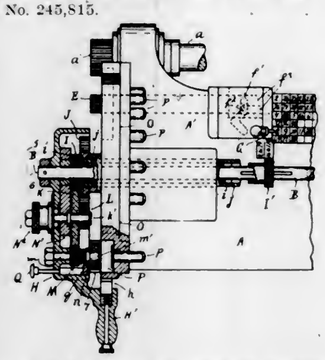
844,540. BUCKLE. EDWARD H. ROY and JOSEPH A. BURTON, Nashville, Tenn. Filed Feb. 7, 1906. Serial No. 299,995.



Claim.—1. In a buckle, the combination of a frame, a cross-bar connecting side portions of said frame, and a clamp-lever consisting of a plate having an end thereof bent into S shape to form a loop portion receiving the cross-bar aforesaid to establish pivotal connection between the lever and the frame, said loop portion being provided with a curved extension constituting the terminal of the S-shaped portion and a spring strap-engaging member to coact with the frame as specified.

2. In a buckle, the combination of a frame, and a clamping-lever consisting of a spring-plate bent at one end to form a spring engaging member consisting of a loop having pivotal connection with the frame and having a curved extension constituting a strap-engaging portion to coact with the frame as specified, the loop and extended portion thereof being adapted for spring movement toward the body of the lever to accommodate various thicknesses of strap parts connected with the buckle thereby.

844,541. CHANGE-GEAR MECHANISM. WILLIAM L. SCHELLENBACH, Cincinnati, Ohio. Filed Feb. 16, 1905. Serial No. 245,815.



Claim.—1. In a device of the character indicated, a driving-gear, a series of concentric telescopic gears adapted to receive motion in common from the driving-gear, a driven gear, a housing a gear carried by said housing and in mesh with the driven gear, a series of gears adapted to be interchangeably employed to drive said gear carried by the housing, and means for telescopically shifting said concentric gears so as to selectively engage said change-gear with any one of the concentric gears.

2. In a device of the character indicated, a driving-gear, a pinion longitudinally confined, one or more telescopic gears arranged to slide on said pinion, one of which engages said driving-gear, means for adjusting said telescopic gears longitudinally into predetermined positions, a driven element receiving motion therefrom, a pinion adjustable concentrically about the axis of the driven element, means for changing the speed and reversing the motion of said driven element relative to said pinion, a series of independent change-gears held in the path described by the axis of said concentrically-adjustable pinion, and means for attaching any selected one of said independent gears to said concentrically-adjustable pinion.

3. In a device of the character indicated, a pinion longitudinally fixed, one or more telescopic gears arranged to rotate with and to slide upon said pinion, grooves provided in the hubs of said gears, shoes provided with pins and engaging said grooves, a cam engaging said pins and means for adjusting said gears longitudinally by the movement of said cam.

4. In a device of the character indicated, a driving-gear, a series of telescopic gears driven by said driving-gear, a driven gear, an adjustable pinion imparting motion to said driven gear, intermediate gearing between said driven gear and said adjustable pinion, a series of independent change-gears mounted in the path described by the axis of said adjustable pinion, means for attaching any selected one of said independent change-gears to said adjustable pinion, and means for meshing any selected one of said change-gears with any one of said telescopic gears.

5. In a device of the character indicated, a driving-gear a series of different-diameter gears driven by said driving-gear, an adjustable pinion, a change-gear adapted to be temporarily clutched to said pinion and to mesh with any one of said series of different-diameter gears, and a driven gear receiving motion from said adjustable pinion.

6. In a device of the character indicated, a driving-gear, a pinion, a pinion-shaft journaled and longitudinally fixed, a series of telescopic gears splined and arranged to slide on said pinion-shaft and meshing with said driving-gear, means for longitudinally adjusting said telescopic gears, a driven gear, a pinion imparting motion to said driven gear, a series of independent change-gears arranged to be selectively connected with said last-named pinion and to engage any one of said telescopic gears, a receptacle for said independent change-gears when not in use, and means for locking said change-gears in said receptacle while said telescopic gears and selected change-gear are intermeshed.

7. In a device of the character indicated, a driving-shaft, a series of concentric telescopic gears driven in common therefrom, a series of interchangeable gears adapted to selectively engage said concentric gears, and a cam-plate adapted by its movement to successively shift said concentric gears into the path of said change-gears.

8. In a device of the character indicated, a driving-gear a driven gear, a pinion adjustable concentrically about the driven gear and adapted to impart motion thereto, a clutch carried by said pinion, a series of change-gears adapted to be selectively engaged by said clutch, and while so engaged shifted into engagement with the driving-gear.

9. In a device of the character indicated, a driving-gear a driven gear, a pinion in mesh therewith, a stem projecting at one side of said pinion, a clutch carried on said stem, a series of change-gears adapted to interchangeably seat on said stem and engage said clutch, said change-gears being adapted to be shifted into and out of engagement with said driving-gear.

10. In a mechanism of the character indicated, a driving-gear, a driven element, a pinion mounted upon an adjustable axis and imparting motion to the driven element, a stem carried by said pinion, a clutch on said stem, a series of gears adapted to be interchangeably seated on said stem in engagement with said clutch, mechanism for shifting the interchangeable gear, temporarily in use, into and out of engagement with the driving-gear, and means interposed between said adjustable pinion and the driven element to change the speed of the driven element relative to said adjustable pinion.

11. In a device of the character indicated, a driving-gear, a series of telescopic gears driven by said driving-gear, a driven gear, a housing mounted concentric with said driven gear, a pinion carried by said housing and imparting motion to said driven gear, a clutch carried by said pinion, a series of independent change-gears arranged to be interchangeably mounted on said clutch, a plate opposite said clutch to hold said independent change-gears in engagement with said clutch, and means for selectively engaging any one of said independent change-gears with any one of the series of telescopic gears.

12. In a device of the character indicated, a driving-gear, a driven gear, a pinion concentrically adjustable about one of said before-mentioned gears, a clutch carried by said concentrically-adjustable pinion, a series of change-gears adapted to be selectively attached to said clutch and adjusted into position to transmit motion from the driving to the driven gear through said pinion, a receptacle to receive such change-gears when not in use, and means for automatically locking said change-gears in the receptacle when the gears are adjusted to transmit motion from the driving to the driven gear.

844,542. INCASED RECEPTACLE. LUDWIG B. SCHENCK, New York, N. Y. Filed Oct. 11, 1906. Serial No. 338,421.

Claim.—1. A device of the character indicated, comprising a receptacle, a closure for said receptacle, and a hood for said receptacle, said hood being retained on said receptacle by means of said closure.

2. A device of the character indicated, comprising a receptacle, a unitary hood therefor, and a closure for said receptacle, said hood being secured to said receptacle both independently of and by means of said closure.

3. A device of the character indicated, comprising a receptacle provided with a plurality of lugs, and a hood having a plurality of apertures adapted to receive said lugs.

4. A device of the character indicated, comprising a receptacle provided with a plurality of lugs, a hood having a plurality of apertures adapted to receive said lugs, and a closure for the receptacle engaging said lugs and said hood.



5. A device of the character indicated, comprising a receptacle provided with a lug having an inclined face, and a unitary hood having a portion which closely fits the said receptacle adjacent to said lug, whereby the said hood is retained in position by said lug.

6. A device of the character indicated, comprising a receptacle, a hood therefor, and a closure for the said receptacle, said hood and said receptacle being provided with interlocking means which prevent their disassociation after having been brought into proper relation with each other, and said hood having a portion forming a packing-ring which is interposed between the said receptacle and its closure.

7. A device of the character indicated, comprising a receptacle provided with means for preventing the removal of an incasing hood, an incasing hood which is adapted to engage the hood-retaining means with which the receptacle is provided, and a closure which is affixed to said receptacle through the hood-retaining means thereof.

8. A device of the character indicated, comprising a receptacle provided with a plurality of lugs each of which has an inclined face to permit the passage of a hood in one direction and a face extending across the path of said hood to prevent the movement of the latter in an opposite direction, a hood having a plurality of apertures to receive said lugs, and a closure for said receptacle having a depending portion which engages said hood and said lugs.

9. A device of the character indicated, comprising a receptacle, a hood incasing said receptacle, and a closure for said receptacle, said hood having a packing-ring portion interposed between the said closure and the said receptacle.

844,543. INCASED RECEPTACLE. LUDWIG B. SCHENCK, New York, N. Y. Filed Nov. 5, 1906. Serial No. 342,057.

Claim.—1. A device of the character indicated, comprising a receptacle having a closure-retaining abutment, a hood incasing said receptacle, and a closure for said receptacle, said closure being affixed to said receptacle by means of the closure-retaining abutment thereof and maintaining said hood on the receptacle.

2. A device of the character indicated, comprising a receptacle, a hood incasing said receptacle, and a closure for said receptacle, said closure embracing a portion of the hood and maintaining said hood on the receptacle.

3. A device of the character indicated, comprising a receptacle having a closure-retaining abutment, a unitary hood open at one end and incasing said receptacle, and a closure for said receptacle, said closure embracing a portion of the hood and maintaining said hood on the receptacle.

4. A device of the character indicated, comprising a receptacle provided with a closure-retaining abutment, a hood incasing said receptacle, and a sprinkler forming a closure for said receptacle, said closure having a portion engaging the abutment of the said receptacle through the interposed hood and thereby maintaining said hood on said receptacle.

5. A device of the character indicated, comprising a receptacle provided with a closure-retaining abutment, a hood incasing said receptacle and having a packing-ring portion interposed between the said receptacle and the closure therefor, and a sprinkler forming a closure for said receptacle, said closure having a depending annular flange engaging the abutment of the receptacle through the interposed hood.

6. A device of the character indicated, comprising a receptacle provided with an annular bead, a hood for said receptacle having a portion interposed between said bead and the closure for the said receptacle, and a closure for said receptacle having a portion which engages said annular bead through the interposed hood.

7. A device of the character indicated, comprising a receptacle provided with an annular closure-retaining abutment which affords means for affixing a receptacle-closure thereto, a closure which is secured to said receptacle through the interposed hood, and an incasing hood which in maintained on the receptacle by said closure.

844,544. HYPODERMIC SYRINGE. GUSTAV R. SCHIMMEL, Detroit, Mich. Filed Apr. 11, 1904. Serial No. 202,478.



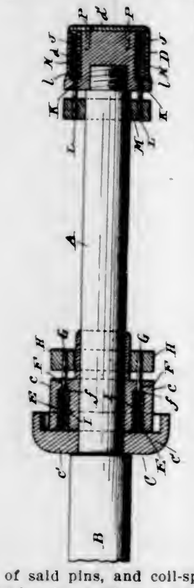
Claim.—In a hypodermic syringe, the combination with the cylinder having an externally-screw-threaded nipple, of a nozzle formed with an axial bore to receive the needle and an internally-screw-threaded socket to receive the nipple, and with a comparatively large chamber between the inner end of said axial bore and the inner end of said screw-threaded socket, said chamber having its top and bottom walls of conical shape oppositely disposed and meeting to form a wide central space in said chamber, the greatest diameter of said chamber being considerably greater than the diameter of the needle-head.

844,545. WASHER FOR VEHICLE-SPINDLES. VICTOR SCOTT and CASPER WOLF, Brooksburg, Ind. Filed Oct. 20, 1906. Serial No. 339,867.

Claim.—1. In combination with a vehicle-spindle, the shoulder provided with sockets and holes, pins slidably mounted in said holes and having their ends extending into said sockets and provided with heads, a ring surrounding said spindle and secured to the outer ends of said pins, and coil-springs mounted in said sockets and bearing against said heads, substantially as shown and described.

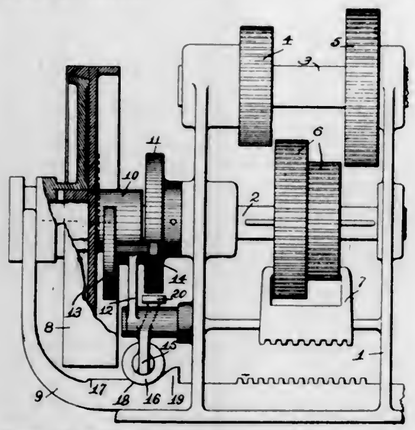
2. A nut for vehicle-spindles having sockets and holes communicating with said sockets, pins slidably mounted in said holes and having their ends extending into said sockets and provided with heads, a ring secured to the outer ends of said pins, and coil-springs mounted in said sockets and bearing against the heads of said pins, substantially as shown and described.

3. In combination with a vehicle-spindle, the nut and shoulder provided with sockets and holes communicating with said sockets, pins slidably mounted in said holes and having their ends extending into said sockets and provided with heads, rings surrounding the spindle and secured to



the outer ends of said pins, and coil-springs mounted in said sockets and bearing against the heads of said pins, substantially as shown and described.

844,546. POWER-TRANSMISSION DEVICE. WILLARD T. SEARS, Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Filed Oct. 4, 1906. Serial No. 337,343.



Claim.—1. Power-transmission apparatus comprising a pair of toothed members, means for shifting one of said members into and out of engagement with the other, a rotary driving device for transmitting the power to and through the toothed members when engaged, means for connecting and disconnecting said rotary driving device to and from one of said toothed members, friction transmission-gearing disposed between said rotary driving member and one of said toothed members, and means for throwing said friction-gearing into and out of action, combined substantially as set forth.

2. Power-transmission apparatus comprising a pair of toothed members, means for shifting one of said members into and out of engagement with the other, a rotary driving device for transmitting the power to and through the toothed members when engaged, means for connecting and disconnecting said rotary driving device to and from one of said toothed members, friction transmission-gearing disposed between said rotary driving member and one of said toothed members and arranged to transmit motion to one of said toothed members at abnormally low speed, and means for throwing said friction-gearing into and out of action, combined substantially as set forth.

3. Power-transmission apparatus comprising a pair of toothed members, means for shifting one of said members into and out of engagement with the other, a rotary driving device for transmitting the power to and through the toothed members when engaged, means for connecting and disconnecting said rotary driving device to and from one of said toothed members, friction transmission-gearing disposed between said rotary driving member and one of said toothed members, means for throwing said friction-gearing into and out of action, and a friction-brake coöperating with said toothed member and with said friction-gearing and arranged to be put into action when the friction-gearing is thrown out of action, combined substantially as set forth.

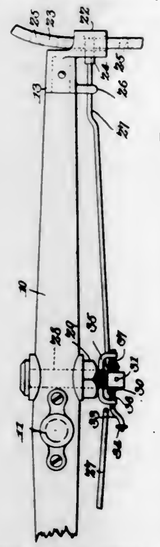
844,547. WASHING COMPOUND AND PROCESS OF MAKING THE SAME. ANNA W. SKINNER, Oswego, N. Y. Filed Jan. 10, 1906. Serial No. 295,471.

Claim.—1. A washing compound comprising salt of tartar, muriate of ammonia and borax and paraffin.

2. A washing compound, comprising one part of salt of tartar, four parts of muriate of ammonia, sixteen parts of borax and ninety-six parts of paraffin.

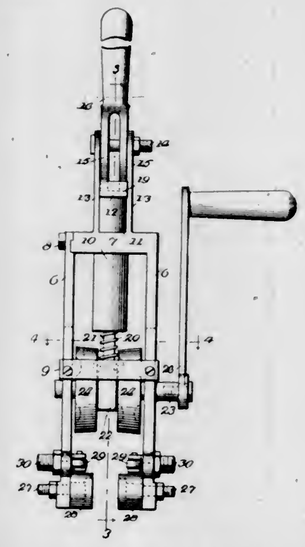
3. The process of making a composition of matter comprising ingredients which are subject to deterioration from the air, which process consists in first forming a layer of a moisture-resisting substance such as paraffin, then the layer of said first-mentioned substance, and then pouring over the same a layer of such moisture-resisting substance in a melted condition.

844,548. HORSE-DETACHER. HERBERT A. SMITH, Onaway, Mich. Filed Mar. 29, 1906. Serial No. 308,751.



Claim.—In a horse-releasing device, a swingletree having means at the ends for detachably coupling the traces thereto, a stud extending from said swingletree and intermediately threaded, a clamp-nut engaging the threaded portion of said stud and bearing upon the swingletree, a plate swinging upon the unthreaded portion of said stud, a spring operating to maintain said plate yieldably in position, connecting means between said coupling means and plate, and an operating element connected to said plate.

844,549. SPRING-PRESSING MACHINE. HARVEY E. SPANGLER, Canton, Ohio. Filed Sept. 18, 1906. Serial No. 335,074.



Claim.—1. In a spring-making machine, the combination with a frame having opposite side plates and upper and lower pairs of rollers supported therein, between which the work is received, of adjustable screw-studs in the side plates, and rollers carried by said studs between said upper and lower rollers, and adapted to bear against the edges of the spring.

2. In a spring-making machine, in combination, a frame, pairs of upper and lower rollers therein, the upper rollers being mounted upon an axle slidable up and down in the frame, a plunger and means to force the same down toward the axle, and a spring between the plunger and the axle, to cushion the pressure.

3. In a spring-making machine, in combination, a frame, pairs of upper and lower rollers therein, the upper rollers being mounted upon an axle slidable up and down in the frame, a hollow plunger and means to force the same down toward the axle, a stem connected at one end to the axle and extending into the plunger at the other end, and a spring coiled around the stem between the plunger and axle.

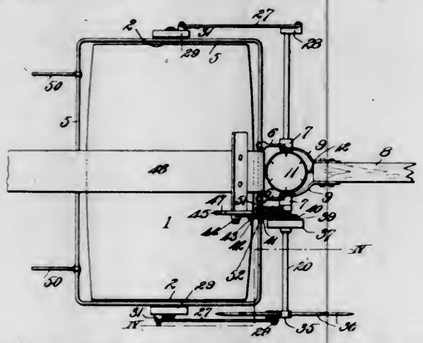
4. In a spring-making machine, in combination, a frame, pairs of upper and lower rollers therein, the upper rollers being mounted upon an axle slidable up and down in the frame, a plunger movable up and down in the frame and having a spring connection to the axle, and a cam-lever mounted in the frame and bearing against the plunger, to advance the same.

844,550. CORN-PLANTER. HUGH W. THOMASSON, St. Louis, Mo. Filed Aug. 6, 1906. Serial No. 329,365.

Claim.—1. In a corn-planter, the combination of a frame, a driving-roller having trunnions journaled in said frame, seed-dropping mechanism, ratchet mechanism mounted on said trunnions, and means of connection be-

tween said ratchet mechanism and said seed-dropping mechanism, substantially as set forth.

2. In a corn-planter, the combination of a frame, a driving-roller having trunnions journaled in said frame, seed-dropping mechanism, ratchet mechanism carried by said trunnions, and driving-links connecting said ratchet mechanism to said seed-dropping mechanism, substantially as set forth.



3. In a corn-planter, the combination of a frame, a driving-roller having trunnions journaled in said frame, a seedbox, seed-discharging means associated with said seedbox, a shaft for operating said seed-discharging means, ratchet mechanism carried by said trunnions, and means of connection between said ratchet mechanism and said shaft, substantially as set forth.

4. In a corn-planter, the combination of a frame, a driving-roller having trunnions journaled in said frame, seed-dropping mechanism, ratchet-barrels loosely mounted on said trunnions, pawl-wheels non-rotatably mounted on said trunnions, and engaging said ratchet-barrels, and means of connection between said ratchet-barrels and said seed-dropping mechanism, substantially as set forth.

5. In a corn-planter, the combination of a seedbox, seed-discharging means associated with said seedbox, a shaft for operating said seed-discharging means, an indicator-wheel carried by said shaft, and ratchet mechanism for rotating said shaft, substantially as set forth.

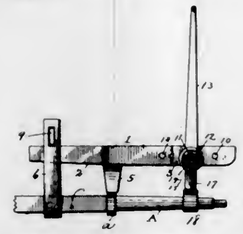
6. In a corn-planter, the combination of a seedbox, seed-discharging means associated with said box, a shaft for operating said seed-discharging means, an indicating-wheel carried by said shaft, a pawl-wheel fixed to said shaft, a loosely-supported ratchet-barrel associated with said pawl-wheel, and means for rotating said ratchet-barrel, substantially as set forth.

7. In a corn-planter, the combination of a seedbox, seed-discharging means associated with said box, a shaft for operating said seed-discharging means, an indicating-wheel carried by said shaft, a pawl-wheel fixed to said shaft, a loosely-supported ratchet-barrel associated with said pawl-wheel, and means for rotating said ratchet-barrel; said last-named means consisting of an operating-rod connected to said barrel and a hand-lever connected to said link, substantially as set forth.

8. In a corn-planter, the combination of a seedbox, seed-discharging means associated with said seedbox, a shaft geared to said seed-discharging means, a sleeve surrounding said shaft, a check-valve carried by said sleeve, a ratchet-barrel fixed to said sleeve, a pawl-wheel fixed to said shaft and associated with said ratchet-barrel, and means for rotating said ratchet-barrel, substantially as set forth.

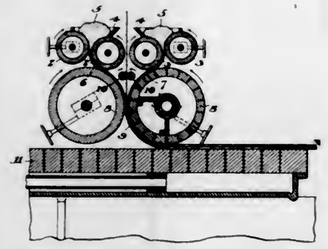
9. In a corn-planter, the combination of a seedbox, seed-discharging means associated with said seedbox, a shaft geared to said seed-discharging means, an indicator-wheel carried by said shaft, and means for rotating said indicator-wheel; said seedbox being provided with openings in its wall and one of the members of the seed-discharging means being provided with notches adapted to be brought into registration with the openings in said seedbox-wall, substantially as set forth.

844,551. DEVICE FOR STRAIGHTENING AXLES. FRANK E. TURNER, Harvard, Nebr. Filed May 24, 1906. Serial No. 318,583.



Claim.—A device of the type set forth embodying a stationary frame formed with an integral shank and a forwardly-extending yoke formed with spaced parallel legs, a depending shoe carried by said frame between said shank and said legs and perpendicular thereto, a clevis engaging said shank and coacting with said shoe to support said frame upon an object, said legs being each formed with a horizontal series of apertures arranged in corresponding or registering pairs, a pin mounted between said legs in a selected pair of said apertures, a handle provided at its base with an offset disk-shaped casting, a pin passing eccentrically through said casting and a member formed at its upper end with an integral sleeve loosely encircling said casting and at its lower end with an integral sleeve arranged at a substantial right angle to said first-named sleeve and designed to surround an object.

844,552. METHOD OF MAKING GLASS SHEETS. FRANK L. O. WADSWORTH, Morgantown, W. Va., assignor to Pressed Prism Plate Glass Company, New York, N. Y., a Corporation of West Virginia. Filed Aug. 23, 1904. Serial No. 221,818.



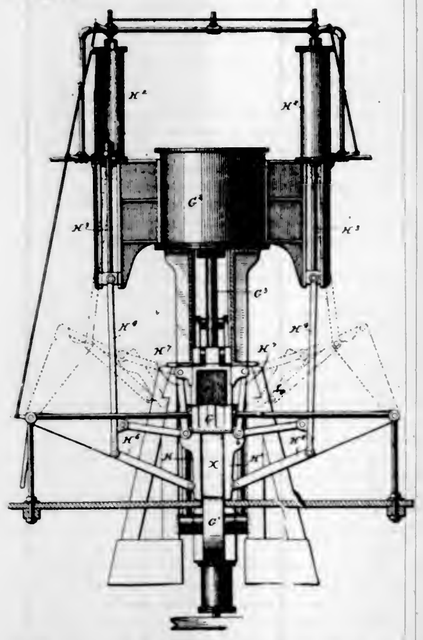
Claim.—1. The method of making glass sheets which consists in forming two sheets of glass out of contact with each other, and bringing their surfaces into welding contact upon interposed open material only after they are brought to sheet form and while they are still plastic, and then subjecting the compound sheet to pressure acting upon the entire cross-section of the sheet between the pressure-applying surfaces; substantially as described.

2. The method of making glass sheets which consists in forming two sheets of glass out of contact with each other, and bringing their surfaces into welding contact upon interposed open material only after they are brought to sheet form and during the formation of subsequent portions of the same sheet or sheets and then subjecting the compound sheet to pressure acting upon the entire cross-section of the sheet between the dies; substantially as described.

3. The method of making glass sheets which consists in forming two sheets of glass out of contact with each other and bringing their surfaces into welding contact with each other only after they are brought to sheet form and while they are still plastic, and then compressing the composite sheet between extended die-surfaces which act upon the entire cross-section of the sheet between such surfaces: substantially as described.

4. The method of making glass sheets, which consists in forming two sheets of glass out of contact with each other and bringing their surfaces into welding contact with each other upon interposed metal mesh only after they are brought to sheet form and when their temperature has been appreciably reduced, and then compressing the composite sheet over substantially its entire surface; substantially as described.

844,553. METHOD OF COMPRESSING BALES. SAMUEL J. WEBB, Minden, La. Filed Jan. 22, 1900. Serial No. 2,323.



Claim.—1. The method substantially as herein set forth of compressing bales of cotton, which consists in compressing the bale against the edges of the layers thereof to change the form of the bale and make it narrower, retaining the bale against expansion at right angles to the direction of such pressure and in its narrowed form, and compressing the bale while thus retained in a direction perpendicular to the layers and on its narrowed sides without changing or manipulating the bale from its compressed position.

2. The method substantially as herein set forth of compressing bales of cotton, which consists in compressing the bale in one direction against the edges of the layers thereof and reducing the area of the surfaces to which the final pressure is applied, retaining the bale against expansion in the direction of such compression, compressing the bale finally by applying pressure perpendicular to the plane of the layers to reduced surfaces of the bale without changing the position of the bale and banding the bale in the direction of both compressions.

3. The method substantially as herein set forth of compressing bales of cotton or other material, which consists in first changing the form of the bale by pressure against the edges of the layers to make it narrower, and then compressing the bale by applying pressure to the narrowed surface of the bale.

4. The method substantially as herein set forth of compressing bales of cotton or other material, which consists in changing the form of the bale by pressure against the edges of the layers to make it narrower, confining it in such narrowed form, and then compressing the bale by applying pressure to the narrowed surface of the bale.

5. The method substantially as herein set forth of compressing bales of cotton or other material, which consists in reducing the area of the surface of the bale by pressure against the edges of the layers making it narrower, confining it against lateral expansion, and then compressing the bale by applying pressure to the reduced surface without turning or changing the position of the bale.

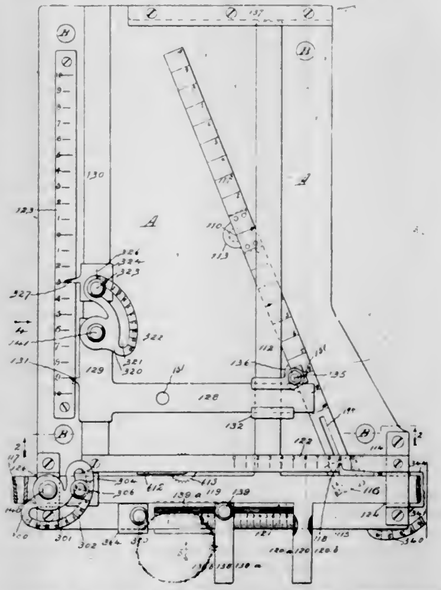
6. The method substantially as herein set forth of compressing bales of cotton or other material, which consists in applying pressure to the sides of the bale and against the edges of the layers, confining the bale against expansion in the direction of such pressure, compressing the bale while it is thus confined in a direction at right angles to the first pressure without turning or shifting the bale, and banding and tying the bale while under pressure.

7. The method substantially as herein set forth of compressing bales of cotton or other material, which consists in applying pressure to the bale in a direction against the edges of the layers, confining the bale against expansion in the direction of such pressure without turning or shifting the bale, compressing the bale at right angles to the first pressure, while it is thus confined, and banding and tying the bale in the direction of both pressures.

8. The method substantially as herein set forth of compressing bales of cotton or other material, which consists in compressing the bale in from the sides in a direction against the edges of the layers to make it narrower and then compressing it while confined in the direction of the first pressure without turning or shifting the position of the bale.

9. The method substantially as herein set forth of compressing bales of cotton or other material, which consists in pressing the bale on one or more sides to reduce the area of another side to which pressure is applied to compress the bale without turning or changing the position of the bale, and banding it in the direction of both pressures.

844,554. CALCULATING DEVICE. BENJAMIN M. DES JARDINS, Hartford, Conn., assignor, by mesne assignments, to The Unitype Company, a Corporation of New Jersey. Filed May 17, 1895. Serial No. 549,729.



Claim.—1. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal

point and having a computing edge, a guide movable transversely to the bar, and a contact-piece movable on said guide in parallel planes intersecting the transversals formed by the computing edge of the bar and limited in its movement by said computing edge.

2. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, a vertical laterally-movable guide, a horizontal laterally-movable guide, and a contact-piece movable on said guides and limited in its movement by the computing edge of the bar.

3. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, a vertical laterally-movable guide, a horizontal laterally-movable guide, an intersection-block movable with both of said guides and free to be moved on each guide by the other guide, and a contact-piece carried by said block and engaging the computing edge of the bar.

4. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, a slide for positioning the radial bar, a laterally-movable guide, means for indicating the position of the bar and guide, and a contact-piece guided by said guide to move in parallel planes intersecting the transversals formed by the computing edge of the bar and limited in its movement by said computing edge.

5. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, a guide movable transversely to the bar, a micrometer device for adjusting the bar, and a contact-piece guided by said guide to move in parallel planes intersecting the transversals formed by the computing edge of the bar and limited in its movement by said computing edge.

6. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, a guide movable transversely to the bar, a micrometer device for adjusting said guide, and a contact-piece guided by said guide to move in parallel planes intersecting the transversals formed by the computing edge of the bar and limited in its movement by said computing edge.

7. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, a guide movable transversely to the bar, a slide carrying said guide, a gage-jaw carried by said slide, a second gage-jaw, and a contact-piece guided by said guide to move in parallel planes intersecting the transversals formed by the computing edge of the bar and limited in its movement by said computing edge.

8. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, a movable contact-piece the movement of which is limited by the computing edge of said bar, and means for indicating the position of said contact-piece with relation to two straight lines lying parallel with the plane in which said bar swings and extending at right angles to each other.

9. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, a contact-piece movable in parallel planes across which said bar swings, the movement of which contact-piece is limited by the computing edge of said bar, an indicator moving with said contact-piece, and a scale over which said indicator moves.

10. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, a movable contact-piece the movement of which is limited by the computing edge of said bar, a laterally-movable guide for guiding the movement of said contact-piece in straight lines across which the bar swings, a second laterally-movable guide for guiding the movement of the contact-piece in a straight line at right angles to the first-mentioned guide, and indicators and scales for indicating the position of said bar and guides.

11. In a calculating mechanism, in combination, a radial bar arranged to swing about a fixed pivotal point, a laterally-movable T-blade, a slide carrying said blade, a gage-jaw carried by said slide, a second gage-jaw independently adjustable, and a contact-piece coöperating with said T-blade and radiel bar, for the purpose set forth.

12. In a calculating mechanism, in combination, a radial bar arranged to swing about a fixed pivotal point, a T-blade laterally movable, a contact-piece coöperating with said T-blade and radial bar, a gage-jaw movable laterally with the T-blade, a second gage-jaw adjustably connected to a fixed portion of the mechanism, and a fixed scale arranged to indicate the positions of said jaws, for the purpose set forth.

13. In a calculating mechanism, in combination, a radial bar arranged to swing about a fixed pivotal point, a laterally-movable T-blade, a contact-piece coöperating with said T-blade and radial bar, a gage-jaw laterally adjustable with the T-blade, a second gage-jaw laterally adjustable upon a fixed portion of the mechanism, a micrometer device for adjusting said latter gage-jaw, and a scale for indicating the positions of said jaws, for the purpose set forth.

14. In a calculating mechanism, in combination, a radial bar arranged to swing about a fixed pivotal point, a vertically-arranged blade laterally movable, a horizontally-arranged blade laterally movable, a contact-piece coöperating with said blades and said radial bar, and micrometer-adjusting devices for said blades, for the purpose set forth.

15. In a calculating mechanism, in combination, a radial bar arranged to swing about a fixed pivotal point, a vertically-arranged blade laterally movable, a horizontally-arranged blade laterally movable, fixed scales for indicating the positions of said blade and bars, and separate micrometer-adjusting devices for said bar and each of said blades, for the purpose set forth.

16. In a calculating mechanism, in combination, a radial bar arranged to swing about a fixed pivotal point, a T-blade, a contact-piece coöperating with said T-blade and bar, a slide carrying the T-blade, a gage-jaw carried by the slide, a second gage-jaw adjustable upon a fixed base or support, and a micrometer device for adjusting said slide, said micrometer device comprising an eccentrically-slotted pivoted plate provided with a series of scales, for the purpose set forth.

17. In a calculating mechanism, in combination, a radial bar arranged to swing about a fixed pivotal point, a vertically-arranged T-blade laterally movable, a horizontally-arranged T-blade laterally movable, an intersection-block in which both of said blades slide, and a contact-piece pivotally mounted in said block, and adapted to co-operate with the radial bar, for the purpose set forth.

18. In a calculating mechanism, in combination, a radial bar arranged to swing about a fixed pivotal point and having an operative edge which is radial to said point, horizontal and vertical laterally-movable T-blades, an intersection-block carried by said blades, and a contact-piece pivotally mounted in said block and having a straight edge passing through its pivotal center, said straight edge being adapted to coöperate with the operative edge of the radial bar, for the purpose set forth.

19. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point, horizontal and vertical laterally-movable T-blades, a horizontal slide connected with the free end of said radial bar, and gearing connecting the horizontal T-blade and said horizontal slide, for the purpose set forth.

20. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point, vertical and horizontal laterally-movable blades, a contact-piece coöperating with said bar and blades, and adjusting-bar mounted on the radial bar and adapted to engage said contact-piece, and a micrometer device for said adjusting-bar, for the purpose set forth.

21. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point, the adjusting-bar mounted to slide thereon, the scale on said radial bar, the vertical and horizontal T-blades, the contact-piece carried by said blades, the index on said contact-piece, and the connecting-block whereby the adjusting-bar engages and moves said contact-piece, for the purpose set forth.

22. In a calculating mechanism, in combination, a radial bar arranged to swing about a fixed pivotal point, a vertical guide, a head sliding on said guide, a T-blade carried by said head and arranged to intersect the radial bar, an anchor-block carried by the guide, and an eccentrically-slotted plate connecting said head and anchor-block to provide a micrometer adjustment for the T-blade, for the purpose set forth.

23. In a calculating mechanism, in combination, a radial bar arranged to swing about a fixed pivotal point, a guide parallel to the normal position of said bar, a head sliding on said guide, a T-blade carried by the head and arranged to intersect the radial bar, a scale and index to indicate the position of said head and T-blade, an anchor-block, means for holding the same in any desired adjustment on said guide, an index for indicating on said scale the position of the anchor-block, and a micrometer adjustment between said anchor-block and T-blade.

24. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, means for indicating the position of the radial bar along a fixed straight line, and a contact-piece engaging the computing edge of the bar and movable in parallel planes at right angles to said fixed line.

25. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, means for indicating the position of the radial bar along a fixed straight line, and a contact-piece engaging the computing edge of the bar and movable in parallel planes at right angles to said fixed line, and in planes at right angles to said parallel planes.

26. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, means for indicating the position of the bar along a fixed straight line, a movable contact-piece the movement of which is limited by engagement with the computing edge of said bar, and means for indicating the position of said contact-piece along a straight line extending at right angles to the first-mentioned straight line.

27. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, means for indicating the position of the bar along a fixed straight line, a movable contact-piece the movement of which is limited by engagement with the computing edge of said bar, and means for indicating the position of said contact-piece along straight lines extending at right angles to and parallel with the first-mentioned straight line.

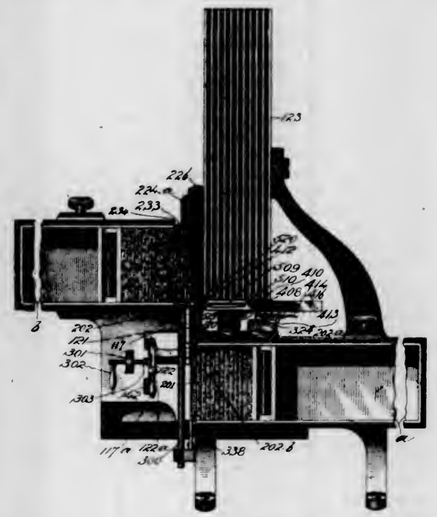
28. In a calculating mechanism, the combination of a radial bar arranged to swing about a fixed pivotal point and having a computing edge, means for indicating the position of the bar along a fixed straight line, a movable contact-piece the movement of which is limited by engagement with the computing edge of said bar, and means for indicating the position of said contact-piece along a straight line extending parallel with the first-mentioned straight line.

29. The combination with the radial bar 111 having a computing edge, of the guide 112 movable transversely to the bar to establish parallels cut by the transversals formed by the computing edge of the bar, and contact-piece 136 movable on said parallels and limited in its movement by said computing edge, substantially as described.

30. The combination with the radial bar 111 having a computing edge, of the guide 112 movable transversely to the bar to establish parallels cut by the transversals formed by the computing edge of the bar, and contact-piece 136 movable on said parallels and limited in its movement by said computing edge, and guide 128 movable at right angles to guide 112 and on which said contact-piece 136 moves at right angles to said parallels, substantially as described.

31. The combination with the radial bar 111 having a computing edge, of the guide 128 movable along said bar in a straight line, and contact-piece 136 engaging the computing edge of the bar and movable on said guide transversely to said computing edge and with said guide along said edge, substantially as described.

844,555. TYPE-JUSTIFIER. BENJAMIN M. DES JARDINS, Hartford, Conn., assignor, by mesne assignments, to The Unitype Company, a Corporation of New Jersey. Filed July 1, 1895. Renewed June 5, 1906. Serial No. 320,226.



Claim.—1. A mechanism for justifying composed lines of type, comprising devices for registering the number of intervals in a line, devices for measuring the line, and means controlled by said devices for determining the widths of the justifying-spaces.

2. A mechanism for justifying a composed line of type, comprising devices for registering the number of intervals in a line, devices for measuring the line, means controlled by both said devices for determining the widths of the justifying-spaces, and means for inserting said spaces.

3. In a mechanism for justifying a composed line of type, a line-measuring device in combination with a gage constructed to predetermine by its operative surface the widths of the spaces required to justify different lines.

4. In a justifying mechanism, a line-measuring device, in combination with a justifying-gage, said device and gage operating to determine by their relative adjustment the justifying-spaces for all possible lines.

5. In justifying mechanism, a justifying-gage, in combination with means for measuring the shortage of a line and applying said measurement to said gage to predetermine the justifying-spaces for the line.

6. In a justifying mechanism, a gage having an operative surface constructed to correspond to the different numbers of intervals in lines of print, a device for measuring a line, and means for bringing said device and gage into operative relation to determine the justifying-spaces for the line.

7. In a mechanism for justifying lines of type, a stepped justifying-gage, in combination with means for measuring the shortage of a line of type and applying said measurement to the gage to determine the justifying-spaces for the line.

8. In a justifying mechanism, a gage having an operative surface constructed to correspond to the different numbers of intervals in lines of print, in combination with means for adjusting the gage for a line, and means for measuring the line and applying said measurement to the

adjusted gage to determine the justifying-spaces for the line.

9. In a justifying mechanism, a series of stepped justifying-gages corresponding to the different number of intervals in lines of print, in combination with means for selecting the proper gage for a line, and means for measuring the line and applying said measurement to the selected gage to determine the justifying-spaces for the line.

10. In a type-justifying machine, the combination with a magazine provided with a limited number of sizes of spaces, of justifying means constructed and operating to predetermine and select justifying-spaces of two consecutive sizes to justify a line.

11. In a mechanism adapted to justify lines of characters with justifying-spaces of two consecutive sizes, means, controlled by the shortage and the number of intervals, for automatically selecting the proper sizes of spaces and the relative numbers thereof.

12. In a type-justifying mechanism, the combination of a justifying-gage, means for measuring the shortage of a line of type and applying said measurement to said gage to determine the two consecutive sizes of justifying-spaces for the line, and a difference device adapted to determine the relative number of spaces of each size required for justification.

13. In a mechanism adapted to justify lines of characters with justifying-spaces of two consecutive sizes, means for selecting the two required sizes of spaces from a limited number of sizes, means for determining the number of spaces of each size to be used, and means for automatically shifting the space-selecting mechanism when a sufficient number of the spaces of the first size have been selected.

14. In mechanism for justifying lines of characters with spaces of two consecutive sizes, means for predetermining the sizes of the spaces, and devices adapted to be set for selecting word-spaces of one size, in combination with mechanism for resetting said devices, if necessary, during the justification of a line to effect the selection of word-spaces of the next consecutive size.

15. In mechanism for justifying lines of characters with spaces of two consecutive sizes, a space-determining device adapted to be set for word-spaces of one size, in combination with different devices constructed to reset said space-determining device during the justification of a line to effect the selection of spaces of the next consecutive size.

16. In a justifying-machine, a controller for timing a movement, comprising a movable part adapted to be set back in proportion to the time which is to elapse before causing said movement, and means for imparting a regulated forward movement to said part.

17. In a justifying-machine, a controller for timing a movement, comprising a part adapted to be set back, and means for imparting a step-by-step forward movement to said part.

18. In a justifying-machine, a controller for timing a movement, comprising a toothed part adapted to be set backward, and means for imparting a step-by-step forward movement to said part, the required timed movement taking place when the forward movement of said part equals its backward movement.

19. In a justifying mechanism, the combination with a magazine provided with a limited number of sizes of spaces, of means for selecting spaces of two consecutive sizes to justify a line, and a controller for effecting the change from one size to another comprising a part adapted to be set backward, and means for imparting a partial forward movement to said part each time a word-space of the first size is selected.

20. In a machine for justifying composed lines of type with spaces of two consecutive sizes, the combination of means, controlled by the shortage and the number of intervals, for automatically selecting the proper sizes of spaces, and a controller adapted to be set back before justifying the line and to control by its forward movement during the justification the relative numbers of the two sizes of spaces required.

21. In a mechanism for justifying composed lines of type with spaces of two consecutive sizes, the combination of a justifying-gage, means for measuring the shortage of a line and applying said measurement to said gage to determine the justifying-spaces for the line, and a controller arranged to automatically govern the relative numbers of the two sizes of spaces selected for the line.

22. In a type-justifying mechanism, the combination of means for measuring the shortage of an unjustified line of type, means adapted to be set in accordance with the number of intervals in the line, and a difference device including a controller which is adapted to be set back and to have a forward movement during the operation of justifying the line, whereby the number of each size of justifying-spaces in the line is determined.

23. In a mechanism for justifying composed lines of type, a justifying-gage, in combination with means for measuring the shortage of the unjustified line, means for applying said measurement to said gage to determine the justifying-spaces, and means for inserting said spaces in the line.

24. In a justifying-machine having a limited number of sizes of justifying-spaces, a gage for determining the largest size of spaces which can be inserted uniformly in the line, in combination with a gage for measuring the remainder required to complete the justification of the line.

25. In a justifying mechanism, a gage having a plurality of series of steps, the steps of each series corresponding to piles of successive sizes of justifying-spaces, each pile having the same number of spaces.

26. In a justifying mechanism, a gage having a plurality of series of steps, the steps of each series corresponding to piles of successive sizes of justifying-spaces, each pile having the same number of spaces, and the different series of steps corresponding to piles having different numbers of the several sizes of spaces.

27. In a type-justifying machine, the combination of a space-magazine provided with several successive sizes of spaces, a gage having a plurality of series of steps corresponding to piles of said spaces containing various numbers and sizes, and means for utilizing the gage to select justifying-spaces for lines of type.

28. The combination, in a type-justifier, of line-measuring devices, and a plurality of gages corresponding with different numbers of intervals in type-lines, with mechanism for bringing the appropriate gage into operative relation with the line-measuring devices.

29. The combination, in a type-justifier, of a plurality of gages corresponding in number with the different numbers of intervals in type-lines, said gages being constructed to represent piles of successive sizes containing successive numbers of spaces, with mechanism for trying said gages into a space equivalent to the line shortage until one is found which most accurately fits it.

30. The combination, in a type-justifier, of a plurality of stepped gage-plates, each of said plates representing piles of different numbers and each step thereon different sizes of spaces, with mechanism for selecting one of said plates and trying the same into a space equal to the line shortage until that one of its steps is found which most nearly fills said shortage, for the purpose set forth.

31. In a type-justifier, in combination, a line-gage adapted to rest upon an unjustified type-line and indicate the length of said line at a point remote therefrom, a series of gages representing different piles of different sizes of spaces, and means to bring a connection of said line-gage into operative relation with said last-mentioned gages, for the purpose set forth.

32. In a type-justifier, in combination, a line-gage arranged to rest upon an unjustified type-line, a member connected with said gage and adapted to indicate the length of said line at a point remote therefrom, and a series of gages representing different piles of different sizes of spaces, capable of being brought into contiguity with said member, for the purpose set forth.

33. In a type-justifier, in combination, a longitudinally-movable rod carrying a line-gage adapted to extend across the line-channel, an intermediate gage connected to said rod, a series of stepped gage-plates representing the probable amounts of the shortages and numbers of spaces necessary for type-lines, and means for adjusting said intermediate gage to the gage-plate representing the number of spaces required in a given line, for the purpose set forth.

34. In a type-justifier, in combination, a line-measuring gage-block, gage-plates representing different numbers of spaces, a projection operatively connected with said block and extending into the path of said plates, parallelogram bars adapted to swing said projection into alinement with the required plate, and means for locking said projection in position, for the purpose set forth.

35. In a type-justifier, in combination, an intermediate gage adapted to traverse a distance equal to the line shortage, adjustable gages arranged to represent different numbers and sizes of spaces, and the space-plunger mechanism designed to move synchronously with said adjustable gages, for the purpose set forth.

36. In a type-justifier, in combination, a series of movable gage-plates representing different line shortages, a space-plunger blade, and a space-receiving platform, said blade and platform being arranged to move synchronously with said plates, for the purpose set forth.

37. In a type-justifier, in combination, a line-measuring gage projection, gage-plates adapted to move over said gage until intercepted thereby, a plurality of space-reservoirs having a series of correlative ratchet-teeth fixed thereto, and a pawl operatively connected with said plates, arranged to move simultaneously therewith and engage one of said teeth, for the purpose set forth.

38. In a type-justifier, in combination, a plurality of space-reservoirs arranged side by side, a space-plunger blade transversely adjustable relative to said reservoirs, an independently-mounted, movable, space-receiving platform, and means for reciprocating the latter between said reservoirs and the line-channel, for the purpose set forth.

39. In a type-justifier, in combination, a plurality of space-reservoirs arranged side by side, a space-plunger blade transversely adjustable relative to said reservoirs, and an independently-mounted, movable, space-receiving platform, for the purpose set forth.

40. In a type-justifier, in combination, a plurality of space-reservoirs, a space-plunger blade adjustable relative to any one of said reservoirs, a space-receiving device arranged to reciprocate between a position adjacent to said blade and the line-channel, and mechanism adapted to transfer a space from said receiving device into said line-channel, for the purpose set forth.

41. The space-transferring device, in a type-justifier, consisting of a space-support, a space-pusher, and a movable guard adapted to be opened as said device approaches the line-channel, as specified.

42. In a type-justifier, in combination, a pawl operating across the line-channel, adapted to support one or more words thereon, and a space-pusher designed to force a space against said pawl and hold the same suspended until removed by the passage of a word through said channel, for the purpose set forth.

43. In a type-justifier, in combination, a plurality of space-reservoirs, an arm adjustable with reference to one or another of said reservoirs, a second arm provided with a space-plunger, yieldingly separated from said first-mentioned arm by a distance equal to that between two succeeding space-reservoirs, but capable of being pressed against the same, and a stop adapted to be introduced into the action between said arms to positively maintain said distance between them, for the purpose set forth.

44. In a type-justifier, in combination, a primary measuring device and a difference-measuring device adapted to engage opposite ends of a type-line, said difference device provided with ratchet-teeth, a member capable of being actuated by the introduction of each space into said line, and a pawl attached to said member, registering with said teeth, for the purpose set forth.

45. The difference-measuring device, in a type-justifier, consisting of a post carrying a gage projection adapted to engage one end of a type-line, a rod provided with a wedge capable of moving said post, and means for intermittently actuating said rod, dependent upon the introduction of spaces into said line, as specified.

46. In a type-justifier, in combination with the primary measuring device, a post carrying a gage projection adapted to engage one end of a type-line, a rod provided with a gage capable of moving said post, and means for intermittently actuating said rod, dependent upon the introduction of spaces into said line, for the purpose set forth.

47. In a type-justifier, in combination, a post carrying a gage projection adapted to engage one end of a type-line, a toothed rod provided with a wedge capable of moving said post, a pawl extending into the line-channel, arranged to swing each time a space is introduced into said line, and a second pawl dependent upon the first for its action, registering with the teeth on said rod and intermittently actuating the same, for the purpose set forth.

48. In a type-justifier, in combination, a toothed rod provided with a wedge, a spring-actuated post, a hooked member adapted to hold said post against the resiliency of its spring, and a pawl arranged to actuate said rod and wedge against said member, thereby releasing said post, for the purpose set forth.

49. In a type-justifier, in combination, a remainder-measuring device provided with ratchet-teeth, a pawl adapted to engage said teeth and return said device to its normal position, and a tripping device actuated by the return of said remainder device, whereby the mechanism changes from one size of spaces to the next, for the purpose set forth.

50. In a type-justifier, in combination, a laterally-adjustable space-plunger, locating mechanism for said plunger, a stop, means for holding said stop from between said mechanism and plunger, a remainder device, and other means for introducing said stop between said first-mentioned parts upon the return of said device to its normal position, for the purpose set forth.

51. In a type-justifying mechanism, the combination with means for measuring a line, of a counting-rack, and a pawl arranged to lock said rack in position to indicate the number of intervals in the line.

52. In a type-justifying mechanism, the combination with means for measuring a line, of a counting-rack, a pawl arranged to hold said rack in position to indicate the number of intervals in the line, and means to hold said pawl out of engagement with the rack during its adjustment.

53. In a type-justifying mechanism, in combination with means for measuring a line, a justifying-gage, a contact-piece, and means for adjusting said contact-piece in accordance with the length of the unjustified line, and the number of intervals therein.

54. In a type-justifying mechanism, in combination with means for measuring a line, an adjustable justifying contact-piece, a word-counting rack, and means for locking said rack in position corresponding to any number of intervals in the line.

55. In a type-justifying mechanism, the combination of a pair of pivoted parallel bars a justifying-stop carried by said bars, a counting-rack connected to one of said bars for adjusting said stop, and a pawl for locking said rack in any desired adjustment.

56. In a type-justifying mechanism, the combination of a pair of parallel pivoted bars, a link connecting the free ends of said bars, a stop mounted on said link, means for adjusting said bars in accordance with the number of intervals in the line, and a justifying-gage coöperating with said stop.

57. In a type-justifying mechanism, a line-measuring gage which is adjustable in the direction of the line-channel and movable laterally to said channel to permit the line to pass after it is measured, in combination with means controlled by said gage for selecting justifying-spaces.

58. In a type-justifying mechanism, a rod movable longitudinally and about its axis, in combination with a line-measuring gage attached to said rod, a line-channel adjacent to said rod, an abutment against which the line is measured, and means controlled by gage for selecting justifying-spaces.

59. In a type-justifying mechanism, the combination with a longitudinally-movable rod, of a line-gage carried by said rod, and a stop, such as the part 112 also carried by said rod, said stop having an independent lateral movement in accordance with the number of intervals in the line.

60. In a type-justifying mechanism, the combination with a series of gages, of a stop such as 112 coöperating with said gages to select the proper spaces to justify lines

of type, a line-measuring gage connected to said stop and movable in accordance with the shortage of the lines, and a counting device also connected with said stop and movable in accordance with the number of word-intervals in the line, for the purpose set forth.

61. In a type-justifying mechanism, the combination with means for determining the widths of justifying-spaces and a space-magazine, of means for ejecting spaces and means for relatively adjusting said magazine and ejecting means to select the spaces.

62. In a type-justifying mechanism, the combination with a type-magazine having channels for successive sizes of justifying-spaces, a plunger for ejecting spaces, and a guard in front of the magazine having a straight lower edge inclined to the bottom of said magazine, said guard being arranged to permit the lowest space of each channel to pass and to retain the second and higher spaces.

63. In a type-justifying mechanism, the combination with a space-magazine, means for selecting justifying-spaces and a plunger for ejecting spaces from the magazine, of a line-channel, a device for carrying ejected spaces from the magazine to said channel, and means for parting a line of type and inserting said spaces therein.

64. In a type-justifying mechanism, the combination with a space-magazine, of justifying-space-selecting devices, a receiver in front of said magazine into which the spaces are ejected from the magazine, and means for moving said receiver laterally to carry said spaces into the line under justification.

65. In a type-justifying mechanism, the combination with a magazine for justifying-spaces, of justifying-space-selecting devices, an arm movable laterally, a space-ejecting plunger carried by said arm in the rear of the magazine, and a space-receiver in front of the magazine, said receiver being also movable laterally to carry the space to the line.

66. In a type-justifying mechanism, the combination with a space-magazine having channels for several sizes of spaces, of a pivoted arm in the rear of said magazine, means for adjusting said arm to select justifying-spaces, and a reciprocating device carried by said arm to eject the justifying-spaces.

67. In a type-justifying mechanism, the combination with a magazine having channels for several sizes of spaces, of a receiver movable laterally in front of the magazine, a pivoted latch for holding a space in the receiver, and means for raising the latch at the proper time to permit the space to be discharged from the receiver into the line.

68. In a type-justifying mechanism, the combination with a channel in which the words are separated for the insertion of justifying-spaces, with a pawl adapted to enter said channel and support the spaced portion of the line.

69. In a type-justifying mechanism, the combination with an upper galley for justified matter, a lower galley for unjustified matter, and a channel connecting said galleys, of means for separating the words in a line and moving them through said channel, means for inserting justifying-spaces between the words in said channel, and a pawl arranged to normally enter said channel and support the spaced portion of a line.

70. In a type-justifying mechanism, the combination with a space-magazine having channels for several sizes of spaces, of an ejecting-plunger, a rack, serving as an index to correctly locate the plunger opposite the proper space-magazine and holding means coöperating with the rack.

71. In a type-justifying mechanism, the combination with a space-magazine having channels for several sizes of spaces, of a space-ejecting plunger movable laterally to the magazine, and a rack and pawl for locking said plunger in position opposite the proper channel of a magazine.

72. In a type-justifying mechanism, the combination with a space-magazine having a series of channels for several sizes of spaces, of a rack having its teeth corerspondıng to the channels of the magazine, a plunger for ejecting spaces from the magazine, and means for locating said plunger opposite the proper channel and locking it in such position by means of said rack.

73. In a type-justifying mechanism, the combination with a magazine having channels for several sizes of spaces, of a plunger movable laterally to said magazine, of a part limiting the lateral movement of said plunger whereby spaces of a certain size are selected, and an interponent, such as the part 306, adapted to be interposed to stop the plunger opposite a second channel of the magazine during the justification of a line.

74. In a type-justifying mechanism, the combination with a space-magazine having channels for several sizes of spaces, of an arm movable laterally to said magazine, an ejecting-plunger carried by said arm, a stop for the arm which is adjustable to locate the plunger opposite spaces of one size, an interponent adapted to be thrown in between said arm and stop to locate the plunger opposite an adjacent size of spaces, and a difference device arranged to throw in said interponent at the proper period in the justification of the line.

75. In a type-justifying mechanism, the combination with an interponent, such as the part 306, of a bolt having a head adapted to throw said interponent into operative position, a catch adapted to hold said bolt and interponent inoperative, a spring for throwing the bolt forward, and a difference device arranged to release said bolt at the proper period in the justification of a line.

76. In justifying mechanism, a word-space-determining device adapted to be set for word-spaces of any given value, in combination with automatic mechanism for resetting said device, if necessary, after a portion of the word-spaces of a line have been determined, to effect justification by varying the remaining word-spaces uniformly, substantially as described.

77. In justifying mechanism operating according to the quotient and remainder principle, a word-space-determining device adapted to be set for word-spaces of any given value, in combination with mechanism for resetting said device, if there be a remainder, after a portion of the word-spaces have been determined, to effect justification by varying the remaining word-spaces uniformly by a single unit, substantially as described.

78. In justifying mechanism, a word-space-determining device adapted to be set for word-spaces of any given value by a backward movement, in combination with mechanism for imparting to said device a forward movement during the justification of a line, substantially as described.

79. In a type-justifying machine, means for inserting spaces of two consecutive sizes in a line comprising a governing device adapted to be set back as many points as there are spaces of the first size and moved one point each time a space is inserted.

80. In a type-justifying machine, means for justifying a line with two consecutive sizes of spaces comprising a governing device, means for automatically setting back said governing device as many points as there are spaces of the first size in the line, and means for feeding forward said governing device one point for each space inserted in the line.

81. In a type-justifying mechanism, in combination, a governor device adapted to be set back an amount corresponding to the number of intervals in a line, means for moving said device forward one point each time a justifying-space is inserted in one of said intervals, and means operated by said governor device for starting the line mechanism as the last space is inserted.

82. In justifying mechanism, a word-space-determining device adapted to be set for word-spaces of any given value, in combination with automatic mechanism for resetting said device, if necessary, after a portion of the word-spaces of a line have been determined, to effect justification by varying the remaining word-spaces, substantially as described.

83. In justifying mechanism, the combination with means for measuring the line of type, of a space-magazine, mechanism for dividing the shortage of a line by the number of intervals therein, and means controlled by said mechanism for selecting justifying-spaces from the magazine.

84. In justifying mechanism, the combination with a line-channel, and means for measuring a line of type in said channel, of a space-magazine, mechanism for dividing the shortage of a line by the number of intervals therein, and means controlled by said mechanism for selecting justifying-spaces from the magazine.

85. A mechanism for justifying a composed line of type comprising a device for measuring an unjustified line to ascertain the total shortage and devices for dividing the said shortage by the number of word-spaces in the line.

86. In a mechanism adapted to justify lines of characters with spaces of two consecutive sizes, the combination of means for determining normal justifying-spaces for a line, and means for selecting the two required sizes of spaces from a limited number of sizes.

87. In a mechanism adapted to justify lines of characters with spaces of two consecutive sizes, the combination of means for determining the normal justifying-spaces for a line, means for selecting the two required sizes of spaces from a limited number of sizes, and means for determining the number of spaces of each size to be used.

88. In a mechanism adapted to justify lines of characters with spaces of two consecutive sizes, means for determining justifying-spaces comprising a computing member movable in accordance with the number of word-spaces, and a line-measuring device, in combination with means for selecting the two required sizes of spaces from a limited number of sizes.

89. In a mechanism adapted to justify lines of characters with spaces of two consecutive sizes, the combination of means for determining normal justifying-spaces for a line, means for selecting the size of space provided in the machine which is next smaller than the normal, and means for measuring the difference between the aggregate of normal spaces and the aggregate of said smaller spaces, for the purpose set forth.

90. In justifying mechanism, in combination, a gage adapted to traverse the line shortage, a measuring device dependent for position upon said gage, a space-determining device, and connections between said space-determining device and said measuring devices whereby said space-determining device is adjusted in accordance with the two measurements.

91. In justifying mechanism, the combination with means for selecting a given number of such a size of spaces as will enter the shortage, of means for dividing what remains to be filled in said line into parts which correspond to the differences between individual sizes of spaces to be used.

92. In a type-justifying machine, in combination with a series of channels designed to contain successive sizes of spaces, a space-determining device representing said successive sizes, and means adapted to determine, in case the space-determining device register between two of said sizes, the proportional position of such registration relative to the two sizes and register the result in amounts corresponding to the difference between said two sizes of spaces.

93. In a justifying mechanism, the combination with a channel in which the words are separated for the insertion of justifying-spaces, of a pawl yieldingly pressed into the channel at one side, said pawl being adapted to support the spaced portion of the line, and means for moving a space into the channel against said pawl and beneath the spaced portion of the line.

94. In a type-justifying mechanism, the combination of a space-magazine containing different sizes of spaces, a plunger for ejecting spaces from the magazine, and means for adjusting the plunger opposite the proper channel in the magazine, said means being controlled by the shortage of the line to be justified and the number of intervals therein.

95. In a type-justifying mechanism, the combination with a space-magazine containing different sizes of spaces, of an ejecting-plunger movable laterally, a series of gages movable with said plunger, and a stop coöperating with the gages to locate the plunger opposite the magazine-channel containing spaces for the line under justification.

96. In a type-justifying mechanism, the combination with a space-magazine having a number of channels for different sizes of spaces, of an ejecting-plunger movable laterally to the channel, gages for locating the plunger opposite the channel containing one of the sizes of spaces for justification, and means for subsequently adjusting the plunger to an adjacent channel during the justification of the line, for the purpose set forth.

97. In a mechanism for justifying a composed line of type, a series of gages, in combination with a series of space-channels each containing spaces of uniform width, the spaces in each channel differing from the spaces in adjacent channels by approximately the same amount, combined with mechanism for supplying the line with spaces from one or more of said magazines of the proper size and number to justify the line.

98. In a mechanism for justifying a composed line of type, a series of gages, with a series of space-channels each containing spaces of uniform width, the spaces in adjacent channels differing from one another by approximately the same amount, a space-selecting device for supplying the line to be justified with justifying-spaces selected from one or more of said channels, and connections between said series of gages and said device, whereby said device is properly set for each line to be justified.

99. In a mechanism for justifying a composed line of type, a series of gages, a space-selecting device for supplying the line to be justified with justifying-spaces, and connections between said series of gages and said device, whereby said device is primarily set for each line to be justified, combined with means for moving said device from the position in which it is so set to cause it to select the proper combination of spaces to justify the line.

100. In a mechanism for justifying a composed line of type, the combination of a device for measuring an unjustified line to ascertain the difference between the length of the set line and standard, means set by the measuring device to establish a point a distance from a certain fixed point proportional to said difference, and a series of gages adapted to be thrust between said two points, and a mechanism connected to the gage selected which is adapted when set by the setting of the gage to supply spaces which will justify the line.

101. In a justifying mechanism, means for determining the quotient of the line shortage divided by the number of intervals in the line, means for setting a space-determining device in accordance with the integral part of said quotient, and means controlled according to the fractional part of said quotient and adapted to reset the space-determining device during the operation of justifying, whereby the line may be justified by a combination of spaces having but two values.

102. In a mechanism for justifying composed lines of type, a space-selecting device, means for determining the quotient of the line shortage divided by the number of intervals in the line, means for setting the space-selecting device in accordance with the integral part of said quotient, and means controlled according to the fractional part of said quotient and adapted to reset the space-selecting device during the operation of justifying, whereby a line may be justified by a combination of spaces having but two values.

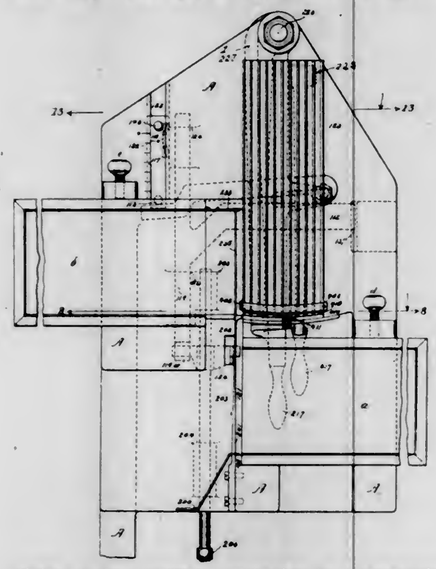
103. In a justifying mechanism, means for computing the normal justifying-space value for a line, in combination with a space-selecting device, means for adjusting the selecting device to one space value, a difference device, and means controlled by the difference device for resetting the selecting device.

104. In a justifying mechanism, a selecting device capable of selecting spaces from a limited number thereof, means for setting said device to one of the space values required, a controller governing the resetting of the selector if a second space value is required, a difference device, and connections whereby the controller is set from the difference device.

105. In a justifying mechanism, devices for selecting justifying-spaces from a limited number of sizes, comprising line-measuring and space-counting devices, means governed by said devices for selecting justifying-spaces of two sizes, and a controller adapted to be set by the justifying devices to determine the number of spaces of each size inserted in the line.

106. In mechanism for justifying lines of characters with spaces of two consecutive sizes, a gage and means for setting the same to correspond with the normal justifying-spaces for a line, in combination with means for selecting spaces of one size next to the normal, means for governing the number of such spaces inserted in the line, and means for automatically selecting such spaces of the other size next to the normal as may be necessary to justify the line.

844,556. TYPE-JUSTIFYING MACHINE. BENJAMIN M. DES JARDINS, Hartford, Conn., assignor, by mesne assignments, to The Unitype Company, a Corporation of New Jersey. Filed May 20, 1905. Serial No. 550,015.



Claim.—1. In a justifying mechanism for a typographic machine, a pivotally-mounted bar or lever movable to different positions for the justification of different lines, in combination with means for measuring the shortage of a line, and means for indicating the number of intervals in the line.

2. In a justifying mechanism for a typographic machine, a pivotally-mounted bar or lever movable to different positions for the justification of different lines, in combination with means for measuring the shortage of a line, means for indicating the number of intervals in the line, and devices controlled by said bar or lever and said means for determining the justifying-spaces.

3. In a justifying mechanism for determining the justifying-spaces from the elements of line shortage and number of intervals, a device for mechanically representing the line shortage, in combination with a device for mechanically representing the number of intervals in a line, said devices including a part having an inclination corresponding to one of said elements.

4. In a justifying mechanism for determining the justifying-spaces from the elements of line shortage and the number of intervals, a device for mechanically representing the line shortage, in combination with a device for mechanically representing the number of intervals in a line, said devices including means for providing different angles or inclines for the justification of different lines.

5. In a justifying mechanism for a typographic machine, a pivoted computing bar or lever, in combination with means for representing the line shortage, means for representing the number of intervals in a line, and means for bringing said bar and said representing means into conjunction to determine the justifying-spaces for a line.

6. In a justifying mechanism for determining the justifying-spaces from the elements of line shortage and number of intervals, devices for dividing the line shortage by the number of intervals, said devices including a part having an inclination corresponding to one of said elements.

7. In a justifying mechanism for determining the justifying-spaces from the elements of line shortage and number of intervals, devices for dividing the line shortage by the number of intervals, said devices including a part having an inclination corresponding to one of said elements, and being movable to vary the inclination for different lines.

8. In a justifying mechanism for determining the justifying-spaces from the elements of line shortage and number of intervals, devices for dividing the line shortage by the number of intervals, said devices including a part having an inclination corresponding to the number of intervals in a line, and being movable to vary the inclination for different lines.

9. In a typographic machine, a mechanism for justifying comprising an element having an angular movement, means for moving said element in accordance with the number of intervals in a line, and means for bringing said element into conjunction with another element representing the shortage of a line to determine the width of justifying-spaces for the line.

10. In a typographic machine, a mechanism for justifying comprising a pivoted element, and means for moving said element about its pivot in accordance with the number of intervals in a line to be justified, the successive elements of said angular movement corresponding to equal increments of a tangent to the angle.

11. In a typographic machine, a justifying mechanism comprising a pivoted element having a straight edge radial to its pivot, and means for imparting to said element an angular movement, said means comprising a part movable tangentially to a circle described about said pivot and in proportion to the number of intervals in a line.

12. In a typographic machine, a justifying mechanism comprising a computing-bar having an angular movement controlled in accordance with the number of intervals in a line to be justified, means for measuring the line, and means for combining said measurement and said angular movement to determine the justifying-spaces for the line.

13. In a typographic machine, a justifying mechanism comprising a pivoted computing-bar having a straight edge radial to its pivot, means for moving said computing-bar to correspond with the number of intervals in the line to be justified, and means for applying to said computing-bar an element representing the shortage of the line, whereby the thickness of justifying-spaces for the line is obtained.

14. In a justifying mechanism, the combination with means for measuring the line of type, of a space-magazine, mechanism for dividing the shortage of a line by the number of intervals therein said mechanism including a member having an incline corresponding to one of said elements, and means controlled by said mechanism for selecting justifying-spaces from the magazine.

15. In a justifying mechanism, the combination with a line-channel, and means for measuring a line of type in said channel, of a space-magazine, mechanism for dividing the shortage of a line by the number of intervals therein said mechanism including a member having an incline corresponding to one of said elements, and means controlled by said mechanism for selecting justifying-spaces from the magazine.

16. In a justifying mechanism for a typographic machine, the combination with a space-magazine having compartments for a plurality of sizes of spaces, of means for measuring an unjustified line of type, justifying means comprising an element having an incline capable of being varied for different lines, and means operating in conjunction with said element for selecting proper justifying-spaces from the magazine.

17. In a typographic machine, the combination with a magazine having channels for a plurality of sizes of spaces, of a mechanism for justifying comprising an element having an angular movement, means for moving said element in accordance with the number of intervals in a line, means for measuring the line, means for bringing said angular element into conjunction with another element representing the shortage of the line, and means controlled by said latter element for selecting justifying-spaces from the magazine.

18. A mechanism for justifying lines of type comprising an element having an angular movement controlled by the number of word-intervals in the line and a second element having a movement controlled by the shortage of the line, the relative positions assumed by said elements for a given line determining the values of the justifying-spaces for said line.

19. In a mechanism for justifying composed lines of type, an element having a parallel movement in proportion to the shortage of the line, in combination with an element having an angular movement controlled by the number of intervals in the line, the relation of said elements when adjusted for a given line being adapted to determine the justifying-spaces for said line.

20. In a mechanism for justifying lines of type, the combination of an element having a parallel movement in proportion to the shortage of the line, an element having an angular movement controlled by the number of intervals in the line, and a part guided by one of said elements and movable into contact with the other, the position of said part when in contact being adapted to indicate the quotient of the line shortage divided by the number of intervals.

21. In a mechanism for justifying lines of type, mechanical means for obtaining the quotient of the line shortage divided by the number of word-intervals, comprising a bar having a parallel movement in proportion to the shortage of the line, a computing-bar having an angular movement from an initial position parallel with the first-named bar, said angular movement being controlled by the number of word-intervals in the line, and a part guided by the first-named bar and movable into contact with the computing-bar, the position of said part when in contact with the computing-bar being adapted to indicate the desired quotient.

22. In a type-justifying machine, in combination with a computing-bar having an angular movement controlled by the number of intervals occurring in the type-line, a feeler-gage movable at right angles with the starting position of said bar in proportion to the shortage of the line under justification, and means for moving said feeler-gage along a path parallel with the initial position of the computing-bar until intercepted by said bar, for the purpose specified.

23. In a justifying mechanism, in combination, a computing-bar having an angular movement controlled in accordance with the number of intervals occurring in the line under justification, a pivotal support for one end of said bar, and slide arranged to engage and move the other end of the bar, said slide being in engagement with a part of said bar in line with its computing edge, for the purpose specified.

24. In a type-justifying mechanism, in combination, a computing-bar provided with a pivotal support, a counting-slide arranged to move in tangential relation to the movement of said bar upon its pivot in accordance with the number of intervals occurring in the line under justification, said bar and slide having a sliding engagement with each other, for the purpose specified.

25. In a justifying mechanism a pivoted computing-bar, and a slide connected to said bar and movable in accordance with the number of word-spaces in the line under justification, said bar and slide forming two sides of a triangle, combined with means for constructively laying off the shortage of the line parallel with the slide to form the base of a similar triangle, and means for utilizing the measure of one of the remaining sides of said latter triangle to determine the normal word-space value.

26. In a justifying mechanism, the combination with a line-measuring channel, a gage mounted on a rotatable and longitudinally-movable support, said gage being movable into and out of said channel, a line-gage blade adjustable according to the longitudinal movements of the gage, and a computing-bar coöperating with the gage-blade.

27. In a justifying mechanism, the combination with the line-gage, and the supporting-rod for said gage having a longitudinal and rotary movement, of the line-gage blade, and connections between said gage and said blade whereby the blade is moved longitudinally with the gage-support and is not affected by the rotary movement of said support.

28. In a justifying mechanism, the combination with the line-gage blade, and the pivoted computing-bar, of the lever 224, and the contact-piece connected with and operated by said lever, said contact-piece coöperating with said bar and blade.

29. In a justifying mechanism, the combination with the line-gage blade adjustable in accordance with the line-gage, and the pivoted computing-bar, of a lever such as 224, a link connected to said lever, and a contact-piece connected with the link and extending between said blade and bar.

30. In a type-justifying mechanism, the combination with justifying space-determining devices and a space-magazine having the lower ends of its channels arranged substantially in the arc of a circle, of a pivot at the center of said circle, a lever mounted on said pivot, and a space-plunger mounted in said lever and adapted to eject spaces from any channel of the magazine.

31. In a type-justifying mechanism, the combination with justifying space-determining devices and a space-magazine having a plurality of channels, of a space-ejecting plunger, a lever in the rear of the magazine in which said plunger is mounted, a receiving-platform in front of the magazine to sustain the ejected spaces, and a carrier operating on said platform to move the spaces to the line.

32. In a type-justifying mechanism, the combination with the fixed magazine having a plurality of space-channels, of a lever mounted in the rear of said magazine, a space-receiving platform in front of said magazine, a space-ejecting plunger mounted in said lever, and a second lever in the rear of said magazine and having a finger extending forward under the magazine and over the receiving-platform for the purpose of sweeping the ejected spaces over said platform.

33. In a type-justifying mechanism, the combination of a space-magazine having a plurality of channels, a lever movable in a plane parallel with the plane of the space-magazine, an ejecting-plunger mounted in said lever and movable transversely to said plane, and an ejecting hand-lever pivoted to said first-named lever and connected with the space-ejector.

34. In a type-justifying mechanism, the combination with a space-magazine having channels for different sizes of spaces, of a line-gage blade and means for setting the same in accordance with the line shortage, a pivoted computing-bar and means for setting the same in accordance with the number of intervals in a line, a lever in which said space-ejector is mounted, and means for adjusting said lever in accordance with the intersection of said bar and blade, for the selection of justifying-spaces.

35. In a type-justifying mechanism, the combination of a space-magazine having channels for different sizes of spaces, an arm pivotally mounted and adapted to rock in a plane parallel to said magazine, a series of ratchet-teeth in the rear of the magazine and corresponding in location to the several channels thereof, a pawl carried by said arm and adapted to engage with said ratchet-teeth, and an ejecting-plunger also carried by said arm and adapted to be located accurately in the rear of a channel by said pawl and ratchet-teeth.

36. In a type-justifying mechanism, in combination a channeled magazine arranged to contain different sizes of spaces and having ratchet-teeth thereon corresponding to the number of channels in said member and to their distances apart, a space-ejector, a space-pusher, arms carrying said ejector and said pusher, a latch operating in one of said arms and adapted to engage or release said teeth, and means for causing said arms to be locked together by said latch when the same is out of engagement with said teeth, for the purpose set forth.

37. In a type-justifying mechanism, in combination, a space-magazine, a space-ejector, an adjustable arm to locate the same back of a given size of spaces, a latch in said arm for locking said ejector in position, a space-pusher supported by a second arm provided with lugs, and

a catch on said latch adapted to engage said lugs and lock said arms together, or to disengage the former and permit one of the latter to move independently of the other, according to the position of said latch, for the purpose set forth.

38. In a typographic machine, a mechanism for justifying comprising an element having a straight edge and a pivotal point to which said edge is radial, in combination with means for setting said element in accordance with the number of intervals in a line.

39. A mechanism for justifying a composed line of type comprising a device for measuring an unjustified line to ascertain the total shortage and devices including a member having an incline variable for different lines for dividing the said shortage by the number of word-spaces in the line.

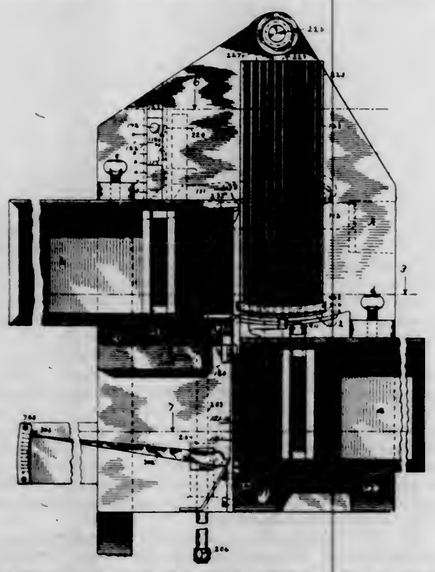
40. In a type-justifying machine, a pivoted computing-bar, in combination with type-engaging means movable in proportion to the aggregate shortage of a line, and with a device engaging said bar and movable in accordance with the number of intervals occurring in the line.

41. In a type-justifying machine, a pivoted computing-bar operatively connected with a slide adapted to move in tangential relation to the movement of the bar upon its pivot, the slide being located adjacent to and adapted to engage with the line of type to be measured.

42. In a mechanism for justifying composed lines of type, measuring devices comprising an element having an angular movement controlled by the number of word-intervals in the line and a second element having a movement controlled by the length of the line, the relative positions assumed by said elements for a given line being adapted to determine the values of the justifying-spaces for said line.

43. In a justifying mechanism, the combination with a pivoted computing-bar and means for setting said bar in accordance with the number of intervals in the line, of the line-measuring bar, an arm extending at right angles from said measuring-bar, and a gage-block movable on said arm.

844,557. TYPE-JUSTIFYING MACHINE. BENJAMIN M. DES JARDINS, Hartford, Conn., assignor, by mesne assignments, to the Unitype Company, a Corporation of New Jersey. Filed May 20, 1895. Serial No. 550,016.



Claim.—1. In a mechanism adapted to justify lines of characters with spaces of two consecutive sizes, the combination of means for determining normal justifying-spaces for a line comprising a pivoted computing-bar, and means for selecting the two required sizes of spaces from a limited number of sizes.

2. In a mechanism adapted to justify lines of characters with spaces of two consecutive sizes, the combination of means for determining the normal justifying-spaces for a line comprising a pivoted computing-bar, means for selecting the two required sizes of spaces from a limited number of sizes, and means for determining the number of spaces of each size to be used.

3. In a mechanism adapted to justify lines of characters with spaces of two consecutive sizes, means for determining justifying-spaces comprising a pivoted computing-bar movable in accordance with the number of word-spaces, and a line-measuring device, in combination with means for selecting the two required sizes of spaces from a limited number of sizes.

4. In a mechanism adapted to justify lines of characters with spaces of two consecutive sizes, the combination of means for determining normal justifying-spaces for a line comprising a pivoted computing-bar, means for selecting the size of space provided in the machine which is next smaller than the normal, and means for measuring the difference between the aggregate of normal spaces and the aggregate of said smaller spaces, for the purpose set forth.

5. In a mechanism adapted to justify lines of characters with spaces of two consecutive sizes, the combination of means for determining normal justifying-spaces for a line, means for selecting the size of space provided in the machine which is next smaller than the normal, and means for measuring the difference between the aggregate of normal spaces and the aggregate of said smaller spaces, comprising a movable part engaging the line, and an indicator to show the amount of movement of said part.

6. In a mechanism adapted to justifying lines of characters with spaces of two consecutive sizes, the combination of means for determining normal justifying-spaces for a line, means for selecting the size of space provided in the machine which is next smaller than the normal, and means for measuring the difference between the aggregate of normal spaces and the aggregate of said smaller spaces, comprising a lever adapted to engage the line, and an indicator carried by the lever adapted to indicate the number of spaces next larger than the normal required to fill out the line.

7. In a justifying mechanism, the combination of means including a pivoted computing-bar for determining from a limited number of sizes the number and size of spaces that will enter the line shortage, and means for dividing what remains to be filled in the line into parts which correspond to the differences between the individual sizes of spaces, for the purpose set forth.

8. In a type-justifying machine, in combination, an adjustable member to support an unjustified type-line at a fixed, initial position, an adjustable gage adapted to rest upon said line, a line-gage bar located in conformity with the position of said gage, an angle-bar having the amount of its incline determined by the required number of spaces in said line, space-selecting mechanism capable of being located in accordance with the angle formed by the intersection of said bars, means for actuating said adjustable, supporting member, and connections between the several measuring parts for mechanically utilizing the measurements taken for the selection of two sizes of spaces, for the purpose set forth.

9. In a type-justifying machine, in combination with a series of channels designed to contain successive sizes of spaces and space-determining devices including a pivoted computing-bar, a member representing said successive sizes, acting in conjunction with a type-line and said space-determining devices, and a second member adapted to determine, in case said first-mentioned member registers between two of said channels, the proportional position of such registration relative to said channels and render the result in amounts corresponding to the difference between the sizes of spaces contained in said two channels, for the purpose set forth.

10. In a mechanism adapted to justify lines of characters with spaces of different sizes, the combination with means for determining normal justifying-spaces for a line, including a device for mechanically representing the line shortage and a device for mechanically representing the number of intervals in a line, said devices including a part having an inclination corresponding to one of said elements, of means for measuring the difference between the aggregate of normal spaces and the aggregate of the next smaller size of space.

11. In a mechanism adapted to justify lines of characters with spaces of different sizes, the combination with means for determining normal justifying-spaces for a line, including a device for mechanically representing the line shortage and a device for mechanically representing the number of intervals in a line, said devices including means for providing different angles or inclines for the justification of different lines, of means for measuring the difference between the aggregate of normal spaces and the aggregate of the next smaller size of space.

12. In a mechanism adapted to justify lines of characters with spaces of different sizes, devices for dividing the line shortage by the number of intervals, said devices including a part having an inclination corresponding to one of said elements, in combination with means for measuring the difference between the aggregate of normal spaces and the aggregate of the next smaller spaces.

13. In a mechanism adapted to justify lines of characters with spaces of different sizes, the combination of a space-magazine, mechanism for dividing the shortage of a line by the number of intervals therein, said mechanism including a member having an inclination corresponding to one of said elements, a difference-measuring device, and means for selecting from the space-magazine the required sizes of spaces to justify the line.

14. In a mechanism adapted to justify lines of characters with spaces of different sizes, the combination of a space-magazine, mechanism for dividing the shortage of a line by the number of intervals therein, said mechanism including a member having an incline capable of being varied for different lines, a difference-measuring device, and means for selecting from the space-magazine the required sizes of spaces to justify the line.

15. In a mechanism adapted to justify lines of characters with spaces of different sizes, the combination of a space-magazine, mechanism for dividing the shortage of a line by the number of intervals therein, said mechanism including a member having an angular movement in accordance with one of said elements, a difference-measuring device, and means for selecting from the space-magazine the required sizes of spaces to justify the line.

16. In a justifying mechanism, a device for measuring an unjustified line, and a lever and coöperating devices constructed to divide the shortage of the unjustified line by the number of word-spaces in the line, in combination with a difference-measuring device, and means for selecting from a limited number of sizes spaces of one or more sizes required to justify the line.

844,558. TYPE-JUSTIFIER. BENJAMIN M. DES JARDINS, Hartford, Conn., assignor, by mesne assignments, to The Unitype Company, a Corporation of New Jersey. Filed July 11, 1895. Serial No. 555,669.

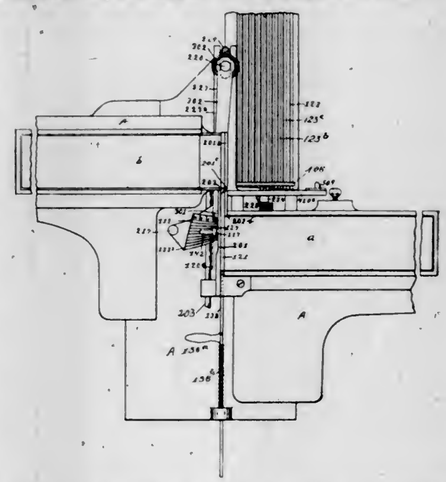
Claim.—1. In a justifying mechanism, a series of differently and progressively inclined gaging-surfaces corresponding to the possible numbers of intervals in a line of print, for the purpose set forth.

2. In a justifying mechanism, a series of inclined gaging-surfaces, arranged progressively and corresponding respectively to the possible numbers of intervals in a line of print arranged in their natural order, for the purpose set forth.

3. In a justifying mechanism, a series of inclined gaging-surfaces, radiating from a common central line, and separated from each other by a uniform amount, for the purpose set forth.

4. In a justifying mechanism, a series of inclined gaging-surfaces radiating from a common central line and corresponding to the possible number of word intervals in a line of print, said surfaces being formed on a common support, for the purpose set forth.

5. In a justifying mechanism, a series of inclined gaging-surfaces radiating from a common central line and corresponding to the possible number of word intervals in a line of print, a coöperating part dependent for its position on the line shortage, and a support for said surfaces movable to carry them into and out of operative relation with said coöperating part, for the purpose set forth.



6. In a justifying mechanism, a series of inclined gaging-surfaces radiating from a common central line and corresponding to the possible number of word intervals in a line of print, a coöperating part dependent for its position on the line shortage, and a pivoted arm upon which said surfaces are supported, said arm being movable to carry said surfaces into and out of operative relation with said coöperating part.

7. In a justifying mechanism, a series of inclined gaging-surfaces corresponding to the possible numbers of intervals in a line of print, in combination with a line-gage arranged to measure the shortage of a line, and means for utilizing said measurement in conjunction with the gaging-surface representing the number of intervals in the line to determine the justifying-spaces for the line.

8. In a justifying mechanism, a series of inclined gaging-surfaces corresponding to the possible numbers of intervals in a line of print, in combination with a line-measuring gage, and a part movable with said gage and having an independent movement to bring it into conjunction with the inclined gaging-surface corresponding to the number of intervals in the line, for the purpose set forth.

9. In a justifying mechanism, a series of inclined gaging-surfaces corresponding to the possible numbers of intervals in a line of type, and a movable support for said gaging-surfaces, in combination with a line-measuring channel, a measuring-gage arranged to measure the shortage of a line in said channel, a part carried by the measuring-gage and movable into the paths of the inclined gage-surfaces, and means for adjusting said part to engage the surface corresponding to the number of intervals in a line, for the purpose set forth.

10. In a type-justifying mechanism, a magazine for a graduated series of spaces, and a space-ejecting plunger adjustable laterally of the magazine-channels, in combination with a series of inclined gaging-surfaces corresponding to the possible numbers of intervals in a line of print, a line-measuring gage to determine the shortage of the line, and means controlled by said line-gage and inclined surfaces for locating the ejecting-plunger in register with the channel containing the proper justifying-spaces for a line.

11. In a type-justifying mechanism, a magazine for a graduated series of spaces, and a space-ejecting plunger adjustable laterally of the magazine-channels, in combination with a series of inclined gaging-surfaces corresponding to the possible numbers of intervals in a line of print, a support for said surfaces movable transversely to the magazine-channels and adapted to locate the ejecting-plunger, a line-gage for measuring the shortage of a line, and a part carried by said gage and adapted to coöperate with the inclined surface representing the number of intervals in a line and thereby limit the transverse movement of said support and said plunger, for the purpose set forth.

12. In a type-justifying mechanism, the combination with a type-measuring channel, of a slide movable in guides parallel to said channel, a gage carried by the slide and adapted to enter the channel, and a part supported by said slide and movable laterally to the path of said gage, said part being adjustable to indicate the number of intervals in a line, for the purpose set forth.

13. In a type-justifying mechanism, the combination with a line-measuring channel, of a line-gage blade adapted to enter said channel and movable in the direction of the line to measure the shortage thereof, a slide carried by said blade, and a scale and index to govern the adjustment of said slide in accordance with the number of intervals in a line, for the purpose set forth.

14. In a justifying mechanism, a magazine for a graduated series of spaces, and a plunger for ejecting said spaces, in combination with a series of inclined gaging-surfaces corresponding to the possible numbers of intervals in a line of print, a line-measuring gage operating in conjunction with said gaging-surfaces to determine the normal justifying-spaces for a line, and means controlled by said gage and gaging-surfaces and adapted to indicate the proportion of spaces of greater and less value than the normal space required to justify the line.

15. In a justifying mechanism, a magazine for a graduated series of spaces, and a space-ejecting plunger adjustable laterally of the magazine-channels, in combination with a line-measuring gage, a series of inclined gaging-surfaces, a support for said surfaces movable to bring them into conjunction with the line-measuring gage, said support engaging the plunger to locate the same primarily in a position corresponding to a normal space, and a difference device comprising a scale and pointer and adapted to indicate the number of units difference between the proper number of normal spaces and the same number of the next smaller size of spaces provided in the magazine.

16. In a justifying mechanism, the combination with a line-measuring gage, of a series of inclined gaging-surfaces corresponding to the possible numbers of intervals in a line of print, a support for said surfaces having a movement in one direction to bring the surfaces into conjunction with the line-measuring gage and a limited movement in a second direction at right angles to the first, of a difference device comprising a pointer and scale adapted to measure said limited movement, for the purpose set forth.

17. In a justifying mechanism, the combination with a pivoted arm 227, of a slide having a limited longitudinal movement thereon, a series of inclined gaging-surfaces mounted on said slide and corresponding to the possible numbers of intervals in a line of print, and a difference device comprising a scale mounted on said slide adjacent to the gaging-surfaces, and an index carried by a second pivoted arm, said index having an angular movement with relation to said slide and scale, and said scale having an eccentric surface adapted to intercept the index at different points dependent upon the position of the slide relative to the path of the index.

18. In a justifying mechanism for composing-machines, a wedge-piece consisting of a series of wedges upon a common support in combination with means for selecting any desired wedge and rendering said wedge operative to control the justification of a line, substantially as described.

19. In an organized machine for justifying a composed line of type, a series of inclined plates, each plate differing in altitude from the adjacent plate by the same arbitrarily-selected increment combined with mechanism for supplying the line with true spaces of the proper size and number to justify the line.

20. In an organized machine for justifying a composed line of type, a series of inclined plates, each plate differing in altitude from the adjacent plate by the same arbitrarily-selected increment a space-selecting device for supplying the line to be justified with true spaces and connections between said series of plates and said device, whereby said device is properly set for each line to be justified.

21. In a justifying-machine the combination of a series of inclined plates, each plate differing in altitude from its adjacent plate by the same arbitrarily-selected increment.

22. In an organized machine for justifying a composed line of type, a series of inclined plates, each plate differing in altitude from the adjacent plate by the same arbitrarily-selected increment, with a series of magazines each containing spaces of uniform width, the spaces in each magazine differing from the spaces in adjacent magazines by approximately the same amount, combined with mechanism for supplying the line with true spaces from one or more of said magazines, of the proper size and number to justify the line.

23. In an organized machine for justifying a composed line of type, a series of inclined plates, each plate differing in altitude from the adjacent plate by the same arbitrarily-selected increment, with a series of space-magazines each containing spaces of the same width, the spaces in adjacent magazines differing from one another by approximately the same amount, a space-selecting device for supplying the line to be justified with true spaces selected from one or more of said magazines, and connections between said series of plates and said device, whereby said device is properly set for each line to be justified.

24. In an organized machine for justifying a composed line of type, a series of inclined plates, each plate differing in altitude from the adjacent plate, by the same arbitrarily-selected increment, a space-selecting device for supplying the line to be justified with true spaces and connections between said series of plates and said device, whereby said device is primarily set for each line to be justified, combined with means for moving said device from the position in which it is so set to cause it to select the proper combination of spaces to justify the line.

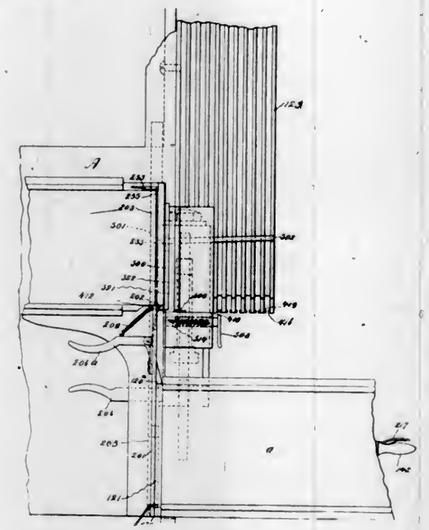
25. In a mechanism for justifying a composed line of type, the combination of the device for measuring an unjustified line to ascertain the difference between the length of the set line and standard, means set by the measuring device to establish a point a distance from a certain fixed point proportional to said difference, and a series of inclined plates, each plate differing in altitude from its adjacent plate by the same arbitrarily-selected increment, the plates being adapted to be thrust between said two points, and a mechanism connected to the plate selected and adapted when set by the setting of the plate to supply true spaces, which will justify the line.

26. An instrument for justifying type consisting of an inclined surface, the tangent of which is arbitrarily selected to indicate a fixed number of spaces, the inclined surface being laid off in accordance with a scale empirically arranged to read at any selected point, the width of the space, which, multiplied by the number of spaces indicated by the angle of the inclined surface will be equal to the width of the inclined surface at the selected point.

27. A device for justifying type which consists of a series of inclined surfaces, each surface differing in altitude from its adjacent surface in the series by an arbitrarily-selected but uniform degree, each surface corresponding to the number of words in the line for which that surface is designed to be used, each surface being laid off in accordance with a uniform empirically-selected scale, which when one of the series of surfaces is inserted between two fixed points will read at the point of contact, the width of the space, which, multiplied by the number of spaces in the line, to which the particular surface corresponds, will equal the width of the particular surface used at the point of contact, combined with a line-measuring and space-determining device.

28. In a device for justifying type, the combination of means for measuring the length of a set line to determine the difference between the length of the set line and standard, means controlled by the measuring device to set a point a distance from a certain fixed point, proportional to the said difference, a series of inclined surfaces, each surface differing in altitude from its adjacent surface in the series, by an arbitrarily-selected but uniform degree, each surface corresponding with the number of words in the line for which the surface is designed to be used, and being laid off in accordance with a uniform empirically-selected scale, which when any one of the series of surfaces is inserted between said two fixed points will read or register at the point of contact, the width of the space, which, multiplied by the number of spaces in the line, to which the particular surface corresponds, will be equal to the difference between the line as set and standard.

844,559. TYPE-JUSTIFIER. BENJAMIN M. DES JARDINS, Hartford, Conn., assignor, by mesne assignments, to The Unitype Company, a Corporation of New Jersey. Filed July 1, 1895. Renewed Feb. 5, 1906. Serial No. 299,508.



Claim.—1. In a justifying mechanism, a series of relatively movable gages, corresponding to a graduated series of spaces, in combination with means for relatively adjusting said gages in accordance with the number of intervals in a line, for the purpose set forth.

2. In a justifying mechanism, a series of relatively movable gages, corresponding respectively to the individual spaces of a graduated series of spaces, and means for adjusting said gages to each represent the same number of its respective spaces.

3. In a justifying mechanism, a series of relatively movable gages, corresponding to a graduated series of spaces, combined with means for simultaneously moving all of the gages of the series distances proportional to the spaces they represent respectively.

4. In a justifying mechanism, a series of relatively movable gages, corresponding to a graduated series of spaces, combined with means for indicating the number of intervals in a line of print, and means for moving said gages simultaneously, and each an amount equal to the space it corresponds to multiplied by the number of intervals in the line.

5. In a justifying mechanism, a series of relatively movable gages, corresponding to a graduated series of spaces, combined with a lever adjustable in accordance with the number of intervals in a line, and connections between said lever and said gages, said gages being simultaneously movable in proportion to the spaces they represent, respectively.

6. In a justifying mechanism, a series of relatively movable gages, corresponding to a graduated series of spaces, combined with a series of lever-arms mounted upon a common fulcrum and engaging said gages respectively, a lever for moving said arms, and means for adjusting said lever in accordance with the number of intervals in a line.

7. In a justifying mechanism, a series of relatively movable gages, corresponding to a graduated series of spaces, in combination with a part and means for adjusting the same in proportion to the shortage of a line, and means for applying said gages to said part, for the purpose set forth.

8. In a justifying mechanism, a series of relatively movable gages, corresponding to a graduated series of spaces, and means for adjusting said gages respectively in proportion to the spaces they represent, in combination with a part movable in one direction in proportion to the line shortage, and in a second direction until intercepted by one of said gages.

9. In a justifying mechanism, a series of relatively movable gages, corresponding to a graduated series of spaces, and means for adjusting said gages to each represent a pile of its respective spaces in number equal to the number of intervals in a line, in combination with a part movable in correspondence with the shortage of a line, and means for bringing said part and said gages into coöperation to determine the size of spaces required for justification.

10. In a type-justifying mechanism, the combination with a magazine for a graduated series of spaces, of a space-ejecting plunger adjustable laterally and longitudinally of the magazine-channels, means for controlling said longitudinal adjustment in accordance with the shortage of a line, and a series of relatively movable gages corresponding to the graduated series of spaces and arranged to control the lateral adjustment of the plunger.

11. In a type-justifying mechanism, the combination with a magazine for a graduated series of spaces, of a space-ejecting plunger adjustable laterally and longitudinally of the magazine-channels, a series of relatively movable gages corresponding to a graduated series of spaces, means for moving said gages simultaneously in accordance with the number of intervals in a line, means for adjusting the space-plunger in accordance with the shortage of a line whereby it is made to register with a pile of spaces equal to said shortage, and means for bringing said space-plunger into engagement with one of said gages whereby it is caused to register with the channel containing the proper number and size of spaces for the line.

12. In a type-justifying mechanism, the combination with a magazine for a graduated series of spaces, of a space-ejecting plunger in the rear of said magazine and adjustable laterally and longitudinally of the magazine-channels, a space-receiving channel in front of said magazine and having a movable side, and an inclined guide on said magazine adapted to raise said side in proportion to the size of spaces selected, whereby an opening is provided at the bottom of the receiving-channel through which said spaces may be ejected into the line.

13. In a type-justifying mechanism, the combination with a magazine having channels for various sizes of justifying-spaces, of a blade for ejecting spaces, and means for adjusting said blade laterally and longitudinally of the magazine to cause the same to register with the required number and size of spaces to justify a line of type.

14. In a type-justifying mechanism, the combination with a reservoir having channels for various sizes of justifying-spaces, of an ejecting-blade adjustable laterally and longitudinally of the magazine, means controlled by the number of intervals in, and the measurement of, an unjustified line for setting said blade to register with the required number and size of spaces to justify the line, and means for reciprocating the blade to eject said spaces.

15. In a type-justifying mechanism, the combination with a magazine, and means for ejecting therefrom by a single movement the justifying-spaces required to justify a line of type, of a receiver adapted to hold the spaces

so ejected, and means for subsequently transferring the individual spaces successively to the line to be transferred.

16. In a type-justifying mechanism, the combination with a magazine for a graduated series of spaces, of a space-ejecting plunger in the rear of the magazine, a receiving-channel in front of said magazine, means for reciprocating the plunger to transfer a pile of spaces to said receiving-channel, and a reciprocating pusher at the bottom of said receiving-channel adapted to eject the spaces laterally and singly therefrom.

17. In a type-justifying mechanism, the combination with a magazine for a graduated series of spaces, of a space-ejecting plunger in the rear of said magazine, a vertically-movable slide on which said plunger is mounted, a laterally-movable support for said slide, and means for holding said slide in any desired vertical adjustment.

18. In a type-justifying mechanism, the combination with a magazine for a graduated series of spaces, of a space-ejecting plunger in the rear of said magazine, a vertically-movable slide on which said plunger is mounted, a support in which said slide moves, and a spring-pawl carried by the slide and engaging the support whereby the slide is held in any desired vertical adjustment.

19. In a type-justifying mechanism, the combination with a magazine for a graduated series of spaces, of a space-ejecting plunger adjustable laterally and longitudinally of the magazine-channels, a slide movable laterally and longitudinally of the magazine-channels by engagement with said plunger, and a guard in front of the magazine carried by said slide, said slide being unaffected by the reciprocations of the ejecting-plunger.

20. In a type-justifying mechanism, the combination with a magazine having channels for a plurality of sizes of spaces, and an ejecting-blade movable laterally of the magazine to register with any one of said channels, of a series of stops to limit the lateral movement of said plate, means for measuring the shortage of an unjustified line, and connections between said measuring means and said stops whereby the proper stop is brought into action to locate the ejecting-blade opposite the proper channel.

21. In a type-justifying mechanism, the combination with a space-magazine having its channels arranged in the arc of a circle, of a pivoted support adapted to swing across said channels in the rear of the magazine, a vertically-adjustable ejecting-blade carried on said support, and means for reciprocating said blade.

22. In a type-justifier, in combination, with means for measuring a line of type, a space-magazine having a series of space-channels, a space-plunger blade, an arm and a slide supporting said blade, the former imparting a lateral movement thereto and the latter a longitudinal movement to the same, and a channel member to receive the pile of spaces dislodged by the longitudinal movement of said blade, for the purpose set forth.

23. In a type-justifier, in combination, a space-magazine, a space-plunger blade attached to a vertically-reciprocating member supported by a slide mounted in a swinging arm whereby three distinct movements are permitted and imparted to said blade, and a channel member adapted to receive the pile of spaces dislodged by the longitudinal movement of said blade, for the purpose set forth.

24. In a type-justifier, in combination with a space-magazine, a longitudinally-movable space-plunger blade in the rear of the magazine and adapted to dislodge a selected number of spaces from any given channel in said magazine, an arm supporting said blade, and a guard in front of the magazine and adjustable with the blade, said guard being arranged to prevent said blade from dislodging more than said selected number of spaces as set forth.

25. In a type-justifying mechanism, the combination with a type-measuring channel, of a measuring-gage operating at one end of said channel, and a movable stop or abutment normally out of the path of the type in said channel but adapted to be thrown into said path when it is desired to measure a line.

26. In a type-justifying mechanism, the combination with a type-measuring channel, a measuring-gage operating in said channel, and a handle for moving said gage, of a pivotally-mounted abutment against which the line is measured, a spring normally holding said abutment out of the channel, and a handle for throwing said abutment into the channel.

27. In a type-justifying mechanism, the combination with the type-channel, the gage for measuring a type-line therein, and the finger connected therewith, of a magazine for a graduated series of spaces, and an ejecting-plunger adjustable laterally and longitudinally of the magazine-channels, the said longitudinal adjustment being effected by bringing said plunger into engagement with said finger.

28. In a type-justifier, in combination, a series of gage-bars adjustable to represent a series of piles of successive sizes of spaces containing the same number each, a lever and a series of arms adapted to adjust said series of bars at different positions, a space-plunger arranged to be located in one direction in accordance with the amount of line shortage, and means for locating said plunger in another direction against the particular bar of said series that stands in its path, for the purpose set forth.

29. In a type-justifier, in combination, a series of simultaneously but differentially movable lever-arms, a lever adapted to operate said arms, and a pawl operating to retain said parts in their temporary positions, for the purpose set forth.

30. In a type-justifier, in combination, a series of longitudinally-movable bars so disposed as to represent space-piles of successive sizes containing the same number of spaces, gaging members for indicating the amount of line shortage, a plunger adjustable to be located in accordance with the position of said members to represent the dimension of said shortage or of a space-pile capable of filling the same, and means for bringing said plunger into conjunction with one of said bars, for the purpose set forth.

31. In a type-justifying machine, in combination, a stop and a gage projection for clamping a type-line, said gage projection arranged to be moved with said line against said stop to indicate the amount of shortage, a plunger adjustable in accordance with the position of said projection, a series of adjustable bars so disposed as to represent the different dimensions of space-piles each containing the number of spaces required by said line, and means for engaging said plunger with the particular one of said bars that corresponds with the required size of spaces, for the purpose set forth.

32. In a type-justifier, in combination, a gage projection to bear against a short type-line and determine the amount of shortage, a finger connected to said projection and adjustable therewith, a space-plunger arranged to move against said finger, and means to bring said plunger opposite the particular size of spaces, a given number of which will be equal in dimension to the distance between their base and the top of said plunger, for the purpose set forth.

33. In a type-justifier, in combination, a gage projection to bear against an incomplete type-line and determine the amount of shortage, a plunger adjustable in accordance with the height of said projection, a series of longitudinally-movable bars representing piles of successive sizes of spaces, a lug on said plunger adapted to move transversely in relation to said bars until intercepted by one of them, thereby locating said plunger opposite the particular size of spaces a given number of which will be equal in dimension to the distance between their base and the top of the plunger, for the purpose set forth.

34. In a type-justifier, the combination with a plurality of channels arranged to receive columns of successive sizes of spaces, a space-plunger having a double movement, gaging members to traverse the line shortage and locate said plunger accordingly in one direction, means for longitudinally moving the same to the extent of expelling a pile of spaces equivalent to its height from the adjacent channel, and a guard coöperative with said plunger, in front of said channel to prevent the spaces above said pile from being displaced, for the purpose set forth.

35. In a type-justifier, in combination with a plurality of channels arranged to receive columns of successive sizes of spaces, a space-plunger having a triplicate adjustment, gaging members to traverse the line shortage and locate said plunger accordingly in one direction, a series of longitudinally-movable bars to locate said plunger in another direction behind one of said channels, and means for longitudinally moving the same in a third direction to the extent of expelling a pile of spaces from the adjacent channel, for the purpose set forth.

36. In a type-justifier, in combination with a plurality of channels arranged to receive columns of successive sizes of spaces, a space-plunger having a triplicate adjustment, gaging members to traverse the line shortage and locate said plunger accordingly in one direction, a series of longitudinally-movable bars to locate said plunger in another direction behind one of said channels, means for longitudinally moving the same in a third direction to the extent of expelling a pile of spaces from the adjacent channel, and a guard coöperative with said plunger, in front of said channel to prevent the spaces above said pile from being displaced, for the purpose set forth.

37. In a type-justifier, in combination with a space-plunger having a lateral and a longitudinal movement relative to piles of successive sizes of spaces, a plurality of channels provided with shouldered and slotted bottoms for holding said spaces and allowing said plunger to operate through the same, for the purpose set forth.

38. In a type-justifier, in combination with an arc-shaped series of space-channels, an oscillating arm extending below said channels, a space-plunger and an intermediate space-receiving channel carried by said arm, in operative relation with the back and front of said first-mentioned channels, respectively, for the purpose set forth.

39. In a type-justifier, in combination with a plurality of space-channels, an oscillating arm supporting an intermediate space-receiving channel in front of said space-channels, means to transfer a pile of spaces from one of said first-mentioned channels into the second, and means for removing the spaces in said receiving-channel, one at a time, and introducing them into the line-channel, for the purpose set forth.

40. In a type-justifier, in combination with a plurality of space-channels, an oscillating arm supporting an intermediate space-receiving channel in front of said space-channels, means to transfer a pile of spaces from one of said first-mentioned channels into the second, a wall in said receiving-channel movable to the extent of the thickness of individual spaces contained therein, and a pusher adapted to thrust said spaces, one at a time, beneath said wall and into the line-channel, for the purpose set forth.

41. In a type-justifier, in combination, an arm supporting a slide adjustable longitudinally of said arm, a blade mounted in said slide and operating at substantially right angles to the movement of the latter, a latch-lever adapted to lock said blade in position at any point of its adjustment relative to said slide, and a space-plunger rigidly attached to said blade, for the purpose set forth.

42. In a type-justifier, in combination with a plurality of space-channels, a space-plunger adjustable to the height of a pile of required spaces, a longitudinally-sliding bar operated by said plunger, a guard connected with said bar by a projection extending beneath said channels, said guard being located directly in front of said plunger and having its lower edge substantially on a line with the top thereof, and an oscillating arm supporting said plunger and bar, for the purpose set forth.

43. In a type-justifier, in combination with a plurality of channels arranged to receive columns of successive sizes of spaces, an intermediate channel adapted to receive a pile of spaces from any one of said space-channels, an inclined bar across the latter, and a movable wall in said intermediate channel adapted to be raised by said bar a distance substantially equivalent to the thickness of a space contained in the particular space-channel in front of which said intermediate channel is located, for the purpose set forth.

44. In a type-justifier, in combination with a plurality of channels arranged to receive columns of successive sizes of spaces, an intermediate channel adapted to receive a pile of spaces from any one of said space-channels, an inclined bar across the latter, a movable wall in said intermediate channel adapted to be raised by said bar a distance substantially equivalent to the thickness of a space contained in the particular space-channel in front of which said intermediate channel is located, and a pusher to remove the spaces, one by one, from said last-mentioned channel, beneath said wall, for the purpose set forth.

45. In a type-justifier, in combination, a plurality of space-channels, an inclined bar across said channels, an intermediate space-receiving channel, and a movable wall therein provided with a projection or shoulder adapted to engage said bar and raise said wall when said intermediate channel is actuated in front of said space-channels, for the purpose set forth.

46. In a justifying mechanism, a series of relatively movable projections, means for moving them with relation to each other according to the number of spaces in the line, combined with mechanism adapted to engage said projections and cause the selection of a justifying-space.

47. In a justifying mechanism, in combination, a series of relatively movable projections, space-controlling mechanism adapted to engage said projections, means for varying the position of the projections relative to each other, and for causing another variation affecting the space-controlling mechanism, and means whereby one of said variations is dependent on the number of spaces to be justified and the other upon the line's variation from the required length.

48. In a justifying mechanism, a series of relatively movable projections, a coöperating member between which and said projections there is a relative movement, means for causing one of said relative movements according to the number of spaces in the line to be justified, and the other relative movement according to the measurement of the line.

49. In a justifying mechanism, in combination, a series of relatively movable projections, a coöperating member between which and said projections there is also a relative movement, means for causing one of said relative movements according to the number of spaces in the line to be justified, and the other according to the measurement of the line, and space-controlling mechanism governed by said projections.

50. In a justifying mechanism, the combination with means for measuring a composed line of type, of a series of relatively movable space-determining gages, and means for relatively adjusting said gages in accordance with the number of intervals in a line, for the purpose set forth.

51. In a justifying mechanism, the combination with means for measuring a composed line of type, of a series of relatively movable gages, corresponding to a graduated series of spaces, and means for simultaneously moving all of the gages of the series, distances proportional to the spaces they represent.

52. In a justifying mechanism, the combination with means for measuring a composed line of type, of a series of relatively movable gages, corresponding to a graduated series of spaces, means for indicating the number of intervals in the line, and means for moving said gages simultaneously, and each an amount equal to the space it corresponds to multiplied by the number of intervals in the line.

53. In a justifying mechanism, the combination with means for measuring a composed line of type, of a series of relatively movable space-determining gages, a member and means for adjusting said member in proportion to the shortage of the measured line, and means for applying said gages to said member, for the purpose set forth.

54. In a justifying mechanism, the combination with means for measuring a composed line of type, of a series of relatively movable projections, means for moving said projections with relation to each other according to the number of spaces in the line, and mechanism adapted to engage said projections and determine a justifying-space in accordance with the measurement of the line and the relative movement of said projections.

55. In a justifying mechanism, the combination with means for measuring a composed line of type, of a series of relatively movable projections, a coöperating member between which and said projections there is a relative move-

ment, means for causing one of said relative movements according to the number of spaces in the measured line, and the other relative movement according to the measurement of the line.

56. In a justifying mechanism, in combination, means for measuring a composed line of type, a series of relatively movable projections, a coöperating member between which and said projections there is also a relative movement, means for causing one of said relative movements according to the number of spaces in the measured line, and the other according to the measurement of the line, and space-controlling mechanism governed by said projections.

57. In a justifying mechanism, a series of simultaneously but differentially movable lever-arms, in combination with means for moving said arms in accordance with the number of spaces in the line.

58. In a justifying mechanism, a series of simultaneously but differentially movable lever-arms, corresponding to the sizes of spaces used in the justifying mechanism, in combination with means for moving said arms in accordance with the number of spaces in the line.

59. In a justifying mechanism, a series of simultaneously but differentially movable lever-arms corresponding to the sizes of spaces used in the justifying mechanism, in combination with means for selecting one of said lever-arms in accordance with the line shortage, and means for moving said arms in accordance with the number of spaces in the line.

60. In a justifying mechanism, a series of levers having their fulcra at varying distances from the ends of the levers, in combination with means for selecting and positioning one of said levers in accordance with the line shortage and number of spaces in the line for determining the width of justifying-spaces.

61. In a justifying mechanism, a series of levers having their fulcra at varying distances from the ends of the levers, in combination with means controlled by said levers for determining the justifying-spaces for the line.

62. In a justifying mechanism, a series of levers having their fulcra at varying distances from the ends of the levers and including a lever for each size of space used in the machine, in combination with means controlled by said levers for selecting the justifying-spaces for the line.

63. In a justifying mechanism, a series of levers having their fulcra at varying distances from the ends of the levers and including a lever for each size of space used in the machine, said levers being adapted to be moved in accordance with the number of spaces in the line, in combination with means for selecting one of said levers in accordance with said movement and the shortage of the line to determine the width of justifying-spaces.

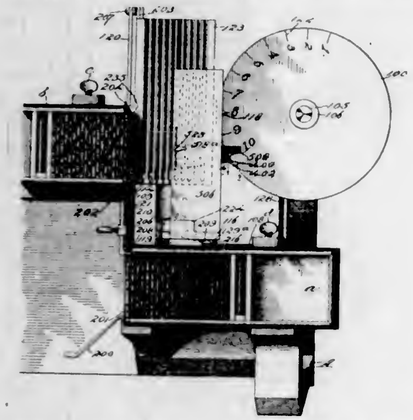
64. In a justifying mechanism, a series of simultaneously but differentially movable lever-arms, corresponding to the sizes of spaces used in the justifying mechanism, in combination with means for selecting one of said arms and applying it to determine the width of justifying-spaces from the line shortage and number of spaces in the line.

65. In a justifying mechanism, a pivoted member carrying a series of engaging surfaces at varying distances from the pivot, in combination with means for selecting one of said surfaces and applying it to determine the width of justifying-spaces from the line shortage and number of spaces in the line.

66. In a type-justifier, the combination with a space-magazine and means for ejecting spaces from the magazine-channels, devices for determining the size of justifying-spaces, and a guard controlled by said devices for limiting the number of spaces ejected.

67. In a type-justifier, the combination with means for measuring a line of type, a space-magazine having a series of space-channels, means for ejecting piles of spaces from said channels, a line-channel member, and an intermediate space-receiving device mounted on a movable arm, and arranged to transfer a pile of spaces from any one of the channels in said magazine into operative relation with said line-channel member, for the purpose set forth.

844,560. TYPE-JUSTIFIER. BENJAMIN M. DES JARDINS, Hartford, Conn., assignor, by mesne assignments, to The Unitype Company, a Corporation of New Jersey. Filed July 1, 1895. Renewed June 5, 1906. Serial No. 320,227.



Claim.—1. In a type-justifying mechanism, the combination with a magazine for justifying-spaces having a single channel for each size of said spaces, of means constructed and operating to select the proper number and size of justifying-spaces for a line, and means to eject said spaces from the magazine simultaneously, for the purpose set forth.

2. In a type-justifying mechanism, the combination with a magazine for justifying-spaces having a single channel for each size of said spaces, of means for selecting and ejecting simultaneously from the magazine the proper number of spaces of proper size to justify a line, said means being controlled by the number of intervals in, and the measurement of, the unjustified line.

3. In a type-justifying mechanism, the combination with a space-magazine having channels for different sizes of spaces, of a gage pivoted at one side of the magazine, said gage and magazine being so proportioned and arranged that the gage will uncover simultaneously the same number of spaces in each channel of the magazine, the different sizes of spaces being arranged consecutively.

4. In a type-justifying mechanism, the combination with a magazine having a plurality of channels for different sizes of spaces, of a gage arranged across said magazine at its lower end, said gage being pivoted at one end adjacent to the magazine, and means controlled by the number of intervals in a line to be justified for swinging said gage about its pivot.

5. In a type-justifying mechanism, the combination with a magazine having channels for a plurality of sizes of spaces, of an ejecting-blade adjustable laterally and longitudinally of the magazine to register with different numbers and sizes of spaces, and a pivoted gage controlled by the number of intervals in a line and serving to determine the number of justifying-spaces to be ejected by said blade.

6. In a type-justifying mechanism, the combination with a magazine having a plurality of channels for spaces of different sizes, of an inclined gage in the rear of said magazine, means for adjusting said gage to uncover a number of spaces in each channel of the magazine corresponding to the number of intervals in the line to be justified, a space-ejecting blade movable laterally and longitudinally of the magazine-channels, means controlled by the line shortage for adjusting said blade laterally, and means for holding said blade in contact with the gage to adjust it longitudinally of the space-channels.

7. In a type-justifying mechanism, the combination with a space-magazine having channels for a plurality of

sizes of spaces, of a space-ejecting blade, means controlled by the line shortage for locating said blade opposite the channel having the desired size of spaces, means controlled by the number of intervals in a line for causing said blade to register with a corresponding number of the selected spaces, and means for reciprocating the blade to eject the spaces.

8. In a type-justifying mechanism the combination with a magazine having channels for a plurality of sizes of spaces, of a space-ejecting blade, and means controlled only by the line shortage for locating the blade in register with the channel containing the proper justifying-spaces for the line under justification.

9. In a type-justifying mechanism, the combination with a magazine having a plurality of channels for justifying-spaces of different sizes, of an ejecting-blade movable laterally to register with any one of said channels, means for measuring the shortage of an unjustified line, and a stepped stop controlled by said means and operating to limit the lateral movement of the space-ejector.

10. In a justifying mechanism, in combination, a proportional lever, and means for varying the effect of the lever in accordance with the number of intervals in a line to be justified, a space-magazine, and means controlled by said lever for selecting the proper size of spaces from said magazine.

11. In a justifying mechanism, a proportional lever, and a fulcrum therefor movable relatively to said lever, in combination with means for adjusting the fulcrum in accordance with the number of intervals in a line to be justified.

12. In a justifying mechanism, a proportional lever, a fulcrum for said lever adjustable relatively thereto, means for adjusting the fulcrum in accordance with the number of intervals in a line, and means for rocking the lever upon its fulcrum in accordance with the shortage of the line.

13. In a justifying mechanism, a proportional lever, a fixed guide adjacent to said lever, a block sliding on said guide, and a fulcrum for the lever supported on said block, in combination with means for adjusting said fulcrum in accordance wtih the number of intervals in a line.

14. In a justifying mechanism, the combination with a proportional lever, and an adjustable fulcrum for said lever, of a cam operating to adjust said fulcrum, in accordance with the number of intervals in a line.

15. In a justifying mechanism, the combination with a proportional lever having a fulcrum capable of adjustment in accordance with the number of intervals in a line, of a measuring-gage connected to one end of said lever and movable in accordance with the shortage of an unjustified line, and means connected with the other end of said lever for selecting the proper size of spaces to justify the line.

16. In a justifying mechanism, the combination with a proportional lever, and an adjustable fulcrum therefor, of a line-measuring gage connected to one end of said lever, a series of stops connected to the opposite end of said lever, and a space-ejecting blade adjustable to the proper size of spaces by means of said stops.

17. In a type-justifying mechanism, the combination with a proportional lever, and means for shifting the fulcrum relatively to said lever in accordance with the number of intervals in a line, of a space-magazine, devices connected with said lever for measuring the shortage of an unjustified line, and means controlled by said lever for selecting justifying-spaces for the line.

18. In a type-justifying mechanism, the combination with a space-magazine, and a space-ejecting blade movable laterally thereof, of a movable support for said blade, a stepped stop adjustable to intercept said blade-support at different points of its travel, and means for adjusting said stop in accordance with the shortage of an unjustified line of type.

19. In a type-justifying mechanism, in combination with a space-magazine, a measuring or proportional bar, and a space-pile-limiting lever, of a plunger-blade adapted to be brought into operative relation with a pile of spaces of the size and number determined by said bar and lever respectively, and means to transfer said pile collectively into a working position relative to the line-channel, for the purpose set forth.

20. In a type-justifier, in combination, a gage arranged to rest upon a type-line, a proportional bar having one end connected with said gage, and a stepped block connected with the opposite end of said bar, adapted in its successive positions to limit the movement of a space-plunger blade accordingly, for the purpose set forth.

21. In a type-justifier, in combination, a proportional bar having a movable fulcrum, a graduated member adapted to locate said fulcrum in accordance with the number of intervals in a line, a gage arranged to operatively connect one end of said bar with an unjustified type-line, a space-plunger blade, and a stepped block operatively connected with the opposite end of said bar, adapted to operatively locate said blade, for the purpose set forth.

22. In a type-justifier, in combination, a graduated member provided with cam-guides, a movable fulcrum on a proportional bar and a space-pile-limiting gage-lever operated by said member with reference to the number of spaces required in a type-line, a stepped block connected with one end of said bar, the other end of the same being adapted to traverse the distance of the line shortage, and a space-plunger blade capable of being operatively located by said block and lever, for the purpose set forth.

23. In a type-justifier, in combination, a space-magazine, a space-pile-limiting gage-lever pivoted at one end and adapted to be moved at the other successively equal distances, and a space-plunger blade tensioned against said lever and elevated or depressed thereby, for the purpose set forth.

24. In a type-justifier, in combination, a space-plunger blade having a lateral movement commensurate with the selected size of spaces, a vertical movement coincident with the height of the required space-pile, and a longitudinal movement to dislodge said pile, an arm for imparting said first movement, a vertically-adjustable stepped stop for said arm, a space-pile-limiting lever against which said blade is tensioned for controlling said second movement, and a slide operating in said arm, for communicating said third movement, as specified.

25. In a type-justifier, in combination, a magazine having channels therein for spaces of successive sizes, a block provided with steps the dimensions of which in one direction are proportional to the distances between said channels, and in the other direction are commensurate with the differences between said sizes or multiples of said differences, and means whereby a space-plunger blade is located by said block in proper relation to said magazine to select justifying-spaces for a line, for the purpose set forth.

26. In a type-justifier, in combination, a magazine and an intermediate space-receiving-channel member, a movable wall to form an opening for the discharge of spaces from the channel in said member, a spring-pressed space-plunger, a bar for elevating said wall, under the influence of an arm, a hook arranged to release said bar when said plunger begins to act upon the bottom space, and to re-engage said bar at the proper time, and a lever to actuate the several parts, whereby said spaces are introduced into the type-line in the line-channel, one at a time, as set forth.

27. In a type-justifier, in combination with a magazine and an intermediate space-receiving device, a spring-actuated block arranged to operate in the channel in said device and bear on the pile of spaces contained therein, and means for holding said block in an elevated position when more spaces are to be introduced into said channel, for the purpose set forth.

28. In a type-justifier, in combination with means for measuring a line of type, a space-magazine having a series of space-channels, a line-channel member, and an intermediate space-receiving device mounted on a movable arm, arranged to transfer a pile of spaces from any one of the channels in said magazine into operative relation with said line-channel member, a space-ejector for ejecting a pile of spaces and a gage extending across the series of space-channels to limit the number of spaces ejected, for the purpose set forth.

29. In a type-justifier, in combination with means for

measuring a line of type, a space-magazine having a series of space-channels, a gage extending across the series of channels, said gage and magazine being so proportioned and arranged that the gage will uncover simultaneously the same number of spaces in each channel of the magazine, and means for adjusting said gage in accordance with the number of spaces.

30. In a type-justifier, in combination with means for measuring a line of type, a space-magazine having a series of space-channels, a gage extending across the series of channels, means for adjusting said gage in accordance with the number of spaces to determine the number of spaces removed from the channel, and a space-removing device set in accordance with the line shortage and number of spaces.

31. In a type-justifier, in combination with means for measuring a line of type, a space-magazine having a series of space-channels, a gage extending across the series of channels, a space-ejector for ejecting a pile of spaces, and means for adjusting said gage and space-ejector in accordance with the line shortage and the number of spaces to position the space-ejector for the ejection of the proper size of spaces and to position the gage for the ejection of the proper number of spaces.

32. In a justifying mechanism, in combination, a proportional lever and means for varying the effect of the lever in accordance with the number of intervals in a line to be justified, devices connected with said lever for measuring the shortage of an unjustified line, and means whereby the selection of justifying-spaces from spaces of different sizes is controlled by the movement of said lever.

33. In a type-justifying machine, a measuring-beam provided at one end with type-engaging means movable to an extent represented by the aggregate shortage or required spacing of the line, and provided with an adjustable fulcrum, with means for moving the fulcrum to a suitable position relative to the beam in accordance with the number of spaces occurring in the line, whereby the aggregate shortage of the line is converted into a suitably-related movement of the opposite end of the beam in combination with means whereby the selection of justifying-spaces from spaces of different sizes is controlled by the movement of said beam.

34. In a type-justifying machine, in combination with the spacer-selecting devices thereof, the herein-described measuring-beam provided at one end with type-engaging means arranged to move to an extent representing the aggregate shortage or deficiency of the line, a movable fulcrum, with means for moving the fulcrum to a position on the beam suitably related to the number of spaces in the line, the other end of the beam being connected with the selecting devices whereby they are set to the proper positions for the selection of the required size of spacer or spacers.

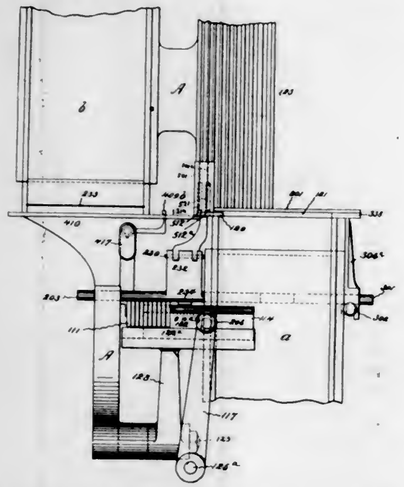
35. In a type-justifying machine, a measuring beam or lever provided with a fulcrum, and operatively connected at its end with a slide adapted to move in tangential relation to the movement of the beam upon its fulcrum, the slide being located adjacent to and adapted to engage with the line of type to be measured.

844,561. TYPE-JUSTIFIER. BENJAMIN M. DES JARDINS, Hartford, Conn., assignor, by mesne assignments, to The Unitype Company, a Corporation of New Jersey. Filed July 5, 1895. Serial No. 555,008.

Claim.—1. In a justifying mechanism, a series of gages, means for selecting certain of said gages equal in number to the intervals in the line under justification, means for advancing said selected gages into a limiting space proportional to the shortage of the line, and means controlled by the movement of the gages for predetermining justifying-spaces for the line prior to the introduction of any of such spaces into the line.

2. In justifying mechanism, a series of gages, means for selecting certain of said gages equal in number to the intervals in the line under justification, means for advancing said selected gages into a limiting space proportional to the shortage of the line, and means controlled by the movement of the gages for predetermining and selecting justifying-spaces for the line prior to the introduction of any of such spaces into the line.

3. In justifying mechanism, a series of justifying-gages, means for selecting a number of said gages equal to the number of intervals in the line under justification, means for advancing said gages into a limiting space proportional to the integral part of the quotient of the shortage of the line divided by the number of intervals, means controlled by said movement of the gages to predetermine and select two sizes of spaces for the justification of the line, a gage for the remainder of the shortage, and means controlled by said gage for selecting the proper proportion of each size of said spaces.



4. In a justifying mechanism, the combination of two parts external to a line of type and adapted to be separated an amount proportionate to the shortage of the line, a series of wedges, means for selecting a group of the wedges equal in number to the intervals in the line, means for advancing said group of wedges between the parts to measure the shortage of the line, and means for utilizing the movement of the wedges to determine justifying-spaces for the line.

5. In a type-justifying machine, the combination with a magazine for justifying-spaces, a plunger for ejecting spaces from the magazine, means for measuring the shortage of an unjustified line comprising a series of wedges, and means for advancing selected wedges into a space external to the line and proportional to the shortage, said space-plunger being automatically located with reference to the magazine in accordance with the amount of advancement of the wedges.

6. In a type-justifying machine, the combination of a space-magazine adapted to contain a limited number of sizes of spaces, two space-ejecting plungers, and means controlled by the shortage of a line and the number of word-spaces for locating said space-plungers opposite the magazine-channels containing the proper justifying-spaces for the line.

7. In a type-justifying machine, the combination of a space-magazine having channels for a limited number of spaces, two space-ejecting plungers capable of movement laterally and longitudinally of the space-channels, and means governed by the shortage of a line and the number of its intervals for locating said space-plungers in position to eject by a single movement the proper number and sizes of justifying-spaces for the line.

8. The combination with a space-magazine having a plurality of channels, of two space-plungers adapted to eject spaces from adjoining channels of the magazine, means for moving said plungers relatively to the magazine to bring them opposite different channels, and means for imparting an independent movement to the plungers lengthwise of the channels, whereby all of the justifying-spaces for a line may be ejected by a single movement of the plungers.

9. The combination of a magazine having a series of space-channels, an arm movable transversely of said channels and provided with two space-ejecting plungers, means for adjusting said plungers independently lengthwise of the space-channels, and means for driving the plungers simultaneously whereby all of the justifying-spaces for a line may be ejected by a single forward movement of the plungers.

10. In a justifying mechanism, a series of gages, each representing the various sizes of spaces with which the machine is provided, means for selecting a group of gages equal in number to the intervals of a line, means for advancing said gages into a space proportionate to the shortage of a line to ascertain the largest space which will enter uniformly into the intervals of the line, means for measuring the remainder of the shortage which would have to be filled if said maximum spaces were inserted uniformly, said means being adapted for predetermining the justifying-spaces for a line prior to the introduction of any of such spaces into the line.

11. In a mechanism for justifying lines of type with spaces of two consecutive sizes, a space-magazine, a pair of ejecting-plungers arranged to eject spaces simultaneously from two channels of the magazine, a series of wedges, means for selecting and driving a group of said wedges corresponding in number to the intervals of the line to be justified, means for locating the space-plungers relatively to the space-channels in accordance with the forward movement of the wedges, a tapered gage arranged to measure the remainder which would exist if a single size of spaces were used in a line, and means connected with said gage for adjusting one of said plungers to select a sufficient number of larger spaces to justify the line.

12. The means for determining the required size of spaces to use in justifying type, consisting of a plurality of tapering gages and blocks, mechanism to limit the lateral movement of the latter in accordance with the shortage of a type-line when said gages are thrust between said blocks, a space-plunger, a stepped plate adapted to intercept the lateral movement of said plunger, and connecting members between said plate and said gages, whereby the adjustments of said plunger are controlled.

13. In a type-justifier, in combination, a series of gages arranged adjacent to each other and external to the line to be justified, means adapted to engage as many of said gages as there are intervals in a line, a space-plunger, and connecting members between the same and said engaging means, whereby a movement is imparted to said plunger in proportion to the number of gages engaged, for the purpose set forth.

14. In a type-justifier, in combination, a series of longitudinally-movable gages, a space-magazine, a space-plunger, a stepped plate adapted to intercept the movement of said plunger relatively to the magazine, and connecting members between said plate and said gages, whereby said movement of the plunger is controlled, for the purpose set forth.

15. In a type-justifier, in combination, a series of tapered gages, a series of oppositely-tapered blocks, means for engaging and advancing a group of gages, a space-plunger, connecting members between the plunger and said engaging means, a stepped plate adapted to intercept the lateral movement of said plunger, and connecting members between said plate and said gages, whereby the adjustments of said plunger are controlled, for the purpose set forth.

16. In a type-justifier, in combination with a magazine, a space-plunger adapted to be adjusted in accordance with the whole number of spaces required, and a secondary space-plunger arranged to engage fewer spaces than said whole number and of a different size from those located by said first-mentioned plunger, for the purpose set forth.

17. In a type-justifier, in combination, a space-plunger, means for adjusting the same in an approximately vertical direction in accordance with the whole number of spaces required, a secondary space-plunger, and means for adjusting the same in an approximately vertical direction to engage less than said whole number of spaces, for the purpose set forth.

18. In a type-justifier, in combination, a space-plunger, means for approximately vertical and horizontal adjustment of the same, in accordance with the whole number of one size of spaces required, a secondary space-plunger dependent upon said first-mentioned plunger for its lateral adjustment, and means for adjusting said secondary plunger in an approximately vertical direction to engage less than the whole number of spaces of a different size from those first indicated, for the purpose set forth.

19. In a type-justifier, in combination, a space-plunger adjustable in accordance with the whole number of spaces required, a remainder measuring device, a secondary space-plunger dependent upon the former plunger for lateral adjustment, and a space-lifting device adjustable with said secondary plunger, in an approximately vertical direction by said remainder device, for the purpose set forth.

20. In a type-justifier, in combination, a space-plunger adjustable in accordance with the whole number of spaces required, a remainder measuring device, a secondary space-plunger dependent upon the former plunger for lateral adjustment, a space-lifting device adjustable with said secondary plunger in an approximately vertical direction by said remainder device, and a gage-block connected with the remainder device and adapted to engage and move a type-line, for the purpose set forth.

21. In a type-justifier, in combination, a plurality of space-channels, two space-plunger blades, and a transversely-movable arm adapted to adjust said blades in operative relation with any two of said channels which are adjacent to each other, for the purpose set forth.

22. In a type-justifier, in combination, a plurality of space-channels, two space-plunger blades, two intermediate space-receiving channels in front of said first-mentioned channels, and a transversely-movable arm adapted to carry said blades and said space-receiving channels into operative relation with any two of said space-channels which are adjacent to each other, for the purpose set forth.

23. In a type-justifier, in combination, a plurality of space-channels, two space-plunger blades, two intermediate space-receiving channels, a transversely-movable arm adapted to carry said blades and said space-receiving channels into operative relation with any two of said space-channels which are adjacent to each other, and an ejector for removing spaces from said intermediate channels, for the purpose set forth.

24. In a type-justifier, in combination, a plurality of space-channels having their bottoms on a common plane, a space-plunger adjustable in accordance with the whole number of spaces required, a remainder device, and a space-lifting bottom controlled by said device and adapted to raise a pile of spaces in one of said channels adjacent to said plunger, for the purpose set forth.

25. In a type-justifier, in combination, a series of gages, an engaging plate adapted to engage as many of said gages as there are intervals in the type-line, a guide connected by intervening mechanism with said plate, and a space-plunger resting upon said guide, whereby an approximately vertical movement is imparted by said plate to said guide and plunger, commensurate with the number of said intervals, for the purpose set forth.

26. In a type-justifier, in combination, an engaging plate adapted to travel a certain distance for each space required in a type-line, a guide connected by intervening mechanism with said plate, and a space-plunger resting upon said guide, whereby an approximately vertical movement is imparted to said guide and plunger, commensurate with the number of spaces in the line under justification, for the purpose set forth.

27. In a justifying mechanism, the combination of a space-magazine adapted to contain a limited number of sizes of spaces, space-ejecting mechanism, and means controlled by the shortage of a line and the number of word-spaces for locating said space-ejecting mechanism in position to eject the number of spaces of two sizes required to justify the line.

28. In a justifying mechanism, a justifying device repre-

senting by its gaging capacity at fixed points along the device the successive sizes of spaces, means for multiplying its gaging capacity by the number of spaces required, means for determining the shortage of an unjustified line by a measurement position along the justifying device, and means for causing the said measurement position to determine the spaces required to justify the line.

29. In a justifying mechanism, a justifying device including a series of gages, each representing by its gaging capacity at fixed points along the gage the successive sizes of spaces, means for selecting certain of said gages equal in number to the intervals in the line under justification, means for determining the shortage of an unjustified line by a measurement position along the gages, and means for causing the said measurement position to determine the spaces required to justify the line.

30. In a justifying mechanism, a justifying device representing by its gaging capacity at fixed points along the device the successive sizes of spaces, means for multiplying its gaging capacity by the number of spaces required, means for determining the shortage of an unjustified line by a measurement position along the justifying device, means for dividing the distance between the fixed points by the number of spaces, and means for causing the said measurement position and division to determine the number of spaces of two sizes required to justify the line.

31. In a justifying mechanism, a justifying device including a series of gages, each representing by its gaging capacity at fixed points along the gage the successive sizes of spaces, means for selecting certain of said gages equal in number to the intervals in the line under justification, means for determining the shortage of an unjustified line by a measurement position along the gages, means for dividing the distance between the fixed points by the number of spaces, and means for causing the said measurement position and division to determine the number of spaces of two sizes required to justify the line.

32. In a justifying mechanism, in combination, a series of gages arranged adjacent to each other and external to the line to be justified, means adapted to engage as many of said gages as there are intervals in a line, a space-determining member, and connections between the space-determining member and said engaging means, whereby a movement is imparted to said space-determining member in proportion to the number of gages engaged.

33. In a justifying mechanism, in combination, a series of longitudinally-movable gages, a space-determining device, a stepped plate adapted to intercept the movement of said space-determining device, and connections between said plate and said gages for controlling the position of the plate by the gages.

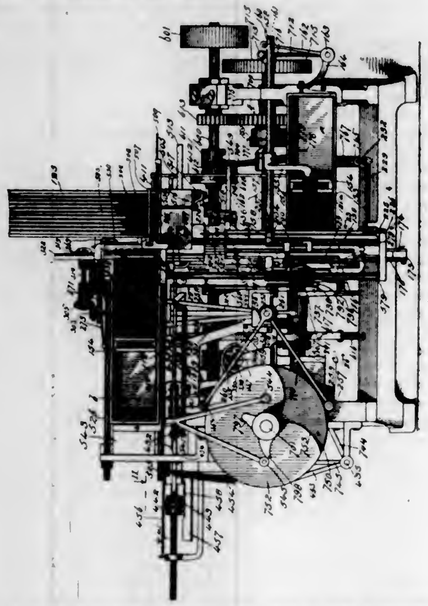
844,562. TYPE-JUSTIFYING MACHINE. BENJAMIN M. DES JARDINS, Hartford, Conn., assignor, by mesne assignments, to The Unitype Company, a Corporation of New Jersey. Filed June 2, 1898. Serial No. 682,855.

Claim.—1. A mechanism for justifying lines of type composed with temporary separators, comprising justifying devices constructed to compute from the line measurement and the number of separators the justifying-spaces for each line, means for removing the separators from the line, and means for inserting the justifying spaces in lieu of said separators.

2. A mechanism for justifying lines of type composed with temporary separators, comprising devices for measuring the unjustified line inclusive of the separators, devices for registering the intervals in the line, and means controlled by said measuring and registering devices for computing the justifying-spaces independently for each line.

3. A mechanism for justifying lines of type composed with temporary separators, comprising devices for measuring the unjustified line inclusive of the separators, devices for counting the intervals in the line after composition, means controlled by the measuring and counting devices for determining spaces to justify the line, and means for inserting said spaces in the line, in lieu of the separators.

4. A mechanism for justifying lines of type composed with temporary separators, comprising devices for measuring the lines inclusive of the separators, devices for registering the intervals in the lines, and means controlled by said devices for computing the spaces necessary to justify each line independently, means for ejecting the separators from the line, and devices for selecting and inserting the justifying-spaces in lieu thereof.



5. In a mechanism for justifying lines of type composed with temporary separators, devices for measuring the line inclusive of the separators, devices for counting the number of intervals in the line after composition, and means controlled by said devices constructed and arranged to determine justifying-spaces for the line equal in aggregate width to the shortage of the line when measured exclusive of the separators, whereby the separators are eliminated in the justifying operation.

6. A mechanism for justifying lines of type composed with temporary separators, comprising devices for measuring the line inclusive of the separators, means for predetermining the widths of justifying-spaces necessary in addition to the separators to justify the line, and a selecting device constructed and arranged to select justifying-spaces which are each larger than the spaces indicated by the measuring devices by the width of a separator.

7. In a mechanism for justifying lines of type composed with temporary separators, devices for computing the justification for each line independently comprising an element controlled by the number of separators or word-intervals in the line and an element controlled by the length of the unjustified line, in combination with mechanism for predetermining the justifying-spaces, said mechanism being controlled by said measuring devices.

8. A mechanism for justifying lines of type composed with temporary separators, comprising devices for measuring the line inclusive of the separators, devices for registering the intervals in the line, computing means controlled by the measuring and registering devices for computing the width of justifying-spaces independently for each line, the said determining means being so adjusted that the aggregate width of justifying-spaces for a line equals the shortage of the line measured exclusive of the separators, whereby the separators are eliminated in the justifying operation.

9. In a mechanism for justifying lines of type composed with temporary separators, devices for computing the justification for each line independently comprising a movable element controlled by the number of separators or word-intervals in the line and a movable element controlled by the length of the unjustified line, in combination with mechanism for predetermining the justifying-spaces, said mechanism being controlled by said computing devices.

10. In a mechanism for justifying lines of type composed with temporary separators, devices for computing the justification for each line independently comprising an element controlled by the number of separators or word-intervals in the line and an element controlled by the length of the line inclusive of the separators, in combination with mechanism for predetermining the justifying-spaces, said mechanism being controlled by said computing devices.

11. In a mechanism for justifying lines of type composed with temporary separators, the combination of an element having a parallel movement in proportion to the shortage of the line, an element having an angular movement controlled by the number of intervals in the line, and an adjustable part having its adjustment limited by the resultant of the movements of said elements, said adjustment being adapted to indicate the quotient of the line shortage divided by the number of intervals.

12. In a mechanism for justifying lines of type composed with temporary separators, mechanical means for obtaining the quotient of the line shortage divided by the number of word-intervals, comprising a bar having a parallel movement in proportion to the shortage of the line, a pivoted computing-bar extending in opposite directions from the pivot and having an angular movement from an initial position parallel with the first-named bar, said angular movement being controlled by the number of word-intervals in the line, and a part guided by the first-named bar and movable into contact with the computing-bar, the position of said part when in contact with the computing-bar being adapted to indicate the desired quotient.

13. In a mechanism for justifying lines of type composed with temporary separators, in combination with means to compute the justification for each line independently, an immovable abutment, and a movable part between which the line of type and separators is measured, and automatic means for measuring the line to determine its shortage, for the purpose described.

14. In a mechanism for justifying lines of type composed with temporary separators, in combination with means to compute the justification for each line independently, devices for measuring the line inclusive of the separators comprising a channel in which the line is measured, an immovable abutment for one end of the line at a fixed point in said channel, a movable part operating upon the other end of the line, and means for automatically operating said measuring device, for the purpose set forth.

15. In a justifying mechanism, automatic means for determining the normal value of justifying-spaces for a line of composition, in combination with automatic mechanism controlled by said means for selecting from a limited number of space values a suitable combination of space values to justify the line.

16. In a mechanism for justifying composed lines of type, automatic means for determining the normal value of justifying-spaces for the line, in combination with means for selecting from a limited number of space values a suitable combination of spaces to justify the line.

17. In a justifying mechanism, automatic means for measuring a line and determining the quotient of the line shortage divided by the number of intervals in the line, means for setting a space-determining device in accordance with the integral part of said quotient, and means controlled according to the fractional part of said quotient and adapted to reset the space-determining device during the operation of justifying, whereby the line may be justified by a combination of spaces having but two values.

18. In a mechanism for justifying composed lines of type, a space-selecting device, automatic means for measuring the line and determining the quotient of the line shortage divided by the number of intervals in the line, means for setting the space-selecting device in accordance with the integral part of said quotient, and means controlled according to the fractional part of said quotient and adapted to reset the space-selecting device during the operation of justifying, whereby a line may be justified by a combination of spaces having but two values.

19. In a type-justifying machine, the combination of a galley for unjustified matter, a galley for justified matter, means for transferring the lines from the former galley to the latter, automatic means intermediate the two galleys for measuring the shortage of the unjustified lines, automatic means for determining the justifying-spaces from said measurement, and automatic means for inserting justifying-spaces in the intervals between words.

20. In a machine for justifying lines of type composed with temporary separators, the combination with a galley for unjustified matter, a galley for justified matter, and means for transferring the lines from the former galley to the latter, of automatic devices intermediate the two galleys for measuring the unjustified lines, and means controlled by said devices for substituting justifying-spaces for the separators.

21. In a type-justifying machine, automatic means for measuring the shortage of an unjustified line and computing the space values to justify each line independently, in combination with automatic means for separating the words of the line and inserting between them justifying-spaces of the computed values.

22. In a type-justifying machine a galley for unjustified type-lines, a galley for justified type-lines, means for transferring a line from the former galley to the latter, automatic means for computing the space values necessary to justify the line, and automatic means for separating the words of the line and introducing between said words the justifying-spaces.

23. In a type-justifying machine a galley for unjustified matter situated at the lower part of the machine, a column-pusher for feeding the column toward the justifying devices, a galley at the upper part of the machine for justified lines, suitable type-channels leading from the lower galley to the upper, automatic means for breaking the lines into words as they pass through said channels, and means for inserting justifying-spaces between the words and reassembling the words into justified lines, substantially as described.

24. In a type-justifying machine, the combination of a line-measuring channel, a line-feed channel, a word-cut-off channel, means for raising the type from the feed-channel, means for operating the cut-off channel to separate the words, means for inserting justifying-spaces between the words, and a channel in which the words are reassembled in a justified line.

25. In a machine for justifying a line of type composed with separators, the combination of mechanism for counting and registering said separators after the line is composed, with mechanism for measuring the shortage of the line, for the purpose set forth.

26. In a type-justifying machine, a word-interval-registering device constructed and arranged to automatically count and register the word-intervals in a line of type after it is composed, for the purpose set forth.

27. In a type-justifying machine, means for holding a line of type and separators, a word-interval-registering device constructed and arranged to be operated by the word-separators, and means for moving said registering device relatively to said type-line.

28. In a type-justifying machine, means for holding a line of type composed with temporary separators, combined with a word-interval-registering device having a part movable relatively to the type-line and adapted to be operated by exposed portions of the word-separators in the line.

29. In a type-justifying machine, means for holding a line of type composed with temporary separators, combined with a word-space-counting device having a part movable along said line, and adapted to be operated by exposed portions of said separators.

30. In a type-justifying machine, an electrically-operated counting device constructed to automatically count the intervals in an assembled line, said device having an operating-circuit and a controller for said circuit adapted to be operated at the intervals of the lines of type.

31. In a type-justifying machine, an element movable for each line in proportion to the number of word-spaces in the line, and means for moving said element, said means being brought into action by exposed portions of the word-separators in the line of type.

32. In a machine for justifying lines of type composed with temporary separators, a computing-bar having an angular movement, a slide connected to the free end of said bar, and means for moving said slide for each line a distance proportional to the number of separators in the line substantially as described.

33. In a justifying mechanism, the combination with the pivoted computing-bar and the slide or counting bar connected with the free end of said computing-bar, of the line-measuring bar movable parallel to the counting-bar, an arm extending at right angles from said measuring-bar and a gage-block movable on said arm and automatic means for measuring the line and setting the line-measuring bar.

34. In a justifying mechanism, the combination with devices for computing the normal justifying-space values for a line of type composed with temporary separators, of means controlled by said devices for selecting from a limited number of sizes a series of spaces having an average width substantially equal to said normal space value, and suitable to justify the line, and automatic means for inserting said spaces in the line.

35. In a justifying-machine, the combination with devices adapted to compute the normal justifying-space values, of the magazine provided with spaces of a limited number of values, a device for selecting spaces from said magazine, a part movable in proportion to the normal space value determined, and intermediate devices between said part and said space-selecting device whereby the latter is controlled to select spaces for the line having an average value substantially equal to the value of the normal space required to justify the line.

36. In a type-justifying machine, the combination with devices for determining the normal space value for the line, of the space-indexes corresponding to the several sizes of available spaces, a space-selecting device, means for bringing one of the indexes into action to set the space-selecting device at the beginning of a line, and a device movable in proportion to the difference between the selected space and the normal space and adapted through suitable mechanism to reset the selecting device to compensate for said difference during the process of justifying the line.

37. In a type-justifying machine, in combination, a pivoted computing-bar, means for counting the intervals occurring in a type-line and moving the free end of said bar in accordance with the number of intervals in the line, space-selecting devices, a feeler movable in one direction in accordance with the shortage of the type-line, means for moving said feeler in a second direction until intercepted by said bar, and means controlled by the latter movement of the feeler and adapted to set the space-selecting devices for the selection of justifying-spaces for the line.

38. In a justifying mechanism, a pivoted computing-bar having its computing edge in line with the center of its pivotal support and extending to both sides of said support in combination with means for giving said bar an angular adjustment in accordance with the number of intervals in the line under justification.

39. In a justifying mechanism, a pivoted computing-bar having a straight computing edge in line with the axis of the pivot and extending to both sides thereof, means for setting the bar in accordance with the number of word-intervals in the line under justification, and a feeler-gage movable in two directions in the plane of the computing-bar, one of said movements being controlled by the shortage of the unjustified line under treatment, and the second movement being limited by the computing edge of the bar and adapted to indicate the normal space value to justify the line.

40. In a justifying mechanism, in combination, a pivoted computing-bar and a slide engaging the free end of said bar, means for moving the slide a given distance for each word-space in the line under justification, a gage for coöperating with the computing-bar and means for locking the slide when the gage is in contact with the bar, for the purpose set forth.

41. In a justifying mechanism, the combination of a pivoted computing-bar, a slide engaging the free end of said bar and arranged at right angles to the bar when the parts are in their initial position, means for moving the slide in accordance with the number of word-spaces in a line under justification, and means for restoring the parts to their initial positions after their adjustment for each line.

42. In a justifying mechanism, means for computing the normal justifying-space value for a line, in combination with a selecting device arranged to select space values of given sizes, means for adjusting the selecting device to one of said space values, a difference device movable in proportion to the difference between the selected space value and the normal value, and means controlled by the difference device for resetting the selecting device during the justification of a line.

43. In justifying mechanism, an index corresponding to certain space values, and a part movable with relation to said index, in combination with a difference device adapted to be engaged by said movable part and moved relatively to the index a distance proportional to the difference between the space indicated on the index and the normal space value for the line.

44. In a justifying mechanism, a series of index-points, and an adjacent difference device having a series of fine teeth, in combination with a part movable along said index and difference device, and means for engaging said part with the difference device and moving both the part and the difference device until the former is intercepted by one of the index-points.

45. In a justifying mechanism, the combination with means for computing the normal justifying-space value, of a part such as 266 movable in proportion to said value, a series of space index-teeth, and a movable difference device having a series of fine teeth, an engaging pawl movable in the path of said part and adapted to contact therewith and be thrown into engagement with the index-teeth and difference device, and means for continuing the movement of said pawl until it is stopped by one of the index-teeth, whereby the difference device is given a partial movement, for the purpose set forth.

46. In a justifying mechanism, a fixed index-arc and adjacent movable difference-arc, a pawl carried by an arm and movable in proximity to said arcs, a second arm carrying an engaging pin in proximity to said arcs, means for setting the engaging pin in accordance with the normal justifying-space required for the line, and means for moving the pawl into engagement with the pin, thereby causing the pawl to be depressed and to engage the arcs, for the purpose specified.

47. In a justifying mechanism, devices for selecting justifying-spaces from a limited number thereof, comprising an index and coöperating devices for setting the selecting device, means for determining the difference between the spaces so selected and the normal justifying-spaces, means for multiplying said difference by the number of word-spaces to obtain the total difference, and means for resetting the space-selecting device during the operation of justifying the line to compensate for said total difference, for the purpose specified.

48. In a justifying mechanism, devices for selecting justifying-spaces from a limited number thereof, comprising a movable selector, automatic means for adjusting the selector for spaces of one size required to justify the line, a controller for resetting the selector to obtain spaces of a different size, and means for setting the controller to cause the shifting of the selector at the proper time.

49. In a justifying mechanism, a selecting device capable of selecting spaces from a limited number thereof, means for setting said device to one of the space values required, a controller governing the resetting of the selector if a second space value is required, a difference device movable in proportion to the difference between one of the space values required and the normal space value, and connections whereby the controller is set from the difference device.

50. In a justifying mechanism, the combination of a difference device, a lever having a movable fulcrum, means for setting the fulcrum in accordance with the number of word-intervals in a line, a controller, a connection between the difference device and one end of said lever, and a connection between the opposite end of said lever and the controller.

51. In a justifying mechanism, a lever, an adjustable fulcrum for said lever, means for counting the word-spaces in a line, and means for adjusting the fulcrum in accordance with the number of word-spaces, for the purpose set forth.

52. In a justifying mechanism, the combination of a lever, a shifting fulcrum therefor, a word-space-counting device, a shaft rotatable by said device, a series of stops on said shaft corresponding to the different numbers of word-spaces, and means for adjusting the fulcrum by said steps, for the purpose set forth.

53. In a justifying mechanism, a proportional lever, a movable fulcrum for the lever, a series of stops corresponding to the different numbers of intervals in lines of composition, and means for selecting a stop corresponding to the intervals of the line under justification and adjusting the fulcrum thereto, substantially as described.

54. In a justifying mechanism, a device movable in proportion to the difference between a normal justifying-space and one of the space values provided in the machine, a proportional lever connected to said device, a fulcrum for said lever adjustable in accordance with the number of intervals in the line under justification, a controller connected to said lever, a space-selecting device, and means governed by the controller for changing the selecting device from one space value to another during the justification of a line.

55. In a machine for justifying assembled lines of type, devices for computing and selecting predetermined justifying-spaces, devices for separating the assembled words of a composed line and inserting said justifying-spaces between them, in combination with automatic mechanism for moving lines of type to and from said spacing devices.

56. In a machine for justifying composed lines of type, devices for inserting predetermined justifying-spaces between the words, line-handling devices, and automatic means for controlling the line-handling devices whereby they are automatically started and stopped and perform one cycle of operations for each line justified.

57. In a machine for justifying composed lines of type, devices for selecting predetermined justifying-spaces, devices for separating the assembled words and inserting said spaces between them, in combination with mechanism for shifting the type-lines to and from said spacing devices, and means for controlling said mechanism whereby it is automatically started and stopped at proper intervals and performs one cycle of operations for each line justified.

58. In a machine for justifying composed lines of type, a word-shaft and devices operated thereby for inserting justifying-spaces, in combination with a line-shaft and mechanism operated thereby for shifting the lines to and from the spacing mechanism, and means for automatically throwing said shaft into action at proper intervals.

59. In a machine for justifying composed lines of type, devices for inserting justifying-spaces between the words of a line, a line-shaft and connecting mechanism for shifting the lines to and from the spacing mechanism, a normally open clutch for bringing the line-shaft into action, and automatic means controlled by the spacing mechanism for closing said clutch at proper intervals.

60. In a machine for justifying lines of type, composed with separators, word-parting devices comprising a channel for the line of type, means for sensitively moving the line through said channel, and means for intercepting the word-separators, in combination with means for removing the separators, and means for substituting justifying-spaces in lieu thereof.

61. In a machine for justifying lines of type, a channel through which the line passes, a movable word-cut-off channel in connection therewith, means for stopping the progress of the line after each word enters said cut-off channel, whereby each word may be separated from the succeeding portion of the line, and means for inserting justifying-spaces between the words.

62. In a machine for justifying lines of type composed with temporary separators having portions projecting beyond the type, a channel and means for moving the line therethrough, means for successively intercepting the separators whereby each word may be separated from the succeeding portion of the line, and means for removing the separators and inserting justifying-spaces in lieu thereof.

63. In a machine for justifying lines of type composed with temporary separators having portions projecting beyond the type-bodies, a fixed channel and means for moving the lines sensitively therethrough, in combination with a movable word-cut-off channel having wards or projections to intercept the separators, means for ejecting the said separators and inserting justifying-spaces between the words, and means for reassembling the words and transferring the justified line to a galley.

64. In a type-justifying machine, means for feeding an unjustified line to the spacing devices comprising a pusher, a word-shaft, means for urging the pusher forward during part of each revolution of the word-shaft, and means for relieving the pressure from the line during part of each revolution, whereby the line is fed to the spacing devices word by word.

65. In a machine for justifying composed lines of type, the combination of a channel through which the line is fed to the spacing device, a pusher for the line, a line-shaft and connections whereby the pusher is returned to its initial position during each revolution of said shaft, a word-shaft, and connections between the word-shaft and the pusher arranged to forward the latter at each revolution of said word-shaft.

66. The combination with a galley for unjustified matter, of a measuring-channel, a line-feed channel, and a pusher and operating devices therefor, for transferring a line from the galley successively to the measuring-channel and the line-feed channel, for the purpose set forth.

67. In a machine for justifying lines of type, a channel through which the lines are caused to travel, means for separting the words and forwarding them separately, a clip or space-holder movable to and from the path of the words, means for inserting justifying-spaces in said holder, and means for withdrawing the holder and leaving each justifying-space in the channel to be carried forward by the succeeding word.

68. In a machine for justifying type, a channel, in combination with a clip or space-holder movable into and out of said channel and adapted to temporarily sustain the justifying-spaces, and means for inserting spaces in said holder at proper intervals.

69. In a machine for justifying lines of type, a line-feed channel and line-push, in combination with a word-feed channel, a word-pusher, and a word-cut-off channel arranged to transfer the words from the line-feed channel to the word-feed channel.

70. In a machine for justifying lines of type, composed with separators, the combination with a line-feed channel, of a cut-off block movable transversely to said channel, said block having an opening through which the type pass, means for stopping the separators as they register with the cut-off block, and means for moving the block at proper intervals to remove the separators from the line.

71. In a machine for justifying type, the combination with the line-feed channel and word-cut-off channel movable transversely thereto, of the space-cut-off block between said channels, the word-feed channel, and means for moving the word-cut-off channel to separate a word from the line and moving the space-cut-off block to carry a separator out of the line.

72. In a type-justifying machine, in combination with means for measuring a line of type under justification and devices for selecting the spaces to justify said line of type, a rack provided with teeth corresponding in pitch to the location of the successive spaces with which the machine is provided, and means for engaging the space-selecting de-

vice with a tooth corresponding to the space value designated by the measuring device, for the purpose specified.

73. In a type-justifying machine, in combination with automatic means for measuring a line of type and registering the number of intervals therein, the computing device and the device for selecting the spaces, a member having channels for successive sizes of spaces, a rack having teeth corresponding in pitch to the separation of said space-channels, and means whereby the computing device effects the engagement of the space-selecting device with a tooth of the rack corresponding to the space value required by the line of type under justification, for the purpose set forth.

74. In a type-justifying machine, in combination, a space-pusher adjustable with relation to a series of space-channels a rack having teeth the pitch of which corresponds with the positions of said channels, automatic means for measuring a line of type and registering the number of intervals therein, a computing device to determine the space value required by a line of type under justification, and to indicate the result thereof by means of one of said teeth, and means interposed between said rack and said pusher whereby the latter may be located opposite the channel corresponding to said tooth so indicated, for the purpose specified.

75. In a type-justifying machine, in combination, a space-pusher adjustable with relation to a series of space-channels a rack having teeth the pitch of which corresponds with the positions of said channels, a computing device to determine the space value required and to indicate the result thereof by means of one of said teeth, and a pawl to engage said pusher to said tooth so indicated, for the purpose set forth.

76. In a type-justifying machine, in combination, a space-pusher adjustable with relation to a series of space-channels, a rack having teeth the pitch of which corresponds with the positions of said channels, automatic means for measuring a line of type and registering the number of intervals therein, a computing device to determine the space value required and to indicate the result thereof by means of one of said teeth, a connecting member between said pusher and said rack, and a pawl pivoted to said connecting member whereby it is engaged with said rack, for the purpose set forth.

77. In a type-justifying machine, in combination, a computing device, a selecting device, a setting-rack for the selecting device, a pawl adapted to engage with the teeth of said setting-rack, and means operatively connected with said pawl and adapted to permit said rack to shift one tooth from the position in which it was placed by the computing mechanism, for the purpose set forth.

78. In a type-justifying machine, in combination, a plurality of space-channels, a space-pusher in engaging relation thereto, means to cause said space-pusher to pass sensitively from one of said space-channels to another, a setting-rack having indexes corresponding to the positions of said channels, a pawl or detent in engaging relation with said setting-rack, and means operatively connected with the measuring device to cause said pawl or detent to engage the setting-rack tooth corresponding to the size of space required, for the purpose set forth.

79. In a type-justifying machine, in combination with the computing devices thereof, an arm having its path in the plane of the computing device and adapted to be intercepted thereby, a series of space-indexes in the path of said arm, a space-determining mechanism connected to said arm, and means to engage said arm with a space-index when it is intercepted by said computing device, for the purpose set forth.

80. In a type-justifying machine, in combination, a space-selecting device, a computing device to locate its position, a rack having teeth corresponding in pitch to the different space values to designate said position, a pawl or dog in coincident relation with said space-determining device, a friction device to hold said pawl or dog into position, and means to thrust it into engagement between said teeth and to thrust it out of engagement therefrom, for the purpose set forth.

81. In a type-justifying machine, in combination, a movable space-determining device, indexes to designate a series of space values adjacent the path thereof, a computing device in the path of said space-determining device, and a space-disiodging device movable in transverse direction from said space-determining device, all for the purpose set forth.

82. In a type-justifying machine, in combination with a series of space-channels, a space-determining device adapted to be set in operative relation therewith, a space-pusher blade, and a reciprocating arm operatively connected thereto, adapted to engage said blade at any of its positions, for the purpose set forth.

83. In a type-justifying machine, in combination, a plurality of space-channels, a bar movable transversely to the positions thereof, a cross-piece on said bar adjacent thereto, a slideway in said cross-piece a pusher in said slideway, and means to locate said cross-piece and to operate said pusher, all for the purpose set forth.

84. In combination in a type-justifying machine, indicators adapted to denote the different space values with which said machine is provided, a shortage-index adapted to denote the thickness of a space which inserted into each interval between the words of a line of type under justification would fill the shortage of that line, means for bringing said index (thus denoting said shortage) and one of said indicators into a coincident relation with each other, a device for inserting spaces into intervals between said words, and means adapted to cause said device to insert into said line, space values corresponding to the amount of motion had in bringing said index and said indicator last mentioned into said coincident relation, all as set forth.

85. In combination, in a type-justifying machine, a rack bearing a series of indexes respectively denoting the different space values with which said machine is provided, a second rack adapted to act as shortage-index denoting the thickness of a space which inserted into each interval of a line of type under justification would fill the shortage of that line, means for bringing said racks into relation with each other when said index coincides with one of said indicators, a device for inserting spaces into intervals between the words of said line, and means adapted to cause said device to insert into said line, space values equivalent to the amount of motion had in bringing said racks into said coincident relation, all as set forth.

86. In combination, in a type-justifying machine, a rack bearing a series of teeth or stops adapted to act as indicators respectively denoting the space values with which said machine is provided, a second rack arranged in a movable relation to said first-mentioned rack and provided with teeth or stops severally adapted to act as a shortage-index denoting the thickness of a space which inserted into each interval of a line of type under justification would fill the shortage of that line, means for bringing said racks into a relation with each other where one of said indexes coincides with one of said indicatorss, a device for inserting spaces into intervals between the words of said line, and means adapted to cause said device to insert into said line space values equivalent to the amount of motion had in bringing said last-mentioned index and said last-mentioned indicator into said coincident relation, all as set forth.

87. In combination, in a type-justifying machine, a rack bearing a series of teeth or stops adapted to act as indicators respectively denoting the space values with which said machine is provided, a second rack arranged in a movable relation to said first-mentioned rack and provided with teeth or stops each adapted to act as a shortage-index denoting the thickness of a space value which inserted in each interval of a line of type under justification would fill the shortage of that line, a pawl adapted to coöperate in a movable relation with a tooth on each of said racks and bring both into a coincident relation with each other, a device for inserting spaces into intervals between the words of said line, and means for imparting to the amount of motion had—in the coöperation of said pawl and teeth—in bringing said two teeth last mentioned in their said last-mentioned coincident relation, all as set forth.

88. In a type-justifying machine, in combination with indicators designating the space values with which said machine is provided and the differences between said values, a rack having a multiple of teeth for each of said differences, and a pawl in engaging relation to said teeth, whereby the remainder-rack may be engaged and moved with relation to an indicator an amount corresponding to the portion of one of said differences indicated by the computing device, for the purpose set forth.

89. In a type-justifying machine, in combination, a computing device to determine the line shortage, a remainder-computing device acting in conjunction therewith to determine the remainder, indicators designating a series of space values in engaging relation with said computing device, indicators designating differences between said values operatively connected to the before-mentioned remainder-computing device, means for engaging one of said remainder indicators or teeth at the point indicated by the shortage-computing device, whereby it is displaced a proper portion of said difference between said space values, and means for indicating what larger spaces are needed to compensate for said difference, for the purpose set forth.

90. In a type-justifying machine, in combination, a space-determining device having a member corresponding to the amount of correction required, another member adapted to engage with said first-mentioned member and to adjust said space-determining device, and a detent to hold the same in its adjusted position to cause said space-determining device to move when the amount of the remainder is obtained, for the purpose set forth.

91. In a type-justifying machine, in combination with a series of space-indexes, a series of indicators coincident with each of said indexes, a pawl mounted in engaging relation with said indexes and said indicators, and means for moving said pawl while in engagement with said indicators, until intercepted by one of said indexes, for the purpose set forth.

92. In a type-justifying machine, in combination with a series of space-value indexes, a series of indicators coincident with each one of said indexes, a space-determining device, a pawl in engaging relation therewith and also in engaging relation with said indexes and said indicators, means for holding said pawl out of engagement therewith, and means for thrusting said pawl into engagement therewith at the proper time during the operation of said machine, for the purpose set forth.

93. In a type-justifying machine, in combination with a series of space-indexes, a series of indicators coincident with each of said indexes, an engaging device or projection movable in suitable relation to said indexes and indicators, a pawl in engaging relation with said indexes and indicators adapted to be put into engagement therewith by said projection, for the purpose set forth.

94. In a type-justifying machine, in combination with the space-indexes thereof and with a selector therefor, means for moving said selector from one index to another and for arresting it at the position indicated by the line of type being justified, a member having a series of teeth coincident with the positions of said index, means to displace as many of said teeth with said member a distance corresponding to the relative position of said selector and the succeeding space-index, and a detent to retain said member at the position so displaced, for the purpose set forth.

95. In a type-justifying machine, in combination with the space-index rack and the indicator-rack thereof, a member having a series of teeth corresponding to the difference between successive sizes of spaces, means to engage said rack at some point indicating an amount between successive sizes of spaces, and bring them into coincident relation, means for engaging said member and appropriating the number of teeth therein, corresponding to said coincident relation, and means to return said member one tooth coincident with the handling of each space until it is returned to its starting position, for the purpose set forth.

96. In a type-justifying machine, in combination with the measuring devices and the indexes and indicators thereof, a space-pusher-supporting device, a series of teeth to retain said support in coincident relation with the space values required, a controller, means to set said controller in accordance with the positions given to said indexes and indicators by the said measuring devices, and means to return said member and for causing it to shift said pusher device upon reaching its starting position, for the purpose set forth.

97. In a type-justifying machine, in combination with the computing devices thereof, an index-rack located in coincident relation with a series of space-channels, having teeth corresponding in position to the position of said channels, an indicator-rack movable with relation to the distances apart of said index-teeth, a pivoted locating-arm movable in engaging relation thereto, having means for engaging said computing devices and rack-engaging device, a pivoted adjusting-arm having means for engaging the space-determining devices and said racks, means for swinging said locating-arm until intercepted by said computing devices, and means for swinging said adjusting-arm until it engages said racks through its engagement by the locating-arm, for the purpose set forth.

98. In a type-justifying machine, in combination with the computing devices and the space-index and indicator, a locating-arm in engaging relation with said computing devices and said space-index and indicator, sensitive means for thrusting said arm against said computing devices, an adjusting-arm in engaging relation with said computing devices and said space-index and indicator, a stronger yielding means to thrust said adjusting-arm against said locating-arm and means to cause the meeting of said arms to engage said indicator and bring it into coincident relation with said index, for teh purpose set forth.

99. In a type-justifying machine, in combination, a locating-arm, a sensitive spring to operate said arm, a space-index, an indicator, an adjusting-arm in engaging relation with said index and indicator, an engaging projection on said locating-arm, and a pawl on said adjusting-arm in engaging relation with said projection, having an incline in the path thereof, for the purpose set forth.

100. In a type-justifying machine, in combination with means for securing and handling a line of type and for inserting spaces between the words thereof, a time-controller operatively connected with the actuating mechanism of said machine and means for setting said controller at predetermined starting positions, for the purpose set forth.

101. In a type-justifying machine, in combination with means for securing and handling a line of type and for securing and inserting spaces between the words thereof, a time-controller comprising a member having teeth, a pawl in engaging relation with said teeth, and means to engage and disengage said pawl and said teeth at the time required for the proper communication of said controller, for the purpose specified.

102. In a type-justifying machine, in combination with means for securing and handling a line of type and for inserting spaces between the words thereof, a time-controller comprising a ratchet, a pawl in engaging relation therewith, means for engaging and disengaging said pawl, and means operative at the proper time with relation to the movement of said controller, for the purpose set forth.

103. In a type-justifying machine, in combination with means for handling a type-line and for inserting spaces between the words thereof, a time-controlling device having a pawl, a rotary ratchet in engaging relation therewith, and means for engaging and disengaging said pawl, for the purpose set forth.

104. In a type-justifying machine, in combination with means for handling a type-line and for inserting spaces between the words thereof, a time-controlling device, a pawl, a suitable mount therefor, means connected therewith to impart motion to other mechanism, a rotary ratchet in engaging relation with said pawl, and means for engaging and disengaging said pawl, for the purpose set forth.

105. In a type-justifying machine, in combination with means for handling lines of type having different numbers of words, and for handling the individual words thereof, and for inserting the spaces between them, a time-controller composing a ratchet, a pawl in engaging relation therewith, a yielding means for engaging, and positive means

for disengaging said pawl, and means operatively connected with said controller to produce a mechanical motion at a proper time during the operation of said machine, in accordance with the setting thereof, for the purpose specified.

106. The combination, in a type-justifying machine, of means for handling a line of type and for inserting spaces between the words thereof, and a time-controller for the purpose specified, operatively connected with an automatic action of said machine, with actuating means for moving said controller to predetermined starting positions, substantially as set forth.

107. In combination, in a type-justifying machine, of means for handling a line of type and for inserting spaces between the words thereof, and a time-controller for the purpose specified, operatively connected with members producing an automatic action of said machine, provided with teeth for engaging the backward setting of said controller, with means for setting said controller backward to the required tooth, substantially as set forth.

108. In a type-justifying machine, in combination, means for handling a line of type and for inserting spaces between the words thereof, a time-controller for the purpose specified, adapted to automatically engage members producing a periodical action of said machine, provided with serrations adapted to engage said controller at its backward setting, and a pawl or dog adapted to engage with the required serration, substantially as set forth.

109. In a type-justifying machine, in combination, means for handling a line of type and for inserting spaces between the words thereof, a time-controller for the purpose specified, adapted to engage members producing an automatic action of said machine, at the time required, provided with serrations adapted to regulate the backward setting of said controller, a tripping device, and means adapted to move said controller synchronously with the inserting of the spaces in the type-line, into an engaging position with relation to said tripping device, substantially as set forth.

110. In a type-justifying machine, in combination with means for handling a line of type and for inserting spaces between the words thereof, and periodical actuating devices provided with a pawl, a time-controller for the purpose specified, adapted to engage said devices, a ratchet located in engaging relation to said pawl, and means for moving said pawl out of engagement with said ratchet, substantially as set forth.

111. In a type-justifying machine, in combination, with means for handling a line of type and for inserting spaces between the words thereof, periodical actuating devices, a pawl pivotally mounted, a time-controller for the purpose specified, adapted to engage said devices, a rotary ratchet located in engaging relation to said pawl, and a member adapted to disengage the latter from the former when said controller is returned to its starting-point, substantially as set forth.

112. In a type-justifying machine, in combination with means for handling a line of type and for inserting spaces between the words thereof, and a time-controller for the purpose specified, a pawl pivotally mounted, a rotary ratchet located in engaging relation to said pawl, a yielding means adapted to press the latter into engaging relation with the former, a member adapted to disengage said pawl at the desired position of said controller, and a detent to hold said pawl out of engagement while said controller is being reset, substantially as set forth.

113. In a time-controller for the purpose specified, and as a part of a type-justifying machine, means for handling a line of type and for inserting spaces between the words thereof, in combination with means for moving said controller backward the desired distance, and with means for moving it forward to its operating position, a pawl, an engaging ratchet, and means for actuating said pawl whereby it is moved out of and into engaging relation with said ratchet, substantially as set forth.

114. In a type-justifying machine, in combination with means for handling a line of type and for inserting spaces between the words thereof, and with the controller and with the setting mechanism therefor, means adapted to engage and hold said controller in its backward position, and means operatively connected with the actuating mechanism whereby said controller is returned to its operating or tripping mechanism, for the purpose set forth.

115. In a machine of the class specified, in combination, with means for handling a line of type and for inserting spaces between the words thereof, a movable controller, limiting points or stops operative therewith, a tripping device operative in the path of said controller, adapted to be retained thereby until the latter has reached a position related to the extent or limit of its travel, for the purpose set forth.

116. In a type-justifying machine, in combination with means for handling and computing a line of type and for handling the words thereof and inserting the spaces between them, a time-recorder connected in an operative relation to the computing and the word-handling devices thereof, and means for engaging and disengaging said recorder, for the purpose set forth.

117. In a type-justifying machine, in combination with means for handling the lines of type and independently-actuated means for handling the words and spaces thereof, a time-controlling member having teeth corresponding in pitch to the time of said words and spaces, space-indexes and indicators, a time-recorder having teeth corresponding to said indexes and indicators, means to engage one set of said teeth, for the purpose set forth.

118. In a type-justifying machine, in combination with the space-indexes and indicators thereof, said indexes and indicators being connected in an operative manner, one to the computing device of the machine and the other to the device indicating the space values required, means for engaging a tooth in the recorder corresponding thereto, with means for engaging the space-handling mechanism in accordance with the setting of the recorder, for the purpose set forth.

119. In a type-justifying machine, in combination with means for indicating the requirements of a line of type under justification, a rack having teeth thereon corresponding to said indicating means, an engaging dog therefor, means for setting said dog into engagement and out of engagement therewith, and means for locating said rack and said dog in coincident relation with said requirements, for the purpose specified.

120. In a type-justifying machine, in combination, a time-controller for the purpose set forth, space-handling mechanism in operative relation with said controller, and actuating means for setting said controller at predetermined starting positions, substantially as set forth.

121. In a type-justifying machine, in combination, space-handling mechanism, a time-controller operatively connected with said mechanism, a computing device for determining the backward setting of said controller, and actuating means for setting said controller backward to the predetermined step designated by said computing device, for the purpose set forth.

122. A time-controller for the purpose set forth, adapted to engage with the space-operating devices, provided with computing devices adapted to regulate the backward setting thereof, and a record device adapted to be moved into engaging relation therewith.

123. In a machine of the class specified, in combination space-handling devices, a time-controller adapted to be set into engaging relation with said devices and provided with computing devices adapted to regulate the backward setting of said controller, a record device adapted to be moved into engaging relation with said controller, and means for setting said record device back to the extent predetermined by said measuring device, for the purpose set forth.

124. In a machine of the class specified, in combination with the space-handling devices, a time-controller adapted to be brought into an engaging relation with said devices, provided with a pawl, a rotary ratchet in engaging relation to said pawl, and computing devices to regulate the backward setting of said controller an amount corresponding to the number of space units in the remainder, for the purpose set forth.

125. In a machine of the class specified, in combination with the space-handling devices, a controller having means to present a succession of places of contact or stops, and a tripping device operable in the path of said controller, adapted to be restrained thereby until the latter has reached a position related to the extent or limit of its travel, for the purpose set forth.

126. In a machine of the class specified, in combination with a controller provided with a series of obstructions or stops, a trip operative in the path of said controller, and a space-handling device in operative connection thereto whereby the latter is shifted from one position to another at the required time during the insertion of the spaces, for the purpose set forth.

127. In a type-justifying machine, in combination with the space-handling devices, a controller adapted to engage with said devices, a pawl pivotally mounted thereon, a rotating ratchet located in engaging relation to said pawl, and means adapted to disengage said pawl from said ratchet at the time said controller operates said space-handling devices, for the purpose set forth.

128. In a machine of the class specified, in combination with a space mechanism acting to appropriate larger space values than those designated by its setting, a time-controller with means to determine the backward and the forward setting thereof, and independent means for setting said controller backward a fixed amount when no action of the regular setting device takes place, for the purpose set forth.

129. In a machine of the class specified, in combination with the controller comprising a rotary ratchet having a pawl pivotally mounted in engaging relation thereto and a series of stopping-points pivotally mounted in coincident relation to said pawl, a reciprocating finger to disengage said pawl, and an incline for the partial backward setting of said controller, for the purpose set forth.

130. In a machine of the class specified, in combination with a rotary ratchet having a pawl pivotally mounted in engaging relation thereto and a detent to hold said pawl out of engagement, a flange pivotally mounted in coincident relation to said pawl, having a depression therein, and a tripping-finger operative in said depression, for the purpose set forth.

131. In a machine of the class specified, in combination with the controller thereof having means to obstruct a finger to prevent its action, a reciprocating finger, means to cause a sensitive contact between said finger and said controller, a space-value-designating device having escapement-teeth, and an escapement device connected in an operative relation to said finger, for the purpose set forth.

132. In a type-justifying machine, in combination, means for automatically moving an unjustified assembled line of type into a position for measuring its shortage, and means for automatically measuring said shortage, and means operating in conjunction with the assembled line to automatically register the number of intervals therein, for the purpose set forth.

133. In a type-justifying machine, in combination, means for automatically moving an unjustified assembled line of type into a position for measuring its shortage, means for automatically measuring said shortage, means operating in conjunction with the assembled line to automatically register the number of intervals therein, and means for automatically justifying said line, for the purpose set forth.

134. In a type-justifying machine, in combination, a galley, a column-feed device, a member having a measuring-channel, a gage to determine the length of a line in said channel, and means operating in conjunction with the assembled line to automatically register the number of intervals therein, for the purpose set forth.

135. In a type-justifying machine, in combination, a column-feed device, a member having a measuring-channel, an automatic pushing device to displace the line from the end of said column, a gage to determine the length of said line, and automatic means whereby said gage may be brought against the end of said line and then returned out of the path of said pushing device, for the purpose set forth.

136. In a type-justifying machine, in combination with a device for measuring a line of type having temporary separators at desired intervals therein, a computing-bar, and means to bring said bar into engaging relation with the line-measuring device, comprising a toothed member in engaging relation with said bar, each tooth corresponding to one of the temporary separators of the line, a locking-dog for said member and an escapement-rack and verge rendered operative by said separators, for the purpose set forth.

137. In a type-justifying machine, in combination, a galley, an automatic column-feed mechanism therefor, a pair of measuring-jaws for engaging the opposite ends of a line of type, and automatic means to move said jaws toward and away from each other, for the purpose specified.

138. In a line-measuring device, in a type-justifying machine, in combination, a channeled member, a pair of measuring-jaws, automatic means for separating said jaws, a pusher to thrust the line of type between them, and means to impart a relative movement to the jaws to measure the line, for the purpose specified.

139. In a type-justifying machine, in combination, a type-galley, an automatic column-feed device in operative relation with said galley, means to give said feed device an intermittent traveling motion, a gage or block to limit the travel of the column, and automatic means for measuring the lines of the column successively, for the purpose set forth.

140. In a type-justifying machine, in combination, an intermittently-actuated ratchet-rod means for reciprocating said rod, a type-column pusher-arm operatively connected to said rod and capable of automatic travel in one direction only, and automatic means for measuring the lines of the column successively, for the purpose set forth.

141. In a type-justifying machine, in combination, a ratchet-rod suitably mounted in the frame of said machine, means for imparting intermittent reciprocating motion to said rod, a type-column pusher-arm operatively connected to said rod, a pawl pivotally connected to the hub of said arm and adapted to engage the teeth on said rod, thereby limiting the travel of said arm to one direction, and automatic means for measuring the lines of the column successively for the purpose set forth.

142. In a type-justifying machine, in combination with a galley capable of holding a type column, a traveling feed device adapted to follow and actuate said column at whatever point it may be in said galley, and automatic means for measuring the lines of the column successively for the purpose set forth.

143. In a type-justifying machine, in combination with a galley capable of holding a type column, a traveling feed device adapted to follow and actuate said column at whatever point it may be in said galley means to intermittently impart motion to said feed devices, and automatic means for measuring the lines of the column successively for the purpose set forth.

144. In a type-justifying machine, in combination, a galley for carrying a type column, a source of power adapted to follow and feed forward the diminishing type column, and automatic means for measuring the lines of the column successively for the purpose set forth.

145. In a type-justifying machine, in combination, a galley carrying a type column, a feed device adapted to follow the diminishing type column, a line at a time, a source of power to so actuate said devices, and automatic means for measuring the lines of the column successively for the purpose set forth.

146. In a type-justifying machine, in combination with a feed-galley and column-feed device, a line-lifting plate, means for operating the same, and automatic means for measuring the lines of the column successively for the purpose set forth.

147. In a type-justifying machine, in combination, a feed-galley, a column-feed device, a line-lifting plate operating upon the ends of the type, and means for operating said plate to shift lines of type laterally from the galley, for the purpose set forth.

148. In a type-justifying machine, in combination, a feed-galley, a column-feed device, a measuring-channel

member, a line-lifting plate, means for operating said plate, to shift a line to the measuring-channel, and means for measuring the line for the purpose set forth.

149. In a type-justifying machine, in combination, a feed-galley, a column-feed device, a measuring-channel member, a line-lifting plate operating on the ends of the type, and means for operating said plate to shift lines laterally from the galley to the measuring-channel, for the purpose set forth.

150. In a type-justifying machine, in combination, a stop-block, detent-springs on said block, a line-lifting plate provided with rule-removing snap-hooks and an inclined plate, a rule-galley abutment having retaining-springs, and means for operating said block, for the purpose set forth.

151. In a type-justifying machine, in combination, a stop-block, detent-springs on said block, a line-lifting plate provided with snap-hooks and means for operating said block, for the purpose set forth.

152. In a type-justifying machine, in combination, a measuring-channel member, a line-lifting plate adapted to introduce a type-line into said channel, a combined clamp and measuring-gage, and means for actuating said gage from a given starting-point into contiguity with one end of said line, for the purpose set forth.

153. In a type-justifying machine, in combination, a type-line-holding device, jaws therefor adjustable with reference to the length of the line, and means for automatically counting the intervals between the words of said line while the latter is held within said jaws, all as set forth.

154. In a type-justifying machine, in combination, a type-line-holding device agreeing in size with the type-body, jaws adjustable with relation to the length of the line held therein, separators having bodies corresponding substantially with the body of the type character, but projecting at some point or points beyond said type-body, and means for successively engaging said separators in the assembled type-line and automatically registering the word-intervals, for the purpose set forth.

155. In a type-justifying machine, in combination with a type-holding device, separators projecting beyond the type-body, a transversely-movable slide adjacent thereto, a contact-point on said slide with means for bringing said contact-point successively against said separators, for the purpose set forth.

156. In a type-justifying machine, in combination with a type-holding device agreeing in size substantially with the type-body, said body having a depression or depressions therein, separators having bodies corresponding with the body of the type character, but without depressions agreeing with said type-body depressions, and means for automatically engaging said separators in the assembled type-line at the points exposed by said depression, and for registering the corresponding word-intervals, for the purpose set forth.

157. In a type-justifying machine, in combination with a type-holding device agreeing in size substantially with the type-body, said body having a depression or depressions therein, separators having bodies corresponding in height and width substantially with the bodies of the type character but having no depression therein corresponding with the depressions in said type-body, said separators constituting electroconductors, and means for making successive electric connections with said conductors, for the purpose set forth.

158. In a type-justifying machine, a device for holding a line of type and separators, in combination with a counting device in contact relation with said separators, and an electric circuit to operate said counting device, for the purpose set forth.

159. In a type-justifying machine, in combination with means for adjustably holding type-lines of varying lengths, means for automatically counting and registering the intervals between the words of any of said lines, for the purpose set forth.

160. In a type-justifying machine, in combination with means for adjustably holding type-lines of varying lengths, electromechanical means for automatically counting and registering the intervals between the words of any of said lines, for the purpose set forth.

161. In a type-justifying machine, in combination, means to suitably clamp a type-line, separators between the words of said line, a point reciprocating past said line by a sliding member and capable of forming a contact with said separators only, and means for producing an electrical current when said contact takes place, for the purpose set forth.

162. In a type-justifying machine in combination, a type-line having separators therein, a point, means for bringing said point into contact with said separators alone, and means for producing an electrical current upon the instant of said contact, for the purpose set forth.

163. In a type-justifying machine, in combination, a type-line having separators therein, a counting apparatus operated by a contact with every separator in said line, and means for registering the number of separators, for the purpose set forth.

164. In a type-justifying machine, in combination, a type-line having separators therein suitably clamped in position, a point, a sliding member carrying said point, means for reciprocating said member with said point past said line, whereby contact is had between said separators and point, and electrical means for recording every such contact, for the purpose set forth.

165. The combination, in a type-justifying machine, of a word-shaft, a line-shaft, and automatic means for imparting intermittent rotary motion to said line-shaft from said word-shaft, dependent upon the number of intervals in each line, for the purpose set forth.

166. The combination, in a type-justifying machine, of a word-shaft, a line-shaft, means for transmitting power from said word-shaft to said line-shaft, and a locking-block adapted to be introduced within and withdrawn from the line of transmission of said power whereby the rotary motion of said line-shaft is rendered intermittent, for the purpose set forth.

167. In a type-justifying machine, in combination with a line-shaft clutch, a cam-actuated arm loosely sleeved on a lock-shaft, a spring connection between said shaft and arm, a clutch-arm fast to said shaft in the rear of said cam-actuated arm, and a lock-crank arm fast to the front end of said shaft, connected to a lock-rod operating in a suitable bearing, for the purpose set forth.

168. In a type-justifying machine, in combination with a line-shaft clutch, a cam-actuated arm loosely sleeved on a lock-shaft, a spring connection between said shaft and arm, a clutch-arm fast to said shaft in the rear of said cam-actuated arm, a lock crank-arm fast to a lock-rod operating in a suitable bearing, and a lock-block adapted to engage and hold said lock-rod against the action of said cam-actuated arm and attached spring, and to release the same again, for the purpose set forth.

169. In a type-justifying machine, in combination with a line-shaft clutch, a cam-actuated arm loosely sleeved on a lock-shaft, a spring connection between said shaft and arm, a clutch-arm fast to said shaft in the rear of said cam-actuated arm, a lock crank-arm fast to a lock-rod operating in a suitable bearing, a lock-block adapted to engage and hold said lock-rod against the action of said cam-actuated arm and attached spring, and to release the same again, and neutralizing projections between two of said members capable of relieving said block from lateral pressure, for the purpose set forth.

170. In a type-justifying machine, in combination with a line-shaft clutch retained in its normal condition by a spring, a cam-actuated arm loosely sleeved on a lock-shaft, a spring connection between said shaft and arm, less resilient than said clutch-spring, a clutch-arm fast to said shaft in the rear of said cam-actuated arm and a lock crank-arm fast to a lock-rod operating in a suitable bearing, for the purpose set forth.

171. In a type-justifying machine, in combination with a line-shaft clutch retained in its normal condition by a spring, a cam-actuated arm loosely sleeved on a lock-shaft, a spring connection between said shaft and arm, less resilient than said clutch-spring, a clutch-arm fast to said shaft in the rear of said cam-actuated arm, a lock crank-arm fast to a lock-rod operating through a suitable bearing, and a lock-block adapted to engage and hold said lock-rod against the action of said cam-actuated arm and attached spring, for the purpose set forth.

172. In a type-justifying machine, in combination with a shaft carrying a clutch-arm, and means for actuating or locking said shaft; a line-shaft, a sliding toothed collar keyed thereon, provided with a projecting pin and operatively connected with said clutch-arm, a spring-cam secured within a clutch-block provided with an incline, a supporting clutch-block, a plate between said blocks having a curved edge, said edge, incline, and spring-cam serving as guides for said pin whereby said collar is reciprocated during the revolution and a revolving toothed idler arranged to engage and rotate said collar when said clutch-arm is actuated against said spring-cam, for the purpose set forth.

173. In a type-justifying machine, in combination, a line-shaft, a toothed idler running loosely on said shaft, a sliding toothed collar keyed to said shaft and provided with a projecting pin, a clutch-block having a spring-cam secured therein, and an incline, a supporting clutch-block, a plate between said blocks with a curved edge, said edge, incline and spring-cam serving as guides for said pin whereby said collar is reciprocated out of engagement with said idler during a revolution of the same, and means for overcoming the resiliency of said spring-cam and reciprocating said collar into engagement with said idler, for the purpose set forth.

174. In a type-justifying machine, in combination with a line-lifting plate, a line-lifting blade, a channel member containing the same, and means for actuating said blade, for the purpose set forth.

175. In a type-justifying machine, in combination, a channeled member, a line-lifting blade therein, means for positively actuating said blade at the beginning, and end of its lifting stroke or travel, and automatic means for producing a yielding intermittent motion between the extremes of said stroke, for the purpose set forth.

176. In a type-justifying machine, in combination, a line-lifting blade suitably mounted in a channel, an operating-arm, a controller-arm, and a ratchet-wheel fast to a shaft, said controller-arm being operatively attached to said blade; a tensioned compensating arm loose on said shaft having a pawl normally engaging said wheel, a tripping-arm operatively connected with said pawl, a cam on the line-shaft engaging and operating said operating-arm and tripping-arm, the operating-arm cam being provided with a groove of varying width to permit freedom of motion to said operating and controller arms, and a cam on the word-shaft having a depression for operating said compensating arm, for the purpose set forth.

177. In a type-justifying machine, in combination with a cut-off blade and means for operating the same, a channel member, a line-lifting blade therein, means for positively actuating said lifting-blade at the beginning and end of its lifting stroke or travel, and means for producing word intermittent motion between the extremes of said stroke, for the purpose set forth.

178. In a type-justifying machine, in combination, a cut-off blade, means for operating the same, a line-lifting blade operating in a suitable channel, an obstruction in the path of said lifting-blade capable of arresting the movement of the same, and means for permitting said lifting-blade to be obstructed and to retain it in that condition while under the influence of said obstruction, and for continuing said movement upon the nullification of said obstruction by the withdrawal of a space, for the purpose set forth.

179. In a type-justifying machine, the combination of a member having a type-containing channel corresponding in dimension with the type-bodies, a second member having a type-containing channel corresponding with the first, one channeled member being movable with reference to the other, a ward or wards in said second channel registering with the nick or nicks in said type-bodies, word-separators having bodies corresponding to the bodies of the character-type, but without nicks therein corresponding to the nicks in said type, whereby the type-line with its separators may pass freely along one of said channeled members while said separators are prevented from entering the other, with means to displace one channeled member with relation to the other, for the purpose specified.

180. In a type-justifying machine, the combination of two members having channels corresponding in dimension with the type-bodies, a third member having a channel corresponding with the first-mentioned channeled members, a ward or wards registering with the nicks in the type in said last-mentioned channel, means to displace said channels with reference to each other, with one or more word-separators having bodies corresponding to the bodies of the character-type, but without nicks therein corresponding to the nicks in said type, whereby the type-line with its separators may pass freely along the first two channeled members and said separators be prevented from entering the third, for the purpose specified.

181. In a type-justifying machine, the combination of two members having type-channels corresponding in dimension with the type-bodies, a third member having a type-containing channel corresponding with those first mentioned, a ward or wards in said third channel registering with the nicks in the type, means to move said channeled members with reference to each other, one or more word-separators having bodies corresponding to the bodies of the character-type, but without nicks therein corresponding to said nicks in the type, whereby the type-line with its separators may pass freely along the first two channeled members and said separators be prevented from entering the other, with a member having a fourth receiving-channel, for the purpose specified.

182. In a type-justifying machine, in combination, a movable channeled member adapted to receive one word at a time from a type-line, and means for automatically shifting said member, for the purpose set forth.

183. In a type-justifying machine, in combination, a channeled member adapted to receive one word at a time from a type-line, a knock-off plate having an opening for the passage of said word, and means for automatically actuating said plate and removing the separator under said word, for the purpose set forth.

184. In a type-justifying machine, in combination, a movable channeled member adapted to receive one word at a time from a type-line, a knock-off plate having an opening for the passage of said word, and means for automatically actuating said member and plate, thereby shifting the position of said member with the word contained therein, and removing the space beneath said word, for the purpose set forth.

185. In a type-justifying machine, the combination of automatically and simultaneously operating word-shifting and separator-removing members, with means for actuating the same for the purpose set forth.

186. In a type-justifying machine, in combination, a channeled block adapted to receive one word at a time from a type-line, a separator knock-off plate, both suitably mounted, an arm pivotally connected to said block and plate and adapted to actuate the two latter in opposite directions, and means for vibrating said arm, for the purpose set forth.

187. In a type-justifying machine, the combination of a type-containing channeled member having its wall projecting into the channel coincident with the nick or nicks in the bodies of type, with one or more separators having bodies corresponding substantially with the bodies of type characters, but without nicks corresponding to those in said type, whereby said separators are prevented from passing along said channel with said type, for the purpose specified.

188. In a type-justifying machine, the combination of a member having a type-containing channel, a ward or wards in said channel agreeing with the nick or nicks in the type-bodies, with one or more separators having bodies corresponding substantially with the bodies of type characters, but without nicks corresponding to those in said type-bodies, whereby said separators are prevented from passing along said channel with the type, for the purpose specified.

189. In a type-justifying machine, the combination of a member having a type-containing channel provided with a ward or wards agreeing with the nick or nicks in the

type, one or more separators having bodies corresponding substantially with the bodies of type characters, but without nicks corresponding to those in said type-bodies, whereby said separators are prevented from passing in said first-mentioned channeled member, for the purpose specified.

190. In a type-justifying machine, the combination of a member having a type-containing channel corresponding with the first, a ward or wards in said second channel registering with the nick or nicks in said type-bodies, with one or more word-separators having bodies corresponding to the bodies of the character-type, but without nicks therein corresponding to the nicks in said type, whereby the type-line with its separators may pass freely along one of said channels and said separators be prevented from passing into the other, for the purpose specified.

191. In a type-justifying machine, the combination of two members having type-containing channels corresponding in dimension with the type-bodies, a third member having a type-containing channel corresponding with the first two, and a ward or wards registering with the nick or nicks in the type; means for displacing said channels with reference to each other, a sensitively-pressed pusher to advance the type-line into said channels, one or more word-separators having bodies corresponding to the bodies of the character-type, but without nicks therein corresponding to the nicks in said type, whereby said line with its separators may pass freely along the first two channels and said separators be prevented from passing into the other, a fourth member having a receiving-channel, and an independent pusher therefor, for the purpose specified.

192. In a type-justifying machine, the combination of two members having type-containing channels corresponding in dimension with the type-bodies, a third member having a type-containing channel corresponding with the first two, a ward or wards in said third channel registering with the nick or nicks in the type, means for displacing said channeled members with reference to each other, a pusher to advance the type-line therein, one or more word-separators having bodies corresponding to the bodies of the character-type, but without nicks therein corresponding to the nicks in said type, whereby said line with its separators may pass freely along the first two channels and said separators be prevented from passing into the other, a second pusher, a channeled member to receive the words, and a detent or clip to retain them, for the purpose specified.

193. In a type-justifying machine, in combination with a channeled member and the line-pusher therefor, means for extracting the separators from the line of type consisting of a reciprocating knock-off adapted to engage with said separators and to move in a transverse direction across the channel, for the purpose set forth.

194. In a type-justifying machine, in combination, a channeled member, a pusher therein, a separator knock-off movable transversely thereto, and means for arresting the feeding of the type-line while said separator is in engaging relation with said knock-off, for the purpose set forth.

195. In a type-justifying machine, in combination, a channeled member, a pusher in the channel of said member, a movable plate having a passage-way for a line of type with its separators, means for obstructing each of said separators, and means for displacing said plate in a transverse direction from the channel, for the purpose set forth.

196. In a machine of the class specified, in combination with the separators therefor adapted to indicate the separations between the words, a channeled member, an extractor having an opening in coincident relation with said channeled member, means adapted to engage said separators, and means arranged in operative connection with said extractor and adapted to move the same across the channel of said member to the receiving-receptacle, for the purpose set forth.

197. In a machine of the class specified, in combination with the separators therefor adapted to indicate the separations between the words, a channeled member, a separator-receptacle, an extractor having an opening coincident with the channel in said member adapted to engage with said separators, a stop for the separators also in coincident relation with said channel, and means arranged in operative connection with said extractor and adapted to move the same transversely across said channel to a position adjacent to said receptacle, for the purpose set forth.

198. In a type-justifying machine, in combination with a word-lift, a cam on the word-shaft, a yielding or sensitive member forming a part of the cam-track, a follower or projection on said track, and intermediate connecting parts, for the purpose set forth.

199. In a type-justifying machine, in combination with a word-lift, a cam on the word-shaft, a yielding or sensitive member forming a part of the cam-track, a follower or projection in said track, a spring-controlled arm attached to said projection, and intermediate connecting parts, for the purpose set forth.

200. In a type-justifying machine, in combination with a reciprocating word-cut-off channel member, a word-lift, and means for elevating and depressing the same, for the purpose set forth.

201. In a type-justifying machine, in combination with a vibrating or oscillating space-receiving clip, a word-lift and means for elevating and depressing the same, for the purpose set forth.

202. In a type-justifying machine, in combination, a plurality of channel members, a word-lift operating in the channels in said members, and means for actuating said lift, for the purpose set forth.

203. In a type-justifying machine, in combination with a series of space-channels and a space-plunger, means for engaging and conveying each space ejected by said plunger laterally to its position in the type-line, and means including a receptacle to inclose the space during its lateral movement, for the purpose set forth.

204. In a type-justifying machine, in combination with a space-plunger, a space-pusher normally drawn in one direction by a sensitive means, and means for overcoming said sensitive means and retarding said pusher in its travel, for the purpose set forth.

205. In a type-justifying machine, in combination with a space-channel member and a space-plunger, a space-pusher normally drawn in one direction by a sensitive means, means for securely checking the travel of said pusher in said direction, a gate attached to said pusher and adapted to receive a space and release the same, and positive actuating means to reciprocate said pusher in the opposite direction, for the purpose set forth.

206. In a type-justifying machine, in combination with a space-grasping clip and means for operating the same, a reciprocating space-pusher adapted to carry a space into engaging relation with said clip, for the purpose set forth.

207. In a type-justifying machine, in combination with a space-grasping clip and means for operating the same, a space-channel member, a space-plunger, and a space-pusher reciprocating transversely to said channel member and adapted to engage a space displaced by said plunger and convey it into operative relation with said clip, for the purpose set forth.

208. In a type-justifying machine, in combination, a sensitive word-lifting plate, a space-grasping clip, a space-channel member, a space-plunger and a space-pusher reciprocating transversely to said channel member and adapted to engage a space displaced by said plunger and convey it into operative relation with said clip to be thereby deposited on the word carried by said lifting-plate, for the purpose set forth.

209. In a type-justifying machine, in combination with a laterally-movable space-plunger, a space-pusher normally drawn in one direction by sensitive means, and a spring-actuated rack-engaging member attached to said plunger and extending into the path of the travel of said pusher, whereby the latter is checked and fixed upon coming in contact with said member, for the purpose set forth.

210. In a type-justifying machine, in combination with devices for separating the words of a line and inserting justifying-spaces therein, a word-lifting block, two members forming a channel in which the words are assembled by the word-lifting block, means for withdrawing one of said members from the path of another of said members, and means for actuating said last-designated member with said line over the track of the first member, for the purpose set forth.

211. In a type-justifying machine, in combination with devices for separating the words of a line and inserting justifying-spaces therein, a receiving-galley and a word-lifting block, a reciprocating member, a second reciprocating member having its travel at right angles to the first of said members, said reciprocating members forming a type-line channel in which the words are assembled by the word-lifting block, and means for actuating said members in their proper order, for the purpose set forth.

212. In a type-justifying machine, in combination with devices for separating the words of a line and inserting justifying-spaces therein, with an automatic word-pusher, a receiving-galley, two members adapted to form a type-line channel said members being movable in planes at right angles to each other, said word-lifting block being arranged to assemble a type-line into said channel, for the purpose set forth.

213. In a type-justifying machine, in combination, devices for separating the words of a line and inserting justifying-spaces therein, a receiving-galley provided with a laterally-reciprocating abutment-block, a rule reciprocating across the path of said block and forming therewith a temporary type-line channel, and automatic word-pusher below said channel, said word-pusher operating to assemble a line of type in said channel, for the purpose set forth.

214. In a type-justifying machine, in combination, a receiving-galley provided with an abutment-block, means for laterally reciprocating said block, a rule forming with the latter a temporary type-line channel, means for reciprocating said rule across the path of said block, and a word-pusher below said block, and operating to raise words successively to form a type-line in said channel, for the purpose set forth.

215. In a type-justifying machine, in combination with a controller connected in operative relation to the line-handling devices of said machine, means to give said controller a step-by-step motion coincident with the handling of the words in a line of type under justification, and means to set said controller backward prior to the beginning of each line, for the purpose set forth.

216. In a type-justifying machine, in combination, a controller for the purpose set forth, connected in an operative relation with the line-handling devices of said machine, provided with a ratchet, a pawl in engaging relation with said ratchet, a spring to engage said pawl, and a cam to disengage it from said ratchet after it has reached its operating position, for the purpose set forth.

217. In an organized machine for justifying a composed line of type, means for ascertaining the total difference between the length of said line and a standard line, means for dividing said difference by the number of word-spaces in the line, a space-determining device for supplying the line to be justified with true spaces, connections between said device and said dividing means whereby said device is moved to and left in a position determined entirely by the movement of said dividing means, this being primarily set for each line to be justified, combined with means for subsequently moving said device from the position in which it is so set to cause it to determine the proper number of spaces to justify the line.

218. In an organized machine for justifying a composed line of type containing false spaces, means for ascertaining the total difference between the length of said line and a standard line, a single mechanism for dividing said difference by the number of word-spaces in the line, and making the proper allowance for the false spaces contained in the line, a space-determining device for supplying the line to be justified with true spaces, connections between said device and said dividing mechanism whereby said device is primarily set for each line to be justified, combined with means for moving said device from the position in which it is so set to cause it to determine the proper combination of spaces to justify the line.

219. In an organized machine for justifying a composed line of type, means for ascertaining the total difference between the length of said line and a standard line, means for dividing said difference by the number of word-spaces in the line, a space-determining device for supplying the line to be justified with true spaces, connections between said device and said dividing means whereby said device is primarily set for each line to be justified, combined with means for moving said device from the position in which it is so set to cause it to determine the proper spaces to justify the line.

220. In an organized machine for justifying a composed line of type containing false spaces, means for ascertaining the total difference between the length of said line and a standard line, means for dividing said difference by the number of word-spaces in the line and making the proper allowance for the false spaces contained in the line, a space-determining device for supplying the line to be justified with true spaces, connections between said device and said dividing mechanism whereby said device is primarily set for each line to be justified, combined with means for moving said device from the position in which it is so set to cause it to determine the proper spaces to justify the line.

221. In an organized machine for justifying a composed line of type, means for ascertaining the total difference between the length of said line and a standard line, means for dividing said difference by the number of word-spaces in the line, a space-determining device for supplying the line to be justified with true spaces, and connections between said device and said dividing means whereby said device is set for each line to be justified.

222. In an organized machine for justifying a composed line of type containing false spaces, means for ascertaining the total difference between the length of said line and a standard line, means for dividing said difference by the number of word-spaces in the line, and making the proper allowance for the false spaces contained in the line, a space-determining device for supplying the line to be justified with true spaces, and connections between said device and said dividing mechanism whereby said device is set for each line to be justified.

223. In a machine for justifying lines of type composed with temporary separators having portions projecting beyond the type, a channel and means for moving the line therethrough, means for successively intercepting the separators whereby each word may be separated from the succeeding portion of the line, and means for removing the separators and inserting justifying-spaces in lieu thereof.

224. In a machine for justifying type, the combination of a mechanism for selecting a series of spaces of equal or different sizes for the purposes of justification, with an averaging mechanism in operative relation to the space-selecting mechanism for causing it to select spaces of the same or varying sizes as may be necessary to justify the line, and means for giving the said averaging mechanism a setting dependent upon the number of word-spaces in the line.

225. In a justifying mechanism, the combination of a series of magazines mounted an equal distance apart; said magazines containing spaces of different thicknesses, each size of said space differing from its adjacent space by approximately the same amount, the magazines being located in regular order, according to size of spaces, with a space-ejector mechanism, suitably mounted to travel the total distance between the extreme space-magazines, a mechanism for giving the space-ejector mechanism a primary setting opposite one of the space-magazines, dependent on the difference between the length of the set line and the standard and on the number of spaces to be inserted, and a mechanism for operating the space-ejector a number of times equal to the number of spaces to be inserted.

226. In a justifying-machine the combination of a space-ejector mounted upon suitable ways, and adapted to travel thereon, means for giving to the space-ejector a setting upon its ways, said means being capable of independent movement to return to its primary position after setting the space-ejector, and means for restoring the space-ejector to its primary position independent of the setting means.

227. In an organized machine for justifying a composed line of type, means for ascertaining the total difference between the length of said line and a standard line, means

for dividing said difference by the number of word-spaces in the line, a space-supplying device capable of movement in two directions, connections between said device and said dividing means whereby said device is moved in one direction and set to select the proper size of space, and mechanism for moving said device in the other direction to cause it to supply true spaces to the line.

228. A mechanism for justifying lines of type composed with temporary separators, comprising justifying devices constructed to determine the justifying-spaces for a line, means for removing the separators from the line, and means for inserting the justifying-spaces in lieu of said separators.

229. In a mechanism for justifying composed lines of type, automatic devices constructed and arranged to mechanically measure an unjustified line, means to mechanically represent the number of intervals in the line, and means to compute from said measurement and number of intervals the justifying-spaces for the line.

230. A mechanism for justifying lines of type composed with temporary separators, comprising devices for measuring the unjustified line inclusive of the separators, and means controlled by said measuring devices for determining the justifying-spaces.

231. A mechanism for justifying lines of type composed with temporary separators, comprising devices for measuring the unjustified lines inclusive of the separators, means controlled by the measuring devices for determining spaces to justify the line, and means for inserting said spaces in the line in lieu of the separators.

232. A mechanism for justifying lines of type composed with temporary separators, comprising devices for measuring the line inclusive of the separators, and means controlled by said devices for determining the spaces necessary to justify the line, means for ejecting the separators from the line, and devices for selecting and inserting the justifying-spaces in lieu thereof.

233. In a mechanism for justifying lines of type composed with temporary separators, devices for measuring the line inclusive of the separators and means controlled by said devices constructed and arranged to compute justifying-spaces equal in aggregate width to the shortage of the line when measured exclusive of the separators, whereby the separators are eliminated in the justifying operation.

234. In a mechanism for justifying lines of type composed with temporary separators, measuring devices comprising a movable element controlled by the number of separators or word intervals in the line and a movable element controlled by the length of the unjustified line, in combination with mechanism for determining the justifying-spaces, said mechanism being controlled by said measuring devices.

235. In a justifying mechanism, devices for selecting justifying-spaces from a limited number of sizes comprising line-measuring and separator-counting devices, means governed by said devices for selecting justifying-spaces of two sizes, and a controller adapted to be set by the justifying devices to determine the number of spaces of each size inserted in the line.

236. In a type-justifying machine adapted to justify lines of type with spaces of two consecutive sizes, a gage-block and means for setting the same to correspond with the normal justifying-space for a line, in combination with means for selecting and inserting spaces of one size next to the normal, means for governing the number of such spaces inserted in the line, and means for automatically selecting and inserting such spaces of the other size next to the normal as may be necessary to justify the line.

237. In a justifying mechanism, the combination with line-measuring devices and means for registering the number of word intervals in the line under justification, of computing devices controlled by said means to determine the size of justifying-spaces required to lengthen or shorten the line for justifying.

238. In a machine for justifying lines of type, composed with temporary separators, the combination with line-measuring devices and means for registering the number of intervals in the line, of computing devices controlled by said means to determine the size of justifying-spaces to lengthen or shorten the line for justifying.

239. In a justifying mechanism, the combination with a member to be positioned in accordance with the number of intervals in the line, of a shaft carrying a series of spirally-arranged projections, and means for rotating said shaft in accordance with the number of intervals in the line to bring the proper projection into action to position said member.

240. In a justifying mechanism, the combination of interval-registering devices, a shaft carrying a series of spirally-arranged projections, connections between said interval-registering devices and said shaft for rotating the shaft in accordance with the number of intervals in the line, and a lever for dividing a shortage by the number of intervals in the line controlled by the projection brought into action by the rotation of said shaft.

241. In a justifying mechanism, the combination of a lever for dividing a shortage by the number of intervals in the line, interval-registering devices, a shaft carrying a series of spirally-arranged projections, connections between said interval-registering devices and said shaft for rotating the shaft in accordance with the number of intervals in the line, and a member for varying the action of said lever positioned by the projection brought into action by the rotation of the shaft.

242. In a justifying mechanism, the combination with means for determining the quotient of the line shortage divided by the number of intervals in the line, of difference devices for distributing the remainder including a lever movable in accordance with the remainder, a shaft carrying a series of spirally-arranged projections, and means for rotating said shaft in accordance with the number of intervals in the line to position the proper projection for varying the action of said lever in accordance with the number of intervals.

243. In a justifying mechanism, the combination with means for determining the quotient of the line shortage divided by the number of intervals in the line, of difference devices for distributing the remainder including a lever movable in accordance with the remainder, a movable fulcrum-piece for said lever, a shaft carrying a series of spirally-arranged projections for setting said fulcrum-piece, and means for rotating said shaft in accordance with the number of intervals to position the proper projection for setting said fulcrum.

244. In a justifying mechanism, the combination with means for determining the normal justifying-spaces for a line including a rack having teeth corresponding to the spaces used in the machine, of difference devices for distributing the remainder including a rack having teeth at less distances apart than the first-mentioned rack.

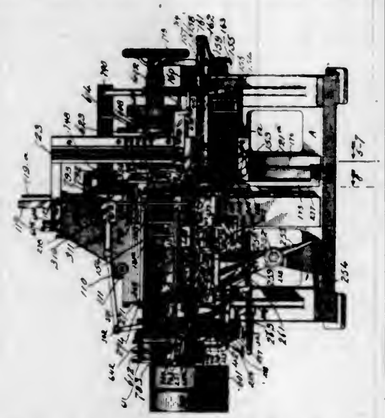
245. In a justifying mechanism, the combination with means for measuring the line and registering the number of intervals therein, of computing devices for dividing the shortage by the number of intervals and distributing the remainder, including a coarse-toothed rack set in accordance with the quotient, and a finer-toothed rack set in accordance with the remainder.

246. In a justifying mechanism, the combination of means for measuring a line, a space-registering device, means for determining the justifying-spaces from the shortage and number of intervals, including devices set in accordance with the number of intervals in the line, and connections whereby the setting of all devices dependent upon the number of intervals in the line is controlled by said space-registering device.

247. In a machine for justifying lines of type composed with temporary separators, the combination with a space-counting device and the devices of the machine which must be set to positions varying in accordance with the number of spaces in the line, of connections between said space-counting device and said devices whereby all of the said devices to be set are controlled by the space-counting device.

248. In a justifying mechanism, the combination with line-measuring and justifying-space-computing devices, of a setting-rack connected with said devices and provided with teeth spaced in accordance with the sizes of justifying-spaces, and a detent adapted to engage with the teeth and hold the rack in the position determined by the computing devices.

844,563. TYPE-JUSTIFYING MACHINE. BENJAMIN M. DES JARDINS, Hartford, Conn., assignor, by mesne assignments, to The Unitype Company, a Corporation of New Jersey. Filed June 4, 1898. Serial No. 682,856.



Claim.—1. In an automatic type-justifying machine, the combination of a justifying-space-computing device dependent upon an adjustment for the amount of shortage and an adjustment for the number of intervals in the line of type being justified, and a series of forms having suitable dimension for determining the spaces needed to make up the required space values.

2. An automatic type-justifying machine provided with a computing device dependent upon an adjustment for the amount of shortage and an adjustment for the number of intervals in the line of type, and a series of forms having suitable dimensions for selecting the spaces needed, with means to adjust said forms to make up each required space value designated by the computing device.

3. An automatic type-justifying machine provided with a computing device dependent upon an adjustment for the amount of shortage and an adjustment for the number of intervals in the line of type, and a series of forms for selecting the spaces needed to make up the required space values, with a channeled device for successively collecting the words of the line, the space values selected by the computing device and the forms, and for depositing the line on the receiving-galley.

4. An automatic type-justifying machine provided with a computing device, a gage for determining the remainder, and a series of forms controlled by said computing device and gage for directing the selection and the appropriation of the spaces required for each space value designated by the computing device.

5. An automatic type-justifying machine provided with a computing device, a gage for determining the remainder, and a series of forms for directing the selection and the appropriation of the spaces required for each space value designated by the computing device, with means for causing the remainder-gage to change said forms.

6. An automatic type-justifying machine provided with a computing device, a gage for determining the remainder, a series of forms for directing the selection and the appropriation of the spaces required for each space value designated by the computing device, and two controller devices one for directing the action with regard to the number of each size of space values needed and the other to direct the action on successive lines in accordance with the number of words in each line.

7. In a type-justifying machine, in combination, a line-clamp, a movable word-cut-off channel, and means between the two ends of the jaws of said clamp yielding to allow one jaw to move transversely to the line with the cut-off channel.

8. The combination with a type-channel, of a line-clamp and means between the two ends of the clamp yielding to allow one end of the clamp to move transversely to the line while retaining pressure on the end of the line.

9. In a type-justifying machine, in combination, a line-clamp, a yielding means between the two jaws of said clamp, a movable channel, means to cause said channel to deposit the line on the galley, and a guide for the upper jaw of said clamp whereby the latter returns outside of said channel, for the purpose set forth.

10. In a type-justifying machine, in combination with a line-channel and a line-shifting plate, operating transversely to said channel, of a member actuated thereby adapted to forcibly bear on the end of the type-line, for the purpose set forth.

11. In a type-justifying machine, the combination with a series of channels and a line-lifting blade, of a hooked member adapted to forcibly bear on the top of the type-line and follow it from channel to channel, for the purpose set forth.

12. In a type-justifying machine, in combination, a line-lifting plate, a series of channels, a line-lifting blade, an arm actuated by said plate adapted to forcibly bear on the top of the type-line, and a hooked member arranged to be engaged with and disengaged from said arm, to forcibly bear on said type-line and follow it in its upward course, for the purpose set forth.

13. In a type-justifying machine, the combination with a type-channel and a hooked member, of an arm provided with a finger adapted to engage and disengage said hooked member, means for operating said finger, and means for actuating said arm forcibly against the end of a type-line, for the purpose set forth.

14. In a type-justifying machine, the combination with a type-channel, of a clamping-rod pivotally mounted and provided with a hook adapted to forcibly bear on the top of a type-line and follow it in its upward course, and means for reciprocating said rod, for the purpose set forth.

15. In a type-justifying machine, the combination with a vibrating clamping-arm and a type-channel, of a clamping-rod pivotally attached to the blade-mounting block and provided with a hook adapted to forcibly bear on the top of a type-line and follow it in its upward course, means for engaging and disengaging said hook and said arm, and means for reciprocating said rod, for the purpose set forth.

16. In a type-justifying machine, in combination with the space-counting device, a controller, means for actuating said controller, and a trip between the word-shaft and the line-shaft, operated by said controller, whereby motion is transmitted from said first-mentioned shaft to said line-shaft or discontinued, for the purpose set forth.

17. In a type-justifying machine, in combination with the space-counting device, a clutch between the word-shaft and the line-shaft, a controller, a trip, and means for actuating said controller and introducing said trip into and out of said clutch, for the purpose set forth.

18. The combination with the line mechanism of a justifying-machine, of a space-counting device and a controller for controlling the line mechanism in accordance with the action of the space-counting device.

19. In a type-justifying machine, in combination with the remainder-computing device, wedge-blocks rendered separable by said device, a wedge, and a space-value controller adapted to tightly force said wedge between said blocks, for the purpose set forth.

20. In a type-justifying machine, in combination with the space-counting devices and the remainder-computing device, controllers for directing the machine in accordance with the number of space intervals and the remainder, and means for continuing the operation of said machine in accordance with the direction so given it, for the purpose set forth.

21. In a type-justifying machine, in combination with the remainder-computing device, wedge-blocks rendered separable by said device, a wedge, a plurality of space-value forms, and a space-value controller adapted to tightly force said wedge between said blocks and recipro-

cating said forms in proportionate relation to the separation of said wedge-blocks, for the purpose set forth.

22. In a type-justifying machine, in combination, a computing-bar, a notched reciprocating controller-rod adapted to engage said bar at the proper time, engaging members governed by a trip, a lifting-bar, an arm for depressing said rod, and a clutch-trip operated by said rod and coacting parts, for the purpose set forth.

23. In a type-justifying machine, in combination, a space-value locating-rod, a notched reciprocating space-value controller-rod, engaging members governed by a trip, a lifting-bar, an arm for depressing said rod, a line-measuring rod provided with wedge-blocks, a wedge adapted to be forced between said blocks, and a trip arranged to operate said locating-rod by said controller-rod, for the purpose set forth.

24. In a type-justifying machine, in combination, two similar notched reciprocating rods, engaging members governed by a trip, a lifting-bar, arms for depressing said rods, a counting-bar for limiting the downward movement of one of said rods, a clutch-trip operated by the same rod, a space-value locating-rod, a line-measuring rod provided with wedge-blocks, a wedge adapted to be forced between said blocks, and a trip arranged to operate said locating-rod by the other of said similar rods, for the purpose set forth.

25. In a type-justifying machine, in combination with the line-lifting rod, a vibrating stop member normally grasping said rod, and means for releasing the same from said member, for the purpose set forth.

26. In a type-justifying machine, in combination with the line-lifting rod, a vibrating stop member normally grasping said rod, and word-cut-off channel members adapted to actuate said stop member and release said rod, for the purpose set forth.

27. In a type-justifying machine, in combination, a line-lifting rod, a hooked arm in operative relation thereto, word-cut-off channel members, and means adapted to coincidently actuate said members and vibrate said arm, thereby releasing said rod, for the purpose set forth.

28. In a type-justifying machine, in combination, a series of space-channels, a package of space-value forms, a space-value-computing device and connections between said computing device and forms for adjusting said forms to the right and left of said channels, a reciprocating space-collector between said forms and channels, and means for inserting the spaces collected, into the type-line, for the purpose set forth.

29. In a type-justifying machine, in combination, a movable type-line channel, a series of space-channels, a package of space-value forms, means for adjusting said forms to the right and left of said channels, a reciprocating space-collector between said forms and channels, and means for inserting the spaces collected, into the line in said movable channel, for the purpose set forth.

30. In a type-justifying machine, in combination, a series of space-channels, a package of space-value forms, a space-locating device for locating said forms relative to said channels, a space-collector between said forms and channels, means for reciprocating said collector to a position correlative with said forms, and means for inserting spaces collected, into the type-line, for the purpose set forth.

31. In a type-justifying machine, in combination with a series of space-channels, a package of space-value forms, a space-value-computing device for locating said forms relative to said channels, a space-collector between said forms and channels, a false bottom in said collector, and means operated by the selected space-value form for depressing said bottom, for the purpose set forth.

32. In a type-justifying machine, in combination, a line-channel having one side movable to permit a line to be moved transversely out of the channel, a galley-rule, means for operating said rule, means for connecting the movable wall of said line-channel to said galley-rule, and means for disconnecting said wall from said channel whereby the former is displaced by said rule, for the purpose set forth.

33. In a type-justifying machine, in combination with a type-line-lifting device, cut-off channel members, and means for transforming said members into a galley line-pusher, for the purpose set forth.

34. In a type-justifying machine, the combination with a type-line support, transversely-movable members forming a channel, and a longitudinally-movable member arranged to disengage one of said transversely-movable members and convert it into a longitudinally-movable member, for the purpose set forth.

35. In a type-justifying machine, in combination with a type-line support, word-cut-off channel members, means for collecting cut-off words therein to form a line, and means for transforming said members into a galley line-pusher.

36. In a type-justifying machine, in combination, transversely-movable arms carrying a channel-block and a channel-plate, respectively, and a longitudinally-movable rule adapted to be removed with said plate from the path of said block, for the purpose set forth.

37. In a type-justifying machine, in combination, transversely-movable arms carrying a block and a plate respectively, means for locking said plate in position to form a channel-wall with said block, a longitudinally-movable rule adapted to be removed from the path of said block, and means for unlocking said plate and removing it with said rule, for the purpose set forth.

38. In a type-justifying machine, in combination with a type-line-lifting device and a support for said line, an arm provided with a block, a second arm carrying a plate, means for locking the latter in position to form a channel with said block, a rule, means for unlocking said plate and removing it with said rule from the path of said block, and means for actuating said arms and moving said block over the path of said rule and plate, for the purpose set forth.

39. In a type-justifying machine, in combination with a receiving-galley having a receptacle for holding a package of leads, a reciprocating rule forming one end of said receptacle, a member or members in said receptacle arranged to force a lead from said package into contact with said rule whereby the former is conveyed into the type-line column, and a spring-actuated latch or latches interposed in the path of said lead whereby the same is prevented from returning into said receptacle, for the purpose set forth.

40. In a type-justifying machine, in combination with the remainder-computing device, a controller, and a difference-trip operated by said controller in accordance with the remainder, for the purpose set forth.

41. In a type-justifying machine, in combination with the space-counting device and the remainder-computing device, a clutch between the word-shaft and the line-shaft, a clutch-trip, a difference-trip, and two similar controllers for operating said trips in accordance with the operation of said devices, for the purpose set forth.

42. In a type-justifying machine, in combination, a computing-bar, a counting-bar connected to said computing-bar, a reciprocating controller-rod adapted to have its movement in one direction limited by the positions of said bars, and means for returning said rod to its starting-point, for the purpose set forth.

43. In a type-justifying machine, in combination, a computing-bar, a counting-bar connected to said computing-bar, a notched reciprocating controller-rod adapted to have its movement in one direction limited by the positions of said bars, and a lifting-bar and engaging members governed by a trip for returning said rod to its starting-point, for the purpose set forth.

44. In a type-justifying machine, in combination, a computing-bar, a counting-bar connected to said computing-bar, a notched controller-rod adapted to have its movement in one direction limited by the positions of said bars, a lifting-bar and engaging members governed by a trip for returning said controller-rod to its starting-point, an arm for depressing said rod, and a clutch-trip operated by said rod and coacting parts, for the purpose set forth.

45. In a type-justifying machine, in combination, a space-value locating-rod, a line-measuring rod provided with wedge-blocks, a wedge arranged to enter between said blocks, a reciprocating space-value controller-rod adapted to have its movement in one direction limited in accordance with the amount of separation of said blocks by said wedge, and means for returning said controller-rod to its starting-point, for the purpose set forth.

46. In a type-justifying machine, in combination, a space-value locating-rod, a line-measuring rod provided with wedge-blocks, a wedge arranged to enter between said blocks, a notched reciprocating space-value controller-rod adapted to have its movement in one direction limited in accordance with the amount of separation of said blocks by said wedge, and a lifting-bar and engaging members governed by a trip for returning said controller-rod to its starting-point, for the purpose set forth.

47. In a type-justifying machine, in combination, a space-value locating-rod, a line-measuring rod provided with wedge-blocks, a wedge arranged to enter between said blocks, a notched reciprocating controller-rod adapted to have its movement in one direction limited in accordance with the amount of separation of said blocks by said wedge, a line-lifting bar and engaging members governed by a trip for returning said controller-rod to its starting-point, an arm for depressing said controller-rod, and a trip arranged to operate said locating-rod by said controller-rod, for the purpose set forth.

48. In a type-justifying machine, in combination, a counting-bar, a controller-rod adapted to have its movement in one direction limited by the position of said bar, a line-measuring rod provided with wedge-blocks, a wedge arranged to enter between said blocks, a second controller-rod adapted to have its movement in one direction limited in accordance with the amount of separation of said blocks by said wedge, and means for returning said controller-rods to their starting-point, for the purpose set forth.

49. In a type-justifying machine, in combination, a counting-bar, a notched reciprocating controller-rod adapted to have its movement in one direction limited by the position of said bar, a line-measuring rod provided with wedge-blocks, a wedge adapted to enter between said blocks, a second controller-rod adapted to have its movement in one direction limited in accordance with the amount of separation of said blocks by said wedge, and a line-lifting bar and engaging members governed by a trip for returning said controller-rods to their starting-point, for the purpose set forth.

50. In a type-justifying machine, in combination, a series of space-channels, a plurality of rotating space-value forms, and means for adjusting said forms to the right and left of said channels, for the purpose set forth.

51. In a type-justifying machine, in combination, a series of space-channels, a plurality of rotating space-value forms, means for adjusting said forms to the right and left of said channels, and a reciprocating space-collector between said forms and channels, for the purpose set forth.

52. In a type-justifying machine, in combination with a series of space-channels, a plurality of space-value forms, a space-value-computing device for locating said forms relative to said channels, a space-collector between said forms and channels, a false bottom in said collector, means for depressing said bottom in accordance with the configuration of the selected form, and means for elevating said bottom again, for the purpose set forth.

53. In a type-justifying machine, in combination with a series of space-channels, a reciprocating space-collector in operative relation with said channels and a series of rotating space-value forms, for the purpose set forth.

54. In a type-justifying machine, in combination with a series of space-channels, a space-collector in operative relation with said channels, means for bringing said collector and channels into position for the transfer of spaces from the channels to the collector, a series of space-value forms, and means for positioning the forms after the spaces are collected from one channel to determine how many spaces shall be taken from the next channel.

55. In a type-justifying machine, in combination with a series of space-channels, a reciprocating space-collector provided with a movable bottom, in operative relation with said channels, and a series of rotating space-value forms for positioning said bottom, for the purpose set forth.

56. In a type-justifying machine, in combination with a series of space-channels, a space-collector provided with a false bottom, in operative relation with said channels, means for reciprocating said collector, and a series of space-channel forms for actuating said bottom movable after spaces are collected from one channel to position the bottom for taking spaces from the next channel.

57. In a type-justifying machine, in combination, a series of space-channels, a line-receiving channel, and a space-collector adapted to receive and convey space values from said space-channels to said line-channel and a series of rotating space-value forms, for the purpose set forth.

58. In a type-justifying machine, in combination, a series of space-channels, a line-receiving channel movable toward and from the space-channel, and a space-collector adapted to receive and convey space values from said space-channel to said line-channel, for the purpose set forth.

59. In a type-justifying machine, in combination, a series of space-channels, a line-receiving channel movable toward and from the space-channels, and a space-collector provided with a movable bottom adapted to receive space values from said space-channels and introduce them into said line-channel, for the purpose set forth.

60. In a type-justifying machine, in combination, a series of space-channels, a line-receiving channel, a space-collector provided with a false bottom, means for reciprocating said collector between said space-channels and said line-channel, and a series of rotating space-value forms for actuating said bottom for the reception of space values from said first-mentioned channels and for the introduction of the same into said line-channel, for the purpose set forth.

61. In a justifying mechanism, the combination with a computing device for computing justifying-space values from the shortage of the line and the number of intervals, of a series of forms controlled by said computing device for forming said space values.

62. In a justifying mechanism, the combination with a computing device for computing justifying-space values from the shortage of the line and the number of intervals, of a series of space-channels, and a series of forms controlled by said computing device for selecting spaces to make up said space values.

63. In a type-justifying mechanism, the combination with means for measuring a composed line of type and computing justifying-space values for the line, of a series of forms controlled by said computing means for forming said space values, and means for inserting said space values in the line.

64. In a type-justifying mechanism, the combination with means for measuring a composed line of type and computing justifying-space values for the line, of a series of forms controlled by said computing means for forming said space values.

65. The combination with a reciprocating word-collecting member, of means for giving said member a further movement to transfer the line.

66. The combination with a reciprocating word-collecting member, and means for inserting justifying-spaces, of means for giving said member a further movement to transfer the justified line.

67. The combination with a member having a movement for each word of a line, of means for giving said member a line movement for each line.

68. The combination with a member having a movement for each word of a line, of a power-shaft and positively-acting connections for giving said member a line movement for each line.

69. The combination with a continuously-rotating word-shaft, of a word-cam on said shaft, an intermittently-rotating line-shaft, and connections by which the word-cam is released from the word-shaft and actuated by the line-shaft to produce the line movement.

70. The combination with a continuously-rotating word-shaft, of word-movement devices actuated by said shaft, a line-shaft, and means for releasing the word-movement de-

vices from the word-shaft and operating them by the line-shaft for the line movement.

71. In a clutch for type-justifying machines, in combination, a double-grooved word-cam, a line-cam reciprocally mounted on the line-shaft, an idler driven by the word-shaft mechanism, a swinging arm operatively engaging said word-cam and adapted to actuate said line-cam into conjunction with said idler and to release the same, whereby power is intermittently transmitted from said word-shaft mechanism to said line-shaft, for the purpose set forth.

72. In a clutch for type-justifying machines, in combination, a double-grooved word-cam, a line-cam reciprocally mounted on the line-shaft, an idler driven by the word-shaft mechanism, a swinging arm, means for engaging one end of said arm with either of the grooves in said word-cam whereby the opposite end of said arm actuates said line-cam into conjunction with said idler and releases the same, and means to disengage said last-mentioned cam from said idler at the completion of the line-shaft revolution, for the purpose set forth.

73. In a clutch for type-justifying machines, in combination with a swinging arm adapted to engage and release a line-cam, a word-cam provided with two grooves, a cam on the periphery of said word-cam, a vibrating trip pivotally connected to said arm and arranged to actuate its roller from one of said grooves into the other when under the influence of said peripheral cam, and a projection for returning said roller to the first of said grooves, for the purpose set forth.

74. In a clutch for type-justifying machines, in combination, a swinging arm actuated by a word-cam and adapted to engage and release a line-cam, an idler driven by the word-shaft mechanism capable of imparting motion to said line-cam when the latter is forced into conjunction therewith by said arm, a post extending into the groove in said line-cam to hold the same in engagement with said idler during a part of its revolution, and a cam-spring on said line-cam arranged to bear on said post and actuate said last-mentioned cam out of engagement with said idler at the end of the line-shaft revolution, for the purpose set forth.

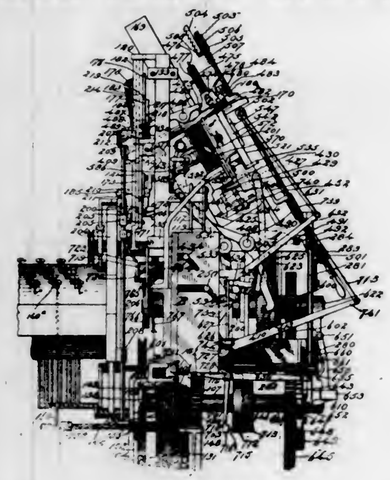
75. In a clutch for type-justifying machines, in combination, a toothed idler loose on the line-shaft and driven by the word-shaft mechanism, a grooved cam reciprocally mounted on said line-shaft capable of interlocking with said idler, means for connecting the interlocking members, a post extending into the groove in said cam to hold the same in engagement with said idler during a part of its revolution, and a cam-spring on said line-cam arranged to bear on said post and disconnect said members at the end of the line-shaft revolution, for the purpose set forth.

76. In a type-justifying machine, in combination, a feed-channel, a cut-off channel, a line-lifting blade operating in said feed-channel, means dependent upon the line-shaft for actuating said blade, other means dependent upon the word-shaft for actuating said blade, a ward or wards in said cut-off channel to check an advancing type-line on said blade, and a ratchet-sector and engaging pawl between said line and word actuated means, whereby said line is intermittently transferred from one of said channels into the other, for the purpose set forth.

77. In a type-justifying machine, in combination, a feed-channel, a cut-off channel, a line-lifting blade operating in said feed-channel, line-actuated positive means for returning said blade to its initial position, and word-actuated means dependent upon a ratchet-sector and a pawl for moving said blade from said initial position, for the purpose set forth.

78. In a type-justifying machine, in combination, a feed-channel, a cut-off channel, a line-lifting blade operating in said feed-channel, a ward or wards in said cut-off channel to check an advancing type-line on said blade, line-actuated positive means for returning said blade to its initial position, and word-actuated intermittent means dependent upon a ratchet-sector and a pawl for moving said blade and line from said initial position, for the purpose set forth.

844,564. TYPE-JUSTIFYING MACHINE. BENJAMIN M. DES JARDINS, West Hartford, Conn., assignor, by mesne assignments, to The Unitype Company, a Corporation of New Jersey. Filed Aug. 3, 1898. Serial No. 687,620.



Claim.—1. In a type-justifying machine, a word-space-counting device comprising a series of toothed bars or elements, and means for actuating the same in succession or rotation to represent the numbers of word-spaces in successive lines of type, for the purpose set forth.

2. In a type-justifying machine, a word-space-counting device comprising a rotatable drum, a series of toothed bars carried by said drum and having a reciprocating movement thereon, and means for setting said bars successively to represent the numbers of word-spaces in successive lines of type, for the purpose set forth.

3. In a type-justifying machine, a word-space-counting device comprising a series of toothed bars or elements, a carrier therefor, a space-key, and means for bringing said bars or elements successively under the influence of said space-key whereby said bars may be set in accordance with the numbers of word-spaces in successive lines of type, for the purpose set forth.

4. In a type-justifying machine, a word-space-counting device comprising a rotatable drum, a series of bars mounted to reciprocate on said drum, means for setting said bars successively in accordance with the numbers of word-spaces in successive lines of type, means for locking each bar temporarily after it is set and until it has been utilized in the justification of the line, and means for restoring said bar to its initial position, for the purpose set forth.

5. In a type-justifying machine, a word-space-counting device comprising a rotatable drum, means for rotating the same intermittently, a series of toothed bars mounted to slide in said drum, springs for moving said bars in one direction, a pawl operated by a space-key and adapted to move said toothed bars against said springs, and a locking-table arranged to engage the toothed bars successively and hold them against return to their initial positions until they have been used in the justifying operation.

6. In a type-justifying machine, computing devices comprising a bar or element which is adjustable for each line in accordance with the number of word-spaces therein, in combination with an intermittently-movable carrier, a series of bars arranged to slide on said carrier, a space-key and connections for setting said bars successively to represent the numbers of word-spaces in successive lines, and means for holding said bars in operative position temporarily and until they have served to actuate the computing device.

7. In a type-justifying machine, the combination of a vertically-arranged receiving-channel, a vertically-arranged measuring-channel capable of lateral movement, means for elevating a type-line from the receiving-channel into the measuring-channel, and means for moving the measuring-channel laterally to and from the receiving-channel, substantially as described.

8. In a type-justifying machine, the combination with a vertically-arranged receiving-channel, and a vertically-arranged measuring-channel capable of lateral movement, of a lifting-block having prongs adapted to enter the receiving-channel and elevate the type-line therein, means for raising said block, and means for moving the measuring-channel laterally to and from the receiving-channel.

9. In a type-justifying machine, the combination of a receiving-channel, a line-separator knock-off block movable laterally to and from the end of said receiving-channel, means for raising the line to bring the line-separator into engagement with said knock-off block, and means for moving said block laterally to remove the separator from the line.

10. In a type-justifying machine, the combination of a receiving-channel, a knock-off block movable into line with said channel and having a recess to receive the line-separator, means for moving the line yieldingly to bring the line-separator into engagement with said block, and means for moving said block laterally to remove the line-separator from the line.

11. In a type-justifying machine, the combination of the receiving-channel, the measuring-channel movable laterally into and out of alinement with said receiving-channel, and a knock-off block having a recess to receive a line-separator, said knock-off block being normally in line with the receiving-channel and said measuring-channel being arranged to engage and move said knock-off block as the measuring-channel is brought into alinement with the receiving-channel.

12. In a type-justifying machine, the combination with the receiving-channel, of a movable knock-off block having a recess to receive a line-separator, a spring operating to normally hold said recess in line with the receiving-channel, and means for vibrating the knock-off block to remove the line-separator from the line.

13. In a type-justifying machine, the combination of a receiving-channel, a knock-off block having a recess normally in line with said channel, means for moving the knock-off block laterally to the channel, a line-elevator and a cam and connections for operating said elevator, said cam having a yielding portion to compensate for different lengths of lines, substantially as described.

14. In a type-justifying machine, the combination of a line-measuring gage, spacing devices, and a measuring-channel adapted to hold a line of type, said channel being movable laterally between the measuring-gage and the spacing devices.

15. In a type-justifying machine, the combination of a receiving-channel, a laterally-movable measuring-channel, a line-measuring gage, means for transferring a line to the measuring-channel, means for operating the gage, and means for moving said measuring-channel to carry the line to the spacing devices after it is measured.

16. In a type-justifying machine, the combination of a receiving-channel, a line-measuring gage in line with said channel, a line-measuring channel movable laterally, spacing devices, and means for moving said measuring-channel laterally between the gage and the spacing devices.

17. In a type-justifying machine, in combination with the line-measuring device and the spacing devices, a line measuring and transferring channel arranged to swing in the arc of a circle between the measuring device and the spacing devices, substantially as described.

18. In a type-justifying machine, in combination with the line-measuring device and the spacing devices, a line measuring and transferring channel movable between the measuring device and the spacing devices, means for inserting a line therein in one direction, and means for discharging the line therefrom in the opposite direction.

19. In a type-justifying machine, a line measuring and transferring channel movable between the measuring devices and the spacing devices, a slide therein, means for moving the line into the channel against said slide, and a line-measuring gage arranged to contact with said slide to measure the line.

20. In a type-justifying machine, the combination of the line-measuring bar, the measuring-gage connected with said bar, the line-gage blade, and the wedge intermediate said bar and gage-blade, for the purpose set forth.

21. In a type-justifying machine, the combination of a line-measuring bar, a wedge-block rigidly connected therewith, a line-gage blade, a second wedge-block connected with said gage-blade, and a wedge movably arranged between said wedge-blocks, for the purpose set forth.

22. In a type-justifying machine, the combination of the line-measuring bar, the wedge-block carried by said bar, the line-gage blade, the wedge-block carried by said blade, a wedge, and means for driving said wedge yieldingly between said wedge-blocks.

23. In a type-justifying machine, the combination of the word-counting bar, the pivoted computing-bar, the line-measuring bar, the line-gage blade, the gage-block carried by said blade, the wedge-blocks connected respectively with the line-measuring bar and the blade, and a wedge adapted to be driven between said wedge-blocks, for the purpose set forth.

24. In a type-justifying machine, the combination of the line-measuring bar, the wedge-block carried thereby, a second wedge-block, a line-gage blade connected to said second block and both having a movement parallel with the movement of the line-measuring bar, and a wedge movably mounted between said wedge-blocks, for the purpose set forth.

25. In a type-justifying machine, the combination of the line-gage blade having notches or teeth in its edge, a gage-block arranged to ride on said blade, a pawl carried by the gage-block and arranged to interlock with the said teeth, the pivoted computing-bar, means for moving the gage-block into engagement with said computing-bar, means for returning said block until its pawl engages a tooth of the gage-blade, and a wedge arranged to be moved in proportion to said return movement of the pawl to measure the same, for the purpose set forth.

26. In a type-justifying machine, the combination with the computing-bar, of a line-gage blade, a gage-block mounted to slide thereon, and a locating-rod having a connection with said gage-block whereby the gage-block is moved laterally by said rod and permitted to move vertically with the gage-blade, for the purpose set forth.

27. In a type-justifying machine, the combination with the line-gage blade provided with a series of teeth, of a gage-block having a sliding movement thereon, a pawl on said gage-block adapted to engage said teeth, a pivoted computing-bar, a locating-rod having a connection with said gage-block, and means for moving said rod yieldingly to bring the gage-block into contact with the computing-bar and for returning the gage-block yieldingly until its pawl interlocks with a tooth of the gage-blade, substantially as described.

28. In a type-justifying machine, the combination of the line-gage blade, the gage-block mounted to slide on said blade, the locating-rod, and a pin-and-slot connection between said locating-rod and gage-block whereby the latter is moved longitudinally of the rod but free to move laterally thereof, for the purpose set forth.

29. In a type-justifying machine, the combination of the line-gage blade, the gage-block, means for moving the gage-block yieldingly in one direction, means for returning it yieldingly a limited distance in the opposite direction, and means for moving it positively during the balance of the return movement, for the purpose set forth.

30. In a type-justifying machine, the combination with a pivoted computing-bar, and a line-gage blade of a gage-block movable along said blade, means for moving said block yieldingly during its travel in one direction and during part of its return movement and means for moving said block positively during the remainder of its return movement, for the purpose set forth.

31. In a type-justifying machine, the combination of the computing-bar, the toothed line-gage blade, the gage-block

mounted thereon and provided with a dog adapted to engage said teeth, means for reciprocating the gage-block yieldingly in one direction until intercepted by the computing-bar, means for yieldingly returning said block until checked by said dog, and means for releasing the dog and returning said gage-block to its initial position, for the purpose specified.

32. In a type-justifying machine, the combination of a line-gage blade, a gage-block movable thereon, and a series of spring-actuated and cam-actuated members arranged to impart a yielding movement to said block in one direction, and a part yielding and a part positive movement in the opposite direction, for the purpose set forth.

33. In a type-justifying machine, the combination with relatively movable wedge-blocks of an intermediate wedge a spring-actuated member arranged to drive said wedge, and automatic means for returning said wedge to its normal position, for the purpose set forth.

34. In a type-justifying machine, the combination with relatively movable wedge-blocks, of a wedge movable between said blocks and a spring-actuated slide having a pin-and-slot connection with said wedge, for the purpose set forth.

35. In a type-justifying machine, the combination with relatively movable wedge-blocks, of an intermediate wedge, a spring-actuated slide connected to said wedge and arranged to advance the same, and a ratchet and pawls for returning said slide, for the purpose set forth.

36. In a type-justifying machine, the combination of spacing devices, means for setting the same to select a given size of space, and devices for resetting the same to select spaces of a different size, said devices comprising a wedge, a toothed member for driving the wedge, and pawls for returning the wedge, said pawls being actuated each time a justifying-space is inserted.

37. In a type-justifying machine, the combination of spacing devices, means for setting the same to select a given size of space, and devices for resetting the spacing devices to select spaces of a different size, said devices comprising an escapement, a wedge, means for moving the wedge forward and determining said forward movement by the measurement of the line, means for feeding said wedge backward as the spaces are inserted in the line, and connections whereby the return movement of the wedge trips said escapement at the proper time to reset the spacing devices.

38. In a type-justifying machine, the combination with the space-value locating-rod, the ratchet-bar connected thereto, and escapment devices for said ratchet-bar, of the means for tripping said escapement, comprising a wedge adapted to be driven forward in proportion to the remainder to be filled in a line, the feeding device for returning said wedge, and an arm for tripping said escapement during the return movement of the wedge, for the purpose set forth.

39. In a type-justifying machine, the combination of the sleeve 302, the wedge connected to said sleeve, the spring for moving the sleeve in one direction, the ratchet and pawls for moving said sleeve in the opposite direction, and the cam for throwing said pawls out of engagement at the proper time to permit the spring to drive the wedge.

40. In a type-justifying machine, the combination of the space-value locating-rod, the ratchet-bar on said rod, the escapement-pawls coöperating with said ratchet-bar, means for tripping said escapement during the process of spacing a line of type, and a cam for throwing said escapement-pawls out of engagement with the ratchet-bar at the proper time to permit the space-value locating-rod to be set, for the purpose set forth.

41. In a type-justifying machine, the combination of the space-value locating-rod, the ratchet-bar connected therewith, the escape-pawls coöperating with said ratchet-bar, the arm 450 connected to said locating-rod, means for throwing said pawls out of engagement and moving said rod yieldingly forward, and means interposed in the path of said arm to stop the locating-rod in proper position to begin the spacing of a line, said locating-rod being connected to the spacing devices.

42. In a type-justifying machine, means for tripping one or more devices, comprising a plate having cam projections, and means for imparting a combined reciprocating and oscillating movement to said plate.

43. In a type-justifying machine, in combination with a plurality of tripping devices, a cam-plate having a plurality of cam projections, means for reciprocating said plate, and means for directing said plate in different paths during its going and return movement whereby the cams are only operative during their movement in one direction.

44. In a type-justifying machine, the combination of a word-space-registering device, a counting-bar adapted to be adjusted by contact with said device, and a pivoted computing-bar having its free end in engagement with said counting-bar, said computing-bar being adapted to denote by its angle the number of spaces in the line, for the purpose set forth.

45. In a type-justifying machine, the combination of a word-space-registering device, a counting-bar adapted to be adjusted by contact with said device, a computing-bar swinging upon a fixed center and having its free end in engagement with said counting-bar, said computing-bar denoting by its angle the number of word-spaces in the line, a series of teeth on said counting-bar, and a dog arranged to engage said teeth to lock the bar after it has been adjusted for the justification of a line, for the purpose set forth.

46. In a type-justifying machine, the combination of the word-counting devices, the counting-bar adapted to be set by said devices, a pivoted computing-bar having its free end in engagement with the counting-bar, the dog for locking said bar, and a cam-plate arranged to act on said dog and effect the locking of the bar while the spacing devices are being set, for the purpose set forth.

47. In a type-justifying machine, the computing-bar having a swinging movement about a fixed center, a counting-bar having engagement with the free end of the computing-bar, a series of teeth on said counting-bar, a locking-dog coöperating therewith, a second series of teeth on said bar, feed-pawls coöperating therewith, means for disengaging said pawls and dog to permit said counting-bar to move into engagement with the word-spacing devices, and means for reëngaging said pawls and operating the same to restore the same to its initial position, for the purpose set forth.

48. In a type-justifying machine, the combination of a reciprocating counting-bar adapted to be set by the word-counting devices, feeding mechanism for restoring said bar to its initial position step by step as the word-spaces are inserted in a line, and a clutch-controlling device constructed and arranged to be operated by said bar as it rises to its initial position to throw the line mechanism into action, for the purpose set forth.

49. In a type-justifying machine, the combination of a counting-bar, means for moving said bar in one direction a distance proportional to the number of word-spacers in the line under justification, means for returning said bar step by step as justifying-spaces are inserted in the line, and a line-mechanism-starting device operated by said counting-bar, for the purpose set forth.

50. In a type-justifying machine, a power-shaft, a word-handling mechanism, a starting-key for throwing the word-handling mechanism into operation, a line-handling mechanism operated by a clutch from the word-handling mechanism, a space-counting bar controlling said clutch, and means operated by the line-handling mechanism for throwing both mechanisms out of action after the justification of a line, for the purpose set forth.

51. In type-justifying machine, the combination of two alining channels each capable of holding a line of type, a slide in one of said channels, and a reciprocating ratchet-bar operating on said slide and tending to move it intermittently to feed the line word by word into the other channel, for the purpose set forth.

52. In a type-justifying machine, the combination of a line-transferring channel, a slide in said channel provided with a yielding hook or pawl, a second channel adapted to aline with said transferring-channel, and a reciprocating ratchet-bar adapted to engage said hook and actuate the type-line intermittently from one channel into the other.

53. In a type-justifying machine, the combination of a line-transferring channel having a lateral movement, a word-cut-off channel also having a lateral movement and adapted in one position to aline with the transferring-channel, means for actuating a line of type from the transferring-channel to the word-cut-off channel intermittently, means for intercepting and ejecting the word-separators whereby they are prevented from passing into the cut-off channel, and means for introducing justifying-spaces into the cut-off channel in lieu of said separator.

54. In a type-justifying machine, the combination of a line-receiving channel, a word-cut-off channel, a line-transferring channel movable laterally and adapted to register with the receiving-channel and the cut-off channel at the extremes of its movement, for the purpose set forth.

55. In a type-justifying machine, the combination of a line-receiving channel, a laterally-movable word-cut-off channel, a laterally-movable transferring-channel, means for transferring the line of type to said latter channel from the receiving-channel, means for measuring the line in the transfer-channel, and means for bringing the transfer-channel and the word-cut-off channel into alinement periodically, for the purpose set forth.

56. In a type-justifying machine, the combination with the receiving-channel, and the word-cut-off channel, of the laterally-movable line-transferring channel, and a curved track or floor for supporting the line in said latter channel during its movement.

57. In a type-justifying machine, the combination of a plurality of space-channels, means for ejecting spaces therefrom, a plurality of forms for governing the selection of spaces, automatic means for adjusting said forms to select part of the justifying-spaces for a line, and means for automatically readjusting said forms to select the balance of the spaces for the line, whereby a line of type may be automatically justified with a limited number of space values.

58. In a type-justifying machine, the combination of the space-magazine, the space-ejectors, the movable forms for controlling the selection of justifying-spaces, a space-selecting rack for adjusting said forms, means for setting said rack to select part of the justifying-spaces for a line, and means for resetting said rack to select the balance of the spaces.

59. In a type-justifying machine, the combination of a space-reservoir having a plurality of channels, a space-ejector for each channel, a plurality of selecting-forms arranged to determine by their position the selection of spaces from the several channels, a space-selecting rack for determining the adjustment of said forms, and means for automatically readjusting said rack and forms during the operation of spacing of a line of type, for the purpose set forth.

60. In a type-justifying machine, the combination with the space-magazine having a plurality of channels, a plurality of space-ejectors at the lower ends of said channels, a corresponding plurality of selecting-forms arranged to sustain the spaces in the channels and by their elevation to determine the number of spaces to be ejected from each channel, and automatic means for adjusting said forms to select justifying-spaces for a line of type.

61. In a type-justifying machine, the combination with a space-magazine having a plurality of channels, of a series of space-ejecting blades on a common slide, and a series of independently-movable forms having parts adjacent to the ejecting-blades and adapted to sustain the spaces in the channels, said forms being relatively adjustable to determine the number and size of spaces which may be discharged by the ejectors.

62. In a type-justifying machine, the combination with the space-selecting rack having suitable elevations and depressions, and automatic means for setting said rack for the selection of justifying-spaces, of a series of space-selecting forms, and automatic means, operating for each word interval in a line, for raising the forms to a common elevation and lowering said forms for relative adjustment upon the rack.

63. In a type-justifying machine, the combination with the space-magazine, and the ejectors, of a series of space-selecting forms, a space-selecting rack, automatic means for setting said rack for the selection of justifying-spaces, springs for independently pressing said forms into engagement with the rack, and automatic means, operating for each word interval in a line, for raising said forms periodically to a common level.

64. In a type-justifying machine, the combination with a space-magazine having a plurality of channels, of means for ejecting spaces from one or more of said channels simultaneously, and a space-collector comprising a series of movable plates arranged to convey the spaces from the several channels to a common point.

65. In a type-justifying machine, the combination with the magazine having a plurality of channels, of a space-collector comprising a plurality of plates each having an opening to receive a space or spaces, means for bringing said openings respectively to register with the several space-channels in the magazine, and means for subsequently causing said openings to register with each other to collect the selected spaces.

66. In a type-justifying machine, the space-collector comprising a series of plates each having an opening to receive a space or spaces and a cam-slot to govern its movement, a common pin passing through the cam-slots, and means for moving the pin to operate the plates.

67. In a type-justifying machine, the combination with the space-magazine having a series of channels, of a space-collector comprising a movable carriage, a series of collecting-plates upon said carriage, means for reciprocating the carriage, and means for moving the plates relatively to each other, whereby the space-receiving portions of said plates are alternately brought to register with the magazine-channels and with each other, for the purpose set forth.

68. In a type-justifying machine, the combination with the magazine having a plurality of channels, of a space-collector comprising a carriage reciprocating upon a table, a series of plates upon said carriage and each provided with a cam-slot and a space-receiving portion, a vibrating arm carried by said carriage, a cam-slot in said sustaining-table, and a pin carried by said arm and extending through the cam-slots in the several collecting-plates and the table.

69. In a type-justifying machine, the combination with the word-cut-off channel, of a space-magazine having a plurality of channels, and a space-collecting device comprising a series of plates adapted to simultaneously convey spaces from the several space-channels into registering position with the word-cut-off channel.

70. In a type-justifying machine, the combination with the word-cut-off channel, and the space-magazine having a plurality of channels, of a space-collector constructed and arranged to convey a plurality of spaces simultaneously from the space-channel into registering position with the word-cut-off channel, and a plunger for moving said spaces into the word-cut-off channel.

71. In a type-justifying machine, the combination with automatic devices for measuring an unjustified line and counting the word-spaces therein, of a space-magazine having a plurality of channels, a series of selecting-forms for determining the spaces to be ejected from the magazine, a space-selecting rack for determining the adjustment of said forms, and connections between said rack and the automatic counting and measuring devices, for the purpose set forth.

72. In a type-justifying machine, the combination with a space-magazine having a plurality of channels, of a space-ejecting plunger reciprocating at the bottom of each channel, and selecting-forms vertically movable beneath the magazine and having parts adjacent to the plungers and adapted to support the spaces in the channels when the plungers are withdrawn, the positions of said forms determining the numbers of spaces ejected by each forward movement of the plungers.

73. In a type-justifying machine, the combination with a space-magazine having a plurality of channels, of a plurality of vertically-adjustable, independently-movable, selecting-forms beneath the channels, each form having a slotted end supporting the spaces in a channel, and an

ejecting-plunger for each channel arranged to reciprocate the slot of the corresponding form, for the purpose set forth.

74. In a type-justifying machine, the combination with the space-magazine, of the space-ejectors, an independent selecting-form movable vertically beneath each channel of the magazine, means for operating said forms to select spaces for a line, and automatic means for rendering said forms inoperative to prevent the discharge of spaces from the magazine while the line is being transferred to a galley.

75. In a type-justifying machine, the combination with the line-transferring and word-cut-off channels, of a space-magazine, space-ejectors, a reciprocating carriage provided with space-collecting devices, and a word-separator knock-out plate carried by said carriage and reciprocating between the transferring and cut-off channels, for the purpose set forth.

76. In a type-justifying machine, the combination of a laterally-movable word-cut-off channel, the space-collector comprising a series of independently-movable plates having space-receiving slots, means for bringing said slots to register with each other and with the cut-off channel, and a plunger arranged to transfer the spaces from said slots into the cut-off channel.

77. In a type-justifying machine, the combination with line-measuring and word-space-counting devices of a cam having two grooves therein, an arm having a roller adapted to travel in either of said grooves, a switch-block normally closing one of said grooves against said roller, and means for shifting said block and throwing said roller into the other groove, for the purpose set forth.

78. In a type-justifying machine, the combination with line-measuring and word-space-counting devices of a cam having two grooves therein, one adapted for line movements and the other for word movements, an arm provided with a roller adapted to travel in either of said grooves, a switch-block normally closing the entrance to the line-operating groove, and means for changing the position of said block and throwing said roller into the line-operating groove upon the completion of the spacing of a line.

79. In a type-justifying machine, the combination of a cam having two grooves therein, an arm provided with a roller adapted to travel in either of said grooves, a switch-block normally closing the entrance to one of said grooves against said roller, a cam-plate normally retained out of the path of said block, and a cam operated by the line mechanism of the machine for controlling said cam-plate, for the purposes set forth.

80. In a type-justifying machine, the combination of a reciprocating carrier, a block forming one wall of a type-channel and having a pin-and-slot connection with said carrier, a plate forming the other wall of the channel and having a reciprocating movement on said carrier by means of which it may be withdrawn out of the path of the block, a galley, a reciprocating galley-rule normally closing the mouth of the galley, and means for withdrawing said plate and a galley-rule simultaneously to permit the line to be shifted from the channel into the galley.

81. In a type-justifying machine, the combination with the galley and the reciprocating galley-rule normally closing the mouth of the galley, of a laterally-movable channel, a reciprocating plate forming one side of said channel, means for withdrawing said plate and rule simultaneously, a block forming the other side of said channel, and means for advancing said block when the plates are withdrawn to transfer a type-line to the galley.

82. In a type-justifying machine, the combination of the galley, the galley-closing rule provided with an interlocking pin, the cam and connections for withdrawing said rule and permitting a line to enter the galley, and the laterally-movable channel having for one side a reciprocating plate adapted to interlock with the pin on the galley-rule, for the purpose set forth.

83. In a type-justifying machine, a laterally-movable word-cut-off channel, means for inserting type-words and justifying-spaces alternately into said channel to form a justified line, a friction-block movable in said channel by the advancing type-line, means for removing the type from the line to a galley, and means for returning said friction-block to its initial position.

84. In a type-justifying machine, the combination with the space-selecting rack having suitable elevations and depressions, of a magazine having a series of space-channels, a series of space-selecting forms, one for each space-channel, and automatic means for setting said rack and forms for the selection of justifying-spaces from said space-channels to justify a line of type, said means being governed by the line shortage and the number of intervals.

85. In a type-justifying machine, the combination with a space-selecting rack having suitable elevations and depressions, of a series of space-selecting forms, means for raising and lowering the forms to reset the same for each interval in a line of type, and automatic means for adjusting the selecting-rack, said means being controlled in accordance with the line shortage and the number of intervals.

86. A type-separator having a body equal in length to the height of the type and a pair of prongs extending beyond the body at each end.

87. In a type-justifying machine, the combination with a line of type, of word-separators having forked ends projecting beyond the type, for the purpose set forth.

88. The combination with a type-channel having aligning ribs or blades, of a line of type provided with word-separators having forked ends arranged to embrace said ribs or blades, whereby the type may be alined when provided with projecting separators.

89. In a type-justifying machine, a line-transferring channel rotatable about an axis which is not parallel with the channel whereby the direction of the line is changed as the channel is rotated.

90. In a type-justifying machine, the combination of a line-transfer channel rotatable about an axis which is not parallel with said channel, and two channels out of parallel with each other with which said line-channel may be made to register.

91. In a type-justifying machine, a line-transferring channel, in combination with a stud upon which said channel rotates, said line-channel and stud being at an angle to each other whereby the line-channel is made to assume different planes in its different positions, for the purpose set forth.

92. In a type-justifying machine, the combination with a vertical line-channel, and an inclined justifying-channel, of a transfer-channel adapted to carry lines from the line-channel to the justifying-channel, said transfer-channel being movable about an inclined axis whereby it is made to aline alternately with the line-channel and the justifying-channel.

93. In an organized machine for setting and justifying a line of type, means for setting the type into words, a space-key for inserting a false space between the words, means for ascertaining the total difference between the length of a set line and a standard line, means for dividing said difference by the number of word-spaces in the line, a space-determining device for supplying the line to be justified with true spaces, connections between said device and said dividing means whereby said device is primarily set for each line to be justified, combined with means controlled by the depression of the space-key during the setting of said line for moving said device from the position in which it is so set to cause it to determine the proper combination of spaces to justify the line.

94. In a machine for justifying type, the combination of a mechanism for selecting a series of spaces of equal or different sizes for the purpose of justification, an averaging mechanism in operative relation to the space-selecting mechanism and mechanism for setting said averaging mechanism during the composition of any line so that it will cause said selecting mechanism to select spaces of the same or varying sizes as may be necessary to justify said line.

95. In a machine for setting and justifying type, an averaging mechanism for determining what proportion of the total number of spaces necessary in any line shall be of one size and what proportion of the next size in order to properly justify the line, a space-key, and connections between said averaging mechanism and said space-key, whereby said averaging mechanism is set by the depression of the space-key.

96. In a type setting and justifying machine, a space-registering device, which consists of the combination of a line of shafting suitably mounted and connected by crank-arms and levers to convey a rocking movement, means to rock said line of shafting by the operation of the space-setting mechanism of the type-setting machine, and means operated by the rocking of said line of shafting to register in the controlling mechanisms of the justifier one unit of movement with each operation of the space-setting mechanism.

97. In an organized machine for setting and justifying a line of type, means for setting the type into words, a space-key, a space-registering device controlled by the space-key, means for ascertaining the difference between the length of a set line and a standard line, means for dividing said difference by the number of word-spaces in the line, a justifying-space-determining device, and connections between said device and said dividing means whereby said device is set for each line to be justified, combined with means controlled by the depression of the space-key during the setting of said line for moving said device from the position in which it is so set to cause it to determine the proper combination of spaces to justify the line.

98. In an organized machine for setting and justifying a line of type, means for setting the type into words, a space-key, a space-registering device controlled by the space-key during the setting of the line, means for ascertaining the difference between the length of a set line and a standard line, means for dividing said difference by the number of word-spaces in the line, a justifying-space-determining device, and connections between said device and said dividing means whereby said device is set for each line to be justified.

99. In an organized machine for setting and justfying a line of type, means for setting the type into words, a space-key for inserting a false space between the words, a space-registering device controlled by the space-key during the setting of the line, means for ascertaining the difference between the length of a set line and a standard line, means for dividing said difference by the number of word-spaces in the line, a justifying-space-determining device, and connections between said device and said dividing means whereby said device is set for each line to be justified.

100. In a justifying mechanism, a word-space-counting device comprising a plurality of bars or elements, and means for actuating the same in succession to represent the number of word-spaces in successive lines of type.

101. In a justifying mechanism, a word-space-counting device comprising a rotatable drum, a plurality of bars or elements carried by said drum and having a reciprocating movement thereon, and means for setting said bars or elements successively to represent the numbers of word-spaces in successive lines of type.

102. In a justifying mechanism, a word-space-counting device comprising a plurality of bars or elements, a carrier therefor, and means for moving said carrier to bring said bars or elements successively into position and for actuating said bars or elements successively for different lines of type.

103. In a justifying mechanism, a word-space-counting device comprising a plurality of bars or elements, a carrier therefor, a space-key, and means for bringing said bars or elements successively under the influence of said space-key whereby said bars may be set in accordance with the numbers of word-spaces in successive lines of type.

104. In a justifying mechanism, a word-space-counting device comprising a plurality of bars or elements, devices for setting said elements, devices for applying them in justification, and means for moving said elements successively between said devices.

105. In a justifying mechanism, the combination of a channel in which the type and separators are assembled, a counting device including a toothed bar, and means for adjusting the toothed bar each time a separator is selected.

106. In a type setting and justifying machine, means for assembling a line of type and word-separators, in combination with a separator-counting toothed bar and means for moving said toothed bar step by step as the separators are inserted in a line.

107. In a type setting and justifying machine, the combination with means for assembling a line of type and separators, of a separator-counting toothed bar, means for moving said toothed bar step by step as the separators are assembled in a line, and means for measuring the line including the separators.

108. In a type setting and justifying machine, means for assembling a line of type and word-separators, in combination with a separator-counting toothed bar, a moving pawl for said toothed bar, a holding-pawl, means for operating the moving pawl to feed the toothed bar forward as each separator is assembled in line, and means for throwing said pawls out of engagement and automatically returning the toothed bar to its initial position after each line is assembled.

109. In a type-justifying machine, the combination of a pivoted computing-bar, a slide connected with said bar, a word-counting bar, means for moving said slide to set the computing-bar, and means whereby the position of the word-counting bar limits the movement of said slide.

110. In a type setting and justifying machine, in combination, a vertically-arranged assembling-channel, means for assembling a line of type in said channel, and a movable foot adapted to engage the lowest type and raise the line into position to be measured.

111. In a type setting and justifying machine, in combination, a vertically-arranged assembling-channel, means for assembling a line of type in said channel, a foot or support movable into position below the line and adapted to support said line while being measured, and measuring devices arranged to engage the upper end of the line.

112. In a type setting and justifying machine, in combination, a vertically-arranged assembling-channel, and means for assembling a line of type therein, a sliding block adapted to be raised by the increasing line as the type are assembled, and measuring devices arranged to engage said block and measure the line under justification.

113. In a type-justifying machine, in combination, a line-holding channel, a measuring-slide, means for moving said slide, and means controlled by the length of the line for stopping the movement of said slide in position to indicate the measurement of the line.

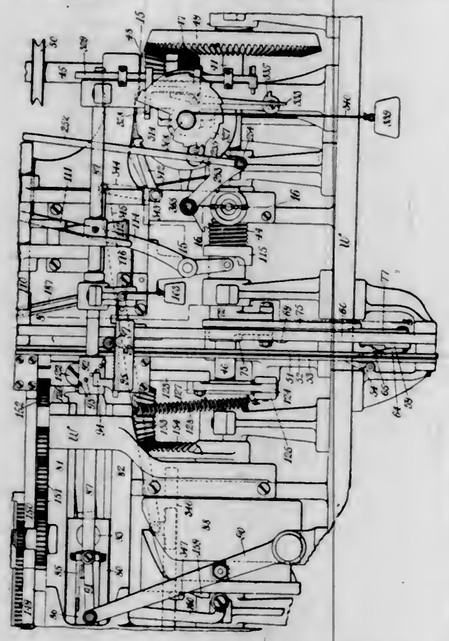
114. In a type setting and justifying machine, the combination with means for assembling a line and computing the normal justifying-spaces for a line, of difference devices for distributing the remainder including an inclined gage for dividing the remainder by the difference between the sizes of spaces used in the machine, means for moving said gage to divide the remainder, and space-determining devices controlled by said gage.

115. In a type setting and justifying machine, the combination with means for assembling a line and computing the normal justifying-spaces therefor, of difference devices for distributing the remainder having a member movable in proportion to the remainder divided by the difference between the sizes of spaces used in the machine, means for moving said member to divide the remainder, and space-determining devices controlled by said member.

116. In a type setting and justifying machine, the combination with means for measuring a line, an interval-registering device set by the space-key, and a computing device for computing justifying-space values from the line shortage and the number of intervals, of a series of forms controlled by said computing device for forming or selecting said space values.

117. In a type setting and justifying machine, the combination with means for measuring a line, an interval-registering device set by the space-key, and a computing device for computing justifying-space values from the line shortage and the number of intervals, of a series of forms controlled by said computing device for forming or selecting said space values, and means for inserting said space values in the line.

844,565. TYPE-JUSTIFYING MACHINE. WALTER J. ENNISSON, Hartford, Conn., assignor to Thorne Type Setting Machine Company, a Corporation of New Jersey. Filed Aug. 3, 1898. Serial No. 687,639.



Claim.—1. A line-carrying device, consisting of two detachably-connected sections, with means for detaching the connection at a suitable or desired point in their line-carrying movement, whereby one section may continue without the other.

2. A line-advancing device made in two sections with a detachable connection, means for moving one of the sections through its desired stroke, and means for detaching the connection at a desired point in its movement, whereby the detached section is released from further movement.

3. A line-elevating device made in two sections detachably connected, each section being provided with means for engaging a separate line of type, means for moving one of the sections through the longest stroke required for its line of type, and means for detaching the other section when its line arrives at its desired position.

4. In combination with a type-containing channel, a line-elevating device located adjacent thereto and fitted to travel substantially parallel therewith, consisting of two detachably-connected sections, each provided with devices for engaging with the type in the channel, means for moving one of the sections through the longest stroke required for the line of type carried by it, and means for detaching the other section therefrom when its line of type arrives at its desired position.

5. In combination with a type-containing channel, an advancing device for the type-lines thereof, consisting of two detachably-connected line-grabs fitted to slide adjacent to and substantially parallel with the type-channel, each grab being provided with type-engaging devices, a crank operatively connected with one of the grabs, for moving it through a reciprocating stroke of an extent required by its line, and means for disengaging the other grab therefrom when its line arrives at its desired position.

6. In combination with a type-containing channel provided with the desired measuring zone, a line-elevating device for advancing the succeeding lines of type into and out of that measuring zone, consisting of two detachably-connected line-grabs, provided with pawls for engaging with their respective succeeding lines of type, a crank connected with the lower or rearmost grab and imparting to it a reciprocating stroke extending from the measuring zone rearwardly along the channel to the point at which it receives its lines of type, with means for detaching the upper or foremost grab when its line of type is carried out of the measuring zone, whereby the foremost grab is enabled to return to its rearward position while the other grab is completing its more extended stroke.

7. In a type-justifying machine, in combination with the type-containing channel thereof, having the described measuring zone, a line-elevating device, consisting of two detachably-connected line-grabs, each provided with pawls for engaging with their respective succeeding lines of type, a crank attached to an intermittently-rotating line-shaft and operatively connected with the lowermost or rearward grab, and imparting thereto a reciprocating movement extending from the measuring zone rearwardly along the type-channel to the position at which it receives its succeeding type-lines, the foremost grab being moved by the following grab far enough to carry its line of type out of the measuring zone, with means for releasing it from the following grab when its desired stroke is completed, the crank being so located upon the line-shaft as to hold a line of type immediately below the measuring zone during each intermission in the rotation of the line-shaft in readiness to be immediately carried into the measuring zone at the commencement of the next rotation.

8. In combination with the line mechanism of a machine of the class specified, comprising all the devices which must be set to positions varying in accordance with the number of spaces in the line to be justified, a universal setting-shaft operable by the separators, and operatively connected with each of the stops for the aforesaid devices, whereby the latter are all set simultaneously to their respective positions for that line.

9. In combination with line mechanism comprising the described devices which must be varied in position in accordance with the number of words in each line to be justified, a setting-stop for each of said devices, and a universal setting-shaft operatively connected with each setting-stop and operable by the passing separators of the current line, with means for returning the setting-shaft to its initial position before the completion of the current line, to allow it to be set by the succeeding line.

10. In combination with line mechanism comprising the described devices which must be varied in position in accordance with the number of words in each line to be justified, a setting-stop for each of said devices, and a universal setting-shaft operatively connected with each setting-stop and operable by the passing separators of the current line, with means, operable with the line-shaft, for positively returning the setting-shaft to its first position before the completion of the current line.

11. In combination with a type-channel adapted to guide a line of type and its endwise-projecting separators, a shaft journaled transversely to the channel, with its axis substantially parallel with the longitudinal position of the type thereof, a pair of ratchets attached to or integral with the shaft, located upon opposite edges of the channel with their teeth projecting into the path of movement of the projecting separators, whereby the ratchet-shaft is positively and equally actuated by the opposite ends of the separators.

12. The combination of a type-containing channel adapted to guide character type in alinement, and having openings in its end walls for the passage of projecting type-separators, a shaft 97 journaled adjacent to the channel, and substantially parallel with the type and separators therein, the ratchets 98 and 99 fixed to or integral with the shaft, and located upon opposite ends of the channel with their teeth projecting into the path of movement of the ends of the type-separators, for the purpose specified.

13. An index for the rotative position of the setting-shaft, consisting of a collar attached to or integral with the shaft, and provided with the series of indexing pins or projections arranged spirally upon the collar and substantially radial thereto, and a stop fitted to move parallel with the axis of the shaft, in engaging relation to the index-pins.

14. In combination with the setting-shaft, provided with spirally-arranged index-pins, a stop fitted to move substantially parallel with the shaft so as to engage with the successive pins of the spiral series, and means as a spring, for rotating the shaft so as to bring the successive pins of the spiral series into engagement with the stop as the latter is moved.

15. A setting-shaft, provided with a spiral series of indexing pins or projections, a stop located in engaging relation to the pins and movable longitudinally of the shaft so as to bring the stop successively beneath the pins of the spiral series, a type-channel for guiding a line of type and its separators, and means operable by each passing separator to move the stop longitudinally of the shaft to an extent equaling the longitudinal separation of the index-pins.

16. A setting-shaft, provided with a spiral series of indexing pins or projections, a stop located in engaging relation to the pins and movable longitudinally of the shaft so as to bring the stop successively beneath the pins of the spiral series, a type-channel for guiding a line of type and its separators, means operable by each passing separator to move the stop longitudinally of the shaft to an extent equaling the longitudinal separation of the index-pins, and means, as a spring, for rotating the shaft so as to bring each succeeding pin against the stop as the latter is moved from beneath the preceding pin.

17. In combination with a setting-shaft, provided with spirally-arranged index pins or projections, a stop located in engaging relation to the pin, and movable longitudinally of the shaft, a type-channel for guiding a line of type and its separators, a shaft mounted adjacent to the channel and having thereon a ratchet with teeth which project into the path of movement of the separators, the shaft having also fixed thereon a pinion engaging with the rack-teeth upon the stop, whereby each passing separator operates to move the stop longitudinally of the shaft to an extent equaling the longitudinal pitch of the index-pins.

18. A setting-shaft provided with a spirally-arranged series of indexing pins or projections, a stop located in engaging relation to the pins and movable longitudinally of the shaft, the pin-engaging surface of the stop being of a length exceeding the longitudinal pitch of the index-pins, whereby the stop remains in engagement with the first index-pin during a plurality of its actuations.

19. In a line-measuring device, a movable jaw provided with steps adapted to compensate for and eliminate from the resultant measurement the extraneous matter contained in the line, a spiral cam operatively connected with the movable jaw, and operable by the extraneous matter, for moving into engaging relation to the line the proper step of the jaw.

20. In the line-measuring mechanism of a type-justifying machine, a movable jaw provided with steps, each corresponding in height to the thickness of the separators contained in the line, a setting-shaft operable by each of the special separators, and a spiral cam operable with the setting-shaft, engaging with the movable jaw, and moving into engaging relation to the line the step thereof which is suitably related to the number of separators contained in each line.

21. In a type-justifying machine, the combination of a measuring-beam, a setting-gage, a single fulcrum-piece for pivotally supporting the beam, and movable longitudinally thereof to different positions relative thereto, and a stop for the setting-gage operatively connected with one end of the beam, and mounted to move in tangential relation thereto.

22. In a type-justifying machine, the combination of a measuring-beam, a fulcrum for pivotally supporting the beam, and movable longitudinally thereof to different positions relative thereto, a setting-gage stop connected with one end of the beam and mounted to move in tangential relation thereto.

23. In a justifying device, the combination of a gage for determining the widths of justifying-spaces, a lever having one end operating on the gage, a device arranged to measure the line and to operate upon the other end of the lever, and means for applying different fulcrums to said lever, depending upon the number of spaces in the line, substantially as described.

24. In a justifying device a measuring-beam and means for supporting the beam at different fulcrum-points, in accordance with the number of spaces in the lines to be justified.

25. In a justifying device the combination of a measuring-beam and means for supporting the beam at different fulcrum-points located at fractional portions of the full length of the beam in accordance with the fractional subdivisions into which the shortage of the line is to be divided.

26. In a justifying device the combination of means for determining the widths of justifying-spaces, a beam having one end operatively connected with the width-determining means, a device for measuring the composed line of type and operating upon the other end of the beam, and means of supporting the beam at the different fulcrum-points in accordance with the number of spaces in the line to be justified.

27. In a justifying device, the combination of a measuring-beam, means for supporting the beam at different fulcrum-points, and a rotatable shaft provided with a spirally-arranged series of indexing-stops for determining the required fulcrum-point for each line in accordance with the word-spaces thereof.

28. In a justifying device, the combination of a measuring-beam, means for supporting the beam at different fulcrum-points, a rotatable shaft provided with a spirally-arranged series of indexing-stops for determining the required fulcrum-point, and means for setting the indexing-stops in accordance with the number of word-spaces in the line to be justified.

29. The combination with ways, of devices for measuring a line of type for justification consisting of an abutment movable in a plane transverse to the ways and arranged to be temporarily interposed in the path of said type, a sliding head movable in the direction of the ways and adapted to compact the type against said abutment, means for forcibly pressing the head against the line, and means for interposing the abutment before and for withdrawing the abutment after the line has been measured, substantially as described.

30. In a type-justifying mechanism, the combination with ways and means for feeding a line of type and temporary spaces along said ways, of devices reciprocating longitudinally of the ways for parting the line at each temporary space, and means for inserting a justifying-space into the opening formed in the line, substantially as described.

31. In a type-justifying mechanism, the combination with ways and means for feeding a line of type and temporary spaces along said ways, of a device reciprocating longitudinally of the ways arranged to engage and move each temporary space, thus parting the line, means for ejecting said space from the line, and means for inserting justifying-spaces into the opening formed in the line, substantially as described.

32. In combination with measuring devices, a stop operable therewith, and a setting-gage coengaging with the stop by means of surfaces which are disposed upon the stop and the gage in diverging V-shaped relation to their respective directions of movement.

33. In combination with a movable stop, a setting-gage movable transversely thereto, and having a gaging-surface disposed in a plane which is inclined both longitudinally and transversely to a plane common to the respective directions of movement of the gage and its stop.

34. A setting-gage having gaging-surfaces which are inclined to each other both longitudinally and transversely with relation to its plane of movement.

35. In combination with the measuring devices, a longitudinally-movable setting-gage, having oppositely-disposed gaging-surfaces which are inclined to each other in substantially a V-shaped form in transverse section, and which also diverge longitudinally of the setting-gage.

36. In combination with the measuring devices, a longitudinally-movable setting-gage, having oppositely-disposed gaging-surfaces which are inclined to each other in substantially a V-shaped form in transverse section, and which diverge symmetrically with relation to the direction of movement of the gage.

37. In a type-justifying machine, in combination with the measuring devices thereof, a selector-setting gage therefor, means for moving the setting-gage to the extent determined by the measuring operation, and means for returning the setting-gage to its first position immediately thereafter to permit of an immediately-succeeding operation of the measuring devices.

38. In combination with line-measuring devices, a stop operable therewith, provided with a stopping or gaging surface, inclined to the direction of its movement, and a selector-setting gage movable transversely to the direction of movement of the stop and engaging with the said inclined surface thereof.

39. In a type-justifying machine, in combination with the selector-setting mechanism, and the line-measuring devices, a setting-gage for the selector-setting mechanism, and a stop operable with the measuring devices, the coengaging surfaces of the setting-gage and the stop being inclined to their respective directions of movement, whereby the gage is set to positions having a constant relation to the measured shortage of the lines.

40. In combination with line-measuring devices, a stop and means operable therewith for moving the stop to a position having a constant relation to the aggregate shortage of the line divided by the number of spaces therein, and a setting-gage having an inclined surface for engaging with a correspondingly-inclined surface of the stop, whereby the varied settings of the latter serve to stop the gage at correspondingly-varied positions.

41. In combination with line-measuring devices, a stop operable therewith, and selector-setting means movable transversely to the direction of movement of the stop, and engaging therewith, by means of surfaces which are inclined to the direction of movement of each part and to their common plane of movement.

42. In combination with line-measuring devices, a stop operable therewith, and a setting-gage for the selecting mechanism, movable transversely to the direction of movement of the stop, and engaging therewith by means of oppositely-disposed gaging-surfaces which are inclined to each other in substantially a V-shaped form, in transverse section, and which diverge with relation to the direction of movement of the setting-gage.

43. In combination with line-measuring devices, a stop and means operable with the measuring devices for imparting to the stop movements bearing a constant relation to the measured deficiency of each space in the line, and a selector-setting gage movable transversely to the direction of movement of the stop and engaging therewith by means of oppositely-disposed gaging-surfaces, which are symmetrically inclined to each other in substantially a V-shaped form both transversely and longitudinally of the direction of movement of the setting-gage.

44. In combination with the line-measuring devices, the stop 134 and the setting-gage 135, provided with the gaging-surfaces 136 and 137 symmetrically disposed in opposite compound inclinations to the common plane of movement of the stop and the gage.

45. In combination with line-measuring devices, a stop operable therewith, a selector-setting gage, and means for moving the gage into contact with the stop at the conclusion of each line-measuring operation.

46. In combination with the line-measuring devices, a stop operable therewith, a selector-setting gage, means for holding the gage away from the stop during the line-measuring operation, and for bringing it against the stop at the conclusion of that operation.

47. In combination with the line-measuring devices, a stop operable therewith, a selector-setting gage for cooperating with the stop, means for bringing the gage against the stop at the conclusion of the line-measuring operation, and for removing it therefrom to permit of the succeeding line-measuring operation before completing the current line.

48. In combination with line-measuring devices, a stop and a setting-gage operable therewith, and a selector-setting slide operable with the setting-gage.

49. In combination with line-measuring devices, a stop and a setting-gage operable therewith, a selector-setting slide and adjustable means between the setting-gage and the slide for moving the latter to its required position.

50. In combination with line-measuring devices, a stop, a setting-gage and selector-setting slide operable therewith, with means, as a pawl, for retaining the selector-setting slide in substantially the extreme position to which it is moved by the setting-gage.

51. In combination with the measuring and selector-setting devices, a selector-setting slide provided with a stepped selector-supporting rack, and provided with detent-teeth spaced in coincident relation to the steps of the rack, with a detent-pawl engaging with the teeth and retaining it in substantially the farthest position to which it is moved as a result of the measuring operation.

52. In combination with a series of selecting-fingers, a selector and a setting-rack therefor provided with a series of steps corresponding in pitch with the selecting-fingers, for supporting the selector in operative relation to the desired selecting-finger.

53. In combination with a series of selecting-fingers, a selector, means as a cross-head on which the selector is mounted, and a setting-rack provided with a series of steps corresponding in pitch with the selecting-fingers for supporting the cross-head and its selector in operative relation to the desired selecting-finger.

54. In a constantly-running spacer-selecting device, a selector, and means for moving the selector out of operative position at the desired intermissions in the selecting operation.

55. In combination with the selecting-fingers, a selector therefor, and means for moving the selector out of operative relation to the selecting-fingers, at predetermined intervals to arrest the selecting operation.

56. In combination with continuously-operating spacer selecting and ejecting mechanism, a selector therefor, and means for moving the selector out of operative relation to the mechanism at the desired intermissions in the selecting and ejecting operations.

57. In combination with continuously-operating spacer selecting and ejecting mechanism, a selector, and a movable cross-head on which the selector is mounted, with governing mechanism for moving the selector out of operative relation to the spacer selecting and ejecting devices at the desired intermission in their operation.

58. In a combination of continuously-operating spacer selecting and ejecting mechanism, a series of selecting-fingers, a selector for moving the selecting-fingers singly into engagement with their respective ejecting devices, and means for moving the selector out of operative relation to the fingers at the desired intermissions in the selecting and ejecting operations.

59. In combination with a series of selecting-fingers, a selector therefor, movable along the series of fingers, a selector-setting rack movable in a direction transverse to that of the selector, and provided with a series of steps corresponding in pitch to that of the selecting-fingers, and means intermediate the rack and the selector for supporting the latter upon one of the steps of the rack.

60. In a type-justifying machine, in combination with the spacer-selecting devices, comprising a series of selecting-fingers, and a selector therefor, a setting member, as the slide 145, having a direction of movement transverse to that of the selector of an extent determined by the measuring devices of the machine, provided with a repeated series of setting-racks, each consisting of an inclined series of steps corresponding in height with the series of selecting-fingers, the corresponding steps of the repeated series lying in coincident planes parallel to the direction of movement of the setting member.

61. A selector-setting device, as the slide 145, comprising in a unitary element a series of stepped selector-setting racks, and a corresponding series of stepped basic table-supporting planes.

62. In a type-justifying machine, in combination with the selector and the basic table thereof, a series of stepped supporting-racks for the selector, and a corresponding series of stepped planes for setting the basic table, arranged and operating to lower the basic table to an extent equaling the thickness of one of the basic spacers thereof, as each succeeding setting-rack of the series is brought beneath the selector.

63. In a type-justifying machine, in combination with the selector and the basic table thereof, a selector-setter, as the slide 145, movable transversely to the line of movement of the selector and the basic table, comprising a series of setting-racks for the selector and a corresponding series of supporting-planes for the basic table, arranged and operating to bring the successively lower planes beneath the basic table as the corresponding setting-racks are successively brought beneath the selector.

64. In a type-justifying machine, in combination with the measuring devices, and with the spacer-selecting mechanism thereof, the latter comprising a selector and a basic table, a selector-setting rack operable with the measuring devices, and provided with a series of stepped setting-racks for the selector, and with a correspondingly-spaced series of stepped supporting-planes for the basic table, the succeeding lower planes of which are beneath the basic table when the corresponding succeeding setting-racks are beneath the selector.

65. In a type-justifying machine, in combination with the spacer-selecting mechanism thereof, comprising selecting-fingers, a selector therefor, and a basic table, a series of selector-setting racks each provided with a series of steps, corresponding in number and height with the selecting-fingers, for supporting the selector in operative relation to the desired finger, and a series of basic table-supporting planes of differing heights.

66. In a type-justifying machine, in combination with the spacer-selecting devices thereof, comprising selecting-fingers, a selector therefor, and a basic table, a selector-setting device, as the slide 145, movable in a direction transverse to that of the selector and of the basic table, provided with a repeated series of selector-setting racks, each rack comprising a series of steps corresponding in number and height to the selecting-fingers, and with a corresponding series of stepped supporting-planes for the basic table, the length of each supporting-plane being substantially equal to that of its setting-rack, whereby the succeeding lower supporting-planes are brought beneath the basic table, as the correspondingly-succeeding series of setting-racks are brought beneath the selector.

67. The combination in spacer-selecting mechanism, of a basic table, and of a stop therefor operatively connected with the selecting devices, a cam for raising the basic table at each operation of the selecting devices to allow of the resetting of the stop, and for lowering the table to its stop immediately thereafter.

68. The combination, in spacer-selecting mechanism, of a basic table, and a stop therefor operatively connected with the selecting devices, and a reciprocating cam for engaging with the basic table, operating to close it against its channel upon the forward stroke of the cam, and to lower it again to its stop at the conclusion of said forward stroke.

69. The combination in spacer-selecting mechanism, of a series of selecting-fingers, a basic table, a stop therefor, operable with the selecting-fingers, a reciprocating carriage upon which the selecting-fingers are mounted, and a switch-cam for engaging with and raising the basic table upon the forward movement of the selecting-fingers to allow of the resetting of the stop, operating at the completion of the said forward movement to let the basic table drop again to the position determined by its reset-stop.

70. In a type-justifying machine, in combination with the basic table, means for elevating or closing the basic table against its channel at the conclusion of each line.

71. In combination with continuously-operating spacer-selecting devices, a basic table and means for holding the basic table out of operation at the conclusion of each line, and until the succeeding spacer combination is wanted for the next line.

72. In a type-justifying machine, in combination with continuously-operating spacer-selecting devices, a basic table and means for holding the basic table closed against its channel and out of operation at the conclusion of the justification of each line, and until the appropriate period in its operation upon the succeeding line.

73. In a type-justifying machine, a basic-spacer-containing channel, a basic table therefor, a continuously-operating basic-spacer extractor, and means for closing the basic table against the channel so as to hold the spacers therein above the reach of the extractor during the operations thereof which intervene between the completion of one line and the commencement of the next.

74. In a type-justifying machine, a basic-spacer-containing channel, a basic table therefor, a continuously-operating basic-spacer extractor, governing mechanism, and means operable therewith for closing the basic table against the channel so as to hold the spacers therein above the reach of the extractor during the operations thereof which intervene between the completion of one line and the commencement of the next.

75. In a type-justifying machine, in combination with the measuring and spacer-selecting mechanisms thereof, a basic table, a setting-slide therefor operable with the measuring devices, and a stop operable with the selecting devices, means for relieving the slide and the stop from the basic table while the slide is being reset by the selecting devices.

76. In a type-justifying machine, in combination with the measuring and spacer-selecting mechanism thereof, a basic table, a stop therefor operatively connected with the selecting devices, a shoe for the basic table and a setting-slide operable with the measuring devices, provided with a series of stepped planes for supporting the basic-table shoe, with means substantially as described for raising the basic table away from its stop at each operation of the selecting devices to allow of the possible resetting of the stop, and means for raising the basic-table shoe above the highest stepped plane of the setting-slide at each measuring operation to allow the slide to be reset thereby.

77. In a type-justifying machine, the combination of spacer-selecting mechanism, a raceway, a basic table adjacent thereto, means for assembling the selected spaces upon the basic table, and a yieldingly-mounted presser-foot located above the basic table, for engaging with and holding together the assembled spacer combination.

78. In a type-justifying machine, in combination with the spacer assembling and injecting mechanisms thereof, a basic table for supporting the spacer combination in proper relation to the injecting zone, and a yielding presser-foot for resiliently pressing the spacer combination against the surface of the table during the injecting operation.

79. In a type-justifying machine, in combination with the selector-setting mechanism thereof, comprising a stepped setting-rack, a correcting-rack provided with a series of steps corresponding to, but relatively finer than, those of the selector-setting rack, a selector operable with the steps of the setting-rack, and a correcting device operable with the steps of the correcting-rack.

80. In a type-justifying machine, in combination with the selector-setting devices thereof, comprising a stepped rack and a selector-foot engaging therewith, a correcting-slide, and a correcting-rack therefor attached to or integral with the selector-setting rack.

81. In a type-justifying machine, the combination in the spacer selecting and correcting devices thereof, of a selector, a supporting cross-head therefor, a correcting-slide mounted upon the cross-head and determining by its displaced position relative thereto the desired amount of correction, and a pair of stepped racks movable in a direction transverse to that of the cross-head and the correcting-slide, and provided with a series of steps for supporting the cross-head and the correcting-slide respectively, arranged to support them without relative displacement when no correction is required, and otherwise

to displace them to extents directly proportional to the required correction.

82. In a type-justifying machine, in combination with the measuring devices and with the spacer-selecting devices thereof, a setting-rack provided with a series of steps of a number and height corresponding with the selecting-fingers, and a correcting-rack provided with steps of a number equaling a multiple of the number of steps in the selector-setting rack, and arranged serially in relation to each of the steps thereof, a selector, operatively connected with the steps of the selecting-rack, and held thereby in operative relation to the required selecting-fingers, and a correcting device operatively connected with and supported by the finer teeth of the correcting-rack in a relation to the selector which remains constant when no correction is required, and which when a correction is required, is displaced to an extent directly proportional to the amount of that required correction.

83. In a type-justifying machine, in combination with the selector cross-head and the correcting-slide, a setting member, as the slide 145, provided with a series of stepped setting-racks for the cross-head and a corresponding series of setting-racks each provided with a series of steps for each single step of the selector-setting rack, and adapted to support the correcting-slide in a constant relation to the cross-head when no correction is required, and in a displaced relation thereto when correction is required, that displacement being directly proportional to the extent of required correction.

84. In a type-justifying machine, in combination with the spacer selecting and correcting devices thereof, a setting member as the slide 145, provided with repeated series of stepped inclines for setting the spacer-selecting devices, and provided with a corresponding series of stepped inclines for setting the correcting devices, having a series of its steps in substantial coincidence with each of the steps for the selector setting devices.

85. In combination with a continuously-running driving-shaft, a line-shaft, coengaging clutches therefor, means for disengaging the clutches at the completion of each rotation of the line-shaft, a controller and means intermediate the driving-shaft, the line-shaft and the controller for starting the line-shaft on its succeeding rotation at or near the completion of each operation of the controller.

86. The combination of a continuously-rotating driving-shaft, an intermittently-rotating line-shaft, a controller detachably operable with the driving-shaft, means intermediate the line-shaft and the controller for engaging the latter with its driving-shaft before the completion of each rotation of the line-shaft, and means intermediate the controller and the line-shaft for starting the latter upon its succeeding rotation at or near the completion of each operation of the controller.

87. The combination of a continuously-running driving-shaft, a line-shaft provided with a shiftable clutch for engaging and disengaging with the driving-shaft, means for disengaging the said clutch at the completion of each rotation of the line-shaft, a controller, and means intermediate the controller and the clutch for moving the latter into engagement with its clutch at the desired times.

88. In a type-justifying machine, comprising a continuously-running driving-shaft and word mechanism, a line-shaft provided with a shiftable clutch for engaging with and disengaging from the driving-shaft, means for disengaging the clutch at the conclusion of each rotation of the line-shaft, and a controller for releasing the clutch from disengagement and permitting it to reëngage with the driving-shaft before the completion of the justification of the line.

89. The combination with a driving-shaft and an intermittently-rotating line-shaft, of a longitudinally-shiftable clutch mounted thereon and provided with an inclined shoulder and a shoulder-pin for engaging with the clutch to shift it longitudinally on its shaft, and thereby disengage it from the driving-shaft at the desired intermissions.

90. The combination with a continuously-rotating driving-shaft, and an intermittently-rotating line-shaft, of a longitudinally-shiftable clutch mounted upon the line-shaft and provided with an inclined shoulder, a retractable clutch-pin for engaging with the inclined shoulder of the clutch to disconnect it from the driving-shaft at the desired intermissions, and a controller for retracting the pin so as to disengage its clutch and allow it to reëngage with the driving-shaft.

91. The combination with a continuously-rotating driving-shaft, and an intermittently-rotating line-shaft, of a clutch carried by the line-shaft and shiftable into and out of engagement with the driving-shaft, a retractable clutch-pin for shifting the clutch out of engagement with the driving-shaft at the desired intermissions, and a controller operable with, and set by, the number of spaces in the line to be justified, arranged and operating to retract the clutch-pin, and start the line-shaft upon its succeeding rotation at a predetermined point in the justification of the current line.

92. In combination with the driving-shaft, the line-shaft, and a shiftable clutch therefor, a retractable clutch-pin for shifting the clutch out of engagement to cause the desired intermissions in the line-shaft, and a cam operable with the controller for retracting the pin and starting the line-shaft upon its succeeding rotation for operation upon the succeeding line, at the desired period in the justification of the current line.

93. In a type-justifying machine, in combination with the driving-shaft, the line mechanism, and a shiftable clutch therefor, a retractable clutch-pin for shifting the clutch to stop the line mechanism, a controller set to positions directly related to the number of spaces in the current line, and a cam operable with the controller for retracting the clutch-pin and starting the line mechanism into operation upon the succeeding line at the desired period in the justification of the current line.

94. In a type-justifying machine, in combination with the line mechanism, a driving-shaft, and a shiftable clutch therefor, a retractable clutch-pin for shifting and for releasing the clutch, a retracting-cam for the clutch-pin journaled concentrically therewith, and a controller operable with the spaces in the line, and operably connected with the retracting-cam for rotating the latter and thus starting the line mechanism into operation upon the succeeding line at the desired period in the justification of the current line.

95. The combination of a retractable clutch-pin, a clutch-releasing cam therefor journaled in substantial concentricity with the pin, and engaging therewith by means of oppositely-disposed spiral wings, having a recess between them for the return movement of the pin, and means for imparting a half-rotation to the cam when it is desired to retract the pin.

96. The combination of a retractable clutch-pin, mounted to slide without rotating, a clutch-releasing cam journaled substantially concentric with the pin, and provided with oppositely-disposed spiral wings for engaging with and moving the pin longitudinally to the desired extent, and means for imparting forward intermittent half-rotations to the cam at the desired intervals.

97. In combination with the controller, a stop therefor operable with the word spaces or separators, and provided with detent notches or teeth, a detent for engaging with the notches and supporting the stop at the succeeding positions to which it is moved in its setting operation, and means operable with the word separators or spaces for withdrawing the detent from the stop at the commencement of each succeeding stop-setting operation.

98. In combination with the controller, a stop therefor, provided with detent teeth or notches, a stop-rack operable by the word separators or spaces, and upon which the stop is loosely supported, a detent for engaging with the teeth of the stop and supporting it in the highest position to which it is set for the current line, and means operable with the stop for withdrawing the detent from its teeth at the commencement of each setting operation, whereby the stop is permitted to fall to its lowest position, for the purpose specified.

99. The combination of a controller, a pawl mounted thereon, a rotating ratchet-wheel journaled concentrically with the controller in engaging relation to the pawl, and a non-rotatable, longitudinally-movable cam adapted to disconnect the pawl from its driving-ratchet at the desired stopping position of the controller, the cam being provided with a shoulder substantially concentric with the axis of the controller, and engaging with the pawl thereof to hold it out of engagement with its driving-ratchet during the backward or setting movement of the controller.

100. The combination of a controller, a pawl mounted thereon, a rotating ratchet journaled in engaging relation to the pawl, a non-rotating cam mounted to reciprocate toward and from the pawl, provided with a cam portion for releasing the pawl from its driving-ratchet at the desired stopping position of the controller, and provided with a concentric annular shoulder 322 for holding the pawl out of engagement with its ratchet during the resetting operation, the reciprocation of the cam being timed so as to engage and release the pawl at the desired periods.

101. In combination with the word mechanism of a machine of the class specified, comprising all the devices which repeat their operation for each word of the line to be justified, a universal driving device therefor, as the carriage 230, mounted to reciprocate to the desired extent, and operatively connected with each of the said devices.

102. A mechanism for justifying a composed line of type comprising a device for measuring an unjustified line to ascertain the total shortage, and lever devices for dividing the said shortage by the number of word-spaces in the line including means for varying the position of the fulcrum relatively to the other lever elements and means for rocking the lever after the fulcrum is positioned.

103. In a justifying mechanism a device for measuring an unjustified line, and lever devices constructed to divide the shortage of the unjustified line by the number of word-spaces in the line including means for varying the position of the fulcrum relatively to the other lever elements and means for rocking the lever after the fulcrum is positioned.

104. In a justifying mechanism a device for measuring an unjustified line, and lever devices constructed to divide the shortage of the unjustified line by the number of word-spaces in the line according to the position of the fulcrum relatively to the other lever elements.

105. In a mechanism for justifying composed lines of type, a justifying-lever, a device in connection with said lever for measuring an unjustified line, and a fulcrum-piece movable relatively to the lever in proportion to the number of spaces in the line.

106. In a mechanism for justifying lines of type, devices for measuring an unjustified line, in combination with a lever operatively connected to said devices, and a fulcrum-piece coöperating with said lever and means for adjusting said fulcrum-piece relatively to the lever in accordance with the number of word-spaces in the line.

107. In a machine for assembling and justifying type, in combination with the composed line of type, a series of cylindrical separators of a diameter substantially the thickness of the type for temporarily preserving the separations between the words.

108. In a machine for assembling and justifying type, in combination with a composed line of type, a series of cylindrical separators for temporarily preserving the separations between the words, having ends projecting beyond the type, for engaging with the devices operable by or in accordance with the number of spaces in the line.

109. In a machine for assembling and justifying type, and having devices controlled or operable in accordance with the number of spaces in each line to be justified, a series of cylindrical separators for temporarily preserving the spaces between the words, having their ends projecting beyond the type, for engaging with the said devices.

110. In combination with means for supporting a composed line of type, a measuring-beam, means for moving one end of the beam to measure the line, and means for applying a fulcrum to the beam at a suitable location thereof, for dividing the movement of the measuring end of the beam, in accordance with the number of spaces in the line.

111. The combination, with means for supporting a composed line of type, of a measuring-beam, means for applying one end of the beam to measure the shortage of the lines, and means for applying different fulcrums to the beam at suitable locations thereof, for dividing the respective shortage measurements in accordance with the number of spaces contained in the lines.

112. In a justifying device, the combination of a gage for determining the widths of justifying-spaces, a measuring-beam having one end operating on the gage, a device to measure the line and to operate upon the other end of the beam, means for applying different fulcrums to the said beam, depending upon the number of spaces in the line, and means for multiplying the movements of the gage in relation to its coöperating end of the beam.

113. In a justifying device, the combination of spacer-selecting devices, a measuring-beam, having one end operating on the spacer-selecting devices, means for controlling the opposite end of the beam by the measurement of the line, means for applying different fulcrums to the beam, according to the number of spaces in the line, and means for multiplying the movement transmitted to the spacer-selecting devices from their coöperating end of the measuring-beam.

114. In a type-justifying machine, in combination with means for measuring a composed line of type having temporary separators therein, and with justifying-space-determining devices, an eliminating device set by the separators for eliminating from the measurement and the operation of the space-determining devices a predetermined portion of the line length occupied by the temporary separators.

115. A series of spacers for forming type-justifying-space combinations, comprising a basic spacer and a number of fractional spacers progressively differing in size from the basic by an increment equaling a fractional part of the basic, the largest fractional spacer being one of the said increments smaller in size than two of the basic spacers.

116. A series of spacers for forming type-justifying-space combinations, comprising a basic spacer and fractional spacers of sizes progressively increasing by an increment equaling a fractional part of the basic, the entire number of spacers in the series equaling the number of fractional parts into which the basic is assumed to be divided as a basis for the said increment.

117. A series of spacers for forming type-justifying-space combinations, comprising a basic spacer, and three fractional spacers, which progressively increase in size by an increment equaling one-fourth the size of the basic.

118. A series of spacers for forming type-justifying-space combinations, comprising a basic spacer of a size equaling a fractional part of the size of the em of the type to be justified, and fractional spacers of sizes progressively increasing by an increment also equaling one of the said fractional parts.

119. A series of spacers and type-justifying-space combinations comprising a basic spacer and a number of fractional spacers progressively differing in size from the basic by an increment equaling a fractional part of the basic, and space combinations formed by combining one or more basic spacers with only one fractional spacer.

120. In a type-justifying machine, a measuring-beam provided at one end with type-engaging means movable to an extent represented by the shortage or required spacing of the line, and provided with a pivot adjustable to different fulcrum positions relative to the beam in accordance with the number of spaces occurring in the line, whereby the measured shortage of the line is converted into a suitably-related movement of the opposite end of the beam.

121. In a type-justifying machine, the combination of a measuring beam or lever, a fulcrum on which the beam is pivotally mounted, adapted to be moved to different positions with relation to the beam, a measuring-slide pivotally connected with one end of the beam, and a measuring-pawl mounted upon the slide and adapted to engage with the line of type.

122. In a type-justifying machine, the combination of a measuring-beam, means for determining the sizes of justifying-spacers and means intermediate the measuring-beam

and the space-determining devices for multiplying the measuring movement of the beam.

123. In a type-justifying machine, the combination of a measuring-beam, a gage for determining the width of justifying-spacers and means intermediate the beam and the gage for multiplying the measuring movement of the beam.

124. In a line-measuring device, the combination of a pair of jaws for engaging the opposite ends of the line, one of the jaws being movable laterally of the line, and provided with stepped engaging surfaces, for the purpose specified.

125. In a type-justifying machine, in the line-measuring devices thereof, a movable jaw provided with steps each corresponding in height to the thickness of the special separators contained in the line, whereby the measurement of the said separators is eliminated from the resultant measurement.

126. In a type-justifying machine, in combination with the measuring and spacer-selecting devices thereof, a selector-setting rack operatively connected with the measuring devices, provided with teeth spaced in coincident relation to the location of the spacer-selecting fingers, and with a detent adapted to engage with the teeth and support the rack in the position determined by the measuring devices.

127. In a type-justifying machine, a spacer-selector, provided with teeth suitably located to the amount of the desired correction, a pawl adapted to engage with the teeth, and to actuate the selector, and a detent adapted to detain the selector in its intermediate positions, and adapted to release the selector when the desired amount of correction is obtained.

128. In a machine of the class specified, in combination with the spacer-selecting fingers and with a selector therefor, means for moving the selector from one finger to another for the purpose specified, the selector being provided with teeth suitably related to the desired amount of movement, a pawl adapted to move the selector to the extent determined by the measuring operation, and a detent adapted to retain the selector in its intermediate positions and to release it when the desired correction is secured.

129. In a machine of the class specified, in combination with a series of spacer-selecting fingers, a selector adapted to be moved into coincident relation to either of the fingers, correcting devices, and a series of cams arranged in corresponding relation to the fingers and adapted to actuate the correcting devices, all arranged and operating to advance the selector to the next selecting-finger.

130. In a machine of the class specified, the combination with a series of selecting-fingers, and a series of cams, a reciprocating carriage on which the fingers and the cams are mounted, a selector adapted to be moved into operative relation to each of the fingers, and a correcting device adapted to engage with the adjacent cam of the series whereby the selector is advanced into engaging relation with the next higher finger of the series in accordance with the required correction.

131. In a justifying mechanism, in combination with a series of spacer-selecting members, a selector adapted to be moved into position to coact with either of said members, correcting devices, and a series of cams, all arranged and operating to advance the selector from one spacer-selecting member to the next.

132. In a machine for justifying a line of type composed with separators, means for advancing the line, in combination with a word-interval-registering device including a member moved by projecting portions of the separators in the line, as the line is advanced.

133. In a type-justifying machine, the combination with means for measuring a line of type and dividing the shortage by the number of intervals in the line, and spacer-selecting devices, of a multiplying device between the dividing device and spacer-selecting devices for multiplying the dividing movement in transmission to the spacer-selecting devices.

134. In a type-justifying machine, line-measuring devices provided with a member formed to eliminate by different portions corresponding to the number of separators a predetermined portion of the thickness of the separators in the line.

135. In a justifying mechanism, means for determining the quotient of the line shortage divided by the number of intervals in the line, means for setting a space-determining device in accordance with the integral part of said quotient, and means controlled according to the remainder part of said quotient and adapted to reset the space-determining device during the operation of justifying for spaces of another size and to return the space-determining device to its first setting after a portion of the remainder has been distributed in spaces of such other size.

136. In a justifying mechanism, devices for selecting justifying-spacers from a limited number thereof, comprising a movable selector, means for setting the selector for spacers of one size, means for resetting the selector to obtain a spacer of a different size, and means for returning the selector to position for selecting a spacer of the first size after one or more spacers of the different size have been selected.

137. In a justifying mechanism, means for computing the normal justifying-space value for a line, in combination with a selecting device arranged to select space values of given sizes, means for setting the selecting device to one of said space values, a difference device and means controlled by the difference device for resetting the selecting device during the justification of a line for the selection of one or more of the next larger space values and returning the selecting device to continue the selection of space values of the size for which it was first set.

138. In a justifying mechanism, the combination with computing devices for computing justifying-space values from the line shortage and number of intervals, of means for selecting and combining spacers from a limited number of spacer sizes to form said justifying-space values.

139. In a type-justifying machine, the combination with computing devices for computing justifying-space values from the line shortage and number of intervals, of spacer-channels containing different sizes of spacers, means controlled by the computing devices for selecting and combining spacers from said spacer-channels to form said justifying-space values, and means for inserting said justifying-space values in the line.

140. In a type-justifying machine, the combination with computing devices, for computing justifying-space values from the line shortage and number of intervals, of spacer-channels containing basic spacers and fractional spacers, means controlled by the computing devices for selecting and combining said basic and fractional spacers from said spacer-channels to form said justifying-space values, and means for inserting said justifying-space values in the line.

141. In a machine for justifying lines of type composed with temporary separators projecting from opposite sides of the line of type, a word-interval-registering device having members on opposite sides of the line of type actuated by engagement with the projecting portions of the separators.

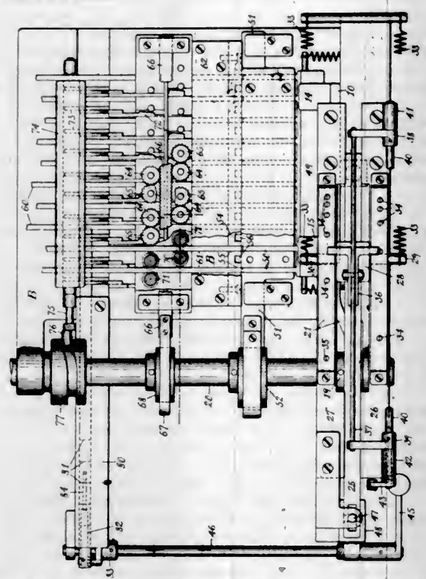
844,566. TYPE-JUSTIFYING MACHINE. WALTER J. ENNISSON, Hartford, Conn., assignor to Thorne Type Set-ENNISSON, Hartford, Conn., assignor to Thorne Type Setting Machine Company, a Corporation of New Jersey.

Claim.—1. The combination of automatic devices for measuring a previously-composed line of type, a gage controlled by the measuring devices and the number of spaces in the line, and means for cutting off the required number of justifying-spaces simultaneously in accordance with the position of the gage.

2. The combination of automatic devices for measuring a previously-composed line of type, a gage controlled by the measuring devices and the number of spaces in the line, means for feeding a plurality of strips of space-timber an amount determined by the gage, and means for cutting off justifying-spaces.

3. In a line-justifying apparatus in combination with devices for feeding and cutting off justifying-spaces, means for feeding forward a plurality of strips of space-timber in accordance with the number required by the line to be justified.

4. In a line-justifying apparatus, in combination with devices for feeding space-timber strips and cutting off justifying-spaces therefrom, means operable by a space-key for determining the number of space-timber strips to be fed forward.



5. In a line-justifying apparatus, in combination with devices for cutting off justifying-spaces, a pair of feeding-rolls for engaging with the space-timber, means for gripping the rolls upon the timber and controlling the gripping and release of the rolls according to the number of spaces in the line, and means for rotating the rolls when gripped.

6. In a line-justifying apparatus, in combination with devices for cutting off justifying-spaces from space-timber, means for feeding a series of separated space-strips simultaneously forward to the cutting devices.

7. The combination of a cutter bar and slide provided with a coincident channel for the passage of a strip of space-timber, a space-channel located in the cutter-bar adjacent to the timber-channel and means for moving one of the parts so as to cut off a justifying-spacer from the timber and carry it to the space-channel.

8. The combination of a cutter bar and slide provided with a coincident channel for the passage of a strip of space-timber, a space-channel located in the cutter-bar adjacent to the timber-channel, and means for moving one of the parts so as to cut off a spacer from the timber and carry it to the space-channel.

9. The combination of a cutter-bar provided with a series of channels for space-timber, a cutter-slide provided with channels coinciding with those of the cutter-bar, a series of space-channels located in the cutter-bar adjacent to the timber-channels and means for moving the cutter-slide, whereby spacers are cut from the ends of the space-timber and carried into register with the space-channels.

10. The combination of a cutter-bar provided with space-timber channels, a cutter-slide provided with corresponding channels, and with a gage-plunger fitted therein, a series of space-channels located in the cutter-bar adjacent to the timber-channels thereof, means for moving the cutter-slide so as to cut justifying-spacers from the ends of the space-timber and carry them opposite the spacer-channels and means for operating the gage-plunger to eject the spacers into their respective channels.

11. In a justifying mechanism, a justifying device comprising a lever, a series of fixed fulcrums for said lever, and means for rendering any one of said fulcrums operative upon the lever without moving the fulcrum, the fulcrum rendered operative depending upon the number of spaces in the line.

12. In a justifying device, a gage for determining the width of justifying-spaces, a device for measuring the line of matter, a justifying-lever having its ends operatively connected with said gage and said device respectively, a series of fixed fulcrums for said lever, and means for rendering any one of said fulcrums operative upon the lever without moving the fulcrum, the fulcrum rendered operative depending upon the number of spaces in the line.

13. In a justifying mechanism a movable device for measuring unjustified lines, a movable gage, intermediate mechanism by means of which the gage is set from the measuring device, and means for forming the number of justifying-spaces required for the line simultaneously, the width of said justifying-spaces being determined by the gage, substantially as described.

14. In a justifying mechanism a movable device for measuring unjustified lines, a movable gage, intermediate mechanism by means of which the gage is set from the measuring device means for feeding a plurality of space-timber strips, and a cutter adapted to sever justifying-spaces from said space-timber, the width of said justifying-spaces being determined by the gage, substantially as described.

15. In a justifying device, the combination of a cutting-block, a cutter, a gage, means for automatically setting the gage relatively to the cutter for each line to be justified means for feeding a plurality of strips of space-timber, and means for locking the gage while the justifying-spaces for the line are being cut, substantially as described.

16. In a justifying mechanism, the combination with means for feeding a plurality of strips of space-timber, means for holding said strips, a cutter adapted to sever spaces from the strips, and means for releasing the strips and moving them forward to the cutter at proper intervals.

17. In a justifying mechanism, the combination with a justifying-lever and a series of fulcrums, of a space-key, an interponent between the lever and fulcrums, and means for setting the interponent from the space-key to pivot the lever upon one of the fulcrums according to the number of spaces in the line.

18. A justifying mechanism including devices for measuring an unjustified line, and means controlled by said measuring devices for forming simultaneously the number of justifying-spaces required for the line.

19. A justifying mechanism including devices for measuring an unjustified line, devices for dividing the shortage in the line by the number of word-spaces, and means controlled by said devices for forming simultaneously the number of justifying-spaces required for the line.

20. In a justifying mechanism, a justifying-lever having a pivoting member forming a part of said lever but movable thereon, and means for adjusting said member on the lever in accordance with the number of spaces in the line.

21. In a justifying mechanism, a justifying-lever having a pivoting member forming a part of said lever but movable thereon, a space-key, and connections between the space-key and movable member for adjusting the member in accordance with the number of spaces in the line.

22. The combination of automatic devices for measuring a composed line of type, by engagement therewith, a gage controlled by the measuring devices and means for forming simultaneously the justifying-spaces required for the line in accordance with the position of the gage.

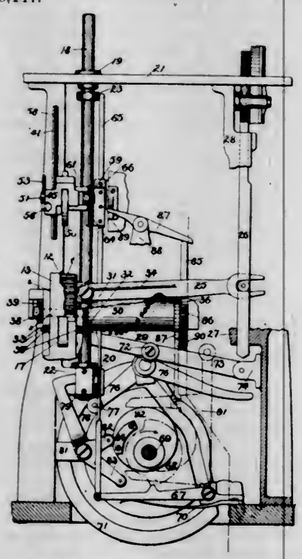
23. The combination of automatic devices for measuring a composed line of type by engagement therewith, a gage controlled by the measuring devices for cutting off justifying-spaces in accordance with the position of the gage, and means for feeding a plurality of strips of space-timber an amount determined by the gage.

24. In a justifying mechanism, a justifying-lever, a space-key, and a part coöperating with said lever and ad-

justable from the said key, its relation to the lever for each line depending upon the number of spaces in the line, in combination with means for holding and measuring a composed line of type and means for forming simultaneously the required number of justifying-spaces in accordance with the movement of the lever.

25. In mechanism for justifying composed lines of type, a justifying-lever, a measuring device, a word-space key, and an adjustable space-determining device, all coöperating, in combination with means for holding a composed line of type for the measuring device and means for forming simultaneously the required number of justifying-spaces.

844,567. TYPE-JUSTIFYING MACHINE. WALTER J. ENNISSON, Hartford, Conn., assignor to Thorne Type Setting Machine Company, a Corporation of New Jersey. Filed June 14, 1899. Renewed Aug. 11, 1906. Serial No. 330,147.



Claim.—1. In a justifying apparatus, the combination of a dividing-bar, having one end connected with means for measuring the composed line of type to ascertain its shortage, and having its opposite end connected with means for determining the width of justifying-spacers, and a stop, into contact with which the bar moves in its dividing movement and limiting said dividing movement, and arranged to engage with the bar at a distance from its point of connection with the space-determining means, according with the number of spaces in the line to be justified.

2. In a justifying apparatus the combination of a dividing-bar, a movable device for measuring composed lines of type and operating upon one end of the bar, a space-width-determining device operatively connected with the opposite end of the bar, and a series of stops, into contact with which the bar moves in its dividing movement and limiting said dividing movement, and arranged to support the bar at locations thereof according with the number of spaces in the lines to be justified.

3. In a justifying apparatus, the combination of a dividing-bar, and a movable series of indexing-stops, into contact with which the bar moves in its measuring movement and limiting the said dividing movement, and arranged to be brought singly beneath the bar at locations corresponding with or proportional to the fractional parts into which the shortage of the lines is to be subdivided.

4. In a justifying apparatus, the combination of a dividing-bar having one end connected with means for measuring a composed line of type to ascertain its shortage, and having its opposite end connected with means for determining the width of justifying-spacers, a stop, and means for bringing into contact with the stop the appropriate portion of the operative length of the dividing-bar in accordance with the number of spaces in the line to be justified.

5. In a justifying apparatus, the combination of a dividing-bar, a movable device for measuring the composed lines of type and operating upon one end of the bar, a space-width-determining device operatively connected with the opposite end of the bar, a series of stops, and means for bringing into contact with the respective stops the appropriate portions of the operative length of the bar in accordance with the number of spaces in the lines to be justified.

6. In a justifying apparatus, the combination of a dividing-bar, a movable series of indexing-stops, and means for bringing into contact with the respective stops the appropriate portions of the operative length of the bar in accordance with the number of spaces in the lines to be justified.

7. In a justifying apparatus, in combination with a dividing-bar, a rotatable stop device therefor, provided with a spirally-arranged series of indexing-stops arranged longitudinally of the bar according to the number of spaces in the line to be justified.

8. In a justifying apparatus, in combination with a dividing-bar, a rotatable stop device therefor, comprising a series of spirally-arranged indexing-stops, with means for rotating the stop device to bring an appropriate stop into engaging relation with the bar in accordance with the number of spaces in the line to be justified.

9. In a justifying apparatus, in combination with a dividing-bar, a rotatable stop device provided with a spirally-arranged series of indexing-stops, with means operable from the composed line of type for automatically bringing into engaging relation to the bar the appropriate stop for that line.

10. In a justifying apparatus, the combination of a dividing-bar, a movable device for measuring composed lines of type and operating upon one end of the bar, a space-width-determining device operatively connected with the other end of the bar, and a series of stops for supporting the bar at locations thereof according with the number of spaces in the lines to be justified, and means for first moving the measuring device into contact with the type, and then moving the bar into contact with its stop.

11. In a justifying apparatus, in combination with the dividing-bar thereof, an eliminating device movable with the measuring end of the bar for eliminating a predetermined portion of the measurement.

12. In a justifying apparatus, in combination with the dividing-bar, a measuring-head movable therewith and provided with means for eliminating from the measurement of a composed line a predetermined portion of the measurement.

13. In a justifying apparatus, in combination with the dividing-bar, a measuring-head movable therewith and provided with a stepped jaw for eliminating a predetermined portion of the measurement.

14. In a justifying apparatus, in combination with the dividing-bar thereof, a jaw movable with the measuring end of the bar, and provided with steps for eliminating the measurement value of the word-separators in the line.

15. In a justifying apparatus, in combination with the dividing-bar thereof, a measuring-head provided with a stepped jaw moving with the head for eliminating from the measurement of the composed line the thickness of the separators contained therein.

16. In a justifying apparatus, in combination with the dividing-bar thereof, a jaw movable with the measuring end of the bar, and provided with steps for eliminating the measurement value of the word-separators in the line, with means for moving the stepped jaw against the line to be measured.

17. In a justifying apparatus, in combination with means for supporting a composed line of type and word-separators, a measuring-head mounted to move in a direction parallel with the line of type, and provided with a stepped jaw for eliminating the thickness of the separators contained in the line, with means for moving the appropriate step of the jaw against the line.

18. In a type-justifying apparatus, in combination with means for supporting a composed line of type and word-separators, a measuring-head movable in the direction of the line, and provided with a stepped jaw, means for moving the appropriate step of the jaw in the direction of the line and into engagement with the line, and means for moving the jaw out of the plane of the line of type at the conclusion of the measuring operation.

19. The combination of a type-channel, a measuring-head movable parallel therewith, and provided with a stepped measuring-jaw, with means for moving the appropriate step of the jaw into the plane of the type-channel, and for moving the said step against the line.

20. The combination with a type-channel, a measuring-head movable in the direction of the channel, a stepped measuring-jaw mounted on the measuring-head means for moving the appropriate step of the jaw into the plane of the type-channel, means for moving the measuring-head in the direction of the line so as to bring the said step against the line, and means for moving the stepped jaw entirely out of the plane of the channel at the conclusion of the measuring operation.

21. The combination of a type-channel, a measuring-head movable in the direction of the channel, a stepped jaw, and means for moving its appropriate step into and out of the plane of the channel, means for moving the measuring-head and jaw longitudinally of the channel to measure the shortage of the line, and a dividing-bar for dividing the measured shortage in accordance with the word-spaces contained in the measured line.

22. In a line-measuring device, in combination with one of the measuring members, an oscillating jaw provided with a volute stepped surface for engaging with the line to modify the resultant measurement.

23. In combination with measuring devices, an oscillating jaw provided with a volute stepped surface for engaging with the line, to modify the resultant measurements in accordance with the number of spaces in the line.

24. In combination with line-measuring devices, an oscillating jaw provided with a volute stepped surface for engaging with the line, each step corresponding in height to the thickness of one of the separators contained in the line, whereby the measurement of said separators is eliminated from the resultant measurement.

25. In combination with line-measuring devices, comprising a movable head, a locker for locking the line-measuring head in the position determined by the measuring operation.

26. In combination with means for supporting a composed line of type, a line-measuring head, means for moving the measuring-head against the line, and means for locking the head in its position against the line.

27. The combination with means for supporting a composed line of type, of a dividing-bar, means for moving one end of the bar for measuring the line, and means for rocking the bar for dividing the measurement, substantially as described.

28. The combination with means for supporting a composed line of type, of a dividing-bar, means for moving one end of the bar for measuring the line, and means for rocking the bar for dividing the measurement by the other end of the bar, substantially as described.

29. The combination with means for supporting a composed line of type, of a dividing-bar, means for moving one end of the bar for measuring the line, means for rocking the bar for dividing the measurement by the other end of the bar, and a stop for engaging the bar to limit its dividing movement in accordance with the number of spaces in the line, substantially as described.

30. The combination with means for supporting a composed line of type, of a dividing-bar, means for moving one end of the bar for measuring the line, means for rocking the bar for dividing the mensurement by the other end of the bar, and a series of stops arranged to stop the bar in its dividing movement in accordance with the number of spaces in the line, substantially as described.

31. The combination with means for supporting a composed line of type, of a dividing-bar, means for moving one end of the bar for measuring the line, and means for rocking the bar on the said end as a pivot, after measuring, for dividing the measurement by the other end of the bar.

32. The combination with means for supporting a composed line of type, of a dividing-bar, means for moving one end of the bar for measuring the line, means for rocking the bar on said end as a pivot after measuring, for dividing the measurement by the other end of the bar, and a stop for engaging the bar to limit its dividing movement in accordance with the number of spaces in the line.

33. The combination with means for supporting a composed line of type, of a dividing-bar, means for moving one end of the bar for measuring the line, means for rocking the bar on said end as a pivot after measuring, for dividing the measurement by the other end of the bar, and a series of stops arranged to stop the bar in its dividing movement in accordance with the number of spaces in the line.

34. The combination of a type-containing channel provided with shoulders adjacent to the ends of the type, whereby the character-type are preserved in alinement, a separator having a cylindrical body, substantially corresponding to the width of the character-type, and having reduced ends adapted to project through and beyond the end walls of the channel.

35. The combination of a type-containing channel provided with shoulders adjacent to the ends of the type, whereby the character-type are preserved in alinement, and separators having cylindrical bodies substantially corresponding in width with the bodies of the character-type, and having shouldered ends according with the length of the type, whereby they are retained in alinement by the channel, and having reduced cylindrical ends, projecting through and beyond the end walls of the type-channel.

36. In a justifying apparatus, a mechanism for justifying comprising an element having a straight edge and a pivotal point to which said edge is radial, in combination with means for rocking said element on its pivot, and a stop engaged by said edge to limit the rocking movement in accordance with the number of spaces in the line.

37. In a type-justifying apparatus, a pivoted dividing-bar and its pivot, in combination with type-engaging means movable in proportion to the aggregate shortage of a line, and with a stop engaging said bar to limit its dividing movement in accordance with the number of spaces in the line.

38. In a justifying apparatus, a pivoted dividing-bar and its pivot, in combination with means for setting the pivot in accordance with the shortage of the line, and a stop acting to limit the dividing movement of the bar on its pivot in accordance with the number of spaces in the line.

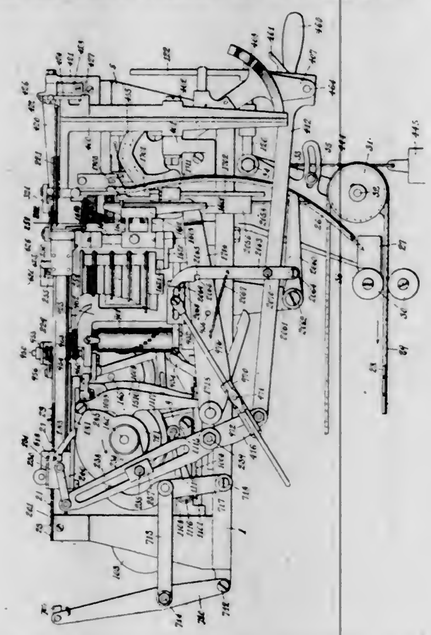
39. In a justifying apparatus, a pivoted dividing-bar and its pivot, in combination with means for setting the pivot in accordance with the shortage of the line, a series of stops for said bar in its dividing movement on its pivot, and means for selecting one of said stops in accordance with the number of spaces in the line.

40. In a justifying apparatus, the combination with a bar, means for setting said bar in accordance with the shortage of the line to be justified, means for giving said bar a further movement to divide the shortage, and a stop limiting the dividing movement of the bar in accordance with the number of spaces in the line.

844,568. TYPE-JUSTIFYING MACHINE. WALTER J. ENNISSON, New York, N. Y., assignor to The Unitype Company, a Corporation of New Jersey. Filed May 5, 1902. Serial No. 106,010.

Claim.—1. In a justifying-machine, the combination of word and line mechanisms, devices for stopping one of said mechanisms when the other is started, and devices controlled by each line for starting the line mechanism in operation upon the succeeding line.

2. In a justifying-machine, the combination of word and line mechanisms, devices for stopping one of said mechanisms when the other is started, and devices controlled by each line and brought into action at a predetermined point in the justification of the line to start the line mechanism in operation upon the succeeding line.



3. In a justifying-machine, the combination of word and line mechanisms, interlocking clutch devices for stopping one of said mechanisms when the other is started, and devices controlled by each line during its justification, for starting the line mechanism in operation upon the succeeding line.

4. In a justifying-machine, the combination of word and line mechanisms, interlocking clutch devices for stopping one of said mechanisms when the other is started, and devices controlled by each line at a predetermined point in its justification for starting the line mechanism in operation upon the succeeding line.

5. In a justifying-machine, the combination of word and line mechanisms, interlocking clutch devices for stopping either of said mechanisms when the other is started, and means operable by each line upon the approximate completion of its justification, to start the line mechanism in operation upon the succeeding line.

6. In a type-justifying machine, the combination with word and line mechanisms, of devices for coincidently stopping one mechanism and starting the other, provided with a trigger extending into the pathway of the type, to be operated by each line at the approximate completion of its justification.

7. In a type-justifying machine, the combination of word and line mechanisms, devices for coincidently stopping one and starting the other of said mechanisms, provided with a trigger adjacent to the typeway for holding the line mechanism in operation, and means for releasing the trigger to stop the word mechanism and restart the line mechanism at the approximate completion of the justification of each line.

8. In a justifying-machine, the combination of word and line mechanisms, clutch devices for coincidently starting either one and stopping the other of said mechanisms, means for maintaining the clutch devices in position for driving the word mechanism, and means for reversing the clutch devices at a predetermined point in the justification of each line.

9. In a justifying-machine, in combination with the line mechanism thereof, a dual controlling device therefor, operable by the conjoint action of different lines.

10. In a justifying-machine, in combination with the line mechanism thereof, a dual controlling device therefor, operable by the conjoint action of succeeding lines.

11. In a type-justifying machine, in combination with the line mechanism thereof, a dual controlling device therefor, operable by the conjoint action of different lines of type, at predetermined periods in their progress through the machine.

12. In a type-justifying machine, in combination with the line mechanism thereof, a clutch device, and a dual controlling device therefor, operable by the conjoint action of different lines of type at predetermined periods in their progress through the machine.

13. In a type-justifying machine, in combination with the line mechanism thereof, a clutch device, and a dual controlling device therefor, operable by the conjoint action of one line at the approximate completion of its justification, and of the succeeding line when it is ready to be operated upon.

14. In a type-justifying machine, in combination with the line mechanism thereof, a dual controlling device therefor, comprising tripping devices, one of which is operable at the approximate completion of a justified line, the other tripping device being operable by the succeeding line at a predetermined point in its progress.

15. In a type-justifying machine, in combination with the line mechanism thereof, a typeway, means for advancing the type along the typeway, a device for driving the type-advancing mechanism, and a dual controlling device therefor operable by two succeeding lines of type at predetermined periods in their progress along the typeway.

16. In a type-justifying machine, a typeway, means for advancing the lines of type therein, a device for driving the type-advancing mechanism, and a dual controlling device therefor, comprising two starting-triggers located at different portions of the typeway, and operable, one upon the approximate completion of the justification of a line, and the other by the passage of the succeeding line.

17. In a type-justifying machine, the combination of a clutch-pawl 650, starting-levers 612 and 639 and the detents 602 and 622.

18. In a type-justifying machine, the combination of the clutch-pawls 645 and 650, starting-levers 634 and 639 and the link 636.

19. In a type-justifying machine, the combination of the clutch-pawls 645 and 650, the starting-levers 634 and 639, the link 636 and the cam 643.

20. In combination with a typeway, a type-supporting bar at the side of the typeway, and at a slight inclination thereto.

21. In combination with a typeway, a yielding type-supporting bar at the side of the typeway, and at a slight inclination thereto, with means for resiliently pressing the bar against the type.

22. In combination with a typeway, a yielding type-supporting bar mounted upon parallel swinging arms at the side of the typeway and at a slight inclination thereto.

23. In combination with a typeway, a type-retaining presser-bar therefor mounted upon parallel swinging arms at the side of the typeway, and at a slight inclination thereto, with means for resiliently pressing the bar against the type.

24. The combination with a typeway, of two type-engaging grabs, mounted to reciprocate adjacent to the typeway, means for reciprocating one of the grabs and means for connecting and disconnecting the two grabs during a portion of their movement.

25. The combination with a typeway, of two type-engaging grabs mounted to reciprocate adjacent to the typeway, and to advance the type therein, means for reciprocating one of the grabs and means, as a latch, for connecting and disconnecting the two grabs at predetermined periods.

26. The combination with a typeway, of two type-engaging grabs mounted to reciprocate adjacent to the typeway, and to advance the type therein, means for reciprocating one of the grabs, and means, as a latch, carried by one of the grabs and engaging with the other grab to couple them during their backward movement.

27. The combination with a typeway, of two type-engaging grabs mounted to reciprocate adjacent to the typeway, and provided with pawls for advancing the type along the typeway, means for moving one of the grabs in both directions, and means, as a latch, carried by that grab and engaging with the type-pawl of the other grab to hold that pawl away from the type and to couple the two grabs together during their backward movement.

28. The combination with a typeway, of two grabs mounted to reciprocate adjacent to the typeway, and provided with pawls for advancing the type therein, means for moving the first grab forward and back, means for yieldingly moving the second grab forward, and a latch carried by the first grab and engaging with the pawl of the second grab at the end of their forward movements, to retract the said pawl from the line, and move it backwardly with the first grab.

29. The combination with a typeway, of two type-engaging grabs mounted to reciprocate adjacent to the typeway for advancing the type therein, means for reciprocating one of the grabs, a latch carried by said grab for engaging with the other grab to connect the two during a portion of their movement, and means for disengaging the latch at a predetermined position.

30. In a type-justifying machine, the combination with a typeway, of a word-grab for advancing a line of type intermittently while the spacer combinations are being inserted, means for yieldingly advancing the said grab, a line-grab for advancing the succeeding line of type along the typeway, means for operating said grab, and clutch mechanism actuated by the word-grab at the approximate completion of its movement, for inaugurating the succeeding operation of the line-grab.

31. In a machine for justifying lines of type composed with temporary separators, the combination of a typeway, a word-slide mounted to reciprocate transversely of the typeway, provided with means for engaging the foremost separator, and advancing it with its preceding word-type along the typeway, and for releasing the temporary separator from the typeway.

32. In a machine for justifying lines of type composed with temporary separators, a word-slide provided with means for engaging the foremost separator and advancing it with its preceding word-type along the typeway, and provided with a port for releasing the separator from the typeway at the approximate completion of the word-advancing movement.

33. In a machine for justifying lines of type, composed with temporary separators having projecting ends, a typeway, a word-slide provided with members extending above and below the line of type in the pathway of the separator extensions, the members being provided with inclined cams for receiving the extensions of the foremost separator, and advancing it with its preceding word-type along the typeway, one of the members being provided with a port, which is brought into coincidence with the typeway for releasing the separator from the typeway.

34. In a machine for justifying lines of type composed with temporary separators having projecting ends, a typeway, a word-slide having a member extending below the typeway, in the path of the separator ends, and a slot in the said member terminating in a port for releasing the separator.

35. In a machine for justifying lines of type composed with temporary separators having projecting ends, a typeway, a word-slide having a member extending below the typeway in the path of the separator ends, an inclined cam-slot for receiving the end of the foremost separator to advance it along the typeway, and a port communicating with the cam-slot for releasing the separator.

36. In a machine for justifying lines of type composed with temporary separators, having ends projecting above and below the type, a typeway, a word-slide having members extending above and below the typeway in the path of the separator ends, provided with inclined cam-slots for receiving the ends of the foremost separator and advancing it along the typeway; and a port communicating with the cam-slot in the lower member, for releasing the separator at the approximate completion of its advancing movement.

37. In a machine for justifying lines of type composed with temporary separators having ends projecting beyond the type, a typeway, a word-slide mounted to move transversely to the typeway, having projecting members provided with inclined cam-slots extending above and below the line in the pathway of the projecting ends of the separators, for advancing the separators along the typeway, a cam-slot in the lower member terminating in a port, and a discharge-chute beneath the typeway, communicating with the port, for releasing the separator therefrom at the approximate completion of its advancing movement.

38. In a machine for justifying line of type composed with temporary separators having ends projecting beyond the type, a typeway, a word-slide mounted to move transversely to the typeway, and having members projecting above and below the typeway into the pathway of the projecting ends of the separators, and serving as stops therefor at one position of the word-slide, the said members being provided with cam-paths opening through their side walls toward the foremost separator, to receive that separator and advance it along the typeway, and a gate attached to the word-slide for stopping the succeeding word-type to hold it back during the operation of the word-slide.

39. In a type-justifying machine, in combination with a typeway, and a spacer-channel, a word-slide provided with a portal for direct communication between the spacer-channel and the typeway.

40. In a type-justifying machine, the combination of a spacer-channel, a movable word-slide located between the word-slide and the channel, and provided with a portal which registers with the spacer-channel and the typeway at one position of the word-slide.

41. In a type-justifying machine, the combination of a typeway, a spacer-channel located in a plane coincident with that of the typeway; and a movable word-slide located between the channel and the typeway and provided with a portal for opening direct communication from the spacer-channel to the typeway at one position of the word-slide.

42. In a type-justifying machine, the combination of a typeway, spacer-channels located in the plane of the typeway, and a word-slide located between the typeway and the spacer-channels, and provided with portals, which communicate between the channels and the typeway at one position of the word-slide, to allow the passage of spacers directly from the channels into the typeway.

43. In a type-justifying machine, in combination with a typeway, a word-slide for separating the words and advancing them along the typeway, portals located in the word-slide to coincide with spacer-injecting channels beneath the typeway, when the slide is drawn back, portions of the front wall of the typeway being extended across the slide to retain the injected spacers in line with the typeway when the word-slide is pushed forward.

44. In a type-justifying machine, the combination of a galley, a typeway leading into the galley, a word-slide movable transversely to the typeway at the side of the galley, and provided with means for separating the words of a type-line and advancing them into the galley, a spacer-channel located adjacent to the typeway, and a portal in the word-slide coinciding with the spacer-channel at one position of the slide, means for injecting spacers through the portal into the typeway, and means for moving the word-slide portal slightly out of coincidence with the channel to support the injected spacers.

45. In a type-justifying machine, the combination of a typeway, a word-slide movable transversely to the typeway, provided with means for separating the words, and provided with a portal for connecting the typeway with the spacer-channel.

46. In a type-justifying machine, the combination of a typeway, a spacer-channel adjacent thereto, a word-slide movable transversely to the typeway, provided with

means for separating the words, and provided with a portal connecting the spacer-channel with the typeway at one position of the slide, means for moving the word-slide, and means for injecting spacers from the channel through the portal into the typeway.

47. The combination of the word-slide 300, the cam-groove 308, and the port 313.

48. The combination of the typeway 200, the word-slide 300, the inclined grooves 305 and 308 and the port 313.

49. The combination of the typeway 200, the word slide 300, the spacer-channel A^{210}, and the portal 315.

50. The combination of the word-slide 300, the race-way 1823, and the portal 316.

51. In a type-justifying machine, the combination of a typeway, a grab for advancing the type therein, devices for yieldingly moving the grab forwardly, and means for controlling the effect of the grab-moving devices to intermittently arrest the forward impulse.

52. In a type-justifying machine, the combination of a typeway, a grab for advancing the type therein, a device for yieldingly advancing the grab including a drum the rotation of which controls the speed of the grab and means for controlling the rotations of the drum to prevent the grab from exceeding a predetermined speed.

53. In a type-justifying machine, the combination of a typeway, a grab for advancing the type therein, yielding means having a flexible connection with the grab for moving it forward, a drum around which the flexible connection is wound, and means for controlling the rotations of the drum to prevent the grab from exceeding a predetermined rate of movement, and to intermittently arrest that movement.

54. In a type-justifying machine, the combination of a typeway, a word-slide, a grab for advancing a line of type along the typeway, a weight for moving the grab forward to advance the line against the word-slide, and means for sustaining the weight to relieve the word-slide of pressure during its forward movement.

55. In a type-justifying machine, the combination of a typeway, a grab for advancing the type therein, a weight attached by a flexible connection to the grab, a rotatable drum for the flexible connection, and means for controlling the rotations of the drum to vary the effect of the weight and prevent the grab from exceeding a predetermined speed.

56. In a type-justifying machine, the combination of a typeway, a grab for advancing the type therein, a weight and flexible connection attached to the grab, a word-slide movable transversely to the line, against which the type are pushed by the grab, a drum around which the flexible connection of the weight is wound, means for controlling the drum to advance the line at the proper intervals, and means for intermittently reversing the movement of the drum to sustain the weight and relieve the word-slide from the pull thereof, during its operation.

57. In a type-justifying machine, in combination with devices for measuring an unjustified line composed with temporary separators, a stop-jaw, constituting when set an abutment for one end of the line and movable longitudinally of the line to eliminate a predetermined position of the measurment of the spacers, a rack provided with teeth for locating and supporting the stop-jaw at its required longitudinal positions, and means operable by the separators for automatically setting the stop-jaw.

58. In a type-justifying machine, in combination with devices for measuring a line of type composed with temporary separators, a stop-jaw for one end of the line and movable longitudinally thereof, a rack provided with teeth for locating and supporting the jaw at the longitudinal position required for each line, and means controlled by the separators for automatically moving the jaw longitudinally in approximate relation to the required teeth.

59. In a type-justifying machine, in combination with devices for measuring lines of type composed with temporary separators, a stop-jaw located at one side of the typeway, a rack on the other side of the typeway provided with teeth for locating and supporting the stop-jaw at the longitudinal positions required for the respective lines, means for moving the stop-jaw longitudinally in accordance with the number of separators in the line, and means for moving the stop-jaw across the typeway into engagement with its appropriate supporting-tooth of the rack.

60. In a type-justifying machine, in combination with means for measuring a line of type composed with temporary separators, a stop-jaw located at one side of the typeway and movable longitudinally thereof, means operable by the separators to move the stop-jaw longitudinally in accordance with the number of those separators, a rack on the other side of the typeway provided with teeth spaced in accordance with the required elimination of each separator, means for projecting the stop-jaw across the typeway into engagement with its tooth of the rack before the measuring operation and for withdrawing it after the measuring operation.

61. In a type-justifying machine, in combination with devices for measuring a line composed with temporary separators, a stop-jaw for eliminating a predetermined portion of the measurement of the separators, a guide-block movable longitudinally of the typeway and having the stop-jaw mounted thereon to move transversely of the typeway, means for moving the guide-block longitudinally, and means for moving the stop-jaw transversely in the guide-block.

62. In a machine for measuring and justifying lines of type composed with temporary separators, means for eliminating a predetermined amount of the measurement of the separators comprising a stop-jaw for one end of the line, a guide-block for supporting the stop-jaw, and means operable with the separators in each line for moving the guide-block and its stop-jaw longitudinally of the typeway in accordance with the number of those separators.

63. In a machine for measuring and justifying lines of type composed with temporary separators, the combination of devices for varying the operations of the machine in accordance with the number of spaces in the line, and means for setting the said devices in accordance with the number of those spaces, comprising a yielding actuator and an escapement device controlled by the separators.

64. In a machine for measuring and justifying lines of type composed with temporary separators, the combination of adjustable devices for varying the operations of the machine in accordance with the number of spaces in the respective lines, and means for adjusting the said devices in accordance with the number of those spaces, comprising a yielding actuator, and an escapement, operable with the separators, for controlling the extent of adjustment.

65. In a machine for measuring and justifying lines of type composed with temporary separators, the combination of adjustable devices for varying the operations of the machine in accordance with the number of spaces in the respective lines, a yielding actuator for adjusting the devices, and an escapement, operable by the separators in the line, for controlling the adjusting movement in intermittent steps.

66. In a machine for measuring and justifying lines of type composed with temporary separators, means for eliminating a predetermined portion of the separator measurements, comprising a stop-jaw, a guide-block for moving the stop-jaw longitudinally of the line, means for yieldingly moving the guide-block and stop-jaw longitudinally, and an escapement device operable by the separators for controlling that longitudinal movement in accordance with the number of separators.

67. In a machine for measuring and justifying lines of type composed with temporary separators, a stop-jaw for one end of the line, constituting an eliminating device for the separator measurements, a guide-block in which the stop-jaw is mounted to move transversely to the line, means for moving the guide-block longitudinally in accordance with the number of separators in the line, a guide-bar engaging with the stop-jaw throughout its longitudinal movement, and means operable by the line mechanism for moving the stop-jaw across the front of the line before the measuring operation and for withdrawing it therefrom after the measuring operation.

68. In a machine for measuring and justifying lines of type composed with temporary separators, a stop-jaw for one end of the line, constituting an eliminating device for the separator measurements, a guide-block in which the stop-jaw is mounted to move transversely to the line, means for moving the guide-block longitudinally in accordance with the number of separators in the line, a guide-bar engaging with the stop-jaw throughout its longitudinal movement, a pair of swinging arms on which the guide-bar is mounted, and means operable with the measuring devices for swinging the guide-bar toward and from the line to operate the stop-jaw in suitable relation to the measuring operation.

69. In a type-justifying machine, devices for measuring an unjustified line, comprising a slide for engaging with and compacting the line, a second slide connected with the first by a multiplying device, and a dividing-bar pivotally attached to the second slide.

70. In a type-justifying machine, devices for measuring an unjustified line comprising two slides connected by gearing to move simultaneously, one of the slides being provided with a pawl for engaging with the line of type to be measured, and the other slide being connected with measurement-dividing means.

71. In a type-justifying machine, line-measuring devices comprising two slides mounted and movable longitudinally, and connected to move simultaneously, one of the said slides being provided with means for engaging with the line to be measured and the other slide being connected with measurement-dividing mechanism, and means for locking the slides in their line-engaging position.

72. In a type-justifying machine, the combination of measuring devices comprising two slides connected with multiplying-gearing for moving the slides simultaneously, and provided with line-engaging means, as a pawl, yielding means, as a weight, for effecting the measuring movement of the slides, and positive driving means for returning the slides to their backward or resting positions.

73. In a type-justifying machine, in combination with the movable member of a line-measuring device, locking devices therefor, including means for forcing the movable member against the line to compact it, and locking it in its line-compacting position, and means for engaging and disengaging the locking devices from the measuring member at suitable intervals in the measuring operation.

74. In a type-justifying machine, in combination with line-measuring devices thereof, a line compacting and locking device comprising a member for engaging with an end of the line, a pawl for engaging with the line-compacting device, a pawl-slide, a wedge for operating the pawl-slide, a cam, and means operable with the measuring mechanism for connecting the locking device with the measuring member and forcing it against the line.

75. In a type-justifying machine, a computing device for measuring an unjustified line and resolving the ascertained shortage into a multiplied representation of the proportionate shortage of each space in the line, comprising two racks connected by multiplying gearing and provided with means for engaging with the line to be measured, a dividing-bar pivotally attached to the second or increased movement slide, a registering slide connected with the other end of the dividing-bar for receiving the resultant or net movement, and a series of stops for engaging with the bar at intervals in its length in accordance with the required division of the shortage, means for moving the approximate stop in engaging relation to the bar, and means for moving the measuring-slide against the line, and for moving the bar against the stop.

76. In a type-justifying machine, in combination with the measuring and space-dividing mechanism, and the spacer-selecting mechanism thereof, a registering device for receiving the net result of the divided space measurement, a locking device for locking the registering device against movement, after adjustment, and means for adjusting the spacer-selecting device to the locked position of the registering device.

77. In a type-justifying machine, in combination with the measuring and space-dividing mechanism thereof, a registering member for receiving the net result of the divided space measurement, and a locking device therefor, comprising a stationary member, a cam, and intermediate mechanism for clamping the two members together at the desired positions.

78. In a type-justifying machine, in combination with the measuring and space-dividing mechanism thereof, a registering device for receiving the net result of the measuring and space-dividing movement, and a locking device therefor comprising a stationary member interleaved with the registering-slide, a cam, and intermediate mechanism for clamping the interleaved members together at the required locking positions of the registering-slide.

79. In a type-justifying machine, in combination with the measuring and space-dividing mechanism thereof, a registering device for receiving the net result of measurement and division, devices for locking the measuring mechanism against and compacting the line, and means for locking the registering device in its adjusted position.

80. In a type-justifying machine, the combination of a device for measuring composed lines of type, dividing mechanism for dividing the measurement into the number of spaces in the line, a registering device for receiving the net result of the measuring and dividing operations, and means for independently locking the measuring and registering devices in their respective positions, as determined for each line.

81. In a type-justifying machine, the combination of means for composing the line of type, dividing mechanism for dividing the shortage measurement into the number of spaces in the line, a registering device for receiving the net result of the measuring and dividing operations, means for moving the measuring and dividing devices to their respective positions determined by each line, and means for locking them in those positions.

82. In a type-justifying machine, the combination of devices for measuring composed lines of type to ascertain their shortage, a dividing mechanism for dividing the shortage into the appropriate word shortage, comprising a dividing-bar operably connected with the measuring devices, a series of stops arranged in dividing relation to the bar in accordance with the proper numbers of spaces in the line, a registering device for receiving the net result of the measuring and dividing operations, means for moving the appropriate stop to its bar-engaging position, means for operating the measuring devices and for moving the dividing-bar against its stop, and means for locking the measuring and registering devices in the respective positions determined by each line.

83. In a machine for measuring and justifying lines of type composed with temporary separators, a dividing mechanism for dividing the line shortage into word shortage, comprising a dividing-bar and a series of stops therefor arranged in dividing relation to the bar in accordance with the possible number of spaces in the lines, and means for setting the stops in engaging relation to the bar, including an escapement device operable by the temporary separators for controlling the setting movement of the stops in accordance with the number of separators.

84. In a machine for measuring and justifying lines of type composed with temporary separators, dividing mechanism for dividing line shortage into word shortage, comprising a bar operably connected with the measuring devices, a stop-carrier provided with a series of stops arranged thereon in dividing relation to the bar in accordance with the possible number of spaces in the lines, means for yieldingly moving the carrier to bring the stops in consecutive order into engaging relation to the bar, and an escapement device operable by the separators for controlling the movement of the stop-carrier in accordance with the number of separators.

85. In a machine for justifying lines of type composed with temporary separators, in combination with the devices thereof which require adjustment for the differing number of spaces in the respective lines, means for moving the said devices, and an escapement device operable by the separators for controlling the movement in accordance with the number of separators.

86. In a machine for justifying lines of type composed with temporary separators having extensions, an escapement device projecting into the pathway of the separator

extensions, and means for moving the lines past the escapement device, whereby it is operated by each separator in the line.

87. In a machine for justifying lines of type composed with temporary separators having extensions, an escapement device comprising an escapement-wheel, an escapement-pawl engaging therewith, and projecting into the pathway of the separator extensions, and means for moving the type past the pawl, whereby the escapement device is operated by each separator in the line.

88. In a machine for justifying lines of type composed with temporary separators having extensions projecting from the line, a typeway for the lines, an escapement device comprising an escapement-wheel, means for rotating the escapement-wheel, and an escapement-pawl engaging with the wheel, and projecting into the path of the separator extensions, whereby the escapement device is released by each separator in the line.

89. In a machine for justifying lines of type composed with temporary separators having ends projecting above and below the type, a typeway for the lines, and an escapement device comprising a rotatable shaft journaled adjacent to the typeway and provided with ratchet-teeth extending into the pathway of the ends of the separators, an escapement-wheel fixed upon the shaft, an escapement-pawl engaging therewith and projecting into the pathway of the separators, means for moving a line of type along the typeway, and means for rotating the escapement-shaft, whereby it is operated one step for each passing separator.

90. In a type-justifying machine, the combination with the space-dividing mechanism thereof, of a rotatable stop-carrier, means for setting the carrier in accordance with the number of spaces in the line to be justified, a detent-pawl to sustain the carrier in its set position, means for detaching the ratchet and pawl after the dividing operation, and means operable by the word mechanism for returning the carrier to its zero or resting position.

91. In a type-justifying machine, the combination in the space-dividing mechanism thereof, of a rotatable carrier provided with a series of stops, means for setting the carrier in accordance with the number of spaces in the line to be justified, a detent-ratchet and a pawl for sustaining the carrier in its set position during the dividing operation, means operable with the type-handling grabs for detaching the detent of the pawl after the dividing operation, and means operable with the first subsequent stroke of the word mechanism for returning the carrier to its zero or resting position.

92. In a type-justifying machine the combination in the space-dividing mechanism thereof, of a rotatable stop-cylinder, means for setting the stop-cylinder in accordance with the number of spaces in the line to be justified, a detent-ratchet connected with the cylinder, a detent-pawl adjacent thereto to prevent the backward movement of the cylinder during the dividing operation, means operable with the line-grab for withdrawing the pawl, and means operable with the word mechanism for returning the cylinder to its zero position after the dividing operation upon each line.

93. In a machine for justifying type with a series of spacers of different sizes, a rotatable selector for the spacers, provided with selecting means arranged in a cyclic order upon the selector.

94. In a machine for justifying type with a series of spacers of different sizes, a rotatable selector for the spacers, provided with selecting means arranged in a cyclic order upon the selector, and means for repeating the cyclic order of selection by the continued rotations of the selector.

95. In a machine for justifying type with spacers of different sizes, a rotatable selector for the spacers, provided with selecting means brought into operation by the rotation of the selector.

96. In a machine for justifying type with spacers of different sizes, a rotatable selector provided with circumferentially-arranged selecting means for the different spacers.

97. In a machine for justifying type with spacers of different sizes, a rotatable selector provided with selecting means for the different-spacers, arranged circumferentially in the order of the sizes of the spacers.

98. In a machine for justifying type with spacers of different sizes, a rotatable selector provided with spacer-selecting means arranged circumferentially of the selector in the order of the sizes of the spacers, and means for repeating the selection by the continued rotation of the selector.

99. In a machine for justifying type with a series of spacers of different sizes, a rotatable selector provided with means for selecting spacer combinations of increasing size, by the rotation of the selector.

100. In a machine for justifying type with a series of spacers of different sizes, a rotatable selector provided with means for selecting spacer combinations, increasing in size by an added increment at the successive rotative positions of the selector.

101. In a machine for justifying type with a series of spacers of different sizes, a rotatable selector provided with means for selecting spacer combinations, increasing in size by a uniform increment at the successive rotative positions of the selector.

102. In a machine for justifying type with a series of spacers of progressively-increasing size, a rotatable selector provided with a corresponding series of selecting means arranged in the order of the size of the spacers.

103. In a machine for justifying type with a series of spacers of progressively-increasing size, a rotatable selector provided with a corresponding series of selecting means; and means for repeating the selection of the series with an added increment by the successive rotations of the selector.

104. In a machine for justifying type with a series of spacers of progressively-increasing size, a rotatable selector provided with selecting-wings for the respective spacers, arranged in the order of the sizes of the spacers.

105. In a machine for justifying type with a series of spacers of progressively-increasing size, a rotatable selector provided with a corresponding series of selecting-wings arranged in the order of the increasing size of the spacers, and means for rotating the selector to bring the required wing into selecting position.

106. In a machine for justifying type with a series of spacers of progresively-increasing size, a rotatable selector provided with a corresponding series of selecting-wings arranged in a cycle in the order of the increasing size of the spacers, and means for rotating the selector through the required number of cycles of its movement, to locate the required wing in its selecting position.

107. In a machine for justifying type with a series of spacers of progressively-increasing size, a rotatable selector provided with a corresponding series of wings for the respective spacers, and means for selecting an additional basic spacer at each rotation of the selector.

108. In a machine for justifying type with a series of spacers of progressively-increasing size, a rotatable selector provided with a corresponding series of selecting-wings arranged in the order of the progressive sizes of the spacers, whereby the entire series of wings is passed once into selecting position at a single rotation of the selector, and repeats the same cycle at each succeeding rotation thereof, means for rotating the selector to the required cycle, and means for selecting an additional basic spacer for each succeeding higher cycle.

109. In a type-justifying machine, in combination with spacer-selecting mechanism, a selecting-finger, and a rotatable selector coöperating with the selecting-finger to select its spacer.

110. In a type-justifying machine, in combination with spacer-selecting mechanism, a selecting-finger, and a rotatable selector coöperating with the selecting-finger through an arc of its rotative position to select the associated spacer.

111. In a type-justifying machine, in combinstion with spacer-selecting mechanism, a reciprocating selecting-finger, and a rotatable selector for coöperating with the finger to select its associated spacer.

112. In a type-justifying machine, a series of selecting-fingers for the justifying-spacers, and a rotatable selector for acting upon the selecting-fingers to select the desired spacers.

113. In a type-justifying machine, a series of selecting-fingers for the justifying-spacers, and a rotatable selector provided with means for acting upon each selecting-finger throughout an arc of movement of the selector.

114. In a type-justifying machine, a series of selecting-fingers for the justifying-spacers and a rotatable selector for operating the fingers in succession throughout successive arcs of movement of the selector.

115. In a type-justifying machine, a series of selecting-fingers for the justifying-spacers, and a rotatable selector for operating upon the fingers one at a time, the different fingers being operated upon while the selector is in successive arcs of its movement.

116. In a type-justifying machine, a series of selecting-fingers for the justifying-spacers, and a rotatable selector for operating each of the fingers in succession at each rotation of the selector and throughout an arc of the selector movement proportionate to the number of fingers.

117. In a type-justifying machine, a series of selecting-fingers for the justifying-spacers, a rotatable selector for operating the fingers in succession at each rotation of the selector and throughout an arc of the rotative movement of the selector proportionate to the number of fingers, and means for setting the selector in accordance with the space measurement of the line of type.

118. In a type-justifying machine, in combination with a rotatable selector for the justifying-spacers, a cumulator coöperating with the selector.

119. In a type-justifying machine, the combination of a rotatable selector for justifying-spacers, and a cumulator operatively connected therewith for building up the spacer combinations in accordance with the rotative positions of the selector.

120. In a type-justifying machine, the combination of a rotatable selector for the justifying-spacers, a cumulator operable therewith, provided with means for adding an increment to the spacer combination at each rotation of the selector.

121. In a machine for justifying type with a series of spacers of different sizes, a rotatable selector for selecting a series of spacers, and a cumulator coöperating with the selector to add an increment to the spacer combinations, according to the position of the selector.

122. In a machine for justifying type with a series of spacers of different sizes, a selector for the spacers, and a cumulator coöperating with the selector to change the spacer combinations by desired increments in accordance with the rotative positions of the selector.

123. In a machine for justifying type with a series of spacers of different sizes, a rotatable selector for selecting a series of spacers by its rotative positions, and a cumulator coöperating with the selector to change the spacer combination by an increment at each rotation of the selector.

124. In a machine for justifying type with a series of spacers of progressively-increasing size, a rotatable selector provided with selecting means for the spacers, arranged in the order of their increasing size, and a cumulator coöperating with the selector for controlling the selecting devices, to change the size of the selected combination by an increment at each repeated rotation of the selector.

125. In a type-justifying machine, in combination with a spacer-channel, a plunger for removing spacers from the channel, a reciprocating pawl, and spacer-selecting devices for guiding the pawl into or out of engagement with the plunger.

126. In a type-justifying machine, the combination of a spacer-channel, a series of plungers for ejecting a corresponding number of spacers from the same channel, spacer-selecting devices, and means operable by the spacer-selecting devices for operating one or more of the plungers.

127. In a type-justifying machine, the combination of a spacer-channel, a series of warded plungers for ejecting a corresponding number of spacers from the same channel, a reciprocating pawl, and spacer-selecting devices for guiding the pawl in engaging relation with the desired number of plungers.

128. In a type-justifying machine, the combination, with a spacer-channel, of a reciprocating pawl for ejecting spacers from the channel, spacer-selecting devices, and a guide operable by the spacer-selecting devices for controlling the position of the pawl to vary the number of spacers ejected by it from the channel.

129. In a type-justifying machine, the combination of a type-channel, a series of plungers for ejecting type from the channel, spacer-selecting devices, and means controlled by the spacer-selecting devices for operating one or more of the plungers.

130. In a type-justifying machine, the combination of a type-channel, a series of plungers for ejecting type from the channel, each of a thickness substantially equaling that of the type, selecting devices, and means controlled by the selecting devices for operating one or more of the plungers.

131. In a type-justifying machine, the combination of a spacer-channel, a series of plungers for ejecting one or more spacers, spacer-selecting devices, and a dual controlling device operable by the spacer-selecting devices for selecting the required number of plungers.

132. In a type-justifying machine, the combination of spacer-selecting devices, comprising a selector and a cumulator, a spacer-channel, and means operable under the dual control of the selector and the cumulator for ejecting one or more spacers from the spacer-channel.

133. In a type-justifying machine, the combination of spacer-selecting devices, comprising a selector and a cumulator, a spacer-channel, and means controlled both separately and jointly by the selector and the cumulator for ejecting one or more spacers from the channel.

134. In a type-justifying machine, the combination of spacer-selecting devices, comprising a selector and a cumulator, a spacer-channel, and spacer-ejecting means operable under the independent control of the selector and cumulator, and also operable under their joint control for ejecting one or more spacers from the channel.

135. In a type-justifying machine, the combination of spacer-selecting devices, comprising a selector and a cumulator, a series of spacer-channels, means operable only under the control of the selector for ejecting spacers from some of the channels, and means operable either by the independent or the joint control of the selector and the cumulator for ejecting one or more type from other of the channels.

136. In a machine for justifying type with a series of spacers of different sizes, spacer-selecting devices comprising a selector and a cumulator, a series of channels for the respective spacers, means operable only under the control of the selector for ejecting a single spacer from some channels of the series, and means operable under both the separate and the joint control of the selector and cumulator for selecting one or more spacers from another of the channels.

137. In a machine for justifying lines of type with a series of spacers of progressively-increasing size, spacer-selecting devices comprising a selector and a cumulator, a series of channels for the spacers, and means operable under the control of the selector for ejecting a single fractional spacer from one of the channels, and means operable both independently and jointly by the selector and the cumulator for ejecting one or more basic spacers from another of the channels.

138. In a type-justifying machine, the combination of a spacer-channel, a series of plungers for ejecting one or more spacers, spacer-selecting devices comprising a selector and a cumulator, and means operable by the selector and by the cumulator for selecting the required number of plungers.

139. In a machine for justifying type with a series of spacers of progressively-increasing size, a rotatable selector provided with selecting means arranged in the order of the increasing sizes of the spacers, whereby each is brought into selecting position during a single rotation of the selector, and repeats this cycle of selective movement

for each rotation thereof, means for rotating the selector to its position for selecting the required spacers, and means operable by the rotation of the selector for selecting an additional basic spacer at each further rotation of the selector.

140. In a machine for justifying type with spacers of progressively-increasing sizes, a rotatable selector provided with selecting means arranged in the order of the increasing size of the spacers, and a basic spacer-adding device operably connected with the selector for selecting an additional basic spacer at the commencement of each succeeding cycle of movement of the selector.

141. In a machine for justifying type with a series of spacers of progressively-increasing sizes, a rotatable selector provided with a corresponding series of selecting-wings arranged in the order of increasing size of the spacers, means for rotating the selector through the required cycles of its movement to locate the required wing in its selecting position, and an auxiliary basic-spacer-adding device for selecting an additional basic spacer at the beginning of each succeeding cycle of rotation of the selector.

142. In a type-justifying machine in combination with the measuring and spacer-ejecting devices thereof, a rotary selector provided with a series of wings for the respective spacers; means for rotating the selector to the position determined by the measuring operation, and means for locking it in that position.

143. In a type-justifying machine in combination with measuring devices and with means for forming justifying combinations from a series of spacers of progressively-increasing size, a rotary selector provided with a corresponding series of selecting-wings arranged in the order of the increasing size of the spacers, means for rotating the selector through the required number of cycles of its selecting movement to locate it in the position indicated by the measuring devices, and a cumulator device operably connected with the selector for selecting an additional basic spacer at the commencement of each succeeding higher cycle of movement of the selector.

144. In a machine for justifying lines of type with a series of spacers of progressively-increasing size, the combination of measuring devices, a rotary selector provided with a corresponding series of wings for the respective spacers, a cumulator device operably connected with the selector, means for ejecting one or more of the basic spacers, and means operable by the selector and the cumulator device for selecting the required number of basic spacers.

145. The combination of type-raceway, means for advancing one or more type side by side along the raceway, and a gate adjustable to permit one or more type to pass along the raceway.

146. The combination of a type-raceway, a gate adjustable to permit one or more type to pass along the raceway, and means for advancing one or more type along the raceway in accordance with the adjustments of the gate.

147. The combination of a type-raceway, a gate adjustable to permit one or more type to pass along the raceway, and means adjustable with the gate for advancing along the raceway the number of type suited to the opening of the gate.

148. The combination of a type-raceway, means for advancing one or more type along the raceway, and a gate adjustable with the type-advancing means for permitting the required number of type to pass along the raceway.

149. In a type-justifying machine the combination of spacer-selecting devices, a raceway, a spacer-channel arranged transversely to and opening into the raceway, a series of plungers in the raceway each of a thickness approximating that of the spacers, the plungers being provided with a series of selecting-wards, and means operable with the spacer-selecting devices of the machine for engaging with the wards of one or more of the plungers, and moving them longitudinally to eject a corresponding number of spacers.

150. In a type-justifying machine the combination with a typeway, a spacer-channel, a raceway crossing the spacer-channel, and extending into the typeway, a series of plungers in the raceway, each of a thickness approximately equaling that of the spacers, and means for selecting one or more of the plungers to inject the corresponding number of spacers from the spacer-channel into the typeway.

151. In a type-justifying machine the combination of a typeway, a spacer-channel, a raceway crossing the end of the spacer-channel and extending into the typeway, a series of plungers in the raceway, each of a thickness approximately equaling that of the spacers, a gate for closing the raceway, means for selecting one or more of the plungers to inject the corresponding number of spacers from the spacer-channel into the raceway, and means for opening the gate to permit the said number of spacers to pass.

152. In a type-justifying machine the combination with spacer-selecting devices, of a typeway, a spacer-channel, a raceway crossing the spacer-channel, and extending into the typeway, a series of plungers in the raceway at one side of the spacer-channel, each of a thickness approximately equaling that of the spacers, and provided with distinguishing selecting-wards, a reciprocating selector-pawl arranged in engaging relation to the selecting-wards of the plungers, and means operable by the spacer-selecting devices for guiding the selector-pawl in or out of engaging relation to one or more of the plungers.

153. In a type-justifying machine the combination with spacer-selecting devices, of a spacer-channel, a raceway crossing the channel, a series of plungers in the raceway at one side of the spacer-channel, each of a thickness approximately equaling that of the spacers, and provided with projecting wards decreasing in length from the first through the succeeding plungers, a selecting-pawl mounted to reciprocate in engaging relation to the wards, and means operable by the spacer-selecting devices for guiding the selecting-pawl in its required relation to the wards.

154. In a type-justifying machine the combination with spacer-selecting devices, of a spacer-channel, a raceway crossing the channel, a series of plungers in the raceway at one side of the channel, each of a thickness approximately equaling that of the spacers, provided with selecting-wards which project to a decreasing extent from the first plunger onward through the series, a selecting-pawl mounted to reciprocate in engaging relation to the wards, a guide-plate for the pawl, and means operable from the spacer-selecting devices for controlling the position of the guide-plate and thereby controlling the number of spacers to be ejected from the channel.

155. In a type-justifying machine in combination with a spacer-channel, a plunger approximately equaling the thickness of the spacers in the channel, and movable transversely thereto, a reciprocating pawl adjacent to the plunger, spacer-selecting devices, and means operable by the spacer-selecting devices for moving the pawl into and out of engagement with the plunger.

156. In a type-justifying machine the combination of a raceway, a spacer-channel arranged transversely to and opening into the raceway, a plunger located in the raceway to reciprocate past the channel and eject the spacers therefrom, a reciprocating pawl in engaging relation to the plunger, spacer-selecting devices, and means operable by the spacer-selecting devices for guiding the pawl either in or out of engaging relation to the plunger.

157. In a type-justifying machine the combination of a raceway, a type-channel arranged transversely to and opening into the raceway, a series of plungers for ejecting type from the channel, arranged side by side in the raceway and each of a thickness equaling that of the type, spacer-selecting devices, and means controlled by the spacer-selecting devices for operating one or more of the plungers.

158. In a type-justifying machine the combination of a raceway, a spacer-channel arranged transversely to and opening into the raceway, a series of plungers in the raceway at one side of the space-channel, each of a thickness approximately equaling that of the spacers, a gate adjacent to the spacers for closing the raceway on the opposite side of the channel from the plungers, spacer-selecting devices, and means operable by the spacer-selecting devices for moving one or more of the plungers and opening the gate for the passage of the corresponding number of spacers.

159. In a type-justifying machine, the combination of a rotatable selector for determining the sizes of the justifying-spacers, and a correcting device for advancing the selector in accordance with the required correction.

160. In a type-justifying machine, the combination of a rotatable selector for determining the sizes of justifying-spacers, and means for advancing the selector to augment the size of the spacer or spacer combination in accordance with the required correction.

161. In a machine for justifying type with a series of spacers of different sizes, a rotatable selector for the spacers, provided with selecting means arranged in a cyclic order, and a correcting device for moving the selector to advance the cyclic order of selection.

162. In a machine for justifying type with a series of spacers of different sizes, a rotatable selector for the spacers, provided with selecting means arranged in a cyclic order upon the selector; and a correcting device for advancing the selector to bring the succeeding selecting means into operation.

163. In a machine for justifying type with a series of spacers of progressively-increasing size, a rotatable selector for the spacers, provided with selecting means arranged in the order of the sizes of the spacers, and a correcting device for advancing the selector to bring into selecting position the selecting means for the next larger spacer.

164. In a machine for justifying type with a series of spacers of progressively-increasing size, a rotary selector provided with a corresponding series of selecting-wings arranged in the order of the increasing size of the spacers, and a correcting device for advancing the selector to bring a different wing into its selecting position.

165. In a machine for justifying lines of type with a series of spacers of progressively-increasing size, a rotary selector provided with a corresponding series of selecting-wings arranged in the order of the increasing size of the spacers, means for rotating the selector through the required number of cycles of its movement to locate the required wing in its selecting position, and a correcting device for advancing the selector to bring a different wing into selecting position for a larger size of spacer.

166. In a machine for justifying lines of type with a series of spacers of progressively-increasing size, a rotary selector provided with a corresponding series of selector-wings arranged in the order of the increasing size of the spacers, means for rotating the selector through the required number of cycles of its movement to locate the required wing in its selecting position, and a correcting device operable when the required size of spacer is between the size thus selected and the next largest size, to advance the selector and move the succeeding wing into selecting position.

167. In a machine for justifying lines of type with a series of spacers progressing in size by a uniform increment, a rotary selector provided with a corresponding series of selector-wings arranged in the order of the increasing size of the spacers, means for rotating the selector to locate the required wing in its selecting position, and operating when the required size of spacer is between two of the regular sizes, to set in its selecting position the wing for the next smaller size, and a correcting device for advancing the selector to bring the succeeding wing into selecting position when the deficiency amounts to the increment between the sizes of spacers.

168. In a type-justifying machine, in combination with a rotatable selector for determining the sizes of the justifying-spacers, a correcting mechanism comprising means for advancing the selector, and a guard-disk for controlling the application of the advancing means in accordance with the extent of the required correction.

169. In a type-justifying machine, in combination with a rotatable selector for the justifying-spacers, a correcting mechanism comprising means for advancing the selector, a guard-disk for controlling the application of the selector-advancing means, and means for setting the disk in accordance with the required correction.

170. In a type-justifying machine, in combination with a rotatable selector for the justifying-spacers, a correcting mechanism comprising means for initially setting the selector in accordance with the space measurement or shortage of a line of type, means for advancing the selector from its initial position to select a larger spacer or spacer combination, and means for modifying the rate of advancement of the selector in accordance with the required selection.

171. In a type-justifying machine, in combination with a rotatable selector for the justifying-spacers, correcting mechanism, comprising means for initially setting the selector in accordance with the space measurement or shortage of a line of type, means for advancing the selector to select a larger spacer or spacer combination, and a guard-disk for controlling the application of the advancing means in accordance with the amount of the required correction.

172. In a type-justifying machine, in combination with a rotatable selector for the justifying-spacers, correcting mechanism comprising means for initially setting the selector in accordance with the space measurement or shortage of a line of type, means for advancing the selector to select a larger spacer or spacer combination, and means for returning the selector to its initial position.

173. In a type-justifying machine, in combination with a rotatable selector for the justifying-spacers, correcting mechanism comprising means for initially setting the selector in accordance with the space measurement or shortage of a line of type, means for advancing the selector to select a larger spacer or spacer combination, and an oscillating guard-disk provided with means for controlling the application of the selector-advancing means in accordance with the required correction.

174. In a type-justifying machine, in combination with a rotatable selector for the justifying-spacers, correcting mechanism comprising means for initially setting the selector in accordance with the space measurement or shortage of a line of type, a ratchet and a series of pawls for advancing the selector from its initial position, and an oscillating guard-disk for controlling the application of the pawls to the ratchet to regulate the advancing movement of the selector in accordance with the required correction.

175. In a type-justifying machine, the combination with a rotatable selector for the justifying-spacers, correcting mechanism, comprising means for initially setting the selector in acordance with the space measurement or shortage of a line of type, a ratchet and a series of pawls for advancing the selector, and a fender for holding some of the pawls out of operation during a portion of their stroke.

176. In a type-justifying machine, in combination with a rotatable selector for the justifying-spacers, correcting mechanism comprising means for initially setting the selector in accordance with the space measurement or shortage of a line of type, a ratchet and a series of pawls for advancing the selector from its initial position to select a larger spacer or spacer combination, an oscillating guard-disk, and a fender for controlling the application of the pawls to the ratchet in accordance with the required amount of correction.

177. In a type-justifying machine, in combination with a rotatable selector for the justifying-spacers, correcting mechanism comprising means for initially setting the selector in accordance with the space measurement or shortage of a line of type, means for advancing the selector in accordance with the required correction, to select a larger spacer or spacer combination, a ratchet-sector and detent for detaining the selector in the succeeding steps of its advancing movement, and a switch-pawl for releasing the selector to permit it to return to its initial position.

178. In a type composing and justifying machine, in combination with the composing-channels for the character-type, temporary separators for the composed words and lines, a channel for holding the separators in operative relation to the composing devices, and means for ejecting the separators from the lines, during justification, and for returning them to their composing-channel.

179. In a type composing and justifying machine, in

combination with temporary word and line separators, channels for the separators located in operative relation to the composing-machine, and provided with separator-ejecting devices operable from the keyboard, means for eliminating the separators from the lines during justification, and means for returning them to their composing-channels.

180. In a type composing and justifying machine, the combination of separators for the composed words and lines, separate channels for the separators arranged in cooperative relation to the composing device, means operable from the keyboard of the composing-machine, for inserting the separators during the composition, means for ejecting the separators from the line during justification, and means for returning them to their composing-channels.

181. In a type composing and justifying machine, the combination of word and line separators and channels therefor, located in operative relation to the composing devices, means for eliminating the separators from the line, and means for returning the separators to and distributing them in their respective composing-channels.

182. In a type composing and justifying machine, the combination of word and line separators of differing length, composing-channels therefor located in operative relation to the composing devices of the machine, means for ejecting the separators from the lines during justification, means for returning the separators, and means cooperating with the differing lengths of the separators for distributing them in their respective composing-channels.

183. In a type composing and justifying machine, the combination of word and line separators of differing length, composing-channels therefor located in coöperative relation to the composing devices, means for inserting the separators in the line during the composition, means for ejecting the separators from the lines during justification, a conveyer for returning the separators, and means for supporting the ends of the longer separators to guide them across the channel for the shorter separators to their own channel.

184. In combination with type-handling mechanism, a flexible conveyer, provided with a pocket for receiving substantially the full thickness of the type.

185. In combination with type-handling mechanism, an endless flexible conveyer, provided with a pocket for receiving substantially the full thickness of the type.

186. In combination with type-handling mechanism, an endless flexible conveyer, provided with a longitudinal pocket.

187. In combination with type-handling mechanism, an endless flexible conveyer provided with a longitudinal pocket of a width and depth substantially equaling the width and depth of the type.

188. In combination with type-handling mechanism, an endless flexible conveyer provided with a longitudinally-extending pocket of a width substantially equaling the width of pieces to be fed, means, as pulleys, for driving and guiding the conveyer, means for feeding pieces into the pocket, and means for ejecting the pieces therefrom.

189. In combination with type-handling mechanism, an endless flexible conveyer provided with a longitudinally-extending pocket of a width and depth substantially equaling the width and depth of pieces to be fed, means, as a system of pulleys, for driving and guiding the conveyer, means for feeding and pressing pieces into the conveyer, and means for ejecting the pieces from the pocket at their destination.

190. In combination with type-handling mechanism, an endless flexible conveyer, provided with a longitudinally-extending pocket of substantially the width and depth of pieces to be fed, means, as a system of pulleys, for driving and guiding the conveyer in its desired path, means for feeding the succeeding pieces tightly into the pocket, and means for ejecting the pieces from the pocket at their destination.

191. In a type composing and justifying machine, employing temporary separators, in combination with the composing and justifying devices thereof, an endless flexible conveyer for returning the separators from the justifying devices to the composing devices, provided with a longitudinal pocket of a width and depth suitable for holding the separators tightly, means for feeding the separators into the conveyer-pocket, and means for ejecting them therefrom.

192. In a type composing and justifying machine employing temporary separators, an endless flexible conveyer for returning the separators from the justifying devices to the composing devices, provided with a longitudinal pocket for holding the separators tightly, means for transferring the separators from the lines to the conveyer during justification and means for ejecting the separators from the conveyer at the composing devices.

193. In a type-justifying machine, a channel for cylindrical separators, having a stepped contour for guiding the separators in an approximately parallel relation along the channel.

194. In a type-justifying machine, a gravity-channel for cylindrical separators having a stepped, zigzag contour for guiding the separators in an approximately level position along the channel.

195. In a type-composing machine, the combination with the distributing and justifying mechanism thereof, of means for automatically conveying the justifying-spacers from the distributing mechanism to the justifying mechanism.

196. In a type-composing machine, the combination with the distributing and justifying mechanisms thereof, of means for discharging the justifying-spacers from their respective channels of the distributing mechanism and means for conveying them to their respective channels in the justifying mechanism.

197. In a type-composing machine, the combination of spacer-channels appurtenant to the justifying mechanism, and of spacer-distributing channels appurtenant to the distributing mechanism, means for automatically discharging and conveying the spacers from their distributing to their justifying channels, and means for advancing the spacers along their respective justifying-channels.

198. In a type-composing machine, the combination of spacer-channels appurtenant to the justifying mechanism, and of spacer-channels appurtenant to the distributing mechanism, a series of chutes connecting the corresponding channels of the mechanisms, and means for advancing the spacers along the justifying-channels from the connecting ends of the chutes.

199. In a type-justifying machine, the combination of a spacer-channel, a follower for yieldingly advancing the spacers along the channel, means for replenishing the supply of spacers behind the follower, and means operable at a predetermined point in the forward movement of the follower, to move the follower back to engage with an additional supply of spacers.

200. In a type-justifying machine, the combination of a spacer-channel, a follower for yieldingly advancing the spacers along the channel, means for replenishing the supply of spacers behind the follower, mechanism for moving the follower back to engage with an additional supply of the spacers, and a trigger device for holding the said mechanism out of operation, and arranged to be tripped to release the said mechanism at a predetermined point in the forward movement of the follower.

201. In a type-justifying machine, the combination of a spacer-channel, a follower for yieldingly advancing the spacers along the channel, means for replenishing the supply of spacers behind the channel, single-revolution mechanism for moving the follower back to engage with an additional supply of spacers, and a trigger device for inaugurating the revolutions of the said mechanism, arranged to be tripped by the follower at a predetermined portion of its forward movement.

202. In combination with a type-justifying machine, a leading mechanism, comprising a plunger for inserting the leads between the justified lines, and a plunger for advancing the column of lines and leads, means operable by the justifying mechanism for actuating the plungers, and means for varying the amplitude of movement of the plunger-actuating means to effect single or multiple leading.

203. In combination with a type-justifying machine, a leading mechanism, comprising a plunger for inserting leads between the justified lines, and a plunger for advancing the column of lines and leads, a pivotally-mounted member for actuating the said plungers, and means for operating the said member from the justifying-machine, adapted to be attached at different radial distances from the pivotal support of the actuated member to vary the amplitude of its movements.

204. In combination with a type-justifying machine, a leading mechanism comprising a plunger for inserting the leads between the justified lines, a pivotally-mounted cam for the plunger having a contour suited for imparting a double reciprocation to the plunger, and means connected with the type-justifying machine for imparting to the cam a varying amplitude of movement in accordance with the number of leads to be inserted.

205. In combination with a type-justifying machine, a leading mechanism, comprising a plunger for inserting the leads between the justified lines, a pivotally-mounted cam for operating the plunger, having a contour suited to impart one or more reciprocations to the plunger according to the number of leads required, and means operable from the type-justifying machine for imparting to the cam a variable amplitude of movement to effect single or multiple leading.

206. In combination with a type-justifying machine, a leading mechanism comprising a plunger for inserting leads between the justified lines, and a plunger for advancing the column of lines and leads, pivotally-mounted cams for operating the respective plungers, having contours adapted to impart one or more reciprocations to the plungers, according to the amplitude of movement of the cams, and means operable from the type-justifying machine for imparting a variable amplitude of movement to the cams for single or multiple leading.

207. In combination with a type-justifying machine, a leading mechanism comprising a plunger for inserting leads between the justified lines, a plunger for advancing the column of lines and leads, cams for operating the respective plungers, and means coupling and uncoupling the cams to and from each other.

208. In a type-justifying machine, a word-slide provided with means for separating the line at the successive word-spaces and clamping the separate portions of the line.

209. In a type-justifying machine, a word-slide provided with means for separating the line at the successive word-spaces and clamping the separate portions of the line and for releasing temporary spacers from the line, in combination with means for inserting the justifying-spacers, said word-slide being constructed to retain the justifying-spacers during the advance of the word to the galley.

210. In a type-justifying machine, a word-slide provided with means for separating the line at the successive word-spaces and releasing temporary spacers from the line in combination with means for inserting the justifying-spacers, said word-slide being constructed to retain the justifying-spacers during the advance of the word to the galley.

211. In a type-justifying machine, a word-slide provided with means for separating the line at the successive word-spaces and clamping the separate portions of the line and for releasing temporary spacers from the line in combination with means for inserting the justifying-spacers, said word-slide being constructed to retain the justifying-spacers and acting to advance the word to the galley.

212. In a type-justifying machine, selecting mechanism including a selector for selecting the same spacer in two or more of its positions, and means for determining by the position in which the selector is set, its correcting movement for selecting a different spacer.

213. In a type-justifying machine, selecting mechanism including a movable selector by which the same spacer is selected throughout a certain range of its movement; in combination with correcting mechanism controlled by the position in which the selector is set within such range of movement.

214. In a type-justifying machine, selecting mechanism including a selector adapted to move step by step from the position in which it selects one spacer to the position in which it selects the next larger spacer and to select the smaller spacer in the intermediate positions, in combination with correcting mechanism whereby the correction is determined by the one of the intermediate positions in which the selector is initially set.

215. In a type-handling machine, a series of ejecting-plungers provided with projecting wards of different lengths in combination with means for engaging said wards to actuate one or more of the plungers.

216. In a type-justifying machine, the combination with a raceway and spacers therein, of a series of plungers adapted to eject one or more of said spacers in accordance with the number of plungers operated and provided with projecting wards of different lengths, and means for engaging said wards to actuate one or more of the plungers.

217. In a machine for justifying lines of type set with temporary word and line separators, the combination with space-inserting mechanism for inserting justifying-spacers between the words, of means for rendering the space-inserting mechanism inoperative at the end of the line.

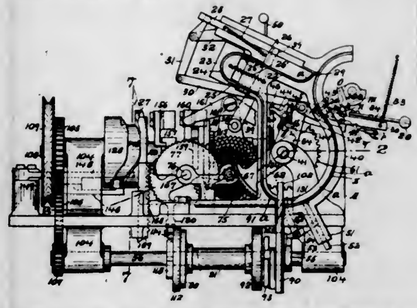
218. In a machine for justifying lines of type set with temporary word and line separators, the combination with space-inserting mechanism for inserting justifying-spacers in place of separators between the words, of means for rendering the space-inserting mechanism inoperative to prevent justifying-spacers being inserted in place of the line-separators.

219. A locking device consisting of a number of interlacing leaves on the two members to be locked together, and a clamping device for the leaves.

220. In a type-justifying machine, in combination with the measuring and spacer-selecting devices, a swinging segmental cumulator operable by the measuring devices for controlling the spacer-selecting devices.

221. In a type-justifying machine, in combination with the measuring and spacer-selecting devices, a swinging segmental cumulator controlled by the measuring devices and provided with steps for modifying the action of the spacer-selecting devices.

844,569. TYPE-JUSTIFYING MACHINE. WALTER J. ENNISSON, New York, N. Y., assignor to the Unitype Company, a Corporation of New Jersey. Filed Aug. 23, 1904. Serial No. 221,814.



Claim.—1. In a justifying mechanism, a measuring and dividing mechanism including two cones in combination with adjustable means for operatively connecting said cones to divide the shortage by the number of spaces in the line to be justified.

2. A mechanism for justifying a composed line of type including devices for measuring an unjustified composed line, and dividing the shortage in the line by the number of word-spaces, said devices including two cones and

means for operatively connecting said cones in accordance with the number of word-spaces in the line.

3. In a justifying mechanism, a pair of dividing-cones, means for rotating one of said cones in accordance with the measured shortage of the unjustified line and adjustable connections between the cones for moving the second cone an amount proportional to the thickness of the individual justifying-spaces of the line.

4. In a justifying mechanism, a pair of rotatable dividing-cones, adjustable connecting means whereby one of said cones is made to rotate in variable ratios to the rotation of the other cone, and means for setting said connecting means in accordance with the number of spaces in the line to be justified.

5. In a justifying mechanism, a pair of oppositely-pointed dividing-cones with parallel spindles, in combination with adjustable means for rotating one of said cones in variable ratios to the rotation of the other cone.

6. In a justifying mechanism, a pair of cones one of which is rotatable in accordance with the measured shortage of the unjustified line and the other connected thereto to rotate in one-half, one-third, or other fractional part of the rotation of said measuring-cone in accordance with the number of spaces in the line.

7. In a justifying mechanism a line-measuring device, a space-determining device, and two parallel rotatable shafts, one of which shafts is suitably connected with said measuring device and the other with said determining device, in combination with two cones suitably supported upon said shafts, and adjustable means for connecting said cones on different lines along the cones to vary the movement of the space-determining device by the measuring device.

8. A mechanism for ascertaining the thickness of spaces required to justify a composed line of type comprising means for measuring the unjustified line of type, a gage, and means consisting of a set of dividing-cones for transmitting the measuring result to said gage, in combination with means for operably connecting said cones in accordance with the number of spaces in the line.

9. In a justifying mechanism, a rotatable cone, controlling means within said cone, and adjustable connecting means between said cone and said controlling means, and devices for adjusting said means in accordance with the number of spaces in the line to be justified.

10. In a justifying mechanism, a computing-cone operably connected with an arm adapted to revolve therewith, said arm being adapted to engage with the line to be justified.

11. In a justifying mechanism, a cone, a device in connection with said cone for measuring an unjustified line, and a second cone movable relatively to the first-mentioned cone in proportion to the number of spaces in the line.

12. In a justifying mechanism, a space-key, a justifying-cone, and a reciprocating slide coöperating with said cone and controlled by the action of said key, its operative position for each line depending upon the number of word-spaces in the line.

13. In a justifying mechanism, a justifying-cone comprising a plurality of gears loosely mounted upon a common shaft and a sliding key adapted to lock any one of said gears to the shaft in combination with means for adjusting said key and rotating said gears to divide the line shortage by the number of spaces.

14. In a justifying mechanism, a justifying-cone comprising a plurality of gears loosely mounted upon a common shaft, a sliding key adapted to lock any one of said gears to the shaft, and means for adjusting said key in accordance with the number of spaces in the line to be justified.

15. In a justifying mechanism, a rotatable justifying-cone, means for measuring an unjustified line and rotating said cone in accordance with the shortage, and a space-determining gage, in combination with means for adjustably connecting said cone and said gage in accordance with the number of spaces in the line to be justified.

16. In a justifying mechanism, a line-measuring mechanism, and a cone-dividing mechanism consisting of two sets of gears forming two gear-cones with the gears of one set in mesh with the corresponding gears of the other set, in combination with means whereby one of said cones may be actuated by one of the gears of the other of said cones according to the number of spaces in the line to be justified.

17. In a justifying mechanism, two gear-cones, each comprising a number of gears, with the gears of one cone fixed to a shaft and the gears of the other cone loose upon a shaft, in combination with means for selecting one of the gears of the second cone in accordance with the number of spaces in the line and rotating it in accordance with the shortage of the line.

18. In a justifying mechanism, a gear-dividing mechanism, having a pair of meshed gears for each number of word-spaces in a line, and means for selecting said gears and rotating them in accordance with the shortage of the line to be justified.

19. In a justifying mechanism, a line-measuring mechanism comprising a measurer-shaft and measuring-arm moving therewith, a register-shaft, and a gear connection between said shafts consisting of independently-operable sets of gears for each number of word-spaces in a line, in combination with means whereby one set of said gears is operated independently of the other sets to transmit the rotation of the measurer-shaft to the register-shaft.

20. In a justifying mechanism, a measurer-shaft and a series of independently-rotatable gears loosely mounted thereon, a register-shaft with corresponding series of gears fixed thereto, and means for locking some one of said measurer-gears to the measurer-shaft in accordance with the number of spaces in the line to be justified, whereby said register-shaft is caused to rotate in accordance with the measurement of the line and the number of spaces.

21. In a justifying mechanism, a measuring and dividing mechanism including a cone consisting of a plurality of gears loosely mounted upon the cone-shaft, and a movable key adapted to slide on the shaft to lock one of said gears to the shaft for the dividing operation and means for adjusting said key and rotating said gears to divide the line shortage by the number of spaces.

22. In a justifying mechanism, a measuring and dividing mechanism including a cone consisting of a plurality of gears loosely mounted upon the cone-shaft, a movable key adapted to slide on the shaft to lock one of said gears to the shaft for the dividing operation, and means for adjusting said key in accordance with the number of spaces in the line to be justified.

23. In a justifying mechanism, a measuring and dividing mechanism including a cone consisting of a series of gears loosely mounted upon a shaft, means for operably connecting a single gear of said series to said shaft consisting of a sliding key, and detachable means for setting said key in its required position according to the number of spaces in the line to be justified.

24. In a justifying mechanism, a measuring and dividing mechanism including a measuring-shaft, a series of independently-rotatable gears similarly provided with keyways and loosely mounted upon said shaft, a key sliding in said keyways for locking some one of said series of gears to the shaft, means for securing the alinement of said keyways, and means for setting said key in accordance with the number of spaces in the line to be justified.

25. In a justifying mechanism, a measurer-shaft and devices operable thereby for measuring an unjustified line, in combination with a register-shaft and mechanism operable thereby for setting a gage to determine the thickness of justifying-spaces in accordance with the rotation of said measurer-shaft as communicated to the register-shaft, and means for varying the movement of the register-shaft by the measurer-shaft in accordance with the number of spaces.

26. In a justifying mechanism, a line-measuring mechanism comprising a spindle and an arm pivoted thereon adapted to engage a composed line of type, a cone rotatable by the movement of said arm, a space-determining mechanism, and means for operably connecting said mechanism

at predetermined points longitudinally of said cone in accordance with the number of word-spaces in the line to be justified.

27. In a justifying mechanism, two rotatable shafts one of which is provided with means for measuring an unjustified line and the other is provided with means for setting a gage to determine the thickness of spaces required to justify said line, and adjustable means for connecting said shafts.

28. In a justifying mechanism, parallel shafts mounted in fixed bearings in combination with means for rotating one of said shafts in varying ratios to the rotation of the other according to the number of spaces in the line to be justified.

29. In a justifying mechanism, a measuring and a register shaft both mounted in fixed bearings with means for rotating said register-shaft in varying ratios to the rotation of said measuring-shaft, in combination with means whereby said connecting means is set in accordance with the number of word-spaces in the line to be justified.

30. In a justifying mechanism, two shafts mounted in fixed bearings and one of which is adapted to rotate proportionally to the aggregate shortage in an unjustified line, and a variable connection between said shafts whereby the other shaft is caused to rotate proportionally to the individual spaces required to justify the line.

31. In a justifying mechanism, two rotatable shafts with adjustable means for connecting said shafts according to the number of word-spaces in the line and a circular typeway concentric with one of said shafts provided with means for measuring the unjustified line of type within said typeway.

32. In a justifying mechanism, two parallel rotatable shafts, and adjustable means for operably connecting the same to actuate one of said shafts by the other thereof equally therewith or in the ratio of one-half, one-third, one-fourth, one-fifth, &c., of the rotation of the actuating-shaft in accordance with the number of word-spaces in the line to be justified.

33. In a justifying mechanism, two parallel rotatable shafts, in combination with line-measuring devices whereby one of said shafts is rotated in accordance with the shortage of the line, and adjustable connections between said shafts whereby the other shaft may be rotated in varying ratios by the measuring-shaft in accordance with the number of word-spaces in the line measured.

34. In a justifying mechanism, two parallel rotatable shafts with adjustable connecting means for rotating one of said shafts in different ratios by the other, and a circular typeway having at the center an auxiliary rotatable shaft provided with a type-measuring arm and connected so as to rotate one of said parallel shafts.

35. In a justifying mechanism, two parallel rotatable shafts with adjustable connecting means for rotating one of said shafts in different ratios by the other, a circular typeway, a type-measuring arm moving concentrically with said typeway and actuating one of said shafts, means coacting with said arm to measure a line in said typeway, and clutch-driving mechanism for driving and releasing said arm.

36. In a justifying mechanism, two parallel rotatable shafts with adjustable connecting means for rotating one of said shafts in different ratios by the other, a circular typeway, a type-measuring arm moving concentrically with said typeway and actuating one of said shafts, means coacting with said arm to measure a line in said typeway, and clutch-driving mechanism for driving and releasing said arm and returning the shafts and arm to normal position when the arm is released.

37. In type-handling mechanism, a curved line-channel adapted to hold a line of type arranged side by side, in combination with a line-feeder for moving the type longitudinally of the line and moving in and concentrically with said channel.

38. In type-handling mechanism, a curved line-channel, in combination with a reciprocating line-feeder moving in and concentrically with said channel.

39. In type-handling mechanism, a curved line-channel, in combination with a line-feeder moving in and concentrically with said channel and a type-feeder moving concentrically with said channel for feeding type into said channel.

40. In type-handling mechanism, a curved line-channel, in combination with a reciprocating line-feeder moving in and concentrically with said channel, and a type-feeder moving intermittently and concentrically with said channel for feeding type into said channel.

41. In type-handling mechanism, a curved line-channel, in combination with a rocking shaft at the center of said channel, and a line-feeding arm on said shaft.

42. In type-handling mechanism, a curved line-channel, in combination with a reciprocating line-feeding arm moving concentrically with said channel, and a spring-pressed line-pawl carried by said arm.

43. In type-justifying mechanism, a line-measuring channel, in combination with an arm mounted to swing longitudinally of the channel, means for swinging said arm, and devices coacting with said arm to compact and measure the type-line in the channel by the swinging movement of said arm.

44. In type-justifying mechanism, a line-measuring channel, in combination with an arm mounted to swing longitudinally of the channel, and means for measuring the type-line and carrying the measured line out of the measuring-channel by the swinging movement of said arm.

45. In type-justifying mechanism, a curved line-measuring channel adapted to hold type with their pointwise dimensions radial to the channel.

46. In type-justifying mechanism, a curved line-measuring channel and means for measuring a line of type therein.

47. In type-justifying mechanism, a curved line-measuring channel in combination with a measuring-jaw moving in a path concentric therewith, an abutment against which the line is measured, and means for advancing the abutment into and withdrawing it from the channel.

48. In type-justifying mechanism, a rotary measuring mechanism comprising a rotatable shaft carrying a type-measuring arm, a rotatable dividing mechanism actuated by said shaft, and a circular line-measuring channel concentric with the path of movement of said arm.

49. In type-justifying mechanism, a curved line-channel, a stationary measuring-abutment and means for moving the abutment into and out of the path of the type, in combination with a line-measuring jaw moving in said channel.

50. In type-justifying mechanism, a curved line-channel, a stationary measuring-abutment and means for moving the abutment into and out of the path of the type, in combination with a line-measuring jaw moving in said channel, and means for moving said jaw to advance the measured line after the abutment is withdrawn.

51. In type-justifying mechanism, a curved line-channel, a stationary measuring-abutment and means for moving the abutment into and out of the path of the type, in combination with a line-measuring jaw moving in said channel, and yielding means for actuating said jaw to advance the type against the abutment for measuring and to advance the measured line when the abutment is withdrawn.

52. In type-justifying mechanism, a measuring mechanism including a movable spring-pressed measuring-pawl 43, and a second pawl 45 adapted to trip said pawl 43, in combination with means for withdrawing pawl 45 to release said pawl 43.

53. An extensible type-channel having its parts spring-pressed longitudinally of the channel to advance the type and to yield as type are fed in.

54. Channel 22 having a curved portion 24 carried by spring-pressed block 23, and stationary end portions from which the type are fed by the pressure on block 23, substantially as described.

55. Channel 22 having a curved portion 24 carried by spring-pressed block 23 and stationary end portions, means for feeding type into one of the end portions against the pressure on block 23, and means for closing and opening the other end portion for the delivery of type, substantially as described.

56. The combination with a space-ejector, of a sidewise and longitudinally moving bar for actuating said ejector, an actuating device for moving said bar longitudinally for space-ejecting when the bar is in one of its sidewise positions, and a space-key for holding said bar out of position to be actuated except when released by the space-key.

57. The combination with an ejector, of bar 30 connected to the ejector, stop 34 and space-key 20, a spring for moving the bar sidewise when released by stop 34, and an actuating device for moving the bar longitudinally when positioned by the spring, substantially as described.

58. The combination with the curved channel 40 and means for feeding type into said channel, of shaft 41, arm 42, pawl 43 on said arm and means for withdrawing said pawl from and returning it to the channel, substantially as described.

59. Curved channel 40, in combination with shaft 41 having arm 42, pawl 43 on said arm, trip 44, and means for actuating said trip, substantially as described.

60. Curved channel 40, in combination with shaft 41 having arm 42, carrying pawl 43, pawl 65 on said arm, and arm 62 loose on shaft 41 having shoulder 64 adapted to stop the arm 62 by engagement with pawl 65 and to be returned thereby, substantially as described.

61. The combination with the line-advancing shaft 41, of the measurer-shaft 67, a stop carried by said shaft 41 to limit the movement of shaft 67, and friction-clutches alternately operated to rotate shaft 41 to advance and compact the line, and rotate shaft 67 until stopped by the position of shaft 41, substantially as described.

62. The combination with the line-advancing shaft 41, of the measurer-shaft 67, a stop carried by said shaft 41 to limit the movement of shaft 67, friction-clutches alternately operated to rotate shaft 41 to advance and compact the line, and rotate shaft 67 until stopped by the position of shaft 41, and means for rotating shaft 41 to advance the line after measurement and for returning shaft 67 by shaft 41, substantially as described.

63. In justifying mechanism, a device adapted to be positioned in accordance with the number of spaces in the line, in combination with a reciprocating member for moving said device, a fender controlling the engagement of the device by said member, and means for setting said fender in accordance with the number of spaces.

64. The combination with slide 2 having teeth 4, of slide-actuating pawl 6, fender 8 controlling the pawl to determine the part of the pawl movement during which it shall actuate the slide, and means for setting the fender in accordance with the number of spaces.

65. The combination with the line-channel 40, of the word-slide having the top and bottom members 94, 95, having cams for advancing the word in the channel, and shoulders c for moving the separator out of the channel.

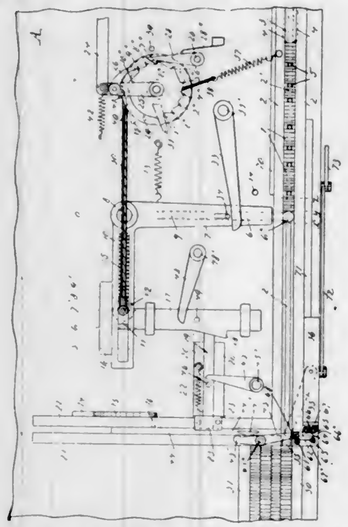
66. The combination with the line-channel 40 and separator-channel 22, of a word-slide having cams 96 for advancing a separator in channel 40, and shoulders c behind the cams for moving the separator into channel 22.

844,570. JUSTIFYING APPARATUS. ERNST WENTSCHER, Berlin, Germany, assignor, by mesne assignments, to The Unitype Company, a Corporation of New Jersey. Filed Aug. 6, 1895. Serial No. 558,429.

Claim.—1. In a justifying apparatus, the combination of an adjustable mold, means for measuring the line, means for dividing the shortage of the line by the number of spaces and adjusting the mold in accordance with such division, means for casting spaces after the mold is set, means for advancing the line said line having provisional spaces, and means controlled by the provisional spaces for stopping the line and inserting the justifying-spaces cast by the mold.

2. In a mechanism for justifying a composed line, a series of tapered spacers arranged between the words of the line, means for driving the spacers uniformly into the line, abutments for limiting the spread of the line, and means controlled by the inward movement of the spacers for predetermining the width of uniform justifying-spaces for the line.

3. In a mechanism for justifying a composed line, a series of tapered spacers arranged between the words of the line, abutments for limiting the spread of the line, a common part arranged to drive the spacers into the line and spread the same until against said abutments, and devices controlled by the movement of said part for predetermining the width of justifying-spaces for the line.



4. In a mechanism for justifying a composed line, a series of tapered spacers arranged between the words of the line, abutments for limiting the spread of the line, a common part arranged to drive the spacers and spread the line against said abutments, means for yieldingly moving said part to drive the spacers, and devices controlled by the movement of said part for predetermining the width of justifying-spaces for the line.

5. In a mechanism for justifying composed lines, a series of tapered spacers arranged between the words of a line, abutments for limiting the spread of the line, a common part for driving said spacers uniformly into the line to spread the same against the abutments, and a space-mold having a movable body-piece adjustable by said part to determine the width of justifying-spaces for the line.

6. In a mechanism for justifying composed lines, two series of reversely-tapered spacers arranged in pairs between the words of a line, substantially as described, a stationary bar or part against which one series of spacers abuts, abutments for limiting the spread of the line, a common part arranged to drive the other series of spacers to spread the line against said abutments, and means controlled by the movement of said part for determining the width of justifying-spaces for the line.

7. In a mechanism for justifying a composed line, a series of tapered spacers arranged between the words of the line, abutments for limiting the spread of the line, a common part for driving said spacers uniformly to spread the line against said abutments, a mold having a movable body-piece, and connections between said body-piece and said driving part whereby the body-piece is moved proportional to the movement of the spacers.

8. In a mechanism for forming justifying-spaces, the combination of tapered spacers arranged between the words of the line, abutments for limiting the spread of the line, a common part for driving said spacers to spread the line, a second part having an incline, a lever connecting said parts, and a mold having its body-piece in contact with said incline, whereby the movement of the body-piece is controlled by the movement of the spacers, for the purpose set forth.

9. In a justifying mechanism, a series of tapered spacers, means for advancing spacers into a limiting space proportional to the shortage of the line, and means controlled by the movement of the spacers for determining the uniform justifying-spaces for the line.

10. In a justifying mechanism, a series of tapered spacers, means for advancing spacers into a limiting space proportional to the shortage of the line, and means controlled by the movement of the spacers for forming the justifying-spaces for the line.

11. In a justifying mechanism, a series of tapered spacers, means for advancing spacers into a limiting space proportional to the shortage of the line, and means controlled by the movement of the spacers for casting the justifying-spaces for the line.

12. In a justifying mechanism, a series of tapered spacers, means for advancing spacers into a limiting space proportional to the shortage of the line, means controlled by the movement of the spacers for determining the uniform justifying-spaces for the line, and means for inserting the justifying-spaces into the line.

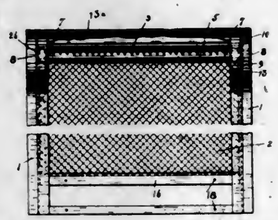
13. In a justifying mechanism, a series of tapered spacers, means for advancing spacers into a limiting space proportional to the shortage of the line, means controlled by the movement of the spacers for forming the justifying-spaces for the line, and means for inserting the justifying-spaces into the line.

14. In a justifying mechanism, a series of tapered spacers, means for advancing spacers into a limiting space proportional to the shortage of the line, means controlled by the movement of the spacers for casting the justifying-spaces for the line, and means for inserting the justifying-spaces into the line.

15. In a justifying apparatus, the combination of an adjustable space-forming device, means for measuring the line, means for dividing the shortage of the line by the number of spaces and adjusting the space-forming device in accordance with such division, means for forming spaces after the space-forming device is set, means for advancing the line said line having provisional spaces, and means controlled by the provisional spaces for stopping the line and inserting the justifying-spaces formed by the space-forming device.

16. In a justifying apparatus, the combination of means for measuring the line and dividing the shortage of the line by the number of spaces, of a space-forming device, and connections between the line-measuring and shortage-dividing means for setting said space-forming device in accordance with the division, said connections including a member having an incline by which the space-forming device is set.

844,571. ADJUSTABLE WIRE SCREEN. ANDERS J. WIKANDER, Brooklyn, N. Y., and FRITZ JOHANSON, Philadelphia, Pa. Filed Dec. 5, 1905. Serial No. 290,499.



Claim.—1. The combination of an angle-iron frame adapted to partially inclose the edges of a screen, a casing superimposed upon the frame and adapted to support and cover a roller, a roller comprising a tube, a shaft and plug secured in each end thereof and adapted to run in bearings in the casing, a plurality of rings lying in apertures in the roller engaging a rod extending longitudinally through the roller, and engaging on the outside a screen composed of a plurality of intermeshed helices having a sash at the bottom, a worm-and-gear adjustment at one end of the roller, covered by the casing and by means of which the roller may be rotated and the screen rolled up or down.

2. The combination of an inclosed casing; a roller within the casing; a screen formed of a plurality of intermeshed helices; a plurality of rings lying in slots in the roller and engaging the upper helix; a rod extending longitudinally within the roller and engaging the rings; a channel-guide in which the screen slides, and means for raising and lowering the screen.

3. The combination of an inclosed casing; a screen-guide beneath the same; a roller within the casing; a screen formed of a plurality of intermeshed helices; a rod extending longitudinally within the roller; a plurality of rings lying in openings in the roller, and engaging both the screen and the rod.

4. The combination of a tubular roller; a plurality of rings lying in apertures in the roller; a screen formed of a plurality of intermeshing helices engaging said rings, and a rod extending longitudinally within the roller and engaging said rings.

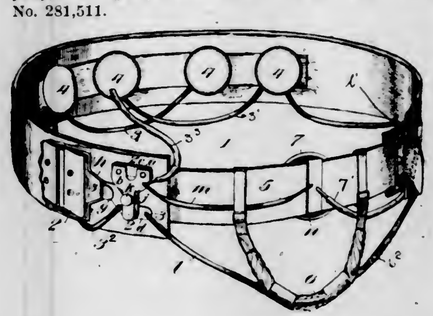
5. The combination of a tubular roller; a longitudinal rod within the roller; a screen formed of a plurality of intermeshed helices, and a plurality of rings lying in apertures in the roller, and engaging both screen and rod.

6. The combination of a tubular roller, having a plurality of transverse slots cut therein; a rod extending longitudinally inside of the roller; a plurality of rings in the slots engaging said rod and a screen engaged by said rings on the outside of the said roller.

7. The combination of a tubular roller having slots therein; rings lying in the slots; a pin within the roller, and a screen outside the roller both engaged by the rings.

8. A roller; a screen formed of a plurality of intermeshed helices; a pin running longitudinally within the roller, and a plurality of rings engaging both the screen and the pin.

844,572. ELECTRIC BELT. RICHARD WINGREN, Burlington, Kans., assignor to The Electric Appliance Company, Burlington, Kans. Filed Oct. 5, 1905. Serial No. 281,511.



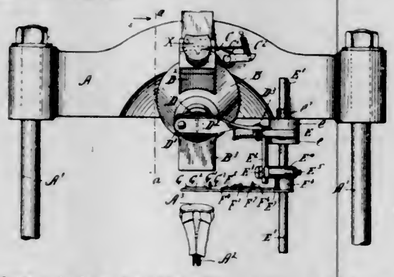
Claim.—1. A regulator for electric belts comprising an insulator secured to the belt, a regulator-plate secured to said insulator and provided with a spring-tongue, a contact pin or rivet projecting through the insulator, a hook-plate secured to said insulator, a pin or stud projecting through the insulator and the spring regulator-plate, and a nut applied to said pin for throwing the spring-tongue into contact with the rivet or contact-point, substantially as described.

2. In an electric belt, a regulator comprising an insulator, a hook-plate secured to said insulator and provided with a hook for attachment to the chain, a regulator-plate secured to said insulator, a contact-point projecting above said insulator, a threaded pin, a nut thereon for throwing the tongue into contact with the contact-pin, and conductors leading from the hook-plate and from the regulator-plate to the chain, substantially as described.

3. A regulator for electric belts comprising an insulator secured to the belt, a spring contact-plate secured to said insulator, an intermediate zinc plate, a spring-tongue

on said contact-plate, a hook-plate connected to the voltaic chain, a rivet securing said hook-plate to the insulator and having a projecting contact-point, connections between said hook-plate, said contact-plate and the chain and disks of the belt, and means for moving the contact-plate into and out of contact with the point to change the current from the front to the back of the belt, substantially as described.

844,573. HEEL-ATTACHING MACHINE. ERASTUS WOODWARD, Somerville, Mass. Filed Jan. 28, 1903. Serial No. 140,833.



Claim.—1. In a heel-attaching machine, a jack for the boot or shoe, a cross-head reciprocative relatively to said jack, a spanker-block rotatably mounted on said cross-head and coöperating with said jack, a top-lift-carrying device pivoted to a fixed part of the machine, a pivoted lever movable with said cross-head and having a sliding connection with said top-lift-carrying device, and an arm rotatable with said spanker-block and connected with said lever.

2. In a heel-attaching machine, a jack for the boot or shoe, a cross-head reciprocative relatively to said jack, a spanker-block rotatably mounted on said cross-head and coöperating with said jack, a top-lift-carrying device pivoted to a fixed part of the machine, a pivoted lever movable with said cross-head and having a sliding connection with said top-lift-carrying device, an arm rotatable with said spanker-block, and a yielding connection between said arm and said lever.

3. In a heel-attaching machine, a jack for the boot or shoe, a cross-head reciprocative relatively to said jack, a spanker-block rotatably mounted on said cross-head and coöperating with said jack, a fixed support, a top-lift-carrying device pivoted to said support, a pivoted lever movable on said fixed support in the same direction as said cross-head and having a sliding connection with said top-lift-carrying device, an arm rotatable with said spanker-block, and a link connecting said arm with said lever.

4. In a heel-attaching machine, a jack for the boot or shoe, a cross-head reciprocative relatively to said jack, a spanker-block rotatably mounted on said cross-head and coöperating with said jack, a fixed support, a top-lift-carrying device pivoted to said fixed support, a pivoted lever movable on said fixed support in the same direction as said cross-head and having a sliding connection with said top-lift-carrying device, and an arm rotatable with said spanker-block and having a yielding connection with said lever.

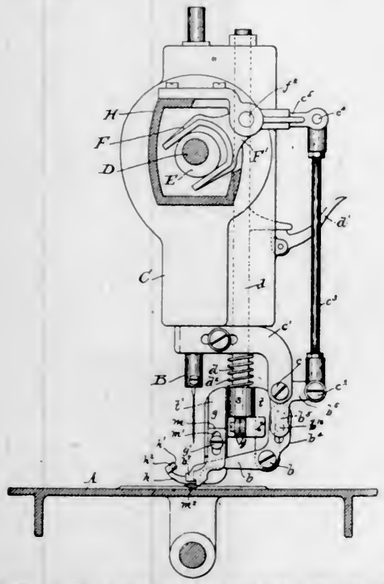
5. In a heel-attaching machine, a jack for the boot or shoe, a cross-head reciprocative relatively to said jack, a spanker-block rotatably mounted on said cross-head and coöperating with said jack, a fixed support, a top-lift-carrying device pivoted to said fixed support, a pivoted lever movable on said fixed support in the same direction as said cross-head and having a sliding connection with said top-lift-carrying device, an arm rotatable with said spanker-block, a link pivoted to said arm and having a loose connection with said lever, and a spring connecting said link with said lever.

6. In a heel-attaching machine, a jack for the boot or shoe, a cross-head reciprocative relatively to said jack, a spanker-block rotatably mounted on said cross-head and coöperating with said jack, a fixed support, a top-lift-carrying device pivoted to said fixed support, a bifurcated arm on said top-lift-carrying device, a pivoted lever movable on said fixed support in the same direction as said cross-head, a rod on said lever registering with said bifurcated arm, and an arm rotatable with said spanker-block and connected with said lever.

7. In a heel-attaching machine, a jack for the boot or shoe, a cross-head reciprocative relatively to said jack, a spanker-block rotatably mounted on said cross-head and coöperating with said jack, a fixed support, a top-lift-carrying device pivoted to said fixed support, a bifurcated arm on said top-lift-carrying device, a pivoted lever movable on said fixed support in the same direction as said cross-head, a rod on said lever registering with said bifurcated arm, an arm rotatable with said spanker-block and connected with said lever, a link pivoted to said rotatable arm and having a loose connection with said lever, and a spring connecting said link with said lever.

8. In a heel-attaching machine, a jack for the boot or shoe, a cross-head reciprocative relatively to said jack, a hub rotatable on said cross-head, a block on said hub for carrying and attaching a loaded heel, a spanker-block on said hub, a top-lift-carrying device pivoted to a fixed part of the machine, an arm on said hub, a link pivoted at one end to said arm, a pivoted lever connected with the other end of said link, a bifurcated arm on said top-lift-carrying device, and a rod on said lever and registering with said bifurcated arm.

844,574. TRIMMING ATTACHMENT FOR SEWING-MACHINES. JOSEPH ZELDIS and JACOB M. WEBER, Philadelphia, Pa., assignors to Leicester and Continental Mills Company, Germantown, Philadelphia, Pa., a Corporation of New Jersey. Filed Sept. 6, 1904. Serial No. 223,325.



Claim.—1. In a machine for stitching together layers of material and trimming the upper ply in pattern, comprising stitch-forming mechanism and a vertically-adjustable and spring-controlled presser-foot bar, of a frame slidingly mounted on said bar, a trimming mechanism mounted on said sliding frame, and operating shear like on the upper ply of fabric fed between its blades, with means to vertically adjust said frame to bring the trimming mechanism into and out of operative position, said trimming mechanism consisting of an operatively-stationary lower cutting-blade, and a coöperating upper cutting member consisting of a bell-crank lever pivotally mounted on said sliding frame and carrying a blade edge, actuating means independent of the stitch-forming mechanism to rock said lever-blade directly from the main shaft of the machine, and guiding devices to prevent lateral movement of said lever during its rocking movements and maintain said blades in operative shear-like relation.

2. In a machine of the class described, a cutting mechanism for trimming an upper ply lying on an under ply, consisting of a lower blade member sharpened on its upper side and having a sidewise-projecting portion and adapted to run in the space between the plies, means to yieldingly support said member operatively stationary, and an upper blade member mounted on the same support and adapted to coöperate as a shear-blade relatively to said lower member, a pivotally-mounted lever carrying said upper blade, means independent of the stitch-forming mechanism to rock said lever, and means between the two blade members operating to maintain the rocking member in a vertical plane parallel with the lower blade member.

3. In a machine of the class described, a trimming mechanism comprising, in combination, a vertically-disposed rod depending from the overhanging arm of the machine, a housing or frame mounted slidingly on said rod, a presser-foot mounted on the end of said rod which projects through the housing, a spring encircling the rod above the housing, a lever fulcrumed on said overhanging arm, operating to simultaneously raise and lower both the presser-foot and said housing or frame, a lower cutting member fixedly mounted on said housing and resting operatively stationary on the lower ply of material when the presser-foot is down, an upper cutting member consisting of a lever pivotally mounted on said housing and carrying on one end a blade edge in coöperating shear-like relation to the lower blade, with means to rock the opposite end of said lever.

4. In a machine of the class described, a trimming device consisting essentially of a housing or frame slidingly mounted on a rod depending from the overhanging arm of the machine, a presser-foot mounted on the end of said rod which projects through the housing, a spring encircling the rod above the housing, a lever fulcrumed on said overhanging arm, operating to simultaneously raise and lower both the presser-foot and said housing or frame, a lower cutting member fixedly mounted on said housing and suspended operatively stationary over the lower ply of material when the presser-foot is down, an upper cutting member consisting of a lever pivotally mounted on said housing and carrying on one end a blade edge in cooperating shear-like relation to the lower blade, means to rock the opposite end of said lever, and means to raise and lower both cutting members independently of the presser-foot.

5. In a machine of the class described, a cutting mechanism for trimming an upper ply lying on an under ply, consisting of a lower blade member with means to suspend it over the lower ply and in the space between the plies, means to support said member operatively stationary during the cutting action, an upper blade member mounted on the same support and adapted to coöperate as a shear-blade relatively to said lower member, a pivotally-mounted bell-crank lever carrying said upper blade, with means to rock said lever, a presser-foot mounted on the end of a rod depending from the overhanging arm of the machine and passing through said frame supporting the cutting members, and a segmentally-slotted lever-arm fulcrumed on the shank of the presser-foot and coacting with a pin on the frame which supports both cutting members, said slotted lever operating to raise and lower the two cutting members independently of the presser-foot and independently of the means to raise and lower the presser-foot.

6. In a machine of the class described, the combination with a vertically-movable rod supporting a presser-foot, a spring-controlled frame mounted slidingly on said rod and carrying both members of a cutting mechanism, means to raise and lower the presser-foot and the cutting mechanism, as one, through the medium of said rod, and devices upon the said sliding frame whereby the cutting mechanism may be raised and lowered independently of the presser-foot.

7. In a machine of the class described, the combination with stitch-forming mechanism, of a vertically-movable bar supporting a presser-foot, a spring-controlled frame slidingly mounted on said presser-foot bar, a pair of cutting members independently mounted in said sliding frame, means to support the lower of said cutting members in operatively-fixed position relatively to the work-support, means to give a rocking motion to the upper of said cutting means, and means to throw the cutting device into inoperative position consisting of devices to slide the frame on the presser-foot bar and into temporarily-fixed position thereon.

8. In a machine of the class described, the combination with stitch-forming mechanism, of a vertically-movable presser-foot mounted on a depending rod, a spring-controlled frame mounted slidingly on said rod and carrying both members of a shear-like cutting mechanism, means to raise and lower the presser-foot and cutting mechanism as one through the medium of said rod, means to raise and lower both members of the cutting mechanism, as one, independently of the presser-foot, through the medium of said sliding frame, and means to vertically adjust the lower member of the cutting mechanism, on said supporting-frame and relatively to the upper cutting member.

9. In a machine of the class described comprising stitch-forming devices, a work-support, and a vertically-adjustable presser-foot bar carrying a presser-foot, of a frame mounted slidingly on said bar, above the presser-foot, and independently supporting each of the two members of a cutting mechanism, means to vertically adjust said frame to throw said cutting members into and out of operative position, independently of the presser-foot, said cutting mechanism consisting of a lower cutting-blade supported operatively stationary relatively to the work-support, and an upper cutting-blade whose actuating-arm is a bell-crank lever pivotally mounted upon said frame, with means to impart a rocking motion thereto in unison of time with the operation of the stitch-forming mechanism, said means comprising the power-shaft from which the stitch-forming mechanism is primarily actuated, a cam mounted on said shaft, a forked lever actuated by said cam, and connecting actuating means between said forked lever and the short arm of the pivotally-mounted bell-crank lever carrying said upper cutting-blade, and operating to rock said last-mentioned lever.

10. In a machine of the class described, in combination with stitch-forming devices, of a presser-foot having a shank or arm mounted on the end of a rod depending from the overhanging arm of the machine, a frame slidingly mounted on the lower portion of said rod, a lower cutting member mounted on said frame, an upper cutting-blade on the end of a pivotally-mounted lever fulcrumed on said frame, a pivoted link with pin-and-slot connection between it and the lever, a cam on the power-shaft of the machine, and connecting actuating mechanism between said link-arm and cam, operating to rock the upper cutting-blade from said power-shaft and in unison of time with the stitch-forming elements.

11. In a machine of the class described, the combination with stitch-forming devices, and of mechanism coacting in unison of time with the stitch-forming devices to trim the upper-ply fabric to a pattern, of a presser-foot operating not only to hold the fabric to the feed but to guide a braid to the surface of the upper ply, said presser-foot having a perforated braid-guiding head, and said trimming mechanism comprising an upper cutting member perforated to provide a needle-throat and recessed on its under face to provide a braid-guide, whereby the braid is guided with certainty to the needle and to and along the trimmed edge of the fabric.

12. In a machine of the class described, a trimming mechanism consisting of a lower cutting member suspended operatively stationary beneath the upper ply, and having on its free end an upwardly-facing cutting-blade, means to yieldingly support said cutting-blade in substan-

tially the same plane with the presser-foot in operative position, and an upper cutting member consisting of a pivotally-mounted lever coöperating shear like with the lower blade member, with means to impart a rocking movement thereto, said upper cutting member having on its free end an enlarged head vertically perforated for the passage of the sewing-needle and on its under face a recess for the passage of the braid, one wall of said recess being sharpened to form a downwardly-facing blade edge.

13. In a machine of the class described, the combination with stitch-forming devices, and of mechanism coacting in unison of time with the stitch-forming devices to trim the upper-ply fabric to a pattern, of mechanisms to guide a braid to the edge of the trimmed upper ply, said mechanisms consisting of a presser-foot provided with a perforated head end operating to guide a braid therethrough to the surface of the upper ply, and a cutting device the lower member of which is operatively stationary beneath the upper ply and the upper member of which is a rocking lever having an enlarged end vertically recessed to provide a needle-throat and with a longitudinal recess on its under face providing a passage for the braid delivered from the presser-foot head, one wall of said longitudinal recess being sharpened to form a blade edge.

844,575. FOUNTAIN-PEN. JOHN S. BARNES, Rockford, Ill. Filed Dec. 11, 1905. Serial No. 291,241.



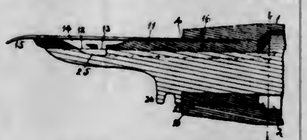
Claim.—1. A fountain-pen provided with a pen-holding section having a tubular portion and a cut-away portion, the section having a plurality of lengthwise slots, and a movable section fitted within the tubular portion and provided with a plurality of lengthwise grooves communicating with the slots.

2. A fountain-pen provided with a pen-holding section having a tubular portion and a cut-away portion, the section having a lengthwise slot, and a movable section located within the tubular portion and provided with a transverse groove and a lengthwise slot communicating with the transverse groove and also communicating with the lengthwise slot in the pen-section.

3. A fountain-pen provided with a pen-holding section having a tubular portion and a cut-away portion, the section having a plurality of lengthwise slots, and a movable section located within the tubular portion and provided with a transverse groove and a plurality of lengthwise slots communicating with the transverse groove, and also communicating with the lengthwise slots in the pen-section.

4. A fountain-pen provided with a pen-holding section having a cylindrical opening, and a cut-away portion, the cut-away portion provided with a flat surface extending in the length of the section, a cylindrical section located in the cylindrical opening and provided with projecting surfaces engaging the flat surfaces of the pen-holding section, thereby preventing the rotation of the cylindrical section.

844,576. FOUNTAIN-PEN. JOHN S. BARNES, Rockford, Ill. Filed Apr. 10, 1906. Serial No. 310,963.



Claim.—1. A fountain-pen comprising a barrel portion, a pen-holding section supported by the barrel portion and a feeder for the pen-holding section having a lengthwise-extending groove, the pen-holding section having two holes communicating with the groove.

2. A fountain-pen comprising a barrel portion, a pen-holding section supported by the barrel portion, and a feeder for the pen-holding section having two lengthwise-extending grooves, the pen-holding section having two holes communicating with the grooves.

3. A fountain-pen comprising a barrel portion, a pen-holding section supported by the barrel portion, and a feeder for the pen-holding section having two lengthwise-extending grooves leaving a tongue between them, the pen-holding section having two holes communicating with the grooves, the tongue adapted to be moved to close the holes.

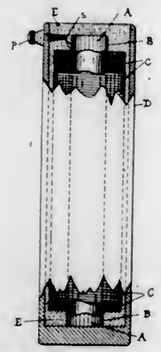
4. A fountain-pen comprising a barrel portion, a pen-holding section supported by the barrel portion, and a feeder for the pen-holding section having two lengthwise-extending grooves leaving a tongue between them, the pen-holding section having two holes communicating with the grooves, the tongue adapted to be moved to close the holes, also to cut off connection between the grooves and bore of the barrel.

844,577. TOY. MARTHA BORCHARDT, New York, N. Y. Filed Nov. 26, 1906. Serial No. 345,052.



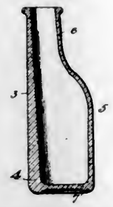
Claim.—A toy representation of an animal comprising a body and limbs and a head having eye-sockets, a battery embedded in the body, incandescent lamps in the eye-sockets, conductors and an interposed normally open switch, all of said parts concealed, and the switch having a flexible part thereover, substantially as shown and described.

844,578. SPARK-COIL. JOHN F. CAVANAGH, Providence, R. I. Filed Sept. 28, 1905. Serial No. 280,531.



Claim.—A spark-coil consisting of a core and a coil of wire wound thereon, said core ends projecting beyond the ends of the coil-winding, in combination with a case provided with a bore longer than said core and of greater diameter than said coil, and having one integrally-closed end and one open end, and adapted to form both an annular space around said core and coil inserted therein, and a space between one end of said core and the open end of said bore, wire connections extending outward from said bore through one side of said case near one end thereof, the terminal ends of the coil secured to said connections within said bore, and a body of insulating-wax filling the portion of said bore unoccupied by the core and coil to thereby constitute an annular waterproof envelop for said coil, waterproof insulating-heads surrounding the core ends and adapted to hold the core-winding in place, and a waterproof insulating-seal for said case.

844,579. BOTTLE. HAROLD L. CLEMENTS, Dawson City, Yukon Territory, Canada. Filed Jan. 31, 1906. Serial No. 298,823.



Claim.—1. A bottle having one of its sides flat and tapering from the base toward the mouth thereof.

2. A bottle having a bulging wall, and a flat wall sloping toward the mouth of the bottle.

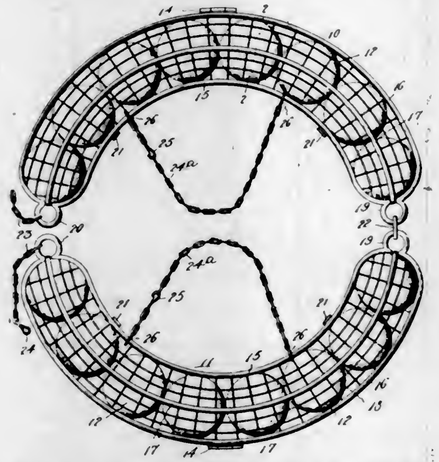
3. A bottle having flat side walls, bulging rear wall, and flat tapering front wall.

4. A bottle having flat side walls, and a sloping front wall.

5. A bottle having a bulging wall and a flat wall tapering from its base toward the mouth.

6. A bottle having an exterior vertical flat wall tapering in thickness from the base to the mouth.

844,580. LIFE-PRESERVER. MAY CLINE, Harmony, N. J. Filed Nov. 1, 1906. Serial No. 341,641.

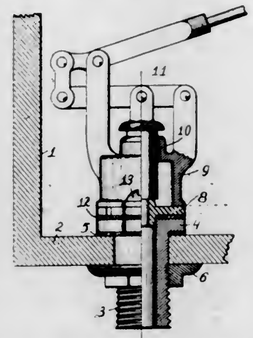


Claim.—1. A life-preserver comprising a sectional skeleton frame, each section comprising end bars and an intermediate bar, a wire-netting secured to said bars, floats inclosed by said sections, and a hinge connection between the sections.

2. A life-preserver comprising two hinged members, each of which comprises a sectional skeleton frame, each section of said frame having end bars and an intermediate bar, a wire-netting secured to said bars, floats inclosed by the frame, and a hinge connection between the sections.

3. A life-preserver comprising two substantially semicircular members having at one end a hinge connection, and an adjustable connection for the other end, each member comprising a sectional skeleton frame with a hinge connection between the sections, and floats inside the frame.

844,581. TANK-VALVE. JOHN H. DAVIS, Hamilton, Ohio, assignor to The Sanitary Manufacturing Company, Hamilton, Ohio. Filed Apr. 26, 1906. Serial No. 313,753.



Claim.—In a tank-valve, the combination, substantially as set forth, of a supply-nose adapted for clamping attachment to the floor of the tank and terminating at its upper end in a flat-topped flange, an apertured valve-seat in the form of a plate disposed above the flange of said nose, a gasket disposed between said valve-seat and flange, a valve-chamber having an integral roof and having an open base seating against the upper surface of the valve-seat and having an outlet, screws engaging the valve-chamber and the valve-seat and the nose-flange and clamping the valve-chamber and gasket to the nose-flange, a valve working axially through the roof of the valve-chamber and engaging the aperture of the valve-seat, and float-operated mechanism carried by the valve-chamber and connected with the valve.

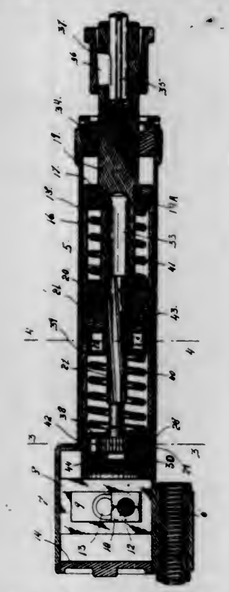
844,582. ROCK-DRILL. HENRY DEITZ, Denver, Colo. Filed June 2, 1905. Serial No. 263,366.

Claim.—1. In a rock-drill, the combination with a casing, of a reciprocable yoke located therein, a hollow member connected to move with the yoke, a piston located in the hollow member, a drill-holder connected with the piston, a loose collar surrounding the drill-holder, the latter having a stop to limit the forward movement of the collar thereon, the hollow member also having a stop for the loose collar forward of the latter, a rifle-bar and ratchet carried by the hollow member and connected with the drill-holder for rotating the latter, and a yielding connection between the drill-holder piston and the hollow member, substantially as described.

2. The combination with a casing, a yoke and hollow member rigidly connected together and reciprocable in the casing, a drill-holder entering the casing and provided with a loose collar surrounding the same, the drill-holder having a stop to limit the forward movement of the collar thereon, the hollow member having a plug against which the front end of the loose collar of the drill-holder bears, a piston located in the hollow member and connected with the drill-holder, and cushions located within the hollow member on opposite sides of the drill-holder piston.

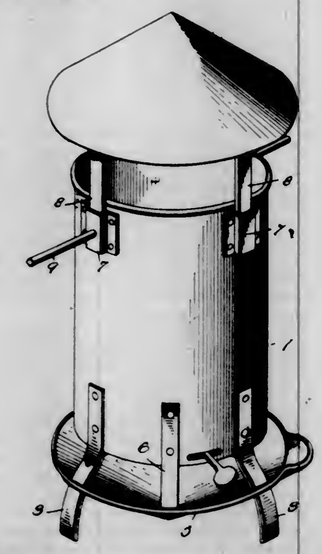
3. The combination with a casing, a member reciprocable in the casing, a rifle-bar and ratchet carried by the reciprocable member, a piston yieldingly connected with the reciprocable member, a drill-holder connected with the piston, and a winged sleeve carried by the piston and coöperating with the rifle-bar to impart the reciprocating

movement to the drill-holder, the piston being recessed to receive the wings of the sleeve, the said recesses being larger than the wings, and springs interposed between the



wings and the walls of the piston-recesses on one side of the wings, the winged sleeve being loose in the piston for the purpose set forth.

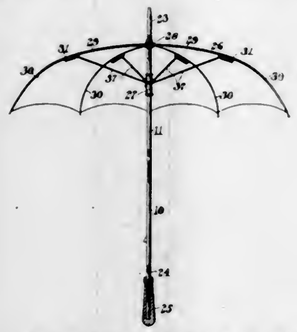
844,583. APPARATUS FOR CURING TOBACCO. BENJAMIN L. DIXON, Georgetown, Ky., assignor of one-half to G. H. Watts, Georgetown, Ky. Filed Oct. 13, 1906. Serial No. 338,808.



Claim.—1. A portable apparatus of the class described comprising a cylinder, adapted to contain a fire, said cylinder having a perforated bottom, a shaker arranged on the top thereof, and a cone-shaped pan arranged beneath said cylinder, and spaced therefrom.

2. A portable apparatus of the class described, comprising a cylindrical body, a perforated bottom, a cone-shaped ash-pan, connected with the cylinder and spaced therefrom, and having slots in its periphery, and outwardly-spreading legs, supporting the body of the apparatus, and passing through said slots.

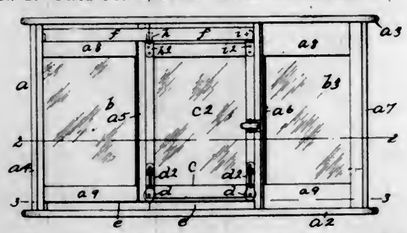
844,584. FOLDING UMBRELLA. LAURENCE Z. FORGUES, Woonsocket, R. I., assignor of one-half to Armand Mignault, Salem, Mass. Filed Feb. 8, 1906. Serial No. 300,093.



Claim.—1. In a folding umbrella, a rib made in two sections the inner section having its outer end bent upon itself to form two parallel portions, a block rigidly connected thereto and interposed between said parallel portions, a movable block mounted upon said parallel portions and movable toward and from said rigid block, a spring interposed between said parallel portions tending to keep said blocks separated, a stretcher secured to said movable block, a rib-section pivoted to said rigid block, and means for locking said movable block and pivoted section of said rib together.

2. In a folding umbrella, a rib made in two sections the inner section having its outer end bent upon itself to form two parallel portions, a block rigidly connected thereto and interposed between said parallel portions, a movable block mounted upon said parallel portions and movable toward and from said rigid block, a stretcher secured to said movable block, a rib-section pivoted to said rigid block, means for locking said movable block and pivoted section of said rib together, a pin fixedly secured in said movable block and extending into a recess in said fixed block, and a spring surrounding said pin and tending to keep said blocks separated.

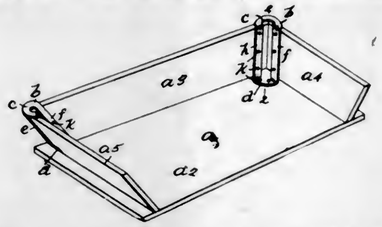
844,585. CAR-VESTIBULE. ERNST L. FORSGREN, New York, N. Y., assignor to John P. Sjoberg, Elmhurst, N. Y. Filed Oct. 2, 1906. Serial No. 337,099.



Claim.—1. In a car-vestibule, comprising a plurality of plane surfaces and a sash movable from one to another thereof, brackets at the bottom of said sash, a roller thereon and rotatable upon a vertical axis, and a supplemental roller rotatable on both a vertical and a horizontal axis.

2. In a car-vestibule, comprising a plurality of plane surfaces and a sash movable from one to another thereof, guides at the top and bottom of said vestibule, rollers mounted upon vertical shafts operating in said guides and secured to said sash and supporting-rollers at the bottom of said sash rotatable both in a vertical and in a horizontal plane.

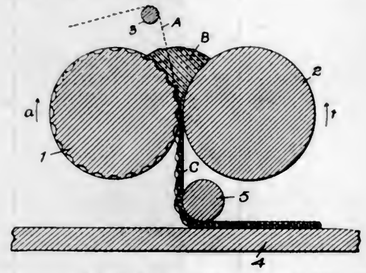
844,586. SEAT-CORNER. ERNEST L. FORSGREN, New York, N. Y. Filed Oct. 2, 1906. Serial No. 337,100.



Claim.—1. A corner-iron for seats, comprising a casting consisting of two substantially upright plates arranged at an angle of ninety degrees to each other, a supplemental parallel plate arranged at an angle of forty-five degrees to said first-named plates, a top plate and a bottom plate integral with said upright plates and arranged at an angle thereto.

2. A seat-corner, comprising a strip of metal bent centrally thereof to form a segment and the ends directed downward with the faces thereof arranged at an angle to each other, a plate integral with the ends of said metal strip and said plate being continued upwardly and parallel to said ends and joined to said segment.

844,587. METHOD OF AND MACHINE FOR MAKING WIRE-GLASS. NICKLAS FRANZEN, Walton, Pa., assignor to The Pittsburgh Plate Glass Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Aug. 13, 1906. Serial No. 330,450.



Claim.—1. The method of making wire-glass described herein which consists in passing wire through a mass of molten glass, reducing such mass to sheet form having the wire incorporated therein and protrusions of relatively soft and unchilled glass extending from the surface thereof, and reducing to a level the surface of the sheet which bears such protuberances.

2. As a step in the manufacture of plate-glass, the method described herein which consists in reducing a batch of molten glass to the form of a sheet bearing upon its surface protuberances of unchilled glass and sustaining the sheet so spread in a position out of the horizontal while the said protuberances coalesce by the action of gravity.

3. The method of forming wire-glass described herein which consists in introducing the wire through a batch of molten glass, reducing a batch of molten glass to sheet form upon the wire with its surface bearing protuberances or excrescences of soft or unchilled glass, sustaining the sheet so spread in a position out of the horizontal while said protuberances coalesce, and then reducing to a level the said surface of said sheet.

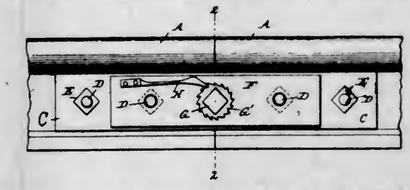
4. In a machine for making wire-glass the combination of a pair of forming-rolls one of which it pitted, disposed and arranged to form a hopper-like receptacle for molten glass and rotating to spread the molten glass so received into sheet form, and means for progressively introducing wire while the molten glass is being spread, through said hopper-like receptacle free from contact with either roll as it passes through the molten batch, and into contact with the pitted roll in the pass between said rolls, substantially as described.

5. In a machine for making wire-glass the combination of a pair of forming-rolls one of which is pitted, disposed and arranged to form a hopper-like receptacle for molten glass and rotating to spread the molten glass so received into sheet form, means for progressively introducing wire while the molten glass is being spread, through said hopper-like receptacle free from contact with either roll as it passes through the molten batch and into contact with the pitted roll in the pass between said rolls, and means for reducing to a level the surface of a sheet so spread by and between said forming-rolls, substantially as described.

6. In a machine for making wire-glass the combination of a pair of forming-rolls one of which is pitted, disposed and arranged to form a hopper-like receptacle wherein molten glass may be teemed and carried by gravity, and from between which a sheet of glass may descend by gravity and rotating to spread the molten glass received by and between them into sheet form, means for progressively introducing the wire while the molten glass is being spread, through said hopper-like receptacle free from contact with either roll as it passes through the molten batch and into contact with the pitted roll in the pass between said rolls, and means for reducing to a level the surface of the sheet spread by and between said forming-rolls, substantially as described.

7. In a machine for making wire-glass the combination of a pair of forming-rolls one of which is pitted, disposed and arranged to form a hopper-like receptacle for molten glass and rotating to spread the molten glass so received into sheet form, means for progressively introducing the wire while the molten glass is being spread, through said hopper-like receptacle free from contact with either roll as it passes through the molten batch and into contact with the pitted roll in the pass between said rolls, a table traveling beneath said forming-rolls and arranged to receive and carry the sheet as it descends from between said forming-rolls, and a finishing-roll coöperating with said table to reduce the surface of the sheet so received and borne by the table to a level, substantially as described.

844,588. NUT-LOCK. LUTHER M. GILCHRIST, Caseyville, Ky., assignor, by direct and mesne assignments, of one-half to James L. Ames, Caseyville, Ky. Filed Mar. 16, 1906. Renewed Dec. 20, 1906. Serial No. 348,826.



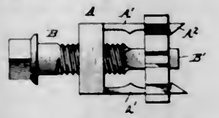
Claim.—1. In a device of the character described, the rails, fish-plates on opposite sides of the rails, bolts passing through the rails and fish-plates, nuts on the ends of said bolts, a clamping-plate on the ends of the bolts outside of the nuts, a bolt passing through said clamping-plate and having a screw-threaded engagement with one of said fish-plates and operating to press said clamping-plate upon the nuts, and means for preventing the accidental turning of the last-mentioned bolt.

2. In a device of the character described, the rails, fish-plates on opposite sides of the rails, bolts passing through

the rails and fish-plates, nuts on the ends of said bolts, a clamping-plate on the ends of the bolts outside of the nuts, a bolt passing through said clamping-plate and having a screw-threaded engagement with one of said fish-plates and operating to press said clamping-plate upon the nuts, and pawl-and-ratchet mechanism for preventing the accidental disengagement of the last-mentioned bolt from the fish-plate.

3. In a device of the character described, the rails, the main fish-plates on opposite sides of the rails, an auxiliary fish-plate on one of the main fish-plates and having a screw-threaded abutment, bolts passing through the rails and the clamping plates, nuts on the ends of said bolts, a clamping-plate on the ends of said bolts and bearing on said nuts, a bolt passing through said clamping-plate and turned into said screw-threaded abutment, ratchet-teeth on the head of the last-mentioned bolt, and a spring-pressed pawl on said clamping-plate and engaging with said ratchet-teeth and operating to hold the bolt against accidental displacement.

844,589. NUT-LOCK. LUTHER M. GILCHRIST, Caseyville, Ky., assignor, by direct and mesne assignments, of one-eighth to James L. Ames, one-fourth to John F. Buckham, one-sixteenth to Joseph A. Redick, and one-sixteenth to John P. Winston, Caseyville, Ky. Filed Apr. 23, 1906. Serial No. 313,251.



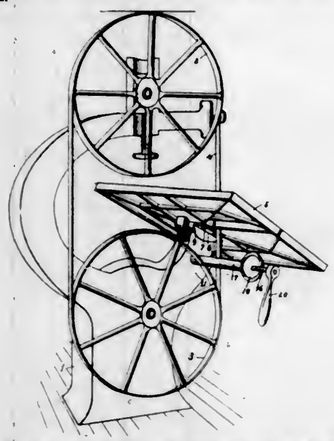
Claim.—1. In a nut-lock, a screw-threaded bolt having a reduced polygonal-shaped end, a nut turned onto said bolt, a holding-plate fitting the reduced polygonal-shaped end of the bolt and movable thereon lengthwise of the bolt and provided with recesses in its periphery, and spring-arms on said nut to engage the recesses in said plate.

2. In a nut-lock, a screw-threaded bolt having a reduced polygonal-shaped end, a nut turned onto said bolt, a holding-plate fitting the reduced polygonal-shaped end of the bolt and movable thereon lengthwise of the bolt and provided with recesses having beveled bottoms, spring-arms on said nut to engage with the recesses in said plate, cam-faces on the ends of said arms to engage the beveled bottoms of the recesses in said plate, and catches on said arms to engage said plate.

844,590. SAW-TABLE. CHARLES F. HALDEMAN, Salem, Ohio, assignor to The Silver Manufacturing Company, Salem, Ohio, a Corporation of Ohio. Filed Oct. 19, 1906. Serial No. 339,588.

Claim.—1. In a table for saws, a table provided with a toothed segment provided with a wedge-shaped flange, a fixed inclined flange located adjacent one face of the wedge-shaped flange of the toothed segment, a clamping-block provided with an inclined face, said clamping-block mounted upon a shaft and carried by the frame, means for imparting longitudinal movement to the shaft and the shaft provided with a pinion adapted to mesh with the toothed segment, and a spring adapted to move the shaft and clamping-block in position to release the table, substantially as and for the purpose specified.

2. In a table for saws, the combination of a saw-table and a saw-frame, an arm provided with concaved grooves and a clamping-flange, a toothed segment provided with flanges located upon opposite sides of the teeth of the segment, said flanges adapted to fit the concaved groove, a pinion adapted to mesh with the toothed segment, a tube secured to the arm, a hand-wheel loosely mounted upon the tube and provided with a screw-threaded aperture, a shaft located through the tube and provided with a screw-threaded portion, a pinion mounted upon the shaft and rotatable therewith, and adapted to mesh with the toothed segment, a combined bearing and clamping-block carried by the arm, said combined clamping-block and bearing slidably mounted in the arm and upon the shaft, and means for rotating the shaft, substantially as and for the purpose specified.



3. In a table for saws, the combination of a saw-table and a saw-frame, an arm provided with concaved grooves and a clamping-flange, a toothed segment provided with flanges located upon opposite sides of the teeth of the segment, said flanges adapted to fit the concaved groove, a pinion adapted to mesh with the toothed segment, a tube secured to the arm, a hand-wheel loosely mounted upon the tube and provided with a screw-threaded aperture, a shaft located through the tube and provided with a screw-threaded portion, a pinion mounted upon the shaft and rotatable therewith, and adapted to mesh with the toothed segment, a combined bearing and clamping-block carried by the arm, said combined clamping-block and bearing slidably mounted in the arm and upon the shaft, and means for rotating the shaft, and a spring adapted to release the toothed segment, substantially as and for the purpose specified.

844,591. GAGE ATTACHMENT FOR MACHINES FOR SETTING LACING-HOOKS. WILLIAM HALKYARD, Providence, R. I. Filed Aug. 22, 1902. Serial No. 120,703.



Claim.—1. In a gauge attachment for machines for setting lacing-hooks, the combination of the angular gauge-bar having arms extending upon opposite sides of the anvil, the guiding-ribs upon the upper side of the arms of the said gauge-bar, the index-marks upon the upper surface of one of the said arms, a slide-bar arranged to slide in the upper side of the said arm of the gauge-bar, and having a gauge-pin extending upward at its inner end, friction means for holding the slide-bar in its set position, and the adjustable gauges extending across the upper side of the arms of the gauge-bar.

2. In a gauge attachment for machines for setting lacing-hooks, the combination of a gauge-bar having arms extending upon opposite sides of the anvil, and a graduated slide-bar arranged for sliding engagement with one arm of the gauge-bar, and having a gauge-pin at its inner end, with an adjustable sliding gauge upon the same arm of the gauge-bar, for determining the proper distance for setting the first lacing-hook from the top of the shoe in the right-hand quarter of the shoe-upper, the said guage having gauge-faces arranged in steps one higher than the other, whereby the end lacing-hook may be set in both the finished and unfinished quarters of the shoe-upper, substantially as described.

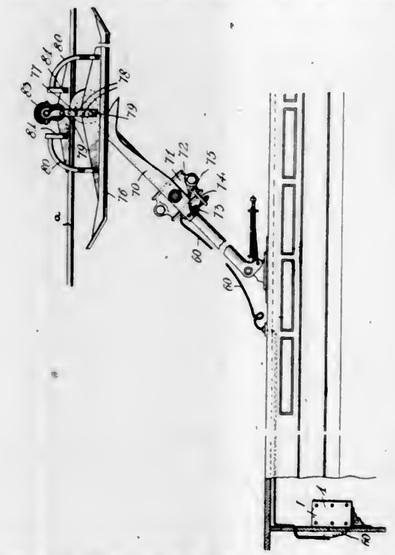
844,592. CUTTING-BOARD. WILLIAM A. HARMAN, White Horse, District of Alaska. Filed Sept. 17, 1906. Serial No. 334,920.



Claim.—1. As a new article of manufacture, a reversible cutting-board having a rim and a diagonally-extending partition forming oppositely-arranged troughs in the two sides of the board.

2. As a new article of manufacture, a reversible cutting-board comprising a rim and a diagonally-extending partition in said rim forming two troughs, the bottom of each trough at one end being flush with the top of the rim and inclined downwardly until it reaches the rim at the other end of the board.

844,593. STATION-INDICATOR. CLARENCE J. HARTER, Herkimer, N. Y., and one-fourth to Montraville E. Platts, Ilion, N. Y., assignor of one-fourth to Ernest I Harter, Ilion, N. Y. Filed Feb. 8, 1906. Serial No. 300,116.



Claim.—1. In an indicating device of the character described, the combination with a supporting-frame and casing having formed in one side a view-opening, of rollers journaled in said frame and casing, an indicating-ribbon adapted to be wound on and off said rollers, independent operating devices connected with each end of said rollers to turn the same in one direction or the other, means to actuate said operating devices, manually-operated means for rotating said rollers in either direction and means whereby the actuating mechanism for said operating devices at each end of the rollers is alternately energized, substantially as described.

2. In an indicating device of the character described, the combination with a supporting-frame and casing having formed in one side a view-opening, of rollers journaled in said frame and casing, an indicating-ribbon adapted to be wound on and off said rollers, independent operating devices connected with each end of said rollers to turn the same in one direction or the other, an electromagnet connected with the operating devices at each end of said rollers, contact-posts connected with each of said magnets, a reversing-shaft, a conducting contact-bar fixed on and insulated from said shaft, means to hold said bar in engagement with one or the other of said posts, a reversing-lever fixed on said shaft, expansible reversing-springs arranged on each of said rollers to alternately engage the opposite ends of said lever when the ribbon is wound off from one or the other of said rolls, and means to automatically compress said springs into place until held by the ribbon being wound on the roller, substantially as described.

3. In an indicating device of the character described, the combination with a supporting-frame and casing having formed in one side a view-opening, of rollers journaled in said frame and casing, an indicating-ribbon adapted to be wound on and off said rollers, independent operating devices connected with each end of said rollers to turn the same in one direction or the other, an electromagnet connected with the operating devices at each end of the rollers, contact-posts connected with each of said magnets, a conducting contact-bar adapted to be engaged with one or the other of said contact-posts, and means whereby said contact-bar is automatically reversed as the ribbon is wound off from either of said rollers, substantially as described.

4. In an indicating device of the character described, the combination with a supporting-frame and casing having formed in one side a view-opening, of rollers journaled in said frame and casing, an indicating-ribbon adapted to be wound on and off said rollers, independent operating devices connected with each end of said rollers to turn the same in one direction or the other, an electromagnet connected with the operating devices at each end of the rollers, contact-posts connected with each of said magnets, a conducting contact-bar adapted to be engaged with one or the other of said contact-posts, a reversing-lever to reverse the position and engagement of said contact-bar, and reversing-springs arranged on each of said rollers to engage the opposite ends of said reversing-lever, thereby rocking the same in one direction or the other, substantially as described.

5. In an indicating device of the character described, the combination with a supporting-frame and casing having formed in one side a view-opening, of rollers journaled in said frame and casing, an indicating-ribbon adapted to be wound on and off said rollers, independent operating devices connected with each end of said rollers to turn the same in one direction or the other, an electromagnet connected with the operating devices at each end of said rollers, contact-posts connected with each of said magnets, a reversing-shaft, a conducting contact-bar fixed on and insulated from said shaft, means to hold said bar in engagement with one or the other of said posts, a reversing-lever fixed on said shaft, expansible reversing-springs arranged on each of said rollers to alternately engage the opposite ends of said lever when the ribbon is wound off from one or the other of said rolls, and means to automatically compress said springs into place until held by the ribbon being wound on the roller, substantially as described.

6. In an indicating device of the character described, the combination with a supporting-frame and casing, of ribbon-winding rollers journaled therein, an indicating-ribbon adapted to be wound on one of said rollers and simultaneously wound off the other, sprocket-gears fixed on the journals of said rollers, chains connecting said gears on each end of said rollers, pivotally-mounted operating-levers, pawls arranged in one end of said levers, and means to actuate one or the other of said levers, thereby causing the pawl carried thereby to engage and operate the chain at one end or the other of said rollers, said pawls being adapted to engage the opposite stretches of chain on the opposite ends of the rollers, substantially as described.

7. In an indicating device of the character described, the combination with a supporting-frame and casing, of ribbon-winding rollers journaled therein, an indicating-ribbon adapted to be wound on one of said rollers and simultaneously wound off the other, sprocket-gears fixed on the journals of said rollers, chains connecting said gears on each end of said rollers, pivotally-mounted operating-levers, pawls arranged in one end of said levers, armatures carried by the opposite ends of said levers, electromagnets to attract said armatures and thereby actuate said levers causing the pawls carried thereby to

engage said chains to move the same and said rollers in one direction or the other, and means whereby said magnets are automatically energized, substantially as described.

8. In an indicating device of the character described, the combination with a supporting-frame and casing, of ribbon-winding rollers journaled therein, an indicating-ribbon adapted to be wound on one of said rollers and simultaneously wound off the other, sprocket-gears fixed on the journals of said rollers, chains connecting said gears on each end of said rollers, pivotally-mounted operating-levers, pawls arranged in one end of said levers, armatures carried by the opposite ends of said levers, electromagnets to attract said armatures and thereby actuate said levers causing the pawls in the opposite ends thereof to engage the opposite stretches of the chains on the opposite ends of said rollers and thereby turn said rollers in one direction or the other, contact-posts connected with said magnets, a conducting contact-bar, a reversing-lever to engage said bar with one or the other of said posts, and reversing-springs carried by said rollers to engage one end or the other of said lever, said springs being released and permitted to expand to an operative position by the unwinding of the ribbon from said rollers, substantially as described.

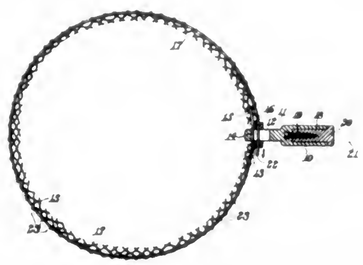
9. In an indicating device of the character described, the combination with a supporting-frame and casing, of ribbon-winding rollers journaled therein, an indicating-ribbon adapted to be wound on and off said rollers, sprocket-gears fixed on the journals of said rollers, a sprocket-chain to connect said gears at each end of the rollers, guide-plates arranged behind the working stretches of said chains, pivoted operating-levers, pawls mounted in one end of said levers to engage said chains, means to actuate said operating-levers, adjustable stops to limit the movement thereof, cog-wheels stop devices arranged on said levers to engage the teeth of said cog-wheels, means to automatically control the movement of said operating-levers, and means to manually reset said rollers and indicating-ribbon, substantially as described.

10. In an indicating device of the character described, the combination with a supporting-frame and casing, of ribbon-winding rollers journaled therein, an indicating-ribbon adapted to be wound on and off said rollers, sprocket-gears fixed on the journals of said rollers, a sprocket-chain to connect said gears at each end of the rollers, guide-plates arranged behind the working stretches of said chains, pivoted operating-levers, pawls mounted in one end of said levers to engage said chains, means to actuate said operating-levers, adjustable stops to limit the movement thereof, cog-wheels, stop devices arranged on said levers to engage the teeth of said cog-wheels, means to automatically control the movement of said operating-levers, a spur-gear fixedly mounted on the journal of one of said rollers, a resetting-shaft, a gear fixed on one end of said resetting-shaft to engage the gear on said roller, and a hand knob or wheel arranged on the opposite outer end of said shaft, substantially as described.

11. In an indicating device of the character described, the combination with a supporting-frame and casing having formed in one side a view-opening, of rollers journaled in said frame and casing, an indicating-ribbon adapted to be wound on and off said rollers, independent operating devices connected with each end of said rollers to turn the same in one direction or the other, an electromagnet connected with the operating devices at each end of the rollers, contact-posts connected with said magnets, a conducting contact-bar adapted to be automatically engaged with one or the other of said posts, conducting-wires connected with said contact-bar, and means whereby electricity is taken from the supply-conductor of the car by said conducting-wires, substantially as described.

844,594. FISHING-NET. FRANK H. HASKELL, Boston, Mass., assignor of one-half to Thomas J. Smith, Boston, Mass. Filed Nov. 22, 1906. Serial No. 344,533.

Claim.—1. In a fishing-net, the combination of a net-supporting rim; a handle-tip provided with a longitudinal opening for the reception of the end of the handle and means for securing it to said handle and a transverse opening adapted to receive the ends of said rim; and means surrounding the outer periphery of said tip and adjustable longitudinally of said handle for clamping the ends of said rim thereto.



2. In a fishing-net, the combination of a net-supporting rim; a handle-tip provided with means for securing it to a handle and a longitudinal opening for the reception of the end of the handle and an exteriorly-threaded shank having a transverse opening therein adapted to receive the ends of said rim; and means threaded to the exterior of said shank adapted to clamp the ends of said rim thereto.

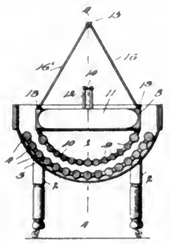
3. In a fishing-net, the combination of a net-supporting rim; a handle-tip provided with a threaded shank having a transverse opening adapted to receive the ends of said rim; a nut for clamping one end of said rim against the end of said opening; and a second nut for clamping the opposite end of said rim against the other nut.

4. In a fishing-net, the combination of a net-supporting rim; a handle-tip provided with means for securing it to a handle and a longitudinal opening for the reception of the end of the handle and a transverse opening adapted to receive the ends of said rim; and a nut threaded to the outer periphery of said tip and adjustable longitudinally thereof for clamping the ends of said rim thereto.

5. In a fishing-net, the combination of a net-supporting rim; a handle-tip provided with a transverse opening adapted to receive the ends of said rim; and two nuts threaded to the outer periphery of said tip and adjustable longitudinally thereof for clamping the ends of said rim thereto.

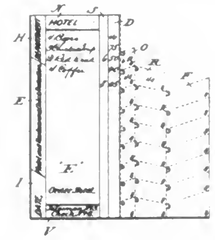
6. In a fishing-net, the combination of a net-supporting rim; a handle-tip provided with a threaded shank having a transverse opening adapted to receive the ends of said rim; and clamping-nuts on said threaded shank provided with radial slots.

844,595. WASHING-MACHINE. WILLIAM H. HEFFERNAN and HOMER F. MARSHALL, North Adams, Mass. Filed Oct. 19, 1905. Serial No. 283,557.



Claim.—In a washing-machine, a receptacle, a rubber pivotally sustained therein, a pair of handle-supporting members having meeting ends hingedly connected, and a handle carried by the supporting members, one of said members being pivotally connected with the rubber and the other being detachably engaged with the latter.

844,596. SALES-CHECK. GUSTAV HEINERSDORF, New York, N. Y. Filed May 16, 1906. Serial No. 317,201.



Claim.—1. A sales-check provided with a coupon portion containing longitudinal rows of perforations and transverse zigzag rows of perforations that intersect the longitudinal rows and have their angles at the points of intersection, whereby to form a plurality of series of coupons.

2. A sales-check provided with a coupon portion containing longitudinal rows of perforations and transverse zigzag rows of perforations that intersect the longitudinal rows and have their angles at the points of intersection, whereby to form a plurality of series of coupons, the other portion of the check displaying two numbers, one of said numbers being designated as a salesman's number and the other being designated as a check number.

3. A sales-check provided with a row of perforations dividing it into two main portions, one of said portions being provided with parallel longitudinal rows of perforations and transverse zigzag rows of perforations that intersect the longitudinal rows and have their angles at the points of intersection, whereby to form a plurality of series of detachable coupons, the other main portion of the check displaying two numbers, one of said numbers being designated as a salesman's number and the other being designated as a check number and each coupon bearing like numbers.

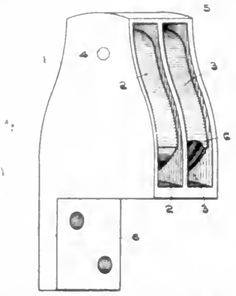
4. A sales-check provided with a row of perforations dividing it into two main portions, one of said portions being provided with parallel longitudinal rows of perforations and transverse zigzag rows of perforations that intersect the longitudinal rows and have their angles at the points of intersection, whereby to form a plurality of series of detachable coupons, the other main portion of the check displaying two numbers, one of said numbers being designated as a salesman's number and the other being designated as a check number and each coupon bearing like numbers, the coupons of each series bearing indicia, the characters of which are different on the various coupons, as and for the purpose set forth.

844,597. GARMENT-HANGER. EDWIN L. HENDERSON, Norwood, Ohio, assignor to The Kemper-Thomas Company, Cincinnati, Ohio. Filed Aug. 18, 1906. Serial No. 331,219.

Claim.—A foldable garment-hanger having a flexible supporting device and consisting of a straight flat coat-receiving bar or member made of a single piece and provided at its lower face with eyes located at the end portions of the bar or member, said bar or member being resilient and adapted to be bowed, and a combined trousers-supporting rod and brace formed of a single piece and provided at one end with an eye, which is linked into one of the eyes of the bar or member, the other end of the trousers-supporting rod being bent to form a bill or hook for engaging the other eye of the bar or member, and the distance between the eyes of the bar or member being greater than the length of the rod when the said bar or member is straight, and the rod when in engagement with both of the eyes forming a rigid trousers-support and operating as a brace to prevent further bowing of the bar or member, said coat-receiving bar or member and the rod being foldable flat against each other when the bill or hook is disengaged from its eye.



844,598. HORSE-HITCHING DEVICE. JACOB E. HUGUS, Franklin, Pa. Filed Aug. 29, 1905. Serial No. 276,316.



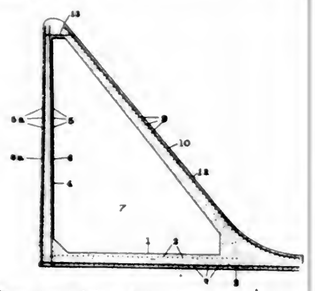
Claim.—In a horse-hitching device, a housing having two compartments therein, each of said compartments having continuous vertical or side walls and a convex floor, a swinging, pendent clamp in each of said compartments, the lower end or face of each of said clamps being convex, and in close proximity to said floor, there being a groove formed in said lower face of one of said clamps, and a downward projection located in said groove, for the purpose specified.

844,599. CONCRETE-AND-METAL CONSTRUCTION. ALBERT L. JOHNSON, St. Louis, Mo. Filed June 13, 1904. Serial No. 212,296.

Claim.—1. A dam comprising a footing, a face-wall thereon, and vertical ribs arranged transversely on said footing and having their ends inclined, and an inclined wall arising directly from said footing and resting against the inclined ends of said ribs, all made of concrete and reinforced with layers of longitudinally and transversely arranged metal rods, whereby the face-wall and the inclined wall are anchored to each other and to the footing.

2. A dam comprising a footing, a face-wall thereon, and vertical ribs arranged transversely on said footing and having their ends inclined, and an inclined wall arising directly from the footing resting against the inclined ends of said ribs and uniting integrally the upper edge of the

face-wall with the footing, all made of concrete reinforced with layers of longitudinally and transversely arranged rods of metal.



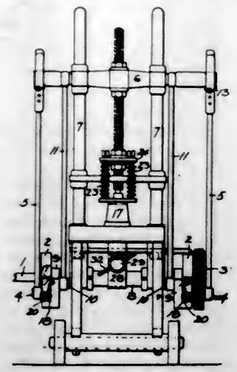
3. A dam comprising a footing, vertical ribs arranged transversely on said footing and having their ends inclined, and an inclined wall arising directly from said footing and resting upon the inclined ends of said ribs, all made of concrete reinforced with metal rods, which anchor the inclined wall to the footing through said ribs.

4. A concrete dam comprising a footing, vertical ribs arranged transversely on said footing and having their ends inclined, and an inclined wall arising directly from said footing resting on the inclined ends of said ribs, said inclined wall having transverse bars whose lower ends are embedded in the footing, and said ribs having vertical rods whose ends extend into the inclined wall and into the footing the width of said footing being substantially as great as the height of the inclined wall.

5. A concrete dam comprising a footing of concrete reinforced with metal bars, vertical ribs of concrete arranged trasnversely on said footing, and an inclined wall resting on said footing and against said ribs, said inclined wall having transverse bars embedded therein, and said ribs having horizontal bars extending into said wall and having vertical bars extending into said footing and into said wall, said vertical bars having hooks at their lower end arranged to engage the bars of said footing.

6. A concrete dam comprising a footing of concrete reinforced with metal bars, vertical ribs of concrete arranged transversely on said footing, and an inclined wall resting on said footing and against said ribs, said inclined wall having transverse bars embedded therein, and said ribs having horizontal bars extending from end to end thereof and into said wall and said ribs having vertical bars extending into said footing and into said inclined wall thereby anchoring said walls together through said ribs.

844,600. GLASS-PRESS. HENRY B. KOEHLER, Rochester, Pa. Filed May 31, 1906. Serial No. 319,586.



Claim.—1. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a friction wheel or disk on said shaft, a rotary sleeve on said shaft, a friction member carried by said sleeve and adapted to be engaged by said wheel during part of the revolution of said wheel or disk, and connections between said wheel or disk and said cross-head and between said friction member and said cross-head.

2. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft, a rotary sleeve on said shaft, a crank or arm carried by said sleeve adapted to be engaged by said wheel during part of the revolution of said wheel, and connections between said disk and said cross-head and between said crank or arm and said cross-head.

3. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft having an enlargement on its periphery, a rotary sleeve on said shaft, a crank or arm carried by said sleeve adapted to be engaged by said enlargement, and connections between said disk and said cross-head and between said crank or arm and said cross-head.

4. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft having an enlargement on its periphery, a rotary sleeve on said shaft, an arm carried by said sleeve, a shoe or knocker on said arm adapted to be engaged by said enlargement, and connections between said disk and said cross-head and between said arm and said cross-head.

5. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft having an enlargement on its periphery, a rotary sleeve on said shaft, an arm carried by said sleeve, an adjustable shoe or knocker on said arm adapted to be engaged by said enlargement, and connections between said wheel and said cross-head and between said arm and said cross-head.

6. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft having an enlargement on its periphery, a rotary sleeve having a rounded shoe or knocker adapted to be engaged by said enlargement, and connections between said disk and said cross-head and between said arm and said cross-head.

7. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft having an enlargement on its periphery, a rotary sleeve on said shaft, an arm carried by said sleeve having an overhanging portion, a shoe or knocker in said overhanging portion adapted to oe engaged by said enlargement, and connections between said wheel and said cross-head and between said arm and said cross-head.

8. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft having an enlargement on its periphery, a rotary sleeve on said shaft, an arm carried by said sleeve, a hollow shoe or knocker on said arm having a rounded bottom face adapted to be engaged by said enlargement, and connections between said disk and said cross-head and between said arm and said cross-head.

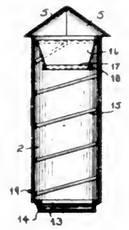
9. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft, a rotary sleeve on said shaft, an arm carried by said sleeve, means for carrying said arm by the engagement of said wheel therewith for part of the revolution of said wheel, means for holding said arm in that position after released from said wheel, and connections between said wheel and said cross-head and between said arm and said cross-head.

10. In a press for molding glassware, the combination of a mold, a plunger, a cross-head, a power-driven shaft, a disk or wheel on said shaft, a rotary sleeve on said shaft, an arm carried by said sleeve, means for carrying said arm by the engagement of said wheel therewith for part of the revolution of said wheel, and a brake on said sleeve for holding said arm in that position after released from said wheel, and connections between said wheel and said cross-head and between said arm and said cross-head.

11. In a press for molding glassware, the combination

of a mold, a plunger, a cross-head, a power-driven shaft, disks on said shaft, connecting-rods between said disks and said cross head, said connecting-rods being provided with loops or slots, said cross-head being provided with adjustable bearings mounted in said loops or slots and adapted to regulate or adjust the stroke or dwell of said plunger.

844,601. FRUIT PICKER. PHILIP KOERPER, Pikeville, Ky. Filed June 28, 1906. Serial No. 323,813.



Claim.—1. A fruit-picker comprising a tubular body portion, of a supporting rod or handle connected thereto, severing-blades pivotally mounted on the upper end thereof, means to operate said blades, a spring arranged within said cylinder, a bottomless bag secured to the upper end of said spring, and an elastic ring secured to the lower edge of said bag, substantially as described.

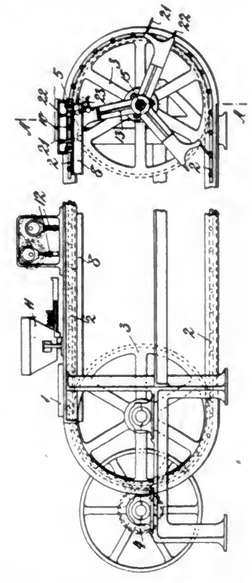
2. A fruit-picker comprising a tubular body portion, a removable cap secured to the lower end thereof, segmental severing-blades pivotally mounted on the upper ends of said cylinder, lazy-tongs connected to said blades and operating-rods connected to said lazy-tongs, a pole or handle secured to said cylinder, a coil-spring arranged within the latter, and means open at both ends secured to the upper end of said spring to break the fall of the fruit severed by said blades and drop it into said cylinder, substantially as described.

3. A fruit-picker comprising a cylindrical tubular body portion, a removable cap arranged on the lower end thereof, a bag or support detachably connected to the lower end of said cylinder, a pair of segmental cutting-blades pivotally mounted on the upper end of the same, lazy-tongs connected to said severing-blades, a supporting-handle secured to said cylinder, an operating-rod slidably mounted on the latter and passing through guides on said handle to within convenient reach of the operator, a spring arranged within said cylinder, a bottomless bag secured to the upper end of said spring, and an elastic ring secured to the lower open end of said bag, substantially as described.

844,602. MACHINE FOR MAKING CEMENT ROOFING-TILES. JOSEPH LIENING, Leer, Germany. Filed Aug. 13, 1906. Serial No. 330,502.

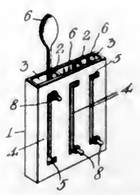
Claim.—1. In a machine for the manufacture of cement roofing-tiles, the combination of molds for the tiles having removable bottoms arranged therein, endless-chain conveyers for automatically conducting the molds consecutively to the different devices for making the tiles, means for vertically turning the endless-chain conveyers with the molds after they have left the last of said devices, means for raising the removable bottoms above the edges of said molds with the tiles resting upon them before they are turned said means being arranged below the molds and so disposed that the bottoms are raised by them above the edges of the mold.

2. In a machine for the manufacture of cement roofing-tiles, the combination of molds for the tiles having removable bottoms loosely arranged therein, endless-chain conveyers for automatically conducting said molds consecutively to the different devices for making the tiles, means for vertically turning the endless-chain conveyers with the molds thereon after they have left the last of said devices, a spider for raising said removable bottoms above the edges of the molds before the vertical turn, dog-pins on the end of each spider-arm for engaging the removable bottoms, some of said dog-pins being movable, and means for moving said movable dog-pins to raise the loose bottoms into horizontal position.



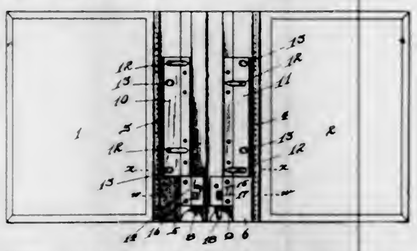
3. In a machine for the manufacture of cement roofing-tiles, molds for the tiles, loose bottoms in said molds, endless-chain conveyers for automatically conducting such molds one after the other to the different devices for making the tiles, means for turning the endless-chain conveyers with the molds vertically after their having left the last of said devices, a spider for raising said loose bottoms before the vertical turn of the molds, said spider being rotatably arranged below the filled molds and within the room inclosed by the endless-chain conveyers, said spiders keeping said bottoms in the raised position, dog-pins on the end of each spider-arm for engaging the loose bottoms, some of said dog-pins being arranged movably, means for moving said movable dog-pins in such a manner that the loose bottoms are raised in horizontal position.

844,603. COMBINATION CAMPING OUTFIT. CLAUD MASSEY, Boston, Ga. Filed May 7, 1906. Serial No. 315,617.



Claim.—A combination camping outfit, comprising a flat rectangular casing open at one end and divided longitudinally into a plurality of implement-containing compartments, each compartment having in one wall thereof a longitudinally-extending slot with lateral extensions at each end thereof, a culinary implement disposed in each compartment and having a projecting lug on its shank adapted to extend through said slot, and a spring carried by said lug for engaging the walls of the lateral slots to hold said implement in extended or withdrawn position.

844,604. TEMPORARY BINDER. WALTER S. MENDENHALL, Cincinnati, Ohio, assignor to The Sam'l C. Tatum Company, Cincinnati, Ohio, a Corporation. Filed Apr. 6, 1906. Serial No. 310,367.



Claim.—In a temporary binder, the combination of hinged binding-sections, angle strips and plates forming a rectangular box, hooks carried by said plates bridging the box, a locking-tongue formed in one plate, an inclosure formed in the adjacent plate having an entering-orifice for said tongue, a spring-actuated latch pivoted in said inclosure and adapted to automatically engage the tongue entering the recess, and an extension for manipulating the latch, substantially as described.

844,605. ELECTRIC LIGHTING DEVICE FOR LAMPS AND OIL STOVES. SVEND M. MEYER, New York, N. Y. assignor to George C. Batcheller, New York, N. Y. Filed Mar. 20, 1905. Serial No. 251,089.

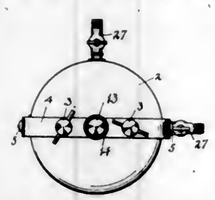


Claim.—1. In an electric lighting device for lamps and oil-stoves, the combination with the wick-tube of a cylindrical shell or casing surrounding the same, a thermally-deflected arm consisting of united ribbons of diversely-expansible metals in zigzag form mounted within the annular space between said tube and casing in position to be deflected downward in the annular space by the effect of heat, an incandescing coil mounted by one end on the free end of the thermal arm, a flexible support for the other end of the incandescing coil and means connecting the respective ends of the incandescing coil with the opposite poles of a suitable source of electricity.

2. In an electric lighting device for lamps and oil-stoves, the combination of a wick-tube, an insulated metal ring surrounding the said wick-tube, a bimetallic thermal arm of zigzag form mounted by one end on said insulated ring and adapted to be deflected by heat in an approximately vertical direction, an incandescing coil mounted by one end on the free end of the thermal arm, a flexible wire supporting the other end of the incandescing coil and following the deflection of the thermal arm, and means electrically connecting the thermal arm and the supporting-wire respectively, with the opposite poles of a suitable source of electricity.

3. In an electric lighting device for lamps and oil-stoves, the combination of a wick-tube, a cylindrical casing surrounding the same, a ring mounted on the outside of the wick-tube and insulated therefrom, a bimetallic thermal arm fixed by one end to the insulated ring within the annular space between the wick-tube and surrounding casing in position to move in an approximately vertical plane in said annular space, when deflected by heat, an incandescing coil mounted by one end on the free end of said thermal coil, a flexible conducting-wire fixed by one end to the cylindrical casing and connected by its other end to the second end of the incandescing coil and means connecting the fixed ends of the thermal arm and the conducting-wire respectively, to the opposite poles of a suitable source of electricity.

844,606. ACETYLENE-GAS GENERATOR. SVEND M. MEYER, New York, N. Y., assignor to George C. Batcheller, New York, N. Y. Filed Apr. 24, 1905. Serial No. 257,191.



Claim.—1. In an acetylene-gas generator, the combination of a tight gas-holding tank, an annular carbid-pan having tight bottom and sides, separate and removable from the said tank and completely contained therein, means for dripping water in the central tube of said annular carbid-pan and means for distributing water radially outward in the bottom of said pan, substantially as described.

2. In an acetylene-generator, the combination of a tank for receiving carbid and containing gas generated therefrom, a perforated diaphragm near the bottom of said tank for supporting the carbid therein, a plurality of vertical pipes, the outer one perforated and the inner one open at top, surrounded by the perforated diaphragm, a series of radial troughs inclined downward and outward from the interior of the inner vertical pipe and extending into the space beneath the perforated diaphragm and means for dripping water within the inner vertical pipe on the common center of the inclined radial troughs, whereby the fresh water is conveyed to the outer part of the space beneath the perforated diaphragm, substantially as described.

3. In an acetylene-gas generator, the combination of a tight gas-holding tank, an annular charging-pan for carbid separate and removable from said tank and completely contained therein and having a central tube perforated for the passage of gas and water, a perforated false bottom supporting the carbid in the annular charging-pan and providing a water-distributing chamber above the true bottom thereof, and means for supplying water in regulated quantity to the center of the annular pan and conveying it radially outward beneath the false bottom thereof, substantially as described.

4. In an acetylene-generator, the combination of a tank for receiving carbid and holding gas generated therefrom, a vertical tube through which water is supplied and a dropping device for regulating the supply of water, comprising a tubular valve, within the supply-tube, a conical seat for said valve, means for accurately adjusting the tubular valve on its seat, and a perforated cup secured to the lower end of the supply having a base in form approximately of an inverted cone, to the outside of which water is delivered from the perforated cup and from the pointed bottom of which it falls in successive drops and a suitable conduit which conveys the water to the carbid, substantially as described.

5. A water-dropping device for acetylene-generators, comprising a valve-guarded tube terminating at bottom in a perforated cup and a base for said cup of inverted conical form having annular channels to check and regulate the flow of water down the outside of said base, substantially as described.

6. A water-dropping device for acetylene-generators comprising a water-reservoir, a valve-guarded tube leading therefrom, and a cup secured to the lower end of said tube having a downwardly-tapering base, an annular channel surrounding said base and a plurality of apertures in the bottom of the cup delivering water therefrom to said annular channel and permitting the passage of air or gas to replace the descending water, substantially as described.

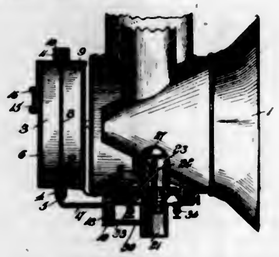
844,607. ACETYLENE-LAMP. SVEND M. MEYER, New York, N. Y., assignor to George Clinton Batcheller, New York, N. Y. Filed June 30, 1905. Serial No. 267,791.



Claim.—1. The combination of a suitable casing, a removable cover therefor, an acetylene-gas burner mounted on the cover, an acetylene-generator suspended from the cover within the casing and means for securing the combined cover and generator to the casing, substantially as described.

2. An acetylene-lamp comprising a suitable casing, a removable cover therefor, a complete acetylene-generator detachably suspended to the cover and removable therewith from the casing, a burner mounted on the cover, means for connecting the gas-outlet with the burner and means for locating and securing the cover and generator-casing, substantially as described.

844,608. LAMP FOR AUTOMOBILES AND OTHER VEHICLES. SVEND M. MEYER, New York, N. Y., assignor to George Clinton Batcheller, New York, N. Y. Filed June 30, 1905. Serial No. 267,792.

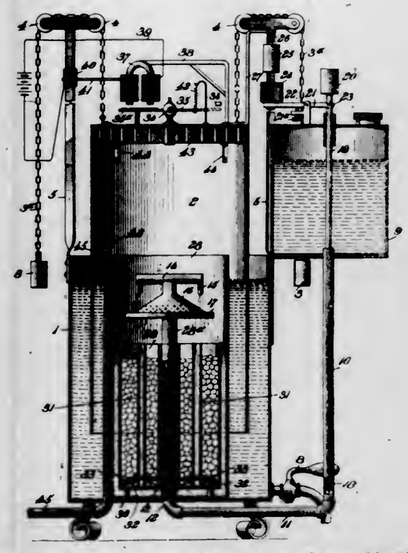


Claim.—1. The combination of a lantern-case, a lamp-burner therein, a tray surrounding the lamp-burner for the reception of fragments falling from the lamp-wick, means for securing said tray removably to the lantern-case, a main oil-supply reservoir having valve-guarded means in its bottom for delivering oil, a supplemental oil-reservoir carried by the tray and when the latter is secured in position, serving to supply oil to the lamp-wick and a suitable connection between the main supply-reservoir and supplemental reservoir serving, when the latter is in position to convey oil from one to the other.

2. The combination of a lantern-case, a lamp-burner therein, a main supply-reservoir having valve-guarded means in its bottom for delivering oil, a tube connected with said valve-guarded delivery and terminating in a nipple, a tray surrounding the lamp-burner for the reception of fragments falling from the lamp-wick, means for securing said tray removably to the lantern-case, a supplemental oil-reservoir carried by the tray and serving to supply oil to the lamp-wick, and a supply-tube connecting at one end with the supplemental oil-reservoir and having at its other end a suitable socket fitting over the aforesaid nipple through which oil is supplied from the main reservoir, substantially as described.

3. In a lamp for automobiles or other vehicles, the combination of a lamp-burner having a supplemental oil-reservoir in its base, a lantern-case in which said lamp-burner is mounted, a main supply-reservoir having a delivery-nipple in its base, a valve for regulating or closing passage of oil through said nipple, external means for operating said valve, a casing for said supply-reservoir having a pocket in its bottom receiving said reservoir-nipple, a fixed nipple on the lantern-case, a pipe conveying oil from the pocket of the reservoir-case to the fixed nipple and a pipe having a socket detachably applied to the fixed nipple and conveying oil therefrom to the lamp-burner reservoir, substantially as described.

844,609. ACETYLENE-GAS GENERATOR. SVEND M. MEYER, New York, N. Y., assignor to George Clinton Batcheller, New York, N. Y. Filed June 30, 1905. Serial No. 267,793.



Claim.—1. In an acetylene-generator, the combination of an annular carbid-pan, a water-supply pipe rising vertically therein and a spreader at top of said pipe consisting of a T-head with jet-nozzles and a perforated hood on which the water falls, for distributing water over the top of the pan, substantially as described.

2. In an acetylene-generator, the combination of an annular carbid-pan, an annular series of vertical water-pipes arranged therein and radial troughs connected with the lower ends of said water-pipes for distributing water therefrom to the carbid in the pan, substantially as described.

3. In an acetylene-generator, the combination of a

main water-tank 1 a removable inner water-tank 28 of annular form having a central vertical tube 28^a and a tight annular bottom uniting said central tube with the outer wall of the inner tank; a removable annular carbid-receptacle 29 surrounding the vertical tube 28^a and supported by feet 30 within the inner water-tank, so as to be exposed around and below to water in said inner tank, a water-supply pipe 12 extending upward within the central tube of the inner water-tank, and a distributing device on top of said water-supply pipe, substantially as described.

4. In an acetylene-generator, the combination of a water-tank, a gas-holding bell moving vertically therein, a carbid-receptacle inclosed in said water-tank and gas-holding bell, an elevated water-supply tank, a pipe conveying water therefrom, means distributing water from said pipe to the carbid in the receptacle, a valve in said pipe controlling the passage of water therethrough, a lever-and-rod connection for opening and closing said valve, and a weight suspended by a flexible attachment from a bracket carried by the gas-holding bell and a cup-like receptacle on the valve-lever, by which the weight is received so as to open the valve before the bell reaches the limit of its descent.

5. A regulating water-supply apparatus for an acetylene-generator comprising an elevated water-supply tank 9, a delivery-pipe 10 therefrom, a valve 18 in said pipe, a valve-rod 19, a weight 20 tending to hold the valve to its seat, a lever 21 for lifting said valve-rod and valve, a movable weight 25 for actuating said lever, a gas-holder bell 2, a suitable bracket or attachment 27 carried thereby and a flexible connection 26 suspending the weight from the bell attachment 27 whereby relative vertical movement is permitted between the suspended weight 25 and the gas-holder bell and the valve is lifted before the bell reaches the limit of its descent, substantially as described.

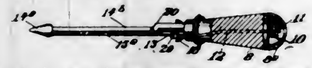
6. The combination of an annular carbid-receptacle, a water-supply pipe extending upward within said receptacle, a sprinkling device at top of said supply-pipe distributing water over the top of the carbid-receptacle and a series of vertical pipes within the receptacle conveying a portion of the water directly to the carbid at bottom of said receptacle, substantially as set forth.

7. In an acetylene-generator, the combination of an annular carbid-receptacle, a water-delivery pipe rising within the same, a horizontal sprinkling-nozzle at top of said delivery-pipe, an inclined perforated distributing-hood beneath the sprinkling-nozzle and a series of vertical pipes within the carbid-receptacle, open at top, serving to convey a portion of the water delivered through the sprinkling-nozzle direct to the bottom of the said receptacle, substantially as described.

8. In an acetylene-generator, the combination of a water-tank, a gas-holder bell moving vertically therein, an inner water-tank of annular form having a central annular tube and contained in the first-named water-tank, an annular carbid-receptacle surrounding the central vertical tube of the annular water-tank and supported above the bottom thereof, so as to be exposed to contact with water contained in said tank, a water-delivery pipe extending upward within the central tube of the annular water-tank and means at top of said pipe for distributing water over the top of the carbid-receptacle.

9. In an acetylene-generating apparatus, the combination of a carbid-receptacle, a water-tank and vertically-moving gas-holder bell inclosing said receptacle, an elevated water-supply tank, a water-conducting pipe therefrom, means for distributing water from the conducting-pipe to the carbid in the receptacle, a valve in the lower part of the conducting-pipe regulating the flow of water therethrough, a vertical rod on which said valve is mounted, a weight on said rod, tending to close said valve, a horizontal lever connected with the valve-rod for lifting it, a weight suspended from an attachment to the gas-holder bell engaging with the valve-lever so as to raise the valve when the bell approaches the end of its downward movement and a set-screw with which the valve-lever contacts so as to vary the extent of movement imparted to the valve at each stroke.

844,610. ELECTRIC CIGAR-LIGHTING APPARATUS. SVEND M. MEYER, New York, N. Y., assignor to George Clinton Batcheller, New York, N. Y. Filed Dec. 21, 1905. Serial No. 292,853.

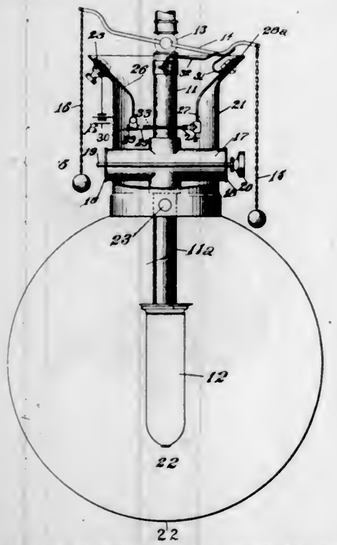


Claim.—1. In an electric torch, the combination of a pair of relatively insulated conducting-rods, a resistance-coil having spring-clips on its ends adapted to catch over said conducting-rods so as to connect them electrically through said resistance-coil, stops on the rods against which the clips may be slipped to locate the resistance-coil in proper position, a capillary body adjacent to the resistance-coil to carry inflammable liquid to be ignited therefrom and means for connecting the respective conducting-rods with the opposite poles of an electric battery, substantially as described.

2. In an electric torch, the combination of a pair of conducting-rods mounted in a suitable handle insulating one from the other, an incandescing coil located near the handle, electrically connecting the conducting-rods and an elongated wick of capillary material extending from near the incandescing coil to the end of the torch remote from the handle whereby inflammable liquid in which the end of the torch is immersed may be conducted to proximity to the incandescing coil so as to be ignited thereby, without immersing the said coil in the liquid, substantially as explained.

3. In an electric torch, the combination of a pair of conducting-rods mounted in a suitable handle insulating one from the other, a detachable incandescing coil adapted to be applied to said conducting-rods to form an electric connection between them and a rigid brace or strut mechanically connecting the mountings in which the ends of the coil are fixed, to protect the coil from distortion and injury before application to the conducting-rods, substantially as described.

844,611. ELECTRIC-LIGHTING APPARATUS FOR INCANDESCENT AND OTHER GAS-LAMPS. SVEND M. MEYER, New York, N. Y., assignor to George Clinton Batcheller, New York, N. Y. Filed Mar. 10, 1906. Serial No. 305,320.



Claim.—1. In an electric-lighting device for lamps, an incandescing lighting-coil made up of a plurality of separate wires mounted at their ends in a suitable housing and disconnected throughout their body, substantially as set forth.

2. In an electric-lighting apparatus for gas-lamps, the combination of electromagnetic means and connections for turning the gas on and off, an incandescing coil for igniting the gas and means for simultaneously cutting out the magnet-coils and passing the incandescing current through the igniting-coil, after the gas is turned on.

3. In an electric-lighting apparatus for gas-lamps, the combination of a suitable gas-burner, electrically-operated means for turning the gas on and off, including a pair of electromagnets and coupled armatures, connected with the gas-cock, an incandescing coil for igniting the gas and means for simultaneously cutting out the magnet-coils and passing the incandescing current through the igniting-coil, after the gas is turned on.

4. In an electric-lighting apparatus for gas-lamps, the combination of a suitable gas-burner, an electromagnet and connection therefrom for turning the gas on and off, an incandescing coil for igniting the gas and a circuit-closing device mounted on the magnet-armature serving to cut out the magnet-coil and cut in the igniting-coil when the gas is turned on, substantially as set forth.

844,612. SHINGLING-GAGE. PINKNEY L. MORRIS, Wewahitchka, Fla. Filed Oct. 8, 1906. Serial No. 338,050.



Claim.—1. A shingling-gage comprising a finger adapted to be slipped under a set shingle, a straight-edge support having means to engage a set shingle, a plate connected to the straight-edge support and to the finger, and means for exerting pressure between the plate and the straight-edge support to cause the straight-edge support to engage the set shingle.

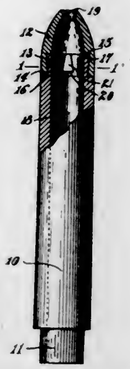
2. A shingling-gage comprising a finger adapted to be slipped under a set shingle, a straight-edge support having means to engage a set shingle, a plate connected to the straight-edge support and to the finger, and a cam-lever adapted to exert pressure between the plate and the straight-edge support to cause the straight-edge support to engage the set shingle.

3. A shingling-gage comprising a finger adapted to be slipped under a set shingle, a straight-edge support having means to engage a set shingle, a plate connected to the straight-edge support and to the finger, and a cam-lever received in a slot in the plate and pivoted to the plate which is adapted to force the straight-edge support into engagement with the set shingle.

4. In a shingling-gage, the combination with a finger adapted to be slipped under a set shingle, of a straight-edge support having a claw to engage the set shingle and provided with an offset portion, a securing device passing through the slot of the straight-edge support for securing the straight-edge in different adjusted positions, and means for causing the claw to engage the set shingle.

5. In a shingling-gage the combination, with a finger adapted to be slipped under a set shingle, of a straight-edge support having a claw to engage the set shingle and provided with an offset portion, a securing device passing through the slot of the straight-edge support for securing the straight-edge in different adjusted positions, means for causing the claw to engage the set shingle comprising a plate secured to the straight-edge support, and a cam-lever carried by the plate and adapted to bear on the straight-edge support.

844,613. ORGAN-PIPE FOOT. FENELON MCCOLLUM, Mansfield Depot, Conn. Filed Dec. 20, 1906. Serial No. 348,723.

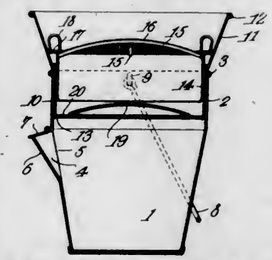


Claim.—1. As an article of manufacture, an organ-pipe foot comprising a wooden body portion and a separate soft-metal toe cast around the end of said body portion and thereby firmly secured to the same, said body portion having a key-seat, and a key carried by said toe and seated in said key-seat.

2. As an article of manufacture, an organ-pipe foot comprising a wooden body portion having at its end a flaring tenon, a separate soft-metal toe cast around the said tenon and thereby firmly secured to the same, said body portion having a key-seat, and a key seated in said key-seat and carried by said toe.

3. As an article of manufacture, an organ-pipe foot comprising a wooden body portion having at its end a flaring tenon, a separate soft-metal toe cast around said tenon and forming a dovetail-joint connection with the same, said tenon having an undercut key-seat, and a key in said seat cast integrally with said toe and having a dovetail-joint connection with said seat.

844,614. MILK-PAIL. JACOB J. NOLTY, Canal Dover, Ohio. Filed Oct. 8, 1906. Serial No. 338,002.

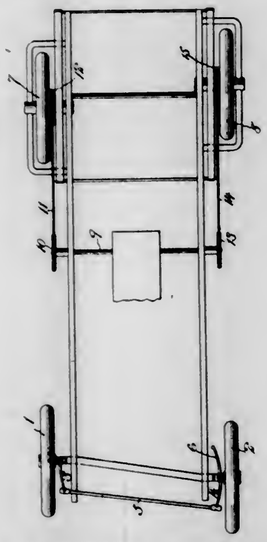


Claim.—1. A milk-pail comprising a body having a cylindrical neck, and a spout in the side of the body below the neck; a bottom strainer-section having a cylindrical lower portion removably fitting in the neck of the body and a funnel extending above the neck, a crowned unperforated plate arranged centrally in the lower end of the cylindrical portion and of less diameter than the latter, and an annular screen connected at its outer edge to the cylindrical portion and at its inner edge to the said plate; and a top strainer-section having a cylindrical body removably fitting in the lower strainer-section, a crowned screen extending entirely across the said cylindrical body, and reinforcing members for supporting the crowned screen and preventing collapsing thereof.

2. A milk-pail comprising a body portion having a cylindrical neck, a spout on the said body portion, a cover

for the spout hingedly attached thereto, a screen for straining the milk passing through the spout, a bottom strainer-section having a cylindrical lower end fitted into the neck and provided with an internal annular flange and a funnel at the upper end, a crowned unperforated member separated from the flange, an annular strainer between the member and flange which is supported on the latter and in turn supports the said member, an upper strainer-section having a cylindrical portion fitted into the cylindrical portion of the lower section, a rim on the upper section which coöperates with the funnel of the lower section to limit the movement of the upper section, handholds on the rim, a crowned strainer on the upper section, and reinforcing devices under the strainer.

844,615. WHEELED VEHICLE. ISAAC E. PALMER, Middletown, Conn. Filed June 27, 1906. Serial No. 323,543.



Claim.—1. A four-wheeled vehicle for use on wagon-roads, having its front and rear wheels on each side arranged to substantially track, one wheel of a pair being set ahead of the other wheel of the pair for obviating the sudden jars occasioned by passing over obstructions across the road.

2. A wheeled vehicle having one wheel of the front pair and one wheel of the rear pair set ahead of the other wheel of each pair for obviating the sudden jars occasioned by passing over obstructions across the road.

3. A wheeled vehicle having the wheels of the front and rear pairs on one side of the vehicle set ahead and behind respectively of the other wheels of the said pairs on the other side of the vehicle for obviating the sudden jars occasioned by passing over obstructions across the road.

844,616. EXTENSION-TABLE. GEORGE W. PEEK, San Francisco, Cal. Filed Feb. 10, 1904. Renewed Sept. 29, 1906. Serial No. 336,806.



Claim.—1. In an extension-table, a frame having side and end rails and supporting means; one portion of said frame, including a side rail extending higher than the other side rail and portion of the frame; a top of size to form a complete cover for the frame, slidingly mounted on said higher portion of the frame, to move from a position over said lower portion to a position at one side of the same; a leaf, of size to cover the lower portions of the frame, mounted on said lower portion to slide in an opposite direction from the top; and means whereby said leaf, when pulled out, rises to a level with said top and forms an extension of the same, substantially as described.

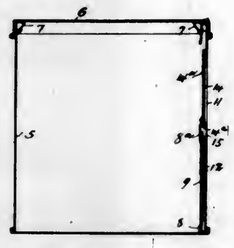
2. In an extension-table, a frame having side and end rails, and suitable supports therefor; one portion of said frame extending higher than the other portion of said frame; a top, of size to form a complete cover for the frame, slidingly mounted on said higher portion of the frame, to move from a position over said lower portion to a position at one side of the same; a leaf, of approximately equal length with the top, mounted on said lower portion to slide away from said higher frame portion; and means whereby said leaf, when pulled out, rises to a level with said top and forms an extension of the same; and friction-rollers attached to the under surface of said top near the edge thereof which lies next to the lower frame portion, and adapted to roll over the upper surface of said leaf, when the same is in its lowered position, to support said top when moved to a position above said lower frame portion, substantially as described.

3. In an extension-table, a frame having side and end rails, and supporting means; one portion of said frame, including a side rail, extending higher than the other portion of the frame and side rail; a top, of size to form a complete cover for the frame; transverse guide-bars, fixed to the higher portion of the frame at the ends; guide-bars, fixed to the under surface of said top, and having tongue-and-groove connection with said first-named guide-bars, whereby said top is adapted to slide from a position over said lower portion to a position at one side of the same; stops fixed to the under surface of said top in position to contact with said higher side bar to limit the movement of the top; a leaf, of approximately the same length as said top, but of width corresponding to the width of the lower portion of said frame, mounted on said lower portion to slide in an opposite direction from the top; and means whereby said leaf, when pulled out, rises to a level with said top, and forms an extension of the same, substantially as described.

4. In an extension-table, a rectangular frame, having side and end rails, and supporting-legs at the corners thereof; one portion of said frame, including a side rail, extending higher than the other side rail and portion of the frame; a top, of size to form a complete cover for the frame, slidingly mounted on said higher portion of the frame, to move from a position over said lower portion to a position at one side of the same; a leaf, of size to cover the lower portion of the frame; transverse brackets fixed to the lower surface of the leaf at each end; each of said brackets having a portion of its lower edge formed with an inclined or cam surface, ending in a stop, and having a guide-groove formed in the side thereof, parallel, and of like contour with said edge; slots formed in the upper ends of the legs, forming a part of said lower frame portion, in which said brackets fit loosely, and with the lower edges of which, the lower edges of said brackets are in sliding contact; projections fixed to the inner side of the end rails, and extending into said guide-grooves, whereby said leaf is at all times attached to the table; but when pulled out rises to a level with said top and forms an extension of the same, substantially as described.

844,617. STORAGE AND DISPLAY RECEPTACLE. JOHN D. RICHARDSON, St. Joseph, Mo., assignor to National Biscuit Company, Jersey City, N. J., and Chicago, Ill., a Corporation of New Jersey. Filed Nov. 1, 1902. Serial No. 129,741.

Claim.—1. A receptacle of the class described, consisting of a sheet-metal can having a cover, and its front wall provided with oblong panel-like openings, the margins of the sheet metal surrounding said panel-openings being inturned, and sheets of material removably secured behind said openings, the upper sheet constituting a name-plate and the lower being transparent to display the contents in the bottom of said receptacle and held against the inturned margin of the metal surrounding the lower panel, substantially as described.



2. A receptacle of the class described, comprising a sheet-metal can having its front plate or side provided with two oblong panel-openings of substantially equal size and extending substantially across the front of the can, a name-plate fitted behind the upper panel-opening, the margins of the sheet along the lower panel-opening being inturned to provide a narrow ledge or bearing, and a sheet of glass removably secured behind the lower panel-opening in contact with said ledge, substantially as described.

3. A sheet-metal display can or box, comprising in combination a body having three sheet-metal sides, furnished at their upper ends with hollow, triangular strengthening bars or braces, and provided with a hollow, triangular strengthening bar or brace at its front, and a sheet-metal front plate having an upper or sign opening therein, and provided with sheet-metal guides having horizontal and upright flanges soldered to said front plate to form a pocket thereon to receive a removable sign-plate, said front strengthening-bar and said front plate forming a slot between them for removal and insertion of the sign-plate, substantially as specified.

4. A sheet-metal display can or box, comprising in combination a bottom, a body, and a hinged cover, the front of the body having two openings therein, two removable plates for closing said openings, fixed guides for holding one of said plates in place, and fastening means for holding the other removable plate in place, substantially as specified.

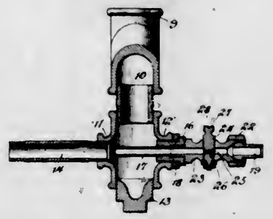
5. A sheet-metal display can or box having a bottom, a body and a cover, the sheet-metal front of said body having two openings therein, two removable plates for closing said openings, guides for holding one of said plates in place, and a turn-button guide for holding the other plate in place, substantially as specified.

6. A sheet-metal display can or box having a bottom, a body and a cover, the sheet-metal front of said body having two openings therein, two removable plates for closing said openings, guides for holding one of said plates in place, a turn-button guide for holding the other plate in place, said turn-button guide being mounted on one of the guides for said first-mentioned plate, substantially as specified.

844,618. TRACK-SANDING APPARATUS. FREDERICK L. ROBINSON and JOHN MCCABE, Cheyenne, Wyo. Filed Sept. 15, 1906. Serial No. 334,756.

Claim.—1. In sanding apparatus of the character set forth, the combination with a casing having an upper sand-inlet and an offset sand-discharge, of a motive-fluid conduit, a coupling directly connecting the conduit and casing on the side opposite the sand-discharge, and a reversible controlling-valve located in the coupling directly adjacent to the casing, said valve having a fluid-conducting passage-way therethrough, either end of which may be made the inlet of said passage-way by reversing the valve.

2. In sanding apparatus of the character set forth, the combination with a sand-conduit, of motive-fluid-conducting means, connections between the conducting means and conduit, including a coupling having an inlet and an outlet, a rotatable controlling-valve located in the conduit and having passage-ways of different diameters therethrough that are movable into alinement with the inlet and outlet of the coupling, both ends of each passage-way being movable into association with said inlet of the coupling to secure the passage of the motive fluid in opposite directions through each passage-way.



3. In a sanding apparatus of the character set forth, the combination with a sand-conduit, of motive-fluid-conducting means, connections between the conducting means and conduit, including a coupling having an inlet and an outlet, a rotatable controlling-valve located in the conduit and having angularly-disposed passage-ways of different diameters therethrough that are movable into alinement with the inlet and outlet of the coupling, both ends of each passage-way being movable into association with said inlet of the coupling to secure the passage of the motive fluid in opposite directions through each passage-way.

4. In sanding apparatus of the character set forth, the combination with a casing having a sand-outlet, and a sand-inlet, of a motive-fluid-conducting conduit connected to the casing and having a nozzle coöperating with the sand-outlet, and a rotatable plug journaled in the motive-fluid conduit contiguous to its juncture with the casing, said plug having angularly-disposed intersecting passage-ways of different diameters therethrough, either of which may be brought into alinement with the bore of the conduit to permit the flow of different volumes of motive fluid through said nozzle, and both ends of each passage-way being movable to a position to constitute the inlet of such passage-way in order to secure the passage of motive fluid in opposite directions through each passage-way.

5. In sanding apparatus of the character set forth, the combination with a casing having an upper sand-inlet, and an offset discharge, of a plug threaded into the casing from the outside and disposed in the opposite side thereof to the discharge, a nozzle carried by the inner end of the plug and projecting toward the outlet, a supply-conduit, a coupling connecting the conduit and the outer end of the plug, and a controlling-valve located in the coupling.

6. In sanding apparatus of the character set forth, the combination with a casing having an upper sand-inlet, and an offset sand-discharge, of a plug threaded into the casing, a nozzle carried by the plug and projecting toward the sand-discharge, a lock-nut threaded on the plug and bearing against the casing, a motive-fluid-conducting pipe, a coupling connecting the pipe and the plug, and a rotatable valve journaled in the coupling and having angularly-disposed openings of different diameters therethrough.

7. In sanding apparatus of the character set forth, the combination with a casing having an upper inlet, and depending legs, of plugs detachably fitted into the lower ends of the legs, said legs furthermore having alined oppositely-projecting nipples, sand-conducting pipes connected to certain of the nipples, nozzles connected to the other nipples, and extending into the legs toward the sand-conducting pipes, motive-fluid-conducting means, couplings disposed exteriorly of the legs and connecting said conducting

means and the nozzles, and controlling-valves located in said couplings.

844,619. TOY ANIMAL. CHARLES SACKMAN, Jamaica, N. Y. Filed Nov. 24, 1906. Serial No. 344,884.

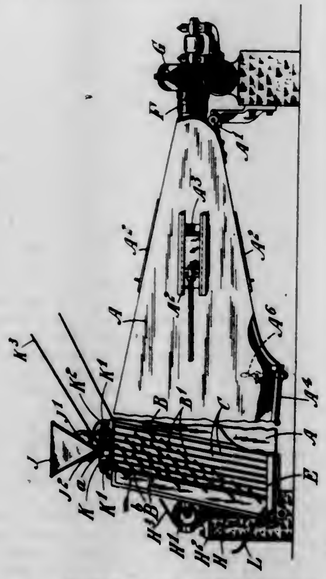


Claim.—1. In a toy bear or like animal, a head formed of cloth, appropriately cut, sewed and stuffed, a button in the lower portion of the neck, threads passing from the eye-sockets through the stuffing of the head and secured to the button in the neck, and a body portion to which the button is secured; substantially as described.

2. In a toy bear or like animal, a head formed of cloth, appropriately cut, sewed and stuffed, a button in the lower portion of the neck, threads passing from the eye-sockets through the stuffing of the head, thread-holes in the button through which the threads are passed, the holes being so located as to give the desired direction to the threads, and a body portion to which the button is secured; substantially as described.

3. In a toy bear, or like animal, a head formed of cloth, appropriately cut, sewed and stuffed, a button in the lower portion of the neck, threads passing from the eye-sockets through the stuffing of the head, thread-holes in the button through which the threads are passed, the threads being crossed within the head, and a body portion to which the button is secured, substantially as described.

844,620. SEPARATION OF METALS FROM THEIR ORES. RICHARD E. SAUNDERS, London, England. Filed Nov. 11, 1905. Serial No. 286,879.



Claim.—1. In apparatus for the separation of the metalliferous constituents of ore from gangue, the combination of a casing, an exhaust-fan flexibly connected to one end of said casing, a hinged support for that end of the casing, means for vibrating the other end of the casing, regulatable openings in the casing, adjustable baffles within the casing, and a hopper for feeding crushed ore to the baffles substantially as set forth.

2. In apparatus for the separation of the metalliferous constituents of ore from gangue, the combination of a casing, a longitudinal partition dividing the casing into two compartments, baffles in each compartment, a hopper to feed the baffles of one compartment with crushed ore, an exhaust-fan connected with the casing, regulatable openings in each compartment, and an inclined tray extending from the front of one compartment to the other substantially as set forth.

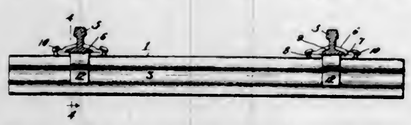
844,621. CUFF-HOLDER. GORDON L. SCHEFFER, Louisburg, N. C. Filed Mar. 15, 1906. Serial No. 306,258.



Claim.—1. In a cuff-holder, the combination of plates having spring end portions normally separated or sprung apart, one of the plates having its spring end bent upon itself to form a hook at one side thereof, and a loop slidable on the plates and adapted to effect compression or forcing together of the normaly sprung apart extremities thereof, said loop being movable between the hook and the plate adjacent thereto so as to project into the mouth of the hook aforesaid to form a stop in the manner specified.

2. As a new article of manufacture, a cuff-holder comprising two spring-plates having the opposite end portions thereof normally sprung apart, one extremity of one plate being recurved or bent upon itself to form a hook, loops slidable longitudinally on the plates aforesaid and adapted to force the free ends of said plates together, one loop being movable between the hook and adjacent plate so that a side thereof projects into the mouth of the hook to form a stop obviating likelihood of accidental disengagement of the hook from the part with which it engages.

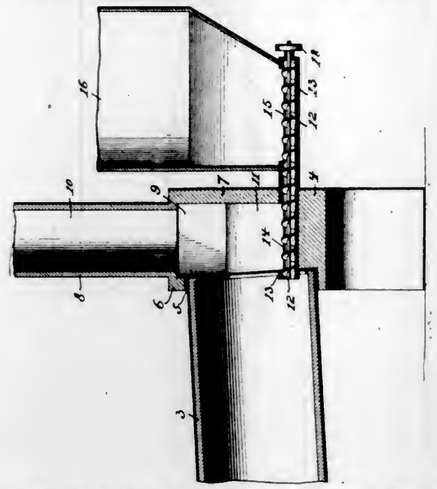
844,622. RAIL CHAIR AND TIE. ABRAHAM P. SELLS, Searcy, Ark. Filed Dec. 11, 1906. Serial No. 347,256.



Claim.—1. The combination with a hollow metallic cross-tie having concaved sides and filling-blocks inserted in its ends, of rail-chairs having base portions to receive the track-rails and to engage the top of said tie, side flanges to engage the base-flanges of the track-rails, and depending end flanges or tongues shaped to fit the concaved sides of said tie, and fastening means engaged with said chairs and passed through apertures in the top of said tie and into said filling-blocks, substantially as shown and described.

2. The combination with a hollow metallic cross-tie having concaved sides and filling-blocks inserted in its ends, of rail-chairs formed from a single plate or sheet of metal and having a rectangular body to rest upon the top of the tie and to receive the base of the track-rail, horizontally-projecting side flanges formed by doubling the metal plate upon itself, upwardly and inwardly extending side flanges to engage the upper faces of the base-flanges of the track-rails, and depending end flanges or tongues curved to fit the concaved sides of said tie, and fastening-spikes driven through apertures in the top of the tie and into said filling-blocks and having their heads engaged with the horizontal side flanges of said chairs, substantially as shown and described.

844,623. ROTARY KILN. WILLIAM C. SHINER, Catasauqua, Pa., assignor to James W. Fuller, Jr., Catasauqua, Pa. Filed Oct. 26, 1906. Serial No. 340,630.



Claim.—1. In a rotary kiln, a stack provided with a base having a chamber adapted to receive and to retain matter dropped from the stack, a kiln-tube connected with the base and terminating with its interior portion slightly below the chamber thereof, and movable means for positively conducting the descending matter from the stack-flue directly into said kiln.

2. In a rotary kiln, a kiln-tube, a stack having a base provided with a chamber, the walls whereof parallel to said kiln are downwardly inclined and terminate in a horizontally-arranged meeting portion, a casing located in said base having an opening arranged in alinement with the inclined walls of the chamber and terminating in said kiln-tube, the inclined walls of said chamber adapted to conduct matter dropping from the stack directly into said casing, and said conveyer adapted to conduct the matter directly into said kiln-tube.

844,624. TUNNEL-CRANE. EDWARD L. SMITH, Breckenridge, Colo. Filed Apr. 28, 1906. Serial No. 314,179.



Claim.—1. In a device of the character described, the combination with two lines of rails forming a track, and two lines of rails laid intermediate said rails forming a narrow-gage track, of a car comprising a platform supported on two upright side members, wheels on the side members running on the said outer rails, a crane pivotally mounted on the car and provided with a horizontal beam extending a considerable distance beyond the car, a trolley running along the beam, a vessel for containing the excavated material, means connecting the vessel and the trolley whereby the shifting of the trolley will elevate the vessel, means on the car for operating the trolley, and a second car provided with wheels arranged to run on the said intermediate track and to pass entirely underneath the car-platform between its sides, whereby the main car can be advanced upon elevating the vessel, to deposit the vessel upon said second car.

2. In a device of the character described, the combination with two lines of rails forming a track, and two lines of rails laid intermediate said rails forming a narrow-gage track, of a car comprising a platform supported on two upright side members, wheels on the side members running on the said outer rails, a crane pivotally mounted on the car and comprising an upright post pivotally supported on the car, a beam extending from the lower end of the post a considerable distance beyond the car at one end, a tie-rod connecting the upper end of the post with the outer extremity of the beam, a trolley running along the tie-rod, a sheave at the outer end of the crane, a cable secured to the trolley by one end and passing over said sheave, a vessel for containing the excavated material, means for removably securing the vessel to the end of the cable beyond the sheave, whereby the shifting of the trolley will elevate said vessel, a sheave at the upper portion of the upright post, a cable secured to the trolley and passing over said sheave and thence downward to the platform of the car, a drum around which the latter end of the cable is wound, a second car provided with wheels arranged to run on the said intermediate track and to pass entirely underneath the car-platform between its sides, whereby the main car can be advanced upon elevating the vessel, to deposit the vessel upon said second car.

3. In a device of the character described, the combination with two lines of rails forming a car-track, and two lines of rails intermediate of said rails forming a narrow-gage track, of a car comprising a platform supported on two upright side members, wheels on said members running on the outer rails, a crane on the car-platform extending over the track a considerable distance beyond the car, hoisting mechanism mounted on the car-platform and connected with the crane to elevate a vessel at the projecting end of the crane, and a second car comprising a body, a truck, and wheels running on the said intermediate rails, the second car being of a size to pass entirely underneath the platform of said car between its side members, whereby the crane-supporting car can be advanced to pass over said other car and deposit the vessel elevated at the crane extremity upon said second car, a shaft mounted on the platform of a car, a sprocket on each end of said shaft, sprockets on the car-wheels, chains connecting the shaft-sprockets with the car-wheel sprockets, a main shaft rotatably supported on the car, a sprocket on the latter shaft, a third sprocket on the said other shaft on the platform, and a chain connecting the latter sprocket with the sprocket on the driving-shaft, whereby the car-wheels are operated to advance the car.

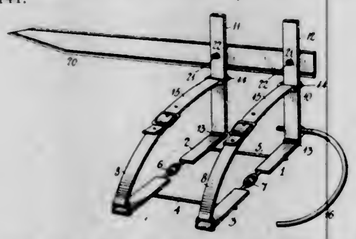
4. In a device of the character described, the combination with two lines of rails forming a track, and two lines of rails laid intermediate said rails forming a narrow-gage track, of a car comprising a platform supported on two upright side members, wheels on the side members running on the said outer rails, a crane pivotally mounted on the car and comprising an upright post pivotally supported on the car, a beam extending from the lower end of the post a considerable distance beyond the car at one end, a tie-rod connecting the upper end of the post with the outer extremity of the beam, a trolley running along the tie-rod, a sheave at the outer end of the crane, a cable secured to the trolley by one end and passing over said sheave, a vessel for containing the excavated material, means for removably securing the vessel to the end of the cable beyond the sheave, whereby the shifting of the trolley will elevate said vessel, a sheave at the upper portion of the upright post, a cable secured to the trolley and passing over said sheave and thence downward to the platform of the car, a drum around which the latter end of the cable is wound, a second car provided with wheels arranged to run on the said intermediate track and to pass entirely underneath the car-platform between its sides, whereby the main car can be advanced upon elevating the vessel, to deposit the vessel upon said second car, and means on the platform for operating the wheels of the main car to advance the same.

5. In a device of the character described, the combination with a pair of rails forming a track, and a pair of rails laid intermediate said rails forming a narrow-gage track, of a car comprising a platform supported on two upright side members, wheels on the side members running on the said outer rails, a crane pivotally mounted on the car and comprising an upright post pivotally supported on the car, a beam extending from the lower end of the post a considerable distance beyond the car at one end, a tie-rod connecting the upper end of the post with the outer extremity of the beam, a trolley running along the tie-rod, a sheave at the outer end of the crane, a cable secured to the trolley by one end and passing over said sheave, a vessel for containing the excavated material, means for removably securing the vessel to the end of the cable beyond the sheave, whereby the shifting of the trolley will elevate said vessel, a sheave at the upper portion of the upright post, a cable secured to the trolley and passing over said sheave and thence downward to the

platform of the car, a drum on the platform around which the latter end of the cable is wound, a second car provided with wheels arranged to run on the said intermediate track and to pass entirely underneath the car-platform between its sides, whereby the main car can be advanced upon elevating the vessel, to deposit the vessel upon said second car, and means on the platform for operating the wheels of the main car to advance the same.

6. In a device of the character described, the combination with two lines of rails forming a track, and two lines of rails laid intermediate said rails forming a narrow-gage track, of a car comprising a platform supported on two upright side members, wheels on the side members running on the said outer rails, a crane pivotally mounted on the car and comprising an upright post pivotally supported on the car, a beam extending from the lower end of the post a considerable distance beyond the car at one end, a tie-rod connecting the upper end of the post with the outer extremity of the beam, a trolley running along the tie-rod, a sheave at the outer end of the crane, a cable secured to the trolley by one end and passing over said sheave, a vessel for containing the excavated material, means for removably securing the vessel to the end of the cable beyond the sheave, whereby the shifting of the trolley will elevate said vessel, a sheave at the upper portion of the upright post, a cable secured to the trolley and passing over said sheave and thence downward to the platform of the car, a drum on the platform around which the latter end of the cable is wound, a second car provided with wheels arranged to run on the said intermediate track and to pass entirely underneath the car-platform between its sides, whereby the main car can be advanced upon elevating the vessel, to deposit the vessel upon said second car, a shaft mounted on the platform of a car, a sprocket on each end of said shaft, sprockets on the car-wheels, chains connecting the shaft-sprockets with the car-wheel sprockets, a main shaft rotatably supported on the car, a sprocket on the latter shaft, a third sprocket on the said other shaft on the platform, and a chain connecting the latter sprocket with the sprocket on the driving-shaft, whereby the car-wheels are operated to advance the car.

844,625. FOOT-POWER CANE-KNIFE. WILLIAM L. SPENCER, Wynne, Ark. Filed Oct. 29, 1906. Serial No. 341,141.

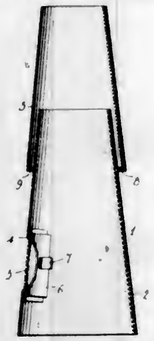


Claim.—1. A foot-power cutting-knife comprising a sole member composed of spaced plates connected by rods, a blade-carrying member composed of plates hinged to said spaced sole-plates, a blade attached to said hinged plates, and straps on said sole member and on said blade-carrying member for attaching the device to the foot.

2. A foot-power cutting-knife comprising a sole member composed of spaced plates connected by rods, a blade-carrying member composed of plates hinged to said spaced sole-plates, a blade attached to said hinged plates, straps on said sole member and on said blade-carrying member for attaching the device to the foot, and heel-engaging means mounted on said blade-carrying member.

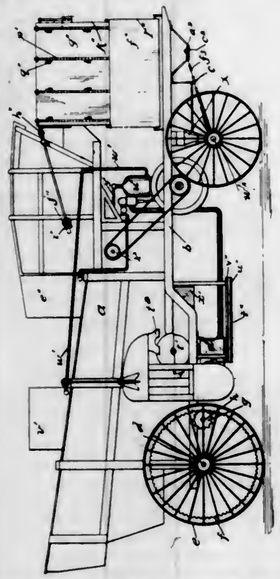
3. A foot-power cutting-knife comprising a sole member, a blade-carrying member connected to one end of said sole member, means for detachably connecting said device to the foot of an operator, and a heel-engaging hook screw-threaded at one end to adjustably connect it with said blade-carrying member.

844,626. INCUBATOR-LAMP CHIMNEY. WILLIAM A. SUMNER, Fairfield, Nebr., assignor to Nebraska Incubator Company, Fairfield, Nebr., a Corporation of Nebraska. Filed July 19, 1906. Serial No. 326,933.



Claim.—A chimney of the character described, comprising two nested frusto-conical sections forming a straight passage-way open from end to end, the lower section being provided with a sight-opening, and the upper section being provided with an inward-projecting perforated flange that frictionally engages the lower section and holds the two parts detachably assembled.

844,627. THRESHING-MACHINE. RICHARD SYLVESTER, Lindsay, Ontario, Canada. Filed Oct. 14, 1904. Serial No. 228,466.



Claim.—1. In a motor-driven threshing-machine, a suitable motor; driving-wheels operated by said motor for propelling said threshing-machine; variable-speed gearing interposed between said motor and said driving-wheels; a clutch also interposed between said motor and said driving-wheels; separating mechanism constituting a part of said threshing-machine; and means for transmitting motion from said motor to said separating mechanism; whereby said separating mechanism may be operated and the machine simultaneously driven forward at varying rates determined by the amount of grain to be threshed.

2. A motor-driven threshing-machine having steering and drive wheels, a separating mechanism, a fan or blower to create an air-current through the separating mechanism, a motor and a radiator suspended in front of the fan or blower to heat the air passing therethrough and means for operatively transmitting motion from the motor to the drive-wheels separating mechanism and fan or blower.

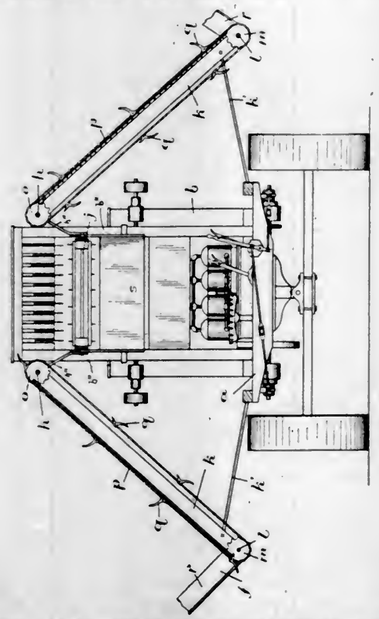
3. A motor-driven threshing-machine having steering and drive wheels, a separating mechanism, a fan or blower to create an air-current through the separating mechanism, a motor suspended in front of and a heater suspended below the fan or blower to heat the air passing therethrough, and means for operatively transmitting motion from the motor to the drive-wheels, separating mechanism and fan or blower.

4. A motor-driven threshing-machine having steering and drive wheels, a separating mechanism, a fan or blower to create an air-current through the separating mechanism, a motor and a radiator suspended in front of and a heater suspended below the fan or blower to heat the air passing therethrough and means for operatively transmitting motion from the motor to the drive-wheels, separating mechanism and fan or blower.

5. A motor-driven threshing-machine having steering and drive wheels, a separating mechanism, a fan or blower therefor to create a current through the separating mechanism, a motor, a radiator, so positioned as to enable its heat units to be absorbed by the air-current created by the fan or blower, in circulation with the water-space of the motor, and means for operatively transmitting motion from the motor to the drive-wheels, separating mechanism and fan or blower.

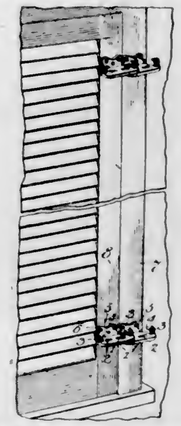
6. In a motor-driven threshing-machine, separating mechanism comprising a fan or blower, a heater in contact with the casing of said blower, an explosion-motor for operating said threshing-machine, and a conduit for conducting the exhaust-gases from said motor to said heater.

844,628. SHEAF CARRIER AND ELEVATOR FOR THRESHING-MACHINES. RICHARD SYLVESTER, Lindsay, Ontario, Canada. Original application filed Oct. 14, 1904, Serial No. 228,446. Divided and this application filed Jan. 26, 1906. Serial No. 298,040.



Claim.—In a threshing-machine the combination of an elevator-shaft journaled in bearings connected to the framing of the threshing-machine, a sheaf-basket back, sides for the sheaf-basket back articulatingly suspended from the elevator-shaft, an elevator-shaft journaled in the said sides, a sheaf-basket bottom, sides for the sheaf-basket bottom articulatingly mounted on the last-mentioned elevator-shaft so that the sheaf-basket bottom can be folded against the sheaf-basket back or extended at an angle thereto, elevator-wheels mounted on both of said elevator-shafts, elevator-belts passing around the elevator-wheels, elevator-fingers carried by the elevator-belts, and means for revolving the first-mentioned elevator-shaft and causing the travel of the elevator-belts.

844,629. HINGE. JAMES W. TATUM, Durham, N. C. Filed Dec. 14, 1906. Serial No. 347,798.



Claim.—1. A hinge member comprising a plate having a keyhole-slot and a tongue rising upward from the face of the plate adjacent the said slot.

2. A hinge member comprising a plate having a keyhole-slot and a tongue rising upward from the face of the plate, in line with and adjacent the said slot.

3. A hinge member comprising a plate having a keyhole-slot and a tongue projecting from the face of the plate, in line with and adjacent the said slot, said tongue having a projecting nose.

4. A hinge member comprising a plate having a keyhole-slot and a tongue projecting from the face of the plate, in line with and adjacent the said slot, said tongue having flattened sides.

5. A hinge member comprising a plate having a pair of keyhole-slots, and tongues projecting from the face of the plate, one adjacent each slot.

6. A hinge member comprising a plate having a pair of keyhole-slots in line with each other and tongues projecting upward from the face of the plate at opposite ends thereof, said tongues being in line with the keyhole-slots.

7. A hinge member comprising a plate having a pair of keyhole-slots located in alinement and tongues projecting upward from the face of the plate at opposite ends thereof, the opposite faces of said tongues being flat.

8. A hinge member comprising a plate having a pair of keyhole-slots located in alinement and parallel to the outer edge of the plate, a tongue projecting upward from the face of the plate adjacent the circular portion of each keyhole-slot and an inwardly-extending nose on the upper end of each tongue.

9. A hinge comprising two identical members each consisting of a plate having a keyhole-slot and a tongue projecting upward from the face of the plate and located adjacent and in line with the slot, the tongues and slots of the two hinge members being complementary.

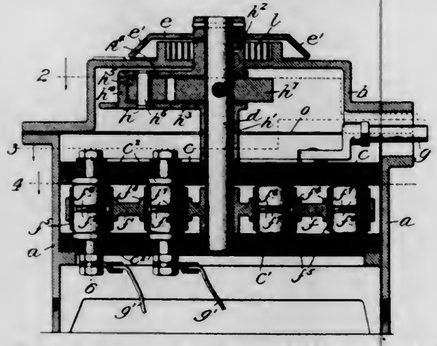
10. A hinge comprising two members each consisting of a plate having a keyhole-slot and a tongue projecting upward from the face of the plate and located adjacent

the circular portion of the slot, said tongue having an inwardly-projecting nose, the tongues and keyhole-slots of the two hinge members being complementary.

11. A hinge member comprising a plate having a keyhole-slot, a tongue projecting from the face of the plate adjacent and in line with said slot, and an angular extension at one side of the plate for attaching the latter in position.

12. A hinge member comprising a plate having a pair of keyhole-slots arranged in line with each other, and an angular extension at one side thereof, and tongues projecting from the face of the plate adjacent the circular portion of each slot.

844,630. SPEED-CONTROLLER FOR ELECTRIC MOTORS. ROBERT TEMPLE, Denver, Colo. Filed Apr. 24, 1906. Serial No. 313,440.



Claim.—1. A speed-controller comprising separated insulating-plates provided with spaced contact devices and a rotatable arm mounted between the plates, said arm being provided with correspondingly-spaced contact-buttons arranged in pairs and provided with a coiled spring for holding the buttons against the plates.

2. A speed-controller comprising separated insulating contact-plates provided with contact devices, a rotatable arm mounted between the plates, said arm carrying separated contact-buttons, and a coil-spring conductor mounted between the buttons acting to force the buttons against the contact-plates and the contact devices carried thereby.

3. A speed-controller comprising separated insulating contact-plates having contact devices, contact-arms rotatably mounted adjacent the plates, a shaft on which the contact-arms are mounted, a device for rotating the shaft step by step and means for returning such device to its normal position.

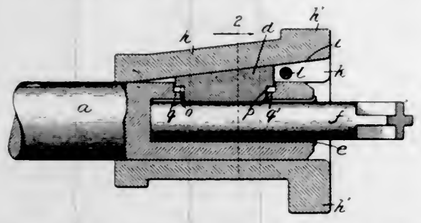
4. A speed-controller comprising contact-plates, contact-arms rotatably mounted adjacent the plates, a rotating shaft on which the contact-arms are mounted, a ratchet-wheel secured to the shaft, a segmental housing loosely spring-pressed pawl pivoted in the housing engaging the ratchet-wheel, means for rotating the housing to advance the ratchet-wheel, and means for returning the housing to initial position.

5. A speed-controller comprising rotatable contact devices, a shaft upon which the contact devices are mounted, means for advancing the shaft step by step, means for stopping the shaft at the end of each step, and means for returning the shaft-advancing means to initial position after each advance movement of the shaft.

6. A speed-controller comprising rotatable contact devices, a shaft upon which the contact devices are mounted, a ratchet-wheel secured to the shaft, a segmental housing loosely mounted on the shaft, a pivoted spring-pressed pawl in the housing engaging the ratchet-wheel, a fixed stop engaging both the housing and the pawl at the end of its predetermined advance movement, means for operating the housing, and means for returning the housing to initial position.

7. A speed-controller comprising a fixed casing, rotatable contact devices mounted therein, a shaft upon which the contact devices are mounted, a ratchet-wheel secured to the shaft, a segmental housing loosely mounted on the shaft, a pivoted spring-pressed pawl in the housing engaging the ratchet-wheel, a fixed stop engaging both the housing and the pawl at the end of the predetermined advance movement, means for operating the housing, and a spring engaging the housing and the fixed casing for returning the housing to initial position.

844,631. DRILL-CHUCK. ROBERT TEMPLE, Denver, Colo. Filed Apr. 24, 1906. Serial No. 313,441.



Claim.—1. A drill-chuck comprising a socket member provided with a longitudinal bore for receiving the tool, a sliding collar mounted on the socket member said collar being provided at one end with an outwardly-extending circumferential flange, and means engaged by the collar and the tool to secure the tool in operative position, the flanged end of the collar extending beyond the tool-receiving end of the socket member.

2. A drill-chuck comprising a tool-receiving socket member, a sliding collar mounted on the socket member said collar having an outwardly-turned flanged portion extending beyond the tool-receiving end of the socket member, and means engaged by the collar and the tool to lock the tool in place.

3. A drill-chuck comprising a socket member provided with a longitudinal bore for receiving the tool, and with a lateral opening communicating with the bore, the end walls of this opening being shouldered as described, a sliding collar surrounding the socket member said collar having at one end an outwardly-extending flange beyond the end of the socket member said collar also provided with a longitudinally-extending wedge-shaped recess on its inner face, and a shouldered key resting in the lateral opening of the socket having one face engaging the tool-shank and the opposite face inclined to coact with the wedge-shaped portion of the collar, substantially as described.

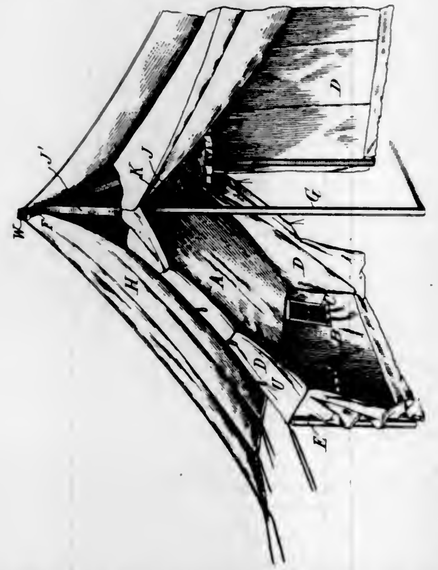
4. In a drill-chuck, the combination of a socket member provided with an opening for receiving a tool and having a lateral opening communicating with such tool-receiving opening for receiving a securing-key, a key mounted in such lateral opening, and a movable collar member mounted upon such socket member having an inner surface portion in engagement with such key and provided with securing means movable into engagement with the key for positively limiting the movement of the collar in a releasing direction.

5. In a drill-chuck, the combination of a socket member provided with an opening for receiving a tool and having a lateral opening communicating with such tool-receiving opening for receiving a securing-key, a key mounted in such lateral opening, and a movable collar member mounted upon such socket member having an inner surface portion in engagement with the key, and a pin mounted in such collar movable into engagement with such key for positively limiting the movement of the collar in a releasing direction.

6. In a drill-chuck, the combination of a socket member provided with a central opening for receiving a tool and having a lateral opening communicating with such central opening for receiving a securing-key, a key mounted in such lateral opening and having an outer edge extending laterally and in the direction of the open end of the socket portion at an incline, a collar slidably mounted upon such socket member and having an inclined inner surface portion in engagement with the inclined surface portion of such key, and a pin mounted in such collar and movable into engagement with the outer end of the key for limiting the movement of the collar in a releasing direction.

7. In a drill-chuck, the combination of a socket member provided with a central opening for receiving a tool and having a lateral opening communicating with such central opening for receiving a securing-key, a key mounted in such lateral opening and having an outer edge extending laterally and in the direction of the open end of the socket portion at an incline, a collar mounted upon such socket member having an annular wall portion in sliding engagement with such socket member and an inclined inner wall portion in engagement with the inclined surface portion of such key, and a pin mounted in such collar between the inner inclined wall portion and the annular inner wall portion thereof and movable into engagement with the outer end of the key for limiting the movement of the collar in a releasing direction.

844,632. HOSPITAL-TENT. HENRY B. THOMPSON, Philadelphia, Pa., assignor to John Boyle, Brooklyn, N. Y. Filed Apr. 10, 1905. Serial No. 254,680.



Claim.—1. A tent having a pair of end flaps D with their upper edges below the roof and having ventilating-openings above the edges of said flaps at the angle of the roof to permit of the passage of a current of air therethrough, said flaps being connected together at said upper edges and disconnected below said edges, and a strap J' connected to said flaps at their central meeting point for supporting the upper edges of said flaps.

2. A tent having a horizontal flue extending along the apex of the roof and open at opposite ends to permit the passage of a current of air therethrough, said flue having side walls A and a lower wall J fastened at its edges to said side walls and provided with openings connecting with the space within the tent.

3. The combination of a main tent and a separate closet having an opening, a rear wall and side walls, and means for attaching one of said side walls of the closet alongside one of the flaps of the tent.

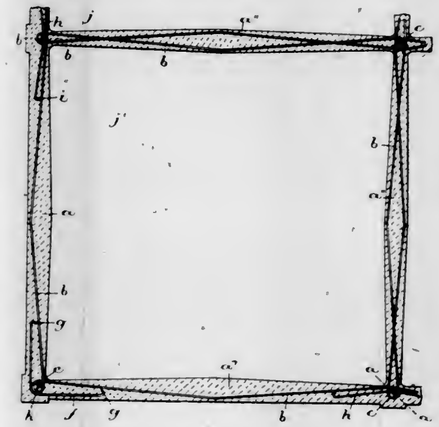
4. The combination of a main tent, a closet having a triangular roof and having sides depending from said roof, and means for attaching one of said sides to the main tent.

5. A closet or tent of canvas having a triangular roof, a rear wall depending from one side of said roof, and side walls depending from the two opposite sides and each connected to said rear wall but disconnected from each other so as to leave an opening opposite said rear wall.

6. The combination with a main tent, of a closet L having a triangular roof M, an inner wall O, and means for attaching said closet to said main tent along the line of juncture of the roof and inner wall.

7. The combination with a main tent, of a closet L having a triangular roof M, an inner wall O, means for attaching said closet to said main tent along the line of juncture of the roof and inner wall, a rear wall N, and an outer wall P connected to said rear wall and extending to but disconnected from the inner wall O, said closet being provided with a ventilating-opening.

844,633. STORAGE-BIN. JESSE H. TROMANHAUSER, Minneapolis, Minn. Filed Apr. 8, 1905. Serial No. 254,528.



Claim.—1. A storage-bin comprising walls of concrete material, truss-rods embedded therein, crooked anchor-hooks at the ends of the truss-rods, embracing a considerable quantity of concrete material, located at the corners of the walls and vertically alined with intervening spaces between them, and columns of concrete material extending through the crooked anchor-hooks and engaging therewith and uniting at the intervening spaces with the concrete material of the walls.

2. A storage-bin comprising walls of concrete material, truss-rods embedded therein, crooked anchor-hooks at the ends of the truss-rods, embracing a considerable quantity of concrete material, located at the corners of the walls and vertically alined with intervening spaces between them, inturned locking members at the ends of the anchor-hooks, and columns of concrete material extending through the crooked anchor-hooks and engaging therewith and uniting at the intervening spaces with the concrete material of the walls.

3. A storage-bin comprising walls of concrete material, truss-rods embedded therein, crooked anchor-hooks at the ends of the truss-rods, embracing a considerable quantity of concrete material, located at the corners of the walls and vertically alined with intervening spaces between them, columns of concrete material extending through the crooked anchor-hooks and engaging therewith and uniting

at the intervening spaces with the concrete material of the walls, and angular tie-rods having hook-shaped ends embedded in the concrete material to tie the adjacent walls together at the corners of the bin.

4. A storage-bin comprising walls of concrete material, truss-rods embedded therein, crooked anchor-hooks at the ends of the truss-rods, embracing a considerable quantity of concrete material, located at the corners of the walls and vertically alined with intervening spaces between them, inturned locking members at the ends of the anchor-hooks, columns of concrete material extending through the crooked anchor-hooks engaging therewith and uniting at the intervening spaces with the concrete material of the walls, and angular tie-rods having hook-shaped ends embedded in the concrete material to tie the adjacent walls together at the corners of the bin.

844,634. POST-HOLE AUGER. ROLLIN M. TRUMBULL and JONATHAN VOLZ, Hildreth, Nebr. Filed July 19, 1906. Serial No. 326,894.



Claim.—1. A post-hole auger comprising a supporting-frame, a tilting member pivotally mounted thereon, an auger-shank passing through said tilting member and having a bit, and a lever connected with said shank for tilting it out of vertical position.

2. A post-hole auger comprising a supporting-frame, a tilting member pivotally mounted thereon, an auger-shank passing through said tilting member and having a bit, a clutch mounted on said shank and a lever pivotally connected with said clutch and with said frame.

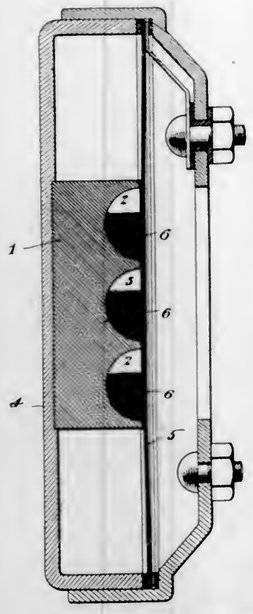
3. A post-hole auger comprising a supporting-frame, an auger mounted to move vertically within the frame, beveled gears for rotating said auger, a pivoted stirrup through which the auger-shank passes and a lever connected to the auger-shank for tilting it out of a vertical position to discharge the dirt from the bit, substantially as described.

4. In a post-hole auger, a supporting-stand, a stirrup pivotally connected to said stand, a beveled gear mounted within said stirrup, a post-hole-auger shank passing through said stirrup and gear, a beveled operating-gear mounted to mesh with said shank-carrying gear, means for rotating said operating-gear, and means for tilting said shank from a vertical position to a position to discharge the dirt from the bit.

5. A post-hole auger comprising a supporting-frame, a tilting member pivotally mounted thereon, an auger-shank passing through said tilting member and having a bit, a ring-clutch slidably mounted on said shank and having a lateral arm and a lever pivotally connected with said arm.

6. A post-hole auger comprising a supporting-frame, a tilting member pivotally mounted thereon, an auger-shank passing through said tilting member and having a bit, a ring-clutch slidably mounted on said shank and having a lateral arm and a lever pivotally connected with said arm and a link pivotally connected with said lever and with said supporting-frame.

844,635. CARBON-BALL TRANSMITTER. KELLEY M. TURNER, New York, and NORTON W. JOHNSTON, Chappaqua, N. Y., assignors, by mesne assignments, to General Acoustic Company, a Corporation of New York. Original application filed Sept. 8, 1905, Serial No. 277,616. Divided and this application filed Sept. 8, 1905. Serial No. 277,615.



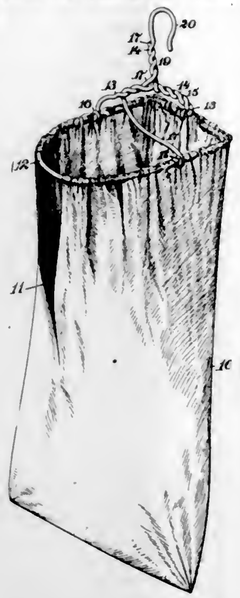
Claim.—1. In a telephonic transmitter, a block having cavities, a carbon diaphragm in intimate juxtaposition thereto, and carbon balls contained between said diaphragm and said block and loosely collected in said cavities, said balls having a maximum diameter of five-tenths of a millimeter, whereby their natural period of vibration is greater than the period of vibration of ordinary human speech.

2. In a telephonic transmitter, a block having a series of hemispherical cavities polished on their interior faces, each cavity being substantially two-thirds filled with carbon balls loosely resting against the diaphragm, each carbon ball being of a diameter of from substantially two-tenths to five-tenths of a millimeter, whereby the balls may take a periodicity of vibration which accords with that of the diaphragm.

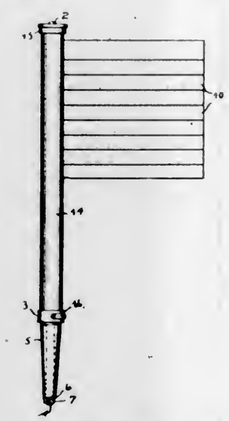
844,636. CLOTHES-PIN BAG. ISAAC S. VANDERBILT, Jr., South Orange, N. J. Filed July 7, 1906. Serial No. 325,074.

Claim.—1. A clothes-pin bag comprising a frame of wire bent to form a U-shaped member closed at the back, the portions of the wires being twisted and extending upward, one portion then being bent and extended to one side of the U-shaped member, the other portion extending upward and ending in a hook, a second wire secured to the other side of the U-shaped frame twisted with one of the members of the first wire, and then being twisted to the upwardly-extending member that forms the hook, and a bag suspended from the U-shaped member.

2. A clothes-pin bag comprising a frame of wire, a bag portion suspended from the wire and held permanently open at the top, and a hook portion attached to the frame and suspending the bag with its top horizontal, the bag having its top edge looped over the frame, and being slitted at the front from its top edge, the bag sliding on the frame to allow the opening and closing of the slit.



844,637. FOLDING METALLIC SIGNAL-FLAG. WILLIAM F. WALSH, Pocatello, Idaho. Filed Apr. 12, 1906. Serial No. 311,353.



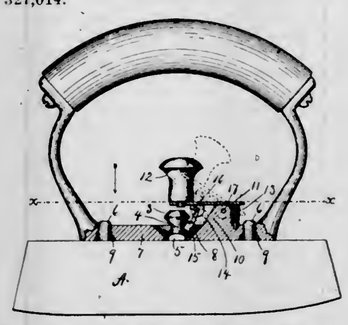
Claim.—1. In a flag, the combination with a supporting-bar having on its lower end a socket and a shank or stem depending from said socket and having a tapered sleeve rotatably mounted on said shank, of a series of metallic slats pivotally mounted at their inner upper corners on the sides of said bar, a casing adapted to be arranged on said bar to cover said bar and slats when in an inoperative position and means arranged on said socket to removably secure said casing in place on the supporting-bar.

2. In a folding flag, the combination with a supporting-bar having on its lower end a socket and a shank depending from said socket and having a tapered sleeve rotatably mounted on said shank, a series of metallic slats pivotally mounted at their inner upper corners on the sides of said bar, a connecting-rod pivotally secured to the lower corners of said slats whereby the latter are simultaneously unfolded into an operative or inoperative position, a casing adapted to be arranged on said bar to cover the slats when in an inoperative position and means arranged on said socket to removably secure said casing in place on the supporting-bar.

3. In a flag of the character described, the combination with a supporting-bar or staff having on its upper end a stud and on its lower end an annular socket provided with a stem or shank, of a series of slats or bars pivotally connected at their inner upper corners to the sides of said supporting-bar or staff, lugs formed on the inner lower corners of said bars or slats, a connecting-bar pivotally secured to each of said lugs whereby said blades may be raised or lowered, a longitudinally-slotted casing arranged on said staff to cover said bars or slats when the latter are in a folded position, a spring-catch to removably hold said casing in place on said staff, and means on said casing to hold said bars or slats in an open or operative position, substantially as described.

4. In a flag of the character described, the combination with a supporting-bar or staff having on its lower end an annular socket and a stem or shank, of a series of slats or bars pivotally mounted on the side of said staff, a connecting-rod pivotally secured to the inner end of each of said bars, whereby the same are simultaneously moved, a casing arranged on said staff, said casing having formed therein a longitudinally-disposed slot, through which the bars of said flag are adapted to project, retaining notches or recesses formed in the opposite walls of said slot to hold said bars or slats in an open position, and a sleeve or ferrule loosely mounted on the shank or stem of the shaft, substantially as described.

844,638. SAD-IRON. ALONZO A. WARNER, New Britain, Conn., assignor to Landers, Frary and Clark, New Britain, Conn., a Corporation. Filed July 20, 1906. Serial No. 327,014.

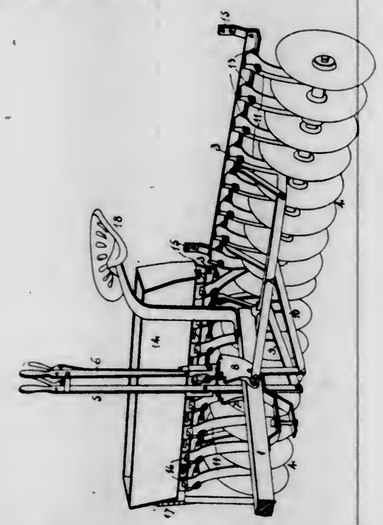


Claim.—1. The combination of a sad-iron body with a holding-stud rigidly mounted thereon, the said stud having a head and a neck under the said head, a handle having a base provided with an opening to fit over the said stud, said base having a slanting holding-face extending outwardly and upwardly from the said opening and base of the said neck, an operating-lever hinged on the said handle-base, and a fastening-tongue hinged to the said lever and having an end adapted to engage the neck of the said holding-stud.

2. The combination of a sad-iron body with a holding-stud rigidly mounted thereon, the said stud having a head and neck, a handle having a base provided with an opening to fit over the stud, said base having a slanting holding-face adjacent to the said opening, means for preventing the handle from rotating on the said stud, a fastening-tongue having an end adapted to engage the neck of the holding-stud and to form a locking-block of metal between the under face of the head of the said stud and the holding-face, of the said handle-base, and means for operating the said fastening-tongue.

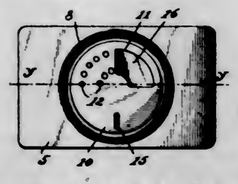
3. The combination of a sad-iron body with a holding-stud rigidly mounted thereon, the said stud having a head and a rounded groove under the head forming a neck, a handle-base provided with an opening to fit over the said stud and bearing a slanting holding-face adjacent to the said opening, an operating-lever pivoted on the said handle-base and a pendent tongue pivoted to the said lever and having a ball-shaped end for engagement with the said groove of the stud and holding-face of the handle-base.

844,639. SEEDING-MACHINE. LEWIS E. WATERMAN, Rockford, Ill., assignor to Emerson Manufacturing Company, Rockford, Ill., a Corporation of Illinois. Filed Apr. 14, 1906. Serial No. 311,793.



Claim.—In a seeding-machine, the combination of a main frame, disks supporting the main frame, a plurality of seed-tubes supported by the main frame, and a seedbox removably supported by the main frame independent of the seed-tubes, the seed-tubes leading from the seed-discharge to the ground.

844,640. RECEPTACLE FOR POWDERED MATERIALS. WILLIAM WEST, Camden, New Jersey. Filed Sept. 4, 1906. Serial No. 333,036.



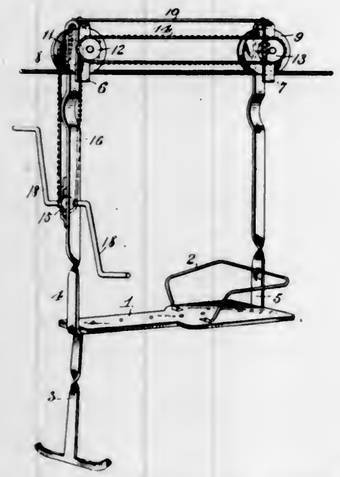
Claim.—1. A receptacle having a cover, consisting of a perforated shallow projection of inverted conical outline formed in one of the walls thereof and terminating in a depression in said wall, and a perforated cap provided with a downwardly and inwardly inclined flange, said flange when engaging the inclined wall of the projection adapted to hold the cap securely and movably thereon.

2. A receptacle having a cover provided with a perforated shallow inverted-cup-shaped projection and a perforated cap provided with a downwardly and inwardly inclined flange, the flange when engaging the peripheral wall of the projection adapted to hold the cap securely and movably thereon, and a disk of flexible material arranged between the projection and cap adapted to normally prevent discharge of the contents of the receptacle through the perforations of the cover.

3. A receptacle having a cover consisting of an annular projection provided with a downwardly and inwardly inclined wall terminating in a depression formed in the receptacle and surrounding said projection, a cap provided with a rib and with a downwardly and inwardly inclined flange, the flange when engaging the peripheral wall of the projection adapted to hold the cap securely thereon, and the rib of the cap adapted to permit of turning of said cap on said projection.

4. A receptacle having a cover, consisting of a perforated shallow projection extending slightly above the receptacle and provided with a downwardly and inwardly inclined wall terminating in a depression formed in the receptacle and a perforated cap provided with a rib and a downwardly and inwardly inclined flange, the flange when engaging the peripheral wall of the projection adapted to hold the cap securely thereon and the rib thereof adapted to permit of turning of the cap on said projection, and a disk of flexible material arranged between the projection and cap adapted to normally prevent discharge of the contents of the receptacle through the perforations of the cover.

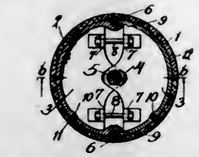
844,641. LINEMAN'S CHAIR. GEORGE P. YEAKEL and WHORTON C. L. IRELAND, Norristown, Pa., assignors of one-third to Charles Keller, Norristown, Pa. Filed Sept. 14, 1906. Serial No. 334,693.



Claim.—1. A device of the character described, employing a chair fixed to rigid suspenders or hangers rigidly held together and equipped with wheels or pulleys at their upper ends, said pulleys having their journals or shafts provided with pinions, means for conjointly propelling said pinions, an additional pinion supported upon one of said hangers, means for transmitting motion from the latter pinion to one of the aforesaid pinions, and means for manually propelling said latter pinion.

2. A device of the character described, employing a chair fixed to rigid suspenders or hangers rigidly held together and equipped with wheels or pulleys at their upper ends, said pulleys having their journals or shafts provided with pinions encompassed by an endless chain or belt and a pinion supported or journaled upon one of said hangers and encompassed by an endless chain or belt also engaging one of the aforesaid pinions, said hanger-supported pinion having its journal also equipped with manually-actuated crank-arms.

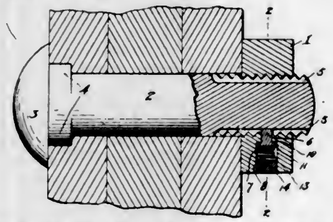
844,642. CORE. FREDERICK W. YOUNG, East Orange, N. J. Filed Apr. 17, 1905. Serial No. 255,891.



Claim.—1. In a core for casting hollow cylinders the combination with a plurality of segmental core-bars of webs secured to the interior of said core-bars and having elongated openings adapted to receive a rod parallel with the axis of the core-bars.

2. In a core for casting hollow cylinders, the combination with a plurality of segmental core-bars, of separators made of combustible material adapted to be placed between said segmental core-bars, a mantle of refractory material applied to the exterior surfaces thereof and means for holding said segmental core-bars in position while the mantle is being formed, said means being adapted to be removed prior to the casting operation.

844,643. NUT-LOCK. FRANK W. ZOLLERS, Coulters, Pa. Filed Nov. 30, 1906. Serial No. 345,831.



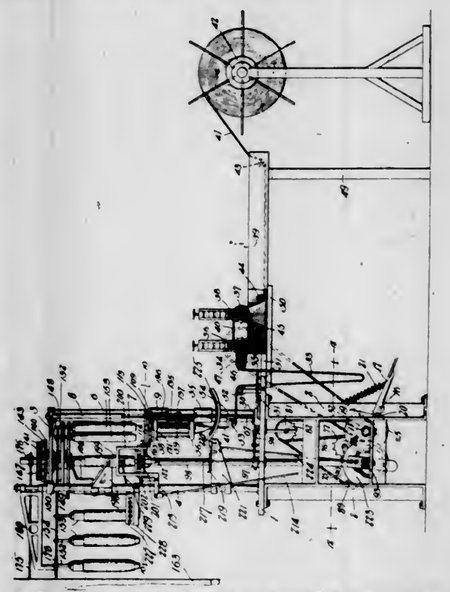
Claim.—The combination with a bolt having a threaded end formed with an annular series of longitudinally-extending grooves, each of the latter having a radially-extending wall and an inclined wall, of a nut formed with an angularly-disposed, transversely-extending cavity having an enlarged cylindrical outer portion opening upon one of the side faces of the nut and a reduced inner portion opening into the threaded aperture in said nut, the enlarged outer portion of said cavity forming an annular shoulder therein, a dog slidably mounted in the reduced inner portion of said cavity and having a beveled inner end to enter the grooves in said bolt, the outer end of said dog being formed with an annular flange corresponding in diameter to that of the outer portion of said cavity in which it is adapted to slide, a coil-spring arranged in the large outer portion of said cavity and engaged with the outer end of said dog for forcing the latter inwardly and holding its flange upon the annular shoulder in said cavity, and a plug of soft metal driven into the enlarged outer end of said cavity and engaged with the outer end of said spring to retain the same therein and to effectively seal said cavity, substantially as shown and described.

844,644. MANTLE-IMPREGNATING MACHINE. ERNEST D. ANDERSON, New York, N. Y., assignor to Thomas Adams, Jr., New York, N. Y. Filed July 16, 1906. Serial No. 326,476.

Claim.—1. In a machine of the character specified, the combination of means for impregnating the web; means for passing said web in mantle lengths onto a series of forms; means for drying the mantles thus supported; and means for withdrawing the mantles from the forms.

2. In a machine of the character specified, the combination of means for impregnating a continuous web of material; a series of forms; means for placing the web successively onto the forms; and means for severing the web at a point adjacent to the end of the form.

3. In a machine of the character specified, the combination of means for impregnating a continuous web of material; a series of forms; means for passing the web onto the forms successively; means for severing the web after it is passed onto the form; and means for drying the severed lengths of web while still upon the forms.



4. In a machine of the character specified, the combination of means for impregnating a continuous tubular web of material; a series of forms; a distender about which the web passes; means for drawing the web successively over the forms; and means for severing the web after it is passed onto the form.

5. In a machine of the character specified, the combination of a distender about which the tubular web is drawn; a form; means for drawing the web past the distender and onto the form; and means for severing the web at a point intermediate the form and distender.

6. In a machine of the character specified, the combination of a gravitating distender; a support therefor; a form; means for drawing a tubular web over the distender and onto the form; and means for severing the web at a point intermediate the form and distender.

7. In a machine of the character specified, the combination of a gravitating distender; means for drawing a tubular webbing over and past the same; and means for severing the webbing at a point above the distender.

8. In a machine of the character specified, the combination of a suitable support; a weighted distender therein; means for drawing a tubular webbing over the distender; and means for severing a mantle length from the webbing.

9. In a machine of the character specified, the combination of a suitable support having an outwardly-flaring face; and a weighted distender provided with an enlarged head having its face complemental in form to that of the support.

10. In a machine of the character specified, the combination of means for holding a tubular web in a distended condition; a form arranged above the same; and means for engaging the upper end of the web and passing it onto the form.

11. In a machine of the character specified, the combination of means for holding a tubular web in a distended condition; a form arranged above the same; means for engaging one end of the web and carrying the same onto the form; and means for severing the web at a point below the form.

12. In a machine of the character specified, the combination of means for holding a tubular web in a distended condition; a form arranged above the same; means to engage the end of the web and carry the same around the form; means for severing the web; and means for releasing the engaging means and moving it away from the form with the mantle length thereon.

13. In a machine of the character specified, the combination of means for impregnating a continuous tubular web of material; a distender for the web; a series of forms; and means for drawing successive mantle lengths of the web past the distender and onto the forms.

14. In a machine of the character specified, the combination of means for impregnating a continuous tubular web of material; means for distending the web and preventing retrograde movement thereof; a series of forms; and means for passing successive mantle lengths of the web onto said forms.

15. In a machine of the character specified, the combination of means for impregnating a continuous tubular web of material; means for distending the web and preventing retrograde movement thereof; a series of forms; means for moving said forms step by step; and means for passing a mantle length of web onto each form as it comes into line with said means.

16. In a machine of the character specified, the combination of means for impregnating a continuous tubular web of material; means for distending the same; a series of forms; means for bringing said forms successively into line with said distender; means for passing the web from the distender onto said forms successively; and means for severing the web each time it is passed onto a form.

17. In a machine of the character specified, the combination of means for holding a web in a distended condition; a form; a series of needles arranged to pass into the web; means for raising said needles with the engaged web and thereby passing the web onto the form; and means for retracting said needles after the web is fully elevated.

18. In a machine of the character specified, the combination of a distender for holding a web of material in a substantially tubular condition; a form; an elevator for the web, having means to engage the web adjacent to the distender and to carry the same over the form; and means to retract said engaging means when the elevator reaches the limit of its upward movement.

19. In a machine of the character specified, the combination of a distender arranged to hold a web of material in a substantially tubular condition; a form located above the same; a series of needles arranged around the distender; means for projecting said needles into the web; means for raising the needles and thereby carrying the web onto the form; and means for retracting said needles.

20. In a machine of the character specified, the combination of a form; an elevator for carrying the web over the form; a series of needles mounted upon the elevator and arranged to engage the web; and strippers for said needles.

21. In a machine of the character specified, the combination of a form; and a carrier for drawing a tubular web onto said form, the carrier being substantially ring-shaped and provided with means projecting inwardly to engage the web from its outer face.

22. In a machine of the character specified, the combination of a form; a carrier for drawing a tubular web onto said form; a series of needles mounted upon said carrier; and means for moving said needles to carry them into and out of engagement with the web.

23. In a machine of the character specified, the combination of a form; a carrier for drawing a tubular web onto said form; a series of needles mounted and movable upon said carrier; means for projecting and withdrawing the needles; and strippers for the needles.

24. In a machine of the character specified, the combination of a form; an elevator arranged to draw a tubular web onto the form; a series of needle-carriers extending into the central opening in said elevator; a needle mounted and movable in each of said carriers; and means for projecting and withdrawing said needles and needle-carriers.

25. In a machine of the character specified, the combination of a web-distender provided with a yielding bed upon its head; a web-carrier; and a series of needles mounted upon the carrier, the points of the needles standing in alinement with the yielding bed when the parts are in such relation that the needles are about to engage the web.

26. In a machine of the character specified, the combination of a web-distender; a brush carried at the upper end thereof; a web-carrier; and a series of needles mounted upon the carrier, the points of the needles standing in alinement with the brush when the parts are in such relation that the needles are about to engage the web.

27. In a machine of the character specified, the combination of a web-distender adapted and arranged to hold a tubular web in a distended condition; a form arranged above the distender; a supporting-plate; a series of needle-carriers mounted thereon; a needle arranged in each of said carriers; means for projecting said needles inwardly to engage the web when the plate is in its lowest position; means for raising said plate with its attached parts; and means for successively withdrawing the needles and carriers from engagement with the web when the same has been fully drawn upon the form.

28. In a machine of the character specified, the combination of a web-distender; a form arranged above the same; a supporting-plate provided with an opening; means for moving said plate from the distender and over the form; and means carried by said plate to engage the uppermost end of the web and carry it over the form.

29. In a machine of the character specified, the combination of a web-distender; a form arranged above the same; a supporting-plate provided with an opening; means for moving said plate from the distender and over the form; a slotted member carried by said plate; a series of needle-carriers mounted in said slotted member, each carrier being provided with a downwardly-projecting pin; a cam-ring coacting with said pins; a needle slidably mounted in each of said carriers; a cam-ring coacting with said needles and serving to move them slightly in advance of the needle-carriers; means for actuating said cam-rings when they are in their lowermost position; means for holding the cam-rings in their shifted position as the supporting-plate is moved upwardly; and means for returning the cam-rings to retract the needles and carriers when the web is fully elevated.

30. In a machine of the character specified, the combination of a web-distender; a form; a supporting-plate provided with a central opening; a carrier-plate, provided with a series of slots, secured upon the supporting-plate; a series of needle-carriers mounted in said slots and projecting inwardly into the central opening in the carrier-plate, each of said carriers being provided with a downwardly-projecting pin; a cam-ring coacting with said pins, said ring being formed with cam-slots having inactive sections; a needle mounted in each of said carriers; a block secured upon the upturned end of each needle; a cam-ring coacting with said blocks; means acting to rotate the cam-rings to their full extent when the parts are in line with the distender; means permitting a slight backward rotation of the cam-rings as the carrier-plate begins to move away from the distender; and means to fully retract the cam-rings and consequently the needles and needle-carriers when the web has been drawn to the desired extent over the form.

31. In combination with a carrier-plate provided with a series of slots; a series of needle-carriers mounted in said slots, each carrier being provided with a downwardly-projecting pin; a cam-ring coacting with said pins, said ring having a downwardly-projecting locking-lug, a stop-lug, and a laterally-projecting lug; a needle mounted in each of said carriers; a cam-ring for actuating the same; connections between said cam-rings; a spring-actuated hook arranged adjacent to the locking-lug and coacting therewith; a spring-actuated locking-arm coacting with the laterally-projecting lug; means for normally holding said arm in contact with the lug; a spring connected to the cam-rings and acting to move the same so as to retract the needles and carriers; means for rotating the cam-rings in opposition to said spring, when the parts are in their lowest positions; and means for releasing the hook when the parts have been fully elevated.

32. In a machine of the character specified, the combination of means for holding a tubular web in a normally distended position; a form arranged above the same; a supporting-plate having an opening into which the web may extend; a series of needles carried by said supporting-plate; means for moving said needles inwardly to their full extent when the supporting-plate is in its lowest position; means for retracting said needles to a slight extent as the plate makes its initial upward movement; and means for fully retracting the needles when the plate is fully elevated.

33. In a machine of the character specified, the combination of means for impregnating a tubular web; a fixed supporting-plate; a bushing carried thereby; an upper plate; rods connecting said plates; a bushing carried by said upper plate, the bushing being provided with an outwardly-inclined face; a tubular member extending into said bushings, said member being provided with a point at its lower end; a frusto-conical head secured to the upper end of the tubular member; a brush mounted on the head; a form; and an elevator for the web, said elevator being provided with a series of needles arranged to engage the web when the needles are in line with the brush.

34. In a machine of the character specified, the combination of a web holder and distender; a form; an elevator arranged to carry the web from the holder and to pass the same onto the form; a cross-head to which said elevator is attached; a rod for actuating the cross-head; a pair of blocks adjustably mounted on said rod; a pair of reversely-moving members arranged in line with said blocks; and an actuating-pin carried by each member.

35. In a machine of the character specified, the combination of means for supplying impregnated webbing; a form; an elevator for carrying the webbing onto the form; and adjustable mechanism for moving the elevator to a greater or less extent, whereby mantles of different lengths may be formed, substantially as described.

36. In a machine of the character specified, the combination of means for supplying impregnated webbing; a form; an elevator for carrying the webbing onto the form; adjustable mechanism for moving the elevator; and means to sever the webbing.

37. In a machine of the character specified, an impregnating-tank; wringer-rolls arranged to act upon the webbing; a form; an elevator for carrying the webbing onto the form; adjustable mechanism for moving the elevator; a power-shaft; connections intermediate the elevator mechanism and said shaft; and an adjustable driving connection between the wringer-rolls and the shaft.

38. In combination with web-impregnating mechanism; a form; an adjustable web-presenting mechanism; and means for varying the speed of travel of the impregnating mechanism according to the variations of travel of the presenting mechanism.

39. In a machine of the character specified, the combination of web-impregnating mechanism; a series of forms; means for placing the impregnated web in mantle lengths upon said forms in succession; means for successively presenting said forms to web-placing means; and means for holding said forms against movement as the web is being placed thereon.

40. In a machine of the character specified, the combination of web-impregnating mechanism; an endless carrier; a series of forms supported thereby; means for placing the impregnated web in mantle lengths upon said forms in succession; means for advancing the forms one by one to the web-placing means; and means for temporarily holding that form upon which the web is being placed against movement.

41. In a machine of the character specified, the combination of an endless carrier; a series of forms depending therefrom; web-presenting mechanism; and means for embracing the forms and holding them in direct alinement with the web-presenting mechanism.

42. In a machine of the character specified, the combination of a drier; an endless carrier passing therethrough; a series of forms carried thereby; a support for the carrier without the drier; means for imparting a step-by-step movement to said support; means for passing a mantle length of web onto each form as it comes to rest adjacent to the outer support; means for constantly moving that portion of the carrier within the drier; and a slack-adjuster for the carrier.

43. In a machine of the character specified, the combination of a drier; an endless carrier passing therethrough; a series of pendulous forms supported by said carrier; a support for the carrier without the drier; a pocket-wheel engaging the forms as they pass about the support; and a curved rail acting in conjunction with the pocket-wheel to hold the forms in place.

44. In a machine of the character specified, the combination of a drier; an endless chain passing therethrough; a series of rods connected to said chain; a form carried by each rod; a sprocket-wheel located without the drier and about which the chain passes; a pocket-wheel located below the wheef and adapted to receive the rods; a curved rail bearing against the rods and serving to hold them in the pockets of the pocket-wheel; and means for imparting a step-by-step movement to the sprocket and pocket wheels.

45. In a machine of the character specified, the combination of a form having substantially the shape of a finished mantle; means for placing webbing in mantle lengths thereon; and means for subjecting the webbing while thus held to a chemical solution.

46. In a machine of the character specified, the combination of a series of forms each of said forms having substantially the shape of a finished mantle; means for placing webbing in mantle lengths thereon; a cup or receptacle; and means for moving the parts relatively so as to subject the supported mantle length to the contents of the cup.

47. In a machine of the character specified, the combination of a series of forms each of said forms having substantially the shape of a finished mantle; means for placing webbing in mantle lengths thereon; a cup or receptacle; means for advancing the forms successively over the cup; and means to raise the cup so as to bring the mantle into contact with the contents thereof.

48. In a machine of the character specified, the combination of a form having substantially the shape of a finished mantle; means for placing impregnated webbing in mantle lengths thereon; and means for subjecting the mantle thus held to a "head solution."

49. In a machine of the character specified, the combination of an endless carrier; a series of forms carried thereby each of said forms having substantially the shape of a finished mantle; means for passing webbing in mantle lengths thereon; means for drying the webbing while thus supported; and means for successively withdrawing the mantles from the forms.

50. In a machine of the character specified, the combination of an endless carrier; a series of forms carried thereby; means for passing webbing in mantle lengths onto the forms; a drier through which the forms with the mantles thereon are passed; means for arresting the movement of the forms without the drier; and means for withdrawing the dried mantles from the forms while they are at rest.

51. In a machine of the character specified, the combination of an endless carrier; a series of forms carried thereby; means for passing webbing in mantle lengths thereon; a drier through which the forms thus charged are passed; means for arresting the movement of the forms without the drier; means for withdrawing the dried mantles from the forms; and means for registering the number of actuations of said withdrawing means.

52. In a machine of the character specified, the combination of an endless carrier; a series of vertically-disposed forms supported therefrom; means for stripping the dried mantles from said forms; a register; a pivoted actuating-arm for said register; and a roller carried upon a vertically-disposed pivot mounted in the outer end of the arm, said roller coming into contact with the mantles on the forms as the same are brought into line therewith, substantially as described.

53. In a machine of the character specified, the combination of a form; means for supplying the same with a mantle length of webbing; a drier; means for passing the charged form through the drier; a stripping mechanism; a pivoted platform arranged to receive the mantle from the stripping mechanism; a bed or table; and means for swinging the platform about its pivot and transferring the mantle to the table.

54. In a machine of the character specified, the combination of a form; means for placing a mantle length of webbing thereon; a drier; means for passing the form through the drier; a pair of jaws; means for closing the same upon the lower end of the mantle; and means for swinging the jaws to strip the mantle from the form.

55. In a machine of the character specified, the combination of a form; and a stripping mechanism therefor, said mechanism comprising a pair of arms each having a jaw upon its outer end, a gear meshing with a rack formed on each of the arms, a pinion rotating with the gear, a rack for actuating the pinion, means for shifting the rack, and means for swinging the arms downwardly after the jaws have been closed.

56. In a machine of the character specified, the combination of a form; a stripping mechanism, comprising a pair of arms each having a jaw at its outer end, racks formed on the inner ends of said arms, a rotatable barrel or sleeve serving to support said arms, a gear meshing with the racks on the arms, a pinion, a rack-bar mounted in the sleeve and meshing with the pinion, means to actuate the rack-bar, and means to rock the sleeve and to thereby depress the arms; a pivoted platform standing in line with the arms; a fixed bed; and means for rocking the platform toward and from the bed.

57. In a machine of the character specified, the combination of means for supplying impregnated webbing; a form; an elevator for carrying the webbing onto the form; means for raising and lowering the elevator; and means for temporarily locking the elevator in its lowermost position.

58. In a machine of the character specified, the combination of a form; means for continuously impregnating a web of material; and means for intermittently placing said web on the form.

59. In a machine of the character specified, the combination of a pendulous form having substantially the shape of a mantle; means for placing a mantle length of impregnated web upon said form; and means for drying the web while it remains at rest upon the form.

60. In a machine of the character specified, the combination of a form; means for drawing a mantle length of impregnated webbing over said form; and means for subjecting the lower end of the webbing to a head solution while the impregnating solution is still moist.

61. In a machine of the character specified, the combination of a pendulous form; means for drawing a mantle length of saturated webbing thereon; and means for drying the webbing while held in position upon the form, whereby the saturating solution may gravitate to a slight extent toward the lower or head end of the inverted mantle.

62. In a machine of the character specified, the combination of a pendulous form; means for drawing a mantle length of saturated webbing thereon; means for subjecting the lower or head end of the mantle to a head solution while the mantle is still moist; and means for drying the mantle as it is held upon the form.

63. In a machine of the character specified, the combination of a form arranged to hold a mantle; mechanism for withdrawing the mantle from the form; and a packer working in conjunction with said withdrawing mechanism.

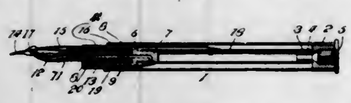
844,645. WINDOW. MILAN V. AYRES, Newton Highlands, Mass. Filed Apr. 28, 1906. Serial No. 314,193.

Claim.—1. The combination of a sash, guideways therefor, extending into a sash-pocket, the pocket, a pocket-cover extending from guideway to guideway and movable transversely thereto, said cover provided with a downwardly and outwardly inclined sash-support, terminating in a lip, a ledge, said ledge supporting the cover-lip and said lip overhanging the ledge, when the cover is in sash-supporting position.



2. The combination of a sash, guideways therefor extending into a sash-pocket, the pocket, a hinged pocket-cover extending from guideway to guideway and movable transversely thereto, said hinged cover provided with a downwardly and outwardly inclined sash-support, terminating in a lip, a ledge, said ledge supporting the cover-lip and said lip overhanging the ledge, when the cover is in sash-supporting position.

844,646. FOUNTAIN-PEN. HENRIKA W. BÄHR, Helsingfors, Russia. Filed July 17, 1906. Serial No. 326,614.



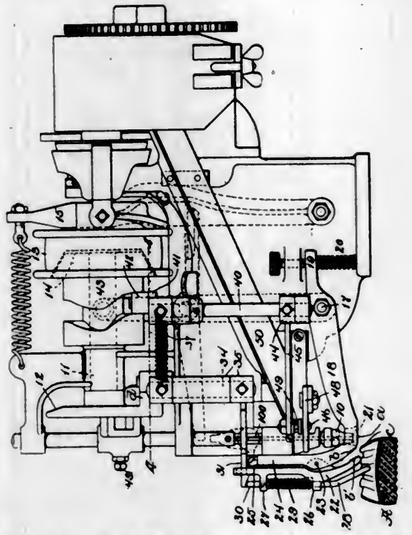
Claim.—1. In a fountain-pen, the combination of a casing, of an elastic reservoir within said casing, a plug closing one end of said casing, a point mounted in said plug, a lever pivoted in said plug and having one end resting on the pen-point and the other on the elastic reservoir, whereby pressure on the pen-point will compress the reservoir and force the ink to the pen-point.

2. In a fountain-pen, the combination with a casing, of an elastic reservoir mounted in the casing, a plug closing one end of the casing and provided with a central aperture, one end of said reservoir being connected to the plug, a pen-point supported by the plug, means for leading the ink from the aperture in the plug to the pen-point and a lever pivoted in the plug having one end in contact with the pen-point and the other resting against the flexible reservoir, whereby, when pressure is applied to the pen-point, the reservoir will be compressed.

3. In a fountain-pen the combination of a penholder carrying a pen, a reservoir in the holder, an ink-channel connected to reservoir and delivering ink from reservoir to pen, and means operated by the bending of the pen to force ink from the reservoir to the pen.

4. In a fountain-pen the combination of a penholder carrying a pen, a flexible reservoir in the holder, an ink-channel connected to reservoir and delivering ink from reservoir to pen, and means operated by the bending of the pen to force ink from the reservoir to the pen.

844,647. MACHINE FOR TACKING SHOES. HARRIE A. BALLARD, Ashland, Mass., assignor, by mesne assignments, to The Boylston Manufacturing Company, Boston, Mass., a Corporation of New Jersey. Filed Apr. 13, 1903. Serial No. 152,326.



Claim.—1. In a tacking-machine, tack-driving mechanism, including a reciprocatory driver, and pincers pointing downwardly for grasping the upper by the edge, and movable manually toward and from the tack-driving mechanism, in lines longitudinal of the reciprocation of the said driver.

2. In a tacking-machine, tack-driving mechanism including a reciprocatory driver, pincers pivoted together between the path of said driver and the operator for grasping the edge of the upper, and means for pivotally supporting said pincers whereby they are movable manually toward and from the tack-driving mechanism.

3. In a machine for driving tacks, automatic tack-driving mechanism comprising a movable delivery-nozzle, and means rendered active by the movement of said nozzle for causing the actuation of the tack-driving mechanism, and pincer mechanism having an open space occupied by the said nozzle and movable by the engagement of a shoe therewith to expose the nozzle for the engagement of said nozzle by the said shoe.

4. In a machine for driving tacks, automatic tack-driving mechanism comprising a movable delivery-nozzle, and means rendered active by the movement of said nozzle for causing the actuation of the tack-driving mechanism, and pincer mechanism pivoted to the machine and having an open space occupied by the said nozzle, and carrying a movable pivot by which the pincer-jaws are connected, said pincers being bodily movable by engagement of a shoe therewith to expose the nozzle for the engagement of the said nozzle by the said shoe.

5. In a tacking-machine, tacking mechanism, bodily-movable upper-gripping mechanism for engaging the upper of the shoe, and adapted to draw the upper over the shoe by manual movement of the shoe preliminary to the action of the tacking mechanism, and means for pivotally connecting the gripping mechanism to the machine to move toward and from the end of the tacking mechanism, substantially as and for the purpose set forth.

6. In a tacking-machine, tacking mechanism, and a normally open pincer having means whereby the pincer automatically grips the upper upon bodily movement of a part of said means caused by contact of a shoe therewith in advance of the operation of the machine.

7. In a tacking-machine, tacking mechanism, a bodily-movable automatic pincer for automatically gripping the upper upon the presentation of a shoe thereto, and whereby manipulation of the shoe relatively thereto effects a stretching of the upper about the last, means adapted to be moved by a shoe to render the tacking mechanism active, movable means for supporting said pincer and for normally protecting said last-mentioned means from external interference, but adapted to be moved by a shoe to expose said protected means for the purpose set forth.

8. In a tacking-machine, tacking mechanism including driving mechanism, and a movable nozzle automatically controlling the driving mechanism, in combination with a pincer, means for supporting said pincer whereby it is adapted to move in lines longitudinal of the movement of the said nozzle to permit the engagement of a shoe with said nozzle, and means for automatically closing the pincer on the edge of the upper preliminary to the actuation of the nozzle by the shoe.

9. In a machine for inserting fasteners, the combination with an initially open pincer, of a spring for closing said pincer upon the work, and means adapted to be actuated by the shoe to permit the spring to close the pincer for the purpose of gripping the upper.

10. In a tacking-machine, tacking mechanism including driving mechanism, and a movable nozzle automatically controlling the driving mechanism, in combination with a bodily-movable pincer having an open space occupied by said nozzle and normally obstructing the contact of a shoe with the nozzle but movable to permit said contact, said pincer having jaws for grasping the edge of the upper.

11. In a tacking-machine, tacking mechanism including driving mechanism, and a movable nozzle automatically controlling the driving mechanism, in combination with a pincer having an open space occupied by said nozzle and normally obstructing the contact of a shoe with the nozzle but movable to permit said contact, said pincer having jaws and means whereby said jaws are permitted by a pressure of the shoe to close upon said upper.

12. In a machine for driving fasteners, a pincer formed with coacting jaws and with a wiping portion, and means controlled by the shoe on presentation to the pincers for causing said jaws to close on the work.

13. In a machine for driving fasteners, a pincer formed with coacting jaws, a spring for closing said jaws, means for holding the jaws open, and a feeler adapted to be engaged by the shoe in the insertion of the upper between the jaws for tripping said holding means.

14. In a tacking-machine, driving mechanism including a nozzle, a pincer movable in lines longitudinal of the nozzle, means for holding the pincer-jaws open, and a device operable by the movement of the shoe toward the nozzle for tripping said means.

15. In a machine for driving fasteners, a pincer formed with coacting jaws, a member for holding said jaws open, a device for tripping said holding member and thereby permitting said jaws to close upon the work, and means for automatically moving said member to reopen and hold said jaws.

16. In a machine for driving fasteners, a pincer formed with coacting jaws, a spring for closing said jaws, a member for holding the jaws open, a feeler for tripping said member, and means for automatically causing said member to open said jaws.

17. In a tacking-machine, driving mechanism including a nozzle, a pincer movable in lines longitudinal of the nozzle, a member for holding the pincer-jaws open, a device operable by the movement of the shoe toward the nozzle for tripping said member, and means for automatically causing said jaws to be opened by said member.

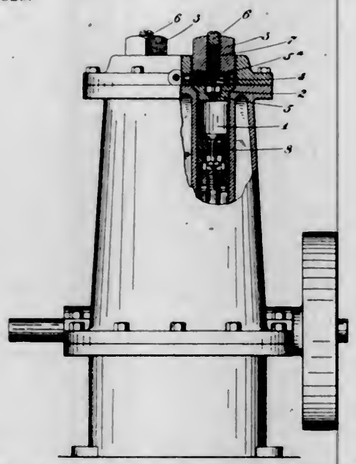
18. A tacking-machine comprising a power-shaft, a pincer having movable jaws, a latch for holding said jaws open, means operated by the contact of the shoe for tripping said latch, and means actuated by said shaft for re-engaging said jaws by said latch.

19. In a shoe-tacking machine, tack-driving mechanism, a pincer, a movable shoe-engaging member, and automatic means adapted to be engaged by said member and to be rendered active when moved thereby for causing the

pincer to grip the upper independently of said driving mechanism.

20. In a tacking-machine, the combination with automatic tack-driving mechanism and a movable delivery-nozzle controlling the operation thereof, of a pincer having an open space occupied by said nozzle and having jaws for grasping the edge of the upper farthest from the operator so that when the shoe is manually forced away from the operator the upper is drawn over the edge of the last, and the drawn-over portion presented to the delivery-nozzle, and means for movably connecting said pincer so that the jaws thereof move in the direction of movement of said nozzle.

844,648. AIR-COMPRESSOR. JOSEPH O. BANNING, Zanesville, Ohio. Filed Dec. 18, 1905. Serial No. 292,329.



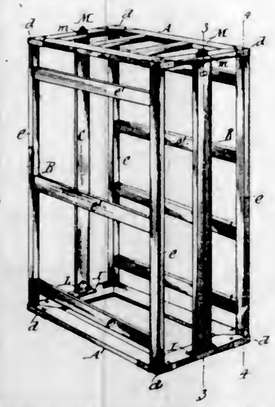
Claim.—1. In a fluid-compressor, the combination of a fluid-compressing chamber, a piston therein, and two valves for said chamber one of which is provided with a port and seat to receive the other, independent springs to press on said valves, and two threaded nuts one within the other to press, one on one of the springs, and the other on the other of the springs, whereby the pressure of said valves on their seats may be independently regulated.

2. In a fluid-compressor, the combination of a fluid-compressing chamber, a piston therein, and two valves one of which is provided with a port and seat to receive the other, independent springs to press on said valves, and two nuts one within the other for pressing on said springs, said nuts being independently and externally adjustable to regulate the pressure of the springs.

3. In a fluid-compressor, the combination of a fluid-compressing chamber, a piston therein, a valve 2 for said chamber provided with a port having a valve-seat, a second smaller valve 5 on said seat, an adjustable threaded cap or nut 3 to close the chamber beyond said valves, a single coiled spring 4 encircling the valve 5 and located between the said cap or nut and the valve 2 and pressing on the latter, an adjustable nut 6 threaded centrally into the cap or nut 3, and a spring 7 located between said nut 6 and the valve 5, said cap 3 and nut 6 being operative for adjustment at the exterior of the chamber.

844,649. KNOCKDOWN CRATE. WALTER H. BARNES, Buffalo, N. Y., assignor to Larkin Co., Buffalo, N. Y., a Corporation of West Virginia. Filed Sept. 7, 1905. Serial No. 277,294.

Claim.—A knockdown crate comprising a top, a base, two side pieces detachably interlocked at opposite ends with the opposite side edges of the top and base and tie-bars which are connected with the top and base at their end edges and only between the side edges thereof, said tie-bars differing in length from the side pieces whereby the top and base are deflected at the central part thereof and caused to be securely held in place on the side pieces, substantially as set forth.



2. A knockdown crate comprising a top and a base each of which is provided on its inner side with sockets, side pieces arranged between the side edges of the top and base and each having dowels at opposite ends which are removably seated in the sockets of the top and base at one side thereof, and tie-bars arranged between the ends of the top and base and each tie-bar being detachably connected with the central parts only of the top and base at the ends thereof, and said bar being shorter than the side pieces, whereby the central parts of the top and base are sprung toward each other upon applying the tie-bars thereto and cause the top and base to be securely held in place on the side pieces, substantially as set forth.

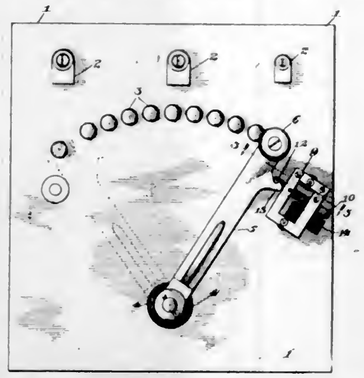
3. A knockdown crate comprising a top and a base each of which is provided on its inner side with sockets, side pieces arranged between the side edges of the top and base and each having dowels at opposite ends which are removably seated in the sockets of the top and base at one side thereof, and tie-bars arranged between the ends of the top and base and each tie-bar being detachably connected with the central part only of the top and base at the ends thereof by means of a hook at the lower end of the bar engaging with a shoulder on the base and a bolt connecting the upper end of the bar with the top, and said bar being shorter than the side pieces, whereby the central parts of the top and base are sprung toward each other upon applying the tie-bars thereto and causing the top and base to be securely held in place to the side pieces, substantially as set forth.

844,650. ALTERNATING-CURRENT-RETAINING DEVICE FOR ELECTRIC-MOTOR CONTROLLERS. THOMAS E. BARNUM, Milwaukee, Wis., assignor to The Cutler-Hammer Mfg. Co., Milwaukee, Wis., a Corporation of Wisconsin. Filed Nov. 2, 1903. Serial No. 179,548.

Claim.—1. The combination with an alternating-current-supply circuit, of an alternating-current motor associated therewith, a resistance therefor, a movable element for controlling said resistance, and a retaining-magnet connected with said supply-circuit and responsive to an alternating current for retaining said resistance-varying element in a predetermined position.

2. The combination with an alternating-current-supply circuit, of an alternating-current motor associated therewith, a resistance therefor, a movable element for controlling said resistance, and a retaining-magnet connected with said supply-circuit and responding to an alternating current for holding said movable element in a predetermined position during the existence of a normal current.

3. The combination with an alternating-current-supply circuit, of an alternating-current motor associated therewith, a resistance therefor, a movable element for controlling said resistance, a retaining-magnet connected with said supply-circuit and responsive to an alternating current for holding said movable element in a predetermined position during the existence of a normal current, and means for automatically moving said movable element when the same is released by said device.



4. The combination with an alternating-current-supply circuit, of an alternating-current motor associated therewith, a resistance therefor, a movable element for controlling said resistance, a retaining-magnet connected with said supply-circuit and responsive to an alternating current, and means operated by said device during the existence of a normal current to retain said movable element in a predetermined position.

5. The combination with an alternating-current motor, of a resistance therefor, a movable element for controlling said resistance, an electroresponsive device responsive to an alternating current, and a latch operated by said device during the existence of a normal current to hold said movable element in a predetermined position.

6. The combination with an alternating-current motor, of a resistance therefor, a movable element for controlling said resistance, an electroresponsive device responding to an alternating current, a latch operated by said device, during the existence of a normal current to retain said resistance-varying element in a predetermined position, and means for automatically moving said movable element when the same is released by said latch.

7. The combination with an alternating-current motor, of a resistance therefor, a movable element for controlling said resistance, a primary winding connected in an alternating-current circuit, a secondary winding influenced by said primary winding, and means operated by the repulsion between said windings for holding said movable element in a predetermined position.

8. The combination with an alternating-current motor, of a resistance therefor, a movable element for controlling said resistance, a primary winding connected in an alternating-current circuit, a secondary winding influenced by said primary winding, means operated by the repulsion between said windings for holding said movable element in a predetermined position, and means for automatically moving said movable element when the same is released.

9. The combination with an alternating-current motor, of a resistance therefor, a movable element for controlling said resistance, a primary winding connected in an alternating-current circuit, a secondary winding influenced by said winding, and a latch operated by the repulsion between said windings for holding said movable element in a predetermined position.

10. The combination with an alternating-current motor, of a resistance therefor, a movable element for controlling said resistance, means for normally retaining said element in its initial position, a primary winding connected in an alternating-current circuit, a secondary winding influenced by said primary winding, and means operated by the repulsion between said windings to retain said movable element in a predetermined position.

11. The combination with a circuit-controller, of a stationary frame, an electromagnetic winding mounted upon said frame, a pivoted frame, a winding carried by said pivoted frame and arranged in proximity to the winding carried by said stationary frame, and a latch operated by said pivoted frame when said windings are energized to retain said circuit-controller in a predetermined position.

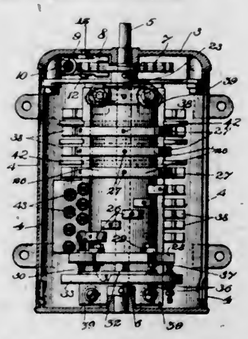
12. The combination with a circuit-controller, of a stationary frame, an electromagnetic winding mounted upon said frame, a pivoted frame, a winding carried by said pivoted frame and arranged in proximity to the winding carried by said stationary frame, a latch operated by said pivoted frame when said windings are energized to retain said circuit-controller in a predetermined position, and means to move said controller when released.

13. The combination with a circuit-controller, of a stationary laminated frame made in sections, a primary winding carried by said frame and adapted to be energized by an alternating current, a movable frame pivoted to said stationary frame and having a secondary winding arranged to be inductively influenced by said primary winding, and a latch operated by said movable frame when said windings are energized to retain said controller in a predetermined position.

14. The combination with a circuit-controller, of a laminated frame made in sections, a primary winding carried by said frame and adapted to be energized by an alternating current, a movable frame pivoted to said stationary frame and having a secondary winding arranged to be inductively influenced by said primary winding, a latch operated by said movable frame when said windings are energized to retain said controller in a predetermined position, and means for automatically moving said circuit-controller when released.

15. In a device of the character described, the combination with a primary winding, of a secondary winding inductively influenced thereby, a movable element arranged to sweep over contacts connected with a resistance, and arranged to be held in a predetermined point by said secondary member when the same is repelled from said primary member by the reaction between the magentic fields of said members.

844,651. DRUM-CONTROLLER FOR ELECTRIC MOTORS. THOMAS E. BARNUM, Milwaukee, Wis. Filed Nov. 9, 1903. Serial No. 180,469.



Claim.—1. In an electric-motor controller, in combination, a rotatable member having contacts arranged cylindrically thereon, resistance-terminals adapted to be engaged by said contacts, other resistance-terminals arranged in a plane substantially perpendicular to the axis of said member, one set of said terminals being connected to an armature resistance and the other set of said terminals being connected to a field resistance and contacts adapted to engage the latter terminals.

2. In an electric-motor controller, in combination, a rotatable member having contacts arranged cylindrically thereon, resistance-terminals adapted to be engaged by said contacts, other resistance-terminals arranged in fixed positions upon a suitable base in a plane substantially perpendicular to the axis of said member, one set of said terminals being connected to an armature resistance and the other set of said terminals being connected to a field resistance and brushes or contacts carried by said member and adapted to engage the latter contacts.

3. In an electric-motor controller, in combination, a rotatable member, having contacts arranged cylindrically thereon, terminals adapted to be engaged by said contacts and having an armature resistance connected thereto, a stationary plate or base, other terminals mounted on said base in a plane substantially perpendicular to the axis of said member and having a field resistance connected thereto, and brushes or contacts carried by said member and adapted to engage the latter terminals.

4. In an electric-motor controller, in combination, a drum having contacts arranged upon the cylindrical surfaces thereof, resistance-terminals adapted to be engaged by said contacts, a stationary block or base having other resistance-terminals mounted thereon in a plane substantially perpendicular to the axis of said drum and arranged below said drum, one set of said terminals being connected to an armature resistance and the other set of said contacts being connected to a field resistance, and brushes or contacts carried upon the lower end of said drum and adapted to engage the latter resistance-terminals.

5. In an electric-motor controller, in combination, a shaft, shells mounted upon said shaft and insulated from each other, contacts carried by said shells, terminals adapted to engage said contacts, other terminals arranged in a plane substantially perpendicular to the axis of said shaft, and brushes or contacts carried by said drum and adapted to engage the latter terminals.

6. In an electric-motor controller, in combination, a shaft, shells mounted upon said shaft and insulated from each other, contacts carried by said shells, terminals adapted to engage said contacts, a stationary base or block having contacts arranged thereon in a plane substantially perpendicular to the axis of said shaft, an insulating-plate supported by the lower end of said drum, and brushes or contacts carried by said plate and adapted to engage the latter terminals.

7. In a motor-controller, the combination with a suitable shaft, of a drum composed of sections or shells suitably supported at their upper ends from said shaft and insulated from one another, a block of insulating material fastened to said shells at their lower ends to hold the lower ends of said shells in their respective positions, contact-fingers adapted to engage the contact-segments carried by said shells, a suitable base mounted in a plane perpendicular to the axis of said drum and having a set of fixed contacts mounted thereon, and brushes carried by said block and adapted to engage said fixed contacts.

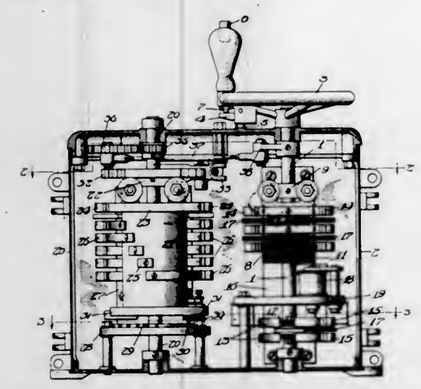
8. In a motor-controller, the combination with a suitable frame, of a shaft journaled therein and having a suitable bracket carried thereby, of a drum composed of shells or sections having lugs at their upper ends secured to said bracket and insulated therefrom, contact-fingers adapted to engage the contact-segments carried by said shells, a block of insulating material fastened to lugs upon the lower ends of said shells to retain said shells in their respective positions at the lower ends thereof, a base or disk of insulating material mounted upon said frame and arranged in a plane perpendicular to the axis of said drum, a set of contacts mounted in a fixed position upon said base, and brushes carried by said block adapted to engage said fixed contacts.

9. In a motor-controller, the combination with a suitable frame having a plate mounted upon the top thereof and forming therewith a casing, of a drum having contact-segments, contact-fingers adapted to engage said contact-segments, a notched wheel movable with said drum, a lever pivoted to said top plate and arranged to engage said notched wheel, and a spring carried by said top plate and normally pressing said lever into engagement with said notched wheel.

10. In an electric-motor controller, the combination with an inclosing casing having an integral back and bottom, a top fastened to said back and a shell forming the sides and front of said casing and joined to the back, bottom and top thereof, of a shaft journaled at its ends to said top and bottom, and carrying contact-carrying parts, a notched wheel carried by said shaft, a lever pivoted to said top plate and arranged to engage said wheel, and a spring carried by said top plate and normally pressing said lever into engagement with said notched wheel.

11. In a motor-controller, the combination with a drum carrying contact-segments for controlling one resistance, of a set of contacts for controlling a second resistance, a base or board carrying contact-fingers adapted to engage with said contact-segments, and binding-posts also carried by said board for connecting said second resistance to the last-mentioned contacts.

844,652. THREE-WIRE REVERSIBLE-DRUM CONTROLLER. THOMAS E. BARNUM, Milwaukee, Wis., assignor to The Cutler-Hammer Mfg. Co., Milwaukee, Wis., a Corporation of Wisconsin. Filed Oct. 3, 1904. Serial No. 227,016.



Claim.—1. In a motor-controller, in combination a rotatable member carrying contacts and arranged to be rotated in either direction from the initial position thereof to control the direction of operation of the motor, another rotatable member also carrying contacts and arranged to control the resistance of the motor and connect said motor with a high-voltage source of electrical energy, and with a low-voltage source of electrical energy, means operated by the first member, and rotating said second member always in the same direction.

2. In a motor-controller, in combination a rotatable member carrying contacts and arranged to be rotated in either direction from the initial position for controlling the direction of operation of the motor, another rotatable member carrying contacts and arranged to control the resistance of said motor and connect said motor with a source of low-voltage electrical energy, and with a source of high-voltage electrical energy, a handle for operating the former member, a gear fastened to the latter member and having the gear meshing therewith, an arm attached to the former member, and a link connecting said arm to the latter gear.

3. In a motor-controller, in combination a rotatable member carrying contacts and adapted to be rotated in either direction from the initial position thereof, circuit-terminals adapted to be engaged by said contacts for controlling the direction of operation of the motor, another rotatable member also carrying contacts, resistance-terminals adapted to be engaged by said latter contacts, contact-terminals connected with a source of high-voltage electrical energy, and contact-terminals connected with a source of low-voltage electrical energy adapted to be engaged by contacts carried on said second rotatable member, and means operated by the former member and adapted to rotate the latter member always in the same direction from the initial position thereof.

4. In a motor-controller, in combination a rotatable member carrying contacts and adapted to rotate in either direction from the initial position thereof, circuit-terminals adapted to be engaged by said contacts to control the direction of operation of the motor, another rotatable member also carrying contacts, resistance-terminals adapted to be engaged by the latter contacts, terminals connected with a source of high-voltage electrical energy, terminals connected with a source of low-voltage electrical energy also adapted to be engaged by contacts carried by said second-mentioned member, a gear fastened to said latter member and having a gear meshing therewith, an arm fastened to the former member and a link connecting said arm to the latter gear.

5. In a motor-controller, in combination a rotatable member adapted to be rotated in either direction from the initial position thereof, reversible switch-contacts carried by said member, circuit-terminals adapted to be engaged by said contacts whereby the direction of operation of the motor is controlled, another rotatable member also carrying contacts, resistance-terminals adapted to be engaged by the latter contacts, terminals connected with a source of high-voltage electrical energy, terminals connected with a source of low-voltage electrical energy arranged to be engaged by contacts carried by said second-mentioned member, resistance-terminals adapted to be engaged by contacts carried by said second-mentioned rotatable member, and means operated by the former member and adapted to rotate the latter member, always in the same direction from the initial position thereof.

6. In a motor-controller, in combination a rotatable member, adapted to be rotated in either direction from the initial position thereof, reversible switch-contacts carried by said member, circuit-terminals adapted to be engaged by said contacts whereby the direction of operation of the motor is controlled another rotatable member also carrying contacts, resistance-terminals adapted to be engaged by the latter contacts, terminals connected with a source of high-voltage electrical energy, terminals connected with a source of low-voltage electrical energy arranged to be engaged by contacts carried by said second-mentioned member, a gear fastened to the latter member and having a gear meshing therewith, an arm fastened to the former member, and a link connecting the latter gear to said arm.

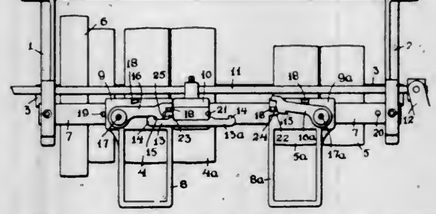
7. In combination, a rotatable member adapted to be rotated in either direction from the initial position thereof, reversing switch-contacts carried thereby, circuit-terminals adapted to be engaged by said contacts, another rotatable member, contacts arranged cylindrically upon the latter member, resistance-terminals adapted to be engaged by the latter contacts, resistance-terminals arranged in a plane substantially perpendicular to the axis of the latter rotatable member, contacts carried by the latter rotatable member and adapted to engage the latter resistance-terminals, and means operated by the former member and adapted to rotate the latter member always in the same direction from the initial position thereof.

8. In a motor-controller, in combination a rotatable member carrying contacts, circuit-terminals adapted to be engaged by said contacts whereby the direction of operation of the motor is controlled, another rotatable member also carrying contacts, terminals connected with a source of high-voltage electrical energy, terminals connected with a source of low-voltage electrical energy adapted to be engaged by said latter contacts, resistance-terminals adapted to be engaged by contacts carried by said second-mentioned rotatable member and a blow-out magnet adapted to extinguish any arc which may form at the contacts upon one of said members to prevent an arc forming at the contacts of the other member.

9. In combination, a rotatable member adapted to be rotated in either direction from the initial position thereof, a handle for turning said member, reversing switch-contacts carried by said member, circuit-terminals adapted to be engaged by said contacts, main switch-contacts also carried by said member, circuit-terminals adapted to be engaged by said main switch-contacts, another rotatable member also carrying contacts, resistance-terminals adapted to be engaged thereby, a blow-out magnet for disrupting any arc which may be formed between the main switch-contacts and the terminals engaging therewith, and means operated by the former member and adapted to drive the latter member always in the same direction from the initial position thereof.

10. In a motor-controller, in combination a rotatable member adapted to be rotated in either direction from the initial position thereof, a handle for operating said member, reversing switch-contacts carried by said member, circuit-terminals adapted to be engaged by said contacts whereby the direction of operation of the motor is controlled, another rotatable member carrying contacts, resistance-terminals adapted to be engaged by said contacts, terminals connected with a source of low-voltage electrical energy, terminals connected with a source of high-voltage electrical energy, and adapted to be engaged by contacts carried by said latter-mentioned member, a gear attached to the latter member, and having a gear meshing therewith, the latter gear being pivoted upon a stationary support, an arm attached to the former member and a link connecting said arm to the pivoted gear, the point of connection of said link to said arm being substantially in alinement with the point of connection of said link to said pivoted gear and the axis of said rotatable member when the rotatable members are in the initial position thereof.

844,653. BELT-SHIPPING MECHANISM. CHESTER BERRY, Worcester, Mass., assignor to Lafayette Robbins, Worcester, Mass. Filed Mar. 13, 1906. Serial No. 305,794.



Claim.—1. In a belt-shipping mechanism, the combination with a shaft and two pairs of pulleys thereon, each pair comprising a tight and a loose pulley, of a bar parallel with said shaft, a pair of sleeves capable of sliding on said bar, and a pair of belt-eyes carried by said sleeves, each belt-eye being adapted to shift a belt on one pair of pulleys, a sliding belt-shipper on said bar between said sleeves, means for sliding said shipper on said bar, pivoted latches on said sleeves, there being hooks on said sliding shipper adapted to engage said latches, and means for automatically disengaging said latches from said hooks at a predetermined movement of the sleeves.

2. In a belt-shipping mechanism, the combination with a shaft and two pairs of pulleys, each pair comprising a tight and a loose pulley, of a bar parallel with said shaft, sleeves slidable on said bar, belt-eyes carried by said sleeves, each belt-eye being adapted to shift a belt on one pair of pulleys, a sliding belt-shipper on said bar between said sleeves, means for sliding said shipper on said bar, hooks projecting from opposite sides of said belt-shipper, pivoted latches on said sleeves, and means for automatically disengaging said latches from said hooks at a predetermined movement of the belt-eye.

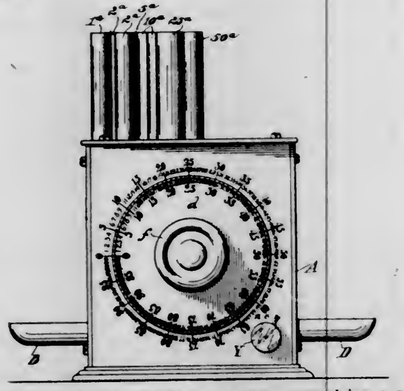
3. In a belt-shipping mechanism, the combination with two pairs of belt-pulleys, each pair comprising a tight and a loose pulley, of a bar parallel with the axes of said belt-pulleys, sleeves capable of sliding on said bar, a belt-eye carried by said sleeves for each pair of pulleys, latches pivoted on said sleeves, said sleeves having stops for limiting the movement of said latches, a sliding belt-shipper placed on said bar between said sleeves, hooks carried

by said belt-shipper adapted to automatically engage said pivoted latches, and means for automatically disengaging said latches at a predetermined movement of said sleeves.

4. In a belt-shipping mechanism, the combination with a pair of belt-pulleys, of a belt-eye for shifting a belt on said pulleys, a sliding sleeve carrying said belt-eye, a bar parallel with the axes of said pulleys forming a way for said sleeve, a sliding belt-shipper on said bar, means for sliding said belt-shipper, a stop on said bar for limiting the movement of said sleeve in one direction as said sleeve is pushed by said belt-shipper, there being a hook on said belt-shipper and a pivoted latch on said sleeve, a stop on said bar for limiting the reverse movement of said sleeve, said pivoted latch having a beveled surface adapted to engage said stop and automatically release said latch.

5. In a belt-shipping mechanism, the combination with a pair of belt-eyes and slidable sleeves supporting said belt-eyes, of a bar forming ways for said sleeves, a sliding belt-shipper on said bar between said sleeves, said belt-shipper being provided with hooks, pivoted latches on said sleeves adapted to engage said hooks, a pair of stops on said bar to limit the sliding movement of said sleeves away from each other, a second pair of stops on said bar to limit the sliding movement of said sleeves toward each other, said second pair of stops being arranged to contact with said pivoted latches and release them from the belt-shipper to check the motion of each belt-shipper before the sliding movement of the other belt-shipper begins.

844,654. CHANGE-MAKING MACHINE. HAROLD BINNEY, New York, N. Y. Filed Sept. 15, 1903. Serial No. 173,224.



Claim.—1. A change-making machine comprising a plurality of coin-discharging means controlling coins of different denominations, a part movable in two directions and adapted to coact with said discharging means to deliver coins having a predetermined total value from that of the smallest coin to that of any multiple thereof within the capacity of the machine, means for moving said part primarily to determine the number of coins of each denomination to be discharged and secondarily to operate said discharging means, and printing means coöperating with said moving part for recording the value of the coins discharged.

2. A change-making machine comprising a plurality of coin-discharging means controlling coins of different denominations, a disk adapted to coact with said discharging means to deliver coins having a predetermined total value from that of the smallest coin to that of any multiple thereof within the capacity of the machine, means for successively rotating said disk to a desired point and moving it to operate said discharging means, and printing means coöperating with said moving part and actuated thereby for recording the value of the coins discharged.

3. A change-making machine comprising a plurality of coin-discharging means controlling coins of different denominations, a disk adapted to coact with said discharging means to deliver coins having a predetermined total value from that of the smallest coin to that of any multiple thereof within the capacity of the machine, integral means for successively rotating said disk and moving it longitudinally of its axis to operate said coin-discharging means, and printing means coöperating with said moving part for recording the value of the coins discharged.

4. In a change-making machine, a casing, a plurality of coin-holders for coins of different denominations, means for discharging coin from said holders, a disk adapted to coact with said discharging means to deliver coins having a predetermined total value from that of the smallest coin to that of any multiple thereof within the capacity of the machine, means extending out of said casing for successively rotating said disk to a desired point and for moving it to operate said discharging means, and means on said casing for indicating the rotation of said disk, and printing means coöperating with said moving part and actuated thereby for recording the value of the coins discharged.

5. In a change-making machine, a plurality of coin-discharging means controlling coins of different denominations, a part movable in two directions and adapted to coact with said discharging means to deliver coins having a predetermined total value from that of the smallest coin to that of any multiple thereof within the capacity of the machine, means for moving said part primarily to determine the number of coins of each denomination to be discharged and secondarily to operate said discharging means, means for supporting in the path of said moving part a record strip or sheet, and means on said moving part for imprinting on such strip numerals corresponding to the value of the coins discharged.

6. In a change-making machine, a plurality of coin-discharging means controlling coins of different denominations, a part movable in two directions and adapted to coact with said discharging means to deliver coins having a predetermined total value from that of the smallest coin to that of any multiple thereof within the capacity of the machine, means for moving said part primarily to determine the number of coins of each denomination to be discharged and secondarily to operate said coin-discharging means, means for supporting in the path of said moving part a record strip or sheet, means on said moving part for imprinting on such strip numerals corresponding to the value of the coins discharged, and means actuated through said moving part for advancing such strip step by step.

7. A change-making machine consisting of a plurality of coin-discharging means controlling coins of different denominations, a disk adapted to coact with said discharging means to deliver coins having a predetermined total value from that of the smallest coin to that of any multiple thereof within the capacity of the machine, means for successively rotating said disk to a desired point and moving it to operate said discharging means, means for supporting in the path of the longitudinal movement of said disk a record strip or sheet, and type on said disk for imprinting on such strip numerals corresponding to the value of the coins discharged.

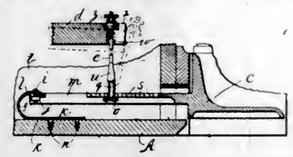
8. A change-making machine consisting of a plurality of coin-discharging means controlling coins of different denominations, a disk adapted to coact with said discharging means to deliver coins having a predetermined total value from that of the smallest coin to that of any multiple thereof within the capacity of the machine, means for successively rotating said disk to a desired point and moving it to operate said discharging means, means for supporting in the path of the longitudinal movement of said disk a record strip or sheet, type on said disk for imprinting on such strip numerals corresponding to the value of the coins discharged and means actuated by the rotary movement of said disk for advancing such strip step by step.

9. In a change-making machine, a casing, a plurality of coin-holders for coins of different denominations, a plurality of troughs on said casing, means for discharging coins from said holders, and adjustable means for guiding said coins into any of said troughs.

10. In a change-making machine, a casing, a plurality of coin-holders for coins of different denominations, a plurality of troughs on said casing, a knob or handle exterior of said casing, and means actuable through said knob for guiding said coins into any of said troughs.

11. In a change-making machine, the combination of a longitudinally movable and rotatable disk having projections on its back, coin-holders having movable bottoms and pushers connected to said bottoms and adapted to be operated by the longitudinal movement of the disk, said disk being provided with a series of numbers around its periphery, adapted to coöperate with a corresponding series of numbers on the casing, whereby the amount of change to be made is indicated by the difference between any two numbers brought opposite each other.

844,655. PIANO-PEDAL ACTION. GUSTAVE BJORKLUND, New York, N. Y. Filed Sept. 2, 1904. Serial No. 223,073.



Claim.—1. The combination with the pedal having a notch for reception of the fulcrum-spring connecting-bolt and a slot for admission of a screw-driver, of the connecting-bolt and the fulcrum-spring, said spring having the bow-shaped end and the elongated supporting part, the upper end of the bow-spring being secured in place upon the top of the pedal and the supporting part being accessible through the slot in the pedal, substantially as set forth.

2. The combination of the pedal having the series of holes for the pedal-lever connecting-rod, and slot of lesser breadth than the holes, of the flat-headed connecting-rod, having the section next above the head fitted to said holes, and also having a flattened section above said first-mentioned section fitted to the slot.

3. The combination of the pedal having the series of holes for the pedal-lever connecting-rod, and slot of lesser breadth than the holes, of the flat-headed connecting-rod, having the section next above the head fitted to said holes, and also having a flattened section above said first-mentioned section fitted to the slot, and the headed sleeve of flexible material on the said rod.

4. A pedal having a bow fulcrum-spring support intermediate of its ends and a slot for the bow of said spring, the upper end of the bow-spring being extended through said slot and attached to the upper surface of the pedal, substantially as shown.

5. The combination with the pedal, pedal-lever and the rod connecting said pedal and the pedal-lever, of the slidably-adjustable step-piece in the pedal for seating the rod.

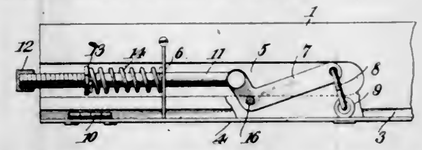
6. The combination with the pedal, pedal-lever, and pedal-lever fulcrum-spring, of the separately-constructed attaching-piece having an upwardly-inclined supporting-arm, the spring attached to said arm and the lever respectively.

7. The combination with the pedal, pedal-lever, and pedal-lever fulcrum-spring, of the separately-constructed attaching-piece provided with an upwardly-inclined arm having the transverse nicks and the lengthwise slot, the spring having the lip adapted to the transverse nicks, and attached to said arm and lever respectively.

8. The combination with the pedal-lever and pedal and lever-connecting rod, of a perforated piece adjustably mounted upon the pedal and adapted to receive the lower end of said connecting-rod, substantially as and for the purposes set forth.

844,656. WEATHER-STRIP. FRANK J. BOEHLER, Republic, Ohio. Filed June 28, 1906. Serial No. 323,890.

Claim.—1. A device of the character described comprising a strip, a tongue hinged to the strip, a lever fulcrumed to the strip, means operatively connecting one end of said lever with said tongue, a longitudinally-movable rod located in the strip and connected at one end with said lever and projecting at its opposite end beyond the end of the strip, said projecting end of the rod being threaded a guide attached to the strip and receiving said rod, a cap engaging the thread of the projecting end of said strip, a nut engaging the thread of said strip and a coil-spring interposed between said nut and said guide.

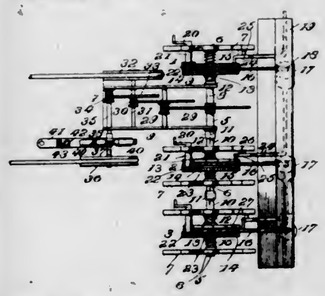


2. A device of the character indicated comprising a strip having in its under side a groove, one side of which lies in a plane and the other side of which describes an arc struck from a center located at the edge of the first said side, a fibrous material located against the plane side of said groove, a tongue hinged at intermediate points at the edge of the plane side of said groove, the edge of said tongue moving in close contact with the arcuate side of the groove, a lever fulcrumed in the strip and being operatively connected with said tongue and a spring-actuated rod located in the strip and being connected with said lever at one end and projecting beyond the end of the strip at the other end.

844,657. PAPER AND PAPER-BOARD. EDMUND BOUSEK, Wiener-Neustadt, Austria-Hungary, executor of Christian Esser, deceased, assignor to Pilgrim Paper Company, New York, N. Y., a Corporation of Maine. Filed Dec. 20, 1905. Serial No. 292,661.

Claim.—As an article of manufacture, paper-board or the like containing, in its finished condition, long and short peat fibers in substantially their natural condition, bound together by the gelatinous matter normally contained in the peat, substantially as described.

844,658. WEIGHT-MOTOR. MANNON BROWN, Elk City, Okla. Filed Aug. 3, 1906. Serial No. 329,118.



Claim.—1. In a weight-motor, spaced upright supports, a shaft mounted for rotation in bearings upon said supports, a drum loosely mounted upon said shaft, a clutch member carried by said drum, a coacting clutch member fixed upon said shaft, a coil-spring upon said shaft for forcing said drum longitudinally and holding said clutch members normally in engagement with each other, a toothed gear arranged upon one side of said drum, a crank-shaft journaled in one of said supports, a toothed pinion upon said crank-shaft and in mesh with said gear, an annular series of ratchet-teeth arranged upon the other side of said drum, a lever pivoted upon one of said supports and formed with a pawl to engage said ratchet-teeth, a cable attached to and wound upon said drum, a guide for said cable, and a weight attached to the free end of said

cable, substantially as shown and for the purposes set forth.

2. In a weight-motor, upright supports, a shaft rotatably mounted in bearings upon said supports, a plurality of drums mounted upon said shaft, clutch connections between said drums and shaft whereby the movement of the former will be imparted to the latter when said drums are rotated in one direction, cables attached to and wound upon said drums, guides for said cables, weights attached to said cables whereby they will rotate said drums in a direction to cause them to actuate said shaft, means for rotating said drums in the opposite direction to wind said cables thereon, and means for preventing the rotation of said drums.

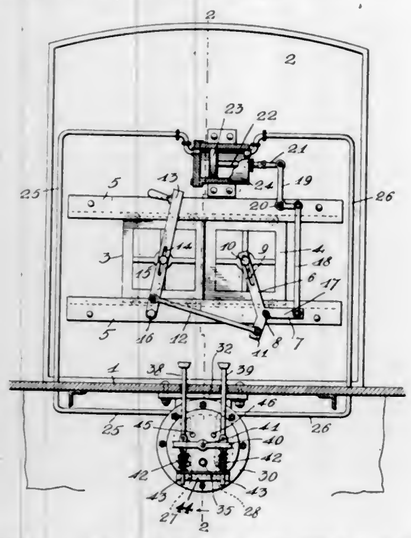
3. In a weight-motor, upright supports, a shaft rotatably mounted in bearings upon said supports, a plurality of drums mounted upon said shaft, clutch connections between said drums and shaft whereby the movement of the former will be imparted to the latter when said drums are rotated in one direction, cables attached to and wound upon said drums, guides for said cables, weights attached to said cables whereby they will rotate said drums in a direction to cause them to actuate said shaft, means for rotating said drums in the opposite direction to wind said cables thereon, and trip devices for preventing the rotation of said drums, the trip devices of certain of said drums adapted to be released by the weights of the adjacent drums.

4. In a weight-motor, upright supports, a shaft rotatably mounted in bearings upon said supports, a plurality of drums mounted upon said shaft, clutch connections between said drums and shaft whereby the movement of the former will be imparted to the latter when said drums are rotated in one direction, cables attached to and wound upon said drums, guides for said cables, weights attached to said cables whereby they will rotate said drums in a direction to cause them to actuate said shaft, toothed gears arranged upon the sides of said drums, crank-shafts journaled in said supports, toothed pinions upon said crank-shafts in mesh with said gears, annular series of ratchet-teeth arranged upon the opposite sides of said drums, levers pivoted upon said supports and having their upper ends formed with pawls to engage said ratchet-teeth, the lower ends of said levers being bent and arranged in the paths of the weights connected to adjacent drums whereby their pawls will be disengaged from the ratchets upon the descent of said weights.

5. In a weight-motor, pairs of upright supports, bearings arranged therein, shafts mounted in said bearings and arranged end to end in longitudinal alinement with each other, couplings detachably connecting the adjacent ends of said shafts, drums slidably and rotatably mounted upon said shafts between said pairs of supports, clutch members fixed upon said drums, coacting clutch members fixed upon said shafts, coil-springs upon said shafts for moving said drums longitudinally thereon and holding said coacting clutch members normally engaged, cables attached to said drums, guides for said cables, weights attached to said cables, means for rotating said drums to wind said cables thereon, and means for preventing the rotation of said drums and the unwinding of said cables therefrom.

6. In a weight-motor, pairs of upright supports, bearings arranged therein, shafts mounted in said bearings and arranged end to end in longitudinal alinement with each other, couplings detachably connecting the adjacent ends of said shafts, drums slidably and rotatably mounted upon said shafts between said pairs of supports, clutch members fixed upon said drums, coacting clutch members fixed upon said shafts, coil-springs upon said shafts for moving said drums longitudinally thereon and holding said coacting clutch members normally engaged, cables attached to said drums, guides for said cables, weights attached to said cables, toothed gears arranged upon said drums, crank-shafts journaled upon said supports, pinions upon said crank-shafts in mesh with said gears, annular series of ratchet-teeth carried by said drums, and trip-levers pivoted upon said supports and having their inner ends bent to form pawls to engage said ratchet-teeth, the opposite ends of certain of said levers being bent and arranged in the path of the weights connected to adjacent drums, substantially as shown and described.

844,659. DOOR-OPERATING DEVICE. CHARLES W. BUTLER and HIRAM C. BUTLER, Louisville, Ky. Filed Mar. 12, 1906. Serial No. 305,618.



Claim.—1. The combination of doors, means to operate the same, a cylinder, a piston therein having a rod connected to said door-operating means, a valve-casing, pipes leading from said casing to the ends of the cylinder, a rotary valve in said casing to control the admission and exhaust of fluid under pressure through said pipes, a shaft upon said casing, a lever on said shaft, stops to limit the swinging movement of said lever, springs to balance said lever betwen said stops, and push-rods to actuate said lever in opposite directions.

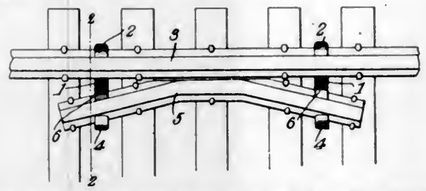
2. The combination of a valve-casing, pipes leading from said casing, a rotary valve in said casing for controlling the admission and exhaust of fluid under pressure through said pipes, a shaft upon said valve and projecting through said casing, a lever upon said shaft, stops to limit the swinging movement of said lever, springs for balancing said lever between said stops, and push-rods for actuating said lever in opposite directions, substantially as described.

3. The combination of a valve-casing having upon one side a supply connection 35, and upon its opposite sides connections 27, 28, and an exhaust-opening 37, a rotary valve in said casing having ports 33, 34 and 36, a shaft 41 projecting from said valve and through said casing, a lever for actuating said shaft, and stops upon said casing to limit the movement of said lever, substantially as described.

844,660. GUARD-RAIL FASTENER. FRANK CLEARY and JOHN GARRITY, Rugby, N. D. Filed Dec. 5, 1906. Serial No. 346,481.

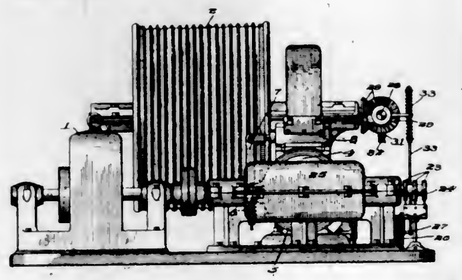
Claim.—1. A guard-rail fastener comprising a body portion for connecting the track and guard-rails together at points between the ties, said body portion having at its ends upwardly and inwardly extending lugs for the reception of the flanges of the track and guard-rails respectively, and at an intermediate point a lug for the reception of the inner flange of the guard-rail, said fastener being adapted to be forced laterally whereby the edge of the intermediate lug is brought into close frictional contact with the edge of the guard-rail flange.

2. A guard-rail fastener comprising a body portion having at its ends upwardly and inwardly extending lugs for the reception of the flanges of the track and guard-rails respectively, said body portion having an intermediate lug for the reception of the inner flange of the guard-rail,



said fastener being adapted to be forced laterally whereby the edge of its end lug in engagement with the guard-rail flange is flattened and the diagonally opposite edge of the intermediate lug is brought into close contact with the flange of the guard-rail.

844,661. CLUTCH-CONTROLLED ELEVATOR. HENRY H. CUTLER, Milwaukee, Wis., assignor to The Cutler-Hammer Manufacturing Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed Dec. 31, 1903. Serial No. 187,366.



Claim.—1. The combination with an elevator mechanism, of a driving element therefor capable of running independently thereof, a magnetic clutch whose driven member is accelerated through the combined influence of induction and friction for connecting said driving element and elevator mechanism together to operate the elevator in one direction, and a second magnetic clutch whose driven member is accelerated through the combined influence of induction and friction for connecting said elevator mechanism and the driving element thereof to operate the elevator mechanism in an opposite direction.

2. The combination with an elevator mechanism, of a driving element therefor capable of running independently thereof, a magnetic clutch whose driven element is accelerated through the combined influence of induction and friction for connecting said driven element with said mechanism to operate the same in one direction, a second magnetic clutch whose driven member is accelerated through the combined influence of induction and friction for connecting said driven element with said elevator mechanism to operate the same in an opposite direction, and a controller for said clutches.

3. The combination with an elevator mechanism, of a driving element therefor capable of running independently thereof, a wheel for operating said mechanism in one direction and a second wheel for operating said mechanism in an opposite direction, and magnetic clutches whose driven members are accelerated through the combined influence of induction and friction for connecting said wheels with the driving element.

4. The combination with an elevator mechanism, of an electric motor for operating the same capable of running independently thereof, a magnetic clutch whose driven member is accelerated through the combined influence of induction and friction for connecting said motor and mechanism to operate the same in one direction, and a second magnetic clutch whose driven member is accelerated through the combined influence of induction and friction for connecting said motor and mechanism for operating the mechanism in an opposite direction.

5. The combination with an elevator mechanism, of an electric motor for operating the same capable of running independently thereof, a magnetic clutch whose driven member is accelerated through the combined influence of induction and friction for connecting said motor and mechanism to operate the mechanism in one direction, a second magnetic clutch whose driven member is accelerated through the combined influence of induction and friction for connecting said motor and mechanism to operate the mechanism in an opposite direction, and a controller for said clutches.

6. The combination with an elevator mechanism, of an electric motor for operating the same capable of running independently thereof, a wheel for turning the driving-shaft of said mechanism in one direction, a second wheel for turning said driving-shaft in an opposite direction, and magnetic clutches whose driven members are accelerated through the combined influence of induction and friction for connecting said wheels with said motor.

7. The combination with an elevator mechanism, of an alternating-current motor for operating the same capable of running independently thereof, a magnetic clutch for connecting said motor and said mechanism, a brake for said mechanism, a solenoid for operating the same, and means for supplying a direct current to said solenoid and said clutch.

8. The combination with an elevator mechanism, of an electric motor for operating the same capable of running independently thereof, a magnetic clutch or accelerator for connecting said motor with said mechanism, and a limit-switch for controlling the circuit through said clutch.

9. The combination with a plurality of elevator mechanisms, of a single driving element therefor, capable of running independently thereof, and a plurality of magnetic clutches whose driven members are accelerated through the combined influence of induction and friction for connecting said mechanisms with said driving element.

10. The combination with a plurality of elevator mechanisms, of a single electric motor for operating the same capable of running independently thereof, and a plurality of magnetic clutches whose driven members are accelerated through the combined influence of induction and friction for connecting said mechanisms with said motor.

11. The combination with an elevator mechanism, of a driving element therefor, a magnetic clutch for connecting said driving element and said mechanism, a brake for said elevator mechanism, a solenoid for operating said brake, a controller for said solenoid and clutch, and a limit-switch for controlling the circuit through said solenoid and clutch.

12. The combination with an elevator mechanism, of a driving element therefor, a magnetic clutch for connecting said driving element and elevator mechanisms to operate the same in one direction, a second magnetic clutch for connecting said driving element and mechanism for operating the same in an opposite direction, a brake for said elevator mechanism, a solenoid for operating said brake, and a controller for said clutches and solenoid.

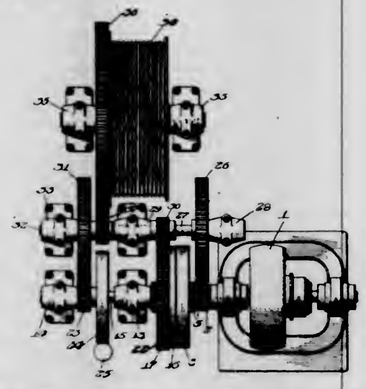
13. The combination with an elevator mechanism, of a driving element therefor, a magnetic clutch for connecting said driving element with said mechanism to operate the same in one direction, a second magnetic clutch for connecting said driving element with said mechanism to operate the same in an opposite direction, a brake for said elevator mechanism, a solenoid for operating the same, a controller for said clutches and solenoid, and a limit-switch for controlling the circuit through said clutches and solenoid.

14. The combination with an elevator mechanism, of a driving element therefor, a magnetic clutch for connecting said driving element and mechanism, a brake for said elevator mechanism, a solenoid for operating said brake, and a limit-switch comprising a movable element adapted to

move over contacts and open the circuit of said solenoid and clutch when the elevator-car has reached a predeter mined position.

15. The combination with an elevator mechanism, of a driving element therefor, a magnetic clutch for connecting said driving element with said mechanism, a brake for the elevator mechanism, a solenoid for operating the same, a limit-switch comprising a movable element adapted to sweep over contacts to open the circuit to said clutch and solenoid when the elevator-car has reached a predetermined position, and means operated by said driving element for controlling the movement of said movable element.

844,662. ELECTRICALLY-CONTROLLED SKIP-HOIST. HENRY H. CUTLER, Milwaukee, Wis., assignor to The Cutler-Hammer Manufacturing Company, Milwaukee, Wis., a Corporation of Wisconsin. Filed July 20, 1904. Serial No. 217,418.



Claim.—1. The combination with a driving mechanism, of a driven mechanism, a clutch for connecting the same having a member driven at a relatively slow speed and a member driven in the same direction at a relatively high speed, a member adapted to engage either of said members, and automatically-operated means for causing the operation of the driven mechanism through said high-speed and low-speed members respectively.

2. The combination with a driving mechanism, of a driven mechanism, a clutch having a member driven at a relatively high speed and a member driven in the same direction at a relatively low speed, automatically-operated means for causing the operation of said driving mechanism through said high-speed and low-speed members respectively, and means to stop the driven mechanism at a predetermined point.

3. The combination with a driving mechanism, of a magnetic clutch to connect the same with the machinery to be driven, said clutch having parts connected with said driving mechanism and adapted to be driven in the same direction at different speeds, and a part connected with the driven machinery and adapted to engage either of said first-mentioned parts, and automatically-operated means to cause said engagement.

4. The combination with a driving mechanism, of a magnetic clutch to connect the same with the machinery to be driven, said clutch having parts geared to the driven mechanism and driven in the same direction at different speeds and a part geared to the machinery to be driven and adapted to engage either of said first-mentioned parts, and automatically-operated means to cause said engagement.

5. The combination with a driving mechanism, of a magnetic clutch to connect the same with the machinery to be driven, said clutch having two members connected with the driven mechanism and driven in the same direction at different speeds and a third member connected with the machinery to be driven and adapted to engage either of said first-mentioned members, and automatically-operated means to cause said engagement.

6. In combination, an electric motor and a resistance therefor, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively closing the circuit of said electromagnets, and electromagnetic means for operating said movable element.

7. In combination, an electric motor, and a resistance therefor, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively closing the circuit of said electromagnets, and an electromagnet for operating said movable element.

8. In combination, an electric motor, a resistance therefor, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively including said electromagnets in circuit, an electromagnet for operating said movable element, and a magnetically-operated switch for closing the circuit through said last-mentioned electromagnet.

9. In combination, an electric motor and a resistance therefor, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively closing the circuit of said electromagnets, an electromagnet for operating said movable element, and means for closing the circuit through the armature of the motor and through said last-mentioned electromagnet.

10. In combination, an electric motor and a resistance therefor, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step, by step, a movable element for successively including said electromagnets in circuit, an electromagnet for operating said movable element, and a magnetically-operated switch for closing the circuit through the armature of the motor and through said last-mentioned electromagnet.

11. In combination, an electric motor and a resistance therefor, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit, step by step, a movable element for successively including said electromagnets in circuit, an electromagnet for operating said movable element, and a pair of magnetically-operated switches for controlling the circuit through said motor, and through said second-mentioned electromagnet.

12. In combination, an electric motor, and a resistance therefor, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively including said electromagnets in circuit, a magnetically-operated switch for controlling the circuit through the motor in one direction, a second magnetically-operated switch for controlling the circuit through the motor in an opposite direction, said switches being also adapted to control the circuit through said electromagnet.

13. In combination, an electric motor and a resistance therefor, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively including said electromagnets in circuit, a pair of magnetically-operated switches for controlling the circuit through the motor, and through said second-mentioned electromagnet, and a switch for controlling the circuit through the magnets of said magnetic switches.

14. In combination, an electric motor and a resistance therefor, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively including said electromagnets in circuit, a pair of electromagnetically-operated switches for controlling the circuit through the motor, and through said second-mentioned electromagnet, and an automatically-operated switch for controlling the circuit through the magnets of said magnetically-operated switches.

15. In combination, an electric motor, and a resistance therefor, a magnetic clutch, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, and means to prevent the closing of the circuit through said clutch until all of the resistance has been removed from the motor-circuit.

16. In combination, an electric motor and a resistance therefor, a magnetic clutch, a plurality of electromagnets adapted to be successively energized, to remove said resistance from circuit step by step, and means controlled by one of said electromagnets to prevent the closing of the circuit through said clutch until all of the resistance has been removed from the motor-circuit.

17. In combination, an electric motor and a resistance therefor, a plurality of magnetic clutches, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively including said electromagnets in circuit, and means for preventing the closing of the circuit to said clutches until all of the resistance has been removed from the motor-circuit.

18. In combination, an electric motor and a resistance therefor, a plurality of magnetic clutches, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit, step by step, a movable element for successively including said electromagnets in circuit, and means operated by one of said electromagnets for preventing the closing of the circuit to said clutches until all resistance has been removed from the motor-circuit.

19. In combination, an electric motor and a resistance therefor, a magnetic clutch, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, and a switch controlling the circuit through said clutch and adapted to be closed only after all of the resistance has been removed from the motor-circuit.

20. In combination, an electric motor and a resistance therefor, a magnetic clutch, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a switch controlling the circuit through said clutch, and adapted to be closed by the last of said electromagnets, whereby the circuit through the clutch will not be closed until all of the resistance has been removed from the motor-circuit.

21. In combination, an electric motor and a resistance therefor, a plurality of magnetic clutches, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively including said electromagnet in circuit, a switch controlling the circuit to said clutches and adapted to be operated only when all of the resistance has been removed from the motor-circuit.

22. In combination, an electric motor and a resistance therefor, a plurality of magnetic clutches, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively including said electromagnets in circuit, and a switch controlling the circuit through said clutches and adapted to be operated by the last of said electromagnets, whereby the circuit to said clutches will not be closed until all of the resistance has been removed from the motor-circuit.

23. In combination, an electric motor, and a resistance therefor, a magnetic clutch, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively including said electromagnets in circuit, a magnetically-operated switch for controlling the circuit through said clutch, and an automatically-operated switch for operating the circuit through the magnet of said magnetically-operated switch.

24. In combination, an electric motor and a resistance therefor, a plurality of electromagnets adapted to be successively energized to remove the said resistance from circuit step by step, a plurality of magnetic clutches, a plurality of magnetically-operated switches for controlling the circuit to said clutches, and an automatically-operated switch for controlling the circuit through the magnets of said magnetically-operated switches.

25. In combination, an electric motor and a resistance therefor, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively including said electromagnets in circuit, a plurality of magnetic clutches, a plurality of magnetically-operated switches for controlling the circuit through said clutches, means for preventing the closing of the circuit through said clutches before all of the resistance has been removed from the motor-circuit, and a switch for controlling the circuit through the magnets of said magnetically-operated switches.

26. In combination, an electric motor and a resistance therefor, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively including said electromagnets in circuit, a plurality of magnetic clutches, a plurality of magnetically-operated switches controlling the circuit through said clutches, means operated by one of said electromagnets for preventing the closing of the circuit through said clutches before all of the resistance has been removed from the circuit, and a switch for controlling the circuit through the magnets of said magnetically-operated switches.

27. In combination, a motor and a resistance therefor, a plurality of electromagnets adapted to be successively energized to remove said resistance from circuit step by step, a movable element for successively including said resistance in circuit, an electromagnet for controlling said movable element, a plurality of electromagnetic switches for controlling the circuit through the motor and through said electromagnet, a plurality of magnetic clutches, a plurality of electromagnetic switches controlling the circuit through said clutches, and a switch for controlling the circuit through said motor-controlling switches and through said clutch-controlling switches.

28. In combination, an electric motor and a resistance therefor, a plurality of electromagnets adapted to be successively included in circuit to remove said resistance step by step, a movable element for successively including said electromagnets in circuit, a plurality of magnetically-operated switches for controlling the circuit through said motor, and through said electromagnet, a plurality of magnetic clutches, a plurality of magnetic switches for controlling the circuit through said clutches, a switch for controlling the circuit through said motor-controlling switches, and said clutch-controlling switches, and means operated by one of said resistance-operating electromagnets for preventing the operation of said clutches before all of the resistance of said motor has been removed from said circuit.

844,663. SELF-STARTER FOR ELECTRIC MOTORS. HENRY H. CUTLER, Milwaukee, Wis., assignor to The Cutler-Hammer Mfg. Co., Milwaukee, Wis., a Corporation of Wisconsin. Filed May 12, 1905. Serial No. 260,107.

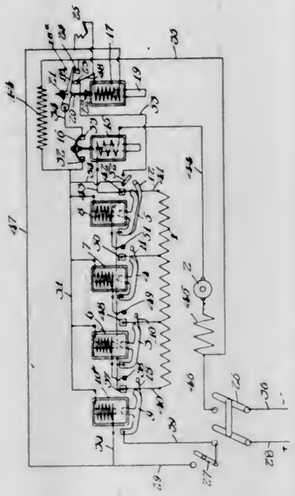
Claim.—1. The combination with a motor, of a plurality of controlling-magnets therefor, each of which closes an operating-circuit for the next succeeding magnet, resistance in circuit with said magnets, and means operated by predetermined variations of motor-current for inserting the resistance of said magnets in circuit therewith.

2. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, each of which closes an operating-circuit for the next succeeding magnet, resistance in circuit with said magnets, and means operated by predetermined variations in the motor-current for inserting the resistance of said magnets in circuit therewith.

3. The combination with a motor, of a plurality of magnets for controlling the same, each of which closes an operating-circuit for the next succeeding magnet, resistance in circuit with said magnets, and means operated by an increase in the motor-circuit for inserting the resistance of said magnets in circuit therewith.

4. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance,

each of which closes an operating-circuit for the next succeeding magnet, resistance in circuit with said magnets, and means operated by an increase in the motor-current for inserting the resistance of said magnets in circuit therewith.



5. The combination with a motor, of a plurality of controlling-magnets therefor, each of which closes an operating-circuit for the next succeeding magnet, a resistance in circuit with said magnets, and a magnet operated by predetermined variations in the motor-current for opening a shunt-circuit for said resistance and thereby inserting the same in the circuit of said magnets.

6. The combination with a motor, of a plurality of controlling-magnets therefor, each of which closes an operating-circuit for the next succeeding magnet, and an electromagnet operated by predetermined variations in the motor-circuit for inserting the resistance of said magnets in circuit therewith.

7. The combination with a resistance, of a plurality of magnets for controlling the same, a resistance in circuit with said magnets, and a magnet operated independently of the variations in motor-current for inserting said second resistance in circuit and removing the same therefrom.

8. The combination with a motor, of a resistance therefor, a plurality of magnets controlling said resistance, a resistance in circuit with magnets, and a magnet operated independently of the variations of motor-current for periodically inserting said second-mentioned resistance in and removing the same from circuit.

9. The combination with a motor, of a resistance, therefor, a plurality of magnets for controlling said resistance, a resistance in circuit with said magnets, and a magnet operated independently of the variations of motor-current for periodically opening and closing a shunt-path around said second-mentioned resistance.

10. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a resistance in circuit with said magnets, a switch for controlling a shunt-path around said second-mentioned resistance, and a magnet for periodically opening and closing said switch, said switch also controlling the circuit through said magnet.

11. The combination with a motor, of a plurality of controlling-magnets therefor, a magnet for controlling the time of operation of said magnets, and means for causing said magnet to operate at predetermined intervals.

12. The combination with a motor, of a plurality of controlling-magnets therefor, each of which closes an operating-circuit for the next succeeding magnet, a magnet for controlling the time of operation of said magnets, and means for causing said magnet to operate at predetermined intervals.

13. The combination with a motor, of a plurality of magnets for controlling the same, a resistance in circuit with said magnets, a magnet for inserting said resistance in circuit with said magnets, and means for causing said magnet to operate at predetermined intervals.

14. The combination with a motor, of a plurality of magnets for controlling the same, each of which closes an operating-circuit for the next succeeding magnet, resistance for said magnets, an electromagnet for inserting said resistance in circuit with said magnets, and means for causing said magnet to operate at predetermined intervals.

15. The combination with a motor, of a plurality of magnets for controlling the same, an electromagnet for controlling the time of operation of said magnets, means for causing said magnet to operate at predetermined intervals, and means for varying the length of said intervals.

16. The combination with a motor, of a plurality of magnets for controlling the same, a resistance for said magnets, an electromagnet for inserting said resistance in circuit with said magnets, means for causing said electromagnet to operate at predetermined intervals, and means for varying the length of said intervals.

17. The combination with a motor, of a plurality of progressively-operating magnets for controlling the same, a magnet for arresting the progressive operation of said magnets, and means for causing said magnet to operate at predetermined intervals.

18. The combination with a motor, of a plurality of progressively-operating magnets for controlling the same, of a series relay and a time-relay for arresting the progressive operation of said magnets.

19. The combination with a motor, of a plurality of magnets for controlling the same, each of which closes an operating-circuit for the next succeeding magnet, of a series relay and a time-relay for arresting the progressive operation of said magnets.

20. The combination with a motor, of a plurality of progressively-operated magnets, of a resistance for said magnets, a magnet arranged in series, and a magnet operating at predetermined intervals for inserting said resistance in circuit with said magnets.

21. The combination with a motor, of a plurality of progressively-operating magnets for controlling the same, of a series magnet, and a magnet operating at predetermined intervals for arresting the progressive operation of said magnets.

22. The combination with a motor, of a plurality of progressively-operating magnets, of a series-relay device and a time-relay device for arresting the progressive operation of said magnets, and means for varying the time of operation of said time-relay device.

23. The combination with a motor, of a plurality of progressively-operating magnets for controlling the same, of a series magnet and a magnet operating at predetermined intervals, for arresting the progressive operation of said magnets, and means for varying the length of the intervals in which said second-mentioned magnet operates.

24. The combination with a motor, of a plurality of progressively-operating magnets for controlling the same, a resistance for said magnets, a series magnet and a magnet operating at predetermined intervals for inserting said resistance in circuit with said magnets, and means for varying the length of intervals in which said second-mentioned magnet operates.

25. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a resistance in circuit with said magnets, means for inserting in and removing from circuit said second-mentioned resistance, and means for rendering said means inoperative when the last of said resistance-controlling magnets is operated.

26. The combination with a motor, of a plurality of magnets for operating the same, a resistance in circuit with said magnets, a magnet for periodically opening and closing a shunt around said second-mentioned resistance, and means for rendering said magnet inoperative when the last of said resistance-controlling magnets is operated.

27. The combination with a motor, of a plurality of magnets, for controlling the same, means controlled by predetermined variations in motor-current for controlling the operation of said magnets, and a magnet operated independently of the variations in motor-current, for controlling the time in which said magnets operate.

28. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, means controlled by predetermined variations of the motor-current for controlling said magnets, and a magnet operated independently of the variations of motor-current for controlling the time in which said magnets operate.

29. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a magnet controlled by variations of motor-current for controlling said magnets, and a second magnet operated independently of the variations of motor-current for controlling the time in which said magnets operate.

30. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a resistance in circuit with said magnets, a magnet controlled by predetermined variations of motor-current for inserting in and removing from circuit, said second-mentioned resistance, and a second magnet operated independently of the variations of motor-current for periodically inserting in and removing from circuit said second-mentioned resistance.

31. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a resistance in circuit with said magnets, a magnet controlled by predetermined variations of motor-current for opening and closing a shunt around said second-mentioned resistance, and a second magnet operated independently of the variations of motor-current for periodically opening and closing a shunt-path around said second-mentioned resistance.

32. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a magnet controlled by predetermined variations of motor-current for controlling said magnets, a second magnet operated independently of variations of motor-current for controlling said magnets, and means for rendering ineffective said second-mentioned magnet when the last of said resistance-controlling magnets is operated.

33. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a resistance in circuit with said magnets, a magnet controlled by predetermined variations of motor-current for opening and closing a shunt around said resistance, and a second magnet operated independently of variations in the motor-current for periodically opening and closing said shunt and means for rendering said second magnet ineffective when the last of said resistance-controlling magnets is operated.

34. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a magnet for electrically controlling the operation of said magnets, and means for adjusting the time of operation of said magnet.

35. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a magnet for controlling the operations of said magnets, and means for varying the time required for deënergizing said magnet to vary the rapidity of operation thereof.

36. The combination of a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a magnet for controlling said magnets and a resistance in parallel with said magnet to govern the operation of the same.

37. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a resistance in circuit with said magnets a magnet for controlling a shunt around said second-mentioned resistance, and means for adjusting the time of operation of said magnet.

38. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a resistance in circuit with said magnets, a magnet for controlling a shunt around said second-mentioned resistance, and electrical means for adjusting the time of operation of said magnet.

39. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a resistance in circuit with said magnets, a magnet for closing a shunt around said resistance, and means for varying the time required for deënergizing said magnet to vary the rapidity of operation thereof.

40. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a resistance for said magnets, a magnet for inserting in and removing from circuit, said second-mentioned resistance, and means for adjusting the time of operation of said magnet.

41. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a resistance for said magnets, a magnet for inserting in and removing from circuit, said second-mentioned resistance, and means for varying the time required for deënergizing said magnet to vary the rapidity of operation thereof.

42. The combination with a motor, of a resistance therefor, a plurality of magnets for controlling said resistance, a resistance for said magnets, a magnet for inserting in and removing from circuit, said resistance for said magnets, and a resistance in parallel with said magnet to govern the time of operation of the same.

844,664. RECORDING DEVICE. JOHN DAWSON, Chicago, Ill., assignor to Rand, McNally & Co., Chicago, Ill., a Corporation. Filed Nov. 7, 1904. Serial No. 231,727.



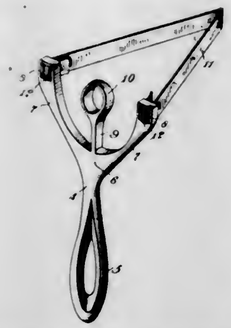
Claim.—1. A device for recording business transactions at various geographical points having in combination a panel, a map or diagram on each of its faces, tacks or pins projecting from both faces of the panel at various points on the map or diagram, a frame surrounding the panel and projecting from each face thereof beyond the heads of the tacks or pins, and a cord adapted to be laced over the pins or tacks, substantially as described.

2. A device for recording business transactions at various geographical points, having a panel, a map or diagram secured to each of its faces, tacks or pins adapted to be driven into the panel at various points indicated on the map or diagram, which tacks or pins when so driven in project a considerable distance from the faces of the maps, a frame surrounding the panel and projecting from each face thereof beyond the heads of the tacks or pins when so driven in, in combination with a cabinet adapted to receive a number of said devices, said cabinet and devices having coöperating means whereby the devices are supported independently of each other, substantially as described.

844,665. CATAPULT. STOKLEY D. DILLS, Decatur, Ill. Filed Nov. 10, 1906. Serial No. 342,894.

Claim.—1. As an article of manufacture, a catapult-frame comprising a handle, arms projecting from the up-

per end of the handle and disposed in continuously upwardly divergent relation from their connection with the handle, said arms having means at their upper ends for securing an elastic band to them, and a stem projecting from the upper end of the handle centrally between the arms and having an enlarged eye at its upper end, said eye being disposed on a level with the band-securing means.



2. As an article of manufacture, a catapult comprising a handle-frame, and means for securing a band thereto, said means including a socket formed in a portion of the frame and arranged to receive the band, and a clamping-plug shorter and wider than the socket, said plug fitting into the socket and engaging a band placed therein to clamp such band against the interior wall of the socket.

3. As an article of manufacture, a catapult comprising a handle-frame, and means including a tapered socket formed in a portion of the frame and arranged to receive such actuating-band, and a tapered clamping-plug fitting into the socket and engaging said band to clamp it against the interior wall of the socket.

4. As an article of manufacture, a catapult comprising a frame having a portion provided with an opening therethrough to receive an actuating-band, and a plug that is shorter and wider than the opening and fits into said opening, said plug engaging a band placed therein to clamp it against the interior wall of the opening, said plug being held in the openings by the band.

5. As an article of manufacture, a catapult comprising a frame having spaced arms provided with openings, and plugs that detachably fit within the openings and clamp the ends of an actuating-band placed therein against the interior walls of such openings.

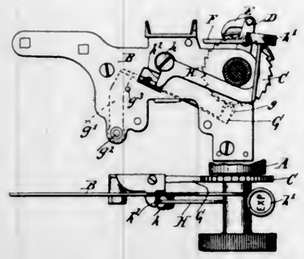
6. As an article of manufacture, a catapult comprising a handle, a central eye projecting from the handle, spaced arms projecting from the handle on opposite sides of the eye and having tapered openings therein provided with closed ends, plugs detachably fitted within the larger sides of the openings, and an actuating-band having its end portions passing through the smaller sides of the openings and doubled about the plug, said end portions being clamped against the interior walls of the openings by the plugs located within said openings.

844,666. TYPE-WRITING MACHINE. PHILIP T. DODGE, Brooklyn, N. Y. Filed Mar. 30, 1906. Serial No. 308,916.

Claim.—1. In combination, a cylindrical platen, normally disengaged means for turning the same forward step by step, normally engaged manual devices to turn the platen instantly backward a fixed distance, and a spring for instantly restoring the platen to its original position when the manual devices are released.

2. In combination, a cylindrical platen having a toothed wheel thereon, a normally disengaged pawl cooperating with the wheel to turn the platen forward step by step, a detent constantly engaging the wheel to hold the platen after it is turned forward, a manual device adapted to move the detent and thereby turn the platen backward a fixed distance, and a spring for restoring the detent and cylinder instantly to their original positions.

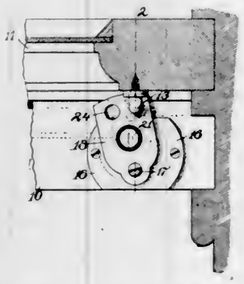
3. In a type-writer, a platen provided with a toothed wheel C, in combination with a spring-detent G engaging the wheel at one end, a pivoted arm g' to which the detent is rigidly secured at the opposite end, and a finger-lever H acting to swing the arm g'.



4. In a type-writer, and in combination, a cylindrical platen provided with a toothed wheel normally free to be turned in either direction, a device normally engaging said wheel, spring-connections tending to hold said device in a given position and acting to return it thereto, and a finger-key arranged to move the device rearward a definite distance; whereby the platen and paper may be instantly moved back a definite distance and automatically restored to their first positions.

5. In combination with a platen having a toothed wheel C thereon, a reciprocating pawl E for turning the same step by step in a forward direction, means for holding the pawl normally out of engagement, a dog G in normal engagement with the toothed wheel, a finger-key mechanism for moving the dog to turn the wheel and platen in a reverse direction, and a spring for automatically restoring the parts.

844,667. SASH-LOCK. WILLARD E. DUCKENFIELD, Newark, N. J. Filed Mar. 6, 1906. Serial No. 304,448.



Claim.—1. A sash-lock comprising a rod fixed on the upper sash at one end and having its lower end free and above the lower sash when both sashes are closed, and a plate pivoted on the top of the lower sash and arranged to swing under the end of the rod to lock the sashes.

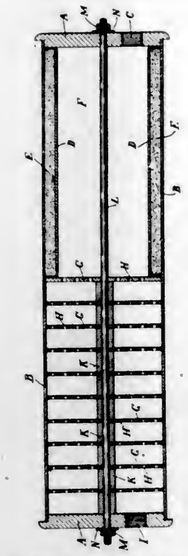
2. A sash-lock, comprising a rod secured to the upper sash, a pivoted plate on the lower sash having a perforation therein, said locking-plate arranged to be swung in and out of the path of the rod and means for locking the plate so that its perforation is in line with the rod.

3. A sash-lock, comprising a rod secured to the upper sash, a plate secured to the lower sash, a locking-plate pivoted to the said plate, said plate having a row of perforations in the plate concentric with the pivot of the locking-plate, means on the locking-plate to engage the perforations, said locking-plate having a perforation arranged to be thrown in register with the rod.

844,668. COMPOSITION FOR BRICKS. LAURENCE ELKUS, Indianapolis, Ind. Filed June 1, 1906. Serial No. 319,756.

Claim.—In an artificial stone the combination of sand, hydrated lime and cement in substantially the proportions specified.

844,669. MUFFLER. JAMES E. FAIRCHILD, Mamaroneck, N. Y. Filed Feb. 17, 1906. Serial No. 301,529.



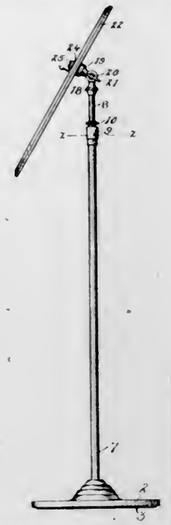
Claim.—1. A muffler embodying a casing closed at each end by a head substantially one half longitudinally of which constitutes an open expansion-chamber with which the exhaust from the engine-cylinder connects and a series of transverse chambers in the remaining half of the casing which extend across the cylinder from side to side and are separated from each other by baffle-plates, each provided with a series of holes the total area of which at least equals that of the engine-exhaust, the end wall of the last of the series of transverse chambers being one of the heads of the casing, which is provided with an exhaust-port.

2. A muffler embodying a closed casing substantially one half longitudinally of which constitutes an open expansion-chamber with which the exhaust from the engine-cylinder connects, a non-conducting covering or jacket for the expansion-chamber and a series of transverse chambers in the remaining half of the casing which extend across the cylinder from side to side, the dividing-walls of which are baffle-plates, each provided with a series of holes the total area of which at least equals that of the engine-exhaust, the last of the series of transverse chambers being provided with an exhaust-port.

3. A muffler embodying a closed casing made in the form of a cylinder one end of which constitutes an open expansion-chamber with which the exhaust from the engine connects and a series of transverse chambers arranged side by side longitudinally of the cylinder beyond the expansion-chamber and separated from each other by baffle-plates, each provided with a series of holes, the total area of which at least equals that of the engine-exhaust, said baffle-plates being held in proper position by a longitudinally-extending rod and intervening spacing blocks or bushings, the last of the series of transverse chambers having an exhaust-port.

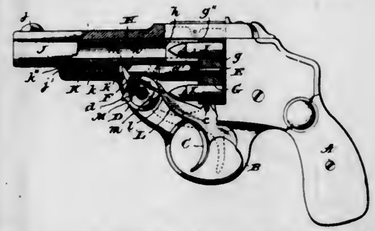
4. A muffler embodying an exterior casing each end of which is closed by a substantial head, substantially one half of the interior of the casing constituting an open expansion-chamber with which the exhaust from the engine-cylinder connects and substantially the other half being divided into a series of transverse chambers, the dividing-walls of which are baffle-plates provided with holes, the area of which is at least equal to that of the engine-exhaust, and a rod provided with spacing-blocks or bushings, thus binding the entire structure together, the last of the transverse chambers having an exhaust-port.

844,670. DISPLAY-FIXTURE. HARRY FRANKEL, New York, N. Y. Filed Apr. 13, 1906. Serial No. 311,418.



Claim.—A display-fixture including a telescoping post and rod and a clamping-joint comprising a body member with interior screw-threads and a shoulder and an exteriorly-threaded clamping member having a central passage, the upper portion of which is slightly greater in diameter than the rod adapted to pass therethrough, the lower portion of said passage being of less diameter than said rod, the lower portion of said clamping member being conical or tapered at its exterior and provided with vertical slits to form a plurality of gripping-jaws adapted to frictionally engage said rod and to be forced into locking engagement when said clamping member is screwed into said body member.

844,671. REVOLVER. JOHN L. GARNER, Washington, D. C. Filed May 2, 1904. Serial No. 205,976.



Claim.—1. In a revolver, a cylinder, a longitudinally-shiftable barrel, and the trigger, in combination with means for effecting the closing of a vent space or gap between said cylinder and barrel, said means including a lever operatively associated with the barrel, and means carried by the trigger operatively related to said lever.

2. In a revolver, a cylinder, a longitudinally-shiftable barrel, and the firing-trigger, in combination with means

controlled by the trigger for effecting the closing of a vent-space between said cylinder and barrel, said means including a lever operatively associated with the barrel, and an extension on the trigger arranged to actuate said lever.

3. In a revolver, a cylinder, a longitudinally-shiftable barrel, and the firing-trigger, in combination with means for effecting the closing of a vent space or gap between said cylinder and barrel, said means including a lever operatively associated with the barrel, and an extension on the trigger arranged to actuate said lever and constructed and positioned to assume a dead-center position when the barrel is retracted.

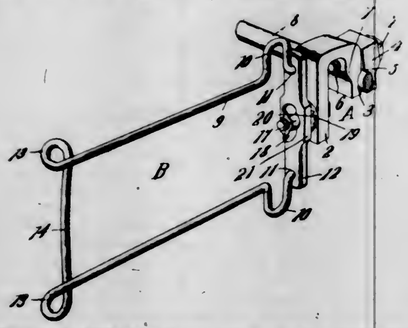
4. In a revolver, a cylinder, a longitudinally-shiftable barrel, and the trigger, in combination with means for effecting the closing of a vent space or gap between said cylinder and barrel, said means including a lever operatively associated with the barrel, an extension on the trigger arranged to actuate said lever and positioned and constructed so as to assume a dead-center position when the barrel is retracted, and a spring for causing the parts to assume their normal position when the trigger is released.

5. In a revolver, a cylinder, a true barrel mounted for longitudinal movement, firing mechanism, and means operatively associated therewith for effecting such longitudinal movement of the true barrel to cause the same to abut the cylinder to close a vent space or gap therebetween, and a false barrel within which said true barrel is mounted and guided in its movement, said false barrel being of a length extending at least to the extreme outer end of the true barrel in its position of greatest outward projection.

6. In a revolver, a cylinder and barrel, one of which is shiftable toward and from the other, and the trigger, in combination with means for effecting the closing of a vent space or gap between the cylinder and barrel including a lever operatively associated with the shiftable member, and means governed by the trigger operatively related to said lever, said means for effecting the closure of the vent space being formed and arranged to assume a dead-center position when said vent-space is closed during the firing operation.

7. In a revolver, a cylinder and barrel, one of which is shiftable toward and from the other, and the trigger, in combination with means for effecting the closing of a vent space or gap between the cylinder and barrel including a lever operatively associated with the shiftable member, and means governed by the trigger operatively related to said lever, said means for effecting the closure of the vent-space being formed and arranged to asume a dead-center position when said vent-space is closed during the firing operation, and means for automatically restoring the parts to their initial positions upon release of the trigger.

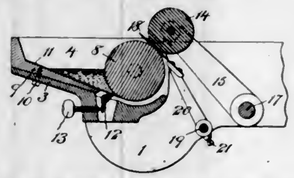
844,672. LANTERN-HOLDER. WILLIAM T. GOVER, Catlett, Va. Filed Aug. 9, 1906. Serial No. 329,934.



Claim.—1. A lantern-holder comprising a rectangular frame formed from a rod having guard-loops bent at its corners, and a bracket adjustably connected with said frame and having clamping means.

2. A lantern-holder comprising an approximately U-shaped bracket having a long arm and a short arm, said short arm being formed in its outer face with a groove, a clamping-plate fitted against the outer face of said short arm and having a groove in its inner face, an adjusting-screw extending through said clamping-plate and through the short arm of said bracket and having its inner end disposed in the space between the arms of said bracket, a frame consisting of an inner cross-piece, a bar of metal having its ends connected with said cross-piece and being bent to form a rectangular structure having oppositely-extending open-ended guard-loops at its inner ends and crossed guard-loops at its outer corners, an annular series of teeth upon the inner face of said cross-piece, a similar series of teeth on the outer face of the long arm of said bracket, and a thumb-screw having its handle disposed within said frame and extending through said cross-piece and the long arm of said bracket.

844,673. ATTACHMENT FOR INK-FOUNTAINS OF PRINTING-PRESSES. RICHARD J. GREENWAY, Jr., Westerly, R. I., assignor to C. B. Cottrell & Sons Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 27, 1905. Serial No. 284,617.



Claim.—1. A fountain-roll, means for supplying ink thereto, a ductor-roll, a cross-rod, a strip of suitable material carried by the cross-rod and interposed between the two rolls to prevent the transfer of ink from the fountain-roll to the ductor-roll at a predetermined point and a device carried by the said strip for adjustably securing the strip rotatively to hold it against the fountain-roll under the required tension.

2. A fountain-roll, means for supplying ink thereto, a ductor-roll, a cross-rod, an arm carried by the cross-rod, a strip of suitable material carried by the arm and interposed between the two rolls to prevent the transfer of ink from the fountain-roll to the ductor-roll at a predetermined point and a device carried by the arm for adjustably securing the strip rotatively to hold it against the fountain-roll under the required tension.

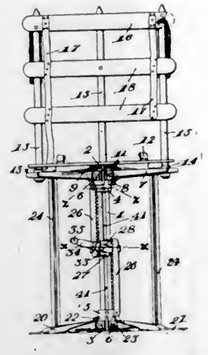
3. A fountain-roll, means for supplying ink thereto, a ductor-roll, a cross-rod, an arm carried by the cross-rod, a strip of suitable material carried by the arm and interposed between the two rolls to prevent the transfer of ink from the fountain-roll to the ductor-roll at a predetermined point and a device carried by the arm for adjustably securing the strip rotatively and laterally.

4. A fountain-roll, means for supplying ink thereto, a ductor-roll, a cross-rod, an arm carried by the cross-rod, a strip of suitable material carried by the arm and interposed between the two rolls to prevent the transfer of ink from the fountain-roll to the ductor-roll at a predetermined point, and a set-screw carried by the arm for adjustably securing the strip rotatively and laterally.

844,674. FOLDING CHAIR. WILLIAM GYMER, Boulder Creek, Cal. Filed Apr. 26, 1906. Serial No. 313,850.

Claim.—1. In a device of the character described the combination with a standard, sleeves slidably mounted thereon; and arms radiating from the sleeves; of a rotatable device, means actuated thereby for simultaneously sliding the sleeves in opposite directions, a connecting device pivotally secured to the arms and the ends of the standards.

2. In a device of the character described the combination with a standard, sleeves slidably mounted thereon, and arms pivoted to and radiating from the sleeves; of means connected to the standard for simultaneously sliding the sleeves in opposite directions, connecting devices pivoted at their ends to the arms and standards, and means for locking the sleeve-actuating means.



3. In a device of the character described the combination with a standard, sleeves thereon, and arms pivoted to and radiating from the sleeves; of means mounted on the standard for simultaneously sliding the sleeves in opposite directions, a locking device for automatically securing said means against movement when the sleeves reach predetermined points, and connecting means pivotally connected to the arms and the ends of the standards.

4. In a device of the character described the combination with a standard, sleeves thereon, and arms pivoted to and radiating from the sleeves; of means mounted on the standard for simultaneously sliding the sleeves in opposite directions, a locking device for automatically securing said means against movement when the sleeves reach predetermined points, connecting means pivotally connected to the arms and the ends of the standards, and supplemental supports interposed between and connecting the arms of the two sleeves.

5. In a device of the character described the combination with a standard, sleeves slidably mounted thereon, and arms pivoted to and radiating from the sleeves; of rods pivoted to the arms and the ends of the standard, means mounted on the standard for simultaneously sliding the sleeves in opposite directions.

6. In a device of the character described the combination with a standard, sleeves slidably mounted thereon, and arms pivoted to and radiating from the sleeves; of rods pivoted to the arms and the ends of the standard, means mounted on the standard for simultaneously sliding the sleeves in opposite directions, and a locking device for automatically securing said means when the sleeves arrive at predetermined points.

7. In a device of the character described the combination with a standard, sleeves slidably mounted thereon, and arms pivoted to and radiating from the sleeves, and means for limiting the movement of the arms upon the sleeves; of actuating means mounted on the standard for simultaneously sliding the sleeves in opposite directions, and rods connecting the arms with the ends of the standard.

8. In a device of the character described the combination with a standard, sleeves slidably mounted thereon, arms radiating from the sleeves and pivoted thereto, and rods pivoted to the arms and standard; of a gear rotatably mounted on the standard, and racks connected to the sleeves and engaging opposite portions of the gear.

9. In a device of the character described the combination with a standard, sleeves slidably mounted thereon, arms radiating from the sleeves and pivoted thereto, and rods pivoted to the arms and standards; of a gear rotatably mounted on the standard, racks connected to the sleeves and engaging opposite portions of the gear, and locking means for automatically engaging the racks.

10. In a device of the character described the combination with a standard, sleeves slidably mounted thereon; arms radiating from the sleeves and pivoted thereto, and rods pivoted to the arms and standard; of a gear rotatably mounted on the standard, racks connected to the sleeves and engaging opposite portions of the gear, a collapsible crank connected to the gear, and locking means for automatically engaging the racks.

11. In a device of the character described the combination with a standard, sleeves slidably mounted thereon, arms radiating from the sleeves and pivoted thereto and rods pivoted to the arms and standard; of a gear rotatably mounted on the standard, racks connected to the sleeves and engaging opposite portions of the gear, a handle pivotally connected to the standard, means for locking it at an angle thereto, and locking devices upon the standard at opposite sides of the handle.

12. In a device of the character described the combination with a standard, sleeves slidably mounted thereon, arms radiating from the sleeves and pivoted thereto, and rods pivoted to the arms and standard; of a gear rotatably mounted on the standard, racks connected to the sleeves and engaging opposite portions of the gear, guides upon the standard and engaging the racks, locking-pins mounted therein, and spring-controlled levers for actuating said pins, said pins adapted to engage apertures within the racks.

13. In a device of the character described the combination with a standard; of series of arms slidable independently upon the standard, rotatable and longitudinally-movable means for simultaneously folding the arms upon the standard and for projecting them radially therefrom, sleeves upon some of the arms, back uprights projecting into said sleeves, and means for detachably securing said uprights within the sleeves.

14. In a device of the character described the combination with a standard; of arms slidably connected thereto, means for simultaneously folding the arms upon the standard and for projecting them radially therefrom, sleeves upon some of the arms, back uprights projecting into said sleeves, means for automatically and detachably securing said uprights within the sleeves, slats pivotally connected to the uprights and extending thereover, and a collapsible seat supported by the arms.

844,675. MANUFACTURE OF ARMOR-PIERCING PROJECTILES. ROBERT A. HADFIELD, Sheffield, England. Filed Mar. 1, 1905. Serial No. 247,994.

Claim.—1. In the manufacture of armor-piercing projectiles, heating and annealed nickel-chromium steel projectiles gradually and uniformly to a temperature of substantially 865° centigrade, and immediately dipping the heated projectile point downward to zone depth in a cooling liquid.

2. In the manufacture of armor-piercing projectiles, heating the projectile to a temperature of from 950° centigrade upward to 1,100° centigrade, cooling it in air, reheating to a temperature of from 700° centigrade to 800° centigrade, and then cooling slowly, to anneal the projectile; then gradually and evenly heating the projectile to a temperature of from about 820° centigrade upward to about 920° centigrade, and dipping the heated projectile point downward in a cooling liquid, to harden the same.

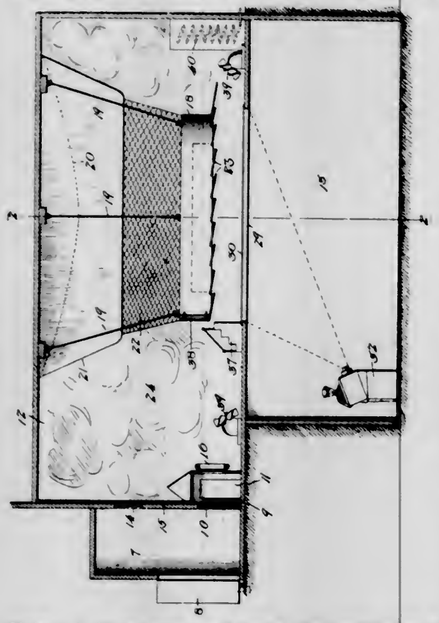
3. In the manufacture of armor-piercing projectiles, heating the projectile to a temperature of about 1,050° centigrade, cooling in air to the temperature thereof, reheating to about 750° centigrade, and cooling slowly, to prepare the projectile for hardening; then gradually and evenly heating the prepared projectile to a temperature of about 865° centigrade, and immediately dipping the heated projectile point downward to zone depth in a cooling liquid.

4. An armor-piercing projectile of nickel-chromium steel containing from 0.55 per cent. to 0.7 per cent. carbon, annealed, and hardened by a gradual and even heating to

a temperature of from 820° centigrade and upward, and dipped point downward to zone depth in a cooling liquid.

5. An armor-piercing projectile of nickel-chromium steel containing not more than 0.7 per cent. of carbon, annealed and heat treated by gradually and evenly raising its temperature to about 865° centigrade, and dipping point downward to zone depth in a cooling liquid, to harden the proectile.

844,676. AMUSEMENT DEVICE. CLAUDE L. HAGEN, New York, N. Y. Filed Jan. 26, 1906. Serial No. 298,084.



Claim.—1. In an amusement device, the combination of a platform simulating the car of an air-ship, a view-opening through the bottom of the simulated car, a picture-screen in the range of said opening and a picture-machine for projecting moving pictures upon said screen for the purpose set forth.

2. In an amusement device, the combination of a platform simulating the car of an air-ship, a view-opening through the bottom of the simulated car, a sheet of transparent material in said opening and means for projecting moving pictures into the field viewed through said opening.

3. In an amusement device, the combination of a platform simulating the car of an air-ship, a view-opening through the bottom of the simulated car, a picture-screen in view through said opening, picture-screens in view at the sides of said simulated car and picture-machines for projecting moving pictures upon said screens.

4. In an amusement device, a platform simulating the car of an air-ship, view-interrupting shields at the ends of the simulated car, picture-screens in view from the sides of the car, view-interrupting shields above the sides of the car and picture-machines mounted on said shields for projecting moving pictures upon said screens.

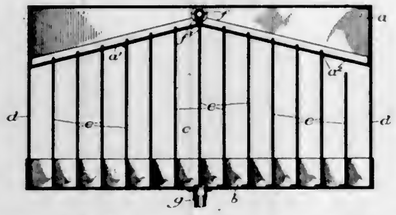
5. In an amusement device, the combination with a platform simulating the car of an air-ship and having a view-opening through its floor, for seats arranged about said car, the bottoms whereof are hinged at one side whereby they may be swung up so that a person may readily shift his position from that of looking out from said car to that of looking through said opening and means for projecting moving pictures into view from the sides of said car and through said opening.

6. In an amusement device, a suspended platform having a railing about its edge and an opening through its middle with a railing about said opening in combination with wings attached to the outer edge of said platform and a fabric suspended above the platform, the whole simulating the car of an air-ship.

7. In an amusement device, a room, a structure simulating an air-ship suspended in said room, and having a view-opening through the bottom of its car, a room below said car, a picture-screen in said room and means for projecting moving pictures upon said screen in the range of vision from said car.

8. In an amusement device, a room, a structure simulating an air-ship suspended in said room, and having a view-opening through the bottom of its car, a room below said car, an opening in the ceiling of said room in registry with the opening in the bottom of said car, a picture-screen on the floor of said room in view from said opening and means for projecting moving pictures upon said screen for the purpose set forth.

844,677. COOLER FOR EXPLOSIVE-ENGINES. EDWARD A. JOHNSTON, Sterling, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Jan. 11, 1906. Serial No. 295,524.



Claim.—1. In a device of the class described, in combination, an inclosed distributing-receptacle provided with an inclined bottom having a series of slits formed therein, an inlet-pipe leading thereto, a water-receiving pan located beneath said receptacle, a plurality of screens engaging the slits in the bottom of the receptacle and extending to the bottom of said pan, and an outlet-pipe leading from the receiving-pan.

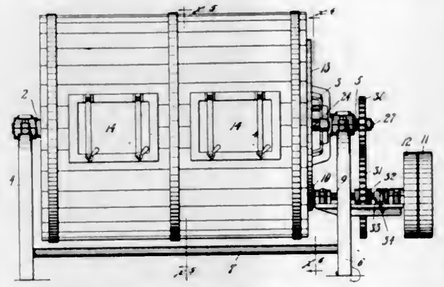
2. In a device of the class described, in combination, an inclosed distributing-receptacle provided with an inclined bottom having a series of slits formed therein, an inlet-pipe leading thereto, a water-receiving pan located beneath said receptacle, a plurality of vertically-disposed, transversely-arranged parallel screens engaging the slits in the bottom of the receptacle and extending to the bottom of said pan, and an outlet-pipe leading from the receiving-pan.

3. In a device of the class described, a box-like structure having open sides and closed ends and comprised of an inclosed distributing-receptacle which forms the upper part thereof, the said receptacle having a bottom inclining upwardly from each end and provided with a series of slits therein, an inlet-pipe leading to said receptacle, a water-receiving pan which forms the base of said box-like structure, a plurality of vertically-disposed, transversely-arranged parallel screens engaging the slits in the bottom of the receptacle and extending to the bottom of said pan, and an outlet-pipe leading from the receiving-pan.

844,678. COMBINED CHURN AND BUTTER-WORKER. GODFREY J. KAPLAN, Owatonna, Minn., assignor, by direct and mesne assignments, to Perfection Churn Company, a Corporation of Minnesota. Filed June 18, 1906. Serial No. 322,220.

Claim.—1. In a combined churn and butter-worker, the combination with a drum and a pair of coöperating reversely-driven paddle-rollers working therein, one on each side of the axis thereof, and carried by said drum under all movements thereof, abutments carried by said drum and coöperating with said rollers, and means for driving the said drum and rollers in a continuous direction, substantially as described.

2. In a combined churn and butter-worker, the combination with a drum and a pair of coöperating reversely-driven paddle-rollers working therein, on opposite sides of the axis thereof, which rollers are carried by said drum under all movements thereof and have shafts that project through one of the fixed heads of said drum, of a single-speed drive geared to said drum and to the projecting shafts of said rollers, for imparting constant rotary movements to said drum and rollers, both in the churning and butter-working actions, substantially as described.

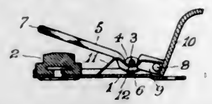


3. In a combined churn and butter-worker, the combination with a drum, of a pair of paddle-rolls carried by said drum and laterally spaced within the same, on opposite sides of the axis thereof, means for rotating said drum and for driving said paddle-rolls in opposite directions, a lifting device within said drum for delivering butter on the rising side of the drum to that roller which is driven in the same direction as the drum, and a butter-lifting abutment at the opposite side of said drum, arranged for coöperation with that roller which is rotated reversely to the rotation of the drum, to work the butter downward on the rising side of the drum, substantially as described.

4. In a device of the kind described, the combination with a drum having a roller working therein, of a gudgeon connecting one end of said roller to one drumhead, and a driving-shaft journaled in the other drumhead and provided with a driving projection, the inner end of which shaft and the driving projection thereof are engageable and disengageable with seats in the adjacent end of said roller by endwise movements of said shafts, substantially as described.

5. In a device of the kind described, the combination with a rotary drum, of a roller working therein, bearing-caps 16 and 20 applied to the ends of said roller, said cap 20 having pin-seats 21, a gudgeon applied to one drumhead and engageable with said bearing-caps 16, a shaft-bearing 22 applied to the other drumhead and provided with pin-seats 23, and an endwise-movable shaft 24 having a driving-pin 25, the inner end of said shaft being engageable and disengageable with the said bearing-cap 20, and said driving-pin 25 being engageable and disengageable with the pin-seat 21 thereof by endwise movements of said shaft, substantially as described.

844,679. GARMENT-CLASP. JOHN D. KARLE, Bridgeport, Conn. Filed Apr. 19, 1906. Serial No. 312,590.



Claim.—1. In a garment-clasp, the combination of the base-plate supporting a stud at its forward end and a cross-pin near its rear end, the clamping-loop pivotally confined beneath said cross-pin and having its rear ends bent toward each other, the cam-lever around said rear ends, and the spring element whereby said loop is normally elevated.

2. In a garment-clasp, the combination of a base-plate carrying a stud at its outer end and provided near its rear end with upwardly-projecting ears, the cross-pin having its ends secured within these ears, the clamping-loop having depressed portions near its rear end which fit snugly beneath said pin, the cam-lever pivoted to the rear end of said loop, and the sheet-metal spring having a depressed portion which fits beneath said pin intermediate of the sides of said loop and whose forward extremity rests upon said plate while its rear extremity bears against the rear end of said loop.

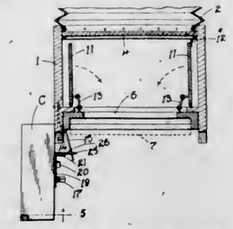
3. In a garment-clasp, the combination of the base-plate supporting at its front end a stud and having ears which project upwardly on opposite sides of its rear portion, the pin having its ends secured within said ears, the clamping-loop having its front portion conformed to said stud and provided with depressed portions near its rear end which portions fit snugly beneath said pin and having its rear ends bent toward each other at right angles, the cam-lever pivoted around said ends, and the sheet-metal spring having a depressed portion which fits beneath said pin intermediate of the sides of said loop, the forward end of said spring resting against the base-plate while the rear end bears upon the rear bent ends of said loop.

4. In a garment-clasp, the combination of the base-plate supporting a stud at its forward end, the clamping-loop pivotally confined to said plate beneath a cross-piece which is supported by said plate near its rear end, the cam-lever carried by the rear end of the clamping-loop immediately above said plate, and the spring element whereby said loop is normally elevated.

5. In a garment-clasp, the combination of a base-plate supporting at its forward end a stud, a clamping-loop loosely confined to said plate and capable of a free rocking movement, means carried by said plate for preventing displacement of said loop, the cam-lever pivoted to the rear end of said loop immediately above said plate, and a spring bearing against said loop whereby the forward end of the latter is normally elevated.

6. In a garment-clasp, the combination of a base-plate carrying a stud at its outer end, the clamping-loop having depressed portions near its rear end, means carried by said plate and extending immediately above said depressed portions of the loop whereby the latter is confined to said plate and is capable of a rocking movement, the cam-lever pivoted to the rear end of said loop immediately above said plate, and the spring element bearing against said clamping-loop to cause the latter to normally assume an elevated position.

844,680. PHOTOGRAPHIC-PRINTING APPARATUS. JOHN KAUT, St. Louis, Mo. Filed Oct. 31, 1906. Serial No. 341,474.



Claim.—1. In a photographic-printing apparatus, the combination with a movable carrier-frame, doors or shutters adapted to close and open according to the movement of the frame, means for retaining the shutters in an open position during the exposure of the printing-plate, and clock-controlled devices for closing the shutters and terminating the exposure.

2. In a photographic-printing apparatus, the combination of a movable carrier-frame, shutters adapted to exclude the light-rays upon movement of the frame in one

direction, and to admit the light upon a movement in the opposite direction, means for locking the carrier-frame for the exposure movement of the shutters, and mechanism for automatically releasing the frame and closing the shutters at the conclusion of the exposure.

3. In a photographic-printing apparatus, in combination with suitable movable supporting means for the negative, and shutters normally closing with a movement in one direction of said supporting means and opening with a movement in the opposite direction thereof.

4. In a photographic-printing apparatus, the combination of a suitable movable carrier-frame for the negative, shutters normally closing with a movement of the frame from the shutters and opening with a movement toward said shutters, means for locking the carrier-frame for the open position of the shutters, and mechanism for releasing the frame upon conclusion of the printing operation.

5. In a photographic-printing apparatus, the combination of a suitable movable carrier-frame for the negative, shutters normally closing with a movement of the frame away from the shutters and opening with a movement toward said shutters, means for locking the carrier-frame for the open position of the shutters, mechanism for releasing the frame upon conclusion of the printing operation, and means for automatically forcing the frame from the shutters and closing the latter.

6. In a photographic-printing apparatus, the combination of a movable carrier-frame for the negative, shutters normally closing with a movement of the frame in one direction and opening with a movement thereof in the opposite direction, a latch for locking the carrier-frame for the open position of the shutters, mechanism for disengaging the latch upon conclusion of the printing operation, and means for automatically moving the frame to effect a closing of the shutters.

7. In a photographic-printing apparatus, the combination of a movable carrier-frame for the negative, shutters normally closing with a movement of the frame in one direction and opening with a movement thereof in the opposite direction, a latch for locking the carrier-frame for the open position of the shutters, clock-controlled mechanism for disengaging the latch upon conclusion of the printing operation, and means for automatically moving the frame to effect a closing of the shutters.

8. In a photographic-printing apparatus, the combination of a movable carrier-frame for the negative, shutters controlled thereby, a latch for locking the frame for the exposure position of the shutters, a retracting-arm cooperatively connected to the latch, a clock mechanism, means interposed between said mechanism and the retracting-arm for temporarily restraining the action of said arm upon the latch, and for releasing said arm at the conclusion of the printing operation and simultaneously disengaging the latch, whereby the carrier-frame is free to move in proper direction to close the shutters.

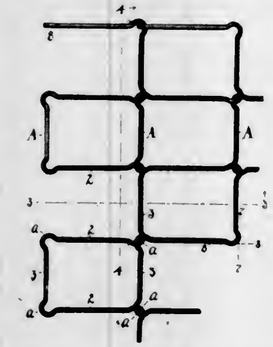
9. In a photographic-printing apparatus, the combination of a hinged spring-controlled carrier-frame for the negative, shutters controlled thereby, a spring-latch for locking the frame for the exposure position of the shutters, a clock mechanism, a spring retracting-arm having its free end coupled to the latch, a sleeve capable of independent rotation mounted about the winding-arbor of the clock mechanism but capable of rotation in unison therewith, a dial on the clock mechanism, a pointer on the sleeve coöperating with the dial, a notched disk on the sleeve within the clock-mechanism casing, a wing on the retracting-arm riding on the edge of the disk and adapted to enter the notch when opposite thereto, an oscillating arm coupled to the clock-mechanism escapement, and an intercepting-rod connected to the latch and moving in the path of the oscillating arm upon the engagement of the wing with the disk-notch, the parts operating substantially as, and for the purpose set forth.

10. In a photographic-printing apparatus, the combination of a hinged carrier-frame for the negative, shutters normally closing for an outward swing of the frame and opening with an inward swing thereof, a latch for locking the frame for an open position of the shutters, a time-controlled mechanism for disengaging the latch at the conclusion of a definite period of exposure of the negative, and a spring for forcing the frame outwardly and simultaneously closing the shutters.

11. In a photographic-printing apparatus, the combination of a hinged carrier-frame for the negative, shutters linked to the frame and closed by the outward oscillation thereof, a spring-latch for engaging the frame upon an inward oscillation thereof to effect exposure and a corresponding opening of the shutters, a spring retracting-arm coupled to the latch, a time mechanism for permitting the resiliency of the spring-arm to expend its energy upon the latch and disengage the latter from the carrier-frame, and a spring for forcing the frame to oscillate in proper direction to close the shutters.

12. In a photographic-printing apparatus, the combination of a movable carrier-frame, shutters adapted to exclude the light upon movement of the frame in one direction, and to admit the light upon a movement in the opposite direction, means for locking the carrier-frame for the exposure position of the shutters, and mechanism timed to automatically release the frame and close the shutters at the conclusion of a definite interval of exposure.

844,681. WIRE FABRIC. HOWARD E. LAUGHLIN, Cleveland, Ohio. Filed May 17, 1906. Serial No. 317,331.



Claim.—1. A wire fabric constructed from a succession of transverse wires having each a series of rectangular loops and the corners of said loops bent downward approximately the thickness of the wire and said wires connected in said corners.

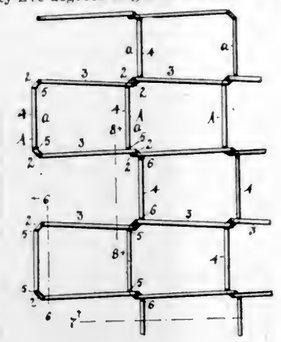
2. A wire fabric formed from independent transverse wires looped together, the loops of all the said wires being provided with substantially right-angled corners having each a lateral and a downward bend alike as to both the sides and the cross portions of the said loops.

844,682. BED-BOTTOM FABRIC. HOWARD E. LAUGHLIN, Cleveland, Ohio. Filed Aug. 13, 1906. Serial No. 330,313.

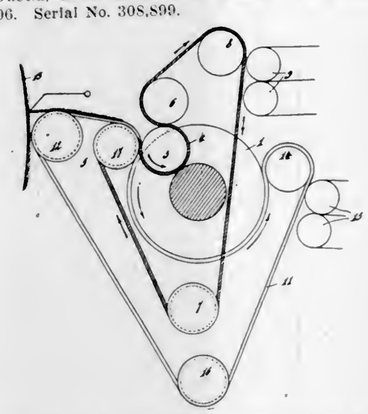
Claim.—1. A wire fabric for bed-bottoms and the like having the wires formed each with a series of substantially square loops on opposite sides alternately, and each loop having corresponding corners bent downward at substantially right angles to the plane of the loop.

2. A wire fabric consisting of a series of wires formed each into oppositely-extending loops and each loop bent directly downward at different angles thereof, said bends being single and of substantially forty-five degrees to the sides and ends of the loops as viewed in plan and within the projections of said sides and ends.

3. A wire fabric composed of a series of wires provided each with a series of horizontally-disposed loops interlocked in their angles with other wires of the fabric, and corresponding corners of said loops bent downward at substantially right angles into substantially U shape and the said bends standing across said corners at approximately forty-five-degrees angle to the side of the loops.



844,683. FLEECE-DIVIDING APPARATUS. ARMAND LEJEUNE, Mons en Baroeul, France. Filed Mar. 30, 1906. Serial No. 308,899.



Claim.—1. In a device of the class described, a dividing-roller provided with grooves, disks fitted loosely in said grooves of the dividing-roller, and two sets of straps, the straps of one set engaging with said disks, and the straps of the other set engaging with the projections of said dividing-roller.

2. In a device of the class described, a dividing-roller, disks fitted loosely to said roller and projecting partially beyond the circumference thereof, straps engaging with said loose disks and coöperating therewith for retaining said disks in position on said dividing-roller, and other straps engaging with the dividing-roller in the intervals between the aforesaid disks.

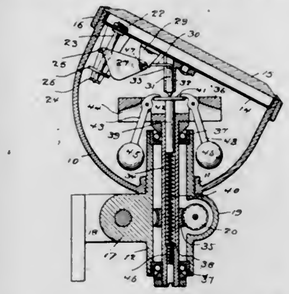
3. In combination a dividing-roller, grooves in said dividing-roller, disks loosely placed in the grooves of the dividing-roller, guide-pulleys coöperating with said disks, a set of straps passing round said guide-pulleys and over the lower part of the disks in the grooves of the dividing-roller and a second set of straps passing over the lower part of the projections formed on the dividing-roller between the grooves, substantially as described and for the purpose set forth.

4. In combination a dividing-roller, circular grooves in said dividing-roller, disks loosely placed in the grooves of the dividing-roller, two guide-pulleys adjacent to said disks, a tension-roller placed under the dividing-roller, a set of straps passing over the two guide-pulleys, holding the disks in the grooves of the dividing-roller and passing over the tension-roller and a second set of straps passing over one of the two guide-pulleys and over the lower part of the projections formed on the dividing-roller between the grooves in said roller substantially as described and for the purpose set forth.

5. In combination a dividing-roller, grooves in said roller, disks loosely placed in the grooves of the dividing-roller, two guide-pulleys adjacent to said disks, a tension-roller placed under the dividing-roller a set of straps passing over the two guide-pulleys, holding the disks in the grooves of the dividing-roller and passing over the tension-roller, a set or rubbers to which said straps deliver the slivers, a doffing-cylinder of a carding-engine, a guide-roller adjacent to said doffing-cylinder, a second set of straps passing over said guide-roller, over one of the two guide-pulleys and over said guide-roller, over one of the two guide-pulleys and over the lower part of the projections of the dividing-roller, a second guide-roller adjacent to the dividing-roller for the said second set of straps, a tension-roller for said second set of straps and a second set of rubbers to which said second set of straps deliver the slivers, substantially as described and for the purpose set forth.

6. In combination, a dividing-roller, grooves in said roller, disks loosely placed in the said grooves and turning in the same direction as the dividing-roller, a set of straps supporting the said disks, and a second set of straps passing over the lower part of the projections of the dividing-roller, both sets of straps keeping the slivers between them and the surface of the disks and of the projections of the dividing-roller, substantially as described and for the purpose set forth.

844,684. SPEEDOMETER. GIOVANNI LOMBARDI, Derby, Conn. Filed Sept. 24, 1906. Serial No. 336,080.



Claim.—1. An instrument of the character described comprising a pointer, a shaft by which said pointer is carried and which is provided with an outwardly-extending arm, a spring normally acting to move said shaft and pointer in the direction to indicate speed, a cam engaging said arm and acting to retain the shaft and pointer at their normal position against the power of the spring, a shaft by which said cam is carried, an arm extending from said shaft, a plunger engaging said arm and acting to retain the shaft and cam in the normal position, and a spring on said shaft of greater power than the pointer-spring by which the shaft, arm and cam are retained in operative position.

2. An instrument of the character described comprising a pointer, a spring normally acting to move said pointer in the direction to indicate speed, means for retaining the pointer at its normal position against the power of the spring, and operating means comprising a shaft carrying a plate 36, levers pivoted in said plate and carrying weights and a spring-controlled plunger in said shaft carrying a plate 41 which is engaged by the short arms of the levers and the pointer-retaining means, so that when the shaft is rotated the weights will swing outward and the short arms of the levers will force plate 41 and the plunger downward, whereby the tension on the pointer-spring is relieved and the pointer is caused to indicate the speed.

3. The combination with the hemispherical case 10 having an opening at one side of the center of the bot-

tom, of a standard secured in said opening obliquely to the axis of the case so that when the standard is fixed in the vertical plane the case will lie obliquely to the vertical plane, substantially as described, for the purpose specified.

4. The combination with a hemispherical case having an opening at one side of the bottom, a standard secured in said opening obliquely to the axis of the case, a face-plate secured in the case and provided with a dial, a pointer, a shaft by which the pointer is carried and which is journaled in the face-plate, and a spring normally acting to move said shaft and pointer in the direction to indicate speed, of a hollow shaft mounted to rotate in the standard, a spring-controlled plunger in said shaft carrying a plate 41, levers carried by the shaft whose short arms engage the plate and whose long arms are provided with weights, and intermediate connections between the plunger and the pointer-shaft, whereby when the hollow shaft is rotated the tension on the pointer-spring is relieved and the pointer is caused to indicate the speed.

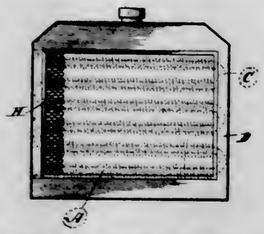
5. In an instrument of the character described the combination with the standard, an odometer and a speedometer carried thereby, of a hollow shaft mounted to rotate in the standard and carrying an operating-gear for the odometer, and speedometer operating mechanism also carried by the shaft and comprising a spring-controlled plunger carrying a plate, levers whose short arms are curved to engage the plate and weights upon the long arms of the levers, substantially as described, for the purpose specified.

6. In an instrument of the character described the combination with a standard and a hollow shaft mounted to rotate therein, of a plunger in said shaft carrying a plate, levers whose short arms are curved to engage the plate, weights upon the long arms of the levers, a spring on which the plunger rests and an adjusting-screw for regulating the tension of the spring.

7. An instrument of the character described comprising a case, a face-plate provided with a dial, a pointer, a shaft therefor journaled at one side of the face-plate and having an arm extending therefrom, a spring connected to said shaft and acting to move the pointer in the direction to indicate speed, a cam engaging the arm by which the tension on the pointer-spring is controlled, and operating means acting upon the cam by which the tension of the pointer-spring is relieved as speed increases.

8. In an instrument of the character described the combination with a case set obliquely to the vertical plane and having a face-plate provided with a dial and operating connections, of a pointer, a shaft therefor journaled at one side of the face-plate and having an arm extending therefrom, a spring acting to move the pointer in the direction to indicate speed, a cam engaging said arm by which the tension of the spring is controlled, a shaft for said cam which is carried by the face-plate, an arm extending therefrom, a plunger engaged by said arm, and a socket for said plunger secured to the face-plate obliquely to the plane thereof.

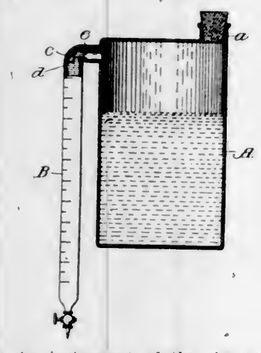
844,685. RADIATOR FOR AUTOMOBILES. JOSEPH B. LONG, Chicago, Ill. Filed Feb. 17, 1905. Serial No. 246,110.



Claim.—1. In a device of the class described, a coil having extended radiating-surfaces, and corrugated strips arranged with their summits opposite and in contact with each other, said strips being arranged in contact with the extended radiating-surfaces, whereby they provide additional extended radiating-surfaces and whereby they protect the radiating-surfaces first aforesaid, substantially as described.

2. In a device of the class described, a coil having flanges providing extended radiating-surfaces, and corrugated strips arranged with their summits opposite and contacting with each other, said strips being also arranged in contact with said flanges, at the front of the radiator, whereby they provide additional extended radiating-surfaces and at the same time protect said flanges, substantially as described.

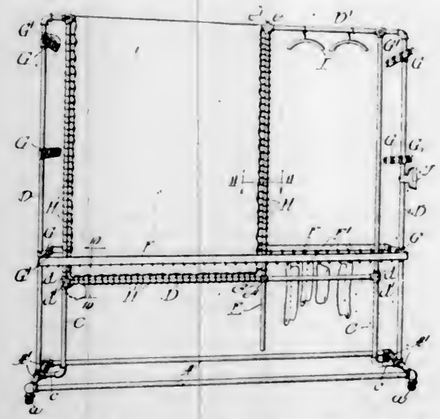
844,686. AUTOMATIC BURETTE. ADOLPH J. MARSCHALL, Little Falls, N. Y. Filed Oct. 19, 1904. Serial No. 229,072.



Claim.—1. An instrument of the character described, comprising a reservoir having an inlet and an outlet near its upper end, a perforated stopper fitted in the outlet-opening, a graduated burette-tube fitted in the perforation of the stopper and provided with a valve at its free end and a lip adjacent the stopper.

2. An instrument of the character described comprising a reservoir, a graduated burette-tube having a bent portion communicating with the reservoir and provided in said bent portion with an integral lip.

844,687. DRYING-FRAME. JOHN W. MILLER and JACOB C. HORNING, Chicago, Ill. Filed Sept. 18, 1906. Serial No. 335,073.



Claim.—1. A drying-frame embracing means for receiving a stretched curtain thereon to be dried, combined with means for receiving articles in suspended position to be dried, embracing a permanent rigid frame, and horizontal and vertical bars adjustably mounted on the frame, certain of said bars being arranged on the permanent frame to constitute parts of a vertical curtain-frame, and adjustable to occupy more or less of the space in the permanent frame, whereby the device may serve in part as a curtain-drying frame and in part a suspending-frame.

2. A drying-frame embracing means for receiving a stretched curtain thereon to be dried, combined with means for receiving articles in suspended position to be dried, embracing a permanent rigid frame, and horizontal and vertical bars adjustably mounted on the frame, certain of said bars being arranged on the permanent frame to constitute parts of a vertical curtain-frame, and adjustable to occupy more or less of the space in the permanent frame, whereby the device may serve in part as a curtain-drying frame and in part a suspending-frame, and means whereby the bars which constitute part of the curtain-frame may be adjusted out of the position which they occupy when forming part of the curtain-frame, whereby the drying-frame may be used, as a whole, for receiving articles suspended thereon.

3. A drying-frame for the purpose set forth embracing in part, a vertical curtain stretching and drying frame and comprising in part horizontal members located at the side of the curtain-frame, adapted to support in suspended position articles to be dried.

4. A drying-frame for the purpose set forth embracing in part adjustable members designed to form a vertical adjustable curtain stretcher and drier, and in part horizontal, vertically-adjustable bars located laterally at the side of the curtain-frame adapted to support in suspended position articles to be dried.

5. A drying-frame for the purpose set forth comprising a vertical main frame, bars supported on said frame for receiving articles to be dried thereon in a suspended position, and a vertical adjustable curtain stretching and drying frame supported within the main frame for the purpose set forth.

6. In a drying-frame for the purpose set forth, the combination with the main frame comprising vertical members and a horizontal member connecting the upper ends of the vertical members, of horizontal bars supported on the vertical members for supporting garments in suspended position, and a curtain stretching and drying frame located intermediate said bars for the purpose set forth.

7. In a drying-frame for the purpose set forth, a main frame, two vertical frame members located inside the main frame, a vertical bar adjustable toward and from said inner frame members, and a horizontal bar supported on said inner frame members and vertically adjustable thereon.

8. In a drying-frame for the purpose set forth, a main frame, two vertical frame members located inside the main frame, a vertical bar adjustable toward and from said inner frame members, a horizontal bar supported on said inner frame members and vertically adjustable thereon, and hooks mounted on one of said inner frame members, the said vertical member and said horizontal member, for the purpose set forth.

9. A drying-frame for the purpose set forth comprising a main frame consisting of vertical members and a top member connecting said vertical members, horizontal suspending members mounted on said frame, and a vertical curtain stretching and drying frame supported by the main frame and composed, as a part thereof, of the upper member of the main frame.

10. A drying-frame for the purpose set forth comprising a main frame, consisting of vertical members and a top member connecting the vertical members, two vertical frame members inside said vertical members of the frame fixed at their upper and lower ends to the top and bottom of the frame, respectively, a horizontal bar having vertically-adjustable connections with said frame, a vertical bar having horizontal adjustment on said horizontal bar and the top member of the frame, and hooks on one of said inner vertical members, said vertical bar and the horizontal bar adapted to engage the margins of a curtain folded over the top frame member.

11. A drying-frame for the purpose set forth comprising a base, a main frame comprising vertical members rising therefrom and connected at their tops by a top member, two inner frame members connected at their lower ends with the base and at their upper ends with the top member, a horizontal bar supported by and having vertical adjustment on said inner members, a vertical member supported on and having horizontal adjustment on said top member and said adjustable horizontal bar, vertically-adjustable hook-equipped bars supported on said frame at the sides of said horizontally-adjustable vertical member and said inner frame members.

12. A drying-frame for the purpose set forth comprising a base, a main frame comprising vertical members rising therefrom and connected at their tops by a top member, two inner frame members fixed at their lower ends with said base member and at their upper ends with the top member, a horizontal bar supported on and having vertical adjustment on said inner frame members, a vertical bar supported on and having horizontal adjustment on said top member and said adjustable horizontal bar, vertically-adjustable hook-equipped bars supported on said frame at the sides of said horizontally and vertically adjustable bars and said inner frame members, and suspending devices for shirts and like garments adapted to be suspended on said top member and on said vertically-adjustable bar.

13. A drying-frame for the purpose described, consisting of a main frame embracing vertical members and a connecting top member, cross-arms vertically adjustable on said vertical members of the frame and suspending-bars extending between and supported at their ends on said cross-arms.

14. A drying-frame for the purpose described, consisting of a main frame embracing vertical members and a connecting top member, cross-arms vertically adjustable on said vertical members of the frame and hook-equipped bars extending between and supported at their ends on said cross-arms, said bars being made of inverted-U shape in cross-section and the hooks thereof being attached to and depending from the margins of said bars.

15. A drying-frame for the purpose described, consisting of a main frame embracing vertical members and a connecting top member, cross-arms vertically adjustable on said vertical members of the frame, suspending-bars extending between and supported at their ends on said cross-arms, said bars being made of inverted-U shape in cross-section and hooks attached to and depending from the margins of said bars, the margins of said bars being provided with inwardly-turned flanges and hooks extending upwardly through said flanges and attached to the side members of the bars.

16. A drying-frame for the purpose set forth comprising a main frame comprising vertical members and a top member connecting the same, cross-arms supported on and adjustable vertically of said vertical members of the frame, bars of U shape in cross-section extending between said cross-arms, and lugs extending inwardly from said cross arms upon which said U-shaped bars are supported.

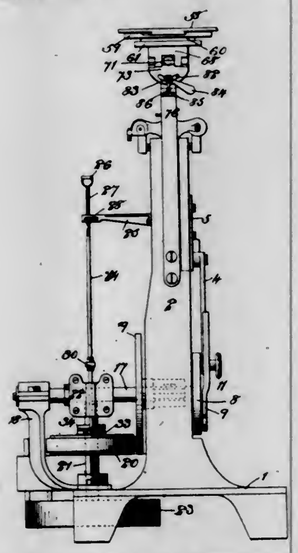
17. A drying-frame for the purpose set forth comprising a main frame comprising vertical members and a top member connecting the same, cross-arms supported on and adjustable vertically of said vertical members of the frame, bars of U-shape cross-section extending between said cross-arms, lugs extending inwardly from said cross-arms with which said U-shaped bars fit and by which they are supported on said arms, said U-shaped bars being made of sheet metal and the ends thereof which engage said lugs being reinforced for the purpose set forth.

18. In a drying-frame for the purpose set forth, a hook-equipped suspending-bar of U-shape cross-section provided at its lower margins with inwardly-extending stiffening-flanges for the purpose set forth.

19. In a drying-frame for the purpose set forth, a hook-equipped suspending-bar of U-shape cross-section provided at its lower margins with inwardly-extending stiffening-flanges for the purpose set forth, the hooks being provided

with shanks which extend through said flanges and thence outwardly through openings in the side wall of said bar and provided with terminal portions which are folded against the outer faces of said side walls.

844,688. DIE AND PATTERN MAKING MACHINE. FRANK P. PFLEGHAR, New Haven, Conn. Filed Apr. 7, 1902. Serial No. 101,747.



Claim.—1. In combination, a work-supporting table provided with an opening therethrough, a cutter-holder located below the opening in the table, a swinging and vertically-sliding cutter-holder arranged to be swung and slid from a position beneath the table into a position above the opening in the table, means for connecting the two cutter-holders to move simultaneously and means for operating the cutter-holders.

2. In combination, a work-supporting table provided with an opening therethrough, a hinged plate forming a support for the table, means for adjusting the hinged plate on its hinge, means for rocking the hinge bodily and means for supporting and operating a cutter.

3. In combination, a work-support, a multiple-armed cutter-holder mounted in rotary adjustment beneath the work-support, cutter-holder devices attached to the arms and arranged to be turned up into operative position or down out of operative position, means for locking the cutter-holder in rotatable adjustment with any one of the cutter-carrying arms into operative position beneath the work-support and means for reciprocating the cutter-holder and hence the cutters carried thereby.

4. In combination, a work-support, a multiple-armed cutter-holder mounted in rotary adjustment beneath the work-support, cutter-holding socket-pieces attached in swinging adjustment to said arms, means for locking the said socket-pieces in operative position and for permitting the said sockets to swing out of operative position, means for locking the cutter-holder with any one of the cutter-holding socket-pieces in operative position beneath the work-support and means for reciprocating the cutter-holder and hence the cutters carried thereby.

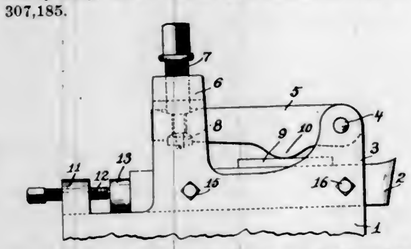
5. In combination, a work-support, a multiple-armed cutter-holder mounted in rotary adjustment beneath the work-support, a vertically-reciprocating slide on which the cutter-holder is mounted, a laterally-extended arm fixed to said slide and means for locking the cutter-holder to said arm to hold the cutter in operative position.

6. In combination, a work-support, a multiple armed cutter-holder located beneath the work-support, a vertically-reciprocating slide on which the cutter-holder is mounted to rotate, a laterally-extended arm fixed to said slide and a horizontally-swinging arm mounted on said slide for locking the cutter-holder to the said arm in operative adjustment.

7. In combination, a work-support, a multiple-armed cutter-holder, tool-holding sockets pivoted to the arms of the cutter-holder, the said arms of the cutter-holder and the sockets being provided the one with a bearing-lug and the other with an adjusting-screw in position to engage the lug for the purpose of arresting the socket in position to hold the tool in operative adjustment and means for reciprocating the tool-holder.

8. In combination, a main supporting-frame, a vertically-reciprocating slide mounted in said frame, a tool-holder carried by said slide, standards uprising from said frame and a work-supporting table having a hinge connection with one of said standards and an adjustable section on the other of said standards for rocking the table on its hinged connection.

844,689. TOOL-HOLDER FOR LATHES. GEORGE T. REISS, Hamilton, Ohio, and WALTER L. CLARK, New York, N. Y., assignors to Niles-Bement-Pond Company, Jersey City, N. J. Filed Mar. 21, 1906. Serial No. 307,185.



Claim.—1. In a tool-holder for lathes, the combination, substantially as set forth, of a base portion having a horizontal tool-supporting surface, downwardly-acting tool-clamping means carried thereby, and tool-positioning set-screws carried by the base portion at each side of the tool and between said tool-supporting surface and said tool-clamping means.

2. In a tool-holder for lathes, the combination, substantially as set forth, of a base portion having a tool-supporting surface, tool-clamping means opposite said surface, a movable heel-block carried by said base portion to the rear of said tool-clamping means, a pair of set-screws carried by said base portion and forwardly engaging the rear of said heel-block, and a swivel uniting one end of the heel-block to the forward end of one of said set-screws.

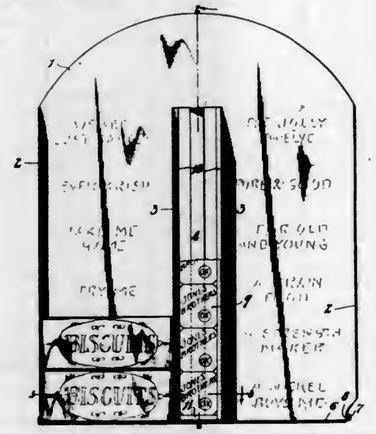
3. In a tool-holder for lathes, the combination, substantially as set forth, of a base portion having a tool-receiving surface, a pivot carried by said base portion, a lever mounted on said pivot and having a bearing portion adapted to clamp a tool against said surface, and a power device carried by said base portion and engaging the free end of the lever.

4. In a tool-holder for lathes, the combination, substantially as set forth, of a base portion having a tool-receiving surface, a pivot carried by said base portion, a lever mounted on said pivot and having a bearing portion adapted to clamp a tool against said surface, and a set-screw carried by said base portion and engaging the free end of said lever.

5. In a tool-holder for lathes, the combination, substantially as set forth, of a base portion having a tool-receiving surface, a pivot carried by said base portion, a lever mounted on said pivot and having a bearing portion adapted to clamp a tool against said surface, a set-screw carried by said base portion and engaging the free end of said lever, and a swivel uniting the end of the set-screw with the free end of the lever.

6. In a tool-holder for lathes, the combination, substantially as set forth, of a base portion having a tool-supporting surface, ears rising from the forward portion of the sides thereof, a pivot carried by the ears, a rearwardly-projecting lever mounted on the pivot and having a tool-clamping bearing portion, an arch carried by the base portion over the free end of the lever, and a set-screw carried by the arch and engaging the free end of the lever.

844,690. DEVICE FOR HOLDING PACKAGES OF MERCHANDISE. GEORGE G. ROHRSSEN, St. Louis, Mo., assignor to Manewallange Biscuit Company, St. Louis, Mo., a Corporation of Missouri. Filed Aug. 1, 1906. Serial No. 328,738.



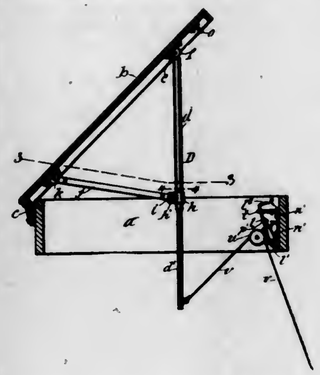
Claim.—1. A device for the purpose described, comprising a plate, longitudinally-extending central flanges spaced away from each other, flanges at the side edges of the plate coöperating with said central flanges for retaining in position a plurality of superimposed packages, a removable advertising-strip arranged between said central flanges, and a leg or standard for holding the plate in upright position; substantially as described.

2. A device for the purpose described, comprising a plate provided at its side edges with integral flanges, central flanges, and a leg or standard for holding the plate in upwardly, said central and side flanges being adapted to coöperate to retain in position two columns of superimposed packages, a leg for holding the plate in upright position, said leg being formed by the portion of the plate between the portions which were utilized for the central flanges, a flange at the lower edge of the plate for supporting the lowermost packages, and channel-shaped guides connected to the central flanges for receiving a removable advertising-strip; substantially as described.

3. A device for the purpose described, comprising a plate of sheet metal having a curved upper edge, integral flanges at the side edges of the plate, central flanges formed integral with the plate and being adapted to coöperate with the side flanges for retaining in position two columns of superimposed rectangular-shaped boxes of merchandise, channel-shaped guides connected to said central flanges, an advertising-strip arranged in said guides, a separate piece connected to the lower edge of the plate to form a flange for supporting the lowermost box of each column, a supporting-leg formed by a portion of the plate, and means for strengthening said plate adjacent the point where the leg is connected thereto; substantially as described.

844,691. SKYLIGHT-OPERATOR. HENRY F. RUSSELL, Syracuse, N. Y. Filed Mar. 5, 1906. Serial No. 304,192.

Claim.—1. The combination, with a hinged skylight and its supporting-frame, of a push-bar pivotally connected to the skylight, a collar adjustably attached to the lower portion of the push-bar, braces pivotally connected to the skylight near the side edges thereof and pivoted to the aforesaid collar, a pulley supported on the aforesaid frame under the free edge of the skylight, and an operating-rope traversing said pulley and connected to the lower end of the push-bar as set forth.



2. The combination, with a hinged skylight, of a push-bar composed of a tubular upper member pivotally connected at one end to the skylight and split longitudinally at its opposite end and a lower member inserted in the split end of the upper member, a split collar embracing the split portion of the upper member and provided with means for tightening it on said member, levers pivotally connected to said collar and to the skylight near the hinged edge thereof, and means for operating said push-bar.

3. The combination, with a hinged skylight, of a push-bar connected to the under side of the skylight and adjustable in length, braces connecting the lower portion of said push-bar to the side portions of the skylight, and means for operating said push-bar.

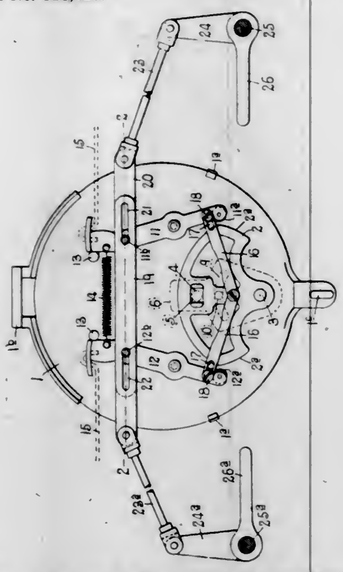
4. The combination, with a hinged skylight, of a push-bar connected to said skylight and composed of telescopically-jointed members adjustably clamped together, braces connecting the lower portion of said push-bar to the side portions of the skylight, and means for operating the push-bar.

5. The combination, with a hinged skylight and its supporting-frame, of a push-bar connected to the skylight, braces connecting the lower portion of the push-bar to the side portions of the skylight, a latch connected to the supporting-frame and adapted to lock the skylight in its closed position, a pulley connected to said latch, and a rope traversing the pulley and connected at one end to the lower end of the push-bar as set forth.

6. The combination with a hinged skylight and its supporting-frame, of a push-bar pivotally connected to the skylight, braces connecting the lower portion of the push-bar to the side portions of the skylight, a latch hinged to the supporting-frame and adapted to lock the skylight in its closed position, a spring forcing the latch to its locked position, a pulley connected to the back of the latch, and a rope traversing said pulley and connected at one end to the lower end of the push-bar as set forth.

7. The combination, with a hinged skylight and its supporting-frame, of a push-bar connected to the under side of the skylight and adjustable in length, braces connecting the lower portion of the push-bar to the side portions of the skylight, a plate attached to the supporting-frame under the free edge of the skylight, a staple projecting from the upper end of said plate, a latch hinged to the lower end of the plate and passing with its upper end through the staple and terminating in a locking-hook, a staple attached to the skylight and engaging the said hook, a spring forcing the latch to its locking position, a bracket projecting from the back of the latch, a pulley pivoted to said bracket, and a rope traversing the pulley and connected at one end to the lower end of the push-bar substantially as set forth.

844,692. FARE-REGISTER-ACTUATING MECHANISM. ADOLPH O. SCHMOLINSKI, St. Louis, Mo., assignor to Security Register & Manufacturing Company, St. Louis, Mo., a Corporation of Missouri. Filed July 16, 1906. Serial No. 326,420.



Claim.—1. In combination with a fare-register having a main shaft which extends through the base-plate of the register and is provided with a rock-arm arranged on the outside of said base-plate, a back-plate connected to the register, a device mounted on said back-plate for coöperating with said rock-arm to oscillate the main shaft of the register in opposite directions to cause different classes of fares to be registered, and means for actuating said device; substantially as described.

2. A device of the character described, comprising a segmentally-shaped rocking member for imparting movement to an element of a fare-register, and a lever arranged on each side of said member for actuating it in opposite directions; substantially as described.

3. A device of the character described, comprising a rocking member for imparting movement to an element of a fare-register, a lever arranged on each side of said rocking member for imparting movement thereto, and connections between said levers and said rocking member for holding said member normally midway of said levers; substantially as described.

4. A device of the character described, comprising a rocking member for imparting movement to an element of a fare-register, a lever arranged on each side of said rocking member for imparting movement thereto, and links fastened to said member and provided with slots through which studs on the levers extend whereby said member is held normally midway of said levers; substantially as described.

5. A device of the class described, comprising a rocking member for imparting movement to an element of a fare-register, said rocking member having its upper edge formed on the arc of a circle, and a lever arranged on each side of said member for engaging the side edges thereof to actuate said member; substantially as described.

6. A device of the class described, comprising two levers and an actuating member pivotally mounted between the lower ends of said levers and being so formed that when it is operated by one lever the other lever will remain at rest, a returning-spring connecting the upper ends of said levers together, and means for determining the normal positions of said levers; substantially as described.

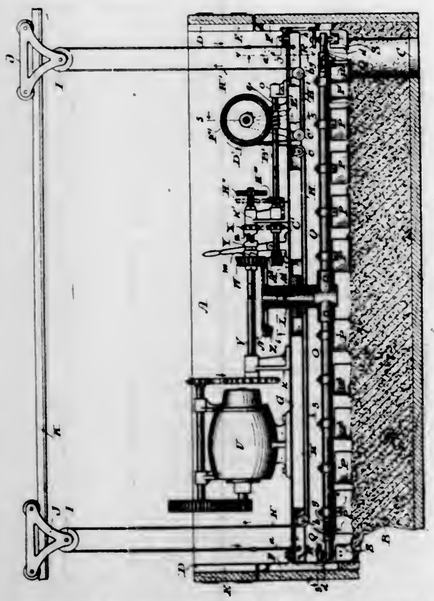
7. In combination with a fare-register having a main operating-shaft that is adapted to be oscillated in opposite directions for registering different classes of fares, a member connected to said shaft, levers for imparting movement to said member to register different classes of fares, a rod arranged in the car in which the fare-register is located, and connections between said rod and both of said levers whereby the rod can be oscillated in one direction for actuating one lever and in the opposite direction for actuating the other lever; substantially as described.

8. A primary actuating mechanism for a fare-register, comprising an actuating member, levers for imparting movement to said member to register different classes of fares, a shaft arranged in the car in which the fare-register is located, a bar provided with elongated slots through which studs on said levers extend, and a connection between said bar and said shaft whereby the shaft may be oscillated in one direction for imparting movement to one lever and in the opposite direction for imparting movement to the other lever; substantially as described.

9. A fare-register-operating mechanism, comprising an actuating member, levers for operating said member to cause different classes of fares to be registered, shafts arranged along each side of the car in which the register is located, and means for connecting both of said shafts to both of the levers, said means being so constructed that either shaft may be actuated without causing the other shaft to be moved; substantially as described.

10. A fare-register-operating mechanism, comprising a rocking member for imparting movement to the main shaft of the register, a lever arranged at each side of said member for actuating same, a spring connected to said levers for returning them to normal position, bars arranged on each side of said levers and provided with elongated slots, studs on said levers which project through the slots in both bars, shafts arranged at each side of the car in which the register is located, a link connecting one bar to one of said shafts, and a link connecting the other bar to the other shaft; substantially as described.

844,693. PORTABLE LEACH-CLEARING APPARATUS. OTTO SEIDEL, Jr., Milwaukee, Wis. Filed Mar. 21, 1906. Serial No. 307,298.



Claim.—1. A leach-clearing apparatus comprising a scaffold, suspension-cables secured to the ends thereof and adapted to be carried by overhead pulleys, a drum mounted on the scaffold to which drum the ends of the cables are secured, a central arbor having its bearing in said scaffold, a drive-gear secured to the upper end of the arbor, a scraper-arm secured to the lower end of said arbor, a counter-shaft mounted upon the aforesaid scaffold and in gear connection with the arbor drive-gear, a motor for the counter-shaft, and driving means in connection with the drum and drive-gear of the arbor, whereby said drum is automatically rotated to feed the scaffold together with the scraper to the spent bark.

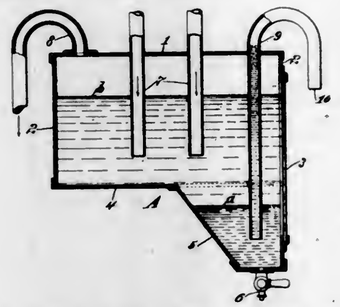
2. A leach-clearing apparatus comprising suspension-pulleys over the leach-tank, a scaffold vertically adjustable in the tank, a rotary scraper and driving-gear therefor carried by the scaffold, a drum mounted on said scaffold and in gear connection with the scraper-driving gear, and cables connected to each end of the aforesaid scaffold and arranged to travel over the suspension-pulleys, ends of said cables being connected to the drum.

3. A leach-clearing apparatus comprising suspension-pulleys over the leach-tank, a scaffold vertically adjustable in the tank, channel-guides for the ends of the scaffold secured to the tank, the said guides having tapered edges, a rotary scraper and driving-gear therefor carried by the scaffold, yielding telescopic scraper-sections carried by the rotary scraper, a drum mounted on said scaffold and in gear connection with the scraper-driving gear, and cables connected to each end of the aforesaid scaffold and arranged to travel over the suspension-pulleys, ends of said cables being connected to the drum.

4. A leach-clearing apparatus comprising a vertically-adjustable scaffold, a rotary scraper carried by the scaffold, channel-guides in the leach-tank, adjustable shoe extensions carried by the scaffold and adapted to be fitted into the channel-guides, bridges on the shoes in the path of the rotary scraper, yielding telescopic scraper-sections carried by said rotary scraper, and antifriction-rollers mounted on the ends of the telescopic sections.

5. A leach-clearing apparatus comprising a vertically-adjustable scaffold having mounted thereon a rotary scraper, driving means for the scraper mounted upon the scaffold, a drum in gear connection with said driving means, in combination with cables secured to each end of the scaffold and adapted to pass over pulleys above the leach-tank, ends of the cables being connected to the drum.

844,694. PROCESS OF DRYING GAS. GEORGE G. SMITH, Florence, Italy. Filed Dec. 12, 1901. Serial No. 85,547.



Claim.—1. The process of drying acetylene gas which consists in passing the gas through vaseline.

2. The process of drying gas which consists in bringing the gas in contact with vaseline.

3. The process of drying acetylene gas which consists in bringing the gas in contact with liquid vaseline.

4. The process of drying acetylene gas which consists in passing the same through liquid vaseline.

5. The process of drying acetylene gas which consists in passing the same rapidly through liquid vaseline.

6. The process which consists in passing acetylene gas from a generator through liquid vaseline contained in a closed vessel, thereby condensing the moisture carried by the gas, throwing down the water of condensation and collecting the water below the vaseline and automatically removing the water from the vessel.

7. The process of removing water from acetylene gas which consists in mixing the gas and water with liquid vaseline, then precipitating the water, and liberating the gas.

8. The process of removing water from acetylene gas which consists in mixing the gas and water with liquid vaseline, and liberating the gas.

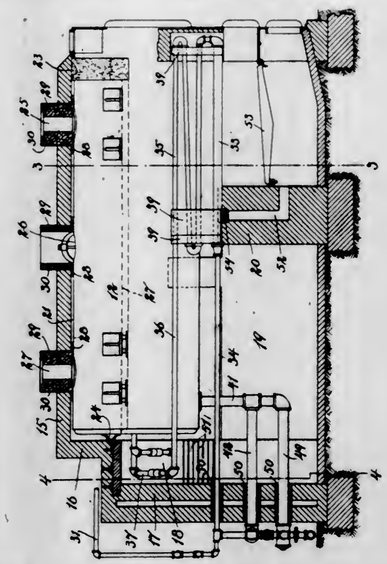
9. The process of drying gas which consists in mixing the moisture carried by the gas with vaseline and then precipitating the moisture.

10. The process which consists in passing acetylene gas from a generator through liquid vaseline, thereby throwing down water carried by the gas and collecting the water below such vaseline, and automatically ejecting the water therefrom.

11. The process which consists in permitting the gas from a generator to bubble through liquid vaseline, and thereby throw down the water carried thereby, and then collecting the water below such vaseline and ejecting the water by means of the gas-pressure, and regulating the amount of pressure necessary to so eject the water by means of a column of water.

12. The process which consists in passing acetylene gas from a generator through liquid vaseline, thereby removing and throwing down the water carried by the gas and collecting the water below such vaseline and automatically removing the water therefrom.

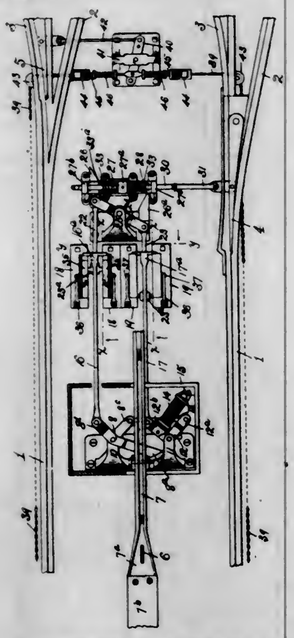
844,695. BOILER. SIDNEY SMITH, Cambridge, Mass. Filed Dec. 15, 1905. Serial No. 291,833.



Claim.—A boiler, a casing or setting therefor having longitudinal recesses in its walls at opposite sides of the boiler, and offset outwardly from the inner surfaces of the sides of the fire-box, the bottoms of said recesses forming substantially horizontal shelves or seats extending lengthwise of the fire-box, and located outside the inner surfaces of the sides of the fire-box, return-bend feed-water-heating conduits located in said recesses, the lower members of said conduits resting on said shelves, and being adapted to expand and contract longitudinally thereon, clamps engaged with the said lower members, and sup-

porting the upper members, whereby the upper members are permitted to expand and contract with the lower members, the latter being protected by the shelves against injury from the heat of the fire, and connections between the upper members of said conduits and a portion of the boiler higher than the conduits, the rear bends of the boiler higher than the conduits, the rear bends of the conduits being located adjacent to the bridge-wall, so that the length of the longitudinal members of the conduits is limited to substantially the length of the fire-box, and to the region of convected heat, whereby the flow of feed-water through said conduits is facilitated, and the formation of steam-bubbles therein is prevented, substantially as set forth.

844,696. MECHANICAL MOVEMENT. VALENTINE SMOROWSKI, Monclova, Ohio. Filed Aug. 3, 1906. Serial No. 329,053.



Claim.—1. In combination, a movable element, a reciprocatory block having connection with the element, an oscillatory member carrying wedges for alternate engagement with opposite ends of the block, and mechanism for imparting an intermittent oscillatory movement to said member, substantially as described.

2. In combination, a movable element, an oscillatory member, wedges carried by said member for alternate engagement with opposite ends of said element to effect a reciprocation thereof, hooked members in connection with opposite ends of the oscillatory member, reciprocatory rods for engagement with said hooked members, and means for effecting an alternate hit-and-miss action of the reciprocatory rods relative to the hooked members whereby an intermittent oscillation is imparted to the oscillatory member.

3. In combination, a reciprocatory element, two reciprocatory draft members capable of like movement in unison, oscillatory means movable by said two draft members for effecting opposite movements to the reciprocatory element, and means for causing first one and then the other of said draft members when reciprocated to successively engage and move said means whereby to effect opposite movements to the element.

4. In combination, a reciprocatory element, a sliding block in yielding engagement therewith, two reciprocatory draft members having like simultaneous movements, means movable by a reciprocation of said draft members to effect a reciprocation of the sliding block, and means for causing the draft members to have an alternate hit and-miss engagement with the first means to effect successive reverse movements thereof.

5. In combination, an element capable of reciprocal movement, a reciprocal wedge member for coacting with each end of said element to impart movement thereto, a draft member associated with each wedge, said two draft members being movable together in like directions, and means for causing first one and then the other of the draft members on alternate reciprocations thereof to cooperate with its associated wedge member to effect a movement thereof.

6. In combination, a reciprocal element, wedge members associated therewith for effecting a reciprocation thereof, draft members movable to effect a movement of the wedge members, means for effecting a like simultaneous movement to the draft members, and means for coöperating with the draft members to cause them when operated to alternately coact with the wedge members to successively reverse their positions relative to the reciprocatory element.

7. In combination, a reciprocal element, an oscillatory member carrying wedges for coöperating with said element to effect opposite movements thereof and having trailer-arms pivotally connected to its ends, draft-rods associated with the trailer-arms, means for reciprocating the draft-rods in unison, and means for causing the draft-rods when operated to have an alternate hit-and-miss coaction with the trailer-arms whereby to impart an oscillatory movement to the oscillatory member.

8. In a mechanical movement, an element capable of reciprocal movement, a pair of wedge members movable to effect a reciprocation of said element, and each having a trailer-arm, a draft-rod coöperating with each trailer-arm, means for imparting a like simultaneous reciprocal movement to the draft-rods, and means for causing each draft-rod to alternately coact with its associated trailer-rod at each second movement in the same direction of the draft-rods.

9. In a mechanical movement, a movable element, a plurality of members movable to coact with and effect a reciprocal movement of said element, a draft-rod associated with each member, means for imparting a like simultaneous movement to the draft-rods, and means for causing each draft-rod to coöperate with and impart movement to its associated member alternately with the cooperation of the other draft-rod with its associated member.

10. In a mechanical movement, a reciprocal element, a pair of draft members operating at an angle to the line of movement of the element, means for operating the draft members in unison, and mechanism intermediate the reciprocal element and draft members coöperating with each and with which the draft members when reciprocated have alternate successive engagement to communicate a reciprocal movement to the element.

11. In a mechanical movement, a reciprocal element, a pair of draft members movable in unison, means intermediate the element and draft members movable to effect a reciprocation of the element, and means for causing the draft members to have successive alternate engagement with said intermediate means, whereby to reverse the movement of said intermediate means at each successive draft movement of the draft members.

12. In a mechanical movement, a reciprocal element, a pair of draft members, means for reciprocating the draft members in unison, mechanism for coöperating with the element for imparting movement thereto and having a pair of trailer-arms, the said draft members and trailer-arms having coöperating parts, and means for guiding the coöperating parts of the draft members and trailer-arms whereby first one and then the other draft member coacts with a trailer-arm at successive movements of the draft members.

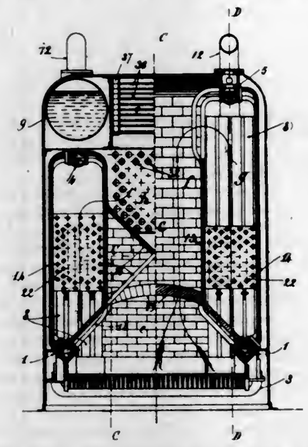
13. In a mechanical movement, a reciprocal element, means movable to effect a reciprocation of said element and having a pair of arms trailing therefrom, a pair of draft members capable of like reciprocal movement in unison and each having a portion adapted to coact with the associated trailer-arm to impart movement thereto, and guide means operating to hold first one and then the other draft member out of engagement with its trailer-arm as the draft members are successively reciprocated whereby a reversing movement is communicated to the means coöperating with the element.

14. A mechanical movement comprising a movable element, means movable to effect a reciprocation of said element and having two rods trailing therefrom, a draft member coöperating with each rod to communicate movement to said means, mechanism for imparting like simultaneous movements to the draft members, and a guide associated with each coöperating rod and draft member, said guides each having double superimposed guideways therein the dividing ribs of which have pivoted parts which lower when the associated rod is in one position relative thereto, whereby to cause the draft member to move to the second way and escape contact with the rod, and which are raised when the rod is in another position relative thereto and permit the draft member to travel in the plane of movement of the rod and impart movement thereto, said two draft members operating to alternately engage and impart movement to the rods, substantially as described.

15. In combination, an element capable of reciprocatory movement, an oscillatory member carrying means for alternately coacting with said element when said member is oscillated whereby to impart a reciprocatory movement to the element, and mechanism having reciprocal parts, which, when reciprocated, alternately connect with said oscillatory member and effect a reversal of the positions of the means carried by said member relative to the element.

16. In combination, a movable element, an oscillatory member having parts, which, when the member is oscillated, alternately coact with the element to effect a movement thereof, mechanism having reciprocal parts, which, when reciprocated alternately connect with said member to effect an oscillation thereof, and means for normally maintaining the parts of said mechanism in one position when at rest.

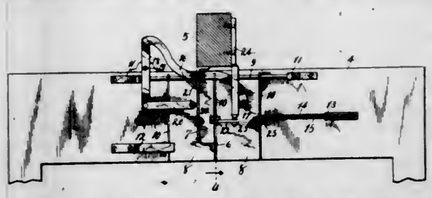
844,697. STEAM-GENERATOR. EMILE SOLOMIAC, Paris, France. Filed Sept. 11, 1906. Serial No. 334,186.



Claim.—1. A steam-generator comprising a vaporizer consisting of drums 1, 4 and 5 arranged at different levels and connected to boxes 9 and 10, said drums being interconnected at their ends by vertical pipes 6, 7 and 8 of large diameter and along their length by two groups of tubes 13 and 14 which form walls of the furnace, of the combustion-chamber and of the flues, in combination with a superheater comprising two groups of tubes 22 connected to the vaporizer, the superheating of the steam being regulated by means of a screw which regulates the injection of water thereto, in combination with an air-heater comprising a group of tubes 32 through which air passes to the furnace, in combination with a feed-water heater in which feed-water circulates before passing to the drums 1, and in combination with flues inclosing the superheater, air-heater and feed-water heater and formed by the tubular walls of the vaporizer, substantially as described and for the purpose set forth.

2. A steam-generator comprising a vaporizer consisting of drums 1, 4 and 5 arranged at different levels and connected to boxes 9 and 10, said drums being interconnected at their ends by vertical pipes 6, 7 and 8 of large diameter and along their length by two groups of tubes 13 and 14 which form walls of the furnace, of the combustion-chamber and of the flues, said tubes 13 and 14 forming besides continuous vertical circuits which are substantially of O-shaped or of the shape of reclining figures 8, the vaporizer comprising also ajutages 20 and 21 which insure the passage of water from the ascending tubes 13 to the descending tubes 14, and from the latter back to the former, in combination with a superheater comprising two groups of tubes 22 connected to the vaporizer, the superheating of the steam being regulated by means of a screw which regulates the injection of water thereto, in combination with an air-heater comprising a group of tubes 32 through which air passes to the furnace, in combination with a feed-water heater in which feed-water circulates before passing to the drums 1, and in combination with flues inclosing the superheater, air-heater and feed-water heater and formed by the tubular walls of the vaporizer, substantially as described and for the purpose set forth.

844,698. REFRIGERATOR-DOOR. CHRISTIAN STOTZ, Bellevue, Ohio. Filed Aug. 31, 1906. Serial No. 332,858.



Claim.—1. In means for opening a pair of sliding doors, a track, a hanger slidably mounted on said track, pivoted bars arranged to overhang said track at one point, means connecting said bars with one of said doors, means connecting the doors together whereby any movement of one will be transmitted to the other, and means automatically closing said doors.

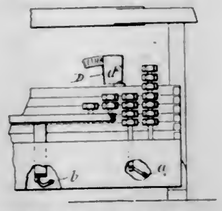
2. In means for opening a pair of sliding doors, a track, a hanger slidably mounted on said track, pivotally-connected bars arranged to intersect said track at one point, means connecting said bars with one of said doors, means connecting the doors together whereby the movements of one door will be simultaneously transmitted to the other, and a spring adapted to close said doors.

844,699. ATTACHMENT FOR TYPE-WRITERS. EMANUEL W. SWEIGARD, Chicago, Ill. Filed Oct. 7, 1905. Serial No. 281,719.

Claim.—1. The combination with an escapement-operating member moved by character-keys and a space-rod moved by the space-key of a type-writer, of an indicating device, a device controlled by the escapement-operating member and constructed and arranged when operated alone to move the indicating device to one position, and a second device controlled by the space-rod and constructed and arranged when operated in conjunction with said first-named

device to cause the indicating device to move to a second position.

2. The combination with an escapement-operating member moved by character-keys and a space-rod moved by the space-key of a type-writer, of an indicating device, a member moved by the escapement-operating device and having means of engagement with the indicating device to move it in one direction, and a device moved by the space-rod and arranged to throw said last-named member out of action, and simultaneously to engage said indicating device to move it to a second position.



3. The combination with an escapement-operating member moved by character-keys and a space-rod moved by the space-key of a type-writer, of an indicating device capable of occupying two positions, mechanism movable with the escapement-operating member and constructed and arranged to move said indicating device in one direction when operated, and a device movable by the space-rod and constructed and arranged to throw said mechanism out of action and itself to move the indicating device to a second position.

4. The combination with an escapement-operating member moved by character-keys and a space-rod moved by the space-key of a type-writer, of an indicating device, a member carried by the escapement-operating member, a shoulder-plate carried by said member and engaging with the indicating device to move it to one position, a space-plate carried by the space-rod and arranged to throw the shoulder-plate out of action, and a shifter carried by the space-plate and arranged to move the indicating device to a second position.

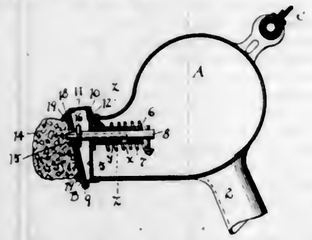
5. The combination with an escapement-operating member moved by character-keys and a space-rod moved by the space-key of a type-writer, of an indicating device, a member carried by the escapement-operating member, a shoulder-plate pivoted to said member, a space-plate movable by the space-rod, said space-plate and shoulder-plate having beveled engaging portions which operate to swing the shoulder-plate out of position to engage the indicating device when the space-plate is moved, a shifter pivoted to the space-plate, and having means of engagement with the indicating device.

6. The combination with an escapement-operating member moved by character-keys and a space-rod moved by the space-key of a type-writer, of an indicating device, a member carried by the escapement-operating member, a shoulder-plate carried by said member and engaging with the indicating device to move it to one position, a space-plate carried by the space-rod and arranged to throw the shoulder-plate out of action, a shifter carried by the space-plate and arranged to move the indicating device to a second position, and a spring connecting the ends of the shoulder-plate and the shifter.

844,700. WINDOW-CLEANER. THEODORE URBAN, Cleveland, Ohio. Filed Aug. 28, 1906. Serial No. 332,367.

Claim.—1. A window-cleaning device having a receptacle with a flat front plate of greater length than width and openings at intervals in said plate, depressible valves mounted in said openings, and a wing hinged along one edge on said receptacle and means to limit the swing of said wing back and forth in respect to said receptacle, the said valves having ends projecting into contact with said wing.

2. The body of the device having a front face provided with a series of openings between its ends and spring-pressed valves extending from within said body through said openings having their outer ends exposed outside the openings, in combination with a wing hinged along one edge of said body and resting against the exposed ends of said valves, and the said wing having holes for said valves and constructed on its outer side to receive an absorbent pad, whereby the moisture issuing through said holes is taken up by said pad.



3. The receptacle having a front face provided with holes at intervals between its ends, valves seated endwise in said openings, tubular bearings for said valves and springs to close said valves encircling said bearings, in combination with a wing hinged along its lower edge and bearing against the exposed ends of said valves, and means to limit the swing of said wing back and forth at its top in respect to said face.

4. A suitable receptacle, a wing hinged at one edge thereon and an absorbent backing fixed upon the outer side of said wing, in combination with a series of slidable valves projecting through said receptacle into said wing, said wing being set at an inclination to the face of said receptacle.

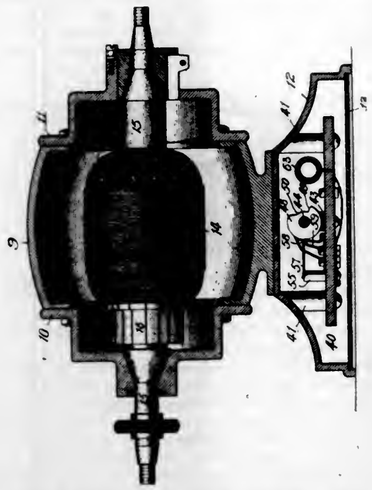
5. In a window-cleaner, a fluid-receptacle having a series of holes along its front and a cleansing member yieldingly supported over said holes, in combination with a series of tubular fluid-carrying valves projecting through said receptacle into said holes and adapted to be opened by said cleansing member when under pressure, fixed tubular bearings for said valves in said receptacle and springs thereon connected with said valves.

6. In a window-cleaner, a fluid-receptacle having a cleansing member yieldingly supported lengthwise upon the front thereof, combined with means operatively controlled by said member to provide a uniform discharge of fluid the full length of said cleaner comprising a series of depressible tubular valves and supports for said valves fixed within said receptacle, said valves having outlet-openings adapted to register with openings within said receptacle.

844,701. ELECTRIC MOTOR. JULIUS B. WANTZ, Chicago, Ill., assignor to Victor Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 23, 1906. Serial No. 302,462.

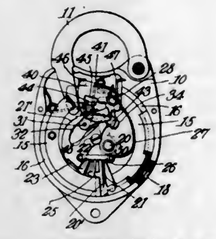
Claim.—1. The starting and stopping switch device for an electric motor comprising in combination a rotary shaft, a line-wire terminal, a normally open contact-spring movable into and out of engagement with said terminal and from which extends a direct armature-circuit, and a motor-field shunt-circuit, a ratchet on the shaft, and a dog coöperating therewith both included in the shunt-circuit, and a cam on the shaft shaped and movable to close said spring against said terminal and to permit sudden circuit-breaking resilience of the contact-spring.

2. The starting, stopping and speed-changing switch device for an electric motor, comprising in combination a rotary shaft, a line-wire terminal, a normally open contact-spring movable into and out of engagement with said terminal and from which extends a direct armature-circuit and a motor-field shunt-circuit, a ratchet on the shaft and a dog coöperating therewith both included in the shunt-circuit, a cam on the shaft having an abrupt shoulder and engaging said contact-spring with the terminal until said shoulder clears said contact, a resistance coöperating with said shunt-circuit, and contact-spring engaging and releasing cams on the shaft operating in series in



the rotation of the shaft to cut in divisions of said resistance, substantially as and for the purpose set forth.

844,702. REGISTERING-LOCK. ELISHA F. WELLS, Miami, Fla., assignor of one-half to John Newton Lummus, Miami, Fla. Filed Nov. 13, 1906. Serial No. 343,264.



Claim.—1. In an indicator-lock, a movable indicator having an inwardly-extending arm, a spring-actuated restoring-plate having a projecting member arranged to engage said arm, said restoring member being provided with ratchet-teeth, a pawl engaging said ratchet-teeth, and means engageable by an inserted key for moving said pawl out of engagement with the ratchet-teeth in advance of each registering operation.

2. In an indicator-lock, a casing having a display-opening, a plurality of arcuate indicator-bars, each having an inwardly-extending arm, a pivotally-mounted restoring-plate having a projecting member arranged to engage all of said arms, said plate being provided with ratchet-teeth, a spring for actuating the plate, a pawl engaging the teeth and holding the restoring device from movement, and an arm connected to said pawl and arranged in the path of movement of one of the bits of an inserted key.

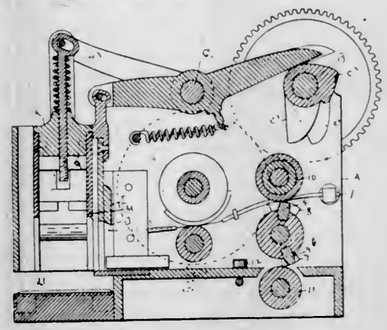
3. In an indicator-lock, a plurality of arcuate indicator-bars each provided with an inwardly-extending arm, a restoring-plate fitting within the casing and provided with ratchet-teeth, an arm projecting from the restoring-plate and arranged to engage the indicator-arms, a spring tending to actuate said restoring-plate, a pawl engaging the ratchet-teeth, and an arm connected to said pawl and arranged to be engaged by the bit of an inserted key.

4. In an indicator-lock, a plurality of arcuate indicator-bars, each having an inwardly-extending arm, means for guiding said bars, a pivotally-mounted restoring-plate having a projecting arm arranged to engage the indicator-arms, means for actuating said restoring-plate, friction-pawls carried by the indicator-arms, and provided with lugs projecting therefrom and arranged to be engaged by the restoring-arm in advance of the returning movement of said indicator-bars.

5. In an indicator-lock, a plurality of indicator-bars having inwardly-projecting arms, friction-pawls carried by said arms and each provided with a projecting lug, and a restoring device arranged to engage with the lugs to effect release of the pawls before the returning movement of the indicator-bars.

6. In an indicator-lock, a casing having a display-opening at the edge, a curved guide within the casing and provided with a plurality of arcuate slots, indicator-bars mounted in said slots and provided with inwardly-extending arms arranged to be engaged on one side by the keys, and a restoring device for engaging the opposite sides of the bars and moving the same backward to zero position.

844,703. MACHINE FOR ATTACHING TAGS TO CLOTHING. GEORGE H. WILKINS, Portland, Me., assignor to J. Frank Hull, Poughkeepsie, N. Y., and George W. Brown, Cape Elizabeth, Me. Filed Mar. 27, 1905. Serial No. 252,210.



Claim.—1. In a machine for attaching tags to cloth or clothing, a series of levers pivotally mounted in a frame revoluble cams placed at various angles adapted to give movement in a vertical direction and at different times to said levers, wire and paper feed rolls and wire and paper cutting-off knives, a vertically-moving hammer provided with grooves on each side thereof and bending-blocks provided with upwardly-extending curved arms registering in said slots and operated by the movement of said hammer.

2. In a machine for attaching tags to clothing, in combination, a series of levers pivotally mounted in said frame and means for imparting a vertical motion to said levers at different times, a plunger, a hammer, wire-cutting-off knife and paper-cutting-off knife operated by said levers, bending-blocks with upwardly-extending curved arms operated by the downward and upward movement of said hammer, means for feeding paper and wire blanks predetermined distances and means for imprinting characters on said paper-blanks at various distances.

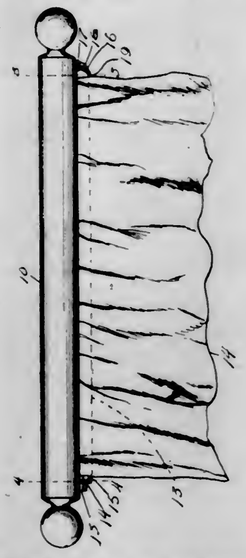
3. In a machine for attaching tags to clothing, in combination, a frame, levers pivotally mounted therein, revoluble cams adapted to impart a vertical motion to said levers at successive times, a plunger, hammer, wire and paper cutting-off knives operated by said levers, bending-blocks with upwardly-extending arms and a longitudinal lip operated by said hammer, paper and wire feed rolls, said paper-feed rolls containing series of type for imprinting characters on the paper-blank.

4. In a machine of the class described, a suitable frame, a plunger having a vertical movement in said frame, said plunger carrying a paper-cutting-off knife, a wire-cutting-off knife, a hammer with grooves on each side thereof working within and independently of said plunger, pivot-

ed bending-blocks normally in the downward path of said plunger, said blocks having upwardly-extending curved arms, said curved arms moving in the grooves in said hammer and thereby being forced out of the path of said plunger on the downward movement of said hammer, and returned to its normal position by the upward movement of said hammer, a feed-roll for feeding a strip of paper a predetermined distance at a predetermined time, type on said feed-roll for imprinting characters at various times and places on said paper strip, means for holding said paper strip from accidental displacement and means for clenching the wire.

5. In a machine of the class described, a frame, levers pivotally mounted therein, means for imparting a vertical motion to said levers at various successive times, a hammer provided with vertically-disposed slots in the side thereof, plunger, wire and paper cutting-off knives operated by said levers, means for causing said levers to resume their normal position, wire-feed rolls and paper-feed rolls and means for clenching the wire, bending-blocks provided with upwardly-extending arms registering in said slots in the side of the hammer and operated by the upward and downward movement of said hammer, said paper-feed roll carrying type on its periphery so that characters may be imprinted on a blank while said blank is being fed forward.

844,704. CURTAIN-POLE. JOHN E. WILLSON, Norman, Okla. Filed Mar. 17, 1906. Serial No. 306,660.

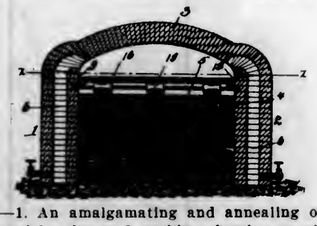


Claim.—1. A device of the class described comprising a pole, fixed and movable keepers carried by the pole, and a curtain-retaining strip engaged at one of its ends with said fixed keepers and having one of its edges at its opposite end beveled and notched for the clamping engagement of the movable keeper therewith.

2. A device of the class described comprising a pole, a fixed yoke-keeper carried by the pole, a curtain-retaining strip engaged at one of its ends with said keeper, and a pivoted yoke-keeper arranged for engagement with the other end of said strip.

3. A device of the class described comprising a pole, a fixed keeper carried by the pole adjacent one of its ends, a yoke-keeper loosely connected with the pole adjacent its opposite end and a retaining-strip having one of its ends beveled for wedging engagement with the fixed keeper and having its opposite end beveled and notched for engagement by the removable keeper.

844,705. AMALGAMATING AND ANNEALING OVEN FOR WIRE-GLASS. JOHN I. ARBOGAST, Pittsburg, Pa., assignor of one-half to Lem S. Brock, Beaver, Pa., seven and one-half one-hundredths to Frank C. Park, and seven and one-half one-hundredths to Henry L Collins, Pittsburg, Pa. Filed Apr. 26, 1906. Serial No. 313,742.



Claim.—1. An amalgamating and annealing oven having a central heating and working chamber provided with oppositely-disposed vertical flues, and an extended imperforate section adjoining each end of the heating-chamber and forming extensions thereof.

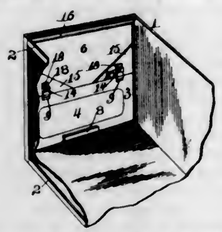
2. An amalgamating and annealing oven for wire-glass comprising parallel sides and a roof, in combination with a series of parallel shafts having bearing in the side walls of the oven and carrying rollers, the central portion of the side walls being provided with oppositely-disposed vertical flues communicating with the fuel-supply.

3. An amalgamating and annealing oven for wire-glass, the central portion of which is provided with oppositely-disposed vertical flues in its side walls, and openings for the insertion of tools between the upper ends of the flues.

4. An amalgamating and annealing oven for wire-glass, comprising parallel side walls and a roof connecting said walls, the central portion of the side walls being provided with oppositely-disposed vertical flues and openings for the insertion of flattening-tools, the openings at one side of the oven being out of horizontal alinement with those at the opposite sides thereof.

5. The combination with an amalgamating and annealing oven for wire-glass, comprising a central heating-chamber, and vertically-disposed flues and tool-openings arranged at opposite sides of the oven, of trackways secured to the inner sides of the side walls, a series of detachably-connected pans adapted to travel along said guideways, means for moving said pans, and a series of parallel shafts supported below the pans carrying rollers upon which the pans rest.

844,706. CRACKER-BOX. JAMES B. ARTHUR, Pittsburg, Pa. Filed Mar. 29, 1906. Serial No. 308,758.



Claim.—1. A cracker-box having a sheet-metal front provided with two openings one above the other, one of said openings adapted to be closed by a label and the other by a transparent plate, corner-strips secured to the inner face of the said front and receiving said label, and means carried by said corner-strips to engage and hold the transparent plate in position, said means comprising on each corner-strip a keeper having a seat in its inner face, a catch slidably mounted for vertical movement in the keeper and having a projection to engage the seat in the keeper, and ribs on the catch for limiting the movement of the catch in both directions.

2. A cracker-box having a sheet-metal front furnished

with openings therein, two removable plates for closing said openings, corner-strips secured to the inner face of said sheet-metal front for holding one of said removable plates, a keeper carried by each of said corner-strips, each keeper having a seat, catches for holding the other of said removable plates, said catches mounted to slide in said keepers and provided with projections to engage the seat in the keepers, and means carried by said catches to engage opposite edges of the keeper and limit the movement of the catches in the keepers.

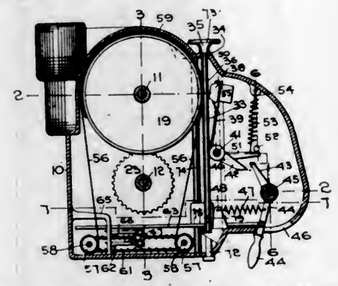
844,707. TRACE-BUCKLE. JAMES T. BARKER, Westplains, Mo. Filed Sept. 20, 1906. Serial No. 335,446.



Claim.—1. A device of the character set forth comprising an angular body having loops at its opposite edges that are all offset at one side of said body, and strap-engaging pins projecting from the same side of the body at which the loops are offset, each pin being in line with certain of the opposite loops and out of line with the openings through the others.

2. A device of the character set forth comprising an angular body having loops at its opposite edges that are all offset at one side of said body, two of the loops at opposite edges having their outer edges located at substantially equal distances from the body, and a third angularly-disposed loop having its outer edge disposed at a greater distance from said body to permit overlapping transversely-disposed straps passing through the loops on one side of the body, and pins projecting from the same side of the body at which the loops are offset, said pins being arranged to engage straps passed through said loops.

844,708. TIME COMPUTER AND RECORDER. GUSTAVE BLUEMEL, Denver, Colo. Filed May 14, 1906. Serial No. 316,814.



Claim.—1. In a device of the class named, the combination of impression-wheels arranged in pairs, the wheels of one of the said pairs having each a peripheral series of equidistant groups of progressional numerals whose zeros advance in position transversely in each successive group, respectively denoting the number of hours in a space of time and a predetermined number of aliquot parts in one hour, and the second pair having peripheral indicatory type along the helical lines corresponding and alined with the zeros on the numerical wheels, means to rotate the wheels, and means to cause impressions to be made from each pair.

2. In a device of the class named, the combination of a wheel having peripheral equidistant groups of numerals arranged in arithmetical progression at a difference equal to the quotient of the number of groups and a period of time, the position of the zero being transversely advanced in each successive group, a wheel having a peripheral indicatory type along a line corresponding and alined with the zeros of the numerical wheel and means to rotate the said wheels in unison at the ratio of one revolution in the period.

3. In a device of the class named, the combination of a wheel having on its peripheral face a plurality of series of equidistant groups of numerals arranged in arithmetical progression at a ratio equal to the quotient of the total number of groups and a period of time, the position of the zero in each series being transversely uniformly advanced in each successive group, a wheel having peripheral indicative type along lines corresponding and alined with the zeros of the series on the numerical wheel and means to rotate the said wheels in unison at a rate of one revolution in the stated period.

4. In a device of the class named the combination of two impression-wheels having on their peripheral faces respectively, equidistant groups of numerals arranged in arithmetical progression at a ratio equal to the quotient of the number of groups and the length of one hour, their zeros advancing transversely in position in each successive group and indicative type along a line corresponding and in alinement with the zeros, two impression-wheels having on their peripheral faces respectively a plurality of groups of consecutive numerals denoting the number of hours in a space of time, whose zeros advance transversely in position in each successive group, and indicative type along lines corresponding and in alinement with the zeros, means to rotate the first two wheels at a rate of one revolution in the stated period, means to rotate the last two wheels at a velocity of one revolution in as many hours as the number of numerals in each group, the numerical and the indicatory wheels being separated in pairs and means to cause impressions to be made from each pair.

5. In a device of the class named, the combination of the revoluble impression-wheels, means to hold a card relatively thereto, a platen adapted to engage the card, an inking-strip wound on opposite spools and between the opposite faces of the card and the wheels, and endless sprocket-chain operatively connecting the spools and manual means to actuate the platen and having a dog adapted to engage the chain while operating.

6. In a device of the class named, the combination of sets of revoluble impression-wheels, means to hold a ticket in operative relation to each set, independent platens to engage the ticket, inking-strips adapted to engage the wheels, wound on opposite spools, a sprocket-chain operatively connecting the spools, operating-levers adapted to actuate the respective platens and dogs connected with the said levers to respectively move the chain in opposite directions.

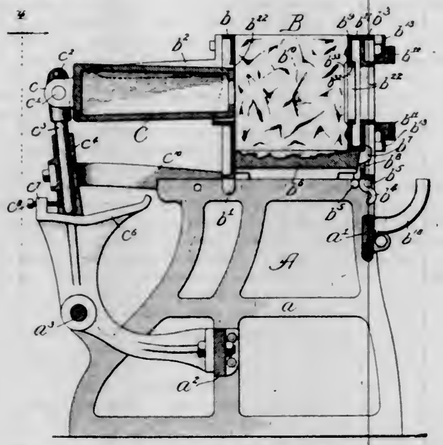
7. In a device for measuring and recording intervals of time, the combination with a suitable motor of centrally-alined, diametrically-corresponding impression-wheels, arranged in pairs, and means to cause separate impressions to be made from each pair, the wheels of one of the said pairs having on their circumferential surfaces, respectively a series of progressive numerals denoting the number of hours contained in a space of time and the number of aliquot parts contained in one period, and the wheels of the other pair having on their peripheral surfaces indicative type arranged to indicate, when printed over the first-made impression the length of the interval in time between the actions for making the two imprints.

8. In a device of the class named, the combination of two sets of diametrically-corresponding wheels, means to rotate the sets at uniform, relatively different velocities, the wheels comprising the sets being separated in two remote, centrally-alined pairs, respectively having along their circumferential surfaces groups of progressional numerals denoting the number of hours in a period and the number of aliquot fractions in an hour, and indicatory type arranged in helical lines corresponding with and alined with the zeros of the numerical wheels, and means to cause separate impressions to be made from each pair.

9. In a device of the class named, the combination of revoluble impression-wheels, an electromagnet arranged to cause rotation thereof, a motor to intermittently energize the magnet during uniform fractions of a period, and

means to periodically interrupt the connection between the said motor and the said magnet during predetermined periods which exceed the length of intermission between the uniform periods of energization.

844,709. BLOCK-FORMING MACHINE. WILLIAM C. BURRELL, Bradley, Ill. Filed Aug. 23, 1906. Serial No. 331,724.



Claim.—1. In a machine for the purpose set forth, the combination with a mold having a core-receiving aperture, of a suitable frame, a member mounted to swing with relation thereto, a core actuated by said member, and adapted to move into said aperture, and cam connections between the frame and core, for the purpose set forth.

2. In a machine for the purpose set forth, the combination of a mold having a core-receiving aperture, or a suitable frame, a member mounted to swing with relation thereto and equipped with a guide, a core equipped with a stem movable in said guide, and a cam supporting said stem.

3. The combination of a frame, a mold having a pivoted rear plate provided with an aperture, a swinging member mounted on the frame in the rear of said plate, means for actuating said swinging member, a cam, and a core having a stem slidably connected with said swinging member and bearing upon said cam.

4. The combination of a frame, a mold supported thereon and provided with two sets of core-receiving apertures, a pair of cores movable in said apertures and mounted upon a stem, a swinging member mounted on the frame and equipped with a guide receiving said stem, and a cam mounted on the frame and supporting said stem.

5. The combination of a frame, a mold supported thereon and provided with two sets of apertures, a pair of cores movable in said apertures and equipped with a stem, a member pivoted on the frame and equipped with actuating-arms extending forwardly at the ends of the frame, said stem having sliding connection with said swinging member, and a cam supporting said stem.

6. In a machine for the purpose set forth, the combination of a frame and a mold-box mounted on the frame comprising a rear plate, a front plate having detachable pivotal connection with the frame serving to permit the front plate to drop into a horizontal position and be sustained in said position, and a bottom plate having hooked connection with the front plate near the lower edge thereof for the purpose set forth.

7. A machine for the purpose set forth comprising a frame, and a mold-box mounted thereon comprising a rear pivotally-supported plate, a front plate equipped at its lower edge with double-curved hooks engaging suitable sockets with which the frame is provided, a bottom plate having hook connection with the front plate near the lower edge thereof, and a pallet adjacent to the front plate having an edge resting upon the bottom plate adjacent to the hook thereon.

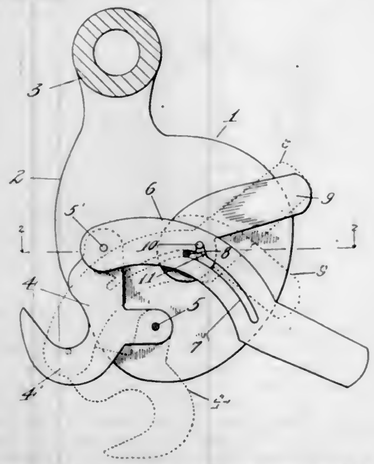
8. The combination of a frame, a pair of rearwardly-movable cores supported thereon, and a mold in which said cores extend, said mold comprising a pivotally-supported rear plate having a core-receiving opening, a front plate having detachable pivotal connection at its lower edge with the frame and equipped at its ends with pivots projecting a distance from the ends of the front plate, and plates having hooks engaging said pivots, a pallet having lugs projecting from its ends which underlie the end plates in the closed condition of the mold, and means for securing the free edges of said end plates to the rear plate for the purpose set forth.

9. The combination of a frame, a rearwardly-movable core mounted thereon, and a mold-box mounted on the frame, and in which said core is entered, said mold-box comprising a rear movably-extending plate equipped with a rearwardly-extending arm, a pivotally-supported front plate, a bottom plate detachably connected with the front plate, and plates pivotally connected with the front plate, and means for securing the end plates to the rear plate.

10. A pallet for the purpose set forth comprising a rectangular sheet-metal member having notched corners and the flanges thereby formed bent at right angles to the body of the plate, the body of the plate having apertures therein, with the metal adjacent to the apertures struck outwardly to form flanges for the purpose set forth.

11. A pallet for the purpose set forth comprising a rectangular sheet-metal plate having notched corners and the flanges thereby formed struck outwardly at right angles to the body of the plate, clips joining said flanges, lugs connected with the end flanges, apertures through the body of the plate with the bordering metal struck outwardly, and embossments on the body of the plate struck inward for the purpose set forth.

844,710. RELEASABLE CONNECTION. EDWIN S. CLOUGH, Seattle, Wash., assignor of one-half to Herald Biekum, Seattle, Wash. Filed Aug. 11, 1906. Serial No. 330,261.



Claim.—1. A releasable connection comprising a support, an attaching member swingably mounted thereon, a latch connected with said member and having a longitudinally-extending slot, a detent normally engaged with said latch to lock the same and fitting in said slot, and a trigger mounted on said support and connected with said detent.

2. A releasable connection comprising a support, an attaching member swingably mounted thereon, a latch connected with said member and having a longitudinally-extending slot, a stop secured to said support and engaged in said slot, and a trigger mounted on said support and normally engaged with said latch to lock the same.

3. A releasable connection comprising a support, an attaching member swingably mounted thereon, a latch pivotally connected with said member and having a longitudinally-extending slot, a stop secured to said support rearwardly of said member and engaging in said slot, and a trigger mounted on said support and normally engaged with said latch to lock the same.

4. A releasable connection comprising a support, an attaching member swingably mounted thereon, a latch pivotally connected with said member provided with a longitudinally-extending slot having a lateral extension, and a trigger mounted on said support rearwardly of said member and having a detent fitting in said opening and normally engaging in said extension.

5. A releasable connection comprising a support, an attaching member swingably mounted thereon, a latch pivotally connected with said member provided with a longitudinally-extending slot having a lateral extension formed with one of its walls inclined, and a trigger mounted on said support and having a detent fitting in said slot and normally engaging said wall of the extension.

6. A releasable connection comprising a support, an attaching member swingably mounted thereon, a latch pivotally connected with said member above the point of swing thereof and provided with a longitudinally-extending arch-shaped slot having a lateral extension, a stop secured to the support rearwardly of said member and engaged in said slot, and a trigger pivotally supported on said stop and having an eccentrically-disposed detent fitting in said slot and normally engaging in said extension.

7. A releasable connection comprising a support, an attaching member swingably mounted thereon, a latch movably connected with said member, a trigger pivotally mounted on said support and having an eccentrically-disposed detent normally engaged with said latch, and means engaging said latch to normally secure it from moving into disengaging position relatively to said detent.

8. A releasable connection comprising a support, an attaching member swingably mounted thereon, a latch pivotally connected with said member above the point of swing thereof, a trigger pivotally mounted on said support rearwardly of said member and having an eccentrically-disposed detent normally engaged with said latch, and means whereby said latch is normally secured from moving into disengaging position relatively to said detent.

844,711. MACHINE FOR MAKING CEMENT BUILDING-BLOCKS. ARTHUR H. COOMBS, Chicago, Ill., assignor of one-half to Olga S. Coombs, Chicago, Ill. Filed Aug. 11, 1906. Serial No. 330,123.

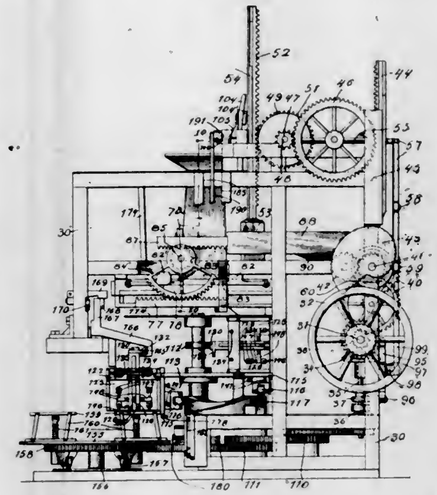
Claim.—1. In a machine of the character described, the combination of a mold, a tamper, a constantly-running power-shaft, a gearing connection between the tamper and the power-shaft, including a releasable element, and means for automatically operating said releasable element in timed relation to a rotation of the shaft.

2. In a machine of the character described, the combination of a mold, a tamper, a constantly-running power-shaft, operating connection between said power-shaft and the tamper, including a releasable element, and means operatively associated with the power-shaft for timing the operation of said releasable element.

3. In a machine of the character described, the combination of a mold, a tamper, a constantly-running power-shaft, operating connection between said shaft and the tamper including a clutch, and a clutch-operating cam on the power-shaft.

4. In a machine of the character described, the combination of a tamper, a constantly-running power-shaft, a cam thereon, a primary rack-bar controlled by said cam, a secondary rack-bar, a tamper carried by the secondary rack-bar, gearing connections between said rack-bars, including a releasable element, and means for automatically operating said releasable element to sever the operating connection between the rack-bars.

5. In a machine of the character described, the combination of a tamper, a constantly-running power-shaft, a cam thereon, a primary rack-bar operated by said cam, a secondary rack-bar, gearing connections between said rack-bars including a clutch, and means for automatically operating said clutch in timed relation to said cam.



6. In a machine of the character described, the combination of a mold, a tamper coacting therewith, means for securing the elevation and descent of the tamper, a material-reservoir, and means for conveying material from the reservoir to the mold and evenly distributing it therein, in proper timed relation to the movements of the tamper.

7. In a machine of the character described, the combination of a mold, a tamper coacting therewith, means for securing the elevation and descent of the tamper, a material-reservoir, a drawer for conveying measured quantities of material from the reservoir to the mold, means for actuating said drawer in proper timed relation to the tamper, and means for evenly distributing the material from the drawer into the mold.

8. In a machine of the character described, the combination of a mold, a tamper, means for securing the elevation and descent of the tamper, material-supply devices for the mold comprising a sliding drawer, means for distributing the material from said drawer into the mold comprising a slide movable to close or open the drawer-bottom, and means for actuating said drawer and slide, timed in relation to the movement of the tamper.

9. In a machine of the character described, the combination of a mold, a material-reservoir, a drawer, a slide forming a movable bottom for said drawer, means for moving said drawer and slide together above the mold and returning the slide in advance of the drawer.

10. In a machine of the character described, the combination with a mold, of material-supply devices comprising a drawer, a slide with lost-motion connection with said drawer, means for moving the slide into and out of register with the drawer and mold, and means for holding the drawer against movement during predetermined portions of each movement of the slide.

11. In a machine of the character described the combination of a mold, a rotary carrier therefor, a feed-mouth wherethrough material may be fed to the mold, and a part apertured at the mold and rotatable with the mold-carrier, for closing said feed-mouth when the mold is removed from register therewith.

12. In a machine of the character described, the combination of a mold, a carrier therefor, rotatable on a vertical axis, a horizontal feed-mouth, and an apertured disk rotatable with the carrier for closing said feed-mouth when the mold is out of register therewith.

13. In a machine of the character described, the combination with a mold movable into and out of position to be filled, mold-filling devices, and means, timed in operation by the mold-filling devices, for removing the mold from filling position when properly filled.

14. In a machine of the character described, a plurality of molds, a carrier therefor, a mold-filling means, and means timed in relation to the mold-filling means, for operating the carrier to remove the filled mold and substitute another.

15. In a machine of the character described, the combination of a closable mold, means for filling and tamping said mold, and means, timed by the mold-filling means, for automatically opening said mold when properly filled.

16. In a machine of the character described, the combination with a mold arranged to be opened, of means for filling and tamping said mold, and means, timed by the mold-filling means, for successively opening and closing said mold.

17. In a machine of the character described, the combination with a mold adapted to be opened, of means for filling said mold, and means timed by said mold-filling means for removing said mold from filling position and opening the mold, and subsequently restoring said mold to filling position in closed condition.

18. In a machine of the character described, a mold, a tamper, means for intermittently feeding material to the mold, and means for actuating said feeding means and tamper to successively supply to the mold a plurality of relatively small charges of material and tamp each charge therein.

19. In a machine of the character described, a mold, a tamper, means for intermittently feeding small bodies of material to the mold and distributing each evenly therein, and means for actuating the tamper after each such feeding and distribution of material to the mold.

20. In a machine of the character described, a mold, a tamper adapted to substantially fill the material-containing space of the mold, means for intermittently feeding relatively small bodies of material to the mold, means for distributing each body evenly throughout the material-containing space of the mold, and means for actuating the tamper to tamp each body of material in the mold after its distribution therein.

21. In a machine of the character described, a mold, mold-filling means comprising a means for feeding material to the mold, a tamper and means for actuating said feeding means and tamper to supply a succession of small charges to the mold and tamp each thereof therein, and means for removing the mold from filling position timed by the mold-filling means.

22. In a machine of the character described, a mold mounted for rotation about a vertical axis extraneous to the mold, a material-reservoir, mold-filling means comprising means for conveying material from the reservoir to the mold, a vertically-reciprocating tamper, and means for alternatively operating the material-conveying means and tamper to supply to and tamp in the mold a succession of charges of material combined with means for rotating the mold on its vertical axis, timed by the mold-filling means.

23. In a machine of the character described, a mold, mold-filling devices, means for moving the mold to and from filling position, means for supplying power to said mold filling and moving means, means for connecting said mold-filling devices with the means of power-supply controlled by the mold-moving devices, and means for connecting said mold-moving devices with the means of power-supply controlled by the mold-filling devices.

24. In a machine of the character described, a power-shaft, a mold, mold-filling devices, a clutch for connecting said mold-filling devices with the power-shaft, means for removing said mold from association with the filling devices, a clutch for connecting said removing means with the power-shaft, means controlled by the filling devices for actuating the second said clutch, and means controlled by the mold-removing means for actuating the first said clutch.

25. In a machine of the character described, power appliances, a mold, mold-filling devices, a clutch for connecting the mold-filling devices with the power appliances, means for removing said molds from association with the filling devices, a clutch for connecting said removing means with the power appliances, a common operating device for said clutches arranged to alternately actuate the clutches, means associated with the mold-filling devices for moving said clutch-actuating devices to connect one clutch, and controlled by the mold-removing devices for actuating the other clutch.

26. In a machine of the character described, a power-shaft, a tamper, vertically-reciprocable means for connecting said tamper with the power-shaft including a reversible element, and means for operating the reversible element to permit the free descent of the tamper, and insure its subsequent elevation a predetermined distance above the terminal point of its previous stroke, a mold, mold-moving means, mold-filling means, clutches for connecting the mold-filling and mold-moving means with the power-shaft, means for automatically actuating said clutches to disable one while the other is operating, said means comprising a lever, a latch carried by said lever coöperating with a part movable with the tamper to operatively move the lever when the mold is filled, and means, associated with the mold-moving devices for actuating the lever when the mold-moving devices have completed their functional operation.

27. In a machine of the character described, the combination of a mold, movable about a vertical axis from filling to discharging position, and hinged on a horizontal axis for oscillation from normal position to a position at an angle thereto, with means for moving the mold about its vertical axis, and means controlling the oscillation of the mold on its horizontal axis, timed to admit of such movement in proper timed relation to its rotation on its vertical axis.

28. In a machine of the character described, the combination of a mold adapted to be opened or closed, mounted for revolution about a vertical axis to be moved to and from filling position, block-receiving means out of vertical alinement with the mold-filling position, means for revolving the mold about its vertical axis, and means for controlling the opening and closing of the mold, for automatically opening the mold in discharging position and closing the same during its return to filling position.

29. In a machine of the character described, mold filling and tamping devices, a shaft, a table carried by said shaft having pivoted leaves, molds carried by said leaves movable by rotation of the shaft into operative association with the mold filling and tamping devices, a means for guiding the mold-carrying leaves, from one plane assumed when in filling position to a plane at an angle thereto in discharging position.

30. In a machine of the character described, mold-filling devices, mold-carrying devices comprising a rotatable table having pivoted leaves, molds carried upon said leaves, and means for raising each leaf to position the mold to be filled and lowering said leaf to position in mold to be emptied.

31. In a machine of the character described, mold-filling devices, including a vertically-reciprocable member, a rotary mold-table provided with a hinged leaf, means for guiding said leaf from horizontal position in alinement with the reciprocable member of the mold-filling devices, to a vertical position remote from the first said position, and a mold, carried by said leaf arranged to deposit its contents from the side which is downward when the table-leaf is in vertical position remote from filling position.

32. In a machine of the character described, a mold provided with hinged wings and a reciprocable head for pivotally moving said wings to open and close the mold, a rotatable table provided with a hinged leaf whereon a mold is mounted, with the free edges of the wing at right angles to the plane of the leaf at the side remote from the axis of rotation, means for rotating the table and means for guiding the leaf, during the rotation of the table from horizontal position at the point where the mold is filled, to a vertical position at a point remote therefrom.

33. A mold of the character described, provided with pivoted wings, forming faces of the mold, and means for simultaneously adjusting the pivotal axes of the wings toward and from each other.

34. In a machine of the character described, a movable mold having pivoted wings, a shaft carrying said mold to and from filling position, and means for moving the wings, arranged when the mold is in filling position for coaction with the shaft to maintain the mold closed.

35. In a machine of the character described, a vertical shaft, means for rotating the shaft, a support upon said shaft, a mold, horizontally pivoted to said support, and provided with movable wings, means for changing the position of the mold on its horizontal axis from vertical to substantially horizontal as the mold is moved from filling position to discharging position, to permit the mold to be opened, and means for moving the mold-wings to closed position, arranged to coact with the vertical shaft during the restoration of the mold to filling position.

36. In a machine of the character described, a vertical shaft, means for rotating the shaft, a support on the shaft, a mold pivoted horizontally on said support, and comprising side wings pivoted along the edges thereof, which are adjacent the vertical shaft when the mold is upright, means for changing the position of the mold from upright in filling position to horizontal in discharging position, and means for opening the side wings, to downwardly discharge the contents of the mold when in discharging position.

37. In a machine of the character described, mold-filling appliances, mold-moving means, a mold associated with said moving means for movement from filling position to position to be opened, said mold being provided with movable parts adapted to open the mold, and means for actuating said movable part associated with the mold-filling means for operation thereby.

38. In a machine of the character described, a movable mold comprising pivoted wings, and means for moving the wings to open and close the mold, means for moving the mold to and from filling position, means for opening and closing the mold, and means for inserting a pallet-board therein between the free edges of the wings.

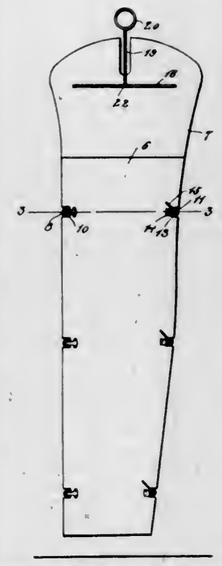
39. In a machine of the character described, a mold movable about an extraneous vertical axis and pivoted on a horizontal axis, comprising permanent walls constituting three vertical sides of the mold when in filling position, and the fourth open side of the mold being arranged for closure by a pallet-board, means for moving the mold about its vertical axis, means for guiding the mold from vertical position to angular position and back to vertical, in a cycle of rotation thereof about its vertical axis, and means for inserting a pallet-board to close the open side of the mold during its movement from angular to vertical position.

844,712. TROUSERS-PRESS. HARRY DALITZ, Cleveland, Ohio. Filed Sept. 5, 1906. Serial No. 333,318.

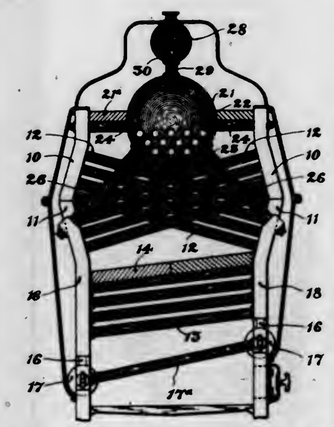
Claim.—1. A press comprising a pair of boards having notches in their edges, and coiled springs located in the notches and connecting the boards at opposite edges, the boards having at one edge hinge members projecting at the notches and connected to the ends of the springs, and having projections at the notches in the opposite edge connected to the ends of the springs, the connections to said projections on one board being detachable.

2. A trousers-press comprising a pair of boards and means to clamp the same together, one of said boards being extended at the head beyond the other, and a clip-bar extending across said head and having a coiled spring projecting beyond said head, substantially as described.

844,712.



844,713. WATER-TUBE STEAM-BOILER. HARRY DEL MAR, New York, N. Y. Filed Dec. 3, 1906. Serial No. 345,981.



Claim.—1. A cross-tube sectional boiler having side headers, a series of cross-tubes connecting the opposed headers, a steam-drum to contain steam and water and lying above the cross-tubes, connections between the steam-drum and the headers, and a baffle above the tubes leading from the steam-drum to the headers.

2. A cross-tube sectional water-tube boiler, having in combination a series of headers forming the boiler sides, cross-tubes connecting the opposed headers, a drum to contain steam and water, the said drum lying above the series of cross-tubes, fire-tubes extending longitudinally through the drum, connections between the drum and the upper parts of the headers, and downtake-pipes leading from the drum to the lower part of the boiler circulation system.

3. A cross-tube sectional water-tube boiler, having a steam-drum included in the circulation system and provided with longitudinal fire-tubes, a steam-dome above and connected with the steam-drum, and means for diverting a

part of the products of combustion into a tube extending longitudinally through the steam-dome.

4. In a boiler of the kind described, the combination of the steam-drum included in the boiler circulation, the steam-dome connected with the steam-drum and having a fire-tube therethrough, and a connection between the fire-tube of the steam-dome, and the furnace whereby the products of combustion may be diverted through the fire-tube.

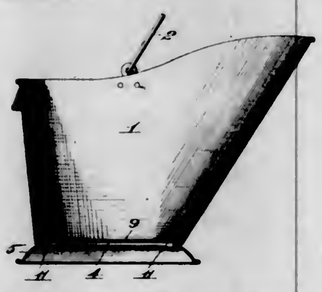
5. In a boiler of the kind described, the combination of the steam-drum connected with the boiler circulation, the steam-dome connected with the drum and having a fire-tube therethrough, and a damper-controlled flue leading from the combustion-chamber of the boiler to the fire-tube of the steam-dome.

6. In a boiler of the kind described, the combination of the steam-drum, the mud-drums, the corner water-legs connected to the mud-drums, the water-legs beneath the steam-drums, and connections between the last-named water-legs and the corner water-legs.

7. In a boiler of the kind described, the combination with the steam-drum, the corner water-legs, and the mud drums connected with the corner water-legs, of water-legs underlying the steam-drum and connected therewith, tube connections between the said underlying water-legs, and tube connections between the said underlying water-legs and the corner water-legs.

8. A boiler of the kind described, comprising upper and lower opposed headers, upper and lower series of cross-tubes connecting the headers, a baffle between the upper and lower series of cross-tubes, a combustion-chamber leading from below the baffle and discharging above the baffle, a steam-drum having fire-tubes therethrough, said fire-tubes connecting with the combustion-chamber, water-legs at the corners of the boiler, mud-drums connected with the water-legs and with the lower headers, water-legs underlying the steam-drum and connected therewith, and connections between the last-named water-legs and the corner water-legs.

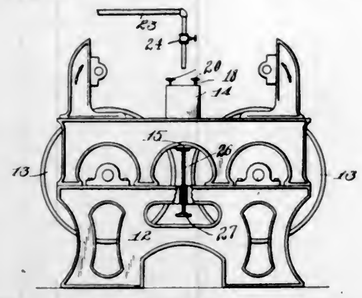
844,714. COAL-HOD. GEORGE J. DUFFETT, St. Louis, Mo., assignor to Simmons Hardware Company, St. Louis, Mo., a Corporation of Missouri. Filed Aug. 13, 1904. Serial No. 220,629.



Claim.—1. In a coal-hod, the combination of a single-piece base comprising a bottom, and an annular rim, an inturned horizontal shoulder on the annular rim, an upturned neck on the inturned shoulder and joined to a return horizontal bend on the bottom part; a body having an internal horizontal flange surrounding the upturned neck and seating upon the inturned horizontal shoulder and an upper bottom sheet having a downturned vertical flange fitting between the body and the return horizontal bend, and an inturned horizontal tongue surrounding the upturned neck and fitting between the return horizontal bend and the internal flange, one of the bottom sheets having a free perforation for the egress of air during manufacture of the hod.

2. A coal-hod comprising an annular rim formed with a lower bottom sheet, a body secured to the annular rim, and an upper bottom sheet secured to the annular rim, one of the bottom sheets having a free perforation for the egress of air during manufacture of the hod.

844,715. EVAPORATOR. ANDREW A. DUNHAM, Adams, N. Y., assignor to Casein Company of America, a Corporation of New Jersey. Filed Oct. 14, 1904. Serial No. 228,442.



Claim.—1. In an evaporating apparatus, the combination with two evaporating-cylinders arranged adjacent to but spaced apart from each other, of a separate supply-tank arranged closely adjacent to and between said cylinders and the outer walls of which, and the surfaces of said cylinders, form receptacles for holding the material to be evaporated, said supply-tank being vertically adjustable so that its bottom may be brought into any desired degree of proximity to the said cylinders.

2. In an evaporating apparatus, the combination with two evaporating-cylinders arranged adjacent to but spaced apart from each other, of a separate supply-tank arranged between said cylinders and from which the material to be evaporated is fed to the cylinders, said supply-tank being provided with means for varying or regulating the temperature of the material held therein.

844,716. PUZZLE. ADOLPH G. P. EBERT, Pittsburg, Pa. Filed Oct. 2, 1906. Serial No. 337,150.



Claim.—1. A puzzle consisting of a cylindrical box or casing, a mirror mounted in the bottom of said casing, a toothed ring or annulus mounted centrally of said mirror, balls mounted upon said mirror, a lining carried by the inner sides of said box or casing, a transparent plate mounted upon said box or casing, and a rim fitting upon said box or casing and adapted to hold said plate thereon, substantially as described.

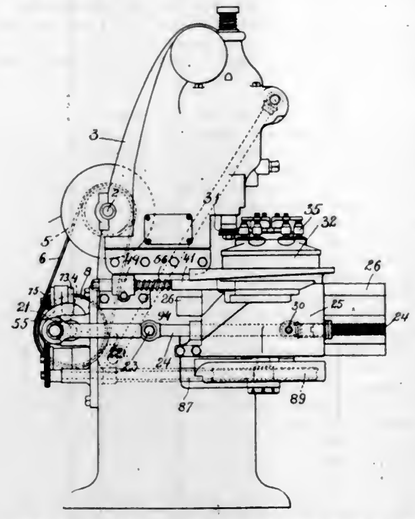
2. A puzzle consisting of a box or casing, a mirror arranged upon the bottom thereof, a ring or annulus carried centrally of said mirror, a beveled entrance-plate carried by said ring or annulus and having a notch formed therein, balls carried by said mirror, and means to retain said balls within said casing, substantially as described.

3. A puzzle embodying a casing, a plate mounted in said casing, a ring or annulus carried by said plate and having a notched entrance-plate, balls adapted to move upon said plate, and means to retain said balls within said casing, substantially as described.

4. A puzzle embodying a box or casing having a transparent cover, a ring on the bottom of the box or casing having a notched inclined entrance-plate, and balls inclosed within the box or casing adapted to be guided into said ring by the notched inclined entrance-plate.

5. A puzzle embodying a box or casing, a ring on the bottom of said box or casing having a serrated periphery and having a notched inclined entrance-plate projecting beyond the body of the ring, and balls within the box adapted to be guided into the ring by said notched inclined entrance-plate.

844,717. TURRET GEAR-CUTTER. EDWIN R. FELLOWS, Springfield, Vt., assignor to The Fellows Gear Shaper Company, Springfield, Vt., a Corporation of Vermont. Filed Apr. 24, 1905. Serial No. 257,077.



Claim.—1. A gear-cutting machine comprising a frame, a reciprocatable and rotatable gear-cutter, a multiple blank holder or support adapted to carry at one time a plurality of similar gear-blanks to be acted on successively by one cutter, means for moving said support to present successive blanks in operative relation to the cutter, and means for rotating a blank.

2. The combination of a metal-planing cutter having a circular series of radiating or outwardly-projecting gear-shaped metal-planing teeth, a multiple blank holder or support adapted to carry a plurality of gear-blanks and movable to present them successively to the cutter, means for reciprocating one of said parts to cause the cutter to plane the blank, and means for changing the relative positions of said parts to cause the said teeth to act successively at different points on the blank and generate the curves of gear-teeth thereon.

3. The combination of a metal-planing cutter having a circular series of radiating or outwardly-projecting gear-shaped metal-planing teeth, a multiple blank holder or support for carrying a plurality of similar blanks, means for reciprocating one of said parts to cause the cutter to plane the blank, means for changing the relative positions of said parts to cause the said teeth to act successively at different points on the blank and generate the curves of gear-teeth thereon, and means for changing the relative positions of the cutter and blank-holder to present successive blanks to the action of the cutter.

4. The combination of a gear-shaped metal-planing cutter having external gear-shaped teeth arranged in a circular series, a multiple blank-holder, cutter-operating mechanism having provision for progressively rotating said cutter to make its teeth successively operative, the cutter being reciprocable to give the operative teeth their cutting and return movements, mechanism for feeding the blank rotarily, and mechanism for operating the blank-holder to present successive blanks to the action of the cutter.

5. The combination of a metal-planing cutter having a series of projecting teeth adapted to have reciprocating and lateral motions with respect to a rotating blank to cut gear-teeth on the latter, a multiple blank-holder rotatably mounted, and means for rotating the holder step by step to present successive blanks in position to be engaged by the cutter.

6. The combination of a rotatable gear-shaped planing-cutter, a multiple blank-holder comprising a rotatable turret and rotatable blank-holding means arranged with one of said blank-holding means adjacent the cutter, means for rotating the turret to bring successive blanks adjacent the cutter, and mechanism for rotating one of said blank-holding means independently of the motion of the turret at a slow speed simultaneously with the cutter.

7. The combination of a rotatable gear-shaped planing-cutter, a multiple blank-holder comprising a rotatable turret and rotatable blank-holding means arranged with one of said blank-holding means adjacent the cutter, means for rotating the turret to bring successive blanks adjacent the cutter, and mechanism arranged for detachable engagement with the blank-holding means nearest the cutter for rotating simultaneously both the cutter and said holding means.

8. The combination of a rotatable gear-shaped planing-cutter, a multiple blank-holder comprising a rotatable turret and rotatable blank-holding means arranged with one of said blank-holding means adjacent the cutter, means for rotating the turret to bring successive blanks adjacent the cutter, and mechanism comprising a rotatable shaft mounted within the periphery of the turret and between the center thereof and the cutter, means for rotating said shaft, and connections adapted to be put in detachable and rotatable engagement with the blank-holding means nearest the cutter as the turret is rotated, for rotating the blank-holding means and blank held thereby which is being acted on by the cutter.

9. The combination of a rotatable gear-shaped planing-cutter, a multiple blank-holder comprising a rotatable turret and rotatable blank-holding means arranged with one of said blank-holding means adjacent the cutter, means for rotating the turret to bring successive blanks adjacent the cutter, and mechanism for rotating the blank-holding means nearest the cutter, comprising a shaft eccentric to the turret and stationary with respect to the rotary motion thereof, the shaft being located between the cutter and the center of the turret and within the periphery of the latter, means for rotating the shaft, a clutch member carried by said shaft, and complemental clutch members carried by said blank-holding means and adapted to be brought into engagement one at a time with the shaft clutch members.

10. The combination of a rotatable gear-shaped planing-cutter, means for rotating and reciprocating the same, a multiple blank-holder movably mounted and including a rotatable turret and a plurality of blank-holding means carried thereby, mechanism for moving the multiple holder toward and away from the cutter, means operated by such motion for rotating step by step the turret to present the holding means and blanks carried thereby successively to the cutter, and mechanism for independently rotating the blank-holding means including a shaft extensible to permit movement of the holder.

11. The combination of a rotatable gear-shaped planing-cutter, a blank-holder, means for moving the same toward and from the cutter, a shaft rotatably mounted in the holder, driving mechanism connected with both the cutter and said shaft for rotating them simultaneously and including a telescopic shaft extensible to permit the said movement of the holder, a turret rotatably mounted on the holder eccentric of said shaft, a stop arranged to be engaged by the turret as the latter moves with the holder so as to turn the same, a plurality of rotatable blank-spindles carried by the turret successively up to the cutter, and complemental clutch members carried by the shaft and said spindles arranged to connect the shaft with the spindle nearest the cutter to turn the same while the cutter is being turned.

12. In a gear-cutting machine, a cutter, a multiple blank-holder including a rotatable turret and blank-holding means mounted in bearings in the turret and independently rotatable therein, mechanism for moving the same

toward and away from the cutter, and a turret indexing and locking member arranged in the path of the turret to be engaged thereby and arrest the same, causing it to be turned a predetermined amount, and then preventing further turning movement thereof.

13. In a gear-cutting machine, a cutter, a multiple blank-holder comprising a reciprocable body, a turret rotatably mounted thereon, and a plurality of independently-rotatable blank-holding means mounted in bearings in the turret, movable indexing members carried by the turret, means for reciprocating said multiple holder toward and away from the cutter, and a complemental indexing member arranged to engage first one and then a second of said movable members as the holder is reciprocated to index and lock the turret.

14. In a gear-cutting machine, a cutter, a multiple blank-holder comprising a reciprocable body, a turret rotatably mounted thereon, and a plurality of independently-rotatable blank-holding means mounted in bearings in the turret, projections carried by the turret, means for reciprocating said multiple holder toward and away from the cutter, and a stationary dog arranged in the path of said projections so as to be engaged by one of them during part of the motion of the holder toward the cutter to turn the turret, and to yield and move with the holder toward the cutter during the remainder of such motion, whereby the work is enabled to be fed up to the cutter after the turret has been turned.

15. In a gear-cutting machine, a cutter, a multiple blank-holder comprising a reciprocable body, a turret rotatably mounted thereon, and a plurality of independently-rotatable blank-holding means mounted in bearings in the turret, projections mounted on the turret equal in number to the blank-holding means and correspondingly proportioned, means for moving said holder toward and away from the cutter, a carrier, a dog pivotally connected to the carrier and arranged in the path of movement of said projection in position to be engaged by one of the projections during the movement of the holder toward the cutter, the dog and carrier being adapted to offer sufficient resistance to cause rotation of the turret, and an abutment on the carrier arranged for engagement by a projection adjacent that engaging the dog to lock the turret after it has been turned.

16. In a gear-cutting machine, a cutter, a multiple blank-holder comprising a reciprocable body, a turret rotatably mounted thereon, and a plurality of independently-rotatable blank-holding means mounted in bearings in the turret, projections mounted on the turret equal in number to the blank-holding means and correspondingly proportioned, means for moving said holder toward and away from the cutter, a yieldingly-mounted carrier, a dog pivotally connected to the carrier and arranged in the path of movement of said projection in position to be engaged by one of the projections during the movement of the holder toward the cutter, the dog and carrier being adapted to offer sufficient resistance to cause rotation of the turret, and an abutment on the carrier arranged for engagement by a projection adjacent that engaging the dog to lock the turret after it has been turned, the carrier being adapted to yield after engagement of said abutment by said projection and during the remainder of the movement of the holder toward the cutter.

17. In a gear-cutter having a cutter, a turret-support; a turret; multiple blank-holding means; mechanism for moving the turret bodily at a relatively high speed to index the turret and at a reduced speed after the same has been indexed to feed the work, comprising a shaft, differential gearing for rotating the shaft, means controlled by rotation of the shaft for varying the speed thereof, and driving connections between the said shaft and the turret-support.

18. In a machine of the character described, a shaft, a gear fast to said shaft, a plurality of gears adjacent thereto and loose on the shaft, planetary gears engaging the fast gear with one of the loose gears and connecting the loose gears together independently of the fast gear, means for holding stationary either of the loose gears independently, whereby the speed of the shaft may be varied, and driving connections from the shaft to a multiple blank-support to cause reciprocation of the latter at variable speeds.

19. In a machine of the character described, a shaft, a gear fast to said shaft, a plurality of gears adjacent thereto and loose on the shaft, a pinion holder or carrier loose on the shaft, pinions journaled in said carrier and meshing with said gears in such manner as to connect the loose gears together independently of the fast gear, and to connect the fast gear with one of the loose ones, means for rotating the pinion-holder, automatic mechanism for holding first one and then another of said loose gears stationary and then releasing them, whereby the shaft is caused to travel at variable speeds and to remain stationary, and connections from said shaft adapted to reciprocate a blank-holder.

20. In a machine of the character described, a differential driving mechanism comprising a shaft, a gear fast thereto, two gears loosely mounted thereon, a loosely-rotatable carrier, a pair of planetary pinions rigidly united and carried by the carrier in mesh with the fast and one of the loose gears, a second pair of rigidly-united pinions carried by said carrier and meshing with the loose gears independently of the fast gear, means for rotating the carrier, and connections from the shaft arranged to cause reciprocation of a blank-holder.

21. In a machine of the character described, a differential driving mechanism comprising a shaft, a gear fast thereto, two gears loosely mounted thereon, a loosely-rotatable carrier, a pair of planetary pinions rigidly united and carried by the carrier in mesh with the fast and one of the loose gears, a second pair of rigidly-united pinions carried by said carrier and meshing with the loose gears independently of the fast gear, means for resisting motion of one of said loose gears, and connections from the shaft arranged to cause reciprocation of a blank-holder.

22. In a machine of the character described, a differential driving mechanism comprising a shaft, a gear fast thereto, two gears loosely mounted thereon, a loosely-rotatable carrier, a pair of planetary pinions rigidly united and carried by the carrier in mesh with the fast and one of the loose gears, a second pair of rigidly-united pinions carried by said carrier and meshing with the loose gears independently of the fast gear, means for rotating the carrier, automatic mechanism controlled by the shaft for resisting the motion of one of said loose gears, and connections from the shaft arranged to cause reciprocation of a blank-holder.

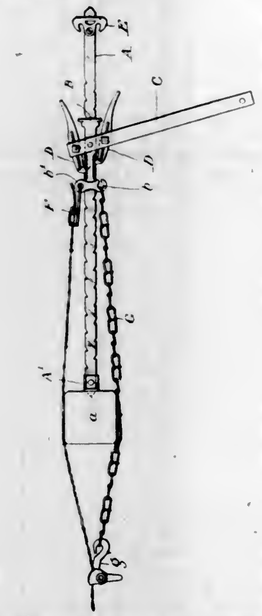
23. In a machine of the character described, a differential driving mechanism comprising a shaft, a gear fast thereto, two gears loosely mounted thereon, a loosely-rotatable carrier, a pair of planetary pinions rigidly united and carried by the carrier in mesh with the fast and one of the loose gears, a second pair of rigidly-united pinions carried by said carrier and meshing with the loose gears independently of the fast gear, means for rotating the carrier, members arranged to engage and arrest said loose gears, automatic operating mechanism therefor controlled by the shaft and arranged to engage one of said members with one of the loose gears and simultaneously disengage the other member and gear, whereby varying differential speeds of the shaft may be obtained, and connections from the shaft arranged to cause reciprocation of a blank-holder.

24. In a machine of the character specified, a gear-cutter, a multiple blank-holder movable bodily toward and away from the cutter, means for causing the holder to turn as it is so moved, a driving-shaft connected to the blank-holder for reciprocating the same, and driving means for the shaft adapted to rotate the shaft at different speeds, whereby the holder is moved first at a relatively high speed while it is being turned, and then more slowly to give the depth feed to the work.

25. In a machine of the character specified, a rotary and reciprocatory planing-cutter, a multiple blank-holding turret, mechanism for synchronously rotating the cutter and a blank adjacent the cutter, a normally stationary shaft connected to reciprocate said turret, and mechanism timed to operate at the conclusion of the operation on a blank to set the shaft in motion for moving the turret away from the cutter and indexing the turret to present a new blank to the cutter.

26. In a machine of the character specified, a rotary and reciprocatory planing-cutter, a multiple blank-holding turret, mechanism for synchronously rotating the cutter and a blank adjacent the cutter, a normally stationary shaft connected to reciprocate said turret, mechanism timed to operate at the conclusion of the operation on a blank to set the shaft in motion for moving the turret away from the cutter and indexing the turret to present a new blank to the cutter, and means carried by the shaft for operating said mechanism to reduce the speed of the shaft and turret during the last portion of the movement thereof toward the cutter.

844,718. WIRE-STRETCHER. HENRY L. FERRIS, Harvard, Ill., assignor to Hunt, Helm, Ferris & Company, Harvard, Ill., a Corporation of Illinois. Filed May 13, 1905. Serial No. 260,210.

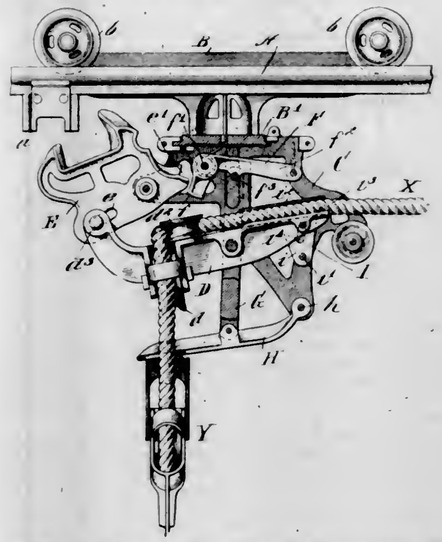


Claim.—1. The combination with a stretcher-bar adapted to bear against a support, and to extend substantially in the line of the wire to be stretched, of a movable slide carried by the bar, a chain adapted to pass on one side of the support and having one end secured to the slide and the other end adapted to be connected to the wire to be stretched, and a wire passing upon the opposite side of the support and serving to transmit a balanced pull whereby the bar is maintained in proper position.

2. The combination with a stretcher-bar adapted to bear against a support and to extend substantially in the line of the wire to be stretched, of a movable slide upon the bar, a chain having one end attached to the slide and having a clamp upon the other end, said chain being adapted to be passed on one side of the support and to be connected to the wire to be stretched, and balancing means for the chain passing upon the opposite side of the support and extending to the slide.

3. The combination with a stretcher-bar adapted to bear against a support and to extend substantially in the line of the wire to be stretched, of a slide movable upon the bar, a chain having one end connected to the slide and having at its opposite end a clamp, said chain being adapted to be passed upon one side of the support and secured to the wire in advance thereof, the wire to be stretched being passed upon the opposite side of the support and secured to the slide.

844,719. HAY-CARRIER. HENRY L. FERRIS, Harvard, Ill., assignor to Hunt, Helm, Ferris & Company, Harvard, Ill., a Corporation of Illinois. Filed Sept. 13, 1905. Serial No. 278,323.



Claim.—1. The combination with a hay-carrier frame, of a pulley-supporting member movable therein, clamping means actuated by the pulley-supporting member and adapted to clamp the rope, means for locking and tripping the pulley-supporting member and two pulleys carried by the pulley-supporting member in a single plane at right angles to the pulley-supporting member and to the frame.

2. The combination with a hay-carrier frame, of a pulley-supporting member movable therein, clamping means operated by the pulley-supporting member and adapted to clamp a rope, means for locking and tripping the pulley-supporting member, two pulleys in a single plane at right angles to said pulley-supporting member and carried thereby and symmetrically disposed with respect to the central line of said frame, and means for directing a rope from said pulleys into the central line of said frame.

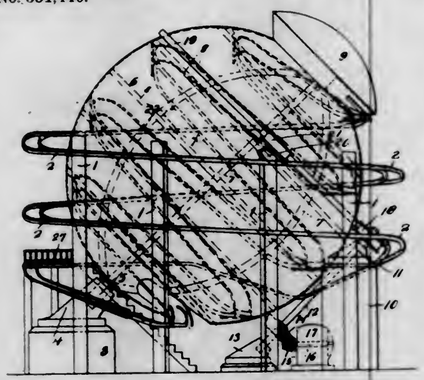
3. The combination with a frame and a pulley-supporting member pivoted therein, of two pulleys in a single plane at right angles to the length of the frame and secured to the pulley-supporting member symmetrically with respect to its pivot upon the frame.

4. The combination with a carriage and a frame swiveled thereto, of a locking-dog for the operating parts of the device, a lever operating to lock the frame to the carriage to prevent its rotation, a strong spring holding said lever in engaging position, a weaker spring holding the locking-dog in engaging position, and a cord running over the lever and connected to the locking-dog whereby a pull on said cord will first release the locking-dog and subsequently release the frame from the carriage to permit its rotation.

5. The combination with a frame, a pulley-supporting member and a pulley supported thereby over which the main rope of the device runs, of a jaw fixed on said pulley-supporting device, mechanism for tripping the pulley-supporting member, a second jaw pivoted in the frame and opposed to the jaw on said pulley-supporting member, and a pin-and-slot connection between the pulley-supporting member and said pivoted jaw, the slot of said connection being constructed to cause said pivoted jaw to move to-

ward the jaw on said pulley-supporting member and backward with the rope when the pulley-supporting member is tripped.

844,720. AMUSEMENT APPARATUS. AUGUST L. N. FLEMING, Allegheny, Pa. Filed Jan. 9, 1907. Serial No. 351,440.



Claim.—1. An amusement apparatus comprising a revoluble sphere supported upon an inclined axial support, a spiral track supported without said sphere, means for revolving said sphere, and a stationary track surrounding said sphere.

2. An amusement apparatus comprising a revoluble skeleton sphere supported upon an inclined axial support, a spiral track supported within said sphere, means for revolving said sphere, a frame surrounding said sphere, and a stationary spiral track supported by said frame.

3. An amusement-apparatus comprising a revoluble skeleton sphere supported upon an inclined axial support, means for revolving said sphere, a spiral track supported within the sphere, a stationary spiral track surrounding the sphere, a friction-ring encircling the sphere, and friction-pulleys bearing against said ring.

4. An amusement apparatus comprising a revoluble sphere supported upon an inclined axial support, a spiral trackway supported within said sphere, an inclined shaft, a motor geared to said shaft, a friction-pulley on said shaft, and a friction-ring encircling said sphere and engaging said friction-gear.

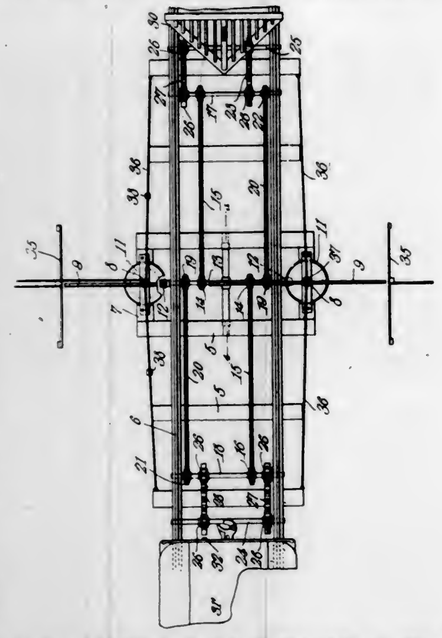
844,721. RAILWAY-GATE. JOHN M. HARRINGTON, Edgerton Junction, Mo. Filed Nov. 23, 1906. Serial No. 344,758.

Claim.—1. The combination with a railway-track, of coacting gates mounted for rotation on opposite sides of the track and each having one end thereof extending partially across the track, endless belts disposed adjacent the track, sprocket-chains operatively connected with the endless belts and the gates, respectively and arms projecting laterally from the belts and extending in the path of movement of a train for moving the gates to operative and inoperative position.

2. The combination with a railway-track, of coacting gates mounted for rotation on the opposite sides of the track and each having one end thereof extending partially across the track, beveled gears carried by the gates, a shaft provided with terminal pinions meshing with the teeth on the beveled gears, endless belts disposed adjacent the track, sprocket-chains operatively connected with the belts and shaft respectively for transmitting movement to the pinions, and arms projecting laterally from the belts and extending in the path of movement of the train for moving the gates to operative and inoperative position.

3. The combination with a railway-track, of coacting gates mounted for rotation on opposite sides of the track and each having one end thereof extending partially across the track, beveled gears secured to the gates, an operating-shaft provided with terminal pinions meshing with the teeth on the beveled gears, endless belts disposed between the track-rails, sprocket-chains operatively connected with the endless belts and operating-shaft respectively, and means carried by the belts and operable by a passing train for moving the gates to operative and inoperative position.

4. The combination with a railway-track, of coacting gates mounted for rotation on the opposite sides of the track and each having one end thereof extending partially across the track, endless belts disposed between the track-rails and operatively connected with the gates, and means carried by the belts and operable by a passing train for moving the gates to operative and inoperative position.



5. The combination with a railway-track, of coacting gates mounted for rotation on opposite sides of the track and each having one end thereof extending partially across the track, a transverse operating-shaft provided with terminal pinions engaging the teeth on the beveled gears, auxiliary shafts disposed on each side of the gate and spaced from the operating-shaft, endless belts connecting said shafts, sprocket-chains for transmitting motion from the endless belts to the operating-shaft, and means carried by the endless belts and extending in the path of movement of the train for moving the gates to operative and inoperative position.

6. The combination with a railway-track, of coacting gates mounted for rotation on opposite sides thereof and each having one end thereof extended partially across the track, gear-wheels secured to the gate, a transverse operating-shaft provided with terminal pinions engaging the teeth on the gear-wheels, auxiliary shafts disposed on each side of the operating-shaft and spaced from the latter, endless belts connecting the auxiliary shafts and operatively connected with the operating-shaft, housings inclosing the endless belts, and arms projecting laterally from the endless belts and extending in the path of movement of the train for moving the endless belts to move the gates to operative and inoperative position.

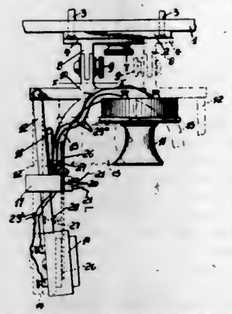
7. The combination with a railway-track including crossties, transverse beams connecting adjacent ties, gate-posts journaled in said beams on each side of the track and provided with gear-wheels, gates secured centrally to said posts and each having one end thereof extended partially across the railway-track and its opposite end projecting laterally beyond the ends of the adjacent ties, a transverse operating-shaft provided with pinions meshing with the teeth on the gear-wheels, hangers depending from the bottom of the track-rails, auxiliary shafts journaled in said hangers and spaced from the operating-shaft, endless belts connecting the auxiliary shafts and provided with laterally-extending arms, sprocket-chains connecting the operating and auxiliary shafts for moving the gates to open and closed position when the endless belts are moved, housings inclosing the sprocket-chains and housings partially inclosing the endless belts.

8. The combination with a railway-track, of coacting gates mounted for rotation on opposite sides of the track and each having one end thereof extended partially across the track, an operating-shaft connecting the gates and provided with an angular enlargement, a spring bearing against the enlargement for locking the gates in closed position, and rotary actuating members operatively connected with the shaft and movable by a passing train to release the enlargement from engagement with the spring and rotate the gates to open position.

9. The combination with a railway-track, of coacting gates mounted for rotation on opposite sides of the track and each having one end thereof extended partially across the track, an operating-shaft connecting the gates and provided with an angular enlargement, a spring disposed beneath the shaft and provided with a depression adapted to receive the enlargement on the shaft for locking the gates in closed position, and rotary actuating members operatively connected with the shaft and actuated by a passing train to release the enlargement from engagement with the walls of the depression and rotate the gates to open position.

10. The combination with a railway-track, of coacting gates mounted for rotation on opposite sides of the track and each having one end thereof extended partially across the track, an operating-shaft connecting the gates, a spring bearing against the shaft for locking the gates in closed position, means for regulating the tension of the spring, and rotary actuating members operatively connected with the shaft and movable by a passing train to depress the spring and rotate the gates to open position.

844,722. RECEIVER-SUPPORT. JOHN HEISCH, Jr., Allegheny, Pa. Filed Dec. 11, 1906. Serial No. 347,283.



Claim.—1. In a receiver-support for telephones, the combination with a suitable support, and a transmitter, of a reversible plate carried by said support, an arm carried by said plate, a frame pivotally connected to said arm and supporting said transmitter, an arm pivoted in said frame, a receiver pivotally mounted upon said arm, a casing carried by said frame, contact-blocks arranged in said casing, a bridge carried by said pivoted arm and adapted to contact with said blocks, means to hold said bridge in engagement with said blocks, contact-arms arranged in said casing, a stirrup carried by said pivoted arm and normally disengaging said contact-arms, electrical connections between said transmitter, receiver and said bridge, and an arm supported by said frame for normally holding said pivoted receiver-arm in a fixed position, substantially as described.

2. In a telephone-receiver support, the combination with a suitable support, and a transmitter, of a reversible plate carried thereby, a frame pivotally connected to said plate, a casing supported by said frame, a pivoted receiver-arm extending through said casing, a receiver pivotally connected to said arm, a bridge carried by said arm within said casing, and electrical connections with said transmitter and said receiver, contact-blocks arranged within said casing, and means for normally holding said bridge in contact with said blocks.

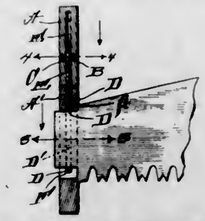
3. A receiver-support for telephones involving a reversible plate, a frame pivotally connected thereto, a casing supported by said frame, a receiver-arm pivotally carried by said frame, and extending through said casing, a transmitter carried by said frame, a receiver carried by said arm, a bridge carried within said casing, and wires connecting said transmitter and receiver with said bridge.

4. A receiver-support for telephones involving a reversible plate, a frame pivotally carried thereby, a transmitter carried by said frame, a receiver movably supported by said frame, contact-blocks supported by said frame, and means to normally establish electrical connections between said blocks, transmitter and receiver.

5. A receiver-support for telephones consisting of a reversible pivotally-mounted frame, a transmitter carried by said frame, a movable receiver-arm pivotally carried by said frame, a receiver carried by said arm, contact-blocks supported from said frame, means to establish electrical connections between said blocks, receiver and transmitter, and means for normally holding said receiver-arm in a fixed position.

6. A receiver-support for telephones consisting of a reversible pivoted frame, a transmitter supported thereby, a movable receiver supported from said frame, means to establish electrical connections between said transmitter and said receiver, and means to hold said receiver in a fixed position.

844,723. SAW-HANDLE. JOSEPH HENRY, Island Falls, Me. Filed Apr. 2, 1906. Serial No. 309,546.

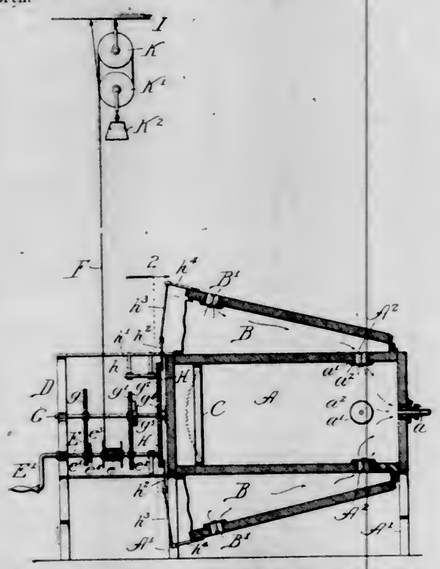


Claim.—A saw-handle comprising two sections, one of said sections having an elongated slot formed therein adapted to receive the end of a saw and an opening leading through one end of the section into said slot, a rod having an elongated loop positioned within said slot, and a shank portion extending through the opening into said slot, the other handle-section having a longitudinal opening therein adapted to receive the threaded shank portion of said rod, a nut sented in a recess in one of said handle-sections and adapted to receive the threaded shank of the rod, the adjacent ends of said handle-sections, which are of uniform diameters, being adapted to be held against each other, and a saw held by said rod with its upper edge against one edge of the slot in the handle-section, the lower portion of the saw-receiving handle-section extending below the teeth of the saw, as set forth.

844,724. AIR-COMPRESSOR. HENRY H. HERRMANN, Chicago, Ill. Filed Aug. 7, 1905. Serial No. 273,032.

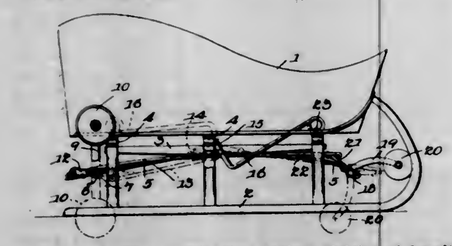
Claim.—1. An air-compressor comprising, in combination, a pressure-storage chamber provided with a valved pressure-inlet opening and a valved pressure-outlet opening, a bellows mounted immediately upon the wall of said

chamber to constitute it one of the bellows-walls, said bellows covering said inlet-opening, and being provided with a valved air-inlet opening, a handle-equipped rotatable drive-shaft, a gear loosely mounted thereon and carrying a pallet, a ratchet-wheel on said shaft engaged by said pallet, a fixed gear and a windlass on said shaft, weighted-pulley mechanism having a cable connection with the windlass for operating the drive-shaft, a driven shaft, a fast gear near one of said driven shaft meshing with the loose gear on said drive shaft, a loose gear on said driven shaft carrying a pallet, a ratchet-wheel on the driven shaft engaged by the last-named pallet, a fast gear on the opposite end of the driven shaft, a gear operated by said last-named gear and carrying a pitman, and a link connecting said pitman with said bellows, for the purpose set forth.



2. An air-compressor comprising, in combination, a pressure-storage chamber provided with valved pressure-inlet openings and valved pressure-discharge openings, bellows mounted immediately upon the walls of said chamber each to constitute it one of the bellows-walls, each of said bellows covering an inlet-opening and being provided with a valved air-inlet opening, a handle-equipped rotatable shaft having a gear connection with each of said bellows for operating them, and weight-and-pulley mechanism connected with said shaft for actuating the bellows by the gravity of the weight, substantially as and for the purpose set forth.

844,725. WHEEL ATTACHMENT FOR SLEDS. WILLIAM S. HOWELL, Stanton, Mich. Filed Mar. 30, 1906. Serial No. 308,960.



Claim.—1. The combination with a sleigh; of longitudinally-disposed springs connected to the bottom of the sleigh, a crank-axle journaled in one end of the springs and having arms extending at angles therefrom, wheels carried by said arms, a cross-bar journaled in the other end of the spring, a caster carried thereby, and means for simultaneously swinging the caster and the wheels of the crank-axle away from or into contact with the ground.

2. The combination with a sleigh; of longitudinally-extending springs secured to the bottom thereof, a crank-axle journaled in one end of the springs, wheels connected to the ends of the axle, a cross-bar journaled in the other end of the springs, a caster pivoted to the cross-bar, a forward extension upon the cross-bar, an operating-crank, and rods connecting said crank with the crank-axle, and the extension of the cross-bar, one of said rods adapted to bear upon the cross-bar.

3. The combination with a sleigh; of a longitudinally-extending spring secured to the bottom thereof, a crank-axle journaled in one end of the spring, wheels connected to the ends of the axle, a cross-bar journaled in the other end of the spring, a caster pivoted to the cross-bar, a forward extension upon the cross-bar, an operating-crank, and rods connecting said crank with the crank-axle and the extension of the cross-bar, a lever for actuating the operating-crank and means for locking the lever in adjusted position.

4. The combination with a sleigh having longitudinally-disposed strips thereunder; of springs secured to the strips and extending longitudinally thereon, a crank-axle journaled in one end of the springs, arms carried thereby, wheels journaled on the arms, a cross-bar journaled in the other end of the springs, a caster pivotally connected to the cross-bar, a loop extending forward from the cross-bar, an operating-crank, rods connecting said crank with the loop and the crank of the axle, and a lever for manually actuating the operating-crank to swing the caster and wheels simultaneously into or out of contact with the ground.

844,726. FENCE-POST-SETTING TOOL. WORK HUNTER, Buffalo, Pa. Filed June 27, 1906. Serial No. 323,697.

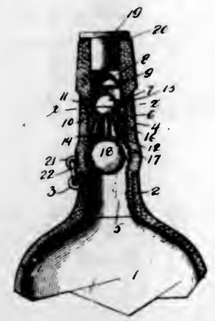


Claim.—1. A fence-post-setting tool consisting of a socket tapering in its lower part and open at both ends, and having the rear wall extended above the front wall and side walls and said side walls having lugs extending above the upper edge of the front wall, in combination with a removable driving-block adapted to rest on the upper edge of said front wall and side walls and having recesses to receive the lugs of said side walls, and a spear depending from said driving-block with the head thereof projecting through the open lower end of the socket.

2. A fence-post-setting tool consisting of a socket open at both ends and having one wall at the upper end of the socket extended above the other walls, in combination with a removable driving-block adapted to rest on the socket, a strap carried by said block to engage the extended wall of the socket and secure the block in position thereon, and a spear depending from the block with the head thereof extending through the open end of the socket.

3. A fence-post-setting tool consisting of a socket having a substantially rectangular upper portion and a tapering lower portion and open at both ends, the rear wall of said upper portion extending above the remaining walls, and lugs on the side walls of said upper portion, in combination with a driving-block adapted to engage said socket and having recesses to receive said lugs, means carried by said block to engage said upwardly-extended rear wall for securing the block thereon, and a spear depending from the block with the head thereof projecting through the open lower end of the socket.

844,727. NON-REFILLABLE BOTTLE. JULES HUSSER, Pittsburg, Pa. Filed Dec. 17, 1906. Serial No. 348,218.

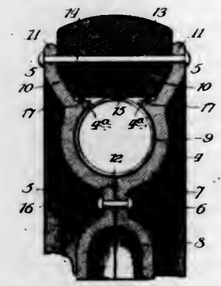


Claim.—1. A bottle embodying a receptacle having an interiorly-screw-threaded stub-neck, a neck, a depending threaded sleeve carried by said neck and adapted to engage in said stub-neck, a perforated cup formed in said neck, a plug threaded in said neck and having a plurality of circumferentially-arranged openings formed therein, a weighted closure normally closing said openings, a semi-spherical gasket carried by said closure, a stopper fitting in the upper end of said neck, an exteriorly-arranged seal connecting said neck with said stub-neck, substantially as described.

2. A bottle embodying a receptacle, a neck threaded in said receptacle, a perforated cup formed in said neck, a plug detachably mounted in said neck and having angularly-disposed openings formed therein, a weighted closure normally closing said openings, and an exteriorly-arranged seal connecting said neck with said receptacle.

3. An antirefillable bottle consisting of a receptacle, a neck detachably attached thereto, a perforated cup formed in said neck, a plug mounted in said neck and having openings formed therein, a weighted closure normally closing said openings, and means to lock said neck in engagement with said receptacle.

844,728. RUBBER-TIRED WHEEL. JOHN P. JOHNSTON, Evanston, Ill. Filed Mar. 28, 1906. Serial No. 308,437.



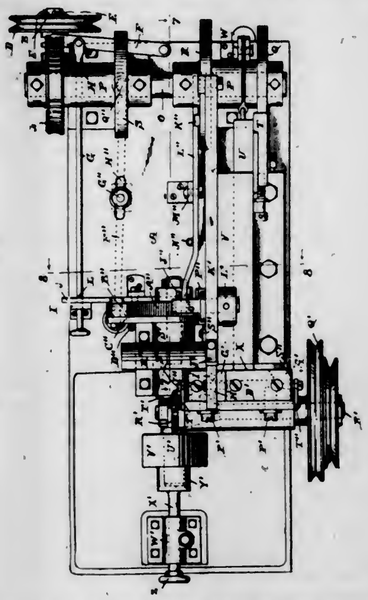
Claim.—1. In a solid-rubber-tired wheel, the combination of a wheel-rim composed of annular sections secured together and forming an annular chamber, and a tire-seat about and opening into said chamber, a spring in said chamber, a tire confined on said seat and a metal strip interposed between said tire and spring, for the purpose set forth.

2. In a solid-ruber-tired wheel, the combination of a wheel-rim composed of annular sections provided with neck portions at which they are secured together, and forming an annular chamber, and provided with flanges forming a tire-seat about and opening into said chamber, a tire confined on said seat, a spring in said chamber and a metal strip interposed between the tire and spring, for the purpose set forth.

3. In a solid-rubber-tired wheel, the combination of a wheel-rim composed of annular sections provided with neck portions at which they are secured together, and forming an annular chamber, a tire-seat about and opening into said chamber and having shoulders about its base portion, a spring in said chamber, a tire confined on said seat, a metal strip interposed between said spring and tire, and gaskets interposed between the meeting surfaces of the neck portions and between said shoulders and said metal strip, for the purpose set forth.

4. In a solid-rubber-tired wheel, the combination of a wheel-rim composed of annular sections, provided with neck portions at which they are secured together, and with inward projections forming spoke-sockets, said sections forming an annular chamber and a tire-seat about and opening into said chamber, a spring in said chamber, a tire confined on said seat, and a metal strip interposed between said spring and tire, for the purpose set forth.

844,729. GEAR-CUTTING MACHINE. WATSON A. JORDAN, Bridgeport, Conn., assignor to The Standard Manufacturing Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Jan. 29, 1906. Serial No. 298,369.



Claim.—1. In a gear-cutting machine, the combination of a bed having brackets secured thereon, an arbor mounted in one of such brackets, and means for retaining a gear-blank thereon, means for intermittently rotating the arbor and blank, a cam-shaft and series of cams, a reciprocatory slide operated by one of such cams, a lever operated by another cam of said shaft, a vertically-movable head carried by the slide with means for normally holding it in a raised position, a bracket adjustably attached to the head, a cutter rotatably carried by the bracket, and a guide secured to the head to engage the lever before mentioned to produce straight horizontal or angular cuts.

2. In a gear-cutting machine, the combination with a reciprocating rotary cutter, of an arbor bearing means to

receive and retain a gear-blank thereon, a pawl-and-ratchet-indexing device for said arbor, a driving-shaft, a cam upon the shaft and a lever and slide-rod connected to operate the pawl and ratchet, a second lever-and-rod connection with the indexing-ratchet wheel to stop the same and a clutch on the driving mechanism whereby said latter rod is disconnected with each complete rotation of the ratchet-wheel.

3. In a gear-cutting machine, the combination with a bed, of an arbor to support a gear-blank, of a reciprocating slide mounted to operate in the bed, a vertically-movable head carried upon the slide, springs for actuating the head in one direction, a cutter carried upon the head adapted to move across the face of the blank, screws for adjusting the cutter both vertically and sidewise with relation to the blank, a guide carried by the head having an edge to slidably engage a lever of the machine to determine the horizontal line of movement of the cutter and a lever and cam for operating said slide and head against action of the springs.

4. In a gear-cutting machine, the combination with a bed, an arbor supported thereon to support a gear-blank and an indexing device therefor, of a cam-shaft having driving connections, a cam carried on the shaft, a lever connection to said cam for operating the indexing mechanism, a holding device for the indexing mechanism, a lever-and-cam connection with said shaft for releasing said holding device during the indexing operation, a reciprocating slide, a cam and connections for operating the reciprocating slide, a rotary cutter carried by the slide, a cam-and-lever connection for holding the cutter in engagement with a gear-blank during the forward travel of the cutter and adapted to release the cutter from the blank during the return movement.

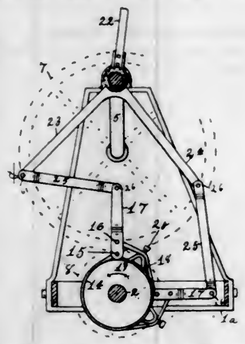
5. In a gear-cutting machine, the combination with an arbor for supporting a gear-blank, of a reciprocating slide, a vertically-movable head carried upon the slide, springs to normally hold the head distended upward, a cutter carried by the head adapted to operate across the periphery of the blank, a lever and cam for holding the head in a fixed position during the forward travel of the slide, a guide carried by the cutter-head having a special-shaped edge to engage the lever and cause a downward movement of the cutter and head against the resistance of the springs to produce bevel or oval cuts on the blank by a horizontal movement of the slide.

6. In a gear-cutting machine, the combination with a gear-blank-carrying arbor provided with indexing mechanism, of a rotary cutter to operate across the periphery of the blank, a vertically-movable head to support the cutter, a reciprocating slide upon which the head is mounted, a guide carried upon the head, means for adjusting the guide horizontally, vertically and angularly, a lever against which the guide operates during the reciprocating movement of the cutter, and a cam to engage the lever at proper intervals and hold the cutter in engagement with the blank during its cutting operation.

7. In a gear-cutting machine, the combination with a blank-carrying arbor having connected indexing mechanism, of a rotary cutter, a bracket in which the cutter-shaft is mounted and having transverse ribs, a vertically-movable head-slide having grooves to receive the ribs, bolts for detachably and adjustably connecting the cutter-bracket to said head-slide so as to adjust the cutter to and from the center of the arbor in both a vertical and horizontal plane, a reciprocating slide supporting the head-slide, and a lever and cam to engage the head-slide for causing a downward movement of the cutter at the end of its strokes.

844,730. CLUTCHING DEVICE. DANIEL E. KRAUSE, Chase, Wis. Filed Dec. 6, 1906. Serial No. 346,527.

Claim.—1. A clutching device consisting of a collar adapted to be secured upon a shaft, a band of spring metal encircling said collar, a lever connected with each end of said band by which the band may be tightened around the collar and loosened therefrom by the oscillation of said lever, a two-legged angular-shaped dog arranged between said band and collar, one leg of the angle being blunt and smooth and the other pointed and sharp, the latter being adapted to engage the circumference of said collar and turn the same by the action of the band thereon when said lever is oscillated, and means for retaining the dog in position upon the collar relative to its inclosing band.



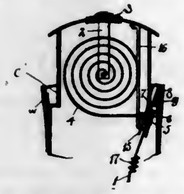
2. A clutching device consisting of a collar adapted to be secured upon a shaft, a band of spring metal encircling said collar, a lever connected with each end of said band by which the band may be tightened around the collar and loosened therefrom by the oscillation of said lever, pins passing through said lever for the connection therewith of each end of said band, said band being formed by bending a strip around each of said pins and forming two leaves entirely around the collar and connecting the ends of the strip together, a two-legged angular-shaped dog arranged between said band and collar, one leg of the angle being blunt and smooth and the other pointed and sharp, the latter being adapted to engage the circumference of said collar and turn the same by the action of the band thereon when said lever is oscillated, and means for retaining the dog in position upon the collar relative to its inclosing band.

3. A clutching device consisting of a collar adapted to be secured upon a shaft, a band of spring metal encircling said collar, a lever connected with each end of said band by which the band may be tightened around the collar and loosened therefrom by the oscillation of said lever, pins passing through said lever for the connection therewith of each end of said band, said band being formed by bending a strip around each of said pins and forming two leaves entirely around the collar and connecting the ends of the strip together by lapping said ends, a bolt inserted through said ends, a two-legged angular-shaped dog arranged between said band and collar, one leg being adapted to engage the circumference of said collar and turn the same as said lever is oscillated, and means coöperating with said bolt for retaining the dog in position upon the collar relative to its inclosing band.

4. A clutching device for producing a nearly continuous rotary movement, consisting of a collar adapted to be secured upon a shaft, two bands of spring metal arranged side by side and encircling said collar, a lever connected with each end of each band by which the bands may be tightened around the collar and loosened therefrom by the oscillation of said levers, a two-legged angular-shaped dog arranged between each band and the collar, one leg of the angle being blunt and smooth and the other pointed and sharp, the latter ends being adapted to engage the circumference of said collar and turn the same when said levers are oscillated, and means for retaining the dogs in position upon the collar relative to its inclosing band.

5. A clutching device adapted for producing a nearly continuous rotary motion for a hand drilling-machine, or similar tool, to be operated by the oscillation of its operating-handle, comprising a round smooth-faced collar secured upon a shaft, two bands of spring metal arranged side by side around the collar, a lever connecting with both ends of each band, arranged to be operated for alternately closing the band around a portion and releasing from the circumference of the collar, an angular-shaped two-legged dog having the foot of one leg sharpened to a point, secured in position between each band and the collar for engaging the outer circumference of the collar, as the operating-handle is oscillated, suitable connecting arms and links between the operating-handle and band-connecting levers, said bands and their connected levers being arranged around the collar in different circumferential positions.

844,731. SELF-LIGHTING ATTACHMENT FOR LAMPS. SVEND M. MEYER, New York, N. Y., assignor to George C. Batcheller, New York, N. Y. Filed Nov. 18, 1904. Renewed Sept. 11, 1905. Serial No. 278,037.



Claim.—1. In an electric lighting device for lamps, the combination of a suitable source of electricity-conducting wires and means for closing and breaking the electric circuit therethrough, a lighting medium in said electric circuit and a thermal device expansible by heat derived from the lamp flame and connecting means between the thermal device and the lighting medium, whereby the latter is withdrawn from the flame by the action of heat derived therefrom, substantially as described.

2. In an electric lighting device for lamps, the combination of a resistance device capable of developing igniting heat by the passage of an electric current, means for connecting such resistance device with a suitable source of electricity and a thermal device expansible by heat acting mechanically on the resistance device and adapted to retract it from the flame after lighting, substantially as described.

3. In an electric lighting device for lamps, the combination of a suitable source of electricity a heat-generating resistance in the electric circuit mounted in proximity to the lamp-wick so as to ignite the same and a metal coil mounted in position to be expanded by heat from the lamp-burner and mechanically connected with the support of the igniting medium so as to retract the same from the flame after lighting, substantially as described.

4. In an electric lighting device for lamps, the combination of a battery removably supported in the base of the lamp and a manually-operated retaining device adapted to disconnect the battery from the electric circuit and release it at the same operation so as to permit its removal from the lamp, substantially as described.

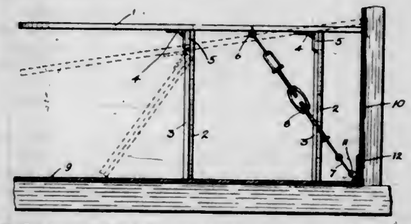
5. In an electric lighting device for lamps, the combination of an electric battery, a support therefor in the base of the lamp and a pair of manually-retractable arms, retaining the battery in position and connected respectively with the opposite poles of the battery so as to form parts of the electric circuit, substantially as described.

6. In a self-lighting device for lamps, the combination of an electric resistance device, adapted to develop igniting heat in proximity to the burner and automatic means actuated by heat derived from the flame, operating to retract the igniting device from the flame after lighting, substantially as described.

844,732. IRONING-TABLE. ALBERT L. MILLER, Benson, Nebr. Filed July 3, 1906. Serial No. 324,695.

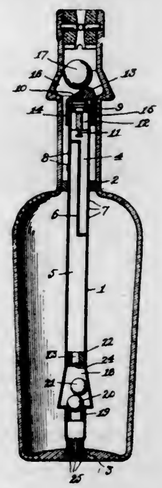
Claim.—1. An ironing-table comprising a table-top, a leg connected therewith near one end thereof, a second leg connected therewith near the center thereof, and a tension member having one end connected with the table-top between the legs and the other end connected near the corner formed by the juncture of the floor and wall upon and against which the table rests.

2. In an ironing-table, a table-top, foldable legs thereon, and an adjustable tension member having one end attached to the table-top between the legs and the other end adapted to engage means disposed near the corner formed by the juncture of the floor and wall upon and against which the table rests.



3. In an ironing-table, a table-top, legs hinged thereon, and means for simultaneously drawing the end of the table-top against a wall and holding the table down upon a floor, said means consisting of a diagonally-extending tension member connected to the table between the legs thereof, a turnbuckle in said tension member for adjusting the length thereof, an eye secured to the floor or wall near the corner formed by the juncture thereof, and a hook on the tension member adapted to engage the eye.

844,733. VALVE MECHANISM FOR BOTTLES. DANIEL H. MONKS, Fishkill-on-the-Hudson, N. Y., assignor of one-third to Morgan H. Hoyt, Fishkill-on-the-Hudson, N. Y. Filed June 6, 1906. Serial No. 320,480.



Claim.—1. In valve mechanism for bottles, a bottle, a closure separating the body of the bottle from the neck, a tube passing through said closure and opening at its upper end above the closure into the neck of the bottle and opening at its lower end below the closure into the body of the bottle, valves operating to close the ends of the tube when the bottle is in an upright position and to open the ends when the bottle is in an inverted position, and a partition dividing said tube into a liquid-duct in its upper part communicating with the body of the bottle below said closure and an air-duct in its lower part communicating with the neck of the bottle above said closure.

2. In valve mechanism for bottles, a bottle provided with a recess in its base, a tube forming an air-duct leading from the exterior of the bottle and having its lower end

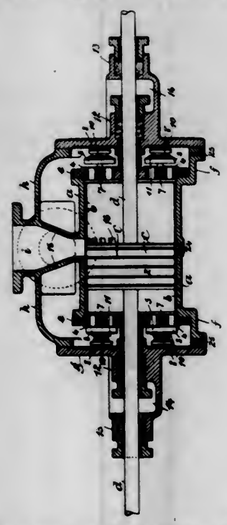
corrugated and seated in said recess and provided with openings at said end to form communications between the air-duct and the interior of the bottle, and a valve controlling the passage through said air-duct.

3. In valve mechanism for bottles, a tube forming an air-duct leading from the exterior of the bottle and opening into the interior of the same, a valve-seat in said tube, a float-valve adapted to register with said valve-seat, a weight for forcing said valve onto its seat, and a conical-shaped chamber inclosing said valve and said weight.

4. In valve mechanism for bottles, a bottle, a tube forming a liquid-duct leading from the interior of the bottle to the neck of the same, a valve for controlling the passage through the outer end of the tube, a collar rotatable on the outer end of the tube, and a gate hinged to said collar for closing said valve.

5. In valve mechanism for bottles, a bottle, a tube forming a liquid-duct leading from the interior of the bottle to the neck of the same, a valve controlling the passage through the outlet of said tube, a collar having a weighted side rotatable on the outer end of the tube, and a gate hinged to said collar on the side opposite to that which is weighted and operating to close said valve.

844,734. VACUUM-PUMP. JOSEPH J. MULLAN, Philadelphia, Pa. Filed Aug. 4, 1905. Serial No. 272,655.



Claim.—1. In a double-acting valveless suction vacuum-pump, the combination with a cylinder, a piston and piston-rod therefor, of heads for the end of said cylinder, valves and valve-seats therein, casings surrounding the ends of said cylinder, a casing extending between the aforesaid casings, a suction connection passing through the said casing and leading into said cylinder, and a discharge connection leading from the said casing.

2. In a double-acting valveless suction vacuum-pump, the combination with a cylinder, a piston and piston-rod therefor, of heads for the ends of said cylinder, valves and valve-seats therein, casings surrounding the ends of said cylinder, a casing extending between the aforesaid casings, a suction connection passing through the said casing and leading into said cylinder, a discharge connection leading from the said casing, and means for equalizing the pressure on opposite sides of the piston.

3. In a double-acting valveless suction vacuum-pump, the combination with a cylinder, piston and piston-rod therefor, of a lining fitting within said cylinder, heads for the said cylinder, valves and valve-seats in the cylinder-heads, casings surrounding the ends of said cylinder, a casing extending between the aforesaid casings, a suction connection passing through said casing and leading into said cylinder through suitable ports provided in the said lining adjacent to the inner orifice of said suction connection and a discharge connection also leading from the said casing.

4. In a double-acting valveless suction vacuum-pump, the combination with a cylinder, piston, and piston-rod therefor, of a lining fitting within said cylinder, heads for the said cylinder, valves and valve-seats in the cylinder-heads, casings surrounding the ends of said cylinder, a casing extending between the aforesaid casings, a suction connection passing through said casing and leading into said cylinder through suitable ports provided in the said lining adjacent to the inner orifice of said suction connection, a discharge connection also leading from the said casing, and means for equalizing the pressure on opposite sides of the piston.

5. In a double-acting valveless suction vacuum-pump, the combination with a cylinder, a piston and piston-rod therefor, of a lining fitting within said cylinder, heads secured to the ends of said cylinder, discharge-valves and valve-seats therefor in the said cylinder-heads, casings surrounding the ends of said cylinder, heads for the said casings providing chambers between the same and the said cylinder-heads into which the vapor and liquid are discharged through said valves, a longitudinal casing extending between the aforesaid casings and providing a communicating passage between the said chambers, a suction-inlet connection leading through the said communicating passage in the longitudinal casing into the said cylinder, through suitable openings provided in the said lining adjacent to the inner orifice of the said suction-inlet connection, and a discharge-outlet connection on the said longitudinal casing and communicating with the passage provided thereby.

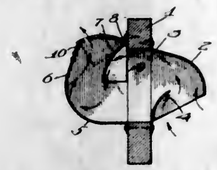
6. In a double-acting valveless suction vacuum-pump, the combination with a cylinder, a piston and piston-rod therefor, of a lining fitting within said cylinder, heads secured to the ends of said cylinder, discharge-valves and valve-seats therefor in the said cylinder-heads, casings surrounding the ends of said cylinder, heads for the said casings providing chambers between the same and the said cylinder-heads into which the vapor and liquid are discharged through said valves, packing-glands secured to the last aforesaid heads, intermediate liquid seals between the said packing-glands, a longitudinal casing extending between the aforesaid casings and providing a communicating passage between the said chambers, a suction-inlet connection leading through the said communicating passage in the longitudinal casing into the said cylinder, through suitable openings provided in the said lining adjacent to the inner orifice of the said suction-inlet connection, and a discharge-outlet connection on the said longitudinal casing and communicating with the passage provided thereby.

7. In a double-acting valveless suction vacuum-pump, the combination with a cylinder, a piston and piston-rod therefor, of a lining fitting within said cylinder, heads secured to the ends of said cylinder, discharge-valves and valve-seats therefor in the said cylinder-heads, casings surrounding the ends of said cylinder, heads for the said casings providing chambers between the same and the said cylinder-heads into which the vapor and liquid are discharged through said valves, a longitudinal casing extending between the aforesaid casings and providing a communicating passage between the said chambers, a suction-inlet connection leading through the said communicating passage in the longitudinal casing into the said cylinder through suitable openings provided in the said lining adjacent to the inner orifice of the said suction-inlet connection, and a discharge-outlet connection on the said longitudinal casing and communicating with the passage provided thereby, pipe connections leading from the opposite ends of the said cylinder into the communicating passage provided by said longitudinal casing, and check-valves suitably placed in said pipe connections.

8. In a double-acting valveless suction vacuum-pump, the combination with a cylinder, piston and piston-rod therefor, of heads for the ends of said cylinder, discharge-valves and valve-seats therein, casings surrounding the ends of said cylinder, a casing extending between the aforesaid casings, a suction connection leading centrally to the said cylinder, a lining for the said cylinder provided with a series of apertures placed at an angle adjacent to the inner orifice of said suction-inlet connection, snap-rings for packing said piston, and a discharge-outlet connection leading from the said longitudinal casing.

9. In a vacuum-pump, a body of integral structure comprising a cylinder, casings and flanged portions at the ends of said cylinder which extend therefrom to the full length of the pump-body, a casing in width agreeing with the diameter of the cylinder and extending up and arched over a centrally-disposed flanged suction-inlet which in transverse section broadens to the inner diameter of the said cylinder and in longitudinal section contracts appreciably by walls within the said casing, and a discharge-outlet formed by outward extensions from the opposite sides of the said suction-inlet around the same and which terminate in a flange, substantially as described.

844,735. VENTILATOR. LEE A. MCCALLA, Chicago, Ill. Filed July 3, 1905. Serial No. 268,130.



Claim.—1. In a ventilator, the combination with a hood, having an opening in the bottom thereof, of means for deflecting the air toward the upper part of said hood, a diffusion-box communicating with said hood, and an adjustable draft-breaker adapted to deflect the air toward the bottom of said diffusion-box.

2. In a ventilator, the combination with a hood, having an opening in the bottom thereof, of a deflector extending into said hood, and adapted to deflect the air toward the top thereof, of a diffusion-box communicating with said hood, and an adjustable draft-breaker extending into said diffusion-box and adapted to deflect the air toward the bottom thereof.

3. In a ventilator, the combination with a hood having an opening in the bottom thereof, of means for deflecting the air toward the upper part of said hood, a diffusion-box communicating with said hood, and a draft-breaker arranged in the path of the entering air to deflect the air toward the bottom of said diffusion-box.

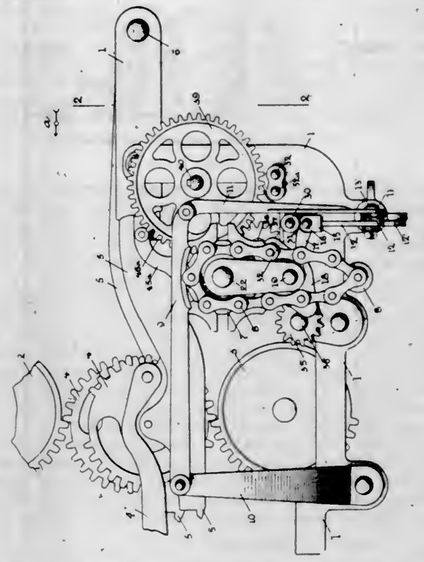
4. In a ventilator, the combination with a hood, having an opening in the bottom thereof, of a deflector extending into said hood and arranged to deflect the air toward the top thereof, of a diffusion-box communicating with said hood, and a draft-breaker extending into said diffusion-box in the path of the air to deflect the air toward the bottom thereof.

5. In a ventilator, the combination with a hood open at the bottom, of a diffusion-box communicating with said hood and open at the top, a draft-breaker arranged in said diffusion-box and extending downwardly therein into the path of the admitted current of air.

6. A ventilator having a hood provided with an opening to the atmosphere and a diffusion-box provided with an opening to the room, a deflector arranged in said hood, and a draft-breaker arranged in said diffusion-box in the path of the air to cause the air to take the path of a reverse curve in passing through said ventilator.

7. In a ventilator, the combination with a diffusion-box having the side thereof, opposite the opening through which the air enters the same, in a plane substantially parallel with the window, of a draft-breaker extending into said box, in the path of the entering air, and in a plane substantially parallel with the window to cause eddy-currrents in the entering air which tend to take a path in a plane parallel with the window.

844,736. PATTERN MECHANISM FOR LOOMS. BENJAMIN F. MCGUINESS, Worcester, Mass., assignor to Crompton & Knowles Loom Works, a Corporation of Massachusetts. Filed Mar. 31, 1906. Serial No. 309,113.



Claim.—1. In a pattern mechanism for looms, the combination with a multiplier pattern-chain, and an indicator-lever therefor, a box pattern-chain, and an indicator-lever therefor, and connections intermediate the box pattern-chain and the multiplier pattern-chain, of a vibrator-lever, a rotatable cam and means for moving said cam into and out of operative position, relatively to the vibrator-lever.

2. In a pattern mechanism for looms, the combination with a multiplier pattern-chain, and an indicator-lever therefor, a box pattern-chain and indicator-levers therefor, and connections intermediate the box pattern-chain and the multiplier pattern-chain, of vibrator-levers, rotatable cams and means for moving said cams into and out of operative position, relatively to the vibrator-levers.

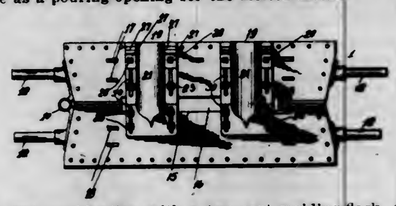
3. In a pattern mechanism for looms, the combination with a multiplier pattern-chain, and an indicator-lever therefor, a box pattern-chain, and indicator-levers therefor, and connections intermediate the box pattern-chain and the multiplier pattern-chain, of vibrator-levers, rotatable cams and means for moving said cams into and out of operative position relatively to the vibrator-levers, to cause said levers to be moved through the rotation of said cams, independently of the box pattern-chain for a predetermined time.

4. In a pattern mechanism for looms, the combination with a multiplier pattern-chain, and an indicator-lever therefor, a box pattern-chain, and indicator-levers therefor, and connections intermediate the box pattern-chain and the multiplier pattern-chain, of vibrator-levers, rotatable cams, and means for moving said cams into and out of operative position, relatively to the vibrator-levers, to cause said levers to be moved, through the rotation of said cams, independently of the box pattern-chain, for a predetermined time, and to allow said levers to be moved independently of said cams by the box pattern-chain, for a predetermined time.

844,737. MOLDING APPARATUS. GEORGE F. MCKEE and WILLIAM F. SCHILLING, Aspinwall, Pa. Filed Aug. 11, 1905. Serial No. 273,840.

Claim.—1. The combination with a two-part molding-flask, of a two-part gate projecting from the flask in an

inclined position, the inner ends of the parts of the gate being secured respectively, one part to each part of the flask, while their outer ends project from the flask, and serve as a pouring-opening for the molten metal.

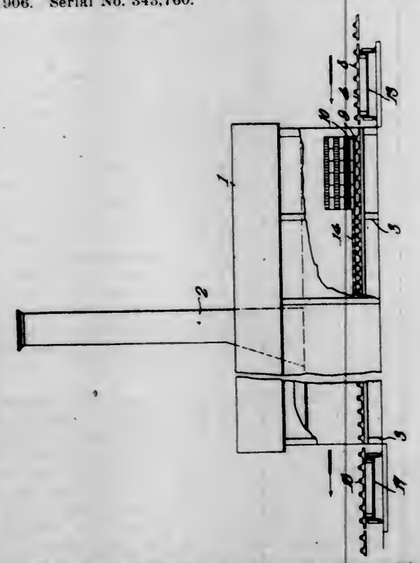


2. The combination with a two-part molding-flask, of a gate comprising two parts of semicylindrical form in cross-section extending at an incline to the side of the flask, one part of said gate being secured to each part of the flask, and forming, when connected, a tubular passage for molten metal.

3. The combination with a two-part flask, of a gate divided longitudinally into two separable parts or sections, one part or section being connected to each part of the flask, and said gate projecting in an inclined position with relation to the side of the flask, whereby the outer end of the gate serves as a pouring-opening for molten metal and whereby the flask, and gate-sections may be readily separated without destroying the mold.

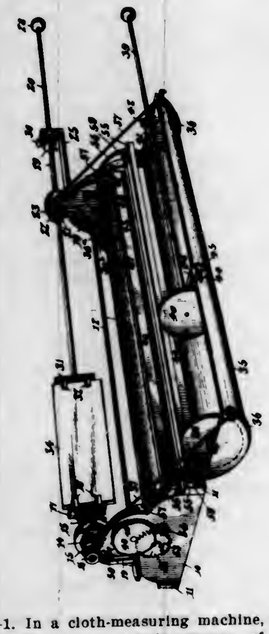
4. The combination with a two-part molding-flask, of a two-part gate, one part of said gate being secured to each part of the flask and projecting from the flask in an inclined position, the interior of the gate having a curved and inclined surface against which the metal contracts.

844,738. BRICK DRYING AND CONVEYING APPARATUS. JOHN H. MCKENZIE, Augusta, Ga. Filed Nov. 16, 1906. Serial No. 343,760.



Claim.—In drying apparatus the combination with a housing having an inlet and an outlet at opposite ends, and brackets within the housing; of rails supported upon the brackets, each rail having pairs of integral upstanding ears thereon at predetermined intervals, a roller journaled between the ears of each pair, a pallet movably mounted on the rollers and comprising longitudinal strips, angle-irons secured upon said strips and bearing upon and overlapping the adjoining faces of the rollers, and slats connected to the longitudinal strips, and a heating device interposed between and above the rails and below the pallets.

844,739. CLOTH-MEASURING MACHINE. TURNER H. NANCE, Talladega, Ala. Filed June 22, 1906. Serial No. 322,886.



Claim.—1. In a cloth-measuring machine, the combination with reeling and measuring means, of cloth-holding means, a lower brush located between the reeling and holding means and having upstanding bristles, and an upper brush loosely movable toward and from the lower brush and having depending bristles movable into and out of engagement with the bristles of the lower brush, said brushes being separable to permit the passage of cloth between them.

2. In a cloth-measuring machine, the combination with reeling means, of registering mechanism associated therewith, cloth-holding means, and oppositely-disposed coacting brushes located between the holding and reeling means and adapted to have the cloth passed between and in frictional engagement with them, said brushes being relatively movable into and out of engagement with each other.

3. In a cloth-measuring machine, the combination with reeling means, of registering mechanism associated therewith, cloth-holding means, a fixed brush, and a pivotally-mounted brush disposed in opposing relation to the fixed brush and movable toward and from the same, said brushes being located between the holding and reeling means and adapted to have the cloth passed between them.

4. In a cloth-measuring machine, the combination with reeling means, of registering mechanism associated therewith, cloth-tensioning means, and oppositely-disposed coacting brushes located between the holding and reeling means and adapted to have the cloth passed between them, said brushes being relatively movable into and out of engagement with each other.

5. In a cloth-measuring machine, the combination with a frame, of rotatable reeling means journaled therein, registering mechanism including a rotatable cloth-engaged roller, a cloth-holding trough arranged at one side of the frame, tensioning means comprising a fixed bar, a swinging bar pivotally mounted on the frame, and movable into and out of coaction with the fixed bar, a latch for holding the movable bar in coöperation with the fixed bar, a fixed brush secured to the frame, and a swinging brush mounted on the frame and movable into and out of coaction with the fixed brush, said brushes being disposed between the tensioning means and the reeling mechanism.

6. In a cloth-measuring machine, the combination with reeling and indicating mechanism, of a cloth-holder comprising a trough, and rotatable heads mounted in the trough.

7. In a cloth-measuring machine, the combination with reeling and indicating mechanism, of a cloth-holder comprising a trough, and rotatable heads mounted in the trough, said heads being relatively adjustable toward and from each other.

8. In a cloth-measuring machine, the combination with reeling and indicating mechanism, of a cloth-holder comprising a trough, a rotatable head mounted in one end of the trough, a stem longitudinally adjustable in the other end, and a rotatable head carried by the inner end of the stem and adjustable in the trough toward and from the first-mentioned head.

9. In a cloth-measuring machine, the combination with reeling and indicating mechanism, of a cloth-holder comprising a trough, a rotatable head mounted in one end of the trough, a cross-bar extending across the trough and adjustable longitudinally along the same, and a rotatable head having a bearing on the cross-bar and adjustable with the same.

10. In a cloth-measuring machine, the combination with reeling and indicating mechanism, of a cloth-holder comprising a trough, a rotatable head journaled in one end of the trough, a cross-bar extending across the trough and longitudinally adjustable thereon, a stem disposed longitudinally of the trough and having a bearing on the cross-bar and on the end opposite to the head, and another rotatable head carried by the inner end of the stem and adjustable therewith.

11. In a cloth-measuring machine, the combination with indicating mechanism, of reeling means comprising a rotatable driving member, a stem that is movable toward and from the rotatable driving member and capable of detachably interlocking therewith, a core-engaging device mounted on the driving member, and a coacting core-engaging device mounted on the stem and detachable therefrom to permit said stem to interlock with the driving member.

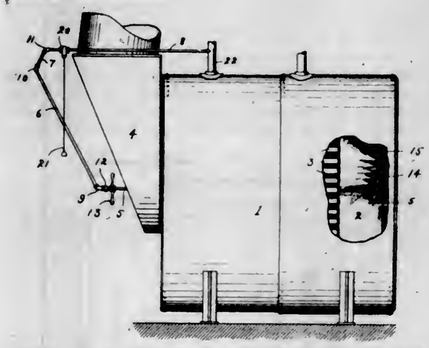
12. In a cloth-measuring machine, the combination with indicating mechanism, of reeling means comprising a rotatable driving member having a cross-pin, a stem that is movable toward and from the driving member, said stem having a socket that is capable of detachably receiving the pin, a core-engaging device mounted on the driving member, and a coacting core-engaging device having a socket detachably receiving the stem, said latter core-engaging device also having a cross-pin that detachably engages in the socket of the stem.

13. In a cloth-measuring machine, the combination with a frame including spaced supporting devices, of a driving member journaled in one of the devices, spaced journal-bearings on the other device, a stem journaled in the spaced bearings and slidable therein into interlocked engagement with the driving member, and means for holding the stem against its sliding movement.

14. In a cloth-measuring machine, the combination with a frame including spaced end pieces, of a driving member journaled in one of the end pieces, an outstanding bracket mounted on the other end piece, a stem journaled in said other end piece and in the bracket thereof, said stem being longitudinally slidable in its bearings toward and from the driving member and being movable into and out of interlocking engagement with said driving member, a collar mounted on the stem between the bracket and the end piece which carries it, a set-screw for securing the collar to the stem, and core-engaging devices mounted on the inner ends of the driving member and stem.

15. In a cloth-measuring machine, the combination with a frame having end pieces, of a driving member journaled in one of the end pieces, a stem journaled on the other end piece, and movable into and out of interlocking engagement with the driving member, core-engaging devices carried by the driving member and stem, registering mechanism, a cloth-engaging roller journaled in the frame, and constituting operating means for the registering mechanism, coacting relatively movable brushes mounted on the frame and disposed in opposing relation to each other, relatively movable tension-bars mounted on the frame in rear of the brushes, a cloth-holding trough disposed at the rear side of the frame, and rotatable heads mounted in the trough and relatively adjustable toward and from each other.

844,740. FLUE-CLEANER FOR STEAM-BOILERS. GILBERT PATTERSON, Duluth, Minn. Filed Oct. 30, 1906. Serial No. 341,311.



Claim.—1. A boiler-flue-cleaning device, comprising a longitudinally-movable and rotatable pipe adapted to pass through the flue of a boiler and of a length greater than the length of the flue, whereby one end projects to the outside of the boiler, and the inner end projects beyond the inner end of the flue, and a swinging jet-orifice pipe connected and in communication with the inner end of the said pipe.

2. A boiler-flue-cleaning device, comprising a longitudinally-movable and rotatable pipe adapted to pass through the flue of a boiler, and of a length greater than the length of the flue, a handle connected to the outer end of the pipe for rotating and moving it longitudinally, and a swinging jet-orifice pipe in communication with and connected to the inner end of the said longitudinally-movable pipe.

3. A boiler-flue-cleaning device comprising a pipe adapted to be passed through the flue of the boiler and of a length greater than the length of the flue, a jet-orifice pipe swiveled to the inner end of the longitudinal pipe, the jet-orifice pipe having orifices on the side thereof opposite to the direction of swinging movement of the orifice-pipe, for the purpose described.

4. A boiler-flue-cleaning device, comprising a pipe adapted to be projected into the combustion-chamber of the boiler, a swinging jet-orifice pipe in communication with and connected to one end of the said pipe, the orifices in the swinging pipe being on the side thereof opposite the flues of the boiler for projecting the steam thereinto.

5. A boiler-flue-cleaning device, comprising a longitudinally-movable and rotatable pipe adapted to be projected into the combustion-chamber of a boiler, a swinging jet-orifice pipe connected with the inner end of said pipe and in communication therewith, whereby the same pipe is adapted to be moved by the impact of the steam and by engagement with one of the walls of the fire-box.

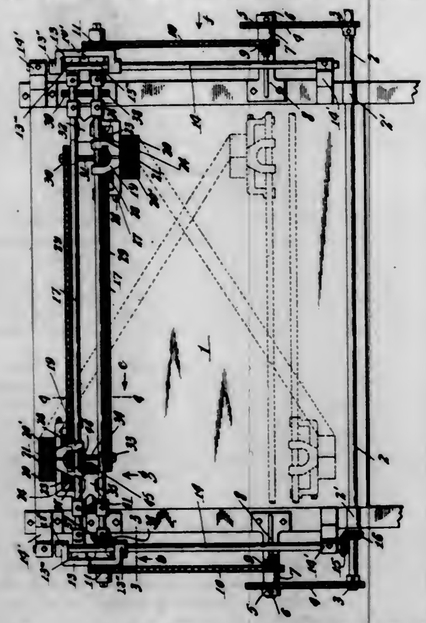
6. A flue-cleaning device, comprising a pipe adapted to have its inner end projected into the combustion-chamber of a boiler, a swinging jet-orifice pipe connected to and in communication with the inner end of said pipe, the jet-orifice pipe having its orifices on the side thereof opposite to its direction of movement under the influence of

the steam escaping therefrom, and stops adapted to hold the swinging pipe in a horizontal position, for the purpose described.

7. A flue-cleaning device, comprising a pipe adapted to have its inner end projected into the combustion-chamber of a boiler, a swinging jet-orifice pipe connected to and in communication with the inner end of the pipe, the swinging pipe having its orifices on one side thereof for swinging the pipe in one direction by the impact of the steam escaping therefrom, and means for arresting the movement of the swinging pipe against the influence of the escaping steam.

8. A boiler-flue-cleaning device, comprising a pipe adapted to have its inner end projected into the flue of a boiler, a swinging jet-orifice pipe connected to and in communication with the inner end of said pipe, the orifices being in the side of the pipe for swinging it under the influence of the steam, the said pipes having abutting members for the purpose of arresting the movement of the swinging pipe under the influence of escaping steam.

844,741. FEEDER FOR INTERMEDIATE CARDS. OLOF G. PETTERSON, Worcester, and JAMES J. RAE, Cherry Valley, Mass., assignors to Channing Smith, Cherry Valley, Mass. Filed Mar. 30, 1906. Serial No. 308,881.



Claim.—1. In a feeder for a card, two travelers, each carrying feeding-rolls, and both travelers having a longitudinal and a traverse movement across the feed-table, and means for supporting and moving said travelers.

2. In a feeder for a card, two travelers, each carrying feeding-rolls, and both moving simultaneously in opposite directions, and means for supporting and moving said travelers to cause them to lay two strips of drawings diagonally, and crossing each other.

3. A feeder for a card, having two travelers, each having feeding-rolls, and both travelers moving simultaneously in opposite directions, in the direction of the length, and in the direction of the width of the feeder-table, and means for supporting and operating said travelers, and the feeding-rolls thereon.

4. In a feeder for a card, the combination with the feeder-table, and two travelers, each carrying feeding-rolls for the drawings, of means for supporting said travelers and communicating a simultaneous movement to them, to cause them to move in opposite directions, in the direction of the length and in the direction of the width of the feeder-table.

5. In a feeder for a card, a feeder-table, two travelers carrying feeding-rolls, and each traveler supported on a rod and a rotary shaft, and adapted to have a movement in the direction of the length of said rod and shaft, two carriages for said rods and shafts, said carriages supported on and adapted to have a movement in the direction of the width of the table, and means for moving said carriages, and for moving said travelers.

6. In a feeder for a card, a feeder-table, two travelers carrying feeding-rolls, and each traveler supported on a rod and a rotary shaft, means for communicating to said travelers a movement in the direction of the length of the feeder-table, two supports for said rods and shafts, means for supporting said supports, and communicating to said supports a movement in the direction of the width of the feeder-table.

7. In a feeder for a card, two travelers, each carrying feeding-rolls, and means for supporting said travelers, and communicating a simultaneous movement to them, to cause them to lay two strips of drawings diagonally, said strips crossing each other.

8. In a feeder, a feeder-table, two travelers carrying feeding-rolls, and each traveler supported on a rod and a rotary shaft, and adapted to have a movement in the direction of the length of said rod and shaft, sprocket-wheel and sprocket-chain mechanism for moving each traveler on its rod and shaft, and gears connected with said shaft for operating the feeding-rolls, and means for rotating said shaft, supports for said rods and shafts, one of said supports mounted on two rods, and the other of said supports mounted on a rod and rotary shaft, and sprocket-wheel and sprocket-chain mechanism for moving said supports, and means for operating said sprocket-wheel and sprocket-chain mechanism.

9. A double feeder for a card having two travelers with feeding-rolls, and means for supporting and moving said travelers, to cause them to lay two strips of drawings diagonally to each other, and crossing each other.

844,742. SHOCK-LOADER. ADOLPH PFUND, Belvidere, Ill. Filed Aug. 9, 1901. Renewed July 28, 1906. Serial No. 328,244.

Claim.—1. In a shock loader and carrier the combination with a carrier-platform having a ridge-shaped elevating-section a similarly-shaped fixed section and a pilot at the forward end of the frame adapted to spread the shock and hold it to straddle the ridge of the carrier-platform.

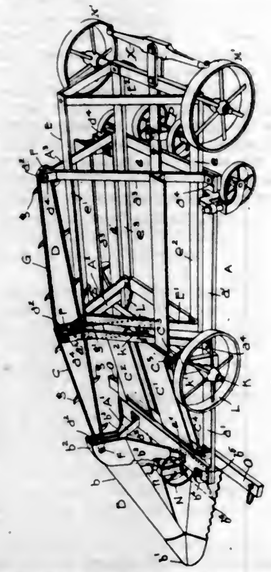
2. In a shock loader and carrier the combination with a carrier-platform, of a pilot divider and elevator hinged to the forward end thereof and adapted to be tilted to raise and lower the point of the pilot from the ground substantially as described.

3. In a shock loader and carrier the combination with a carrier-platform of a pilot hinged to the forward end thereof and a supporting-wheel at the rear end of the pilot substantially as described.

4. In a shock loader and carrier the combination with a carrier-platform and wheel-supports of a pilot-divider at the forward end thereof an elevating and carrier section comprising a center ridge forming a rear extension of the pilot and a carrier-belt and pulleys supported upon the apex of the ridge and driven from the wheel for carrying the material rearwardly upon the ridge substantially as described.

5. In a shock loader and carrier the combination with a carrier-platform having a center ridge extending longitudinally thereof, a pilot at the forward end of the platform, a carrier-belt and pulleys at the apex of the ridge and a carrier belt or belts supported upon each side of the ridge and extending upwardly and rearwardly from the rear end of the pilot substantially as described.

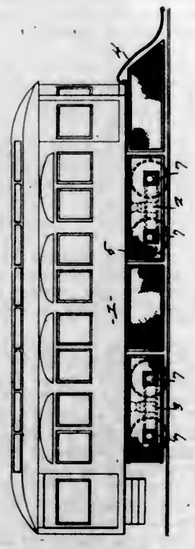
6. In a shock loader and carrier, the combination with a carrier and platform having wheel-supports and having a center ridge extending longitudinally thereof, a carrier and elevating section, at the forward end of the platform, a fixed carrier-section at the rear end of the platform and an extension wagon-section having a wheel-support and adapted to telescope with the fixed carrier-section substantially as described.



7. In a shock loader and carrier the combination with a carrier-frame, of a pilot-divider hinged at the forward end thereof and provided at each side with a cutting-blade.

8. In a shock loader and carrier, the combination with a carrier-frame, of a pilot-divider hinged at the forward end thereof, knives on said divider, an elevator on the carrier-frame and a section telescoping with the rear end of said frame adapted to be removed therefrom.

844,743. GUARD FOR STREET-RAILWAY CARS. SUSIE E. PRESSLER, Toledo, Ohio. Filed June 16, 1906. Serial No. 321,968.



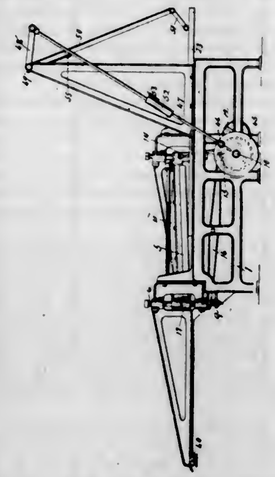
Claim.—1. The combination with a car-body having pivoted front and rear trucks and provided with a fender at its forward end, of guard-sections secured to and movable with the trucks, and stationary guard-sections secured to the car-body between the front and rear trucks and the front truck and the fender, substantially as described.

2. The combination with a car-body having pivoted front and rear trucks and provided with a fender extending across its forward end, of guard-sections secured to the sides of and movable with the front truck, and guard-sections secured to the car-body between the front truck and the fender, substantially as described.

3. The combination with a car-body having front and rear trucks and provided with a fender across its forward end, of guard-sections attached to the sides of and movable with the trucks, and stationary guard-sections attached to the car-body between the front and rear trucks and between the front truck and the fender, the stationary guard-sections being out of line with the movable guard-sections, substantially as described.

4. The combination with a car-body having pivoted front and rear trucks and provided with a fender at its forward end, of guard-sections attached to the sides of the trucks and movable therewith, and stationary guard-sections attached to the car-body between the front and rear trucks and between the front truck and the fender, the stationary sections being disposed outside the plane of the movable sections, substantially as described.

844,744. SHEARING-MACHINE. RICHARD SCHOFIELD, Toronto, Canada, assignor to The Birmingham Iron Foundry, Derby, Conn., a Corporation. Filed Oct. 10, 1906. Serial No. 338,280.



Claim.—1. In a shearing-machine the combination of a stationary shearing-blade, a vertically-movable cross-bar, a stiff shearing-blade horizontally hinged thereon by its upper edge in a vertical plane intersecting at an acute angle the vertical plane in which lies the cutting edge of the stationary shearing-blade, the lower edge of the movable blade being also on a bevel or incline relative to the horizontal, and springs engaging the bar and the blade tending to press forward the latter into engagement with the stationary shearing-blade, substantially as described.

2. In a shearing-machine, the combination of a stationary shearing-blade, a vertically-movable cross-bar, a stiff shearing-blade horizontally hinged thereon by its upper edge in a vertical plane intersecting at an acute angle the vertical plane in which lies the cutting edge of the stationary shearing-blade, the lower edge of the movable blade being also on a bevel or incline relative to the horizontal, springs engaging the bar and the blade tending to press forward the latter into engagement with the stationary shearing-blade, and a set-screw forming an adjust-

able stop to the forward movement of the movable blade, substantially as described.

3. In a shearing-machine, the combination of a transverse stationary shearing-blade set on the bias, a vertically-movable shearing-blade adapted to coöperate therewith, a cross-shaft at an angle to and below the blades, and connections therefrom to the opposite ends of said movable blade for raising or lowering the same.

4. In a shearing-machine the combination of a transverse stationary shearing-blade set on the bias, a vertically-movable shearing-blade adapted to coöperate therewith, a cross-shaft at an angle to and below the blades, eccentrics at the opposite ends of said cross-shaft and connections between the said eccentrics and the respective ends of the movable blade for raising or lowering the same.

5. In a shearing-machine, the combination of a transverse stationary shearing-blade set on the bias, a vertically-movable shearing-blade adapted to coöperate therewith, a cross-shaft, an eccentric thereon below one end of the movable blade, an eccentric-rod therefor pivoted on the movable shearing-blade, an eccentric on the other end of the shaft, a fulcrumed walking-beam operated by the second eccentric and suitably connected with the other end of the movable blade, substantially as described.

6. In a shearing-machine a feed-bar longitudinal rods to which said feed-bar is connected, guides for said rods at opposite sides of the machine, a rock-shaft, arms secured to said shaft, operating connections between the arms and the rods, and a sleeve on the shaft, the sleeve and the shaft being twisted in opposite directions and clamped together, substantially as described.

7. In a shearing-machine, the combination with the feeding mechanism of a rock-shaft, a sleeve thereon, the shaft and sleeve being twisted in opposite directions and clamped together, means connected to one end of the pair formed by the shaft and sleeve for rocking them, and rock-arms connected one to each end of said pair for operating the feed mechanism, substantially as described.

8. In a shearing-machine, the combination with the feeding mechanism of a rock-shaft, rock-arms secured thereto, a sleeve on the shaft, arms connected with the sleeve, and means connected to one end of the shaft for rocking the same, the shaft and sleeve being twisted in opposite directions and the arms on the sleeve secured to the arms on the shaft for operating the feed mechanism, substantially as described.

9. In a shearing-machine the combination of a feed-bar, longitudinal rods to which said feed-bar is connected, guides for said rods at opposite sides of the machine, a rock-shaft, arms secured to said shaft, operating connections between the shaft and the rods, a crank-arm on the shaft, a driving-shaft, a crank-disk on the driving-shaft, a wrist-pin radially adjustable on the disk, a pitman connecting the wrist-pin and crank-arm, and means for adjusting the length of said pitman, substantially as described.

10. In a shearing-machine, the combination of a feed-bar, longitudinal rods to which said feed-bar is connected, guides for said rods at opposite sides of the machine, a rock-shaft, arms secured to said shaft, operating connections between the shaft and the rods, a crank-arm on the shaft, a driving-shaft, a crank-disk on the driving-shaft, a wrist-pin radially adjustable on the disk, a pitman connecting the wrist-pin and crank-arm, means for adjusting the length of said pitman, gripping means carried by the feed-bar, means for engaging the gripping means with the fabric, and means for releasing the gripping means adjustable lengthwise of the machine, substantially as described.

11. In a shearing-machine feed mechanism comprising a transverse feed-bar, a finger-bar journaled thereon, gripping-fingers fast on the finger-bar and adapted to coöperate with the feed-bar to grip the edge of the fabric to be fed, means tending to engage the fingers with the feed-bar, longitudinal guides on which said feed-bar is longitudinally movable, means for reciprocating the feed-bar on said guides, a detent adapted to hold the finger-bar with its fingers out of engagement with the feed-bar, a stop adjacent to the shears adapted to release the detent, and means at the opposite end of the stroke of the feed-bar adapted to rock the finger-bar to disengage the fingers and engage the detent, substantially as described.

12. In a shearing-machine feed mechanism comprising a transverse feed-bar, a finger-bar journaled thereon, gripping-fingers fast on the finger-bar and adapted to coöperate with the feed-bar to grip the edge of the fabric to be fed, means tending to engage the fingers with the feed-bar, longitudinal guides on which said feed-bar is longitudinally movable, means for reciprocating the feed-bar on said guides, a detent adapted to hold the finger-bar with its fingers out of engagement with the feed-bar, a stop adjacent to the shears adapted to release the detent, means at the opposite end of the stroke of the feed-bar adapted to rock the finger-bar to disengage the fingers and engage the detent, and means for adjusting the disengaging means lengthwise of the machine, substantially as described.

13. In a shearing-machine feed mechanism comprising a transverse feed-bar, a hollow finger-bar journaled thereon, gripping-fingers fast on the finger-bar and adapted to coöperate with the feed-bar to grip the edge of the fabric to be fed, means tending to engage the fingers with the feed-bar, longitudinal guides on which said feed-bar is longitudinally movable, means for reciprocating the feed-bar on said guides, a detent adapted to hold the finger-bar with its fingers out of engagement with the feed-bar, a stop adjacent to the shears adapted to release the detent, and means at the opposite end of the stroke of the feed-bar adapted to rock the finger-bar to disengage the fingers and engage the detent, substantially as described.

14. In a shearing-machine, the combination with the bed, of a stationary shearing-blade at the forward edge thereof, a movable shearing-blade coacting with the stationary blade, a guide-plate secured to the bed of the machine in rear of the stationary blade, said plate projecting upwardly therefrom, a clamping-plate and spring-fingers secured to the under face of the guide-plate and projecting forwardly therefrom.

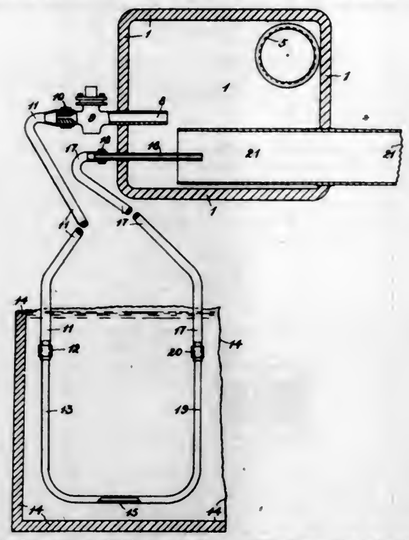
15. In a shearing-machine, the combination with a stationary shearing-blade, a vertically-movable cross-bar, a stiff shearing-blade horizontally hinged thereon, said cross-bar mounted on vertically-arranged tubular rods arranged at opposite ends of the cross-bar and closed at their upper ends, a spring within each tubular rod, bearings at each side of the machine over which said tubular rods extend and on which the lower ends of said springs rest whereby the vertically-movable cross-bars are counterbalanced, substantially as described.

844,745. SPRAY FOR ROCK-DRILLS. EDWARD G. A. REES-GIBBS, Roodepoort, Transvaal. Filed Sept. 17, 1906. Serial No. 335,023.

Claim.—1. In a rock-drill spray, in combination, a receptacle for the exhaust, a liquid-holding vessel, a perforated tube immersed therein, a tube communicating at one end with the interior of the receiver and at the other end with one end of the immersed perforated tube, a second tube communicating with the receiver at one end and at the other end communicating with the other end of the immersed perforated tube, and an exhaust-outlet pipe communicating with the receiver at its inner end into which outlet-pipe the liquid is directed by the second tube.

2. In a rock-drill spray, in combination, a receptacle in communication with the exhaust-port, a liquid-holding vessel, a perforated tubular member immersed therein, a tube communicating at one end with the interior of the receptacle, a cock fitted in said tube, a flexible pipe placing the outer end of said tube in communication with one branch of the immersed perforated tubular member, a second tube communicating at one end with the interior of the receptacle, a flexible pipe placing the outer end of said second tube in communication with the other branch of the immersed tubular member, and an exhaust-outlet pipe surrounding the inner end of the second tube, which pipe serves as the spray-nozzle.

3. In a rock-drill spray in combination, a receptacle having an opening providing an unrestricted inlet for the exhaust, a water-holding vessel, a U-shaped perforated tubular piece immersed therein, a tube communicating at one end with the receptacle and providing a restricted outlet-orifice at the other end, a cock in said tube, a flexible pipe placing the outer end of said tube in communication with one branch of the U-shaped perforated piece, a second tube communicating at one end with the interior of the receptacle, a flexible pipe placing the other end of said second tube in communication with the other branch of the U-shaped perforated piece, and an exhaust or spray pipe communicating with the receptacle, surrounding the second tube and serving to direct the spray.

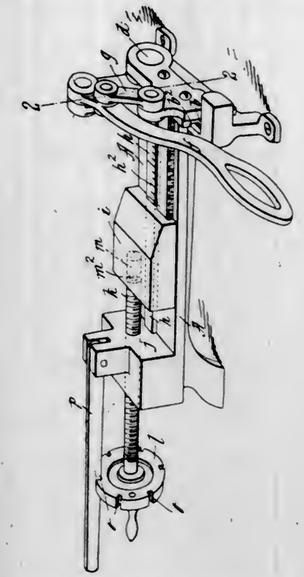


4. In a rock-drill spray, in combination, the air-chest 3 formed with the exhaust-port 4, the receptacle 1 formed with an inlet 5 of substantially the same area as the exhaust-port 4, the externally-threaded tube 6 for conducting the exhaust from the port 4 into the receptacle, the tube 8 communicating with the receptacle and formed with a reduced outlet-orifice, the cock 9, the water-holding vessel 14, the U-shaped piece having the aperture 15 in the bend thereof, the hose or flexible pipe 11 connected at one end to the tube 8 and at the other end to one branch 13 of the U-piece, the tube 16 communicating with the receptacle, and the hose or flexible pipe 17 placing the other end of said tube in communication with the other branch 19 of the U-shaped piece, the exhaust-outlet and spray pipe 21 communicating with the interior of the receptacle below the level of the tube 8 and surrounding the inner end of the other tube 16, substantially as described.

844,746. PRINTER'S LEAD-CUTTER. EDWIN I. RICE, Springfield, Mass. Filed May 22, 1906. Serial No. 318,196.

Claim.—1. In a printer's lead-cutter, in combination, a bed or table having a longitudinal guide-rib at its top, having a fixed shear member at one end thereof, and having an upstanding portion at its other end, a movable shear member coacting with the fixed shear member, and means for operating it, a gage-block having a sliding and guiding engagement with said rib, and a screw-shaft having a traveling engagement in said upstanding portion of the table, and provided with a head taking in a socket in said gage-block, and means for turning said shaft.

2. In a printer's lead-cutter, in combination, a bed or table having a longitudinal guide-rib at its top, having a fixed shear member at one end thereof, and having an upstanding portion at its other end, a movable shear member coacting with the fixed shear member, and means for operating it, a gage-block having a sliding and guiding engagement with said rib, and a screw-shaft having a threaded bearing in, and a longitudinal feed movement through said upstanding portion of the table, and swiveled in said block, and having at its outer end a notched hand-wheel, and a manually-operated catch-lever pivoted to said upstanding portion of the table and adapted to engage in the notches of said wheel, and positively lock the same.



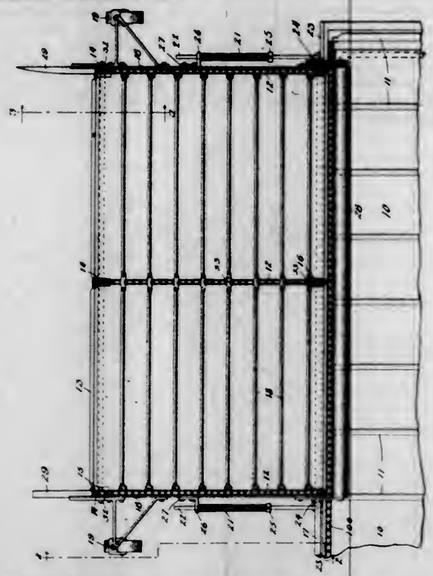
3. In a printer's lead-cutter, in combination, a bed or table having a longitudinal guide-rib at its top and having a fixed shear member at one end thereof, having an upstanding portion at its other end, a movable shear member coacting with the fixed shear member, and means for operating it, a gage-block having a sliding and guiding engagement with said rib, and having in its under side near one end a semicylindrical socket, and a semicylindrical recess of less diameter leading from said socket to the end of the block, and a screw-shaft having a thread engagement and a longitudinal feed movement through said upstanding portion of the table, provided at its inner extremity with a cylindrical portion, to engage in said semicylindrical socket of the gage-block, and having a necked-down portion adjacent said cylindrical end portion, and means for rotating said shaft.

4. In a printer's lead-cutter in combination, a bed or table having a fixed shear member at one end thereof, a gage-block having a perpendicular working face slidable along said table, means for moving said gage-block, and a movable shear member coacting with said fixed shear member and having a working face parallel with the working face of said gage-block, and also having a rectangular recess in its working face opposite the gage-block, whereby jamming of the work is prevented.

844,747. BUNDLE-LOADER. JOHN S. RICHARDSON, Nowesta, N. D., assignor to Walter Gregory, trustee, Minneapolis, Minn. Filed Sept. 3, 1904. Renewed Sept. 22, 1906. Serial No. 335,815.

Claim.—1. In a bundle-loader, the combination with an elevator for raising the bundles to the wagon, of mechanism for picking the bundles up from the ground and de-

livering them to said elevator, such mechanism consisting of an endless carrier moving over wheel at top and bottom, and having transverse blades adapted to lift the bundles onto the upper course of the carrier and to insure their transfer to said elevator.



2. In a bundle-loader, an endless moving pick-up device pivotally connected to the main frame of the machine and consisting of flexible endless carrying means and blades adapted to lift the bundles from the ground.

3. In a bundle-loader, an endless moving pick-up device pivotally connected to the main frame of the machine and consisting of flexible endless carrying means and blades, the latter projecting from the carrying means so as to adapt them to lift the bundles from the ground.

4. In a bundle-loader, an endless moving pick-up device pivotally connected to the main frame of the machine and consisting of a flexible endless conveying means and blades, the latter projecting from the endless conveying means and inclined forwardly so as to adapt them to lift the bundles from the ground.

5. In a bundle-loader the pick-up mechanism such as that described, pivotally connected to the main frame of the machine, and with its forward end resting upon the ground, in combination with means for partially supporting such forward end from the main frame.

6. In a bundle-loader the pick-up mechanism such as that described, pivotally connected to the main frame of the machine, and with its forward end resting upon the ground, in combination with springs tending to lift such forward end.

7. In a bundle-loader, pick-up mechanism essentially such as described pivotally connected to the main frame of the machine, and having both shoes and rollers supporting the forward end.

8. In a bundle-loader, pick-up mechanism essentially such as described pivotally connected to the main frame of the machine, and having both shoes and rollers supporting the forward end from the ground, and spring devices supporting the same end from the main frame.

9. In a bundle-loader, pick-up mechanism consisting of flexible carrying means and blades projecting forwardly and outwardly, and having their forward outer corners sharpened.

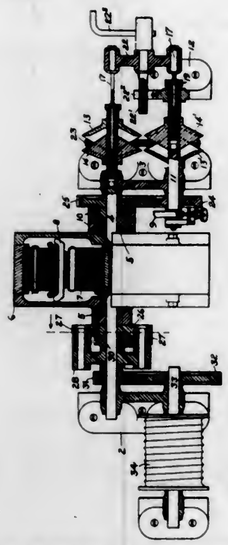
10. In a bundle-loader, pick-up mechanism essentially such as described, pivotally connected to the main frame of the machine and having rollers supporting its forward end, and also having means for preventing the mechanism from falling too far when the rollers enter hollows in the ground.

11. In a bundle-loader, pick-up mechanism essentially such as described, pivotally connected to the main frame of the machine and having swiveled rollers supporting its forward end.

12. In a bundle-loader, the combination with a main frame, of a pick-up mechanism pivotally connected to the front of the main frame and having its forward end adapted to rest upon the ground and follow the inequalities thereof.

13. In a bundle-loader, pick-up mechanism essentially such as described, pivotally connected to the main frame of the machine and having its forward end adapted to rest upon the ground and to follow the inequalities thereof.

844,748. SPEED-CHANGING DEVICE. JOHN RIDDELL, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 9, 1904. Serial No. 215,882.



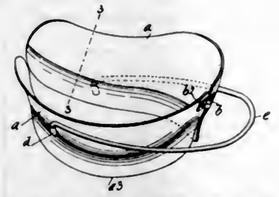
Claim.—1. In combination, a power-driven shaft, an oppositely power driven sleeve concentric therewith, means for regulating the relative movements of said shaft and said sleeve, gears connected respectively to said shaft and sleeve, and planetary gears operatively engaging said gears.

2. In combination, a power-driven shaft, an oppositely power driven sleeve concentric therewith, a counter-shaft positively geared to said sleeve, speed-changing means conecting said shafts, gears connected respectively to said power-shaft and sleeve, and planetary gears operatively engaging said gears.

3. The combination with a main shaft, of the armature of an induction-motor secured thereto, a sleeve concentric with said shaft carrying the rotatable field-magnet of said induction-motor, a counter-shaft geared to said sleeve, inversely-expansible pulleys on the main shaft and counter-shaft, a belt connecting said pulleys, a rotatable driven element, and epicyclic gearing connecting said element with the main shaft and the sleeve.

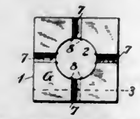
4. The combination with a main shaft, of the armature of an induction-motor secured thereto, a sleeve concentric with said shaft and carrying the rotatable field-magnet of said motor, a counter-shaft parallel with said sleeve, spur-gears connecting said sleeve and counter-shaft, the gear on the sleeve being the larger, expanding pulleys on said main shaft and said counter-shaft, means for varying the effective diameters of said pulleys inversely, a belt connecting said pulleys, a driven element, and epicyclic gearing connecting said element and the main shaft and sleeve and comprising two gears having the same ratio as the gears connecting the sleeve and the counter-shaft.

844,749. STOCKING-PROTECTOR. BRISCOE RIELY, New York, N. Y. Filed Oct. 1, 1906. Serial No. 336,872.



Claim.—A device of the class described, comprising two side members hinged at the rear end and the front ends of which are held closely adjacent, the bottom edges of said side members being adapted to be inserted into the top of a low-cut shoe and said side members being provided with a spring which normally holds the front ends of the side members together.

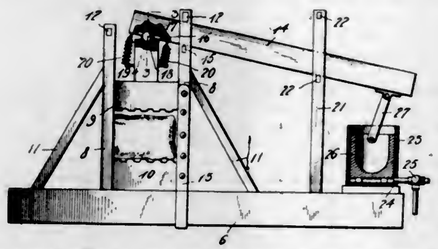
844,750. LOCK-NUT. HERMAN F. RIESCHICK, Falls City, Nebr. Filed Dec. 12, 1906. Serial No. 357,446.



Claim.—A reversible self-locking nut provided with ratchet-grooves in one of its faces and provided in its opposite face with radial grooves at the inner ends of which are formed sharp-pointed fins overhanging the central threaded aperture of the nut.

844,751. BALING-PRESS. FRANK S. ROBINSON, Natchez, Miss. Filed Oct. 22, 1906. Serial No. 339,975.

Claim.—In a press, the combination with a plunger, of

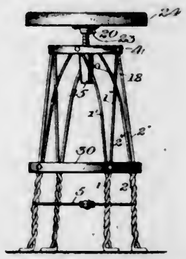


an operating-lever connected thereto, the lever and plunger having opposite sockets one of which is elongated, and a ball in said sockets.

844,752. CHAIR. JOSEPH SALOMON, Chicago, Ill. Filed Aug. 14, 1905. Serial No. 274,029.

Claim.—1. In a chair, the combination of a metallic ring comprising vertical and horizontal flanges, supporting-legs therefor, a spider comprising a central portion and arms radial therefrom, said arms being adapted to bear on the vertical and horizontal flanges of said ring, and a seat having a downward projection adapted to pivot in the central portion of the spider.

2. In a chair, the combination of a metallic ring comprising vertical and horizontal flanges, supporting-legs therefor, a spider comprising a tubular portion and arms radial therefrom adapted to bear on the vertical and horizontal flanges of said ring, and a seat having a downward projection adapted to pivot in the tubular portions of the spider.



3. In a chair, the combination of a metallic ring, supporting-legs of wire therefor, a spider comprising a central tubular portion, arms radial therefrom, flanges at the ends of said arms adapted to bear on the inside of said ring, means for attaching the flanges to the ring, and a seat having a downward projection adapted to pivot in the tubular portion of the spider.

4. In a chair, the combination of a metallic ring, supporting-legs of wire therefor, a spider comprising a threaded tubular portion, arms radial therefrom, flanges at the ends of said arms adapted to bear on the inside of said ring, means for attaching the flanges to the ring, and a seat having a threaded downward projection adapted to pivot in the tubular portion of the spider.

5. In a chair, the combination of a metallic ring, supporting-legs of wire therefor, a spider comprising a threaded tubular portion, arms radial therefrom, flanges at the ends of said arms adapted to bear on the inside of said ring, means for attaching the flanges to the ring, a seat having a threaded downward projection pivoted thereto and adapted to take the threaded tubular portion of the spider, and means for securing the projection against rotation in the spider.

6. In a chair, the combination of a metallic ring, supporting-legs of wire therefor, a spider comprising a threaded tubular portion, arms radial therefrom, flanges at the ends of said arms adapted to bear on the inside of said ring, means for attaching the flanges to the ring, a seat having a threaded downward projection pivoted thereto adapted to take the threaded tubular projection of the spider, and a thumb-screw in the tubular portion to secure said downward projection against rotation.

7. In combination with a chair, having supporting-legs of wire twisted together; a ring of metal comprising a vertical and a horizontal flange surrounding the legs midway of their length so that the inner edge of said horizontal flange bears on the outer portions of said legs, and means independent of the ring and the legs for securing the same together.

8. In combination with a chair having continuous support-legs of wire; a ring of metal comprising a vertical and a horizontal flange surrounding the legs midway of their length so that the inner edge of said horizontal flange bears on the outer portions of said legs, and means independent of the ring and the legs for securing the same together.

9. In combination with a chair, having supporting-legs of wire twisted together; a ring of metal with a horizontal flange surrounding the legs midway of their length, clamps to engage the wires of each leg, and bolts to secure the clamp and ring to the said legs.

10. In combination with a chair, having legs of duplex wire; a ring of metal having a horizontal flange to surround the legs, clamps to engage the wires of each leg, and bolts passing between the said wires and engaging the clamps, whereby the ring is secured to the said legs.

11. In combination with a chair, having legs of duplex

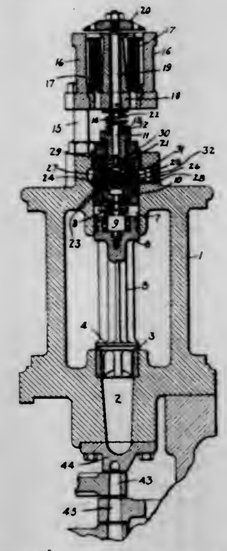
wire, a horizontally-flanged ring surrounding the legs, clamps embracing the leg-wires, and a bolt to secure the clamping members and the ring to the legs midway of their length.

12. In combination with a chair, having legs of duplex wire, a horizontally-flanged ring surrounding the legs, clamps having downturned edges embracing the leg-wires, and a bolt to secure the clamping members and the ring to the legs midway of their length.

13. In a chair, the combination of wire legs, a flanged foot-rest attached to the legs, a bearing-ring, a spider centrally apertured, a unitary means for securing together the chair-legs, the bearing-ring and the arms of the spider, and a seat having a downward projection adapted to pivot in the spider.

14. In combination with a chair having supporting-legs of wire; a ring of metal comprising a vertical and a horizontal flange surrounding the legs midway of their length so that the inner edge of said horizontal flange faces the outer portions of said legs, and means independent of the ring and the legs for securing the same together.

844,753. GOVERNING MECHANISM FOR ELASTIC-FLUID TURBINES. FREDERICK SAMUELSON, Rugby, England, assignor to General Electric Company, a Corporation of New York. Filed May 24, 1905. Serial No. 261,927.



Claim.—1. In a valve mechanism for turbines, the combination of a main valve, a casing therefor, a pilot-valve, a removable plug fitted in the casing and in line with the main valve, a pilot-valve located within the plug, and a means for operating the pilot-valve with a hammer-blow.

2. In a valve mechanism for turbines, the combination of a main valve, a casing therefor, a pilot-valve, a removable plug fitted in the casing and in axial alinement with the main valve, a gland located in the plug which acts as a guide for the stem of the pilot-valve, the said stem alining with the axis of the main valve, and a means for actuating the pilot-valve.

3. In a valve mechanism for turbines, the combination of a main valve, an actuating-piston, a casing for the valve, a removable plug fitted in the casing and provided with an extension forming a cylinder for the piston, a pilot-valve carried by the plug for controlling the passage of fluid to and from the cylinder, and a means for actuating the pilot-valve.

4. In a valve mechanism for elastic-fluid turbines, the combination of a casing, a valve located therein, a piston for actuating the valve, a removable plug located in line with the piston and of larger diameter than the piston so that the latter can be removed through the plug-opening, a pilot-valve located within the plug, and removable therewith for controlling the movements of the piston, and a means for actuating the pilot-valve.

5. In a valve mechanism for elastic-fluid turbines, the combination of a casing, a valve located therein, a piston for actuating the valve, a removable plug located in line with the piston and of larger diameter than the piston so that the latter can be removed through the plug-opening, a screw-threaded means for securing the plug in place, a pilot-valve for controlling the movements of the piston located within and removable with the plug, and a means for opening and closing the pilot-valve with a hammer-blow to control the action of the piston and its valve.

6. In a valve mechanism for elastic-fluid turbines, the combination of a casing, a valve located therein, a piston for actuating the valve, a removable plug located in line with the piston and of larger diameter than the piston so that the latter can be removed through the plug-opening, a shoulder for supporting the plug in a manner to minimize the effects of distortion, and a means for opening and closing the pilot-valve to control the action of the piston and its valve.

7. In a valve mechanism for elastic-fluid turbines, the combination of a casing, a valve located therein, a piston for actuating the valve, a removable plug located in line with the piston and of longer diameter than the piston so that the latter can be removed through the plug-opening, a cylinder for the piston carried by the plug, the cylinder being of smaller diameter than the plug-opening, means for alining and securing the plug in place, and mechanism for controlling the movements of the piston and its attached valve.

8. In a valve mechanism for elastic-fluid turbines, the combination of a casing, a valve located therein, a piston for actuating the valve, a removable plug located in line with the piston and of larger diameter than the piston so that the latter can be removed through the plug-opening, a cylinder for the piston carried by the plug, the cylinder being of smaller diameter than the plug-opening, means for alining and securing the plug in place, a controlling-spring located within the cylinder and between the head and the piston, and mechanism for controlling the movements of the piston and its attached valves.

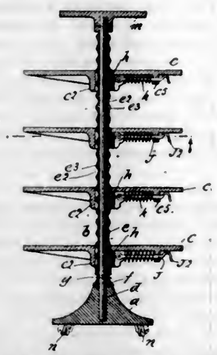
9. In a valve mechanism for turbines, the combination of a valve-casing, a plurality of valves arranged therein, pistons for operating the valves, individual and removable plugs located in line with the pistons and of larger diameter to permit removal of the pistons, pilot-valves located in and carried by the plugs and means for controlling the movement of the pilot-valves.

10. In a governing mechanism for turbines, the combination of a main valve, a piston and cylinder therefor, a pilot-valve for controlling the passage of fluid to the cylinder, a spring which tends to seat the valve, an actuator for the pilot-valve which is separate from the stem of the pilot-valve, and a spring which opposes the actuator and normally holds it out of engagement with the stem of the pilot-valve so that the actuator will strike a hammer-blow.

844,754. DISPLAY-STAND. GEORGE P. SARDOU and GEORGE STADTLANDER, New York, N. Y. Filed July 9, 1906. Serial No. 325,204.

Claim.—1. A display device or rack comprising a base having a vertically-arranged standard or support comprising a central shaft rotatably mounted in said base and a tubular casing mounted on said shaft, said tubular casing being provided with annular grooves and ribs, a plurality of shelves mounted on said tubular casing and provided with spring-operated blocks adapted to engage said casing, and means for withdrawing said blocks from engagement with said casing, said shelves being vertically adjustable and independently rotatable on said casing.

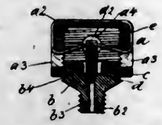
2. A display device or rack comprising a base having a vertically-arranged standard or support comprising a central shaft rotatably mounted in said base and a tubular casing mounted on said shaft, said tubular casing being provided with annular grooves and ribs, a plurality of shelves mounted on said tubular casing and provided with spring-operated blocks adapted to engage said casing, and means for withdrawing said blocks from engagement with said casing, said shelves being vertically adjustable and independently rotatable on said casing, and said shaft being provided at its upper end with a shelf rigidly secured thereto.



3. A display-rack, comprising a base having an upright standard rotatably mounted therein, a tubular sleeve through which said standard passes, and a plurality of shelves mounted on said tubular sleeve and rotatable thereon, and vertically adjustable thereon, whereby said shelves are made independently rotatable and independently adjustable, and whereby all of said shelves may be turned at the same time.

4. A display-rack, comprising a base having a vertically-arranged rotatable shaft mounted therein, a tubular sleeve mounted on said shaft and provided with annular grooves, a plurality of shelves mounted on said tubular sleeve and rotatable thereon, each of said shelves being provided with a spring-operated locking device adapted to operate in connection with said grooves, and each of said shelves being vertically adjustable on said sleeve.

844,755. VENT-VALVE FOR BATTERIES. FRANK J. SCHALOW, New York, N. Y. Filed Sept. 28, 1906. Serial No. 336,562.



Claim.—1. A vent-valve for batteries comprising a thimble-shaped cap screw-threaded internally and provided in its opposite sides with recesses which extend to the bottom of the sides thereof, a threaded plug screwed into said cap and provided with a central longitudinal bore or passage, a plug-valve mounted in said cap longitudinally of the axis thereof and movable in said plug and adapted to close the bore thereof, and an elastic band passed around the top portion of said cap through the recesses in the sides thereof, and that part of which which passes through said cap being adapted to rest in a notch or recess in the top of the plug-valve.

2. A vent-valve for batteries comprising a thimble-shaped cap screw-threaded internally and provided in its opposite sides with recesses which extend to the bottom of the sides thereof, a threaded plug screwed into said cap and provided with a central longitudinal bore or passage, a plug-valve mounted in said cap longitudinally of the axis thereof and movable in said plug and adapted to close the bore thereof, and an elastic band passed around the top portion of said cap through the recesses in the sides thereof, and that part of which which passes through said cap being adapted to rest in a notch or recess in the top of the plug-valve, said cap being also provided with sight ports or passages.

3. A vent-valve for batteries comprising a thimble-shaped cap screw-threaded internally and provided in its opposite sides with recesses which extend to the bottom of the sides thereof, a threaded plug screwed into said cap and provided with a central longitudinal bore or passage, a plug-valve mounted in said cap longitudinally of the axis thereof and movable in said plug and adapted to close the bore thereof, and an elastic band passed around the top portion of said cap through the recesses in the sides thereof, and that part of which which passes through said cap being adapted to rest in a notch or recess in the top of the plug-valve, said cap being also provided with sight ports or passages, and said plug with a jam-nut.

4. A battery provided with a vent-valve device comprising a thimble-shaped cap screw-threaded internally and provided in its opposite sides with vertically-arranged recesses which extend to the bottom of the sides thereof, a threaded plug screwed into said cap and provided with a longitudinal bore or passage and with means whereby the valve device may be secured to the battery, a plug-valve mounted in the cap and in the end of said screw-threaded plug and adapted to close the bore or passage therethrough and movable longitudinally of the axis of said plug, and an elastic band passed around the top portion of the cap and through the recesses in the opposite sides thereof, and that part of which within the cap is adapted to rest in a notch or recess in the top of the plug-valve.

5. A battery provided with a vent-valve device comprising a thimble-shaped cap screw-threaded internally and provided in its opposite sides with openings, a threaded plug screwed into said cap and provided with a longitudinal bore or passage, and with means whereby the valve device may be secured to the battery, a plug-valve mounted in the cap and one end of which normally rests in the end of said bore or passage and is adapted to close the same, said plug-valve being movable longitudinally of the axis of said plug and a non-corrosive tensional device for holding said plug-valve normally seated so as to close said bore or passage, said plug-valve being adapted to be forced from its seat by pressure in the battery.

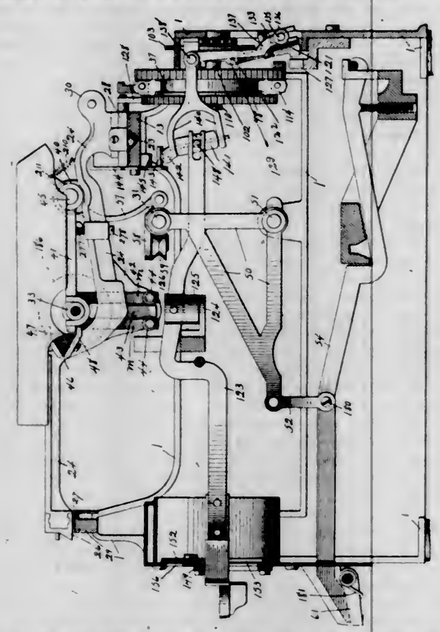
844,756. TYPE-WRITING MACHINE. AUGUST SCHNEELOCH, Syracuse, N. Y., assignor to E. C. Stearns & Co., Syracuse, N. Y. Filed May 9, 1902. Serial No. 106,524.

Claim.—1. In the tabulating mechanism of a type-writing machine, the combination with the main frame and the carriage, of column-stops supported on the main frame, a connection between the stops and the carriage, whereby they are moved, and an adjustable denomination-stop also supported on the main frame and adapted to be adjusted to different denominational points to engage with the column-stops, to stop the carriage at said points.

2. In the tabulating mechanism of a type-writing machine, a front slotted piece, a rear slotted piece, said pieces each having a plurality of corresponding slots, a denomination-stop hung adjacent to the rear piece, a single tabulating-lever extending adjacent to the front piece, connections between the lever and the stop, whereby the stop is arranged in the proper slot of the rear piece by the insertion of the lever in the corresponding slot of the front piece, and a scale adjacent to the front piece to guide the insertion of the lever in the proper slot, to permit the writing of the desired number of figures before the carriage reaches the decimal-point.

3. In the tabulating mechanism of a type-writing machine, the combination with the frame and the carriage, of one or more column-stops moved by the movement of the carriage, corresponding front and rear pieces, each provided with several slots, a denomination-stop arranged

adjacent to the rear piece, a tabulator-lever having its front end arranged adjacent to the front piece, and connections between the tabulator-lever and the denomination-stop, whereby the denomination-stop is moved into position in one of the slots of the rear slotted piece to engage with the column-stops and stop the carriage.



4. In the tabulating mechanism of a type-writing machine, the combination with the frame and the carriage, of one or more column-stops moved by the movement of the carriage, corresponding front and rear pieces, each provided with several slots, a denomination-stop arranged adjacent to the rear piece, a tabulator-lever having its front end arranged adjacent to the front piece, connections between the tabulator-lever and the denomination-stop, whereby the denomination-stop is moved into position in one of the slots of the rear slotted piece to engage with the column-stops and stop the carriage, and a scale adjacent to the front piece to guide the insertion or adjustment of the tabulator-lever in the proper slot of the front slotted piece and thereby the adjustment of the denomination-stop in the corresponding slot of the rear slotted piece.

5. In the tabulating mechanism of a type-writing machine, the combination with corresponding front and rear slotted pieces, of a tabulator-lever suitably journaled, a denomination-stop hung at the rear of the machine adjacent to the rear slotted piece, connections between the lever and the stop, whereby the stop may be arranged in a slot of the rear slotted piece by the insertion of the lever in the corresponding slot of the front slotted piece, of a spring-barrel suitably journaled, a pinion thereon engaging with a rack on the carriage, and column-stops carried on the spring-barrel to engage with the denomination-stop to stop the carriage at predetermined points.

6. In the tabulating mechanism of a type-writing machine, the combination with the frame and the carriage, of one or more movable stops on the frame moved by the movement of the carriage, corresponding front and rear slotted pieces on the frame, a denomination-stop suitably hung and arranged adjacent to the rear piece, a tabulator-lever having its forward end arranged adjacent to the front slotted piece, connections between the tabulator-lever and the denomination-stop, whereby the denomination-stop is moved by the lever into position to engage with the columnn-stop and stop the carriage, a scale adjacent to the front piece to guide the adjustment of the tabulator-lever in the proper slot thereof, and a moving part connected to the lever, whereby the scale is brought into view.

7. In the tabulating mechanism of a type-writing machine, the combination with the frame and the carriage, of one or more movable stops on the frame moved by the movement of the carriage, corresponding front and rear pieces on the frame, a denomination-stop suitably hung and arranged adjacent to the rear piece, a tabulator-lever having its forward end arranged adjacent to the front slotted piece, connections between the tabulator-lever and the denomination-stop, whereby the denomination-stop is moved by the lever into position to engage with the column-stops and stop the carriage, a fixed scale adjacent to the front piece to guide the adjustment of the tabulator-lever in the proper slot thereof, a shutter moving over the fixed scale, and connections between the shutter and the tabulator-lever whereby the scale is brought into view.

8. In the tabulating mechanism of a type-writing machine, the combination with the frame and the carriage, of one or more movable column-stops arranged on the frame, connections between the column-stops and the carriage, whereby they are moved by the movement of the carriage, corresponding slotted front and rear pieces, each provided with several slots, a denomination-stop arranged adjacent to the rear piece, a single tabulator-lever having its forward end arranged adjacent to the front slotted piece, connections between the tabulator-lever and the denomination-stop, whereby the denomination-stop is moved into operative position by the lever, a fixed scale arranged adjacent to the front piece, a sliding shutter adapted to be moved in front of said scale, and connections between the shutter and the tabulator-lever, whereby the shutter is moved and the figures on the scale brought into view to guide the insertion of the lever in the proper slot in the front piece and the adjustment of the denomination-stop in the corresponding slot in the rear slot, whereby the desired number of figures may be printed before the carriage is stopped.

9. In the tabulating mechanism of a type-writing machine, the combination of front and rear corresponding slotted pieces, a tabulator-lever suitably supported, a denomination-stop suitably hung adjacent to the rear slotted piece, connections between the lever and the stop whereby the stop may be inserted in a slot of the rear slotted piece corresponding to the slot of the front slotted piece in which the lever may be inserted, a suitably-journaled spring-barrel having a slotted edge and a scale corresponding to the front scale, a pinion secured to said barrel engaging with the carriage-rack, column-stops arranged between said spring-barrel and said pinion and having ribs fitted to corresponding circular grooves on the adjacent inner faces of the spring-barrel and the pinion, and adapted to be arranged extending outwardly through the desired slot on the edge of the spring-barrel to engage with the denomination-stop and stop the carriage at a predetermined point.

10. In the tabulating mechanism of a type-writing machine, the combination of front and rear corresponding slotted pieces, of a lever suitably supported, a denomination-stop suitably hung adjacent to the rear slotted piece, connections between the lever and the stop whereby the stop may be inserted in a slot of the rear slotted piece corresponding to the slot of the front slotted piece in which the lever may be inserted, a suitably-journaled spring-barrel having a slotted edge and a scale corresponding to the front scale, a pinion secured to said barrel engaging with the carriage-rack, column-stops arranged between said spring-barrel and said pinion and having ribs fitted to corresponding circular grooves on the adjacent inner faces of the spring-barrel and the pinion, and adapted to be arranged extending outwardly through the desired slot on the edge of the spring-barrel to engage with the denomination-stop and stop the carriage at a predetermined point, and an antifriction brake-piece of soft material arranged on the front face of the denomination-stop to engage with the rear face of the spring-barrel to check its motion, and a set-screw in the rear face of the denomination-stop to adjust said brake-piece.

11. In the tabulating mechanism of a type-writing machine, the combination of a lever suitably supported, a denomination-stop suitably supported, connections between the lever and the stop whereby the stop may be suitably adjusted, a suitably-journaled spring-barrel, a pinion secured to said barrel engaging with the carriage-rack, column-stops arranged between said spring-barrel and said pinion and having ribs fitted to corresponding circular grooves on the adjacent inner faces of the spring-barrel and the pinion, and adapted to be turned rearwardly, to engage with the denomination-stop and stop the carriage at predetermined points.

12. In the tabulating mechanism of a type-writing machine, the combination of a lever suitably supported, a denomination-stop suitably hung, connections between the lever and the stop whereby the stop may be suitably adjusted, a suitably-journaled spring-barrel having a slotted edge and a scale corresponding to the front scale, a pinion secured to said barrel engaging with the carriage-rack, column-stops carried on the spring-barrel and adapted to be turned rearwardly, to engage with the denomination-stop and stop the carriage at a predetermined point, and an antifriction brake-piece of soft material arranged on the front face of the denomination-stop to engage with the rear face of the spring-barrel to check its motion, and a set-screw in the rear face of the denomination-stop to adjust said brake-piece.

13. In the tabulating mechanism of a type-writing machine, the combination of a lever suitably supported, a denomination-stop suitably supported, connections between the lever and the stop whereby the stop may be suitably adjusted, a suitably-journaled spring-barrel, a pinion secured to said barrel engaging with the carriage-rack, column-stops arranged between said spring-barrel and said pinion and having ribs fitted to corresponding circular grooves on the adjacent inner faces of the spring-barrel and the pinion and adapted to be turned rearwardly, to engage with the denomination-stop and stop the carriage at a predetermined point, and an antifriction brake-piece of soft material arranged on the front face of the denomination-stop to engage with the rear face of the spring-barrel to check its motion.

14. In the tabulating mechanism of a type-writing machine, the combination with the frame, the carriage and the rack on the carriage, of a spring-barrel having a slotted margin and a scale on its rear face corresponding to the front scale, of a pinion secured to said spring-barrel and engaging with the carriage-rack, a suitably-journaled shaft for the spring-barrel and the pinion, guiding-blocks arranged between the spring-barrel margin and pinion, having integral ribs fitted to corresponding circular grooves on the adjacent inner faces of the spring-barrel and pinion, column-stops pivotedly supported on said blocks, springs to hold said column-stops in either operative or inoperative position, said column-stops being adapted to be turned rearwardly on their pivoted support into the desired marginal slot to engage with the denomination-stop and stop the carriage at the predetermined points, of said denomination-stop and means for adjusting it in position to engage with said column-stops.

15. In the tabulating mechanism of a type-writing machine, the combination with corresponding front and rear slotted pieces each provided with several slots, of the tabulator-lever suitably supported and extending forwardly through the front slotted piece, a denomination-stop suitably supported on the rear of the machine, connections between the tabulator-lever and the denomination-stop, a numbered scale adjacent to the front slotted piece, means to render the successive numbers thereon visible, operated by the lever, whereby the insertion of the lever in the desired slot in the front slotted piece is guided and the denomination-stop may be inserted in the corresponding slot in the rear slotted piece, a spring-barrel, a pinion thereon to engage with a carriage-rack, and column-stops thereon to engage with the denomination-stop as the spring-barrel rotates to stop the carriage at a predetermined point.

16. In the tabulating mechanism of a type-writing machine, the combination with the main frame and the carriage, of column-stops rotatably supported on the main frame, a connection between said stops and the carriage whereby the stops are rotated as the carriage is moved, an adjustable denomination-stop hung on the main frame and means to adjust said stop to different denominational points to cause it to engage with the column-stops, to stop the carriage, substantially as described and shown.

17. In the tabulating mechanism of a type-writing machine, the combination with the frame, of a spring-barrel shaft suitably supported thereon, a spring-barrel journaled on the shaft, having a slotted margin and a scale on its rear face corresponding to the front scale, a pinion also journaled on the shaft and connected to the spring-barrel, a spring to rotate the spring-barrel, column-stops supported on the spring-barrel and adapted to be turned rearwardly to engage with the denomination-stops, a denomination-stop hung on the shaft so as to swing in and out, and formed with cross-slots in its lower end, a short rod and pin fitted to said respective slots, a vertical lever-arm secured to said rod, a lock-rod secured to the upper end of said lever at its inner end and having a forked piece secured to its outer end, a vertical swivel having a horizontal pin supported in said forked end, a tabulator-lever supported in a journaled swivel-bushing so as to be swung in various directions, and having cross-slots at its rear end engaging respectively with the vertical swivel and the horizontal pin, a slotted piece having several slots arranged at the front of the machine adjacent to the lever end, and a corresponding slotted piece arranged at the rear of the machine adjacent to the denomination-stop.

18. In the tabulating mechanism of a type-writing machine, the combination with the main frame and the carriage, of a rotating support journaled on the main frame, adjustable column-stops arranged on the periphery of said support, a connection between the support and the carriage whereby the support is rotated, an adjustable denomination-stop hung on the main frame and an operating-lever suitably connected to the denomination-stop to adjust said denomination-stop to different denominational points, to cause it to engage with the column-stops to stop the carriage at said points.

19. In the tabulating mechanism of a type-writing machine, the combination with the main frame and the carriage-rack, of a spring-barrel suitably journaled on the main frame, a pinion connected to said barrel and engaging with the carriage-rack, column-stops supported on the spring-barrel, means for adjusting said column-stops either in or out of operative position, a denomination-stop hung on the main frame, and adapted to engage with the column-stops to stop the carriage, a single lever extending outwardly to the front of the machine, and connections between said lever and the denomination-stop, whereby the denomination-stop may be adjusted in any one of its operative positions.

20. In the tabulating mechanism of a type-writing machine, the combination of front and rear slotted pieces, a denomination-stop arranged adjacent to the rear slotted piece, means for adjusting said stop in the desired slot of said rear slotted piece, a suitably-journaled spring-barrel having a notched edge, and column-stops supported on the spring-barrel, and adapted to be arranged extending outwardly through one of said notches to engage with the denomination-stop and stop the carriage at a predetermined point, the slots on said rear slotted piece being inclined to correspond with the notches on the spring-barrel.

21. In the carriage-stop mechansim of a type-writing machine, the combination with the main frame and the carriage, of a rotatable column-stop support on the main frame, column-stops arranged on said support, connections between said support and the carriage whereby the support is rotated by the movement of the carriage, an adjustable denomination-stop arranged on the main frame to engage with the column-stops to stop the carriage, and

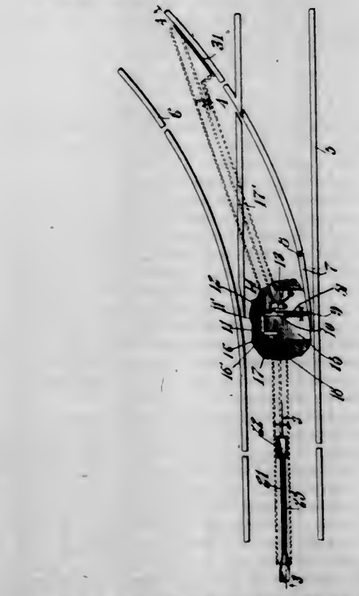
means to adjust the denomination-stop in various positions.

22. In the tabulating mechanism of a type-writing machine, the combination with the main frame and the carriage, of column-stops supported on the main frame, a spring for moving said stops and carriage, an adjustable denomination-stop also supported on the main frame, and means to adjust said stop to different denominational points, to cause it to engage with the column-stops to stop the carriage.

23. In the tabulating mechanism of a type-writing machine, the combination with the main frame and the carriage, of column-stops rotatably supported on the main frame, a connection between the carriage and said stops, a spring whereby the stops are rotated and the carriage is moved, an adjustable denomination-stop hung on the main frame, and means to adjust said stop to different denominational points, to cause it to engage with the column-stops to stop the carriage.

24. In the tabulating mechanism of a type-writing machine, the combination with the main frame and the carriage, of a rotating support journaled on the main frame, adjustable column-stops arranged on the periphery of said support, a connection between said support and the carriage, a spring whereby the support is rotated and the carriage moved, an adjustable denomination-stop hung on the main frame, and an operating-lever suitably connected to the denomination-stop to adjust said stop to different denominational points, in which it engages with the column-stops to stop the carriage.

844,757. SWITCHING MECHANISM FOR RAILWAY-CARS. WILBUR C. SHARP, Los Angeles, Cal. Filed May 23, 1906. Serial No. 318,431.



Claim.—1. In a switch-operating mechanism of the character herein described, comprising a pivoted operating-bar lying in a plane parallel to the surface of the track and having a slot in one end thereof; a bell-crank lever pivotally secured in a longitudinal slot in the center of the track, one arm of which has a pin on the outer end thereof projecting into the slot in the end of the operating-bar; a pull-rod connected to the other arm of the bell-crank lever, a second bell-crank lever, one arm of which is connected to said pull-rod; a switch-operating bar connected to the other arm of the second bell-crank lever; a pivoted switch-point, the free end of which is connected to said operating-bar; in combination with mechanism secured to the car for engaging said operating-bar whereby the movement of the switch is effected.

2. In a switch-operating mechanism of the character herein described, comprising a pivoted operating-bar lying in a plane parallel to the surface of the track and having a slot in one end thereof; a bell-crank lever pivotally secured in a longitudinal slot in the center of the track, one arm of which has a pin on the outer end thereof projecting into the slot in the end of the operating-bar; a pull-rod connected to the other arm of the bell-crank lever; a second bell-crank lever, one arm of which is connected to said pull-rod; a spring-retracted operating-bar connected to the other arm of the second bell-crank lever; a pivoted switch-point, the free end of which is connected to said operating-bar; in combination with mechanism secured to the car for engaging said operating-bar whereby the movement of the switch is effected; means to lock said switch-operating mechanism; and means connected to said locking means to release said locking means.

3. In a switch-operating mechanism of the character herein described, comprising a pivoted operating-bar lying in a plane parallel to the surface of the track and having a slot in one end thereof; a bell-crank lever pivotally secured in a longitudinal slot in the center of the track, one arm of which has a pin on the end thereof projecting into the slot in the end of the operating-bar; a pull-rod connected to the other arm of the bell-crank lever; a second bell-crank lever, one arm of which is connected to said pull-rod; a spring-retracted operating-bar connected to the other arm of the second bell-crank lever; a pivoted switch-point, the free end of which is connected to said operating-bar; means secured to the car for engaging said switch-operating means whereby the movement of the switch is effected, said means comprising a bifurcated frame pivotally secured in bearings to the under side of the car; a revoluble disk mounted in the furcations of said frame; ratchet-teeth on said frame; a spring-pressed dog adapted to engage said ratchet-teeth; means secured to said dog whereby the movement of the dog is effected; means to lock said switch-operating mechanism, comprising a spring-pressed dog, said dog engaging a tooth on the spring-retracted operating-bar; and means to release said lock, comprising a pull-rod secured to the free end of said spring-pressed dog; a bell-crank lever pivotally secured in a longitudinal slot at the side of a rail, one arm of which is secured to said pull-rod, the free arm being spring-supported and resting in said last longitudinal slot and adapted to be engaged by the flange of the car-wheel.

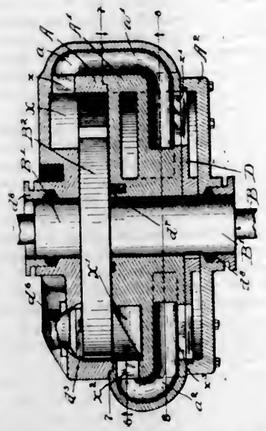
844,758. ROTARY ENGINE. JESSE C. SIMMONS, Shelby, Mich., assignor of one-half to Charles L. Churchill, Shelby, Mich. Filed Sept. 9, 1905. Serial No. 277,660.

Claim.—1. A rotary engine comprising a steam-chamber, a rotating head therein dividing said chamber into pressure-chambers one on each side of said revolving head, an abutment fitting in the steam-chamber and carried by the revolving head and adapted to receive pressure alternately from said chambers and a guide on each side thereof engaged in complemental grooves in said head.

2. A rotary engine comprising a steam-chamber, a rotating head therein dividing said chamber into pressure-chambers one on each side of said revolving head, an abutment fitting in the steam-chamber and carried on said head and adapted to reciprocate alternately into said pressure-chamber, a steam-chest, ports opening therefrom into said pressure-chamber and a disk valve adapted to control said ports.

3. A rotary engine comprising a steam-chamber, a rotary head therein dividing said chamber into pressure-chambers one on each side of said revoluble head, a transversely-movable abutment engaged to said head and adapted to project alternately in said pressure-chambers, a disk valve rotatable with said revolving head having apertures therethrough adapted to regulate the admission of pressure.

4. In a rotating engine a revolving circular head, pressure-chambers on opposite sides thereof, one or more abutments carried near the periphery of said revolving head and slidable transversely thereof into said pressure-chambers, inlet and exhaust ports for said pressure-chambers, and an apertured disk valve rotatable with the rotating head and acting to admit pressure to the pressure-chambers alternately.



5. In a rotary engine, a revolving head, a pressure-chamber on each side thereof, a disk valve movable with the head, acting to admit pressure to the chambers alternately, reciprocating abutments on said head alternately projecting into said pressure-chambers and a packing-strip rotatively engaged in a groove in each end of said abutments.

6. In an engine of the class described, a rotating head, abutments thereon at the periphery thereof and slidably engaged therewith and adapted to reciprocate parallel with the engine-shaft and guides on said abutments adapted to seat in complemental grooves in said head.

7. In an engine of the class described, a rotating head, abutments thereon at the periphery thereof and slidably engaged therewith and adapted to reciprocate parallel with the engine-shaft, a semicylindric packing rotatively engaged in each end of said abutments and antifriction-bearings for said abutments.

8. An engine of the class described, a revolving head, one or more abutments slidably carried at the periphery thereof and adapted to reciprocate to project alternately beyond opposite faces of the disk, antifriction-rollers journaled in the head adapted to engage on each side of said abutments and rotative packing means seated in the ends of said abutments.

9. In an engine of the class described, a revolving head, one or more abutments slidably carried thereon at or near the periphery thereof, roller-bearings for said abutments, packing means between the head and the abutments and a rolling packing at each end of each abutment.

10. In an engine of the class described, a cylinder, a rotative head therein, abutments adapted to project on each side of the head alternately and a rotative disk valve admitting pressure alternately into opposite ends of the cylinder.

11. In a device of the class described, a rotating head, an annular steam-chamber surrounding the periphery thereof and arranged obliquely with the plane of rotation thereof, abutments carried near the periphery of the rotatable head and slidable alternately into the pressure-chambers afforded on each side of said head, packing means between the abutments and the head and a rotative disk valve controlling the steam-inlet to the pressure-chambers.

12. In a device of the class described, a rotating head, an annular steam-chamber surrounding the periphery thereof and arranged obliquely with the plane of rotation thereof, abutments carried near the periphery of the rotatable head and slidable alternately into the pressure-chambers afforded on each side of said head, packing means between the abutments and the head and a rotary disk valve having apertures therethrough adapted to control the steam-inlet to the pressure-chambers.

13. In a device of the class described, a cylinder comprising a steam-chamber arranged to afford a plurality of pressure-chambers alternately arranged on opposite sides of a central plane and a rotary disk valve having apertures therethrough adapted to register with apertures in the side of said cylinder.

14. A rotary engine comprising a chamber, a head rotatable therein and dividing said chamber into a plurality of pressure-chambers, transversely-reciprocating means in said head adapted to alternately project into said pressure-chambers and receive the pressure for rotating said head, means revoluble with said head adapted to admit pressure into said chambers and means for admitting pressure into said chambers independently of the aforesaid means.

15. In a device of the class described a steam-cylinder affording a plurality of pressure-chambers obliquely arranged on opposite sides of a central plane, a rotating head between said chambers, a plurality of abutments thereon and slidable alternately into the pressure-chamber on each side thereof, antifriction-bearings for said abutments and a disk valve on the side of the cylinder and rotative with said head.

16. In a device of the class described a steam-cylinder affording a plurality of pressure-chambers obliquely arranged on opposite sides of a central plane, a rotating head between said chambers, a plurality of abutments thereon and slidable alternately into the pressure-chamber on each side thereof, guides on said head and abutments acting to hold the latter in operative position and antifriction-bearings for said abutments.

17. In an engine of the class described the combination with a rotating head of a plurality of abutments carried thereon and slidable transversely of the plane thereof at its periphery, guides thereon engaging the head and antifriction-bearings between said abutment and the head.

18. In a device of the class described the combination with the shaft of the head rigidly secured thereon and rotative therewith, abutments engaged on the head to slide transversely thereof at the periphery, a steam-chamber divided into pressure-chambers by the rotating head, one on each side of the head and oppositely disposed to the other, inlet and exhaust ports opening into and from the pressure-chambers, a disk valve rigidly secured on said shaft, and provided with apertures arranged out of alinement with the abutments on said head and adapted to control the inlet-ports.

19. In a device of the class described the combination with the shaft of the head rigidly secured thereon and rotative therewith, abutments engaged on the head to slide transversely thereof at the periphery, a steam-chamber divided into pressure-chambers by the rotating head one on each side of the head and oppositely disposed to the other, inlet and exhaust ports opening into and from the pressure-chambers, a disk valve rigidly secured on said shaft, provided with apertures arranged out of alinement with the abutments on said head and adapted to control the inlet-ports and an auxiliary pressure-pipe connected in the inlet-pipe and opening into one or both pressure-chambers.

20. In a steam-engine having therein an annular steam-chamber obliquely arranged therein, a rotating head carried on the shaft and dividing the steam-chamber into oppositely-disposed steam-chambers, one on each side of said head, oppositely-disposed inlet-ports communicating with the respective pressure-chambers opening through one of the heads of said cylinder on diametrically opposite sides thereof and a valve disk rigidly secured on the shaft and having apertures therein adapted to alternately open and close said ports as the disk revolves.

21. A rotary engine comprising a steam-chamber, a rotatable head therein dividing said steam-chamber into oppositely-disposed pressure-chambers, transversely-movable abutments engaged to said head, a shaft driven by said

head, a steam-chest, ports opening therefrom into said pressure-chambers and an apertured disk valve rigidly engaged on said shaft and adapted to rotate in said steam-chest to control said ports.

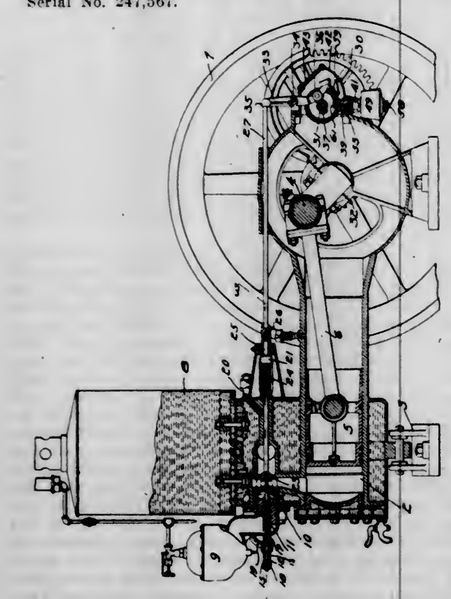
22. In a rotary engine the combination with a steam-chamber of a rotatable head therein dividing said chamber into oppositely-disposed pressure-chambers, abutments slidably engaged in said head and adapted to receive pressure alternately from said pressure-chamber, a steam-chest, ports opening therefrom into said pressure-chambers, a rotative disk valve in said steam-chest adapted to open and to close said ports and means for admitting steam into the pressure-chambers independently of said valve in starting the engine.

23. A rotary engine comprising a steam-chamber, a head revoluble therein having a plurality of slots therethrough, rollers on said head adjacent said slots, grooves adjacent said slots, an abutment slidable in said slots and having guides adapted to engage said grooves and preventing said abutments from removal from said head.

24. A rotary engine comprising a steam-chamber, a head therein and dividing said chamber into a plurality of pressure-chambers, a grooved slot in said head, a transversely-slidable abutment therein, packing means on said abutment, means for holding said packing means in close contact with the chamber-walls and antifriction-bearings in contact with said abutment.

25. In a device of the class described the combination with a steam-chamber of a head therein, a plurality of grooved slots in said head, rollers journaled adjacent each slot, abutments engaged in said slots and slidable transversely thereof and adapted to alternately project into said pressure-chambers, packing members on said abutments and means for holding the same in yielding engagement with the walls of said chambers.

844,759. SPEED-REGULATOR FOR ENGINES. CHARLES A. STICKNEY, St. Paul, Minn. Filed Feb. 27, 1905. Serial No. 247,567.



Claim.—1. The combination, with a gas-engine having inlet and exhaust valves, of an igniter, levers operatively connected respectively with said valves and said igniter, means for operating said valve-lever, means controlled by the speed of the engine for locking said valve-lever in an inoperative position, a secondary lever carried by said igniter-lever and having a limited travel, means for engaging said secondary lever to operate said igniter-lever and igniter, and said secondary lever projecting into the path of said valve-lever and being engaged thereby and held out of the path of said igniter-lever operating means when said valve-lever is locked in its inoperative position, substantially as described.

2. The combination, with a gas-engine, of an igniter, a lever operatively connected with said igniter, a secondary lever pivoted on said igniter-lever, means for engaging said secondary lever to operate said igniter-lever and igniter, and means for regulating the oscillation of said secondary lever and hastening or delaying its engagement by said operating means, whereby the time of the spark formation is varied, substantially as described.

3. The combination, with a gas-engine, of an igniter, a lever operatively connected therewith, a secondary lever carried by said igniter-lever, means for engaging said secondary lever to operate said igniter-lever and igniter, a sliding pin mounted in said igniter-lever in the path of said secondary lever and a rock-shaft having a recess in one side adapted to receive the end of said pin and whereby the travel of said pin may be increased or decreased according to the position of said rock-shaft and the increase or decrease of the travel of said pin causing a corresponding movement of said secondary lever and a variation in the time of spark formation at the igniter, substantially as described.

4. The combination, with a gas-engine, having an igniter, of a lever operatively connected with said igniter, a secondary lever carried by said igniter-lever, a cam arranged to engage said secondary lever and operate it and said igniter-lever, a sliding pin in the path of said secondary lever and means for regulating the travel of said secondary-lever and thereby varying the sliding pin and the stroke of said time of the spark formation for the purpose specified.

5. The combination, with a gas-engine having inlet and exhaust valves, of an igniter, levers operatively connected respectively with said valves and said igniter, a shaft geared to the engine-shaft, a cam mounted thereon and arranged to engage said valve-lever, means controlled by the speed of the engine for locking said valve-lever in an inoperative position, a secondary lever carried by said igniter-lever and having a limited travel, a second cam engaging said secondary lever to operate said igniter-lever and igniter and said secondary lever being engaged and held by said valve-lever in sn inoperative position out of the path of its cam when said valve-lever is locked by an increase in the speed of the engine.

6. The combination, with a gas-engine frame, of a box removably mounted on said frame, a shaft journaled in said box and geared to the engine-shaft, a lever operatively connected with the engine-valves, a cam mounted on said shaft in position to engage said valve-lever, a dog arranged to engage and lock said lever out of the path of the cam, a centrifugal governor geared to said cam-shaft and arranged to operate said dog to lock said lever when the speed of the engine increases beyond a predetermined point, and said cam-shaft, said lever and said governor being carried by said box and removable therewith from said frame.

7. The combination, with a gas-engine, of a box having means for securing it to the engine-frame, a cam-shaft journaled in said box and geared to the engine-shaft, levers pivoted on said box and operatively connected with the engine-valves and the igniter, cams mounted on said shaft and arranged to engage and oscillate said levers, a centrifugal governor and geared to said cam-shaft, means actuated by said governor for locking said valve-lever in an inoperative position out of the path of its cam and means whereby the locking of said valve-lever will render said igniter-lever inoperative also, and said levers, cam-shaft and governor being supported by and removable with said box from said frame, substantially as described.

8. The combination, with a gas-engine having inlet and exhaust valves, and an igniter, of a box secured to the frame of said engine, levers mounted on said box and operatively connected with said valve and igniter, a cam-shaft journaled in said box and geared to the engine-shaft, a centrifugal governor also controlling the movement of said levers and said levers, cam-shaft and governor being removable from said engine upon the detachment of said box therefrom, substantially as described.

9. In a gas-engine, a cam-box having means for attachment to the frame of the engine, a cam-shaft journaled in said box, levers povoted at a point intermediate to their ends on said box and depending therein in the path of said cam-shaft, said levers at their upper ends having means for attachment to the engine-valves and igniter respectively, and a centrifugal governor mounted on said box and driven from said cam-shaft and having means for locking said levers in an inoperative position, substantially as described.

10. The combination, with a gas-engine frame, of a box having a flanged base for attachment to said frame, and a hand-hole plate through which access may be had to said box, a cam-shaft geared to the engine-shaft and journaled in said box, levers pivoted on said box and depending therein and operatively conected with the engine-valves and igniter,, a centrifugal governor mounted on said box and geared to said cam-shaft and means within said box and actuated by said governor for locking said levers out of the path of said cams, substantially as described.

11. In a gas-engine, a cam-box removably mounted on the engine-frame, a cam-shaft journaled in said box and driven from the engine-shaft, valve and igniter levers mounted on said box and operated by said cam-shaft, a governor also mounted on said box and controlling the movement of said levers and said cam-shaft levers and governor having permanent bearings in said box and being attached to the engine or removed therefrom by the attachment or removal of said box, substantially as described.

12. The combination, with a gas-engine having inlet and exhaust valves and an igniter, of a box removably mounted on said engine, a valve-operating shaft geared to the engine-shaft, means actuated by said valve-operating shaft for moving said valves and said igniter, and said valve-operating shaft and said operating means being mounted on said box and removable therewith from said engine, substantially as described.

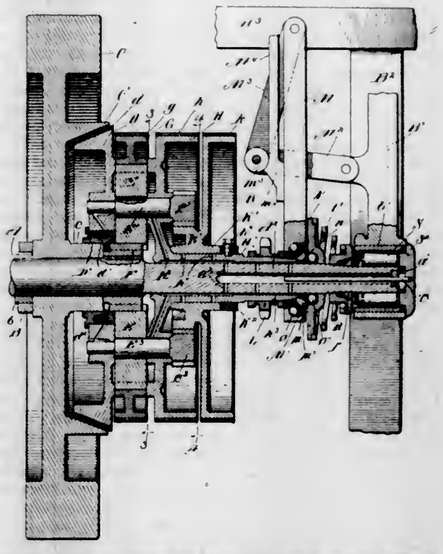
13. The combination with a gas-engine having inlet and exhaust valves and an igniter, of a cam-shaft geared to the engine-shaft, means actuated by said cam-shaft for operating said valves and said igniter, a governor controlling the movement of said operating means, and a suitable support removably mounted on the engine-frame and carrying said engine-shaft and said operating means and said governor, whereby all of said parts may be assembled on the engine simultaneously and in a like manner removed, substantially as described.

14. The combination, with a gas-engine having inlet and exhaust valves and an igniter, of a cam-shaft geared to the engine-shaft, means actuated by said cam-shaft for operating said valves and said igniter, a support removably mounted on the engine-frame and carrying said cam-shaft and said operating means, whereby these parts may be assembled simultaneously on the engine and in the same manner removed therefrom, substantially as described.

844,760. TRANSMISSION-GEARING. ROBERT SYMMONDS, Kenosha, Wis., assignor to Thomas B. Jeffery, Kenosha, Wis.. Filed May 11, 1903. Serial No. 156,685.

Claim.—1. In a transmission-gearing, the combination with a power-shaft, of a clutch member fixed thereon, a second clutch member loosely surrounding said shaft, a driven element rigidly secured to said second clutch member, means for moving said second clutch member axially upon the shaft into and out of engagement with the first clutch member, a gear-wheel fixed upon said shaft, a gear-wheel meshing with said fixed gear-wheel and carried by said second clutch member, an internal gear-wheel concentrically surrounding said shaft and meshing with the gear-wheel carried by the second clutch member, and means for locking said internal gear-wheel against rotation.

2. In a transmission-gearing, the combination with a power-shaft, of a clutch member fixed thereon, a second clutch member loosely surrounding said shaft, a driven element rigidly secured to said second clutch member, means for moving said second clutch member into and out of engagement with the first clutch member, a plurality of gear-wheels located eccentrically with respect to the power-shaft and carried by said second clutch member, a gear-wheel fixed upon the shaft and meshing with each of said plurality of gear-wheels, and an internal gear-wheel surrounding and meshing with said plurality of gear-wheels, and means for locking said internal gear-wheel against rotation.



3. In a transmission-gearing, the combination with a power-shaft, of a fly-wheel mounted upon said shaft, a concentric clutch member carried by said fly-wheel, a second clutch member loosely surrounding said shaft, a driven element rigidly secured to said second clutch member, means for moving said second clutch member axially upon the shaft into and out of engagement with the first clutch member, a gear-wheel fixed upon said shaft, a gear-wheel meshing with said fixed gear-wheel and carried by said second clutch member, an internal gear-wheel concentrically surrounding said shaft and meshing with the gear-wheel carried by the second clutch member, and means for locking said internal gear-wheel against rotation.

4. In a transmission-gearing, the combination with a power-shaft, of a clutch member fixed thereon, a second clutch member loosely surrounding said shaft, a driven element rigidly secured to said second clutch member, means for moving said second clutch member into and out of engagement with the first clutch member, a plurality of stub-shafts journaled at their ends in said second clutch member and said driven element, a gear-wheel fixed upon the power-shaft and meshing with the gear-wheels on the stub-shafts, a gear-wheel upon each of said stub-shafts, an internal gear-wheel surrounding and meshing with said plurality of gear-wheels, and means for locking said internal gear-wheel against rotation.

5. In a transmission-gearing, the combination with a power-shaft, of a clutch member fixed thereon, a second clutch member loosely surrounding said shaft, a driven element rigidly secured to said second clutch member, means for moving said second clutch member axially upon

the shaft into and out of engagement with the first clutch member, a gear-wheel fixed upon said shaft, a stub-shaft journaled at its ends in said second clutch member and said driven element having an end projecting through the engaged portion of said driven element, a gear-wheel fixed upon said stub-shaft meshing with said fixed gear-wheel, a pinion fixed upon the projecting end of said stub-shaft, a gear-wheel loosely surrounding said power-shaft and meshing with said pinion, means for locking said last-mentioned gear-wheel against rotation, an internal gear-wheel concentrically surrounding said shaft and meshing with the gear-wheel fixed upon the stub-shaft, and means for locking said internal gear-wheel against rotation.

6. In a transmission-gearing, the combination with a power-shaft, of a clutch member fixed thereon, a second clutch member loosely surrounding said shaft, a driven element rigidly secured to said second clutch member, means for moving said second clutch member axially upon the shaft into and out of engagement with the first clutch member, a gear-wheel fixed upon said shaft, a plurality of stub-shafts journaled at their opposite ends in said second clutch member and said driven element each having one end projecting through the engaged portion of the driven element, a gear-wheel fixed upon each of said stub-shafts meshing with the gear-wheel fixed upon the power-shaft, a pinion fixed upon the projecting end of each of said stub-shafts, a gear-wheel loosely surrounding said power-shaft and meshing with said pinions, means for locking said last-mentioned gear-wheel against rotation, an internal gear-wheel concentrically surrounding said power-shaft and meshing with the gear-wheels fixed upon the stub-shafts, and means for locking said internal gear-wheel against rotation.

7. In a transmission-gearing, the combination with a power-shaft, of a clutch member fixed thereon, a second clutch member loosely surrounding said shaft, a driven element rigidly secured to said second clutch member and comprising an extended hub loosely surrounding and movable axially upon said power-shaft, means engaging said hub for moving said driven element axially upon said power-shaft to engage and disengage said clutch members, a gear-wheel fixed upon said power-shaft, a gear-wheel meshing with said fixed gear-wheel and carried between said second clutch member and said driven element, an internal gear-wheel concentrically surrounding said power-shaft and meshing with the gear-wheel carried by the second clutch member and driven element, and means for locking said internal gear-wheel against rotation.

8. In a transmission-gearing, the combination with a power-shaft, of a clutch member fixed thereon, a second clutch member loosely surrounding said shaft, a driven element rigidly secured to said second clutch member and comprising an extended hub loosely surrounding and movable axially upon said power-shaft, means engaging said hub for moving said driven element axially upon said power-shaft to engage and disengage said clutch members, a gear-wheel fixed upon said power-shaft, a gear-wheel meshing with said fixed gear-wheel and carried between said second clutch member and said driven element, an internal gear-wheel concentrically surrounding said power-shaft and meshing with the gear-wheel carried by the second clutch member and driven element, means for locking said internal gear-wheel against rotation, a concentric frictional member carried by said hub, and a movable frictional member adapted to engage said concentric frictional member to retard the rotation of said driven element.

9. In a transmission-gearing, the combination with a power-shaft, of a clutch member fixed thereon, a second clutch member loosely surrounding said shaft, a driven element comprising an extended hub loosely surrounding and movable axially upon said shaft, means for securing said driven element rigidly to said second clutch member, means engaging said hub for moving said driven element axially upon the power-shaft to engage and disengage said clutch members, a plurality of stub-shafts journaled at their ends in said second clutch member and said driven element, each having one end projecting through the engaged portion of the driven element, a gear-wheel fixed upon each of said stub-shafts, a gear-wheel fixed upon said power-shaft and meshing with the gear-wheels upon the stub-shafts, a pinion fixed upon the projecting ends of each of said stub-shafts, a gear-wheel loosely mounted upon the hub of said driven element and meshing with said pinions, a concentric frictional member carried by said last-mentioned gear-wheel, and a brake-band surrounding and adapted to tightly engage said concentric frictional member.

10. In a transmission-gearing, the combination with a power-shaft, of a clutch member fixed thereon, a second clutch member loosely surrounding said shaft, a driven element rigidly secured to said second clutch member and having an extended hub loosely surrounding and movable axially upon said shaft, a collar fixed to and projecting radially around said hub, a lever engaging said collar, and a cam adapted to reciprocate between said lever and a fixed point and thereby move said hub axially upon said shaft through the medium of said lever.

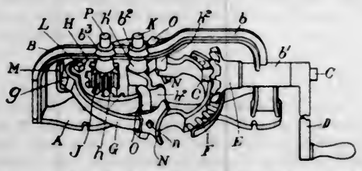
11. The combination with a driving element, of a driven element, coöperating clutch members interposed between said elements, a gear-wheel rigidly connected to said driving element, a gear-wheel meshing with said first gear-wheel and journaled upon the driven element, an internal gear-wheel surrounding and meshing with said second gear-wheel and located concentrically around the shaft, a pinion journaled upon said driven element, a gear-wheel loosely mounted upon said driven element meshing with said pinion, and means for locking said last-mentioned gear-wheel against rotation.

12. The combination with a driving element, of a driven element, a clutch member fixed to the driving element, a second clutch member secured to the driven element and movably supported with respect to the driving element, means for axially moving said second clutch member into and out of engagement with the first clutch member, and differential speed-varying mechanism interposed between the driving and driven elements.

13. In a transmission-gearing, the combination with a power-shaft, of a clutch member fixed thereon, a second clutch member loosely surrounding said shaft, a driven element rigidly secured to said second clutch member, means for moving said second clutch member axially upon the shaft into and out of engagement with the first clutch member, and differential speed-varying mechanism interposed between the shaft and the driven elements.

14. In a transmission-gearing, the combination with a power-shaft, of a clutch member fixed thereon, a second clutch member loosely surrounding said shaft, a driven element rigidly secured to said second clutch member, means for moving said second clutch member axially upon the shaft into and out of engagement with the first clutch member, a gear-wheel fixed upon said shaft, and differential speed-varying mechanism interposed between said gear-wheel and the driven element.

844,761. GEARING. FRANK B. TYSON, Randolph, Kans. Filed Apr. 20, 1906. Serial No. 312,813.



Claim.—1. In washing-machine mechanism, the combination with a frame arranged to be partly rotated horizontally and alternately in opposite directions, the said frame having one end provided with a rack and movable up and down, a pinion engaging the said rack and arranged to operate the said frame, a rack arranged within the said frame and rotatable horizontally, the said frame and rack having ends pivotally and movably engaged whereby the said frame is movable horizontally with respect to said rack and into contact with it to rotate the rack, means for limiting the up and down movements of the end of said frame, and devices constructed to limit the horizontal movements of said frame, substantially as described.

2. In washing-machine mechanism, the combination with a frame arranged to be partly rotated horizontally and alternately in opposite directions, the said frame having one end provided with a rack and movable up and down, a pinion engaging the said rack and arranged to operate the said frame, a rack arranged adjacent to the said frame, the said frame and rack having portions pivotally and movably engaged whereby the said frame is movable horizontally with respect to said rack, the said rack having projecting portions arranged in the path of the frame whereby the horizontal movement of the frame is impressed upon the rack, means for limiting the up and down movements of the frame, and devices constructed to limit the horizontal movements of the said frame, substantially as described.

3. In washing-machine mechanism, the combination with a frame arranged to be partly rotated horizontally and alternately in opposite directions, the said frame having one end provided with a rack and movable up and down, a pinion engaging the said rack and arranged to operate the said frame, a rack arranged within the said frame, the said frame and rack having portions pivotally and movably engaged whereby the said frame is movable horizontally with respect to the said rack, the said rack having projecting portions relatively wider than the remaining portions of the rack and arranged in the path of the said frame whereby the horizontal movements of the frame are impressed upon the said rack, means for limiting the up and down movements of the frame, and devices constructed to limit the horizontal movements of the said frame, substantially as described.

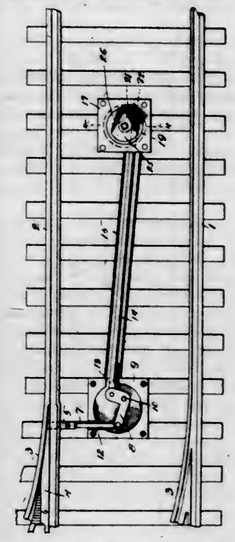
4. In washing-machine mechanism, the combination with a frame arranged to be partly rotated horizontally and alternately in opposite directions, the said frame having one end provided with a rack and movable up and down, a pinion engaging the said rack and arranged to operate the said frame, a rack arranged within the said frame, the said frame and rack having horizontally-movable ends engaging each other whereby the said frame is movable up and down and horizontally with respect to the said rack, the said rack having projecting portions relatively wider than the remaining portions of the rack and arranged in the path of the said frame whereby the horizontal movements of the frame are impressed upon the said rack, means for limiting the up and down movements of the frame, and devices constructed to limit the horizontal movements of the said frame, substantially as described.

844,762. SWITCH-THROWING DEVICE. WILLIAM H. VAUGHN and JAMES E. TIFFANY, Johnstown, Pa. Filed Dec. 31, 1906. Serial No. 350,178.

Claim.—1. A switch-throwing device comprising a box between the rails of a track, a horizontally-disposed bell-crank lever pivotally secured within said box and connected to the switch-point, a second box supported between the rails, a vertical shaft therein, a crank-arm on said shaft, a rod connecting said crank-arm and bell-crank lever, an oscillating disk on said shaft, an oppositely-beveled projection on said disk, and means carried on the car to contact with said projection.

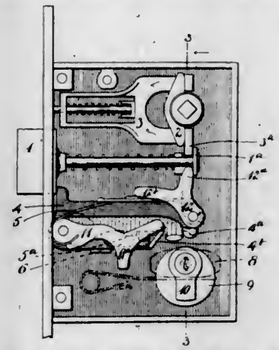
2. A switch-throwing device comprising a box, between the rails of a track, a horizontally-disposed bell-crank lever pivotally secured within said box, and connected to the switch-point, a second box between the rails, a vertical shaft therein, a crank-arm on said shaft, a rod connecting said crank-arm and bell-crank lever, an oscillating disk on said shaft, a segmental projection on said disk, and two independent push-bars carried on the car adapted to strike opposite sides of said projection.

3. A switch-throwing device comprising a box between the rails of a track, a horizontally-disposed bell-crank lever pivotally secured within said box and connected to the switch-point, a second box between the rails, a casing connecting said boxes, a vertical shaft within said second box, a crank-arm on said shaft, a rod within said casing connecting said crank-arm and bell-crank lever, an oscillating disk on said shaft, a segmental projection on said disk,



and two spring-pressed push-rods carried on the car carrying contact-rollers adapted to strike opposite sides of said projection.

844,763. LOCK AND LATCH. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Oct. 17, 1906. Serial No. 339,294.



Claim.—1. In a lock, a latch-bolt, a dead-locking device therefor, separate latch-retracting means carried by said dead-locking device, means for actuating said latch-retracting mechanism from the outer side of the lock when said dead-locking device is out of action, said means being out of range of operation of said externally-controlled means when said dead-locking device is in action.

2. In a lock, a latch-bolt, a dead-locking slide and means at the inner side of the lock for throwing said slide into or out of action, separate means carried by said dead-locking slide arranged to retract said latch-bolt, key-controlled means coöperating therewith independently of the means for throwing the slide into and out of action and operable from the outer side of the door only, and coöperating with said latch-retracting means only when the dead-locking slide is thrown off and out of action.

3. In a lock, a latch mechanism including a plurality of hubs arranged in line, one of said hubs being operable independently, a master-key therefor of sufficient length to pass entirely through one of said hubs and engage another for the purpose of operating dependently the hubs thus coupled.

4. In a latch mechanism, a bolt, actuating means including a bolt-retracting lever, a separate dead-locking device for dogging said bolt, said bolt-retracting lever being carried thereby, means accessible from the inner side of the door to move the dead-locking device, means accessible from the outer side of the door by one key to operate the bolt-retracting lever, and independent operating devices controlled by a different key whereby both the dead-locking device and the latch-bolt may be moved from the outer side of the door.

5. In a latch mechanism, a latch, latch-actuating means including a lever, a dead-locking device independent of said lever for dogging the latch, and means to move the dead-locking device and said lever bodily out of the range of action of the key as the latch is being dogged.

6. In a latch mechanism, a latch-bolt, a dead-locking device arranged to coact with said bolt, means accessible from the inner side of the lock for moving said dead-locking device into and out of its operative position, a plurality of coöperating levers carried by but independent of said dead-locking device, one of said levers engaging said bolt, the other lever being engaged by independent key-controlled mechanism operable from the outer side of the lock when the dead-locking slide is out of action, said last-mentioned lever being out of range of engagement by said key-controlled mechanism when said dead-locking slide is in action.

7. In a lock, a latch-bolt, a dead-lock therefor, dead-lock-controlling means at the inside of the door for throwing said dead-lock, said means including a manually-operable roll-back hub, a key-controlled cam in front of said dead-lock-controlling means and operable by means of a key inserted from the outer side of the door, said cam coöperating with the latch-bolt to retract the latter when the dead-lock is off by the use of one key, and a key of sufficient over-all length to engage both the latch-bolt-operating mechanism and the dead-lock-operating mechanism to secure dependent operation of said parts.

8. In a lock, a latch bolt or head, a dead-locking device therefor, knob mechanism, or the like, to retract the latch-bolt when the dead-locking device is off, key-controlled mechanism independent of said knob mechanism and operable from the outer side of the door for operating either the dead-locking device or the latch-bolt or both, said key-controlled mechanism including two independent hubs arranged in line and operating respectively the latch-bolt and the dead-lock-operating hub, and means at the inner side of the door independent of the knob mechanism for operating the dead-lock independently of the key-controlled mechanism for operating the latch-bolt.

9. In a lock, a change-key and an emergency-key, said emergency-key being of greater over-all length than the change-key, said lock having a single key way or passage adapted to both of said keys.

10. In a latch mechanism, a latch-bolt, a dogging device therefor, a separate latch-retracting device carried thereby, separate means for independently operating said latch and said dogging device, said operating means being arranged substantially in line, and a key arranged to coöperate with both of said operating means by passing through one and into the other.

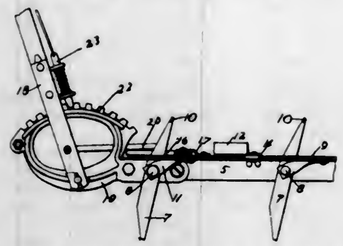
11. In a latch mechanism, a latch-bolt, a dogging device, independent operating devices accessible from the opposite sides of the lock for the independent operation of the parts, and means for securing dependent operation of said parts by the use of a suitable single key arranged to engage parts of both of said operating means at the same time whereby said latch-bolt and dogging device may be operated dependently as well as independently.

12. In a latch mechanism, two independent devices to be operated, two separate means for operating the said devices respectively, a single key arranged to coöperate with and couple both of said operating devices by passing through one and into the other, one of said operating devices being capable of independent operation by the use of a shorter key.

13. In a latch mechanism, a latch-bolt, a dead-locking device therefor, a roll-back operable from the inner side of the door only for actuating said dead-locking device, a second roll-back operable from the opposite side of the lock only for retracting the latch-bolt, and a third roll-back for operating the dead-lock and arranged to be coupled with the second-mentioned roll-back by the use of a suitable key whereby both the dead-lock and latch-bolt may be operated dependently as well as independently from the outside.

14. In a latch mechanism, a latch-bolt, a dead-locking device thereof, a key-controlled hub for retracting the latch, a second key-controlled hub independent of the first and in line therewith for actuating the dead-locking slide, the former being outside of the latter, a pin-cylinder lock having a key-passage in line with said hub and two keys of different over-all lengths, the shorter one actuating only one of said hubs, the longer one being arranged to operatively connect or couple both of said hubs.

844,764. HARROW. JOSEPH L. WARE, St. Paul, Minn. Filed July 25, 1904. Serial No. 217,916.



Claim.—1. A lever-harrow comprising a series of angle-bars having their vertical flanges on the outer side and depending below the horizontal flanges of said bars, a series of teeth pivotally secured on the inner faces of said vertical flanges and projecting upwardly through slots in said horizontal flanges, a bracing means for said teeth and means for tilting them, substantially as described.

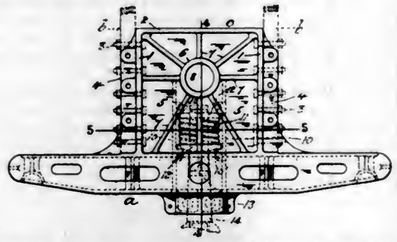
2. The combination, with angle-bars, of a series of teeth pivoted on the vertical flanges thereof and projecting through slots in the horizontal flanges, and clips connecting the pivots of said teeth and said horizontal flanges at right angles substantially to said pivots.

3. In a harrow, the combination, with the angle-bars, of teeth pivoted on the vertical flanges thereof and projecting through slots in the horizontal flanges, operating-bars slidably arranged on said horizontal flanges and having slots to receive the upper ends of said teeth, a lever mechanism connected with the said operating-bars, cross-bars connecting said angle-bars and secured to the vertical and horizontal flanges thereof, and between which cross-bars and horizontal flanges said operating-bars are slidable.

4. In a harrow, the combination, with the angle-bars, of a series of teeth pivotally secured to the vertical flanges thereof, operating-bars mounted on the horizontal flanges of said angle-bars and engaging the upper ends of said teeth, brackets secured to the vertical flanges of said angle-bars, and cross-bars secured to said brackets and also to said horizontal flanges, and means for reciprocating said operating-bars, substantially as described.

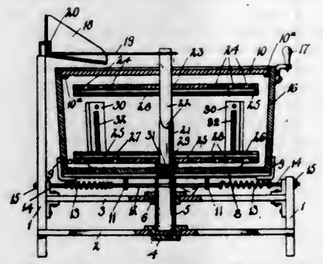
5. A harrow comprising a series of angle-bars, a series of teeth pivoted on the vertical flanges of said bars which depend below the horizontal flanges, the upper ends of said teeth projecting through slots provided in said horizontal flanges, operating-bars resting upon said horizontal flanges and engaging said teeth, and cross-bars secured to said vertical and horizontal flanges and forming guides for said operating-bars, substantially as described.

844,765. LOCOMOTIVE-ENGINE FRAME. CHARLES T. WESTLAKE and ALBERT R. THOMAS, St. Louis, Mo., assignors to Davis Locomotive Wheel Company, St. Louis, Mo., a Corporation of Delaware. Filed Nov. 26, 1906. Serial No. 345,213.



Claim.—In a locomotive-engine frame having a pony-truck at one end, the combination with the longitudinal beams of the said frame, of a metallic end sill adapted to bear against the ends of the said beams, a bracket projecting rearwardly from, and integral with the end sill, and adapted to bear laterally against the said beams, the said bracket having an opening therethrough adapted to form a guide-bearing for the center post of the said truck, webs dependent from and integral with the said sill and bracket, and adapted to form a housing for suitable draft-gear having its draw-bar projecting from the said housing beneath the end sill, and means for fixing the bracket to the said beams, substantially as described.

844,766. WASHING-MACHINE. WILLIAM W. ALLEN, Dobbs Ferry, N. Y. Filed Feb. 20, 1905. Serial No. 246,463.



Claim.—1. In a washing-machine, the combination with a frame, of a tub rotatably mounted on said frame, of a movable bottom in said tub capable of limited vertical movement, and a stationary disk rubber positioned in said tub to coöperate with said bottom and capable of limited vertical movement.

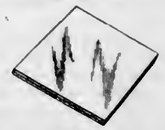
2. In a washing-machine, the combination with a frame, of a tub rotatably mounted on said frame, of a movable bottom mounted in said tub and capable of limited vertical movement, ribbed cleats on said bottom, a disk rubber rigidly mounted in said tub to coöperate with said bottom, and ribbed cleats on said disk rubber.

3. In a washing-machine, the combination with a frame, of a tub rotatably mounted on said frame, a false bottom in said tub, slotted guide-bars mounted on the side of said tub, axially-movable retaining-pins engaging the slots in said guide-bars and socketed in said bottom, and a disk rubber stationarily mounted in said tub to coöperate with said false bottom.

4. In a washing-machine, the combination with a frame, of a rotatable tub mounted on said frame, a false bottom in said tub, a shaft loosely socketed in the tub and passing through said false bottom, a disk rubber keyed to said shaft but capable of limited vertical movement, and means for holding said shaft against rotation.

5. In a washing-machine, the combination with a frame, of a rotatable tub mounted on said frame, a false bottom in said tub, a shaft loosely socketed in the tub and passing through said false bottom, a disk rubber keyed to said shaft but capable of limited vertical movement, and a key-bar seated at one end in said frame and engaging at its other end the said shaft to hold the said shaft against rotation.

844,767. METHOD OF PRODUCING WIRE-GLASS. JOHN I. ARBOGAST, Pittsburg, Pa., assignor of one-half to Lem S. Brock, Beaver, Pa., and seven and one-half one-hundredths to Frank C. Park, and seven and one-half one-hundredths to Henry L. Collins, Pittsburg, Pa. Filed Apr. 26, 1906. Serial No. 313,741.



Claim.—1. The herein-described method of producing wire-glass consisting of placing a plate or sheet of glass within a suitable frame upon a flattening-stone to confine the glass and prevent spreading of the edges thereof, placing a section or layer of wire mesh or netting upon said plate or sheet of glass, superimposing a second plate or sheet of glass upon said mesh or netting, then passing the assembled layers of glass and netting through an amalgamating and annealing oven to fuse the meeting surfaces of the glass layers together without destroying the surface luster of the glass layers.

2. The herein-described method of producing wire-glass, consisting in subjecting two sheets of polished glass with a layer of wire mesh or netting between them to treatment within a furnace to amalgamate the sheets of glass and to preserve their original polish, consisting of first passing the assembled layers of glass and wire mesh by mechanical means through a chamber of the furnace to gradually heat the said layers to the fusing-point while maintaining their individuality and their transparent quality, then mechanically advancing the layers into a second chamber of the furnace to subject them to an annealing heat, and finally mechanically passing the layers through a third chamber of the furnace to gradually cool the same.

3. The method of making wire-glass, which consists in assembling two layers of glass with an interposed layer of wire mesh, then subjecting the assembled glass and wire mesh to a gradually-increasing temperature sufficient to fuse the glass together while retaining the individuality of the layers and their transparent quality, then subjecting the fused product to an annealing heat, and finally subjecting the product to a gradually-decreasing heat.

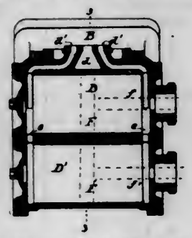
4. The herein-described method of making wire-glass, consisting in assembling two layers of glass with an interposed layer of wire mesh, then subjecting the glass and wire-mesh layers to a gradually-increasing heat sufficient to amalgamate the layers while retaining their individuality and original luster, and then subjecting the amalgamated product to an annealing heat.

844,768. LOCOMOTIVE. WILLIAM L. AUSTIN, Philadelphia, Pa., assignor to Burnham, Williams & Company, Philadelphia, Pa., a Firm. Filed Mar. 8, 1906. Serial No. 304,993.

Claim.—1. The combination in a locomotive of the single-expansion type, having two cylinders on each side, one directly below the other, of a valve-chest supplied with steam directly from the boiler, there being ports between one cylinder and the valve-chest, and passages at each end forming direct connection between the cylinders, substantially as described.

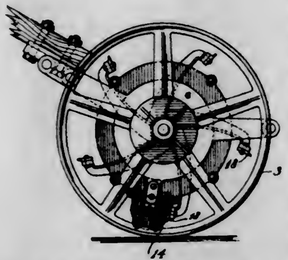
2. The combination in a locomotive of the single-expansion type, of two saddles, each saddle containing two cylinders, one situated below the other, there being passages at each end of the saddles forming direct communi-

cation between the two cylinders, and a valve-chest on each saddle supplied with steam directly from the boiler and having ports in the saddles forming communication



between one of the cylinders and the valve-chest, substantially as described.

844,769. KNIFE FOR LAWN-MOWERS. LINNAEUS E BAKER, Cleveland, Ohio. Filed Apr. 2, 1906. Serial No. 309,295.



Claim.—1. In a lawn-mower, the combination of side members, each comprising an arm, a pair of plates fastened to each of said arms, a carrier-frame pivoted between each pair of plates, a knife supported by said carrier-frames, and adjusting-screws engaging said carrier-frames and said arms, whereby the position of the carrier-frames and of the knife may be adjusted, substantially as specified.

2. In a lawn-mower, the combination of a frame comprising side members, an arm projecting from each of said side members, a pair of plates for each of said arms, said plates being secured to opposite sides of each of said arms, a carrier-frame pivoted between each pair of plates, said carrier-frames having each an outer curved surface and arms projecting beyond the end of the frame-arm, adjusting-screws engaging the frame and carrier arms, and a knife secured to the outer surface of each of said carrier-frames, substantially as specified.

3. In a lawn-mower, the combination of side members, a knife-carrier pivotally connected to each of said members, said carriers having each a curved outer surface the center of curvature of which is at said pivot, a curved knife secured to the curved outer surfaces of the carriers, and means for adjusting said carriers on their pivots, substantially as specified.

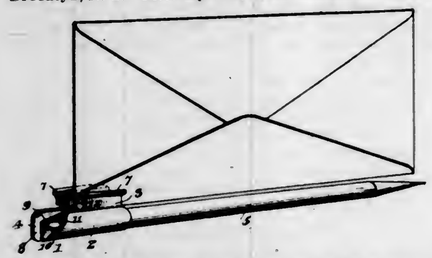
4. In a lawn-mower, the combination of a shaft, rotary knives carried by said shaft, arms projecting from the same center as said shaft, a carrier-frame suspended from each of said arms, a knife secured to said carrier-frames, and adjusting-screws engaging each of said frames and its arm for varying the position of the fixed knife with respect to the rotary knives, substantially as specified.

5. In a lawn-mower, the combination of a pair of arms, one on each side of the machine, a pair of plates secured to opposite sides of each arm, a carrier-frame between each pair of plates, a knife carried by said frames, a pin extending through said plates and pivotally supporting each of said carrier-frames, one end of said pin being bored, and a key extending through said bore, substantially as specified.

6. In a lawn-mower, the combination of a pair of arms, one on each side of the machine, one or more plates secured to each arm and projecting beyond the lower end thereof, a carrier-frame pivoted to the plate or plates on each arm, each of said frames having a pair of projections extending above the lower end of its arm, adjusting means between the projections and arms for varying the position of the carrier-frames with respect to the arms, and a knife supported by the carrier-frames, substantially as specified.

7. In a lawn-mower, the combination of a frame comprising side members, a knife-carrier pivoted to each side member and having an arm on each side of such pivot, and adjusting means extending between each arm and the adjacent portion of the frame for adjusting the carrier on its pivot, substantially as specified.

844,770. ENVELOP-OPENER. CHARLES G. BAUER, Brooklyn, N. Y. Filed Apr. 10, 1906. Serial No. 310,891.



Claim.—1. An envelop-opener comprising a support, a knife mounted on and extending along one side of the support, and guiding-wings arranged at the same side of the support and located in advance of the knife and extending to and receiving one end of the same and terminating short of the other end thereof.

2. An envelop-opener embodying a support, a knife secured to one end of the support and extending along one side of the same, and guiding-wings arranged at the same side of the support as the knife and receiving one end of the same and terminating short of the other end thereof.

3. An envelop-opener comprising a pencil-receiving socket, a blade mounted on the socket and extending along one side of the same, and guiding-wings located at the same side of the socket and arranged in advance of the blade, the rear ends of the wings receiving the front end of the blade.

4. An envelop-opener, comprising a sleeve or barrel forming a socket, a pair of guiding-wings mounted on the sleeve or barrel, and a knife also mounted on the sleeve or barrel and extending between the wings, said wings and the sleeve or barrel being cut away at their rear portions to provide clearance-spaces.

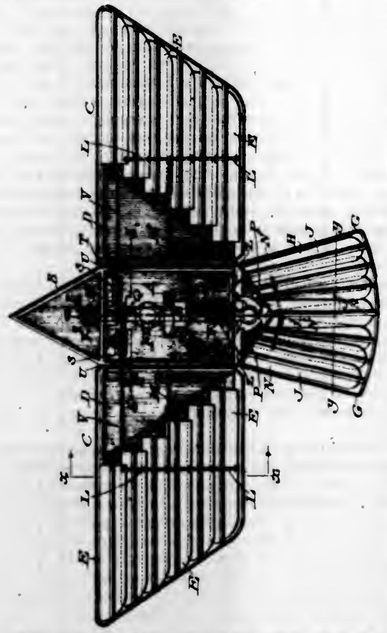
5. An envelop-opener, comprising a sleeve or barrel forming a socket, a pair of guiding-wings extending longitudinally of the sleeve or barrel and terminating short of the rear end thereof, and a knife connected to the sleeve or barrel at the rear end of the same and extending forwardly therefrom, and having its front end arranged between the said wings.

6. An envelop-opener, comprising a sleeve or barrel, guide-wings mounted on the sleeve or barrel and terminating short of the rear end thereof, the rear portion of the said sleeve or barrel being cut away, and a knife mounted on the sleeve or barrel and having a cutting edge located opposite the cut-away portion of the sleeve or barrel.

844,771. AERIAL NAVIGATION. HORACE M. BELLOWS, Huntingdon Valley, Pa. Filed Sept. 7, 1906. Serial No. 333,682.

Claim.—1. Mechanism for flight simulating that of birds embodying wings with blades thereon, the latter being adapted to be operatively open to each other at angles to the air, and to be forced against the same in said position, producing motion in the direction of desired flight.

2. Mechanism for flight simulating that of birds, embodying a guiding-tail, with side and central blades thereon, the side blades being adapted to be operatively open to each other at angles to the air in each direction to the right and left from the central blade.



3. Mechanism for flight simulating that of birds, embodying wings with blades thereon, said blades being adapted to be operatively open to each other at angles to the air and to be forced against the same in said position producing motion in the direction of desired flight and a guiding-tail with side and central blades, the side blades adapted to be operatively open at angles in each direction to the right and left from the central blade.

4. In aerial navigation, blades or aeroplanes capable of being disposed parallel at angles to the air with which they are caused to impinge at the time of flight.

5. In aerial navigation, a device provided with movable wings having aeroplanes which are disposed at parallel angles to the air, at the time of flight and thus produce motion thereby at a tangent thereto or in the line of flight.

6. In aerial navigation, a light body, movable wings thereon, aeroplanes mounted on the latter capable of being placed parallel at angles to the air and means for adjusting said angles.

7. In aerial navigation, a body, movable wings mounted thereon and aeroplanes on said wings and means for imparting rising and lowering motions to said wings consisting of a crank-shaft, a motor therefor, slides, connections between the slides and the crank-shaft, and toggle-levers connecting the slides with the pivots of the wings.

8. In aerial navigation, a body, wings and a tail thereon and aeroplanes on said tail, said planes capable of being disposed at parallel angles to the air each way.

9. In aerial navigation, a body, a tail thereon, aeroplanes on said tail, said planes being disposed at parallel angles to the air and means for adjusting said angles.

10. In aerial navigation, a body, a tail thereon and having aeroplanes, means for changing the angles of said aeroplanes and means for raising and lowering said tail to present more or less resistance to the air.

11. In aerial navigation, a body, a tail thereon having aeroplanes adapted to be operatively open to each other at angles to the air in each direction to the right and left from the center, a movable joint connecting said tail and body, and means connected with said tail whereby it may be raised and lowered and moved laterally.

12. In aerial navigation, a body, a movable tail thereon having aeroplanes adapted to be operatively open to each other at angles to the air in each direction to the right and left from the center, connections with said tail to turn it to the right or left, or to raise and lower the same, and means for operating said connections.

13. In aerial navigation, a body, aeroplanes thereon, a movable tail, aeroplanes thereon adapted to be operatively open to each other at angles to the air in each direction to the right and left from the center and steering mechanism for said tail, consisting of gearing, means for operating the same up and down or to the right or left, and connections for said gearing and tail.

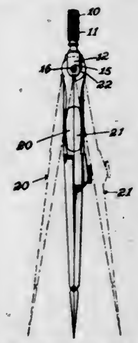
14. In aerial navigation, a body, wings thereon, aeroplanes mounted on said wings capable of being placed at parallel angles, and frames carrying said members, said members being formed in part of hollow bodies filled with some suitable gas and hermetically closed, made as light as possible.

15. In aerial navigation, a body, wings thereon, aeroplanes mounted on said wings, a tail and aeroplanes mounted thereon and adapted to be operatively open to each other at angles to the air in each direction to the right and left from the center and frames carrying said members, being formed in part of hollow bodies hermetically closed, and some suitable gas contained in said bodies, adding buoyancy to the device for the purposes of flotation and lightness.

16. In aerial navigation, a body, wings with aeroplanes thereon, adapted to be operatively open to each other at angles to the air and to be forced against the same in said position, producing motion in the direction of the desired flight, a movable tail thereon, also furnished with aeroplanes made of light material and adjusting mechanism so that the device will act as a parachute, in soaring, descending and floating, should it alight upon a body of water.

17. In aerial navigation, a device constructed with parallel aeroplanes at an angle to the air which when in motion are adapted to impinge upon the air with forcible resistance thereof in the direction that will produce motion at a tangent thereto, thus accomplishing flight.

844,772. COMPASSES AND SIMILAR INSTRUMENT. CARL M. BERNEGAU, Hoboken, N. J., assignor to The Keuffel & Esser Company, Hoboken, N. J., a Corporation of New Jersey. Filed July 20, 1906. Serial No. 326,994.



Claim.—1. An instrument of the character described comprising a handle, a centering-plate, stationary with relation thereto provided with a round center aperture and slots concentric with relation to the central aperture, legs pivotally mounted in the central aperture and in the handle, and pins projecting from said legs into said slots.

2. An instrument of the character described comprising

in combination a handle provided with yoke-arms, a pair of legs pivotally mounted between said arms, a centering-plate mounted between said legs and held stationary with relation to the handle, said plate having a central aperture and a hole at a distance therefrom, a pivot projecting from one of the legs through the central aperture, and a ball in the other hole bearing against the inner faces of the legs.

3. An instrument of the character described comprising, in combination, a handle having yoke-arms, legs mounted between said arms, pivotal screws passing through the arms and engaging in the outer surfaces of the legs, a centering-plate between the legs held stationary with relation to the handle and provided with a central aperture and slots concentric therewith, a pivot-pin projecting from one leg through the central aperture and into the other leg, and pins projecting from the inner faces of the legs into the concentric slots.

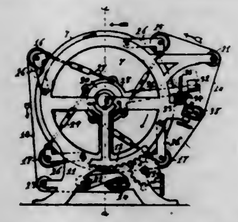
4. A device of the character described comprising a centering-plate provided with guide-ears adapted to embrace the handle of a compass and having a central round aperture adapted to compass-legs having projecting pins, a central pivot, and pivotally receive the leg-pivot and a plurality of concentric slots adapted to engage with pins on the compass-legs.

5. In an instrument of the character described, legs, each provided with a suitable head, one having a pivot-pin and the other a recess to receive the same and each leg having an inwardly-projecting pin eccentrically placed with respect to the pivot-pin, in combination with a centering-plate between said heads having a central round aperture to closely receive the pivot-pin and concentric slots to receive said eccentric pins.

6. In an instrument of the character described, a handle, and legs, each provided with a suitable head, one having a pivot and the other a recess to receive the same, and each leg having an inwardly-projecting pin eccentrically placed with respect to the pivot, in combination with a centering-plate having a round aperture adapted to permit of the passage of the pivot and concentric slots adapted to receive and engage with the eccentric pins on the legs and having guide-ears adapted to embrace the handle of said instrument.

7. In a device of the character described, comprising a handle, legs having heads, and a pivot concentrically connecting them, the combination therewith, of a centering-plate provided with means for embracing the handle to keep it in a central position with respect to the legs, holes eccentrically located with relation to the pivot of the legs, and balls loosely seated in said holes and projecting laterally therefrom into contact with the inner faces of the heads of the legs.

844,773. MANGLE. ALBERT BESS, Hamilton, Ohio. Filed Jan. 21, 1905. Serial No. 242,056.



Claim.—1. The combination of a hollow cylindrical drier, rotatively mounted on supporting-frames, a series of rotative pressure-rolls movably supported on said frames and adjacent to the face of the drier, members attached to the frames concentric with the axis of the drier adjustable means unyieldingly connecting the pressure-rolls thereto, and weights arranged to rotatively move said members and to yieldingly maintain the pressure-rolls collectively in the same relative position toward the drier.

2. The combination of a hollow cylindrical drier rotatively mounted on supporting-frames, members attached to said frames concentric with the axis of the drier and rotatively adjustable thereon by means of weights, and pivoted cams, a series of pressure-rolls, movably secured to the frames and adjacent to the face of the drier, and adjustable means unyieldingly connecting said members thereto, whereby the rolls are movable only with said members and simultaneously in relation with the drier.

3. In a mangle, the combination of supporting-frames, a hollow cylindrical drier journaled thereon, a plural number of pressure-rolls mounted on the frames and movable toward the face of the drier, an endless apron passing under the rolls and partially around the drier, rotative flanges mounted on the respective frames concentric with the drier and each provided with an arm, weights movable on the respective arms and adapted to turn the flanges, and adjustable rods pivotally secured at one end to the periphery of the flanges and tangent thereto said rods being connected at the other end with the respective pressure-rolls, whereby said rolls may be simultaneously moved and caused to maintain the apron in contact with the drier under a yielding pressure by means of the weights.

4. The combination of supporting-frames, a hollow cylindrical drier journaled thereon, a series of pressure-rolls movably secured on the frame and adjacent the face of the drier, flanges movably supported on the respective frames concentric with the axis of the drier, adjustable rods unyieldingly connecting the rolls thereto, and weights adapted to simultaneously move and yieldingly maintain the flanges with the rolls under a yielding pressure toward the drier.

5. In a mangle, the combination of supporting-frames, a hollow cylindrical drier journaled thereon, a plural number of pressure-rolls journaled in swinging bearings secured to the frames, members rotatively adjustable on the respective frames, adjustable means unyieldingly connecting the rolls thereto, adjustable weights adapted to actuate said members to simultaneously move and maintain the rolls under a yielding pressure toward the drier, and means adapted to counteract the weights and move the rolls simultaneously in the opposite direction.

6. In a mangle, the combination of end supporting-frames, a hollow cylindrical drier journaled to rotate therein, arms hinged on the frames and provided with bearings, pressure-rolls journaled in the bearings, flanges movably supported on the supporting-frames concentric with the drier, and each provided with an arm, weights movable on the arms, and adjustable connecting-rods attached to the flanges and the respective bearings, whereby the pressure-rolls are movable only simultaneously.

844,774. METALLIC CROSS-TIE. MAXIMILIAN F. BONZANO, Goshen, Va. Filed June 19, 1906. Serial No. 322,877.

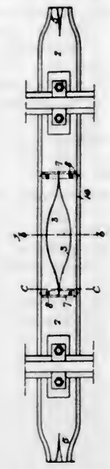
Claim.—1. A metallic cross-tie, consisting of a channel bar or beam having the central portion of its top web cut longitudinally and the metal thereof displaced toward or against the side walls of said channel-bar.

2. A metallic cross-tie, consisting of a channel bar or beam having the central portion of its top web cut longitudinally and the metal thereof displaced toward or against the side walls of said channel-bar, and having open-bottomed ballast-receiving boxes or pockets to support the rails.

3. A metallic cross-tie, consisting of a channel bar or beam having the central portion of its top web cut longitudinally and the metal thereof displaced toward or against the side walls of said channel-bar, and having open-bottomed ballast-receiving boxes or pockets with flat top bearings for the support of the rails.

4. A metallic cross-tie, consisting of a channel bar or beam having its central portion cut and the metal thereof displaced toward or against the side walls of said channel-bar, and having the ends of the same crushed or crimped so as to form open-bottomed ballast-receiving boxes to support the rails.

5. A metallic cross-tie, consisting of a channel bar or beam having its central portion cut and the metal thereof displaced toward or against the side walls of said channel-bar, and having the ends of the same crushed or crimped so as to form open-bottomed ballast-receiving boxes with flat top bearings for the support of the rails.



6. A metallic cross-tie, consisting of a channel bar or beam having its central portion cut and the metal thereof displaced toward or against the side walls of said channel-bar, and having the ends of the same crushed or crimped, in combination with cross-plates secured to the inner walls of the channel bar or beam and forming with said ends open-bottomed ballast-receiving boxes to support the rails.

7. A metallic cross-tie, consisting of a channel bar or beam having its central portion cut and the metal thereof displaced toward or against the side walls of said channel-bar and having the ends of the same crushed or crimped, in combination with cross-plates secured to the inner walls of the channel bar or beam and forming with said ends open-bottomed ballast-receiving boxes with flat top bearings for the support of the rails.

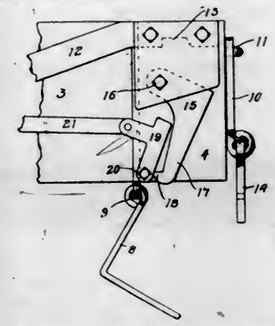
8. A metallic cross-tie, consisting of a channel bar or beam with flanged side walls having its central portion cut and the metal thereof displaced toward or against the side walls of said channel-bar, and having the end of the same crushed or crimped, in combination with cross-plates secured to the inner walls of the channel bar or beam and forming with said ends open-bottomed ballast-receiving boxes with flat top bearings for the support of the rails.

9. A metallic cross-tie, consisting of a channel bar or beam having its central portion cut and the metal thereof displaced toward or against the side walls of said channel-bar, in combination with cross-plates secured to the inner walls of the channel bar or beam and forming with said ends open-bottomed ballast-receiving boxes with flat top bearings for the support of the rails.

10. A metallic cross-tie, consisting of a channel bar or beam having ballast-holding pockets formed in the under side of the same, in combination with blocks of wood or other suitable material carried by the upper side of the tie over said ballast-holding pockets and upon which the rails rest, wear and load-distributing plates interposed between said blocks and the rails, and fastening means passing through said tie, block and plate and confining said rails in place.

11. A metallic cross-tie, consisting of a channel bar or beam having ballast-holding pockets formed in the under side of the same, in combination with blocks of wood or other suitable material carried by the upper side of the tie over said ballast-holding pockets and upon which the rails rest, flanged wear and load-distributing plates interposed between said blocks and the rails, and fastening means passing through said tie, block and plate and confining said rails in place.

844,775. STAKE-HOLDER. ARTHUR J. BOSTWICK, Eau Claire, Wis. Filed Feb. 12, 1906. Renewed Nov. 12, 1906. Serial No. 343,117.



Claim.—1. A stake-holder having an opening in its walls of sufficient size to allow the discharge of a stake therethrough, means for preventing the discharge of a stake from said holder, a locking-latch connected with said means, a gravity-lever arranged to engage said latch and hold it in its locking position, and means arranged to be operated from the opposite side of the car for locking said lever or releasing the same, substantially as described.

2. A stake-holder having an opening in its side wall of sufficient size to allow the discharge of a stake therethrough, means preventing the discharge of said stake from said holder, a locking-latch connected with said means, a gravity-lever arranged to engage said latch and hold it in its locking position, said lever having a depending end provided with a toe, a lever-locking latch to engage said end and toe and lock said lever in engagement with said first-named locking-latch, and a longitudinally-movable rod connected with said lever-locking latch and extending to the opposite side of the car, substantially as described.

3. The combination with a sleigh-bunk, of a stake-holder mounted thereon and having an open side to permit the discharge of a stake therethrough, a strap arranged to extend across said open side and lock the stake therein, a latch pivotally connected with said strap, and having a hook at one end adapted to enter a recess on said holder, a gravity-lever arranged to engage said latch and lock it in said recess, and means arranged to be operated from the other end of the bunk for locking said lever, or releasing the same, substantially as described.

4. A stake-holder having an open bottom and side, and means for temporarily closing them, means extending across said open side for temporarily locking said closing means, a gravity-lever arranged to engage said locking means and hold it in its locking position, means for holding said lever in engagement with said locking means, and means for tripping said holding means, substantially as described.

5. A stake-holder having an opening in its walls of sufficient size to allow the discharge of a stake therethrough, means for preventing the discharge of a stake from said holder, a gravity-lever arranged to hold said means in its locking position and means arranged to be operated from the opposite side of the car for locking said lever or releasing the same.

6. A stake-holder having an opening in its walls of sufficient size to allow the discharge of a stake therethrough, means for preventing the discharge of a stake from said holder, means for holding said preventing means in its locking position, and a rod extending to the opposite side of the car and controlling the movement of said holding means, and said rod having suitable guides and a locking device to prevent premature longitudinal movement thereof, substantially as described.

7. A stake-holder having an opening in its side wall of sufficient size to allow the discharge of a stake therethrough, means preventing the discharge of said stake from said holder, a gravity-lever arranged to hold said means in its locking position, said lever having a depending end provided with a toe, a lever-locking latch engaging said toe and means extending to the opposite side of the car for operating said latch.

844,776. THROTTLE-VALVE AND AIR-STRAINER FOR PNEUMATIC DRILLS. CARL A. CARLSON, Holyoke, Mass. Filed Dec. 7, 1905. Serial No. 290,735.



Claim.—1. The combination of a casing having an annular seat adjacent one end and a valve-seat adjacent its opposite end, a valve rotatably held within the casing and coacting with the valve-seat, and a foraminated cylinder concentrically arranged within the casing and having one end engaging the said annular seat and its opposite end the valve, substantially as specified.

2. In a device of the kind described, the combination with a tube having a valve-seat, of a cylinder or casing connected to the tube, a valve rotatably held within the cylinder and engaging the valve-seat and a foraminated cylinder arranged concentrically within the said cylinder or casing and closed at the end adjacent the valve.

3. In a device of the kind described, the combination with a tube having a valve-seat at one end, of a cylinder or casing connected at one end to the tube and having its opposite end provided with an internal beveled seat, a valve rotatably held within the cylinder and bearing against the valve-seat, a foraminated cylinder arranged within the cylinder or casing, said foraminated cylinder bearing at one end against the beveled seat and at its opposite end against the valve, and means for operating the valve.

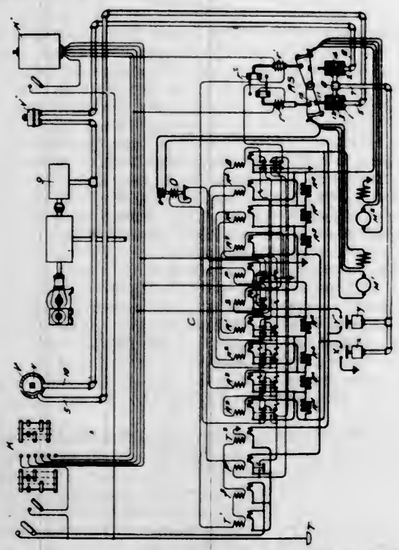
4. In a device of the kind described, the combination with a tube having a partition arranged at one end and in which is arranged a series of ports, the outer surface of the partition being ground to provide a valve-seat, of a cylinder or casing connected at one end to the tube and having its opposite end provided with an internal beveled seat, a valve rotatably held within the cylinder and bearing against the partition, said valve having ports which are designed to register with the ports in the partition, a foraminated cylinder having one end provided with a flanged ring, the outer surface of which is beveled to snugly fit the seat in the cylinder, and its opposite end provided with a tubular extension into which extends a stem projecting from and carried by the valve, an extension or flange extending from the valve and having a bolt projecting therefrom which extends through a slot in the cylinder, and a sleeve rotatably held upon the cylinder and having a recess through which the end of the bolt extends for the purpose specified.

5. A device of the kind described comprising a tube having a partition adjacent one end in which is arranged a series of ports and a threaded collar projecting from the tube adjacent the partition, a cylinder or casing connected at one end to the threaded collar and having its opposite end terminating in an internally-threaded collar, the inner end of which adjacent the body of the cylinder, is beveled to provide a seat, a disk valve rotatably held within the cylinder and against the said partition, said valve having a series of ports which are designed for registering with the ports in the partition, a foraminated cylinder, arranged within the cylinder or casing, said foraminated cylinder having one end provided with a flanged sleeve, the outer end of which is beveled to snugly fit the seat at the end of the threaded collar, the opposite end of the foraminated cylinder being closed by a disk having a tubular extension, the end of which bears against the valve and into which extends a stem carried by the said valve, an extension or flange formed upon the valve and having a screw connected thereto which projects through a slot formed in the cylinder and into a recess produced in the end of a sleeve that is revolubly retained upon the cylinder, the said extension or flange of the valve being designed to close the slot in the cylinder irrespective of the rotary position of the valve.

6. In a device of the kind described the combination with a casing having a valve-seat adjacent one end, of a valve coöperating with the seat and having a stem, a foraminated cylinder arranged within the casing and provided at a point adjacent the valve with a tubular guide to receive the said stem.

7. In a device of the kind described, the combination with a casing having an annular seat adjacent one end and a valve-seat adjacent its opposite end, of a valve rotatably held within the casing and coacting with the valve-seat, a foraminated cylinder held within the casing and having one end engaging the said annular seat and its opposite end engaging the valve and a sleeve held upon the casing and adapted for operating the valve substantially as specified.

844,777. CONTROL SYSTEM FOR CONNECTING MOTORS AS BRAKING-GENERATORS. FRANK E. CASE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 6, 1906. Serial No. 320,436.



Claim.—1. In a system of control, a source of current-supply, a motor, a motor-controller, a reversing-switch, means controlled by current from said source of supply for normally actuating said reversing-switch, an auxiliary controller for completing a circuit for said motor, and means independent of the said source of current-supply for operating said reversing-switch and said auxiliary controller to connect the motor for operation as a braking-generator.

2. In a system of control, a motor, a motor-controller, a reversing-switch, electromagnetic actuating means for said reversing-switch, a contact independent of the said controller for completing a circuit for said motor, and means for actuating said reversing-switch and said contact to connect the motor for operation as a braking-generator.

3. In a system of control, a motor, a motor-controller, a reversing-switch, service operating means for said switch, a contact for completing a circuit for said motor, and emergency operating means for said reversing-switch, said emergency operating means being arranged to also close said contact.

4. In a system of control, a motor, a reversing-switch, service operating means for said reversing-switch, a contact for completing a circuit for said motor, and emergency actuating means arranged to first operate said reversing-switch and then said contact in order to connect the motor for operation as a braking-generator.

5. In a system of control, a motor, a reversing-switch, service actuating means for said reversing-switch, a contact for completing a circuit for said motor, a pair of pneumatic actuating devices adjacent said reversing-switch, pneumatic actuating means for said contact, separate supply-pipes leading to the pneumatic actuating devices for the reversing-switch, and means for connecting each supply-pipe to the said contact actuating means when the corresponding actuating device has moved to the switch-operating position.

6. In a system of control, a plurality of motors, a motor-controller, a reversing-switch, service operating means for said reversing-switch, contacts for completing separate circuits for each of said motors, and emergency operating means for said reversing-switch and said contacts.

7. In an electrically-propelled vehicle, a motor, a reversing-switch, service operating means for said reversing-switch arranged to be controlled from either end of the vehicle to connect the motor for propelling the vehicle in either direction, a pair of pistons adjacent said reversing-switch for operating the said switch respectively to the forward and reverse running positions, a valve at one end of the vehicle for admitting compressed fluid to one of said pistons only, and a valve at the other end of the vehicle for admitting compressed fluid to the other piston only.

8. In an electrically-propelled vehicle, a motor, a motor-controller, a reversing-switch, service operating means for said reversing-switch arranged to be controlled from either end of the vehicle to connect the motor for propelling the vehicle in either direction, a pair of pistons adjacent said reversing-switch for operating the said switch respectively to the forward and reverse running positions, a valve at one end of the vehicle for admitting compressed fluid to one of said pistons only, a valve at the other end of the vehicle for admitting compressed fluid to the other piston only, a contact for completing a circuit for said motor, and means controlled by each of said pistons for operating said contact.

844,778. LUMINANT IN ELECTRIC INCANDESCENT LAMPS. FRANCIS M. F. CAZIN, Hoboken, N. J. Filed July 27, 1899. Serial No. 725,283.



Claim.—1. A luminant for an electric incandescent lamp, being a combination of alloys of metals in layers of higher and lower affinity to oxygen, the latter coated on their exposed surface with their own oxids.

2. A luminant for an electric incandescent lamp, being a combination of an alloy of metals, having a high point of fusion, brittleness in their native state and affinity for oxygen, and of a covering of an alloy of rare metals, which have less affinity for oxygen, which is coated with their own oxids.

3. A luminant for electric incandescent lamps, being a combination of the alloys of metals of higher and of lower affinity to oxygen, the former being an alloy of metals of the ruthenium-osmium class, which have a high point of fusion, brittleness in their native state, and affinity for oxygen, and the latter being concentrical with but on the outside of the former being an alloy of so-called rare metals and of less affinity for oxygen and coated on their outside with their own oxids.

4. A luminant for an electric incandescent lamp, being a combination of concentrical layers of alloys of metals, the metals of the outside layer having less affinity for oxygen than the metals of the inner layer and being in part of their thickness oxidized on the surface, a metallic, chemically-insulating contact with the inner layer being preserved.

5. A luminent for electric incandescent lamps, which consists of concentrically adhering parts, the inner part being an alloy mainly of metals of the ruthenium-osmium class, which combine with a high point of fusion and brittleness in their native state, affinity for oxygen, and the outer part, which is exposed to the surrounding space on its entire filament-shaped surface, consisting of metals of mainly less affinity to oxygen, called rare metals coated with their own oxid.

6. The method of manufacturing luminants for electric incandescent lamps, which consist in preparing a filament of an alloy of metals of the ruthenium-osmium class and in completing a luminant, of filament shape and exposed to surrounding space with its entire surface, by coating the filament with other metal of less affinity for oxygen, called rare metals, and by coating these rare metals on their outer surface with their own oxids thereby forming a combination of concentrical metal and oxid layers in filament shape.

7. The method of manufacturing luminants for electric incandescent lamps, which consists of primarily making a filament of mainly an alloy of metals of the ruthenium-osmium class, which combine with a high point of fusion and with brittleness in their native state, affinity for oxygen, and then covering the same with an alloy of metals of less affinity to oxygen, called rare metals, and by finally coating this alloy of rare metals with their own oxids, leaving the surface of the luminant exposed to the surrounding space on its entire exterior thereby forming a combination of concentrical metal and oxid layers in filament shape.

8. A luminant in an electric incandescent lamp, which consists of a permanent metal alloy core, covered with a film of other metal of less affinity for oxygen than the metal of the core.

9. A luminant or filament in an electric incandescent lamp, which consists of a plurality of permanent layers of different metal alloys, composed of metals of a different degree of affinity for oxygen, the alloy composed of metals of least affinity for oxygen being upon the outside.

10. A luminant or filament in an electric incandescent lamp, which filament consists of a plurality of layers of different metal alloys, which alloys are composed of metals, that have different degrees of affinity for oxygen, the central alloy of which is composed of the more oxygenatable and more infusible metals.

11. In the luminant of an electric incandescent lamp a conductive element or filament, which consists of metal alloy, having affinity for oxygen and a high point of fusion, coated with metal of less affinity for oxygen.

12. A luminant for an electric incandescent lamp, which consists of a conductive filament of layers of different metal alloys, and of a coating thereon of rare-metal oxids.

13. In a luminant for an electric incandescent lamp a filament, which filament consists of a metallic core having a high point of fusion and affinity for oxygen, and of an electrolytic plating thereon of a metal alloy, having little affinity for oxygen, the whole being embedded in rare-metal oxids.

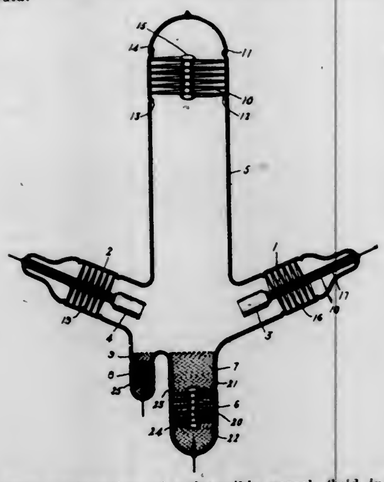
14. The combination in a luminant for an electric incandescent lamp, of a core of metal alloy, the component metals of which alloy have affinity for oxygen and high points of fusion, and of an insulating coat therefor, and of a surrounding light-emitting body.

844,779. PROTECTIVE DEVICE FOR FRANGIBLE VESSELS. WILLIAM CONSTABLE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Oct. 31, 1904. Serial No. 230,643.

Claim.—1. The combination of a frangible vessel, fluid in said vessel, and means for opposing the flow of said fluid consisting of a strip formed into a helicoid.

2. A device for opposing the movement of fluid, consisting of an inclosed helicoid formed of a strip of suitable material, and with the central opening closed.

3. The combination of a frangible vessel, fluid in said vessel, and resilient walls providing a tortuous passage for the fluid.



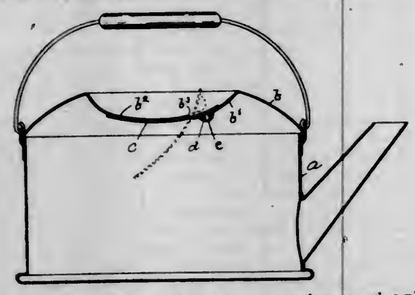
4. The combination of a frangible vessel, fluid in said vessel, and a device inclosed by and engaging walls of said vessel and having helicoidal surfaces for absorbing shock due to movement of said fluid.

5. The combination of a frangible vessel, fluid in said vessel, and a shock-absorbing device inclosed by and engaging walls of said vessel and interposed in the path of movement of said fluid, said device offering a turning or twisting path for said fluid.

6. The combination of a frangible vessel, fluid in said vessel, and a shock-absorbing device consisting of a resilient coiled metallic strip.

7. The combination of a frangible vessel, fluid in said vessel, and a shock-absorbing device consisting of a resilient coiled strip.

844,780. TEA-KETTLE. ALONZO W. CRAM, Haverhill, Mass. Filed Jan. 6, 1906. Serial No. 294,885.



Claim.—1. A kettle having a top opening, a valve-plate extending through said opening and having oppositely-disposed pivot-lugs supported on the upper side of the walls surrounding said opening and located between the ends of the plate, the portion of said plate at one side of said lugs being adapted to bear against the under side of said walls and the opposite portion of said plate against the upper side thereof, and means for normally holding said portions of said plate in engagement with said walls to close said opening, substantially as described.

2. A kettle having a recess in its top, the bottom of said recess having an opening and having oppositely-disposed notches therein leading from said opening, a valve-plate extending through said opening and located at its edges in said notches and having pivot-lugs adapted to engage the bottom of said recess adjacent the ends of said notches, the portion of said plate at one side of said lugs being adapted to engage the under side of said bottom, and at the opposite portion thereof to engage the upper side of said bottom to close said opening, and means for normally holding said portions of said plate in engagement with said bottom, substantially as described.

3. A kettle having a recess in its top, the bottom of said recess having an opening, a valve-plate extending through said opening and having pivot-lugs bearing on said bottom and disposed between the middle and one end of said plate, the larger portion of said plate at the one side of said lugs being adapted to bear against the under side of said bottom and the smaller portion thereof being adapted to bear against the upper side of said bottom, and a weight on said smaller portion for holding said portions in engagement with said bottom to close said opening, substantially as described.

4. A kettle having a recess in its top, the bottom of said recess having an opening, a valve-plate extending through said opening and having pivot-lugs bearing on said bottom and disposed between the middle and one end of said plate, the larger portion of said plate at the one side of said lugs being adapted to bear against the under side of said bottom and the smaller portion thereof being adapted to bear against the upper side of said bottom, and a weight connected to the under side of the smaller portion of said plate for holding said plate in position to close said opening, said weight being arranged to pass through said opening when the plate is in the closed position, substantially as described.

5. A kettle having a recess in its top, the bottom of said recess having an opening and having oppositely-disposed notches therein leading from said opening, a valve-plate extending through said opening and located at its edges in said notches and having pivot-lugs adapted to engage the bottom of said recess adjacent the ends of said notches, the portion of said plate at one side of said lugs being adapted to engage the under side of said bottom, and being of less width than the distance between the inner ends of said notches, to permit ready removal of said plate, the opposite portion thereof being adapted to engage the upper side of said bottom, and means for normally holding said plate in the position to close said opening, substantially as described.

6. A receptacle having a top opening, a removable cover for closing said opening having pivotal supports at opposite sides thereof engaging the wall about said opening, the portion of said cover at one side of said pivotal supports being insertible in said opening to bring said supports into engagement with said wall, and said cover being balanced on said supports to swing automatically into engagement with said wall to close said opening, substantially as described.

7. A receptacle having a top opening, a removable cover having a portion thereof extending through said opening, and having pivotal supports at opposite sides thereof engaging the wall about said opening, the portion of said cover at one side of said pivotal supports being insertible in said opening to bring said supports into engagement with said wall, the under side of the opposite portion thereof being adapted to engage the corresponding portion of said wall, said cover being balanced normally to hold such portions in engagement, substantially as described.

8. A receptacle having a top opening, a removable cover for closing said opening having pivotal supports at opposite sides thereof engaging the wall about said opening, the portion of the cover at one side of the line between said supports being of materially greater area than the portion at the other side thereof, and said portion of the greater area being insertible in said opening to bring said supports in engagement with said wall, the portion of less area thereof being counterweighted to swing the cover into its closed position, substantially as described.

9. A receptacle having a top opening, a removable cover for closing said opening having pivotal supports at opposite sides thereof engaging the wall about said opening, the portions of the cover at one side of the line between said supports being of materially greater area than the portion at the other side thereof, and said portion of the greater area being insertible in said opening to bring said supports in engagement with said wall, the cover portion of less area being of greater area than the corresponding portion of said opening and counterweighted to swing the edge portion thereof into engagement with the surrounding wall portion to close said opening, substantially as described.

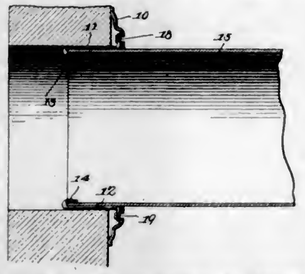
844,781. DENTAL GOLD-PELLET HOLDER. HENRY P. DAVIS, Washington, D. C. Filed Apr. 23, 1906. Serial No. 313,101.



Claim.—1. A holder for dental-gold pellets consisting of a longitudinally-slotted tube adapted to receive the gold, and means at the lower end of the tube for loosely retaining the gold in the tube.

2. A holder for dental-gold pellets consisting of a tube A provided with a longitudinal slot B, open at the forward end, and with spring-like retaining-prongs C at said forward end, and a spindle F for carrying the gold pellets, adapted to be contained within the tube.

844,782. STOVEPIPE-COLLAR. LAWRENCE DOERR, Mancelona, Mich. Filed Jan. 8, 1906. Serial No. 295,149.



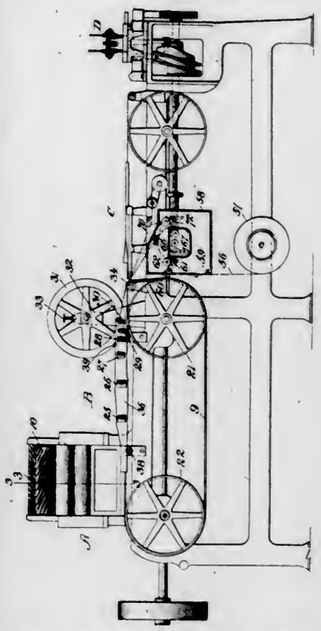
Claim.—A pipe-collar comprising an annulus having parallel incisions cut therein, the material between the incisions being bowed in one direction and the material at the outer sides of the incisions being bowed in the opposite direction, a hook consisting of a piece of wire bent upon itself and having a hooked end and its opposite end rectangularly disposed to the body portion, the last said end passing between the inner faces of said oppositely-bowed portions of the annulus and being held against rotation therein.

844,783. PAPER-CIGARETTE MACHINE. NAPOLEON DU BRUL, Cincinnati, Ohio. Filed Dec. 12, 1904. Serial No. 236,511.

Claim.—1. In a tobacco-feeding mechanism, for cigarette-machines, the combination of the apron upon which the tobacco is delivered, the main compressing-roller beneath which the tobacco is passed, and the auxiliary compressing-roller adjustably mounted by a frame swinging about the axis of the main compressing-roller; said rolls being both spirally grooved.

2. In a tobacco-feeding mechanism for cigarette-machines, the combination of the apron upon which the tobacco is delivered, the main compression-roll, the swinging frame pivotally mounted upon the axis thereof, the auxiliary compression-roll mounted in the outer swinging end of the said frame and a screw for regulating the height of the auxiliary compression-roll above the feeding-apron.

3. In a tobacco feeding and carding mechanism, for cigarette-machines, the combination of the feeding means, the picker-roll and the stripper-roll; said picker-roll having radial teeth of lesser length than the circular pitch at which they are placed, and the stripper-roll having relatively longer teeth slightly meshing therewith, whereby the tobacco is removed from the picker without breaking the fiber.



4. In a tobacco-carding mechanism for cigarette-machines, a short-toothed picker-roll in combination with a long-toothed stripper-roll, the short teeth of the said picker-roll enmeshing throughout the greater part of their length with but the extreme ends of the teeth of the said stripper-roll.

5. In a tobacco-carding mechanism for cigarette-machines, the combination of a picker-roll having a central barrel portion with teeth projecting radially therefrom, and a stripper-roll having similar barrel-and-tooth structure, the said rolls being so mounted as to separate the barrels thereof, by a distance approximately equal to the tooth length of the stripper-roll, and to maintain the addendum-circles of the aforementioned rolls in approximately tangential relation.

6. In a tobacco-feeding mechanism for cigarette-machines, the combination of the feeding and carding means, and means for removing the dust from the tobacco during the carding operation.

7. In a tobacco-feeding mechanism for cigarette-machines, the combination of the feeding and carding means, and the exhaust mechanism for drawing off dust from the tobacco during the carding operation.

8. In combination with a tobacco-feeding mechanism having a stripper-roll by which the tobacco is discharged, an air-exhaust for drawing off dust from the tobacco subsequently to its disintegration into finely-divided particles.

9. In combination with a rope-forming belt and tobacco-feeding mechanism having a stripper-roll lying parallel to the rope-forming belt; a dust-exhausing means drawing transversely to the rope-forming belt and to the axis of the stripper-roll.

10. In a cigarette-machine, a rope-forming mechanism comprising an endless belt, the pulleys between which the belt is stretched, the supporting-rollers over which the

belt runs at intermediate points, and the pairs of lateral rollers located at intervals and shaping the belt into the desired form.

11. In a rope-forming mechanism for cigarette-machines, the combination of the endless belt, the adjustable side members, the paired belt-shaping rollers mounted on the side members, and an adjustable connection between the side members by which their distance apart may be determined at will and an equal displacement of the edges of the belt thereby produced.

12. In a rope-former for cigarette-machines, the combination of the belt, the adjustable side members, the series of pairs of belt-forming rollers mounted upon the side members, each side member carrying one roller of each pair, means for determining the distance between the side members, and the supporting-rollers each mounted on a side member.

13. A rope-former for cigarette-machines comprising relatively adjustable side members, a series of paired forming-rollers mounted in said adjustable side members, and an endless belt running between and conforming to the shape of the paired forming-rollers.

14. A rope-former for cigarette-machines comprising the pivoted side members, the adjusting-screw connecting them, the paired forming-rollers mounted in the pivoted side members and an endless belt running between and conforming to the shape of the paired forming-rollers.

15. The combination of the relatively adjustable side members, the paired forming-rollers mounted thereon, the endless belt running between the forming-rollers, the condensing-wheel, and the adjusting-screw drawing the side members together and pressing the belt, through means of the forming-rollers, against the condensing-wheel.

16. In a wrapper attachment for cigarette-machines, the paper-guide comprising the deflecting part, the freely-swinging part and a means for automatically holding the said swinging part in guiding relation with the paper.

17. In a wrapping attachment for cigarette-machines, the paper-guide comprising a pivoted cylindrical portion and an open-channeled guide rigid therewith.

18. In a wrapper mechanism, having a paper-feed and a tape, the combination of the adjustable paper-guide and the adjustable tape-guide, the said guides being provided with open-channeled portions and having cylindrical hub portions about which the tape and paper are respectively deflected before the paper is superimposed upon the tape.

19. In a wrapper-applying mechanism for cigarette-machines, the combination of the paper-supply, the tape, and open-channeled guides whereby said paper and tape are respectively deflected before one is superimposed upon the other, each of said guides being independently adjustable.

20. In a wrapper attachment for cigarette-machines, the combination of the tape-deflecting roller, the guide hinging therefrom, the guide through which the paper passes having a curved part over which the paper is deflected before reaching the tape and the set-screws for adjusting the guides laterally.

21. In a cigarette-machine, the combination with an endless tape, a driving-wheel to propel the same, forming devices to form the cigarette-rod upon the tape, adjustable flanged guides fitted to the edges of tape and wrapper, the one guiding the tape to a deflecting-roller, the other guiding the paper over a stationary ironing and smoothing deflecting end, pins on which the guides are adapted to swing and set-screws to vary the relation of the guides to each other and the forming-tube.

22. In a cigarette-machine, the combination with a paper-supply and a wrapper-applying mechanism, of a pair of crimping or nurling rolls located intermediate to the said paper-supply and wrapper-applying mechanism so as to nurl or crimp the pasting edge of the wrapper before inclosing the filler therein.

23. In a cigarette-machine, the combination with a paper-supply, a paster and a wrapping mechanism, of a means for crimping or nurling the pasting edge of the paper before it reaches the paster.

24. In a cigarette-machine in which the paper wrapper is pasted to secure it around the filler, the combination with the paper-supply and the paster, of a pair of paper-drive rolls having crimping or nurling surfaces in line with the pasting edge of the paper as it passes between the rolls.

25. In combination with a paper-cigarette machine, a printing-roll and its platen, and independent paper-drive rolls for the wrapper-paper driven from the same source of power as the printing-roll and having the same surface speed as the printing-roll.

26. In combination with a paper-cigarette machine, drive-rolls for the wrapper-paper, the printing-roll with its platen, and a gear connecting said printing and drive rolls and causing them to travel with the same surface speed and in definite relation to the operation of the cigarette-machine.

27. In combination with a paper-cigarette machine, a plurality of printing-rolls rotating in definite relation to the operation of the cigarette-machine, a pair of paper-drive rolls for the wrapper-paper, and a gear connecting all of said printing and drive rolls and causing them to rotate with the same surface speed.

28. In combination with a paper-cigarette machine, printing-rolls, inking-rolls for said printing-rolls, a bronzing-roll driven from said inking-rolls, paper-drive rolls for the wrapper-paper, and a gear connecting the paper-drive rolls and printing-rolls and causing them to run with equal surface speed.

29. In combination with a paper-cigarette machine, first and second printing-rolls, inking-rolls for said printing-rolls, a pair of paper-driving rolls for the wrapper-paper and a gear common to all of said rolls and driving the printing and paper-drive rolls at equal surface speed.

30. In combination with a paper-cigarette machine, the feed-rolls for the wrapper-paper, the printing-roll, a gear causing said rolls to travel at equal surface speed, the cigarette-cutter, the shaft rotating in definite relation to the cutting operation, and a gear connecting said shaft to the printing-roll.

31. In combination with the wrapping mechanism of a paper-cigarette machine, a printing attachment coöperating with the same, additional printing mechanism constructed to be applied to the machine, an idler-gear to connect one printing means with the other, a drive-shaft, and a gear connecting said drive-shaft to the printing roll.

32. In combination with the wrapping-mechanism of a paper-cigarette machine having a printing attachment, an additional removable printing means, constructed to be brought into driving relation to the printing attachment, a drive-shaft, and a drive-gear for connecting said shaft to the printing attachment; said gear having an adjustable connection with the shaft, permitting the driven parts to be adjusted relatively to the shaft.

33. In a cigarette-machine, the combination of the cutter, a wrapper-driving mechanism, a printing attachment, a shaft connecting the cutter-operating parts with the mechanism of the printing attachment, a sleeve turning on said shaft, a gear for driving the printing and wrapper-driving mechanisms, supported on said sleeve, a hand-grip also on said sleeve and means carried by the hand-grip whereby the sleeve may be rigidly secured to the shaft.

34. In a cigarette-machine, the combination of the cutter, a shaft in operating connection therewith, a gear detachably secured to said shaft, a compound gear supported in turning relation with the said detachably-secured gear, an idler intermeshing with said compound gear by means of which the wrapper driving and printing mechanisms are simultaneously and correlatively driven and a second gear on the supporting-shaft of said compound gear, by means of which additional printing attachments may be driven.

35. In a continuous-cigarette machine, having a printer to print upon the wrapper before it is delivered to the wrapping mechanism, the combination with the tape and driving-wheel to propel the same, of a printing-roll with type to print the impressions, and a pair of driving-rolls for the wrapper-paper adapted to press and feed the paper between their opposed faces, and means connecting the tape-driving wheel, the printing-roll, and the driving-rolls, so as to feed the paper in unison with the tape.

36. In a continuous-cigarette machine, the combination with tape and means for driving same, of a pair of driving-rolls for feeding the wrapper to the filler, the said driving-rolls being provided with intermeshing grooves and ridges adapted to crimp the wrapper between their opposed faces.

37. In a continuous-cigarette machine having a printer to print upon the wrapper before it is delivered to the tape, the combination with the tape and a driving-wheel to propel the same, of a printing-roll with type to print the impressions and a pair of crimping-rolls provided with intermeshing grooves and ridges adapted to press and stretch the paper between their opposed faces and means connecting the tape-driving wheel, the printing-roll, and the crimping-rolls, so as to feed the wrapper in unison with the tape.

38. In a continuous-cigarette machine, the combination with the tape and means for driving the same, means for supplying the wrapper-paper and feeding the tobacco thereto, means for forming the cigarette-rod and a cutter for cutting off the cigarettes, of a printer having a printing-roll to print upon the wrapper, a pair of driving-rolls for paper, and a master-gear connecting the printing-roll and feed-roll to rotate them at the same surface speed.

39. In a continuous-cigarette machine, the combination with the tape and means for propelling the same, means of supplying the wrapper-paper and feeding the tobacco thereto, means for forming the cigarette-rod, and a cutter for cutting off the cigarettes, of a printer having a printing-roll to print upon the wrapper, a pair of crimping drive-rolls for paper, and mechanism connecting the cutter to the printing and drive rolls to rotate them in unison.

40. In a continuous-cigarette machine, the combination with the tape and means for propelling the same, means for supplying the wrapper-paper and feeding the tobacco thereto, means for forming the cigarette-rod and a cutter for cutting off the cigarettes, of a printer having a printing-roll to print upon the wrapper, a pair of driving-rolls for paper, mechanism connecting the cutter to the printing and drive rolls to rotate them in unison, gearing connecting the cut-off knife with the tape-driving wheel, and a change-wheel in such gearing to vary the lengths of the cigarettes.

41. In a continuous-cigarette machine, the combination with the tape and means for propelling the same, means for supplying the wrapper-paper and feeding the tobacco thereto, means for forming the cigarette-rod and a cutter for cutting off the cigarettes, of a printer having a printing-roll to print upon the wrapper, a pair of driving-rolls for paper, mechanism connecting the cutter to the printing and drive rolls to rotate them in unison, gearing connecting the cut-off knife with the tape-driving wheel, a change-wheel in such gearing to vary the length of cigarettes, a drive-shaft in such mechanism, a printer drive-gear releasably secured to said shaft by a set-screw, permitting a rotary adjustment of such printing-rolls and drive-rolls, to vary the relation of the printer to the cutter, or to wholly detach the printer from the cutter when required.

42. In a cutter for cigarette-machines, the combination of the knives mounted to oscillate about a center across the path of the cigarette-rod, the slide upon which the knives are mounted, and a cam having connections for simultaneously oscillating the knives and reciprocating the slide.

43. In a cutter for cigarette-machines, the combination of the slide, the frame pivoted upon said slide, the knives mounted in the frame, and the cam for oscillating the frame and reciprocating the slide; said frame being formed of two parts relatively adjustable about the center of oscillation in order to adjust the knives toward the path of the cigarette-rod.

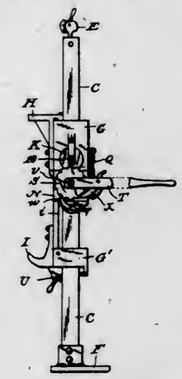
44. In a cigarette-machine, the combination of the reciprocating slide, the oscillating frame on said slide formed in two parts, each having a bearing at the center of oscillation, and a slot-and-screw connection between said parts whereby they may be adjusted relatively to bring the cutting-edge of the knives into proper relation to the path of the cigarette-rod.

45. In a cutter for cigarette-machines, the combination of the oscillating frame carrying the knives, the slide upon which the frame is mounted to oscillate, shoes secured to the ends of the slide and having sliding bearings upon the machine and the caps secured to the machine over the shoes and holding the latter in place.

46. In a cutter for cigarette-machines, the combination of the slide-shoe formed with a turned body, the oscillating knife-frame having a bearing on the turned body of the slide, a shoe secured to the end of the turned body and confining the oscillating frame, the caps fitted over the shoes and holding them upon their bearings, the cam-lever depending from the oscillating frame, the roller-stud depending from the slide, and a cam engaging the cam-lever and roller-stud for oscillating the knife-frame and reciprocating the slide.

47. In a cutter for cigarette-machines, the combination with the oscillating knife-lever, the rotary knives mounted thereon and having a pulley for rotating them, a pulley journaled on the center of oscillation of the knife-frame, and a belt passing from an external source of driving power over said pulleys and rotating the knives.

844,784. LIFTING-JACK. LEMUEL J. DUNN, Spencer, Ind. Filed June 23, 1906, Serial No. 323,026.



Claim.—1. A jack including a pedestal or guide, a lift movable on the pedestal or guide, a catch for holding the lift, a housing movable on the pedestal or guide, a rotative cam for forcing the lift and the housing apart, a catch for holding the housing against movement away from the lift, means for rotating the cam, and a spring normally drawing the housing toward the lift.

2. A jack including a pedestal with teeth thereon, a lift having a catch coöperating with the teeth, a housing movable on the pedestal and having a catch coöperating with the teeth, a spring normally drawing the lift and the housing either one toward the other, and mechanism mounted on the housing for forcing the lift and the housing apart.

3. A jack including a pedestal or guide with teeth thereon, a head-lift and a foot-lift coupled together and movable on the pedestal or guide, a catch mounted on the head-lift for engagement with the teeth, a shoulder-piece mounted on the head-lift, a foot-piece mounted on the foot-lift, a housing movable adjustably on the pedestal or guide and provided with a rotative cam for forcing the head-lift away from the housing, means for operating the cam, a spring for normally drawing the housing toward the head-lift, and a catch mounted on the housing for engagement with the teeth.

4. A jack including a pedestal or guide with teeth thereon and having a detachable base at one end and a

wire grip at the other end thereof, a head-lift and a foot-lift coupled together and movable on the pedestal or guide, a wire grip mounted on the foot-lift, a housing movable on the pedestal or guide between the head-lift and the foot-lift, a catch mounted on the head-lift for engagement with the teeth, a catch mounted on the housing for engagement with the teeth, a cam mounted rotatively on the housing for forcing the head-lift away from the housing, a ratchet-wheel attached to the cam, and a lever carrying a pawl in engagement with the ratchet-wheel.

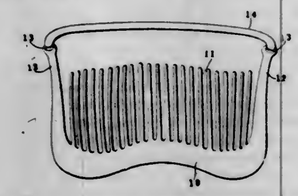
5. A jack including a pedestal or guide having a sectional rack-bar attached thereto provided with connecting tongues and jaws, a head-lift movable on the pedestal or guide and provided with a catch for engagement with the rack-bar, a housing movable on the pedestal or guide and provided with a catch for engagement with the rack-bar, a cam mounted on the housing for forcing the head-lift away from the housing and having a ratchet-wheel secured thereto, a lever for operating the ratchet-wheel, a detent mounted on the housing in engagement with the ratchet-wheel, and a spring connected to the head-lift and also to the housing.

6. A jack including a pedestal or guide with teeth thereon, a head-lift movable on the pedestal or guide and having a lowering-lever mounted thereon provided with detents engageable alternately with the teeth, a catch mounted on the head-lift for engagement with the teeth, a holder for withholding the catch from the teeth, a housing movable on the pedestal or guide and having a catch for engagement with the teeth, a spring connected to the head-lift and also to the housing, and mechanism for forcing the head-lift away from the housing.

7. In a jack, the combination with a pedestal or guide having rack-teeth, of a head-lift movable on the pedestal or guide and provided with a pair of ears having a pair of bearings attached thereto, a bearing-block attached to the ears removably and having a bearing thereon, a lever between the ears and having a head in coöperation with the bearings and provided with a pair of detents for alternate engagement with the teeth, a catch mounted on the head-lift for engagement with the teeth, a holder mounted on the head-lift for holding the catch away from the teeth, and means for moving the head-lift in one direction on the pedestal or guide.

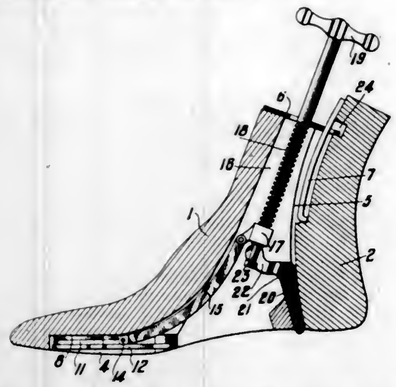
8. In a jack, the combination with a pedestal or guide having rack-teeth, of a head-lift movable on the pedestal or guide and provided with a bearing, a catch mounted on the head-lift and engageable with the rack-teeth, a housing movable on the pedestal or guide and provided with an axle, a cam rotative on the axle and coöperating with the bearing of the head-lift, a ratchet-wheel rotative on the axle and secured to the cam, a detent mounted on the housing and engaging the ratchet-wheel, a lever pivoted on the axle, and a pawl mounted on the lever in engagement with the ratchet-wheel.

844,785. COMBINATION COMB AND HAT-FASTENER. PAULINE EDWARDS, New York, N. Y. Filed Oct. 6, 1906. Serial No. 337,686.



Claim.—A device of the kind described, comprising a comb having a back with teeth extending upwardly and inwardly therefrom, and with side or end arms extending upwardly and outwardly, and adapted to be connected with fastening devices.

844,786. TREE OR STRETCHER FOR BOOTS AND SHOES. CHARLES W. EVANS, London, England. Filed May 16, 1906. Serial No. 317,056.



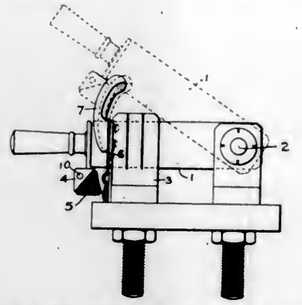
Claim.—1. In stretchers for shoes; the combination with a body part having a groove formed in its rear end extending from the upper to the lower part of said body, an operating-screw freely located in said groove, a separate heel part, a two-armed lever pivoted in the groove of the body part one arm engaging the aforesaid operating-screw while the other arm is adapted to force the heel part rearwardly, a forward extension of the body having slots extending in the direction of the width of the stretcher, and two toe parts adapted to have movement in the direction of the width, an inward extension on each toe part, and a pin proceeding from each extension entering the slots in the extension of the body part, a nut on the operating-screw, and mechanism connected with the nut for distancing the toe parts substantially as set forth.

2. In stretchers for shoes; the combination with a body part having a groove formed in its rear end extending from the upper to the lower part of said body, an operating-screw freely located in said groove, a separate heel part, a two-armed lever pivoted in the groove of the body part one arm engaging the aforesaid operating-screw while the other arm is adapted to force the heel part rearwardly, a forward extension of the body having slots extending in the direction of the width of the stretcher, and two toe parts adapted to have movement in the direction of the width, an inward extension on each toe part, and a pin proceeding from each extension entering the slots in the extension of the body part, a plate having angularly-diverging slots into which the pins of the toe parts enter, said plate being located above the forward extension of the body part and capable of sliding thereon, a nut on the operating-screw, and a connecting-rod between the nut and the angularly-slotted sliding plate substantially as set forth.

3. In stretchers for shoes; the combination with a body part having a concave rearward surface and a groove formed in said rear surface extending from the upper to the lower part of said body, a heel part having a forwardly-curved front surface and a notch formed near the upper end thereof, a bracket extending rearward from the upper part of the body and having a slot in its rearward extension, and a rail on the heel part extending through said slot to permit of the heel part being slid downward into the shoe after the insertion of the body part and retained in position by the bracket entering the notch; of an operating-screw extending into the body part, two toe parts adapted to have movement in the direction of the width, a forward extension of the body part for guiding the said toe parts in their movements, and mechanism operated by the aforesaid screw for extending the heel and toe parts by balanced motions in the directions of the length and width substantially as set forth.

4. In stretchers for shoes; the combination with a body part having a concave rearward surface and a groove formed in said rear surface extending from the upper to the lower part of said body, a heel part having a forwardly-curved front surface and a notch formed near the upper end thereof, a bracket extending rearward from the upper part of the body and having a slot in its rearward extension, and a rail on the heel part extending through said slot to permit of the heel part being slid downward into the shoe after the insertion of the body part and retained in position by the bracket entering the notch; of an operating-screw freely located in the rear groove of the body part, a two-armed lever pivoted in the groove of the body part near the lower end thereof one arm engaging between fixed collars on the spindle of the operating-screw while the other arm is adapted to force the heel part rearwardly, two toe parts adapted to have motion in the direction of the width, a lower forward extension of the body for supporting the toe parts and having guides for guiding the latter during their expansion movements, a plate having angularly-diverging slots located above the forward extension of the body part and capable of sliding thereon, a nut on the operating-screw, and a connecting-rod between the nut and the angularly-slotted plate substantially as set forth.

844,787. ELECTRIC SWITCH. CHARLES E. EVELETH, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 23, 1903. Serial No. 162,773.



Claim.—1. A switch-contact consisting of a homogeneous mixture of a refractory conductor and an abradant.

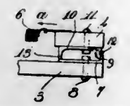
2. A switch-contact consisting of a homogeneous mixture of carbon and carborundum.

3. The combination with a switch, of secondary contacts, one of which consists of a homogeneous mixture of carbon and an abradant.

4. In a switch, the combination with the main blade and its removable handle, of a secondary contact secured to said blade by said handle.

5. In a switch, the combination with the main blade, of a handle having a screw-threaded stud, and a holder for a secondary contact provided with a flange having a hole through which said stud passes.

844,788. MATTRESS-FRAME. FRANCIS G. GALE, Waterville, Quebec, Canada. Filed Apr. 23, 1906. Serial No. 313,145.



Claim.—1. In a mattress-frame, side rails each having rising from one end a hook member, an end rail having depending from its under side at each end an eye to engage a hook member and a strut to rest on the side rail.

2. In a mattress-frame, side rails and end rails, and a fastening device by which the end rails are detachably secured to the side rails, each fastening device comprising one member secured to the end of the side rail, and having rising therefrom a hook, and a complemental member secured to the under side of the end rail and having an eye to engage the hook and means to space the end rail from the side rail.

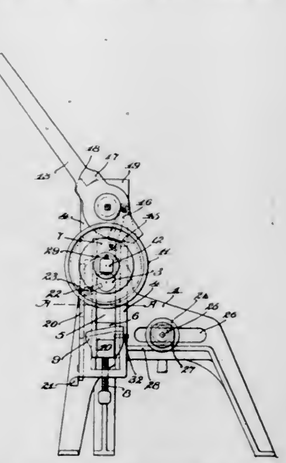
3. In a mattress-frame, side rails and end rails, and a fastening device by which the end rails are detachably secured to the side rails, each fastening device comprising one member secured to the end of the side rail, and having rising therefrom a hook, and a complemental member secured to the under side of the end rail and having an eye to engage the hook, and also a strut to engage the side rail.

4. In a mattress-frame, side rails each having rising from one end thereof a hook, the point of which is directed toward the end of the side rail, and an end rail having depending from its under side an eye to engage the corresponding hook and a strut to space the end rail from the side rail.

5. A corner-fastening for a mattress-frame, comprising a member secured to the upper side of the side rail and having rising therefrom a hook, and a complemental member secured to the under side of the end rail and having an eye to engage the hook and a strut to engage the side rail.

6. A corner-fastening for a mattress-frame, comprising a member secured to the upper side of the side rail and having rising therefrom a hook and having a notch and a complemental member secured to the under side of the end rail and having an eye to engage the hook and a strut to engage the side rail, the end of said strut being received in said notch.

844,789. BENDING-MACHINE. LAMBERT H. GARDNER, Cambridge, Mass. Filed Jan. 6, 1904. Serial No. 187,876.



Claim.—1. A bending-machine, having, in combination, a rotatable former, means including an actuating device for rotating the former, independent means for gripping the work, an abutment for the work, and a single actuating device for actuating both of said means, substantially as described.

2. A bending-machine, having, in combination, a rotatable former, means including an actuating device for rotating the former, independent means for gripping the work, an abutment for the work, and a single lever constructed and arranged when moved in one direction to actuate, first, the means for gripping the work, and then the means for rotating the former, substantially as described.

3. A bending-machine, having, in combination, a rotatable former, means including an actuating device for rotating the former, independent means for gripping the work, an abutment for the work, and a single lever constructed and arranged when moved in one direction to actuate, first, the gripping means to grip the work, and then the means for rotating the former to bend the work, and,

when moved in the opposite direction, to actuate, first, the gripping means, to release the work, and then the means for rotating the former to return the former to its original position, substantially as described.

4. A bending-machine, having, in combination, a rotatable former, means including an actuating device for rotating the former, independent means for gripping the work including a gripping-jaw coöperating with the former, an abutment for the work, and a single actuating device for relatively moving the former and jaw to grip the work, and for rotating the former, substantially as described.

5. A bending-machine, having, in combination, a rotatable head, a former movably mounted thereon, a gripping-jaw carried by the head and coöperating with the former to grip the work, and means for moving the former to engage the work and for rotating the head, substantially as described.

6. A bending-machine, having, in combination, a rotatable head, a former movably mounted thereon, a gripping-jaw adjustably supported on the head and coöperating with the former to grip the work, and means for moving the former to engage the work and for rotating the head, substantially as described.

7. A bending-machine, having, in combination, a standard, a head rotatably mounted thereon, means for rotating the head, a former mounted on the head, a jaw coöperating therewith, means for relatively moving the former and jaw to grip the work, a latch for preventing rotation of the head on the standard, and means for operating the latch to release the head when the former and jaw have gripped the work, substantially as described.

8. A bending-machine, having, in combination, a standard, a head rotatably mounted thereon, means for rotating the head, a former mounted on the head, a coöperating jaw adjustably mounted on the head, means for relatively moving the former and jaw to grip the work, a latch for preventing rotation of the head on the standard, and means for operating the latch to release the head when the former and jaw have gripped the work, substantially as described.

9. A bending-machine, having, in combination, a standard, a head rotatably mounted thereon, means for rotating the head, a former and a coöperating jaw carried by the head for gripping the work, and a roller on the standard for engaging the work, and having provision for adjustment longitudinally of the work, substantially as described.

10. A bending-machine, having, in combination, a rotatable head, a former mounted on the head, a gripping-jaw coöperating therewith, a lever pivoted to the head, means operated by the lever for relatively moving the former and jaw to grip the work, and stops to limit the motion of the lever with relation to the head, substantially as described

11. A bending-machine, having, in combination, a rotatable head, a former mounted on the head, a gripping-jaw coöperating therewith, a lever for rotating the head pivotally mounted thereon, and a cam-surface on the lever for relatively moving the former and the gripping-jaw to grip the work when the lever is operated to rotate the head, substantially as described.

12. A bending-machine, having, in combination, a rotatable head, a former movably mounted on the head, a gripping-jaw coöperating therewith, a lever for rotating the head pivotally mounted thereon, a cam-surface on the lever for moving the former into engagement with the work, and connections between the lever and the former for withdrawing the former from the work, substantially as described.

13. A bending-machine, having, in combination, a rotatable former, means for gripping the work, and a gage for positioning the work in the machine to locate the line of one arm of the bend at a predetermined distance from the end of the other arm of the bend, substantially as described.

14. A bending-machine, having, in combination, a rotatable head, a former mounted thereon, a gripping-jaw cooperating with the former to grip the work, and a gage on the jaw for positioning the work in the machine to locate the line of one arm of the bend at the predetermined distance from the end of the other arm of the bend, substantially as described.

15. A bending-machine, having, in combination, a former having a plurality of concentric circularly-curved segmental gripping-faces of different radii, and means for supporting the former so that one or another of said faces may be in operative position, substantially as described.

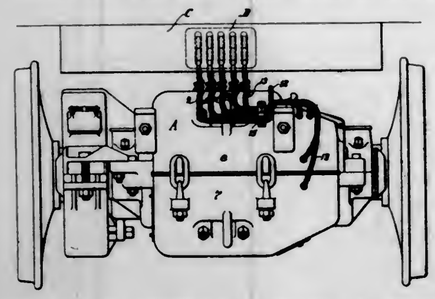
16. A bending-machine, having, in combination, a former-support, a former mounted thereon and having a plurality of curved faces each concentric with said support, a jaw-support, a gripping-jaw mounted thereon and having a plurality of faces at different distances from said jaw-support, so as to coöperate respectively with the several faces of the former, substantially as described.

17. A bending-machine, having, in combination, a rotatable head, a former movably mounted thereon, and having a circular working face, a gripping-jaw coöperating therewith to grip the work, and means for moving the former to engage the work arranged to move and hold the former in a position in which the center of curvature of the former coincides with the center of rotation of the head, substantially as described.

18. A bending-machine having, in combination, a rotatable former, means including an actuating device for rotating the former, an independent gripping device, connection between the gripping device and the actuating device, and an abutment for the work, substantially as described.

19. A bending-machine, having, in combination, a rotatable former, a gripping-jaw coöperating therewith, means for relatively moving the former and jaw to grip the work, means for rotating the former to bend the work, a latch for preventing rotation of the former, and means for operating the latch to release the former when the former and jaw have gripped the work, substantially as described.

844,790. SUPPORT FOR RAILWAY MOTOR-CABLES. FRANK W. GARRETT, Norwood, Ohio, assignor to The Bullock Electric Manufacturing Company, a Corporation of Ohio. Filed Mar. 6, 1905. Serial No. 248,692.



Claim.—1. In combination, a car-body, a car-truck adapted to turn relative to said body, a motor on said truck, cable-leads between the motor and the car-body, and a support for said cable-leads movable with said truck and located approximately in vertical alinement with the king-pin of the truck.

2. In combination, a car-body, a car-truck adapted to turn relative to said body, a motor on said truck, cable-leads between the motor and car-body, and a cleat movable with said truck for supporting the cable-lead intermediate their ends.

3. In combination, a car-body, a car-truck adapted to turn relative to said body, a motor supported on said truck, cable-leads between the motor and the car-body, and means on said motor for supporting the cables intermediate their ends.

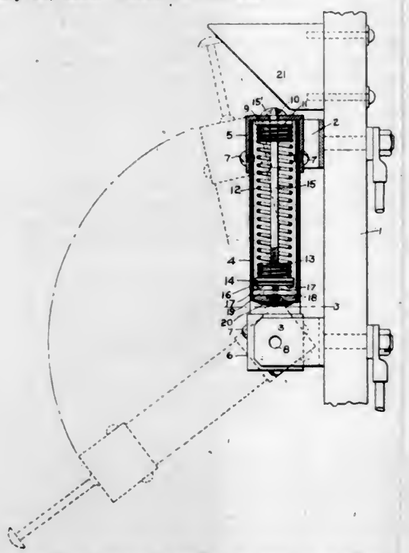
4. In combination, a car-body, a car-truck adapted to turn relative to said body, a motor supported on said truck, cable-leads between the motor and the car-body, and a support on the motor for the cables intermediate their ends, flexible portions of the latter being between the support and the car-body.

5. In combination, a car-body, a car-truck adapted to turn relative to said body, a motor on said truck, cable-leads between the motor and car-body, and a cleat movable with said truck for supporting the cable-leads intermediate their ends, and means whereby one of said cable-leads may be removed from the cleat without interfering with the remaining leads supported by said cleat.

6. In combination, a car-body, a car-truck adapted to turn relative to said body, a motor on said truck, cable-leads between the motor and car-body, and a cleat movable with said truck for supporting the cable-leads intermediate their ends, and means for fastening one of said leads to the cleat independent of the remainder of the leads so that said lead may be removed therefrom without interfering with the remainder of the leads.

7. In combination, a car-body, a car-truck adapted to turn relative to said body, a motor on said truck, cable-leads between the motor and car-body, and a cleat movable with said truck for supporting the cable-leads intermediate their ends, said motor having the lower half of its casing removable, and one of said cables leading from said lower half, and means for fastening said last-mentioned cable to said cleat independent of the remaining cables, so that said cable may be removed therefrom without disturbing the remaining cables when the lower half of the motor-casing is removed.

844,791. COMBINED FUSE AND SWITCH. HENRY GEISENHÖNER, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 14, 1904. Serial No. 216,483.



Claim.—1. A switch having its movable member provided with a current-carrying fuse, and means for automatically opening the switch whenever said fuse is disrupted.

2. The combination with a movable switch member, of a spring carried thereby and adapted to actuate the same, and a fuse connected in circuit with said switch member and holding said spring under tension.

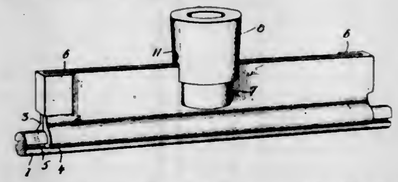
3. The combination with suitable clips, of a switch member comprising a body of insulation provided with metallic heads, a spring electrically connecting said heads, a fuse in series with said spring and holding it under tension, and means whereby said spring disengages said switch member from one of said clips when the fuse blows.

4. The combination with a movable switch member, of a plunger carried thereby, a spring for actuating said plunger, an inclined plane in line with said plunger, and means for automatically releasing said spring on an overload.

5. The combination with a movable switch member, of a plunger carried thereby, a spring for actuating said plunger, a cam in line with said plunger, and a fuse for holding the spring under tension.

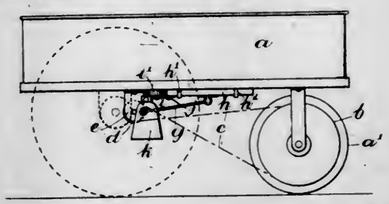
6. The combination with a movable switch member, of a plunger carried thereby, a current-carrying spring for actuating said plunger, a cam in line therewith, and a fuse in series with said spring and holding the same under tension.

844,792. MECHANICAL EAR FOR TROLLEY-WIRES. EDWARD E. GILMORE, Philadelphia, Pa. Filed Jan. 13, 1906. Serial No. 295,912.



Claim.—In a mechanical ear for trolley-wires the combination with a pair of jaws, of tongues on each of said jaws, said tongues being presented in opposite directions and adapted to lock the jaws against relative lateral movement, a conical hub, and a cap for engaging said hub for locking the jaws against relative longitudinal movement, said cap being slotted to engage the jaws to prevent its rotation.

844,793. TOY. JAMES GRIFFIN, Borrisokane, Ireland. Filed July 11, 1906. Serial No. 325,580.

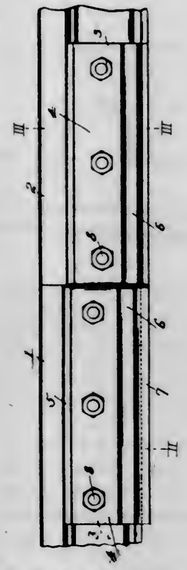


Claim.—In a sounding toy, the combination, with a base provided with ground-wheels, of a guide secured to the said base, a plate slidable in the said guide, driving mechanism for reciprocating the said plate from one of the said ground-wheels when the toy is drawn along, a lever pivoted to the said base and operatively connected with the said plate at one end, and a bell secured to the other end of the said lever.

844,794. STEP-UP RAIL-JOINT. GEORGE L. HALL, New York, N. Y., assignor to The National Railway Materials Company, New York, N. Y., a Corporation of New York. Filed Dec. 21, 1906. Serial No. 348,853.

Claim.—1. A step-joint for railway-rails comprising a pair of splice-bars adapted to be secured to opposite sides of the adjoining ends of rails of different cross-sectional area, each of said splice-bars being formed of a substantially vertical rail-supporting web enlarged or stepped up vertically for substantially half its length to support the head of the smaller rail, and with a downward and outward inclined flange along the lower edge of said vertical web, and an inward-extending base-support adapted to extend under one of the rails, said base-support terminating substantially midway between the ends of the bars.

2. A step-joint for railway-rails comprising a pair of splice-bars adapted to be secured to opposite sides of the adjoining ends of rails of different cross-sectional area, each of said splice-bars formed with a substantially vertical rail-supporting web enlarged or stepped up vertically for substantially half the length to support the head of the smaller rail, and along the lower edge of said web with a downward and outward inclined flange adapted to extend over the base of the rails, one of said splice-bars being formed with an inward-extending base-support adapted to lie under the end of one of the rails, said base-support terminating substantially midway the ends of the splice-bar.

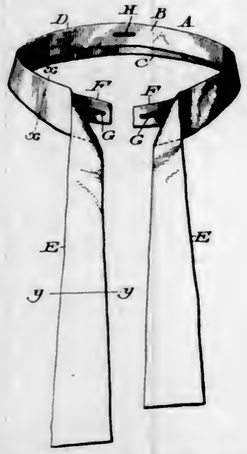


3. A step-joint for railway-rails comprising a pair of splice-bars adapted to be secured to opposite sides of the adjoining ends of rails of different cross-sectional area, each of said splice-bars formed with a substantially vertical rail-supporting web enlarged or stepped up vertically for substantially half the length to support the head of the smaller rail and along the lower edge of said web with a downward and outward inclined flange adapted to extend over the base of the rails, one of said splice-bars being formed with an inward-extending base-support adapted to lie under the end of one of the rails, said base-support terminating substantially midway between the ends of the splice-bar, said base-support being corrugated.

4. A step-joint for railway-rails comprising a pair of splice-bars adapted to be secured to opposite sides of the adjoining ends of rails of different cross-sectional area, each of said splice-bars being formed of a substantially vertical rail-supporting web enlarged or stepped up vertically for substantially half its length to support the head of the smaller rail and with a downward and outward inclined flange along the lower edge of said vertical web, and a base-support extending inward under the base of the rail below the enlarged part of the vertical web and substantially equal in length to the enlarged part of the web, whereby said base-support extends under and carries the smaller rail and being of sufficient thickness to bring the upper surface of the said rail flush with the upper surface of the larger rail.

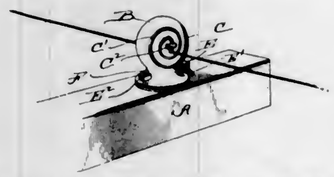
844,795. ARTICLE OF NECKWEAR. WILLIAM H. HART, Jr., Philadelphia, Pa. Filed July 16, 1906. Serial No. 326,317.

Claim.—1. An article of neckwear composed of a neck-band formed of members integral with and foldable on each other, tie portions continuous of the ends of one of said members and attaching tabs continuous of the ends of the other member and independent of the tie portions, said tabs being separate from the inner ends of said portions and the member of which the latter are continuous.



2. An improved article of neckwear comprising bands foldable on each other, one of said bands being provided with means for attachment to the band of a garment, and tie portions continuous of one of said bands and extending in opposite directions therefrom and of a length to be tied to form a bow, said tie portions being formed of the material doubled and independent of the portion having said attaching means and disconnected from the inner band at points opposite said means of attachment in the latter.

844,796. INSULATING WIRE-HOLDER. ANDREW HATCHETT, Louisville, Ky., assignor of one-third to S. I. I. Battiste and one-third to E. S. Porter, Louisville, Ky. Filed Nov. 13, 1905. Serial No. 287,082.



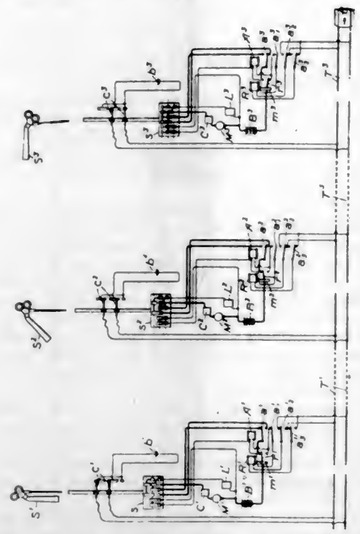
Claim.—1. An insulator of non-conducting material having a downwardly-extending slot upon one side of its center, the inner portion of said slot encircling the central portion of the insulator and terminating at substantially the center of the insulator in a bifurcated end portion.

2. A device of the kind described comprising an insulator, having a slot extending from substantially its center to an upper side portion of the insulator, the inner end portion of the slot being convolute and the extreme end bifurcated, and means for locking the insulator in place.

3. A device of the kind described comprising an insulator having a flat base and having a transverse slot adjacent its base portion, a spike, and an arm carried by the spike adapted to pass through the transverse slot.

4. An insulator of the kind described, comprising a body of non-conducting material having a transverse slot, a spike having a shoulder thereon, an arm carried by the spike adapted to pass through the transverse slot, and means for locking the insulator against movement along said arm.

844,797. BLOCK-SIGNAL SYSTEM. LAURENCE A. HAWKINS, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed July 31, 1905. Serial No. 271,871.



Claim.—1. In a block-signal system, a signal adapted to give clear, caution and danger indications, a track-relay controlling said signal, means controlling said relay and controlled by a train in the following block, and means controlling said relay and controlled by said signal.

2. In a block-signal system, a signal at the entrance of a block adapted to give clear, caution and danger indications, a source of current connected to the rail-circuit of the block, means controlled by a train in the following block for reversing the connection of said source to the rail-circuit, a relay connected to the rail-circuit of the block and controlling the signal, and means controlled by the signal for reversing the connections of a winding of said relay.

3. In a block-signal system, a circuit comprising a source of current, the rails of the block, a relay, and two reversing-switches, one of said switches being inserted in circuit between said source and the rails and the other between the rails and said relay, a signal controlled by said relay, means controlled by a train in the following block for operating the first reversing-switch, and means controlled by said signal for operating the second reversing-switch.

4. In a block-signal system, a signal at the entrance of a block adapted to give clear, caution and danger indications, a track-relay controlling said signal, a source of current connected to the rail-circuit of the block, means for reversing the connections of said source when a train leaves the following block, and means for reversing the connections of a winding of the relay when the relay is deënergized and the signal is at caution.

5. In a block-signal system, a signal at the entrance of a block adapted to give clear, caution and danger indications, a source of current connected to the rail-circuit of the block, a reversing-switch in circuit with said source controlled by a train in the following block, a track-relay controlling said signal, an auxiliary relay, contacts controlled by said track-relay and by said signal in circuit with said auxiliary relay, and a reversing-switch in circuit with a winding of the track-relay controlled by the auxiliary relay.

6. In a block-signal system, a signal at the entrance of a block adapted to give clear, caution and danger indications, a source of current connected to the rail-circuit of the block, a reversing-switch in circuit with said source controlled by a train in the following block, a track-relay controlling said signal, an auxiliary relay, a circuit for said auxiliary relay comprising a back contact of the track-relay and contacts controlled by the signal aud closed when the signal is at caution, and a reversing-switch in circuit with a winding of the track-relay and controlled by said auxiliary relay.

7. In a block-signal system, a signal at the entrance of a block adapted to give clear, caution and danger indications, a source of current connected to the rail-circuit of the block, a reversing-switch in circuit with said source controlled by a train in the following block, a track-relay controlling said signal, an auxiliary relay, a circuit for said auxiliary relay comprising a back contact of the track-relay and contacts controlled by the signal and closed when the signal is at caution, a reversing-switch in circuit with a winding of the track-relay and controlled by said auxiliary relay, and a contact controlled by said auxiliary relay adapted to short-circuit said back contact of the track-relay.

8. In a block-signal system, a signal at the entrance of a block adapted to give clear, caution and danger indications, a source of current connected to the rail-circuit at the exit end of the block, a switch in the connections between said source and rail-circuit controlled by a train in the following block, a track-relay connected to the rail-circuit at the entrance of the block controlling said signal, an auxiliary relay controlling said signal conjointly with said track-relay in certain positions of said signal, and a circuit for said auxiliary relay including a back contact of the track-relay and contacts controlled by the signal.

9. In a block-signal system, a signal at the entrance of a block adapted to give clear, caution and danger indications, a source of current connected to the rail-circuit at the exit end of the block, a switch in the connections between said source and rail circuit controlled by a train in the following block, a track-relay connected to the rail-circuit at the entrance of the block controlling said signal, an auxiliary relay controlling said signal conjointly with said track-relay in certain positions of said signal, a circuit for said auxiliary relay including a back contact of the track-relay and contacts controlled by the signal, and a contact controlled by said auxiliary relay adapted to short-circuit said back contact of the track-relay.

10. In a block-signal system, a signal at the entrance of a block adapted to give clear, caution and danger indications, a source of current connected to the rail-circuit of the block, a reversing-switch in circuit with said source and controlled by a train in the following block, a track-relay having a neutral armature connected to the rail-circuit of the block and controlling said signal, and means for polarizing said armature when the signal is at caution or clear.

11. In a block-signal system, a signal at the entrance of a block adapted to give clear, caution and danger indications, a source of current connected to the rail-circuit of the block, a reversing-switch in circuit with said source and controlled by a train in the following block, a track-relay having a neutral armature connected to the rail-circuit of the block and controlling said signal, a winding adapted when energized to polarize said armature, and contacts in circuit with said winding controlled by the signal.

12. In a block-signal system, a signal at the entrance of a block adapted to give clear, caution and danger indications, a source of current connected to the rail-circuit at the exit end of the block, a reversing-switch in circuit with said source and controlled by a train in the following block, a track-relay having a neutral armature connected to the rail-circuit at the entrance of the block and controlling said signal, a winding adapted when energized to polarize said armature, and means controlled by the signal for energizing said winding when the signal is at caution or clear.

13. In a block-signal system, a circuit comprising a source of current, the rails of a block, a relay, and two reversing-switches, one of said switches being inserted in circuit between said source and the rails and the other

between the rails and said relay, means controlled by a train in the following block for operating the first reversing-switch, means controlled by said signal for operating the second reversing-switch, and means controlled by the signal for rendering the armature of said relay polarized in one or more positions of said signal and non-polarized in another position.

14. In a block-signal system, a signal at the entrance of a block adapted to give clear, caution and danger indications, a track-relay controlling said signal, a source of current connected to the rail-circuit at the exit end of the block, means for reversing the connections of said source when a train leaves the following block, means for reversing the connections of a winding of the relay when the relay is deënergized and the signal is at caution, and means controlled by the signal for rendering the armature of the track-relay polarized when the signal is at caution or clear and non-polarized when the signal is at danger.

15. In a block-signal system, a signal, a track-relay controlling said signal, and means controlled by the signal for rendering the armature of said relay polarized in one or more positions of said signal and non-polarized in another position.

16. In a block-signal system, a signal, a track-relay controlling said signal, said relay having a neutral armature, a winding adapted when energized to polarize said armature, and contacts in circuit with said winding controlled by said signal, said contacts being arranged to close the circuit of said winding to polarize the relay in certain positions of said signal and to open the circuit of said winding in other positions of said signal.

844,798. SURGICAL APPLIANCE. LOUIS B. HAWLEY, Rochester, N. Y. Filed Feb. 26, 1906. Serial No. 302,924.



Claim.—1. In a device of the character described, embodying a stiff support for the organ, an abutment at one end thereof adapted to rest against the body, and an annular elastic member composed of pliable material at the other end adapted to encircle the organ.

2. In a device of the character described, the combination with supporting members of a width less than the diameter of the organ adapted to extend longitudinally at opposite sides thereof and capable of relative lateral movement at their lower ends, of means for retaining said members in position.

3. A device of the character described, comprising supporting members adapted to extend longitudinally of the organ and capable of relative lateral movement at their lower ends, means for securing said members in position and abutments at the bases of each of the latter adapted to rest against the body and prevent longitudinal movement in one direction.

4. In a device of the character described, the combination with supporting members adapted to extend longitudinally of the organ, of means movable longitudinally thereof adapted to encircle said members and the organ for retaining the members in position.

5. In a device of the character described, the combination with supporting members adapted to extend longitudinally of the organ, of a longitudinally-movable elastic jacket adapted to encircle said members and the organ for retaining the members in position.

6. In a device of the character described, the combination with supporting members adapted to extend longitudinally of the organ having detents near the bases thereof, and an elastic jacket adapted to encircle said members and the organ for retaining the members in position, of an elastic ring forming the lower edge of said jacket and adapted to coöperate with said detents on the supports to prevent disengagement of the jacket.

7. In a device of the character described, the combination with supporting members adapted to extend longitudinally of the organ, of a longitudinally-movable elastic jacket secured thereto near their outer extremities and adapted to encircle said members and the organ to retain the members in position.

8. In a device of the character described, the combination with supporting members adapted to extend longitudinally of the organ and means for retaining them in position, of an elastic web-like connection having an opening therein joining the anterior extremities of the members and adapted to encircle the organ below the corona glandis.

9. A device of the character described embodying supporting members adapted to extend longitudinally of the organ and composed of a stiff inner rib having a covering of soft non-abrasive material and means for retaining said members in position.

10. A device of the character described embodying supporting members adapted to extend longitudinally of the organ and composed of stiff inner ribs having flanged abutments at their lower ends and a covering of soft non-abrasive material and means for retaining said members in position.

11. In a device of the character described, the combination with supporting members adapted to extend longitudinally of the organ embodying inner ribs of stiff material having abutments at their bases and a non-abrasive covering therefor, of an elastic web having an opening therein connecting the members at their outer ends, and an elastic jacket open at both ends and adapted to be drawn down to encircle the organ and supporting members to retain the latter in position.

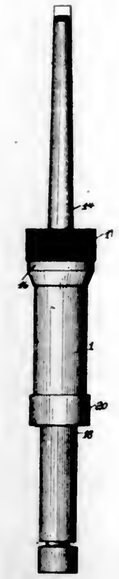
12. A device of the character described embodying stiffening members adapted to extend upon opposite sides of the organ having a covering of non-abrasive material, said material being extended at the outer ends of the members to form a yoke integral with the covering and adapted to encircle the organ and hold the members in place.

844,799. TAP-SOCKET. CHARLES J. HEISER, East Pittsburg, Pa. Filed July 3, 1906. Serial No. 324,683.

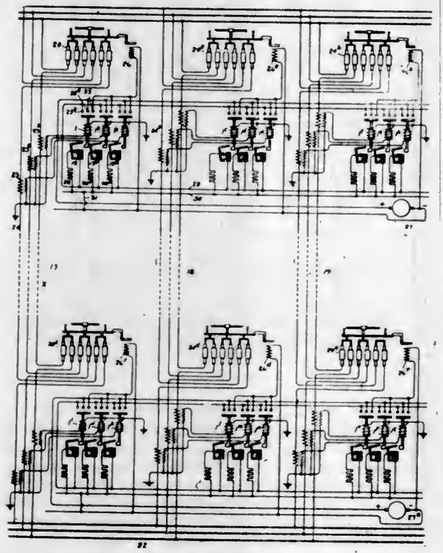
Claim.—1. In a tap-socket, the combination with a revoluble shank having a threaded head, and a tap-holder having a grooved end, of a partitioned sleeve carried by the head of said shank and surrounding the grooved end of said holder, a driver-head engaging the partition in said sleeve and having a lug projecting through the said partition and engaging in the groove of said holder, yielding means to normally hold said lug in said groove, and means to adjust the last-named means, said adjusting means embodying a plurality of pins loosely mounted in the head of said shank and engaging the first-mentioned means, and a thimble adjustably mounted upon said sleeve and engaging said pins, substantially as described.

2. In a tap-socket, the combination of a tap-holder, a driver-shank having a head, a sleeve connecting the head of the driver-shank with the tap-holder, a partition in said sleeve having an opening therethrough, a driver-head seated on said partition and having a lug projecting therethrough and engaging in a recess provided therefor in the end of the tap-holder, a spring interposed between the driver-shank head and the driver-head for normally holding the lug of the latter seated in the recess in the tap-holder, a washer resting on said spring, pins loosely mounted in the driver-shank head and engaging said washer and a thimble on the sleeve and engaging said pins for regulating the tension of said spring.

844,799.



844,800. SYSTEM FOR CONTROLLING ELECTRIC SWITCHES. EDWARD M. HEWLETT and CHARLES E. EVELETH, Schenectady, N. Y., assignors to General Electric Company, a Corporation of New York. Filed May 12, 1903. Serial No. 156,802.



Claim.—1. A system of electric transmission comprising a plurality of distributing-conductors connected in parallel, means for cutting out any defective conductor, and means for disabling the cut-out devices of all of the remaining conductors.

2. The combination of a plurality of interconnected circuits, automatic switches for the same, and means for selectively operating the switch in any short-circuited branch and obstructing the switches in the other branches to prevent their operation.

3. In an electric-supply system, a plurality of conductors, a source or sources of energy feeding the same, automatic switches for the conductors, and means actuated upon the occurrence of a dangerous overload on any of the conductors for locking the switches of all the other conductors.

4. In an electric-supply system, a plurality of feeders, a common source of energy for the same, an automatic circuit-breaker for each feeder, tripping devices responsive to overload, and means actuated upon the occurrence of a dangerous overload on any of the feeders for disabling the tripping devices of all the other feeders.

5. In an electric-supply system, a plurality of feeders, a common source of energy for the same, an automatic circuit-breaker for each feeder, tripping devices responsive to predetermined overload, and means operative upon the occurrence of a dangerous overload on any of the feeders for disabling the tripping devices of all the other feeders.

6. In an electric-supply system, a plurality of feeders, a common source of energy for the same, an automatic circuit-breaker for each feeder, a trip-circuit therefor, a time-limit relay controlling each trip-circuit, and means operative upon the occurrence of excessive current variation in any feeder for locking the relays of all the other feeders.

7. In an electric-supply system, a plurality of feeders, a common source of energy for the same, an automatic circuit-breaker for each feeder, a trip-circuit therefor, an inverse time-limit relay controlling each trip-circuit, and electromagnetic devices operative upon the occurrence of excessive current variation in any feeder for locking the relays of all the other feeders.

8. In an alternating-current electric-supply system, a plurality of multiphase feeders, a common source of energy for the same, an automatic circuit-breaker for each feeder, trip devices for each phase of each feeder, and means actuated by abnormal current in any phase of any feeder for locking the trip devices of all the other feeders.

9. In an electric-supply system, a plurality of feeders, a source of energy for the same, an automatic circuit-breaker for each feeder, a trip device for each circuit-breaker, and a locking-circuit closed by the trip device which first reaches tripping position for restraining all the other trip devices.

10. In a relay controlling a trip-circuit, the combination with an actuating-magnet, of a movable element actuated thereby to close the trip-circuit, a circuit for energizing said magnet, a normally open lock for said movable element, a locking-magnet for closing said lock to restrain the movement of said movable element, and an independent circuit for controlling said locking-magnet.

11. The combination of a plurality of interconnected circuits, automatic switches for the same, means for selectively operating the switch in any defective branch, and means for preventing the operation of the switches in the remaining branches.

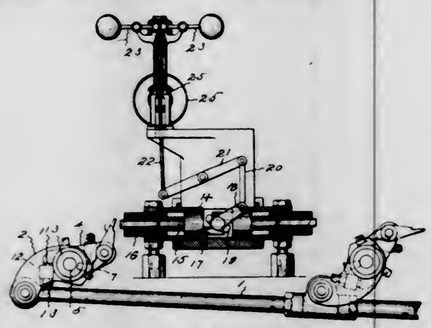
844,801. AIR-COMPRESSOR GOVERNOR. EBENEZER HILL, Norwalk, Conn. Filed Nov. 7, 1905. Serial No. 286,185.

Claim.—1. The combination with an intake-valve of an air-compressor cylinder, of mechanism adapted to hold said valve open, a speed-governor, and means controlled by the governor and connected with the aforesaid mechanism which when the governor is collapsed causes said mechanism to hold the valve open, substantially as specified.

2. The combination with an intake-valve of an air-compressor cylinder, of a speed-governor, mechanism adapted to hold said valve open, and means connecting the governor and the aforesaid mechanism, said means being so organized that when the governor is idle or is moving slowly the valve will be held open and when the

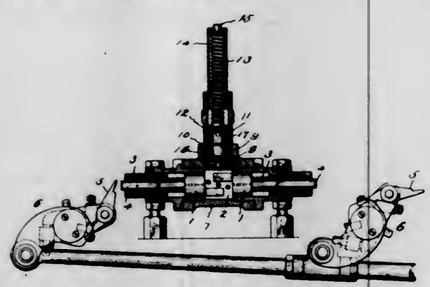
governor is moving rapidly the valve will be allowed to operate normally, substantially as specified.

3. The combination with an intake-valve of an air-compressor cylinder, of a fly-ball governor, mechanism adapted to hold said valve open, and means connecting the governor and the aforesaid mechanism, said means being so organized that when the governor is idle or is moving slowly the valve will be held open and when the governor is moving rapidly the valve will be allowed to operate normally, substantially as specified.



4. The combination with an intake-valve of an air-compressor cylinder, of mechanism for opening and closing the valve, means for connecting the opening and closing mechanism with and disconnecting that mechanism from the valve, means for causing the disengagement of the connecting means, a speed-governor, and a connection between the governor and the means for causing the disengagment of the connecting means, said means operating when the governor is idle or moving slowly to cause said disengagement and hold said valve open, substantially as specified.

844,802. VALVE FOR CONTROLLING FLUID-PRESSURE. EBENEZER HILL, Norwalk, Conn. Filed Apr. 24, 1906. Serial No. 313,388.



Claim.—1. A fluid-controlling device having a pressure-valve that is exposed to the governing pressure and closes against that pressure, a secondary valve arranged to close in a direction opposite to the pressure-valve, and means for forcing the secondary valve toward the pressure-valve and through the secondary valve forcing the pressure-valve to its seat, substantially as specified.

2. A fluid-controlling device having a pressure-valve that closes against the governing pressure and a secondary valve acting in connection therewith, said valves moving toward each other when opening and moving from each other when closing, and means which normally hold the secondary valve open and the pressure-valve closed, substantially as specified.

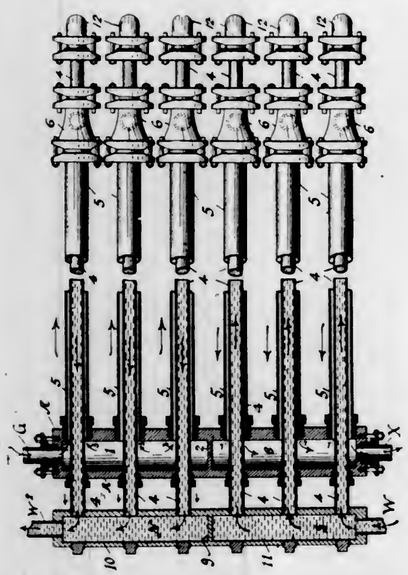
3. A fluid-controlling device having a pressure-valve that closes against the pressure, means for holding the pressure-valve closed against the pressure, and a secondary valve that is subject to and is closed by the governing pressure when the pressure-valve is open and when closed relieves the pressure-valve of the force of its closing means, substantially as specified.

4. A fluid-controlling device having oppositely-working pressure and secondary valves, each being subject to and acted directly upon by the governing pressure when each is in its closed position, and means which normally hold the pressure-valve closed and the secondary valve open, substantially as specified.

5. A fluid-controlling device having a loose pressure-valve with a seat at one end, a loose secondary valve with a seat at the end opposite from the pressure-valve, said valves moving from each other when closing, and means for normally holding the secondary valve open and through it holding the pressure-valve closed, substantially as specified.

6. A fluid-controlling device having a loose pressure-valve, a secondary valve subject to the governing pressure when the pressure-valve is open, and a spring that normally forces the secondary valve open and against the pressure-valve, but is forced back by pressure on the secondary valve so that the pressure-valve is relieved of all pressure when it is open, substantially as specified.

844,803. CONDENSER. NICOLAI H. HILLER, Carbondale, Pa. Filed Mar. 1, 1906. Serial No. 303,574.



Claim.—1. A condenser comprising separate groups of coils of circulating-pipes respectively connected with separate gas and water headers, each coil composed of sets of two pipes one placed within the other and forming a central and an intermediate passage, the extreme ends of the pipes of each coil being connected with the respective gas and water headers and the return-bend of each coil left suspended as set forth.

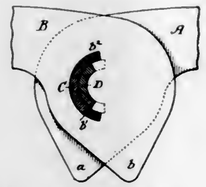
2. A condenser for refrigerating-machines comprising separate groups of coils of circulating-pipes connected, respectively, with separate gas and water headers, each coil composed of sets of two pipes placed one within the other and forming a central and an intermediate space, whereby one or a plurality of streams of water and gas may be passed through the group of coils separately and in opposite directions as set forth.

844,804. BLUE QUINOLIN DYE AND PROCESS OF MAKING THE SAME. BENNO HOMOLKA, Frankfort-on-the-Main, Germany, assignor to Farbwerke, vorm. Meister Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed June 1, 1906. Serial No. 319,668. (Specimens.)

Claim.—1. The herein-described process of making blue basic dyestuffs of the quinolin series, which consists in reacting with certain inorganic compounds of alkaline reaction herein described in presence of formaldehyde on solutions of salts of such alkylammonium bases of the quinolin series as yield isocyanins by the action of alkalies.

2. As new product, the dyestuff obtained by the action of certain inorganic substances of alkaline reaction in presence of formaldehyde on solutions of salts of alkylammonium bases of the quinolin series which by the action of alkalies yield isocyanins, said dyestuff being excessively sensitive to light and insoluble in ether, benzene, toluene, xylene and ligroine, soluble with a blue color in alcohol, methyl alcohol, acetone and chloroform, soluble in water with a violet color; the aqueous solution is decolorized by mineral acids and restored by alkalies and ammonia.

844,805. DRIVE-CHAIN. GLENN G. HOWE, Indianapolis, Ind. Filed Nov. 13, 1905. Serial No. 287,079.



Claim.—1. The combination of two links, with two bearing-plates coupling the links, said bearing-plates being in the form of segments of a cylindrical shell, substantially as described.

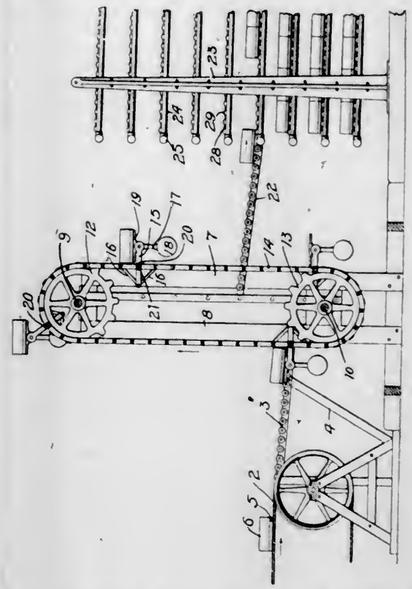
2. The combination of two links, with two segmental bearing-plates coupling the links, the concaved surface of one plate arranged to slide upon the convex surface of the other plate, substantially as described.

3. The combination in a chain of two sets of link elements, with two bearing-plates, one plate carried by one link and the other plate carried by the other link, each plate being in the form of a segment of a cylindrical shell, substantially as described.

4. The combination in a chain of two sets of link elements, the links of one set having segmental slots therein, the slot of each link element being stepped at the ends, with segmental bearing-plates, the convex portion of one plate snugly fitting and arranged to slide upon the concaved portion of the other plate, one plate being attached to one set of link elements and free to move in the other set of link elements, while the other plate is attached to the opposite set of link elements and free to move in the other set, substantially as described.

844,806. BRICK-DRIER. IRA C. JONES, Minneapolis, Minn., assignor to Minneapolis Brick & Tile Co., Minneapolis, Minn. Filed Oct. 29, 1906. Serial No. 340,950.

Claim.—1. The combination, with a conveyer, of a gravity-carrier provided at the discharge end thereof in position to receive the loaded brick-pallets, an elevator arranged at the discharge end of said gravity-carrier and having pivoted carriers arranged to pick up the loaded pallets, a second gravity-carrier on the down side of said elevator and whereto the loaded pallets are delivered by said elevator and a steam-drier composed of an upright frame and a series of steam-coils supported at different levels in said frame and having antifriction-wheels projecting above the tops of said coils and whereon the loaded pallets are discharged from said second gravity-carrier, substantially as described.



2. The combination, with a conveyer, of an elevator arranged at the discharge end of said conveyer and comprising shafts and sprocket-gears mounted thereon and sprocket-chains connecting the upper and lower gears, pallet-carriers pivoted on said chains and having weighted lower ends and adapted to pick up the loaded pallets from the discharge end of said conveyer, a gravity-carrier provided on the down side of said elevator and adapted to receive the loaded pallets from said carriers and a brick-drier composed of coils of steam-pipes arranged on different levels and having antifriction-bearing-wheels projecting above said pipes and upon which bearing-wheels the loaded pallets are deposited by said gravity-carrier, substantially as described.

3. The combination, with a conveyer, of an elevator arranged at the discharge end thereof and having pivoted carriers arranged to pick up the loaded brick-pallets from said conveyer, a gravity-carrier on the down side of said elevator and whereto the loaded pallets are delivered by said elevator, and a steam-drier composed of an upright frame and a series of steam-coils supported at different levels in said frame and having antifriction-wheels projecting above the tops of said coils and whereon the loaded pallets are discharged from said gravity-carrier, substantially as described.

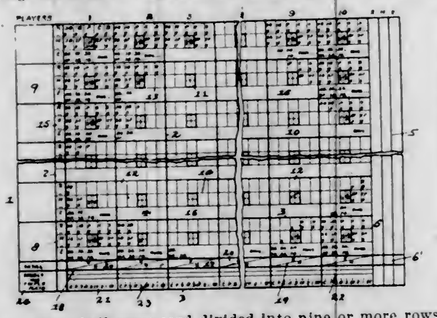
4. The combination, with a conveyer, of an elevator comprising belts operating vertically side by side, bars having sliding pivotal connections with said belts, links connecting the inner ends of said bars with said belts, pallet-carriers having weighted lower ends pivoted on said bars and adapted to pick up a loaded brick-pallet from said conveyer, a gravity-carrier provided on the down side of said elevator and whereto the loaded pallets are delivered, and a drier arranged to receive the pallet from said gravity-carrier.

844,807. SCORE-CARD. PATRICK H. KEEFE, Sharpsburg, Pa. Filed July 21, 1906. Serial No. 327,178.

Claim.—1. A base-ball score-card divided into nine or more rows or columns, each of which represents an inning, and is subdivided into nine main blocks, one for each player, with proper subdivisions, and in said sub-

divisions a sufficient number of letters or characters for each play and errors.

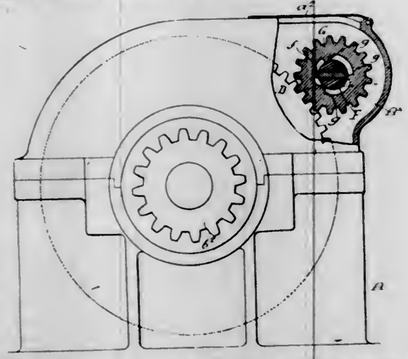
2. A base-ball score-card divided into nine or more rows or columns, each of which represents an inning, and is subdivided into nine main blocks, one for each player, with proper subdivisions, and in said subdivisions a sufficient number of letters or characters for each play and errors, and subdivisions adjacent to the main blocks having a sufficient number of letters or characters for indicating the total of plays and errors in the main squares.



3. A base-ball score-card divided into nine or more rows or columns, each of which represents an inning, and is subdivided into nine main blocks, one for each player, with proper subdivisions, and in said subdivisions a sufficient number of letters or characters for each play and errors, and subdivisions having a sufficient number of letters and characters for the total of plays in each inning.

4. A base-ball score-card divided into nine or more rows or columns, each of which represents an inning, and is subdivided into nine main blocks, one for each player, with proper subdivisions, and in said subdivisions a sufficient number of letters or characters for each play and errors, and subdivisions having a sufficient number of letters and characters for the double and triple plays.

844,808. AUTOMATIC RATCHET. DAVID KENDALL, Alliance, Ohio, assignor to The Alliance Machine Company, Alliance, Ohio, a Corporation of Ohio. Filed Sept. 27, 1905. Serial No. 280,341.

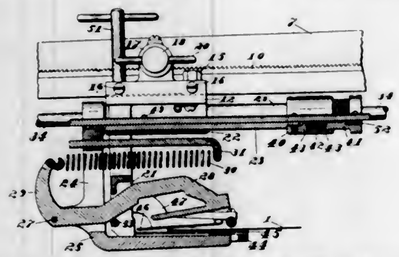


Claim.—1. The combination with a member to be prevented from rotating in one direction, of a pinion geared to said member, a fixed spindle for said pinion, collars on the spindle serving to support the pinion, a parallel-sided pawl slidably mounted in said spindle and projecting into the space defined by the pinion and said collars, there being teeth within the pinion placed to be engaged by said pawl so as to prevent revolution of said pinion in one direction, substantially as described.

2. In a mechanical brake, the combination of a gear-wheel having friction-surfaces, a disk for each side of the wheel, means for causing said disk to grip or release the gear-wheel, a fixed shaft, and an internally-toothed pinion on said shaft meshing with the gear-wheel and provided with a parallel-sided, slidable key adapted to engage the internal teeth of the pinion, substantially as described.

3. The combination of an inclosed casing, mechanism therein including a gear-wheel, a spindle extending through said casing having holding means on the outside of the casing whereby it is prevented from turning, a hollow, internally-toothed pinion rotatably carried on said spindle and meshing with said gear-wheel, the internal teeth of the pinion having each a curved and a plane face, a parallel-sided pawl reciprocable in a slot in said spindle and having an end or ends formed with a curved and a plane face, said pawl coacting with the before-mentioned teeth to permit of revolution of the pinion in but a single direction, substantially as described.

844,809. SHEET-REGISTERING DEVICE FOR FOLDING-MACHINES. HOWARD K. KING, Philadelphia, Pa., assignor to Chambers Brothers Company, a Corporation of Pennsylvania. Filed Feb. 4, 1905. Serial No. 244,073.



Claim.—1. In a sheet-registering machine, the combination of an adjustable stop or gage, a reciprocating gripper, means for reciprocating the gripper, and means for automatically establishing the required relationship between the stop or gage and the reciprocating means, at any given position of the stop or gage.

2. In a sheet-registering machine, the combination of an adjustable stop or gage, a reciprocating gripper, means for reciprocating the same, means connected with the stop or gage for opening and closing the gripper, and means for automatically establishing the required relationship between the stop or gage and the reciprocating means, at any given position of the stop or gage.

3. In a sheet-registering machine, the combination of an adjustable stop or gage, a reciprocating gripper, means for reciprocating the gripper, means for opening and closing the gripper as the same is reciprocated, and means for automatically establishing the required relationship between the stop or gage and the reciprocating means, at any given position of the stop or gage.

4. In a sheet-registering machine, the combination of an adjustable stop or gage, a reciprocating gripper, means for reciprocating the gripper, a friction-clutch for connecting the reciprocating means with the gripper, and means for limiting the movement, in either direction, of the gripper relatively to the stop or gage, to form, in connection with the friction-clutch, means for automatically establishing and maintaining the desired relationship between the gripper and the adjustable stop or gage in all positions of the latter.

5. In a sheet-registering machine, the combination of an adjustable stop or gage, a reciprocating gripper, means for reciprocating the gripper, a friction-clutch between the reciprocating means and gripper, means for varying the efficiency of said clutch, and means for limiting the movement, in either direction, of the gripper relatively to the stop or gage, to form, in connection with the friction-clutch, means for automatically establishing the desired relationship between the gripper and the adjustable stop or gage in all positions of the latter.

6. In a sheet-registering machine, the combination of a reciprocating gripper, and a gage or stop member having a vertical face for engaging the sheet, and a horizontal extension therefrom, said horizontal extension being channeled longitudinally to receive the lower jaw of the gripper, the upper surface of said horizontal extension, on each side of the channel, having a downward inclination toward said channel.

7. In a sheet-registering machine, the combination of a reciprocating gripper, and a gage or stop member having a vertical face for engaging the sheet and a horizontal extension therefrom, said horizontal extension being channeled longitudinally to receive the lower jaw of the gripper, the upper surface of said horizontal extension on each side of the channel having a downward inclination toward the upper surface of the lower gripper-jaw.

8. In a sheet-registering machine, the combination of a reciprocating gripper having upper and lower pivotally-related jaws, a gage or stop member having a vertical face for engaging the sheet, and a horizontally-extending member approximate thereto channeled longitudinally to receive the lower jaw of the gripper, the upper surface of said horizontal member being so inclined and disposed with respect to the coöperating surfaces of the gripper-jaws when in operative position, as to give the sheet four separated and distinct bends in lines parallel with each other, and in the direction of movement of the sheet against the stop or gage.

9. In a sheet-registering device, the combination of a reciprocating nipper, an adjustably-supported slide-bar, a hanger slidably supported thereon and means for adjusting the position of the hanger on the slide-bar, the hanger forming a support for the nipper and also forming a stop for the sheet.

10. In a sheet-registering device, the combination of a reciprocating nipper, an adjustable slide-bar, a hanger slidably supported thereon, rack-and-pinion means for adjusting the position of the hanger on the slide-bar and locking means for maintaining such position, the hanger forming a support for the nipper.

11. In a sheet-registering device, an adjustably-supported hanger, a nipper having an extension supported by and horizontally movable in the hanger, a reciprocating rod and a friction-clutch between said rod and nipper extension.

12. In a sheet-registering device, an adjustably-supported hanger, a nipper having an extension supported by and horizontally movable in the hanger, a reciprocating rod, a friction-clutch between said rod and nipper extension, a cam and mechanism operating between the cam and rod, for causing the reciprocation of the rod with the required intermittent dwell.

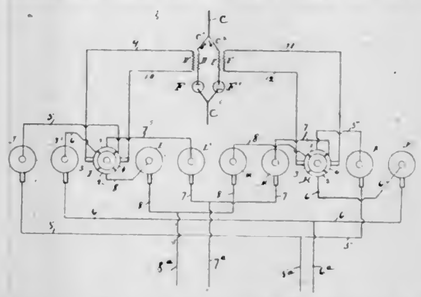
13. In combination with a registering-nipper for sheets, means for oscillating the same comprising an oscillating rod, a sleeve surrounding the same, and an automatically-adjustable friction-clutch between the sleeve and rod comprising a ring of yielding material in beveled channels and means for contracting said channels to cause a pressure of the ring against the rod.

14. In combination with a machine for operating upon sheets, registering mechanism for the sheets comprising a slide-rail secured to the stationary framework of the machine, a hanger slidably secured to the rail, rack-and-pinion means for adjusting the position of the hanger and clamping means between the hanger and the rail, and oscillating means supported by said hanger for moving the sheet.

15. In combination with a machine for operating upon sheets, registering mechanism for the sheets comprising a slide-rail secured to the stationary framework of the machine, a hanger slidably secured to the rail, rack-and-pinion means for adjusting the position of the hanger and clamping means between the hanger and the rail, a fixed stop and oscillating means supported by said hanger for moving the sheet to the stop.

16. A sheet-registering mechanism, the combination of a reciprocating nipper and means for causing its reciprocation comprising an adjustable slide-bar and means for supporting the same, a hanger adjustably secured thereto, a sleeve slidably mounted in the hanger, a reciprocating rod slidably mounted in the sleeve, and an adjustable friction-clutch for securing operative relationship between the sleeve and the reciprocating rod having such adjustment as to enable the sleeve to do the work required, but to permit independent movement between rod and sleeve to automatically adjust the sleeve with the adjustment of the hanger.

844,810. METHOD OF INCREASING THE EFFICIENCY OF ALTERNATING CURRENTS. ISIDOR KITSEE, Philadelphia, Pa. Filed July 11, 1903. Serial No. 165,155.



Claim.—1. The method of increasing the efficiency of alternating currents, which consists in causing one half of each cycle to flow through one branch of a circuit, and the other half of each cycle to flow through a second branch of said circuit, each of said branches having a primary of a transformer, and causing the impulses induced in the secondary of each transformer to flow through a consuming-circuit.

2. The method of increasing the efficiency of alternating currents, which consists in causing two impulses to be induced in the secondary of one transformer through the flow and ceasing of the flow of one half of each cycle, causing two impulses to be induced in the secondary of a second transformer through the flow and ceasing of the flow of the second half of said cycle, and causing the impulses of both secondaries to flow through consuming devices.

3. The method of increasing the efficiency of alternating currents, which consists in causing one part of a cycle of an alternating current to flow through one conducting-path, and the second part of said cycle to flow through a second conducting-path, each path provided with the primary of a transformer, and causing to be induced in each secondary of said transformers two impulses for each half of said cycle.

4. The method of increasing the efficiency of alternating currents, which consists in inducing impulses in two secondaries, the impulses induced in one secondary being generated by the alternate commencing and ceasing of the flow of the current through one primary, and the impulses induced in the second secondary being generated by the alternate ceasing and commencing of the flow of the current through a second primary.

5. The method of increasing the efficiency of alternating currents, which consists in inducing an impulse in the secondary of a transformer by the flow of one part of an alternating cycle simultaneously with the inducing of an impulse in the secondary of a second transformer by the ceasing of the flow of another part of said cycle, and causing said induced impulses to flow through a consuming-circuit.

6. The method of increasing the efficiency of alternating currents, which consists in causing the first part of an alternating cycle to induce an impulse in the secondary of a transformer, causing the second part of said cycle to induce an impulse in another secondary, and causing both of said impulses to flow through separate consuming-circuits.

7. The method of increasing the efficiency of alternating currents, which consists in inducing impulses in two secondaries, the impulses induced in one secondary being generated by the alternate commencing and ceasing of the

flow of the current in one direction, and the impulses induced in the other secondary being generated by the alternate ceasing and commencing of the flow of the current in the opposite direction.

8. The method of increasing the efficiency of alternating currents, which consists in inducing impulses in two secondaries, the impulses in each secondary being alternately of high and low potential, and then readjusting the impulses induced in both secondaries so that the impulses of low potential are caused to flow through one consuming-circuit, and the impulses of the higher potential are caused to flow through a second consuming-circuit.

9. The method of increasing the efficiency of alternating currents, which consists in inducing impulses in two secondaries, the impulses in one secondary being alternately of low and high potential, and the impulses in the second secondary being alternately of high and low potential, and then readjusting the impulses induced in both secondaries so that the impulses of one potential are caused to flow through one consuming-circuit, and the impulses of the higher potential are caused to flow through a second consuming-circuit.

10. The method of increasing the efficiency of alternating currents, which consists in causing an impulse to be induced in one secondary through the ceasing of the flow of one alternation of an alternating current, simultaneously causing an impulse to be induced in a second secondary through the commencing of the flow of a second alternation, reversing said conditions in said secondaries, causing the impulses of both secondaries induced through the commencing of the flow to flow in one consuming-circuit, and causing the impulses of both secondaries induced through the ceasing of the current flow to flow in a second consuming-circuit.

11. The method of increasing the efficiency of alternating currents, which consists in causing one impulse to be generated in each of two secondaries for each change in the primary current, each of said impulses being of a different potential, and causing the impulses of like potential of both of said secondaries to flow through separate consuming-circuits.

12. The method of increasing the efficiency of alternating currents, which consists in causing two impulses to be induced in each of two secondaries through each cycle of an alternating current, one impulse in each of said secondaries being generated by the flow of part of each of said cycles, and the other impulses in each of said secondaries being generated by the ceasing of the flow of the current of each part of each of said cycles.

13. The method of increasing the efficiency of alternating currents, which consists in causing the first part of each cycle of an alternating current to travel through the primary of one converter, causing the second part of said cycle to travel through the primary of a second converter, and causing each part of said cycle to induce in the secondaries of the primaries a complete cycle consisting of two alternations each of which is in opposite direction.

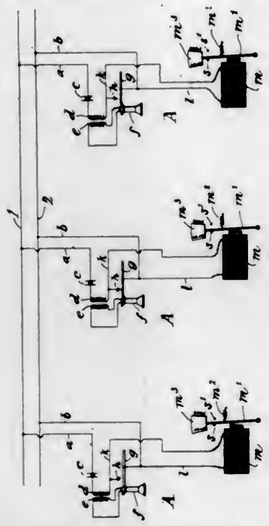
14. The method of increasing the efficiency of alternating currents, which consists in causing each cycle of an alternating current to induce two impulses in each of the secondaries of two converters, one impulse in each of the secondaries being generated by the flow of the current in the primary of said secondaries, and the other impulse being generated by the ceasing of the flow in said primaries.

15. The method of increasing the efficiency of alternating currents, which consists in causing each cycle of an alternating current to induce two impulses flowing in opposite directions in each of the secondaries of two converters, and causing said induced impulses to flow through consuming devices.

16. The method of increasing the efficiency of alternating currents, which consists in causing two impulses to be simultaneously induced through each half of a complete cycle of an alternating current, one of said impulses being induced in each of the secondaries of two converters, and causing said impulses to flow through consuming devices.

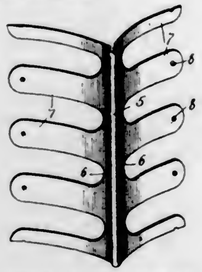
17. The method of increasing the efficiency of alternating currents, which consists in causing one half of each cycle to flow through one conducting-path, and the other half of said cycle to flow through a second conducting-path, each of said paths containing the primary of a transformer, causing a complete cycle to be induced in each of the secondaries of said transformers, and causing each of said cycles in each of said secondaries to flow through consuming devices.

844,811. TELEPHONY. ISIDOR KITSEE, Philadelphia, Pa. Filed Oct. 14, 1905. Serial No. 282,817.



Claim.—A telephonic line having a series of substations connected thereto in multiple arc, an electromagnetic resistance in series with the circuit of each of said stations, means to short-circuit said resistance by the removal of the receiver from its hook, an armature for each of said electromagnetic resistances, and a signal in operative relation to said armature.

844,812. METAL CORNER-BEAD FOR THE PROTECTION OF PLASTERED CORNERS. GEORGE S. KNAPP, Chicago, Ill., assignor to Knapp Bros. Manufacturing Company, a Corporation of Illinois. Filed Mar. 21, 1906. Serial No. 307,248.

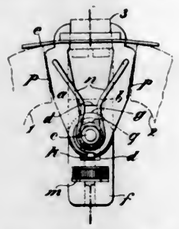


Claim.—1. A device of the character described, comprising in its structure a continuous longitudinal, folded head, and a series of long, slender, resilient fingers directly radiating from the head on opposite sides.

2. A device of the character described, comprising in its structure a continuous longitudinal C-shaped head, and a series of long, slender, resilient fingers, integral with the head and radiating therefrom on opposite sides at an angle of less than ninety degrees, said fingers being curved outwardly to approximately right-angle relation at their extremities.

3. A device of the character described, formed of a unitary sheet of sheet metal, cut to provide on opposite sides relatively long, slender fingers, extending outwardly from a central uninterrupted strip, said central strip being bent to provide a longitudinal, continuous, folded head, and wings radiating therefrom at an angle of less than ninety degrees to each other, the fingers being curved apart to approximately right angles to each other at their extremities.

844,813. INSET CLAMP FOR VISES. AUGUST KOLB, Basel, Switzerland. Filed Nov. 2, 1906. Serial No. 341,704.



Claim.—1. An inset clamp for vises, having a supporting-plate provided with an aperture for the clamp-jaws, clamping-jaws which project through said aperture and are adjustable with reference to the plate, and means for moving said jaws more or less through said aperture, for the purpose specified.

2. An inset clamp for vises, having clamping-jaws, a supporting-plate for the work, a vertically-movable carrier upon which the jaws are pivoted, means for guiding said carrier in the vertical direction and means for securing the carrier of the jaws in every position into which it may have been adjusted.

3. An inset clamp for vises, having clamping-jaws, a supporting-plate for the work, a displaceable bolt upon which the jaws are pivoted, a pendent part on the under side of said supporting-plate, a vertical slot in this pendent part for vertically guiding said displaceable bolt, a screw device to adjust the latter together with the jaws in the vertical direction with regard to said supporting-plate, and a setting device to secure the displaceable bolt in its adjusted position.

4. An inset clamp for vises, having two clamping-jaws, a supporting-plate for the work, a displaceable screw-bolt upon which the jaws are pivoted, a pendent part on the under side of said supporting-plate, a vertical slot in this pendent part for vertically guiding said screw-bolt, an adjusting-screw connected to the latter, a rotatable nut screwed on this screw and secured against vertical displacement, and a setting-nut placed upon the screw part of the said bolt to allow tightening thereof in its adjusted position.

844,814. MONOAZO DYE AND PROCESS OF MAKING SAME. THILO KROEBER, Basel, Switzerland, assignor to the Firm of Society of Chemical Industry in Basle, Basel, Switzerland. Filed Dec. 5, 1906. Serial No. 346,488. (Specimens.)

Claim.—1. The process for the manufacture of monoazo dyestuffs, which consists in preparing a nitroamido-alpha-naphtholsulfonic acid by reduction of naphthol yellow S, diazotizing the so-obtained nitroamido-alpha-naphtholsulfonic acid and combining the resulting nitrodiazo-alpha-naphtholsulfonic acid with an azo-coloring-matter component, as described.

2. The process for the manufacture of monoazo dyestuffs, which consists in diazotizing the nitroamido-alpha-naphtholsulfonic acid obtainable by reduction of the naphthol yellow S and combining the resulting nitrodiazo-alpha-naphtholsulfonic acid with a naphtholic compound, as described.

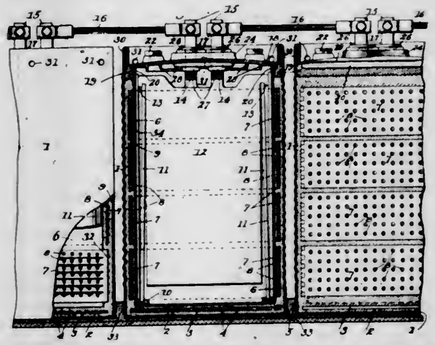
3. The process for the manufacture of a monoazo dyestuff, which consists in diazotizing the nitroamido-alpha-naphtholsulfonic acid obtainable by reduction of the naphthol yellow S and combining the resulting nitrodiazo-alpha-naphtholsulfonic acid with beta-naphthol, as described.

4. An improvement in the manufacture of monoazo dyestuffs, which consists in preparing a nitro-amido-alpha-naphtholsulfonic acid by reducing naphthol yellow S as above described.

5. As new products the monoazo dyestuffs derived from the diazo derivative of the nitroamido-alpha-naphtholsulfonic acid obtainable by reduction of naphthol yellow S, which dyestuffs dissolve in water with bluish black and in concentrated sulfuric acid with violet-blue to blue colorations and with dye unmordanted wool in blue-black tints, which tints become on treatment with chromium compounds deep black.

6. As a new product, the monoazo dyestuff derived from nitrodiazo-alpha-naphtholsulfonic acid obtainable by reduction of naphthol yellow S and from beta-naphthol, which coloring-matter yields a bluish-black aqueous solution turning to violet on addition of ammonia liquor, dissolves in concentrated sulfuric acid with violet-blue coloration and dyes unmordanted wool in blue-black shades, which shades become deep brownish black on treatment with chromium compounds.

844,815. STORAGE BATTERY. SIMON LAKE, Bridgeport, Conn. Filed May 26, 1904. Serial No. 209,864.



Claim.—1. A battery-cell comprising an inner tank and an outer tank inclosing the same, rigid plates of material infusible at moderate temperatures interposed between and spaced from the walls of said tanks, and a filling of readily-fusible waterproof insulating material also interposed between the walls of said tanks and occupying the spaces intermediate said plates and the walls of said tanks.

2. A battery-cell formed with laminated walls composed of different materials comprising inner and outer metallic tanks providing inner and outer metallic plates of the laminated wall, rigid plates or slabs of readily-fusible non-conducting cement applied to the adjacent faces of said inner and outer plates, and interposed perforate insulating-plates of material infusible at moderate temperatures disposed in contact with and having extended through their perforations tie members connecting said plates or slabs of cement.

3. A battery-cell comprising an inner tank and an outer corrugated sheet-metal tank inclosing the same, an intermediate spacing member formed of non-conducting material, and a filling of non-conducting cement in which said intermediate spacing member is embedded.

4. A battery-cell comprising an inner tank and an outer tank inclosing the same with an intervening space, a fil-

ing of insulating material fusible at moderate temperatures within said intervening space, and a cover for said inner tank formed of a material infusible at moderate temperatures and having its edges embedded in said filling which adheres thereto in forming a hermetically-sealed joint by the heating of the cover to enable the latter to soften the contiguous portions only of the filling into which it sinks.

5. A battery-cell comprising an inner tank, an outer tank inclosing the same, a filling intermediate said tanks composed of materials of different degrees of fusibility, that of greater fusibility being superposed upon that of less fusibility, and a cover for said inner tank with edges embedded in the portion of the filling having the greater fusibility.

6. A battery-cell comprising an inner tank, an outer tank inclosing the same, a normally hard fusible cement filling intermediate said tanks, and a cover for said inner tank having a depending flange around its edges embedded in said cement filling.

7. A battery-cell comprising a tank, a cover therefor having at its edges a sealed joint therewith and provided intermediate the edges with an aperture or apertures, series of battery-plates and connecting bus-bars within said tank and beneath said cover, a connecting-lug extending upwardly from each bus-bar through an opening in said cover, a packing surrounding said opening in the cover, and a sleeve closely embracing said connection-lug and seated upon said packing.

8. A battery-cell comprising a tank, a cover therefor having at its edges a sealed joint therewith and provided intermediate the edges with an aperture or apertures, a series of battery-plates and connecting bus-bars within said tank and beneath said cover, a connection-lug extending upwardly from each bus-bar through an aperture in said cover, a porous packing surrounding said aperture in the cover, and a sleeve closely embracing said connection-lug and seated upon said packing.

9. A battery-cell comprising a tank, a cover therefor having at its edges a sealed joint therewith and provided intermediate the edges with an aperture or apertures, series of battery-plates and connecting bus-bars within said tank and beneath said cover, a connection-lug extending upwardly from each bus-bar through an aperture in said cover, a packing surrounding said aperture in the cover, a sleeve closely embracing said connection-lug and seated upon said packing, and a curb formed upon said cover around its said aperture or apertures to retain any fluid escaping through such aperture.

10. A battery-cell comprising an inner acid-proof tank, an outer tank of greater height inclosing the same, an intermediate non-conducting filling, a sealed cover for closing said inner tank, and a strengthening-band encircling the top of said outer tank and provided with lateral holes arranged above said cover.

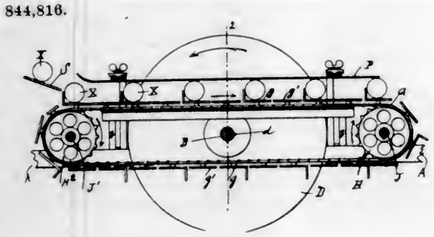
11. A storage battery system consisting of a series of storage-battery cells each comprising an inner tank, an outer tank inclosing the same, interposed plates of stiffening material between said tanks, and a non-conducting filling in which said plates are embedded, said battery-cells having their extreme lower portions embedded in waterproof non-conducting cement with intermediate air-spaces between their upper portions.

844,816. MACHINE FOR BRUSHING BANDAGE-ROLLS, &c. JOHN E. LEE, Conshohocken, Pa., assignor to J. Ellwood Lee Company, Conshohocken, Pa., a Corporation of Pennsylvania. Filed Oct. 28, 1904. Serial No. 230,435.

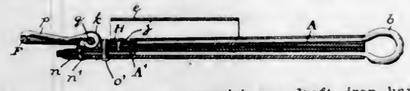
Claim.—1. The combination of a pair of rotating disks with a pair of laterally-adjustable endless conveyer-chains between the disks and means for adjusting the disks and chains toward and from each other.

2. The combination of a pair of rotating disks with a pair of laterally-adjustable endless conveyer-chains traversing the space between the disks, a pair of guide-bars over the chains, and means for adjusting the disks, chains, and guide-bars toward and from each other.

844,816.



844,817. HAME-TUG FASTENER. FRANK T. LERCH, Baltimore, Md. Filed Apr. 18, 1906. Serial No. 312,299.



Claim.—A hame-tug comprising a draft-iron having double bars of unequal length—the shorter bar having at its end a hole, *c*, and the longer bar having at its end two holes, *c'*, *c²*; a trace-buckle having an end bar, *q*, and a tongue pivoted thereon; a coupling, H, having at one end a lug, *j*, which engages with said hole in the shorter bar and having at the other end two parts which are convex outwardly and concave inwardly and which take over the said end bar of the buckle and said two parts separated by an oblong hole through which the tongue of the trace-buckle takes, and having at the same end a lug, *n*, which takes in front of the said end bar of the buckle and engages with the end hole, *c'*, in the lower bar and also provided with a hole intermediate the two ends of the coupling, and a rivet, *o'*, extending through the said intermediate hole of the coupling and through the second hole, *c²*, in the longer bar.

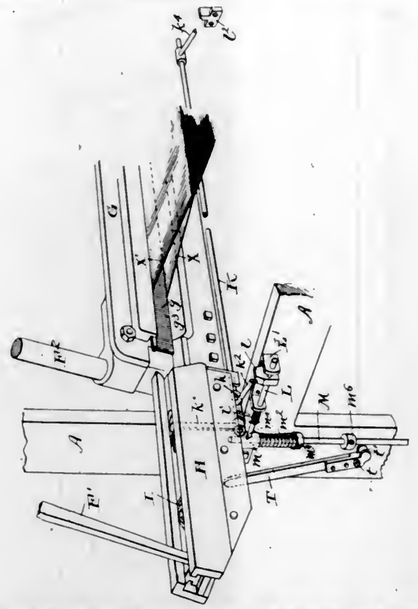
844,818. STOPPING MECHANISM FOR WIRE-LOOMS. HAMILTON LINDSAY, Cleveland, Ohio, assignor to The Lindsay Wire Weaving Company, Cleveland, Ohio, a Corporation of Ohio. Filed Aug. 30, 1905. Serial No. 276,378.

Claim.—1. In a loom, in combination with the batten, a power operating-lever, mechanism for rocking said lever including a strong spring, a latch for holding said mechanism inactive, means carried by the batten for engaging said latch to set free said mechanism to rock said lever, and a hand-lever for returning said rocking mechanism to its normal position against the action of said spring.

2. In a loom, in combination, a power-shifting rock-shaft, a rod adapted to engage an arm on said rock-shaft to operate it, a spring surrounding said rod and tending to give it such movement, a latch-pin engaging the rod, a spring on the latch-pin for causing such engagement, a bumper on the latch-pin, and a dagger carried by the batten and adapted to engage such bumper when the shuttle is out of the shuttle-box.

3. The combination with a loom-frame and movable batten, of driving mechanism, a power-shifting device therefor, a longitudinally-movable rod for controlling the same, a spring on such rod to give it such movement, a bracket-arm on the loom-frame, a latch-rod slidably mounted in said bracket-arm and adapted to engage a shoulder on the rod first mentioned and hold the same inactive, a bumper carried by said rod on the inner side of the bracket-arm, a dagger carried by the batten adapted to engage such bumper and move it against the bracket-arm, whereby the power-shifting mechanism is released, said bracket-arm forming a stop for said bumper and batten.

4. In a loom, the combination with a batten, a power-shifting mechanism, a latch for restraining such mechanism, a bracket mounted on the loom-frame and carrying such latch and forming a stop therefor, a dagger carried by the batten and adapted to engage such latch, an arm carried by the batten near its other end, and a stationary abutment which said arm is adapted to engage when the dagger has engaged and moved the latch against said bracket.



5. In a loom, the combination, of power-shifting mechanism including a slidable rod, a spring surrounding said rod, normally compressed and tending to move it in a direction to shift the power, a tubular bearing for said rod, said bearing having an opening in it and said rod having a notch adapted to register with said opening when the rod is in idle position, a latch-rod occupying said opening and adapted to engage the power-shifting rod, a batten, and mechanism carried thereby adapted to engage the latch-rod and move it to release the power-shifting rod.

6. In a loom, the combination with a batten, of power-shifting mechanism, a latch for restraining such mechanism, an abutment for such latch, a dagger carried by the batten and adapted to engage such latch, a member carried by the batten near its other end, and a stationary abutment which said member is adapted to engage when the dagger has moved the latch against its abutment.

844,819. SHUTTLE. HAMILTON LINDSAY, Cleveland, Ohio, assignor to The Lindsay Wire Weaving Company, Cleveland, Ohio, a Corporation of Ohio. Filed Mar. 15, 1906. Serial No. 306,147.

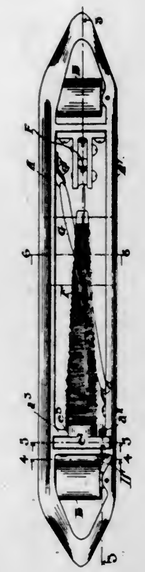
Claim.—1. The combination with a shuttle-body having a tapered recess with lateral extensions, of a spindle having a tapered T-head adapted to seat in such recess, and means for holding the same therein.

2. A shuttle-body having a tapered recess, a spindle having a tapered head adapted to seat in such recess, a pin adapted to lock the spindle in the shuttle, and a spring acting on such pin.

3. A shuttle-body having a recess, a spindle having a head adapted to seat in such recess, a pin carried by the shuttle-body adapted to engage such head when properly positioned in the recess, and a spring tending to force the pin toward the head.

4. In a shuttle, the combination of a cross member, a pin mounted therein, a spindle having a head adapted to bear against the cross member, and means for holding the spindle with its head against the cross member.

5. The combination of a shuttle-body having a pair of side members and a cross member, lugs extending inwardly from the side members in advance of the cross member to make an open recess, and a spindle having a head adapted to occupy said recess, the spindle extending from the head between said lugs.



6. The combination of a shuttle-body having near one end a cross-recess opening toward the center of the shuttle-body, a spindle having a head adapted to occupy said recess, the spindle-shank extending out of the recess, and a pin carried by the frame and adapted to engage the spindle when its head is properly positioned in the recess

7. The combination of a shuttle having a pair of side members and lugs extending inwardly from the side members to make a recess between them and the end of the shuttle, a spindle having a head adapted to occupy said recess, the spindle extending from the head between said lugs, and the recess and the head being tapered to cause the head to fit snugly in the recess.

8. A shuttle having a pair of side members and a cross member, lugs extending inwardly to the side members in advance of the cross member to leave an open pocket between them, the cross members being tapered inwardly at such pocket and the lugs being tapered on their sides toward the end of the shuttle, the flare of the taper extending toward the top of the shuttle, combined with a spindle having a quadrangular head adapted to occupy such pocket with its ends engaging the sides of the shuttle and its face engaging such lugs, the shank of the spindle being adapted to extend between the lugs.

9. The combination of a shuttle-body having a cross-recess with a contracted opening and a spindle having a head adapted to occupy said recess, the shank of the spindle extending through such opening, said head and recess being correspondingly tapered.

10. The combination of a shuttle-body having a cross-recess with a contracted opening and a spindle having a head adapted to occupy said recess, the shank of the spindle extending through such opening, and means for locking said head in said recess.

11. The combination with a shuttle-body having side bars and a tapered recess provided by a cross-bar and lugs projecting inwardly from the side bars respectively, of a spindle having a tapered head adapted to seat in such recess, and means for holding the same therein.

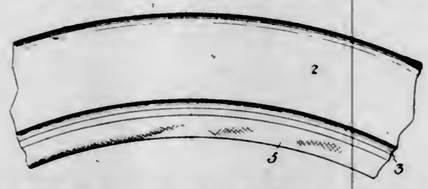
844,820. METHOD OF FORMING PNEUMATIC TIRES OR TIRE-CASINGS. ARTHUR H. MARKS, Akron, Ohio. Filed Nov. 19, 1906. Serial No. 344,140.



Claim.—1. The improved process of manufacturing pneumatic tires or tire-casings consisting in forming and partly vulcanizing the body, applying an adhesive element to the outer surface thereof, then applying an unvulcanized tread portion so formed as to be vulcanized in the time required to complete the vulcanization of the body portion and finally vulcanizing the whole structure.

2. The improved method of manufacturing tires or tire-casings consisting in forming the body of the tire and partly vulcanizing the same, then applying an adhesive element to the outer surface of the body portion then applying thereto a partially-vulcanized tread portion and finally completing the vulcanization of the structure.

844,821. SOLID RUBBER TIRE. ARTHUR H. MARKS, Akron, Ohio. Filed Apr. 30, 1906. Serial No. 314,503.



Claim.—1. A rubber tire comprising a tread, and a base having embedded therein, a plurality of layers of reinforcing metal fabric or the like, said tire formed of two parts having the juncture thereof within the zone of the metal fabric.

2. A rubber tire comprising a tread, and a base having embedded therein a plurality of layers of reinforcing metal fabric or the like, said tire formed of two parts having the juncture thereof between the first layer and the remaining layers of the metal fabric.

3. A rubber tire comprising two parts and having a reinforcing metal fabric or the like embedded therein, the line of demarcation between the two parts being within the zone of the metal fabric.

4. A rubber tire of the type having a plurality of layers of metal fabric or the like embedded in the base characterized by being formed of two parts having the joint between the same within the zone of the metal fabric.

5. A rubber tire of the type having a plurality of layers of metal fabric or the like embedded in the base, formed of two parts having the joint between the same at a point below the first layer of metal fabric.

6. A rubber tire of the type having a plurality of layers of metal fabric or the like embedded in the base, characterized by having the tread and upper portion of the base formed as one part with one or more layers of the metal fabric embedded in said upper portion of the base, and the lower portion of the base forming the other part and having one or more layers of the metal fabric embedded therein, the two parts being firmly united to form an integral whole.

844,822. METHOD OF FORMING SOLID RUBBER TIRES. ARTHUR H. MARKS, Akron, Ohio. Filed May 11, 1906. Serial No. 316,361.

Claim.—1. The method of forming a rubber tire of the type having a plurality of layers of metal fabric or the like embedded therein, consisting in forming two parts of rubber compound having one or more layers of metal fabric embedded in each, and then uniting said parts to form an integral whole.



2. The method of forming a rubber tire of the type having a plurality of layers of metallic fabric or the like embedded therein, consisting in forming the tread and upper portion of the base of rubber compound having embedded therein one or more layers of metallic fabric or the like, then forming the lower portion of the base of rubber compound and one or more layers of metallic fabric, then placing the two parts thus formed together and uniting the ends to form a continuous tire, and finally vulcanizing the whole.

3. The method of forming a rubber tire of the type having a plurality of layers of metallic fabric or the like embedded therein, consisting in placing one or more layers of metal fabric in a mold and placing thereon rubber compound, subjecting the same to pressure, forcing it into the interstices of the fabric and forming the tread and upper portion of the base, then forming the lower portion of the base by forcing rubber compound into the interstices of a sheet of metal fabric and wrapping said sheet of fabric and rubber around a suitable form to form a plurality of layers, then placing the tread and upper portion of the base upon the lower portion of the base, and joining the ends, then subjecting the same to pressure, and finally vulcanizing.

4. The method of forming a rubber tire of the type having a plurality of layers of metal fabric or the like embedded therein, consisting in forming the tread and upper portion of the base in one piece and the lower portion of the base in another piece, each having metal fabric embedded therein, then uniting the two parts, and finally vulcanizing the same whereby a tire is formed having the joint between the two parts at a point within the zone of the wire fabric.

5. The method of forming a rubber tire of the type having a plurality of layers of metal fabric embedded therein consisting in forming the tread and upper portion of the base in one piece and the lower portion of the base in another piece, each having metal fabric embedded therein, then uniting said parts in such a manner that the line of adhesion shall be within the zone of the metal fabric, and finally vulcanizing the whole.

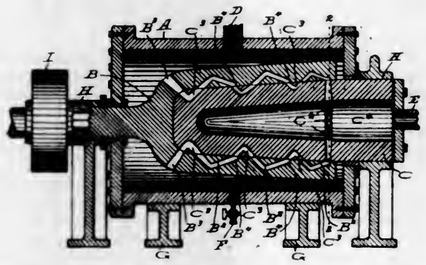
6. The method of forming a rubber tire of the type having a plurality of layers of metal fabric embedded therein, consisting in forming the tread and upper portion of the base in one piece and the lower portion of the base in another piece and in embedding in each of the said pieces, one or more layers of metal fabric, then uniting the parts in such a manner that the line of adhesion shall be within the zone of the metal fabric and finally vulcanizing the whole.

844,823. HAIR-CRIMPER. JAMES F. MARTIN, Philadelphia, Pa., assignor to John B. Hall, Philadelphia, Pa. Filed Mar. 9, 1904. Serial No. 197,206.



Claim.—In a hair-crimper, a single flat strip of resilient material, tongues in said strip forming a slot extending longitudinally from one end, a flexible cord connected at one end to said strip and a stop on the opposite end of said cord, said cord being adapted to pass said slot and said stop to engage the tongues, the distance between the inner end of said slot and the point of attachment of said cord being longer than said cord whereby the strip is curved when the cord is in position.

844,824. ROTARY ENGINE. JOHN B. MARTIN, Cincinnati, Ohio. Filed Nov. 3, 1906. Serial No. 341,829.



Claim.—1. A rotary engine, an inner stationary cylinder, an outer revolving cylinder, the working surfaces between the inner and outer cylinders being slightly conical, all substantially as described.

2. A rotary engine, an inner stationary cylinder, an outer revolving cylinder, the working surfaces between the inner and outer cylinders being slightly conical, a steam-chest within the inner stationary cylinder, all substantially as described.

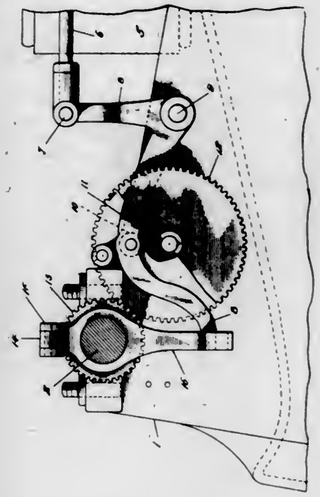
3. A rotary engine, an inner stationary cylinder, an outer revolving cylinder, the working surfaces between the inner and outer cylinders being slightly conical, a steam-chest within the inner stationary cylinder; suitable ports leading from the inner cylinder to the outer cylinder, all substantially as described.

4. A rotary engine, an inner stationary cylinder, an outer revolving cylinder, the working surfaces between the inner and outer cylinders being slightly conical, a steam-chest within the inner stationary cylinder, suitable ports leading from the inner cylinder to the outer cylinder, small pockets in the outer cylinder against which the steam impinges, all substantially as described.

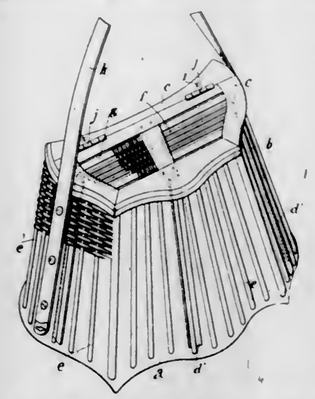
844,825. REGULATING DEVICE FOR GAS-ENGINES. HARRY S. MOLONY, Beatrice, Nebr., assignor to Dempster Mill Manufacturing Company, Beatrice, Nebr. Filed Dec. 3, 1906. Serial No. 346,063.

Claim.—1. In a gas-engine, a crank-shaft, a cylinder, a reciprocating valve-rod for controlling an exhause-valve, a rocking lever mounted on the frame and pivoted to said rod, said lever having a leg extending toward the crank-shaft, a cam bearing against said rocking lever and actuated by gearing driven by said shaft, a retaining-arm hinged to the frame and passing around the shaft, and adapted to engage said rocking lever, a speed-governor, and means actuated thereby for causing said arm to engage said lever when the speed is excessive, thereby locking said lever and holding the exhaust-valve open until speed is reduced, substantially as set forth.

2. In a gas-engine, the combination of a crank-shaft, a cylinder, a reciprocating valve-rod mounted at the side of the cylinder, for controlling an exhaust-valve, a rocking lever pivoted to said valve-rod and having a curved leg extending rearwardly and downwardly to a point below the crank-shaft, a pinion on the crank-shaft, a gear-wheel driven by said pinion, a cam actuated by said gear and bearing against the leg of said rocking lever to oscillate it vertically, a pendent retaining-arm hinged at a point above the shaft, and extending downward around said shaft to a point adjacent to said leg, a jaw in the end of said arm, a speed-governor and means actuated thereby for forcing said arm into engagement with said lever, to hold the same inactive and the exhaust-valve open when the speed is excessive, substantially as set forth.



844,826. BASKET, HAMPER, &c. JOSEPH A. MOULS, Lafitte, France. Filed Aug. 21, 1905. Serial No. 275,149.



Claim.—A frame for a basket, hamper or the like comprising a bottom plate *a* and a top frame *b* of corresponding configuration, studs *d d'*, and rods *e* between the two, securely uniting the frame to the bottom plate, a strip *c'* fastened to the top frame and a lid hinged to said strip, substantially as described.

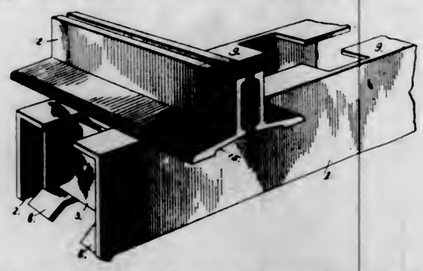
844,827. RAILWAY-TIE AND RAIL-FASTENER. JOHN NICHOLLS, Fayette City, Pa. Filed Sept. 8, 1906. Serial No. 333,802.

Claim.—1. A metallic railway-tie comprising oppositely-disposed angle-plates formed on their upper sides with registering recesses, in combination with transverse vertically-disposed braces bolted to the plates.

2. A metallic railway-tie comprising oppositely-disposed plates formed on their upper sides with registering recesses, in combination with transverse vertically-disposed braces bolted to the plates, and vertically-disposed angle-plates projecting from opposite sides of the tie.

3. A metallic railway-tie comprising oppositely-disposed angle-plates recessed on their upper side to provide trans-

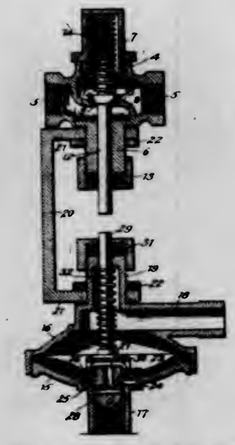
verse slots, in combination with vertically-disposed transverse securing-braces bolted to the tie sections or plates, horizontally-disposed flanges extending inward from the lower edges of the tie-plates and having their ends separated from said plates and projecting downward, and angle-plates secured to the oposite sides of the tie-plates.



4. The combination with a hollow metallic railway-tie formed on its upper side with transversely-disposed slots, of rail-securing means comprising oppositely-disposed fish-bars, and depending blocks fitting within the tie, and horizontally-disposed bolts connecting said blocks.

5. The combination with a hollow metallic tie, comprising oppositely-disposed angle-plates recessed on their upper sides to provide transverse slots, of transverse end plates for said tie plates or sections, rail-securing means comprising oppositely-disposed fish-bars having depending blocks recessed on opposite sides below the base portions of the fish-bars, and bolts extending through registering openings in said end plates and blocks.

844,828. GAS-CONTROLLING MEANS. FREDERICK H. OEHLKE, Lorain, Ohio. Filed Jan. 4, 1906. Serial No. 294,542.



Claim.—1. In a controller of the character described, the combination with a gas-valve, of means for operating the same, said means comprising a casing having a chamber, and an inlet and outlet in the casing-walls communicating with the chamber, an actuating member for the gas-valve movably mounted in and extending across the chamber, and a plug element projecting from and movable with the actuating member, said plug element being movable into and out of the inlet on the movement of the actuating member and closing said inlet when in the same.

2. In a controller of the character described, the combination with a gas-valve, of means for operating the same, said means comprising a casing having a chamber, and an inlet and outlet and in the casing-walls communicating with the chamber, an actuating member for the gas-valve, movably mounted in the chamber and having an opening that permits the passage of fluid from the inlet to the outlet, and a plug element of less size than and movable with the actuating member, said plug element being movable into and out of the inlet in the casing-walls and closing said inlet when in the same.

3. In a controller of the character described, the combination with a gas-valve, of means for operating the same, said means comprising a casing having a chamber, and an inlet and outlet in the casing-walls communicating with the chamber, an actuating member for the gas-valve movably mounted in the chamber, and a plug carried by the actuating member and projecting therefrom, said plug having a passage-way therethrough that also extends through the member and permits the flow of fluid through the actuating member from the inlet to the outlet, said plug being movable into and out of the inlet of the casing upon the movement of the member, and when in the same, closing said inlet and having its passage-way closed.

4. In a controller of the character described, the combination with a gas-valve, of means for operating the same, said means comprising a casing having a chamber and an inlet and outlet through the casing-walls communicating with the chamber, a diaphragm movably mounted within the casing, and a plug carried by the diaphragm and having a passage-way therethrough, said plug projecting from the diaphragm and being movable into and out of the inlet, said plug furthermore when in the inlet, closing the same and having its passage-way closed.

5. In a controller of the character described, the combination with a gas-valve, of means for operating the same said means comprising a casing having an inlet and an outlet, an actuating member movable in the casing, a stem having a portion associated with the gas-valve, a yoke carried by the stem and having spaced portions loosely bearing against the actuating member, and a spring associated with the stem for maintaining said bearing.

6. In a controller of the character described, the combination with a casing having an inlet and an outlet, of a diaphragm movably located in the casing between the inlet and the outlet, a plug carried by the central portion of the diaphragm and having a passage-way therethrough that permits the flow of liquid from the inlet to the outlet, and an actuating-stem slidably mounted in the casing and having a yoke located over the plug, said yoke having a bearing at separate points on said plug, the intermediate portion of the yoke being spaced from the diaphragm and plug to permit the passage of fluid through the plug.

7. In a controller of the character described, the combination with a valve-casing, of a valve movably located therein and having a stem projecting from the casing, means for operating the valve, said means including a sectional casing, one of the sections thereof having an inlet in its walls, and the other having an outlet in its walls, a diaphragm clamped between the sections of the casing, a plug mounted in the diaphragm and having a passage-way, said plug projecting from one side of the diaphragm and having its projecting portion movable into and out of the inlet of the casing-section, an actuating-stem having a yoke at its inner end that bridges the passage-way in the plug and bears against the diaphragm on opposite sides of the passage-way, said actuating-stem projecting from the casing and being movable into and out of engagement with the valve-stem, a spring for normally holding the gas-valve in closed condition, and a spring for urging the actuating-stem away from the valve-stem.

8. In a controller of the character described, the combination with gas-controlling means, of operating means therefor, comprising a casing, a diaphragm mounted in the casing, an actuating-stem associated with the diaphragm and projecting from the casing on one side thereof, the other side of said casing having a water-port, and a plug carried by the diaphragm projecting from the same on the opposite side to, but in substantial alinement with the stem, said plug being movable into and out of the port, and when in the port closing the same.

9. In a controller of the character described, the combination with gas-controlling means, of operating means therefor, comprising a casing, a diaphragm mounted in the casing, said casing having an inlet-port and an outlet-port, one of which is in substantial alinement with the central portion of the diaphragm, a plug carried by the central portion of the diaphragm and having a passage-way therethrough and through the diaphragm, said plug projecting from one side of the diaphragm and being movable into and out of the port alined therewith, and an actuating-stem projecting from the opposite side of the casing, said stem having its inner end associated with the central portion of the diaphragm and being disposed in substantial alinement with the plug and port with which said plug coacts.

844,829. INCANDESCENT-LAMP SOCKET. JOHANN G. PETERSON, Bridgeport, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a Corporation of Connecticut. Filed July 5, 1906. Serial No. 324,918.



Claim.—An incandescent-lamp socket having a cap and a shell, and means for fastening the same together, said means consisting of an angled projection on the inner face of the cap-rim with a corresponding hole in the shell, a spring-tongue cut from the shell and bearing a beveled catch, the face of which opposes the face of the angled projection, and received by a corresponding hole in the cap.

844,830. INK WELL OR STAND. WILLIAM E. PITCOCK, Waynesburg, Pa. Filed Oct. 19, 1906. Serial No. 339,659.

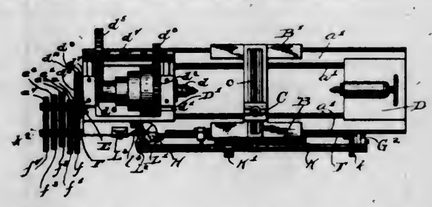


Claim.—1. An ink-well comprising a receptacle, a lid therefor of substantially inverted-frusto-conical form having a frusto-conical seat in its apex, a hollow standard mounted on the base of said receptacle, a spring inclosed by said standard, and a combined pen-guard and closure member embodying a shank mounted in the standard and resting on said spring, and a frusto-conical head carried by the shank and projecting into said frusto-conical recess and normally free from engagement with the wall thereof.

2. In an ink-well, a receptacle, a lid of substantially inverted-frusto-conical form having a frusto-conical recess in its apex, and a combined guard and closure member comprising a shank spring-supported from the receptacle and having a frusto-conical head projecting into said frusto-conical recess and normally free from engagement with the walls thereof.

844,831. SCREW-CUTTING LATHE. JAMES C. SMITH, Chicago, Ill. Filed May 12, 1905. Serial No. 260,078.

Claim.—1. In a lathe the combination with a short shaft of a plurality of driving-gears thereon, a feed-shaft journaled on the frame parallel with said short shaft, a plurality of rotatable gears on one end thereof each meshing with one of the driving-gears, a rod provided with a feather for holding any one of said gears in rigid engagement with the shaft, a plurality of screw-shafts each having a different pitch arranged concentric with said feed-shaft, a beveled gear journaled on said feed-shaft and engaging the ends of said screw-shafts, a vertical shaft journaled on the frame, a beveled gear on one end thereof intermeshing with the aforesaid beveled gear, a dial on the opposite end of said shaft, a train of gears connecting the feed-shaft with said screw-shafts and adapted to drive any one of the same, a die-block provided with a plurality of thread-engaging portions having threads of different pitch corresponding to the threads on the screw-shaft, means for adjusting the same simultaneously with the screw-shafts into position for one of the threaded portions to engage with a correspondingly-threaded screw-shaft, a carriage movable by said die-block and means connecting said dial with said rod whereby to lock the appropriate one of said rotatable gears to the feed-shaft.



2. In a lathe the combination with driving-gears of a rotative feed-shaft, revoluble gears on one end thereof, means for rigidly engaging any one of said gears with the shaft, a lever controlling the same provided with a locking-pin, an apertured dial adapted to be engaged by said locking-pin to hold said lever in adjusted position, a gang of screw-shafts having threads of different pitch carried on and arranged parallel with and around the feed-shaft, a die-shaft parallel with said feed-shaft, a carriage, a rotatable die-block on said die-shaft projecting through the front of the carriage and having dies therein, having threads corresponding respectively to the threads on the screw-shafts, intermeshing gears carried on the end of the feed-shaft and the die-shaft, means connecting the dial with the gang of screw-shafts and adapted to rotate the same so as to bring any one of the screw-shafts into engagement with the respective die of the die-block, a pinion driven from the feed-shaft, non-connected pinions on said screw-shafts each adapted to mesh with said pinion whereby any one of said screw-shafts may be driven independently of the others.

3. In a machine of the class described the combination with a carriage and a rotatable feed-shaft, of a plurality of different-sized gears for varying the rate of drive of the feed-shaft, a feather adapted to firmly engage any one of said gears to the feed-shaft, a lever for adjusting said feather into engagement with any one of said gears, a beveled gear journaled on said feed-shaft, a plurality of screw-shafts journaled at their ends therein, a gear on the other end of the feed-shaft affording journals for the corresponding ends of said screw-shafts, gears on said screw-shafts adapted to engage a pinion driven by said feed-shaft whereby any one may be driven, a shaft parallel with said feed-shaft, a carriage movable longitudinally thereof, a die engaged on said shaft and adapted to move the carriage, a shaft having a beveled gear meshing with said beveled gear on the feed-shaft and connections between said shaft having a bevel-gear and said lever whereby the die and screw-shafts are simultaneously adjusted to operative position.

4. In a machine of the class described the combination with a feed-shaft of a plurality of rotatable gears journaled thereon, a feather adapted to rigidly engage one of said gears with the shaft, a plurality of differently-threaded screw-shafts surrounding said feed-shaft, a pinion on the end of each screw-shaft, a pinion on said feed-shaft, a pinion connecting the pinions on the feed-shaft and screw-shafts and adapted to drive any one of said screw-shafts, a dial having a plurality of rows of apertures thereon, each row appropriated to one of said screw-shafts, an adjusting-lever connected with said feather and a pin thereon adapted to engage in said apertures thereby regulating the speed of said screw-shafts, a shaft, a die slidably engaged thereon said die having a plurality of faces

one for each screw-shaft, a carriage operated by said die and means connected with said dial adapted when the same is actuated to actuate one of said screw-shafts, to engage its complemental die-face.

5. The combination with a frame, carriage, head-stock and arbor, of a stud-shaft on the end of the frame, a plurality of rigidly-connected gears rotatable thereon and of different sizes, intermeshing gears connecting said arbor and one of the gears on said stud-shaft, a feed-shaft, a plurality of gears on one end thereof, each complemental with the corresponding gear on the stud-shaft and independently revoluble, a relatively short feather on the feed-shaft adapted to engage any one of said gears in driving engagement thereto, a rod integral with said feather and extending longitudinally of said feed-shaft, a lever engaged to said rod and pivoted to the frame, a dial having rows of alined apertures therein, a lever engaged with the aforesaid lever and adapted to engage in said apertures to regulate the speed of the feed-shaft, a plurality of screw-shafts concentrically arranged with said feed-shaft, a die having faces corresponding to said screw-shafts and carried on a shaft parallel with said feed-shaft, means engaged to said dial for revolving said screw-shafts, means for adjusting one of said die-faces in operative position with its complemental screw-shaft and means connecting said feed-shaft and screw-shafts whereby the screw-shafts are driven at feed-shaft rate.

6. The combination with a lathe-bed, carriage, head-stock and arbor of a revoluble feed-shaft journaled at the side of the bed, a stud-shaft on the end of the bed, a plurality of rigidly-connected gears rotatable thereon and of different sizes, driving connections between the arbor and one of said gears, a plurality of gears each complemental with the corresponding gear on the stud-shaft and independently revolvable on the feed-shaft, a rod provided with relatively short feather adapted to engage any one of said gears in driving engagement with the feed-shaft, a lever for adjusting said feather, a dial having rows of alined apertures therein, a lever connected to said lever engaging the rod and having a projection adjustable in said apertured dial to regulate the speed of the feed-shaft, a plurality of threaded shafts rotated from the feed-shaft and parallel therewith, a die for each engaging the carriage and means operated by the dial for engaging any of said screw-shafts with its die to move the carriage.

7. The combination with a lathe-bed, carriage, head-stock and arbor, of a revoluble feed-shaft journaled at the side of the bed, a stud-shaft on the end of the frame, a plurality of rigidly-connected gears rotatable thereon and of different sizes, driving connections between the arbor and one of said gears, a plurality of gears on the feed-shaft each complemental with the corresponding gear on the stud-shaft and independently revoluble, a relatively short feather adapted to engage any one of said gears in driving engagement, a lever for adjusting said feather, a dial indicating the adjustment, a plurality of threaded shafts each having a different lead, and driven from the feed-shaft, a die for engaging the carriage with each shaft and means operated by the movement of the indicating-dial to engage any one of the respective threaded shafts, with its die whereby the rate of the speed is determined by the gears engaged to the feed-shaft and the threaded shaft engaged to the die.

8. In a device of the class described the combination with a screw-shaft and its complemental die, a carriage, a shaft journaled on said carriage, a cross-slide carried on said carriage, a tool thereon, means on said shaft adapted to adjust the depth of said tool, a lever on the end of said shaft, a detent adapted to engage said shaft and hold the tool in cutting position, a stop engaged to the frame for releasing said detent, means on said shaft for releasing said tool from the cut and operative connections between said shaft on the carriage and screw-shafts and die adapted when the tool is retracted from the cut to release the die from the screw-shaft.

9. In a device of the class described the combination with a screw-shaft of a die therefor, a carriage, a torsion-shaft journaled on said carriage, a cross-slide carried on said carriage, a screw-shaft engaging said cross-slide adapted to regulate the depth of cutting, a detent adapted to hold said torsion-shaft, means in the paths of its movement for releasing said detent, tension means acting to partially rotate said torsion-shaft and operative connections between said torsion-shaft and die adapted to release the die from the screw-shaft.

10. In a machine of the class described the combination with a feed-shaft independently rotatable gears thereon, of a beveled gear rotatably engaged on said shaft near one end and a spur-gear near the other, a plurality of threaded shafts each having a different lead of thread and journaled in said gear and beveled gear around the shaft a dial, connections between said dial and first-named gears, an adjusting-shaft on said dial, a beveled gear thereon meshing with that on the feed-shaft, a pinion on the feed-shaft, a pinion projecting beyond the beveled gear on each of the threaded shafts and an intermediate pinion adapted to drive any of said shafts from the feed-shaft, a die-shaft parallel with the feed-shaft, a die-block feathered thereon and having threaded seats complemental with the threaded shaft.

11. In a device of the class described the combination with a lathe, carriage and feed mechanism therefor and means whereby the feed mechanism may be disconnected from the carriage, of a shaft journaled longitudinally of the carriage, a detent holding said shaft normally from movement, an adjustable stop on the lathe positioned to release the detent at the end of the cut, a torsion-spring adapted to partially rotate said shaft, a cross-slide, operative connections between the cross-slide and shaft adapted to retract the tool upon said rotation and operative connections between said shaft and longitudinal feed mechanism whereby the longitudinal movement of the carriage is arrested simultaneously with the retraction of the feed-tool.

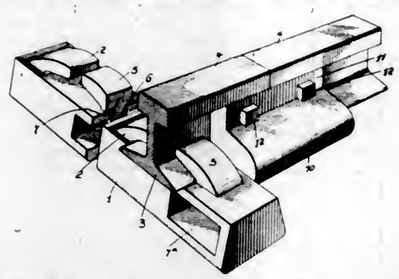
12. In a machine of the class described, a knock-out or releasing mechanism, comprising in combination with the feed mechanism for the carriage, a longitudinal shaft journaled on the carriage, a detent normally holding the same, a torsion-spring acting to rotate the shaft when released, a transversely-movable cross-slide, a threaded shaft actuating said cross-slide, an eccentric carried on said longitudinal shaft and operatively connected with the threaded shaft and a stop arranged to release the detent at a predetermined point.

13. In a lathe the combination with an automatically-operating feed mechanism, of a carriage movable thereby longitudinally of the lathe, a cross-slide adjustable transversely of said carriage, a shaft journaled on said carriage, a torsion-spring thereon adapted to partly rotate the same, an eccentric on said shaft, means thereon connected with said cross-slide and adapted to support said slide against lateral thrust, a longitudinally-slidable rod on said carriage adapted to normally hold said shaft from rotation, a lever thereon and means adapted to operate said lever at one limit of the movement of the carriage and to release said shaft to retract the tool from the cut.

14. In a lathe the combination with a bed of a longitudinally-movable feed-carriage thereon, a feed-screw, a half-die therefor, a swinging shaft carrying said die, a torsion-shaft on the carriage having connections to the tool-holder and adapted to retract the tool by partial rotation, a crank-arm thereon, a crank-arm at each end of the swinging shaft, a longitudinal shaft provided with crank-arms connected with the crank-arms on the swinging shaft, a central crank-arm thereon and a rod connecting said crank-arm with the crank-arm on the torsion-shaft whereby rotation of the torsion-shaft acts also to disconnect the die from the feed-shaft.

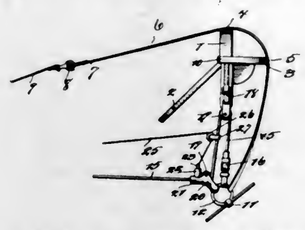
844,832. METALLIC TIE AND RAIL-FASTENER. SAMUEL SZNUTCHKO, Oakdale, Pa. Filed Dec. 20, 1906. Serial No. 348,782.

Claim.—A metallic tie and rail-fastener embodying a structure having recesses formed in its sides, fasteners carried by the top of said structure, detachable fasteners alining with the first-mentioned fasteners, shanks carried by said detachable fasteners and extending into said recesses, spring-held latches mounted in said shanks and



adapted to lock said detachable fasteners in engagement with said tie.

844,833. SAFETY-BRIDLE. HERBERT C. THOMPSON, Hopedale, Ind. Filed May 1, 1906. Serial No. 314,693.



Claim.—1. In a bridle, comprising the head-gear, the bit, pulleys mounted upon the head-gear and the bit, and the reins connected with the bit and passing through said pulleys, the combination with the reins and said pulleys, of automatic locking, stop, and gage devices for the reins, and means for releasing the said automatic locking, stop, and gage devices.

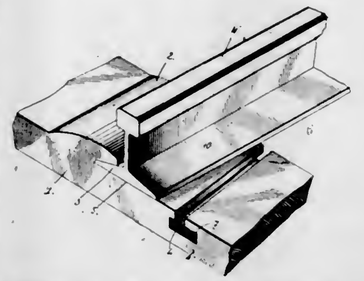
2. In a bridle, comprising the head-gear, the bit, pulleys mounted upon the head-gear and bit, and the reins connected with the bit and passing through said pulleys, the combination with the reins and said pulleys, of automatic locking, stop and gage devices for the reins, comprising castings, a pulley mounted in each of said castings, tubular extensions of the castings to receive the reins, upwardly-extending hollow members of the tubular extensions, spring-pressed bolts mounted in said hollow members and having means to bite into the reins, and releasing-reins for the spring-pressed bolts.

3. In a bridle, the head-gear, the bit and checkreins, in combination with the auxiliary bridoon-reins, automatic locking means for the auxiliary bridoon-reins, comprising castings having tubular extensions to receive the auxiliary bridoon-rein, said tubular extensions having upwardly-extending hollow members, spring-pressed bolts mounted in said hollow members and having means to bite into the auxiliary bridoon-reins, and means for releasing said spring-pressed bolts of the reins.

844,834. RAIL-FASTENER. EMIL THORNBERG, McKeesport, Pa. Filed Dec. 6, 1906. Serial No. 346,570.

Claim.—1. In a metallic tie and rail-fastener, the combination with rails, of a plate, outer fasteners carried thereby and adapted to engage the outer base-flanges of rails, said tie having angularly-disposed grooves formed adjacent to said outer fasteners, detachable fasteners mounted over said grooves and adapted to engage the inner base-flanges of rails, said fasteners having depending tongues for engaging in said grooves, keys engaging said tongues and adapted to have their ends bent to engage said tie, substantially as described.

2. A metallic tie and rail-fastener embodying a plate, an outer integral fastener carried thereby; said tie having a groove formed therein at an angle to said outer fastener, and detachable fasteners mounted over said groove, a depending tongue carried by said fastener and adapted to engage in said groove, a key mounted in said groove and adapted to have its end bent to engage the side of said plate, a lug carried by said key and engaging said tongue.



3. A metallic tie and rail-fastener embodying a plate, an outlet fastener carried thereby, an inner fastener detachably connected to said plate, a depending tongue carried by said fastener adapted to engage in said plate, a locking-key coinciding with said tongue, a lug carried by said key and engaging said tongue.

4. A metallic tie and rail-fastener embodying a plate, an outer fastener carried by said plate, a detachable inner fastener, a depending recessed tongue carried by said fastener and adapted to engage in said plate, and a locking-key engaging said tongue for holding said fastener upon said tie.

844,835. ANTHRACENE DERIVATIVE. KARL THUN, Elberfeld, Germany, assignor to Farbenfabriken Vorm. Friedr. Bayer & Co., Elberfeld, Germany, a Corporation of Germany. Filed Nov. 28, 1906. Serial No. 345,519.

Claim.—1. The herein-described new anthracene derivatives which can be obtained by treating amino-aryl-amino-anthraquinons containing the amino group in orthoposition with regard to the aryl-amino group, with aldehydes, which new derivatives are crystalliine and when unsulfonated are practically insoluble in water, and which in the shape of their sulfonic acids dye wool from blue to green shades, substantially as hereinbefore described.

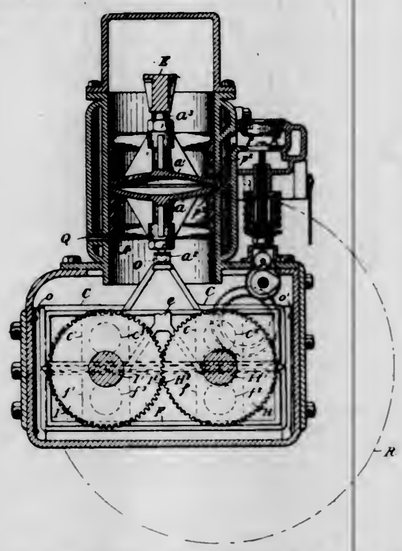
2. The herein-described new anthracene derivative which can be obtained by treating 1-para-tolyl-amino-2-amino-anthraquinon with formaldehyde, which new derivative is a dark crystalline powder which when unsulfonated is practically insoluble in water, and which in the shape of its sulfonic acid dyes wool blue shades, substantially as hereinbefore described.

844,836. INTERNAL-COMBUSTION MOTOR. JEFFERSON TREEN, New York, N. Y., assignor to Manhattan High Powered Motor Company, New York, N. Y., a Corporation of New York. Filed Sept. 1, 1905. Serial No. 276,710.

Claim.—1. In an internal-combustion engine, a number of vertical cylinders, two opposed pistons adapted to reciprocate in each cylinder, a number of crank-shafts each having plural cranks, a vertically-reciprocating piston-rod for each piston, and a number of vertically-movable yokes, deriving movement from said piston-rods, each yoke having two of the plural cranks.

2. In an internal-combustion engine, a number of vertical cylinders, two opposed pistons adapted to reciprocate in each cylinder, a number of crank-shafts each having plural cranks, a central fixed bearing for each shaft, a vertically-reciprocating piston-rod for each piston, a number of vertically-movable yokes, deriving movement from said

piston-rods, said yokes each having two of the plural cranks, and blocks slidable horizontally in said yokes forming fulcra for said cranks.



3. In an internal-combustion engine, a number of vertical cylinders, two opposed pistons adapted to reciprocate in each cylinder, a number of crank-shafts carrying intermeshed gear-wheels, each shaft having plural cranks, a vertically-reciprocating piston-rod for each piston, a number of vertically-movable yokes each having two of the plural cranks, means communicating movement to said yokes from said piston-rods, and blocks slidable horizontally in said yokes forming furcra for said crank-shafts.

4. In an internal-combustion engine, a number of vertical cylinders, two opposed pistons adapted to reciprocate in each cylinder, a number of crank-shafts carrying intermeshed gear-wheels, each shaft having plural cranks, a fixed central bearing for each shaft, a vertically-reciprocating piston-rod for each piston, a number of vertically-movable yokes each having two of the plural cranks, means communicating movement to said yokes from said piston-rods, and blocks slidable horizontally in said yokes forming fulcra for said cranks.

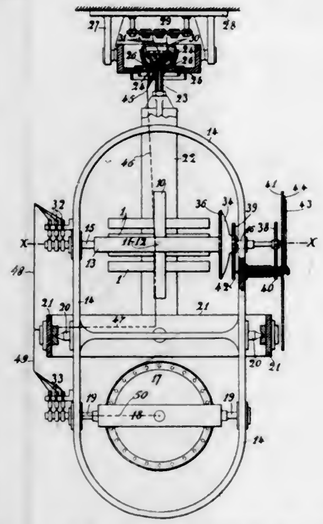
5. In an internal-combustion engine, a number of vertical cylinders, two opposed pistons adapted to reciprocate in each cylinder, a number of crank-shafts each having plural cranks, a vertically-reciprocating piston-rod for each piston, a number of vertically-movable yokes each having two of the plural cranks, and vertical guideways for said yokes.

6. In an internal-combustion engine, a number of vertical cylinders, two opposed pistons adapted to reciprocate in each cylinder, a number of crank-shafts each having plural cranks, a fixed central bearing for each shaft, a vertically-reciprocating piston-rod for each piston, a number of vertically-movable yokes each having two of the plural cranks, and vertical guideways for said yokes; together with blocks slidable horizontally in said yokes and forming fulcra for said cranks.

7. In an internal-combustion engine, a number of vertical cylinders, two opposed pistons in each cylinder, a piston-rod for each piston, a vertically-reciprocating yoke for each piston-rod, a cross-head for the upper piston-rods, vertically-reciprocating connections between said cross-heads and yokes, crank-shafts having plural cranks, slide-blocks capable of horizontal movement in said yokes and carrying said cranks, and opposite gear-wheels upon the crank-shaft; together with two flanking shafts having plural cranks journaled in slide-blocks carried by said yokes and equalizing gear-wheels upon said flanking shafts meshed with the gear-wheels upon the crank-shaft.

8. In an internal-combustion engine, a number of vertical cylinders, two opposed pistons in each cylinder, a piston-rod for each piston, a cross-head for each pair of upper piston-rods, a crank-shaft having plural cranks, a number of parallel yokes, some connecting with the lower piston-rods, vertically-reciprocating connections between said cross-heads and the other yokes, and gears upon said crank-shaft; together with two flanking shafts having equalizing gear-wheels meshing with the gears upon said crank-shaft, each of said flanking shafts having plural cranks, said yokes each carrying a crank of the crank shaft and a crank of one of the flanking shafts.

844,837. NAUTICAL APPARATUS. FILIPPO VANZINI, Bologna, Italy. Filed May 26, 1905. Serial No. 262,330.



Claim. — 1. In a nautical apparatus, an instrument mounted to maintain a constant axial direction in space, means positioning said instrument in said direction, a dial and a mechanism for indicating on a common dial the angular deviations from normals to the earth of such instrument as it is moved relatively to the earth, whereby latitude and longitude changes are both made apparent.

2. In a nautical apparatus, an instrument mounted to maintain a constant axial direction in space, a supporting-frame therefor, means constraining said frame to lie in parallel planes, and having a horizontal axis mounted to maintain a constant direction, means maintaining said axis in said direction and means for indicating angular deviations between said supporting-frame and fixed instrument.

3. In a nautical apparatus, an instrument mounted to maintain a constant axial direction in space, a supporting-frame therefor, a gyroscope for maintaining such frame with its horizontal axis normal to the terrestrial axis, and a dial and pointers geared to indicate angular deviations of the aforesaid frame and supported instrument.

4. In a nautical apparatus, a gyroscope mounted to maintain a constant axial direction in space, a supporting-frame therefor comprising a horizontal axis and a system of gimbals for freely carrying said gyroscope, means maintaining said frame with its horizontal axis in parallel positions and an indicating means for denoting angular deviations between said gyroscope and a normal to the surface of the earth.

5. In a nautical apparatus, a gyroscope mounted to

maintain a constant axial direction in space, a supporting-frame therefor comprising a horizontal axis and a series of gimbals for freely carrying said gyroscope, a secondary gyroscope mounted within said frame whereby the latter is constrained to lie with its horizontal axis normal to the terrestrial axis, and indicating means for denoting angular deviations between said gyroscope and a normal to the surface of the earth.

6. In a nautical apparatus, a gyroscope mounted to maintain a constant axial direction in space, and at an angle to the terrestrial axis, a supporting-frame therefor comprising a horizontal axis, means constraining said frame to lie normal to the earth with its horizontal axis perpendicular to the terrestrial axis, and indicating means for denoting angular variations between the gyroscope and frame.

7. In a nautical apparatus, two gyroscopes, the one mounted to maintain a constant axial direction in space, and the other to similarly maintain a constant axial direction in space at an angle to the aforesaid gyroscope, and means for indicating angular deviations between said gyroscopes as the apparatus is moved from point to point on the terrestrial sphere.

8. In a nautical apparatus, two gyroscopes the one mounted to maintain a constant axial direction in space, parallel to the terrestrial axis, and the other to similarly maintain a constant axial direction in space at an angle to the aforesaid gyroscope, a supporting apparatus for said gyroscopes and means for indicating angular deviations between said gyroscopes as the supporting apparatus therefor occupies dissimilar terrestrial locations.

9. In a nautical apparatus, a frame swung upon gimbals permitting it to occupy any relative angular position in space, two gyroscopes carried thereby, the one mounted in gimbals permitting it to assume any angular position in space with respect to said frame, and the other mounted with its axis normal to the plane of said frame whereby the latter is prevented from rotating about a vertical axis but without constraining its movement about a horizontal axis, and indicating means for showing and measuring the angular deviations between said frame and the freely-supported gyroscope.

10. In a nautical apparatus, a gyroscope mounted to maintain a constant axial direction in space, said mountings comprising a supporting-frame having a horizontal axis constrained to lie normal to the terrestrial axis, a pair of concentric rings mounted within said frame to comprise a system of gimbals for freely carrying said gyroscope, and an indicating means for measuring angular deviations between said gyroscope and supporting-frame and comprising pointers each actuated by one of the aforesaid concentric gimbal-rings.

11. In a nautical apparatus, a gyroscope mounted to maintain a constant axial direction in space, said mountings comprising a supporting-frame having a horizontal axis which is constrained to point normal to the terrestrial axis, a pair of concentric gimbal-rings mounted within said frame and freely carrying said gyroscope, a dial and two pointers geared to said rings whereby angular rotations of each of said rings will be correspondingly designated on said dial by corresponding pointers.

12. In a nautical apparatus, a gyroscope, a frame freely supporting the same whereby it may be turned in any direction relatively to said frame, and a differential means carried by said frame for indicating the components of such relative movement.

13. In a nautical apparatus, a gyroscope, a frame freely supporting the same whereby a relative displacement in any direction may be had, an index for measuring such angular displacement in one plane, an independently-operating index for measuring such angular displacement in a plane normal to the preceding, and a differential means for actuating said indices.

14. In a nautical apparatus, a gyroscope, a frame supporting the same whereby a relative displacement may be had freely in any direction, an index for measuring the component of such angular displacement along one plane, an index for measuring the component of such displacement in a plane normal to the preceding, and a differential movement means for actuating said indices.

15. In a nautical apparatus, an instrument mounted to maintain a constant axial position in space, a supporting-frame therefor having an axis and constrained to lie with an axis in parallel positions comprising a pair of gimbals pivoted at normal diameters whereby a displacement of the supporting-frame with respect to the constant-direction axis will be resolved by said gimbals into components along normal directions, an index operable from one of said gimbals to measure the angular motion thereof, and an index operable from the other gimbal to measure its angular motion.

16. In a nautical apparatus, a gyroscope mounted to maintain a constant axial direction in space, a supporting-frame therefor comprising a horizontal axis which is constrained to lie with its horizontal axis in a constant direction in space, a pair of concentric gimbal-rings pivoted together along normal diameters, means connected with one of said rings for denoting the angular rotation thereof, and means connected with the other ring for denoting its angular deviation.

17. In a nautical apparatus, an instrument mounted to maintain a constant axial direction in space, a supporting-frame therefor comprising a horizontal axis which is maintained gyroscopically in a constant direction, a pair of concentric gimbal-rings pivoted together along normal diameters, means connected with one of said rings for denoting the angular rotation thereof, and means connected with the other ring for denoting its angular deviations.

18. In a nautical apparatus, a gyroscope mounted to maintain a constant axial direction in space, a supporting-frame therefor comprising a horizontal axis and a series of gimbals pivotally attached along normal diameters for freely carrying said gyroscope, a secondary gyroscope mounted within said frame whereby the latter is constrained to lie with its horizontal axis normal to the terrestrial axis, and an indicating means attached to each of said gimbals for denoting the angular deviations thereof with respect to a normal to the surface of the earth.

19. In a nautical apparatus, a gyroscope mounted to maintain a constant axial direction in space and at an angle to the terrestrial axis, a supporting-frame therefor means gyroscopically constraining said frame to lie normal to the earth with its horizontal axis perpendicular to the terrestrial axis, and indicating means for denoting the angular variations along normal planes between the gyroscope and the frame.

20. In a nautical apparatus two gyroscopes, the one mounted to maintain a constant axial direction in space, and the other to similarly maintain a constant axial direction in space at an angle to the aforesaid gyroscope, and means for indicating the angular deviations along normal planes between said gyroscopes as the apparatus occupies dissimilar terrestrial locations.

21. In a nautical apparatus, a pair of gyroscopes, the one being mounted to maintain a constant axial direction parallel to the terrestrial axis, and the other to similarly maintain a constant axial direction in space at an angle to the aforesaid gyroscope, a supporting apparatus and means for indicating angular deviations along normal planes between said gyroscopes as the supporting apparatus traverses the surface of the earth.

22. In a nautical apparatus, a frame pivoted within dependent gimbals permitting it to occupy any relative angular position in space with respect to a vessel carrying the apparatus, two gyroscopes mounted within said frame, the one within gimbals permitting it to assume any angular position in space with respect to said frame, and the other mounted with its axis parallel to the terrestrial axis whereby such frame is prevented from rotating about a vertical axis without constraining its movement about a horizontal axis, and means for indicating and measuring the angular deviations along normal planes between said frame and the freely-supported gyroscope.

23. In a nautical apparatus, a gyroscope mounted to maintain a constant axial direction in space, said mount-

ings comprising a supporting-frame, an outer ring pivoted thereto, an inner ring pivoted in a normal diameter to said outer ring, said inner ring containing aforesaid gyroscope, and means for measuring angular deviations of said rings with respect to said frame, comprising a pointer immovably positioned relative to said frame, and a disk and pointer movable without relative displacement by a rotation of the outer ring, said pointer alone being revolved by a rotation of said inner ring.

24. In a nautical apparatus, a gyroscope, a frame freely supporting the same, a pointer fixed with respect to said frame, a dial, another pointer and means connected to said gyroscope whereby said dial and pointer will rotate together with respect to said stationary pointer during an angular displacement of said frame and gyroscope in a plane normal to the former, and whereby said pointer will alone rotate during an angular displacement of said frame and gyroscope in the plane of the former.

25. In a nautical apparatus, an instrument mounted to maintain a constant axial position in space, a supporting-frame therefor comprising a pair of gimbals pivoted at normal diameters whereby a displacement of the supporting-frame with respect to said instrument will be resolved by said gimbals into component angular rotations along normal planes, an index fixed to said frame and a dial and another index operable from said gimbals, said dial being directly geared to one of said gimbals and said pointer to the other whereby an independent rotation of the latter will rotate said index without affecting said dial, and an independent rotation of the former gimbal will rotate said index and said dial at a like angular velocity.

26. In a nautical apparatus, a gyroscope, mountings therefor comprising a supporting-frame, an outer ring pivoted thereto, an inner ring pivoted transversely within said outer ring, and containing the aforesaid gyroscope, a gear affixed to the pivot of said inner ring and revoluble thereby, said gear being beveled to a gear revoluble about the axis of the outer ring and a pointer positively actuated thereby, another pointer or dial connected to and positively actuated by the axis of said outer ring, and a pointer affixed to said supporting-frame.

27. In a nautical apparatus, a gyroscope, an inner ring pivotally supporting the same and mounted to revolve within an outer ring, the latter being mounted with its axis normal to the axis of the inner ring upon a freely-suspended frame, a calotte revolubly carried by said inner ring in engagement with a calotte loosely mounted on the axis of the outer ring, and positively actuating a pointer, a dial connected to and positively actuated by the axis of said outer ring, and a fixed pointer attached to said frame, the latter being constrained gyroscopically with its horizontal axes in a constant direction.

28. In a nautical apparatus, a gyroscope, mountings therefor comprising a supporting-frame, an outer ring pivoted thereto and positively actuating from its axis a dial, an inner ring transversely pivoted within said outer ring and positively actuating from its axis by means of a calotte, a gear loosely mounted on the axis of the outer ring and carrying a pointer, a like pointer affixed to said frame, said frame carrying an auxiliary gyroscope for maintaining its horizontal axis in constantly parallel directions.

29. In a nautical apparatus, a frame carrying gyroscopes and angular deviations-measuring instrumentalities, said frame being mounted in gimbals dependent from a ball-and-socket joint, the latter being provided with a plurality of balls intermediate the opposing faces thereof to reduce friction.

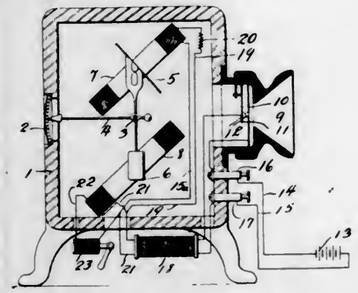
30. In a nautical apparatus, a frame carrying gyroscopes and indicating means therefor, and gimbals suspending said frame, brackets pivotally carrying a bearing-block having a bottom aperture, a channel around the opening and a series of balls with said channel, a hemispherical journal resting upon and dependent from said balls and affixed to said gimbals.

31. In a nautical apparatus, a means for making electrical constants through a universal joint, comprising a hemispherical bowl provided with a series of concentric grooves, a fluid conductor in said grooves, and conductors of solid material terminating within said fluid material.

32. In a nautical apparatus, means for conducting a three-phase circuit through a universal joint, comprising a hemispherical bowl of insulating material having a series of concentric grooves, conductors leading therefrom along a shaft mercury within said grooves, and springy metallic conductors leading from above and terminating in said mercury.

33. In a nautical apparatus, an electrically-operated gyroscope, and means for making electrical connections therewith comprising a hemispherical ball provided with a series of concentric grooves, a fluid conductor in said grooves, and conductors of solid material making connection with said fluid conductor.

844,838. DEVICE FOR REGISTERING VIBRATIONS OF MUSICAL SOUNDS. LEWIS R. WHEELER, Tacoma, Wash. Filed Dec. 6, 1906. Serial No. 346,634.



Claim.—1. A device of the character described comprising an inductorium, a variable-resistance sound-receiver in circuit with the primary coil thereof and means in circuit with the secondary coil to indicate relative changes in the frequency of alternations of the secondary current.

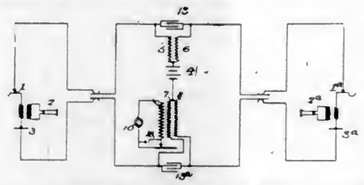
2. A device of the character described comprising an inductorium, a variable-resistance sound-receiver in circuit with the primary coil thereof, means in circuit with the secondary coil adapted to indicate the relative frequency of alternations of the secondary current and a scale associated with said last-named means calibrated to indicate the said relative frequency of the alternations in terms corresponding to the number of vibrations per second of sound received in the said receiver whereby the pitch of said sound is indicated on the said scale.

3. A device of the type set forth comprising an inductorium, a variable-resistance sound-receiver in circuit with the primary coil thereof, a shunt-circuit connected with the secondary coil of said inductorium and having an anti-inductive resistance therein, a second shunt-circuit similarly connected and having an inductive resistance therein, electromagnets in each of said secondary circuits, pivoted armatures rigidly secured together and arranged adjacent the said magnets and adapted for movement with relation thereto corresponding to the frequency of the current passing through said magnets, an indicating-hand controlled by the movement of said armatures and a calibrated scale associated with said hand.

844,839. TELEPHONE ATTACHMENT. WILLIAM R. WHITEHORNE, Bethlehem, Pa., assignor to Howard C. Bailey, Philadelphia, Pa. Filed Sept. 19, 1906. Serial No. 335,288.

Claim.—1. The combination with a telephone system, of a device placed at the central station and including means for producing an abnormal sound in the receiver of any instrument off its hook, said device being capable of being set in operation by the instrument of any subscriber, substantially as described.

2. The combination in a telephone system including an electromagnetic device at a central station whose energization is controlled by the hook-switch of any subscriber's instrument, and means controlled by said device for producing an alternating current on the telephone-line whereby one subscriber is enabled to cause an abnormal sound in the receiver of any other subscriber when this latter is off its hook, substantially as described.



3. The combination in a telephone system including an electromagnetic device at a central station whose energization is controlled by the hook-switch of any subscriber's instrument, means controlled by said device for producing an alternating current on the telephone-line whereby one subscriber is enabled to cause an abnormal sound in the receiver of any other subscriber when this latter is off its hook, a supervisory signal also at the central station and means for preventing lighting of the supervisory signal at the central station when one subscriber's instrument is manipulated to actuate said device, substantially as described.

4. The combination with a telephone system including a magnet having two windings arranged to substantially neutralize each other when they are respectively in circuit with two telephone instruments in use, a switch controlled by said magnet, means controlled by said switch for producing an alternating current in the telephone system, with means for preventing operation of the said switch by its magnet except under predetermined conditions of operation of one of the telephone instruments, substantially as described.

5. The combination in a telephone system, of a repeating coil having its windings arranged to substantially neutralize each other under the conditions existing when it is in circuit with two telephone instruments in use, a winding placed to act inductively upon said coil, a switch controlled by the coil, and an alternating-current generator in circuit with the coil and with the switch, substantially as described.

6. The combination in a telephone system, of a repeating coil having its windings arranged to substantially neutralize each other under the conditions existing when it is in circuit with two telephone instruments in use, a winding placed to act inductively upon said coil, a switch controlled by the coil, an alternating-current generator in circuit with the coil and with the switch, and means for preventing operation of the switch except under predetermined conditions of energization of the repeating coil, substantially as described.

7. The combination with a telephone system, of a source of direct current and a double-wound magnet placed in the central-operator's cord-circuit, a winding inductively placed relatively to said magnet, an alternating-current generator and a switch in circuit with said winding, said switch being placed to be closed when the magnet-windings are energized to different degrees, substantially as described.

8. The combination with a telephone system, of a source of direct current and a double-wound magnet placed in the central-operator's cord-circuit, a winding inductively placed relatively to said magnet, an alternating-current generator and a switch in circuit with said winding, said switch being placed to be closed when one of the magnet-windings is deënergized, and a device placed to prevent closing of the switch until after such magnet-winding has been deënergized a predetermined number of times, substantially as described.

9. The combination with a telephone system, of a source of direct current and a double-wound magnet placed in the central-operator's cord-circuit, a winding inductively placed relatively to said magnet, an alternating-current generator and a switch in circuit with said winding, said switch being placed to be closed when one of the magnet-windings is deënergized, and a pneumatic retarding device placed to prevent closing of the switch until after such magnet-winding has been deënergized a predetermined number of times, substantially as described.

10. The combination with a telephone system, a device at the central station having means for producing an alternating current on the line connecting two subscribers whose receivers are off their hooks after one of said subscribers has operated his hook-switch a predetermined number of times, a supervisory signal also at the central station and means for preventing closing of the circuit of the supervisory signal when a subscriber operates his hook-switch under predetermined conditions, substantially as described.

11. The combination with a telephone system, of means at the central station for producing an alternating current on the line connecting two subscribers whose receivers are off their hooks after one of said subscribers has operated his hook-switch a predetermined number of times, a supervisory signal, a relay, a switch controlled thereby and in circuit with the supervisory signal, and a retarding device operative on the relay-controlled switch for preventing closing of said switch when a subscriber operates his hook-switch under predetermined conditions, substantially as described.

12. The combination with a telephone system of means at the central station for producing on the telephone-line a current capable of causing an abnormal sound in a receiver off its hook, and other means under the control of any subscriber for causing said first means to be thrown into action, substantially as described.

13. The combination with a telephone system of means at the central station for producing on the telephone-line a current capable of causing an abnormal sound in a receiver off its hook, a switch controlling said means, a magnet operative on the switch, and a connecting device interposed between the armature of the magnet and the movable member of the switch constructed to require a predetermined number of impulses from the armature before it will cause operation of the switch, substantially as described.

14. The combination with a telephone system of means at the central station for producing on the telephone-line a current capable of causing an abnormal sound in a receiver off its hook, a switch controlling said means, a magnet operative on the switch, and a bellows interposed between the armature of the magnet and the movable member of the switch, said bellows being constructed to require a predetermined number of actuations of the magnet-armature before it can cause closing of the switch, substantially as described.

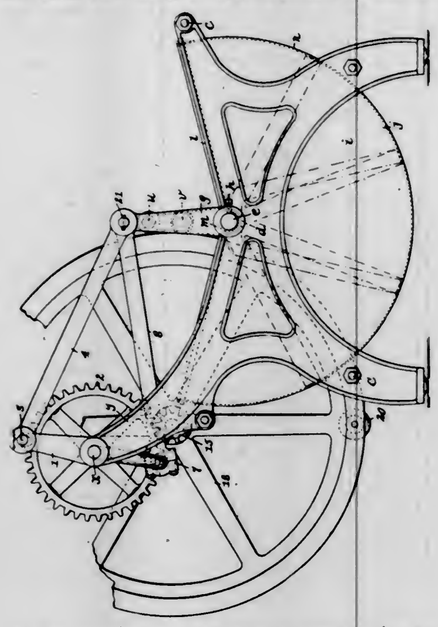
844,840. KNEADING AND MIXING MACHINE. ERNST F. W. WIEDA, Paterson, N. J., assignor to The Wieda Mixing Machinery Co., Paterson, N. J., a Corporation of New Jersey. Filed June 20, 1904. Serial No. 213,201.

Claim.—1. The combination of a frame, a vessel for receiving the material to be operated upon removably arranged in said frame, a set of agitators, an axial support therefor, said frame having pockets opening laterally with reference to said axial support and said axial support being journaled in said pockets, a shaft journaled in said frame, and operative connecting means between said shaft and said agitators whereby to oscillate the agitators, substantially as described.

2. The combination of a frame, a vessel for receiving the material to be operated upon removably arranged in said frame, a set of agitators, an axial support therefor, said frame having pockets opening laterally with reference to said axial support and said axial support being journaled in said pockets, a shaft in said frame, and operative connecting means between said shaft and said axial support whereby to oscillate the agitators, said agitators being fixed to oscillate with said axial support, substantially as described.

3. The combination of a frame, a vessel for receiving

the material to be operated upon removably arranged in said frame, said frame having upwardly-opening pockets in the top portion thereof, a shaft journaled in said pockets and extending over the vessel, agitators arranged to oscillate on said shaft, another shaft journaled in said frame, and operative connecting means between said other shaft and the agitators, substantially as described.



4. The combination of a frame, a vessel for receiving the material to be operated upon removably arranged in said frame, said frame having upwardly-opening pockets in the top portion thereof, a shaft journaled in said pockets and extending over the vessel, agitators fixed on said shaft, another shaft journaled in said frame, and operative connecting means between said shafts whereby to oscillate the agitators from said last-named shaft, substantially as described.

5. The combination of a frame, a vessel having supporting-flanges resting on said frame, a shaft removably journaled in said frame and extending over the vessel, the vessel-supporting surfaces of said frame and the flanges of said vessel being correspondingly radially arranged with reference to the shaft, and a set of agitators carried by said shaft, substantially as described.

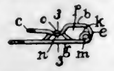
6. The combination of a frame, a horizontal shaft journaled in said frame, said frame having supporting portions on both sides of said shaft inclined downwardly toward the same, a vessel having an arc-shaped bottom wall and two side walls, the upper edges of said side walls being formed to coincide with the inclined supporting portions of said frame and having flanges adapted to rest on said supporting portions, and agitators carried by said shaft, substantially as described.

7. The combination of a frame, the same having pockets formed in its top portion, a vessel for receiving the material to be operated upon removably arranged in said frame and also having pockets in its top portion coinciding with the pockets of the frame, a set of agitators, and an axial support therefor adapted to be received by said pockets of the frame and the vessel and journaled in the former, substantially as described.

8. In a kneading and mixing machine having a plurality of oscillatory agitators, a set of fingers or agitators having a common axial support and projecting therefrom in different radial planes, the one or ones in one radial plane being offset longitudinally of the oscillating axis with reference to the other or others, substantially as described.

9. In a kneading and mixing machine, several sets of oscillatory agitators having a common axis of movement, one set being located substantially midway between, and comprising more agitators than, the others, substantially as described.

844,841. GARMENT-FASTENER. EDGAR E. WILLEY, Quincy, Mass. Filed May 2, 1906. Serial No. 314,763.



Claim.—1. In a garment-fastener, a hook member comprising a hook proper consisting of two arms having bends intermediate their ends, two garment-engaging arms connected at their front ends with the arms of the hook proper, and an arm intermediate the garment-engaging arms connected to one of them at its rear end and extended toward the front end of said garment-engaging arms and upwardly bent at its end to form a vertically-arranged eye, said intermediate arm having a bend intermediate its ends coöperating with the bends in the arms of the hook proper, substantially as described.

2. In a garment-fastener, a hook member comprising a hook proper consisting of two arms having bends intermediate their ends, two garment-engaging arms connected to the hook-arms at one end and provided with substantially horizontal bends forming eyes at their opposite end, and an arm intermediate the garment-engaging arms connected to one of them and extended toward the other end of said arms and having its free end bent upwardly to form a vertically-arranged eye, said intermediate arm having a bend intermediate its ends which coöperates with and extends to the level of the bends in the arms of the hook proper to form a closed loop, substantially as described.

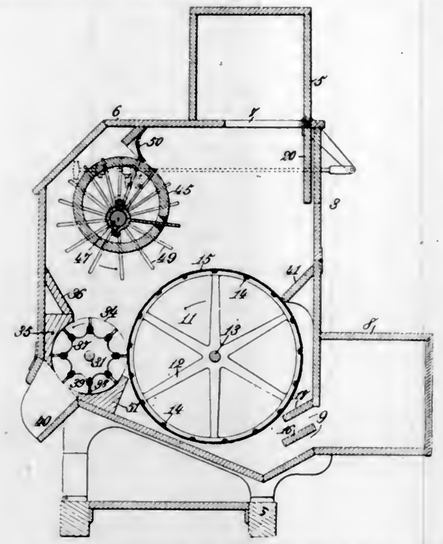
3. In a garment-fastener, a hook member composed of wire bent to form two arms constituting the hook proper and having bends in them intermediate their ends, two garment-engaging arms connected with the arms of the hook, and an arm connected to one of the garment-engaging arms at one end thereof and extended toward the other end thereof intermediate the garment-engaging arms and provided with a bend extended to the level of the bends in the arms of the hook to form a closed loop, substantially as described.

4. In a garment-fastener, a hook member composed of a single piece of wire bent to form two arms constituting the hook proper, two garment-engaging arms having eyes, and an arm connected to one of the garment-engaging arms and extended intermediate the same, said intermediate arm and one of said hook-arms having bends extended toward and by one another to form a closed loop, substantially as described.

844,842. COMBINED FEEDING, CLEANING, AND ELEVATING APPARATUS. ELLIS B. ANDERSON, Demopolis, Ala. Filed Nov. 4, 1905. Serial No. 285,935.

Claim.—1. The combination of a casing having a supply-opening therein, a reticulated cleaning-cylinder in said casing adapted to receive a mass of material from said opening, means for drawing air through the opening for carrying the mass against the cylinder and to draw foreign substances in said mass through the cylinder, a pocketed feed device in scrubbing contact with said cylinder, concaved strips in the casing engaged by the pocketed feed device, and means for rotating said cleaning-cylinder.

2. The combination of a casing having a supply-opening, a reticulated cleaning-cylinder in said casing adapted to receive a mass of material from said opening, means for drawing air through the opening to carry the mass against the cylinder and to draw foreign substances in the mass through the cylinder, a feed device adjacent the cylinder, concaved strips at opposite sides of the feed device engaged by the latter, a rotary drum having peripheral perforations, and a non-rotative shaft in the drum having an offset portion provided with arms loosely connected therewith and to extend through the perforations in the drum, the offset portion of the shaft being eccentric with respect to the drum.



3. The combination of a casing having a supply-opening, a reticulated cleaning-cylinder in said casing adapted to receive a mass of material from said opening, means for drawing air through the opening to carry the mass against the cylinder and to draw foreign substances in the mass through the cylinder, a feed device adjacent the cylinder, concaved strips at opposite sides of the feed device engaged by the latter, a rotary drum having peripheral perforations, and a non-rotative shaft in the drum having an offset portion provided with arms to extend through the perforations in the drum, the offset portion of the shaft being eccentric with respect to the drum.

4. The combination of a casing having a supply-opening therein, a reticulated cleaning-cylinder in said casing adapted to receive a mass of material from said opening, means for drawing air through the opening, to carry the mass against the cylinder and draw foreign substances in said mass through the cylinder, a feed device arranged in operative relation with said cylinder, the casing having a spout to receive material from the feed device, packing devices engaged by the feed device to separate the spout from the interior of the casing, means for rotating said cylinder, and a spiked drum rotative in a direction opposite to that of the cylinder, the spikes, as the drum rotates, serving to maintain a uniform supply of material to the feed device.

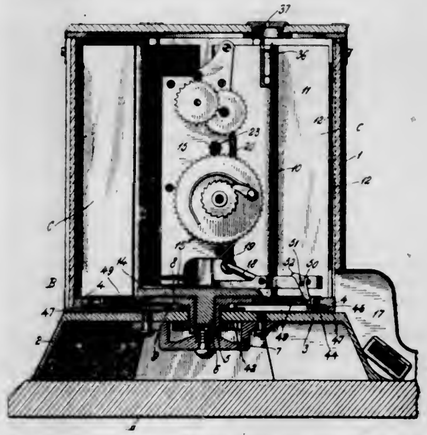
5. The combination of a casing having a cotton-supply inlet and an air-outlet, means for passing air-currents through the casing from said inlet to said outlet, a rotative, perforated cleaning-cylinder in the casing in the path of the air and situated to permit air to enter the cylinder from one side thereof and to leave it at approximately a diametrically opposite point, and means exterior of the cylinder for positively loosening up cotton thereon at substantially the point where it is received upon the cylinder.

6. The combination of a casing having a cotton-supply inlet and an air-outlet, means for passing air-currents through the casing from said inlet to said outlet, a rotative, perforated cleaning-cylinder in the casing in the path of the air and situated to permit air to enter the cylinder from one side thereof and to leave it at approximately a diametrically opposite point, a spiked drum in the casing arranged in proximity and rotative in a direction opposite to the direction of rotation of the cylinder, the spikes of the drum serving to loosen up the cotton on the cylinder at substantially the point where said cotton is received upon said cylinder.

7. The combination of a casing having a cotton-supply inlet, and an air-outlet, means for passing air-currents through the casing from said inlet to said outlet, a rotative, perforated cleaning-cylinder in the casing in the path of the air and situated to permit air to enter the cylinder from one side thereof and to leave it at approximately a diametrically opposite point, a spiked drum in the casing arranged in proximity and rotative in a direction opposite to the direction of rotation of the cylinder, the spikes of the drum serving to loosen up the cotton on the cylinder at substantially the point where said cotton is received upon said cylinder, and a feeder, the spiked drum serving to effect the distribution of the cotton in a uniform manner to the feeder.

8. The combination of a perforated cleaning-cylinder, a drum located in proximity to the cylinder, arms movable relatively to the drum across the periphery of the drum to present a spiked exterior, such spiked exterior serving to loosen up the cotton on said cylinder, and means for turning said drum to cause relative motion of the said arms with respect thereto.

844,843. VENDING-MACHINE. MARCUS O. ANTHONY, New York, N. Y., assignor, by mesne assignments, to The United Machine & Supply Company, New York, N. Y., a Corporation of New York. Filed Jan. 2, 1904. Serial No. 187,492.



Claim.—1. In a vending-machine, the combination with a casing, of a plurality of magazines each of which is adapted to contain superposed articles, means for automatically advancing said magazines successively to a discharging position, mechanism for temporarily locking said magazines successively in such position, means for discharging successively the contents of each magazine thus positioned, and means under the influence of the contents of the magazines for automatically releasing said mechanism to permit the advancement of the magazines upon and only upon the discharge of the last article contained in a magazine.

2. In a vending-machine, the combination with a casing, of a plurality of magazines having a common axis of rotation, each of said magazines being adapted to contain superposed articles, means for automatically rotating said magazines, mechanism for temporarily locking said magazines successively at a discharging-station, means for successively discharging the contents of each magazine at such station, and means under the influence of the contents of the magazines for automatically releasing said

mechanism to permit the partial rotation of the magazines immediately upon and only upon the discharge of the last article contained in a magazine.

3. In a vending-machine, the combination with a casing, of a turn-table, a series of vertical magazines thereon, each adapted to contain superposed articles, means for automatically rotating said table, means for temporarily locking said magazines successively at a discharging-station, means for discharging the contents of each magazine at such station, and means under the influence of the contents of the magazines for automatically releasing said mechanism to permit the partial rotation of the turn-table immediately upon and only upon the discharge of the last article contained in a magazine.

4. In a vending-machine, the combination with a casing, of a plurality of magazines thereon adapted to contain superposed articles, means for automatically advancing the said magazine successively to a discharging position, mechanism for temporarily locking the magazines successively in such position, a device for discharging the contents of the successive magazines, and a movable trip between said device and the locking mechanism, said trip being maintained in idle position by the pressure thereon of the contents of the adjacent magazine and being rendered active by the removal of such pressure.

5. In a vending-machine, the combination with a casing, of a plurality of magazines thereon adapted to contain superposed articles, means for automatically advancing the said magazines to a discharging position, mechanism for temporarily locking the magazines successively in such position, a device for discharging the contents of the successive magazines, and a vibratory dog on said device arranged to trip said mechanism, said dog being maintained normally in active position by the pressure thereon of the contents of the adjacent magazine and being rendered active by the removal of such pressure.

6. In a vending-machine, the combination with a casing, of a turn-table, and a series of vertical magazines thereon, said table having slots opening into the respective magazines, means for advancing said magazines successively, to a discharging position, locking mechanism for the magazines located beneath the turn-table and provided with portions extending into the respective slots in the latter, a device for discharging the contents of the successive magazines, and a trip on said device to coact periodically with said portions.

7. In a vending-machine, the combination with a casing, of a turn-table, and a series of vertical magazines thereon, said table having slots opening into the respective magazines, means for advancing said magazines successively to a discharging position, a series of pivoted arms on the under side of the turn-table provided with studs extending through said slots, springs to maintain said arms in a normal position, a stationary stop in the normal path of the arms, means for discharging the contents of the successive magazines, and means for engaging said studs to disengage the arms from the stop at predetermined intervals.

8. In a vending-machine, the combination of a casing, including a basal portion, a fixed stud extending up through the latter, a turn-table provided with a boss rotatable about said stud and depending below said basal portion, a turning-spring connected with said boss, a series of magazines rising from the said table, locking and releasing mechanism for said table, and means for discharging the contents of the respective magazines.

9. In a vending-machine, the combination with a magazine, and means for moving the same, of a locking mechanism for said magazine, a discharge device therefor, and a normally active trip to release the said mechanism, said trip being maintained inactive by the weight thereon of the contents of the magazine.

10. In a vending-machine, the combination with a magazine, and means for moving the same, of a locking mechanism for said magazine, a slide for expelling the contents of the magazine, means for operating said slide, and a normally active trip on said slide to release the said mechanism, said trip being maintained inactive by the weight thereon of the contents of the magazine.

11. In a vending-machine, the combination with a magazine, and means for rotating the same, of a locking mechanism for said magazine, a discharge-slide having a pivoted dog under the control of the contents of the magazine to release said mechanism, and means for reciprocating said slide.

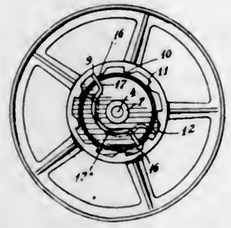
12. In a vending-machine, the combination with a vertical magazine, of a slide for successively discharging the contents of said magazine, and mechanism for reciprocating the slide having cam means to impart an abrupt back stroke to said slide.

13. In a vending-machine, the combination with a vertical magazine, of a discharge-slide, and actuating mechanism therefor, including a vibratory lever and a cam connection therewith having an abrupt portion whereby a quick return movement is given to the slide.

14. In a vending-machine, the combination with a magazine, of a discharge-slide, a clock mechanism, a crank thereon, a pivoted lever connected with said slide and provided with a cam portion engaged by the said crank, such portion being formed to cause a quick back movement of the lever.

15. In a vending-machine, the combination of a casing, a table therein with a series of vertical magazines, a central stud on which said table is mounted to rotate, a fixed plate or support on said stud, a slide reciprocable on said support into and from the magazines, and means on said support for reciprocating said slide.

844,844. RATCHET MECHANISM FOR LAWN-MOWERS. LINNAEUS E. BAKER, Cleveland, Ohio. Filed Apr. 2, 1906. Serial No. 309,296.



Claim.—1. In a lawn-mower, the combination of a drive-shaft, a drive-wheel, said wheel having a central hub sleeved on said shaft, an internal ratchet-gear carried by said wheel intermediate of the shaft and the rim of said wheel, a member rigidly connected to said shaft and having a flange adapted to fit within the ratchet-gear, said flange being provided with recesses, and a pawl extending through the recesses in said flange and adapted to be engaged by the ratchet-teeth, substantially as specified.

2. In a lawn-mower, the combination of a drive-shaft, a drive-wheel, said wheel having a central hub sleeved on said shaft, an internal ratchet-gear carried by said wheel intermediate said hub and the rim of the wheel, said gear being provided with an odd number of teeth, a member rigidly connected to said shaft and having a flange adapted to fit within the ratchet-gear, said flange being provided with oppositely-located recesses, and a pawl extending through the recesses in the flange and being of such length as to permit one end to ride upon the face of a ratchet-tooth with the other end in the recess between the opposite ratchet-teeth, substantially as specified.

3. In a lawn-mower, the combination of a drive-shaft, a drive-wheel, said drive-wheel having a central hub sleeved on said shaft, a web projecting from said hub, an annular flange carried by said web surrounding a portion of said hub, a cap rigidly connected to said shaft and having a flange adapted to fit within the first-mentioned flange, the latter flange being provided with oppositely-located recesses, ratchet-teeth carried by the first-mentioned flange, and a pawl extending through the recesses in the second flange and adapted to be engaged by the ratchet-teeth, substantially as specified.

4. In a lawn-mower, the combination of a drive-shaft, a drive-wheel, said wheel having a hub sleeved on said shaft, an outwardly-projecting annular flange connected to said wheel, said flange being provided with internal ratchet-teeth, a cap rigidly connected to said shaft outside the drive-wheel and having an inwardly-directed flange adapted to fit within the teeth on the former flange and having a pair of oppositely-located recesses, a pawl having its opposite ends projecting through said recesses and having the portion intermediate said ends offset to clear the drive-shaft, substantially as specified.

5. In a lawn-mower, the combination of a drive-shaft, a drive-wheel having a hub sleeved on said shaft and an outwardly-projecting annular flange surrounding a portion of said hub and provided with internal ratchet-teeth, each of said teeth having an abrupt face and an inclined face, a cap outside of said wheel and rigidly secured to said shaft, said cap having a flange provided with oppositely-located recesses, said flange being complementary to the flange on the drive-wheel and of a diameter to be fitted within the teeth on the former flange, a pawl having its opposite ends projecting through the recesses in the second flange and of a length slightly less than the distance from the crown of a tooth to the bottom of the recess between oppositely-located teeth, said pawl having its central portion offset to clear the wheel-hub, substantially as specified.

6. In a lawn-mower, the combination of a drive-shaft, a wheel having a hub sleeved on said shaft, an annular flange surrounding a portion of said hub and connected thereto, said flange having ratchet-teeth on the inner face thereof, a member rigid with said shaft and having a complementary annular flange provided with oppositely-located recesses and being of a diameter to fit within the teeth of the first-mentioned flange, a pawl having its opposite ends projecting through said recesses and being offset intermediate the ends thereof to clear the drive-shaft, substantially as specified.

7. In a lawn-mower, the combination of a drive-shaft, a drive-wheel for said shaft, said wheel having a hub sleeved on said shaft and being provided with an annular flange intermediate of the hub and rim, said flange having an odd number of ratchet-teeth on the interior thereof, each of said teeth having an abrupt face and an inclined face, a member rigid with said shaft and adjacent said wheel, said member having a flange complementary to the first-mentioned flange and of a diameter to be fitted within the ratchet-teeth thereon, the second flange being provided with oppositely-located recesses, a pawl having its ends projecting through said recesses and provided with an intermediate offset portion to clear the drive-shaft, the length of said pawl being sufficient to permit one end to ride upon the inclined face of a ratchet-tooth with the other end in the recess between the opposite ratchet-teeth, substantially as specified.

8. In a lawn-mower, the combination of a drive-shaft, a drive-wheel having a hub sleeved on said shaft, a web projecting outwardly from said hub and provided with an annular flange surrounding a portion of said hub and provided with internal ratchet-teeth, a member rigid with said shaft and adjacent the wheel, said member having an outwardly-extending web and a flange complementary to the first-mentioned flange and provided with oppositely-located recesses, the second flange being of a diameter to permit it to be fitted within the ratchet-teeth on the former flange, and a pawl in the chamber formed between said webs and flanges, said pawl having its opposite ends projecting through the recesses of the inner flange and having its central portion offset to clear the drive-shaft, substantially as specified.

9. In a lawn-mower, the combination of a drive-shaft, a drive-wheel said wheel having a hub sleeved on said shaft, and clutch mechanism intermediate said wheel and shaft, said mechanism comprising an internal ratchet-gear carried by said wheel, a member rigid with the shaft and a pawl adapted to connect said member and said ratchet-gear, said pawl consisting of a bar having its ends projecting into diametrically opposite portions of said ratchet-gear and being offset intermediate of its ends in a plane at right angles to the axis of said shaft, the portion of said shaft which is adjacent to the pawl being imperforate, substantially as specified.

844,845. YELLOW AND ORANGE PIGMENT COLORS. MAX BECKE, Höchst-on-the-Main, Germany, assignor to Farbwerke vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany, a Corporation of Germany. Filed Jan. 14, 1905. Serial No. 241,110.

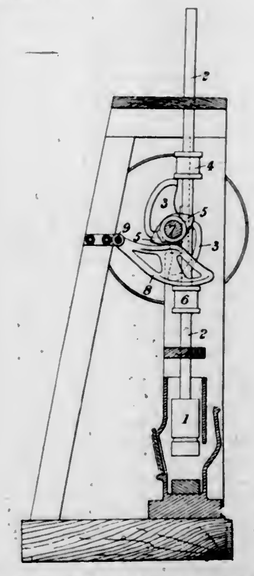
Claim.—As new products, non-poisonous yellow to orange lakes, containing an inorganic substratum and an insoluble azo dyestuff, obtained by coupling a monoamidoalphyl base free from sulfo and carboxylic groups, with pyrazolones, being very fast to light, insoluble in cold and boiling water, insoluble in alkaline solutions, partly soluble with a yellow to orange color in benzene, toluene, fatty oils and ligroin.

844,846. PROCESS FOR INTEGRAL OR THROUGH COLORATION OF MARBLE. ERNESTO L. BELLONI, Milan, Italy. Filed July 16, 1906. Serial No. 326,409.

Claim.—1. The herein-described process of coloring marble which consists in subjecting said marble successively to the action of salt solutions of gradually-increased osmotic power.

2. In the process of coloring marble, the step of obtaining highly-concentrated salt solutions which consists in first obtaining a saturated solution of the acid radical of the base desired and then increasing the degree of concentration of said solution by the introduction of fresh quantities of the acid radical of the said base combined with a radical different from the first-named acid radical, said radical being soluble in solvents of the first-named radical, substantially as described.

844,847. DOUBLE-ACTING STAMP. GEORGE W. BEYNON, Mortimer, and GARDINER H. MACKILLOP, Maidenhead, England; said Beynon assignor to Gustave Richard Bonnard, London, England. Filed Jan. 16, 1906. Serial No. 296,342.



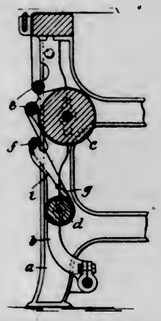
Claim.—1. In double-acting stamp-machines and the like, a stam-head, a stem carrying the same, and two tappets arranged on said stem, in combination with a pair of lifting-cams and a pair of downward-impulse-giving cams carried by one shaft, the lifting-cams being adapted to act on one

tappet, and the downward-impulse-giving cams being adapted to give, through the other tappet, a downward impulse at each descent of the weight.

2. In double-acting stamp-machines and the like, a stamp-head, a stem carrying the same, two tappets arranged on said stem in combination with a pair of lifting-cams and a pair of downward-impulse-giving cams carried by one shaft, the lifting-cams adapted to act on one tappet, and the downward-impulse-giving cams adapted to act, in combination with an intervening lever, upon the other tappet, to give a downward impulse at each descent of the weight.

3. In double-acting stamp-machines and the like, a stamp-head, a stem carrying the same, two tappets arranged on said stem in combination with a pair of lifting-cams and a pair of downward-impulse-giving cams carried by one shaft, the lifting-cams being adapted to act on one tappet and each of the downward-impulse-giving cams having the portion which first acts made of quick curvature and the part which follows this made with a flatter curvature, or quicker rise, the said cams being adapted to act in combination with an intervening lever, upon the other tappet, at each descent of the weight.

844,848. CLOTH-FINISHING DEVICE FOR LOOMS. EDWARD BLOOM, Paterson, N. J., assignor of one-half to Harry Aronsohn, Paterson, N. J. Filed May 19, 1906. Serial No. 317,663.



Claim—1. In combination, with the take-up roller and means for guiding the woven goods thereto, a bar arranged in contact with the roller in the angle formed by the roller-surface and the goods, substantially as described.

2. In combination, with a take-up roller and means for guiding the woven goods thereto, a bar arranged in contact with the roller between the same and the goods and projecting beyond the tangent to the roller normally assumed by the goods, whereby to form a bend in the goods, substantially as described.

3. In combination, with the take-up roller and means for guiding the woven goods thereto, a bar arranged in contact with the roller in the angle formed by the roller-surface and the goods, the part of the bar engaging the goods being formed as a convex curve, substantially as described.

4. In combination, with the take-up roller and means for guiding the woven goods thereto, a bar arranged in contact with the roller between the same and the goods, said bar having the part thereof in contact with the goods formed as a convex curve and projecting beyond the tangent to the roller normally assumed by the goods, substantially as described.

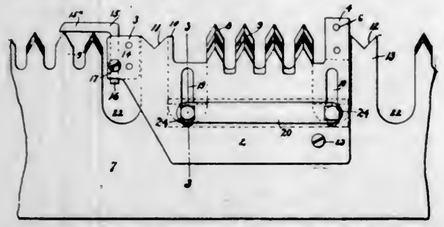
5. In combination, with the take-up roller and means for guiding the woven goods thereto, a bar arranged in contact with the roller in the angle formed by the roller-surface and the goods, and means for restraining the bar against the advancing action of the goods and roller, substantially as described.

6. In combination, with the take-up roller and means for guiding the woven goods thereto, a bar arranged in contact with the roller between the same and the goods and projecting beyond the tangent to the roller normally assumed by the goods, and means for restraining the bar against the advancing action of the goods and roller, substantially as described.

844,849. PROCESS FOR PRODUCING MANTLES FOR INCANDESCENT GAS-LIGHTING. JOSEPH A. E. H. BOULLIER, Paris, France. Filed Mar. 23, 1903. Serial No. 149,199.

Claim.—The hereinbefore-described method of manufacturing mantles for incandescent gas-lighting from nitrocellulose, said method consisting of first subjecting nitrocellulose filaments to a substance capable of causing said filaments to swell without dissolution and after thus causing them to swell, impregnating them with incandescing compounds.

844,850. SAW-DRESSING TOOL. ELBERT R. COBB, Bermuda, La. Filed June 5, 1906. Serial No. 320,275.



Claim.—1. In a saw-dressing tool, the combination with a pair of filing gage-plates provided with vertically-arranged slots; of a pair of bolts passing through said vertically-arranged slots formed in said plates and carrying at one end a slidably-mounted strap-plate and at the other a pair of nuts, and a pair of gum-supporting blocks mounted on said bolts and interposed between said plates.

2. In a saw-dressing tool, the combination with a pair of filing gage-plates suitably secured together; of a gage block or head integral with said plates, and a gage member slidably mounted in said gage block or head and arranged to be held in adjusted position by a set-screw.

3. In a saw-dressing tool, the combination with a pair of filing gage-plates provided with vertically-arranged slots; of bolts provided with thumb-nuts adjustably mounted in said slots and carrying gum-supporting blocks interposed between said plates.

844,851. BELT-CHECKING DEVICE. ALEXANDER DEAN, Denver, Colo. Filed Dec. 12, 1905. Serial No. 291,489.

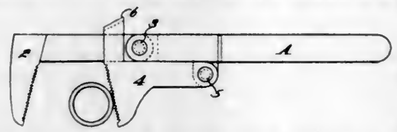


Claim.—1. In a belt-gripping device, the combination of a frame, and a pair of belt-gripping jaws rockingly mounted in said frame; said jaws being provided with toothed segments meshing with each other, substantially as set forth.

2. In a belt-checking device, the combination of a pair of belt-gripping jaws of greater length than the width of the belts to be gripped and geared together at one point and spaced apart aside from the gear portions to furnish belt-gripping portions, and means whereby said jaws are rockingly supported, substantially as set forth.

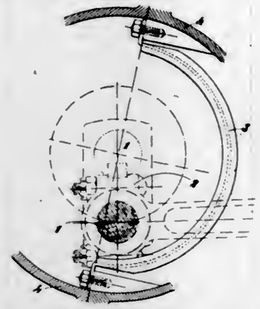
844,852. PIPE-WRENCH. FRANKLIN J. DEARBORN, FRANCESCO CAVALLARO, and ANDREW S. MACKENZIE, San Jose, Cal. Filed May 19, 1906. Serial No. 317,698.

Claim.—An improved pipe-wrench consisting of a bar having a transverse jaw at one end, a handle pivoted and turnable upon the opposite end of said bar, a second jaw member having one end pivoted to the handle and having its body portion straight and parallel with the first bar and handle when said bar and handle are normally longitudinally in line, said second jaw member having a guide-strap for the reception of the first-named bar and said jaw member and the bar having their gripping-surfaces nor-



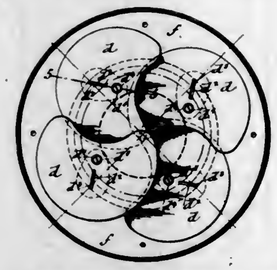
mally arranged in outwardly-divergent planes, but which gradually approach into parallelism when the handle is turned about its pivotal center to disturb the normal parallelism of the bar and handle and the body portion of the second jaw member.

844,853. OIL-RETAINING DEVICE FOR EXPLOSION-MOTORS. JULES L. DIDIER, St. Cloud, France. Filed Oct. 24, 1906. Serial No. 340,381.



Claim.—An oil-retaining device for the heads of connecting-rods of explosion-motors, comprising a pair of spaced channel-shaped screens mounted within the crank-case and arranged concentrically to the axis of rotation of the crank-pin, said screens having their ends secured to the crank-case and acting as a means to stop and collect the oil projected by centrifugal force, thereby preventing it from entering the cylinders, substantially as described.

844,854. PHOTOGRAPHIC SHUTTER. GUSTAV DIETZ, Yonkers, N. Y. Filed Mar. 21, 1906. Serial No. 307,259.



Claim.—1. In a photographic shutter, the combination with the shutter-case, of a driving-ring guided therein, flies carried by said ring, and means on said shutter-case to shift said flies successively to open and closed position during the movement of said driving-ring in one direction.

2. A photographic shutter comprising, in combination with the shutter-case, a driving-ring guided in the latter, flies pivoted to said ring, and stationary means on said shutter-case to shift said flies continuously in one direction to make the exposure when said driving-ring is moved in either direction, said flies being rotated oppositely to said driving-ring.

3. In a photographic shutter, the combination, with a shutter-case provided with a stationary guide-shoulder, of a driving-ring guided on said shoulder, said driving-ring moving in either direction during one exposure, a plurality of flies pivoted to said ring and provided with slots, and stationary pins on the shutter-case entering said slots for imparting rotary movement to said flies.

4. In a photographic shutter, the combination of a shutter-case, a driving-ring guided therein, flies pivoted to said driving-ring and provided with slots, and stationary pins on said shutter-case entering said slots and causing said flies to rotate continuously in one direction during the exposure when said driving-ring is moved in either direction.

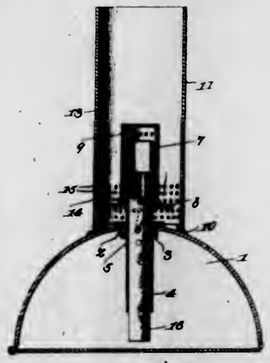
5. In a photographic shutter, the combination, with a driving-ring, of flies pivoted thereto and provided with slots, and stationary pins entering said slots, said flies being in closed position at either end of their movement, but open during the intermediate part of such movement.

6. In a photographic shutter, a fly consisting of a thin layer of hard rubber, and a central reinforcing layer of celluloid.

7. In a photographic shutter, a fly constructed of a thin layer of hard rubber, and a central reinforcing portion of celluloid, said central portion having a pivot-opening and being made of increasing thickness toward said pivot-opening.

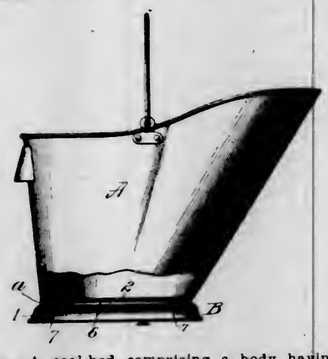
8. In a photographic shutter, a fly constructed of a thin layer of hard rubber and a reinforcing layer of celluloid, said reinforced portion having a pivot-opening and a slot in line with the center line of the fly and the center of the pivot-opening.

844,855. FORMALDEHYDE-GENERATOR. ROBERT W. DODGE, Kansas City, Mo. Filed June 16, 1906. Serial No. 322,086.



Claim.—A formaldehyde-generator comprising a receptacle, a tube extending thereinto and upward therefrom, said tube being open at its ends and having inlet-apertures within and adjacent the top of the receptacle and outlet-openings outside of and adjacent the receptacle, a tubular wick disposed within said tube and closing the apertures therein, a cap slidably mounted upon the outer end of the tube and having a plurality of openings adapted to be closed by the tube when the cap is lowered, the outlet-openings within the tube being adapted to be closed by said movement of the cap, an annular flange surrounding the lower end of the cap, a circular flange upstanding from the receptacle, and a copper chimney centered by said circular flange about the tube and cap and spaced from the annular flange, said chimney having a plurality of air-inlet openings adjacent the outer apertures within the tube.

844,856. COAL-HOD. GEORGE J. DUFFETT, St. Louis, Mo., assignor to Simmons Hardware Company, St. Louis, Mo., a Corporation. Filed Aug. 15, 1906. Serial No. 330,691.



Claim.—A coal-hod comprising a body having an inturned flange at its lower end, a main bottom part comprising a rim and an upper bottom sheet with a return-bend at the junction of said members providing a space above said rim for the reception of said inturned body-flange, and a supplemental bottom sheet located beneath and lying flatly against said upper bottom sheet and seated within said return-bend, substantially as set forth.

844,857. PROCESS OF BURNING CEMENT AND APPARATUS THEREFOR. CARLETON ELLIS, White Plains, N. Y., assignor to Combustion Utilities Company, New York, N. Y., a Corporation of New York. Filed Oct. 11, 1906. Serial No. 338,398.



Claim.—1. The process of sintering cement and like material in rotary kilns which consists in directly impinging end on upon a traveling stream of material in such kilns and in cross-sectional engagement with such material a physically-moderated flame-jet.

2. The process of sintering cement and like material in rotary kilns which consists in directly impinging on a traveling stream of material in such kilns the tip of a flattened jet of burning fuel in cross-sectional engagement with such material.

3. The process of sintering cement and like materials in horizontal kilns, which consists in passing a stream of the material to be heated through such a kiln and in introducing into such kiln and positively impinging upon said material a jet of mingled fuel and air, the draft of the kiln being approximately satisfied by the air and fuel so introduced and entrance of insulating air-currents being thereby substantially avoided.

4. The process of sintering cement and like materials in horizontal kilns, which consists in passing a stream of the material to be heated through such a kiln and in impinging directly and positively upon such material fuel and air in the form of a flame-jet and in quantity sufficient to approximately satisfy the draft of the kiln, whereby an insulating air-stream intermediate the flame and the material to be heated is substantially avoided.

5. The process of sintering cement and like materials in horizontal kilns, which consists in passing a stream of the material to be heated through such a kiln and in impinging directly and positively upon such stream fuel and air in the form of a flame-jet and in quantity sufficient to produce a plenum.

6. The process of sintering cement and like material in horizontal rotary kilns, which consists in passing a stream of the material to be heated through such a kiln and in positively impinging both upon the side of the kiln and upon the material adjacent thereto a flame-jet comprising fuel and air in quantity sufficient to approximately satisfy the draft of the kiln.

7. The process of sintering cement and like materials in horizontal rotary kilns, which consists in passing a stream of the material to be heated through such a kiln and in positively impinging both upon the side of the kiln and the material adjacent thereto a flame-jet comprising pulverulent fuel and air in quantity sufficient to approximately satisfy the draft of the kiln.

8. The process of sintering cement and like materials in horizontal rotary kilns, which consists in passing a stream of the material to be heated through such a kiln and in impinging end on upon the side of the kiln and the material covering the same a flame-jet comprising fuel and air in quantity sufficient to substantially neutralize any tendency for other air-currents to enter the kiln.

9. The process of sintering cement and like materials in horizontal kilns, which consists in passing a stream of the material to be heated through such a kiln and in introducing into such kiln fuel and air in the form of a flame-jet and in quantity sufficient to substantially neutralize any tendency for other air-currents to enter the kiln, and positively impinging said jet upon the side of the kiln.

10. The process of sintering cement and like materials in horizontal kilns, which consists in passing a stream of the material to be heated through such a kiln and in introducing into and burning in such kiln fuel and air in quantity sufficient to substantially neutralize any tendency for other air-currents to enter the kiln, all said air being introduced positively with the fuel.

11. The process of sintering cement and like materials in horizontal rotary kilns, which consists in passing a stream of the material to be heated through such a kiln and in positively impinging end on against such stream and against the ascending wall of the kiln above the normal limit of such stream a flame-jet.

12. The process of sintering cement and like materials in horizontal rotary kilns, which consists in passing a stream of the material to be heated through such a kiln and in positively impinging both against such stream and against the ascending wall of the kiln above the normal limit of such stream a flame-jet the zone of impingement of which approximates in width the width of said stream.

13. In the heating in horizontal rotary kilns of materials which soften with heat, the method of preventing unduly-prolonged adhesion of the material to the wall of the kiln which consists in exposing the wall of the kiln at a point above where said material should drop away, to the direct action of a flame directed end on.

14. In the heating in horizontal rotary kilns of materials which soften with heat, the method of preventing unduly-prolonged adhesion of the material to the wall of the kiln which consists in projecting a flame-jet end on against the wall of the kiln above where said material should drop away.

15. The process of sintering cement and like materials in horizontal kilns, which consists in passing a stream of the material to be heated through such a kiln and in impinging against such stream obliquely and end on in full cross-sectional engagement with such stream a flame-jet spread out into fan shape to moderate its action.

16. The process of sintering cement and like materials in horizontal rotary kilns, which consists in passing a stream of the material to be heated through such a kiln and in impinging obliquely both against the ascending side of the kiln and the material adhering thereto a flame-jet spread out into fan shape, the major axis of cross-section of said flame being nearly horizontal.

17. The process of sintering cement and like materials in horizontal rotary kilns, which consists in passing a stream of the material to be heated through such a kiln and in impinging obliquely both against the ascending side of the kiln and the material adhering thereto a flame-jet comprising a mixture of air and pulverulent fuel in suspension, such jet spread out into fan shape and impinging edgewise, the major axis of cross-section of said flame being nearly horizontal.

18. The process of sintering cement and like materials in horizontal rotary kilns, which consists in passing a stream of the material to be heated through such kiln and in impinging obliquely and positively both against the ascending side of the kiln and the material adhering thereto a flame comprising a mixture of air and fuel, said jet spread out into fan shape, the major axis of cross-section of said flame being nearly horizontal, said air and fuel supplied in quantity to substantially neutralize tendency for other air-currents to enter the kiln near the point where said flame is introduced.

19. The process of sintering cement and like materials in horizontal kilns, which consists in passing a stream of the material to be heated through such a kiln and in projecting into said kiln obliquely to the axis thereof and causing to impinge against such stream obliquely and in cross-sectional engagement therewith a flame-jet comprising a mixture of air and pulverulent fuel in suspension, such jet spread out into fan shape to moderate its action and impinging end on.

20. The process of sintering cement and like materials in horizontal kilns, which consists in passing a stream of the material to be heated through such a kiln and in projecting into said kiln obliquely to the axis thereof and causing to impinge against such stream obliquely in cross-sectional engagement therewith but positively a flame-jet comprising a mixture of air and pulverulent fuel in suspension, such jet spread out into fan shape to moderate its action, said air and fuel supplied in quantity sufficient to approximately neutralize tendency for other air-currents to enter the kiln near the point where said flame is introduced.

21. The process of sintering cement and like materials in horizontal rotary kilns, which consists in passing a stream of the material to be heated through such a kiln and in projecting into said kiln obliquely to the axis thereof and causing to impinge obliquely against the upturning side of the kiln and the material adhering thereto, and upon the wall of the kiln above the normal limit of such stream, a flame-jet spread out into fan shape and impinging end on, the major axis of cross-section of said flame being nearly horizontal.

22. The process of sintering cement and like materials in horizontal rotary kilns, which consists in passing a stream of the material to be heated through such a kiln and in directly impinging a flame end on against such stream of material at the side of the kiln, the mean angle of impingement being between eighty degrees and thirty degrees approximately.

23. The process of sintering cement and like materials in horizontal rotary kilns, which consists in passing a stream of the material to be heated through such a kiln and in positively impinging a flame end on against such stream of material at the side of the kiln, the mean angle of impingement being between sixty degrees and forty-five degrees approximately.

24. The process of sintering cement and like materials in horizontal rotary kilns, which consists in passing a stream of the material to be heated through such a kiln and in positively impinging a flame end on against such stream of material at the side of the kiln, the angle of initial impingement being approximately forty-five degrees.

25. The process of sintering cement and like materials in horizontal rotary kilns, which consists in projecting a flame-plume toward one wall of such a kiln from a point below the axis and upon the opposite side of the center of the kiln, and causing it to impinge on said side.

26. The process of sintering cement and like materials in rotary horizontal kilns, which consists in projecting a flame-jet of fan shape, toward one side of such a kiln from a point below the axis of such kiln and upon the opposite side of the center thereof, and causing said flame to impinge upon said side of the kiln, the major axis of cross-section of said flame being nearly horizontal.

27. The process of sintering cement in rotary kilns which consists in directly impinging a flattened flame-jet end on against the stream of material traveling therethrough and against the shoulder formed at the line between calcining and clinkering zones.

28. The process of forming cement-clinker which consists in directly impinging a flame-jet end on against the stream of material traveling therethrough and against and across the shoulder formed at the line between calcining and clinkering zones for a substantial distance into said calcining zone.

29. The process of sintering cement and like materials in rotary kilns, which consists in passing a stream of the material to be heated through such a kiln and in impinging a flame-sheet end on against said stream and in cross-sectional engagement therewith.

30. The combination with a horizontal rotary kiln, of a burner therefor located at a point below and to one side of the axis of said kiln and directed toward the opposite side of said kiln.

31. The combination with a horizontal rotary kiln, of a flattened burner therefor located at a point to one side of the axis of said kiln and directed toward the opposite side of said kiln.

32. The combination, with a horizontal rotary kiln, of a burner therefor located at a point to one side of the axis of said kiln and directed toward the opposite side of said kiln, said burner arranged to produce a flame-jet of wide spread in an approximately horizontal plane and of relatively little spread in a plane at right angles.

33. The combination, with a horizontal rotary kiln, of a burner therefor located at a point below and to one side of the axis of said kiln and directed toward the opposite side of said kiln, said burner arranged to produce a flame-jet of wide spread in an approximately horizontal plane and of relatively little spread in a plane at right angles.

34. The combination, with a horizontal rotary kiln, of a burner arranged to project a flame-jet toward one wall of said kiln at a considerable angle and into positive engagement with said wall, said burner having orifice which is relatively long in a nearly horizontal direction and is relatively narrow in a nearly vertical direction.

35. The combination, with a horizontal rotary kiln, of a burner arranged to project a flame-jet toward one wall of said kiln at a considerable angle and into positive engagement therewith, said burner directed to cause the upper border of said flame to impinge positively on the kiln-wall above the normal line of separation of the material heated.

36. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a flame-jet against and into positive engagement with the ascending wall of said kiln at a point above the normal line of separation of the material heated.

37. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a flame-jet against and into positive engagement with the material heated and the ascending wall of said kiln at a point above the normal line of separation of the material heated.

38. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a flattened flame-jet toward one side of the kiln and at an oblique angle with respect to the kiln-axis, said burner having an outward-projecting extension at the outer side of its flame-orifice.

39. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a flattened flame-jet toward one side of the kiln and at an oblique angle with respect to the kiln-axis, said burner having a projecting hood on the outer side of the discharge-orifice, preventing excessive spreading of the outer side of the flame.

40. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a flattened flame-jet toward one side of the kiln and at an oblique angle with respect to the kiln-axis, said burner comprising inner and outer tubes, the outer tube extending beyond the inner tube and having a projecting hood on the outer side of its discharge-orifice preventing excessive spreading of the outer side of the flame.

41. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a flattened flame-jet toward one side of the kiln and at an oblique angle with respect to the kiln-axis, said burner comprising inner and outer tubes, the former longitudinally adjustable with respect to the latter.

42. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a flattened flame-jet toward one side of the kiln into positive engagement therewith at an oblique angle with respect to the kiln-axis, said burner comprising inner and outer tubes, the outer tube extending beyond the inner tube and having a projecting hood on the outer side of its discharge-orifice preventing excessive spreading of the outer side of the flame, the inner tube longitudinally adjustable with respect to the outer tube.

43. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a flattened flame-jet toward one side of the kiln into positive engagement therewith at an oblique angle with respect to the kiln-axis, the discharge-orifice of said burner being oblique with respect to the axis of the burner and set to project the flame-jet in cross-sectional engagement with the side of the kiln and the material thereon.

44. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a flattened flame-jet toward one side of the kiln into positive engagement therewith on a cross-section of such flame-jet at an oblique angle with respect to the kiln-axis, said burner having a discharge-orifice relatively long in one direction and narrow in the opposite direction.

45. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a flattened flame-jet toward one side of the kiln into positive engagement therewith on a cross-section of such flame-jet at an oblique angle with respect to the kiln-axis, said burner having a discharge-orifice relatively long in one direction and narrow in the opposite direction, and arranged obliquely with respect to the burner-axis.

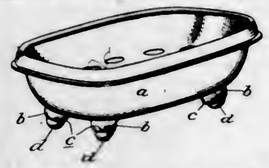
46. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a flattened flame-jet toward one side of the kiln and at an oblique angle with respect to the kiln-axis, said burner having a discharge-orifice relatively long in one direction and narrow in the opposite direction, and arranged obliquely with respect to the burner-axis, said orifice narrower at its inner side than at its outer side.

47. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a flattened flame-jet toward one side of the kiln and at an oblique angle with respect to the kiln-axis, said burner comprising inner and outer tubes, bent abruptly to one side near their discharge-orifices.

48. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a flame-jet against and into positive engagement with the line of normal separation of the material heated from the kiln-wall.

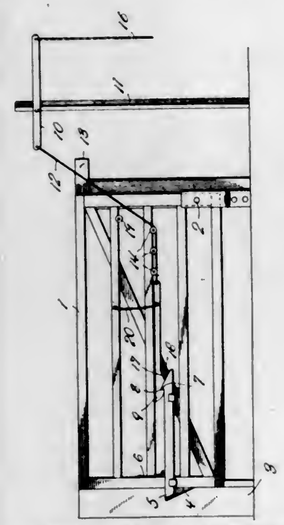
49. The combination, with a horizontal rotary cement-kiln, of a burner directed to project a positively-impinging flame-jet both against the material heated and against the ascending wall of the kiln.

844,858. SOAP-DISH. JOHN P. EUSTIS, Newtonville, Mass. Filed Oct. 5, 1906. Serial No. 337,566.



Claim.—The combination, with a dish-body and cup-shaped sockets secured to it, said sockets having contracted lower ends, of spherical elastic feet or balls sprung into the contracted ends, the depth of each socket being at least one-half the diameter of each foot or ball, so that substantially hemispherical portions of the balls are located in the sockets, while the other substantially hemispherical portions project beyond the sockets, substantially as and for the purposes set forth.

844,859. GATE. JOHN C. FISCHER and JOHN A. FISCHER, Lexington, Okla. Filed July 26, 1906. Serial No. 327,953.



Claim.—1. A gate comprising a gate-frame, mounted to swing on a horizontal pivot, a reciprocating latch mounted on one end of said gate, and engaging a recess in one of the posts, said latch having an upwardly-projecting shoulder, a reciprocating bar, having a downwardly-projecting shoulder, adapted to engage said first-named shoulder, a spring adapted to hold said bar in its normal position, a lever adapted to tilt said gate and a cable connecting said lever with said bar, substantially as described.

2. A tiltable gate, pivotally mounted on a post, a lever having cable connection with said gate, a series of guide-pulleys, engaging said cable, and a pulley 19, adapted to engage said cable, when the gate is in a vertical position, for closing the same, substantially as described.

3. A tiltable gate pivotally mounted on a post, a latch having a shoulder, adapted to engage a similar shoulder, in a reciprocating bar, a lever adapted to tilt said gate and to actuate said bar, a lug adapted to engage an enlargement, on said bar, for throwing the same out of engagement with said latch, substantially as described.

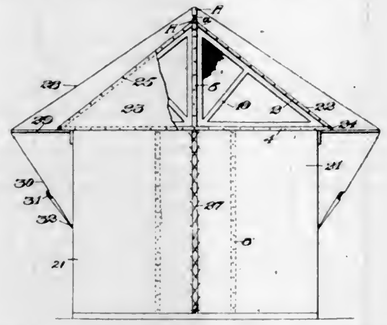
844,860. PROCESS OF PURIFYING PYROLIGNEOUS ACID. JAMES R. GARROWAY, Glasgow, Scotland. Filed Oct. 6, 1905. Serial No. 281,704.

Claim.—1. The herein-described process for producing acetic acid, and by-products from crude pyroligneous acid, consisting in neutralizing the acid with a basic magnesium compound, concentrating the neutralized solution, removing contaminating materials, saturating the purified solution with a mineral acid and separating the volatile from the non-volatile portions.

2. The herein-described process for producing acetic acid, and by-products from crude pyroligneous acid, consisting in neutralizing the acid with magnesium oxid, concentrating the neutralized solution, removing contaminating materials, saturating with a mineral acid, and separating the resulting acetic acid from the magnesium salt produced.

3. The herein-described process for producing acetic acid, and by-products from crude pyroligneous acid, consisting in neutralizing the acid with magnesium oxid, concentrating the neutralized solution, removing contaminating materials, saturating with sulfuric acid and separating the acetic acid from the magnesium sulfate.

844,861. PORTABLE HOUSE. ANNA H. GILL, San Francisco, Cal. Filed Dec. 26, 1905. Serial No. 293,339.



Claim.—1. A portable house having in combination a ridge-pole provided with mortises, rafters having upper ends fitting said mortises, wall-plates, ledges extending along the wall-plates and against which the lower ends of the rafters abut, and flexible tension means for securing the several parts together into a rigid structure.

2. A portable house having in combination a ridge-pole provided with mortises, rafters having upper ends fashioned to fit said mortises, wall-plates, ledges extending along the wall-plates and against which the lower ends of the rafters abut, truss means for securing the parts together into a rigid structure, and adjusting means connecting with the truss means for adjusting the tension thereof.

3. A portable house-frame comprising a ridge-pole having mortises, rafters with their convergent ends removably fitting said mortises, side and end wall plates, said side-wall plates having abutments for the lower ends of the rafters, vertical studs suitably supported at their lower ends and removably engaging the side and end wall plates, diagonally-extending braces connecting the ridge-pole and the wall-plates, other similar braces connected near the ends of the ridge-pole and with a fixed point near the ground, and other similar braces connecting the wall-plates with fixed points near the ground, said several braces being provided with take-up means.

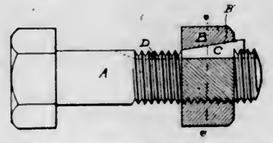
4. In a portable house-frame, the combination with a ridge-pole having mortised sides, rafters having one end detachably connected with the ridge-pole, detachable side and end wall plates, said rafters being detachably supported by said side-wall plates, vertical studs detachably connected with the wall-plates, said studs suitably supported at their lower ends, braces uniting said several assembled parts into a rigid structure, some of said braces extending diagonally from the ridge-pole to the wall-plates, and suitable take-up means for said braces.

5. In a portable house-frame, the combination with a ridge-pole, rafters detachably connected with the ridge-pole, detachable side and end wall plates, said rafters being detachably supported by said side-wall plates, vertical studs detachably connected with the wall-plates, said studs suitably supported at their lower ends, braces uniting said several assembled parts into a rigid structure, some of said braces connected near the ends of the ridge-pole and extending diagonally to fixed points proximate to the lower ends of the corner-posts, and suitable take-up means for said braces.

6. In a portable house, the combination of a ridge-pole having mortises in its sides, rafters having upper ends fitting said mortises, side and end wall plates said side-wall plates having seats for the lower ends of the rafters, and vertical studs, said several parts being detachably connected, flexible tension means for locking the several parts together into a rigid structure, said tension means comprising diagonally-extending ropes or cables connecting the parts to be united, and said cables having suitable take-up means.

7. A portable house having in combination a ridge-pole having mortises in its sides, rafters having upper ends fashioned to fit said mortises, side and end wall plates, ledges extending along the wall-plates and forming abutments for the lower ends of the rafters, bottom sills, king posts connecting the ridge-pole and end wall-plates, vertical studs connecting the wall-plates and bottom sills, braces extending diagonally from the side-wall plates to fixed points adjacent to the bottom sills, and other braces connecting the ridge-pole with fixed points below, a roof-sheet, said sheet and a fabric covering extending around the sides of the building and having the ends united at the rear, and a light-aperture frame removably fitting a space inclosed by a king-post and an end-wall plate and a corresponding rafter, and means forming a door-entrance to the structure.

844,862. NUT-LOCK. JOHN K. GOURDIN, Pineville, S. C., assignor of one-half to Robert L. Montague and Robert P. Tucker, Charleston, S. C. Filed Sept. 15, 1905. Serial No. 278,633.



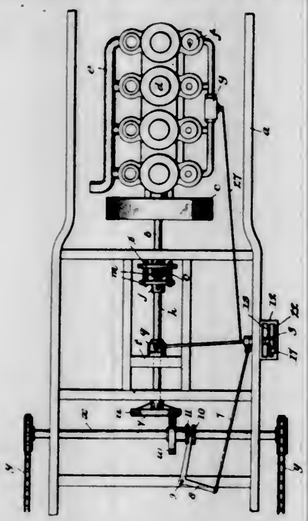
Claim.—1. The combination substantially as herein described, of the bolt having a threaded portion and a groove across the same and having some of the threads broken away at their ends adjacent to the groove forming anchoring-sockets, the nut turning on the bolt and provided across its threaded bore with a groove which may be turned to coincide with that in the bolt, the base-wall of said groove being inclined or tapered whereby to decrease the cross-sectional area of the groove toward its inner end, and the soft-metal key fitted in the coincident grooves of the bolt and nut and forced under pressure laterally in the anchoring-sockets on opposite sides of the bolt and groove and into the spaces between the threads of the bolt and nut, substantially as set forth.

2. A bolt having a longitudinal groove crossing its threaded portion and having lateral anchoring-sockets at the sides of and communicating with said longitudinal groove.

3. A nut having a longitudinal groove across its threaded bore and having the base-wall of said groove inclined inwardly toward the inner end of the nut whereby to increase the frictional resistance to the introduction of a key, and the soft-metal key fitted to said groove the bolt having lateral anchoring-sockets at the sides of and communicating with said groove, substantially as set forth.

4. The combination of the bolt having a longitudinal groove across its threaded portion and having lateral anchoring-sockets at the sides of said longitudinal groove, a nut fitted to said bolt and having a groove across its threaded bore arranged to coincide with that in the bolt, and the soft-metal key driven into the coincident grooves of the bolt and nut, substantially as set forth.

844,863. MEANS FOR CONTROLLING AUTOMOBILES. WILLIAM G. GROESSBECK and GEORGE S. RADFORD, Boston, Mass. Filed July 18, 1906. Serial No. 326,753.



Claim.—1. In an automobile, the combination of an engine, a two-part driving-shaft coupled to said engine, a friction-wheel carried by one of the parts of said driving-shaft, a driven shaft provided with a friction-wheel for engaging with said first-named friction-wheel, cam members through which one part of said shaft passes, one of said cam members being carried by the frame of the machine, a lever for operating the other of said cam members, thereby disengaging said friction-wheels from each other, and connections whereby the movement of said lever in a certain direction shifts one of said friction-wheels relatively to the other, substantially as described.

2. In an automobile, the combination of an engine, a two-part driving-shaft coupled thereto, a spring-controlled coupling connecting the parts of said driving-shaft, a friction-wheel carried by one end of said driving-shaft, a driven shaft, a friction-wheel splined on said driven shaft, but movable thereon, cam members through which one part of said shaft loosely passes, an operating-lever, connections between said operating-lever and one of said cam members, and connections between said lever and the friction-wheel on the driven shaft, substantially as described.

3. In an automobile, the combination of an engine, a two-part driving-shaft coupled thereto, a friction-wheel carried at one end of said shaft, a driven shaft, a friction-wheel mounted on said driven shaft and normally in contact with said first-named friction-wheel, a two-part cam through which said driving-shaft loosely passes, an emergency-brake lever, and connections between said emergency-brake lever and one part of said cam, whereby by the movement of said lever the friction-wheels may be disengaged from each other, and by an additional movement of said lever the emergency-brake may be applied, substantially as described.

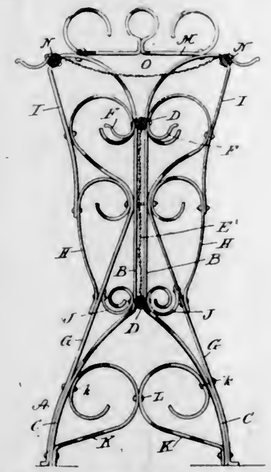
4. In an automobile, the combination of an engine, a two-part shaft coupled thereto, a friction-wheel secured on one end of said shaft, a driven shaft having a friction-wheel slidably mounted thereon and normally in contact with said first-named friction-wheel, a two-part cam, one of the members of which is fixed and the other movable, through which cam said shaft loosely passes, a lever for operating the movable member of said cam, thereby disengaging said friction-wheels, an emergency-brake lever, and a link connected with said emergency-brake lever and said movable cam member so that said member may be moved either by the operating-lever when it is desired to vary or reverse the speed or by the emergency-brake lever to disengage the parts of the driving-gear from each other before the emergency-brake is applied, substantially as described.

5. In an automobile, the combination of an engine, a throttle-valve therefor, a two-part driving-shaft coupled to said engine, said shaft being provided at one end with a friction-wheel, a driven shaft provided with a friction-wheel slidably mounted thereon, a cam having one fixed member and one movable member through which said driving-shaft loosely passes, an emergency-brake lever, connections between the movable member of said cam and said emergency-brake lever, and means carried by said emergency-brake lever for governing said throttle-valve, substantially as described.

6. In an automobile, the combination of an engine, a two-part driving-shaft coupled thereto, one of said parts being movable in relation to the other, a friction-wheel carried at the end of said shaft, a two-part cam one member of which is fixed and the other movable, through which cam said driving-shaft loosely passes, a driven shaft having a friction-wheel slidably mounted thereon, an operating-lever, means whereby the movement of said lever in two directions first disengages said friction-wheels from each other and then shifts one of them relatively to the other, and means for locking said lever in any one of several positions, substantially as described.

7. In an automobile, the combination of an engine, a throttle-valve therefor, an emergency-brake lever, means for locking said lever, and means for operating the throttle-valve carried by said emergency-brake lever, and including a rod provided with a milled head and a pinion, a crank provided with a sector-shaped gear meshing with said pinion, and a connection between said crank and said throttle-valve, substantially as described.

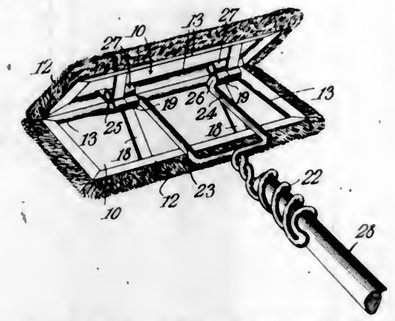
844,864. COMBINED COAT AND HAT RACK. PETER HALLEN, Brookings, S. D. Filed Nov. 5, 1906. Serial No. 342,047.



Claim.—1. In a garment-holder, a stand consisting of supports each comprising two sections opposed one to the other longitudinally, a screen held between the opposed faces of the sections, and a shelf supported by the sections and extending to either side of the screen.

2. In a garment-holder, a stand consisting of suitable supports, each support comprising two sections rods clamped between the sections, a wire screen extending from one rod to the other and secured thereto, hooks on the rods, hooks supported near the top of the stand, and a shelf attached to the supports and extending to either side of the screen.

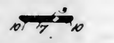
844,865. POLISHER AND CLEANER. WILLIAM J. M. HAMES, Atlanta, Ga. Filed Aug. 24, 1906. Serial No. 331,908.



Claim.—1. In a device of the class described, a plurality of rubbing members provided on their inner sides with arched brackets having central registering sockets, and a handle member provided with spaced transversely-yielding arms having alined terminals engaging, said registering sockets, the terminals being removable from the sockets by flexing said arms.

2. A device of the class described having a plurality of rubbing members provided with brackets having alined central sockets, a handle, and a handle-coupling, said handle-coupling being twisted upon itself at its center to form a handle-socket and having its extremities spaced apart to form arms having alined terminals engaging said sockets.

844,866. BOTTLE. GEORGE N. HARDESTY, Berryville, Va. Filed Nov. 10, 1906. Serial No. 342,848.



Claim.—A closure for mucilage-bottles or the like formed with a mouth-bead, comprising a metallic disk formed with a series of radially-projecting spring-fingers, and a sealing-disk disposed in contact with the under surface of the closure, a pair of diametrically-opposed fingers being reduced in size and bent beneath the closure to engage the edge of the sealing-disk.

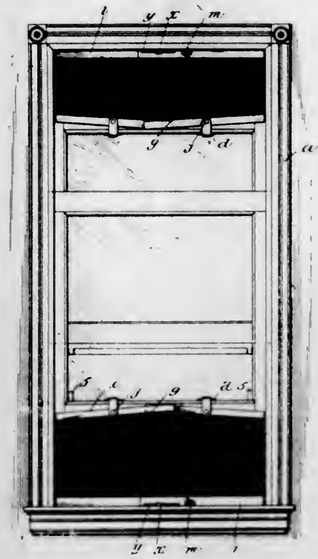
844,867. WINDOW-SCREEN. HENRY J. HAUSER, Rochester, N. Y. Filed Oct. 4, 1906. Serial No. 337,448.

Claim.—1. The combination with a window-sash, of a two-part screen mounted on a spring-controlled roller, each part of said screen being provided with a plate having a central pin, and spring-plates fastened to the sash engaging said pin, said first-named plates being free to move around said pins as centers substantially as described.

2. The combination of a window-sash, spring-plates each having an aperture near its end, fastened to said sash, a spring-controlled roller, a two-part screen wound upon said roller, the parts of said screen overlapping each other at their meeting edges, each part of said screen having a plate along one edge thereof, and each plate being provided with a centrally-located pin, said pins being adapted to be pivotally supported in the apertures of the corresponding spring-plates, and means for closing the space underneath said screens as they are unrolled by the opening of the window, substantially as described.

3. The combination of a spring-controlled roller made in two parts, said parts being adjustable, one upon the other, for different-sized windows, a two-part screen wound upon said roller, the parts of said screen overlapping each other, a plate along the outer edge of each one of said screens and having a central pin projecting outwardly, and spring-plates fastened to the window-sash, each having an aperture in its outer end adapted to fit over one of the pins in said plate, substantially as described.

4. The combination of a spring-roller provided with an inclined slot thereon, a two-part screen, one end of which is adapted to be placed in said inclined slot, means for fastening the screen in said slot, a plate secured on the outer end of each part of the screen, each of said plates having a centrally-located pivot-pin, and spring-plates secured to the window-sash each having an aperture near one end thereof, with which one of said pivot-pins is adapted to engage, said first-named plates being free to turn on said pins, substantially as described.



5. A roller for window-screens consisting of two parts, one provided with a tongue, and the other with a corresponding groove, so that the parts may be adjusted upon each other, one of said parts being also provided with a countersunk slot, a screw passing through said slot and adapted to hold said parts together, an inclined groove running the whole length of said roller for the reception of one end of the screen, said roller being hollow for a portion of its length, a spring in said hollow portion, and a slot through said roller having an enlargement at one end and a countersunk portion at the other, substantially as described.

6. The combination of a spring-roller made in two parts, adjustable upon each other, a two-part screen secured to said roller the parts of said screen overlapping each other, a plate secured to one end of each part of said screen, each plate being provided with a central pivot-pin, spring-plates fastened to the window-sash, each provided with an aperture near its outer end adapted to engage the pivot-pins on said plates, said first-named plates being free to turn on said pins and a spring-controlled two-part shutter adapted to close the space left by said screen as it unrolls, substantially as described.

7. The combination of a window-sash, shutter-supporting means pivoted to the bottom of said sash, a spring supported on said sash, and normally pressing said shutter forward, said shutter being provided with curved extending portions, and inclines mounted upon the other sash, so that said sashes may be slipped past each other without catching said shutter, substantially as described.

8. The combination of a window-sash, hinges fastened thereto, a two-part shutter-holder supported by said hinges, the parts overlapping each other, a shutter carried by said shutter-holder and provided with curved extensions near its ends, a spring supported on said sash and normally forcing said shutter and shutter-holder forward, and inclines located on the other window-sash with which the extensions on said shutter-holder are adapted to engage,

whereby the sashes may be slipped past each other without catching the shutter or shutter-holder, substantially as described.

844,868. CORD OR STRING CUTTER. ARTHUR F. HOFFMAN, Olean, Mo. Filed Aug. 27, 1906. Serial No. 332,273.



Claim.—The improved cord or string cutter comprising a handle having a reverse curve, the two parts of the handle being separated from each other to form a crook, a blade formed integrally with the body of the handle and in general alinement therewith, one edge of said blade being sharpened, and a curved and blunted point extended in general alinement with the blade as and for the purpose specified.

844,869. SOLID-LINK KNIFE-JOINTED CHAIN. HENRY A. HOUSE, Bridgeport, Conn. Filed Oct. 24, 1905. Serial No. 284,188.



Claim.—1. In a chain of the character described, solid drag-links having a central opening, and knife-edge bearing-points facing said opening, loop-links having V-shaped seats for the knife-edge bearing-points of the drag-links, the upper portion of the loop-links provided with a temporary opening to admit the drag-links, a locking-piece to close said opening and support the free ends of the loop-links, for the purpose set forth.

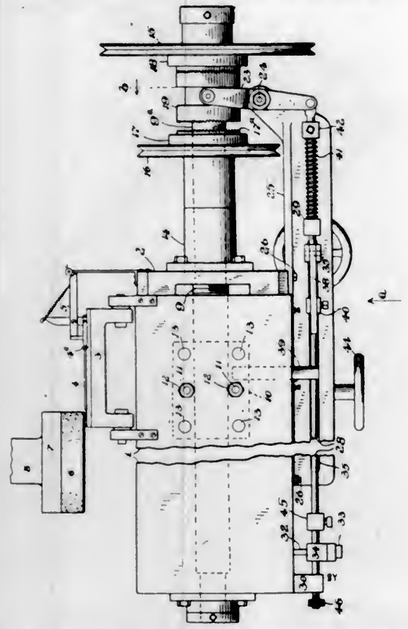
2. In a chain of the character described, drag-links made of a single piece of metal, having knife-edge bearing-points thereon, loop-links having a temporary opening to admit the drag-links, a locking-piece to close said opening, said loop-links having V-shaped seats for the knife-edge bearing-points of the drag-links, for the purpose set forth.

3. In a chain of the character described, drag-links made of a single piece of metal, having knife-edge bearing-points thereon, loop-links having an irregular-shaped temporary opening therein to admit the drag-links, an irregular-shaped locking-piece for said opening, said loop-links having V-shaped seats for the knife-edge bearing-points of the drag-links, for the purpose set forth.

844,870. CUTLERY-GRINDING MACHINE. CHARLES L. JOY, New Haven, Conn. Filed May 23, 1905. Serial No. 261,859.

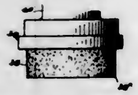
Claim.—1. A cutlery-grinding machine comprising a reciprocating knife-supporting carriage, a support therefor, a feed-screw journaled therein, a divided feed-nut attached to said carriage and engaging said screw, means for adjusting said nut to compensate for wear, for the purpose set forth.

2. A cutlery-grinding machine comprising a reciprocating knife-supporting carriage, a support therefor, a feed-screw journaled therein, a divided feed-nut embracing said screw, means for adjusting said nuts to compensate for wear, guide-pins projecting from said carriage and extending through said feed-nut, for the purpose set forth.



3. A cutlery-grinding machine comprising a traveling knife-supporting carriage, a grinding-wheel, a support for said carriage, a feed-screw journaled in said support and projecting outside of the same, a feed-nut for said screw, differentially-running driving-pulleys loosely mounted on the projecting end of said screw, a clutch operatively located between said pulleys, a lever engaging said clutch, a bracket on which said lever is pivotally supported, a shipper-rod connected to said lever, means for operating said rod to effect a forward movement of the carriage, a pawl for locking said rod, said pawl adjustably supported on said bracket, means connected with the carriage to release said pawl, a spring to actuate the clutch to effect a return movement of the carriage, and means to bring the carriage to a standstill on its return, for the purpose set forth.

844,871. CUTLERY-GRINDING MACHINE. CHARLES L. JOY, New Haven, Conn. Filed Oct. 24, 1905. Serial No. 284,167.



Claim.—1. In a cutlery-grinding machine, a longitudinally-reciprocating carriage, a support therefor, a grinding-wheel, a knife-holder, a knife-holder support operatively mounted thereon and pivotally supported at one end thereto, means to swing the knife-holder support laterally on the carriage to bring the knife-holder into operative position with respect to the grinding-wheel, and means to automatically return said knife-holder support after the operation of grinding is completed, for the purpose set forth.

2. In a cutlery-grinding machine, a longitudinally-reciprocating carriage, a support therefor, a grinding-wheel, a knife-holder, a knife-holder support mounted on the carriage and pivotally supported at one end to said carriage, a rack on the under side of the carriage, a shaft for said carriage carrying a pinion to engage the rack, a driving-shaft, means for operating the same, a worm on said shaft, a worm-gear loosely mounted on the carriage-shaft to mesh therewith, a hub on said gear, a driver fixed to the carriage-shaft, means on the gear to enable it to rotate while the carriage-shaft remains idle, a cam on the hub of the worm-gear, a rock-shaft pivotally supported on the carriage, arms at each end thereof, said arms carrying rolls, one roll to engage the knife-holder support, the other roll to engage the cam on the worm-gear hub, so that, through the medium of said cam and rock-shaft, the knife-holder support is swung laterally on the carriage, for the purpose set forth.

3. In a cutlery-grinding machine, a longitudinally-reciprocating carriage, a support therefor, a knife-holder, a knife-holder support pivotally supported at one end to the upper surface of the carriage and operatively resting thereon, a shaft journaled in the carriage-support and at right angles thereto, a rack on the carriage, a pinion on the shaft to engage therewith, a driving-shaft, a worm thereon, a worm-gear on the carriage-shaft to engage therewith, a hub on said gear, a cam on said hub, means on the carriage to be engaged by said cam to actuate the knife-holder support in its forward movement toward the grinding-wheel, means to automatically return the same, means for temporarily checking the rotation of the carriage-shaft until after the forward movement of the knife-holder support has been completed, means for temporarily holding the carriage against a retrograde movement until after the completion of the forward movement of the knife-holder support, for the purpose set forth.

4. In a cutlery-grinding machine, a reciprocating carriage, a support therefor, a grinding-wheel, a knife-holder, a knife-holder support pivotally suported on said carriage, a rack on the under side of the carriage, a shaft journaled in the carriage-support, a pinion thereon to mesh with the rack, a worm-gear loosely embracing said shaft, a cam controlled by said gear, means to be engaged by said cam to swing the knife-holder support toward the grinding-wheel, a driving-shaft, a worm thereon to mesh with the worm-gear, a driver on the carriage-shaft, means whereby the rotation of the carriage-shaft is temporarily checked until after the forward movement of the knife-holder support has been effected, means also to temporarily check the return movement of the carriage, for the purpose set forth.

5. In a cutlery-grinding machine, a reciprocating carriage, a support therefor, a knife-holder, a knife-holder support operatively mounted on the carriage, means for pivotally supporting it thereto, a grinding-wheel, means to swing the knife-holder support laterally on the carriage toward the grinding-wheel, means to temporarily check the return movement of the carriage until after the lateral movement of the knife-holder support, for the purpose set forth.

6. In a cutlery-grinding machine having a grinding-wheel and a longitudinally-reciprocating carriage and its support, of a knife-holder support pivoted at one end to the carriage and adapted thereby to have a lateral movement thereon, means to effect a movement of the carriage across the face of the wheel until the edge of said wheel is opposite the neck 49ª of the knife, means for automatically swinging the knife-holder support toward the grinding-wheel to bring the said neck of the knife against the wheel, means for reversing the carriage while the knife and wheel are thus engaged, means for automatically returning the knife-holder support to its normal position after the carriage has been returned to its normal position at the completion of the grinding, for the purpose set forth.

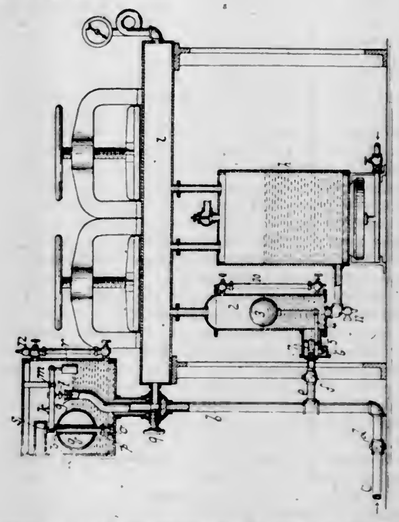
844,872. COAL-DRILL. JOHN KATULKA, Nanticoke, Pa. Filed Nov. 30, 1906. Serial No. 345,708.

Claim.—1. The herein-described coal-drill comprising a stem provided with ribs forming a spiral way or passage about the stem, a centrally-arranged auger-like cutter at one end of said stem, and two auxiliary cutters of different lengths, formed integral with and arranged on opposite sides of said main cutter, the longer auxiliary cutter having its cutting edge closer to the main cutter than the other, shorter, auxiliary cutter, substantially as and for the purpose described.



2. The herein-described coal-drill comprising a spirally-grooved stem, and a cutting-head detachably connected with said stem and including a central auger-like cutter, terminating in two oppositely-curved cutting-points, and two auxiliary cutters extending longitudinally of and arranged on opposite sides of said central cutter, said auxiliary cutters being curved longitudinally and of different lengths, and the longer one being arranged closer to the central cutter than the other, shorter, one.

844,873. FEED-WATER REGULATOR. THOMAS KEENAN, Brooklyn, N. Y., assignor of one-half to Frederick W. Sparks, Brooklyn, N. Y. Filed June 20, 1906. Serial No. 322,575.



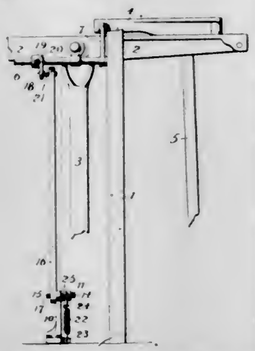
Claim.—1. The combination with a reservoir and water-inlet, of a pressure-inlet extended through the water-inlet and having a valve, a float-actuated valve in the reservoir, a feed-water tube communicating with the reservoir, and a float-actuated valve in the feed-water tube.

2. The combination with a boiler, of a float-chamber and inlet, a float in the chamber, a counterbalanced lever connected to the float and having a valve for the inlet, a reservoir having a pressure-outlet, a pressure-inlet tube ex-

tended from the pressure or steam space of the boiler into the reservoir, a discharge-pipe from the reservoir made to communicate with the inlet, valves for the pressure-outlet and pressure-inlet, and a float-actuated lever for opening and closing the valves in the reservoir.

3. The combination with a boiler and a float-chamber having a common water-level, inlet-valve for the chamber, a float and lever for actuating the valve, a reservoir having pressure-outlet, a pressure-inlet tube extended from the pressure or steam space of the boiler into the reservoir, a discharge-pipe from the reservoir made to communicate with the inlet, valves for the pressure-outlet and pressure-inlet, and a float-actuated lever for opening and closing the valves in the reservoir.

844,874. SHUTTLE-RELEASE MOTION. JOHN W. KILLPARTRICK, Lowell, Mass. Filed Sept. 29, 1905. Serial No. 280,716.



Claim.—1. In a shuttle-release motion, the combination with the swell of a shuttle-box, of means independent of the loom for yieldingly controlling the pressure of the swell, and connections between said controlling means and the swell.

2. In a shuttle-release motion, the combination with the swell of a shuttle-box, of means independent of the loom for yieldingly controlling the pressure of the swell, and for varying the effect of the pressure upon the swell during the movement of the lay.

3. In a shuttle-release motion, the combination with the swell of a shuttle-box, and the protector-rod of the lay, of a support arranged in proximity to the loom but independent of the latter, an operating-crank pivotally connected to said support, means for controlling the movement of said operating-crank, and connections between the operating-crank and the protector-rod, whereby the pressure of the swell is controlled by said crank.

4. In a shuttle-release motion, the combination with the swell of a shuttle-box, and the protector-rod of the lay, of a support arranged in proximity to the loom but independent of the latter, an operating-crank pivotally connected to said support, means for controlling the movement of said operating-crank, and a link connected to the operating-crank and the protector-rod, whereby the pressure of the swell is controlled by said crank.

5. In a shuttle-release motion, the combination with the swell of a shuttle-box, and the protector-rod of the lay, of a support arranged in proximity to the loom but independent of the latter, an operating-crank pivotally connected to said support, connections between said operating-crank and the protector-rod, and a spring connected to said operating-crank for controlling movements of the latter, whereby said crank is adapted to control the pressure of the swell.

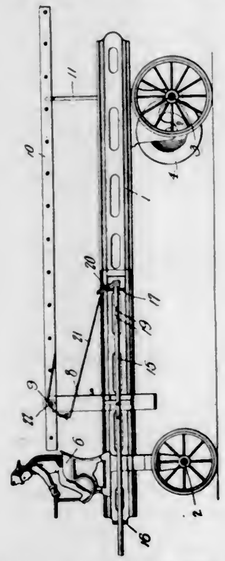
6. In a shuttle-release motion, the combination with the swell of a shuttle-box, and the protector-rod of the lay, of a connecting-crank carried by said rod, a support arranged in proximity to the loom but independent of the latter, an operating-crank pivotally connected to said support, connections between the operating-crank and the connecting-crank, and means associated with said support and connected to the operating-crank for controlling movements of the latter, whereby the operating-crank is adapted to control the pressure of the swell.

7. In a shuttle-release motion, the combination with the swell of a shuttle-box, and the protector-rod of the lay, of a connecting-crank carried by said rod, a support arranged in proximity to the loom but independent of the latter, an operating-crank pivotally connected to said support, connections between the operating-crank and the connecting-crank, and a spring associated with said support and connected to the operating-crank for controlling movements of the latter, whereby the operating-crank is adapted to control the pressure of the swell.

8. In a shuttle-release motion, the combination with the swell of a shuttle-box, and the protector-rod of the lay, of a support arranged in proximity to the loom but independent of the latter, said support having an outwardly-projecting stud, an operating-crank pivotally mounted on said stud, a connecting-crank carried by the protector-rod, a link connected to the operating-crank and the connecting-crank, and a spring associated with said support and connected to the operating-crank for controlling movements of the latter, whereby the operating-crank is adapted to control the pressure of the swell.

9. In a shuttle-release motion, the combination with the swell of a shuttle-box, and the protector-rod of the lay, of a connecting-crank mounted upon said rod and adjustable thereon, a support arranged in proximity to the loom but independent of the latter, an operating-crank pivotally connected to said support, a link connected to the operating-crank and the connecting-crank, and a spring connected to said support and said operating-crank for controlling movements of the latter, whereby the pressure of the swell is controlled by the operating-crank, the tension of said spring being regulated by the position to which the connecting-crank is adjusted on the protector-rod.

844,875. TOY LADDER-TRUCK. HARRY T. KINGSBURY, Keene, N. H. Filed May 14, 1906. Serial No. 316,795.



Claim.—1. In a toy, a truck, a ladder, an obstacle-engaging bumper, and means for operatively connecting the bumper to the ladder to elevate the latter.

2. In a toy, a truck, a ladder, an obstacle-engaging bumper, and a yieldable connection between the bumper and the ladder to elevate the latter.

3. In wheeled toys, a truck, an inertia-wheel, a pivoted ladder, an obstacle-engaging bumper, and means for connecting the bumper to the ladder.

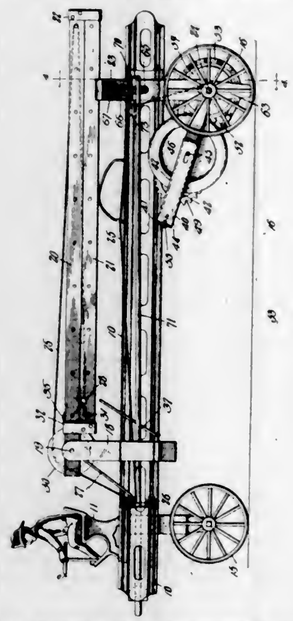
4. In a wheeled toy, a truck, a ladder, an obstacle-engaging bumper, and means including a tension-developing device for connecting the bumper to the ladder.

5. In a wheeled toy, a truck, a ladder pivoted thereto, an obstacle-engaging bumper, a tension-developing device connecting the bumper to the ladder, and means for automatically locking the bumper in its rearmost position to retain the tension.

6. In a wheeled toy, the combination with a truck, of a ladder pivoted thereto, an obstacle-engaging bumper, a bumper-guide, interengaging means between the bumper and guide for locking said bumper in the rearmost position, a spring connected to the ladder, and means for connecting the spring to the bumper.

7. In a wheeled toy, the combination with a truck, of a ladder, an obstacle-engaging bumper having a notched rear end, a guide having an opening, the wall of which is arranged to engage the notch, a spring carried by the ladder, and means for connecting the spring to the bumper.

844,876. TOY LADDER-TRUCK. HARRY T. KINGSBURY, Keene, N. H. Filed June 9, 1906. Serial No. 320,967.



Claim.—1. A wheeled frame, a movable object carried thereby, a motor for operating both the frame and said movable object, and automatic means controlling the connection between the motor and said movable object.

2. A wheeled frame, a ladder pivoted thereto, a single motor for actuating both the frame and the ladder, and an obstacle-actuated means for controlling the connection between the motor and ladder.

3. A motor-driven truck, a ladder carried thereby, and automatic means operable on stoppage of the truck for connecting the motor to the ladder to effect the raising of the latter.

4. A wheeled frame, a movable ladder carried thereby, and a motor arranged to successively propel the frame and elevate the ladder.

5. A wheeled frame, a ladder pivoted thereto, a motor, and an obstacle-controlled means for connecting the motor to the ladder.

6. A motor-driven wheeled toy, a movable object thereon, and means for automatically connecting the motor to said object when movement of the toy is arrested.

7. A wheeled truck, a movable object carried thereby, a motor element for actuating said movable object, and normally disconnected therefrom, and means for automatically connecting the motor to said movable object when movement of the truck is arrested.

8. A wheeled frame, a ladder pivoted thereto, a motor for propelling the frame, and means for automatically connecting the motor to the ladder on the stoppage of the movement of the frame.

9. A wheeled frame, a movable member carried thereby, a motor for propelling said frame, and means operable by engagement of the frame with an obstacle for connecting the motor to said movable member.

10. A motor-propelled toy truck, a ladder carried thereby, and an obstacle-operated means for connecting the ladder to the motor which propels the truck.

11. A motor-propelled wheeled truck, a ladder carried thereby, and automatic means for connecting the motor to the ladder when the truck stops.

12. A motor-propelled wheeled truck, a ladder carried thereby, and an obstacle-actuated means for connecting the motor to the ladder.

13. A wheeled truck, a ladder carried thereby, an inertia-wheel for propelling the same, and an obstacle-controlled means for connecting the inertia-wheel to the ladder.

14. A wheeled ladder-truck, an inertia-wheel for propelling the same, and means for utilizing the driving force of the motor for elevating the ladder when the truck is stopped.

15. A wheeled ladder-truck, a motor for propelling the same, a normally loose winding-drum, a flexible connection between the winding-drum and the ladder, and an obstacle-actuated means for operatively connecting the motor to the winding-drum.

16. A wheeled ladder-truck having a driving-axle, an inertia-wheel motor connected to the axle, a winding-drum normally loose on the axle, a flexible connection between the winding-drum and the ladder, and an obstacle-actuated clutch for connecting the winding-drum to the axle.

17. A ladder-truck having a driving-axle, a sprocket-wheel thereon, an inertia-wheel motor including a sprocket-wheel, a link belt connecting the two sprocket-wheels, a winding-drum loose on the shaft and having at one end a clutch-face for engaging against the axle-carried sprocket-wheel, and a spring-actuated obstacle-controlled means for engaging the winding-drum with the sprocket-wheel.

18. In combination, a wheeled ladder-truck having a driving-axle, a sprocket-wheel thereon, an inertia-wheel motor including a sprocket-wheel, a link belt connecting said sprocket-wheels, a winding-drum loose on the axle and having a clutch-face arranged to engage against the axle-carried sprocket-wheel, a flexible connection between the winding-drum and the ladder, a spring-depressed frame carried by the truck, an arm on said frame and arranged to force the drum into engagement with the sprocket-wheel, and a bumper normally holding said frame in elevated position.

19. In combination a wheeled frame including a driving-axle, a pivoted ladder carried by the frame, a sprocket-wheel on the axle, an inertia-wheel motor including a sprocket-wheel, a link belt connecting the sprocket-wheels, a winding-drum arranged to clutch against the axle-carried sprocket-wheel, a flexible connection between the drum and the ladder, an inverted-U-shaped frame, a drum-actuated arm carried thereby, a spring tending to depress the frame, and a bumper having inturned end portions engaging and holding the frame in elevated position.

20. In combination, a wheeled frame including a driving-axle, of a motor operatively connected to the axle, a winding-drum loose on the axle, a ladder pivoted to the frame, a flexible connection between the ladder and the drum, a spring-depressed frame arranged to move against the supporting-surface and elevate the wheels of the driving-axle from the surface, and to clutch the winding-drum

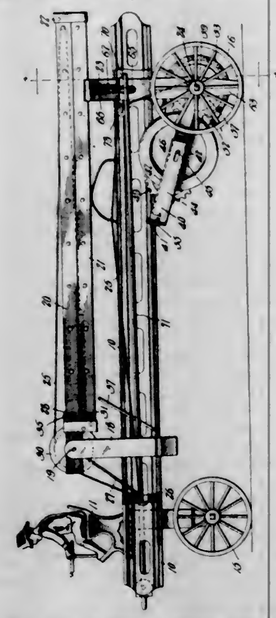
to the axle, and a bumper normally holding said frame in elevated position.

21. A frame including a pair of spaced sills, a ladder pivoted to the frame, a cross-bar serving as a connection between the rear portions of the sills, wheeled axles supporting the frame, a motor operatively connected to one of said axles, an inverted-U-shaped frame having vertically-elongated openings for the passage of the driving-axle and the cross-bar, a vertically-disposed spring-carried bar extending through an opening in said U-shaped frame, a second cross-bar forming a stop for the upper end of the spring, said frame being provided with shoulders on its opposite arms, a U-shaped bumper having inturned ends engaging with the shoulders, and holding the frame in elevated position, a winding-drum mounted loosely on the axle, a flexible connection between the winding-drum and the ladder, and a drum-actuating arm carried by the frame and arranged to effect the locking of the drum to the axle, the frame serving when depressed to elevate the driving-wheels above the supporting-surface.

22. In combination, a wheeled frame including a driving-axle, a U-shaped frame pivoted thereto and having its arms flanged to form channel-bars, an inertia-wheel-carrying frame slidably mounted within such channel-bars, an inertia-wheel motor, means for connecting the motor to the driving-axle, and an adjusting device connecting the two frames.

23. A wheeled ladder-truck, including a pivotally-mounted ladder formed of slidably-connected sections, clips secured to each section and embracing a portion of the opposite section, and a friction-spring carried by one of the sections and extending under a clip of the other sections.

844,877. TOY LADDER-TRUCK. HARRY T. KINGSBURY, Keene, N. H. Filed June 9, 1906. Serial No. 320,968.



Claim.—1. A wheeled toy, a motor therefor, and means for permitting idle operation of the motor and driving-wheels when the movement of the toy is arrested.

2. A wheeled toy, a motor therefor, and means for nullifying the propelling force of the driving-wheels without stopping their rotative movement when the movement of the toy is arrested.

3. A motor-driven wheeled toy, including a permanently-connected motor and driving-wheels, and an obstacle-actuated means for nullifying the driving action of the motor and wheels.

4. A motor-driven wheeled toy having a driving-wheel, and means for raising the driven wheel from the surface when the toy strikes an obstacle.

5. A wheeled frame, a motor, a driving-wheel connected to the motor, and means for raising the driven wheel from the ground when the wheeled frame strikes an obstacle.

6. A wheeled frame, an inertia-wheel for propelling the same, and means automatically operable on abrupt stopping of the frame for insuring idle movement of the inertia-wheel.

7. A wheeled toy, an inertia-wheel for propelling the same, and an obstacle-controlled elevating device for raising the wheels of the frame from the supporting-surface.

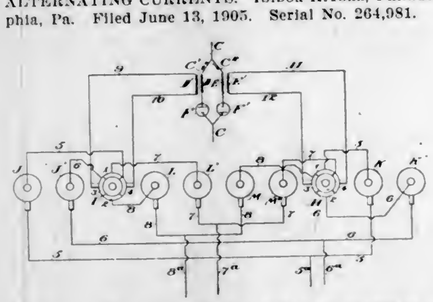
8. A frame having driving-wheels, an inertia-motor for operating the driving-wheel, and an obstacle-actuated elevating means for raising the driving-wheels from the supporting-surface.

9. An inertia-wheel-propelled toy, an inverted-U-shaped frame carried thereby, a spring tending to move the frame downward and elevate the wheels from the supporting-surface, and a bumper normally holding said frame in elevated position.

10. A wheeled frame, a ladder carried thereby, a motor for propelling the frame, and an obstacle-actuated means for nullifying the propelling operation, and connecting the motor to the ladder.

11. A wheeled frame, a ladder pivoted thereto, a motor for propelling the frame, and means for automatically nullifying the propelling action of the motor and connecting said motor to the ladder.

844,878. MEANS TO INCREASE THE EFFICIENCY OF ALTERNATING CURRENTS. ISIDOR KITSEE, Philadelphia, Pa. Filed June 13, 1905. Serial No. 264,981.



Claim.—1. The herein-described means for increasing the efficiency of alternating currents, comprising a circuit connected to a source of alternating current and divided to provide a plurality of branches, means associated with each branch to permit the flow of the current in one direction and to prevent the flow of the current in the opposite direction, a converter-primary arranged in each of said branches, and means whereby the impulses induced by the starting of the flow of the current are separated from the impulses induced by the stopping of the flow of the current.

2. The herein-described means for increasing the efficiency of alternating currents, comprising a circuit connected to a source of alternating current and divided to provide a series of branches, means in each of said branches to permit the flow of the current in one direction and to prevent the flow of the current in the opposite direction, a primary for each of said branches, a secondary in inductive relation to each of said primaries, a consuming-circuit, and means to adjust the flow of the induced impulses so that each induced impulse shall be of substantially the same value as the impulse following.

3. The herein-described means for increasing the efficiency of alternating currents, comprising a circuit connected to a source of alternating current, a pair of primaries arranged in said circuit, means associated with one of said primaries to permit the flow of the current in one direction, means associated with the second of said primaries to allow the flow of the current in the opposite direction, a secondary for each primary, means whereby an impulse is caused to be induced in each of said secondaries by the starting of the flow of the current in its primary, and also by which an impulse is caused to be induced by the stopping of the flow of the current in the primary, and a consuming circuit or circuits for the induced impulses.

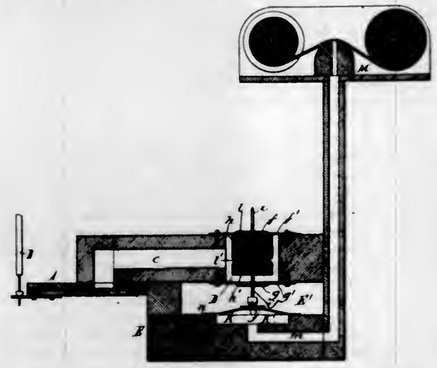
4. The herein-described means for increasing the efficiency of alternating currents, comprising a plurality of converters the primaries of which are connected to a source of alternating current, means for causing to be induced in the secondaries of said converters two impulses for each half of each cycle of said current, the impulses induced in each secondary differing in potential, a separate consuming-circuit for the induced impulses of like potential, and means whereby the induced impulses of like potential are caused to flow in the respective consuming-circuits.

5. The herein-described means for increasing the efficiency of alternating currents, comprising a circuit connected to a source of alternating current and divided to provide a branch for each of the alternations of each cycle, means in each of said branches for generating two impulses for each alternation of each cycle, and means to readjust said impulses so that when fed to consuming-circuits the same shall be of substantially constant potential.

6. The herein-described means for increasing the efficiency of alternating currents, comprising a circuit connected to a source of alternating current and divided to provide branches for the flow of current of opposite directions, means asosciated with each branch for generating separate impulses by the starting and stopping of the flow of the current therein, and means for separately leading off the impulses generated by the starting and stopping of the flow of the current.

7. The herein-described means for increasing the efficiency of alternating currents, comprising a circuit connected to a source of alternating current and divided to provide branches for the flow of the current of opposite directions, means arranged in each branch to permit the flow therethrough of only predetermined portions of the current, means associated with each branch for generating separate impulses by the starting and stopping of the flow of the current therein, and means to readjust said impulses so that when fed to consuming-circuits impulses of substantially the same value shall flow through the same circuits.

844,879. VALVE FOR PNEUMATIC MUSICAL INSTRUMENTS. EUGENE DE KLEIST, North Tonawanda, N. Y. Filed Nov. 27, 1905. Serial No. 289,208.

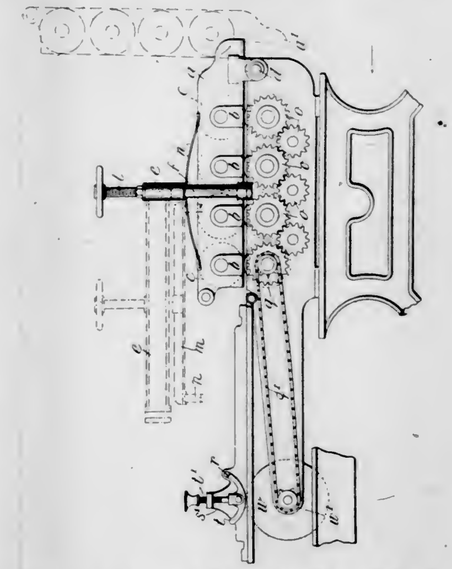


Claim.—1. In a pneumatic musical instrument, the combination of a chamber having opposing ports, and a duplex valve comprising opposing valve-heads coöperating with said ports, one of said heads having a concave back and the other a convex back bearing against said concave back, said heads being free to move at an angle to each other, substantially as set forth.

2. In a pneumatic musical instrument, the combination of a chamber having opposing ports, and a duplex valve comprising opposing valve-heads coöperating with said ports, one of said heads being provided in its back with a conical socket and the other with a conical rear end fitting into said socket, the contiguous faces of the two heads being of different pitches, substantially as set forth.

3. In a pneumatic musical instrument, the combination of a wind-chest, a valve-chamber having exhaust and vent ports communicating respectively with the wind-chest and the atmosphere, a duplex valve comprising exhaust and vent heads or members arranged in said chamber and controlling the corresponding ports thereof, one of said members being provided in its back with a conical socket and the other with a conical rear end seated in said socket, and means for guiding said valve members, substantially as set forth.

844,880. CARDBOARD-GLUING MACHINE. PHINEAS LAWRENCE, London, England. Filed May 25, 1906. Serial No. 318,780.



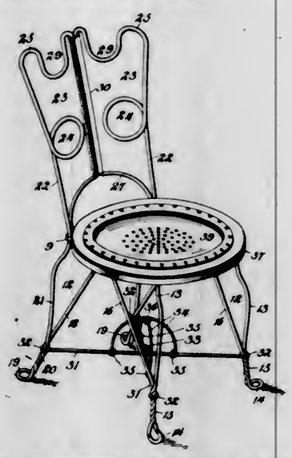
Claim.—1. In a cardboard-gluing machine, and in combination, a framework carrying rollers, upper rollers, a frame carrying the latter and hinged to said framework, uprights fixed to the frame of the machine, a cross-bar pivotally carried by one of said uprights, means for removably securing one end of such cross-bar to the other, a screw carried by such cross-bar, and means intermediate of such screw and said frame for conveying the pressure transmitted by the former to the latter.

2. In a cardboard-gluing machine and in combination a framework carrying rollers, upper rollers, a frame carrying the latter, hinged to said framework, uprights fixed to the frame of the machine, a cross-bar pivotally carried by one of said uprights, and having a hooked end adapted to engage the other and a screw carried by said cross-bar, and means intermediate of such screw and said frame for conveying the pressure transmitted by the former to the latter.

3. In a cardboard-gluing machine and in combination, a framework carrying rollers, upper rollers, a frame carrying the latter and hinged to said framework, uprights fixed to

the frame of the machine, a cross-bar pivotally carried by one of said uprights, means for removably securing one end of such cross-bar to the other, a screw carried by such cross-bar, a bar carried by said screw and springs located between said bar and said frame when the cross-bar is in its pressure position.

884,881. CHAIR. JAMES S. LESTER, Atlanta, Ga. Filed Nov. 28, 1905. Serial No. 289,515.



Claim.—1. In an article of furniture of the class described, a continuous rim-frame, supporting-legs therefor, and a back, all formed from a single continuous rod or wire

2. In an article of furniture of the class described, a continuous rim-frame, spaced leg-standards having their upper ends connected to spaced portions of the rim-frame, a brace member conneced to the leg-standards and having an intermediate portion connected to the rim-frame, and a seat mounted on the rim-frame.

3. In an article of furniture of the class described, a continuous rim-frame, spaced leg-standards having their upper ends associated with the rim-frame, a brace member constituting a continuation of the leg-standards and having an intermediate portion located alongside the rim-frame between said leg-standards, clip means embracing said intermediate portion and the rim-frame, and a seat mounted on the rim-frame.

4. In an article of furniture of the class described, a continuous rim-frame, spaced legs formed from a single rod or wire, said legs comprising a brace member having an intermediate portion associated with the rim-frame, divergent terminal portions, upright leg-standards constituting an integral continuation of the said terminal portions and having their upper ends associated with the rim-frame, means for securing the intermediate portion of the brace member and the leg-standards to the rim-frame and a seat mounted on the rim-frame and extending over the upper portions of the leg-standards and brace member.

5. In an article of furniture of the class described, a rim-frame comprising sections having overlapped portions, and a leg connected to the overlapped end of each section and having an upwardly-inclined brace portion extending from the lower portion of the leg and having its upper end abutted against the other rim-section.

6. In an article of furniture of the class described, a rim-frame comprising sections having overlapped portions and formed from a rod or wire, and separate sets of legs constituting, respectively, integral continuations of each overlapped portion, said sets comprising spaced standards having upper ends associated with the other rim-section, and a brace member connecting the standards and having an intermediate portion also associated with said other section.

7. In an article of furniture of the class described, a rim-frame comprising part-ring sections having portions overlapped, downturned leg-standards continued from the ends of the overlapped portions, upwardly-extending braces constituting continuations of said leg-standards and having their upper ends associated with the rim-frame, downwardly-extending braces forming continuations of said first-mentioned braces, upwardly-extending standards forming continuations of said latter downwardly-extending braces and having their upper ends associated with the rim-frame, and means for clipping the rim-frame sections and associated parts of the standards and braces together.

8. In an article of furniture of the class described, the combination with a chair-body, of a back carried thereby and comprising independent sections separately connected to the rear portion of the chair-body and having outer side bars and inner side bars, said inner side bars having portions located alongside each other, and having their lower ends extending outwardly to the outer side bars, and a sleeve surrounding and confining the portions of the inner side bars that are located alongside each other.

9. In an article of furniture of the class described, the combination with a chair-body, of a back carried thereby and comprising skeleton sections having inner and outer bars, the outer bars being provided between their ends with inwardly-extending loops, the inner bars being disposed alongside each other, and a sleeve surrounding and confining said inner bars.

10. In an article of furniture of the class described, the combination with a chair-body, of a back carried thereby and comprising sections having inner upright bars secured together, and outwardly-extending top bars provided with depending open-topped stirrup portions forming arm-receiving seats.

11. In an article of furniture of the class described, the combination with rim-frame sections having overlapped front portions, of depending sets of legs carried respectively by the overlapped portions and comprising continuous standards and braces forming continuations of said rim-frame sections, a back comprising skeleton sections and forming continuations of the sets of legs and extending above the rim-frame, and means for securing the back-sections together, said back-sections having depending arm-receiving stirrups in their upper ends.

12. In an article of furniture of the class described, the combination with a rim-frame, of legs depending therefrom and having portions associated therewith, a rim located on the rim-frame, and clip members securing the said portions of the legs, the rim-frame and the rim together.

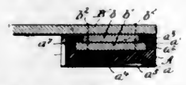
13. In an article of furniture of the class described, the combination with a rim-frame, of sets of legs depending therefrom and comprising standards having their upper ends associated with the frame, and braces connecting the standards of each set and having intermediate portions located alongside the rim-frame, a rim located on the rim-frame, and clips secured to the rim and embracing the rim-frame and said portions of the braces.

14. In an article of furniture of the class described, a body including supporting-legs, intersecting braces connecting the opposite legs, and bowed intersecting members mounted on the braces and extending over the points of intersection thereof.

15. In an article of furniture of the class described, a body including supporting-legs, intersecting continuous braces connecting the opposite legs and having interlocked eyes at their points of intersection, and bowed intersecting members having their terminals secured to the braces on opposite sides of the interlocked eyes, said members extending over the braces and having interlocked eyes at their point of intersection.

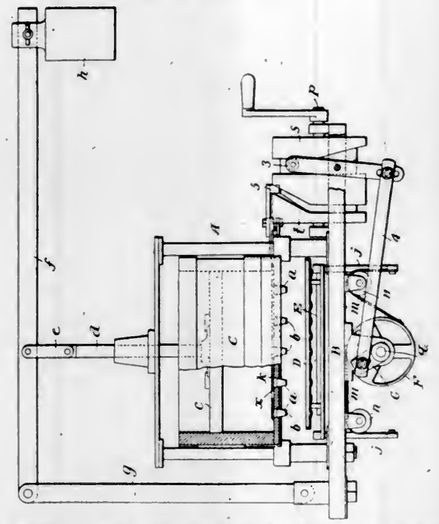
844,882. HEEL FOR BOOTS AND SHOES. JOHN F. LOBER, Pittsburg, Pa. Filed Sept. 28, 1905. Serial No. 280,355.

Claim.—In a heel for boots and shoes, the combination, of a false heel comprising a leather piece *b* attached to the sole of the shoe and a larger leather piece *b'* attached to the aforesaid piece to project beyond the edges thereof all around and flared upward beyond the same to provide an annular dovetailed recess b^2, and a removable rubber heel adapted to engage the false heel and therefore provided in its upper side with an opening *a*, cavity *a'*, and an in-



wardly-projecting flange a^3, the latter being substantially rectangular in cross-section and adapted to take into the dovetailed recess and so that the flared edge of the piece *b'* will bind against the inner portion thereof, said rubber heel being further provided with a cavity below the false heel; all as herein shown and described.

844,883. MACHINE FOR FORMING CONFECTIONS. WILLIAM W. LYSINGER, Philadelphia, Pa. Filed Jan. 7, 1907. Serial No. 351,239.



Claim.—1. The combination in a machine for forming confections, of a receptacle provided with nipples having terminal fingers *b*, a cut-off plate controlling the flow through said nipples, a mold arranged below the nipples, and means for shifting the cut-off plate and raising and lowering the mold, substantially as set forth.

2. The combination with the receptacle having openings and nipples with fingers *b* extending therefrom, and a movable die-plate, of a vertically-movable carriage adapted to support a mold, and means for raising and lowering the carriage.

3. The combination of the receptacle, its openings, nipples, and cut-off plate, a vertically-movable mold, and means for moving the mold and cut-off plate in unison, for the purpose set forth.

4. The combination with the receptacle, its openings, nipples and cut-off plate, of a mold, guide-bars *j*, a pulley *f*, flexible connections between the pulley and guide-bars, and means for oscillating the pulley.

5. The combination in a machine for forming confections, of a receptacle provided with a perforated bottom and nipples communicating with the perforations, a cut-off plate controlling the flow through the nipples, a mold arranged below the nipples, a shaft, and means whereby to shift the cut-off plate and raise and lower the mold by the turning of said shaft.

6. The combination with the receptacle, its nipples and cut-off plate, of a mold arranged below the nipples, means for shifting the cut-off plate and raising and lowering the mold arranged to uncover the openings after the mold is raised and to lower the mold more rapidly than the material can pass through the nipples.

7. The combination with the receptacle, nipples and means for controlling the flow through the nipples, of a mold having series of recesses greater in number than the series of nipples, a support for the mold upon which the latter can be shifted to bring either series of recesses beneath the nipples, and means for raising and lowering the support.

8. The combination with the mold and elevating and lowering means, of a receptacle having a bottom with flaring perforations, and hollow nipples of conical form adapted to said perforations, as set forth.

9. The combination with the receptacle, its nipples, mold and shaft, connections for raising and lowering the mold, and cut-off plate within the mold, of a shaft carrying cams, one engaging a projection upon an extension of the cut-off plate, and the other the means for rocking the mold-elevating shaft, as set forth.

10. The combination with the receptacle, nipples, and a vertically-movable mold-carrier below the nipples having downwardly-extending bars *j*, of a shaft and pulley carried thereby, guide-wheels *n*, and straps passing from the periphery of the pulley and around the guide-wheels and connected with said bars, for the purpose described.

844,884. SPRING-RECOIL NEUTRALIZER. ALBERT MANS, Dieghem-Brussels, Belgium. Filed Nov. 22, 1905. Serial No. 288,574.

Claim.—1. A spring-recoil neutralizer for vehicles comprising in combination a cylinder having a piston provided with a hollow rod, said rod and cylinder being connected with the body and axle of the vehicle, said piston-rod having an orifice above said piston, a reservoir communicating with said cylinder by slotted extension adapted to telescope said hollow piston-rod, inwardly and outwardly opening valves for said cylinder, a valve for said piston, and a pintle for said piston-rod adapted to control said orifice.

2. A spring-recoil neutralizer for vehicles comprising in combination a cylinder having a piston provided with a hollow rod, said rod and cylinder being connected with the body and axle of the vehicle, said piston-rod having an orifice above said piston, a reservoir communicating with said cylinder by slotted extension adapted to telescope said hollow piston-rod, an inwardly-opening valve for said cylinder, a valve for said piston, and a pintle for said piston-rod adapted to control said orifice.

3. A spring-recoil neutralizer for vehicles comprising in combination a cylinder having a piston provided with a hollow rod, said rod and cylinder being connected with the body and axle of the vehicle, said piston-rod having an orifice above said piston, a reservoir communicating with

said cylinder by slotted extension adapted to telescope said hollow piston-rod, an outwardly-opening valve for said cylinder, a valve for said piston, and a pintle for said piston-rod adapted to control said orifice.

4. A spring-recoil neutralizer for vehicles comprising in combination a cylinder having a piston provided with a hollow rod, said rod and cylinder being connected with the body and axle of the vehicle, said piston-rod having an orifice above said piston, a reservoir communicating with said cylinder by slotted extension adapted to telescope said hollow piston-rod, inwardly and outwardly opening valves for said cylinder, a valve for said piston, and means for controlling said orifice.

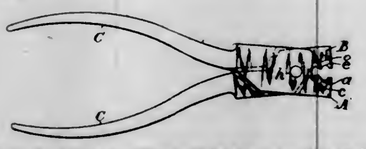
5. A spring-recoil neutralizer for vehicles comprising in combination a cylinder having a piston provided with a hollow rod, said rod and cylinder being connected with the body and axle of the vehicle, said piston-rod having an orifice above said piston, a reservoir communicating with said cylinder by extension adapted to telescope said hollow piston-rod, an inwardly-opening valve for said cylinder, a valve for said piston, and means for controlling said orifice.

6. A spring-recoil neutralizer for vehicles comprising in combination a cylinder having a piston provided with a hollow rod, said rod and cylinder being connected with the body and axle of the vehicle, said piston-rod having an orifice above said piston, a reservoir communicating with said cylinder by slotted extension adapted to telescope said hollow piston-rod, an outwardly-opening valve for said cylinder, a valve for said piston, and means for controlling said orifice.

7. A spring-recoil neutralizer for vehicles comprising in combination a cylinder having a piston and piston-rod, the cylinder and rod being connected with the body and axle of the vehicle, a reservoir adapted to communicate with said cylinder, means for gradually cutting off communication between the reservoir and cylinder on one side of the piston, means for effecting communication between the cylinder and reservoir on the opposite side of the piston, and a valve in said piston opening toward said reservoir.

8. A spring-recoil neutralizer for vehicles comprising in combination a cylinder having a piston and piston-rod, the cylinder and rod being connected with the body and axle of the vehicle, a reservoir adapted to communicate with said cylinder, means for gradually cutting off communication between the reservoir and cylinder on one side of the piston, means for effecting communication between the cylinder and reservoir on the opposite side of the piston, a valve in said piston opening toward said reservoir, and an inwardly-opening valve for said cylinder.

844,885. RING-BENDING TOOL. LUCENA M. MORDEN, Waterbury, Conn. Filed May 5, 1904. Serial No. 206,488.

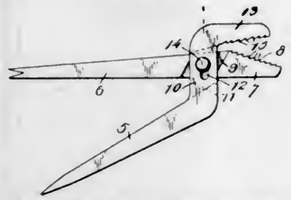


Claim.—1. A ring-bending tool having two dies each provided with a pair of reversely-shaped bending-faces, the concave face upon one being opposed to the convex face upon the other, and such reversely-shaped faces being adapted respectively to open and close a ring when the ring is applied in the same position thereto.

2. The ring-bending dies having two pairs of bending-faces adjacent to one another, one pair comprising a concave seat grooved to steady the ring and a pressing-face opposite thereto, and the other pair comprising a convex seat formed with two end supports grooved to steady the ring, and a recess between such supports, and a pressing-face opposite to the recess, whereby rings of various sizes may be opened or closed, substantially as herein set forth.

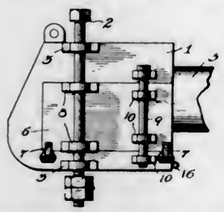
3. The ring-bending dies for opening divided rings, one die having a convex seat formed with two end supports grooved to steady the ring, and having a recess between such supports, and the other die having a pressing-face opposite to the recess, whereby rings of various sizes may be opened or closed, substantially as herein set forth.

844,886. WRENCH. FRANKLIN P. MORRIS, Murray, Okla. Filed Aug. 17, 1906. Serial No. 331,064.



Claim.—In a wrench, the combination with a straight handle having a jaw-face at one end and having a transverse diagonal recess in one face adjacent to its jaw, one end portion of each side wall of the recess being turned to extend at right angles to the longitudinal axis of said handle, said portions lying at opposite sides of the handle, of a headed stud carried by the handle centrally of the recess, a second handle including a diagonal laterally-turned portion reduced in thickness and having its reduced portion engaged in the recess of the first-named handle, said reduced portion being slotted, said stud being slidably and pivotally engaged in the slot for pivotal movement of the handle to bring its edge faces at times into engagement with the slanting portions of the walls of the recess, and at times into engagement with the straight portions of said walls, and a jaw carried by the laterally-turned portion of the second handle, said jaw being arranged to lie in parallel relation to the jaw of the first-named handle when the angular portion of the second handle is in engagement with the slanting walls of the recess, and to lie at an angle to the first-named jaw when said angular portion of the second handle is in engagement with the straight portions of said walls, said second handle being movable slidably upon the stud to move its jaw toward and away from the first-named jaw.

844,887. JOURNAL-BOX. SLAYDON MURPHY, Westonia, Miss. Filed Oct. 2, 1906. Serial No. 337,092.



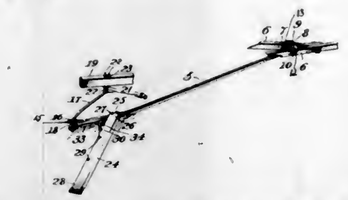
Claim.—1. A journal-box, for railway-car trucks, having an opening in its side through which the axle is adapted to pass, a hinged closure for said opening and means to lock said closure shut.

2. A journal-box, for railway-car trucks, having an opening in its side through which the axle is adapted to pass, a closure for said opening, a brass in the top of said box and means to retain said brass in position when the axle is removed.

3. A journal-box, for railway-car trucks, having an opening in its side through which the axle is adapted to pass, a closure for said opening having eyepieces secured thereto, there being other eyepieces carried by the box and arranged in line with those on the closure, and a pin adapted to engage said eyepieces.

4. A journal-box of the character described, having an opening in its side through which the axle is adapted to pass, a closure for said opening having two sets of eyepieces secured thereto, there being other eyepieces carried by the box and some arranged in line with each of the sets of eyepieces on the closure, a locking-pin adapted to engage some of the eyepieces on the box and one set thereof on the closure, and a bolt for securing the box to the frame of the truck, said bolt engaging the other eyepieces on the box and the other set thereof on the closure.

844,888. STUBBLE-CUTTER. WILLIAM A. MCCOLLOUGH, Lamoille, Iowa. Filed Dec. 20, 1904. Serial No. 237,733.



Claim.—1. In a stubble-cutter attachment, the combination with a transportable frame, of a knife-carrying frame loosely attached thereto, and means for automatically raising the knife-carrying frame upon a movement of said transportable frame in other than a forward direction.

2. In a stubble-cutter attachment for harvesters, the combination with a transportable frame, of a knife-carrying frame loosely attached to said transportable frame, and a leg jointedly attached to the rear of the knife-carrying frame and resting upon the ground adapted to raise the knife-carrying frame upon a movement of said transportable frame in other than a forward direction.

3. In a stubble-cutter attachment, the combination with a transportable frame, of a knife-carrying frame movably attached thereto, instrumentalities for raising the knife-carrying frame above the ground as the machine moves rearward and enabling automatic returning of the knife-carrying frame into operative position as the machine moves forward.

4. In combination, a frame, a drag-bar movably connected therewith, a cutter-blade, an elevator, and instrumentalities for securing the cutter-blade to the drag-bar and for pivotally mounting the elevator whereby the latter will be operable to automatically raise the drag-bar and cutter-blade upon movement thereof in a predetermined direction.

5. In combination with a drag-bar, a cutter-blade secured thereto, a reinforcing back support for said cutter-blade having a portion attached to the drag-bar and an offset portion part of which is parallel with the drag-bar and part of which is connected with the cutter-blade, and an elevator-arm pivoted between said parallel part of the offset portion and the drag-bar.

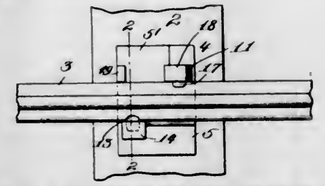
6. In a stubble-cutter, the combination with a transportable frame, of a cutter operatively associated therewith, and means for automatically raising said cutter upon every movement of said transportable frame tending rearwardly from the direction of forward travel thereof.

844,889. TURPENTINE-BOX. ARCHIBALD C. MCLEOD, Quitman, Ga., assignor to Quitman Manufacturing Company, Quitman, Ga., a Corporation of Georgia. Filed Sept. 13, 1906. Serial No. 334,468.



Claim.—A box and a reinforcing-wire having a front portion wired to the upper edge of the front of the box and provided at its ends with rearwardly-projecting portions wired to the upper edges of the opposite ends of the box and extended rearwardly beyond the box to connect with a tree.

844,890. TIE-PLATE FOR RAILWAY-RAILS. CARL E. NEUBAUER, Chisholm, Minn., assignor of one-fourth to Otis E. Moore, Chisholm, Minn., and three-sixteenths to John M. Landrigan, Superior, Wis. Filed Aug. 1, 1906. Serial No. 328,745.



Claim.—1. A tie-plate of the class described having an opening for receiving a railway-spike, said plate further provided with an elongated slot in direct communication with the opening for allowing the spike to pass into said opening, and a housing above the opening for covering the spike.

2. A tie-plate of the class described having openings arranged a distance removed from each other, said plate further provided with an elongated slot in communication with at least one of the openings, a housing for the opening in communication with the slot for receiving the head of the spike, and spikes in each of said openings for locking the plate.

3. A tie-plate of the class described involving two sections, one of said sections having a cut-out portion for receiving the other of said sections and provided with a tongue at one edge thereof terminating in a socket at one end and a triangular recess at the other end, the other of said sections having an elongated socket correspondingly shaped to the tongue for interlocking engagement therewith to hold the sections together to form a unitary structure, said plate provided with openings for receiving railway-spikes, and a housing carried by each of the sections to overhang the openings for covering the heads of the spikes.

4. A tie-plate of the class described, involving two sections, one of said sections having a cut-out portion for receiving the other of said sections and provided with a tongue at one edge thereof terminating in a socket at one end and a triangular recess at the other end, the other of said sections having an elongated socket correspondingly shaped to the tongue for interlocking engagement therewith to hold the sections together to form a unitary structure, said plate provided with openings for receiving railway-spikes, a housing carried by each of the sections to overhang the openings for covering the heads of the spikes, and a rib and stop on the respective sections for engagement with the base of a railway-rail to prevent displacement thereof.

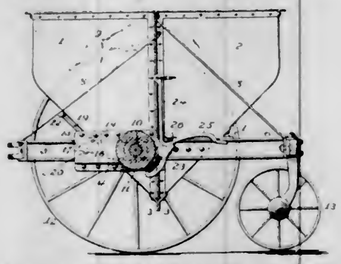
5. A tie-plate of the class described, involving two sections, one of said sections having a cut-out portion provided with a tongued edge, the latter terminating at one end in a socket, and at the other end in a triangular recess, the other section having an elongated socket correspondingly shaped to the tongue for locking engagement of the sections, said plate provided with spike-receiving openings and having a slot in communication with at least one of the openings, and housings carried by each of the sections being adapted to overlie the latter to cover the heads of the spikes, one edge of each housing being bent for locking engagement with the head of the spike.

844,891. DUMPING-VEHICLE. EDWIN I. NOTTINGHAM, Washington, D. C. Filed Jan. 24, 1906. Serial No. 297,660.

Claim.—1. A dumping-vehicle having a body comprising two coöperating members, wheeled supports on which

said body members are mounted, and means for moving the members bodily away from each other and discharging the contents of each between the members.

2. A dumping-vehicle having a body comprising two cooperating members, separable bodily from each other, and means for locking one body member when the other body member is moved relatively thereto.



3. A dumping-vehicle having a body comprising two cooperating members separable bodily away from each other, means for normally locking the body members together, and means for locking one body member when the other body member is moved relatively thereto.

4. A dumping-vehicle having a body comprising two cooperating members, wheeled supports on which said body members are mounted, and means for permitting one member to move in a horizontal plane away from the other.

5. A dumping-vehicle having a body comprising two cooperating members separable bodily from each other, and means operating automatically to hold one body member when the other body member is moved relatively thereto.

6. The combination of a series of dumping-vehicles coupled together, each having a separable body, and means operating to permit the simultaneous opening or closing of the entire series of separable bodies.

7. The combination of a series of dumping-vehicles coupled together, each vehicle having a body comprising two members movable bodily away from or toward each other, and means operating automatically to hold one body member of each vehicle and permit the other body members of all the vehicles to move simultaneously when power is applied to one end of the train of coupled vehicles.

8. A dumping-vehicle having a body comprising two members separable from each other, one member having sides telescoping into the other member.

9. In a dumping-vehicle, the combination of a body comprising two independent half-sections, means supporting the sections and constructed to permit one section to be moved away from the other to dump and back again to close the body.

10. In a dumping-vehicle, the combination of a hopper-shaped body comprising two half-sections separable from each other, supporting mechanism for each section to which the respective sections are rigidly secured, and means permitting the supporting mechanisms to be moved relative to each other.

11. In a dumping-vehicle, the combination of a body comprising two half-sections, and wheeled supports for both sections having sliding engagement with each other.

12. In a dumping-vehicle, the combination with a body comprising two half-sections, of wheeled supports for both sections having sliding engagement with each other and the sections rigidly secured to their respective supports, means for locking the supports together, and means for releasing the locking means to permit the supports to move independent of each other to separate or move the body-sections together.

13. In a dumping-vehicle, the combination with a body comprising two half-sections, of box castings or guides secured to the sides of one body-section, a frame supported to slide in the box castings or guides and to which the other body-section is secured, axle-stubs secured to the box castings or guides, wheels on said axle-stubs, a brake for said wheels, and devices automatically operating the brake when the frame is moved in the box castings or guides.

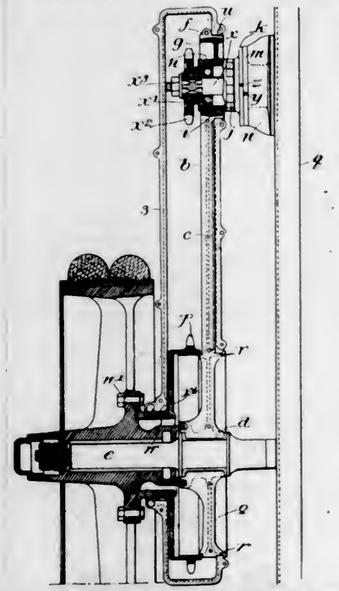
14. In a dumping-vehicle, the combination with a body comprising two half-sections, of a wheeled support for one section, a sliding support for the other section, a brake, a cam-bar secured to the brake, and a lug or pin to engage the cam and operate the brake when the sliding support is moved to open or close the body.

15. In a dumping-vehicle the combination with a body half-section and wheels supporting the same, of a rectangular horizontal frame having sliding connection with the said body half-section, a body half-section secured to the frame, wheeled support for one end of the frame, a brake, a cam-bar secured to the brake, and a lug on the last-mentioned body-section to engage the cam-bar and apply the brake when the frame is moved independently.

16. In a dumping-vehicle, the combination with a body comprising two half-sections, box castings or guides secured to one half-section, wheels supporting said box castings or guides and this half-section, a sliding frame movable in the castings or guides, spring-pressed catches carried by the castings or guides to engage in openings in the frame and lock the body-sections together, and a lever connected with the catches and constructed to release the catches when the lever is moved.

17. In a dumping-vehicle, the combination with a body comprising two half-sections, of wheels supporting one half-section, a frame supporting the other section and having sliding connection with the wheel-supported section, pivoted brake-shoes to engage the hubs of the wheels, brake-arms secured to the shoes and adapted to operate the brakes, cam extension-bars on said arms, lugs to engage the cam-bars and apply the brake when the body-sections are moved relative to each other, and means for locking the body-sections together.

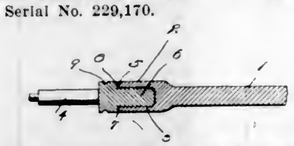
844,892. TENSION DEVICE. OTTO PFÄNDER, Brussels, Belgium. Filed Sept. 15, 1905. Serial No. 273,600.



Claim.—1. A device of the class described comprising in combination, an axle, a driving-shaft, a spacing or tension rod revolubly mounted at one end on said axle, and a revoluble member for the opposite end of said rod eccentrically apertured and adapted to receive the driving-shaft.

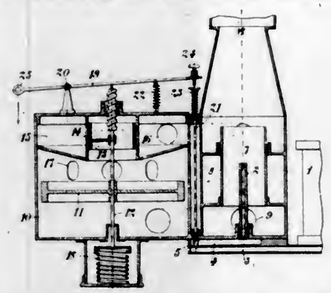
2. A device of the class described comprising in combination, an axle, a driving-shaft, a spacing or tension rod revolubly mounted at one end of said axle, a revoluble member for the opposite end of said rod eccentrically apertured and adapted to receive the driving-shaft, and means for adjusting said revolubly-mounted member.

844,893. VEHICLE-AXLE. STEPHEN H. RAINES and AMILE O. SCHUESSLER, Mason, Tex. Filed Oct. 19, 1904. Serial No. 229,170.



Claim.—The combination with an axletree having an end portion of greater diameter than said axletree and provided with a central screw-threaded bore, the extreme annular edge of said end portion being provided with a blunt bevel; of a detachable spindle having a stem of larger diameter than said spindle threaded to correspond to the threaded bore in the axletree and an integral collar formed on said spindle, and located between the screw-threaded stem and the bearing portion of said spindle and on its outer end provided with a plain surface to allow the hub to bear against it and on its inner end with a blunt beveled surface extending from the threaded stem outward and rearward to a sharp edge and adapted to lie over and receive the correspondingly-beveled end of the tree thereby forming a tight joint.

844,894. CARBURETER. LOUIS RENAULT, Billancourt, France. Filed May 29, 1905. Serial No. 262,887.



Claim.—1. A carbureter having a chamber provided with an opening to supply air to the mixing-chamber of an engine, a disk movable in, and free of the wall of, the chamber, said disk being operable by the vacuum created by the engine, a valve to close said opening and operable by the disk when the latter is under the action of the vacuum to uncover said opening, a spindle carrying said disk and provided with a screw, a fixed nut through which the screw extends and with which it engages, and means bearing against the spindle to act against the disk in opposition to the vacuum.

2. A carbureter having a chamber provided with an opening to supply air to the mixing-chamber of an engine, a disk movable in, and free of the wall of, the chamber, said chamber being operable by the vacuum created by said engine, a valve to close said opening and operable by the disk when under the action of the vacuum to uncover said opening, a valve to control the supply of gaseous fluid to the said mixing-chamber, mechanism operable from the disk to actuate said second valve, and a third valve adapted to vary the richness of the explosive mixture independent of the other valves.

3. A carbureter having a chamber provided with an opening to supply air to the mixing-chamber of an engine, a disk movable in and free of the wall of the chamber, said disk being operable by the vacuum created by the engine, a valve to close said opening and operable by the disk when the latter is under the action of the vacuum to uncover said opening, a yieldingly-mounted spindle carrying said disk and provided with a screw, a fixed nut in which the screw engages, and a spring-operated lever bearing against the spindle.

4. A carbureter having a chamber provided with an opening to supply air to the mixing-chamber of an engine, a disk movable in and free of the wall of the chamber, said disk being operable by the vacuum created by the engine, a valve to close said opening and operable by the disk when the latter is under the action of the vacuum to uncover said opening, a yieldingly-mounted spindle carrying said disk and provided with a screw, a fixed nut in which the screw engages, a spring-operated lever bearing against the spindle, and a valve for governing the supply of gaseous fluid to said mixing-chamber and operable by said lever.

844,895. DEVICE FOR FILLING GRAVES. CHARLES E. RICE, Livermore, Ky. Filed Nov. 3, 1906. Serial No. 341,941.

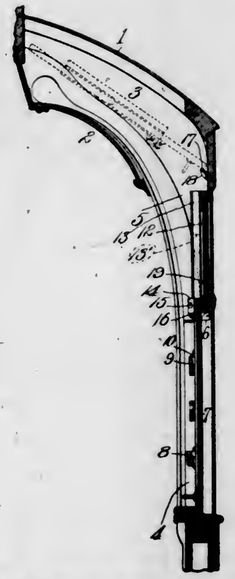


Claim.—1. Means for filling graves, comprising opposite earth-holders connected at their ends by a jointed device of the width of the grave, and having rear lever-bars, substantially as specified.

2. In means for filling graves, an earth-holder of the length of the grave having a rear wall, adjustable end walls, a swinging discharge-gate, and rear lever-bars, substantially as specified.

3. In means for filling graves, an earth-holder of the length of the grave having a rear wall, end walls, a swinging gate normally closing the front, and rear lever-bars.

844,896. SEMICONVERTIBLE CAR. EDWARD T. ROBINSON, St. Louis, Mo. Filed Oct. 11, 1906. Serial No. 338,427.



Claim.—1. In a semiconvertible car, the combination of grooved window-posts, upper and lower sashes oper-

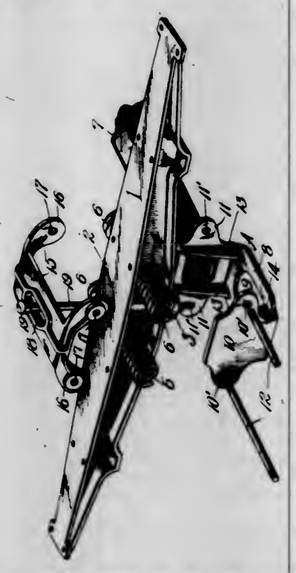
atable in the grooves in said posts, a pocket-strip carried by the upper sash adapted to receive the lower sash, and provided with a notch, and a catch carried by the lower sash and arranged for engagement in said notch when the lower sash is elevated into said pocket-strip, substantially as set forth.

2. In a semiconvertible car, the combination of grooved window-posts, upper and lower sashes operatable in the grooves in said posts, pocket-strips carried by said upper sash adapted to receive said lower sash and provided with notched protuberances, and catches carried by said lower sash and adapted to enter the notches in said protuberances, substantially as set forth.

3. In a semiconvertible car, the combination of grooved window-posts, upper and lower sashes operatable in the grooves in said posts, pocket-strips carried by said upper sash adapted to receive said lower sash, said pocket-strips being provided with antirattler-bosses adapted to bear against walls of the grooves in said window-posts, substantially as set forth.

4. In a semiconvertible car, the combination of grooved window-posts, a catch-plate fixed to one of said posts, a sash operatable in the grooves in said posts, and an antirattler-block attached to said sash and having an inclined face adapted to engage said catch-plate, substantially as set forth.

844,897. SEPARABLE DRAFT-RIGGING AND BODY-BOLSTER. WILLIAM H. SCOTT, Maplewood, Mo., assignor, by mesne assignments, to Donald R. Niederlander. Filed Sept. 21, 1906. Serial No. 335,591.



Claim.—1. The combination with a body-bolster, of a draft-bar having as an integral part thereof a pocket portion adapted to embrace said bolster, substantially as set forth.

2. The combination with a body-bolster, of a draft-bar provided with a yoke integral therewith to receive said bolster, substantially as set forth.

3. The combination with a body-bolster, of a draft-bar provided with a yoke integral therewith, and means for connecting said draft-bar to said bolster, substantially as set forth.

4. The combination with a body-bolster, of a draft-bar provided with a yoke integral therewith, and means for connecting said yoke to said bolster, substantially as set forth.

5. The combination with a body-bolster, of a draft-bar provided with a yoke portion adapted to receive said bolster, a cap fitted to said yoke portion, and means for connecting said cap to said yoke portion, substantially as set forth.

6. The combination with a body-bolster, of a draft-bar provided with a yoke portion adapted to receive said bolster, a cap fitted to said yoke portion, and means for connecting said cap to said yoke portion; said connecting means extending through said bolster, substantially as set forth.

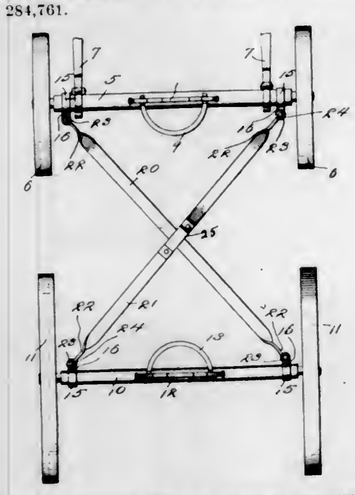
7. The combination with a body-bolster, of a draft-bar having a yoke portion to receive said bolster, and connecting-bolts extending through said yoke portion and bolster, substantially as set forth.

8. The combination with a body-bolster, of a draft-bar having a yoke portion to receive said bolster, a cap fitting over said bolster, and connecting-bolts extending through said yoke portion, bolster and cap, substantially as set forth.

9. The combination with a body-bolster, of a draft-bar having a yoke portion integral therewith to receive said bolster, buffer-springs located between the sides of said bolster and the ends of said yoke portion, and means for supporting said draft-bar, substantially as set forth.

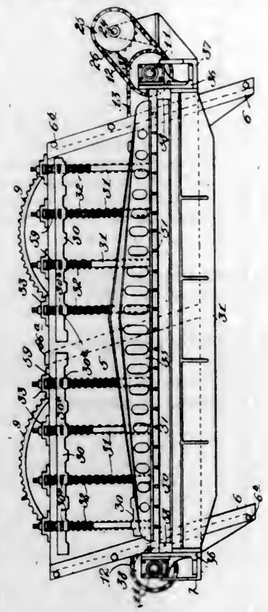
10. The combination with a body-bolster provided at its sides with bosses, of a draft-bar having as an integral part thereof a yoke portion to receive said bolster, buffer-springs located around said bosses and between the sides of said bolster and the ends of said yoke portion, and means for supporting said draft-bar, substantially as set forth.

844,898. RUNNING-GEAR FOR VEHICLES. LEMUEL J. SIMMERS, Fitzgerald, Ga. Filed Oct. 27, 1905. Serial No. 284,761.



Claim.—A running-gear for vehicles comprising front and rear axles provided with wheels; an axletree upon each axle; a fifth-wheel upon each axletree; a pair of clips connecting each axle and its respective tree, each clip including a bottom plate projecting at one end from beneath the axle and terminating in an upwardly-bent portion forming a pivot; a pair of flat resilient coupling-springs, each having its ends given a quarter-twist and terminating in eyes adapted to receive said pivots, one eye of each coupling-spring fitting over the pivot at one end of the front axle and the other eye over the diagonally opposite pivot on the rear axle; and a guide-strap carried by one of said coupling-springs and extending over the other, to allow a limited lateral movement of said springs with respect to each other, said springs forming the sole means of connection between said axles.

844,899. VENEER-CUTTING MACHINE. BENJAMIN J. SITTON, Salisbury, N. C., assignor of one-sixth to Edwin R. Overman and one-third to Joseph J. Kincaid, Salisbury, N. C. Filed Aug. 8, 1906. Serial No. 329,718.



Claim.—1. In a veneer-cutting machine, the combination with a bed-plate and a stationary knife, of inclined guides arranged centrally and in proximity to the ends of the bed-plate and having detachable wearing-plates, a log-bed slidably mounted in said guides and provided with slots, counter-shafts journaled on the bed-plate, crank-pins carried by the shafts and having slide-blocks provided with oil-compartments for distributing oil to the said pins, said blocks engaging said slots, a drive-shaft having connections for operating said counter-shafts, mechanism for actuating the knife to bring the same into operative position with respect to the log-bed and for returning the same to an inoperative position at predetermined distances, adjustable screw members mounted in the body of the log-bed, clamping-plates for the log actuated by the screw members, and means for adjusting the knife.

2. In a veneer-cutting machine, a bed-plate forming a base, a plurality of pedestals arranged in pairs and in alinement with each other near opposite ends of the bed-plate and extending upwardly therefrom, shafts extending transversely of the bed-plate and having their bearings in the pedestals, a crank-disk fixed to said shafts, a crank-pin arranged near the periphery of the disk, a log-bed having slots formed therein, movable blocks arranged in the slots and having oil-compartments, the latter provided with openings, said crank-pins in engagement with the movable blocks and the oil contained therein being adapted to be fed to the crank-pins, inclined guides for the log-bed arranged at the ends and intermediate the same, brace members for the guides, the latter for directing a diagonal movement of the log-bed when actuated, means coöperative with the log-bed for supporting material thereon to be operated upon, brackets supported on the bed-plate, pressure-bars coöperative with said brackets, a knife-bar carried by the brackets, feed mechanism for actuating the pressure and knife bars to bring the same into operative position and also for returning said knife to an inoperative position at predetermined distances, adjustable wearing-plates for the guides and the slots formed in the log-bed, and means for actuating the shafts to impart movement to the crank-disks.

3. In a veneer-cutting machine, the combination with a bed-plate and adjustable knife, of a log-bed, inclined guides for the log-bed and having wearing-plates, rotary shafts supported on the bed-plate, crank-disks fixed to said shafts and having crank-pins, said log-bed provided with elongated slots, blocks having oil-compartments movable in said slots, said crank-pins on the said disks in engagement with the blocks, the latter adapted to distributed oil to the crank-pins, driving mechanism coöperative with the shafts, mechanism for actuating the knife to bring the same into operative position with respect to the log-bed and for returning the same to an inoperative position at predetermined distances, means on said log-bed for clamping the material to be acted upon thereto, an inclined guide intermediate the log-bed, and braces for the respective inclined guides.

4. In a veneer-cutting machine, the combination with a bed-plate and knife, a log-bed, means on the log-bed for supporting material to be operated upon, inclined guides centrally of and at the ends of the log-bed to guide the latter diagonally with respect to a plane parallel to the knife, said log-bed having slots in one face thereof, rotary shafts supported on the bed-plate, disks fixed to said shafts, crank-pins carried by the disks, blocks slidable in the slots and provided with oil-compartments for distributing oil to the crank-pins, a pressure-bar having an adjustable strip on its lower edge, movable brackets for supporting the pressure-bar above the knife, said pressure-bar adapted to bear against the material on the log-bed, said brackets also supporting the knife, feed-screws to cause the pressure-bar and knife to move in unison into operative position with respect to the log-bed and for returning the same to an inoperative position at predetermined distances, mechanism for simultaneously actuating the feed-screws, and means for imparting movement to the rotary shafts.

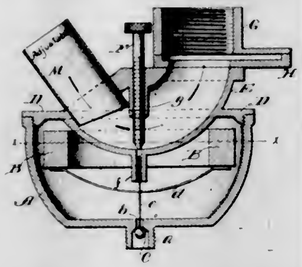
5. In a veneer-cutting machine, the combination with a bed-plate, of horizontal guides thereon, guide-brackets slidably mounted on said guides, a knife-bar having a knife carried by said brackets, a pressure-bar above said knife-bar and movable with the brackets, inclined guides on said bed-plates, a log-bed movable in said guides, said log-bed having slots near its uppermost edge, blocks movable in said slots and having oil-compartments, rotary shafts mounted on said bed-plate, crank-disks carried by the shafts and having crank-pins for engagement with the blocks, said oil-compartments in the blocks adapted to distribute oil to the crank-pins, means for clamping a log to the log-bed, feed-screws extending transversely of the bed-plate and engaging the guide-brackets, and mechanism for actuating the feed-screws to cause the knife-bar and pressure-bar to move in unison into operative position with respect to the log-bed and for returning the same to an inoperative position.

6. In a veneer-cutting machine, the combination with a bed-plate, of horizontal guides thereon, guide-brackets slidably mounted on said guides, a knife-bar having a knife carried by said brackets, a pressure-bar above said knife-bar and movable with the brackets, inclined guides on said bed-plates, a log-bed movable in said guides, said log-bed having slots near its uppermost edge, blocks movable in said slots and having oil-compartments, rotary shafts mounted on said bed-plate, crank-disks carried by the shafts and having crank-pins for engagement with the blocks, said oil-compartments in the blocks adapted to distribute oil to the crank-pins, means for clamping a log to the log-bed, feed-screws extending transversely of the bed-plate and engaging the guide-brackets, mechanism for actuating the feed-screws to cause the knife-bar and pressure-bar to move in unison into operative position with respect to the log-bed and for returning the same to an inoperative position, and means for imparting movement to the rotary shafts.

7. In a veneer-cutting machine, the combination with a bed-plate and a stationary knife, of inclined guides having detachable wearing-plates, a log-bed slidably mounted in said guides and provided with slots in its back portion, counter-shafts journaled on the bed-plate, crank-pins carried by the shafts and having slide-blocks provided with oil-compartments for distributing oil to the crank-pins,

said blocks engaging said slots, a drive-shaft having connections for operating said counter-shafts, mechanism for actuating the knife to bring the same into operative position with respect to the log-bed and for returning the same to an inoperative position at predetermined distances, adjustable screw members mounted in said slots of the log-bed, and clamping-plates for the log actuated by the screw members.

844,900. CARBURETER. CLEMENT SMITH, Topeka, Kans. Filed Oct. 15, 1906. Serial No. 338,897.



Claim.—1. A carbureter comprising a reservoir, means for maintaining a constant level of gasolene in the reservoir, and a U-shaped conduit for air having its lower portion arranged in the reservoir, below said constant level of gasolene, and having an aperture in its bottom for enabling the gasolene to seek its level in the conduit.

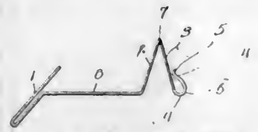
2. A carbureter comprising a reservoir, means for maintaining a constant level of gasolene in the reservoir, a U-shaped conduit for air having its lower portion arranged in the reservoir below said constant level of gasolene, and having an aperture in its bottom for enabling the gasolene to seek its level in the conduit, and a screw extending through the upper portion of the conduit, and controlling and regulating communication between said aperture and the interior of the conduit.

3. A carbureter comprising a reservoir having an inlet for gasolene in its bottom, a valve disposed below said inlet and having an upwardly-extending stem, an annular float having a bar connected to said valve-stem at an intermediate point in the length of the latter and adapted in combination with the valve to maintain a constant level of gasolene in the reservoir, and a U-shaped conduit for air having its lower portion arranged in the reservoir below the constant level of gasolene and within the annular float and having a duct depending from its bottom and receiving the upper portion of the valve-stem.

4. A carbureter comprising a reservoir having an inlet for gasolene in its bottom, a valve disposed below said inlet and having an upwardly-extending stem, an annular float having a bar connected to said valve-stem at an intermediate point in the length of the latter and adapted in combination with the valve to maintain a constant level of gasolene in the reservoir, a U-shaped conduit for air having its lower portion arranged in the reservoir below the constant level of gasolene and within the annular float and having a duct depending from its bottom and receiving the upper portion of the valve-stem, and a screw extending through the upper portion of the conduit, for controlling and regulating communication between said duct and the interior of the conduit.

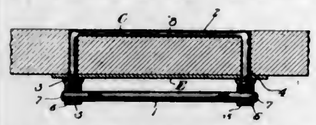
5. A carbureter comprising a reservoir, means for maintaining a constant level of gasolene in the reservoir, a U-shaped conduit for air having its lower portion arranged in the reservoir, below said constant level of gasolene, and having an aperture in its bottom for enabling the gasolene to seek its level in the conduit, and an air-tube adjustably connected with the induction end of the air-conduit.

844,901. PHOTOGRAPH-HOLDER. ELMER H. SMITH, Chippewa Falls, Wis. Filed May 11, 1905. Serial No. 259,902.



Claim.—A device of the class described comprising a single strand of wire bent at one of its ends to support an article and having its opposite end portion bent laterally at right angles to its main portion, and thence bent upon itself to form a single leg extending in parallel relation to the right-angularly-bent portion and beyond its main portion.

844,902. DRAWER-PULL. DANIEL K. SNYDER, Portsmouth, Va. Filed Dec. 20, 1905. Serial No. 292,652.



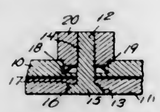
Claim.—1. As a new article of manufacture, a device for securing a pull to a drawer comprising two connected parallel-disposed bolts, and nuts to engage the bolts and provided with transverse orifices.

2. As a new article of manufacture, a drawer-pull embodying two connected parallel bolts, nuts to engage the bolts and provided with transverse orifices, and a handle having pintles to engage the orifices.

3. As a new article of manufacture, a drawer-pull embodying a bar having its ends disposed at right angles to its length and threaded to present two parallel-disposed connected bolts, and nuts to engage the bolts and provided with transverse orifices.

4. The combination with a drawer having the rear surface of its front provided with a channel, of a bolt having a body portion disposed within the channel and provided with threaded terminals that project through the drawer, nuts carried by the terminals and provided with orifices, and a handle having pintles to engage the orifices.

844,903. SHEARS AND TENSION-SCREW. WILLIS A. WILKINS, El Paso, Tex. Filed Sept. 13, 1906. Serial No. 334,482.



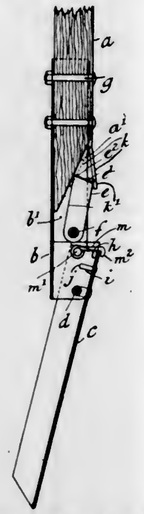
Claim.—1. The combination with the blades of a pair of shears or scissors, one of which is provided with a socket having inwardly-tapering walls and a small recess, a smooth hole being formed through both blades, an annular socket in the other blade, a spring in said socket a pivot-bolt having a frusto-conical head and lug adapted to fit the socket and recess in the first-mentioned blade, and a smooth shank where extending through the pivot-holes of the blades, but screw-threaded on its end, a thumb-nut adapted to be turned on the screw-threaded part of the bolt, and having its inner end reduced to enter the socket of the other blade and bear upon the said spring the annular offset surface of the nut resting or bearing on the surface of the last-mentioned blade around the margin of the pivot-hole.

2. The combination with the blades of a pair of shears or scissors, one of which is provided with a socket having inwardly-tapering walls and a recess, a smooth hole being formed through both blades, an annular socket in the other blade, a spring in said socket, a pivot-bolt having a frusto-conical head and lug adapted to fit the socket and recess in the first-mentioned blade, and a smooth shank where extending through the pivot-holes of the blades but screw-threaded on its end, a thumb-nut adapted to be turned on the screw-threaded part of the bolt, and having its inner end reduced to enter the socket of the other blade and bear upon the said spring, the annular offset surface of the nut resting or bearing on the surface of the last-mentioned blade around the margin of the pivot-hole, the surface of the offset portion of the nut and the opposing surface of the blade being roughened to lock or hold the nut in place against the action of the spring.

3. The combination, with the shear-blades of the pivot-bolt having its head secured in one blade, and provided with a shank smooth in the part that extends through the blades and screw-threaded on its extended end, a round socket in the outside of the other blade, a spring surrounding the shank of the pivot-bolt in said socket, a thumb-nut turned on said screw-threaded part of the bolt, said thumb-nut being reduced in diameter and having an offset at its inner end, the reduced part being adapted to enter the socket of the blade and bear upon the spring and the offset surface bearing on the outside surface of the blade on the margin of the socket.

4. The combination, with the shear-blades of the pivot-bolt having its head secured in one blade, and provided with a shank smooth in the part that extends through the blades and screw-threaded on its extended end, a round socket in the outside of the other blade, a spring surrounding the shank of the pivot-bolt in said socket, a thumb-nut turned on said screw-threaded part of the bolt, said thumb-nut being reduced in diameter and having an offset at its inner end, the reduced part being adapted to enter the socket of the blade and bear upon the spring, and the offset bearing on the outside surface of the blade on the margin of the socket, the meeting or opposing surfaces of the thumb-nut and blade being roughened by shallow radial ribs and grooves.

844,904. SPADE AND ANALOGOUS IMPLEMENT. ERNEST S. WILLIAMSON, Kerang, Victoria, Australia. Filed May 10, 1906. Serial No. 316,164.



Claim.—1. The combination with a handle, of a blade pivotally carried thereby, a freely-swinging automatically-operating pivoted dog directly engaging said blade, and means carried by said blade and adapted to be engaged by said dog for holding said blade adjusted in different positions, the whole constructed and coöperating to automatically secure said blade in varying positions upon oscillating said handle, substantially as described.

2. The combination with a handle, of a blade pivotally carried thereby, and a dog pivotally connected to said handle and extending rearwardly therefrom and adapted to directly engage the rear upper face of said blade, substantially as described.

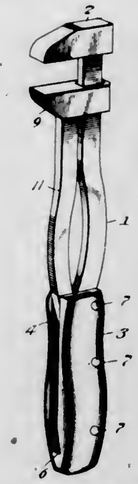
3. The combination with a handle, of a blade pivotally carried thereby, means for holding said blade adjusted in different planes, comprising a step or projection on the upper face of said blade, and a pivoted dog carried by said handle and automatically operated upon oscillation of said handle to engage the upper face of said pivoted blade and the upper edge of said step or projection, substantially as described.

4. The combination with a handle, of a pivoted blade carried thereby, means for adjustably holding said pivoted blade in different planes, comprising as a single element a pivoted dog carried by said handle and adapted to directly engage said pivoted blade, means for holding said dog out of engagement with said pivoted blade, and means for locking said pivoted blade in a position forming a substantial longitudinal continuation of said handle, substantially as described.

5. The combination with a handle, of a blade pivotally suspended thereby, and means for limiting the rearward swing of said blade, comprising a rearwardly-projecting lug or ear carried at the lower end of said handle and adapted at its rear edge to engage the upper face of said blade, substantially as described.

6. The combination with a handle-socket member open at its lower rear end, of a blade pivotally suspended, from its upper face, on said socket member, a step or projection on the upper face of said blade and at the rear of said handle, means for automatically securing said blade in varying positions, comprising a pivoted dog carried by said socket member and operating through the rear opening thereof to engage at its lower edge the respective upper faces of said blade and said step, and edgewise projections on said socket member at the lower end thereof adapted to engage the front face of said blade to limit the rearward swing thereof, substantially as described.

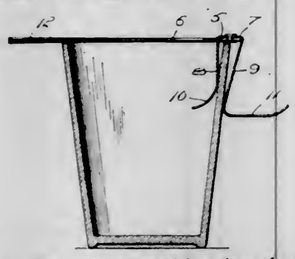
844,905. WRENCH. JOSEPH R. YOUNG, Micaville, N. C. Filed Aug. 12, 1905. Serial No. 273,932.



Claim.—A wrench comprising a shank having a fixed jaw, a handle secured to the lower end of the shank and formed with a slot to receive the shank, the walls of the slot extending laterally beyond the shank, a sliding jaw formed with an opening to receive the shank, said opening

being of greater length longitudinally of the jaw than the similar dimension of the shank to permit a tilting movement of the sliding jaw relative to the shank, a locking-bar fixedly secured to the sliding jaw beyond the plane of the opening, said bar depending from the jaw and positioned at all times within the slot in the handle, the proximate edges of the bar and shank being respectively formed with teeth adapted for engagement, the walls of the slot in the handle extending beyond the shank a distance in excess of the transverse dimension of the locking-bar, the relative size of the opening in the sliding jaw and the shank being such as to prevent movement of the locking-bar from between the walls of the handle-slot under the extreme movement of said locking-bar permissible in the tilting movement of the sliding jaw.

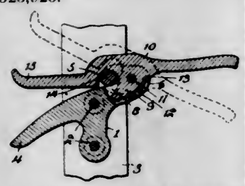
844,906. COVER FOR GLASSES. ROBERT L. ADAMS, New Orleans, La. Filed Apr. 13, 1906. Serial No. 311,572.



Claim.—1. The combination with a glass of an apertured disk arranged for detachable connection with the glass, and a channel formed in the disk, from the aperture to the periphery of the disk.

2. The combination with a glass of an apertured disk arranged for detachable connection with the glass, and a tapered channel formed in the disk, from the aperture to the periphery of the disk.

844,907. SURE-CATCH LATCH FOR DOORS, &c. JOHN B. AIKIN, Bloomington, Ohio. Filed June 23, 1906. Serial No. 323,925.



Claim.—1. In a latch of the class described, the combination with a gate member, of a body provided with a projecting guiding portion having an inclined upper edge, said body being extended upward at the inner end of the guiding portion and having a recess thereat forming an overhanging portion extending over the gate member and forming a stop for holding the said gate member against upward movement, and a movable latch member pivoted to the said body and provided with an engaging portion or hook located above the said guiding portion and at a point in advance of the said overhanging portion.

2. In a latch of the class described, the combination with a gate member, of a body provided with a projecting guiding portion having an inclined upper edge, said body being extended upward at the inner end of the guiding portion and provided with a recess forming an overhanging portion, and a movable latch member pivoted to the body and provided with an engaging portion or hook, and having a depending portion or arm lying in rear and below the gate member when the latch member is in its locked position, and extending into the said recess and arranged in the path of the gate member when the latch member is raised.

3. In a latch of the class described, the combination with a gate member, of a body, a movable latch member pivoted to the body and provided with an engaging portion and having a depending arm or prong lying below and in rear of the gate member when the latch member is in its locked position and adapted to engage the gate member for opening a gate or door when the latch member is raised, said depending arm or prong being also adapted to project into the path of the gate member when the latch member is in the latter position.

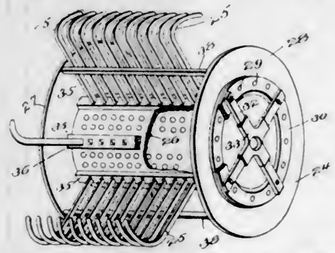
4. In a latch of the class described, the combination with a body, and a movable latch member, of an adjustable gate member, and clamping plates or members arranged to engage the gate member.

5. In a latch of the class described, the combination with a body, and a movable latch member, of an adjustable gate member, and a pair of clamping-plates having inner grooved engaging portions receiving and clamping the gate member.

6. In a latch of the class described, the combination with a body, and a movable latch member, of a pair of clamping plates or members designed to be arranged between the end bars of a gate, an adjustable gate member arranged between and clamped by the said plates or members, and fastening means for securing the plates or members to the gate and for holding them in engagement with the gate member.

7. In a latch of the class described, the combination with a body, and a movable latch member, of a pair of clamping plates or members designed to be arranged between the end bars of a gate and provided with flanges for engaging the same, said plates or members being also provided at their inner faces with projecting grooved portions, an adjustable gate member fitted in and engaged by the grooved portions of the plates or members, and fastening means for securing the plates or members to the gate and for holding them in engagement with the gate member.

844,908. POTATO-DIGGER. JOHN L. ALBIN, Kiowa, Colo. Filed July 28, 1906. Serial No. 328,202.

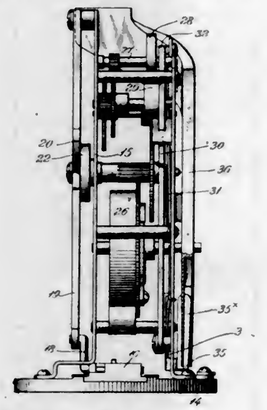


Claim.—1. In a device of the character described, the combination of a movably-mounted frame, a perforated cylinder carried by the frame, an outwardly-extending annular flange at each end of the cylinder, a series of teeth projecting outwardly from the cylinder, a ring secured to each end of the cylinder, a spider carried by each ring, a shaft journaled in the frame and passing through the spiders, and means for imparting motion to the cylinder through the movement of the frame.

2. In a device of the character described, the combination of a movably-mounted frame, a cylinder carried by the frame, an outwardly-projecting annular flange at each end of the cylinder, a series of bars extending longitudinally of the cylinder, and connecting the bases of the flanges, the said bars being provided with sockets, a series of radial teeth having their inner ends inserted in the said sockets while their outer ends are bent laterally, brace-bars connecting the upper portions of the flanges and arranged along one side of each of the rows of teeth, and means for imparting a rotary movement to the cylinder through the movement of the frame.

3. In a device of the character described, the combination of a movably-mounted frame, a perforated cylinder carried by the frame, and having the opposite ends thereof flared outwardly, an annular and outwardly-projecting flange located at each end of the cylinder and secured to the inner face of the outwardly-flared end thereof, a ring secured to the outer face of each of the outwardly-flared ends, a spider carried by each ring, a shaft journaled in the frame and passing through the spiders, means for imparting motion to the cylinder, and a series of teeth projecting outwardly from the said cylinder.

844,909. COIN-CONTROLLED MECHANISM. MARCUS O. ANTHONY, New York, N. Y., assignor to The United Machine & Supply Company, New York, N. Y., a Corporation of New York. Original application filed Jan. 2, 1904, Serial No. 187,492. Divided and this application filed May 1, 1905. Serial No. 258,157.



Claim.—1. In coin-operated mechanism, the combination of a brake device, a coin-receiving lever engaged therewith and adapted to release the said device upon the deposit of a coin on said lever, and means independent of said lever for imparting an additional movement to the brake device after its release, whereby such movement is transmitted by the brake device to the coin-receiving lever to discharge the coin from the latter.

2. In coin-operated mechanism, the combination of a brake device, a coin-receiving lever engaged therewith and adapted to release the said device upon the deposit of a coin on said lever, a cam engaging the said brake device, and means for operating said cam whereby an additional movement is imparted to the brake device after its release and such movement thus transmitted by the brake device to the coin-receiving lever to discharge the coin from the latter.

3. In coin-operated mechanism, the combination of locking devices, including a brake-lever, a coin-receiving lever coacting with the brake-lever to release the latter upon the deposit of a coin on the coin-receiving lever, and means independent of the coin-receiving lever for imparting additional movement to the brake-lever after its release, whereby such movement is transmitted by the brake-lever to the coin-receiving lever to discharge the coin from the latter.

4. In coin-operated mechanism, the combination of locking devices, including a brake-lever, a coin-receiving lever coacting with the brake-lever to release the latter upon the deposit of a coin upon the coin-receiving lever, a cam engaging the brake-lever, and means for operating said cam whereby an additional movement is imparted to the brake-lever after its release and such movement thus transmitted by the brake-lever to the coin-receiving lever to discharge the coin from the latter.

5. In coin-operated mechanism, the combination with a coin-guide, of a coin-receiving lever provided with a coin-seat adjacent said guide, said seat being provided with an inclined extension against which and the wall of the guide the coin bears on its way to the seat proper.

6. In coin-operated mechanism, the combination of locking devices including a brake-lever, a coin-guide, a coin-receiving lever coacting with said brake-lever, said coin-receiving lever being provided with an inclined portion against which and the wall of the guide the coin bears while descending said guide.

7. In coin-operated mechanism, the combination of locking devices including a brake-lever, a coin-guide, and a coin-receiving lever coacting with said brake-lever, said coin-receiving lever having a coin-seat adjacent said guide and said seat having an inclined extension against which and the wall of the guide the coin bears on its way to the seat proper.

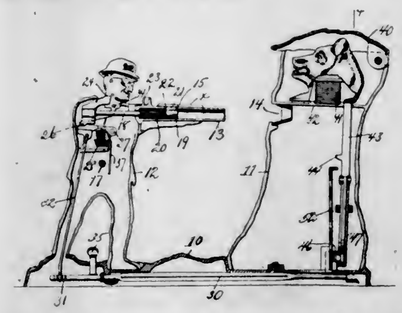
8. In coin-operated mechanism, the combination of locking devices, a coin-guide, a coin-receiving lever coacting with said devices, said lever having a coin-seat adjacent said guide, and said seat having an inclined extension against which and the wall of the guide the coin bears on its way to the seat proper, and means for imparting a supplemental movement to the said lever.

9. The combination with clock mechanism, of a brake member coacting therewith, a cam on an arbor of said mechanism, a brake-lever engaging said member and cam, a coin-receiving lever operatively engaged with the brake-lever and provided with a coin-seat having an inclined extension and a coin-chute leading to said seat in such position that a coin introduced to the chute will engage the inclined extension and the opposing wall of the chute.

10. The combination with clock mechanism, of a brake member coacting therewith, a cam on an arbor of said mechanism, a brake-lever engaging said member and cam, and a crank-lever, the shorter arm of which engages said brake-lever, and the longer arm of which is provided with a coin-seat.

11. The combination with clock mechanism, of a brake member coacting therewith, a cam on an arbor of said mechanism, a brake-lever engaging said member and cam, a crank-lever, the shorter arm of which engages said brake-lever and the longer arm of which is provided with a coin-seat having an inclined extension, and a coin-guide leading to said seat in such position that a coin introduced to the guide will engage the inclined extension and the opposing wall of the chute.

844,910. TOY BANK. CHARLES A. BAILEY, Cromwell, Conn., assignor to National Novelty Corporation, Westfield, N. Y., a Corporation of New Jersey. Filed May 19, 1906. Serial No. 317,749.



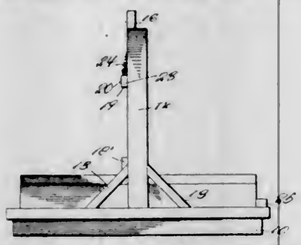
Claim.—1. In a toy bank, a coin-receptacle, a spring-actuated coin-discharging member arranged in front of the receptacle, a spring-actuated figure in the receptacle, and a releasing means common to both spring-actuated means and adapted to release them in successive order.

2. In a toy bank, a coin-receptacle, a figure arranged in advance of the receptacle and carrying a coin-rest, a spring-actuated coin-discharging member, a hammer carried thereby, a cap-nipple in the path of the hammer, a

spring-pressed sear for locking the hammer in retracted position, a rock-shaft, means for connecting the rock-shaft to the sear, a trigger carried by the rock-shaft, a spring-actuated figure in the receptacle and a releasing means therefor, said releasing means being under the control of said rock-shaft, substantially as described.

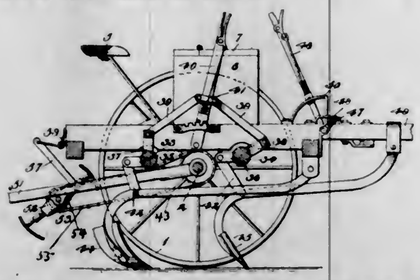
3. In a toy bank, a coin-receptacle, a movable figure arranged therein, a spring for actuating the same, means for holding the figure retracted and the spring under stress, a spring-actuated coin-discharging member, means for holding said member retracted, and its spring under stress, a rock-shaft, a trigger thereon, and a pair of rocker-arms carried by the shaft and arranged to release first the discharging member and then the movable figure; substantially as described.

844,911. STARCH-MOLD. ASSAD M. BAROODY, Danville, Va. Filed May 14, 1906. Serial No. 316,763.



Claim.—In a machine for making molds for the manufacture of confections consisting of a bed, a pair of uprights centrally disposed on the edges of the bed, cross-bars between the upper part of the cross-bars, and divergent braces at the lower ends of the uprights stepped on the base, a matrix-tray guided and maintained at the sides in proper position by the braces and uprights, a stop-strip on the rear end of the base, combined with the plate movable up and down between the uprights and upper portions of the braces, a cross-head secured centrally to the upper surface of the plate, an upright bar connected at its lower end to the cross-head and having bearings in the cross-bars between the standards, a lever pivoted on an upright and to the upright bar and having a handle for moving the plate up and down with respect to the matrix-tray, and a spring connected with the lever and operating with a tendency to raise the same.

844,912. CULTIVATOR AND FERTILIZER-DISTRIBUTER. GEORGE D. BENNETT, Reidsville, N. C. Filed Nov. 6, 1905. Serial No. 286,080.



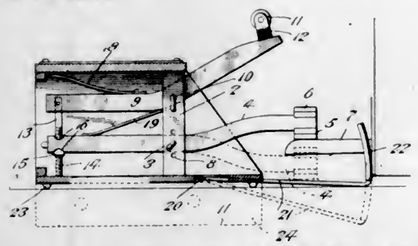
Claim.—1. In a cultivator, the combination with the main frame, of rollers journaled in the same, arms extending from the rollers, a lever, links connecting the lever to the rollers, links connecting the shovels and plow to the arms of the rollers, a hopper, an agitator in the same, connections between the shaft and the agitator to operate the same, a regulator for the hopper, and coverers and patters.

2. In a cultivator, the combination with the main frame and plows and shovel of the same, of a supplemental frame adapted to receive interchangeably a scraper or patter, means for connecting the supplemental frame to the axle, and means for simultaneously regulating the supplemental frame, plows and shovel.

3. In a cultivator and fertilizer-distributer, the combination with the main frame, of a hopper supported upon the same, an agitator in the hopper, a pin supporting said agitator, means for driving said pin from the main axle of the machine, a regulator, consisting of a cap having an orifice to fit upon the pin and a recess to permit passage of the material, a slide to regulate the recess, and locking means for the slide, in combination with coverers and patters.

4. In a cultivator, the combination with the main frame, of tool-shanks journaled in the same, a supplemental tool-carrying frame, means for clamping the supplemental frame to the axle, a yoke supporting the supplemental frame to the rear of the main frame, an arm having a linked connection to the main rollers and in turn connected to the supporting-yoke, a lever to operate the rollers, a shaft, a strap upon the same, a crank operating in the same, and a lever to operate the crank, so that the shaft may be regulated.

844,913. PEDAL ATTACHMENT FOR PIANOS. AMOS C. BERGMAN, New York, N. Y. Filed Jan. 9, 1906. Serial No. 295,281.



Claim.—1. In a device of the class described, a box or casing, a pedal-operating lever detachably and pivotally connected therein and having its active end bent upward, whereby said end of the lever is normally higher than its fulcrum, said lever being adapted for reversal, a foot-lever fulcrumed in the casing above the operating-lever, and means for operatively connecting the rear ends of the levers.

2. In a device of the class described, a box or casing, a pedal-operating lever detachably and pivotally connected therein and having its active end bent upward, whereby said end of the lever is normally higher than its fulcrum, said lever being adapted for reversal, a foot-lever fulcrumed in the casing above the operating-lever and provided at its forward end with a bearing-roller, and means for operatively connecting the rear ends of the levers.

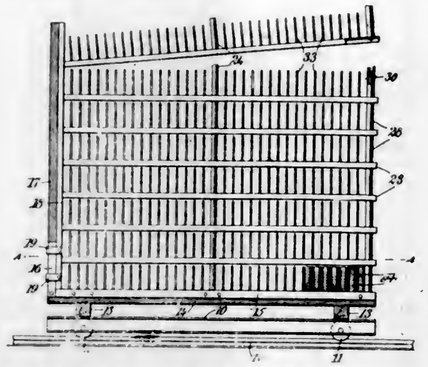
844,914. PROCESS OF MAKING AN ANTHRACENE DYE. RENÉ BOHN, Mannheim, Germany, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany, a Corporation. Filed Dec. 4, 1905. Serial No. 290,247.

Claim.—1. The process of making a chlorin derivative of indanthrene by heating indanthrene with antimony pentachlorid in the presence of a suitable solvent.

2. The process of making a chlorin derivative of indanthrene by heating indanthrene with antimony pentachlorid in the presence of nitrobenzene.

844,915. CAR. FRANK A. BOOLE and LEONARD D. STEPHENSON, Blaine, Wash. Filed Dec. 16, 1905. Serial No. 292,019.

Claim.—1. A car comprising a base, spaced uprights secured to one side of the base, a vertically-spaced series of supports detachably connected with each of the uprights, spacing members connected to the free end of each support, and adapted to engage the overlying support, and a spacing member for the free end of the lowest support secured to the base.



2. A car comprising a base, spaced uprights secured to one side of the base, a vertically-spaced series of supports detacbably connected with each of the uprights, spacing members connected to the free end of each support, and adapted to engage the overlying support, a spacing member for the free end of the lower support secured to the base and spaced projections upon each of the supports and upon the base, said projections being of less height than the spacing members.

3. A car comprising a base, spaced uprights secured to one side of the base, a vertically-spaced series of supports, detachably connected with each of the uprights, spacing members connected to the free end of each support, for engaging the overlying support, a spacing member for the free end of the lower support secured to the base, and means in connection with the spacing members and supports for preventing lateral movement of said supports with respect to said spacing members.

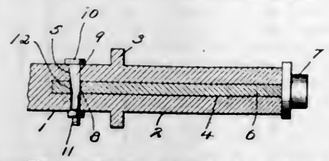
4. A car comprising a base, spaced uprights secured to one side of the base, a vertically-spaced series of supports detachably connected with each of the uprights, spacing members connected with the supports, and a spacing member for the lower support connected with the base.

5. A car comprising a base, an upright having openings, supports provided with hooked portions for engagement with the upright-openings and means of separating supports at points removed from the uprights.

6. A car comprising a base, an upright, supports connected with the upright and having projections, and tubular members fixed to the supports and having recesses for coöperation with the projections upon an adjacent support.

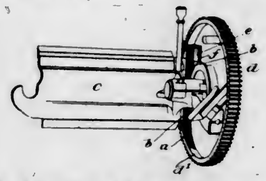
7. A car comprising a base, an upright, bar having depressions, a channel-iron situated at one side of the bar and having openings registering with the depressions, supports provided with portions coöperating with said openings and depressions and also having series of projections.

844,916. VEHICLE-AXLE. REBECCA BORDER, Everett, Pa. Filed May 1, 1905. Serial No. 258,232.



Claim.—The combination with an axle having a longitudinal bore, of a nut having a shank fitted in said bore, said axle and said shank having registering slots, a headed key engaged through said slots, said key having a single wedge-face extending from the said head to the middle of the key, the slot in the shank being of greater length than the width of the key adjacent to its middle, and a nut engaged upon the key.

844,917. ATTACHMENT FOR LINOTYPE-MACHINES. WILBUR N. BOWMAN, Pierre, S. D. Filed May 27, 1903. Serial No. 158,954.



Claim.—1. A linotype attachment, comprising a scraper mounted to bear against the inner periphery of the rim of the mold-disk, at the rear side thereof, said scraper riding on said rim as the mold-disk turns, to remove accumulated type-metal therefrom.

2. A linotype-attachment comprising a scraper mounted to bear against the inner periphery of the rim of the mold-disk, at the rear side thereof, said scraper riding on said rim as the mold-disk turns, to remove accumulated type-metal therefrom, and said scraper being in the form of a spring-blade fastened at its intermediate portion and having one of its ends bearing on the rim, for the purpose specified.

3. The combination with the mold-disk and mold-disk slide of a linotype-machine, of a wiper comprising a plate mounted on the said slide and engaging the rear face of the mold-disk, the plate having means on one face for carrying a lubricant, said means comprising a fabric bearing on the mold-disk, and having the lubricant absorbed therein.

4. The combination with the mold-disk and mold-disk slide of a linotype-machine, of a blade fastened to the front end of the slide and extending across the rear face of the disk to form a barrier, substantially as described.

5. The combination with the mold-disk and mold-disk slide of a linotype-machine, of a blade fastened to the front end of the slide and extending across the rear face of the disk to form a barrier, said blade being fastened at its intermediate portion and having its ends in contact with the rim of the mold-disk.

6. The combinaion with the mold-disk and mold-disk slide of a linotype-machine, of a blade fastened to the front end of the slide and extending across the rear face of the disk to form a barrier, said blade being fastened at its intermediate portion and having its ends in contact with the rim of the mold-disk, and a wiper attached to the upper end of the blade in the path of the mold.

7. The combination with the mold-disk and mold-slide of a linotype-machine, of a member fastened to the slide and having one end forming a spring-scraper bearing against the inner periphery of the rim of the mold-disk, and a wiper carried at the other end of the mold-disk in position to ride over the mold thereof, for the purpose specified.

8. A linotype attachment, comprising a spring-plate having one end forming a scraper, and a wiper attached to the other end portion.

9. A linotype attachment, comprising a spring-plate having one end forming a scraper, and a wiper attached to the other end portion, said wiper comprising a body and a mass of fabric attached thereto.

10. The combination with the mold-disk of a linotype-machine, of a combined scraper, guard, and wiper therefor at the rear face of said disk.

11. The combination with the mold-disk of a linotype-machine, of a guard at the rear face of the disk for preventing the metal from dropping in front of the ejector.

12. The combination with the mold-disk and mold-slide

of a linotype-machine, of a guard carried by the front end of the mold-slide and serving to prevent the metal from dropping in front of the ejector.

13. The combination with the mold-disk and mold-slide of a linotype-machine, of a spring-plate secured to the front end of the slide and having one end engaging the rim of the disk.

14. The combination with the mold-disk of a linotype-machine, of a guard at the rear face of the disk, for preventing the metals from dropping in front of the ejector, and a wiper carried by the guard and bearing against the face of said disk.

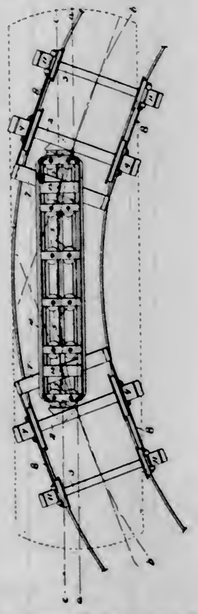
15. An attachment for linotype-machines, comprising a spring-blade adapted to be secured intermediate of its ends at the rear of the mold-disk, with one end in contact with the inner periphery of the rim of the disk and its other end spaced a short distance from said rim.

16. An attachment for linotype-machines, comprising a spring-blade adapted to be secured intermediate of its ends at the rear of the mold-disk with one end in contact with the inner periphery of the rim of the disk and its other end spaced a short distance from said rim, and a plate secured to one end of the blade and having a covering of absorbent material on one face adapted to engage the inner rear side of said mold-disk.

17. An attachment for linotype-machines, comprising a curved spring-plate having at one end an angular member carrying absorbent material, said plate being adapted to be secured at one side of the mold-disk with its angular member parallel to the plane of the disk, and one end in contact with the inner periphery of the rim of the disk and its other end spaced a short distance from said rim.

18. The combination of a mold-disk of a linotype-machine, and a combined scraper and guard adapted to bear at one end against the rim of said disk, with one of the longitudinal edges of said scraper in contact with the rear face of said disk.

844,918. CAR-MAGNET SUPPORT. WILLIAM M. BROWN, Johnstown, Pa., assignor to The Lorain Steel Company, a Corporation of Pennsylvania. Filed Jan. 25, 1906. Serial No. 297,745.



Claim.—1. The combination with the trucks of a double-truck car, of a magnet-supporting frame extending between the trucks and pivotally connected thereto at points between the bolster centers; said frame having extensions beyond its pivotal points, and magnets mounted on such extensions and also on the frame between the pivots, substantially as described.

2. The combination with the trucks of a double-truck car, of a magnet-supporting frame extending between the trucks and pivoted thereto at points between the bolster centers, said supporting-frame being independent of the car-body; said frame having extensions beyond its pivotal points, and magnets mounted on such extensions and also on the frame between the pivots substantially as described.

3. The combination with the trucks of a double-truck car, said trucks having overhanging or projecting supports extending between the trucks, of a magnet-supporting frame pivotally connected to the support of each truck; said frame having extensions beyond its pivotal points, and magnets mounted on such extensions and also on the frame between the pivots substantially as described.

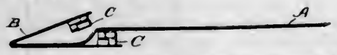
4. The combination with the trucks of a double-truck car, said trucks having supporting members extending between the trucks, of a magnet-supporting frame pivotally connected to each of said supporting members at points between the truck-bolsters and on the center lines of the trucks; said frame having extensions beyond its pivotal points, and magnets mounted on such extensions and also on the frame between the pivots, substantially as described.

5. A car-truck having side frame, a supporting-bar carried by the said frames, and a magnet-supporting frame pivotally connected to the said bar, at a point on the center line of the truck and distant from the bolster center; said frame having extensions beyond its pivotal points, and magnets mounted on such extensions and also on the frame between the pivots, substantially as described.

6. The combination with the trucks of a double-truck car, of a magnet-supporting frame extending between the trucks and having a pivotal and slotted connection therewith at points between the bolster centers; said frame having extensions beyond its pivotal points, and magnets mounted on such extensions and also on the frame between the pivots substantially as described.

7. The combination with the trucks of a double-truck car, said trucks having overhanging or projecting supports extending between the trucks and carried by the car-axles independently of the truck-frame, of a magnet-supporting frame pivoted to the end bars of such supports at points between the bolster centers and having magnet-carrying extensions beyond its pivotal points; substantially as described.

844,919. BEDBUG-TRAP. JOHAN E. BRUNDIN, New York, N. Y. Filed Apr. 22, 1905. Renewed Jan. 10, 1907. Serial No. 351,691.



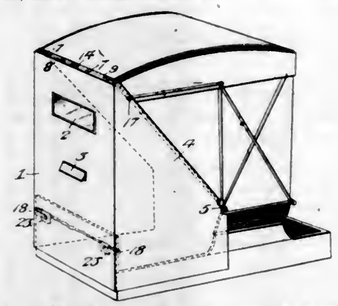
Claim.—1. In a trap of the character herein set forth, a flexible body portion having marginal guards with openings therethrough, the trap being arranged to be secured in place upon a piece of bedding, substantially in the manner and for the purposes explained.

2. In a trap of the character herein set forth, the combination with a flexible body of flexible guards applied thereto, said guards having openings therethrough, the trap being arranged to be applied to the bedding, substantially in the manner and for the purposes explained.

3. In a trap of the character herein set forth, a flexible body having marginal guards with openings applied on the body, the body being folded so as to bring one of the guards inside the other to embrace a piece of bedding, substantially in the manner and for the purposes set forth.

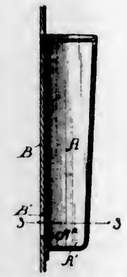
4. The combination with the piece of bedding of a folded trap-body, the latter having marginal guards with perforations therethrough, the guard on one margin being located within the guard on the other margin, and the body being secured to the bedding, substantially as and for the purposes set forth.

844,920. STORM-FRONT OR DUSTER-HOOD FASTENER. WILLIAM E. CLARK, St. Louis, Mo. Filed Feb. 10, 1906. Serial No. 300,511.



Claim.—A flexible storm front or cover for vehicles provided with a tension-strap at its upper edge comprising a flexible sleeve, keepers secured to said sleeve, straps secured at their outer ends to said sleeve and extending under said keepers, the inner ends of said straps being connected to a take-up device, said take-up device comprising a frame-piece secured to one end of one of the straps, a take-up lever having outwardly-extending pintles pivoted in eyes on said frame-piece and connected to the other strap, and hooks secured to the top edge portion of the front or cover in line with the ends of the tension-strap to hook over the forward portion of the carriage-top frame, substantially as described.

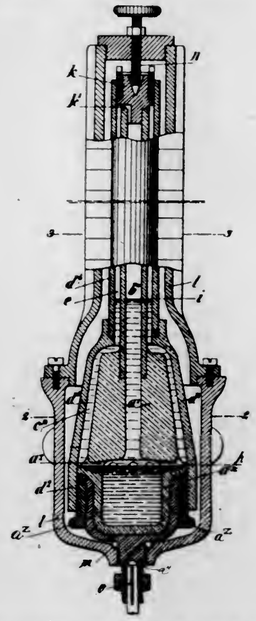
844,921. CREOSOTE-TRAP. ERNEST C. COLE, Chicago, Ill., assignor to Cole Manufacturing Company, Chicago, Ill., a Corporation of Iowa. Filed May 11, 1905. Serial No. 260,014.



Claim.—The back flue and creosote-trap for ranges herein described, consisting of a comparatively flat cast-iron body open at one side and formed at said side with its edges in a flat plane, and having along its side edges and bottom an outwardly-projecting flange also in the flat plane of the open face of the body and having at its lower end at its open side an upwardly-projecting flange forming a pocket at the bottom of the body, the said upwardly-projecting flange having its outer face coincident with the corresponding face of the outwardly-projecting flange of the body whereby the trap may be fitted flat against a flat back plate of a range-body, and the outwardly-projecting-flange and upwardly-projecting flange will coincide in their abutment with said body and the pocket at the bottom of the body and operate as a trap for creosote substantially as and for the purposes set forth.

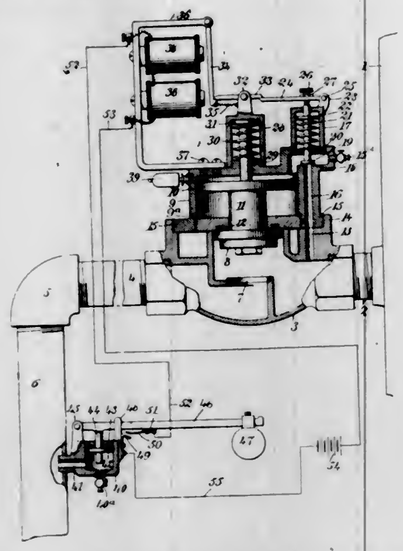
844,922. SPEED-INDICATOR. JAMES T. F. CONTI, Paris, France. Filed July 2, 1904. Serial No. 215,177.

Claim.—A speed-indicator comprising a central rotary holder containing a heavy liquid such as mercury, a frustum-shaped body arranged above said rotary holder, said body being provided with a tubular extension and with a central longitudinal channel traversing the body and the tubular extension, an external member mounted upon the central holder, and having an internal frustum-surface concentric to the frustum-shaped body, and whose generating-lines are more inclined upon the axis than those of said body, said external body being spaced apart from the frustum-shaped body, said external body having a tubular extension concentric with the tubular extension of the frustum-shaped body and spaced apart therefrom, the central holder being provided with orifices above the level of the heavy liquid and leading from the interior thereof to the space between the frustum-shaped body and the external body, the said last-named space communicating with the space between the tubular extensions, and the tubular extension of the frustum-shaped body having an orifice at the upper end thereof forming the communication between the interior of said body and the space between the tubular extensions, a lighter liquid being provided within and between said bodies and resting upon the heavy liquid.



2. A speed-indicator comprising a central rotary holder containing a heavy liquid such as mercury, a frustum-shaped body arranged above said rotary holder, said body being provided with a tubular extension, and with a central longitudinal channel traversing the body and the tubular extension, an external member mounted upon the central holder, and having an internal frustum-surface concentric to the frustum-shaped body, and whose generating-lines are more inclined upon the axis than those of said body, said external body being spaced apart from the frustum-shaped body, said external body having a tubular extension concentric with the tubular extension of the frustum-shaped body and spaced apart therefrom, the central holder being provided with means for adjusting the position of the external body with respect to the central holder, and with orifices above the level of the heavy liquid and leading from the interior therefrom to the space between the frustum-shaped body and the external body, the said last-named space communicating with the space between the tubular extensions, the tubular extension of the frustum-shaped body having an orifice at the upper end thereof forming a communication between the interior of said body and the space between the tubular extensions, a lighter liquid being provided within and between said bodies and resting upon the heavy liquid.

844,923. AUTOMATIC SHUT-OFF FOR FLUIDS. EDMUND L. CRIDGE, Passaic, N. J. Filed Feb. 16, 1906. Serial No. 301,370.



Claim.—1. The combination of a valve provided with a closure member, pressure-controlled mechanism for actuating said closure member, an electromagnet for operating said pressure-controlled mechanism, an electric circuit for energizing said electromagnet, contact mechanism for opening and closing said electric circuit, and means controllable by the pressure of the medium flowing through said valve for opening and closing said contact mechanism.

2. The combination of a casing, a piston mounted therein, a weighted arm connected with said piston, a contact to be opened and closed by movements of said weighted arm, an electric circuit connected with said contact, a magnet connected with said electric circuit and energized thereby, a valve for controlling the flow of a medium, and mechanism operated by said electromagnet for actuating said valve.

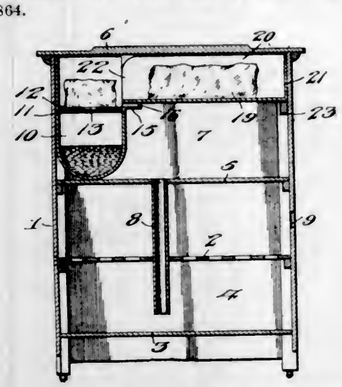
3. The combination of a valve provided with a closure member, a cylinder associated with said valve and provided with a piston for actuating said closure member, means for admitting a small portion of the fluid passing through said valve to said piston, a smaller valve for temporarily obstructing the flow of said fluid into said cylinder, and mechanism controllable electrically from a distance for displacing said smaller valve.

4. The combination of a valve provided with a closure member, pressure-controlled mechanism for actuating said closure member, electric mechanism for actuating said pressure-controlled mechanism, and means controllable automatically by the pressure of a medium flowing through said valve for energizing and deënergizing said electric mechanism.

5. The combination of a valve provided with a closure member, means for actuating said closure member positively, electric mechanism for controlling said means, said electric mechanism being provided with a circuit, and contact mechanism controllable by pressure of a medium flowing through said valve for varying the condition of said electric circuit.

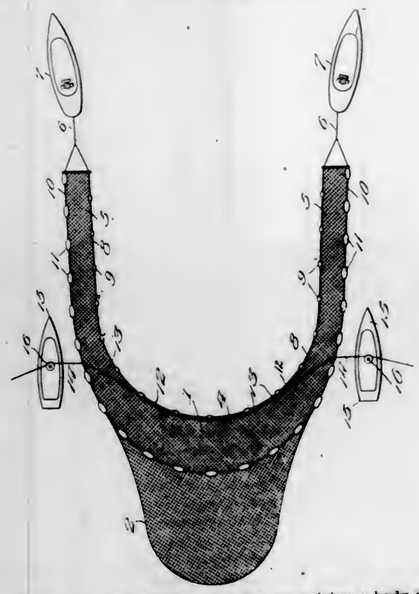
6. The combination of a valve provided with a closure member, mechanism for actuating said closure member, an electric circuit for controlling said mechanism, and means controllable automatically by pressure of a fluid medium passing through said valve for opening and closing said electric circuit.

844,924. REFRIGERATOR. LEONCE DESFORGES, Jr., New Orleans, La. Filed Aug. 5, 1905. Serial No. 272,864.



Claim.—A refrigerator comprising two compartments having a cleat arranged between the same, a vessel depending into the upper compartment and provided with an extended ledge having a right-angular vertical flange, a shelf with an open end mounted in the uppermost compartment and having its bottom contracting with said cleat and said flange, said vessel having a surrounding rim-flange, and a cover provided with a central opening therein, and also having upwardly-projecting spurs arranged on opposite sides of said opening, and said shelf being arranged above the cover of the vessel so that its open end will communicate therewith, substantially as specified.

844,925. FISHING-SEINE. NEALY ELENTERIUS, Biloxi, Miss. Filed Aug. 1, 1906. Serial No. 328,778.

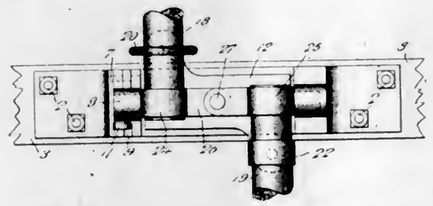


Claim.—1. A fishing net or seine comprising a body portion formed with a sack or trap, and having side leaders extending forwardly therefrom and provided with towing connections, said trap being provided with a purse-line across the forward portion of the body thereof, whereby the net may be contracted and elevated, substantially as described.

2. A fishing net or seine comprising a body portion having a sack or trap, said body portion having its lower surface extending in advance of the mouth of the sack and provided with leaders projecting forwardly therefrom, and provided at their forward ends with towing connections, and a purse-line extending across the forwardly-projecting portion of the net-body and having its ends arranged to form towing connections and adapted to be wound up to permit of the contraction of the body of the net and elevation of the sack.

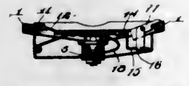
3. A fishing net or seine comprising a body having a sack or trap, said body being provided with a lower portion extending in advance of the mouth of the sack and having side leaders projecting forwardly therefrom, said leaders being provided at their ends with tow-lines, and a purse-line threaded across the forwardly-extending portion of the body with its terminals projecting toward the same for connection with winches on boats or floats, whereby the latter may be propelled inwardly to contract the net and wind up the purse-line to elevate the sack.

844,926. OAR. WILLIAM FENTZKE, Brooklyn, N. Y. Filed Oct. 17, 1906. Serial No. 339,408.



Claim.—In a device of the class described, a base-plate having spaced bearing-heads provided with bearing-openings, a rocking plate having trunnions journaled in said openings, and provided with reversely-extended bearing-ears disposed respectively adjacent the opposite ends of the rocking plate, vertical pivoting members journaled in said ears, a pair of oar-sections engaged respectively with said pivoting members, and a coupling member connecting the ends of the oar-sections, said coupling member comprising a pair of sections having their meeting ends pivotally connected.

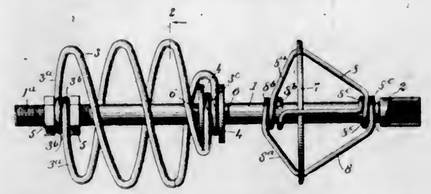
844,927. ANIMAL-TRAP. FREDERICK C. FINKBEINER, Grassrange, Mont. Filed Aug. 1, 1906. Serial No. 328,777.



Claim.—1. An animal-trap comprising a pair of coöperating, pivoted trapping-jaws, actuating-springs adapted to act upon and for moving the jaws to closed position, a depressible member having a keeper, a trigger for locking the jaws in open position and adapted for engagement with said keeper, and a shield marginally surrounding the depressible member and adapted to direct the animal's foot onto the latter.

2. An animal-trap comprising a frame, a pair of coöperating trapping-jaws pivoted in the frame, actuating-springs adapted to act upon and for moving the jaws to closed position, a shield sustained in the frame and having its side portions inclined from their outer toward their inner edges, a pivoted locking member adapted for holding the jaws in open position and a depressible plate having a keeper for engaging the locking member to maintain the same in locking position, said plate being of a size equaling that of the opening in the shield and the plate and shield serving conjointly to close the space between the jaws when in open position.

844,928. FLUE-CLEANER. GEORGE C. FRENCH, Chicago, Ill. Filed Sept. 10, 1906. Serial No. 333,970.



Claim.—1. A flue-cleaner comprising a central bar, and a scraper mounted upon said bar, comprising a double spiral spring having coils of substantially uniform diameter and provided with eyes formed integral with said spring adapted to engage said bar, substantially as shown and described.

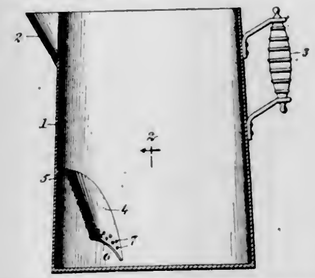
2. A flue-cleaner, comprising a central bar, and a double spring mounted on said bar and provided with a central eye formed integral therewith, movable laterally to a limited extent on the said bar, and with offset ends having eyes formed thereon and adjustably secured to said bar, substantially as shown and described.

3. A flue-cleaner comprising a central bar, a spiral spring mounted on said bar and provided with open ends, and a follower rigidly secured to said bar and provided with guide-rods extending from the edge of said follower to said bar, substantially as shown and described.

4. A flue-cleaner comprising a central bar, a spiral spring mounted upon said bar and provided with open ends, a follower rigidly secured to said bar, and guide-rods extending from the edge of said follower and secured to said bar on opposite sides of said follower, substantially as shown and described.

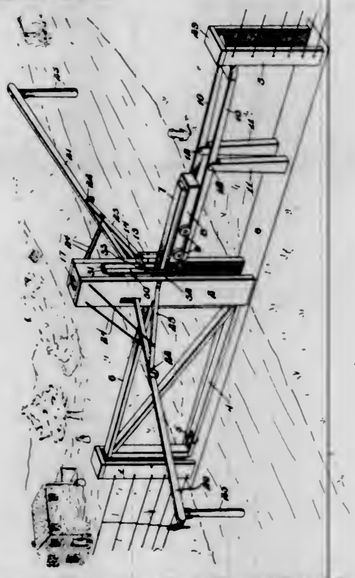
5. The combination with a central bar, of a spiral cleaner mounted on said bar and adjustably secured thereto at one end, a follower mounted upon said bar apart from said spring, and guide-rods extending from the edge of said follower to said bar, substantially as shown and described.

844,929. SEDIMENT-CATCHING POCKET FOR RECEPTACLES. WILLIAM M. GILBERT, Conshohocken, Pa., assignor of two-thirds to said Gilbert, and one-third to Theodore Schreiber, Jeffersonville, Pa. Filed Nov. 9, 1906. Serial No. 342,661.



Claim.—A receptacle having a dispensing-spout, a curved crescent-shaped wall extending inwardly from the wall of the receptacle directly below said spout, and a crescent-shaped partition secured to the inner edge of said wall and extending downwardly therefrom and having its lower edge provided with a plurality of perforations and located adjacent the bottom of the receptacle, said partition and wall forming with the wall of the receptacle a sediment-collecting pocket.

844,930. GATE. JAMES F. S. GOBLE, New Albin, Iowa, assignor of one-fourth to William O. Bock and one-fourth to Oscar C. Tartt, New Albin, Iowa. Filed Apr. 4, 1906. Serial No. 309,791.



Claim.—1. The combination with a sliding gate having a supporting-roller at one of its lower corners, and a roller connected with the opposite upper corner thereof, of a tilting track coöperating with the last-named roller to lift one end of the gate while permitting the first-named roller to run on a stationary surface, and manually-operated means for tilting said track, substantially as described.

2. The combination with a sliding gate having an extended rail, of a tilting track, a weighted carrier connected with the gate-rail and having rollers movable along the track, a bifurcated arm forming an open center extension of the track through which the extended rail moves, a sliding yoke to which said lever-arm is connected, and gate-operating means connected with said yoke and adapted to shift the yoke, causing said yoke to tilt the track, substantially as described.

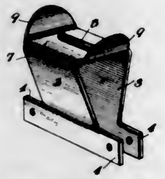
3. The combination with a sliding gate, of a carriage connected to the gate, a tilting track upon which said carriage moves, a vertically-movable yoke having the tilting track connected therewith, gate-operating levers having their adjacent ends connected with the yoke, and rollers on said yoke between which the adjacent ends of the gate-operating levers work, substantially as described.

4. The combination with a sliding gate provided with a supporting-roller at one of its lower corners, of a wheeled and weighted carriage projecting from the opposite end of the gate, a tilting track on which said carriage moves having upwardly-deflected end portions forming checks for the carriage, a vertically-movable yoke to which the tilting track is connected, and operating-levers having their inner ends in sliding engagement with said yoke for shifting the latter, substantially as described.

5. The combination with a sliding gate, of a tilting track forming a reversely-inclinable support for the gate, a sliding yoke, a lever-arm on said tilting track connected with the yoke, gate-operating levers connected with the yoke for shifting the latter, and a latch pivoted on the gate-post and having an interlocking engagement with a portion of the gate and arranged to be shifted by the lever-arm of the tilting track.

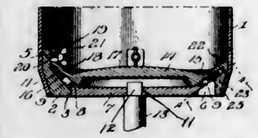
6. The combination with a sliding gate having an extended rail, of a tilting track embodying parallel rails mounted on a common fulcrum-post intermediate the ends of the rails, a weighted carriage connected with the gate-rail and supported by rollers which move along the track-rails, a lever-arm connecting the track-rails at one end and straddling the extended rail of the gate, and gate-operating levers connected with said tilting track, substantially as described.

844,931. FLAME-SPREADER FOR OIL-BURNERS. JOHN H. GREENHAGEN, Columbia City, Oreg. Filed Nov. 14, 1906. Serial No. 343,334.



Claim.—A flame-spreader for lamp-burners, consisting of a single piece of sheet metal having upwardly and outwardly flared front and rear walls, tongues projecting from the side edges of said walls, a flat top wall bridging said front and rear walls, and having a central slot therethrough adapted to fit flush the upper edge of a wick-tube, side wings projecting outwardly and upwardly from said top wall from the ends of said slot, and means for connecting the aforesaid tongues and clamping the spreader on the wick-tube.

844,932. SEED-DROPPER. JOHN H. GROOTERS, Allendorf, Iowa. Filed Dec. 1, 1906. Serial No. 345,878.



Claim.—1. In a seed-dropper, a hopper-bottom having a feed-chamber having oblique sides, the bottom side extending outwardly beyond the other, and a rotary seed-plate provided with seed-pockets arranged obliquely thereto and disposed within said channel.

2. A seed-dropper comprising a hopper, a rotary seed-plate provided with peripheral pockets arranged obliquely to its plane of rotation, and means within the hopper forming an oblique channel leading to said pockets, for the inward edgewise feed of the seed at an angle between the vertical and horizontal.

3. A seed-dropper comprising a hopper, a rotary seed-plate therein provided with peripheral pockets arranged at an angle to its plane of rotation, and means within the hopper forming a correspondingly-arranged channel, said channel having one of its walls extending beyond the pockets to form a bottom guiding-surface for the inward edgewise feed of the seed at an angle to the horizontal.

4. A seed-dropper comprising a hopper, a rotary seed-plate therein provided with a flange inclining upwardly and outwardly and formed with feed-pockets, and means within the hopper for conducting the seed edgewise tangentially into said pocket.

5. A seed-dropper comprising a hopper, a rotary seed-plate therein provided with seed-pockets disposed at an upward and outward angle thereto, and means within the hopper for guiding and conducting the seed at an inward and downward angle into said pockets.

6. A seed-dropper comprising a hopper, a rotary seed-plate therein provided with pockets inclined upwardly and outwardly to its plane of rotation, and means within the hopper forming a feed-channel communicating with the pockets, said channel having guiding-surfaces corresponding in inclination to the pockets with respect to the plane of rotation of the seed-plate for conducting the seed edgewise at an inward and downward angle into said pockets.

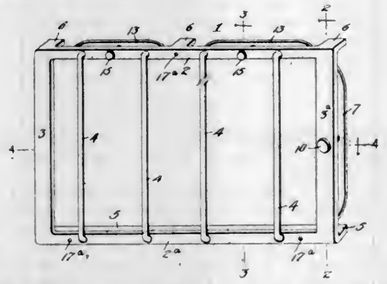
7. A seed-dropper comprising a hopper, a rotary seed-plate therein provided with an inclined flange arranged at an upward and outward angle thereto and formed with seed-pockets opening through the outer edge thereof, and means within the hopper having guiding-surfaces forming a channel leading to said pockets to conduct the seed edgewise thereto at an angle to the horizontal, one of said guiding-surfaces forming an extended support sloping inwardly from the wall of the hopper.

8. A seed-dropper comprising a hopper having a bottom formed with an opening and a sloping surface leading thereto, a cap supported above said bottom and having an inclined surface parallel with said sloping surface to provide an intervening channel lying obliquely to the plane of rotation of the plate, and a rotary seed-plate turning in said opening and provided with an oblique peripheral flange moving between said sloping and inclined surfaces and provided with pockets opening through the outer edge thereof.

9. A seed-dropper comprising a hopper having a bottom provided with an opening and a sloping surface inclining downwardly and inwardly to said opening, a cap or cover plate arranged above the opening in the hopper and having an inclined surface lying parallel with the lower portion of said sloping surface, said cap being also provided with an upper face including all directions toward the outer edge thereof, and a feed-plate arranged to rotate in said opening and provided with a peripheral flange inclining therefrom at an oblique angle, said flange being arranged between said sloping and inclined surfaces and provided with pockets opening through the outer edge thereof.

10. A seed-dropper comprising a hopper having a bottom formed with an opening and a sloping surface leading thereto, a cap supported above said bottom and having an inclined surface parallel with said sloping surface to provide an intervening channel lying obliquely to the plane of rotation of the plate, a rotary seed-plate turning in said opening and provided with an oblique peripheral flange moving between said sloping and inclined surfaces and provided with pockets opening through the outer edge thereof, a pivoted, spring-pressed cut-off finger supported in position to remove any excess seed from the pockets, and means for limiting the inward movement of said finger.

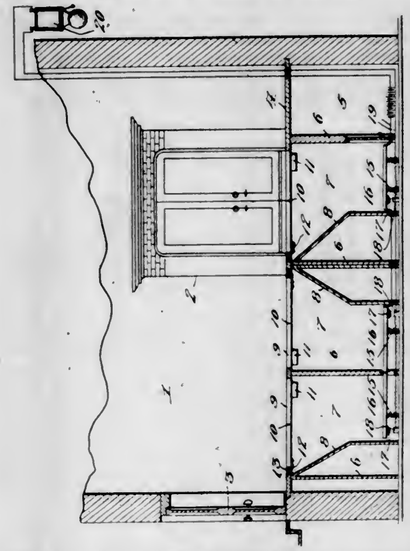
844,933. CARD-HOLDER FOR RAILWAY-CARS. EDWARD GURLEY, High Point, N. C. Filed June 4, 1906. Serial No. 320,195.



Claim.—1. A card-holder of the character described comprising an open frame, card-holding springs arranged in the frame along an end and a side thereof, and pulls connected to the springs and having their inner terminals pointed and projected slightly beyond the springs.

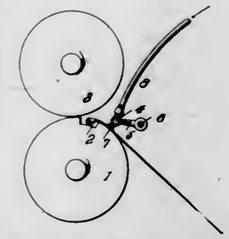
2. A card-holder of the character described comprising an open frame embodying side, end, and intermediate cross-bars, spacing lugs and flanges carried by the side and end bars, card-holding springs arranged on the inner side of the frame, and pulls connected to the springs and adapted to work through the guide-apertures in the side and end bars, the inner terminals of the pulls constituting card-holder points.

844,934. TRAP FOR PREVENTING THE BURGLARIZING OF IRON SAFES. SHEDRICK M. HARDEN, Chicago, Ill. Filed June 6, 1905. Serial No. 263,994.



Claim.—A structure for preventing the burglarizing of safes comprising a floor of a room or hallway having openings therein, hinged doors for closing the openings, means for locking the doors, a series of compartments arranged below the doors and divided by partition-walls, chutes secured to said walls having one of their portions vertical and the other inclined, spring-platforms arranged in the bottom of said compartments in line with the inclined portion of said chutes, one of said platforms centrally pivoted to the partition between two of said compartments, and means for sounding an alarm when said platforms are depressed, substantially as specified.

844,935. FEEDING MECHANISM FOR PRINTING-PRESSES. ALFRED F. HARRIS, Warren, Ohio, assignor to The Harris Automatic Press Company, Niles, Ohio, a Corporation of Ohio. Filed June 12, 1905. Serial No. 264,885.

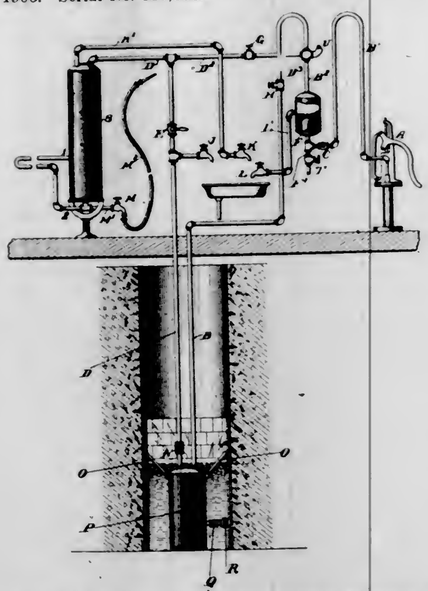


Claim.—1. The combination with a printing-press having an impression-cylinder, and grippers on the latter, of means for supplying a blast of air against the front end of each piece of stock as it is brought into position to be engaged by said grippers.

2. The combination with a printing-press having an impression-cylinder, and grippers on the latter, of a pipe paralleling said cylinder and arranged in juxtaposition

to the point at which the stock is engaged by said grippers, said pipe having openings in its lower face, and means for supplying a blast of air through said pipe against the front end of the stock as it is brought into position to be engaged by said grippers.

844,936. PNEUMATIC WATER-LIFT. WILLIAM A. HARRIS and BENJAMIN S. H. HARRIS, Greenville, S. C., assignors of four-sixteenths to J. C. Fitzgerald and one-fourth to J. P. Carlisle, Greenville, S. C. Filed June 15, 1906. Serial No. 321,886.

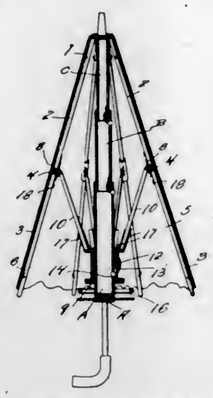


Claim.—1. The combination substantially as herein described of a supply-tank, a reservoir-tank, a purifier or filter tank, a pipe extending from the supply-tank to the reservoir-tank and having a discharge-faucet, a check-valve between the discharge-faucet and the supply-tank and opening toward the supply-faucet, and a stop-cock between the faucet and the reservoir-tank, a branch pipe leading from the connecting-pipe to the purifier or filter tank and supplied in advance of said filter-tank with an emergency-valve, a coupling and a plug connected with said branch pipe, an air-pipe leading from the filter-tank through the said coupling to the supply-tank and having an intermediate valve, an exhaust-pipe leading from the purifier-tank above the water-level thereof and having a faucet, a drain-pipe leading from the purifier-tank and having a drain-cock, an air-pump and an air-supply pipe leading therefrom and connected with the drain-pipe between the drain-cock and purifier-tank and having a check-valve opening toward the purifier-tank substantially as and for the purposes set forth.

2. The combination substantially as herein described, of a supply-tank, a reservoir-tank, a purifier or filter tank, a water-pipe leading from the supply-tank and having a branch connected with the reservoir-tank and a branch leading to the purifier-tank, said last-named branch being provided with a coupling and with a valve in advance of said coupling, an air-pipe connected with said coupling and leading to the supply-tank and provided with a valve, and an air-pump having its discharge-pipe connected with the filter-tank, substantially as set forth.

3. The combination in a pneumatic water-lift system of a supply-tank, a reservoir-tank, a purifier or filter tank, connections between the filter-tank and the supply-tank, a valve in said connections, connections between the filter-tank and reservoir-tank, a valve in said connections, an air-pump having its discharge-pipe connected with the filter-tank, and a water-pipe connecting the supply-tank and reservoir-tank and provided with a valve, all substantially as and for the purpose set forth.

844,937. FOLDING UMBRELLA. WILLIAM P. HARTNETT, Dover, N. H. Filed Jan. 3, 1906. Serial No. 294,398.



Claim.—1. In a foldable umbrella, the combination with a stick having a notch and a runner, of ribs pivoted to the notch and made up of hinged sections, slidable keepers embracing the hinged joints of the ribs, yieldable stops carried by the ribs in normal engagement with the keepers to prevent accidental upward displacement thereof, braces hinged to the runner and the respective keepers, and a sleeve slidably embracing the stick below the braces and capable of being moved upwardly into engagement with the latter to fold the braces inwardly toward the stick and move the keepers upwardly past the stops and out of engagement with the hinged joints of the ribs.

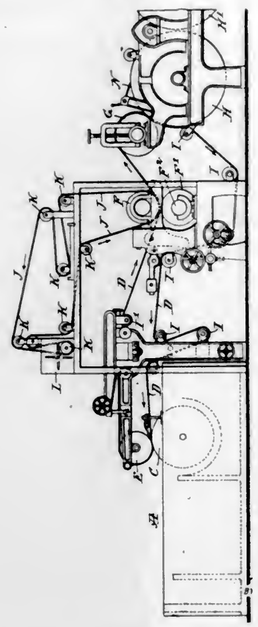
2. In a foldable umbrella, the combination with a stick having a notch and a runner, of ribs pivoted to the notch and made up of hinged sections, slidable keepers normally embracing the hinged joints of the ribs, braces pivoted to the runner and the respective keepers, a sleeve slidably embracing the stick below the braces and capable of being moved into engagement with the latter to fold the same toward the stick and move the keepers out of engagement with the hinged joints of the ribs, and brace-separating elements carried by and rising from the top, of the runner and located between adjacent ribs.

844,938. PAPER-MAKING MACHINE. WILLIAM H. HOFFMAN, Little Falls, N. Y. Filed Oct. 26, 1906. Serial No. 340,668.

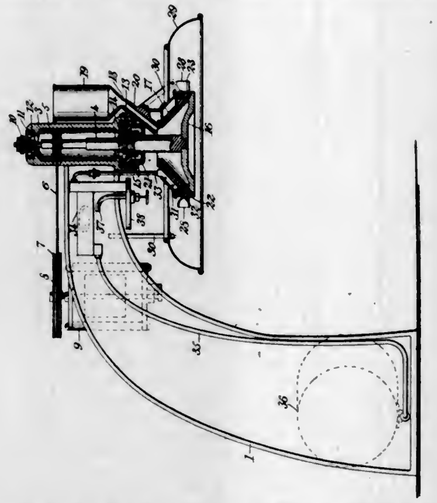
Claim.—1. A paper-making machine comprising a pair of press-rolls of which one is driven, aprons passing between the said press-rolls, one of the aprons carrying the wet sheet of paper between the press-rolls while interposed between the aprons, a driving-cylinder, and a couch-roll for the same and over which passes the apron carrying the sheet of paper to deliver the latter to the drying-cylinder.

2. A paper-making machine comprising a pair of press-rolls of which one is driven, aprons passing between the said press-rolls, one of the aprons carrying the wet sheet of paper between the press-rolls while interposed between the aprons, a drying-cylinder, a couch-roll for the same and over which passes the apron carrying the sheet of paper to deliver the latter to the drying-cylinder, and means for driving the couch-roll in unison with the driving press-roll, the couch-roll driving the drying-cylinder.

844,938.



844,939. CANDY-MACHINE. ZACHARIAH S. HOFFMAN, Newark, N. J. Filed Apr. 21, 1906. Serial No. 312,995.

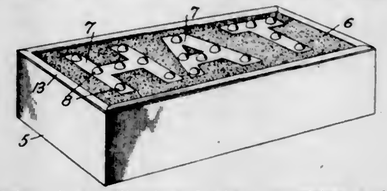


Claim.—1. In a candy-machine, a supporting-arm having an overhanging upper portion and a casing arranged in the said supporting-arm, a spindle mounted to rotate in said casing, and a candy-head carried on the lower end of the spindle, the said head having peripheral outlets.

2. A candy-machine comprising a supporting-arm, a casing attached thereto, and a spindle vertically arranged in the casing.

3. In a candy-machine, a supporting-arm having an overhanging upper portion, a casing arranged in said arm, a spindle mounted to rotate in the casing, ball-bearings for said spindle, a candy-head carried by the lower end of said spindle and having peripheral openings, the said head being open at the top, and means for directing sugar or the like into said head.

844,940. ILLUMINATED SIGN. JOSEPH HOTCHNER, Bronx, N. Y. Filed Jan. 13, 1906. Serial No. 295,965.



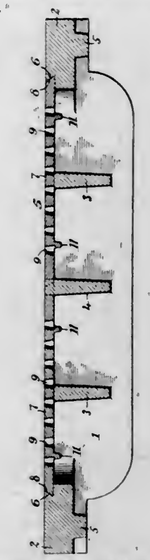
Claim.—1. An illuminated sign comprising a light-transmitting character, and an illuminating means, said illuminating means partially protruding through the character.

2. An illuminated sign comprising a casing, a light-transmitting character carried by the casing, a reflector arranged within the casing, and an illuminating means arranged within the casing and partially protruding through the character.

3. An illuminated sign comprising a light-transmitting sign-panel, and an illuminating means partially protruding through the panel.

4. An illuminated sign comprising a light-transmitting sign-panel, and a single illuminating means arranged on both sides of the panel.

844,941. GRATE-BAR. ALVAH L. HOWARD, Vinton, La. Filed June 14, 1906. Serial No. 321,644.



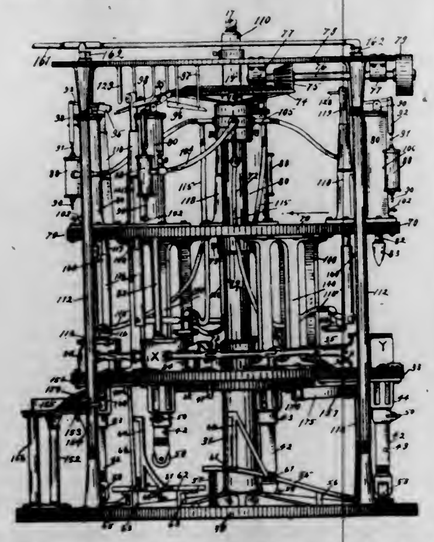
Claim.—1. A device of the class described, comprising longitudinal bars having end pieces and transverse pieces uniting said bars, one of said transverse pieces having an upward projection, said end pieces being undercut, and perforated sections adapted to rest upon said bars, said sections having ends adapted to engage with said undercut end pieces and recesses adapted to receive said projection.

2. A device of the class described, comprising longitudinal bars, having end pieces and transverse pieces uniting said bars, said end pieces extending above said bars and presenting undercut edges, one of said transverse pieces projecting above said bars, and perforated sections each having a beveled edge adapted to engage with one of said undercut end pieces, said sections each having a recess adapted to receive said projecting transverse piece.

3. A device of the class described comprising longitudinal bars having transverse pieces uniting said bars, one of said transverse pieces projecting above said bars, and removable perforated sections upon said bars, means for holding in place the ends of said sections adjacent to the ends of the device, said sections having recesses adapted to receive said projecting transverse piece, an edge of one of said sections adjacent to the recess being beveled to engage with an undercut edge of an opposite section, and an edge of said section adjacent to said recess undercut to engage with the beveled edge of the opposite section.

4. A device of the class described, comprising longitudinal bars, having end pieces projecting above said bars, and transverse pieces uniting said bars, one of said transverse pieces projecting above said bars, said end pieces presenting inward undercut edges, and perforated sections having beveled edges adapted to engage with said undercut edges of said end pieces, and recesses adapted to receive said projecting transverse piece, the edges of said sections adjacent to said recesses being adapted to engage the edges of an adjacent section, said sections being provided on the under side with transverse lugs adapted to fit between said bars.

844,942. MACHINE FOR MAKING GLASSWARE. EDWARD S. HUTTON, Lapel, Ind., assignor of one-half to Arthur Woodward, Lapel, Ind. Filed Feb. 23, 1906. Serial No. 302,659.



Claim.—1. In a machine for making glassware, a centrally-located air-pipe adapted to receive compressed air from any suitable source of supply, a plunger-table mounted so as to revolve about said air-pipe, air-cylinders mounted on said table, a plunger for each air-cylinder, means connected with each air-cylinder for operating its plunger, and means for supplying air from said air-pipe to said revoluble air-cylinders.

2. In a machine for making glassware, a plunger-table, a revolving air-cylinder, a plunger actuated thereby, means for supplying compressed air to the cylinder, a valve for regulating the admission of air thereto, and stationary means for controlling said valve while the cylinder is revolving.

3. In a machine for making glassware, a plunger-table, an air-cylinder thereon, a piston and piston-rod in the cylinder, a plunger on the piston-rod, a valve-chest, a separate passage-way leading from said valve-chest to each end of the cylinder, means for supplying air to said valve-chest, a slide-valve in said valve-chest provided with an inlet-port for each of said passage-ways, a centrally-located exhaust-port for both, a lever mounted in the upper end of the cylinder and connected at one end with said slide-valve, and a stationary means for engaging the other end of said lever as the plunger-table rotates for actuating said lever in an opposite direction.

4. In a machine for making glassware, a revolving mold-table a mold thereon, a plunger-table above the mold-table and rigidly mounted to rotate therewith, a false bottom carried by the mold-table below said mold, an air-cylinder on said plunger-table in vertical alinement over said mold, a piston and piston-rod in said cylinder, a plunger on the rod, a central means for supplying air to said cylinder, a valve for alternately admitting air to the cylinder for actuating the plunger, and means for revolving said mold and plunger tables continuously.

5. In a machine for making glassware, an open-top mold, a blow-head therefor, means carrying said blow-head that is movable laterally into and out of position over said mold and is movable vertically while over said mold, and a valve in said blow-head that is opened by the engagement of the top of the mold with said blow-head.

6. In a machine for making glassware, an open-top mold, a blow-tube leading from a compressed-air supply, a blow-head with which said tube is connected, means for moving said blow-head into position upon said mold and away therefrom, said blow-head having a cylindrical base with an upwardly-extending tubular portion therefrom having a valve-seat at the upper end, a disk in said cylindrical portion of the blow-head provided with a hollow stem extending through the tubular portion of said blow-head with a valve portion on the upper end thereof, the arrangement being such that, when the disk rests upon the mold and the blow-head settles by gravity upon said disk, the valve will be open, and when the blow-head is elevated the valve will close by action of the air.

7. In a machine for making glassware, an open-top mold, a vertically-mounted shaft adapted to partially rotate, an arm extending longitudinally from the lower end of said shaft, a blow-head carried by said arm, a pipe leading from said blow-head to a compressed-air supply, and means for holding said shaft in its upper position until the blow-head has been moved over the mold and then permitting it to drop.

8. In a machine for making glassware, an open-top mold, a partially-rotatable shaft mounted near the mold provided with a horizontal groove at the lower end of a vertical groove to form a shoulder, an arm extending therefrom, a blow-head in said mold, a pipe leading to said blow-head from a compressed-air supply, a tubular guide for said shaft, a key in said tubular guide extending into said groove, means for elevating and turning the shaft in removing the blow-head from the mold, and means for returning the shaft to move the blow-head over the mold so said shaft will move off said key and drop by gravity.

9. In a machine for making glassware, a top frame and two tables one above the other, the two tables being revolubly mounted, a mold carried by the lower table, a tubular guide mounted upon the middle table, a vertical shaft mounted in said tubular guide having a horizontal slot at the lower end of a vertical slot in its surface to form a shoulder, an arm extending from the lower part of said shaft, a blow-head carried on said arm so that when the shaft is partially rotated the blow-head will be moved over the mold, a tube leading from a compressed-air supply to said blow-head, a key in said tubular guide extending loosely into the slot in the shaft, a pulley at the side of said shaft near the upper end, a curved pin extending horizontally therefrom, an arm extending downward from the upper frame into the path of said curved pin as the tables are rotated for turning the blow-head over the mold so that the key will be in the horizontal portion of the slot of said shaft, and an inclined track suspended from said top frame upon which said roller is adapted to run whereby said shaft will be elevated and turned partially at the end of said elevating movement.

10. In a machine for making glassware, a revolving table, a mold below said table, plunger mechanism mounted on said table with a plunger in alinement with said mold, compressed-air mechanism for operating said plunger, a blow-head, means carried by said table for supporting said blow-head, means for actuating said blow-head-supporting means so as to move the blow-head into and out of position on the mold, a compressed-air pipe in line with the axis of said table, and tubes extending from said blow-head and said plunger-actuating mechanism to said air-pipe.

11. In a machine for making glassware, a revolving table, a mold below said table, plunger mechanism mounted on said table with a plunger in alinement with said mold, compressed-air mechanism for operating said plunger, a blow-head, means carried by said table for supporting said blow-head, means for actuating said blow-head-supporting means so as to move the blow-head into and out of position on the mold, a compressed-air tube extending up through the center of said table with a hole through it, a sleeve on said air-tube with an inner chamber and a hole extending through it registering with the hole in said air-tube, said table mounted upon and rotating with said sleeve, and tubes extending from said sleeve registering with the air passage-way therethrough and leading to the blow-head and plunger-actuating mechanism.

12. In a machine for making glassware, a pair of tables rotatably mounted, means for securing said tables together, a series of molds mounted upon the lower table, a series of plunger-actuating mechanisms mounted on the upper table, the plungers therein being in vertical alinement with said molds, means on which said tables are secured for rotation that is tubular at its upper end and provided with an internal air-chamber with holes leading therefrom, a stationary air-tube extending into said tubular means provided with holes for the exit of air, short pipes extending from said tubular means, tubes running therefrom to the plunger-actuating mechanisms, tubes running to the blow-heads, a horizontal bevel-gear secured to the upper end of said tubular means, a shaft extending outwardly therefrom, and a bevel-gear mounted on said shaft meshing with said horizontal gear for rotating said tables.

13. In a machine for making glassware, a mold-table with stop-notches at intervals on the under side thereof, a plurality of molds mounted thereon, one for each stop-notch, a pulley adapted to be driven frictionally, means for transmitting power from said pulley to rotate said mold-table, and a pedal for engaging said stop-notches in the mold-table for stopping the same for charging the mold.

14. In a machine for making glassware, a mold-table with stop-notches at intervals on the under side thereof, a plurality of molds mounted thereon, one for each stop-notch, a pulley adapted to be driven frictionally, means for transmitting power from said pulley to rotate said mold-table, a pedal for engaging said stop-notches in the mold-table for stopping the same for charging the mold, a workman's table mounted near said mold-table, a post on which said pedal is pivoted at one end, and a spring mounted on said workman's table tending to move said pedal upward.

15. In a machine for making glassware, a stationary base, a rotary mold-table above the base with an opening in it, a mold above said opening, a false mold with a downwardly-extending stem having a notch in it, a guide secured on the under side of the table for holding and guiding said false mold and stem, an upwardly-spring-pressed inclined track on the base for elevating said stem and false mold, and means on the guide for engaging the notch on the stem of the false mold to hold it in its elevated position.

16. In a machine for making glassware, a stationary base, a rotary mold-table above the base with an opening in it, a mold above said opening, a false mold with a downwardly-extending stem having a notch in it, a guide secured on the under side of the table for holding and guiding said false mold and stem, an inclined track on the base for elevating said stem and false mold, means on the guide for engaging the notch on the stem of the false mold to hold it in its elevated position, and an arm secured to said track for engaging and holding said locking means on the guide and actuating it.

17. In a machine for making glassware, a stationary base, a rotary mold-table above the base with an opening in it, a mold above said opening, a false mold with a downwardly-extending stem having a notch in it, a guide secured on the under side of the table for holding and guiding said false mold and stem, an inclined track on the base for elevating said stem and false mold, means on the guide for engaging the notch on the stem of the false mold to hold it in its elevated position, an arm secured to said track for engaging and holding said locking means on the guide and actuating it, and another arm in position to disengage said locking means and permit the false mold to drop.

18. In a machine for making glassware, a stationary base, a rotary table-mold above the base with an opening in it, a mold above said opening, a false mold with a downwardly-extending stem having a notch in it, a guide secured on the under side of the table for holding and guiding said false mold and stem, an inclined track on the base for elevating said stem and false mold, means on the guide for engaging the notch on the stem of the false mold to hold it in its elevated position, an arm secured to said track for engaging and holding said locking means on the guide and actuating it, another arm in position to disengage said locking means and permit the false mold to drop, and a sectional horizontal track for receiving the lower end of said false mold-stem as it drops.

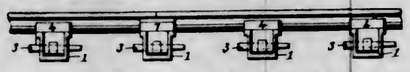
19. In a machine for making glassware, a stationary base, a post extending upward from said base with a horizontal turn-table base-plate on the upper end, a mold-table rotatably mounted on said base-plate with an opening in it, a mold above said opening, a mold-bottom readily slidable in said opening, means connected with the turn-table base-plate for opening said mold-bottom, a false mold and stem, a guide secured to the under side of the table for holding and guiding said false mold and stem in line with a mold above, means connected with the base for elevating said stem and false mold, means in said guide for temporarily holding said false mold and stem in their upper position, and a substantially bell-shaped crank-lever pivoted to said base with one arm adapted to move said mold-bottom in place under the mold and the other arm adapted to receive the lower end of said false mold-stem as it moves and be actuated thereby.

20. In a machine for making glassware, a frame formed of a base and a top with vertically-adjustable intermediate posts connecting them, an air-actuated plunger mechanism, a blowing mechanism, means for supplying compressed air thereto, and means extending down from said upper frame for controlling the operation of said parts, whereby said upper frame may be vertically adjusted to enable said controlling parts to properly perform their work.

21. In a machine for making glassware, a frame formed of a base-plate, a top plate, a tubular post connecting them, mechanism for forming glass articles rotatably mounted within said frame, means for introducing compressed air to said tubular posts, and nozzles extending from said tubular post into proximity with the parts of the machine desired to be cooled.

22. In a machine for making glassware, a frame having a base-plate, top plate, and a vertically-adjustable tubular post connected with them, means for introducing compressed air into said post, plungers, molds and false molds rotatably mounted within said frame, nozzles extending from said tubular post into proximity with said molds and false molds for cooling the same.

844,943. SLEEPER AND CONNECTION FOR RAILWAYS. ROBERT H. IRELAND, Newark, N. J. Filed Nov. 5, 1906. Serial No. 342,044.



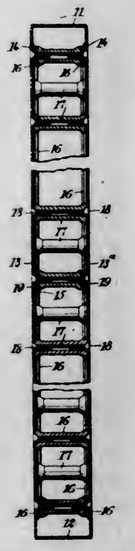
Claim.—1. The combination of a channeled sleeper having outwardly-turned flanges at its open side, clamping-jaws resting on said flanges for securing a rail to the sleeper, and means for securing the clamping-jaws and sleeper and forcing the jaws together.

2. In combination with a rail, a channeled sleeper, a clamping-jaw resting on the upper edges of the sleeper at each side of the rail, and means passing transversely through the sleeper and through the jaws acting to draw the jaws together and clamp the rail therebetween.

3. In combination with a rail, a channeled sleeper having flanges at the upper edges thereof, a clamping-jaw resting on said flanges at each side of the rail, each clamping-jaw having ears extending within the channel of the sleeper, and a tapered key passing transversely through the sleeper and ears of the clamping-jaws acting to force the jaws together and clamp the rail therebetween.

4. The combination of a channeled sleeper having flanges at its open side and openings therein, coacting clamping-jaws resting on the flanges and having apertured ears fitting into the channel of the sleeper, and a tapered pin passing through the openings in the sleeper and the apertured ears of the clamping-jaws for connecting the jaws and sleeper together and forcibly engaging the jaws with a rail.

844,944. FIREPROOF CONSTRUCTION FOR BUILDINGS. JACOB JACOBS, Akron, Ohio. Filed Oct. 9, 1906. Serial No. 338,103.



Claim.—1. A fireproof structure, comprising a series of panels, one panel being adapted to receive the upper or opposing panel in a manner to provide a flush outer face for all of the panels, a support, and spool-braces secured to the panels at their points of connection and to the said support.

2. A fireproof structure, comprising a series of panels, one panel being adapted to receive the upper or opposing panel in a manner to provide a flush outer face for all of the panels, a support, spool-braces secured to the panels at their points of connection and to the said support, and strengthening-plates located at the back of the panels where they connect, the fastening devices for the spools passing through the panels being likewise carried through said strengthening-plates.

3. A fireproof structure, consisting of a frame of channel-iron, panels flushly engaging with the outer faces of the channel-irons, said panels being at the front and the back of said irons, tubular braces interposed between the panels, in engagement with their inner faces, and fastening devices passed through the panels and secured to said braces.

4. In a fireproof construction for doors, shutters and partitions, a frame of channel-iron having depressions formed in its outer faces at its inner edges, plates constituting panels forming the front and the rear of the structure, which plates are flushly set in the depressed portions of the channel-irons, the outer faces of the plates being flush, spool-braces engaging with the inner faces of opposing plates, and bolts passed through said plates and into the said spool-braces.

5. In a fireproof construction for doors, shutters and partitions, the combination with a frame constructed of channel-irons, which channel-irons have depressions formed in their outer faces at their inner edges, and plates constituting the front and the back of the structure, which plates are received in the depressions in the said channel-irons, the upper edge of one plate being inwardly offset to flushly receive the lower edge of an opposing plate, and strengthening-plates at the junction of the front and back plates, of spool-braces located in series between opposing plates, engaging the inner faces thereof, and bolts passed through the said front and back plates and through the strengthening-plates and into the said spool-braces.

6. In a fireproof construction for doors, shutters and partitions, the combination with a frame constructed of channel-irons, which channel-irons have depressions formed in their outer faces at their inner edges strengthening-plates located at the inner faces of the channel-irons at their depressed portions, plates constituting front and back panels for the structure, which plates lie in the depressed portions of the frame, one plate being provided with an inward depression to receive the engaging edge of the next plate, whereby to provide a flush front and back surface for the structure, and strengthening-plates located at the inner sides of the panel-plates where said panel-plates connect, of series of spool-braces extending from the front to the back of the structure, said spool-braces being interiorly threaded at their end portions, and bolts passed through the panel-plates into said spool-braces, sundry of which bolts also serve to hold in place the aforesaid strengthening-plates.

844,945. BAIT TRAP AND HOLDER. VICTOR LE BEAU, New Orleans, La. Filed July 6, 1906. Serial No. 324,967.

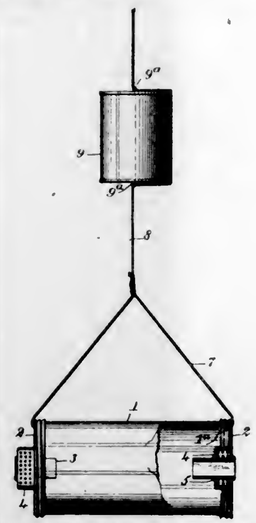
Claim.—1. The combination with a cylinder having a transparent body, of perforated heads detachably secured to such cylinder, a perforated food-chamber, and a transparent tube passing through the food-chamber and head of the cylinder, substantially as shown and described.

2. The combination with a cylinder having a transparent body, of perforated heads detachably secured to said cylinder, a perforated food-chamber secured to the cylinder-head, and a transparent rectangular tube extending through said food-chamber and head of the cylinder and extending into the cylinder, substantially as shown and described.

3. The combination with a cylinder having a transparent body, of perforated heads detachably secured to said cylinder, a food-chamber adapted to be detachably secured to the cylinder-head, and a transparent tube extending through said food-chamber and head and into the interior of the cylinder, substantially as shown and described.

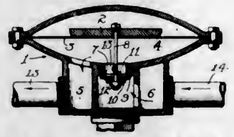
4. The combination with a cylinder having a transparent body, of perforated heads detachably secured to said cylinder, a central aperture formed in one of said heads and a perforated cap pivoted to said head and adapted to cover said aperture, substantially as shown and described.

5. The combination with a cylinder having a transparent body, and provided in its end with a screw-thread, of perforated heads provided with a central aperture and having a flange provided with a thread adapted to engage the thread of the cylinder, a cord secured at its ends to each of the cylinder-heads, and a perforated food-chamber adapted to be secured to the cylinder-heads, substantially as shown and described.



6. The combination with a cylinder having a transparent body, of perforated heads detachably secured to said cylinder, a food-chamber adapted to be secured to the cylinder-heads, a transparent tube extending through said chamber and heads into the interior of the cylinder, means for connecting the heads of the cylinders together, a cord connected with said cylinder-heads, and a float adjustably secured to said cord and adapted to be inserted in the interior of the cylinder, substantially as shown and described.

844,946. FLUID-REGULATOR. THADDEUS LOWE, Pasadena, Cal. Filed June 19, 1905. Serial No. 265,929.



Claim.—1. A fluid-regulator having a high-pressure valve operated by fluid-pressure, a main valve-seat, and a combination floating valve and valve-seat between the high-pressure valve and the main valve-seat and provided with an orifice adapted to be closed by the high-pressure valve when under excessive pressure, a pressure-operated valve-stem for the high-pressure valve and means on the valve-stem for unseating the floating valve.

2. A fluid-regulator having a high-pressure valve, a main valve-seat, a combination floating valve and valve-seat between the high-pressure valve and the main valve-seat and adapted to seat the high-pressure valve, and means moving with the high-pressure valve to move the combination floating valve and valve-seat from the main valve-seat.

3. A fluid-regulator having a high-pressure valve operated by the fluid-pressure, a main valve-seat, a combination floating valve and valve-seat between the high-pressure valve and main valve-seat, and provided with an orifice adapted to be closed by the high-pressure valve when under excessive pressure, and a spring moving with the high-pressure valve and operating to hold the floating valve and valve-seat against the main valve-seat during an intermediate movement of the high-pressure valve.

4. A fluid-regulator having a high-pressure valve operated by the fluid-pressure, a main valve-seat, a combination floating valve and valve-seat between the high-pressure valve and the main valve-seat and provided with an orifice adapted to be closed by the high-pressure valve when under excessive pressure, a spring moving with the high-pressure valve and operating to hold the floating valve and valve-seat during an intermediate movement of the high-pressure valve and means moving with the high-pressure valve to move the floating valve and valve-seat away from the main valve-seat under the lower pressure.

5. A fluid-regulator having a high-pressure valve, a main valve-seat, a floating valve and valve-seat between the high-pressure valve and main valve-seat and having an orifice adapted to seat the high-pressure valve, a spring for supporting the floating valve and valve-seat, and a screw screwed into the under face of the high-pressure valve for holding said spring.

6. A fluid-regulator having a main valve-seat, a floating valve provided with an orifice, a high-pressure valve to close the orifice and a spring carried by the high-pressure valve and constructed in the form of an inverted cone to carry the floating valve to close the main valve-seat.

7. In a fluid-regulator a floating valve, a high-pressure valve and a spring between said valve and moving therewith to operate the floating valve.

8. A main valve-seat, a floating valve therefor having an orifice and a high-pressure valve for closing communication through and for seating the floating valve.

9. A main valve-seat, a floating valve therefor having an orifice, a valve-rod through the orifice and a high-pressure valve on the valve-rod for closing communication through the valve.

10. The combination of a valve-seat, a floating valve therefor provided with a passage therethrough, a valve-stem, a valve on the valve-stem to close the passage through the floating valve, means for operating the valve-stem and a crowfoot on the valve-stem for unseating the floating valve.

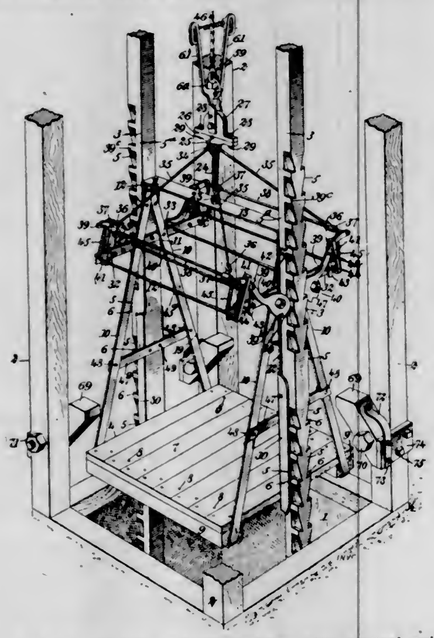
844,947. SAFETY DEVICE FOR ELEVATORS. WILLIAM LOWRY, Cowley, Alberta, Canada. Filed Feb. 10, 1906. Serial No. 300,441.

Claim.—1. In an elevator, the combination with vertical guide members in the elevator-shaft, having shoulders on opposite side faces, of a cage having opposite sets of hangers, a hoisting-cable and suspensory for the cage connected therewith, divergent rods loosely held by the suspensory, device on the hangers for engagement with said shoulders, and means between said hangers and rods, adapted to bring said devices into action upon breakage of the hoisting-cable.

2. In an elevator, the combination with vertical guide members in the elevator-shaft having shoulders on opposite faces thereof, of a cage having opposite sets of hangers, a hoisting-cable and a suspensory therefrom for the cage, divergent rods held by the suspensory, devices on the hangers for engagement with said shoulders, and spring-controlled means between said hangers and rods for drawing the said devices into engagement with the said shoulders of the breakage of the hoisting-cable.

3. In an elevator, the combination with vertical guide members in the elevator-shaft, having shoulders on opposite faces thereof, of a cage having opposite sets of hangers, a hoisting-cable and a suspensory therefrom for the cage, divergent rods loosely held by the suspensory, devices on the hangers for engagement with said shoulders, and means between said hangers and rods, adapted to draw said devices into action on breakage of said hoisting-cable, said means embodying transverse rods connecting the ends of pairs of said divergent rods.

4. In an elevator, the combination with vertical guide members in the elevator-shaft, having shoulders on opposite faces thereof, of a cage having opposite sets of hangers, a hoisting-cable and a suspensory therefrom for the cage, divergent rods held by the suspensory, devices on the hangers for engagement with said shoulders, and spring-controlled means between said hangers and rods for drawing said devices into such engagement on the breakage of the said hoisting-cable, embodying transverse rods connecting the ends of pairs of said divergent rods.



5. In an elevator, the combination with vertical guide members and an elevator-shaft having shoulders on opposite faces thereof, of a cage having opposite sets of hangers, a hoisting-cable and a suspensory therefrom for the cage, divergent rods loosely held by the suspensory and connected with the cage, lever-pawls pivotally mounted on the hangers, adapted for engagement with said shoulders, and means between said hangers and rods for bringing the pawls into action upon the breakage of the hoisting-cable.

6. In an elevator, the combination with vertical guide members in the elevator-shaft, having shoulders on opposite faces thereof, of a cage having opposite sets of hangers, a hoisting-cable and a suspensory therefrom for the cage, divergent rods loosely held by the suspensory and connected with the cage, lever-pawls mounted on the hangers, adapted for engagement with said shoulders, toothed gravity-pawls pivotally suspended from said lever-pawls, guides for the gravity-pawls located on said hangers, which guides are arranged for locking engagement with the teeth of the pawls, and means between the said hangers and rods for throwing the lever-pawls into action.

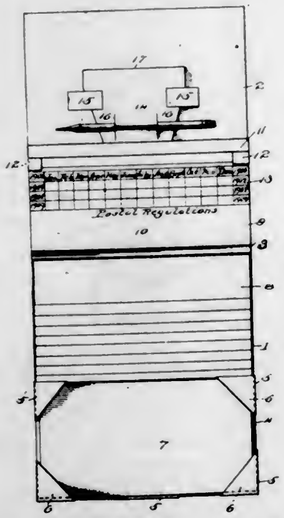
7. In an elevator, the combination with vertical guide members in the elevator-shaft having shoulders on opposite faces thereof, of a cage having opposite sets of hangers, a hoisting-cable and a suspensory therefrom for the cage, divergent rods loosely held by the suspensory, lever-pawls mounted on the hangers and adapted for engagement with said shoulders, toothed gravity-pawls suspended from said lever-pawls, guides for the gravity-pawls arranged for locking engagement with their teeth, and spring-controlled means between said hangers and rods for bringing the lever-pawls into operation.

8. In an elevator, the combination with vertical guide members for the elevator-shaft, having shoulders on opposite faces thereof, of a cage having opposite sets of hangers, a hoisting-cable and a suspensory therefrom for the cage, divergent rods loosely held by the suspensory, lever-pawls mounted on the hangers, adapted for engagement with said shoulders, toothed gravity-pawls pivotally suspended from said lever-pawls, locking-guides for the gravity-pawls, and means between the said hangers and rods for bringing the lever-pawls into action at the breakage of the hoisting-cable.

9. In an elevator, the combination with vertical guide members in the elevator-shaft having shoulders on opposite faces thereof, of a cage having opposite sets of hangers, a hoisting-cable and a suspensory therefrom for the cage, divergent rods loosely held by the suspensory, being connected with the cage, lever-pawls mounted on the hangers, adapted for engagement with said shoulders, toothed gravity-pawls pivotally suspended from said lever-pawls, locking-guides for the gravity-pawls carried by the hangers, and spring-controlled means between said hangers and rods for bringing the lever-pawls into action.

10. In an elevator, the combination with vertical guide members in the elevator-shaft having shoulders on opposite faces thereof, of a cage having opposite sets of hangers provided with horizontal plates, vertical plates disposed at the sides of the cage, a cross-plate connecting the vertical plates at their upper portions, said vertical plates being also secured to the hangers and provided with wings to embrace the said guide members, a hoisting-cable and a suspensory therefrom for the cage, divergent rods held by the said suspensory at their upper ends, parallel rods connecting pairs of said divergent rods at their lower ends, which parallel rods are secured to the cage, springs connected with the said parallel rods, and means controlled by the said springs, to automatically engage said shoulders upon breakage of the hoisting-cable.

844,948. STATIONERY-HOLDER. EDWARD P. LYNCH, Salt Lake City, Utah. Filed Jan. 19, 1906. Serial No. 296,866.



Claim.—1. In a device of the character described, the combination of lower and upper hinged backs, a pad carried by said lower rack, said pad provided with a pocket, the upper back adapted to be partially positioned within said pocket for securing said backs in a folded position, said pad and lower back producing a pocket therebetween.

2. In a device of the character described, the combination of an upper and a lower back, a flexible strip connecting one of the ends of said backs, a pad secured to the lower back, said pad and back producing a pocket formed therebetween, said pad provided with strips at each of its corners, said strips and pad producing pockets, the upper back adapted to be positioned within some of said pockets for securing said backs in a folded position.

3. In a device of the character described, the combination of a cover composed of connected backs, a blotter-pad carried by one of said backs, a pad secured to said back, said pad with the back forming a pocket, and fastening means formed upon said blotter-pad for securing said backs in a folded position.

4. In a device of the character described, the combination of a cover composed of movably-connected backs, a blotter-pad positioned between said backs and secured to one of the same, said pad provided with pockets at each end, a blotter supported upon said pad and positioned within its pockets, and said pad and lower back provided with a pocket formed therebetween.

5. A holder, comprising connected upper and lower backs, a blotter-pad secured to said lower back, said pad and lower back provided with a pocket formed therebetween, said pad provided with pockets formed at its corners, the outer corners of the upper back adapted to be positioned within the pockets of said pad for securing said backs in a folded position, and article-supporting means carried by said upper back.

6. In a device of the character described, the combination of connected backs, a blotter-pad carried by one of said backs, a pad secured to one of said backs, said pad with said back forming a pocket, fastening means carried by said blotter-pad for securing one of said backs in a folded position with the other back, and article-supporting means formed between said body and lower back upon the inner face of said upper back.

7. A stationary holder, comprising movably-connected upper and lower backs, a pad secured to one of said backs, said pad with said back forming a pocket, a blotter-pad secured at its ends and one of its longitudinal edges to said lower back, said pad provided with pockets at each of its corners, some of said pockets adapted to receive the upper back for securing the same in a closed position with the lower back, said upper back folded at one end for producing a transverse strip, a pocket formed between said strip and upper back, a slitted strip secured at its sides to the inner face of said upper back, the slitted portion of said strip constituting a rack, and a pocket formed between said slitted strip and the upper back.

8. In a device of the character described, the combination of upper and lower hinged backs, a pad carried by said lower back, said pad being provided with a pocket.

9. A device of the character described, comprising a support provided with a pocket, and a cover hinged to said support and provided with a receiving-pocket, the said pockets in the said cover and support being arranged so as not to conflict when the cover is closed.

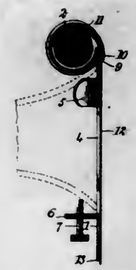
10. A device of the character described, comprising a back, a cover hinged to said back, having an article-holding sheet provided with clamp-like ends, secured thereto, and a pad secured to said back, said pad with said back forming a pocket.

11. In a device of the character described, the combination of a cover composed of connected backs, a pad secured to one of said backs, and forming a pocket thereon, and means for securing said backs together when in their folded position.

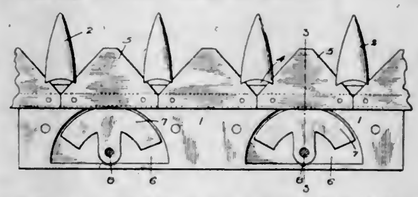
844,949. SANITARY MOUTHPIECE-GUARD. ROBERT R. MACGILL, Baltimore, Md. Filed Apr. 26, 1906. Serial No. 313,838.

Claim.—1. In a device of the class described, a plate having an opening, means for securing the plate in position upon a mouthpiece, one edge portion of said plate being bent to form a cylindrical housing for a roll of sanitary material, removable caps upon the end of said housing and means for securing an end of said sanitary material to said plate.

2. In a device of the class described, a shield having an opening, a tubular roll-holder formed integral with said shield and having a slot and a removable cap, and a removable roll of sanitary material within said holder, a section of said material projecting from said slot to extend over said opening, said shield having lateral extensions formed into clips to hold said section against said shield, and said shield further having lateral fingers formed at the edge of said opening adapted to attach to a mouthpiece, one of said fingers being provided with an adjustable set-screw.



844,950. FINGER-BAR FOR MOWING-MACHINES. HENRY MEHLHORN and JOSEPH SHEPARD, Pine, Oreg. Filed Aug. 16, 1906. Serial No. 330,868.



Claim.—In a mowing-machine cutting apparatus, the combination of a finger-bar having a recess in its upper side extending to its front edge, a segmental antifriction bearing-plate in said recess, a cap-plate on said finger-bar, covering said recess and said bearing-plate and provided with a forwardly-extending guide-finger, a cutter-bar under said guide-finger and with its rear edge bearing against the front side of the antifriction bearing-plate, and a bolt securing the cap-plate on the finger-bar and passing through and forming the pivot for said bearing-plate, substantially as described.

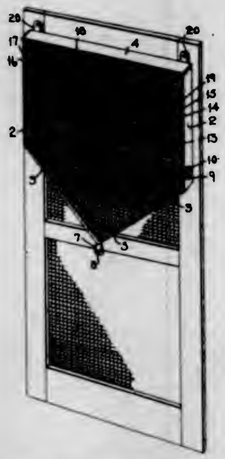
844,951. INSECT-TRAP. NORMAN W. MILLS, IRA F. MONELL, and NICHOLAS R. HERIVEL, Boulder, Colo. Filed Sept. 24, 1906. Serial No. 335,933.

Claim.—1. An insect-trap comprising an open frame, netting arranged on the sides of said frames to cover the same and bent inwardly and having an opening to form an inlet-passage and a discharge-tube arranged in said frame, substantially as described.

2. An insect-trap comprising an open frame, netting arranged on the lower sides of said frame, said netting being bent inwardly and downwardly to form the lower wall of an inlet-passage, netting secured to the upper side portion of said frame and bent inwardly to form the upper wall of said passage, a cover arranged on the upper end of said trap, a discharge-tube in the lower end of the same and a removable cap on said tube, substantially as described.

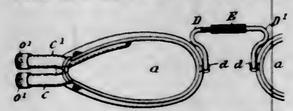
3. An insect-trap comprising an open frame, the lower side of which is formed of strips inclined downwardly toward the center of the trap, side flanges arranged on said bottom strips, cross-cleats arranged between said flanges, netting arranged on the sides of said frame to cover the same said netting having formed therein an inlet-passage, a cover to close the upper end of said trap,

a discharge-tube in the bottom of the same, and a removable cap on the lower end of said tube, substantially as described.



4. An insect-trap, comprising an open frame consisting of apertured side strips, a top strip which is in the form of a cover, a bottom formed of downwardly and inwardly inclined strips, a discharge-tube arranged in said bottom, side flanges on said inclined strips, cleats between said flanges to receive insect-powder, cover-plates for said apertures, wire-netting sides arranged on the lower portions of said frame, said netting having its upper portions bent inwardly and downwardly to form the lower walls of an inlet-passage, netting-strips arranged on the upper portions of said frame, said netting having its lower edges bent inwardly to form the upper walls of said passage and dividing the same into entrances, opening from both sides of the screen, and cross-rods to hold the walls of said passage in place, substantially as described.

844,952. EYE-PROTECTOR. ELIE MIROVITCH, Paris, France. Filed Mar. 22, 1906. Serial No. 307,400.

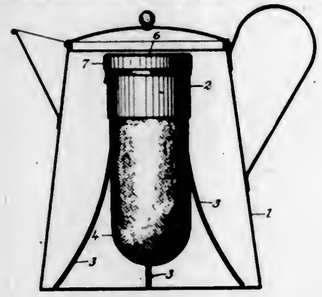


Claim.—In eyeglasses or goggles for automobilists and others, having a double ventilating-tube and an extensible bridge-piece, the construction of the extensible bridge comprising two semicylindrical stems adapted to work within a screw-threaded nut having right and left handed screw-threads adapted to engage corresponding threads on the ends of the respective stems, substantially as specified.

844,953. FILTER FOR COFFEE-POTS. CLARENCE MONROE, Loveland, Colo. Filed May 19, 1906. Serial No. 317,791.

Claim.—1. A filter for coffee-pots, comprising a tubular body, outwardly-flared wire legs attached to said body for supporting it, a bag with an open upper end made from a thin textile, a cover of the same material attached at one side of the open end of the bag, the edges of the bag and cover being folded over the upper edge of the tubular body, and a metal band passing over the edges of the bag and cover and binding them against the tubular body.

2. A filter for coffee-pots comprising a tubular body, a textile bag open at its upper end and passing through the body with the edges thereof folded over upon the exterior of the body, a textile cover covering the open end of the bag and also having its edges folded over upon the exterior of the body, and a band passed over the folded edges of the bag and cover and bindingly engaging them with the body.



844,954. WRENCH. ALBERT S. MORANGE, Stratford, Conn. Filed Apr. 17, 1906. Serial No. 312,129.



Claim.—1. In a wrench, an outer jaw, a shank connected therewith, an inner jaw carried by a hollow casing, cooperating with the outer jaw, said shank having a threaded bore and slidable in the casing, a swelled handhold at the outer end of the casing, a rotatable plug in the handhold carrying a screw to engage the threaded bore of the shank, means to prevent the relative longitudinal movement of the plug in the handhold, a closure-cap hinged to the outer end of the plug, and means carried by the cap for rotating the screw.

2. In a wrench, an outer jaw, a shank connected therewith, an inner jaw carried by a hollow casing, and coöperating with the outer jaw, said shank having a threaded bore and slidable in the casing, a rotatable plug in the handhold of the casing carrying a screw to engage the threaded bore of the shank, means to prevent the relative longitudinal movement of the plug in the handhold, a closure-cap hinged to the outer end of the plug, and means carried on the under face of the cap for rotating the plug and screw, said means being adapted to be projected into any one of a series of openings on the interior of the casing and frictionally engaged therein, for the purpose described.

3. In a wrench, an outer jaw, a shank connected therewith, an inner jaw carried by a hollow casing, and coöperating with the outer jaw, said shank having a threaded bore and slidable in the casing, a rotatable plug in the handhold of the casing carrying a screw to engage the threaded bore of the shank, means to prevent the relative longitudinal movement of the plug in the casing, an enlarged head on the plug, a hole passing transversely through the head, a closure-cap hinged to the head of the plug, and means carried by the cap adapted to be projected through the hole in the plug-head and frictionally engaged therewith, for the purpose described.

4. A wrench comprising jaws relatively movable to and from each other, a handle, and unitary rotatable means operable at the end of the handle for adjusting the jaws and locking them in adjusted position.

5. A wrench comprising jaws relatively movable to and from each other, screw-threaded means for adjusting the jaws, a closure-cap hinged at one end of the screw, and a pin fixed to the under face of the closure-cap for rotating the screw and locking the same against movement.

6. A wrench comprising two jaws relatively movable to and from each other, rotatable means for adjusting the jaws, and a cap having a crank-pin for rotating the adjusting means, said pin also being adapted to lock the jaws in adjusted position.

7. A wrench comprising jaws relatively movable to and from each other, a handle, screw-threaded means for adjusting the jaws, unitary means operable at the end of the handle for rotating the adjusting means and locking the jaws in adjusted position, and a scale carried by the wrench to indicate the number of rotations of the adjusting means required to separate the jaws any given distance.

8. In a wrench, an outer movable jaw, a shank connected therewith, a threaded bore in the shank, an outer casing or handle in which the shank is slidable, a jaw fixed to the casing, an adjusting-screw engaged with the threaded bore of the casing, means for preventing relative longitudinal movement between the screw and casing, a cap hingedly connected with the screw having a pin for rotating the same, a series of openings in the casing in which the pin is adapted to be projected, and a spring for frictionally engaging the pin.

844,955. CRATE. ROBERT MORGAN, Ellsworth, Kans., assignor of one-fourth to J. S. Cox and one-fourth to Iman C. McKallip, Pueblo, Colo. Filed July 3, 1906. Serial No. 324,598.

Claim.—1. A collapsible crate comprising top and bottom plates having single flanges at their ends and double flanges at their sides, said double flanges being spaced apart from each other to form grooves, slides movable in said grooves at each end thereof, ends comprising frames hinged to the end flanges of the top and bottom and divided horizontally into sections, the sections being hinged together to fold inwardly, sides comprising a central and end portions, said central portion being hinged to the inner flange of the top and the bottom and being divided horizontally into sections, the sections being hinged together to fold inwardly, said end portion of the sides being hinged to the slides in the grooves, and divided horizontally into sections, said sections being hinged together to fold inwardly, bars pivoted to the respective slides at one end, and to the outer flange of the opposite groove, whereby to permit said end portions to slide over the central portion, and means engaging said end portions for normally retaining them in their outward position.

2. A collapsible crate comprising top and bottom plates, ends hinged to the top and bottom plates and divided transversely into sections, said sections being hinged together to fold inwardly, sides comprising a central and end portions, each of said portions being divided transversely into sections, said sections being hinged together whereby to permit said portions to fold inwardly, means for moving said end portions over said central portion, whereby to permit the folding of the sides and ends, and means for normally retaining said end portions in their outward position.

3. A collapsible crate comprising a top and bottom, and folding ends hinged to the top and the bottom, foldable sides comprising a central and end portions, means whereby said end portions may slide over said central portion during the folding of the crate, and means for normally retaining said end portions in their outward position.

4. A collapsible crate comprising a top and bottom, foldable ends, and foldable sides, said sides comprising a central and end portions, means whereby said end portions may slide over said central portion during the folding of the crate, and a spring-catch for normally retaining said end portions in their outward position.

5. A collapsible crate comprising a top and bottom, foldable ends and foldable sides, said sides comprising a fixed central and movable end portions, and means for moving the end portions over the central portion during the folding of the crate.

6. A collapsible crate comprising a top and a bottom, foldable ends, and foldable sides, said sides comprising a plurality of portions, sundry of said portions being slidable on the remaining portions whereby to contract the sides during the folding of the crate.

7. A collapsible crate comprising a top and a bottom, inwardly-foldable ends and sides, means whereby to extend and contract said sides during the folding and the opening of the crate, and means for normally retaining the crate in its open position.

8. A collapsible crate comprising a top and a bottom, foldable ends and sides, and means whereby to extend and contract said sides longitudinally during the folding and unfolding thereof.

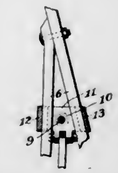
9. A collapsible crate comprising a top and bottom, inwardly-foldable ends and sides, and means whereby to extend and contract said sides during the folding and the opening of the crate.

10. A collapsible crate, comprising a top and bottom, foldable ends, sides comprising a plurality of foldable portions, and means whereby to slide said portions upon each other, whereby to contract said sides during the folding of the crate.

11. A collapsible crate comprising a top and a bottom, foldable ends and sides, and means whereby the folding of the ends and sides will contract the sides in the direction of their length.

12. A collapsible crate comprising a top and a bottom, foldable ends and sides, and a connection between the top and the bottom and the sides, whereby the movement of the top and bottom toward and from each other will contract and extend the sides in the direction of their length.

844,956. STUBBLE-CUTTER. WILLIAM A. MCCOLLOUGH, Lamoille, Iowa. Filed Sept. 13, 1906. Serial No. 334,431.



Claim.—1. In combination with a drag-bar, a coupling for pivotally securing the same in place comprising separated members, one having an inclined edge constituting a wedge, and means for forcing said members together.

2. In combination with a drag-bar, a coupling for pivotally securing the same in place comprising separated members, one having a surface projection and the other a depending inclined flange, and means for forcing said members together.

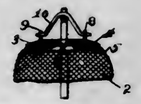
3. In combination with a drag-gear, a coupling for pivotally securing the same in place comprising separated members, one having a surface projection and the other a depending flange, said flange and one edge of said surface

projection inclining in opposite directions, and means for forcing said members together.

4. In combination with a drag-bar, a coupling for pivotally securing the same in place comprising separated members, one having a wedge-shaped surface projection and the other a depending flange the inclination of which is opposite to that of the edges of the projection, and means for forcing said members together.

5. The combination with a drag-bar and means for pivotally securing one end thereof, of a coupling for the other end of said drag-bar coöperating with said securing means to permit pivotal movement in the drag-bar, said coupling comprising separated members, one having means for pivotal connection with the drag-bar and having a surface projection, and the other a depending flange, and means for forcing said members together.

844,957. INCANDESCENT-MANTLE SUPPORT. MORRIS OFFENBERG, Pittsburg, Pa. Filed Aug. 21, 1906. Serial No. 331,541



Claim.—1. In a mantle-support, the combination of a mantle, a clamping device at the upper portion of the mantle, a pair of perforated ears projecting outwardly from the clamping device, a yoke having the opposite ends thereof pivotally connected to the ears whereby the mantle can swing freely in one direction, and a support comprising a horizontal portion provided with a depression within which an intermediate portion of the yoke rests loosely, thereby enabling the mantle to swing in a direction at right angles to that previously mentioned.

2. In a mantle-support, the combination of a mantle, a clamping device comprising a pair of rings between which the upper portion of the mantle is interposed, one of said rings being formed with integral extensions for engaging the opposite ring and also with a pair of outwardly-projecting ears, a yoke having opposite ends thereof pivotally connected to the ears, and a support comprising an approximately horizontal portion provided with a depression within which an intermediate portion of the yoke rests loosely.

3. In a mantle-support, the combination of a mantle, a pair of clamping-rings between which the upper portion of the mantle is interposed, the outer ring being provided with extensions which are bent into engagement with the inner ring, and also with a pair of outwardly-bent perforated ears, a yoke having opposite ends thereof pivotally connected to the said perforated ears, and an inverted-U-shaped support provided with a horizontal portion having a depression therein, an intermediate portion of the yoke fitting loosely within the depression.

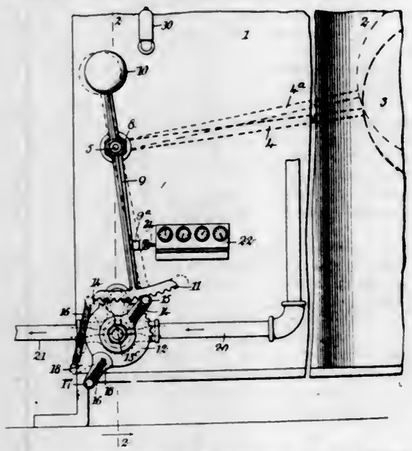
844,958. STEAM-TRAP. ALFRED L. RIGGS, Ebensburg, Pa. Filed Nov. 2, 1906. Serial No. 341,739.

Claim.—1. The combination with a receptacle, of a three-way valve provided with an arm, a float, and a spring connected with the valve-arm and operated by said float so as to rotate the valve quickly as the line of said spring passes the center of said valve.

2. The combination with a receptacle, of a three-way valve connected therewith, and provided with an arm, a float, and a spring operated by said float and connected with said valve-arm so as to spread said spring as the line of the spring passes the center of the valve, and enable said spring to contract quickly as it passes said center and rotate said valve in its casing.

3. The combination with a receptacle, of a three-way valve connected therewith, a float, and a spring connected with said float and valve, adapted to move across the axis of the valve and rotate said valve after it has passed said axis.

4. The combination with a receptacle, of a valve having a spring connected therewith, and a float connected with said spring and adapted to carry said spring past the center of said valve alternately in opposite directions.



5. The combination with a receptacle, of a valve provided with an arm, a float arranged within said receptacle, and a spring connected with said valve-arm and float so as to be carried gradually toward and past the center of said valve and rotate said valve-arm.

6. The combination with a receptacle, of a float adapted to operate therein, a valve connected with said receptacle, a spring connected with said valve and float, adapted to be drawn across the center of said valve and rotate said valve, and a registering-meter adapted to be operated by said float.

7. The combination with a receptacle, of a valve connected therewith and provided with an arm, a float arranged within said receptacle, and a spring connected with said float and valve-arm having a bodily movement transversely of the center of said valve, and a contracting movement on passing said center.

844,959. EXCAVATOR. MARK D. ROCHFORD, Los Angeles, Cal. Filed Feb. 8, 1904. Serial No. 192,534.

Claim.—1. An endless chain, digging devices on the chain, means for driving the chain, and a weight for holding the chain in digging position.

2. An endless chain, digging devices on the chain, and means for suspending the chain at a point intermediate its loops.

3. An endless chain, digging devices on the chain, means for suspending the chain at a point intermediate its loops, and means for balancing the chain.

4. An endless chain, digging devices on the chain, means for suspending the chain at a point intermediate its loops, and a follower-weight hung in one loop.

5. An endless chain, digging devices on the chain, means for suspending the chain at a point intermediate its loops, a follower-weight hung in one loop, and a tension-weight hung in the other loop.

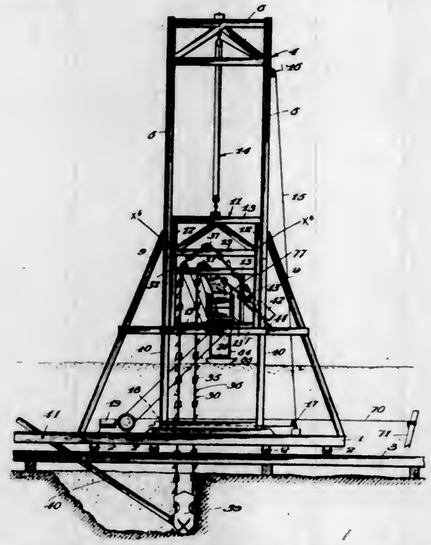
6. An endless chain, digging devices on the chain, and means engaging both reaches of the chain intermediate its loops for driving the same.

7. An endless chain, digging devices on the chain, and means for driving one reach faster than the other to change the position of the loop of the chain.

8. An endless chain, digging devices on the chain, and means engaging both reaches of the chain intermediate its loops for supporting the chain and driving the chain.

9. An endless chain, scoops on the chain, means engaging both reaches of the chain intermediate its loops for supporting the chain and driving the chain, and means for vertically adjusting the last-named means.

10. An endless chain, scoops on the chain, means for supporting and driving the chain, a weight for holding the chain stiff-looped, and means for moving the chain bodily vertically.



11. An endless chain, scoops on the chain, means for supporting and driving the chain, a weight for holding the chain stiff-looped, and means for moving the chain bodily horizontally.

12. An endless chain, scoops on the chain, means for supporting and driving the chain, a weight for holding the chain stiff-looped, means for moving the chain bodily horizontally, and means for moving the chain bodily vertically.

13. An endless chain, digging devices on the chain, means for driving the chain, and yielding means for holding the chain in digging position.

14. An endless chain, digging devices on the chain, means for suspending the chain at a point intermediate its loops, and means for yieldingly holding both loops taut.

15. An endless chain, digging devices on the chain, means for suspending the chain at a point intermediate its loops, and yielding means engaging the upper loop of the chain for balancing the chain.

16. An endless chain, digging devices on the chain, means for suspending the chain at a point intermediate its loops, yielding means for balancing the chain, and means for varying said balance to rotate said loop without disturbing the other loop.

17. An endless chain, digging devices on the chain, means for suspending the chain at a point intermediate its loops, means for yieldingly holding both loops taut, and means for shortening one loop and simultaneously lengthening the other loop.

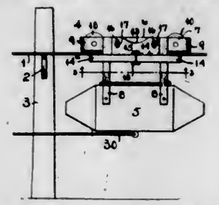
18. A loop, sprockets supporting said loop, means for vertically moving said sprockets, and means for driving the chain.

19. An endless chain, means for supporting said chain in two loops one of which is vertical and the other is inclined, and digging devices on the chain.

20. A pair of loops, buckets carried thereby, means for driving said chain, and means at the end of each of said loops for holding both of said loops taut.

844,960. MAIL-CARRIER. THOMAS W. RUSSELL and REUBEN SAYLER, Union Bridge, Md. Filed July 26, 1906. Serial No. 327,871.

Claim.—1. A carrier of the character described comprising a supporting-frame, grooved wheels mounted in said frame, a swinging detent arranged upon said frame, and a swinging, spring-controlled detent projecting between said wheels for retaining the latter upon their track.



2. A carrier of the character described comprising a supporting-frame, grooved wheels mounted in said frame, a swinging detent arranged upon said frame, a swinging, spring-controlled detent projecting between said wheels for retaining the latter upon their track, and means for adjustably mounting said detent upon said frame.

3. A carrier of the character described comprising a supporting-frame, a grooved wheel journaled therein, a transversely-extending detent-lever, and springs connected to said lever to hold it in its transverse position.

4. A carrier of the character described comprising a supporting-frame, a grooved wheel journaled therein, a vertically-adjustable support upon said frame, a detent-lever pivoted upon said support, and springs connected to said lever for holding it transversely of said wheel.

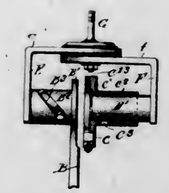
5. A carrier of the character described comprising a supporting-frame, curved wheels journaled therein, a vertically-adjustable bracket upon said frame, a detent-lever pivoted upon said bracket, and springs connected to said lever and to said bracket, substantially as described.

6. The combination with a track having bracket-arms for supporting same, of a carrier, a grooved wheel upon said carrier, to travel upon said track, and a resilient detent upon said carrier adapted to project beneath said track to retain said wheel thereon, and to swing past said bracket-arms.

7. A carrier of the character described having a grooved supporting-wheel, a swinging detent for retaining said wheel upon its track, and a guard for holding said detent in a plane at right angles to the track for said wheel.

8. A carrier of the character described having a grooved supporting-wheel, a swinging detent for retaining said wheel upon its track, a segmental, cam-shaped guard having a seat to receive said detent, and springs for holding said detent in said seat.

844,961. CIRCUIT-BREAKER FOR ELECTRICAL CONDUCTORS. WILLIAM C. SHAW, White Plains, Md., assignor to John M. Boarman, Faulkner, Md. Filed Aug. 2, 1906. Serial No. 328,839.



Claim.—1. The combination substantially as herein described of the bracket-sections having the horizontal wings, the bolt connecting the same and insulating devices at the connection between the horizontal wings of the bracket-sections, the said sections being also provided with depending wings, and with stub-shafts extending thence inward toward each other and spaced apart at their inner adjacent extremities, the circuit making and breaking sections having heads movable laterally into and out of contact and provided with thimbles fitting on their respective stub-shafts, and provided with cam-slots, and pins

projecting from the stub-shafts into the cam-slots of their respective thimbles, substantially as set forth.

2. In a circuit maker and breaker for electrical conductors, the combination of a pair of making and breaking sections movable laterally into and out of contact with each other and having extensions for connections with line-wire sections, supports on which said making and breaking devices are supported to turn and move laterally, and means operated by the turning movement of said section or sections to effect a lateral movement thereof, substantially as set forth.

3. The combination of the independent line-wire sections, the independent making and breaking sections to which said line-wire sections are respectively connected, a support on which said making and breaking sections are mounted to turn, and means operated by the relative turning of the sections to move the same laterally, substantially as set forth.

4. The combination with the stub-shafts spaced apart at their inner adjacent ends, of circuit making and breaking sections having thimbles journaled on their respective shafts and provided with cam-slots and pins projecting from the stub-shafts into the slots of their respective thimbles, substantially as set forth.

5. The combination with the stub-shafts and the circuit making and breaking devices mounted on their respective stub-shafts, of cam operating devices whereby the said sections may be caused to move along their shafts when turned thereon, substantially as set forth.

6. The combination in a circuit-breaker for electrical conductors, of the bracket having depending side wings and stub-shafts projecting inwardly therefrom, the circuit making and breaking sections supported on their respective stub-shafts and adapted to turn thereon, and cam devices whereby the turning of either of said sections on its stub-shaft will cause it to move laterally with respect to the opposite section, substantially as set forth.

7. A supporting-bracket composed of sections having top wings, devices connecting the same and means for insulating the connection between the said wings and also provided with depending wings, and with stub-shafts projecting inwardly therefrom toward each other and spaced apart at their inner extremities and circuit making and breaking sections movable into contact with each other between the spaced-apart ends of the stub-shafts, and means whereby the said making and breaking sections as they turn on their stub-shafts may be caused to move along the said shafts, as set forth.

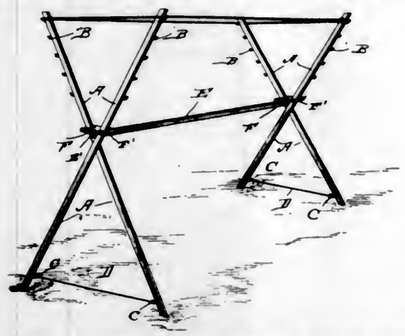
8. A circuit-maker for electrical conductors comprising a pair of independent making and breaking sections having concentric heads adapted to contact one with the other supporting means upon which said sections are mounted to turn and move laterally, and means operated by the turning of said sections relative to each other to effect a lateral relative movement of said sections, substantially as set forth.

9. A circuit making and breaking device for electrical conductors comprising a pair of alined stub-shafts spaced apart at their adjacent ends, connecting means between the outer ends of said shafts and provided with insulating devices, circuit making and breaking sections journaled on and movable along their respective stub-shafts and cam devices for effecting a longitudinal movement of the making and breaking sections along their respective stub-shafts, as the said sections are turned, substantially as set forth.

844,962. FOLDING CLOTHES-DRIER. DOMINIC SHERLOCK, Pittsburg, Pa. Filed Mar. 28, 1905. Serial No. 252,482.

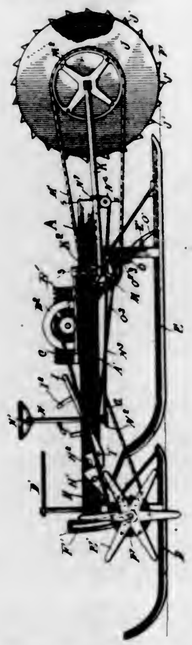
Claim.—1. A clothes drier or rack comprising a connecting-pole having blocks at each end, slotted transversely, supporting cross-legs adapted to fit into the said transverse slots and provided with means at their upper ends for receiving a clothes-line, the lower ends of the legs being connected to prevent displacement.

2. A folding clothes drier or rack comprising a pole having wedge-shaped ends and blocks arranged upon said ends, said blocks being slotted transversely from the opposite sides, cross-legs adapted to fit into the slots of the block, the wedge-shaped ends of the poles being adapted to fit in the angle formed by the intersection of the cross-



legs, hooks carried by the said cross-legs upon their upper portions, cords connecting the lower ends of the legs, and a clothes-line extending around the upper portion of the cross-legs and engaging the hooks, as set forth.

844,963. AUTO SNOW-CAR. JOSEPH SHERWOOD, Lake, Idaho. Filed June 5, 1906. Serial No. 320,294.



Claim.—1. The combination substantially as herein described, of the main frame, the main propeller, the propeller-frame having tubular side bars to which the main propeller is journaled, a cross-tube connected with the front ends of said tubular side bars and communicating therewith, a cross-shaft gearing between said cross-shaft and the propeller-drum, an engine on the main frame, gearing between said engine and the said cross-shaft, whereby to drive the latter, and means for discharging the exhaust from the said engine to the cross-tube, whereby it may be delivered thence to the main propeller, substantially as set forth.

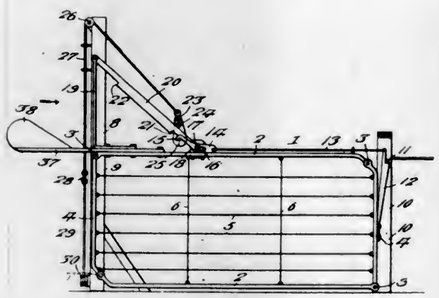
2. The combination with the main frame, of the main propeller, a propeller-frame having tubular side bars pivoted at one end to the main frame and provided at their other ends with bearings for the propeller, an engine on the main frame for driving the propeller, and means for delivering the exhaust from the engine to the said tubular side bars, whereby it may be conducted to the propeller, substantially as set forth.

3. The combination with the main frame, an engine on the main frame, a cross-shaft geared with the engine, whereby it may be driven therefrom, tubular side bars connected with said cross-shaft, the propeller journaled to the tubular side bars, gearing between the propeller and the cross-shaft, and means for delivering the exhaust from the engine to said tubular side bars, substantially as set forth.

4. In a machine substantially as described, the combination with the main frame and the runners supporting the same, of a propeller having a cross-shaft and the wheels secured thereon, a pair of levers pivoted to the main frame and connected at their front ends with the said cross-shaft, and extended in rear of their pivots, and operating-levers geared with the rear extension of said levers, substantially as set forth.

5. The combination with the main frame, its supporting-runners, and the main propeller, of the propeller-frame pivoted to the main frame and to which the main propeller is journaled, a shaft journaled to the main frame, cables operated by said shaft, and connected with the propeller-frame, and guides for said cables below the connection of the cables with the propeller-frame whereby they may operate to depress the propeller-frame, substantially as set forth.

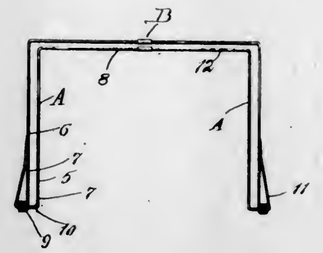
844,964. GATE. CARL J. SINGER, Washington, D. C. Filed Sept. 22, 1906. Serial No. 335,791.



Claim.—1. In a device of the class described, a gate-post, a gate pivoted thereto to swing vertically to open position, a movable latch member carried by the gate, a bearing attached to the upper rail of the gate, a movable tripping-lever having a slot-and-pin connection with the bearing and provided with an engaging portion, said lever being operatively connected with the latch member, an inclined rail fixed on the gate and having engaging portions, a traveler-block arranged for movement on the rail and provided with a part which normally engages the engaging portion of the tripping-lever for operating the latter to move the latch to releasing position, said part being formed for engagement with the engaging portions of the rail to fix the block against movement on the latter, and means connected with and for operating the block to move the gate to open or closed position.

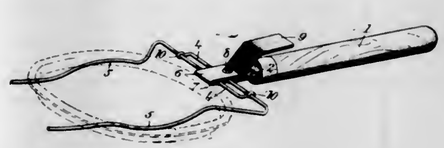
2. In a device of the class described, a gate-post, a gate pivoted thereto to swing in a vertical plane, a movable latch member carried by the gate, a bearing attached to the latter, a movable tripping-lever having a slot-and-pin connection with the bearing and provided at its rear end with an engaging hook, a connection between the lever and latch member, an inclined rail fixedly mounted on the gate and provided with spaced stop-shoulders, a traveler-block arranged for movement on the rail and having a part which normally engages the hook portion of the lever for moving the same to operate the latch, said part being designed for engagement with the stop-shoulders for fixing the block against movement on the rail, and means connected with and for operating the block to move the gate to open or closed position.

844,965. POCKET-CLOSER. THOMAS SLACKOWSKI, Bay City, Mich. Filed June 8, 1906. Serial No. 320,790.



Claim.—A pocket-closer consisting of major and minor members each comprising side legs and a connecting top portion, the extremities of the legs of the major member being bent into coils to form eyes, and the end portions of the minor member being turned outwardly through the said eyes to form a pivotal connection between the two members, and the extremities of the said outwardly-turned portions being turned upwardly and permanently attached to the legs of the major member above the eyes, whereby the ends of the members are secured against liability of displacement and the said members are acted upon resiliently with a tendency to keep the pocket normally closed.

844,966. PLATE-LIFTER. CHARLES F. SMITH, New York, N. Y. Filed Nov. 17, 1906. Serial No. 343,847.



Claim.—1. A plate-lifter comprising two arms each having a transverse member provided with an eye slidingly embracing the other member whereby the distance between said arms may be adjusted, and a handle for supporting the arms.

2. A plate-lifter comprising two arms each having a transverse member provided with an eye slidingly embracing the other member whereby the distance between said arms may be adjusted, a handle for supporting the arms, and means for clamping the arms in adjusted position.

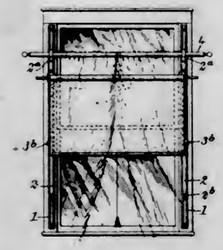
3. A plate-lifter comprising arms adjustable to and from each other, a handle having a tongue extending therefrom for supporting said arms, and a plate engaged with said tongue having an overhanging end operable to clamp the arms in adjusted position.

4. A plate-lifter comprising two arms slidably connected together, a handle having a tongue for supporting said arms, and a plate engaged with said tongue having a rearwardly-extending end overhanging the handle operable to clamp the arms in adjusted position.

5. A plate-lifter comprising two arms having transversely-extending members, said members being bent to provide eyes slidably connecting the arms together, a handle having an extending tongue with corrugations therein forming seats for said members, and a plate having its forward end bent upon itself to engage the extremity of the tongue and a rearwardly-extending offset end overhanging the handle operable to clamp said members between the tongue and plate.

6. A plate-lifter comprising two arms slidably connected together, a handle having an extending tongue for supporting said arms, a plate engaged with the extremity of the tongue having a rearwardly-extending end overhanging the handle operable to clamp the arms in adjusted position, and a screw passing through an opening in the plate and threaded into said tongue.

844,967. WINDOW-SHADE AND CURTAIN-SUPPORT. JOHN L. SMITH, Eureka Springs, Ark. Filed Oct. 30, 1906. Serial No. 341,293.



Claim.—1. The combination with oppositely-disposed guideways, of supporting-rods adapted to slide thereon having offset upper ends adapted to support a curtain-roller, a sectional cross-bar provided with lateral flanges attached to said supporting-rods, and shade-roller brackets secured to the flanges of the cross-bar and to the supporting-rods, substantially as shown and described.

2. The combination with tubular guideways, of supporting-rods adapted to slide therein, provided with offset upper ends adapted to support a curtain-pole, clamps hinged to said supporting-bars and provided with flanges adapted to clamp the sides of the guideways, a sectional cross-bar provided with lateral flanges secured to said supporting-bars, and brackets secured to said flanges and supporting-bars, adapted to support the curtain-roller, substantially as shown and described.

3. The combination with tubular guideways, of supporting-bars adapted to slide in said guideways and provided with offset upper ends adapted to support a curtain-pole, clamps hinged to said supporting-rods and provided with resilient flanges adapted to clamp the sides of the said guideways, sectional cross-bars provided with lateral flanges secured to said supporting-bars, and brackets secured to said supporting-bars and adapted to carry a shade-roller, substantially as shown and described.

4. The combination with tubular guideways, having flexible sides, of supporting-rods adapted to slide in said guideways and provided with offset upper ends adapted to support the curtain-pole, a tubular sectional cross-bar provided with lateral flanges secured to said supporting-rods, and an extension-rod engaging the interior of said cross-bars, and forwardly-extending brackets having lateral flanges which are attached to said supporting-rods and flanges of said cross-bar, substantially as shown and described.

844,968. HALF-TONE-PRINTING PLATE. LEVI F. SMITH, El Paso, Ill. Filed Oct. 17, 1906. Serial No. 339,353.



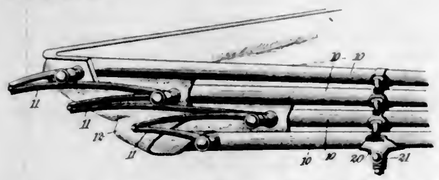
Claim.—1. An engraved printing-plate combined with a wooden back, and metal side clips secured to the wood and soldered to the edges of the printing-plate.

2. An engraved printing-plate combined with a wooden back having beveled notches, and metal clips secured within these notches and soldered to the printing-plate.

3. A half-tone plate composed of a flexible metal face, a wooden back, and metal clips secured to the sides of the block, and soldered to the marginal edges of the printing-plate.

4. A half-tone plate composed of a flexible metal face, a wooden back having beveled notches along its edges, and metal clips secured in the beveled notches with their upper edges extending to the printing-plate and soldered thereto.

844,969. BOW-REST FOR VEHICLES. JAMES H. SPRAGUE, Norwalk, Ohio. Filed Dec. 20, 1906. Serial No. 348,703.



Claim.—1. In combination, a plurality of bows, a band encircling each bow, and a bumper rigidly secured to each bow by means of said bands and adapted to engage with the next adjacent bow.

2. In combination, a plurality of bows, a metal band surrounding each of said bows, and a resilient bumper carried by each of said bows and rigidly secured thereto by means of said bands, each of said bumpers adapted to engage with the band of the next adjacent bow and hold the bows in alinement.

3. In combination, a plurality of bows, a metal band surrounding each of said bows, and a bumper of resilient material carried by each of said bows and rigidly secured thereto by means of said bands, each of said bumpers having a concave outer surface adapted to receive the band of the next adjacent bow.

4. In combination, a plurality of bows, a metal band surrounding each of said bows, and a bumper of resilient material carried by each of said bows and rigidly secured thereto by means of said bands, each of said bumpers having a concave inner surface adapted to engage with its supporting-bow and a concave outer surface adapted to engage with the next adjacent bow.

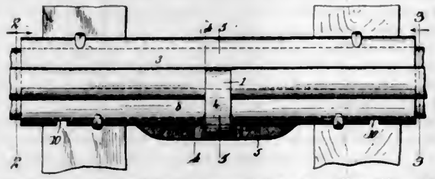
5. In combination, a plurality of bows, a metal band surrounding each of said bows and having an aperture therein, and a plurality of resilient bumpers, each of said bumpers having a flange adapted to be inserted through the aperture of the corresponding band and be rigidly held in place between the band and the bow.

6. In combination, a bow, a metal band surrounding said bow and rigidly secured thereto, said band being provided with an aperture, and a resilient bumper extending through said aperture and having a flange intermediate said band and said bow, whereby the bumper may be firmly held in place.

7. In combination, a bow, a metal band surrounding the same and having the ends thereof overlapped, means for securing said ends together and securing said band to said bow, said band having an aperture and having edges adjacent said aperture bent outwardly to form recesses, and a resilient bumper extending through said aperture and having flanges extending into said recesses.

8. In combination, a bow, a metal band surrounding the same and rigidly secured thereto, said band having an aperture and having the walls adjacent said aperture bent outward to form recesses intermediate said bow and said walls, a resilient bumper extending through said aperture and having a concave inner surface in engagement with said bow and a concave outer surface, and flanges carried by said bumper and extending into said recesses.

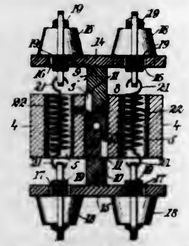
844,970. RAIL-JOINT. ALFRED E. SPRATLEY, Monett, Mo. Filed Nov. 14, 1906. Serial No. 343,325.



Claim.—1. A rail-joint comprising a rail-section arranged between the meeting ends of two rails, a combined base-plate and fish-plate formed integral with each other and with said section for enveloping and inclosing the bottom and one side of the meeting ends of said rails, an offset member formed integral with said section, base-plate and fish-plate, and a wedge-plate having a flange with a downwardly-turned edge driven between said sections and said member.

2. A rail-joint comprising a rail-section arranged between the meeting ends of two rails, a combined base-plate and fish-plate formed integral with each other and with said section for enveloping and engaging the bottom and one side of the meeting ends of said rails, an offset member formed integral with said section, base-plate and fish-plate, and a wedge-plate having a flange with a downwardly-turned edge driven between said section and said member, said flange and downwardly-turned edge of the wedge-plate having notches therein adapting them to be spiked to the sleepers.

844,971. APPLIANCE FOR CORD AND ROPE MACHINES. PHILIP M. STEGMAIER, Plymouth, Mass. Filed Oct. 30, 1905. Serial No. 285,213.



Claim.—1. An appliance of the character specified, comprising a die constructed of sections, the adjacent surfaces of which are provided with oppositely-disposed ledges, a ledge of each section being grooved to form a hole for passage of the object operated upon, and a pressure device for the die.

2. An appliance of the character specified, comprising a die constructed of reversely-disposed duplicate sections, the adjacent surfaces of which are provided with oppositely-disposed ledges, one of the ledges of each section being grooved to form a hole for passage of the object operated upon when the said ledges are in coöperation, and a pressure device for the die.

3. An appliance of the character specified, comprising a die constructed of sections, the adjacent surfaces of which are provided with oppositely-disposed triplicate ledges, the coöperating surfaces of the intermediate ledges being grooved to form a hole for passage of the object operated upon, and a pressure device for the die.

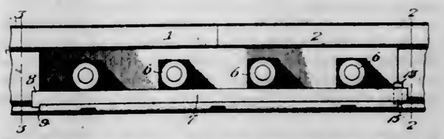
4. An appliance of the character specified, comprising a die constructed of sections, the adjacent surfaces of which are provided with oppositely-disposed triplicate ledges, the coöperating surfaces of the intermediate ledges being grooved to form a hole for passage of the object operated upon, and a pressure device for the die, the distance between the outermost ledge and grooved ledge of each section being greater than the distance between said grooved ledge and the innermost ledge of the section.

5. An appliance of the character specified, comprising a case having a rectangular opening therethrough, and provided with lateral extensions having circular openings therethrough, a die constructed of sections working in said rectangular opening, and a pressure device for the die, embodying plates having openings therethrough, corresponding to said circular openings, nuts applied to the plates, screws working therein and extending through the openings in the plates, the said screws having eyes at their inner ends, and spiral springs extending through said circular openings of the case, and having hook terminals for engaging said eyes and connecting the inner ends of the screws, said case having longitudinal openings therein communicating with the rectangular opening, for passage of the object operated upon.

6. An appliance of the character specified, comprising a die constructed of sections, the adjacent surfaces of which are provided with oppositely-disposed ledges, one of the ledges of a section having a grooved surface cooperating with a similar grooved surface on a ledge of the other section to form a hole for passage of the object operated upon, a pressure device for the die, embodying plates applied to said sections, screws and nuts carried by the plates, and springs connecting the opposite screws.

7. An appliance of the character specified, comprising a case having a rectangular opening therethrough, and provided with integral lateral extensions having circular openings therethrough, at opposite sides of the rectangular opening, the case being further provided with longitudinal openings communicating with the rectangular opening, a die constructed of sections working in said rectangular opening, each section of the die having a portion extending beyond the case, and a pressure device for the die consisting of plates resting on the outer faces of the projecting portions of the sections of the die, and provided with openings corresponding to the circular openings in the lateral extensions of the case, screws extending through the openings in the plates, nuts carried by said screws and engaging the outer faces of the plates, and springs extending through the circular openings of the case and connecting the inner ends of opposite screws.

844,972. NUT-LOCK. JAMES R. THOMAS, Huntington, W. Va., assignor to Thomas Nut-Lock Company, Huntington, W. Va., a Corporation. Filed Mar. 20, 1906. Serial No. 307,106.

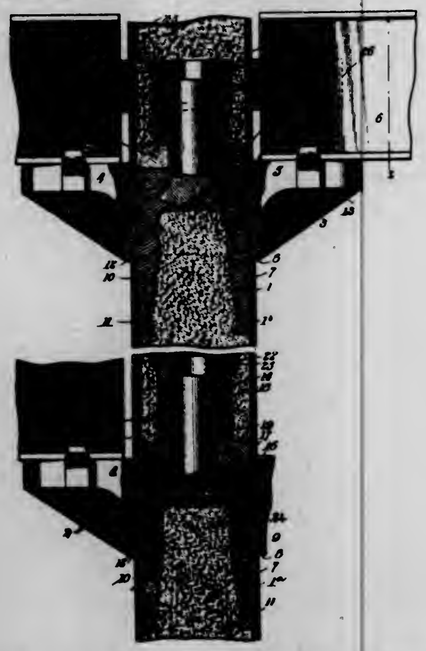


Claim.—1. In a nut-lock, the combination with rails and fish-plates, bolts extending therethrough, and nuts applied to the bolts, of a locking-bar seated upon the base-flange of one of said fish-plates and bearing against the under sides of the nuts, one end of said bar being provided with a lug engaging one of the ends of the plate, the bar

extending beyond the opposite end of said plate and being provided in its opposite end with a tapered opening, and a tapered key inserted through said opening and having a split shank, said shank forming a pair of tongues adapted to be respectively bent into engagement with the fish-plate and against the adjacent end of the same to coöperate with said lug and thereby hold the bar from movement.

2. In a nut-lock, the combination with rails and fish-plates, bolts extending therethrough, and nuts applied to the bolts, one of said fish-plates being provided with recesses at its opposite ends, of a locking-bar seated upon the base-flange of said fish-plate and bearing against the nuts, one end of the bar being provided with a lug to seat in one of said recesses and the other end thereof with a passage, and a key extending through said passage and having a pair of tongues, one of said tongues engaging the recess in the other end of the fish-plate and the other tongue being bent to bear against the end of the fish-plate to hold the bar from movement in the reverse direction and prevent displacement of the key.

844,973. COLUMN. GEORGE F. THORN, New York, N. Y. Filed Sept. 6, 1905. Serial No. 277,213.



Claim.—1. A column comprising a casing, a member constituting a base for the casing and having a recess in the upper face thereof to receive the same and also having a projection rigidly secured to it and extending upward into the casing, and a filling within the casing.

2. A column comprising a casing, a member constituting a base therefor and having a recess receiving said casing, said member further having a pin rigid therewith and projecting upwardly therefrom into the interior of said casing, and a socket within said casing and receiving said pin.

3. A column comprising a casing, a member constituting a base therefor and having a recess receiving said casing, said member further having a pin projecting upwardly therefrom into the interior of said casing a socket within said casing and receiving said pin, and a filling within said casing substantially surrounding said socket.

4. A column comprising a casing, a member constituting a base for said casing and having a recess receiving the same, a socket having a reduced body and rigidly mounted within said casing and having its lower face supported on said member, a pin rigid with said member and projecting upwardly into said socket, and a filling within said casing and surrounding the body of said socket.

5. A column comprising a casing, and a cap having a neck projecting into said casing and having a lip projecting downwardly over the outer edge of the upper extremity of the said casing.

6. A column comprising a casing, a cap seating on said casing and having a recess therein extending upwardly beyond the upper extremity of said casing, and a filling for said casing projecting up into and substantially filling said recess.

7. A column comprising a casing, a cap having a neck projecting into said casing and having a lip projecting over the outer edge of the upper extremity of the said casing, said cap having a recess formed therein and communicating with the interior of said casing, and a filling within said casing and said recess.

8. A column having a casing, a cap having a reduced neck received within said casing and having a recess communicating with the interior thereof, a filling within said casing and extending up into said recess, a pin carried integrally by said cap and projecting upwardly from the upper face thereof, a second casing seating on said cap, and a filling for said upper casing and surrounding said pin.

9. A column comprising a casing, a cap having a reduced neck received in the upper extremity of said casing said cap having a recess in said neck communicating with the interior of said casing, a filling within said casing extending into said recess, a second casing seating on said cap, a socket carried within said second casing, a pin carried by said cap and projecting into said socket, and a filling for said second casing.

10. A column comprising a casing, a cap seated thereon and provided with a depending portion which extends below its seat and with a recess which extends above its seat, and a filling material in said casing and cap.

11. A column comprising a casing, a cap seated thereon and provided with a depending portion adapted to extend into said casing and with a recess which extends into the cap to a place above the plane of such depending portion; and a filling material in said casing and cap.

12. A column comprising a casing provided with a hollow cap the chamber or recess of which extends above the casing and has its wall provided with an inwardly-extending projection, and a filling material in said casing and cap.

13. A column comprising a casing, and a cap seated on the casing and provided with a lip which extends downward over the outer edge of the upper extremity of the casing and with a neck which projects into the casing below the plane of the lip, and a filling material in the casing and neck.

14. A column comprising a casing, a cap seated on the casing and a filling material in the casing and cap; the cap having a neck which projects into the casing, a lip which extends downward over the outer edge of the upper extremity of the casing and a projecting portion which extends inward into the casing and is embedded in the filling.

15. A column comprising a casing, a member engaged with an end thereof, a filling material within said casing, and a holding means comprising a socket arranged in the casing and a rigidly-held projection extending from the member into the socket.

16. A column comprising a casing, a cap seated thereon, a socket seated on the cap, a projection rigidly secured to the cap and extending into the socket and a filling material in the casing.

17. As a new article of manufacture, a cap for a hollow column, comprising a tubular body, having an upper apertured plate and a lower neck of reduced diameter to fit snugly within the column and adapted to be filled with a plastic material and provided externally with a bracket.

18. A new article of manufacture, comprising a hollow casing provided with a tubular cap having a neck adapted to fit inside the casing and also having its upper plate apertured; a socket member; a rod extending from the aperture in the cap into the socket member and a body of plastic material within the casing and surrounding the socket member.

19. The combination with a hollow column, of a hollow cap terminating in an apertured plate and provided with a neck adapted to fit snugly the interior of the column, a rigidly-held rod extending from the aperture in the plate, and a filling of plastic material in the column.

20. The combination with a hollow column, of a hollow cap terminating in an apertured plate and provided with a neck adapted to fit snugly the interior of the column, a socket member on said cap, a rigidly-held rod extending into the socket member from the aperture in the plate, and a filling of plastic material in the column and cap.

21. The combination with a hollow column, of a hollow cap terminating in an apertured plate and provided with a neck adapted to fit snugly the interior of the column, a socket member, a rigidly-held rod extending into the socket member from the aperture in the plate, and a filling of plastic material in the column and cap, and a second column mounted on the cap and comprising plastic material in which the socket member is embedded.

22. The combination with a hollow column provided with a filling of plastic material, a cap for the column, a second column comprising plastic material seated on the cap, and a projecting means from the cap embedded in the plastic material of the second column.

23. The combination with a hollow column provided with a filling of plastic material, a cap for the column, a second column comprising plastic material, seated on the cap, and a projecting means from the cap embedded in the plastic material of the second column, said projecting means comprising a socket in the second column and a rod extending into the socket from the cap.

24. The combination with a hollow column provided with a filling of plastic material, a cap for the column having an aperture, a second column comprising plastic material seated on the cap, and a projecting means from the cap embedded in the plastic material of the second column, said projecting means comprising a socket in the second column and a rigidly-held rod extending into the socket from the aperture in the cap.

25. The combination with adjacent hollow-column sections, and a plastic filling therefor, of a cap fastened to one section and provided with a flange embedded in the filling of the adjacent section.

26. The combination with adjacent hollow-column sections, and a plastic filling therefor, of means for securing said sections together embodying a cap fitted to one section and provided with a corrugated flange embedded in the filling of the adjacent section.

27. The combination with adjacent hollow-column sections and a plastic filling therefor, of a union provided with oppositely-extending flanges embedded in the filling of the sections.

28. The combination with adjacent hollow-column sections, and a plastic filling therefor, of a cap for one section forming also a supporting-base for the adjacent section, said cap having an exteriorly-corrugated flange which is embedded in the filling of one of the sections.

29. The combination with adjacent hollow-column sections, and a plastic filling therefor, of a connection between said sections having means embedded in the filling for holding the sections together.

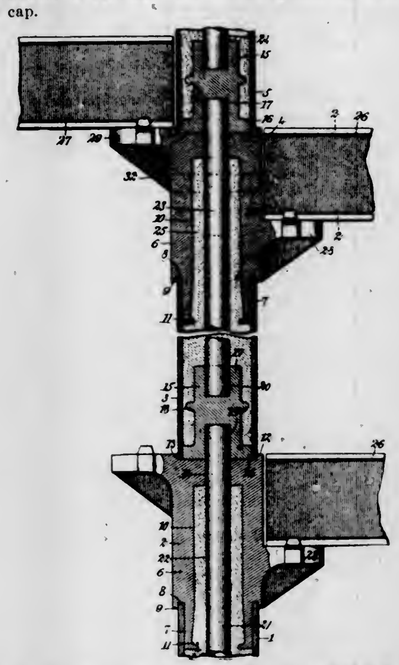
30. The combination with adjacent hollow-column sections, and a plastic filling therefor, of a cap fitted to one section, and a flange detachably secured to the cap and embedded in the filling of the adjacent section.

31. The combination with adjacent column-sections, and a plastic filling therefor, of a connection for said sections having portions embedded in the filling, beam-rests projecting outward from the cap, and bracing webs connecting the rests and cap.

844,974. COLUMN. GEORGE F. THORN, New York, N. Y. Filed Oct. 17, 1905. Serial No. 283,099.

Claim.—1. A column having a tubular shell, a cap seating upon said shell and having a chamber formed therein from below, and communicating with the interior of said shell, and a filling within said shell and extending upwardly into the chamber within said cap, said cap having means for supporting beams at different elevations.

2. A column having a cylindrical shell, a cap seated upon said shell and having means for supporting beams at different elevations, said cap having a reduced neck projecting into the interior of said shell, and a filling within the interior of said shell and extending into the body of said cap.



3. A joint for a column, comprising a cap having a hollow body, a shell supporting the same, a filling within said shell and extending into said body, a socket supported on said cap, a shell surrounding said socket, and an anchor-shaft seated in the lower side of said socket and extending downwardly through the interior of said cap and surrounded by said filling.

4. A column comprising, in combination, a shell, a cap supported on said shell and having a hollow body, a second shell seated on said cap, a plug within said second shell and having a socket formed in the lower side thereof, and an anchor-plate seated in said socket and extending downwardly into the interior of said first shell, said cap having laterally-projecting arms adapted to support beams.

5. In a column construction, in combination, a shell composed of sections disposed one above the other, a chambered cap connecting said shells, a central shaft extending through the end of the cap and into the chamber, and a filling within the shell and chamber and surrounding the central shaft.

6. In a column construction, in combination, a tubular shell comprising a plurality of sections arranged one above the other and a cap seated on the lower section and supporting the upper section, the cap having an opening through its upper face and a chambered body, a central shaft extending from one section to the other through the opening in the cap and a filling in the shell, extending into the chamber in the cap and in which the central shaft is embedded.

7. In a column construction, in combination, a tubular shell comprising a plurality of sections located one above the other and a cap between the sections, a socket in one of the sections, a shaft extending from the socket through

the end of the cap, and a filling in the sections, in which the socket and a portion of the shaft are embedded.

8. In a column construction, in combination, a tubular shell comprising a plurality of sections located one above the other and a cap between the sections, a socket member in one of the sections, a shaft projecting from the socket member in opposite directions into the sections, and a filling in the sections, in which the socket member and shaft are embedded.

9. In a column construction, in combination, a tubular shell comprising a plurality of sections located one above the other and a cap between the sections, a filling in the sections and a shaft made in sections and extending through the end of the cap.

10. In a column construction, in combination, a tubular shell comprising a plurality of sections located one above the other and a cap between the sections, a filling in the sections, a shaft made in sections and extending through the end of the cap, and a socket member for the confronting portions of the sections of the shaft.

11. In a column construction, in combination, a tubular shell comprising a plurality of sections located one above the other and a chambered cap between the sections; a filling in the sections, extending into the chamber in the cap; and a shaft, made in sections and extending through the end of the cap.

12. In a column construction, in combination, a tubular shell comprising a plurality of sections located one above the other and a chambered cap between the sections; a filling in the sections, extending into the chamber in the cap; a shaft, made in sections and extending through the end of the cap; and a socket member embedded in the filling and engaging the confronting portions of the sections of the shaft.

13. In a column construction, in combination, a tubular shell comprising a plurality of sections located one above the other and a chambered cap between the sections; a filling in the sections, extending in the chamber in the cap; a plug supported by said cap and having sockets and embedded in the filling; and a shaft embedded in the filling and made in sections and extending into the sockets in the plug.

14. In a column construction, a tubular shell, a supporting member therefor, a socket in the shell, a shaft projecting from the socket, and a filling in which the socket and shaft are embedded.

15. A column, comprising a shell, a cap seated upon said shell and having means adapting it to support beams at different elevations, and also having a reduced neck which extends into the shell, and a filling in the shell extending into the neck of the cap.

16. In a column, an outer casing, a cap seated thereon and having a hollow portion above the casing, a filling material in the casing and cap and a rod extending into the cap and embedded in the filling.

17. In a column, an outer casing, a cap seated thereon and having a reduced neck extending into the casing and hollow above the same, a filling material in the casing and cap, and a rod extending into the cap and embedded in the filling.

18. A new article of manufacture, comprising a hollow casing provided with a tubular cap having a neck adapted to fit inside of the casing and which cap is also provided with an upper apertured plate: a socket member consisting of a thimble and a flange adapted to fit the casing; a rod passing through the cap and projecting down into the casing and a body of plastic material filling the space within the cap and casing and surrounding the rod and socket-thimble.

19. The combination with a hollow column, of a hollow cap terminating in an apertured plate and provided with a neck adapted to fit snugly the interior of the column and a rod passing through the apertured plate and projecting outwardly beyond the same and inwardly into the column beyond the neck of the cap, the hollow column and cap being filled with cement whereby there is formed a substantial unitary column and cap with a projecting rod.

20. The combination with a hollow column, of a hollow cap terminating in an apertured plate and provided with a neck adapted to fit snugly the interior of the column and a rod passing through the apertured plate and projecting outwardly beyond the same and inwardly into the column beyond the neck of the cap, the hollow column and cap being filled with cement whereby there is formed a substantial unitary column and cap with a projecting rod, of a second column adapted to be superimposed above the first column and provided with a socket member adapted to receive the projecting rod of the first column.

21. The combination with a hollow column, of a hollow cap terminating in an apertured plate and provided with a neck adapted to fit snugly the interior of the column, and a rod passing through the apertured plate and projecting outwardly beyond the same and inwardly into the column beyond the neck of the cap, the hollow column and cap being filled with cement whereby there is formed a substantial unitary column and cap with a projecting rod, of a second column adapted to be superimposed above the first column and provided with a socket member having a snugly-fitting flange and an inwardly-projecting thimble adapted to receive the projecting rod of the first column.

22. The combination with a hollow column, of a hollow cap provided with one or more bracket members, said cap terminating in an apertured plate and provided with a neck adapted to fit snugly the interior of the column, and a rod passing through the apertured plate and projecting outwardly beyond the same and inwardly into the column beyond the neck of the cap, the hollow column and cap being filled with cement whereby there is formed a substantial unitary column and cap with a projecting rod.

23. A series of hollow columns vertically arranged, each having an upper hollow cap provided with a neck adapted to fit snugly within its column and a lower socket member having a thimble provided with means for centering it, each column provided with a rod adapted to fit into the socket of the column above it and extending downwardly beyond its cap, each column and cap being filled with cement.

24. A series of hollow columns vertically arranged, each having an upper hollow cap provided with a neck adapted to fit snugly within its column and a lower socket member having a thimble provided with means for centering it, each column provided with a rod to fit into the socket of the column above it and extending downwardly beyond its cap, each column and cap being filled with cement and each cap having one or more bracket members.

844,975. AUTOMATIC AIR AND STEAM PIPE COUPLING. WILLIAM F. THORNTON, Jr., Germantown, Pa. Filed Aug. 15, 1906. Serial No. 330,675.

Claim.—1. In an automatic pipe-coupler the combination of a nose having a recess at one side thereof, a guide-plate, a pocket formed intermediate the nose and guide-plate, a spring secured to the guide-plate having a hooked inner end entering an opening at one side of the pocket for the purpose described.

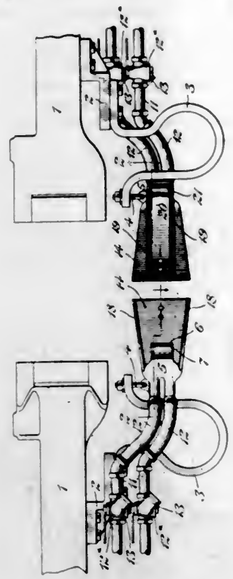
2. In an automatic pipe-coupler the combination of a nose having a recess at one side thereof, a guide-plate, a pocket formed intermediate the nose and guide-plate with outwardly-flaring lips, a spring secured to the guide-plate having a hooked inner end entering an opening at one side of the pocket for the purpose described.

3. In an automatic pipe-coupler, the combination of a nose having a flat inner face and a curved recess in its outer face near its outer end, an outwardly-extending guide-plate forming a pocket between it and the nose, and a spring secured to the guide-plate for the purpose described.

4. In an automatic pipe-coupler, the combination of a nose, an outwardly-extending guide-plate forming an intermediate pocket between it and the nose, said guide-plate being extended beyond the pocket and increasing in width as its outer end is approached, and flanges on the inner face of the guide-plate for the purpose described.

5. In an automatic pipe-coupler, a coupler-head comprising a nose having openings passing therethrough, an outwardly-extending guide-plate forming with the nose an intermediate pocket, gaskets in said openings, and a spring carried by the guide-plate for forcing a corresponding nose into contact with the gaskets.

6. In an automatic pipe-coupler the combination of a spring of substantially hook shape having one end in fixed relation to the draw-head and its opposite end in connection with a pipe-coupler head, adapting the latter to a slight lateral movement.



7. In an automatic pipe-coupler a hooked spring in fixed relation at one end to the draw-head of a car or the like, a pipe-coupler head attached to the opposite end of the spring, said head comprising an outwardly-extending guide-plate and a nose forming an intermediate pocket as described.

8. In an automatic pipe-coupler, a coupler-head comprising a nose and an outwardly-extending guide-plate forming with said nose an intermediate pocket having outwardly-flaring lips at its edges, said guide-plate extending beyond the pocket and having flanges on the inner face thereof, for the purpose described.

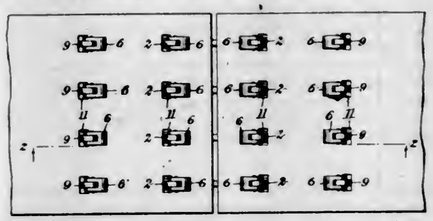
9. In an automatic pipe-coupler, a coupler-head comprising a nose having a curved recess at its outer face, an outwardly-extending guide-plate forming a pocket between it and the nose, flanges on the inner face of the guide-plate, outwardly-flaring lips at the edges of the pocket and a spring secured to the guide-plate, having a hooked end passing into the pocket for the purpose described.

10. In an automatic pipe-coupler, a coupler-head comprising a nose having a curved recess on its outer face, an outwardly-extending guide-plate increasing in width from its outer end and forming a pocket between it and the nose, flanges on the inner face of the guide-plate, outwardly-flaring lips at the edges of the pocket, reinforcing-ribs at the outer face of the guide-plate, a rearwardly-extending spring attached to the guide-plate, said spring having a hooked end passing into one side of the pocket for the purpose described.

11. In an automatic pipe-coupler, a coupler-head, means to admit of a limited free lateral movement of the head, means admitting of the forward and rearward yielding of the head, means coupling the air and steam pipes of a car or the like with the head, and means for cutting off the communication between the air and steam pipes and head and communicating said pipe with side pipes for the purpose described.

12. In an automatic pipe-coupler, a hooked spring fixed at one end of the draw-bar of a car or the like, a coupler-head suspended from the opposite end of the spring, said head comprising a nose with an outwardly-extending guide-plate forming a pocket between it and the nose and a spring secured to the guide-plate and extending into an opening in the pocket for the purpose described.

844,976. BELT-FASTENER. PHILIP TESSIER, Horace, N. D. Filed June 26, 1906. Serial No. 323,462.



Claim.—1. In a belt-fastener, a bar member, a hook at each end thereof, a clamping member pivotally connected to each hook, a bar member pivoted to each end of said first-named bar, hooks at the outer ends of said pivotally-connected bars, and clamping means pivotally connected to said last-named hooks.

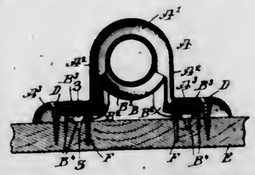
2. In a belt-fastener, a thin bar member having a hook at each end and at the same side thereof, and a substantially semicircular member pivotally connected at its center to each hook.

3. In combination with a belt having perforations in the meeting ends thereof, a fastener comprising a bar having its ends passing through said perforations in the belt, and clamping members pivotally connected to the ends of said bar and passing through said perforations, for the purpose described.

4. In combination with a belt having perforations in the meeting ends thereof, a fastener comprising a bar having its ends passing through said perforations in the belt, and curved clamping members pivotally connected to the ends of said bars and passing through said perforations, for the purpose described.

5. In a belt-fastener, a bar member having a hook at each end and at the same side thereof facing each other, curved clamping members having bifurcations therein for receiving the hooked ends of said bar, and means pivotally connecting the hooks and clamping members together.

844,977. PIPE-HANGER. WILLIS D. VAN BRUNT, Southampton, N. Y. Filed Mar. 7, 1906. Serial No. 304,684.



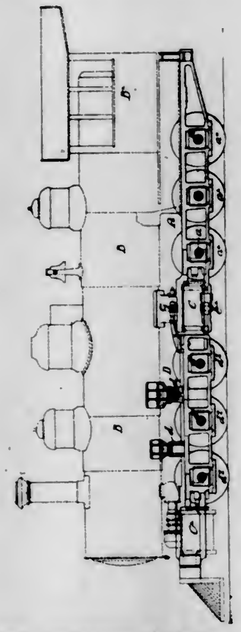
Claim.—1. A pipe-hanger comprising an outer and an inner part, each substantially U shape in cross-section, said inner part comprising a segmental portion for engaging the pipe, parallel shanks and flanges provided with attaching-prongs, said outer part comprising a segmental portion for engaging the pipe, parallel shanks and integral flanges of greater length than the flanges of the inner portion, whereby to overlie and cover said inner flanges, said flanges of the outer part being provided with openings whereby to attach said outer part.

2. A pipe-hanger comprising outer and inner parts each substantially U shape in cross-section, said inner part comprising a segmental portion for engaging the pipe, parallel shanks and integral flanges having attaching-prongs, said outer part comprising a segmental portion for engaging the pipe, parallel shanks and flanges provided with openings whereby to attach said outer part.

3. A hanger comprising an outer and an inner part, the parts being made of approximately U-shape stock, each part having a segment, and shanks extending integrally from the ends of the segments, the shanks of the inner part fitting into the shanks of the outer part, the shanks terminating in outwardly-extending attaching-flanges the flanges of the outer part overlying the flanges of the inner part.

4. A hanger comprising an outer and an inner part, the parts being made of approximately U-shape stock, each part having a segment, and shanks extending integrally from the ends of the segments, the shanks of the inner part fitting into the shanks of the outer part, the shanks terminating in outwardly-extending attaching-flanges the flanges of the outer part overlying the flanges of the inner part, and the attaching-flanges of the inner part having prongs to be driven into a support.

844,978. LOCOMOTIVE. SAMUEL M. VAUCLAIN, Philadelphia, Pa., assignor to Burnham, Williams & Company, Philadelphia, Pa., a Firm. Filed Apr. 25, 1906. Serial No. 313,647.



Claim.—1. The combination in a locomotive of two frames, one in advance of the other, wheels carried by each frame, a rigid extension on one frame and a rigid arm on the other frame, a pivot-pin connecting the two parts, said pivot-pin being rigidly connected to one part and yieldingly connected to the other to allow a limited movement of one frame in respect to the other, substantially as described.

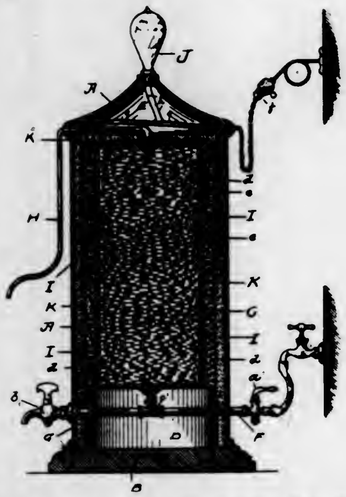
2. The combination in a locomotive, of two frames, one mounted in advance of the other, each frame carrying wheels, an extension on one frame, an arm on the other, a pivot-pin carried by one part, the other part being so shaped as to allow for a certain amount of lost motion between it and the pin, and side springs mounted between the extension and the arm, substantially as described.

3. The combination in a locomotive, of two frames, one frame having two extensions, bearings in each extension, a pivot-pin carried by the bearings of each extension, the other frame having two arms, one arm projecting between the bearings of one extension and the other arm projecting between the bearings of the other extension, blocks carried by the pins, the said arms being slotted to receive the blocks, the slots being elongated so as to allow a limited lateral movement of the blocks in the arms, substantially as described.

4. The combination in a locomotive, of two frames, one mounted in advance of the other, one frame having two extensions one below the other, bearings in each extension and a pivot-pin mounted in the upper extension, a pivot-pin mounted in the lower extension, a block carried by each pivot-pin, two arms projecting from the other frame and one arm mounted above the other, one arm having an elongated slot to receive the upper block and the other arm having an elongated slot to receive the lower block, and springs mounted between the sides of the upper arm and the upper extension, substantially as described.

5. The combination in a locomotive, of two frames, one mounted in advance of the other, an extension on one frame, a pivot-pin carried by said extension, an arm on the other frame having an elongated slot, a block mounted on the pivot-pin and mounted in the slot, adjustable plugs mounted in each side of the extension, springs mounted between each plug and the arm, and a spring mounted between the end of the arm and the plate secured to the extension, substantially as described.

844,979. ELECTRIC HEATER. EDWIN R. WATERMAN, San Francisco, Cal. Filed Feb. 15, 1904. Serial No. 193,762.



Claim.—1. An electric heater provided with an outer cylindrical shell, a central liquid-containing receptacle formed within said shell and having an inlet and an outlet connected to said receptacle in combination with a sectional electric heating device interposed between the shell and the receptacle.

2. An electric heater provided with an inner liquid-containing receptacle having an inlet and an outlet, in combination with a heat-generating device secured around said receptacle consisting of a plurality of cores arranged in a vertical line one above the other.

3. An electric heater provided with an inner liquid-containing receptacle having an inlet and an outlet, in combination with a heat-generating device secured around said receptacle consisting of a plurality of independent cores.

4. An electric heater consisting of an outer shell having an inner central receptacle provided with an inlet and an outlet in combination with a vent secured to said inner chamber.

5. An electric heater provided with an outer shell having an inner central receptacle formed therein, in combination with means to form a combined inlet and outlet secured to said receptacle.

6. An electric heating apparatus provided with a liquid-containing receptacle in combination with a combined inlet and outlet secured to said receptacle and adapted to form a continuous liquid-passage.

7. An electric heating device provided with an outer casing having a receptacle formed therein, in combination with a hot-air chamber formed below the lower part of the receptacle.

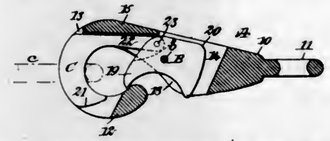
8. An electric heating device provided with an outer casing having a receptacle formed therein in combination with hot-air chambers formed below and above said receptacle.

9. An electric heating device provided with an outer casing having a receptacle formed therein, in combination with a hot-air chamber formed above said receptacle.

10. An electric heating device provided with an outer casing having a receptacle therein, in combination with a hot-air chamber formed within said outer casing.

11. An electric heating device provided with an outer casing having a liquid-containing receptacle therein in combination with hot-air chambers formed within said outer casing.

844,980. SNAP-HOOK. JACOB C. WELCOME, Sr., Burns, Oreg. Filed Apr. 17, 1906. Serial No. 312,196.

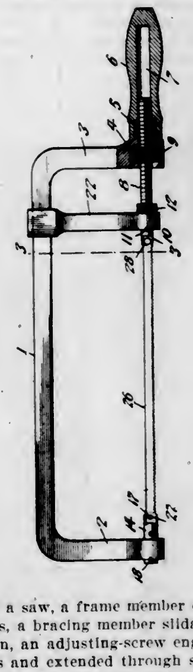


Claim.—1. A snap-hook provided with a chamber in its shank extending for a portion of its length through its back, and a connecting-chamber located in the bill of the hook, a trigger pivotally mounted in the chamber of the shank at that portion which extends through from edge to edge of the shank, said trigger being provided with a spur adapted for locking engagement with the bill of the hook, and a lock-lever mounted to slide in the chamber of the bill, the lock-lever being pivotally connected with said trigger.

2. A snap-hook the shank of which is provided with a longitudinal chamber extending for a portion of its length from one longitudinal edge to the other, a chamber in the bill communicating with the chamber in the shank, the outer side portions of the said shank at its back, where the chamber of the shank extends through being enlarged and formed into a socket, a trigger pivotally mounted in the chamber of the shank, one portion whereof extends into said socket, the inner portion being provided with a spur adapted for locking engagement with the bill, and a lock-lever having sliding movement in the chamber of the bill to and from the said trigger, which lock-lever is pivotally connected with the trigger to automatically carry the spur to locking engagement with the bill of the hook when an article is introduced into the space surrounded by the said bill.

3. In a snap-hook, a shank provided with a longitudinal chamber extending for a part of its way through the front and the back edge thereof, and for its full length through the inner edge thereof, a bill at one end of said shank, having a longitudinal chamber therein in communication with the chamber in the shank, an eye at the opposite end of the said shank, a trigger mounted in the chamber of the shank at the portion extending through from edge to edge, the inner edge of the said trigger being concaved, the said trigger having a spur formed at the forward portion of its edge for engagement with the said bill, the lower rear portion of the trigger being adapted to pass out through the slotted back portion of the shank, a lock-lever mounted to slide in the chamber of the bill and pivotally connected with the said trigger, and a guard extending above and surrounding the portion of the trigger exposed at the back of the hook.

844,981. HACKSAW. EPHRAIM WENTWORTH, Berlin Mills, N. H. Filed Apr. 24, 1906. Serial No. 313,417.



Claim.—1. In a saw, a frame member comprising a back and end portions, a bracing member slidably engaged with said back portion, an adjusting-screw engaged with one of the end portions and extended through said bracing member, and a blade operatively connected at its ends with the screw and with the end portion of the frame most remote from said screw.

2. In a saw, a frame member comprising a back and end portions, a bracing-arm slidably disposed upon said back portion, bearing-openings provided in the arm and adjacent end portion of the frame member, a tensioning-screw rotatively mounted in said bearing-openings, a bearing-head rotatively engaged with the forward end portion, a blade terminally engaged with the bearing member and screw, and means for operating the latter to tension the blade.

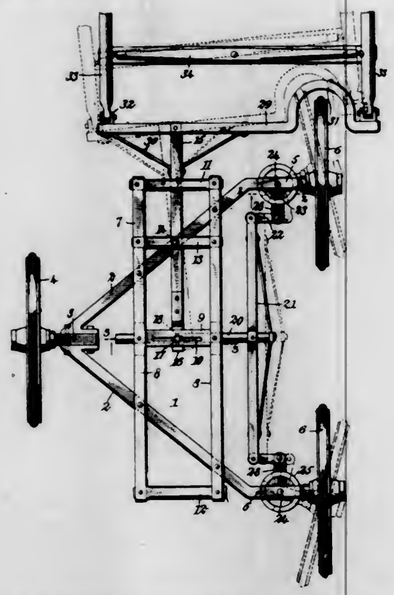
844,982. VEHICLE. OTTO J. WIDMEIER, Sigel, Ill. Filed Apr. 26, 1906. Serial No. 313,856.

Claim.—1. In a vehicle, in combination, a frame, a pair of wheels on one side of said frame and supporting the same, a single wheel on the opposite side of said frame, a tongue pivotally attached to said frame to swing laterally in a substantially horizontal plane, a laterally-displaced cross-bar attached to said tongue and carrying shafts, and a connection from said tongue to said pair of wheels for controlling the same.

2. In a vehicle, in combination, a frame, knuckles attached thereto at one side, wheels carried respectively by said knuckles, a third wheel carried by the opposite side of said frame and rotating in a plane fixed with respect to said frame, a slide-bar, means for guiding the same to move transversely of said frame, and a connection between said slide-bar and said knuckles for controlling the wheels carried by said knuckles.

3. In a vehicle, in combination, a frame, knuckles pivotally attached thereto and carrying wheels, a tongue pivotally attached to said frame, a slide-bar mounted transversely in said frame, a cross-head carried by said slide-bar, links connecting said cross-head with said knuckles, a connection between said tongue and said slide-bar, and a cross-bar attached to said tongue forwardly and carrying the shafts.

4. In a vehicle, in combination, a frame, a knuckle attached to said frame on one side and forwardly, a wheel carried by said knuckle, a tongue pivotally attached to said frame, a cross-bar carried by said tongue and having a bow formed therein receiving the forward edge of said wheel, and a connection from said tongue to said knuckle for controlling said wheel.



5. In a vehicle, in combination, a frame, knuckles pivotally attached thereto, wheels carried by said knuckles, a tongue pivotally attached to said frame and connected with the shafts, a transverse cross-bar in said frame and having a slot therein extending transversely of said frame, a slide-bar transversely guided on said frame, a bolt passing upwardly from said slide-bar and passing through said slot, said tongue having a slot also receiving said bolt, and a connection between said slide-bar and said knuckles for controlling said wheels.

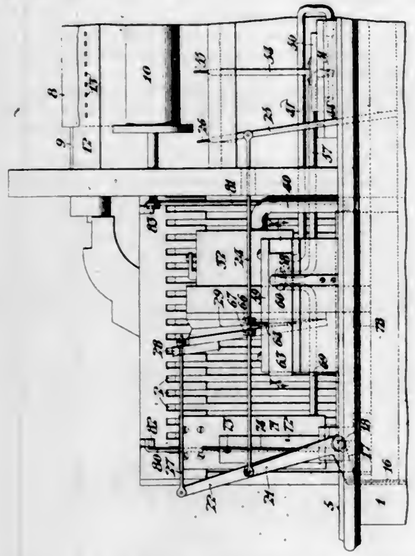
844,983. SHEET-METAL ROOFING. DAVID J. WINN, Sumter, S. C. Filed Oct. 25, 1906. Serial No. 340,568.



Claim.—1. A sheet-metal roofing-plate having along one edge an angular upward and downward bend and having along the other edge four angular bends, the inner two being angular upward and downward bends and the outer two being bent outward and upwardly and all of the metal surfaces between the bends being flat and substantially equal sections adapted to register with each other as described.

2. A sheet-metal roofing, comprising a wooden base, sheet-metal plates having along each lateral edge an upward and downward bend and having formed in one piece with one lateral edge two reversely-bent folds and nails or screws passing through the two thicknesses of the two lapped folds, the reverse bends being folded over to house and cover the nails and subjacent lapped folds.

844,984. MECHANICAL MUSICAL INSTRUMENT. PHILIP WUEST, Jr., Philadelphia, Pa., assignor to The Auto-Manual Piano Action Company, Philadelphia, Pa., a Corporation of New Jersey. Filed Jan. 25, 1904. Serial No. 190,446.



Claim.—1. In a musical instrument, the combination with a series of levers adapted to operate sounding devices; of a pedal whose operation affects said sounding devices; a motor adapted to operate said pedal; and, pneumatic means arranged to release said pedal automatically as a consequence of the operation of said motor, substantially as set forth.

2. In a musical instrument, the combination with a series of levers adapted to operate sounding devices; of a pedal whose operation affects said sounding devices; a pneumatic motor adapted to operate said pedal; a pneumatic valve controlling the operation of said motor; and, means arranged to control said valve automatically as a consequence of the movement of said motor, substantially as set forth.

3. In a musical instrument, the combination with a series of levers adapted to operate sounding devices; of a motor; means arranged to operatively connect said motor with a pedal whose operation affects said sounding devices; pneumatic means arranged to initiate the operation of said motor; and, releasing means connected with said motor to check the movement of the latter and release the pedal as a consequence of its operative movement, substantially as set forth.

4. In a musical instrument, the combination with a series of levers adapted to operate sounding devices; of a pneumatic motor; means arranged to operatively connect said motor with a pedal whose operation affects said sounding devices; a pneumatic valve arranged to initiate the operation of said motor; and, a pneumatic releasing-valve operatively connected with said motor to effect the reverse movement of the latter and the release of said pedal as a consequence of its operative movement, substantially as set forth.

5. In a musical instrument, the combination with a series of levers adapted to operate sounding devices; of a pedal whose operation affects said sounding devices; a motor arranged to operate said pedal; a pneumatic tracker-bar; mechanism arranged to operate the respective levers in any sequence predetermined by perforations in a web traversing said bar; a pneumatic valve connecting said motor with the mechanism actuating said levers and arranged to initiate the operation of said motor; and, a pneumatic valve arranged to release said pedal automatically as a consequence of the operation of said motor, substantially as set forth.

6. In a musical instrument, the combination with a series of levers adapted to operate sounding devices; of a pedal whose operation affects said sounding devices; a motor adapted to operate said pedal; means arranged to initiate the operation of said motor by a selected one of said levers; and, means independent of said levers arranged to release said pedal automatically as a consequence of the operation of said motor, substantially as set forth.

7. In a musical instrument, the combination with a series of levers operatively related to the strings of a piano or similar instrument; of a pneumatic tracker-bar; mechanism to operate said levers in any sequence predetermined by perforations in a web traversing said tracker-bar; mechanism comprising a motor operatively connected to operate the pedal of a piano or similar instrument; a pneumatic valve arranged to render said motor operative; a pneumatic valve arranged to release or render said motor inoperative; and, an adjustable operative connection between said pedal-operating mechanism and said releasing-valve, substantially as set forth.

8. In a musical instrument, the combination with a series of levers adapted to operate sounding devices; of a pedal whose operation affects said sounding devices; a motor adapted to operate said pedal; means arranged to release said pedal automatically as a consequence of the operation of said motor; and, means to adjustably vary the actuating element of said releasing means, substantially as set forth.

9. In a musical instrument, the combination with a series of finger-levers arranged to impinge upon the digitals of a piano or similar instrument; of mechanism arranged to operate the pedal of a piano or similar instrument; means arranged to automatically effect the operation of said mechanism, contemporaneously with the operation of a selected finger-lever; means to render said mechanism independent of said finger-lever at the will of the operator; and, means arranged to automatically release said pedal independently of said finger-lever, substantially as set forth.

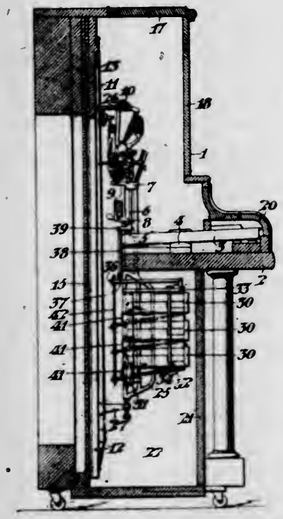
10. In a musical instrument, the combination with a series of finger-levers arranged to impinge upon the digitals of a piano or similar instrument; of mechanism adapted to engage the pedal of a piano or similar instrument; means arranged to automatically effect the operation of said mechanism contemporaneously with the operation of a selected finger-lever; means to automatically release said pedal independently of said finger-lever; and, means arranged to place said mechanism under the control of said finger-lever and remove it therefrom at the will of the operator, substantially as set forth.

11. In a musical instrument, the combination with a series of levers operatively related to sounding devices; of a pneumatic tracker-bar; mechanism arranged to operate the respective levers in any sequence predetermined by perforations in a web traversing said bar; a member adapted to engage a pedal affecting said sounding devices; means adapted to operate said member under control of a selected lever of said series; and, means arranged to release said member, after its operation, independently of said controlling finger-lever, substantially as set forth.

12. In a musical instrument, the combination with a series of levers operatively related to the strings of a piano or similar instrument; of a pneumatic tracker-bar; mechanism arranged to operate the respective levers in any sequence predetermined by perforations in a web traversing said tracker-bar; a member adapted to engage the pedal of a piano or similar instrument; a motor arranged to operate said member; a pneumatic valve arranged to render said member operative; and, means independent of said levers arranged to release said member as a consequence of the movement of operation of said member, substantially as set forth.

13. In a musical instrument, the combination with a series of levers operatively related to the strings of a piano or similar instrument; of a pneumatic tracker-bar; mechanism arranged to operate the respective levers in any sequence predetermined by perforations in a web traversing said tracker-bar; a member adapted to engage the pedal of a piano or similar instrument; a motor arranged to operate said member; a pneumatic valve arranged to render said member operative; and, a pneumatic valve arranged to release said member as a consequence of the movement of operation of said member, substantially as set forth.

844,985. AUTOMATIC PLAYING MECHANISM IN PIANOS. PHILIP WUEST, Jr., Philadelphia, Pa., assignor to The Auto-Manual Piano Action Company, Philadelphia, Pa., a Corporation of New Jersey. Filed May 19, 1904. Serial No. 208,766.



Claim.—1. In a piano, the combination with a metallic string-frame; of an automatic playing mechanism, supported by said string-frame independently of the key-bed, substantially as set forth.

2. In a piano, the combination with a metallic string-frame; of a bracket projecting from said frame; and, an automatic playing mechanism supported by said bracket, substantially as set forth.

3. In a piano, the combination with a metallic string-frame; of a bracket projecting from said string-frame; an automatic playing mechanism supported by said bracket; and, means adjustably connecting said bracket with said mechanism, substantially as set forth.

4. In a piano, the combination with a metallic string-frame; of a bracket projecting from said string-frame; an automatic playing mechanism supported by said bracket; and, means adjustably connecting said bracket with said mechanism, comprising an adjustable screw-stud, pivotally connected with said mechanism, substantially as set forth.

5. In a piano, the combination with a string-frame provided with brackets above and below the key-bed; of metallic side frames supported by said brackets; and, a hammer-action and automatic playing mechanism supported in coöperative relation in said side frames, substantially as set forth.

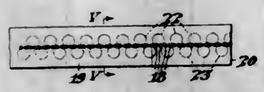
6. In a piano, the combination with a metallic string-frame; of a hammer-action; automatic playing mechanism operatively connected with said hammer-action; metallic side frames supporting said action and mechanism in coöperative relation; and, means on said string-frame supporting said side frames independently of the key-bed, substantially as set forth.

7. In a piano, the combination with a metallic string-frame; of a bracket projecting from said string-frame; a hammer-action provided with side frames; automatic playing mechanism provided with side frames; and, means common to the side frames of said action and playing mechanism, connecting them in relatively adjustable relation to said string-frame, substantially as set forth.

8. In a piano, the combination with a metallic string-frame; of a hammer-action; automatic pneumatic playing mechanism operatively connected with said hammer-action; metallic side frames supporting said action and mechanism in coöperative relation; and, means on said string-frame supporting said side frames independently of the key-bed, substantially as set forth.

9. In a piano, the combination with a metallic string-frame; of a bracket projecting from said string-frame; a hammer-action provided with side frames; automatic pneumatic playing mechanism provided with side frames; and, means common to the side frames of said action and playing mechanism, connecting them in relatively adjustable relation to said string-frame, substantially as set forth.

844,986. PNEUMATIC TRACKER-BAR. PHILIP WUEST, Jr., Philadelphia, Pa., assignor to The Auto-Manual Piano Action Company, Philadelphia, Pa., a Corporation of New Jersey. Filed June 18, 1904. Serial No. 213,138.



Claim.—1. In a tracker-bar, a metallic bar comprising a series of apertures in its front face, the passages of said apertures extending inwardly for a relatively short distance; and a series of straight circular drilled ducts extending from the rear of the bar in substantially parallel relation to said passages, but at such axial distances therefrom as to communicate laterally therewith, by intersection of the respective peripheries, substantially as set forth.

2. In a tracker-bar, a metallic bar comprising a series of apertures in its front face, the passages of said apertures extending inwardly for a relatively short distance; and two series of straight circular drilled ducts extending from the rear of the bar in substantially parallel relation to said passages, but at such axial distances therefrom as to communicate laterally with the passages of alternate apertures, by intersection of the respective peripheries, substantially as set forth.

3. In a tracker-bar, a metallic bar comprising a series of apertures in its front face, the passages of said apertures extending inwardly for a relatively short distance; two series of straight circular drilled ducts extending from the rear of the bar in substantially parallel relation to said passages, but at such axial distances therefrom as to communicate laterally with the passages of alternate apertures, by intersection of the respective peripheries; and nozzles fitted in the rear ends of said ducts, substantially as set forth.

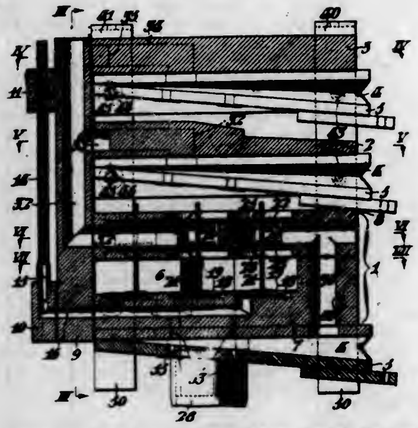
4. In a tracker-bar, the combination with a series of apertures in the front face of said bar; of a series of ducts in said bar, each duct being common to two of said apertures, substantially as set forth.

5. In a tracker-bar, the combination with a series of apertures in the front face of said bar; of ducts in said bar each in communication with a pair of adjoining apertures, substantially as set forth.

6. In a tracker-bar, the combination with a series of circular apertures in the front face of said bar; of a series of circular ducts in said bar, each duct being common to two of said apertures, substantially as set forth.

7. The combination, with a tracker-bar having a series of apertures in its face; of ducts in said bar each communicating with a pair of adjacent apertures; and a note-sheet having openings adapted to register with said pairs of apertures in the relation specified, whereby, within the limits of complete displacement of the note-sheet, a uniform communication with said ducts is afforded; substantially as set forth.

844,987. AUTOMATIC PLAYING MECHANISM FOR MUSICAL INSTRUMENTS. PHILIP WUEST, Jr., Philadelphia, Pa., assignor to The Auto-Manual Piano Action Company, Philadelphia, Pa., a Corporation of New Jersey. Filed July 14, 1906. Serial No. 326,192.



Claim.—1. In an automatic playing device, the combination with a valve-casing; of strike-pneumatics mounted on the bottom of said casing; shelves above and distinct from said casing; strike-pneumatics mounted on said shelves; and, valves in said casing, arranged to respectively control all of said strike-pneumatics, substantially as set forth.

2. In an automatic playing device, the combination with a valve-casing; of strike-pneumatics mounted on the bottom of said casing; shelves above and distinct from said casing; ducts connecting said shelves with said casing; strike-pneumatics mounted on said shelves; and, valves in said casing, arranged to control said strike-pneumatics through said ducts, substantially as set forth.

3. In an automatic playing device, the combination with a valve-casing; of strike-pneumatics mounted on the bottom of said casing; shelves above and distinct from said casing; strike-pneumatics mounted on said shelves; valves in said casing, arranged to control said strike-pneumatics; and, pneumatics arranged to control said valves, substantially as set forth.

4. In an automatic playing device, the combination with a valve-casing; of strike-pneumatics mounted on the bottom of said casing; shelves above and distinct from said casing; strike-pneumatics mounted on said shelves; valves in said casing, arranged to control said strike-pneumatics; and, pneumatics in said casing arranged to control said valves, substantially as set forth.

5. In an automatic playing device, the combination with a valve-casing; of strike-pneumatics mounted on the bottom of said casing; shelves above and distinct from said casing; a duct-board connecting said casing with said shelves; strike-pneumatics mounted on said shelves; and, valves in said casing arranged to control said strike-pneumatics, substantially as set forth.

6. In an automatic playing device, the combination with a valve-casing; of strike-pneumatics mounted on the bottom of said casing; shelves above and distinct from said casing; a duct-board forming a cover for said casing and a support for said shelves; strike-pneumatics mounted on said shelves; valves in said casing, arranged to control the strike-pneumatics on said shelves through respective ducts in said board, substantially as set forth.

7. In an automatic playing device, the combination with a valve-casing; of strike-pneumatics mounted on the bottom of said casing; shelves above and distinct from said casing; strike-pneumatics mounted on said shelves; valves in said casing arranged to control said strike-pneumatics; and, brackets arranged to connect and support said casing and shelves, substantially as set forth.

8. In an automatic playing device, the combination with a valve-casing; of strike-pneumatics mounted on the bottom of said casing; shelves above and distinct from said casing; strike-pneumatics mounted on said shelves; valves in said casing arranged to control said strike-pneumatics; and, brackets arranged to connect and support said casing and shelves, in such relation as to permit expansion and contraction of the parts, substantially as set forth.

9. In an automatic playing device, the combination with a valve-vasing; of a duct-board forming one cover of said casing; shelves distinct from said casing connected by said board; brackets rigidly connecting said shelves and said casing; and brackets loosely connecting said shelves and said casing in such relation as to permit the expansion and contraction of the parts, substantially as set forth.

10. In an automatic playing device, the combination with a valve-casing; of a duct-board forming one cover of said casing; shelves distinct from said casing connected by said board; brackets securing said shelves and casing, having screw-apertures whose diameters are equal to the diameters of the securing-screws extending therethrough; and, brackets securing said shelves and casing having screw-apertures whose diameters are larger than the securing-screws extending therethrough, substantially as set forth.

11. In an automatic playing device, the combination with a valve-casing; of strike-pneumatics mounted on the bottom of said casing; a duct-board; shelves above and distinct from said casing secured to said board; strike-pneumatics on said shelves arranged in definite relation to the respective sounding devices of the piano; and, valves in said casing arranged to control said strike-pneumatics, substantially as set forth.

12. In an automatic playing device, the combination with a valve-casing; of valves in said casing; shelves distinct from said casing; strike-pneumatics on said shelves arranged in definite relation to the sounding devices of a piano; a duct-board connecting said casing and shelves, comprising ducts, equally spaced, leading from said valves to said strike-pneumatics; and, offset recesses in said ducts, substantially as set forth.

13. In an automatic playing device, the combination with a valve-casing; of valves in said casing, arranged in staggered relation; shelves distinct from said casing; strike-pneumatics on said shelves arranged in definite relation to the sounding devices of a piano; a duct-board connecting said casing and shelves, comprising ducts, equally spaced, leading from said valves to said strike-pneumatics; and, offset recesses in said ducts, substantially as set forth.

14. In an automatic playing device, the combination with a valve-casing; of strike-pneumatics mounted on the bottom of said casing; shelves above and distinct from said casing; strike-pneumatics mounted on said shelves; valves in said casing, arranged to control the strike-pneumatics on said shelves; pneumatics arranged to operate said valves; and, ducts arranged to connect said pneumatics with the atmosphere, substantially as set forth.

15. In an automatic playing device, the combination with a valve-casing comprising a bottom board, and top cover-board; of strike-pneumatics mounted on the bottom of said casing; shelves above and distinct from said casing; a duct-board connecting said shelves and said casing; and, valves in said casing arranged to control said strike-pneumatics through ducts extending in the top cover-board, duct-board and respective shelves, substantially as set forth.

16. In an automatic playing device, the combination with a valve-casing comprising a bottom board and top cover-board; of strike-pneumatics mounted on the bottom of said casing; shelves above and distinct from said casing; a duct-board connecting said shelves and said casing; valves in said casing, arranged to control said strike-pneumatics through ducts extending in the top cover-board, duct-board and respective shelves; and, pneumatics in the bottom board, arranged to actuate said valves, substantially as set forth.

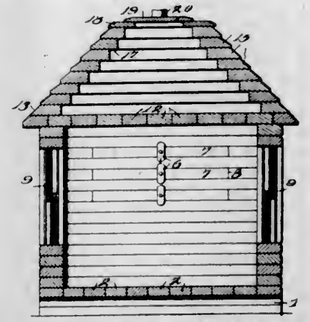
17. In an automatic playing device, the combination with a valve-casing comprising a bottom board and top cover-board; of strike-pneumatics mounted on the bottom of said casing; shelves above and distinct from said casing; a duct-board connecting said shelves and said casing; valves in said casing, arranged to control said strike-pneumatics through ducts extending in the top cover-board, duct-board and respective shelves; pneumatics in the bottom board, arranged to actuate said valves; and, ducts arranged to connect said pneumatics with the atmosphere, substantially as set forth.

18. In an automatic playing device, the combination with a valve-casing comprising a bottom board, top cover-board, and a front duct-board, having a series of ducts equally spaced; of shelves secured to said duct-board, having ducts arranged in groups and provided with offset recesses, arranged to register with the ducts in said duct-board; strike-pneumatics mounted on said shelves in registry with the ducts therein; and, valves in said casing arranged to control said strike-pneumatics, substantially as set forth.

19. In an automatic playing device, the combination with a valve-casing comprising a bottom board, top cover-board, and a front duct-board, having a series of ducts equally spaced; of shelves secured to said duct-board, having ducts arranged in groups and provided with offset recesses, arranged to register with the ducts in said duct-board; strike-pneumatics mounted on said shelves in registry with the ducts therein; valves in said casing arranged to control said strike-pneumatics; and, diaphragm-pneumatics arranged to control said valves, substantially as set forth.

20. In an automatic playing device, the combination with a valve-casing comprising a bottom board, top cover-board, and front duct-board having a series of ducts equally spaced; shelves secured to said duct-board, having ducts arranged in groups and provided with offset recesses, arranged to register with the ducts in said duct-board; strike-pneumatics mounted on said shelves in registry with the ducts therein; valves in said casing, arranged to control said strike-pneumatics; diaphragm-pneumatics arranged to control said valves; ducts in said bottom board leading to said diaphragm-pneumatics; and, a junction-bar comprising ducts in registry with the ducts in said bottom board, substantially as set forth.

844,988. BUILDING STRUCTURE. ROBERT YOAKUM, Houston, Tex., assignor of one-half to Joseph A. Greber, Houston, Tex. Filed July 18, 1905. Serial No. 270,229



Claim.—1. A building structure having walls composed of timbers spaced to provide ventilating-openings, filler-timbers adapted to be disposed within said openings and formed to engage the wall-timbers to prevent movement of the filler-timbers in one direction, and independent fastening means carried by the filler-timbers to engage the wall-

timbers and secure the filler-timbers against movement in the other direction.

2. A building structure having walls composed of timbers interlaced at their ends, auxiliary timbers secured between the wall-timbers, the approximate ends of said auxiliary timbers being spaced to provide an opening between the wall-timbers, and filler-timbers adapted to fit said openings.

3. A building structure having walls composed of timbers interlaced at their ends, auxiliary timbers arranged between the wall-timbers, the proximate ends of said auxiliary timbers being spaced to provide an opening, filler-timbers adapted to fit within said openings and formed to engage the ends of the auxiliary timbers to prevent movement of said filler-timbers in one direction, and independent means carried by the filler-timbers to engage the wall-timbers and prevent movement of said filler-timbers in the other direction.

4. A building structure having walls composed of timbers interlaced at their ends, timbers secured intermediate said interlaced timbers, said latter timbers including removable sections having inclined ends to seat against inclined ends of adjacent sections of the timbers, and means for securing said removable sections in place.

844,989. DEFLOCCULATED GRAPHITE AND PROCESS OF DEFLOCCULATION THEREOF. EDWARD G. ACHESON, Stamford township, Welland county, Ontario, Canada. Filed Dec. 10, 1906. Serial No. 347,183.

Claim.—1. A new product being deflocculated graphite comprising unctuous graphite treated with a deflocculating agent having effects like those due to the effects of tannin thereon, possessing the characteristic of being miscible with water and oil and being suspended therein.

2. A new product being deflocculated graphite comprising unctuous graphite treated with gallotannic acid as a deflocculating agent and having the characteristic of being miscible with and suspended in water, oil and the like.

3. A method of deflocculating graphite, thereby rendering it miscible with water, oil, &c., which consists in treating graphite with a deflocculating agent having effects on the graphite like those due to the effects of tannin on said graphite.

4. A method of deflocculating graphite, thereby rendering it miscible with water, oil, &c., which consists in treating the graphite with a deflocculating agent comprising gallotannic acid.

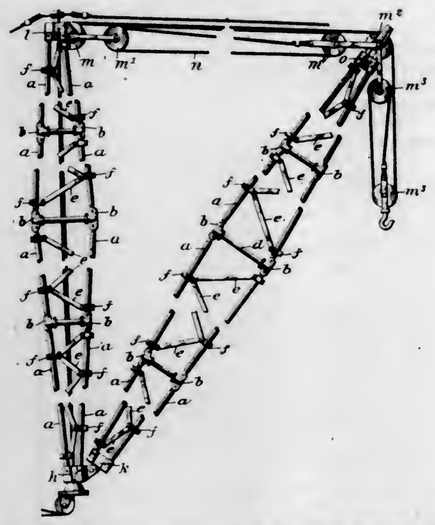
844,990. DERRICK. WILLIAM L. ALLEN, San Francisco, Cal., and WILLIAM T. PRICE, Ithaca, N. Y. Filed Mar. 17, 1906. Serial No. 306,563.

Claim.—1. A derrick composed of a mast and a boom, each composed of a plurality of sections made up of standard piping, the adjacent ends of the sections having a flexible connection, spreaders for keeping the piping in position, and lattice-work connections between the several members of the piping.

2. A derrick having a boom comprising a frame formed of sections of piping, pivotally connected with another section, a plurality of joining-pieces mounted between the sections for connecting them together, and a series of spreaders each consisting of a plurality of pipes connecting said joining-pieces across the framework of the boom.

3. A derrick having a boom comprising a frame formed of sections of piping, each section being flattened at the end and pivotally connected with another section, a plurality of joining-pieces mounted between the sections for connecting them together, a series of spreaders, each consisting of a plurality of pipes connecting said joining-pieces across the framework of the boom, lattice-work mounted between the several sections of piping, said lattice-work comprising a series of bars extending diagonally across the frame, and a series of clamps each embracing one of said pipes and secured to the ends of said bars.

4. A derrick comprising a frame made up of a series of sections of piping secured together at their ends, a series of clamps each comprising a plurality of pieces of metal, means for securing said clamps together and fixing them to the piping, and a series of diagonal bars secured between the pieces of metal constituting said clamps and extending across the framework.



5. A derrick comprising a foot-block having sockets, pipe-sections fitting in said sockets, pipe-sections pivotally connected with the free ends of the first-named sections, a mast-top having sockets for receiving the free ends of said last-named sections, means for connecting the several pipe-sections together, and means on the foot-block for pivotally supporting a boom.

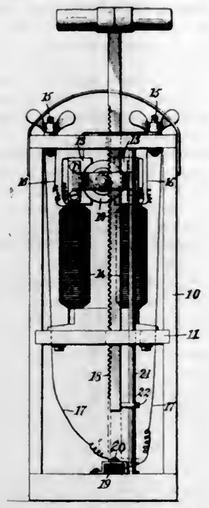
6. A derrick comprising a foot-block having sockets, a mast-top having sockets, a frame consisting of a plurality of pipes, the frame being divided at the center into sections, and the sections pivotally connected with each other, a pulley pivotally mounted on the mast-top, and a boom pivotally mounted on the foot-block.

7. A derrick comprising a foot-block having sockets, a mast-top having sockets, a frame constituted of pipes, said pipes being divided at their center into sections and the sections pivoted to each other, the free end of said pipes fitting in the sockets of the foot-block and the mast-top, a pulley pivotally mounted on the mast-top, a pulley pivotally mounted on the foot-block, and a boom-point mounted on the end of the boom and having sockets for receiving pipe-sections and provided with means for supporting a pulley, said pulley being connected with the pulley on the mast-top.

844,991. PORTABLE DYNAMO. GEORGE A. ALLEN, Western Springs, Ill., assignor to The Aetna Powder Company, Chicago, Ill., a Corporation of Indiana. Filed Dec. 3, 1906. Serial No. 346,139.

Claim.—1. In combination, a rotary armature, poles supported adjacent thereto, a shaft for said armature, a support for said armature and shaft, comprising a skeleton frame having a bearing adapted to receive the shaft intermediate the armature and the end of the shaft, and a second but smaller bearing adapted to receive the shaft adjacent its end, a pinion mounted on said shaft intermediate said bearings, and a rack-bar in engagement with said pinion and movable in a plane at right angles to the axis of the shaft.

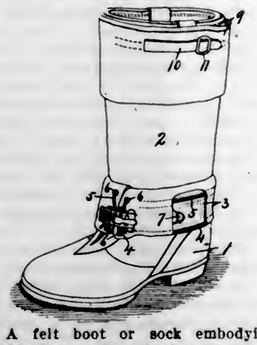
2. In combination, a rotary armature, poles supported adjacent thereto, a shaft for said armature, a support for said armature and shaft, said support comprising a bearing adapted to receive the shaft intermediate the armature and the end of the shaft, a second bearing spaced from the first-mentioned bearing and adapted to receive the shaft adjacent its end, a pinion loosely mounted on said shaft intermediate said bearings, means whereby the rotation of the pinion causes the rotation of the armature, and a rack-bar in engagement with said pinion and movable in a plane at right angles to the axis of the shaft.



3. In combination, a rotary armature, poles supported adjacent thereto, a shaft for said armature, a pinion loosely mounted on said shaft, coacting means on said pinion and shaft, whereby the rotation of the pinion in one direction causes the simultaneous rotation of the armature and shaft, a rack-bar in engagement with said shaft and movable in a plane at right angles to the axis of the shaft, and a support for said armature and shaft, comprising a member having portions thereof secured to and supported by the said poles, a bearing for the shaft intermediate the pinion and the armature, a second bearing intermediate the pinion and the outer end of the shaft, and a guideway for said rack-bar.

4. In combination, a rotary armature, a shaft for said armature, a longitudinally-movable pinion on said shaft, said pinion and armature having coacting teeth to cause the simultaneous movement of the pinion and armature, a rack-bar in engagement with said pinion and movable in a plane at right angles to the axis of the shaft, a bearing for the shaft intermediate the pinion and the armature, a bearing for the outer end of the shaft, and a guideway for the rack-bar integral with both of said bearings.

844,992. FELT BOOT. ADELBERT H. ANDERSON, Canastota, N. Y., assignor to Frederic W. Savage, Granville, N. Y. Filed Nov. 24, 1905. Serial No. 288,929.



Claim.—1. A felt boot or sock embodying a broad strengthening-band encircling said boot or sock at the ankle portion and attached thereto, and a depending flap connected at its upper edge only to said band and forming a circular pocket around said boot or sock.

2. A felt boot or sock embodying a broad strengthening-band encircling said boot or sock at the ankle portion and attached thereto at top and bottom, a depending flap connected at its upper edge only to said band and forming a circular pocket around said boot or sock, and means for adjustably drawing said flap toward said band.

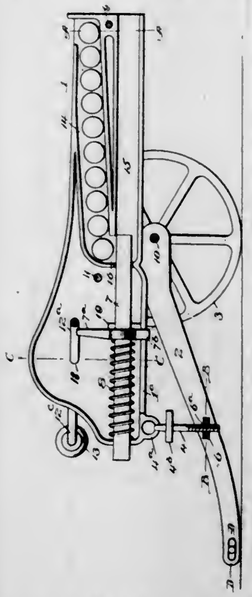
3. A felt boot or sock embodying a broad strengthening-band encircling said boot or sock at the ankle portion and attached thereto, and a flap formed integral and coextensive with said band and folded downwardly to form a circular pocket around said boot or sock.

844,993. NUT-LOCK. JOHN H. BALDWIN, Beaumont, Tex. Filed June 6, 1905. Renewed Aug. 15, 1906. Serial No. 330,739.



Claim.—In a nut-lock, the combination of a rectangular plate slitted to provide an acute-angular member in its upper portion, and cut away in its lower portion to provide two pointed members, said pointed members adapted to be bent at right angles to the plate and serve as securing means thereto.

844,994. TOY RAPID-FIRE GUN. GEORGE P. CAMPBELL, Yonkers, N. Y. Filed Dec. 11, 1905. Serial No. 291,298.



Claim.—1. A toy rapid-fire gun or cannon comprising two similar sections meeting on a vertical longitudinal plane; each section having formed therein two grooves one directly above the other which together form the bore of the gun and its magazine, and the latter being inclined with respect to the former, and means for securing the sections to each other.

2. A toy rapid-fire gun or cannon comprising two similar sections meeting on a vertical longitudinal plane, each

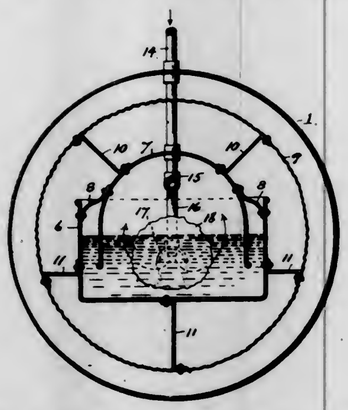
section having formed in the front portion thereof two grooves, one directly above the other, and its rear portion being enlarged and concaved, the grooves of said sections together forming the bore of the gun and its magazine, the latter being inclined with respect to the former, and said rear, enlarged concaved portions together forming a housing for the propelling mechanism, and means for securing the sections to each other.

3. A toy rapid-fire gun comprising two similar sections meeting on a vertical longitudinal plane, the front portions of said sections forming the barrel and magazine of the gun and the rear portions thereof forming a housing for projecting mechanism, the front portion of each section having two semicircular grooves formed therein one directly above the other and communicating with each other at their rear ends, and the upper groove in each section inclining downwardly with respect to the lower groove from its front to its rear end, means for securing the sections to each other, and projecting mechanism supported in the said housing.

4. A toy rapid-fire gun or cannon comprising a barrel and a magazine-casing substantially parallel to each other, the latter having a passage therein extending at an angle downwardly from its front to its rear end and communicating at its rear end with the bore of the barrel, said passage being closed at its extreme forward end and the casing having an opening in its upper wall adjacent to its front end through which projectiles may be inserted into said passage.

5. In a toy rapid-fire gun, the combination with the barrel and a casing at its rear end, said casing having a longitudinally-extending slot in its lower wall, of a spring-actuated plunger supported in the casing, arms extending from the plunger in opposite directions, one of said arms projecting into said slot, and a U-shaped crank supported within the casing to engage the other arm, and means exterior of the casing for turning the crank.

844,995. CARBURETER. MONROE D. COLBATH, Hampden, Me. Filed May 15, 1906. Serial No. 317,022.



Claim.—1. In a carbureter, the combination with two connected tanks, one of said tanks having a hydrocarbon-inlet, the other of said tanks having an air-inlet and one of said tanks having a gas-outlet, of an automatically-operated valve located in one of said tanks, and connected to the hydrocarbon-inlet, a pan located in the other of said tanks, a dome arranged above said pan, said dome being divided into a plurality of compartments, said air-inlets leading into one of the compartments in the dome, pipes extending from each of said compartments into the adjacent compartment and below the fluid-level of the pan, cup-shaped collars carried by said pipes and sponges carried by said pipes above the cup-shaped collars.

2. In carbureting apparatus, a tank adapted to contain hydrocarbon liquid, a pan located in said tank, a dome disposed above said pan and divided into a plurality of compartments, an air-pipe leading into one of said compartments, pipes connecting each compartment with the adjacent compartment, cup-shaped collars carried by one end of each of said last-named pipes and sponges carried by said last-named pipes adjacent said cup-shaped collars.

3. In a carbureter, the combination with a tank, and a pan arranged in said tank, of a dome disposed over said tank and having depending edges extending into the tank, said dome being divided into a plurality of compartments an air-inlet pipe extending into one of said compartments, and below the liquid-level of said pan, a collar carried by the lower end of said pipe and a sponge mounted on the lower end of said pipe.

4. In a carbureter, the combination with a tank, and a pan arranged in said tank, of a dome disposed over said pan, said dome being divided into a plurality of compartments, a pipe extending from above the liquid-level in one of said compartments to within the adjacent compartment, branch pipes carried by said pipe and extending below the liquid-level of the last-named compartment, and sponges carried by said branch pipes adjacent the lower ends thereof.

5. In a carbureter, the combination of a tank having a gas-outlet, a pan arranged in said tank adapted to contain a hydrocarbon liquid, a dome having a plurality of compartments in open communication with and extending below the liquid-level in said pan, a pipe adapted to discharge air under pressure and leading into one of the compartments of said dome, a pipe extending from each compartment into the next adjacent compartment and having one of their ends connected to curved pipe extensions which enter below the liquid-level in said pan, cup-shaped collars secured upon the curved extensions of last-mentioned pipes, sponges mounted upon said collars, a vapor-outlet pipe leading from said dome, and a bag made of capillary material inclosing the pan, the dome, and the vapor-outlet pipe.

6. In a carbureting apparatus, the combination with two tanks, of a pan and a dome disposed in one of said tanks, an air-inlet pipe extending from without the tank to within the dome contained therein, a gas-outlet pipe extending from within said dome to without the same, a bag inclosing the pan, the dome, and the outlet-pipe in the dome, an outlet-pipe extending from the other of said tanks, a carbureting-bag arranged in the last-named tank, a gas-outlet pipe extending from a point exterior of the bag in the last-named tank to a point of consumption.

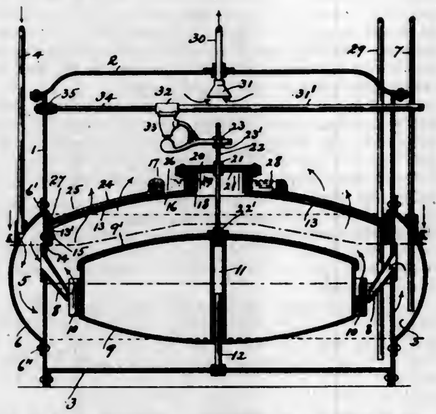
844,996. CARBURETER. MONROE D. COLBATH, Hampden, Me. Filed May 18, 1906. Serial No. 317,645.

Claim.—1. In carbureting apparatus the combination of a tank, a foraminous partition disposed in the tank above the bottom thereof, a rotary float arranged in the tank below said partition, a hydrocarbon-inlet pipe, a valve on said pipe operatively connected to said float, an air-inlet pipe and means whereby the float will be rotated by air entering the tank through said air-inlet pipe.

2. In a carbureter, the combination with a tank having an air-chamber surrounding the same, of a foraminous partition arranged in said tank and a canal arranged above said partition, a rotary float arranged in the tank below said partition and said float having wings on its periphery, a hydrocarbon-inlet pipe, a valve on said pipe located above the canal on said partition and operatively connected to said float, and a series of nozzles leading downwardly from the air-chamber of the tank and tangentially to the axial center of said float.

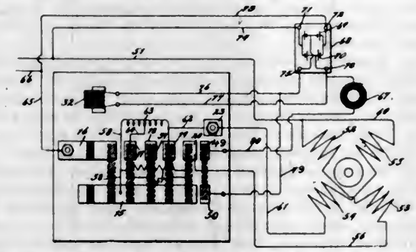
3. In a carbureter, the combination with a tank, and a hydrocarbon-inlet pipe leading into said tank, of a foraminous partition arranged in the tank, a valve on said inlet-pipe, a rotary float arranged in the tank below said partition, and adapted to operate said valve, and means for rotating said float.

4. In a carbureter the combination with a tank, of a foraminous partition arranged in the tank and having a canal on its upper surface, a hydrocarbon-supply pipe leading into the tank and discharging into said canal, fibrous material covering said partition and dipping into said canal and an air-inlet leading into the tank below said partition.



5. In a carbureter the combination with a tank, a hydrocarbon-inlet pipe leading into said tank, an outlet-pipe leading from the tank, an air-chamber surrounding a portion of the tank, of a foraminous partition arranged in the tank, an air-inlet pipe leading into said air-chamber, nozzles leading downwardly from the air-chamber into the tank, a rotary float having wings on its periphery, and a valve carried by the hydrocarbon-inlet pipe and operably connected to said float.

844,997. PHASE-SPLITTER AND CLUTCH. HENRY H. CUTLER, Milwaukee, Wis., assignor to The Cutler-Hammer Mfg. Co., Milwaukee, Wis., a Corporation of Wisconsin. Filed Aug. 7, 1905. Serial No. 273,133.



Claim.—1. The combination with a motor, of a phase-splitter, comprising a plurality of resistances of different character, a magnetic clutch mechanism, and a plurality of switches actuatable consecutively for controlling said resistances and said clutch.

2. The combination with a motor, of a phase-splitter, having a plurality of resistances of different character, a magnetic clutch, a plurality of independently-actuated switches controlling said resistances and said clutch, and means for preventing the closure of said switches except in a definite order.

3. The combination with a motor, of a phase-splitter, having a plurality of resistances of different character, a magnetic clutch, a plurality of independently-actuated switches for controlling said resistances and said clutch, and means for holding said switches in closed position.

4. The combination with a motor, of a phase-splitter, having a plurality of resistances of different character, a magnetic clutch, a plurality of independently-actuated switches for controlling said resistances and said clutch, and an electromagnetic retaining mechanism for holding said switches in a closed position.

5. The combination with a motor, of a phase-splitter, having a plurality of resistances of different character, a magnetic clutch, a plurality of independently-actuated switches for controlling said resistances and said clutch, and electromagnetic retaining mechanism for holding said switches in their closed positions, and means for suplying the same and the clutch with a direct current.

6. The combination with a motor, of a phase-splitter, having a plurality of resistances of different character, a magnetic clutch, a plurality of independently-actuated switches for controlling said resistances and said clutch, means for preventing the closure of said switches except in a definite order, and a retaining mechanism for holding said switches in a closed position.

7. The combination with a motor, of a phase-splitter, having a plurality of resistances of different character, a magnetic clutch, a plurality of independently-actuated switches arranged in mechanical series for controlling said resistances, an interlocking mechanism whereby each switch controls the next succeeding switch, and a retaining-magnet for the first switch of the series.

8. The combination with a motor, of a phase-splitter, having a plurality of resistances of different character arranged in parallel paths, a magnetic clutch, a plurality of independently-actuated switches for controlling said resistances and clutch, and means for preventing the closure of said switches except in a definite order.

9. The combination with a motor, of a phase-splitter, having a plurality of resistances of different character arranged in parallel paths, a magnetic clutch, a plurality of independently-actuated switches for controlling said resistances, means for preventing the closure of said switches, except in a definite order, and a retaining mechanism for holding said switches in a closed position.

10. The combination with a motor, of a phase-splitter, having a non-inductive resistance and an inductive resistance arranged in parallel paths, of a magnetic clutch, and a plurality of switches actuatable consecutively for controlling said resistance and said clutch.

11. The combination with a motor, of a phase-splitter, a non-inductive and inductive resistance arranged in parallel paths, a magnetic clutch, a plurality of independently-operated switches for controlling said resistances and clutch, and means for preventing the closure of said switches except in a definite order.

12. The combination with a motor, of a phase-splitter therefor, having a plurality of resistances of different character, a clutch mechanism, and a plurality of switches actuatable consecutively for controlling said resistances, and an independently-actuated switch for controlling said clutch.

13. The combination with a motor, of a phase-splitter therefor, having a plurality of resistances of different character, a magnetic clutch, a plurality of independently-actuated switches for controlling said resistances, an independently-actuated switch for controlling said clutch, and means whereby said clutch-switch cannot be closed until the switches controlling the resistances have been operated.

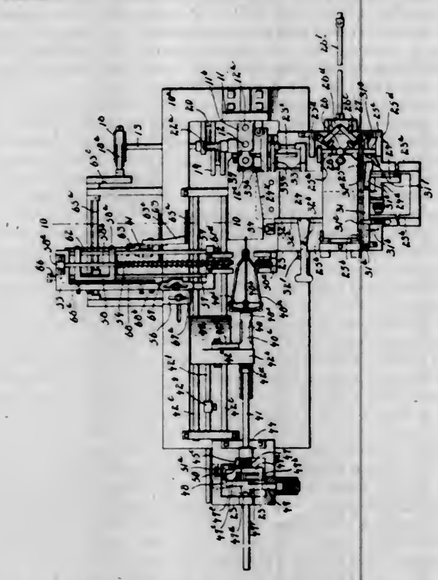
844,998. TAG-WIRING MACHINE. JOSEPH J. ENGLERT, Chicago, Ill. Filed Sept. 15, 1905. Serial No. 278,662.

Claim.—1. In a tag-wiring machine, in combination, mechanism to insert a piece of wire through a tag, a tag-holder movable to and from the said mechanism and arranged to withdraw the tag therefrom, means to operate the holder, and means to remove the tag from the holder.

2. In a tag-wiring machine, in combination, mechanism to insert wires through successive tags, means to withdraw the tags successively from said mechanism and to twist the wires thereof, means to feed tags successively to said mechanism, and means to eject the tags from said twisting means.

3. In a tag-wiring machine, in combination, mechanism to insert wires through successive tags, a holder slidable to and from mechanism and adapted to grip and withdraw

the tags therefrom, a tag-carrier working laterally with respect to the line of movement of said holder and arranged to feed tags sidewise to said mechanism, means to operate the holder, and means to remove tags from the holder.



4. In a tag-wiring machine, the combination with a wire-inserting mechanism, of a magazine for tags, a reciprocating tag-carrier working back and forth from the bottom of the magazine to the said mechanism, and guides from the magazine to the said mechanism, one of said guides having a groove into which the eyelet end of the tag enters and is held during the insertion of the wire.

5. In a tag-wiring machine, a wire-inserting mechanism comprising upper and lower reciprocating chucks, one of which has jaws arranged to grip and feed the wire through the tag and a cutter to cut the wire when so fed, and the other of which has jaws arranged to grip the end of the wire and draw the same through the tag.

6. A wire-feeding chuck and cutter comprising a reciprocating head, jaws therein arranged to grip and feed the wire, a trip-lever operatively connected to one of the jaws, a cutter in the head, arranged to cut the wire beyond the jaws, and a trip-lever operatively connected to the cutter.

7. A wire-feeding chuck and cutter comprising a reciprocating head, jaws therein arranged to grip and feed the wire, a sliding cutter in the head beyond the jaws, arranged to work across the wire-passage, a trip-lever operatively connected to the cutter, and means actuated by the reciprocation of the head to operate the jaws and the cutter.

8. In a tag-wiring machine, a wire-inserting mechanism comprising a pair of reciprocating chucks which work to and from each other, each chuck having jaws to grip the wire, and one having a cutter to cut the wire, and means to operate the jaws and the cutter.

9. In a tag-wiring machine, in combination, reciprocating chucks movable to and from a tag held therebetween, means to so hold a tag, said chucks having jaws adapted to grip a wire and insert the same through the tag, fingers arranged beside the wire on opposite sides of the tag, a rotary holder movable back and forth and having means to grip a tag so held and to withdraw the same laterally from the chucks, and draw the wire across the fingers, with rotation to twist the wire between the tag and the fingers, and means to operate the holder.

10. In a tag-wiring machine, the combination with means to hold a tag, and means to insert a wire therethrough and to slack the wire on both sides of the tag, of a rotary holder movable back and forth and having means to grip and withdraw the tag, with rotation to twist the wire, and means to operate the holder.

11. In a tag-wiring machine, the combination with a tag-support, and means to insert a wire through the tag and to hold both ends of the wire, of a pair of yielding fingers supported on opposite sides of the tag, beside the wire, and a rotary holder movable back and forth and having means to grip a tag on the support and to withdraw the same therefrom and draw the wire across the fingers, with rotation to twist the wire between the tag and the fingers, and means to operate the holder.

12. In a tag-wiring machine, the combination with means to insert a wire through a tag, of means to rotate the tag to twist the wire, including a rotary holder having jaws and converging guides thereto, and wings extending from the jaws, to support the edges of the tag during rotation, and means to rotate the holder.

13. A twister for a tag-wiring machine, comprising a reciprocating carriage, a rotary holder mounted on the carriage and having a pair of jaws at the front, constructed to close and open to grip and release a tag, and means to rotate the holder.

14. In a tag-wiring machine, a twister mechanism comprising a carriage, means to reciprocate the same, a shaft on the carriage having jaws at the front end, means to close and open the jaws to grasp and to release a tag, and means to rotate the shaft on the backward motion, after the jaws grasp and before they release the tag.

15. In a tag-wiring machine, a twister mechanism comprising a carriage, means to reciprocate the same, a shaft on the carriage having means at the front end to grasp and to release a tag, and means to rotate the shaft after the tag is grasped and before it is released.

16. In a tag-wiring machine, a twister mechanism comprising a carriage, means to reciprocate the same, a shaft on the carriage having means at the front end to grasp and to release a tag, a pinion on the shaft having means to engage the same when turned in one direction, a rack engaging the pinion, and means to reciprocate the rack.

17. In a tag-wiring machine, the combination with a shaft having a tag-holder at the front end, a pinion on the shaft having means to engage the same when turned in one direction, a reciprocating rack engaged with the pinion, means to slide the rack in one direction, a tripper to release said means, and a spring connected to the rack and arranged to slide the same in the other direction, when so released.

18. In a tag-wiring machine, a twister mechanism comprising a carriage, means to reciprocate the same, a shaft on the carriage, means to intermittently rotate the same, a pair of tag-holding jaws at the front end of the shaft, and means including cams arranged to be struck by one of the jaws, to open the same at predetermined points.

19. In a tag-wiring machine, in combination, a wire-inserting mechanism, a rotary tag-holder and wire-twister movable to and from said mechanism and constructed to withdraw tags therefrom and twist the wire in the tags, means to rotate the holder and to move the same to and from said mechanism, and a tag-ejector working to and from the tag-holder.

20. In a tag-wiring machine, in combination, a wire-inserting mechanism, a reciprocating tag-holder working to and from said mechanism and having means to withdraw tags therefrom, means to reciprocate the tag-holder, an ejector working laterally with respect to the holder and having at the front end jaws adapted to grasp a tag in the holder and withdraw the same therefrom, and means to operate the ejector.

21. In a tag-wiring machine, in combination, a wire-inserting mechanism, a tag-holder and wire-twister having jaws arranged to hold the tag while the wire is being twisted, means to slide the holder and twister to and from said mechanism, an ejector slidable laterally to and from the holder and having jaws arranged to grasp a tag and remove the same from the holder, means to slide the ejector, and means to operate the jaws of the holder and of the ejector.

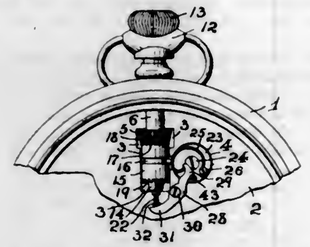
844,999. EYEGLASS-SPRING. MYER GOLD, San Francisco, Cal., assignor to Alexander R. McIntire, Philadelphia, Pa., Geo. W. Magee, Overbrook, Pa., and Edgar A. Brown, Newbold, N. J., trading as McIntire, Magee, & Brown, Philadelphia, Pa., a Firm. Filed Feb. 27, 1906. Serial No. 303,227.



Claim.—1. A pair of eyeglasses having posts and a central spring or bridge, said bridge at its ends being bent upward and then backward upon itself, and being formed in the terminal portions with elongated slots for attachment to the posts.

2. A pair of eyeglasses having posts and a central spring or bridge bent at its ends vertically upward and then back upon itself and downward below its first bends and apertured for attachment to the posts, substantially as described.

845,000. STEM-WINDING AND STEM-SET MECHANISM. LARS C. HAUBROE, New York, N. Y., assignor of two-thirds to Thomas B. Booth, Newark, N. J. Filed June 22, 1906. Serial No. 322,822.



Claim.—1. In a stem-winder and stem-set mechanism for watches, the combination, with a main stem and a gear system for setting the hands, of a winding-pinion on said stem, a slidably-arranged clutch-sleeve, and means for producing a reciprocatory motion of the clutch-sleeve for bringing it alternately in operative engagement, either with the winding-pinion or said gear system, consisting of an oscillatory disk, a spring-controlled shifting-lever, movable upon one side of the disk, an oscillating lever having a portion in engagement with said disk, and a spring secured to said disk and having a portion in engagement with said lever, substantially as and for the purposes set forth.

2. In a stem-winder and stem-set mechanism for watches, the combination, with a main stem, and a gear system for setting the hands, of a spindle provided with a socketed receiving portion in which a portion of said stem is slidably arranged, a winding-pinion on said spindle, a slidably-arranged clutch-sleeve on said spindle, and means for producing a reciprocatory motion of the clutch-sleeve for bringing it alternately in operative engagement, either with the winding-pinion or said gear system, consisting of an oscillatory disk, a spring-controlled shifting-lever, movable upon one side of the disk, an oscillating lever having a portion in engagement with said disk, and a spring secured to said disk and having a portion in engagement with said lever, substantially as and for the purposes set forth.

3. In a stem-winder and stem-set mechanism for watches, the combination, with a main stem having an angular cross-section, and a gear system for setting the hands, of a spindle provided with a socketed receiving portion in which a portion of said stem is suitably arranged, said spindle being provided also with a longitudinally-extending duct, a winding-pinion on said spindle, an annular shoulder on said spindle against which said winding-pinion rests, a slidably-arranged clutch-sleeve on said spindle, a rod in said duct of the said spindle having one end in engagement with the end of the main stem and having its other end projecting from the end of the spindle, and means for producing a reciprocatory motion of the clutch-sleeve for bringing it alternately in operative engagement, either with the winding-pinion or said gear system, consisting of an oscillatory disk, a spring-controlled shifting-lever, movable upon one side of the disk and in engagement with said clutch-sleeve, an oscillating lever having one end portion in engagement with said disk and its other end portion in engagement with the end portion of the rod which projects from the clutch-sleeve, and a spring secured to said disk and having a portion in engagement with said lever, substantially as and for the purposes set forth.

4. In a stem-winder and stem-set mechanism for watches, the combination, with a main stem having an angular cross-section, and a gear system for setting the hands, of a spindle provided with a socketed receiving portion in which a portion of said stem is slidably arranged, said spindle being provided also with an annular shoulder and an end portion of an angular cross-section provided with a longitudinally-extending duct, a winding-pinion on said spindle, said pinion resting against said annular shoulder and said pinion being provided with a ratchet-shaped end, a slidably-arranged clutch-sleeve on the angular portion of said spindle, said sleeve being provided at its one end with a ratchet-shaped tooth end adapted to be brought in engagement with the ratchet-shaped end of said winding-pinion, and said sleeve being provided at its other end with gear-teeth adapted to be brought in engagement with a pinion of said gear system, a rod in said duct of the said spindle having one end in engagement with the end of the main stem and having its other end projecting from the end of the spindle, and means for producing a reciprocatory motion of the clutch-sleeve for bringing its toothed end portions alternately in operative engagement, either with the ratchet-shaped end portion of the winding-pinion or with the pinion of said gear system, consisting of an oscillatory disk, a shifting-lever in engagement with said clutch-sleeve, and an oscillatory lever having one end in engagement with said disk and the other end portion in engagement with the end portion of the rod which projects from the clutch-sleeve, substantially as and for the purposes set forth.

5. In a stem-winder and stem-set mechanism for watches, the combination, with a main stem having an angular cross-section, and a gear system for setting the hands, of a spindle provided with a socketed receiving portion in which a portion of said stem is slidably arranged, said spindle being provided also with an annular shoulder and an end portion of an angular cross-section provided with a longitudinally-extending duct, a winding-pinion on said spindle, said pinion resting against said annular shoulder, and said pinion being provided with a ratchet-shaped end, a slidably-arranged clutch-sleeve on the angular portion of said spindle, said sleeve being provided at its one end with a ratchet-shaped tooth end adapted to be brought in engagement with the ratchet-shaped end of said winding-pinion, and said sleeve being provided at its other end with gear-teeth adapted to be brought in engagement with a pinion of said gear system, a rod in said duct of the said spindle having one end in engagement with the end of the main stem and having its other end projecting from the end of the spindle, and means for producing a reciprocatory motion of the clutch-sleeve for bringing its toothed end portion alternately in operative engagement, either with the ratchet-shaped end of the winding-pinion or the spindle of said gear system, consisting of an oscillatory disk, a spring-controlled shifting-lever, movable upon one side of the disk and in engagement with said clutch-sleeve, an oscillating lever having one end portion in engagement with said disk and its other end portion in engagement with the rod which projects from the clutch-sleeve, and a spring secured to said disk and having a portion in engagement with said lever, substantially as and for the purposes set forth.

6. In a stem-winder and stem-set mechanism for watches, a setting means consisting of an oscillatory disk, a post or pin on which said disk oscillates, a shifting-lever loosely arranged on said post or pin, upon one side of said disk, and a spring secured at one end to said disk and having a portion in engagement with said shifting-lever, substantially as and for the purposes set forth.

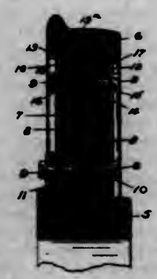
7. In a stem-winder and stem-set mechanism for watches, a setting means consisting of an oscillatory disk, a post or pin on which said disk oscillates, a shifting-lever loosely arranged on said post or pin, upon one side of said disk, and a spring secured at one end to said disk and having a portion in engagement with said shifting-lever, combined with an oscillating lever having an end portion extending over a portion of the opposite side of said disk, and a second spring having its one end secured upon the face of said disk and having its other end in engagement with said end portion of the lever, substantially as and for the purposes set forth.

8. In a stem-winder and stem-set mechanism for watches, a setting means consisting of an oscillatory disk, a post or pin on which said disk oscillates, of an oscillating lever having an end portion extending over a portion of a side of said disk, a shifting-lever loosely arranged on said post or pin, upon one side of said disk, and a spring secured at one end to said disk and having a portion in engagement with said shifting-lever, and a post or stop on said disk with which an edge portion of said lever is in slidable engagement, substantially as and for the purposes set forth.

9. In a stem-winder and stem-set mechanism for watches, the combination, with an oscillatory disk, and a post or pin on which said disk oscillates, of an oscillating lever having an end portion extending over a portion of a side of said disk, and a spring having its one end secured upon the face of said disk and having its other end in engagement with said end portion of the lever, substantially as and for the purposes set forth.

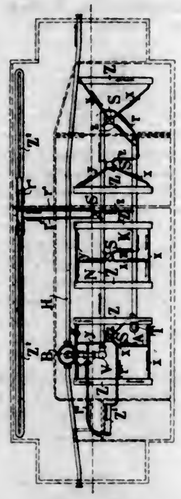
10. In a stem-winder and stem-set mechanism for watches, the combination, with an oscillatory disk, and a post or pin on which said disk oscillates, of an oscillating lever having an end portion extending over a portion of a side of said disk, and a spring having its one end secured upon the face of said disk and having its other end in engagement with said end portion of the lever, and a post or stop on said disk with which an edge portion of said lever is in slidable engagement, substantially as and for the purposes set forth.

845,001. RAILWAY-WHEEL. ALEXANDER S. HENRY, New York, N. Y. Filed Sept. 14, 1906. Serial No. 334,685.



Claim.—A wheel having independent hub and rim portions and an intervening non-conducting body portion in combination with an inwardly-projecting annular flange on the rim portion provided with holes, insulating-bushings to line said holes, said plates facing the body portion of the wheel provided with holes registering with the holes in the flange on the rim and securing-bolts passing through said registering holes, substantially as described.

845,002. STEAM-HEATING SYSTEM FOR RAILWAY-CARS. ALEXANDER HILLISCH, Innsbruck, Austria-Hungary. Filed Aug. 22, 1906. Serial No. 331,547.



Claim.—1. In a steam-heating system for railway-carriages, in combination, a carriage supply-pipe, a drain-pipe operatively connected to said supply-pipe, a plurality of heaters, connections from said supply-pipe to said heaters and from said heaters to said drain-pipe, and valves in said connections adapted to admit steam to said heaters either from said supply-pipe or said drain-pipe.

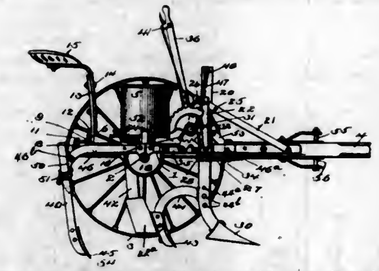
2. In a steam-heating system for railway-carriages, in combination, a train-pipe, a steam-trap therein, an auxiliary carriage supply-pipe, a connection between said train-pipe and said auxiliary pipe, a combined, automatic regulating and check valve in said connection, heaters operatively connected to said auxiliary pipe, a drain-pipe for receiving water of condensation from said auxiliary pipe and said heaters, and valves constructed and arranged to independently control the supply of steam to said heaters, each valve being adapted to simultaneously regulate the supply to the corresponding heater and to permit the discharge of water of condensation therefrom.

3. In a steam-heating system for railway-carriages, in combination, a train-pipe, an auxiliary supply-pipe, a connection between said train and auxiliary pipes, a combined regulating and check valve in said connection, a plurality of heaters, a drain-pipe, connections from both said heaters and said supply-pipe to said drain-pipe, valves in the heater connections adapted to admit steam to the heaters from either the supply-pipe or the drain-pipe, and a terminal trap and drainage device for said drain-pipe.

845,003. PLANTER. WILFORD H. HOLSCLAW, Louisville, Ky., assignor to B. F. Avery & Sons, Louisville, Ky., a Corporation of Kentucky. Original application filed Sept. 10, 1903, Serial No. 172,647. Divided and this application filed Jan. 24, 1907. Serial No. 353,857.

Claim.—1. In a planter, the combination with an axle and carrying-wheels therefor, of bearing-sleeves loosely surrounding said axle, a main frame fixed to said sleeves, a frame pivotally connected with said main frame in position for resting upon the said sleeves when the pivoted frame is in its lowermost position, and seed mechanism sustained by said pivoted frame.

2. In a planter, the combination of carrier-wheels, an axle sustained thereby, bearing-sleeves loosely surrounding said axle, a main frame fixed to said sleeves, and a pivoted frame pivoted to said main frame in position for resting upon said sleeves when the pivoted frame is in its lowermost position.

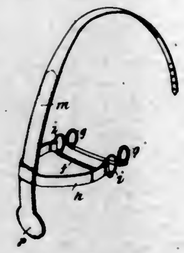


3. In a planter, the combination with carrying-wheels, and an axle sustained by said wheels, of sleeves loosely surrounding said axle, a main frame fixed to said sleeves, a pivoted frame pivotally connected with said main frame in position for normally resting upon some of said sleeves, a seed mechanism carried by said pivoted frame, a gear for actuating said seed mechanism arranged for being in operative relation to the seed mechanism only when said pivoted frame is in its lowermost position, a drag-bar frame pivotally connected with the main frame in position for having the bars of said drag-bar frame rest upon some of said sleeves when the drag-bar frame is in its lowermost position, and means for simultaneously lifting both said drag-bar frame and seed-mechanism-carrying frame.

4. In a planter, the combination with an axle and means supporting the same, of a frame and draft-tongue, said frame comprising inner and outer side bars spaced apart at their rear ends, and having forward converging ends secured to said tongue, and bearing-boxes for said axle secured to the separated rear ends of said inner and outer side bars.

5. In a planter, the combination with an axle and supporting means therefor, of a frame and draft-tongue, said frame comprising inner and outer side bars spaced apart at their rear ends, and having forward converging ends secured to said tongue, bearing-boxes for said axle, said bearing-boxes being formed with shoulders, and means securing the rear separated ends of said inner and outer side bars to said shoulders.

845,004. BRIDLE FOR HORSES. SARGEANT P. KNUT, Natchez, Miss. Filed June 12, 1902. Serial No. 111,402.



Claim.—1. A nose-holding bridle having a rigid nose-band which is shaped to embrace snugly the frontal bone of the horse and which is widened out as compared with the contour of the horse's head where it passes over his nose-passages, and also having reins connected with the ends of said nose-band, substantially as described.

2. A nose-holding bridle having a rigid nose-band which is shaped to embrace snugly the frontal bone of the horse, the same having that close conformity with the contour of the said bone which results from its being specially fitted to the individual animal which is to wear the bridle, and which is widened out as compared with the contour of the horse's head where it passes over his nose-passages, and also having reins connected with the ends of said nose-band, substantially as described.

3. A nose-holding bridle having a rigid nose-band which embraces snugly the frontal bone of the horse and which is widened out as compared with the contour of the horse's head where it passes over his nose-passages, and also having reins connected with the ends of said nose-band, and a retaining-bit also connected with said ends, substantially as described.

4. A nose-holding bridle having a rigid nose-band which embraces snugly the frontal bone of the horse and which is widened out where it passes over his nose-passages, and also having reins connected with the ends of said nose-band, and a retaining-bit in the form of a rigid bar connected also with said ends, substantially as described.

5. A nose-holding bridle having a rigid nose-band and reins connected with the ends of said band, which latter is shaped to embrace snugly the frontal bone of the horse and is widened out as compared with the contour of the horse's head where it passes over his nose-passages and is provided with a rigid piece shaped to conform with the profile of the horse's frontal bone and extending along said bone both below and above the nose-band, substantially as described.

6. A nose-holding bridle having a nose-band, a retaining-bit connected at its opposite ends with the ends of said nose-band, reins connected with the ends of said band and pulling directly upon the same, and a rigid piece extending along the frontal bone of the horse above and below said band and conformed with the profile of said bone, said piece constituting an extended seat or bearing above said nose-band and so serving to distribute the pressure of said reins to said frontal bone for a distance above said nose-band as well as at and below the same, substantially as described.

7. A nose-holding bridle having a nose-band, a rigid piece extending along the frontal bone of the horse both below and above the nose-band and conformed with the profile of his said bone, a retaining-bit in the form of a rigid bar connected with the ends of said nose-band, and reins connected with the ends of said nose-band, substantially as described.

8. A nose-holding bridle having a nose-band, a spherically-concaved presser arranged to bear upon the cartilaginous formation at the end of the horse's frontal bone, and reins connected with the ends of said nose-band, substantially as described.

9. A nose-holding bridle having a rigid nose-band which is shaped to embrace snugly the frontal bone of the horse and which is widened out as compared with the contour of the horse's head where it passes over his nose-passages, and also having reins connected with the ends of said nose-band and pulling directly upon the same, a pulling-bit, and reins connected with the ends of said pulling-bit, substantially as described.

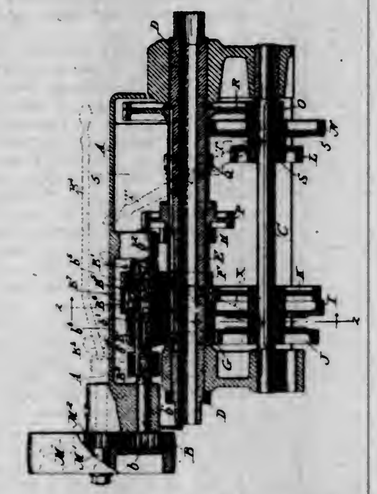
10. The combination of a spherically-concaved cartilage-presser, with reins, and intermediate connections, so that said presser can be pulled by said reins against the cartilaginous formation at the end of the frontal bone of a horse, substantially as described.

845,005. VARIABLE-SPEED MECHANISM. RICHARD K. LE BLOND and WILLIAM F. GROENE, Cincinnati, Ohio, assignors to The R. K. Le Blond Machine Tool Company, a Corporation of Ohio. Filed Nov. 2, 1906. Serial No. 341,727.

Claim.—1. In a speed-changing device, a driving-shaft, selectable gears thereon, a transmission-shaft, a plurality of independent sets of shiftable gears thereon, a spindle, a plurality of fixed and loose gears thereon, and means for shifting the gears on the transmission-shaft.

2. In a speed-changing device, a driving-shaft, selectable gears thereon, operative connections between the selected gear and the driving-shaft, a transmission-shaft, a plurality of independent sets of shiftable gears thereon, a spindle, a plurality of fixed and loose gears thereon, and means for shifting the gears on the transmission-shaft.

3. In a speed-changing device, a driving-shaft, selectable loose gears thereon, means for locking any one of said gears to the driving-shaft, a transmission-shaft, a plurality of independent sets of shiftable gears thereon, a spindle, a plurality of fixed and loose gears thereon, and means for shifting the gears on the transmission-shaft.



4. In a speed-changing device, a driving-shaft, selectable gears thereon, a transmission-shaft, a plurality of independent sets of shiftable gears thereon, a spindle provided at one part thereof with a loose sleeve and at another part with a fixed sleeve, fixed gears on said loose and fixed sleeves, and means for shifting the gears on the transmission-shaft.

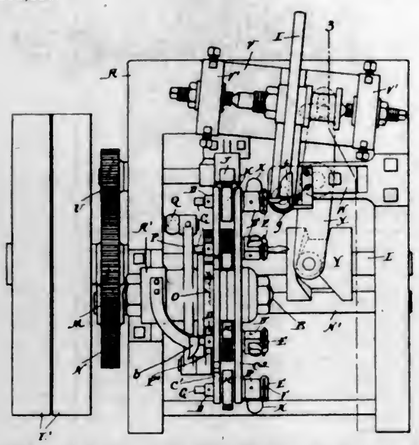
5. In a speed-changing device, a driving-shaft, selectable loose gears thereon, means for locking any one of said gears to the driving-shaft, a transmission-shaft, a plurality of independent sets of shiftable gears of varying diameters thereon, a spindle, a plurality of fixed and loose gears of varying diameters thereon, and means for shifting the gears on the transmission-shaft.

6. In a speed-changing device, a driving-shaft, selectable loose gears thereon, means for locking any one of said gears to the driving-shaft, a spindle, a plurality of fixed and loose gears thereon, two of said loose gears being constantly in mesh with the gears of the driving-shaft, a transmission-shaft, a plurality of sets of shiftable gears thereon, the gears of one set adapted to mesh with the loose gears of the spindle and the gears of another set adapted to mesh with the fixed gears of the spindle, and means for shifting the gears on the transmission-shaft.

7. In a speed-changing device, a driving-shaft, selectable loose gears thereon, means for locking any one of said gears to the driving-shaft, a spindle, a loose sleeve on one end thereof, fixed gears on said loose sleeve, two of which are constantly in mesh with the gears of the driving-shaft, a sleeve fast to the other end of the spindle, fixed gears on said sleeve, a transmission-shaft, shiftable gears at one end of the transmission-shaft adapted to mesh with the gears on the loose sleeve of the spindle, shiftable gears on the other end of the transmission-shaft adapted to mesh with the gears on the fixed sleeve of the spindle, and means for shifting said gears.

8. In a speed-changing device, a driving-shaft, a plurality of selectable gears thereon, a spindle, a loose sleeve thereon, a plurality of gears carried by said loose sleeve, two of which are in constant mesh with the gears of the driving-shaft, a transmission-shaft, shiftable gears thereon at one end adapted to mesh with the gears on the spindle-sleeve, a plurality of gears fixed to the spindle, shiftable gears on the other end of the transmission-shaft adapted to mesh with the gears fixed to the spindle, and means for shifting the gears of the driving and transmission shaft, substantially as described.

845,006. PEN-GRINDING MACHINE. GEORGE MALPASS, Philadelphia, Pa. Filed Oct. 3, 1905. Serial No. 281,116.



Claim.—1. In a pen-grinding machine, a rotary grinding-wheel, a pen-holding device adapted to hold the convex surface of the pen-point in spring contact with the grinding-wheel, the pen-holding device consisting of spring-actuated jaws grasping the pen, means for automatically spreading these jaws at predetermined times for the insertion and release of the pen, and means for rocking the pen-holding device while the pen is in contact with the grinding-wheel.

2. In a pen-grinding machine, a rotary grinding-wheel, a pen-carrier, two or more pen-holding devices arranged upon the pen-carrier, means for moving the carrier intermittently so that the pen-holding devices are brought successively into such a position that the convex surface of the pen-point held in the pen-holding device will come in contact with the grinding-wheel, means for rocking the pen-holding device which holds the pen being ground while said pen is in contact with the grinding-wheel, and means for automatically releasing the pen after the same is ground.

3. In a pen-grinding machine, a rotary grinding-wheel, a pen-carrier, a series of pen-holding devices arranged upon the carrier at equal distances apart, each pen-holding device consisting of a pair of spring-closed jaws adapted to grasp the pen, means for moving the carrier intermittently so as to bring the pen-holding devices successively in such a position that the convex surface of the pen will come in contact with the periphery of the grinding-wheel, means for rocking the pen-holding device while the pen is being ground so that the whole of the convex surface is presented to the grinding-wheel, means for automatically spreading the jaws at predetermined times for the insertion of the pen and the release of the same, and means for oscillating the grinding-wheel laterally, the pivotal point from which said wheel oscillates being coincident with the point where the periphery of the grinding-wheel touches the pen while grinding.

4. In a machine of the character described, a rotary grinding-wheel, a pen-carrier provided with a series of pen-holding devices, means for moving said pen-carrier intermittently so as to successively bring the convex surface of the pen-points held by the pen-holding devices into contact with the periphery of the grinding-wheel, means for rocking the pen-holding device during the time the pen is being ground, a movable bearing-frame in which the grinding-wheel is journaled, a main frame of the machine, the movable bearing-frame being pivoted to the main frame at a point coincident with the point where the grinding-wheel touches the pen being ground, and means for oscillating the movable bearing-frame and grinding-wheel in a line parallel with the shaft of the grinding-wheel.

5. In a pen-grinding machine, a main frame, a rotary grinding-wheel adapted to be constantly revolved, a rotary pen-carrier journaled in suitable bearings in the main frame, a series of pen-holding devices arranged upon the carrier near the periphery of the same equal distances apart, each pen-holding device consisting of a pair of spring-actuated jaws adapted to grasp the pen, said jaws being journaled in the carrier, means for moving the carrier intermittently so as to bring the convex surface of the pen held in the pen-holding devices successively against the periphery of the grinding-wheel, means for rocking the pen-holding devices while the pen is being ground so that the whole of the convex surface will be brought in contact with the grinding-wheel, means for holding the pen in spring contact with the grinding-wheel, means for holding the pen-holding devices in their normal position when not being rocked, means for automatically opening the jaws at predetermined times for the insertion and releasing of the pens, means for oscillating the grinding-wheel in a plane parallel with its shaft, the pivotal point from which the same oscillates being coincident with the point of contact of the grinding-wheel and pen being ground.

6. In a machine of the character described, a rotary grinding-wheel, a pen-carrier in combination therewith adapted to carry the pens and successively bring the convex surface of said pens into spring contact with the periphery of the grinding-wheel, a main frame, a movable bearing-frame in which the grinding-wheel is journaled, the movable frame being adjustably pivoted to the main frame at a point coincident with the point of contact of the grinding-wheel and pen-point, means for oscillating the movable frame and grinding-wheel in a line parallel with the shaft of the grinding-wheel.

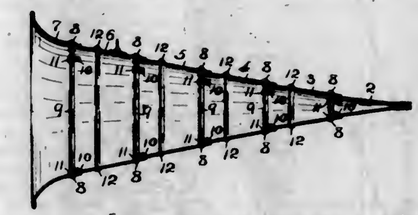
7. In a pen-grinding machine, the combination with a rotary grinding-wheel of a rotary pen-carrier, said pen-carrier consisting of a plate, a series of pen-holding devices carried by the plate at equal distances apart, each pen-holding device consisting of a pair of spring-actuated jaws adapted to grasp the pen, a bearing for the jaws journaled in the pen-carrier plate by extending transversely therethrough, the jaws being pivoted together and also pivoted to the bearing, spring means for holding the pen-holding devices in their normal position and still at the same time allowing them to be rocked, means for intermittently revolving the pen-carrier so as to bring the convex surface of the pen-points held in the jaws successively against the periphery of the grinding-wheel, springs tending always to force the jaws holding the pens toward the periphery of the pen-carrier plate so that the pens will be held in spring contact with the grinding-wheel, means for automatically opening the jaws at predetermined times, a gear-wheel secured upon the shaft of each pen-holding device, which shaft passes through the pen-carrying plate, a reciprocating rack-bar, means for constantly reciprocating said rack-bar, said rack-bar so located that the gear-wheel of the pen-holding device will be brought in mesh with the same at the same time the pen-point is brought in contact with the grinding-wheel so that the reciprocation of the rack-bar will rock the gear-wheel and consequently rock the pen-point, means for automatically locking the pen-carrier while it is stationary and unlocking the same just previous to the time when it is to be moved, as specified.

8. In a pen-grinding machine, a constantly-revolving and constantly-oscillating grinding-wheel, in combination with a rotary pen-carrier adapted to successively bring the convex surfaces of the pens against the periphery of the grinding-wheel, said pen-carrier consisting of two disk-shaped plates secured together and journaled in suitable bearings parallel with the shaft of the grinding-wheel, a series of pen-holding devices arranged upon the carrier, each pen-holding device consisting of a bifurcated bearing secured upon the end of a tubular shaft, said tubular shaft extending transversely through the plates of the carrier and being journaled therein, a gear-wheel secured upon the tubular shaft between the plates, a pair of jaws pivoted between the prongs of the bifurcated bearing, said jaws consisting of two crossed levers, said levers being pivoted together upon the same pivot which pivots them to the bearing, springs tending to hold the jaws closed so that the pen will be grasped by a spring-pressure, a spring secured at one end to the bifurcated bearing and at the other end to the jaws tending to rock the jaws outward toward the periphery of the carrier, a plunger adapted to slide within the tubular shaft, one end of the plunger normally extending beyond the tubular shaft, the inner end of the plunger being formed wedge shape and adapted to enter between the heel end of the crossed levers forming the jaws so as to spread the jaws when the plunger is pressed inward, means for limiting the movement of the plunger, means for pressing the plunger inward at predetermined times to open the jaws, spring means for holding the jaws radial and at the same time allow them to be rocked upon the shaft, a constantly-reciprocating rack-bar with which the gear-wheels of the pen-holding devices are adapted to mesh when the pen-point is brought in contact with the grinding-wheel, as specified.

9. In a pen-grinding machine, a constantly-revolving and laterally-oscillating grinding-wheel, an intermittently-moved pen-carrier, pen-holding devices arranged upon the carrier, the pens held in the pen-holding devices adapted to be successively brought in contact with the grinding-wheel and rocked while in contact, in combination with the mechanism for accomplishing the various movements of the machine.

10. In a pen-grinding machine, the combination of an intermittently-moving pen-carrier and rotating grinding-wheel and pen-holding devices adapted to hold the pens in spring contact with the grinding-wheel, with means for preventing the pen from coming in contact with the grinding-wheel until the proper time for grinding, and means for removing the pens from the jaws if they have not been properly inserted or for pushing them into the jaws in their proper position.

845,007. PHONOGRAPH-HORN. ASHER MAURER, Newark, N. J. Filed May 22, 1906. Serial No. 318,319.



Claim.—1. A phonograph-horn comprising a series of collapsible horn-sections adapted to be nested when the horn is not in use, and a series of spring-clamps extending from and beyond the one open end of each section and projecting into the open end of another section each spring device being adapted to slide longitudinally of the horn in frictional binding engagement with such section, all arranged for rigidly locking the said horn-sections when extended to produce a complete horn.

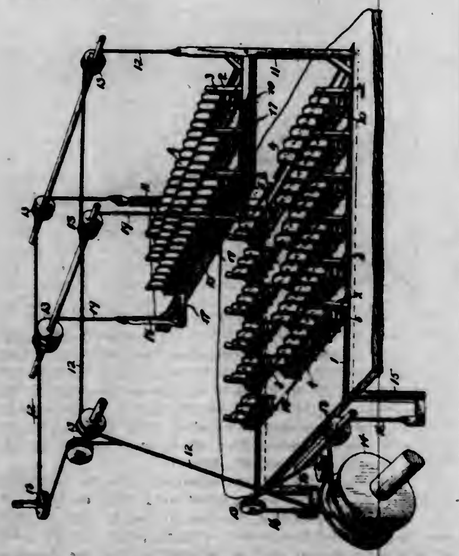
2. A phonograph-horn comprising a series of collapsible horn-sections adapted to be nested when the horn is not in use, an annular receiving depression near one end of each horn-section, and means connected with the opposite end of each horn-section, said means extending from the open end of the horn-section and being adapted to extend into the open end of another section and to slide longitudinally of the horn so as to be brought in binding engagement with the annular receiving depression for rigidly locking the horn-sections when extended to produce a complete horn.

3. A phonograph-horn comprising a series of collapsible horn-sections adapted to be nested when the horn is not in use, an annular receiving depression near one end of each horn-section, clamping devices connected with the opposite end of each horn-section and curved retaining portions on said clamping devices, said retaining portions extending from the end of the horn-section and being adapted to extend into the open end of another section and to slide longitudinally of the horn so as to be brought in binding engagement with the annular receiving depressions for rigidly locking the horn-sections when extended to produce a complete horn.

4. A phonograph-horn comprising a series of tapered tubular horn-sections, adapted to be nested when the horn is not in use, an annular reinforcing projection near one end of each horn-section, and an annular receiving depression near the other end of each horn-section, and means connected with the opposite end of each horn-section adapted to extend into the open end of another section and to slide longitudinally of the horn so as to be brought in binding engagement with the annular receiving depressions for rigidly locking the horn-sections when extended to produce a complete horn.

5. A phonograph-horn comprising a series of tapered tubular horn-sections adapted to be nested when the horn is not in use, an annular reinforcing projection near one end of each horn-section, and an annular receiving depression near the other end of each horn-section, clamping devices connected with the opposite end of each horn-section and curved retaining portions on said clamping devices, said retaining portions extending from the end of the horn-section and being adapted to extend into the open end of another section and to slide longitudinally of the horn so as to be brought in binding engagement with the annular receiving depressions for rigidly locking the horn-sections when extended to produce a complete horn.

845,008. SEAT-REMOVING APPARATUS. LEWIS C. MCADAMS, Sacramento, Cal., assignor of one-fourth to Albert O. Ewers, Sacramento, Cal. Filed Apr. 10, 1906. Serial No. 310,951.



Claim.—1. In a seat-removing apparatus, opposite supporting devices, a connecting member extending between the same, a series of chairs mounted upon said member and having legs adapted to normally rest upon a floor, and overhead means for elevating said supporting devices and chairs to leave said floor entirely unobstructed.

2. In a seat-removing-apparatus, a seat provided with means to normally engage a support when in use, means to elevate said seat above its position of use, and a pivotal connection between said seat and elevating means adapted to effect an automatic tilting of said seat when thus elevated above said support.

3. In a seat-removing apparatus, a seat, means for elevating the same, means for effecting a tilting of said seat relative to its normal position, and means to restore said seat to its normal position when lowered.

4. In a seat-removing apparatus, opposite supporting-beams, a connecting member extended between said beams, a series of seats suspended from said member, cables extending upward from the opposite ends of said beams, and means for simultaneously operating said cables.

5. In a seat-removing apparatus, a supporting-beam, a post carried by said beam, and a seat pivotally connected at its rear to said post to freely swing thereon when elevated and provided with means to engage a floor when lowered.

6. In a seat-removing apparatus, a supporting-beam, a post carried by said beam, a seat pivotally connected at its rear to said post to freely swing thereon when elevated and provided with means to engage a floor when lowered, a free arm depending from the front of said seat, and means upon the floor to engage said arm to restore the seat when lowered.

7. In a seat-removing apparatus, a plurality of supporting-beams disposed in parallel horizontal planes and connected together, seats carried by said beams, and means for jointly raising and lowering said beams.

8. In a seat-removing apparatus, a supporting-beam, a post carried thereby, and a chair pivotally connected at the upper portion of its back to said post to swing by gravity thereon when elevated.

9. In a seat-removing apparatus, a supporting-beam, a post carried thereby, a chair pivoted at the upper portion of its back to said post to freely swing thereon when elevated, a free arm pivoted to the front of said chair, and a stop to engage said arm and swing the chair.

10. In a seat-removing apparatus, a supporting-beam, a post carried thereby, a seat pivotally connected to said post, a depending arm pivoted to the front of said seat, a spring connection between the free end of said arm and the seat, and a bearing-roller upon the free end of said arm.

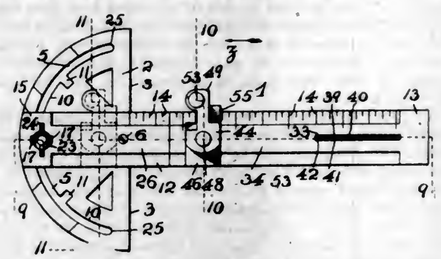
11. In a seat-removing apparatus, parallel supporting-beams disposed in the same horizontal plane, a post carried by each of said beams, a pivoting-rod extending between said posts, and a series of seats pivotally mounted upon said rod.

12. In a seat-removing apparatus, the combination with a floor, of a beam normally disposed thereon, a seat supported in horizontal position by said floor, means for mounting said seat upon said beam to permit the seat to tilt as the beam is elevated above the floor, and means for elevating said beam.

13. In a seat-removing apparatus, the combination with a floor, of a supporting-beam, cables connected to the opposite ends of said beam for elevating the same, a winding-drum to receive said cables, and a chair carried by said beam and having legs to engage the floor when the beam is lowered and to be supported above the floor when the beam is elevated.

845,009. COMBINATION-TOOL. PETER NOVAK, Elizabethport, N. J. Filed Dec. 18, 1906. Serial No. 348,377.

Claim.—1. A tool of the character specified comprising a member or stock provided with a semicircular slot, and a pivotal post, a straight-edge pivoted upon said post, said straight-edge having a portion movably arranged upon said stock, said portion being provided with a longitudinally-extending channel and an elongated opening, a block slidably arranged in said channel, said block having a downwardly-extending stud provided with a screw-threaded portion and a nut thereon, an upwardly-extending and screw-threaded post on said block, and a tightening-nut, all of said parts being arranged for operatively connecting said stock and the straight-edge and securing said straight-edge in any one of its adjusted positions against movement, substantially as and for the purposes set forth.



2. A tool of the character specified comprising a member or stock provided with a semicircular slot, and receiving portions 11, a pivotal post on said stock, a straight-edge pivoted upon said post, said straight-edge having a portion movably arranged upon said stock, said portion being provided with a longitudinally-extending channel and an elongated opening, a block slidably arranged in said channel, a downwardly-extending stud on said block, said stud having a squared portion movably arranged in the semicircular slot of the stock and adapted to be moved into any one of the receiving portions 11, a screw-threaded portion connected with the square portion of said stud, and a nut thereon, an upwardly-extending and screw-threaded post on said block, and a tightening-nut, all of said parts being arranged for operatively connecting said stock and the straight-edge and securing said straight-edge in any one of its adjusted positions against movement, substantially as and for the purposes set forth.

3. A tool of the character specified comprising a member or stock provided with a semicircular slot, and a pivotal post, a straight-edge consisting of a pair of slidably-connected rule elements, means for limiting the movements of said elements, one of said elements being pivoted upon said post and having a portion movably arranged upon said stock, said portion being provided with a longitudinally-extending channel and an elongated opening, a block slidably arranged in said channel, said block having a downwardly-extending stud provided with a screw-threaded portion and a nut thereon, an upwardly-extending and screw-threaded post on said block, and a tightening-nut, all of said parts being arranged for operatively connecting said stock and the straight-edge and securing said straight-edge in any one of its adjusted positions against movement, substantially as and for the purposes set forth.

4. A tool of the character specified comprising a member or stock provided with a semicircular slot, and receiving portions 11, a pivotal post on said stock, a straight-edge consisting of a pair of slidably-connected rule elements, means for limiting the movements of the said elements, one of said elements being pivoted upon said post and having a portion movably arranged upon said stock, said portion being provided with a longitudinally-extending channel and an elongated opening, a block slidably arranged in said channel, a downwardly-extending stud on said block, said stud having a squared portion movably arranged in the semicircular slot of the stock and adapted to be moved into any one of the receiving portions 11, a screw-threaded portion connected with the square portion of said stud, and a nut thereon, an upwardly-extending and screw-threaded post on said block, and a tightening-nut, all of said parts being arranged for operatively connecting said stock and the straight-edge and securing said straight-edge in any one of its adjusted positions against movement, substantially as and for the purposes set forth.

5. A tool of the character specified comprising a member or stock, a straight-edge pivotally connected with said stock, means for securing said straight-edge in any one of its adjusted positions with relation to said stock, a centrally-disposed raised portion on said straight-edge, said raised portion being formed with undercut marginal edges, a scratch-gage dovetailed over said raised portion and slidably arranged thereon, and a scratch device movably connected with said gage, substantially as and for the purposes set forth.

6. A tool of the character specified comprising a member or stock, a straight-edge pivotally connected with said stock, means for securing said straight-edge in any one of its adjusted positions with relation to said stock, a centrally-disposed raised portion on said straight-edge, said raised portion being formed with undercut marginal edges, a scratch-gage dovetailed over said raised portion and slidably arranged thereon, said gage being provided with a screw-threaded hole, a screw-threaded shank in said hole, a finger-piece on said shank, and a scratch-point upon the lower end of said shank, substantially as and for the purposes set forth.

7. A tool of the character specified comprising a member or stock, a straight-edge consisting of a pair of slidably-connected and normally locked rule elements, one of said elements being pivotally connected with said stock, and a scratch-gage slidably arranged upon said normally locked elements, and means adapted to be actuated by said scratch-gage for releasing said normally locked elements, substantially as and for the purposes set forth.

8. A tool of the character specified comprising a member or stock, a straight-edge consisting of a pair of slidably-connected and normally locked rule elements, one of said elements being pivotally connected with said stock, each element having a centrally-disposed raised portion provided with undercut marginal edges, a dovetailed scratch-gage slidably arranged upon the raised portions of said normally locked elements, means adapted to be actuated by said scratch-gage for releasing said normally locked elements, and a scratch device movably connected with said gage, substantially as and for the purposes set forth.

9. A tool of the character specified comprising a member or stock, a straight-edge consisting of a pair of slidably-connected and normally locked rule elements, one of said elements being pivotally connected with said stock, each element having a centrally-disposed raised portion provided with undercut marginal edges, a dovetailed scratch-gage slidably arranged upon the raised portions of said normally locked elements, means adapted to be actuated by said scratch-gage for releasing said normally locked elements, said gage being provided with a screw-threaded hole, a screw-threaded shank in said hole, a finger-piece on said shank, and a scratch-point upon the lower end of said shank, substantially as and for the purposes set forth.

10. A tool of the character specified comprising a member or stock, a straight-edge consisting of a pair of slidably-connected rule elements, one of said elements being pivotally connected with said stock, and having a receiving depression 33, the other element being provided with a slot 39, and a locking-lever in said slot, said locking-lever being provided with a nosing normally in locked engagement with said receiving depression 33, substantially as and for the purposes set forth.

11. A tool of the character specified comprising a member or stock, a straight-edge consisting of a pair of slidably-connected rule elements, one of said elements being pivotally connected with said stock, and having a receiving depression 33, the other element being provided with a slot 39, and a locking-lever in said slot, said locking-lever being provided with a nosing normally in locked engagement with said receiving depression 33, and said lever having a portion extending above the slot in said element, and a scratch-gage slidably arranged upon said rule elements adapted to be brought in engagement with said upwardly-extending portion of said lever to withdraw said nosing from said depression 33, substantially as and for the purposes set forth.

12. A tool of the character specified comprising a member or stock, a straight-edge consisting of a pair of slidably-connected rule elements, one of said elements being pivotally connected with said stock, and having a receiving depression 33, the other element being provided with a slot 39, and a locking-lever in said slot, said locking-lever being provided with a nosing normally in locked

engagement with said receiving depression 33, and said lever having a portion extending above the slot in said element, each element having a centrally-disposed raised portion provided with undercut marginal edges, a dovetailed scratch-gage slidably arranged upon the raised portions of said elements, said scratch-gage being adapted to be brought in engagement with said upwardly-extending portion of said lever to withdraw said nosing from said depression 33, and a scratch device movably connected with said gage, substantially as and for the purposes set forth.

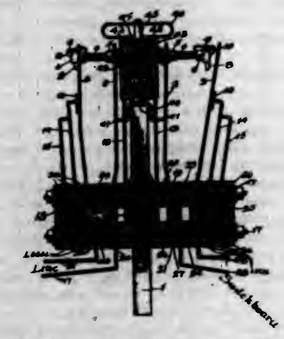
13. A tool of the character specified comprising a member or stock, a straight-edge consisting of a pair of slidably-connected rule elements, one of said elements being pivotally connected with said stock, and having a receiving depression 33, the other element being provided with a slot 39, and a locking-lever in said slot, said locking-lever being provided with a nosing normally in locked engagement with said receiving depression 33, and said lever having a portion extending above the slot in said element, each element having a centrally-disposed raised portion provided with undercut marginal edges, a dovetailed scratch-gage slidably arranged upon the raised portions of said elements, said scratch-gage being adapted to be brought in engagement with said upwardly-extending portion of said lever to withdraw said nosing from said depression 33, said gage being provided with a screw-threaded hole, a screw-threaded shank in said hole, a finger-piece on said shank, and a scratch-point upon the lower end of said shank, substantially as and for the purposes set forth.

14. The herein-described tool comprising a member or stock, a straight-edge consisting of a pair of slidably-connected rule elements, one of said elements being pivotally connected with said stock, said elemnt having a centrally-disposed raised portion 26 provided with undercut marginal edges, said element being made also with a reduced part provided with a centrally-disposed raised portion 29 formed with undercut marginal edges, an upwardly-extending projection on said element providing a stop, said other element being provided with a longitudinally-extending depression dovetailing with said raised portion 29, and formed also with a longitudinally-extending groove into which said stop projection projects to limit the sliding movements of said elements, said other element being provided also with a centrally-disposed and upwardly-extending portion 34 having undercut marginal edges, said first-mentioned element being provided with a receiving depression 33, and said second-mentioned element being provided with a slot 39, a locking-lever in said slot, said lever being provided with a nosing normally in locked engagement with said depression 33, and said lever having a portion extending above the slot in said element, and a scratch-gage slidably mounted upon the raised portions 26 and 34 of said two-rule elements, said scratch-gage being adapted to be brought in engagement with said upwardly-extending portion of said lever to withdraw said nosing from said depression 33, substantially as and for the purposes set forth.

15. The herein-described tool comprising a member or stock, a straight-edge consisting of a pair of slidably-connected rule elements, one of said elements being pivotally connected with said stock, said element having a centrally-disposed raised portion 26 provided with undercut marginal edges, said element being made also with a reduced part provided with a centrally-disposed raised portion 29 formed with undercut marginal edges, an upwardly-extending projection on said element providing a stop, said other element being provided with a longitudinally-extending depression dovetailing with said raised portion 29, and formed also with a longitudinally-extending groove into which said stop projection projects to limit the sliding movements of said elements, said other element being provided also with a centrally-disposed and upwardly-extending portion 34 having undercut marginal edges, said first-mentioned element being provided with a receiving depression 33, and said second-mentioned element being provided with a slot 39, a locking-lever in said slot, said lever being provided with a nosing normally in locked engagement with said depression 33, and said lever having a portion extending above the slot in said element, and a scratch-gage slidably mounted upon the raised portions 26 and 34 of said two-rule elements, said scratch-gage being adapted to be brought in engagement with said upwardly-extending portion of said lever to withdraw said nosing from said depression 33, and a scratch device movably connected with said gage, substantially as and for the purposes set forth.

16. The herein-described tool comprising a member or stock, a straight-edge consisting of a pair of slidably-connected rule elements, one of said elements being pivotally connected with said stock, said element having a centrally-disposed raised portion 26 provided with undercut marginal edges, said element being made also with a reduced part provided with a centrally-disposed raised portion 29 formed with undercut marginal edges, an upwardly-extending projection on said element providing a stop, said other element being provided with a longitudinally-extending depression dovetailing with said raised portion 29, and formed also with a longitudinally-extending groove into which said stop projection projects to limit the sliding movements of said elements, said other element being provided also with a centrally-disposed and upwardly-extending portion 34 having undercut marginal edges, said first-mentioned element being provided with a receiving depression 33, and said second-mentioned element being provided with a slot 39, a locking-lever in said slot, said lever being provided with a nosing normally in locked engagement with said depression 33, and said lever having a portion extending above the slot in said element, and a scratch-gage slidably mounted upon the raised portions 26 and 34 of said two-rule elements, said scratch-gage being adapted to be brought in engagement with said upwardly-extending portion of said lever to withdraw said nosing from said depression 33, said gage being provided with a screw-threaded hole, a screw-threaded shank in said hole, a finger-piece on said shank, and a scratch-point upon the lower end of said shank, substantially as and for the purposes set forth.

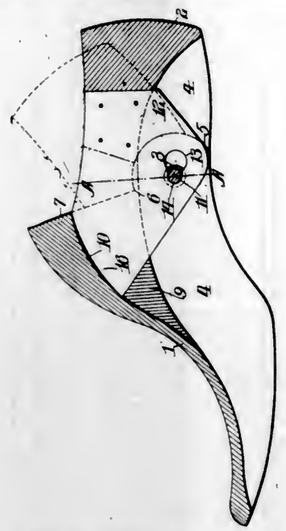
845,010. ELECTRICAL PROTECTIVE APPARATUS. CHARLES A. ROLFE, Rochester, N. Y., assignor to Rolfe Electric Company, Rochester, N. Y., a Corporation of New York. Original application filed Apr. 21, 1902, Serial No. 104,021. Divided and this application filed Feb. 4, 1905. Serial No. 244,238.



Claim.—1. The combination of supporting member 1, protectors arranged on opposite sides thereof, and each comprising spring-arms 2 and 3 and a heat-responsive device supported at the upper ends of said arms and adapted to release the same upon the passage of an unduly-strong current, a ground connection 40, adapted to make contact with the opposite arms 2, 2, a lightning-arrester comprising ground-carbons 42, 42, line-carbons 43, 43, a post 45 having a spring 46, a mass 47 of insulating heat-susceptible material, line lightning-arrester contacts 13, 13, suitable insulating-strips, and screws 17, 17, binding said insulating-strips, spring-arms and contacts together, substantially as described.

2. In a device of the character described, the combination of a support, a row of heat-coil devices mounted at each side of said support, line-terminals connected with the said heat-coil devices and all mounted at one side of said support, and switchboard-terminals also suitably connected with said heat-coil devices and all mounted at the other side of said support.

845,011. HINGED LAST. GEORGE G. SCHELTER and JOHN C. SCHELTER, Rochester, N. Y., assignors to Empire Last Works, Rochester, N. Y., a Corporation of New York. Filed May 29, 1902. Serial No. 109,473.



Claim.—1. The combination with a slotted member provided with an aperture extending transversely of the slot therein and a second member, of a pintle extending through said aperture and having shoulders forming a journal portion between them arranged in line with the slot, and a hinge portion having an aperture and a recess extending at one side thereof adapted to be held in engagement with the journal when said portion is moved longitudinally and secured to the second member.

2. The combination with two relatively-movable members, one having a slot therein extending in the plane of their movement, and provided with an aperture extending transversely of the slot, of a pintle arranged in the aperture having shoulders forming a journal between them arranged in line with the slot, a web having an aperture and a recess extending at the forward side thereof and adapted to be held in engagement with the journal when the plate is moved longitudinally and secured to the second member, and a foot on the plate engaging the bottom of the slot to limit the opening movement of the members.

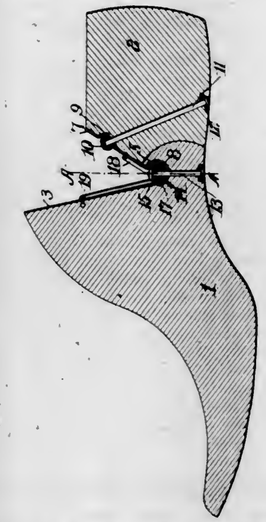
3. In a hollow last, the combination with one hollow section having a slot the top of which forms a stop and provided with apertures extending transversely of the slot, of a second hollow section provided with a web arranged in the slot having the end adapted to engage said top of the recess to limit the opening movement of the two sections and a pintle extending through the apertures in the first section and accessible from the exterior of said section and engaging the web.

4. In a last, the combination with a toe-section and a heel-section provided with slots and a hinge member mounted in one section and extending transversely of the plane of the slots, of a second hinge member revoluble about the first member located in the plane of the slots provided with an aperture and a recess at one side of the aperture adapted to be held in engagement with the other hinge member when moved longitudinally and secured in the other section of the last.

5. In a two-part last, the combination with a recessed section having a slot leading from the recess and having the portions at the opposite sides of said recess provided with apertures, of a second section provided with a web arranged in the slot in the first section having an aperture and a recess at one side thereof, a pintle passing through the apertures in the side portions of the first member and the web and shoulders on the pintle engaging opposite sides of the latter.

6. In a last, the combination with slotted toe and heel sections recessed in their lower sides, of a web located in the slot in each section and secured to one of them and having a portion projecting into the recess in the other section and a pintle in said section engaging opposite sides of the projecting portion of the web to center it transversely in the recess in alinement with the slot in said section.

845,012. SHOE-LAST. JOHN C. SCHELTER, Rochester, N. Y., assignor to Empire Last Works, Rochester, N. Y., a Corporation of New York. Filed May 29, 1902. Serial No. 109,475.



Claim.—1. In a last, the combination with a heel and a toe section, one of said sections having a recess open at the top and provided with a curved bottom, of a plate on the other section having a curved end bearing against the curved bottom of the recess in the first section to form a hinge connection therewith and means for preventing the lateral movement of one section relatively to the other, said sections being divided along a line terminating outside of said recess.

2. In a last, the combination with one section having an open recess having its sides curved and a second section provided with a face leading from said recess, the line of separation between said sections being wholly outside of said recess, of a hinge comprising a base secured over said face on the second section and provided with an end journaled against the curved sides of the recess on the first section and means for preventing a lateral movement of one section relatively to the other.

3. In a two-part last, the combination with one section having a recess provided with a curved bottom and open at one side and a shoulder at the side of the recess extending beyond the center thereof, of a plate on the other section of the last extending over said shoulder having a curved portion engaging the sides of the recess and forming a hinge connection between the parts of the last

and means extending through the hinge member for preventing its longitudinal movement in the recess.

4. In a last, the combination with the toe-section provided with a transversely-extending recess open at its upper side and having a shoulder at its rear side extending inwardly above the center of the recess, a plate attached to the heel-section having a curved end arranged at one side of the plate adapted to be engaged in the recess to form a hinge connection between the parts of the last, said curved portion being provided with an aperture, and a securing device passing through the aperture.

5. In a two-part last, the combination with one section provided with an open recess, a wear-plate located therein and the other section having the face provided with a channel, of a plate having a rib adapted to lie in the channel and a securing member rigidly holding the plate on said face, a curved end on the plate adapted to lie in the recess and form a hinge connection between the sections of the last and having an aperture, and a fastening device passing through said aperture.

6. In a two-part last, the combination with one section having a recess, a curved wear-plate therein provided with an aperture and the other section having a face provided with a channel, of a hinge member embodying a base-plate having a rib on one side adapted to engage said channel, means for securing the plate on said face, an end on the plate adapted to engage the wear-plate provided with an elongated aperture, and a single fastening device passing loosely through the aperture in the end of the plate and through the aperture in the wear-plate to secure the latter in its recess.

7. In a two-part last, the combination with a hinge member secured to one section and journaled on the other having an open side and a bar located in said open side, of a spring having the coils surrounding the bar and the ends engaging the separate portions of the last, and means for securing the bar to prevent the removal of the hinge member.

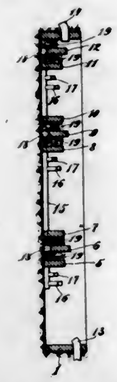
8. In a two-part last, the combination with a hinge member secured to one section and having a curved end open at one side and provided with an aperture, of a bridge-piece lying in said curved portion having feet engaging the bottom thereof and provided with an aperture registering with the aperture therein, a spring having the coils surrounding the bar and the ends engaging the separate portions of the last, and a fastening device passing through the bar and hinge member.

9. In a last, the combination with a toe-section 1 provided with an open recess and having a shoulder 5 at its outer side, and a heel-section 2 having the face 4 provided with a channel, of a plate 7 having a rib lying in the channel and provided with a depression in its face, a fastening device 11 having the head lying in said depression and securing the plate to the heel-section, a curved end 8 on the plate having an aperture and adapted to lie in the recess in the toe-section and a fastening device 13 having a head lying in said curved portion and extending through the aperture to secure the curved portion of the toe-section.

10. The combination, in a transversely-divided last, of a fore part; a heel part and a bow-spring one arm of which is secured to one of said parts and the other arm of which is secured to the other of said parts; said last being provided with a top recess and a chamber, at the bottom of said recess, within which chamber the head portion of the spring extends; the spring acting to keep the fore part and heel part normally in alinement.

845,013. APPARATUS FOR RECOVERING SULFUR DYESTUFFS FROM WASTE DYE LIQUIDS AND WASHING LIQUIDS. JEAN SCHMITT, Belfort, France. Filed Apr. 22, 1905. Serial No. 256,868.

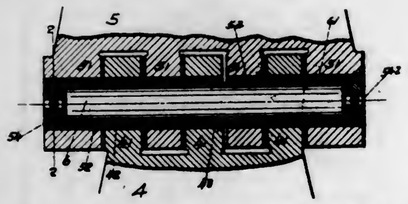
Claim.—1. An apparatus for the purpose specified, comprising an open recovering-tank divided into shallow but laterally large decanting-compartments, allowing the heavier particles of dyestuff in suspension to sink down therein by their gravity and having between these compartments filtering-receptacles to retain the lighter particles of dyestuff, said receptacles containing a suitable filtering material and formed by two low and tight partitions adapted to be overflowed by the decanted liquid, and an intermediate higher partition with one or more openings at its lower part for the liquid.



2. An apparatus for the purpose specified, comprising an open recovering-tank divided into shallow but laterally-extended decanting-compartments, and having between them filtering-receptacles, and a discharging device for the residual liquid, said device having openings arranged on different heights and permitting the withdrawal of the residual liquid at successively different heights.

3. An apparatus for the purpose specified, comprising an open recovering-tank divided into shallow but laterally-extended decanting-compartments, which permit the heavier particles of the dyestuff in suspension to sink down therein by gravity, and having between these compartments filtering-receptacles to retain the lighter particles of the dyestuff, said receptacles containing a suitable filtering material and being formed by two low and tight partitions adapted to be overflowed by the decanted liquid and an intermediate higher partition with one or more openings at its lower part for the liquid, and a pipe system connecting with said tank, having openings arranged on different heights and permitting the withdrawal of the residual liquid at successively different heights.

845,014. DREDGE PIN AND JOINT. GRANT B. SHIPLEY, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed June 12, 1905. Serial No. 264,804.



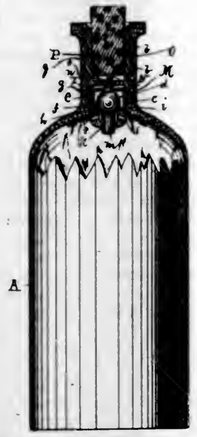
Claim.—1. Links, a link-pin between each pair of links, and removable plugging-disks preventing displacement of the pin.

2. Links, a link-pin between adjacent links, plugging-disks preventing displacement of the pin, and means holding the disks in place.

3. Links, a link-pin between consecutive links, plugging-disks preventing displacement of the link-pin, and pins holding the disks in place.

4. A plugging-disk having two bores, and a holding-pin through one bore and closing the other bore.

845,015. NON-REFILLABLE BOTTLE. LOUIS E. L. THEMKE, Strathcona, Alberta, Canada, assignor of one-fourth to Franz Scheibal, Edmonton, Canada, and one-fourth to Joseph Dittrich, Strathcona, Canada. Filed June 22, 1906. Serial No. 322,980.



Claim.—1. In a non-refillable bottle, the combination of a bottle having an annular shoulder in the lower part of its neck, a valve retainer and washer on said shoulder, means for holding the valve-retainer in position, a spherical valve with downwardly-projecting stem and an oppositely-projecting conical portion, and means for limiting the opening of the valve, as set forth.

2. In a non-refillable bottle, the combination of a bottle, and a neck lining or sleeve having a perforated diaphragm, a valve-retainer and an annular ring or baffle-plate, located between the sleeve and valve-retainer, the valve-retainer provided with a valve-stem receptacle and openings surrounding same, a valve having a stem to operate in the aforesaid receptacle and a conical portion projecting in an opposite direction to said stem, as set forth.

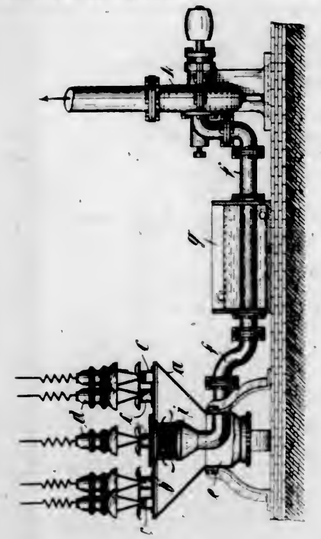
845,016. APPARATUS FOR AERATING AND CLEANING FLOUR, GRITS, AND THE LIKE. CARL TRETTAU, Gimmel, Germany. Original application filed Oct. 17, 1905, Serial No. 283,198. Divided and this application filed Nov. 2, 1906. Serial No. 341,678.

Claim.—1. Apparatus for aerating and cleaning flour, grits and the like, comprising a chamber having apertures, heating means located before the latter, an air-duct leading from the chamber to a descending stream of the material to be treated, and means for causing a current of air to pass through the apparatus to the said material, substantially as described.

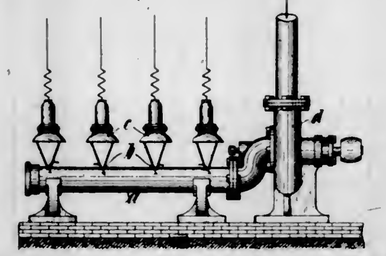
2. Apparatus for aerating and cleaning flour, grits and the like, comprising a chamber having apertures, heating means located before the latter, an air-duct leading from the chamber to a descending stream of the material to be treated, an air-cooling device connected in the air-duct, and means for causing a current of air to pass through the apparatus to the said material, substantially as described.

3. Apparatus for aerating and cleaning flour, grits and the like, comprising a hopper having apertures, electric arcs located before the latter, an air-duct leading from the hopper to a bolting-machine and means for causing a current of air to pass through the apparatus to the said machine, substantially as described.

4. Apparatus for aerating and cleaning flour, grits and the like, comprising a hopper having apertures, electric arcs located before the latter, an air-duct leading from the hopper to a bolting-machine, a water-cooling device connected in the air-duct, and means for causing a current of air to pass through the apparatus to the said machine, substantially as described.



845,017. APPARATUS FOR IMPROVING GRAIN. CARL TRETTAU, Gimmel, Germany. Original application filed Oct. 26, 1905, Serial No. 284,438. Divided and this application filed Nov. 2, 1906. Serial No. 341,679.



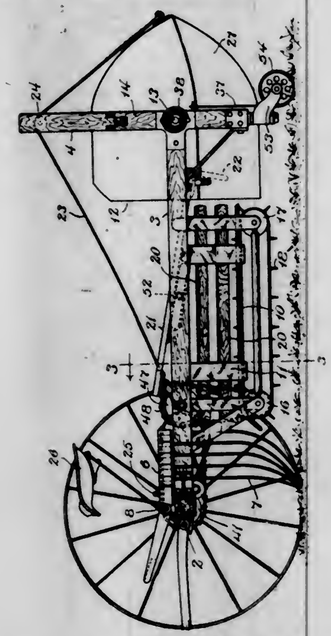
Claim.—1. Apparatus for treating grain with a current of air, comprising a perforated duct, flame heating means located at the apertures thereof, and means for causing a current of air to pass through the apertures and along the duct and to the grain to be treated, substantially as described.

2. Apparatus for treating grain with a current of air, comprising a perforated duct, electric-arc lamps located at the apertures thereof, and a ventilator for sucking a current of air through the apertures and along the duct and delivering it to the grain to be treated, substantially as described.

845,018. HAY RAKE AND COCKER. WILBERT C. TRUSSELL, Boston, Mass., assignor, by direct and mesne assignments, to Trussell Hay Harvesting Machinery Company, Boston, Mass., a Corporation of Massachusetts. Filed Feb. 5, 1906. Serial No. 299,426.

Claim.—1. A hay rake and cocker comprising a frame, a rake having horizontally-extending ends and a depressed central portion between its ends forming an outlet to permit escape of the hay gathered thereby, a receptacle for receiving hay delivered from said outlet and forming it into a cock, and means for turning and automatically opening the receptacle to dump the contents of the receptacle.

2. A hay rake and cocker comprising a frame, a rake having raised horizontal end portions and a depressed center forming an outlet to permit escape of the hay gathered thereby, a receptacle for receiving hay delivered from said outlet and forming it into a cock, means for carrying the hay into the receptacle, and provisions for depositing the cock from the receptacle.



3. A hay rake and cocker comprising a frame, a rake-bar having a depressed portion and inclined rearwardly and laterally from its ends toward said depressed portion, teeth mounted on said bar, a receptacle arranged to receive hay passing over the depressed portion of the bar and form hay into a cock, and means for dumping the receptacle.

4. A hay rake and cocker comprising a frame, a rake-bar having a depressed central portion, and horizontal end portions inclined rearwardly and laterally, teeth mounted on said bar, a receptacle arranged to receive hay passing over the depressed portion of the bar and form the hay into a cock, a conveyer to carry the hay to the receptacle, and means for dumping the receptacle.

5. A hay rake and cocker comprising a frame, a rake-bar having a depressed portion, its ends being inclined rearwardly and laterally toward said depressed portion, teeth mounted on said bar, a receptacle arranged to receive hay passing over the depressed portion of the bar and form the hay into a cock, a conveyer for carrying the hay to the receptacle, means for packing the hay therein, and means for dumping the receptacle.

6. A hay rake and cocker comprising a rake having an outlet-opening, a horizontal platform arranged to support the hay gathered by the rake and discharged through said opening and to permit the hay to slide rearwardly under pressure of the mass of hay gathered by the rake, a holder supported adjacent the end of the platform to receive hay therefrom, a packer for pressing the hay into said holder, and means for opening the holder to discharge the hay therefrom.

7. A hay rake and cocker comprising a rake having an outlet-opening, a substantially level platform arranged to support the hay gathered by the rake and discharged through said opening, a holder having an opening in the forward portion supported adjacent the end of the platform to receive hay therefrom, conveying means traveling along the platform from the rake toward the holder, a packer for pressing the hay into said holder, means for turning the holder to bring its opening downward, and means automatically operated by such turning movement for opening the holder to discharge the hay therefrom.

8. In a device of the character described, a holder arranged to receive hay and shaped to form the hay into a cock, means normally retaining said holder with its axis horizontal, the lower portions of the holder being formed as doors pivoted to the main portion, a latch arranged to retain said doors closed, means for moving the holder into upright position, a latch-releasing device rendered operative by such movement, and springs for opening the doors.

9. In a device of the character described, a holder arranged to receive hay and shaped to form the hay into a cock, means normally retaining said holder with its axis horizontal, the lower portions of the holder being formed as doors pivoted to the main portion, yielding means arranged to bear on and close said doors when the holder is in normal position, means for moving the holder into upright position and thereby carrying the doors away from the influence of said yielding means, and springs arranged to open said doors.

10. In a device of the character described, a holder arranged to receive hay and shaped to form the hay into a cock, means normally retaining said holder with its axis horizontal, the lower portions of the holder being formed as doors pivoted to the main portion, spring-arms extending in a plane perpendicular to the axis of the holder under the same to bear on and close said doors when the holder is in normal position, means for moving the holder into upright position and thereby carrying the doors away from the influence of said yielding means, and springs arranged to open said doors.

11. In a device of the character described, a frame, a holder pivoted thereto, spring means connected to the pivot and the frame tending normally to retain the holder with its axis horizontal and its open end forward, doors hinged to the body of the holder and forming the rearward and lower sides thereof, the whole being shaped and arranged to receive hay and form it into a cock, spring-arms arranged in the plane of the pivot perpendicular to the axis of the holder when in normal position extending under and pressing on the doors to close them, means for turning the holder upright and thereby putting tension on the first spring means and moving the doors away from the spring-arms, and springs connected to throw open the doors.

12. In a device of the character described, a frame, a holder pivoted thereto, spring means connected to the pivot and the frame tending normally to retain the holder with its axis horizontal and its open end forward, doors hinged to the body of the holder and forming the rearward and lower sides thereof, the whole being shaped and arranged to receive hay and form it into a cock, spring-arms arranged in the plane of the pivot perpendicular to the axis of the holder when in normal position extending under and pressing on the doors to close them, a latch pivoted to one of the doors adapted to engage the other and lock them shut, means for turning the holder upright and thereby putting tension on the first spring means and moving the doors away from the spring-arms, a latch-releasing device operated by such movement of the holder to unlock the doors, and springs connected to throw open the doors.

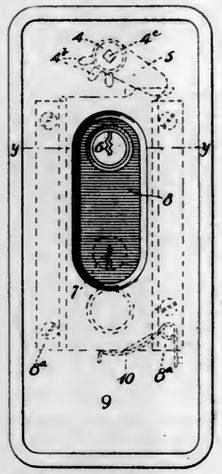
13. A hay rake and cocker comprising a frame, a rake connected thereto arranged to gather together the hay and discharge it in a mass, a conveyer-belt arranged to receive the hay and carry it horizontally rearward, and a cock-former having an open mouth in an approximately vertical plane adjacent the end of the belt to receive hay therefrom.

14. A hay rake and cocker comprising a frame, a rake connected thereto arranged to gather together the hay and discharge it in a mass, a cock-former having an open mouth in position to receive the hay discharged from the rake and shaped to form the same into a cock, and a packer mounted to oscillate and slide longitudinally on its pivot, being thereby movable in an upward and rearward path into the central part of the former to crowd the hay thereinto.

15. A hay rake and cocker comprising a frame, wheels journaled thereon, a rake pivoted at its ends to the frame adjacent the wheel-bearings, its center being in rear of its ends, whereby the hay is gathered together, and the central portion being lower than the ends to permit discharge of the gathered mass of hay, and a cock-former.

16. A hay rake and cocker comprising a frame, wheels journaled thereon, a rake pivoted at its ends to the frame adjacent the wheel-bearings, its center being in rear of its ends, whereby the hay is gathered together, and the central portion being lower than the ends to permit discharge of the gathered mass of hay, a cock-former having an open end in rear of said central portion, and a level support and guide intermediate the rake and cock-former to receive the hay discharged by the rake and guide it into the former.

845,019. KEYHOLE-SHUTTER FOR LOCKS. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Oct. 8, 1906. Serial No. 337,856.



Claim.—1. In a lock of the character described, a plurality of keyholes arranged to be accessible from outside of the door, a shutter having a plurality of key-passages, said passages being spaced apart differently from the spacing between the keyholes, a means for shifting said shutter from the inside of the door to expose only one keyhole at a time.

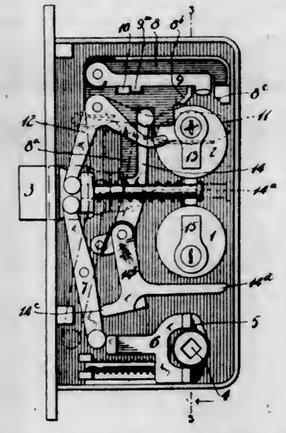
2. In a lock of the character described, a plurality of keyholes arranged to be accessible from outside of the door, a shutter having a plurality of key-passages, said passages being spaced apart differently from the spacing between the keyholes, a means for shifting said shutter from the inside of the door to expose only one keyhole at a time, in combination with the dead-locking device coöperating with said shutter to move the same when the dead-locking device is operated.

3. In a lock of the character described, two keyholes arranged to be accessible from the outside of the door to which the lock is applied, a shutter having two key-passages, said key-passages being spaced apart differently from the spacing between the two keyholes, a means for shifting said shutter, said means comprising a manually-controlled lever-arm for moving said shutter in one direction and a spring-arm for moving it in the other direction.

4. In a lock of the character described, a latch-bolt and dead-locking device therefor, means for operating the dead-locking device from the inner side of the door to which the lock is applied, two key-actuated devices accessible from the outer side of the door and including two independent and separate keyholes, a shutter having two key-passages spaced apart differently from the spacing of said keyholes, means for moving the shutter in one direction when the dead-locking device is applied, and spring-controlled means for yieldingly pressing the shutter in an opposite direction when the dead-locking device is retracted.

5. In a lock of the character described, a plurality of keyholes arranged to be accessible from the outer side of a door to which the lock is applied, a shutter for said keyholes, and means for shifting said shutter from the inside of the door to expose only one keyhole at a time.

845,020. CORRIDOR-DOOR LOCK. HENRY G. VOIGHT, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Oct. 17, 1906. Serial No. 339,293.



Claim.—1. In a lock, a latch-bolt, a dead-locking device, means to actuate said dead-locking device from the inner side of the lock, means independent of the first and outside of the lock to actuate said dead-locking device and retract the bolt, and additional and independent means for retracting the bolt from the outside of the lock, said latter means being incapable of actuating the dead-locking device.

2. In a lock, a latch-bolt, a dead-locking device, means to actuate said dead-locking device from the inner side of the lock, means independent of the first and outside of the lock to actuate said dead-locking device and retract the bolt, additional and independent means for retracting the bolt from the outside of the lock, said latter means being incapable of actuating the dead-locking device, and a knob-controlled spindle for retracting the latch-bolt independently of either of the first-mentioned means.

3. In a lock, a latch-bolt, a dead-lock therefor, means to actuate said dead-lock from the inside of a door, and two independent key-controlled means for actuating the latch-bolt from the outside of the door, one of said key-controlled means coöperating with the dead-lock whereby the latter may be cast off preparatory to retracting the latch-bolt by the said means.

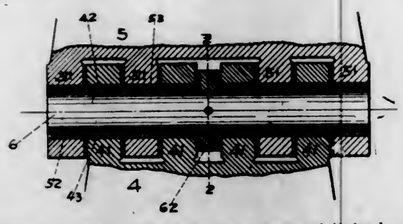
4. In a lock, a latch-bolt, a dead-lock therefor, means to actuate said dead-lock from the inside of a door, two independent key-controlled means for actuating the latch-bolt from the outside of the door, one of said key-controlled means coöperating with the dead-lock whereby the latter may be retracted preparatory to retracting the latch-bolt by the same means, and a knob-controlled spindle accessible from one side of the door and operatively connected with the latch-bolt.

5. In a lock, a latch-bolt, a knob-spindle operatively connected with the latch-bolt, a dead-locking device for said bolt, means at the inside of the door for operating the

same, and two independently-key-controlled means on the outside of the door for operating said latch, one of said last-mentioned means also operating the dead-locking device.

6. In a lock, a latch-bolt, a dead-lock therefor, means for operating said dead-lock from the inside of the door and including a roll-back operable from the outer side of the door only for operating said dead-lock, said means being operatively connected with said latch-bolt when the dead-lock is "off," and additional and independent means externally of the door for retracting the latch, including key-controlled mechanism disconnected from the latch when the dead-lock is "on."

845,021. DREDGE PIN AND JOINT. EDWARD L. VOY, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed June 12, 1905. Serial No. 264,803.

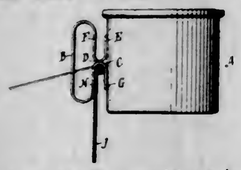


Claim.—1. The combination of a pair of links having eyes all of uniform width, a pin uniting the links and coacting with the same number of eyes on each link, and a bushing for each eye.

2. The combination of a pair of links having eyes all of uniform width, a pin uniting the links and coacting with the same number of eyes on each link, locking means for the pin intermediate its ends, and a bushing for each eye.

3. A plurality of links, link-pins connecting the links, a collar on the link-pin, and means within the periphery of the collar for locking the collar.

845,022. CUP AND CUP-HANDLE. GEORG F. WALKER, Dexter, Mich. Filed Nov. 14, 1906. Serial No. 343,390.



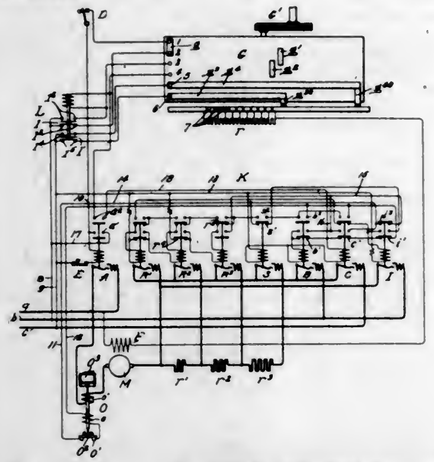
Claim.—1. A cup-handle comprising a loop, and having additional bends arranged near each other, the said handle having end portions secured to the cup whereby spaces or recesses are provided above and below the said additional bends enabling the cup to be suspended from the rim of a bucket in normal or inverted position, substantially as described.

2. A cup-handle consisting of a strip of metal bent into the form of a main loop, and having additional bends arranged near each other, the said handle having end portions secured to the cup whereby spaces or recesses are provided above and below the said additional bends enabling the cup to be suspended from the rim of a bucket in normal or inverted position, substantially as described.

845,023. SYSTEM OF CONTROL. HAROLD E. WHITE and HAROLD C. PHASE, Schenectady, N. Y., assignors to General Electric Company, a Corporation of New York. Filed June 26, 1905. Serial No. 266,953.

Claim.—1. In combination, a controller, a governing-relay for said controller, a controlling-circuit for said relay, a master controlling device having contacts arranged in said circuit, and means for placing a shunt about said contacts upon the operation of the relay.

2. In combination, a controller, a governing-relay for said controller, a controlling-circuit for said relay, a master controlling device having contacts in said circuit, and means for automatically shunting said circuit past said contacts.



3. In combination, a controller, electromagnetic controlling means therefor, an electromagnetic relay, a master controlling device having contacts for completing a circuit through said electromagnetic controlling means and through the actuating-coil of said relay, and contacts on said relay for shunting said circuit past the contacts of the master devices upon the operation of the relay.

4. In combination, a controller, electromagnetic actuating means therefor, a relay for controlling said actuating means, a master controlling device arranged to energize said relay, and means associated with said relay for rendering said master device inoperative upon the operation of the relay.

5. In combination, a controller, electromagnetic controlling means therefor, an electromagnetic relay, a master controlling device having contacts for completing a circuit through said electromagnetic controlling means and through the actuating-coil of said relay, contacts on the relay for shunting said circuit past said contacts upon the operation of the relay, and additional contacts on said master controlling device arranged to short-circuit the actuating-coil of said relay.

6. In combination, a motor, a plurality of supply-circuits, a controller adapted to connect said motor successively to different circuits, electromagnetic actuating means for said controller, a relay controlling the circuit of said actuating means, a master controlling device for energizing said relay, and means associated with said relay for placing a shunt about the master controlling device upon the operation of the relay.

7. In combination, a motor having a shunt-field, a controller, a resistance in said shunt-field, electromagnetic actuating means for said controller, an electromagnetic relay, a master controlling device having contacts for completing a circuit through said actuating means and through said relay, means associated with said relay for shunting said circuit past the said contacts upon the operation of the relay, and means controlled by the master controlling device for varying the resistance in the shunt-field.

8. In combination, a motor having a shunt-field, a controller, electromagnetic actuating means for said controller, a resistance in said shunt-field, a relay, a series of contacts associated with said resistance, a switch having a plurality of contacts arranged to traverse said series of contacts successively, means controlled by the relay for either of said switch-contacts to one terminal of said resistance, and contacts on said switch device for controlling said relay.

9. In combination, a plurality of supply-circuits, a motor having a shunt-field, an armature resistance, a field-resistance, a controller arranged to connect the motor-armature successively to said supply-circuits and to vary the amount of resistance in series with the armature, means for operating said controller, a master-controller for governing said means and for varying the amount of resistance in the field-circuit.

10. In combination, a plurality of supply-circuits, a motor-controller constructed and arranged to disconnect the motor from one circuit and connect it to another, electromagnetic actuating means for said controller, a master controlling device adapted to complete a circuit through said actuating means, and means for automatically shunting said latter circuit around the master controlling device.

11. In combination, a plurality of supply-circuits, a motor, a resistance, an electromagnetically-actuated motor-controller arranged to connect the motor to the supply-circuits in succession and to automatically vary the amount of the resistance in the motor-circuit, a master controlling device arranged to control the circuit of the actuating means for said motor-controller, and means for automatically shunting said latter circuit around the master controlling device.

12. In combination, a plurality of supply-circuits, a motor, a motor-controller, electromagnetic actuating means for said controller, a relay, a master controlling device adapted to energize said relay and to cause said controller to operate to disconnect the motor from one circuit and to connect it to another circuit, and means associated with said relay for placing a shunt around said master controlling device upon the operation of the relay.

13. In combination, a plurality of supply-circuits, a motor, a resistance, an electromagnetically-actuated controller arranged to connect the motor to the supply-circuits in succession and to automatically vary the amount of the resistance in the motor-circuit, an electromagnetic relay, a master controlling device having contacts adapted to complete a circuit through the actuating-coil of said relay and through the actuating means for said controller, and means associated with said relay for shunting said latter circuit around said contacts upon the operation of the relay.

14. In combination, a plurality of supply-circuits, a motor, a resistance, an electromagnetically-actuated controller arranged to connect the motor to the supply-circuits in succession, a controlling-circuit, an electromagnetic relay having contacts in said controlling-circuit, a master controlling device, and connections arranged to connect the actuating-coil of said contacts on the relay arranged to place a shunt about said controlling device upon the operation of the relay.

15. In combination, a resistance, a series of contacts connected therewith, a controller having a plurality of brushes arranged to traverse said contacts in succession, a supply-conductor, a relay arranged to connect either of said brushes to said supply-conductor, and contacts on said controller for controlling said relay.

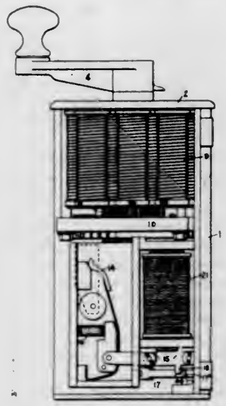
16. In combination, a resistance, a series of contacts connected thereto, a controller having a plurality of brushes arranged to traverse the contacts in succession, a supply-conductor, a relay arranged to connect either of said brushes to said supply-conductor, contacts on said controller for energizing said relay, and means associated with said relay for placing a shunt around said controller-contacts upon the operation of the relay.

17. In combination, a resistance, a series of contacts connected thereto, a controller having a plurality of brushes arranged to traverse the contacts in succession, a supply-conductor, a relay arranged to connect either of said brushes to said supply-conductor, contacts on said controller for energizing said relay, means associated with said relay for placing a shunt around said controller-contacts upon the operation of the relay, and additional contacts in said controller for short-circuiting said relay.

18. In combination, a pair of supply-conductors, a motor having one field-terminal connected to one of said conductors and the other field-terminal with one terminal of a resistance, a controller having a plurality of brushes, a relay for connecting either of said brushes to the remaining supply-conductors, contacts in electrical connection with said resistance arranged to coöperate with said brushes, and contacts on said controller for controlling said relay.

19. In combination, a plurality of supply-circuits, a motor, a starting-resistance, a motor-controller arranged to successively connect said motor to the supply-circuits in series with the starting-resistance and to automatically cut out said resistance, a master-controller for governing the operation of said motor-controller, a field-resistance, and means associated with the master-controller for reguating said field-resistance intermediate the positions of the master-controller wherein the motor connections are caused to be shifted from one supply-circuit to another.

845,024. CONTROLLER. HAROLD E. WHITE, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed June 6, 1906. Serial No. 320,412.



Claim.—1. In a controller, a casing having a head, a movable controller member supported in said casing and journaled at one end in said head, stationary contacts cooperating with said member, a nest of resistance-coils supported by said head, a member provided with a series of contacts in electrical connection with said resistance-coils also supported on said head, and a contact-finger carried by the movable controller member and arranged to engage the contacts of said series.

2. In a controller, a casing having a head, a controller-cylinder having its shaft journaled at one end in said head, contact-fingers coöperating with said cylinder, a series of resistance-coils grouped about said controller-shaft and supported at one end upon said head, a disk supported from said head and arranged adjacent the free ends of said resistance-coils, a series of contacts on said disk in electrical connection with said resistance-coils, and a contact-finger carried by said controller-cylinder and arranged to engage successively the contacts of said series of contacts.

3. In a controller, a casing having a cap-plate, a controller-cylinder supported in said casing and journaled at one end in said cap-plate, contact-segments on the lower portion of the controller-cylinder, stationary contacts cooperating with said segments, resistance-coils supported on the upper portion of said cylinder and connected to said segments, a series of resistances grouped about the

upper end of the controller-cylinder and supported upon the cap-plate, a disk supported from said cap-plate below said series of resistances, a series of contacts on said disk electrically connected to said series of resistances, and a contact-finger carried by the controller-cylinder and arranged to engage with said series of contacts.

4. In a controller, a casing having a removable cap-plate, a movable controller member supported in said casing and journaled at one end in the cap-plate, stationary contacts coöperating with said controller member, a series of resistances grouped about said controller member above the stationary contacts and secured to said cap-plate, a member provided with a series of contacts in electrical connection with said resistances also supported from the cap-plate, and a contact-finger upon said movable controller member arranged to engage with the contacts of said series of contacts.

5. In a controller, a casing having a removable head, a controller-cylinder supported in said casing and journaled at one end in said head, a series of resistances grouped about said cylinder and supported on said head, a member supported on said head and having a series of contacts in electrical connection with said series of resistances, and complementary contacts coöperating with the contacts on said member and with the controller-cylinder.

6. In a controller, a casing having a removable head, a controller-cylinder supported in said casing and journaled in said head, an armature resistance supported upon said cylinder adjacent said head, a disk having a series of contacts supported by said head, a series of field resistances grouped about said armature resistances between said disk and the said head and in electrical connection with the contacts on the disk, segments on the controller-cylinder connected to said armature resistance, and contacts coöperating with the contacts on the said disk and with the controller-segments.

7. In a controller, a casing having a removable cap-plate, a controller-cylinder within said casing and journaled at one end in said cap-plate, an armature resistance mounted on the end of the cylinder adjacent the cap-plate, contact-segments on the remaining portions of the cylinder some of which are connected to said armature resistance, a series of field resistances grouped about said armature resistance and permanently supported on said cap-plate, a disk permanently supported upon said cap-plate adjacent the lower ends of the field resistances, contacts on said disk in electrical connection with said field resistances, fixed fingers coöperating with the controller-segments, and a finger carried by the controller-cylinder and arranged to be moved over the contacts on said disk.

845,025. ANGLE OR SPLICE BAR. GEORGE H. WILLIAMS, Kansas City, Mo. Filed Mar. 31, 1906. Renewed Dec. 12, 1906. Serial No. 347,552.

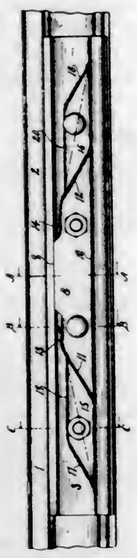
Claim.—1. A splice or angle bar provided with a plurality of vertically-tapered reinforcements of different heights arranged with their narrower ends uppermost whereby the ratio of stiffness in the splice-bar decreases from its middle portion toward its end substantially as the ratio of stiffness in the rail increases from its end toward the end of the splice-bar.

2. A splice or angle bar for uniting the ends of railway-rails, said bar being provided with vertically-tapered truss-like reinforcements on its outer face gradually decreasing in stiffness from the middle portion of the bar toward its opposite ends, the taper of the reinforcements being interrupted at bolt-hole intervals to maintain the desired strength at the bolt-hole portions.

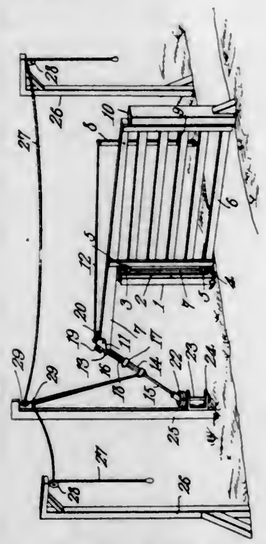
3. A splice or angle bar for uniting the ends of railway-rails, the said bar being provided with reinforcements on both its outer and inner faces.

4. A splice or angle bar for uniting the ends of railway-rails, the said bar being provided with a reinforcement on its inner face tapered in a horizontal plane and with a reinforce on its outer face tapered in a vertical plane.

845,025.



845,026. FARM-GATE. HENRY E. WILLIAMS, Savannah, Tenn., assignor of one-fourth to Hardin E. Ross and one-fourth to Archibald U. Walker. Filed Oct. 27, 1906. Serial No. 340,862.



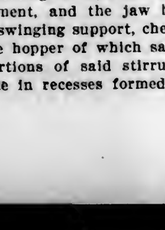
Claim.—1. A gate having a beam extending beyond its hinge-post, a plate attached to said beam and having a reduced neck, an operating-rod having a channel which receives the neck of said plate, said rod being retained at a fixed point at its lower end, a universal joint located upon the rod, and means for elevating the rod.

2. A gate having a beam extending to one side of the hinge-post, an operating-rod having a channel which is in slidable engagement with said beam, said rod being retained at a fixed point at its lower end, a universal joint located upon the rod and means for elevating the rod.

3. A gate having a beam which extends beyond the hinge-post thereof, a latch-operating mechanism terminating in a disk pivoted upon the beam and having a projecting extension, an operating-rod having a channel which slidably engages the beam, said channel terminating at its ends in an upwardly-disposed recess, the extension of said disk normally resting upon the upper edge of said rod, said rod being retained at a fixed point at its lower end, a universal joint provided upon the rod and means for elevating the rod.

4. A gate having a beam extending beyond the hinge-post thereof, mechanism for opening and closing the gate operatively connected with said beam, a saddle-plate passing over the upper end of the hinge-post and down along the gate-facing side thereof and having spaced lugs, hinge-eyes attached to the upper and lower portions of the gate and a single hinge-pin passing through all of said hinge-eyes and lugs.

845,027. PRUNING IMPLEMENT. JOSEPHUS BINGAMAN, Garnett, Kans. Filed June 4, 1906. Serial No. 320,223.



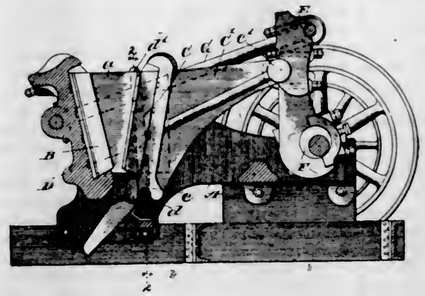
Claim.—1. A pruning implement, comprising a pole having a slotted upper end, a pair of members having a pin-and-slot connection between the same pivoted in said slot of the pole at spaced points, and a spring connected to one of the members and to the pole.

2. A pruning implement, comprising a pole having a slotted upper end, a hook-shaped member, a rectangular member, oppositely-disposed perforated bosses integral with said members, said members being pivoted in said slot at spaced points, a spring connected to one of said members and said pole, and a pin-and-slot connection between said members.

3. A pruning implement, comprising a pole having a slotted upper portion, a rectangular member having an arc-shaped portion at one end formed with a knife-edge, an inwardly-extending perforated boss integral with the opposite end of said member, said boss being pivoted in the upper part of said pole-slot, a hook-shaped member having an arm formed on its end with an inwardly-extending perforated boss pivoted in said slot at a point below the pivotal point of said first-named member, one of said members having a slot therein and the other a pin operating in said slot, and a coil-spring secured to said arm of the second-named member and said pole.

845,028. JAW-CRUSHER. MORTON G. BUNNELL, Chicago, Ill., assignor to Western Wheeled Scraper Co., Aurora, Ill. Filed Dec. 23, 1901. Serial No. 86,913.

Claim.—1. A crushing-machine comprising a suitable frame or body, a stirrup made or formed in one piece and hung inside the crusher frame or body, said stirrup being left free to be raised from the frame or body; a movable jaw provided on its under side with a transverse groove adapted to receive the lower transverse portion of said stirrup, the jaw in this way resting upon the stirrup and the latter supporting the jaw for forward-and-back or vibratory movement, and the jaw being left free to be raised from its swinging support, cheek-plates arranged at each side of the hopper of which said jaw forms a part, the vertical portions of said stirrup being arranged to swing or vibrate in recesses formed between said cheek-plates and said frame or body, the upper laterally-projecting portions of said stirrup resting in grooves or concave seats formed on the upper surface of said frame or body, and a vertically-reciprocating pitman adapted and arranged for actuating said jaw, the pivotal connection between the jaw and pitman being arranged at a point on a level, or substantially on a level, with the top of the jaw-face, and the power and motion thus communicated to said jaw causing the latter to move back and forth and permitting the resistance offered by the rock to hold the jaw down in place and thereby prevent it from rising from the stirrup upon which it rests, substantially as described.



2. A crushing-machine comprising a movable crushing-jaw, actuated positively in all of the directions of its motion by the upper portion of a vertically-disposed pitman fulcrumed at its upper end and actuated at its lower end, and a swinging support for said jaw whereby the movable jaw has a combined oscillatory and bodily forward and back motion.

3. A crushing-machine comprising a movable jaw, a swinging U-shaped jaw-supporting member, a vertically-reciprocating pitman adapted and arranged for actuating said jaw in both directions, said jaw having a rigid arm swingingly connected at its end to said pitman, a swinging yoke having one end tied to said pitman and the other end tied to the crusher frame or body, so as to provide the pitman with a fulcrum at both forward and back strokes of the jaw, adjustable bearings for taking up wear between the pitman and the jaw and yoke, so as to prevent lost motion, and means for actuating said pitman, the side portions of the yoke thereby adapted to sustain both tensile and endwise compressive strains during the operation of the crushing-machine, and the means for maintaining the connection between the pitman and the said arm being applied to the pitman at a point above the said means for actuating the latter, the point of engagement between the said arm and pitman constituting an axis about which the movable jaw and the pitman have a relative swinging motion, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

4. In a crushing-machine, the combination of a swinging U-shaped jaw-supporting member, a suitable body-frame, a jaw rigid with said body-frame, a movable jaw opposed to said stationary jaw and provided with a rigid rearwardly-extending toggle-arm, a vertically-reciprocating pitman actuated at its lower end by an eccentric device, said pitman being provided between its upper and lower ends with a bearing adapted to engage the rear end of said toggle-arm, means for tying the movable jaw and pitman together, said means having a pivotal connection with the toggle-arm and extending through and engaging the back of the pitman above the eccentric device, and a swinging yoke having one end tied to the upper end of said pitman and the other end tied to the body-frame, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

5. A crushing-machine comprising a stationary jaw and a movable jaw, a swinging U-shaped jaw-supporting member, a toggle-arm rigid with said movable jaw, a vertically-reciprocating pitman actuated by an eccentric device, said pitman having between its upper and lower ends a point of connection with the rear end of said toggle-arm, means for tying the movable jaw and pitman together and for taking up wear between the pitman and the toggle-arm, said means having a pivotal connection with the toggle-arm and extending through and engaging the back of the pitman above the said eccentric device, a swinging yoke having one end tied to said pitman and the other end tied to the stationary jaw, and suitable devices for taking up wear at each end of said yoke, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

6. A crushing-machine comprising a body-frame, a vertically-disposed pitman, a stationary crushing-jaw, a movable jaw supported for bodily movement toward and away from the stationary jaw and provided with a rigid arm pivotally engaging said pitman, a swinging U-shaped jaw-supporting member, an eccentric device for actuating the lower end of said pitman, a swinging yoke having one end tied to the body-frame and the other end tied to the upper portion of said pitman, and means extending through the pitman above the eccentric device to bind the movable jaw and pitman together, whereby the movable jaw swings about its point of pivotal connection with the pitman and is moved bodily in both directions by the middle or intermediate portion of a pitman fulcrumed at its upper end, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

7. A crushing-machine comprising a body-frame, a stationary crushing-jaw, a movable crushing-jaw supported for bodily movement toward and away from the stationary jaw and provided with a rigid arm, a swinging U-shaped jaw-supporting member, a pitman fulcrumed at its upper end and actuated at its lower end by an eccentric device, and means extending through and engaging the back of said pitman above the eccentric device to keep the end of said arm in pivotal engagement with the face of the pitman, whereby the movable jaw swings relatively to said pitman and is actuated in all of the directions of its motion by the portion of the pitman having pivotal connection with the end of said arm, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

8. A crushing-machine comprising a body-frame, a stationary jaw, a movable crushing-jaw provided with a rigid arm, a swinging U-shaped jaw-supporting member, a pitman actuated at its lower end, means extending through and engaging the back of said pitman between its upper and lower ends, and at a point above the means for actuating the pitman, to keep the end of said arm in pivotal engagement with the face of the pitman, a swinging yoke having one end tied to the body-frame, and U-bolts for tying the other end of the yoke to the upper end of the pitman, said bolts extending through the upper portion of the pitman, the movable jaw being supported upon the horisontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

9. A crushing-machine comprising a body-frame, a stationary crushing-jaw, a movable crushing-jaw provided with a rigid arm, a swinging U-shaped jaw-supporting member, a swinging yoke, a pitman fulcrumed at its upper portion upon said yoke and actuated at its lower end, and U-bolts for keeping the end of said arm in pivotal engagement with the pitman, said bolts extending horizontally through the pitman above the point at which the latter is actuated, and said yoke having its opposite ends tied respectively to the body-frame and the upper end of the pitman, whereby the said movable crushing-jaw is actuated in all of the directions of its motion by that portion of the pitman which is tied by said U-bolts to the end of said arm, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

10. A crushing-machine comprising a swinging U-shaped jaw-supporting member, a movable crushing-jaw tied to and having a direct pivotal connection with, and actuated bodily in opposite directions by, a pitman fulcrumed above and actuated at a point below, the jaw thus actuated being adapted to swing relatively to the pitman during the operation of the machine, said pivotal connection or axis about which the jaw and pitman have a relative swinging motion being above the point at which the pitman is actuated, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

11. A crushing-machine comprising a swinging U-shaped jaw-supporting member, a movable jaw having a direct pivotal engagement with, and actuated in all of the directions of its motion by, a pitman fulcrumed at or near its upper end and actuated at its lower end, the jaw thus actuated being adapted to swing relatively to the pitman during the operation of the machine, said pivotal engagement or axis about which the jaw and pitman have a relative swinging motion being above the point at which the pitman is actuated, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

12. A crushing-machine comprising a suitable body-frame, a jaw rigid with said body-frame, a movable jaw opposed to said stationary jaw and provided with a rigid rearwardly-extending toggle-arm, a swinging U-shaped jaw-supporting member, a vertically-reciprocating pitman actuated at its lower end by an eccentric device, said pitman being provided between its upper and lower ends with a bearing adapted to engage the rear end of said toggle-arm, means for tying the movable jaw and pitman together, said means having a pivotal connection with the movable crushing-jaw and extending through and engaging the back of the pitman above the eccentric device, and a swinging yoke having one end tied to the upper end of said pitman and the other end tied to the body-frame, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

13. A crushing-machine comprising a movable jaw provided with a rigid rearwardly-extending toggle-arm, a swinging U-shaped jaw-supporting member, a vertically-reciprocating pitman, a suitably-mounted swinging yoke having one end tied to the upper end of said pitman, an eccentric actuating the lower end of said pitman, the said pitman being thereby subject to the endwise compressive strain imposed upon it by the weight of said yoke, the upper portion of the pitman having a pivotal engagement or connection with the rear end of said toggle-arm, and means for tying the movable jaw and pitman together, said means being removably secured to the portion of the pitman above the eccentric device, whereby the said movable jaw swings relatively to the pitman and is actuated in all of the directions of its motion by that portion of the pitman above the said eccentric device, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

14. A crushing-machine comprising a movable jaw provided with a rigid rearwardly-extending toggle-arm, the rear end of said arm being suitably rounded, a swinging U-shaped jaw-supporting member, a vertically-reciprocating pitman fulcrumed at its upper end and actuated at its lower end by an eccentric device, said pitman being provided with a bearing or seat adapted to engage the rounded rear end portion of said toggle-arm, and means secured to said pitman above the eccentric device to keep the end of said toggle-arm in engagement with said bearing on the pitman, whereby the said jaw swings relatively to the pitman and is actuated in all of the directions of its motion by that portion of the pitman above the said eccentric device, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

15. A crushing-machine comprising a suitably-supported movable jaw provided with a rigid arm, a swinging U-shaped jaw-supporting member, a swinging yoke, a pitman having its upper end fulcrumed upon the swinging end portion of said yoke, an eccentric device actuating the lower end of said pitman, and means for tying the jaw and pitman together, the end of said arm being held in pivotal engagement or connection with the pitman at a point substantially on a level with the top of the crushing-face of said jaw, whereby, in the main, the crushing action does not tend to lift the jaw, and whereby the said jaw swings relatively to the pitman and is actuated in all of the directions of its motion by that portion of the pitman above the said eccentric device, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

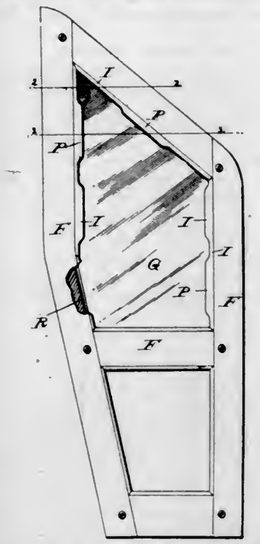
16. A crushing-machine comprising a suitably-supported movable jaw provided with a rigid arm, a swinging U-shaped jaw-supporting member, a pitman actuated at its lower end by an eccentric device, and a swinging yoke upon which the upper end of the pitman is fulcrumed, the end of said arm having a pivotal engagement or connection with the pitman at a point nearer the latter's upper end than its lower end, and at a point substantially on a level with the top of the crushing-face of said jaw, whereby the said jaw is substantially free from any tendency to rise or swing upwardly about its axis or point of pivotal connection with the pitman during the operation of the machine, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

17. In a crushing-machine, the combination of crushing means including a pair of jaws, swinging U-shaped jaw-supporting member, and operating means for producing relative movement between said jaws, said operating means including a pitman, an eccentric for actuating the lower end of said pitman, means including a swinging toggle-arm for directly tying and connecting the upper portion of the pitman to the other jaw, the said pitman being adapted to tilt relatively to both of said jaws, and that portion of the pitman above the said eccentric constituting a power-transmitting connection through which all power necessary for producing said relative movement, in all of its directions, is communicated from the eccentric to the crushing means, the movable jaw being supported upon the horizontal lower portion of said swinging U-shaped member, and vertically removable therefrom, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

18. In a crusher, a vibratory or swinging U-shaped member upon which the movable jaw is fulcrumed, substantially as shown and described, whereby the movable jaw has a combined oscillatory and bodily forward-and-back motion.

845,029. CONDENSATION-PREVENTER. EDWY O. CAPEN, Buffalo, N. Y. Filed Jan 17, 1906. Serial No. 296,563.

Claim.—1. A condensation-preventer consisting of a pane of glass and its frame, and openings in the latter next the pane for admitting the external air which strikes the outer face of the glass and so shaped as to direct it from the sides across its inner face.



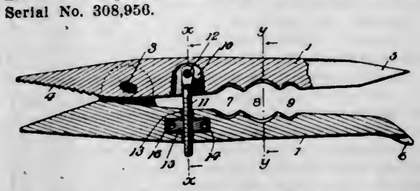
2. A condensation-preventer consisting of a pane of glass, a frame surrounding its edges and having recesses at certain points next said edges, and the outer and inner beadings holding the glass in the frame and cut away at points to communicate with said recesses.

3. A condensation-preventer consisting of a pane of glass, a frame surrounding its edges and having recesses at certain points next said edges, the outer and inner beadings holding the glass in the frame and cut away at points to communicate with said recesses, and projections on the inner beading at the points where it is cut away, as and for the purpose set forth.

4. A condensation-preventer consisting of a pane of glass, a frame within which it is fitted, means consisting of recesses at certain points for permitting the passage of the exterior air to the interior of the pane, and outer and inner beadings holding the pane in the frame and cut away on those faces adjacent the pane, for the purpose set forth.

5. A condensation-preventer consisting of a pane of glass, a frame within which it is fitted and having recesses at certain points adjacent the edge of the glass, and inner and outer beadings holding the pane in the frame and cut away on those faces adjacent said pane, the cut-away portion of the outer beading tapering toward said recess and that of the inner beading being larger next the recess and tapering away from it.

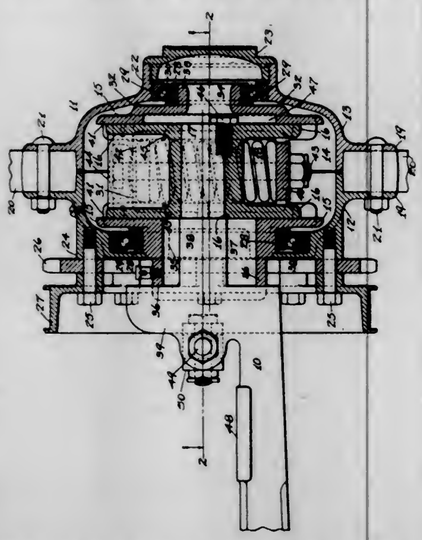
845,030. WRENCH. WILLIAM L. CHRYSLER and JOSEPH W. KAYS, Eugene, Oreg.; said Chrysler assignor of one-half of his right to said Kays. Filed Mar. 30, 1906. Serial No. 308,956.



Claim.—A tool of the character described, comprising two members provided with jaws designed to receive a pipe or the like, and said members being pivotally con-

nected together, the pivot consisting of a pivot-stud carried by one member and the other member being formed with a longitudinally-elongated slot receiving said pivot-stud and providing for a limited longitudinal movement of one member with respect to the other member, one of said members being provided with a recess 10 and the other member having an opening extending therethrough in alinement with said recess, and a transverse slot communicating with said opening, a pivot-stud 12 secured to one of said members within the said recess thereof, a threaded actuating-rod pivotally mounted on said stud and extending through the opening in the other member, and an actuating-nut mounted in the transverse slot of said last-named member and operatively receiving the said actuating-rod, as and for the purpose set forth.

845,031. AUTOMOBILE. EDWARD CLIFF, New York, N. Y.; Jane Cliff administratrix of said Edward Cliff, deceased. Filed Dec. 26, 1905. Serial No. 293,241.



Claim.—1. In a vehicle, an axle and wheels on the ends thereof, said wheels each having a hollow hub which is closed except at its inner face where it is open to receive the end of the axle, combined with spring cushioning means inclosed within said hub for the end of said axle and comprising a non-rotatable frame around which the wheel may turn affording at opposite sides of the vertical plane of the axle and below the same a support for the springs, coiled springs on said support continuously extending upwardly at opposite sides of the axle to points above said axle, and a part secured upon the axle and extending above the same and above said axle bearing upon the upper ends of said continuous springs, said part and said frame being adapted to have a sliding relation to each other; substantially as set forth.

2. In a vehicle, an axle and wheels on the ends thereof, said wheels each having a hollow hub open at its inner face to receive the end of the axle, combined with spring cushioning means within said hub for the end of said axle, said means comprising a non-rotatable frame around which the wheel may turn and affording continuous vertical chambers at opposite sides of the axle and extending above and below the horizontal plane of the same, coiled springs confined within said chambers and extending continuously from their supports below to the top of said chambers above the horizontal plane of said axle, and a part secured upon the axle and extending above the same and bearing upon the upper ends of said continuous springs, said part and said frame being adapted to have a sliding relation to each other; substantially as set forth.

3. In a vehicle, an axle and wheels on the ends thereof, said wheels each having a hollow hub formed of vertical cup-sections bolted together to form a hub which is closed except at its inner face where it is open to receive the end of the axle, combined with spring cushioning means inclosed within said hub for the end of said axle and comprising a non-rotatable frame around which the wheel may turn affording at opposite sides of the vertical plane of the axle and below the same a support for the springs, coiled springs on said support continuously extending upwardly at opposite sides of the axle to points above said axle, and a part secured upon the axle and extending above the same and above said axle bearing upon the upper ends of said continuous springs, said part and said frame being adapted to have a sliding relation to each other; substantially as set forth.

4. In a vehicle, an axle and wheels on the ends thereof, said wheels each having a hollow hub open at its inner face to receive the end of the axle and a removable cap on its outer face, combined with spring cushioning means within said hub for the end of said axle, said means comprising a non-rotatable frame around which the wheel may turn and affording a support for the spring member, a spring member mounted on said support, a frame carried by the axle and engaging said spring member, and means in line with said cap and removable through the opening closed by the same for locking said frame and axle together, said non-rotatable frame being open in line with said cap and the end of said axle and the means locking it to the frame carried by it being exposable through said opening when said cap is removed; substantially as set forth.

5. In a vehicle, an axle and wheels on the ends thereof, said wheels each having a hollow hub open at its inner face to receive the end of the axle and a removable cap on its outer face, combined with spring cushioning means within said hub for the end of said axle, said means comprising a non-rotatable frame around which the wheel may turn and affording a support for the spring member, a spring member mounted on said support, a frame through which the end of the axle projects and which engages said spring member, and means at the end of said axle for locking said frame and axle together, said frame on the axle and said non-rotatable frame having a sliding relation to each other, and the end of said axle and its locking means being exposable upon the removal of said cap; substantially as set forth.

6. In a vehicle, an axle and wheels on the ends thereof, said wheels each having a hollow hub open at its inner face to receive the end of the axle, and said hollow hub containing a non-rotatable frame around which the wheel may turn and which affords a support for the spring member and has a vertical angular opening at the inner side of the hub, and said axle having an angular section adapted to said opening and also a vertical section closing the outer end of said opening, combined with a spring member mounted on said support, and a part carried by the axle within said hub and bearing on said spring member, said part and said angular section of the axle having a sliding relation with said non-rotatable frame; substantially as set forth.

7. In a vehicle, an axle and wheels on the ends thereof, said wheels each having a hollow hub open at its inner face to receive the end of the axle, combined with spring cushioning means within said hub for the end of said axle, said means comprising a non-rotatable frame around which the wheel may turn and affording a support for springs at the sides of the axle, springs mounted on said support and extending above and below the end of the axle, and a part on the axle having portions extended upon said springs, said part and said frame being adapted to have a sliding relation to each other; substantially as set forth.

8. In a vehicle, an axle and wheels on the ends thereof, said wheels each having a hollow hub open at its inner face to receive the end of the axle, combined with spring cushioning means within said hub for the end of said axle, said means comprising a non-rotatable frame around which the wheel may turn and affording vertical chambers at opposite sides of the axle, springs within said chambers and extending above and below the end of the axle, and a part on the axle having portions extended upon said springs, said part and said frame being adapted to have a sliding relation to each other; substantially as set forth.

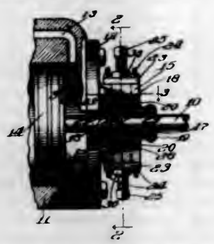
9. In a vehicle, an axle and wheels on the ends thereof, said wheels each having a hollow hub open at its inner face to receive the end of the axle, combined with spring cushioning means within said hub for the end of said axle, said means comprising a non-rotatable frame around which the wheel may turn, springs mounted on said frame at opposite sides of the axle, an intermediate frame mounted on the end of the axle and having portions extended upon said springs, and bolts passing freely through said portions and said springs and screwed into said non-rotatable frame, the latter frame and said intermediate frame having a sliding relation to each other; substantially as set forth.

845,032. TIE FOR WIRE FENCING. CHARLES T. COLLAR, Adrian, Mich., assignor to Harry L. Swan, Fort Worth, Tex. Filed May 14, 1906. Serial No. 316,730.



Claim.—The combination with the crossing wires 1 2 crimped at their crossing-points, of a loop-retaining tie having its bail portion passing over the wire 1 at the base of the crimp therein and its legs passing under the wire 2 at each side of the crimp therein and at the base of the same, one of the legs having a continuation passing over the wire 1 at the base of the crimp opposite the bail and the other leg having a continuation passing over the wire 1 and terminating in an end portion which crosses the wire 2 and has contact with the latter within the concavity of the crimp portion thereof and with the side of the wire 1, substantially as described.

845,033. STUFFING-BOX. FREDERICK GIELOW, Sr., Chicago, Ill. Filed July 31, 1905. Serial No. 271,972.

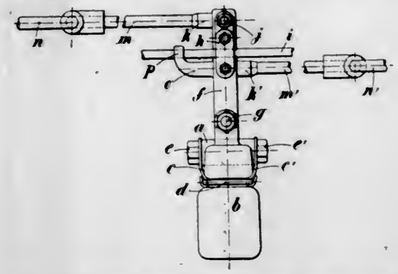


Claim.—1. The combination with a movable rod, of a stuffing-box therefor having a chamber crossed by the rod, a packing material within the chamber and a follower operating upon the packing material at an angle to the axis of the rod and having a wedge-like face, the edge of the wedge being transverse to the rod.

2. The combination with a movable rod, of a stuffing-box therefor having an oblong rectangular chamber crossed by the rod, the longer axis of the chamber being transverse to the rod and the chamber having openings at its ends, a removable cap-plate for each of such openings, a plastic packing material within the chamber, oppositely-disposed followers bearing on the packing material, each of the followers having a wedge-like face, the edge of the wedge being transverse to the axis of the rod, and a spring reacting between each of the followers and one of the cap-plates.

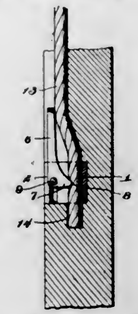
3. The combination with a movable rod, of a stuffing-box therefor having a chamber crossed by the rod, a packing material within the chamber and a follower operating upon the packing material at an angle to the axis of the rod and having a wedge-like face, the edge of the wedge being transverse to the rod and being curved.

845,034. SAFETY DEVICE FOR OVERHEAD ELECTRIC CONDUCTORS. EMILE GIRAUD, Paris, France. Original application filed Apr. 10, 1905, Serial No. 254,836. Divided and this application filed Mar. 6, 1906. Serial No. 304,535.



Claim.—A safety device for electrical conductors comprising a lever pivoted to the insulator of the conductor, a hanger carried by an axis fixed to one end of the lever and closely engaging the conductor, a bent arm carried by said lever and having a fork-shaped free end which bears against the conductor, and two arms fixed to the lever and extending in parallelism to the conductor, one of the arms arranged above the other and said arms extending in opposite directions with respect to each other.

845,035. SASH-CORD CLAMP. ELLEN E. HAMME, York, Pa., administratrix of Levi W. Strasbaugh, deceased. Filed Apr. 5, 1906. Serial No. 310,132.



Claim.—1. A cord-clamp comprising a cord-receiving member designed for coöperation with a window-stile, and means for clamping the sash-cord in said member, said means being arranged to be disengaged from the cord by a pull on the cord in a direction approximately parallel to the face of the stile.

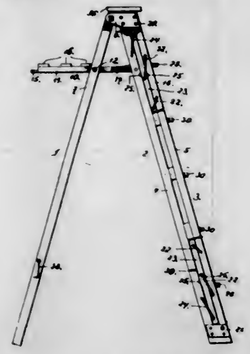
2. A cord-clamp designed for coöperation with a window-stile, and a lever arranged to clamp the cord therein, said lever overlying the cord beyond the clamp, whereby the lever is moved to inoperative position by a pull on the cord in a direction approximately parallel to the face of the stile.

3. A sash-cord clamp comprising a barrel adapted to fit within the usual depression in the sash-stile and formed with a rope-receiving channel, and a lever removably and pivotally connected to the barrel and operative to clamp the sash-cord within the channel.

4. A sash-cord clamp comprising a barrel formed with a cord-channel, the walls of the channel being formed with

transversely-alined horizontally-extending grooves, and a lever provided with a cam end and with bearing-studs to fit in said grooves, the cam end of the lever coöperating with the base of the cord-channel.

845,036. COMBINATION LADDER AND BENCH. ARTHUR G. JOHNSON, Pittsburg, Pa., assignor of one-half to Emil C. Klein, Allegheny, Pa. Filed Aug. 18, 1906. Serial No. 330,914.



Claim.—1. A combined ladder and bench consisting of two hinged frames 1 and 2, slats carried by the frame 1, a frame pivoted at the hinged end of the frame 1 and connecting with said frame 2, said frame 2 comprising two bars 4 and 5, said bar 5 having end sections hinged to said bar 4, braces connecting with said end sections and with said bar 4 and adapted to hold said end sections at right angles to said bars 4 when used as a bench, steps carried by said bars, the upper and lower steps of said ladder consisting of pieces carried by said sections, said braces and said bars 4, hook-shaped wires connecting with said bars 4 and adapted to engage said braces and said bars 5, substantially as described.

2. An article of the type described consisting of hinged frames 1 and 2, slats carried by the frame 1, a frame pivotally mounted in the hinged end of said frame 1 and connecting with said frame 2, said frame 2 comprising bars 4 and 5, end sections arranged to aline with said bars 5 and connecting with said bars 4, means normally interposed between said sections and said bars 4 to hold said sections at right angles to said bars 4, and means carried by said bars 4 and engaging said bars 5 to hold the first-named means in a fixed position, substantially as described.

3. In a device of the class described, two frames hingedly united at one end, one of said frames having spaced longitudinal slats extending for a portion of the length thereof and the other of said frames comprising spaced side bars connected by transverse steps spaced apart, a supplemental frame pivotally connected to said slatted frame adjacent to the inner ends of the slats thereof and formed with spaced slats corresponding with and adapted to form continuations of the longitudinal slats when the supporting-frame is disposed in one position, end sections swinging from said stepped frame and adapted to form supporting-legs, a brace member adapted to support said leg-sections when in extended position.

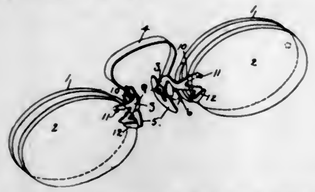
4. In a device of the class described, two frames hingedly united at one end, one of said frames having spaced longitudinal slats extending for a portion of the length thereof and the other of said frames comprising spaced side bars connected by transverse steps spaced apart, a supplemental frame pivotally connected to said slatted frame adjacent to the inner ends of the slats thereof and formed with spaced slats corresponding with and adapted to form continuations to the longitudinal slats when the supporting-frame is disposed in one position, end sections swinging at one end from said stepped frame, braces movably coupled at one end to said end sections, and means whereby said braces are detachably connected to said stepped frame.

5. In a device of the class described, two frames hingedly united at one end, one of said frames having spaced longitudinal slats extending for a portion of the length thereof and the other of said frames comprising spaced side bars connected by transverse steps spaced apart, end sections swinging at one end from said stepped frame, braces swinging at one end from said end sections, spaced links movably coupling said braces to said end sections, whereby the same are supported in distended position.

6. In a device of the class described, two frames hingedly united at one end, one of said frames formed of spaced side members and spaced transverse steps extending between the side members and the other of said frames formed of spaced side members connected by transverse tie members spaced apart to correspond with said steps and adapted to bear against the same when the frames are in folded position and with spaced longitudinal slats extending over said tie members, end sections swinging from said stepped frame and forming supporting-legs, and braces adapted to support said leg-sections when in extended position.

7. In a device of the class described, two frames hingedly united at one end, one of said frames having spaced longitudinal slats and the other of said frames comprising spaced side members connected by transverse steps spaced apart, end sections swinging from said stepped frame and forming supporting-legs, braces swinging from said end sections and adapted to bear against the stepped frame when distended, means for movably coupling said braces to said stepped frame and end sections, coupling-rods swinging at one end from said stepped frame and adapted to be detachably connected at their other ends to the same stepped frame, and eyes carried by said braces and adapted to be engaged by said rods when the braces are distended.

845,037. EYEGLASSES. ADRIAN C. KINTNER, Cumberland, Md., assignor of one-half to Wyant C. Messman, Cumberland, Md. Filed Oct. 4, 1905. Renewed Nov. 12, 1906. Serial No. 343,118.



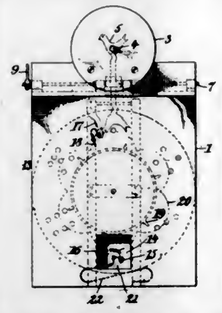
Claim.—1. The combination with the eyeglasses comprising the usual mountings and the stationary lenses, of the removable lenses, and a bracket having one end secured to the said mountings and provided with a pivot on which the removable lenses swing and a seat below the pivot and adapted to suspend the removable lenses in front of the stationary lenses.

2. The combination with the eyeglasses comprising the usual mountings and the stationary lenses, of the removable lenses, a bracket having its inner end attached to the eyeglasses and its outer end bifurcated and projecting in front of the stationary lenses, the upper prong of the bifurcated end being provided with a pivot on which the removable lens swings and the lower prong being provided with a seat in which the removable lens rests when in position.

3. The combination with the eyeglasses comprising the usual mountings and the stationary lenses, of the removable lenses, and the brackets secured to the said mountings and having a pivot on which the said removable lenses swing and a seat in close proximity to said pivot, said seat being adapted to hold the lenses friction-tight when seated.

4. The combination with the eyeglasses having the usual mountings comprising a spring, the nose-pieces, and the studs, and the stationary lenses, of the removable lenses, and the brackets each having one end secured to one of said studs and having a pivot on which the removable lens swings and a seat below said pivot adapted to hold the removable lenses friction-tight in front of the stationary lenses.

845,038. GAME APPARATUS. EDWARD A. LARSEN, San Francisco, Cal. Filed May 12, 1904. Serial No. 207,530.



Claim.—1. A target mounted to swing in a vertical plane, a rotary part carrying indices, a curved spring arranged in the line of downward movement of said target, and devices on said rotary part adapted to be engaged by said spring for imparting motion to the rotary part.

2. A target comprising a front board having a sight-opening, a rotary part having indices adapted to be seen through said opening, a target mounted to swing on the board, a curved spring adapted to be struck by said target, on swinging downward, and lugs on the rotary part adapted to be engaged by said spring.

3. A game apparatus comprising a front board having a sight-opening, a wheel having rotary connection with the board, said wheel being provided with a plurality of various indices, a target mounted to swing on the board, a curved spring adapted to be struck by said target, a finger mounted to swing in one direction on the spring, and lugs on the wheel for engagement with said finger.

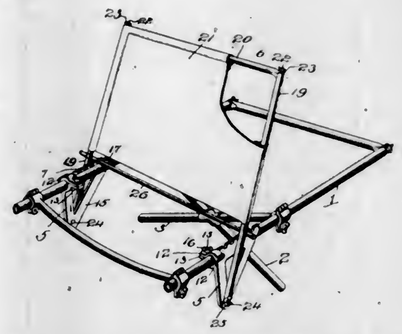
4. A game apparatus comprising a rotary part carrying indices, a target mounted to swing from a visible position above said rotary part to an invisible position rearward of said rotary part, and means actuated by said target for imparting motion to the rotary part.

5. A game apparatus comprising a board having an opening, a wheel mounted to rotate on the board and having indices adapted to be disclosed through said opening, a detent for the wheel, a disk mounted on the board and having an opening, a target mounted to swing on the board rearward of said disk, a curved spring adapted to be struck by said target, a roller carried by the spring, and lugs on the wheel for engaging with said roller.

6. A device of the character described, comprising a rotary member, a bull's-eye, and mechanism actuated by the bull's-eye for directly imparting a rotary movement to the said member.

845,039. ADJUSTABLE BACK FOR COTS. BYRON C. LEAVITT, Denver, Colo. Original application filed Sept. 20, 1905, Serial No. 279,338. Divided and this application filed Jan. 24, 1906. Serial No. 297,650.

Claim.—1. In a device of the class described, the combination of a support, brackets carried by the support and pendent therefrom, the upper portions of the said brackets being approximately horizontal and provided with a series of notches, a back loosely connected to the lower portions of the brackets, and a transverse rod engaging the notched portions of the said brackets and being capable of securing the said back in an adjusted position.



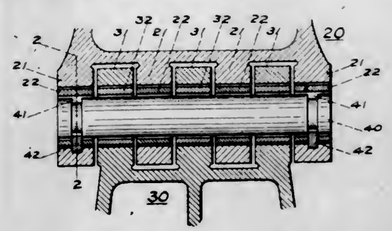
2. In a device of the class described, the combination with a support, of triangular brackets carried by said support, each of said brackets being formed with a horizontal portion and provided with notches formed upon said horizontal portion, a removable back pivotally secured to the lower portion of said brackets, and a transverse rod engaging the notched portions of said brackets and being capable of securing said backs in an adjusted position.

3. In a device of the class described, the combination with a frame, of triangular brackets carried by said frame, each bracket provided with a horizontal notched portion, a sectional clamp carried by said bracket, a lug or extension projecting from said bracket, an adjustable back carried by said brackets, and means engaging the notched portions of said brackets and said back for securing said back in an adjusted position.

4. In a device of the class described, the combination with a frame, of adjustable brackets carried by said frame, each bracket comprising a triangular body, the horizontal portion of said body provided with notches, clamping means formed upon the front portion of said body, a lug formed upon the rear portion of said body, and a removable member positioned within some of the notches of said brackets and engaging said back for securing the same in an adjusted position.

5. In a device of the class described, the combination with a frame, of brackets carried by said frame, each bracket provided with an extension projecting horizontally therefrom, clamping means carried by each bracket at its forward end, and an adjustable back supported upon said brackets.

845,040. DREDGE PIN AND JOINT. LUDOLPH P. MARTIN, Milwaukee, Wis., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Filed June 28, 1905. Serial No. 267,382.



Claim.—1. A pair of links, a grooved pin free to turn in each link, and means coacting with the groove to prevent end displacement of the pin.

2. In a chain, adjacent links, a link-pin free to turn in each link and pivotally connecting the links, there

being a groove in the link-pin adjacent an end thereof, and means coacting with the groove for preventing end displacement of the link-pin.

3. A pair of links having a plurality of spaced alined eyes, a link-pin in the eyes and free to turn in each link, and means in an outside eye for locking the pin against end displacement.

4. In a chain, adjacent links, a link-pin pivotally connecting the links, bushings between the link-pin and links, there being an annular groove in the link-pin and means extending into a link, a bushing and the groove for preventing end displacement of the bushing and link-pin.

5. In a chain, adjacent links, there being eyes on the links, a bushing in each eye, a link-pin extending through the bushings and pivotally connecting the links, there being an annular groove in the link-pin adjacent both ends, and means extending into the outside eyes, the outside bushings and the grooves for preventing end displacement of the bushings and link-pin.

6. In a chain, adjacent links, there being eyes on the links, a bushing in each eye keyed from rotation by external non-circular configuration, a link-pin free to rotate extending through the bushings and pivotally connecting the links, there being a groove in the link-pin adjacent both ends, and means extending into the outside eyes, the outside bushings and the grooves for preventing end displacement of the bushings and link-pin.

845,041. PULLEY-BLOCK. ANDREW OPSAL, Portland, Oreg. Filed Jan. 2, 1906. Serial No. 294,232.



Claim.—1. In a pulley-block, the combination of a shell the interior faces of the sides of which are provided with chambers 4, a pin or axle having reduced ends journaled in said sides, a bushing mounted on said pin, a sheave, mounted on said bushing, made with interior annular grooves concentric with its eye, and caps mounted on the pin, in said chambers 4 of the sides of the shell and having peripheral flanges extending into the grooves in the side faces of the sheave.

2. In a pulley-block, the combination of a shell the interior faces of the sides of which are provided with chambers 4, a pin or axle having reduced ends, a bushing mounted on the pin and made with an endless series of cavities 7^a for holding lubricant in the eye thereof, a sheave mounted on said bushing, made with interior annular grooves concentric with its eye, and caps mounted on the pin, in said chambers 4 of the sides of the shell and having peripheral flanges extending into the grooves in the side faces of the sheave.

3. In a pulley-block, the combination of a shell the interior faces of the sides of which are provided with chambers 4, a pin or axle having reduced ends journaled in said sides, a bushing mounted on said pin, a sheave, mounted on said bushing, made with bosses on its side faces encompassing the eye and provided with annular grooves encompassing said bosses, and caps mounted on the pin, in said chambers 4 of the sides of the shell and having peripheral flanges extending into the grooves in the side faces of the sheave.

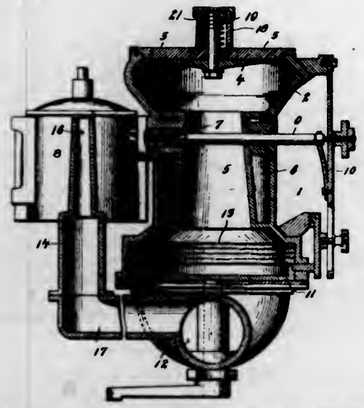
4. In a pulley-block, the combination of a shell the interior faces of the side of which are provided with chambers 4, a pin or axle having reduced ends journaled in said sides, a bushing mounted on said pin, a sheave, mounted on said bushing, made with interior annular grooves concentric with its eye and caps mounted on the pin, in said chambers 4 of the sides of the shell and having peripheral flanges extending into the grooves in the side faces of the sheave, the eyes of the caps and the bearing-surfaces therefor on the periphery of the pin being made with threads.

5. A pulley-block comprising a shell the interior faces of the sides of which are provided with chambers 4, a pin or axle having reduced ends journaled in said sides, a bushing mounted on said pin and made with an endless series of cavities 7^a for holding lubricant in the eye thereof, a sheave mounted on said bushing and made with exterior annular grooves concentric with its eye, and caps mounted on the pin in said chambers 4 of the sides of the shell and having peripheral flanges extending into said grooves of the side faces of the sheave; the eyes of the caps and the bearing-surfaces therefor on the periphery of the pin being made with threads.

REISSUES.

12,610. WITHDRAWN.

12,611. DOUBLE CARBURETER FOR EXPLOSIVE-ENGINES. THOMAS L. STURTEVANT, Quincy, and THOMAS J. STURTEVANT, Wellesley, Mass., assignors to Sturtevant Mill Company, Portland, Me., and Boston, Mass., a Corporation of Maine. Filed Nov. 9, 1906. Serial No. 342,753. Original No. 755,074, dated Mar. 22, 1904.



Claim.—1. Fuel-supplying apparatus for gas-engines, comprising the combination with a main carbureter having a fuel-outlet, and a throttle-valve controlling said fuel-outlet, whereby the amount of fuel supplied from said main carbureter may be varied or completely shut off; of an auxiliary carbureter coöperating with said main carbureter, said auxiliary carbureter having an open fuel-outlet, whereby a desired minimum fuel-supply for the engine is afforded.

2. Fuel-supplying apparatus for gas-engines, comprising the combination with a main carbureter having air and oil inlets, valves controlling said inlets, a fuel-outlet; and a throttle-valve controlling said fuel-outlet, whereby the amount of fuel supplied to the engine from said main carbureter may be varied or completely shut off, of an auxiliary carbureter coupled and coöperating with said main carbureter, said auxiliary carbureter having open air and oil inlets, and an open fuel-outlet, whereby a desired minimum fuel-supply for the engine is afforded.

3. Fuel-supplying apparatus for gas-engines comprising the combination with a main carbureter having an air-inlet of relatively large area and a valve controlling said inlet, of an auxiliary carbureter having an open air-inlet of relatively small area, whereby a desired constant minimum supply of fuel to the engine will be afforded.

4. In a fuel-supplying apparatus for gas-engines, the combination with a main carbureter provided with a mixing-chamber, an air-inlet valve controlling the supply of air to said chamber, a fuel-supply valve delivering to said chamber, and a throttle-valve controlling the outlet from said chamber and by which the fuel-supply to the engine from said main carbureter may be regulated or entirely shut off, of an auxiliary carbureter delivering to the fuel-passage to the engine and by which a desired minimum fuel-supply is afforded.

5. Fuel-supplying apparatus for explosion-engines comprising the combination with a main carbureter having a valve-controlled air-inlet, a valve-controlled oil-inlet, and a throttle-valve-controlled fuel-outlet; of an auxiliary carbureter having an open air-inlet, an open oil-inlet, and an open fuel-outlet, both carbureters delivering to the engine through a common passage-way.

6. Fuel-supplying apparatus for explosion-engines comprising the combination with a main carbureter having a vacuum-controlled valve for the air-inlet, a valve-controlled oil-inlet, and a throttle-valve-controlled fuel-outlet, of an auxiliary carbureter having an open air-inlet, an open oil-inlet, and an open fuel-outlet, both carbureters delivering to the engine through a common passage-way.

7. In fuel-supplying apparatus for explosive-engines, the combination with a main carbureter having an air-inlet, an oil-inlet, and a fuel-outlet, of an oil-reservoir, a throttle-valve controlling said fuel-outlet, whereby the supply of fuel to the engine from said main carbureter may be varied or completely shut off, a valve to control said oil-inlet connected with and operable from said throttle-valve, and an auxiliary open carbureter having an open oil-passage connecting with said reservoir, whereby a desired constant minimum supply of fuel to the engine is maintained while the engine is running.

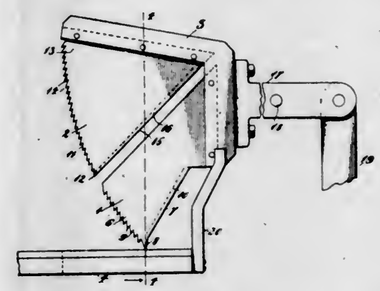
8. An oil-reservoir for carbureters having a downwardly-flaring vertical carbureting-chamber formed integral with the side wall of said reservoir and open to the outer air at its upper end, and an oil-passage traversing the wall of said reservoir, said oil-passage communicating with the chamber of said reservoir and delivering to said carbureting-chamber near the upper reduced open end thereof and at a point above the normal oil-level in the reservoir.

12,612. NOTCH-CUTTING MACHINE. LEVI W. MARSHALL, Wakefield, Mass., assignor to Warner V. Taylor, Wakefield, Mass. Filed Jan. 7, 1907. Serial No. 351,287. Original No. 831,883, dated Sept. 25, 1906.

Claim.—1. A notch cutting and trimming machine, comprising a preliminary cutter-blade having means adapted and arranged to penetrate the surface of the work back from the edge thereof and to cut through said edge respectively, and a secondary cutter having means to further shape and trim said notch.

2. A notch cutting and trimming machine, comprising a preliminary cutter-blade having means adapted and arranged to penetrate the surface of the work back from the edge thereof and to cut to said edge respectively, and a secondary cutter in the same plane as and following the preliminary cutter and having means to further shape and trim said notch.

3. A notch cutting and trimming machine comprising a preliminary cutter-blade having means adapted to penetrate the surface of the work back from the edge thereof, cutting edges running back from said means and a saw-toothed edge forward of said means, and a secondary cutter having means to further shape and trim said notch.



4. A notch cutting and trimming machine comprising a preliminary cutter-blade having means adapted and arranged to penetrate the surface of the work back from the edge thereof and means to cut back from said penetrating means and to the edge of the work respectively, and a secondary cutter having means to further shape and trim said notch.

5. A notch cutting and trimming machine comprising a preliminary cutter-blade having means adapted and arranged to penetrate the surface of the work back from the edge thereof and to cut to said edge respectively, and a secondary cutter having a forward saw-toothed cutting edge and rear cutting edges to further shape and trim said notch.

6. A notch cutting and trimming machine comprising a preliminary cutter-blade having means adapted and arranged to penetrate the surface of the work back from the edge thereof and to cut to said edge respectively, and a secondary cutter having a forward tapering cutting edge and rear cutting edges to further shape and trim said notch.

7. A notch cutting and trimming machine comprising a preliminary cutter-blade having means adapted and arranged to penetrate the surface of the work back from the edge thereof and to cut to said edge respectively, and a secondary cutter having a forward cutting edge and rear divergent cutting edges to further shape and trim said notch.

8. A notch-cutting machine comprising a preliminary cutter-blade of substantially uniform thickness throughout and having means to penetrate the work back from the edge thereof and a secondary cutter having a forward cutting edge and rear cutting edges which adjacent said forward edge are spaced apart a distance equal to the thickness of said preliminary cutter-blade and which diverge rearwardly to trim and shape said notch.

9. A notch cutting and trimming machine comprising a preliminary cutter-blade having means adapted to penetrate the surface of the work back from the edge thereof and cutting means extending back from and forward of said penetrating means.

10. A notch cutting and trimming machine, comprising a preliminary cutter-blade having means adapted to penetrate the surface of the work back from the edge thereof, cutting edges running back from said means and a saw-toothed edge forward of said means.

11. A notch cutting and trimming machine, comprising a preliminary cutter-blade having a sharp penetrating-point adapted and arranged to penetrate the surface of the work back from the edge thereof and having cutting edges running back from said point on opposite sides thereof and a secondary cutter in the same plane as and following the preliminary cutter and having edges to further shape and trim said notch.

12. A notch-cutting blade having means adapted and arranged to penetrate the surface of the work away from the edge thereof, a saw-toothed edge forward of said means, and double cutting edges separated from one another, extending backward from said means.

13. A notch-cutting blade having means adapted and arranged to penetrate the surface of the work away from the edge thereof, a gradually-tapering cutting edge forward of said means, and double-cutting, spaced edges extending backward therefrom.

14. A notch-cutting blade having means adapted and arranged to penetrate the surface of the work away from the edge thereof, a gradually-tapering cutting edge extending forward from said means, and toothed, cutting edges extending backward therefrom, said toothed edges being adapted to smoothly cut the adjacent sides of the notch.

15. A notch-cutting blade arranged to first penetrate the surface of the work back from the edge thereof with double cutting-edges separated from one another and operating with a shearing action, whereby they may both cut and trim the adjacent sides of the notch.

16. A notch-cutting blade arranged to first penetrate the surface of the work back from the edge thereof with double cutting, toothed or sinuous edges separated from one another and operating with a shearing action, whereby they may both cut and trim the adjacent sides of the notch.

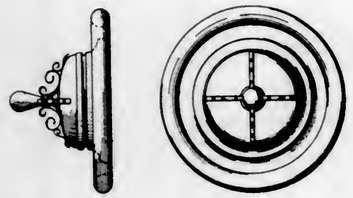
DESIGNS.

38,445. BADGE. WILLIAM S. CARTER, Peoria, Ill., assignor to Brotherhood of Locomotive Firemen and Enginemen, Peoria, Ill., (a Mutual Benefit Association.) Filed Jan. 2, 1907. Serial No. 350,536. Term of patent 14 years.



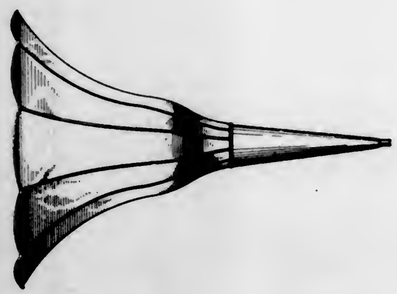
Claim.—The ornamental design for a badge, as shown.

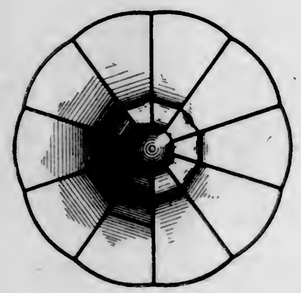
38,446. FIRE-INDICATOR. LOUIS H. BRITTON, Cleveland, Ohio. Filed Jan. 2, 1907. Serial No. 350,551. Term of patent 14 years.



Claim.—The ornamental design for a fire-indicator as shown.

38,447. PHONOGRAPH-HORN. MORRIS GELLER, Newark, N. J. Filed Jan. 8, 1907. Serial No. 351,398. Term of patent 14 years.





Claim.—The ornamental design for a phonograph-horn, as shown.

38,448. LAMP-SHADE. WILLIAM R. NOE, Jr., East Orange, N. J., assignor to William R. Noe, East Orange, N. J. Filed Nov. 16, 1906. Serial No. 343,772. Term of patent 3½ years.



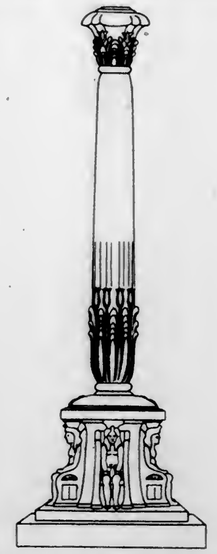
Claim.—The ornamental design for a lamp-shade, as shown.

38,449. PORTABLE STANDARD FOR LIGHTING-FIXTURES. HAMILTON T. HOWELL, Woodside, N. Y., assignor to The Duffner & Kimberly Company, New York, N. Y., a Corporation of New York. Filed Jan. 7, 1907. Serial No. 351,275. Term of patent 7 years.



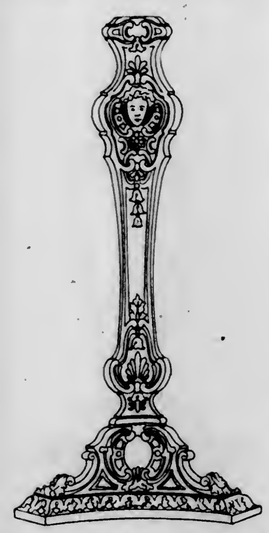
Claim.—The ornamental design for a portable standard for lighting-fixtures, as shown.

38,450. PORTABLE STANDARD FOR LIGHTING-FIXTURES. HAMILTON T. HOWELL, Woodside, N. Y., assignor to The Duffner & Kimberly Company, New York, N. Y., a Corporation of New York. Filed Jan. 7, 1907. Serial No. 351,276. Term of patent 7 years.



Claim.—The ornamental design for a portable standard for lighting-fixtures, as shown.

38,451. PORTABLE STANDARD FOR LIGHTING-FIXTURES. HAMILTON T. HOWELL, Woodside, N. Y., assignor to The Duffner & Kimberly Company, New York, N. Y., a Corporation of New York. Filed Jan. 14, 1907. Serial No. 352,299. Term of patent 7 years.



Claim.—The ornamental design for a portable standard for lighting-fixtures, as shown.

38,452. PORTABLE STANDARD FOR LIGHTING-FIXTURES. HAMILTON T. HOWELL, Woodside, N. Y., assignor to The Duffner & Kimberly Company, New York, N. Y., a Corporation of New York. Filed Jan. 7, 1907. Serial No. 351,277. Term of patent 7 years.



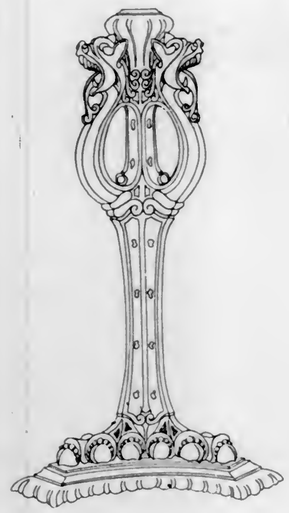
Claim.—The ornamental design for a portable standard for lighting-fixtures, as shown.

38,453. PORTABLE STANDARD FOR LIGHTING-FIXTURES. HAMILTON T. HOWELL, Woodside, N. Y., assignor to The Duffner & Kimberly Company, New York, N. Y., a Corporation of New York. Filed Jan. 14, 1907. Serial No. 352,300. Term of patent 7 years.



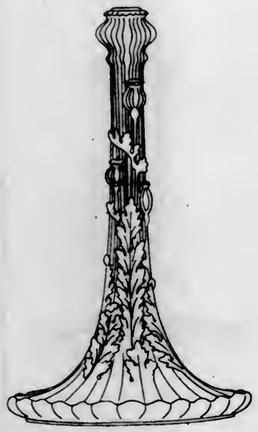
Claim.—The ornamental design for a portable standard for lighting-fixtures, as shown.

38,454. PORTABLE STANDARD FOR LIGHTING-FIXTURES. HAMILTON T. HOWELL, Woodside, N. Y., assignor to The Duffner & Kimberly Company, New York, N. Y., a Corporation of New York. Filed Jan. 14, 1907. Serial No. 352,301. Term of patent 7 years.



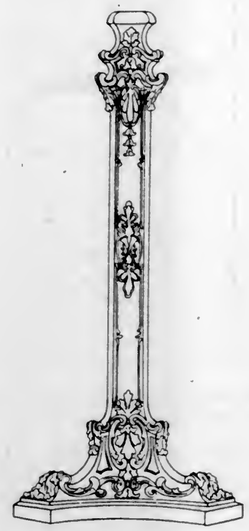
Claim.—The ornamental design for a portable standard for lighting-fixtures, as shown.

38,455. PORTABLE STANDARD FOR LIGHTING-FIXTURES. HAMILTON T. HOWELL, Woodside, N. Y., assignor to The Duffner & Kimberly Company, New York, N. Y., a Corporation of New York. Filed Jan. 14, 1907. Serial No. 352,302. Term of patent 7 years.



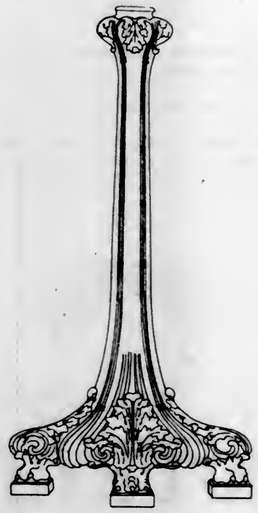
Claim.—The ornamental design for a portable standard for lighting-fixtures, as shown.

38,456. PORTABLE STANDARD FOR LIGHTING-FIXTURES. HAMILTON T. HOWELL, Woodside, N. Y., assignor to The Duffner & Kimberly Company, New York, N. Y., a Corporation of New York. Filed Jan. 14, 1907. Serial No. 352,303. Term of patent 7 years.



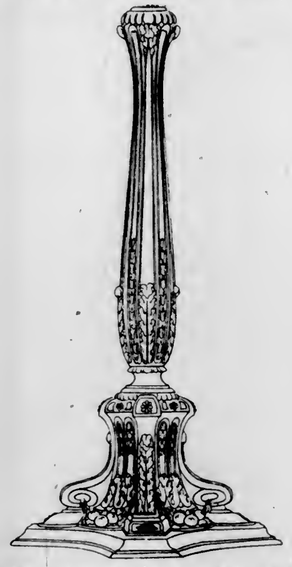
Claim.—The ornamental design for a portable standard for lighting-fixtures, as shown.

38,457. PORTABLE STANDARD FOR LIGHTING-FIXTURES. HAMILTON T. HOWELL, Woodside, N. Y., assignor to The Duffner & Kimberly Company, New York, N. Y., a Corporation of New York. Filed Jan. 14, 1907. Serial No. 352,304. Term of patent 7 years.



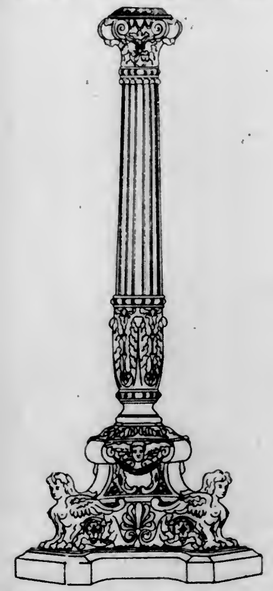
Claim.—The ornamental design for a portable standard for lighting-fixtures, as shown.

38,458. PORTABLE STANDARD FOR LIGHTING-FIXTURES. HAMILTON T. HOWELL, Woodside, N. Y., assignor to The Duffner & Kimberly Company, New York, N. Y., a Corporation of New York. Filed Jan. 14, 1907. Serial No. 352,305. Term of patent 7 years.



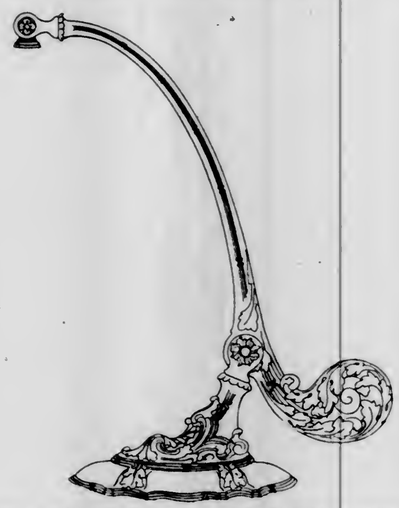
Claim.—The ornamental design for a portable standard for lighting-fixtures, as shown.

38,459. PORTABLE STANDARD FOR LIGHTING-FIXTURES. HAMILTON T. HOWELL, Woodside, N. Y., assignor to The Duffner & Kimberly Company, New York, N. Y., a Corporation of New York. Filed Jan. 15, 1907. Serial No. 352,464. Term of patent 7 years.



Claim.—The ornamental design for a portable standard for lighting-fixtures, as shown.

38,460. PORTABLE STANDARD FOR LIGHTING-FIXTURES. HAMILTON T. HOWELL, Woodside, N. Y., assignor to The Duffner & Kimberly Company, New York, N. Y., a Corporation of New York. Filed Jan. 15, 1907. Serial No. 352,465. Term of patent 7 years.



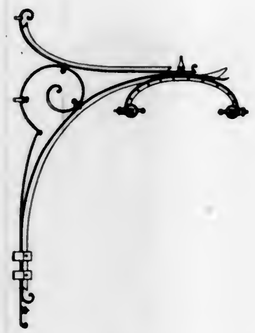
Claim.—The ornamental design for a portable standard for lighting-fixtures, as shown.

38,461. PORTABLE STANDARD FOR LIGHTING-FIXTURES. HAMILTON T. HOWELL, Woodside, N. Y., assignor to The Duffner & Kimberly Company, New York, N. Y., a Corporation of New York. Filed Jan. 15, 1907. Serial No. 352,466. Term of patent 7 years.



Claim.—The ornamental design for a portable standard for lighting-fixtures, as shown.

38,462. BRACKET FOR SUPPORTING TROLLEY-WIRES. GEORGE NICHOLS, New York, N. Y. Filed Jan. 12, 1907. Serial No. 352,065. Term of patent 14 years.



Claim.—The ornamental design for a bracket for supporting a trolley-wire as shown.

38,463. UMBRELLA, PARASOL, OR CANE HANDLE. ALBERT ROSENSTEIN, Lancaster, Pa. Filed Jan. 14, 1907. Serial No. 352,306. Term of patent 3½ years.



Claim.—The ornamental design for an umbrella, parasol or cane handle, as shown.

38,464. UMBRELLA, PARASOL, OR CANE HANDLE. ALBERT ROSENSTEIN, Lancaster, Pa. Filed Jan. 14, 1907. Serial No. 352,307. Term of patent 3½ years.



Claim.—The ornamental design for an umbrella, parasol or cane handle, as shown.

TRADE-MARKS

PUBLISHED FEBRUARY 19, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 544. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE EBERHARD MANUFACTURING COMPANY, Cleveland, Ohio. Filed Apr. 6, 1905.

E.MFG.CO.

Particular description of goods.—Saddlery-Hardware, Which Comprises Buckles, Rings, Snap-Hooks, Terrets, Cockeyes, Trees, Hames, Bits, Snaffles, Tugs, Trimmings, Stirrups, Loops, and Miscellaneous Metal Parts Used in Harness.

Ser. No. 4,770. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) F. A. BÖHM, Untersachsenberg, Germany. Filed May 8, 1905.

UNEEDA

Particular description of goods.—Mouth-Harmonicas.

Ser. No. 7,919. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) KEYSTONE FENCE COMPANY, Peoria, Ill. Filed June 12, 1905.

KEYSTONE

Particular description of goods.—Wire Fence.

Ser. No. 8,341. (CLASS 54. SEA FOODS.) H. C. BAXTER & BRO., Brunswick, Me. Filed June 16, 1905.

RUBY

Particular description of goods.—Canned Lobster.

Ser. No. 8,567. (CLASS 19. BOATS AND ROAD-VEHICLES.) THE COLUMBIA CARRIAGE CO., Hamilton, Ohio. Filed June 19, 1905. Used ten years.



Particular description of goods.—Runabouts, Buggies, Buckboards, Stanhopes, Phaetons, Surreys, Carriages, Cabriolets, Wagons, and Traps.

Ser. No. 8,794. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) SOCIETE ANONYME DE FONDATIONS PAR COMPRESSION MECANIQUE DU SOL, Paris, France. Filed June 17, 1905.

COMPRESSOL

Particular description of goods.—Machinery Used in Constructing Foundations by the Mechanical Compression of the Ground, Comprising Drop-Weights, Pile-Drivers, Pestles, Winches, Windlasses, and Their Parts.

Ser. No. 9,082. (CLASS 8. DETERGENTS.) RUB-NOT MFG. CO., Chicago, Ill. Filed June 26, 1905.



Particular description of goods.—A Granulated Chemical Washing Compound.

Ser. No. 9,873. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) MORITZ SML. ESCHE, Chemnitz, Germany. Filed July 7, 1905.



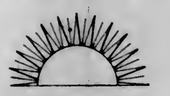
Particular description of goods.—Knitted Hosiery, Knitted Gloves, and Knitted Underwear.

Ser. No. 9,874. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) MORITZ SML. ESCHE, Chemnitz, Germany. Filed July 7, 1905.



Particular description of goods.—Knitted Hosiery, Knitted Gloves, and Knitted Underwear.

Ser. No. 9,875. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) MORITZ SML. ESCHE, Chemnitz, Germany. Filed July 7, 1905.



GLORIA

Particular description of goods.—Knitted Hosiery, Knitted Gloves, and Knitted Underwear.

Ser. No. 9,940. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) OMAR P. WHITE, Rusk, Tex. Filed July 8, 1905. Used ten years.

Head Ease

Particular description of goods.—Headache Remedies.

Ser. No. 12,033. (CLASS 48. DAIRY PRODUCTS.) WISCONSIN CONDENSED MILK CO., Burlington, Wis., and New York, N. Y. Filed Aug. 26, 1905.



Particular description of goods.—Condensed Milk.

Ser. No. 12,034. (CLASS 48. DAIRY PRODUCTS.) WISCONSIN CONDENSED MILK CO., Burlington, Wis., and New York, N. Y. Filed Aug. 26, 1905.



Particular description of goods.—Condensed Milk.

Ser. No. 12,322. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany. Filed Sept. 7, 1905.



Particular description of goods.—Coal-Tar Dyestuffs.

Ser. No. 12,343. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany. Filed Sept. 7, 1905.

PERUOL

Particular description of goods.—External Medicinal Preparations for the Skin.

Ser. No. 12,345. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany. Filed Sept. 7, 1905. Used ten years.

Eikonogen

Particular description of goods.—Photographic Developers.

Ser. No. 12,593. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) CAMMELL LAIRD & CO. LIMITED, Sheffield, England. Filed Sept. 14, 1905. Used ten years.



Particular description of goods.—Steel and Iron in Bars, Sheets, Rods, Rails, Plates, and Wire.

Ser. No. 12,594. (CLASS 14. METALS, UNWROUGHT AND PARTLY WROUGHT.) CAMMELL LAIRD & CO. LIMITED, Sheffield, England. Filed Sept. 14, 1905. Used ten years.



Particular description of goods.—Steel and Iron in Bars, Sheets, Rods, Rails, Plates, and Wire.

Ser. No. 13,562. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) A. G. SPALDING & BROS., New York, N. Y. Filed Oct. 13, 1905.

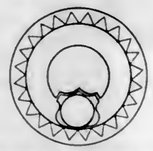
Particular description of goods.—Golf-Balls.

Ser. No. 13,673. (CLASS 43. THREAD AND YARN.) THE CLARK THREAD CO., Newark, N. J. Filed Oct. 17, 1905. Used ten years.



Particular description of goods.—All Kinds of Cotton Thread.

Ser. No. 14,318. (CLASS 43. THREAD AND YARN.) THE CLARK THREAD CO., Newark, N. J. Filed Nov. 4, 1905. Used ten years.



Particular description of goods.—Crochet-Cotton or Cotton Thread.

Ser. No. 14,967. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FRANK E. RUTHERFORD, Bonham, Tex. Filed Nov. 24, 1905.



Particular description of goods.—Hoof-Tonic, Liniment for Man and Beast, Colic Cure, Blood-Tonic, and Spavin and Ring-Bone Cure.

Ser. No. 15,419. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) CHARLES FOSBERY BUTCHER, Sheffield, England. Filed Dec. 14, 1905.



Particular description of goods.—Razors.

Ser. No. 15,444. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) PITTSBURG PHARMACAL COMPANY, Pittsburg, Pa. Filed Dec. 15, 1905.



Particular description of goods.—A Dyspepsia Remedy.

Ser. No. 15,556. (CLASS 55. WINES.) OFFLEY, FORRESTER & CO., London, England. Filed Dec. 21, 1905.

DUKE.

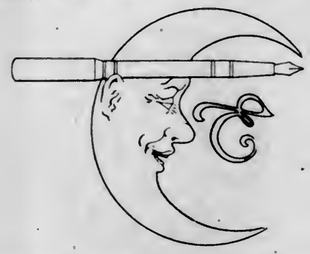
Particular description of goods.—Port-Wine.

Ser. No. 15,716. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) THE ALBERT DICKINSON COMPANY, Chicago, Ill. Filed Dec. 28, 1905.



Particular description of goods.—Poultry Food.

Ser. No. 15,964. (CLASS 70. STATIONERY NOT OTHERWISE CLASSIFIED.) FRANK H. MOONEY, Chicago, Ill. Filed Jan. 6, 1906.



Particular description of goods.—Fountain-Pens.

Ser. No. 16,144. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) GIRARD & Co., Tonnay-Charente, France. Filed Jan. 12, 1906.



Particular description of goods.—Brandy.

Ser. No. 17,667. (CLASS 72. MERCHANDISE NOT OTHERWISE CLASSIFIED.) ELIZA A. BENNER, New Paris, Ohio. Filed Mar. 8, 1906.

GEM

Particular description of goods.—Solidified Cementitious Burial-Vaults.

Ser. No. 17,767. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) EDUARD E. GRAY, Hinsdale, Ill. Filed Mar. 12, 1906.



Particular description of goods.—Medicine for Horses or Cattle.

Ser. No. 17,781. (CLASS 48. DAIRY PRODUCTS.) CHARLES C. MARTIN, Denver, Colo. Filed Mar. 13, 1906.



Particular description of goods.—Cheese.

Ser. No. 17,993. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany. Filed Mar. 19, 1906.

Tanobromine

Particular description of goods.—A Remedy Against Itching and Against Hair Diseases.

Ser. No. 18,492. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) KATHAIRO CHEMICAL CO., New York, N. Y. Filed Apr. 4, 1906.

SPARROW

Particular description of goods.—Lubricating Oils and Greases.

Ser. No. 18,648. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) DAVID R. GREENE, Chicago, Ill. Filed Apr. 9, 1906.

AUNTIE DREAM'S

The letters "U" and "E" of the word "Auntie" and the letter "S" of the word "Dreams" being red.

Particular description of goods.—Welsh-Rarebit-Seasoning Compound.

Ser. No. 18,706. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ARTHUR MORGAN HOBBY, Brooklyn, N. Y. Filed Apr. 11, 1906.

Rosalgié

Particular description of goods.—Cold-Cream.

Ser. No. 19,653. (CLASS 51. MALT LIQUORS.) MALT-DIASTASE COMPANY, Brooklyn, N. Y. Filed May 18, 1906.



Particular description of goods.—Malt Extract.

Ser. No. 19,835. (CLASS 18. AGRICULTURAL AND DAIRY MACHINERY AND PARTS OF SUCH MACHINERY.) EMIL F. MOLCK, Sibley, Ill., assignor to Meadows Manufacturing Company, Meadows, Ill., a Corporation of Illinois. Filed May 24, 1906.

THE TWENTIETH CENTURY

Particular description of goods.—Seed-Distributing Machines.

Ser. No. 19,885. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) BICKLEY, MCCLURE & Co., Knoxville, Tenn. Filed May 26, 1906.



Particular description of goods.—Boys' and Men's Coats, Vests, and Trousers.

Ser. No. 20,311. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) DAWSON SALTS & WATER CO., Dawson Springs, Ky. Filed June 15, 1906. Used ten years.

HAMBYS

Particular description of goods.—Concentrated and Unconcentrated Iron and Lithia Water.

Ser. No. 20,359. (CLASS 8. DETERGENTS.) HORATIO S. KELLEY, West Dennis, Mass. Filed June 16, 1906.

Cedarosa
K

Particular description of goods.—Perfumed and Medicated Soap Used for Toilet Purposes and as a Remedy for Diseases of the Skin.

Ser. No. 20,425. (CLASS 8. DETERGENTS.) LARKIN Co., Buffalo, N. Y. Filed June 20, 1906.

BORAXINE

Particular description of goods.—Soap Powder Used for Cleansing Purposes.

Ser. No. 20,522. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) HARRY G. THOMPSON, Covington, Ky. Filed June 23, 1906.

BOULTON'S
99

Particular description of goods.—A Medical Preparation for the Cure of Colds and La Grippe.

Ser. No. 20,562. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) LIEBENTHAL BROS. & Co., Cleveland, Ohio. Filed June 25, 1906.



Particular description of goods.—Brandy, Cordial, Whisky, and Gin.

Ser. No. 20,732. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE SUNBEAM INCANDESCENT LAMP COMPANY, New York, N. Y. Filed July 5, 1906.

REGAL

Particular description of goods.—Incandescent Electric Lamps.

Ser. No. 20,962. (CLASS 43. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) H. MUELLER MANUFACTURING COMPANY, Decatur, Ill. Filed July 16, 1906. Used ten years.

MUELLER

Particular description of goods.—Valves and Cocks and the Parts Thereof.

Ser. No. 21,025. (CLASS 7. CORDAGE NOT INCLUDED IN CLASS 13.) COLUMBIAN ROPE COMPANY, Auburn, N. Y. Filed July 20, 1906. Used ten years.

EUREKA

Particular description of goods.—Rope, Cable, Tarred Lath and Fodder Yarns and Commercial Twines of Hard or Soft Fiber other Than Cotton.

Ser. No. 21,160. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) LEERBURGER & HESSLEIN, New York, N. Y., assignors to The Holmes Silk Company, Paterson, N. J., a Corporation of New Jersey. Filed July 25, 1906.

RELION

Particular description of goods.—Silk Piece Goods.

Ser. No. 21,267. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ELI ATWELL, Mountain Dale, N. Y. Filed July 31, 1906.

THEOZONE

Particular description of goods.—Talcum Toilet Powder and Massage-Cream.

Ser. No. 21,395. (CLASS 9. EXPLOSIVES.) THE EASTERN DYNAMITE COMPANY, Kenvil, N. J. Filed Aug. 9, 1906. Used ten years.

DITTMAR

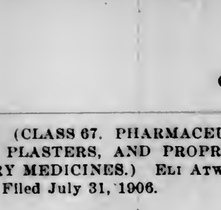
Particular description of goods.—High Explosives.

Ser. No. 21,404. (CLASS 9. EXPLOSIVES.) LAFLIN & RAND POWDER COMPANY, New York, N. Y. Filed Aug. 9, 1906.



Particular description of goods.—All Kinds of Powder Used for Shotgun, Rifle, and Small-Arms.

Ser. No. 21,405. (CLASS 9. EXPLOSIVES.) LAFLIN & RAND POWDER COMPANY, New York, N. Y. Filed Aug. 9, 1906.



Particular description of goods.—All Kinds of Powder Used for Shotgun, Rifle, and Small-Arms.

Ser. No. 21,612. (CLASS 9. EXPLOSIVES.) LAFLIN & RAND POWDER COMPANY, New York, N. Y. Filed Aug. 16, 1906.

UNIQUE

Particular description of goods.—All Kinds of Powder Used for Shotgun, Rifle, and Small-Arms.

Ser. No. 21,649. (CLASS 9. EXPLOSIVES.) LAFLIN & RAND POWDER COMPANY, New York, N. Y. Filed Aug. 18, 1906.

Particular description of goods.—All Kinds of Powder Used for Shotgun, Rifle, and Small-Arms.

Ser. No. 21,650. (CLASS 9. EXPLOSIVES.) LAFLIN & RAND POWDER COMPANY, New York, N. Y. Filed Aug. 18, 1906.

Particular description of goods.—All Kinds of Powder Used for Shotgun, Rifle, and Small-Arms.

Ser. No. 21,651. (CLASS 9. EXPLOSIVES.) LAFLIN & RAND POWDER COMPANY, New York, N. Y. Filed Aug. 18, 1906.

Particular description of goods.—All Kinds of Powder Used for Shotgun, Rifle, and Small-Arms.

Ser. No. 21,653. (CLASS 9. EXPLOSIVES.) LAFLIN & RAND POWDER COMPANY, New York, N. Y. Filed Aug. 18, 1906.

Particular description of goods.—All Kinds of Powder Used for Shotgun, Rifle, and Small-Arms.

Ser. No. 21,698. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) PAUL BOEHME, Brooklyn, N. Y. Filed Aug. 21, 1906.



Particular description of goods.—Headache-Powders.

Ser. No. 21,801. (CLASS 9. EXPLOSIVES.) JUDSON DYNAMITE & POWDER COMPANY, San Francisco, Cal. Filed Aug. 30, 1906. Used ten years.

TRIUMPH

Particular description of goods.—High Explosives.

Ser. No. 21,877. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) GEORGE CUTTER CO., South Bend, Ind. Filed Sept. 4, 1906.

Jupiter

Particular description of goods.—Porcelain Insulators.

Ser. No. 21,991. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) HUCKINS, TEMPLE & WOOD, Milford, Mass. Filed Sept. 8, 1906. Used ten years.

THE
IONE SHOE

Particular description of goods.—Men's Leather Boots and Shoes.

Ser. No. 22,104. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) PILLSBURY-WASHBURN FLOUR MILLS COMPANY, LT'D., Minneapolis, Minn. Filed Sept. 14, 1906.



Particular description of goods.—Wheat Breakfast Food.

Ser. No. 22,133. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) HAROLD N. ANDERSON, Dayton, Ohio. Filed Sept. 17, 1906.



Particular description of goods.—Bows, Arrows, and Targets.

Ser. No. 22,339. (CLASS 34. HEATING, LIGHTING, AND VENTILATING APPARATUS NOT INCLUDED IN CLASS 21.) THE CLEVELAND GAS & ELECTRIC FIXTURE COMPANY, Cleveland, Ohio. Filed Sept. 26, 1906.



Particular description of goods.—Chandeliers, Wall-Brackets, and Standards for Gas, Electric, and Combination Lighting.

Ser. No. 22,405. (CLASS 43. THREAD AND YARN.) NEW ENGLAND COTTON YARN CO., Boston, Mass. Filed Oct. 1, 1906.

ECHO

Particular description of goods.—Cotton Thread.

Ser. No. 22,769. (CLASS 65. MUSICAL INSTRUMENTS AND TALKING-MACHINES AND SUPPLIES THEREFOR.) C. J. HEPPE & SON, Philadelphia, Pa. Filed Oct. 13, 1906.

MARCELLUS

Particular description of goods.—Pianos, Mandolins, Guitars, Banjos, and Violins.

Ser. No. 22,782. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) FRANK E. CHESTER, Providence, R. I. Filed Oct. 19, 1906.

EXCELSIOR
FISHING TACKLE
ASSORTMENT

Particular description of goods.—Packages Containing Assorted Fishing-Tackle Comprising Hooks, Floats, and Sinkers.

Ser. No. 22,801. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) MACKENZIE BROS., Ross-Shire, Scotland. Filed Oct. 20, 1906. Used ten years.

DALMORE

Particular description of goods.—Pure Highland Malt Pot-Still Scotch Whisky.

Ser. No. 23,303. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) PILLSBURY-WASHBURN FLOUR MILLS CO. LTD., Minneapolis, Minn. Filed Nov. 13, 1906.



Particular description of goods.—Wheat Breakfast Food.

Ser. No. 23,304. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) PILLSBURY-WASHBURN FLOUR MILLS CO. LTD., Minneapolis, Minn. Filed Nov. 13, 1906.



Particular description of goods.—Wheat Breakfast Food.

Ser. No. 23,321. (CLASS 71. TOBACCO PRODUCTS.) JOHN G. SAFFA, St. Louis, Mo. Filed Nov. 13, 1906.



Particular description of goods.—Smoking-Tobacco.

Ser. No. 23,400. (CLASS 48. DAIRY PRODUCTS.) DAVID W. LEWIS & COMPANY, New York, N. Y. Filed Nov. 16, 1906.

AGGIE
9040 QUARTS IN ONE YEAR

Particular description of goods.—Butter.

Ser. No. 23,515. (CLASS 71. TOBACCO PRODUCTS.) JOHN H. JOHNSON, Boston, Mass. Filed Nov. 21, 1906.



Particular description of goods.—Cigars.

Ser. No. 23,749. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) WILLIAM READ & SONS, Boston, Mass. Filed Dec. 4, 1906.



Particular description of goods.—Clothing Used in Athletic Games and Sports, Comprising Uniforms, Suits, Hats, Caps, Coats, Shirts, and Pants Used in Base-Ball, Polo, Tennis, Hockey, Golf, Links, Captive Golf, Foot-Ball, Basket-Ball, Track-Team, Vaulting, Bathing, and Canoeing or Yachting. (Including All Clothing Commonly Used in Such Games and Sports, but Not Including Clothing Made of Knitted or Netted or Leather Goods.)

Ser. No. 23,772. (CLASS 3. VEGETABLE.) DAVID HARDIE SEED CO., Dallas, Tex. Filed Dec. 5, 1906.



The star being printed in blue.
Particular description of goods.—Garden-Seeds.

Ser. No. 23,855. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) HURLEY MACHINE COMPANY, Chicago, Ill. Filed Dec. 7, 1906.

LITTLE GIANT

Particular description of goods.—Floor-Scraping Machines.

Ser. No. 23,858. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) MCCLELLAN PAPER COMPANY, Minneapolis, Minn. Filed Dec. 7, 1906. Used ten years.



Particular description of goods.—Wrapping and Printing Paper.

Ser. No. 23,860. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) PAXTON & GALLAGHER CO., Omaha, Nebr. Filed Dec. 7, 1906.

CUTAWAY

Particular description of goods.—Pocket-Knives, Razors, Shears, Scissors, Table Knives and Forks, and Table-Carvers.

Ser. No. 23,905. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) LEVI FRANKLIN KELLER, Delaware, Ohio. Filed Dec. 10, 1906.



Particular description of goods.—Linen Dry Goods Consisting of Table-Cloths, Napkins, Lunch-Cloths, Doilies, Bedspreads, Pillow-Cases, Sheets, Dress Goods, Towels, and Handkerchiefs.

Ser. No. 23,915. (CLASS 8. DETERGENTS.) DANA ESTES, Boston, Mass. Filed Dec. 10, 1906.



Particular description of goods.—Toilet Soap.

Ser. No. 23,999. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) JAMES W. HINE, Jamestown, N. Y. Filed Dec. 13, 1906.

LIFE-ATOMS

Particular description of goods.—Mineral Cell and Tissue Building Salts.

Ser. No. 24,001. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FRANK M. QUINN, Tekoa, Wash. Filed Dec. 13, 1906.



Particular description of goods.—Hair-Restoratives.

Ser. No. 24,021. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) SOLOMON H. GOLDBERG, Waukegan, Ill. Filed Dec. 14, 1906.



Particular description of goods.—Hair-Pins.

Ser. No. 24,025. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) THE NATIONAL ENGINEERING CORPORATION, Washington, D. C. Filed Dec. 14, 1906.

AUTOMANUAL

Particular description of goods.—Telephonic Appliances, Apparatus, and Parts Thereof.

Ser. No. 24,070. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) JOHN J. PIGOTT, Childress, Tex. Filed Dec. 15, 1906.



Particular description of goods.—Saddles, Harness, Horse-Collars, Bridles, Whips, Lap-Robes, and Leather Watch-Fobs.

Ser. No. 24,103. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE W. B. COSGRAVE SHOE CO., Zanesville, Ohio. Filed Dec. 17, 1906.



Particular description of goods.—Felt Boots.

Ser. No. 24,145. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DR. KILMER & CO., South Bend, Ind. Filed Dec. 19, 1906.



Particular description of goods.—A Headache Remedy.

Ser. No. 24,164. (CLASS 48. DAIRY PRODUCTS.) MOHAWK CONDENSED MILK CO., Rochester, N. Y. Filed Dec. 20, 1906.

Sovereign

Particular description of goods.—Evaporated Milk, Condensed Milk, Evaporated Cream, and Condensed Cream.

Ser. No. 24,166. (CLASS 48. DAIRY PRODUCTS.) MOHAWK CONDENSED MILK CO., Rochester, N. Y. Filed Dec. 20, 1906.

CRUSADER

Particular description of goods.—Evaporated Milk, Condensed Milk, Evaporated Cream, and Condensed Cream.

Ser. No. 24,196. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) MEDICAL FOOD COMPANY, New York, N. Y. Filed Dec. 21, 1906.



HYDRO-CINE

Particular description of goods.—A Medicinal Preparation in Tablet Form for the Cure of Diseases of the Respiratory Organs.

Ser. No. 24,231. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) DAVID MOSES, Baltimore, Md. Filed Dec. 22, 1906. Used ten years.

Fitwell

Particular description of goods.—Dress and Negligée Shirts.

Ser. No. 24,237. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) YERXA BROS. & Co., Minneapolis, Minn. Filed Dec. 22, 1906.



Particular description of goods.—Coffee.

Ser. No. 24,250. (CLASS 12. MASONRY MATERIALS.) THE BEAVER MANUFACTURING COMPANY, Buffalo, N. Y. Filed Dec. 24, 1906.



Particular description of goods.—Wall-Board and Building Paper.

Ser. No. 24,263. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) JABEZ M. HAMPTON, Charlotte, N. C. Filed Dec. 24, 1906.

20TH CENTURY

Particular description of goods.—Fresh Peaches.

Ser. No. 24,276. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) HARGREAVES BROS. & CO. LIMITED, Kingston-upon-Hull, England. Filed Dec. 26, 1906.



Particular description of goods.—Laundry Blue.

Ser. No. 24,287. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BOOTH'S HYOMEI COMPANY, Buffalo, N. Y. Filed Dec. 26, 1906.

HYOMEI

Particular description of goods.—A Remedy for Catarrh, Asthma, Bronchitis, and Hay-Fever.

Ser. No. 24,342. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) SCHIMMEL & Co., Miltitz, near Leipsic, Germany. Filed Dec. 29, 1906.

Pollantin

Particular description of goods.—Antitoxic Serums.

Ser. No. 24,380. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) COVERT MFG. Co., Watervliet, N. Y. Filed Jan. 2, 1907.

POLO

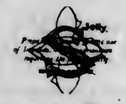
Particular description of goods.—Snap-Hooks.

Ser. No. 24,386. (CLASS 23. HAND-TOOLS NOT OTHERWISE CLASSIFIED.) ROBBINS, GAMWELL & Co., Pittsfield, Mass. Filed Jan. 2, 1907.



Particular description of goods.—Wrenches.

Ser. No. 24,391. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) SARAH BLAKE STONE, New Haven, Conn. Filed Jan. 2, 1907. Used ten years.



Particular description of goods.—Jellies.

Ser. No. 24,401. (CLASS 54. SEA FOODS.) DOWNING TAYLOR Co., Springfield, Mass. Filed Jan. 3, 1907.

FOREST PARK

Particular description of goods.—Canned Salmon, Shrimp, Lobsters, and Clam-Chowder.

Ser. No. 24,416. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) STALLMAN & FULTON COMPANY, New York, N. Y. Filed Jan. 3, 1907.



Particular description of goods.—A Medicinal Oil.

Ser. No. 24,417. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) STALLMAN & FULTON COMPANY, New York, N. Y. Filed Jan. 3, 1907.

17th Century

Particular description of goods.—A Medicinal Oil.

Ser. No. 24,418. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BONKOCINE CHEMICAL Co., Kenton, Ohio. Filed Jan. 3, 1907. Used ten years.

BONKOCINE

Particular description of goods.—A Preparation for Treating Venereal Diseases.

Ser. No. 24,421. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) H. S. GILE & COMPANY, Salem, Oreg. Filed Jan. 3, 1907.

BEAVER



Particular description of goods.—Dried and Evaporated Prunes.

126 O. G.—194

Ser. No. 24,423. (CLASS 68. PUBLICATIONS.) IT PUBLISHING COMPANY, New York, N. Y. Filed Jan. 3, 1907.



Particular description of goods.—A Newspaper.

Ser. No. 24,443. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) THE H. C. COOK COMPANY, Ansonia, Conn. Filed Jan. 4, 1907.

Gem

Particular description of goods.—Finger-Nail Clippers.

Ser. No. 24,483. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) ATLANTIC STARCH WORKS, Westport, Conn. Filed Jan. 7, 1907. Used ten years.

THE ATLANTIC STARCH WORKS
PURE
WINTER WHEAT
STARCH
LBS.
WESTPORT, CONN.

Particular description of goods.—Wheat-Starch for Laundry Use.

Ser. No. 24,487. (CLASS 61. JEWELRY AND SOLID AND PLATED PRECIOUS-METAL WARE.) ALBERT EDHOLM, Omaha, Nebr. Filed Jan. 7, 1907.



Particular description of goods.—Gold and Silver Jewelry, Gold and Silver Flat Ware, Hollow Ware, and Tableware, and Novelty Articles and Articles for the Toilet Mounted in Gold and Silver.

Ser. No. 24,494. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) NATHANIEL P. HILL, Pittsburg, Pa. Filed Jan. 7, 1907.



Particular description of goods.—Stiff Felt Hats.

Ser. No. 24,505. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WILLIAM H. SERVER, Carbon Hill, Ill. Filed Jan. 7, 1907.

MINOILA

Particular description of goods.—Remedies for Disorders of the Blood.

Ser. No. 24,518. (CLASS 59. HOROLOGICAL INSTRUMENTS.) ELGIN NATIONAL WATCH COMPANY, Elgin and Chicago, Ill. Filed Jan. 8, 1907.

LORD ELGIN

Particular description of goods.—Watchcases.

Ser. No. 24,533. (CLASS 8. DETERGENTS.) THE PORCELA COMPANY, Pittsburg, Pa. Filed Jan. 9, 1907.

RADAX

Particular description of goods.—Soap, Washing Powder or Compound for Laundry Use, and Cleaning and Scouring Material for Cleaning and Scouring Tile, Marble, Wood, Linoleum, &c.

Ser. No. 24,537. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) J. A. & W. BIRD & Co., Boston, Mass. Filed Jan. 9, 1907.

BOREXITE

Particular description of goods.—A Chemical Compound Employed in the Manufacture of Leather and Paper.

Ser. No. 24,538. (CLASS 48. DAIRY PRODUCTS.) BORDEN'S CONDENSED MILK COMPANY, Jersey City, N. J., and New York, N. Y. Filed Jan. 9, 1907. Used ten years.



Particular description of goods.—Condensed Milk, Evaporated Milk, and Evaporated Cream.

Ser. No. 24,561. (CLASS 61. JEWELRY AND SOLID AND PLATED PRECIOUS-METAL WARE.) SCHLESS, BROD & Co., New York, N. Y. Filed Jan. 10, 1907.



Particular description of goods.—Rings, Lockets, Scarf-Pins, Cuff-Buttons, Gold Fobs, Brooches, Pendants, Gold Match-Boxes, Knives with Gold Handles, Bracelets, Bangles, Festoons, Tie-Clasps, Tortoise-Shell Combs with Gold Decorations, Lorgnette-Chains, Studs, Ear-Rings, Charms, Gold Cigarette-Cases.

Ser. No. 24,599. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) KENTON DRINKARD, Beaumont, Tex. Filed Jan. 12, 1907.



DEAD SHOT

Particular description of goods.—Remedies for Skin Diseases.

Ser. No. 24,600. (CLASS 24. LAUNDRY APPLIANCES AND MACHINES.) THE LAUNDRY NOVELTY COMPANY, Detroit, Mich. Filed Jan. 12, 1907.



Particular description of goods.—Pads for Flat-Irons.

Ser. No. 24,601. (CLASS 47. CONFECTIONERY.) MACKINTOSH'S TOFFEE COMPANY, Bradley Beach, N. J. Filed Jan. 12, 1907.



Particular description of goods.—Toffee.

Ser. No. 24,615. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) BERRY BROTHERS, LIMITED, Detroit, Mich. Filed Jan. 14, 1907.

VELVET FINISH

Particular description of goods.—Varnish.

Ser. No. 24,622. (CLASS 52. PACKING-HOUSE PRODUCTS.) MINER, READ & GARRETTE, New Haven, Conn. Filed Jan. 14, 1907.



Particular description of goods.—A Substitute for Lard, Composed of Cotton-Seed Oil and Oleo-Stearin.

Ser. No. 24,627. (CLASS 71. TOBACCO PRODUCTS.) LOUIS G. SMITH & Co., New York, N. Y. Filed Jan. 14, 1907.

LA BARCELONESA

Particular description of goods.—Cigars.

Ser. No. 24,639. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) BUCK & TOOLE MILLING Co., Bloomfield, Mo. Filed Jan. 15, 1907.

WHITE FOAM

Particular description of goods.—Wheat-Flour.

Ser. No. 24,672. (CLASS 52. PACKING-HOUSE PRODUCTS.) PATTERSON-CABELL Co., New York, N. Y. Filed Jan. 16, 1907.

SINUOX

Particular description of goods.—Fluid Beef.

Ser. No. 24,675. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ERNST BISCHOFF, New York, N. Y. Filed Jan. 16, 1907.

VESIPYRIN

Particular description of goods.—Remedies for the Cure of Rheumatism and All Diseases Caused by Uric Acid.

Ser. No. 24,676. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) ERNST BISCHOFF, New York, N. Y. Filed Jan. 16, 1907.

IRISOL

Particular description of goods.—Antiseptics, Disinfectants, and Germicides.

Ser. No. 24,679. (CLASS 47. CONFECTIONERY.) JAMES P. LASKARIS & Co., Wilmington, Del. Filed Jan. 16, 1907.



Particular description of goods.—Candies.

Ser. No. 24,680. (CLASS 47. CONFECTIONERY.) JAMES P. LASKARIS & Co., Wilmington, Del. Filed Jan. 16, 1907.



Particular description of goods.—Candies.

Ser. No. 24,690. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE J. W. JAMES Co., Wheeling, W. Va. Filed Jan. 16, 1907.



Particular description of goods.—Sarsaparilla, Cough-Syrup, Soothing-Syrup, Rheumatic Liniment, Liver-Pills, Stomach-Bitters, Hair-Tonic, Headache-Powders, Worm-Syrup, Coca Tonic, Healing-Ointments.

Ser. No. 24,695. (CLASS 12. MASONRY MATERIALS.) WILLIAM H. WATTS & COMPANY, Philadelphia, Pa. Filed Jan. 16, 1907.

LINOTILE

Particular description of goods.—Floor-Tiles.

Ser. No. 24,697. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) WOOLSON SPICE COMPANY, Toledo, Ohio. Filed Jan. 16, 1907.

ARCADIA

Particular description of goods.—Coffee.

Ser. No. 24,701. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PFISTER & VOGEL LEATHER COMPANY, Milwaukee, Wis. Filed Jan. 16, 1907.

P&V LEATHERS

Particular description of goods.—All Kinds of Leather.

Ser. No. 24,734. (CLASS 55. WINES.) I. L. LAMM CO., Superior, Wis. Filed Jan. 18, 1907.

THE GREAT NORTHERN

Particular description of goods.—Wines.

Ser. No. 24,736. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) COLGATE & CO., New York, N. Y. Filed Jan. 18, 1907. Used ten years.

Cashmere Bouquet

Particular description of goods.—Perfumery, Talc Powder, and Toilet Water.

Ser. No. 24,749. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE A. DE PINNA COMPANY, New York, N. Y. Filed Jan. 18, 1907.

ANNIPED

Particular description of goods.—Leather Shoes, Boots, and Slippers.

Ser. No. 24,767. (CLASS 9. EXPLOSIVES.) THE OHIO MATCH COMPANY, Wadsworth, Ohio. Filed Jan. 19, 1907.

YELLOW JACKET

Particular description of goods.—Matches.

Ser. No. 24,768. (CLASS 9. EXPLOSIVES.) THE OHIO MATCH COMPANY, Wadsworth, Ohio. Filed Jan. 19, 1907.

FATHER PITT

Particular description of goods.—Matches.

Ser. No. 24,769. (CLASS 9. EXPLOSIVES.) THE OHIO MATCH COMPANY, Wadsworth, Ohio. Filed Jan. 19, 1907.

PRESTO

Particular description of goods.—Matches.

Ser. No. 24,771. (CLASS 8. DETERGENTS.) HARRY BICK, New York, N. Y. Filed Jan. 19, 1907.

RED BUTTONS

Particular description of goods.—Laundry Soap.

Ser. No. 24,773. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) W. W. GAVITT CHEMICAL CO., Topeka, Kans. Filed Jan. 19, 1907.

Elk

Particular description of goods.—Perfume.

Ser. No. 24,788. (CLASS 25. LOCKS AND SAFES.) THE YALE & TOWNE MFG. CO., Stamford, Conn. Filed Jan. 21, 1907.

Particular description of goods.—Locks and Parts Thereof and Keys.

Ser. No. 24,789. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE YALE & TOWNE MFG. CO., Stamford, Conn. Filed Jan. 21, 1907.

DUPLEX

Particular description of goods.—Chain-Blocks.

Ser. No. 24,790. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE YALE & TOWNE MFG. CO., Stamford, Conn. Filed Jan. 21, 1907.

TRIPLEX

Particular description of goods.—Chain-Blocks.

Ser. No. 24,792. (CLASS 25. LOCKS AND SAFES.) THE YALE & TOWNE MFG. CO., Stamford, Conn. Filed Jan. 21, 1907. Used ten years.

STANDARD

Particular description of goods.—Locks and Parts Thereof and Keys Therefor.

Ser. No. 24,793. (CLASS 25. LOCKS AND SAFES.) THE YALE & TOWNE MFG. CO., Stamford, Conn. Filed Jan. 21, 1907.

Particular description of goods.—Locks, Parts Thereof, and Keys.

Ser. No. 24,803. (CLASS 8. DETERGENTS.) THE HOLLYWOOD SOAP COMPANY, Cincinnati, Ohio. Filed Jan. 21, 1907.

U-SO-PO

Particular description of goods.—Washing-Powder.

Ser. No. 24,806. (CLASS 47. CONFECTIONERY.) PENNSYLVANIA CHOCOLATE COMPANY, Pittsburg, Pa. Filed Jan. 21, 1907.

SOMORO

Particular description of goods.—Chocolate and Cocoa.

Ser. No. 24,808. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) SCHWABACHER BROS. & CO., INC., Seattle, Wash. Filed Jan. 21, 1907.

MERMAID

Particular description of goods.—Salt.

Ser. No. 24,810. (CLASS 11. LEATHER BLACKINGS AND DRESSINGS.) VACUUM OIL COMPANY, Rochester, N. Y. Filed Jan. 21, 1907.

GARGOYLE

Particular description of goods.—Oils, Greases, and Waxes for the Preservation of Leather.

Ser. No. 24,813. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) VACUUM OIL COMPANY, Rochester, N. Y. Filed Jan. 21, 1907.

GARGOYLE

Particular description of goods.—Salad-Oil.

Ser. No. 24,816. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) JOHN H. MURPHY, Cohoes, N. Y. Filed Jan. 21, 1907.

Honeycomb

Particular description of goods.—Wash-Cloths.

Ser. No. 24,818. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) IMPERIAL DISTILLING & CORDIAL CO., Chicago, Ill. Filed Jan. 22, 1907.

Canahado Club

Particular description of goods.—Whisky.

Ser. No. 24,819. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) IMPERIAL DISTILLING & CORDIAL CO., Chicago, Ill. Filed Jan. 22, 1907.

SANBORN'S IMPERIAL ORANGE BITTERS

Particular description of goods.—Bitters.

Ser. No. 24,829. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FAIRCHILD BROS. & FOSTER, New York, N. Y. Filed Jan. 22, 1907. Used ten years.

PEPTOGENIC

Particular description of goods.—A Preparation for the Modification of Cows' Milk.

Ser. No. 24,832. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ULYSSES G. HOSHAW, Chanute, Kans. Filed Jan. 22, 1907.

Sennol

Particular description of goods.—A Proprietary Medicine for the Relief of Constipation, Sour Stomach, and Sick Headache.

Ser. No. 24,836. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) SOPHIA M. MARSH, Locust Valley and Glen Cove, N. Y. Filed Jan. 22, 1907.

Star Light

Particular description of goods.—A Remedy for Cuts, Burns, Bruises, Rusty-Nail Wounds, Blood-Poison, or Any External Wounds for Man and Beast.

Ser. No. 24,838. (CLASS 20. CUTLERY NOT INCLUDED IN CLASS 61, AND EDGE-TOOLS.) WIEBUSCH & HILGER, LIMITED, New York, N. Y. Filed Jan. 22, 1907.

BLUE RIBBON

Particular description of goods.—Grass-Hooks.

Ser. No. 24,852. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) BUTLER & FIELD, Washington, D. C. Filed Jan. 23, 1907.



Particular description of goods.—A Remedy for the Cure of Rheumatism and Gout.

Ser. No. 24,856. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PEOPLES SHOE CO., Mobile, Ala. Filed Jan. 23, 1907.



Particular description of goods.—Leather and Canvas Boots and Shoes.

Ser. No. 24,860. (CLASS 68. PUBLICATIONS.) THE WILSON COMPANY, Chicago, Ill. Filed Jan. 23, 1907.

The Railway Age

Particular description of goods.—A Weekly Periodical Devoted to Railway Interests.

Ser. No. 24,901. (CLASS 29. BROOMS, BRUSHES, AND DUSTERS.) LEE BROOM & DUSTER COMPANY, Lincoln, Nebr. Filed Jan. 25, 1907.

NOT A SPECK

Particular description of goods.—Brooms and Whisk-Brooms.

TRADE-MARKS

REGISTERED FEBRUARY 19, 1907.

60,635. PREPARED AGRICULTURAL LIME. A. S. LEE & SONS COMPANY, INCORPORATED, Richmond, Va.
Filed November 21, 1906. Serial No. 23,525. PUBLISHED DECEMBER 25, 1906.

60,636. FERTILIZERS. AMERICAN FERTILIZING COMPANY, Norfolk, Va.
Filed November 27, 1906. Serial No. 23,625. PUBLISHED DECEMBER 25, 1906.

60,637. RADIATORS. AMERICAN RADIATOR COMPANY, East Orange, N. J.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France, and Berlin, Germany.
Filed May 23, 1906. Serial No. 19,787. PUBLISHED DECEMBER 25, 1906.

60,638. RADIATORS. AMERICAN RADIATOR COMPANY, East Orange, N. J.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France, and Berlin, Germany.
Filed May 23, 1906. Serial No. 19,788. PUBLISHED DECEMBER 25, 1906.

60,639. RADIATORS. AMERICAN RADIATOR COMPANY, East Orange, N. J.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France, and Berlin, Germany.
Filed May 23, 1906. Serial No. 19,789. PUBLISHED DECEMBER 25, 1906.

60,640. RADIATORS. AMERICAN RADIATOR COMPANY, East Orange, N. J.; Chicago; Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France, and Berlin, Germany.
Filed May 23, 1906. Serial No. 19,792. PUBLISHED DECEMBER 25, 1906.

60,641. RADIATORS. AMERICAN RADIATOR COMPANY, East Orange, N. J.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France, and Berlin, Germany.
Filed May 23, 1906. Serial No. 19,794. PUBLISHED DECEMBER 25, 1906.

60,642. RADIATORS. AMERICAN RADIATOR COMPANY, East Orange, N. J.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France, and Berlin, Germany.
Filed May 23, 1906. Serial No. 19,795. PUBLISHED DECEMBER 25, 1906.

60,643. CEREAL-FOOD COFFEE. FRANCES J. BEEBE, Spokane, Wash.
Filed October 11, 1906. Serial No. 22,647. PUBLISHED DECEMBER 25, 1906.

60,644. TURPENTINE. BRAZILIAN TURPENTINE COMPANY, LIMITED, Pittsburg, Pa.
Filed November 3, 1906. Serial No. 23,078. PUBLISHED DECEMBER 25, 1906.

60,645. CORN. D. I. BUSHNELL & Co., St. Louis, Mo.
Filed May 13, 1905. Serial No. 5,406. PUBLISHED DECEMBER 25, 1906.

60,646. VANILLA-OIL. GEORGE R. CHATFIELD, New York, N. Y.
Filed October 22, 1906. Serial No. 22,829. PUBLISHED DECEMBER 25, 1906.

60,647. SOAPS AND SOAP POWDERS. COLGATE & Co., New York, N. Y.
Filed November 27, 1906. Serial No. 23,629. PUBLISHED DECEMBER 25, 1906.

60,648. PREPARATION FOR CLEANSING AND POLISHING. ARTHUR H. CROSS, New York, N. Y.
Filed November 28, 1906. Serial No. 23,646. PUBLISHED DECEMBER 25, 1906.

60,649. FLOUR MADE FROM BANANAS. RAMON CRUSELLAS, Havana, Cuba.
Filed July 17, 1905. Serial No. 10,423. PUBLISHED DECEMBER 25, 1906.

60,650. CANNED FRUITS AND VEGETABLES. DAVID HUNT & Co., New York, Oswego, and Cherry Creek, N. Y.
Filed October 5, 1906. Serial No. 22,536. PUBLISHED DECEMBER 25, 1906.

60,651. CANNED FRUITS AND VEGETABLES. THE DOLAN MERCANTILE CO., Atchison, Kans.
Filed August 1, 1905. Serial No. 11,098. PUBLISHED DECEMBER 25, 1906.

60,652. COFFEE SUBSTITUTES. EMIL SEELIG/A. G., Heilbronn, Germany, and Jersey City, N. J.
Filed October 3, 1906. Serial No. 22,449. PUBLISHED DECEMBER 25, 1906.

60,653. CERTAIN HEATING AND LIGHTING APPARATUS. THE G. R. LYNCH MFG. COMPANY, Chattanooga, Tenn.
Filed October 27, 1906. Serial No. 22,946. PUBLISHED DECEMBER 25, 1906.

60,654. ROASTED COFFEE. THE GORDON COFFEE & SPICE COMPANY, Kansas City, Mo.
Filed October 6, 1906. Serial No. 22,563. PUBLISHED DECEMBER 25, 1906.

60,655. EVAPORATED APPLES. J. W. HALLAUER & SONS, Webster, N. Y.
Filed October 27, 1906. Serial No. 22,944. PUBLISHED DECEMBER 25, 1906.

60,656. SOAP. WILLIAM F. HELMER, Burlington, Iowa.
Filed November 1, 1906. Serial No. 23,035. PUBLISHED DECEMBER 25, 1906.

60,657. CHOCOLATES. J. G. MCDONALD CANDY COMPANY, Salt Lake City, Utah.
Filed October 5, 1906. Serial No. 22,539. PUBLISHED DECEMBER 25, 1906.

60,658. VANILLA EXTRACT, LEMON EXTRACT, EVAPORATED APPLES, AND FRUIT-JELLIES. H. A. JOHNSON & Co., Boston, Mass.
Filed June 21, 1905. Serial No. 8,712. PUBLISHED DECEMBER 25, 1906.

60,659. CERTAIN VEGETABLE MATERIALS. GEORGE H. LEONARD & CO., Boston, Mass.
Filed May 28, 1906. Serial No. 19,924. PUBLISHED DECEMBER 18, 1906.

60,660. CONDENSED MILK, CONDENSED CREAM, EVAPORATED MILK, AND EVAPORATED CREAM. MOHAWK CONDENSED MILK CO., Rochester, N. Y.
Filed May 8, 1906. Serial No. 19,361. PUBLISHED DECEMBER 25, 1906.

60,661. COFFEE. THE OHIO COFFEE & SPICE COMPANY, Columbus, Ohio.
Filed July 11, 1905. Serial No. 10,119. PUBLISHED DECEMBER 25, 1906.

60,662. WHEAT-FLOUR. PICKERILL & HILL, Claflin, Kans.
Filed November 26, 1906. Serial No. 23,595. PUBLISHED DECEMBER 25, 1906.

60,663. WHEAT-FLOUR. PICKERILL & HILL, Claflin, Kans.
Filed November 26, 1906. Serial No. 23,596. PUBLISHED DECEMBER 25, 1906.

60,664. CANNED FRUITS AND VEGETABLES. PRATT-LOW PRESERVING CO., Santa Clara, Cal.
Filed October 11, 1906. Serial No. 22,644. PUBLISHED DECEMBER 25, 1906.

60,665. CANNED FRUITS AND VEGETABLES. PRATT-LOW PRESERVING CO., Santa Clara, Cal.
Filed October 11, 1906. Serial No. 22,645. PUBLISHED DECEMBER 25, 1906.

60,666. CANNED FRUITS AND VEGETABLES. PRATT-LOW PRESERVING CO., Santa Clara, Cal.
Filed October 11, 1906. Serial No. 22,646. PUBLISHED DECEMBER 25, 1906.

60,667. LUBRICATING OILS AND GREASES, PLUMBAGO USED AS A LUBRICANT, AND LUBRICATING-GRAPHITE. PURE OIL COMPANY, Philadelphia, Pa.
Filed October 13, 1906. Serial No. 22,677. PUBLISHED DECEMBER 25, 1906.

60,668. CERTAIN FASTENING DEVICES. READING HARDWARE CO., Reading, Pa.
Filed November 22, 1906. Serial No. 23,538. PUBLISHED DECEMBER 25, 1906.

60,669. LUBRICATING-OILS. VALVOLINE OIL COMPANY, Edgewater, N. J., and New York, N. Y.
Filed November 21, 1906. Serial No. 23,522. PUBLISHED DECEMBER 25, 1906.

60,670. FERTILIZERS. VIRGINIA-CAROLINA CHEMICAL COMPANY, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn.
Filed November 27, 1906. Serial No. 23,622. PUBLISHED DECEMBER 25, 1906.

60,671. CHEESE. ZEELAND CHEESE CO., Zeeland, Mich.
Filed October 23, 1906. Serial No. 22,896. PUBLISHED DECEMBER 25, 1906.

60,672. CHEESE. ZEELAND CHEESE CO., Zeeland, Mich.
Filed October 23, 1906. Serial No. 22,897. PUBLISHED DECEMBER 25, 1906.

60,673. RADIATORS. AMERICAN RADIATOR COMPANY, East Orange, N. J.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France, and Berlin, Germany.
Filed June 25, 1906. Serial No. 20,544. PUBLISHED DECEMBER 25, 1906.

60,674. INCANDESCENT MANTLES. ANGLO-AMERICAN INC. LIGHT CO., Pittsburg, Pa.
Filed August 10, 1906. Serial No. 21,461. PUBLISHED DECEMBER 25, 1906.

60,675. AUTOMATIC FUEL-ECONOMIZERS FOR GAS-STOVES. COMMERCIAL MANUFACTURING COMPANY, Philadelphia, Pa.
Filed September 7, 1906. Serial No. 21,951. PUBLISHED DECEMBER 25, 1906.

60,676. CERTAIN SPORTING GOODS. THE DRAPER AND MAYNARD COMPANY, Plymouth, N. H.
Filed July 3, 1905. Serial No. 9,732. PUBLISHED DECEMBER 25, 1906.

60,677. TEAS. E. B. MILLAR & COMPANY, Chicago, Ill.
Filed August 3, 1906. Serial No. 21,320. PUBLISHED DECEMBER 25, 1906.

60,678. SALTED, CURED, DRIED, AND CANNED FISH. GORTON-PEW FISHERIES CO., Gloucester, Mass.
Filed June 21, 1906. Serial No. 20,462. PUBLISHED DECEMBER 25, 1906.

60,679. ARTIFICIAL FUEL. ANTHON V. HASSMAN, Elkhart, Ind.
Filed November 12, 1906. Serial No. 23,271. PUBLISHED DECEMBER 25, 1906.

60,680. CERTAIN PAINTS AND PAINTERS' MATERIALS. HOWE & FRENCH, Boston, Mass.
Filed November 21, 1906. Serial No. 23,514. PUBLISHED DECEMBER 25, 1906.

60,681. WHEAT-FLOUR. ISMERT-HINCKE MILLING COMPANY, Kansas City, Kans.
Filed November 21, 1906. Serial No. 23,508. PUBLISHED DECEMBER 25, 1906.

60,682. WHEAT-FLOUR. ISMERT-HINCKE MILLING COMPANY, Kansas City, Kans.
Filed November 21, 1906. Serial No. 23,509. PUBLISHED DECEMBER 25, 1906.

60,683. TWINE. MORLEY TWINE AND MCHY. CO., Sioux City, Iowa.
Filed August 16, 1906. Serial No. 21,622. PUBLISHED DECEMBER 25, 1906.

60,684. CRACKERS AND BISCUITS. NATIONAL BISCUIT COMPANY, Jersey City, N. J., and New York, N. Y.
Filed August 29, 1906. Serial No. 21,793. PUBLISHED DECEMBER 25, 1906.

60,685. FRESH MEATS. NEW YORK BUTCHERS DRESSED MEAT COMPANY, New York, N. Y.
Filed June 28, 1906. Serial No. 20,619. PUBLISHED DECEMBER 25, 1906.

60,686. HOT-WATER AND STEAM BOILERS. OSWEGO BOILER & ENGINE CO., New York, N. Y.
Filed November 3, 1906. Serial No. 23,089. PUBLISHED DECEMBER 25, 1906.

60,687. CHEWING-GUM. PURITAN CONFECTION COMPANY, New York, N. Y.
Filed November 14, 1906. Serial No. 23,350. PUBLISHED DECEMBER 25, 1906.

60,688. CLEANING AND POLISHING COMPOUND. HARRY E. RUGER, La Fayette, Ind.
Filed June 27, 1906. Serial No. 20,594. PUBLISHED DECEMBER 25, 1906.

60,689. CLEANING AND POLISHING COMPOUND. HARRY E. RUGER, La Fayette, Ind.
Filed June 27, 1906. Serial No. 20,595. PUBLISHED DECEMBER 25, 1906.

60,690. COFFEE. JULIUS J. SCHOTTEN, St. Louis, Mo.
Filed November 12, 1906. Serial No. 23,292. PUBLISHED DECEMBER 25, 1906.

60,691. CERTAIN FOOD PREPARATIONS. SHERER-GILLETT COMPANY, Chicago, Ill.
Filed June 11, 1906. Serial No. 20,217. PUBLISHED DECEMBER 25, 1906.

60,692. PORTLAND CEMENT. P. H. TRUMMER & OTTO VOGLER, Hamburg, Germany.
Filed July 13, 1906. Serial No. 20,944. PUBLISHED DECEMBER 25, 1906.

60,693. READY TAR AND FELT ROOFING. BARRETT MANUFACTURING COMPANY, New York, N. Y.
Filed November 30, 1906. Serial No. 23,695. PUBLISHED DECEMBER 25, 1906.

60,694. CANNED CORN. HENRY L. FORHAN, Portland, Me.
Filed October 8, 1906. Serial No. 22,580. PUBLISHED DECEMBER 25, 1906.

60,695. SOAPS AND SCOURING AND CLEANING COMPOUNDS IN PASTE FORM. THE GENERAL NEED COMPANY, Buffalo, N. Y.
Filed November 9, 1906. Serial No. 23,196. PUBLISHED DECEMBER 25, 1906.

60,696. CERTAIN FOOD PREPARATIONS. JAMES A. MCCAFFREY & SONS, Philadelphia, Pa.
Filed April 11, 1905. Serial No. 1,154. PUBLISHED DECEMBER 25, 1906.

60,697. CERTAIN POLISH. FELICIA V MORSE, Canton, Mass.
Filed September 24, 1906. Serial No. 22,261. PUBLISHED DECEMBER 25, 1906.

60,698. CERTAIN POLISH. FELICIA V. MORSE, Canton, Mass.
Filed September 24, 1906. Serial No. 22,262. PUBLISHED DECEMBER 25, 1906.

60,699. CERTAIN POLISH. FELICIA V. MORSE, Canton, Mass.
Filed September 24, 1906. Serial No. 22,263. PUBLISHED DECEMBER 25, 1906.

60,700. CERTAIN POLISH. FELICIA V. MORSE, Canton, Mass.
Filed September 24, 1906. Serial No. 22,264. PUBLISHED DECEMBER 25, 1906.

60,701. CERTAIN POLISH. FELICIA V. MORSE, Canton, Mass.
Filed September 24, 1906. Serial No. 22,265. PUBLISHED DECEMBER 25, 1906.

60,702. CERTAIN POLISH. FELICIA V. MORSE, Canton-Mass.
Filed September 24, 1906. Serial No. 22,266. PUBLISHED DECEMBER 25, 1906.

60,703. CERTAIN POLISH. FELICIA V. MORSE, Canton, Mass.
Filed September 24, 1906. Serial No. 22,267. PUBLISHED DECEMBER 25, 1906.

60,704. CERTAIN POLISH. FELICIA V. MORSE, Canton, Mass.
Filed September 24, 1906. Serial No. 22,268. PUBLISHED DECEMBER 25, 1906.

60,705. CERTAIN CONFECTIONERY. RODDEWIG-SCHMIDT, CANDY CO., Davenport, Iowa.
Filed May 21, 1906. Serial No. 19,733. PUBLISHED DECEMBER 25, 1906.

60,706. CANNED FRUITS AND VEGETABLES, DRIED FRUITS, SPICES, AND GELATIN. E. T. SMITH COMPANY, Worcester, Mass.
Filed May 16, 1905. Serial No. 5,791. PUBLISHED DECEMBER 25, 1906.

60,707. CANNED VEGETABLES. THE WAUKESHA CANNING CO., Waukesha, Wis.
Filed April 10, 1905. Serial No. 1,062. PUBLISHED DECEMBER 25, 1906.

60,708. FLAVORING EXTRACTS. THE CINCINNATI PERFUME CO., Cincinnati, Ohio.
Filed June 6, 1906. Serial No. 20,086. PUBLISHED DECEMBER 25, 1906.

60,709. AWNINGS AND TARPAULINS. EDMUND ROSENBERG, Indianapolis, Ind.
Filed May 5, 1905. Serial No. 4,394. PUBLISHED DECEMBER 25, 1906.

60,710. CERTAIN FOOD PREPARATIONS. SHERER-GILLETT COMPANY, Chicago, Ill.
Filed May 19, 1906. Serial No. 19,677. PUBLISHED DECEMBER 25, 1906.

60,711. LARD COMPOUND. T. M. SINCLAIR & CO. LTD., Cedar Rapids, Iowa.
Filed October 25, 1906. Serial No. 22,836. PUBLISHED DECEMBER 25, 1906.

60,712. SMOKED MEATS. FRED WOLFERMAN, Kansas City, Mo.
Filed June 26, 1906. Serial No. 20,574. PUBLISHED DECEMBER 25, 1906.

60,713. INSECTICIDE. LEON N. ADLER, New York, N. Y.
Filed October 24, 1906. Serial No. 22,878. PUBLISHED DECEMBER 25, 1906.

60,714. PHOTOGRAPHIC DEVELOPERS. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,327. PUBLISHED DECEMBER 25, 1906.

60,715. AQUA-AMMONIA. COLUMBIA CHEMICAL WORKS, Brooklyn, N. Y.
Filed October 14, 1905. Serial No. 13,590. PUBLISHED DECEMBER 25, 1906.

60,716. CERTAIN METAL MANUFACTURES. GUEST, KEEN & NETTLEFOLDS, LIMITED, Birmingham, England.
Filed September 17, 1906. Serial No. 22,142. PUBLISHED DECEMBER 25, 1906.

60,717. PORT-WINE. JOHN GRAHAM & COMPANY LIMITED, Glasgow, Scotland.
Filed September 28, 1906. Serial No. 22,365. PUBLISHED DECEMBER 25, 1906.

60,718. WHISKY. MICHAEL LETZELTER, Pittsburg, Pa.
Filed November 16, 1906. Serial No. 23,397. PUBLISHED DECEMBER 25, 1906.

60,719. WHISKY. MICHAEL LETZELTER, Pittsburg, Pa.
Filed November 16, 1906. Serial No. 23,398. PUBLISHED DECEMBER 25, 1906.

60,720. WHISKY. MICHAEL LETZELTER, Pittsburg, Pa.
Filed November 16, 1906. Serial No. 23,399. PUBLISHED DECEMBER 25, 1906.

60,721. WHEAT-FLOUR. MISSOURI VALLEY MILLING COMPANY, Mandan, N. D.
Filed May 26, 1905. Serial No. 6,716. PUBLISHED AUGUST 7, 1906.

60,722. CERTAIN HAND-TOOLS. SARAH C. MORRILL, New York, N. Y.
Filed September 6, 1906. Serial No. 21,943. PUBLISHED DECEMBER 25, 1906.

60,723. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,228. PUBLISHED DECEMBER 25, 1906.

60,724. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,229. PUBLISHED DECEMBER 25, 1906.

60,725. SEWING-MACHINES AND ATTACHMENTS. THE NEW HOME SEWING MACHINE COMPANY, Orange, Mass., assignor to The New Home Sewing Machine Company, a Corporation of Massachusetts, organized in 1906.
Filed October 3, 1905. Serial No. 13,238. PUBLISHED DECEMBER 25 1906.

60,726. SUBSTANCE FOR USE IN THE MANUFACTURE OF LEATHER. NOWAK MANUFACTURING COMPANY, Chicago, Ill.
Filed August 4, 1906. Serial No. 21,335. PUBLISHED DECEMBER 25, 1906.

60,727. PENKNIVES, RAZORS, AND SCISSORS. DANIEL PERES, Solingen, Germany.
Filed June 2, 1905. Serial No. 7,270. PUBLISHED DECEMBER 25, 1906.

60,728. CARTRIDGES, POWDER, AND PERCUSSION-CAPS. THE PETERS CARTRIDGE COMPANY, Cincinnati, Ohio.
Filed November 2, 1905. Serial No. 14,212. PUBLISHED DECEMBER 25, 1906.

60,729. PAPER AND ENVELOPS. RAYNOR & PERKINS ENVELOPE COMPANY, New York, N. Y.
Filed October 31, 1905. Serial No. 14,122. PUBLISHED DECEMBER 25, 1906.

60,730. PAPER AND ENVELOPS. RAYNOR & PERKINS ENVELOPE COMPANY, New York, N. Y.
Filed October 31, 1905. Serial No. 14,125. PUBLISHED DECEMBER 25, 1906.

60,731. PAPER AND ENVELOPS. RAYNOR & PERKINS ENVELOPE COMPANY, New York, N. Y.
Filed October 31, 1905. Serial No. 14,126. PUBLISHED DECEMBER 25, 1906.

60,732. PAPER AND ENVELOPS. RAYNOR & PERKINS ENVELOPE COMPANY, New York, N. Y.
Filed October 31, 1905. Serial No. 14,127. PUBLISHED DECEMBER 25, 1906.

60,733. PAPER AND ENVELOPS. RAYNOR & PERKINS ENVELOPE COMPANY, New York, N. Y.
Filed October 31, 1905. Serial No. 14,129. PUBLISHED DECEMBER 25, 1906.

60,734. PAPER AND ENVELOPS. RAYNOR & PERKINS ENVELOPE COMPANY, New York, N. Y.
Filed October 31, 1905. Serial No. 14,130. PUBLISHED DECEMBER 25, 1906.

60,735. BOTTLED BEER. READ BROTHERS, LIMITED, London, England.
Filed July 27, 1905. Serial No. 11,625. PUBLISHED OCTOBER 2, 1906.

60,736. TIN AND TERNE PLATE. N. & G. TAYLOR CO., Philadelphia, Pa.
Filed October 9, 1906. Serial No. 22,614. PUBLISHED DECEMBER 25, 1906.

60,737. PERIODICALS AND MAGAZINES. THE RIDGWAY COMPANY, New York, N. Y.
Filed October 8, 1906. Serial No. 22,596. PUBLISHED DECEMBER 25 1906.

60,738. HARROWS, DRILLS, AND CULTIVATORS. RODERICK LEAN MANUFACTURING COMPANY, Mansfield, Ohio.
Filed October 8, 1906. Serial No. 22,600. PUBLISHED DECEMBER 25, 1906.

60,739. COATS, TROUSERS, WAISTCOATS, AND OVERCOATS. AGNES S. RYLEY, New York, N. Y.
Filed August 25, 1906. Serial No. 21,752. PUBLISHED DECEMBER 25, 1906.

60,740. CERTAIN HATS AND CAPS. FRANK SCHOBLE & Co., Philadelphia, Pa.
Filed June 14, 1905. Serial No. 8,114. PUBLISHED DECEMBER 25, 1906.

60,741. CERTAIN ELECTRICAL APPLIANCES. THE TRUMBULL ELECTRIC MANUFACTURING COMPANY, Plainville, Conn.
Filed May 14, 1906. Serial No. 19,540. PUBLISHED DECEMBER 25, 1906.

60,742. COTTON, LINEN, SILK, AND COTTON AND SILK PIECE GOODS. WALDO & MCKELVEY, New York, N. Y.
Filed October 5, 1906. Serial No. 22,550. PUBLISHED DECEMBER 25, 1906.

60,743. CERTAIN CLOTHING. WILLIAM H. BURNS COMPANY, Worcester, Mass.
Filed June 5, 1905. Serial No. 7,481. PUBLISHED DECEMBER 25, 1906.

60,744. WHISKY. WILLIAM H. LEE & Co., St. Louis, Mo.
Filed June 30, 1905. Serial No. 9,426. PUBLISHED DECEMBER 25, 1906.

60,745. STEAM-CONDENSERS. ALBERGER CONDENSER COMPANY, New York, N. Y.
Filed July 22, 1905. Serial No. 10,714. PUBLISHED DECEMBER 25, 1906.

60,746. ILLUMINATING-PRISMS FOR BUILDING CONSTRUCTION. AMERICAN BAR-LOCK COMPANY, Philadelphia, Pa.
Filed May 13, 1905. Serial No. 5,403. PUBLISHED DECEMBER 25, 1906.

60,747. CHEWING-GUM. AMERICAN CHICLE CO., New York, N. Y.
Filed June 15, 1905. Serial No. 8,156. PUBLISHED OCTOBER 30, 1906.

60,748. RAZORS AND RAZOR-BLADES. AUTO STROP SAFETY RAZOR CO., New York, N. Y.
Filed November 20, 1906. Serial No. 23,489. PUBLISHED DECEMBER 25, 1906.

60,749. CHROME AND BARK TANNED CALF, COLT, AND KID SKINS. BECKWITH LEATHER CO., Chadwicks, N. Y.
Filed November 5, 1906. Serial No. 23,113. PUBLISHED DECEMBER 25, 1906.

60,750. MATERNITY-SKIRTS. BEYER & WILLIAMS COMPANY, Buffalo, N. Y.
Filed November 16, 1906. Serial No. 23,408. PUBLISHED DECEMBER 25, 1906.

60,751. CERTAIN AGRICULTURAL MACHINES. DEERE & MANSUR CO., Moline, Ill.
Filed September 20, 1906. Serial No. 22,197. PUBLISHED DECEMBER 25, 1906.

60,752. BALL-BLUE. THE HELLER & MERZ CO., Newark, N. J.
Filed June 5, 1905. Serial No. 7,467. PUBLISHED DECEMBER 25, 1906.

60,753. PATENT CALF-LEATHER. HENRY LANG COMPANY, Newark, N. J.
Filed May 9, 1905. Serial No. 4,825. PUBLISHED DECEMBER 25, 1906.

60,754. DESTROYER OF ROACHES, WATER-BUGS, RATS, AND MICE. ORLANDO HOOPER JADWIN, New York, N. Y.
Filed November 3, 1906. Serial No. 23,082. PUBLISHED DECEMBER 25, 1906.

60,755. LEATHER BOOTS AND SHOES. JOS. ROSENHEIM SHOE CO., Savannah, Ga.
Filed November 16, 1906. Serial No. 23,405. PUBLISHED DECEMBER 25, 1906.

60,756. WHISKY. THOMAS B. KANE, Philadelphia, Pa.
Filed November 17, 1906. Serial No. 23,438. PUBLISHED DECEMBER 25, 1906.

60,757. CORSETS. KOPS BROS., New York, N. Y.
Filed November 19, 1906. Serial No. 23,467. PUBLISHED DECEMBER 25, 1906.

60,758. LEATHER BELTING. NEW YORK LEATHER BELTING CO., New York, N. Y.
Filed November 13, 1906. Serial No. 23,317. PUBLISHED DECEMBER 25, 1906.

60,759. JARS. PERFECTION GLASS COMPANY, Washington, Pa.
Filed May 9, 1906. Serial No. 19,393. PUBLISHED DECEMBER 25, 1906.

60,760. TANNED HEAVY LEATHERS. S. H. FRANK & Co., San Francisco, Cal.
Filed June 20, 1905. Serial No. 8,614. PUBLISHED MARCH 20, 1906.

60,761. SMOKING-TOBACCO, CIGARS, AND CIGARETTES. GEORGE HAROLD GRANT WING, New York, N. Y.
Filed November 20, 1906. Serial No. 23,487. PUBLISHED DECEMBER 25, 1906.

60,762. CIGARETTES, CIGARS, SMOKING-TOBACCO, AND CHEWING-TOBACCO. AFRICAN CIGARETTE COMPANY, LIMITED, London, England.
Filed November 10, 1906. Serial No. 23,250. PUBLISHED DECEMBER 25, 1906.

60,763. DYESTUFF. BADISCHE ANILIN- & SODA-FABRIK, Ludwigshafen-on-the-Rhine, Germany.
Filed March 12, 1906. Serial No. 17,798. PUBLISHED DECEMBER 25, 1906.

60,764. LAUNDRY STARCH. CHALLENGE STARCH CO., New York, N. Y.
Filed November 12, 1906. Serial No. 23,277. PUBLISHED DECEMBER 25, 1906.

60,765. LEAD-PENCILS. EAGLE PENCIL COMPANY, New York, N. Y.
Filed November 17, 1906. Serial No. 23,440. PUBLISHED DECEMBER 25, 1906.

60,766. LAMP-CHIMNEYS. OSCAR O. FRIEDLAENDER, New York, N. Y.
Filed November 14, 1906. Serial No. 23,345. PUBLISHED DECEMBER 25, 1906.

60,767. LEATHER BELTING, LEATHER PACKING, AND LEATHER WASHERS. E. F. HOUGHTON & Co., Philadelphia, Pa.
Filed May 31, 1906. Serial No. 19,968. PUBLISHED DECEMBER 25, 1906.

60,768. BEER. THE J. G. SCHEMM BREWING CO., Saginaw, Mich.
Filed October 26, 1906. Serial No. 22,927. PUBLISHED DECEMBER 25, 1906.

60,769. WHISKY. JAMES JOSEPH, New York, N. Y.
Filed May 12, 1905. Serial No. 5,388. PUBLISHED DECEMBER 25, 1906.

60,770. WHISKY. L. HARTMAN CO., Chicago, Ill.
Filed November 16, 1906. Serial No. 23,404. PUBLISHED DECEMBER 25, 1906.

60,771. WHISKY. LAZARUS & NASSAUER, Cairo, Ill.
Filed April 21, 1905. Serial No. 2,596. PUBLISHED DECEMBER 25, 1906.

60,772. SHEET-RUBBER, RUBBER VALVES, AND RUBBER JAR-RINGS. MERCER RUBBER COMPANY, Trenton, N. J.
Filed October 24, 1906. Serial No. 22,886. PUBLISHED DECEMBER 25, 1906.

60,773. HOSIERY. OWEN OSBORNE, Philadelphia, Pa.
Filed November 17, 1906. Serial No. 23,443. PUBLISHED DECEMBER 25, 1906.

60,774. DIP FOR LIVE STOCK. PRESCOTT CHEMICAL CO., Cleveland, Ohio.
Filed November 3, 1906. Serial No. 23,091. PUBLISHED DECEMBER 25, 1906.

60,775. WHISKY. R. M. ROSE CO., Atlanta, Ga.
Filed November 16, 1906. Serial No. 23,421. PUBLISHED DECEMBER 25, 1906.

60,776. WHISKY. ERNST SCHNEIDER, Buffalo, N. Y.
Filed November 16, 1906. Serial No. 23,422. PUBLISHED DECEMBER 25, 1906.

60,777. GINGHAMS. THE SPRINGSTEIN MILLS, Chester, S. C.
Filed November 15, 1906. Serial No. 23,380. PUBLISHED DECEMBER 25, 1906.

60,778. GINGHAMS. THE SPRINGSTEIN MILLS, Chester, S. C.
Filed November 15, 1906. Serial No. 23,382. PUBLISHED DECEMBER 25, 1906.

60,779. GINGHAMS. THE SPRINGSTEIN MILLS, Chester, S. C.
Filed November 15, 1906. Serial No. 23,383. PUBLISHED DECEMBER 25, 1906.

60,780. GINGHAMS. THE SPRINGSTEIN MILLS, Chester, S. C.
Filed November 15, 1906. Serial No. 23,384. PUBLISHED DECEMBER 25, 1906.

60,781. WAGON-BOXES, HAY-RACKS, AND STOCK-RACKS FOR USE ON VEHICLES. TECUMSEH RACK & MANUFACTURING COMPANY, Adrian, Mich.
Filed October 27, 1906. Serial No. 22,953. PUBLISHED DECEMBER 25, 1906.

60,782. APRICOT-BRANDY. THE WEIDEMAN COMPANY, Cleveland, Ohio.
Filed May 15, 1906. Serial No. 19,564. PUBLISHED DECEMBER 25, 1906.

60,783. INTERNAL REMEDY FOR DIETETIC PURPOSES. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,334. PUBLISHED DECEMBER 25, 1906.

60,784. INTESTINAL ASTRINGENTS. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,342. PUBLISHED DECEMBER 25, 1906.

60,785. SEDATIVES. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,344. PUBLISHED DECEMBER 25, 1906.

60,786. VEGETABLE COMPOUNDS FOR BLOOD AND NERVE MEDICINES. W. J. BURDICK MEDICINE CO., Appleton, Wis.
Filed April 7, 1906. Serial No. 18,594. PUBLISHED DECEMBER 25, 1906.

60,787. HOSIERY. CHAS. CHIPMAN'S SONS, Easton, Pa.
Filed April 16, 1906. Serial No. 18,831. PUBLISHED DECEMBER 25, 1906.

60,788. MEDICINAL COMPOUND FOR EXTERNAL USE. CHEMISCHE FABRIK VORMALS SANDOZ, Basel, Switzerland.
Filed March 17, 1906. Serial No. 18,161. PUBLISHED DECEMBER 25, 1906.

60,789. CERTAIN AGRICULTURAL MACHINES. DEERE & MANSUR CO., Moline, Ill.
Filed October 30, 1906. Serial No. 23,010. PUBLISHED DECEMBER 25, 1906.

60,790. CERTAIN AGRICULTURAL MACHINES. DEERE & MANSUR CO., Moline, Ill.
Filed October 30, 1906. Serial No. 23,011. PUBLISHED DECEMBER 25, 1906.

60,791. CERTAIN MEDICINAL PREPARATIONS. DR. J. F. TRUE & Co., Auburn, Me.
Filed February 5, 1906. Serial No. 16,751. PUBLISHED DECEMBER 25, 1906.

60,792. SEDATIVE AND LAXATIVE POWDERS. JAMES R. HALLORAN, New Britain, Conn.
Filed February 3, 1906. Serial No. 16,729. PUBLISHED DECEMBER 25, 1906.

60,793. BOILER-CLEANING COMPOUNDS. JOHN CALLAHAN & Co., INC., Seattle, Wash.
Filed May 15, 1906. Serial No. 19,580. PUBLISHED DECEMBER 25, 1906.

60,794. LEATHER BOOTS AND SHOES. JONES DRY GOODS Co., Kansas City, Mo.
Filed November 27, 1906. Serial No. 23,639. PUBLISHED DECEMBER 25, 1906.

60,795. CHAIRS, TABLES, COMMODES, DRESSERS, BUREAUS, AND WARDROBES. W. F. LOCKHART & Co., Boston, Mass.
Filed March 16, 1906. Serial No. 17,961. PUBLISHED DECEMBER 25 1906.

60,796. REMEDY FOR DANDRUFF. MAFFI BARBER SUPPLY CO., San Antonio, Tex.
Filed July 19, 1905. Serial No. 10,571. PUBLISHED DECEMBER 25, 1906.

60,797. TOOL-STEEL. NORMAN K. PEACE, Sheffield, England.
Filed May 9, 1906. Serial No. 19,385. PUBLISHED DECEMBER 25, 1906.

60,798. MOWER AND REAPER KNIFE SECTIONS. R. HERSCHEL MANUFACTURING CO., Peoria, Ill.
Filed April 13, 1906. Serial No. 18,764. PUBLISHED DECEMBER 25, 1906.

60,799. DIGESTIVE FERMENTS. FREDERICK STEARNS & Co., Detroit, Mich.
Filed April 9, 1906. Serial No. 18,649. PUBLISHED DECEMBER 25, 1906.

60,800. SPAVIN CURE. TROY CHEMICAL COMPANY, Binghamton, N. Y.
Filed November 17, 1905. Serial No. 14,770. PUBLISHED DECEMBER 4, 1906.

60,801. LEATHER BOOTS AND SHOES. FERNZ. VALDES & Co., Havana, Cuba.
Filed November 23, 1906. Serial No. 23,548. PUBLISHED DECEMBER 25, 1906.

60,802. SPEED-METERS AND TACHOMETERS. WARNER INSTRUMENT COMPANY, Beloit, Wis.
Filed May 25, 1906. Serial No. 19,849. PUBLISHED DECEMBER 25, 1906.

60,803. COTTON PIECE GOODS. ARNHOLD, KARBERG & Co., New York, N. Y.
Filed November 4, 1905. Serial No. 14,279. PUBLISHED DECEMBER 25, 1906.

60,804. COTTON PIECE GOODS. ARNHOLD, KARBERG & Co., New York, N. Y.
Filed November 4, 1905. Serial No. 14,287. PUBLISHED DECEMBER 25, 1906.

60,805. COTTON PIECE GOODS. ARNHOLD, KARBERG & Co., New York, N. Y.
Filed November 4, 1905. Serial No. 14,289. PUBLISHED DECEMBER 25, 1906.

60,806. COTTON PIECE GOODS. ARNHOLD, KARBERG & Co., New York, N. Y.
Filed November 4, 1905. Serial No. 14,292. PUBLISHED DECEMBER 25, 1906.

60,807. HORSE-NAILS. AUSABLE HORSE NAIL COMPANY, Keeseville, N. Y.
Filed July 10, 1906. Serial No. 20,826. PUBLISHED DECEMBER 25, 1906.

60,808. HORSE-NAILS. AUSABLE HORSE NAIL COMPANY, Keeseville, N. Y.
Filed July 10, 1906. Serial No. 20,827. PUBLISHED DECEMBER 25, 1906.

60,809. BITS, SPURS, STIRRUPS, BUCKLES, AND METAL HARNESS-TRIMMINGS. AUGUST BUERMANN, Newark, N. J.
Filed May 23, 1905. Serial No. 6,366. PUBLISHED DECEMBER 25, 1906.

60,810. CHEMICAL PREPARATION. SAML. CABOT, Boston, Mass.
Filed August 15, 1906. Serial No. 21,577. PUBLISHED DECEMBER 25, 1906.

60,811. WHISKY. CASEY BROS., Scranton, Pa.
Filed June 24, 1905. Serial No. 8,920. PUBLISHED DECEMBER 25, 1906.

60,812. PLOWS AND PLOW PARTS. DEERE & COMPANY, Moline, Ill.
Filed June 30, 1906. Serial No. 20,679. PUBLISHED DECEMBER 25, 1906.

60,813. KNITTED UNDERWEAR. WILLIAM ISELIN & Co., New York, N. Y.
Filed May 27, 1905. Serial No. 6,844. PUBLISHED DECEMBER 25, 1906.

60,814. WHISKY. KAMP DISTILLING CO., St. Louis, Mo.
Filed June 26, 1905. Serial No. 9,031. PUBLISHED DECEMBER 25 1906.

60,815. HARNESS-LEATHER. CHARLES F. PAULI & SON, Cincinnati, Ohio.
Filed July 14, 1906. Serial No. 20,939. PUBLISHED DECEMBER 25, 1906.

60,816. PAPER AND ENVELOPS. RAYNOR & PERKINS ENVELOPE COMPANY, New York, N. Y.
Filed October 31, 1905. Serial No. 14,128. PUBLISHED DECEMBER 25, 1906.

60,817. GLAZED SPECTACLES AND EYEGLASSES. SOUTHERN OPTICAL MANUFACTURING COMPANY, Atlanta, Ga.
Filed November 10, 1906. Serial No. 23,262. PUBLISHED DECEMBER 25, 1906.

60,818. LEATHER FOR SHOES, HARNESS, AND GLOVES. ALBERT TROSTEL & SONS, Milwaukee, Wis.
Filed May 3, 1905. Serial No. 4,091. PUBLISHED DECEMBER 25, 1906.

60,819. CERTAIN MEDICINAL PREPARATION. HENRY B. WALTERMANN, Cincinnati, Ohio.
Filed August 21, 1905. Serial No. 11,855. PUBLISHED DECEMBER 25, 1906.

60,820. SPEED-METERS AND TACHOMETERS. WARNER INSTRUMENT COMPANY, Beloit, Wis.
Filed May 25, 1906. Serial No. 19,850. PUBLISHED DECEMBER 25, 1906.

60,821. WATCHES. BENJ. ALLEN & Co., Chicago, Ill.
Filed November 17, 1906. Serial No. 23,442. PUBLISHED DECEMBER 25, 1906.

60,822. GO-CARTS. ALWIN MANUFACTURING COMPANY, Chicago, Ill.
Filed November 23, 1906. Serial No. 23,563. PUBLISHED DECEMBER 25, 1906.

60,823. INTERNAL REMEDY FOR ALLEVIATING PAIN. THE ANDREW PHARMACEUTICAL COMPANY, Mason, Ohio.
Filed September 25, 1906. Serial No. 22,312. PUBLISHED DECEMBER 25, 1906.

60,824. LIQUID PREPARATION OF LECITHIN. ARMOUR & COMPANY, Chicago, Ill.
Filed August 2, 1906. Serial No. 21,303. PUBLISHED DECEMBER 25, 1906.

60,825. MEDICATED PREPARATION FOR THE HAIR, SCALP, AND SKIN. BARCLAY & BARCLAY, New York, N. Y.
Filed November 7, 1906. Serial No. 23,149. PUBLISHED DECEMBER 25, 1906.

60,826. BICYCLES. THE BECKLEY-RALSTON COMPANY, Chicago, Ill.
Filed November 26, 1906. Serial No. 23,598. PUBLISHED DECEMBER 25, 1906.

60,827. REMEDY FOR ALL DISEASES OF THE KIDNEYS, STOMACH, LIVER, AND BLOOD. MARK C. BOSTWICK, Alpena, Mich.
Filed November 17, 1906. Serial No. 23,441. PUBLISHED DECEMBER 25, 1906.

60,828. RHEUMATIC AND GOUT MEDICINES. GEORGE W. BROOKS, Brooklyn, N. Y.
Filed October 9, 1906. Serial No. 22,611. PUBLISHED DECEMBER 25, 1906.

60,829. WHISKY. H. & H. W. CATHERWOOD, Philadelphia, Pa.
Filed November 16, 1906. Serial No. 23,410. PUBLISHED DECEMBER 25, 1906.

60,830. PERFUMERY, TALC POWDER, AND TOILET WATER. COLGATE & Co., New York, N. Y.
Filed October 1, 1906. Serial No. 22,398. PUBLISHED DECEMBER 25, 1906.

60,831. INTERNAL REMEDIES USED IN TREATMENT OF CONSTIPATION AND INTESTINAL DISORDERS. JOSEPH C. CRAMER, Portland, Oreg.
Filed May 12, 1906. Serial No. 19,480. PUBLISHED DECEMBER 25, 1906.

60,832. CURE FOR HOG-CHOLERA AND DISEASES OF CATTLE. ALLAN CRAWFORD, Bolivar, Tenn.
Filed September 28, 1906. Serial No. 22,363. PUBLISHED DECEMBER 25, 1906.

60,833. CERTAIN MEDICINAL PREPARATION. CRISWELL CHEMICAL COMPANY, Washington, D. C.
Filed October 9, 1906. Serial No. 22,607. PUBLISHED DECEMBER 25, 1906.

60,834. CURE FOR CORNS, WARTS, BUNIONS, AND CALLUSES. CRISWELL CHEMICAL COMPANY, Washington, D. C.
Filed October 9, 1906. Serial No. 22,608. PUBLISHED DECEMBER 25, 1906.

60,835. HAIR-TONIC. FIEBERT BROS., New York, N. Y.
Filed October 23, 1906. Serial No. 22,857. PUBLISHED DECEMBER 25, 1906.

60,836. BLOOD-PURIFIER. GEORGE F. GEHRING, Louisville, Ky.
Filed July 9, 1906. Serial No. 20,815. PUBLISHED DECEMBER 25 1906.

60,837. CERTAIN FURNITURE. GRAND RAPIDS FURNITURE COMPANY, New York, N. Y.
Filed November 7, 1906. Serial No. 23,163. PUBLISHED DECEMBER 25, 1906.

60,838. REMEDIES FOR CERTAIN NAMED DISEASES. HOLLAND MEDICINE COMPANY, Washington, D. C., and Philadelphia, Pa.
Filed September 1, 1906. Serial No. 21,857. PUBLISHED DECEMBER 25, 1906.

60,839. MEDICATED PLASTERS. ORLANDO H. JADWIN, New York, N. Y.
Filed November 19, 1906. Serial No. 23,465. PUBLISHED DECEMBER 25, 1906.

60,840. DISINFECTANTS, DEODORIZERS, AND GERMICIDES. THE KILODA CHEMICAL CO., New York, N. Y.
Filed November 19, 1906. Serial No. 23,466. PUBLISHED DECEMBER 25, 1906.

60,841. WHISKY. HYMAN LEVINKIND, Chicago, Ill.
Filed May 15, 1906. Serial No. 19,568. PUBLISHED DECEMBER 25, 1906.

60,842. HOSIERY. PARAMOUNT KNITTING COMPANY, Chicago, Ill.
Filed November 22, 1906. Serial No. 23,527. PUBLISHED DECEMBER 25, 1906.

60,843. HOSIERY. PARAMOUNT KNITTING COMPANY, Chicago, Ill.
Filed November 22, 1906. Serial No. 23,528. PUBLISHED DECEMBER 25, 1906.

60,844. HOSIERY. PARAMOUNT KNITTING COMPANY, Chicago, Ill.
Filed November 22, 1906. Serial No. 23,529. PUBLISHED DECEMBER 25, 1906.

60,845. HOSIERY. PARAMOUNT KNITTING COMPANY, Chicago, Ill.
Filed November 22, 1906. Serial No. 23,530. PUBLISHED DECEMBER 25, 1906.

60,846. LEATHER SHOES. PETERS SHOE CO., St. Louis, Mo.
Filed November 28, 1906. Serial No. 23,652. PUBLISHED DECEMBER 25, 1906.

60,847. CERTAIN TOILET AND MEDICINAL PREPARATIONS. JOHN PFEIFFER, San Antonio, Tex.
Filed October 3, 1906. Serial No. 22,459. PUBLISHED DECEMBER 25, 1906.

60,848. HOSIERY. RICE, STIX DRY GOODS COMPANY, St. Louis, Mo.
Filed November 20, 1906. Serial No. 23,503. PUBLISHED DECEMBER 25, 1906.

60,849. CERTAIN TOILET AND MEDICINAL PREPARATIONS. SHERER-GILLETT COMPANY, Chicago, Ill.
Filed November 3, 1906. Serial No. 23,067. PUBLISHED DECEMBER 25, 1906.

60,850. PORT-WINE. SAMUEL STREIT & Co., New York, N. Y.
Filed April 30, 1906. Serial No. 19,185. PUBLISHED DECEMBER 25, 1906.

60,851. DENTIFRICE. FREDERICK F. INGRAM, Detroit, Mich.
Filed July 3, 1905. Serial No. 9,635. PUBLISHED JANUARY 16, 1906.

60,852. REMEDY FOR PILES. JOSEPH LATAILLE, Southbridge, Mass.
Filed August 8, 1906. Serial No. 21,386. PUBLISHED NOVEMBER 27, 1906.

LABELS

REGISTERED FEBRUARY 19, 1907.

13,366.—*Title:* "ENTERPRISE." (For Cigars.) DAVID J. BORUN, Milwaukee, Wis. Filed December 22, 1906.

13,367.—*Title:* "ALVARO." (For Cigars.) LOUIS W. KEYER, Dayton, Ohio. Filed December 22, 1906.

13,368.—*Title:* "JUDGE QUALITY." (For Cigars.) PERCY C. WIGGENHORN, La Crosse, Wis. Filed January 19, 1907.

13,369.—*Title:* "SAGAMORE SPRING." (For Whisky.) CHAS. SEHLINGER SONS & Co., Louisville, Ky. Filed January 29, 1907.

13,370.—*Title:* "LIPTON'S GOSSIP BLEND KAFFEE-KLATSCH COFFEE." (For Coffee.) THOMAS J. LIPTON, New York, N. Y Filed January 22, 1907.

13,371.—*Title:* "ADMIRAL." (For Beer.) GOTHAM LITHOGRAPHIC CO., New York, N. Y. Filed January 26, 1907.

13,372.—*Title:* "SLICK STUFF." (For Lotions.) TRYON CHEMICAL CO., Gloversville, N. Y Filed December 26, 1906.

13,373.—*Title:* "THE BERKSHIRE SHOE." (For Shoes for Men, Women, Boys, and Girls.) EDGAR D. PRITCHARD, Pittsfield, Mass. Filed January 28, 1907.

13,374.—*Title:* "SUPERIOR FLOWER SEEDS." (For Flower-Seeds.) MANDEVILLE & KING CO., Rochester, N. Y. Filed January 24, 1907.

PRINTS

REGISTERED FEBRUARY 19, 1907.

1,910.—*Title:* "HELLO! HELLO!" (For Flour.) WASHBURN CROSBY COMPANY, Minneapolis, Minn. Filed January 29, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

BROWNE *v.* STROUD.

Decided February 1, 1907.

SERVICE—PETITIONS AND MOTIONS.

All petitions and motions in *inter partes* cases must be accompanied by proof of service or by copies to be forwarded by the Office.

ON PROTEST.

TELEPHONY.

Mr. Charles Neave and *Messrs. Mauro, Cameron, Lewis & Massie* for Browne.

Mr. George L. Cragg and *Messrs. Bacon & Milans* for Stroud.

ALLEN, *Commissioner:*

This is a protest by Browne against the action of Stroud filing a petition in the above-entitled interference without service upon Browne and against the action of the Office entertaining such petition and disposing of the same upon its merits.

It does not appear that protestant has any objection to make to the decision which has been rendered upon the petition. This protest might, therefore, be dismissed without further consideration. It appears, however, that some uncertainty exists as to the proper practice to be followed in the matter of service of petitions in *inter partes* cases, and advantage will therefore be taken of this opportunity to set forth a definite practice to be followed in this Office in such cases.

Hereafter all petitions and motions in *inter partes* cases must be accompanied by proper evidence of service upon the various parties or with copies to be forwarded by the Office to such parties. Upon failure to comply with the above requirement the petition or motion will not be set down for hearing or receive consideration upon its merits. Exception will be made, however, in the case of a request for rehearing, which request will be considered *ex parte*.

The protest is dismissed.

EX PARTE HESS.

Decided February 1, 1907.

ABANDONMENT OF APPLICATION—EXCUSE FOR DELAY.

Confusion upon the attorney's docket by reason of Office action suggesting claims for interference is not acceptable as a showing of unavoidable delay in responding to the prior Office action.

ON PETITION.

BALL-BEARING.

Mr. Fenelon B. Brock for the applicant.

ALLEN, *Commissioner:*

This is a petition that the application be held not abandoned notwithstanding delay by the applicant for more than a year in replying to the last action by the Office upon the merits of the application.

The Office action upon the merits is dated December 1, 1905. On April 16, 1906, the Examiner suggested claims for the purpose of interference proceedings. No reply was made by the applicant to either action until December 24, 1906, when this petition and the accompanying amendment in response to the rejection of December 1, 1905, were filed. The reason for the delay seems to have been confusion upon the attorney's docket of the dates of the Office actions December 1, 1905, and April 16, 1906, the attorney assuming that he had a year from the latter date for his action.

This reason would apply to any case in which the Examiner suggests claims after an action upon the merits which has not been replied to by the applicant. Such suggestion of claims is of common occurrence, and it must be held to be the duty of applicants and their attorneys to take precautions against confusion of the dates of the two Office letters. It would seem that effective precautions might readily be devised. Under these circumstances the delay cannot be held to have been unavoidable.

The petition is denied.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

SOBEY *v.* HOLSCLAW.

Decided June 6, 1906.

1. INTERFERENCE—DISSOLUTION—APPEAL FROM AFFIRMATIVE DECISION ON PATENTABILITY.

Neither the rules of the Patent Office nor any section of the Revised Statutes provide for nor permit appeals from a decision rendered upon a motion for dissolution affirming the patentability of the issue. (*Allen* v. *Lowry*, 116 O. G., 2253.)

2. SAME—APPEAL ON PRIORITY—PATENTABILITY OF ISSUE.

Where the patentability of the claims of an interference issue has been favorably passed upon by the Primary Examiner *ex parte* and also *inter partes* upon a motion to dissolve, from whose affirmative decision in the latter case no right of direct appeal is given either by the patent statutes or the rules of the Patent Office, and both the Examiner of Interferences and the Examiners-in-Chief have refused to direct the attention of the Commissioner, under Rule 126, to the fact that the claims were unpatentable, it cannot be successfully maintained that the Commissioner of Patents decided the question of priority without first determining and deciding that the subject-matter was patentable.

3. SAME—SAME—REVIEW BY COMMISSIONER OF DECISION OF EXAMINER ON PATENTABILITY OR RIGHT TO MAKE CLAIMS.

The Primary Examiners, who are given statutory authority to decide questions of patentability, are under the supervision of the Commissioner, and it would seem to be not only his right but his duty to correct any manifest error committed by any of the Primary Examiners relative to the patentability of a supposed invention or of the right of an applicant to claim it whenever such error was called to his attention. To warrant any action on his part in such a case, the error must be so gross that it would be a wrong to the public to permit a patent to issue. It manifestly should not be based upon a mere difference of opinion.

4. SAME—SAME—ADOPTION BY COMMISSIONER OF VIEWS OF SUBORDINATE TRIBUNALS.

Where the question of the patentability of the claims of the issue has been repeatedly raised before the subordinate tribunals of the Patent Office and is again raised upon appeal to the Commissioner on priority, the adoption by the Commissioner of the views of the subordinate tribunals is a sufficient determination by him of the question so far as it is necessary to be determined in an interference proceeding.

5. SAME—SAME—CONSIDERATION OF PATENTABILITY BY COURT.

Where the Primary Examiner has held claims to be patentable and the Examiner of Interferences and the Examiners-in-Chief have omitted or declined to call the attention of the Commissioner to the unpatentability of the issue or where the Commissioner has declined to review the decision of the Primary Examiner after his attention has been called to the alleged unpatentability of the issue, the Court of Appeals of the District of Columbia should hold the question of patentability to be settled, except in an extraordinary case. The statute does not provide for an appeal to the court from a ruling by the Commissioner or of any subordinate tribunals affirming the patentability of a claimed invention. It is only from a decision adverse to the patentability of a claim that an appeal will lie.

6. ISSUES—CONSTRUED IN LIGHT OF APPLICATION FIRST CONTAINING THEM.

Since the claims of an interference issue are to be construed in the light of the application of the party first making them, it would be manifestly improper for the Commissioner of Patents to read into them for any purpose limitations not disclosed in the application of such party.

7. JURISDICTION—COURT OF APPEALS OF DISTRICT OF COLUMBIA—CONTROL OVER PROCEDURE BEFORE COMMISSIONER.

On an appeal from the Commissioner of Patents to the Court of Appeals of the District of Columbia on the question of priority of invention the court has no power to hold that the Commissioner has committed an error for which a case should be reversed because of a claim that he refused to permit counsel to be heard in support of a given contention. The court cannot in such a proceeding control his action in a discretionary matter such as the extent of oral argument he will permit at a hearing of an interference.

8. JURISDICTION OF COMMISSIONER AFTER APPEAL TO COURT ON PRIORITY.

After a decision of the court of appeals on the question of priority the Commissioner of Patents may refuse a patent to the successful interferant.

Mr. George P. Fisher, Jr., *Mr. Percy B. Hills*, and *Mr. Melville Church* for Sobey.

Mr. E. M. Kitchin and *Mr. E. T. Fenwick* for Holsclaw.

DUELL, *J.*:

This case comes to us upon an appeal from the decision of the Commissioner of Patents awarding priority of invention to Holsclaw of certain improvements in planters which are set forth in the following issues:

1. In a planter, a cultivator and a seed-dropper, and a vertically-movable bar capable of lifting both said cultivator and the said dropper.

2. A seed-planter, comprising a seed-dropping mechanism, a reciprocating standard carrying a furrow-opener in front of the same, means for raising and lowering the said standard and furrow-opener simultaneously, said means also operating to raise the seed-dropping mechanism out of operative position.

3. A seed-planter provided with a reciprocating vertically-adjustable standard, antifriction means for guiding the same in its movement and yet capable of exerting a pull upon the same, and means engaging the standard for raising and lowering it.

4. A seed-planter provided with a vertically-movable seed-dropping mechanism, a chute therefor, a soil-preparing mechanism, a reciprocating standard carrying the same, a draw-bar engaging said standard, and means for adjusting the standard vertically with respect to said draw-bar.

5. A seed-planter provided with a reciprocating vertically-adjustable standard, antifriction means for guiding the same in its movements and means for raising and lowering the said standard.

6. A planter comprising a rigid frame, pivoted frames carried thereby, a seeder carried by one of said pivoted frames, covering means carried by the other pivoted frame and means for elevating one pivoted frame whereby the pivoted frame carrying the seeder will also be elevated for interrupting the operation of the seeder.

7. In a seeding-machine, the combination of a main frame supported on the carrying-wheels, a supplemental frame pivoted to the main frame and extending rearwardly of such pivotal connection, a furrow-opener, and a seedbox and covering-shovels adapted to be elevated when said supplementary frame is elevated, and a sweep supported in advance of said furrow-opener and in line therewith.

8. In a seed-machine, the combination of a main frame, a supplementary frame pivotally connected therewith, and free to swing vertically therein, a furrow-opener, a seedbox adapted to be moved when the frame is swung upon its pivot, covering-shovels carried by said supplementary frame, and a sweep arranged in advance of the furrow-opener.

The record discloses that Holsclaw, the senior party, filed his application September 10, 1903, while that of Sobey, the junior party, was not filed until June 22, 1904. The issues are claims made by Holsclaw and suggested by the Primary Examiner to Sobey, who filed an amendment to his application incorporating therein the suggested claims as claims 44 to 51 inclusive. In filing this amendment Sobey stated that he did so—

Without prejudice to our right to make motion for dissolution of the interference, when declared, should careful search and study show that the proposed claims (1) are unpatentable for lack of novelty or (2) raise no real conflict, as applied to the rival devices taken in conjunction with other inventions existing prior.

The interference having been declared, and the preliminary statements filed and opened, it was found that Sobey had failed to overcome Holsclaw's record date so that the Examiner of Interferences, in conformity with the rules of the Patent Office thereto pertaining notified the parties that unless Sobey should show good and sufficient cause before a given date judgment on the record would be rendered against him.

Thereupon Sobey moved to dissolve the interference upon the grounds that, no interference in fact existed, irregularity in its declaration which would preclude a proper determination of the question of priority, that the issues were unpatentable, and that Holsclaw had no right to make the claims. The motion was referred to and heard by the Primary Examiner, who filed an opinion specifically passing upon each ground upon which the motion was based. He denied the motion save as to count 5 which he held to be unpatentable in view of a prior patent. From this decision an appeal was taken to the Commissioner of Patents upon grounds stated in the latter's opinion, which also gives his reasons for affirming the decision of the Primary Examiner. The Commissioner said:

The grounds upon which this appeal is taken are that the Examiner erred in holding that there has been no such irregularity in declaring the interference as to preclude the proper determination of the question of priority, and that interference in fact exists between the inventions claimed in the respective applications.

Considering the question of interference in fact, it is found that both inventions relate to improvements in the type of agricultural implements known as planters. The machines disclosed by the respective parties to this interference, though differing in details of construction, are practically identical as to their main features, and they are used to accomplish the same purpose. The inventions defined in the counts of the issue cover the general combinations of elements and are not limited to the specific details which constitute the differences between the machines. The Examiner in his decision has set forth very specifically the structures of the two machines and had also correctly stated the functions which are accomplished in operating the mechanisms claimed. A comparison of the counts of the issue with the disclosures in both applications makes it clear that these counts have the same meaning when applied to each structure, and, consequently, there is an interference in fact. The reasons for this conclusion have been clearly stated by the Examiner in his decision and to state them again would be mere repetition of what has already been well said. No irregularity appears in the declaration of the interference and none has been pointed out by the appellant.

It will be noted that no appeal was taken from the Examiner's decision holding the issues, save the fifth, to be patentable and that Holsclaw had a right to make the claims. Neither the rules of the Patent Office nor any section of the Revised Statutes provide for nor permit such appeals. (*Allen* v. *Lowry*, 116 O. G., 2253.)

The interference proceedings were thereupon continued by the Examiner in Interferences who awarded priority of invention of all of the issues, save the one formerly declared unpatentable, to Holsclaw. Thereupon Sobey moved the Examiner of Interferences to vacate the judgment in Holsclaw's favor, to suspend the proceedings and to direct the attention of the Commissioner of Patents to certain reasons why the interference should be dissolved. These reasons again attacked the patentability of the issues. This motion was stated to be made under the authority of Patent Office Rule 126 which in substance provides that the Examiner of Interferences or the Board of Examiners-in-Chief, either before or in their decision on the question of priority, may direct the attention of the Commissioner to any matter not relating to priority which may have come to their notice, and which, in their opinion, establishes the fact that no interference exists, or that there has been irregularity in declaring the same, or which amounts to a statutory bar to the grant of a patent to either of the parties for the claim or claims in interference.

The Interference Examiner in denying the motion said:

The matters now set up as anticipating the issue were not called to the attention of the Examiner of Interferences before the decision on priority and not until the limit of appeal from said decision has nearly expired. The authority of the Examiner to act upon these matters under the rule is therefore doubtful. However, no useful purpose would be accomplished by the grant of the present motion, since Sobey, in order to preserve his rights, must take his appeal on the question of priority to the Board of Examiners-in-Chief. He may, under the rule, direct the attention of the Examiners-in-Chief to the matters alleged to anticipate the issue, thus preventing useless delay.

Appeal was then taken by Sobey to the Examiners-in-Chief from the Interference Examiner's decision awarding priority to Holsclaw. In his reasons of appeal he set forth that the Examiner of Interferences erred in awarding priority to Holsclaw because the issues were unpatentable, and clearly so when construed to cover Sobey's construction. He further urged that the Examiner erred in failing to direct the Commissioner's attention under Rule 126 to the unpatentability of the issues. At the time of taking this appeal he filed a petition asking them before any decision upon the question of priority to call the attention of the Commissioner of Patents to the claimed fact that a statutory bar (unpatentability of the issues) existed to the issue of a patent to either party.

The Examiners-in-Chief after a hearing, rendered a decision holding that they did not have jurisdiction to consider any of the questions raised by the assignment of errors save that of priority. They said that the question of the patentability of the claims was *res adjudicata* for them at the hearing of the question of priority of invention and that the Commissioner had settled the question of interference in fact.

In referring to the petition asking them to direct the attention of the Commissioner to the alleged unpatentability of the issues as provided by Rule 126 they said:

Rule 126 reads:

"Examiner of Interference or the Examiners-in-Chief may, either before or in their decision on the question of priority * * * direct the attention of the Commissioner * * * to any ground for rejection of the claims which are the counts of the issue."

It is not necessary to decide whether the rule authorizes the Examiners-in-Chief to direct the attention of the Commissioner to their opinion on such a matter and to refrain from deciding the question of priority of invention. It is enough to say that it is left to their discretion whether or not they will call the attention of the Commissioner to any such matter, and that their opinion should be certain and beyond doubt in order to enable them to so act.

We have considered the question which we have been petitioned to consider, in view of the patents cited by Sobey to sustain his contention against the claim and of the decision of the Principal Examiner and decline to express the opinion that the counts of the issue are unpatentable.

Appeal was duly taken to the Commissioner of Patents, and at the same time he was petitioned to dissolve the interference because the issues were anticipated by the patents of the prior art, and because they could only be held patentable by reading into them features of construction not found in Holsclaw's application, but disclosed in Sobey's. In passing it may be said that as the issues are claims originally made by Holsclaw, and therefore, as we have repeatedly held, in such case the issues are to be construed in the light of the application of the party making them, it would be manifestly improper for the Commissioner of Patents to read into them, for any purpose, limitations not disclosed in the application of the party first making the claims. Holsclaw's attorneys moved to dismiss the petition.

The Commissioner affirmed the decision of the Examiners-in-Chief awarding priority of invention of Holsclaw and at the same time dismissed Sobey's petition for reasons stated in his opinion deciding the question of priority.

The Commissioner in reviewing the case said:

It appears that the dates of invention alleged by Sobey in his preliminary statement are insufficient to overcome the case established for Holsclaw by the filing date of his application, and that Sobey can therefore make no contest upon the question of priority of invention. That he can make no further contest upon priority is conceded by Sobey, who admittedly took his appeal to the Examiners-in-Chief from the decision of the Examiner of Interferences upon priority of invention and also the present appeal for the sole purpose of attacking the patentability of the issue. The regular procedure for raising the question of patentability by a party in an interference proceeding is by motion under Rules 114 and 122. Such motion was made by Sobey, and his contention that the issues are not patentable was considered thereon by the Primary Examiner in connection with the same references upon which Sobey seeks to present this contention here. The Primary Examiner held upon this *inter partes* consideration, as he had previously held in the *ex parte* prosecution of the applications, that the issues were patentable. Well-established policy, expressed in Rule 124, denies the right of appeal from decisions affirming the patentability of claims. It would seem, in view of this policy and rule, and in view of Sobey's preliminary statement, that Sobey's opportunity to contest the right of Holsclaw to a patent upon the claims in issue was at an end when this decision of the Primary Examiner appeared.

However, Rule 126 provides that the Examiners-in-Chief may, either before or in their decision on the question of priority, direct the attention of the Commissioner to any matter not relating to priority which may have come to their notice and which in their opinion amounts to a statutory bar to the grant of a patent to either of the parties of the claims in interference. Sobey petitioned the Examiners-in-Chief to take action under this rule, by calling attention to the fact that in their opinion the claims are not patentable. In view of this petition, the Examiners-in-Chief did include in their decision upon priority the following statement:

"We have considered the question which we have been petitioned to consider, in view of the patents cited by Sobey to sustain his contention against the claim and of the decision of the Principal Examiner, and decline to express the opinion that the counts of the issue are unpatentable."

It is clear to my mind that this case is before me upon the single question of the priority of the parties with regard to the subject-matter of the issue, and that Sobey having conceded that he is

subsequent to Holsclaw in the possession of this matter, there is nothing for me to do here but affirm the decision of the Examiners-in-Chief in favor of Holsclaw. It is urged that there can be no proper decision upon priority of invention until the claims in controversy have been determined to be patentable. This contention does not, however, appear to have any application in the present case, for the claims in issue have been regularly determined to be patentable and the determination was a final one, so far as the necessity for a basis for determination of priority is concerned.

We have thus fully set forth the proceedings in the Patent Office because they show that the questions of patentability of the issues and of the proper construction to be given them were repeatedly called to the attention of the various tribunals and as fully considered as the rules governing the proceedings in that Office permit. These rules are presumably made to conform to the patent statutes, have been in force for many years, and have been found, in the main, to give satisfactory results. They show that the decision of the Primary Examiner, that the claims which are the issues of an interference are patentable and that all the parties to the interference have a right to make them, is final when rendered after the hearing of a motion to dissolve the interference. Furthermore, the rules provide for the further consideration of the question of patentability.

In the appeal taken to this court from the decision of the Commissioner of Patents awarding priority of invention to Holsclaw it is asserted on behalf of Sobey that the following errors were committed:

1. In deciding priority of invention in favor of Wilford H. Holsclaw:
2. In deciding upon the question of priority of invention without first determining and deciding that the subject-matter of the interference was a patentable subject-matter:
3. In not dissolving the interference (*a*) because of the lack of patentability in the subject-matter thereof and (*b*) because no interference in fact exists between the parties:
4. In refusing to consider or decide upon the patentability of the subject-matter of the interference:
5. In refusing to permit counsel for William Sobey to be heard in support of the contention on behalf of Sobey that the subject-matter of the interference is not a patentable subject-matter.

That the first assigned error is not well founded cannot be gainsaid, provided the issues set out a patentable invention and show rival claimants of it. Sobey failed to overcome Holsclaw's record date, and, so failing, no award of priority can be made in his favor.

The second alleged error does not seem to us well founded for the reason that the question of patentability had been affirmatively decided by the officer expressly authorized by law to decide that question, and from whose favorable decision no right of direct appeal is given by the patent statutes or the rules of the Patent Office lawfully promulgated. The Primary Examiners, who are given statutory authority to decide questions of patentability are under the supervision of the Commissioner and it would seem to be not only his right but his duty to correct any manifest error committed by any of the Primary Examiners relative to the patentability of a supposed invention, or of the right of an applicant to claim it whenever such error was called to his attention. To warrant any action on his part in such a case the error must, we think, be so gross that it would be a wrong to the public to permit a patent to issue. It manifestly should not be based upon a mere difference of opinion. The rules of the Patent Office, as we have seen, provide means by which the Examiner of Interferences and the Examiners-in-Chief, can, in an interference proceeding, express their opinion upon the question of the patentability of the issues of an interference and upon kindred questions. In the case at bar not only did the Primary Examiner pass upon the question of patentability and of the right of Holsclaw to make the claims in controversy, *ex parte*, but also in *inter partes* proceedings. Furthermore the Examiner of Interferences and the Examiners-in-Chief had their attention called to these questions, and, in declining to call the attention of the Commissioner of Patents to the alleged unpatentability of the issues, they in effect held them to be patentable. We think all the proceedings to prove that the Commissioner was so far satisfied of the patentability of the issues that he to all intents and purposes did decide that there was a patentable invention involved in the interference. He says:

The claims in issue have been regularly determined to be patentable and the determination was a final one, so far as the necessity for a basis for determination of priority is concerned.

In view of this statement and of the proceedings in the Office, we are not prepared to say that the Commissioner did not to his own satisfaction determine that there was a patentable subject-matter. He adopted the views of the subordinate tribunals of the Office after the question of patentability had been repeatedly raised, and, in so doing, he determined the question of a patentable subject-matter so far as was necessary in this proceeding. These views dispose also of the fourth alleged error. Of the fifth it need only be said that we have no power over the Commissioner in such a proceeding as this to hold that he has committed an error, for which a case should be reversed, because of a claim that he has refused to permit counsel to be heard in support of a given contention. The method of procedure upon a hearing in an interference proceeding is fixed by rules or is within the discretion of the Commissioner, and a review, if any could be had, would be by some proceeding other than by the ordinary appeal. We cannot control his action in a discretionary matter such as the extent of oral argument he will permit at a hearing of an interference: certainly we cannot, on appeal from his decision awarding priority of invention.

This leaves for consideration the question raised by the third assignment of error. We are asked to reverse the Commissioner because he refused to dissolve the interference for the reason that the issues are not patentable and because no interference in fact exists between the parties. In this connection it becomes necessary to consider to what extent we are called upon, or bound, to review the action of the Patent Office tribunals upon these, or analogous findings.

The question presented to us is not a new one. Unsuccessful parties to interferences have urged us to reexamine about every question that has been litigated in the Patent Office during the course of interference proceedings. It will be sufficient to refer to a few of the cases illustrating the view this court has taken of questions the same, and similar, to those here presented.

In *Hisey* v. *Peters*, (C. D., 1895, 349; 71 O. G., 892; 6 App. D. C., 68,) where it was urged that the interference did not present a patentable invention, Chief Justice Alvey, delivering the opinion of the court, said:

The question of patentability of the claim for invention was referred to and passed upon by the Primary Examiner in the Patent Office, who is the expert as to the state of the art involved, and it was not until that examination was had and favorably reported that the interference was or could be declared. The appellant

making claim for an alleged patentable invention, is not to be heard to urge non-patentability of his claim after it had been placed in interference with another claim. He is effectually estopped on that question by reason of his own affirmative assertion that his claim is patentable; and if his own claim is patentable that with which it would interfere may be equally so, if priority of invention be shown. Moreover, the rights of appeal in case of the refusal of a patent upon the ground of non-patentability of the claim, and refusal of a patent because of interference with a prior right of invention, are distinct rights and the latter does not involve the former. This is clearly indicated in the Revised Statutes of the United States, section 4911, and in section 9 of the act of Congress of February 9, 1893, providing for the organization of this court.

In *Doyle* v. *McRoberts* (C. D., 1897, 413; 79 O. G., 1029; 10 App. D. C., 445) Mr. Justice Hagner, of the Supreme Court of the District of Columbia, sitting in the place of Chief Justice Alvey and delivering the opinion of the court, said:

In our opinion, it is not competent for this court, in an interference proceeding, to abandon the question of priority and pass upon the patentability of the alleged invention. This was decided as far back as 1875 by the Supreme Court in general term, (*U. S., ex rel. Bigelow*, v. *Thatcher*, 2 Mac A., 24,) where the petitioner in interference asked for the vacation of the patent upon the ground that the inventor had abandoned his invention to public uses. In *Hisey* v. *Peters* (C. D., 1895, 349; 71 O. G., 892; 6 App. D. C., 70) the identical motion interposed here was made and was overruled upon the ground that the applicant was effectually estopped to dispute the patentability of the invention by reason of his own affirmative assertions that his claim was patentable. (See also *U. S., ex rel. Brodie*, v. *Seymour, Comr.*, C. D., 1897, 372; 79 O. G., 509; 25 Wash. Law Rep., 183.) But it is insisted that under the authority of *Hill* v. *Wooster* (C. D., 1890, 230; 50 O. G., 560; 132 U. S., 694) the Supreme Court has settled the competency of this court to sustain this claim.

That decision has no relevancy to a case like the present.

Section 52 of the Patent Office Act of July, 1870 (R. S., sec. 4915,) provides that: "Whenever a patent or application is refused, either by the Commissioner of Patents or by the Supreme Court of the District of Columbia upon appeal from the Commissioner, the applicant may have a remedy by bill in equity, and the court having cognizance thereof, on notice to adverse parties and other due proceedings, may adjudge that such applicant is entitled, according to law, to receive a patent for his invention as specified in his claim, as the facts in the case may appear; and such adjudication, if it be in favor of the right of the applicant, shall authorize the Commissioner to issue such patent, etc."

It was in a proceeding under this special statute that the Supreme Court held an equity judge was obliged under the language of the act, to consider the patentability of the invention covered by the claim, and if he should find it not patentable should deny the application. Such a provision is in entire sympathy with the general principles of equity which refuses to decree in favor of the most specious of two applicants under a claim of an illicit character.

But the present is not a proceeding in a court of equity; nor is it an application for the issue of a patent under the circumstances recited in the statute. It is a proceeding as at law and under altogether different conditions, and hence the decision can have no application to the matter before us.

In *Oliver* v. *Felbel*, (C. D., 1902, 565; 100 O. G., 2384; 20 App. D. C., 262) Mr. Justice Morris, speaking for the court, said:

In the sense of the patent law there can be no interference unless there is patentable invention and there are rival claimants of it. Patentability of the invention or device is a necessary prerequisite to a declaration of interference; and the patentability of an invention, in controversy, except under some extraordinary circumstances, is not an open question before us.

In that case there had been "no final and definite adjudication of patentability." The Examiners-in-Chief were of the opinion that the claim in issue was not patentable. The Commissioner had not acted on the question of patentability thus called to his attention, but had reserved it for the consideration of the Primary Examiner after the question of priority should be finally decided. It was held, that, as the question of patentability had not been finally decided, the cause as presented was in effect a moot cause. Notwithstanding this the court assumed that the question of patentability had been definitely decided and expressed an opinion on the merits.

In *Luger* v. *Browning*, (C. D., 1903, 593; 104 O. G., 1123; 21 App. D. C., 201,) in connection with the appeal from the Commissioner's decision on the question of priority, a motion was made to remand the proceeding to the Commissioner for a final determination of the question of patentability. That motion was denied and the court distinguished the case from that of *Oliver* v. *Felbel*, *supra*, saying:

But we have repeatedly held that the question of patentability in general is not open in this court in interference proceedings. And as far as concerns the question of the reservation of the question of patentability of the invention, and the application of the case of *Oliver* v. *Felbel*, we find no such reservation in the present case as there was in that of *Oliver* v. *Felbel*. There the Board of Examiners had expressed the opinion that the subject-matter in issue was not patentable; and the Commissioner in his decision expressly reserved that question for future consideration by the Primary Examiner when the case should go back to him. No such conditions appear in the present case. In the brief submitted by the appellant before the Commissioner the appellant suggested some new references on the question of the patentability of the invention. The Commissioner, properly, as it would seem, declined to consider them; and directed that the Primary Examiner should consider them, when the appellee's application should come before him again after the conclusion of the interference. We cannot hold that this amounted to a reservation of the question of patentability under the ruling in the case of *Oliver* v. *Felbel*. The contents of the references are not disclosed; it is not shown that they are material: the Commissioner has expressed no opinion in regard to them: and a mere suggestion by a party in interference to the effect that new references brought forward before the Commissioner for the first time will show want of patentable novelty in the subject-matter of controversy is not the equivalent of a reservation of the question of patentability by the Commissioner. The motion to remand the cause, therefore, for the determination of this question cannot be allowed.

In *Allen* v. *Lowry*, (116 O. G., 2253.) which came before us on appeal from a decision of the Supreme Court of the District of Columbia directing the issue of a writ of mandamus to the Commissioner of Patents commanding him to direct the Examiners-in-Chief to take jurisdiction of an appeal taken by Lowry from a ruling of the Primary Examiner denying Lowry's motion to dissolve an interference on the ground that his adversary had no right to make the claim because his application disclosed an inoperative device, we reversed the court below and held that such a motion was not applicable. We held that whatever right a party to an interference had to contest the right of his adversary to make an interfering claim, such right, if any, was reviewable, if at all, upon the final decision of the question of priority.

In *Podlesak and Podlesak* v. *McInnerney* (120 O. G., 2127) we remanded an interference to the Commissioner of Patents for further consideration of the question of identity of invention. We considered the case as being one out of the ordinary and felt constrained, in view of certain matters called to our attention, and which apparently had not been considered by the Commissioner, to take such action. We said:

We find that the question of appellee's right to make the claim has received the consideration of the Primary Examiner, of the Examiners-in-Chief and of the Commissioner. Where a question such as this has been fully considered by them, and all have concurred in finding a party to an interference has the right to make a claim which is the same as the count of the issue of an interference, their concurrent finding should not be lightly disturbed and will be ordinarily considered by this court as conclusive. In an *ex parte* case the decision of the Primary Examiner that a party has a right to make a claim is final unless for good cause shown the Commissioner, under his supervisory powers, takes jurisdiction to review the question. It is generally left to courts in a suit brought after the issue of the patent, for infringement of a claim thus allowed to determine whether the patentee ever had a right to make the claim. If however an interference, involving such claim, be instituted the rules of the Patent Office provide for an examination by the Primary Examiner of the question of the right of either party to make the claim. If his decision be in the affirmative the rules do not provide for an appeal to the Examiners-in-Chief. In *Allen* v. *United States ex rel. Lowry* (116 O. G., 2252) this court held that where such a decision was rendered by the Primary Examiner on a motion to dissolve no appeal would lie. It was there said that the court had reviewed other ancillary questions when they properly came before it on appeal from final judgments awarding priority of invention. The question of the right of a party to make a claim goes to the very foundation of an interference for if the party has not such right the interference falls. If it be incorrectly held that such party has a right to make the claim priority may be awarded to him and his adversary be deprived of a substantial right in that he is not given a claim where

he necessarily is the prior inventor, his adversary never having made the invention. Manifestly that question should not be finally determined by the Primary Examiner who originally declared the interference. We therefore take jurisdiction to determine that question in this case as an ancillary question to be considered in awarding priority of invention. Where however three tribunals of the Patent Office have concurred in answering the question in the affirmative, as they have in this case, we shall follow them unless a manifest error has been committed.

In *Parkes* v. *Lewis*, decided at the present term, we have again held that the question of patentability will not ordinarily be reviewed in this court. In so holding we must not be understood as deciding that there can be an interference without there is a patentable invention, or that, should we be satisfied that there was no patentable invention involved, we should make an award of priority. It would be our manifest duty to remand an interference to the Commissioner of Patents, or at least call his attention to the fact, whenever it is shown that there is a bar to the issue of a patent to both parties to an interference. But where the Primary Examiner has held claims to be patentable, and the Examiner of Interferences and the Examiners-in-Chief have omitted or declined to call the attention of the Commissioner of Patents to the unpatentability of the issue of an interference, or where the Commissioner has declined to review the decision of the Primary Examiner, after his attention has been called to the alleged unpatentability of the issues, we are of the opinion that, except in an extraordinary case, we should hold the question of patentability to be settled. The statute does not provide for an appeal to this court from a ruling by the Commissioner of Patents, or of any of the subordinate tribunals, affirming the patentability of a claimed invention. It is only from a decision adverse to the patentability of a claim that an appeal will lie to this court. (U. S. R. S., sec. 4911; sec. 9 of the act of February 9, 1893, establishing this court.) It is however strenuously urged that the proceeding authorized by section 4915 of the Revised Statutes, which provides for relief by bill in equity where a patent has been finally refused, is sufficiently analogous to an appeal like the present to warrant and even require this court to consider, upon its own motion the question of patentability. We cannot agree with this contention. The proceedings are quite different. One is a proceeding in equity the other at law. The proceeding under section 4915 will only be open to the parties to this interference when a patent shall finally be refused to one of them because he shall fail to prove that his inventive act was earlier than that of his successful adversary, or for any other reason. Then and not till then can he avail himself of the provision of the section, and not till then will the case of *Hill* v. *Wooster* (C. D., 1890, 230; 71 O. G., 892; 132 U. S., 693) be controlling.

In interferences we do not determine whether either party shall receive a patent. The question presented to us is, conceding that there is a patentable invention, which party was the one first to invent or discover the same. When an interference is returned to the Patent Office after we have decided the question of priority it is within the power of the Commissioner of Patents to withhold a patent from the successful interferant. In such case by an orderly system of appeals provided by the statute the action of the Commissioner of Patents may be reviewed on an *ex parte* appeal. It is only on such appeals that we can decide that a patent shall or shall not issue. Appeals frequently come to this court in *ex parte* cases where some claims have been allowed and others refused. The appeal is only before us to consider the correctness of the Commissioner's decision in disallowing the appealed claims. We may doubt the patentability of the allowed claims, but are without power to act. So in interferences we may doubt the patentability of the issues, but we find no provision in the statute warranting us in overruling the deliberate decision of the Patent Office because of any such mere doubt. Authority to grant patents is vested in the Commissioner of Patents. If he errs and grants an invalid patent, his error is corrected by the court whenever the validity of the patent is questioned.

In cases such as the one at bar where the patentability of the claims which are the issues of an interference has been attacked in the Patent Office, and alleged invalidity has been repeatedly called to the attention of its officers authorized and required by the statutes and rules to consider the subject, we think their conclusion should, except perhaps in extraordinary cases, be held controlling upon us in interference cases where we are called upon to determine which of two or more parties first made the invention which they are claiming. Any doubt we may have should be resolved in favor of the correctness of the finding that there is a patentable invention involved in the interference. Especially so when the alleged invalidity is based upon the prior art.

We do not feel warranted in disturbing the rulings of the Commissioner of Patents, and those of the subordinate tribunals, which have considered this case and we therefore affirm the decision of the Commissioner of Patents awarding priority of invention to Holsclaw.

Let this opinion, and the proceedings of the court in the premises, be certified to the Commissioner of Patents according to law. Affirmed.

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 22, 1907.

Alexander Speer & Sons, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Star Manufacturing Company, of Carpentersville, Ill., for registration of a trade-mark and a trade-mark registered to Alexander Speer & Sons, of Pittsburg, Pa. It has been found impossible to locate the said Alexander Speer & Sons, and their attorneys of record are dead.

Notice is therefore hereby given to Alexander Speer & Sons, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 18, 1907.

F. G. Whitney & Company, their assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of E. M. Weinberg & Company, of 134 Mott street, borough of Manhattan, New York, N. Y., for registration of a trade-mark and a trade-mark registered to F. G. Whitney & Company, of Attleboro, Mass., and the notice of said declaration mailed by the Patent Office in the usual manner to the said F. G. Whitney & Company having been returned undelivered, notice is hereby given to the said F. G. Whitney & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notice of declaration heretofore sent by and returned to the Office may be forwarded to them.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

THE
OFFICIAL GAZETTE
OF THE
United States Patent Office.
[BY AUTHORITY OF CONGRESS.]

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Patents	694	No. 845,042 to No. 845,735,	inclusive.
Designs	4	No. 38,465 to No. 38,468,	inclusive.
Trade-Marks	184	No. 60,853 to No. 61,036,	inclusive.
Labels	10	No. 13,375 to No. 13,384,	inclusive.
Prints	3	No. 1,911 to No. 1,913,	inclusive.
Reissues	1	No. 12,613.	
Total issue	896		

TO CITIZENS OF THE UNITED STATES.

States.	Patents and Designs.	Trade-Marks, Labels, and Prints.	States.	Patents and Designs.	Trade-Marks, Labels, and Prints.
Alabama	3	1	New Hampshire	5	.....
Alaska, District of	.....	.....	New Jersey	40	21
Arizona Territory	.....	.....	New Mexico Ter't'y	1	.....
Arkansas	1	1	New York	89	66
California	31	3	North Carolina	.....	2
Colorado	12	1	North Dakota	4	.....
Connecticut	16	7	Ohio	36	12
Delaware	.....	.....	Oklahoma Territ'y	4	.....
District of Columbia	5	1	Oregon	4	.....
Florida	4	.....	Pennsylvania	53	11
Georgia	5	2	Philippine Islands	.....	.....
Hawaii Territory	1	.....	Porto Rico	.....	.....
Idaho	.....	.....	Rhode Island	5	.....
Illinois	72	15	South Carolina	.....	.....
Indian Territory	1	.....	South Dakota	1	.....
Indiana	17	.....	Tennessee	6	2
Iowa	14	1	Texas	14	2
Kansas	6	.....	Utah	2	.....
Kentucky	10	1	Vermont	4	.....
Louisiana	5	2	Virginia	5	2
Maine	2	1	Washington	7	.....
Maryland	7	1	West Virginia	5	.....
Massachusetts	33	11	Wisconsin	18	6
Michigan	21	3	Wyoming	1	.....
Minnesota	8	.....	U. S. Army	.....	.....
Mississippi	1	1	U. S. Navy	1	.....
Missouri	22	4			
Montana	2	.....	Total to citizens of the United States	612	180
Nebraska	8	.....			

TO CITIZENS OF FOREIGN COUNTRIES.

Countries.	Patents and Designs.	Trade-Marks and Prints.	Countries.	Patents and Designs.	Trade-Marks and Prints.
Argentina	.....	.....	Natal	.....	.....
Austria-Hungary	3	.....	Netherlands	.....	.....
Belgium	4	.....	Newfoundland	.....	.....
Brazil	.....	.....	New South Wales	1	.....
British West Indies	.....	.....	New Zealand	.....	.....
Canada	8	1	Norway	2	.....
Cape Colony	.....	.....	Persia	.....	.....
Chile	.....	.....	Queensland	.....	.....
China	.....	.....	Roumania	.....	.....
Costa Rica	.....	.....	Russia	2	.....
Cuba	.....	1	Scotland	2	.....
Denmark	1	.....	South Australia	2	.....
Ecuador	.....	.....	Spain	.....	.....
England	19	4	Sweden	1	.....
France	10	3	Switzerland	3	.....
Germany	22	6	Transvaal, South Africa	.....	.....
Haiti	.....	.....	Victoria	1	.....
Ireland	1	1	Western Australia	1	.....
Italy	2	.....			
Japan	.....	1			
Java	.....	.....	Total to citizens of foreign countries	86	17
Mexico	1	.....			

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., February 2, 1907.

James M. McClave, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for patent filed by Walter G. Swart, of Denver, Colo., and an application for patent filed by James M. McClave, of the same place. It appears from the record of the interference that the said James M. McClave has removed from his known address, No. 1034 Broadway, Denver, Colo., and his present whereabouts is unknown. Notice is therefore hereby given to the said James M. McClave, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 22, 1907.

Francis Sedziak, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application for patent filed by Joseph M. Bosenbury, of Decatur, Ill., and an application for patent filed by Francis Sedziak, of St. Louis, Mo. It appears from the record of the case that the present address of the said Francis Sedziak is unknown, and it has been impossible to notify him of the interference.

Notice is therefore hereby given to the said Francis Sedziak, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

APPLICATIONS UNDER EXAMINATION.

Condition at Close of Business February 19, 1907.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
308	XV. Bread, Pastry, and Confections, Making, Coating, Laminated Sheets and Fabrics, Fuel, Glass, Hydraulic Lime and Cement, Paper-Making, Paving, and Plastics.	Feb. 11	Feb. 14	66
321	I. Tillage, etc., Fences, and Railway Draft Appliances.	Feb. 9	Jan. 26	141
109	XVI. Telegraphy and Telephony..	Feb. 7	Jan. 25	122
133	XXII. Air-Guns, Ammunition and Explosive Devices, Boats and Buoys, Catapults and Targets, Firearms, Marine Propulsion, Ordnance, Ships.	Feb. 6	Jan. 26	100
128	II. Bee Culture, Dairy, Label-Affixers, Paper Files and Binders, Pneumatics, Presses, Store-Service, Tobacco, etc.	Feb. 6	Jan. 23	150
152	XXX. Fluid-Pressure Regulators, Lamps and Gas-Fittings, Type-Writing Machines.	Feb. 6	Jan. 21	95
167	V. Bookbinding, Harvesters, Jewelry, and Music.	Feb. 5	Jan. 23	234
304	XXXIV. Railways, Railway-Brakes, Rolling-Stock.	Feb. 5	Jan. 23	222
312	VII. Games and Toys, Mechanical Motors, Optics, Paper Manufactures, Velocipedes.	Feb. 5	Jan. 22	182
318	VI. Bleaching and Dyeing, Chemicals, Explosives, Fertilizers, Medicines, Preserving, Sugar and Salt.	Feb. 5	Jan. 22	211
137	VIII. Beds, Chairs, Furniture, Kitchen and Table Articles, Store Furniture.	Feb. 5	Jan. 21	276
303	XVII. Clutches, Linotyping, Printing, Matrix-Making, Nut and Bolt Locks.	Feb. 5	Jan. 21	120
172	XXXI. Alcohol, Charcoal and Coke, Distillation, Gas, Heating and Illuminating, Hides, Skins, and Leather, Liquid Coating Compositions, Oils, Fats, and Glue, Water Purification.	Feb. 4	Jan. 19	218
327	XVIII. Steam-Engineering, etc ...	Feb. 2	Jan. 17	149
164	XXXIII. Canes, Canopies, Cutlery, Domestic Cooking Vessels, Electricity, Medical and Surgical, Electric Signaling, Fireproof Buildings, Harness, Masonry, Tents, and Umbrellas.	Feb. 1	Jan. 28	207
375	XXVII. Brushing and Scrubbing, Grinding and Polishing, Laundry, Washing Apparatus.	Feb. 1	Jan. 21	330
244	XXXV. Baggage, Buckles, Buttons, and Clasps, Card, Picture, and Sign Exhibiting, Deposit and Collection Receptacles, Package and Article Carriers, Packing and Storing Vessels, Photography.	Feb. 1	Jan. 17	362
232	IV. Bridges, Conveyers, Cranes and Derricks, Excavating, Hoisting, Hydraulic Engineering, Loading and Unloading, and Towers.	Feb. 1	Jan. 15	247
307	XIV. Compound Tools, Cutting and Punching Sheets and Bars, Farriery, Metal-Bending, Metal-Ornamenting, Sheet-Metal Ware, Making, Tools, Wire-Working.	Feb. 1	Jan. 14	185
322	XXXVI. Curtains, Shades, and Screens, Drafting, Driers, Measuring Instruments, and Wind-Wheels.	Jan. 31	Jan. 29	232
378	XXXVIII. Artesian and Oil Wells, Bottles and Jars, Care of Live Stock, Fishing and Trapping, Stationery, Stone-Working.	Jan. 30	Jan. 21	258
179	XX. Artificial Limbs, Builders' Hardware, Dentistry, Locks and Latches, Safes, Undertaking.	Jan. 30	Jan. 18	204
105	XXVI. Electricity, Generation, Electric Heaters, Electric Railways, Motive Power.	Jan. 30	Jan. 2	237
324	XII. Elevators, Journal-Boxes, Lubricators, Machine Elements, Pulleys and Shafting.	Jan. 28	Jan. 25	298

Applications Under Examination—Continued.

Room No.	Divisions and subjects of invention.	Oldest new application and oldest action by applicant awaiting office action. Amended	New.	No. of applications awaiting action.
147	XXIX. Coopering, Fire-Escapes, Ladders, Roofs, Wheelwright-Machines, Wooden Buildings, Wood-Sawing, Wood-Turning, Woodworking-Tools, Woodworking.	Jan. 28	Jan. 14	206
122	XIX. Heating and Cooking Stoves, Liquid and Gaseous Fuel, Stoves and Furnaces, and Furnaces.	Jan. 26	Jan. 21	338
144	XXIV. Apparel, Apparel Apparatus, Sewing-Machines, Surgery, Toilet.	Jan. 25	Jan. 19	218
142	IX. Air and Gas Pumps, Baths and Closets, Fire-Extinguishers, Hydraulic Motors, Pumps, and Sewerage.	Jan. 24	Jan. 25	358
148	XXXII. Carbonating Beverages, Dispensing Beverages, Dispensing-Cans, Metallic Shipping and Storing Vessels, Packaging Liquids, Paper Receptacles, Refrigeration, Wooden Receptacles.	Jan. 23	Jan. 23	441
330	XIII. Arms, Projectiles, and Explosive Charges, Making, Metal-Working, Needle and Pin Making, etc.	Jan. 23	Jan. 21	278
332	X. Carriages and Wagons.....	Jan. 23	Jan. 21	412
382	XXVIII. Miscellaneous Heat-Engines, Internal-Combustion Engines.	Jan. 22	Jan. 22	390
107	XXXVII. Electricity, Conductors, Lighting, Special Apparatus.	Jan. 21	Jan. 19	325
379	XXIII. Acoustics, Coin-Handling, Horology, Recorders, Registers, Signals, Time Controlling Mechanism.	Jan. 21	Jan. 24	278
175	III. Annealing and Tempering, Coating with Metal, Electro-chemistry, Metal-Founding, Metallurgy, Shaping Fluid Metal.	Jan. 18	Jan. 9	276
154	XI. Boot and Shoe Making, Boots, Shoes, and Leggings, Button, Eyelet, and Rivet Setting, Leather Manufactures, Nailing and Stapling, Check-Controlled Apparatus, Whips and Whip Apparatus.	Jan. 16	Jan. 16	368
343	XXXIX. Cushion and Pneumatic Tires, Fine Arts, and Water Distribution.	Jan. 14	Jan. 17	587
112	XXI. Textiles, Carding, Knitting, Spinning, Weaving, etc.	Jan. 12	Jan. 19	245
315	XXV. Butchering, Mills, Threshing, and Vegetable Cutters and Crushers.	Jan. 11	Dec. 20	288

Total number of applications awaiting action 9,854

159	TRADE-MARKS, DESIGNS, LABELS AND PRINTS.			
	Trade-Marks	Feb. 16	Feb. 14	100
	Designs	Feb. 9	Feb. 7	19
	Labels and Prints	.....	.....	....

Interference Notice.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.
Washington, D. C., January 22, 1907.

Alexander Speer & Sons, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Star Manufacturing Company, of Carpentersville, Ill., for registration of a trade-mark and a trade-mark registered to Alexander Speer & Sons, of Pittsburg, Pa. It has been found impossible to locate the said Alexander Speer & Sons, and their attorneys of record are dead.

Notice is therefore hereby given to Alexander Speer & Sons, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

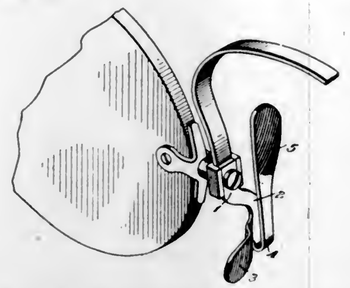
This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

PATENTS

GRANTED FEBRUARY 26, 1907.

845,042. NOSE-GUARD FOR EYEGLASSES. LEO F. ADT, Albany, N. Y. Filed Dec. 8, 1906. Serial No. 346,884.



Claim.—1. A nose-guard for eyeglasses composed of flat material embodying lower and supplemental nose-engaging portions arranged in edgewise relation and connected by a resilient bend flatwise of the material and arranged on substantially the same level with the lower nose-engaging portion.

2. A nose-guard for eyeglasses embodying a lower nose-engaging portion, a supplemental nose-engaging portion arranged in rear of the lower portion, and an arm connecting the said nose-engaging portions having a resilient bend therein transverse of the plane of the nose-engaging surface of the guard and arranged at the lower portion of the guard.

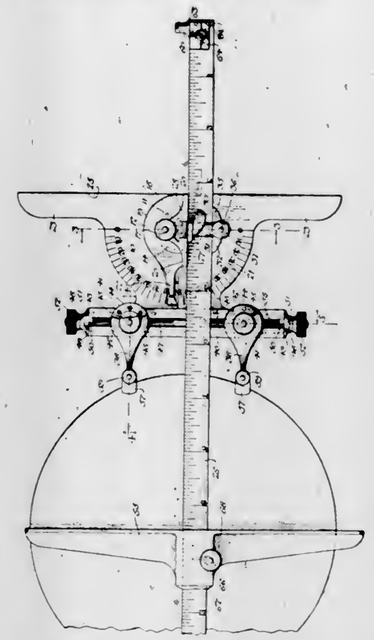
3. A nose-guard for eyeglasses composed of a single piece of flat material embodying an attaching portion, a lower nose-engaging portion, a supplemental nose-engaging portion arranged edgewise to the lower bearing portion and extending above the point of attachment thereof, and a connecting-arm proceeding edgewise from the guard and having a resilient bend therein flatwise of the material at a point in rear of and at substantially the same level with the lower nose-engaging surface.

4. A nose-guard for eyeglasses composed of sheet material and embodying a lower holding-pad, a supplemental pad arranged above the holding-pad, and a reduced elongated nose-engaging arm arranged edgewise of the holding-pad and extending upwardly from the lower portion of the holding-pad.

5. A nose-guard for eyeglasses composed of sheet material and embodying an attaching portion, a lower nose-engaging portion, a supplemental nose-engaging portion or pad arranged above and in rear of the lower nose-engaging portion, and an elongated arm arranged edgewise of the lower nose-engaging portion and connecting the latter and the supplemental pad, said arm having a resilient portion therein at the lower portion of the guard and formed by a flatwise bend of the material.

6. In eyeglasses, the combination with a lens of a nose-guard adapted to be attached thereto composed of sheet material and embodying an attaching portion, a supporting-arm extending downwardly therefrom and offset rearwardly of the plane of the lens, a lower nose-engaging portion extending forwardly and downwardly from said arm, a supplemental nose-engaging pad, and an elongated resilient arm therefor forming a continuation of the offset supporting-arm and arranged edgewise of the lower nose-engaging portion, said arm having a bend therein flatwise of the material at a point adjacent to the lower nose-engaging portion.

845,043. PROTRACTOR. ABRAHAM ANDERSON, Moline, Ill. Filed Oct. 5, 1906. Serial No. 337,547.



Claim.—1. A protractor comprising a base, a support rotatably mounted on said base, a laterally-extending marking-blade carried by said support, said rotatable support and said base having a coöperating pointer and scale to determine the adjustment of said support, means for clamping the same in adjusted position, said base having a portion thereof forming a straight-edge, a pair of gage-arms mounted on said base and arranged to engage the rounded edges of the work and means for adjusting said arms to spread and contract the same, substantially as described.

2. A protractor comprising a base, a support rotatably mounted on said base, a laterally-extending marking-blade carried by said support, said rotatable support and said base having a coöperating pointer and scale to determine the adjustment of said support, means for clamping the same in adjusted position, said base having a flat lower face and a portion at one side thereof forming a straight-edge, a pair of gage-arms carried by said base and extending laterally therefrom, said gage-arms having rounded, vertically-disposed, bearing end portions arranged above the lower flat surface of said base and means for adjusting said arms to spread or contract the same, substantially as described.

3. A protractor comprising a base having a portion thereof on one side forming a straight-edge and a portion on its opposite side parallel to said straight-edge forming a guide, a pair of gage-arms mounted to slide on said guide, means for adjusting said arms and for clamping them in adjusted position, a support rotatably mounted

on said base and a marking-blade carried by said support, substantially as described.

4. A protractor comprising a base having a portion thereof on one side forming a straight-edge and a portion on its opposite side parallel to said straight-edge forming a guide, a pair of gage-arms mounted to slide on said guide, means for adjusting said arms and for clamping them in adjusted position, a support rotatably mounted on said base, a vertically-adjustable, rotatable member on said support and a marking-blade carried by said member and longitudinally shiftable therethrough, substantially as described.

5. A protractor comprising a base having a portion on one side forming a straight-edge, a pair of gage-arms mounted on the opposite side of said base and having rounded bearing ends adapted to abut against the rounded edge of the work, a support mounted on said base to rotate on a vertical axis, means for clamping said support in adjusted position, and a marking-blade carried by said support, substantially as described.

6. A protractor comprising a base having a portion on one side forming a straight-edge, a pair of gage-arms mounted on the opposite side of said base and having rounded bearing ends adapted to abut against the rounded edge of the work, a support mounted on said base to rotate on a vertical axis, means for clamping said support in adjusted position, a stud mounted on said support to rotate on a horizontal axis and a longitudinally-shifting marking-blade carried by said stud, substantially as described.

7. A protractor comprising a base having a portion on one side forming a straight-edge, a pair of gage-arms mounted on the opposite side of said base and having rounded bearing ends adapted to abut against the rounded edge of the work, a support mounted on said base to rotate on a vertical axis, means for clamping said support in adjusted position, a vertically-shifting block mounted to slide in guideways in said support, a stud mounted on said block to rotate on a horizontal axis, a longitudinally-shifting marking-blade carried by said stud, means for clamping said block to said support and means for clamping said blade to said stud, substantially as described.

8. A protractor comprising a flat base having a portion thereof at one side forming a straight-edge, a pair of gage-arms mounted on the opposite side of said support and having bearing ends adapted to abut against the rounded edge of the piece of work, means engaging said arms to spread or contract the same, a support mounted on said base to rotate on a horizontal axis and a marking-blade carried by said support, substantially as described.

9. A protractor comprising a flat base having a portion thereof at one side forming a straight-edge, a pair of gage-arms mounted on the opposite side of said support and having bearing ends adapted to abut against the rounded edge of the piece of work, means engaging said arms to spread or contract the same, a support mounted on said base to rotate on a horizontal axis, a stud on said support, said stud being vertically adjusted thereon and mounted to rotate on a horizontal axis and a longitudinally-shiftable marking-blade carried by said stud, substantially as described.

10. A protractor comprising a base having a flat, lower surface, a pair of laterally-extending gage-arms mounted on said support and having rounded vertical end portions for engaging the rounded edge of a piece of work, said arms and the end portions thereof being arranged above the plane of the lower face of said base, means engaging said arms to spread or contract the same, a support mounted on said base to rotate on a vertical axis and a laterally-extending marking-blade carried by said support, substantially as described.

11. A protractor comprising a base, a support rotatably mounted thereon, a laterally-extending marking-blade carried by said support, said base having a guide formed thereon, a pair of gage-arms mounted to slide on said guide and a right and left hand screw connected to said arms to spread and contract the same, substantially as described.

12. A protractor comprising a base, a support mounted thereon to rotate on a vertical axis, a laterally-extending marking-blade carried by said support, said base having a guide formed thereon, a pair of gage-arms mounted to slide on said guide, a right and left hand screw extending through said guide and connected to said arms to spread and contract the same and nuts on the ends of said screw abutting against the ends of said guide, substantially as described.

13. A protractor comprising a base, a support mounted thereon to rotate on a vertical axis, a laterally-extending marking-blade carried by said support, said base having a guide formed thereon, a pair of gage-arms mounted to slide on said guide, a right and left hand screw extending through said guide and connected to said arm to spread and contract the same and nuts on the ends of said screw abutting against the ends of said guide and having portions thereof journaled to rotate in suitable bearings formed on the ends of said guide, substantially as described.

14. A protractor comprising a base, a support mounted thereon to rotate on a vertical axis, a laterally-extending marking-blade carried by said support, said base having a guide formed thereon, a pair of gage-arms mounted to slide on said guide, a right and left hand screw extending through said guide and connected to said arm to spread and contract the same, nuts on the ends of said screw engaging the ends of said guide and lock-nuts on said screw engaging said first-mentioned nuts, substantially as described.

15. A protractor comprising a base, a support mounted on said base to rotate on a vertical axis, a laterally-extending marking-blade carried by said support, said base having a guide formed thereon, a pair of laterally-extending gage-arms mounted to slide on said guide, a right and left hand screw engaging said arms to spread and contract the same and means for clamping said arms in adjusted position, substantially as described.

16. A protractor comprising a base, a support mounted on said base to rotate on a vertical axis, a laterally-extending marking-blade carried by said support, said base having a guide formed thereon, a pair of laterally-extending gage-arms mounted to slide on said guide, a right and left hand screw journaled on said base portion, eyebolts threaded on said screw and extending through said arms and nuts on said eyebolts for clamping said arms in adjusted position, substantially as described.

17. A protractor comprising a base portion, a support on said base portion mounted to rotate on a vertical axis, a laterally-extending marking-blade carried by said support, said base having a hollow guide formed thereon, a right and left hand screw journaled within the bore of said guide, a pair of gage-arms mounted to slide on said guide, eyebolts having their head portions arranged within the bore of said guide and threaded on said screw, said eyebolts extending through the inner ends of said arms and having nuts thereon for clamping said arms in said adjusted position, substantially as described.

18. A protractor comprising a base portion, a support on said base portion mounted to rotate on a vertical axis, a laterally-extending marking-blade carried by said support, said base having a hollow guide formed thereon, a right and left hand screw journaled within the bore of said guide, a pair of U-shaped slides mounted on said guide, a pair of gage-arms adjustably mounted on said slides, eyebolts having their head portions arranged within said bore and threaded on said screw, said eyebolts extending through said slides at the inner ends of said arms and having nuts thereon for clamping said arms in adjusted position substantially as described.

19. A protractor comprising a base portion, a support mounted thereon to rotate on a vertical axis, a laterally-extending marking-blade carried by said support and longitudinally shiftable with respect thereto, said base having a guide formed thereon, a pair of laterally-extending gage-arms mounted to slide on said guide and a right and left hand screw journaled in said guide and connected to said arms to spread and contract the same, substantially as described.

20. A protractor comprising a base portion, a support mounted on said base portion to rotate on a vertical axis, a stud mounted on said support to rotate on a horizontal axis, a longitudinally-shiftable marking-blade carried by said stud, means for clamping said support and blade in position, said base having a guide formed thereon, a pair of laterally-extending gage-arms mounted to slide on said guide and a right and left hand screw journaled in said guide and connected to said arm to spread and contract the same, substantially as described.

21. A protractor comprising a base portion, a support mounted on said base portion to rotate on a vertical axis, a block mounted to slide on vertical guideways in said support, a stud carried by said block to rotate on a horizontal axis, a longitudinally-shiftable marking-blade carried by said stud, means for clamping said support, said block and said blade in position, said base having a horizontal guide formed thereon a pair of laterally-projecting gage-arms having rounded bearing ends mounted to slide on said guide and a right and left hand screw journaled in said guide and connected to said arms to spread and contract the same, substantially as described.

22. A protractor comprising a base portion, a support or standard journaled on said base portion to rotate on the vertical axis and having a flange engaging the upper surface thereof, a clamp-plate on the under side of said base, a clamp-screw extending through said plate and support or standard having a nut thereon holding the support or standard in adjusted position and a laterally-extending marking-blade carried by said support or standard, substantially as described.

23. A protractor comprising a base portion, a support or standard journaled on said base portion to rotate on the vertical axis and having a flange engaging the upper surface thereof, a clamp-plate on the under side of said base, a clamp-screw extending through said plate and support or standard having a nut thereon holding the support or standard in adjusted position, said standard having a vertical guideway formed on its face, a block mounted to slide in said guide, means for clamping said block in adjusted position, and a laterally-extending marking-blade carried by said block, substantially as described.

24. A protractor comprising a base, a support mounted thereon to rotate on a vertical axis, a laterally-extending marking-blade carried by said support, said base having a horizontal guideway formed thereon, a pair of laterally-extending gage-arms mounted to slide on said horizontal guide and means engaging said gage-arms to spread and contract the same, substantially as described.

25. A protractor comprising a base, a support mounted thereon to rotate on a vertical axis, a laterally-extending marking-blade carried by said support, said base having a horizontal guideway formed thereon, a pair of laterally-extending gage-arms mounted to slide on said horizontal guide, means engaging said arms to spread and contract the same and means for clamping said arms in adjusted position, substantially as described.

26. A protractor comprising a base portion, a standard mounted on said base portion to rotate on a vertical axis and having a vertical guideway formed thereon, a block mounted to slide in said guideway, a stud mounted on said block to rotate on a horizontal axis and a laterally-extending and longitudinally-shiftable marking-blade carried by said stud, substantially as described.

27. A protractor comprising a base portion, a standard mounted on said base portion to rotate on a vertical axis and having a vertical guideway formed thereon, a block mounted to slide in said guideway, a stud mounted on said block to rotate on a horizontal axis, a laterally-extending marking-blade carried by said stud and longitudinally shiftable therethrough, means for clamping said block in position on said support and means for clamping said blade to said stud and for holding the latter against rotation, substantially as described.

28. A protractor comprising a base, a support mounted thereon to rotate on a vertical axis, a slotted stud carried on said support, a laterally-extending marking-blade extending through the slot of said stud, a shoe engaging one edge of said blade and a clamp-bolt extending through said stud and having a beveled head engaging said shoe and a clamp-nut on said bolt and engaging said stud for holding said blade in position, substantially as described.

29. A protractor comprising a base, a vertical support or standard mounted thereon to rotate in a vertical axis, means for clamping said support or standard to said base, said support or standard having a vertical guideway formed thereon, a slide-block in said guideway, a clamp-screw threaded into said block having a head for engaging the edges of said guideway to hold said block in position, a slotted stud mounted on said block to rotate in a horizontal axis, a marking-blade extending through the slot of said stud, a shoe engaging one edge of said blade and a clamp-bolt carried by said stud engaging said shoe to lock said blade and stud against movement, substantially as described.

30. A protractor comprising a base portion, a pair of laterally-projecting gage-arms mounted on said support and having bearing ends adapted to abut against the rounded edge of a piece of work, means engaging said arms to spread and contract the same, a support mounted on said base to rotate on a vertical axis, means for clamping said support in adjusted position, a longitudinally-shiftable marking-blade carried by said support, a straight-edge mounted to slide on said blade and means for clamping said straight-edge in adjusted position on said blade, substantially as described.

31. A protractor comprising a base portion, a support mounted thereon to rotate on a vertical axis, a longitudinally-shiftable marking-blade carried by said support, a marking-roller, a member whereon said marking-roller is journaled and means for removably clamping said member to the end of said blade, substantially as described.

32. A protractor comprising a base, a support mounted on said base to rotate on a vertical axis, a laterally-extending marking-blade carried by said support, a pair of laterally-extending gage-arms connected to said base and having bearing ends adapted to abut against the edge of the work, members whereon said arms are adjustably mounted and means engaging said members to spread and contract the same, substantially as described.

33. A protractor comprising a base, a support mounted on said base to rotate on a vertical axis, a laterally-extending marking-blade carried by said support, a pair of laterally-extending gage-arms connected to said base and having bearing ends adapted to abut against the edge of the work, members whereon said arms are adjustably mounted, means engaging said members to spread and contract the same and means for securing said arms to said members and for locking the latter in adjusted position, substantially as described.

34. A protractor comprising a base, a support or standard mounted thereon to rotate on a vertical axis, a laterally-extending marking-blade carried by said support or standard, said base having a horizontal guide formed thereon, a pair of slides on said guide, a right and left hand screw for spreading and contracting said slides, a pair of laterally-extending gage-arms adjustably mounted on said slides and means for locking said slides in adjusted position and for clamping said arms to said slides, substantially as described.

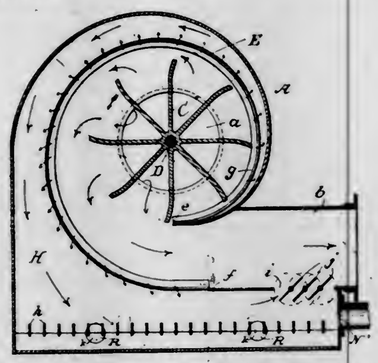
35. A protractor comprising a base portion, a support or standard mounted thereon to rotate on a vertical axis, a longitudinally-shifting marking-blade carried by said support, said base having a horizontal guide formed thereon, a pair of slides mounted on said guide, a right and left hand screw journaled in said guide, a pair of laterally-extending gage-arms adjustably mounted on said slides and eyebolts connecting said arms and slides to said right and left hand screw and nuts on said eyebolts for clamping said arms and slides in adjusted position, substantially as described.

845,044. DUST-SEPARATING BLOWER. WILLIAM J. BALDWIN, New York, N. Y. Filed June 3, 1903. Serial No. 159,918.

Claim.—1. The combination in a dust-separating blower, of a centrifugal fan, a fan-chamber having a permeable pe-

ripheral wall, and a dust-collecting chamber outside said wall, substantially as described.

2. The combination in air-filtering apparatus of a blower provided with an air inlet and outlet and containing a permeable wall adapted to permit of the passage of dust particles, a dust-collecting chamber communicating with the said outlet, and means for controlling the communication between said chamber, and said outlet, substantially as described.



3. In air-filtering apparatus, a self-contained blower characterized by the following elements combined in one structure; an air-propelling device and a case therefor provided with an inlet and an outlet, a permeable diaphragm in the case in the path of high-velocity air, a dust-collecting chamber in said case outside of said diaphragm, adapted to be put into communication with said outlet, and a receptacle for liquid in said chamber, substantially as described.

4. In air-filtering apparatus, a self-contained blower characterized by the following elements combined in one structure; an air-propelling device and a case therefor provided with an inlet and an outlet, a permeable diaphragm in the case in the path of the high-velocity air, and a dust-collecting chamber outside of said diaphragm adapted to be put into communication with said outlet, substantially as described.

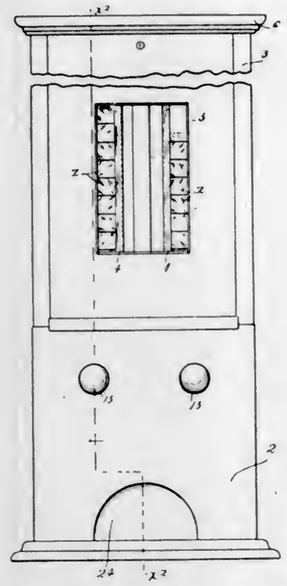
5. The combination in air-filtering apparatus, of a blower, a permeable diaphragm adjacent to the blower and in the path of the high-velocity air, whereby the dust and part of the air is driven through said diaphragm, a discharge from the inner side of said diaphragm for the remaining part of the air, a dust-collecting chamber on the outside of said diaphragm, and an orifice connecting said chamber with said discharge, substantially as described.

6. The combination in air-filtering apparatus, of a blower, a permeable diaphragm adjacent to the blower and in the path of the high-velocity air, whereby the dust and part of the air is forced through said diaphragm, a discharge from the inner side of said diaphragm for the remaining part of the air, a dust-collecting chamber on the outside of said diaphragm, and an orifice provided with an adjustable valve connecting said chamber with said discharge, substantially as described.

7. The combination in air-filtering apparatus, of a blower and case therefor, a permeable diaphragm in the path of the high-velocity air, a dust-collecting chamber outside of the said diaphragm adapted to contain a collecting liquid, and a grid to arrest the dust in said chamber, substantially as described.

845,045. VENDING-MACHINE. EDWIN G. BARNES, Oakes, N. D. Filed Apr. 13, 1906. Serial No. 311,500.

Claim.—1. In a vending-machine, the combination with an operating-plunger and a discharge-plunger, of yielding means connecting said two plungers, for imparting operating movements to said discharge-plunger, means for causing said operating-plunger to positively impart return movements to said discharge-plunger, a latch normally holding said discharge-plunger against operating movement, and which operating-plunger is constructed to receive a deposited coin, and which latch is arranged to be released by a coin carried by said operating-plunger, substantially as described.

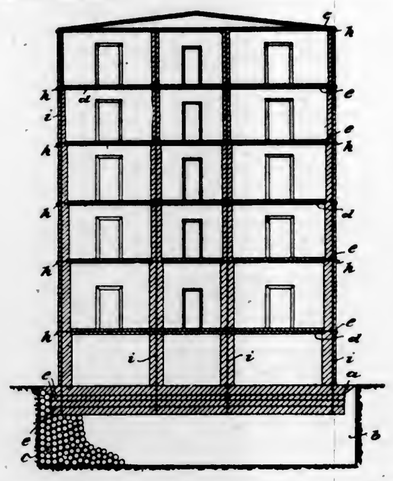


2. In a vending-machine, the combination with a magazine adapted to contain a stack of boxes or similar articles, of an operating-plunger and a discharge-plunger, one or more springs connecting said two plungers and serving to put said discharge-plunger under tension to move, when said operating-plunger is moved, means for causing said operating-plunger to return said discharge-plunger to normal position, a fixed lock-rod between the two plungers, and a lock-dog normally engaging said lock-rod and holding the said discharge-plunger against operating movement, and which operating-plunger is provided with a coin-receiving pocket, and which lock-dog is provided with a cam-surface adapted to be engaged to release said dog under the action of a coin deposited in the slot of said operating-plunger, substantially as described.

3. In a vending-machine, the combination with a case and a magazine contained therein, of an operating-plunger and a discharge-plunger within said casing, a spring tending to hold said operating-plunger in normal position, a spring yieldingly connecting said two plungers for common movement in a direction to impart operating movement to said discharge-plunger, engaging parts on the two plungers whereby said operating-plunger will return said discharge-plunger to normal position, a fixed lock-rod extending between said two plungers, and a lock-dog pivoted to said discharge-plunger and normally engaging said lock-rod, and which operating-plunger is provided with a coin-receiving slot, and which lock-dog is provided with a cam-surface adapted to be engaged by a coin carried by said operating-plunger, substantially as described.

4. In a vending-machine, the combination with a case and a magazine therein, of an operating-plunger and a discharge-plunger mounted in said case for parallel reciprocatory movements, a perforated bearing-plate over which said operating-plunger works, said operating-plunger having a coin-receiving slot, a coin-delivery spout supported by the case in position to deliver the coin into the slot of said operating-plunger when the latter is in normal position, a spring connecting said two plungers, a latch normally holding said discharge-plunger against operative movement but adapted to be released by a coin held in the slot of said operating-plunger, and an operating-stem disconnected from but arranged to act upon said operating-plunger, substantially as described.

845,046. EARTHQUAKE-PROOF BUILDING. JACOB BECHTOLD, Munich, Germany. Filed May 26, 1906. Serial No. 318,945.



Claim.—1. An earthquake-proof building consisting of a rigid base-plate to carry the building and a mass of spherical bodies of hard material, to carry the said base-plate freely.

2. An earthquake-proof building consisting of a rigid base-plate, a building thereon, an excavation below the said plate and a mass of hard spherical bodies in said excavation on which the said base-plate freely rests.

3. An earthquake-proof building, consisting of a rigid base-plate, a building made of ironwork frame with concrete floors and walls, an excavation below the building and a plurality of layers of hard spherical bodies inserted between the said base-plate and the supporting-ground substantially as described.

4. An earthquake-proof building, consisting of a rigid base-plate to carry the edifice and a mass of spherical bodies of hard material contained between the said base-plate and the supporting-ground.

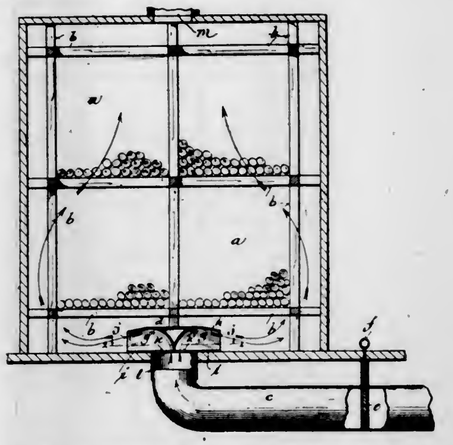
5. An earthquake-proof building, consisting of an edifice made of concrete walls and floors and having ironwork grids in the floors and vertical stays connected to the ends of the members forming the grids, in the walls, a rigid base-plate to support the building and a mass of hard spherical bodies inserted between the lower side of the said base-plate and the supporting-ground.

845,047. AIR-BLAST DRIER. JOHN BEERNINK, Milwaukee, Wis. Filed July 31, 1901. Serial No. 70,327.

Claim.—1. In an air-blast drier the combination with a blast-pipe, of a distributing device connected on the under side with said pipe and comprising a number of outwardly-flaring ducts separated from each other by partitions radiating from the center of the discharge-opening of said blast-pipe and extending downward at their inner ends to the plane of said opening, substantially as described.

2. In an air-blast drier the combination with a blast-pipe, of a distributing device connected on the under side with said pipe and comprising a number of outwardly-flaring ducts separated from each other by radiating partitions, and having their tops curved downwardly at the inner ends toward the center of the discharge-opening from said blast-pipe, substantially as described.

3. In an air-blast drier the combination with a blast-pipe, of a distributing device connected on the under side with said pipe and comprising a number of outwardly-flaring ducts separated from each other by partitions which radiate from the center of the discharge-opening of the blast-pipe and extend downward at their inner ends to the plane of said opening, the tops of said ducts being curved downwardly at their inner ends toward the center of the blast-pipe, substantially as described.

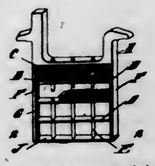


4. The combination with the blast-pipe of an air-blast drier, of a distributing device connected on the under side with the discharge end of the blast-pipe and consisting of outwardly-flaring ducts formed by top and bottom plates and partitions radiating from the center of the blast-pipe, the top plate being curved downwardly toward the center of the opening in the bottom plate through which said ducts communicate with the blast-pipe, substantially as described.

5. A distributing device for air-blast driers consisting of outwardly-flaring ducts formed by top and bottom plates and by partitions which radiate from the center of the opening in the bottom plate and extend downward at their inner ends to the plane of said opening, the several ducts having vertically-disposed outlet-openings at their outer ends, and the top plate being imperforate and inclined downwardly toward its margin, substantially as described.

6. A distributing device for air-blast driers consisting of outwardly-flaring ducts formed by horizontally-disposed top and bottom plates and vertically-disposed radiating partitions meeting at the center of an opening in the bottom plate and dividing said opening into sector-shaped openings communicating with the inner ends of the several ducts which have outlet-openings at their outer larger ends, the top plate being curved downward at the center toward the opening in the bottom plate and inclined downward toward its margin, substantially as described.

845,048. STORAGE-BATTERY PLATE. JOSEPH BIJUR, New York, N. Y., assignor to The General Storage Battery Company, a Corporation of New York. Filed Aug. 14, 1906. Serial No. 330,525.



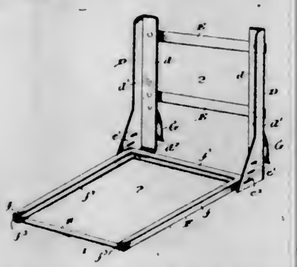
Claim.—1. A battery-plate, comprising continuous parallel transverse active strips and interspersed ribs parallel

with the strips, said strips and ribs being provided with registering apertures, a supporting and inclosing framework having continuous parallel longitudinal rods cast from the conducting portion of the frame on to the strips and ribs in the said apertures and thereby binding the said parts in position and forming a paneled plate.

2. A battery-plate, comprising a plurality of active strips provided with registering holes and a supporting and inclosing framework having rods cast from the frame on to the strips in said holes.

3. A paneled plate, comprising strips and ribs extending in one general direction and provided with registering apertures, and a supporting and inclosing framework having rods cast from the frame on to the strips and ribs in said apertures.

845,049. PHOTOGRAPHIC DEVELOPING APPARATUS. PETER BISSET, Washington, D. C. Filed Apr. 30, 1906. Serial No. 314,601.



Claim.—1. The combination with a developing-tray, of a series of independently-movable swinging plate-carrying racks having a detachable connection therewith.

2. The combination with a developing-tray, of a series of swinging plate-racks having a detachable clasping connection therewith.

3. The combination with a developing-tray, of a plate-rack support comprising oppositely-disposed connected upright bars adapted to rest within the tray and having a detachable connection with one flange of the tray, and a plate-rack pivotally mounted upon said support and adapted to move into and out of the tray.

4. The combination with a developing-tray, of an upright support having a detachable clasping engagement therewith, and a plurality of plate-racks connected to said support and adapted to swing into and out of the tray.

5. The combination with a developing-tray, of a support applied to the tray, and a plate-rack having a pin-and-slot engagement with the support, whereby it is pivotally and bodily movable relative thereto.

6. The combination with a developing-tray, of a support applied thereto, a plate-rack pivoted to the support and adapted to swing vertically, and means on the support for limiting the downward movement of the rack.

7. The combination with a developing-tray, of a support applied to the tray, a plate-rack pivoted to the support and adapted to swing vertically, and offset portions on said support constituting seats for limiting the downward movement of the rack.

8. The combination with a developing-tray, of a support connected therewith, the support comprising oppositely-disposed arms, a series of plate-racks superimposed one upon the other and each of said plate-racks having connection with said arms, whereby they are independently, pivotally and bodily movable relative to said arms.

9. In combination with a tray, a plate-rack support applied thereto comprising oppositely-disposed arms having a series of transverse slots arranged one above the other and increasing in length from the upper one to the lower one, and a series of plate-racks having pinties thereon arranged to engage oppositely-disposed slots in the respective arms.

10. In combination with a developing-tray, a swinging plate-rack applied thereto, the said rack comprising connected side and end walls, each of which has registering longitudinally-extended intermediate guideways.

11. In combination with a developing-tray, of a movable plate-rack applied thereto comprising side arms and an end arm connected with one another and each of which comprises elongated strips of metal bent longitudinally back upon themselves to form between said bent portions longitudinally-extending guideways.

12. In an attachment of the character described, a support comprising oppositely-disposed bars or arms, spring-clips upon said arms, and a series of plate-racks having pivotal and bodily movement relative to said arms.

13. In an attachment of the character described, a series of swinging plate-racks independently movable relative to one another, and a pull carried by the free end of each rack.

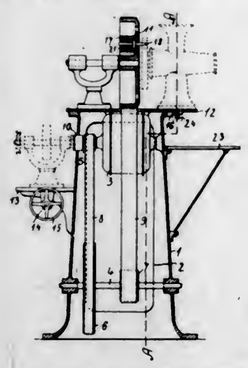
14. In an attachment of the character described, a plurality of pivoted plate-racks adapted to swing vertically, and having means for separating the plates carried by said racks when the racks are in contact.

15. A plate-rack for developing-trays comprising a supporting-frame, a plurality of plate-carrying holders pivotally secured adjacent the base of the frame, and means for securing the frame in position.

16. A plate-rack for developing-trays comprising a supporting member, means for securing the same in position, and a plurality of plate-holders pivotally and slidably secured to the supporting member.

17. A plate-rack for developing-trays comprising a supporting member, means for securing the same in place, a plurality of plate-holders, and pivotal connections between the respective holders and the support arranged relative to each other on different vertical and horizontal planes.

845,050. DRIVING DEVICE FOR HOUSEHOLD-MACHINES. RICHARD BRAMBACH, Nordhausen, Germany. Filed June 1, 1906. Serial No. 319,740.



Claim.—1. A driving device for household-machines comprising in combination a hollow pillar, a motor in said pillar, a plurality of driving coupling-boxes adapted to be driven by said motor, a plurality of base-plates mounted on said pillar, means for fastening household-machines to said base-plates, so that said machines are in position to be driven by said coupling-boxes.

2. A driving device for household-machines comprising in combination a hollow pillar, a motor in said pillar, a driving coupling-box adapted to be driven by said motor, a driving coupling-box adapted to be directly driven by said motor, a plurality of base-plates mounted on said pillar, means for fastening household-machines to said base-plates, so that said machines are in position to be driven by said coupling-boxes.

3. A driving device for household-machines comprising in combination a hollow pillar, a motor in said pillar, a driving coupling-box, a counter-shaft, a plurality of pulleys on said counter-shaft in said pillar, means for driving said counter-shaft from said motor, means for driving said coupling-box from one of said pulleys, a driving coupling-box adapted to be driven by said motor, a plurality of base-plates mounted on said pillar, means for fastening household-machines to said base-plates, so that said machines are in position to be driven by said coupling-boxes.

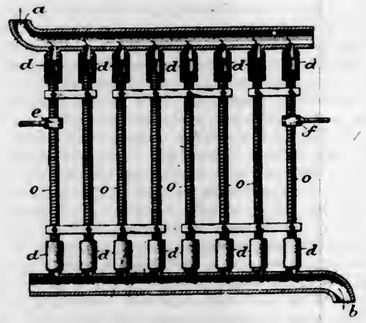
4. A driving device for household-machines comprising in combination a hollow pillar, a motor in said pillar, a plurality of driving coupling-boxes each having a hole, a spring in said hole, a nut adapted to normally engage said spring and to hold same in said hole, a pin engaged by said spring, said pin projecting outside said coupling-box and adapted to automatically engage a revoluble driving part of a household-machine, said coupling-boxes being adapted to be driven by said motor, a plurality of base-plates mounted on said pillar, means for fastening household-machines to said base-plates, so that said machines are in position to be driven by said coupling-boxes.

5. A driving device for household-machines comprising in combination a hollow pillar having an opening in its side, a door adapted to close said opening, a folding shelf attached to said pillar, a motor in said pillar, a plurality of driving coupling-boxes adapted to be driven by said motor, a plurality of base-plates mounted on said pillar, means for fastening household-machines to said base-plates so that said machines are in position to be driven by said coupling-boxes.

6. A driving device for household-machines comprising in combination a hollow pillar, a motor in said pillar, a base-plate mounted on the top of said pillar, a base-plate mounted on the side of said pillar, a coupling-box mounted revolubly on said top base-plate adapted to be driven by said motor, annular means on said coupling-box adapted to positively engage a revoluble driving member of a household-machine, a driving coupling-box adapted to be directly driven by said motor, means for fastening household-machines to said base-plates so that said machines are in position to be driven by said coupling-boxes.

7. A driving device for household-machines comprising in combination a hollow pillar, a motor in said pillar, a plurality of driving coupling-boxes adapted to be driven by said motor, a plurality of base-plates having slots mounted on said pillar, each base-plate having a screwed spindle revolubly mounted on the same, a key normally engaged by said spindle, guides adapted to said key, said key being adapted to engage means attached to said household-machines whereby the same may be secured in position to be driven by said coupling-boxes.

845,051. ELECTRIC-RESISTANCE APPARATUS. ROLF VON BROCKDORFF, Bregenz, Austria-Hungary. Filed Dec. 6, 1906. Serial No. 346,590.



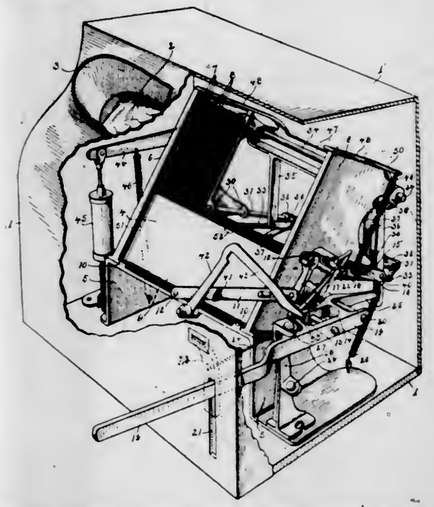
Claim.—1. In an electric-resistance apparatus, a resistance member in the form of a metallic hose, whose metallic skeleton constitutes the electric-resistance material, substantially as described.

2. In an electric-resistance apparatus, a resistance member consisting of a metallic hose formed of a spirally-wound metal tape, which constitutes the electric-resistance material, the coils of said tape being electrically insulated from each other, substantially as described.

3. In an electric-resistance apparatus, a resistance member consisting of a metallic hose formed of a spirally-wound metal tape, which constitutes the electric-resistance material, the coils of said tape being electrically insulated from each other, in combination with a terminal-clamp comprising jaws recessed to correspond with the profile of the hose, and means for pressing the jaws to the hose, substantially as described.

4. In an electric-resistance apparatus, a resistance member consisting of a metallic hose formed of a spirally-wound metal tape, which constitutes the electric-resistance material, the coils of said tape being electrically insulated from each other, in combination with a terminal-clamp comprising two jaws recessed to correspond with the profile of the hose, and bolts for pressing the jaws and hose together, substantially as described.

845,052. PICTURE-EXHIBITOR. AUGUSTE A. CAILLE, Detroit, Mich. Filed Feb. 11, 1905. Serial No. 245,315.



Claim.—1. In a picture-exhibitor, the combination with the supporting-frame, of a series of independent pictures, upwardly-extending guides on the frame for said pictures, means for raising the pictures simultaneously in said guides, supports adapted to be projected across the guides beneath the pictures to support the pictures in their raised position, and means for withdrawing the supports from beneath the pictures to allow the same to fall in their guides, one at a time.

2. In a picture-exhibitor, the combination with the supporting-frame, of a series of independently-movable pictures, upwardly-extending guides on the frame for said pictures, means for raising the pictures in the guides, longitudinally-movable rods adapted to be projected across the lower edges of the pictures when the same are raised, and means for retracting the rods from beneath the pictures to permit the same to fall, one at a time.

3. In a picture-exhibitor, the combination with the supporting-frame and upwardly-extending guides on said frame, of a series of independently-movable pictures in said guides, means extending across the lower edges of the pictures to engage and lift the same in the guides, means for holding the pictures in their raised positions and releasing the same one at a time, an operating-lever for actuating the lifting means, and means connecting said lever and lifting means adapted to disengage the said means when the pictures have been fully lifted to permit the same to fall independently of the lever.

4. In a picture-exhibitor, the combination with the supporting-frame, of a series of independent pictures, upwardly-extending guides on the frame to receive the ends of said pictures, an operating-lever, lifting mechanism engaging the under side of the pictures and to raise the same in said guides, longitudinally-movable rods adapted to be projected across the guides below the pictures when said pictures are raised to the upper ends of the guides, means connecting said operating-lever and lifting mechanism adapted to disconnect the same to allow the mechanism to fall away from the pictures when they are engaged by the rods, and means for withdrawing the rods from beneath the pictures to allow the same to fall, one at a time.

5. In a picture-exhibitor, the combination with a supporting-frame, of a series of independent pictures, upwardly-extending guides for said pictures, lever mechanism for raising the pictures in said guides, supporting-rods longitudinally movable in the bearings on the frame to project across the guides beneath the pictures when the same are raised, springs to project said rods, means for withdrawing the rods from across the guides operated in one direction by said lever mechanism, a spring to operate said means in the other direction, and a means for retarding the operation of the last-named spring.

6. In a picture-exhibitor, the combination with a supporting-frame, of a series of independently-movable pictures, guides for said pictures, a yoke pivoted on the frame and extending beneath the pictures to raise the same, means to engage the yoke and hold the same in its raised position, an operating-lever adapted to engage said means to release the yoke, a gravity-hook carried by the lever to engage the yoke, means for turning the hook into engagement with the yoke, and means for holding the pictures in the upper ends of the guides and releasing the same, one at a time.

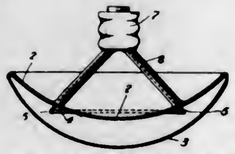
7. In a picture-exhibitor, the combination with a supporting-frame, of a series of independent pictures, guides on the frame for said pictures, a yoke pivoted on the frame and extending beneath the pictures to engage and raise the same, a latch to engage and hold the yoke in its raised position, an operating-lever adapted to engage and release the latch, a hook carried by the said lever to connect the same to the yoke, supporting-rods, springs to project the rods beneath the pictures, a spring to withdraw the rods from the beneath the pictures, and a dash-pot to retard the action of the last-named spring.

8. In a picture-exhibitor, the combination with a frame, of a series of independent pictures, guides on the frame for said pictures, a yoke pivoted on the frame and adapted to engage and lift the pictures, an operating-lever, means connecting the yoke and lever, a rock-shaft mounted in bearings on the frame, longitudinally-movable rods adapted to be projected across the guides beneath the pictures to support the same in their raised position, springs to so project said rods, arms on said rock-shaft to move the rods in the opposite direction, a lever to turn the rock-shaft, a spring to operate the lever in one direction, means for turning the rock-shaft against the action of said spring operated by the operating-lever, and a dash-pot to retard the action of said spring.

9. In a picture-exhibitor, the combination with a casing provided with openings having lenses therein, of a supporting-frame within the casing, upwardly-extending guides on the frame, a series of pictures movable in said guides, a yoke pivoted on the frame and extending beneath the pictures to raise the same in said guides into position opposite the lenses, an operating-lever pivoted on the frame and extending through a slot in the casing, a bar pivoted intermediate its ends on the frame, a hook pivoted to the operating-lever and normally held by gravity out of connection with one end of said bar, means for moving said hook into engagement with said bar, supporting-rods longitudinally movable in bearings on the frame to engage the lower edges of the pictures when said pictures are raised, springs to move the rods beneath the pictures, a connecting-bar connecting said rods at their rear ends, a rock-shaft mounted in bearings on the frame, arms on the rock-shaft to engage the cross-bar and move the rods from beneath the pictures, an arm on the rock-shaft, a link-bar pivotally secured to one end of said arm and provided with a slot, a pin on one end of the bar pivoted on the frame to engage said slot, a lever on the opposite end of said rock-shaft, a spring attached to said lever to turn the rock-shaft, and a dash-pot attached to said lever to retard the action of said spring.

10. In a picture-exhibitor, the combination with a casing having openings provided with lenses, of a supporting-frame within the casing provided with upwardly-extending inclined walls, guides on said walls, a series of pictures engaging said guides at their ends, a yoke pivoted to one wall and extending beneath the pictures, a bar pivoted intermediate its ends on said wall, a link connecting one end of said bar to said yoke, arms extending outward from the bar near said end, an operating-lever pivoted to the frame and extending outward through a slot in the casing, a spring to hold said lever raised, a hook pivoted to said lever and extending upward between said arms, means for securing the hook into engagement with one arm to operate the bar, a gravity-latch to engage and hold the yoke in its raised position, an arm on said latch adapted to be engaged by the operating-lever to release the latch, a rock-shaft mounted in bearings on the frame, an arm on said rock-shaft, a link-bar pivoted to said arm and provided with a slot, a pin on the rear end of the bar pivoted to the wall to engage said slot, bearings on the rear of said walls, rods movable longitudinally in said bearings across the guides, a cross-bar connecting the rear ends of said rods, springs to move said rods in one direction, downwardly-extending arms on the rock-shaft, push-bars on the lower ends of said arms to engage the cross-bar, curved tracks for said push-bars secured to the cross-bar, a lever secured to said rock-shaft, a spring to actuate said lever in one direction, a dash-pot to retard the movement of said lever, and arms pivoted on the rock-shaft and extending over the pictures at the upper ends of the walls to form stops to prevent the pictures from escaping from said guides.

845,053. INCANDESCENT-LAMP BULB. DAVID F. CAMPBELL, Vancouver, British Columbia, Canada. Filed Nov. 15, 1904. Serial No. 232,848.

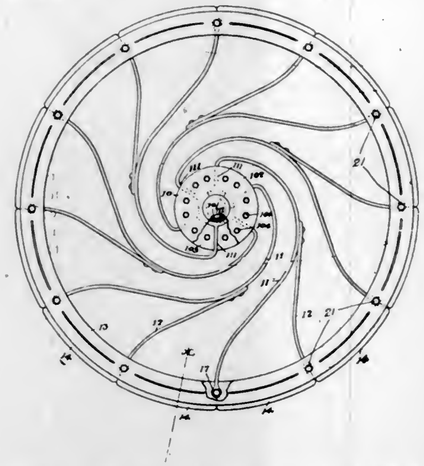


Claim.—1. An electric incandescent lamp comprising a bulb consisting of a front and a back portion, said front portion being formed of sheet transparent material shaped as the segment of an approximate sphere, said back portion of the bulb being formed of sheet transparent material and projecting within the front portion of the bulb, supporting members connected with the back portion of the bulb, a terminal plug connected to said supporting members, a ring filament held within the bulb between the front and back portions thereof, terminals passing through one of said supports and connecting the filament with the terminal plug, said back portion of the bulb projecting within the circle of the filament substantially as shown and for the purposes described.

2. An electric incandescent lamp comprising a bulb consisting of a front and a back portion, said front portion being formed of sheet transparent material shaped as the segment of an approximate sphere, said back portion of the bulb being formed of sheet transparent material and projecting within the front portion of the bulb, supporting members connected with the back portion of the bulb, a terminal plug connected to said supporting members, a ring filament held within the bulb between the front and back portions thereof, terminals passing through one of said supports and connecting the filament with the terminal plug, said back portion of the bulb projecting within the circle of the filament, said back portion of the bulb having its outer face concaved and said front portion of the bulb having its outer face convexed substantially as shown and described.

3. In an electric incandescent lamp-bulb comprising a front and a back portion, said front portion being formed of sheet transparent material formed substantially in the shape of a spherical segment, said back portion of the bulb being similarly formed and projected into the concavity of the front portion of the bulb, one of said portions of the bulb being provided with flutes or corrugations, a ring filament supported within the bulb and arranged parallel to the line of juncture between the back and front portions of the bulb, means for supporting the bulb to the socket of the lamp, and means for connecting the filament to the current-contacts of the socket substantially as shown and described.

845,054. VEHICLE-WHEEL. SAMUEL S. CHILDS, Bernardsville, N. J. Filed Mar. 20, 1906. Serial No. 306,959.



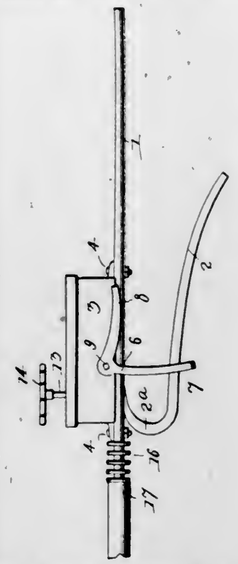
Claim.—1. The improved wheel comprising a hub, a series of springs extending from the hub, said springs being enlarged at their outer ends and having bolt-holes therein, a series of segmental blocks abutting against one another to form a rim, and having recessed portions to receive the enlargements on the ends of the spokes, an annular rim-plate on each side of the rim, and bolts passing through the rim-plates and the bolt-holes in the spokes.

2. The improved vehicle-wheel comprising a hub, a series of spokes extending from the hub, the spokes having enlargements at their outer ends, the enlargements being provided with bolt-holes, a series of segmental blocks abutting end to end, the adjoining ends of the blocks being provided with recesses to receive the enlargements of the spokes to bind them together, annular rim-plates arranged on the opposite sides of the blocks to prevent their lateral displacement, and bolts passing through the rim-plates and extending through the enlargements of the spokes.

3. The improved wheel comprising a hub, a series of spokes composed of spring material extending from said hub, the spokes having enlargements on their ends, the enlargements being provided with bolt-holes, segmental blocks having their ends abutting and forming a rim, and having recesses on adjoining edges to receive the enlargements of the spokes, annular rim-plates on opposed sides of the rim, the rim-plates having inwardly-extending ribs to engage the segmental blocks, and bolts passing through the rim-plates and through the bolt-holes on the spokes to secure the parts together.

4. The improved wheel comprising a hub, spring-spokes extending therefrom, the spokes having enlargements on their outer ends, the enlargements being provided with bolt-holes, segmental blocks composed of strips of material arranged longitudinally in the blocks, annular rims on opposed sides of the blocks, the annular rims having inwardly-extending ribs to engage the blocks, the ends of the blocks abutting and being recessed to receive the enlargements of the spokes, bolts passing through the rims and the bolt-holes in the spokes, and bolts passing through the strips to hold the strips together when the blocks are removed from the wheel.

845,055. MAIL-BAG CATCHER. DAVID S. COOK and C. JOSEPH DIETRICH, La Grange, Ill. Filed May 24, 1906. Serial No. 318,509.



Claim.—1. In a mail-bag catcher, a two-armed lever, a segmental rack carried by said lever, a spring-dog for engaging the rack, and a key for unlocking the dog.

2. In a mail-bag catcher, a catcher-arm, a spring-buffer for said arm, a pivoted mail-bag lock, a spring-pawl, a segmental rack, a key adapted to engage said pawl, said key also serving to adjust and balance the catcher-arm, substantially as described.

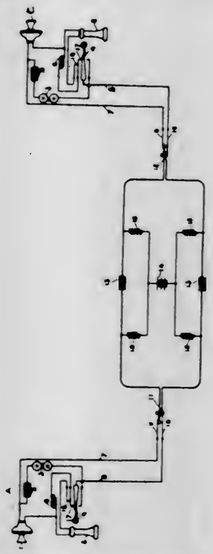
3. In a mail-bag catcher, an automatic bag-lock comprising a two-arm lever, a segmental rack, a pawl and a spring-dog for engaging the lock, substantially as described.

845,056. TELEPHONE SYSTEM. ELMER R. CORWIN, Chicago, Ill. Filed Oct. 20, 1906. Serial No. 339,851.

Claim.—1. A common-battery subscriber's-line equipment, including a telephone-line extending to the subscriber's station, a transmitter and impedance-coil conductively-included in the line-circuit to receive direct current from the common battery, and a receiver in direct conductively-continuous shunt of the impedance-coil, said receiver being of high resistance with respect to the resistance the impedance-coil, whereby the flow of direct-current therethrough is sufficiently eliminated to prevent polarization thereof, and the use of a condenser in circuit with the receiver to prevent its polarization is not required.

2. A common-battery subscriber's-line equipment, including a telephone-line extending to the subscriber's station, a transmitter and impedance-coil conductively included in the line-circuit to receive direct current from

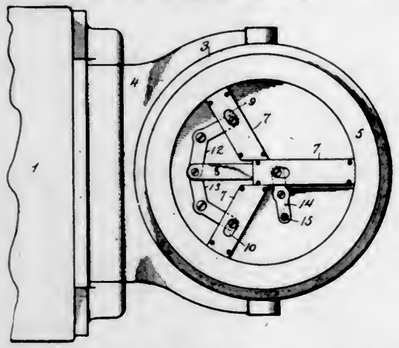
the common battery, and a receiver, a conductively-continuous portion for supplying battery-current being common to the receiver and line-circuits and including the impedance-coil, said receiver being in conductively-continuous shunt of said conductively-continuous portion, said receiver being of high resistance with respect to the resistance of said conductively-continuous portion, whereby the flow of direct current therethrough is sufficiently eliminated to prevent polarization thereof, and the use of a condenser in circuit with the receiver to prevent its polarization is not required.



3. A common-battery subscriber's-line equipment, including a telephone-line extending to the subscriber's station, a transmitter and impedance-coil conductively included in the line-circuit to receive direct current from the common battery, a receiver, a conductively-continuous portion for supplying battery-current being common to the receiver and line-circuits and including the impedance-coil, said receiver being in conductively-continuous shunt of said conductively-continuous portion, said receiver being of high resistance with respect to the resistance of said conductively-continuous portion, whereby the flow of direct current therethrough is sufficiently eliminated to prevent polarization thereof, and a switch-hook for connecting the transmitter and impedance-coil in the line-circuit and for connecting the receiver in shunt of said conductively-continuous portion, said switch-hook having as contacts a terminal of said conductively-continuous portion and a terminal of the receiver, said switch-hook and contacts being so relatively disposed that the switch-hook in being freed of the receiver, will have electrical connection with the first aforesaid contact before it has connection with the receiver-contact, whereby the receiver-circuit will be established after the transmitter-circuit.

4. A common-battery subscriber's-line equipment, including a telephone-line extending to the subscriber's station, a transmitter and impedance-coil adapted for conductively-continuous inclusion in the line-circuit to receive current from a common battery, a receiver, a conductively-continuous portion common to the receiver and line-circuits and including the impedance-coil, said receiver being adapted for connection in shunt of said conductively-continuous portion, and a switch-hook for connecting the transmitter and impedance-coil in the line-circuit and for connecting the receiver in shunt of said conductively-continuous portion, said switch-hook having as contacts a terminal of said conductively-continuous portion and a terminal of the receiver, said switch-hook and contacts being so relatively disposed that the switch-hook in being freed of the receiver will have electrical connection with the first aforesaid contact before it has connection with the receiver-contact, whereby circuit through the receiver is established after the transmitter-circuit.

845,057. SAFE. JOSEPH W. CRAMER, Kansas City, Kans. Filed Feb. 19, 1906. Serial No. 301,902.



Claim.—1. The combination with a safe-door of circular shape having an annular peripheral groove, of two bolts radially movable on the door and extending into said groove, each bolt having at its outer end an arcuate head fitted in said groove, a lever pivoted to the door and pivotally connected at opposite ends to said bolts, the disposition of said lever relative to said bolts being such that when one bolt is radially moved outwardly the other bolt will be moved in a like direction, and means for moving one of said bolts radially.

2. The combination with a safe-door of circular shape having an annular peripheral groove, of two bolts radially movable on the door and extending into said groove, each bolt having at its outer end an arcuate head fitted in said groove, a lever pivoted to the door and pivoted at opposite ends to said bolts, the disposition of the levers to said bolts being such that when one bolt is radially moved outwardly the other bolt will be moved in a like direction, another lever pivotally mounted on the door, means by which when the second lever is swung one of the bolts will be radially moved, and means for swinging said second lever.

3. The combination with a safe-door of circular shape having an annular peripheral groove, of a plurality of bolts radially movable on the door and extending into said groove, each bolt having at its outer end an arcuate head fitted in said groove, a plurality of levers pivotally mounted on the door, each lever having its opposite ends pivoted to two adjacent bolts, the disposition of said levers being such that when one bolt is radially moved the levers will be swung and the other bolts radially moved thereby, and means for radially moving one of said bolts.

4. The combination with a circular safe-door having an annular peripheral groove, of a plurality of bolts radially movable on the door and extending into said groove, each bolt having at its outer end an arcuate head fitted in said groove, a plurality of levers pivotally mounted on the door, each lever having its opposite ends pivoted to two adjacent bolts, the disposition of said levers being such that when one bolt is radially moved the levers will be swung and the other bolts radially moved thereby, another lever pivotally mounted on the door, means for radially moving one of said bolts when the latter-named lever is swung, and means for swinging said latter-named lever.

5. The combination with a circular safe-door having an annular peripheral groove, of a plurality of bolts radially movable on the door and extending into said groove, a plurality of levers pivotally mounted on the door, each lever having opposite ends pivoted to adjacent bolts, the disposition of said levers being such that when one bolt is radially moved the other bolts will also be radially moved, a motor, a time-actuated mechanism controlling said motor, and means for radially moving one of said bolts when the motor is operated.

6. The combination with a circular safe-door having an annular peripheral groove, of a plurality of bolts radially movable on said door and extending into said groove, each bolt having at its outer end an arcuate head fitted in said groove, a plurality of levers pivotally mounted on said door, each lever having opposite ends pivoted to two adjacent bolts, the disposition of the levers being such that when one bolt is radially moved the other bolts will be similarly moved, another lever pivoted on the door, means by which when the latter-named lever is swung one of said bolts will be radially moved, a motor provided with means when operated for swinging the latter-named lever, and a time-actuated mechanism controlling the operation of said motor.

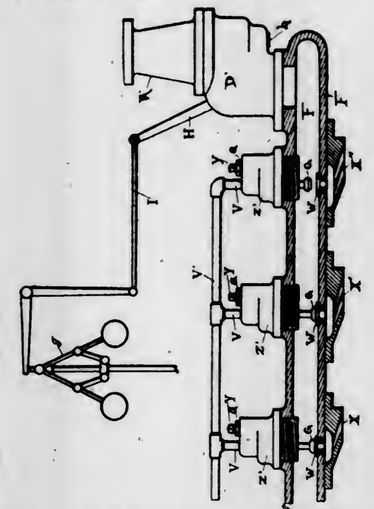
7. The combination with the safe-body having a circular opening with a bevel-seat, of a circular safe-door having a bevel portion fitted to said seat and having a cylindrical flange projecting into the body beyond the seat when the door is closed, said flange having an annular peripheral groove, a plurality of bolts radially movable on said door and extending through said flange into said groove, each bolt having at its outer end an arcuate head fitted in said groove, said heads lying wholly within the groove when the bolts are retracted, and when the bolts are extended lying partly within said groove and overlapping the inner side of the body of the safe, a plurality of levers pivoted to the door and pivoted each at opposite ends to two adjacent bolts, the levers being positioned so that when one bolt is radially moved all the other bolts will be radially moved, and means for moving one of said bolts radially.

8. The combination with the safe-body having a circular opening having a bevel-seat, of a circular door fitted to said seat and having a cylindrical flange extending inwardly beyond the inner side of the body when the door is closed, said flange having an annular peripheral groove, a plurality of bolts radially movable on the door and extending through said flange into said groove, each bolt having at its outer end an arcuate head fitted in said groove, all of said heads lying wholly within the groove when the bolts are retracted, and lying partly within the groove and overlapping the inner side of the body when the bolts are extended, a plurality of levers pivoted to the door, each lever at opposite ends to two adjacent bolts, the levers being positioned so that when one bolt is radially moved all the other bolts will be similarly moved, another lever pivoted to the door, means by which when the latter-named lever is swung one of the bolts will be radially moved, and means by which said latter-named lever may be swung.

9. The combination with the safe-body having a circular opening having a bevel-seat, of a circular door fitted to said seat and having a cylindrical flange extending inwardly beyond the inner side of the body when the door is closed, said flange having a peripheral annular groove, a plurality of bolts radially movable on said door and extending through said flange into said groove, each bolt having at its outer end an arcuate head fitted in said groove, said heads, when the bolts are retracted, lying wholly in said groove, and when the bolts are extended, lying partly in said groove and overlapping the inner side of the body, a plurality of levers pivoted to the door and pivoted each at opposite ends to two adjacent bolts, the levers being positioned so that when one bolt is radially moved all the other bolts will be similarly moved, a motor, means by which when the motor is operated one of said bolts will be radially moved, and time-actuated mechanism for controlling the operation of the motor.

10. The combination with the safe-body having a circular opening having a bevel-seat, of a circular door fitted to said seat and having a cylindrical flange, which, when the door is closed, projects inwardly beyond the inner side of the body, said flange having an annular peripheral groove, a plurality of bolts radially movable on the door and extending through said flange into said groove, each bolt having at its outer end an arcuate head fitted in said groove, said heads, when the bolts are retracted lying wholly within the groove, and when the bolts are extended lying partly in the groove and overlapping the inner side of the body, a plurality of levers pivoted each to the door and pivoted each at opposite ends to two adjacent bolts, another lever pivoted on the door and provided with means when swung for radially moving one of said bolts, a motor, means by which when the motor is operated the latter-named lever is swung, and time-controlled mechanism for controlling the operation of the motor.

845,058. GOVERNING MEANS FOR TURBINES. CHARLES W. DAKE, Grand Rapids, Mich. Filed Dec. 20, 1905. Serial No. 292,668.



Claim.—1. In a governing means for turbine-engines, the combination of the engine-casing with a suitable passage F leading to the nozzle-valve; a throttle-valve; a governor connected to said throttle-valve; a series of nozzle-valves consisting respectively of the valve G, the piston J connected to the stem thereof, the cylinder Z within which said piston reciprocates; a spring for holding said valve normally in the closed position; a piston-valve for controlling the cylinder of the nozzle having a longitudinal port M opening laterally to an annular port P, toward its upper end and having a broad annular port R around the same toward the lower end; a spring O for holding said valve normally downward against a suitable shoulder; an adjusting-screw Y with suitable lock-nut *a* for adjusting the tension of said spring; a passage S with a port *d* to connect with the broad annular port R and a port T to connect to the upper part of the chamber of the valve M; a passage U and V exhausting from the upper end of said valve-chamber; a port N leading from the bottom of the cylinder Z to connect with the annular port P of the valve L, whereby the fluctuations of pressure in the chamber F will actuate the valve for the control of the piston of the nozzle-valve, as specified.

2. In a governing means for controlling turbine-engines, the combination of the engine-casing with a suitable passage F leading to a nozzle-valve; a throttle-valve for controlling the supply to the said passage with a suitable governor therefor; a nozzle-valve with a piston arranged in a suitable cylinder for actuating the same; a piston-valve by the side of said piston of said nozzle-valve, arranged to be actuated by the pressure from the supply-chamber; valve-ports in said piston-valve for controlling the supply to and from the cylinder which controls the nozzle-valve; a spring for holding the nozzle-valve normally closed,

whereby the variations of pressure in the supply-chamber will control the opening and closing of the nozzle-valve, as specified.

3. In a governing means for turbine-engines, the combination of the engine-casing with a suitable passage F leading to the nozzle-valves; a throttle-valve; a governor connected to said throttle-valve; a series of nozzle-valves consisting respectively of the valve G, the piston J connected to the stem thereof, the cylinder Z within which said piston reciprocates; a spring for holding said valve normally in the closed position; a piston-valve for controlling the cylinder of the nozzle, having a longitudinal port M opening laterally to an annular port P, toward its upper end and having a broad annular port R around the same toward the lower end; a spring O for holding said valve normally downward against a suitable shoulder; a passage S with a port *d* to connect with the broad annular port R and a port T to connect to the upper part of the chamber of the valve M; a passage U and V exhausting from the upper end of said valve-chamber; a port N leading from the bottom of the cylinder Z to connect with the annular port P of the valve L, whereby the fluctuations of pressure in the chamber F will actuate the valve for the control of the piston of the nozzle-valve, as specified.

4. In a governing means for controlling turbine-engines, the combination of a suitable casing with a suitable passage F leading to a series of nozzle-valves; a throttle-valve for controlling the supply to the said passage, with a suitable governor therefor; a suitable piston arranged in a cylinder for actuating the said nozzle-valves; a piston-valve by the side of each of said pistons for controlling the passage of fluid to control the cylinder of each of said nozzle-valves, arranged to be actuated by the pressure from the supply-chamber; and adjustable springs for holding said piston-valves yieldingly in position, whereby they will be actuated at different pressures whereby the nozzle-valves will be controlled by the variations of the pressure in the chamber F and will be opened and closed successively, as specified.

5. In a governing means for turbine-engines, the combination of the engine-casing with a suitable passage F leading to the nozzle-valves; a throttle-valve; a series of nozzle-valves consisting respectively of the valve G, the piston J connected to the stem thereof, the cylinder Z within which said piston reciprocates; a spring for holding said valve normally in the closed position; a piston-valve for controlling the cylinder of the nozzle having a longitudinal port M opening laterally to an annular port P, toward its upper end and having a broad annular port R around the same toward the lower end; a spring O for holding said valve normally downward against a suitable shoulder; an adjustable screw Y with suitable lock-nut *a* for adjusting the tension of said spring; a passage S with a port *d* to connect with the broad annular port R and a port T to connect to the upper part of the chamber of the valve M; a passage U and V exhausting from the upper end of said valve-chamber; a port N leading from the bottom of the cylinder Z to connect with the annular port P of the valve L, whereby the fluctuations of pressure in the chamber F will actuate the valve for the control of the piston of the nozzle-valve, as specified.

6. In a governing means for controlling turbine-engines, the combination of the engine-casing with a suitable passage F leading to a nozzle-valve; a throttle-valve for controlling the supply to the said passage; a nozzle-valve with a piston arranged in a suitable cylinder for actuating the same; a piston-valve by the side of said piston of said nozzle-valve, arranged to be actuated by the pressure from the supply-chamber; valve-ports in said piston-valve for controlling the supply to and from the cylinder which controls the nozzle-valve; a spring for holding the nozzle-valve normally closed, whereby the variations of pressure in the supply-chamber will control the opening and closing of the nozzle-valve, as specified.

7. In a governing means for controlling turbine-engines, the combination of the engine-casing with a suitable passage F leading to the nozzle-valves; a throttle-valve; a series of nozzle-valves consisting respectively of the valve G, the piston J connected to the stem thereof, the cylinder Z within which said piston reciprocates; a spring for holding said valve normally in the closed position; a piston-valve for controlling the cylinder of the nozzle, having a longitudinal port M opening laterally to an annular port P, toward its upper end and having a broad annular port R around the same toward the lower end; a spring O for holding said valve normally downward against a suitable shoulder; a passage S with a port *d* to connect with the broad annular port R and a port T to connect to the upper part of the chamber of the valve M; a passage U and V exhausting from the upper end of said valve-chamber; a port N leading from the bottom of the cylinder Z to connect with the annular port P' of the valve L, whereby the fluctuations of pressure in the chamber F will actuate the valve for the control of the piston of the nozzle-valve, as specified.

8. In a governing means for controlling turbine-engines, the combination of a suitable casing with a suitable passage F leading to a series of nozzle-valves; a throttle-valve for controlling the supply to the said passage; a suitable piston arranged in a cylinder for actuating the said nozzle-valves; a piston-valve by the side of each of said pistons for controlling the passage of fluid to control the cylinder of each of said nozzle-valves, arranged to be actuated by the pressure from the supply-chamber; and adjustable springs for holding said piston-valves yieldingly in position, whereby they will be actuated at different pressures whereby the nozzle-valves will be controlled by the variations of the pressure in the chamber F and will be opened and closed successively as specified.

9. In a controlling means for turbine-engines, the combination of a nozzle-valve; a chamber surrounding the same; a piston in a suitable cylinder, the inner end of said cylinder connecting to said chamber, said piston being connected to said nozzle-valve for controlling the same; a piston-valve controlled by the pressure of the elastic fluid, with ports arranged to connect to the said valve-piston cylinder to admit and exhaust the elastic fluid therefrom; an adjustable spring to regulate the resistance of said piston-valve; and a spring for holding said nozzle-valve normally closed.

10. In a controlling means for turbine-engines, the combination of a nozzle-valve; a chamber surrounding the same; a piston in a suitable cylinder, said piston being connected to said nozzle-valve for controlling the same; a piston-valve controlled by the pressure of the elastic fluid in the chamber surrounding the nozzle-valve, with ports arranged to connect to said valve-piston cylinder to admit and exhaust the elastic fluid therefrom; and a spring for holding said nozzle-valve normally closed.

11. In a controlling means for turbine-engines, the combination of a nozzle-valve; a chamber surrounding the same; a piston in a suitable cylinder connected to said nozzle-valve for controlling the same; a piston-valve controlled by the pressure of the elastic fluid in the chamber surrounding the nozzle-valve, with ports arranged to connect to the said valve-piston cylinder to admit and exhaust the elastic fluid therefrom; and a spring for holding said nozzle-valve normally closed, coacting as specified.

12. In a controlling means for turbine-engines, the combination of a nozzle-valve; a chamber surrounding the same; a piston in a suitable cylinder connected to said nozzle-valve for controlling the same; and a piston-valve controlled by the pressure of the elastic fluid in the chamber surrounding the nozzle-valve, with ports arranged to connect to the said valve-piston cylinder to admit and exhaust the elastic fluid therefrom, coacting as specified.

845,059. ELASTIC-FLUID TURBINE. CHARLES W. DAKE, Grand Rapids, Mich. Filed Mar. 22, 1906. Serial No. 307,457.

Claim.—1. The combination of a turbine disk or wheel with buckets of the U-shaped recurved type, formed in steps, the steps being similar and arranged side by side in substantially parallel relation; and a nozzle delivering to the said buckets.

2. A turbine disk or wheel with buckets of the U-shaped recurved type formed of parallel steps of similar depth to receive impact at substantially the same distance from the source of supply.

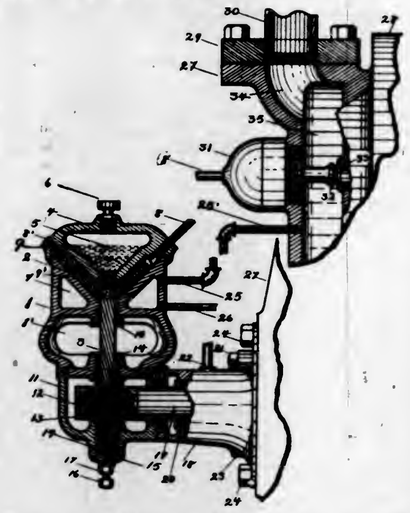
3. A turbine disk or wheel with buckets of the U-shaped recurved type formed of steps of similar depth to receive impact at substantially the same distance from the source of supply.



4. A turbine disk or wheel with buckets of the U-shaped recurved type whose curved walls are formed of steps of approximately similar radius.

5. A turbine disk or wheel with buckets of the U-shaped recurved type whose curved wall is formed of steps.

845,060. GOVERNING MEANS FOR TURBINES. CHARLES W. DAKE, Grand Rapids, Mich. Filed Mar. 22, 1906. Serial No. 307,462.



Claim.—1. In a governor for an engine, the combination of a governor-casing supported by a suitable means; a revoluble funnel-shaped receptacle, corrugated on its upper surface, on a vertical shaft within the casing; a worm-gear and worm as means for driving the same; a reservoir above the revolving receptacle, with a central aperture at the bottom; a heavy fluid, as mercury, within the receptacle and reservoir; a pipe connected to the annular chamber surrounding the funnel-shaped receptacle, filled with a lighter fluid, as glycerin; a governor-valve; and controlling means for the governor-valve to be controlled by the pressure of the liquid in said pipe, all coacting for the purpose specified.

2. In a governor for an engine, the combination of a governor-casing supported by suitable means; a revoluble receptacle on a vertical shaft within the casing; means, as a worm-gear and worm, for driving the same; a reservoir above the revolving receptacle, with a central aperture at the bottom; a heavy fluid, as mercury, within the receptacle and reservoir; a pipe connected to the annular chamber surrounding the receptacle, filled with a lighter fluid, as glycerin; a governor-valve; and controlling means for the governor-valve, to be controlled by the pressure of the liquid in said pipe, all coacting substantially as described and for the purpose specified.

3. In a governor for an engine, the combination of a governor-casing supported by suitable means; a revoluble funnel-shaped receptacle corrugated on its upper surface, on a vertical shaft within the casing; means, as a worm-gear and worm, for driving the same; a heavy fluid, as mercury, within the receptacle; a pipe connected to the annular chamber surrounding the funnel-shaped receptacle, filled with a lighter fluid, as glycerin; a governor-valve; and controlling means for the governor-valve to be controlled by the pressure of the liquid in said pipe, all coacting substantially as described and for the purpose specified.

4. In a governor for an engine, the combination of a governor-casing supported by suitable means; a revoluble receptacle on a vertical shaft within the casing; means, as a worm-gear and worm, for driving the same; a heavy fluid, as mercury, within the receptacle; a pipe connected to the annular chamber surrounding the receptacle, filled with a lighter fluid, as glycerin; a governor-valve; and controlling means for the governor-valve to be controlled by the pressure of the liquid in said pipe, all coacting substantially as described and for the purpose specified.

5. In a governor for an engine, the combination of a governor-casing supported by suitable means; a revoluble funnel-shaped receptacle, corrugated on its upper surface, on a vertical shaft within the casing; means, as a worm-gear and worm, for driving the same; a reservoir above the revolving receptacle, with a central aperture at the bottom; a pipe connected to the annular chamber surrounding the funnel-shaped receptacle; a liquid within the said receptacle, reservoir and pipe; a governor-valve; and controlling means for the governor-valve to be controlled by the pressure of the liquid in said pipe, all coacting substantially as described and for the purpose specified.

6. In a governor for an engine, the combination of a governor-casing supported by suitable means; a revoluble receptacle on a vertical shaft within the casing; means, as a worm-gear and worm, for driving the same; a reservoir above the revolving receptacle, with a central aperture at the bottom; a pipe connected to the annular chamber surrounding the receptacle; a liquid within the said receptacle, reservoir, and pipe; a governor-valve; and controlling means for the governor-valve to be controlled by the pressure of the liquid in said pipe, all coacting substantially as described and for the purpose specified.

7. In a governor for an engine, the combination of a governor-casing supported by suitable means; a revoluble funnel-shaped receptacle corrugated on its upper surface, on a vertical shaft within the casing; means, as a worm-gear and worm, for driving the same; a pipe connected to the annular chamber surrounding the funnel-shaped receptacle; a liquid within the said receptacle and pipe; a governor-valve; and controlling means for the governor-valve to be controlled by the pressure of the liquid in said pipe, all coacting substantially as described and for the purpose specified.

8. In a governor for an engine, the combination of a governor-casing supported by suitable means; a revoluble receptacle on a vertical shaft within the casing; means, as a worm-gear and worm, for driving the same; a pipe connected to the annular chamber surrounding the receptacle; a liquid within the said receptacle and pipe; a governor-valve; and controlling means for the governor-valve, to be controlled by the pressure of the liquid in said pipe, all coacting substantially as described and for the purpose specified.

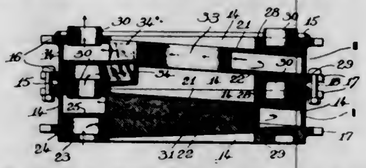
9. A governor for an engine, consisting of a revolving funnel-shaped receptacle corrugated on its upper surface; means for revolving the same; a fluid within the receptacle; a casing surrounding the same; and a connection for utilizing the pressure of the liquid developed by centrifugal force, for controlling the governor-valve, as specified.

10. A governor for an engine, consisting of a revolving funnel-shaped receptacle, corrugated on its upper surface; means for revolving the same; a fluid within the receptacle; and means for utilizing the centrifugal force to control the engine, for the purpose specified.

11. A governor for an engine consisting of a receptacle

having a central aperture; a revolving receptacle supported on a vertical axis centrally beneath the aperture of the first-named receptacle; a liquid within said receptacle; and connections for utilizing the centrifugal force developed by the revolving receptacle, coacting for the purpose specified.

845,061. WATER-HEATER. EDWIN S. DECKER, Malden, Mass. Filed Nov. 20, 1906. Serial No. 344,317.



Claim.—1. In a water-heater, a series of superposed sections each comprising a cylindrical inclosing wall and a spiral water-chamber within it provided with vertically-alined tubular inlet and outlet ports, also within the wall, a dividing-diaphragm between the ports formed by a continuation of the lower portion of the top of the chamber, and the inlet-port of the chamber next above, a separating-wall between the top and bottom of each chamber to cause the water to traverse the inlet half of each chamber before passing to the outlet half, and tubular and non-alined flues through the chambers for the products of combustion.

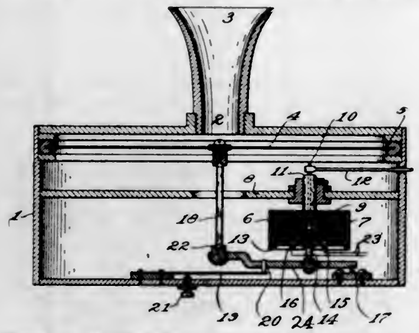
2. In a water-heater, a series of superposed sections each comprising a cylindrical inclosing wall and a spiral water-chamber within it provided with vertically-alined tubular inlet and outlet ports, also within the wall, a dividing-diaphragm between the ports formed by a continuation of the lower portion of the top of the chamber, a connection between the outlet-port of one chamber and the inlet-port of the chamber next above, a separating-wall between the top and bottom of each chamber to cause the water to traverse the inlet half of each chamber before passing to the outlet half, vertically-alined blind bosses on the top and bottom of each chamber diametrically opposite the inlet and outlet ports thereof, a boss and port at the bottom of one chamber being supported on a boss and port at the top of the chamber next below, external means to clamp adjacent sections together, and non-alined, tubular flues through the several chambers, for the passage of the products of combustion.

3. The combination, in a sectional water-heater, of a furnace and a top section, a series of intermediate sections interposed between them and superposed one upon the other, each intermediate section comprising a cylindrical inclosing wall and a water-chamber having a spiral top and bottom arranged in parallelism and provided with an upright wall to cause the water to traverse the lower half of the chamber before entering the upper half, an inlet-port opening into the bottom of each chamber and an outlet-port communicating with the top thereof, said ports being vertically alined within the cylindrical wall of each casing, a connecting-nipple between the outlet-port of one chamber and the inlet-port of the chamber next above it, and non-alined tubular flues through the several chambers for the passage of the products of combustion, the cylindrical wall of each section having a clean-out opening therein above the top of the water-chamber forming a part of such section.

4. A section for water-heaters, consisting of a cylindrical inclosing wall and a water-section having a spiral top and bottom arranged in parallelism and extending to the wall, a separating-wall between the top and bottom to cause the water to traverse the inlet half of the chamber before passing to the outlet half, vertically-alined tubular inlet and outlet ports for the chamber, opening respectively into the inlet and outlet halves thereof, and a substantially horizontal diaphragm dividing the ports and forming a continuation of the lower portion of the top of the chamber.

5. In a water-section, a series of superposed sections each comprising a cylindrical inclosing wall and a water-section having a spiral top and bottom arranged in parallelism and extending to the wall, means to cause the water to traverse the inlet half of each chamber before passing to the outlet half thereof, vertically-alined inlet and outlet ports for each chamber, a connection between the outlet-port of one chamber and the inlet-port of the chamber next above, and a clean-out opening in the wall of each section having its lower edge flush with the adjacent portion of the top of its own water-chamber.

845,062. TELEPHONE-TRANSMITTER. JAMES M. DEMPSEY, Chicago, Ill., assignor of three-tenths to William B. Beckman, Fayetteville, Ark., and three-tenths to Harry T. Rogers and one-tenth to Madeline Dempsey, Chicago, Ill. Filed Nov. 30, 1906. Serial No. 345,718.



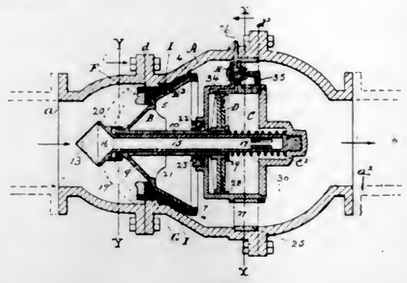
Claim.—1. A transmitter comprising a diaphragm arranged to be sensitive to sound-waves, a cell containing a quantity of granular conducting material, a spring arranged to exert an initial compression upon the material in said cell, an electric circuit including said granular material, and means interposed between said diaphragm and said spring and adapted to reduce the pressure on said material through a movement of said diaphragm in the direction of the advance of sound-waves striking it.

2. A transmitter comprising a diaphragm arranged to be sensitive to sound-waves, a cell containing a quantity of granular conducting material, a spring arranged to exert an initial compression upon the material in said cell, an electric circuit including said granular material, and means interposed between said diaphragm and said spring and adapted to reduce the pressure on said material through a movement of said diaphragm in the direction of the advance of sound-waves striking it, said means being adapted to transmit to said granular material vibrations of greater intensity than the vibrations of the diaphragm itself.

3. A transmitter comprising a casing having an opening at one side, a diaphragm stretched across said opening and adapted to be vibrated through sound-waves entering said opening, a cell containing a quantity of granular material mounted in said casing inward of the diaphragm, a spring arranged to exert an initial compression upon said granular material, an electric circuit including said granular material and adapted to have its resistance varied through a variation in the pressure on said material, a lever fulcrumed in said casing and arranged to be oscillated through the vibrations of said diaphragm, said lever having an arm acting on said granular material and adapted to release the pressure upon said material through an inward movement of said diaphragm, means for adjusting said spring to alter the initial pressure upon said material, and an adjustment between said lever and diaphragm to prevent lost motion through changes in the adjustment of said spring.

4. A transmitter comprising a casing having an opening at one side, a diaphragm mounted at said opening and adapted to be vibrated through sound-waves entering said opening, a pair of electrodes, a quantity of granular conducting material in circuit with said electrodes, a spring exerting an initial compression upon said granular material, means interposed between said diaphragm and spring whereby said spring normally urges the diaphragm outwardly of said opening and whereby the inward movement of said diaphragm causes a variable reduction in the pressure of said spring upon said granular material.

845,063. HYDRAULIC VALVE. HENRY A. DESPER, Worcester, Mass. Filed Jan. 23, 1906. Serial No. 297,440.



Claim.—1. A hydraulic-valve mechanism, comprising the body-casing, a valve-seat therein, an open stationary tubular guide-shaft, a valve having a hollow stem slidable on said guide-shaft; in combination with the pressure-cylinder fixed within the casing and containing the end of said guide-shaft, the piston within said cylinder secured to the end of the hollow valve-stem and movable on said tubular guide-shaft, and means for controlling pressure within the cylinder to effect movement of said piston.

2. In a hydraulic-valve mechanism, a valve-seat comprising a circular ring-seat with a supplementary rearwardly-enlarged conoidal extension-surface, a valve having a circular ring-seating face that abuts against said ring-seat, and provided with a rearwardly-enlarged conoidal member diverging from the ring-seating face and projecting into the main water-chamber as an internally-open flange approximately counter-matching the surface of the valve-seat extension; said conoidal member of the valve adapted to approximately close upon the conoidal extension-surface with the closing of its ring-seating face, for the purpose set forth.

3. In a hydraulic-valve mechanism of the class described, the combination of a valve having a ring-face with a rearwardly-flaring conical flange or follower-rim, and a valve-seat having a ring-face and a rearwardly-enlarged supplementary extension, the conical counter-matching surfaces arranged to close upon each other approximately simultaneous with the closure of the ring-faces, said conical flange portions each terminating within the main water-chamber with a short straight cylindrical portion at their rear edge, for the purpose set forth.

4. In a hydraulic-valve mechanism of the class described, the combination with the body-casing, of a valve-seat ring, a supplementary rearwardly-enlarged seating member having an internally-coned surface, a valve having a ring-seating face and a rearwardly-enlarged follower-rim with an externally-coned surface, and means for automatically moving said valve.

5. In a hydraulic-valve mechanism of the class described, in combination with the valve-seat ring having a rearwardly-projecting lip, the packing-ring and rearwardly-enlarged extension with internal-coned surface; a valve having a ring-seat face provided with a groove for receiving said lip, and a rearwardly-extended conoidal rim, and means for automatically operating said valve.

6. In a hydraulic-valve mechanism, in combination, with a suitable casing, a valve, a pressure-cylinder and a piston within said cylinder for operating said valve, of a tubular valve-supporting guide through which water-pressure is admitted from the waterway in front of the valve to the interior of said cylinder.

7. In a hydraulic-valve mechanism, the combination of the casing having a waterway therethrough, and means for its attachment to a service main or pipe, a valve-seat and a pressure-cylinder fixed within said casing, a tubular valve-supporting guide open at its front and leading into the cylinder, a valve movable on said tubular guide and having a ring-face closable against the valve-seat, a piston movable within the cylinder and attached to the valve-stem, passages for the inlet and discharge of water into and from the cylinder at the front of the piston, and means substantially as described for controlling said passages.

8. In a hydraulic-valve mechanism of the class described, the combination with the annular valve-seat, the seat-packing, the rearwardly-enlarged supplementary seat having conoidal interior surface, and a central tubular guide-shaft; of the valve mounted to slide on said tubular guide-shaft and having the conoidal deflecting-nose, the ring-seating face and rearwardly-enlarged conoidal rim, a cylinder and piston for operating said valve, and means substantially such as described for controlling the pressure within the cylinder-chambers.

9. In a hydraulic-valve mechanism, the combination substantially as described, of the casing, the valve-seat ring, the cylinder supported stationary within the casing, a central tubular guide-shaft connecting with said cylinder and open at the front of the valve, a valve closable on said valve-seat in opposition to the flow and having a hollow stem slidably mounted on said guide-shaft, a piston fixed on said stem within the cylinder, water-passages from the chambers of said cylinder, a three-way cock controlling said passage, and means external of the shell for turning said cock.

10. In a hydraulic-valve mechanism, the combination with the main casing, the cylinder, the central tubular guide-shaft leading thereinto, the valve having a hollow stem slidable on said guide-shaft, and a piston attached to said valve-stem within the cylinder, of a ring-flange on the cylinder-head, and a cup-leather held therein and surrounding said valve-stem, substantially as set forth.

11. In a hydraulic-valve mechanism, in combination with the main casing, the pressure-cylinder, valve-operating piston and valve having the hollow stem; the central tubular guide-shaft communicating with the interior of the cylinder and having the open enlarged mouth forward of the valve, for the purpose set forth.

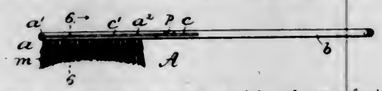
12. In a hydraulic-valve mechanism of the class described, the tubular guide-shaft having the annular dash-pot groove, and the valve having the hollow stem slidable on said guide-shaft, said hollow stem being extended at the front of the valve and fitted for resistingly entering said dash-pot groove, in combination with the casing inclosing the waterway, the valve-seat, and means for closing said valve.

13. In a hydraulic-valve mechanism of the class described, the removable annulus comprising outer and inner rings united by arms or webs and having waterway-spaces between, in combination with the cylinder having an external seat for the inner ring, the divided shell having a seat for the outer ring, the central guide-shaft, the valve sliding thereon, the piston connected with the valve-stem, and the concentric valve-seat, substantially as set forth.

14. In a hydraulic-valve mechanism of the character described, the combination with the valve, the cylinder, valve-actuating piston, and tubular valve-supporting shaft having the bell-mouth and passage leading into the cylinder; of a pointed conical strainer fitting over the mouth of said tubular shaft, substantially as and for the purpose set forth.

15. In a hydraulic-valve mechanism, in combination with the casing or shell including a waterway and valve-seat, the valve, tubular valve-supporting guide-shaft, valve-actuating piston and cylinder, of the expanding coiled spring disposed within the cylinder at the back of the piston and exerting tension for forcing the valve toward its seat.

845,064. TOOTH-BRUSH. FREDERICK P. DROWNE, Warren, R. I. Filed Oct. 26, 1906. Serial No. 340,720.



Claim.—1. As an improved article of manufacture a separable tooth-brush comprising the bristle-carrying head having the back member thereof provided with laterally-separated oppositely-disposed longitudinally-extending openings, and a handle member having its forward portion fork-shaped and adapted to be inserted in said openings and normally held therein by their frictional contact of said members.

2. As an improved article of manufacture, a separable tooth-brush consisting of the longitudinally-apertured bristle-carrying head provided with a short shank, a handle member having a fork-shaped extension frictionally seated in the apertures of and supporting said head member, and means located in said shank and the adjacent part of the handle for detachably securing the head and handle members together.

3. As an improved article of manufacture, a brush-head having longitudinally-disposed openings and a shank portion provided with a transverse opening communicating with said longitudinal openings adapted to receive the forward portion of a handle therein.

4. In a separable tooth-brush, the combination with a handle member and the brush-head having a short rearwardly-extending shank, of a resilient fork-shaped member in frictional engagement with the said brush-head and shank and rigidly secured to the front end portion of said handle and forming an extension thereof, constructed and arranged substantially as hereinbefore described.

5. In a separable tooth-brush, the combination with the brush-head and its handle member, of a thin metal coupling member rigidly secured to and forming a continuation of said handle and being in frictional engagement with the brush-head whereby said parts are detachably secured together, and a pin fixed to said coupling and extending into the shank portion of the said head, substantially as described and for the purpose set forth.

6. The combination, in a separable tooth-brush, of the bristle-carrying head member having a pair of longitudinal oppositely-disposed parallel grooves formed therein, and a handle member having its forward portion provided with a thin slightly resilient bifurcated or fork-like extension adapted to be inserted into said grooves of the brush-head and frictionally retained therein, substantially as described.

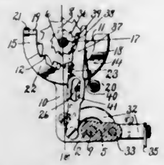
845,065. PRESSURE-GAGE. MICHAEL DUNN, Columbus, Ohio. Filed Mar. 15, 1906. Serial No. 306,152.



Claim.—1. In a device of the character described, the combination with an indicator-casing, of a piston-casing supported upon the upper end of said indicator-casing, a plunger arranged in the piston-casing and projecting into said indicator-casing, guide-rods extending longitudinally of the indicator-casing, a carriage removable longitudinally in said indicator-casing and having portions which encircle said guide-rods, springs bearing between said encircling portions and the indicator-casing, said springs tending to force said carriage toward one end of the casing, a marking-point carried by the plunger and adapted to move adjacent said carriage, said carriage comprising a vertical front portion and a horizontal portion, and tape-supporting rolls mounted upon said horizontal portion.

2. In a device of the character described, the combination with a casing, of guide-rods mounted in said casing, a carriage mounted to travel in said casing and having portions which encircle said guide-rods, springs encircling the guide-rods and bearing between said portions and one end of the casing, tape-supporting rolls mounted to travel with the carriage, means for moving said carriage against the tension of the springs, a pressure-operated piston, and a marking-point carried by said piston which travels adjacent the face of the carriage.

845,066. TYPE-WRITING MACHINE. FRANK J. DYETT, Ilion, N. Y. Filed July 16, 1904. Serial No. 216,790.



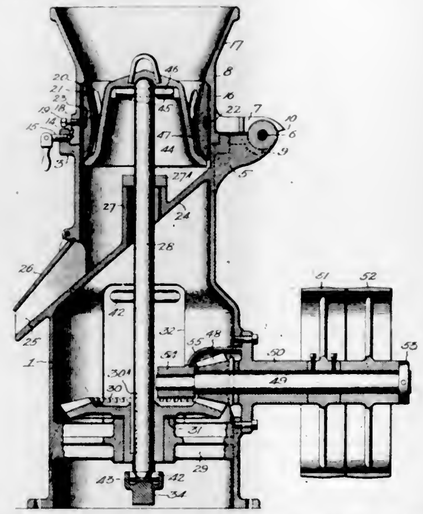
Claim.—1. In an escapement mechanism for type-writing machines, the combination with an escapement-wheel; of an oscillating member arranged at one side of the plane of the escapement-wheel and comprising opposite branches, and a part arranged substantially midway between the branches, one of the branches having a detent for coöperating with the escapement-wheel, and a second detent comprising a radial arm pivoted to the part arranged between said branches, and a segmental head slidably engaging the other of said branches, the radial arm being interposed between said part and the opposing side of the escapement-wheel, and the segmental head having a detent for coöperating with the escapement-wheel, substantially as and for the purpose specified.

2. In an escapement mechanism for type-writing machines, the combination with an escapement-wheel; of an oscillating member arranged at one side of the plane of the escapement-wheel and comprising opposite branches and a part arranged substantially midway between the branches, one of the branches having an offset portion extending into the plane of the escapement-wheel, a detent provided on the offset portion for coöperating with the escapement-wheel, and a second detent comprising a radial arm pivoted to the part arranged between said branches, and a segmental head slidably engaging the other of said branches, the radial arm being interposed between said part and the opposing side of the escapement-wheel, and the segmental head having an offset portion extended into the plane of the escapement-wheel, substantially as and for the purpose set forth.

3. In an escapement mechanism for type-writing machines, the combination with an escapement-wheel; of an oscillating member provided with a branch arranged substantially concentric with the escapement-wheel, means for oscillating said member, and detents carried by the oscillating member and coöperating with the escapement-wheel, one detent being pivoted to the oscillating member substantially in alinement with the axis of the escapement-wheel and comprising a radial arm arranged at one side of said wheel, and provided with a segmental head opposed to the concentric branch of the oscillating member and having one end formed with an offset portion movable in the plane of the escapement-wheel said offset portion forming the part of said detent engaging the escapement-wheel, substantially as and for the purpose described.

4. In an escapement mechanism for type-writing machines, the combination with an escapement-wheel, of an oscillating member having a portion thereof movable at one side of the plane of the escapement-wheel, and provided with opposing branches arranged substantially concentric to the escapement-wheel, one branch having an offset portion movable in the plane of the escapement-wheel and the other having a lateral extension in said plane, detents coacting with the escapement-wheel, one detent being fixed to said offset portion and the other comprising a radial arm at one side of the escapement-wheel pivoted at one end to the oscillating member substantially in alinement with the axis of said wheel, and a segmental head opposed to the branch having a lateral extension and formed at one end with an offset portion movable in the plane of the escapement-wheel toward and from said extension and provided with the face of said detent engaging the escapement-wheel, and a spring for moving the pivoted detent toward said extension, substantially as and for the purpose described.

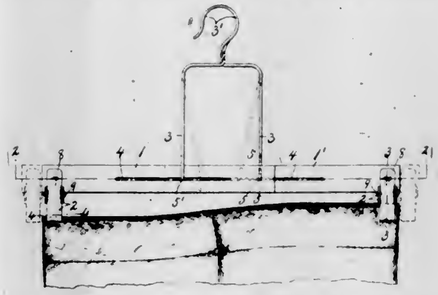
845,067. ORE CRUSHING AND GRINDING MILL. AUGUSTUS L. ENGELBACH, Denver, Colo. Filed Aug. 21, 1906. Serial No. 331,469.



Claim.—1. In an ore-crushing mill, the combination with the supporting-frame, of a hopper pivotally hinged to said frame, means for clamping said hopper to said frame, said hopper having a cylindrical aperture extending into its bottom a predetermined distance, said hopper being provided with an outward-flaring hopper-aperture in its top intersecting said cylindrical aperture, an inwardly-curved lip connecting the lower edge of said flaring hopper's bore and said cylindrical bore, a cylindrical die-ring of chilled or other suitable ore-crushing metal fitting said cylindrical bore and provided with an upper curved edge fitting the curved lip of said die-ring, a band of soft metal encircling said die-ring, provided with a plurality of tapering V-shaped holes spaced at equal distances apart, and pointed set-screws threaded through the shell of said hopper, and positioned to bear against the upper side of said V-shaped apertures in said soft band, and hold said die-ring up against the curved lip of said hopper, with an upward clamping pressure, as set forth.

2. In an ore-crushing mill, the combination of the vertical frame, and the hopper pivotally hinged to tilt backward thereon, an ore-crushing die-ring secured in said hopper, having a convexed circumferential row of vertically-arranged channels in its inner periphery extending from its top to near its bottom edge, and a smooth, angular circumferential band portion at its lower edge, with a bell-die rotatably mounted in operative rock-crushing relation to said die-ring and having a circumferential row of vertically-arranged channels in its peripheral surface extending from near its top to near its bottom edge, and a smooth angular band portion at its lower end adapted to fit closely against the lower edge of said die-ring, a shaft for rotating said bell-die, an adjustable bearing for the shaft, a hand-wheel and rod connected to said bearing for adjusting said shaft and bell-die relative to said hopper's die-ring, a journal bearing in the lower portion of the frame, a fiber washer on top of said bearing, the bevel-gear feathered to said shaft and resting on said fiber washer and having a hub portion which rotates in said journal, the driving-shaft journaled at right angles to said bell-die shaft, a pinion secured to said shaft and in mesh with it, and a double bearing having a flange member secured to said frame and two journal-bearings adapted to support said shaft on opposite sides of said pinion, a hood portion connecting said bearings and surrounding the upper portion of said pinion, and a power driving-pulley on the outer end of said shaft, as set forth.

845,068. TROUSERS-SUPPORT. IRVING D. FELLOWS, Syracuse, N. Y. Filed Jan. 22, 1906. Serial No. 297,377.



Claim.—1. A trousers-hanger comprising two comparatively thin flat bars slidable one upon the other and each having a longitudinal slot and an aperture, spring-arms united to form a hook and each having one end inserted through the slot in one of the bars and into the aperture in the other bar, whereby the bars are automatically distended, one upon the other, and gripping devices on the outer ends of the bars.

2. A trousers-hanger comprising two comparatively flat bars, each slotted longitudinally and provided with an aperture, and a gripping member, spring-arms, each having its lower end passed through the slot in one bar and through the aperture of the other bar for the purpose described.

845,069. METAL-BENDING MACHINE. WILLIAM FEHR, Philadelphia, Pa. Original application filed Dec. 22, 1905. Serial No. 292,946. Divided and this application filed Nov. 21, 1906. Serial No. 344,449.



Claim.—1. In a machine of the character described, dies, each of said dies having a projection and a depression, said dies when moved one against the other adapted to bend in opposite directions separated portions of a metal strip placed between the same, and means carried by one of said dies adapted to engage the other of said dies prior to the bending of the metal strip by the depressions and projections thereof.

2. In a machine of the character described, dies, each of

said dies having a projection and a depression, said dies when moved one against the other adapted to bend in opposite directions separated portions of a metal strip placed between the same, and means carried by one of said dies adapted to engage the other of said dies prior to the bending of the metal strip by the depressions and projections thereof, by first passing through a slot arranged in the strip.

3. In a machine of the character described, dies, each of said dies having a projection and a depression reversed in position with respect to each other, means carried by the upper one of said dies, said means adapted when said die is moved toward the lower one of the dies to engage a metal strip passing between the same and to be shifted into an operative position in the upper die, when abutting against an unslotted portion of the strip.

4. In a machine of the character described, holders, dies slidably arranged therein having means adapted to bend separated portions of a metal strip in opposite directions to form an eye therein, means extending from the upper one of said dies adapted to enter a slot arranged in the lower one of said dies, said extending means arranged when entering a slot of the metal strip to shift and hold both dies in alinement with the slot when the same differs in its position in the strip with the position occupied by the dies, and means for automatically returning said dies to proper position in their respective holders, when disengaged by said extending means.

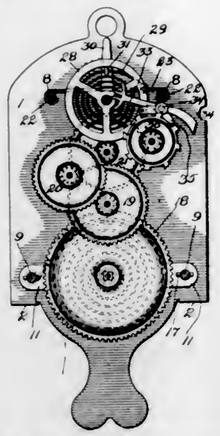
5. In a machine of the character described, holders, dies slidably arranged therein having projections and depressions adapted to form eyes in a metal strip by bending separated portions thereof, in opposite directions to each other, a blade movably arranged in and extending from the upper one of said dies, means for returning said blade to an operative position in its die, when removed therefrom, said blade adapted to enter a slot arranged in the lower one of said dies and a slot in the metal strip placed between the dies so as to be shifted by the strip to move the upper and lower die into alinement with each other and with the slot of the strip, when the said slot occupies a position sidewise to the central axis of said dies.

6. In a machine of the character described, holders, dies slidably arranged therein having projections and depressions adapted to form eyes in a metal strip placed between the same by bending separated portions thereof in opposite directions to each other, a blade movably arranged in and extending from the upper one of said dies, means for returning said blade in an operative position in its die, when removed therefrom, said blade adapted to enter a slot arranged in the lower one of said dies and to pass through a slot in the metal strip so as to be shifted by the strip to move the upper and lower dies into alinement with each other and with the slot of the strip when the said slot occupies a position sidewise to the central axis of said dies and to shift said blade into an inoperative position, when an unslotted portion of the strip contacts with the same.

845,070. CLOCK. JAKOB FELLHEIMER, Furtwangen, Germany. Filed Nov. 21, 1902. Serial No. 132,331.

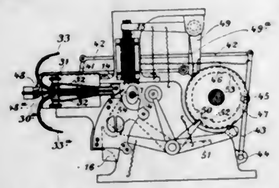
Claim.—1. A clock to be put together without the use of instruments, comprising the casing the rear wall of which serves as rear plate, a front plate, pillars connecting the said plates, nuts screwed on the threaded front ends of said pillars, a clockwork comprising a mainspring with winding-arbor and a train of wheels, a bridge-piece, means for retaining the said mainspring of the clockwork, a sleeve on the inner end of the said mainspring adapted to fit over the said mainspring-arbor, means for securing the outer end of the said mainspring, a second bridge-piece, two loops on the second bridge-piece adapted to engage two of the said pillars, a protecting-tongue stamped out of the said bridge-piece, a balance device journaled in said bridge-piece, and an anchor device connecting the said balance device with one of the said wheels, substantially as specified.

2. In a clock, a rear plate, posts thereon, a bridge removably mounted on said posts, and formed with an opening, an arbor journaled at both ends in said bridge, a balance wheel and spring operating in said opening, a tongue integral with said bridge and partially surrounding the balance-spring, and a regulating means for said spring and removable with the bridge.



3. In a clock, a rear plate, posts thereon, a front plate mounted on said posts and provided with a slot, a balance-wheel, an escapement-wheel, and actuating means therefor arranged between said plates, an escapement-arbor journaled in said rear plate and in the slot of the front plate, means carried by the arbor for transmitting motion from the escapement-wheel to the balance-wheel, and a block mounted on one of said posts and forming a bearing and retaining means for one end of said escapement-arbor.

845,071. MACHINE FOR MANUFACTURING BOXES FROM PASTEBOARD OR THE LIKE. FRANZ FETTBACK, Hanover, Germany. Filed July 27, 1906. Serial No. 328,126.



Claim.—1. In a machine for making boxes, a core, combined with a plunger arranged opposite thereto, and means for intergearing the core with the plunger, substantially as specified.

2. In a machine for making oval boxes, an oval core and an intergeared plunger opposite thereto, combined with means for feeding paper strips, and means for oscillating said feeding means, substantially as specified.

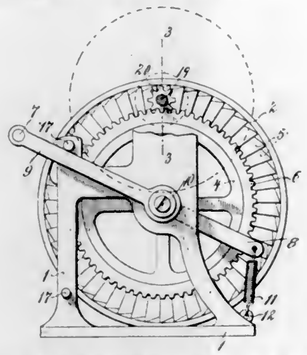
3. In a machine for making oval boxes, an oval core and an intergeared plunger arranged opposite thereto, combined with a pair of feed-plates, a pin to which the feed-plates are secured, and means for oscillating said pin, substantially as specified.

845,072. WIRE FENCE. JACOB FISHER, Sac City, Iowa. Filed Dec. 1, 1906. Serial No. 345,897.

Claim.—The combination with a pair of fence-wires, of a stay formed with a hook at each end, the free end of the hook being bent outwardly to form a lug which projects outwardly in both the open and closed position of the hook and is thereby adapted to be grasped by a pair of pincers in either of said positions.



845,073. GRINDSTONE. EMIL FRANKE, Astoria, N. Y. Filed Oct. 2, 1905. Serial No. 281,833.



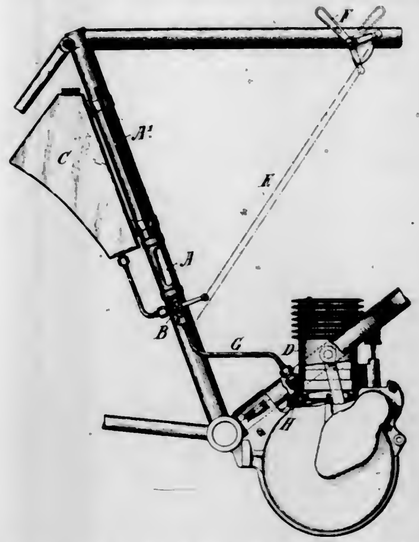
Claim.—1. A grindstone-motor comprising a support, a wheel journaled on said support, said wheel having a circular series of ratchet-teeth on one side thereof and a circular series of gear-teeth smaller in diameter than the ratchet-teeth, a yoke-shaped handle pivoted on a line with the journal of the wheel, one side member of the yoke-shaped handle being extended beyond the other and having a spring connected therewith, a pawl member mounted on the handle to coöperate with the ratchet-teeth, a shaft mounted in the support and having a pinion intermeshed with the gear-teeth of the wheel.

2. A grindstone-motor comprising a support, a circular casing on said support, a wheel disposed in said casing and journaled on said support, said wheel having a circular series of ratchet-teeth on one side thereof and a circular series of gear-teeth of smaller diameter than the ratchet-teeth, a yoke-shaped handle pivoted on a line with the journal of the wheel, one side member of the handle being extended beyond the other and having a spring connected therewith, a depending tongue on the long member of the handle, a spring-pressed pawl mounted on the tongue to coöperate with the ratchet-teeth, a shaft mounted on the support and having a pinion intermeshed with the gear-teeth of the wheel, the diameter of the pinion being slightly less than the width of the ratchet-teeth.

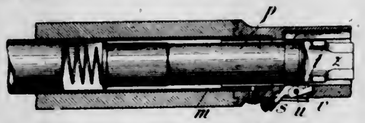
845,074. LUBRICATING APPARATUS. HENRI FRENAY, Lüttich, Belgium. Filed Aug. 1, 1904. Serial No. 219,001.

Claim.—1. In combination with a motor, a lubricating apparatus especially applicable to motor-cycles, and including a lubricator A, an oil-reservoir C, a three-way cock, and a controlling-handle therefor placed within reach of the driver, the cock being arranged to admit oil alternately either from the reservoir to the lubricator, or from the lubricator to the motor, and the lubricator A carrying an atmospheric tube A′ allowing the flow of oil to the motor.

2. A lubricating apparatus especially applicable to motor-cycles, including in combination a lubricator, an air-tube on said lubricator, a three-way cock at the lower end of the lubricator, an oil-reservoir, a pipe connecting the lubricator with said oil-reservoir, a pipe connecting the three-way cock to the motor; and means for operating the three-way cock placed within reach of the driver's hand.



845,075. REPEATING RIFLE. HENRI FRENAY, Lüttich, and HANS GRAEVE, Herstal, near Lüttich, Belgium. Filed Jan. 19, 1905. Serial No. 241,755.



Claim.—1. In a repeating firearm, a device for moving the cartridge which is adjacent to the magazine mouth in a direction reverse to the direction of the feed, and for mechanically holding the cartridge in such position.

2. In a repeating firearm, a carrier, a magazine having means for moving a cartridge into position to be engaged by said carrier, and a manually-operable device for moving such cartridge out of such position, whereby the carrier is prevented from feeding cartridges from the magazine and the firearm is adapted for hand-loading.

3. In a repeating firearm, a carrier, a magazine having means for moving a cartridge into the sphere of action of said carrier, and a device for preventing the action of such means, said device adapted to move the cartridge out of such position.

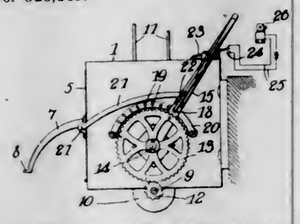
4. In a firearm, a carrier, a magazine having means for moving a cartridge into the sphere of action of said carrier, means for moving said carrier to bring the cartridge to firing position, mechanism for moving such carrier and firing the cartridge, such mechanism adapted to permit said firearm to be loaded by hand, and a device for moving such cartridge out of the sphere of action of said carrier, whereby to cause the latter to remain inoperative when the firearm is to be loaded by hand.

5. In a repeating firearm, a carrier, a magazine having means for moving a cartridge into position to be engaged by said carrier, and a manually-operable device for moving such cartridge out of such position, whereby to adapt the firearm for hand-loading, such device comprising a two-armed lever adapted to move horizontally to push the cartridge backwardly out of such position.

6. In a firearm, a carrier, a tubular magazine, means

for pushing the cartridges rearwardly therein, a two-armed lever arranged at the breech and adapted in one position to permit the carrier to act to feed the cartridge from such magazine, and in another position to hold the cartridges in a position out of the sphere of action of such carrier, whereby to adapt such firearm for hand-loading.

845,076. SAFETY-SIGNAL-BOARD ATTACHMENT. WILLIAM T. GATES, Aubrey, Tex. Filed July 13, 1906. Serial No. 326,149.



Claim.—1. The combination with a case having a hinged closure and arm rigidly connected to the case and adapted to project through the closure when the case is closed and to be suspended thereabove when the case is opened; of semaphore-actuating means, and mechanism actuated by said means for operating the closure.

2. The combination with a case, a hinged closure therefor, and an arm rigidly connected to the case and adapted to project through and to be supported above the closure when the case is closed and opened respectively; of semaphore-actuating means, and mechanism operated by said means for opening the case when one signal of the semaphore is displayed and for closing the case when another signal of the semaphore is displayed.

3. The combination with a case having an apertured closure and an arm rigidly connected to the case and adapted to project through the closure when the case is closed and to be supported above the closure when the case is opened; of semaphore-actuating mechanism, a lever for actuating the same, and a link connection between the lever and closure.

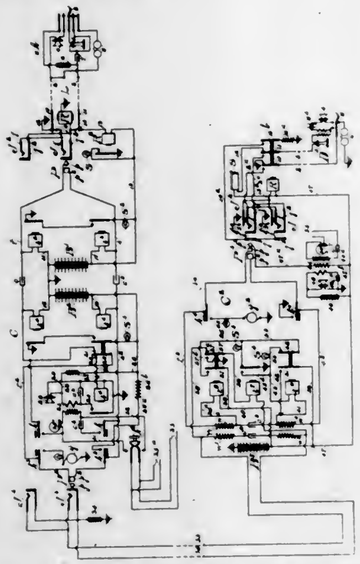
4. The combination with a case, an apertured closure therefor, and an arm rigidly connected to the case and adapted to project through the aperture when the case is closed and to be supported above the closure when the case is opened; of semaphore-actuating mechanism, a lever for operating said mechanism, means for locking the lever in a predetermined position, and a link connection between the closure and the lever.

5. The combination with a case having a closure hinged thereto, and an arm rigidly connected to the case and adapted to project through the closure when the case is opened; of a rotatable semaphore-actuating shaft, a lever fulcrumed upon the case, means operated by the lever for rotating the shaft, means for locking the lever in adjusted position, and means for transmitting motion from the lever to the closure to open and close the case.

6. The combination with a case, an apertured closure therefor, and an arm rigidly connected to the case and adapted to project through the aperture when the case is closed and to be supported above the closure when the case is opened; of semaphore-actuating mechanism, a lever for operating said mechanism, means for locking the lever in a predetermined position, a link connection between the closure and the lever, a clip upon the case, and an alarm adapted to be sounded by the clip for engaging an object.

845,077. TELEPHONE TRUNKING SYSTEM. HARRY C. GOLDRICK, Indianapolis, Ind., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Sept 17, 1902. Serial No. 123,696.

Claim.—1. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal at the outgoing end of the trunk placed in condition to operate by current flowing over a portion of the talking-circuit when connection is established at said end, a relay at the incoming end of the trunk controlling the path for current over the outgoing end, said relay being energized when the connection is established with the called line to prevent a sufficient flow of current over the outgoing end of the trunk to render the supervisory signal inoperative, and a relay actuated when the called subscriber responds to deprive the said first-named relay of operating-current, said relay serving when deënergized to complete a low-resistance path for current over the metallic circuit of the outgoing end of the trunk to render said supervisory signal inoperative, substantially as described.



2. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal at the outgoing end placed in condition to operate when a connection has been established with said end, a relay at the incoming end, said relay being energized when the connection is established with the called subscriber's line and before his response to open the metallic circuit of the outgoing end of the trunk, and means to shunt said relay to close the metallic circuit of the outgoing end of the trunk when the called party responds to cause it to permit a flow of current thereover to render said supervisory signal inoperative, substantially as described.

3. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal at the outgoing end operated when connection is established therewith, a trunk-relay at the incoming end actuated by current from over the outgoing end when connection is established at said end, a second relay at said incoming end actuated when connection is established with the called line and when the called subscriber's telephone is not in use, for closing an operating-circuit through said trunk-relay over one side of the outgoing end of the trunk and ground, and means for shunting said second relay during conversation to cause it to complete the metallic circuit of the outgoing end of the trunk through said relay whereby a flow of current over the outgoing end renders said supervisory signal inoperative, substantially as described.

4. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal at the outgoing end operated when connection is established therewith, a trunk-relay at the incoming end of the trunk actuated by current thereover when a connection exists at the outgoing end, a relay at the incoming end actuated by current over one side of the called line and ground when a connection is established therewith and when the called subscriber's telephone is not in use to complete a path for current through said trunk-relay over one side of the outgoing end of the trunk and ground, a third relay at the incoming end actuated over the metallic line when the called subscriber answers, said relay serving to short-circuit the second-named relay whereby the latter is deënergized and when deënergized closes the metallic circuit of the outgoing end of the trunk through the trunk-relay to maintain the latter operated and at the same time to permit a sufficient flow of current over the trunk to render the supervisory signal inoperative, substantially as described.

5. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal at the outgoing end of the trunk placed in condition to operate by current flowing over one side of the trunk at the outgoing end when a connection is first established therewith, a relay and a source of current at the incoming end, said relay being actuated by current over one side of the telephone-line and the substation-ground before his response, said relay serving to control a path for current over the outgoing end of the trunk, a second relay at the incoming end of the trunk responsive to current in the line when the subscriber responds, said latter relay serving to short-circuit the first-named relay to render it inoperative and thereby close the path for current over the metallic circuit of the outgoing end of the trunk to render said supervisory signal inoperative, said second-mentioned relay serving also to deprive the called line of current and to close a locking-circuit for itself, substantially as described.

6. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a relay and a source of current associated with the incoming end, said relay being adapted to be operated by current from said source over one side of the line to ground at the substation before the subscriber answers, of a signal placed in condition to operate by the actuation of said relay, a second relay at the incoming end of the trunk responsive to current in the metallic line when a called subscriber answers, said latter relay serving to short-circuit the first-named relay to render it inoperative and to deprive the line of current, and a locking-circuit for said second relay to prevent deënergizing the same as long as the connection exists at the outgoing end of the trunk, substantially as described.

7. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a disconnect-signal for the incoming end of the trunk, a relay actuated by current sent over the outgoing end of the trunk to prevent the operation of said signal while a connection exists at the outgoing end, a second relay at the incoming end of the trunk placed in condition to operate by current sent over one side of the called telephone-line to ground at the substation to place said signal in condition to operate when the called subscriber's telephone is upon its hook, and a third relay at the incoming end responsive to current in the metallic line when the subscriber answers to his call to short-circuit the line and thereby render said second-mentioned relay inoperative and to deprive the line of current, and a locking-circuit for said third relay to prevent its operation as long as a connection exists at the outgoing end of the trunk, substantially as described.

8. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a disconnect-signal for the incoming end of the trunk, a relay actuated over one side of the called telephone-line and ground at substation to place said signal in condition to operate, a second relay at the incoming end actuated by current sent over the outgoing end of the trunk when a connection exists at the outgoing end to prevent the operation of said relay, a third relay at the incoming end of the trunk responsive to current in the line when the called subscriber first takes up his receiver, and a locking-circuit for said relay in shunt of the line, whereby when the said relay is actuated a line is deprived of current and the first-named relay is rendered inoperative, substantially as described.

9. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing signal for the incoming end of the trunk actuated when connection is established with the called line, a relay energized by current in the talking-circuit when the called subscriber answers to render said signal inoperative, and means to prevent deënergizing said relay until the connection is severed at the outgoing end, substantially as described.

10. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a relay associated with the incoming end of the trunk actuated over one limb of the called line when connection is established therewith, a ringing signal whose circuit is controlled at one point by said relay, a second relay responsive to current in the line when the called subscriber answers to render said signal inoperative, said relay serving to close a locking-circuit for itself when actuated and to open the circuit of said signal at a second point, whereby said signal is prevented from operating during the remainder of the connection, substantially as described.

11. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a relay associated with the incoming end of the trunk actuated when connection is established with the called line, a ringing signal whose circuit is controlled at one point by said relay, a second relay connected with the sleeve strand of the trunk-cord and responsive to current in the line when the subscriber answers, said relay when actuated serving to close a locking-circuit for itself and to shunt the circuit from the winding of said first relay and open the circuit of said signal at a second point, substantially as described.

12. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing signal for the incoming end of the trunk, a relay actuated over one side of the telephone-line to the substation and ground to place said signal in condition to operate, and a second relay responsive to current in the metallic circuit of the line to render said first relay inoperative when the called subscriber responds, substantially as described.

13. The combination with a trunk-circuit extending between different switchboard-sections adapted to connect telephone-lines for conversation, of a ringing signal for the incoming end of the trunk, a relay actuated over one limb of the called subscriber's line and ground when connection is established with said line to place said signal in condition to operate, and a second relay responsive to current in the metallic line for rendering said signal inoperative, said latter relay serving to close a locking-circuit for itself whereby said signal is prevented from operating during the remainder of the connection, substantially as described.

14. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines for conversation, of a ringing signal for the incoming end of the trunk, a relay actuated over a portion of the talking-circuit when connection is established with the called line to place said signal in condition to operate, and a second relay actuated over the metallic line when the called subscriber responds to render

said signal inoperative, said latter relay serving when actuated to complete a locking-circuit for itself, whereby the ringing signal is prevented from operating during the remainder of the connection, substantially as described.

15. The combination with a trunk-circuit extending between different switchboard-sections adapted to connect telephone-lines for conversation, of a ringing signal for the incoming end of the trunk, a relay actuated over one side of the called line, and through the grounded signaling-bell to place said signal in condition to operate, and a second relay actuated over the metallic line when the called subscriber answers to render said ringing signal inoperative, said latter relay when actuated closing a locking-circuit for itself whereby the ringing signal is prevented from operating during the remainder of the connection, substantially as described.

16. The combination with a trunk-circuit extending between different switchboard-sections adapted to connect telephone-lines for conversation, of a ringing signal for the incoming end of the trunk, said signal being actuated when connection is established with the called line, a relay actuated in the metallic line when the called subscriber responds to render said signal inoperative, said latter relay when actuated closing a path for current in shunt of the line to deprive the line of current, substantially as described.

17. The combination with a trunk-circuit extending between different switchboard-sections adapted to connect telephone-lines for conversation, of a ringing signal for the incoming end of the trunk, said signal being actuated when connection is established with the called line, a relay actuated in the metallic line when the called subscriber responds to render said signal inoperative, said relay serving when actuated to close a locking-circuit for itself in shunt of the line whereby the line is deprived of current, substantially as described.

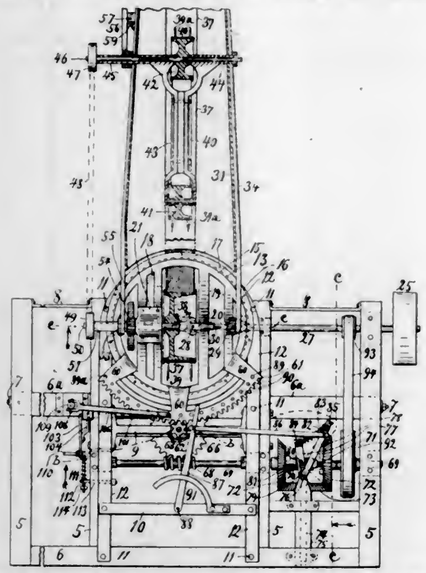
18. The combination with a trunk-line extending between different switchboard-sections and adapted to connect a called subscriber's line with a cord-circuit which has been connected with a calling subscriber's line, of a source of current associated with the incoming end of the trunk, of a relay associated with said end actuated from said source over the called subscriber's line before his response to his call, and a signal-circuit closed at one point by the actuation of said relay, a second relay actuated to deprive said first relay of energizing-current when the called subscriber answers and at the same time to close a locking-circuit for itself and to open said signal-circuit at a second point, substantially as described.

845,078. STRAW-STACKER. ALPHEUS J. GRITTON, Heron Lake, Minn. Filed Sept. 22, 1906. Serial No. 335,772.

Claim.—1. A straw-stacker comprising a conveyer-belt running with one part upwardly at an incline, a thin tube encircling said part of the belt, and a skeleton frame extending along the tube to stiffen and support it, said tube and frame having one or more transverse joints for holding up the tube during transportation.

2. In a straw-stacker, the combination with a conveying-tube adapted to be adjusted to different inclines, of a pulley at each end thereof, an endless conveyer-belt stretched over said pulleys and passing upward inside the tube and downward outside the tube, and a shaft in the lower pulley for driving it and the belt; said belt having hooks or fingers adapted to convey the straw; an elongated frame pivoted to swing to and from the lower part of the main conveyer-belt, two pulleys mounted in said swinging frame, an auxiliary comparatively short conveyer-belt passed over said pulleys and provided with fingers, means for tilting and holding the said frame at different inclines to the main conveyer-belt, and means for operating the auxiliary belt from the shaft driving the main conveyer-belt.

3. A straw-stacker having a conveyer-belt with fingers thereon for moving the straw, said fingers being formed in pairs one finger at each end of a single piece of wire, the middle of the wire being bent to a U-shaped bow standing at about right angles to the fingers, a metallic plate between said bow and the belt and having three of its edges bent inward so as to embrace the loop and both arms of the U, and project inside of it, and bolts passed through the belt and said plate for securing it to the belt.



4. In a straw-stacker, the combination with a frame adapted to be fixed to the separator, an oscillatory table mounted therein, an inclined straw-conveying elevator mounted on the table and having an endless conveyer-belt, a toothed sector secured on the table, a vertical shaft journaled in the frame, a pinion fixed on the shaft and engaging the sector, a worm-wheel loose on the shaft, a clutch by which to couple the worm-wheel to the shaft when so desired, a worm-screw engaging the worm-gear, a shaft journaled to the table and a pulley thereon driving the endless belt, a main shaft journaled in the fixed frame, a pulley fixed thereon and adapted to be driven by a belt from the separator, a flexible or knuckle-joint shaft connecting the main shaft with the shaft in the table, whereby the table is permitted to oscillate, a drive-pulley on the main shaft and a driven pulley on the worm-screw or its shaft, a belt connecting said two pulleys, a clutch mechanism on the shaft of the worm-screw for reversing alternately the rotatory motion of the screw, movable pins in the sector, a lever mechanism operated by said pins, whereby the clutch mechanism is reversed automatically and the elevator thereby oscillated to the extent regulated by the position of the pins in the sector.

5. In a straw-stacker, the combination of a frame securable to the separator of a threshing-machine, a horizontally-oscillating table mounted therein, a straw-conveyer mounted on the table and a shaft operating the same, a toothed sector provided on the table, a gear mechanism engaging the sector to oscillate the table, said sector having a series of holes, a hook pivoted to the frame and adapted to engage either of the holes to hold the table and conveyer in certain positions, a clutch adapted to establish operative connection between the gear driving the sector and the shaft driving the conveyer-belt, a handle throwing said clutch and a spring holding the handle when the clutch is in idle and inoperative position, and means extending from the handle whereby the hook is disengaged from the holes in the sector when the clutch is in a position to cause oscillation of the sector.

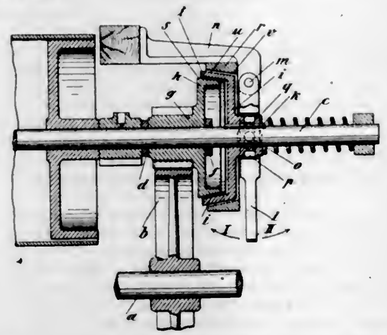
6. A straw-stacker having a horizontally-oscillating table with openings through it and adjacent the openings downwardly-projecting lugs with lateral horizontally-elongated recesses having cogs in their lower sides, a conveyor-tube mounted on said table by having arms extending through the table and provided with lateral pinions inserted by the recesses and engaging the cogs therein, and means for holding the tube more or less inclined.

7. A straw-stacker having a horizontally-oscillating table with openings through it and adjacent the openings downwardly-projecting lugs with lateral horizontally-elongated cavities or recesses having cogs in their lower sides, a conveyer-tube mounted on said table by having arms extending through the table and provided with lateral pinions inserted in the recesses and engaging the cogs therein, and means for holding the tube more or less inclined; said cavities having in their bottoms horizontal slots, bolts through said slots, and through the centers of the pinions, for the purpose set forth.

8. The combination with a grain-separator, of a straw-stacker arranged in position to convey the straw from the separator, a hopper and conveyer-belt in the stacker, a canvas stiffened with cleats and extending from the lower shoe of the separator and forming a guide for the chaff and short straw to the hopper.

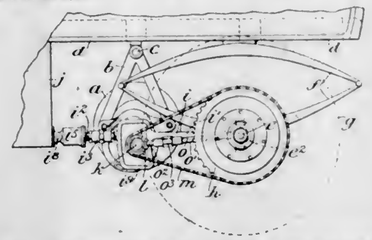
9. A straw-stacker comprising a base-frame, a conveyer-tube having at its lower end frame-arms pivotally mounted in the frame to admit changing of the incline of the tube, a main and an auxiliary conveyer-belt working in the tube, a horizontal main shaft journaled in the frame, a gear-wheel fixed thereon and also a pulley engaging and driving the main conveyer-belt, a short shaft journaled in one of the frame-arms of the tube, a gear-wheel fixed thereon and meshing with the gear on the main shaft, also a pulley on the short shaft for transmitting power to the auxiliary conveyer-belt; said frame having above the main shaft two horizontally-elongated recesses with rack-bars in their lower sides, and the frame-arms of the tube having partly-toothed pinions inserted in the recesses and meshing with the racks therein, whereby the pivot-joints between the tube and the frame is formed in a manner allowing the said two gears to mesh properly also when the incline of the tube is changed.

845,079. COUPLING FOR CONNECTING A DRIVING-MOTOR WITH A DRIVEN MACHINE. RUDOLF GRUSE, Schneidemühl, Germany. Filed July 3, 1906. Serial No. 324,548.



Claim.—In a device of the character described, the combination of a driving-shaft, a driving-wheel carried thereby, a driven shaft disposed parallel to said driving-shaft, a driven wheel loose on said driven shaft and engaged by said driving-wheel, a clutch member carried by said driven wheel, means carried by the driven shaft for preventing movement of the driven wheel and said clutch member longitudinally of the driven shaft, a coupling-ring splined on the driven shaft and longitudinally movable thereon, said coupling-ring having two clutch-surfaces, a stationary brake-ring arranged adjacent to said coupling-ring, and means for moving the coupling-ring on the shaft to alternately engage said clutch member and said brake-ring.

845,080. MOTOR-VEHICLE. EMIL C. HARDEGEN and HAROLD H. KENNEDY, Indianapolis, Ind., assignors to Pope Manufacturing Company, Jersey City, N. J., a Corporation of New Jersey. Filed Aug. 12, 1905. Serial No. 273,877.



Claim.—1. The combination with a vehicle-frame, of an axle flexibly supported with relation thereto, and a longitudinally-yielding distance-rod secured to said axle at one end and to a relatively fixed point at the other end to permit free relative movement of the axle in a substantially vertical plane while maintaining said axle in proper relative position, substantially as described.

2. The combination with a vehicle-frame, of an axle flexibly supported with relation thereto, and a distance-rod secured to said axle at one end and to a relatively fixed point at the other end and having a longitudinally-yielding cushion interposed between its ends, said distance-rod permitting free relative movemenet of the axle in a substantially vertical plane while maintaining said axle in proper relative position, substantially as described.

3. The combination with a vehicle-frame, of an axle flexibly supported with respect thereto, and a distance-rod secured to said axle at one end and pivoted to a relatively fixed point at the other end and having a longitudinally-yielding cushion between its ends, said distance-rod permitting free relative movement of the axle in a substantially vertical plane while maintaining said axle in proper relative position, substantially as described.

4. The combination with a vehicle-frame, of an axle flexibly supported with relation thereto, and a distance-rod secured to said axle at one end and to a relatively fixed point at the other end and comprising a spring-box and springs between its ends, said distance-rod permitting free relative movement of the axle in a substantially vertical plane while maintaining said axle in proper relative position, substantially as described.

5. The combination with a vehicle-frame, of an axle flexibly supported with relation thereto, a motor also flexibly supported with relation to the frame, a distance-rod secured to said axle at one end and to a relatively fixed point at the other end, and a distance-rod secured at one end to said axle and to the motor at the other end, substantially as described.

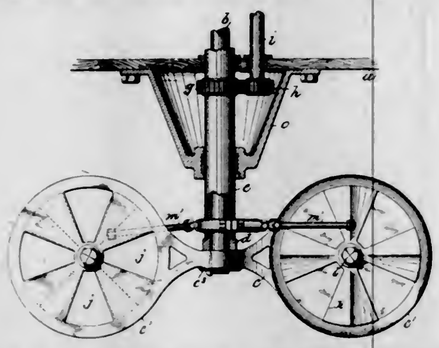
6. The combination with a vehicle-frame, of an axle flexibly supported with relation thereto, a motor also flexibly supported with relation to the frame, a distance-rod secured to the axle at one end and to a relatively fixed point at the other end, and a distance-rod secured at one end to said axle and to the motor at the other end, one of said distance-rods having a longitudinally-yielding cushion between the ends, substantially as described.

7. The combination with a vehicle-frame, of an axle flexibly supported with relation thereto, a driving-wheel mounted on said axle, a motor movably supported with relation to the frame, a distance-rod secured to said axle at one end and to a relatively fixed point at the other end, and a distance-rod secured at one end to said axle and to the motor at the other end, the first-named distance-rod having a frame surrounding the motor-shaft, substantially as described.

845,081. PROPELLER. ANDRE HECTOR, East Newark, N. J. Filed Jan. 26, 1906. Serial No. 297,939.

Claim.—1. In a marine propeller, the combination of a propeller-wheel having vertical blades, openings in said blades and means for closing said openings in said blades.

2. In a marine propeller, the combination of a propeller-wheel having relatively fixed vertical blades and means for varying the effective area of said blades.



3. In a marine propeller, the combination of a propeller-wheel having relatively fixed vertical blades, openings in said blades and means for alternately closing said openings in said blades.

4. In a marine propeller, the combination of a propeller-wheel having vertical blades, sliding shutters mounted on said blades and means for changing the position of said shutters on said propeller-wheel.

5. In a marine propeller, the combination of a propeller-wheel, vertical blades, sliding shutters mounted on said blades and means for alternately changing the position of said shutters on said blades.

6. A propelling and steering apparatus for vessels comprising a vertical shaft projecting from the vessel, a propeller having relatively fixed vertical blades secured to the exterior end of said shaft, openings in said propeller-blades and means for closing said openings.

7. A propelling and steering apparatus for vessels comprising a vertical shaft projecting from the vessel, a propeller having vertical blades secured to the exterior end of said shaft, openings in said propeller-blades and means for alternately closing said openings in the respective blades.

8. A combined propelling and steering apparatus for vessels, comprising a vertical driving-shaft, a propeller-wheel having vertical blades provided with openings therein secured to said shaft, shutters secured to said vertical blades and means for shifting the shutters on said blades to open and close said opening.

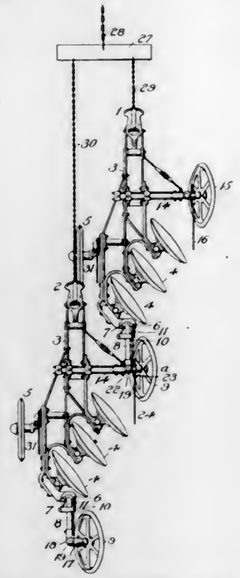
9. A combined propelling and steering apparatus for vessels, comprising a vertical driving-shaft, a propeller-wheel having vertical blades secured to said shaft, openings in said propeller, shutters secured to said vertical blades and means for alternately shifting the shutters on said propeller-blades.

10. A combined propelling and steering apparatus for vessels, comprising a vertical driving-shaft, a propeller-wheel having a series of vertical blades secured to said shaft, shutters secured to said vertical blades and shifting means for alternately opening and closing said shutters.

11. A combined propelling and steering apparatus for vessels, comprising a vertical driving-shaft, a propeller-wheel having a plurality of vertical blades secured to said shaft, openings in said blades, means for alternately closing said openings and means for changing the position of said closing means.

845,082. WHEELED PLOW. WALTER P. HENDON, Dallas, Tex., assignor to Emerson Manufacturing Company, Rockford, Ill., a Corporation of Illinois. Filed June 26, 1906. Serial No. 323,466.

Claim.—1. In a wheeled plow, the combination of a plurality of connected sections, wheels connected to each section, and a plurality of plowing attachments supported by each section, the plowing attachments of all the sections located in the same general lengthwise direction, the plowing attachments of a section located laterally with relation to the plowing attachments of the other sections, one of the wheels being a furrow-wheel and located between the last plowing attachment of one section and the first plowing attachment of another section.



2. In a wheeled plow, the combination of a plurality of connected sections, wheels supporting the sections and a plurality of plowing attachments supported by each section, the plowing attachments of all the sections located in the same general lengthwise direction, the plowing attachments of a section located laterally with relation to the plowing attachments of the other sections, one of the wheels being a furrow-wheel and located between the last plowing attachment of one section and the first plowing attachment of another section.

3. In a wheeled plow, the combination of a plurality of connected sections, a plowing attachment supported by each section, and wheels supporting the sections, there being one more furrow-wheel than the number of sections.

4. In a wheeled plow, the combination of a plurality of connected sections, a plurality of plowing attachments supported by each section, and a number of land and furrow wheels supporting the sections, there being one more furrow-wheel than the number of sections.

5. In a wheeled plow, the combination of a plurality of connected sections, a plurality of plowing attachments supported by each section, a land-wheel and two furrow-wheels connected to one section, and a single land-wheel and a single furrow-wheel connected to each other section.

6. In a wheeled plow, the combination of a plurality of connected sections, a plowing attachment supported by each section, a land-wheel and two furrow-wheels connected to one section, and a single land-wheel and a single furrow-wheel connected to each other section.

7. In a wheeled plow, the combination of a plurality of connected sections, a plowing attachment supported by each section, a land-wheel and two furrow-wheels connected to one section, and a single land-wheel and a single furrow-wheel connected to another section.

8. In a wheeled plow, the combination of a plurality of connected sections, wheels supporting the sections, and a plowing attachment supported by each section, one of the wheels being a furrow-wheel and located in rear of a plowing attachment of one section to follow in the furrow made thereby, and located in advance of the plowing attachment of the other section.

9. In a wheeled plow, the combination of a plurality of connected sections, wheels supporting the sections, and a plowing attachment supported by each section, one of the wheels being a furrow-wheel and located between the plowing attachment of one section and the plowing attachment of another section.

10. In a wheeled plow, the combination of a plurality of connected sections, the rear portion of one being associated with the front of the one next adjacent, a plurality of plowing attachments supported by each section, and wheels supporting the sections, one of the wheels being a furrow-wheel and located adjacent to the rear end of one section and the forward end of the next rear section.

11. In a wheeled plow, the combination of a plurality of connected sections, the rear portion of one being associated with the front portion of the one next adjacent, a plowing attachment supported by each section, and wheels supporting the sections, one of the wheels being a furrow-wheel and located adjacent to the rear end of one section and adjacent to the forward end of the next rear section.

12. In a wheeled plow, the combination of a plurality of connected sections, the rear portion of one being associated with the front portion of the one next adjacent, a plowing attachment supported by each section, and wheels supporting the sections, one of the wheels being a furrow-wheel and located adjacent to the rear end of one section and adjacent to the forward end of the next rear section and assisting to support both sections.

13. In a wheeled plow, the combination of a plurality of connected sections, a plowing attachment supported by each section, a land-wheel connected to each section, and a single furrow-wheel assisting to support both sections and located rearward of one land-wheel and forward of the other land-wheel.

14. In a wheeled plow, the combination of a plurality of connected sections, a plowing attachment supported by each section, a land-wheel and a furrow-wheel connected to each section, and another furrow-wheel assisting to support both sections.

15. In a wheeled plow, the combination of a plurality of connected sections, wheels supporting the sections, and a plowing attachment supported by each section, one of the wheels being a furrow-wheel and located between the last plowing attachment of one section and the first plowing attachment of another section and assisting to support both sections.

16. In a wheeled plow, the combination of a plurality of connected sections, wheels supporting the sections, a plurality of plowing attachments connected to each section, and a furrow-wheel located adjacent to the rear plowing attachment of one section, and the forward plowing attachment of another section, and assisting to support both sections.

17. A wheeled plow including a plurality of sections, and pivotal connections between the same to flex relatively in either a vertical or a horizontal direction.

18. In a wheeled plow, the combination of a plurality of pivotally-connected sections, wheels supporting the sections, and a plowing attachment supported by each section, the connection between the sections permitting the sections to flex relatively in both a horizontal and oblique direction.

19. In a wheeled plow, the combination of a plurality of connected sections, wheels supporting the sections, a plowing attachment supported by each section, and means for adjusting one section vertically independent of the other section and located adjacent to the point of connection between the sections.

20. In a wheeled plow, the combination of a plurality of connected sections, wheels supporting the sections, a plowing attachment supported by each section, and means located adjacent to the connection between the sections for adjusting the sections vertically with respect to one another.

21. In a wheeled plow, the combination of a plurality of sections, a plowing attachment supported by each section, a land-wheel, a front furrow-wheel and a rear furrow-wheel connected to one section, the rear furrow-wheel having an arm connection therewith, another section having a connection with the arm, a land-wheel and a rear furrow-wheel connected to the said other section.

22. In a wheeled plow, the combination of a plurality of sections, a plowing attachment supported by each section, a land-wheel and a furrow-wheel connected to each section, a connection between adjacent sections comprising a furrow-wheel having an arm connection with one section and a connection with another section.

23. In a wheeled plow, the combination of a plurality of sections, a plowing attachment supported by each section, a land-wheel and a furrow-wheel connected to each section, an arm having a connection with one section, another furrow-wheel connected to the arm, a shaft rising from the arm, and a connection between the next section and the shaft.

24. In a wheeled plow, the combination of a plurality of sections, a plowing attachment supported by each section, a land-wheel and a furrow-wheel connected to each section, an arm having a pivotal connection with one section in a manner to move in a horizontal plane, a furrow-wheel supported by the arm, and a connection between the arm and the next section.

25. In a wheeled plow, the combination of a plurality of sections, a plowing attachment supported by each section, a land-wheel and a furrow-wheel connected to each section, an arm connected to one section, an arm connected to an adjacent section, and a connection between the arms and a furrow-wheel located adjacent to the connection between the arms and assisting to support both arms.

26. In a wheeled plow, the combination of a plurality of sections, a plowing attachment supported by each section, a land-wheel and a furrow-wheel connected to each section, an arm connected to one section, an arm connected to an adjacent section, a flexible connection between the arms, and a furrow-wheel located adjacent to the connection between the arms and assisting to support both arms.

27. In a wheeled plow, the combination of a plurality of sections, a plowing attachment supported by each section, a land-wheel and a furrow-wheel connected to each section, an arm connected to one section, a connection between the arm and an adjacent section, and a single furrow-wheel located adjacent to such connection and assisting to support both sections.

28. In a wheeled plow, the combination of a plurality of sections, a plowing attachment supported by each section, a land-wheel and a furrow-wheel connected to each section, another furrow-wheel having an arm connection with one section and a connection with an adjacent section, and a draft connection with each section.

29. In a wheeled plow, the combination of a plurality of connected sections, wheels supporting the sections, a plowing attachment supported by each section, one of the wheels located adjacent to the connection between the sections, and assisting to support both sections, and a hand-lever arrangement in connection with the last-mentioned wheel for adjusting the height of one section relative to the adjacent section and adjacent to the point of connection.

30. In a wheeled plow, the combination of a plurality of connected sections, wheels supporting the sections, a plowing attachment supported by each section, connections between the sections, and hand-lever arrangement between the sections for adjusting the sections vertically with respect to one another.

31. In a wheeled plow, the combination of a plurality of connected sections, wheels supporting the sections, a plowing attachment supported by each section, connections between the sections, the connections between the sections permitting of a vertical oscillation, and hand-lever arrangement between the sections for adjusting the sections vertically with respect to one another.

32. In a wheeled plow, the combination of a plurality of connected sections, a plowing attachment supported by each section, wheels supporting the sections, one of the

wheels being a furrow-wheel and assisting to support both sections, a lever arrangement in connection with the furrow-wheel for regulating the height of one section, and a lever arrangement for regulating the height of the other section and adjacent to the point of connection between the sections.

33. In a wheeled plow, two connected sections, wheels supporting the sections, the connection between the sections permitting the same to flex relatively in both a vertical and a horizontal direction, a plowing attachment supported by each section, and a draft device for the sections, said draft device being independent of the connection between the sections.

34. In a wheeled plow, the combination with a draft appliance, of a plurality of sections, the front portion of one being associated with the rear portion of the next adjacent, a connection between the adjacent portions of the sections, a draft connection between the front end of each section and the draft appliance, and a plowing attachment supported by each section.

35. In a wheeled plow, the combination of a draft appliance, of a plurality of sections, the front portion of one being associated with the rear portion of the next adjacent, a plurality of independent connections between said adjacent portions of the various sections, and a draft connection between the front end of each section and the draft appliance.

36. In a wheeled plow, the combination with a draft appliance, of a plurality of sections, the front portion of one being associated with the rear portion of the next adjacent, a connection between the adjacent portions of any two sections, a draft connection between the front end of each section and the draft appliance and independent of the connection between the sections, wheels supporting the sections, and a plowing attachment connected to each section.

37. In a wheeled plow, the combination of a plurality of connected sections, wheels supporting the sections, a plowing attachment supported by each section, a draft-bar, and a connection between each section and the draft-bar, one of the wheels being a furrow-wheel and assisting to support both sections.

38. In a wheeled plow, the combination of a plurality of end-connected sections, a plowing attachment supported by each section, wheels supporting the sections, one of the wheels being a furrow-wheel and located adjacent to the connection between the sections, and a draft connection with each section.

39. In a wheeled plow, the combination with a draft appliance, of a plurality of sections, the front end of one being connected to the rear end of the next adjacent, the foremost section having a connection with the draft appliance, and a plurality of links connected to the front ends of the other sections and to the draft appliance.

40. In a wheeled plow, the combination with a draft appliance, of a plurality of sections, the front end of one being connected to the rear end of the next adjacent, the foremost section having a connection with the draft appliance, a plurality of links connected to the front ends of the other sections and to the draft appliance, a wheel connected to each section, and a plowing attachment supported by each section, the connection between the sections being independent of the draft connections.

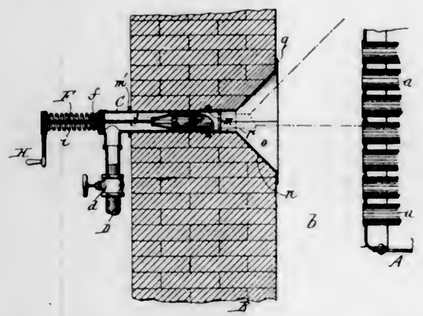
845,083. BOILER-TUBE CLEANER. RAPHAEL HERMAN, Detroit, Mich. Filed Dec. 22, 1905. Serial No. 292,895.

Claim.—1. A boiler-tube cleaner comprising a nozzle having an oblique head and an outlet-opening in said head, substantially as set forth.

2. A boiler-tube cleaner comprising a nozzle having a transversely curved or inclined head at its front end and a plurality of outlet-openings in said head which are arranged at an angle to the axis of the nozzle, substantially as set forth.

3. A boiler-tube cleaner comprising a nozzle having a head at its front end which curves or inclines rearwardly from one side of the nozzle to the other, and having a plurality of openings arranged in said head and diverging forwardly, substantially as set forth.

4. A boiler-tube cleaner comprising a nozzle having a head at its front end which curves or inclines rearwardly from one side of the nozzle to the other, said head being of uniform thickness and provided with a plurality of cylindrical outlet-openings the axes of which diverge forwardly, substantially as set forth.



5. A boiler-tube cleaner comprising a stationary tubular shell, a tubular nozzle capable of longitudinal and rotary movement in said shell and provided with a discharge-opening, and means for operating said nozzle, substantially as set forth.

6. A boiler-tube cleaner comprising a stationary tubular shell, a tubular nozzle capable of longitudinal and rotary movement in said shell and provided at its front end with a head having a discharge-opening, and an operating-rod connected with the rear end of said nozzle, substantially as set forth.

7. A boiler-tube cleaner comprising a tubular shell or casing adapted to be arranged in an opening in the rear wall of a combustion-chamber and having an external projection which is adapted to be anchored in said wall, and a discharge-nozzle communicating with said shell, substantially as set forth.

8. A boiler-tube cleaner comprising a tubular shell or casing adapted to be arranged in an opening in the rear wall of a combustion-chamber and having an annular external flange which is adapted to be anchored in said wall, and a discharge-nozzle communicating with said shell, substantially as set forth.

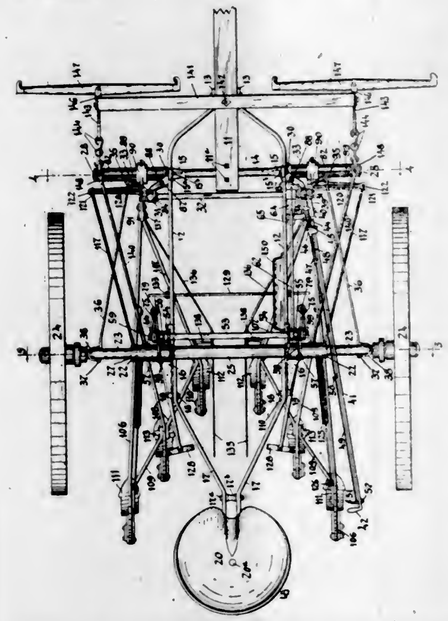
9. A boiler-tube cleaner comprising a tubular shell or casing adapted to be fitted in an opening in the rear wall of a combustion-chamber, a discharge-nozzle communicating with said shell and a diametrically-divided conical hood arranged in the conical inner end of said opening and having a collar surrounding said casing, and an annular flange arranged on said casing engaging with an annular groove in the collar of said hood, substantially as set forth.

10. A boiler-tube cleaner comprising a tubular shell or casing adapted to be fitted in an opening in the rear wall of a combustion-chamber, a discharge-nozzle communicating with said shell and a conical guard or hood surrounding the front end of said shell and fitted in a correspondingly-shaped recess on the inner side of said wall, substantially as set forth.

11. A boiler-tube cleaner comprising a tubular shell or casing adapted to be arranged in an opening in the rear wall of a combustion-chamber and having an external flange anchored in said wall, a discharge-nozzle communicating with said shell, and a conical hood or guard arranged in a correspondingly-shaped recess on the inner side of said wall and provided with a central collar which is mounted on the shell in front of said annular flange, substantially as set forth.

12. A boiler-tube cleaner comprising a tubular shell or casing adapted to be arranged in an opening in the rear wall of a combustion-chamber and having an annular external flange which is adapted to be anchored in said wall, a discharge-nozzle communicating with said shell, and a diametrically-divided hood having a conical inner portion which fits a correspondingly-shaped recess on the inner side of said wall and a cylindrical inner portion surrounding said shell and having a channel which receives said flange, substantially as set forth.

845,084. CULTIVATOR. EDWARD M. HEYLMAN, Janesville, Wis., assignor to Janesville Machine Company, a Corporation of Wisconsin. Filed Dec. 26, 1905. Serial No. 293,293.



Claim.—1. A machine of the cultivator type comprising a framework, a pair of cranked axles pivoted on said framework, a pair of wheels carried by said cranked axles, a pair of shovel-gangs pivoted on said framework, a lever connected with said cranked axles and shovel-gangs whereby all are moved simultaneously upon operation of said lever, and means for independently adjusting each of said shovel-gangs.

2. A machine of the cultivator type comprising a frame, a transverse shaft journaled therein, lever-arms on said transverse shaft, a pair of cranked axles pivotally mounted on said frame, wheels carried by said cranked axles, connections between said lever-arms and the respective axles, a pair of shovel-gangs mounted to oscillate in vertical planes on opposite sides of the machine, a second transverse shaft, a connection between said last-named shaft and said first-named shaft whereby the oscillation of the first causes the oscillation of the second, a connection between said second shaft and said shovel-gangs whereby its oscillation causes said shovel-gangs to be raised, and means for oscillating said first-named shaft.

3. In a machine of the cultivator type, the combination of a frame, a transverse shaft mounted thereon, a pair of cranked axles pivoted on said frame, a pair of wheels pivotally mounted on said cranked axles, operative connections between said cranked axles and said transverse shaft whereby said axles are moved longitudinally to shift the center of support, a pair of shovel-gangs pivoted on said frame, a second transverse shaft, a pair of lever-arms mounted on said second shaft and connected with said shovel-gangs whereby to raise the gangs when the said shaft is oscillated, and a link pivoted at one end to said second transverse shaft and connected with the other by a slot-and-pin connection; and means for rotating said first-named shaft whereby the wheels are first shifted longitudinally and thereafter said shovel-gangs are raised.

4. In a machine of the cultivator type, the combination of a pair of shovel-gangs, a transverse shaft, means for rotating said transverse shaft, a pair of members journaled on said shaft and adapted to be fixed in various positions thereon, and connections between said members and the respective shovel-gangs whereby the height of each shovel-gang may be adjusted independently of the movement of said shaft.

5. In a machine of the cultivator type, the combination of a transverse shaft, a pair of members fixed to the ends thereof and having sector-arms, said sector-arms being provided with teeth, a pair of hand-levers pivoted on said shaft and having means for engaging said teeth and a pair of laterally-extending arms, a pair of shovel-gangs, and a connection between each shovel-gang and one of said laterally-extending arms whereby the height of each shovel-gang may be independently adjusted while both are simultaneously raised and lowered by the oscillations of said shaft.

6. A machine of the cultivator type comprising a framework, a transverse shaft mounted to oscillate at the front thereof, a hand-lever secured to said shaft to oscillate it, a pair of cranked axles, a pair of wheels mounted thereon, a pair of downwardly-extending arms mounted on said shaft, links connecting the respective arms with the respective axles, a second transverse shaft at the rear of the machine, a pair of shovel-gangs, a pair of rock-arms mounted on said second shaft and connected with said second shaft and with said shovel-gangs to raise and lower the latter when said second shaft is oscillated, and a link connecting the two shafts and having a certain amount of lost motion between them whereby the oscillation of said lever causes first the longitudinal movement of said wheels and second the raising movement of said shovel-gangs.

7. In a cultivator, the combination of a shovel-gang pivoted at and trailing from a point at the forward end thereof so as to swing laterally, a treadle mounted thereon to oscillate vertically, and a connection between said treadle and said shovel-gang to swing the latter laterally when the treadle is moved vertically.

8. In a machine of the cultivator type, a shovel-gang mounted to swing laterally, a treadle having a vertical movement, a connection between said treadle and said shovel-gang whereby the latter is swung laterally when the former is depressed vertically, and a spring acting against said treadle to reverse the movement of said shovel-gang when the treadle is released.

9. In a machine of the cultivator type, the combination of a shovel-gang mounted to swing laterally, a rock-shaft mounted thereon, a treadle-arm mounted on said rock-shaft and carrying a treadle, and a connection between said rock-shaft and a fixed part of the framework whereby the oscillation of said shaft causes said shovel-gang to swing laterally.

10. In a machine of the cultivator type, the combination of a shovel-gang mounted to swing laterally, an oscillating shaft mounted thereon, a treadle-lever carried thereby, a treadle mounted on said treadle-lever and having a vertical movement, a spring connected with said oscillating shaft and acting against the depression of said treadle, and a connection between said oscillating shaft and a fixed part of the apparatus whereby said shovel-gang is swung laterally by the depression of said treadle.

11. In a machine of the cultivator type, the combination of a pair of shovel-gangs having lateral swinging movements, a pair of treadles having vertical movements, connections between said treadles and said shovel-gangs whereby the depression of the treadles causes the lateral swinging of the gangs, and springs acting in opposition to said treadles.

12. In a machine of the cultivator type, the combina-

tion of a pair of shovel-gangs having lateral swinging movements, a pair of treadles having vertical movements, connections between said treadles and said shovel-gangs whereby the depression of the treadles causes the lateral swinging of the gangs, and a spreader maintaining said shovel-gangs at a uniform distance apart.

13. In a machine of the cultivator type, in combination with a pair of laterally-swinging shovel-gangs having sockets, a spreader comprising an arched bar, and a pair of swivel-pins turning in said sockets and having an adjustable connection with the ends of said bar.

14. In a machine of the cultivator type, the combination of a laterally-swinging shovel-gang, an oscillating shaft mounted thereon, a rock-arm mounted on said shaft, and an adjustable connection between said rock-arm and a stationary point of the apparatus, said connection consisting of a rod having one end threaded and a nut mounted thereon and pivotally connected with said rock-arm; and means for operating said shaft whereby said shovel-gang is swung laterally.

15. In a machine of the cultivator type, in combination with an axle-arm and a shovel-gang, an articulation between said axle-arm and shovel-gang comprising a sleeve rotatably mounted on said axle-arm, a member 90 having a hinged jaw 94 whereby it is adjustably clamped to said sleeve, a member 91 vertically pivoted to said member 90 and secured to the end of said shovel-gang, a lever-arm mounted on said sleeve, and a counterbalancing-spring connecting said lever-arm with a fixed part of the apparatus to take a certain portion of the weight of said shovel-gang.

16. In a machine of the cultivator type, in combination with an axle-arm and a shovel-gang pivoted thereto, an articulation comprising a member 90 mounted to oscillate about said axle-arm, a member 91 articulated to said member 90 on a vertical pivot, a laterally-extending bracket-arm connected to said member 90, a link connected to the end of said bracket, and a connection between said shovel-gang and link whereby the end of said link may be moved longitudinally with respect to said shovel-gang, thus swinging the latter laterally.

17. In a machine of the cultivator type, in combination with an axle-arm and a shovel-gang, universal-joint members comprising a tubular member 90 mounted to oscillate about said axle-arm and having its ends coned, a member 91 having a coned socket fitting over one of said coned ends, a member 97 pivoted to said member 91 and having a second coned socket receiving the other coned end, said member 91 being secured to the end of said shovel-gang, and a pivot-bolt passing through said member 90 and securing said members 97 and 91 thereto.

18. In a machine of the cultivator type, the combination of a horizontal axle-arm and a shovel-gang, a sleeve mounted to oscillate thereon and having a spline, a pivot member 90 having clamping-jaws, one of which is grooved to receive said spline, one of said jaws being fixed and the other pivoted to said member 90, and a member 91 pivoted on a vertical axis to said member 90 and secured to the end of said shovel-gang.

19. A machine of the cultivator type comprising a pair of longitudinal frame-bars, a transverse main arch at the front of the machine, a pair of members 15 connecting the upper corners of the main arch with the respective frame-bars, said members 15 having hubs and one of said members carrying a notched sector, a transverse shaft journaled in said hubs, a pair of downwardly-extending arms 33 mounted on the ends of said shaft, a pair of members 16 secured to the rear ends of said longitudinal bars and having hubs 22, a pair of cranked axles mounted to oscillate in said hubs 22, a pair of wheels on the respective axles, a pair of links connecting the respective arms 33 to the respective cranked axles, a lever mounted on said transverse shaft to operate the same, a retractile bolt mounted on said lever and normally engaging one of the notches of said sector, and a finger-lever mounted on said lever and connected with said bolt to retract the same.

20. A machine of the cultivator type comprising a frame, a pair of shovel-gangs articulated thereto, a transverse shaft, a pair of lever-arms mounted thereon, connections between said lever-arms and the respective shovel-gangs whereby the oscillation of said shaft raises or lowers said shovel-gangs, a stop to limit the downward motion of said shaft, a pair of longitudinally-shiftable wheels supporting said frame, a hand-lever operatively connected with the axles of said wheels to shift them longitudinally, and a connection between said hand-lever and transverse shaft whereby said shaft is oscillated to raise the shovel-gangs after a certain movement of the lever.

21. A machine of the cultivator type comprising a frame, a pair of shovel-gangs articulated thereto, a transverse shaft, a pair of lever-arms mounted thereon, connections between said lever-arms and the respective shovel-gangs whereby the oscillation of said shaft raises or lowers said shovel-gangs, a stop to limit the lowering motion of said shaft, a pair of wheels mounted on longitudinally-shiftable axles supporting said frame, a hand-lever operatively connected with the axles of said wheels to shift them longitudinally, and a connection between said lever and shaft to oscillate the latter but permitting the lever to move beyond the limit of movement of said shaft, whereby one movement of said lever causes the wheels to be shifted before the shovel-gangs are raised and the opposite movement causes the wheels to be shifted after the shovel-gangs are lowered.

22. A machine of the cultivator type comprising a frame, a pair of shovel-gangs articulated thereto and resting on the ground when in use, a transverse shaft, connections between said shaft and shovel-gangs to raise or lower them when said shaft is oscillated, a pair of longitudinally-shiftable wheels mounted on said frame, a lever, a link connecting said lever directly with the axis of said wheels to shift them, and an independent connection between said lever and shaft whereby said gangs are raised when said lever is operated to shift the wheels rearwardly and vice versa.

23. A machine of the cultivator type comprising a frame, a pair of shovel-gangs articulated thereto and resting on the ground when in use, a transverse shaft, connections between said shaft and shovel-gangs to raise or lower them when said shaft is oscillated, a pair of longitudinally-shiftable wheels mounted on said frame, a lever operatively connected with the axles of said wheels to shift them, a connection between said lever and said shaft whereby said gangs are raised when said lever is operated to shift the wheels rearwardly and vice versa, and a stop limiting the lowering movement of said shovel-gangs but not interfering with the further movement of said wheels.

24. A machine of the cultivator type comprising a frame, a pair of shovel-gangs articulated thereto, a transverse shaft, a pair of lever-arms mounted thereon, connections between said lever-arms and the respective shovel-gangs whereby the oscillation of said shaft raises or lowers said shovel-gangs, a stop to limit the lowering motion of said shaft, a pair of longitudinally-movable wheels supporting said frame, a hand-lever operatively connected with the axles of said wheels to shift them longitudinally, a connection between said hand-lever and transverse shaft whereby said shaft is oscillated to raise the shovel-gangs after a certain movement of the lever, and means for independently adjusting the lower limit of movement of the shovel-gangs.

25. A machine of the cultivator type comprising a frame, a pair of shovel-gangs articulated thereto, a transverse shaft, a pair of lever-arms mounted thereon, connections between said lever-arms and the respective shovel-gangs whereby the oscillation of said shaft raises or lowers said shovel-gangs, a stop to limit the lowering motion of said shaft, a pair of longitudinally-shiftable wheels supporting said frame, a hand-lever operatively connected with the axles of said wheels to shift them longitudinally, a connection between said lever and shaft to oscillate the latter but permitting the lever to move beyond the limit of movement of said shaft whereby one movement of said lever causes the wheels to be shifted before the shovel-gangs are raised and the opposite movement causes the wheels to be shifted after the shovel-gangs are lowered, and means for independently adjusting the position of said gangs with relation to the position of said stop.

26. A machine of the cultivator type comprising a frame, a pair of shovel-gangs articulated thereto and resting on the ground when in use, a transverse shaft, connections between said shaft and shovel-gangs to raise or lower them when said shaft is oscillated, a pair of longitudinally-shiftable wheels mounted on said frame, a lever operatively connected with the axles of said wheels to shift them, a connection between said lever and shaft whereby said gangs are raised when said lever is operated to shift the wheels rearwardly and vice versa, means for limiting the downward movement of the respective shovel-gangs, and means for independently adjusting the position of each of said gangs with respect to said limiting means.

27. A machine of the cultivator type comprising a frame, a pair of longitudinally-shiftable wheels mounted thereon, a member operatively connected with the axles of said wheels for shifting them longitudinally and having a handle, a transverse shaft, a pair of lever-arms pivotally mounted thereon, a pair of shovel-gangs articulated to said frame and connected with said lever-arms to raise and lower said gangs, a connection between said member and said shaft for oscillating the latter when said wheels are shifted, a stop limiting the oscillation of said shaft without interfering with the further movement of said wheels, and means for adjustably securing said lever-arms at various angles on said shaft.

28. In a machine of the cultivator type, in combination with a horizontal transverse axle-arm and a shovel-gang rearwardly thereof, an articulation comprising a member 90 mounted to oscillate about said axle-arm as an axis and having a tubular pivot, a member 91 turning on one end of said pivot and secured to the front end of said shovel-gang, a member 97 hinged to said member 91 and turning on the other end of said pivot, and a pivot-pin passing through said tubular pivot and connecting the pivot ends of said members 91 and 97.

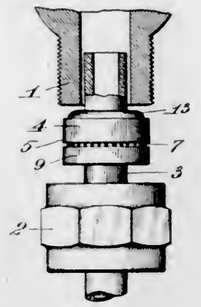
29. In a machine of the cultivator type, in combination with a horizontal transverse axle-arm and a shovel-gang rearwardly thereof, an articulation comprising a sleeve rotatably mounted on said axle-arm, a member 90 clamped to said sleeve and longitudinally adjustable thereon, vertical pivot-bearings carried by said member 90, a compound member secured to the front end of said shovel-gang comprising two parts hinged together and each having a pivot-bearing engaging one of the pivot-bearings of said member 90, and means for securing said parts together in pivotal engagement with said member 90.

30. In a machine of the cultivator type, in combination with a horizontal transverse axle-arm and a shovel-gang trailing rearwardly thereof, a universal joint connecting them and comprising a sleeve pivotally mounted on said axle-arm, a member 90 clamped to said sleeve and longitudinally adjustable thereon, a bracket-arm mounted on said member 90 and extending laterally, a member 91 pivoted on a vertical axis to said member 90, a connection between a point on said shovel-gang and said bracket-arm, and means for varying the effective length of said connection whereby said shovel-gang is given a lateral movement.

31. In a machine of the cultivator type, in combination with a horizontal transverse axle-arm and a shovel-gang trailing rearwardly thereof, a universal joint connecting them and comprising a sleeve rotatably mounted on said axle-arm, a member 90 clamped to said sleeve and longitudinally adjustable thereon, a member 91 connected to the front of said shovel-gang and pivoted to said member 90 on a vertical axis, a rock-arm on said shovel-gang, a bracket-arm extending laterally on said member 90, and a link connecting said rock-arm with said bracket-arm.

32. In a cultivator, the combination of an operating-shaft, a sector-arm non-rotatably mounted thereon, a hand-lever turning about the axis of said shaft and adjustably engaging said sector-arm, the hub of said hand-lever having a notched recess, and a member 66 non-rotatably fixed on said shaft and having a projection engaging said recess and abutting against the ends thereof to limit the turning movement of said hand-lever with respect to said shaft in either direction.

845,085. BALL-BEARING GLAND FOR PACKING-NUTS. WILLIAM W. HICKS, St. Louis, Mo. Filed July 21, 1906. Serial No. 327,238.



Claim.—1. In a device of the class described, a gland constructed of two rings, ball-bearings arranged between said rings, a flange integral with one of the rings and projecting through the opening in the opposite ring, a packing-ring arranged on the under side of the flanged ring, and means carried by said flanged ring for maintaining the packing-ring in position; substantially as specified.

2. In a device of the class described, a gland constructed of two rings, ball-bearings arranged between the rings, a flange integral with one of said rings and projecting through the opening in the opposite ring, and the upper end of said flange being bent over the upper edge of the upper ring; substantially as specified.

3. In a device of the class described, a gland constructed of two rings, ball-bearings arranged between the rings, a flange integral with one of said rings and projecting through the opening in the opposite ring, and a flange integral with and depending from the outer edge of the lower ring; substantially as specified.

4. In a device of the class described, a gland constructed of two rings, ball-bearings arranged between the rings, a flange integral with one of said rings and projecting through the opening in the opposite ring, a flange integral with and depending from the outer edge of the lower ring, and a packing-ring arranged beneath the lower ring within the flange thereon; substantially as specified.

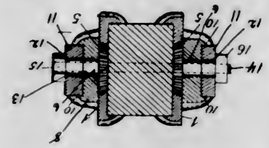
5. In a device of the class described, a gland constructed of a pair of rings, a flange integral with one of said rings and projecting through the opening of the opposite ring, and ball-bearings arranged between said rings outside the flange; substantially as specified.

6. In a device of the class described, a gland constructed of a pair of rings, a flange integral with one of said rings and projecting through the opening of the opposite ring, ball-bearings arranged between said rings outside the flange, and a packing-ring arranged beneath the flanged ring; substantially as specified.

845,086. ADJUSTABLE HANDLE FOR SWEEP-STOCKS AND THE LIKE. THEODORE HOERHOLD, Levington, Tex. Filed Nov. 8, 1906. Serial No. 342,513.

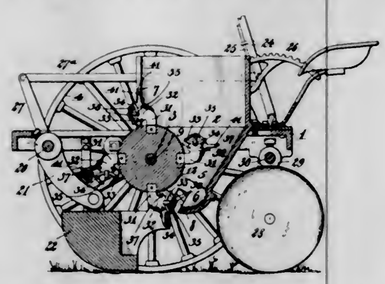
Claim.—1. In an adjusting device for sweep-stocks and the like, a plate adapted to grasp the beam of the same, said plate provided with an internally-toothed hole, a toothed disk adapted to operate in the plate-hole, and a shank formed on the disk, said shank adapted to connect the handles of the sweep-stock.

2. In an adjuster for the handles of plows and the like, the combination with plates for grasping the beam, said plates formed with toothed perforations, a disk formed with a toothed edge and a lug projecting from same, said disk and lug having a perforation therethrough, and a bolt adapted to pass through the perforations and through the handles and beam of the plow to connect the same.



3. In an adjuster for the handles of plows and the like, the combination with the plates for grasping the beam of the same, said plates formed with toothed openings, plates for grasping the handles of the plow, said plates formed with an angular hole, a disk formed with a lug and having teeth upon its periphery, said lug adapted to fit the handle-plate holes and the toothed ring engaging the perforation in the beam-plates, perforations in the handles of the plow and the beam of the same, a bolt passing through the various holes so as to connect the various parts of the implement, and adjusting means for the standard of the plow.

845,087. POTATO-PLANTER. ADRIAN S. HOLCOMB, Marilla, N. Y., assignor to Sarah C. Holcomb, Marilla, N. Y. Filed Oct. 5, 1906. Serial No. 337,656.



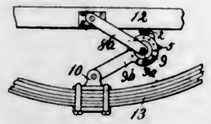
Claim.—1. In a potato-planter, the combination of a seed-receptacle having an opening in its lower end and in its front wall, a revoluble seed-dropper extending into said receptacle through said opening and comprising a body portion and seed-grippers provided with inwardly and outwardly directed curved extensions and pivoted cooperating gripping-fingers held normally in closed position, one of said gripping-fingers having an actuating-arm adapted to engage the seed-receptacle at the rear end of said opening to cause the gripping-fingers to open and take up the said seed in said receptacle, and a contact without the seed-receptacle to be engaged by said actuating-arm so as to cause the gripping-fingers to release the seed taken from said receptacle.

2. In a potato-planter, a seed-gripper comprising an arm having a slot at its outer end, gripping-fingers pivotally secured in said slot and having intermeshing gear-segments at their inner ends, and a spring acting to hold the outer ends of said gripping-fingers normally in contact.

3. In a potato-planter, a seed-gripper comprising an arm having a slot at its outer end and longitudinal and transverse extensions, a pair of gripping-fingers pivotally secured in said slot and connected to move in unison, one of said gripping-fingers having an actuating-arm, and a spring acting against one of said fingers to normally maintain the said fingers in closed position.

4. In a potato-planter, a seed-gripper comprising an arm having an angular end portion and a slot through said end portion and having longitudinal and transverse extensions, a pair of gripping-fingers pivotally secured in said slot and having their adjacent or inner ends provided with intermeshing gear-segments and their outer free ends in contact, one of said gripping-fingers having an actuating-arm, and a flat spring secured to said arm and bearing with its free end against one of said gripping-fingers and serving to maintain the outer free ends of said fingers in contact.

845,088. VIBRATION-CHECK FOR VEHICLES. PAUL M. HOTCHKIN, Chicago, Ill. Filed June 15, 1905. Serial No. 265,451.



Claim.—1. In a device of the character described, a liquid-filled cylinder adapted to be connected with the running-gear of a vehicle and having a peripheral extension with a liquid-passage therein, a radial partition-wall in said cylinder having an opening therein, an oscillating piston mounted in said cylinder and adapted to be pivotally connected with the body of a vehicle and, with said partition, dividing the cylinder into two chambers in constant communication through said opening, a valve arranged in said passage and adapted to permit the flow of liquid in one direction and an adjustable valve controlling said opening.

2. In a device of the character described, a cylinder connected with the running-gear of a vehicle and having a liquid passage-way arranged therein, a partition extending partially across said cylinder and having a port therein, an oscillating piston adapted to be pivotally connected with the body of a vehicle, and with said partition dividing said cylinder into two liquid-holding chambers, a yielding valve arranged in said passage-way, and an adjustable valve arranged in said port.

3. An automatic checking device for vehicles, comprising a liquid-filled cylinder adapted to be connected with the running-gear of a vehicle, and having an extension provided with a liquid passage-way communicating with the interior of said cylinder, a valve arranged in said passage-way, a fixed partition extending part way across said cylinder and having a port therein, an adjustable valve controlling said port, an oscillating piston mounted in said cylinder and together with said partition dividing the cylinder into two chambers, a shaft carrying said piston, and means adapted to pivotally connect said shaft with the body of a vehicle.

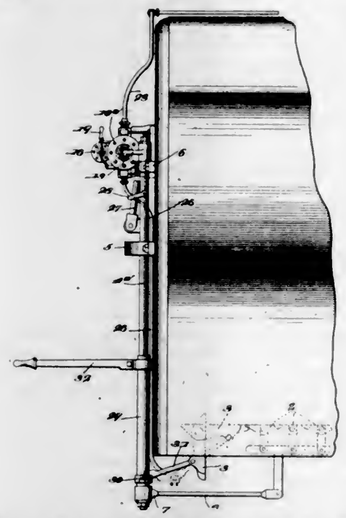
845,089. CAR-UNDERFRAME. CLARENCE H. HOWARD, St. Louis, Mo., and JAMES F. DUNN, Salt Lake City, Utah, assignors to Davis Locomotive Wheel Company, St. Louis, Mo., a Corporation of Delaware. Filed Dec. 3, 1906. Serial No. 346,146.

Claim.—1. In a car-underframe, a cast-metal end sill integral throughout and having an extension on its front side, and flanges on the extension adapted to form bearings for the draft-timbers, substantially as described.

2. In a car-underframe, the combination of a metallic end sill, channel-shaped in cross-section, and having its web adjacent to the longitudinal members of the said frame, pockets on the inside of the web adapted to engage the said members, projections on the inside of the web between the flanges of the said sill, each projection and corresponding part of the web having a perforation therethrough transversely to the said sill for the truss and stay-rods of the said frame, and an extension uniting the said flanges on the outside of the said sill opposite to the web and adapted to form a dead-block, all the said parts of the end sill being integral therewith, substantially as described.



845,090. STEAM GRATE-SHAKER. WILLIAM H. HUGHES, Birmingham, Ala. Filed Jan. 18, 1905. Serial No. 241,682.



Claim.—1. In a grate-shaking appliance, the combination of a shaker-shaft journaled in bearings on a fire-box and having upper and lower arms, a fluid-pressure-motor cylinder having a piston which is coupled to the upper arm of the shaker-shaft, a link by which the lower arm of said shaft is coupled to a plurality of rocking grate-bars, a pivoted drop-grate, a sleeve fitted freely on the shaker-shaft and coupled to the drop-grate, and a hand-lever coupled to said sleeve for raising and lowering the drop-grate by movement of the sleeve.

2. In a grate-shaking appliance, the combination of a shaker-shaft journaled vertically in bearings on the back head of a fire-box, upper and lower arms fixed on said shaft, a supporting-plate fixed on the fire box and carrying vertical trunnion-bearings, a motor-cylinder having trunnions fitted in said bearings, a piston and rod in said cylinder, a connection coupling the piston-rod to the upper arm of the shaker-shaft, a distribution-valve controlling the supply and exhaust of motive fluid to and from the motor-cylinder, an operating-lever connected to the distribution-valve, and a rod or link coupling the lower arm of the shaker-shaft to a rocking grate.

3. In a grate-shaking-appliance, the combination of a shaker-shaft journaled vertically in bearings on the back head of a fire-box, upper and lower arms fixed on said shaft, a motor-cylinder fixed on the fire-box, a piston and rod in said cylinder, means to couple the piston-rod to the upper arm of the shaker-shaft, a distribution-valve controlling the supply and exhaust of motive fluid to and from the motor-cylinder, an operating-lever connected to the distribution-valve, a rod or link coupling the lower arm of the shaker-shaft to a rocking grate, and an arm fixed on the shaker-shaft and adapted for connection to a hand-operating lever.

4. In a grate-shaking appliance, the combination of a revoluble shaker-shaft journaled in bearings on the fire-box, one of said bearings being provided with a socket, upper and lower arms on said shaft, a fluid-pressure-motor cylinder supported on the fire-box, a piston in said cylinder coupled to the upper arm of the shaker-shaft, a link for connecting the lower arm of the shaft to a plurality of rocking grate-bars, a short intermediate arm fixed on said shaft, a stub coupled to said arm and adapted to engage the socket in said bearing and a hand-lever when not engaging said socket.

5. In a grate-shaking appliance, the combination of a revoluble shaker-shaft journaled in bearings on a fire-box, one of said bearings being provided with a socket, upper and lower arms on said shaft, a fluid-pressure-motor cylinder supported on the fire-box, a piston in said cylinder adapted to be coupled to the upper arm of the shaker-shaft, a link for connecting the lower arm of the shaft to a plurality of rocking grate-bars, a short intermediate arm fixed on said shaft, a stub coupled to said arm and adapted to engage the socket in said bearing, a stirrup on the shaft and adapted to receive said stub when not engaged in said bearing.

6. In a grate-shaking appliance, the combination with a fire-box of a boiler, of a shaker-shaft journaled thereto, a fire-door in said box, the upper end of said shaker-shaft extending above said fire-door, a fluid-pressure motor connected to said fire-box above the fire-door, means to couple said motor to said shaft to rock the latter, a plurality of rocking grate-bars, means to couple said bars to said shaft, means to lock said shaft, when not in operation, in position to hold said grate-bars horizontal, and means to shake said shaker-shaft by hand in the event of the failure of said motor.

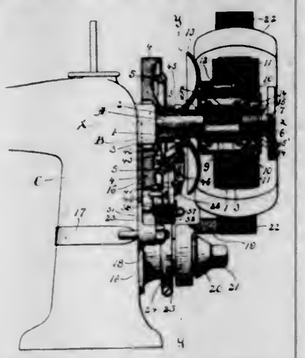
845,091. VARIABLE-SPEED TRANSMISSION. FRANCIS P. HUYCK, Swanton, Ohio. Filed Nov. 14, 1904. Serial No. 232,602.

Claim.—1. The combination with a sewing-machine head and the driving-shaft of said machine, of an extension-sleeve on said shaft, an electric motor having its armature mounted upon said sleeve, a variable-speed transmission mechanism mounted upon the shaft between the motor and machine-head and connected to said motor and shaft, and means for operating the transmission mechanism to change the speed.

2. The combination of a driving and an opposing driven member one of which is formed with an annular convex contact-surface and a transmission member interposed between said members and adapted to be turned laterally in contact with the convex surface to vary its path of travel on the opposing member.

3. The combination of a driving and an opposing driven member one of which is formed with an annular convex contact-surface, and a transmission member interposed between said members and formed with a concave contact-

surface to engage the convex surface of one member and a separate contact-surface to engage the other member.



4. The combination of a member having an annular convex contact-surface an opposing member having an annular concave contact-surface the axis of which concavity coincides with the axis of the convexity of the opposing member, a power-transmission member interposed between said members, and means for supporting the transmission member in contact with the convex surface and permitting the same to turn laterally thereon to vary its path of travel on the concave surface.

5. The combination of a member having a circular concave, an opposing member having a ring-shaped track, a power-transmission member contacting the track at one side and engaging the concave at its opposite side, and means for supporting the transmission member and turning the same upon the ring-shaped track toward or from the axis of the same to vary its point of contact with the concave of the opposing member.

6. The combination with a driving and a driven member, one of said members being formed with a circular concave and the other provided with a ring-track, of a power-transmission roll interposed between said members, a support upon which the roll is journaled, and means for turning the roll on the track toward the axis of said member and normally holding the same out of contact with the concave of the other member.

7. The combination with a disk, of a power-transmission roll, a support for the roll upon which it is journaled, a spring to normally hold the roll in a position to transmit a constant speed and means for tilting the roll against the action of said spring.

8. The combination with a driving and a driven member, of a power-transmission roll interposed between said members to engage the same, a flexible support for said roll upon which it is journaled, and means for flexing said support to tilt the roll.

9. The combination of a driven member having a ring-shaped track, a driving member opposing the driven member and formed with a circular concave, a transmission-roll adapted to engage the track at one side and the concave at the opposite side, a pivotal support upon which the roll is journaled, a spring to turn the support and normally hold the roll turned inward on its track out of engagement with the driving member.

10. The combination of a member having a ring-shaped track, an opposing member having an annular concave, a roll having a groove to engage the track and a flange at one side of the groove forming a face to engage the concave, and means for supporting the roll and turning the same upon the track.

11. The combination of a driving and a driven member, a power-transmission roll, a support upon which the roll is journaled, a spring to turn and normally hold the roll out of engagement with one of said members, a spring to yieldingly force one member toward the other, and means for separating said members against the action of said spring.

12. The combination of a driving and a driven member, one of which members is formed with a circular track formed with a convex contact-face, a power-transmission roll interposed between said members in contact with said track at a point in a horizontal plane extending through the axis of said track, a pivoted support for the roll having the vertical axis of its pivot coinciding with a vertical line extending through the axis of the convexity of the track opposite the point of engagement of the roll with said track, and means for turning the support.

13. The combination of a driving and a driven member, one of said members being free to move toward and from the other, a power-transmission roll interposed between said members, a spring to press the movable member toward the opposed member, a lever pivoted intermediate its ends, foot-operated mechanism attached to one end of said lever, a brake-shoe attached to the opposite end of said lever and adapted to engage the driven member, and means carried by said lever for engaging and separating said members when said lever is operated to set the brake.

14. The combination of a ring-shaped track having a rounding contact-surface, an opposed disk having a circular concave concentric with said track, a supporting-bar below the ring-track, supporting-arms pivoted on said bar, each with the vertical axis of the pivot coinciding with a vertical line extending through the center of the area of the ring in cross-section on a horizontal plane through the axis of the ring, power-transmission rolls journaled on the upper ends of said arms to engage the track and disk, and means for turning said arms.

15. The combination with a driving and a driven member, of a supporting-bar, arms journaled at one end in openings in said bar, power-transmission rolls journaled on the upper ends of said arms between said members, segments on said arms, racks to engage said segments, a lever to move the racks in one direction and a spring to move the same in the opposite direction.

16. The combination of a disk having a circular groove and adapted to be attached to a motor to form the driving member, a driven member having a ring-shaped track formed round in cross-section, a support below said members, arms pivotally attached at their lower ends to said support and extending upward at each side of the ring-track, a power-transmission roll journaled on the upper end of each arm and provided with a groove to engage the track and a flange at one side of the groove to engage the concave of the disk, and means for turning said arms simultaneously in opposite directions.

17. The combination with a driving and a driven member, of a power-transmission roll interposed between said members, a pivoted support upon the upper end of which the roll is journaled, a flat spring inserted in the support with its width extending at right angles to the axis of the roll and forming a part of the support, and means for turning the support and flexing the spring to tilt the roll.

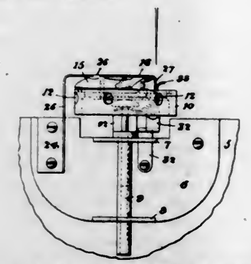
18. The combination of a longitudinally-movable driving member having a circular concave, an opposed driven member having an integral ring-shaped track formed round in cross-section, a spring to force the driving toward the driven member, a supporting-bar beneath said members, arms pivoted at one end on said bar and extending upwardly between said members, power-transmission rolls journaled on the upper ends of said arms and each provided with a groove to engage the track and a flange to engage the concave, gear-segments on the lower ends of said arms, racks to engage the segments and turn the arms in opposite directions, a lever to move the racks to turn the rolls outward upon the track, a spring to move the racks to turn the rolls inward into engagement with the hub of the driven member and out of engagement with the driving member, a lever pivoted intermediate its ends, means carried by one end of said lever for separating the driving and driven members, and foot-operated means attached to said levers.

19. The combination with a sewing-machine driving-shaft, of an electric motor-armature mounted on said shaft to turn freely thereon, a motor-field rigidly supported in proper relation to the armature, a disk forming a driving member secured to the armature and having a

circular concave, a disk forming the driven member secured to the shaft and having an integral ring-shaped track formed round in cross-section opposing the concave of the disk, a supporting-bar below said members, arms pivotally secured at one end in openings in said bar and extended upward between said members, power-transmission rolls journaled on the upper ends of said arms and each having a groove to engage the track and a flange at one side of the groove to engage the concave, gear-segments secured to said arms, rack-bars supported on said bar to engage and turn the segments in opposite directions, a lever to move said racks in one direction and a spring to move the same in the opposite direction, a lever pivoted intermediate its ends beneath the driven disk, a brake-shoe on one end of said lever to engage said disk, a bar pivotally attached to said lever between its pivot and the shoe, arms on said bar extending upward at each side of the shaft, a roll on said bar to engage the driving-disk and move the same from the driven member, and foot-operated means attached to said levers.

20. The combination with the supporting-arm and driving-shaft of a sewing-machine, of an extension-sleeve secured on the shaft, a bearing-sleeve longitudinally movable on the extension-sleeve and attached to turn therewith, an armature mounted on the bearing-sleeve free to turn thereon, a disk forming a driving member having a circular concave and secured to the armature, a collar on the outer end of the extension-sleeve, a spring interposed between the collar and end of the bearing-sleeve, a disk forming the driven member mounted on the extension-sleeve to turn therewith and provided with a ring-shaped track formed round in cross-section and connected to the disk by a narrow neck, a supporting-plate secured to the supporting-arm of the sewing-machine, a boss on said plate, a motor-field ring, a suporting-bracket to which the field is secured, a universal joint for securing the bracket to the boss, a supporting-bar secured to said boss, supporting-arms pivotally secured in openings in said bar and extending upward between the driving and driven members, rolls journaled on the upper ends of said arms each having a groove to engage the track and a flange at one side of the groove to engage the concave, a flat spring inserted in each arm and forming a part thereof, a segmental gear on each arm, a plate on the supporting-bar having slots through which the arms extend and provided with racks to engage the gear-segments, a spring attached at one end to the bar and at its opposite end to the plate to move the plate in one direction, a bell-crank lever to move the plate in the opposite direction, a lever pivoted intermediate its ends on the supporting-plate beneath the driven disk, a brake-shoe on said lever, a bar pivotally attached at one end to said lever and having upwardly-extending arms embracing the hub of the driven member, a roll journaled on the upper end of said bar, and foot-operated means attached to the ends of the levers to operate the same.

845,092. SEWING APPARATUS. FREDERICK JACOB and JACOB BOPPEL, Newark, N. J.; said Frederick Jacob assignor to Rudolph L. Jacob, Newark, N. J. Filed Dec. 8, 1905. Serial No. 290,920.



Claim.—1. In a sewing-machine the combination with the machine-frame having bearings for a vertical shaft, a hollow shaft arranged in said bearings, a ring carried by said hollow shaft, a groove being formed in the top of said ring concentric to the axis of said hollow shaft, a bobbin-casing having a rib to enter said groove, means for holding said bobbin-casing onto said ring, said means comprising a sheet-metal piece fastened to said machine-frame and extending over the bobbin-casing and having an opening through which the bobbin may pass, and an ejector-shaft arranged in said hollow shaft and adapted to engage the bobbin in its casing to lift the same therefrom.

2. In a sewing-machine, the combination with a hooked ring for catching the needle-thread, said ring having a groove therein concentric with the axis of said ring and having side openings communicating with the said groove, a bobbin-casing having a rib to enter said groove and having a receptacle therein and means for holding said bobbin-casing onto said ring.

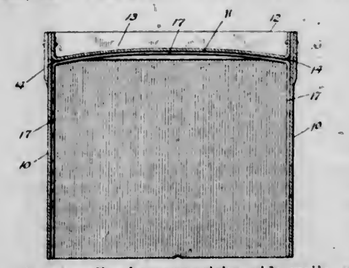
3. In a sewing-machine, the combination with the ring having a groove and having a recess at one side and a hook extending into said recess to catch the needle-thread and having at the sides openings communicating with the groove in said ring, of a bobbin-casing adapted to rest on said ring, the said casing being furnished with a rib adapted to enter said groove and a keeper comprising a piece bent and providing a seat arranged to rest over the casing, the overlying part of said keeper being open to permit the insertion and withdrawal of the bobbin, substantially as set forth.

4. In a sewing apparatus, the combination with the machine-frame, of a vertical shaft having at the top a horizontal ring with openings at the sides and a groove at the top in open communication with said side openings, a bobbin-casing seated on said ring and having a rib lying in said groove and a bobbin seated in said casing, the said ring having a recess at one side with a hook extending from the body of said ring into said recess, the point of the hook lying below the plane of said rib to permit said hook to pass underneath said casing.

5. In a sewing apparatus, the combination with a machine-frame, of a vertical hollow shaft having at the top a horizontal ring with a thread-hook, and having a groove in its upper face, a bobbin-casing having a rib to enter the groove in the ring, the bobbin-casing being cut away on one side, a keeper secured to the frame and bent to go over the bobbin-casing, and having extensions to engage the cut-away portion of the bobbin-casing, the top portion of the keeper having a perforation, a receptacle within the bobbin-casing for receiving a bobbin and arranged to support the bobbin, a rod arranged in the shaft and having a head to engage the bobbin, a lever having an arm between the head of the rod and the end of the shaft, and the finger-piece of the lever extending up between the ring and the bobbin-casing.

6. In a sewing apparatus, the combination with a machine-frame, of a vertical hollow shaft having at the top a horizontal ring having a thread-hook, a bobbin-casing on the ring having one of its sides cut away, a member bent to go over the bobbin-casing and maintain it in its position, a receptacle in the bobbin-casing to support a bobbin, a rod in the hollow shaft, a head on the rod, a lever on which the head of the rod rests, and a finger-piece on the lever projecting up between the ring and the bobbin-casing.

845,093. ANNEALING-BOX. MORRIS F. JARRETT, Anderson, Ind., assignor of one-half to Ellis C. Carpenter, Anderson, Ind. Filed Jan. 8, 1906. Serial No. 295,031.

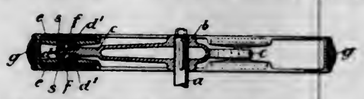


Claim.—An annealing-box comprising side walls, an upwardly-cupped cap fitted within the upper ends of the side

walls and welded thereto, and a protecting-band welded to the exterior of the side walls at the upper ends thereof and extending below the adjacent portions of the cupped cap.

845,094. CLUTCH. HUBERT JEZLER, Zurich, Switzerland. Filed Feb. 1, 1906. Serial No. 298,944.

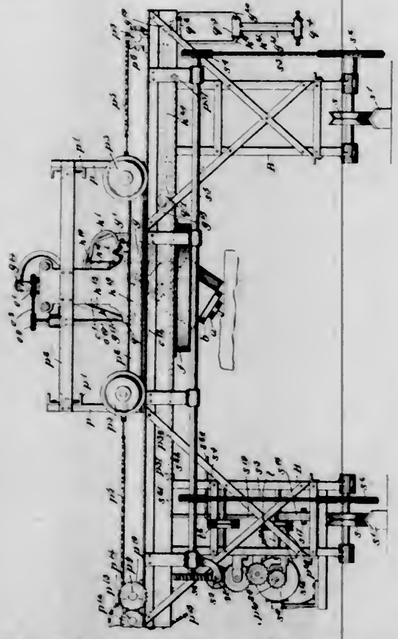
Claim.—1. In an elastic clutch a central transmitting



device having saucer-like depressions on each side opposite each other, a driven member, plates mounted at the periphery thereof having similar depressions opposite those in the transmitting member, rubber cushions to exert a pressure on the plates toward the depressions on the transmitting device, and a ball in each lenticular pocket formed by the oppositely-situated depressions, substantially as described.

2. In an elastic clutch a central hub having arms projecting therefrom, having oppositely-situated depressions on the sides of the arms, a circular driven rim having seats therein, disks mounted one opposite each depression in the arms and having similar depressions, elastic means between the disks and rim to force said disks toward the arms and a ball in each lenticular pocket formed by the oppositely-situated depressions, substantially as described.

845,095. STONE-CUTTING MACHINE. ALBERT F. JONES, Salem, Mass. Filed Mar. 11, 1904. Serial No. 197,655.



Claim.—1. In a stone-cuttting machine, a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a power-driven shaft supported on the main frame and means operated by it for moving the tool-carriage in opposite directions and means for transmitting power to said power-driven shaft, substantially as described.

2. In a stone-cutting machine, a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a power-driven shaft supported on the main frame bearing a belt-pulley, means operated by said shaft for moving the tool-carriage in opposite directions, an endless belt passing over said belt-pulley and a power-driven belt-pulley supported adjacent the main frame over which the said belt also passes, substantially as described.

3. In a stone-cutting machine, a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a power-driven shaft supported on the main frame and means operated by it for moving the tool-carriage in opposite directions and a power-driven endless belt for transmitting power to said power-driven shaft, substantially as described.

4. In a stone-cutting machine, a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a power-driven shaft supported on the main frame and means operated by it for moving the tool-carriage in opposite directions and at variable speeds, and means for transmitting power to said power-driven shaft, substantially as described.

5. In a stone-cutting machine, a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a chain connected at its opposite ends to the opposite ends of said tool-carriage, a shaft at each end of the main frame bearing sprocket-wheels over which said chain passes, a power-driven shaft supported by said main frame, means for connecting it with one of said sprocket-wheel shafts and means for transmitting power to the said power-driven shaft, substantially as described.

6. In a stone-cutting machine, a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a chain connected at its opposite ends to the opposite ends of said tool-carriage, a shaft at each end of the main frame bearing sprocket-wheels over which said chain passes, a power-driven shaft supported by said main frame, means for connecting it with one of said sprocket-wheel shafts and a power-driven endless belt for transmitting power to said power-driven shaft, substantially as described.

7. In a stone-cutting machine, a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a chain connected at its opposite ends to the opposite ends of said tool-carriage, a shaft at each end of the main frame bearing sprocket-wheels over which said chain passes, a power-driven shaft supported by said main frame bearing a belt-pulley, means for connecting said shaft with one of the sprocket-wheel shafts, an endless belt passing over said belt-pulley and a driving-pulley supported adjacent the main frame over which said belt also passes, substantially as described.

8. In a stone-cutting machine, a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a chain connected at its opposite ends to the opposite ends of said tool-carriage, a shaft at each end of the main frame bearing sprocket-wheels over which said chain passes, a power-driven shaft supported by said main frame, variable-speed gearing operated by it, means for connecting said variable-speed gearing with one of said sprocket-wheel shafts, and means for transmitting power to said power-driven shaft, substantially as described.

9. In a stone-cutting machine, a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a power-driven shaft supported on the main frame, means operated by it for moving the main frame in opposite directions, and means for transmitting power to said power-driven shaft in any position of said main frame, substantially as described.

10. In a stone-cutting machine, a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a power-driven shaft supported on the main frame, means operated by it for moving the main frame in opposite directions and at variable speeds, substantially as described.

11. In a stone-cutting machine, a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a power-driven shaft supported on the main frame, means operated by it for moving the tool-carriage in opposite directions, means also operated by it for moving the main frame in opposite directions, and means for transmitting power to said power-driven shaft, substantially as described.

12. In a stone-cutting machine a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a power-driven shaft supported on the main frame, means operated by it for moving the tool-carriage in opposite directions, means also operated by it for moving the main frame in opposite directions, and a power-driven endless belt for transmitting the power to said power-driven shaft, substantially as described.

13. In a stone-cutting machine, a main frame movable on tracks, and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, chains connected to the opposite ends of said tool-carriage, shafts bearing sprocket-wheels over which said chains pass, a shaft bearing a driven gear, variable-speed gearing between said shaft and one of the shafts bearing the sprocket-wheels, and means for revolving said driven gear in opposite directions, substantially as described.

14. In a stone-cutting machine, a main frame movable on tracks, and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, chains connected to the opposite ends of said tool-carriage, shafts bearing sprocket-wheels over which said chains pass, a shaft bearing a driven gear, and gearing connecting said shaft with one of the shafts bearing the sprocket-wheels, a driving-shaft bearing two driving-gears and a shifting device for moving said driven gear into engagement with either one of said driving-gears, substantially as described.

15. In a stone-cutting machine, a main frame movable on tracks, and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, chains connected to the opposite ends of said tool-carriage, shafts bearing sprocket-wheels over which said chains pass, a shaft bearing a driven gear, gearing connecting said shaft with one of the shafts bearing the sprocket-wheels, a driving-shaft bearing two driving-gears, a shifting device for moving said driven gear into engagement with either one of said driving-gears, a cord connected with the operating-lever of said shifting device and supports therefor mounted on the main frame, substantially as described.

16. In a stone-cutting machine, the combination of a main frame provided with roller-supports, tracks on which it moves, actuating mechanism for rotating said rollers in opposite directions, a shifting device for said actuating mechanism, means for operating said shifting device, a tool-carriage borne by said main frame, movable on tracks thereon at right angles to the movement of said main frame, means for moving said tool-carriage, a tool borne by said carriage, and means for operating it, substantially as described.

17. In a stone-cutting machine, the combination of a main frame provided with roller-supports, tracks on which it moves, sprocket-wheels secured to the roller-axles at one side of the frame, a horizontal shaft bearing sprocket-wheels, chains connecting the sprocket-wheels of said shaft with the sprocket-wheels on the axles, mechanism for driving said horizontal shaft in opposite directions, a tool-carriage borne by said main frame, movable on tracks thereon at right angles to the movement of said main frame, means for moving said tool-carriage, a tool borne by said tool-carriage, and means for operating it, substantially as described.

18. In a stone-cutting machine, a main frame having roller-supports, means for positively driving the roller-supports at one side of the frame, a tool-carriage movable on tracks on said main frame, means for moving it, a main driving-shaft having a belt-pulley thereon, an endless belt passing around said pulley, and pulleys supported independent of the main frame over which said belt also passes, substantially as described.

19. In a stone-cutting machine, the combination of a main frame having roller-supports, means for positively driving the roller-supports at one side of the frame, a main driving-shaft for said means borne by said frame, a belt-pulley thereon, stantionarily-supported belt-pulleys independent of the frame, an endless belt passing around said pulleys, a tool-carriage mounted on said main frame, a tool borne by it, and means for operating said tool, substantially as described.

20. In a stone-cutting machine, the combination of a main frame movable on tracks, a tool-carriage mounted on tracks on said main frame, and movable at right angles thereto, means for moving said tool-carriage, a driving-shaft borne by the main frame for operating said means, a belt-pulley thereon, a set of stationarily-supported pulleys independent of the frame, and an endless belt which passes around all of said pulleys, substantially as described.

21. In a stone-cutting machine, the combination of a main frame having roller-supports, means for positively driving the roller-supports at one side of said frame in opposite directions, a shifting device for said means, a tool-carriage movable on tracks on said main frame, means for moving it in opposite directions, a shifting device for said means, a driving-shaft on the main frame having a belt-pulley thereon, stationarily-supported belt-pulleys independent of the main frame, and an endless belt passing around all of said pulleys, substantially as described.

22. In a stone-cutting machine, the combination of a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a turret borne by said carriage adapted to turn on a vertical axis, a tool-holder carried by said turret, adjustable on a horizontal axis, a tool held by said tool-holder, and means for operating said tool, substantially as described.

23. In a stone-cutting machine, the combination of a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, means for moving it back and forth at different speeds, a tool-carriage movable on the tracks on said main frame, a turret borne by said carriage adapted to turn on a vertical axis, a tool-holder carried by said turret, adjustable on a horizontal axis, a tool held by said tool-holder, and means for operating said tool, substantially as described.

24. In a stone-cutting machine, the combination of a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, means for moving it back and forth at different speeds, a turret borne by said carriage adapted to turn on a vertical axis, a tool-holder carried by said turret, adjustable on a horizontal axis, a tool held by said tool-holder, and means for operating said tool, substantially as described.

25. In a stone-cutting machine, the combination of a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a power-driven shaft supported by said movable main frame, means operated by it for moving said main frame in opposite directions, and means for transmitting power to said power-driven shaft, a tool-carriage movable

on the tracks on said main frame, a turret borne by said carriage adapted to turn on a vertical axis, a tool-holder carried by said turret adjustable on a horizontal axis, a tool held by said tool-holder, and means for operating said tool, substantially as described.

26. In a stone-cutting machine, the combination of a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a power-driven shaft supported by said movable main frame, means operated by it for moving said tool-carriage in opposite directions, means for transmitting power to said power-driven shaft, a turret borne by said carriage adapted to turn on a vertical axis, a tool-holder carried by said turret adjustable on a horizontal axis, a tool held by said tool-holder and means for operating said tool, substantially as described.

27. In a stone-cutting machine, the combination of a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a power-driven shaft, and means operated by it for moving said main frame in opposite directions at different speeds, means for transmitting power to said shaft, a tool-carriage movable on the tracks on said main frame, a turret borne by said carriage adapted to turn on a vertical axis, a tool-holder carried by said turret adjustable on a horizontal axis, a tool held by said tool-holder and means for operating said tool, substantially as described.

28. In a stone-cutting machine, the combination of a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a power-driven shaft and means operated by it for moving said tool-carriage in opposite directions at different speeds, means for transmitting power to said shaft, a turret borne by said carriage adapted to turn on a vertical axis, a tool-holder carried by said turret adjustable on a horizontal axis, a tool held by said tool-holder and means for operating said tool, substantially as described.

29. In a stone-cutting machine, the combination of a main frame movable on tracks and bearing a pair of tracks disposed at right angles to the tracks on which it moves, a tool-carriage movable on the tracks on said main frame, a turret borne by said carriage adapted to turn on a vertical axis, a tool-holder carried by said turret adjustable on a horizontal axis, a tool held by said tool-holder, means for operating said tool and means for adjusting said turret to different elevations, substantially as described.

30. In a stone-cutting machine, a turret bearing a tool-holder movable on a vertical axis, a ring supporting said turret, vertically-adjustable side pieces to which said ring is attached, upright supports for said side pieces, and means for vertically adjusting said side pieces and for holding them at different elevations, substantially as described.

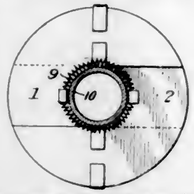
31. In a stone-cutting machine, a turret bearing a tool-holder movable on a vertical axis, a ring supporting said turret, vertically-adjustable side pieces to which said ring is attached, upright supports for said side pieces, vertical screws engaging said side pieces, and means for simultaneously turning said screws, substantially as described.

32. In a stone-cutting machine, a turret bearing a tool-holder movable on a vertical axis, a ring supporting said turret, vertically-adjustable side pieces to which said ring is attached, upright posts having vertical ribs which guide said side pieces, vertical screws engaging said side pieces and means for simultaneously turning said screws, substantially as described.

33. In a stone-cutting machine, a turret bearing a tool-holder, movable on a vertical axis, a ring supporting said turret, vertically-adjustable side pieces to which said ring is attached, upright supports for said side pieces, vertical screws engaging said side pieces, sprocket-wheels secured to said screws, a rod having a sprocket-wheel secured to it, means for turning said rod and a sprocket-chain passing around the sprocket-wheels on said screws and rod, substantially as described.

34. In a stone-cutting machine, the combination of a turret bearing said tool-holder movable on a vertical axis, a ring supporting said turret, vertically-adjustable side pieces to which said ring is attached, upright supports for said side pieces, vertical screws engaging said side pieces having plates at their lower ends, bails on which said plates rest, and means for turning said screws, substantially as described.

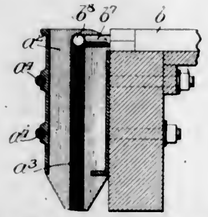
845,096. PLATE FOR STEAM AND WATER PIPES. CHARLES P. KEMBLE and WILLIAM B. SNYDER, Trenton, N. J. Filed Sept. 29, 1906. Serial No. 336,728.



Claim.—1. The combination of two plates, each of said plates having an opening extending from its outer edge to a point at or near its middle, and having clips formed on one wing of each plate adapted to embrace the opposite wing of the other of said plates, and means to hold said plates in frictional contact with a pipe.

2. The combination of two adjustable curved plates, said plates having oppositely-disposed wings held in juxtaposition by clips formed on said wings, a stud formed on each of said plates, and a spring connecting said studs, substantially as described.

845,097. FOLDING STAKE FOR RAILWAY-CARS. JOHN W. KENDRICK, Chicago, Ill. Filed Nov. 28, 1906. Serial No. 345,493.



Claim.—1. A railway-car having a stake-pocket, said pocket being provided with guideways on the inner faces of its opposite walls, and a stake having a sliding swivel connection with said pocket.

2. A railway-car having a stake-pocket provided with guideways, and a stake mounted in said pocket, said stake being provided at its end with a swivel-pin engaging the guideways.

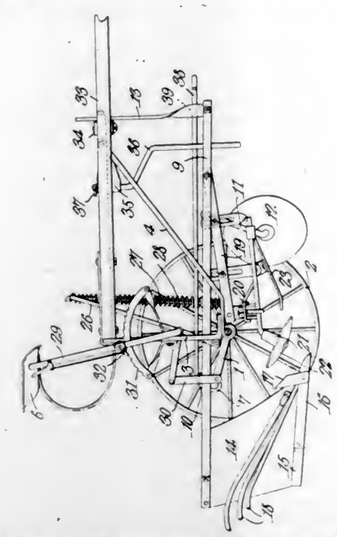
3. A stake for railway-cars, comprising a channel outer member, a filler member in said channel member extending to a point adjacent one end of the outer member, and an auxiliary filler member at the end of the channel member, said auxiliary member being provided with means for holding a swivel-pin.

4. A stake for railway-cars, comprising a channel outer member, an auxiliary filler member at one end of the channel member, said filler member being provided with corresponding recesses, and a cross-pin having a swivel-head mounted in the recess portion of the filler member.

5. A stake-pocket for railway-cars, comprising a casting having two stake-receiving portions, one of which is provided with guideways on its inner opposite walls.

845,098. BEET-HARVESTER. WILLIS KITE, Las Animas, Colo. Filed Dec. 22, 1906. Serial No. 349,107.

Claim.—1. A beet-harvester comprising a U-shaped axle mounted upon wheels, a frame superimposed upon the axle, means attached to the frame and connected with the axle for swinging the intermediate portion thereof, beams supported at their forward ends from the frame and at their rear portions by the intermediate portion of said axle, earth-cutters, beet-cutters and a plow carried by the said beams.



2. A beet-harvester comprising a U-shaped axle mounted upon wheels, a frame superimposed upon the axle, beams pivotally connected at their forward ends with said frame and being supported at their rear portions upon the axle, a foot-lever fulcrumed in the frame and engaging the forward portions of said beams and earth-cutters, beet-cutters and a plow carried by the beams.

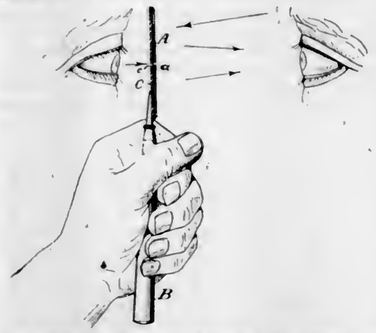
3. A beet-harvester comprising a U-shaped axle mounted upon wheels, a frame superimposed upon the axle, means mounted upon the frame and being connected with the axle for swinging the intermediate portion thereof, beams pivotally connected at their forward ends with the frame and being supported at their rear portions upon the intermediate portion of the said axle, a foot-lever fulcrumed to the frame and engaging said beams and earth-cutters, beet-cutters and a plow carried by the said beams.

4. A beet-harvester comprising a U-shaped axle mounted upon wheels, a frame superimposed above the axle, means mounted upon the frame and connected with the axle for swinging the intermediate portion thereof, beams pivotally connecting at their forward ends with the frame and being supported at their rear portions upon the axle, a foot-lever journaled upon the frame and engaging said beams, cutters carried by the beams, a plow also carried by the beams, bars pivoted between the beams and horizontally-disposed overlapping cutters carried by said bars.

5. A beet-harvester comprising a U-shaped axle mounted upon wheels, a frame superimposed above the axle, means carried by the frame and connected with the axle for swinging the intermediate portion thereof, beams pivotally connected at their forward ends with said frame and being supported at their rear portions by said axle, earth-cutters, beet-cutters and a plow carried by the beam, a foot-lever fulcrumed upon the frame and engaging the forward portions of said beam, a tongue attached at its rear end to the frame and being connected at an intermediate point with the forward end of the frame, a draft-rod attached at its rear end to a cross-piece carried by the beams and passing at its forward portion through an eye located at the forward ends of the beam.

845,099. OPHTHALMOSCOPE. EMANUEL N. KLEIN, Cincinnati, Ohio. Filed June 18, 1906. Serial No. 322,147.

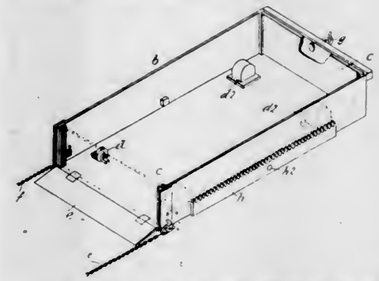
Claim.—1. An ophthalmoscope or similar instrument provided with a reflecting-mirror which has qualities whereby the ultra-violet rays of the light received by the mirror are affected so as to be prevented from leaving the mirror by reflection.



2. An ophthalmoscope or similar instrument provided with a reflecting-mirror which is made of glass which is colored for the purpose of acting upon certain elements of the light, received by it, to prevent such elements from leaving the mirror by reflection.

3. An ophthalmoscope or similar instrument provided with a reflecting-mirror which is made of glass, having a color which is yellow, and whereby the ultra-violet rays of this light, received by the mirror are neutralized by absorption and prevented from being reflected by the mirror.

845,100. APPARATUS FOR REMOVING SNOW FROM STREETS. EMANUEL G. KOHOUT, New York, N. Y. Filed Aug. 30, 1906. Serial No. 332,581.



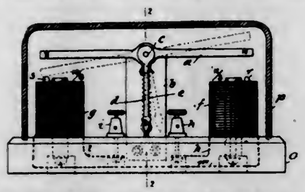
Claim.—1. In an apparatus for removing snow from streets, a scoop-drag adapted to be drawn along the street, said scoop-drag being box-shaped in form and open at one end and provided with wheels or rollers in the bottom thereof, and a wagon having a bed or body open at the rear end, and means whereby the scoop-drag may be drawn into said bed or body and devices for dumping said drag at the rear end of said body.

2. In an apparatus for removing snow from streets, a scoop-drag adapted to be drawn along the street, said scoop-drag being box-shaped in form and open at one end and provided with wheels or rollers in the bottom thereof, and a wagon having a bed or body open at the rear end, and means whereby the scoop-drag may be drawn into said bed or body, said drag being provided at its opposite sides with rack-bars which are pivoted thereto forwardly of the middle thereof, and the bed or body of the wagon being provided with gear-wheels by which said rack-bars and drag connected therewith may be moved longitudinally of the bed or body of the wagon.

3. In an apparatus for removing snow from streets, a wagon provided with a bed or body open at the rear end and a scoop-drag adapted to be drawn along the street and provided with a removable end-board, means for drawing said drag into the wagon-body, and means for dumping said drag at the rear end of said body.

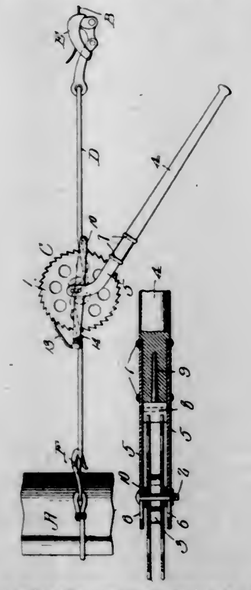
4. In an apparatus for removing snow from streets, a wagon provided with a bed or body open at the rear end and a scoop-drag adapted to be drawn along the street and provided with a removable end-board, means for drawing said drag into the wagon-body, and means for dumping said drag at the rear end of said body, comprising rack-bars pivoted at the opposite sides of the drag and forwardly of the middle thereof, and gear-wheels connected with the opposite sides of the wagon-bed and operating in connection with said rack-bars.

845,101. POLARITY-INDICATOR. PAUL LEO, Elizabeth, N. J. Filed Mar. 9, 1906. Serial No. 305,022.



Claim.—A device for indicating the polarity of a main circuit and adapted to be located in said circuit or a branch thereof having the like polarity, said device comprising among its members two oppositely-wound electromagnets connected in series and mounted on a suitable base, binding-posts for connecting said magnets with said circuit, a polarized armature pivotally mounted in respect to said magnets and an arm or pointer secured to the pivot of said armature to move with the same, said arm extending toward said binding-posts, whereby the said arm or pointer will point toward one or the other of said binding-posts according to the polarity of the main circuit, substantially as described.

845,102. WIRE-STRETCHER. OLIVER E. LEWIS, Benson, Nebr. Filed Apr. 5, 1906. Serial No. 310,114.



Claim.—1. A wire-stretcher comprising a ratchet-wheel, means carried thereby for engaging a flexible cable intermediately of its length and for taking up or drawing said cable from opposite directions, a lever having a dog adapted to engage said ratchet-wheel to turn the same in a direction to take up the cable, and a holding-detent for preventing reverse movement of the ratchet-wheel and means whereby said detent is forced into engagement with said ratchet-wheel by the tension of said cable.

2. A wire-stretcher comprising a ratchet-wheel having means for engaging a cable, an operating-lever therefor provided with a dog or tooth and having a pin-and-slot connection with said wheel axially thereof, a detent engaging said wheel to prevent reverse rotation, a holder for said detent pivotally mounted on the axle of said wheel, and means acting on said holder for holding said detent in engagement with said wheel.

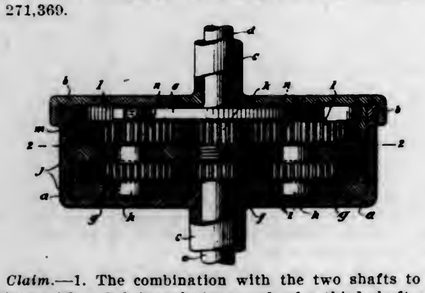
3. A wire-stretcher comprising a narrow two-part ratchet-wheel consisting of spaced toothed disks having a divided-hub connection adapted to receive a flexible cable therethrough, an operating-lever therefor having a fork or bifurcation embracing and holding said wheel and pivotally connected thereto at the axis of said wheel, and a dog carried by said lever for engaging said wheel.

4. A wire-stretcher comprising a ratchet-wheel consisting of two toothed disks having an axle-pin and intermediate lugs at opposite sides of said axle-pin, the same being adapted to receive a flexible cable between said lugs, a bifurcated or forked lever having slotted arms or branches engaging said axle-pin, the ratchet-wheel being arranged between said arms or branches, a dog carried by the lever adapted to be moved thereby to engage and disengage the ratchet-wheel, and a lever member pivotally mounted on said axle-pin carrying a holding-detent and adapted to be operated on by said cable to hold said detent in engagement with said ratchet.

5. A wire-stretcher comprising a ratchet-wheel consisting of two toothed disks having an axle-pin and intermediate lugs at opposite sides of said axle-pin, the same being adapted to receive a flexible cable between said lugs, a bifurcated or forked lever having slotted arms or branches engaging said axle-pin, the ratchet-wheel being arranged between said arms or branches, a dog carried by the lever adapted to be moved thereby to engage and disengage the ratchet-wheel, a yoke or frame pivotally mounted on said axle-pin, and a holding-detent at one end of said yoke adapted to engage said ratchet-wheel and prevent reverse movement thereof, the opposite end of said yoke adapted to be engaged by the cable and forced in a direction to hold said detent in engagement.

6. A wire-stretcher comprising a ratchet-wheel consisting of two toothed disks having an intervening hub portion for engaging a flexible cable, a lever constituting the sole holder for said wheel and having an axial connection therewith, a dog carried thereby adapted to engage said ratchet-wheel for turning the same in operative direction, a holding-detent, and a support therefor axially attached to said ratchet-wheel.

845,103. GEARING. BIRGER LJUNGSTROM, Stockholm, Sweden, assignor to Aktiebolaget Separator, Stockholm, Sweden, a Company. Filed July 26, 1905. Serial No. 271,369.



Claim.—1. The combination with the two shafts to be driven with a definite relative speed, of a third shaft and three frames, the first frame having a circumferential rolling-surface, a pinion and gears and their shafts carried by the second frame, the gear-shafts frictionally engaging said rolling-surface, gears carried by the third frame, a rack connected with one of the first two frames so as to rotate therewith, the last-named gears engaging the pinion and rack, and a pinion on the third shaft engaging the first-named gears, one of the first two frames being connected to one of the driven shafts and the third frame connected to the other driven shaft.

2. The combination with the two shafts to be driven with a definite relative speed, of a third shaft, all of said shafts having common axes, a pinion on the third shaft, gears outside the third shaft engaging said pinion, gear-shafts, a frame having a circumferential rolling-surface with which the shafts of said gears engage, a frame carrying said gears, one of said frames being connected with the first driven shaft, a pinion secured to the gear-carrying frame whose axis is common to the axes of said shafts, a circular rack connected with the frame having the rolling-surface so as to turn therewith, gears engaging the last-named pinion, and a third frame carrying the last-named gears and connected to the second driven shaft.

3. The combination with the two shafts to be driven with a definite relative speed, of a third shaft, a pinion thereon, gears engaging said pinion, gear-shafts, a frame carrying said shafts, an annular frame surrounding the third shaft between which and said frame said gears are arranged, the inner face of the last-named frame constituting a rolling-surface with which the shafts of said gears frictionally engage, one of said frames being connected with one of the said driven shafts, a pinion secured to the gear-carrying frame, a circular rack connected with the annular frame so as to turn therewith, gears engaging the last-named pinion and the rack, and a third frame connected to the second driven shaft and carrying the last-named gears.

4. The combination with the two shafts to be driven with a definite relative speed, of a box turning with the first shaft, gears in said box, gear-shafts, a third shaft, a pinion thereon engaging said gears, and two frames, one frame carrying the shafts of said gears and the other frame having a rolling-surface with which the shafts of said gears frictionally engage, one of said frames being secured to said box, a pinion secured to the gear-carrying frame, a circular rack within the box connected with the frame having a rolling-surface so as to turn therewith, gears in said box between and engaging the last-named pinion and the rack, and a third frame connected to the second driven shaft and carrying the last-named gears.

5. The combination with the two shafts to be driven with a definite relative speed, both shafts having a common axis and the second shaft revolving within the hollow first shaft, of a box turning with the first shaft, a third shaft whose axis is common to the axes of the other shafts and which turns within the first shaft, gears in said box between the axes of said shafts and the circumferential wall of the box, gear-shafts, a pinion on the third shaft engaging said gears, and two frames within the box, one frame carrying the shafts of said gears and the other frame being annular and located within the box between the gear-shafts and the box-wall, and its inner face constituting a rolling-surface with which the shafts of said gears frictionally engage, one of said frames being secured to said box, a pinion secured to the gear-carrying frame, a circular rack within the box connected with the annular frame so as to turn therewith, gears in said box between the last-named pinion and the rack and engaging the pinion and the rack, and a third frame connected to the second driven shaft and carrying the last-named gears.

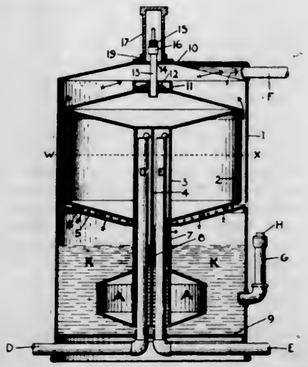
6. The combination with the two shafts to be driven with a definite relative speed, of a box turning with the first shaft, gears in said box, a third shaft, a pinion thereon engaging said gears, and two frames, one frame carrying the gears and the other frame having an annular driving-surface with which said gears engage, a member having a second annular driving-surface turning with the second frame, one of said frames being secured to said box, a pinion secured to the gear-carrying frame, other gears in said box engaging the last-named pinion and said second annular driving-surface, and a third frame connected to the second driven shaft and carrying the last-named gears.

7. The combination with the two shafts to be driven with a definite relative speed, of a box turning with the first shaft, gears in said box, gear-shafts, a third shaft, a pinion thereon engaging said gears, and two frames, one frame carrying the shafts of said gears and the other frame having an annular rolling-surface with which the shafts of said gears frictionally engage, a member having a second annular driving-surface turning with the second frame, one of said frames being secured to said box, a pinion secured to the gear-carrying frame, other gears in said box engaging the last-named pinion and said second annular driving-surface, and a third frame connected to the second driven shaft and carrying the last-named gears.

8. The combination with two shafts to be driven with a definite relative speed, of a third shaft, a pinion on the third shaft, gears engaging said pinion, a frame carrying said gears, a pinion carried by said frame, other gears engaging the second pinion, a second frame carrying an annular driving-surface adapted to drive the first set of gears, one of said frames turning with one of the driven shafts, and a third frame carried by the other driven shaft, one of the last two frames carrying the second set of gears and the other turning with an annular driving-surface adapted to engage the second set of gears.

9. The combination with two shafts to be driven with a definite relative speed, of a box turning with one of the shafts, a set of gear-wheels within the box, annular driving means within the box and with which said gears engage, a central pinion meshing with said gears, a cross-piece by which said gears are held, a pinion secured to the cross-piece, a second set of gear-wheels within the box and meshing with the pinion secured to the cross-piece, annular driving means within the box and which the second set of gears engage, and means connecting the said mechanism within the box and the other driven shaft.

845,104. GAS-MIXING APPARATUS. WILLIAM J. LONERGAN, St. Louis Mo., assignor of three-fourths to Charles J. Schnaus, St. Louis, Mo. Filed Mar. 10, 1906. Serial No. 305,350.



Claim.—1. In an apparatus of the class described, a tank which is partially filled with liquid, gas-supply pipes arranged in said tank, a float telescoping over said supply-pipes, there being discharge-openings formed in said float, means whereby the vertical position of the float is changed, and a discharge-pipe leading from the upper end of the tank; substantially as specified.

2. In an apparatus of the class described, a tank which is partially filled with liquid, gas-inlet pipes arranged in said tank, tubes telescoping on said inlet-pipes in which tubes are formed discharge-openings, a float secured to

said tubes, means whereby the vertical position of the tubes and float is adjusted, and an outlet-pipe leading from the upper end of said tank; substantially as specified.

3. In an apparatus of the class described, a tank which is partially filled with liquid, gas-inlet pipes arranged in said tank, a tube telescoping over each one of the gas-inlet pipes, there being a series of slots formed in each tube in approximate horizontal alinement with the surface of the liquid in the tank, a float carried by the lower ends of the tubes which is submerged in the liquid, a float carried by the upper ends of the tubes, weights removably positioned on top of the upper end of the float, and an outlet-pipe leading from the upper end of the tank; substantially as specified.

4. In an apparatus of the class described, a tank which is partially filled with liquid, gas-inlet pipes arranged in said tank, a pair of tubes arranged to telescope on the gas-inlet pipes in which tubes are formed discharge-openings, and means whereby the vertical positions of the tubes are changed corresponding to the specific gravity of the gas or vapor discharging from the openings in the telescoping tubes; substantially as specified.

5. In an apparatus of the class described, a tank which is partially filled with liquid, gas-supply pipes arranged in said tank, a tube arranged to telescope on the gas-supply pipes, a second tube arranged within the first-mentioned tube and telescoping on one of the gas-supply pipes, and there being discharge-openings formed in the telescoping tubes; substantially as specified.

6. In an apparatus of the class described, a tank which is partially filled with liquid, gas-supply pipes arranged in said tank, tubes telescoping over said supply-pipes, there being discharge-openings formed in said tubes, and means whereby the body of water within the tank is utilized to vary the passage of gas through the discharge-openings; substantially as specified.

7. In an apparatus of the class described, a tank which is partially filled with liquid, a gas-supply pipe arranged in said tank, a tube telescoping on said supply-pipe, in which tube is formed a series of discharge-openings which are in approximate horizontal alinement with the surface of the liquid, and means whereby the liquid is utilized for varying the passage of gas through the discharge-openings; substantially as specified.

8. In an apparatus of the class described, a tank containing a liquid-reservoir, a gas-supply pipe entering said tank, a submerged float, a float in the upper portion of the tank, and a slotted tube connecting the floats and telescoping the gas-supply pipe; substantially as specified.

9. In an apparatus of the class described, a tank containing a liquid-reservoir, a gas-supply pipe entering said tank, a submerged float, a float in the upper portion of the tank, a slotted tube connecting the floats and telescoping the gas-supply pipe, and means whereby the elevation of the floats is changed; substantially as specified.

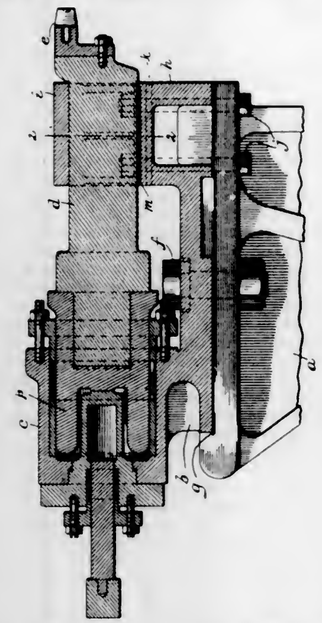
10. In an apparatus of the class described, a tank containing a liquid-reservoir, a gas-supply pipe entering said tank, a submerged float, a float in the upper portion of the tank, a slotted tube connecting the floats and telescoping the gas-supply pipe, and a suitably-located gas-outlet pipe leading from the tank; substantially as specified.

845,105. RIVETING-MACHINE. HENRIK V. LOSS, Philadelphia, Pa. Filed Dec. 1, 1905. Serial No. 289,819.

Claim.—1. In a riveting-machine, in combination, a stake-frame, a piston-carrying cylinder, a piston, a cylindrical plunger secured to and concentric with said piston, and a cylindrical guide for said plunger, said cylinder and a guide forming together a separate unit adapted to be bolted to said stake-frame.

2. In a riveting-machine, in combination, a stake-frame, a substantially U-shaped piece in one leg of which is formed a cylinder for the driving-piston and in the other leg of which is formed a cylindrical guide for the plunger, said cylinder and guide being upon the same longitudinal axis and said U-shaped piece being adapted to be bolted to said stake.

3. The combination in a riveting-machine of a substantially U-shaped frame in one end of which is formed a cylinder and the other end of which carries the under part of a cylindrical plunger-guide, a piston carried by said cylinder, a cylindrical plunger carried in axial alinement by said piston, said plunger passing over said guide, and a cap secured to said guide under which the upper part of said plunger passes.

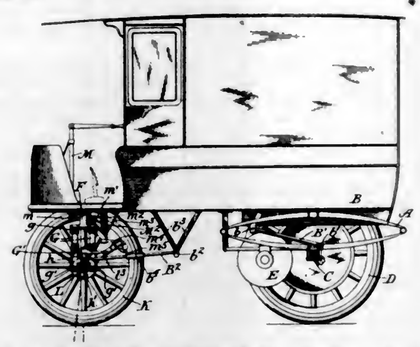


4. The combination in a riveting-machine, of a substantially U-shaped frame in one leg of which is formed a cylinder and the other leg of which forms part of a plunger-guide, a cap adapted to be bolted to said guide-leg to complete the plunger-guide, a piston working in said cylinder, a plunger working in said guide, and means for compensating the wear between said cap and plunger without dismantling said plunger-guide and cap.

5. The combination in a riveting-machine, of a substantially U-shaped frame in one leg of which is formed a cylinder and the other leg of which forms part of a cylindrical plunger-guide, a cap adapted to be bolted to said guide-leg to complete the plunger-guide, a piston working in said cylinder, a plunger of circular cross-section, in axial alinement with said piston, working in said guide, and means whereby the wear between said cap and plunger may be compensated without dismantling said plunger-guide and cap.

845,106. MOTOR ROAD-VEHICLE. HIRAM P. MAXIM, Hartford, Conn., assignor, by mesne assignments, to Electric Vehicle Company, New York, N. Y., and Jersey City, N. J., a Corporation of New Jersey. Filed May 26, 1899. Serial No. 718,363.

Claim.—1. An interchangeable running-gear for motor-vehicles consisting of two distinct parts, one part embodying a transverse axle, independent steering-wheels, a spring connecting the axle with the body of the vehicle to support the body, rigid brackets adapted to be secured to the body and extended downward toward the plane of the axle, and jack-bolts connecting the axle with said brackets to permit relative vertical movement of the axle and the body and to prevent relative horizontal movement of the axle and the body, the other part of the running-gear embodying a wheel system, a spring system connecting the wheel system with the body of the vehicle and driving mechanism, substantially as shown and described.



2. An interchangeable running-gear for motor-vehicles consisting of two distinct parts, one of said parts including the steering-wheels and connected independently to the body of the vehicle, the other part comprising an axle, a spring system forming the connection between the axle and the body of the vehicle, a driving mechanism, supported wholly on said part and jack-bolts connecting the axle with the body of the vehicle to permit relative vertical movement of the axle and the body and to prevent relative horizontal movement of the axle and the body.

3. A two-wheeled truck for a motor road-vehicle comprising an axle, wheels supported thereby, brackets adapted to be secured to the body of the vehicle, one at each side thereof, springs secured to said brackets and to said axle substantially in the plane of the wheel centers, and jack-bolts connected to said axle and to the body to permit relative vertical movement of the axle and body and to prevent relative horizontal movement of the axle and body, substantially as shown and described.

4. A two-wheeled truck for a motor road-vehicle comprising an axle, wheels supported thereby, brackets adapted to be secured to the body of the vehicle, one at each side thereof, springs secured to said brackets and to said axle, substantially in the plane of the wheel centers, hangers depending from the vehicle-body, one at each side thereof, and jack-bolts to connect the axle with the body and permit relative vertical movement of the axle and body while preventing relative horizontal movement of the axle and the body, substantially as shown and described.

5. A two-wheeled steering-truck for motor road-vehicles comprising a main axle, a spring system to connect the axle with the body, supplementary axles swiveled upon the ends of said main axle to receive the steering-wheels, jack-bolts to connect the main axle with the body, a steering-post supported on the body and universally-jointed connections between the steering-post and said supplementary axles and permit relative vertical movement of the axle and body while preventing relative horizontal movement of the axle and body, substantially as shown and described.

6. In a motor road-vehicle, the combination with a main axle and means to connect the same to the body of the vehicle, of a supplementary axle swiveled on the main axle at each end thereof to support the steering-wheels, the swiveling axis of said supplementary axle prolonged striking the ground in front of the center of contact of the wheel and being inclined outwardly, substantially as shown and described.

7. In a motor road-vehicle, the combination with a main axle and means to connect the same to the body of the vehicle, of a supplementary axle swiveled on the main axle at each end thereof to support the steering-wheels, the swiveling axis of said supplementary axle being inclined forwardly so that prolonged it will strike the ground in front of the center of contact of the wheel and being inclined outwardly so that prolonged it will strike the ground near the line of contact of the wheel, substantially as shown and described.

8. In a motor road-vehicle, the combination with the running-gear frame and a fork or yoke carried thereby, of a three-armed supplementary axle, two of said arms having bearings in the members of said fork or yoke and the third arm being adapted to receive a vehicle-wheel and having its axis obliquely disposed with respect to the axis of the two arms first mentioned, the axis of said bearings being inclined forwardly so that prolonged it will strike the ground in front of the center of contact of the wheel, substantially as shown and described.

9. In a motor road-vehicle, the combination with an axle having a fork or yoke at each end and means to connect the axle to the body of the vehicle, of a three-armed supplementary axle, two of said arms having bearings in the members of said fork or yoke and the third arm being adapted to receive a vehicle-wheel and having its axis obliquely disposed with respect to the axis of the two arms first mentioned, the axis of said bearings being inclined forwardly so that prolonged it will strike the ground in front of the center of contact of the wheel, substantially as shown and described.

10. In a motor road-vehicle, the combination with an axle having a fork or yoke at each end and bearings carried by the arms or fork of said yoke with their axis inclined from the vertical, and means to connect the axle with the body of the vehicle, of a three-armed supplementary axle, two of said arms being supported in said bearings and the third arm being adapted to receive a vehicle-wheel and having its axis obliquely disposed with respect to the axis of the two arms first mentioned, the axis of said bearings being inclined forwardly so that prolonged it will strike the ground in front of the center of contact of the wheel, substantially as shown and described.

11. In a motor road-vehicle, the combination with an axle having a fork or yoke at each end, a cone-bearing carried by the lower arm of said fork or yoke, a ball-thrust bearing carried by the upper arm of said fork or yoke, the axis of said bearings being inclined from the vertical, and means to connect the axle with the body of the vehicle, of a three-armed supplementary axle, two of said arms being supported in said bearings and the third arm being adapted to receive a vehicle-wheel, substantially as shown and described.

12. In a motor road-vehicle, the combination of an axle, independent steering-wheels mounted on said axle, a double set of springs connected to the body of the vehicle and to the axle and straddling the axle, one set in front of the axle and the other set behind the same, and links connecting the ends of each set of springs to said axle substantially in the horizontal plane of the axis of the steering-wheels, whereby the axle is supported against movement in a horizontal plane and is permitted to move in a vertical plane, substantially as shown and described.

13. In a motor road-vehicle, the combination of an axle, independent steering-wheels mounted on said axle, a double set of upper and lower springs, the lower springs straddling the axle, brackets secured to the body of the vehicle and having the upper springs connected thereto, and links connecting the ends of said springs to said axle substantially in the horizontal plane of the axis of the steering-wheels, substantially as shown and described.

14. An axle for a motor road-vehicle having integral forked ends, the members of each fork being formed with bearings the common axis of which is inclined from the vertical in the normal position of the axle, both with respect to the length of the axle outwardly and transversely thereto forwardly.

15. A journal for a vehicle-wheel, having a transverse supporting-pivot at one end so inclined that its axis if prolonged would intersect the center plane of the wheel at or near the ground line, and forwardly of the perpendicular or contact-point of the wheel.

16. In a motor-vehicle, the combination with an axle having a fork or yoke at each end and means to connect

the axle to the body of the vehicle, of a stub-axle having a spindle, a supplemental bearing-piece in the lower member of the fork for engagement with the lower end of said spindle, a relatively large supplemental bearing-piece in the upper end of said fork, said last-named bearing-piece coöperating to form an antifriction-bearing between said spindle-top and fork member, and a detachable steering-arm securely fastened against rotation to said spindle.

17. In a motor road-vehicle, the combination with an axle having a fork or yoke at each end and means to connect the axle to the body of the vehicle, of a stub-axle having a spindle, a bearing having one end of said spindle in one member of the fork, an annulus threaded adjustably in the other member of the fork, a lock-nut to secure the coöperating to form an antifriction-bearing between said same in adjusted position, said annulus coöperating with an annulus on the spindle to form a ball-race, and balls in said race, substantially as shown and described.

18. A two-wheeled steering-truck for motor road-vehicles comprising a main axle, a spring system to connect the axle with the body, supplementary axles swiveled upon the ends of said main axle to receive the steering-wheels, jack-bolts to connect the main axle with the body and permit relative vertical movement of the axle and body while preventing relative horizontal movement of the axle and body, a steering-post supported on the body and universally-jointed connections between the steering-post and the supplementary axles, substantially as shown and described.

19. In a motor road-vehicle, the combination with a main axle, means for yieldingly connecting the same to the body of the vehicle and connections between the axle and body whereby displacement of said axle in a horizontal plane is prevented, of a supplementary axle swiveled on the main axle at each end thereof to support the steering-wheels, the swiveling axis of each of the supplementary axles prolonged striking the ground in front of the center of contact of their respective wheels, substantially as shown and described.

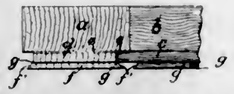
20. An interchangeable running-gear for motor road-vehicles, consisting of two distinct parts, one part embodying a transverse axle, individually-pivoted steering-wheels at either end thereof, means connecting the axle with the body to resist relative longitudinal movement, and springs interposed between the axle and the body to support the body thereon and permit limited vertical movement of the body with respect to the axles, the other part of the running-gear embodying a transverse axle with driving-wheels on the ends thereof, a driving mechanism forming an essential part thereof, means connecting the axle with the body of the vehicle to permit relative movement of the body and prevent relative horizontal movement, and springs interposed in the connections between the axle and the body to permit relative vertical movement of the axle with respect to the body.

21. An interchangeable running-gear for motor road-vehicles, consisting of two distinct parts, one part embodying a transverse axle, individually-pivoted steering-wheels at either end thereof, means connecting the axle with the body to resist relative longitudinal movement, and springs interposed between the axle and the body to support the body thereon and permit limited vertical movement of the body with respect to the axles, and means to prevent turning of the axle, the other part of the running-gear embodying a transverse axle with driving-wheels on the ends thereof, a driving mechanism forming an essential part thereof, means connecting the axle with the body of the vehicle to permit relative movement of the body and prevent relative horizontal movement, and springs interposed in the connections between the axle and the body to permit relative vertical movement of the axle with respect to the body, whereby the driving mechanism is included as a substantial portion of the second element and is oodily removable with it from the vehicle and associated with it to constitute a complete driving unit.

22. A two-wheeled steering-truck for motor road-vehicles, comprising a main axle, a spring system for connecting the axle with the body, supplementary axles swiveled on the ends of the said main axle to receive the steering-wheels, jack-bolts to connect the main axle with the body and permit relative vertical movement of the axle and body while preventing relative horizontal movement of the axle and body, a steering-post supported on the body, means connecting said axles whereby they are operated in unison, and a universally-jointed connection between said means and steering-post, substantially as described.

23. An interchangeable running-gear for motor road-vehicles consisting of two distinct parts, and a frame to which the two parts are secured and held in the proper relative position, one part of the running-gear embodying a non-pivoted transverse axle, steering-wheels, spring connections above the non-pivoted transverse axle and steering mechanism projecting above the frame, and the other part of the running-gear embodying the driving-wheels, the driving-wheel axle, spring connections above the driving-wheel axle, and the motor.

845,107. WOOD-BLOCK FOR FLOORING. WILLIAM C. MORRILL, New York, N. Y. Filed July 16, 1906. Serial No. 326,324.



Claim.—A block with a continuous lower bevel-edged underlayer extending back of the upper side faces and ends of the block, and overlaid by the adjoining single-angled rabbets, and end tenons the latter having their upper faces beveled to engage with the horizontal walls of the rabbets of correspondingly-shaped blocks, when laid as a flooring.

845,108. NECKTIE. BAXTER MORTON, New York, N. Y. Filed May 5, 1906. Serial No. 315,324.



Claim.—1. A necktie comprising a neckband portion and tying ends and having at the juncture of the neckband portion with one of the tying ends a loop for the passage of the other tying end, said loop having means for engagement with the front collar-button whereby the loop will be secured thereto.

2. A necktie comprising a neckband portion and tying ends and having at the juncture of one tying end with the neckband portion a loop extending longitudinally of the tie and lying normally flat against the tie, said loop being of suitable dimensions to form a passage for the other tying end and having a buttonhole for engagement with the front collar-button.

3. A necktie comprising a neckband portion and tying ends and having a loop at the juncture of the neckband portion with one of the tying ends, said loop being of suitable dimensions to permit the passage of the other tying end and having a buttonhole near its forward end for engagement with the front collar-button.

4. A necktie comprising a neckband portion and tying ends and being formed in two plies, said plies being separated a short distance at the juncture of one of the tying ends with the neckband to form a loop for the passage of the other tying end and having buttonholes formed in said plies adjacent to the forward end of said passage.

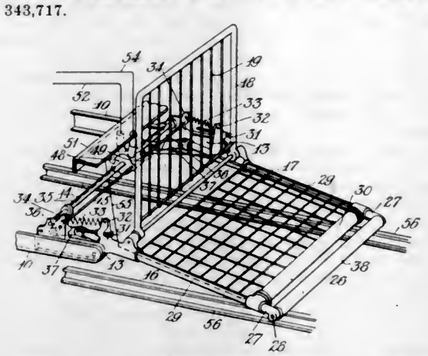
845,109. LAST-THIMBLE. EPHRAIM S. MORTON, Brockton, Mass. Filed Jan. 15, 1906. Serial No. 296,019.

Claim.—A thimble or bushing for lasts composed of a blank bent into a tube, one end of the tube being turned inwardly to form a stiffening-flange and spindle-seat, the other end being bent to form an outwardly-projecting

stiffening-flange, which is interrupted by a notch or recess adapted to receive a portion of the last.



845,110. CAR-FENDER. WILLIAM T. MCLAUGHLIN, Jamaica Plain, Mass. Filed Nov. 16, 1906. Serial No. 343,717.



Claim.—1. The combination with a car of a fender mounted thereon and movable relatively thereto, an electromagnet mounted on said fender, an electric switch in circuit with said electromagnet, and a source of electrical current in circuit with said electromagnet and said switch.

2. The combination with a car of a fender comprising in its construction a member movable relatively to said car, an electromagnet mounted on said member, a second member movable relatively to said first member, an electric switch in circuit with said electromagnet, and a source of electrical current in circuit with said electromagnet and switch, said second member being operatively connected to said switch.

3. The combination with a car of a fender comprising a member pivotally mounted thereon with its axis extending transversely thereof, a second member slidably mounted on said pivoted member, an electromagnet mounted on said pivoted member, an electric switch in circuit with said electromagnet, said switch being operatively connected to said second member, a source of electrical current in circuit with said switch and said electromagnet, and means to hold said pivoted member normally raised.

4. The combination with a car of a fender comprising a member pivotally mounted thereon with its axis extending transversely thereof, a second member slidably mounted on said pivoted member, an electromagnet mounted on said pivoted member, an electric switch in circuit with said electromagnet, said switch being operatively connected to said second member, a source of electrical current in circuit with said switch and said electromagnet, means to hold said pivoted member normally raised, and a stop adapted to limit the upward movement of said pivoted member.

5. The combination with a car of a fender comprising a member pivotally mounted thereon with its axis extending transversely thereof, a second member slidably mounted on said pivoted member, an electromagnet mounted on said pivoted member, an electric switch in circuit with said electromagnet, said switch being operatively connected to said second member, a source of electrical current in circuit with said switch and said electromagnet, means to hold said pivoted member normally raised, and an adjustable stop adapted to limit the upward movement of said pivoted member.

6. The combination with a car of a fender comprising in its construction a horizontally-pivoted member arranged with its axis extending transversely of said car, means to normally hold said member in a raised position, an electromagnet mounted on said member, a source of electrical current in circuit with said electromagnet, and a switch in circuit with said electromagnet and said source of electrical current.

7. The combination with a car of a fender comprising in its construction a horizontally-pivoted member arranged with its axis extending transversely of said car, means to normally hold said member in a raised position, a stop adapted to limit the upward movement of said member, an electromagnet mounted on said member, a source of electrical current in circuit with said electromagnet, and a switch in circuit with said electromagnet and said source of electrical current.

8. The combination with a car of a fender comprising in its construction two guides mounted on said car, two blocks slidably arranged in said guides, respectively, a member pivotally mounted on said blocks, an electromagnet mounted on said member, a source of electrical current in circuit with said electromagnet, and a switch in circuit with said electromagnet and said source of electrical current.

9. The combination with a car of a fender comprising a pivoted member slidably arranged with relation to said car, said member being provided with a suitable netting, a second member pivotally mounted on said first member with its axis extending transversely of said car, said second member being provided with a suitable netting, a latch pivotally mounted on said car, said latch adapted to hold said second member in a substantially vertical position, and a spring adapted to normally hold said latch in engagement with said second member when said pivoted member is rocked on its pivot.

10. A car-fender comprising in its construction two guides, two blocks slidably mounted in said guides, respectively, a member pivotally mounted on said blocks, a rock-shaft journaled on said blocks, a slidable member mounted on said pivoted member, a pair of arms fast to said rock-shaft, a pair of links operatively connecting said arms to said slidable member, an electromagnet mounted on said pivoted member, an electric switch adapted to complete a circuit to said electromagnet, said switch adapted to be actuated by said rock-shaft, and means for holding said pivoted member normally raised.

11. A car-fender comprising in its construction two guides, two blocks slidably mounted in said guides, respectively, a member pivotally mounted on said blocks, a rock-shaft journaled on said blocks, a member slidably mounted on said pivoted member, a pair of arms fast to said rock-shaft, a pair of links operatively connecting said arms to said slidable member, an electromagnet mounted on said pivoted member, a casing supported on said blocks, two terminals mounted in said casing and insulated therefrom, a commutator fast to said rock-shaft, a segmental contact-plate mounted on said commutator adapted to contact with said terminals, and means for holding said pivoted member normally raised.

12. A car-fender comprising in its construction two guides, two blocks slidably mounted in said guides, respectively, a member pivotally mounted on said blocks, a rock-shaft journaled on said blocks, a member slidably mounted on said pivoted member, a pair of arms fast to said rock-shaft, a pair of links operatively connecting said arms to said slidable member, an electromagnet mounted on said pivoted member, a casing supported on said blocks, two terminals mounted in said casing and insulated therefrom, a commutator fast to said rock-shaft, a segmental contact-plate mounted on said commutator adapted to contact with said terminals, means for holding said pivoted member normally raised, and a stop adapted to limit the upward movement of said pivoted member.

13. The combination with a car of a fender-body movable relatively thereto, electromagnetic means for actuating said fender-body, an electric switch, a source of electrical current in circuit with said electromagnetic means and said switch, and a member movable toward and away from said fender-body, said member adapted to actuate said switch.

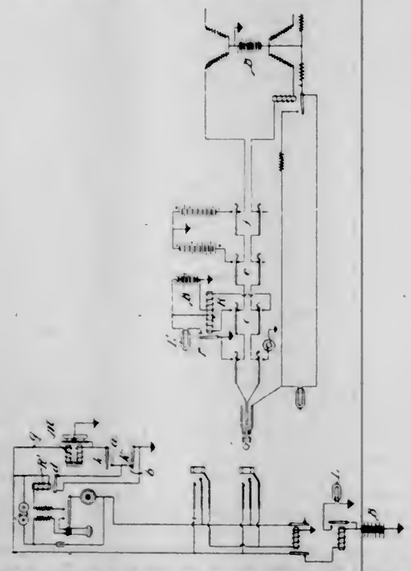
14. A car-fender comprising in its construction two guides, two blocks slidably mounted in said guides, re

spectively, a member pivotally mounted on said blocks, a rock-shaft journaled on said blocks, a slidable member mounted on said pivoted member, a pair of arms fast to said rock-shaft, a pair of links operatively connecting said arms to said slidable member, electromagnetic means for actuating said pivoted member, and an electric switch adapted to complete a circuit to said electromagnetic means, said switch being adapted to be actuated by said rock-shaft.

15. A car-fender comprising in its construction two guides, two blocks slidably mounted in said guides, respectively, a member pivotally mounted on said blocks, a rock-shaft journaled on said blocks, a slidable member mounted on said pivoted member, a pair of arms fast to said rock-shaft, a pair of links operatively connecting said arms to said slidable member, and means for holding said pivoted member normally raised.

16. A car-fender comprising in its construction two guides, two blocks slidably mounted in said guides, respectively, a member pivoted on said blocks, a rock-shaft journaled on said blocks, a member slidably mounted on said pivoted member, a pair of arms fast to said rock-shaft, a pair of links operatively connecting said arms to said slidable member, an electromagnet adapted to actuate said pivoted member, a casing supported on said blocks, two terminals mounted in said casing and insulated therefrom, a commutator fast to said rock-shaft located within said casing, a segmental contact-plate mounted on said commutator adapted to contact with said terminals, and means for holding said pivoted member normally raised.

845,111. CIRCUIT FOR COIN-COLLECTORS. JAMES L. MCQUARRIE, Chicago, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 13, 1906. Serial No. 300,930.



Claim.—1. In a telephone system, the combination with a telephone-line, including a source of current and a subscriber's set, of a branch circuit thereof including an electromagnet, coin-operated mechanism controlled by said magnet, and a relay connected with the subscriber's set for controlling the continuity of said branch circuit.

2. The combination with a telephone-line including a source of current and a subscriber's set, of a coin-receiving apparatus, a branch circuit of the telephone-line having switches actuated by coins deposited in the coin-receiving apparatus, an electromagnet in said branch circuit for controlling the disposal of said coins, and a relay connected with the subscriber's set adapted to control the continuity of said branch circuit.

3. The combination with a telephone-line including a source of current and a subscriber's set, of a coin-receiving apparatus, a branch circuit of the telephone-line having a switch adapted to be opened and a switch adapted to be closed by coins deposited in said coin-receiving apparatus, a shunt about said latter switch, and a relay in series with the subscriber's set adapted to control said shunt.

4. The combination with a telephone-line extending from a subscriber's station to a central office, of a branch circuit at the subscriber's station having coin-controlled contacts, a differentially-wound relay for testing the continuity of said branch circuit, a signal at the central office controlled by said relay, and means for connecting the winding of the relay with the terminals of said telephone-line.

5. The combination with a telephone-line extending from a subscriber's station to a central office, of a grounded branch circuit having coin-controlled contacts, a differentially-wound test-relay, a circuit therefor including a battery, one pole of which is grounded, the windings of said relay being on opposite sides of the battery, a signal at the central office controlled by said relay, and means for connecting the circuit of said relay with the terminals of said telephone-line.

6. The combination with a telephone-line extending from a subscriber's station to a central office, of a coin-receiving apparatus at the subscriber's station, a branch circuit of the telephone-line having a switch adapted to be opened and a switch adapted to be closed by coins deposited in said coin-receiving apparatus, a differentially-wound relay for testing the continuity of said branch circuit, a signal at the central office controlled by said relay, and means for connecting the windings of the relay with the terminals of said telephone-line.

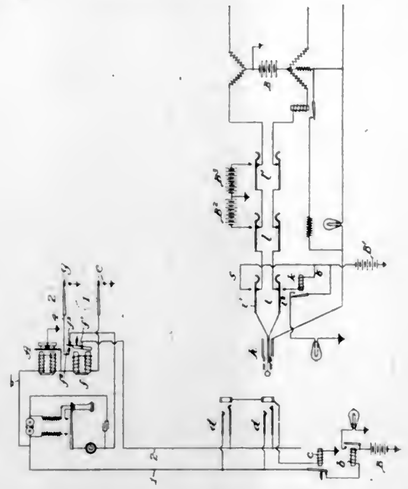
7. In a telephone system, a telephone-line extending from a subscriber's station to a central office, a coin-receiving apparatus at the subscriber's station, a branch circuit of the telephone-line having contacts controlled by coins deposited in said coin-receiving apparatus, an electromagnet in said branch circuit for controlling the disposal of said coins, a relay connected with the subscriber's set and adapted to control the continuity of said branch circuit when coins have been deposited to actuate said contacts, a differentially-wound relay for testing for said coins, a signal at the central office controlled by said relay, and means for connecting the windings of the test-relay with the terminals of the telephone-line.

8. The combination with a telephone-line extending from a subscriber's station to a central office, of a coin-receiving apparatus at the subscriber's station, a grounded branch circuit of the telephone-line having a switch adapted to be opened and a switch adapted to be closed by coins deposited in said coin-receiving apparatus, a differentially-wound test-relay, a circuit therefor including a battery, one pole of which is grounded, the windings of said relay being on opposite sides of the battery, a signal at the central office controlled by said relay, and means for connecting the circuit of said relay with the terminals of said telephone-line.

845,112. CIRCUIT FOR COIN-COLLECTORS. JAMES L. MCQUARRIE, Chicago, Ill., and HENRY M. CRANE, New York, N. Y., assignors to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 13, 1906. Serial No. 300,931.

Claim.—1. The combination with a line-circuit, of a branch from one limb of said circuit to ground, coin-actuated contacts controlling said branch, a coin-distributing magnet in said branch, a second branch from the other limb of said circuit to ground, contacts controlling said branch, a test-signal in the circuit of said second branch, means for applying test-current from a grounded source in the circuit of said second branch to operate said signal, the operation of said signal being dependent upon the closure of said contacts of the second branch, and means associated with the circuit for operating said coin-distributing magnet.

2. The combination with a circuit, of a relay in a branch of said circuit, a second branch of said circuit, toll-operated mechanism controlling at one point the continuity of said second branch, said relay controlling at another point the continuity of said branch, a source of current adapted to be connected with said circuit, and a signal associated with said circuit and responsive upon the closure of said second branch to current from said source.



3. The combination with a line-circuit, of a relay in a branch from said circuit to a return-conductor, a second branch from said circuit to said return-conductor, a contact actuated by said relay and a coin-actuated contact jointly controlling said second branch, a source of current connected to said return-conductor and adapted to be applied to said circuit to operate said relay, and a signal device associated with said circuit and responsive under the control of said contacts to current from said source.

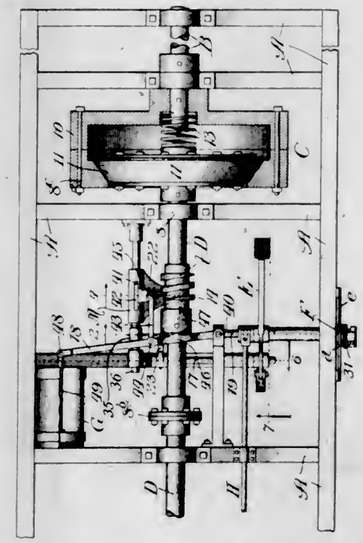
4. The combination with a line-circuit, of a relay in a coin-controlled branch from one side of the circuit to a return-conductor, a second branch from the other side of said circuit to said return-conductor controlled jointly by said relay and contacts closed by a second coin, a test-signal in the circuit of said second branch, and means for applying current from a source connected to said return-conductor to both sides of the circuit to cause said signal to indicate the presence of said second coin.

5. The combination with the line-circuit, of a relay in a coin-controlled branch from one side of the circuit to ground, a polarized coin-distributing magnet in said branch, a second branch from the other side of said circuit to earth controlled jointly by said relay and contacts closed by a second coin, an electromagnetic signal associated with the circuit of said second branch, means for applying current to both sides of the circuit to operate said relay and cause said signal to indicate the presence of said second coin, and means for applying current to said circuit to operate said polarized coin-distributing magnet to dispose of both said coins.

6. The combination with a telephone-line extending in two limbs from a substation to a central office, of a source of current and a line-signal connected with one limb of the line at the central office, the other limb being open, a coin-controlled ground branch from said first-mentioned limb of the line at the substation controlling said line-signal, a relay in said branch, a ground branch from the other or open limb of said line controlled jointly by said relay and contacts operated by a second coin, link conductors at the central office, a connection-switch for uniting said link conductors with the line, a test-key associated with said link conductors for applying current from a grounded source to both limbs of the line, and an electromagnetic test-signal adapted to be connected by said key between said battery and the link conductor connected with the other or open limb of said line; whereby said signal indicates the presence of said second coin.

7. The combination with a telephone-line extending in two limbs from a substation to a central office, a source of current and a line-signal connected with one limb of the line at the central office, the other limb being open, a ground branch from said first-mentioned limb of the line at the substation, coin-actuated contacts controlling the continuity of said branch and the display of said line-signal, a polarized coin-distributing electromagnet in said branch unresponsive to said source of current, a relay in said branch, a ground branch from the other or open limb of said line, contacts operated by a second coin and contacts controlled by said relay jointly controlling said second branch, link conductors at the central office, a connection-switch for uniting said link conductors with the line, a test-key associated with said link conductors for applying current from a grounded source to both limbs of the line to operate said relay, said coin-distributing magnet being unresponsive to said current, an electromagnetic test-signal adapted to be connected by said test-key between said source of current and the link conductor connected with the open limb of said line to indicate the presence of a second coin, and sources of current adapted to be associated with the link conductors to operate said polarized coin-distributing magnet to dispose of said coins.

845,113. AUTOMATIC SAFETY DEVICE. CHARLES A. NOREN, Chicago, Ill. Filed Apr. 17, 1906. Serial No. 312,281.



Claim.—1. In combination with a clutch adapted alternately to lock and rotatably connect and to unlock and disconnect independent shafts, and means for locking said clutch, a shifting-rod and means adapted to automatically and simultaneously unlock said clutch and operate said rod.

2. In combination with independent shafts, a clutch adapted alternately to lock and rotatably connect and to unlock and disconnect said shafts, and means for locking said clutch, a cross-lever and connections adapted to unlock said clutch, means for operating said cross-lever and

connections, a shifting member, means adapted to operate the same alternately independently and simultaneously with said cross-lever and connections and a dash-pot and piston connected to said cross-lever adapted to yieldingly resist the locking of said clutch.

3. In combination with two rotating independent shafts in axial alinement a clutch member on each shaft adapted alternately to lock and rotatably connect and unlock and disconnect said shafts, one of said shafts being adapted to slide longitudinally in its bearings to lock and unlock said members, a spring adapted to maintain said members in locked position, a collar on said slidable shaft, a lever adapted to press against said collar to thrust said shaft longitudinally in its bearings, retract said spring and unlock said clutch, a shifting member, and means adapted to operate said shifting member and lever simultaneously.

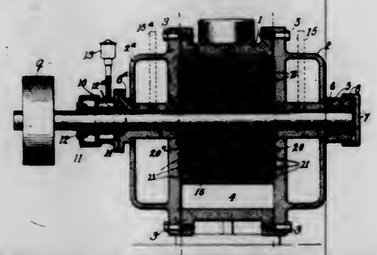
4. In combination with a clutch C, longitudinally-slidable drive-shaft D, a stationary shaft B, a cross-lever provided intermediate of its ends with a loop embracing said drive-shaft, a collar on said drive-shaft adapted to contact with said lever, said lever being fulcrumed and supported at one end, a shifting member having operative connections with said lever, and means for shifting said member and simultaneously thrusting said lever against said collar to unlock said clutch, substantially as described.

5. In combination with the shifting member H, the clutch C, longitudinally-slidable drive-shaft D, a stationary shaft B, a lever disposed at an angle to the axis of said drive-shaft, a collar on said drive-shaft adapted to contact with said lever, said lever being fulcrumed and supported at one end, and means for simultaneously shifting said member and thrusting said lever against said collar to unlock said clutch, for the purposes described.

6. In combination with a lever and shifting-rod, a longitudinally-slidable driving-shaft adapted alternately to lock and unlock a clutch, a clutch adapted alternately to connect and disconnect said drive-shaft to a power-shaft, means for locking said clutch, means for unlocking said clutch independently of said lever, and means for automatically unlocking said clutch whenever said lever and connections are changed or shifted.

7. In combination with a lever and shifting-rod, a longitudinally-slidable driving-shaft adapted alternately to lock and unlock a clutch, a clutch adapted alternately to connect and disconnect said drive-shaft to a power-shaft, means for locking said clutch, means for unlocking said clutch independently of said lever, means for automatically unlocking said clutch whenever said lever and rod are shifted, and means for cushioning said clutch-locking means.

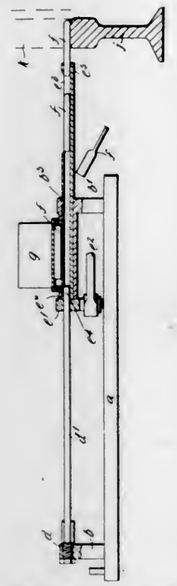
845,114. ROTARY COMPRESSOR. CASSIUS C. PALMER, New York, N. Y. Filed Mar. 11, 1905. Serial No. 249,584.



Claim.—1. In a rotary compressor the combination with a casing having the interior faces of the heads thereof formed with a plurality of grooves, a shaft extending through the casing, a drum mounted upon said shaft, a liquid seal being formed by the grooved heads and the ends of the drum, said drum also having guideways formed therein, radially-sliding blades reciprocating in said guideways, and means for introducing a lubricant to the guideways of the blades.

2. In a rotary compressor the combination with a casing having the interior faces of the heads thereof formed with a plurality of circular grooves, a shaft extending through said casing, a drum mounted upon said shaft, and forming a liquid seal with the grooved heads of the casing adjacent to the bearings of the shaft, said drums having guideways therein, blades reciprocating in said guideways, said drum also being grooved to permit the free circulation of a lubricant in and between said guideways, and means for introducing the lubricant to the grooves in the drum.

845,115. RAILWAY SIGNALING APPARATUS FOR USE IN FOGGY OR OTHER WEATHER. JOHN PARKER, Honor Oak Park, London, England. Filed Sept. 10, 1906. Serial No. 334,031.



Claim.—1. In a railway signaling apparatus, a supporting-stand having a plurality of guide-bars, a magazine for cartridges supported upon the stand, and having a bottom delivery-opening, and a reciprocating tubular carrier supported by said guide-bars and having a top receiving-opening and an end holding-opening for the cartridges.

2. In a railway signaling apparatus, the combination with the magazine having a bottom delivery-opening for cartridges, of a horizontally-arranged bar, and a carrier-tube sliding on said bar and having a top receiving-opening and an end holding-opening for the cartridges, the movement of the carrier upon the bar in one direction providing for the ejection of a spent cartridge.

3. In a railway signaling apparatus, a stand having oppositely-arranged guide-bars and a centrally-arranged ejector-bar, a magazine detachably mounted upon the guide-bar at one end of the stand, and a reciprocal carrier-tube having a sliding engagement with the guide-rods and working directly over the ejector-bar, said carrier-tube having a top receiving-opening for the cartridges and an end holding-opening.

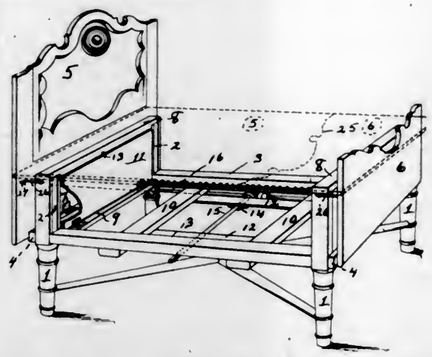
845,116. DETONATOR FOR RAILWAY SIGNALING PURPOSES. JOHN PARKER, Honor Oak Park, London, England. Filed Sept. 10, 1906. Serial No. 334,032.

Claim.—A detonator or cartridge for use in railway signaling apparatus characterized by a pencil-shaped case, a sealed glass tube located therein at the forward end containing a priming composition, a wooden plug at rear end of said outer case to keep the glass tube in position and means whereby the detonator is rendered air and



water tight substantially as described with reference to the accompanying drawings.

845,117. COMBINATION BED AND TABLE. EDWARD PETERS, Hamilton, Ontario, Canada. Filed Sept. 22, 1906. Serial No. 335,795.



Claim.—1. In a combined bed and table, vertically-slotted supporting guide-posts, side rails extending therethrough and therebeyond at each end, end rails, head and foot boards hinged to said end rails and means for elevating said side and end rails.

2. In a combined bed and table, vertically-slotted supporting guide-posts, side rails extending therethrough and therebeyond at each end, end rails connected to said side rails, head and foot boards hinged to said end rails and means for locking said head and foot boards in vertical position.

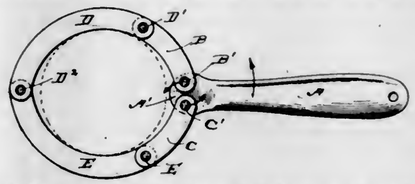
3. In a combined bed and table, slotted supporting guide-posts, side rails extending through said slots at each end, end rails, head and foot boards hinged to said end rails, mattress-guards carried with said rails and means for simultaneously elevating said rails, head and foot boards and mattress-stops.

4. In a combined bed and table, vertically-slotted supporting-posts, vertically-movable side and end rails guided by said posts and extending therebeyond, means for moving said rails vertically, foldable end members carried by said rails and adapted to serve either as end boards of a bed or as a table-top, and mattress-stops movable vertically with said rails.

5. In a combined bed and table, vertically-slotted supporting-posts, vertically-movable side rails guided by said posts and extending therebeyond, end rails, racks and pinions for moving said rails vertically and a plurality of foldable end members carried by said rails at each end of said rails, some of which are adapted to serve either as end boards of a bed or as a table-top, and some of which are adapted to serve as mattress-stops when in vertical position.

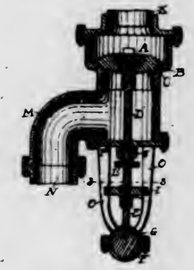
845,118. JAR OPENER AND CLOSER. WILLIAM H. PHEASANT, McClure, Pa., assignor of one-half to Orie A. Crawford, McClure, Pa. Filed Nov. 22, 1904. Serial No. 233,919.

Claim.—A jar opener and closer of the kind described, comprising a handle having a broad flattened rounded end, two flat curved plates pivotally connected to the flat end of the handle, one on each side of the longitudinal center thereof, and in such position that the rounded end of the handle projects somewhat within the curve of the inner edges of the plates, two curved plates of greater length pivotally connected together at one end, their other ends being pivotally connected to the free ends of the first-named plates, the broad surfaces of the said plates and handle lying in approximately the same plane, where-



by a flat ring is formed which is adapted to be clamped about the cap of a jar when the handle is turned in either direction so as to bring the projecting rounded end of said handle into engagement with the cap.

845,119. STEAM THROTTLE-VALVE. TAYLOR A. PITMAN, Tacoma, Wash. Filed Nov. 6, 1906. Serial No. 342,234.



Claim.—1. In a throttle-valve, the combination with the valve and its stem, of an eccentric, a collar encircling the eccentric and connected with the valve-stem, and means for actuating the eccentric to positively open and close the valve, substantially as described.

2. In a throttle-valve, the combination with the valve and its stem, of an eccentric connected with said stem, a slide intermediate of the eccentric and valve-stem, and a guide for said slide, substantially as described.

3. In a throttle-valve, the combination with the valve and its stem, of an eccentric, a slide connected with said stem and pivotally connected with a part of said eccentric, and a guide for said slide, substantially as described.

4. In a throttle-valve, the combination with the valve-chamber, the valve and its stem, of a detachable head-plate to the valve-chamber below the valve, a stuffing-box connected to said head-plate and through which the valve-stem passes, and means connected with the valve-stem to reciprocate the same in seating and unseating the valve, substantially as described.

5. In a throttle-valve, the combination with the valve-chamber, the valve, and the valve-stem, said chamber having a steam-supply inlet on one side of the valve, a steam-outlet on the other side of the valve for the passage of steam to the engine, and a head-plate on the steam-outlet side of the valve through which the valve-stem passes, of an eccentric located outside of said head-plate and connected with the valve-stem to open and close the valve, substantially as described.

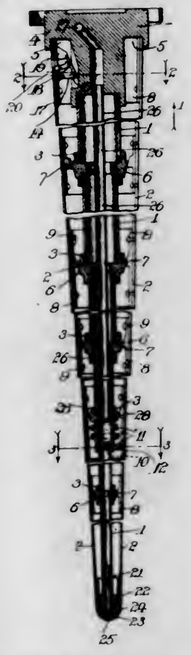
845,120. PILE-CORE. ALFRED A. RAYMOND, Chicago, Ill., assignor to Raymond Concrete Pile Company, Trenton, N. J., a Corporation of New Jersey. Filed Feb. 15, 1904. Serial No. 193,601.

Claim.—1. A pile-core comprising an inner or central section made in parts, and a plurality of outer sections around such inner section; substantially as described.

2. A pile-core comprising an inner or central section

built up from a series of tubular parts connected together, and a plurality of outer sections around such inner section; substantially as described.

3. A pile-core comprising an inner section built up from a series of tubular parts of decreasing diameter from the upper to the lower end, and a plurality of outer sections around such inner section; substantially as described.



4. A pile-core comprising an inner section made in separate parts, couplings connecting said parts, and a plurality of outer sections around such inner section; substantially as described.

5. A pile-core comprising an inner section made in separate parts of decreasing diameter from the upper to the lower end, couplings connecting said parts, and a plurality of outer sections around such inner section; substantially as described.

6. A pile-core comprising an inner hollow section, a tip secured to the lower end thereof and provided with a jet-orifice, a plurality of outer sections around such inner section, and a jet-pipe arranged within such inner section and communicating with the jet-orifice of said tip; substantially as described.

7. A pile-core comprising an inner hollow section, a tip secured to the lower end thereof and provided with a jet-orifice, a plurality of outer sections around such inner section, and a jet-pipe arranged within such inner section and secured thereto intermediate of the length of such inner section, said jet-pipe communicating with the jet-orifice of the tip through the lower end of the inner section itself; substantially as described.

8. A pile-core comprising an inner section, and a plurality of outer sections surrounding such inner section and hinged thereto; substantially as described.

9. A pile-core comprising an inner section having a series of lugs, yokes pivoted to such lugs, and a plurality of outer sections surrounding such inner section and connected with the yokes; substantially as described.

10. A pile-core comprising an inner section having wedge-shaped surfaces arranged at intervals along its length, a plurality of outer sections around the inner section, and arranged substantially edge to edge and wedge-shaped members secured to said outer sections and complementary to said wedge-shaped surfaces on the inner section; substantially as described.

11. A pile-core comprising an inner section having wedge-shaped surfaces, a plurality of outer sections around the inner section, and plates secured to the inner face of said outer sections and provided with wedge-shaped surfaces coöperating with those on the inner section; substantially as described.

12. A pile-core comprising an inner section made in separate parts, couplings connecting said parts and provided with wedge-shaped surfaces, and a plurality of outer sections arranged around such inner section and provided with wedge-shaped surfaces coöperating with those on the inner section; substantially as described.

13. A pile-core comprising an inner section made in separate parts, couplings connecting said parts and provided with wedge-shaped surfaces, a plurality of outer sections around such inner section, and plates secured to the outer sections and provided with wedge-shaped surfaces coöperating with those on the inner section; substantially as described.

14. A pile-core comprising an inner section built up from a series of tubular parts of decreasing diameter from the upper to the lower end, couplings connecting said parts and provided with wedge-shaped surfaces, and a plurality of outer sections arranged around such inner section and having wedge-shaped surfaces coöperating with those on such couplings; substantially as described.

15. A pile-core comprising a removable head, an inner section secured thereto, and a plurality of outer sections arranged around such inner section and substantially edge to edge; substantially as described.

16. A pile-core comprising a removable head, an inner section screwing therein, and a plurality of outer sections arranged around such inner section and substantially edge to edge; substantially as described.

17. A pile-core comprising a removable head, an inner section secured thereto, and a plurality of outer sections detachably secured to such head and having their longitudinal edges substantially abutting; substantially as described.

18. A pile-core comprising a head, an inner section secured thereto, and a plurality of outer sections hinged respectively to said head and to said inner section; substantially as described.

19. An expandible pile-core comprising a head, an inner section secured thereto, a plurality of outer sections around such inner section which is movable relatively to the outer sections, and means for holding said outer sections in expanded condition consisting of pivoted dogs arranged on said head and adapted to engage said outer sections; substantially as described.

20. An expandible pile-core comprising a head, an inner section secured thereto, a plurality of outer sections around such inner section which is movable relatively to the outer sections, and means for holding said outer sections in expanded condition consisting of pivoted dogs arranged on said head and lugs arranged on said outer sections and engaged by such dogs; substantially as described.

21. An expandible pile-core comprising a head, an inner section secured thereto, a plurality of outer sections around such inner section which is movable relatively to the outer sections, and means for holding said outer sections in expanded condition consisting of pivoted dogs arranged on said head, lugs arranged on said outer sections and engaged by such dogs, and pivoted latches for disengaging said dogs; substantially as described.

22. A pile-core comprising an inner section, a plurality of outer sections around such inner section and plates secured to the inner face of such outer sections, said plates and said inner section having coöperating surfaces; substantially as described.

23. A pile-core comprising a plurality of radially-movable sections which are segmental in cross-section, segmental plates secured to said sections, and means for moving said segmental plates to effect the expansion of said radially-movable sections; substantially as described.

24. An expansible pile-core comprising an inner section, a plurality of outer sections around such inner section and coöperating therewith in the expansion of the core, and plates secured to the inner face of such outer sections; substantially as described.

25. An expansible pile-core comprising a plurality of outer sections segmental in cross-section, an inner section within such outer sections and coöperating therewith in the expansion of the core, and segmental plates secured to the inner face of such outer sections; substantially as described.

26. A pile-core comprising a plurality of outer radially-movable sections, an inner section arranged within such outer sections and coöperating therewith in the expansion of the core, and plates secured to the inner face of such outer sections; substantially as described.

27. A pile-core comprising a plurality of outer radially-movable sections, an inner longitudinally-movable section coöperating therewith in the expansion of the core, and plates secured to the inner face of such outer sections; substantially as described.

28. A pile-core comprising a plurality of outer radially-movable sections which are segmental in cross-section, segmental plates secured to the inner faces of such outer sections, said segmental plates being provided with projecting wedge-surfaces, an inner longitudinally-movable section, and a series of enlarged annular portions carried by said inner section, said portions being adapted, in the longitudinal movement of said inner section, to be thrust against the aforesaid wedge-surfaces to cause the outward radial movement of said outer sections.

29. A pile-core comprising a plurality of radially-movable sections, an inner section, and plates secured to the inner face of such outer sections, said inner section and said plates having coöperating bearing-surfaces; substantially as described.

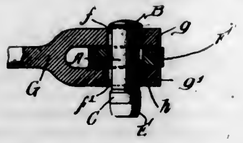
30. A pile-core comprising a plurality of outer radially-movable sections which are segmental in cross-section, an inner longitudinally-movable section, and segmental plates secured to the inner face of such outer sections, said inner section and said plates having bearing-faces coöperating in the expansion of the core; substantially as described.

31. A pile-core comprising a plurality of radially-movable sections, an inner section having outwardly-directed bearing-surfaces, and plates secured to the inner face of the outer sections and having bearing-surfaces coöperating with those of the inner section; substantially as described.

32. A pile-core comprising a plurality of outer radially-movable sections, and a longitudinally-movable conduit arranged within said outer sections, said conduit being adapted, in the longitudinal movement thereof, to cause the outward radial movement of said outer sections.

33. A pile-core comprising a plurality of outer radially-movable sections, a conduit arranged within said outer sections and longitudinally movable relative thereto, the walls of said conduit being provided with means adapted, in the longitudinal movement of said conduit, to effect the outward radial movement of said outer sections.

845,121. CONNECTING-PIN. JAMES R. RENIFF, Chicago, Ill., assignor of one-half to Egbert H. Gold, Chicago, Ill. Filed Aug. 6, 1906. Serial No. 329,415.



Claim.—1. The combination of a pair of members to be connected, one of said members having its end bifurcated and the end of the other of said members adapted to be inserted between the forks of said first-named member, said forks and the end of said last-named member being perforated, and a pin adapted to be inserted through said members, said pin having a head of greater diameter than the perforations, and an enlarged portion adjacent its opposite end of smaller diameter than said head and adapted to pass through the perforations and to serve as a lock, to prevent the withdrawal of said pin when the perforations in the members are moved out of alinement with each other.

2. In a brake-rigging, the combination with a pair of interengaging members provided with openings adapted to be brought into register with each other for the insertion of a pin, of a pin for connecting said members, said pin having a head of greater diameter than the openings in said members, said pin having also a main body portion of substantially smaller diameter than said openings and an enlarged portion adjacent its point having a diameter greater than said main body portion and less than that of said head, and means for maintaining said members under strain when so connected.

3. The combination of the meeting ends of a pair of members, the end of one of said members being divided, the end of the other of said members being adapted to be inserted between the forks of said first-named member, said forks and the end of said last-named member being provided with openings extending therethrough and adapted to be brought into register for the insertion of a pin, a pin for connecting said members together, said pin having a portion of nearly as great diameter as the openings in the members, a portion of reduced diameter, and a head.

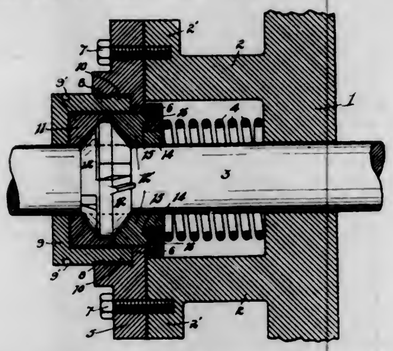
4. The combination of a pair of members to be connected, one of said members having its end bifurcated and perforated, the other member having an end adapted to be inserted between the forks of said first-named member, said end being also perforated, and a connecting-pin adapted to be passed through the openings in said members, said pin being provided with means whereby it is adapted to be driven through said openings so as to force said openings into alinement with each other during its passage through said openings, and having a portion of reduced diameter adapted to permit slight movement of said members when the latter are placed under strain, whereby the openings are moved slightly out of alinement with each other, and the pin is locked and prevented from falling out.

5. The combination with a member having its end bifurcated and another member having its end adapted to be inserted between the forks of said first-named member, of a pin for connecting said members, said members being provided with openings extending therethrough, normally out of alinement with each other, but adapted to be brought into alinement with each other, said pin being adapted to be passed through said openings when the latter are in alinement with each other, and having a portion of its body of nearly as great diameter as the openings, a head upon one of its ends, and a part of reduced diameter adapted to permit slight movement of the members so that the openings may become somewhat out of alinement with each other, whereby the pin is locked in position.

6. A connecting-pin for the parts of a brake-rigging, said pin having a head, a portion of reduced diameter, and another portion connecting the head with said reduced portion and having a diameter intermediate that of the head and the reduced portion and tapering into the latter.

7. The combination with two connecting members of a brake-rigging, provided with pin-holes adapted to register when said members are not under strain, of a connecting-pin provided with two shoulders connected by a part of said pin of less diameter than said shoulders, said pin being adapted to be inserted in said holes when in register with each other and means for putting said members under a constant strain whereby said holes are drawn out of register and said shoulders on said pin are brought into engagement with said members so as to prevent removal of said pin.

845,122. PISTON-ROD GLAND. DALTON RISLEY, Omaha, Nebr., assignor, by mesne assignments, to Cleveland Metallic Packing Company, Cleveland, Ohio. Filed Apr. 28, 1906. Serial No. 314,217.



Claim.—1. In combination with a stuffing-box having a spring therein, a gland secured to said stuffing-box, a cone engaging said gland and the packing held therein, a follower engaging said packing, a ring seated on said follower and normally engaged by said spring, and a projection spaced from the ring engagement therewith to restrict the outer movement of said ring.

2. In combination with a stuffing-box having a spring therein, a gland secured to said stuffing-box, a cone engaging said gland and the packing held therein, a follower engaging the packing, a ring movably mounted on said follower, a spring engaging the ring and a projection receiving support from the stuffing-box to restrict the outer movement of said ring and spring when the gland and packing are removed.

3. In combination with a stuffing-box having a spring therein, a gland on the stuffing-box, packing having one side thereof engaged by the gland, a follower for engaging the opposite side of said packing, said follower having a reduced inner end forming a shoulder, a ring seating on said reduced portion and engaging said shoulder and being engaged by said spring, and a projection for engagement with said ring to restrict the outer movement thereof, said ring being normally out of engagement with said projection.

4. In combination with a stuffing-box having a spring therein, and a gland secured thereto, packing engaging said gland, and said spring, and means whereby said packing may be removed without disturbing said spring.

5. In combination with a stuffing-box having a spring therein, and a gland secured thereto, packing disposed between said gland and spring and under constant pressure exerted by said spring, and means whereby said packing may be removed from engagement with said spring and whereby the latter will be retained against outer movement.

6. In combination with a stuffing-box having a spring therein, and a gland secured thereto, packing disposed between the gland and spring and under constant pressure exerted by the spring, and means for engagement with said spring whereby its outward movement will be arrested when said packing is removed.

7. In combination with a stuffing-box having a spring therein, and a gland secured thereto, packing disposed between the gland and spring and under constant pressure exerted by said spring, and a projection normally out of engagement with the spring to engage the latter and arrest the outer movement thereof when said packing is removed.

8. In combination with a stuffing-box having a spring therein, and a gland secured thereto, an inwardly-extending flange carried by the gland, a removable cap on the gland, a ring engaged by said spring and normally out of engagement with said flange, packing disposed between said cap and spring, and a follower having a reduced portion with a ring seating on said reduced portion.

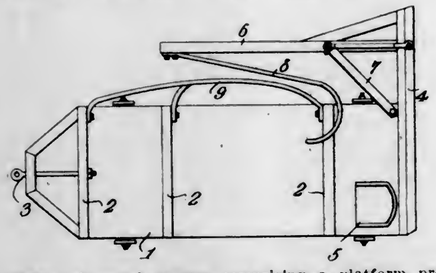
9. In combination with a stuffing-box having a spring therein, a gland secured to said stuffing-box and formed on its inner end with an inwardly-extending flange, a cap threaded into engagement with said gland, packing engaging in the cap, a follower for the packing having a reduced portion forming a shoulder, and a ring movably seated on said reduced portion and abutting said shoulder, said ring being engaged by said spring, and being forced thereby into engagement with said flange when the packing is removed.

10. In combination with a stuffing-box having a spring therein, a gland having threaded engagement therewith and means for restricting the outer movement of said spring when said gland which contains the packing is removed.

11. In combination with a stuffing-box having a spring therein, a gland having threaded engagement with said stuffing-box, packing disposed between the gland and spring and under constant pressure exerted by said spring, and means whereby said packing may be removed without disturbing said spring.

12. In combination with a stuffing-box having a spring therein, a gland having threaded engagement with said stuffing-box, packing disposed between the gland and spring and under constant pressure exerted by said spring, and means for engagement with said stuffing-box whereby said packing may be removed and be replaced without disturbing the extreme outer movement of the spring and the means for engagement with said spring when the gland and packing are removed.

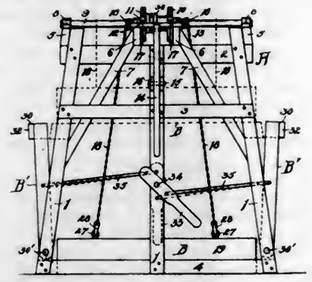
845,123. CORN-CUTTER. AUSTIN C. ROBEY, Marshall, Mo., assignor, by direct and mesne assignments, of one-half to John Blair and one-half to Ollie Burns, Marshall, Mo. Filed Dec. 13, 1906. Serial No. 347,680.



Claim.—A corn-harvester comprising a platform provided upon its upper side with transversely-extending joists, a side bar spaced from the edge of the platform, a knife extending across the space between the platform and side bar, a corn-bending rod attached at its forward end to the inner side of the side bar at the forward end thereof, said rod lying in an inclined plane and having its rear end formed into a semicircular curve which extends over the platform, a semi-ovate obtund curved fender attached at its ends to the said joists and lying in an inclined plane over the space between the platform and the side bar.

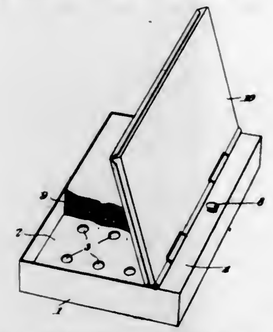
845,124. MANURE AND DIRT DUMP. JOHN C. ROGERS, Ord, Nebr. Filed Jan. 19, 1906. Serial No. 296,743.

Claim.—In a device of the class described, the combination with an upright frame and the pivotally-held carriage-supports which are connected at their lower ends to the inner face of the corner-uprights comprising said upright frame, a lever pivotally connected to one of the intermediate uprights, a rod connected at each side of the pivot-point and connected at their opposite ends to one of the pivotally-held carriage-supports on each side of the upright frame, a right-angular vertically-adjustable carriage having a divided hinged bottom connected to the side sills of the carriage, short chains connected to the upper face of the two hinged sections comprising the bottom of said carriage to prevent extreme outward movement thereof, a brake-lever pivoted to the aforesaid intermediate upright, a rod connected to the upper end thereof and at its opposite end to a cross-piece having depending guide-arms, a shaft, chains connected to said



shaft and at their opposite ends to the aforesaid short chains midway of their length, a drum secured to said shaft midway of its length and having its periphery provided with projections or pins with which the aforesaid cross-piece is adapted to engage to control the opening and closing of the aforesaid divided hinged bottom and the raising and lowering of the aforesaid vertically-adjustable carriage.

845,125. INK-PAD. SAMUEL D. RUTH, Beatrice, Nebr. Filed Mar. 26, 1906. Serial No. 308,144.

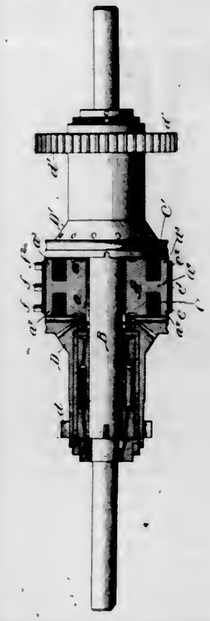


Claim.—A fountain-pad comprising a casing having a perforated false bottom extending throughout the length and width thereof, a feed-reservoir extending throughout the width of the casing, and upon the false bottom, said reservoir having a normally closed inlet, an absorbent pad interposed between the feed-reservoir and the walls of the casing, said pad being mounted on the false bottom and a closure hinged to the inner edge of the top of the feed-reservoir and adapted to cover the pad, said reservoir adapted to support the cover in a substantially horizontal position when open.

845,126. MAGNETIC CLUTCH. ALFRED W. SAVILLE, Chicago, Ill., assignor to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 24, 1906. Serial No. 302,677.

Claim.—1. The combination with a double-ended magnetic clutch provided with a magnetizing-coil for each end thereof, of a contact-ring to which one end of each coil is connected, additional contact-rings, one for each of the other ends of the coils, a conductor uniting intermediate points in the two coils, and a source of current adapted

to have its terminals connected to the common ring and to one of the remaining rings.



2. In a magnetic clutch, the combination with a double-end clutch member, of a coil for each end thereof, of a contact-ring c' to which one end of each coil is connected, contact-rings e c^2, connected respectively to the opposite ends of the coils, a branch circuit uniting a point in one coil to a corresponding point in another coil, and a switch for connecting the ring c' to one terminal of a source of current and one of the remaining rings to the opposite terminal.

3. In a magnetic clutch, the combination with a double-ended clutch-body provided with an energizing-coil for each end, of two contact-rings connected respectively with one end of each of the energizing-coils, and a third contact-ring to which the other ends of said coils are connected, and a conductor uniting intermediate points in the two coils and thereby dividing each coil into two parts.

4. In a magnetic clutch, the combination with a double-ended clutch-body provided with an energizing-coil for each end, of a conductor uniting the end of one coil with an end of the other coil, and a conductor uniting intermediate points in the two coils; whereby a current which magnetizes one end of the clutch demagnetizes the other end thereof.

845,127. STEERING-GEAR. FREDERICK J. SCHIELE, Syracuse, N. Y. Filed Mar. 31, 1906. Serial No. 309,206.

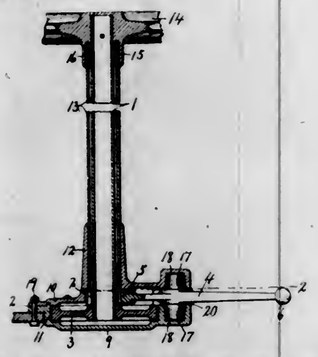
Claim.—1. In a steering-gear, a rotary steering-post and a concentric disk secured thereto and having a peripheral friction-face, a fixed annular bearing forming a friction-face for the periphery of the disk, a pinion secured to the steering-post and a toothed rack engaged by the pinion.

2. In a steering mechanism a fixed annular bearing, a rotary friction-disk having its periphery engaging said bearing, a steering-post operatively connected to said disk for actuating the same, a pinion rotated by the steering-post and a rock-arm actuated by the pinion.

3. In a steering mechanism, the combination with a rack and pinion intermeshing with each other, of a friction-disk secured to one of the aforesaid parts, a fixed bearing for the friction-disk and a steering-post connected to and actuating the pinion and disk.

4. In a steering mechanism a fixed bearing having an

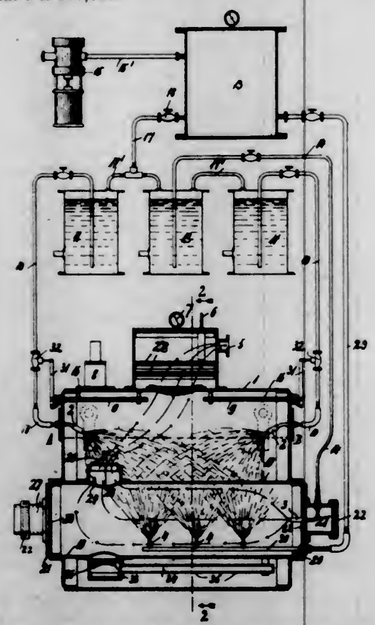
annular friction-face, a rotary disk having its periphery engaging said face, a pinion, a steering-post for rotating said pinion and disk, and a lever having a toothed rack engaged with the pinion.



5. In a steering mechanism a gear-case composed of sections, a lever having an integral boss journaled in one of the sections, a steering-post and means for transmitting motion from the steering-post to the lever.

6. In a steering mechanism a gear-case, a tube secured to the case and projecting upwardly therefrom, a steering-post journaled at its upper end upon the tube and having its lower free end to move laterally in the case, a friction-bearing in the case, and a friction-disk on the lower end of the steering-post within the case and having its periphery engaged with said friction-bearing.

845,128. APPARATUS FOR PRODUCING A MIXTURE OF STEAM AND COMBUSTION-GASES. EUGEN SCHMIDT, St. Petersburg, Russia. Filed Sept. 5, 1905. Serial No. 277,099.



Claim.—1. In an apparatus of the character described, the combination with a closed vessel, of a combustion-chamber mounted therein, a nozzle adapted to direct a spray of fuel longitudinally of the combustion-chamber, a plurality of nozzles adapted to direct streams of air transversely of the path of the fuel, a valved port in the bottom of the combustion-chamber to establish communication between the combustion-chamber and the vessel, and means to inject water into the latter to cover the combustion-chamber.

2. In an apparatus of the character described, the combination with a closed vessel, of a combustion-chamber therein, a nozzle adapted to inject a spray of fuel longitudinally of the combustion-chamber, a plurality of nozzles adapted to direct streams of air transversely of the path of the fuel, valved ports in the top and bottom of the combustion-chamber near the end opposite the fuel-nozzle to establish communication between the combustion-chamber and vessel, and means to supply water into the latter to cover the combustion-chamber.

3. In an apparatus of the character described, the combination with a closed vessel, of a combustion-chamber mounted therein, a nozzle adapted to inject a spray of fuel longitudinally of the combustion-chamber, a plurality of nozzles adapted to direct streams of air transversely of the path of the fuel, a valved port in the top of the combustion-chamber near the end opposite the fuel-nozzle to establish communication between the combustion-chamber and vessel, a plurality of nozzles in the latter adapted to spray water therein, and a valved port in the bottom of the combustion-chamber.

4. In an apparatus of the character described, the combination with a closed vessel, of a combustion-chamber mounted therein, a nozzle adapted to inject a spray of fuel longitudinally of the combustion-chamber, a plurality of nozzles adapted to direct streams of air transversely of the path of the fuel, a valved port in the top of the combustion-chamber near the end opposite the fuel-nozzle, to establish communication between the combustion-chamber and vessel, means to inject water in the latter, a valved port in the bottom of the combustion-chamber, and a perforated distributing-pipe communicating with the latter port.

845,129. PROCESS OF PREPARING ANTHRAQUINONE COMPOUNDS. ROLAND H. SCHOLL, Karlsruhe, and MAX A. KUNZ, Mannheim, Germany, assignors to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany, a Corporation. Filed Feb. 6, 1906. Serial No. 299,852.

Claim.—1. The process for the production of anthraquinone compounds by treating a diazo anthraquinone compound with a metal.

2. The process for the production of anthraquinone compounds by treating a diazo anthraquinone compound with copper powder.

3. The process for the production of 2.2′-dimethyl-1.1′-dianthraquinonyl by treating 2-methyl-anthraquinone-1-diazo-sulfate with copper powder.

845,130. POCKET-KNIFE. GEORGE SCHRADE, Walden, N. Y. Filed Sept. 30, 1905. Serial No. 280,736.



Claim.—1. In a pocket-knife, automatic blade-opening mechanism comprising a spring-actuated locking-trigger, substantially as described, rocking on a pivot resting in supports secured to the lining, said trigger being provided with a finger at one end, adapted to register and enter slots in the tang of the blade when said blade is open and closed.

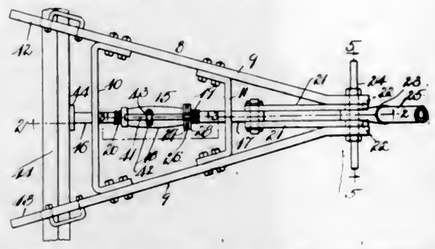
2. A pocket-knife comprising a handle having a lining and cover, a blade mounted in the handle, a spring for actuating said blade, a trigger pivoted in supports secured to the linings, means for holding one end of said trigger in engagement with the tang of the blade in its closed or open position, said trigger projecting outward through the cover and adapted to be manipulated by the thumb or finger substantially as shown and described.

3. In a pocket-knife having a blade-opening spring device, a lever pivoted between ears formed from the lining at a point adjacent to the tang, said lever forming part of a device for locking the blade open or closed substantially as shown and described.

4. A pocket-knife comprising a handle having a lining and cover, a blade and actuating-spring mounted in said handle, a trigger pivoted in supports secured to the lining, a spring secured to the lining and operating said trigger and means for depressing said spring and rocking the trigger substantially as shown and described.

5. In a pocket-knife provided with automatic blade-opening mechanism, a tube lining the rivet-hole in the tang, said tube extending past the face of the blade-tang substantially as and for the purpose shown and described.

845,131. RAIL BENDING AND STRAIGHTENING MACHINE. CHARLES H. SHERBURNE, Boston, Mass. Filed Dec. 29, 1906. Serial No. 349,936.



Claim.—1. A rail-bender comprising in its construction a frame, two hooks fast to said frame adapted to engage one side of said rail, a slide adapted to be moved toward and away from the opposite side of said rail, and mechanism to impart a reciprocatory motion to said slide, said slide embodying in its construction a nut, a ratchet fast to said nut, a pawl-carrier rotatable upon said nut and a pawl pivoted to said carrier and adapted to engage said ratchet whereby the length of said slide may be varied.

2. A rail-bender comprising in its construction a frame, two hooks fast to said frame adapted to engage one side of said rail, a slide adapted to be moved toward and away from the opposite side of said rail, and mechanism to impart a reciprocatory motion to said slide, said slide embodying in its construction a nut, a ratchet fast to said nut, a pawl-carrier rotatable upon said nut, a pawl pivoted to said carrier and adapted to engage said ratchet, whereby the length of said slide may be varied, and a handle pivoted to said pawl-carrier.

3. A rail-bender comprising in its construction a frame, two hooks fast to said frame adapted to engage one side of said rail, a slide adapted to be moved toward and away from the opposite side of said rail, and mechanism to impart a reciprocatory motion to said slide, said slide embodying in its construction a nut, a ratchet fast to said nut, a pawl-carrier rotatable upon said nut, a pawl pivoted to said carrier and adapted to engage said ratchet, whereby the length of said slide may be varied, a pivot fast to said pawl-carrier extending transversely of said nut, and a handle mounted upon said pivot.

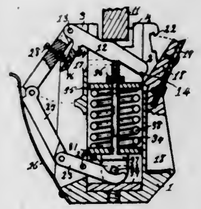
4. A rail-bender comprising in its construction a frame, two hooks fast to said frame adapted to engage one side of said rail, a slide adapted to be moved toward and away from the opposite side of said rail, and mechanism to impart a reciprocatory motion to said slide, said slide embodying in its construction a nut, a ratchet fast to said nut, a pawl-carrier rotatable upon said nut, a pawl pivoted to said carrier and adapted to engage said ratchet, whereby the length of said slide may be varied, a pivot fast to said pawl-carrier extending transversely of said nut and a handle mounted upon said pivot, whereby said carrier may be rocked upon said nut and said handle may be tipped over longitudinally of said nut, and means to fasten said handle to said nut.

5. A rail-bender comprising in its construction a frame, two hooks fast to said frame adapted to engage one side of said rail, a slide adapted to be moved toward and away from the opposite side of said rail, and mechanism to impart a reciprocatory motion to said slide, said slide embodying in its construction a nut, a pawl-carrier rotatable upon said nut and consisting of two rings separated one from the other by an annular space, said rings connected together by a cross-bar, a ratchet fast to said nut and located in said annular space, and a pawl pivoted to said cross-bar and adapted to engage said ratchet, whereby the length of said slide may be varied.

6. A rail-bender comprising in its construction a frame, two hooks fast to said frame and adapted to engage one side of said rail, a slide adapted to be moved toward and away from the opposite side of said rail, and mechanism to impart a reciprocatory motion to said slide, said slide embodying in its construction a nut, a ratchet fast to said nut, a pawl-carrier rotatable upon said nut, and a reversible pawl pivoted to said carrier and adapted to engage said ratchet upon opposite sides of the pivot of said pawl, whereby the length of said slide may be increased or diminished.

7. A rail-bender comprising in its construction a frame, two hooks fast to said frame and adapted to engage one side of said rail, a slide adapted to be moved toward and away from the opposite side of said rail, and mechanism to impart a reciprocatory motion to said slide, said slide embodying in its construction a nut, a ratchet fast to said nut, a pawl-carrier rotatable upon said nut, a reversible pawl pivoted to said carrier and adapted to engage said ratchet upon opposite sides of the pivot of said pawl, whereby the length of said slide may be increased or diminished, and means to hold said pawl yieldingly in engagement with said ratchet upon opposite sides, respectively, of the pivot of said pawl, whereby the length of said slide may be increased or diminished.

845,132. SAFETY DEVICE FOR SPEED-GOVERNORS. LEONARD SINGLE, Hamilton, Ohio. Filed Feb. 16, 1906. Serial No. 301,373.



Claim.—1. The combination, of an arm pivotally secured at a fixed point, a stop adapted to limit the movement of the arm, and means adapted to automatically remove the stop upon the movement of the arm in a direction therefrom.

2. The combination of an arm pivotally secured at a fixed point, a movable stop, means adapted to lock the stop in a position to intercept the movement of the arm in one direction, and means actuated by the movement of the arm in the opposite direction to unlock the stop.

3. The combination of a stop automatically movable from a fixed position, means to lock it in said position, a lever automatically movable from contact with said stop and means simultaneously actuated thereby to unlock the stop.

4. The combination of a fixed catch, a movable stop, a latch thereon adapted to engage with the catch, a movable lever, a catch thereon, said lever being arranged to automatically transfer the engagement of the latch from the former to the latter catch.

5. The combination of a lever, a stop mechanism adapted to yieldingly resist the movement thereof, and means

actuated by the lever at a predetermined point in its movement adapted to discontinue the resistance of said stop.

6. The combination of a lever, a stop adapted to intercept and yieldingly resist the movement thereof, lever mechanism adapted to remove the stop, and adjustable means adapted to engage with the lever, and arranged to actuate said mechanism.

7. The combination of a lever, a stop adapted to yieldingly resist the movement thereof, means actuated by the lever adapted to move the stop out of operative position, and means adapted to automatically move and maintain said stop into operative position.

8. The combination of a casing, a lever hinged thereon, a stop mechanism movably supported within the casing and adapted to intercept and yieldingly resist the movement of the lever, and adjustable lever mechanism actuated by said lever, and adapted to throw the stop out of action at a predetermined point in the movement of said lever.

9. The combination of a movable member, a stop secured at a fixed point and automatically movable out of the path of the said member, means adapted to automatically retain the stop in the path of said member, and means adapted to automatically release said stop simultaneously with the removal of said member from contact therewith.

10. The combination of a member movable in a predetermined path, a catch secured at a fixed point, a stop automatically movable out of the path of said member, a latch thereon adapted to engage with the catch and maintain the stop in the path of said member, said latch being arranged to be disengaged from the catch by contact of said member therewith, and means carried by said member adapted to prevent the movement of the stop after the latch is disengaged from the catch.

11. The combination of a movable member, a stop arranged to intercept and yieldingly resist the movement thereof, and lever mechanism actuated by said member, and adapted to terminate the resistance of the stop.

12. The combination of a movable member, a stop adapted to intercept and yieldingly resist the movement thereof, means adapted to move and maintain the stop in operative position, and means actuated by said member at a predetermined point in its movement adapted to throw the stop out of action.

13. The combination with a casing, a lever hinged thereon, a gravity-stop movable in the path of the lever, means adapted to retain the stop in said position and adapted to be actuated to release the stop by the departure of the lever from contact with the stop.

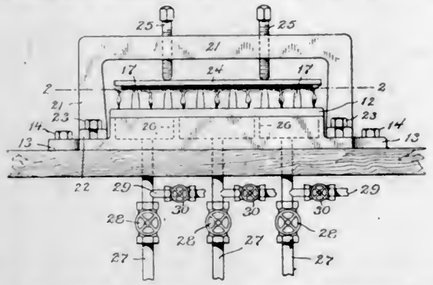
14. The combination of a casing mounted at a fixed point, a member movable in relation thereto, a movable stop on the casing adapted to intercept the movement of said member in one direction, said stop being automatically movable out of the path of said member simultaneously with the movement of said member in the opposite direction after contact therewith.

15. The combination of a casing mounted at a fixed point, a member movable in relation thereto, a yielding stop, and an unyielding stop, both movably secured in the casing, said stops being adapted to independently intercept said member at different respective predetermined points in its movement.

845,133. PLATING APPARATUS. THOMAS J. SLADE, Pawtucket, R. I., assignor to Smith Brothers, Providence, R. I., a Firm. Filed Apr. 24, 1906. Serial No. 313,406.

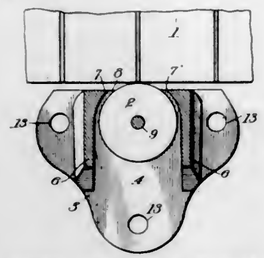
Claim.—1. A plating appliance comprising a chambered base adapted to receive gas, and having a top provided with a plurality of burners, and with a skeleton clamp member, which is located above the burners, and permits the impingement of the burner-jets on the under surface of a laminated plate bearing on the said member, a fixed bridge located above the base, and pressure-applying devices engaged with the bridge, and adapted to bear on a movable plate or follower superimposed on said laminated plate.

2. A plating appliance comprising a chambered base subdivided into compartments, each having an independent valved air-supply pipe, said pipe being provided, between its valve and the corresponding compartment, with a valved gas-inlet, whereby a regulated mixture of gas and air may be admitted to the said compartments, the said base having a top provided with burners and with means for holding a laminated plate over the burners.



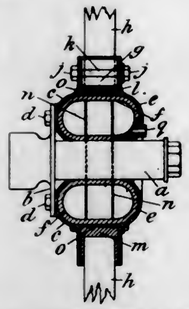
3. A plating appliance comprising a chambered base adapted to receive gas, and having a top provided with a plurality of burners and with a plurality of slender, upwardly-projecting studs, collectively forming a skeleton clamp member, which permits the impingement of the burner-jets on a plate bearing on the studs, and means for holding the said plate on the studs.

845,134. ROLLER-SUPPORT FOR MOVABLE DOORS. LEE J. SMITH, Wannee, Fla. Filed May 14, 1906. Serial No. 316,838.



Claim.—A bracket comprising a securing-plate and a guiding-plate connected by spaced webs to form an opening, a guiding-plate extending above the securing-plate and a roller mounted in said opening, the upper inner edges of said webs overhanging the roller.

845,135. PNEUMATIC HUB FOR WHEELS. WILLIAM S. H. SMITH, Croydon, England. Filed Sept. 10, 1906. Serial No. 333,993.

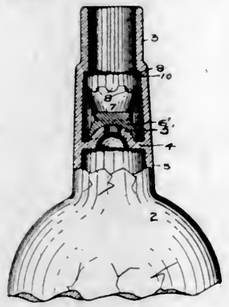


Claim.—1. The combination with an annular pneumatic tube of a radial diaphragm of extensible material fixed inside it.

2. The combination of an annular pneumatic tube, a band surrounding it and a flat tube between and fixed to the pneumatic tube and the band.

3. The combination of an annular pneumatic tube, a radial diaphragm fixed inside it, a band surrounding it and a flat tube between and fixed to the pneumatic tube and the band.

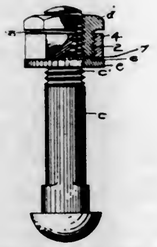
845,136. VALVE FOR NON-REFILLABLE BOTTLES. WILLIAM T. SOLOMON, Louisville, Ky., assignor to Robert C. Hall, Pittsburg, Pa. Filed May 23, 1906. Serial No. 318,291.



Claim.—1. In a non-refillable bottle, a valve consisting of a body portion having a concave base in combination with a funnel-shaped crown.

2. In a non-refillable bottle, the combination of a neck having a convex seat, a valve having a concave bottom adapted to fit on the seat, a funnel-shaped crown secured to the valve, and a stop situate above the crown.

845,137. NUT-LOCK. WILLIAM T. SOLOMON, Pittsburg, Pa., assignor to Robert C. Hall, Pittsburg, Pa. Filed June 19, 1906. Serial No. 322,371.



Claim.—1. A nut having an interior thread adapted to carry the nut forward on a threaded bolt when the nut is turned in one direction, and having an exterior thread adapted to engage with an interiorly-threaded locking-nut and to carry such locking-nut forward when the locking-nut is turned in a direction opposite to that which carries the nut forward on the bolt, the inner faces of the nut and the locking-nut being arranged for frictional engagement with the part to be locked when in locked position.

2. The combination of a nut having an interior right-hand thread and an exterior left-hand thread, and a threaded locking-nut, the thread of which is adapted to engage with the exterior thread of the nut, the inner faces of said nut and said locking-nut being in engagement with the substructure when in locking position.

3. The combination of a nut having an interior right-hand thread and exterior left-hand thread; a threaded locking-nut adapted to engage with the exterior thread; a washer having teeth adapted to engage with the face of the nut and having teeth adapted to engage with the face of the locking-nut; substantially as specified.

4. The combination of a nut having an interior right-hand thread and an exterior left-hand thread, and a threaded locking-nut, the thread of which is adapted to engage with the exterior thread of the nut, and a washer arranged to engage the inner faces of said nut and said locking-nut when in locked position substantially as specified.

5. The combination of a nut having an interior right-hand thread and an exterior left-hand thread, a threaded locking-nut adapted to engage with the exterior thread, and a washer having oppositely-directed teeth concentrically arranged, and adapted to engage respectively with the face of the nut and the face of the locking-nut; substantially as specified.

845,138. PROCESS FOR PRODUCING PRINTING-PLATES. EMANUEL SPITZER, Munich, Germany, assignor of two-fourths to Mrs. Alpha O. Goldsmith, Berlin, Germany, and one-fourth to Sophie Spitzer, Munich, Germany. Filed July 7, 1902. Serial No. 114,682. (Specimens.)

Claim.—1. In the art of producing photomechanical printing-plates, the process which consists in exposing a plate provided with a sensitized film under an ordinary continuous negative or diapositive and without the interposition of a screen, and then etching such plate without any manipulation or procedure liable to interfere with the property of said film to resist in its graduatedly-hardened parts the action of an etching fluid in graduated degrees.

2. In the art of producing photomechanical printing-plates, the process which consists in exposing a plate provided with a smooth ungrained sensitized coating under an ordinary continuous negative or diapositive and without the interposition of a screen, and then submitting such plate to an etching agent without the application of any etching resist to the sensitized coating.

3. In the art of producing photomechanical printing-plates, the process which consists in exposing a plate provided with an ordinary sensitized coating under an ordinary continuous negative or diapositive and without the interposition of a screen, etching said plate, and leaving the deposits, formed by the etching action, on the plate until the end of the etching operation.

4. In the art of producing photomechanical printing-plates, the process which consists in exposing a plate provided with a smooth ungrained sensitized coating under an ordinary continuous negative or diapositive and without the interposition of a screen, etching said plate and leaving the deposit from the etching agent on the plate.

5. The process of producing photomechanical printing-plates, which consists in exposing a plate coated with a layer of bichromatized gelatin under an ordinary continuous negative without the interposition of a screen, then immersing such plate into an etching-bath without the prior application of any etching resist and leaving the deposits from the etching-bath on the plate.

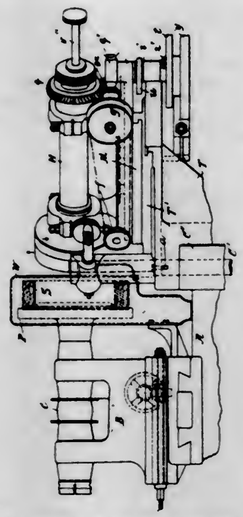
845,139. MACHINE FOR AUTOMATICALLY GRINDING SPIRAL OR TWIST DRILLS. NICOLAI STRUCK, St. Petersburg, Russia. Filed Dec. 30, 1905. Serial No. 294,352.

Claim.—1. A machine for grinding drills comprising a rotary grinder, means for imparting a transverse reciprocating movement thereto during its rotation, a drill supported with its cutting edge in proximity to said grinder, means for rotating the drill and means for swinging it during each rotation thereof.

2. A machine for grinding drills comprising a rotary grinder, means for imparting a transverse reciprocating movement thereto during its rotation, a drill supported with its cutting edge in proximity to said grinder, means for rotating the drill, and means for swinging it during each rotation thereof, and means for automatically moving the drill toward and from the grinder.

3. In a device of the character described, the combination with a suitable support and a rotary grinder, of a drill-supporting table, a drill-carrier longitudinally movable thereon, means for reciprocating said carrier, and

pawl-and-ratchet-controlled means for regulating the amount of said reciprocation said pawl-and-ratchet means being rendered effective by the reciprocation of the drill-carrier.



4. In a device of the character described, the combination with a suitable support and grinder, of a drill-supporting table, a drill-carrier longitudinally movable thereon, a drill carried thereby with means for rotating it, a spring tending to draw said carrier toward the grinder, a cam device for moving said carrier against the action of the spring, a cam for limiting the movement of the carrier toward the grinder, a ratchet-wheel on the carrier operatively connected with said cam, and a pawl carried by the table and engaging the ratchet-wheel.

5. In a device of the character described, a suitable support, a grinder rotatably mounted thereon, a drill-supporting table pivoted to said support to swing on a vertical axis, a drill mounted on said support to have a rotary and reciprocating movement, operating means for imparting such movement to the drill, and a device for swinging said supporting-table, said device being operated from the operating means for the drill.

6. In a device of the class described, a suitable support, a grinder carried thereby, a drill-supporting table pivoted to said support, a drill rotatably carried by said support, gearing for rotating said drill, and an eccentric-pin engaging a guide on the support and operated from the said gearing for swinging the table.

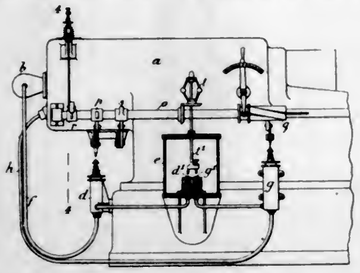
7. In a device of the class described, the combination with a means for supporting the drill and rotating it during the grinding action, of a rotary grinder, means for moving the same transversely of its axis of rotation, means for adjusting the grinder with relation to such moving means, and a drill-gage for securing adjustment in accordance with the drill to be ground.

845,140. INTERNAL-COMBUSTION ENGINE. HERBERT A. STUART, Perth, Western Australia, Australia. Filed Dec. 2, 1905. Serial No. 289,989.

Claim.—1. In an internal-combustion engine provided with a vaporizer in open communication with the working cylinder by a contracted neck the provision of means for injecting charges of hydrocarbon into the vaporizer and into the cylinder and for introducing a layer of air between these charges, substantially as, and for the purpose, described.

2. In an internal-combustion engine, the combination with a cylinder, of a vaporizer communicating with said cylinder but separated therefrom by an open passage, separate means for injecting charges of hydrocarbon into said vaporizer and into said cylinder and means for admitting charges of air into said passage between said vaporizer and said cylinder, substantially as described.

3. In an internal-combustion engine, the combination with a cylinder, of a vaporizer communicating with said cylinder but separated therefrom by an open passage, separate means for injecting charges of hydrocarbon into said vaporizer and into said cylinder, means for admitting charges of air into said passage between said vaporizer and said cylinder, means for varying the relative time for injecting said charges of hydrocarbon into said vaporizer and said cylinder and means for admitting charges of air into said passage between said vaporizer and said cylinder, substantially as described.



4. In an internal-combustion engine, the combination with a cylinder, of a reciprocating piston therein, said piston being provided at its end with a recess, of a vaporizer in communication with said cylinder but separated therefrom by an open neck, means for injecting a charge of hydrocarbon into said vaporizer, separate means for injecting a charge of hydrocarbon into said recess in said piston when near the end of its instroke and means for admitting charges of air into said neck between said vaporizer and said cylinder, substantially as described.

5. In an internal-combustion engine, the combination with a cylinder, of a vaporizer communicating with the rear end of said cylinder but separated therefrom by a neck, separate means for injecting charges of hydrocarbon into said vaporizer and into said cylinder, means for admitting charges of air into said neck between said vaporizer and said cylinder and separate means for admitting charges of air into the rear end of said cylinder adjacent to the mouth of said neck, substantially as described.

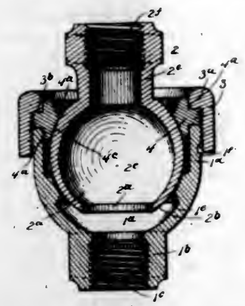
6. In an internal-combustion engine, the combination with a cylinder, of a vaporizer in communication therewith, separate means for injecting charges of air into said vaporizer and into said cylinder, means for introducing a layer of air between said charges in said vaporizer and said cylinder and a governor adapted to automatically cut off said charges of hydrocarbon from said vaporizer and said cylinder, substantially as described.

7. In an internal-combustion engine, the combination with a cylinder, of a vaporizer in communication therewith, separate means for injecting charges of air into said vaporizer and into said cylinder, means for introducing a layer of air between said charges in said vaporizer and said cylinder, a governor adapted to automatically cut off said charges of hydrocarbon from said vaporizer and cylinder and means connected with said governor for regulating the relative times for cutting off said charges of hydrocarbon from said vaporizer and said cylinder, substantially as described.

845,141. PIPE-COUPLING. HENRY S. STUCY, Louisville, Ky. Filed Sept. 6, 1906. Serial No. 333,556.

Claim.—1. The combination with a ball member and a bell member; of a reversible bearing-ring held in the mouth of the bell and having a pair of spherical bearing-surfaces, and an annular flange on its external surface and a collar held over the ring-flange and having a threaded engagement with the bell.

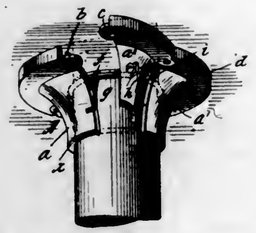
2. The combination with the ball member and the bell member, of a reversible bearing-ring held in the mouth of the bell and having a pair of spherical bearing-surfaces, and an annular flange on its external surface, dividing the external surface into unequal zones, and a collar held over the ring-flange and interlocking with the bell.



3. The combination with the ball member and a bell member, said bell member having a bearing-flange on its inner surface to coöperate with the ball, when the members are under one adjustment, of a reversible bearing-ring held in the mouth of the bell, and having a pair of spherical bearing-surfaces and an external flange, said ring having a pair of unequal external surfaces, one on each side of the flange, and a collar having shoulders for engaging the ring-flange, and having a portion held over the bell-mouth and secured thereto, substantially as shown and described.

4. The combination with a ball member and a bell member; of a reversible bearing-ring having an external flange, an annular collar secured over the bell member and having shoulders for engaging the ring-flange, said ring having provisions in virtue of which, when the ring is in one position a tight coupling is obtained and when the ring is in its reversed position a loose coupling is obtained, substantially as shown.

845,142. CEILING OR FLOOR PLATE. JOHN J. SULLIVAN, Holyoke, Mass. Filed Mar. 9, 1906. Serial No. 305,186.



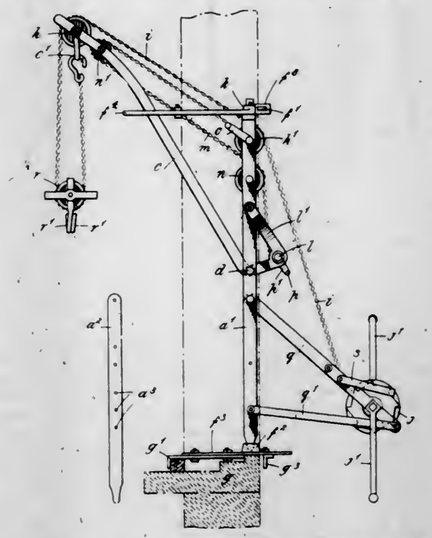
Claim.—1. A fitting of the character described comprising a pipe-surrounding sleeve-plate made in separable sections and means for detachably confining the sections in their closed relations, a constrictive pipe-embracing band supported by and within the sectionally-formed sleeve-plate with its ends approached, and detachable means for constricting the band tightly about a pipe and confining it in its binding engagement.

2. A fitting for the purpose described comprising a pipe-surrounding sleeve-plate made in separable sections and means for detachably confining the sections in their closed relations, and provided with band-engagement loops secured thereto and therewithin, a constrictive pipe-embracing band engaged therethrough and retained by said loops and having its ends approached, and detachable means for constricting and holding the band tightly about a pipe.

3. A fitting of the character described comprising a pipe-surrounding sleeve-plate made in separable sections and means for detachably confining the sections in their closed relations, a constrictive metallic pipe-embracing band internally connected with and supported by the sectionally-formed sleeve-plate, with its ends approached, and formed with outwardly-turned ear-lugs, and a headed bolt, having its shank engaged through said ear-lugs, and provided with a nut for bearing against one of said ear-lugs.

4. A fitting of the character described comprising a pipe-surrounding sleeve-plate made in separable sections and means for detachably confining the sections in their closed relations, a constrictive metallic pipe-embracing band internally connected with and supported by the sectionally-formed sleeve-plate, with its ends approached, and formed with outwardly-turned ear-lugs, and a headed bolt, having its shank engaged through said ear-lugs, and provided with a nut in bearing against one of said ear-lugs and having a non-rotative engagement with the band, and the head of such bolt being made with a slot.

845,143. APPARATUS FOR RAISING AND LOWERING GOODS. ISAAC F. TAYLOR, East Dulwich, London, England. Filed June 26, 1905. Serial No. 266,988.

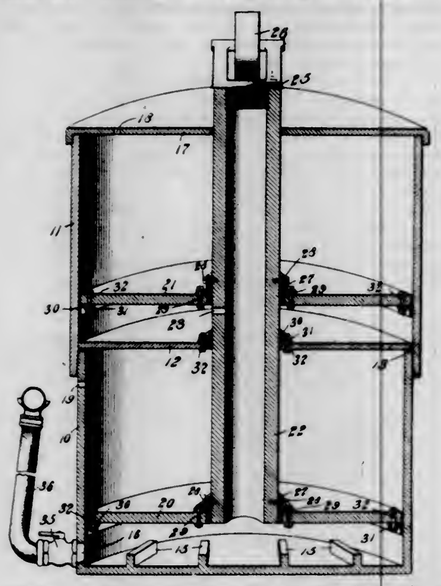


Claim.—1. Apparatus for raising or lowering goods to or from the upper floors of buildings, comprising a crane-post, a jib fulcrumed to the crane-post, means for raising or lowering the jib, a winch on the crane-post for raising or lowering the load, and means for readily mounting the crane-post in windows or doorways of upper floors in such manner that after the load is raised the crane-post can be turned in its supports to swing the load toward the window or other opening in which the apparatus is placed.

2. In apparatus for raising or lowering goods to or from the upper floors of buildings, the combination with a crane-post of an adjustable cross-bar provided with arms and adjustable clips adapted to fix on the sides of a window-opening to hold the upper part of the post in position, and an adjustable foot-plate adapted to hold the lower part of the post in position.

3. Apparatus for raising or lowering goods to or from the upper floors of buildings, comprising a crane-post, a jib fulcrumed to the crane-post, means for raising or lowering the jib, a winch on the crane-post for raising or lowering the load, an adjustable cross-bar provided with arms and adjustable clips adapted to fit on the sides of a window-opening to hold the upper part of the post in position, and an adjustable foot-plate adapted to hold the lower part of the post in position.

845,144. LIFTING-JACK. JAMES A. TAYLOR, Birmingham, Ala. Filed Dec. 5, 1905. Serial No. 290,451.



Claim.—1. The combination in a jack, of a pair of superposed cylinders having an admission-port for fluid under pressure, pistons arranged in said cylinders, a hollow stem carrying both pistons and provided with a lateral port through which the pressure-spaces of both cylinders are placed in communication, the upper end of the stem extending through the head of the upper cylinder and forming the load-engaging member.

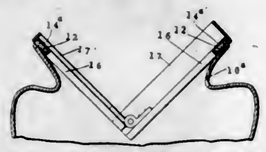
2. In a lifting-jack, a pair of superposed cylinders, a partition separating the cylinders, pistons disposed in the cylinders, a hollow lifting-stem extending through the upper cylinder and into the lower cylinder, pistons secured to said stem, and means for controlling the admission of fluid under pressure to one of said cylinders.

3. The combination in a lifting-jack, of a pair of superposed cylinders, a hollow lifting-stem extending into said cylinders and arranged to establish communication between them, pistons secured to the stem, means for limiting downward movement of the piston, and means for admitting fluid under pressure into one of said cylinders.

4. The combination in a lifting-jack, of a pair of superposed cylinders, a partition separating the cylinders and arranged to rest on the upper edge of the lower cylinder, said partition being provided with a central opening, a removable cap or head for the upper cylinder, a hollow stem extending through the partition, and cap and arranged to establish communication between the pressure-spaces of the two cylinders, a pair of pistons secured to the stem, the pistons, stem and partition being bodily removable from the cylinders after the cap is detached, and means at the lower portion of the lower cylinder for controlling the inlet and exhaust of fluid under pressure.

5. The combination in a lifting-jack, of upper and lower cylinders having a threaded connection, a partition resting on the upper edge of the lower cylinder and separating the cylinders from each other, said partition being provided with a central opening, a removable cap or cover for the top of the upper cylinder, a hollow stem arranged to slide through the partition and cap, said stem being adapted to establish communication between the pressure-spaces of the two cylinders, a roller arranged at the top of the stem for receiving the load, a pair of pistons having threaded openings at their centers, collars bolted to the stem and having threaded portions screwed into such openings, means at the lower end of the lower cylinder for limiting the downward movement of the pistons, and means connected to the lower cylinder for controlling the admission and exhaust of fluid under pressure.

845,145. BAG, TRUNK, OR SIMILAR ARTICLE. WILLIAM J. TEESE, New York, N. Y., assignor to himself and E. Eugene Cawley, New York, N. Y. Filed May 31, 1906. Serial No. 319,445.



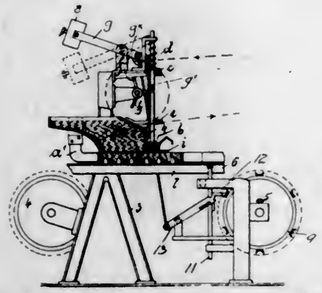
Claim—1. The combination with a receptacle of the kind described having opposite parts closing together, of the welt extending around the inner edge of one of the parts and a frame-strip having the lower part shaped to interlock with the welt.

2. In a structure of the kind described having meeting frames, the combination of a welt attached to one side and inner portion of the structure so that the inner edge of the welt is free, and a frame-strip projecting beyond the open edge of the receptacle or structure, and having its inner edge hook-shaped to engage the welt.

3. A structure such as described comprising two meeting-frame parts of a receptacle, a welt extending around the upper and inner side of the receptacle, said welt being attached near its upper edge and leaving its lower edge free, and a strip forming part of the frame extending around the upper portion of the receptacle, and having its lower edge hook-shaped to engage the edge of the welt.

4. The combination with the receptacle having a welt around the edge, the said welt being free at its inner part, of frame-strips having their lower edges hook-shaped to engage the welt and their upper edges projecting beyond the top of the receptacle, the said frame-strips being fastened together and to the receptacle at the corners.

845,146. BRICK-PRESS. PAUL THOMANN, Halle-on-the-Saale, Germany. Filed June 22, 1905. Renewed Jan. 8, 1907. Serial No. 351,394.

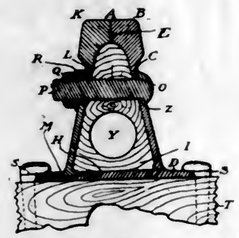


Claim.—A brick-press comprising a hopper, a vertically-movable slide closing the front of the hopper, a passage beneath said hopper, a mold in said passage, means for moving the mold, a scraper forming with the slide a guideway, a stamper adapted to move in said guideway, a spring tending to press said stamper downwardly and a cam for raising the stamper.

845,147. RAIL FOR RAILWAYS. JAMES N. VANDEGRIFT, Bryn Mawr, Pa. Filed Dec. 10, 1904. Serial No. 236,280.

Claim.—1. A railway-rail, comprising a wheel-bearing portion consisting of two longitudinal members, webs or supports extending therefrom and diverging relatively, and a base connecting said webs, said base being integral with one of said webs, and forming a support for the other of said webs.

2. A railway-rail, comprising a wheel-bearing portion consisting of two longitudinal members, supports or webs diverging therefrom, a plate carried by one of said webs, and extending transversely to form a base for the other of said webs.



3. A railway-rail, comprising a wheel-bearing portion, webs or supports carried thereby, and a base-plate integral with one of said webs, forming a base or support for both webs.

4. A railway-rail, comprising a wheel-bearing portion divided longitudinally, webs or supports diverging from said divisions, bolts connecting said webs for holding said divisions in engagement with each other, a base-plate connected with one of said webs, said base-plate having a recess therein to form a base for the other of said webs, and means carried by the other of said webs and engaging said recess.

5. A railway-rail, comprising a wheel-bearing portion divided longitudinally, webs or supports diverging from said divisions, bolts connecting said webs, a base-plate carried by one of said webs and extending to the other of said webs, and having a recess or groove therein, a bearing-plate carried by said other web and adapted to be supported and retained in said groove or recess.

6. A railway-rail, comprising a wheel-bearing portion divided longitudinally, the divisions of said portion overlapping each other to form break-joints, webs or supports diverging from said portion, and a base-plate integral with one of said webs, forming a support for both webs.

7. A railway-rail, comprising a wheel-bearing portion divided longitudinally, webs or supports diverging therefrom, and a wooden block provided with a longitudinally-extending hole forming a conduit located between said webs.

8. A railway-rail, comprising a wheel-bearing portion divided longitudinally, webs or supports diverging therefrom, and blocks or bars provided with a longitudinally-extending hole located between said webs, to form a conduit between said webs.

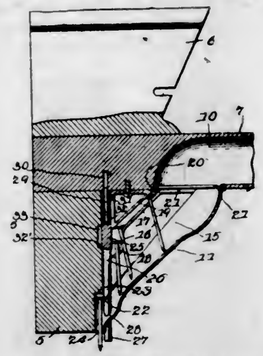
9. A railway-rail, comprising a wheel-bearing portion divided longitudinally, webs or supports diverging therefrom, and wooden blocks or bars located between said webs, one of said webs being provided with a base to support said blocks and webs.

10. A railway-rail, comprising a wheel-bearing portion divided longitudinally, webs or supports diverging therefrom, wooden blocks or bars having a conduit located between said webs, and bases for each web, the base-plate for one web forming a support for the other web.

11. In a railway-rail, a supporting portion therefor having relatively inclined surfaces, bolts passing through said supporting portions, said bolts having inclined heads and washers to correspond to the angle of said supporting portion, and a base portion carried by one of said portions forming a support for the other supporting portion.

845,148. MAGAZINE-HAMMER. DANIEL T. VANLANINGHAM, Youngstown, Mo. Filed Apr. 4, 1906. Serial No. 309,881.

Claim.—1. In a device of the class described, a tool having a driving-head and provided with a hollow handle constituting a nail-receiving magazine, a discharge-chute communicating with the magazine, guide-arms disposed above the chute and provided with terminal spring-lips, an anvil carried by the driving-head, spring-fingers secured to the discharge-chute and disposed at said anvil for engagement with the nails, and a sliding nail-carrier having a recess formed therein and adapted to successively receive the nails and deliver the same to the spring-fingers.



2. In a device of the class described, a driving-head provided with a nail-receiving magazine, a discharge-chute communicating with the magazine, guiding-arms disposed above the discharge-chute and provided with terminal spring-lips, a block spaced from the guiding-arms, and a spring-actuated nail-carrier slidably mounted between the head of the tool and the block, for successively presenting the nails to the driving-head.

3. In a device of the class described, a tool having a driving-head and provided with a nail-receiving magazine, an anvil carried by the driving-head, a discharge-chute communicating with the magazine, guiding-arms disposed above the discharge-chute and provided with terminal resilient lips, a spring-actuated nail-carrier slidably mounted on the tool for successively delivering the nails to the driving-head, a pin carried by the nail-carrier and operating within a slot in the tool for limiting the sliding movement of said nail-carrier, and spring-fingers secured to the chute for supporting the nails at said anvil.

4. In a device of the class described, a tool having a driving-head and provided with a hollow handle constituting a nail-receiving magazine, an anvil carried by the driving-head, a substantially U-shaped discharge-chute communicating with the magazine and having a nail-delivery opening formed in one end thereof, guide-arms spaced from the discharge-chute and provided with terminal lips the free ends of which are concaved, a spring-actuated nail-carrier having one end thereof bifurcated to form a nail-receiving recess and provided with terminal trip-arms extending through openings in the discharge-chute, a spring interposed between the nail-carrier in the adjacent wall of the tool, and means for limiting the sliding movement of said nail-carrier.

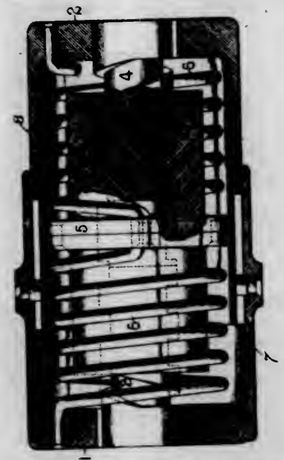
5. In a device of the class described, a tool having a driving-head and provided with a hollow handle constituting a nail-receiving magazine, a discharge-chute communicating with the magazine, an auxiliary chute spaced from the discharge-chute and provided with terminal spring portions adapted to support the heads of the nails, a substantially triangular-shaped block secured to the handle and arranged adjacent the auxiliary chute, and a spring-actuated nail-carrier having a recess formed therein adapted to receive the nails and deliver the same successively to the driving-head.

845,149. SHOCK-ABSORBING DEVICE. JOHN C. WANDS, St. Louis, Mo. Filed Sept. 17, 1906. Serial No. 334,964.

Claim.—1. In a shock-absorbing device, the combination with two head-pieces having threaded projections, the threads of said projections being oppositely pitched, a movable part having oppositely-pitched threads for engaging with said projections, and springs in which power is stored upon the movement of said movable part; substantially as described.

2. In a shock-absorbing device, the combination of two

head-pieces, threaded projections extending inwardly from said head-pieces, the threads of said projections being oppositely pitched, a movable part having oppositely-pitched threads for engaging with said projections, springs connected to said head-pieces and said movable part, and a housing for inclosing said parts, said housing being composed of parts telescopically arranged with respect to each other; substantially as described.



3. In a shock-absorbing device, the combination of two head-pieces having inwardly-extending threaded projections, the threads of said projections being oppositely pitched, a movable part having oppositely-pitched threads for engagement with said projections, springs connected to said head-pieces and said movable part, said springs being coiled in opposite directions, and a housing inclosing said springs and movable part; substantially as described.

4. In a shock-absorbing device, the combination of two head-pieces, threaded projections extending inwardly from said head-pieces, the threads of said projections being oppositely pitched, a movable part having oppositely-pitched threads for engagement with said projections, and springs connected to said head-pieces and said movable part; substantially as described.

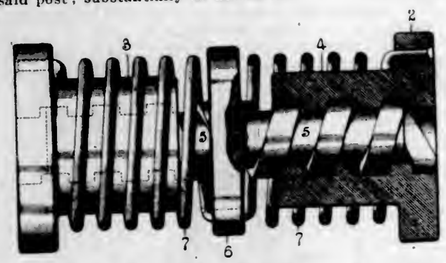
5. In a shock-absorbing device, the combination of two head-pieces having oppositely-pitched, inwardly-extending threaded posts, a nut having oppositely-pitched interior threads for engagement with said posts, and springs connected to said head-pieces and said nut; substantially as described.

6. In a shock-absorbing device, the combination of two head-pieces having inwardly-extending posts, said posts having right and left hand screw-threads respecively, a nut having right and left hand screw-threads for engagement with said posts, and oppositely-coiled springs connected to said head-pieces and said nut; substantially as described.

7. In a shock-absorbing device, the combination of two head-pieces having inwardly-extending posts, said posts having right and left hand screw-threads respectively, a nut having right and left hand screw-threads for engagement with said posts, and two springs formed of a single piece of material provided with a reverse bend, the ends of said piece being connected to said head-pieces and the reverse bend being connected to said nut; substantially as described.

845,150. SHOCK-ABSORBING DEVICE. JOHN C. WANDS, St. Louis, Mo. Filed Nov. 24, 1906. Serial No. 344,850.

Claim.—1. In a shock-absorbing device, the combination of two head-pieces, having oppositely-pitched, inwardly-extending threaded bosses, a post having its end threaded in opposite directions for engagement with said bosses, and a spring connected to said head-pieces and said post; substantially as described.

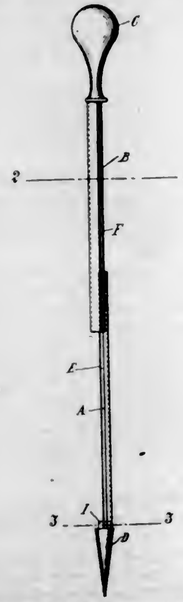


2. In a shock-absorbing device, the combination of two head-pieces, having inwardly-extending bosses, said bosses having right and left hand screw-threads respectively, a post having its ends provided with right and left hand screw-threads for engagement with said bosses, and oppositely-coiled springs connected to said head-pieces and said post; substantially as described.

3. In a shock-absorbing device, the combination of two head-pieces having inwardly-extending bosses, said bosses having right and left hand threads respectively, a post having right and left hand screw-threads for engagement with said bosses, and two springs formed by a single piece of material provided with a reverse loop midway its ends, the ends of said piece being connected to said head-pieces and the reversing-loop being connected to said post; substantially as described.

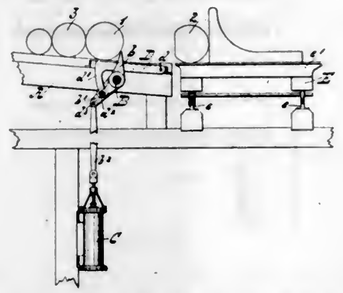
4. A shock-absorbing device comprising a head-piece provided with internal screw-threads, a second head-piece provided with internal screw-threads of an opposite pitch to those on the head-piece first mentioned, a central member provided with screw-threads which coöperate with those on said head-pieces, and coiled springs connected to said central member and head-pieces; substantially as described.

845,151. LARDING-NEEDLE. BERNARD F. WEBER, Chicago, Ill. Filed May 16, 1905. Serial No. 260,641.



Claim.—A larding-needle comprising two separable, relatively telescopically movable members, one of which carries a handle and the other of which carries a point, said members being provided on their side edges with interfitting guides and together constituting a tubular receptacle for strips of bacon, salt pork or the like.

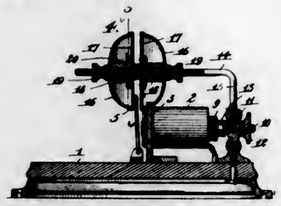
845,152. LOG-ROLLER. ROBERT WEIR, Chicago, Ill. Filed July 25, 1903. Serial No. 167,058.



Claim.—1. A log-rolling machine comprising a deck, a saw-carriage, a shaft carrying a stop-arm, a plurality of levers having their free ends directly but loosely connected to an arm on the stop-arm shaft and adapted to lift and roll the logs from the deck to the saw-carriage.

2. A log-rolling machine comprising a deck, a saw-carriage, a shaft carrying a stop-arm, a plurality of levers pivoted at their delivery end between the stop-arm and the saw-carriage and having their free ends directly but loosely connected to an arm on the stop-arm shaft adapted to lift and roll the logs from the deck to the saw-carriage.

845,153. TELEGRAPH-SOUNDER. DENNIS A. WHITNEY, Holland, N. Y., assignor of one-half to William D. Huntington, Holland, N. Y. Filed Nov. 15, 1906. Serial No. 343,553.



Claim.—1. The combination with a telegraph instrument, of a pair of spaced resonators mounted upon said instrument and adapted to be contacted by the armature thereof and tension means for spacing said resonators.

2. The combination with a telegraph instrument having a vibrating armature, of resonating-shells supported on each side of the armature and adapted to be contacted thereby means for changing the position of the shells, and automatic means for spacing the shells at the proper distance apart.

3. The combination with a telegraph instrument having a vibrating armature, of a support, resonating-shells arranged on said support on each side of the armature, means for independently adjusting the shells on the support with respect to each other, and tension means for spacing the shells.

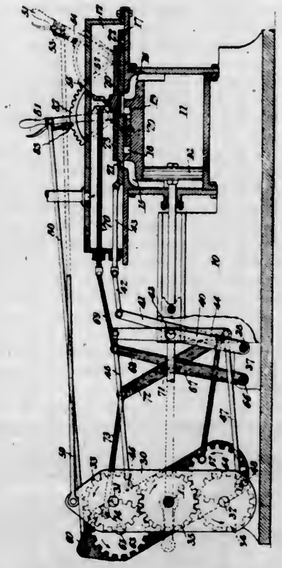
4. The combination with a magnet and armature, of a support, drums arranged on the support on opposite sides of the armature, means for spacing the drums, and means for shifting the drums on the support.

5. The combination with a magnet and armature, of a support, resonating-shells arranged on the support, a spacing-spring between the shells, and means for shifting the shells on the support.

6. The combination with a telegraph instrument, of a support mounted thereon, hollow drums arranged on said support, adjustable abutments on said supports engaging the outer faces of the drums, and spacing means interposed between the drums.

7. The combination with a telegraph instrument, of a support mounted thereon, spaced resonators arranged on said support, adjustable abutments on the support engaging the resonators, and tension-spacing means interposed between the resonators.

845,154. VALVE-MOTION. JOHN H. WILLIAMS, New London, Iowa. Filed Feb. 10, 1906. Serial No. 300,463.



Claim.—1. The combination with a steam-engine, of a revoluble shaft, a gear on said shaft, a pair of gears arranged on opposite sides of the shaft and with which said shaft-carried gear intermeshes, a lever mounted in parallel relation with the axes of the pair of gears, studs carried by the pair of gears and disposed, also, in parallel relation with the lever, means connecting the studs to the ends of the lever, a valve, and means for transmitting movement from said lever to the valve.

2. The combination in a valve-gear, of a shaft, a gear mounted thereon, a pair of gears intermeshing with the shaft-carried gear and provided with pivot pins or studs occupying the same relative positions with respect to the axes of their gears, a pivotally-mounted lever to which said studs are connected, a valve, and means for transmitting movement from the lever to the valve.

3. In a valve-gear, a revoluble shaft, a gear carried thereby, a pair of gears arranged at diametrically opposite points with respect to the shaft-carried gear and intermeshing therewith, pivot pins or studs carried by the pair of gears and occupying the same relative positions with respect to the axes of said gears, a lever, means for connecting the same to said studs, a rock-shaft, a pair of rocker-arms carried by the shaft, one of said rocker-arms forming a support for the lever, and a valve to which the second rocker-arm is connected.

4. In a valve-gear, the combination with a shaft, of a gear carried thereby, a plate or similar support adjustable circumferentially to the shaft, a pair of gears supported by the plate and intermeshing with the shaft-carried gears, crank pins or studs carried by the pair of gears and

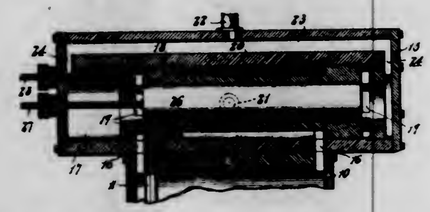
intermeshing with the shaft-carried gears, a valve, mechanism connecting said valve to the crank pins or studs, and means for adjusting said plate or support to effect movement of said crank pins or studs, and the adjustment of the valve.

5. In a valve-gear, the combination with a shaft, of a gear carried thereby, a plate or similar support adjustable circumferentially of the shaft, a pair of gears supported by said plate and intermeshing with the shaft-carried gear, crank pins or studs on the pair of gears, a lever disposed in parallel relation with a line connecting the axes of said crank pins or studs, links connecting the pins or studs to the lever, a valve, means for transmitting movement from the lever to the valve, and means for adjusting said plate or support, whereby the pair of gears may be revolved to adjust the position of the valve.

6. In a valve-gear, the combination with a slide-valve and a cut-off valve, of a shaft, a pair of gears carried by the shaft, two sets of valve-operating gears each including a pair of gears in mesh with one of the shaft-carried gears, carrying-plates for the pair of gears, independent means for adjusting said plates, crank pins or studs on the pairs of gears, and means for transmitting movement from said crank pins or studs to the valves.

7. In valve-gear, a slide-valve, a main shaft-gear, a pair of gears arranged on either side of the main shaft-gear and intermeshing therewith, shafts carrying said pair of gears, slotted crank-arms on the shafts, adjustable crank-pins supported by the arms, levers maintained in parallelism with the axes of the shafts, rods extending from said levers to the crank-pins, and means for connecting said levers to the valve.

845,155. CUT-OFF VALVE. JOHN H. WILLIAMS, New London, Iowa. Filed May 14, 1906. Serial No. 316,783.

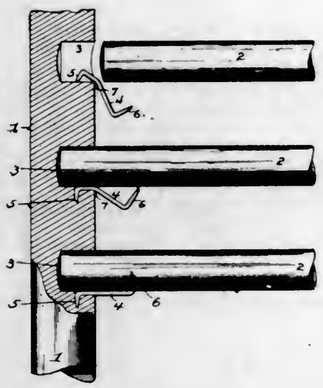


Claim.—In combination, a cylinder, a steam-chest of greater length than the cylinder, straight ports leading directly from the ends of the cylinder to the steam-chest at approximately right angles to the longitudinal axis of the cylinder, the steam-chest being provided with a cylindrical bore and arranged to receive steam at both ends and to exhaust at the center, a hollow cylindrical valve arranged in the steam-chest and provided with ports to permit the passage of the steam from the ends of the chest to the cylinder-ports, said valve having a reduced central portion in constant communication with the exhaust, a solid cut-off valve arranged within the hollow valve and controlling the ports of the latter, and independent valve-stems connected to the two valves.

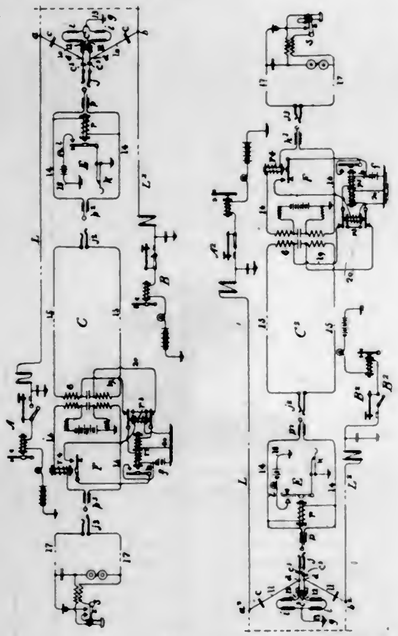
845,156. STAPLE OR FASTENER. FRED F. WINCHESTER, St. Paul, Minn. Filed Aug. 18, 1906. Serial No. 331,217.

Claim.—A staple comprising a metal strip with oppositely-projecting prongs at its respective ends, said strip bent at a point approximately the same distance from one end as the length of the prong at that end, the inner side of the bend being on the same side as said last-mentioned prong, and the angle of said bend being such that the point of the other prong stands approximately in line with the portion of the strip adjacent to the first-mentioned prong.

845,156.



845,157. COMPOSITE TELEPHONIC AND TELEGRAPHIC CIRCUIT. GEORGE M. YORKE, New York, N. Y., assignor to American Telephone and Telegraph Company, a Corporation of New York. Filed Jan. 7, 1907. Serial No. 351,231.



Claim.—1. A composite telegraph and telephone system comprising line conductors provided with telegraph-stations, intermediate bridge-conductors connecting the lines and containing telephone instruments, said instruments having associated with them sources of steady current having access to the bridge-conductors, earth branches joined to the bridges at each side of the telephone instruments, and means situated in the earth branches for preventing the passage of steady currents.

2. The combination with line conductors having terminal telegraph-stations, of bridge-conductors connecting the lines and leading to telephone instruments, condensers included in a bridge at each side of the telephone instruments, earth branches joined to said bridge between said condensers and the telephone instruments, and a condenser in each earth branch.

3. In a composite telegraph and telephone system, the combination with line conductors provided with terminal telegraph-stations, of bridge-conductors connecting the lines and leading to telephone-stations, said telephone-stations having sources of steady signaling-current which may be connected with the bridges, condensers included in the bridges at each side of the telephone-stations and being of such capacity as to most effectively exclude telegraph-currents while permitting the free passage of telephone-currents, earth branches joined to the bridges between said condensers and the telephone-stations, and a condenser in each earth branch, substantially as described.

845,158. KNOTTER FOR GRAIN-BINDERS. CHARLES F. ADAMS, Riga township, Monroe county, N. Y., assignor of one-half to William L. Ormrod, Churchville, N. Y. Filed Mar. 1, 1906. Serial No. 303,704.



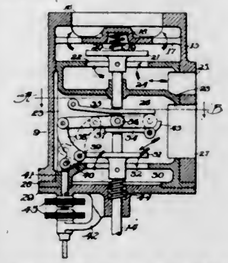
Claim.—1. In a knotter for grain-binders, a tier-bill having a vertical slot, and also a transvere slot in its end for the cord, a tongue lying in the vertical slot in said tier-bill and having a notch in its upper surface forming a hook to retain the cord when the tongue is above the top of the tier-bill, and means for producing relative movement of said tier-bill and tongue to expose the hook above the tier-bill and to cover it within the tier-bill, whereby the said hook is operative in one position and is inoperative in another, and the cord is held between the tier-bill and the tongue in said transverse slot and is released.

2. In a knotter for grain-binders, a tier-bill having a vertical slot, and also a transverse slot in its end for the cord, a tongue lying in said vertical slot of said tier-bill and having a notch in its upper surface, and means for producing relative movement of said tier-bill and said tongue, whereby the notch is exposed above the tier-bill and the cord lies ungripped in said transverse slot when the parts are in one position, and the notch is covered by the tier-bill and the cord is gripped in said transverse slot when the parts are in another position.

3. In a knotter for grain-binders, a tier-bill having a vertical slot, and also a transverse slot in its end for the cord, a support, a cam on said support, a tongue lying in the vertical slot in the tier-bill and having a notch in its upper surface, pivotal connections between said tier-bill and said tongue, a roller running on said cam and connected with one of said pivotally-connected parts, the other of said pivotally-connected parts being fastened to said support, whereby when the roller runs on the cam the notch is exposed above the tier-bill, and when the roller is not running on the cam the notch is covered by the tier-bill and a cord may be gripped between the tongue and the tier-bill.

4. In a knotter for grain-binders, a tier-bill having a vertical slot, and also a transverse slot in its end for the cord, a support, an interrupted cam on said support, a tongue lying in the vertical slot in the tier-bill and having a notch in its upper surface, pivotal connections between said tier-bill and said tongue, a roller running on said cam and connected with one of said pivotally-connected parts, the other of said pivotally-connected parts being fastened to said support, whereby when the roller runs on the cam the notch is exposed above the tier-bill, and when the roller is not running on the cam the notch is covered by the tier-bill, and a stationary guide for acting on said roller to hold the same and its connected part in place when the roller is off the cam.

845,159. GAS-ENGINE. WILLIAM K. ANDREW, Milwaukee, Wis., assignor to International Harvester Company, a Corporation of New Jersey. Filed Nov. 26, 1906. Serial No. 345,246.



Claim.—1. In combination with a gas-engine, a throttling-governor comprising a cylindrical valve-chamber containing separate gas and air chambers having open ports communicating with a source of gas and a source of air supply, respectively, other ports opening out of said chambers, valves controlling said last-named ports, a speed-governor mechanism operatively connected with said valves in a manner causing them to close the ports, and an adjustable lever connection between said valves operative to regulate their relative movement.

2. A throttling-governor for gas-engines comprising, in combination, a cylinder having an open end in communication with the combustion-chamber of an engine and its opposite end closed, a gas-chamber and an air-chamber intermediate said ends, and a dividing-wall between said chambers, an inlet-port communicating with said gas-chamber and a source of gas-supply, and an inlet-port communicating with said air-chamber and a source of air-supply, an outlet-port communicating with said gas-chamber and the open end of said cylinder, an outlet-port communicating with said air-chamber, air-conduits communicating with said air-outlet port and the open end of said cylinder, a valve controlling said gas-outlet port and opening outward from said gas-chamber, said valve having a stem projecting through a bearing formed in said dividing-wall and extending into said air-chamber, a valve controlling said air-outlet port and opening inward into said air-chamber, a valve-controlling rod having a bearing in the closed end of said cylinder and projecting through said air-controlling valve substantially in axial alinement with the stem of said gas-controlling valve, and having an intervening space therebetween, independent levers pivoted upon opposite sides of said stems and contacting with the ends thereof, an adjustable fulcrum between said levers, and means for adjusting said fulcrum lengthwise of said levers.

3. A throttling-governor for gas-engines comprising, in combination, a cylinder having an open end in communication with the combustion-chamber of an engine and its opposite end closed, separate gas and air chambers within said cylinder intermediate its ends, and a dividing-wall between said chambers, a gas-inlet port communicating with said gas-chamber and a source of gas-supply, and an air-inlet port communicating with said air-chamber and a source of air-supply, an outlet-port communicating with said gas-chamber and the open end of said cylinder, an outlet-port communicating with said air-chamber, air-conduits communicating with said air-outlet port and the open end of said cylinder, a valve controlling said gas-outlet port and opening outward from said gas-chamber, said valve having a stem projecting through a bearing formed in said dividing-wall and extending into said air-chamber, a valve controlling said air-outlet port and opening inward

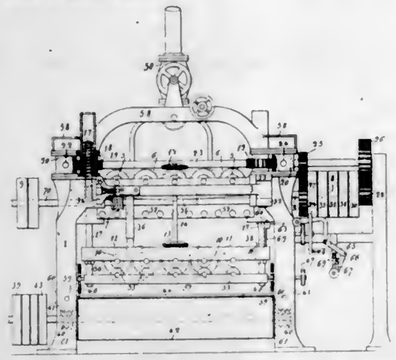
into said air-chamber, a valve-controlling rod having a bearing in the closed end of said cylinder and projecting through said air-controlling valve substantially in axial alinement with the stem of said gas-controlling valve, and having an intervening space therebetween, independent levers pivoted upon opposite sides of said stems and contacting with the adjacent ends thereof, an adjustable fulcrum between said levers, means for adjusting said fulcrum lengthwise of said levers, said means comprising a longitudinally-movable rod mounted in said cylinder, means for adjusting said rod longitudinally, and a lever-and-link connection between said rod and said movable fulcrum.

5. A throttling-governor for gas-engines comprising, in combination, a cylinder having an open end in communication with the combustion-chamber of an engine and its opposite end closed, separate gas and air chambers within said cylinder intermediate its ends, and a dividing-wall between said chambers, a gas-inlet port communicating with said gas-chamber and a source of gas-supply, and an air-inlet port communicating with said air-chamber and a source of air-supply, an outlet-port communicating with said gas-chamber and the open end of said cylinder, an outlet-port communicating with said air-chamber, air-conduits communicating with said air-outlet port and the open end of said cylinder, a valve controlling said gas-outlet port and opening outward from said gas-chamber, said valve having a stem projecting through a bearing formed in said dividing-wall, a valve controlling said air-outlet port and opening inward into said air-chamber, a valve-controlling rod having a bearing in the closed end of said cylinder and projecting through said air-controlling valve substantially in axial alinement with the stem of said gas-controlling valve and having an intervening space therebetween, independent levers pivoted upon opposite sides of said stems and contacting with the adjacent ends thereof, an adjustable fulcrum between said levers, means for adjusting said fulcrum lengthwise of said levers, said means comprising a longitudinally-movable rod mounted in said cylinder, means for adjusting said rod longitudinally, and a lever-and-link connection between said rod and said movable fulcrum.

5. A throttling-governor for gas-engines comprising, in combination, a cylinder having an open end in communication with the combustion-chamber of an engine and its opposite end closed, separate gas and air chambers within said cylinder intermediate its ends, and a dividing-wall between said chambers, a gas-inlet port communicating with said gas-chamber and a source of gas-supply, and an air-inlet port communicating with said air-chamber and a source of air-supply, an outlet-port communicating with said gas-chamber and the open end of said cylinder, an outlet-port communicating with said air-chamber, air-conduits communicating with said air-outlet port and the open end of said cylinder, a valve controlling said gas-outlet port and opening outward from said gas-chamber, said valve having a stem projecting through a bearing formed in said dividing-wall and extending into said air-chamber, a valve controlling said air-outlet port and opening inward into said air-chamber, a valve-controlling rod having a bearing in the closed end of said cylinder and projecting through said air-controlling valve substantially in axial alinement with the stem of said gas-controlling valve and having an intervening space therebetween, a speed-governor mechanism operatively connected with said valve-controlling rod in a manner causing said valve to move toward said port, a spring operative to move said valve in an opposite direction, independent levers pivoted upon opposite sides of said valve-stems and contacting with the adjacent ends thereof, an adjustable fulcrum between said levers, and means for adjusting said fulcrum lengthwise of said levers.

845,160. MACHINE FOR MERCERIZING COTTON. LUIGI CIPOLLINA, Rivarolo Ligure, Italy. Filed May 27, 1903. Serial No. 158,959.

Claim.—1. In a mercerizing-machine, a series of coupled rollers for supporting the hanks of yarn placed two by two, in vertical planes, two upper cross-bars supporting the upper rollers the front one being pivoted at one end to the frame of the machine and the other being fixed thereto, four corner guide-rods sliding vertically, and two lower cross-bars supporting the lower rollers, connected to the lower ends of said rods, the front rod being pivoted at one end to the frame of the machine and the other being fixed to such frame.



2. In a mercerizing-machine for yarn, a series of coupled rollers for supporting the hanks of yarn placed two by two in vertical planes, two upper cross-bars, lower cross-bars, four corner guide-rods sliding vertically, a tank containing the mercerizing liquid provided with toothed vertical bars, gears and worms coacting with said toothed bars for raising and lowering the tank, a cover for the tank provided with toothed bars and adapted to slide on rollers outside the machine, and means for sliding the cover from the rollers on the tank after it has been lowered.

3. In a mercerizing-machine for yarn, a series of coupled rollers for supporting the hanks of yarn placed two by two in vertical planes, two upper cross-bars and two lower cross-bars, a tank containing the mercerizing liquid adapted to be reciprocated vertically, a series of rubber rollers pressing against the lower rollers and supported by cross-bars which are suspended by vertical rods to the frame of the machine, and springs actuating the rods.

4. In a mercerizing-machine for yarn, a series of coupled rollers supporting the hanks of yarn placed in vertical planes, means for stretching the hanks and for rotating the rollers, a tank containing the mercerizing liquid, means for raising and lowering the tank, a cover for the tank, means for sliding the cover on the tank after it has been lowered, and a series of washing-pipes provided with small holes arranged between the hanks parallel to the rollers.

845,161. CAR-CONTROLLING APPARATUS. CLARENCE W. COLEMAN, Westfield, N. J., assignor to The Hall Signal Company, a Corporation of Maine. Filed June 17, 1905. Serial No. 265,674.

Claim.—1. In a car-controlling system a track comprising an insulated section; a track-circuit for said section comprising a track-battery, the opposite rails of the section, and a track electromagnetic device; a car provided with automatic controlling means; a magnet on the car for operating said controlling means; a circuit for said magnet; and a circuit branch arranged to be connected in the magnet-circuit when the car has reached a predetermined point on the track, said circuit branch being controlled by said electromagnetic device of the track-circuit.

2. In a car-controlling system a track comprising an insulated section; a track-circuit for said section comprising a track-battery, the opposite rails of the section, and a track electromagnetic device; a car provided with automatic controlling means; a magnet on the car for operating said controlling means; a normally closed circuit for said magnet; and a circuit branch arranged to be connected in the magnet-circuit when the car has reached a predetermined point on the track, said circuit branch being controlled by said electromagnetic device of the track-circuit.

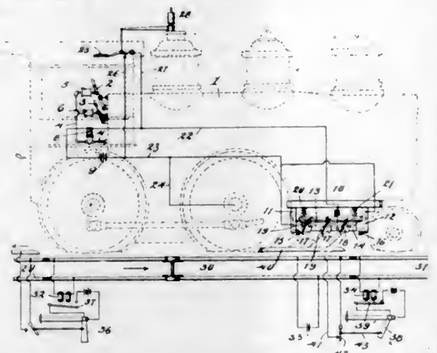
3. In a car-controlling system a track comprising an insulated section; a track-circuit for said section comprising a track-battery, the opposite rails of the section, and a track electromagnetic device; a car provided with automatic controlling means; a magnet on the car for operating said controlling means; circuit connections for said magnet; and a circuit branch arranged to be connected in circuit with said magnet when the car has reached a predetermined point on the track preceding said section, said circuit branch being controlled by said electromagnetic device of the track-circuit.

4. In a railway signaling and car controlling system, a track comprising an insulated section; a track-signal for said section; a track-circuit for said section and controlling said signal; a car provided with automatic controlling means; a magnet on the car for operating said controlling means; a circuit including said magnet; and a circuit branch arranged to be included in the magnet-circuit when the car has reached a predetermined point on the track, said circuit branch being controlled by said signal of said section, so that said car will be prevented automatically from passing a danger-signal.

5. In a railway signaling and car controlling system, a track comprising an insulated section, a track-signal for said section; a track-circuit for said section comprising a track-battery and controlling said signal; a car provided with automatic controlling means; a magnet on the car for operating said controlling means; a circuit including said magnet; and a circuit branch arranged to be included in the magnet-circuit when the car has reached a predetermined point on the track, said circuit branch being controlled by said signal of said section, so that said car will be prevented automatically from passing a danger-signal.

6. In a railway-car-controlling system, the combination of a track comprising a section; a track-signal and a track source of electric energy for said section; a track-circuit for controlling said signal, said circuit including the opposite rails of said section and said source of electric energy; a car provided with automatic controlling means; a magnet on the car for operating said controlling means; a normally closed circuit including said magnet; and a circuit branch arranged to be included in the magnet-circuit when the car has reached a predetermined point on the track, said circuit branch being controlled by said signal of said section.

7. In a railway-car-controlling system, the combination of a track comprising a section; a track-signal and a track source of electric energy for said section; a track-circuit for controlling said signal, said circuit including the opposite rails of said section and said source of electric energy; a car provided with automatic controlling means; a magnet on the car for operating said controlling means; a circuit including said magnet; and a circuit branch including a rail of the track and arranged to be included in the magnet-circuit when the car has reached a predetermined point on the track, said circuit branch being controlled by said signal of said section.



8. In a railway-car-controlling system, the combination of a track comprising a section; a track-signal and a track source of electric energy for said section; a track-circuit for controlling said signal, said circuit including the opposite rails of said section and said source of electric energy; a car provided with automatic controlling means; a normally energized magnet on the car for operating said controlling means; a normally closed circuit including said magnet; and a circuit branch including a rail of the track and arranged to be included in the magnet-circuit when the car has reached a predetermined point on the track, said circuit branch being controlled by said signal of said section.

9. In a railway-car-controlling system, the combination of a track comprising a section; a track-signal and a track source of electric energy for said section; a track-circuit for controlling said signal, said circuit including the opposite rails of said section and said source of electric energy; a car provided with automatic controlling means; a magnet on the car for operating said controlling means, a circuit including said magnet; a switch on the car and in said circuit; and a circuit branch arranged to be included by said switch in the magnet-circuit when the car has reached a predetermined point on the track, said circuit branch being controlled by said signal of said section.

10. In a railway-car-controlling system, the combination of a track divided into sections; a signal for each section; a track-circuit for each section controlling the signal for said section; a car provided with automatic controlling means; a magnet on the car for operating said controlling means; a circuit including said magnet; and a branch including a circuit-closer and arranged to be included in the magnet-circuit when the car has reached a predetermined point on the track, said circuit-closer being operated by a signal and said signal being controlled by a track-section in advance of said point.

11. In a railway-car-controlling system, the combination of a track divided into sections; a signal for each section; a track-circuit for each section controlling the signal for said section; a car provided with automatic controlling means; a magnet on the car for operating said controlling means; a circuit including said magnet; a switch on the car and in said circuit; a track-contact; a branch circuit connected to said track-contact and to a rail of the track; said switch operating to include said branch circuit in the magnet-circuit when the train reaches the track-contact; and means operated by a signal for controlling said branch circuit from the track-section in advance.

12. In a railway-car-controlling system, the combination of a track divided into sections; a signal for each section; a car provided with automatic controlling means; a magnet on the car for operating said controlling means; a circuit including said magnet; and a circuit branch arranged to be included in the magnet-circuit when the car has reached a predetermined point on the track, said circuit branch being controlled by a signal of a track-section in advance of said point; and a hand-switch on the car for controlling said magnet.

13. In a railway-car-controlling system, the combination of a track divided into sections, both rails of each section being insulated from the rails of an adjoining section; a section-circuit including both rails of a section; a car provided with automatic controlling means; a magnet on the car for operating said controlling means; a circuit including said magnet; and a circuit branch including a rail of the track arranged to be included in the magnet-circuit when the car has reached a predetermined point on the track, said circuit branch being controlled by a section-circuit of a track-section in advance of said point; and a hand-switch on the car for controlling said magnet.

14. In a railway-car-controlling system, the combination of a track divided into sections; a car provided with automatic controlling means; a single magnet on the car for operating said controlling means; a circuit including

said magnet; a switch on the car and in said circuit; a branch circuit arranged to be included by said switch in the magnet-circuit when the car has reached a predetermined point on the track, said circuit branch being controlled by a track-section in advance; and a hand-switch on the car for controlling said magnet.

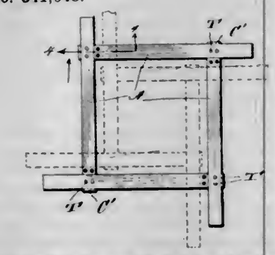
15. In a railway-car-controlling system, the combination of a track divided into sections; a car provided with automatic controlling means; a normally energized magnet on the car for operating said controlling means; a normally closed circuit including said magnet; a switch on the car and in said circuit; and a branch circuit arranged to be included by said switch in the magnet-circuit when the car has reached a predetermined point on the track, said circuit branch being controlled by a track-section in advance; and a hand-switch on the car for controlling said magnet.

16. In a railway-car-controlling system, the combination of a track divided into sections; a car provided with automatic controlling means; a magnet on the car for operating said controlling means; a circuit including said magnet; a switch on the car and in said circuit; a branch circuit including a rail of the track arranged to be included by said switch in the magnet-circuit when the car has reached a predetermined point on the track, said circuit being controlled by a track-section in advance; and a hand-switch on the car for controlling said magnet.

17. In a railway-car-controlling system, the combination of a track divided into sections; a car provided with automatic controlling means; a magnet on the car for operating said controlling means; a circuit including said magnet; a switch on the car and in said circuit; a track-contact; a branch circuit connected to said track-contact and to a rail of the track; said switch operating to include said branch circuit in the magnet-circuit when the train reaches the track-contact; means for controlling said branch circuit from the track-section in advance; and a hand-switch on the car for controlling said magnet.

18. In a railway-car-controlling system, the combination of a track divided into sections; a car provided with automatic controlling means; a normally energized magnet on the car for operating said controlling means; a normally closed circuit including said magnet; a switch on the car and in said circuit; a track-contact; a branch circuit connected to said track-contact and to a rail of the track; said switch operating to include said branch circuit in the magnet when the train reaches the track-contact; means for controlling said branch circuit from the track-section in advance; and a hand-switch on the car for controlling said magnet.

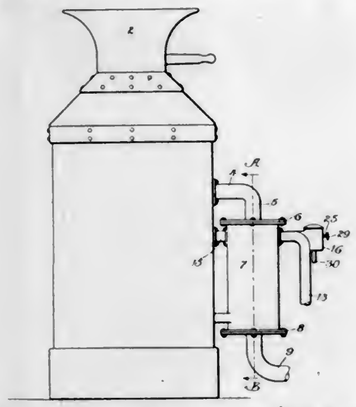
845,162. ADJUSTABLE KNOCKDOWN SCREEN. JOHN H. CORNELISON, St. Louis, Mo. Filed Nov. 1, 1906. Serial No. 341,645.



Claim.—1. An adjustable knockdown screen-frame comprising strips, each having a slot formed in one end thereof and extending entirely through the strip, a plate having an angled end and fastened to the opposite end of the strip and of a width equal to the width of the strip and adapted to extend entirely through a slot and its angled end engaging the marginal edge of said slot, as set forth.

2. An adjustable knockdown screen-frame, comprising strips, each having a longitudinal slot formed in one end, an angled plate fixed in a slot in the opposite end of each strip, the outer end of said plate being bent at an angle, the projecting shank portion of each plate adapted to be fitted in the slot in the end of a strip at right angles thereto, the angled end of the plate being adapted to engage the outer longitudinal edge of the slotted portion of the strip, and fastening means for holding the ends of the strips in adjusted positions, as set forth.

845,163. GAS-PRODUCER. HENRY K. COWEN, Chicago, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed May 7, 1906. Serial No. 315,652.



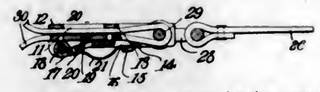
Claim.—1. A suction gas-producer comprising, in combination, a retort, a gas-conduit communicating with said retort, a heating-chamber receiving heat from said gas-conduit, an air-conduit communicating with said chamber and said retort, a constant-level water-cup, a feed-outlet from said cup said feed-outlet communicating with said air-conduit beyond said heating-chamber and permitting a continuous flow of water within the path of the inflow of air thereto and means for regulating the size of said feed-outlet.

2. A suction gas-producer comprising, in combination, a retort, a gas-conduit communicating with said retort, a heating-chamber receiving heat from said gas-conduit, an air-conduit communicating with said chamber and said retort, a constant-level water-cup, a feed-outlet from said cup said feed-outlet communicating with said air-conduit beyond said heating-chamber and permitting a continuous flow of water within the path of the inflow of air thereto and a needle-valve adapted to control said feed-outlet.

3. A suction gas-producer comprising, in combination, a retort, a gas-conduit communicating with said retort, a heating-chamber surrounding said gas-conduit, comprising two vertically-arranged compartments separated by a partition-wall, heat-radiating wings vertically arranged relative to said partition and having intervening spaces, said partition having openings communicating with the oppositely-disposed compartments, an air-inlet communicating with one of said compartments, and an air-conduit connecting the other compartment with said retort.

4. A suction gas-producer comprising, in combination, a gas-conduit communicating with said retort, a heating-chamber receiving heat from said gas-conduit, an air-conduit communicating with said chamber and said retort, a constant-level water-cup, said cup having a feed-outlet near the top thereof and within the part of the inflow of air to said heating-chamber, a partition-wall dividing the cup into two compartments, the top of said wall being above the plane of said feed-outlet, a pipe connecting the compartment having the feed-outlet with a source of water-supply, and a drip-pipe connected with the bottom of the other compartment.

845,164. BUCKLE. OTTO C. DALLY, Dogtooth, N. D. Filed July 11, 1906. Serial No. 325,692.



Claim.—1. In a buckle, a frame having spaced sides and transverse bars spaced apart and connecting said sides, one of said bars having a recess, a tongue swinging between said sides and provided with a stud for engaging a strap extending through said frame, and a resilient catch swinging upon and normally exerting an inward pressure against said tongue and adapted to be yieldably engaged with the recess in said transverse bar.

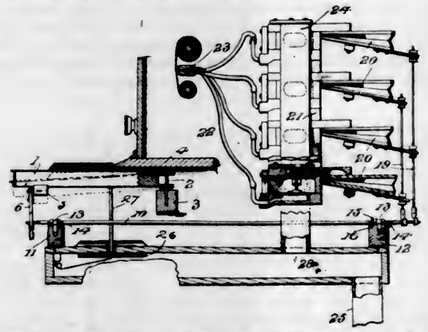
2. In a buckle, a frame having spaced sides and with intermediate bars spaced apart and connecting said sides, a bolt connecting said sides at one end, a tongue swinging between said sides at the other end and provided with a stud, and a resilient member swinging from said tongue and adapted to be yieldably engaged with one of said bars when in closed position, whereby a strap may be folded upon itself and disposed around said bolt with the two parts of the strap extending through said frame and between said bars and adjustably supported in position by said tongue.

3. The combination of a buckle comprising a frame formed with spaced sides and spaced transverse connecting-bars, a bolt connecting said sides at one end, a tongue swinging between said sides at the other end and provided with an inwardly-extending stud and a resilient member adapted to be engaged with one of said bars when the tongue is in closed position, and a strap folded upon itself and passed around said bolt and through said frame and adjustably supported therein by said tongue and its stud.

4. In a buckle the combination with a frame; of a tongue pivotally mounted therein and having a strap-engaging projection, and a spring-catch pivotally mounted upon one face of the tongue and adapted to engage the frame to yieldingly hold the tongue within the frame.

5. In a buckle the combination with a frame; of a strap-engaging device pivotally mounted within the frame, and a spring-catch pivotally mounted upon said device for detachably engaging the frame to exert a constant inward pressure upon said device, said catch being movable in a plane at right angles to the plane of movement of the pivoted device.

845,165. AUTOMATIC ORGAN-ACTION. JOHN W. DAVIS, Pulaski, Tenn., assignor to The Davis Piano Player Company, Pulaski, Tenn., a Copartnership. Filed Sept. 25, 1906. Serial No. 336,211.



Claim.—1. In an organ-action of the character described, the combination with a key and a pneumatic, of a rod mounted to turn about its longitudinal axis and provided at each end with a crank, a tracker connection between one crank and the pneumatic, and a depending finger pivotally secured to the key and having a detachable connection with the other crank of the rod.

2. In an organ-action of the character described, the combination with a key and a pneumatic, of a rod mounted to turn about its longitudinal axis and provided at each end with a crank, a tracker connection between one crank and the pneumatic, and a depending finger pivotally secured to the key and provided with a longitudinal slot in which the other crank is loosely mounted.

3. In an organ-action of the character described, the combination with a key and a pneumatic, of a rod mounted to turn about its longitudinal axis, rails upon which said rod is journaled, said rod being provided at each end with a crank, one rail being provided with a longitudinal groove, and the rod having a collar fitted in said groove, a tracker connection between one crank of the rod and said pneumatic, and a depending finger pivotally secured underneath the key near the front end thereof, said finger being provided with a longitudinal slot in which the other crank is loosely mounted, the arrangement being such that the key with the finger may be removed readily from the organ, substantially as set forth.

4. In an organ-action of the character described, the combination with a key, of a rod provided at one end with a crank, a depending finger pivotally secured to the key and having a slotted detachable connection with the said crank, and means for automatically actuating said rod, to depress the key.

5. In an action of the character described, the combination with a key, of a rod provided at one end with a crank, said rod being mounted to turn about its longitudinal axis, a depending finger pivotally secured to the key and having a slotted connection with said crank, and means for automatically actuating said rod to depress said key.

6. In an organ-action of the character described, the combination with a key, of an actuating-rod connected to the key near the front end thereof, said rod being mounted to turn about its longitudinal axis and extending rearwardly from the key from the front to the rear of the organ below the keyboard, a pneumatic located between the ends of said rod, and a tracker connected to the rear end of the rod and to the pneumatic, as and for the purpose set forth.

845,166. INCANDESCENT GAS-LAMP. ROBERT M. DIXON, East Orange, N. J., assignor to The Safety Car Heating & Lighting Company, a Corporation of New Jersey. Filed Mar. 22, 1905. Serial No. 251,387.

Claim.—1. In an inverted incandescent gas-lamp, the combination of a body portion having a central channel, a globe, a plurality of incandescent gas-burners and means for removing products of combustion through the central channel.

2. In an inverted incandescent gas-lamp, the combination of a center casting having a central passage, a plurality of chambers, a plurality of inverted incandescent gas-burners having their mixing-chambers located in the said chambers, substantially as described.

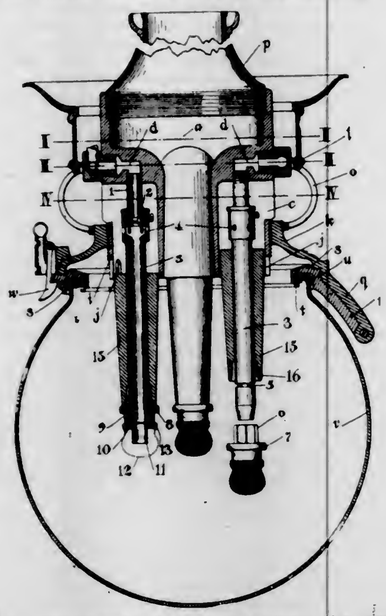
3. In an inverted incandescent gas-lamp, the combination of a chambered center casting having a central flue and a plurality of inverted incandescent gas-burners arranged in the said chambers and a globe surrounding the said burners.

4. In an inverted incandescent gas-lamp, the combination of a body or center casting, a series of inverted incandescent gas-burners, means for bringing a supply of air to the inverted incandescent gas-burners from the outside of the body or center casting and means for withdrawing the products of combustion through the interior of the body or center casting.

5. In an inverted incandescent gas-lamp, the combination of a center casting provided with an interior duct for products of combustion and chambers for the reception of inverted incandescent gas-burners, of inverted incandescent gas-burners located within the said chambers and having their mixing-chambers enveloped by the said chambers in the center casting.

6. In an inverted incandescent gas-lamp, the combination of a chambered body portion, inverted gas-burners communicating with the said chambered body portion and a central duct for removing the products of combustion.

7. In an inverted incandescent gas-lamp, the combination of a group of incandescent gas-burners, an enveloping globe closed at the bottom and a duct leading from the upper end of said group for removing products of combustion from the interior thereof, substantially as described.



8. In an inverted incandescent gas-lamp, the combination of a body or center casting, a group of inverted incandescent burners, separate means embodied in the casting for bringing air separately to each burner and a common means for discharging products of combustion.

9. In an inverted incandescent gas-lamp, the combination of a body or center casting, a group of inverted incandescent burners, separate means embodied in the casting for bringing air separately to each burner and a common means for discharging products of combustion.

10. In an inverted incandescent gas-burner, the combination of a mixing-chamber, a mantle having a clasp device and a sliding sleeve for protecting said mixing-chamber against heat adapted to maintain the clasp device in engagement with a support.

11. In an inverted incandescent gas-burner, the combination of a suitable clasp device, a suitable grooved support with which the clasp device is adapted to engage, a mantle carried by the clasp device and a sliding sleeve adapted to engage said clasp device.

12. In an inverted incandescent gas-burner, the combination of a suitable mantle, an inverted mixing-chamber and a sliding protecting-sleeve therefor, substantially as described.

13. In an inverted incandescent gas-burner, the combination of a suitable mantle, a mixing-chamber and a tapering sliding protecting-sleeve for protecting the said mixing-chamber.

14. In a gas-lamp, the combination of a center casting having a plurality of chambers on the outside and a central duct or flue, a plurality of inverted incandescent gas-burners contained within the said chambers and provided with protecting-sleeves.

15. In a gas-lamp, the combination of a center casting having a plurality of chambers on the outside and a central duct or flue, a plurality of inverted incandescent gas-burners contained within the said chambers and provided with protecting-sleeves and a globe supported below the center casting and enveloping the burners.

16. In a gas-lamp, the combination of a center casting having a plurality of chambers on the outside and a central duct or flue, a plurality of inverted incandescent gas-burners contained within the said chambers and provided with protecting-sleeves and a globe supported below the center casting and enveloping the burners.

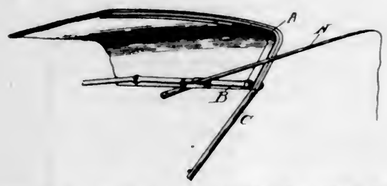
17. In an inverted incandescent gas-lamp, the combination of a burner, means for entirely enveloping the burner and protecting same from atmospheric disturbances comprising in part a sliding sleeve and in part by a translucent globe and means for bringing to the said burner through the mixing-tube thereof an air-and-gas mixture constituting the sole effective source of gas-supply.

18. In an inverted incandescent gas-lamp, the combination of a suitable globe and a plurality of inverted incandescent gas-burners, means for supplying air and gas entirely from above and a duct leading from the upper ends of said burners for removing the products of combustion through the center portion of the lamp.

19. In an inverted incandescent gas-lamp, the combination of a group of inverted incandescent gas-burners, an enveloping globe and means for removing the products of combustion from within the group and conducting the same through the top of the lamp.

20. In a device of the class described, in combination, an inverted gas-burner, a sliding sleeve for protecting the same, said burner being provided with a groove near the lower end thereof, a device having inwardly-turned fingers which are adapted to be received in said groove, and a mantle carried by said device, said sliding sleeve being provided with a shoulder adapted to take about a portion of said device and maintain the fingers thereof in said groove.

845,167. WHIP-HOLDER FOR CARRIAGES. JUSTICE C. DUNFEE, Columbia City, Ind. Filed Dec. 13, 1906. Serial No. 347,667.



Claim.—A device for holding whips consisting of a blank of metal having wings of different widths at one end thereof, each of which is bent to form a resilient shell adapted to frictionally engage an object to which the device may be applied, the shank portion of the latter adapted to coöperate with the shell to form clamping means to hold the whip, one end of the shank portion of the device being inwardly bent and against which the whip is adapted to bear in inserting the same between the shank portion of the holder and said roll, as set forth.

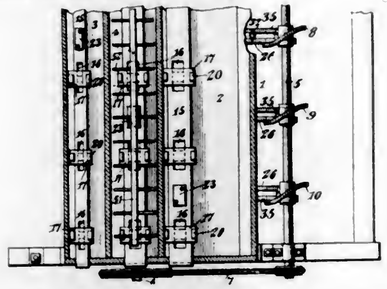
845,168. GRAIN-DRILL. OLIVER W. FISHER, Jersey Shore, Pa. Filed Mar. 27, 1906. Serial No. 308,228.

Claim.—1. A machine of the class described provided with a reciprocatable dropping bar or slide, a superimposed agitator movable with the slide and consisting of a longitudinal bar and projecting fingers, and brackets mounted on the slide and supporting the agitator.

2. In a machine of the class described, the combination with a reciprocatable dropping bar or slide provided with a slot, of a guide fitting over the dropping bar or slide and receiving and guiding the same, and provided with means extending into the slot for causing material to be discharged therefrom.

3. In a machine of the class described, the combination with a reciprocatable dropping bar or slide having a slot, of a guide receiving the dropping bar or slide and provided with a projecting portion extending into the slot and having an inclined face for expelling the material carried by the slide.

4. In a machine of the class described, the combination with a reciprocatable slide having a slot, of a guide member provided with means for guiding the slide and having a substantially triangular boss or enlargement extending into the slot and presenting oppositely-inclined faces for expelling the material carried by the slide.



5. In a machine of the class described, the combination with a slide having a slot, of a guide plate or member fitting over the slide and having an intermediate projecting portion extending into the slot, said guide plate or member being also provided with supporting-lugs located at opposite sides of the slide and spaced from the intermediate projecting portion.

6. In a machine of the class described, the combination with a reciprocatable slide, of a guide-plate or member fitted over the slide and having an intermediate projecting portion extending into the slot, said plate or member being provided at opposite sides of the slide with lugs arranged in pairs and spaced apart, and fastening means arranged in the spaces between the lugs and engaging the guide plate or member.

7. In a machine of the class described, the combination of a reciprocatable slide having a slot, a superimposed agitator provided with supporting means spaced from the slot and mounted on the slide, and a guide plate or member fitted over the slide and arranged between the same and the agitator, and provided with means extending into the slot for expelling the material therefrom.

8. In a machine of the class described, the combination with a reciprocatable slide, a lever provided with a transversely-disposed slot and connected with the slide, an adjustable fulcrum movable longitudinally of the lever for varying the relative length of the arms thereof, means for engaging the slot of the lever to hold the latter against longitudinal movement when the fulcrum is adjusted, and means for operating the lever.

9. In a machine of the class described, the combination with a reciprocatable slide, a lever provided with a transversely-disposed slot and connected with the slide, an adjustable fulcrum movable longitudinally of the lever for varying the relative length of the arms thereof, a fixed stud for engaging the slot, and means for operating the lever.

10. In a machine of the class described, the combination of a slide having a pivot, a lever provided with a bifurcation receiving the pivot of the slide, said lever being also provided with a transversely-disposed slot, a fulcrum adjustable longitudinally of the lever for varying the relative length of the arms of the same, a stud engaging the slot of the lever for holding the same against longitudinal adjustment when the fulcrum is adjusted, and means for operating the lever.

11. In a machine of the class described, the combination of a slide, a lever connected with the slide, a slidable plate or member mounted on the lever and provided with a fulcrum for the lever, an adjusting-screw connected with the sliding plate or member for moving the same longitudinally to vary the relative length of the arms of the same, and means for operating the lever.

12. In a machine of the class described, the combination of a lever, a dropping-bar actuated by the lever, a plate or member slidable on the lever and provided with a pivot, a slide having a bearing for the pivot and movable longitudinally of the lever for varying the relative length of the arms, and means for adjusting the slide.

13. In a machine of the class described, the combination of a dropping-bar, a lever for operating the same, a plate or member slidable on the lever and provided with a pivot, a slide having a bearing for the pivot, and an adjusting-screw for operating the slide.

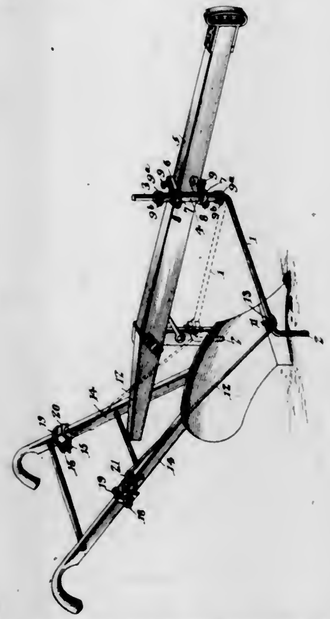
14. In a machine of the class described, the combination of a slide, a lever operating the same, an adjustable plate or member mounted on the slide for longitudinal movement, a slide also movable longitudinally of the lever, said plate or member and slide carrying means for fulcruming the lever, and means for adjusting the slide to change the fulcrum-point.

15. In a machine of the class described, the combination of a dropping-bar, a lever for operating the same, said lever being provided with a longitudinal opening, a member movable in the opening and provided with a pivot, a slide having a bearing to receive the pivot and provided with a threaded opening, and a swiveled screw engaging the threaded opening for operating the slide.

16. In a machine of the class described, the combination of a dropping-bar, a lever for operating the same, said lever being provided with graduations, a member adjustable on the lever and carrying an indicator coöperating with the graduations, a slide, said member and slide being provided with means for fulcruming the lever, and means for adjusting the slide.

17. In a machine of the class described, the combination with a dropping-bar, of a lever for operating the same, a casing receiving the lever and provided with opposite ways, a slide movable in the ways and having a bearing, a pivot adjustably mounted on the lever and arranged in the bearing of the slide, and an adjusting-screw for operating the slide.

845,169. PLOW ATTACHMENT. OLIVER W. FISHER, Jersey Shore, Pa. Filed Mar. 27, 1906. Serial No. 308,229.



Claim.—1. A plow attachment comprising a foldable bar or member, means for hingedly connecting the same with the beam of a plow, and a combined brace and oper-

ating-rod extending rearwardly from the bar or member to the handle-bars of the plow for holding the said bar or member rigidly and for folding the same.

2. A plow attachment comprising a foldable bar or member designed to be arranged at an angle to the beam of a plow, means for connecting the inner end of the bar or member with the plow, and means for folding the bar or member and for holding the same in position for operation.

3. A plow attachment comprising a foldable bar or member adapted to be arranged at an angle to the beam of a plow, means for connecting the bar or member with the plow, an operating-rod connected with the bar or member, and means carried by the plow for engagement with the operating-rod, whereby the bar or member is rigidly held in position for operation and is also maintained in its folded position.

4. A plow attachment comprising a foldable bar or member adapted to be arranged at an angle to the beam of a plow, means for connecting the bar or member with the plow, an operating-rod connected with the bar or member, and means carried by the plow for engagement with the operating-rod, whereby the rod or member is rigidly held in position for operation and is also maintained in its folded position, the latter means being also adjustable on the plow for changing the position of the bar or member with relation to the plow-beam.

5. A plow attachment comprising a foldable bar or member, means for mounting the same on the plow, a pair of clamps provided with means for engaging the handle-bars of the plow and adjustable thereon, and a combined operating-rod and brace connected with the bar or member and having means for engaging either of the said clamps, whereby the bar or member is rigidly held in its operative and folded positions.

6. A plow attachment comprising a foldable bar or member, means for mounting the same on a plow, a pair of handle-bar clamps provided with means for adjustably engaging the handle-bars of the plow, said clamps being movable along the handle-bars and being provided with lips or flanges having openings, and a combined brace and operating-rod connected at its front end with the bar or member and provided at its rear end with means for engaging the openings of the clamps.

7. A plow attachment comprising a foldable bar or member adapted to be arranged at an angle to the beam of a plow, a vertical stem supporting the inner end of the bar or member, means for adjustably securing the stem to the beam of the plow, and bracing means connected with the foldable bar or member.

8. An attachment for plows comprising a bar or member designed to be arranged at an angle to the beam of a plow, a vertical stem supporting the inner end of the bar or member, a pair of clamping-jaws having eyes through which the said stem passes, said clamping-jaws being arranged at the upper and lower faces of the plow-beam and having means for holding them in engagement with the same, and means for maintaining the bar or member rigid with the plow-beam.

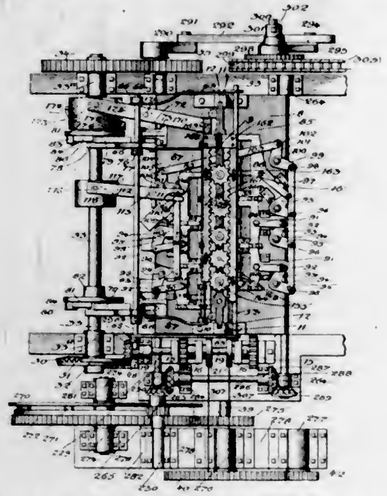
9. A plow attachment, comprising a bar or member having a vertical stem, a sleeve receiving the stem, clamping-jaws rigid with the sleeve and provided with means for engaging the beam of a plow, and means for adjustably securing the stem in the sleeve, said stem forming a pivot to permit the bar or member to fold.

10. A plow attachment comprising a foldable bar or member provided with a vertical stem forming a pivot, a bearing-sleeve receiving the pivot, and a pair of clamping-jaws having eyes through which the sleeve passes, said clamping-jaws having means for engaging the sleeve and for retaining them in engagement with the beam of a plow.

845,170. MACHINE FOR MAKING WIRE FENCES. JOHN E. FREDRICK, Kokomo, Ind. Filed May 26, 1906. Serial No. 318,802.

Claim.—1. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of movable clamps on each side of the opening in the table, and receiving the two wires for the stay, and means for advancing and receding the clamps, substantially as described.

2. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of movable clamps on each side of the opening in the table, each clamp consisting of a fixed jaw and a movable jaw and receiving between the jaws the two wires for the stay, and means for advancing and receding the clamps, substantially as described.



3. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of movable clamps on each side of the opening in the table each clamp consisting of a fixed jaw and a movable jaw with a groove in the movable jaw receiving thereinto the wire for the stay, and means for advancing and receding the clamps, substantially as described.

4. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of movable clamps on each side of the opening in the table, each clamp consisting of a fixed jaw and a movable jaw, a sliding stem for each movable jaw, a spring encircling the stem, and means for advancing and receding the clamps, substantially as described.

5. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of retainers on each side of the opening in the table, each retainer having a groove receiving a stay-wire, and means for raising and depressing the retainers and releasing the stay-wire, substantially as described.

6. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of rocking retainers on each side of the opening in the table each retainer having a groove receiving a stay-wire, and means for raising and depressing the retainers and releasing the stay-wires, substantially as described.

7. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of retainers on each side of the opening in the table, each retainer mounted on a bearing and having a groove receiving a stay-wire, and means for raising and depressing the retainers and releasing the stay-wire, substantially as described.

8. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of retainers on each side of the opening in the table, each retainer mounted on a bearing and having a groove receiving a stay-wire, an arm for each retainer, an actuating-rod common to all the retainers on each side, and means for moving the actuating-rod, substantially as described.

9. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of retainers on each side of the opening in the table, each retainer mounted on a bearing and having a groove receiving a stay-wire, a strap for each end of each actuating-rod, a supporting-rod for the straps of one of the actuating-rods, arms on the supporting-rod, a bell-crank lever for each end of the supporting-rod, and means for actuating the bell-crank levers, substantially as described.

10. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of retainers on each side of the opening in the table, each retainer mounted on a bearing and having a groove receiving a stay-wire, a strap for each end of each actuating-rod, a supporting-rod for the straps of one of the actuating-rods, arms on the supporting-rod, a bell-crank lever for each end of the supporting-rod, a shoe on each bell-crank lever, an engaging roller and track for each shoe, and a revoluble disk for each roller and shoe, substantially as described.

11. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of movable clamps on each side of the opening in the table and receiving the two wires for the stay, means for advancing and receding the clamps, a series of retainers on each side of the opening in the table, each retainer mounted on a bearing and having a groove receiving a stay-wire, means for raising and depressing the retainers and releasing the stay-wire, a series of fixed cutters on each side of the opening in the table, a series of movable cutters on each side of the opening in the table, and means for actuating the movable cutters for severing the stay-wires into stay-sections, substantially as described.

12. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of movable clamps on each side of the opening in the table and receiving the two wires for the stay, means for advancing and receding the clamps, a series of retainers on each side of the opening in the table, each retainer mounted on a bearing and having a groove receiving a stay-wire, an arm for each retainer, an actuating-rod common to all the retainers on each side, means for moving the actuating-rods, a series of fixed cutters on each side of the opening in the table, a series of movable cutters on each side of the opening in the table, an arm for each movable cutter connected on each side with the actuating-rod of the retainers, and means for moving each actuating-rod, substantially as described.

13. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of movable clamps on each side of the opening in the table and receiving the two wires for the stay, means for advancing and receding the clamps, a series of retainers on each side of the opening in the table, each retainer mounted on a bearing and having a groove receiving a stay-wire, an arm for each retainer, an actuating-rod common to all the retainers on each side, means for moving the actuating-rods, a series of fixed cutters on each side of the opening in the table, a series of movable cutters on each side of the opening in the table, an arm for each movable cutter connected on each side with the actuating-rod of the retainers, and means for moving each actuating-rod, substantially as described.

14. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of movable clamps on each side of the opening in the table and receiving the two wires for the stay, means for advancing and receding the clamps, a series of retainers on each side of the opening in the table, each retainer mounted on a bearing and having a groove receiving a stay-wire, an arm for each retainer, an actuating-rod common to all the retainers on each side, means for moving the actuating-rods, a series of fixed cutters on each side of the opening in the table, a series of movable cutters on each side of the opening in the table, an arm for each movable cutter connected on each side with the actuating-rod of the retainers, a strap for each end of each actuating-rod, a supporting-rod for the straps of one of the actuating-rods, arms on the supporting-rod, a bell-crank lever for each end of the supporting-rod, a shoe on each bell-crank lever, an engaging roller and track for each shoe, and a revoluble disk for each roller and shoe, substantially as described.

15. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of carriers on each side of the opening in the table, each carrier having side arms and a cross-plate, a clamp for each side arm of each carrier receiving a stay-wire, and means for advancing and receding the carriers, substantially as described.

16. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of carriers on each side of the opening in the table each carrier having side arms and a cross-plate, a retainer between the side arms of each carrier for receiving a stay-wire, and means for advancing and receding the carriers, substantially as described.

17. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of carriers on each side of the opening in the table, each carrier having side arms and a cross-plate, a clamp for each side arm of each carrier and receiving a stay-wire, a retainer between the side arms of each carrier and receiving a stay-wire, and means for advancing and receding the carriers, substantially as described.

18. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of carriers on each side of the opening in the table, each carrier having side arms and a cross-plate, a clamp for each side arm of each carrier, each clamp consisting of a fixed jaw and a movable jaw and receiving between the jaws a stay-wire, a rocking retainer between the side arms of each carrier and having a groove receiving a stay-wire, means for rocking the retainers, and means for advancing and receding the carriers, substantially as described.

19. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of carriers on each side of the opening in the table, each carrier having side arms and a cross-plate, a clamp for each side arm of each carrier, each clamp consisting of a fixed jaw and a movable jaw and receiving between the jaws a stay-wire, a rocking retainer between the side arms of each carrier and having a groove receiving a stay-wire, an arm for each retainer, an actuating-rod common to all the retainers on each side, and means for moving the actuating-rod, substantially as described.

20. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of carriers on each side of the opening in the table, each carrier having side arms and a cross-plate, a clamp for each side arm of each carrier, each clamp consisting of a fixed jaw and a movable jaw and receiving between the jaws a stay-wire, a rocking retainer between the side arms of each carrier and having a groove receiving a stay-wire, an arm for each retainer, an actuating-rod common to all the retainers on each side, a strap for each end of each actuating-rod, a supporting-rod for the straps of one of the actuating-rods, arms on the supporting-rod, a bell-crank lever for each end of the supporting-rod, means for actuating the bell-crank levers, and means for advancing and receding the carrier, substantially as described.

21. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of carriers on each side of the opening in the table, each carrier having side arms and a cross-plate, a clamp for each side arm of each carrier, each clamp consisting of a fixed jaw and a movable jaw and receiving between the jaws a stay-wire, a rocking retainer between the side arms of each carrier and having a groove receiving a stay-wire, an arm for each retainer, an actuating-rod common to all the retainers on each side, a strap for each end of each actuating-rod, a supporting-rod for the straps of one of the actuating-rods, arms on the supporting-rod, a bell-crank lever for each end of the supporting-rod, a shoe on each bell-crank lever, an engaging roller and track for each shoe, a revoluble disk for each roller and shoe, and means for advancing and receding the carriers, substantially as described.

22. In a wire-fence machine, the combination of a table

having a central opening endwise thereof, a series of carriers on each side of the opening in the table, each carrier having side arms and a cross-plate, a clamp for each side arm of each carrier and receiving a stay-wire, a retainer between the side arms of each carrier and receiving a stay-wire, means for advancing and receding the carriers, a series of fixed cutters on each side of the opening in the table, a series of movable cutters on each side of the opening in the table, and means for operating the movable cutters, substantially as described.

23. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of carriers on each side of the opening in the table, each carrier having side arms and a cross-plate, a clamp for each side arm of each carrier, each clamp consisting of a fixed jaw and a movable jaw and receiving between the jaws a stay-wire, a rocking retainer between the side arms of each clamp and having a groove receiving a stay-wire, an arm for each retainer, an actuating-rod common to all retainers on each side, a strap for each end of each actuating-rod, a supporting-rod for the strap of one of the actuating-rods, arms on the supporting-rod, a bell-crank lever for each end of the supporting-rod, means for operating the bell-crank lever, a series of fixed cutters on each side of the opening in the table, a series of movable cutters on each side of the opening in the table, an arm for each movable cutter connected on each side with the actuating-rod of the retainers, and means for advancing and receding the carriers, substantially as described.

24. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of carriers on each side of the opening in the table, each carrier having side arms and a cross-plate, a clamp for each side arm of each carrier, a rocking retainer between the side arms of each carrier, the clamps and retainers receiving a stay-wire, means for rocking the retainers, a series of bell-crank levers, one lever for each carrier, a plate connecting the bell-crank levers on each side, a cross-strap connecting the side plates of the bell-crank levers, an arm engaging one of the side plates of the bell-crank levers, and means for oscillating the arm and advancing and receding the carriers, substantially as described.

25. In a wire-fence machine, the combination of a table having a central opening endwise thereof, a series of carriers on each side of the opening in the table, each carrier having side arms and a cross-plate, a clamp for each side arm of each carrier, a rocking retainer between the side arms of each carrier, the clamp and retainers receiving a stay-wire, means for rocking the retainers, a series of bell-crank levers, one lever for each carrier, a plate connecting the bell-crank levers on each side, a cross-strap connecting the side plates of the bell-crank levers, an arm engaging one of the side plates of the bell-crank levers, a cam engaging the arm, and a revoluble shaft carrying the cam for advancing and receding the carriers, substantially as described.

26. In a wire-fence machine, the combination of a bed-plate having a central opening endwise thereof, a series of carriers on each side of the opening of the table, each carrier having side arms and a cross-plate, a clamp for each side arm of each carrier, a retainer between the side arms of each retainer, the clamps and retainers on each side receiving a stay-wire, means for advancing and receding the carriers, means for rocking the retainers, a series of fixed cutters and a series of movable cutters on each side of the opening in the table, a rising-and-falling cross-head, a series of stems carried by the cross-head, a series of depressible heads coacting with the stems and forming therewith clamps to centrally hold the severed stay-sections in position, means for raising and lowering the cross-head, a series of revoluble stems depending from the cross-head, each stem having twister-lips, and means for revolving the stems and interlocking the adjacent ends of the stay-sections, substantially as described.

27. In a wire-fence machine, the combination of a series of twisters having a fixed relation, a series of opposing twisters having a rising-and-falling movement, intermeshing pinions for revolving the fixed twisters, intermeshing pinions for revolving the movable twisters, driving-pinions for the pinions of the fixed twisters, driving-pinions for the pinions of the movable pinions, and a revoluble shaft for each set of driving-pinions, substantially as described.

28. In a wire-fence machine, the combination of a fixed cross-head carrying a series of twisters, a rising-and-falling cross-head carrying a series of twisters, a bell-crank lever for each end of the rising-and-falling cross-head, a cam for each bell-crank lever, a revoluble shaft carrying the cams, a shaft for each twister of the fixed cross-head, each shaft having a longitudinal hole for the passage of a stay-wire, a shaft for each twister of the rising-and-falling cross-head, each shaft having a longitudinal hole and a slot for entering and withdrawing a stay-wire, intermeshing pinions for the shaft of each twister of the fixed cross-head, driving-pinions for revolving the intermeshing pinions of the shafts for the twisters of the fixed cross-head, an intermeshing pinion for the shaft of each twister of the rising-and-falling cross-head, one of the intermeshing pinions having a slotted head, driving-pinions having tongues engaging the slots of the intermeshing pinions of the twisters for the rising-and-falling cross-head, and a revoluble shaft for each set of driving-pinions, substantially as described.

29. In a wire-fence machine, the combination of a fixed cross-head carrying a series of twisters, a rising-and-falling cross-head carrying a series of twisters, a bell-crank lever for each end of the rising-and-falling cross-head, a cam for each bell-crank lever, a revoluble shaft carrying the cams, a shaft for each twister of the fixed cross-head, each shaft having a longitudinal hole for the passage of a stay-wire, a shaft for each twister of the rising-and-falling cross-head, each shaft having a longitudinal hole and a slot for entering and withdrawing a stay-wire, intermeshing pinions for the shaft of each twister of the fixed cross-head, intermeshing pinions for the shaft of each twister of the rising-and-falling cross-head one of the intermeshing pinions having a slotted head, driving-pinions having tongues engaging the slots of the intermeshing pinions of the twisters for the rising-and-falling cross-head, a revoluble shaft for each set of driving-pinions, a cross-shaft and intermeshing pinions for the revoluble shaft, a pinion on one of the revoluble shafts, and a segmental gear for driving the last-named pinion, substantially as described.

30. In a wire-fence machine, the combination of a fixed cross-head carrying a series of twisters, a rising-and-falling cross-head carrying a series of twisters, a bell-crank lever for each end of the rising-and-falling cross-head, a cam for each bell-crank lever, a revoluble shaft carrying the cams, a shaft for each twister of the fixed cross-head, each shaft having a longitudinal hole for the passage of a stay-wire, a shaft for each twister of the rising-and-falling cross-head, each shaft having a longitudinal hole and a slot for entering and withdrawing a stay-wire, intermeshing pinions for the shaft of each twister of the fixed cross-head, intermeshing pinions for the shaft of each twister of the rising-and-falling cross-head, one of the intermeshing pinions having a slotted head, driving-pinions having tongues engaging the slots of the intermeshing pinions of the twisters for the rising-and-falling cross-head, a revoluble shaft for each set of driving-pinions, a cross-shaft and intermeshing pinions for the revoluble shafts, a pinion on one of the revoluble shafts, a segmental gear for driving the last-named pinion, a finger on the last-named pinion, and an abutment on the main gear of the segmental gear engaging the finger and throwing the pinion and segmental gear into mesh, substantially as described.

31. In a wire-fence machine, the combination of a fixed cross-head carrying a series of twisters, a rising-and-falling cross-head carrying a series of twisters, a bell-crank lever for each end of the rising-and-falling cross-head, a cam for each bell-crank lever, a revoluble shaft carrying the cams, a shaft for each twister of the fixed cross-head, each shaft having a longitudinal hole for the passage of a stay-wire, a shaft for each twister of the rising-and-falling cross-head, each shaft having a longitudinal hole and a slot for entering and withdrawing a stay-wire, intermeshing pinions for the shaft of each twister of the fixed cross-head, intermeshing pinions for the shaft of each twister of the rising-and-falling cross-head, one of the intermeshing pinions having a slotted head, driving-pinions having tongues engaging the slots of the intermeshing pinions of the twisters for the rising-and-falling cross-head, a revoluble shaft for each set of driving-pinions, a cross-shaft and intermeshing pinions for the revoluble shafts, a pinion on one of the revoluble shafts, a segmental gear for driving the last-named pinion, a finger on the last-named pinion an abutment on the main gear of the segmental gear engaging the finger and throwing the pinion and segmental gear into mesh, a main gear and a train of gear for driving the mutilated gear, substantially as described.

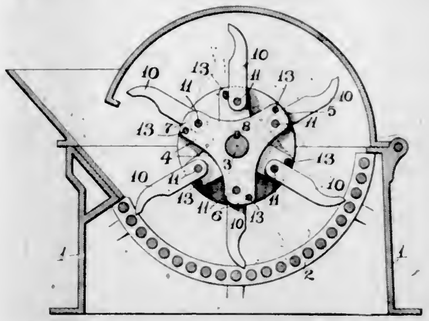
32. In a wire-fence machine, the combination of two oppositely-revolving main shafts, a series of driving-pinions on each shaft, a series of driven pinions in mesh with the series of driving-pinions of each shaft, a shaft for each pinion of one series of driven pinions, a shaft having an interlocking head for each pinion of the other series of driven pinions, a second series of driven shafts revoluble from the series of interlocking heads, a series of fixed twisters revoluble from the series of driving and driven pinions of one main shaft, and a series of rising-and-falling twisters driven from the series of driving and driven pinions and the series of interlocking heads of the other main shaft, the fixed twisters each having a shaft with a central longitudinal hole for a strand-wire and the movable twisters each having a shaft with a central longitudinal hole and a lateral slot for a strand-wire, substantially as described.

33. In a wire-fence machine, the combination of two oppositely-revolving main shafts, a cross-shaft connecting and driving the two main shafts, a pinion on one main shaft, a segmental gear for driving the pinion, a series of driving-pinions on each shaft, a series of driven pinions in mesh with the series of driving-pinions of each shaft, a shaft for each pinion of one series of driven pinions, a shaft having an interlocking head for each pinion of the other series of driven pinions, a second series of driven shafts revoluble from the series of interlocking heads, a series of fixed twisters revoluble from the series of driving and driven pinions of one main shaft, and a series of rising-and-falling twisters driven from the series of driving and driven pinions and the series of interlocking heads of the other main shaft, the fixed twisters each having a shaft with a central longitudinal hole for a strand-wire and the movable twisters each having a shaft with a central longitudinal hole, and a lateral slot for a strand-wire, substantially as described.

34. In a wire-fence machine, the combination of two oppositely-revolving main shafts, a cross-shaft connecting and driving the two main shafts, a pinion on one main shaft, a segmental gear for driving the pinion, a continuous gear carrying the segmental gear, a finger on the pinion, an abutment traveling with the continuous gear, a series of driving-pinions on each shaft, a series of driven pinions in mesh with the series of driving-pinions of each shaft, a shaft for each pinion of one series of driven pinions, a shaft having an interlocking head for each pinion of the other series of driven pinions, a second series of driven shafts revoluble from the series of interlocking heads, a series of fixed twisters revoluble from the series of driving and driven pinions of one main shaft, and a series of rising-and-falling twisters driven from the series of driving and driven pinions and the series of interlocking heads of the other main shaft, the fixed twisters each having a shaft with a central longitudinal hole for a strand-wire and the movable twisters each having a shaft with a central longitudinal hole, and a lateral slot for a strand-wire, substantially as described.

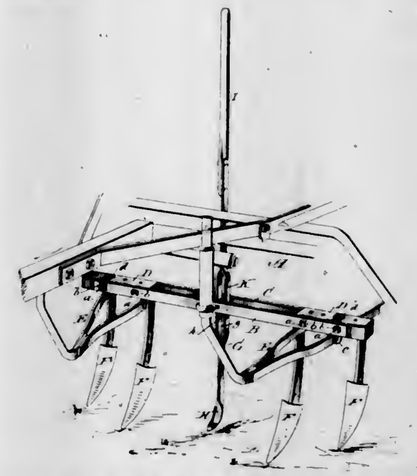
35. In a wire-fence machine, the combination of two oppositely-revolving main shafts, a series of twisters for each main shaft and revoluble therefrom, each twister of one series consisting of a shaft having a central longitudinal hole for the passage of a strand-wire, and each twister of the other series consisting of a shaft having a central longitudinal hole and a lateral slot for the passage of a strand-wire, means for giving the twisters on the delivery side of the machine a rising-and-falling movement, a slotted head for each twister of the rising-and-falling series, and a revoluble head having a cross-flange engaging the slot of the twister-head for maintaining a driving connection for the series of rising-and-falling twisters, substantially as described.

845,171. CRUSHER AND PULVERIZER. WILLIAM H. GARDNER, Basic City, Va., assignor to Williams Patent Crusher & Pulverizer Company, St. Louis, Mo., a Corporation of Missouri. Filed Dec. 28, 1905. Serial No. 293,611.



Claim.—In a machine of the class described, the combination with a shaft, of hammer-supports connected to said shaft and each consisting of a plurality of radially-extending wings, said hammer-supports being so arranged that the wings of one support are arranged midway the wings of the adjacent support, hammers pivotally connected between the outer ends of the wings of alternate supports, and continuous rods extending through the wings of the supports in front of the pivots of the hammers and adjacent to said pivots to limit the forward movements of the hammers; substantially as described.

845,172. COTTON AND CORN CHOPPER. DANIEL O. GRAHAM, Proctor, Tex. Filed Dec. 7, 1906. Serial No. 346,810.



Claim.—1. A corn and cotton chopper, comprising a suitable beam adapted for attachment to a cultivator, a guide-bar lever pivotally connected to the beam, and a shovel upon the lower end of the lever, substantially as and for the purpose set forth.

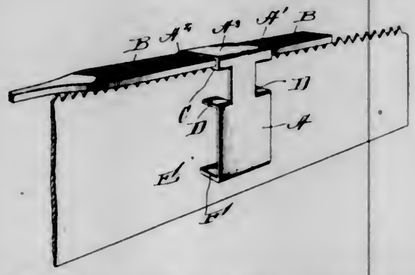
2. A corn and cotton chopper, comprising a suitable beam adapted for attachment to a cultivator, a guide-bar lever carrying a shovel and pivotally connected to the

beam, and means for vertically adjusting said lever, substantially as and for the purpose described.

3. A corn and cotton chopper, comprising a beam consisting of two parallel bars with space between the same, a guide-bar lever located between the bars of the beam and pivotally and adjustably connected thereto, substantially as and for the purpose specified.

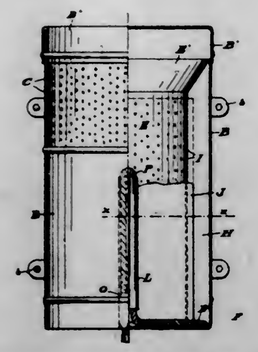
4. A corn and cotton chopper, comprising a beam consisting of two parallel bars, a guide-bar lever carrying a shovel, said lever having an offset and a brace connected thereto with a corresponding offset, said offset having a plurality of holes, a pivot-block located between the offsets and adjustably connected thereto, the block being pivotally connected to the sides of the parallel bars, substantially as and for the purpose set forth.

845,173. HANDSAW-JOINTER. ALPHEUS P. HALL, Graysville, Ill. Filed Sept. 7, 1906. Serial No. 333,703.



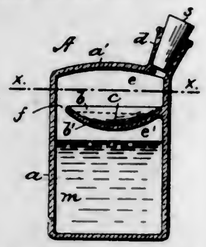
Claim.—A saw-jointing device made of a single piece of sheet metal, the upper portion of which is laterally bent forming an extension A^3 with a downwardly-bent flange A^2, laterally-projecting lugs C struck up from the opposite edges of the shank portion of the device, with their upper surfaces in a plane coincident with the end of said flange A^2 and adapted to hold a file, lugs D also struck up from the opposite edges of the device and projecting slightly in advance of the lugs C and parallel thereto, the lower end of the device being at right angles, as shown and described.

845,174. DRIP-CAN. NEWTON S. HILLYARD, St. Joseph, Mo. Filed Sept. 24, 1906. Serial No. 335,981.



Claim.—The combination with the case of a drip-can provided with perforations in its upper part, of a hinged perforated cap a perforated removable cylinder, a collar thereon adapted to hold said cylinder central in the case and afford a guide for the ingress of liquid and the egress of air and vapor, and tubes in the bottom of said case through which the liquid may be seeped out of the can, substantially as set forth and shown.

845,175. BOTTLE. ARTHUR W. HUTCHINS, Providence, R. I., assignor to Measuring Appliance Company, Providence, R. I., a Corporation of Rhode Island. Filed June 20, 1905. Serial No. 266,108.

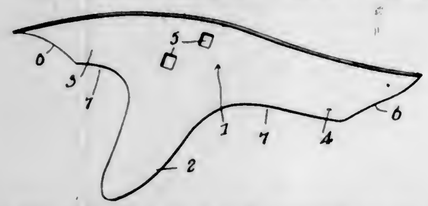


Claim.—1. As an improved article of manufacture, a self-measuring dose-dispensing bottle having its body portion provided interiorly with a concave dose-measuring partition located contiguous to and below the upper end of the bottle and extending part way across the same, whereby the dose may be retained in said partition when the bottle is in the normal upright position.

2. The combination with a bottle or container, of a substantially horizontal inner partition or member integral with the walls of the bottle having a measuring-recess formed therein and provided with a small passage-way in continuous open communication with the upper and lower portions of the bottle.

3. The combination in a bottle provided with a stoppered nozzle, of a depressed or recessed interior partition integral with the walls of the bottle and disposed at substantially right angles or perpendicular thereto, said partition being located contiguous to the nozzle and having a passage-way therethrough for the flow of the fluid contents in either direction.

845,176. COMBINATION PLOW-BLADE. LEWIS JOHNSON, Ruston, La., assignor of one-half to Elijah Kidd, Ruston, La. Filed Aug. 13, 1906. Serial No. 330,398.



Claim.—1. A blade for a plow comprising a body, a scrape and sweep extending from opposite edges of the body, and a shovel between them and extending downwardly from the body.

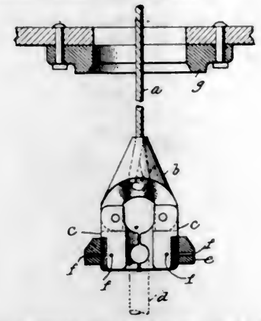
2. A blade for a plow comprising a body, a depending portion forming a shovel, and oppositely-extending wings forming a sweep at one edge of the body and a scrape at the opposite edge.

3. A single-piece blade for a plow comprising a body, a depending shovel, a wing curved forwardly from one edge of the body to form a scrape, and a wing curved rearwardly from the opposite edge of the body to form a sweep.

4. A single-piece blade for a plow comprising a body having a central portion forming a shovel, a forwardly-curved wing at one edge of the body having its upper edge overhanging the remainder of the wing, and a wing on the opposite edge of the body which curves rearwardly.

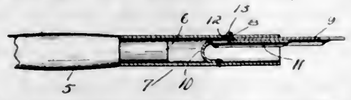
5. A single-piece blade for a plow comprising a body concaved on its front side, a central tongue forming a shovel, a concaved wing bending slightly in a forward direction from one edge of the body to form a scrape, and a wing bending slightly rearwardly from the opposite edge of the body to form a sweep.

845,177. DETACHING-CONE FOR MINE AND OTHER ELEVATORS. GEORGE KILLIAN, Scranton, Pa. Filed Apr. 27, 1906. Serial No. 314,022.



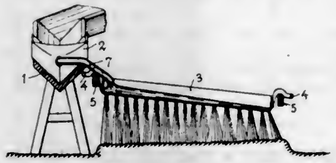
Claim.—In a device of the class set forth, a hollow cone in which is adapted to be secured the lower end of the hoisting-cable, a pair of depending jaws pivotally attached to the lower end of the cone at opposite sides of the hole in the same, the lower ends of these jaws being adapted to swing outwardly and their inner faces being adapted to receive and engage the cage-hanger, a ring or band surrounding the jaws at their lower ends and serving to hold them in engagement with the cage-hanger, frangible pins fastening the ring to the jaws, in combination with a stripping-ring supported above and in line with said ring or band, for the purposes herein set forth.

845,178. PENHOLDER. HENRY L. KINTER, Curran, Ill. Filed Aug. 25, 1905. Serial No. 275,810.



Claim.—A penholder comprising a pen-receiving sleeve provided with an opening in its wall, a resilient pen-clamping strip arranged within the sleeve, said strip being of the same width throughout and having one of its ends bent downwardly and beneath its body portion and secured to the sleeve at a point opposite the opening therein, the said strip having its body portion bearing against the side of the sleeve in which the opening is formed and being adapted to clamp a pen therebetween and the said side of the sleeve, and a finger formed upon the strip by stamping up a portion of the strip rearwardly of the opening in the sleeve so that the said portion extends through the opening and bending the upper end of the said portion in a forward direction to form a head, substantially as described.

845,179. WATERING SYSTEM FOR GARDENS, FIELDS, AND THE LIKE. AUGUST KOREN, Jr., Christiania, Norway. Filed Aug. 4, 1905. Serial No. 272,744.



Claim.—1. A watering system for gardens, fields and the like, comprising a spraying vessel, a conduit and means for delivering the water from the conduit into the vessel, said means comprising a device for collecting the water in the conduit until it rises above the sides of the conduit.

2. A watering system for gardens, and the like, comprising a movable spraying vessel and open conduit, a funnel movable in the conduit and a connection from said funnel to the vessel.

3. A watering system for gardens and the like comprising a vessel having perforations in its bottom, rails upon which said vessel is supported, one of said rails being higher than the other so that said vessel is held in an inclined position and means for delivering water to said vessel.

4. A watering system comprising a conduit, a movable funnel therein, the rear part of said funnel fitting easily the inner sectional shape of the conduit, a spraying vessel and a connection from the nozzle to the vessel.

5. A spraying vessel having perforations therein and pins arranged in said perforations.

6. In a watering system, a vessel having perforations therein and pins in said perforations, each of said pins having a head and a thickened portion to hold the pin in the perforation.

845,180. COMBINATION POKER AND CLINKER-HOOK. CHARLES S. KRAFFT, Evansville, Ind. Filed Apr. 10, 1906. Serial No. 310,955.



Claim.—1. In a combination poker and clinker-hook, the combination with a tubular shank and a clinker-hook secured thereto, of a gripper slidable inside the tubular shank aforesaid and having an end adapted to be projected into the clinker-hook, and a spring coöperating with the gripper and shank aforesaid which tends to draw the gripper into the shank and to project the end of the gripper into the clinker-hook.

2. In a combination poker and clinker-hook, the combination with a tubular shank and a clinker-hook secured thereto, of a gripper slidable inside the tubular shank aforesaid and having an end adapted to be projected into the clinker-hook, a spring coöperating with the gripper and shank aforesaid which tends to draw the gripper into the shank and to project the end of the gripper into the clinker-hook, and means adapted for locking the gripper and shank together with the gripper in withdrawn or retracted position.

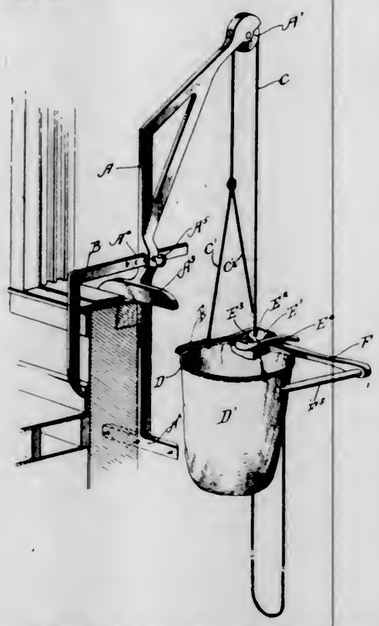
3. In a combination poker and clinker-hook, the combination with a tubular shank and a clinker-hook secured thereto, of a gripper slidable inside the tubular shank aforesaid and having an end adapted to be projected into the clinker-hook, a spring coöperating with the gripper and shank aforesaid which tends to draw the gripper into the shank and to project the end of the gripper into the clinker-hook, and means adapted for locking the gripper and shank together with the gripper in withdrawn or retracted position comprising a bayonet-joint between said gripper and shank.

4. In a combination poker and clinker-hook, the combination with a tubular shank and a clinker-hook secured thereto, said tubular shank having bayonet-joint slots and a cross-pin, of a gripper slidable within the tubular shank and having an end adapted to be projected into the clinker-hook, said gripper being provided with pins or members which are received in the bayonet-joint slots, and a contractile spring secured to the gripper and to the cross-pin aforesaid and tending to project the tip of the gripper into the clinker-hook.

845,181. FIRE-ESCAPE. PATRICK M. LEGERE, Berlin, N. H. Filed Oct. 16, 1905. Serial No. 283,074.

Claim.—1. In a device of the kind described, the combination with a supporting-arm provided with a pulley, of a rope passing over said pulley, a bag carried by one end of said rope, a brake mounted on said rope adjacent said bag, and a brake-lever connected to the other end of said rope for stopping the bag at a predetermined time, for the purpose described.

2. In a device of the kind described, the combination with a supporting-arm, provided with a pulley, of a rope passing over said pulley, a bag secured to one end of said rope, a brake mounted on said rope connected to said bag, and a brake-arm connected to the other end of said rope for stopping the bag at a predetermined time, for the purpose described.



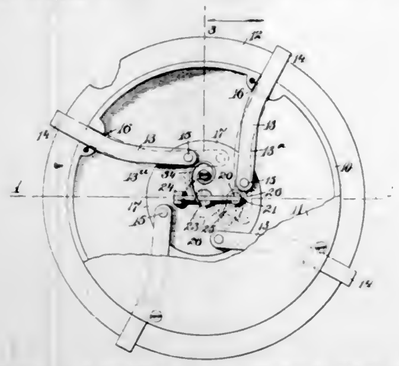
3. In a device of the kind described, the combination with a supporting-arm provided with a pulley, of a rope passing over said pulley carrying a bag at one end, a brake-socket connected to said end adjacent the bag, an arm provided with a head fitting in said socket, and a lever connected to said arm and to the other end of said rope for stopping the bag at a predetermined time, for the purpose described.

4. In a device of the kind described, the combination with a supporting-arm, provided with a pulley, of a rope passing over said pulley, a bag secured to one end of said rope, an arm provided with a socket secured to said rope adjacent said bag, a brake-head mounted in said socket provided with a lever-arm connected to the end of said rope for stopping the bag at a predetermined time and locking means connected to said socket, for the purpose described.

5. In a device of the kind described, the combination with a supporting-arm provided with a pulley, of a rope passing over said pulley carrying a bag at one end, a brake-socket provided with a transverse opening, connected to said end adjacent the bag through which the rope passes, an arm provided with a head having a cut-out portion arranged in said socket, a lever connected to a lever carried by said arm and to the end of the rope for stopping the bag at a predetermined time, and locking means carried by said socket, for the purpose described.

6. In a device of the kind described the combination with a supporting-arm provided with a pulley, of a rope passing over said pulley, a bag connected to one end of said rope and an arm connected to said bag provided with a socket at its end having a transverse opening formed therethrough, an arm provided with a head at one end, mounted in said socket provided with a cut-out portion, a lever secured to the end of said arm, the other end of said rope passing through the transverse opening in the socket having its end connected to the end of the lever for stopping the bag at a predetermined time for the purpose described.

845,182. LOCK FOR MANHOLE-COVERS. BENJAMIN T. LETTS, Elizabeth, N. J. Filed May 31, 1906. Serial No. 319,486.



Claim.—1. A manhole-cover comprising a casing, arms adapted to reciprocate in and out of the casing, a flange pivoted to the inner ends of the arms, a tubular structure extending through the top of the casing, a lug on the casing, a longitudinally-moving latch on the flange to engage either side of the lug, and means for moving the latch to release it from the lug.

2. A manhole-cover comprising a casing, arms adapted to reciprocate in and out of the casing, a flange pivoted to the inner ends of the arms, a tubular structure extending through the top of the casing, a lug on the casing, a latch on the flange to engage either side of the lug, the latch having a longitudinal movement for releasing it from the lug, and means for returning the flange to its locked position.

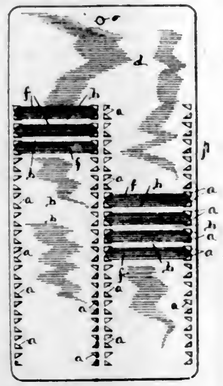
3. A manhole-cover comprising a casing having arms to reciprocate radially therefrom, a flange inside the casing engaging the inner ends of the arms, said flange having a circular and a longitudinal movement, a tubular projection on the flange extending through the top of the casing, a slide-bar in the tubular portion, a lever pivoted to the slide, a latch on the free end of the lever, a lug on the casing with which the latch engages, a pair of tumblers within the tubular portion to lock the tubular portion, and a spring to return the flange to its locked position.

4. A manhole-cover comprising a casing, arms adapted to reciprocate in and out of the casing, a flange pivoted to the inner ends of the arms, a tubular structure extending through the top of the casing, a lug on the casing, a longitudinally-moving latch on the flange to engage either side of the lug, means for moving the latch to release it from the lug, and locking means to prevent longitudinal movement of the latch.

5. A manhole-cover comprising a casing, arms adapted to reciprocate in and out of the casing, a flange pivoted to the inner ends of the arms, a tubular structure extending through the top of the casing, a lug on the casing, a latch capable of longitudinal movement arranged on the flange to engage either side of the lug, means for normally holding the latch in engagement with the lug on the casing, means for moving the latch to release it from the lug, and means for locking the latch against longitudinal movement.

845,183. REGISTER NAME-BOARD. FRED W. LEUTHESSER, Chicago, Ill. Filed Oct. 27, 1904. Serial No. 230,264.

Claim.—1. A register or name-board made of thin material and having a body with rows of coöperating pockets formed thereon, each of the pockets being triangular in shape and having a closed side and a closed end wall and an outer retaining-wall in parallel relation with the body, all formed integrally with the body from metal pressed outwardly therefrom and being open at the front side for the reception of the corner of a card, four of such pockets inwardly opening with respect to each other constituting a retainer for each card, substantially as described.



2. A register or name-board made of thin material and having a body with rows of coöperating pockets formed thereon, each of the pockets being triangular in shape and having a closed side and a closed end wall and an outer retaining-wall in parallel relation with the body, all formed integrally with the body from metal pressed outwardly therefrom and being open at the front side for the reception of the corner of a card, four of such pockets inwardly opening with respect to each other constituting a retainer for each card, the body having on its front face a vacant space extending from side edge to side edge of the body and clear of pockets for the reception of advertising matter, substantially as described.

845,184. METHOD OF FORMING AN INCANDESCENT GAS-MANTLE. CHARLES M. LUNGREN, Bayonne, N. J., assignor to The Safety Car Heating & Lighting Company, New York, N. Y., a Corporation of New Jersey. Filed Aug. 12, 1904. Serial No. 220,474.



Claim.—1. The method of shaping a mantle which consists in inserting a member therein, causing the same first to increase in size to a diameter greater than that of the open end of the mantle, and then to diminish in size and withdrawing said member.

2. The method of shaping a damp flexible member which consists in inserting a second flexible member, inflating said second flexible member drying said first-mentioned member and deflating and withdrawing the second-mentioned member.

3. The method of shaping a damp mantle which consists in inserting a member therein, causing the same first to increase so as fully to distend said mantle, and then to diminish in size, drying said mantle in distended condition, and withdrawing the same.

4. The method of shaping a mantle which consists in inserting a rubber bag within the same, inflating said rubber bag so as fully to distend said mantle, and deflating and withdrawing the same.

5. The method of forming a mantle which comprises dipping the same in an impregnating solution and drying the same over an expansible member.

6. The method of forming a mantle which comprises inserting an expansible member, expanding the same so as to entirely distend said mantle, drying said mantle in its distended form, and deflating and withdrawing said expansible member.

7. The method of forming a mantle which comprises stretching a piece of fabric woven in tubular form over a mandrel, drawing together and darning one end of said fabric, and inserting and inflating a flexible member within the said fabric so as to distend the same, drying the same and deflating and withdrawing such flexible member.

8. The method of forming a mantle which comprises stretching a piece of fabric over a mandrel, drawing together and darning one end of said fabric, pressing said fabric against said mandrel so as substantially to eliminate inequalities in the surface of said fabric, inserting and inflating a flexible member within the same, drying said fabric, and deflating and withdrawing said flexible member.

9. The method of forming a mantle which consists in stretching a piece of fabric over a mandrel, drawing together and darning one end of said fabric to a thickness greater than that of the remainder thereof, pressing said fabric against said mandrel so as substantially to eliminate inequalities in the surface of said fabric, impregnating the resulting mantle, inserting a flexible member within the same, inflating said flexible member so as fully to distend said mantle, drying said mantle with said flexible member in inflated condition, and deflating and withdrawing said flexible member.

10. The method of forming a mantle which comprises stretching a piece of fabric over a mandrel, drawing together and darning one end of said fabric, placing a string about said fabric adjacent the other end, forcing said fabric into a groove in said mandrel by means of said string, turning the free end of said fabric against the remainder thereof and making the same fast thereto, inserting a flexible member and inflating the same within the resulting mantle, and deflating and withdrawing said flexible member.

11. The method of forming a mantle which comprises stretching a piece of fabric woven in tubular form over a mandrel, drawing together and darning one end of said fabric to a thickness greater than that of the remainder thereof, pressing the resulting mantle against said mandrel so as substantially to eliminate inequalities in the surface of said mantle, placing a string about said mantle adjacent the upper end thereof, turning the free end of said mantle over said string and against the remainder thereof and making the same fast thereto, reversing said mantle, inserting an expansible member within the same, inflating said expansible member so as fully to distend said mantle, drying said mantle and deflating and withdrawing said expansible member.

12. The method of forming a mantle which comprises exposing the same to the action of an impregnating solution, inserting an expansible member, expanding the same so as to entirely distend said member, drying said mantle in its extended form, and deflating and withdrawing said expansible member.

13. The method of forming a mantle which consists in stretching a piece of fabric woven in tubular form over a mandrel, drawing together and darning one end of said fabric, exposing the resulting mantle to the action of an impregnating solution, inserting and inflating a flexible member within said mantle so as to distend the same, drying the same, and deflating and withdrawing said flexible member.

14. The method of forming a mantle which consists of stretching a piece of fabric over a mandrel, drawing together and darning one end of said fabric, placing a string about said fabric adjacent the other end, forcing said fabric into a groove in said mandrel by means of said string, turning the free end of said fabric against the remainder thereof and making the same fast thereto, exposing the resulting mantle to the action of an impregnating solution, inserting and inflating a flexible member, drying said mantle, and deflating and withdrawing said flexible member.

15. The method of forming a mantle, which consists in stretching it over a mandrel, reinforcing one end thereof so as to make it thicker than the body of the remainder, pressing said mantle against said mandrel so as to substantially eliminate inequalities in the surface of said mantle, impregnating said mantle and inserting a flexible member within the same, inflating said flexible member so as to fully distend said mantle, drying said mantle with said flexible member in inflated condition, and deflating and removing said flexible member.

16. The method of forming a mantle, which comprises placing the mantle upon a mandrel forming one end of greater thickness than that of the remainder thereof, pressing the same against said mandrel so as to substantially eliminate inequalities in the surface of said mantle, placing a string about said mantle adjacent one end thereof, turning the free end of said mantle over said string against the remainder thereof and making the same fast thereto, reversing said mantle, inserting an expansible member within the same, inflating said expansible member so as to fully to distend said mantle, drying said mantle and deflating and withdrawing said expansible member.

17. The method of forming a mantle, which consists in placing said mantle upon a mandrel forming one end of the same of a thickness greater than that of the remainder thereof, forcing said mantle into a groove in said mandrel by means of said string, turning the free end of said mantle against the remainder thereof and making the same fast thereto, exposing said mantle to the action of an impregnating solution, inserting and inflating a flexible member, drying said mantle and deflating and withdrawing said flexible member.

18. The method of forming a mantle which comprises dipping the same in a solution, inserting an expansible member therein, while the same is in a moist condition, expanding the same so as to distend said mantle, drying said mantle and contracting and removing said expansible member.

19. The method of forming a mantle which comprises dipping the same in a solution, inserting within the same an inflatable member while said mantle is in moist condition, inflating said inflatable member, drying said mantle, and deflating and removing said inflatable member.

20. The method of forming a mantle which comprises inserting an expansible member within the means which is to form the mantle, expanding the same, drying said means upon said expansible member, contracting and withdrawing said expansible member, and burning said mantle-forming means.

21. The method of shaping a mantle which comprises inserting an inflatable member within the means which is to form the mantle, inflating the same, drying said means about said inflated member, and deflating and withdrawing said inflatable member.

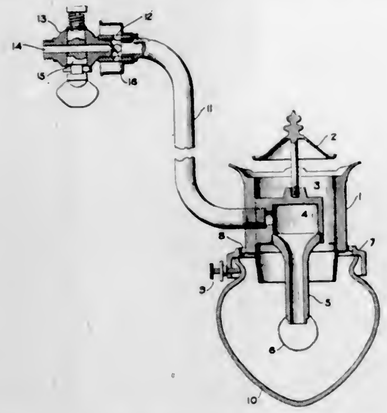
22. The method of shaping a mantle which comprises inserting an inflatable member within the means which is to form the mantle, inflating the same, drying said means about said inflated member, deflating and withdrawing said inflatable member, and burning said means.

845,185. ART OF MOUNTING A MANTLE. CHARLES M. LUNGREN, Bayonne, N. J., assignor to The Safety Car Heating & Lighting Company, a Corporation of New Jersey. Filed Mar. 6, 1905. Serial No. 248,312.



Claim.—The art of mounting a mantle consisting in placing a flexible string around said mantle adjacent the open end thereof, providing a tubular support of relatively refractory material and having a peripheral groove near one end thereof, then placing the open end of said mantle over said support end with the string in registry with said groove, then drawing said string tight whereby the underlying portion of said mantle will be forced into said groove, then introducing a fusible cement into the accessible crevices between said parts, and finally applying heat whereby said cement may flow into and fill all interstices and rigidly secure said mantle against movement relative to said support.

845,186. GAS-LAMP. CHARLES M. LUNGREN, Bayonne, N. J., assignor to The Safety Car Heating & Lighting Company, a Corporation of New Jersey. Filed May 6, 1905. Serial No. 259,170.



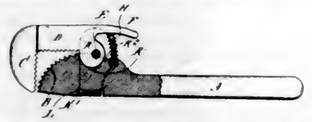
Claim.—1. In a device of the class described, in combination, an annular lamp-body terminating at its lower end in a depending guide, a mixing-chamber positioned centrally within said body and having a conduit leading downwardly therefrom and terminating a short distance below said guide; and a means for conveying combustible gases into said mixing-chamber.

2. In a device of the class described, in combination, an annular lamp-body terminating at its lower end in a depending guide, a mixing-chamber positioned centrally within said body and having a conduit leading downwardly therefrom and terminating a short distance below said guide, a means for conveying combustible gases into said mixing-chamber, and a globe arranged to deflect air downwardly toward the lower end of said first-mentioned conduit.

3. In a device of the class described, in combination, a lamp-body having a channel leading therethrough, a burner-nozzle extending downwardly from said lamp-body, a guide extending downwardly from said lamp-body and terminating a short distance above the end of said nozzle and adapted to direct the products of combustion therefrom into said channel, and an injector positioned exteriorly of said lamp-body out of the path of the escaping products of combustion and arranged to deliver combustible gases into said mixing-chamber.

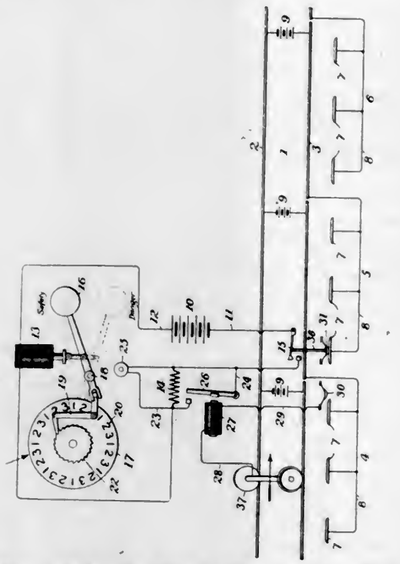
4. In a device of the class described, in combination, a lamp-body, an exterior injector, an expansion-chamber within said body and in communication with said injector, and located directly in the path of and adapted to be raised in temperature by the products of combustion, means producing products of combustion underlying said expansion-chamber and in communication therewith, a globe arranged to deflect a current of fresh air downward toward said producing means, and a guide interposed between the discharging products of combustion and the incoming fresh air.

845,187. WRENCH. JAMES MACLEAN, Boston, Mass. Filed Aug. 24, 1906. Serial No. 331,938.



Claim.—A wrench comprising a handle, a fixed jaw quadrant-like in shape and having teeth on its curved portion, a semicircular socket formed at the rear of the toothed part of the fixed jaw, a movable jaw provided with teeth as described and having a cam-shaped eccentric constructed to work loosely in the said semicircular socket, a loosely-fitting yoke attached by an eccentrically-located pivot to the said cam-shaped eccentric; substantially as and for the purpose set forth.

845,188. RAILWAY SIGNAL SYSTEM. FRANCIS M. MYERS, Windsor, Mo., assignor of one-third to Charles A. Draper, Windsor, Mo., and one-third to Philip H. Kilpatrick, Corinth, Miss. Filed Mar. 22, 1906. Serial No. 307,412.



Claim.—1. In a block-signal system, contact-rails arranged at a plurality of points in each block, electromechanical indicating means carried by a locomotive for giving thereon a danger-signal and for visibly indicating thereon the position of said locomotive with relation to said contact-rails, and means for operating said indicating means as each point is reached by said locomotive.

2. The combination of a complete electric circuit arranged upon a locomotive and adapted to be broken by a track contact-rail, indicating mechanism controlled by said circuit and adapted to be operated by the breaking thereof, a resistance in said circuit adapted to prevent the resetting of said mechanism, and a relay adapted to receive energy from a track-battery and operating to form a shunt-circuit on the locomotive around said resistance, whereby said mechanism is reset.

3. The combination of a complete electric circuit arranged upon a locomotive and adapted to be broken by a track contact-rail, indicating mechanism controlled by said circuit and adapted to be operated by the breaking thereof, a resistance in said circuit adapted to prevent the resetting of said mechanism, and means including a track battery and circuit for closing a shunt-circuit on the locomotive around said resistance, whereby said mechanism is reset.

4. The combination of a complete electric circuit in which is included a solenoid, a resistance-coil, and a normally closed spring-switch, said switch being provided with a circuit-breaker, a shunt around said resistance-coil, said shunt having a switch normally held in open position, an indicator adapted to be held in set position by said solenoid when said coil is in circuit and adapted to be raised to set position by said solenoid only when the current is shunted around said coil, all of said elements being arranged upon a moving locomotive, and a stationary contact-rail arranged to act upon said circuit-breaker.

5. The combination with a track comprising a continuous insulated rail and a sectional insulated rail, contact-rails arranged contiguous to said track at intervals in each of the sections, line-wires electrically connecting the contact-rails of each section with the sectional rail of another section, and an electric battery arranged between each sectional rail and the continuous rail, of a locomotive adapted to run on said track and provided with shoes adapted to touch said contact-rails in passing, said shoes causing the operation of indicating mechanism carried on said locomotive whereby the position of said locomotive relative to the sections may be determined.

6. The combination with a closed electric circuit in which is included a magnet and a resistance, a shunt around the resistance provided with a switch normally held open, an indicator adapted to be held in set position by said magnet with the resistance in circuit but to be attracted to its set position only when the current is shunted around the resistance, whereby when the circuit is momentarily broken and restored the indicator will move from set position and will not be reset until the shunt-switch is closed, all of the foregoing elements being carried on a locomotive, of means arranged contiguous to the locomotive-track for momentarily breaking said circuit.

7. The combination with a closed electric circuit in which is included a magnet, a resistance and a spring-switch, said switch being normally closed, a shunt around the resistance, said shunt being provided with a switch normally held open, an indicator adapted to be held in set position by said magnet with the resistance in circuit but to be attracted to set position only when the current is shunted around the resistance, all of the foregoing elements being carried on a locomotive, of means arranged contiguous to the locomotive-track for momentarily operating said first-mentioned switch.

8. The combination of a closed electric circuit in which is included a magnet, a resistance, and a normally closed spring-switch, a normally open shunt around said resistance, a relay-magnet adapted, when energized, to close said shunt, and an indicator controlled by said first-mentioned magnet, all of the above elements being carried on a locomotive, with a contact-rail adapted to break said closed circuit momentarily, and a track-battery arranged to momentarily energize said relay-magnet after said closed circuit has been broken and restored.

9. The combination of a locomotive carrying a battery and a complete electric circuit connected therewith, a resistance and a normally closed spring-switch in said circuit, said switch being provided with a circuit-breaker adapted to be operated by a contact-rail, an indicating mechanism controlled by the breaking and restoring of said circuit, a normally open shunt around said resistance, and a relay-magnet adapted, when energized, to close said shunt, the winding of said relay having connection respectively with a wheel of said locomotive and a contact-shoe adapted to coöperate with a contact-rail, with a railway-track upon which said locomotive is adapted to run, one rail of said track being insulated from the ground and continuous, and the other being divided into insulated sections forming blocks, a track-battery arranged between and connected with each sectional rail and the continuous rail, and a contact-rail for each block arranged to coöperate with said circuit-breaker and contact-shoe and having connection with the sectional rail of another block.

10. The combination of a locomotive carrying a battery

and a complete electric circuit connected therewith, a resistance and a normally closed spring-switch in said circuit, said switch being provided with a circuit-breaker adapted to be operated by a contact-rail, an indicating mechanism controlled by the breaking and restoring of said circuit, a normally open shunt around said resistance, and a relay-magnet adapted, when energized, to close said shunt, the winding of said relay having connection respectively with a wheel of said locomotive and a contact-shoe adapted to coöperate with a contact-rail, with a railway-track upon which said locomotive is adapted to run, one rail of said track being insulated from the ground and continuous, and the other being divided into insulated sections forming blocks, a track-battery arranged between and connected with each sectional rail and the continuous rail, and a series of contact-rails for each block arranged to coöperate with said circuit-breaker and contact-shoe and having connection with the sectional rail of another block.

11. The combination of a locomotive carrying an electric generator and a complete circuit including therein a resistance, a magnet, and a normally closed spring-switch, said switch being provided with a circuit-breaker adapted to be operated by a contact-rail, an indicator comprising a semaphore and a dial provided with numerals or other symbols, said indicator being adapted to be held in set position by said magnet with the resistance in circuit but to be attracted to set position only when the current is shunted around said resistance, a normally open shunt around said resistance, a relay-magnet having terminals respectively in a wheel of the locomotive and in a contact-shoe, said magnet being adapted, when energized, to close said shunt, and said shoe being arranged in the rear of said circuit-breaker and adapted to touch a contact-rail, a track comprising a continuous insulated rail adapted to have contact with said wheel and a sectional insulated rail forming blocks, an electric generator arranged between and connected to each sectional rail and the continuous rail, contact-rails arranged at a plurality of points in each block and adapted to coöperate with said circuit-breaker and contact-shoe successively, said points corresponding in number or location to the numerals or symbols of said dial, and a line-wire connecting the contact-rails of each block with the sectional rail of another block.

12. The combination of a locomotive carrying an electric generator and a complete circuit including therein a resistance, a magnet and a normally closed spring-switch, said switch being provided with a circuit-breaker adapted to be operated by a contact-rail, an indicator comprising a semaphore and a dial provided with numerals or other symbols, said indicator being adapted to be held in set position by said magnet with the resistance in circuit, but to be attracted to set position only when the current is shunted around said resistance, a normally open shunt around said resistance, another normally open shunt around said resistance, a relay-magnet having terminals respectively in a wheel of the locomotive and in a contact-shoe, said magnet being adapted, when energized, to close said first-mentioned shunt, and said shoe being arranged in the rear of said contact-shoe and adapted to touch a contact-rail, a track comprising a continuous insulated rail adapted to have contact with said wheel and a sectional insulated rail forming blocks, an electric generator between and connected to each sectional rail and the continuous rail, contact-rails arranged at a plurality of points in each block and adapted to coöperate with said circuit-breaker and contact-shoe successively, said points corresponding in number or location to the numerals or symbols of said dial, and a line-wire connecting the contact-rails of each block with the sectional rail of another block.

13. The combination with a complete electric circuit arranged upon a locomotive and adapted to be broken by a track-contact rail, indicating mechanism controlled by said circuit and adapted to be operated by the breaking thereof, a resistance in said circuit adapted to prevent the resetting of said mechanism, and a relay-magnet adapted, when energized, to close a shount around said resistance whereby said mechanism may be reset, of a railway-switch, a track-battery, wirings so arranged therewith that the circuit of said battery is closed when the switch is open and vice versa, and means for electrically connecting the windings of said relay-magnet with said wirings at a predetermined position in the travel of said locomotive.

14. The combination with a complete electric circuit adapted to operate an indicating mechanism by the breaking of said circuit and to reset said mechanism by the remaking of said circuit and the closing of a shunt around a resistance, a relay-magnet adapted, when energized, to close said shunt, a normally closed spring-switch in said circuit, all of said elements being arranged upon a moving locomotive, of a railway-switch, a track-battery, wirings so arranged with said battery and railway-switch that the circuit is closed when the switch is open and vice versa, a contact-rail adapted to momentarily open said spring-switch, and means for momentarily connecting the winding of said relay-magnet with said wirings immediately following the actuation of said spring-switch.

15. The combination with an electric signal system, of a circuit-breaker comprising a spring-brush having its ends mounted in sliding boxes, and a link adapted to operate the switch.

16. The combination with an electric signal system, of a circuit-breaker comprising a spring-brush mounted in sliding boxes, said boxes having a limited longitudinal movement, and means on said brush adapted to operate a switch.

17. The combination with an electric signal system, of a circuit-breaker comprising a brush mounted in sliding boxes, said boxes having a limited longitudinal movement, and insulated means on said brush connecting it with the movable part of a switch.

18. The combination with an electric-railway system, of a contact-shoe comprising a spring-metal brush mounted in sliding boxes, said boxes having a limited longitudinal movement.

19. A contact-shoe comprising a brush formed of spring metal, said brush being pivoted at its ends to sliding boxes, guiding means for said boxes, and stops to limit their movement.

20. A contact-shoe comprising a brush formed of spring metal, sliding boxes on the ends of said brush, and stops to limit the travel of said boxes.

21. In a block-signal system, an indicator carried on the locomotive, a contact-rail arranged in each block, means actuated by said rail for operating said indicator regardless of the condition of the track-circuits, and means for returning said indicator to its first position when the track-circuits are in normal condition only.

22. In a block-signal system, an indicator carried on the locomotive, a contact-rail arranged in each block, means actuated by said rail for operating said indicator regardless of the condition of the track-circuits, and means for subsequently actuating said operating means when the track-circuits are in normal condition only.

23. In a block-signal system, an indicator carried on the locomotive, operating means for said indicator, means for actuating said operating means regardless of the condition of the track-circuits, and means for subsequently actuating said operating means when said track-circuits are in normal condition only.

24. In a block-signal system, an indicator carried on the locomotive, operating means for said indicator, means for actuating said operating means regardless of the condition of the track-circuits, whereby said indicator will show "danger," and means for immediately thereafter actuating said operating means when the track-circuits are in normal condition only, whereby said indicator will be returned to its first position if the track-circuits are undisturbed.

25. In a railway-signal system, a combined indicator carried on the locomotive for denoting both the track condition and the position of said locomotive with relation to predetermined points along the track, and means for operating said indicator.

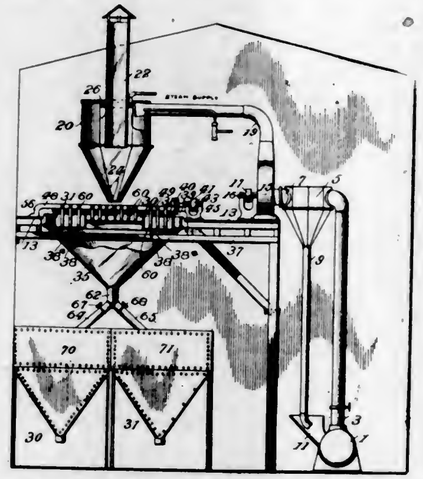
26. A contact-shoe comprising a brush formed of spring metal, sliding boxes attached to and housing the ends of said brush and stops to limit the travel of said boxes.

27. In a block-signal system, an indicator carried on the locomotive for denoting both the track condition and the relative position of the locomotive, means for operating said indicator at a point along the track, and means for immediately thereafter resetting said indicator when the track-circuits are in normal condition only.

28. In a block-signal system, an indicator carried on the locomotive, said indicator comprising a danger-signal and a dial having figures or other symbols corresponding with points along the track, a magnet adapted, when energized, to hold said signal to "safety," a source of electricity and a circuit adapted to energize said magnet, and means for breaking and making said circuit as each point is passed by the locomotive.

29. In a block-signal system, an indicator carried on the locomotive, said indicator comprising a danger-signal and a dial having figures or other symbols corresponding with points along the track, a magnet adapted when partly energized to hold said signal to safety and when fully energized to raise said signal to "safety" and said signal adapted to drop to "danger" when said magnet is deënergized, and to move said dial one point, a source of electricity and a circuit adapted to energize said magnet, means for breaking said circuit as each point is reached by the locomotive, and means depending upon the condition of the track-circuits for partially or wholly restoring said first-mentioned circuit immediately following the breaking thereof.

845,189. APPARATUS FOR HYDRATING LIME. WILLIAM S. OSBORNE, Marietta, Pa. Filed Mar. 2, 1905. Serial No. 248,096.



Claim.—1. In apparatus of the character described, the combination of means for moistening lime, a rotatable vat into which the moistening means discharge, and plows or agitators for mixing the material in the vat while it is hydrated, substantially as described.

2. Apparatus of the character described, having, in combination, a plurality of vats arranged to overflow one into another at a point above the bottom thereof, and means for stirring the material in the vats, substantially as described.

3. Apparatus of the character described, having, in combination, a plurality of vats, one of which is arranged to overflow into another at a point above the bottom thereof, means for delivering moistened lime in a constant stream to the first of said vats, and means for mixing the material in the vats, substantially as described.

4. Apparatus of the character described, having, in combination, two adjacent vats separated by an intervening partition so that one overflows into the other, means for delivering lime into the first vat, and means for stirring the lime in the vats, whereby the pits and unhydrated particles settle to the bottom while the powdery hydrated matter overflows one of said vats into the other, substantially as described.

5. Apparatus of the character described, having, in combination, two concentric rotating vats, of which the inner vat is arranged to overflow into the outer vat at a point above its bottom, means for delivering lime to the inner vat, and fixed means for stirring the lime in the vats, substantially as described.

6. Apparatus of the character described, having, in combination, a mixing-vat, means for delivering lime to the vat, means for stirring the lime in the vat, whereby the pits and unhydrated matter settle while the powdery hydrated lime overflows the sides of said vat, and a receiving-hopper located beneath the vat so as to receive the hydrated lime overflowing the sides of the vat, substantially as described.

7. In apparatus of the character described; the combination of a vat, means for mixing material therein and for causing it to overflow said vat, a receiving-hopper arranged to receive the discharge from said vats, cooling-vats arranged to receive the material from said receiving-hopper, and means for controlling the discharge from the receiving-hopper into the cooling-vat, substantially as described.

8. In apparatus of the character described; the combination of a vat, means for mixing material therein and for causing it to overflow said vat, a receiving-hopper arranged to receive the discharge from said vat, cooling-vats closed from the atmosphere arranged to receive the material from said receiving-hopper, and means for controlling the discharge from the receiving-hopper into the cooling-vats, substantially as described.

9. In apparatus of the character described; the combination of a mixing device, means for causing the material therein to overflow, a receiving-hopper receiving the material from said device, cooling-vats arranged to receive the material from said receiving-hopper, and divided chutes with valves controlling the delivery of material from the receiving-hopper to the cooling-vats, whereby the material may be fed into one of the cooling-vats while the material is cooling in the other, substantially as described.

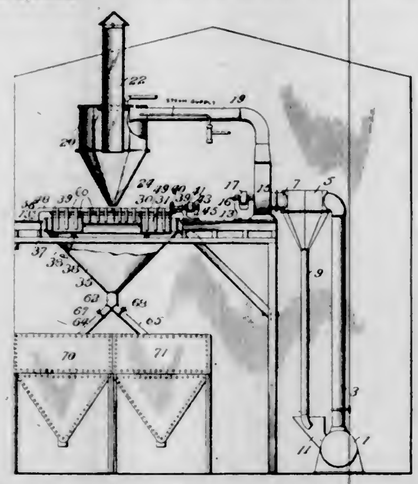
10. In apparatus of the character described, a settling-chamber having a discharge-spout, a mixing-vat located under said spout, a frame suitably supported and interposed between said spout and said vat, said frame being formed of two V-shaped angle-irons connected together and forming an X-shaped frame with an opening through which the material passes, plows projecting from said X-shaped frame into the vat, and means for rotating said vat whereby the material is mixed, substantially as described.

845,190. METHOD OF HYDRATING LIME. WILLIAM S. OSBORNE, Marietta, Pa. Filed Mar. 2, 1905.. Serial No. 248,097.

Claim.—1. The herein-described method of hydrating lime which consists in finely pulverizing the burnt lime, conveying it through an air-separator by the use of an exhaust-fan and thereby separating the fine material from the coarse, permitting the coarse material to return to be reground; conveying the fine material and blowing it into a suspension-chamber; subjecting the fine material to the action of moisture while in suspension, permitting said material to settle into vats and mixing the moistened material therein by agitation.

2. The herein-described method of hydrating lime which consists in finely pulverizing the burnt lime, conveying it through an air-separator by the use of an exhaust-fan and thereby separating the fine material from the coarse, permitting the coarse material to return to be reground; conveying the fine material and blowing it into a suspension-

chamber; subjecting the fine material to the action of moisture while in suspension, permitting said material to settle into vats, and causing the finer particles to overflow said vats and cooling the material in closed vats or storage-bins.



3. The herein-described method of hydrating lime which consists in finely pulverizing the burnt lime, delivering the same into a chamber in a state of suspension, subjecting said material to the action of steam or water while in suspension, permitting said material to settle into a vat, agitating the lime therein and causing it to overflow, while hydrating, and permitting the coarser or unhydrated lime and the pits to settle.

4. The herein-described method of hydration, which consists in reducing material to a fine or pulverulent condition, suspending it in a current of air with steam or water, and maintaining it thus in suspension by agitation of the air in a closed chamber until the particles of the material are moistened by the steam or water and separated from the air.

5. The herein-described method of hydration, which consists in reducing material to a fine or pulverulent condition, suspending it in a current of air with steam or water, and causing the air and steam or water to have a whirling movement in a chamber so as to separate the moistened particles from the current of air and steam or water, while maintaining the unmoistened particles in suspension.

6. The herein-described method of hydrating lime, which consists in reducing the lime to a fine or pulverulent condition, moistening the lime, agitating it in a mass until the undrydated particles settle, thereby separating the hydrated particles from the unhydrated, and subjecting the unhydrated to further agitation.

7. The herein-described method of hydrating lime, which consists in reducing the lime to a fine or pulverulent condition, moistening the lime, delivering the moistened lime continuously to a mass, agitating the mass, thereby permitting the powdery slaked lime to rise to the top of the mass and escape, and retaining the lower portions of the mass for further agitation.

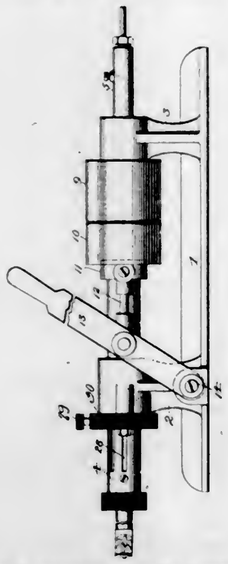
8. The herein-described method of hydrating lime which consists in conveying pulverized lime into a suspension-chamber; subjecting said pulverized material to the action of moisture while in suspension; permitting said material to settle; and mixing the moistened material by agitation.

9. The herein-described method of hydrating lime which consists in conveying pulverized lime into a suspension-chamber; subjecting said pulverized lime to the action of moisture while in suspension; permitting said material to settle into a vat; and causing the finer particles to overflow said vat.

10. The herein-described method of hydrating lime which consists in conveying pulverized lime into a suspension-chamber; subjecting the fine material to the action of moisture while in suspension; permitting said material to settle into a vat; causing the finer particles to overflow said vat; and cooling the material while inclosed.

11. The herein-described method of hydrating lime which consists in delivering finely-pulverized lime into a suspension-chamber; subjecting said material to the action of moisture while in suspension; permitting said material to settle; causing said material to overflow while hydrating and permitting the coarser or unhydrated lime and the pit to settle; and in cooling the material while inclosed.

845,191. BORING-MACHINE. AZARIAH Y. PEARL, New York, N. Y. Filed May 11, 1905. Serial No. 259,931.



Claim.—1. In a boring-machine for operating tools for boring angular-shaped holes, the combination with an axially-movable tool-spindle drive-shaft, of a support-carrying means for holding a tool-casing against rotation while permitting its axial movement, and means for holding the tool-casing in various angular positions.

2. In a boring-machine for operating tools for boring polygonal holes, the combination of an axially-movable tool-spindle driving-shaft, a support, a sleeve turnable in said support and provided with a plurality of longitudinal guides, means carried by the support and with which any one of the guides is adapted to engage when the sleeve is turned to the proper position means causing the sleeve to move axially, means causing the shaft to move therewith, and means for securing a polygonal cutting-casing of a boring-tool to the sleeve to cause the casing to assume the angular position of the sleeve.

3. In a boring-machine for operating tools for boring polygonal holes, the combination of an axially-movable tool-spindle driving-shaft, a support, a sleeve turnable in said support and provided with a plurality of longitudinal grooves, a releasable projection adapted to enter any one of the grooves, means causing the sleeve to move axially, means causing the shaft to move therewith, and means for securing the polygonal cutting-casing of a boring-tool to said sleeve to cause the casing to assume the angular position of the sleeve.

4. In a boring-machine for operating tools for boring polygonal holes, the combination of an axially-movable tool-spindle driving-shaft, a support, a collar rotatably adjustable on the support and carrying a projection, a sleeve provided with a longitudinal groove in which the projection fits to turn with the collar, means causing the sleeve to move axially, means causing the shaft to move therewith, and means for securing a polygonal cutting-casing of a boring-tool to the sleeve.

5. In a boring-machine for operating tools for boring polygonal holes, the combination of the axially-movable tool-spindle driving-shaft, a support, a sleeve turnable in said support, means for holding the sleeve in different positions of angular adjustment to which it may be turned, means for causing the sleeve and the shaft to move together axially, and means for securing a polygonal cutting-casing of a boring-tool to the sleeve to cause the tool to assume the angular position of the sleeve.

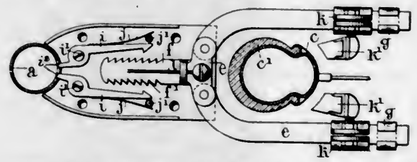
6. In a boring-machine for operating tools for boring polygonal holes, the combination of an axially-movable tool-spindle driving-shaft having a lubricant-chamber, a support-carrying means for holding a tool-casing against rotation while permitting its axial movement a rod extending through the shaft and having a duct through which a lubricant is fed from the chamber to the tool, and a tube surrounding the rod and adjustable to cut off the supply through the duct.

7. In a boring-machine for operating tools for boring polygonal holes, the combination of an axially-movable tool-spindle driving-shaft having a lubricant-chamber, a support-carrying means for holding a tool-casing against rotation while permitting its axial movement, and a rod extending through said shaft, having a duct through which the lubricant is fed from the chamber to the tool-spindle, and being movable to cut off the feed.

8. The combination of an axially-movable hollow drive-shaft, a support-carrying means for holding a tool-casing against rotation while permitting its axial movement, means for securing a tool-spindle to one end of the shaft, a lubricant-chamber formed within the hollow shaft and having a discharge in alinement with the longitudinal axis of the tool-spindle, and a rod also in alinement with the longitudinal axis of the tool-spindle and having a duct movable into and out of the lubricant-chamber.

9. The combination of an axially-movable hollow shaft, an axially-movable sleeve in which the shaft is journaled, connections for causing the sleeve and the spindle to move axially together, means for holding the sleeve against rotation with the shaft, and permitting the sleeve to be adjusted to various positions, means for securing a tool-casing to the sleeve, means for securing a tool-spindle to the shaft, a lubricant-chamber within the shaft, a rod controlling the flow of lubricant from the lubricant-chamber and adapted to engage the tool-spindle to drive it out of the machine, a fixed and loose pulley on the drive-shaft, and a lever connected with the sleeve to move the tool to and from the work.

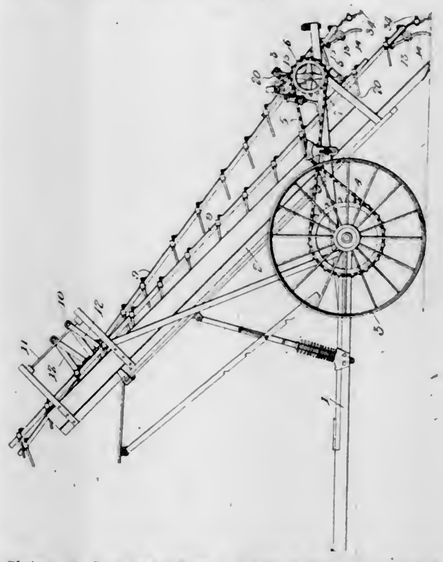
845,192. COMBINED BRAKING AND LOCKING DEVICE. BERNARD PÉDUCASSE, Lyon, France. Filed Sept. 15, 1906. Serial No. 334,742.



Claim.—1. A combined brake and locking device for vehicles and the like comprising in combination, a vehicle-frame, a wheel, brake-shoes, a retaining device for holding said shoes in an engaging position, a locking device coöperating with said retaining device and comprising a locking-plunger, a spring-actuated locking-pin adapted for engagement with said plunger, and a key-actuated cam member and a gear coöperating with said locking pin and plunger.

2. A combined brake and locking device for vehicles and the like comprising in combination, a vehicle-frame, a wheel, brake-shoes adapted for engagement with said wheel and provided with a ratchet-bar, pawls adapted for engagement with said ratchet-bar, a locking-plunger operating said pawls, a spring-actuated locking-pin for retaining said plunger in locking and unlocking positions, and a key-actuated cam and gear for said locking pin and plunger.

845,193. HAY-LOADER. CHARLES H. PELTON, Springfield, Ohio, assignor to The Thomas Manufacturing Company, Springfield, Ohio, a Corporation of Ohio. Filed Dec. 21, 1905. Serial No. 292,694.



Claim.—1. In a hay-loader, a frame, a rake-bar mounted to slide at its upper end relatively to said frame and provided with a rake at its lower end, and a crank-shaft mounted on said frame, in combination with a guide carried by the rake-bar between its ends and engaged by a crank of the crank-shaft, and means adjustably supported on said bar for regulating the sliding movement of said crank within said guide, substantially as described.

2. In a hay-loader, a frame, a plurality of rake-bars mounted to slide at their upper ends relatively to said frame and provided with rakes at their lower ends, and a crank-shaft mounted on said frame and provided with a corresponding plurality of cranks, each rake-bar being provided between its ends with a guide engaged by a crank of the crank-shaft, in combination with means adjustably supported on said bar for regulating the sliding movement of said cranks within said guides, substantially as described.

3. In a hay-loader, a frame, a rake-bar mounted to slide at its upper end relatively to said frame and provided with a rake at its lower end, and a crank-shaft mounted on said frame, in combination with a guide carried by the rake-bar between its ends, a bearing fitting said guide and receiving a crank of the crank-shaft, and adjustable means carried by said guide for regulating the sliding movement of said bearing within said guide, substantially as described.

4. In a hay-loader, a frame, a plurality of rake-bars mounted to slide at their upper ends relatively to said frame and provided with rakes at their lower ends, and a crank-shaft mounted on said frame and provided with a corresponding plurality of cranks, each rake-bar having

a guide mounted thereon between its ends, and a bearing fitting said guide and receiving a crank of the crank-shaft, in combination with adjustable means carried by said guide for regulating the sliding movement of said bearing within said guide, substantilly s described.

5. In a hay-loader, a frame, a rake-bar mounted to slide at its upper end relatively to said frame and provided with a rake at its lower end, and a crank-shaft mounted on said frame, in combination with a guide carried by the rake-bar between its ends, through which guide a crank of the crank-shaft passes, and a stop-pin adapted to be secured in different positions in said guide to prevent sliding of the crank in the guide, or to limit the extent and location of such sliding movement, substantially as described.

6. In a hay-loader, a frame, a rake-bar mounted to slide at its upper end relatively to said frame and provided with a rake at its lower end, and a crank-shaft mounted on said frame, in combination with a guide carried by the rake-bar between its ends, a bearing fitted to slide in said guide, through which bearing a crank of the crank-shaft passes, and a stop-pin adapted to be secured in different positions in the guide to prevent sliding of the bearing relatively to the guide, or to limit the extent and location of such sliding movement, substantially as described.

7. In a hay-loader, a frame, a plurality of rake-bars mounted to slide at their upper ends relatively to said frame and provided with rakes at their lower ends, and a crank-shaft mounted on said frame and having a corresponding plurality of cranks, each rake-bar having between its ends a guide and a bearing fitted to slide therein, said bearing receiving one of the cranks of the crank-shaft, and a stop-pin adapted to be secured in different positions in the guide to prevent sliding movement of said bearing relatively to the guide, or to limit the extent and location of said sliding movement, substantially as described.

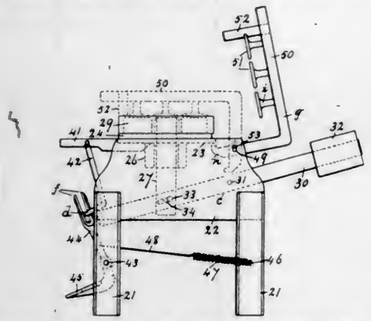
8. In a hay-loader of the character described, the combination, with a crank-shaft and a rake-bar, of a guide-loop secured to the rake-bar and extending upward therefrom, and a bearing fitted to slide in said guide-loop and receiving a crank of the crank-shaft, said loop being provided with apertures near its upper and lower end respectively, and a stop-pin removably fitting said apertures, whereby, when the stop-pin is removed, the bearing is free to slide the entire length of the guide-loop, and whereby, when the stop-pin is inserted in the proper apertures, said bearing may be held stationary either at the top or the bottom of the guide-loop, or may be free to slide either in the upper or lower portion of said guide-loop, substantially as described.

9. In a hay-loader of the character described, the combination, with a crank-shaft, of a rake-bar having a guide-loop thereon, and a bearing to receive a crank of the crank-shaft fitting between the arms of the guide-loop, having lateral flanges to engage the edges of said arms to prevent lateral displacement and having outwardly-flaring flanges beyond said lateral flanges, and divided centrally in a plane parallel with said guide-arms, substantially as described.

10. In a hay-loader, a frame, a rake-bar mounted to slide at its upper end relatively to said frame and provided at its lower end with a rake and with a gage or protector, and a crank-shaft mounted on said frame, in combination with a guide carried by the rake-bar between its ends and engaged by a crank of the crank-shaft, and means adjustably supported on said bar for regulating the sliding movement of said crank within said guide, substantially as described.

11. In a hay-loader, a frame, a rake-bar mounted to slide at its upper end relatively to said frame and provided at its lower end with a rake, and with a protector or gage adjustable to extend to a greater or less extent below said rake-bar, and a crank-shaft mounted on said frame, in combination with a guide carried by the rake-bar between its ends and engaged by a crank of the crank-shaft, and means adjustably supported on said bar for regulating the sliding movement of said crank within said guide, substantially as described.

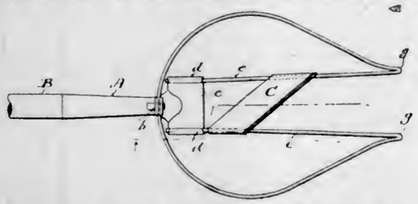
845,194. MACHINE FOR MAKING CEMENT BRICK. HENRY POCOCK, London, Ontario, Canada. Filed Apr. 2, 1906. Serial No. 309,370.



Claim.—1. In a device of the class described a supporting-frame including a table adapted to support a pallet, a mold movable vertically above said table and provided with spaced side bars, a weighted lever pivoted intermediate its ends to said supporting-frame, a foot-lever swinging from said supporting-frame, and a link device swinging at one end from said supporting-frame and movably coupled to said foot-lever and provided with an intermediate offset for bearing over the free end of said weighted lever to maintain the molds in depressed position.

2. In a device of the class described a supporting-frame including a table to support a pallet, a frame swinging from said supporting-frame and carrying a tamping device, a hopper swinging from said supporting-frame, a mold disposed above said table and provided with depending bars, a weighted lever swinging from said supporting-frame and connected to said bars, a foot-lever swinging from said supporting-frame, and a link swinging at one end from said frame with an intermediate offset for bearing over the free end of said weighted lever to maintain the molds in depressed position.

845,195. CABBAGE-HARVESTER. GEORGE H. ROBBINS, Racine, Wis. Filed May 28, 1906. Serial No. 319,002.

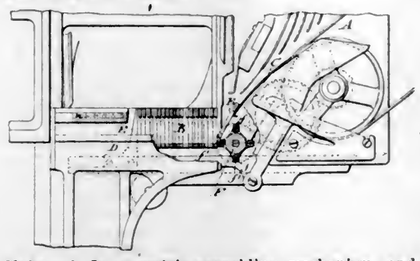


Claim.—1. A cabbage-harvester comprising a shank attachable to a handle and having a downturned forward cross-head end provided with side sockets, a bent-wire cradle having fork-tines thereof caught in the sockets, a portion of the cradle being a rearwardly-diverging gradually-rising rim supported on said shank; and a blade arranged in connection with the tines aforesaid.

2. A cabbage-harvester comprising a shank attachable to a handle and having a downturned forward cross-head end and an upper T-lug adjacent to its crook, a bent-wire cradle having fork-tines thereof in rigid connection with the shank cross-head a portion of the cradle being a rearwardly-diverging bowed rim caught in the head of said lug; and a blade arranged in connection with the tines aforesaid.

3. A cabbage-harvester comprising a shank attachable to a handle, a forked stalk-straddling and head-receiving cradle in connection with the shank, and a blade diagonally arranged in connection with the fork portion of the cradle.

845,196. LINOTYPE-MACHINE. JOHN R. ROGERS, Brooklyn, N. Y., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed Oct. 15, 1906. Serial No. 338,951.

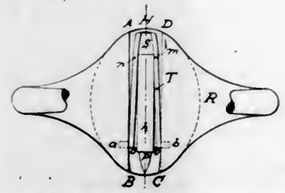


Claim.—1. In a matrix-assembling mechanism, and in combination with means for delivering matrices successively thereto, a rotary pusher or star-wheel provided with one or more freely-revolving bars of angular cross-section.

2. The matrix pusher or star-wheel provided with freely-revoluble bars *f* of angular cross-section.

3. A linotype-machine, a support for the matrix-line, a yielding resistant for the line, means for delivering the matrices successively toward the assembler, and a rotary pusher provided with one or more freely-revoluble bars of angular cross-section.

845,197. FINGER-RING AND PENCIL. FLORICEL A. ROJAS, New York, N. Y. Filed Aug. 2, 1906. Serial No. 328,937.



Claim.—1. A finger-ring having a spring-retained marking member within.

2. A finger-ring having an extensible marking member within.

3. A finger-ring having an extensible marking member pivotally mounted within.

4. A finger-ring having a marking member within said ring and extensible therefrom for use.

5. A finger-ring having a grooved inner surface for the reception of a marking member.

6. A recessed finger-ring having a spring-retained marking member mounted therein.

7. In a recessed finger-ring, a tubular holder adapted to receive a marking member, said holder pivoted within said recessed finger-ring.

8. In a recessed finger-ring, the combination of a pivoted marking member with means for retaining said marking member in extended position.

9. A finger-ring formed with a grooved inner surface, an extensible marking member pivoted within said grooved inner surface and means for retaining said marking member in extended position, as set forth.

10. A recessed finger-ring, having a spring retaining member mounted therein and a marking member pivotally connected to said spring retaining member, as set forth.

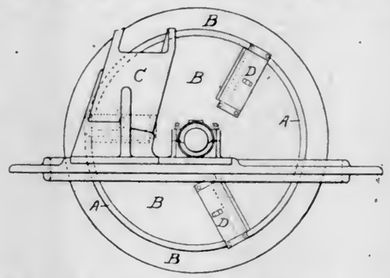
11. In a finger-ring a marking member, a holder therefor, having walls engaging portions of said ring to hold it in position with relation thereto.

12. In a finger-ring having a grooved inner surface for the reception of a marking member, the mouth of said groove being adapted to retain said marking member in extended position.

13. A recessed finger-ring having a spring retaining member mounted therein and a marking member pivoted to said spring retaining member, said retaining member adapted to yield upon the extension of said marking member to permit said marking member to assume its extended position.

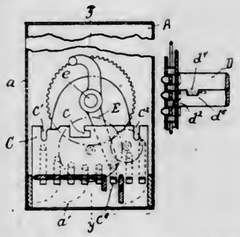
14. In a finger-ring, a marking member mounted within said ring, said marking member comprising an extensible holder pivoted to said ring, a marker-retaining member pivoted to said extensible holder, said marking member adapted to be folded within said ring as set forth.

845,198. PULP-WOOD CHIPPER. GEORGE F. ROWE, Bangor, Me. Filed Jan. 9, 1907. Serial No. 351,405.



Claim.—In a chipper for making pulp-wood chips, a chipper-disk having knives projecting from its face; slots behind said knives and in front of their cutting edges; and an annular flange or rib on the face of said disk, projecting therefrom substantially to the same extent as the cutting edges of said knives; and so placed on said disk as to include said knives and substantially to coincide with the curve including the outer ends thereof.

845,199. NEWSPAPER-VENDING MACHINE. JOHN A. RULE, Cincinnati, Ohio. Filed Dec. 10, 1906. Serial No. 347,165.



Claim.—1. In a newspaper-vending machine the combination of a newspaper-receptacle, a series of partitions in the receptacle made movable relatively to each other, means for moving the partitions to divide the receptacle into a greater or less number of compartments, doors beneath the receptacle and means for opening them an amount which corresponds to the size of the compartments.

2. In a newspaper-vending machine the combination of a newspaper-receptacle, a series of partitions in the receptacle made movable relatively to each other, means for moving the partitions to divide the receptacle into a greater or less number of compartments, doors made of sections hinged together pivoted beneath the compartments, latches for supporting the sections and means for releasing one or more of the latches at a time.

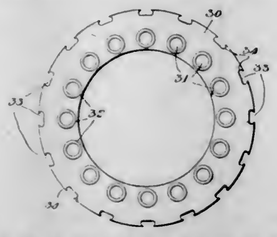
3. In a newspaper-vending machine the combination of a newspaper-receptacle, a series of partitions in the receptacle made movable relatively to each other, means for moving the partitions to divide the receptacle into a greater or less number of compartments, doors made of sections hinged together pivoted beneath the compartments, latches for supporting the sections, a swinging arm

for engaging the latches, means for imparting a step-by-step movement to the arm and a means for regulating the size of the step-by-step movement of the arm to release one or more latches at each step.

4. A newspaper-receptacle for use in a vending-machine consisting of a frame, a series of fixed partitions in the frame, movable partitions between the fixed partitions, sliding members mounted in the frame, and coupled to the movable partitions.

5. In a newspaper-vending machine the combination of a casing, key-seats formed upon the interior walls of the casing, a door hinged to the casing, a newspaper-receptacle, sliding keys mounted upon the receptacle so as to project beyond the casing when the receptacle is placed therein and to register with the key-seats so that the closing of the door contacts the keys and seats them in their seats to hold the receptacle firmly in the casing.

845,200. CORN-PLANTER. GEORGE K. SCHAUER, Osborn, Ohio. Filed Nov. 17, 1905. Serial No. 287,778.



Claim.—1. In a corn-planter, the combination, with a seed-hopper, of a seed-plate provided with two sets of apertures of different widths, one relatively wide set for flat dropping and one relatively narrow set for edge dropping, and separate means for covering either the one or the other of said sets, substantially as described.

2. In a corn-planter, the combination, with a seed-hopper, of a seed-plate provided with two annular sets of apertures of different widths arranged at different distances from the axis of said plate, and means for covering at will either of said sets of apertures to prevent the corn from having access thereto, substantially as described.

3. In a corn-planter, the combination, with a seed-hopper, of a seed-plate having an annular series of relatively narrow apertures at its margin and a second series of relatively wide apertures between its margin and center, and means for closing at will either of said series of apertures to prevent the corn from having access thereto, substantially as described.

4. In a corn-planter, the combination, with a seed-hopper, of a seed-plate having marginal recesses open at the periphery of the plate, and a driving member on which said seed-plate is removably supported, said plate and driving member rotating in unison, and said driving member having an upwardly-extending marginal flange within which said seed-plate fits, said flange extending above the seed-plate and forming a rotating wall moving in unison therewith, substantially as described.

5. In a corn-planter, the combination, with a seed-hopper, of a seed-plate having marginal recesses open at the periphery of the plate, said plate having portions extending toward each other at each side of the open side of said recesses, and a driving member on which said plate is removably supported, said plate and driving member rotating in unison, and said driving member having an upwardly-extending marginal flange within which said plate fits, said flange extending above said plate and forming a rotating wall moving in unison therewith, substantially as described.

6. In a corn-planter, the combination, with a seed-plate having two annular sets of apertures of different widths, a relatively wide set for flat dropping and a relatively narrow set for edge dropping, said sets being located at different distances from the axis of rotation of the plate, of interchangeable occlusive plates adapted to be removably secured in the hopper above said seed-plate, whereby access of the corn to either set of apertures may be prevented, substantially as described.

7. In a corn-planter, the combination, with a hopper, of a seed-plate having two annular sets of dropping-apertures arranged at different distances from its axis of rotation, and interchangeable occlusive plates adapted to be detachably secured in the hopper above said seed-plate to close either of said sets of apertures, each occlusive plate being provided with a cut-off and ejector arranged to register with the set of apertures not closed by said plate, substantially as described.

8. In a corn-planter, the combination, with a support, of a base-plate hinged to said support and carrying on its upper side a seed-plate and interchangeable occlusive plates, and a hopper-body having a top closure, separably fitting the base-plate at its lower end, and hinged to swing to an inverted position, the base-plate being hinged to swing independently of the hopper, substantially as described.

9. In a corn-planter, the combination, with a support, of a base-plate hinged to said support and having seed-dropping devices on its upper side, means for securing said base-plate to the support, a hopper-body having a top closure, separably fitting the base-plate at its lower end, and hinged to swing to an inverted position, the base-plate being hinged to swing independently of the hopper, and means for detachably connecting said hopper-body and base-plate to each other independently of the connection of the base-plate to the support, substantially as described.

10. In a corn-planter, the combination, with a support having a pivot on one side and a fastening device on the other, of a base-plate hinged to said pivot and having a lug adapted to be engaged by the fastening device, said lug being provided with a pivoted bail, and a hopper-body also hinged to said pivot, provided with a top closure and separably fitting the base-plate at its lower end, said hopper-body having a lug adapted to be engaged by the bail, substantially as described.

11. In a corn-planter, the combination, with a base-plate having a flat annular body, of a driving member having a central body portion fitting the opening of the base-plate, spokes extending over the body of the base-plate, and an upwardly-extending marginal ring carried by said spokes, and a seed-plate fitting between said ring and the body of the driving member and engaging the spokes thereof, substantially as described.

12. In a corn-planter, the combination, with a base-plate having a flat annular body, of a driving member having a central body portion fitting the opening of the base-plate, spokes extending over the body of the base-plate, and an upwardly-extending marginal ring carried by said spokes, and a seed-plate fitting between said ring and the body of the driving member and engaging the spokes thereof, said seed-plate having depending flanges surrounding its apertures and bearing on the body of the base-plate, between which flanges the spokes of the driving member fit, substantially as described.

13. In a corn-planter, the combination, with a seed-plate having marginal dropping-openings, and a cut-off, of a non-rotating plate covering the central portion of the seed-plate and having a downwardly-inclined margin adjacent to the dropping-openings thereof, said non-rotating plate being provided with a relief-recess adjacent to the cut-off, substantially as described.

14. In a corn-planter, the combination, with a seed-plate having marginal dropping-openings, of a non-rotating plate covering the central portion of the seed-plate and having an inclined margin adjacent to the dropping-openings thereof, said non-rotating plate having a relief-recess in its marginal portion opposite the discharge-point, substantially as described.

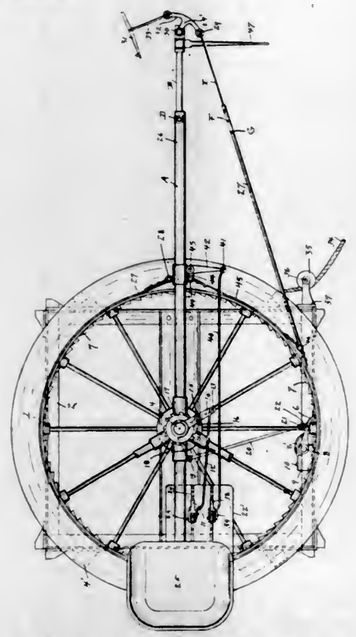
15. In a corn-planter, the combination, with a seed-plate having marginal dropping-openings, of a non-rotating plate covering the central portion of the seed-plate and having an inclined margin adjacent to the dropping-openings thereof, said non-rotating plate having a relief-recess in its marginal portion opposite the discharge-point, the inclination of the margin of said plate being relatively small in advance of said recess and relatively abrupt beyond said recess, substantially as described.

16. In a corn-planter, the combination, with a seed-plate having marginal dropping-openings, and a housing containing a cut-off, of a non-rotating plate covering the central portion of said seed-plate and having its margin located adjacent to the dropping-openings thereof, the margin of said plate having a release-recess adjacent to the side of the housing from which the seed-plate issues, substantially as described.

17. A seed-plate provided with two sets of openings of different widths, one a relatively wide set for flat dropping and the other a relatively narrow elongated set for edge dropping, substantially as described.

18. A seed-plate provided with two sets of openings of different widths, one a relatively wide set for flat dropping, in the form of apertures formed through the body of the plate, the other a relatively narrow set for edge dropping, in the form of notches or recesses in the margin of the plate, substantially as described.

845,201. HORSE POWER AND HOIST. ADAM M. SMITH, Whitewater, Wis. Filed Oct. 12, 1906. Serial No. 338,570.



Claim.—1. In a horse-power of the class described the device for communicating a rotary movement from the movable sweep to a hoisting-drum, consisting in the combination with the sweep and drum of a flexible clamping-band, means for connecting one end of said band to the sweep in close proximity to said drum and means for connecting the other end of said band to the draft mechanism carried by the sweep, whereby the pull upon the draft mechanism and sweep will simultaneously tighten the clamping-band around the periphery of the drum and cause said drum to move with the sweep.

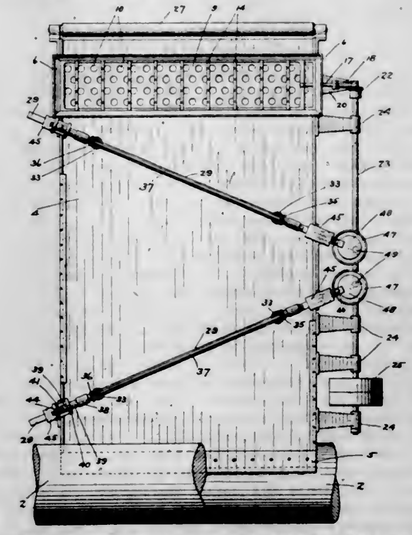
2. In a horse-power of the described class the device for manually controlling the reverse movement of the hoisting-drum consisting of the combination of a manually-operated lever pivotally connected with a sweep-actuated platform, a two-armed lever pivotally connected with the sweep a link connected at one end with said manually-operated lever and at its opposite end with one of the arms of said two-armed lever, a drum-encircling clamping-band and a flexible connection connected at one end to one of the arms of said two-armed lever and at its opposite end with said drum-encircling clamping-band.

3. In a horse-power of the described class, a device for manually throwing a pawl into and out of locking engagement with the annular ratchet carried by the hoisting-drum, consisting in the combination of a hand-actuated lever pivotally connected with a sweep-supported platform, a lever revolubly connected at one end with a central drum-retaining shaft, a link connected at its respective ends with said levers respectively, a ratchet-wheel rigidly connected with the upper end of said central shaft, a pawl connected at one end with said revoluble lever and adapted to engage at its opposite end with said ratchet-wheel, an arm rigidly connected with the lower end of said central shaft, a pawl pivotally supported from the drum-supporting frame and adapted to engage the annular ratchet carried by said drum, a line connected at one end to said pawl and at its opposite end to said shaft-actuated lever, whereby as said sweep-supported lever is inclined forwardly and backwardly upon its supporting-pivot said pawl will be thrown into and out of engagement with the annular ratchet of said drum, substantially as set forth.

4. In a device of the described class the combination with a hoisting-drum of a plurality of angular contact-bearings formed in a series around the periphery of said drum in combination with an endless belt, all substantially as and for the purpose specified.

5. In a device of the described class the combination with a revoluble hoisting-drum of an extension-sweep formed of two parts slidably connected together, the inner end of said sweep being pivotally connected with said drum-supporting shaft, means for detachably connecting said sweep with said drum both automatically and manually, and means for locking the members of said sweep at any desired point of adjustment.

845,202. MANUFACTURE OF LINOLEUM. WILLIAM D. SNOW, Philadelphia, Pa., assignor to Thomas Potter Sons & Company, Incorporated, Philadelphia, Pa. Filed Oct. 25, 1906. Serial No. 340,435.



Claim.—1. In an invention of the class described, means for feeding composition upon a backing, angularly-disposed

devices for distributing the composition fed upon the backing, and means for consolidating the distributed composition and securing it to the backing.

2. In an invention of the class described, devices angularly disposed with relation to each other, for distributing composition and means for reciprocating said devices.

3. In an invention of the class described, a table, means for supplying composition to a backing carried by said table, a reciprocating device angularly disposed with reference to said table for distributing said composition on said backing, and means for consolidating the composition and securing it to said backing.

4. In an invention of the class described, a table, a pair of distributers angularly disposed with relation to each other and to said table, and means for operating said distributers.

5. In an invention of the class described, a table, a pair of angularly-disposed blades supported above said table, and means for reciprocating said blades.

6. In an invention of the class described, a table, a hopper having a perforated bottom above and feeding directly to a backing on said table, an agitator in said hopper, a distributer disposed above said table, and mechanism connected with said agitator and distributer for operating them.

7. In an invention of the class described, a table, a hopper having a bottom plate with openings therein feeding directly to a backing on said table, a slide having openings registering with the openings in said plate, an agitator in said hopper, a distributer above said table and means for simultaneously reciprocating said agitator and distributer.

8. In an invention of the class described, a table, a hopper having a perforated bottom above and feeding directly to a backing on said table, a rake adapted to reciprocate in said hopper, mechanism comprising a fulcrumed lever connected with said rake, a revolving shaft, and an eccentric connected with said shaft and lever for operating said mechanism.

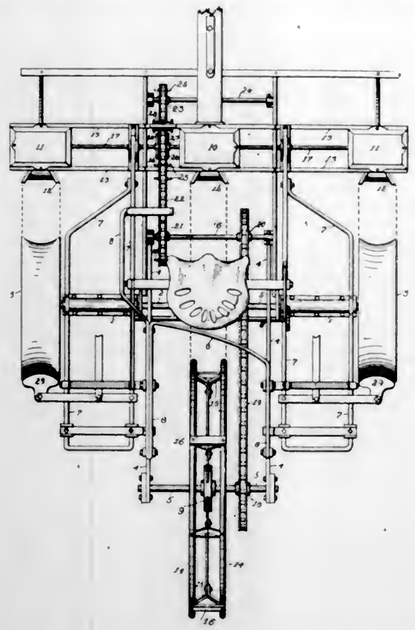
9. In an invention of the class described, a table, a hopper feeding directly to a backing on said table a distributer above said table, bearings in which said distributer reciprocates, a revolving shaft, mechanism connecting said shaft and distributer whereby the revolution of said shaft reciprocates said distributer a hopper having a perforated bottom, an agitator in said hopper, bearings in which said agitator reciprocates, and mechanism connecting said shaft and agitator whereby the revolution of said shaft reciprocates said agitator.

845,203. CORN-PLANTER. EMMANUELL H. SNYDER, Canton, Ohio. Filed Jan. 4, 1907. Serial No. 350,729.

Claim.—1. In a three-row planter, a frame mounted upon bearing-wheels, said frame carrying seedboxes, a marker-wheel journaled in a frame at the rear of the center or middle seedbox, the axle of said marker-wheel carrying a sprocket-wheel, a sprocket-chain engaging a sprocket-wheel on a shaft midway of the frame, a second sprocket-wheel on said shaft, a sprocket-chain engaging a sprocket-wheel on a forward shaft for operating the seed-feeding devices, substantially as and for the purposes specified.

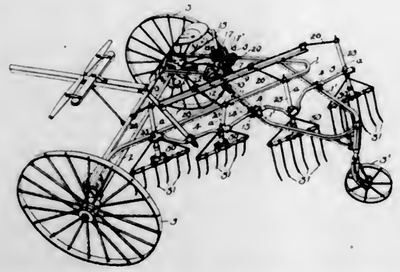
2. In a corn-planter, a frame mounted upon bearing-wheels, said frame carrying seedboxes, a marker-wheel journaled in a frame at the rear of the center or middle seedbox, the axle of said marker-wheel carrying a sprocket-wheel, a sprocket-chain engaging a sprocket-wheel on a shaft midway of the frame, a second sprocket-wheel on said shaft, a sprocket-chain engaging a sprocket-wheel on a forward shaft for operating the seed-feeding devices, substantially as and for the purposes specified.

3. In a three-row planter, a frame mounted upon bearing-wheels, said frame carrying seedboxes, a marker-wheel journaled in a frame at the rear of the center or middle seedbox, the axle of said marker-wheel carrying a sprocket-wheel, a sprocket-chain engaging a sprocket-wheel on a shaft midway of the frame, a second sprocket-wheel on said shaft, a sprocket-chain engaging a sprocket-wheel on a forward shaft, said chain provided with lugs, a seed-dropping shaft provided with arms, and the lugs on the chain adapted for actuating the arms upon the seed-dropping shaft, substantially as and for the purposes specified.



4. In a corn-planter, a frame mounted upon bearing-wheels, said frame carrying seedboxes, a marker-wheel mounted upon an axle, said axle journaled in a frame at the rear of the seedboxes, a sprocket-wheel mounted upon the marker-wheel axle, a sprocket-chain engaging a sprocket-wheel on a shaft midway of the frame, a second sprocket-wheel on said shaft, a sprocket-chain engaging a sprocket-wheel on a forward shaft, said chain provided with lateral lugs, a seed-dropping shaft provided with arms, and the lateral lugs upon the sprocket-chain adapted for engagement with the arms upon the seed-dropping shaft, substantially as and for the purposes specified.

845,204. COMBINED SIDE-DELIVERY HAY RAKE AND TEDDER. HERBERT B. SPERRY, Springfield, Ohio, assignor to International Harvester Company, a Corporation of New Jersey. Filed Jan. 7, 1907. Serial No. 351,134.



Claim.—1. In a combined side-delivery hay rake and tedder, in combination, a frame, a multiple-crank shaft, reversible forks mounted thereon, and reversible means for imparting movement to said crank-shaft, substantially as and for the purpose specified.

2. In a combined side-delivery hay rake and tedder, in combination, a frame, an axle and supporting-wheels therefor, a multiple-crank shaft mounted on said frame, reversible forks mounted on said crank-shaft, a driving connection interposed between said supporting-wheels and the multiple-crank shaft, said driving connection including a reversible gear-clutch, substantially as and for the purpose specified.

3. In a combined side-delivery hay rake and tedder, in combination, a frame, an axle, supporting-wheels therefor, a multiple-crank shaft mounted on said frame, fork-arms journaled on said crank-shaft, reversible forks mounted at the lower end of said arms, and reversible means for imparting movement to said crank-shaft, substantially as and for the purpose specified.

4. In a combined side-delivery hay rake and tedder, in combination, a frame, an axle, supporting-wheels therefor, a multiple-crank shaft mounted in said frame, reversible forks journaled on said shaft, said forks comprising a hollow fork-arm having a journal-box secured thereto which engages the crank-shaft, a sleeve-formed casting secured to the lower end of the fork-arm and provided with a cam-shaped depression on its lower end, a sleeve-formed fork-bracket engaging the lower end of said fork-arm and provided with corresponding cam projection fork-tines held in said bracket, and a coil-spring located in the fork-arm for holding the bracket yieldingly against said fixed casting, and reversible means for imparting movement to said crank-shaft, substantially as and for the purpose specified.

845,205. BOX-COVERING BLANK. JOHN S. STOKES, Moorestown, N. J. Filed Mar. 20, 1906. Serial No. 306,972.

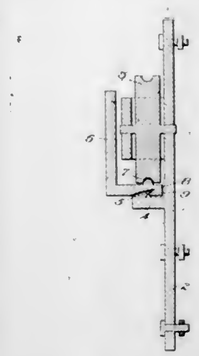


Claim.—1. As a new article of manufacture, a box-covering blank for completely covering the bottom and side walls and for staying the corner-joints of a box-shell, said blank comprising a body portion of thin flexible material having integral side wings provided with end lap extensions adapted to be folded about the box-corners, and corner-staying tabs consisting of separate pieces of staying material attached to each wing and its extensions and positioned thereon over the corner-folding lines to stay the corner-joints of said box-shell.

2. As a new article of manufacture, a box covering and staying blank for completely covering the bottom, side and end walls of a box-shell and for staying the corner-joints thereof, said blank comprising a body portion having integral side and end wings, end laps at the opposite ends of said side wings adapted to be folded about the box-corners, and corner-staying tabs of reinforcing material attached to said side wings and end laps and positioned thereon over the corner-folding line to cover and stay the corner-joints of said box-shell.

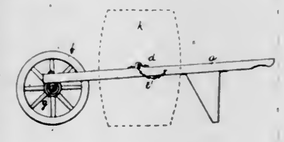
845,206. DOOR-HANGER AND TRACK THEREFOR. OTTO F. STONEBURNER, Zanesville, Ohio. Filed Feb. 1, 1906. Serial No. 298,902.

Claim.—The combination with a track-bracket having a horizontal portion with a track-rail on its upper face and with, on its under face, a longitudinal shoulder or abutment having a beveled side, and with a space or way between said beveled side and horizontal portion, of a hanger-arm provided with arms having lugs beveled correspondingly to the beveled side of the longitudinal shoulder or abutment, said hanger-arm also having a wheel with a groove to correspond to said track-rail, and the formations and dimensions of said engaging parts being such as to adapt the hanger-arm to be hung on the track-bracket, the wheel to engage the track-rail, the beveled lugs to move, normally, in said space or way, the longitudinal shoulder or abutment with its beveled side,



normally, to stay the outward swing of the beveled lugs and the door, and the upward jump of lug-bearing arms and the hanger-arm and its wheel; and the beveled side of the longitudinal shoulder or abutment to become a locking-seat for the beveled lugs, all substantially as described.

845,207. TRANSPORTATION DEVICE. CHESTER L. TRIPP, New Bedford, Mass. Filed Mar. 13, 1906. Serial No. 305,903.



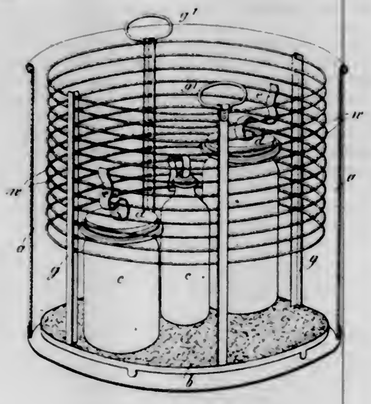
Claim.—A carrying device, particularly designed for transporting barrels containing ashes, consisting of the bars *a*, adapted to embrace a barrel, having their front ends bent toward, and parallel with each other; the curved brace *c*, rigidly secured to said bars; a wheel, journaled between the parallel ends of said bars, in such a manner that its axle serves as an auxiliary with the brace *c*, to hold the bars *a* in normal position with reference to each other; the thimbles *d*, secured to the bars *a*; and the pins *e*, adapted to pass through said thimbles and enter apertures in opposite sides of the barrel to be transported, all as shown and described.

845,208. STERILIZER. GEORG VAN EYCK, Oeflingen, Germany. Filed Aug. 17, 1906. Serial No. 330,943.

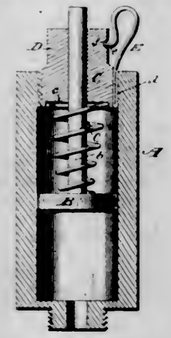
Claim.—1. A sterilizer composed of a non-conducting bottom, and an open-work frame extending upward from said bottom, substantially as specified.

2. A sterilizer composed of a non-conducting bottom, an open-work frame extending upward from said bottom, and a spring engaging said frame and adapted to engage the cover of a sterilizing-jar, substantially as specified.

845,208.



845,209. LUBRICATOR. JAMES I. WARREN, Ottumwa, Iowa. Filed Dec. 7, 1906. Serial No. 346,688.



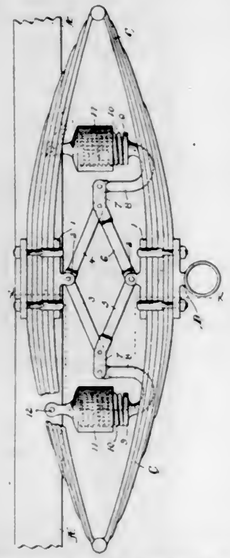
Claim.—A lubricator comprising a suitable receptacle for the lubricant, a spring-actuated piston therein, a flat-sided nut with screw-threaded extension, having a notch and grooved seat respectively, and a locking-spring, the lower end of the spring being doubled upon itself to form an auxiliary spring adapted to engage the grooved seat in the extension and the upper end of the spring being curved and terminating in a finger to engage the notch in the nut, substantially as and for the purpose set forth.

845,210. SPRING. JAMES C. WHITTLE, Jackson, Mich. Filed Feb. 5, 1906. Serial No. 299,519.

Claim.—1. The combination with an elliptical spring, of two levers pivotally attached at one end to the upper half of said spring near its middle, two similar levers pivoted at one end to the other half of the spring near its middle and pivotally connected at their opposite ends to the free ends of the other levers, vertically-disposed hangers pivotally attached to said levers near their connecting-pivots, and load-supporting means on each hanger.

2. The combination with an elliptical spring, of levers pivotally attached to the two members of said spring and forming a double-toggle connection between the same, arms extending longitudinally from the connecting-pivots of said levers, hangers pivotally attached to the ends of said arms, coiled springs seated upon said hangers, and socket members to receive said springs adapted to be attached to the vehicle-frame.

3. The combination with an elliptical spring, of downwardly-extending ears on the upper member of said spring and upwardly-extending ears on the lower member thereof, two levers pivoted between each pair of ears at one end and pivoted together at their opposite ends to form a double-toggle connection between the members of the spring, said levers all lying in the vertical plane of the longitudinal center line of said spring; hangers attached to said levers and extending laterally to a point outside the vertical plane of the spring; bearing-springs seated upon the laterally-extending ends of said hangers; and means adapted to be attached to the sill of a vehicle-frame to receive said springs.



4. The combination with an elliptical spring; of levers pivotally attached to the members of said spring to form a double-toggle-connection between said members; hangers pivotally attached to said levers near their connecting-pivots and formed with spring-seats at their free ends; socket members adapted to be attached to a sill, coiled springs in said socket members engaging the seats on the hangers; and studs on the said seats extending upward within the socket members inside said springs.

5. In combination with the sill, an elliptical spring, a pair of levers each pivoted to one member of said spring, a second pair of levers pivoted to the other member of said spring and to said first-named levers, and compressible means supported from each of said pivots between said pair of levers and from said sill.

6. In combination with an elliptical spring and a sill, a toggle connection between the members of said spring, an arm extended angularly from said toggle connection, and compressible means supported from said arm and engaging said sill.

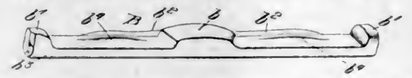
7. In combination with an elliptical spring and a sill, toggle-levers connected to each of the halves of said spring, and vertically-disposed compressible means pivotally supported at one end from the connecting-point between said levers and at the opposite end pivoted to said sill.

8. In combination with an elliptical spring and a sill, a toggle connection attached thereto, a hanger supported from said connection, a spring on said hanger, and a socket member supported from said sill and receiving said spring.

9. In combination with an elliptical spring and a sill, a pair of levers pivoted together at one end and at their opposite ends pivoted to the halves of said spring, and a hanger supported from the pivotal point between said levers and having an offset part underlying said sill and compressible means between said sill and offset part of the hanger.

10. In combination with an elliptical spring and a sill arranged side by side, a movable connection between the halves of said spring, a supporting means movably related to said connection and underlying said sill, and compressible means between said sill and said supporting means.

845,211. MANUFACTURE OF HORSESHOES. WILLIAM R. YOST, Barton Heights, Va., assignor to The Tredegar Company, Richmond, Va., a Corporation of Virginia. Filed June 19, 1906. Serial No. 322,378.



Claim.—1. A horseshoe-blank formed with raised heel parts and a raised toe part which is trapezoidal in plan for the purpose specified.

2. A horseshoe-blank formed with raised heel parts and a toe part and swells on the outer face of the shoe between the toe and head parts and between the inner edge of the blank and the crease-receiving portions for the purpose specified.

3. A horseshoe-blank formed with raised heel parts and a raised toe part, ribs on the outer edge of the shoe adjacent the crease portions and swells on the shoe between the toe and heel parts and between the ribs and the inner edge of the shoe.

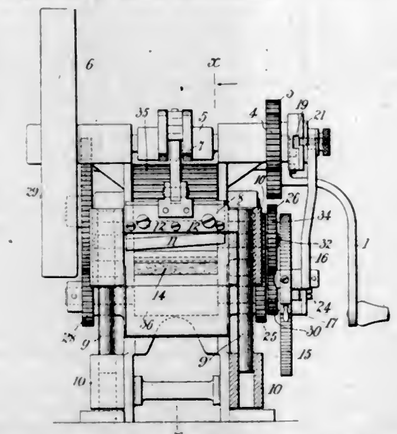
4. A horseshoe-blank formed with raised toe and heel parts and a rounded back for the purpose specified.

5. The process herein described of manufacturing horseshoes, which consists in forming a blank with raised heel parts and a raised toe part which is trapezoidal in plan, heating the blank, and bending it into horseshoe shape.

6. The process herein described of forming horseshoes, which consists in rolling a blank to form raised heel parts, a toe part trapezoidal in plan, ribs outside the crease portions of the shoe, swells extending from the toe toward the heels and a rounded back, heating the blank, bending it into horseshoe shape, and then drop-forging or pressing it.

7. The process herein described of forming a horseshoe, which consists in forming a blank with a rounded back and with raised toe and heel portions, heating the blank, bending it into horseshoe shape, and then drop-forging or pressing the blank to flatten the rounded back and to spread the metal to give final shape to the shoe.

845,212. APPARATUS FOR CUTTING CAKE OR LEAF TOBACCO. BERNHARD BARON, London, England. Filed May 7, 1906. Serial No. 315,648.



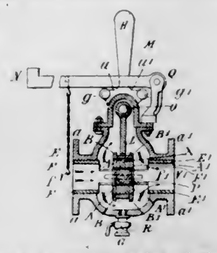
Claim.—1. In an apparatus for cutting cake or leaf tobacco, the combination with a suitable frame and bed, and means for feeding tobacco longitudinally of the bed, of a crank-shaft mounted in bearings in the frame, a cross-head connected with said crank-shaft to be reciprocated thereby, a cutting-blade secured directly to the cross-head, parallel rods connected at one end to the cutting-blade, the other end of said rods being free, and elongated sockets on the frame receiving said rods throughout their movement.

2. In apparatus for cutting cake or leaf tobacco, the combination with a suitable frame and bed and means for feeding tobacco longitudinally of the bed, of a crank-shaft, a connecting rod or pitman thereon, a cross-head connected directly to said rod or pitman to be reciprocated thereby, a cutting-blade adjustably secured directly to the cross-head, elongated sockets on the frame adjacent the cross-head and slotted longitudinally, extensions on the cross-head projecting slidably into said slots and parallel guiding-rods carried within the sockets by said projections and having their opposite ends free.

3. In an apparatus for cutting cake or leaf tobacco, the combination of a traveling feeding-support for the tobacco, a crank-shaft mounted in bearings in the frame, a cutter beyond said traveling support, a feed-roll above said support and coöperating therewith to feed the tobacco to the cutter, a ratchet connected with said roll, a plate connected with one end of the crank-shaft and having formed therein a slot 19 and a plurality of sockets 22, a block mounted in said groove and having a pin adapted to enter either of said sockets, an arm connected with said block, a pawl carried by said arm and adapted to engage the ratchet, and a driving connection between said ratchet and the aforesaid traveling support.

4. In an apparatus for cutting cake or leaf tobacco, the combination with a suitable frame and bed of a feeding-belt above said bed, a feed-roll above said belt and coöperating therewith, a cutter beyond the bed, driving connection between said cutter and the crank-shaft, a ratchet connected with said roll and also with the feed-belt, a plate connected with one end of the crank-shaft and having formed therein a slot 19 and a plurality of sockets 22, said sockets being at predetermined distances from the center, a block mounted in said groove and having a pin adapted to enter either of said sockets, and an arm carried by said block and itself carrying a pawl engaging the ratchet.

845,213. AUTOMATIC STOP-VALVE. EUGÈNE L. BAZIN, Nantes, France. Filed Oct. 13, 1905. Serial No. 282,628.



Claim.—1. In an automatic valve of the character described, the combination with a casing, and a cylinder carried thereby and provided with opposing ports, of a reciprocating valve slidably arranged within the cylinder intermediate the ports and a ring connected with and adapted to move with said valve when the latter is moved and adapted to cover one or the other of the ports according to which direction said valve is moved.

2. In an automatic valve of the character described, the combination with a casing, and a cylinder carried thereby and provided with opposing ports, of a reciprocating valve slidably arranged within the cylinder intermediate the ports and a ring connected with and adapted to move with said valve when the latter is moved and adapted to cover one or the other of the ports according to which direction said valve is moved, and means connected with the piston for manually shifting the latter.

3. In an automatic valve of the character described, the combination with a casing, and a cylinder carried thereby and provided with opposing ports, of a reciprocating valve slidably arranged within the cylinder intermediate the ports and a ring connected with and adapted to move with said valve when the latter is moved and adapted to cover one or the other of the ports according to which direction said valve is moved, and a cock carried by the casing adapted to discharge condensed steam.

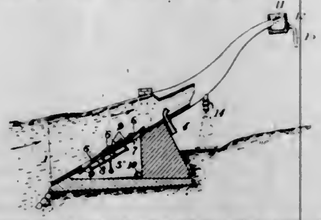
4. In an automatic valve of the character described, the combination with a casing, and a cylinder carried thereby and provided with opposing ports, of a reciprocating valve slidably arranged within the cylinder intermediate the ports and a ring connected with and adapted to move with said valve when the latter is moved and adapted to cover one or the other of the ports according to which direction said valve is moved, and means connected with the valve for manually shifting the latter and an escape-cock carried by the casing.

5. In an automatic valve of the character described, the combination with a casing, and a cylinder carried thereby and provided with opposing ports, of a reciprocating valve slidably arranged within the cylinder intermediate the ports and a ring connected with and adapted to move with said valve when the latter is moved and adapted to cover one or the other of the ports according to which direction said valve is moved, and means connected with the valve for manually shifting the latter and an escape-cock carried by the casing, and a connection between said escape-cock and the said manually-operated means.

6. In an automatic valve of the character described, the combination with a casing, and a cylinder carried thereby and provided with opposing ports, of a reciprocating valve slidably arranged within the cylinder intermediate the ports and a ring connected with and adapted to move with said valve when the latter is moved and adapted to cover one or the other of the ports according to which direction said valve is moved, said ring having annular flanges thereon and a lever connected with the valve and adapted to be operated by said flanges.

7. In an automatic valve of the character described, the combination with a casing, and a cylinder carried thereby and provided with opposing ports, of a reciprocating valve slidably arranged within the cylinder intermediate the ports and a ring connected with and adapted to move with said valve when the latter is moved and adapted to cover one or the other of the ports according to which direction said valve is moved, and means connected with said valve comprising oscillatable levers operated from said valve, rollers carried by one of said levers and a pivoted lever adapted to be engaged by said rollers.

845,214. APPARATUS FOR UTILIZING THE VIS VIVA OF SEA-WAVES. EUGÈNE L. BAZIN, Nantes, France. Filed Dec. 21, 1905. Serial No. 292,875.



Claim.—1. In an apparatus of the character described, the combination with an inclined duct, of an air-admission pipe communicating with the interior of said duct and a collecting-reservoir into which the duct is adapted to discharge.

2. In an apparatus of the character described the combination with an inclined duct tapering from its admission end toward its discharge end as set forth, of an air-admission pipe communicating with the interior of said duct and a collecting-reservoir into which the duct is adapted to discharge.

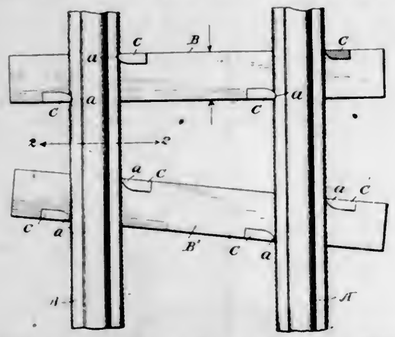
3. In an apparatus of the character described, the combination with an inclined duct, of an air-admission pipe communicating with the interior of the duct, a collecting-reservoir into which said duct is adapted to discharge, the said duct having an opening in its length through which water is adapted to be discharged, a pipe adapted to conduct away the water discharged through said opening, and means operating to close said opening when water is ascending the duct and to uncover the opening when the water is descending through the duct.

4. In an apparatus of the character described, the combination with an inclined duct, of an air-admission pipe communicating with the interior of the duct, a collecting-reservoir into which said duct is adapted to discharge, the said duct having an opening in its length through which water is adapted to be discharged, a pipe adapted to conduct away the water discharged through said opening, and a plurality of pivoted plates arranged to close the opening when water is ascending the duct and to uncover the opening when the water is descending through the duct.

5. In an apparatus of the character described, the combination with an inclined duct, of an air-admission pipe communicating with the interior of the duct, a collecting-reservoir into which said duct is adapted to discharge, the said duct having an opening in its length through which water is adapted to be discharged, a pipe adapted to conduct away the water discharged through said opening, and a plurality of pivoted plates arranged to close the opening when water is ascending the duct and to uncover the opening when the water is descending through the duct, and means connecting the various plates and adapted to effect simultaneous operation of the same.

6. In an apparatus of the character described, the combination with a plurality of inclined ducts, of an air-admission-pipe communicating with the interior of each of said ducts, a collecting-reservoir into which each of said ducts is adapted to discharge, pipes connecting one of said reservoirs and one of the said ducts, a valve arranged in one of said reservoirs, and a valve arranged between the other reservoir and its respective duct, all as and for the purpose set forth.

845,215. TRACK-FASTENING. WILLIAM T. BROWN, Atlanta, Ga. Filed May 5, 1906. Serial No. 315,371.



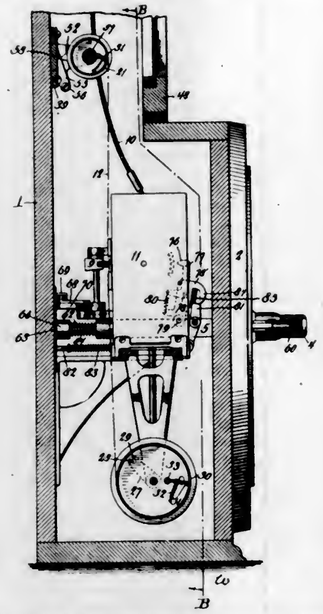
Claim.—1. A combined railway-tie and clamp consisting of a bar provided with two pairs of lugs having lips *a*, each pair arranged diagonally on a line parallel to that of the other pair, and the proximate edges of the lugs of each pair sharpened to engage and bite the edge of a rail-flange.

2. A combined tie and rail-clamp consisting of a bar having formed therein and integral therewith two pairs of diagonally-arranged lugs, the proximate edges of each pair sharpened to engage the edge of a rail-flange, and each lug with a lip *a*.

3. The combination with the rails of a railway having bottom flanges with serrations at the edges, of a cross-tie consisting of a bar having two pairs of lipped lugs diagonally arranged to receive the base of the rail between them and to engage the edges thereof when the bar is at right angles to the rails, the edges of the lugs engaging the rail being sharpened for the purpose specified.

4. The combination with the rails of a railway having bottom flanges with serrations at the edges, of a cross-tie consisting of a bar having two pairs of lipped lugs diagonally arranged to receive the base of the rail between them and to engage the edges thereof when the bar is at right angles to the rails, the edges of the lugs engaging the rail being sharpened, and the lugs on the bottom of the tie.

845,216. TIME-RECORDER. WILLARD LE GRAND BUNDY, Binghamton, N. Y., assignor, by mesne assignments, to International Time Recording Company, a Corporation of New Jersey. Filed Dec. 1, 1900. Serial No. 38,306.



Claim.—1. In a time-recorder the combination with a spring tension device, to which one end of a record-strip is adapted to be secured, arranged and adapted to keep the record-strip taut and to take up slack in the same, whereby the record-strip may be moved one way or the other, of a removable locking device adapted to engage with and to lock the said tension device, when access is had to the said device to secure the record-strip thereto, to remove it therefrom or to adjust it thereon, and to be removed from engagement with the said device when the time-recorder is in operation.

2. In a time-recorder the combination with a roller to which one end of a record-strip is adapted to be secured, means connected with the said roller for putting it under spring tension adapted to cause the roller to keep the record-strip taut and to take up slack in the same, whereby the record-strip may be moved one way or the other, of a removable locking device adapted to engage with and to lock the said roller, when access is had thereto to secure the record-strip to or remove it therefrom or to adjust it thereon, and adapted to be removed from engagement with the said roller when the time-recorder is in operation.

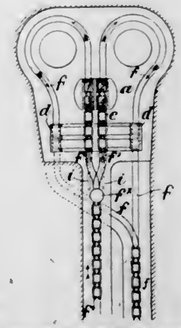
3. In a time-recorder the combination with a spring tension device, to which one end of a record-strip is adapted to be secured, arranged and adapted to keep the record-strip taut and to take up slack in the same, whereby the record-strip may be moved one way or the other, of a removable locking device adapted to engage with and to lock the said tension device or to be removed from engagement with the said device, means, actuated by the door of the casing within which the tension device is located, adapted to cause the locking device to engage with the tension device when the door is opened and to be removed from such engagement when the door is closed.

4. In a time-recorder the combination with a roller to which one end of a record-strip is adapted to be secured, means connected with the said roller for putting it under spring tension adapted to cause the roller to keep the record-strip taut and to take up slack in the same, whereby the record-strip may be moved one way or the other, of a removable locking device adapted to engage with and to lock the said roller or to be removed from engagement with the said roller, means, actuated by the door of the casing within which the roller is located, adapted to cause the locking device to engage with the roller when the door is opened and to be removed from such engagement when the door is closed.

5. In a time-recorder the combination with suitable time-recording impression mechanism of a record-strip, a roller to which one end of the strip is adapted to be secured, an operating device, connections between the said device and the roller to rotate the latter one way or the other as the operating device is moved in one direction or the other, a second roller to which the other end of the record-strip is adapted to be secured, means connected with the last-mentioned roller for putting it under spring tension adapted to cause the roller to keep the said strip taut and to take up slack in the same, whereby as the operating device is moved in one direction or the other past the printing-line a printed record may be made upon any desired point upon the strip, a removable locking device adapted to engage with and to lock the roller under spring tension or to be removed from engagement with the said roller, means, actuated by the door of the casing within which the roller is located, adapted to cause the locking device to engage with the roller when the door is opened and to be removed from such engagement when the door is closed.

6. In a time-recorder the combination with a time-recording wheel movable laterally across the face of a record-strip, an operating device, a plate connected therewith and adapted to be moved thereby at right angles to the line of movement of the time-recording wheel, of a stop to hold the time-recording wheel rigid at the moment of printing, mounted and movable with the time-recording wheel, an arm yieldingly pressed against the plate and connected with the lever, a portion of said lever extending laterally, and an overlapping portion of the stop adapted to slide laterally upon the portion of the lever or to engage with it at all times, whereby the movement of the plate in one direction will cause the lever to throw the stop into engagement with the time-recording wheel to lock the latter.

845,217. MEANS FOR LOADING AND UNLOADING COAL AND OTHER MINERALS. CUTHBERT BURNETT, Durham, England. Filed May 26, 1905. Serial No. 262,448.



Claim.—1. In combination with a mine-shaft and the mine-shaft cage-hoist worked therein for conveying tubs

filled with coal from the mine up to the surface and empty tubs from the surface down to the mine, of elevators each consisting of an endless periodically-moved member, a top drum and a bottom drum, carrying said member, equidistant cages on said member fitted with rails for receiving wheeled tubs, means for periodically moving the elevators, and means for pushing the tubs from the mine-hoist into the elevator-cages or vice versa, substantially as set forth.

2. In combination with a mine-shaft and the cage-hoist worked therein for conveying tubs filled from the mine to the surface, of two elevators arranged at the bottom of the mine-shaft side by side, on one side of the mine cage-hoist, each elevator consisting of an endless periodically-moved member, a top drum and a bottom drum carrying said member, equidistant cages on said member fitted with rails for receiving wheeled tubs thereon, means for periodically moving the elevators, means for pushing the filled tubs into the elevator-cages and thence into the mine cage-hoist, and simultaneously pushing the empty tubs out of the latter, and sloping road-tracks for conveying by gravity the tubs from and to the elevators and from and into the mine, substantially as set forth.

3. In combination with a mine-shaft and the cage-hoist therein for conveying tubs filled from the mine to the surface, each cage having a plurality of decks and rail-tracks on each deck for wheeled tubs, of two elevators arranged at the bottom of the mine-shaft side by side on one side of the mine-shaft, a periodically-moved endless band, equidistant cages on the vertical side parts of the band, a top drum and a bottom drum carrying said band, rail-tracks on each deck corresponding in number and position with the rail-tracks on each mine hoist-cage, means for periodically moving the elevators, means for pushing the filled tubs simultaneously from all the cages on one side of the elevators into corresponding decks of a mine hoist-cage thereby pushing out the empty tubs therein contained, and sloping road-tracks for conveying by gravity the tubs from and to the elevators and from and into the mine, substantially as set forth.

4. In combination with a mine-shaft and the cage-hoist therein, of two elevators arranged at the surface of the mine-shaft side by side on one side of the mine-shaft, each elevator consisting of an endless periodically-moved band, a top drum and a bottom drum carrying said band, equidistant cages on the latter, rails on said cages receiving wheeled tubs thereon, two towers placed opposite each other, wheels supporting the towers, railed tracks on said towers to hold tubs to be moved to exchange places on two opposite sides of the mine-shaft, means for periodically moving the elevators and the towers, means for pushing empty tubs from one of the towers into the mine hoist-cages and thereby pushing the filled tubs from the latter cages into the cages of one of the elevators while also pushing the empty tubs from the latter into one of the towers, means for periodically moving the towers into opposite positions, and chambers with chute-outlets below the elevators into which the contents of the elevator-cages are emptied or tippled, substantially as set forth.

5. In combination with a mine-shaft and the cage-hoist therein, each cage having a plurality of decks and rail-tracks on each deck for wheeled tubs, of periodically-moved endless bands arranged at the surface of the mine-shaft, a top drum and a bottom drum carrying said bands, equidistant cages on the vertical side parts of the endless bands, as there are decks in the mine cage-hoist, rail-tracks on each deck corresponding in number and position with the rail-tracks on each mine-shaft cage, two towers, placed opposite each other, wheels supporting the towers, a rail-track on two opposite sides of the mine-shaft, said towers constructed with as many decks with railed tracks as there are decks in each mine hoist-cage, means for periodically moving the elevators, and the towers, means for automatically pushing the empty tubs from one of the towers into the mine hoist-cages and thereby pushing the filled tubs from the latter cages into the cages of one of the elevators while also pushing the empty tubs from the latter into one of the towers, said means being set in operation by the movement of the mine hoist-cage, means for periodically moving the towers into opposite positions, and chambers with chute-outlets below the elevators into which the contents of the elevator-cages are emptied or tippled, substantially as set forth.

6. In combination with a mine-shaft and the cage-hoist therein, of two pairs of elevators arranged at the surface of the mine-shaft, one pair on one side and the other pair on the opposite side of the mine-shaft, each elevator consisting of an endless periodically-moved band or chain, a top drum and a bottom drum for said band, equidistant cages on said band-rails on the cages for receiving wheeled tubs thereon, means for periodically moving the elevators, means for pushing empty tubs from an elevator into the mine hoist-cage and thereby pushing the full tubs from the latter cages into the cages of an opposite elevator while also pushing the empty tubs out from the latter, and chambers with chute-outlets below the elevators into which the contents of the elevator-cages are emptied or tippled, substantially as set forth.

7. In combination with a mine-shaft and the cage-hoist worked therein, of two elevators arranged at the surface of the mine-shaft side by side on one side of the mine cage-hoist, each elevator consisting of an endless periodically-moved band or chain, a top drum and a bottom drum over which said band passes, equidistant cages on said band, rails on the cages for receiving wheeled tubs thereon, two wheeled towers placed opposite each other, railed tracks on the towers to hold tubs and to be moved on a rail-track to exchange places on two opposite sides of the mine-shaft, means for periodically moving the elevators and the towers, automatic means operated by the movement of the mine-cage for pushing empty tubs from one of the towers into the mine hoist-cages and thereby pushing the filled tubs from the latter cages into the cages of one of the elevators, while also pushing the empty tubs from the latter into one of the towers, means for periodically moving the towers into opposite positions and chambers with chute-outlets below the elevators into which the contents of the elevator-cages are emptied or tippled, substantially as set forth.

8. In combination with a mine-shaft and the cage-hoist worked therein, of two elevators arranged at the surface of the mine-shaft side by side, on one side of the mine cage-hoist each elevator consisting of an endless periodically-moved band or chain, a top drum and a bottom drum over which said band passes, equidistant cages on said band, rails on the cages for receiving wheeled tubs thereon, two wheeled towers placed opposite each other, railed tracks on the towers to hold tubs and to be moved on a rail-track to exchange places on two opposite sides of the mine-shaft, means for periodically moving the elevators and the towers, means for automatically pushing the empty tubs from one of the towers into the mine hoist-cages and thereby pushing the filled tubs from the latter cages into the cages of one of the elevators while also pushing the empty tubs from the latter into one of the towers, said means being set in operation by the movement of the mine hoist-cage down upon the keps and comprising lever and rod connections from the keps to inlet and outlet valves of a hydraulic cylinder provided with differential-area piston having its piston-rod connected to a pushing device, substantially as set forth.

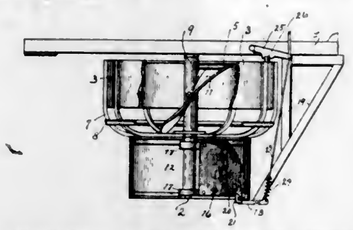
845,218. CLEANING-WHEEL FOR ROOT-HARVESTING MACHINES. GEORGE F. CONNER, Port Huron, Mich. Filed Apr. 7. 1906. Serial No. 310,584.

Claim.—1. A cleaning-wheel and automatic means for discharging the contents of the wheel, adjustable for varying the period and frequency of discharge.

2. A cleaning-wheel, automatic means for discharging the contents of said wheel, and adjusting means for varying the period and frequency of operation of said automatic means.

3. A cleaning-wheel, means for intermittently discharging the contents of the wheel, means automatically operating the discharging means, and means for changing the period of discharge.

4. A cleaning-wheel, means for intermittently discharging the contents of the wheel, means for both manually and automatically operating the discharging means, and means for varying the period of the automatic action of the operating means.



5. A bearing-wheel, side-delivery rumbler, means within the rumbler for discharging its contents, and means for automatically operating said discharging means, adjustable for varying the period and frequency of discharge.

6. A rumbler comprising a receiving and rumbling bearing-wheel, and a cleaning-drum adjacent the delivery side of the wheel, said wheel discharging below its horizontal, axial plane into the drum.

7. A rumbler comprising a receiving and rumbling bearing-wheel, and a cleaning-drum rotated by the wheel, adjacent the delivery side of the wheel, said wheel discharging below its horizontal axial plane into the drum.

8. A rumbler comprising a receiving and rumbling bearing-wheel, a cleaning-drum in longitudinal alinement therewith, means for discharging the contents of the wheel directly into the drum below the horizontal, axial plane of the wheel, and means for periodically discharging the contents of the drum.

9. A rumbler comprising side-delivery, receiving and rumbling wheel, and a cleaning-drum carried thereby, said wheel discharging directly into the drum below the horizontal, axial plane of the wheel.

10. A rumbler comprising a receiving and rumbling bearing-wheel, a cleaning-drum, means for delivering the contents of the wheel into the drum periodically, means for discharging the contents of the drum normally at rest, and means for periodically operating the drum-discharging means.

11. A rumbler comprising a receiving and rumbling bearing-wheel, a cleaning-drum, means for discharging the contents of the wheel into the drum, and discharging means in the drum, moved intermittently thereby.

12. A rumbler comprising a receiving and rumbling bearing-wheel, a cleaning-drum receiving the contents of the wheel, discharging means for the rumbler, and means intermittently operating the discharging means.

13. A rumbler comprising a receiving and rumbling bearing-wheel, a cleaning-drum receiving the contents of the wheel, discharging means for the rumbler, means for intermittently operating the discharging means, and means for changing the period of action of the operating means relative to the period of revolution of the rumbler.

14. A rumbler comprising a receiving and rumbling bearing-wheel, a cleaning-drum receiving the contents of the wheel, discharging means for the rumbler, means automatically operating the discharging means at regular intervals, and means for discharging the rumbler independently of the automatically-operating means.

15. A rumbler provided with discharging means, and means for intermittently operating the discharging means, adjustable for varying the period and moment of discharge in relation to the revolution of the rumbler.

16. In a rumbler, means for discharging the contents thereof normally at rest, and means for intermittently operating the discharging means, having adjusting members for varying the period and time of action.

17. A rumbler comprising a side-delivery receiving and rumbling bearing-wheel, a cleaning-drum receiving the contents of the wheel, and means normally independent of the drum for discharging the rumbler at predetermined intervals.

18. In a rumbler, a clearing member within the rumbler, and means for intermittently operating the clearing member comprising a member adapted to detachably interlock the rumbler and clearing member, and a member adapted to disengage the interlocking member and rumbler.

19. In a rumbler, a clearing-blade adapted to discharge the contents of the rumbler at one end thereof, and means intermittently interlocking the blade with the rumbler.

20. In a rumbler, a clearing-blade normally at rest within the rumbler, a clutch on the blade detachably engaging the rumbler, and means for intermittently tripping the clutch.

21. In a rumbler, a floating clearing-blade within the rumbler, a clutch detachably interlocking the blade and the rumbler, means for automatically tripping the clutch, and means for tripping the clutch independently of the automatic operating means.

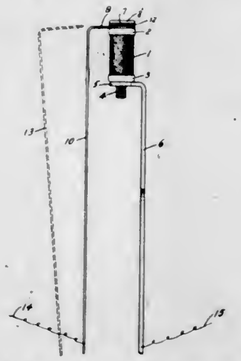
22. In a rumbler, an oblique clearing-blade journaled therein, a clutch detachably interlocking the blade and rumbler, a trip for the clutch and an adjustably-secured knock-off intermittently operating the trip.

23. A side-delivery, bearing-wheel rumbler provided with a clearing-blade journaled therein, a clutch detachably interlocking the rumbler and blade, and a trip for intermittently engaging the clutch, provided with both manual and automatic operating means.

24. A rumbler comprising a receiving and rumbling bearing-wheel consisting of a hub, a rim, spokes from the hub secured to one margin of the rim, curved outwardly at their outer extremities beyond the plane of the rim-margin, and a helical clearing-blade extending from the rim toward the hub, and a cleaning-drum adjacent the delivery side of the wheel, said wheel discharging below its horizontal, axial plane into the drum.

25. A rumbler comprising a receiving and bearing wheel consisting of a rim, a hub, spokes connecting one margin of the rim and hub, adapted to form an open-work retaining-flange curved outwardly beyond the tread of the rim, and a helical clearing-blade between the hub and the rim, and a cleaning-drum adjacent the delivery side of the wheel, said wheel discharging into the drum below its horizontal, axial plane.

845,219. ELECTROTHERMAL CUT-OUT. FRANK B. COOK, Chicago, Ill. Filed Apr. 16, 1906. Serial No. 311,992.



Claim.—1. A thermal protector comprising a piece of homogeneous resistance material, suitable end caps therefor and secured thereto, a suitable support connected to one of the end caps by a screw connection, an operable spring member electrically connected with the other end cap by bearing against same, and insulating-wax securing the said spring member to its end cap.

2. An electrical protector comprising a heating element, a terminal cap therefor, a spring member engaging the

terminal cap, a split in the spring member to allow the latter to firmly grip a portion of the terminal cap, and insulating cementing material normally holding the spring member in connection with the terminal cap.

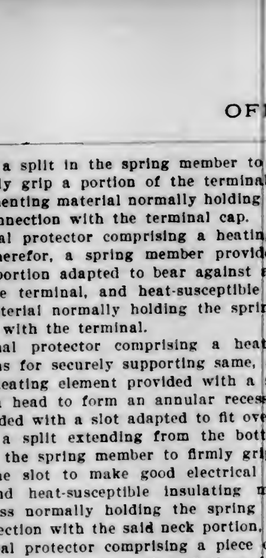
3. A thermal protector comprising a heating element, a terminal therefor, a spring member provided with a slotted split portion adapted to bear against and grip a portion of the terminal, and heat-susceptible insulating cementing material normally holding the spring member in connection with the terminal.

4. A thermal protector comprising a heat-producing element, means for securely supporting same, a terminal cap for the heating element provided with a small neck portion and a head to form an annular recess, a spring member provided with a slot adapted to fit over the neck portion, and a split extending from the bottom of the slot to allow the spring member to firmly grip the neck portion in the slot to make good electrical connection therewith, and heat-susceptible insulating material in the said recess normally holding the spring member in place in connection with the said neck portion, when cool.

5. A thermal protector comprising a piece of graphite and a metallic terminal on each end thereof, a spring-support for the protector, a threaded portion on one said terminal making screw connection with the said support, an annular recess on the other said terminal, a spring member the free end of which bears against the last-mentioned terminal so as to make electrical connection therewith, and heat-susceptible insulating material in the annular recess normally holding the spring member in connection with its terminal.

6. An electrothermal protector comprising heat-producing means and means for securely mounting same, a terminal for the heat-producing means provided with an annular recess, a spring member engaging the terminal in the annular recess, and heat-susceptible insulating material in the annular recess normally holding the spring member therein.

845,220. BLOCK-SIGNAL SYSTEM. FRED B. COREY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Feb. 16, 1904. Serial No. 193,863.



Claim.—1. In a block-signal system, a source of alternating current connected to one end of a block, two relays connected to the other end of the block, one of said relays being responsive to a flow of alternating current and the other being responsive to a reversal of current in the block relative to the source, means for reversing the current in the block relative to the source, and signals controlled by said relays.

2. In a block-signal system having home and distant signals, a source of alternating current connected to a block, means controlled by the home signal of the following block for reversing the connections of said source to said block, a relay connected to the other end of said block and responsive to alternating-current flow, a home signal controlled by said relay, a second relay connected to said block and responsive to a reversal of current in said block relative to said source, and a distant signal controlled by said second relay.

3. In a block-signal system, a source of alternating current connected to one end of each block, a relay connected to the other end of each block, a home signal controlled by each relay, means controlled by each home signal for reversing the relative connections of said source to the preceding block, a second relay connected to each block and responsive to a reversal of current in the block relative to the source, and a distant signal controlled by each of said second relays.

4. In a block-signal system, a source of alternating current connected to a block, means for reversing the connections of said source to the block, a relay having two relatively movable windings, one of said windings being connected to said source and the other to said block, and a signal controlled by said relay.

5. In a block-signal system, a plurality of blocks, a source of alternating current connected to each block, a relay responsive to alternating-current flow connected to each block, a home signal controlled by each of said relays, a switch controlled by each home signal and arranged to reverse the connections of said source to the preceding block, a relay for each block having two relatively movable windings, one of said windings being connected to said source and the other to said block, and a distant signal controlled by each of the latter relays.

6. In a block-signal system having home and distant signals, a source of alternating current connected to a block, a switch controlled by the home signal of the following block arranged to reverse the connections of said source to said block, a relay connected through a transformer to the other end of said block and responsive to current-flow, a home signal controlled by said relay, a second relay connected to said block and responsive to a reversal of current in said block relative to said source, and a distant signal controlled by said second relay.

7. In a block-signal system, a source of alternating current connected to the track-circuit of a block, means for reversing the connections of said source to the track-circuit, a relay having two coöperating windings, one of said windings being connected to and supplied with current from said track-circuit, and the other being supplied with alternating current of the same frequency independently of said track-circuit, and a signal controlled by said relay.

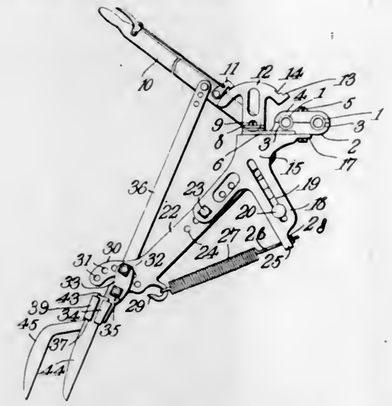
8. In a railway block-signaling system, having a closed alternating-current track-circuit for controlling the signals, a plurality of block-sections, distant and home signals for each block, a relay controlled partly by said track-circuit and partly by an external circuit, and means whereby one of the signal mechanisms of a distant block may affect the track-circuit so as to reversely actuate the said relay.

9. In a railway block-signaling system having an alternating-current track-circuit for controlling the signals, a plurality of block-sections, home and distant signals for each block, a relay having two coils traversed respectively by two alternating currents having a predetermined phase relation to one another whereby an adjacent distant signal is caused to assume one position of indication, and means for so changing the said phase relation that the said distant signal is caused to assume another position of indication.

10. In a railway block-signaling system having a plurality of block-sections, each block comprising a track-circuit, home and distant signals for each block, a source of alternating-current supply for each track-circuit, a relay adapted to respond in the movement of its armature to the presence or absence in its coils of current derived from the said source, and by such movement adapted to control the home signal, another relay for each block having one coil in circuit with the current source of the track-circuit and another coil supplied with alternating current derived from a source other than the track-circuit, and means for changing the phase relation of the current in the two coils.

11. In a railway block-signaling system having a plurality of block-sections, each block comprising a track-circuit, home and distant signals for each block, a source of alternating-current supply for each track-circuit, a relay adapted to respond in the movement of its armature to the presence of absence in its coils of current derived from the said source, and by such movement adapted to control the home signal, another relay for each block having one coil in circuit with the current source of the track-circuit and another coil supplied with alternating current derived from a source other than the track-circuit, and means operated by a succeeding home signal for changing the phase relation of the current in the two coils of the relay, the said relay being adapted to respond in the movement of its armature to the said changes in the phase relations of the two currents in its coils, to control an adjacent distant signal.

845,221. DRAG. FRANK DARLING, Morris, Ill., assignor of one-half to Andrew Tappen, Morris, Ill. Filed July 12, 1906. Serial No. 325,969.



Claim.—1. A drag comprising a support, a head secured thereto, a tooth-bar connected to the head, means for exerting a constant downward pull upon the tooth-bar, and means for raising the tooth-bar against the action of said pulling means.

2. A drag comprising a support, a head secured thereto, a tooth-bar, an adjustable connection between said bar and the head, resilient means for exerting a constant downward pressure upon the tooth-bar, and means for raising the bar and tensioning said resilient means.

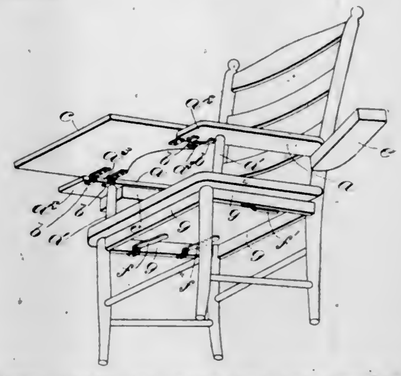
3. In a drag the combination with a support; of a head secured thereon, a tooth-bar, an adjustable connection between said bar and the head, means for exerting a constant downward pressure upon the bar, means upon the head for raising the bar, and means for locking said bar in raised position.

4. In a drag the combination with a support; of a head secured thereto, a hanger adjustably connected to the head, a tooth-bar, an arm adjustably connected to said bar and pivoted to the hanger, and means connected to the hanger for exerting a constant downward pressure upon the tooth-bar.

5. In a drag the combination with a support; of a head secured thereto, a hanger adjustably connected to the head, a tooth-bar, an arm adjustably connected to said bar and pivoted to the hanger, means connected to the hanger for exerting a constant downward pressure upon the tooth-bar, and means adjustably mounted upon the head for raising the tooth-bar.

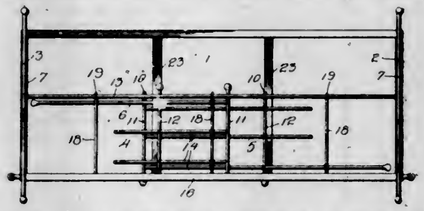
6. In a drag the combination with a support; of a head secured thereto, a hanger adjustably connected to the head, a tooth-bar, an arm adjustably connected to said bar and pivoted to the hanger, means connected to the hanger for exerting a constant downward pressure upon the tooth-bar, means adjustably mounted upon the head for raising the tooth-bar, and means mounted upon the head for holding said arm in raised position.

845,222. CHAIR ATTACHMENT. MARY L. DAVID, Brockton, Mass. Filed Mar. 1, 1905. Serial No. 247,855.



Claim.—An arm-chair having fixed frame-pieces below its seat, forming the walls of an open-bottomed storage-space, one of the said pieces having fixed ears projecting under said space, while an opposite piece has a pivoted ear adapted to coöperate with the fixed ears in supporting a table in said space.

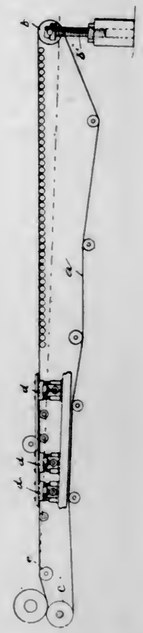
845,223. EXTENSION-BED. WILLIAM L. EDWARDS, Lima, Ohio. Filed Mar. 22, 1906. Serial No. 307,437.



Claim.—1. An extension-bed comprising in combination a main frame, and a supplemental frame hinged to the under side of said main frame; head and foot boards for said frames; rails on said boards; projecting ends on the rails of the boards of one frame, and recesses formed in the rail ends of the boards of the other frame and adapted to receive said projecting ends to couple the two headboards and the two footboards.

2. An extension-bed comprising in combination a main frame and a supplemental frame hinged thereto; a headboard and a footboard attached to said main frame; means for supporting said supplemental frame in a horizontal position; a headboard and a footboard for said supplemental frame; means for attaching the same thereto; and means for coupling the two footboards and the two headboards, said means comprising rails on said head and foot boards, recesses formed in the inner ends of the rails of the head and foot boards of the stationary frame, and projections formed on the adjacent end of the rails of the head and foot boards on the supplemental frame, said projections being received in said recesses.

845,224. FOURDRINIER MACHINE. WILLIAM EIBEL, Rhinelander, Wis., assignor, by direct and mesne assignments, to Eibel Process Company, Portland, Me., a Corporation of Maine. Filed Aug. 22, 1906. Serial No. 331,589.



Claim.—1. A Fourdrinier machine having the breast-roll end of the paper-making wire maintained at a substantial elevation above the level, whereby the stock is caused to travel by gravity, rapidly, in the direction of movement of the wire, and at a speed approximately equal to the speed of the wire, substantially as described.

2. A Fourdrinier machine having the breast-roll end of the paper-making wire maintained at a high elevation, whereby the stock is caused to travel by gravity faster than the normal speed of the wire for a certain grade of stock, and having means for increasing the speed of the machine to cause the wire to travel at substantially the same rate of speed as the rapidly-moving stock, substantially as described.

3. A Fourdrinier machine having the paper-making wire declined from the breast-roll to the guide-roll, the breast-roll end of the wire being maintained at a substantial elevation above the level, whereby the stock is caused to travel by gravity, rapidly, in the direction of movement of the wire and at a speed approximately equal to the speed of the wire, substantially as described.

4. In a Fourdrinier machine, a continuously-downward-moving paper-making wire, and means for adjusting the speed of the wire so that the wire will move at a speed approximately equal to the velocity of the stock produced by gravity, substantially as described.

5. In a Fourdrinier machine, a continuously-downward-moving, adjustably-declined paper-making wire, the declination and speed of the wire being adjustable, so that the velocity produced by gravity in the stock on the declining wire is approximately equal to the speed of the wire, substantially as described.

6. In a Fourdrinier machine, a paper-making wire moving continuously downward from the breast-roll to the guide-roll, whereby the stock is caused to travel by gravity in the direction of movement of the wire, and means for adjusting the speed of the wire so that the velocity produced in the stock by gravity on the declining wire is approximately equal to the speed of the wire, substantially as described.

7. A Fourdrinier machine having the paper-making wire declined from the breast-roll to the guide-roll, and the suction-boxes supported at a corresponding declination, substantially as described.

8. A Fourdrinier machine having the paper-making wire declined from the breast-roll to the guide-roll, and the several suction-boxes arranged at different elevations, substantially as described.

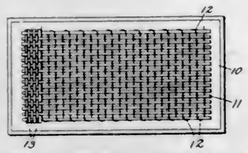
9. In a Fourdrinier machine, a paper-making wire having its breast-roll end maintained at a substantial elevation above the level whereby the stock is caused to travel by gravity in the direction of movement of the wire, means for adjusting the breast-roll end of said wire to different elevations above the level, and means for adjusting the speed of the wire to approximately equal the velocity of the stock produced by gravity, substantially as described.

10. In a Fourdrinier machine, a paper-making wire declining from the breast-roll to the guide-roll whereby the stock is caused to travel by gravity in the direction of movement of the wire, means for adjusting the breast-roll end of said wire to different elevations above the level, and means for adjusting the speed of the wire to approximately equal the velocity of the stock produced by gravity, substantially as described.

11. In a Fourdrinier machine, a paper-making wire having its breast-roll end maintained at a substantial elevation above the level whereby the stock is caused to travel by gravity in the direction of movement of the wire, and means for adjusting the breast-roll end of said wire to different elevations above the level whereby the velocity of the stock produced by gravity approximately equals the speed of the wire, substantially as described.

12. In a Fourdrinier machine, a downwardly-moving paper-making wire, the declination and speed of which are so regulated that the velocity of the stock down the declining wire, caused by gravity, is so related to the velocity of the wire in the same direction, that waves and ripples on the stock are substantially avoided and the fibers deposited with substantial uniformity on the wire, substantially as described.

845,225. RESISTANCE UNIT. RICHARD FLEMING, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Jan. 26, 1906. Serial No. 298,003.



Claim.—1. The combination with a base, of a flexible resistance fabric enameled thereto, the resisting element being unembedded whereby it is free to move independently of the enamel.

2. A resistance unit comprising an enameled base, insulating supporting means embedded therein, and a resistance-conductor running back and forth through said support above the surface of the enamel.

3. A resistance unit comprising an enameled base, a resistance-conductor running back and forth above the surface of the same, and means embedded in said enamel for supporting said conductor.

4. A resistance unit comprising a base, conductor-attaching devices enameled thereto, and a resistance-conductor running back and forth above the surface of the enamel in engagement with the attaching devices.

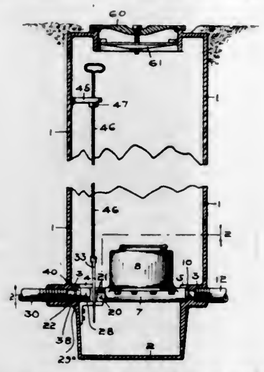
5. A resistance device comprising a base, a coating of vitreous material thereon, a resistance-conductor running back and forth above the surface thereof, and insulating supporting means embedded in said material for supporting said conductor.

6. A resistance device comprising a base, a resistance-conductor running back and forth across the same, supporting means for said conductor, and a vitreous enamel embedding the supporting means and leaving the conductor unembedded whereby it is free to move independently of the base.

7. A resistance device comprising a base having a coating of refractory material thereon, a series of heat-resistant insulating attaching devices embedded therein, and a resistance-conductor running back and forth above the surface of the material in engagement with the attaching devices.

8. A resistance unit comprising a base having a coating of enamel thereon, a series of heat-refractory insulating attaching devices embedded therein, and a resistance-conductor running back and forth above the surface of the enamel and engaging the successive devices on their opposite sides.

845,226. METER BOX. EDWIN H. FORD, Hartford City, Ind. Filed Aug. 3, 1906. Serial No. 329,104.



Claim.—1. A meter-box comprising a closed bottom hollow casing provided with diametrically oppositely located recesses, a meter provided with an inlet and an outlet pipe, the ends of said pipe engaging with the recesses, and a locking means for locking the meter longitudinally in operating position.

2. A meter-box comprising a closed bottom hollow casing provided with diametrically oppositely located recesses, a meter provided with an inlet and an outlet pipe, the ends of said pipe engaging with the recesses, a locking means for locking the meter longitudinally in operating position, and a removable cover for the casing.

3. A meter-box comprising a closed bottom hollow casing provided with diametrically oppositely located recesses, a meter provided with an inlet and an outlet pipe, the ends of said pipe engaging the recesses, and a wedge-shaped key for locking the meter longitudinally in operating position.

4. A meter-box comprising a closed bottom hollow casing, an annular shoulder formed within said casing and provided with diametrically oppositely located recesses lying in the same horizontal plane, a meter provided with an inlet and an outlet pipe, the ends of said pipe engaging the recesses in the annular shoulder, and a locking means for locking the meter longitudinally within said casing.

5. A meter-box comprising a closed bottom hollow casing and provided with an inner annular shoulder, the said shoulder being provided with diametrically oppositely located recesses, a meter provided with an inlet and an outlet pipe; one end of said pipe engaging one of the recesses in the annular shoulder, a truing-yoke adapted to engage the opposite end of the meter-pipe, a secondary yoke to receive and hold the truing-yoke in operating position, gaskets inserted between the ends of the meter-pipe and the adjacent end wall of the recesses, the secondary yoke and casing and a locking means for locking and tightening the meter in operating position.

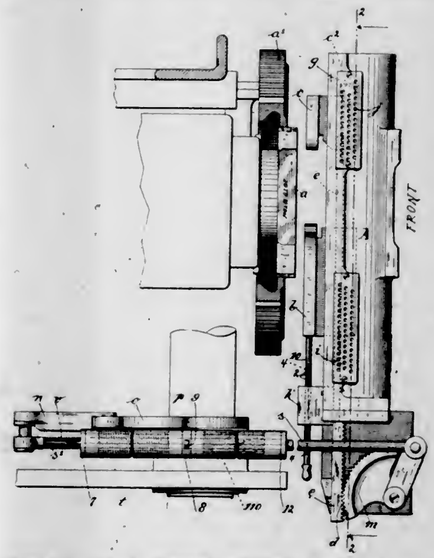
6. A meter-box comprising a closed bottom hollow casing provided with diametrically oppositely located recesses, a meter provided with an inlet and an outlet pipe, the ends of said pipe engaging the recesses, gaskets inserted between the ends of the meter-pipe and the recesses, means surrounding the ends of the meter-pipe and the gaskets to hold the latter in position, and a locking means for locking the meter longitudinally in operating position.

7. A meter-box comprising a closed bottom hollow casing provided with diametrically oppositely located recesses, a meter provided with an inlet and an outlet pipe, the ends of said pipe engaging the recesses, a locking means for locking the meter longitudinally in operating position, and means for holding the locking means in position.

8. A meter-box comprising a closed bottom hollow casing provided with diametrically oppositely located recesses, a meter having an inlet and an outlet pipe in which one end of said pipe engages one of said recesses, a gasket adapted to be inserted between the said pipe and recess, a truing-yoke to receive the opposite ends of the meter-pipe, a gasket adapted to be inserted between the truing-yoke and the pipe, a secondary yoke to slide on the truing-yoke, a gasket adapted to be inserted between the end of the secondary yoke and the casing, and a wedge-shaped key adapted to be passed between the yokes for locking the meter into operating position.

9. A meter-box comprising a separatable base and top and having its body composed of a separable member of different material, means for holding the top and the base together, the base being provided with diametrically oppositely located recesses, a meter provided with an inlet and an outlet pipe, the ends of said pipe engaging the recesses, and a locking means for locking the meter longitudinally in operating position.

845,227. LINOTYPE-MACHINE. ROBERT J. FOSTER and HONORÉ LAUZON, Montreal, Quebec, Canada, assignors to Mergenthaler Linotype Company, a Corporation of New York. Filed Feb. 18, 1905. Serial No. 246,356.



Claim.—1. In a linotype-machine, a slotted mold wherein the linotype is formed, in combination with two jaws adapted to confine the matrix-line in operative relation to the mold, said jaws rigidly connected and arranged to move in the same direction in unison; whereby the matrix-line, regardless of its length, may be confined in any required relation to the mold.

2. In a linotype-machine, two line-confining jaws adapted to move endwise in unison, in combination with

a rigid connection adjustable in length; whereby the distance between the jaws may be varied.

3. In a linotype-machine, a slotted mold wherein the linotype is formed, in combination with two connected jaws adapted to confine the matrix-line in front of the mold and to move endwise in relation to the latter, and means for automatically effecting the movement of said jaws simultaneously in the same direction; whereby the matrix-line, regardless of its length, may be set in any required relation to the mold.

4. In a linotype-machine, two connected matrix-confining jaws arranged to reciprocate in unison, in combination with a spring connection tending to move said jaws in one direction, and an adjustable stop to limit their movement.

5. In a linotype-machine, two connected matrix-confining jaws arranged to move to and fro in unison, a spring connection tending to move said jaws in one direction, and automatic mechanism for moving them in the reverse direction.

6. In a linotype-machine, two sliding matrix-confining jaws, a direct connection between said jaws, a spring tending to move the jaws in one direction, an adjustable stop to limit their movement in the opposite direction, and automatic mechanism including a yielding spring to move the jaws toward said stop.

7. In a linotype-machine, the combination of a mold, matrix-confining jaws movable lengthwise of the mold, means for automatically shifting said jaws and adjustable stop devices to limit their movement in each direction.

8. In a linotype-machine, a slotted mold, a matrix-confining jaw movable lengthwise of the mold, a spring tending to move the jaw in one direction, an adjustable stop to limit said movement, and means for automatically moving the jaw in the reverse direction.

9. In a linotype-machine, a mold, two matrix-confining jaws movable lengthwise of the mold, means for changing the distance between the jaws that they may confine matrix-lines shorter than the mold, and automatic means for moving the jaws and the intermediate matrices simultaneously in one direction; whereby the matrices may be located at the desired point in relation to the mold.

10. In a linotype-machine, the combination of a slotted mold, two matrix-confining jaws arranged to slide lengthwise of the mold and to close its front face, and an adjustable connection between said jaws; whereby they may be caused to move in unison and their separation limited.

11. In combination with the sliding jaws *b* and *c*, a connecting-bar *e*, and means for changing the distance between the jaws.

12. In combination with the sliding jaws *b* and *c*, the bar *e*, and the longitudinally-adjustable rod 10.

13. In combination with the sliding jaw *c*, the cam *o*, intermediate connections for imparting motion from the cam to the jaw, and an adjustable stop to limit the movement of the jaw.

14. In combination with the sliding jaws *b* and *c*, an adjustable connection between them, means for reciprocating the jaws, and two adjustable stops to limit the movement of the respective jaws.

15. In a linotype-machine, in combination with the sliding jaws *b* and *c*, adjustable stops to arrest the movement of the respective jaws in an outward or backward direction.

16. In a linotype-machine, in combination with the matrix-confining and mold-closing jaw *c*, having a lip or shoulder *c'*, a stop arranged to be set on the right or the left of said lip at will; whereby the movement of the jaw may be limited in either direction.

17. In combination with the sliding jaws *b* and *c*, the two series of holes, and the adjustable stop-pins adapted for insertion therein.

18. In a linotype-machine, the combination with a sliding jaw, a movable stop to limit its motion, an actuating-cam *o*, and the yielding connection between said cam and jaw.

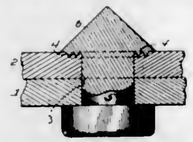
19. In combination with the sliding jaw *c*, the lever *n*, a cam to actuate said lever, a yielding connection between the lever and jaw, and a spring acting in opposition to the cam to move the jaw in a reverse direction.

20. In combination with the sliding jaw *c*, the rack-bar *d* connected therewith, its actuating-pinion, a cam and lever, and a connection from the pinion to the lever.

21. In combination with the matrix-confining jaw *b*, the adjusting and supporting rod 10 adapted to engage a supporting-stud 4 at different points, and a spring to maintain the engagement, substantially as shown; whereby instantaneous disconnection and adjustment of the rod is permitted.

22. In a linotype-machine, a slotted mold in combination with two matrix-confining jaws arranged to move simultaneously in the same direction lengthwise of the mold, and means for maintaining the distance between the jaws; whereby they are adapted to present a matrix-line of given length opposite any required portion of the mold.

845,228. RIVETING. HARRY C. FRENCH, York, Pa., assignor of one-half to Charles F. Borgel, York, Pa. Filed Sept. 24, 1906. Serial No. 336,037.



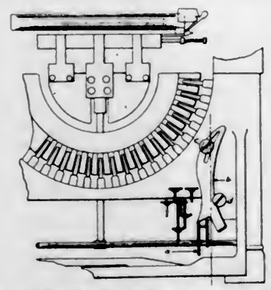
Claim.—1. The combination with a metal plate having a hole and having in its face in proximity to said hole, a series of annular angles, a rivet passing through said hole and a head on said rivet upset against the face of the plate and having a portion of its metal conforming to said annular angles.

2. The combination with a metal plate having a rivet-hole, said plate having an annular groove in its face surrounding said rivet-hole, of a rivet passing through said hole, and a head on said rivet, a portion of the metal of the head entering said groove.

3. The combination with a metal plate having a rivet-hole therein, said plate having a plurality of annular grooves in its face around the rivet-hole, a rivet passing through said hole and having its head upset on said plate and filling said annular grooves.

4. The combination with two metal plates having alined rivet-holes, of a rivet passing through said holes to permanently unite said plates, said rivet having an integral head at its outer end, lying against the outer face of one of said plates, said face having a groove around the rivet-hole to receive a portion of the metal of the rivet-head.

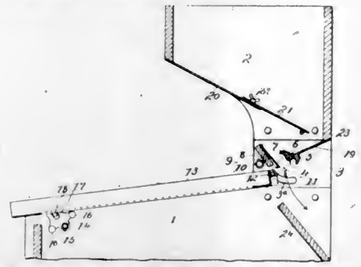
845,229. TYPE-WRITER. NEILL R. GRAHAM, New York, N. Y. Filed Nov. 17, 1905. Serial No. 287,871.



Claim.—1. In a type-writing machine, the combination of a shift-key, a locking-plate provided with a slot, a notch in one edge of said slot and adapted to coöperate with a stop on the machine-frame, substantially as described.

2. In a type-writing machine, the combination of a shift-key, a locking-plate having a notch, a positive stop adapted to coöperate with said notch to arrest said shift-key at a predetermined point intermediate its shifting movement, substantially as described.

845,230. CORN-SORTER. LEVI P. GRAHAM, Decatur, Ill. Filed Mar. 31, 1906. Serial No. 309,212.



Claim.—1. In a corn-sorter, the combination of an inclined wall and a rock-bar shaped to receive corn on its upper surface and having a salient part which lowers toward and raises from the inclined wall as the bar is rocked, the rock-bar being parallel with the inclined wall and directly opposed thereto at a distance to form therewith a sorting-slot when the salient part is lowered.

2. In a corn-sorter, the combination of an inclined wall, a rock-bar having its upper surface depressed, its front edge arc-formed and its rear edge rounded, the rock-bar being parallel with the inclined wall and directly opposed thereto at a distance to form therewith a sorting-slot when the salient part is lowered, and a supply-shelf in front of the front edge of the rock-bar.

3. In a corn-sorter, the combination of an inclined wall, a rock-bar having its upper surface depressed, its front edge arc-formed and its rear edge rounded, the bar being so located with relation to the inclined wall that the rear edge of the rock-bar will lower toward and raise from the wall as the bar is rocked and form with the wall a sorting-slot when lowered, and a supply-shelf in front of the front edge of the rock-bar.

4. In a corn-sorter, the combination of an inclined wall, a rock-bar having its upper surface shaped to receive corn, a salient extension of the rock-bar which lowers toward and raises from the inclined wall, as the bar rocks, and forms with the wall a sorting-slot when lowered, and a screen carried by the rock-bar and swung with its receiving end under the sorting-slot when the slot is formed and out from under the slot when the salient extension is raised.

5. In a corn-sorter, the combination with a screen, of a bracket pivoted below the screen and having a slot in its upper end, a rod from the screen resting in the slot of the bracket and pins projecting from the bracket under the screen on opposite sides of the pivot and the slot.

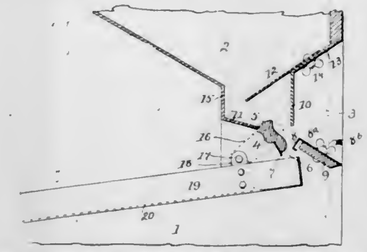
6. In a corn-sorter, the combination of a pair of opposing surfaces constituting a variable-width sorting-slot, a reciprocating screen the receiving end of which moves back and forth under the slot and clear thereof, and means for widening the sorting-slot as the screen is swung clear thereof.

7. In a corn-sorter, the combination of a rocking shaft having a salient longitudinal surface and a comparatively depressed longitudinal surface, a plate opposing the shaft and forming therewith a sorting-slot, and a screen swung from the shaft with its receiving end extending under the slot when the salient surface of the shaft is opposed to the plate; the receiving end of the sieve being swung clear of the slot when the shaft is rocked to bring the depressed surface thereof opposite the plate.

8. In a corn-sorter, the combination of a pair of opposing surfaces constituting a variable-width sorting-slot, a reciprocating screen the receiving end of which moves back and forth under the slot and clear thereof, means for widening the sorting-slot as the screen is swung clear thereof, and means for supplying batches of corn to the sorting-slot between widening movements thereof.

9. In a corn-sorter, the combination of a pair of separated downward-converging parallel surfaces forming a sorting-slot in which the corn is arranged edgewise and through which grains of certain thickness may fall, a screen below the slot, means for feeding batches of corn to the slot at intervals, and means for widening the slot between feeding operations and discharging the corn therein clear of the screen.

845,231. CORN-SORTER. LEVI P. GRAHAM, Decatur, Ill. Filed Apr. 3, 1906. Serial No. 309,654.



Claim.—1. In a corn-sorter, the combination of a stationary wall, a rocking member forming with the wall a sorting-slot, and a ledge on the rocking member adapted to lift out of the sorting-slot the grains detained therein.

2. In a corn-sorter, the combination of a stationary wall, a rocking member forming with the wall a sorting-slot, a screen having its receiving end beneath the sorting-slot, a ledge on the rocking member adapted to lift out of the slot the grains detained therein, and a chute conjoined with the stationary member and extended beyond the screen.

3. In a corn-sorter, the combination of separated surfaces forming a sorting-slot having converging walls, means for supplying batches of corn to the slot at intervals, and means, operative between batch-supplying movements only, for lifting out of the slot grains detained therein.

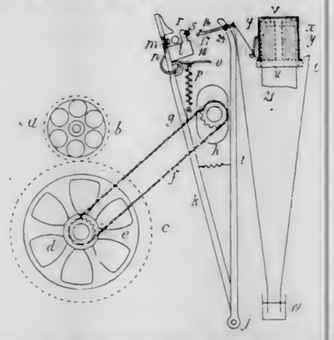
4. In a corn-sorter, the combination of separated surfaces forming a sorting-slot having converging walls, a screen having its receiving end located beneath the slot, means for supplying batches of corn to the slot at intervals, and means, substantially as described, for lifting out of the slot grains detained therein and discharging them clear of the screen.

5. In a corn-sorter, the combination of an oblique wall, a rock-bar adapted to hold corn on its upper surface, a nose of the rock-bar forming with the oblique wall a sorting-slot when the bar is rocked to discharge the corn off its upper surface, and a ledge on the nose below the slot when the nose is lowered; said ledge being adapted to lift out of the slot and over the oblique wall the grains detained in the slot.

845,232. WEFT-REPLENISHING MECHANISM FOR LOOMS. CHRISTIAN M. HANSEN, Vejle, Denmark. Filed Feb. 2, 1903. Serial No. 141,603.

Claim.—1. In a loom, a shuttle carrying weft, means for controlling the operation of weft-replenishing means the same comprising an electrically-actuated device, a normally open electric circuit containing said device, an exposed fixed terminal in said circuit secured to the lathe, two movable terminals independently movable into contact with the fixed terminal, a follower adapted to bear against the weft to limit the movement of the movable terminals and prevent the electric circuit from being closed until the weft has become exhausted to such a predetermined extent that both movable terminals contact with the fixed terminal.

2. In a loom, a shuttle carrying weft, means for controlling the operation of weft-replenishing means the same comprising an electrically-actuated device, a normally open electric circuit containing said device, an exposed fixed terminal in said circuit secured to the lathe, two movable terminals independently movable into contact with the fixed terminal, a follower adapted to periodically bear against the weft to limit the movement of the movable terminals and prevent the electric circuit from being closed until the weft has become exhausted to such a predetermined extent that both movable terminals contact with the fixed terminal.



3. In a loom, the combination of an exposed fixed terminal secured to the lathe, means for adjusting said terminal nearer to or farther away from the path of the shuttle, an electrically-actuated device, a normally open electric circuit containing said device, a shuttle-carrying weft, a movable terminal, a follower connected to said movable terminal and normally preventing contact thereof with the fixed terminal but adapted to permit contact therebetween to close the electric circuit upon exhaustion of the weft to a predetermined degree.

4. In a loom, a shuttle carrying weft, a fixed exposed terminal, a normally open electric circuit, an electrically-actuated device in said circuit, a follower adapted to contact with the weft, a rod connected to said follower, a terminal moving with said rod and normally limited in its movement by the bearing of the follower against the weft to prevent contact thereof with the fixed terminal but adapted to contact with the fixed terminal to close the electric circuit when the weft has been exhausted to a predetermined degree.

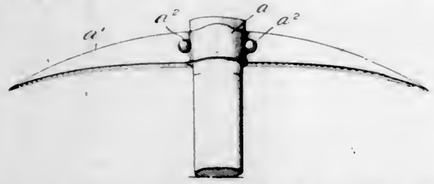
5. In a loom, a shuttle carrying weft, a normally open electric circuit, an electrically-actuated device in said circuit, a fixed exposed terminal secured to the lathe, a follower adapted to periodically engage the weft, a terminal moving with said follower but normally limited in its movement by the bearing of the follower against the weft, and a plate adapted to be shifted upon the exhaustion of the weft to a predetermined degree and consequent closing of the electric circuit.

6. In a loom, a guide-plate, an oscillating hammer, means shifting said plate to a predetermined extent upon the exhaustion of the weft, a lever movable to secure replenishment of the weft, and an extension to said guide-plate adapted while the plate is in its shifted position to be engaged by said hammer to transversely shift said plate into connection with said lever to move the same.

7. In a loom, a lever movable to secure replenishment of the weft, an oscillating hammer, a guide-plate provided with two cut-out portions of different depths the deeper of which is arranged to be opposite said lever upon breaking of the weft, a disconnecting-lever, a weft-fork connected to said plate and adapted to be engaged by the oscillating hammer upon breaking of the weft to shift said plate transversely into engagement with the disconnecting-lever to stop the loom only.

8. In a loom, a lever movable to secure replenishment of the weft, an oscillating hammer, a guide-plate provided with two cut-out portions of different depths the deeper of which is arranged to be opposite said lever upon breaking of the weft, a disconnecting-lever, a weft-fork connected to said plate and adapted to be engaged by the oscillating hammer upon breaking of the weft to shift said plate transversely into engagement with the disconnecting-lever to stop the loom, means for shifting said plate to bring the shallower cut-out opposite the said lever, movable to secure replenishment of the weft and an extension connected to said plate and arranged to be engaged by the oscillating hammer to transversely move the plate while in its shifted position into contact with said lever whereby the shallow cut-out engages said lever to move the same.

845,233. PICK. FRANK S. HARRINGTON, Newburgh, N. Y., assignor of three-fourths to William H. Coldwell and one-fourth to John W. Bentley, Newburgh, N. Y.. Filed Mar. 17, 1906. Renewed Jan. 14, 1907. Serial No. 352,291.

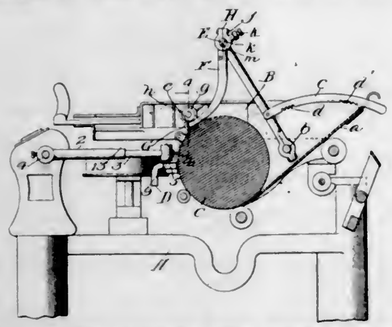


Claim.—1. The herein-described pick comprising two pieces of sheet metal of the same size and shape and of uniform thickness, having substantially the form of the finished pick, said pieces being placed side by side, having their central portions bent outwardly in opposite directions to form the eye of the pick, and their arm portions united at either side of the eye, the extremities of said arm portions being welded to form integral pick-points, substantially as described.

2. The herein-described pick comprising two pieces of sheet metal placed side by side, having their central portions bent outwardly in opposite directions to form the eye of the pick, their arm portions welded together at their extremities to form integral points, and being mechanically united at opposite sides of the eye, substantially as described.

3. The herein-described pick comprising two pieces of sheet metal, having substantially the form of the finished pick, said pieces being placed side by side having their central portions bent outwardly in opposite directions to form the eye, and the outer extremities of their arm portions welded together, and rivets uniting said pieces at opposite sides of the said eye, substantially as described.

845,234. TYPE-WRITING MACHINE. JOSEPH W. HAYS, Chicago, Ill., assignor of one-half to George L. Simonds, Chicago, Ill. Filed Sept. 24, 1906. Serial No. 335,900.



Claim.—1. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen jour-

naled therein, a ruling device adjustable longitudinally of said platen, and an inking device therefor.

2. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of independent ruling devices adjustable longitudinally of said platen, and inking devices therefor.

3. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a ruling device adjustable longitudinally of said platen, and an inking device attached thereto and adjustable therewith.

4. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of independent ruling devices adjustable longitudinally of said platen, and individual inking devices for each of said ruling devices, which are connected thereto and movable therewith.

5. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a revolving ruling-disk adjustable longitudinally of said platen, and an inking device therefor.

6. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a revolving ruling-disk adjustable longitudinally of said platen, and a revolving inking device therefor.

7. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of independent revolving ruling-disks adjustable longitudinally of said platen, and inking devices therefor.

8. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of independent revolving ruling-disks adjustable longitudinally of said platen, and revolving inking devices therefor.

9. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a revolving ruling-disk adjustable longitudinally of said platen, and an inking device therefor connected to and adjustable therewith.

10. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a revolving ruling-disk adjustable longitudinally of said platen, and a revolving inking device therefor connected to and adjustable therewith.

11. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of revolving ruling-disks adjustable longitudinally of said platen, and revolving inking devices connected thereto and adjustable therewith.

12. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, an arm rotatable at an angle to the axis of said platen and adjustable on its own axis parallel to said platen, a ruling device carried by said arm, and an inking device therefor also carried by said arm.

13. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of arms independently rotatable at an angle to the axis of said platen and each adjustable on its own axis parallel to said platen, ruling devices carried by said arms, and an inking device for each ruling device also carried by said arms.

14. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, a series of arms independently rotatable at an angle to the axis of said platen and each adjustable on its own axis parallel to said platen, revolving ruling-disks carried by said arms, and a revolving inking-pad for each ruling-disk also carried by said arms.

15. The combination in a type-writing machine with a reciprocal carriage, a revolving platen journaled therein, and a longitudinal bar parallel to said platen, of a series of arms independently rotatable and adjustable longitudinally on said bar, ruling devices and inking-pads therefor carried in the end of each of said arms.

16. The combination in a type-writing machine with a reciprocal carriage, a revoluble platen journaled therein, and a laterally-adjustable longitudinal bar parallel to said platen, of a series of arms independently rotatable and adjustable longitudinally on said bar, ruling devices, and inking-pads therefor carried in the end of each of said arms.

17. The combination in a type-writing machine with a reciprocal carriage, a revoluble platen journaled therein, and a laterally-adjustable longitudinal bar parallel to said platen, of a series of arms independently adjustable longitudinally on said bar, ruling devices and inking-pads therefor each carried in the end of each of said arms.

18. The combination with a type-writing machine having a reciprocal carriage, of a revoluble platen journaled therein, an arm rotatable at an angle to the axis of the platen and adjustable parallel with the same, a revolving ruling-disk journaled in the end of said arm, a revolving ink-pad circumferentially engaged thereby, and a case connected to said arm in which said pad is journaled and inclosed.

19. The combination in a type-writing machine with a reciprocal carriage, a revoluble platen journaled therein, and a longitudinally-disposed bar having longitudinal grooves therein, of an arm removably mounted and longitudinally adjustable on said bar, a spring-depressed bolt in the boss of said arm adapted to engage said grooves, a revolving ruling-disk carried by said arms, and revolving inking-pad connected thereto.

20. A type-writing machine comprising a supporting-frame, a reciprocating carrier, a revolving platen carried thereby and journaled therein, a ruling device connected to said supporting-frame and normally pressing toward said platen with which it is adapted to engage when operated, and an inking-pad therefor.

21. A type-writing machine comprising a supporting-frame, a reciprocating carrier, a revolving platen carried thereby and journaled therein, a telescopic ruling device connected to said supporting-frame and normally pressing toward said platen with which it is adapted to engage when operated, and an inking-pad therefor.

22. A type-writing machine comprising a supporting-frame, a reciprocating carrier, a revolving platen carried thereby and journaled therein, a spring-elongated telescopic ruling device connected to said supporting-frame and normally pressing toward said platen with which it is adapted to engage when operated, and an inking-pad therefor.

23. A type-writing machine comprising a supporting-frame, a reciprocating carrier, a revolving platen carried thereby and journaled therein, a longitudinally-adjustable vertical-line-ruling device, and inking device therefor, a ruling device connected to said supporting-frame adapted to engage said platen, and an inking-pad therefor.

24. A type-writing machine comprising a supporting-frame, a reciprocal carrier, a revolving platen carried thereby and journaled therein, a longitudinally-adjustable vertical-line-ruling disk and inking device therefor, a ruling device connected to said supporting-frame adapted to engage said platen, and an inking-pad therefor.

25. A type-writing machine comprising a supporting-frame, a reciprocating carrier, a revolving platen carried thereby and journaled therein, a longitudinally-adjustable vertical-line-ruling device, and inking device therefor, a ruling-disk connected to said supporting-frame adapted to engage said platen, and an inking-pad therefor.

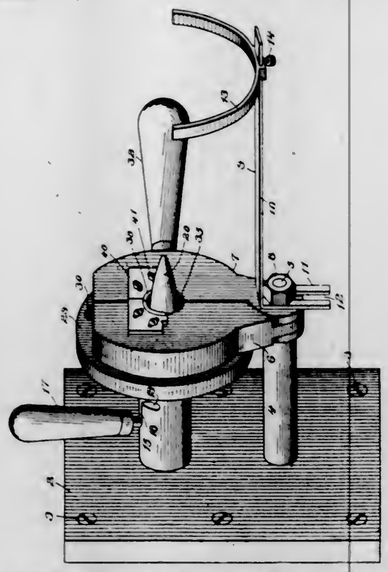
26. A type-writing machine comprising a supporting-frame, a reciprocal carrier, a revolving platen carried thereby and journaled therein, a longitudinally-adjustable vertical-line-ruling disk and inking device therefor, a ruling-disk connected to said supporting-frame adapted to engage said platen, and an inking-pad therefor.

845,235. BOTTLE-NECK-FORMING MACHINE. JAMES C. HENDERSON, Los Angeles, Cal. Filed Oct. 30, 1905. Serial No. 285,003.

Claim.—1. A machine for forming the necks of protective bottles, comprising a mandrel for supporting the neck of the bottle, hinged members having means thereon for engaging the outside of the neck of the bottle to alter or

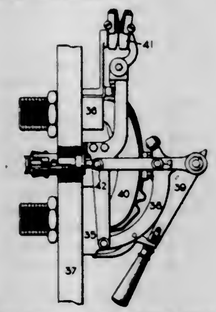
interrupt the surface on the outside of the neck of the bottle and a double cam-plate connected to hinged members for operating the same, substantially as described.

2. A machine for forming the necks of protective bottles, comprising a mandrel for supporting the neck of the bottle, movable members connected to each other and provided with means for engaging the outside of the bottle-neck to alter or interrupt the surface on the outside of the bottle-neck and a rotatable cam-plate connected to said movable members for operating the same, substantially as described.



3. A machine for forming the necks of protective bottles, comprising a mandrel for supporting the neck of the bottle, movable members provided with means for engaging the neck of the bottle to alter or interrupt the surface on the outside of the neck of the bottle, and a cam-plate for operating said movable members, substantially as described.

845,236. CUT-OUT. EDWARD M. HEWLETT and CHARLES H. HILL, Schenectady, N. Y., assignors to General Electric Company, a Corporation of New York. Filed May 2, 1904. Serial No. 205,894.



Claim.—1. The combination with a tubular base, of stationary contacts mounted upon opposite sides of said base, a movable contact having biasing means tending to move it angularly and longitudinally of the base into engagement with the stationary contacts, and means for locking said movable contact in inoperative position when angularly rotated.

2. The combination with a base having a longitudinal slot extending therethrough and recesses extending from the sides of the slot, of stationary contacts mounted on said base at opposite ends of said slot, a movable contact located in said slot and having biasing means tending to move it into engagement with said stationary contacts, and means located in said recesses for locking said movable contact in inoperative position.

3. The combination with a base having a longitudinal slot and transverse recesses, of stationary contacts mounted thereon at opposite ends of said slot, a movable contact having biasing means tending to move it longitudinally into engagement with said stationary contacts and rotarily parallel to the sides of said slot, and shouldered projections located in said recesses and adapted to engage said movable contact when the latter is partially rotated.

4. The combination with a base having a slot extending into one end and transverse recesses extending from opposite sides of said slot with end ledges out of the plane of the bottom of said slot, of stationary contacts mounted on said base at the ends of said slot, a movable contact, means tending to move said movable contact longitudinally into engagement with said stationary contacts and rotarily into parallelism with the sides of said slot, and shouldered projections extending from said end ledges and adapted to engage said movable contact when the latter is partially rotated.

5. The combination with a base, of two sets of stationary contacts mounted thereon in different planes, a longitudinally-movable contact adapted to engage the respective pairs of stationary contacts at opposite ends of its travel, biasing means tending to move said movable contact into engagement with one set of stationary contacts, and means for locking said movable contact in intermediate inoperative position.

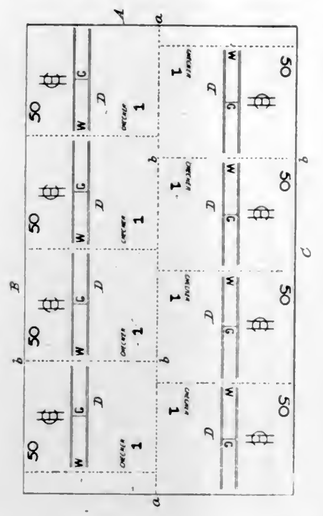
6. The combination with a base, of two sets of stationary contacts mounted thereon in different planes, a longitudinally-movable contact, biasing means tending to move it into engagement with one set of contacts, and means located between the planes of the stationary contacts for locking the movable contact in inoperative position, said parts being so arranged that a force applied in one direction to said movable contact will move it from engagement with one set of contacts into engagement with the other set or from its locked position into engagement with the latter set of contacts.

845,237. PRESS AUDITING METHOD. JOHN T. HICKS, Medford, Mass. Filed May 4, 1903. Serial No. 155,458.

Claim.—1. A method of securing accuracy in the numbering of checks and other paper supplies for checking systems, which consists essentially in passing the sheets, on which a plurality of checks are to be printed, twice through the press, once for the purpose of printing and numbering one row of checks on the sheet, and a second time for the printing and numbering of another row of checks on the sheet, the same consecutive serial numbering being thus applied twice to the sheet, the two numberings being a check one upon another, so that when the sheets are printed and the rows of checks turned and backed up against each other the numbering will appear in the same relative position, substantially as described.

2. The method of securing accuracy in the printing of sheets to be formed into checks or other paper supplies for checking systems, which consists in passing the sheets consecutively through a printing-press, numbering the sheets with a predetermined series of numbers in their passage through the press, collecting the sheets so numbered in a predetermined relative arrangement, feeding the sheets a second time through the press without disturbing their relative arrangement, renumbering the sheets with the same predetermined series of numbers during their passage through the press, the two series of numbers being a check one upon the other, substantially as described.

3. The method of securing accuracy in the numbering of sheets for checks and other supplies for checking systems, which consists in passing the sheets consecutively through a printing-press, numbering the sheets consecutively in their passage through the press, collecting the sheets in a predetermined relative arrangement, feeding the sheets a second time through the printing-press without disturbing the relative arrangement of the sheets, renumbering the sheets consecutively with the same series of numbers as the one previously printed, so that upon each sheet, the same number is printed at least twice, the two series of numbers thus being a check one upon the other.

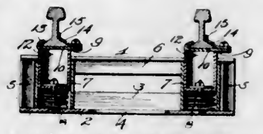


4. The method of securing accuracy in the numbering sheets for checks and other paper supplies for checking systems, which consists in passing sheets of double width through a printing-press, numbering one half of each sheet consecutively, collecting the sheets in a predetermined relative arrangement, feeding the sheets a second time through the printing-press without disturbing their relative arrangement, printing upon the other half of the previously-printed side of the sheets the same series of consecutive numbers as before, so that each sheet has the same number printed thereon at least twice, the two series of numbers being a check one upon the other.

5. The method of producing checks and other paper supplies for checking systems and of securing accuracy in the numbering of the same, which consists in passing sheets of double width through a printing-press, numbering one half of each sheet consecutively, collecting the sheets in a predetermined relative arrangement, feeding the sheets a second time through the printing-press without disturbing their relative arrangement, printing upon the other half of the previously-printed side of the sheets the same series of consecutive numbers as before, so that each sheet has the same number printed thereon at least twice, the two series of numbers being a check one upon the other and severing the sheets into halves.

6. The method of producing checks and other paper supplies for checking systems and of securing accuracy in the numbering of the same, which consists in passing sheets of double width through a printing-press, printing on one half of each sheet a plurality of checks and numbering each check with the same number, collecting the sheets in a predetermined relative arrangement, feeding the sheets a second time through the printing-press without disturbing their relative arrangement, printing upon the other half of the previously-printed side of the sheets the same numbers as before, so that each sheet has the same number printed thereon at least twice, the two sets of numbers being a check one upon the other, severing the sheets into two portions and severing each portion whereby bundles of checks each provided with the same set of serial numbers are produced.

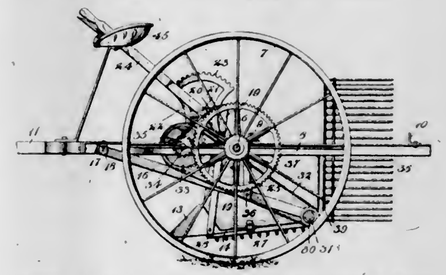
845,238. RAILWAY TIE AND CHAIR. WILLIAM G. JOHNSON, Kingfisher, Okla. Filed July 2, 1906. Serial No. 324,438.



Claim.—1. A railway-tie consisting of a hollow metallic frame, a rail-chair socket arranged in each end of said frame, a coil-spring in each of said sockets, rail-chairs adapted to be engaged with said sockets and to rest on the springs therein, a rail-engaging flange on one side of said chair, and a clamping-plate adapted to be secured to the opposite side of the chair to engage and brace the opposite side of the rail, substantially as described.

2. A railway-tie consisting of an open hollow metallic frame, a cylindrical rail-chair socket arranged in each end of said frame, a coiled spring arranged in each of said sockets, rail-chairs comprising a base-plate, a downwardly-projecting boss arranged on the under side of said plate to engage said socket and rest on the spring therein, a dust-flange on said boss to close the top of said socket, an integral rail-engaging flange formed on one edge of said base-plate, a clamping-plate bolted to the opposite edge of said plate to engage and brace the opposite side of the rail, and a concrete filling adapted to be placed in said hollow tie-frame, substantially as described.

845,239. POTATO-DIGGER. NATHAN KELLER, Hastings, Fla. Filed Aug. 20, 1906. Serial No. 331,358.



Claim.—1. In a potato-digger, in combination, a wheeled axle, an upper frame mounted at about its middle thereon, strain-bars on each side, pivotally connected at their front ends to the frame in front of the axle and supported at their rear ends by hangers connected to the frame behind the axle, the hangers being vertically adjustable to vary the angle between the frame and the strain-bars, thrust-bars pivoted to the rear ends of the strain-bars and extending forwardly, a shovel and conveyer carried by the thrust-bars, and a supporting and adjusting connection between the frame and the front end of the thrust-bars.

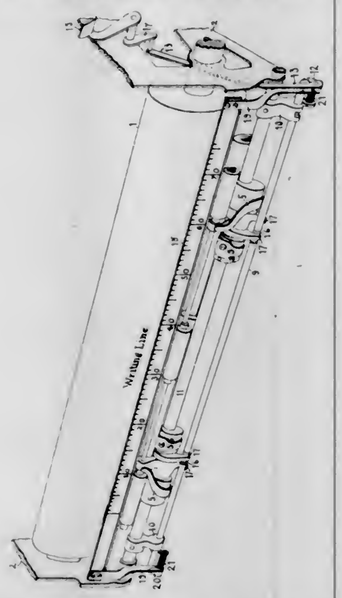
2. In a potato-digger, in combination, a wheeled axle, an upper frame mounted between its ends thereon, strain-bars on each side, pivotally connected at their front ends to the frame in front of the axle and extending rearwardly under the axle, vertically-adjustable hangers connected between the frame and the said bars behind the axle, thrust-bars pivoted to the rear ends of the strain-bars and extending forwardly therefrom under the axle, a lifting-lever on the frame in front of the axle and having a supporting connection to the front ends of the thrust-bars, and a shovel and conveyer carried by the thrust-bars.

845,240. TYPE-WRITING MACHINE. EDWARD F. KUNATH, Jersey City, N. J., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 27, 1905. Serial No. 284,690.

Claim.—1. In a type-writing machine, the combination with a platen, of a set of pressure-rolls, a pressure-roll-re-

leasing mechanism including a rock-shaft extending along the platen and having arms at its ends, a scale in front of the platen and pivoted at its ends upon said arms, and a spring for pressing said scale toward the platen.

2. In a type-writing machine, the combination with a platen, of a set of pressure-rolls, a pressure-roll-releasing mechanism including a rock-shaft extending along the platen and having arms, and a scale having at its ends arms which are hinged to said rock-arms.



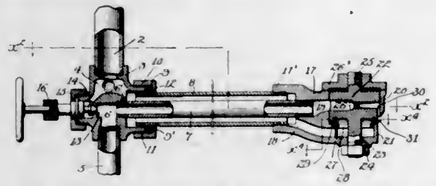
3. In a type-writing machine, the combination with a platen, of a set of pressure-rolls, a pressure-roll-releasing mechanism including a rock-shaft extending along the platen and having arms, and a scale having at its end arms which are hinged to said rock-arms, and springs at the ends of said scale for pressing the same toward the platen.

4. In a type-writing machine, the combination of a platen, a scale, a rock-shaft extending along the platen and connected at its ends to said scale, to move the same perpendicularly of its length toward and from the printing-point, a finger-piece for operating said rock-shaft, pressure-rolls running upon the platen, and means to enable said rock-shaft to release said rolls concomitantly with the movement of said scale toward the printing-point.

5. In a type-writing machine, the combination with a platen, of a scale, a rock-shaft extending along the platen and connected at its ends to said scale, to move the same perpendicularly of its length toward and from the printing-point, a finger-piece for operating said rock-shaft, and pressure-rolls released by said rock-shaft; means being provided for mechanically detaining the scale in elevated position and the rolls in released positions.

845,241. HYDROCARBON-BURNING APPARATUS. LOUIS K. LEAHY, Los Angeles, Cal. Filed Oct. 4, 1905. Serial No. 281,251.

Claim.—1. A burner comprising a casing having a cylindrical chamber provided with a slot in its side wall, said chamber open at one end, a plug adapted to be inserted into said chamber and being of such size as to fit tightly therein, said plug provided with a diametric passage and having a portion of its peripheral surface cut away to form an oil-discharge, leading to the mouth of said slot from one end of said passage between such cut-away portion and the wall of said chamber, said casing having an opening or oil-inlet registering with and opening into the other end of said passage, a steamway formed at the lower end of said plug and within said casing and discharging through said slot, and oil and steam pipes connected with said oil-inlet and steamway respectively.



2. A burner-tip comprising a casing having a cylindrical chamber with a peripheral outlet from said chamber, a cylindrical plug fitting within and inclosed by the walls of said chamber and forming between its outer surface and the inner surface of said casing a downwardly-extending oilway, terminating at said peripheral outlet, and below said plug a steam-chamber communicating to said peripheral outlet, said plug having a diametric oil-passage opening into said oilway in combination with an oil-supply pipe connected with said diametric oil-passage and a steam-supply pipe connected with said steam-chamber.

3. A burner-tip comprising a hollow casing having a lateral slot and a plug inserted therein, being of such size as to fit tightly in said casing and having a portion of its surface cut away to form an oil way or passage between said surface and the wall of said casing, said oilway terminating at said slot, said plug having passage transversely through it registering with said oil-passage, and a steamway formed below said oilway and opening to said slot.

4. A burner-tip comprising a hollow casing having a lateral discharge-slot, the upper wall of the slot lying beyond the plane of the lower wall thereof, and a plug removably held in the chamber of said casing, said plug having transverse oil-passage, and a portion of outer surface of its wall cut away to form an oilway between such cut-away portion and the wall of said casing, said oilway leading from said transverse passage and terminating at said slot a portion of the periphery of the plug above said transverse slot snugly fitting the walls of said casing, and a steamway formed below said oilway and communicating with the discharge-slot in combination with means for supplying oil to said oilway and means for supplying steam to said steamway.

5. A burner-tip comprising a casing having a cylindrical chamber open at one end and having an oil-inlet at one side, a steam-inlet near the bottom and a peripheral discharge-slot, and a cylindrical plug adapted to be slipped into said chamber through the open end thereof and removably held therein and fitting tightly within said chamber, said plug having a transverse oilway registering with said oil-inlet and having a portion of the outer surface of its front wall cut away and forming between its wall and the inner wall of the casing an oil-duct leading from said oilway to said discharge-slot, and said casing and plug forming a steamway leading from said steam-inlet to said discharge-slot, and means for holding said plug in place.

6. A burner-tip comprising a casing having a cylindrical chamber open at one end and having an oil-inlet at one side and a peripheral discharge-slot, and a cylindrical plug adapted to be slipped into said chamber through the open end thereof and removably held therein, said plug having a transverse oilway registering with said oil-inlet and having the lower portion of the outer surface of its front wall cut away and forming between its wall and the inner wall of the casing an oil-duct leading from said oilway to said discharge-slot said plug fitting tightly within said casing, and a steamway formed through said casing and plug to said discharge-slot.

7. A burner-tip comprising a casing having a cylindrical chamber open at one end and having a peripheral discharge-slot and an opening in its opposite side above the plane of such slot, a cylindrical plug adapted to insertion into and snug fit within said chamber and removably held therein, said plug having a closed end forming a closure for the open end of said chamber and a transverse passage registering with said opening in said casing and forming an oilway leading diametrically through said plug, said plug having a portion of its front wall below said passage cut away to form an oil-duct between such cut-away portion and the wall of said casing, leading from said transverse, opening right angularly to said discharge-slot, a steam-duct leading to said discharge-slot, and means for supplying steam and oil to said respective steam and oil ducts.

8. A burner-tip comprising a casing having a chamber open at one end and having an oil-inlet at one side and a peripheral discharge-slot at the other side, and a plug removably mounted in said chamber and closing the same, said plug having a transverse oilway or chamber registering with said oil-inlet and forming a duct, between the lower portion of its surface and the wall of the casing, said duct being in communication with said transverse oilway or chamber and leading downwardly to the mouth of said discharge-slot, a portion of the periphery of the plug above said transverse slot snugly fitting the walls of the casing, and a steamway-discharge through said discharge-slot transverse the plane of said duct.

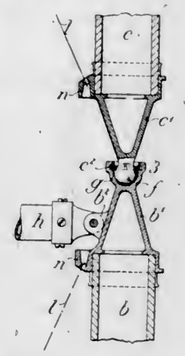
9. A burner-tip comprising a casing having a cylindrical chamber open at one end and having an oil-inlet at one side and a peripheral discharge-slot, and a cylindrical plug removably mounted in said chamber and fitting snugly within and closing the same, said plug having a transverse oilway registering with said oil-inlet and forming between the surface of the lower portion of its front wall and the inner wall of the casing an oil-duct leading from said oilway to said discharge-slot, a steamway formed through said casing and plug to said discharge-slot and an abutment in said steamway forming a steam-cushion at the mouth of the steamway.

10. A burner-tip comprising a hollow casing having a lateral discharge-slot, the upper wall of the slot lying beyond the plane of the lower wall thereof, and a plug removably held in the chamber of the casing and fitting snugly therein, said plug having a portion of the lower and front portion of its wall cut away to form an oilway between such cut-away portions and the wall of said casing, said oilway terminating at said slot, said casing provided with a steam-inlet, said plug and casing forming a steamway or chamber below said plug, and said plug having a channel forming a cushioning abutment at the mouth of said steamway.

11. A burner-tip comprising a casing having a cylindrical chamber open at its top and having a lateral oil-inlet and a peripheral discharge-slot, and a cylindrical plug mounted in said chamber and closing the top thereof, said plug provided with an oilway registering with said oil-inlet and extending diametrically through said plug, a portion of the surface of the plug cut away opposite said oil-inlet and forming with the wall of said casing an oil-duct leading downwardly to said discharge-slot, said plug fitting snugly within said chamber, a steam-chamber formed between the bottom of said plug and casing, said steam-chamber opening to said discharge-slot, in combination with means for supplying oil to said oilway and steam to said steam-chamber.

12. A burner-tip comprising a casing, having a cylindrical chamber and having a lateral oil-inlet and a peripheral discharge-slot, and a steam-inlet, and a plug removably mounted in said chamber and provided with a transverse oilway registering with said oil-inlet and having the lower portion of its front surface cut away to form with the wall of the casing a downwardly-extending oilway leading to the mouth of said discharge-slot, a steam chamber or way formed between the bottom of the plug and casing and opening to said discharge-slot, and said discharge-slot being somewhat wider than the downward oilway so as to discharge a wider sheet of steam than oil.

845,242. MAST FOR WIRELESS TELEGRAPHY AND OTHER PURPOSES. LUDWIG LEIDL, Vienna, Austria-Hungary. Filed Aug. 1, 1906. Serial No. 328,774.



Claim.—1. A separable mast for wireless telegraphy and the like comprising a plurality of detachable sections, transverse stiffening members for each section and flexible means to connect the ends of said members to their respective sections.

2. A separable mast comprising detachable sections, a plurality of transverse struts connected to and between the ends of the sections and flexible means connecting the ends of the struts with each other and to the ends of the respective sections.

3. A separable mast comprising detachable sections, a plurality of transverse struts connected at one end to substantially the middle of each section and symmetrically arranged, wire-ropes connecting the ends of the struts with the ends of the sections.

4. A separable mast comprising a plurality of detachable sections, transverse struts connected at one end to a section between its ends, ropes connecting the ends of the struts with the ends of their respective sections and with each other, and guy-ropes having equalizing means between their upper ends and the mast to hold the latter elevated.

5. A separable mast comprising a plurality of sections, struts secured at one end between the ends of each section, flexible means to connect the ends of the struts with the ends of their respective sections and auxiliary struts at the joints of the mast, flexible means connecting the outer ends of said auxiliary struts to the sections on both sides of the joint.

6. A separable mast comprising a plurality of sections, three struts secured at one end to each mast-section, ropes connecting the ends of the struts with each other and with the end of the section and a like number of auxiliary struts secured at the joints between the sections, ropes connecting the ends of the auxiliary struts with each other and to the points where the main struts are secured to the sections on each side of the joint.

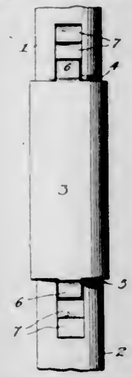
7. A separable mast comprising a plurality of mast-sections each section consisting of two parts connected together, struts connected at their inner ends to each section near the joint thereof, and flexible means connecting the ends of the struts together and to the ends of the section.

8. A separable mast comprising a plurality of sections each section composed of two detachably-connected parts, struts connected symmetrically at their inner ends to the section near the joint, wire ropes connecting the outer ends of the struts to each other and to the ends of the section and auxiliary struts whose inner ends are connected to the mast at the joint between the sections, wire ropes connecting the outer ends of the struts with each other and with the middle of the adjacent sections.

9. A separable mast comprising a plurality of sections, struts for each section symmetrically arranged and connected at their inner ends to the section, one or more of said struts extensible, ropes connecting the outer ends of

the struts with each other and with the ends of the sections.

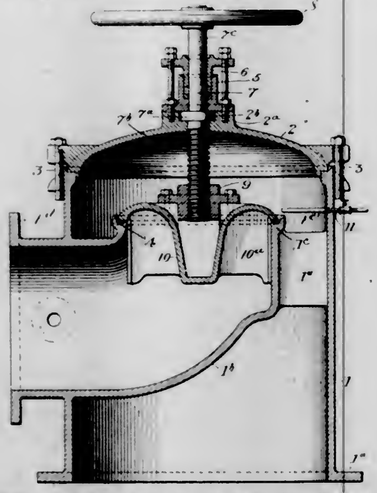
845,243. COUPLING. JOHN R. LILLEY, Coatesville, Pa. Filed May 24, 1906. Serial No. 318,533.



Claim.—1. The combination with two screw-threaded elements, of a coupling-sleeve internally screw-threaded to receive said elements, and integral tongues formed upon the opposite ends of said sleeve and bent into seats formed in said elements, for the purpose set forth.

2. The combination with pipe or rod sections having oppositely-screw-threaded ends and seats formed in their outer faces, of a coupling-sleeve having its opposite ends interiorly screw-threaded in opposite directions, and tongues upon said sleeves adapted to be bent into the seats of said sections, substantially as shown and described.

845,244. VALVE. MAX LORENZ, Honolulu, Hawaii. Filed Aug. 2, 1905. Serial No. 272,378.

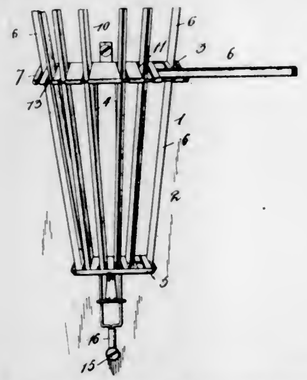


Claim.—1. In a valve of the kind described, a body provided with an elbow cast in its side, a flat valve-seat at the end of the elbow within the body and normal to the direction of movement of the valve, a groove in said seat, resilient packing in said groove, and a valve inside said body having a seat-engaging surface normal to the direction of the movement of the valve and broad enough to cover the metal valve-seat and the resilient packing and adapted to compress said rubber and close metal to metal.

2. A valve of the kind described, comprising a body 1, a removable cover 2, and elbow 1^b, a flat metal valve-seat 1^c at one end of said elbow and normal to the direction of movement of the valve, a resilient packing in a groove $1^{c'}$ in said seat, a by-pass valve 12, and a valve 10, having a flat integral seat-engaging surface normal to its movement, said valve being operated by a stem 7 through the cover 2, so that when closed it first compresses the rubber 4 in the groove $1^{c'}$ and finally rests upon the seat $1^{c'}$, substantially as described.

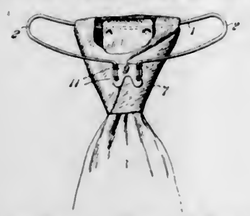
3. In a valve of the kind described, a casing, an integral valve-seat having a flat surface normal to the direction of movement of the valve, a resilient packing in a groove outside of said seat, an upwardly-extending rim outside of said groove, means for introducing a sealing liquid inside said rim, and a valve having a flat seat-engaging surface normal to the movement of the valve and adapted to first engage and compress the resilient packing and subsequently to engage the valve-seat.

845,245. CLOTHES-RACK. WILLIAM S. MATHERS, Allerton, Iowa, assignor of one-half to George F. Knerr, Allerton, Iowa. Filed May 10, 1906. Serial No. 316,202.



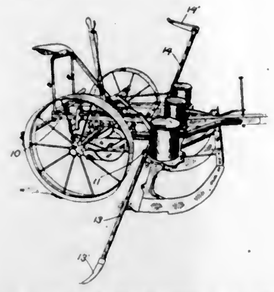
Claim.—The herein-described clothes-rack comprising a stationary head having slots, and means whereby said head may be attached to a support, a guide having a pair of vertical parallel guide-rods, their upper ends secured to said stationary head and their lower ends united, inturned and formed with an attaching-eye to bear on the support, a lower, vertically-movable head having a handle on its lower side, provided with diverging brace-arms, said arms and said head having openings through which the guide-rods extend, and arms pivotally connected at their lower ends to said movable head and slidable in the slots of said stationary head.

845,246. TIE-FRAME. AMOS A. MATHEWS, Louisiana, Mo. Filed Oct. 29, 1906. Serial No. 341,146.



Claim.—A tie-frame comprising a throat-bar and laterally-extending wings and return-bars, a plate located at the ends of the return-bars and having a notch for the reception of the shank of a collar-button and having at its edges cut-out portions which are bent up and form receiving-eyes for the ends of the said return-bars.

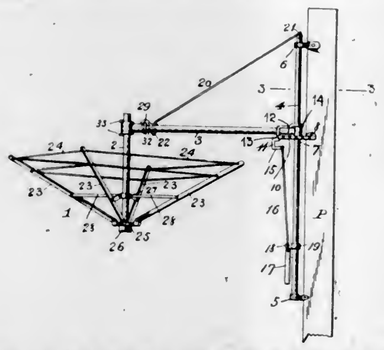
845,247. CORN-PLANTER MARKER. FREDRICK E. MOREHOUSE, Reynolds, Ind. Filed Dec. 15, 1906. Serial No. 348,000.



Claim.—1. A marking attachment for corn-planters, comprising a transverse rock-shaft, a marking-finger carried thereby, a spring urging said rock-shaft in a direction to carry the marking-finger to operative position, an operating member, and intermediate connections between said member and said shaft whereby the aforesaid spring may serve to maintain the marking-finger either in operative or inoperative position.

2. A marking attachment for corn-planters comprising a transverse rock-shaft, a marking-finger carried thereby, a spring urging said rock-shaft in a direction to carry the marking-finger to operative position, an arm attached to said rock-shaft, a pivoted foot-lever, and a link connecting said arm and foot-lever, the point of attachment of said link to the foot-lever being capable of passing either side of the line between the pivotal point of the foot-lever and the point of attachment of the link to the rock-shaft arm, whereby the link will serve to hold the marking-finger in either operative or non-operative position.

845,248. CLOTHES-DRIER. WILLIAM S. MORGAN, Minneapolis, Minn. Filed Apr. 23, 1906. Serial No. 313,313.



Claim.—1. In a device of the character described, bearing-brackets, an upright revolubly mounted therein, a rack-plate concentric with said upright, a reel-supporting arm projecting from said upright, a locking-dog loosely connected with said upright and its arm and adapted to engage said rack-teeth, a lever pivoted upon said upright, and a connection between said lever and said locking-dog.

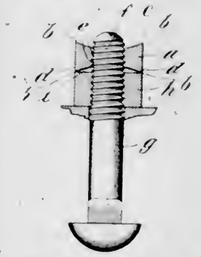
2. In a device of the character described, an upright, an arm projecting therefrom, a reel-supporting head rotatably mounted upon said arm and formed with an annular flange, a hook-plate upon said arm and engaged with said flange, and a bracing and fastening rod having its upper end engaged with said upright and its lower end passed through said plate and said arm, substantially as described.

845,249. SYRINGE-NOZZLE. NORVAL T. MORRIS, Marietta, Ohio. Filed Mar. 7, 1905. Serial No. 248,801.



Claim.—The combination with a tapered cannula having a longitudinal bore; of a nozzle having a conoidal head provided with rearwardly and radially discharging orifices, and a circular distender disposed adjacent the head and having orifices disposed parallel with the bore and the cannula, the opposite faces of the distender being parallel and at right angles to the cannula, said nozzle having an annular depression between the head and distender forming a space for the action of disturbed liquid, said liquid being adapted to be agitated by the walls of the groove and distender, and a corresponding annular depression in rear of the distender.

845,250. NUT-LOCK. EVALYN M. NEWMAN, Evanston, Ill., assignor to Helen Lee Ward, Oak Park, Ill. Filed Mar. 6, 1906. Serial No. 304,507.



Claim.—1. A rigid nut-lock provided with a threaded axial perforation and having biting retaining edges, both of such retaining edges being normally in the same plane at right angles to the axial center of the nut-lock on opposite sides of such axial center and having a recess therebetween.

2. A rigid nut-lock provided with a circular axial perforation having a spiral thread extending entirely around such perforation, and provided with a concave side face, and sharp retaining edges extending along opposite sides of such concave side face, both of such retaining edges being normally in the same plane at right angles to and on opposite sides of the axial center of the nut-lock.

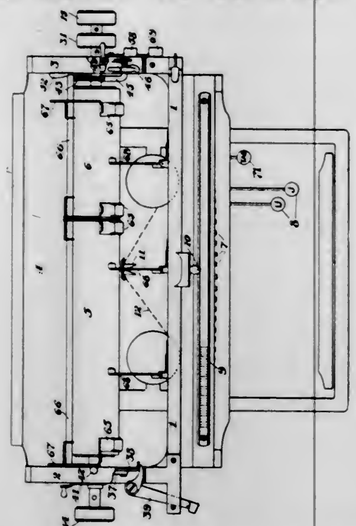
3. A nut-lock provided with an axial perforation having a spiral thread extending entirely around such perforation and adapted to entirely encircle a bolt, such nut-lock having opposite hollow side faces, and having sharp biting retaining edges extending along opposite sides of each of such hollow side faces, both of such retaining edges for each face being normally in the same plane at right angles to and on opposite sides of the axial center of the nut-lock.

4. The combination of a nut-lock provided with a circular axial perforation having one or more complete spiral threads, and having sharp retaining edges, such retaining edges being normally in the same plane at right angles to and on opposite sides of the axial center of the nut-lock and having a recess therebetween, a bolt upon which such nut-lock is mounted, and a primary nut mounted upon such bolt in engagement with the sharp retaining edges of such nut-lock.

5. The combination of a nut-lock provided with a threaded axial perforation and opposite concave faces, each face having sharp projecting retaining edges extending along opposite sides thereof normally on a plane at right angles to the axis of the nut-lock, a threaded bolt upon which such nut-lock is mounted, and a nut in engagement with the adjacent sharp retaining edges of the nut-lock.

6. The combination of a nut-lock provided with a spirally-threaded axial perforation and having sharp retaining edges on opposite sides of such axial perforation, and a recess between such edges, a threaded bolt upon which such nut-lock is mounted, and a primary nut mounted in threaded engagement with such bolt, and having convex chamfered portions extending into the recess between the retaining edges of such nut-lock and engaged by such retaining edges.

845,251. TYPE-WRITING MACHINE. GEORGE F. NEWMANN, Chicago, Ill., assignor to Underwood Typewriter Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 27, 1904. Serial No. 230,200.



Claim.—1. In a type-writing machine, the combination with a frame having ends, of two independently-revoluble abutting cylindrical platen-sections extending between said ends, a tube extending axially of said sections between said ends and affording a substantial support for the abutting ends of said sections, and the ends of said tube, together with the outer ends of said sections, being supported upon said frame.

2. In a type-writing machine, the combination with a frame having ends, of two independently-revoluble coaxial platens or sections placed end to end between said frame ends, an axle extending through said frame ends and said platens and connected to one of the latter, hand-wheels fixed upon the ends of said axle, and a hand-wheel connected to the other of said platens.

3. In a type-writing machine, the combination with a frame having ends, of long and short platens placed end to end between said frame ends, said platens being coaxial and of equal diameter and independently revoluble, an axle extending through said frame ends and said platens and connected to said long platen, hand-wheels fixed upon the ends of said axle, and a hand-wheel fixed to said short platen; all of said hand-wheels being outside of said frame.

4. In a type-writing machine, the combination with a frame, of an axle journaled therein and projecting at its ends therefrom and provided at its ends with hand-wheels, platens placed end to end and one thereof fixed to said axle, a sleeve or tube mounted loosely upon said axle and fixed to another of said platens, and a hand-wheel fixed to said sleeve or tube.

5. In a type-writing machine, the combination with a frame, of two platens placed end to end within said frame, a tubular shaft within said platens and extending for substantially the entire length thereof, an axle within said tubular shaft and projecting at its ends from said platen-frame, one of said platens being secured to said axle and the other to said tubular shaft, and the latter affording a substantial support for the adjoining ends of said platens, hand-wheels secured to the ends of said axle, and a hand-wheel secured to said tubular shaft.

6. In a type-writing machine, the combination with a frame, of two platens placed end to end within said frame, an axle extending through said platens and frame, hand-wheels secured upon the ends of said axle outside of said frame, means securing the outer end of one of said platens to said axle, a tubular shaft too large to fit said axle and extending through both said platens and at one end journaled loosely in said outer end, the adjoining ends of both of said platens fitting upon said tube, a sleeve forming a bush in said tubular shaft at the outer end of the other of said platens and fitting upon said axle, said bush being fixed to said tubular shaft and journaled in said platen-frame, and a hand-wheel secured upon said sleeve outside of said platen-frame.

7. In a type-writing machine, the combination with a frame, of two coaxial platens placed end to end within said frame and independently revoluble, an axle extending through said platens and fixed to one thereof, a tubular shaft inclosing said axle and fixed to the other of said platens, a line-space wheel fixed to said axle and provided with step-by-step rotating mechanism, and a line-space wheel fixed to said tubular shaft and provided with step-by-step rotating mechanism.

8. In a type-writing machine, the combination with a frame, of two coaxial platens placed end to end within said frame and independently revoluble, a hand-wheel connected to each platen, a line-space wheel connected to each platen, a spring-detent for each line-space wheel, and releasing means for each detent.

9. In a type-writing machine, the combination with a frame, of two coaxial platens of equal diameter placed end to end within said frame and independently revoluble, pressure-rolls for guiding the paper around said platens, and a single release-key for throwing off all of said pressure-rolls.

10. In a type-writing machine, the combination with a frame, of two coaxial platens of equal diameter placed end to end within said frame and independently revoluble, means for guiding the paper beneath said platens, and a pair of front paper-guiding fingers for each of said platens; each finger being independently adjustable along its platen.

11. In a type-writing machine, the combination with a frame, of two coaxial platens of equal diameter and unequal length placed end to end within said frame and independently revoluble, means for guiding the paper beneath said platens, a pair of front paper-guiding fingers for each of said platens, and a single rod upon which all of said fingers are mounted and along which they may be independently adjusted.

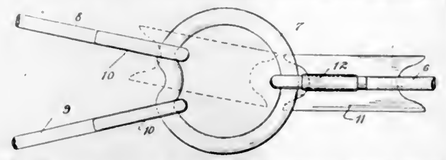
12. In a type-writing machine, the combination with a frame, of two coaxial platens placed end to end within said frame and independently revoluble, means for guiding the paper around each platen independently of the other, and a gage for each of said platens for determining the sidewise adjustment of the paper when inserting the same into the machine; each gage being adjustable along its platen independently of the other.

13. In a type-writing machine, the combination with a frame having ends, of two platens mounted end to end coaxially between said frame ends, said platens being independently revoluble, a line-spacing mechanism upon one end of said platen-frame for rotating one platen, and an independent line-spacing mechanism upon the other end of said platen-frame for rotating the other platen.

845,252. RING FOR CONNECTING WIRES. RALPH E. NOBLE, Chicago, Ill., assignor to Morgan-Gardner Electric Company, Chicago, Ill. Filed Sept. 1, 1906. Serial No. 332,887.

Claim.—1. The combination with the trolley-wires of an electric-railway system, of a ring at a branching-point in said wires, said ring being adapted to receive said wires and to permit a trolley-wheel to pass from one wire to another beneath the same.

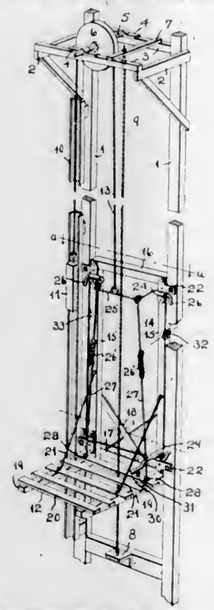
2. The combination with branching overhead trolley-wires formed with hooks in the ends thereof, of a ring to engage with said hooks to hold said wires and to permit the passage of a trolley-wheel from one wire to another.



3. The combination with overhead electric trolley-wires, of a ring connected with said wires at a branching-point, said ring being in a plane somewhat above said wires to permit an underrunning trolley-wheel to pass readily thereunder by engagement of its flanges therewith.

4. The combination with electric conductors having upturned portions at a branching-point thereof, of a ring connecting said upturned portions, and an upwardly-pressed grooved trolley-wheel adapted to engage said ring with its flanges while passing from one conductor to another.

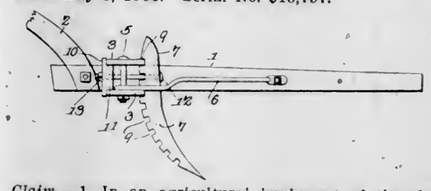
845,253. MAN-LIFT. OLE A. NUDSON, KENSETT, IOWA. Filed May 31, 1906. Serial No. 319,650.



Claim.—1. A man-lift or hand-elevator, comprising, in combination with guide-rails, a car operating between said guide-rails, said car having plates on opposite sides thereof, the outer ends of which are disposed on opposite sides of the guide-rails, certain of said plates having bearings, a brake-shaft journaled in said bearings, having a crank in its central portion and brake devices at its ends to bear against the guide-rails, springs to apply said brake devices, a pulley, a rope thereon having one end connected to said crank, and a weight attached to the upper end of said brake and serving to counterbalance the car and to normally keep the brake-shaft in disengaged position, substantially as described.

2. A man-lift or hand-elevator, comprising, in combination with guide-rails, a car operating between said guide-rails, said car having near its upper and lower ends guide-plates on opposite sides thereof, the outer ends of which are disposed on opposite sides of the guide-rails, certain of said plates having bearings, a brake-shaft journaled in the bearings of the upper guide-plates, having a crank in its central portion and brake devices at its ends to bear against the guide-rails, springs to apply said brake devices, a pulley, a rope thereon having one end connected to said crank, and a weight attached to the upper end of said brake and serving to counterbalance the car and to normally keep the brake-shaft in disengaged position, said car being further provided with a manually-operated brake-shaft journaled in the bearings of the lower guide-plates, having brake devices to engage the guide-rails and operating means, substantially as described.

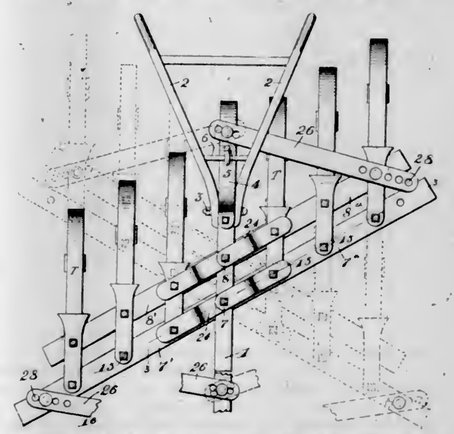
845,254. PLOW. BRUCE NUNNALLY, Jacksonville, Tex. Filed May 8, 1906. Serial No. 315,797.



Claim.—1. In an agricultural implement of the character described the combination with a beam; of parallel cross-strips secured to opposite faces thereof and each having a straight uninterrupted edge, an element having notches therein adapted to receive the straight edges of the cross-strips, a back plate slidably mounted on the opposite edges of said strips, and means connecting said plate and the notched element for clamping the plate and element upon opposite edges of the strips, said plate and element being slidable longitudinally of the strips.

2. In an agricultural implement of the character described the combination with a beam; of parallel cross-strips connected to opposite faces of the beam, each strip having a straight uninterrupted edge, an element having a curved face provided with notches adapted to receive the straight edges of the strips, a back plate slidably engaging the strips, and means connecting said plate and notched element for clamping them upon opposite edges of the strips, said plate and element being slidable longitudinally of the strips, and said element being adjustable longitudinally upon the strips.

845,255. CULTIVATOR. NILES E. OMBERG, Palestine, Tex. Filed Mar. 31, 1906. Serial No. 309,158.



Claim.—1. In an implement of the class described, a beam, pairs of parallel bars pivotally connected there-

with and extending in opposite directions therefrom, tooth-clamping members connected pivotally with the parallel bars and serving to keep them in parallel relation, and spring-teeth having shanks extended through the tool-clamping members and pivotally connected with the front parallel bars.

2. In a device of the class described, a beam, pairs of parallel bars connected pivotally with the beam said bars being provided with longitudinal slots, apertured reinforcing-plates covering the slots in said bars, tooth-clamping members bearing against the plates, fastening devices seated in said slots and engaging the clamping members, and spring-teeth supported in parallel relation by said clamping members.

3. In a device of the class described, a beam, pairs of pivoted parallel bars having longitudinal slots, apertured reinforcing-plates covering the slots in said bars, tooth-holding clamps connected pivotally with the parallel bars and plates and having downturned slotted flanges at their rear ends, and spring-teeth having shanks engaging the slotted flanges of the tooth-holding clamps and connected pivotally with the front parallel bars.

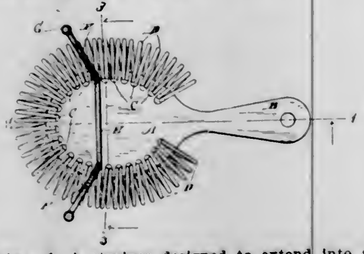
4. In a device of the class described, a beam, pairs of parallel bars pivotally connected therewith and having longitudinal slots, apertured reinforcing-plates upon said bars, tooth-holding clamps pivotally connected with the pairs of parallel bars and reinforcing-plates and provided with depending perforated flanges, spring-teeth passing through the perforations in the flanges and connected pivotally with the front parallel bars, brackets connecting the bars with the beam, and adjusting-straps connecting the beam with the parallel bars and serving to secure the latter in adjusted position.

5. A beam, pairs of parallel bars pivotally connected with said beam, tooth-clamps carried by the bars and provided with depending perforated flanges, spring-teeth passing through the perforations in the flanges, and adjusting-straps connecting the bars with the beam.

845,256. PROCESS FOR UTILIZING WASTE ENDS OF CARBONS FOR ARC-LAMPS. RUDOLF PETERS, Heidelberg, Germany. Filed Jan. 16, 1905. Serial No. 241,392.

Claim.—The herein-described process for utilizing the waste ends of carbons from arc-lamps by producing therefrom a product which is adapted for use in the manufacture of colors, putties, &c., which consists in heating the waste ends in suitable ovens up to a temperature not exceeding 1,400° centigrade, then softening said ends by very slow cooling without immersing in linseed-oil, then grinding said ends, passing the ground material through very fine sieves and then mixing linseed-oil with the screened material.

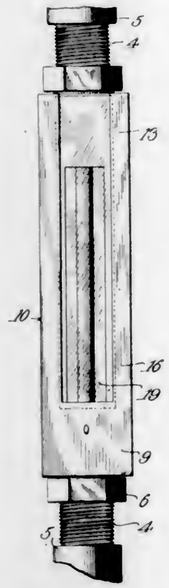
845,257. STRAINER. THOMAS P. PICK, Chicago, Ill. Filed Apr. 2, 1906. Serial No. 309,504.



Claim.—1. A strainer designed to extend into a glass or other vessel and engage the inner surface thereof and provided with stationary arms having substantially horizontal end portions designed to engage the edges of vessels of various sizes, said end portions terminating above the upper edge of said strainer, substantially as described.

2. A strainer comprising a plate having a yielding coil secured around its edge, designed to be expanded and contracted to enable it to engage the inner surface of vessels of various sizes, and arms having substantially horizontal end portions designed to engage the edges of vessels of various sizes, substantially as described.

845,258. GAGE. ANDERSON B. PRICE, Vicar Switch, Va. Filed Sept. 11, 1906. Serial No. 334,157.



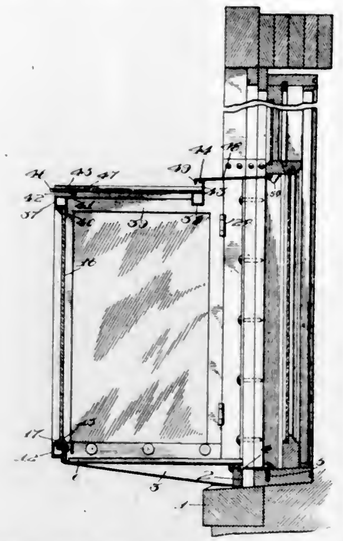
Claim.—1. A device of the character described comprising upper and lower pipe-sections each having a longitudinal bore, a collar and a smooth upper end, a shield comprising upper and lower members each having a bore and a packing-chamber adapted to receive the smooth upper end of one of said pipe-sections, said upper member having undercut grooves, rods connecting said upper and lower members and having grooves therein forming guideways, transparent plates extending down through the undercut grooves of the upper member and through the guideways of said rods, a gage-tube extending through said upper and lower members and projecting loosely at its upper and lower ends into the bores of said upper and lower pipe-sections, and packing-rings surrounding said gage-tube and disposed in said packing-chamber, said gage-tube being in contact with the inner ends of said rods.

2. A guard for water-gages said guard having longitudinally-disposed openings therein gradually diminishing in width toward their inner ends, said inner ends being adapted to be closed by a gage-tube, and a transparent plate closing the outer end of each opening.

3. A device of the character described comprising tubular gage-tube-receiving devices, connections between said devices adapted to contact throughout their lengths with and to reinforce a gage-tube, and transparent plates secured to and closing the spaces between, the connections to completely inclose the tube.

4. A device of the character described comprising tubular gage-tube-receiving devices, connections between said devices adapted to contact throughout their lengths with and to reinforce a gage-tube, and transparent plates secured to and closing the spaces between, the connections to completely inclose the tube, one of the gage-tube-receiving devices having a drain therein.

845,259. BAY-WINDOW. LEONARD G. QUACKENBOSS, Chicago, Ill. Filed Dec. 22, 1904. Serial No. 238,031.



Claim.—1. In a bay, a frame formed of sections arranged to form a close casing, each section having suitable panels supported thereon and forming a rigid structure having a side and front portion, said side portion being hingedly secured to the building.

2. In a bay, in combination, a frame formed of sections, each section forming a rigid structure having a side and front portion, the side portions being hingedly secured to the building, suitable panels supported within said frame, and means for interlocking the sections at their juncture to form a weatherproof joint.

3. In a bay, in combination, a frame formed of sections, each section forming a rigid structure having a side and front portion, said side portion being hingedly secured to the building, suitable panels supported within said frame, and a bottom portion having outwardly-extending flanges from the sides thereof, for said sections.

4. In a bay, in combination, a platform having outwardly-extending flanges from the sides thereof, a frame formed of sections, each section forming a rigid structure having a side and front portion, said side portions being hingedly secured to the building, and panels supported within said frame.

5. In a bay, in combination, a frame formed of sections, each section forming a rigid structure, having a side and front portion, and being adapted to interlock each other at their juncture, said side portions being hingedly secured to the building.

6. In a bay, in combination, a platform, a frame formed of sections, each section forming a rigid structure having a side and front portion, said side portions being hingedly secured to the building, panels supported within said frame, and means for interlocking said frame with said platform.

7. In a bay, the combination with a platform, of a frame formed of sections, at least two of said sections being pivotally mounted in an opening above said platform, said sections being adapted to interlock at their juncture, whereby a weatherproof joint is made, and means for interlocking said frame with said platform.

8. In a bay, the combination with a platform, of a frame made in sections, at least two of said sections being pivotally mounted in front of an opening above said platform, and a vertically-movable weather-strip for closing the joint between said sections and said platform when said sections are in the closed position.

9. In a bay, in combination, a frame formed of sections, each section forming a rigid structure having a side and front portion, suitable panels supported within said frame, and a flashing-strip adapted to be secured between the meeting-rail of the window-sash and the inner portion of said frame.

10. In a bay, the combination with fastening-strips secured to the vertical sides of the opening into a building, of a frame formed of sections, each section forming a rigid structure having a side and front portion, said side portions being hingedly secured to said fastening-strips.

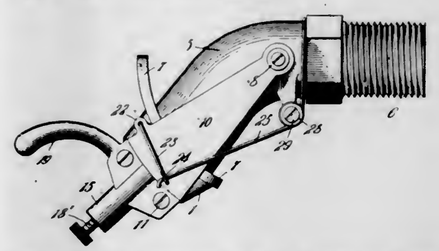
11. In a bay, in combination, a skeleton frame formed of sections, each section forming a rigid structure having a side and front portion consisting of hollow, metallic top and bottom rails joined to hollow metallic posts, the posts at the juncture of the sections having grooved flanges adapted to receive the outer wall of the grooved flange of the adjoining section, said rails and posts being provided with flanges to which panels may be secured.

12. In a bay, in combination, a platform, a frame formed of sections, at least two of said sections being pivotally mounted in an opening above said platform, said sections being adapted to interlock at their juncture, means for interlocking said frame with said platform, and for closing the joint between said sections and said platform when said sections are in the closed position.

13. In a bay, in combination, a frame formed of sections, each sections forming a rigid structure having a side and front portion, said side portions being hingedly secured to the building, means for interlocking the sections at their juncture, flanges on said frame, suitable panels supported on said frame and fastened to the flanges by suitable means, means for locking the sections in a closed position, and a flashing-strip secured between the inner portion of the frame and the window-sash.

14. In a bay, the combination with fastening-strips secured to the vertical walls of an opening into a building, of a frame formed of sections, each section forming a rigid structure having a side and a front portion, the side portions being hinged to said fastening-strips, means for interlocking the sections at their juncture, flanges on said frame, suitable panels supported on said frame and fastened to the flanges by suitable means, means for locking the sections in a closed position, a flashing-strip secured between the inner portion of the frame and the window-sash, and a bottom having flanges extending outwardly from the sides thereof.

845,260. FAUCET. ISADORE RAPHIEL, Campti, La. Filed July 7, 1906. Serial No. 325,133.



Claim.—1. The combination with a discharge-nozzle having a convex face and provided with lateral extensions forming a continuation of said face, a carrier pivotally mounted for swinging movement and having a gate associated therewith, means for yieldably supporting the gate in engagement with the convex face of the discharge-nozzle, means for limiting the opening movement of the gate, hangers pivotally mounted on the carrier, and a spring embracing the nozzle and engaging the free ends of the hangers for automatically closing the gate.

2. The combination with a discharge-nozzle, of a carrier mounted for swinging movement thereon, a gate associated with the carrier, hangers pivotally mounted on the carrier,

and a spring engaging the hangers for automatically closing the gate.

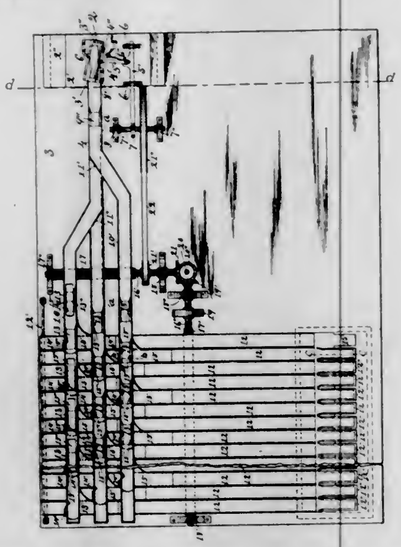
3. The combination with a discharge-nozzle, of a carrier pivotally mounted for swinging movement thereon, a gate associated with the carrier, hangers pivotally mounted on the carrier and provided with terminal hooks, and a spring engaging the hooks for automatically closing the gate.

4. The combination with a discharge-nozzle, of a carrier pivotally mounted for swinging movement thereon, a gate supported by the carrier, hangers depending from the carrier, and a spring encircling the nozzle and having its terminals seated in the hangers.

5. The combination with a discharge-nozzle provided with laterally-extending lugs, of a carrier pivotally mounted for swinging movement on the nozzle, a gate supported by the carrier, hangers pivotally mounted on the carrier and provided with terminal hooks, and a spring embracing the nozzle and having its intermediate portion coiled around the lugs and its terminals engaging the hangers.

6. The combination with a discharge-nozzle, of a carrier pivotally mounted for swinging movement thereon and provided with a recess, a gate seated in the recess and provided with laterally-extending arms engaging the carrier, a follower, a spring interposed between the follower and the gate, and a screw for adjusting the tension of the spring.

845,261. TYPE-DISTRIBUTING MACHINE. DAVID B. RAY, New York, N. Y. Filed Feb. 19, 1901. Serial No. 47,932.



Claim.—1. In a type-distributing machine, a main type-channel, subordinate, classifying type-channels leading from the main channel, and means for directing type into the subordinate channels according to their thickness, the said subordinate channels having openings in the bottoms thereof, each of said openings being so shaped so as to allow a type correspondingly shaped to drop through the same and to prevent the dropping through of type not correspondingly shaped, substantially as described.

2. In a type-distributing machine, a main type-channel, subordinate, classifying type-channels leading therefrom, a diverter placed across the entrance to the subordinate channels and raised at different relative distances above the bottom thereof whereby the type may be divided into classes, and distributing-openings in the bottom of the subordinate channels, each of said openings being so shaped as to allow a type correspondingly shaped to drop through the same and to prevent the dropping of type not so correspondingly shaped, substantially as described.

3. In a type-distributing machine, a main type-channel adapted to carry type lengthwise therealong, a quadrat-opening in said channel of a less length than any type, subordinate type-classifying channels leading from the main channel beyond said quadrat-opening, means for directing the type into one or the other of said subordinate channels according to thickness, and distributing-openings in the bottom of said subordinate channels, the same being so shaped as to allow a type correspondingly shaped to drop through the same, and to prevent the dropping of type not so correspondingly shaped, substantially as described.

4. In a type-distributing machine, a main type-channel adapted to carry type lengthwise therealong, a quadrat-opening in said channel of a less length than any type, subordinate type-classifying channels leading from the main channel beyond said quadrat-opening, means for directing the type into one or the other of said subordinate channels according to thickness, and distributing-openings in the bottom thereof, said openings being oblong and arranged lengthwise of the channel, each of said openings being shorter than a type, and each provided with a spur projecting from its side, the spur in each opening being located differently with respect to the spurs in all other openings, substantially as described.

5. A type-distributing machine having an inclined type-distributing channel, having a floor and side walls, said channel being approximately the width of the type adapted to be conveyed thereby, and distributing-openings in the floor of the channel, substantially as described.

6. A distributing-channel for type-distributing machines, the same being inclined and of a width less than the length of a type, and openings in the bottom of the channel whose greatest length is parallel with the channel, said openings being adapted to allow certain type to pass therethrough and prevent certain other type from so passing, substantially as described.

7. A distributing-channel for type-distributing machines of a width narrower than the length of a type, a distributing-opening in the bottom thereof whose greatest length is parallel with the channel, the said opening being shorter than a type, and a spur inwardly projecting from the side of said opening, substantially as described.

8. In a type-distributing machine, the combination with a number of main channels and a plurality of subordinate classifying-channels leading from the main channels having distributing-openings therein, of delivery-channels to a plurality of the corresponding distributing-openings adapted to receive type from a plurality of corresponding distributing-openings in said subordinate channels.

9. A type-distributing machine comprising a series of classifying-channels adapted each to be traversed by type and to deliver the same therefrom at various points thereabout; a series of delivery-channels; and a series of intermediate channels, the latter establishing communication between said classifying and said delivery channels.

10. A type-distributing machine comprising a series of classifying type-channels; a series of delivery type-channels and a series of intermediate type-channels, the latter establishing communication between said classifying-channels and said delivery-channels, and each provided with means for causing each type as the same moves thereabout to undergo an end-for-end reversing movement for delivery into its coöperating delivery-channel.

11. A type-distributing machine comprising a classifying type-channel; means for feeding type into said channel; a delivery type-channel; an intermediate type-channel establishing communication between said classifying-channel and said delivery-channel; and means whereby each type shall be caused to undergo an end-for-end reversing movement at a suitable point between the intake-point of said classifying-channel and the delivery end of said delivery-channel.

12. A type-distributing machine comprising a delivery type-channel; a tank at the discharge end of said channel; a buoyant type-magazine in said tank and capable of receiving and storing type one by one from said delivery-channel; and a displaceable element in said tank, the said element permitting said magazine to be adjusted through the reception of one type for the reception of the next following type.

13. A type-distributing machine comprising a main classifying-channel having an elongated quadrat-opening near its receiving end of less length than the quadrats to be distributed, and means for feeding type and quadrats into said channel at its receiving end.

14. A type-distributing machine comprising a type-channel adapted to be traversed by type, and having an elongated opening by way of which certain of the type fed into said channel may escape therefrom by gravity, said opening being of less length than any of the type fed into the channel; and means at said opening for selecting from the type fed into said channel such as are to escape by way of the opening aforenamed.

15. A type-distributing machine comprising a series of classifying type-channels constructed so as to insure endwise movement of type thereabout and each having an elongated opening by way of which certain of the type fed into said channel may escape therefrom by gravity, said opening being of less length than any of the type fed into the channel; means for directing type into said respective channels according to thickness; and means at the channel-openings aforenamed for selecting from the type fed into any of said channels those that are to escape by way of the opening in such channel.

16. A machine for distributing differentially-notched type comprising an inclined channel adapted to be traversed by such type; means for feeding type into said channel; means for causing such type to move, each by its own gravity, downwardly along said channel, the latter having an elongated opening by way of which certain of the type fed into the channel may escape therefrom by gravity, and being provided with a spur or projection at said opening for selecting from the type fed into said channel those that are to escape by way of the opening aforenamed, said spur or projection being accordingly situated so as to coöperate with the notches of certain of said type.

17. A machine for distributing differentially-notched type, comprising an inclined type-channel; means for causing type to move, each by its own gravity, downwardly along said channel, the same being provided with a series of discharge-openings; and a series of spurs or projections, the latter being situated, one or more at each of said openings and so as to coöperate with type correspondingly notched, to insure the passage of such correspondingly-notched type through said opening.

18. A machine for distributing notched or recessed type comprising a series of classifying type-channels; means for causing type to enter said channels according to thickness and move therealong, the said channels being each provided with a series of discharge-openings; and a series of spurs or projections, one or more at each of said openings, and situated so that each will coöperate with the moving type therein correspondingly notched, for the passage of the type accordingly through said openings.

19. A type-distributing machine comprising an inclined type-channel of a width narrower than the length of a type and adapted to thereby convey type lengthwise and having a series of discharge-openings therein of different shapes to each other; means for causing type to move, each by its own gravity downwardly along said channel; and means whereby only specifically-shaped type will pass through the like-shaped openings of said channel.

20. A type-distributing machine comprising an inclined channel of a width narrower than the length of the type to be distributed and having a plurality of openings for the escape of the type therefrom, each by its own gravity; means for delivering said type to the channel end first and means for jarring said channel to cause the type therein to move, each by its own gravity, downwardly therealong, each of said openings being of suitable dimensions to insure the supporting, momentarily, of one end portion of each type while the same is passing downwardly through its proper channel-opening.

21. A type-distributing machine comprising a type-channel; a rotatable part for jarring said channel; and means for imparting motion to said part, the latter also serving to support said channel.

22. A type-distributing machine comprising a series of type-channels; a rotatable part for jarring said channels; and means for imparting motion to said part, the latter also serving to support said channels collectively.

23. A type-distributing machine comprising a series of inclined type-channels; a series of inclined delivery-channels communicating with the first-named series of channels; a plurality of movable parts, one of each series of channels aforenamed, said parts supporting each its coöperating series of channels, and being adapted, when duly moved, to jar or vibrate the same; and means for imparting motion to said parts, respectively.

24. A type-distributing machine comprising a series of inclined type-channels; a series of inclined delivery-channels communicating with the first-named series of channels; a plurality of movable parts, one for each series of channels aforenamed, said parts supporting each its coöperating series of channels, and being adapted, when duly moved, to jar or vibrate the same; intermediate elements connecting said parts, and whereby power and motion applied to one of them will be transmitted to the other; and means for applying power and motion to one of said parts.

25. A type-distributing machine comprising a classifying-channel, a delivery-channel, and an intermediate channel whereby communication is established between said classifying-channel and said delivery-channel.

26. A type-distributing machine comprising a classifying-channel, a delivery-channel, and an intermediate channel by means of which type may pass from the classifying to the delivery channel, said intermediate channel being so shaped as to change the course or direction of the type while passing from the classifying-channel to the delivery-channel.

27. A machine for distributing differentially-notched type comprising an inclined distributing type-channel of a width approximately that of the type, and adapted to be traversed by such type; means for causing the type to move endwise along said channel, each by its own gravity, said channel having a series of discharge-openings in the path of movement of said type; and projections on the side of said openings for coöperating with the notches of the type, said projections being so situated as to prevent said type from passing through said openings save when each type reaches the opening through which it is designed to pass.

28. A machine for distributing differentially-notched type comprising a distributing type-channel having side walls and being of a width approximately the width of a type; means for causing such type to move endwise along said channel, a series of longitudinal discharge-openings in the path of movement of the type; and means at said openings for coöperating with the notches of said type in a manner to insure the escape thereof, from said channel, each only by way of the opening designed for it.

29. For use in a type-distributing machine, a type-holder adapted to contain a line of type, and provided with a fulcrum-point on which the contained type may be caused to bear and move.

30. In a type-distributing machine, a type-holder adapted to contain a line of type and provided with a fulcrum-point, and means for causing the contained type to successively bear and move on said fulcrum.

31. In a type-distributing machine, a type-holder adapted to contain a line of type, and provided with a fulcrum-point, and an ejector for causing the contained type to successively bear and move on said fulcrum-point.

32. In a type-distributing machine, a type-channel; a platform above and having an elongated opening coinciding with, said channel; a type-holder on said platform at said opening and adapted to hold a line of type diagonally across said opening; and means for moving, in a horizontal plane, the contained type successively into alinement with said opening.

33. In a type-distributing machine, a type-channel; a type-holder situated above said channel and adapted to hold a line of type diagonally with respect to said channel; and means for moving, in a horizontal plane, the

contained type successively into alinement with said channel.

34. In a type-distributing machine, a type-holder adapted to contain a line of type and provided with a fulcrum-point for the type to successively bear and move on; a pivotally-arranged ejector for causing the type to thus bear and move on said fulcrum-point; and a pivotally-arranged spring-controlled device for holding back or preventing more than one type at a time from being thus moved.

35. A type-holder for use in a type-distributing machine, the same being adapted to hold a line of type and being constructed so as to hold the type diagonally out of position for delivery therefrom.

36. A type-distributing machine comprising a type-channel and an upright type-holder, the latter positioned diagonally with respect to said channel and adapted to contain a line of type; means for moving, in a horizontal plane, the successive lowermost type in said holder into alinement with said channel, for delivery therein; and means for holding the type thus undergoing delivery against rotative movement on its longitudinal axis, while being thus delivered.

37. A type-holder for use in a type-distributing machine, the same comprising a fulcrum-point on which the type are successively moved in a horizontal plane, and being so constructed that the type when thus moved will be held against rotation on its longitudinal axis.

38. In a type-distributing machine, a type-channel; a type-holder situated above said channel and adapted to hold a line of type diagonally across said channel; means for moving, in a horizontal plane, the contained type successively into alinement with said channel, and means for preventing more than one of said type at a time from being moved into alinement with said channel.

39. In a type-distributing machine, a platform having an elongated opening; a type-holder on said platform at said opening and adapted to hold a line of type diagonally across said opening for movement successively in a horizontal plane into alinement with such opening; and means for preventing more than one type at a time from being thus moved.

40. In a type-distributing machine, a type-channel; a type-holder for holding a line of type diagonally across said channel; means for moving, in a horizontal plane, the contained type successively to a position from which each type thus moved may fall into said channel, and means for supporting one end of each type while thus falling.

41. In a type-distributing machine, a channel for the conveyance of type having a pocket adapted to engage one end of a type, and to leave the other end of the type free to continue its movement, whereby the type will be reversed and for end, substantially as described.

42. In a type-distributing machine, a channel for the conveyance of type, a channel leading from said first-named channel, and a pocket at the outside intersection of the two channels, said pocket projecting into the line of movement of the type, and being adapted to engage one end of a type and leave the other end thereof free to continue its movement whereby the type will be reversed end for end, substantially as described.

43. A machine for distributing differentially-notched type comprising an inclined type-channel of a width approximately that of a type to be distributed and having elongated openings, said openings whose longer axis is parallel to the axis of the channel having spurs or projections, (one or more for each opening,) projecting inwardly from the sides of said opening toward the center of the channel and said channel being so narrow that the side or sides thereof will cause the type to pass over the spurs, all to the end, that as the special notches on the type come directly over the opening having corresponding projections, the type will fall through the opening for which it is designed therefor.

44. A type-distributing machine comprising a type-holder so positioned that the type contained therein will feed downward by gravity; an inclined type-channel so positioned as to receive type from said holder, said holder being placed above said channel and out of alinement with the same; and means for turning type successively around a fulcrum-point connected with said holder, so as to bring them into alinement with said holder.

45. A machine for distributing differentially-notched type uniform in length, comprising a type-channel having elongated discharge-openings of less length than the type; and means for causing the type to move along said channel, said openings being of suitable form to insure the supporting, momentarily, of one end portion of each type while the other end is falling through said opening.

46. A type-channel for type-distributing machines, said channel having sorting-openings in the bottom thereof, and being approximately the width of a type at such openings, each of said openings having a type-support between its ends, the distance between the said support and the end of the opening being less than one-half the length of a type, substantially as described.

47. In a type-distributing machine the combination with a number of main channels and a plurality of subordinate channels having openings therein, substantially as described, of delivery-channels so positioned under said openings as to receive type passing through the same.

48. In a type-distributing machine the combination with a main channel and a number of minor channels having distributing-openings, substantially as described, of an intermediate channel, whereby type passing through said openings will be conveyed through these intermediate channels to a delivery-channel.

49. A type-distributing machine having an inclined type-distributing channel provided with distributing-openings in the bottom thereof, said openings being arranged lengthwise of the channel, each of said openings being shorter than the type distributed, but longer than one-half the length of the type whereby the type will swing down at one end through said openings, a selective and supporting spur projecting inward from one side of each of said openings, the spur in each opening being differently located with respect to the spurs in all of the other openings in the channel, said spurs corresponding in shape to the notches in the edges of the type to be distributed, whereby the type will swing down through the openings when the notches therein register with the properly-placed spurs.

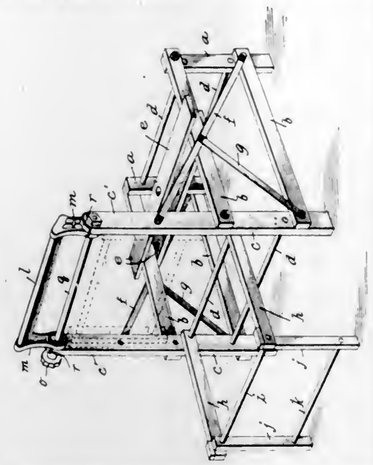
50. A type-distributing machine comprising a main type-channel, classifying type-channels leading from the main channel, means for directing type into the subordinate classifying type-channels according to the thickness of the type, openings of irregular shape being formed in the classifying-channels for distributing the type from said channels according to the shape of the type in side elevation.

845,262. WASHING-MACHINE BENCH. HERMAN S. REAMS, Richmond, Va., assignor to Richmond Cedar Works, Richmond, Va., a Corporation of Virginia. Filed Oct. 5, 1906. Serial No. 337,578.

Claim.—1. In a washing-machine bench, a supporting-frame having front and rear legs, said front legs being extended upward approximately to the height of a tub and having their upper extremities rounded, a long bolt connecting the upper rounded extremities of the extensions and provided with a tightening-nut, a spacing-sleeve surrounding said bolt, a wringer-board and supporting-arms therefor, said arms lying respectively between the ends of said spacing-sleeve and the inner side of the leg extensions and each of said arms being provided with an outward-extending curved stop-flange, for the purpose herein set forth.

2. In combination with a wash-bench, a pair of vertical standards or supports rising from the bench approximately to the height of the tub, a horizontal pivot connecting and mounted in the upper etremities of these standards, a wringer-board provided with a pair of arms, these arms being pivotally supported on said pivot between the standards whereby the wringer-board may be swung in a vertical plane to and from the tub, and means for clamping the arms of the wringer-board in their adjusted position, for the purpose set forth.

3. A wash-bench provided with a pair of upstanding elastic supports, means for drawing the upper extremities of these supports toward each other, said means embodying a long horizontal pivot-bolt, means for limiting the movement of these supports toward each other, and a wringer-board whose supporting-arms are mounted pivotally on said pivot-bolt and are adapted to be clamped in their adjusted position.



4. In combination, a bench having a pair of upward-extending elastic supports, means for clamping the wringer-board supports between the upper ends thereof, and a folding clothes-basket support consisting of side supporting-bars and a pair of legs adapted to fold together and up between the said upward-extending elastic supports, said side supporting-bars when folded up lying closely to the inner faces of the supports, for the purpose set forth.

5. In a washing-machine bench, a supporting-frame having a pair of supports extending upwardly approximately to the height of the tub, a long bolt connecting the upper extremities of said supports and provided with a tightening-nut, a spacing-sleeve surrounding said bolt between said supports, a wringer-board whose supporting-arms are pivoted on said bolt and lie respectively between the ends of the spacing-sleeve and the inner sides of the supports, substantially as set forth.

845,263. MEAT-CLAMP FOR BUTCHERS' BLOCKS. JOSEPH E. RELLER, Indianapolis, Ind. Filed Oct. 30, 1905. Serial No. 285,063.



Claim.—1. A meat-clamp including a base, a clamping-head having a stem attachable to the base and provided with locking devices, a holder having locking devices corresponding to the locking devices of the clamping-head, means for binding the locking devices of the holder in engagement with the locking devices of the clamping-head, and an arm mounted in the holder and provided with a sharp-pointed finger.

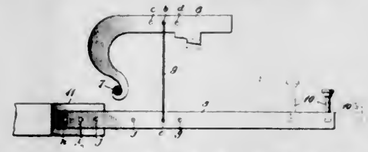
2. A meat-clamp including a clamping-head having a supporting-stem and provided on opposite sides thereof with locking devices, a pair of holders having locking devices corresponding to the locking devices of the clamping-head and independently attachable adjustably thereto, means for binding the locking devices of the holders in engagement with the locking devices of the clamping-head, and arms mounted in the holders and provided with sharp-pointed fingers.

3. A meat-clamp including a base, a clamping-head having a stem attachable to the base, the head having locking devices on the sides thereof and provided with a binding-bolt and nut, a pair of holders having locking devices corresponding to the locking devices of the clamping-head and secured to the head by the binding-bolt and nut, and arms mounted adjustably in the holders and provided with sharp-pointed fingers.

4. A meat-clamp including a clamping-head having a supporting-stem, a hollow clamp-arm holder mounted adjustably on the clamping-head and provided with a latching device, and a clamp-arm provided with a sharp-pointed finger and adjustable longitudinally in the holder to be held by the latching device thereof.

5. The combination with a butcher's block of a base attached thereto and having a hexagonal opening, a clamping-head having a pointed finger or fingers overhanging the block and a notched hexagonal stem axially adjustable in the base, and a spring-latch engaging the notches of the clamping-head stem and resisting its withdrawal from the base.

845,264. TYPE-WRITER. WILLIE E. RISINGER, Rochelle, Ill., assignor of one-half to E. H. McKenzie, Minneapolis, Minn. Filed Mar. 1, 1906. Serial No. 303,613.



Claim.—1. In a type-writing machine of the class stated, the combination with the type-wheel-operating levers, of banks of separate key-levers connected thereto, the connections being various, to equalize the stroke of the respective banks.

2. In a type-writer of the key-wheels kind, the combination with type-wheel-operating levers fulcrumed on the sector-shaft, of key-levers fulcrumed independent thereof, and connections between said levers adjustable to vary the leverage.

3. In a type-writer of the key-wheels kind, the combination with type-wheel-operating levers fulcrumed on the sector-shaft, of levers located thereunder and fulcrumed at their rear ends and having keys arranged in several banks at their front ends, and connecting pull-rods between the said levers.

845,265. AUTOMATIC AIR-BRAKE COUPLING FOR RAILWAY-CARS. FRANK H. RUTHERFORD, Chicago, Ill. Filed Apr. 14, 1906. Serial No. 311,709.

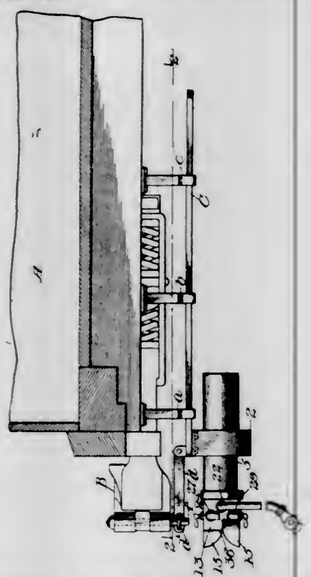
Claim.—1. An automatic air-brake coupler for cars comprising a yielding integral body swiveled at a fixed point relative to the car-body and means for automatically maintaining said coupler normally at the limit of its forward movement.

2. An automatic train-pipe coupler for cars comprising a body having a plurality of independent continuous passages therethrough, and valves located within said body for controlling the closure of said passages and movable to a position at an angle to the line of draft of the car.

3. An automatic train-pipe coupler for cars comprising a body having a plurality of independent continuous passages therein and emergency-passages leading therefrom,

and suitable valves at the juncture of said continuous and emergency passages.

4. An automatic train-pipe coupler for cars comprising a body movable to a position at an angle to the line of draft of the car and having a plurality of independent continuous passages therein and valve-controlled connections in said body for uniting the same with the train-pipe systems of the car.



5. An automatic train-pipe coupler for cars comprising a body movable to a position at an angle to the line of draft of the car which is supported independently of the car-coupler of the car and has a plurality of independent continuous passages therein, and has valve-controlled connections in said body for uniting the same with the train-pipe systems of said car.

6. An automatic train-pipe coupler for cars comprising a longitudinally-yielding body movable to a position at an angle to the line of draft of the car, which is supported independently of the car-coupler of the car and has a plurality of independent continuous passages therein, and has valve-controlled connections for uniting the same with the train-pipe systems of said car.

7. The combination with a car, and train-pipe system secured thereto, of a coupler consisting of an integral body having a longitudinal passage therein, and movable as a whole to a position at an angle to the line of draft, a flexible pipe connecting said coupler and train-pipe system, and a valve connection within said coupler for controlling the closure of said passage.

8. An automatic train-pipe coupler comprising a swiveled, longitudinally-movable, and automatically-returnable body, having a plurality of independent continuous passages therein, and valve-controlled connections in said body for uniting the same with the train-pipe systems of the car.

9. An automatic train-pipe coupler comprising a swiveled, longitudinally-movable and automatically-returnable body, having a flat engaging face, and a plurality of independent continuous passages therein, and valve-controlled connections in said body for uniting the same with the train-pipe systems of the car.

10. An automatic train-pipe coupler comprising a swiveled, longitudinally-movable, automatically-returnable body, having a flat engaging face in a plane at right angles to its length, and having a plurality of independent continuous passages therein the mouths of which in said face are elongated transversely, and valve-controlled connections for uniting said passages with the train-pipe systems of the car.

11. An automatic train-pipe coupler comprising a swiveled, longitudinally-movable, automatically-returnable body, having a flat engaging face in a plane at right angles to its length, and having a plurality of independent continuous passages therein, the mouths of which in said face are elongated transversely, and countersunk correspondingly-shaped gaskets seated therein the edges of which project beyond the plane of said face, and valve-controlled connections for uniting said passages with the train-pipe systems of the car.

12. An automatic train-pipe coupler for cars, consisting of an integral body having a longitudinally-disposed passage extending back from the engaging face thereof, and having a laterally-disposed passage communicating with said first-mentioned passage, an emergency-coupling operatively connected to said lateral passage, a flexible pipe for connecting the rear end of said first-mentioned passage to the pipe system of the car, and a valve at the juncture of said passages for alternately opening and closing the same.

13. An automatic train-pipe coupler for cars, comprising a body movable to a position at an angle to the line of draft of the car, and having a longitudinally-disposed passage therein, an emergency-passage, open when said longitudinal passage is closed and closed when the longitudinal passage is open, and valve connections within said body for controlling said passages.

14. An automatic train-pipe coupler for cars, comprising a longitudinally-yielding body, movable to a position at an angle to the line of draft of the car and having a longitudinally-disposed passage therein, an emergency-passage open when said longitudinal passage is closed, and closed when the longitudinal passage is open, and valve connection within said body for controlling said passages.

15. An automatic train-pipe coupler for cars, comprising a body movable to a position at an angle to the line of draft of the car, and supported independently of the car-coupler of the car, and having a longitudinally-disposed passage therein, an emergency-passage open when said longitudinal passage is closed, and closed when the longitudinal passage is open, and valve connections within said body for controlling said passages.

16. An automatic train-pipe coupler for cars, comprising a longitudinally-yielding body movable to a position at an angle to the line of draft of the car, and supported independently of the car-coupler of the car and having a longitudinally-disposed passage therein, an emergency-passage open when said longitudinal pasage is closed, and closed when the longitudinal passage is open, and valve connections within said body for controlling said passages.

17. An automatic train-pipe coupler comprising a swiveled, longitudinally-movable, automatically-returnable body, having a longitudinally-disposed passage therein, and an emergency-passage open when said longitudinal passage is closed and closed when said longitudinal passage is open.

18. An automatic train-pipe coupler comprising a longitudinally-yielding body, having a flat engaging face in a plane substantially at right angles to its length, and having a longitudinally-disposed passage therein, an emergency-passage open when said longitudinal passage is closed, and closed when the longitudinal passage is open, and valve connections within said body for controlling said passages.

19. An automatic train-pipe coupler comprising a swiveled, longitudinally-movable, automatically-returnable body having a flat engaging face, having a longitudinally-disposed passage therein, and an emergency-passage open when said longitudinal passage is closed and closed when said longitudinal passage is open.

20. An automatic train-pipe coupler, comprising a longitudinally-yielding body having a flat engaging face in a plane substantially at right angles to its length, having a longitudinal passage, and an emergency-passage intersecting the same, which is open when said longitudinal passage is closed and closed when the longitudinal passage is open, and provided with a horn projecting forward from one side thereof above its center of height, a corresponding horn projecting from the opposite side thereof below its center of height, and valve connections within said body for controlling said passages.

21. An automatic train-pipe coupler comprising a longitudinally-yielding body, having a longitudinal passage and an emergency-passage connecting the same which is open when said longitudinal passage is closed and closed when said longitudinal passage is open, which coupler is engaged endwise, and is provided with a horn projecting forward from one side thereof above its center of height having its under surface curved upward and side nearest said engaged end curved outward, and a corresponding horn projecting from the opposite side thereof below the center of height with its upper side curved downward and side facing said end curved outward.

22. In a car the combination with the car-body, and the car-coupler yieldingly connected thereto, of a normally stationary longitudinally-movable frame supported by said car-body independently of the car-coupler, and an automatic train-pipe coupler supported by said frame.

23. In a car the combination with the car-body, and the car-coupler yieldingly connected thereto, of a longitudinally-movable normally stationary frame supported by said car-body independently of the car-coupler, and an automatic train-pipe coupler supported by said frame but capable of movement independent of the same.

24. In a car the combination with the car-body, and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of the car-coupler, and an automatic train-pipe coupler supported by said frame but capable of movement to a position at an angle to the line of draft of the car independently of the same.

25. In a car the combination with the car-body, and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of the car-coupler, and an automatic train-pipe coupler supported by said frame but capable of a yielding movement independent of the same.

26. In a car the combination with the car-body, and car-coupler yieldingly connected thereto, of an automatic air-brake coupler supported by the car-body independently of said car-coupler, but detachably tied thereto.

27. An automatic train-pipe coupler for cars, comprising an integral body capable of a slight rotation on its one axis and movable to a position at an angle to the line of draft of the cars.

28. An automatic train-pipe coupler for cars, comprising a longitudinally-yielding integral body capable of a slight rotation on its own axis and movable to a position at an angle to the line of draft of the car.

29. An automatic train-pipe coupler for cars, comprising an integral body capable of a slight rotation on its own axis, and movable to a position at an angle to the line of draft of the car, and supported independently of the car-coupler of the car.

30. An automatic train-pipe coupler for cars, comprising a longitudinally integral yielding body capable of a slight rotation on its own axis, and movable to a position at an angle to the line of draft of the car, and supported independently of the car-coupler of the car.

31. An automatic train-pipe coupler, comprising a swiveled, longitudinally-movable and automatically-returnable body capable of a slight rotation on its own axis.

32. An automatic train-pipe coupler, comprising a longitudinally-yielding body capable of a slight rotation on its axis, and having a flat engaging face in a plane substantially at right angles to its length.

33. An automatic train-pipe coupler, comprising a swiveled, longitudinally-movable, automatically-returnable body capable of a slight rotation on its own axis, and having a flat engaging face

34. In a car the combination with the car-body, and car-coupler connected thereto, of a longitudinally-movable frame, and an automatic air-brake coupler carried by said frame.

35. In a car the combination with the car-body, and car-coupler connected thereto, of a longitudinally-movable frame, and an automatic air-brake coupler carried by said frame, and capable of movement independent of the same.

36. In a car the combination with the car-body, and car-coupler connected thereto, of a longitudinally-movable frame, and an automatic air-brake coupler carried by said frame, and capable of moving to a position at an angle to the line of draft of the car independently of said frame.

37. In a car, the combination with the car-body, and car-coupler connected thereto, of a longitudinally-movable frame, and an automatic air-brake coupler carried by said frame and having a yielding movement independent of the same.

38. In a car, the combination with the car-body, and car-coupler connected thereto, of a longitudinally-movable frame, and a swiveled, longitudinally-movable and automatically-returnable air-brake coupler carried by said frame.

39. An automatic train-pipe coupler for cars unattached, directly, to either the car or car-coupler thereof.

40. An automatic train-pipe coupler for cars unattached, directly, to either the car or car-coupler thereof, and comprising an integral body movable to a position at an angle to the line of draft of the car.

41. An automatic train-pipe coupler for cars unattached, directly, to either the car or car-coupler thereof, and comprising a longitudinally-yielding body movable to a position at an angle to the line of draft of the car.

42. An automatic train-pipe coupler for cars unattached, directly, to either the car or car-coupler thereof, and comprising a swiveled, longitudinally-movable, and automatically-returnable integral body.

43. An automatic air-brake coupler comprising a swiveled, longitudinally-movable, and automatically-returnable body having a flat engaging face having transversely-elongated openings.

44. An automatic air-brake coupler comprising a swiveled, longitudinally-movable, and automatically-returnable body having a flat engaging face having transversely-elongated countersunk openings, and correspondingly-shaped gaskets seated therein the edges of which project beyond the plane of said face.

45. An automatic air-brake coupler comprising a yielding, and automatically-returnable body having a flat engaging face with transversely-elongated openings therein.

46. In a car, the combination with the car-body, and car-coupler yieldingly connected thereto, of a yielding automatic air-brake coupler supported by the car-body independently of said car-coupler, but detachably tied thereto.

47. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler, but detachably connected thereto, and an automatic air-brake coupler carried by said frame.

48. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler, a link detachably connecting said frame to said car-coupler, and an automatic air-brake coupler carried by said frame.

49. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler, a coupling-pin, a link detachably connecting said frame to said pin, and an automatic air-brake coupler carried by said frame.

50. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler, a coupling-pin therefor, a link suitably connected to said frame at one end, a suitable clip connected to the opposite end of said link and engaging the lower end of the coupling-pin, and an automatic air-brake coupler carried by said frame.

51. In a car the combination with the car-body, a car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler, a coupling-pin therefor, a hook-shaped link suitably connected to said frame at one end, a suitable clip connected to the opposite end of said link and engaging the lower end of the coupler-pin, and an automatic air-brake coupler carried by said frame.

52. In a car, the combination with the car-body, and car-coupler yieldingly connected thereto, of a yielding swiveled automatic air-brake coupler supported by the car-body independently of said car-coupler, but detachably tied thereto.

53. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler but detachably connected thereto, and a swiveled automatic air-brake coupler carried by said frame.

54. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler, a link detachably connecting said frame to said car-coupler, and a swiveled automatic air-brake coupler carried by said frame.

55. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler, a coupling-pin, a link detachably connecting said frame to said pin, and a swiveled automatic air-brake coupler carried by said frame.

56. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler, a coupling-pin therefor, a link suitably connected to said frame at one end, a suitable clip connected to the opposite end of said link and engaging the lower end of the coupling-pin, and a swiveled automatic air-brake coupler carried by said frame.

57. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler but detachably tied to the latter, a frame secured to and depending from said first-mentioned frame and an automatic air-brake coupler swiveled to said last-mentioned frame.

58. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler but detachably tied to the latter, a frame secured to and depending from said first-mentioned frame and an automatic air-brake coupler extending through and swiveled to said last-mentioned frame.

59. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler but detachably tied to the latter, a frame secured to and depending from said first-mentioned frame and a longitudinally-yielding automatic air-brake coupler swiveled to said last-mentioned frame.

60. In a car-body the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler but detachably tied to the latter, a frame secured to and depending from said first-mentioned frame and a longitudinally-yielding automatic air-brake coupler extending through and swiveled to said last-mentioned frame.

61. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler but detachably tied to the latter, an open frame depending from the forward end of said first-mentioned frame having a swiveling standard projecting upwardly therefrom and an automatic air-brake coupler swiveled upon said standard.

62. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler but detachably tied to the latter, an open frame depending from the forward end of said first-mentioned frame having a swiveling standard projecting upwardly therefrom and an automatic air-brake coupler extending through and swiveled upon said standard.

63. In a car the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler but detachably tied to the latter, an open frame depending from the forward end of said first-mentioned frame having a swiveling standard projecting upwardly therefrom and a longitudinally-yielding automatic air-brake coupler swiveled upon said standard.

64. In a car-body the combination with the car-body and the car-coupler yieldingly connected thereto, of a longitudinally-movable frame supported by said car-body independently of said car-coupler but detachably tied to the latter, an open frame depending from the forward end of said first-mentioned frame having a swiveling standard projecting upwardly therefrom and a longitudinally-yielding automatic air-brake coupler extending through and swiveled upon said standard.

65. The combination with an automatic air-brake coupler comprising a coupler-head, and a tubular body extending to the rear therefrom and having a longitudinal slot therein, of means for swiveling said coupler which enters the bore of said tubular body through said slot.

66. In an automatic air-brake coupler, a carrier-frame, a drop-frame secured to the forward portion thereof, a swivel-head projecting therefrom, and an automatic air-brake coupler comprising a coupler-head and a tubular body secured to the forward end of which said head is secured, and which is provided with a longitudinal slot therein extending back from said coupler-head through which said swivel-head projects into the bore of said tubular body.

67. In combination with a longitudinally-movable and automatically-returnable automatic air-brake coupler comprising a coupler-head, and a tubular body extending to the rear therefrom and having a longitudinal slot therein, of means for swiveling said coupler which extends through said slot into the bore of said cylinder.

68. The combination with a longitudinally-movable and automatically-returnable automatic air-brake coupler comprising a coupler-head, and a tubular body extending to the rear therefrom, the bore of which is provided with a partition mediate its ends and has a longitudinal slot therein between said head and partition, of means for swiveling said coupler which extends through said slot into the bore of said tubular body.

69. An automatic air-brake coupler comprising a coupler-head, and a tubular body having a transverse perforate partition mediate its ends extending from the rear of said head, of a swivel-head supporting said coupler which extends through said slot into the bore thereof, and means for normally keeping the said coupler at the limit of its forward movement.

70. An automatic air-brake coupler for cars comprising a swiveled yielding integral body movable to a position at an angle to the line of draft of the car, and means for automatically maintaining said coupler normally at the limit of its forward movement.

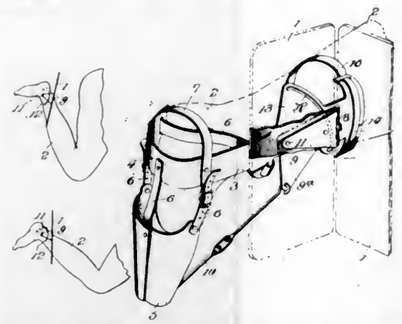
71. An automatic air-brake coupler for cars comprising a swiveled yielding integral body movable to a position at an angle to the line of draft of said cars, and means for automatically maintaining said coupler normally in a position parallel to said line of draft.

72. An automatic air-brake coupler for cars comprising a swiveled longitudinally-yielding integral body movable to a position at an angle to the line of draft of said cars, and means for automatically maintaining said coupler normally at the limit of its forward movement in a position parallel to said line of draft.

73. An automatic air-brake coupler for cars comprising a swiveled longitudinally-yielding integral body movable to a position at an angle to the line of draft of said cars, and means contained within said body for automatically maintaining said coupler normally at the limit of its forward movement in a position parallel to said line of draft.

74. An automatic air-brake coupler comprising a coupler-head, and a tubular body having a transverse perforate partition mediate its ends extending from the rear of said head, of a swivel-head supporting said coupler which extends through said slot into the bore thereof, a coil expansion spring in the bore of said tubular body to the rear of said partition, and a bolt connecting the rear end of said spring to said swivel-head.

845,266. SWIMMING APPLIANCE. WILLIAM P. SAMMS, Enterprise, Oreg. Filed Feb. 20, 1906. Serial No. 302,096.



Claim.—1. In a swimming appliance, the combination of a feathering-blade, and means admitting of movement of the blade independent of its feathering movement and in a different plane from that of the feathering movement.

2. In combination with attaching means therefor, a swimming appliance embodying a feathering-blade having pivotal connection with the attaching means, and an auxiliary connection between the blade and the attaching means to permit simultaneous feathering movement of the blade, and movement independently of such feathering movement.

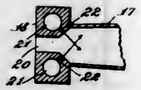
3. In combination with attaching means comprising a member adapted to be secured to the leg and including a toe-section, a feathering-blade, means connecting the toe-section with said blade to effect movement of the latter independent of its feathering movement, and a stop means to limit the last-mentioned movement of the blade.

4. In combination with attaching means therefor, including a movable toe-section, a feathering-blade applied to the attaching means, and means operable by the toe-section to effect movement of the blade independently of its feathering movement, and stop means for limiting the last-mentioned movement of said blade.

5. In a means of the class described, a swimming appliance embodying a feathering-blade, attaching means therefor including a member adapted to be secured to the leg, a hinge-plate pivotally connected with said member and having a hinged connection with the blade, whereby the blade is permitted to have both feathering movement and movement independent of such feathering movement, a toe-section movably connected with the first-mentioned member, and a rod connecting the toe-section with the hinge-plate.

6. In a means of the class described, a swimming appliance embodying a feathering-blade, attaching means therefor including a member adapted to be secured to the leg, a hinge-plate pivotally connected with said member and having a hinged connection with the blade, whereby the blade is permitted to have both feathering movement and movement independent of such feathering movement, a toe-section movably connected with the first-mentioned member, a rod connecting the toe-section with the hinge-plate, and a guide applied to the first-mentioned member and arranged to limit the movement of the hinge-plate aforesaid.

845,267. METHOD FOR PREPARING FIBERS. THOMAS G. SAXTON, Lexington, Ky., assignor of fifty-one one-hundredths to Charles J. Bronston, Lexington, Ky. Filed Dec. 22, 1905. Serial No. 293,043.

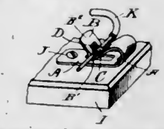


Claim.—1. The herein-described method, consisting of crushing or dismembering the stalk or woody part of hemp, jute, ramie, manila, or similar fibers, subjecting the crushed or dismembered stalk to the action of compressed air or gas, and maintaining the crushed or dismembered stalk in a confined current of the air or gas for a certain length of time.

2. The herein-described method, consisting of crushing or dismembering the stalk or woody part of hemp, jute, ramie, manila or similar fibers, subjecting the liberated fiber to the action of compressed air or gas delivered thereto at invariable intersecting angles, and maintaining the crushed or dismembered stalk in a confined current of the air or gas for a certain length of time.

3. The herein-described method, consisting of crushing or dismembering the stalk or woody part of hemp, jute, ramie, manila or similar fibers, subjecting the liberated fiber to the action of compressed air or gas, and maintaining the liberated fiber in a confined current of the air or gas flowing in the direction of the length of the fiber and expanding about the latter, whereby the fiber is completely permeated by the air or gas to drive out small particles of leaves or other material that may cling thereto.

845,268. SPRING TERMINAL-CLIP. JOHN SCHADE, Jr., Brooklyn, N. Y., assignor to Fahnestock Electric Company, a Corporation of West Virginia. Filed Apr. 28, 1905. Serial No. 257,948.



Claim.—1. A fastening device for electrical conductors, comprising a flat body member of metallic ribbon having substantially greater width than thickness and adapted to lie upon a base and be fastened thereto, an opposing spring member of flat metallic ribbon situated opposite and normally separated from said body member, and a resistant member adapted to lie between said members and bent intermediate its length to form an angular wire-engaging portion, the apex of which projects toward one member and is adapted to coact with said member to clamp a conductor in defined position therein.

2. A fastening device for electrical conductors formed from a single piece of flat resilient metallic ribbon having substantially greater width than thickness and comprising a flat body member, adapted to lie upon a base and be fastened thereto, an opposing spring member situated opposite and normally separated from said body member, one of said members being provided with a resistant member bent intermediate its length to form an angular wire-engaging portion, the apex of which projects toward the opposite member to clamp a conductor in defined position therein, when said members are forced into operative relationship.

3. A fastening device for electrical conductors, comprising a piece of resilient metal looped on itself to form a spring and having one end bent in a reverse direction to the loop to form with the bend of the loop an angular wire-engaging portion, and a stationary free-ended resistant portion located at the opposite end of the loop and projecting toward the angular engaging portion, whereby when the spring is forced toward the resistant portion a conductor may be inserted between the resistant and engaging portions and be firmly gripped in defined position by the retractive force of the spring.

4. A fastening device for electrical conductors, comprising a body member and a spring member, one of said members being slotted centrally to form a projecting hook-tongue adapted to coact with the opposite member to clamp a conductor.

5. A fastening device for electrical conductors, comprising a body member and a spring member, one of said members being slotted centrally to form a projecting resistant member adapted to coact with the opposite member to clamp a conductor.

6. A fastening device for electrical conductors, comprising a body member and a spring member, one of said members being provided with a hook-tongue cut out of the body

of the metal and adapted to coact with the opposite member to clamp a conductor.

7. A fastening device for electrical conductors, comprising a body member and a spring member, one of said members being provided with a resistant member cut out of the body of the metal, and adapted to coact with the opposite member to clamp a conductor.

8. A fastening device for electrical conductors, comprising a body member of flat metallic ribbon having substantially greater width than thickness and adapted to be secured to a support, a stationary resistant member bent intermediate its length to form an angular wire-engaging portion, the apex of which projects upwardly from the body member, and is adapted to engage a conductor, and an opposing spring member situated over and adapted to inclose the apex of the resistant member.

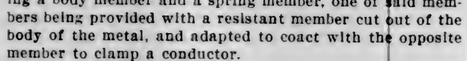
9. A fastening device for electrical conductors formed from a single piece of flat resilient metallic ribbon having substantially greater width than thickness and comprising two opposing normally separated members, one of said members being provided with a V-shaped wire-engaging portion projecting toward the opposite member and adapted to coact with said opposite member to firmly clamp a conductor when said members are forced into operative relationship.

10. A fastening device for electrical conductors formed from a single piece of resilient metal and comprising two opposing normally separated members provided with acute-angled wire-engaging portions projecting toward each other, with the angles in proximity so that when the members are forced together a conductor may be inserted in the angles of the angular portions and firmly gripped in defined position therein by the retractive force of at least one member.

11. A fastening device for electrical conductors comprising a single piece of resilient metal having normally separated opposing members, one being provided with an inwardly-projecting acute-angled wire-engaging portion and the other with a hook-shaped wire-engaging portion projecting toward the first member and adapted to coact therewith, whereby when the members are forced together a conductor may be inserted in said hook-shaped engaging portion, and firmly gripped in defined position therein by the retractive force of at least one of the members.

12. A fastening device for electrical conductors formed of a single piece of resilient metal, comprising a body member, a stationary hook-shaped resistant member projecting upward from the body member and having its outer end free, thereby forming an open hook, and an opposing spring member projecting upwardly from the body member at the forward end of the body member, then downwardly toward the resistant member and in proximity thereto, then upwardly away from the body member.

845,269. CONVEYER-APRON. EMIL SCHAFFNER, Wimbledon, N. D. Filed Nov. 17, 1906. Serial No. 343,919.



Claim.—1. A conveyer-apron comprising upper and lower layers of fabric, slats secured to the lower layer and covered by the upper layer, said upper layer being secured to the lower layer at opposite sides of the slats.

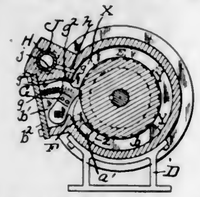
2. A conveyer-apron comprising an upper and a lower layer of fabric, slats interposed between said layers and secured to one of them, one of said layers having inclined portions in front of the slats.

3. A conveyer-apron comprising fabric layers, slats interposed therebetween, one of said layers being normally straight and the other layer having inclined portions in front of the slats.

4. A conveyer-apron comprising a fabric strip, slats secured thereto, and a fabric strip extending over the slats and secured to the first-mentioned strip close to the rear face of each slat and at points removed from the front faces of the slats.

5. A conveyer-apron made up of sections, each section comprising a fabric layer, slats secured thereon, a fabric layer extending over the slats and secured to the first-mentioned layer close to and in rear of the slats and at points removed from the fronts of the slats, and means for securing the sections together.

845,270. ROTARY ENGINE. RUDOLPH F. SCHMIDT, Cincinnati, Ohio. Filed July 28, 1906. Serial No. 328,158.

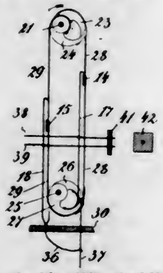


Claim.—1. In a rotary engine, the combination of shaft A; castings B and C mounted on shaft A and provided with piston-chambers *b*, back-pressure-block chambers *b'* and valve-chambers H; exhaust-openings *a'*; pistons E mounted in chambers *b*; piston-heads F on pistons E; back-pressure blocks G in chambers *b'*; valves J in chambers H; shafts L carrying valves J; arms *m* on shafts L; eccentrics M on shaft A; and coupling-rods *m'* connecting eccentrics M and arms *m*, substantially as set forth.

2. In a rotary engine, the combination of shaft A, castings B and C mounted on shaft A and provided with piston-chambers *b*, back-pressure-block chambers *b'* and valve-chambers H; exhaust-openings *a'*; pistons E mounted in chambers *b*; piston-heads F on pistons E; annular chambers in castings B and C opposite the sides of pistons E; packing-rings *c* in the chambers; set-screws *c'* for adjusting the packing-rings; back-pressure blocks G in chambers *b'*; valves J in chambers H; shafts L carrying valves J; arms *m* on shafts L; eccentrics M on shaft H; and adjustable coupling-rods *m'* connecting eccentrics M and arms *m*, substantially as set forth.

3. In a rotary engine, the combination of shaft A; castings B and C mounted on shaft A and provided with piston-chambers *b*, back-pressure-block chambers *b'* and valve-chambers H; exhaust-openings *a'*; pistons E mounted in chambers *b*; piston-heads F secured to pistons E by means of screws *f* and springs *f²*; annular chambers in castings B and C opposite the sides of pistons E; packing-rings *c* in the chambers; set-screws *c'* for adjusting the packing-rings, back-pressure blocks G in chamber *b'* and provided with side plates *g*; valves J in chambers H; shafts L carrying valves J; arms *m* on shafts L eccentrics M on shaft A; and adjustable coupling-rods *m'* connecting eccentrics M and arm *m*, substantially as set forth.

845,271. DOUBLE-LIFT JACQUARD MECHANISM FOR LOOMS. OSCAR SCHREIBER, Zwickau, Germany. Filed Nov. 10, 1904. Serial No. 232,171.



Claim.—1. In a double-lift shedding mechanism for looms, the combination with the bottom board, and the two rows of lifting-wires normally resting on the bottom board, of a pair of knives traveling in opposite directions

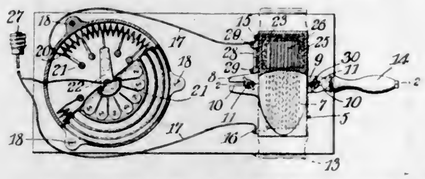
and adapted to engage the lifting-wires to move them up and down, and means for imparting vertical reciprocation to the knives; said means causing the knives to continue their downward movement after they have deposited the wires on the bottom board, and said means being constructed to gradually increase the rapidity of the upward movement of the knives and gradually decrease the downward movement of the knives.

2. In a double-lift shedding mechanism for looms, the combination with the bottom board and the two rows of lifting-wires normally resting on the bottom board, of a pair of knives traveling in opposite directions, and adapted to engage the lifting-wires to move them up and down, and means for imparting vertical reciprocation to the knives; said means causing the wires to continue their downward travel after they have deposited the wire on the bottom board, and said means being constructed to move one knife rapidly downwardly while the other knife is moved slowly upwardly to cause the crossing of the knives to take place after the descending knife has deposited the wires on the bottom board and prior to the engaging of the wires by the ascending knife.

3. In a double-lift shedding mechanism for looms, the combination with the bottom board, the two rows of lifting-wires normally resting on the bottom board, and the knives for gripping the lifting-wires to move them up and down, of means for imparting vertical reciprocation to the knives; said means comprising a pair of upper and a pair of lower oscillatory cam-disks and a pair of flexible connections each engaging one of the lower and one of the upper cam-disks and each secured to one of the knives intermediate of its ends; the cam-disks being constructed to move one knife rapidly downwardly while the other knife is moved slowly upwardly to cause the crossing of the knives to take place near the starting-point of the upwardly-moving knife and prior to the gripping of the lifting-wires by the upwardly-moving knife.

4. In a double-lift shedding mechanism for looms, the combination with the bottom board the two rows of lifting-wires normally resting on the bottom board, and the knives for gripping the lifting-wires to move them up and down, of means for imparting vertical reciprocation to the knives; said means comprising a pair of upper and a pair of lower oscillatory cam-disks and a pair of flexible connections each engaging one of the lower and one of the upper cam-disks and each secured to one of the knives intermediate of its ends; the cam-disks being constructed to move one knife rapidly downwardly while the other knife is moved slowly upwardly to cause the crossing of the knives to take place near the starting-point of the upwardly-moving knife and prior to the gripping of the lifting-wires by the upwardly-moving knife; and the cam-disks engaging the same flexible connection being arranged in the same position relatively to their turning-axes.

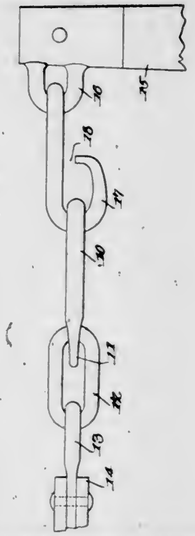
845,272. VULCANIZER. CLARENCE A. SHALER, Waupun, Wis. Filed July 19, 1906. Serial No. 326,886.



Claim.—1. A vulcanizer including a casing having a flat base and its upper surface concaved, perforated lugs extending laterally from the casing, binding-posts carried by the casing, a heating-coil disposed within the casing and operatively connected with the binding-posts, clamping devices engaging the perforations in the lugs, one of said lugs terminating in an operating-handle.

2. A vulcanizer including a hollow casing having a flat base and its upper surface concaved, perforated lugs extending laterally from the casing, clamping devices engaging the perforations in the lugs, a flexible medium connecting the clamping devices, conducting material disposed within the casing, and a heating-coil embedded in the conducting material and operatively connected with a source of electrical energy.

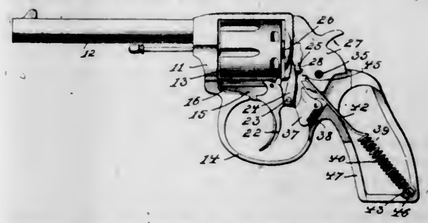
845,273. TRACE-FASTENER. JOHN W. SIMONDS, Greenville, Tex. Filed Feb. 10, 1906. Serial No. 300,464.



Claim.—1. In a trace-fastener, an annular member having a radial loop communicating therewith and of less thickness than the annular member, a link movably engaging said loop, and a hook having a contracted entrance adapted to pass over the reduced loop but too small to pass over the body of the annular member.

2. The combination with a whiffletree having a hook formed with a contracted entrance, an annular member having a radial loop less in thickness than the annular member and less than the entrance to said hook, a link movably engaging said loop, and a trace movably coupled to said link.

845,274. REVOLVER. MAURICE STERN, Philadelphia, Pa., assignor of one-half to Louis Moskowitz, Philadelphia, Pa. Filed July 27, 1906. Serial No. 327,995.



Claim.—1. In a revolver, a frame, and a cylinder carried by the frame, a trigger and hammer connected with the frame, a lever and a lifter, a bolt for pivotally connecting the same with said trigger, a spring for holding the lever in engagement with the cylinder and the lifter with the hammer, said spring, consisting of a wire bent to form an eye surrounding said bolt and two curved arms extending therefrom and engaging respectively the lever and the lifter.

2. In a revolver, a frame, and a cylinder carried by the frame, a trigger and hammer connected with the frame, a

lever and a lifter, a bolt for pivotally connecting the same with said trigger, a spring for holding the lever in engagement with the cylinder and the lifter with the hammer, said spring, consisting of a wire bent to form an eye surrounding said bolt and two curved arms extending therefrom and engaging respectively the lever and the lifter, and a second spring for normally holding the trigger and by the same the lever and lifter in an operative position.

3. In a revolver, a frame, a cylinder carried by the frame, a trigger, a hammer, each having a bolt for pivotally connecting the same with said frame, a notch arranged in the hammer in front and below the bolt thereof, a lever and a lifter pivotally connected with said trigger, a spring for holding the trigger and by the same the lever and the lifter in an operative position, a second spring for holding the lever in engagement with the cylinder and the lifter in engagement with said hammer, and a mainspring for automatically actuating the hammer, said mainspring consisting of a wire bent to form a hook for engaging the notch of the hammer and an eye for engaging the frame and a coil connecting the hook with said eye, the notch in the hammer arranged when the same is raised by the trigger and the lifter to swing the hook of the mainspring toward the bolt of said hammer.

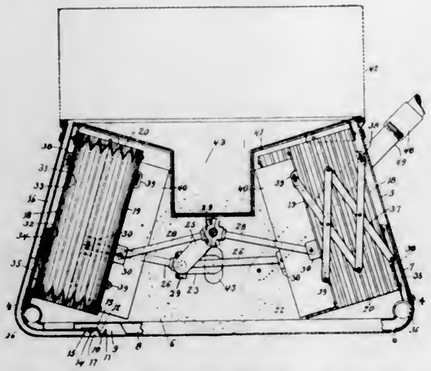
4. In a revolver, a frame, a cylinder carried by the frame, a trigger, a hammer, each having a bolt for pivotally connecting the same with said frame, a notch arranged in the hammer in front and below the bolt thereof, a lever and a lifter pivotally connected with said trigger, a spring for holding the trigger and by the same the lever and the lifter in an operative position, a second spring for holding the lever in engagement with the cylinder and the lifter in engagement with said hammer, and a mainspring for automatically actuating the hammer, said mainspring consisting of a wire bent to form a hook for engaging the notch of the hammer and an eye for engaging the frame and a coil connecting the hook with said eye, the notch in the hammer arranged when the same is raised by the trigger and the lifter to swing the hook of the mainspring toward the bolt of said hammer and when released to move away from said bolt to decrease the pressure exerted on the hammer by the coil at the upward movement and to increase the same at the downward or striking movement of said hammer.

5. In a revolver, a frame, a cylinder and a guard carried by the frame, a trigger movably connected with the frame, a lever and a lifter pivotally connected with the trigger, a spring for normally holding the trigger and by the same the lever and the lifter in an operative position, said spring consisting of a wire bent to form substantially V-shaped arms united to each other by a shank, said arms adapted to engage the trigger, and said shank and a portion of said arms said guard, a hammer, a bolt connecting the hammer with said frame, a notch arranged in said hammer in front and below the bolt thereof, a sear connected with said frame, a second spring for holding the lever in engagement with said cylinder and the lifter in engagement with said hammer, and a mainspring for returning said hammer to normal position, when lifted by the trigger and the lifter and released by said sear, said mainspring consisting of a wire bent to form a hook for engaging the notch of said hammer and an eye for engaging said frame and a coil connecting said hook with said eye, the notch in said hammer arranged when the same is raised to swing the hook of said mainspring toward the bolt and when the hammer descends to move away from said bolt to decrease the pressure exerted by the coil thereof on said hammer, when raised and to increase the pressure when the same descends.

6. In a revolver, a frame, a cylinder and a guard carried by the frame, a trigger movably connected with the frame, a lever and a lifter, a bolt for pivotally connecting the same with said trigger, a spring for normally holding the lever and lifter in an operative position, the spring consisting of a wire bent to form substantially V-shaped arms united with each other by a shank, said arms adapted to engage the trigger and the shank and a portion of said arms said guard, a hammer, a sear connected with said frame, a second spring for holding the lever in engagement with said cylinder and the lifter in engagement with said hammer, said second spring, consisting of a wire bent to form an eye surrounding the bolt and arranged between the lever and the lifter, connected by the same with said trigger, and two curved arms extended therefrom and adapted to exert on said lever and said lifter an even pressure, and a mainspring.

7. In a revolver, a frame, a cylinder and a guard carried by the frame, a trigger movably connected with the frame, a lever and a lifter, a bolt for pivotally connecting the same with said trigger, a spring for normally holding the lever and the lifter in an operative position, the spring, consisting of a wire bent to form substantially V-shaped arms united with each other by a shank, said arms adapted to engage the trigger, and the shank and a portion of said arms said guard, a hammer, a bolt connecting said hammer with said frame, a notch arranged in said hammer in front and below the bolt thereof, a sear connected with said frame, a second spring for holding the lever in engagement with said cylinder and the lifter in engagement with said hammer, said second spring, consisting of a wire bent to form an eye surrounding the bolt and arranged between the lever and the lifter connected by the same with said trigger, and two curved arms extended therefrom and adapted to exert on said lever and said lifter an even pressure, and a mainspring formed of a wire for returning the hammer to normal position, when lifted by the trigger and the lever and released by the sear, said mainspring provided with a hook for engaging the notch of said hammer and with an eye for engaging the frame and a coil connecting the hook with said eye, the notch in the hammer arranged when raised to swing the hook of said mainspring toward the bolt and when the hammer descends to move the same away from said bolt to decrease the pressure exerted by the coil on said hammer when raised, and to increase the pressure, when said hammer descends.

845,275. PNEUMATIC RENOVATOR. THOMAS J. SULLIVAN and GEORGE J. HARRIS, Milwaukee, Wis.; said Harris assignor to John H. Stouthamer, Milwaukee, Wis. Filed Nov. 25, 1904. Serial No. 234,303.



Claim.—1. In a pneumatic renovator, the combination of a carriage having adjacent openings in its bottom, mechanism mounted on the carriage for creating an air-current, passages leading around the ends of the carriage from said current-creating mechanism to one of the openings in the bottom of the carriage, and a passage leading from the other of said openings around the end of the carriage to a point of discharge.

2. In a pneumatic renovator, the combination of a carriage having a flat bottom provided with transverse adjacent openings, the carriage being also provided with a longitudinal passage in its bottom leading to one of said openings and a passage leading from the other of said openings around the end of the carriage to a point of discharge, and means for creating an air-current mounted on the carriage and communicating with the said longitudinal passage in the bottom of the carriage.

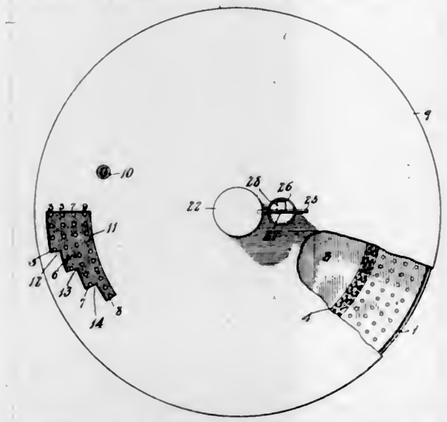
3. In a pneumatic renovator, the combination of a carriage having adjacent openings in its bottom, having a passage leading from one of said openings, having a longitudinal passage leading to the other of the said openings, and a transverse passage communicating with the end of said longitudinal passage, a series of current-creating devices mounted on the carriage and communicating with the said transverse passage, and means for operating said devices.

4. In a pneumatic renovator, the combination of a carriage in the form of a hollow casing or shell provided with an air-chamber, the said chamber being in communication with the external air through an opening in the wall of the chamber, and said carriage, also having passages opening through the bottom thereof, one of said passages leading to a point of discharge, means carried by the carriage and supplied with air from the air-chamber of the carriage, said means adapted to produce a current of air, and to which means the other passage leads and is adapted to receive therefrom a current of air, and means operated by the movement of the carriage for actuating the air-current-producing means, whereby a current of air is forced through the passage which leads to said air-current-producing means, thence along said passage and through the bottom of the carriage, thence through the article over which the carriage passes, and thence through the other passage and to a place of discharge.

5. In a pneumatic renovator, the combination of a carriage adapted to be moved over the article to be cleaned, mechanism mounted on said carriage for creating an air-current abstracting the dust from the article to be cleaned, the top of the carriage being provided with a depression or pocket forming a dust-receptacle, a bag secured over said top of the carriage, and means for conveying into the bag the dust-laden air abstracted from the article to be cleaned.

6. In a pneumatic renovator, the combination of a carriage adapted to be moved over the article to be cleaned, and provided with means for creating an air-current and means for directing said current against the article to be cleaned, an axle mounted in the carriage so as to have free vertical movement and carrying a traction-wheel adapted to bear on the article to be cleaned, and a connection between the axle and the current-creating means adapted, when the axle is rotated, to cause an actuation of said current-creating means.

845,276. ADDING-MACHINE. JOSEPH SWART, Fort Scott, Kans. Filed Apr. 9, 1906. Serial No. 310,809.



Claim.—1. In a device of the character described the combination with a casing; of a rotatable disk therein having a plurality of successively-arranged characters disposed in a circle concentric with the center of the disk, said disk having concentric series of apertures therein, there being in each series a number of apertures equal to the characters upon the disk, and a cover on the disk having an opening in which appear apertures of each series, said opening adapted to disclose a different number of apertures of each series, and said cover having characters thereon designating the number of spaces disclosed between the apertures in each series and an aperture for successively disclosing the characters upon the disk, the walls of the opening in the cover constituting stops for a disk-operating device.

2. In a device of the character described the combination with a casing; of a rotatable disk therein having a plurality of successively-arranged characters disposed in a circle concentric with the center of the disk, said disk having concentric series of apertures therein, there being in each series a number of apertures equal to the characters upon the disk, and a cover on the disk having an opening in which appear apertures of each series, said opening adapted to disclose a different number of apertures of each series, said cover having characters thereon designating the number of spaces disclosed between the apertures in each series and an aperture for successively disclosing the characters upon the disk, and means carried by the casing for indicating the number of rotations of the disk, the walls of the opening in the cover constituting stops for a disk-operating device.

3. The combination with a casing having an aperture therein; of a numeral-carrying disk rotatably mounted within the casing, said numerals adapted to successively appear within the aperture, a screw fixed to and rotatable with the disk, a graduated sleeve engaging and movably mounted on the screw, and an index for holding the sleeve against rotation, said index adapted to coöperate with the graduations to indicate the rotations of the disk.

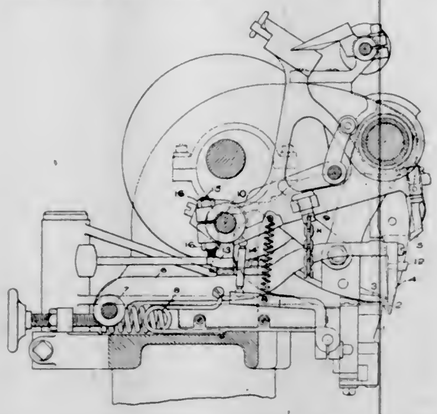
4. The combination with a casing having an aperture; of a disk rotatably mounted within the casing and having characters adapted to successively appear within the aperture, a screw fixed to and rotatable with the disk, a slotted sleeve threaded upon and movable longitudinally of the screw and externally graduated, and a longitudinally-movable index projecting into the slot for holding the sleeve against rotation and coöperating with the graduations on the sleeve to indicate the number of rotations of the disk.

5. The combination with a casing having an aperture; of a disk rotatably mounted within the casing and having characters adapted to successively appear within the aperture, a screw fixed upon and rotatable with the disk, a slotted sleeve threaded upon and movable longitudinally of the screw and externally graduated, a longitudinally-movable index projecting into the slot for holding the sleeve against rotation and coöperating with the graduations on the sleeve to indicate the number of rotations of the disk, and means for holding the index against displacement within the slot.

6. In a device of the character described the combination with a casing having openings therein; of a disk rotatably mounted within the casing and having characters adapted to successively appear in one of the openings, a series of apertures adapted to appear in the other opening, said last-mentioned opening being shaped to disclose a different number of apertures in each series, a screw rotatable with the disk, a sleeve threaded upon the screw and externally graduated, said sleeve having a longitudinal slot therein, a standard upon the casing, and an index longitudinally movable within the standard and normally projecting into the slotted sleeve said index adapted to prevent rotation of the sleeve and to coöperate with its graduations to indicate the number of revolutions of the disk.

7. The combination with a casing having an aperture therein; of a numeral-carrying disk rotatably mounted within the casing, said numerals adapted to successively appear within the aperture, a screw fixed to and rotatable with the disk, a graduated sleeve engaging and movably mounted on the screw, and an index outside of and detachably engaging the sleeve for holding said sleeve against rotation, said index adapted to coöperate with the graduation to indicate the rotations of the disk.

845,277. SOLE ROUNDING AND CHANNELING MACHINE. JOSEPH E. THAYER, West Bridgewater, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed May 12, 1903. Serial No. 156,791.



Claim.—1. A sole-rounding machine, having, in combination, a trimming-knife, a shank-guide, a fore-part guide movable into and out of engagement with the shoe, and means for relatively moving the shank-guide and trimming-knife to allow the fore part of the sole to be trimmed closer to the upper than the shank portion, substantially as described.

2. A sole-rounding machine, having, in combination, a trimming-knife, a shank-guide, a fore-part guide, and means for moving the fore-part guide into operative position and for retracting the shank-guide, substantially as described.

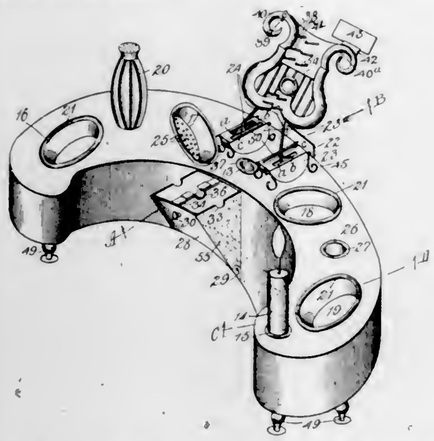
3. A sole-rounding machine, having, in combination, a trimming-knife, a fore-part guide movable into and out of engagement with the shoe and movable to vary the position of the shoe with relation to the trimming-knife, a shank-guide movable with the fore-part guide when in engagement with the shoe, and means for retracting the shank-guide when the fore-part guide is moved into engagement with the shoe, substantially as described.

4. A sole-rounding machine, having, in combination, a trimming-knife, a shank-guide arranged to act along the shank and fore part of shoe, a fore-part guide movable into and out of engagement with the shoe, and means for retracting the shank-guide when the fore-part guide is moved into engagement with the shoe, substantially as described.

5. A sole-rounding machine, having, in combination, a trimming-knife, a fore-part guide movable into and out of engagement with the shoe and movable to vary the position of the shoe with relation to the trimming-knife, a shank-guide movable with the fore-part guide when in engagement with the shoe, a spring for retracting the shank-guide, and means actuated by the movement of the fore-part guide for holding the shank-guide projected while the fore-part guide is out of engagement with the shoe and for permitting a retraction of the shank-guide when the fore-part guide is moved into engagement with the shoe, substantially as described.

845,278. RELISH SET. FRED THIEL, Chicago, Ill. Filed May 8, 1905. Serial No. 259,489.

Claim.—1. In a relish set a stand having a shoulder adapted to form a rest for the end of a bar, and having within its bottom an offset adapted to engage downwardly-projecting pins; a drawer pivoted with a bar pivoted at one end to said drawer and free at the other, and the free end of said bar being adapted to rest on said shoulder and thereby keep said drawer open; a pan adapted to be placed within said stand, having pins projecting from its bottom downward and adapted to engage said offset and thereby to limit the movement of said pan within said stand; and means for attaching said pan to said drawer, whereby said drawer shall operatively control the movements of said pan within said stand.



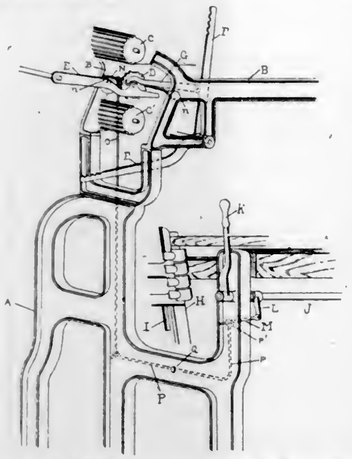
2. In a relish set a hollow stand having a shoulder adapted to form a rest for the end of a bar, and having an inward set-off in its bottom adapted to engage downwardly-projecting pins; a triangular drawer, hinged at its lowest angle to said stand, and provided with a bar, pivoted at one end to the front wall of said drawer, and free at the other end, the free end being adapted to rest on said shoulder and when so resting to keep said drawer open; a pan adapted to be placed within said stand and having pins projecting downward from its bottom adapted to engage said offset and thereby limit the movement of said pan within said stand; and means for attaching said pan to said drawer whereby said drawer shall operatively control the movements of said pan within said stand.

3. In a relish set a hollow stand having a shoulder adapted to support one end of a bar, and having in its bottom an inward offset adapted to engage downwardly-projecting pins; a triangular drawer hinged at its lowest angle to the bottom of said stand and a bar supported at one end on the drawer, the other end being adapted to rest on the shoulder aforesaid and thereby keep said drawer open; and a pan adapted to be placed within said stand and having pins projecting downward from its bottom adapted to engage said offset and thereby limit the movement of said pan within said stand, and means for attaching said pan to said drawer, whereby said drawer shall operatively control the movements of said pan within said stand, substantially as shown and described.

4. In combination with a relish set the hollow pedestals, 23, 23^a, provided in their upper surfaces with the irregular openings, 50, 50, adapted to permit the insertion of the legs of a handle, and having in a suitable cavity antifriction-bearings; and a handle provided with resilient legs adapted to be inserted through said openings into said pedestals and therein to rest upon said antifriction-bearings and be movable thereon, substantially as shown and described.

5. A combination relish set consisting of the stand 26; hollow pedestals presenting in their upper surfaces irregular openings, adapted to permit the insertion and adjustment of the legs of a handle, and having, in a suitable cavity, antifriction-bearings for the same; and a detachable handle provided with resilient legs terminating in segmental rockers adapted to be inserted into said pedestals through said openings and to rest upon said antifriction-bearings therein.

845,279. STOP-MOTION FOR LOOMS. THOMAS THOMPSON, Central Village, Conn. Filed Feb. 14, 1906. Serial No. 300,953.



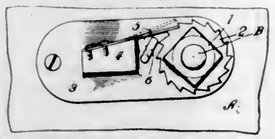
Claim.—1. In a loom, the combination with the vibrator-connectors of movable means adjacent the connectors and adapted to be operated by a broken connector, and stopping instrumentalities actuated by the movable means.

2. In a loom the combination with the vibrator-connectors, of pivotal means adjacent and below the connectors, and adapted to be swung by a broken connector, and stopping instrumentalities connected with and actuated by the pivotal means.

3. In a loom the combination with the vibrator-connectors of a bent rod pivotally mounted below and adjacent the connectors, means for shifting the shipper, and connections between the bent rod and shipper-shifting means.

4. In a loom the combination with the vibrator-connectors, of an inclined bent rod pivotally mounted below and adjacent the connectors, the shipper-bar, a finger on the shipper-bar, a dagger upon the finger, a pivoted lever supporting the dagger, and a rod connecting the bent rod and lever.

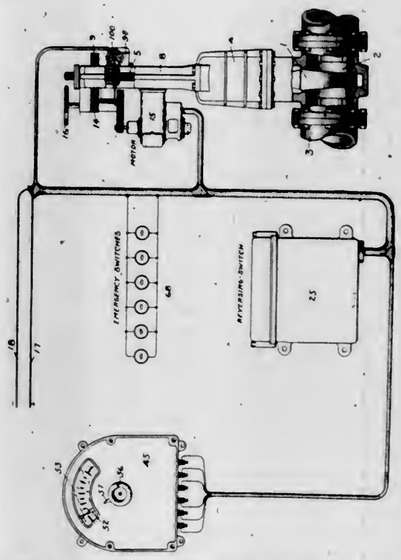
845,280. NUT-LOCK. CHARLES M. THRASHER, Rocky, Okla. Filed Dec. 22, 1906. Serial No. 349,125.



Claim.—The combination with a bolt and part to which it is attached, of a washer adapted to be placed over said bolt and secured to the said part, said washer being provided with a swelled portion one side of which constitutes a ledge, a spring-pawl secured at one end to said ledge, a nut adapted to work on said bolt and having a ratchet for engagement by said pawl, and an unlocking device journaled on said washer and provided with a wing adapted to be swung against the pawl whereby to carry it out of engagement with the ratchet, said wing being arranged to rest against the side edge of the said swelled portion and hold the pawl disengaged.

845,281. ELECTRICALLY-OPERATED VALVE. LEONARD A. TIRRILL, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Sept. 8, 1904. Serial No. 223,706.

Claim.—1. In a system of remote control, a member to be moved, a motor for moving the same, a distant-control station, a controller for said motor and a combined indicator and circuit-breaker at said station, actuating means for said combined indicator and circuit-breaker, and operative connections between said member and said actuating means for the combined indicator and circuit-breaker.



2. In a system of remote control, a member to be moved, a motor for moving the same, a distant-control station, a controller for said motor arranged to determine the extent of movement of said member and an indicator at said station, operative connections between said indicator and said member for causing said indicator to indicate the position of said member, and means associated with said indicator for interrupting the motor-circuit when the indicator registers the position of the member predetermined by the controller.

3. In a system of remote control, a member to be moved, a motor for moving the same, a distant-control station provided with a controller having a plurality of positions corresponding to positions of said member and a combined indicator and circuit-breaker device having similar positions and arranged to cause the motor-circuit to be interrupted when its position corresponds to that of the controller, and operative connections between said member and said combined indicator and circuit-breaker device.

4. In a system of remote control, a member to be moved, a motor for moving the same, a distant-control station, a controller at said station having a plurality of positions corresponding to positions of said member, a circuit-breaker device at said station having similar positions and arranged to cause the motor-circuit to be interrupted when the circuit-breaker device and the controller attain corresponding positions, and means controlled by said member for moving said circuit-breaker device step by step in synchronism therewith.

5. Means for operating a member from a distant station, comprising a reversible electric motor geared to said member, an electrically-actuated reversing-switch, a controller therefor at said station, a combined electric indicator and circuit-breaker device adjacent to said controller, and circuit connections between said indicator and said member.

6. Means for operating a member from a distant station, comprising a reversible electric motor geared to said member, an electrically-actuated reversing-switch, a switch at said station controlling said reversing-switch, a circuit-

opener in circuit with said switch, electrical means for actuating said circuit-opener, and a device driven by said member for controlling said electrical means.

7. In a system of control, a motor, a controller and connections including a series of stationary contacts and a movable contact for engaging with said stationary contacts, a movable contact device engaging with said stationary contacts, and means controlled by said motor for actuating said movable contact device.

8. In a system of control, a motor, a controller comprising a series of stationary contacts and a pair of movable contact devices for engaging with said series of stationary contacts, manual operating means for one of said movable contact devices, and means controlled by said motor for actuating the other movable contact device.

9. In a system of control, a motor, a controller comprising a series of stationary contacts and a pair of movable contact devices for engaging with said series of stationary contacts, manual operating means for moving one of said contact devices into engagement with any one of said stationary contacts, and means controlled by said motor for moving the other contact device into operative relation with the same stationary contact.

10. In a system of control, a member to be moved, a motor, a controller comprising a series of stationary contacts and a pair of movable contact devices for engaging with said series of stationary contacts, each of said movable contact devices having a plurality of positions corresponding to positions of said member, means for moving one of said contact devices into any one of its positions to determine the position of said member, and means controlled by said member for moving the other contact device to the corresponding position when said member reaches the predetermined position.

11. In a system of control, a motor, a controller including a series of stationary contacts and a pair of movable contact devices for engaging with said stationary contacts and connected and arranged to cause the motor-circuit to be completed when occupying different positions and to interrupt the motor-circuit when occupying corresponding positions, means for moving one of said contact devices, and means controlled by the motor for moving the other contact device.

12. In a system of control, a member to be moved, a motor, a controller comprising a series of stationary contacts, a movable contact device engaging with said stationary contacts to close a circuit through said motor, and a second movable contact device for engaging with said fixed contacts and coöperating with said first contact device to interrupt the motor-circuit when the two contact devices occupy corresponding positions, means for moving the first contact device to any of its positions, and means controlled by said member for moving the second contact device to the position corresponding to that of the first contact device.

13. In a system of control, a member to be moved, a motor, a controller including a series of stationary contacts, a movable contact device coöperating with said stationary contacts for causing the motor to be energized, and a second contact device coöperating with said first contact device and said stationary contacts and arranged to deënergize the motor when the two contact devices occupy corresponding positions, means for moving the first contact device to any one of its positions to determine the position to which said member is to be moved, electromagnetic actuating means for said second contact device, and means controlled by said member for causing said actuating means to move its contact device into the position corresponding to that of the other contact device when said member reaches the predetermined position.

14. In a system of control, a motor, a normally open reversing-switch for said motor, a controller including a series of stationary contacts and a pair of movable contact devices for engaging with said stationary contacts and connected and arranged to complete a circuit through said reversing-switch when occupying different positions and to deënergize said reversing-switch when occupying corresponding positions, means for moving one of said contact devices, and means controlled by the motor for moving the other contact device to its corresponding position in synchronism with the motor.

15. Means for operating a member from a distant station, comprising a reversible electric motor geared to said member, an electrically-actuated reversing-switch, a switch at said station, a plurality of parallel paths for the current coöperating with said switch, a device at said station for connecting said paths with the reversing-switch, and means controlled by said member for actuating said device to break said connection when said member has moved a predetermined distance.

16. Means for operating a member from a distant station, comprising a reversible electric motor geared to said member, an electrically-actuated reversing-switch, a switch at said station, a plurality of parallel paths through any one of which current may be sent by said switch, means for connecting said paths with the reversing-switch, electrical means for cutting out said paths in succession, and a circuit-controller for said cut-out actuated by said member.

17. Means for operating a reversible electric motor from a distant station, comprising a reversing-switch, electromagnetic coils for operating it, two movable segments at said station respectively connected with said coils and having a non-conducting portion between them, a switch-arm adapted to send current into either one of said segments, and means actuated by the motor for moving said segments to break the circuit by interposing said non-conducting portion between said switch-arm and said segments.

18. Means for operating a reversible electric motor from a distant point, comprising a reversing-switch, two electromagnets for operating it, two movable metallic segments having their adjacent ends separated by a non-conducting portion and each in circuit with one of said magnets, a plurality of contact-studs in line with said segments and non-conducting portion, a switch-arm adapted to send current through any one of said studs, an electrically-actuated pawl-and-ratchet device for moving said segments, and a circuit-interrupter for said device, actuated by the motor.

19. Means for operating a reversible electric motor from a distant station, comprising a reversing-switch, two electromagnets for operating it, two movable metallic segments having their adjacent ends separated by a non-conducting portion and each in circuit with one of said magnets, a double pawl and ratchet for moving said segments in either direction, two electromagnets for actuating said pawl, each in circuit with one of said segments, a circuit-interrupter for said pawl-actuating magnets driven by the motor, a plurality of studs in contact with said segments, and a switch-arm for sending current through any one of said studs.

20. In a system for controlling a reversible electric motor, a reversing-switch comprising two parallel bars of insulation, four contact-clips on each bar, a rock-shaft parallel with said bars, two pairs of connected switch-blades carried by said shaft, and two pivoted electromagnets having their armatures pivotally attached to rock-arms on said shaft.

21. In a system for controlling a reversible electric motor, a reversing-switch comprising two parallel bars of insulation, four opposing clips secured to each bar, a rock-shaft parallel with said bars, two electromagnets having armatures pivoted to rock-arms on said shaft, two pairs of connected switch-blades carried on said shaft, barriers of insulation between said blades, and a blow-out magnet having three pole-pieces extending between said blades.

22. Means for automatically causing a reversible electric motor to revolve a predetermined number of times in either direction, and means for automatically increasing the number of revolutions in one direction.

23. In combination, a motor, means for causing said motor to make a predetermined number of revolutions in either direction, and means controlled by the load on the motor for permitting said motor to make an additional number of revolutions in one direction.

24. In combination, a motor, means independent of the load for causing said motor to make a predetermined number of revolutions in either direction, and means dependent upon the load for increasing the number of revolutions in one direction.

25. In combination, a motor, means including a device geared to the motor for causing the motor to make a predetermined number of revolutions in either direction, and means controlled by the load on the motor for permitting an additional number of revolutions in one direction.

26. In combination, a motor, means for causing said motor to make a predetermined number of revolutions in either direction, and means for permitting said motor to continue its rotation in one direction until the load reaches a predetermined value.

27. In combination, a motor, means for supplying said motor with current until it has made a predetermined number of revolutions in either direction, and means for continuing the current-supply during the operation of the motor in one direction until a predetermined load is reached.

28. In combination, a motor, a reversing-switch, means for maintaining said reversing-switch closed during a predetermined number of revolutions of the motor in either direction, and means for maintaining said switch closed after the motor has made the predetermined number of revolutions in one direction and until the motor-load reaches a predetermined value.

29. In combination, a motor, a controlling-switch, a device controlled by said motor and coöperating with said switch to cause the motor to make a predetermined number of revolutions in either direction, and means dependent upon the motor-load for permitting an additional number of revolutions of the motor in one direction.

30. In combination, a motor, a reversing-switch, a controlling-switch, a device controlled by said motor and cooperating with said reversing-switch to maintain it closed while the motor makes a predetermined number of revolutions in either direction, and means for maintaining said reversing-switch closed after the motor has made the predetermined number of revolutions in one direction and until the motor-load reaches a predetermined value.

31. In combination, a motor, a reversing-switch, electromagnets for actuating said switch, means for maintaining the respective electromagnets energized during a predetermined number of revolutions of the motor in either direction, and additional means including an overload-relay for maintaining one of said electromagnets energized after the motor has made the predetermined number of revolutions.

32. In combination, a motor, a reversing-switch, electromagnets for actuating said reversing-switch, a controller and connections for energizing said electromagnets including a series of fixed contacts and a movable contact, a movable contact device engaging with said fixed contacts, means controlled by said motor for actuating said contact device, and additional means including an overload-relay in the motor-circuit for energizing one of said electromagnets.

33. Means for opening and closing a valve or the like, comprising a reversible electric motor, in combination with a reversing-switch, means for automatically opening said switch at each end of the travel of the valve, and means for keeping said switch closed, when the valve is closing, until said valve is firmly seated.

34. In a system for controlling a reversible electric motor, the combination with a reversing-switch, of two electromagnets for operating it, an overload-coil in circuit with the motor, a circuit including one of said electromagnets, and two switches in said circuit, one controlled by said magnet and the other by the overload-coil.

35. Means for tightly closing a valve or the like, comprising an electric motor, a switch for the same, an electromagnet for closing said switch, two parallel circuits from said magnet, a circuit-interrupter in one circuit, two switches in the other circuit, one of which is normally closed and the other open, means for closing the latter when the magnet is energized, and an overload-coil in series with the motor and arranged to open the normally closed switch when the stopping of the valve overloads the motor.

36. In a system for operating an electric motor from a distant station, the combination with a plurality of stationary contact-studs, of a pivoted switch-arm coöperating therewith, a wheel pivoted concentrically with said arm, two segments insulated from said wheel and from each other and making contact with said studs, an insulating-block between said segments, and means for imparting to said wheel a step-by-step movement in synchronism with said motor.

37. The combination with a board containing a plurality of contact-studs, of a pivoted switch-arm coöperating therewith, a ratchet-wheel pivoted concentrically with said arm, two segments insulated from said wheel and from each other and making contact alternately with said studs, an insulating-block between said segments, a double-ended pawl in engaging relation with said ratchet-wheel, and two electromagnets for operating said pawl in opposite directions.

38. In a circuit-controlling device, the combination with a pivoted switch-arm, of a board, a series of contact-studs in said board, metallic cups let into the back of said board and attached to said studs, spring-actuated plugs in said cups, and movable segments sliding in contact with said plugs.

39. In a circuit-controlling device, the combination with a ratchet-wheel carrying contact-segments, of an arm pivoted concentrically with said wheel, a pawl pivoted to said arm and adapted to engage with said ratchet-wheel, an electromagnet having an armature pivoted to said arm, and a spring for restoring said arm to a normal position.

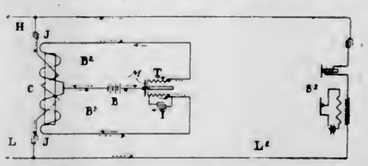
40. In a circuit controlling device, the combination with a ratchet-wheel carrying contact-segments, of an arm pivoted concentrically with said wheel, a shaft journaled in said arm, a double pawl on said shaft adapted to engage with said ratchet-wheel, a crank on said shaft, opposed electromagnets for actuating said arm, and means for holding the crank stationary.

41. In a circuit-controlling device, the combination with a ratchet-wheel carrying contact-segments, of an arm pivoted concentrically with said wheel, a shaft journaled in said arm, a double pawl on said shaft adapted to engage with said ratchet-wheel, a crank on said shaft, yielding stays attached to said crank, opposed electromagnets for actuating said arm, and springs for holding it in normal position.

42. A circuit-interrupter comprising a pair of parallel shafts, drums of insulation on said shaft, longitudinal conducting-segments on one drum, two separate slit metal bushings on the other drum, contact-brushes bearing on said drums, and gearing connecting said shafts.

43. A circuit-interrupter comprising a pair of parallel shafts, drums of insulation on said shafts, longitudinal conducting-segments on one drum, two separate slit metal bushings on the other drum, two connecting-strips bearing on said drums, one on each bushing, contact-brushes bearing on said drums, and an interlocking carrying-gear connecting said shafts.

845,282. TELEPHONIC-CURRENT REINFORCER OR REPEATER SYSTEM. NATHANIEL G. WARTH, Columbus, Ohio. Filed Apr. 23, 1906. Serial No. 313,192.



Claim.—1. A telephone repeater system comprising two lines, or two sections forming a through-circuit, and their terminal telephones, an induction-coil joining said lines or sections at an intermediate point with a telephone-repeater, said repeater embodying a telephonic receiver and transmitter in repeater relation; the juncture between the circuit and the repeater being wholly inductive and operative for both the received currents and the reproduced

currents, and connected in bridged relation to the through-circuit; the secondary being bridged in the circuit and the primary being connected in the repeater auxiliary circuit, said auxiliary circuit being divided and also containing a battery, the receiver transmitter, and means for rendering the receiver inert to its transmitter-currents and sensitive to the received currents from the line.

2. The combination in a relay for telephone-currents, of a receiver and transmitter in relay relation, a battery for supplying the relaying-currents, means for rendering the receiver operative only by the induced currents from the line, all in inductive bridged relation to the line, said inductive relation being common for the receiving and transmitting currents, and means to prevent reactive currents from affecting the repeater.

3. In a telephone repeater system, a repeater apparatus, a main-line circuit connected through without repeating or induction coils being included therein for the repeater, a bridge across said line, an induction-coil in said bridge, the repeater being connected to the line by means of the secondary of the induction-coil, the repeater receiving and transmitting elements being in circuit with the primary of said coil.

4. In a telephone-repeater, twin local circuits embracing a current-supply, and a transmitter in repeater relation to a receiver, together with means for operating the receiver from and the transmitter to the line inductively.

5. In a telephone-repeater, a primary or local circuit including the following elements, to wit: the primary of an induction-coil, a source of current, and a transmitter and a receiver, in repeater relation.

6. The combination in a telephone repeater system of two lines or line-sections terminating at the repeater-station, transmitting and receiving telephones in the circuit at the transmitting and receiving stations on said lines, a bridge across the line at the repeater-terminals, an induction-coil winding in said bridge, a condenser included in the bridge with said winding, the primary windings of said induction-coil differentially wound, a split combination local and primary circuit for said primary windings, the third or middle branch of said circuit connected to the center of the winding, a battery and the transmitter included in the middle branch or conductor, a split wound receiver in the circuit, with its middle terminals connected to the middle conductor and with its two remaining terminals connected one each to the two remaining conductors of the combination circuit to complete the same, a condenser connected around one of the two receiver-windings to act as a shunt to same for the received impulses, the battery impulses flowing through the receiver-windings in opposition to effect neutrality in said receiver to said battery impulses, the split battery-current flowing coöperatively in the two halves of the primary of the induction-coil and inducing the renewed impulses into the secondary circuit, the transmitter being in such mechanical relation to the receiver as to be actuated thereby.

7. In a telephone system, a repeater, a long-distance metallic circuit with no retarding apparatus, such as repeating or induction coils in such circuit, but having a bridge or connection between the two wires of said circuit inductively associated with the repeater, said bridge containing a winding of an induction-coil, and said bridge and winding serving as the means for receiving from and transmitting to said line the currents relayed or received and the reproduced retransmitted currents respectively from the repeater connected inductively therewith.

8. In a telephone repeater system, the combination of the two main telephone-circuits or two sections of a circuit, an associated local repeater-circuit inductively connected with the said main circuits or circuit-sections, a receiving-electromagnet in said local circuit, together with a source of current and a variable-resistance medium controlled by the electromagnet, means for rendering the electromagnet insensitive to the retransmitting-currents, and an induction-coil connected between the local and main circuits constituting the medium for receiving from and sending to the line-circuits both the weak incoming and the reinforced outgoing currents respectively, substantially as described.

9. In a telephone repeater system, containing two sections of transmitting-line, an instrument-circuit local thereto and at an intermediate station thereon, means within said local circuit for establishing an electrical balance for the repeater independent of the line balance and for the purpose of preventing the creation of reactive effects that disturb the transmission or distort the form of the originating current, said means constituting a part of said instrument-circuit and connected with the transmitting-line, and an induction-coil apparatus in said connection, said induction-coil apparatus being common to both sections of the line.

10. In a telephone repeater system, a combined receiver-transmitter repeating apparatus, a main circuit with transmitting and receiving apparatus at distant points requiring reinforcing operating-currents at a repeating-station, a repeating local circuit inductively connected with said main circuit and containing a source of current and the circuits of the combined receiver-transmitter repeating apparatus.

11. In a telephone-repeater, a twin local circuit containing current-supply, receiving and transmitting elements in repeater relation, together with common means adapted to inductively operate with the line for both the received and retransmitted currents.

12. In a telephone repeater system, a line inductively connected with a repeater in a local repeater-circuit, a receiver and transmitter in repeater relation, means for preventing said receiver from being responsive to its actuated transmitter effects, common means for the received and retransmitted currents to be relayed from and to the line respectively, means for energizing the transmitter, together with means for avoiding reacting or blurring efforts in the renewed currents.

13. The combination of a main telephone-circuit, and a reinforcing or relay apparatus associated therewith, said relay comprising a receiver and a transmitter in repeater relation, the receiver adapted to be acted on differentially, a repeating induction-coil interposed between said main circuit and reinforcing apparatus, said coil having its secondary winding in operative connection to the main circuit and its primary winding being split and the two halves differentially wound with reference to each other and connected in circuit with both the receiver and transmitter elements, together with the battery for energizing the transmitter, the receiver element having two windings through which the battery-current flows differentially to produce neutrality of the receiver to the transmitter variations in the local circuit, the receiver element having one winding shunted with a condenser to render it sensitive to the received impulses, and all the currents flowing through the split primary of the repeating induction-coil coöperatively and said coil acting to transmit inductively both the incoming and outgoing currents for the relay.

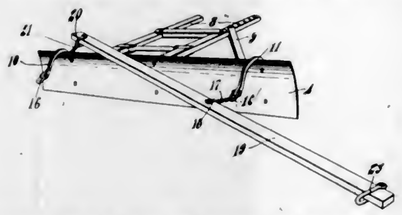
14. A telephone repeater system embodying secondary and primary portions, the secondary portion consisting of the line-circuit having a bridged connection, a repeating induction-coil, the bridged connection including the secondary of the repeating induction-coil, and a condenser, the primary portion of said system consisting of the primary of the induction-coil in local circuit with a battery, a repeater receiver-transmitter, and means to render the system sensitive to induced received currents from the line but insensitive to its local self-action, the inductive effects between the repeater and the line-circuit being wholly transmitted through the said repeating induction-coil.

845,283. SCRAPER. BARZILLA R. WHEELER, Los Angeles, Cal. Filed May 14, 1906. Serial No. 316,890.

Claim.—1. A scraper having a concave face and a steadying-frame secured at the back thereof; and attaching-hooks removably secured to the back thereof and projecting over the edge and downwardly in front of the face.

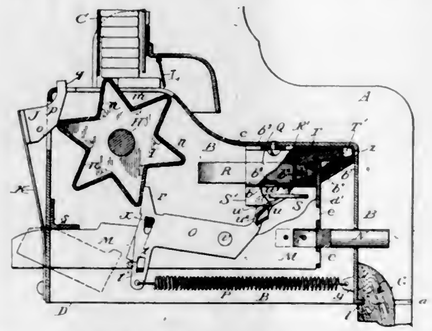
2. A scraper having a concave face; an adjustable steadying-frame secured to the back thereof; and attaching hooks removably secured to the back thereof and projecting over the edge and downwardly in front of the face.

3. A scraper having a concave face; an adjustable steadying-frame secured at the back thereof; attaching-hooks removably secured to the back thereof and projecting over the edge and downwardly in front of the face; and a pull-bar removably secured at one end to one of the



attaching-hooks at the back thereof and intermediate its ends to the other attaching-hook at the front end thereof.

845,284. VENDING-MACHINE. JOHN A. WILLIAMS, Brooklyn, N. Y., assignor to United States Slot Machine Company, New York, N. Y., a Corporation of New York. Original application filed Feb. 17, 1896, Serial No. 579,574. Divided and this application filed Dec. 26, 1902. Serial No. 136,696.



Claim.—1. In a vending-machine, the combination of a casing having a wall provided with a coin-slot; a shell Q within said casing, provided with upright walls b^2 at opposite ends of the coin-slot, with inclined guides or flanges b^4 extending downward obliquely from the wall in which the coin-slot is made, and with bosses b^5 projecting inward above said flanges; and a magnet R having its poles fashioned and arranged to form continuations of the lower faces of said bosses, the bosses and magnet-poles being substantially parallel with said flanges.

2. In combination with the shell or casing of a vending-machine, having a substantially horizontal coin-slot; a shell Q within said casing, provided with a substantially horizontal bottom b', upright side walls b^2, fastening-flanges b^3, guiding-flanges b^4 extending obliquely downward from the coin-slot and projecting inward from the walls b^2 and bosses b^5 projecting inward from the walls b^2, above the flanges b^4; and a magnet R secured in said shell Q, and having its poles carried into close proximity to the flanges b^4 and substantially parallel therewith.

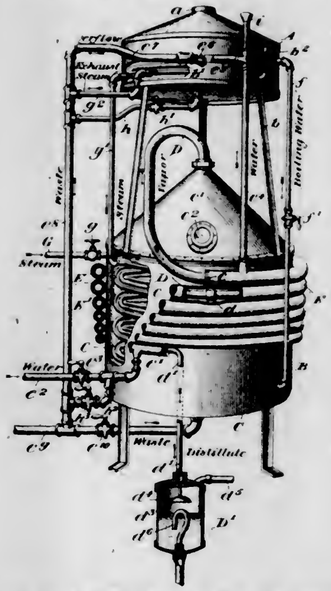
3. In a vending-machine, the combination of a shell Q provided with flanges b^4 to support and guide a coin, bosses b^5 to prevent said coin from lifting, and ears b^7; a magnet having its poles adapted to fit over or engage with said ears and to abut against the bosses; and a pin passing through the walls of the shell and over the magnet, substantially as shown and described.

4. In a vending-machine, the combination of an inclined coin-chute having on its lower side coin-supporting flanges; a magnet having its poles arranged above said flanges and substantially parallel therewith; and ears b^7, of non-magnetic material, adjacent to said poles and forming a continuation of the walls or faces formed by said poles, substantially as and for the purpose set forth.

5. In a vending-machine, the combination of a coin-chute; a magnet having its poles arranged in proximity thereto and in position to attract and hold magnetic substances passing through or over said chute; a slide for actuating the delivery mechanism; and a magnetic arm or member movable with said slide and serving when the slide is operated, to pass between the poles of the magnet and act as a keeper therefor to maintain its proper magnetization.

6. In a vending-machine, the combination of a containing shell or casing provided with a coin slot or opening; a shell Q within said casing provided with a coin way or chute, and with non-magnetic ears b^7; a magnet R mounted within said shell Q and having its poles arranged in proximity to the coin chute or way and forming a continuation of the non-magnetic ears b^7; a slide for actuating the delivery mechanism of the vending-machine; and an arm d' of magnetic material adapted to pass between the magnet-poles and between the ears b^7, substantially as set forth, whereby it is adapted to remove from the magnet-poles any body adhering thereto, to carry the same to the non-magnetic ears where it cannot be held by magnetic attraction, and to pass between the poles of the magnet and thus act as a keeper for the magnet to preserve its proper magnetization.

845,285. APPARATUS FOR DISTILLING. JACOB F. WITTEMANN, Brooklyn, N. Y., assignor to Wittemann Brothers, New York, N. Y., a Firm. Filed Feb. 14, 1895. Renewed Jan. 25, 1907. Serial No. 354,087.



Claim.—1. In a distilling apparatus, the combination with an evaporator and means for vaporizing the water therein, of a condenser comprising water-supply and distillate conduits associated together, an open boiling-pan connected with said water-supply, means for heating said pan to drive off the impurities contained in the water, a pipe connection between the boiling-pan and the evaporator for conducting the remaining heated and purified water to the latter, and a pipe connecting said evaporator to the distillate-conduit of the condenser, substantially as described.

2. In a distilling apparatus, the combination with an evaporator and means for vaporizing the water therein, of a condenser comprising water-supply and distillate conduits associated together, an open boiling-pan connected

with said water-supply conduit beyond the point of association with the distillate-conduit, means for heating said pan to drive off the impurities contained in the water, a pipe connection between the boiling-pan and the evaporator for conducting the remaining heated and purified water to the latter, and a pipe connecting said evaporator to the distillate-conduit of the condenser, substantially as described.

3. In a distilling apparatus, the combination with a still, of a boiling-pan provided with an inlet for the water, and an overflow to determine the water-level and maintain the same, said pan having means for boiling the water to purify the same and an opening for the escape of the organic and other gases arising from the boiled water, and a connection for conducting the remaining purified water to said still provided with a valve regulating the supply of water to the still, the supply of water to the boiling-pan being regulated by the amount supplied to said still, substantially as described.

4. In a distilling apparatus, the combination with a still comprising a retort having steam-coils arranged therein for vaporizing water and a condensing pipe or coil communicating with said retort, of a boiling-pan provided with an inlet for the water, a steam coil or coils for heating said water, and an opening for the escape of gases, a pipe connecting said pan to the retort, a pipe or coil surrounding the condensing-pipe, a connection for supplying water to said coil, a pipe leading from the coil surrounding the condensing-pipe, and connected to the inlet of the boiling-pan, together with a pipe connecting the steam-coils of the retort with the coil or coils of said boiling-pan, substantially as described.

5. In a distilling apparatus, the combination of a vaporizing chamber or retort, a boiling-pan communicating therewith to supply the same with boiled water and open for the escape of vapor, a water-supply pipe having a branch communicating with the pan and having an elevated overflow extension beyond such branch to determine the water-level in the pan and maintain it above the water-inlet thereof, and a condenser communicating with the vaporizing-chamber and associated with the water-supply pipe.

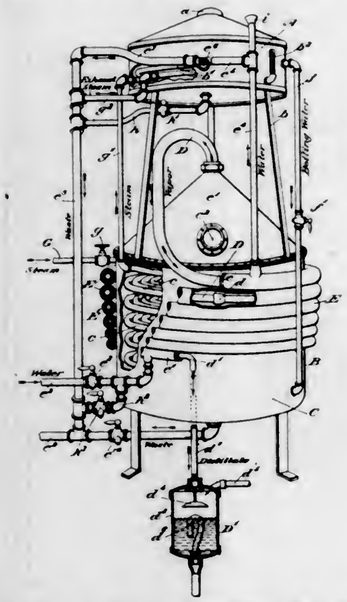
6. In a distilling apparatus, the combination with a retort and means for vaporizing the water contained therein, of a boiling-pan provided with an inlet for the water, means for boiling the water contained therein, and with an opening for the escape of the gases, whereby the organic and other gases contained in the water or created by the destruction of solid matter contained therein are driven off with the vapor into the open air, a pipe connecting said pan to the retort for conveying the remaining purified water thereto, a condenser provided with a connection with the retort, a pipe leading from the condenser and supplying heated water to the boiling-pan and provided with an overflow, whereby the supply of water to the pan may be controlled by the amount supplied to the retort, substantially as described.

7. In a distilling apparatus, the combination with a retort and means for vaporizing the water contained therein, of a boiling-pan provided with an inlet for the water, means for heating the water contained in said pan, and an opening for the escape into the open air of the organic or other gases contained in the water or created by the destruction of solid matter contained therein, a pipe connecting said pan to the retort for conveying the remaining purified water to said retort, a pipe or coil surrounding the retort and communicating with the same to receive vapor therefrom, a water-conveying pipe surrounding the condensing-pipe for condensing the distillate, together with a pipe leading from the water-conveying pipe and connected to the inlet of the boiling-pan, whereby the water may be heated by the distillate before being purified, substantially as described.

8. In a distilling apparatus, the combination with a still comprising a retort having steam-coils arranged therein for vaporizing water, and a condensing pipe or coil communicating with said retort, of a boiling-pan provided with an inlet for the water, a steam coil or coils for boiling the water connected with the retort steam-coils, and an opening in the upper portion of the pan for the escape into the open air of the organic and other gases contained in the water or created by the destruction of solid matter contained therein, a pipe connecting said pan to the retort for conveying the remaining purified water to said retort, and a pipe or coil surrounding the condensing-pipe and provided with a communication with the boiling-pan, whereby the water to be distilled may be heated by the distillate before reaching said boiling-pan, substantially as described.

9. In a distilling apparatus, the combination of a vaporizing-retort, a vapor-pipe leading out of the same and coiled about it, one or more steam-coils within the retort, a boiling-pan above the retort and open for the escape of vapors, a steam-coil in said pan and connected in series with the steam-coil in the retort, a pipe connecting the boiling-pan with the retort for supplying the latter with boiled liquid, a liquid-coil inclosing the vapor-coil around the retort, a pipe connecting said liquid-coil with the boiling-pan for supplying the latter with heated liquid, a waste or overflow pipe connected with said hot-liquid pipe, and connections between said waste-pipe and the steam and liquid coils and the retort and boiling-pan, for the purpose described.

845,286. METHOD OF DISTILLING. JACOB F. WITTEMANN, Brooklyn, N. Y., assignor to Wittemann Brothers, New York, N. Y., a Firm. Original application filed Feb. 14, 1895, Serial No. 538,381. Divided and this application filed Sept. 8, 1900. Serial No. 29,398.



Claim.—1. The method of distilling and purifying water, which consists in boiling the water in a vessel having an exit into the open air whereby the water may be aerated during the ebullition and the separation of the particles, and the organic and other gases contained in the water or created by the destruction of solid matter contained therein are driven off with the vapor; vaporizing the purified water in a vaporizer or retort, and then condensing the vaporized water, all in one continuous operation, substantially as described.

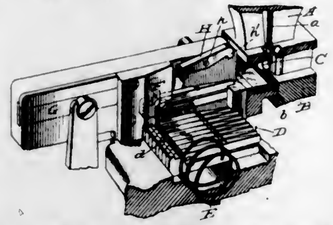
2. The method of distilling water, substantially as hereinbefore described, which consists in causing the water to flow in a moving column; gradually raising the temperature of said column as it moves forward; causing the heated water to flow into a vessel adapted to permit the organic and other gases to escape into the open air; boiling the water in said vessel, so as to drive off the organic and other gases resulting from such boiling; conducting the remaining water thus purified into a retort or vaporizing apparatus; then vaporizing the same, and then condensing the vaporized water and gradually cooling the outwardly-moving column by successive association with decreasing temperatures of a cooling agent; the operation being continuous and the flow uninterrupted from the initial to the final step in the process, substantially as described.

3. The method of distilling water, which consists in creating a moving column of water; boiling the water in a suitable vessel, so as to drive off into the open air the organic and other gases contained in the water, or created by the destruction of solid matter contained therein; conducting the remaining purified water to a second vessel and there vaporizing the same, conducting the vapor to a suitable condenser, and finally condensing the vaporized water by causing the water to be distilled to pass through the condenser in such manner as to absorb the heat contained in said distillate, substantially as described.

4. The improved method of distilling, which consists in feeding the liquid to be distilled into a receptacle from which vapors can escape to the atmosphere; maintaining a level in such receptacle by means of an overflow; boiling the liquid in the receptacle; conducting the boiled liquid to a still and there vaporizing it, and subsequently condensing the vapors to obtain the distillate, substantially as described.

5. The method of distilling and purifying water which consists in boiling the water in a vessel having an exit into the open air whereby gases may be driven off, vaporizing the purified water in a retort and then condensing the vaporized water, all in one continuous operation.

845,287. TYPE-SETTING MACHINE. CHARLES S. WRIGHT, New Haven, Conn., assignor to Mergenthaler Linotype Company, a Corporation of New York. Filed June 17, 1905. Serial No. 265,729.



Claim.—1. In a type-justifying mechanism, justifying-wedges and means for advancing them across the type-line, in combination with means independent of the wedge-advancing mechanism for engaging and guiding the wedge during its advance and thereafter releasing the same.

2. In a type-justifying mechanism, the combination of wedges and means for thrusting the same endwise across the type-line, with a guide independent of the wedge-advancing mechanism acting against the side face of the wedge and means for retracting the guide after the wedge is advanced.

3. In a type-justifying mechanism, the combination of means for assemblying type, wedges and means for lifting the wedges one at a time to the assembling-level, means for thrusting the wedges one at a time across the type-line, and an overlying guide actuated by and engaging with the wedges, substantially as described.

4. In a justifying mechanism, the combination of the wedges and means for advancing the wedges across the type-line, the pivoted guiding-latch arranged to be thrust into action by the ascending wedges, and a spring tending to throw the latch out of action.

5. In a type-justifying mechanism, the combination with means for assemblying the type in line, of wedges, means for lifting the wedges to the assembling-level, means for advancing the wedges endwise across the line, a guiding-latch arranged to be thrown into action by the ascending wedges, and a spring acting to disengage the latch when released by the wedge.

845,288. SWIVEL-TIP FOR ELECTRIC CONDUCTORS. WILLIAM F. BARKER, Somerville, Mass. Filed Apr. 17, 1906. Serial No. 312,095.



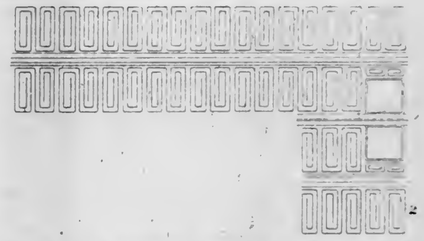
Claim.—1. The combination with a tip adapted to be inserted in a binding-post or the like, of a holder in which the tip is rotatably mounted and held from longitudinal movement, and a shell to receive the tip and its holder and having an opening at one end to permit the tip to project therethrough, the conductor being electrically connected with the holder within the shell.

2. The combination with a metallic holder and a tip, the latter being rotatably held in the former and extending beyond the same at one end, of a tubular shell to receive the holder and the end of the conductor, one end of the shell having an aperture through which the extended end of the tip projects, the conductor being electrically connected with the holder within the shell.

3. The combination with a tubular shell having an aperture in its closed end, of a tip extending loosely through the aperture, an electric conductor inserted and fixedly held in the opposite open end of the shell, and a swivel connection between the tip and said conductor, inclosed within the shell.

4. The combination with a tubular shell or ferrule having an aperture in its closed end, of a tip extended loosely through the aperture, an electric conductor inserted and fixedly held in the opposite open end of the shell, and a non-rotatable holder for and in which the inner end of the tip is rotatably mounted, said holder being electrically connected with the conductor within the shell.

845,289. PAVEMENT AND METAL REINFORCE THEREFOR. EDWIN H. BENNERS, Elizabeth, N. J. Filed July 12, 1906. Serial No. 325,767.



Claim.—1. A pavement formed of plastic material having an embedded metal surface reinforce free to sink and provided with means to prevent upward working of said reinforce.

2. A pavement formed of plastic material having an embedded barbed metal surface reinforce free to sink and having its barbed portion arranged to prevent upward working of the reinforce.

3. A pavement formed of plastic material having an embedded metal surface reinforce free to sink and provided with a longitudinal shoulder to prevent upward working of the reinforce.

4. A pavement formed of plastic material having an embedded metal surface reinforce free to sink and provided adjacent its lower edge with longitudinal shoulders upon opposite sides to prevent upward working of the reinforce.

5. A pavement formed of plastic material having a

metal surface reinforce embedded therein, said reinforce being provided with a lower penetrating edge.

6. A pavement formed of plastic material having a metal surface reinforce embedded therein, the lower edge of the reinforce being beveled to form a penetrating edge.

7. A pavement formed of plastic material having a metal surface reinforce embedded therein, the lower edge portion of the reinforce having its opposite sides converged downwardly to form a penetrating edge.

8. A pavement formed of plastic material having a metal surface reinforce embedded therein, said reinforce having a penetrating lower edge, and shoulders above said edge to prevent upward working of the reinforce.

9. A pavement formed of plastic material having a metal surface reinforce embedded therein, said reinforce being provided with opposite longitudinal shoulders to prevent upward working of the reinforce, and opposite sides of the reinforce being converged downwardly from the shoulders to form a penetrating lower edge.

10. A pavement comprising a foundation, plastic material thereon, and a metal surface reinforce embedded edgewise in the plastic material, the lower edge of the reinforce terminating short of the foundation and shaped to permit sinking of the reinforce to compensate for wear on the surface of the pavement.

11. As a new article of manufacture, a metal surface reinforce for pavements having a penetrating lower edge.

12. As a new article of manufacture, a metal surface reinforce for pavements having shoulders upon opposite sides and tapered downwardly from the shoulders to provide a lower penetrating edge.

13. A pavement formed of plastic material having a metal surface reinforce embedded therein and provided with a lower penetrating edge, and means to prevent upward working of said reinforce.

14. A pavement formed of plastic material having a barbed metal surface reinforce embedded therein and provided with a lower penetrating edge, the barbed portion being arranged to prevent upward working of the reinforce.

15. A pavement formed of plastic material having a metal surface reinforce embedded therein and provided with a lower penetrating edge, said reinforce being provided with a longitudinal shoulder to prevent upward working of the reinforce.

16. A pavement formed of plastic material having a metal surface reinforce embedded therein and provided with a lower penetrating edge, and longitudinal shoulders upon opposite sides of the reinforce to prevent upward working thereof.

845,290. ROOFING MATERIAL. EDWARD H. BINNS, Upper Merion township, Montgomery county, Pa. Filed Apr. 25, 1906. Serial No. 313,539.



Claim.—1. A roofing-plate having a body portion made up of a cellular sheet having its interstices filled with granular material, said body portion being inclosed within a casing of thin metallic foil-like material.

2. A roofing-plate having a body portion made up of a cellular sheet having its interstices filled with granular material, the said body portion being coated with asphalt and inclosed within a casing of thin metallic foil-like material.

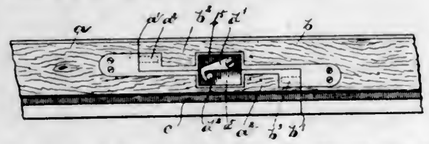
3. A roofing-plate having a body portion made up of a cellular sheet having its interstices filled with granular material and bound around its edges by a metallic strip, the said body portion being coated with asphalt and inclosed within a casing of thin metallic foil-like material.

4. A roofing-plate having a body portion made up of a cellular sheet having its cellular interstices filled up with granular material the said body portion being coated with asphalt and inclosed within a casing consisting of two thin metallic foil-like sheets, the one being of larger surface area than said body portion and having its overlapping portions inclosing the edges of the same and the other being connected to the first-mentioned sheet by soldered joints.

5. A roofing-plate having a body portion made up of granular material confined in channels formed between light strawboard sheets, the said body portion being bound at its edges by a metallic strip and having its outer surface coated with asphalt, a casing for said body portion of thin metallic foil-like material.

6. A roofing-plate having a body portion made up of granular material confined in channels formed between strawboard sheets, the said sheets being bound at their edges by a metallic strip and the said body portion being coated with asphalt, a casing inclosing said body portion, the said casing being made up of two thin foil-like metallic sheets the one being of larger area than said sheets and having its overlapping edges inclosing the edges of said body portion, and the other being connected with the first-mentioned sheet by a soldered joint.

845,291. STRAIGHT-EDGE. JOHN G. BRECKENRIDGE, Springfield, Ohio, assignor to The Ridgely Trimmer Company, Springfield, Ohio, a Corporation of West Virginia. Filed Apr. 23, 1906. Serial No. 313,184.



Claim.—1. A straight-edge formed in sections, the adjacent ends of said sections being offset and fitted together as described, a dowel-pin on each section adapted to fit a corresponding socket of the opposite section, a recess in each section adapted to register with each other, and means located in said recesses for securing the sections together, substantially as specified.

2. A straight-edge formed in sections, the adjacent ends of said sections having interchanging parts, including dowel-pins, a recess formed in said straight-edge at the joint between the respective sections, and means located in said recess for locking the parts together, substantially as specified.

3. A straight-edge formed in sections, the adjacent ends of the sections being formed with an offset and fitted together as described, a dowel-pin on each section extending longitudinally into the offset, and a socket formed in the extreme end of the opposite section to receive said dowel-pin, and means for locking the parts together comprising a pivoted hook, substantially as specified.

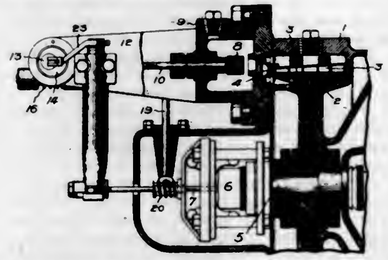
4. A straight-edge formed in sections, the adjacent ends of said sections being halved, and dowel-pins and a locking device for uniting the parts in a manner to permit their ready separation, said locking device being located in a recess, substantially as specified.

5. A straight-edge formed in sections, the adjacent ends of said sections being halved and cut away to form overlapping parts, dowel-pins in the main body of the sections adapted to fit in recesses in the ends of the overlapping parts, a recess formed in the adjacent portions of the overlapping parts, and a locking device located in said recess, substantially as specified.

845,292. GOVERNING MECHANISM FOR TURBINES. JOHN G. CALLAN, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Sept. 1, 1905. Serial No. 276,665.

Claim.—1. In a governing mechanism, the combination of a regulator for controlling the passage of energy through the apparatus to be governed, a means for actuating the regulator, and a device responsive to load changes which shifts the said means and regulator laterally with respect to each other to cause the said means to open or close the regulator.

2. In a governing mechanism, the combination of a regulator for controlling the passage of energy through the apparatus to be governed, a means which is constantly in motion and in a normal given plane for actuating the regulator, and a device responsive to load changes which automatically shifts the said means and regulator laterally with respect to each other to cause the said means to engage the regulator in a manner to open and close it to meet the demand for energy.



3. In a governing mechanism, the combination of a valve for controlling the passage of fluid, a means which is constantly in motion for opening and closing the valve, and a device for shifting the relative position of the valve and means prior to actuating the valve as the demand for fluid changes.

4. In a governing mechanism, the combination of a valve for controlling the passage of fluid, a means normally having a movement in a given plane for opening and closing the valve, and a load-responsive device for moving the said means transversely to its normal plane in order to modify its effect on the valve.

5. In a governing mechanism, the combination of a regulator, a means which is constantly moving to and fro in a given plane for operating the regulator, and a device for shifting the said means transversely to its normal plane without interrupting its movements when it is desired to modify its action on the regulator.

6. In a governing mechanism, the combination of a regulator, a dog having a constant to-and-fro motion for actuating the regulator, and a means for shifting the dog to one side of a given position for moving the regulator in one direction and for shifting it to the other side of said position for moving the regulator in the opposite direction.

7. In a governing mechanism, the combination of a regulator, a dog, a driving means for the dog which imparts to it a to-and-fro motion, and a means for shifting the dog to one side of a given position without interfering with its normal movements for moving the regulator in one direction, and for shifting it to the other side of said position for moving the regulator in the opposite direction.

8. In a governing mechanism, the combination of a controlling-valve, a device for actuating the valve, an eccentric on which the device is mounted for moving it to and fro, a driving means for the eccentric, and a means responsive to load conditions for causing the device to move the valve.

9. In a governing mechanism, the combination of a controlling-valve, a device for actuating the valve, an eccentric for moving the device to and fro, a driving means for the eccentric, a speed-responsive device, and a means actuated by the speed-responsive device for shifting the valve-actuating device axially with respect to the eccentric.

10. In a governing mechanism, the combination of a controlling-valve, a dog for actuating the valve, an eccentric for moving the dog to and fro, and a speed-responsive device for sliding the dog along the eccentric in one direction to open the valve and in the opposite direction to close the valve.

11. In a governing mechanism, the combination of a controlling-valve, an actuator connected to and moving with the valve, a device which has a constant movement and engages one part of the actuator to move the valve in one direction, and another part of the actuator to move it in the opposite direction, and a means responsive to load conditions for shifting the device laterally so that it will engage one part of the actuator or the other depending upon the load requirements.

12. In a governing mechanism, the combination of a valve, a stem therefor, a device which acts on the stem and opens the valve when moved in one direction and closes it when moved in the other, and a means moving with the stem which controls the effective action of the device on the valve.

13. In a governing mechanism, the combination of a regulator for controlling the passage of energy through the apparatus to be governed, a means for actuating the regulator which has a to-and-fro movement, a mechanism for shifting the regulator and means laterally with respect to each other as the load conditions change, and a device moving with the regulator for determining the effective action of the said means thereon.

14. In a governing mechanism, the combination of a regulator for controlling the passage of energy through the apparatus to be governed, a means which opens the regulator when moved in one direction and closes it when moved in the other, mechanism responding to load changes for shifting the regulator and means with respect to each other, and a device which prevents the said means from acting on the regulator after it has moved it until a change occurs in the load conditions.

15. In a governing mechanism, the combination of a plurality of regulators, an actuator for each regulator which is constantly moving to and fro in a plane, and a load-responsive device which shifts one or more of the actuators and regulators with respect to each other to cause the actuator or actuators to open or close one or more regulators.

16. In a governing mechanism, the combination of a plurality of controlling-valves, an actuator for each valve that opens it on one stroke and closes it on the other, and a load-responsive device which shifts the actuators laterally from their normal planes of motion and causes them to successively open and close the valves as the demand for fluid changes.

17. In a governing mechanism, the combination of a plurality of controlling-valves, an actuator for each valve, a driving means common to the actuators, and a load-responsive device which shifts the actuators laterally and causes them to open and close the valves as the demand for fluid changes.

18. In a governing mechanism, the combination of a plurality of controlling-valves, an actuator for each valve, an eccentric for each actuator, a driving means common to the eccentrics, a load-responsive device which shifts the actuators laterally without interfering with their movements and causes them to open and close the valves as the demand for fluid changes.

19. In a governing mechanism, the combination of a plurality of controlling-valves, an actuator for each valve, a driving means common to the actuators, a device moving with each of the valves which determines the action of the actuator thereon, and a load-responsive device which shifts the actuators laterally to cause them to open or close the valves as the demand for fluid changes.

20. In a governing mechanism, the combination of a plurality of controlling-valves, a cross-head for each valve, an actuator for each valve that acts directly on the cross-head, a driving means common to the actuators, and a load-responsive device which successively shifts the actuators into or out of operative engagement with the cross-heads as the demand for fluid changes.

21. In a governing mechanism, the combination of a plurality of controlling-valves, arranged in a row, an actuator for each valve, a driving-shaft which passes through and is common to the actuators and imparts a longitudinal reciprocating motion thereto, and a means for causing the actuators to engage or disengage the valves as the demand for the fluid changes.

22. In a governing mechanism for turbines, the combination of a bucket-wheel, a shaft therefor, a valve controlling the passage of fluid through the bucket-wheel, an

actuator which opens the valve when moved in one direction, and closes it when moved in the opposite, a driving-shaft for the actuator, a connection for transmitting motion between the shafts, and a speed-responsive device driven by the wheel-shaft that shifts the actuator and valve with respect to each other to cause the actuator to move the valve as the demand for fluid changes.

23. In a governing mechanism, the combination of a plurality of controlling-valves, an actuator for each valve, which has a constant to-and-fro movement, an eccentric for moving each actuator, a driving-shaft which is common to the eccentrics, a rod extending longitudinally of the eccentrics which shifts the actuators laterally, and a speed-governor for moving the rod as the demand for fluid changes.

24. In a governing mechanism, the combination of a plurality of controlling-valves, a dog for actuating each valve that has a toe and a heel piece, a means for constantly imparting a longitudinal to-and-fro movement to the dog, a device on each valve which determines whether the toe or heel piece shall engage it, and a speed-responsive means that moves the dogs to cause them to open or close the valves.

25. In a governing mechanism, the combination of a regulator, an actuating-block attached to and moving with the regulator, a dog which has a toe and a heel piece and is constantly in motion, a driving-shaft for the dog, projections on the block which coöperate with the toe and heel pieces to prevent the dog from moving the regulator, and a means for adjusting the relative positions of the block and dog so that the latter can move the regulator in the required direction.

26. In a governing mechanism, the combination of a regulator, a constantly-moving actuator, means for transmitting motion from the actuator to the regulator when it is desired to move it, and means which bodily moves the actuator laterally to a position where it will move the regulator and thereafter continue its movement without affecting the regulator until a change in operating conditions occurs.

27. In a governing mechanism, the combination of a regulator, an actuator which has a constant to-and-fro motion, a block which transmits the movements of the actuator to the regulator when it is desired to move it, and means which bodily move the actuator laterally to a position where it will move the regulator and thereafter continue its movements without affecting the regulator until a change in operating conditions exists.

28. In a governing mechanism, the combination of an unbalanced regulating-valve which is held in its open and closed positions by fluid acting on its surfaces, with a means responsive to load changes which engages the valve when in a position of rest, then positively moves it to a new position and at the same time prevents the valve from operating due to its unbalanced condition and finally disengages the valve until a change in the load conditions occurs.

29. A governing mechanism, comprising an unbalanced regulating-valve which is held in its open and closed positions by fluid-pressure, an actuating means which first engages the valve, then positively moves it toward or away from its seat and at the same time prevents the same from moving independently due to its unbalanced condition, and a load-responsive device which controls the effective action of the actuating means on the regulator.

30. A governing mechanism, comprising a plurality of unbalanced regulating-valves which are held in their positions by fluid-pressure, a separate actuator for each valve that first engages it, then positively moves it toward or away from its seat and prevents the same from jumping due to its unbalanced condition, and a load-responsive device which causes the actuators to successively operate the valves both in opening and closing.

31. In a governing mechanism, the combination of a regulator, an actuator that is normally free to move to and fro and which positively engages the regulator both to open and close it, a resilient means for cushioning the actuator as it strikes the regulator both in opening and closing, and means moving the regulator which engages the actuator and determine its effect thereon.

32. In a governing mechanism, the combination of a regulator, a block for actuating it comprising shoulders and projections, a dog which engages the shoulders and moves the regulator in one direction or the other as the operating conditions demand, the said projections acting on the dog to hold it out of engagement with the shoulders or to permit it to engage them as the operating conditions demand.

33. In a governing mechanism, the combination of a regulator, a block for actuating it comprising shoulders and spring-supported projections, a dog having toe and heel pieces adapted to engage the shoulders, the said projections acting to control the effective action of the dog on the block and also to cushion the blows of the dog as it strikes the block.

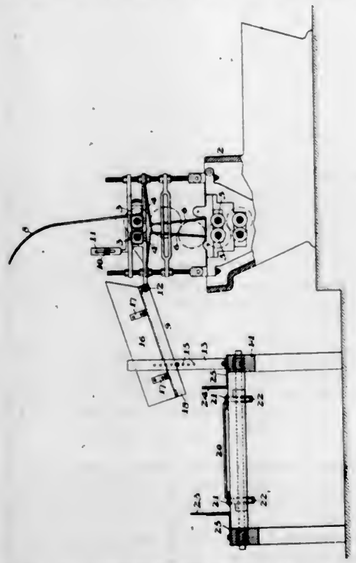
34. In a governing mechanism, the combination of a valve, a dog having a toe-piece that positively moves the valve in one direction and a heel-piece that positively moves it in the opposite direction, projections moving with the valve which alternately engage the dog to cause it to perform its work, and means for shifting the dog laterally to engage one projection or the other.

35. In a governing mechanism, the combination of a plurality of regulating-valves, one or more of which are normally open and one or more normally closed, and one of which is opening and closing at frequent intervals for regulating purposes, longitudinally-movable dogs for moving the valves that directly engage the same, and a means for shifting the dogs laterally to cause them to engage and move one or more valves as the load increases or decreases.

36. In a governing mechanism, the combination of a regulator, a dog having a to-and-fro motion for actuating the regulator, an eccentric upon which one end of the dog is loosely mounted, and a means normally tending to cause the free end of the dog to engage and move the regulator.

37. In a governing mechanism, the combination of a regulator, a device for actuating the regulator, and a means for shifting the device to a position where it opens the regulator and to a different position to close it.

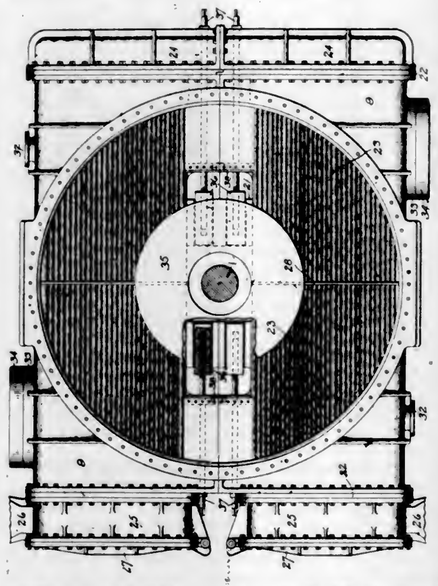
845,293. PLATE-FEEDING DEVICE. ERNEST L. CRONEMEYER, Monessen, Pa., assignor to American Sheet & Tin Plate Company, Pittsburg, Pa., a Corporation of New Jersey. Filed June 1, 1905. Serial No. 263,297.



Claim.—1. In branner-feeding mechanism, the combination with a branner having a chain provided with feed-in fingers, of a chute having its delivery end extending below the receiving end of the chain, and having at its lower end a series of stationary stop-fingers, and a series of movable stop-fingers located at an intermediate portion of the chute and having extended arms; and actuating devices carried by and moving with the branner-chain and arranged to engage and operate the said arms, substantially as described.

2. In branner-feeding mechanism, the combination with a branner having feed-in fingers, a chute arranged to deliver the sheets to the fingers, stop mechanism for controlling such delivery, a conveyer arranged to deliver the sheets to the upper portion of the chute, and a second chute arranged to receive the sheets from a tinning-pot and deliver them to the conveyer, said chutes and conveyer having adjustable guide devices for squaring up the sheets; substantially as described.

845,294. SURFACE CONDENSER FOR TURBINES. WILLIAM L. R. EMMET, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Sept. 14, 1903. Serial No. 173,027.



Claim.—1. In an elastic-fluid turbine, a base comprising a rectangular box-like structure having a step-bearing in its lower part a circular opening in the top, and sets of condenser-tubes located within said structure and below the opening.

2. In an elastic-fluid turbine, a base comprising a rectangular box-like structure having a step-bearing in its lower part a circular opening in the top, a wheel-casing mounted on top of the said structure and discharging into the opening, and condenser-tubes located within the structure and below the opening and arranged in two parallel sets.

3. In an elastic-fluid turbine, a base containing sets of condenser-tubes with a step-bearing between said sets.

4. In an elastic-fluid turbine, a base provided with a step-bearing, and condenser-tubes arranged on opposite sides of said bearing.

5. In an elastic-fluid turbine, a base made up of separate portions each containing condenser-tubes, and a bearing for the shaft which is supported by and within the separate portions of the base.

6. In an elastic-fluid turbine, a base comprising hollow bodies to receive the exhaust-steam, a set of condenser-tubes in each body, and a shaft-bearing located in the base and extending into the hollow bodies between the sets of tubes.

7. In an elastic-fluid turbine having an upright shaft, a base comprising sections between which said shaft can pass, condenser-tubes in each, and a reëntrant recess formed in the base around the shaft.

8. In an elastic-fluid turbine, a base composed of sections meeting on the axial plane of the shaft and having registering openings in their meeting faces, and a reëntrant recess formed partly in one section and partly in another.

9. In an elastic-fluid turbine, a base composed of sections meeting on the axial plane of the shaft and having a reëntrant recess around the shaft.

10. In an elastic-fluid turbine, a base composed of sections having a reëntrant recess around the shaft, and a step-bearing support in said recess.

11. In an elastic-fluid turbine, a base composed of sections having a reëntrant recess around the shaft, and a step-bearing support in said recess integral with said sections.

12. In an elastic-fluid turbine, a section for a base, consisting of a box-like body having a semicircular opening in its top, an open side containing a reëntrant recess, and a step-bearing support in said recess.

13. In a turbine, the combination of a base having a reëntrant recess formed therein, a wheel-shaft, and a support for the wheel-shaft that is carried by the wall of the recess.

14. In a turbine, the combination of a base having a reëntrant recess, a wheel-shaft, a bearing therefor, and a support for the bearing which is located midway between the ends of and is carried by the wall of said recess.

15. In a turbine, the combination of a base having a divided reëntrant recess formed therein, a vertical shaft, a bearing therefor, and supports for the bearing which are carried by the parts of the recess.

16. In an elastic-fluid turbine, a section for one-half of the base, comprising a box-like body with one side open, having a reëntrant recess in its bottom, one side of said recess being open, and having in its top a semicircular opening whose diameter coincides with the open side of said body and recess.

17. In an elastic-fluid turbine, a condenser-base comprising sections having tubes running lengthwise thereof, caps on said sections covering the ends of said tubes, and a reëntrant support which with the shaft divides the tubes into sections.

18. In an elastic-fluid turbine, a condenser-base comprising sections having tubes running lengthwise thereof, caps connecting said sections at one side, separate caps at the other end forming the inlet and outlet for the condensing water, and a baffle-plate for directing the passage of the exhaust against the tubes.

19. In an elastic-fluid turbine, a condenser-base comprising sections containing tubes, connected caps at one end of said sections, separate caps at the other end, and hinged lids for said separate caps.

20. In an elastic-fluid turbine, a base composed of duplicate sections, a set of tubes for each section, the sets being arranged in parallel relation, and a bearing-support, one-half of which is carried by one section and the other half by the remaining section.

21. In an elastic-fluid turbine, a base comprising similar halves meeting on the axial plane of the shaft, each half having an inset.

22. In an elastic-fluid turbine, a base comprising sections each having flanged ribs on its bottom and openings in its outer wall communicating with the spaces between said ribs.

23. In an elastic-fluid turbine, a base containing condenser-tubes, and a baffle-plate for directing the inflowing exhaust.

24. In an elastic-fluid turbine, a base containing two sets of condenser-tubes, and a baffle-plate for directing the inflowing exhaust motive fluid toward one set.

25. In an elastic-fluid turbine, a base containing two sets of condenser-tubes connected in series, and a baffle-

plate causing the inflowing steam to pass first among the warmer tubes.

26. In a turbine, the combination with an upright shaft, of a step-bearing therefor, and means for supporting the shaft in its normal position when the step-bearing is to be removed.

27. In a turbine, the combination with the shaft, of an element rotating therewith, a rigid support adjacent to said element, and means for bringing said support into operative contact with said element.

28. In a turbine, the combination with the bucket-wheel, of a chock beneath said wheel, and means for lifting said chock into supporting relation to said wheel.

29. In a turbine, the combination with the shaft and bucket-wheel, of a chock surrounding said shaft beneath said wheel, and wedges for lifting said chock.

30. In a turbine, the combination with a condenser-base, of a stationary grooved plate therein, a chock resting on said plate and having grooves therein, wedges in said grooves, screw-threaded rods tapped into said wedges and extending out through bearings in the walls of the base, and a bucket-wheel rotatable just above said chock.

31. In an elastic-fluid turbine, a base having a reëntrant recess to receive a step-bearing, and condenser-tubes arranged on opposite sides of said recess.

32. In an elastic-fluid turbine, a base having a reëntrant recess, a step-bearing support in said recess, and condenser-tubes arranged on opposite sides of said recess.

33. In an elastic-fluid turbine, the combination with a base having a reëntrant recess in its bottom, a step-bearing in said recess, a shaft extending through said base into the recess, and a packed joint at the point where the shaft passes from the base into said recess.

34. In a vertical-shaft turbine, the combination of a chambered base having a finished upper surface and tube-receiving openings, supports situated between the openings to sustain the weight of the wheel-casing, and a wheel-casing mounted on the top of the base.

35. In a turbine, the combination of an exhaust-receiving structure which is provided with a circular opening and finished wall, supports to sustain the wall at intermediate points, and a wheel-casing engaging with the wall.

36. In an elastic-fluid turbine, the combination with a base having a reëntrant recess in its bottom, a step-bearing in said recess, and a support which extends across the recess, supports the bearing, and permits access to the parts located between the end of the step-bearing and the under wall of the inset.

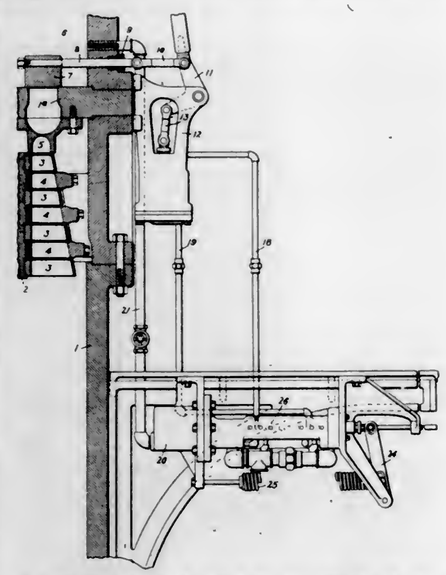
845,295. STEAM-TURBINE. WILLIAM L. R. EMMET, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Sept. 22, 1904. Serial No. 225,441.

Claim.—1. The combination with a steam-turbine, having two steam-containing chambers, of ports connecting said chambers, a valve controlling each port, a fluid-pressure motive device for operating each valve, a controller regulating the supply of fluid-pressure to and from said motive devices, and automatic means responding to changes in steam-pressure for operating said controller.

2. The combination with a steam-turbine, having two steam-containing chambers, of ports connecting said chambers, a valve controlling each port, an abutment movable by fluid-pressure for operating each valve, pipes for conveying fluid-pressure to both sides of said abutment, a valve for controlling the admission and exhaust of fluid pressure to and from said pipes in regular order, and a device responsive to changes in steam-pressure for actuating said controlling-valve.

3. The combination with a steam-turbine having two steam-containing chambers, of ports connecting said chambers, a valve controlling each port, a fluid-pressure device for operating each valve, a cylinder communicating with the chamber having the higher steam-pressure, a piston movable in said cylinder, and a valve connected with said piston and controlling the supply of fluid to the valve-operating devices.

4. The combination with a steam-turbine having two or more stages, of separate valves controlling the flow of steam from one stage to the next, and a device responsive to variations in pressure in the higher stage and controlling said valves by means independent of the motive fluid.



5. The combination with a steam-turbine having two or more stages, of ports between said stages, a separate valve controlling each port, and a valve-operating device responsive to changes in steam-pressure in a higher stage and controlling said valves by means independent of the motive fluid.

6. The combination with a steam-turbine having two or more stages, of ports between said stages, separate valves controlling said ports, a cylinder connected with the higher stage, a piston movable in said cylinder, a controlling-valve, and operative connections between said piston and said controlling-valve.

7. The combination with a steam-turbine having two or more stages, of ports between said stages, valves controlling said ports, a movable abutment connected with each valve, pipes for conveying fluid-pressure to both sides of each abutment, and a fluid-pressure controller responsive to variations in steam-pressure in the higher stage.

8. The combination with a steam-turbine having two or more stages, of valves controlling the passage of steam from one stage to another, a movable abutment connected with each valve, pipes for conveying fluid-pressure to both sides of each abutment, a valve-chest from which said pipes run, a valve in said chest controlling said pipes, and a movable abutment connected with said valve and exposed on one side to the steam-pressure in the higher stage.

9. In a governing mechanism for elastic-fluid turbines, the combination of a plurality of regulating-valves which have an open and a closed position but no intermediate, a hydraulic motor for actuating each of the valves, a controlling-valve common to the regulating-valves, and a means responsive to changes in stage-pressure for adjusting the controlling-valve.

10. In a governing mechanism for elastic-fluid turbines, the combination of a plurality of regulating-valves which have an open and a closed position but no intermediate, a hydraulic motor for actuating each of the valves, a controlling-valve, a plurality of passages leading from the motors to the casing of the controlling-valve, and an abutment responsive to changes in stage-pressure for moving the controlling-valve to and fro to cover and uncover the said passages.

11. In a governing mechanism for elastic-fluid turbines, the combination of a source of steam-supply, a source of hydraulic pressure, valves regulating the passage of steam through the turbine, motors actuated by fluid from the source of hydraulic pressure, and a steam-actuated motor for controlling the action of the hydraulic motors.

12. In a governing mechanism for elastic-fluid turbines, the combination of a source of steam-supply, a source of hydraulic pressure, valves regulating the passage of steam through the turbine, motors actuated by fluid from the source of hydraulic pressure, a valve which is common to the hydraulic motors, and a motor for admitting fluid to the hydraulic motors successively and cutting it off in like manner in response to changes in stage-pressure.

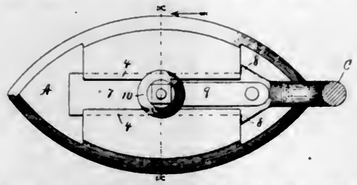
13. In a governing mechanism, the combination of a valve controlling the passage of fluid through the turbine, a hydraulic motor for actuating the valve, a controlling-valve for the motor, a device for actuating this valve that responds to changes in pressure of the fluid passing through the turbine, and a yielding abutment that opposes the said device and returns the valve to its initial position.

14. In a governing mechanism, the combination of a plurality of valves for controlling the passage of motive fluid through the turbine, a hydraulic motor for actuating each of the valves, conduits leading to and from the motors, a regulating-valve which controls the conduits leading to and from the motors, and a motor actuated by the same motive fluid which passes through the turbine for controlling the passage of fluid to the hydraulic motors.

15. In combination, a multistage-turbine, a plurality of stage-valves for controlling the passage of steam from one stage to another, hydraulic motors which are supported by the turbine-casing and located outside of the steam-space, a regulating-valve, conduits from the motors leading to and from the regulating-valve, and a motor actuated by steam-pressure for causing the valve to open and close the stage-valves in accordance with changes in steam-pressure.

16. In a governing mechanism for turbines, the combination of a plurality of regulating-valves, a hydraulic motor for each valve, a controlling-valve that causes the motors to successively open and close the regulating-valves, and a motor actuated by the fluid supplied to the turbine for moving the controlling-valve.

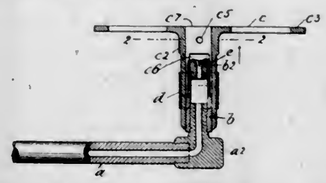
845,296. SAD-IRON. WILLIAM F. FISHER, New Britain, Conn. Filed Feb. 14, 1906. Serial No. 301,010.



Claim.—1. The combination of a sad-iron body having longitudinally-extended ways on its upper face and a keeper-hole between the said ways, with the handle having a handle-base fitted to the said ways, a spring secured by one end to the said handle-base, and a catch-pin and operating-knob secured to the other end of the said spring for engaging the said keeper-hole, the said handle-base having a hole for the latch-pin that is counterbored from the under side to form a downwardly-facing shoulder, and the said catch-pin having a shoulder for coacting therewith, to prevent lifting the catch-pin so far as to injure the latch-pin spring.

2. The combination of a sad-iron body having at its upper side longitudinal ways that are open from end to end, the said ways also having stop-faces at each end, and the said body having a keeper-hole between the ways at an equal distance from the respective stop-faces, with a detachable handle-base fitted to enter the said ways at either open end, a spring-actuated catch-pin for engaging the said keeper-hole and a stop for coacting with the stop-faces at the respective ends of the said ways, to limit the movement of the handle-base for bringing the said catch-pin into the position for registering with the said keeper-hole when the handle-base is inserted from either end of the said body.

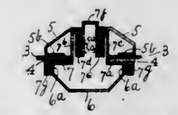
845,297. HEATING ATTACHMENT FOR GAS-BURNERS. PATRICK J. FOLEY, Jersey City, N. J. Filed Jan. 22, 1906. Serial No. 297,112.



Claim.—1. A heating attachment for illuminating-gas burners, comprising an open-work plate forming a support and provided with a central depending tubular sleeve adapted to be slipped onto the burner-tube so as to inclose said tube and the burner-tip, said tubular sleeve being greater in diameter than the top portion of the burner-tube forming therebetween a space and being provided adjacent to the plate with radially-arranged ports or passages, and below said ports or passages with vertically-arranged slots or openings, leading to said space.

2. A heating attachment for illuminating-gas burners, comprising an open-work plate forming a support and provided with a central depending tubular sleeve adapted to be slipped onto the burner-tube so as to inclose said tube and the burner-tip, said tubular sleeve being greater in diameter than the top portion of the burner-tube forming therebetween a space and being provided adjacent to the plate with radially-arranged ports or passages, and below said ports or passages with vertically-arranged slots or openings leading to said space, and an adjustable sleeve mounted on said tubular sleeve and adapted to regulate the size of said slots or openings.

845,298. WINDOW FRAME AND SASH. ADELARD J. GOBEIL, Duluth, Minn., assignor of one-half to Mary M. Deetz and Edward W. Deetz, Copartners as Deetz & Co., Duluth, Minn. Filed Sept. 29, 1905. Serial No. 280,569.



Claim.—1. A window-sash having grooves formed in its horizontal and vertical rails, and removable and adjustable glass-retaining strips provided with tongue portions adapted to project into said grooves and shoulder portions adapted to bear against the glass.

2. A window-sash constructed of bent sheet metal, each rail of said sash being contoured to form a weather-shoulder and a tongue-receiving groove, and removable glass-retaining strips each having a tongue adapted to project into the groove of the corresponding rail and a shoulder adapted to bear against the glass.

3. A window-sash including a rail having a body portion constructed of sheet metal bent to form a weather-shoulder, a supporting-floor, a tongue-receiving groove, side walls and cover-engaging flanges; and a cover constructed of sheet metal bent at its edges to form hook-flanges adapted to engage the hook-flanges of said body portion.

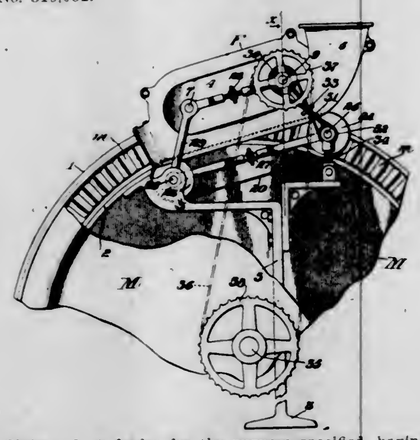
4. In a window-sash, a mullion having weather-shoul-

ders formed thereon and having tongue-receiving grooves formed therein, and removable glass-retaining strips each having a tongue adapted to project into the corresponding said groove, and each having a shoulder adapted to bear against the glass.

5. In a window-sash, a mullion constructed of sheet metal and comprising a body portion bent to form cover-attaching flanges, weather-shoulders, tongue-engaging grooves and a spacing portion; a cover portion bent to form body-attaching flanges; and removable glass-retaining strips having shoulder portions adapted to bear against the correspondingly-adjacent glasses, and having tongue portions adapted to project into the corresponding said grooves.

6. In a window-sash the combination of side and upper and lower rails constructed of sheet metal bent to form weather-glass-retaining shoulders and tongue-receiving grooves; a plurality of removable glass-retaining strips constructed of sheet metal and each bent to form a tongue adapted to engage a corresponding one of said grooves and each embodying a shoulder adapted to bear against said glass; a mullion comprising a body portion constructed of sheet metal bent to form opposite weather-shoulders and parallel tongue-receiving grooves; and plurality of glass-retaining strips each constructed of sheet metal bent to form a tongue adapted to project into the corresponding groove of said mullion and to form a shoulder adapted to bear against the contiguous glass.

845,299. FEEDER FOR BRIQUET-MACHINES. KARL P. HANGL, New York, N. Y. Filed Apr. 5, 1906. Serial No. 310,052.



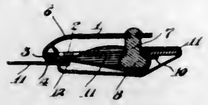
Claim.—1. A feeder for the purpose specified, having a casing open to receive the plastic material at one end and open to discharge said material at the other end, supporting-wheels rotatively mounted in said casing, an endless chain belt on and driven by said supporting-wheels, said belt being composed of links and the links having in them mortises, segregating-blades which play in and out in said mortises as guide-bearings, means for protruding and drawing in said blades at proper points in the travel of the chain belt and means for driving said chain belt.

2. A feeder for the purpose specified, having a casing open to receive the plastic material at one end and open to discharge said material at the other end, supporting-wheels rotatively mounted in said casing, an endless chain belt on and driven by said supporting-wheels, said belt being composed of links and the links having in them mortises, segregating-blades which play in and out in said mortises as guide-bearings, means for protruding and drawing in said blades at proper points in the travel of the chain belt, means for driving said chain belt, an endless apron below said chain belt to assist in moving the material, and means for carrying and driving said apron.

3. A feeder for the purpose specified, having a casing open at one end to receive the plastic material and open at the other end for the discharge of the same, an endless series of blades for segregating the material in said casing and moving it to the discharging end thereof, means for carrying and operating said blades, an endless apron below said blades to assist in feeding the segregated material, means for supporting and driving said apron, and means for raising and lowering the blades, with respect to said apron, at the receiving end of said casing.

4. In a feeder for the purpose specified, the combination with a casing 4, provided at its receiving end with a hopper, of the pairs of wheels 6 and 8 mounted in said casing, the chain belt 10 mounted on and driven by said wheels, the blades 12 mounted slidably in mortises in the links of said chain belt, the camways 13 and 14 for moving said blades in and out, the endless apron 20 below said blades, means for supporting said apron, and means for driving said blades and apron at corresponding speeds in the same direction.

845,300. GARMENT-SUPPORTER. FRED HIRSH, New York, N. Y. Filed Nov. 6, 1905. Serial No. 285,970.



Claim.—1. In a garment-supporter, a clasp consisting of two hinged members, one of which is provided with an orifice and the other with an inwardly-projecting stud adapted to snap past and in engagement with an edge of said orifice to lock the clasp, and a piece of suitable material attached to the outside of the orificed clasp member and extending thence through the orifice of said clasp member to form a cushion between the head of the stud and the edge of the orifice.

2. In a garment-supporter, a clasp consisting of two hinged members one of which is provided with an inwardly-projecting headed stud adapted to snap past and in engagement with an edge of an orifice in the other member to lock the clasp, and a piece of suitable material so disposed as to form a yielding cushion between the head of the stud and the edge of the orifice and a covering for the back of the clasp.

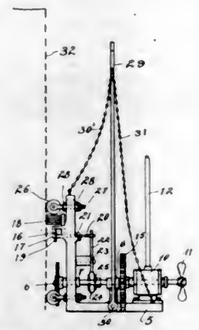
3. In a garment-supporter, a clasp consisting of two hinged members one of which is provided with a headed stud adapted to coöperate with an edge of an orifice in the other member to lock the clasp, and a supporting-strap to which the clasp is secured and an end of which is carried through said orifice to form a yielding cushion for the edge with which the headed stud coöperates.

4. In a garment-supporter, a clasp consisting of two hinged members, a back plate provided with an elongated orifice and a front plate provided with a headed stud adapted to coöperate with an edge of said orifice to lock the clasp, and a supporting-strap attached to the back plate and having an end carried through the orifice therein from behind and thence down around the lower end and up over the back of said plate.

5. In a garment-supporter, a clasp consisting of two hinged members, a back plate provided with an elongated orifice and a curved front plate of spring metal provided with a headed stud adapted to snap past and in engagement with an edge of said orifice, and a supporting-strap of elastic webbing attached to the upper end of the back plate and having an end carried through the orifice therein from behind and thence down around the lower end and up over the back of said plate.

845,301. APPARATUS FOR CLEANING SHIPS' HULLS. GEORGE E. VON HOFFMANN, Chicago, Ill., assignor of one-half to James J. Mullen, Chicago, Ill. Filed Jan. 22, 1906. Serial No. 297,187.

Claim.—1. In a ship-cleaning apparatus, the combination of a suspending-bail, a frame pivotally suspended within said bail and adapted to oscillate between the depending arms thereof, loose chains for limiting the oscillating movement of said frame, whereby the frame may adjust itself to the contour of the ship, hull-cleaning devices carried by the frame, and a motor for operating these cleaning devices.



2. In combination with a bail, a frame pivotally suspended therein, means for limiting the pivotal movement of said frame, a motor mounted on the frame, the inner end of the motor-shaft carrying a hull-cleaning device and its outer end a propeller, substantially as and for the purpose set forth.

3. In combination, a frame and means for suspending the same close to the hull of a vessel, a motor on the frame, means operated by this motor for holding the frame against the vessel, a circular saw mounted on the inner end of the shaft of the motor and lying flatwise with respect to the ship's hull, additional circular saws alongside the aforesaid saw, and means for driving these additional saws from the motor.

4. In combination, a frame and means for suspending it over the side of a vessel, a motor on the frame, a series of circular saws lying flatwise with respect to the vessel's hull and being simultaneously driven by said motor, substantially as set forth.

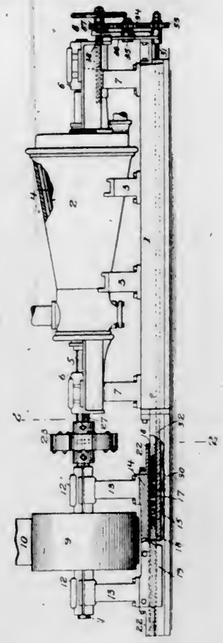
5. In combination with suspending means, a frame carrying a motor, means connected to the motor for holding the device against the ship's hull, a circular saw mounted on the shaft of the motor and lying close to and flatwise with respect to the ship's hull, a reciprocating bar mounted in the upper part of the frame above the circular saw and carrying a brush and a saw-toothed plate whose teeth are directed downwardly, and means for reciprocating the bar from the motor-shaft simultaneously with the operation of the circular saw.

845,302. DRIVING MECHANISM FOR PAPER-REFINING ENGINES. EDWARD A. JONES, Pittsfield, Mass. Filed Nov. 16, 1906. Serial No. 343,697.

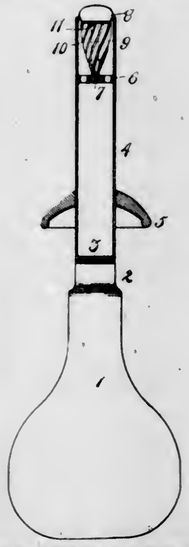
Claim.—1. In a refining-engine, the combination of a stationary shell, of a cutting core or plug rotatably mounted within the shell, a plug-shaft on which the plug is supported, mechanism for adjusting the plug and its shaft endwise relatively to the shell, a pulley having a flexible connection with said plug-shaft so as to drive the latter, a support for said pulley adjustable endwise relatively to the shell, guiding means for the pulley-support, and means independent of the plug and plug-shaft for so adjusting the pulley-support, substantially as described.

2. In a refining-engine, the combination of a stationary shell, of a cutting core or plug rotatably mounted within the shell, a plug-shaft on which the plug is supported, mechanism for adjusting the plug and its shaft endwise relatively to the shell, a pulley having a flexible connection with said plug-shaft so as to drive the latter, a base, a carriage on the base for supporting the pulley adjustable endwise relatively to the shell, means for guiding and retaining the carriage on the base, and means independent of the plug and plug-shaft for so adjusting the carriage, substantially as described.

3. In a refining-engine, the combination of a stationary shell, of a cutting core or plug rotatably mounted within the shell, a plug-shaft on which the plug is supported, mechanism for adjusting the plug and its shaft endwise relatively to the shell, a pulley having a flexible connection with said plug-shaft so as to drive the latter, a base provided with grooves on its outer sides, a carriage on the base for supporting the pulley adjustable endwise relatively to the shell, and guiding and retaining plates fixed to the carriage having projections working in the grooves on the base for guiding and retaining the carriage on the base; substantially as described.



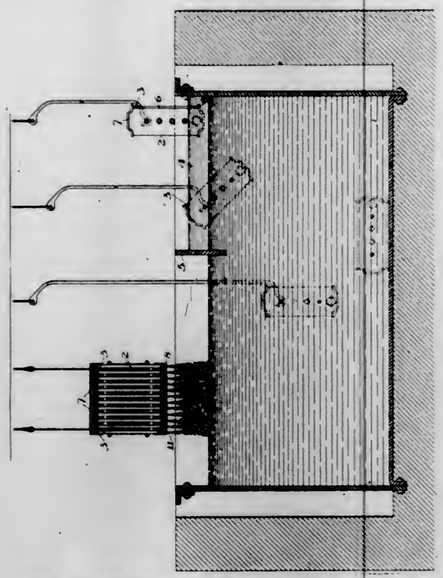
845,303. SYRINGE. THOMAS J. KERNAN, Akron, Ohio. Filed Jan. 11, 1905. Serial No. 240,607.



Claim.—A device of the character described comprising a compressible reservoir adapted to contain a fluid, a

discharge-tube communicating at one end with said reservoir and having its other end provided with a beveled edge, a perforated disk secured in said tube near the beveled end thereof, a shaft positioned in said tube and having its inner end adjustably connected to said disk, a beveled-shaped head connected to the outer end of said shaft, and an inverted-cone-shaped rotatable and longitudinally-shiftable member loosely mounted upon said shaft between said head and said disk and provided with peripheral grooves arranged spirally with respect to the axis of rotation, substantially as shown and described.

845,304. METHOD OF MAKING SHEET-METAL RADIATORS. WILLIAM R. KINNEAR, New York, N. Y. Filed Feb. 13, 1905. Serial No. 245,744.

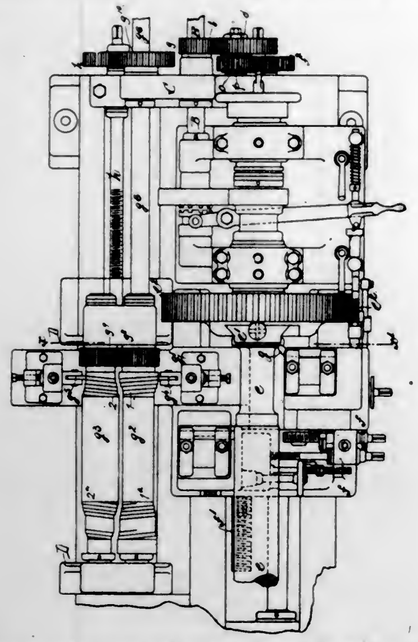


Claim—1. The method of making sheet-metal radiators which consists in providing a plurality of hollow units or sections, connected near one end by means which establish free circulation among them, and provided with individual vents near their ends opposite the circulation connection, and dipping them in position to admit flux and coating metal through the circulation-opening and cause it to flow through the units or sections; substantially as described.

2. The method of making sheet-metal radiators which consists in providing a plurality of hollow units or sections, connected near one end by means which establish free circulation among them, and provided with individual vents near their ends opposite the circulation connection and with individual drainage-openings below the circulation connection, dipping them in position to admit flux and coating metal through the circulation-opening and cause it to flow through the units or sections; withdrawing the radiator in position to drain the surplus metal through the drainage-openings, and finally closing the vents and drainage-openings; substantially as described.

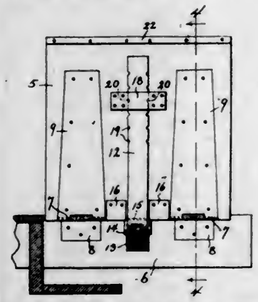
845,305. CONTROL AND COPYING DEVICE FOR MACHINE-TOOLS. HENRY LIEBERT, Milnrow, England. Filed July 18, 1904. Serial No. 217,121.

Claim.—In mechanism for automatically shaping material to a predetermined form, the combination of a longitudinally-movable main slide, which carries the article to be acted on, with a floating slide transversely movable on the main slide, a tool carried by said floating slide for cutting or abrading the said article, a pair of rollers mounted on said floating slide and a pair of parallel control-scrolls, respectively in contact with said rollers and thereby moving the said floating slide and tool positively forward and backward transversely of the main slide according to the



relative construction and arrangement of the said scrolls, to correspondingly vary the action of the tool and the form of the article, a back slide having the said scrolls mounted thereon and means for automatically and longitudinally reciprocating the said back frame and the scrolls thereon substantially as set forth.

845,306. AUTOMATIC TRAP-DOOR FOR RAILROAD-COACHES. JOHN MARICK, Chicago, Ill. Filed Feb. 17, 1905. Serial No. 246,174.

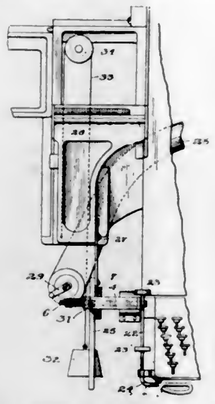


Claim.—1. In a device of the class described, a car-floor, a door hinged to said car-floor to swing about a horizontal axis forming a portion of the floor when closed, a spring-pressed means, comprising a pivoted roller, secured to said door extending at right angles across and beyond the hinged edge of the door and a cam-plate secured beneath the floor to be engaged by said roller.

2. In a device of the class described, a floor, a door forming a portion of said floor when closed hinged to said floor to swing about a horizontal axis, a spring-pressed means comprising a pivoted roller secured to said door extending at right angles across and beyond the hinged edge of the door, a cam-plate secured beneath the floor to be engaged by said roller and means comprising a detachable plate for varying the tension of the spring-pressure exerted on said spring-pressed means.

3. In a device of the class described, a floor, a door forming a portion of said floor when closed hinged to said floor to swing about a horizontal axis, a flat spring adjustably secured to said door extending substantially at right angles to the hinge-axis and a roller secured to the free end of said spring to engage a cam-plate secured to the under side of said floor, the parts being so arranged with relation to one another that said door will be yieldingly held in an open position.

845,307. MECHANISM FOR THROWING LINES OF MATRICES INTO LINOTYPE-MACHINES. GEORGE E. MARLATT, Allegheny, Pa. Filed Feb. 1, 1906. Serial No. 298,933.



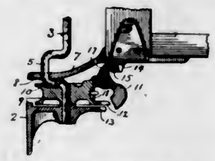
Claim.—1. In a linotype-machine, a shaft in communication with the power mechanism of the machine, a pinion connected with said shaft, a clutch and a rack extending from the assembling-elevator and gearing with the pinion; substantially as specified.

2. In a linotype-machine, the combination of the assembling-elevator, a rack connected therewith, a pinion mounted on a reciprocating shaft, a clutch by means of which the power mechanism of the linotype-machine may be thrown in and out of connection with the pinion, a trigger by means of which the clutch is held in its separated position and a device connected with the line-delivery lever adapted to throw the parts of the clutch out of connection with each other; substantially as specified.

3. In a linotype-machine the combination of an assembling-elevator, a rack connected therewith, a pinion mounted on a reciprocating shaft, a clutch by means of which the power mechanism of the linotype-machine may be thrown in and out of connection with the pinion, a trigger by means of which the clutch is held in its separated position, a lever extending from the trigger to the keyboard and provided with a key, and a device connected with the line-delivery lever and adapted to throw the parts of the clutch out of connection with each other; substantially as specified.

4. In a linotype-machine, the combination of an assembling-elevator, a rack and pinion for raising the elevator, power mechanism for driving the pinion, a clutch by means of which the power mechanism may be thrown in or out of connection with the pinion, a trigger by means of which the clutch is held in its separated position, a lever extending from the trigger to a point within reach of the operator, and a device connected with the line-delivery lever and adapted to throw the parts of the clutch out of connection with each other; substantially as specified.

845,308. AUTOMATIC GATE. GARRETT C. MASON, Petaluma, Cal. Filed June 5, 1906. Serial No. 320,265.



Claim.—1. A device of the type set forth, comprising a supporting-bracket, a sheave superimposed thereupon, a rod having positive connection axially of said sheave and journaled in said bracket, said rod being formed adjacent its upper and lower ends with parallel offsets on opposite sides thereof, arms carried by the gate and surrounding said rod at points within said offsets, means arranged on each side of said gate for imparting swinging movement to said rod in either direction, an element carried by said sheave for locking engagement with said bracket at predetermined points thereon in the movement of said sheave and means carried by said gate for disengaging said element from said bracket when said gate moves adjacent to said element.

2. A device of the type set forth comprising a supporting-bracket, a sheave superimposed thereon, a rod having connection axially of said sheave and journaled in said bracket, said rod being formed with parallel offsets on opposite sides thereof, arms carried by the gate and surrounding said rod at points within said offsets, and means arranged on each side of the gate for imparting swinging movement to said rod in either direction, said means comprising sheaves journaled on eccentric axes, tripping-arms carried by said axes and flexible connections leading from opposite points on each of said last-named sheaves to a common connecting-point on said first-named sheave.

3. A device of the type set forth comprising a supporting-bracket, a sheave superimposed thereon, a rod having connection axially of said sheave and journaled in said braeket, said rod being formed with parallel offsets on opposite sides thereof, arms carried by the gate and surrounding said rod at points within said offsets, said bracket being formed in its edge with a plurality of notches arranged in annular series, said sheave being formed with a single peripheral notch, a gravity-catch pivoted to said sheave above said notch, all of said notches being designed to successively enter into registry with said last-named notch, means carried by the gate for engaging said catch to disengage the same from said notches in their registering relation, and means arranged on each side of the gate for imparting swinging movement to said rod in either direction.

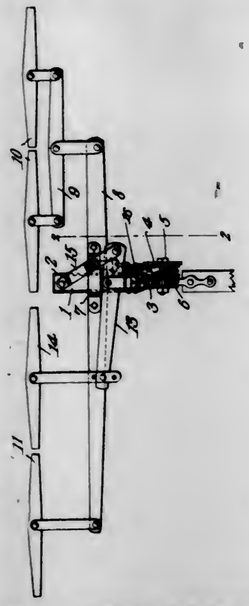
4. A device of the type set forth comprising a stationary support, a rod journaled therein, a gate loosely suspended from said rod, means for rotating said rod in a selected direction, an element movable with said rod for interlockingly engaging said support and an element carried by said gate for tripping said last-named element out of engagement with said support.

845,309. DRAFT-EQUALIZER. CHARLES H. MATLOCK, Emden, Ill. Filed Nov. 8, 1906. Serial No. 342,526.

Claim.—1. A draft-evener comprising a stub-tongue for attachment with an implement, a draft-bar supported by the stub-tongue, a doubletree attached to the shorter end of said draft-bar, swingletrees attached to said doubletrees, a swingletree attached to the longer end of said draft-bar, a draft-lever fulcrumed upon the stub-tongue and crossing the same, a swingletree attached to the end of said draft-lever, a pulley journaled upon the stub-tongue and a flexible element attached at one end to the

draft-lever and passing around said pulley and being attached at its other end to the draft-bar.

2. A draft-evener comprising a stub-tongue, a draft-bar supported by the stub-tongue, suitable trees attached to the draft-bar, said stub-tongue having a pulley, a link pivoted to the stub-tongue, a draft-lever fulcrumed to the link, a tree attached to said draft-lever, a flexible member secured at one end to the draft-lever and passing around said pulley and being secured at its other end to said draft-bar.

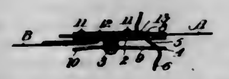


3. A draft-evener comprising a stub-tongue, a draft-bar supported by said stub-tongue and mounted for movement longitudinally thereof, a pulley journaled to said stub-tongue, a link pivoted to the stub-tongue, a draft-lever fulcrumed to the link and a flexible member attached at one end to the draft-lever and passing around said pulley and being attached at its other end to said draft-bar.

4. A draft-evener comprising a stub-tongue, a draft-bar supported by the stub-tongue and mounted for movement longitudinally thereof, a pulley journaled to the stub-tongue, a link pivoted to the stub-tongue, a draft-lever fulcrumed to the link and a flexible element attached at one end to said draft-lever and passing around said pulley and being attached at its other end to the draft-bar at a point to one side of the stub-tongue.

5. A draft-evener comprising a stub-tongue, a draft-bar supported by said stub-tongue and mounted for movement longitudinally thereof, a pulley journaled to said stub-tongue, a lever fulcrumed to said stub-tongue and a flexible element attached at one end to said lever substantially in vertical alinement with the longitudinal axis of the stub-tongue and passing around said pulley and being attached at its other end to the draft-bar at a point to one side of the stub-tongue.

845,310. CURTAIN-FASTENER. JESSE H. MATTHEWS, Des Moines, Iowa. Filed Apr. 19, 1906. Serial No. 312,607.



Claim.—1. A clasp comprising a pair of clamping members, an oscillating locking-cam plate working between the members and provided with a handle at each end of the plate, each handle lying at the outer side of the adjacent clamping member, substantially as described.

2. A clasp having a pair of clamping members, an oscillating controller working between the members, and handles carried by opposite ends of the controller, each handle lying at the outer side of the adjacent clamping member, substantially as described.

3. A clasp comprising a pair of hinged clamping members, and an oscillating controller working between the members and provided with a handle at each end, each handle lying at the outer side of the adjacent clamping member, substantially as described.

4. A clasp comprising a pair of slotted and pivotally-connected clamping members, and a cam member working between and in frictional engagement with the clamping members to swing them upon their pivotal connection, the cam member having handles projecting outwardly through the slots of the respective clamping members.

5. A clasp comprising a pair of clamping members pivotally connected between their ends and provided with slots in corresponding ends, and a cam member working between and in frictional engagement with the slotted ends of the clamping members to swing the latter upon their pivotal connection, said cam member having handles projecting outwardly through the respective slots.

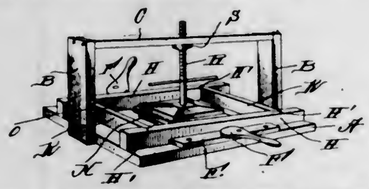
6. A clasp comprising a pair of clamping members, one of the members having spaced ears, the other member being disposed between and pivotally mounted upon the ears, corresponding ends of the clamping members being slotted, and a cam member working between and in frictional engagement with the slotted portions of the clamping members and provided with handles projecting outwardly through the respective slots.

7. A clasp comprising a pair of pivotally-connected clamping members, and oscillating operating means to swing the clamping members upon their pivotal connection said operating means having a handle at each end located upon the outer side of the adjacent clamping member.

8. A clasp having a pair of mutually-coöperating clamping members, and oscillating operating means therefor provided at each end with a handle, each handle being at the outer side of the adjacent clamping member, substantially as described.

9. A clasp comprising a pair of pivotally-connected slotted members, and a cam-plate working between and in frictional engagement with the members, said plate having laterally-reduced handles projecting from opposite ends thereof and extending outwardly through the slots of the respective members.

845,311. MOLD FOR EMBEDDING TABLETS IN CONCRETE. THOMAS J. MISSILDINE, Enterprise, Ala. Filed Dec. 20, 1906. Serial No. 348,813.



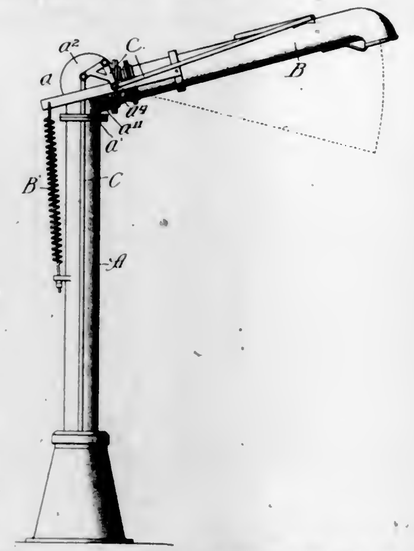
Claim.—1. An apparatus for embedding tablets in slabs of concrete, consisting of a mold, a table rising from the bottom thereof upon which the tablet rests, the edges of the tablet overhanging the edges of said table, and clamping means for holding the tablet upon the table while the space underneath the overhanging portion of the tablet is being filled in with concrete, as set forth.

2. An apparatus for molding tablets in concrete slabs, consisting of a table, a mold-bottom upon which said table is mounted, a frame made up of sections adapted to surround the table with a space intervening between the same, cams for holding the frame of the mold together, said table adapted to receive a tablet with the edges of the latter overhanging the table, a follower adapted to clamp the tablet upon said table while concrete is being filled underneath the overhanging edges thereof, as set forth.

3. An apparatus for molding tablets in concrete slabs, consisting of a table, a mold-bottom upon which said table is mounted, a frame made up of sections adapted to surround the table with a space intervening between the same, raised portions projecting from the bottom of the mold on the outside of said frame, and cam members pivotally mounted upon said raised portions and adapted to bear against the opposite sections of the frame to hold the same together, said table designed to receive a tablet with the marginal edges of the latter overhanging said table, a follower, and a screw bearing against the latter and adapted to hold the tablet upon the table while spaces underneath the overhanging edges of the tablet are being filled with concrete, as set forth.

4. An apparatus for molding tablets in concrete slabs, consisting of a table, a mold-bottom upon which said table is mounted, a frame made up of two sections having recesses upon the inner faces thereof, end sections of the frame engaging said recesses, clamping means for holding the end sections in said recesses, said table adapted to receive a tablet with the marginal edges of the same overhanging the table, and means for holding the tablet upon the table while the spaces underneath the overhanging edges thereof are being filled with cement, as set forth.

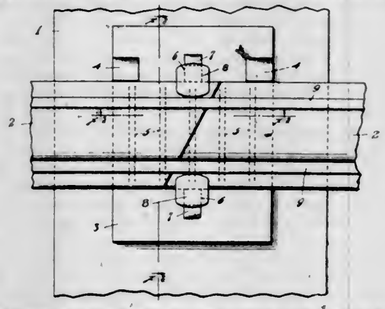
845,312. STAND-PIPE. MOSES M. MOORE, Chicago, Ill. Filed May 20, 1905. Serial No. 261,378.



Claim.—In a stand-pipe, the combination of a vertical column, a gooseneck-elbow supported thereon having an open drain-channel through the throat, and a yieldingly-supported swinging pipe connected with the free end of the elbow, for the purpose set forth.

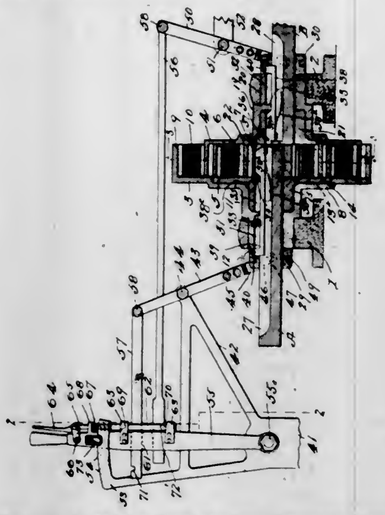
845,313. RAIL-JOINT. NILS MYRIN, Thief River Falls, Minn. Filed May 16, 1906. Serial No. 317,063.

Claim.—The combination with a tie and a saddle-plate secured thereon, said saddle-plate having spike-passages and lugs 7 all located in a vertical plane that intersects the track at right angles, and having at its outer side laterally-spaced rail-engaging stop-lugs 4, of alined rails having their abutting ends resting upon said saddle-plate, the said abutting ends being cut obliquely from a point on one side of one of the spike-passages of said saddle-plate, to a point on the other side of the spike-passage of said plate, fish-plates secured to said rails and



overlapping the joint between the same, and spikes driven into said tie through the transversely-alined passages of said saddle-plate, with their heads impinging upon the foot-flanges of said rails, substantially as described.

845,314. POWER-TRANSMISSION GEARING. HARRY R. MCCONNELL, Washington, D. C. Filed June 20, 1906. Serial No. 322,612.



Claim.—1. A variable-speed gearing comprising primary and secondary non-alined shafts and operative connections therebetween comprising a plurality of graduated gears carried by said primary shaft, a plurality of graduated gears carried by said secondary shaft, each of said gears being in mesh with the gears of the opposing series on each side thereof, whereby both series of gears as an entirety are in constant intermeshing engagement, and means for operatively engaging said shafts with a selected one of said respective gears.

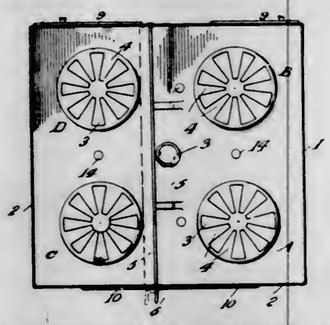
2. A variable-speed gearing comprising primary and secondary non-alined shafts and operative connections therebetween comprising toothed wheels carried in spaced concentric series by each of said shafts and eccentrically disposed but in intermeshing engagement with the adjacent wheels on either side thereof and means for operatively engaging said shafts with a selected one of said respective gears.

3. A variable-speed gearing comprising primary and secondary non-alined shafts and operative connections

therebetween comprising toothed wheels carried in spaced concentric series by each of said shafts and eccentrically disposed but in intermeshing engagement with the adjacent wheels on either side thereof, said shafts being provided with longitudinal recesses and said toothed wheels being severally provided with recesses registering with said first-named recesses and means for operatively engaging said shafts with a selected one of said respective gears embodying keys slidable in said longitudinal recesses and manually-controlled means for sliding said keys.

4. The combination with a primary and secondary shaft, intermeshing gear-wheels interposed therebetween and carried thereby and slidable connections for establishing an operative relation between either one of said shafts and a selected respective gear carried thereby, of means for imparting sliding movement to said connections comprising a main operating-lever, arms loosely supported thereby, stationarily-pivoted levers having at their ends pivotal connection with the adjacent ones of said arms and said slidable connections and means for engaging said main lever with either of said arms at selected points thereon.

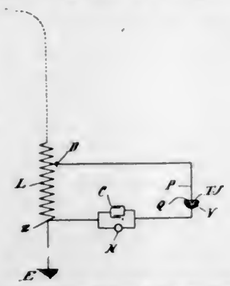
845,315. COMBINATION ADJUSTABLE GAS OR GASOLENE SAVER AND HEAT-CONTROLLER. WILLIAM F. NICHOL and DENNIS E. LACEY, St. Louis, Mo. Filed Oct. 24, 1905. Serial No. 284,235.



Claim.—A supplemental top for gas, gasolene, or like stoves and embodying vertical walls projecting downwardly from its edges to space the same from the top of a stove to which it is applied, said supplemental top being provided with a plurality of openings over which cooking utensils may be disposed, lids for those of the openings above mentioned adjacent to the rear edge of the supplemental top, a longitudinal partition pivoted to the supplemental top and extending from the front wall thereof to the rear wall at one side of a line drawn midway between the sides of the top, a handle for said partition by which the same may be thrown in a vertical or horizontal position to separate the space beneath the supplemental top into two compartments or form a single large compartment, damper-openings in the rear wall of the top, each damper-opening being located substantially in line with the openings in the top nearer the adjacent side wall, and a plurality of supporting-legs projecting from the under side of the supplemental top and adapted to rest upon the top of a stove to which said supplemental top may be applied, the top being also provided with the central opening, as specified.

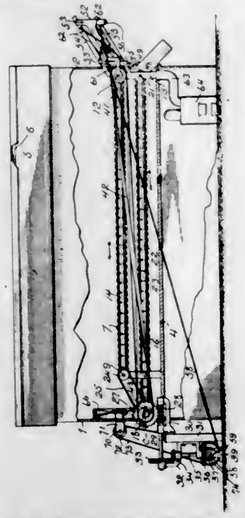
845,316. MEANS FOR RECEIVING INTELLIGENCE COMMUNICATED BY ELECTRIC WAVES. GREENLEAF W. PICKARD, Amesbury, Mass. Filed Nov. 23, 1906. Serial No. 344,693.

Claim.—A detector of intelligence communicated by electric waves, which comprises a solution of a good conducting metal, and a coöperating member of the same metal as the solution; said coöperating member having only a small portion of its area exposed to the metallic solution, in order to effectively concentrate at the junction of exposure the energy of the received signal-currents; said coöperating member having such relatively substantial cross-sectional dimension, in addition to its inherent good conducting property, as to offer no effective resistance to the passage of the received signal-currents, in order to permit those currents to have effective access to the concentrated junction of exposure to the metallic solution;



said solution having high specific resistance, producing a high-resistance junction, to convert into heat an effective amount of the energy of the received and concentrated signal-currents; and the solution and coöperating member having high thermo-electromotive force in order to convert into direct currents an effective amount of the heat generated at the junction.

845,317. FRUIT-EVAPORATOR. MARY S. REATZ, Kansas City, Mo. Filed June 30, 1905. Serial No. 267,770.



Claim.—1. In a fruit-evaporator, the combination with a drying-chamber, of means for driving heated air therethrough, two endless-belt conveyers mounted in said chamber so that one discharges upon the other, a laterally-vibratory distributing means for depositing fruit upon said belts at like ends thereof, means for driving the upper belt, and means for driving the lower belt in either of two directions.

2. In a fruit-evaporator, the combination with a drying-chamber having a ventilating-opening in its roof, of means for forcing heated air horizontally through said chamber, two endless-belt conveyers disposed in the path of said heated air and discharging one upon the other, means by which fruit may be deposited upon one or both of said belt conveyers, means for driving the belt which discharges upon the other, and reversible means for driving the said other belt.

3. In a fruit-evaporator, the combination with a drying-chamber having discharge-openings at opposite ends, of an endless-belt conveyer mounted in said chamber so as to discharge at either of said discharge-openings, a closure and a chute having a brush for removing fruit from said belt conveyer, the closure and chute having means for being interchangeably positioned at said discharge-openings, and means for driving said belt in either direction.

4. In a fruit-evaporator, the combination with a drying-chamber having discharge-openings at opposite ends, of two endless belts disposed in said chamber so as to discharge one upon the other, the belt discharged upon being positioned so as to discharge at either discharge-opening, means for driving the belt which discharges upon the other, and reversible means for driving the belt discharged upon.

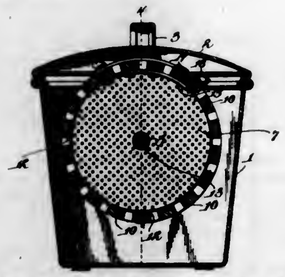
5. In a fruit-evaporator, the combination with the drying-chamber having discharge-openings at either end, of means for forcing heated air through said chamber, an endless-belt conveyer mounted in said chamber so as to discharge through either of said openings, an endless-belt conveyer for receiving thereon the fruit and positioned in said drying-chamber so as to discharge upon the first-named endless-belt conveyer, means for driving said second-named conveyer and means for driving in either direction the first-named conveyer.

6. In a fruit-evaporator, the combination with a drying-chamber having discharge-openings at either end, of means for forcing heated air through said chamber, two belts mounted in said chamber one discharging upon the other the belt discharged upon being positioned so as to discharge through either of said openings, means for depositing fruit upon one or both of said belts, means for driving in either direction the belt discharging at said openings, and means for driving the other belt.

7. In a fruit-evaporator, the combination with a drying-chamber having two discharge-openings one at each end, of means for forcing heated air through said chamber, an upper and lower endless belt mounted in said chamber the upper belt discharging upon the lower belt, laterally-vibratory means for depositing fruit upon said belts and means for driving the lower belt in either direction said lower belt being positioned so as to discharge at either of said openings.

8. In a fruit-evaporator, the combination with the drying-chamber having two openings one at each end, of means for forcing heated air through said chamber, an interchangeable closure for closing either of said openings, two endless belts mounted in said chamber one discharging upon the other, said other belt being positioned so as to discharge through either of said openings, means for driving the belt discharged upon in either direction, means for driving the belt discharging upon the other belt, and two laterally-vibratory hoppers for discharging fruit upon said belts respectively.

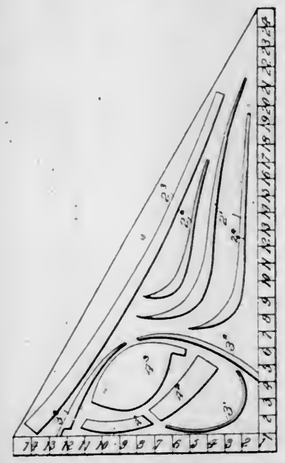
845,318. VEGETABLE-PEELING MACHINE. JOSEPH REDMOND, New York, N. Y. Filed Apr. 11, 1905. Serial No. 254,930.



Claim.—The herein-described machine for peeling potatoes and the like, comprising a housing constituting a water-receptacle, a shaft rotatably mounted within and

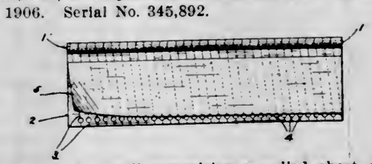
extended through the housing, a hollow cylinder mounted on said shaft within the housing and comprising a plurality of bars spaced apart with openings between them and heads to which said bars are secured, grating-surfaces on the inner faces of said heads, bearings for said shaft on the outer faces of the ends of the housing, bearings for said shaft on the outer faces of the heads of said cylinder, means passed through said heads and the bearings thereon and the grating-surfaces and securing the latter and the bearings in position, a sleeve surrounding the shaft within the cylinder and perforated to form a grating-surface, a separate grating-surface in the inner faces of each of said bars, the spaces between said bars being unobstructed and out of alinement with said grating-surfaces, a closure for the housing, and a lid for the cylinder provided with interior and exterior strap-irons, all substantially as and for the purpose specified.

845,319. TAILOR'S SQUARE. BARTOLOMEO RICCIARDI, New York, N. Y. Filed Mar. 6, 1906. Serial No. 304,580.



Claim.—As a new article of manufacture, an improved appliance for tailoring purposes consisting of a square of triangular form formed with the longitudinal runs $2'$, $2''$, 2^3, and 2^4, the run 2^3 being located adjacent to the hypotenuse edge portion of the triangular body of the appliance and being of gradual curvature throughout its length, the runs $2'$, $2''$ and 2^4 being of gradual curvature nearly throughout the length and curving abruptly near an end, the body of the appliance being also provided with the scye run $3'$ and the upper sleeve runs $3''$ and 3^3, under sleeve runs $4'$, and $4''$ being located between the upper sleeve runs $3''$, 3^3 and the scye run $3'$, the heading run 4^3 being situated between the under sleeve runs $4'$ and $4''$ and the upper sleeve runs $3''$ and 3^3, said heading run 4^3 being formed by an edge portion of an oval-shaped opening provided in the body of the appliance.

845,320. PENCIL. CHARLES A. SMITH, Philadelphia, Pa., assignor to Blaisdell Paper Pencil Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Dec. 1, 1906. Serial No. 345,892.



Claim.—1. A pencil comprising a rolled sheet of material having spirally-disposed lines of weakness, and a

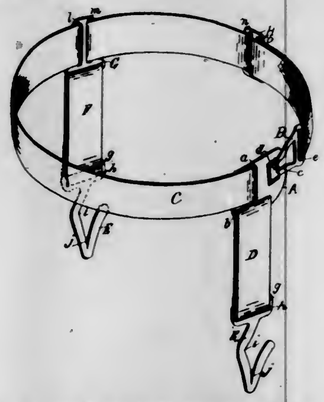
second strengthening-sheet rolled therewith between laminations thereof.

2. A pencil comprising a lead or crayon, a sheet of scored fibrous material rolled thereon, and a second sheet of fibrous material rolled therewith between the outer laminations, said second sheet stiffening said pencil.

3. A pencil comprising a lead or crayon, a sheet of fibrous material with lines of weakness rolled thereon, and a second sheet of fibrous material without lines of weakness rolled within the outer laminations of said first sheet.

4. A pencil comprising a lead or crayon, a sheet of material with lines of weakness rolled thereon, and a second sheet of material rolled with said first sheet to strengthen it, the outer edges of said sheets being glued.

845,321. GARMENT-SUPPORTER OR GARTER. HARLAN M. STIDHAM, New York, N. Y. Filed Dec. 3, 1906. Serial No. 346,032.



Claim.—In men's half-hose supporter the combination of a band of elastic webbing, a buckle, secured to the ends of the band, one end of the webbing secured to the hook of the buckle, the other end passed through the eye member of the buckle, and secured to an adjusting-slide mounted on the band of webbing, the said hook member comprising a plate *a*, a tongue *d*, offset from and parallel to this plate and a contracted neck *c* connecting the plate with the tongue; the eye of said buckle being of sufficient size at its rear to freely pass over the tongue *d* and contracted at its forward end to snugly engage the neck *c* to securely lock the buckle, two adjustable side straps suspended from the band, one from the hook of the buckle, the other from an adjustable hanger mounted on the band and clasps or hooks suspended from the side straps substantially as shown and described.

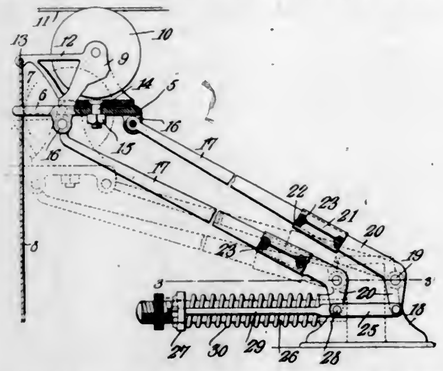
845,322. CARBON-TETRACHLORID PREPARATION AND PROCESS FOR ITS PRODUCTION. JULIUS STOCKHAUSEN, Crefeld, Germany. Filed Jan. 19, 1906. Serial No. 296,809.

Claim.—1. The process for the production of a carbon-tetrachlorid preparation, which consists in the saponification of sulfonated resin-oil with at least six per cent. of soda hydrate and in the heating of the mixture and its solution in carbon-tetrachlorid, as above described.

2. A carbon-tetrachlorid preparation, consisting of carbon-tetrachlorid and a gelatinous soap obtained by saponification of resin-oil with at least six per cent. of sodium hydrate, and the heating of the same, as above described.

845,323. TROLLEY-POLE. CHARLES F. WENSINGER, Fremont, Ohio. Filed Oct. 31, 1906. Serial No. 341,410.

Claim.—1. In a trolley, a harp-support, a harp pivotally mounted on the harp-support and having a trolley-wheel journaled therein, a stand, spaced brackets pivotally mounted on the stand, substantially parallel rods carried by the brackets and pivotally connected with the harp-support, links connecting the brackets, and a spring carried by the stand and operatively connected with the links.



2. In a trolley, a harp-support provided with a lateral extension having an opening formed therein, a harp pivotally mounted for lateral movement on the support and provided with a trolley-wheel, an arm extending laterally from the harp and having an opening, a trolley-rope threaded through the opening in the extension of the harp-support and engaging the walls of the opening in the arm, spaced lugs depending from the harp-support, a trolley-stand, rods pivotally mounted between the lugs and pivotally connected with the trolley-stand, and a spring operatively connected with the rods for exerting an upward pressure on the trolley-wheel.

3. In a trolley, a harp-support, a harp pivotally mounted for lateral movement on the support, a trolley-stand, brackets pivotally mounted on the trolley-stand and provided with an angular extension, rods forming a pivotal connection with the brackets and the harp-support, links connecting the free ends of the brackets, an arm extending from the trolley-stand, a yoke slidably mounted on the arm and operatively connected with the arms of the adjacent bracket, and a spring interposed between the yoke and the trolley-stand.

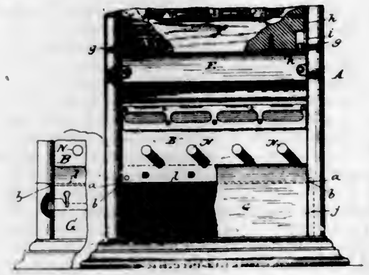
4. In a trolley, a harp-support, a harp swiveled on the support and provided with a trolley-wheel, a stand, brackets pivotally mounted on the stand and provided with terminal clamping members, substantially parallel rods seated in said clamping members and pivotally connected in the bottom of the harp-support, links connecting the brackets, and a spring operatively connected with the links for exerting an upward pressure on the trolley-wheel.

5. In a trolley, a harp-support, a harp swiveled on the support and having a trolley-wheel journaled therein, a trolley-stand brackets pivotally mounted on the stand and each having one end thereof provided with clamping members and its opposite end bent laterally to form an angular extension, rods seated in the clamping members and pivotally connected with the harp-support, a link connecting the extensions of the brackets, an arm extending laterally from the stand, a yoke slidably mounted on the arm, rods connecting the yoke and the extensions of the adjacent bracket, and a spring interposed between the yoke and the stand.

845,324. VENDING APPARATUS. JOHN A. WILLIAMS, Brooklyn, N. Y., assignor to United States Slot Machine Company, New York, N. Y., a Corporation of New York. Filed Feb. 17, 1896. Serial No. 579,574.

Claim.—1. In combination with a delivery-wheel, an actuating-slide therefor; and a lever carried by said slide for engaging the wheel, and comprising in one piece a main body, a nose *r*, a depending arm *t* below said nose, and a tongue *w*, projecting laterally over the actuating-slide, all at one end of said lever, and a coin-holder *u* at the opposite end thereof.

2. In a vending-machine, the combination of a delivery device, a slide or bar for actuating the same, and a lever carried by said bar to engage the delivery device and provided with a coin-holder comprising a bifurcated plate having raised side walls or edges and inwardly-projecting studs, substantially as shown and described.



3. In a vending-machine of the character described, a coin-holder comprising a bifurcated plate *u* having upturned edges *u'*, a grooved or channeled shank u^2 and inwardly-projecting studs u^3.

4. In a vending-machine, the combination of a shell or casing provided with a coin slot or opening; a coin-holder within said casing; and an intermediate shell or casing provided with flanges to support the edges of the coin while the latter is sliding on its flat side from the coin-slot to the coin-holder, and provided further with inwardly-projecting bosses above said flanges to prevent the coin from rising from said flanges.

5. In a vending-machine, a coin chute or guide consisting of walls b^2 provided with flanges or inclined guides b^4, and bosses b^5, substantially as shown.

6. In combination with the wall of a vending-machine, provided with a coin-slot; a guard pivoted in rear of said slot and adapted to swing away therefrom; a delivery device; and an operating-slide therefor, provided with an arm which, as the slide moves inward, rides beneath and positively lifts the rear end of the pivoted guard and moves its front end across the coin-slot.

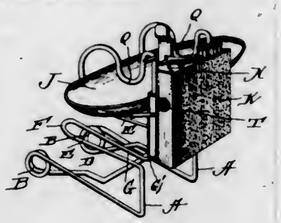
7. In combination with the coin-slot and the actuating-slide of a vending-machine, a gate or guard adapted to move away from the coin-slot when the slide is moved to its normal position; and an arm carried by the actuating-slide, adapted to ride beneath the gate or guard and to directly and positively move and hold the same across the coin-slot as the actuating-slide moves from its normal position.

8. In combination with a shell or casing having a coin-slot, a slide having an arm *d'*; and a pivoted guard or cut-off T located in rear of the slot and in the path of the arm *d'*, substantially as and for the purpose set forth.

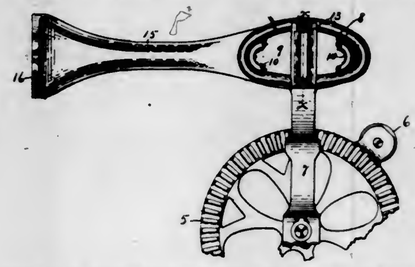
9. In combination with shell or casing B, provided with a coin-slot, shell Q, provided with flanges b^4, bosses b^5 and guard b^6, all formed in one piece, substantially as set forth.

845,325. COMBINED CIGAR-STAND, CIGAR-CUTTER, MATCH-BOX, AND LIGHTER. JOHN B. ZORN, Wisdom, Mont., assignor of one-half to Leonard S. Pendleton, Wisdom, Mont. Filed Oct. 4, 1906. Serial No. 337,475.

Claim.—A combined cigar-stand, match-holder and tray-supporting device made of a single piece of wire which is bent upon itself horizontally, forming a shelf-engaging portion, thence the strands of the wire turned into coils and the middle portion of the wire bent to form a resilient jaw extending between the strands of the portion which is adapted to engage the shelf, fastening means for engaging upright portions of the wire, portions of the wire above said fastening means being bent to form loops Q, a tray resting upon the curved ends of the wire, and straps secured to said tray and through which the ends of the wire pass, as set forth.

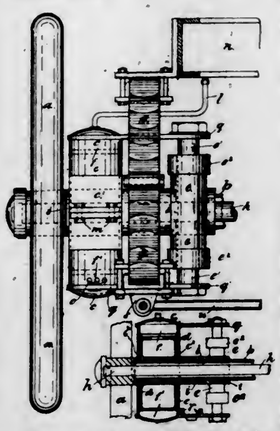


845,326. HOLDING-BRACKET FOR EGG-BEATERS. GEORGE F. BAILEY, New Britain, Conn., assignor to Taplin Manufacturing Company, New Britain, Conn., a Corporation. Filed Oct. 30, 1906. Serial No. 341,300.



Claim.—A holding-bracket for an egg-beater having a head provided with a central hole and side lugs, and a T-bolt and nut, passing through the said head, the said lugs being fitted to the interior of the ends of an egg-beater handle, and the said T-bolt being fitted to engage one side of the said handle and to press the said handle against the said lugs, when the nut on the said bolt is tightened up.

845,327. PNEUMATIC CUSHIONING WHEEL-SUPPORT. GEORGE W. BELL, Liverpool, England. Filed Feb. 12, 1906. Serial No. 300,560.

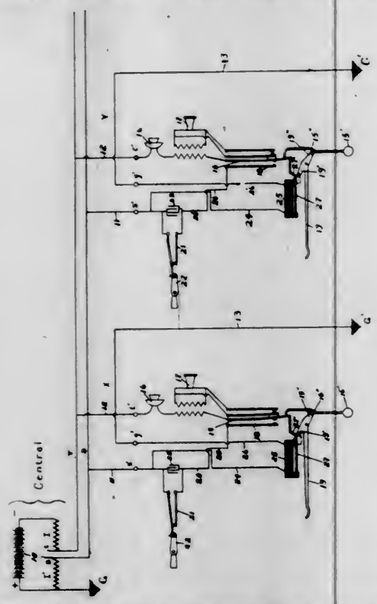


Claim.—1. The combination with the axle and its supporting-wheel at one end thereof, of a casing or sleeve upon the axle adjacent to the wheel, a vertical piston at the outer end of said sleeve and extending above and below the sleeve, a cylinder in which said piston works and forms air-chambers above and below it, the one above forming an air-spring for the support of the load and

provided with means for supplying it with compressed air, and the one below, having air-ports controlled by the piston, brackets at the opposite ends of the cylinder and extending inwardly above and below the sleeve, vertical guides secured between the inner ends of said brackets, vertical guide-bearings on the sleeve through which said guides pass, and a spring interposed between the lower bracket and the load.

2. In a power-driven vehicle the combination with a hollow rear axle and drive-wheels connected to the ends of live-spindles journaled in the hollow axle, of air-cushioning devices interposed between the ends of the axle and the vehicle-body, each comprising a sleeve fastened upon the axle adjacent to the wheel, a hollow piston on the outer end of the sleeve and extending vertically above and below the same, a cylinder movably inclosing the piston and forming air-cushions above and below the piston, the one above the piston communicating with the interior of the piston and provided with means for supplying it with compressed air, brackets at the upper and lower ends of the cylinder and extending inwardly over the sleeve, vertical guides uniting the inner ends of said brackets, vertical guide-bearings on the sleeve through which the guides pass, and a spring interposed between the lower bracket and the load.

845,328. PARTY-LINE LOCK-OUT. MARK P. BOONE, Peru, Ind., assignor to The Peru Common Battery Lock-Out Telephone Company, Peru, Ind., a Corporation of Indiana. Filed Jan. 27, 1906. Serial No. 298,272.



Claim.—In a party-line telephone, the combination, with the talking-circuits thereof consisting in part of a pair of separable terminals, and means normally controllable by the user for permitting engagement of said terminals, of electrically-controlled means for preventing contacting of said terminals, a switch in series with said terminals, and a condenser bridging said switch.

2. In a party-line telephone, the combination, with the talking-circuits thereof consisting in part of a pair of separable terminals, and means normally controllable by the user for permitting engagement of said terminals, of electrically-controlled means for preventing contacting of said terminals, a normally closed switch in series with said terminals, means for opening said normally closed switch, and a condenser bridging said switch.

3. In a party-line telephone, the combination, with the talking-circuits thereof consisting in part of a pair of separable terminals, a movable receiver-hook normally separating said terminals, an electromagnet connected with one side of the talking-circuit, a detent-arm arranged within the influence of said magnet and having a portion adapted to prevent contacting of the separable terminals of the talking-circuit, a switch in series with said terminals, and a condenser bridging said switch.

4. In a party-line telephone, the combination, with the talking-circuits thereof consisting in part of a pair of separable terminals, a movable receiver-hook normally separating said terminals, an electromagnet connected with one side of the talking-circuit, a detent-arm arranged within the influence of said magnet and having a portion adapted to prevent contacting of the separable terminals of the talking-circuit, a normally closed switch in series with said terminals, means for opening said normally closed switch, and a condenser bridging said switch.

5. In a party-line telephone, the combination, with the talking-circuits thereof consisting in part of a pair of separable terminals, of a movable receiver-hook normally separating said terminals, an electromagnet connected with one side of the talking-circuit, a detent-arm arranged within the influence of said magnet and having a portion adapted to prevent contacting of the separable terminals of the talking-circuit, a switch in series with said terminals, a condenser bridging said switch, and means for normally holding said detent-arm up to its magnet.

6. In a party-line telephone, the combination, with the talking-circuits thereof consisting in part of a pair of separable terminals, of a movable receiver-hook normally separating said terminals, an electromagnet connected with one side of the talking-circuit, a detent-arm arranged within the influence of said magnet and having a portion adapted to prevent contacting of the separable terminals of the talking-circuit, a normally closed switch in series with said terminals, means for opening said normally closed switch, a condenser bridging said switch, and means for normally holding said detent-arm up to its magnet.

7. In a party-line telephone, the combination with the talking-circuit thereof consisting in part of a pair of separable terminals, of a movable receiver-hook normally separating said terminals, an electromagnet connected with one side of the talking-circuit, a detent-arm arranged within the influence of said magnet and having a portion adapted to prevent contacting of the separable terminals of the talking-circuit, a switch in series with said terminals, a condenser bridging said switch, and means carried by the receiver-hook to hold the detent up to the magnet.

8. In a party-line telephone, the combination with the talking-circuit thereof consisting in part of a pair of separable terminals, of a movable receiver-hook normally separating said terminals, an electromagnet connected with one side of the talking-circuit, a detent-arm arranged within the influence of said magnet and having a portion adapted to prevent contacting of the separable terminals of the talking-circuit, a normally closed switch in series with said terminals, means for opening said normally closed switch, a condenser bridging said switch, and means carried by the receiver-hook to hold the detent up to the magnet.

9. In a party-line telephone system, the combination with a central grounded battery and the main-line wires connected thereto, of a plurality of telephones connected to said main-line wires, each of said telephones comprising a talking-circuit consisting of a pair of separable terminals, means normally controllable by the user for permitting contacting of said terminals, a grounded electromagnet connected to the grounded side of the main line, means influenced by said magnet for preventing contacting of the separable terminals in the talking-circuit, a switch in series with said terminals, and a condenser bridging said switch.

10. In a party-line telephone system, the combination with a central grounded battery and the main-line wires connected thereto, of a plurality of telephones connected to said main-line wires, each of said telephones comprising a talking-circuit consisting of a pair of separable terminals, means normally controllable by the user for permitting contacting of said terminals, a grounded electromagnet connected to the grounded side of the main line, means influenced by said magnet for preventing contacting of the separable terminals in the talking-circuit, a normally closed switch in series with said terminals, means for opening said normally closed switch, and a condenser bridging said switch.

11. In a party-line telephone system, the combination with a central grounded battery and the main-line wires connected thereto, of a plurality of telephones connected to said main-line wires, each of said telephones comprising a talking-circuit consisting of a pair of separable terminals, a movable receiver-hook normally separating said terminals, a grounded electromagnet connected to the grounded side of the main line, a detent-arm arranged within the influence of said magnet and having a portion adapted to prevent contacting of the separable terminals of the talking-circuit, a switch in series with said terminals, and a condenser bridging said switch.

12. In a party-line telephone system, the combination with a central grounded battery and the main-line wires connected thereto, of a plurality of telephones connected to said main-line wires, each of said telephones comprising a talking-circuit consisting of a pair of separable terminals, a movable receiver-hook normally separating said terminals, a grounded electromagnet connected to the grounded side of the main line, a detent-arm arranged within the influence of said magnet and having a portion adapted to prevent contacting of the separable terminals of the talking-circuit, a normally closed switch in series with said terminals, means for opening said normally closed switch, and a condenser bridging said switch.

13. In a party-line telephone system, the combination with a central grounded battery and the main-line wires connected thereto, of a plurality of telephones connected to said main-line wires, each of said telephones comprising a talking-circuit consisting of a pair of separable terminals, a movable receiver-hook normally separating said terminals, a grounded electromagnet connected to the grounded side of the main line, a detent-arm arranged within the influence of said magnet and having a portion adapted to prevent contacting of the separable terminals of the talking-circuit, a switch in series with said terminals, a condenser bridging said switch, and means controlled by the receiver-hook to hold the detent up to the magnet.

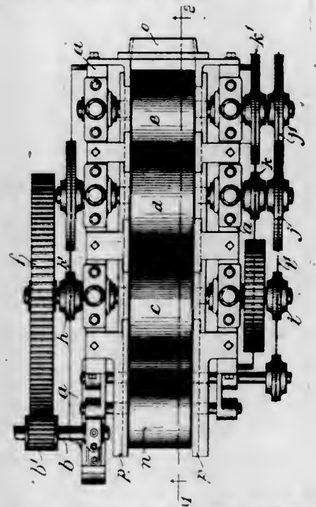
14. In a party-line telephone system, the combination with a central grounded battery and the main-line wires connected thereto, of a plurality of telephones connected to said main-line wires, each of said telephones comprising a talking-circuit consisting of a pair of separable terminals, a movable receiver-hook normally separating said terminals, a grounded electromagnet connected to the grounded side of the main line, a detent-arm arranged within the influence of said magnet and having a portion adapted to prevent contacting of the separable terminals of the talking-circuit, a normally closed switch in series with said terminals, means for opening said normally closed switch, a condenser bridging said switch, and means controlled by the receiver-hook to hold the detent up to the magnet.

15. In a party-line telephone, the combination, with the talking-circuits thereof consisting in part of a pair of separable terminals, a receiver-hook engaging one of said terminals and normally holding the same separated, an electromagnet, a detent-arm within the influence of said magnet for preventing engagement of said terminals when said arm is influenced by said magnet, and means controlled by the receiver-hook for holding the detent-arm against vibration.

16. In a party-line telephone, the combination, with the talking-circuits thereof consisting in part of a pair of separable terminals, a receiver-hook engaging one of said terminals and normally holding the same separated, an electromagnet, a detent-arm within the influence of said magnet for preventing engagement of said terminals when said arm is influenced by said magnet, means controlled by the receiver-hook for holding the detent-arm against vibration, a switch in series with said terminal, and a condenser bridging said switch.

17. In a party-line telephone, the combination, with the talking-circuits thereof consisting in part of a pair of separable terminals, of electrically-controlled means for preventing contacting of said terminals, a receiver-hook, and means controlled by the receiver-hook for normally holding the electrically-controlled means in position to prevent contacting of said terminals.

845,329. PLASTIC BRICK OR LIKE MOLDING MACHINE. JOHN W. BOTTOMLEY, Leeds, England. Filed Oct. 12, 1906. Serial No. 338,624.



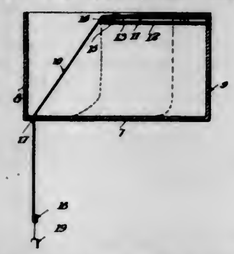
Claim.—1. In a plastic brick or like molding machine, a plurality of rollers arranged in pairs one behind the other, the second or each succeeding pair of rollers being of smaller diameter or set farther apart than the preceding pair of rollers to give a gradually-increasing clay-space between each pair of rollers, in the manner and for the purpose substantially as herein shown and described.

2. The improved multiple-roller machine for making bricks, tiles and like clay goods, comprising essentially two or more pairs of rollers, each pair of different diameter or set at increasing distances apart, and of uniform width, the column of clay being confined to the rollers by side plates at the rear end of which is a mold or die through which the column of clay is finally caused to pass after being acted upon by the pairs of rollers, each roller in each pair of rollers being suitably driven so that the surface speeds of each pair vary according to the respective diameters and the difference in the rate of feed of the clay as it passes from one pair of rollers to the other, substantially as herein shown and described.

3. The combination with two or more pairs of rollers, each succeeding pair being of smaller diameter than the preceding pair, or otherwise of the same diameter, and set farther apart and means for driving said rollers and confining the clay at the ends of the rollers, of plates or clearers secured in the angles between each pair of rollers to prevent the clay being carried forward between adjacent rollers in each pair of rollers, all constructed, arranged and operating substantially as herein set forth.

4. The combination, with a series of rollers arranged in pairs with their peripheries at increasing distances apart, and means for revolving the said rollers with decreasing peripheral speed; of plates secured between the adjacent upper and lower rollers, and plates secured at the ends of the rollers, said plates forming expansion-chambers of increasing area for the clay to pass through.

845,330. FRUIT-BIN. HOMER C. BOWMAN, Los Angeles, Cal., assignor to Fred Stebler and Austin A. Gamble, Riverside, Cal. Filed Jan. 17, 1906. Serial No. 296,568.



Claim.—1. In a fruit-bin, a true bottom, a front wall for the bin, a flexible false bottom extending from approximately the joint of the front wall and true bottom diagonally toward the rear and top of the bin, one end of the false bottom being fixed and the other free, a support for the false bottom intermediate its ends and above the true bottom, and means for normally and yieldingly holding the false bottom above the true bottom.

2. In a fruit-bin the combination of a true bottom; a false bottom above the true bottom, said false bottom being fixed at one end and having means at the other end for maintaining a tension thereon; and means intermediate its ends to retain said false bottom elevated above the true bottom.

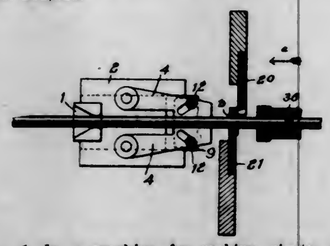
3. In a fruit-bin the combination of a true bottom; a false bottom above the true bottom, said false bottom being fixed at one end and having means at the other end for maintaining a tension thereon; guides at the side of the bin; a sliding frame carried by said guides; and a rotating roller beneath the false bottom and carried by said sliding frame.

4. In a fruit-bin the combination of a false bottom fixed at one end; means secured to the other end for maintaining a tension upon the false bottom; and sliding means beneath said false bottom intermediate its ends for supporting the false bottom at an elevation above the true bottom as the bin is being filled, said supporting means being adapted to be moved backwardly by the weight of the fruit on the false bottom.

5. The combination in a fruit-bin of a soft flexible false bottom secured at one end and running from the front of the true bottom to the rear end of the bin at the top thereof; a supporting sliding frame beneath said false bottom intermediate its ends; means to support and guide said sliding frame above the true bottom; and means to keep said false bottom taut.

6. In a fruit-bin, a flexible false bottom fixed at one end and having its other end free and extending diagonally in the bin, a support for said false bottom intermediate its ends and above the true bottom of the bin, and means secured to the free end of the false bottom to yieldingly hold the false bottom above the true bottom.

845,331. MACHINE FOR MAKING RIVETS, &c. OTTO BRIEDE, Benrath, Germany. Filed May 23, 1905. Serial No. 261,815.



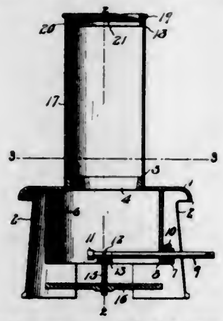
Claim.—1. In a machine for making rivets, &c., the combination of shearing-blades, one movable relative to the other, a reciprocating slide, gripping-jaws carried by the slide, one of said jaws movable with one of the blades during the shearing operation.

2. In a machine for making rivets, &c., the combination of shearing-blades, one movable relative to the other, a reciprocating slide, gripping-jaws carried by the slide, means for shifting one of the jaws with one of the blades during the shearing operation, and connections whereby the slide is shifted by the movable jaw.

3. In a machine for making rivets, &c., the combination of shearing-blades, one of said blades being provided with an eye for the reception of the bar or rod to be sheared, a reciprocating slide, gripping-jaws carried by the slide and means for shifting one of said jaws with the blade having the eye.

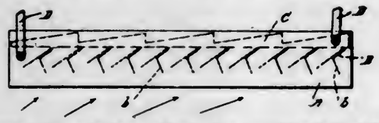
4. In a machine for making rivets, &c., the combination of shearing-blades one of said blades provided with an eye and the other blade having a notch or recess in line with the eye in the other blade, a reciprocating slide, gripping-jaws carried by the slide and means for moving one of said jaws with the blade having the eye.

845,332. GAS-BURNER. HERBERT S. BUSEY, Chambersburg, Pa. Filed Nov. 20, 1905. Serial No. 288,230.



Claim.—A gas-burner comprising a base having spaced supporting-legs, a flange depending from said base and extending between the legs and spaced from the same, a pipe passing transversely through the flange and having an outlet located within the same, a stack located upon the base, a screw concentrically arranged and supported by said flange, a plate having a central screw-threaded perforation which receives said screw.

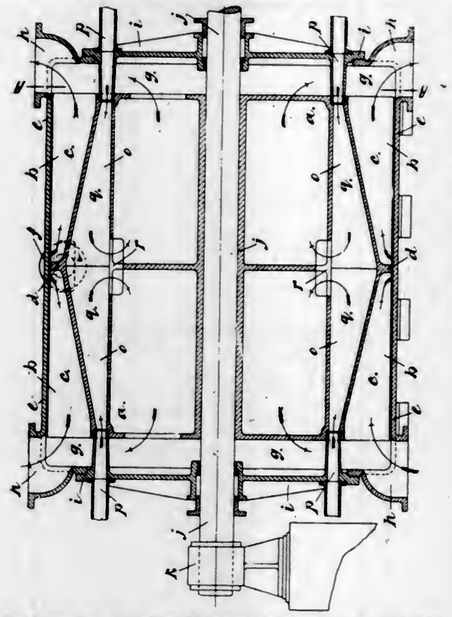
845,333. STRAW-CARRIER. GEORGE A. CARLSON, Portland, Oreg. Filed Apr. 12, 1906. Serial No. 311,270.



Claim.—In a straw-carrier, the combination, with a frame, of a series of slats secured in the said frame and forming a series of upwardly and rearwardly inclined passages, each said slat being formed of thin sheet metal and being substantially T-shaped in cross-section, the sheet metal at one side of the top portion of each said slat being bent double, and the lower portions or blast-guards of the said slats being arranged crosswise of the bottom ends of the said passages, the said passages being formed between the top portions of the said slats.

845,334. TURBINE. ALFRED J. COOPER, Liverpool, England. Filed May 22, 1905. Serial No. 261,728.

Claim.—1. A turbine in which a barrel working in a case *a* has blades *b*, extending in the direction of length of the barrel, the blade-surfaces being in curved form, and nearly tangential to the flow of steam, and of comparatively short radius at the point at which the steam impinges upon them, and extending beyond this part in the direction of length of the barrel in curved form of greater radius than the said impact part, and round in a backward direction, the depth of blade increasing from the point of impact to the point of discharge.



2. A turbine in which a barrel working in a case has longitudinal blades *b* on its periphery, extending in the direction of length of the barrel, and curved in the direction of their length, and another set of blade-surfaces, extending longitudinally through the barrel, and disposed annularly within the outer blades each of the blades varying in width.

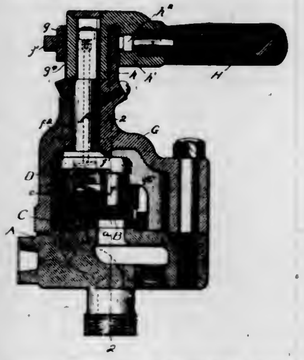
3. A turbine in which a barrel working in a case *a* has blades *b* on its periphery, extending in the direction of length of the barrel, the blade-surfaces being in curved form, and nearly tangential to the flow of steam, and of comparatively sharp or short radius at the point at which the steam impinges upon them, and extending beyond this part in the direction of length of the barrel in curved form of greater radius than the said impact part, and round in a backward direction, the depth of blade increasing from the point of impact of fluid to the point of discharge; and reverse propelling-surfaces *o*, arranged inside the blades *b* annularly, and consisting of curved surfaces and passages, the surfaces at the points at which the entrance of steam takes place being about tangential to the direction of the jet of steam at their entrance, and of a short radius, and the curve between this point and the discharge-point being of a larger radius and inclined obliquely to the axis of the shaft or barrel, and in the direction of length thereof.

4. A turbine in which a barrel working in a case *a* has two sets of blades on its periphery, extending between the center and the ends in opposite directions along the barrel, and of curved form, the curvature being nearly tangential to the flow of steam at the point at which the steam impinges upon them, and of comparatively short radius, and extending from this point to the point of discharge in a curve of greater radius than the said impact part, and an inner set of blade-surfaces arranged inside the outer sets of blades annularly, and consisting of two sets of curved surfaces and passages on either side of the center of the barrel of similar form to the outer sets, but of opposite dispositions and directions; one set being supplied with steam at the center of the barrel, which flows right and left toward its edges, and the other set being supplied with steam at the ends of the barrel, which flows toward each other and discharges at the center.

5. A turbine-barrel working in a case *a*, having blades *b*, extending in curved form in the direction of length of the barrel, the blade-surfaces being in curved form, and nearly tangential at the point at which the steam impinges upon them to that of the direction of the steam, and of comparatively short radius, and inclined in a forward direction radially, so that the tip or outer part of the blade overhangs the part below it; and the depth of blade increasing from the point of impact to the point of discharge.

6. A turbine-engine, in which a rotary barrel revolves in a cylinder, and has duplex sets of blades, extending between the center point of the barrel and the edges of same, and chambers *g*, at the ends of the barrel in the case *a*, into which all the motor-fluid passages discharge or exhaust the motor fluid.

845,335. MOTORMAN'S VALVE. FRED B. COREY, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed May 17, 1906. Serial No. 306,506.



Claim.—1. In combination, a valve-seat having a raised slide provided with ports, a valve adapted to be reciprocated on said slide, a loose member resting on said seat and adapted to form lateral guides for said valve, an inclosing bonnet or casing adapted to engage said member and to press said member upon said seat.

2. In combination, a valve-seat having a raised slide provided with ports, a valve adapted to be reciprocated on said slide, a loose member resting on said seat and adapted to form lateral guides for said valve, an inclosing bonnet or casing, and a compression-spring interposed between said member and said bonnet adapted to press said member on said seat.

3. In combination, a valve-seat having a raised slide provided with ports, a valve adapted to be reciprocated on said slide, a loose yoke resting on said seat on both sides of said slide and adapted to form lateral guides for said valve, an inclosing bonnet or casing adapted to engage said yoke and to press it on said seat, a rotatable spindle extending through said bonnet perpendicularly to said slide, and connections between said spindle and said valve whereby the rotary movement of the spindle reciprocates the valve on the slide.

4. In combination, a valve-seat having a raised slide provided with ports, a valve adapted to be reciprocated on said slide, a loose yoke resting on said seat on both sides of said slide and adapted to form lateral guides for said valve, an inclosing bonnet or casing, a compression-spring interposed between said yoke and said bonnet adapted to press said yoke on said seat, a rotatable spindle extending through the bonnet perpendicularly, to said slide, and connections between the spindle and the valve

whereby the rotary movement of the spindle reciprocates the valve on the slide.

5. In combination, a valve-seat having a raised slide provided with ports, a valve adapted to be reciprocated on said slide, a loose yoke resting on said seat and adapted to form lateral guides for said valve, an inclosing bonnet or casing, an operating-spindle extending through said bonnet perpendicularly to the slide and operatively connected to the valve, a flange on said spindle adapted to bear against the inner side of said bonnet, and a compression-spring interposed between said spindle and said yoke adapted to press said flange against the bonnet and the yoke against the seat.

6. In combination, a valve-seat having a raised slide provided with ports, a valve adapted to be reciprocated on said slide, a loose yoke resting on said seat and adapted to form lateral guides for said valve, an inclosing bonnet or casing, an operating-spindle extending through said bonnet perpendicularly to the slide and operatively connected to the valve, a flange on said spindle adapted to bear against the inner side of said bonnet, a socket carried by said yoke in line with the axis of said spindle, and a compression-spring bearing at one end in said socket and at the other against said spindle.

7. In combination, a valve, an inclosing casing therefor, an operating-spindle for the valve extending through the casing, a shroud surrounding the outer end of the spindle comprising a complete ring carried by said casing and lying substantially flush with the end of said spindle, and a handle having a portion adapted to enter said shroud and engage said spindle.

8. In combination, a valve, an inclosing casing therefor, an operating-spindle for the valve extending through the casing, a shroud surrounding the outer end of the spindle comprising a complete ring carried by said casing and lying substantially flush with the end of said spindle, an outer slotted flange carried by said shroud, and a handle having a portion adapted to enter said shroud and engage said spindle and a second portion adapted to pass through the slot in said flange.

9. In combination, a valve, an inclosing casing therefor, an operating-spindle for the valve extending through the casing, a shroud surrounding the outer end of the spindle comprising a complete ring carried by said casing and lying substantially flush with the end of said spindle, an outer flange carried by said shroud having a slot and a plurality of notches, a handle having a portion adapted to enter said guard and engage said spindle and a second portion adapted to pass through the slot in said flange, and means carried by the handle for yieldingly engaging the notches in said flange in the several positions of the valve.

845,336. ARTIFICIAL FUEL. JULIUS J. CZEPULL, Lancaster, Pa., assignor, by direct and mesne assignments, to Carbon-Ray Coal Company, a Corporation of Pennsylvania. Filed June 23, 1906. Serial No. 323,176.

Claim.—1. A binder for coal-dust consisting of flour, glue, plaster-of-paris and shellac in substantially the proportions specified, substantially as described.

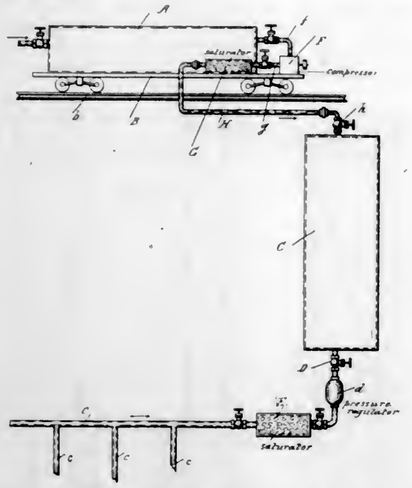
2. A coal-briquet consisting of culm or coal-dust, the particles of which are bound together by a binder composed of flour, glue, plaster-of-paris, and shellac in substantially the proportions specified.

845,337. ARTIFICIAL FUEL. JULIUS J. CZEPULL, Lancaster, Pa., assignor, by direct and mesne assignments, to Carbon-Ray Coal Company, a Corporation of Pennsylvania. Filed June 23, 1906. Serial No. 323,177.

Claim.—1. A binder for coal-dust consisting of starch, glue, slaked lime and linseed-oil mixed thoroughly together in the presence of heat and afterward incorporated with the coal-dust in substantially the proportions stated.

2. A composition of matter composed of coal-dust bound together by the binding material consisting of starch, glue, slaked lime, linseed-oil, in substantially the proportions specified.

845,338. GAS-DISTRIBUTION SYSTEM. GIDEON H. DIALL, Terre Haute, Ind. Filed June 11, 1906. Serial No. 321,137.



Claim.—1. In a system for distributing gas, the combination, with a portable tank for transmitting gas under pressure, of a stationary gas-tank provided with means for connecting it with the gas-mains, a detachable connection between the said tanks, and a saturator arranged between the said tanks and operating to enrich the gas in its passage from the portable tank to the stationary tank.

2. In a system for distributing gas, the combination, with a portable tank for holding gas under pressure, of a stationary gas-tank connected with the mains, a detachable connection between the two said tanks, a saturator arranged in the said connection between the two said tanks, and a second saturator arranged between the said stationary gas-tank and the mains.

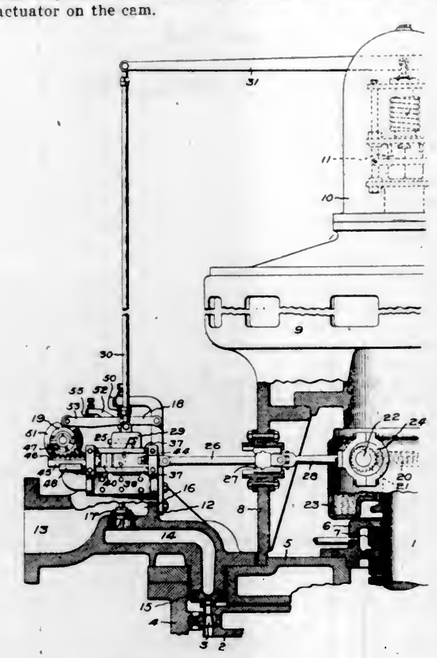
3. In a system for distributing gas, the combination, with a portable tank for holding gas under pressure, and a car carrying the said tank, of a gas-compressor and a saturator also carried by the said car and connected with the said tank, a stationary gas-tank connected with the mains, and a detachable connection between the said saturator and the said stationary gas-tank.

845,339. GOVERNING MECHANISM FOR TURBINES. EDGAR D. DICKINSON, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Sept. 1, 1905. Serial No. 276,668.

Claim.—1. In a governing mechanism for turbines, the combination of a plurality of valves which open and close in predetermined order to vary the amount of fluid admitted to the moving element, a means common to the valves for operating them, an actuator having a to-and-fro movement for moving the said means in a step-by-step manner, and a load-responsive device for connecting and disconnecting the actuator and means.

2. In a governing mechanism for turbines, the combination of a plurality of valves which open and close in predetermined order to vary the amount of fluid admitted to the moving element, a means common to the valves for operating them, an actuator comprising primary and secondary members one of which is connected to the said means, a source of power for imparting a constant to-and-fro movement to the other member of the actuator, and a connector responsive to load variations for connecting and disconnecting the members of the actuator as the load changes.

3. In a governing mechanism for turbines, the combination of a plurality of valves which open and close in predetermined order to vary the amount of fluid admitted to the moving element, a cam common to the valves for operating them in predetermined order, an actuator having a constant to-and-fro motion for moving the cam, and a load-responsive device for governing the action of the actuator on the cam.



4. In a governing mechanism for turbines, the combination of a plurality of valves which open and close in predetermined order to vary the amount of fluid admitted to the moving element, a means common to the valves for operating them, a divided actuator for moving the said means, one member of the actuator being in constant motion and another member having a step-by-step motion, and a connector responsive to load changes for connecting the said members for concerted action and disconnecting the members to permit of relatively independent movements.

5. In a governing mechanism for turbines, the combination of a plurality of valves which open and close in predetermined order to vary the amount of fluid admitted to the moving element, levers for operating the valves, a cam common to the levers for moving them, a constantly-moving actuator for moving the cam, and a device responsive to load changes for connecting and disconnecting the cam and actuator.

6. In a governing mechanism for turbines, the combination of a plurality of valves which open and close in predetermined order to vary the amount of fluid admitted to the moving element, levers for operating the valves, a cam common to the levers for moving them, an actuator which has a constant to-and-fro movement, and a connector for connecting the cam and actuator when it becomes necessary to open or close one or more valves, and to disconnect the cam and actuator when the load conditions are satisfied by the number of open valves.

7. In a governing mechanism for turbines, the combination of a plurality of valves which open and close in predetermined order to vary the amount of fluid admitted to the moving element, a means common to the valves for operating them, an actuator having a to-and-fro movement for moving the said means in a step-by-step manner, a rotary element which is connected to the actuator and imparts a to-and-fro movement thereto, and a load-responsive device which modifies the effect of the actuator on the valves.

8. In a governing mechanism for turbines, the combination of a plurality of valves which open and close in predetermined order to vary the amount of fluid admitted to the moving element, a means common to the valves for operating them, a divided actuator for moving said means, the principal members of which overlap, a connector acting on the members at the point of overlap for connecting and disconnecting them, and a speed-responsive device for governing the action of the connector.

9. In a governing mechanism for turbines, the combination of a plurality of valves which open and close in predetermined order to vary the amount of fluid admitted to the moving element, a divided actuator for moving the valves in their proper order, a guide for the actuator, a source of power for moving the actuator, and a device for connecting and disconnecting the parts of the actuator.

10. In a governing mechanism for turbines, the combination of a plurality of valves which open and close in predetermined order to vary the amount of fluid admitted to the moving element, a divided actuator for moving the valves in their proper order, one member of which is moving at all times and with a stroke of constant length while the other is moved forward and backward by a step-by-step movement, a connector for causing one member of the actuator to transmit motion to the other when it is necessary to move one or more valves, and to permit them to move relatively when the number of valves which are open satisfy the load requirements, and a governor for moving the connector.

11. In a governing mechanism for turbines, the combination of a plurality of valves which open and close in predetermined order to vary the amount of fluid admitted to the moving element, a means for moving the valves, an actuator which is constantly in motion for imparting motion to the means, a motor for moving the actuator, a guide on which the actuator is movable, and a device responding to load changes for regulating the action of the actuator.

12. In an elastic-fluid turbine, the combination of an admission-valve comprising a primary and a secondary element, with a means responsive to load changes for opening first one element of the valve with a snap-like action and then opening the other element.

13. In an elastic-fluid turbine, the combination of a plurality of admission-valves comprising primary and secondary elements, the primary element controlling a smaller amount of fluid than the secondary, and a means responsive to load changes for first opening the primary, then the secondary element of a given valve, and then the primary and afterward the secondary element of another valve, as the load increases.

14. In a governing mechanism for turbines, the combination of an admission-valve which comprises two principal elements, a primary and a secondary, a divided lever for actuating the said valve elements, a spring through which motion is transmitted from one part of the lever to the other, and a means responding to load changes for operating the lever.

15. In a governing mechanism for turbines, the combination of an admission-valve which comprises a primary and a secondary element, with a means responding to load changes which first opens the primary element with a snap-like action and then opens the secondary element of the valve as the demand for motive fluid changes.

16. In a governing mechanism for turbines, the combination of a plurality of admission-valves which comprise a primary element and a secondary element of larger area, and a speed-responsive device which opens first a primary and then a secondary element of the valves under conditions of increasing load.

17. In a governing mechanism for turbines, the combination of an admission-valve which comprises a pilot-valve and a main valve, a stem for first opening the pilot-valve to partially balance the pressures on the main valve, and thereafter opening the main valve, a load-responsive device for successively moving the parts of the valve as the demand for motive fluid changes, and a

means for imparting a snap-like action to the pilot-valve as it opens.

18. In a governing mechanism for turbines, the combination of a plurality of admission-valves comprising two principal parts, a divided lever for each valve, springs through which the levers act on the valves to open them, springs for closing the valves, and a speed-responsive device for governing the action of the levers.

19. In a governing mechanism for turbines, the combination of a plurality of admission-valves, a cam common to the valves for moving them, a two-part actuator for moving the cam, one part being constantly driven by the turbine-shaft, the other geared to the cam, a connector for connecting and disconnecting the parts of the actuator, and a speed-responsive device for governing the action of the connector.

20. An elastic-fluid turbine which is divided into stages with wheel-buckets for the different stages, in combination with a stage-valve which controls a plurality of ports leading to discharge devices, admission-valves for regulating the admission of motive fluid to the turbine, and a mechanism responding to speed changes which positively moves the admission and stage valves.

21. An elastic-fluid turbine which is divided into stages with wheel-buckets for the different stages, in combination with stage-valves arranged for simultaneous action, a means for balancing the valves wholly or in part, an admission-valve, and a speed-responsive device which controls the movements of the admission and stage valves.

22. An elastic-fluid turbine which is divided into stages with wheel-buckets for the different stages, in combination with stage-valves arranged for simultaneous action, a plurality of ports controlled by each valve, a means tending to balance the valves, admission-valves, and a speed-responsive device for governing the action of the admission and stage valves.

23. In a governing mechanism for turbines, the combination of a valve regulating the passage of motive fluid, a means for moving it, an actuator comprising two principal and overlapping parts, which are capable of moving freely with respect to each other for moving said means, and a speed-responsive device for connecting and disconnecting the parts of the actuator as the load conditions change.

24. In a governing mechanism, the combination of a regulator, an actuator for moving it comprising primary and secondary members which are capable of moving with respect to each other, a load-responsive device, and a means moving with said device for locking and unlocking the members of the actuator.

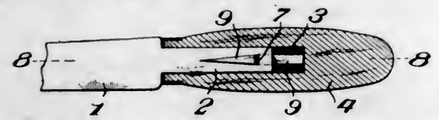
25. In a governing mechanism, the combination of a regulating-valve, an actuator for moving it comprising primary and secondary members which when locked move the valve, a means for constantly imparting motion to the primary member of the actuator, and a means for locking the primary and secondary members when it is desired to move the valve and for unlocking them when it is desired to leave the valve in a given position.

26. In a governing mechanism for turbines, the combination of a plurality of regulators, means for operating said regulators dissimultaneously, a device which employs the energy of the main turbine-shaft and imparts a step-by-step action to said operating means, and a load-responsive mechanism which controls the action of said device without actuating it.

27. In a governing mechanism for turbines, the combination of a plurality of regulators, a device for successively moving the regulators as the load conditions change, an actuator for imparting a step-by-step action to the device, means for driving the actuator from the main turbine-shaft, and a load-responsive mechanism controlling the operation of said actuator on the device.

845,340. KNIFE-SHANK. CHARLES E. DREW, Farmington, N. H. Filed Sept. 26, 1906. Serial No. 336,359.

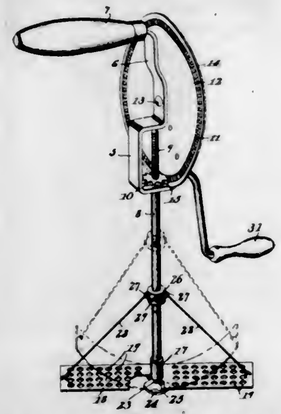
Claim.—1. The combination with a handle having a socket therein; of a blade, a shank at one end of said blade adapted to be disposed in said socket, an oblong spur having its inner end in engagement with the end of the socket, while the opposite end thereof is pointed and directed through an opening in said shank and into engagement with the adjacent portion of the handle whereby the shank will be held in the handle.



2. The combination with a handle having a socket therein; of a blade, a shank at one end of said blade having an opening therein, the material at the ends of said opening being tapered, and an oblong spur disposed through said opening, one end of said spur engaging the end of the socket, while the opposite end thereof is pointed and seated in the adjacent portion of the handle when the shank is forced into the socket.

3. The combination with a handle having a socket therein; of a blade, a shank at one end of said blade of less length than said socket and having an opening therein, a spur having one of its ends pointed and its opposite end flat adapted to extend through said opening the flat end thereof seated on the end of the socket while the pointed end thereof is directed into the adjacent portion of the handle, and teeth on the upper and lower edges of the shank.

845,341. COMBINED EGG AND CAKE BEATER. JOHN S. DUNLAP, Chicago, Ill. Filed May 19, 1906. Serial No. 317,774.



Claim.—1. A beater including a shaft, a dasher detachably secured to the shaft, a threaded pin carried by the shaft, a bearing-plate swiveled on the pin, and a nut engaging the threads on the pin and bearing against the dasher.

2. A beater including a shaft, a dasher secured to the shaft, a threaded pin carried by the shaft and provided with a terminal head, a conical bearing-plate swiveled on the head of the pin, and a nut engaging the threads on the pin and bearing against the dasher.

3. A beater including a shaft having a threaded terminal, a sleeve engaging said terminal, a dasher bearing against the sleeve, a pin threaded in the sleeve, a bearing-plate swiveled on the pin and having its central portion concaved, and a nut engaging the threads on the pin for locking the dasher in engagement with the sleeve.

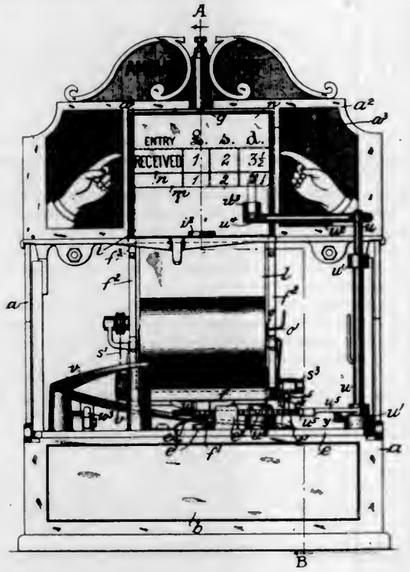
4. A beater including a shaft having a threaded terminal, a relatively stiff flat dasher detachably secured to the shaft and provided with cutting edges, a sleeve engaging the threaded terminal of the shaft, a threaded pin carried by the sleeve, a bearing-plate swiveled on the pin, and a clamping-nut engaging the threads on the pin and bearing against the dasher for locking the latter in engagement with the sleeve.

5. A beater including a shaft, a dasher secured to the shaft and having its major axis substantially parallel with the plane of its movement, means adjustable vertically of the shaft for deflecting the ends of the dasher, means for locking the deflecting means in adjusted position, and means for operating the shaft.

6. A beater including a shaft, a dasher secured to the shaft, means adjustable longitudinally of the shaft and operatively connected with the dasher for deflecting the free ends thereof upwardly, and means for rotating the shaft.

7. A beater including a shaft, a dasher secured to the shaft, a collar slidably mounted on the shaft, a flexible connection between the dasher and collar for deflecting the free ends of the latter upwardly, means for locking the collar in adjusted position, and means for rotating the shaft.

845,342. CASH-CHECK TILL. ROBERT FIELD, Huddersfield, England. Filed Mar. 31, 1906. Serial No. 309,074.



Claim.—1. The combination, with a case, and a frame projecting centrally at the top of the case and provided with an opening; of a frame pivotally supported by the said case and frame and provided with a chamber arranged on its axis and in the said opening and having a sight-opening on one side, a desk for supporting a record-strip secured in the said chamber opposite the said sight-opening, and means for traversing the record-strip over the said desk.

2. The combination, with a case, and a frame projecting centrally at the top of the case and provided with an opening; of a frame pivotally supported by the said case and frame and provided with a chamber arranged upon its axis and in the said opening, said chamber having a removable plate on one side which is provided with a sight-opening, a locking device normally securing the said removable plate in position, a desk for supporting a record-strip secured in the said chamber opposite the said sight-opening, and means for traversing the record-strip over the said desk.

3. The combination, with a case, of a frame pivoted vertically in the said case and provided at its upper part with a chamber having a sight-opening on one side, a desk for supporting a record-strip secured in the said chamber opposite the said opening, rolls journaled in the lower part of the said frame within the said case and having the end portions of the said strip wound upon them, means for moving the said frame pivotally to display the said sight-opening and strip first at one side and then at the other side of the said case, a cam-surface secured in the said case, and ratchet mechanism for revolving the said rolls provided with an operating-arm which engages with the said cam-surface.

4. The combination, with a case, of a frame pivoted vertically in the said case and provided at its upper part with a chamber having a sight-opening on one side, a desk for supporting a record-strip secured in the said chamber opposite the said opening, means for traversing the said strip, means for moving the said frame pivotally, stops for arresting the pivotal movement of the said frame when the said sight-opening and strip are displayed first at one side and then at the other side of the said case, and springs for preventing the free pivotal movement of the said frame when engaging with the said stops.

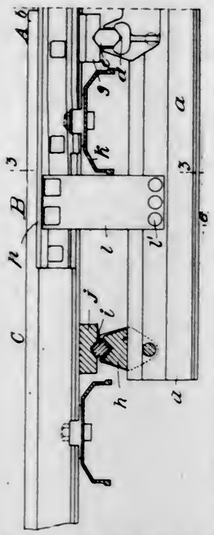
5. The combination, with a case having an opening in its top, and a stationary frame provided with an opening and projecting centrally at the top of the said case; of a pivoted frame supported by the said case and stationary frame and provided with a chamber arranged on its axis and in the opening of the said stationary frame and having a sight-opening at one side, a cover-plate for the opening in the top of the said case secured to the said pivoted frame below the said sight-opening, a desk for supporting a record-strip secured in the said chamber opposite the said sight-opening, and means for traversing the record-strip over the said desk.

6. The combination, with a case, and a drawer slidable in the lower part of the said case; of a frame pivoted vertically in the upper part of the said case and provided at its upper part with a chamber having a sight-opening on one side, a desk for supporting a record-strip secured in the said chamber opposite the said opening, means for supporting and traversing the said strip, a tappet on the said frame, a locking-lever pivoted to the said case and arranged in the path of the said tappet and normally preventing the said drawer from sliding outward, and means for moving the said frame pivotally to display the said sight-opening and strip first at one side and then at the other side of the said case and to release the said drawer from the said locking-lever.

7. The combination, with a case, and a drawer slidable in the lower part of the said case; of a frame pivoted vertically in the upper part of the said case and provided at its upper part with a chamber having a sight-opening on one side, a desk for supporting a record-strip secured in the said chamber opposite the said opening, means for supporting and traversing the said strip, a locking-lever pivoted to the said case and preventing the pivotal movement of the said frame in one direction when the said drawer is slid out, the said locking-lever being engaged by the said drawer when slid in so that the said frame is released, and means for moving the said frame pivotally to display the said sight-opening and strip first at one side and then at the other side of the said case.

8. The combination, with a case, and a drawer slidable in the lower part of the said case; of a frame pivoted vertically in the upper part of the said case and provided at its upper part with a chamber having a sight-opening on one side, a desk for supporting a record-strip secured in the said chamber opposite the said opening, means for supporting and traversing the said strip, a toothed pinion secured to the said frame, a vertical operating-shaft pivoted to the said case and provided with an operating-handle, toothed driving mechanism between the said shaft and pinion, a locking-lever pivoted to the said case and engaging with the said driving mechanism so that the said frame cannot move pivotally in one direction when the said drawer is slid out, the said locking-lever being engaged by the said drawer when slid in so that the said frame is released, and means for moving the said frame pivotally to display the said sight-opening and strip first at one side and then at the other side of the said case.

845,343. RAIL-JOINT. HALVOR GAARA, Bö, Norway. Filed Nov. 27, 1905. Serial No. 289,283.



Claim.—1. In a supported rail-joint a rigid bar placed underneath and parallel with the rails supporting members between the rails and the bar, bracing members between the rails and the bar and means to adjust the said members.

2. In a supported rail-joint a rigid bar placed underneath and parallel with the rails, members rigidly connecting both rails to the said bar and means to adjust the connecting members of one rail.

3. In a supported rail-joint the combination with the rail ends and fish-bars bolted to the rails so as to permit vertical adjustment of the rail ends of a rigid bar placed underneath and parallel with the rails, two or more members connecting each rail with the bar, of which members at least one is capable of bracing or binding the rails to the bar.

4. In a rail-joint, the combination with the rail ends, of a rigid member mounted beneath the rail ends, a supporting member mounted between the rail ends and rigid member, and a wedge in said supporting member for each rail end.

5. In a rail-joint, the combination with the rail ends, of a rigid supporting member beneath said ends, and means on the supporting member to adjust said ends independently of each other.

6. In a rail-joint, the combination with the rail ends, of a supporting member rigidly mounted beneath said ends and having a groove therein beneath each rail end, and a wedge in each groove.

7. In a rail-joint, the combination with the rail ends, of a supporting member rigidly mounted beneath said ends and having a transverse groove therein beneath each rail end, a wedge in each groove, and means to adjust each wedge.

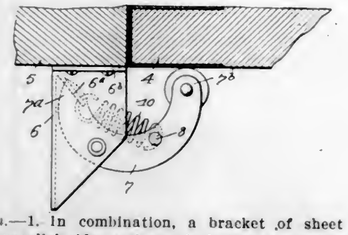
8. In a rail-joint, the combination with the rail ends, of a supporting member rigidly mounted beneath said ends, a supporting-plate interposed between the rails and supporting member, and wedges interposed between said supporting member and plate.

9. In a rail-joint, the combination with the rail ends, of a supporting member rigidly mounted beneath said ends provided with a transverse groove beneath each rail end, a plate interposed between the supporting member and rails provided with grooves registering with the aforesaid grooves and wedges adjustable in said grooves independently of each other.

10. In a rail-joint, the combination with the rail ends, of a supporting member rigidly mounted beneath said ends and provided with an eye and a transverse groove beneath each rail end, plates above the supporting members provided with grooves registering with the aforesaid grooves, wedges in said grooves projecting through the eyes, and a screw on each wedge.

11. In a rail-joint, the combination with the rail ends, of a rigid bar underneath and parallel to the rails, a supporting member embracing the bar and provided with a transverse groove beneath each rail end, a wedge in each groove, a grooved plate resting on each wedge, fish-plates secured to the rails, tension-plates secured to the bar, flanges on the tension-plates engaging the fish-plates, and bolts passing through the latter and the tension-plates.

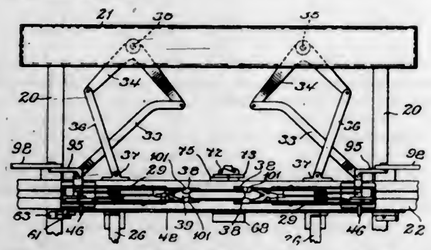
845,344. DOOR CHECK AND HOLDER. JOHN R. GALLINGER, Superior, Wis. Filed June 8, 1906. Serial No. 320,878.



Claim.—1. In combination, a bracket of sheet metal having parallel sides and angularly-turned portions forming securing-flanges, an integral lug between said parallel sides, a pivoted catching and retaining device comprising arc-shaped parallel arms having their intermediate portions pivotally connected to the sides of the bracket, a pin connecting said parallel arms and a spring extending between said pin and the lug of the bracket, substantially as described.

2. In combination, a sheet-metal bracket having parallel sides, a cros-wall connecting said sides, a crescent-shaped arm having its intermediate portion pivoted between said sides, a spring extending between the bracket and said arm and tending to swing it toward the limit of its movement in either direction, the said cross-wall serving as a stop to limit the outward movement of said arm, substantially as described.

845,345. SHUTTLE-MOTION FOR LOOMS. JOSEPH A. GENDRON, Nashua, N. H. Filed July 28, 1905. Serial No. 271,610.



Claim.—1. A positive-shuttle-motion loom having carriers mounted upon the lay, connections between the lay and a stationary part of the loom whereby the carriers are reciprocated by the movements of the lay, and means for withdrawing a shuttle alternately into the said carriers and projecting it therefrom.

2. A positive-shuttle-motion loom having carriers mounted upon the lay, connections between the lay and a stationary part of the loom whereby the carriers are reciprocated by the movements of the lay, said carriers having automatically-operating jaws or fingers to alternately grasp and release the shuttle, and means for actuating said fingers to cause them to alternately withdraw a shuttle into the carriers and project it therefrom.

3. In a loom of the character described, the combination with a carrier movable on the lay, of yielding extensions movable relatively to the carrier and having their outer ends normally tending to open, and means for automatically and positively closing said yielding extensions.

4. In a loom of the character described, the combination with the lay and a carrier movable longitudinally thereof, of a U-shaped member slidably mounted in the carrier and having its free ends adapted to grasp a shuttle, the sides of said U-shaped member being formed with inwardly-projecting lugs, a plate having beveled tongues engaging said lugs, and means for reciprocating said plate relatively to the carrier.

5. In a loom of the character described, the combination with the lay and a carrier movable longitudinally thereof, of a U-shaped member slidably mounted in the carrier and having its free ends adapted to grasp a shuttle, the sides of said U-shaped member being formed with inwardly-projecting lugs, a plate having beveled tongues engaging said lugs, means for reciprocating said plate relatively to the carrier, and means for withdrawing the said U-shaped member and a shuttle grasped thereby into the carrier.

6. In a loom of the character described, the combination with a carrier movable on the lay, and having a slot, a U-shaped member having extensions adapted to grasp the shuttle, a plate movable relatively to said U-shaped member and having connections with the sides thereof to contract the latter, a jointed link connected with said plate and having a pin projecting through the slot of the carrier, and means for actuating said projecting pin lengthwise of the carrier.

7. In a loom of the character described, the combination with a bar mounted on said lay, shuttle-grasping fingers actuated by said bar, a cam for reciprocating the bar, and a pawl and means for actuating said pawl to impart a quick movement to said cam.

8. In a loom of the character described, the combination with a bar mounted to slide on the lay, levers connected with said bar to be oscillated thereby, means for reciprocating the bar, and shuttle-controlling fingers having connections including pins located in the path of movement of the said levers.

9. In a loom of the character described, the combination with a bar mounted to slide on the lay, levers connected with said bar to be oscillated thereby, means for reciprocating the bar, and shuttle-controlling fingers having connections including pins located in the path of movement of the said levers, the said levers being jointed and having their outer parts yielding substantially as and for the purpose set forth.

10. In a loom of the character described, the combination with the lay and shuttle-grasping fingers thereon, of a bar mounted on the lay and having connections for controlling the shuttle-grasping fingers, a cam for reciprocating said bar, a ratchet connected to the shaft of said cam, a pawl for actuating the ratchet, and means for suddenly actuating the pawl.

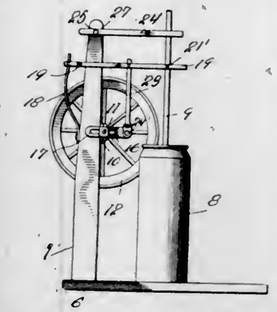
11. In a loom of the character described, the combination with the lay and shuttle-grasping fingers thereon, of a bar mounted on the lay and having connections for controlling the shuttle-grasping fingers, a cam for reciprocating said bar, a compound ratchet carried by the shaft of said cam, a pawl for engaging one set of teeth of the ratchet, said pawl having a stop adapted to be interposed in the path of movement of the other set of teeth of the ratchet, and means for reciprocating said pawl.

12. In a loom of the character described, the combination with the lay, of a shaft mounted thereon, said shaft having a cam at one end and a ratchet at the other end, shuttle-grasping fingers on the lay, means controlled by said cam for actuating the shuttle-grasping fingers, a plunger mounted in bearings connected with the lay and having a pawl to engage said ratchet, trip-plates connected with the plunger and adapted to actuate the same in one direction, a spring for actuating the plunger in the other direction, and means for oscillating the trip-plates according to movements of the lay.

13. In a loom of the character described, the combination with the lay, of carriers movable longitudinally thereof, shuttle-grasping fingers mounted in said carriers, jointed links for retracting and projecting said fingers relatively to the carriers and means for actuating said arms.

14. In a loom of the character described, the combination with brackets secured to the lay said brackets having curved slots, of carriers movable on the lay, each carrier having a rock-shaft provided with an arm engaging a curved slot, said rock-shaft having also a jointed link, and shuttle-grasping fingers connected with said jointed link, whereby movements of the carrier on the lay will automatically move the shuttle-fingers relatively to the carriers.

845,346. CHURN. JAMES C. GENTRY and JOHN T. BOTTOMLEE, Dayton, Tenn. Filed June 8, 1906. Serial No. 320,845.



Claim.—1. The combination with a dasher-shaft, of a drive-shaft, a crank-arm adjustably connected with the drive-shaft, connections between the crank-arm and dasher-shaft, and a movable guide-bracket for said dasher-shaft.

2. The combination with a dasher-shaft, of a drive-shaft, a crank-arm adjustably connected with the drive-shaft, connections between the crank-arm and dasher-shaft, and a guide-bracket for said dasher-shaft movable into and out of engagement therewith.

3. The combination with a dasher-shaft, of a drive-shaft, a crank-arm adjustably connected with the drive-shaft, connections between the crank-arm and dasher-shaft, a guide-bracket for said dasher-shaft, said bracket being movable into and out of operative position, and means for holding the bracket in operative position.

845,347. BOTTLE ATTACHMENT. WILLIAM J. GESELL, Weehawken, N. J. Filed Nov. 15, 1906. Serial No. 343,594.

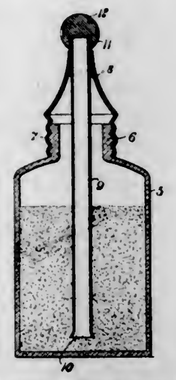
Claim.—1. A containing vessel having a continuous open-ended discharge-tube of uniform cross-sectional diameter disposed within the same and having its lower end flared laterally and spaced from the bottom of the vessel, and a removable closure for the upper end of said tube.

2. A containing vessel having a discharge-tube disposed within the same, one end of which is threaded and the other end spaced from the bottom of the vessel, and a closure engaging the threaded end of the tube.

3. A containing vessel provided with a cap, a discharge-tube secured to the wall of the cap and having one end thereof extended beyond the cap and its opposite end spaced from the bottom of the vessel, and a closure engaging the extended end of the discharge-tube.

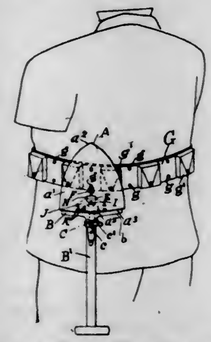
4. A containing vessel provided with a cap, a discharge-tube carried by the cap and having one end thereof extended beyond the cap and provided with exterior threads and its opposite end flared laterally and spaced from the bottom of the vessel, and a closure engaging the threads on the tube.

5. A containing vessel provided with a cap which converges away from one end of the vessel, a tube secured to the interior wall of the cap at the reduced end thereof and having one end extended beyond the cap and its opposite end flared laterally and spaced from the bottom of the vessel, and a closure engaging the extended end of the discharge-tube.



6. A containing vessel provided with a neck the exterior wall of which is threaded, a cap engaging the threads on the neck and converging away from one end of the vessel, a tube secured to the interior wall of the cap at the reduced end thereof and having one end extended beyond the free end of the cap and threaded and its opposite end extending longitudinally of the vessel and spaced from the bottom of the latter, and a closure having an opening formed therein the walls of which are threaded for engagement with the threads on the end of the discharge-tube.

845,348. INTRENCHING-SHOVEL CARRIER. EDWARD T. GIBSON, Matawan, N. J. Filed Oct. 16, 1905. Serial No. 283,049.



Claim.—1. An intrenching-shovel carrier comprising a sheath adapted to receive the blade of an intrenching-shovel, a shovel-holding strap permanently fixed at the mouth extremity of the sheath and on that side of the sheath which is adapted to face the body of the wearer, and a hanger; said shovel-holding strap provided on its end portions with coöperating fastening means, and adapted to encircle the handle of an intrenching-shovel and engage the shoulder end of the blade to secure said sheath to said blade; said hanger being attached to the section of the sheath which is adapted to face the body of the wearer and comprising means adapted to engage a waist-belt.

2. An intrenching-shovel carrier comprising a sheath having a closed extremity and a mouth extremity and adapted to receive the blade of an intrenching-shovel, a hanger, and a device secured to said sheath and adapted to be held in engagement with the shoulder end of said blade when said sheath is on said blade, and means adapted to detachably hold said device in said engagement; said hanger being pivotally attached by its lower extremity to the section of the sheath which is adapted to face the body of the wearer, and said hanger comprising a hook adapted to be hooked to a waist-belt to support the sheath in position on the wearer, and said hanger normally extending in approximately the same direction as that of the closed extremity of the sheath when the sheath is carrying an intrenching-shovel.

3. An intrenching-shovel carrier comprising a sheath having a closed extremity and a mouth extremity and adapted to receive the blade of an intrenching-shovel, a hanger, and a device secured to said sheath and adapted to be held in engagement with the shoulder end of said blade when said sheath is on said blade, and means adapted to detachably hold said device in said engagement; said hanger being attached to the section of the sheath which is adapted to face the body of the wearer, and said hanger being adapted to engage the fabric of the body of a waist-belt and at the same time intersect the horizontal plane of the lower edge of the belt and the vertical plane of the inner surface of the belt and at the same time support the sheath in a position wherein the closed extremity of the sheath projects above the lower edge of the belt and faces toward the outer surface of the belt.

4. An intrenching-shovel carrier comprising a sheath having a closed extremity and a mouth extremity and adapted to receive the blade of an intrenching-shovel, a hanger, and a device secured to said sheath and adapted to be held in engagement with the shoulder end of said blade when said sheath is on said blade, and means adapted to detachably hold said device in said engagement; said hanger, and a device secured to said sheath and adapted of the sheath which is adapted to face the body of the wearer; and said hanger comprising a swivel-joint, and a metallic device adapted to engage a waist-belt; said hanger normally extending in approximately the same direction as that of the closed extremity of the sheath when the sheath is carrying an intrenching-shovel.

5. An intrenching-tool carrier comprising a hanger, and a sheath adapted to receive the blade of an intrenching-tool, said sheath being provided with a hook-hole; said hanger comprising a hook adapted to engage a waist-belt, and said hanger adapted to admit of said hook being hooked into said hook-hole when the hook is not in use.

6. An intrenching-tool carrier comprising a hanger, and a sheath adapted to receive the blade of an intrenching-tool; said hanger comprising a hook adapted to engage a waist-belt; and said sheath having means provided to furnish protection for the beak of said hook when the hook is not in use.

7. An intrenching-shovel carrier comprising a sheath having a closed extremity and a mouth extremity and adapted to receive the blade of an intrenching-shovel, a hanger, and a device secured to said sheath and adapted to be held in engagement with the shoulder end of said blade when said sheath is on said blade, and means adapted to detachably hold said device in said engagement; said hanger being attached by its lower extremity to the section of the sheath which is adapted to face the body of the wearer, and said hanger comprising a piece of pliable non-metallic material and a device adapted to engage a waist-belt; said material being attached at one end to the last said device between the horizontal planes of the upper and lower extremities of the said sheath when the said sheath is in position for carrying an intrenching-shovel.

8. An intrenching-shovel carrier comprising a sheath having a closed extremity and a mouth extremity and adapted to receive the blade of an intrenching-shovel, a hanger, and a device secured to said sheath and adapted to be held in engagement with the shoulder end of said blade when said sheath is on said blade, and means adapted to detachably hold said device in said engagement; said hanger being pivotally attached by its lower extremity to the section of the sheath which is adapted to face the body of the wearer, and said hanger being adapted to engage a waist-belt; and said pivotal attachment being adapted to admit of the reversal of the extremities of the sheath when the last said device is in engagement with a waist-belt.

9. An intrenching-shovel carrier comprising a sheath having a closed extremity and a mouth extremity and adapted to receive the blade of an intrenching-shovel, a hanger, and a device secured to said sheath and adapted to be held in engagement with the shoulder end of said blade when said sheath is on said blade, and means adapted to detachably hold said device in said engagement; said hanger being attached by its lower extremity to the section of the sheath which is adapted to face the body of the wearer; and said hanger comprising a swivel-joint, and a hook adapted to engage a waist-belt.

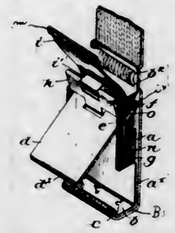
10. An intrenching-shovel carrier comprising a sheath having a closed extremity and a mouth extremity and adapted to receive the blade of an intrenching-shovel, a hanger, and a strap secured to said sheath and adapted to encircle the handle of an intrenching-shovel and engage the shoulder end of the blade when said sheath is on said blade, and said strap being provided on its end portions with coöperating fastening means adapted to detachably hold said strap in said engagement; said hanger being attached by its lower extremity to the section of the sheath which is adapted to face the body of the wearer; and said hanger comprising a swivel-joint, and means adapted to engage a waist-belt.

11. A carrier constructed to be worn by a soldier for carrying an intrenching instrument consisting of a metal tool and a wooden handle for the same; the body part of said carrier comprising a sheath having a closed extremity and a mouth extremity and adapted to receive said metal tool; and said carrier comprising in addition to said body part, a hanger for hanging said body part on a soldier, a flexible strip of leather secured to said sheath and adapted to be held in engagement with an end of said metal tool when said sheath is on said tool, and means adapted to detachably hold said strip of leather in said engagement; said hanger being attached to said body part; and said hanger comprising a swivel-joint, and a hook adapted to engage a waist-belt.

12. An intrenching-shovel carrier comprising a sheath having a closed upper extremity and an open lower extremity and adapted to receive the blade of an intrenching-shovel, a hanger for hanging the said sheath from a waist-belt, and a device secured to said sheath and adapted to be held in engagement with the shoulder end of said blade when said sheath is on said blade, and means adapted to detachably hold said device in said engagement; said hanger having its lower extremity attached to the section of the sheath which is adapted to face the body of the wearer, and said hanger comprising a part which passes upward between the inner surface of the belt and the body of the wearer and over the fabric of the belt when the belt is engaged by the hanger; and said lower extremity of the hanger being attached to the said section of the sheath in such relation to the upper end of the sheath as to admit of the said closed extremity of the sheath projecting above the lower edge of the belt and in front of the outer surface of the belt when the belt is engaged by the hanger.

13. An intrenching-shovel carrier comprising a sheath having a closed upper extremity and an open lower extremity and adapted to receive the blade of an intrenching-shovel, a hanger for hanging the said sheath from a waist-belt, and a strap secured to said sheath and adapted to encircle the handle of an intrenching-shovel and engage the shoulder end of the blade when said sheath is on said blade, and said strap being provided on its end portions with coöperating fastening means adapted to detachably hold said strap in said engagement; said hanger having its lower extremity attached to the section of the sheath which is adapted to face the body of the wearer, and said hanger comprising a part which passes upward between the inner surface of the belt and the body of the wearer and over the fabric of the belt when the belt is engaged by the hanger; and said lower extremity of the hanger being attached to the said section of the sheath in such relation to the upper end of the sheath as to cause the said closed extremity of the sheath to project above the lower edge of the belt and in front of the outer surface of the belt when the belt is engaged by the hanger.

845,349. HOSE-SUPPORTER. HERBERT C. GILES, Rutherford, N. J., and WILLIAM W. WHITE, New York, N. Y. Filed May 15, 1906. Serial No. 316,903.



Claim.—1. In a garment-clasp and in combination a relatively stationary back plate having a channel or pocket therein, a movable member, and means for moving said member in a direction substantially parallel with the back plate while within said channel or pocket or in register therewith and for afterward swinging the member away from the back member, substantially as described.

2. In a garment-clasp and in combination a relatively fixed plate having a laterally-extending clamping portion and a clamping member having a swinging movement to bring the same into and out of register with said laterally-extending clamping portion and a sliding movement toward and from said clamping portion and means for giving said member said movements, substantially as described.

3. In a garment-clasp and in combination a relatively fixed plate having a laterally-extending clamping portion and a movable member associated with the fixed plate, with means for giving said movable member both a rectilinear and a swinging movement, substantially as described.

4. In a garment-clasp and in combination a relatively fixed plate having a laterally-projecting portion terminating in an upward extension, a movable plate designed to coact with said lateral extension, and rear face of said upward extension, and means for moving said movable plate in a rectilinear direction to shift the lower end of the same into and out of coaction with the rear face of the upward extension and for also giving the plate a swinging movement when out of coaction with said upward extension, substantially as described.

5. In a garment-supporter and in combination a relatively fixed plate and webbing secured thereto, said plate having a channel or pocket at the lower end thereof opening outwardly, a member associated with the back plate and means for giving said member a sliding movement into and out of the pocket or channel and also an additional swinging movement, substantially as described.

6. In a garment-clasp and in combination a relatively fixed plate having a receiving pocket or channel at the lower end thereof, a movable clamping member and means in the initial retractile movement thereof for shifting the same in a rectilinear direction and for afterward swinging the same upon a pivot in the final retractile movement, substantially as described.

7. In a garment-clasp and in combination a relatively fixed plate having a horizontal clamping-surface terminating in a substantially vertical clamping-surface and a clamping member having an end designed to occupy a position between said vertical clamping-surface and the opposing surface of the fixed plate, means for moving said clamping member in a lengthwise direction into and out of said position last named and for giving said member an additional swinging movement, substantially as described.

8. In a garment-clasp and in combination a backing plate provided with a laterally-extending portion, a clamping-plate, guideways on the backing plate, pintles on the

clamping-plate coacting with said guideways, a hand-operated member and a link connection between the moving plate and hand-operated member, substantially as described.

9. In a garment-clasp and in combination a relatively fixed plate, ears on the opposite sides thereof having guide-slots therein with portions extending in different directions, a plate movably mounted between said ears provided with pintles working in said slots, a hand-operated member and a link between the same and the movable plate, substantially as described.

10. In a garment-clasp and in combination a relatively fixed plate having a laterally-extending clamping portion, ears extending outwardly from opposite side edges of the plate provided with slots having portions extending substantially parallel with the face of the plate, and other portions extending obliquely to the first-named portions from the upper ends of the same inwardly and upwardly, a clamping-plate mounted between said ears provided with two sets of pintles guided in said slots, a hand-operated lever, a link connected at one end thereto and pivotally connected at its other end to the clamping-plate, one set of said pintles being in alinement with the pivotal point between said link and plate and the other set of said pintles being located adjacent the end of the plate, substantially as described.

11. In a garment-clasp and in combination, a relatively fixed plate having a laterally-extending clamping portion and webbing secured to the plate, means projecting from the plate having guideways therein, a clamping-plate provided with two sets of pintles guided in said ears, a pivoted hand-operated member and a link connecting between the clamping-plate and said hand-operated member, substantially as described.

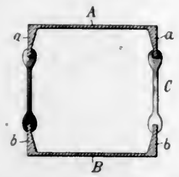
12. In a garment-clasp and in combination a relatively fixed plate having a laterally-extending clamping portion, ears on the plate provided with guide-slots having portions extending in different directions, a clamping-plate provided with pintles coacting with said guide-slots, a lever pivoted between the ears and a link pivoted at one end to the clamping-plate and at its other end to said lever, substantially as described.

13. In a garment-clasp and in combination a relatively fixed plate having a laterally-extending clamping portion, ears on the plate having guide-slots therein, a clamping member provided with pintles guided in the slots, a lever pivoted in the upper ends of the ears and a link pivoted at its lower end in the clamping member and at its upper end to said lever, the latter pivotal connection being designed to occupy a position substantially in alinement with or within the initial direction of movement in the clamping-plate in the opening movement thereof, when the lever is in closed position, whereby said lever will be locked in closed position against lengthwise strain on the clamping member, substantially as described.

14. In a hose-supporter, a relatively fixed member having a flat rear face and a laterally-extending part at the lower end thereof, with an upward continuation providing a clamping-shoulder, said plate having slots at its upper end and a slot in said extension, a webbing threaded through the slots at the upper end of the plate extending down along the rear face of the latter, under the extension, over the deflected part and through the slot in the extension, the end of the webbing terminating between the lower part of the plate and the intermediate part of the webbing and the latter providing a covering for the rear face of the plate and for said upward continuation, a clamping-plate associated with the fixed plate coacting with the upward continuation and means for operating the clamping-plate, substantially as described.

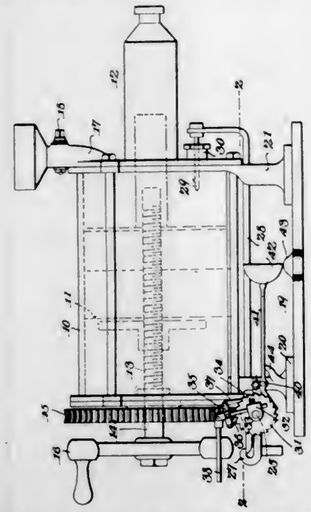
15. In a garment-clasp and in combination a relatively fixed plate having a laterally-extending clamping portion, ears on the plate having guide-slots therein, a clamping member provided with pintles guided in the slots, a lever pivoted in the upper ends of the ears and a link pivoted at its lower end in the clamping member and at its upper end to said lever, the latter pivotal connection in the closed position of the clasp being beyond the plane of the clamping member whereby said lever will be locked in closed position against lengthwise strain on the clamping member, substantially as described.

845,350. METAL COLUMN. THOMAS H. GILLESPIE, South Orange, N. J. Filed June 29, 1906. Serial No. 324,000.



Claim.—A column comprising, in combination, a pair of body members in the form of channel-irons, spaced apart and arranged with their flanges disposed inwardly, and lateral connecting members having slots engaging the flanges of the body members, the lips of the slots being pressed into firm contact with the flanges, as set forth.

845,351. SIGNAL FOR FORCE-FEED LUBRICATORS. JOSEPH HANSON, Inwood, Iowa. Filed Mar. 27, 1906. Serial No. 308,357.



Claim.—1. In a force-feed lubricator, a receiver, a plunger operating in said receiver, means for actuating said plunger, a signal means, and gravity-acting means whereby the signal means is operated when the plunger reaches a certain predetermined position in the receiver.

2. In a force-feed lubricator, a receiver for the lubricant, means for impelling the lubricant from said receiver, a swinging rod, a gong at one end of the latter, an anvil upon which said gong strikes when the rod is released, and means whereby the rod is actuated when the impelling means reaches a certain predetermined position.

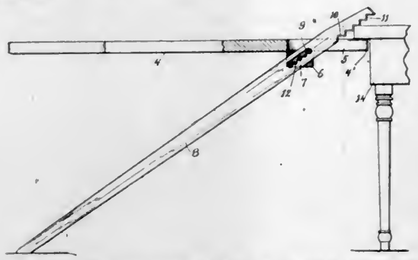
3. In a force-feed lubricator, a receiver for the lubricant, means for impelling the lubricant from said receiver, a swinging frame carrying a shaft, means whereby the operation of said shaft causes the operation of said impelling means when the frame is in one position, a trip mechanism, a signal means associated with said frame, means whereby said trip mechanism is released when said impelling means reaches a certain predetermined position, and means whereby said signal means is actuated when said trip means is released.

4. In a force-feed lubricator, a receiver for the lubricant, a plunger operating in the receiver, means for operating said plunger, a frame swinging from said receiver, a shaft rotatively disposed upon said frame and partaking of its swinging motion, means whereby the rotary motion of said shaft is transmitted to the plunger-operated means when the frame is disposed in one position, the trip mechanism asociated with said frame, means whereby the trip mechanism is actuated when the plunger reaches a certain predetermined position, a signal means, and means whereby said signal means is actuated when the said swinging frame is disposed in the other of its positions.

5. In a force-feed lubricator, a receiver for the lubricant, means for impelling the lubricant from said receiver, a swinging frame, a shaft carried by said frame, means whereby the motion of said shaft is imparted to said impelling means when the frame is in one position, a trip means associated with said frame, means whereby said trip means is operated to release said frame when the impelling means arrives at a certain predetermined position, a disk carried by said shaft and provided with spaced pins, a swinging arm extending at one end into the paths of said pins, and a gong on the opposite end of the arm for sounding when the frame is released by the releasing of said trip means.

6. In a force-feed lubricator, a receiver for the lubricant, means for impelling the lubricant from said receiver, a swinging frame, a shaft carried by said frame, means whereby the motion of said shaft is imparted to said impelling means when the frame is in one position, a trip means associated with said frame, means whereby said trip means is operated to release said frame when the impelling means arrives at a certain predetermined position, a ratchet-disk carried by said shaft and provided with spaced pins, arms swinging on said shaft and having pawls engaging said ratchet and adapted to rotate the shaft when vibrated, a swinging arm having one end projecting into the paths of said pins, and a gong on the opposite end of the arm which is sounded when the frame is released by the releasing of said trip means.

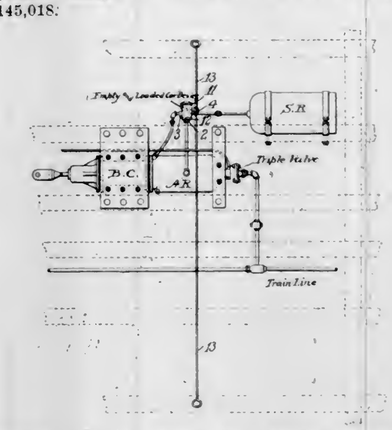
845,352. IRONING-BOARD. MARTIN L. HENLEIN, Two Rivers, Wis., assignor of one-half to Robert J. Bresee, Milwaukee, Wis. Filed Dec. 6, 1905. Serial No. 290,535.



Claim.—1. The combination with a board having a slot extending from one end inwardly for a desired distance, a transverse pin carried by the board, and a leg having an elongated slot extending in the direction of the length of the leg and through which the pin passes, the lower bordering edge of said slot provided with a series of serrations or recesses, and the upper end of the leg passing through the slot of the board and the under edge of said upper end of the leg adapted to engage over the top of a table edge, ledge, or other device.

2. The combination of a board having a slot extending from one end inwardly for a desired distance, ears projecting downwardly from the bordering edges of the slot, a pin supported in said ears, and a leg passing between the ears and provided with an elongated slot extending in the direction of the length of the leg and through which the pin passes, the lower bordering edge of said slot being recessed or serrated, and the upper end of the leg passing through the slot of the board and the under edge of said upper end of the leg adapted to engage over the top of a table edge, ledge, or other device.

845,353. FLUID-PRESSURE BRAKE SYSTEM. MAURY W. HIBBARD, Chicago, Ill., assignor to Richard Fitzgerald, Chicago, Ill. Filed Feb. 25, 1903. Serial No. 145,018.



Claim.—1. In combination with an air-brake system and a supplemental reservoir therefor, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight, and comprising a casing having a valve arranged to establish communication between the supplemental reservoir and the usual auxiliary reservoir when shifted to loaded-car position, and means arranged within said casing for maintaining the valve in loaded-car position so long as air-pressure remains in the brake system of the car.

2. In combination with an air-brake system and a supplemental reservoir therefor, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve arranged to establish communication between the supplemental reservoir and the usual auxiliary reservoir when shifted to loaded-car position, and an air lock or controller arranged within said casing and mechanically connected to said valve for maintaining the valve in loaded-car position so long as air-pressure remains in the brake system of the car.

3. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a valve for increasing the volume of braking pressure for a loaded car, and means arranged on such valve for locking it in loaded-car position.

4. In combination with an air-brake system and a supplemental reservoir therefor, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve arranged to establish communication between the supplemental reservoir and the usual auxiliary reservoir when shifted to loaded-car position, a cup connected to said valve and arranged to seat when the valve is shifted, and means for venting the space within the cup.

5. In combination with an air-brake system and a supplementary reservoir therefor, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve arranged to establish communication between the supplemental reservoir and the usual auxiliary reservoir when shifted to loaded-car position, a valve-seat on which such valve works and having a vent-passage, a cup connected to said valve and arranged to seat when the valve is shifted, said cup having a vent-port arranged to register with the vent-passage and thereby exhaust the space within the cup.

6. In combination with an air-brake system and a supplemental reservoir therefor, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve arranged to establish communication between the supplemental reservoir and the usual auxiliary reservoir when shifted to loaded-car position, a seat 30 in one end of the casing, a cup formed at one end of the valve and arranged to seat on seat 30 when such valve is shifted and means for venting the interior of the cup.

7. In combination with an air-brake system and a supplemental reservoir therefor, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve arranged to establish communication between the supplemental reservoir and the usual auxiliary reservoir when shifted to loaded-car position, a cup connected to said valve and arranged to seat when the valve is shifted to loaded-car position, means for venting the space within the cup, and a spring arranged within such cup and tending to resist such shifting of the valve.

8. In combination with an air-brake system and a supplemental reservoir therefor, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve arranged to establish communication between the supplemental reservoir and the usual auxiliary reservoir when shifted to loaded-car position, a cup connected to said valve and arranged to seat when the valve is shifted to loaded-car position, means for venting the space within the cup, and a spring 21 having a limited movement of extension and tending to resist such shifting of the valve.

9. In combination with an air-brake system and a supplemental reservoir therefor, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve arranged to establish communication between the supplemental reservoir and the usual auxiliary reservoir when shifted to loaded-car position, a cup connected to said valve and arranged to seat when the valve is shifted to loaded-car position, means for venting the space within the cup, a spring 21 arranged within the cup, a rod 26 secured to one end of the casing, and a flanged spring-cup 27 arranged to slide on said rod and against which one end of the spring bears.

10. In combination with an air-brake system and a supplemental reservoir therefor, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve arranged to establish communication between the supplemental reservoir and the usual auxiliary reservoir when shifted to loaded-car position, a valve-seat on which such valve works and having a vent-passage 33, an opening 18, and a port 37 to the supplemental reservoir, a cup arranged on said valve and having a vent-port 29 which is adapted to communicate with passage 33 to vent the interior of the cup when the valve is moved to one position and to communicate with opening 18 to bleed the reservoir when moved to another position.

11. In combination with an air-brake system and a supplemental reservoir therefor, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve arranged to establish communication between the supplemental reservoir and the usual auxiliary reservoir when shifted to loaded-car position, said valve having an upward projection 25, and a pair of springs arranged on opposite sides of such projection to maintain the valve in an intermediate position of normal but permit positive movement in either direction.

12. In combination with an air-brake system and a supplemental reservoir therefor, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve arranged to establish communication between the supplemental reservoir and the usual auxiliary reservoir when shifted to loaded-car position, said valve having an upward projection 25 and end cup 28, and a pair of springs having limited extension and arranged on opposite sides of such projection to maintain the valve in an intermediate position of normal but permit positive movement in either direction.

13. In combination with an air-brake system, a reservoir supplemental to the usual auxiliary reservoir, a valve device arranged to be adjusted to connect the two reservoirs, to obtain increased braking force, a controller forming part of the valve device which comprises a valve-casing provided with the slot or opening 18 and a slide-valve 10 within the casing and having socketed side wings, a bearing on said casing, operating-levers 14, a shaft 15 mounted in such bearing and having an arm 17 projecting through said opening and operatively engaging the socketed side wings of the valve.

14. In combination with an air-brake system, a reservoir supplemental to the usual auxiliary reservoir, a valve arranged to be adjusted to connect the two reservoirs to obtain increased braking and a controller forming an integral part of said valve and arranged to hold the valve in adjusted position.

15. In combination with an air-brake system, a reservoir supplemental to the usual auxiliary reservoir of the brake system, and a combined valve and lock therefor to prevent change of such valve after adjustment to a certain position, said valve being arranged to be adjusted to connect the two reservoirs to obtain increased braking force.

16. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a valve for increasing the volume of braking pressure for a loaded car, and means directly controlled by said valve for locking the latter in loaded-car position.

17. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a valve for increasing the volume of braking pressure for a loaded car, and means carried and directly controlled by said valve for locking the latter in loaded-car position.

18. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a valve for increasing the volume of braking pressure for a loaded car, and means mounted on and movable with the valve for locking the latter in loaded-car position.

19. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a valve for increasing the volume of braking pressure for a loaded car, and means formed integral with the valve for locking the latter in loaded-car position.

20. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a valve for increasing the volume of braking pressure for a loaded car, and means carried at one end of the valve for locking the latter in loaded-car position.

21. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve-chamber, a valve therein for increasing the volume of braking pressure for a loaded car, and means arranged in said chamber and directly controlled by said valve for locking the latter in loaded-car position.

22. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve-chamber, a valve therein for increasing the volume of braking pressure for a loaded car, and means arranged within such valve-chamber and mounted on and movable with said valve for locking the latter in loaded-car position.

23. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve-chamber, a valve therein for increasing the volume of braking pressure for a loaded car, and means arranged in said chamber and actuated by the pressure contained therein for holding the valve in loaded-car position.

24. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve-chamber, a valve therein for increasing the volume of braking pressure for a loaded car, and means arranged in said chamber and mounted on said valve for holding the latter in loaded-car position, said holding means being actuated by the pressure contained in said chamber.

25. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve-chamber, a valve therein for increasing the volume of braking pressure for a loaded car, a holding disk or cup exposed to the pressure of the system and cooperating with the valve, such dick or cup being arranged to seat when the valve is moved to loaded-car position, and means for venting the interior of the disk or cup after seating, whereby the pressure will hold the disk and valve to said adjusted position.

26. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve-chamber, a valve therein for increasing the volume of braking pressure for a loaded car, a holding disk or cup continually exposed to the pressure of the system and operatively connected with the valve, such disk or cup being arranged to seat when the valve is moved to loaded-car position, and means for venting the interior of the cup after seating and thereby permitting the said pressure to hold such cup seated.

27. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve-chamber, a valve therein for increasing the volume of braking pressure for a loaded car, a holding-disk continually exposed on one side to the pressure of the system and operatively connected with the valve, and means for venting the pressure on the other side of the disk to permit the said pressure to act and hold the disk and valve to loaded-car position.

28. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve-chamber, a valve therein for increasing the volume of braking pressure for a loaded car, and a holding-disk continually exposed on one side to the pressure of the system and operatively connected with the valve, said valve having means for venting or relieving the pressure on the other side of the disk to permit the said pressure to act and hold the disk and valve to loaded-car position.

29. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve-chamber, a valve therein for increasing the volume of braking pressure for a loaded car, a holding-disk continually exposed on one side to the pressure of said chamber and operatively connected with said valve, and means for venting the pressure from the other side of the disk when the valve is adjusted to loaded-car position.

30. In combination with an air-brake system, a device adapted to be adjusted for braking a car in proportion to its empty and its loaded weight and comprising a casing having a valve-chamber, a valve therein for increasing the volume of braking pressure for a loaded car, a holding-disk normally exposed on both sides to the pressure of said chamber but continually exposed to such pressure only as to one side, said disk being operatively connected with said valve, and means for relieving the pressure from the other side of the disk when the valve is adjusted to loaded-car position.

31. In combination with an air-brake system and a supplemental reservoir therefor, integral controlling and locking means for connecting said supplemental reservoir with the usual auxiliary reservoir of the brake system and for maintaining said means in an adjusted position.

32. In combination with an air-brake system and a supplemental reservoir therefor, means for connecting said supplemental reservoir of the brake system, a locking device carried by said means and tending to hold such means in an adjusted position, and a casing for containing such means and locking device.

33. In combination with an air-brake system and supplemental reservoir therefor, a single means for connecting said supplemental reservoir with the usual auxiliary reservoir of the brake system and for maintaining said connection.

34. In combination with an air-brake system and supplemental reservoir therefor, a single means for connecting said supplemental reservoir with the usual auxiliary reservoir of the brake system at the will of the operator and for maintaining said connection.

35. In combination with an air-brake system and supplemental reservoir therefor, a single means for connecting said supplemental reservoir with the usual auxiliary reservoir of the brake system at the will of the operator and for maintaining said connection as determined by the pressure on the car.

36. In combination with an air-brake system and a supplemental reservoir therefor, means for connecting said supplemental reservoir with the usual auxiliary reservoir of the brake system at the will of the operator and for holding and locking said means in an adjusted position, said connecting and locking means being integral.

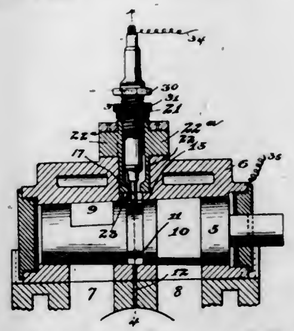
37. In combination with an air-brake system and a supplemental reservoir therefor, means for connecting said supplemental reservoir with the usual auxiliary reservoir of the brake system, and a locking device controlled by the pressure on the car for holding said means in an adjusted position, said means and locking device being formed integral.

38. In combination with an air-brake system and a supplemental reservoir therefor, means for connecting said supplemental reservoir with the usual auxiliary reservoir of the brake system at the will of the operator, and a locking device tending to hold such means in an adjusted position as determined by the presence of air-pressure on the car, said means and locking device being integral.

39. In combination with an air-brake system and a supplemental reservoir, means for controlling the flow of air to and from such reservoir and a locking device for holding said means in adjusted position, said means and locking device being formed as a unitary structure.

40. In combination with an air-brake system and a supplemental reservoir, means for controlling the flow of air to and from such reservoir at the will of the operator, and a locking device arranged to hold or lock said means in an adjusted position as determined by the presence of air-pressure on the car, said means and locking device being formed as a unitary structure.

845,354. SPARKING IGNITION DEVICE. CHARLES T. HILDEBRANDT, Chicago, Ill., assignor of one-half to Everett W. Brooks, Chicago, Ill. Filed Feb. 17, 1905. Serial No. 246,138.

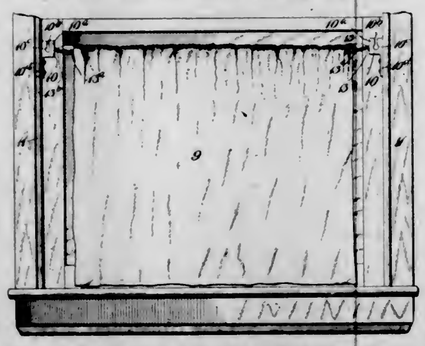


Claim.—1. In an ignition device for engines, the combination with a rotatable cam constituting one contacting element of a sparker, of a spring-pressed plunger the lower

end whereof is adapted to wipe over said cam, a pivoted segment-block constituting a carrier for said spring-pressed plunger so mounted as to be adjustable longitudinally of the path of travel of said cam, said segment-block having a segment-rack formed thereon, a pinion engaging said segment-rack, and a suitably-mounted actuating-shaft for said pinion, substantially as described.

2. In a gas-engine, the combination with a valve-casing and a rotatable valve therein suitably ported to control the inlet and exhaust of the engine, of an ignition-chamber formed in said valve and communicating with the engine-cylinder, a cam constituting one contacting element of a sparker mounted on said rotatable valve in said ignition-chamber, a pivoted segment-block mounted on said valve-casing and adjustable longitudinally of the path of travel of said cam, a spring-pressed plunger mounted in said segment-block the lower end whereof is adapted to wipe over said cam, and means for adjusting said segment-block, substantially as described.

845,355. CURTAIN-SUPPORT. WILLIAM HUBERT, Chicago, Ill., assignor of one-half to John Weimer, Chicago, Ill. Filed July 5, 1906. Serial No. 324,808.



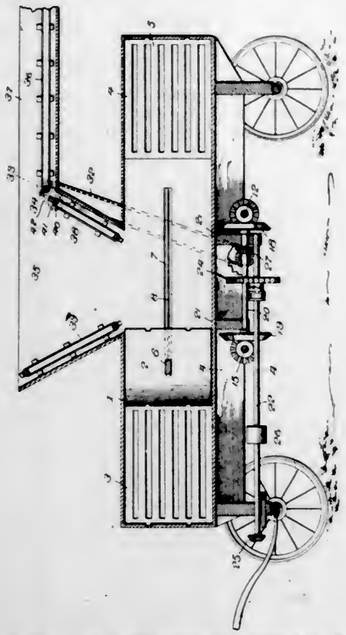
Claim.—1. The combination in a curtain-support, of an elastic cable having at the ends thereof heads with reduced necks, and enlarged portions adjacent to said necks, and a basket having a slot extending in from one edge thereof and terminating in an enlarged hole, the slot being adapted to receive the neck and allow said enlarged portion to enter the enlarged hole.

2. The combination in a curtain-support, of a flexible cable having heads at the ends thereof, and brackets comprising box-like bodies having a plurality of walls each of which is provided with a slot in which one of the heads is engageable.

845,356. BALING-MACHINE. JOHN J. HUGGINS, Fulton, Ky. Filed May 9, 1906. Serial No. 315,932.

Claim.—1. A baler of the class described comprising a frame, compression-chambers in said frame, a plunger between said chambers, a cross-head through said plunger and extending through slots in said frame, cables secured to said cross-head, drums rotatably mounted on said frame, the opposite ends of said cables being secured to said drums, shafts carrying said drums, gear-wheels secured to said shafts, a shaft transversely disposed to the first-mentioned shafts, mutilated gears at each end of said shaft adapted to engage the gears on the first-mentioned shafts, a power-shaft, and means interposed between said power-shaft and transversely-disposed shaft to rotate the same whereby said plunger will be moved from end to end of the frame.

2. A baler of the class described comprising a frame having a compression-chamber at each end thereof, a plunger in said frame and between said chambers, a cross-head extending laterally from said plunger and through elongated slots in the sides of the frame, sheaves at each end of said slots, a pair of cables secured to each end of said cross-head and extending in opposite directions and over said sheaves, a channeled drum for each of said cables upon which said cables are adapted to be wound, supporting-shafts for said drums, bevel-gears on said shafts, driving means for said shafts and mutilated gears interposed between said driving means and the bevel-gears on said shafts whereby the shafts will be oppositely rotated and the plunger reciprocated without changing the rotation of the driving means.



3. A baler of the class described comprising an elongated frame having a compression-chamber at each end thereof, a plunger disposed in said frame and between said chambers, means to direct hay or the like into the path of said plunger, a cross-head secured to said plunger, cables secured to said cross-head at each end thereof, shafts transversely disposed below said frame, channeled drums carried by said shafts adapted to receive said cables, a bevel-gear secured to each of said shafts, mutilated gears adapted to intermittently mesh with said bevel-gears, a shaft for said mutilated gears, a power-shaft, means carried thereon to apply power, and gearing interposed between said power-shaft and the shaft carrying the mutilated gears to rotate said gears.

845,357. APPARATUS FOR MAKING NUT-BLANKS. ANDREW R. JACKSON, Avalon, Pa., assignor of one-half to Albert Graham, Crafton, Pa. Filed Nov. 30, 1903. Serial No. 183,100.

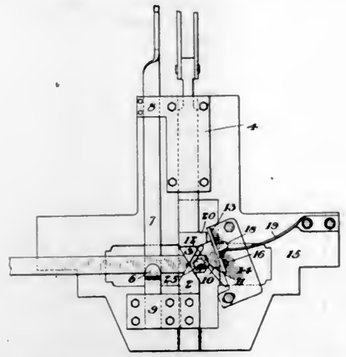
Claim.—1. An apparatus for forming nut-blanks, comprising a pair of cutters, and a stop for the blank-bar movable laterally with the blank to hold the same as it is cut from the bar.

2. An apparatus for forming nut-blanks, comprising a pair of substantially V-shaped cutters, an end stop for the blank-bar movable in the plane of the cutters, and means for causing said stop to move obliquely with the blank as it is cut therefrom the bar.

3. An apparatus for forming nut-blanks comprising substantially V-shaped fixed and movable cutters, and a support for the blank-bar movable with the bar while the blank is being cut therefrom.

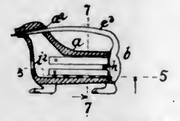
4. An apparatus for forming nut-blanks, comprising substantially V-shaped fixed and movable cutters, a support for the blank-bar movable therewith, and an end stop for the blank-bar movable with the blank in the plane of the cutters while the blank is being cut from the bar.

5. An apparatus for forming nut-blanks comprising a substantially V-shaped stationary cutter, a movable substantially V-shaped cutter coacting therewith to sever the blank from the blank-bar, and means coöperating therewith for moving the blank obliquely over the stationary cutter.



6. An apparatus for forming nut-blanks, comprising a stationary cutter, a movable cutter coacting therewith to sever the blank from the blank-bar, means for forcing the blank obliquely as it is severed from the bar, a forming-die box in alinement with the severed blank, and means for forcing the blank into the die-box.

845,358. PADLOCK. SVAN J. JACOBSON, Brewster, Kans. Filed Oct. 8, 1906. Serial No. 337,864.

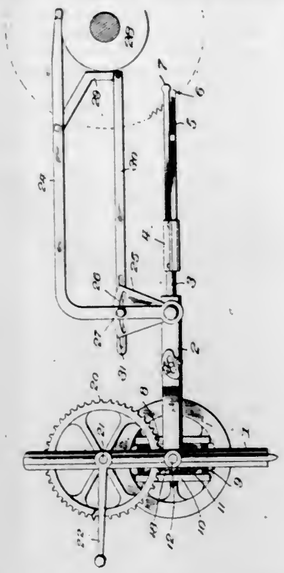


Claim.—The combination with a chambered body provided with shoulders *g* at one end and a key-entrance consisting of two oblong openings disposed at right angles to each other and connected by a slot into a single opening at its opposite end, of a locking-bolt consisting of a headpiece and bars shouldered at said head-piece, springs secured to said bars, and a transversely-T-shaped and longitudinally-reciprocable key provided, at one end with sets of opposite spurs.

845,359. SAW-FILING MACHINE. MONROWE W. JONES, Ardmore, Ind. T. Filed June 14, 1906. Serial No. 321,759.

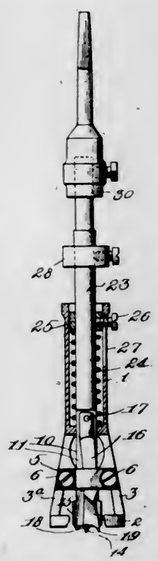
Claim.—1. A device of the class described comprising the combination with a saw-filing machine; of supporting-arms pivotally secured to a portion of said machine and having their outer ends arranged to rest on the saw-mandrel, means to adjustably secure said supporting-arms to the machine, a gage-arm pivotally secured to said supporting-arms and arranged to bear against the mandrel, a link pivoted to said gage-arm and having its opposite end adjustably secured to the clamping means of one of said arms.

2. A device of the class described comprising the combination with a saw-filing machine; of a pair of supporting-arms pivotally secured at one end to said machine and having their opposite ends directed above and in engagement with a mandrel of a saw, an angular gage-arm pivotally secured to said supports and adjacent their outer ends, one portion of said gage-arm being adapted to engage and bear against the mandrel, a link pivoted to the lower end of said gage-arm and having a slot at its opposite end, means engaging one of said supports and the slot in said link to adjustably secure the support and link to



the machine and similar means for adjustably securing the opposite support to the machine.

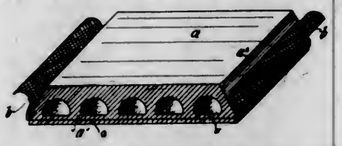
845,360. RECESS-BORING TOOL. MICHAEL JUNGLING, Kingwood, Ga. Filed July 23, 1904. Serial No. 217,894.



Claim.—A recess-boring tool comprising a rotatable casing having an enlarged skeleton end forming a cage provided with a guide-passage, a deflecting-bar secured to said cage and provided with a passage opposing the passage in the cage, said passage in said deflecting-bar provided with inclined walls, and a bit rotating with said

cage and formed of two sections, one of said sections pivoted upon the other, said pivoted section provided with angularly-disposed portions, adapted to travel through the passage in the deflecting-bar and engage the walls of said passage, causing thereby the deflecting of said pivoted section, and the other of said sections of said bit adapted to travel through the guide-passage in the cage.

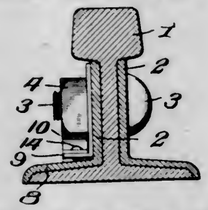
845,361. INNER ROOFING. ADOLF KIEFER, Heidelberg, Germany. Filed Nov. 16, 1905. Serial No. 287,585.



Claim.—1. A ceiling of concrete and iron comprising a number of junction-slabs of concrete laid in abutting relation, the abutting joints of the said slabs being beveled so as to produce a wedge-shaped groove between each adjoining pair, mortar in the said wedge-shaped grooves to bind the slabs together and a wire-netting reinforcement for the junction-slabs the ends of which extend into the mortar in the wedge-shaped grooves and are bent upwardly to lie within the region of the pressure zone of the floor.

2. A ceiling of concrete and iron comprising a number of junction-slabs of concrete laid in abutting relation, the abutting joints of the said slabs being beveled so as to produce a wedge-shaped groove between each adjoining pair, mortar in the said wedge-shaped grooves to bind the slabs together, a wire-netting reinforcement for the junction-slabs the ends of which extend into the mortar in the wedge-shaped grooves and are bent upwardly to lie within the region of the pressure zone of the floor, an iron rod situated over said wire-netting reinforcement where it projects forth from the slab, and clamps connecting the iron rods of neighboring slabs.

845,362. NUT-LOCK. JOSEPH J. KING, Barlow, Oreg. Filed Oct. 23, 1906. Serial No. 340,173.

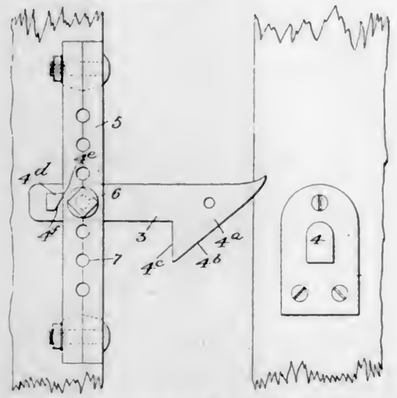


Claim.—1. The combination with a rail, fish-plates on said rail, a bolt disposed through said rail and fish-plates and a nut for said bolt; of a locking-plate having an opening therein to receive said bolt, an ear integral with and at right angles to the lower edge of said plate, a locking-arm having one of its ends pivotally secured to said ear and the opposite end thereof adapted to be disposed into engagement with the fish-plate, means to hold the locking-arm below the nut, an upwardly-extending portion between the ends of said locking-arm adapted to engage the face of said nut and prevent the casual rotation thereof, and a V-shaped depression at the center of said upwardly-extending portion adapted to receive the corners of said nut.

2. The combination with a rail having fish-plates thereon, a bolt directed through said fish-plates and rail and a nut on said bolt, of a rectangular plate, having an opening to receive said bolt, an ear integral with the lower edge of said plate and at one end thereof, the ear being at right angles to the plate, a locking-arm pivotally secured to said ear and means to lock said arm below the nut whereby the nut will be held against casual rotation.

3. The combination with a bolt and a nut therefor; of a plate having an opening to receive said bolt, an ear integral with one edge of said plate and at right angles to the plate, a locking-arm pivotally secured to said ear and a pin disposed through openings in said locking-arm and ear to hold said locking-arm into engagement with the nut whereby casual rotation of said nut will be prevented.

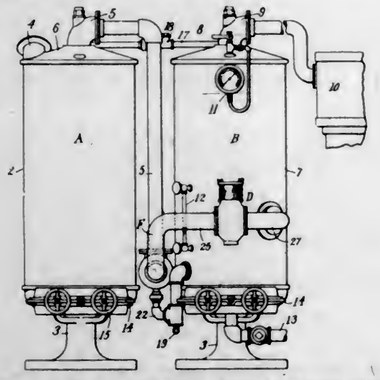
845,363. LATCH FOR GATES AND THE LIKE. WILLIAM BLON LE BOURGEOIS, Convent, La. Filed Nov. 24, 1906. Serial No. 344,964.



Claim.—1. A gate-latch having a carrying member comprising parallel bars, a pivot-bolt passing through the side bars and through the latch, and means whereby the pivot-bolt may be adjusted vertically of said carrying-frame, substantially as described.

2. A gate-latch comprising a carrying member consisting of two half members each having a plurality of semi-circular depressions, means for securing said members together with the recess in alinement to form cylindrical holes, a bolt for passing through alining holes, and a latch pivoted on the bolt, substantially as described.

845,364. APPARATUS FOR CLEANING DUST-LADEN AIR. AUGUSTUS LOTZ, San Francisco, Cal., assignor to Sanitary Devices Manufacturing Company, a Corporation of California. Filed Mar. 24, 1906. Serial No. 307,836.



Claim.—1. The combination with a narrow pipe, of means for forcing air therethrough at high velocity, means for admitting water to said pipe, a nozzle adjacent said water-inlet adapted under the action of the air-current to entrain and atomize the water, and means in the conduit beyond the nozzle for commingling the atomized water and air, separating the solid matter from the air and entraining it in the water and discharging the purified air freed from the water and solid matter.

2. The combination with a narrow conduit having a lateral water-inlet, of means for forcing air through such conduit at high velocity, a mixing-chamber comprising tortuous passages arranged in said conduit beyond said water-inlet, and means whereby the air-current entrains the inflowing water and violently commingles it with the air in their passage through said chamber.

3. The combination with a narrow conduit having a lateral water-inlet, of means for forcing air therethrough at high velocity, a mixing-chamber beyond said water-inlet, tortuous passages connecting said mixing-chamber with said conduit, and means whereby the air-current entrains the inflowing water and violently commingles it with the air in their travel through said tortuous passages and chamber.

4. In apparatus for cleaning dust-laden air, in combination with a vacuum-pump, a narrow sectional conduit for confining and conveying the air to said pump, and an annular chamber surrounding the adjacent ends of the conduit-sections and connected with a source of water-supply, the adjacent ends of the conduit-sections being provided the one with a conical seat and the other with a conical tip fitted thereto and slightly spaced therefrom to afford a communicating passage between the same from the annular chamber to the conduit.

5. In apparatus for cleaning dust-laden air in combination, a vacuum-pump, a conduit for connecting the same with the cleaning instrument, means for precipitating the entrained solid matter by gravity, a water-inlet to said conduit intermediate said gravity separating means and said vacuum-pump, an atomizing-nozzle adjacent said water-inlet and adapted under the action of the air-current to draw water therefrom into said conduit in fine spray, and means intermediate of said atomizing device and said pump for condensing and separating the entrained water with its load of solid matter from the air-current.

6. In apparatus for cleaning dust-laden air, in combination, a dry gravity-separator, an expansion-chamber or wet separator, an interconnecting narrow conduit, a tortuous section in said conduit, means for introducing a water-spray into said conduit intermediate of the dry separator and tortuous section, and means for impelling the air through said conduit at high velocity.

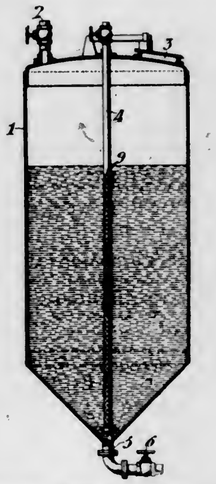
7. In apparatus for cleaning dust-laden air, in combination with a vacuum-pump, an air-conveying system intermediate said pump and the source of air-supply comprising a gravity-separator, a wet separator or expansion-chamber, an intermediate narrow, sectional conduit, and an annular chamber surrounding the adjacent ends of its pipe-sections and connected with the source of water-supply, the end of one of said pipe-sections having a conical seat and the end of the adjacent section having a conical tip fitted thereto.

8. In an apparatus of the class described, a dry or gravity separator, a wet separator or expansion-chamber, a connected vacuum-pump, a narrow sectional conduit intermediate of said separators, a water-chamber around the adjacent ends of the pipe-sections of said conduit connected to the source of water-supply, said pipe-sections constituting an ejector, and a tortuous section of said conduit intermediate of said water-chamber and wet separator.

845,365. MANUFACTURE OF HEAT-INSULATING MATERIALS. EBERHARD LUTTGEN, Ambler, Pa., assignor to Keasbey & Mattison Company, Ambler, Pa., a Corporation of Pennsylvania. Filed Dec. 24, 1906. Serial No. 349,229.

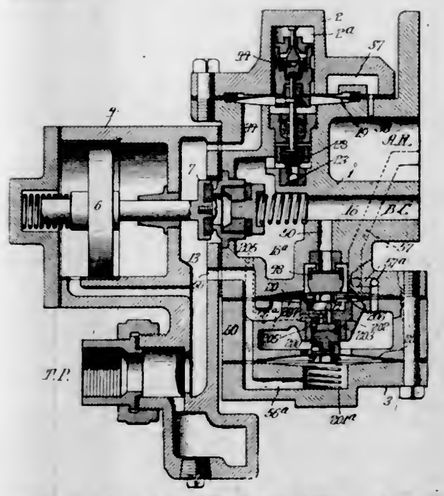
Claim.—1. The process of increasing the heat-insulating efficiency of a structure formed from a plastic mass of inorganic insulating substances, which consists in forming the component substances into a magma; aerating the same by compressed air driven into the mass; and immediately forcing the aerated mass into a mold before the entrapped air has had an opportunity to escape; and allowing it to set in the mold.

2. The process of increasing the efficiency of heat-insulating structures, which consists in preparing a mixture of inorganic heat-insulating substances with water in a suitable receptacle; aerating the magma thus formed while in the receptacle by means of a perforated pipe passing into the mass; and employing the pressure produced within the receptacle by the escape of the compressed air for mixing, aerating and then ejecting the plastic material, immediately following its complete aeration, from the receptacle into a suitable mold where it is allowed to set in its aerated condition.



3. A heat-insulating structure molded from a plastic mass of inorganic insulating materials, and containing both the air-spaces which result from the natural porosity of the materials, and additional air-spaces formed by the mechanical injection of air into the plastic mass prior to its setting.

845,366. FLUID-PRESSURE BRAKE. WILLIAM P. A. MACFARLANE, Chicago, Ill., assignor to Richard Fitzgerald, Chicago, Ill. Filed May 10, 1906. Serial No. 316,167.



Claim.—1. In a fluid-pressure brake system, the combination with a triple valve, of means auxiliary thereto and

independent thereof for venting train-pipe pressure to the brake-cylinder in the service applications of the brakes said means being controlled by opposing pressures from the train-pipe and auxiliary reservoir respectively.

2. In a fluid-pressure brake system, the combination with a triple valve, of means auxiliary thereto and independent thereof for venting train-pipe pressure to the brake-cylinder prior to the admission of auxiliary-reservoir pressure thereto in the service applications of the brakes said means being controlled by opposing pressures from the train-pipe and auxiliary reservoir respectively.

3. In a fluid-pressure brake system, the combination with a triple valve, of means auxiliary thereto and independent thereof for venting train-pipe pressure to the brake-cylinder prior to the admission of auxiliary-reservoir pressure thereto in the service applications of the brakes and means for cutting off said venting as soon as the auxiliary-reservoir pressure is admitted said auxiliary means being controlled by opposing pressures from the train-pipe and auxiliary reservoir, respectively.

4. In a fluid-pressure brake system, the combination with a triple valve, of means auxiliary thereto for venting train-pipe pressure to the brake-cylinder in the service applications of the brakes, said means being independent of the brake-release and emergency devices of the triple valve and being controlled by opposing pressures from the train-pipe and auxiliary reservoir, respectively.

5. In a fluid-pressure brake system, the combination with a triple valve, of a valve device auxiliary thereto and independent thereof to vent train-pipe pressure to the brake-cylinder in service action and arranged to open upon a less train-pipe reduction than that required to operate the triple valve said valve device being controlled by opposing pressures from the train-pipe and auxiliary reservoir, respectively.

6. In a fluid-pressure brake system, the combination, with a triple valve, of a valve device auxiliary thereto and independent thereof to vent train-pipe pressure to the brake-cylinder in service action and arranged to open upon a less train-pipe reduction than that required to operate the triple valve, and means for closing said valve device when the train-pipe pressure has been reduced sufficiently to operate the triple valve said valve device being controlled by opposing pressures from the train-pipe and auxiliary reservoir, respectively.

7. In a fluid-pressure brake system, the combination, with a tripie valve, of a valve device auxiliary thereto to vent train-pipe pressure to the brake-cylinder in service action, said valve device being loaded as compared with the service-valve device of the triple valve whereby the auxiliary-valve device will be caused to operate in advance of the other.

8. In a fluid-pressure brake system, the combination of a triple valve of the type in which the brake-release-valve mechanism, the emergency-valve mechanism and the service-valve mechanism are independent, and means auxiliary thereto for venting train-pipe pressure to the brake-cylinder in the service application of the brakes.

9. In a fluid-pressure brake system, the combination of a triple valve of the type in which the brake-release-valve mechanism, the emergency-valve mechanism and the service-valve mechanism are independent, and a valve device cooperating with the service-valve mechanism for venting train-pipe pressure to the brake-cylinder in the service application of the brakes.

10. In a fluid-pressure brake system, the combination, with a triple valve, of a movable abutment independent thereof and exposed on its opposite sides to train-pipe and auxiliary-reservoir pressures respectively, and a valve actuated by said abutment for admitting train-pipe pressure to the brake-cylinder prior to the admission, by the triple valve, of auxiliary-reservoir pressure thereto.

11. In a fluid-pressure brake system, the combination, with a triple valve, of a movable abutment independent thereof and exposed on its opposite sides to train-pipe and auxiliary-reservoir pressures respectively, a valve-seat having ports and passages leading from the train-pipe and to the brake-cylinder, and a valve normally seated on said seat to close said ports and passages, and actuated by the abutment.

12. In a fluid-pressure brake system, the combination, with a triple valve, of a movable abutment independent thereof and exposed on its opposite sides to train-pipe and auxiliary-reservoir pressures respectively, and a valve auxiliary to the triple valve for governing a passage from the train-pipe to the brake-cylinder, said triple valve being constructed to interrupt said passage upon the operation of the service-valve mechanism of the triple valve.

13. In a fluid-pressure brake system, the combination, with a triple valve, of a movable abutment exposed on its opposite sides to train-pipe and auxiliary-reservoir pressures respectively, a valve-seat having ports and passages leading from the train-pipe and to the brake-cylinder, and a valve normally seated on said seat to close said ports and passages, and actuated by the abutment, the service-valve mechanism of the tripie valve having a movable abutment arranged to close said ports and passages and thereby interrupt said communication between the train-pipe and brake-cylinder when such service-valve mechanism has operated to admit auxiliary-reservoir pressure to the brake-cylinder.

14. In a fluid-pressure brake system, the combination, with a triple valve, of a movable abutment exposed on its opposite sides to train-pipe and auxiliary-reservoir pressures respectively, a valve-seat having ports and passages leading from the train-pipe and to the brake-cylinder, and a valve normally seated on said seat to close said ports and passages, and actuated by the abutment, said service-valve mechanism having a movable abutment arranged, when operated, to seat upon said seat to interrupt said communication between the train-pipe and brake-cylinder when the service-valve mechanism has been operated for service action.

15. In a fluid-pressure brake system, the combination, with a triple valve, of a movable abutment exposed on its opposite sides to train-pipe and auxiliary-reservoir pressures respectively, a valve-seat having ports and passages leading from the train-pipe and to the brake-cylinder, and a valve normally seated on said seat to close said ports and passages, and actuated by the abutment, said service-valve mechanism having a flexible diaphragm for operating the service-valve and a gasket on one side adapted to be seated on said seat to interrupt said communication between the train-pipe and brake-cylinder when the diaphragm moves to admit an auxiliary-reservoir pressure to the brake-cylinder.

16. In a flexible pressure brake system, the combination with a triple valve provided with service-valve mechanism having a movable abutment exposed on one side to train-pipe pressure, of an auxiliary movable abutment exposed on its opposite sides to train-pipe and auxiliary-reservoir pressures respectively, and a valve actuated by said auxiliary abutment for venting to the brake-cylinder the said train-pipe pressure pressing against the first-named movable abutment.

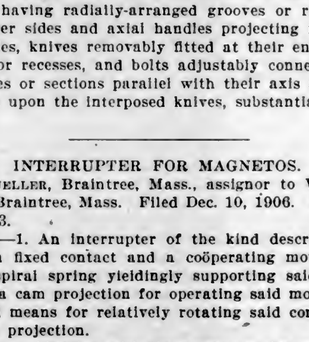
17. In a device for actuating fluid-pressure brakes adapted to admit auxiliary-reservoir pressure to the brake-cylinder in service applications of the brakes, valve mechanism acting independently of the means or device for admitting reservoir-pressure and arranged to vent train-pipe pressure to the brake-cylinder, said valve mechanism being opened by a preponderance of reservoir-pressure and closed by a preponderance of train-line pressure.

18. In a device for actuating fluid-pressure brakes adapted to admit auxiliary-reservoir pressure to the brake-cylinder in service applications of the brakes, a valve of the puppet type for venting train-pipe pressure to the brake-cylinder in the service applications of the brakes and acting independently of the device for admitting auxiliary-reservoir pressure to the brake-cylinder, and a movable abutment operating independently of said device and exposed on one side to auxiliary-reservoir pressure and on the other side to train-pipe pressure.

845,367. DOUGH-DIVIDER. CYRUS R. MILLER, Milwaukee, Wis., assignor to Walter A. Anger, Milwaukee, Wis. Filed May 19, 1906. Serial No. 317,666.

Claim.—1. In a dough-divider, the combination of end plates or sections having radially-arranged grooves or recesses on their inner sides and knives removably fitted at the ends in said grooves or recesses, substantially as described.

2. In a dough-divider the combination of end plates or sections having radially-arranged grooves or recesses on their inner sides and knives removably fitted at the ends in said radial grooves or recesses and having flanges or offsets for holding them in place therein, substantially as described.



3. In a dough-divider the combination of end plates or sections having radially-arranged grooves or recesses and intersecting annular grooves or recesses on their inner sides, and knives fitted at the ends in said radial grooves or recesses and having flanges or offsets at their backs adapted to engage with said annular grooves or recesses, substantially as described.

4. In a dough-divider the combination of end plates or sections having radially-arranged grooves or recesses on their inner sides, knives removably fitted at the ends in said grooves or recesses and means for adjustably connecting said end plates or sections and securing them with the interposed knives in place, substantially as described.

5. In a dough-divider the combination of end plates or sections having radially-arranged grooves or recesses on their inner sides and axial handles projecting from their outer sides, knives removably fitted at the ends in said grooves or recesses, and means for adjustably connecting said end plates or sections and securing them upon the interposed knives, substantially as described.

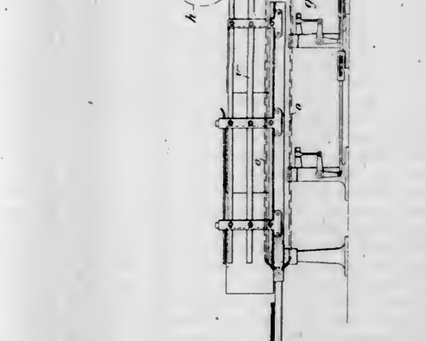
6. In a dough-divider the combination of end plates or sections having radially-arranged grooves on their inner sides, a shaft passing centrally through and connecting said plates or sections, handles revolubly mounted on the ends of said shaft outside of said plates or sections, and knives removably fitted at the ends in said grooves or recesses, substantially as described.

7. In a dough-divider the combination of end plates or sections having radially-arranged grooves or recesses on their inner sides and axial handles projecting from their outer sides, knives removably fitted at their ends in said grooves or recesses, and bolts adjustably connecting said end plates or sections parallel with their axis and securing them upon the interposed knives, substantially as described.

845,368. INTERRUPTER FOR MAGNETOS. THEODOR M. MUELLER, Braintree, Mass., assignor to Willard E. Dow, Braintree, Mass. Filed Dec. 10, 1906. Serial No. 347,223.

Claim.—1. An interrupter of the kind described, comprising a fixed contact and a coöperating movable contact, a spiral spring yieldingly supporting said movable contact, a cam projection for operating said movable contact, and means for relatively rotating said contacts and said cam projection.

2. The combination with the armature of a magneto, of a laterally-extending spiral spring fast thereon provided adjacent its outer end with a contact, and a rigid arm also fast thereon provided at its outer end with a contact in position to coöperate with the spring-carried contact, said spring and arm being insulated from each other, and a fixed cam-ring in position to engage and separate said spring-carried contact from the coöperating contact as said contacts rotate with said armature.



3. The combination with the armature of a magneto, of a flat spiral spring and a rigid arm insulated from each other and coaxially secured to said armature to rotate therewith, and each provided at its outer end with contacts normally in circuit-closing position, said flat spring carrying a projection, and a cam-ring secured in fixed position and provided with cam projections to engage the aforesaid projection for separating said contacts.

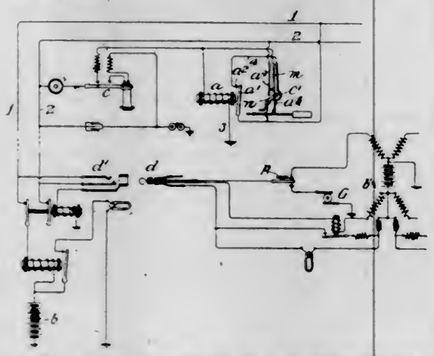
845,369. SIGNATURE-GATHERING-MACHINE ATTACHMENT FOR BOOKBINDERS. JOHN MURRAY, Edinburgh, Scotland. Filed Oct. 30, 1905. Serial No. 284,930.

Claim.—1. A knocking-up attachment for signature-gathering machines comprising a receptacle, means for guiding the associated signatures edgewise thereto, radial bars arranged at right angles within the receptacle for receiving the falling signatures on edge, means for intermittently rotating the receptacle to throw the signatures edgewise onto an adjacent bar and means for withdraw-

ing the knocked-up signatures from the receptacle, substantially as described.

2. A knocking-up attachment for signature-gathering machines comprising a receptacle, means for guiding the associated signatures edgewise thereto, radial bars arranged at right angles within the receptacle for receiving the falling signatures on edge, means for intermittently rotating the receptacle to throw the signatures edgewise onto an adjacent bar, means for withdrawing the knocked-up signatures from the receptacle comprising an endless chain, pins extending laterally therefrom and means for intermittently moving said chain, substantially as described.

845,370. COIN-COLLECTOR. FRANK R. MCBERTY, Evanston, Ill., and JAMES L. MCQUARRIE, Chicago, Ill., assignors to Western Electric Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 23, 1903. Serial No. 140,266.



Claim.—1. The combination with a telephone-line extending from a substation to a central office, of a toll-box at the substation having a temporary coin-receiver, a manually-operated refunding mechanism, a coin-transferring mechanism, a magnet arranged to lock the refunding mechanism or operate the coin-transferring mechanism according to the current applied thereto, and means at the central office for applying current suitable for exciting the magnet for either of its functions.

2. The combination with a telephone-line, of a toll-box at the substation, a temporary coin-receiver in said toll-box, a manually-operated refunding mechanism, a magnet connected with the line having an armature-lever mechanism adjusted for step-by-step movement according to the strength of the current applied to said magnet, a lock for the refunding mechanism set in the first movement of the armature-lever, and coin-transferring mechanism actuated by a further movement thereof, and means at the central office for applying currents of suitable strength to the line to bring about the step-by-step movement of said armature-lever mechanism.

3. The combination with a metallic-circuit telephone-line 1 2 and a grounded battery normally applied to the line conductor 1 at the central office, a line-signal instrument being included in said conductor 1, of a toll-box at the substation having a manually-operated refunding mechanism, a magnet arranged to lock said refunding mechanism when excited, a normally open coin-controlled contact in the toll-box, adapted to connect the magnet in a return-circuit from the aforesaid line conductor 1, switch-contacts changed in the actuation of the refunding mechanism adapted to transfer the connection of the magnet to the other line conductor 2, and means controlled by the central-office operator for transferring the battery connection from conductor 1 to conductor 2, whereby the refund of the coin is brought under the control of the operator when she answers the call.

4. The combination with a telephone-line having a source of current normally connected therewith at the central office, of a toll-box at the substation having a receiving coin-chute and a return-chute continued therefrom, a temporary coin-receiver, electromagnetically-operated coin-transferring mechanism controlling the discharge of a coin from said temporary receiver, and means for operating the same from the central office, a stop controlling the direct passage of coins into said return-chute, a magnet for moving said stop, and a contact adapted for actuation by a coin in the temporary receiver, controlling the connection of said magnet with the telephone-line, whereby coins deposited in the toll-box while a previously-deposited coin is in the temporary receiver will be returned.

5. The combination with a party telephone-line, of a toll-box at a station thereof, having a receiving coin-chute and a return-chute continued therefrom, a temporary coin-receiver, a contact adapted to be closed by a coin in said receiver, controlling a signal-circuit, a stop controlling the direct passage of deposited coins into said return-chute, a magnet for moving said stop, a telephone-switch, a circuit for said magnet from one of the line conductors, controlled by said telephone-switch, a source of current normally connected to the other line conductor, and a bridge of the line conductors at each station of the party-line controlled by the telephone-switch thereat, whereby a coin deposited in the toll-box when the line is already in use will be returned.

6. The combination with a metallic circuit telephone-line 1 2 extending from a substation to a central office, of a toll-box at the substation having a temporary coin-receiver, a manually-operated refunding mechanism, a coin-transferring mechanism and a magnet having armature-lever mechanism adapted for step-by-step operation according to the weak or strong excitation of the magnet, a battery normally connected with a line conductor 1 at the central office, a signal controlling instrument in the battery-circuit through said line conductor, a contact adapted for closure by a coin in the temporary receiver, controlling a return-circuit from said line conductor, said magnet being included in such return-circuit, a lock for the refunding mechanism made operative by the first movement of the said armature-lever mechanism, switch-contacts operated in the actuation of the refunding mechanism adapted to transfer the connection of the magnet to the other line conductor to permit the recovery of the coin, a connection-switch at the central office adapted to apply a source of current to the other line conductor 2, whereby the refunding mechanism is locked when the operator answers, and means at the central office for applying current to strongly excite the magnet and so operate the coin-transferring mechanism.

7. The combination with a telephone-line and a coin-collecting toll-box at the station thereof having a coin-chute and a temporary coin-receiver, of a movable stop adapted to prevent the deposit of a coin in said receiver, and a magnet controlling the stop connected with the telephone-line switch-contacts closed by a coin in the temporary receiver controlling the circuit of said magnet for exciting the same; whereby the presence of a coin in the temporary receiver prevents the deposit of a second coin therein, as described.

8. The combination with a party telephone-line and a coin-collecting toll-box at a station thereof having a temporary coin-receiver and a coin-chute leading thereto, of a movable stop controlling the deposit of a coin, and a magnet for actuating said stop, said magnet being connected with the telephone-line; telephone-switches at the other stations of the line, and a circuit of said magnet closed by any of said switches when the telephone is in use at said other station, whereby the deposit of a coin is prevented when the line is already in use.

9. The combination with a telephone-line leading to a central office and there connected with line-switching mechanism and provided at its substation with a coin-collecting toll-box having a coin-receiver and a coin-chute leading thereto, of a movable stop controlling the deposit of a coin in said box, and a magnet for actuating said stop, said magnet being connected with the telephone-line, a source of current at the central office and means for applying the same to the line in making connection therewith; whereby the magnet is excited to prevent the deposit of a coin after connection is made with the line, as described.

10. The combination with a telephone party-line leading to a central station and having at a substation a coin-collecting toll-box provided with a temporary coin-receiver and a coin-chute leading thereto, a movable stop or valve controlling the deposit of a coin in said temporary receiver and a magnet actuating said stop; of a switch in said temporary coin-receiver, a switch at each other substation of the line closed in the use of the telephone there, and a switch at the central station closed in making connection with the line for conversation, and a circuit of said magnet for actuating the same closed by each of said switches; whereby the deposit of a coin is prevented when a coin has already been placed in the receiver, or when the line is in use at a different station as described.

11. The combination with a telephone-line and switching appliances therefor at the central station, a supervisory signal and a source of current connected with the line during its use for conversation, and a telephone-switch controlling the circuit of said supervisory signal at the substation, of a coin-collector at said substation having a temporary coin-receiver, a refunding device for returning the coin, and a manually-operated push-button for actuating said refunding device, a lock for the refunding device and a magnet controlling the lock, said magnet being in a normally open circuit with said source of current connected with the line at the central station, and a switch controlled by said push-buttom for closing the circuit of said magnet; whereby the return of the coin is prevented during connection with the line at the central station.

12. The combination with a metallic-circuit telephone-line with switching apparatus at the central station thereof, a supervisory signal and a source of current connected through said switching apparatus with the line, and a telephone-switch controlling a bridge of the line for operating said signal, of a coin-collector at the substation of the line having a temporary coin-receiver and a coin-depositing device, and a magnet controlling said coin-depositing device, said magnet being connected in a ground branch with the conductor of the line not directly connected with said source of current at the central office; a manually-operated refunding device, a lock for said refunding device also controlled by said magnet, and a switch controlled in operating said refunding device adapted to transfer the circuit connection of said controlling-magnet to the other line conductor; whereby the magnet is left connected with one of the line conductors to permit the taking of the coin, the supervisory signal is controlled by the telephone-switch independently of the circuit of said magnet, and said magnet is made active to block the refunding device when the same is operated during the connection of the line, as described.

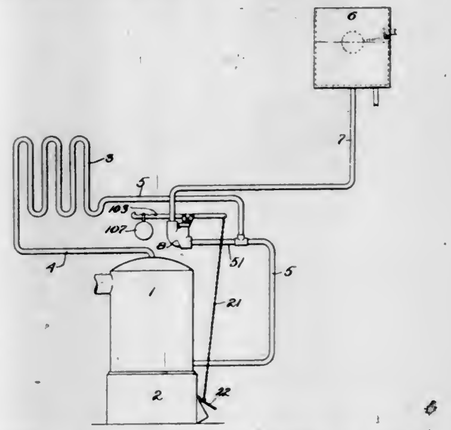
13. The combination with a party telephone-line and a coin-collector at the substation thereof having a coin-receiver and a chute leading thereto, of a movable stop adapted to prevent the deposit of coins in said coin-receiver and a magnet controlling said stop, and means operated by the telephone-switches at each of the stations of said party-line for exciting said magnet when the telephone is in use at another station, the circuit of said magnet at its station being controlled by the telephone-switch at the said station, the circuit of the telephone at said station being controlled by the magnet to be closed when the magnet is excited, and means at the central office for applying current to the line in making connection therewith to excite said magnet; whereby the telephone at the said station may be taken for use without preventing the deposit of a coin in said coin-receiver, but said magnet is operated and the circuit of the telephone is closed when connection is made with the line at the central office, as described.

14. The combination with a party telephone-line, of a coin-collector at a substation thereof having a refund-passage, and means controlled by switches at the other substations, adapted to direct a deposited coin into said refund-passage.

15. The combination with a party telephone-line, of a coin-collector at a substation thereof having a coin-chute and a refund-passage, of a magnet associated with the coin-collector, and means operated in the response of said magnet for directing a deposited coin into said refund-passage, a branch circuit for said magnet from one side of said telephone-line, and means controlled in the use of the telephone at any of the other substations of the line, for applying current to the side from which said branch is extended; whereby if the line is busy a coin deposited in said collector is automatically returned.

16. The combination with a telephone-line, of a coin-collector at the substation thereof having a refund-passage, of a magnet associated with the coin-collector and means operated thereby for directing a deposited coin into said refund-passage, a branch circuit for said magnet from one side of the line, and means for applying current to said side in the use of the line; whereby a coin deposited when the line is already in use will be returned.

845,371. HEATING SYSTEM. JOHN S. C. NICHOLLS, Boston, Mass. Filed Jan. 27, 1902. Serial No. 91,361.

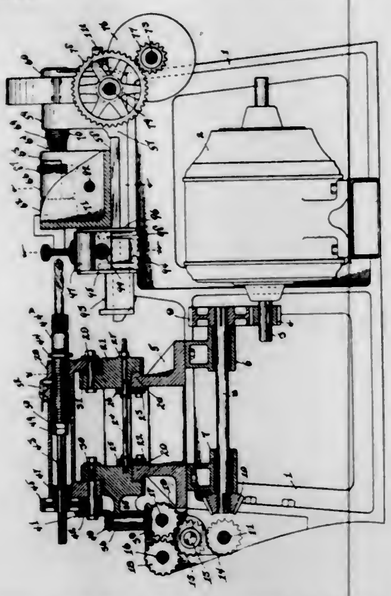


Claim.—1. The improved heating system above described comprising a heater; a radiator; supply and return pipes connecting the heater and radiator; an expansion-chamber; a branch pipe communicating at one end with the expansion-chamber and at its other end with the heater; and means controlled by the pressure in the heater for controlling the flow through said branch pipe in both directions and for regulating the heater.

2. The improved heating system above described comprising a heater; a radiator; supply and return pipes connecting the heater and radiator; an expansion-chamber; a branch pipe communicating at one end with the expansion-chamber and at its other end with the heater; a check-valve in said branch pipe opening toward the heater; a by-pass around the check-valve; a normally closed valve in the by-pass controlled by the pressure in the system so as to open when a predetermined pressure exists in the latter; and means connected with the normally closed valve for regulating the heater.

3. The improved heating system above described comprising a heater; a radiator; supply and return pipes connecting the heater and radiator; an expansion-chamber; a separate branch pipe connected at one end with the expansion-chamber and communicating at its other end with the heater; a check-valve in said branch pipe opening toward the heater; a by-pass around the check-valve; a normally closed valve in the by-pass controlled by the pressure in the system so as to open when a predetermined pressure exists in the latter, and means connecting the normally closed valve with the damper of the heater for closing the damper before the normally closed valve is opened.

845,372. DRILL. CHARLES PARTINGTON, Cincinnati, Ohio, assignor to The Weir Frog Company, Cincinnati, Ohio, a Corporation. Filed June 25, 1904. Serial No. 214,206.



Claim.—1. A multiple drill composed of a frame, ways formed along one side of the frame, a series of drill head-stocks seated on said ways, drill-spindles journaled in said head-stocks, transverse ways fixed to and on the opposite side of said frame, a work-carriage mounted on said transverse ways, independent adjustable work-supports mounted on said carriage, means for coöperatively adjusting said work-supports, mechanism for revolving the drill-spindles simultaneously, and feeding mechanism for reciprocating said carriage to and from the drill-spindles, substantially as described.

2. A multiple drill composed of a frame, having longitudinal ways upon one side, laterally-adjustable head-stocks mounted on said ways, drill-spindle supports journaled on said stocks, means for adjusting said supports independent of the stocks, independent transmitting mechanism for each spindle, transverse ways upon the opposite side of the frame, work-supporting carriages mounted upon said ways, and mechanism for feeding the work-carriages to and from the drill-spindle simultaneously, substantially as described.

3. A multiple drill composed of a series of sectional frames attached side by side lengthwise of the drill, each section having a series of longitudinal ways on one side thereof, a series of head-stocks mounted and longitudinally adjustable thereon, a drill-spindle individually journaled in each head-stock, a transverse way on each frame-section opposite the drill-spindle, a work-supporting carriage seated on said ways, power-transmitting mechanism for simultaneously rotating the series of drills and power mechanism for feeding the work-supporting carriage to the drills, substantially as described.

4. In a multiple drill, a frame having oppositely-disposed longitudinal and transverse ways, one or more work-supporting carriages supported on said transverse ways, the combination therewith of a series of head-stocks mounted on said longitudinal ways opposite the said carriages, a main driving-shaft, intermediate driving-shafts, a pair of parallel driving-shafts receiving motion through a train of gears from the main shaft, a drill-spindle support mounted on each head-stock, means for adjusting said drill-spindle supports independent of their respective head-stocks, a drill-spindle journaled in each support, a train of gears for each drill-spindle connecting each alternate drill-spindle with one of said parallel shafts, a train of gears connecting each alternate drill-spindle to the opposite parallel shaft, substantially as described.

5. In a multiple drill, a frame having oppositely-disposed longitudinal and transverse ways, one or more work-supporting carriages mounted on said transverse ways, a series of head-stocks mounted on said longitudinal ways opposite said carriages, means for adjusting each head-stock laterally, mechanism for locking the head-stocks in their adjusted positions, a main driving-shaft, parallel transmitting-shafts, a train of gears connecting said main driving-shaft and parallel transmitting-shafts, a drill-spindle support pivotally mounted on each head-stock whereby the drill-spindle supports may be independently adjusted upon their respective head-stocks, a drill-spindle journaled in each support, trains of gears individually connecting each drill-spindle to one of said transmitting-shafts in alternating series and mechanism for feeding the carriage to the drills, substantially as described.

6. In a multiple drill, a frame having oppositely-disposed ways on each side thereof, work-supporting carriages mounted on the ways on one side of the frame, a series of head-stocks mounted and laterally adjustable on longitudinal ways on the opposite side of said frame, drill-spindle supports pivotally mounted upon each head-stock for vertical adjustment, means for locking the drill-spindle supports independently in their adjusted positions, and a drill-spindle journaled in each support, substantially as described.

7. In a multiple drill composed of a frame, transverse ways on one side thereof, a work-supporting carriage slidably mounted on said ways, longitudinal ways on the opposite side of the frame, a series of head-stocks mounted on said ways, a drill-spindle support adjustably mounted upon each head-stock, mechanism for locking said drill-spindle supports respectively in a fixed position; a drill-spindle journaled in each support, a train of gears journaled upon said head-stocks and drill-spindle supports permitting of adjustment of the drill-spindle supports, and means for transmitting motion to said train of gears and drill-spindles, substantially as described.

8. In a multiple drill provided with longitudinal ways a series of head-stocks mounted on longitudinal ways, a drill-spindle journaled on each head-stock, a sleeve for respectively journaling each drill-spindle and provided with an external screw-thread, a supporting-sleeve interiorly screw-threaded engaging and supporting the journal-sleeve, means for locking the journal-sleeve against rotation whereby each individual drill-spindle may be adjusted longitudinally and locked against longitudinal movement when in rotation, means for simultaneously driving the drill-spindles and means for feeding the work forward to the series of drill-spindles, substantially as described.

9. In a multiple drill, ways for supporting the carriages, a plurality of work-supporting carriages, each mounted upon a way, mechanism for feeding said carriages to the drill, the combination with each carriage of a pair of outwardly-inclined arms pivoted thereto, a work-supporting roller mounted on the top of each arm, an adjusting-shaft common to each pair of the carriage-arms and adjusting mechanism connected to each pair of arms whereby said pairs of arms are simultaneously moved to and from each other for adjusting the height of the work-supporting rollers, substantially as described.

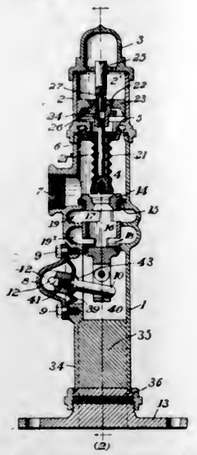
10. In a multiple drill employing a series of work-supporting carriages mounted upon ways in the plane opposite the drill-spindles, work-supporting arms adjustably mounted upon the carriages, means for adjusting the arms vertically, a back support for the work mounted on each carriage and pivoted overhanging arm on each carriage, a front clamp secured to said arm and supported in front of the work, and mechanism for moving the clamp in contact with the work-piece and forcing it against the back support, substantially as described.

11. In a multiple drill, a carriage, a plurality of work-supports mounted on said carriage, consisting of inclined link-arms upon the free ends of which the work rests, and means for adjusting the angular inclination of said arms simultaneously, substantially as described.

12. In a multiple drill, a carriage, a plurality of work-supports mounted on said carriage, consisting of alternately-inclined work-supporting arms, and means for adjusting the angular inclination of said arms simultaneously, substantially as described.

13. In a multiple drill, a series of carriages, means for feeding said carriages in unison, a plurality of work-supports mounted on said carriages, and means for simultaneously adjusting said work-supports at right angles to the plane of carriage travel, substantially as described.

845,373. WATER-CLOSET AND FLUSHING-VALVE THEREFOR. THOMAS F. PAYNE, Pittsburg, Pa. Filed Jan. 23, 1905. Serial No. 242,206.



Claim.—1. In a water-closet, a bowl having a rim-orifice adapted to produce a swirl in the bowl and a jet directed toward the up-leg of the bowl, in combination with a valve having a channel leading from the street-main to the rim-orifice, a channel leading from the street-main to the jet, and devices for directing the flow of water first through one of these channels and then through the other.

2. In a water-closet, a bowl having a rim-chamber provided with orifices arranged to cause a swirl of water in the bowl, having a jet-orifice directed upwardly in the up-leg of the bowl, and having an up-leg, a drag-leg, and a cross-leg, in combination with a valve having a channel leading from the street-main directly to the rim-chamber of the bowl, a channel leading from the street-main directly to the jet, and devices for causing the water to flow first through one of these channels and then through the other.

3. In a water-closet, a bowl having a rim-orifice adapted to produce a swirl and a jet directed upwardly in the up-leg of the bowl, in combination with an alternately-acting valve having a channel leading to the rim-orifices, a channel leading to the jet, a main chamber communicating with the street-main, a main valve having ports adapted, when the valve is opened, to direct the flow of water from the street-main first to one channel, and as the valve closes to close communication with this channel and to open communication with the other channel, and having a liquid-chamber adapted to contain liquid separated from the main chamber and containing a piston, an auxiliary valve arranged in the piston and having a port for the passage of the liquid when the valve is open, a smaller pasage for the return-flow of the liquid when the valve is closed, and a rod connecting the auxiliary valve with the main valve, whereby the closing of the main valve is retarded by the liquid in the liquid-chamber.

4. In a water-closet, a bowl having a rim-orifice and a jet, in combination with a valve having a channel leading to the rim-orifice and a channel leading to the jet, and having a cup or barrel provided with a port which, when the valve is fully open, communicates with this chamber which is connected directly with the street-main and which also, when the valve is partially closed, communicates both with the chamber and with one of the channels leading to the bowl, and provided with a second port which, when the valve is open, communicates with one channel leading to the bowl and as the valve closes is shut off from this channel and is brought into communication with the other channel leading to the bowl.

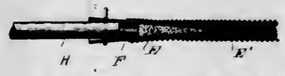
5. In a water-closet, a bowl having a rim-chamber, a partition or wall in the chamber arranged to cause the water to flow from one end of the chamber to the other, orifices inclined in the chamber to produce a horizontal swirl, a jet, and channels leading to the jet and to the rim-chamber, in combination with a valve for directing a stream of water first to one channel and then to the other, substantially as specified.

6. In a water-closet, a bowl having a rim-orifice, adapted to produce a swirl in the bowl, having a jet, and having channels leading to the rim-orifice and to the jet, in combination with a valve-casing having a main-valve chamber provided with a valve adapted to direct the flow of water first to one channel and then to the other, and having a liquid-chamber provided with a piston and with a flexible head, and a rod located in the flexible head and connecting the piston and main valve.

7. In a water-closet, a bowl having an orifice adapted to produce a swirl in the bowl and a jet directed toward the up-leg of the bowl, in combination with a valve having a channel leading to the swirl-orifice, a channel leading to the jet and devices for directing the flow of water first through one of these channels and then through the other.

8. In a water-closet, a bowl having an orifice, a jet, an up-leg, a drag-leg, and a cross-leg, in combination with a valve having a channel leading to the orifice, a channel leading to the jet, and devices for directing the flow of water first through one of these channels and then through the other, thus producing a combined ejector and siphon action.

845,374. TIME-IGNITER. FRANCIS C. REED, South McAlester, Ind. Ter. Filed Aug. 21, 1906. Serial No. 331,540.



Claim.—1. A time-igniter consisting of a slow-match made of a resilient woven fabric, a capsule containing powder, one end of said capsule bent to form a hook adapted to engage the fabric, a fuse, and means for connecting the same to the capsule, as set forth.

2. A time-igniter consisting of a slow-match made of a resilient woven fabric, a capsule containing powder, one end of said capsule bent to form a hook adapted to engage the fabric, a fuse, and a U-shaped clamping device adapted to frictionally hold the fuse and capsule together, as set forth.

3. A time-igniter consisting of a slow-match made of a resilient woven fabric, a capsule made cone-shaped and its apex bent to form a hook designed to engage the loosely-woven fabric of the slow-match, a stopper mounted within said capsule, a fuse, and means for connecting the latter to said capsule, as set forth.

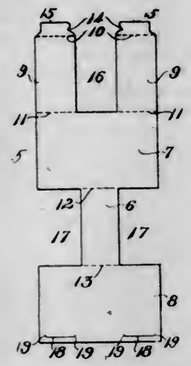
845,375. FOLDING POST-CARD. FREDERICK U. SEEGER, Somerville, Mass. Filed Nov. 28, 1906. Serial No. 345,460.

Claim.—1. A post-card comprising an I-shaped piece of paper with two tongues projecting longitudinally from one end thereof.

2. A post-card comprising an I-shaped piece of paper with two tongues projecting longitudinally from one end thereof, said tongues being separated from each other by

a space substantially equal in width to that of the body portion of said I-shaped piece.

3. A post-card comprising an I-shaped piece of paper with two tongues projecting longitudinally from one end thereof, said tongues being of substantially the same width as the spaces upon opposite sides, respectively, of the body portion of said I-shaped piece.



4. A post-card comprising an I-shaped piece of paper with two tongues projecting longitudinally from one end thereof, said tongues being gummed upon their ends and adapted to be attached thereby to the opposite end of said I-shaped piece to that end from which they project.

5. A post-card comprising an I-shaped piece of paper with two tongues projecting longitudinally from one end thereof, said tongues being separated from each other by a space substantially equal in width to that of the body portion of said I-shaped piece, the length of said body portion being equal to the depth of each of the end portions of said I-shaped piece.

6. A post-card comprising an I-shaped piece of paper with two tongues projecting longitudinally from one end thereof, said tongues being separated from each other by a space substantially equal in width to that of the body portion of said I-shaped piece, the length of said body portion being equal to the depth of each of the end portions of said I-shaped piece, said tongues being of greater length than said body portion.

7. A post-card comprising an I-shaped piece of paper with two tongues projecting longitudinally from one end thereof, said tongues being substantially equal in width to the space therebetween and to the width of the body portion of said I-shaped piece.

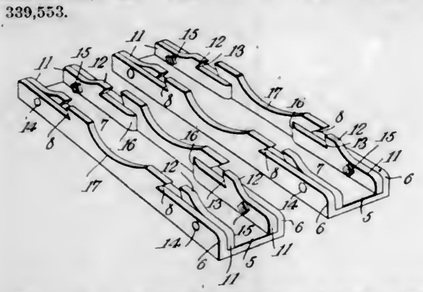
8. A post-card comprising an I-shaped piece of paper with two tongues projecting longitudinally from one end thereof, said tongues being substantially equal in width to the space therebetween and to the width of the body portion of said I-shaped piece, the length of said body portion being substantially equal to the depth of the end portions of said I-shaped piece.

9. A post-card comprising an I-shaped piece of paper with two tongues projecting longitudinally from one end thereof, said tongues being substantially equal in width to the space therebetween and to the width of the body portion of said I-shaped piece, the length of said body portion being substantially equal to the depth of the end portions of said I-shaped piece and the length of said tongues being greater than the length of said body portion.

10. A post-card comprising an I-shaped piece of paper with two tongues projecting longitudinally from one end thereof, each of said tongues being provided, respectively, near the free end thereof, with a notch in one of its longitudinal edges, said paper being also provided with two slits adapted to receive the free ends of said tongues, respectively.

11. A post-card comprising an I-shaped piece of paper with two tongues projecting longitudinally from one end thereof, said tongues terminating in flaps, each of said flaps being provided, respectively, with a notch in one edge thereof, said paper being also provided with two slits adapted to receive said flaps, respectively.

845,376. STEEL RAILROAD-TIE. WILLIAM H. SHRYOCK, Pierce City, Mo., assignor of one-third to Caleb E. Richardson and one-third to Charlie Shryock, both of Pierce City, Mo. Filed Oct. 18, 1906. Serial No. 339,553.



Claim.—1. A railway-tie comprising a base provided with vertically-disposed flanges having their opposite ends cut away to form inclined shoulders adapted to bear against one side of the rail, and plates secured to the inner walls of the flanges and provided with laterally-extending lugs having correspondingly-inclined faces adapted to engage the opposite side of the rail, the inner ends of the plates being extended longitudinally of the tie and beneath the rail to form a bearing-surface for the same.

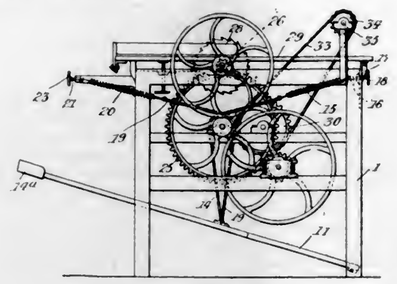
2. A railway-tie comprising a base provided with vertically-disposed flanges having their opposite ends cut away to form inclined shoulders adapted to bear against the adjacent side of the rail, there being recesses formed in the flanges between the inclined shoulders, plates engaging the interior walls of the flanges and provided with laterally-extending lugs having correspondingly-inclined faces for engagement with the opposite side of the rail, the inner ends of said plates being extended beneath the rail thereby to form a bearing for the same, and fastening devices piercing the flanges and the adjacent plates for securing the latter in position on the tie.

3. A railway-tie comprising a metal base having its opposite longitudinal edges bent upwardly to form vertically-disposed flanges the upper edges of which are cut away at the opposite ends of the tie to form inclined shoulders adapted to bear against the adjacent side of the rail, plates bearing against the interior walls of the flanges at the cut-away portion thereof and provided with laterally-extending lugs having correspondingly-inclined faces adapted to bear against the opposite side of the rail, the inner ends of said plates being rounded and extended longitudinally of the tie beyond the inclined shoulders and beneath the rail thereby to form a bearing for the latter, bolts piercing the flanges and plates, and nuts engaging the threaded ends of the bolts.

845,377. TREADLE-MOTOR. CHARLES STAMBOIS, Newcastle-upon-Tyne, England, assignor of one-twentieth to Steven A. Almida, of Chicago, Ill., and one-tenth to Louis Huber, Frauenfeld, Switzerland. Filed Mar. 28, 1905. Serial No. 252,591.

Claim.—1. In an apparatus of the character described, the combination of a driving-shaft, sprocket-wheels loosely mounted on said shaft, one-way clutches connecting said sprocket-wheels and shaft, a treadle, sprocket-chains secured to said treadle and extending, respectively, into engagement with opposite sides of said sprocket-wheels, and tension-springs secured to the ends of said chains, substantially as described.

2. In an apparatus of the character described, the combination of a driving-shaft, ratchet-wheels secured thereto, sprocket-wheels loosely mounted on said shaft, pawls carried by said sprocket-wheels in engagement with said ratchet-wheels, a treadle, sprocket-chains secured to said treadle and extending, respectively, into engagement with opposite sides of said sprocket-wheels, tension-springs secured to the ends of said chains, and means for independently adjusting the tension of said several springs, substantially as described.



3. In an apparatus of the character described, the combination of a driving-shaft, a pair of ratchet-wheels secured thereto, a pair of sprocket-wheels loosely mounted on said shaft, pawls carried by said sprocket-wheels in engagement with said ratchet-wheels, a treadle, a pair of sprocket-chains secured to said treadle and extending, respectively, into engagement with the front and rear faces of said sprocket-wheels, and tension-springs secured to the ends of said chains, substantially as described.

845,378. METHOD OF OBTAINING CELLULOSE. FRANCIS L. STEWART, Murrysville, Pa., assignor of one-half to Samuel E. Gill, Pittsburg, Pa. Filed Dec. 6, 1905. Serial No. 290,584.

Claim.—1. The method of obtaining cellulose from the stalks of maize and similar vegetable-stalk material, which consists in treating the same with nitric oxid and steam; substantially as described.

2. The method of obtaining cellulose from the stalks of maize and similar vegetable-stalk material, which consists in treating said material with nitric oxid, in the presence of water vapor; substantially as described.

3. The method of making cellulose, which consists in treating the stalks of maize, and similar stalk material, with nitric oxid and steam, and then washing the mass; substantially as described.

4. The method of making cellulose, which consists in treating the stalks of maize, and similar stalk material, with nitric oxid and steam, then washing the mass and then neutralizing and washing it; substantially as described.

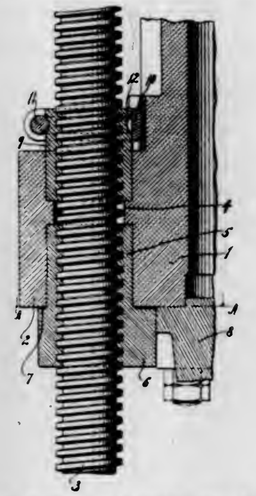
5. The method of making cellulose from the stalks of maize and similar plants, which consists in removing the sugar and water-soluble materials from said stalks, and then treating the stalk material with nitric oxid and steam; substantially as described.

6. The method of making cellulose from the stalks of maize and similar plants, which consists in treating the stalk material with nitric oxid and chlorin in the presence of water vapor; substantially as described.

7. The method of making cellulose from the stalks of maize and similar plants, which consists in treating the stalk material with nitric oxid and chlorin in the presence of water vapor and then washing the mass; substantially as described.

8. The method of making cellulose, which consists in removing the water-soluble materials from the stalks of maize and similar plants, leaving the stalk material in a divided absorptive condition, and then treating such material, while moist, with nitric oxid and chlorin; substantially as described.

845,379. SCREW-FED MACHINE. OMER THOMAS, Bedford, and GRANT BLACKWELL, Guthrie, Ind., assignors to Ingersoll-Rand Company, New York, N. Y., a Corporation of New Jersey. Filed Oct. 26, 1906. Serial No. 340,726.



Claim.—1. A screw, a stationary nut, an adjustable nut, a part supported between the nuts and means for locking the adjustable nut against movement with respect to the said part.

2. A screw, a stationary lower nut, an adjustable upper nut, a part supported between the nuts and means for locking the adjustable upper nut against movement with respect to the said part.

3. A screw, a stationary nut, an adjustable nut, a part supported between the nuts and a split clamp embracing the adjustable nut and engaging the said part for locking the upper nut against movement with respect to the said part.

4. A screw, a stationary lower nut, an adjustable upper nut, a part supported between the nuts and a split clamp embracing the adjustable upper nut and engaging the said part for locking the adjustable upper nut against movement with respect to the said part.

5. A screw, a stationary lower nut, an adjustable upper nut and a part supported on the lower nut and having a shoulder engaged by the adjustable upper nut.

6. A screw, a stationary lower nut, an adjustable upper nut and a part supported on the lower nut and having a shoulder engaged by the adjustable upper nut, and means for locking the adjustable upper nut against movement with respect to said part.

7. A screw, a stationary lower nut, an adjustable upper nut and a part supported on the lower nut and having a shoulder engaged by the adjustable upper nut, and a split clamp embracing the adjustable upper nut and engaging said part for locking the adjustable upper nut against movement with respect to the said part.

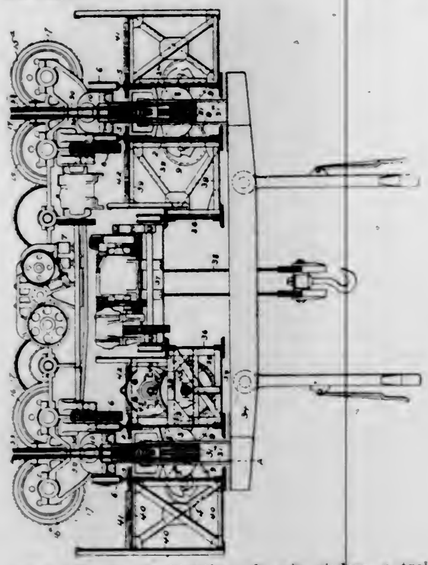
8. A screw, a stationary lower nut, a part having a bore through which the screw extends, said part being supported on the lower nut, an adjustable nut and an annular shoulder within said bore engaged by the adjustable upper nut.

9. A screw, a stationary lower nut, a part having a bore through which the screw extends, said part being supported on the lower nut, an adjustable upper nut, an annular shoulder within said bore engaged by the adjustable upper nut, and means for locking the adjustable upper nut against movement with respect to said part.

10. A screw, a stationary lower nut, a part having a bore through which the screw extends, said part being supported on the lower nut, an adjustable nut, an annular shoulder within said bore engaged by the adjustable upper

nut, and a split clamp embracing the adjustable upper nut and engaging the said part for locking the adjustable upper nut against movement with respect to said part.

845,380. TRAVELING CRANE. CLARENCE L. TAYLOR, Alliance, Ohio, assignor to the Morgan Engineering Company, Alliance, Ohio. Filed Apr. 27, 1906. Serial No. 314,036.



Claim.—1. The combination of main girders, a trolley thereon, intermediate girders, a trolley thereon, and platform extending the length of the bridge between the main and intermediate girders.

2. The combination of main girders, a trolley thereon, intermediate girders, a trolley thereon, platforms extending lengthwise the bridge between the main and intermediate girders, and platforms located outside of the main girders and extending lengthwise the bridge.

3. A trolley having four drums arranged in pairs, the drums of each pair being parallel and side by side and a pair of sheaves at right angles to and in a plane passing between the drums of each pair.

4. A trolley having four drums arranged in pairs, side by side at opposite sides of the trolley, with their axes parallel with each other and with the bridge, and a pair of sheaves with their axes at right angles to the drums, the sheaves being located in a plane passing between the drums.

5. The combination with a bridge, the main girders of which are composed of separated sections, of a trolley having four drums arranged in pairs, and hoist-ropes depending from each pair between the sections of the main girders.

6. The combination with a bridge the main girders of which are composed of separated sections, and girders intermediate the inner sections of the main girders, of a main trolley mounted on the sectional main girders with its hoist-chains depending between said separated sections, an auxiliary trolley mounted on the intermediate girders, and platforms extending lengthwise the bridge between the main and intermediate girders.

7. The combination with a main trolley having a pair of connected hoist-drums at each end, and a pair of loose sheaves for each pair of drums, the said sheaves being at right angles to the drums and in planes between the adjacent faces of said drums, of hoist-ropes depending from each pair of drums and intermediate sheaves, frames, each carrying sheaves around which the hoist-ropes pass, and a lever to which the free ends of said ropes are secured, and a ladle-carrying bar secured to said frames.

845,381. TIE FOR WIRE-FENCING. BURTON E. TOBIAS, Adrian, Mich. Filed Dec. 12, 1906. Serial No. 347,559.

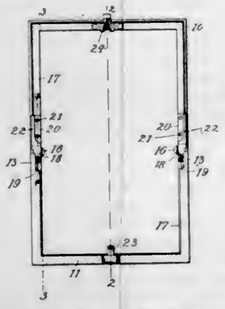


Claim.—1. The combination with the crossed wires crimped at their crossing-points, of a staple having its loop portion engaging the line-wire and its legs passing in rear of the stay-wire and thence converging and crossing the outer side of the line-wire, with the end portion of one leg forming a closed loop with the line and stay wire, and the other leg passing through said loop and having an abrupt reëntrant continuation, the terminal of which has contact with the stay-wire within the concavity of its crimp and with the side of the line-wire, substantially as described.

2. The combination with the crossed wires crimped at their points of crossing, of a staple having its loop portion engaging the line-wire at the base of the crimp therein and its legs passing in rear of the stay-wire, one of said legs having a continuation passing over the line-wire and the major portion of the other leg whereby to retain said latter leg in rigid contact with the line-wire, and the other leg having a continuation passing over the line-wire and terminating in an end portion which crosses the stay-wire and has contact therewith within the concavity of the crimp portion thereof and with the side of the line-wire, substantially as described.

3. The combination with the crossed wires crimped at their crossing-points, of a tie-wire forming a continuous loop around the crossed wires at their points of intersection, one leg-terminal crossing over the major portion of the other leg and abutting the stay-wire, and the other leg terminating in a reëntrant portion which hugs the side of the line-wire and crosses the stay-wire having contact therewith within the concavity of its crimp, substantially as described.

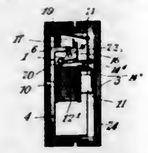
845,382. WINDOW. ALPHONS TORNIER, New York, N. Y. Filed Mar. 8, 1906. Serial No. 304,906.



Claim.—1. A window-frame having lower flanges, a pair of guards extending upwardly therefrom, and a pair of trunnions, combined with a sash-frame having a pair of hooks adapted to engage the trunnions and to be projected behind the guards, substantially as specified.

2. A window-frame having lower flanges, upper flanges, a pair of guards extending upwardly from the lower flanges, and a pair of trunnions, combined with a sash-frame having a pair of plates, and hooks integral with said plates and adapted to engage the trunnions, whereby the plates are interposed between the trunnions and the upper flanges, while the guards and hooks are interposed between the trunnions and the lower flanges, substantially as specified.

845,383. EAR-MASSAGE APPARATUS. KELLEY M. TURNER, New York, and NORTON W. JOHNSTON, Chappaqua, N. Y., assignors, by mesne assignments, to General Acoustic Company, a Corporation of New York. Filed Aug. 25, 1905. Serial No. 275,761.



Claim.—1. In an ear-massage apparatus, a magnet, an armature formed of a single piece of iron bent or doubled upon itself and having a circuit-making clip engaged between adjacent portions so as to be held thereby.

2. In an ear-massage apparatus, a magnet, a T-shaped armature therefor having a pair of armature-faces and a wedge-shaped portion projecting therebetween, and a spring-metal clip secured to said armature and forming a circuit breaker or interrupter therefor.

3. In an ear-massage apparatus, a diaphragm, a magnet comprising a base-plate and projecting studs having coils, an armature comprising a piece of sheet-iron bent so as to form armature-faces with an intermediate V-shaped portion therebetween, said armature being also bent to form an eye constituting a pivot-bearing, and a circuit breaker or interrupter attached to said armature.

4. In an ear-massage apparatus, a base-plate having projecting iron studs thereon, coils surrounding said studs to form an electromagnet, an armature pivoted to said base-plate and having a pair of armature-faces and an intermediate V-shaped portion projecting between the poles of said electromagnet, and a circuit breaker or interrupter on said armature.

5. In an ear-massage apparatus, a base-plate having a pair of projecting iron cores thereon, coils surrounding said cores, an armature comprising a single piece of sheet metal pivoted to said base-plate and bent to form a pair of armature-faces having an intermediate projecting V-shaped portion, and an interrupter secured to said armature.

6. In an ear-massage apparatus, a base-plate having a pair of ears or lugs thereon, an electrical connection grounded on one of said lugs, and a second electrical connection bushed into the other lug, an electromagnet supported by said base-plate, a vibrating armature supported by said base-plate, an insulated stud projecting into proximity to said armature, and electrical lead-wires connecting said electromagnet to said stud and said bushed connection.

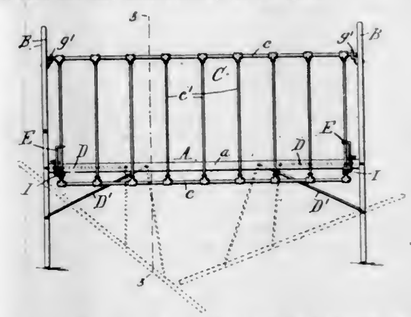
7. In an ear-massage apparatus, a base-plate having a pair of lugs thereon forming supports for a pair of electric terminals, a second pair of lugs arranged to constitute pivot-bearings, a vibratory armature supported by the said pivot-bearing and an electromagnet supported by said base.

845,384. SLIDING-SIDE FOLDING CRIB OR BED. CHARLES VALLONE, Buffalo, N. Y., assignor to Barcalo Manufacturing Company, Buffalo, N. Y. Filed Oct. 23, 1906. Serial No. 340,133.

Claim.—1. In a crib or bed, the combination of a bottom, side frames, and connections between said side frames and the crib structure constructed to allow said side frames to slide vertically and also to fold inwardly substantially parallel with said bottom, substantially as set forth.

2. In a crib or bed, the combination of a bottom, and side frames connected to the crib structure to raise and lower in a vertical plane and also to fold inwardly over the bottom, substantially as set forth.

3. In a crib or bed, the combination of a bottom, side frames, and guide devices on which said side frames are movable up and down vertically and which are movable to fold said side frames inwardly substantially parallel with said bottom, substantially as set forth.



4. In a crib or bed, the combination of a bottom, guide-brackets hinged to said bottom to swing inwardly over the same, and side frames which slide vertically on said guide-brackets, substantially as set forth.

5. In a crib or bed, the combination of a bottom, side frames, guide-brackets on which said side frames slide vertically and which are connected to said bottom to swing inwardly over the same and also to fall and rise toward and from the bottom, whereby the side frames can lie horizontally close to the bottom or at a distance above the bottom, substantially as set forth.

6. In a crib or bed, the combination of a bottom, guide-brackets having horizontal arms hinged to said bottom and upright arms with guide-openings at their upper and lower ends, and side frames having vertical rods which slide in said guide-openings, substantially as set forth.

7. In a crib or bed, the combination of a bottom, guide-brackets having horizontal arms connected to said bottom to swing and move toward and from said bottom, and upright guide-arms, and side frames which slide vertically on said upright arms, substantially as set forth.

8. In a crib or bed, the combination of a bottom, side frames, guide devices on which said side frames are movable up and down vertically and which are movable to fold said side frames inwardly substantially parallel with said bottom, and means for releasably holding said guide devices in normal position, substantially as set forth.

9. In a crib or bed, the combination of a bottom, side-frames, guide devices on which said side frames are movable up and down vertically and which are movable to fold said side frames inwardly substantially parallel with said bottom, and means for releasably holding said side frames from movement in said guide devices, substantially as set forth.

10. In a crib or bed, the combination of a bottom, end frames at opposite ends of said bottom, and swinging links connecting said end frames and bottom whereby said end frames can be folded one beneath the other substantially parallel with the bottom, said links for each end frame having offset portions at or near one end to allow the links for either end frame to move between the links for the other end frame, substantially as set forth.

845,385. FLUID-FEED SIDE-INLET DRILL-BIT. JOHN H. WIEST, Boulder, Colo., assignor of one-fourth to Charles A. Wolcott and one-fourth to T. S. Waltemeyer, Boulder, Colo. Filed Oct. 5, 1906. Serial No. 337,614.



Claim.—1. In combination with a rock-cutting drill-bit, having a fluid-passage extended into it from the drilling

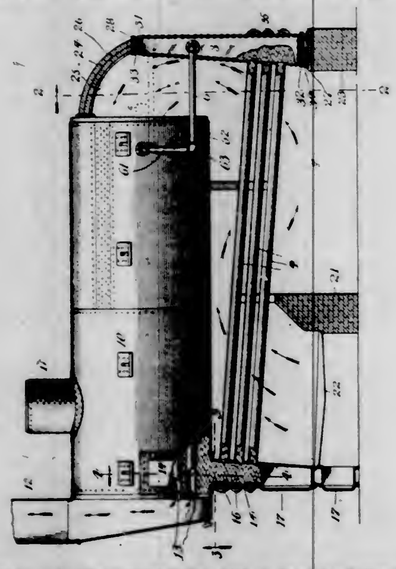
end and having a smooth side inlet to said passage; of a fluid-feed member which includes a smooth discharge-nipple end, and clamping means mounted on the nipple end for engaging the drill-stock and coupling said nipple in the inlet as set forth.

2. As an improvement in side-feed rock-drills, the combination with a hollow drill-bit having a side-feed inlet; of a feed-pipe having a nozzle adapted to enter the bit side-feed inlet, a member mounted on the nozzle adapted to clamp against one side of the bit-stock and a yoke-frame pivotally mounted on the said member, said yoke-frame including a locking portion adapted to interlock with the member on the nozzle and a lever device on the said member for moving the yoke into a locked engagement with the drill-stock as set forth.

3. The combination with the drill-stock having a longitudinal fluid-passage that terminates in a lateral or side feed inlet; of a flexible fluid-pipe, a metallic discharge-nipple connected to the pipe, a clamp member adjustably mounted on the nipple whose upper end has a bifurcated extension, whose outer edges curved, an L-shaped clamp pivotally mounted on the lower end of the adjustable clamp member, a yoke pivotally connected to the outer end of the L-shaped clamp, said yoke being adapted to swing over and engage the curved edge of the adjustable clamp members and a lever fulcrumed on the upper end of the clamp member for engaging the cross members of the yoke as set forth.

4. As a new article, a clamp for the purpose described, comprising a main member, a nipple detachably and pivotally mounted thereon, said member having a bifurcated extension at the upper end, and an apertured pendent ear at the lever end, an L-shaped clamp member hinged at one end to the pendent ear of the main member, a yoke-frame pivotally connected to the outer end of the L-shaped member, a yoke-frame pivotally connected to the said other end of the L-shaped member, said yoke being adapted to swing down over the bifurcated extension of the main member and a lever pivotally mounted in the said bifurcated extension adapted to engage the yoke-frame and hold it in a locked engagement with the plate having the bifurcated ears and pendent lug as set forth.

845,386. WATER-TUBE BOILER. JAMES WILDMAN, Chicago, Ill. Filed Apr. 23, 1906. Serial No. 313,120.



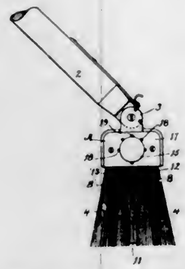
Claim.—1. The combination with a fire-tube boiler having at its front end a dependent water-front, of a water-back at some distance in the rear of the rear end of the boiler and mounted in the rear setting wall to slide between rollers above and below, water-tubes connecting said water-front to the lower part of said water-back, and tubes forming a horizontally-yielding connection between the upper portion of the water-back and the boiler.

2. The combination with a fire-tube boiler having a dependent water-front, of a wall at some distance in the rear of the rear end of the boiler, extending forward to meet the boiler above the fire-tubes therein and provided with a way for a water-back, a water-back mounted in said way to move in a front to rear direction upon rollers in said way, water-tubes connecting said water-front with the lower part of said water-back, and tubes connecting the upper part of the water-back with the boiler and arranged to readily permit horizontal movements of the water-back.

3. The combination with a fire-tube boiler having at its front end a stack and a dependent water-front forming the front wall of a combustion-chamber, a detached water-back at some distance in the rear of the rear end of the boiler, mounted to slide back and forth in a front to rear direction and forming a deflector for the products of combustion, water-tubes connecting the water-front and water-back, and pipes forming a horizontally-yielding connection between the water-back and the boiler.

4. The combination with a boiler having at its front end a stack and a dependent water-front, of a detached vertical water-back mounted in a wall at some distance in the rear of the boiler to slide freely toward and from the latter, downwardly-inclined water-tubes connecting the water-front to the lower part of the water-back, deflecting-walls between the planes of the water-front and water-back to throw the products of combustion alternately upward and downward past the water-tubes, and tubes connecting the upper portion of the water-back to the boiler and arranged to permit free horizontal movement of the water-back, substantially as set forth.

845,387. DUSTLESS BRUSH. FRANK D. WOLFGRAM, Milwaukee, Wis. Filed May 3, 1906. Serial No. 314,950.



Claim.—1. An elongated head for a dust-removing device, a brush fixed in the head, a cylindrical case longitudinally of and in the head provided with ducts in the walls of and curved about the case and with a discharge-passage downwardly therefrom, and a cylindrical liquid-holding tank provided along on one side with discharge-apertures adapted to register with said ducts, said tank being adjustable revolubly in the case.

2. A head for a dust-removing device, a brush fixed in the head, a cylindrical case provided with a plurality of ducts at little distances apart in the walls around circumferentially from near the top to the bottom and with a common longitudinal narrow passage for liquid from all the ducts downwardly through the bottom of the case, and a cylindrical tank fitted revolubly in said case and provided along one longitudinal side thereof with a series of discharge-apertures arranged to register with said ducts.

3. A head for a dust-removing device, a brush fixed in the head, a cylindrical case in the head provided with a closure-packing in and along the case at the top and a liquid-outlet at the bottom, a cylindical tank fitted revolubly in the case, and means for locking the tank releasably against revolution in the case.

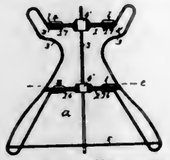
4. A head for a dust-removing device, a brush fixed in the head, a cylindrical case in the head provided with a closure-packing in and along the case at the top and a liquid-outlet at the bottom, a cylindrical tank fitted revolubly and slidable endwise in the case, a key-engaging plate in the head, and a projecting key on the tank adapted on sliding the tank endwise to take into and be released from the key-engaging plate.

5. In a dustless dust-removing device, a head, a substantially cylindrical case in the head provided with a series of circumferentially-disposed ducts in the walls thereof partially about the case leading down the side walls to the bottom, a cylindrical tank slidable endwise limitedly and revoluble in the case and provided with apertures arranged to register with said ducts, means on the tank for limiting its movement endwise, and other means for locking it releasably against rotation.

6. In a dustless dust-removing device, an elongated head, a brush fixed in and depending from the head, a liquid-holding tank, an elongated hollow liquid-controlling case in the head the case being of sheet metal the two sides of which along the lower part of the case are turned downwardly near to but opposite each other forming a liquid-passage from the case to a wick and from the passage are continued downwardly opposite each other below the lower surface of the head forming wick-clamps within the brush, a wick-plate, a flexible wick doubled medially over the plate, the wick and plate being inserted between the clamps, and means securing the wick and plate in position between the clamps.

7. In a dustless dust-removing device, an elongated head, brushes fixed in the head and projecting therefrom in two groups along the brush-head providing an intermediate wick-space, an intermediate wick depending from the head between the groups of brushes and of less length than the brushes, and means for holding above and discharging a liquid seepingly on the wick.

845,388. CLOTHES-LINE PULLEY. RALPH ALPIN, Tarrytown, N. Y. Filed Mar. 17, 1904. Serial No. 198,598.



Claim.—1. A clothes-line pulley comprising a top plate and a bottom plate, the plates having central holes for suspension on a shaft, wire arms vertically secured to extensions on said plates, the tops of the arms extending above and outwardly from the top plate, curving inwardly and then out and downward below the bottom plate and back to the bottom plate, and a ring inclosed within the loops in the bottoms of the arms, as set forth.

2. A clothes-line pulley comprising a top plate and a bottom plate, wire arms vertically secured to extensions of said plates, the tops of the arms extending above and outwardly from the top plate, then curving inwardly and downward, and thence out and downward below the bottom plate, thence backward and up to the bottom plate, a ring within the loop formed at the lower ends of the arms, a suspending-shaft through the centers of said plates, and a bracket for holding the shaft comprising a pair of arms having eyes at one end for encircling the said shaft, the other ends of the arms attachable to a support, one of the arms being bent and the other straight to fit a clamp, and a clamp to bind the arms in a manner to cant the pulley.

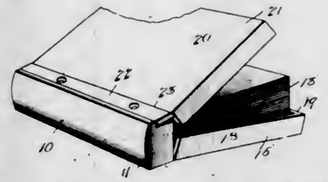
845,389. SAFETY-RAZOR. FREDERICK H. ARNOLD and ELLSWORTH D. BECKER, Reading, Pa.; said Becker assignor to said Arnold. Filed Jan. 9, 1907. Serial No. 351,409.

Claim.—In a safety-razor the combination of a guard-plate provided with a stationary hook at its outer end, a revolving hook at its inner end, a spring-operating lever secured to said revolving hook, a tapered plug formed on the end of the guard-plate, positioning-lugs formed on said guard-plate, a perforated blade adapted to be secured to



said plate by said hooks and a tubular handle adapted to engage either end of said plug while lying on the same plane with said blade.

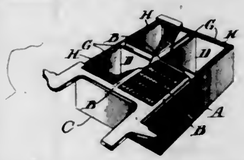
845,390. LOOSE-LEAF BINDER. CHARLES C. BAUGHMAN and ERNEST C. MEAD, Richmond, Va. Filed Sept. 8, 1906. Serial No. 333,770.



Claim.—1. In a loose-leaf binder, the combination with a back, end pieces, and a side piece, the end pieces and side piece being secured to the back and extending forwardly to a point coinciding with each other, of a binder-section hingedly connected to said back and opposing said side piece, binding-posts secured to said side piece, said posts being of a length to abut against the inner face of said binder-section, said posts and the end pieces supporting the binder-section against collapsing under pressure, screws passing through said binder-section into said posts for removably securing said binder-section to said posts, and covers hingedly connected to said side and said binder-section.

2. A substantially dust-proof loose-leaf binder comprising a back, end pieces, and a side piece, the end pieces and side piece being secured to the back and extending forwardly to a point coinciding with each other, a cover hingedly secured to said side piece, an opposing jointed cover secured to the back by hinged connection, said jointed cover comprising a binder-section and a section corresponding with the opposing cover, said sections being hingedly connected, binding-posts secured to said side piece and abutting against the inner face of the binder-section, said posts and the end pieces supporting said binder-section against collapsing under pressure, and means for removably securing said binder-sections to said posts, the free edges of said covers having portions extending inwardly at right angles to the covers and adapted to contact with each other and with the end pieces when the binder is closed.

845,391. NEGATIVE-POLE PLATE. JOSEPH BIJUR, New York, N. Y., assignor to The General Storage Battery Company, a Corporation of New York. Filed Apr. 5, 1906. Serial No. 309,986.



Claim.—1. The process of treating plates adapted for use as negative-pole plates which consists in soaking the plate in a solution capable of penetrating the pores of the plate and there depositing an inert substance.

2. The process of treating plates adapted for use as negative-pole plates which consists in soaking the plate in a solution of an organic substance capable of penetrating

the pores of the plate and there depositing an inert substance.

3. The process of treating plates adapted for use as negative-pole plates which consists in soaking the plate in a solution of sugar capable of penetrating the pores of the plate and there depositing an inert substance.

4. The process of treating plates adapted for use as negative-pole plates which consists in soaking the plate in a solution of an organic substance capable of penetrating the pores of the plate and there depositing an inert substance, then heating the plate to carbonize the substance deposited.

5. The process of treating plates adapted for use as negative-pole plates which consists in soaking the plate in a solution of sugar capable of penetrating the pores of the plate and there depositing an inert substance, then heating the plate to carbonize the substance deposited.

6. The process of treating plates adapted for use as negative-pole plates, which consists of incorporating an inert substance in the pores of the active mass by treating said plate with a fluid capable of entering the pores and depositing inert material.

7. A negative-pole Planté plate having inert material incorporated within the active material.

8. A negative-pole Planté plate having inert material incorporated within the active material, and characterized by a brownish-gray color before use and spongy appearance, an increased porosity of the active mass and a substantially sustained capacity in use.

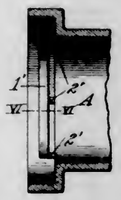
9. A negative-pole Planté plate having inert material incorporated within the active material, and characterized by a brownish-gray color before use and a substantially sustained capacity in use.

10. A negative-pole Planté plate having inert material in the form of carbon incorporated within the pores of the active mass.

11. A negative-pole Planté plate characterized by having inert material incorporated in the active material and a substantially sustained capacity in use.

12. A negative-pole Planté plate having porous inert material incorporated within the active material.

845,392. CENTERING DEVICE FOR DRAIN OR SIMILAR PIPES. LUCIAN R. BLACKMER, Webster Groves, Mo., assignor to Blackmer & Post Pipe Company, St. Louis, Mo., a Corporation. Filed Mar. 2, 1906. Serial No. 303,771.



Claim.—1. As a new article of manufacture a centering device for drain or similar pipes consisting of a segment-shaped strip having its inner surface curved in an arc throughout its length.

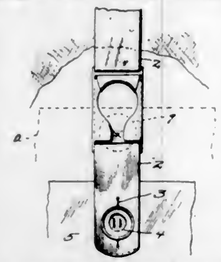
2. As a new article of manufacture a centering device for drain or similar pipes consisting of a segment-shaped strip having both its inner and outer surface curved in an arc and having a beveled edge.

3. A centering-strip for drain or similar pipes consisting of a segment-shaped strip having a tapering edge at the inner side of the arc of said strip.

4. As a new article of manufacture a centering device for drain or similar pipes consisting of a longitudinally-curved strip.

5. As a new article of manufacture a centering device for drain or similar pipes consisting of a longitudinally-curved strip having a beveled longitudinal edge.

845,393. SUSPENDER AND SUSPENDER ATTACHMENT. JEREMIAH D. BURNS, Washington, D. C., assignor of one-third to Lucius S. Hall, Parkersburg, W. Va. Filed Aug. 2, 1906. Serial No. 328,911.



Claim.—1. A suspender for use beneath the shirt, the same having affixed thereto means for attachment to the underdrawers, and independent means forming a continuation of the suspender and interposed between the drawers-attaching means and the suspender-web, for combinedly holding the shirt and trousers.

2. Suspenders for use beneath the shirt and having attached to the web thereof and forming continuations thereof, means for attachment to the underdrawers and separate means for combinedly securing the shirt and trousers, with the shirt between the trousers and underdrawers.

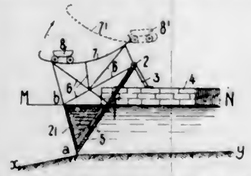
3. A suspender accessory comprising means carried by the suspender-web for attachment to the underdrawers, and means interposed between the same and the suspender-webbing in line therewith for combinedly holding the shirt and trousers, said last-named means having means for engagement with a button on the trousers to prevent cutting of the threads.

4. A device of the character described comprising means for attachment to the underdrawers, means for separate attachment to the trousers and shirt, and a connecting-web extending back of the last-named means and covering the button on the trousers when the latter is engaged with said means.

5. A device of the character described, comprising means for attachment to the underdrawers, means for separate attachment of the trousers and shirt, and a fabric engaging said last-named means and adapted to engage the button on the trousers.

6. A device of the character described, comprising means for attachment to the underdrawers, means for separate attachment to the trousers and shirt, and a connecting-web extending back of the last-named means and covering the button on the trousers when the latter is engaged with said means, said webbing also engaging said last-named means and adapted to be engaged by the button on the trousers.

845,394. AUTOMATIC DAM. FRANCESCO CAMAGNI, Asti, Italy. Filed Apr. 17, 1906. Serial No. 312,246.

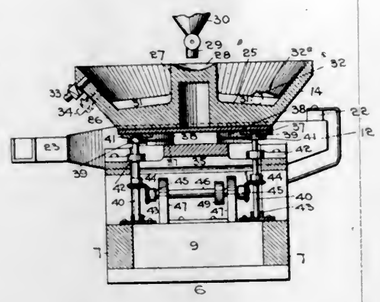


Claim.—1. An automatic dam for continuously maintaining the water in a river or the like at a constant level comprising a vessel having holes therein which communicate with the upstream and pivoted to turn about an axis above the highest level of the water, said dam being inclined so as to have its lower end downstream relatively to the axis substantially as described.

2. An automatic dam for continuously maintaining the water in a river or the like at a constant level comprising a vessel having holes therein communicating with the upstream and pivoted to turn about an axis above the highest level of the water, said dam being inclined so as to have its lower end downstream relatively to the axis, and having an additional weight or ballast arranged to travel toward the axis of rotation when the dam is raised, substantially as described.

3. An automatic dam for continuously maintaining the water in a river or the like at a constant level comprising a vessel having holes therein communicating with the upstream and pivoted to turn about an axis above the highest level of the water, said dam being inclined so as to have its lower end downstream relatively to the axis, and having an opening near its bottom, a pipe connected with said opening and discharging its contents at a fixed predetermined height, and a weight on the shore, counterbalancing the dead-weight of the dam.

845,395. ORE CLASSIFIER AND FEEDER. MICHAEL CHRISTMANN, Leadville, Colo. Filed Oct. 24, 1905. Serial No. 284,193.



Claim.—1. An ore classifier and feeder comprising in combination, a stationary support, a pan movably mounted thereon and including a central core having a concave upper surface, and a concentric wall, spaced therefrom and having a plurality of discharge-openings at varying elevations from the bottom of the pan, and means to impart a gyratory movement to the pan.

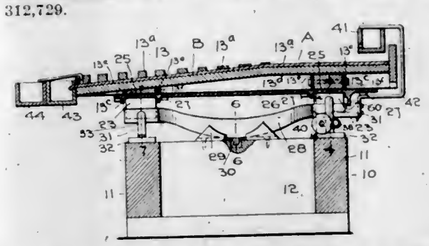
2. An ore-classifyer and feeder comprising in combination, a stationary support, a pan movably mounted thereon, and including a central core having a concave upper surface and a wall concentrically spaced therefrom and having a discharge-opening level with the bottom of the pan and a discharge-opening elevated therefrom, and means to impart a gyratory movement to the pan.

3. An ore classifyer and feeder comprising in combination with a stationary frame, a pan movably mounted thereon and having a conical floor, a central, cylindrical projection having a concave surface adapted to receive and distribute pulp fed on its upper surface, the said pan having peripheral discharge-openings at varying elevations from the said floor.

4. An ore classifier and feeder comprising in combination with a stationary frame, a pan movably mounted thereon and having a conical floor and inverted-V-shaped riffles extending radially along said floor, means to feed pulp into the said pan means to discharge the same at its periphery at different elevations from the said floor, and means to impart a gyratory movement to the pan.

5. An ore classifier and feeder comprising in combination with a stationary frame, a pan movably mounted thereon and having a conical floor, a central cylindrical projection having a concave surface adapted to receive and distribute pulp fed upon its upper surface, riffles extending radially from the said projection along the said floor, discharge means in its peripheral surface at varying elevations from its floor, and means to impart a gyratory movement to the pan.

845,396. ORE-CONCENTRATOR. MICHAEL CHRISTMANN, Leadville, Colo. Filed Apr. 19, 1906. Serial No. 312,729.



Claim.—1. The combination with a stationary bed or base-frame and a concentrator deck or table having a longitudinal, vibratory movement thereon, of wedge-shaped rockers interposed between the table and the frame, their vertices engaging the former while the extremities of their diverging sides engage seats on the stationary frame said rockers being independent of both the stationary frame and the concentrator-deck.

2. The combination with a stationary frame and a concentrator table or deck movably mounted thereon, of a plurality of interposed rockers of inverted-V shape engaging the latter and having a recess at the lower ends forming two feet arranged to alternately engage the frame during longitudinal reciprocating movement of the table said rockers being independent of both the stationary frame and the concentrator-deck.

3. The combination with a stationary frame, a concentrator deck or table movably mounted thereon, said deck or table having recesses on its bottom forming seats, and the frame-carrying recesses also forming seats, said recesses on the frame being arranged in pairs and wedge-shaped rockers each having a pair of feet at its wide end which engage in a pair of recesses on the frame while the narrow end of said rocker engages with a recess on the table said rockers being independent of both the stationary frame and the concentrator-deck.

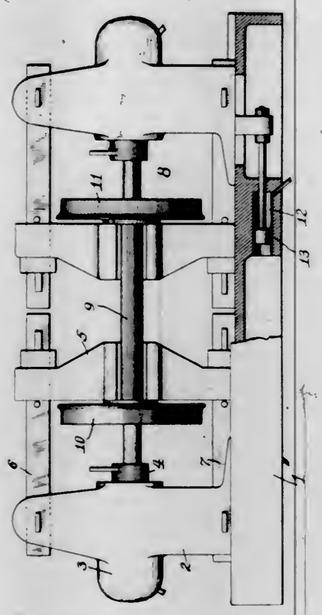
4. The combination with a stationary frame and a concentrator-table having a longitudinal movement thereon of curved arms pivotally mounted transversely of the frame each of said arms having a pair of recesses at the outer end thereof and a wedge-shaped rocker between the outer end of each arm and the table, each rocker having a pair of feet at its wide end, engaging with the pair of recesses and the upper narrow end of the rocker engaging with the bottom of the table.

5. The combination with a stationary frame and a concentrator-table, of curved arms pivotally mounted on the frame, a die mounted in the outer end of each arm, each die having a pair of recesses therein, transverse bars secured to the bottom of the table, each of said bars having a recess at its outer end, and wedge-shaped rockers each having feet at its lower wide end engaging with the pair of recesses in the die and its narrow upper end engaging with the recess in the bar.

6. The combination with a stationary frame having recesses therein, chairs on said frame, curved arms resting in said chairs and having projections engaging with the recesses to hold the arms in place, rockers mounted at the extremities of the arms, a concentrator-table mounted on said rockers an upright standard on the frame on each side of the extremities of the arms to guide said arms and means for giving said table a longitudinal reciprocatory movement.

7. The combination with a stationary frame and a concentrator deck or table adjustably and movably mounted thereon, of a vertical lever fulcrumed on the frame, a shaft having a multiple cam engaging the lower arm of the lever, a socketed projection on the table, an arm pivotally mounted on the upper arm of the lever and having a semispherical head arranged to occupy the socket in the projection, and a bolt extending through central apertures in the head and in the projection and through a segmental slot in the lever.

845,397. CAR-WHEEL PRESS. JAMES K. CULLEN and GEORGE T. REISS, Hamilton, Ohio, assignors to Niles-Bement-Pond Company, Jersey City, N. J. Filed June 11, 1906. Serial No. 321,123.



Claim.—1. A car-wheel press comprising a support, a pair of cylinders disposed thereon and arranged for relative movement to and from each other, a ram working in each cylinder and projecting toward the other cylinder, a pair of notched tail-blocks disposed between the two cylinders, and tie-bars independently connecting each cylinder with one of the tail-blocks, combined substantially as set forth.

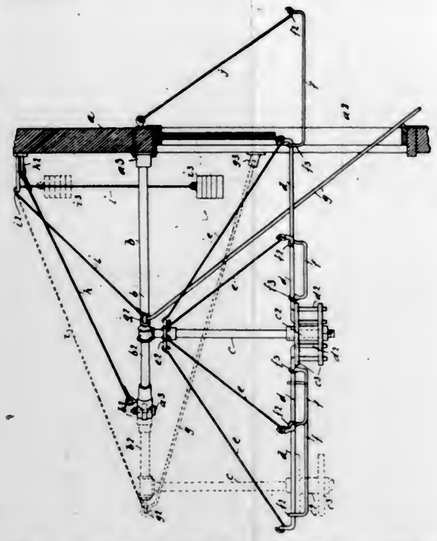
2. A car-wheel press comprising a support, a pair of cylinders disposed thereon and arranged for relative movement to and from each other, a ram working in each cylinder and projecting toward the other cylinder, a pair of notched tail-blocks disposed between the two cylinders, tie-bars independently connecting each cylinder with one of the tail-blocks, and means for temporarily tying the two cylinders together to prevent their movement from each other, combined substantially as set forth.

3. A car-wheel press comprising a support, a pair of cylinders disposed thereon and arranged for relative movement to and from each other, a ram working in each cylinder and projecting toward the other cylinder, a pair of notched tail-blocks disposed between the two cylinders, tie-bars independently connecting each cylinder with one of the tail-blocks, and a cylinder and piston device connected with one of said cylinders and the support and arranged to lessen the distance between the first-mentioned cylinders, combined substantially as set forth.

4. A car-wheel press comprising two independent complete car-wheel presses arranged upon a support with their rams in a common axial line and facing each other, the two presses being capable of free and independent relative movement to and from each other, combined substantially as set forth.

5. A car-wheel press comprising two independent complete car-wheel presses arranged upon a support with their rams in a common axial line and facing each other, the two presses being capable of free and independent relative movement to and from each other, and means for temporarily coupling the two presses together, combined substantially as set forth.

845,398. CLOTHES-DRIER. JAMES CURRY, Hudson Heights, N. J., assignor of one-half to Godfrey Bob, Woodcliffe, N. J. Filed Feb. 24, 1906. Serial No. 302,689.



Claim.—1. A device of the class described, comprising a main arm adapted to be secured to the wall of a building or to a window-frame and provided at its outer end with a hinged member adapted to swing in a horizontal plane, a hanger suspended from the hinged member, radially-arranged arms connected with said hanger and rotatable thereon, and supplemental arms connected with the radially-arranged arms and slidable thereon, substantially as shown and described.

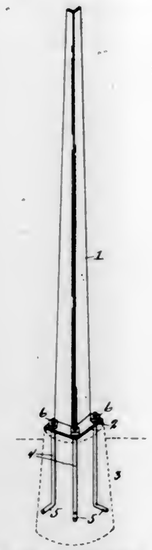
2. A device of the class described, comprising a main arm adapted to be secured to the wall of a building or to a window-frame and provided at its outer end with a hinged member adapted to swing in a horizontal plane, a hanger suspended from the hinged member, radially-arranged arms connected with said hanger and rotatable thereon, and supplemental arms connected with the radially-arranged arms and slidable thereon, said main arm and the hinged member thereof being provided with end supports, substantially as shown and described.

3. An apparatus of the class described, comprising an arm or bar adapted to be secured to a window-frame or the wall adjacent thereto, said arm or bar being provided with a hinged supplemental member adapted to swing in a horizontal plane, a hanger connected with the hinged member, radially-arranged arms connected with said hanger and rotatable thereon, supplemental arms slidably mounted on the radially-arranged arms, and means for swinging the hinged supplemental member of the main arm or bar horizontally, substantially as shown and described.

4. An apparatus of the class described, comprising an arm adapted to be secured to a window-frame or adjacent thereto and provided with an end member adapted to swing in a horizontal plane, a hanger connected with said member, radially-arranged arms connected with said hanger and provided with longitudinally-movable members, means for supporting the outer end of said arm, and means whereby the hanger may be swung inwardly toward the window.

845,399. FENCE-POST. ELIPHALET E. EDWARDS, Flint, Mich. Filed Aug. 6, 1906. Serial No. 329,362.

Claim.—1. In a fence-post, the combination of the angle-iron post, having an integral outwardly-turned triangular flange at its lower end, a cement base, hooked anchor-rods embedded in said base and having threaded ends which project through the triangular flange of the post at the corners thereof, and nuts screwing upon said rods against said flange to retain the post in a vertical position.



2. In a fence-post, the combination with a cement base having a flat top, an angle-iron post having a lateral flange at its lower end adapted to rest upon said top, means for detachably securing said flange to the cement base, and a reinforcing-strip of angle-iron embedded in the base at its lower end, and at its upper end detachably secured to the upper portion of the post.

3. In a fence-post, the combination of a cement base, an angle-iron post mounted upon said base and a reinforcing-strip of angle-iron embedded in the base at its lower end and at its upper end lying in the angle and secured to the upwardly-extending portion of the post.

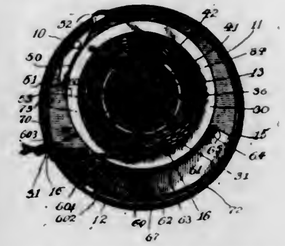
4. In a fence-post, the combination of an angle-iron post having a flange at its lower end, a cement base upon which said flange is seated, anchor-rods embedded in the base and extending through said flange to maintain the post in position, and a reinforcing metallic strip anchored in the cement base and lying against a portion of the post extending above the base, and means for securing said parts together.

845,400. DROPPING-BOTTLE. ROBERT H. FERGUSON, East Orange, N. J., assignor to E. R. Squibb & Sons, a Corporation of New York. Filed Nov. 15, 1906. Serial No. 343,498.



Claim.—A means for dropping volatile fluids comprising a bottle having a channel in the neck, and a stopper having a cut-away portion adapted to approach but not actually reach a position to register with said channel.

845,401. AUTOMATIC CHALKER AND REEL FOR CHALK-LINES. SJONNE S. FIELD, Chicago, Ill. Filed June 2, 1906. Serial No. 319,821.



Claim.—1. In a device of the class described, the combination of a chalk-line, reeling mechanism, an arc-shaped chalk-magazine, a chalk-stick, a spring-pressed follower pivoted concentric with the arc-shaped magazine and adapted to feed the chalk onward to the line.

2. In a device of the class described, the combination of a chalk-line, reeling mechanism, a chalk-magazine, a chalk-stick in said magazine, a supporting-arm removably mounted upon the magazine and a spring-pressed chalk-follower pivoted upon said arm.

3. In a device of the class described, the combination of an arc-shaped chalk-magazine, a radially-extending supporting-arm, a spring-pressed follower-arm pivoted upon the supporting-arm concentrically with the magazine and a holdback-catch upon the supporting-arm for the follower-arm.

4. In a device of the class described, the combination of a chalk-line, a reel, a chalk-stick, and chalk-line-shifting mechanism operating to move the line transversely across the face of the chalk.

5. In a device of the class described, the combination of a chalk-line, a reel, chalking mechanism, a line-shifter, and connections between the reel and line-shifter for operating the shifter.

6. In a device of the class described, the combination of a chalk-line, a spring-actuated reel, chalking mechanism, and a line-shifter actuated by the movement of the reel.

7. In a device of the class described, the combination of a chalk-line, a reel, chalking mechanism, a line-shifter, a lever engaging said shifter, and a cam operated by the movement of the reel to actuate the lever.

8. In a device of the class described, the combination of a chalk-line, a reel, a winding-spring, gearing between the reel and spring, a cam in one of the gears, chalking mechanism, a line-shifter, and a lever in engagement with the shifter and operated by the cam.

9. In a device of the class described, the combination of a chalk-line, a reel, a line-shifter and connections between the reel and line-shifter for operating the shifter.

10. In a device of the class described, the combination of a chalk-line, a casing, having an opening for the passage of the line, chalking mechanism, and cord-shifting mechanism having a slot which extends diagonally across the opening in the casing.

11. In a device of the class described, the combination of a chalk-line, a casing, a reel journaled therein, chalking mechanism, a line-shifter having a diagonally-extending slot through which the line passes, and connections between the line-shifter and the reel.

12. In a device of the class described, the combination of a chalk-line, a casing having a narrow opening for the passage of the line, a longitudinally-movable line-shifter, having a slot which extends diagonally across said opening, and is adapted by its movement across the opening to shift the line sidewise, and connections between the reel and shifter adapted to transfer the rotatory move-

ment of the reel to the longitudinal movement of the shifter.

13. In a device of the class described, the combination of a chalk-line, a cylindrical casing, having an opening in its circular wall for the passage of the line, a line-shifter slidably mounted in the casing and having a slot extending diagonally across the opening, a reel, and connections between the line-shifter and reel.

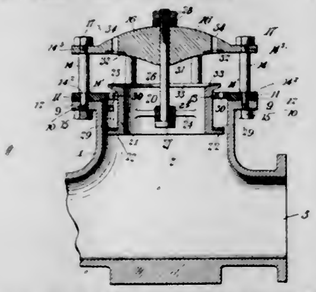
14. In a device of the class described, the combination of a casing, reeling mechanism, a chalk-line, a brake for the reeling mechanism, a chalk-magazine, a chalk-stick, a spring-pressed follower for the chalk-stick, a line-shifter and suitable connections between the reeling mechanism and the line-shifter for operating the shifter.

15. In a device of the class described, the combination of a chalk-line, a reel, a line-shifting mechanism, and a chalk-stick having corrugated side faces.

16. A chalk-stick for devices of the class described having irregular side faces.

17. A chalk-stick for devices of the class described, segmental in form and having corrugated sides.

845,402. HYDRAULIC RAM. ALFRED H. FRANCFORT, Jersey City, N. J., assignor to Niagara Hydraulic Engine Company, a Corporation of Pennsylvania. Filed Nov. 17, 1905. Serial No. 287,839.



Claim.—1. In a hydraulic ram, a gate or valve having a main valve-seat, a neck portion constituting a supplemental valve-seat, and a hollow valve member movable within said neck portion and provided with a flange adapted to engage said neck portion when the valve is closed.

2. In a hydraulic ram, a gate or valve having a main valve-seat, a neck portion constituting a supplemental valve-seat, and a hollow valve member movable within said neck portion, the upper end of said valve member coöperating with the main valve-seat and the lower end thereof provided with a flange coöperating with the supplemental valve-seat.

3. In a hydraulic ram, a casing having a chamber with an opening therein, a valve-seat opposite said opening, a hollow valve, provided with a flange, controlling the passage through said opening and vertically movable therein, means for guiding said valve, and a supplemental valve-seat with which the flange on said valve coöperates.

4. In a hydraulic ram, a valve or gate having a main valve-seat, a neck portion constituting a supplemental valve-seat, and a hollow valve member movable within said neck portion and provided with a flange adapted to engage the under side of said neck portion when the valve is closed, a passage being provided for the escape of the water above said flange when the valve member is moved to its closing position.

5. In a hydraulic ram, a valve or gate having a valve-seat with a conical face, a valve member comprising a flanged cylindrical shell coöperating therewith and a supplemental seat against which the flange on said shell closes.

6. In a hydraulic ram, a valve or gate having a neck portion constituting a valve-seat, a cylindrical shell having a flange engaging the under side of said neck portion, and a second valve-seat having a conical face engaging said shell.

7. In a hydraulic ram, a gate or valve having a neck portion, a cap supported therefrom and having a valve-seat with a conical face, and a hollow valve member guided by said neck and movable against said seat, and provided with a flange adapted to engage the under side of said neck portion.

8. In a hydraulic ram, a gate or valve having a neck portion, a cap having a conical valve-seat supported therefrom, and a hollow valve having flanges engaging said neck portion and seat.

9. In a hydraulic ram, a valve or gate having a neck portion, studs projecting therefrom, a cap supported by said studs and having a conical valve-seat, and a valve comprising a flanged shell engaging said seat.

10. In a hydraulic ram, a valve or gate having a neck portion, a valve-seat supported axially thereto and having a conical face, and a flanged shell guided to move axially of said neck portion against said valve-seat.

11. In a hydraulic ram, a valve or gate having a neck portion, a flanged shell guided axially thereof, and a valve-seat fixedly supported in alinement with said shell and axial thereof, the flange on said shell engaging said neck portion when the valve is closed.

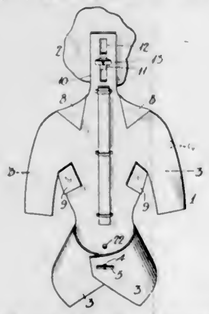
12. In a hydraulic ram, a casing having a central chamber with an opening therein, a cap supported opposite said opening and having a stem projecting axially therein, and a valve comprising a cylindrical shell guided by said stem, and having a pair of flanges coöperating respectively with the walls of said casing, and said valve-seat.

13. In a hydraulic ram, a valve or gate having a neck portion, a valve-seat supported in alinement therewith, openings being provided through said neck portion and said valve-seat, and a valve comprising a shell having a pair of flanges adapted to engage said neck portion and valve-seat.

14. In a hydraulic ram, a neck portion having studs radially projecting therefrom, a cap supported from said studs and having a valve-seat upon its under face, a valve member comprising a shell having a pair of flanges engaging said neck portion and seat, said neck portion and seat being provided with openings for the escape of fluid imprisoned thereagainst.

15. In a hydraulic ram, a hollow cylindrical valve having a pair of flanges, surfaces engaged by said flanges, and gaskets for cushioning the impact between such parts.

845,403. DISPLAY-FORM. GEORGE GALLAND, Wilkes-Barre, Pa., assignor to Minnie S. Galland, Wilkes-Barre, Pa. Filed May 7, 1906. Serial No. 315,663.



Claim.—1. A flat display-form of the character described having its face or head section slidably and pivotally mounted.

2. A display-form of the character described comprising a flat body-section having a slotted neck, and a flat face or head section slidably and pivotally mounted in the slot in said neck.

3. A display-form of the character described comprising a flat body-section having a slotted neck, a flat face or head section, a stud carried by the latter and movable in the slot in said neck, and means for clamping said stud in an adjusted position.

4. A display-form of the character described comprising a flat body having flexible extensions at its lower end, and means for connecting said extensions to provide a base to support said body in an upright position.

5. A display-form of the character described comprising a flat body having flexible connections at its lower end, and a fastener passed through apertures in the overlapping ends of said extensions to detachably secure them together, when said extensions are disposed on one side of and project from one side of said body to cause said extensions to form a base to support said body in an upright position.

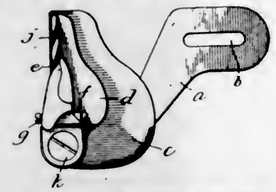
6. A display-form of the character described comprising a flat flexible body having integral extensions at its bottom, means for detachably securing said extensions together to form a supporting-base for said body, and a stiffening-strip upon said body, substantially as shown and described.

7. A display-form of the character described comprising a flat body in the form of a human figure, and a projecting bust portion or section secured upon the front of said body, said bust portion or section consisting of a flexible sheet bent or curved and formed with tongues or flaps to engage the edges and rear face of said body, substantially as described.

8. A display-form of the character described comprising a body-section and a skirt-section detachably connected thereto and forming a supporting-base therefor, each of said sections being formed from a flat, flexible sheet having portions bent and secured together, substantially as described.

9. A display-form of the character described comprising a flat body-section formed with extensions at its body, means for connecting said sections to form a substantially circular base, a skirt-section formed from a flat segmental-shaped, flexible sheet bent into frusto-conical form, means for connecting the side edges of the skirt-section, and means for connecting the latter to said circular base of the body-section, substantially as described.

845,404. SEWING-MACHINE HEMMER. GEORGE S. GATCHELL, Elizabeth, N. J., assignor to The Singer Manufacturing Company, a Corporation of New Jersey. Filed Mar. 13, 1906. Serial No. 305,796.



Claim.—1. In a sewing-machine hemming and guiding device, the combination with a guide consisting of a folded-over plate with a guiding-passage between its upper and lower members, and by which guide a flat or non-folded piece of material may be directed to the needle of the machine, of a scroll hemmer pivotally mounted on said upper member so as to be laterally adjustable relative to the guiding edge of the said guide, the forward end of said guide extending forward to the front end of said hemmer, or approximately so, for the purpose of accurately guiding the work close up to the needle of the machine.

2. In a sewing-machine hemming and guiding device, the combination with a guide consisting of a folded-over plate with a guiding-passage between its upper and lower members, and by which guide a flat or non-folded piece of material may be directed to the needle of the machine, of a scroll hemmer, a hemmer-support pivotally and directly mounted on the upper member of said guide so that the delivery end of said hemmer is adjustable relative to the guiding edge of the said guide.

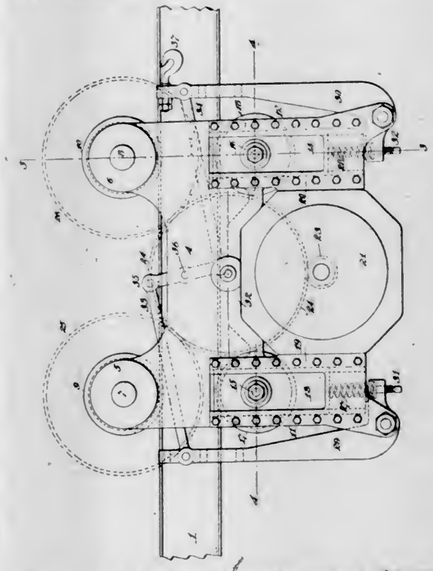
3. In a sewing-machine hemming and guiding device, the combination with a guide consisting of a folded-over plate with a guiding-passage between its upper and lower members, and by which guide a flat or non-folded piece of material may be directed to the needle of the machine, of a hemmer-support mounted on the upper member of said guide, a scroll hemmer carried by said support, and means for positively adjusting said support laterally to vary the position of the hemmer relative to the guiding edge of said guide.

4. In a sewing-machine hemming and guiding device, the combination with a suitable guide by which a flat or non-folded piece of material may be directed to the needle of the machine, of a hemmer-support pivotally mounted on said guide, a scroll hemmer carried by said support, and means for adjusting said support laterally to vary the position of the delivery end of said hemmer relative to the guiding edge of said guide.

5. In a sewing-machine hemming and guiding device, the combination with a suitable guide, of a hemmer-support mounted on said guide and provided with a rib or projection, a hemmer carried by said support, adjusting and holding screws mounted on said guide and engaging the opposite sides of said rib or projection and by means of which screws said support may be moved laterally to vary the position of the delivery end of the said hemmer relative to the guiding edge of said guide.

6. In a sewing machine hemming and guiding device, the combination with a suitable guide, of a hemmer-support pivotally mounted on said guide and provided with a rib or projection, a hemmer carried by said support, adjusting and holding screws mounted on said guide and engaging the opposite sides of said rib or projection and by means of which screws said support may be swung laterally to vary the position of the delivery end of the said hemmer relative to the guiding edge of said guide.

845,405. TRACTOR FOR ELECTRICAL TOWAGE SYSTEMS. LÉON GERARD, Brussels, Belgium, assignor, by mesne assignments, to American Adhesion Traction Company, a Corporation of Delaware. Filed Aug. 1, 1905. Serial No. 272,214.



Claim.—1. In a tractor for towage systems, the combination with a supporting-frame, of power-driven traction-wheels located above the track and supporting the weight of the tractor upon the track, an electric motor carried by the frame beneath the track and geared to the traction-wheels, independently-mounted gripping-wheels carried by the frame and bearing against the under side of the track, means for applying the towing strain to said gripping-

wheels, and means for equalizing the towing strain between said gripping-wheels, substantially as set forth.

2. In a tractor for towage systems, the combination with a frame depending on one side of the track, of traction-wheels supported by the frame above the track, downward extensions at the ends of the frame, gripping-wheels carried by blocks sliding in such extensions and bearing on the under side of the track, and an electric motor secured to the frame below the track and between the end extensions and geared to the traction-wheels, substantially as set forth.

3. In a tractor for towage systems, the combination with a supporting-frame, of power-driven traction-wheels located above the track and supporting the weight of the tractor upon the track, independently-mounted gripping-wheels supported by the frame and bearing against the under side of the track, separate levers carrying the gripping-wheels on their short arms, and means for applying the towing strain to the long arms of such levers, substantially as set forth.

4. In a tractor for towage systems, the combination with a supporting-frame, of power-driven traction-wheels located above the track and supporting the weight of the tractor upon the track, independently-mounted gripping-wheels supported by the frame and bearing against the under side of the track, separate levers carrying the gripping-wheels on their short arms, means for applying the towing strain to the long arms of such levers, and means for equalizing the towing strain between said levers, substantially as set forth.

5. In a tractor for towage systems, the combination with a supporting-frame, of power-driven traction-wheels located above the track and supporting the weight of the tractor upon the track, independently-mounted gripping-wheels supported by the frame and bearing against the under side of the track, separate levers carrying the gripping-wheels on their short arms, means for applying the towing strain to the long arms of such levers, and a cross connection between the long arms of said levers for moving them in opposite directions and thereby equalizing the towing strain between said levers, substantially as set forth.

6. In a tractor for towage systems, the combination with a supporting-frame depending on one side of the track, of traction-wheels located above the track and supporting the weight of the tractor upon the track, downward extensions at the ends of the frame, gripping-wheels carried by blocks sliding in such extensions and bearing on the under side of the track, an electric motor secured to the frame beneath the track and between the end extensions and geared to the traction-wheels, levers pivoted at the lower ends of such extensions and carrying said gripping-wheels on their short arms, and means for applying the towing strain to the long arms of such levers, substantially as set forth.

7. In a tractor for towage systems, the combination with a supporting-frame depending on one side of the track, of traction-wheels located above the track and supporting the weight of the tractor upon the track, downward extensions at the ends of the frame, gripping-wheels carried by blocks sliding in such extensions and bearing on the under side of the track, an electric motor secured to the frame beneath the track and between the end extensions and geared to the traction-wheels, levers pivoted at the lower ends of such extensions and carrying said gripping-wheels on their short arms, means for applying the towing strain to the long arms of such levers, and means for equalizing the towing strain between said levers, substantially as set forth.

8. In a tractor for towage systems, the combination with a supporting-frame depending on one side of the track, of traction-wheels located above the track and supporting the weight of the tractor upon the track, downward extensions at the ends of the frame, gripping-wheels carried by blocks sliding in such extensions and bearing on the under side of the track, an electric motor secured to the frame beneath the track and between the end extensions and geared to the traction-wheels, levers pivoted at the lower ends of such extensions and carrying said gripping-wheels on their short arms, means for applying the towing strain to the long arms of such levers, and a cross connection between said levers for moving them in opposite directions and thereby equalizing the towing strain between said levers, substantially as set forth.

9. In a tractor for towage systems, the combination with a frame, of traction-wheels above the track, independently mounted gripping-wheels below the track, springs pressing such gripping-wheels against the track, means for adjusting the initial strain upon such springs, and means for transmitting the towing strain through said springs to the gripping-wheels, substantially as set forth.

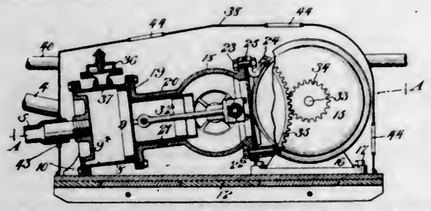
10. In a tractor for towage systems, the combination with a frame, of traction-wheels above the track, independently-mounted gripping-wheels below the track, springs pressing such gripping-wheels against the track, means for adjusting the initial strain upon such springs, means for transmitting the towing strain through said springs to the gripping-wheels, and means for distributing or equalizing the towing strain between the gripping-wheels, substantially as set forth.

11. In a tractor for towage systems, the combination with a supporting-frame, of power-driven traction-wheels located above the track and supporting the weight of the tractor upon the track, independently-mounted gripping-wheels supported by the frame and bearing against the under side of the track, springs pressing such wheels against the track, separate levers carrying the gripping-wheels and springs on their short arms, and means for applying the towing strain to the long arms of such levers, substantially as set forth.

12. In a tractor for towage systems, the combination with a supporting-frame, of power-driven traction-wheels located above the track and supporting the weight of the tractor upon the track, independently-mounted gripping-wheels supported by the frame and bearing against the under side of the track, springs pressing such wheels against the track, separate levers carrying the gripping-wheels and springs on their short arms, means for independently adjusting the initial strain upon such springs, and means for applying the towing strain to the long arms of such levers, substantially as set forth.

13. In a tractor for towage systems, the combination with a supporting-frame depending on one side of the track, of traction-wheels located above the track and supporting the weight of the tractor upon the track, downward extensions at the ends of the frame, gripping-wheels carried by blocks sliding in such extensions and bearing on the under side of the track, an electric motor secured to the frame beneath the track and between the end extensions and geared to the traction-wheels, levers pivoted at the lower ends of such extensions, springs located between the short arms of such levers and the blocks carrying the gripping-wheels, and means for applying the towing strain to the long arms of such levers, substantially as set forth.

845,406. ELECTRICALLY-DRIVEN FLUID-PRESSOR. ARTHUR H. GIBSON, Easton, Pa., assignor to The Ingersoll-Sergeant Drill Company, New York, N. Y., a Corporation of West Virginia. Filed Apr. 27, 1905. Serial No. 257,736.



Claim.—1. The combination with the cylinder of a percussive tool and a piston therefor, of a fluid-pressor cylinder, a piston therefor, pipes connecting the two cylinders, said pipes being permanently open to the interior of the fluid-pressor cylinder upon opposite sides of its piston and

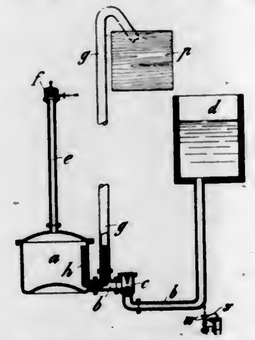
an induction-valve open at all times to external atmosphere having its port located intermediate the ends of the pressor-cylinder and arranged to be brought alternately into communication with the interior of the cylinder on opposite sides of the pressor-piston as the piston is reciprocated.

2. An electrically-driven fluid-pressor comprising a portable base, a motor-casing fixedly secured to the base, a pressor-cylinder fixedly secured to the base independently of the motor-casing and a crank-shaft casing interposed between and supported solely by the motor-casing and pressor-cylinder.

3. An electrically-driven fluid-pressor comprising a portable base, a motor-casing fixedly secured to the base, a pressor-cylinder fixedly secured to the base independently of the motor-casing and a crank-shaft casing interposed between and supported solely by the motor-casing and pressor-cylinder, the motor-casing, the crank-shaft casing and the pressor being located in alinement in a substantially horizontal plane.

4. An electrically-driven fluid-pressor comprising a portable base, a motor-casing fixedly secured to the base, a pressor-cylinder having its outer head fixedly secured to the base and an interposed crank-shaft casing secured directly to the motor-casing and extended to form the inner head of the pressor-cylinder whereby the crank-shaft casing is supported solely by the motor-casing and pressor-cylinder.

845,407. FORCE-PUMP. FRANZ GIROD, Mannheim, Germany. Filed Jan. 16, 1906. Serial No. 296,285.

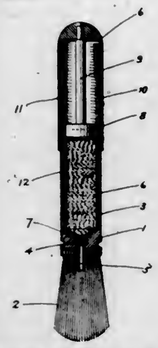


Claim.—1. Pressure-pulsometer, comprising the combination with a liquid-storage tank and a pressure-tank and valve-controlled connections between said tanks and an upright empty, open-ended U-shaped pipe connected to said pressure-tank, of an ascending discharge and liquid-delivery pipe, entirely at the outside of said pressure-tank and connected to the lower part of the same and continuous with and surrounding one leg of said U-shaped pipe, an inside pressure-operated, pressure-fluid-admitting valve connected to said pressure-tank, and exposed to outer atmospheric pressure.

2. In a pressure-pulsometer in combination, a pressure-tank, a liquid-storage tank, a valve-controlled liquid-admitting pipe connected to the bottom part of said pressure-tank, an empty, upwardly-directed U-shaped pipe, having one leg at the interior of said pressure-tank, a liquid discharge and delivery pipe starting from the base part of said pressure-tank and surrounding the other leg of said U-shaped pipe of narrower diameter and forming the continuation of the same, an inside pressure-controlled, outwardly-exposed, pressure-fluid-admitting valve, and pipe connections between said valve and the pressure-tank and a lubricating-passage at the outside of said valve.

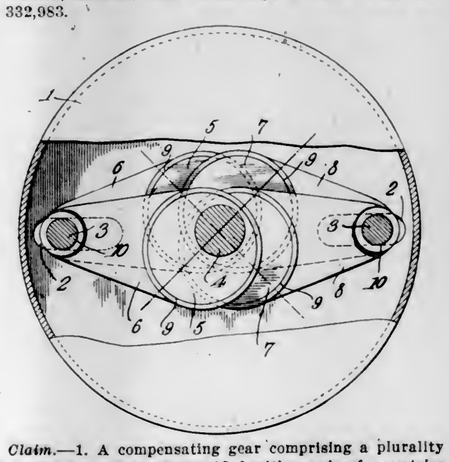
845,408. BRUSH. JOHN F. GOHL, Philadelphia, Pa. Filed June 16, 1906. Serial No. 321,989.

Claim.—1. A brush comprising a holder provided with a screw-thread and having a chamber therein, bristles connected to said holder, said holder having a passage leading from said chamber to said bristles, a handle having a screw-threaded connection with the said holder, and a piston connected with said handle and movable thereby in said chamber.



2. A brush comprising a holder having a chamber therein, bristles connected to said holder, said holder having a passage leading from said chamber to said bristles, a capsule for containing a fluid soap and communicating through said passage with said bristles, a handle-sleeve surrounding and movable on said holder, and a piston connected to said handle and movable in said capsule by moving said handle.

845,409. COMPENSATING GEAR. EDWIN J. GOULD, Boulder, Colo., assignor of one-fourth to James A. Walker, Boulder, Colo. Filed Sept. 1, 1906. Serial No. 332,983.



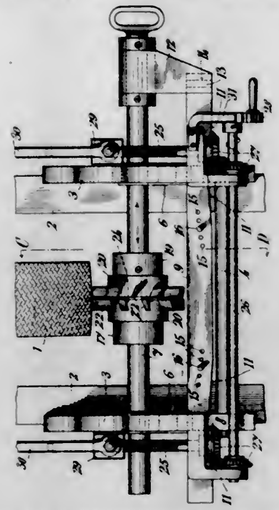
Claim.—1. A compensating gear comprising a plurality of driven elements each provided with a pair of eccentrics disposed at right angles with respect to each other, and a driving element having slidable links connected with said eccentrics.

2. A compensating gear comprising a plurality of driven elements each provided with a pair of eccentrics disposed at right angles with respect to each other, a driving element having slots, and links connected at their inner ends with said eccentrics and having a slidable connection at their outer ends with the slots of said driving element.

3. A compensating gear comprising a plurality of driven elements each provided with a pair of eccentrics disposed at right angles with respect to each other, a driving element having slots, pins slidably mounted in the slots of said driving element, and links connected at their inner ends with said eccentrics and at their outer ends with said pins.

4. A compensating gear comprising a pair of driven elements consisting of shafts disposed end to end and each having a pair of eccentrics disposed at right angles with respect to each other, a drive element consisting of a disk-shaped casing surrounding said driven elements and eccentrics and being formed with a plurality of diametrically opposite radial slots, pins slidably mounted in the slots of said driving element, and oppositely-extending pairs of links each having an eye at its inner end to receive one of said eccentrics and an eye at its outer end to engage one of said pins.

845,410. MACHINE FOR CUTTING AND DRESSING GRINDSTONES. JOHANNES GRIESHABER, Schaffhausen, Switzerland. Filed Nov. 3, 1905. Serial No. 285,761.



Claim.—1. In a machine such as described, the combination with a dressing-tool, of mechanism to impart simultaneous axial and transverse movement to the tool during its rotation, including means movable simultaneously with said mechanism and during the axial movement thereof to proportion the transverse movement to the axial movement whereby a curved face is cut on the stone, substantially as described.

2. In a machine such as described, the combination with a revoluble cutter-shaft and bearings therefor, of means for axially moving the shaft and means operated by the axial movement of the shaft for transversely and simultaneously moving the bearings, substantially as described.

3. In a machine such as described, the combination with a revoluble cutter-shaft, of means to set the cutter to and from the stone to be dressed, means to axially slide said shaft and means connected to and slidable with the shaft to transversely reciprocate the shaft and cutter, substantially as described.

4. In a machine such as described, the combination with an axially-slidable cutter-shaft, bearings for the shaft slidable transversely thereto, a bar connected to the shaft and slidable with it, said bar engaging the bearings to move them toward the stone being dressed during the revolution and axial movement of the shaft, substantially as described.

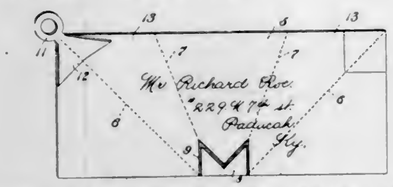
5. In a machine such as described, an axially-displaceable cutter-shaft and spring-urged bearings movable transversely to the shaft, of a bar coupled to and moving with said shaft, and against which the bearings are held, said bar having suitably-shaped guide-faces, whereby the cutter-shaft is transversely moved to impart the desired curvature to the stone being dressed, substantially as described.

6. The combination with a pair of slidably-mounted shields and means to adjust them to and from the stone, of bearings slidable in the shields, a cutter-shaft mounted in the bearings and a bar detachably connected to the shaft and acting on the bearings to move them to and from the stone being dressed during the axial movement of the cutter, substantially as described.

7. In a machine such as described, the combination with a cutter-shaft and journals therefor, of means to axially move the shaft and a bar movable with the shaft to impart a transverse movement to the bearings and shaft, and adjustable stops in said bar to limit the axial movement of both shaft and bar and thereby limit the transverse movement of the shaft, substantially as described.

8. In a machine such as described, the combination with a dressing-tool and axially-movable shaft, of bearings for the shaft movable transversely to the shaft, means connected to the shaft and acting on the bearings to proportion the transverse movements of the tool and shaft during their rotation to their axial movement and means to independently move all of the aforementioned parts simultaneously to and from the stone being dressed, substantially as described.

845,411. COMBINED MATCH-SAFE AND MAILING-CARD. CORNELIA GRUNDY, Paducah, Ky. Filed Mar. 28, 1906. Serial No. 308,512.



Claim.—1. A combined match-safe blank and mailing-card having fold-lines and provided with a match-striking surface, and a supporting-loop secured to one corner of the blank and provided with a flap.

2. A combined match-safe blank and mailing-card having fold-lines and provided with match-striking surfaces, said blank being provided with a portion disposed between the match-striking surfaces which is severed when the blank is folded.

3. A combined match-safe blank and mailing-card having fold-lines and provided with match-striking surfaces, said card having a portion extending from one edge of the card and intersecting the fold-lines which is severed when the blank is folded.

4. A combined match-safe blank and mailing-card comprising a substantially rectangular body portion having a match-striking surface at each end thereof and extending from each upper corner of the body portion to the lower longitudinal edge thereof, the intermediate portion of the blank being provided with fold-lines.

5. A combined match-safe blank and mailing-card comprising a substantially rectangular body portion having its opposite ends provided with match-striking surfaces and its intermediate portion formed with fold-lines, and a loop secured to one corner of the body portion and provided with a gummed flap.

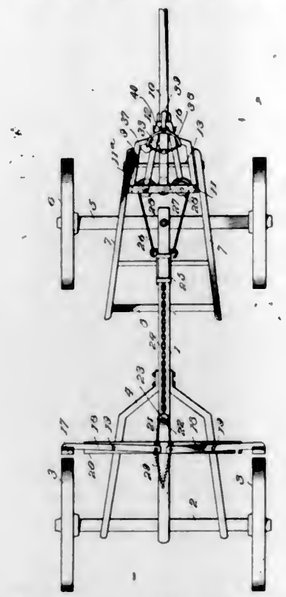
6. A combined match-safe blank and mailing-card comprising a body portion having its opposite ends provided with match-striking surfaces and its intermediate portion formed with diverging fold-lines, said body portion being provided with a gummed surface and having a portion extending between the gummed surface and the adjacent edge of the card which is severed when the blank is folded.

7. A match-safe comprising a plurality of sections having match-striking surfaces, a receptacle connecting said sections, and a supporting-loop secured to one section and engaging the adjacent section.

8. A match-safe comprising a plurality of sections having match-striking surfaces, a receptacle connecting said sections, and a supporting-loop carried by one of said sections and provided with a gummed flap for engagement with the adjacent section.

9. A match-safe comprising a pair of substantially triangular-shaped sections each provided with a match-striking surface and connected by a flexible strip forming a match-containing receptacle, and a loop secured to one of said sections and provided with a gummed flap adapted to engage the adjacent section.

845,412. AUTOMATIC BRAKE. JAMES W. GURNSEY, Liberty, Pa. Filed July 25, 1906. Serial No. 327,695.



Claim.—1. In a vehicle-brake, a running-gear, a tongue slidably mounted thereon, a pair of brake-levers having wheel-engaging shoes at their outer ends, springs connected to their inner ends, a flexible element connected to the inner ends of said levers, a pulley engaged with said element, a slide, a connection between said slide and said pulley, and means for imparting the sliding movement of said tongue to said slide.

2. In a vehicle-brake, a running-gear, a tongue slidably mounted thereon, a pair of brake-levers having wheel-engaging shoes at their outer ends, springs connected to their inner ends, a flexible element connected to the inner ends of said levers, a pulley engaged with said element, a slide, a connection between said slide and said pulley, guide-wheels upon said running-gear, an intermediate guide-wheel upon said tongue, and a flexible element engaged with said guide-wheels, substantially as shown and connected to said slide.

3. In a vehicle-brake, a running-gear, a tongue slidably mounted thereon, a pair of brake-levers having wheel-engaging shoes at their outer ends, springs connected to their inner ends, a flexible element connected to the inner ends of said levers, a pulley engaged with said element, a slide, a connection between said slide and said pulley, guide-wheels upon said running-gear, an intermediate guide-wheel upon said tongue, a flexible element engaged with said guide-wheels substantially as shown and connected to said slide, and means for preventing the sliding movement of said tongue.

4. In a vehicle-brake, a running-gear, a slotted tongue, a bolt extending through said slot to limit the sliding movement of said tongue, a brake mechanism actuated by the sliding movement of said tongue, a rod vertically slidable in said tongue and carrying a lock-block to enter said slot, and a cam or wedge slidable in a slot in said rod, substantially as shown and for the purpose set forth.

5. In a vehicle-brake, a running-gear, a slotted tongue, a bolt extending through said slot to limit the sliding movement of said tongue, a brake mechanism actuated by the sliding movement of said tongue, a rod vertically slidable in said tongue and carrying a lock-block to enter said slot, a lever pivoted upon said tongue and having a double cam or wedge plate to work in a slot in said rod to move the latter in one direction, and a spring for moving said rod in the opposite direction, substantially as shown and for the purpose set forth.

6. In a vehicle-brake, a running-gear, a slidably-mounted tongue, a brake mechanism actuated by said tongue, a stop for limiting the sliding movement of said tongue, a locking element mounted for transverse sliding movement upon said tongue and movable into and out of engagement with said stop, a slotted rod carried by said element and slidably mounted upon said tongue, a double cam or wedge-shaped plate to work in the slot in said rod and formed with seats, said plate being adapted to move said rod in one direction, and a spring for moving said rod in the opposite direction.

7. In a vehicle-brake, a running-gear, a slidably-mounted tongue, a brake mechanism actuated by said tongue, a stop for limiting the sliding movement of said tongue, a locking element mounted for transverse sliding movement upon said tongue and movable into and out of engagement with said stop, a lever pivotally mounted upon said tongue and carrying a cam or wedge plate to work in the slot in said rod to move the latter in one direction, said cam or wedge plate having a seat for the purpose set forth, and a spring for moving said rod in the opposite direction.

8. In a vehicle-brake, a running-gear, a slidably-mounted tongue having a longitudinal slot, a bolt extending through said slot to limit the sliding movement of said tongue, a brake mechanism actuated by said tongue, a lock-block mounted for transverse sliding movement in said tongue and movable into and out of said slot, a slotted rod carried by said lock-block and mounted for sliding movement upon said tongue, and a lever pivotally mounted upon said tongue and carrying a cam or wedge plate to work in the slot in said rod.

9. In a vehicle-brake, a running-gear, a slidably-mounted tongue having a longitudinal slot, a bolt extending through said slot to limit the sliding movement of said tongue, a brake mechanism actuated by said tongue, a lock-block mounted for transverse sliding movement in said tongue and movable into and out of said slot, a slotted rod carried by said lock-block and mounted for sliding movement upon said tongue, a spring for projecting said rod in one direction, and a cam or wedge to work in the slot in said rod and move the latter in the opposite direction.

845,413. ELECTRIC-RESISTANCE THERMOMETER. ERNST HAAGN, Hanau, Germany, assignor to The Firm of W. C. Heraeus, Hanau, Germany. Filed Sept. 22, 1906. Serial No. 335,825.



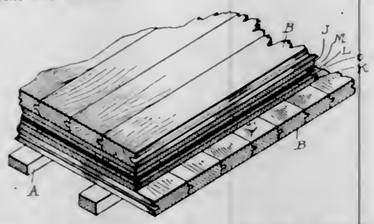
Claim.—1. The method substantially as hereinbefore described of making an electric-resistance thermometer,

which consists in winding a platinum wire spirally on a quartz-glass rod, drawing over the latter a quartz-glass cylinder, and intimately uniting the cylinder-rod and wire by fusing the cylinder and rod together.

2. The method substantially as hereinbefore set forth of making an electric-resistance thermometer, which consists in winding a platinum wire spirally on a quartz-glass rod, drawing over the latter a quartz-glass tube, evacuating the tube, and fusing the tube and rod together, embedding the wire in the glass.

3. As a new article of manufacture an electric-resistance thermometer, consisting of a quartz-glass rod, a platinum wire wound spirally over said rod, and an outer quartz-glass layer, the rod and layer being fused together completely embedding the wire in the glass.

845,414. CAR-ROOF. SAMUEL HERBERT, Detroit, Mich., assignor to Hutchins Car Roofing Company, Detroit, Mich., a Corporation of Michigan. Filed May 14, 1906. Serial No. 316,802.



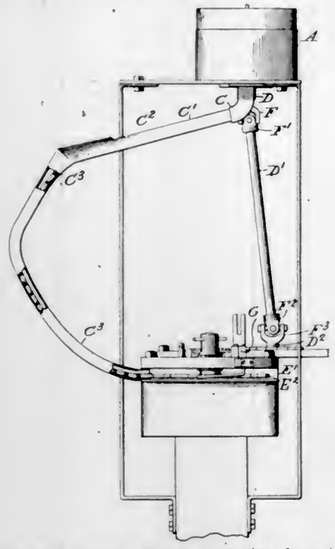
Claim.—1. In a car-roof, the combination with the roof-frame, of superimposed courses of boards thereon, and a compound pliable waterproof lining intermediate the courses consisting of exterior layers of roofing material saturated with a waterproof compound, a central layer of coarse open-mesh fabric supersaturated with a waterproofing composition, and a layer of cementitious waterproofing compound in a glutinous state interposed between each external layer and the central layer.

2. In a car-roof, the combination with a suitable roof-frame, of two superimposed courses of boards thereon, and a compound pliable lining intermediate of and clamped between said courses, consisting of exterior layers of wool felt saturated with asphaltum, a central layer of burlap supersaturated with asphaltum, and layers of asphaltum in a glutinous state arranged between the exterior layers and the saturated burlap.

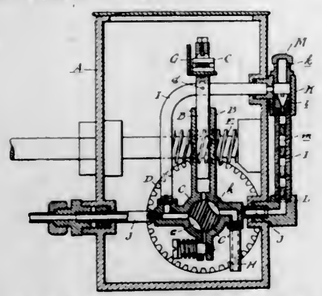
845,415. CAP-FEEDING MACHINE. JOHN A. HICKS, Summit, N. J., assignor to James M. Hicks, Summit, N. J. Filed Mar. 31, 1905. Serial No. 253,069.

Claim.—1. In a machine for delivering sealing-caps to a capping-machine one at a time, the combination consisting of a circular hopper to hold a mass of caps; a circular carrier located within said hopper pivoted to revolve therein centrally and provided with equally-spaced pockets on its periphery and embraced between the internal circumference of said hopper and said carrier; an opening in the base of said hopper and under a pocket in the said carrier; a chute located beneath said opening to receive caps as they drop into it through said opening; a rectifying-chute connected therewith for facing the caps alike; a reversing-chute as a continuation of said rectifying-chute to convey caps properly faced to a capping-machine; step-by-step mechanism, consisting of a ratchet mechanism, and driving connections therefrom to the pivotal shaft for driving the said carrier, whereby caps are delivered from the said hopper one by one, to a capping-machine properly faced for the said capping-machine, substantially as specified.

2. In an apparatus for holding a mass of caps and delivering one cap at a time to a rectifying-chute, the combination consisting of a circular hopper; a carrier centrally and pivotally located in said hopper and of substantially smaller inner diameter than the diameter of the said hopper, division-pieces secured to the outer diameter of the said carrier to form equal pockets bounded by the carrier, the inside diameter of the hopper and the said division-pieces; an opening in the base of said hopper and beneath one of the said pockets in and above the said chute; upwardly-inclined pieces located on the inner surface of the said hopper; wings projecting from the outer surface of the carrier; a pivotal shaft secured to the said carrier and journaled in the center of the base of said hopper and connected with the operating mechanism of a capping-machine, whereby the said carrier is operated circumferentially step by step, as and for the purposes hereinbefore specified.



845,416. DEVICE FOR VISUALLY FEEDING MEASURED QUANTITIES OF LIQUID. CLARENCE B. HODGES, Detroit, Mich., assignor to Detroit Lubricator Company, Detroit, Mich., a Corporation of Michigan. Filed Dec. 9, 1905. Serial No. 291,021.



Claim.—1. In a device for visibly feeding liquid in measured quantities, the combination of a sight-feed feature having a chamber and means for filling a section of the chamber for each feed.

2. In a device for visibly feeding liquid in measured quantities, the combination of a sight-feed feature having an observation-chamber, means for filling a section of the chamber for each feed and for moving the charge away from the observation-point.

3. In a device for visibly feeding liquid in measured quantities, the combination of a sight-feed chamber and means for successively filling sections of the chamber for each feed and for feeding the charges separately therefrom.

4. In a device for visibly feeding liquid in measured quantities, the combination of a sight-feed chamber, means for feeding successive oil charges therein and for holding the charge in view between feeds.

5. In a device for visibly feeding liquid in measured quantities, the combination of a sight-feed chamber, means for successively filling a section thereof and for holding the charge in view between feeds.

6. In a device for visibly feeding liquid in measured quantities, the combination of a sight-feed chamber, means for feeding successive separated charges therein, each charge filling a section of such chamber.

7. In a device for visibly feeding liquid in measured quantities, the combination of a sight-feed chamber, means for feeding oil charges therein, each filling a section of the chamber and for separating the charges by air-spaces.

8. In a device for visibly feeding liquid in measured quantities, the combination of a sight-feed chamber and means for feeding therein separated sections of oil and air.

9. In a device for visibly feeding liquid in measured quantities, the combination of an observation-chamber, means for intermittently filling a section of the chamber and holding the charge in view between operations, and then withdrawing such charge.

10. In a device for visibly feeding liquid in measured quantities, a sight-feed chamber open to the atmosphere and means for intermittently filling a section of the chamber for each feed.

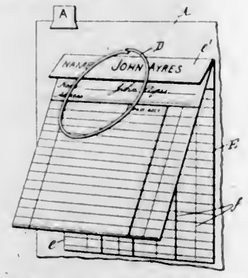
11. In a device for visibly feeding liquid in measured quantities, the combination of a sight-feed chamber, means for intermittently filling a section of the chamber and for withdrawing the fed charge therefrom.

12. In a device for visibly feeding liquid in measured quantities, the combination of a sight-feed chamber, means for delivering separated charges therein, each filling a section of the chamber and for withdrawing the charges therefrom.

13. In a device for visibly feeding liquid in measured quantities, the combination of a sight-feed chamber open to the air and differentially-acting pumps to feed charges into and withdraw the same from the chamber, for the purpose described.

14. In a device for visibly feeding liquid in measured quantities, the combination of a sight-feed chamber open to the air, a single pump delivering oil to and withdrawing it from said chamber and means for differentially actuating said pump, for the purpose described.

845,417. FILE OR HOLDER FOR SALES-SLIPS, &c. JOHN F. HUBER, Buffalo, N. Y., assignor to Huber Account Register Company, Buffalo, N. Y. Filed Dec. 8, 1906. Serial No. 346,937.

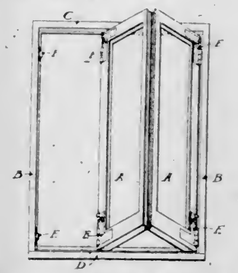


Claim.—1. The combination of a file-leaf, a spring-clip thereon for retaining slips or papers on said leaf, and a slip-holder comprising a sheet of thin material folded near one end to form a back and a front flap, said slip-holder being arranged with its folded end between the leaf and the spring-clip and adapted to receive slips, papers or the like between its back and front flap, substantially as set forth.

2. The combination of a file-leaf, a spring-clip thereon for retaining slips or papers on said leaf, and a slip-holder having a back and a front flap at one end of the back between which the slips or papers are received, said slip-holder being arranged with its flap end between said leaf and said spring-clip, whereby it and the slips or papers are releasably retained in place on the leaf, substantially as set forth.

3. The combination of a file-leaf, a spring-clip thereon for retaining slips or papers on said leaf, and a slip-holder having a back and a front flap at one end of the back between which the slips or papers are received, said slip-holder being arranged with its flap end between said leaf and said spring-clip, whereby it and the slips or papers are releasably retained in place on the leaf, said flap providing a space for a name or other matter, and the front face of said back being ruled into columns, substantially as set forth.

845,418. REVERSIBLE FOLDING-SASH WINDOW. AXEL F. JOHNSON, New York, N. Y. Filed July 12, 1906. Serial No. 325,891.



Claim.—1. The combination in a window, of a pair of sashes hinged together to fold one upon the other and open when the window is opened and closed, and detachable hinges at the outer edge of each sash, affording fixed pivoting centers for the sashes at both edges of the window, and projections at the outer corners of the sashes, fitting into grooves in the sill and lintel of the frame, for maintaining the detached edge of either sash in the same vertical plane with the edge which remains hinged to the frame.

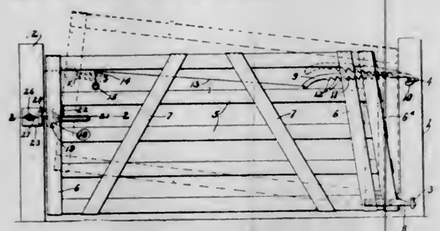
2. In a window the combination of a pair of sashes hinged to fold one upon the other and a detachable pivoting device at fixed points or axes near both the vertical joints between the sashes and the frame, adapted to swing or adjust the two combined sashes from either pivoting point or axis, as may be desired, in conjunction with projections near the outer corners of the sashes, fitting into a groove in either the sill or the lintel of the frame, adapted to form a sliding connection between the detached edge of either sash and the frame, for maintaining said detached edge in the same vertical plane with the edge which remains attached to the corresponding side of the frame by means of the pivoting device.

3. A window containing a pair of sashes connected together by means of hinges at the joining edges and also connected to the frame at both the opposite edges by means of a detachable pivoting device adapted to release either sash from the corresponding side of the frame, so that the one sash thus released may be folded upon the one sash attached to the frame when said attached sash is swung or pivoted until the window is fully opened, and a sliding connection between the detached edge of either sash and the frame, for maintaining said detached edge in the same vertical plane with the edge which remains connected to the frame by means of the pivoting device.

4. In a window, the combination of a pair of sashes attached together by means of a hinge connection, and detachable pivotal connections to the frame near the four

corners or angles of the window, affording a fixed pivoting point or axis at both the opposite edges of the combined sashes, adapted to transfer the combined weight of the pair of sashes to one or the other pivotal axis as may be desired in opening and closing the window, and an adjustable connection between the sashes and the frame, adapted to maintain the detached edge of either sash in the same vertical plane with the edge which remains connected to the frame by means of the pivoting device.

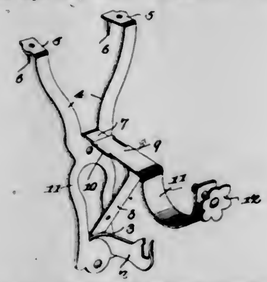
845,419. GATE. JOSEPH S. JOHNSON, Lodi, Ohio. Filed Sept. 5, 1906. Serial No. 333,306.



Claim.—1. A gate, consisting of a series of longitudinal bars suitably braced and provided with a front and rear set of hinge members set in and inclined from the hinge-post, a horizontally-arranged hinge-rack interposed between said hinge members and provided with a pintle-hook and a downwardly-inclined free end, a screw-eye taking over said hook, a pin interposed between said front set of inclined hinge members and adapted to be engaged by said hinge-rack, and a cord secured to the free end of said hinge-rack to elevate and release the same from said pin.

2. In a gate, provided with a front and rear set of hinge members set in and inclined from the hinge-post, a hinge connection consisting of a hinge-rack interposed between said hinge members and provided with a pintle-hook, a screw-eye mounted in said hinge-post and engaged by said hook, a pin suitably secured to said front set of hinge members and adapted to be engaged by said hinge-rack, and means secured to the free end of said hinge-rack and adapted to raise said hinge-rack to release the same from said pin.

845,420. CURTAIN-BRACKET. WILLARD JONES, Auburn, Me. Filed Apr. 26, 1906. Serial No. 313,857.



Claim.—1. A combination-bracket comprising a base, pronged supporting-arms integral therewith, a roller-shade bracket struck from said base, a guide extending at right angles to and integral with the base, said guide terminating at its outer end in a brace permanently secured to the base, said base and the parts integral therewith being formed in a single sheet of metal, and a pole-bracket adjustably mounted upon the guide.

2. A combination-bracket formed in two pieces one of said pieces comprising a base, angularly-pronged arms at one end of the base, a guide extending from between the arms and terminating in a brace, and a shade-roller bracket extending from the base, said brace being permanently connected to the base adjacent the bracket, and the other piece comprising a hooked slide and oppositely-disposed ears integral therewith and embracing the guide.

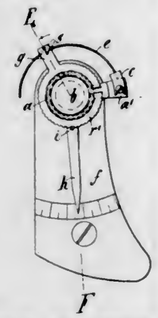
845,421. ICE-CREAM DIPPER. NICK W. KLINE, Longbeach, Cal. Filed May 1, 1906. Serial No. 314,670.



Claim.—1. A dipper having a bowl composed of two sections one section being provided with a handle, the other section being hinged to said handle; yielding means to hold the sections of the bowl normally in engagement; and means for enabling the operator to cause the separation of those portions of the bowl not held in engagement by the hinge.

2. A dipper having a conical-shaped bowl longitudinally and vertically divided into two sections, one section being provided with a shank having a handle and the other section having a shank provided with a thumb-piece; a hinged connection between said shanks; a spring having its ends connected to said shanks; and a scraper within said bowl.

845,422. MECHANISM FOR REGULATING WATCHES. RICHARD LANGE, Glashütte, Germany. Filed Apr. 28, 1902. Serial No. 105,065.

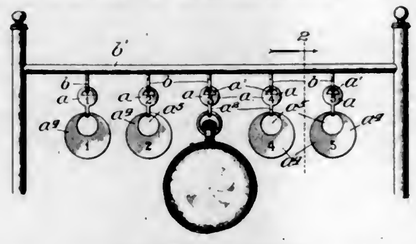


Claim.—In a watch, the combination of a split stud-ring, sprung on to the center part of the cock, a regulator-ring carrying the hand or pointer and mounted on said stud-ring, a micrometric ring mounted above said regulator-ring and means for holding the said regulator-ring to the cock or to the micrometric regulator-ring at will, substantially as described.

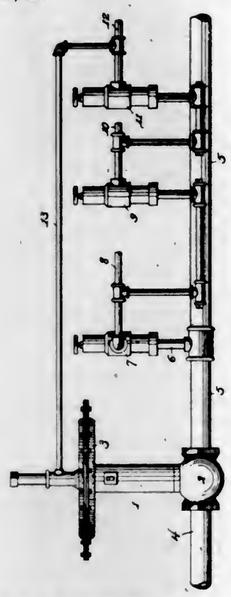
845,423. WATCH-CHECKING DEVICE. WILLIAM G. LANDT, Chicago, Ill. Filed Jan. 25, 1906. Serial No. 297,904.

Claim.—1. A combination tag and check of the character set forth, comprising a metal tag provided with an unobstructed hook-receiving perforation and equipped at its lower portion with an integrally-formed hook, and a metal check having a perforation engaging said hook, said tag and check bearing corresponding numbers, for the purpose set forth.

2. A combination tag and check of the character set forth, comprising a metal tag provided at its upper portion with a hook-receiving perforation and at its lower portion with a rearwardly and upwardly turned hook, a spring on the rear side of said tag coacting with said hook, a number on the front side of said tag, and a metal check having at its upper portion a perforation receiving said hook and at its lower portion a number corresponding with the number on said tag, for the purpose set forth.



845,424. PRESSURE-REGULATING SYSTEM. JOHN LAVELLE, Uniontown, W. Va. Filed Nov. 26, 1906. Serial No. 345,097.



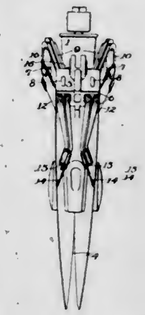
Claim.—1. In a regulating system of the character described, the combination with a main line, of a pressure-reducing regulator mounted on said main line, a series of connected branch lines between the main line beyond said regulator and the diaphragm of the latter, and an adjustable pressure-controlling valve in each of said branch lines, substantially as described.

2. In a regulating system of the character described, the combination with a main line, of a pressure-reducing regulator on said main line, and a series of connected branch lines each provided with pressure-regulating means for controlling the pressure therein, and the last branch line in said series connected with the diaphragm of said regulator, substantially as described.

3. In a pressure-regulating system of the character described, a main high-pressure line, a pressure-reducing regulator on said line, a plurality of branch lines beyond the regulator, said branch lines connected in a series one branching from another, adjustable pressure-controlling means in each of said branch lines, and a pipe connecting the last of the series of branch lines with the diaphragm of the regulator.

4. In a pressure-regulating system of the character described, a main line, a pressure-reducing regulator on said main line, a plurality of branch lines beyond the regulator, said branch lines forming a connected series extending from the main line to the diaphragm of the regulator, each branch line being a branch of the branch line preceding it, and means carried by each branch line whereby it may be adjusted to permit a desired pressure to pass therethrough, substantially as described.

845,425. GRAIN-DRILL. ROBERT C. LIVESAY, Berwyn, Ill., assignor to International Harvester Company, a Corporation of New Jersey. Filed Dec. 21, 1906. Serial No. 348,840.



Claim.—1. In a grain-drill, the combination of a boot, rotatable disks mounted upon opposite sides of said boot and having their forward edges inclined toward each other, a pair of scraper-holders pivotally supported intermediate their ends, each having scrapers attached to opposite ends thereof and adapted to impinge against opposite surfaces of the same or one of the disks, and a single spring operative to yieldingly hold the scrapers in contact with the disks.

2. In a grain-drill, the combination of a boot, rotatable disks mounted upon opposite sides of said boot and having their forward edges inclined toward each other, a pair of scraper-holders pivotally supported intermediate their ends and arranged substantially parallel with each other, scrapers attached to opposite ends of each holder and adapted to impinge against opposite surfaces of the same or one of the disks, and a single spring operative to yieldingly hold the scrapers in contact with the disks.

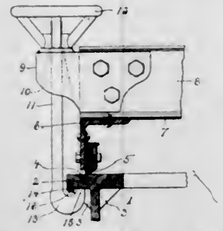
3. In a grain-drill, the combination of a boot, rotatable disks mounted upon opposite sides of said boot and having their forward edges inclined toward each other, a pair of scraper-holders pivotally mounted upon said boot intermediate their ends and arranged substantially parallel with each other, scrapers attached to opposite ends of each holder and adapted to impinge against opposite surfaces of the same or one of the disks, and a single spring operative to yieldingly hold the scrapers in contact with the disks.

4. In a grain-drill, the combination of a boot, rotatable disks mounted upon opposite sides of said boot and having their forward edges inclined toward each other, a pair of scraper-holders pivotally mounted upon said boot intermediate their ends, said holders being arranged substantially parallel with each other and inclined rearwardly and downwardly, scrapers attached to opposite ends of each holder and adapted to impinge against opposite surfaces of the same or one of the disks, and a spring operatively connecting the forward ends of said holders in a manner to yieldingly hold the scrapers in contact with the disks.

5. In a grain-drill, the combination of a boot, rotatable disks mounted upon opposite sides of said boot and having their forward edges inclined toward each other, a pair of scraper-holders pivotally mounted upon said boot intermediate their ends, said holders comprising forwardly-extending body portions having downwardly-extending leg portions provided with shanks substantially parallel with the body portions, scrapers vibratably mounted upon said shanks and adapted to impinge against the outer surface

of the same or one of the disks, said holders also provided with rearwardly and downwardly extending body portions provided with shanks, scrapers vibratably mounted upon said shanks and adapted to impinge against the inner surfaces of the same or one of the disks, and a coiled spring connecting the forward portion of the holders and adapted to yieldingly draw them toward each other.

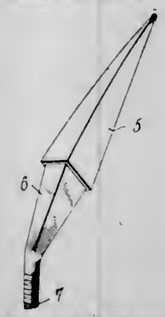
845,426. CLOSURE FOR GAS-TANKS. ERNEST F. LLOYD, Detroit, Mich. Filed May 15, 1905. Serial No. 260,531.



Claim.—1. The combination with a receptacle for gas, a cover for said receptacle, and a dry lute interposed between the cover and receptacle, of a continuous flange on the receptacle forming a seat for the lute, a bracket on the cover having a vertical opening enlarging downward from its upper end, a clamping-bolt in said opening having a screw-threaded upper end, a wheel-nut on said end in contact with the bracket, a hook on the lower end of the bolt adapted to engage the flange, and a rib on the lower side of the flange along its outer edge.

2. The combination with a receptacle for gas, a cover for said receptacle, and a dry lute carried by the cover, of a continuous outwardly and horizontally extending flange on the receptacle at its upper edge, a rib on the under surface of said flange at its outer edge having a lower surface inclined upwardly and outwardly from a horizontal plane, a bracket on the cover, an opening in the bracket, a clamping-bolt in said opening having a screw-threaded upper end, a wheel-nut on the said end of the bolt, and a hook on the lower end of said bolt.

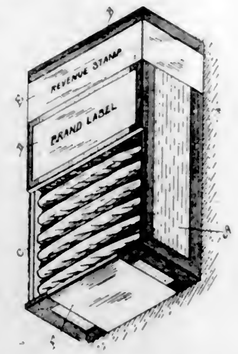
845,427. PICK. THOMAS A. LUTZ, Winburne, Pa. Filed Dec. 10, 1906. Serial No. 347,134.



Claim.—1. A pick-head having a continuous outer side and provided at its inner side on opposite sides of the eye with inwardly-projecting obliquely-disposed shoulders, the ends of the arms of the head being provided with polygonal sockets tapered toward and terminating at said shoulders, and removable points having polygonal tapered shanks in said sockets and terminally threaded for engagement by nuts bearing upon said shoulders.

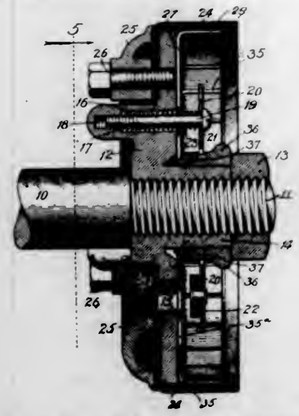
2. A pick-head having a continuous outer side and provided at its inner side on opposite sides of the eye with inwardly-projecting obliquely-disposed shoulders, the ends of the arms of the head being provided with polygonal sockets tapered toward and terminating at said shoulders, and removable points having polygonal tapered shanks in said sockets and terminally threaded for engagement by nuts bearing upon said shoulders, the terminal portions of said shanks being deflected angularly from the axis of the polygonal portion of the shank to permit of the location of the shoulder practically without the inner line of the pick-head.

845,428. CIGAR-BOX. FRANK A. MOON and ANDREW J. CUSHMAN, Kalamazoo, Mich. Filed May 28, 1906. Serial No. 319,151.



Claim.—In a cigar-box, the combination of a body; a cover formed of transverse sections adapted to be opened independently of each other, one of said cover-sections being detachably secured to said body whereby the same may be removed to permit the removal of the cigars without disturbing the other section-cover, substantially as described, and for the purpose specified.

845,429. CUSHIONING MECHANISM FOR RECIPROCATING BEDS. CYRUS A. MCCAIN, Chicago, Ill. Filed Mar. 5, 1906. Serial No. 304,287.



Claim.—1. In a cushioning device for reciprocating beds, the combination with cushioning members, one stationary and the other movable with the bed, and consisting of a piston and a cylinder, of cushion-regulating means on one member comprising an annular series of vent-ports, a sliding, normally open ring or disk valve governing said vent-ports, guiding means for the valve, and spring controlling means for the valve acting counter to pressure in the cylinder.

2. In a cushioning device for reciprocating beds, the

combination with cushioning members, one stationary and the other movable with the bed, and consisting of a piston and a cylinder, of cushion-regulating means on one member comprising an annular series of vent-ports, a sliding normally open ring or disk valve governing said vent-ports, guiding means for the valve, unseating springs for the valve acting counter to pressure in the cylinder, and adjusting means for the springs.

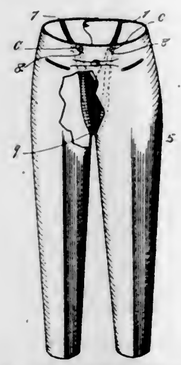
3. In a cushioning device for reciprocating beds, the combination with cushioning members, one stationary and the other movable with the bed, and consisting of a piston and a cylinder, an anular series of vent-ports in the cylinder, a sliding ring or disk valve carried by the piston and governing said vent-port therein, guides on the piston on which the valve slides, and springs interposed between the piston and valve acting counter to pressure in the cylinder.

4. The combination with a piston, of a circumferential packing carried thereby, and means for expanding the packing, comprising a cup-shaped disk on the piston formed of radially-adjustable segmental members, inherently expansible and contractible to describe, at packing-engaging surfaces, varying arcs at different positions of adjustment, and means for forcing the segments outwardly against the packing whereby the periphery of said cup-shaped disk will always be approximately circular.

5. The combination with a piston, of a circumferential packing carried thereby, and means for expanding the packing, comprising a cup-shaped disk on the piston formed of radially-adjustable segmental members, inherently expansible and contractible to describe, at packing-engaging surfaces, varying arcs at different positions of adjustment, means for forcing the segments outwardly against the packing, and means for expanding the segments as they are forced in the outward direction whereby the periphery of said cup-shaped disk will always be approximately circular.

6. The combination with a piston, of a circumferential packing carried thereby and means for expanding the packing, comprising a cup-shaped disk on the piston formed of radially-adjustable segmental members, slitted to render them inherently expansible and contractible to describe, at packing-engaging surfaces, varying arcs at different positions of adjustment, and means for forcing the segments outwardly against the packing whereby the periphery of said cup-shaped disk will always be approximately circular.

845,430. TROUSERS. LOUIS M. NATHAN, Denver, Colo. Filed Jan. 24, 1906. Serial No. 297,569.



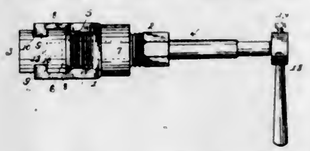
Claim.—1. A pair of trousers provided with a strip of material attached to the crotch thereof and at the upper part of the garment in line with the pull of the garment-suspending means in both front and rear.

2. A pair of trousers provided with strips of material attached to the crotch of the garment and at the upper portion thereof in line with the pull of the garment-suspending means, in both front and rear.

3. A pair of trousers provided with strips of material attached to the crotch of the garment and at the upper portion thereof at points corresponding with the points where the suspender-buttons are attached.

4. A pair of trousers provided with two strips of material attached intermediate their extremities at the crotch of the garment and at their extremities to points in the front and rear corresponding with the points of attachment of the suspender-buttons.

845,431. REAMER. BENJAMIN M. NUZUM, Grafton, W. Va. Filed July 11, 1906. Serial No. 325,669.



Claim.—In a reamer for injector-spindles and the like, a cutter-head having a socket therein, a tapered outer end to said socket, a reaming-surface in said tapered end, transverse channels in opposite outer faces of said cutter-head, an interiorly-threaded sleeve, integral arms carried by said sleeve, said arms provided with means for engaging the channels in said cutter-head, and an adjustable exteriorly-threaded guide in engagement with the internal threads of said sleeve for embracing a spindle and directing it forward toward said reaming-surface and for regulating the feed of said spindle.

845,432. SHOE-FASTENER. FREDERICK PASCHEN, East St. Louis, Ill., assignor of one-half to George Schneider, East St. Louis, Ill. Filed May 26, 1906. Serial No. 318,918.



Claim.—1. In a shoe having a slitted upper, a series of tubular peripherally-slotted links disposed along the edges of the upper, each link having a pronged extension at one end secured to the upper, and a lip extending beyond the link at the opposite end, substantially as set forth.

2. In a shoe having a slitted upper, a series of tubular peripherally-slotted links disposed along the edges of the upper, each link having a pronged extension at one end secured to the shoe, and a lip at the opposite end passed through the pronged extension of an adjacent link, substantially as set forth.

3. In a shoe having a slitted upper, a series of tubular peripherally-slotted links disposed along the edges of the upper, each link having a pronged extension at one end secured to the shoe, and a lip at the opposite end passed through the base of the pronged extension from the inside to the outside, the projecting end of the lip bearing against the outer surface of the adjacent link, the several links forming a channel or way, and a beaded tongue sliding in said way, substantially as set forth.

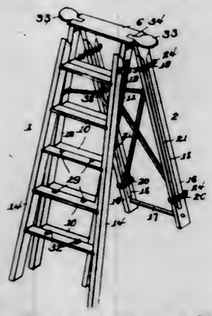
4. In a shoe having a slitted upper, a series of tubular peripherally-slotted links disposed along the edges of the upper, each link having a pronged extension at one end clenched to the shoe-upper, and a lip at the opposite end having a hinged connection with the pronged extension of an adjacent link, substantially as set forth.

5. In a shoe having a series of peripherally-slotted links forming collectively a channel or way along the edges of the upper, an upturned hook on the lower pair of links, a sliding tongue operating in the ways, and coöperating hooks on the under side of the tongue for engaging the hooks of the said lower links, substantially as set forth.

845,433. EXTENSION STEP-LADDER. ARTHUR PELTIER, Detroit, Mich., assignor of seven-sixteenths to Frank R. Wheat, Wheeling, W. Va. Filed Nov. 14, 1906. Serial No. 343,324.

Claim.—1. In an extensible step-ladder, a ladder proper composed of two sections slidable in relation to each other,

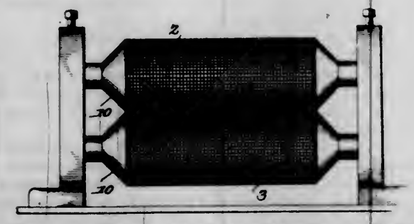
both of said sections provided with steps which are adapted to coincide to form wide steps when adjusted with relation to each other, apertured plates mounted on the steps of the lower of said sections, plates mounted on the lower step of the upper section, hooks carried by the last-mentioned plates for engagement with the apertures in the first-mentioned plates, and a sectional rear supporting-frame having adjustable clamps for holding the sections of said supporting-frame in adjusted position.



2. In an extensible step-ladder, a ladder proper composed of two sections slidable in relation to each other, both of said sections provided with steps which are adapted to coincide to form wide steps when adjusted with relation to each other, apertured plates mounted on the steps of the lower of said sections, plates mounted on the lower step of the upper section, hooks carried by the last-mentioned plates for engagement with the apertures in the plates carried by the step which coincides with said lower step, a pivoted hook carried by the upper of said sections, an arm carried by the lower of said sections, said pivoted hook and arm being adapted for interlocking engagement, and an extensible rear supporting-frame.

3. In a step-ladder, a platform, brackets attached to the under side of said platform, a ladder proper comprising two sections 8 and 9, the section 8 being rigidly secured to said brackets and having longitudinal grooves in its side rails, and the section 9 being slidable upon said section 8, metal straps having hook-like ends in engagement with said grooves, means whereby said sections may be interlocked, a rear supporting-frame comprising two sections 3 and 15, the former pivoted at its upper end in said brackets and the latter slidable on the section 3, the side rails of the section 15 being longitudinally slotted and holding the side rails of the section 3 in the slots, and clamps for holding the sections 3 and 15 in adjusted position.

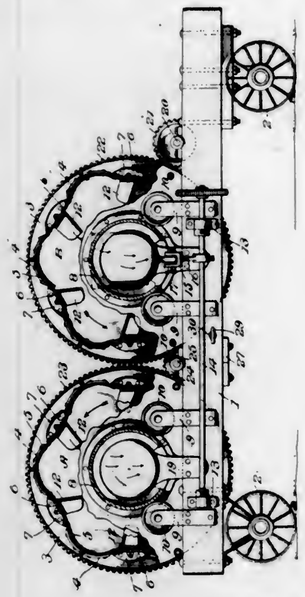
845,434. METHOD OF MAKING MOTTLED ROLLS. AMBROSE RIDD, Newport, Ky. Filed Sept. 21, 1905. Serial No. 279,535.



Claim.—1. The process of manufacturing mottled rolls, said process consisting in first forming grooves in the rolls, and then turning said rolls in contact and under pressure to smooth out the sharp edges of the groove.

2. The process of manufacturing mottled rolls, said process consisting in first providing said rolls with grooves running in different directions, heating the same, and then turning said rolls in contact under pressure, the rolls being operated at different speeds, respectively.

845,435. MIXING-MACHINE. LEONARD C. ROBERTS, Nunda, N. Y., assignor of one-third to Samuel G. McTarnaghan and one-third to William H. Jeffs, Fillmore, N. Y. Filed May 15, 1906. Serial No. 317,035.



Claim.—1. A mixing-machine, comprising a revoluble drum consisting of two heads one of which is provided with a discharge-opening, curved plates extending transversely from one head to the other and secured thereto, intermediate plates also secured to said heads and alternating with the curved plates, and a plurality of inclined blades secured to said intermediate plates and extending in transverse series thereon, and means for rotating said drum.

2. A mixing-machine, comprising a revoluble drum consisting of two heads, one of which is provided with a discharge-opening, curved plates extending transversely from one head to the other and secured thereon, intermediate plates also extending transversely with the curved plates, a plurality of inclined blades secured to said intermediate plates and extending thereon in transverse series from one end toward the discharge-opening, but terminating short of said opening, and a circular series of buckets, each of which is secured to one of said intermediate plates in line with the inclined blades and at the said discharge-opening, and means for rotating said drum.

3. A mixing-machine, comprising a revoluble drum having a part of its periphery forming a series of cups, a series of inclined blades extending transversely within the drum and alternating with the cups, and a circular series of buckets, each of which is in line with one of the series of blades, the drum being provided with a discharge-opening, and the buckets being located adjacent said opening.

4. A mixing-machine comprising a revoluble drum having a part of its periphery forming a series of cups, a series of inclined blades intermediate of said cups and extending from one side of the drum toward the other side thereof, and buckets at the last-named end of the series of blades, and means for rotating said drum.

5. A mixing-machine comprising a revoluble drum having a part of its periphery forming a series of cups, a transversely-extending series of inclined blades between every two adjacent cups, and a circular series of buckets each of which is located at one end of a series of inclined blades, the drum being provided with a discharge-opening adjacent said series of buckets and means for rotating said drum.

6. A mixing-machine comprising a revoluble drum consisting of two heads provided on their inner faces with flanges, curved plates extending transversely from one head to the other and secured to said flanges, and plates secured to and between said heads and extending transversely intermediate of the ends of said curved plates, there being provided a feed-opening and a discharge-opening in said heads respectively, and a series of mixing-blades secured to said intermediate plates.

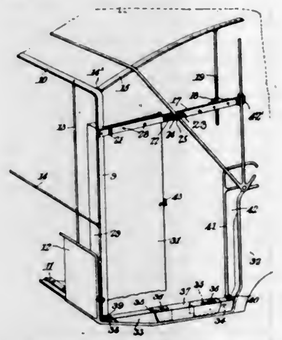
7. A mixing-machine comprising a supporting-frame-work, a plurality of mixers mounted on said framework and each provided with a discharge-opening, means for actuating said mixers, a discharge-spout mounted on said framework, and means mounted on said framework for moving said spout from one discharge-opening to another.

8. A mixing-machine comprising a supporting-frame-work, mixers mounted on said framework and means for actuating the same, the mixers being provided with discharge-openings, and a discharge-spout carried by the framework said spout being mounted to move in one direction from one discharge-opening to the other and also mounted to move in a right-angular direction toward and from the said discharge-openings.

9. A mixing-machine comprising a supporting-frame-work a plurality of mixers mounted thereon, means for actuating said mixers, the mixers being each provided with a discharge-opening, a rod secured to said frame-work, a spout-support mounted to slide on said rod from one discharge-opening to the other and also mounted to turn axially on said rod, and a discharge-spout carried by said spout-support.

10. A mixing-machine comprising a supporting-frame-work, a plurality of mixers mounted thereon and each provided with a discharge-opening, means for actuating said mixers, a rod secured to said framework, a link mounted to turn and slide on said rod, a yoke pivotally connected to said link, and a discharge-spout connected to said yoke.

845,436. STORM-SHIELD FOR VEHICLES. JOHN J. RUSSELL, Jr., Deepwater, Mo. Filed July 13, 1906. Serial No. 326,151.



Claim.—1. A storm-shield for vehicle-tops comprising a frame, a hood carried by the frame and adapted to engage the top of the vehicle, and a sectional foot-rail associated with the frame.

2. A storm-shield for vehicle-tops comprising a frame, an adjustable hood pivotally mounted on the frame and adapted to engage the top of the vehicle, means for locking the hood in adjusted position, and telescopic members associated with the frame and forming an adjustable foot-rail.

3. A storm-shield for vehicle-tops comprising a frame provided with a laterally-extending hood, side bars pivoted to the frame and forming a portion of the hood, a sectional foot-rail associated with the frame, and a curtain adapted to close the opening between the side bars and foot-rails.

4. A storm-shield for vehicle-tops comprising a frame, arms pivoted to the frame, side rails carried by the frame and spaced from said arms to form an opening, a covering engaging the arms and side rails and forming a hood adapted to engage the top of the vehicle, means carried by the side rails for adjusting the hood in a plane perpendicular to the vehicle, means for locking the hood in adjusted position, a sectional foot-rail extending laterally from the frame, and a curtain carried by the frame and forming a closure for the opening between said rails.

5. A storm-shield for vehicle-tops comprising a frame, a hood secured to the frame and adapted to engage the top of the vehicle, a sectional foot-rail associated with the frame and adapted to engage the bed of the vehicle, and a curtain carried by the frame and movable to operative position between the hood and foot-rail.

6. A storm-shield for vehicle-tops comprising a frame, a hood carried by the frame, a foot-rail associated with the frame and formed of a plurality of telescoping sections adapted to engage the bed of the vehicle, means for locking the sections in adjusted position, and a curtain carried by the frame and movable to operative position between the hood and foot-rail.

7. A storm-shield for vehicle-tops comprising a frame, a hood carried by the frame and adapted to engage the top of the vehicle, an upright spaced from the frame, a sectional foot-rail connecting the frame and upright and engaging the bed of the vehicle, and a curtain carried by the frame and movable to operative position between the hood and foot-rail.

8. A storm-shield for vehicle-tops comprising a frame, a hood carried by the frame, an upright spaced from the frame, a closure secured to the upright, an adjustable foot-rail extending between the upright and frame and engaging the bed of the vehicle, a curtain carried by the frame and movable to operative position between the hood and the foot-rail, and a fastening device carried by the curtain and adapted to engage the upright for locking the curtain in closed position.

9. A storm-shield for vehicle-tops comprising a frame, laterally-extending arms pivoted to the frame, side rails pivoted to said frame and spaced from the arms, a covering for the side rails and arms, respectively, and forming a hood adapted to engage the top of the vehicle, housings carried by the side rails, a threaded rod passing through the housings and engaging the lateral arms for adjusting said arms vertically, a nut for locking the rod in adjusted position, a curtain carried by the frame and movable to operative position in engagement with the side rails, and telescopic members extending laterally from the frame beneath the side rails and forming an adjustable foot-rail.

10. A storm-shield for vehicle-tops comprising a frame, laterally-extending arms pivoted to the frame, side rails spaced from the arms, a covering engaging the arms and side rails and forming a hood adapted to engage the top of the vehicle, clips carried by the side rails and adapted to engage the frame of the vehicle-top, means for adjusting the hood vertically with respect to the vehicle, a standard spaced from the frame, a sectional foot-rail connecting the standard and frame, and a curtain carried by the frame and movable to operative position between the side and foot rails.

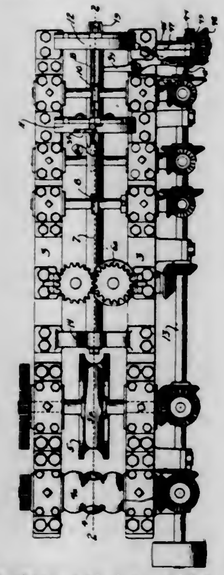
11. A storm-shield for vehicle-tops comprising a frame, laterally-extending arms pivoted to the frame, side rails spaced from the arms and pivotally mounted on the frame, a hood covering the arms and side rails and adapted to engage the top of the vehicle, a bracket secured to the side rails and provided with a socket for the reception of one of the supporting-rods of the vehicle-top frame, a clip pivoted to the bracket and adapted to engage the socket for locking the side rails in position on the vehicle-top, a housing secured to the side rails, a threaded rod passing through the housing and engaging the lateral arm of the hood for adjusting the latter in a plane perpendicular to the vehicle, standards spaced from the frame, a foot-rail connecting the frame and standard and engaging the top of the vehicle, and a curtain carried by the frame and movable to operative position between the side and foot rails.

12. A storm-shield for vehicle-tops comprising a frame, a hood carried by the frame and adapted to engage the top of the vehicle, an upright spaced from the frame, a sectional foot-rail having its end sections provided with terminal eyes for engagement with the frame and standard, respectively, and formed with longitudinal slots, an intermediate section telescoping the end sections and provided with clamping means engaging the slots in the end sections for locking said sections in adjusted position, and a curtain movable to operative position between the side and foot rails.

13. The combination with a vehicle having a top, of a storm-shield adapted to engage the top, a hook carried by the shield for engaging with the props of said top, and means for adjusting the shield vertically and simultaneously forcing the hook downwardly in contact with the props.

14. The combination with a vehicle having a top, of a storm-shield adapted to engage the top and comprising a frame provided with laterally-extending side bars, hooks carried by the side bars for engagement with the props of the vehicle-top, and a rod associated with the side bars for adjusting the shield vertically in contact with the top and simultaneously forcing the hooks downwardly in engagement with the props.

845,437. CONDUCTOR-PIPE MACHINE. SAMUEL M. SCHMELTZER, Milwaukee, Wis. Filed Jan. 18, 1906. Serial No. 296,619.



Claim.—1. A sheet-metal-pipe machine comprising initial, intermediate and final dies with a mandrel between the final dies; the initial dies being shaped to concave the lateral parts and convex the median part of the sheet, the intermediate dies being shaped to concave said median part of the sheet, and the final dies being shaped to form the pipe around the mandrel and bring the flanged edges of the sheet in relation for grooving.

2. A sheet-metal-pipe machine comprising initial, intermediate and final rolls with a mandrel between the final rolls; the initial rolls being shaped to concave the lateral parts and convex the median part of the sheet, the intermedite rolls being shaped to concave said median part of the sheet, and the final rolls being shaped to form the pipe around the mandrel and bring the flanged edges of the sheet in relation for grooving.

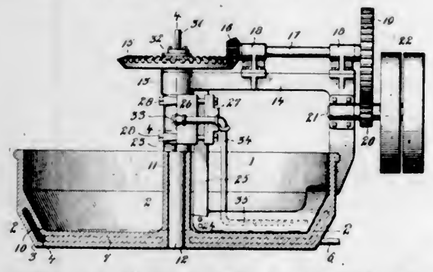
3. In a sheet-metal-pipe machine a mandrel having longitudinal grooves therein, a head around the mandrel having radial slides therein with dies on their inner ends, a rotatable ring in the head having inclined slots therein, and pins in the slides entered in the slots whereby the dies can be radially adjusted in unison by the rotation of the ring.

4. In a sheet-metal-pipe machine a mandrel having longitudinal grooves therein, a head around the mandrel having radial slides therein with rolls on their inner ends, a rotatable ring in the head having inclined slots therein, and pins in the slides entered in the slots whereby the rolls can be radially adjusted in unison by the rotation of the ring.

5. In a conductor-pipe machine a mandrel having a tapered end, a head around the tapered end having radially-adjustable dies therein, and mechanism tripped by the forward end of the pipe whereby the dies are moved inward when the end of the pipe is at the small end of the mandrel and then outward as the pipe advances.

6. In a conductor-pipe machine a mandrel having a tapered end, a head around the tapered end having radially-adjustable rolls therein, and mechanism tripped by the forward end of the pipe whereby the rolls are moved inward when the end of the pipe is at the small end of the mandrel and then outward as the pipe advances.

845,438. MIXING-MACHINE. JOSEPH H. SHEPHERD, Dover, N. J., assignor to The Morris County Machine & Iron Company, Dover, N. J., a Corporation of New Jersey. Filed Nov. 16, 1906. Serial No. 343,750.



Claim.—1. In a mixing-machine, a pan provided with a horizontally-disposed space entirely beneath its bottom, and a diametrically-disposed partition traversing said space to form a plurality of chambers and having an opening therein to effect communication between said chambers.

2. In a mixing-machine, a pan provided with a horizontally-disposed space entirely beneath its bottom, a diametrically-disposed partition traversing said space to form a plurality of chambers and having an opening therein to effect communication between said chambers, an inlet connection for the first of said chambers, and an outlet connection for the last of said chambers disposed on the same side of the machine as the inlet connection.

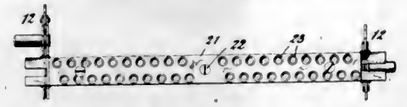
3. In a mixing-machine, a pan provided with a space within the bottom thereof, a diametrically-disposed partition extending for a portion of the width of the pan to form a plurality of chambers and having an opening at one end to effect communication between said chambers, an inlet connection communicating with the first of said chambers, an outlet connection communicating with the last of said chambers, a centrally-disposed post, a driving-shaft mounted therein, and a stirrer-blade carried by said shaft to traverse the bottom of the pan above said space.

4. In a mixing-machine, a pan provided with a space extending entirely beneath the bottom thereof, a partition transversely disposed within said space and having an opening at one end to control the circulation therethrough, and inlet and outlet connections at the same side of the pan communicating with the space at opposite sides of the partition.

5. In a mixing-machine, a pan provided with a space between the sides and bottom thereof, a partition extending transversely from the top of the side space at one side of the pan to the bottom of the side space at the opposite side of the pan and provided with an opening to form communicating chambers, an inlet connection communicating with the first of said chambers, and an outlet connection communicating with the last of said chambers.

6. In a mixing-machine, a pan, a driving-shaft mounted therein, a scraper-blade disposed within the pan and provided with a securing-arm, a recessed clamping-block secured to the shaft to embrace one face of said arm, and a recessed plate to embrace the opposite face of the arm and secured to said block.

845,439. SPLINT-CARRIER. HERBERT W. SPELLMAN, Newark, N. J., assignor to American Match Manufacturing Company, New York, N. Y., a Corporation of New Jersey. Filed May 26, 1906. Serial No. 318,867.



Claim.—1. In a splint-carrier the combination with two supporting-plates spaced apart and having a plurality of corresponding splint-receiving orifices, of a plurality of individual splint-grippers, comprising tubes fitted to said orifices and rigidly supported by the walls thereof in both said plates, said tubes having each a finger resilient at points only beyond said plates.

2. In a splint-carrier the combination with two supporting-plates spaced apart and having a plurality of corresponding splint-receiving orifices, of a plurality of individual splint-grippers, comprising tubes fitted to said orifices and rigidly supported by the walls thereof in both said plates, each said tube formed of two members, the one semicylindrical and rigid throughout its entire length, and the other semicylindrical throughout a part of its length, and having a relatively narrow tongue portion comprising a spring-finger, at a point beyond the said plates.

3. In a splint-carrier the combination with a suitable support, of a plurality of individual splint-grippers comprising independent tubes rigid throughout the major portion of their lengths, and provided each with a spring-finger at the lower end thereof.

4. In a splint-carrier the combination with a suitable support, of a plurality of individual splint-grippers comprising tubes rigid throughout the major portion of their lengths, the lower end of each tube comprising a part forming a spring-finger inclined toward the opposite wall and terminating in an abrupt shoulder.

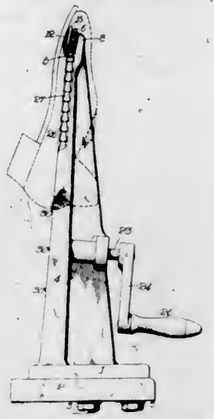
5. In a splint-carrier the combination with a suitable support, of a plurality of individual splint-grippers comprising tubes rigid throughout the major portion of their lengths, the lower end of each tube comprising a part forming a spring-finger substantially flat in cross-section, and having a portion inclined toward the opposite wall, and terminating in an abrupt shoulder.

6. In a splint-carrier the combination with a suitable support, of a plurality of individual splint-grippers comprising tubes longitudinally split into two members, one said member substantially rigid throughout its length, the other rigid throughout a part of its length and terminating in a resilient finger whose end inclines toward the other said member.

7. In a splint-carrier the combination with a suitable support, of a plurality of individual splint-grippers comprising tubes longitudinally split into two members, one said member substantially rigid throughout its length, the other member rigid throughout a part of its length and having throughout the remaining part a resilient portion of reduced width inclined toward the first said member, the end of which is adapted to be received within the conical walls of the first said member.

8. In a splint-carrier, the combination with a suitable support, of a plurality of individual splint-grippers each comprising a tube composed of two members, one said member semicylindrical and rigid throughout its length, the other member semicylindrical and rigid throughout a portion of its length, the remaining portion being narrowed, substantially flat, and inclined toward the first said member, substantially as specified.

845,440. MACHINE FOR FORMING CONCAVITIES IN THE TOP SURFACE OF THE SOLE OF A MADE-UP SHOE OR THE LIKE. JOHN STROOTMAN, Buffalo, N. Y. Filed Jan. 12, 1906. Serial No. 295,715.



Claim.—1. In a machine for concaving the top surface of the sole of a shoe or the like, a frame including an upright member reduced sufficiently at its upper extremity to extend within a shoe or the like, a concaving-tool carried by said member and having a curved surface adapted to operate against the top surface of the sole of the shoe; said concaving-tool having a peripheral guard element to limit the depth of the concavity, and means for rotating said concaving-tool, substantially as set forth.

2. In a hand-machine for concaving the top surface of the sole of a shoe or the like, a frame including a rigid upright member reduced sufficiently at its upper extremity to extend within a shoe or the like, and upon which a shoe is adapted to be held by one hand of an operator, a rotatable concaving-tool carried by said member and having its working face at one side of said member; said concaving-tool being adapted to operate against the top surface of the sole of the shoe and means adapted to be operated by the other hand of the operator for rotating said tool, substantially as set forth.

3. In a machine for concaving the top surface of the sole of a shoe or the like, the combination with a supporting member for a shoe or the like, of a concaving-tool having a curved surface constructed to form a concavity in the sole of a shoe and a peripheral guard adapted to limit the depth of the concavity, substantially as set forth.

4. In a machine of the class described, a shoe-supporting member, and a rotary concaving-tool having its axis approximately transverse to the general direction of said member and provided with a convexed working face approximately parallel with the general direction of said member.

5. In a machine of the class described, a shoe-supporting member, and a rotary concaving-tool mounted at the end of said member having its axis approximately transverse to the general direction of said member and provided with a convexed working face approximately parallel with the general direction of said member.

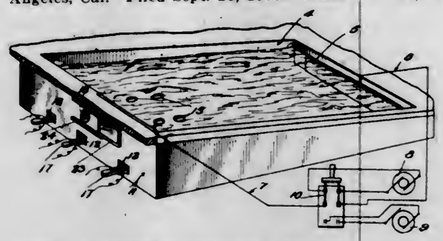
6. In a machine of the class described, a shoe-supporting member, and a rotary concaving-tool having its axis approximately transverse to the general direction of said member and provided with a convexed working face approximately parallel with the general direction of said member and means for limiting the depth of the concavity.

7. In a machine of the class described, a shoe-supporting member, and a rotary concaving-tool having its axis

approximately transverse to the general direction of said member and provided with a working face approximately parallel with the general direction of said member, and a guard element adapted to limit the entrance of the concaving-tool in the surface of the sole.

8. In a machine for concaving the top surface of the sole of a shoe or the like, the combination with a supporting member for a shoe or the like, of a concaving-tool having a curved surface constructed to form a concavity in the sole of a shoe and comprising an abrasive disk and a metal backing-disk provided with a flange constructed to form a peripheral guard adapted to limit the depth of the concavity, substantially as set forth.

845,441. SWIMMING-TANK. ROBIN W. VAUGHAN, Los Angeles, Cal. Filed Sept. 26, 1905. Serial No. 280,181.



Claim.—1. Means to illuminate a swimming-tank below the water-line, comprising conduits located below the bottom of said tank and connected with the tank by apertures; transparent closures for said apertures; artificial lights in said conduits registering with the apertures in the bottom of said tank; and removable colored transparent slides between said lights and said transparent closures.

2. Means to illuminate a swimming-tank below the water-line, said means comprising conduits located below the bottom of said tank and connected with the tank by apertures; glass windows closing the communication between said tank and conduits; and artificial lights in said conduits registering with the apertures in the bottom of said tank.

3. Means to illuminate a swimming-tank below the water-line, comprising conduits located below the bottom of said tank and connected by apertures therewith; glass windows closing said apertures; electric incandescent lights having reflectors secured to a removable slide in said conduits, said lights registering with the apertures in the conduits.

4. Means to illuminate a swimming-tank comprising apertures in the walls and bottom thereof; transparent closures for said apertures; and artificial lights outside said tank and registering with said apertures; conduits below the bottom of the tank for the reception of the lights at the bottom thereof; and slides in said conduits for said lights.

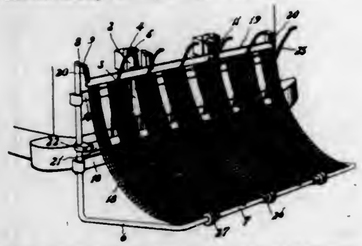
5. Means to illuminate a swimming-tank comprising apertures in the walls and bottom thereof; transparent closures for said apertures; artificial lights outside said tank and registering with said apertures; and removable colored slides intermediate said closures and said lights; conduits below the bottom of the tank for the reception of the lights at the bottom thereof; and slides in said conduits for said lights.

845,442. AUTOMATIC CAR-FENDER. WILLIAM H. WALSH, Montreal, Quebec, Canada. Filed July 26, 1906. Serial No. 327,823.

Claim.—1. A device of the class described comprising a yieldable frame, means for vertically adjusting said frame, and a plurality of gravity-actuated gripping-arms adapted to retain an object upon said frame.

2. In a device of the class described, a yieldable frame, means for vertically adjusting said frame, and gravity-actuated means for retaining an object upon said frame.

3. In a device of the class described, an L-shaped frame, means for yieldably supporting said frame, means for vertically adjusting said frame, and gravity-actuated means for retaining an object upon said frame.



4. In a device of the class described, a spring-mounted L-shaped frame, a wire mesh covering said frame, and a plurality of gravity-actuated arms adapted to retain an object falling upon said mesh.

5. In a device of the class described, a spring-mounted L-shaped frame, means for adjusting said frame, a spring-mounted netting covering said frame, and gravity-actuated means for retaining an object falling upon said netting.

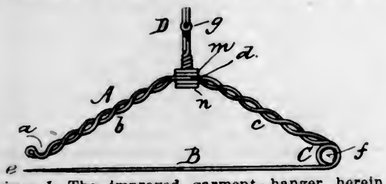
6. In a device of the class described, an adjustable spring-mounted frame, a wire mesh covering said frame, a plurality of retaining-arms, means for holding said arms in elevated position, and weight-actuated means for lowering said retaining-arms.

7. In a device of the class described, a spring-mounted frame, means for adjusting said frame, a spring-mounted netting covering said frame, a plurality of retaining-arms, means for holding said arms in elevated position, and means for automatically lowering said retaining-arms.

8. In a device of the class described, an adjustable frame, a spring-mounted wire mesh covering said frame, a plurality of retaining-arms, means for holding said arms in an elevated position, and means actuated by a body falling upon said mesh for lowering said retaining-arms.

9. In a device of the class described, an L-shaped frame, a spring-mounted mesh covering said frame, a transverse shaft, a plurality of retaining-arms mounted on said shaft, means for holding said arms in an elevated position, and a plurality of members coöperating with said shaft to lower said retaining-arms.

845,443. GARMENT-HANGER. JESSIE D. ALLARDICE, Providence, R. I. Filed July 22, 1905. Serial No. 270,836.

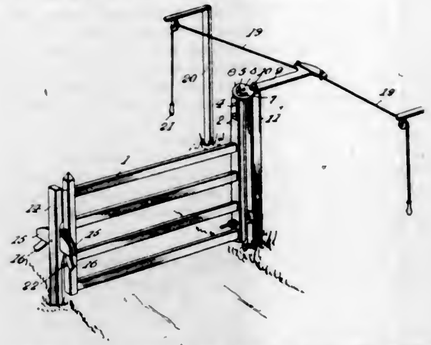


Claim.—1. The improved garment-hanger herein described, consisting of the combination of a single piece of wire formed in strands twisted together to constitute a rigid bow with an intermediate ring, a pin-catch, a pin-tongue, and a spring adapted to engage the end of the pin-tongue with the pin-catch, said pin-catch, pin-tongue and spring being integral with said bow, and a hook having a shank mounted in said ring and provided with means adapted to prevent the longitudinal displacement of said shank from said ring but allowing said shank to rotate in said ring.

2. The improved garment-hanger herein described, consisting of the combination of a single piece of wire formed in strands twisted to constitute a rigid bow with an intermediate ring, a pin-catch, a pin-tongue, and a spring adapted to engage the end of the pin-tongue with the pin-catch, said pin-catch, pin-tongue and spring being integral with said bow, and a hook having a shank mounted in said ring and provided with coils which are adapted to be in contact with the upper and lower surfaces of said ring respectively.

3. The improved garment-hanger herein described, consisting of the combination of a bow of twisted wire with a central ring or aperture, a pin-catch at one end of the bow, a coil-spring at the opposite end of the bow and a pin-tongue extending from said coil-spring and engageable with said catch, all said parts being constructed of a single piece of wire, a hook having a shank which passes loosely through said ring or aperture of the bow and provided with a U-shaped end and also with two parallel coils, said hook, shank, bent end and coils being made of a single piece of wire, and said coils being loosely in contact with the bow on the outer and inuer sides thereof, respectively.

845,444. GATE. DANIEL B. ALLSUP, Livingston, Mont. Filed July 25, 1906. Serial No. 325,029.



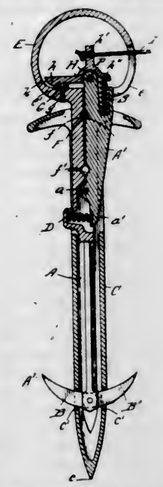
Claim.—1. In combination, a gate, a gate-post, a latch-post, latch mechanism on the latch-post and embodying suitable catches, a catch member on the gate for coöperation with the catches, means for swinging the gate open, means for simultaneously tilting the free or swinging end of the gate as it opens to disengage the catch-member thereof from the catches, and a stop applied to the swinging end of the gate for coöperation with the latch-post and to limit the upward tilting movement of the gate and effect engagement of the catch member thereof with the catches.

2. In combination, a gate, a gate-post, a latch-post, latch mechanism on the latch-post and embodying suitable catches, a catch member on the gate for coöperation with the catches, means for swinging the gate open, means for simultaneously tilting the free or swinging end of the gate as it opens to disengage the catch member thereof from the catches, the latch-post being provided with a clearance portion transversely thereof and below the catches aforesaid, and a stop applied to the free or swinging end of the gate and projecting therefrom to enter the clearance portion of the latch-post and effect engagement of the catch member on the gate with the catches.

845,445. HAY-FORK. ELISHA H. ALVORD, Seattle, Wash. Filed Aug. 3, 1905. Renewed July 19, 1906. Serial No. 326,877.

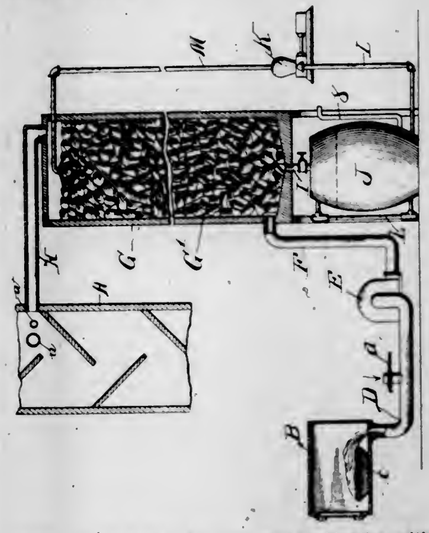
Claim.—1. In combination with a sheath having a bolt, a bar carrying prongs and an openable part formed with notches therein, a loop on the bar, an element on said part projecting above said bar, a bell-crank having a hooked arm, a central arm and a lug, said part having a vertical aperture therein underlying said lug, a spring vertically disposed in said aperture and engaging said lug, a block received in a countersunk portion provided therefor in the upper face of the bottom portion of said loop, and means for fastening said block.

2. In combination with a sheath having a bolt, a bar having prongs, an openable part carried by said bar, a loop carried by the bar, said loop having a countersunk portion on the upper face of the bottom portion thereof, a block seated in said countersunk portion, fastening means countersunk at one end in the upper face of said block and on the opposite end engaging the under face of said bottom portion of the loop said openable part having an upwardly-projecting element extending above said block and



a vertical aperture adjacent thereto, a bell-crank pivotally connected to said element and comprising a hooked arm to engage said block, a lug, and a central arm, and a vertically-disposed coil-spring within said aperture to bear against said lug.

845,446. GRAIN-BLEACHER. HARRY J. CALDWELL and JAMES R. BARR, Earl Park, Ind. Filed July 11, 1904. Serial No. 216,088.



Claim.—1. In a grain-bleacher, the combination with a treating-compartment, of means for generating treating-fumes, a casing containing a mass of loose material, means for conducting said fumes into said casing, means for projecting free moisture into the upper part of said casing, and means for conducting the fumes from said casing to the grain-treating compartment.

2. In a grain-bleacher, the combination of a treating-

compartment, a mixing-compartment having its upper portion in communication with the treating-compartment, said mixing-compartment containing a mass of broken material, a fumes-furnace in communication with the lower portion of the mixing-compartment, means adapted to maintain a flow of water through the mass of broken material, and suitable means adapted to conduct water from the lower part of the mixing-compartment to the treating-compartment.

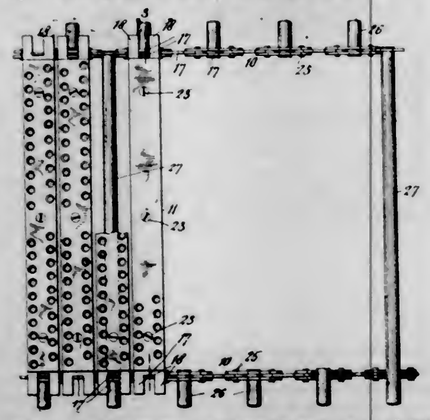
3. In a grain-bleacher, the combination of a fumes-generator, a casing containing a mass of loose material, the lower portion of the casing being in communication with the fumes-generator so that fumes may rise through the mass of material in the casing, means for supplying water to the upper part of the casing so that the same may flow downwardly through the mass of material, a pipe leading from the lower part of the casing, and means adapted to maintain a flow therethrough whereby water from the casing may be projected against grain to be treated.

4. In a grain-bleacher, the combination with a treating-stack, of a casing containing a mass of irregular material, the upper part of the casing being in communication with the stack, a source of treating-fumes in communication with the lower part of the stack, conducting means in communication with the casing above and below the mass of material, means for circulating water through said conducting means and the mass of material, and means whereby a portion of the water may be withdrawn and projected into the stack.

5. In a grain-bleacher, the combination of a treating-stack, a casing containing a mass of broken material, a fumes-furnace adapted to supply treating-fumes to the casing, means for conducting fumes from said furnace to said stack, a reservoir in communication with the lower part of the casing, a pipe leading from the reservoir and opening into the upper part of the casing, a body of water adapted to circulate through the casing, the reservoir and pipe, and a pump adapted to maintain the circulation of the water.

6. The combination with a vertical stack arranged to receive a continuously-flowing body of grain, of a sulfur-furnace, a casing containing a mass of loose material such as coke, means for conducting the fumes from said furnace into said casing, means for projecting free moisture into the upper part of said casing, and means for conducting the fumes from said casing to said vertical stack.

845,447. SPLINT-CARRIER. ALMON B. CALKINS, Belleville, N. J., assignor to American Match Manufacturing Company, New York, N. Y., a Corporation of New Jersey. Filed May 26, 1906. Serial No. 318,866.



Claim.—1. A carrier-chain comprising upper and lower splint-gripper-supporting transverse plates having bifurcated ends, and links having upper and lower projections fitted to said bifurcated ends, substantially as specified.

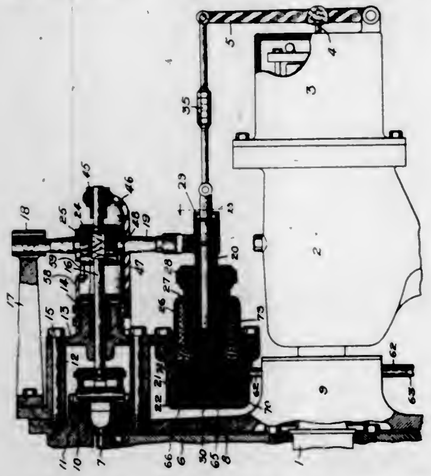
2. A carrier-chain comprising upper and lower splint-gripper-supporting transverse plates having bifurcated ends, links having upper and lower projections arranged between said plates, with the projections fitted to and projecting through said bifurcated ends, the projecting end portions of said plates bent over to prevent spread of said links, substantially as specified.

3. A carrier-chain comprising upper and lower splint-gripper-supporting transverse plates having bifurcated ends, links disposed between the said plates, having upper and lower projections received within the bifurcated ends thereof, and trunnions supported and carried by said links.

4. A carrier-chain comprising upper and lower splint-gripper-supporting transverse plates having bifurcated ends, links disposed between the said plates, having upper and lower projections received within the bifurcated ends thereof, trunnions supported and carried by said links, and spacing-bars 27 between the links at opposite ends of said plates.

5. A carrier-chain comprising upper and lower plates 11 and 12 having bifurcated ends 18, links 10 at the opposite ends of said plates spacing them apart, and having projections 17 received within the bifurcated ends 18, rivets 19 securing the plates together, trunnions 26 supported by the links, and pinties 25 pivoting the links together.

845,448. ELASTIC-FLUID TURBINE. JOHN G. CALLAN, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Filed Sept. 15, 1904. Serial No. 224,532.



Claim.—1. The combination of a prime mover, a regulating-valve, a motor comprising a piston and a cylinder for operating the valve, and a valve controlling the motor which permits fluid to flow continuously through the motor.

2. The combination of a prime mover with a regulating-valve, a motor comprising a piston and cylinder for operating it, a valve controlling the motor, and ports in the motor controlled by the valve through which fluid flows continuously.

3. The combination of a prime mover with a regulating-valve, a motor comprising relatively movable elements for moving the valve, a controlling-valve carried by one of said elements for regulating the flow of liquid through the other element, and inlet and discharge ports formed in the said element which are controlled by the valve.

4. The combination of a prime mover with a regulating-valve, a fluid-pressure motor for moving the valve comprising a piston and cylinder, the former normally occupying an intermediate position in the latter, conduits for

continuously delivering and receiving fluid from the cylinder, a passage which normally conveys fluid around the piston, and a valve which interrupts the continuity of this passage when it is desired to impart relative movements to the piston and cylinder.

5. In combination a prime mover, a number of separately-actuated governing devices, a motor for actuating them comprising a piston and cylinder through which fluid flows continuously, and a pilot-valve for modifying the passage of fluid when it is desired to move the governing devices.

6. In combination a prime mover, a number of separately-actuated regulating devices for controlling the prime mover, an actuator for the devices which may move them otherwise than in a predetermined order, and a connection between the motor and the regulating devices which includes a means that establishes a preference as to the order of operation of said devices.

7. In combination a prime mover, a number of separately-actuated regulating devices for controlling the prime mover, an actuator for the devices which may move them otherwise than in a predetermined order, a connection between the actuator and the devices which includes a means that establishes a preference as to the order of operation of said devices, and device responsive to load changes on the prime mover for controlling the actuator.

8. In combination a prime mover, a number of regulating-valves therefor, an actuator for the valves which may move them otherwise than in a predetermined order, and a means intermediate the valves and actuator for insuring the opening of the valves in the proper sequence.

9. The combination of a prime mover with a governing mechanism comprising a plurality of separately-actuated valves, a motor for operating the valves which may move them otherwise than in a predetermined sequence, and a selective device which definitely determines the order in which the valves will operate.

10. The combination of a prime mover with a governing mechanism comprising a number of valves arranged in groups, a selective device which determines the order in which the valves shall operate, a source of motive power for actuating the valves, and a selective device which determines the order of operation of the different groups.

11. The combination of a prime mover with a governing mechanism comprising valves arranged in groups, an actuator common to the groups, and a selective device which determines the order of operation of the different groups.

12. The combination of a prime mover with a governing mechanism comprising valves, a support that is bodily movable to which the valves are attached, and a selective device which determines the movement of said support and consequently which valve is to be operated.

13. The combination of a prime mover with a governing mechanism comprising separate valves, a lever to which the valves are connected, a power-actuated device for moving the lever, and a means which determines the order of operation of the valves.

14. In a governor, the combination of a number of separately-actuated valves, a lever connecting the valves, and an actuator or motor for moving the lever, the lever and valves being so related that the actuator or motor operates them successively.

15. In a governor, the combination of a number of separately-actuated valves, a single motor which operates them, and an unbalanced connection between the motor and the valves for making the operation successive.

16. In a governor, the combination of a number of separately-actuated valves, a single motor which operates them, an unbalanced connection between the motor and the valves for making the opening successive, and a selective device for insuring the closing of the valves in the reverse order of their opening.

17. In a governor, the combination of groups of valves, a single motor for operating the valves of the groups, a device for determining the order in which the groups shall operate, and a device for determining the order in which the valves in the groups shall operate.

18. In a governor mechanism, the combination of a number of mechanically-operated regulating-valves, a single motor for opening and closing the valves which may move them otherwise than in a predetermined order, and a selective means for insuring the opening and closing of the valves one after the other in a predetermined sequence.

19. In a governor mechanism, the combination of a plurality of valves arranged in pairs, a single motor for actuating all of the valves, and selective means for determining which pair of valves is to be operated to meet a certain condition and also which valve of the pair.

20. In a governing mechanism, the combination of a number of valves, a lever, a motor connected thereto, and a yoke receiving movement from the lever and imparting it to the valves.

21. In a governing mechanism, the combination of a number of valves, a lever, a motor connected thereto, a yoke pivotally supported by the lever, and connections between the yoke and the valve.

22. In a governor mechanism, the combination of a number of nozzle-passages, a number of individual valves for controlling the passages, which is less than the number of said passages, one of said valves controlling a greater number of passages than the others, and a motor for operating the valves in a predetermined sequence.

23. In a governor mechanism, the combination of a plurality of nozzle-passages divided into groups of unequal numbers, individual valves controlling the passage of fluid to said groups, and a motor for operating more than a single valve.

24. In a governor mechanism, the combination of a plurality of nozzle-passages divided into groups, one of said groups containing more passages than another and arranged to come in service under heavy-load conditions, a valve for each group, and a motor common to the valves for actuating them one after the other.

25. In a governor mechanism, the combination of a plurality of nozzle-passages arranged in groups, a plate located adjacent to the bowls of said passages and provided with valve-seats and orifices, a valve-chest, and valves in the chest arranged to engage the seats on the plate.

26. In a governor mechanism, the combination of a plurality of discharge-passages, individual valves controlling the passages, a chest containing the valves, and selective devices located within the chest for determining the order in which the valves operate.

27. In a governor mechanism, the combination of a plurality of controlling-valves arranged in groups, a chest containing the valves, a means located outside of the chest for actuating the valves, a selective device located within the chest for determining the order of operation of the valves in a group, and a selective device located outside of the chest for determining the order of operation of the groups.

28. In a governor mechanism, the combination of a plurality of valves, rods for actuating the valves arranged in parallel relation, a yoke for moving first one rod and then the other, and a motor for moving the yoke.

29. In a governor mechanism, the combination of a valve, a motor for actuating the valve through which fluid flows continuously, and a speed-responsive means that controls the movement of the motor.

30. In a governor mechanism, the combination of a valve, a motor for actuating the valve, through which fluid separate from that controlled by the valve is flowing continuously, a valve for regulating the action of the motor, and a speed-responsive device that moves the motor-regulating valve in response to speed changes.

31. In a governor mechanism, the combination of a number of regulating-valves, a motor for actuating the valves in a predetermined order, through which fluid is continuously flowing, a valve for modifying the passage of fluid through the motor so as to cause relative movements of the motor elements, a speed-responsive device, and a connection for imparting motion from the device to the motor-controlling valve.

32. In a governor mechanism, the combination of a number of regulating-valves, a motor for actuating them comprising a hollow piston and cylinder through which fluid under pressure flows continuously, a valve located in the movable part of the motor which modifies the path of the fluid, the said valve occupying a central position when the piston and cylinder are stationary with respect to each other and a position at one side of said central position when the piston and cylinder are moving with respect to each other, and a speed-responsive device for moving the valve.

33. In a governor mechanism, the combination of a number of admission-valves, a lever for operating them which has a single plane of movement, a reciprocating motor for moving the lever, and a yoke for operating the valves which has a movement in a plane at right angles to that of the lever.

34. In a governor mechanism, the combination of a number of admission-valves, a lever, a reciprocating motor for moving the lever, a yoke pivotally mounted on the lever, pivots for the yoke disposed on opposite sides of its axis, and rods carrying the pivots for the yoke which are connected to the valves.

35. In a governor mechanism, the combination of a number of admission-valves, a lever, a motor for moving the lever, a yoke mounted on the lever, connections between the yoke and the valves, and a controlling device for the motor.

36. In a governor mechanism, the combination of a number of admission-valves, a lever, a motor for moving the lever, a yoke mounted on the lever, connections between the yoke and the valves, and selective devices which determine the order of operation of the valves.

37. In a governing mechanism, the combination of a pair of valves, a lever connecting the valves in [illegible] to exert unequal leverages thereon, and an actuator for moving the lever.

38. In a governing mechanism for a prime mover, the combination of a number of valves, a lever connected to the valves in a manner to exert unequal leverages thereon, and a motor responding to changes in speed of the prime mover.

39. In a governing mechanism, the combination of a number of regulating devices, a lever connected to each of the devices, and means for causing the lever to actuate the said devices one after the other.

40. In a governing mechanism, the combination of valves arranged in pairs, a lever connecting each pair and exerting unequal leverages thereon, a yoke connecting the separate levers and exerting unequal leverages thereon, and a motor for moving the yoke.

41. In a governing mechanism, the combination of valves arranged in pairs, a connection between the valves of each pair, a yoke uniting said connections, a motor for operating the yoke, and a selective device which determines the order of operation of the valves.

42. In a governing mechanism, the combination of valves arranged in pairs, a connection between the valves of each pair, a yoke uniting said connection in a manner to exert unequal leverages thereon, a motor for moving the yoke, and a selective device which insures the opening of the valves in a predetermined sequence and their closing in the reversed order.

43. In a governing mechanism, the combination of a number of valves, a reciprocating motor for operating them, the piston of which is unbalanced as to areas, a valve for modifying the continuous flow of fluid through the motor, and a speed-responsive device that actuates the motor-valve.

44. In a governing mechanism, the combination of a number of valves, a motor for actuating them comprising a fixed and a moving element, a valve for controlling the action of said moving element, the moving element being so arranged that it follows the valve, and a speed-responsive device for moving the valve.

45. In a governing mechanism, the combination of an admission-valve, a motor for actuating it comprising a hollow piston and a cylinder, ports or passages in the piston arranged in multiple, a valve carried by the piston which controls the flow of fluid through said ports, and a device for moving the motor-valve.

46. In combination, a prime mover having a bearing, a valve for controlling the passage of motive fluid through the prime mover, a motor for actuating the valve comprising a piston and cylinder through which fluid flows continuously from a source of supply to the bearing, and a valve for modifying the passage of fluid through the motor to the bearing without interrupting the continuity of its flow.

47. In combination, a prime mover having a bearing, a valve for controlling the passage of motive fluid through the prime mover, a motor for actuating the valve, comprising a piston and cylinder through which fluid flows continuously from a source of supply to the bearing, a valve for modifying the passage of fluid through the motor to the bearing without interrupting the continuity of its flow, and a speed-responsive device that moves the valve in accordance with speed changes.

48. In combination, a prime mover having a bearing, a valve for controlling the passage of motive fluid through the prime mover, a motor for actuating the valve through which lubricant flows continuously to the bearing, a valve which modifies the passage of lubricant through the motor to cause the motion of the motor-piston, a means tending at all times to cause the motor to close the valve regulating the passage of motive fluid to the prime mover, and a speed-responsive device that actuates the motor-controlling valve.

49. In a governing mechanism, the combination of a regulating-valve, a motor for operating it, through which fluid flows continuously, a valve controlling the passage of fluid through the motor which admits the same amount of [illegible] cylinder that is discharged at the [illegible] thereby keeping the flow constant, and a speed-responsive device for actuating the motor-valve.

50. In a governing mechanism, the combination of a plurality of individual valves regulating the passage of motive fluid into the same stage, and a motor for operating the valves in pairs.

51. In a prime mover, the combination of relatively movable elements, a governing mechanism therefor, and a means for nullifying the effects of the friction between parts of the governor mechanism.

52. In a prime mover, the combination of relatively movable elements, a governing mechanism therefor, and a means that comes into service periodically which nullifies the effects of friction between parts of the governor.

53. In a prime mover, the combination of relatively movable elements, a governing mechanism therefor which responds to changes in fluid-pressure, and a means for suddenly and temporarily changing the pressure to nullify the effects of friction between the parts of governing mechanism.

54. The combination of a prime mover with a hydraulic governing mechanism including a plurality of separate and successively-acting valves, and a valve for adjusting the governing mechanism by varying the fluid-pressure therein.

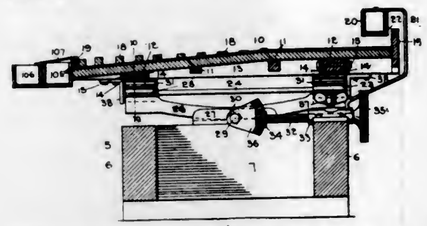
55. A prime mover and a hydraulic mechanism for governing its speed including a plurality of separate and successively-acting valves, in combination with a valve which varies the back pressure of the hydraulic mechanism for synchronizing purposes.

56. The combination of a prime mover, a regulating-valve therefor, an abutment for actuating the valve which is capable of assuming intermediate positions, and a pilot-valve for controlling the movements of the abutment, the said valve being located in the abutment and capable of assuming intermediate positions to control it.

57. The combination of an apparatus to be controlled, with independent regulating devices therefor, an actuator for moving the regulating devices in response to changes in operating conditions, the relation between the regulating devices and actuator being such that the former may operate otherwise than in a given order, and a means that establishes a preference as to the order of operation of said devices.

58. In a governing mechanism, the combination of regulating devices, a lever connecting the devices in a manner to exert unequal leverages thereon, and a means responsive to variations in load for moving the lever.

845,449. ORE-CONCENTRATOR. MICHAEL CHRISTMANN, Leadville, Colo. Filed June 7, 1905. Serial No. 264,154.



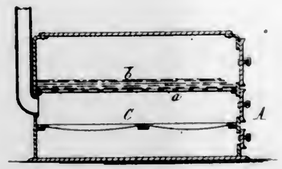
Claim.—1. In combination a stationary frame, a concentration-deck mounted thereon said deck having a level portion extending from end to end thereof and a portion inclining laterally from said level portion, riffles arranged diagonally on said inclined portion, a space being left between the rear ends of the riffles and the end of the deck and means for reciprocating the deck.

2. In combination a stationary frame, a concentrator-deck thereon, said deck having a level portion extending from end to end thereof and a portion inclining laterally from said level portion, riffles diagonally arranged on said inclined portion, a trough located along the side edge of said inclined portion, means for spraying water on the outer edge of the level portion, means for feeding the material at the upper end of said level portion, means for reciprocating said deck and means for inclining said deck transversely.

3. In combination, a stationary frame, a concentrator-deck mounted to have a reciprocating movement thereon, a two-armed lever fulcrumed on said frame, a draw-rod connected at one end to said deck and its other end resiliently connected with the upper end of the lever, said connection consisting of a spring and a nut screwed on the draw-rod, a friction-roller carried by the lower end of said lever, a wiper-wheel revolubly mounted on the frame and arranged to engage the said friction-roller, a spring engaging with the lower end of the lever to hold it in its normal position and means for adjusting the said spring.

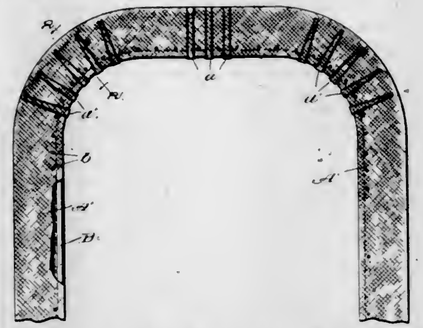
4. In combination, a stationary frame, parallel segmental rocking arms mounted on said frame, a shaft passing through the centers of said rocking arms, means for rocking said shaft, a rocker carried by each end of each rocking arm, a shaft connecting the rockers on each rocking arm together, each rocker having two rounded portions, one engaging with the rocking arm, a deck resting on the other rounded portion of each rocker, and means for reciprocating the deck.

845,450. MANUFACTURE OF PULVERIZED MICA. PHILIPP DOELER, Munich, Germany, assignor to Friedrich Richard Tiller, Hamburg, Germany, and Heinrich Duelfer, Cassel, Germany. Filed Dec. 4, 1905. Serial No. 290,093.



Claim.—The herein-described method of reducing mica to a powder which consists in subjecting mica to a high degree of dry heat, then steaming the mica, and finally pulverizing the same, substantially as set forth.

845,451. CAR-VESTIBULE DIAPHRAGM. JAMES H. DONALDSON, Chicago, Ill. Filed Nov. 7, 1905. Serial No. 286,211.



Claim.—1. In a diaphragm for car-vestibules, a section formed of flexible material having vertical portions at the sides and horizontal portion at the top of the diaphragm, the top and side portions being united by curved corner portions having radial plaits formed therein.

2. In a diaphragm for car-vestibules, a section formed of a continuous integral strip of flexible material and having vertical portions at the sides and horizontal portion at top of the diaphragm, the top and side portions being united by curved corner portions having radial plaits formed therein.

3. A diaphragm for car-vestibules comprising a plurality of sections formed of flexible material each section having vertical portions at the sides and horizontal portion at the top of the diaphragm, the top and side portions of each section being united by curved corner portions having radial plaits formed therein.

4. A diaphragm for car-vestibules comprising a plurality of sections formed of flexible material each section having vertical portions at the sides and horizontal portion having vertical plaits formed therein at the top of the diaphragm, the top and side portions of each section being united by curved corner portions having radial plaits formed therein.

5. A diaphragm for vestibule-cars comprising a plurality of sections formed of flexible material each section having vertical portions at the sides and horizontal portion at the top of the diaphragm, the portions of each section being integral and composed of a continuous strip of material, two or more adjacent sections being formed integrally, the top and side portions of each section being united by curved corner portions having radial plaits formed therein.

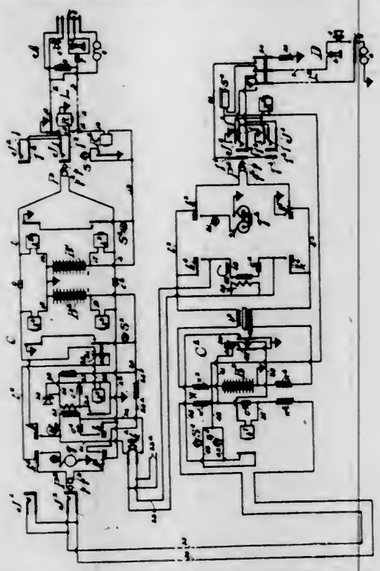
6. A diaphragm for car-vestibules comprising a plurality of sections formed of flexible material each section having vertical portions at the sides and horizontal portion at the top of the diaphragm, two or more adjacent sections being formed integrally, an integral fold extending along the edges of and uniting adjacent sections, a rod located within said fold to retain the side and top portions of the sections distended, and plaits formed in said integral fold and extending at each side thereof radially thereby reinforcing the diaphragm-sections.

7. In a diaphragm for car-vestibules, a section formed of flexible material having vertical portions at the sides and a horizontal portion at the top of the diaphragm, the material of which the section is formed being folded to form reinforcing-plaits.

845,452. TELEPHONE TRUNKING SYSTEM. FRANCIS W. DUNBAR, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Aug. 23, 1902. Serial No. 120,768.

Claim.—1. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end and a called-subscriber's line with which its incoming end is connected, a

disconnect-signal for said incoming end, means operated by current flowing over the called-subscriber's line when connection is made therewith for placing said signal in condition to operate, and further means controlled by the connection of said cord-circuit with the trunk for rendering said signal inoperative, substantially as described.



2. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end and a called-subscriber's line with which its incoming end is connected, a disconnect-signal for said incoming end, means operated by current flowing over a portion of the talking-circuit when connection is made with the called line for placing said signal in condition to operate, and further means controlled by current sent over the trunk-circuit when the cord is connected therewith for preventing the actuation of said signal, whereby said signal can only be operated when the cord-circuit is disconnected from the trunk, substantially as described.

3. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end and a called-subscriber's line with which its incoming end is connected, a disconnect-signal for said incoming end, means actuated by current flowing over a part of the talking-circuit when connection is established with the called line for controlling the circuit of said signal at one point to place it in condition to operate, and further means governed by the connection of said cord-circuit with the trunk for controlling the circuit of said signal at another point, substantially as described.

4. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end and a called-subscriber's line with which its incoming end is connected, a disconnect-signal for said incoming end, a relay actuated by current flowing over a portion of the talking-circuit for placing said signal in condition to operate, and a trunk-relay at the incoming end of the trunk and having its action governed by the connection of the cord-circuit with the trunk, said trunk-relay serving to control the circuit of said signal at a second point, substantially as described.

5. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end and a called-subscriber's line with which its incoming end is connected, a disconnect-signal for said incoming end placed in condition to operate by current flowing over only one of the strands of the talking-circuit when the trunk is connected with the called line, and means to prevent the actuation of said signal during such connection when the cord is connected with the trunk, substantially as described.

6. The combination with a trunk-line, of a cord-circuit to connect with its outgoing end and a called-subscriber's line with which its incoming end is connected, a disconnect-signal for said incoming end placed in condition to operate by current flowing over only one of the strands of the talking-circuit when connection is established with the called line, and means to prevent the actuation of said signal during such connection when the cord is connected with the trunk or the called-subscriber's telephone is in use, substantially as described.

7. The combination with a trunk-line adapted to be connected with a calling-line at its outgoing end and connected with a called telephone-line at its incoming end, of a supervisory signal associated with the outgoing end placed in condition to operate by current flowing over one side only of the talking-circuit when the connection is established with the said end of the trunk, and means operated upon the response of the called subscriber for permitting the current to flow over both sides of the talking-circuit to render said supervisory signal inoperative, substantially as described.

8. The combination with a trunk-line adapted to be connected with a calling-line at its outgoing end and connected with a called telephone-line at its incoming end, of a supervisory signal associated with the outgoing end placed in condition to operate by current flowing over one side only of the talking-circuit when the connection is made with the trunk at said end, means operated upon the response of the called subscriber for permitting current to flow over both sides of the talking-circuit, and a relay having a winding in the path of said current and energized thereby to render the said supervisory signal inoperative, substantially as described.

9. The combination with a trunk-line adapted to be connected with a cord-circuit at its outgoing end and connected with a called telephone-line at its incoming end, of a supervisory signal associated with the outgoing end, a relay actuated by current flowing over one side only of the talking-circuit when the cord-circuit is connected with the trunk and serving to place said supervisory signal in condition to operate, means operated upon the response of the called subscriber for permitting current to flow over both sides of the talking-circuit, and a relay having a winding in the path of said current and energized thereby for rendering the said supervisory signal inoperative, substantially as described.

10. The combination with a trunk-line adapted to be connected with a calling telephone-line at its outgoing end and connected with a called telephone-line at its incoming end, of a supervisory signal associated with the outgoing end rendered operative by current over one side of the talking-circuit and ground when connection is established at the outgoing end of the trunk, and means actuated when the called subscriber responds for permitting current to flow over the other side of the trunk-circuit to render said signal inoperative, substantially as described.

11. The combination with a trunk-line adapted to be connected with a calling telephone-line at its outgoing end and connected with a called telephone-line at its incoming end, of a supervisory signal associated with the incoming end, the incoming end of the trunk being open to steady currents and one side thereof being connected to ground, said signal being placed in operative condition by current flowing over said side of the trunk-circuit to ground, a relay having a winding energized when the called subscriber responds for disconnecting said ground and connecting the two sides of the trunk together to permit current to flow over both sides thereof, said flow of current serving to render the supervisory signal inoperative, substantially as described.

12. The combination with a telephone-line adapted to connect with a cord-circuit at its outgoing end and connected with a called telephone-line at its incoming end, of a supervisory signal associated with the cord-circuit and placed in condition to operate by current flowing over one side of the talking-circuit when the cord-circuit is connected with the trunk, a trunk-relay at the incoming end of the trunk connected between the said guide and ground, and means to connect said trunk-relay in the metallic circuit of the trunk when the subscriber responds, said relay being of low resistance so as to permit a sufficient flow of current in the trunk-line to render said supervisory signal inoperative, substantially as described.

13. The combination with a trunk-line adapted to connect with a calling telephone-line at its outgoing end and a called-telephone line at its incoming end, of a disconnect-signal at the incoming end of the trunk placed in condition to operate by current over a portion of the talking-circuit when connection is established with the called line, a trunk-relay actuated by current over the trunk as long as the connection exists at its outgoing end to prevent the operation of said signal, substantially as described.

14. The combination with a trunk-line adapted to connect with a calling telephone-line at its outgoing end and a called telephone-line at its incoming end, of a disconnect-signal at the incoming end of the trunk placed in condition to operate by current over a portion of the talking-circuit when connection is established with the called line, a trunk-relay actuated by current over the trunk when connection is established with the line, and means for maintaining said relay actuated during conversation, said relay serving when energized to prevent the operation of said signal, substantially as described.

15. The combination with a trunk-line adapted to connect with a calling telephone-line at its outgoing end and a called telephone-line at its incoming end, of a disconnect-signal for said incoming end placed in condition to operate by current flowing over a portion of the talking-circuit when the trunk is connected with the called line, and means actuated by current flowing over one side only of the trunk-line to prevent the actuation of said signal when the called-subscriber's telephone is not in use and the connection exists at the outgoing end of the trunk, substantially as described.

16. The combination with a trunk-line adapted to connect with a calling telephone-line at its outgoing end and a called telephone-line at its incoming end, of a disconnect-signal for said incoming end, means operated by current flowing over a portion of the talking-circuit when connection is made with the called line for placing said signal in condition to operate and further means controlled by the connection at the outgoing end of the trunk for rendering said signal inoperative, said latter means being operated by current over one side of the trunk and ground, substantially as described.

17. The combination with a trunk-line adapted to connect with a calling telephone-line at its outgoing end and a called telephone-line at its incoming end, of a disconnect-signal for said incoming end placed in condition to operate by current flowing over a portion of the talking-circuit when the trunk is connected with the called line, and means to prevent the actuation of said signal during such connection and when the calling-line is connected with the trunk, said means being actuated by current over one side only of the trunk when the called-subscriber's telephone is not in use and over the metallic trunk-line during conversation, substantially as described.

18. The combination with a trunk-line adapted to be connected with a calling telephone-line at its outgoing end and a called telephone-line at its incoming end, of a disconnect-signal for said incoming end, means operated by current over a portion of the talking-circuit when connection is made with the called line for placing said signal in condition to operate, and further means controlled by current sent over the trunk-circuit when the calling telephone-line is connected with the trunk for preventing the actuation of said signal, said latter means being operated over one side of the trunk and ground when the called-subscriber's telephone is not in use and over the metallic circuit during conversation, whereby said signal can only be operated when the said connection is severed at the outgoing end, substantially as described.

19. The combination with a trunk-line adapted to connect with a calling-line at its outgoing end and a called telephone-line at its incoming end, of a disconnect-signal for said incoming end, means actuated by current flowing over a part of the talking-circuit when connection is established with the called line for controlling the circuit of said signal at one point to place it in condition to operate and further means governed by the connection of the calling-line with the trunk and operated over one side of the trunk and ground for controlling the circuit of said signal at another point to prevent its operation, substantially as described.

20. The combination with a trunk-circuit adapted to connect at its outgoing end with a calling telephone-line and at its incoming end with a called telephone-line, of a disconnect-signal for said incoming end placed in condition to operate by current flowing over a portion of the talking-circuit when the trunk is connected with the called telephone-line, and a trunk-relay energized by current flowing over one side of the trunk and ground when the calling telephone-line is connected with the outgoing end of the trunk and the called-subscriber's telephone is not in use, and energized during conversation by current over the metallic circuit, said latter relay serving when energized to render said signal inoperative, substantially as described.

21. The combination with a trunk-circuit adapted to connect at its outgoing end with a calling telephone-line and at its incoming end with a called telephone-line, of a relay at the incoming end actuated by current over a portion of the talking-circuit when connection is established with the called line, a trunk-relay actuated by current over the trunk when connection exists at the outgoing end, and a disconnect-signal at the incoming end entirely controlled by said two relays to cause it to give a disconnect indication when connection is severed at the outgoing end and still exists at the incoming end, substantially as described.

22. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end adapted to be operated by current over one side of the talking-circuit thereof when connection exists therewith and to be rendered inoperative by current over the metallic circuit thereof, a relay at the incoming end of the trunk actuated when connection is established with the called line to permit the flow of current over the said one side of the outgoing end, and means for permitting current to flow over the said metallic circuit of the outgoing end when the called party responds, substantially as described.

23. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end of the trunk placed in condition to operate when a connection is established at said end by current over one side of the talking-circuit of said outgoing end, a relay at the incoming end of the trunk controlling the circuit of the said outgoing end, said relay being operative when the connection is established with the called line and before the response of the called party and inoperative during conversation, substantially as described.

24. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end placed in condition to operate when a connection is established at said end, a relay at the incoming end of the trunk controlling the path for current over the outgoing end, said relay being energized when the connection is established with the called-subscriber's line and deënergized when the called subscriber responds to permit in the latter condition a flow of current over the outgoing end of the trunk sufficient to render said supervisory signal inoperative, substantially as described.

25. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end of the trunk placed in condition to operate by current flowing over a portion of the talking-circuit when connection is established at said end, a relay at the incoming end of the trunk controlling the path for current over the outgoing end, said relay being energized when the connection

is established with the called line to permit current to flow over the outgoing end of the trunk to actuate said supervisory signal, and means for deënergizing said relay when the called subscriber responds, whereby a low-resistance path for current over the outgoing end of the trunk is completed to permit a sufficient flow of current thereover to render the said supervisory signal inoperative, substantially as described.

26. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end, an electromagnetic winding in the path of current over one side of the talking-circuit of the outgoing end of the trunk to place said signal in condition to operate, a second winding in the path of current over the other side of said end to render said signal inoperative when energized, an electromagnet-winding at the incoming end energized when the connection is established with the called line and when the called-party's telephone is not in use, to complete the path for current over the said one side of the outgoing end, and a second electromagnet-winding at the incoming end to be energized when the called party answers to cause the completion of the path for current over the said metallic circuit, substantially as described.

27. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end, a trunk-relay at the incoming end of the trunk actuated by current from over the outgoing end when a connection exists at said latter end, a signal at the incoming end whose actuation depends upon said relay, a second relay at the incoming end serving when energized to complete a path for current through said trunk-relay over one side of the outgoing end and when deënergized to complete a path over the metallic circuit of the outgoing end, whereby a suitable actuation of the said supervisory signal is secured and at the same time the signal at the incoming end is suitably controlled by the trunk-relay, substantially as described.

28. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end, a trunk-relay at the incoming end of the trunk actuated by current from over the outgoing end when connection exists at said latter end, a signal at the incoming end whose actuation depends upon said relay, and a second relay at the incoming end actuated by current over a portion of the talking-circuit when connection is established with the called line to close the circuit of said trunk-relay over one side of the said outgoing end, said relay being rendered inoperative by current over the metallic circuit when the called party responds, whereby a suitable actuation of the said supervisory signal is secured and at the same time the signal at the incoming end is suitably controlled by the trunk-relay, substantially as described.

29. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end, a trunk-relay at the incoming end of the trunk actuated by current from over the outgoing end when connection exists therewith, a signal whose actuation depends upon said relay, and a second relay at the incoming end actuated by current over the called telephone-line before the subscriber responds to complete a path for said trunk-relay over one side of the outgoing end, said second relay being deënergized when the called subscriber responds to thus close a path over the metallic circuit of the outgoing end for said trunk-relay, whereby a suitable actuation of the said supervisory signal is secured and at the same time the signal at the incoming end is suitably controlled by the trunk-relay, substantially as described.

30. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end, a trunk-relay at the incoming end of the trunk actuated by current from over the outgoing end when a connection exists therewith, a signal whose actuation depends upon said relay, and a second relay actuated over one side of the called telephone-line and ground when a connection is established therewith to complete a path for current through said trunk-relay over one side of the outgoing end, said second relay being deënergized when the called subscriber responds to thereby cause the completion of a path for said trunk-relay over the metallic circuit of the outgoing end, whereby a suitable actuation of the said supervisory signal is secured and at the same time the signal at the incoming end is suitably controlled by the trunk-relay, substantially as described.

31. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a trunk-relay at the incoming end adapted to be actuated by current over the trunk from the outgoing end when connection exists at said end, a second relay at the incoming end of the trunk controlling the circuit of said trunk-relay and suitably actuated by current over the talking circuit when connection exists with the called line, and a signal at the incoming end controlled solely by said two relays, substantially as described.

32. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end, a trunk-relay at the incoming end of the trunk actuated by current from over the outgoing end when connection exists at said latter end, a signal at the incoming end whose actuation depends upon said relay, and of a differential relay at the incoming end of the trunk suitably actuated when connection exists with the called line and serving to control the circuit of the trunk-relay, whereby a suitable actuation of the said supervisory signal is secured and at the same time the signal at the incoming end is suitably controlled by the trunk-relay, substantially as described.

33. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a signal at the incoming end of the trunk, a trunk-relay at the incoming end actuated by current over the outgoing end when connection exists at the latter end, a differential relay also at the incoming end and suitably actuated when connection exists with the called line, said signal being controlled by said two relays, substantially as described.

34. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a differential relay at the incoming end having a winding in each side of the talking-circuit and unresponsive to current in the metallic line, and a signal at the incoming end whose actuation depends upon said relay, substantially as described.

35. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end, a trunk-relay at the incoming end of the trunk actuated by current from over the outgoing end when connection exists at said latter end, a signal at the incoming end whose actuation depends upon said relay, and a second relay at the incoming end having differential coils, one in each side of the talking-circuit, one of said coils being included in the path of current over one side of the called line and through the grounded signaling-bell branch when connection is made with the line, whereby the differential relay is actuated to close the circuit of said trunk-relay over one side of the outgoing end and when the called party responds the said differential relay is rendered inoperative to thereby close the circuit of said trunk-relay over the metallic circuit of the outgoing end, whereby a suitable

actuation of said supervisory signal is secured and at the same time the signal at the incoming end is suitably controlled by the trunk-relay, substantially as described.

36. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a disconnect-signal at the incoming end, a differential relay having a coil in each side of the talking-circuit at the incoming end, said relay being actuated by current through one of its coils when connection has been established with the called line and the called-party's telephone is not in use to place said signal in condition to operate and said relay being rendered inoperative by current in the metallic line when the called party answers, and a trunk-relay actuated by current sent over the outgoing end of the trunk to prevent said signal operating when connection exists at the outgoing end, substantially as described.

37. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end, a trunk-relay at the incoming end of the trunk actuated by current from over the outgoing end when connection exists at said latter end, a signal at the incoming end whose actuation depends upon said relay, and a second relay at the incoming end having differential coils, one in each side of the talking-circuit, one of said coils being included in the path of current over one side of the called line and through the grounded signaling-bell branch when connection is made with the line, whereby the differential relay is actuated to close the circuit of said trunk-relay over one side of the outgoing end and when the called party responds the said differential relay is rendered inoperative to thereby close the circuit of said trunk-relay over the metallic circuit of the outgoing end, said differential relay also controlling the circuit of the trunk-relay, whereby a suitable actuation of the said supervisory signal is secured and at the same time the signal at the incoming end is suitably controlled by the trunk-relay, substantially as described.

38. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a disconnect-signal at the incoming end, a differential relay having a coil in each side of the talking-circuit at the incoming end, said relay being actuated by current through one of its coils over one side of the called telephone-line to the substation and thence through the grounded signaling-bell to place said signal in condition to operate, and said relay being rendered inoperative by current in the metallic line when the called party answers, and a trunk-relay actuated by current sent over the outgbing end of the trunk to prevent said signal operating when connection exists at the outgoing end, substantially as described.

39. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing signal for the incoming end of the trunk, a relay actuated by current over one side of the called line when connection is established therewith to place said signal in condition to operate, and means actuated by current in the metallic line when the called party answers to render said signal inoperative, substantially as described.

40. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing signal for the incoming end of the trunk, a relay actuated by current over one side of the called line and the grounded signaling-bell at the substation for placing said signal in condition to operate, and means for rendering said signal inoperative when the called party responds, substantially as described.

41. The combination with a trunk-line extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing signal for the incoming end of the trunk, a relay actuated by current over a portion of the tip side of the talking-circuit and called line to place said signal in condition to operate, and means responsive to current in the metallic line when the called party responds for rendering said signal inoperative, substantially as described.

42. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing signal for the incoming end of the trunk, a relay actuated over a portion of the talking-circuit and called line when connection is established with the called line to place said signal in condition to operate, and means for rendering said relay inoperative when the called party responds to thereby render said signal inoperative, substantially as described.

43. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing signal for the incoming end of the trunk, a relay actuated over a portion of the talking-circuit and called line when connection is established with the called line to place said signal in condition to operate, and means for deënergizing said relay when the called party responds to thereby render said signal inoperative, substantially as described.

44. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing signal for the incoming end of the trunk, a relay actuated over a portion of the talking-circuit and called line when connection is established with the called line to place said signal in condition to operate, and means actuated by current in the metallic line when the called party answers for rendering said relay inoperative to thereby retire said signal, substantially as described.

45. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing signal for the incoming end of the trunk, a differential relay having a coil in each side of the talking-circuit, means for closing a path through one of the coils when connection is established with the called line to operate the same and thereby place said signal in condition to operate, said relay being rendered inoperative by current in the metallic line when the called party responds to thereby render said signal inert, substantially as described.

46. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing signal for the incoming end of the trunk, a differential relay having a coil in each side of the talking-circuit, means for closing circuit through one of said coils and over one side of the called line to ground at the substation when connection is established with the said line and the subscriber's telephone is not in use, to thereby operate the same and actuate the signal, said relay being rendered inoperative by current in the metallic line when the called party answers to thereby render the said signal inert, substantially as described.

47. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a trunk-relay at the incoming end of the trunk actuated by current from over the outgoing end when connection exists at the latter end, a signal at the incoming end whose actuation depends upon said relay, a second relay at the incoming end having differential coils, one coil in each side of the talking-circuit, a source of current, one of said coils being in the path of current from said source over one side of the talking-circuit when connection is made with the line, whereby the differential relay is actuated at such time, and means for including the said source of current between the said coils and in the metallic circuit of the called line when the called subscriber responds, whereby the said relay is rendered inoperative and the substation-transmitter is charged for talking purposes, substantially as described.

48. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a disconnect-signal for the incoming end of the trunk, means actuated by current over one side of a called telephone-line to place said signal in condition to operate, and

means actuated by current over the trunk from the outgoing end when connection exists with said end to prevent said signal operating, substantially as described.

49. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a disconnect-signal for the incoming end of the trunk, means actuated by current flowing over one side of a called telephone-line to the substation and ground to place said signal in condition to operate, and means actuated by current over the trunk from the outgoing end when connection exists at said end to prevent said signal operating, substantially as described.

50. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a disconnect-signal for the incoming end of the trunk, means actuated by current over one side of the called telephone-line and through the grounded bell at the substation to place said signal in condition to operate, and means actuated by current over the trunk from the outgoing end when connection exists at said end to prevent said signal operating, substantially as described.

51. The combination with a trunk-circuit, extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a disconnect-signal for the incoming end of the trunk, means actuated by current over the tip side of the called telephone-line and through the grounded bell at the substation to place said signal in condition to operate, and means actuated by current over the trunk from the outgoing end when connection exists at said end to prevent said signal operating, substantially as described.

52. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a disconnect-signal for the incoming end of the trunk, a relay actuated by current over one side of the called telephone-line to place said signal in condition to operate, and a second relay actuated by current over the trunk from the outgoing end when connection exists at said end to prevent said signal operating, substantially as described.

53. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a disconnect-signal for the incoming end of the trunk, a relay actuated by current over one side of the called telephone-line and through the grounded signaling-bell at the substation to place said signal in condition to operate, and a second relay actuated by current over the trunk from the outgoing end when connection exists at said end to prevent the operation of said signal, substantially as described.

54. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephones-lines together for conversation, of a disconnect-signal for the incoming end of the trunk, a relay actuated over a portion of the tip side of the line to place said signal in condition to operate, and a second relay actuated by current over the trunk from the outgoing end to render said signal inoperative, substantially as described.

55. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect telephone-lines together for conversation, of a ringing signal for the incoming end of the trunk placed in condition to operate by current over one side of the called line to the substation and through the grounded signaling-bell, and means actuated by current flowing over the metallic circuit when the subscriber responds for rendering said signal inoperative, substantially as described.

56. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect subscribers' lines together for conversation, of a supervisory relay at the outgoing end actuated by current over said end and ground when connection is established at both ends of the trunk, a supervisory signal controlled by said relay, and means actuated upon the response of the called subscriber for disconnecting said ground connection to render the supervisory relay and signal inoperative, substantially as described.

57. The combination with a trunk-circuit extending between different switchboard-sections and adapted to connect subscribers' lines together for conversation, of a supervisory signaling device and a source of current at the outgoing end connected between ground and the talking-circuit, a ground connection from said end at the incoming end of the trunk during connection with the called line to provide a return-path for current from said source and means for disconnecting said ground connection when the called party answers, substantially as described.

58. The combination with a trunk-circuit adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end of the trunk placed in condition to operate by current over the tip side only of the trunk when connection is established at said end and with the called line at the other end, and means operated when a called party responds to permit a flow of current over both sides of the trunk to thereby render the said signal inoperative, substantially as described.

59. The combination with a trunk-circuit adapted to connect telephone-lines together for conversation, a supervisory signal associated with the outgoing end of the trunk, an electromagnet-winding energized by current flowing over one side of the trunk to place said signal in condition to operate when a connection is established at said end, and means operated upon the response of the called party to permit a flow of current over both sides of the trunk, and an electromagnet-winding in the path of said latter current and adapted to render said supervisory signal inoperative, substantially as described.

60. The combination with a trunk-circuit adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end of the trunk, an electromagnetic device having two windings, one winding being disposed in the path of current over one side only of the trunk, and adapted when energized to operate said signal, and means operated when the called party responds to permit a flow of current over both sides of the trunk, and a second winding of said electromagnetic device in the path of the latter current and adapted when energized to render said signal inoperative, substantially as described.

61. The combination with a trunk-circuit adapted to connect telephone-lines together for conversation, of a supervisory signaling device associated with the outgoing end of the trunk having two differential windings connected in the path for current over opposite sides of the trunk, a path for current being completed through one winding and over the tip side of the trunk only when connection has been established at both ends of the trunk, and means operated when the called party responds to permit a flow of current over both sides of the trunk, and through the other winding of said signaling device to thereby render the signal inoperative, substantially as described.

62. The combination with a trunk-circuit adapted to connect telephone-lines together for conversation, of a trunk-circuit, a supervisory signal associated with the outgoing end of the trunk placed in condition to operate by current over the tip side of the trunk with return over a third conductor, the metallic circuit of the trunk being open to prevent a flow of current thereover, and means operated when the called party responds to disconnect said third conductor and complete the metallic circuit of the trunk to permit a flow of current thereover to render said supervisory signal inoperative, substantially as described.

63. The combination with a trunk-circuit adapted to connect telephone-lines together for conversation, of a supervisory signal associated with the outgoing end of the trunk, an electromagnet-winding connected in the path of current over the tip side of the trunk and ground, and adapted when energized to place said signal in condition to operate, the metallic circuit of the trunk being open to prevent a flow of current thereover, and means operated when the called party responds to disconnect the ground and complete the metallic circuit to permit a flow of current thereover, and a second electromagnet-winding at the outgoing end, the path of the latter current being adapted when energized to render said supervisory signal inoperative, substantially as described.

64. The combination with a trunk-circuit adapted to connect telephone-lines together for conversation, of a supervisory signaling device associated with the outgoing end of the trunk having two differential windings, one winding being connected with one side of the trunk and ground when a connection is first established to actuate the same to actuate the signal, and means operated when the called party responds to disconnect the ground from the tip side of the trunk and to connect the two sides of the trunk together to permit a flow of current thereover through the other differential winding of said signaling device, whereby the signal is rendered inert, substantially as described.

65. The combination with a trunk-circuit adapted to connect telephone-lines together for conversation, of a supervisory signaling device associated with the outgoing end of the trunk having differential windings placed in the opposite sides of the talking-circuit and responsive to current over one side of the circuit, the signal being inert when current flows over both sides of the circuit, means for directing an excessive current through one winding when connection is established at the outgoing end to render the signal inoperative, and means actuated upon the response of the called subscriber for equalizing the magnetic effect of the current through said coils when the called subscriber responds whereby the signal is rendered inoperative, substantially as described.

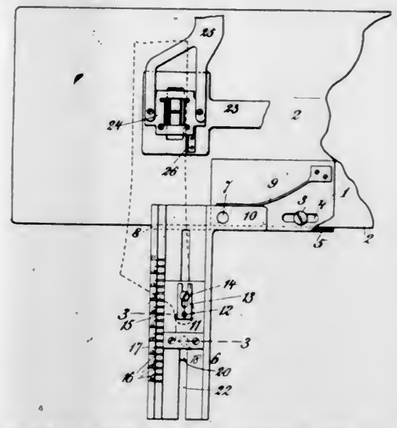
66. The combination with a trunk-circuit adapted to connect telephone-lines together for conversation, of a relay at the incoming end actuated over a portion of the talking-circuit when the trunk is connected with the called line, a trunk-relay at said end actuated by current over the tip side of the outgoing end of the trunk only and ground when the connection is established at the outgoing end and before the called subscriber responds, and a signal at the incoming end whose actuation depends upon said two relays, substantially as described.

67. The combination with a trunk-circuit adapted to connect telephone-lines together for conversation, of a disconnect-signal at the incoming end of the trunk, a relay at said end actuated over a portion of the talking-circuit to place said signal in condition to operate when a connection is established with the called line, and a trunk-relay actuated over the tip side only of the outgoing end of the trunk to prevent the operation of said signal, substantially as described.

845,453. LOCATING-GAGE FOR SEWING-MACHINES. CHARLES C. ELLIOTT, Troy, N. Y., assignor of one-half to United Shirt & Collar Company, a Corporation of New York. Filed June 7, 1904. Serial No. 211,454.

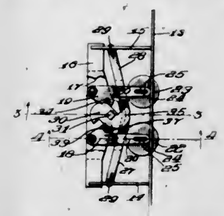
Claim.—1. In a gage for sewing-machines, the combination with a support arranged to be secured to the bed of a sewing-machine, said support comprising a longitudinally-channeled member provided with a series of notches along one edge and having also a longitudinal slot therethrough, of a carrier fitted to said channel and arranged to slide longitudinally therein, said carrier provided with a laterally-extending finger arranged to register with said notches, a depending stud secured to said carrier and arranged to project through the slot in said support, a spring surrounding said stud, and arranged between an abutment carried by the stud and the lower surface of the said support, and a locator comprising a stud for engaging a collar-button and a slotted plate to which said stud is attached, said slotted plate adjustably secured to the said carrier by means of a clamping-screw engaging said carrier and passing through the slotted portion of the said plate.

2. In a gage for sewing-machines, the combination with a stud for engaging a collar-buttonhole, of a support for said stud upon which said stud is adjustably mounted, said gage provided with an indicating-scale, the graduations of which correspond to the difference between collar sizes, a clamp constructed for attachment to a sewing-machine bed and upon which the support is pivoted, and impositive spring-actuated locking means between the clamp and the support.



3. In a sewing-machine, the combination with a clamp, and means for adjustably securing same to the bed-plate of a machine, of a support pivotally mounted on said clamp, and spring-held in position thereon, said support provided with a scale, a carrier mounted on said support and longitudinally adjustable thereon with respect to said scale, and a locating device adjustably mounted on said carrier.

845,454. SASH-LOCK. SAMUEL F. ESTELL, Los Angeles, Cal. Filed June 24, 1905. Serial No. 266,803.



Claim.—1. In a sash-lock, in combination, a window-sash, a pair of pressure-bars secured to the sash and inclined from their adjacent ends away from the style-face of the sash, a pair of friction-rollers arranged to engage one with each pressure-bar, a spring drawing the rollers together, and mechanical means acting in opposition to the spring for separating the rollers.

2. In a sash-lock, in combination, a window-sash, a pair of oppositely-inclined pressure-bars secured to the sash, a pair of oscillatable arms crossing the pressure-bars, a friction-roller carried by the free end of each arm and each engaging one of the pressure-bars, and a cam located between the arms for swinging them.

3. In a sash-lock, in combination, a window-sash, a pair of pressure-bars secured to the sash and inclined from their adjacent ends away from the style-face of the sash, a pair of friction-rollers arranged to engage one with each pressure-bar, a spring drawing the rollers together, mechanical means acting in opposition to the spring for separating the rollers, and a catch means for locking the rollers in the separated position.

4. In a sash-lock, in combination, a window-sash, a pair of oppositely-inclined pressure-bars secured to the sash, a pair of oscillatable arms crossing the pressure-bars, a friction-roller carried by the free end of each arm and

each engaging one of the pressure-bars, and a cam for swinging the arms.

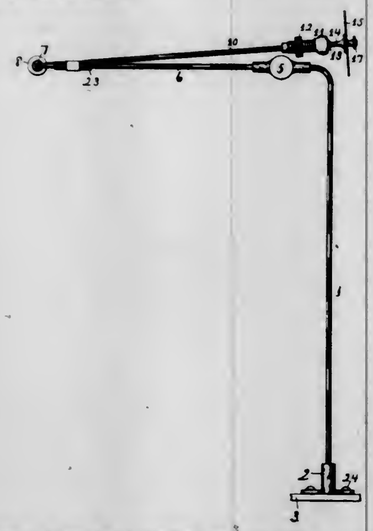
5. In a sash-lock, in combination, a casing adapted to fit with the style-face of a window-sash and having an apertured face-plate, a pair of pressure-bars inclined from their adjacent ends away from the face-plate, a pair of oscillating arms crossing the pressure-bars, a friction-roller carried by the free end of each arm and each engaging one of the pressure-bars, a spring drawing the arms together, and a spreading cam acting in opposition to the spring.

6. In a sash-lock, in combination, a window-sash, a pair of oppositely-inclined pressure-bars secured to the sash, a pair of oscillatable arms crossing the pressure-bars, a friction-roller carried by the free end of each arm and each engaging one of the pressure-bars, and a cam located between the arms for swinging them and adapted to maintain them in the separated position.

7. In a sash-lock, in combination, a window-sash, an inclined pressure-bar secured to the sash, a friction-roller running on the pressure-bar, and a catch for locking the roller in an inoperative position.

8. In a sash-lock, in combination, a window-sash, an inclined pressure-bar secured to the sash, an oscillatable arm crossing the pressure-bar, a friction-roller carried by the arm and running on the pressure-bar, mechanism for swinging the arm, and a catch for locking the arm in a definite position.

845,455. APPARATUS FOR REMOVING HAIRS. MANLEY G. FOWLER, Rochester, N. Y. Filed Nov. 13, 1906. Serial No. 343,245.

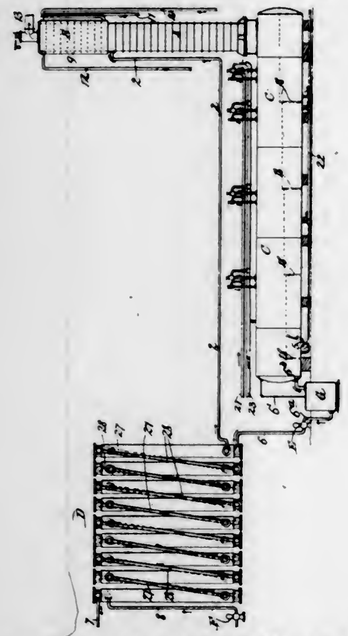


Claim.—1. In an apparatus for removing superfluous hairs, a holder comprising sections connected by universal joints, a plate having universal connection with the extreme end of said holder, said plate being mounted to swivel, means for holding said plate against such movement and means electrically connected with said plate to engage the hairs.

2. In an apparatus for removing superfluous hairs, a holder comprising sections connected by universal joints, a plate having universal connection with the extreme end of said holder, said plate being mounted to swivel, means for holding said plate against such movement, means electrically connected with said plate to engage the hairs, the support of said plate having a flange, and a current-wire having its end held between said plate and flange.

3. An apparatus for treatment of hair growth, having a holder for the operating instruments, consisting of sections 1, 6 and 10, the sections 1 and 6 being in a plane and joined to move therein, and the section 10 joined to have universal movements upon the section 6, and a perforated plate held to have universal motion at the end of section 10 and mounted to swivel upon its support, and a series of operating instruments electrically connected with said plate.

845,456. SEPARATING LOW-BOILING PRODUCTS FROM THE BURNING-OIL DISTILLATE OF PETROLEUM TO RAISE THE FIRE TEST THEREOF. HERMAN FRASCH, New York, N. Y., assignor to Standard Oil Company, Bayonne, N. J., a Corporation of New Jersey. Filed Aug. 11, 1900. Serial No. 26,648.



Claim.—1. The process of raising the fire test of burning-oil distillate, consisting in partially evaporating the low-test distillate by contact of free steam therewith at about the boiling-point of water, cooling the resulting mixture of oil and water vapors gradually until the heavier oil-vapors and the chief part of the water-vapor are ultimately condensed and so separated from the vapors of the low-boiling products which pass over, bringing the said mixture of oil and water vapors during said cooling thereof into repeated contact with the returning condensate of hot water and hot oil and also with a stream of low-test distillate preliminarily heated to a temperature below the boiling-point of water and not lower than about 60° Fahrenheit below the same, and separating the oil and water of condensation from each other, substantially as described.

2. The process of raising the fire test of burning-oil distillate, consisting in partially evaporating the low-test distillate by contact of free steam therewith at about the boiling-point of water, cooling the resulting mixture of oil and water vapors gradually until the heavier oil-vapors and the chief part of the water-vapor are ultimately condensed and so separated from the vapors of the low-boiling products which pass over bringing the said mixture of oil and water vapors during said cooling thereof into repeated contact with the returning condensate of hot water and hot oil, and separating the oil and water of condensation from each other, substantially as described.

3. The process of raising the fire test of burning-oil distillate, consisting in partially evaporating the low-test distillate by contact therewith at about the boiling-point of water of free steam in sufficient volume to drive off the low-boiling products in a short time, to wit, under two hours, cooling the resulting mixture of oil and water vapors gradually until the heavier oil-vapors and the chief part of the water-vapor are ultimately condensed and so separated from the vapors of the low-boiling products which pass over, bringing the said mixture of oil and water vapors during said cooling thereof into repeated contact with the returning condensate of hot water and hot oil and also with a stream of low-test distillate, and separating the oil and water of condensation from each other, substantially as described.

4. The process of raising the fire test of burning-oil distillate, consisting in partially evaporating the low-test distillate by contact therewith at about the boiling-point of water of free steam in sufficient volume to drive off the low-boiling products in a short time, to wit, under two hours, cooling the resulting mixture of oil and water vapors gradually until the heavier oil-vapors and the chief part of the water-vapor are ultimately condensed and so separated from the vapors of the low-boiling products which pass over, bringing the said mixture of oil and water vapors during said cooling thereof into repeated contact with the returning condensate of hot water and hot oil, and separating the oil and water of condensation from each other, substantially as described.

5. The process of distilling petroleum or hydrocarbon oil containing hydrocarbons with boiling-points below that of water while consisting mainly of higher boiling products, consisting in admitting free steam at intervals below the surface of a horizontally-traveling body of such oil at about the boiling-point of water, cooling the resulting mixture of oil and water vapors until the heavier oil-vapors and the chief part of the water-vapor are condensed and so separated from the vapors of the low-boiling products which pass over, and separating the oil and water of condensation from each other, substantially as described.

6. The process of distilling petroleum or hydrocarbon oil containing hydrocarbons with boiling-points below that of water while consisting mainly of higher boiling products, consisting in admitting at intervals below the surface of a horizontally-traveling body of such oil at about the boiling-point of water free steam in sufficient volume to drive off the low-boiling products in a short time, to wit, under two hours, cooling the resulting mixture of oil and water vapors until the heavier oil-vapors and the chief part of the water-vapor are condensed and so separated from the vapors of the low-boiling products which pass over, and separating the oil and water of condensation from each other, substantially as described.

7. In the distillation of liquids, the improvement consisting in delivering free steam at intervals below the surface of a horizontally-traveling body of the liquid to be distilled in such manner that the volume of so-delivered steam per cubic foot of liquid is lessened as the said liquid approaches the outlet therefor, substantially as described.

8. In the distillation of liquids, the improvement consisting in causing a body of the liquid to be distilled to travel horizontally and to diminish in depth as it approaches the outlet therefor, and delivering free steam at intervals below the surface of said body in such manner that the volume of so-delivered steam per cubic foot of liquid is lessened as said liquid approaches the outlet therefor, substantially as described.

9. In the distillation of liquids, the improvement consisting in causing a body of the liquid to be distilled to travel horizontally and to diminish in depth as it approaches the outlet therefor, and delivering free steam at intervals below the surface of said body in such manner that the volume of so-delivered steam per square foot of exposed upper surface of said liquid is lessened as said liquid approaches the outlet therefor, substantially as described.

10. The process of distillation, consisting in delivering free steam at intervals below the surface of a horizontally-traveling body of the liquid to be distilled in such manner that the volume of so-delivered steam per cubic foot of liquid is lessened as the said liquid approaches the outlet therefor, and cooling the resulting mixture of vapors so as to condense a portion of them while allowing another portion to pass over, substantially as described.

11. The process of distillation, consisting in causing a body of the liquid to be distilled to travel horizontally and to diminish in depth as it approaches the outlet therefor, delivering free steam at intervals below the surface of said body in such manner that the volume of so-delivered steam per cubic foot of liquid is lessened as said liquid approaches the outlet therefor, and cooling the resulting mixture of vapors so as to condense a portion of them while allowing another portion to pass over, substantially as described.

12. The process of distillation, consisting in causing a body of the liquid to be distilled to travel horizontally and to diminish in depth as it approaches the outlet therefor, delivering free steam at intervals below the surface of said body in such manner that the volume of so-delivered steam per square foot of exposed upper surface of said liquid is lessened as said liquid approaches the outlet therefor, and cooling the resulting mixture of vapors so as to condense a portion of them while allowing another portion to pass over, substantially as described.

13. For separating low-boiling products from petroleum or hydrocarbon oil which contains hydrocarbons with boiling-points below that of water while consisting mainly of higher boiling products, the continuous process which consists in partially evaporating said oil by contact of free steam therewith, gradually cooling the evolved vapors, bringing the body of said vapors into repeated contact with returning condensate, and adjusting the vapor-cooling to such extent below the boiling-point of water and the free-steam admission to such amount in excess of what passes over with the hydrocarbon that the hydrocarbons passing over are mainly those with boiling-points below that of water and that the returning condensate is composed of the hot water from the chief part of said free steam as well as of the hot oil of condensation, substantially as described.

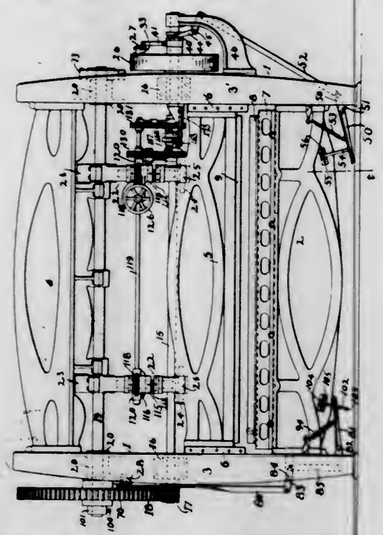
14. For separating low-boiling products from petroleum or hydrocarbon oil which contains hydrocarbons with boiling-points below that of water while consisting mainly of higher boiling products, the continuous process which consists in partially evaporating said oil by contact of free steam therewith, gradually cooling the evolved vapors, bringing the body of said vapors into repeated contact with a stream of said oil preliminarily heated by exchange of temperature with the oil from which the low-boiling products have been separated and mingled with returning condensate, and adjusting the vapor cooling to such extent below the boiling-point of water and the free-steam admission to such amount in excess of what passes over with the hydrocarbons that the hydrocarbons passing over are mainly those with boiling-points below that of water and that the returning condensate is composed of the hot water from the chief part of said free steam as well as of the hot oil of condensation, substantially as described.

15. For separating low-boiling products from petroleum or hydrocarbon oil which contains the hydrocarbons with boiling-points below that of water while consisting mainly of higher boiling products, the continuous process which consists in partially evaporating said oil by contact of free steam therewith, gradually cooling the evolved vapors, bringing the body of said vapors into repeated contact with returning condensate, adjusting the vapor cooling to such extent below the boiling-point of water and the free-steam admission to such amount in excess of what passes over with the hydrocarbons that the hydrocarbons passing over are mainly those with boiling-points below that of water and that the returning condensate is composed of the hot water from the chief part of said free steam as well as of the hot oil of condensation, and continuously separating the oil and water from each other by settling and decantation, substantially as described.

16. For separating low-boiling products from pretroleum or hydrocarbon oil containing hydrocarbons with boiling-points below that of water while consisting mainly of higher boiling products, the continuous process, which is

characterized by the partial evaporation of the said oil at about the boiling-point of water by contact of free steam therewith, and the repeated contact of the evolved vapors with the specified pretroleum or hydrocarbon oil of a temperature below the boiling-point of water and not lower than about 60° Fahrenheit below the same mingled with returning condensate of hot oil and the hot water from the chief part of said free steam, substantially as described.

845,457. PRESS. CLARENCE N. FREY, Cincinnati, Ohio, assignor to The J. M. Robinson Manufacturing Company, Cincinnati, Ohio, a Corporation of Ohio. Filed Jan. 14, 1907. Serial No. 352,193.



Claim.—1. In a press of the character described, the combination of the plunger and operating-shaft, means between the operating-shaft and plunger for reciprocating the plunger, a driving member, a friction-clutch and a positive throw-out clutch between said driving member and operating-shaft, a connecting member between said clutches, and means for operating said clutches for forming driving connection between said clutches through said connecting member and with said operating-shaft, substantially as described.

2. In a press of the character described, the combination of a plunger, an operating-shaft, means between said operating-shaft and plunger for reciprocating said plunger, a driving member, a friction-clutch and a positive throw-out clutch between the said driving member and operating-shaft, a driving-shaft and gearing between said clutches, and means for operating said clutches for forming driving connection between said driving member and driving-shaft and between said gearing and operating-shaft, substantially as described.

3. In a press of the character described, the combination of a plunger, an operating-shaft, means between said plunger and operating-shaft for reciprocating said plunger, a driving member, a friction-clutch and positive throw-out clutch between said driving member and operating-shaft, means for automatically throwing out said positive clutch when said plunger is in raised position, means for causing engagement of said positive clutch, and means for operating said friction-clutch for permitting said plunger when said positive clutch is in engagement to gradually descend and permitting said descent to be arrested at desirable points of approach between the dies in said press for the purpose specified.

4. In a press of the character described, the combination, with a plunger and pitman for operating said plunger, of means for adjusting said pitman to length, a driving-shaft, an adjusting-shaft for said adjusting means moving with said plunger, a plurality of trains of gearing between said driving-shaft and adjusting-shaft, one of said trains containing an even number and the other of said trains containing an odd number of gears, said trains also comprising links pivoted respectively about said driving-shaft and adjusting-shaft and to each other and said gears for continuously holding said gears of said respective trains in mesh, a clutch between said trains of gearing, and means for selectively connecting said clutch with either of said trains or adjusting said clutch into neutral position, substantially as described.

5. In a press of the character described, the combination with the frame, the plunger, pitmen articulated thereto, the operating-shaft, the eccentrics thereon, and the bearings between said eccentrics and pitmen, of means for adjusting said pitmen to length, a driving-shaft stationarily positioned in the frame of the machine, an adjusting-shaft for said adjusting means journaled to said pitmen, a plurality of trains of gearing between said driving-shaft and adjusting-shaft comprising gears and pivoted links for retaining said gears in mesh, a clutch, and means for connecting said clutch to either of said trains of gearing or adjusting said clutch into neutral position, substantially as described.

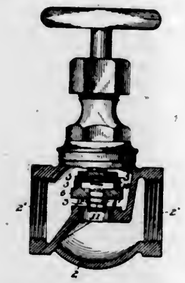
6. In a press of the character described, the combination with the frame, plunger, pitmen articulated thereto, an operating-shaft, eccentrics thereon and bearings on the pitmen for said eccentrics, of means for adjusting said pitmen to length, an adjusting-shaft for the latter journaled to and moving with said pitmen, a drive-shaft, a plurality of trains of gearing and pivoted links therefor between said driving-shaft and adjusting-shaft, one of said trains having an even number and the other of said trains having an odd number of gears, a clutch on said driving-shaft, said clutch having clutch connection with said respective trains of gearing, and means for shifting said clutch for connecting said clutch with either of said trains of gearing or adjusting said clutch into neutral position, substantially as described.

7. In a press of the character described, the combination of the frame, plunger, operating-shaft journaled in the frame, eccentrics thereon, pitmen articulated to the plunger, bearings on said pitmen for said eccentrics, means for adjusting said pitmen to length, an adjusting-shaft for said adjusting means journaled to said pitmen, a driving-shaft journaled in said frame, a pair of trains of gearing respectively having an even number and an odd number of meshing gears and pivoted links for retaining said gears in mesh, one end gear of each of said trains loosely journaled about said driving-shaft, the other end gear of each of said trains secured to said adjusting-shaft, said first-named end gears respectively having clutch-teeth on their inner faces and a groove between said clutch-teeth and the driving-shaft, a pair of collars secured to said driving-shaft in said respective grooves for limiting approach of said gears, means for limiting separation of said gears, a clutch-collar splined to said driving-shaft having clutch-teeth and grooves under said clutch-teeth at its respective ends, and means for shifting said clutch-collar sidewardly for engaging its clutch-teeth with the teeth of either of said first-named end gears or permitting said clutch-collar to remain in neutral position, substantially as described.

8. In a press of the character described, the combination of the frame, plunger, operating-shaft, eccentrics thereon, pitmen articulated to said plunger, bearings on said pitmen for said eccentrics, each of said pitmen having a plurality of end members, a right and left hand screw between said end members, a collar secured to said screw, a bracket having a bearing about said screw, a worm-wheel secured to said screw above said bearing, an adjusting-shaft, bearings in each of said brackets for said adjusting-shaft, a driving-shaft and a plurality of trains of gearing and pivoted links therefor between said driving-shaft and adjusting-shaft, one of said trains having an even number the other of said trains having an odd number of gears respectively retained in mesh with each other by said links, a clutch on said driving-shaft, and means for connecting said clutch with either of said trains of gearing, substantially as described.

9. In a press of the character described, the combination with the frame and plunger, of a driving-shaft, an operating-shaft, driving-gears between said driving-shaft and operating-shaft, said driving-shaft and operating-shaft journaled to said frame, eccentrics on said operating-shaft, pitmen articulated to said plunger, bearings on said pitmen for said eccentrics, said pitmen respectively comprising a pair of end members, a right and left hand screw for each of said pitmen connecting said end members, a worm-wheel for each screw, an adjusting-shaft journaled to said pitmen, a worm on said adjusting-shaft for each of said worm-wheels, said adjusting-shaft having reciprocation and forward and backward movement with said pitmen, a pair of trains of gearing between said driving-shaft and adjusting-shaft respectively having an even number and an odd number of gears, pivoted links for each of said trains of gearing for maintaining the gears of said respective trains in mesh, a clutch surrounding said driving-shaft, means for connecting said clutch with either of said trains of gearing, a driving member, a friction-clutch between said driving member and driving-shaft, and a positive clutch between said driving-gears and operating-shaft, substantially as described.

845,458. AUTOMATIC REGRINDING-VALVE. ISRAEL B. GILBERT, Castle Shannon, Pa., assignor of one-half to Robert A. Martin, Castle Shannon, Pa. Filed Aug. 6, 1906. Serial No. 329,338.



Claim.—1. The combination of a valve head and stem adapted normally to rotate together, and means actuated by pressure of the valve-head on the valve-seat for enabling the stem to turn independently of the valve-head.

2. The combination of a valve head and stem adapted to interlock and rotate together, and a spring for holding said parts normally interlocked, the pressure of the spring being overcome and the interlocking connection broken by pressure of the stem on the valve-head when the latter is seated.

3. The combination of a stem, a valve-head having limited longitudinal movement thereon, the stem being rotatable independently of the head when the latter is moved backward or inward thereon, the stem and head having parts which interlock when the head is in outward or forward position on the stem; and a spring for holding the head normally in forward position.

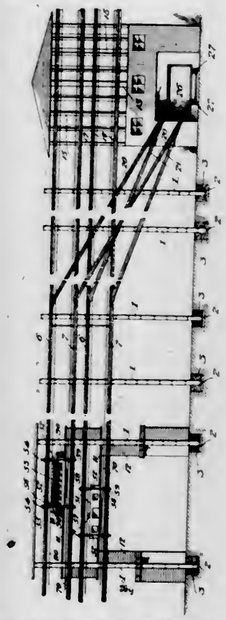
4. The combination of a hollow valve-head having an opening in its upper end, a stem extending into the opening and having an enlarged inner end rotatable in the hollow head, projections on the stem and on the upper portion of the head interior adapted to interlock and cause the stem and head to rotate together; and a spring within and bearing against the head and stem for holding said parts normally interlocked.

5. The combination of a hollow valve-head having an opening in its upper end, projections within the head adjacent the opening, a stem movable longitudinally through the open end of the head, lateral projections on the stem and within the head, and a spring bearing against the extremity of the stem and the bottom of the head-cavity and operating to hold the projections of the stem and head interior normally interlocked.

6. The combination of a recessed valve-head having a spring depression in its bottom, the stem having limited longitudinal movement in the head-cavity and formed with a spring depression in its extremity, interlocking projections in the upper portion of the head-cavity and on the stem, and a spring confined in said depressions and holding said projections normally interlocked.

7. The combination of a recessed valve-head, a recess-closing cap for the head adapted to be secured thereto, the cap having a stem-passage and internal projections around the passage, a stem extending through the cap-passage, lateral projections on the stem adapted to interlock with the cap projections, and a spring within the head-recess and holding said projections normally interlocked.

845,459. ELEVATED ELECTRIC RAILWAY. JAMES M. GILSTRAP, Oakland Cal. Filed July 31, 1906. Serial No. 328,506.



Claim.—1. In an elevated railway, the combination with a supporting-column, of a landing supported thereby, and a spiral stairway surrounding and supported by the column and leading to the landing.

2. In an elevated railway, the combination with columns located along the line of the railway, of a landing supported by said columns, and separate approaches located adjacent the respective columns.

3. In an elevated railway, the combination with columns located along the line of the railway, of a landing supported by said columns, and separate stairways supported by the respective columns.

4. In an elevated railway, the combination with columns having upper and lower lateral trackway-supports, of upper and lower trackways connected, respectively, to said upper and lower trackway-supports, a car, a pair of upper and lower car-wheels connected to the car and traveling on the upper and lower parts of the upper trackway, and a pair of upper and lower car-wheels connected to the car and traveling on the upper and lower parts of the lower trackway.

5. In an elevated railway, the combination with columns having upper and lower lateral trackway-supports,

of upper and lower trackways each comprising upper and lower vertical flanges and lateral flanges and connected, respectively, to said upper and lower trackway-supports, a car, a pair of upper and lower car-wheels connected to the car and grooved to conform to the upper trackway and traveling thereon, and a pair of upper and lower car-wheels connected to the car and grooved to conform to the lower trackway and traveling thereon.

6. In an elevated railway, the combination with upper and lower trackways and supports therefor, of a car, bands or straps encircling the car at different points thereof, upper and lower car-wheels connected to the tops of said bands and traveling on the upper trackway, and upper and lower car-wheels traveling on the lower trackway.

7. An elevated railway having going and returning track-rails merging into a circular terminal track-rail.

8. An elevated railway having upper and lower going and returning track-rails for a train or car to travel on, and upper and lower circular terminal track-rails merging into said upper and lower going and returning track-rails.

9. An elevated railway having going and returning tracks merging into a circular terminal track, and a side track leading to another level of the terminal.

10. An elevated railway having going and returning tracks merging into a circular terminal track, side tracks leading, respectively, from the going and returning tracks to another level of the terminal, and means for transferring the car from one side track to the other.

11. An elevated railway having going and returning tracks merging into a circular terminal track, side tracks leading, respectively, from the going and returning tracks to opposite sides of the terminal at another level thereof, and means for transferring the car from one side track to the other transversely of the terminal track.

12. In an elevated railway, the combination with supporting-columns, of upper and lower trackways representing different railroads, of upper and lower trackways representing different railroads corresponding to the aforesaid railroads, upper and lower switches connected together and adapted for simultaneous shifting or throwing, and means for simultaneously shifting or throwing said connected switches.

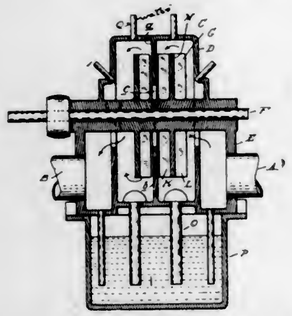
13. In an elevated railway, the combination with upper and lower trackways and supports therefor, of a car, bands or straps encircling the car at different points thereof, car-wheels connected to the tops of said bands and traveling on the upper trackway, and car-wheels traveling on the lower trackway.

14. In an elevated railway, the combination with columns having upper and lower lateral trackway-supports, of upper and lower trackways, each comprising a vertical flange and lateral flanges and connected, respectively, to said upper and lower trackway-supports, a car, car-wheels connected to the car and grooved to conform to the upper trackway and traveling thereon, and car-wheels connected to the car and grooved to conform to the lower trackway and traveling thereon.

845,460. CENTRIFUGAL TAR-EXTRACTOR. WARREN W. GORE, Beloit, Wis., assignor to Fairbanks, Morse & Company, Chicago, Ill., a Corporation of Illinois. Filed Apr. 2, 1906. Serial No. 309,528.

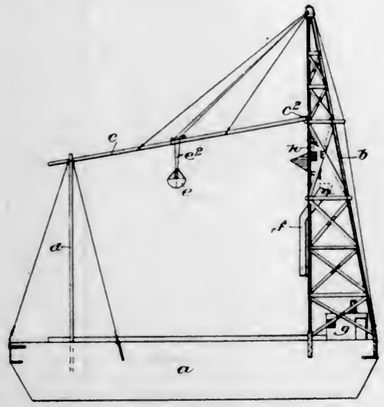
Claim.—1. The combination of a casing divided into a plurality of compartments centrally communicating with each other, gas inlet and outlet connections respectively to the opposite end compartments, a plurality of water-jets in the top of each compartment, a rotary impeller in each of the compartments consisting of a disk and lateral wings extending from the hub to the periphery of said disk, the impeller in the last compartment having wings on its inner side only, and the impellers in the other compartments having wings upon both sides, said compartments having apertures in their bottoms, for the purpose described.

2. The combination with a casing having inwardly-projecting annular flanges dividing the space therein into a plurality of compartments centrally communicating with each other, inlet and outlet connections to the opposite end compartments, a rotary impeller in each of the said compartments consisting of a disk of greater diameter than the opening between compartments, whereby the gas is compelled to pass alternately outward and inward around said disks and annular flanges, and laterally-extending radial wings on the face of said disks for impelling the gas during its outward and inward movement, the wings operating on the gas during its outward movement being in excess of those operating during its inward movement.



3. The combination with a casing having inwardly-extending annular flanges dividing the space within the casing into a plurality of compartments centrally communicating with each other, inlet and outlet connections to the opposite end compartments, a shaft extending axially through said casing, impellers mounted on said shaft in each of said compartments consisting of a disk and laterally-extending radial wings on the face thereof, the disk in the compartment connecting with the outlet having wings on its inner face only, and the other disks being provided with wings on both faces.

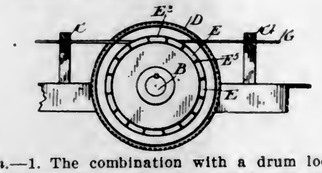
845,461. LIGHTER. JOHN W. HAMMOND, Taunton, Mass., assignor to Staples Coal Company, a Corporation of Massachusetts. Filed June 27, 1906. Serial No. 323,616.



Claim.—1. In a lighter, the combination with the hull; of a stationary tower located near one end thereof; a stationary supporting member extending laterally across the hull near the opposite end thereof; a trolley-boom pivotally connected at one end with said tower, and supported at the other end on said support along which it is free to travel laterally; a trolley running on said boom; a grab-bucket, the position of which is determined by the position of said trolley; and means for producing a lateral movement of the outer end of said trolley-boom along said stationary supporting member, substantially as described.

2. The combination with the hull of a lighter; of a stationary tower located near one end thereof; a trolley-boom pivotally connected with said tower; a stationary support for the free end of said boom at the opposite end of the lighter; a grab-bucket, the position of which is controlled by swinging said boom on its pivot; and an operator's stand located near the top of said tower, substantially as described.

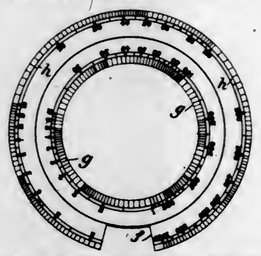
845,462. WIRE-DRAWING MACHINE. WILLIAM J. HERALD, Hamilton, Ontario, Canada. Filed June 25, 1906. Serial No. 323,400.



Claim.—1. The combination with a drum loosely supported on a suitable shaft and provided with slits extending radially in the face of the drum and from one edge of the periphery to the other edge, of a friction-wheel secured on the shaft and with which the interior periphery of the drum is adapted to contact as the drum is contracted upon the call of the wire, as and for the purpose specified.

2. The combination with a drum loosely supported on a suitable shaft and provided with slits extending radially in the face of the drum and from one edge of the periphery to the other edge, said drum flaring internally outwardly, of a friction-wheel having a taper substantially corresponding to the internal flare of the drum and adjustably secured on the shaft and with which the interior periphery of the drum is adapted to contact as the drum is contracted upon the call of the wire, as and for the purpose specified.

845,463. SLIDE-RULE. HAROLD T. HINCKS, Chester, England. Filed May 31, 1905. Serial No. 263,175.

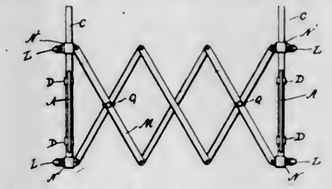


Claim.—1. In a slide-rule of the character described two fixed concentric logarithmic scales; a concentric sliding piece rotatative about said scales and comprising a logarithmic scale working with the outer of said fixed scale, a second concentric sliding piece with a cut-away part and comprising two further scales rotatative over said fixed scales and working with the inner of said fixed scales whereby a portion of the outer of said two fixed scales can be viewed substantially as described.

2. A sliding scale of the character described comprising a frame a glass rotatative in said frame, two concentric logarithmic scales on said glass there being a cut-away portion on the outer of said scales, a fixed plate or ring a logarithmic scale on said plate or ring said scale working the outer of said concentric scales, and a back piece rotatative in said frame two concentric logarithmic scales on said back piece, the inner scale working with the inner of the first concentric scales and the outer showing under the cut-away portion of the outer of said first concentric scales and working with the scale on the fixed plate or ring substantially as and for the purpose described.

3. A slide-rule of the character described comprising a base-plate *a*, a logarithmic scale *b*, attached to said base-plate and concentric therewith for indicating the volts lost in an electric circuit, a datum-scale *c*, surrounding the first-named scale at some distance therefrom, fixed to said base, for working in conjunction with a point *d*, an outer sliding logarithmic scale *e*, provided with the point *d*, for indicating the total length of said circuit, said scale *e* surrounding said datum-scale *c*, two logarithmic scales *g*, and *h*, for indicating the total amperes in said circuit and the area for said circuit respectively and movable over the blank space between said scale *b*, and said scale *e*, and covering the datum-scale, except at one portion where a slot *f* is formed for seeing the datum-scale, said scale *g*, working in conjunction with said scale *b*, and said scale *h* working in conjunction with scale *e*.

845,464. LIFTING-JACK AND CRADLE FOR BATH-TUBS AND THE LIKE. OMAR J. HOTALING, Johnstown, N. Y. Filed July 13, 1906. Serial No. 326,006.

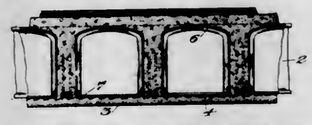


Claim.—1. As a new article of manufacture, a combined jack and cradle consisting of two supporting-strips, means for elevating said strips and two series of lazy-tongs connecting the two end sections, as specified.

2. The herein-described combination, of two supporting-strips, two sets of toggle-levers connected with each of said strips, a threaded rod adapted to operate each set of toggle-levers, four casters for supporting the device and two series of lazy-tongs connecting the end sections, as specified.

3. In combination, two lifting-jacks consisting of toggle-levers pivoted to movable collars, rods for moving said collars, two casters supporting each jack, two series of lazy-tongs connecting the jacks together and means for holding said lazy-tongs in any adjustment, as and for the purpose set forth.

845,465. CONCRETE-FLOOR CONSTRUCTION. FREDERICK A. KOETITZ, San Francisco, Cal. Filed Apr. 17, 1906. Serial No. 312,200.

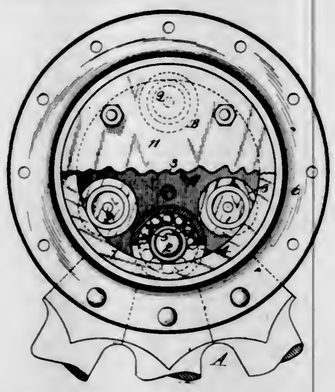


Claim.—An improved concrete-and-metal building construction consisting of main supports, a concrete-and-metal ceiling or roof connected therewith, sheet-metal corrugated arches disposed between the supports and having a length less than the distance between the supports, plates extending transversely across the lower part of the arches and fixed to the sides thereof whereby the said sides are braced against the pressure of the concrete between adjacent arches, and plates for closing the ends of the arches.

845,466. DEVICE FOR TRANSMITTING POWER. ENOCH J. LANE, Williams, Cal., assignor of one-half to W. R. Gilmore, Williams, Cal. Filed Aug. 2, 1906. Serial No. 328,846.

Claim.—1. In a device for transmitting power, the combination of a wheel having a hollow hub, disks closing the

ends of the hub, a roller of less diameter than the interior of the hub and contained therein at one side of the center thereof, means for applying power to the opposite side of the wheel, and independent guide-rollers within the hollow hub and having shafts turnably mounted in the end disks, said disks forming thrust-bearings to prevent endwise movement of the guide-rollers.



2. In a device for transmitting power, a wheel having a hollow hub, a roller turnable within and in contact with the interior of the hub, said roller being of less diameter than the drum and being located below the center thereof, a bearing-shaft extending into the roller with intermediate antifrictional bearings, guide-rollers journaled within the hub, said rollers being spaced around the inner circumference of the drum and having end journals, disks closing the ends of the drum and having bearings for said journals, and means for transmitting power to the wheel on the opposite side of the center from the bearing-shaft.

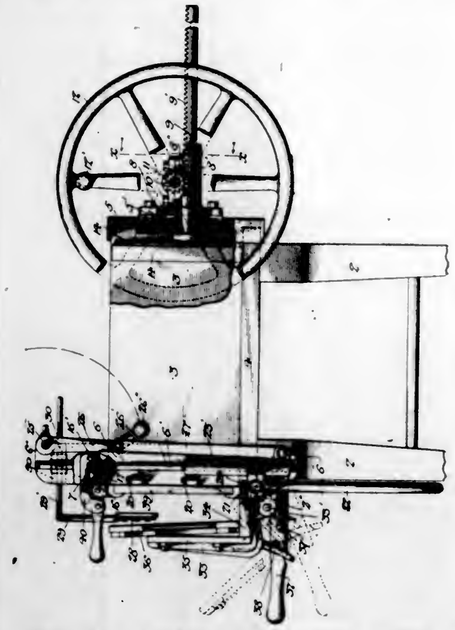
845,467. POCKET-CLIP FOR FOUNTAIN-PENS. HENRY B. LEVY, New York, N. Y. Filed Dec. 1, 1906. Serial No. 345,894.



Claim.—1. In combination with a fountain-pen cap provided with an opening, of a clip, and means carried by said clip adapted to engage said opening.

2. In combination with a fountain-pen cap provided with an opening, of a clip, wings carried by said clip and adapted to partly surround said cap, an arm, and a projection carried by said arm adapted to engage said opening.

845,468. BUTTER-CUTTER. FREDERICK J. MACNISH, Oak Park, Ill., and WILLIAM E. PENN, Lakemills, Wis., assignors to The Creamery Package Mfg. Company, Chicago, Ill., a Corporation of Illinois. Filed Jan. 3, 1905. Serial No. 239,450.



Claim.—1. In a butter cutter or printing machine, a butter-box and a plunger for expelling butter therefrom, in combination with wires stretched across the end of said box, guides upon the end of the box, a spring-bow having its ends slidably held upon said guides, a wire stretched upon the ends of said bow, and levers for operating said bow to move said wire across the end of said box, substantially as described.

2. In a butter cutting or printing machine, a butter-box and a plunger for expelling the butter therefrom, in combination with wires stretched across the open end of said box, guides upon the end of said box, a spring-bow having its ends slidable upon said guides, a cross-cut wire stretched between the ends of said bow, a rocking shaft above said box, arms thereon, means for turning said shaft and links connecting the free ends of said arms with the ends of said bow whereby upon the rotation of said shaft, said cross-wire will be moved across the end of said box, to sever prints of butter from the butter mass, substantially as described.

3. In a butter cutting or printing machine, a butter-box and means for expelling butter therefrom, in combination with butter-cutting wires arranged at the end of said box, a metallic frame having standards at the end of said box, said standards being provided with guides, a spring metal bow, blocks upon the ends of said bow and slidable upon said guides, a wire, having its ends fastened upon said blocks, and a crank and lever mechanism for sliding said blocks on said guides, substantially as and for the purpose specified.

4. In a butter cutting or printing machine, a butter-box and means for expelling butter therefrom, in combination with butter-severing wires at the delivery end of the box, standards provided with guides, a rocking shaft borne by the upper ends of said standards, crank-arms on said rocking shaft, links attached to said arms, blocks slidable upon said guides and whereto said links are attached, and a wire extending between said blocks, substantially as described.

5. In a butter cutting or printing machine, a butter-box and means for expelling butter therefrom, in combination with a butter-cutting device at the delivery end of said box, a metallic frame at the delivery end of the box, a gage-plate pivotally mounted upon the upper part of said frame and occupying a plane parallel with the end of the box, means for adjusting said gage-plate, and suitable print-delivery means, substantially as described.

6. In a butter cutting or printing machine, a butter-box, equipped with a butter-cutting device, a butter-expelling means a suitable butter-cut-off device, an adjustable gage-plate occupying a plane parallel to the plane of the said cutting device and the right-angled arm whereby said plate is movable and adjustably supported, substantially as described.

7. In a butter cutting or printing machine, a butter-box equipped with butter-cutting wires and butter-expelling means, in combination with a substantially right-angled delivery-board having a portion forming an extension of the bottom of said box, and means for lowering said board to deliver prints of butter in a substantially horizontal position, substantially as described.

8. In a butter cutting or printing machine, a butter-box equipped with butter expelling and cutting devices, in combination with a right-angled delivery-board pivoted upon said box, a catch-lever normally supporting said board and whereby said board may be gently lowered, substantially as described.

9. In a butter cutting or printing machine, a butter-box and butter-severing devices, in combination with an angular delivery-board pivoted upon said box, means normally supporting said board, and a lever whereby the operator may gently lower said delivery-board, substantially as described.

10. In a butter cutting or printing machine, a butter-box equipped with butter expelling and cutting devices, in combination with a gage, adapted to be positioned above and removable from the delivery end of said box, an angular delivery-board pivoted with relation to said box to receive a pile of prints or bricks, and a latch normally supporting said board in its upright position, said board being adapted to be lowered into substantially a horizontal position, as and for the purpose specified.

11. In a butter cutting or printing machine, a delivery-box and butter-cutting devices, in combination with an angular delivery-board adapted to receive and support a pile of prints or bricks, a receiving-board said angular board being adapted to be lowered to a substantially horizontal position to deposit said pile of bricks upon said receiving-board, substantially as described.

12. In a butter-cutting machine, a butter-box and cutting devices, in combination with an angular delivery-board having a horizontal pivoted support, a latch-lever and a part on said delivery-board to engage said lever whereby said board may be raised and lowered, substantially as described.

13. In a butter cutting or printing machine, a butter-box and cutting-wires, in combination with a plunger in said box, a standard adjacent to said box, lugs 30 on said standard, an angular rod, 29 29' arranged in said lugs, a block on said rod between said lugs, a set-screw in said block, and a gage-plate attached to said rod parallel with the cutting-wires of said box, substantially as described.

14. In a butter cutting and printing machine, a suitable frame and butter-box erected thereon, a plunger, means upon the box for operating said plunger, a metallic frame at the delivery end of said box, vertical guides upon said frame, vertical and horizontal wires stretched upon said frame across the end of said box, blocks slidable on said guides, a bow whereto said blocks are attached, a cross-cut wire stretched upon said blocks, a rocking shaft arranged upon said metallic frame above said box, arms upon said shaft, links connecting said arms with said blocks, manual means for operating said rock-shaft, a gage-plate adjustably supported upon said metallic frame, an angular delivery-board pivoted upon said frame, and a latch-lever for operating said delivery-board, substantially as described.

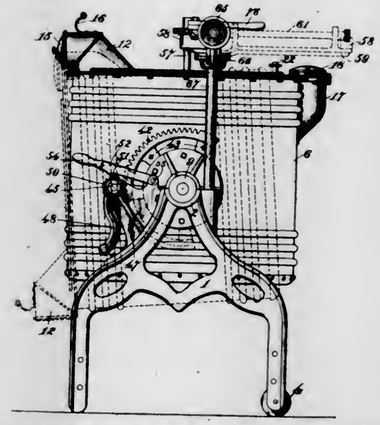
15. In a butter cutting or printing machine, a butter-box, in combination with a metallic frame at the delivery end of said box, said frame comprising the standards, 6 6 and the cross-bars, 2' 7, horizontal and vertical wires stretched between said standards and said bars respectively, guides upon said standards, a spring-bow, blocks upon the ends of said bow and guided upon said standards, a cross-cut wire stretched between said blocks, means for reciprocating said bow, a gage-plate provided upon said frame and shiftable into and out of operating position, and a suitable delivery-board, substantially as described.

16. In a butter cutting or printing machine, a suitable frame and a butter-box, in combination with cutting-wires stretched across the delivery ends of said box, a cross-cut wire and means for moving the same across the end of said box, means for discharging the butter from said box, a right-angled delivery-board pivoted upon said frame beneath said box to receive the prints of butter, a latch-lug on said board, a latch-lever pivoted beneath said board to engage said lug and a stop upon said latch-lever, substantially as described.

17. In a butter cutting or printing machine, a frame, in combination with a butter-box mounted upon said frame, a plunger in said box, a mechanism for moving said plunger in said box, a rigid frame at the discharge end of said box, cutting-wires stretched on said frame, a transverse reciprocating cutter and a crank mechanism for operating said transverse cutter, said crank mechanism having its pivotal support above said box, substantially as described.

18. In a butter cutting or printing machine, a butter-box with means for discharging butter therefrom, in combination with a rigid frame at the discharge end of said box, cutting-wires stretched on said frame, a gage-plate a supporting-arm for said gage-plate pivoted on said frame above said box and suitable butter-delivery means, substantially as described.

845,469. STARTER-CAN. FREDERICK J. MACNISH, Oak Park, Ill., assignor to The Creamery Package Mfg. Company, Chicago, Ill., a Corporation of Illinois. Filed July 28, 1906. Serial No. 328,262.



Claim.—1. In a starter-making can, a suitable frame, in combination with a jacketed can trunnioned therein on an axis perpendicular to the axis of the can, a combined overflow and drain valve arranged in said jacket and means for supplying liquid to the jacket, substantially as described.

2. In a starter-making can, a suitable frame, in combination with a jacketed can trunnioned therein on an axis perpendicular to the axis of the can, a combined overflow and drain valve arranged in said jacket, means for supplying liquid to the jacket and means for tempering the contents of the jacket, substantially as described.

3. In a starter-making can a suitable frame, in combina-

tion with a can trunnioned therein, a bracket fixed above said can, a drive-shaft in said bracket, an agitator in said can, and detachably mounted upon said bracket and a flexible connection between said shaft and said agitator, substantially as described.

4. In a starter-making can, a suitable frame, in combination with a can trunnioned therein, a bearing fixed above said can, a driving-shaft in said bearing, an agitator provided in said can, a flexible driving connection between said shaft and said agitator and a swinging support for said agitator and flexible connection, substantially as described.

5. A starter-making can comprising an inner and outer tank, in combination with a suitable frame wherein said can is trunnioned, a spout at the top communicating with the inner tank only, and means for tilting and righting said can in said frame; substantially as described.

6. A suitable frame, in combination with a jacketed can trunnioned therein, a spout at the top of said can and a hook on said spout, and means for tilting and righting said can on said frame, substantially as described.

7. A jacketed starter-can trunnioned in a suitable frame, in combination with a lid for said can, said lid comprising a stationary portion and a removable portion, and a spout arranged in said stationary portion, substantially as described.

8. A starter-can comprising an inner and outer tank, in combination with a suitable frame wherein said can is trunnioned, means for turning said can on its trunnions, a spout on the top of said can in communication with the inner tank only, and a closure for said spout; substantially as described.

9. A starter-can comprising an inner and outer tank, in combination with a suitable frame whereon said can is trunnioned, means for turning said can on said trunnions, a spout upon the top of said can, in communication with the inner tank and a device on said spout for attaching a receiving-receptacle, substantially as described.

10. In a starter-can, comprising inner and outer tanks and mounted for turning in a suitable frame, cold-water and steam pipes communicating with said outer tank through a common connection and means upon said frame to prevent the turning of said connecting member with said can, substantially as and for the purpose described.

11. A starter-can mounted for turning upon a suitable frame, a bracket pivoted upon said frame and normally overhanging said can, means for swinging said bracket from over said can, an agitator in the can and having bearings in said bracket, a rotatable shaft on said bracket and suitable connection between said agitator and said shaft operating said agitator, substantially as described.

12. A starter-can mounted for turning upon a suitable frame, a bracket mounted upon said frame and overhanging said can, an agitator in said can and having bearings in said bracket and means for swinging said bracket from over said can, substantially as and for the purpose described.

13. A starter-can mounted for turning upon a suitable frame, a bracket mounted upon said frame and normally overhanging said can, and adapted to be swung from over said can, means for locking said bracket in both operative and open position, an agitator in the can and having bearings in said bracket and means for rotating said agitator, substantially as described.

14. In a device of the class described, a can provided with trunnions, a suitable frame therefor, means for tilting the can on said trunnions, in combination with a bracket attached to said frame, said bracket comprising a stationary portion and a swinging portion pivoted on said stationary portion, an agitator in said can and journaled in the end of said swinging portion, a flexible drive-shaft journaled in said bracket and suitable connections between said drive-shaft and said agitator, substantially as described.

15. In a device of the class described, a can provided with trunnions, a suitable frame therefor, and means for tilting the can on said trunnions, in combination with, a bracket attached to said frame, said bracket comprising a stationary portion and a swinging portion pivoted on said stationary portion, a shaft in each said portions, a flexible joint connecting said shafts above the pivotal point of the bracket, an agitator in said can and journaled upon the outer end of said swinging portion and a suitable connection between said agitator and the shaft carried by said swinging portion in the bracket, substantially as described.

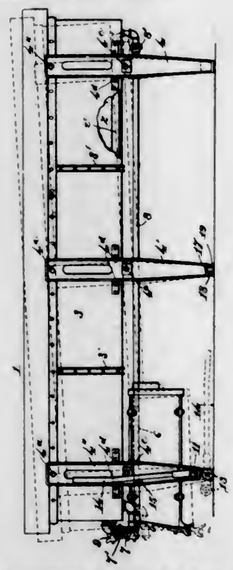
16. In a device of the class described, a can mounted upon a suitable frame and provided with an agitator, said agitator comprising a vertical shaft having a plurality of blades extending therefrom, and an upper end extending above the top of the can and of greater diameter than the rest of the shaft, and constituting a journal for said agitator, in combination with a bracket carrying a drive-shaft, a bearing upon said bracket for the journal of said agitator and a slit in said bearing of greater width than the diameter of said agitator-shaft, substantially as and for the purpose described.

17. In a device of the class mentioned, a suitable frame in combination with a can trunnioned therein, means for swinging said can on its trunnions, a detachable agitator suspended in said can and adapted for use only when the can is in a vertical position, suitable drive mechanism for said agitator, and a support for said agitator and its drive mechanism; substantially as described.

18. In a device of the class mentioned, a suitable frame in combination with a can trunnioned therein, means for swinging said can on its trunnions, a detachable agitator suspended in said can and adapted for use only when the can is in vertical position, suitable drive mechanism for said agitator, and a swinging support for said agitator and its drive mechanism; substantially as described.

19. In a starter-making can, a suitable frame, in combination with a can trunnioned therein, means for swinging said can on its trunnions, a detachable agitator suspended in said can and adapted for use only when the can is in vertical position, suitable drive mechanism for said agitator, a support for said agitator and its drive mechanism, and means for swinging said support and drive mechanism from over said can; substantially as described.

845,470. CHEESE-VAT. FREDERICK J. MACNISH, Oak Park, Ill., assignor to The Creamery Package Mfg. Company, Chicago, Ill., a Corporation of Illinois. Filed July 28, 1906. Serial No. 328,263.



Claim.—1. A cheese-vat, provided with a water-jacket, in combination with a stove arranged beneath the vat, a water heater or coil in said stove and long and short circulating-pipes connecting said coil with opposite ends of said water-jacket, substantially as described.

2. A cheese-vat, provided with a water-jacket, in combination with a stove arranged beneath the vat and detachably secured thereto, a heater-coil in said stove, and long and short circulating-pipes connecting said coil with opposite ends of said water-jacket, substantially as described.

3. The combination of a cheese-vat comprising a water-jacket, supported upon a plurality of detachable legs, with a hot-water heater arranged beneath said vat and detachably secured thereto, and circulating-pipes connecting said hot-water heater with said jacket, substantially as described.

4. In a cheese-vat, the combination of a tank provided with a water-jacket; with a plurality of legs detachably secured thereto, cross members connecting said legs in pairs and a heater detachably secured to said vat, and resting upon one of said cross members, substantially as described.

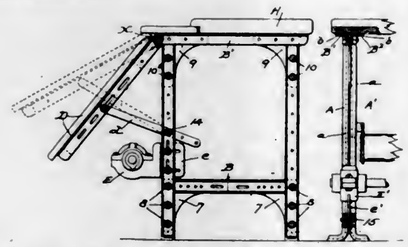
5. In a cheese-vat, the combination of a tank provided with a water-jacket; with a plurality of detachable legs secured thereto, cross members connecting said legs in pairs, a hot-water heater arranged beneath said tank and resting upon one of said cross members, and circulating-pipes connecting said heater with said water-jacket, substantially as described.

6. In a self-heating cheese-vat carrying a stove at one end, a plurality of detachable legs secured thereto in pairs, and means for shortening the pair of legs adjacent to said stove to tilt said vat, substantially as and for the purpose specified.

7. A cheese-vat comprising a tank provided with a water-jacket and having a suitable heater secured thereto; in combination with a plurality of legs detachably secured to said vat and arranged in pairs, one of said pairs being shorter than the others, extension members on said short pair of legs and means for operating said extension members to tilt or right the vat, substantially as described.

8. A self-heating cheese-vat provided with a plurality of detachable legs arranged in pairs, fulcrum devices arranged upon one pair of said legs, and means for shortening another said pair of legs to tilt the vat, substantially as described.

845,471. SEWING-MACHINE TABLE. CHARLES MITCHELL, Poughkeepsie, N. Y., assignor to Wilcox & Gibbs Sewing Machine Company, New York, N. Y., a Corporation of New York. Filed July 27, 1906. Serial No. 328,063.



Claim.—1. The herein-described work-table, comprising a table-top and supporting-frames, each consisting of flanged upright bars in pairs and two cross-pieces, both formed of pairs of flanged bars with corner-webs between the pairs of bars and uniting the uprights to the cross-pieces.

2. The herein-described work-table, comprising a table-top and supporting-frames, each made of pairs of flanged bars secured back to back but spaced with hangers for shaft-bearings having webs adapted to be secured between adjacent bars.

3. The herein-described work-table, comprising a table-top and supporting-frames, each consisting of uprights and cross-pieces, both made of pairs of flanged bars secured back to back but spaced, with connecting-webs at the corners and with hangers having webs adapted to be secured between the adjacent bars of either an upright or cross-piece.

845,472. FOOD PRODUCT. ALPHONSE MOREL-LAUTIER, Grasse, France. Filed July 5, 1904. Serial No. 215,360.

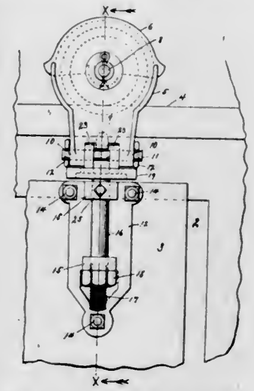
Claim.—A food product consisting of an olive-oil extract of truffles having the taste and odor characteristic of the latter, substantially as described.

845,473. SEPARABLE FASTENER. WILLIAM B. MURPHY, New York, N. Y. Filed June 7, 1906. Serial No. 320,588.



Claim.—A device for the purpose specified, consisting of a resilient, laterally-compressible, globular stud, provided with shouldered clenching-clips, an apertured plate to rest upon the goods, the clips on the stud extending through the respective apertures in said plate and clenched down on that side of the plate which is to be applied to the goods, and an eyelet integral with said plate for securing the latter to the goods.

845,474. DOOR-HANGER. PHILIP A. MYERS, Ashland, Ohio, assignor to F. E. Myers and Brother, Ashland, Ohio, a Copartnership. Filed Aug. 4, 1905. Serial No. 272,628.



Claim.—1. The combination, with a track and a door, of a hanger comprising an upper portion, a track-wheel mounted therein, a lower portion secured to the door, and an intermediate member rotatable around and adjustable along a vertical axis in one of said portions and means for connecting the same to the adjacent edge of the other portion, said member serving to adjust the door laterally by its rotation and vertically by its longitudinal adjustment, substantially as described.

2. The combination, with a track and a door, of a hanger comprising an upper portion, a track-wheel mounted therein, a lower portion secured to the door, an intermediate member rotatable around and adjustable along a vertical axis in one of said portions and means for pivotally connecting the same to the other portion on an axis parallel to said track, said member serving to adjust the door laterally by its rotation and vertically by its longitudinal adjustment, substantially as described.

3. The combination, with a track and a door, of a

hanger comprising a wheel-supporting frame, a track-wheel mounted therein, a plate secured to the door and provided with a vertical bearing, and an intermediate member rotatable and vertically adjustable in said bearing and means for connecting the same to the lower edge of the wheel-supporting frame, said member serving to adjust the door laterally by its rotation and vertically by its vertical adjustment in said bearing, substantially as described.

4. The combination, with a track and a door, of a hanger comprising a wheel-supporting frame, a track-wheel mounted therein, a plate secured to the door, a vertical bearing carried thereby, an intermediate member movable and vertically adjustable in said bearing, and means for pivotally connecting the same to the wheel-supporting frame on an axis parallel to said track, said member serving to adjust the door laterally by its rotation and vertically by its vertical adjustment, substantially as described.

5. The combination, with a track and a door, of a hanger comprising an upper portion, a track-wheel mounted therein, a lower portion secured to the door, and an intermediate member movable around and adjustable along a vertical axis in one of said portions, a part carried by said intermediate member and arranged eccentrically thereto, forming the connection between said movable member and the other portion of the hanger, with which other portion of the hanger it maintains fixed relations with respect to their distance from the vertical plane of the track, substantially as described.

6. The combination, with a track and a door, of a hanger comprising an upper portion, a track-wheel mounted therein, a lower portion secured to the door, and an intermediate member rotatable around and adjustable along a vertical axis in one of said portions, a part carried by said intermediate member and arranged eccentrically thereto forming the connection between said rotatable member and the other portion of the hanger, and means for pivotally connecting the same to the other portion on an axis parallel with the track, substantially as described.

7. The combination, with a track and a door, of a hanger comprising an upper portion, a track-wheel mounted therein, a lower portion secured to the door, an intermediate member rotatable around a vertical axis in one of said portions, an eccentrically-disposed member carried by said intermediate member and having a bearing therein, a coupling member pivotally mounted in said bearing, the pivotal axis being vertical, and means for connecting the same to the other portion of the hanger, substantially as described.

8. The combination, with a track and a door, of a hanger comprising an upper portion, a track-wheel mounted therein, a lower portion secured to the door, an intermediate member rotatable around a vertical axis in one of said portions, a head located eccentrically thereto and having a bearing therein, a coupling member rotatably mounted in said bearing, the axis being vertical, and means for pivotally connecting the same to the other portion of the hanger around an axis parallel to the track, substantially as described.

9. The combination, with a track and a door, of a hanger comprising a wheel-supporting frame, a track-wheel mounted therein, a plate secured to the door, a vertical bearing on the same, a member rotatably mounted in said bearing, an eccentrically-disposed head carried thereby and having a bearing located therein and eccentric to the first-mentioned bearing, a coupling member mounted in said last-mentioned bearing, and means for connecting the same with the wheel-supporting frame, substantially as described.

10. The combination, with a track and a door, of a hanger comprising a wheel-supporting frame, a track-wheel mounted therein, a plate secured to the door, a vertical bearing carried by said plate, a member rotatably mounted in said bearing, a head located eccentrically thereto and having a second bearing located therein and eccentric to the first-mentioned bearing, a coupling member mounted in said last-mentioned bearing, and means for pivotally connecting said coupling member to the wheel-supporting frame around an axis parallel with the track, substantially as described.

11. The combination, with a track and a door, of a hanger comprising a track-wheel, a plate secured to the door, a vertical bearing carried by said plate, a member rotatably mounted in said bearing, and a head located eccentrically thereto, a coupling member pivotally mounted in said head, the pivotal axis being vertical, interfitting bearing-lugs formed on said coupling member and wheel-frame, and a removable pivot-pin passing through said bearing-lugs parallel with the track, substantially as described.

12. The combination, with a track and a door, of a hanger comprising a wheel-supporting frame, parallel pivot-lugs and an intermediate guard-hook, a track-wheel mounted therein, a plate secured to the door, a vertical bearing carried by said plate, a member rotatably mounted in said bearing, a head located eccentrically thereto, a coupling member pivoted in said head, the pivotal axis being vertical, pivot-lugs on said coupling member adapted to bear against the pivot-lugs of the wheel-supporting frame and separated to receive the guard-hook between them, and a removable pivot pin passing through said pivot-lugs parallel with the track, substantially as described.

13. The combination, with a track and a door, of a hanger comprising a wheel-supporting frame, a track-wheel, a plate secured to the door, a vertical bearing carried by said plate, a member rotatably mounted in said bearing, a head located eccentrically thereto and having a bearing-recess in the under side of said head, and an aperture of less diameter above the same, a coupling member comprising a disk fitting in the bearing-recess of the head, and having a part extending through the aperture of said head, and means for connecting the said coupling member to the wheel-supporting frame, substantially as described.

14. The combination, with a track and a door, of a hanger comprising a wheel-supporting frame, a track-wheel, a plate secured to the door, a vertical bearing carried by said plate, an intermediate member mounted in said bearing, a threaded portion on said member extending below said bearing, a nut mounted on said threaded portion, a set-screw mounted in the bearing to lock the intermediate member against rotation, a head located eccentrically to said intermediate member and having a bearing therein, a coupling member mounted in the last-mentioned bearing, and means for connecting said coupling member to the wheel-supporting frame, substantially as described.

15. The combination, with a track and a door, of a hanger comprising a wheel-supporting frame, a track-wheel, a plate secured to the door, a vertical bearing carried by said plate, an intermediate member mounted in said bearing, a threaded portion on said member extending below said bearing, a nut mounted on said threaded portion, a set-screw mounted in the bearing to lock the intermediate member against rotation, a head located eccentrically to said intermediate portion and having a bearing therein, a coupling member mounted in the eccentric-head bearing, and means for separably connecting said coupling member to said wheel-supporting frame around a pivotal axis parallel with the track, substantially as described.

16. The combination, with a track and a door, of a hanger comprising a wheel-supporting frame, a track-wheel, a plate secured to the door, a vertical bearing carried by said plate, an intermediate member mounted in said bearing, a threaded portion on said member extending below said bearing, a nut mounted on said threaded portion to adjust said intermediate member vertically, means for locking said inatrmediate member against rotation, a head carried by said intermediate member and located eccentrically thereto and having a bearing therein, a coupling member mounted in the eccentric-head bearing, and means for connecting the same to the wheel-supporting frame, substantially as described.

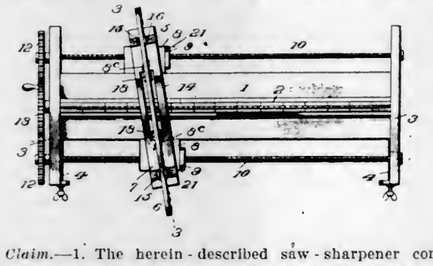
17. The combination, with a track and a door, of hangers for said door, each comprising an upper portion and a track-wheel mounted therein, a lower portion secured to the door, an intermediate member rotatable around a vertical axis in the lower portion, a head carried by said intermediate member and located eccentrically thereto and having a bearing therein, a coupling member mounted in said bearing, the axis being vertical, and means for connecting the same to the upper portion of the hanger, means for so connecting said intermediate members as to cause the same to rotate in unison, and hand-operated means for rotating one of said intermediate members, substantially as described.

18. The combination, with a track and a door, of hangers for said door, each comprising an upper portion and a track-wheel mounted therein, a lower portion secured to the door, an intermediate member rotatable around the vertical axis of the lower portion, a head carried thereby and located eccentrically thereto and having a bearing therein, and a coupling member rotatably mounted in said bearing, the axis being vertical, means for connecting the same to the upper portion of the hanger, means for so connecting said intermediate members as to cause the same to rotate in unison, hand-operated means for rotating one of said intermediate members, and means for holding the same in adjusted position, substantially as described.

19. A door-hanger of the class described comprising a plate for attachment to a door, a hanger member connected to said plate for vertical and axial adjustment, means coacting with said plate and member to adjust the latter and a wheel-housing eccentrically and pivotally connected to said adjustable member on a horizontal axis.

20. A door-hanger comprising a sheave-supporting hanger-frame and a door-supporting strap and means connecting said frame and strap, said means adapted to turn on vertical and horizontal axes.

845,475. SAW-SHARPENER. JAMES W. MCALPIN, Savannah, Ga. Filed June 22, 1906. Serial No. 322,885.



Claim.—1. The herein-described saw-sharpener comprising a saw-clamp having parallel longitudinal edges, a file, a file-holder, a carrier above which said file-holder is located, said carrier being composed of two blocks fitted against said longitudinal edges, and a connecting-plate extended over said clamp formed with a longitudinal opening to accommodate the file and file-holder, and means engaging each of said blocks for causing them to move longitudinally of the clamp.

2. The herein-described saw-sharpener comprising a saw-clamp having parallel longitudinal edges, a file, a file-holder, a carrier above which said file-holder is located, said carrier being composed of two blocks fitted against said longitudinal edges, and a connecting-plate extended over said clamp and formed with a longitudinal opening to accommodate the file and file-holder, said plate being pivotally secured to one of said blocks, and having a slot near its other end, a nutted bolt passed through said slot and mounted in the other of said blocks, and means engaging each of said blocks for effecting the movement thereof longitudinally of the clamp.

3. The herein-described saw-sharpener comprising a saw-clamp having parallel longitudinal edges, a file, a file-holder, a carrier above which said file-holder is located, said carrier being composed of two blocks fitted against said longitudinal edges, a connecting-plate extended over said clamp and formed with a longitudinal opening to accommodate the file and file-holder, and vertical guideways mounted on said plate and open at their upper ends, said file-holder fitting in said guideways, and means engaging each of said blocks for causing them to move longitudinally of the clamp.

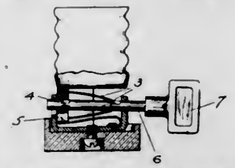
4. The herein-described saw-sharpener comprising a saw-clamp, a file, a file-holder, a carrier for the latter fitted at its ends to travel on said clamp, threaded clutches carried by said carrier at each side of the clamp, threaded rods at opposite sides of the clamp with which said clutches engage, and means for effecting the simultaneous actuation of both rods.

5. The herein-described saw-sharpener comprising a saw-clamp having parallel longitudinal edges, a file-holder, a carrier therefor composed of two blocks fitted against said longitudinal edges, and a connecting-plate extended over said clamp, threaded clutches carried by said blocks, threaded rods at opposite sides of the clamp with which said clutches engage, and means for effecting the simultaneous actuation of both rods.

6. The herein-described saw-sharpener comprising a saw-clamp composed of two end cross-bars and two longitudinally-disposed parallel members, one being fixed to said cross-bars and the other movable, means mounted on said cross-bars for adjusting and holding said movable member, a file, a file-holder, a carrier for the latter composed of two blocks at opposite sides of the clamp, each block having a threaded portion, a plate forming a connection between said blocks, and means detachably securing said plate to one of said blocks, threaded rods mounted at their ends in said cross-bars and with which engage said threaded portion of said blocks, and means mounted on one of said cross-bars for effecting the simultaneous operation of both of said threaded rods.

7. The saw-sharpener herein described comprising the clamp composed of two end cross-bars and two members, one being fixed to said cross-bars and the other movable in guideways thereof, adjusting-rods mounted on said cross-bars and engaging said movable member, blocks guided by said clamp, threaded rods mounted in said cross-bars, means for actuating said rods, means carried by said blocks for detachably engaging said rods, the plate extended over said clamp and secured to said blocks, vertical guide-bars on said plate, the file-holder, and stop-pins between said guide-bars.

845,476. SWITCH MECHANISM FOR ELECTRIC-LAMP SOCKETS AND THE LIKE. JAMES P. NEILSON, Bridgeport, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a Corporation of Connecticut. Filed July 25, 1906. Serial No. 327,606.



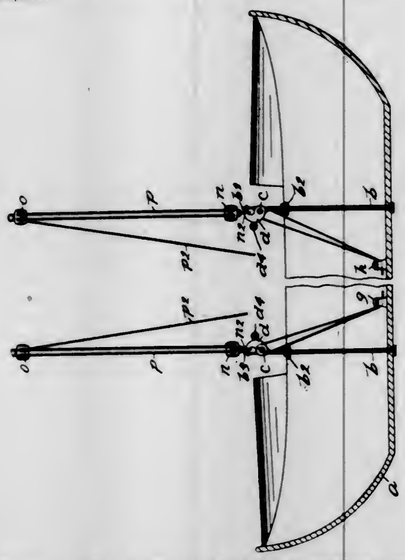
Claim.—1. An electrical switch device having a spindle and a contact-piece connected with lost motion to said spindle, and directly operated by the latter with means tending to keep said parts in the same positions with relation to each other rotarily.

2. A key-socket having a spindle and a contact-piece connected with lost motion to said spindle, and directly operated by the latter with spring means tending to keep the spindle and contact-piece in the same positions with relation to each other rotarily.

3. A key-socket having a spindle, a thumb-key and a contact-piece connected with lost motion to said spindle and directly operated by the latter with a spring connecting the spindle and the contact-piece tending to keep them in the same position with relation to each other rotarily.

4. A key-socket having a spindle and contact-piece connected with lost motion to said spindle, with a spring connecting the spindle and contact-piece and secured to the latter on opposite sides of the spindle, substantially as described.

845,477. BOAT-RELEASING DEVICE. HARRY G. OLIVER, New York, N. Y. Filed Dec. 15, 1905. Serial No. 291,860.



Claim.—1. The herein-described boat-releasing device consisting of uprights secured in the boat, weighted hooks pivoted to said uprights near the upper ends thereof and the points of which are adapted to pass through apertures formed in the ends of said uprights, means for locking said hooks in their closed position, pulley-wheels connected with the pivoted portions of said hooks, and flexible devices connected with the opposite side faces of said pulley-wheels and passing beneath pulleys mounted in the bottom of the boat and connected between said pulleys, substantially as shown and described.

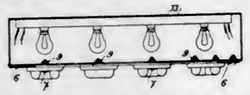
2. The herein-described boat-releasing device consisting of uprights secured in the boat, weighted hooks pivoted to said uprights near the upper ends thereof and the points of which are adapted to pass through apertures formed in the ends of said uprights, means for locking said hooks in their closed position, pulley-wheels connected with the pivoted portions of said hooks, flexible devices connected with the opposite side faces of said pulley-wheels and passing beneath pulleys mounted in the bottom of the boat and connected between said pulleys, and hoisting-tackle provided with blocks having links adapted to engage said hooks, substantially as shown and described.

3. An apparatus of the class described, comprising rods or supports adapted to be secured in a boat and provided at their upper ends with apertures, weighted hooks pivoted to said rods or supports and the free ends of which are adapted to pass through said apertures, means for locking said hooks in their closed position, pulley-wheels connected with the pivoted ends of said hooks, and flexible devices connected with the opposite side faces of the pulley-wheels and adapted to be passed around pulleys mounted in the bottom of the boat, substantially as shown and described.

4. An apparatus of the class described, comprising rods or supports adapted to be secured in a boat and provided at their upper ends with apertures, weighted hooks pivoted to said rods or supports and the free ends of which are adapted to pass through said apertures, means for locking said hooks in their closed position, pulley-wheels connected with the pivoted ends of said hooks, and flexible devices connected with the opposite side faces of the pulley-wheels and adapted to be passed around pulleys mounted in the bottom of the boat, the connection of the pulley-wheels with the hooks being made by means of bolts which are passed through said hooks and through the uprights or supports and through said wheels and on which said wheels are longitudinally movable, and means for locking said wheels to said bolts, substantially as shown and described.

5. A boat provided with uprights, weighted hooks pivoted near the upper ends of said uprights and the free ends of which are adapted to pass through apertures in said uprights, the pivotal connection of said hooks with said uprights being made by means of bolts which are passed therethrough, pulley-wheels mounted on said bolts, pulleys mounted in the bottom of said boat, and flexible devices connected with the opposite side faces of said pulley-wheels and passed around the pulleys in the bottom of the boat, substantially as shown and described.

845,478. BOX FOR ILLUMINATED SIGNS AND TRANSPARENCIES. GEORGES E. RAINAUD, Vincennes, France. Filed Sept. 26, 1905. Serial No. 280,119.



Claim.—1. A box for signs and luminous transparencies having one or more transparent designs in relief upon the front face and hollow upon the back, one of the faces of the box consisting of a supporting-plate of glass upon the front face of which the back faces of the designs are fixed to prevent admission of foreign matters to the hollow portions of the designs, the portions of the supporting-plate not covered by the affixed designs being rendered opaque and the portions covered by said designs being left transparent, the parts being combined substantially as shown and described.

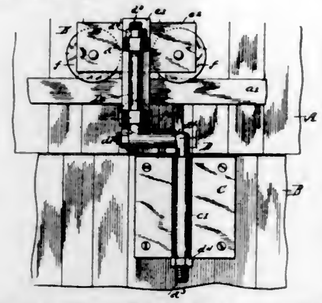
2. In a box for signs and luminous transparencies having one or more designs in relief upon the front face and hollow upon the back, one of the faces of the box consisting of a supporting-plate upon the front face of which the back faces of the designs are fixed to prevent admission of foreign matters to the hollow portions of the designs, the combination with the supporting-plate of bolts passing through holes provided in the designs and through corresponding holes in the supporting-plate, and nuts applied upon the inner ends of the said bolts.

3. In a box for signs and luminous transparencies having one or more designs in relief upon the front face and hollow upon the back, one of the faces of the box consisting of a supporting-plate upon the front face of which the designs are fixed to prevent admission of foreign matters to the hollow portions of the designs, the combination with the supporting-plate of bolts passing through holes in said plate and in said designs, nuts upon the inner ends of the bolts and elastic washers upon the bolts and between the designs and the supporting-plate.

845,479. DOOR-HANGER. HENRY J. RANDALL, East Cohoctah, Mich., assignor to F. E. Meyers and Brother, Ashland, Ohio, a Copartnership. Filed May 11, 1905. Serial No. 259,863.

Claim.—1. In a door-hanger, a strap adapted to be secured to a door, said strap having a bearing thereon, a hanger-frame adapted to support sheaves and having bearings provided thereon, and means connecting said hanger-frame and strap, said means being hingedly connected and rotatably mounted in the bearings in the strap and hanger-frame.

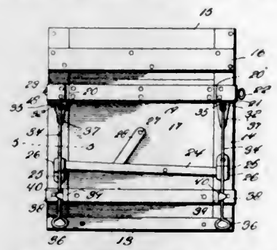
2. In a door-hanger, a strap secured to a door and having a tubular bearing thereon, a hanger-frame adapted to support sheaves and having detachable bearings secured thereon, and means connecting said hanger-frame and strap, said means being hingedly connected and rotatably and adjustably mounted in the bearings on the hanger-frame and the strap.



3. A door-hanger comprising a sheave-supporting hanger-frame, and a door-supporting strap, said frame and strap having vertical bearings thereon, and means connecting said frame and strap, said means being rotatably mounted in said bearings and having a horizontal hinge connection.

4. In a door-hanger, a sheave-supporting hanger-frame having vertical bearings thereon, a rod rotatably mounted in said bearings, and provided with a horizontal bearing, a door-supporting strap having a vertical bearing thereon, a rod rotatably mounted in said bearing and provided with a horizontal arm rotatably mounted in said horizontal bearing of the first-named rod.

845,480. SCOOP-BOARD. WILLIAM T. RONEY, Bethany, Ill. Filed Apr. 18, 1906. Serial No. 312,464.

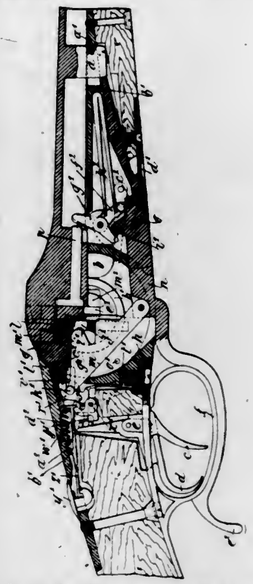


Claim.—1. The combination with a wagon-body, of a scoop-board mounted for swinging movement upon the body, rods pivotally connected with the body and arranged at times to hold the scoop-board in its raised position and at times to support the same in its lowered position, keepers for the rods, a trap-door mounted in said scoop-board, a latch-bar carried by the trap-door, keepers for said latch-bar, and means carried by the last-named keepers for preventing disengagement of the rods from the first-named keepers.

2. The combination with a wagon-body, of a scoop-board mounted for swinging movement upon the body, rods pivotally connected with the body and arranged at times to hold the scoop-board in its raised position, and at times to support the same in its lowered position, keepers for the rods, a trap-door mounted in said scoop-board, a latch-bar carried by the trap-door, keepers for said latch-bar, and means carried by the last-named keepers for exerting a tension upon said rods when the same are engaged with the first-named keepers.

845,481. GUN. EDOUARD SANNER, St. Etienne, France. Filed Feb. 21, 1905. Serial No. 246,676.

Claim.—1. A breech mechanism comprising a rotary breech-block placed transversely behind the barrels, hammers inclosed within said block, and means at the end of the barrel adapted to enter an appropriate opening in the block for automatically cocking the hammers when the block is opened.



2. A breech mechanism comprising a rotary breech-block placed transversely behind the barrels, hammers inclosed within said block, triggers for releasing the hammers, means for rotating the block and means operated thereby for locking the triggers while the breech is open and for releasing the same upon the closing of the breech.

3. A breech mechanism comprising a rotary breech-block placed transversely behind the barrels, hammers inclosed within said block, triggers for releasing the hammers, means for rotating the block and a safety spring-bolt operated thereby which locks the triggers while the breech is open and releases the same when the breech is closed.

4. A breech mechanism comprising a rotary breech-block placed transversely behind the barrels, hammers inclosed within said block, triggers for releasing the hammers, a lever for rotating the block, a link operated by said lever, a projection on said link, and a pivoted safety-catch provided with a projection adapted to engage the triggers on rotation of the catch and also with a forked projection adapted to receive the projection on said link, whereby on opening the breech said safety-bolt is brought into engagement with the triggers and is released from such engagement upon closing the breech.

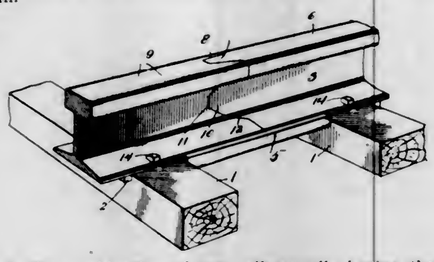
5. A breech mechanism comprising a rotary breech-block placed transversely behind the barrels, hammers inclosed within said block, triggers for releasing said hammers, means to rotate the block, means operated thereby to lock the triggers while the breech is open and for releasing the same upon the closing of the breech in combination with a safety-stud independently operated.

6. A breech mechanism comprising a rotary breech-block, a rocking lever and means to operate the same, in combination with an automatic ejecting device consisting in an ejecting-pin, two sets of levers acting thereupon actuated by the rocking lever, a spring acting upon said levers to force them in opposite directions, a spring-actuated catch in connection with one set of said levers, and means to free said spring-actuated catch, substantially as described.

845,482. RAIL-JOINT. LEWIS W. SAYRE, Byesville, Ohio. Filed July 18, 1906. Serial No. 326,690.

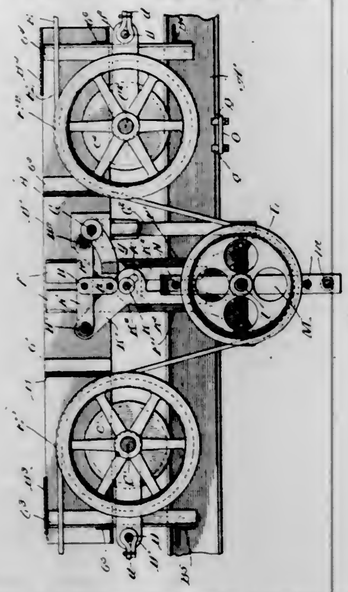
Claim.—1. The combination of two railway-rails having their tread portions connected by a tapered tongue formed on one rail, and a tapering recess formed in the

other rail to receive said tongue, and their web portions connected by a tapered tongue projecting from one rail and fitting a corresponding recess in the web of the other rail.



2. The combination of two railway-rails having their tread portions connected by a tapered tongue formed on one rail, fitting a corresponding recess in the tread of the other rail, their web portions connected by a tapered tongue projecting from one rail and fitting a corresponding recess in the web of the other rail, and their base portions connected by a tapered projection fitting a corresponding recess in the base of the other rail, and a base-plate adapted to be spiked to the ties and formed with opposite longitudinal flanges to engage the bases of the rails.

845,483. TROLLEY. WILLIAM J. SELLECK, Riverside, Conn. Filed Oct. 10, 1904. Serial No. 227,838.



Claim.—1. The combination with a trolley for transporting loads, of a track upon which the trolley travels, oppositely-swinging bell-crank levers fulcrumed upon said trolley, toggle-links uniting the diverging upper ends of said bell-crank levers, coöperating hooks carried by the lower ends of said bell-crank levers, means for automatically suspending a load from said hooks when the load is elevated into engagement with the trolley, and means for breaking said toggle-links and thereby swinging the hooks apart to release the load from the trolley.

2. The combination with a trolley for transporting loads, of a track upon which the trolley travels, oppositely-swinging bell-crank levers fulcrumed upon but bodily movable relatively to said trolley, coöperating hooks carried by the lower ends of said bell-crank levers, means for automatically bodily moving said bell-crank levers relatively to said trolley thereby swinging said hooks to receive a load when the load is elevated into engagement with the trolley, and means for relatively moving the upper ends of said bell-crank levers thereby swinging the hooks apart to release the load from the trolley.

3. The combination with a trolley for transporting loads, of a track upon which the trolley travels, oppositely-swinging bell-crank levers having overlapping diverging slots therein, a rod supported upon said trolley and extending through the slots in said bell-crank levers, coöperating hooks carried by the lower ends of said bell-crank levers adapted to be swung apart when engaged from beneath to receive a load-supporting means, and means for relatively moving the upper ends of said bell-crank levers and thereby separating the hooks to release the load.

4. The combination with a trolley for transporting loads, of a track upon which the trolley travels, oppositely-swinging bell-crank levers having overlapping diverging slots therein, a rod supported upon said trolley and extending through the slots in said bell-crank levers, coöperating hooks carried by the lower ends of said bell-crank levers adapted to be swung apart when engaged from beneath to receive a load-supporting means, and automatic means for relatively moving the upper ends of said bell-crank levers when the trolley has traveled a predetermined distance thereby separating said hooks and releasing the load from the trolley.

5. The combination with a trolley for transporting loads, of a track upon which the trolley travels, oppositely-swinging bell-crank levers having overlapping diverging slots, a rod supported upon the trolley and extending through the slots in said bell-crank levers, coöperating hooks carried by the lower ends of said bell-crank levers adapted to be swung apart when engaged from beneath to receive a load-supporting means, toggle-links connecting the diverging upper ends of said bell-crank levers, and means for breaking said toggle-links and thereby relatively swinging said bell-crank levers to disengage said hooks from the load-supporting means.

6. The combination with a trolley for transporting loads, of a track upon which the trolley travels, oppositely-swinging bell-crank levers having overlapping diverging slots, a rod supported upon the trolley and extending through the slots in said bell-crank levers, coöperating hooks carried by the lower ends of said bell-crank levers adapted to be swung apart when engaged from beneath to receive a load-supporting means, toggle-links connecting the diverging upper ends of said bell-crank levers, a rock-shaft journaled upon the trolley, an arm fixed to said rock-shaft and pivotally connected to said toggle-links, and means for partially rotating said rock-shaft to break the toggle-links.

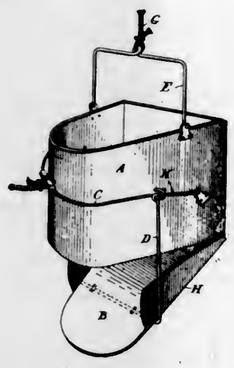
7. The combination with a trolley for transporting loads, of a track upon which the trolley travels, oppositely-swinging bell-crank levers having overlapping diverging slots, a rod supported upon the trolley and extending through the slots in said bell-crank levers, coöperating hooks carried by the lower ends of said bell-crank levers adapted to be swung apart when engaged from beneath to receive a load-supporting means, toggle-links connecting the diverging upper ends of said bell-crank levers, a rock-shaft journaled upon the trolley, an arm fixed to said rock-shaft and pivotally connected to said toggle-links, and a lever depending from and operatively connected to said rock-shaft.

8. The combination with a trolley for transporting loads, of a track upon which the trolley travels oppositely-swinging bell-crank levers having overlapping diverging slots, a rod supported upon the trolley and extending through the slots in said bell-crank levers, coöperating hooks carried by the lower ends of said bell-crank levers adapted to be swung apart when engaged from beneath to receive a load-supporting means, toggle-links connecting the diverging upper ends of said bell-crank levers, a rock-shaft journaled upon the trolley, an arm fixed to said rock-shaft and pivotally connected to said toggle-links, a lever depending from and operatively connected to said rock-shaft, and an obstruction fixed to the track in the path of said lever for swinging the same and thereby oscillating said rock-shaft.

9. The combination with a trolley for transporting loads, of a track upon which the trolley travels, oppositely-swinging bell-crank levers having overlapping diverging slots, a rod supported upon the trolley and extending through the slots in said bell-crank levers, coöperating hooks carried by the lower ends of said bell-crank levers adapted to be swung apart when engaged from beneath to receive a load-supporting means, toggle-links connecting the diverging upper ends of said bell-crank levers, a rock-shaft journaled upon the trolley, an arm fixed to said rock-shaft and pivotally connected to said toggle-links, a lever depending from and operatively connected to said rock-shaft, and a clutch interposed between said lever and rock-shaft whereby said lever may swing idly in one direction and when swung in opposite direction will oscillate said rock-shaft.

10. The combination with a trolley for transporting loads, of a track upon which the trolley travels, oppositely-swinging bell-crank levers having overlapping diverging slots, a rod supported upon the trolley and extending through the slots in bell-crank levers, coöperating hooks carried by the lower ends of said bell-crank levers adapted to be swung apart when engaged from beneath to receive a load-supporting means, toggle-links connecting the diverging upper ends of said bell-crank levers, a rock-shaft journaled upon the trolley, an arm fixed to said rock-shaft and pivotally connected to said toggle-links, a lever depending from and operatively connected to said rock-shaft, a clutch interposed between said lever and rock-shaft whereby said lever may swing idly in one direction and when swung in opposite direction will oscillate said rock-shaft, and an obstruction adjustably secured to the track in the path of said lever for swinging the same.

845,484. FRUIT-PICKING APPARATUS. ROBERT SIMPSON, London, Ontario, Canada. Filed Mar. 10, 1906. Serial No. 305,233.

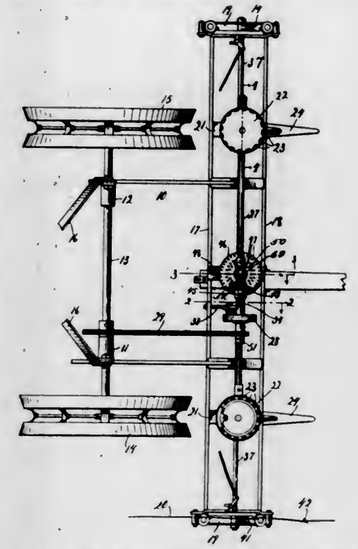


Claim.—1. A fruit-picking pail comprising a receptacle, with a bottom hinged thereon, and two bails; the first bail attached to the receptacle, the second bail connected by pivoted links to the bottom and by other pivoted links to the body of the receptacle, substantially as described.

2. A fruit-picking pail comprising a receptacle, with a bottom hinged thereon, a bail attached to the receptacle, a second bail, links pivoted to the receptacle and connected with the second bail, and pivoted links which connect the bottom to the second bail, substantially as described.

3. A fruit-picking pail or apparatus comprising a receptacle, with a lipped bottom hinged thereon, a bail pivoted on the receptacle, a second bail connected to the receptacle by means of links, and pivoted links connecting the bottom to the second bail, substantially as described.

845,485. PLANTING-MACHINE. ERNEST C. SMITH, Hinckley, Ill., assignor to Rock Island Plow Company, Rock Island, Ill., a Corporation of Illinois. Filed Aug. 31, 1906. Serial No. 332,848.



Claim.—1. In a planting-machine, in combination, a traction-wheel, dropping mechanism, and connection between the traction-wheel and the dropping mechanism including an automatically-disengaging clutch and a variable-speed mechanism, the variable-speed mechanism being located between the clutch and the dropping mechanism.

2. In a planting-machine, in combination, a traction-wheel, a counter-shaft, connection between the traction wheel and the counter-shaft comprising an automatically-disengaging clutch, dropping mechanism, and a variable-speed-gear connection between the counter-shaft and the dropping mechanism.

3. In a planting-machine, in combination, a wheeled frame, a driving-shaft for seeding mechanism journaled in the frame, a sleeve inclosing the shaft, variable-speed-gear connection between the sleeve and the shaft, a clutch-disk loose on the shaft, driving connection between a wheel of the frame and the disk, a spring-advanced clutch-arm carried by the sleeve, and a trip movable into and out of the path of the clutch-arm.

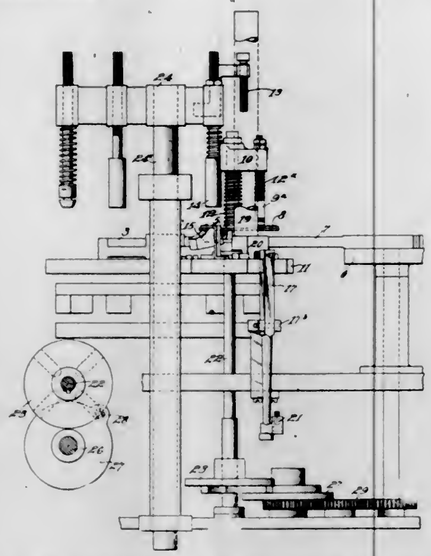
4. In a planting-machine, in combination, a wheeled frame, a driving-shaft for seeding mechanism journaled in the frame, a counter-shaft, connection between the counter-shaft and a wheel of the frame comprising an automatically-disengaging clutch, a variable-speed gear, rotative connection between the variable-speed gear and the driving-shaft for seeding mechanism, and a shiftable-gear connection between the counter-shaft and the variable-speed gear.

5. In a planting-machine, in combination, a wheeled frame, a driving-shaft for seeding mechanism journaled in the frame, a sleeve inclosing the shaft, connection between the sleeve and a wheel of the frame comprising an automatically-disengaging clutch, a variable-speed gear, rotative connection between the variable-speed gear and the shaft, and a shiftable-gear connection between the counter-shaft and the variable-speed gear.

845,486. WAD-STAMPING DEVICE. BRAINARD W. STEVENS and WILLIAM HANSON, Pinole, Cal., assignors to California Powder Works, San Francisco, Cal., a Corporation. Filed Feb. 6, 1906. Serial No. 299,708.

Claim.—1. In a cartridge-loading machine, the combination of a rotary carrier having perforations adapted to

receive wads, a stamper-plate beneath the carrier so arranged that the perforations of the carrier may pass thereover, a stamping device above the plate in alinement with the perforations, and a shell-carrier movable beneath the stamper-plate.

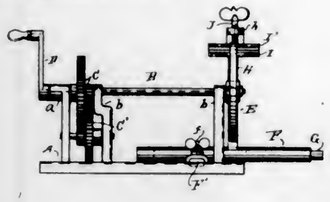


2. The combination with a cartridge-loading machine of a horizontally-revoluble carrier having openings in its periphery to receive wads and a stamper-plate over the surface of which the carrier is moved, mechanism by which the carrier is intermittently rotated a part of a revolution, spring-pressed clamping arms or fingers adapted to retain a wad in position while being moved by the carrier, a reciprocating wedge-shaped device whereby said arms are moved or opened to disclose a space sufficient for the reception of the wad, a wad-tube located above the periphery of the carrier and in line with the path of travel of the openings, means by which the wads are singly delivered to the carrier, means for retracting the opening device to allow the fingers to clamp the wads in position, a printing-stamp located in the path of travel of the wad, above the stamper-plate, and means for depressing the stamp upon the wad between the intermittent movements of the carrier.

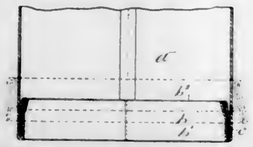
3. In combination with a cartridge-loading machine of a stamper-plate, an intermittently-revoluble wad-carrier consisting of a disk having peripheral openings, and spring-pressed clamping-fingers to hold the wads in the openings, a device for retracting the fingers to admit wads, said device comprising a centrally-fulcrumed bar, a wedge-shaped arm carried upon one end in the plane of the wad-carrier, a reciprocable rod connecting with the opposite end of the lever, and acting to oscillate the lever to first open the clamp, and to afterward allow it to close and hold the wad in the carrier.

845,487. SCISSORS-SHARPENER. JOHN M. STREHL, Grand Rapids, Mich. Filed Mar. 9, 1906. Serial No. 305,134.

Claim.—In combination with the frame and grinding mechanism of a scissors-grinding machine, a support lying parallel with and longitudinal of the frame and having an integral arm at right angles therewith and laterally adjustable in the frame, a guide longitudinally adjustable and revolubly supported in the support, an integral arm projecting up at right angles from the guide, an integral jaw on the standard, an adjustable jaw connected therewith, and a set-screw adjacent thereto, substantially as and for the purpose set forth.



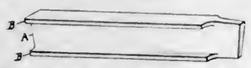
845,488. PANTS. GEORGE M. THERRE, Syracuse, N. Y., assignor of one-half to Thomas A. McCarthy, Binghamton, N. Y. Filed Oct. 14, 1905. Serial No. 282,740.



Claim.—1. A trousers-leg having its bottom portion formed with an inward fold, the lower portion of which is fastened to the interior of the trousers and the upper portion of said fold being loose to project below the fastened portion of said fold when said fold is reversed and turned up on the exterior of the trousers as set forth and shown.

2. A trousers-leg provided with a seamless cuff consisting of an extension of the cloth of the leg, said extension being foldable inwardly and fastened to the inner side of the leg from the bottom of the fold part way toward the top thereof, and foldable outwardly at the upper edge of the aforesaid fastening onto the exterior of the leg and projecting with the free edge of the cuff below the bottom of the fold as set forth and shown.

845,489. CUTTER FOR METAL-WORKING TOOLS. GEORGE B. THOMAS, Bridgeport, Conn., assignor of one-half to Gilbert W. Goodridge, Bridgeport, Conn. Filed Dec. 27, 1905. Serial No. 293,448.



Claim.—1. A cutter for lathes, &c., having a web with laterally-projecting flanges, and a cutting end independent of the flanges.

2. A cutter for lathes, &c., having a web with laterally-projecting flanges at its upper opposite edges, and a cutting end independent of the flanges.

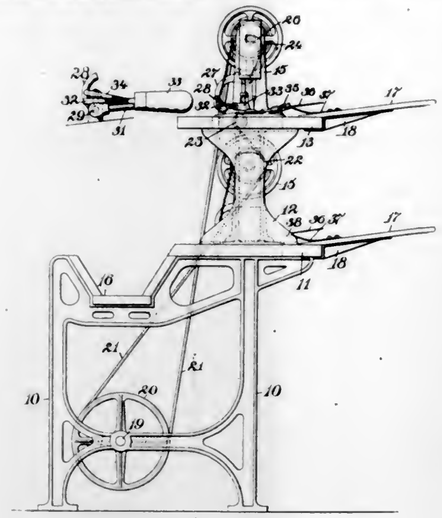
3. A cutter for lathes, &c., having a web with laterally-projecting flanges at its upper and lower opposite edges, and a cutting end independent of the flanges.

845,490. SEWING-MACHINE TABLE. JOSEPH H. THOMPSON and JOHN MURPHY, Passaic, N. J. Filed July 5, 1906. Serial No. 324,766.

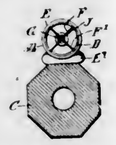
Claim.—1. A sewing-machine table comprising a lower table, an upper table, a sewing-machine on each table, a hemmer on each table, a tablet projecting from the front of each table, and a flat spring secured to each table and engaging the under side of the hemmer to hold a handkerchief to be hemmed.

2. In a sewing-machine table, a table portion, a sewing-machine, a hemmer having an extending flat plate, and a flat spring secured to the table portion and engaging the under side of the plate of the hemmer.

3. In a sewing-machine table, a table portion, a sewing-machine, a hemmer having an extending flat plate, and a flat spring secured to the table portion at one end and engaging the under side of the plate of the hemmer at the other end, the end of the spring in engagement with the plate being slightly curled.



845,491. SIGHT FOR FIREARMS. CHARLES G. THUNEN, Oroville, Cal. Filed Oct. 26, 1906. Serial No. 340,673.



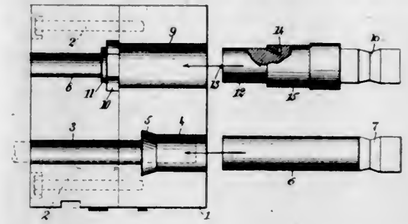
Claim.—1. In gun-sights, the combination with the front sight, comprising a ring having a base for attachment to the gun, a tubular support within the ring and provided with cross-strips having at their intersection a bead, of the rear sight comprising a ring mounted on a shell spring-plate provided with a notched plate for adjusting the elevation of the sight, a tubular support within the ring, and provided with cross-strips and a sight-tube centrally supported within the tubular support by the cross-strips, the said bead being arranged in the axis of the said sight-tube.

2. A gun-sight comprising a front sight and a rear sight, the front sight having a tubular support, cross-strips in the said support, and a bead attached to one of the strips and located at the intersection of the strips, the said rear sight having a tubular support, cross-strips in the said support, and a sight-tube centrally supported within the said tubular support by the said cross-strips, the said bead being arranged in the axis of the said sight-tube.

845,492. PROCESS OF FORMING OIL-CUPS. JAMES TOWERS, Albuquerque, N. Mex. Filed Apr. 7, 1906. Serial No. 310,467.

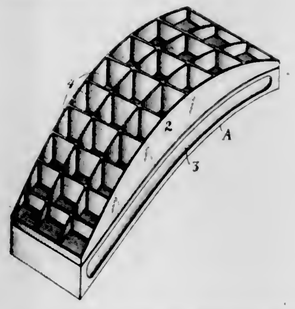
Claim.—1. A process for forming oil-cups, which consists in first heating and upsetting the end of a bar to form a conical head, placing said bar and its attached conical head in a pair of dies having the conformation of the finished cup, then inserting in the dies in contact with the tapered portion of the conical head, a heated pipe to form the body portion of the cup, and upsetting said pipe and head, at a welding heat to weld them together.

2. A process for forming oil-cups, which consists in heating a bar of iron or steel, forging a conical head thereon, placing the head in a set of dies, inserting a pipe to rest on the periphery of the conical head, upsetting the two parts at a welding heat to weld them together, and then cutting the cup from the bar for the purpose specified.



3. A process for forming oil-cups, which consists in forming at the end of a bar of iron or steel, a head, placing the head in a set of dies, inserting a pipe, having an outer diameter less than the body portion of the finished cup which it forms, in the dies in contact with the head, and upsetting the pipe and head at a welding heat to weld them together.

845,493. SCRUBBING AND CLEANING DEVICE. ALFRED J. VAN DRAKE, San Francisco, Cal. Filed Apr. 24, 1905. Serial No. 257,211.



Claim.—1. A hand rubbing and washing device consisting of a series of connected, elastic, impermeable cells, having open mouths on one side, and a rigid back and handle to which the opposite side is affixed and by which the device may be reciprocated and the cells alternately compressed and expanded.

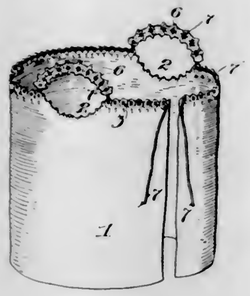
2. In a hand scrubbing device for clothing, a curved rigid back and handle, and an elastic, impermeable, cellular structure fixed to the convex surface of the handle, said cellular structure including cells having outwardly-opening mouths and yielding, compressible division-walls.

3. In a hand scrubbing device, a curved rigid back and handle, and an elastic, impermeable, cellular structure, secured to the convex surface of the handle, said cellular structure including cells having open mouths and yielding compressible walls, and increasing in depth from the ends toward the center.

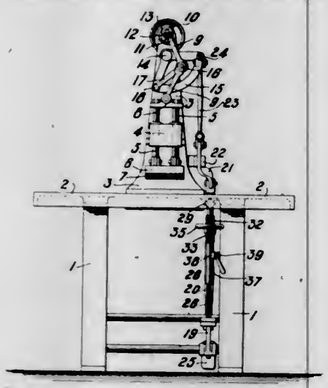
845,494. GARMENT. ISAAC WEINGART, New York, N. Y., assignor to Leuumann, Boesch & Weingart, New York, N. Y., a Firm. Filed Sept. 12, 1906. Serial No. 334,219.

Claim.—A body-garment, having substantially semicircular armholes or recesses in its upper edge, independent shoulder-straps and a gathering-string passing through loops in the upper edge of the garment and loops in said straps, whereby the latter are adjustably secured to the garment.

845,494.



845,495. MANUFACTURE OF STEREOTYPE-MATRICES. ARTHUR WHITEHEAD and GEORGE PORTEUS, Leeds, England. Filed Oct. 4, 1906. Serial No. 337,409.



Claim.—1. A machine for effecting the brush method of molding papier-mâché matrices for producing stereotype-plates for printing; consisting of a stationary table to support the type and flong, vertical stationary guides carried from the table, a vertical sliding member located in the guides, a brush at the lower end of the said member for acting upon the flong, bearings carried from the table, a revoluble shaft carried in the bearings, means for revolving the shaft, mechanism for connecting the shaft with the vertical sliding member for vertically reciprocating the latter, and means for regulating the distance of travel of the reciprocating brush-carrying member substantially as set forth.

2. A machine for effecting the brush method of molding papier-mâché matrices for producing stereotype-plates for printing; consisting of a stationary table to support the type and flong, a head-stock above the table and vertical guides on the head-stock, a vertical sliding member located in the guides, a brush at the lower end of the said member for acting upon the flong, a crank-shaft carried by the head-stock, means for revolving the said shaft, a rod connecting the crank of the crank-shaft and the upper end of the brush-carrying sliding member, and a joint in the connecting-rod about centrally of its length, a radius-arm pivoted at one end to the joint of the connecting-rod, and means for controlling the position of the opposite end of the radius-arm to control and regulate the distance of travel of the reciprocating brush-carrying member by varying the relative angular positions of the two parts of the jointed connected rod, substantially as set forth.

3. A machine for effecting the brush method of molding papier-mâché matrices for producing stereotype-plates for printing; consisting of a stationary table to support the type and the flong, a head-stock above the table and vertical guides on the head-stock, a vertical sliding member located in the guides, a brush at the lower end of the said member for acting upon the flong, a crank-shaft carried by the head-stock, a crank at the forward end of the said shaft, a crank-pin on the crank, means for revolving the said shaft, a rod connnecting the crank of the crank-shaft and the upper end of the brush-carrying sliding member, and a joint in the connecting-rod about centrally of its length, a bell-crank lever pivoted to the head-stock, a radius-arm pivoted at one end to the joint of the connecting-rod and at the other to one arm of the bell-crank lever, and means for regulating the position of the bell-crank lever to control and regulate the distance of travel of the reciprocating brush-carrying member substantially as set forth.

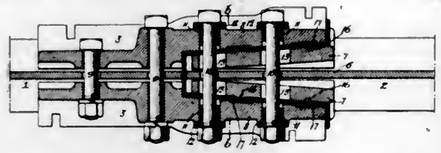
4. In a machine for effecting the brush method of molding papier-mâché matrices for producing stereotype-plates for printing; the combination with a stationary table to support the type and flong, a head-stock upon the table, vertical guides in the front face of the head-stock, a vertical sliding member located in the guides, a brush at the lower end of said member for acting upon the flong, a shaft carried by the head-stock, a crank at the forward end of the said shaft, a crank-pin on the crank, means for revolving the said shaft, a rod connecting the crank-pin and the upper end of the brush-carrying sliding member, a joint in the connecting-rod about centrally of its length, a bell-crank lever pivoted to the head-stock, a radius-arm connecting the joint of the connecting-rod to the first arm of the bell-crank lever, a treadle-lever pivoted below the table, a two-armed lever pivoted above the table, a connecting-rod from one end of the treadle-lever to one arm of the two-armed lever above the table, and a connecting-rod from the other arm of the latter lever to the second arm of the bell-crank lever, and a counterweight on the treadle-lever tending to maintain the bell-crank lever and radius-arm in a position to render the sliding member practically inoperative substantially as set forth.

5. In a machine for effecting the brush method of molding papier-mâché matrices for producing stereotype-plates for printing: the combination with a stationary table to support the type and flong, a head-stock upon the table, vertical guides in the front face of the head-stock, a vertical sliding member located in the guides, a brush at the lower end of the said member for acting upon the flong, a shaft carried by the head-stock, a crank at the forward end of the said shaft, a crank-pin on the crank, means for revolving the said shaft, a rod connecting the crank-pin and the upper end of the brush-carrying sliding member, and a joint in the connecting-rod about centrally of its length, a bell-crank lever pivoted to the head-stock, a radius-arm connecting the joint of the connecting-rod to the first arm of the bell-crank lever, a treadle-lever pivoted below the table, a two-armed lever pivoted above the table, a connecting-rod from one end of the treadle-lever to one arm of the two-armed lever above the table, and a connecting-rod from the other arm of the latter lever to the second arm of the bell-crank lever, a counterweight on the treadle-lever tending to maintain the bell-crank lever and radius-arm in a position to render the sliding member practically inoperative, a two-part telescopic rod pivoted at one end to the treadle-lever and at the other end to the table, means for clamping the two parts of the rod together to hold the treadle-lever stationary when required, and means for limiting and regulating the distance of movement allowed between the two parts of the telescopic rod and thereby limiting the movement of the treadle-lever substantially as set forth.

845,496. INSULATED RAIL-JOINT. GEORGE W. WHITEMAN, Philadelphia, Pa. Filed Sept. 14, 1905. Serial No. 278,455.

Claim.—1. The combination, in an insulated rail-joint, of the meeting ends of the rails, splice-bars connecting said rails, insulating material embracing one of said rail ends and confined by said splice-bars, adjoining ends of each of the latter being deflected laterally to accommodate said insulating material, and wedging means in contact with the insulating material for taking up wear.

2. The combination, in an insulated rail-joint, of the meeting ends of the rails, splice-bars connecting said rail ends, insulating material embracing one of said rail ends and confined by the splice-bars, adjoining ends of each of the latter being deflected laterally to accommodate said insulating material, and wedging means embraced by said deflected portions for taking up wear and tightening said end of the joint.



3. The combination, in an insulated rail-joint, of the meeting ends of the rails, splice-bars connecting said rail ends, insulating material embracing one of said rail ends and confined by the splice-bars, adjoining ends of each of the latter being deflected laterally to accommodate said insulating material, and wedging means embraced by said deflected portions and interposed between the web of the rail and the insulating material for taking up wear at said end of the joint.

4. The combination, in an insulated rail-joint, of the meeting ends of the rails, insulating material embracing one of said rail ends, splice-bars connecting the rails and having one end enlarged to accommodate the insulating material, and wedge-blocks to take up the wear at said end of the joint.

5. The combination, in an insulated rail-joint, of the meeting ends of the rails, insulating material embracing one of said rail ends, splice-bars connecting the rails and having one end enlarged to accommodate the insulating material, and wedge-blocks interposed between said insulating material and the web of the rail to take up the wear at said end of the joint.

6. The combination, in an insulated rail-joint, of the meeting ends of the rails, splice-bars connecting said rails and having their adjoining ends deflected laterally, insulating material embracing one of the rail ends and confined by the lateral deflections of the splice-bars, insulating material between the meeting ends of the rails, and wedge-blocks interposed between the web of the rail and the insulating material confined by the splice-bars.

7. The combination, in an insulated rail-joint, of the meeting ends of the rails, insulating material embracing one of said rail ends, splice-bars connecting the rails and having one end enlarged and angularly recessed to accommodate the insulating material, and angularly-faced wedge-blocks fitting the splice-bars and confining the insulating material in place.

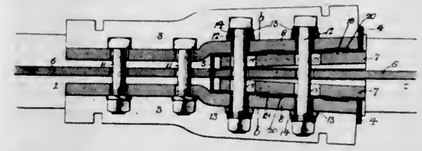
8. The combination, in an insulated rail-joint, of the meeting ends of the rails, insulating material embracing one of said rail ends, splice-bars connecting the rails and having one end enlarged to accommodate the insulating material, wedge-blocks interposed between said insulating material and the web of the rail to confine the insulating material in place and take up the wear at said end of the joint, and means carried by said wedge-blocks and splice-bars for preventing the creeping of the insulating material.

9. The combination, in an insulated rail-joint, of the meeting ends of the rails, insulating material embracing one of said rail ends, splice-bars connecting the rails and having their adjoining ends laterally extended and each provided with an angular recess to accommodate the insulating material, and angularly-faced wedge-blocks confining said insulating material in place, said blocks disposed between the head and base of the rail and having a portion underlying the lateral extensions of the splice-bars.

10. The combination, in an insulated rail-joint, of the meeting ends of the rails, insulating material embracing one of said rail ends, splice-bars connecting the rails and having one end enlarged to accommodate the insulating material, wedge-blocks interposed between said insulating material and the web of the rail to take up the wear at said end of the joint, and projections carried by said wedge-blocks to displace a portion of the insulating material and prevent the creeping of the same, said splice-bars having recesses receiving such displaced portions.

11. The combination, in an insulated rail-joint, of the splice-bars each having adjoining ends directly engaging one of the rails, lateral extensions at the opposite adjoining ends of said splice-bars, each having angular faces, wedge-blocks fitting the space between said lateral extensions and the other meeting end of the rail and engaging the head and base of said rail end, and insulating material between said wedge-blocks and the lateral extensions of the splice-bars, the wedge-blocks having angular faces underlying the lateral extensions of the splice-bars and serving to relieve the strain on the bolts.

845,497. INSULATED RAIL-JOINT. GEORGE W. WHITEMAN, Philadelphia, Pa. Filed Apr. 11, 1906. Serial No. 311,176.



Claim.—1. In an insulated rail-joint, the combination of the meeting ends of the rails, splice-bars connecting said rails, insulating material embracing one of said rail ends and confined by said splice-bars, filler members disposed between said insulating material and the rail, said filler members engaging the under side of the rail-head and having flanges overlying the insulation material, the area of said flanges exposed to said insulating material being of a greater area than the area of the under side of the rail-head, and means engaging said splice-bars for securing the parts in assembled position.

2. In an insulated rail-joint, the combination of the meeting ends of the rails, splice-bars connecting said rails, flanged insulating members disposed adjacent one of said rail ends and confined by said splice-bars, filler members disposed between said insulating members and the rail, said filler members engaging the under side of the rail-head, upper and lower flanges carried by said filler members, the upper flanges overlying the insulating members and having an area exposed to said insulating members greater than the area of the under side of the rail-head, and means engaging said splice-bars for securing the parts in assembled position.

3. In an insulated rail-joint, the combination of the meeting ends of the rails, splice-bars connecting said rails, insulating material embracing one of said rail ends and confined by said splice-bars, adjustable wedging members disposed between said insulating material and the rail, each of said splice-bars having its inner wall adjacent the insulating material disposed at an angle with respect to the vertical with its upper edge substantially at right angles thereto, and said wedging members having a portion of their metal overlying said upper edge and confining therebetween a portion of the insulating material.

4. In an insulated rail-joint, the combination of the meeting ends of the rails, splice-bars connecting said rails, insulating material embracing one of said rail ends and confined by said splice-bars, adjustable wedging members disposed between said insulating material and the rail, each of said splice-bars having their inner wall adjacent the insulating material disposed at an angle with respect to the vertical with its upper edge substantially at right angles thereto, and said wedging members being flanged so as to overlie said upper edge and confine therebetween a portion of the insulating material.

5. In an insulated rail-joint, the combination of the meeting ends of the rails, splice-bars connecting said rails, insulating material embracing one of said rail ends and confined by said splice-bars, wedging members disposed between said insulating material and the rail, said splice-bars being bent to receive said insulating material and the wedging members for holding the same in place, and

flanges carried by said wedging members and overlying the insulating material and the splice-bars between which and said wedging members such insulation is disposed.

6. In an insulated rail-joint, the combination of the meeting ends of the rails, splice-bars connecting said rails, insulating material embracing one of said rail ends and confined by said splice-bars, wedging members disposed between said insulating material and the rail, said splice-bars being bent to receive said insulating material and the wedging members for holding the same in place, and flanges carried by the upper side of said wedging members and overlying the insulating material, said flanges having a surface exposed to said insulating material greater than the under surface of the rail-head.

7. In an insulated rail-joint, the combination of the meeting ends of the rails, splice-bars connecting the same, insulating material embracing one of said rail ends, and wedging members disposed between the rail and the insulating material, each of said wedging members having a flange projecting from a point near its upper edge.

8. In an insulated rail-joint, the combination of the rails, splice-bars connecting the same, insulating material disposed adjacent one of said rails, wedging members disposed between said rail and the insulating material, said wedging members engaging the under side of the rail-head and having flanges projecting from the upper edge of the same and overlying said insulating material, the area of said flanges exposed to the insulating material being of a greater area than the area of the under side of the rail-head, and means engaging said splice-bars for securing the parts in assembled position.

9. In an insulated rail-joint, the combination of the meeting ends of the rails, insulating material embracing one of said rail ends, splice-bars for securing the rail ends together and confining the insulating material in place, wedging members disposed between said rail and the insulating material, said splice-bars being of the ordinary type with laterally-deflected portions at adjacent ends to accommodate the insulation and the wedging members, and means engaging said splice-bars for securing the parts in assembled position.

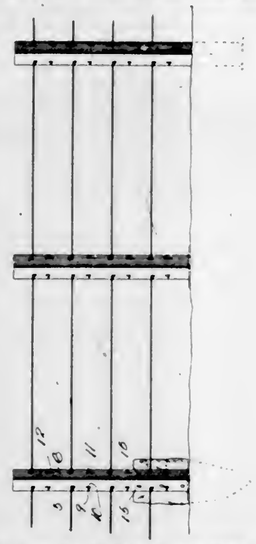
10. In an insulated rail-joint, the combination of the meeting ends of the rails, insulating material embracing one of said rail ends, filling-pieces disposed between said rail end and the insulating material, splice-bars of the ordinary type securing said rail ends together and being bent to accommodate the insulating material and the filling-pieces, said splice-bars being recessed at intervals, and projections carried by the splice-bars opposite the recesses of the splice-bars for displacing a portion of the insulating material to prevent the same creeping.

11. An insulated rail-joint, comprising splice-bars, filler members abutting the rail and in contact with the under side of its head, said members having projections extending therefrom, insulating members interposed between said filler members and the splice-bars, the area of said projections exposed to said insulating members being of a greater area than the area of the under side of the rail-head, and means engaging said splice-bars for securing the parts in assembled position.

12. In an insulated rail-joint, splice-bars secured directly to one rail and having projections deflected therefrom and overlapping the other rail, filler members engaging the under side of the rail-head and the web of the rail, said members having projections extending therefrom, insulating members engaging said filler members and the splice-bars, the area of said projections exposed to said insulating members being of a greater area than the area of the under side of the rail-head, and means engaging said splice-bars for securing the parts in assembled position.

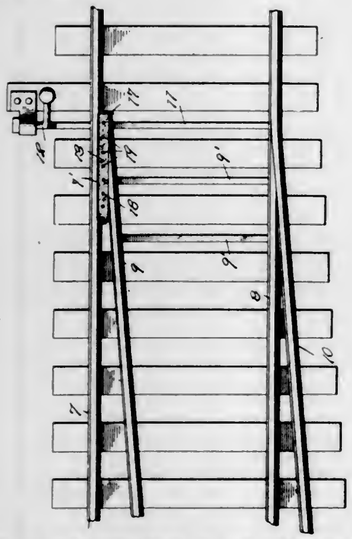
845,498. FENCE POST AND STAY. MONTA M. WICKHAM, Chicago, Ill. Filed Apr. 18, 1906. Serial No. 312,495.

Claim.—A metal fence-post comprising wings provided with slots extending inwardly through the longitudinal edges of the wings the slots of one wing extending inwardly and upwardly then vertically downward while the slots of the other wing extend inwardly and downwardly and then vertically upwardly, the inner and outer ends



of each slot of one wing being at the same height as the inner and outer ends of the corresponding slot of the other wing.

845,499. SHIELD FOR RAILROAD-SWITCHES. GEORGE W. WILLIAMS, Sr., Rose Hill, Ill. Filed Oct. 30, 1906. Serial No. 341,207.



Claim.—1. The combination of the main and switch-rails, and a shield secured between a main rail and the adjacent switch-rail to prevent the accumulation of snow and ice therebetween; said shield being provided with a series of perforations to permit the passage of water therethrough.

2. The combination of the main and switch rails, and a shield secured between a main rail and the adjacent switch-rail to prevent the accumulation of snow and ice therebetween; said shield comprising a flexible framework and a covering for the same.

3. The combination of the main and switch rails, and a shield secured between a main rail and the adjacent switch-rail to prevent the accumulation of snow and ice therebetween; said shield comprising a flexible framework and an elastic covering embracing the same.

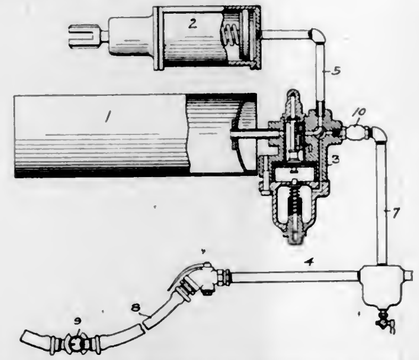
4. The combination of the main and switch rails, and a shield secured between a main rail and the adjacent switch-rail to prevent the accumulation of snow and ice therebetween; said shield comprising a flexible framework and an elastic covering embracing the same, said covering having a series of openings formed therein to permit the passage of water therethrough.

5. The combination of the main and switch rails, and a shield secured between a main rail and the adjacent switch-rail to prevent the accumulation of snow and ice therebetween, said shield comprising a framework formed of upper and lower flexible members connected together and an elastic covering embracing the same.

6. The combination of the main and switch rails, and a shield adapted to be secured between a main rail and the adjacent switch-rail below the tread of said rails to prevent the accumulation of snow and ice therebetween, said shield comprising a framework formed of spaced resilient members adapted to normally contact with the inner faces of said rails, and an elastic covering embracing said framework.

845,500. AIR-BRAKE APPARATUS. ROBERT J. WILSON, Pittsburg, Pa. Filed Nov. 16, 1905. Serial No. 287,665.

Claim.—1. In an air-brake system, the combination of an auxiliary reservoir, brake-cylinder, triple valve and train-pipe, and an automatically-acting ball-valve for throttling the train-pipe.



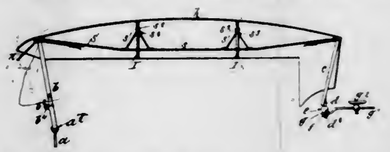
2. In an air-brake system, the combination of an auxiliary reservoir, brake-cylinder, triple valve and train-pipe, and a ball-valve operable on an excess rush of air and serving to throttle the train-pipe connection.

3. In an air-brake system, the combination of an auxiliary reservoir, brake-cylinder, triple valve and train-pipe, and a ball-valve between the triple valve and train-pipe couplers and seating away from the triple valve, said valve being arranged to remain open normally and to move toward closed position on an excess rush of air out of the train-pipe.

4. In an air-brake system, the combination of an auxiliary reservoir, brake-cylinder, triple valve and train-pipe, and a ball-valve in the train-pipe and arranged to partially close said connection on a sudden rush of air out of the train-pipe.

5. In an air-brake system, the combination of an auxiliary reservoir, brake-cylinder, triple valve and train-pipe, and a check-valve between the triple valve and train-pipe couplers and seating away from the triple valve, said check-valve being arranged to automatically open under the influence of gravity and to move to closed position on an excess rush of air out of the train-pipe.

845,501. VEHICLE-CANOPY. FRANK W. WOLF, Orange, N. J. Filed Oct. 22, 1906. Serial No. 339,925.



Claim.—1. In a folding canopy for vehicles of the character designated, the combination with the flexible covering and front and rear bows, of a longitudinal suspension-truss consisting of a flexible strap attached to said front and rear bows, one or more braces attached to said flexible strap, and one or more intermediate bows attached to said brace or braces, for the purpose described.

2. In a folding canopy for vehicles of the character designated, the combination with the flexible covering and front and rear bows, of a plurality of longitudinal suspension-trusses each consisting of a flexible strap attached to said front and rear bows, braces attached to said flexible straps, and one or more intermediate bows attached to said braces, for the purpose described.

3. In a folding canopy for vehicles of the character designated, the combination with the flexible covering and front and rear bows, of a plurality of longitudinal suspender-trusses each consisting of a flexible strap attached to said front and rear bows, inverted-V-shaped braces attached to said straps, and intermediate bows attached to said braces, for the purpose described.

4. In a folding canopy for vehicles of the character designated, the combination with the flexible covering and front and rear bows, of a plurality of longitudinal suspender-trusses, each consisting of a flexible strap attached to said front and rear bows, inverted-V-shaped braces attached to said straps, the arms of each brace being hinged together, and intermediate bows attached to said braces, for the purpose described.

5. In a folding canopy for vehicles of the character designated, the combination with the flexible covering and front and rear bows, of a plurality of longitudinal suspender-trusses each consisting of a flexible strap attached to said front and rear bows, inverted-V-shaped braces attached to said straps and each formed with a loop at its apex, and intermediate bows fitting in said loops and attached to said braces, for the purpose described.

6. In a folding canopy for vehicles of the character designated, the combination with the flexible covering and front and rear bows, of a plurality of longitudinal suspender-trusses each consisting of a flexible strap attached to said front and rear bows, inverted-V-shaped braces attached to said straps and each formed with a loop at its apex and with a hinge attaching one limb of the brace to the other, and intermediate bows fitting in said loops and attached to said braces, for the purpose described.

7. In a folding canopy for vehicles of the character designated, the combination of the flexible covering, a front bow having hinged sections, a rear bow, longitudinal suspension-trusses, consisting of flexible straps attached to said front and rear bows, braces attached to said straps, and intermediate bows attached to said braces, for the purpose described.

8. In a folding canopy for vehicles of the character designated, the combination of the flexible covering, a front bow formed with a laterally-projecting stud on each of its end extensions, a rear bow formed with lateral extensions having eyes for the reception of said studs on the front bow, longitudinal trusses consisting of flexible straps attached to said front and rear bows, braces attached to said straps, and intermediate bows attached to said braces, for the purpose described.

9. In a folding canopy for vehicles of the character designated, the combination with the flexible covering, front

and rear bows, longitudinal trusses consisting of flexible straps attached to said front and rear bows, braces attached to said straps, and intermediate bows attached to said braces, of rear brackets and adjustable shelves thereon, for the support of the canopy when folded.

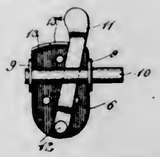
10. In a folding canopy for vehicles of the character designated, the combination with the covering and with the front and rear bows, of flexible longitudinal straps attached to the front and rear bows, folding braces attached to said straps, and intermediate bows attached to said braces, for the purpose described.

845,502. HAIR-PIN. WILHELM ADLER, Heidelburg, Pa. Filed Nov. 8, 1906. Serial No. 342,482.



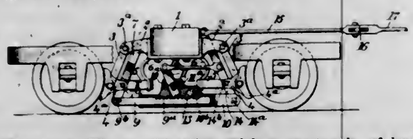
Claim.—A hair-pin embodying two legs integrally connected at one end, a casing or cap fitted over the connected ends of the legs and having a concave face, and means connected to one of the legs of said pin and extending into the concave face of said casing or cap for moving said leg away from the other leg of said pin.

845,503. FASTENING AND PIVOT FOR PIANO FRONT BOARDS. GUST ANDERSON, Chicago, Ill. Filed June 14, 1906. Serial No. 321,654.



Claim.—In a piano-case, the combination with side posts having opposite holes therein, and a swinging front board therebetween, of fastening and pivot devices at opposite edges of the board, comprising plates secured to the board opposite said holes and having guides, bolts slidable in the guides into or out of said holes, said bolts being round to form pivots for the front board, and means to fasten the bolts in either position.

845,504. BRAKE-SHOE ADJUSTER. JAMES S. ASHWORTH, East St. Louis, Ill. Filed Sept. 17, 1906. Serial No. 334,864.



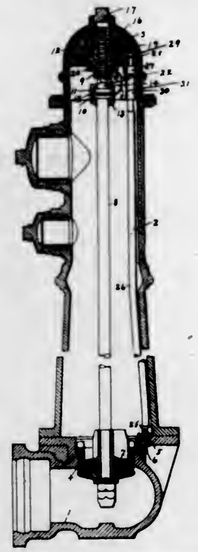
Claim.—1. The combination with a car-truck, of brake-beams mounted upon pivoted levers secured to said truck, brake-shoes pivoted to said beams, an adjustable telescopic connection adapted to hold said brake-shoes normally at a constant distance from the wheels of said truck, and springs secured to said truck adapted to bear against said brake-beams, substantially as shown and described.

2. The combination with a car-truck, of oppositely-disposed brake-shoes pivotally mounted upon brake-beams, springs secured to said truck and adapted to bear against said brake-beams, levers connected with said brake-shoes, a ratchet-bar pivotally attached to the lower end of one of said levers, a casing pivotally attached to the lower end of the opposite lever, a toothed lever adapted to engage the teeth of said ratchet-bar, and a dog pivoted to said casing adapted to engage the teeth of the ratchet-bar, substantially as shown and described.

3. The combination with a car-truck, of levers pivotally connected therewith, a brake-beam pivoted to said levers, brake-shoes mounted on said beam, springs attached to the truck adapted to bear against said brake-beams, a longitudinally-movable bar provided with ratchet-teeth, a casing adapted to engage and support one end of said bar, a dog pivoted to said casing and adapted to engage the teeth of said bar, and a toothed lever adapted to engage and move said bar longitudinally, substantially as shown and described.

4. The combination with a car-truck, of levers pivoted thereto, brake-beams pivoted to the lower end of said levers, brake-shoes mounted on said beams, an auxiliary lever pivoted to said truck, a ratchet-bar pivoted to said lever, operating-levers pivotally connected with said shoes, a casing pivoted to the lower end of said operating-levers, and adapted to receive said ratchet-bar, a toothed lever provided with a slot pivoted to said casing, a rod connecting said toothed lever to the operating-lever, and a dog pivoted to said casing, substantially as shown and described.

845,505. FIRE-HYDRANT. ARTHUR O. BABENDREIER, Baltimore, Md., assignor of one-half to William B. Mann, Baltimore, Md. Filed Mar. 16, 1905. Serial No. 250,374.



Claim.—1. In a fire-hydrant, the combination of the main valve, a main-valve stem, a drip-valve, a drip-valve stem, a lever pivoted within the hydrant, and a nut threaded upon the upper edn of the main-valve stem adapted to seat and unseat the main valve and having a predetermined vertical movement independent of the said stem upon which it is threaded by means of which it is adapted to operate the said lever to unseat the drip-valve after the main valve is closed.

2. In a fire-hydrant, the combination of the main valve, a main-valve stem, a drip-valve, a drip-valve stem, a lever carried by the main-valve stem and having one end impinging against the drip-valve stem, and an interiorly-threaded nut threaded upon the upper end of the main-valve stem adapted to seat and unseat the main valve and also adapted to operate the said lever to seat the drip-valve before the main valve is opened or to unseat the drip-valve after the main valve is closed.

3. In a fire-hydrant comprising a tail-piece, a stand-pipe, and a bonnet, the combination of a main valve, a main-valve stem, a drip-valve, a drip-valve stem, a lever carried by the main-valve stem, an interiorly-threaded cylindrical nut projecting through the said bonnet and having an annular flange near its lower end which has position, and is adapted to move vertically, in a counterbore in the lower surface of the said bonnet, said nut being adapted to seat and unseat the main valve and also adapted to operate the said lever to unseat the drip-valve after the main valve is closed.

4. In a fire-hydrant comprising a tail-pipe, a stand-pipe, and a bonnet, the combination of a main valve, a main-valve stem, a drip-valve, a drip-valve stem having a cylindrical head fitted in a pocket in the said bonnet and having flat sides diametrically opposite each other below said head, a lever carried by the main-valve stem and bifurcated at each end, the forks of one end being adapted to receive the main-valve stem and those of the other end take on either side of the flat surfaces of the drip-valve stem, an interiorly-threaded cylindrical nut projecting through the said bonnet and having an annular flange near its lower end which has position, and is adapted to move vertically, in a counterbore in the lower surface of the said bonnet, said nut being adapted to seat and unseat the main valve, and also adapted to operate the said lever to unseat the drip-valve after the main valve is closed, and two wings or guides at one side of the bonnet between which one end of the said lever operates.

5. In a fire-hydrant, the combination of the main valve, a main-valve stem having a fulcrum-arm secured thereto to prevent the said stem from turning, a lever pivoted to said fulcrum-arm, a drip-valve, a drip-valve stem, and means for seating and unseating the main valve, said means being adapted to operate the said lever to seat the drip-valve before the main valve is opened or to unseat the drip-valve after the main valve is closed.

6. In a fire-hydrant, the combination of the main valve, a main-valve stem, a drip-valve, a drip-valve stem, a nut threaded upon the upper end of the main-valve stem adapted to seat and unseat the main valve and having a predetermined vertical movement independent of the movement of the said stem upon which it is threaded, and means operated by said nut for opening or closing the drip-valve.

845,506. HOISTING APPARATUS. ARTHUR F. BARDWELL, Stamford, Conn., assignor to The Yale & Towne Manufacturing Company, Stamford, Conn. Filed Dec. 1, 1906. Serial No. 345,905.

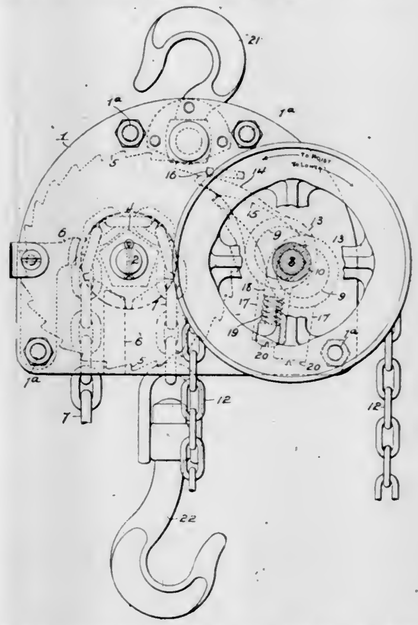
Claim.—1. The combination of a load-sheave, ratchet-wheels rigid therewith, an eccentric-shaft, pawls engaging the ratchet-wheels and operated by the eccentric-shaft and means for operating the eccentric-shaft.

2. The combination with a load-sheave, of ratchet-wheels fixed thereto, an eccentric-shaft, a hand-wheel thereon, and pawls engaging the ratchet-wheels and operated by the eccentric-shaft.

3. The combination with a load-sheave, of ratchet-wheels fixed thereto, an eccentric-shaft, a hand-wheel thereon, straps or rings on the eccentrics of the eccentric-shaft, pawls carried by the rings or straps and engaging the ratchet-wheels, and friction-blocks carried by the rings or bands and engaging the eccentrics.

4. The combination with a load-sheave, of ratchet-wheels fixed thereto, an eccentric-shaft, a hand-wheel thereon, straps or rings on the eccentrics of said shaft, pawls carried by the rings or straps and engaging the ratchet-wheels, and a fixed cam guiding the pawls into proper engagement with the ratchet-wheels.

5. The combination with a load-sheave, of ratchet-wheels fixed thereto, an eccentric-shaft, a hand-wheel thereon, rings or straps on the eccentrics of said shaft, pawls carried by the rings or straps and engaging the ratchet-wheels, cylinders on the straps or eccentric-rings, friction blocks or plungers in said cylinders against the eccentrics, springs back of the blocks, and screws in the ends of the cylinders against the springs.



6. The combination with a load-sheave, of ratchet-wheels fixed thereto, an eccentric-shaft, a hand-wheel thereon, rings or straps on the eccentrics of said shaft, pawls carried by the rings or straps and engaging the ratchet-wheels, cylinders on the straps or eccentric-rings, friction blocks or plungers in said cylinders against the eccentrics, springs back of the blocks, screws in the ends of the cylinders against the springs, and a fixed cam to guide the pawls in proper engagement with the ratchet-wheels.

7. The combination with a load-sheave, of ratchet-wheels fixed thereto, an eccentric-shaft, a hand-wheel thereon, straps or rings on the eccentrics of said shaft, pawls carried by the rings or straps and engaging the ratchet-wheels, and means permitting both pawls to be moved away from the ratchet-wheels to free the load-sheave.

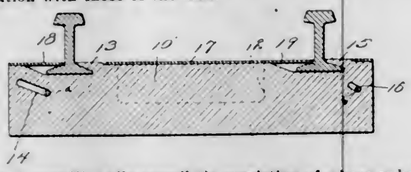
8. The combination with a load-sheave, of ratchet-wheels fixed thereto, an eccentric-shaft, a hand-wheel thereon, straps or rings on the eccentrics of said shaft, pawls carried by the rings or straps, and engaging the ratchet-wheels, friction-blocks carried by the rings or straps and engaging the eccentrics, and cams against which both pawls may be moved to free the load-sheave.

9. The combination with a load-sheave, of ratchet-wheels fixed thereto, an eccentric-shaft, a hand-wheel thereon, straps or rings on the eccentrics of said shaft, pawls carried by the rings or straps and said eccentrics arranged or disposed to operate the pawls alternately, friction-blocks carried by the rings or straps and engaging the eccentrics, a cam to direct the pawls against the ratchet-wheels, and against which cam the pawls may be moved to free the load-sheave.

845,507. RAILROAD-TIE. MORRIS M. BATTERTON, Kingfisher, Okla. Filed June 27, 1906. Serial No. 323,659.

Claim.—1. A railroad-tie, comprising a base, provided at its upper portion with rail-engaging flanges turned in a common direction, a cap member engaged over the base

and having rail-receiving openings therein, said cap member having locking-flanges for coöperation with the flanges of the base, said base having diagonal slots therein and bolts engaged in the cap member in the slots for movement of the cap member to bring its flanges into coöperative relation with those of the base.

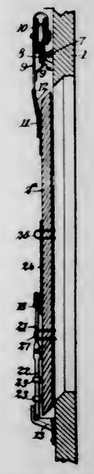


2. A metallic railway-rail tie consisting of a base or bearing part provided on its upper surface with bearings for the rails and having inclined locking-flanges for engaging one edge of the rails and locking them against movement laterally in one direction, a compensating part constructed as a cap to fit over the base member and notched, as explained, and provided with inclined locking-flanges extending in a direction opposite to that of the locking-flanges first mentioned and engaging the rail-flanges on the opposite sides, the two members being united at the ends, and the union being such that in use, as the parts wear or become loose, they will move to close their locking-flanges on the rails.

845,508. COMPOSITION OF MATTER FOR USE AS PAVING MATERIAL. GABRIAL BOGNAR and ALEXANDER TOTH, Perth Amboy, N. J. Filed Nov. 21, 1906. Serial No. 344,524.

Claim.—The herein-described composition of matter for use as paving material, consisting of bitumen two parts, sand eight parts, ground earthy material four parts, lime five parts, substantially as described.

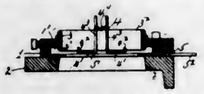
845,509. CAR-DOOR. JOSEPH A. BOURGEOIS and JOHN A. BOURGEOIS, Algiers, La., assignors of one-third to William H. Whittenburg, Algiers, La. Filed May 15, 1906. Serial No. 316,945.



Claim.—1. In combination, a car presenting a doorway having beveled upper and lower edges, a door mounted to run horizontally on said car so as to come before said doorway, brackets having their upper faces inclined downwardly toward the car, and bolts carried by said door and guided thereupon, means for forcing said bolts downwardly to engage said brackets whereby said door may be raised upon said brackets, the inclination of said faces tending to move said door inwardly toward said doorway.

2. In combination, a car having a doorway with beveled upper and lower edges, a track attached to said car, a door having a swinging support on said track and adapted to come into position before said doorway, brackets attached to said car, bolts slidably carried by said door coöperating with said brackets to raise said door, a lever, means for actuating said bolts by said lever, said brackets having inclined faces depressed toward the car whereby said door tends to slide inwardly when raised upon said brackets by said bolts.

845,510. RING AND TRAVELER FOR SPINNING AND ANALOGOUS MACHINES. THOMAS A. BOYD, Glasgow, Scotland. Filed May 20, 1905. Serial No. 261,415.



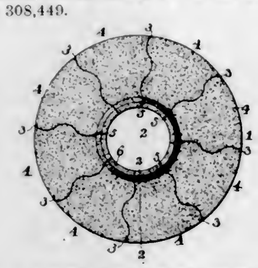
Claim.—1. In spinning and analogous machines, the combination of a ring with a traveler having the shape of the letter T inverted, with its two horizontal limbs adapted to extend across and work on the lower edge of the said ring, and equal in length to about one-fourth the circumference of the ring, the ends of the said horizontal limbs being formed with extensions to keep the traveler laterally in position, the said traveler having its upright limb with its upper end made to receive the thread and free to press on the inside of the ring by centrifugal force or to swing toward the spindle by the pull of the thread.

2. In spinning and analogous machines, the combination of a ring with a traveler having the shape of the letter T inverted, with its horizontal limbs adapted to extend across and work under the edge of the said ring, and extensions at the ends of said horizontal limbs to keep the traveler in position laterally, the said traveler having its upright limb adapted to receive the thread, and to press against the inside of the ring by centrifugal force.

3. In spinning and analogous machines, the combination of a ring with a traveler having the shape of the letter T inverted, with its horizontal limbs adapted to extend across and work under the edge of said ring, extensions on said limbs, means engaged thereby for keeping the traveler in position laterally, the said traveler having its upright limb to receive the thread, and a readily-adjustable plate below said ring adapted to be moved for placing the traveler on the ring.

4. In spinning and analogous machines the combination of a ring with a traveler having the shape of the letter T inverted, with its horizontal limbs adapted to extend across and work under the edge of the said ring, and extensions at the ends of said horizontal limbs to keep the traveler in position laterally, the said traveler having its upright limb adapted to receive the thread and to press against the inside of the ring by centrifugal force, together with a chamber containing lubricant and means for forcing the said lubricant into the ring.

845,511. GRINDING-WHEEL. ARTHUR E. BROWN and JOHN B. SHOE, Philadelphia, Pa. Filed Mar. 28, 1906. Serial No. 308,449.



Claim.—1. A grinding-wheel of the character indicated composed of segmental grinding-sections and having radially-disposed strengthening-plates between said sections, said plates being so formed as to interlock the adjoining sections with each other and with said plates, said plates also being provided with means for connecting them to the support upon which the grinding-wheel is to be mounted.

2. A grinding-wheel of the character indicated composed of segmental grinding-sections and having radially-disposed strengthening-plates between said sections, said plates being transversely bent or corrugated so as to interlock the adjoining sections with each other and with said plates, said plates also being provided with means for connecting them to the support upon which the grinding-wheel is to be mounted.

3. A grinding-wheel of the character indicated having radially-disposed strengthening-plates provided with a lateral projection or projections extending outside the wheel to be engaged by means for connecting said plates to the support upon which the grinding-wheel is to be mounted.

4. A grinding-wheel of the character indicated having a central opening and annular shoulders on opposite sides surrounding said opening, and also having radially-disposed strengthening-plates provided with lateral projections extending into said annular shoulders of the wheel.

5. A segmental section for grinding-wheels having its periphery curved in the arc of a circle, its sides flat, and its edges indented or corrugated to interlock with similar sections, one or both of said edges having a strengthening-plate attached thereto.

845,512. MATRIX FOR CASTING TYPE CHARACTERS. FRANK H. BROWN and JOHN E. HANRAHAN, Baltimore, and GEORGE A. BOYDEN, Mount Washington, Md., assignors to National Compositype Company, a Corporation of Delaware. Filed May 17, 1905. Serial No. 260,737.



Claim.—1. A matrix for casting type-faces comprising a single plate having a hole entirely through it with an undercut grooved formed in the edge of the hole, and an electrodeposited metal filling closing the said hole and containing the type character and secured to the single plate by engaging the said undercut groove.

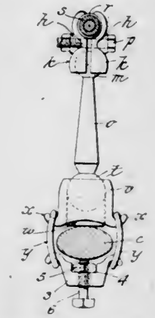
2. A matrix for casting type-faces comprising two elements, namely, a plate having a hole entirely through it, and a metal filling having an intaglio-type character and closing said hole and exposed both at the back and front of the plate, and the two elements secured together by an undercut groove on one element being engaged by the contacting portion of the other element.

3. A matrix for casting type-faces comprising a plate having a hole entirely through it with undercuts in the edge of the hole, a filling closing said hole and containing the type character and secured by the border of the filling engaging said undercuts and said border also forming a cavity at the back of the filling, and a second filling in said back cavity which keeps the border of the first filling pressed into engagement with said undercuts.

845,513. ADJUSTABLE SHAFT-SUPPORT. JAMES H. BULLARD, Springfield, Mass. Filed Mar. 15, 1906. Serial No. 306,101.

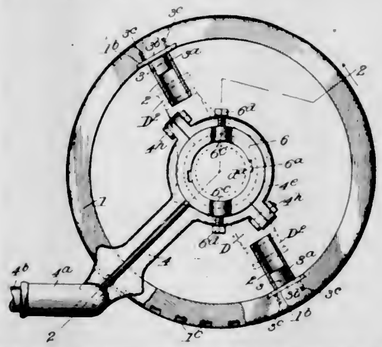
Claim.—1. In an adjustable fixture of the class described consisting of a post terminating in ball-bearings at its opposite ends, clamps engaging the ball-bearing at its outer end, a bearing-cap engaging the ball-bearing at its inner end, a block, a yoke, means for connecting the bearing-cap and yoke, and means for engaging a fixed support for drawing said cap rigidly against the block, as described.

2. In an adjustable clamp of the class described comprising a rigid post terminating in spherical ends, a two-part clamp inclosing the outer spherical end and affording a bearing for a flexible shaft, a screw for adjustably retaining the clamp in place, a cap provided with hooks engaging the inner spherical end, a block located within the cap and also engaging the inner spherical end, and a fixed support, a yoke provided with hooks and engaging the opposite side of the fixed support, links engaging the hooks for connecting the cap and yoke together, a bolt threaded through the yoke and engaging the side of the fixed support opposite the block, whereby when the bolt is rotated the cap and yoke will move in opposite directions and the block forced against the end of the rigid post and the inner spherical end clamped within the cap, as described.



3. In an improvement of the class described, comprising a rigid member, said member having a spherical end, means for clamping the rigid member to a fixed support comprising a cap, a block, a yoke, links connecting the cap and block, the yoke and block engaging opposite sides of the fixed support, and means for moving the cap and block in opposite directions, whereby the spherical end is rigidly clamped to the cap.

845,514. DIE-STOCK HOLDING AND OPERATING DEVICE. WILLIAM V. BULMAN, Philadelphia, Pa. Filed Oct. 30, 1906. Serial No. 341,222.



Claim.—1. The combination of an annular holder, a die-stock, and means in the holder for detachably engaging the handles of the die-stock to secure the latter in the holder, a lever for operating the holder, means for pivotally mounting the lever upon the die-stock, and means on the lever adapted to engage and operate the holder.

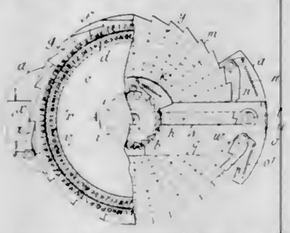
2. The combination of a holder, and diametrically opposite studs attached to the holder adapted to engage the handle-sockets of a die-stock to secure the die-stock in the holder; with means for rotating the holder.

3. The combination of an annular holder, diametrically opposite studs detachably attached to the holder, and nip-

ples adapted to engage the handle-sockets of a die-stock and said studs to secure the die-stock in the holder.

4. The combination with a holder, means for detachably attaching a die-stock to said holder, a grooved collar adapted to be detachably attached to the die-stock, a lever pivotally mounted on said collar, means for detachably fastening the collar to the die-stock, and a dog on the lever adapted to engage a ratchet-surface on the holder.

845,515. CRYPTOGRAPH. HERBERT BURG, Molkirch, Germany. Filed Jan. 31, 1906. Serial No. 298,774.



Claim.—1. A cryptograph comprising a bed-plate, a stud or swivel pin fixedly secured on the bed-plate, a disk provided with letters secured on the said stud, a disk provided with letters revolving around the said stud, a ratchet-wheel on the last-named disk, a toothed wheel revolving around the stud, a pawl carried by the last-named toothed wheel and which engages the ratchet-wheel, a carriage transversely slidable on the said stud and having a handle, a toothed rack on the said carriage meshing with the said toothed wheel a ratchet-disk revolving around the said stud, pins on the said disk so arranged as to be successively met with by the carriage, and means for revolving the said ratchet-disk step by step at each reciprocation of the carriage to bring successively the pins into the path of the carriage.

2. A cryptograph comprising a bed-plate, a fixed spindle on the said plate, a fixed letter-disk on the said spindle, a letter-disk revolving on the said spindle, a ratchet-wheel on the latter disk, a tooth-wheel revolving on the spindle, a pawl carried by the said toothed wheel and engaging with the ratchet-wheel, a carriage slidable transversely on the said spindle and having a handle, a toothed rack on the said carriage meshing with the said toothed wheel, an abutment on the said carriage, a series of pins at different distances from the spindle and on radial lines and adapted to be met successively by the abutment of the carriage, and means whereby the said series of pins are turned at each reciprocation of the carriage to bring a fresh pin in front of the abutment.

3. A cryptograph, comprising a fixed character-disk, a revoluble character-disk, a reciprocating member, means for operating the revoluble disk from said member, and means controlled by the reciprocating member for varying the stroke of said member.

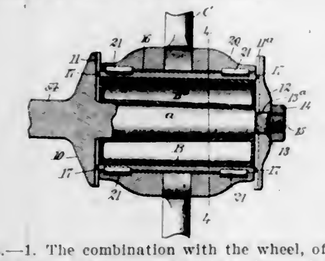
4. A cryptograph, comprising a fixed character-disk, a revoluble character-disk, a reciprocating member, means for operating the revoluble disk from the reciprocating member, a plurality of stops, and means for bringing a stop in position to arrest the movement of the reciprocating member.

5. A cryptograph, comprising a fixed character-disk, a revoluble character-disk, a reciprocating member, means for operating the revoluble disk from the said member, a plurality of stops, and means controlled by the reciprocating member to bring a stop in position to arrest the movement of said reciprocating member.

6. A cryptograph, comprising a fixed character-disk, a revoluble character-disk, a reciprocating member, means for operating the revoluble disk from the reciprocating member, a revoluble member carrying a plurality of stops, and means for operating the movable member to bring a stop thereof in position to arrest the movement of the reciprocating member.

7. A cryptograph, comprising a fixed character-disk, a revoluble character-disk, a reciprocating member, means for operating the revoluble disk from the reciprocating member, a revoluble member provided with a plurality of stops arranged at different distances from the center of said member, and means controlled by the reciprocating member for operating the revoluble member to bring a stop in position to arrest the movement of the said reciprocating member.

845,516. AXLE. HENRY K. BRYSON, Fayetteville, Tenn. Filed June 26, 1906. Serial No. 323,471.



Claim.—1. The combination with the wheel, of the axle provided with the spindle and with an integral flange between the axle and the spindle, said flange having a vertical groove on its outer face, said spindle having a reduced polygonal portion at the end thereof, a cap-flange having a vertical groove on the inner face thereof, a nut threaded onto the end of the spindle for retaining the cap-flange in place, a cylindrical shell of greater diameter than the spindle encircling the same and on which the wheel is journaled, said shell having at the top and bottom of each end pins extending into the grooves whereby to guide the casing, and a hollow cushion encircling the spindle between the shell and said spindle, said cushion being provided with nipples whereby to inflate the same, and the cap-flange being provided with vertical slots for receiving the nipples.

2. The combination with the wheel, of the axle provided with a spindle and with an integral flange between the axle and the spindle, said flange having a vertical groove on its outer face, said spindle having a reduced polygonal portion at the end thereof, a cap-flange on the polygonal portion, said cap-flange having a vertical groove on the inner face thereof, a cylindrical shell of greater diameter than the spindle encircling the same, and on which the wheel is journaled, said shell having at the top and bottom of each end pins extending into the grooves whereby to guide the casing, and a hollow cushion encircling the spindle between the shell and said spindle.

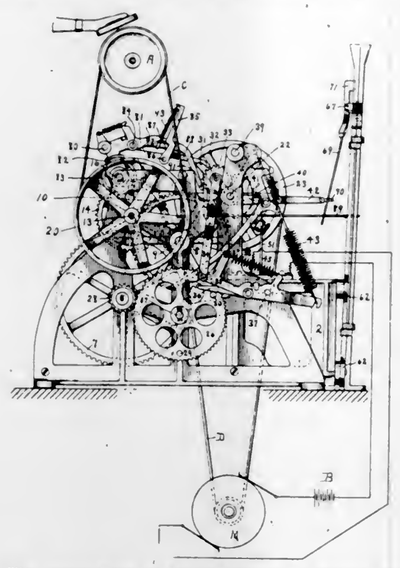
3. The combination with the wheel of the axle provided with the spindle and with an integral flange between the axle and the spindle said flange having a vertical groove on its outer face, a cap flange on the end of the spindle and provided with a vertical groove on its inner face, a cylindrical shell of greater diameter than the spindle encircling the same, and on which the wheel is journaled, said shell having at the top and bottom of each end thereof pins extending into the grooves whereby to guide the casing, and a cushion encircling the spindle within the shell.

845,517. CONTROLLER FOR SPRING-MOTORS. ADOLPH A. CAILLE, Detroit, Mich. Filed June 4, 1906. Serial No. 320,077.

Claim.—1. The combination of a spring-motor, an electric motor for winding the same, a gear to connect said electric motor and spring-motor, and means adapted to be actuated by the spring-motor and the electric motor alternately to control the position of said connecting-gear.

2. The combination of a spring-motor, a winding mechanism for the same comprising a normally disconnected primary motor, means to connect said primary motor and spring-motor, a governor for the spring-motor, a stop mechanism for the same, and controlling means to fix the amount the spring-motor is wound and unwound and also control the operation of the stop mechanism for the governor.

3. The combination of a spring-motor comprising a gear having projecting pins, an electric motor for rewinding the spring-motor, connecting means between the electric motor and the spring-motor, and mechanism adapted to be controlled by the pins on said gear whereby the current to said electric motor is controlled and whereby the connection between said electric motor and said spring-motor is moved into and out of operative position.



4. The combination of a spring-motor, an electric motor for winding the same, a movable gear to connect said electric motor and spring-motor, and means adapted to be actuated alternately by the spring-motor and by the electric motor whereby the electric motor is connected to rewind and disconnected after the spring-motor has been rewound predetermined amounts respectively.

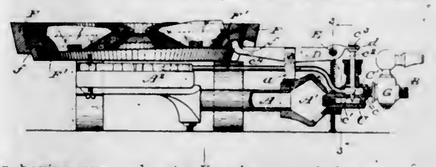
5. In a spring-motor, the combination of a train of gears, one of them having projecting pins, a shaft operative connected to an electric motor, a gear on the shaft, a sleeve loosely mounted on said shaft and provided with an arm carrying a pinion and a switch mechanism for said electric motor, and connecting mechanism between the pins on the gear and the sleeve whereby the pinion may be moved to connect and disconnect the gear on the motor-shaft with the train of gears of the spring-motor, and the switch mechanism is caused to make and break the circuit to the electric motor.

6. The combination of a spring-motor, a primary motor for winding the same, means to connect the primary motor and the spring-motor, means to disconnect said motors and mechanism under the control of the spring-motor to cause its connection to the primary motor.

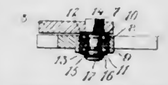
7. The combination of a spring-motor, a primary motor for winding the same, means to connect the said motors, and means to disconnect said motors, said disconnecting means controlled by the winding mechanism of the spring-motor.

845,518. CONTROLLING MECHANISM FOR GAS-RANGES. FRANK CAIS, Cleveland, Ohio. Filed Mar. 9, 1905. Serial No. 249,166.

Claim.—In controlling mechanism for gas-ranges, the combination with a gas-supply pipe; of a casing connected therewith, such casing inclosing two chambers connected by an aperture provided with a valve-seat, the first of such chambers communicating freely with said supply-pipe; a pilot-flame tube mounted on said casing and communicating with such fixed chamber; a valve adapted to close said aperture and having a stem projecting upwardly without said casing, said stem being formed near its end with a groove; a burner and mixing chamber therefor, the latter being secured to said casing by a plain friction-joint and communicating with the second chamber therein; a lever fulcrumed upon said mixing-chamber, said lever having one end extending into proximity with said burner and the other end formed with a yoke adapted to engage the groove in said valve-stem; and a spring joining said lever to said mixing-chamber and normally actuating the former to close said valve.



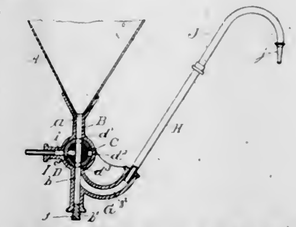
845,519. HINGE. CHARLES J. CALEY, New Britain, Conn., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn., a Corporation of Connecticut. Filed Nov. 10, 1906. Serial No. 342,823.



Claim.—1. A construction of the character described, comprising the combination of a door and door-casing with hinges at the top and bottom, each hinge comprising a member carried by the casing with an outstanding portion, an angular opening provided in said outstanding portion, and a member carried by the door with a corresponding outstanding portion, a pivot loosely mounted in said latter outstanding portion provided with separate cone-bearings, members intermediate said cone-bearings forming therewith raceways, and two series of ball-bearings in said raceways, said pivot non-rotatably seated in said opening.

2. A hinge, comprising two members each provided with an outstanding part, one movable relative to the other, a pivot carried by one member and provided with two cones vertically separated from each other, bearings on said member forming raceways therewith, and a series of balls in said raceways, said pivot removably and non-rotatably engaging the other member.

845,520. SETTLING-TANK. JOHN M. CALLOW, Salt Lake City, Utah. Filed Nov. 27, 1905. Renewed Jan. 22, 1907. Serial No. 353,525.



Claim.—1. In a settling device, a tank provided with a discharge-opening, an exit-casting attached to the lower end of the tank and having a vertical channel connecting with the opening in said tank, a connecting-pipe, said pipe and the casting having a lateral outlet-passage connecting with the vertical channel through said casting, said discharge elements being provided with a valve-chamber, a three-way valve therein, means to operate the same, and a pressure-pipe connecting through said valve with the channel and with the lateral outlet as described.

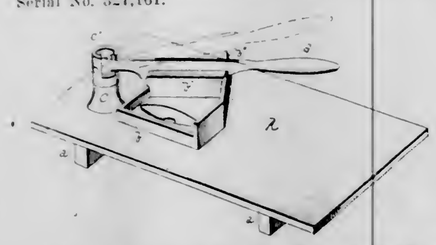
2. In a setting-tank an exit-casting attached to the

lower end of said tank, and having a vertical channel connecting with the opening in said tank, a stopper for the lower end of said channel, said casting having a valve-chamber, a three-way valve in said chamber, means to operate said valve, a pressure-pipe connecting with said channel through said valve said casting having a lateral outlet from said channel below said valve as described.

3. The combination with a funnel-form settling-tank having an opening at its lower part, of a casting having a vertical channel connecting with said opening and provided with a valve-chamber, a three-way valve in said chamber, a pressure-pipe connecting through said valve with said channel, a stopper at the lower end of said channel, a lateral outlet-pipe between said valve and the lower end of said channel, an upwardly-inclined pipe connecting with said outlet-pipe, and a flexible hose on said inclined pipe for the purposes specified.

4. In a settling-tank, a bottom casting having a vertical and a lateral channel, a stopper for said vertical channel, a pipe connecting with said lateral channel, a three-way valve in said pipe and a pressure-pipe connection with said valve, for the purpose specified.

845,521. CLAM AND OYSTER OPENING MACHINE. LARS H. CARLSON, Lorain, Ohio. Filed July 21, 1906. Serial No. 327,161.



Claim.—1. An opener for shell-fish consisting of a base, an element having an upper shear edge mounted on said base, a knife-blade pivotally connected to said base to swing in a vertical plane above said base, and means forming said pivotal connection whereby the knife-blade may also be swung in a plane inclined to the vertical so as to coöperate with said shear edge.

2. An opener for shell-fish consisting of a base, a holder for a shell-fish on said base, an element having an upper shear edge mounted on said base at one side of said holder, a knife-blade pivotally mounted on said base to swing in a vertical plane above said holder, and means forming said pivotal connection whereby the knife-blade may also be tilted sidewise from above said holder to swing in a plane inclined to the vertical so as to coöperate with said shear edge.

3. An opener for shell-fish consisting of a base, a holder for shell-fish on said base, said holder having inclosing walls rising from said base, one of said walls having an upper beveled shear edge, a knife-blade pivotally mounted on said base to swing in a vertical plane above said holder, and means forming said pivotal connection whereby the knife-blade may also be tilted sidewise from above said holder to swing in a plane inclined to the vertical so as to coöperate with said shear edge.

4. An opener for shell-fish consisting of a base, a holder for a shell-fish on said base, said holder having two side walls rising from said base, said side walls being inclined in a horizontal direction with respect to each other, and one side wall having an upper beveled shear edge, a knife-blade pivotally mounted on said base at approximately the intersection of the plane of one side wall and a plane parallel with the other side wall, to swing in a vertical plane parallel with one side wall, and means forming said pivotal connection whereby the knife-blade may be swung into the plane of said other side wall and simultaneously tilted to swing in a plane inclined to the vertical so as to coöperate with said beveled shear edge.

5. An opener for shell-fish, consisting of a base, a holder for shell-fish on said base, said holder having inclosing side and end walls rising from said base one of said side walls having a beveled upper edge, a knife-head pivotally connected with said base to swing in a vertical plane over said holder and means forming said pivotal connection whereby the knife-blade may also be moved sidewise and turned to swing in a plane inclined to the vertical so as to coöperate with said shear edge, one of said end walls being positioned to limit the vertical and guide the sidewise movement of said blade, and a stop on said wall to limit the said sidewise movement of the knife-blade at the proper position for coöperation with said beveled edge.

6. An opener for shell-fish consisting of a base, an element having an upper shear edge mounted on said base, a knife-blade pivotally connected to said base to swing in a vertical plane above said base, said pivotal connection consisting of two cylindrical pivot-lugs projecting from the opposite sides of said knife near one end thereof, a hollow cylindrical standard mounted on said base, an opening in the side of said standard through which the end of the knife extends, a round opening in one wall to receive one of the pivot-lugs, and an inclined slot in the opposite wall to receive the other pivot-lug, whereby the knife-blade may also be swung in a plane inclined to the vertical so as to coöperate with said shear edge.

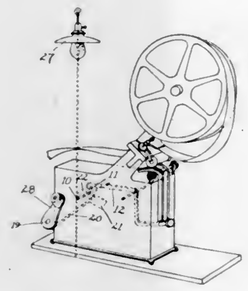
7. An opener for shell-fish consisting of a base, a holder for shell-fish on said base, an element having an upper shear edge mounted on said base at one side of said holder, a knife-blade pivotally mounted on said base, to swing in a vertical plane above said holder, said pivotal connection consisting of two cylindrical pivot-lugs projecting from the opposite sides of said knife near one end thereof, a hollow cylindrical standard mounted on said base, an opening in the side of said standard through which the end of the knife extends a round opening in one wall to receive one of said pivot-lugs, and an inclined slot in the opposite wall to receive the other pivot-lug, whereby the knife-blade may also be tilted sidewise from above said holder to swing in a plane inclined to the vertical so as to coöperate with said shear edge.

8. An opener for shell-fish consisting of a base, a holder for shell-fish on said base, said holder having inclosing walls rising from said base, one of said walls having an upper beveled shear edge, a knife-blade pivotally mounted on said base to swing in a vertical plane above said holder, said pivotal connection consisting of two cylindrical pivot-lugs projecting from the opposite sides of said knife near one end thereof, a hollow cylindrical standard mounted on said base, an opening in the side of said standard through which the end of the knife extends, a round opening in one wall to receive one of said pivot-lugs, and an inclined slot in the opposite wall to receive the other pivot-lug, whereby the knife-blade may also be tilted sidewise from above said holder to swing in a plane inclined to the vertical so as to coöperate with said shear edge.

9. An opener for shell-fish consisting of a base, a holder for a shell-fish on said base, said holder having two side walls rising from said base, said side walls being inclined in a horizontal direction with respect to each other, and one side wall having an upper beveled shear edge, a knife-blade pivotally mounted on said base at approximately the intersection of the plane of one side wall and a plane parallel with the other side wall, to swing in a vertical plane parallel with one side wall, said pivotal connection consisting of two cylindrical pivot-lugs, projecting from the opposite sides of said knife near one end thereof, a hollow cylindrical standard mounted on said base, an opening in the side of said standard through which the end of the knife extends, a round opening in one wall to receive one of said pivot-lugs, and an inclined slot in the opposite wall to receive the other pivot-lug, whereby the knife-blade may be swung into a plane of said other side wall and simultaneously tilted to swing in a plane inclined to the vertical so as to coöperate with said beveled shear edge.

10. An opener for shell-fish, consisting of a base, a holder for shell-fish on said base, said holder having inclosing side and end walls rising from said base, one of said side walls having a beveled upper edge, a knife-head pivotally connected with said base to swing in a vertical plane over said holder, said pivotal connection consisting of two cylindrical pivot-lugs projecting from the opposite sides of said knife near one end thereof, a hollow cylindrical standard mounted on said base, an opening in the side of said standard through which the end of the knife extends, a round opening in one wall to receive one of said pivot-lugs, and an inclined slot in the opposite wall to receive the other pivot-lug, whereby the knife-blade may also be moved sidewise and turned to swing in a plane inclined to the vertical so as to coöperate with said shear edge, one of said end walls being positioned to limit the vertical and guide the sidewise movement of said blade, and a stop on said wall to limit the said sidewise movement of the knife-blade at the proper position for coöperation with said beveled edge.

845,522. AUTOMATIC SIGNAL ATTACHMENT FOR TELEGRAPH-REGISTERS. JOHN C. CARMODY and WALTER K. PULSIFER, Fitchburg, Mass. Filed Apr. 28, 1906. Serial No. 314,270.



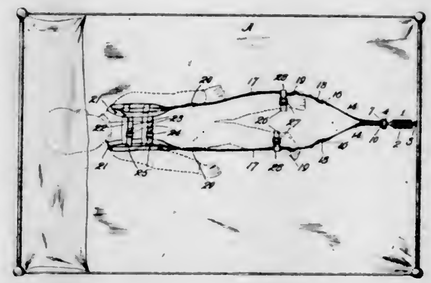
Claim.—1. In combination with a switch of a light-circuit, a suitably-mounted shaft, an arm thereon, a catch engaging said arm, means for releasing the catch from the arm, a second shaft suitably mounted, means carried by said shaft contacting with the switch, means for imparting motion to the second-named shaft, an arm carried by the second-named shaft acting in conjunction with the first-named shaft for holding said second-named shaft against rotation until the catch is released.

2. In combination with a switch of a light-circuit, a suitably-mounted shaft, an arm thereon, a catch engaging said arm, means for releasing the catch from the arm, a second shaft suitably mounted, means carried by said shaft contacting with the switch, means for imparting motion to the second-named shaft, and a weighted arm carried by the second-named shaft acting in conjunction with the first-named shaft for holding said second-named shaft against rotation until the catch is released.

3. In combination with a switch of a light-circuit, a suitably-mounted shaft, an arm thereon, a catch engaging said arm, means for releasing the catch from the arm, a second shaft suitably-mounted means carried by said shaft contacting with the switch, means for imparting motion to the second-named shaft, an arm carried by the second-named shaft, and a bill on said arm engaging the first-named shaft to hold the second-named shaft against rotation until the catch is released.

4. In combination with a switch of a light-circuit, a suitably-mounted shaft, an arm thereon, a catch engaging said arm, means for releasing the catch from the arm, a second shaft suitably mounted, means carried by the second shaft for contacting with the switch, means for imparting movement to the second-named shaft, and means carried by the second-named shaft acting in conjunction with the first-named shaft for holding said second-named shaft against rotation, until the catch is released.

845,523. BED ATTACHMENT. CARLTON B. CASS, Ravenna, Nebr. Filed May 14, 1906. Serial No. 316,679.



Claim.—1. An appliance of the character described, comprising a foot member consisting of an elastic section and a section swiveled thereto, and a body member detachably connected to said swiveled section.

2. An appliance of the character described, comprising a foot member consisting of an expansive section and a section swiveled thereto and embodying resilient diverging arms, and a body member detachably connected to said arms.

3. An appliance of the character described, comprising a foot member consisting of an expansive section and a section swiveled thereto and embodying resilient diverging arms, and a body member detachably connected to said arms, said body member being adjustable to increase or diminish its size.

4. An appliance of the character described, comprising a foot member consisting of an expansive section and a section swiveled thereto and embodying resilient diverging arms, a body member, and leg members connecting said body member and said arms.

5. An appliance of the character described, comprising a foot member, consisting of an expansive section and a section swiveled thereto and embodying resilient diverging arms, a body member, and leg members connecting said body member and said arms and adjustable as to length.

6. An appliance of the character described, comprising a foot member having an elastic portion, a body member, and leg members adjustable as to length and looped to the body member and detachably connected to the foot member.

7. An appliance of the character described, comprising a foot member, a body member, leg members connecting the foot and body members, and ankle-bands slidingly mounted on the leg members.

8. An appliance of the character described, comprising a foot member, a body member having an elastic portion, leg members connecting the foot and body members, and ankle-bands attached to the leg members bearing a swiveled relation to the same.

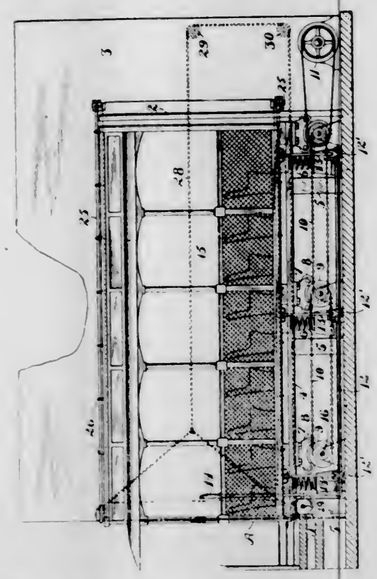
9. An appliance of the character described, comprising a foot member, a body member, leg members connecting the foot and body members, and ankle-bands slidingly mounted on the leg members and bearing a swivel relation thereto.

10. An appliance of the character described, comprising a foot member having diverging resilient arms, a body member comprising shoulder-straps adjustably connected together, adjustable leg members connecting said shoulder-straps and the arms of the foot member, and ankle-bands connected to the leg members.

11. The combination with a bed, of a foot member anchored thereto and comprising two sections swiveled together, a body member, leg members connecting the body and foot members, and ankle-bands carried by the leg members.

12. In a device of the character described, a foot member comprising an expansive section, and a second section having resilient diverging arms and having a swivel relation with said expansive section.

845,524. PLEASURE-RAILWAY. WILLIAM J. CITRON, San Francisco, Cal., assignor to Scenic Novelty Company, San Francisco, Cal., a Corporation of California. Filed Oct. 1, 1906. Serial No. 336,911.



Claim.—1. In a pleasure apparatus, a stationary car mounted for oscillation on a spring-support, means to oscillate the car, and means to create a rumbling sound and vibration in the car like travel over a roadway without advancing the car.

2. A spring-supported vehicle open at the sides, means to rock the vehicle, draw-curtains at the sides of the vehicle, mechanism to create a rumbling sound like travel over a railway-track, and connections between said mechanism and said draw-curtains to operate the latter.

3. A car partly mounted on a stationary support and partly mounted on springs, and means to control the oscillation of the car on said springs and support.

4. A vehicle supported at each side of its center on underneath springs and centrally fulcruming on a relatively unyielding support.

5. A vehicle supported at each side of its center on underneath springs and centrally fulcruming on a relatively unyielding support, and means to rock said vehicle on said fulcrum.

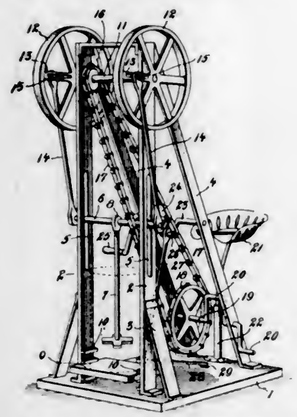
6. A car mounted for oscillation on an underneath central support, cushion means supporting the car on each side of said central support, and means extending inside the car to control the oscillations of the car.

7. A car mounted to fulcrum centrally on a stationary support, springs supporting the car on each side of said central support, rollers carried by said central support and contacting with other rollers, and means to revolve the rollers to create a rumbling sound like the travel of wheels over a track.

8. The combination with a vehicle open at the sides, mechanism underneath the car to create a rumbling sound and vibration in simulation of travel, normally stationary draw-curtains at the sides of the cars, and means for operating said curtains by said mechanism underneath the car.

9. The combination with a car open at the sides, draw-curtains at the sides of the car, rollers underneath the car to create a rumbling sound in simulation of travel, means to revolve said rollers, connections between said curtains and rollers to operate the curtains, and means for automatically disrupting said connections on the withdrawal of said curtains.

845,525. CHURN-MOTOR. EMORY W. COLE, Alto, Tex. Filed Oct. 6, 1906. Serial No. 337,744.



Claim.—1. In a device of the class described, a base, slotted standards extending upward therefrom, rearwardly-extending inclined braces from the upper portion of said standard, a driving-shaft mounted at the upper end of said standards, a fly-wheel thereon, a cross-bar extending through said slots, a pitman connection from said bar to said wheel, a power-shaft mounted in said braces, and a driving connection therefrom to the driving-shaft.

2. In a device of the class described, a base, slotted standards extending upward therefrom, a driving-shaft mounted upon said standards and provided with a fly-wheel thereon, a cross-bar, a pitman connection from said bar to said wheel, a series of parallel cleats disposed upon the inner face of each of said standards, and a bottom supported by said cleats and adapted to be adjusted at different heights.

3. In a device of the class described, a base, slotted standards extending upward therefrom, driving-shafts mounted at the upper end of said standards and provided with a fly-wheel thereon, a cross-bar extending through said slots, a pitman extending from said bar and adjustably connected to a spoke of said wheel, a series of cleats disposed upon the inner face of said standards, a bottom adjustably supported by said cleats, rearwardly-extending braces from the upper portion of said standards, a driving-sprocket upon the shaft of said fly-wheel, a chain extending over said sprocket, and a power-shaft mounted in said braces and provided with a sprocket to drive said chain.

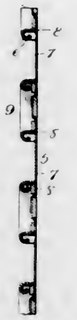
4. In a device of the class described, a base, slotted standards extending upward therefrom, driving-shaft mounted at the upper end of said standards and provided with a fly-wheel thereon, a cross-bar extending through said slots, a pitman extending from said bar and adjustably connected to a spoke of said wheel, a series of cleats disposed upon the inner face of said standards, a bottom adjustably supported by said cleats, rearwardly-extending braces from the upper portion of said standards, a driving-sprocket upon the shaft of said fly-wheel, a chain extending over said sprocket, a power-shaft mounted in said braces and provided with a sprocket to drive said chain, a treadle connection upon said power-shaft for driving the same, and a seat supported adjacent said treadle.

5. In a device of the class described, a base, slotted standards extending upward therefrom, driving-shaft mounted at the upper end of said standards and provided with a fly-wheel thereon, a cross-bar extending through said slots, a pitman extending from said bar and adjustably connected to a spoke of said wheel, a series of cleats disposed upon the inner face of said standards, a bottom adjustably supported by said cleats, rearwardly-extending braces from the upper portion of said standards, a driving-sprocket upon the shaft of said fly-wheel, a chain extending over said sprocket, a power-shaft mounted in said braces

and provided with a sprocket to drive the chain, a treadle connection upon said power-shaft for driving the same, a seat supported adjacent said treadle, a power-shaft journaled in said braces above said treadle and provided with a hand-crank and a sprocket carried by the said last-mentioned shaft to engage said chain.

6. In a device of the class described, a base, slotted standards extending upward therefrom, driving-shaft mounted at the upper end of said standards and provided with a fly-wheel thereon, a cross-bar extending through said slots, a pitman extending from said bar and adjustably connected to a spoke of said wheel, a series of cleats disposed upon the inner face of said standards, a bottom adjustably supported by said cleats, rearwardly-extending braces from the upper portion of said standards, a driving-sprocket upon the shaft of said fly-wheel, a chain extending over said sprocket, a power-shaft mounted in said braces and provided with a sprocket to drive the chain, a treadle connection upon the power-shaft for driving the same, a seat supported adjacent said treadle, a power-shaft journaled in said braces above said treadle and provided with a hand-crank, a sprocket carried by the said last-mentioned shaft to engage said chain, a crank carried by said hand-shaft, and a treadle operatively connected therewith.

845,526. FLEXIBLE METALLIC SHUTTER. THOMAS E. COLLINS, Columbus, Ohio. Filed May 18, 1906. Serial No. 317,425.



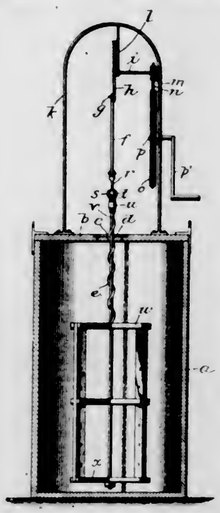
Claim.—1. A metallic shutter comprising a plurality of slats the edges of which are bent into engagement with each other, and reinforcing members secured to the ends of said slats, said reinforcing members comprising a head portion, a body portion which lies upon one side of the slat and a tongue portion which lies upon the opposite side of the slat, the free end of said tongue passing through an opening formed in the slat and overlying the body portion.

2. A shutter comprising a plurality of metallic slats U-shaped in cross-section, the edges of the said U-shaped slats being bent into hinged connection with each other, and reinforcing members carried by the ends of said slats, said reinforcing members comprising head portions which lie upon the exterior of said slats and overlap the hinged portions thereof, loop portions integral with said head portions lying upon one side of the slats, and tongue portions also formed integral with said head portions and lying upon the opposite side of the slats, the free end of said tongue portions passing through openings formed in the slats and engaging said loop portions.

3. A shutter formed of a plurality of slats comprising plane body portions, outstanding members which lie at right angles to said body portions, said outstanding members carried by the adjacent slats being bent into hinged engagement with each other and said right-angle portions abutting each other closely, and reinforcing members carried by the ends of the slats.

4. A shutter formed of a plurality of slats comprising plane body portions, outstanding members which lie at right angles to said body portions, said outstanding members carried by the adjacent slats being bent into hinged engagement with each other and said right-angle portions abutting each other closely, and reinforcing members carried by the ends of the slats, said reinforcing members comprising head portions which overlap the joints between the slats, loop portions formed integral with said head portions and lying upon one side of the slats, and tongue portions formed integral with said head portions and lying upon the other side of the slats, the free ends of said tongue portions passing through openings formed in the slats and engaging said loop portions.

845,527. CHURN. CLAYTON L. COOK, Big Plain, Ohio. Filed June 26, 1899. Serial No. 721,987.

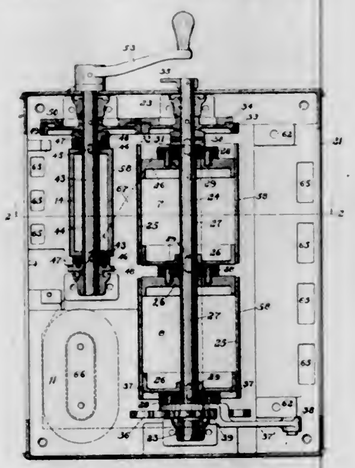


Claim.—In a churn, the combination with a hollow body portion, of a supporting-arch secured upon the body portion, a shaft journaled in one side of the arch, an operating-crank carried by the outer end of the shaft, a band-wheel carried by the inner end of the shaft, a depending hanger carried by the top of the arch, a shaft journaled in the hanger and in the side of the arch in which the first-named shaft is journaled, a pulley-wheel carried by the second-named shaft, a belt engaged with the pulley-wheel and with the band-wheel, a wheel mounted upon the inner end of the first-named shaft, a pitman eccentrically pivoted upon said wheel, a link pivoted to the lower end of the pitman, a ball carried by the lower end of the link, jaws in which the ball is engaged, a threaded rod carried by the jaws and extending downwardly therefrom, said body portion having an opening in its top in which the rod is slidably engaged, a plate having a threaded opening disposed with its opening in alinement with that of the top, said rod being engaged in the threaded opening, and a dasher carried by the rod within the body portion.

845,528. CONTROLLER. WILLIAM COOPER, Cincinnati, and CHARLES W. JOHNSON, Norwood, Ohio, assignors, by mesne assignments, to The Bullock Electric Company, a Corporation of Ohio. Filed Oct. 13, 1903. Serial No. 176,821.

Claim.—1. The combination of multiple-voltage mains, a motor, a controlling-switch operated by a single handle and connections arranged to connect the armature to mains of gradually-increasing voltage and at each increase in voltage to strengthen the field by increasing the current in the field-circuit and between each increase in voltage to weaken the field by reducing the current in the field-circuit to gradually increase the speed of the motor, and means for obtaining a reverse rotation of said motor by movement of said handle.

2. The combination of multiple-voltage mains, a motor, a field resistance, a controlling-switch operated by a single handle and connections arranged to connect the armature to mains of gradually-increasing voltage and at each increase in voltage to cut out resistance from the field-circuit and between each increase of voltage to insert the resistance in the field-circuit to gradually increase the speed of the motor, and means for obtaining a reverse rotation of said motor by movement of said handle.



3. The combination of multiple-voltage mains, a motor, a controlling-switch, and connections arranged to connect the armature of the motor to low-voltage mains, then weaken the field by reducing the current in the field-circuit, then connect the armature to mains of higher voltage and again weaken the field by reducing the current in the field-circuit to gradually increase the speed of the motor, and means for obtaining a reverse rotation of said motor by movement of said handle.

4. The combination of multiple-voltage mains, a motor, a controlling-switch, a single handle for operating the same, and connections arranged to connect the armature of the motor to low-voltage mains, then weaken the field by reducing the current in the field-circuit, then connect the armature to mains of higher voltage and again weaken the field by reducing the current in the field-circuit to gradually increase the speed of the motor, and means for connecting the armature of said motor to the said mains of different voltage so as to obtain reverse rotation of said motor also by movement of said single handle.

5. The combination of multiple-voltage mains, a motor, a field resistance, a controlling-switch, and connections arranged to connect the armature of the motor to low-voltage mains, then weaken the field by inserting resistance in the field-circuit, then connect the armature to mains of higher voltage and also strengthen the field by cutting the resistance out of the field-circuit, then weaken the field by again inserting the resistance in the field-circuit to gradually increase the speed of the motor, and means for connecting the armature of said motor to the said mains of different voltage so as to obtain reverse rotation of said motor also by movement of said single handle.

6. The combination of multiple-voltage mains, a motor, a field resistance, a controlling-switch, a single handle for operating the same, and connections arranged so that when the handle is turned in one direction the armature of the motor is connected to low-voltage mains, the field then weakened by inserting resistance in the field-circuit, the armature then connected to mains of higher potential and the field resistance cut out of the field-circuit, the field again weakened by inserting the resistance in the field-circuit to gradually increase the speed of the motor, and connections arranged so that when the said handle is turned in the opposite direction a reverse rotation of the motor is obtained.

7. The combination of multiple-voltage mains, a motor, a field resistance, a controlling-switch, a handle for operating the same, and connections arranged so that when the handle is turned in one direction the armature of the motor is connected to low-potential mains, the field then weakened by inserting resistance in the field-circuit, and the armature then connected to mains of higher potential to gradually increase the speed of the motor, and connections arranged so that when the said handle is turned in the opposite direction a reverse rotation of the motor is obtained at different speeds by connecting the armature to said mains of different potential.

8. The combination of multiple-voltage mains, a motor, a controlling-switch, a handle for the same, a field resistance, and connections arranged so that turning the handle in one direction for forward speeds first connects the motor-armature to mains of low voltage, then inserts resistance in the field-circuit, then connects the armature to mains of higher potential and cuts out the field resistance to give a gradually-increasing speed, and turning the handle in the opposite direction reverses the direction of rotation of the motor and connects the motor-armature to mains of gradually-increasing voltage to give gradually-increasing speeds in the opposite direction.

9. The combination of multiple-voltage mains, a motor, a controlling-switch, a handle for the same, a field resistance and connections arranged so that turning the handle in one direction for forward speeds connects the motor-armature to mains of gradually-increasing voltage and also strengthens the field and between each increase in voltage weakens the field to gradually increase the speed of the motor, and turning the handle in the opposite direction reverses the direction of rotation of the motor and connects the armature to mains of gradually-increasing voltage to give gradually-increasing speeds in the opposite direction.

10. The combination of multiple-voltage mains, a motor, a field resistance, a controlling-switch and connections, said controlling-switch comprising a shaft carrying contacts adapted to vary the voltage applied to the motor-armature, a second shaft carrying contacts adapted to vary the resistance in the field-circuit, gearing connecting said shafts, interlocking cams on said shafts and a handle on one of said shafts for operating the same.

11. The combination of multiple-voltage mains, a motor, a field resistance, a controlling-switch and connections, said controlling-switch comprising a contact-drum, a second contact-drum out of alinement with the axis of said first drum, and means controlled by a single device for actuating both of said drums.

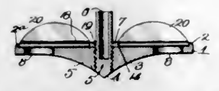
12. The combination of multiple-voltage mains, a motor, a field resistance, a controlling-switch and connections, said controlling-switch comprising a contact-drum having contacts for varying said field resistance, a second contact-drum out of alinement with the axis of said first drum and having contacts for varying the voltage applied to the circuit of the motor-armature, and means controlled by a single device for actuating both of said drums.

13. The combination of multiple-voltage mains, a motor, a field resistance, a controlling-switch and connections, said controlling-switch comprising a contact-drum having contacts for varying said field resistance, a second contact-drum out of alinement with the axis of said first drum and having contacts for varying the voltage applied to the circuit of the motor-armature, and means controlled by a single device for imparting a continuous movement to said first drum and an intermittent movement to said second drum.

14. The combination of multiple-voltage mains, a motor, a field resistance, a controlling-switch and connections, said controlling-switch comprising a contact-drum having contacts for varying said field resistance, a second contact-drum out of alinement with the axis of said first drum and having contacts for varying the voltage applied to the circuit of the motor-armature, and means controlled by a single device for actuating said first drum and for exerting a force at intervals tending to move said second drum when said device is moved continuously.

15. The combination of multiple-voltage mains, a motor, a field resistance, a controlling-switch and connections, said controlling-switch comprising a contact-drum having contacts for varying said field resistance, a second contact-drum out of alinement with the axis of said first drum and having contacts for varying the voltage applied to the circuit of the motor-armature, and means controlled by a single device for actuating said second drum one step per each revolution of said first drum; both of said drums being actuated by the movement of said device.

845,529. KALEIDOSCOPE TOP. CHARLES V. CUNNINGHAM, Springfield, Mo. Filed Apr. 28, 1906. Serial No. 314,229.



Claim.—1. The combination of a spinning-top having a flat upper side, a circular flange projecting upward from the margin of the flat surface of the top, a cylindrical portion projecting upward from the center of the top and provided with a central cylindrical socket and with a surrounding horizontal upwardly-disposed shoulder fitting down upon said flat surface, a color-card fitting flatly upon the flat surface of the top and snugly upon the cylindrical portion below its shoulder, and a cover-card supported upon said shoulder above and out of contact with the color-card and journaled loosely upon the cylindrical portion above said shoulder and provided with an opening through which said color-card below may be observed, and provided also with an upwardly-projecting retarding-wing; said cover-card being adapted to be fitted down upon or removed from said cylindrical portion while the top is spinning.

2. The combination of a spinning-top having a flat upper side, a circular flange projecting upward from the margin of the flat surface of the top, a cylindrical portion projecting upward from the center of the top and provided with a central cylindrical socket and with a surrounding horizontal upwardly-disposed shoulder fitting down upon said flat surface, a color-card fitting flatly upon the flat surface of the top and snugly upon the cylindrical portion below its shoulder, a cylindrical holder adapted to engage said socket, a cord adapted to be wound upon the cylindrical portion above said shoulder and then pulled to effect its unwinding and the spinning of the top before the holder is withdrawn therefrom, and a cover-card adapted to be slipped upon the said cylindrical portion and rest upon the shoulder thereof after the holder has been withdrawn from the socket; said cover-card having an opening to expose the color-card below and an upwardly-projecting retarding-wing.

3. The combination of a spinning-top having its upper side flat and surrounded by a marginal flange and provided with a plurality of vertical holes, a collar rigid with and projecting from the center of the top above its flat surface, a cylindrical portion disposed centrally of and projecting vertically upward from the collar, a color-card resting upon said flat surface and bridging said holes and fitting snugly around the collar and against said flange, and a cover-card supported upon the collar and rotatably surrounding the cylindrical portion projecting upward therefrom and provided with an opening and with an upwardly-projecting blade.

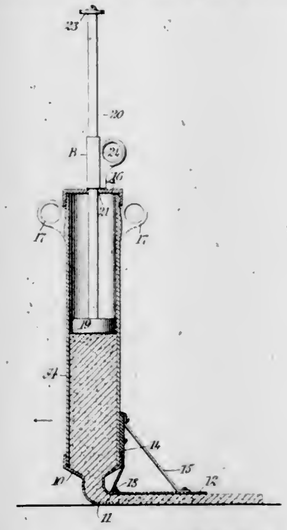
4. The combination of a spinning-top having its upper side flat, an upwardly-projecting flange surrounding said side, a vertical plug secured in the top and forming the point thereof and projecting above said flange and provided with a collar or enlargement resting upon said flat surface, and with a cylindrical socket, a color-card upon said flat surface and fitting snugly around said collar and against said flange, a holder having a cylindrical portion fitting loosely in said socket, and a cord adapted to be wound upon the plug above the collar and be unwound to cause the top to spin.

5. The combination of a spinning-top having its upper side flat, an upwardly-projecting flange surrounding said side, a vertical plug secured in the top and forming the point thereof and projecting above said flange and provided with a collar or enlargement resting upon said flat surface, and with a cylindrical socket, a color-card upon said flat surface fitting snugly around said collar and against said flange, a holder having a cylindrical portion fitting loosely in said socket, a cord adapted to be wound upon the plug above the collar and be unwound to cause the top to spin, and a cover-card adapted to be fitted rotatably on the plug above the collar and provided with an opening and with a blade projecting vertically upward.

6. A cover-card for spinning-tops of substantially S shape provided with a central hole and an upwardly-projecting wing.

7. The combination of a spinning-top having its upper side surrounded by a circular wall, a cylindrical portion projecting up from and disposed centrally of said upper side and formed with an upwardly-disposed shoulder, a color-card fitting on the upper side of the top and around said projecting portion and below the shoulder thereof and the top of the wall, and an S-shaped cover-card journaled on the said upwardly-projecting portion above and resting on the shoulder thereof and provided with an upwardly-projecting retarding-wing.

845,530. POINTING-TOOL. BENJAMIN F. DAVIS, Miami, Fla. Filed Feb. 28, 1906. Serial No. 303,398.

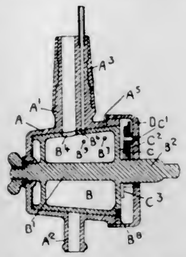


Claim.—1. A pointing-tool consisting of a vessel, a spoon at the outlet thereof, and detachably connected with the vessel, said spoon being closed at the top and open at the bottom, a piston located within the vessel, a piston-rod extending through the piston outside of the vessel, and provided with ratchet-teeth, a slide mounted on the piston-rod without the vessel, and a pawl within the slide for engaging said teeth, said pawl having means without the slide whereby to manipulate the same.

2. A pointing-tool consisting of a cylindrical body having eyes at opposite sides, an elbow at the outlet end of the vessel, a cap at the opposite end a horizontal beading-spoon connected with the elbow, open at the bottom, a piston located within the said cylindrical body, a piston rod for the piston, having ratchet-teeth thereon, which piston-rod extends through the cap of the cylindrical body, a slide loosely mounted on the piston-rod, which slide is pro-

vided with a handle, and a pawl carried by the said slide, for engagement with the teeth on the said piston-rod.

845,531. LIQUID MEASURING AND REGISTERING FAUCET. WILLIAM M. DAVISON, Port Pirie, South Australia, Australia. Filed Mar. 22, 1906. Serial No. 307,395.



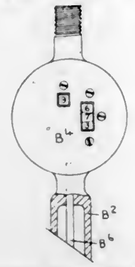
Claim.—1. In a liquid measuring and registering device, comprising a hollow body provided with an air-hole, and having a tubular inlet and outlet and an air-tube for leading into the bottle or vessel, a measuring-chamber having separate inlet and outlet openings contained within said hollow body and having air-holes adapted to register respectively with said air-tube leading into the bottle or vessel and with the air-hole in the body, a cap or cover on the end of said body, and a registering mechanism mounted within the cap or cover and a pawl carried by said measuring-chamber for operating the registering mechanism.

2. In a liquid measuring and registering device, comprising a hollow body provided with an air-hole and having a tubular inlet and outlet, and an air-tube for leading into the bottle or vessel, a measuring-chamber in the body constructed to contain a predetermined quantity of liquid, said chamber being provided with separate inlet and outlet openings adapted to register with the inlet and outlet openings respectively of the body of the device, said body having an air-tube for leading into the vessel, and said chamber having air-holes adapted to register respectively with the air-tube and with the air-hole in the body, a cap or cover upon the body of the device, a registering mechanism mounted within the cap or cover and provided with a ratchet-wheel, and a pawl on the measuring-chamber for operating the ratchet-wheel.

3. The combination with a bottle or liquid-containing vessel of a liquid measuring and registering device consisting of a hollow body having an air-hole and provided with tubular inlet and outlet, an air-tube for extending into the bottle or vessel, an oscillatable measuring-chamber contained within such hollow body and having separate inlet and outlet openings and three air-holes two of which are adapted to register alternately with the air-tube, and the third to register with the air-hole in the body a cap or cover on the end of the body and a registering mechanism mounted upon the inside of a cap or cover and a pawl carried upon the outside of such measuring-chamber for operating said registering mechanism substantially as described and for the purpose set forth.

4. The combination with a bottle or liquid-containing vessel of a liquid measuring and registering device consisting of a hollow body provided with tubular inlet and outlet, an air-tube for extending into the bottle or vessel, an oscillatable measuring-chamber contained within such hollow body and having separate inlet and outlet openings and three air-holes, two of which as the chamber is oscillated register alternately with the air-tube, and the third when the chamber is discharging registers with the air-hole in the body, a cap or cover on the end of said body a pawl mounted upon the outside of such chamber and beneath the cap or cover and a registering mechanism comprising a series of numbered disks with a train of spur-wheels and operating-fingers mounted upon the inside of a cap or cover upon the end of such body outside the chamber, the units-wheel of the series having a ratchet-wheel operated by the aforesaid pawl carried by the measuring-chamber substantially as described.

845,532. MEASURING AND REGISTERING PUMP. WILLIAM M. DAVISON, Port Pirie, South Australia, Australia. Filed Mar. 22, 1906. Serial No. 307,396.



Claim.—1. In a pump for vending measured quantities of liquid a piston-rod in two parts capable of movement one against the other, such movement operating a registering mechanism mounted upon the piston-rod substantially as described.

2. In a pump for vending measured quantities of liquid a piston-rod in two parts capable of movement one against the other such parts comprising a short inner portion and an outer tubular portion, the short inner portion being secured to the piston and the longer tubular portion being slidably attached to the short portion by a key or cotter fitting rigidly to the one part but passing through a slot in the other and the said inner portion carrying a rod passing up through the top of the tubular portion and operating the registering mechanism substantially as described.

3. In a pump comprising means for both measuring and registering, a piston-rod in two parts a registering mechanism mounted upon a suitable portion of the piston-rod and comprising a series of numbered disks with a train of spur-wheels and operating-fingers, the units-wheel of the series being moved by a pawl which on each downward movement of the pump is operated by means of a rod carried by the other part of the piston-rod substantially as described.

4. An improved pump for vending measured quantities of liquid and for registering the number of such measures sold comprising a pump-barrel with inlet and outlet pipes at the bottom and overflow-pipe at one side and containing a piston with a bucket "tight" in both up and down movements, the piston-rod being made in two parts, a comparatively short inside portion secured to the piston and a comparatively long outside tubular portion slidably attached to the short portion, the tubular portion carrying a registering mechanism which is operated by a rod projecting from the top of the short portion and through the top of the tubular portion substantially as described.

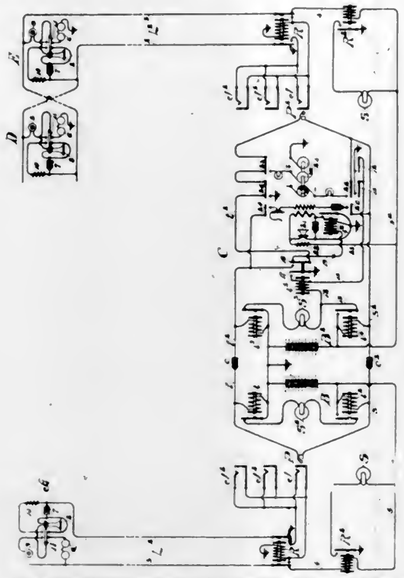
845,533. TELEPHONE SYSTEM. WILLIAM W. DEAN, Chicago, Ill., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill., a Corporation of Illinois. Filed Feb. 7, 1903. Serial No. 142,292.

Claim.—1. In a telephone system, the combination with a telephone-line having a plurality of testing-contacts, of a cord-circuit, a relay associated therewith to control the continuity of the portion of the testing-circuit associated with the cord-circuit, said relay being initially actuated over a local circuit independent of the talking-circuit and a supervisory relay associated with the cord-circuit and adapted to control the circuit of said first-mentioned relay.

2. The combination with telephone-lines having testing-contacts, of a cord-circuit, testing apparatus comprising a testing-terminal to coöperate with said testing-contacts, a testing-conductor connected with said test-terminal, a relay to control said testing apparatus, means to actuate said relay in calling the wanted subscriber, and further means including a supervisory relay to prevent its de-

energization throughout the remainder of the connection, substantially as described.

3. In a telephone system, the combination with a telephone-line, of a cord-circuit to establish connections with the line for conversation, a busy-testing circuit completed over a portion of the talking-circuit, said testing-circuit being common to a plurality of cord-circuits, means for removing said testing-circuit during conversation, a supervisory relay for controlling said means, said means being actuated over a circuit independent of the talking-circuit, substantially as described.

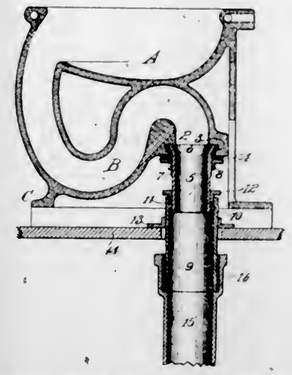


4. In a telephone system, the combination with a telephone-line, of a cord-circuit, a testing-circuit completed over the tip-strand of the cord-circuit, a common testing device included in said testing-circuit, a relay to sever said common portion of the testing-circuit from the tip-strand of the cord-circuit, said relay being actuated over a circuit independent of the talking-circuit, the supervisory relay associated with the cord-circuit and adapted to control the circuit through said first-mentioned relay, substantially as described.

5. In a telephone system, the combination with a telephone-line, of a cord-circuit, a testing-circuit completed over one of the strands of the cord-circuit, said testing-circuit having a portion common to a plurality of cord-circuits, a relay for removing said common portion during conversation, means for initially operating said relay during ringing, a locking-circuit for said relay to maintain the same actuated during the remainder of a connection, and a supervisory relay for controlling said locking-circuit, substantially as described.

845,534. WATER-CLOSET. FREDERICK W. DELANOY, Oakland, Cal. Filed Mar. 30, 1906. Serial No. 308,828.

Claim.—1. In a closet, a bowl having a trap, and a conical countersunk channel at the discharge end of the trap, a sleeve having the upper end diverged to substantially fit the countersunk channel, the diameter of the channel and also the diameter of the upper end of the sleeve being in excess of the diameter of the discharge-passage of the trap whereby the inner wall of the sleeve is located outside of the vertical plane of the inner wall of the discharge-passage and the upper end of the sleeve is adapted to abut the shoulder formed by the channel, a gasket fitting between the upper end of the sleeve, and the interior of the channel, and a screw-threaded lock-nut turnable upon corresponding threads on the sleeve whereby the parts are locked and sealed.



2. In a water-closet, a basin having a trap, with a terminal countersunk channel, a tube or sleeve threaded upon the outer side having the upper end made divergent to fit the countersunk channel of the bowl-discharge, the diameter of the channel and also the diameter of the upper end of the sleeve being in excess of the diameter of the discharge-passage of the trap whereby the inner wall of the sleeve is located outside of the vertical plane of the inner wall of the discharge-passage and the upper end of the sleeve is adapted to abut the shoulder formed by the channel, a flanged gasket fitting the channel and inclosing the upper end of the sleeve, and a threaded nut turnable upon the threads of the sleeve whereby the latter is drawn downward and the gasket compressed to form a joint.

3. In a closet, a bowl having a trap, a discharge, a sleeve and joint-forming means between the sleeve and the trap, a tube in line with the sleeve having an annular flange through which the lower end of the sleeve extends, a stuffing-box and gland forming a joint between the sleeve and the pipe, screw-threads formed upon the exterior of the pipe, and a threaded floor-flange engaging said threads, whereby the pipe may be adjusted with relation to the floor.

4. In a closet, a basin having a trap, a metal sleeve, an interlocking, disengageable joint formed between the upper end of the sleeve and the discharge end of the trap, a pipe in line with the sleeve having a stuffing-box and gland through which a tight and adjustable joint of the sleeve is formed, a screw-threaded floor-flange engaging corresponding threads upon the exterior of the pipe whereby the latter is adjustable with relation to the sleeve, and a soil-pipe having a socket and joint-forming devices at the junction of the two.

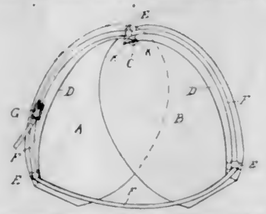
5. In a water-closet having a trap and a terminal discharge, a sleeve and a detachable joint-forming device between the sleeve and trap, a soil-pipe in line with the sleeve, and an interposed pipe-section forming a fixed joint with the soil-pipe, and a slidably-adjustable joint with the sleeve, said pipe-section being externally threaded, and a threaded floor-flange engaging the threaded portion of the pipe-section and adjusting said section.

845,535. BOOT FOR HORSES. NORMAN G. DEVLIN, Perth, Ontario, Canada. Filed Nov. 3, 1905. Serial No. 285,792.

Claim.—1. A boot for horses comprising two sections each having a flat surface with an upwardly and inwardly extending flange secured thereon, arranged to overlap each other at the front of the boot, means for pivotally securing the said sections together with the said flanges forming a continuous flange, at the front, and an open space at the rear of the boot, and means for securing the sections in their adjusted position, substantially as described.

2. In a boot for horses, two sections pivotally secured to one another, the said sections being comprised of flat

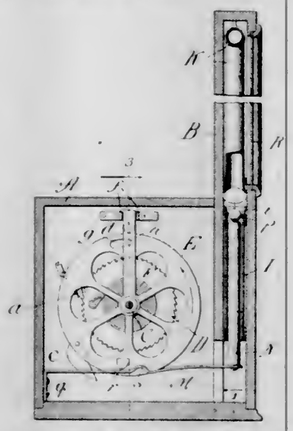
surfaces with upwardly and inwardly extending flanges, arranged to overlap at the front of the boot adjacent the pivotal point, and to leave an open space at the rear of the said boot means for securing the said sections in their adjusted positions and independent means for closing the opening formed by the flanges, substantially as described.



3. In a boot for horses, two sections pivotally secured to one another, the said sections being comprised of flat surfaces with upwardly and inwardly extending flanges arranged to overlap at the front of the boot adjacent the pivotal point, and to leave an open space at the rear of the said boot, means for securing the said sections in their adjusted positions and independent means held in position by the securing device for closing the opening formed by the flanges, substantially as described.

4. In a boot for horses, two sections pivotally secured to one another, the said sections being comprised of flat surfaces, with upwardly and inwardly extending flanges arranged to overlap at the front of the boot, adjacent the pivotal point, and to leave an open space at the rear of the said boot, means for securing the said sections in their adjusted position and independent resilient means for closing the opening formed by the flanges, substantially as described.

845,536. CIGAR-CUTTER. JOSEPH C. F. DICK, Kenwood, Cal. Filed Feb. 27, 1906. Serial No. 303,173.



Claim.—1. In a cigar-cutter, the combination of a normally stationary spring-rotated wheel, wheel-releasing mechanism in the path of an inserted cigar end adapted to be actuated to release the wheel by pressure on it of a cigar end, a cutter movable with said wheel for said cigar end, movable display mechanism, and a spring operatively connected with said display mechanism to be actuated by the movement of said wheel to actuate said display mechanism.

2. In a cigar-cutter, the combination of a normally stationary spring-rotated wheel, wheel-releasing mechanism in the path of an inserted cigar end adapted to be actuated to release the wheel by pressure on it of a cigar end, movable display mechanism, a spring operatively connected with said movable display mechanism, and a lug on said wheel adapted to engage said spring during the rotation of said wheel to actuate said display mechanism.

3. In a cigar-cutter, the combination with the cutting mechanism and its operating means, of display mechanism comprising a missile-throwing plunger actuated by the movement of said operating means, a guide through which said plunger reciprocates and a missile coöperating with said plunger.

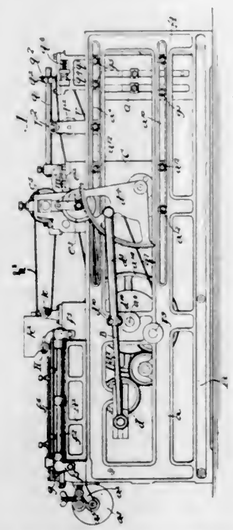
4. In a cigar-cutter, the combination with the cutting mechanism and its operating means, of display mechanism comprising missile-throwing means actuated by movement of said operating means, a missile coöperating therewith, deflector-pins for the missile, an upsetting receptacle to catch the missile, and a guide for returning the missile to said throwing means.

5. In a cigar-cutter, the combination of a normally stationary spring-rotated wheel, wheel-releasing mechanism in the path of an inserted cigar end, a cutter for said cigar end actuated by said wheel during its rotation, and movable display mechanism constructed and arranged to be actuated by said wheel at a time during which the cutting of the cigar end is not being performed.

6. In a cigar-cutter, the combination of a normally stationary spring-rotated wheel provided with a lug, wheel-releasing mechanism in the path of an inserted cigar end, a cutter for said cigar end actuated by said wheel during its rotation, and movable display mechanism constructed and arranged to be operated by engagement with said lug during the rotation of the wheel.

7. In a cigar-cutter, the combination of a normally stationary spring-rotated wheel, wheel-releasing mechanism in the path of an inserted cigar end, a cutter for said cigar end actuated by said wheel during its rotation, a movable display mechanism comprising a missile-throwing plunger constructed and arranged to be actuated by said wheel during a portion of its rotation, and a missile co-operating with said plunger.

845,537. ENVELOP-MAKING MACHINE. GEORGE W. DIETZ, Philadelphia, Pa. Filed Aug. 1, 1904. Serial No. 219,100.



Claim.—1. In an envelop-making machine, the combination of means for feeding a continuous web of material to the machine, means for cutting successive portions from the sides of said web, means for transversely scoring the web, the same being carried by and operated simultaneously with said side-cutting means, and means for applying adhesive material to a portion of the web, with means for cutting off and folding successive lengths of said web, substantially as described.

2. In an envelop-machine, the combination of means for feeding a continuous web of material to the machine, means for cutting successive portions from the sides of said web so as to leave projecting flaps, transverse scoring-blades having means whereby they are reciprocated by said cutting means, means for applying adhesive material to a portion of the web, means for folding the flaps, with means for cutting off and finally folding successive lengths of the web, substantially as described.

3. The combination of means for feeding a web of material, means for cutting successive elongated portions from the sides of the web, means for applying adhesive material to said web in lines parallel with and substantially the same length as the portions cut off from the sides, and means for cutting off and folding successive lengths of said web, said adhesive-applying means being constructed and arranged to operate before the successive lengths have been cut from the web, substantially as described.

4. The combination of means for cutting successive elongated portions from the sides of a web of material, means for transversely scoring successive portions of said web, said means being positively actuated from said cutting means, means for applying adhesive material to the web, and means for finally cutting off and folding successive lengths of the web, substantially as described.

5. The combination of means for cutting successive portions from opposite sides of a web of material, so as to leave projecting flaps, means for longitudinally scoring the web adjacent to the flaps, an oscillatory blade for transversely scoring successive lengths of the web, means for turning the flaps toward each other, means for applying adhesive material to portions of the web, and means for cutting off and folding successive lengths of the web, substantially as described.

6. The combination of means for cutting successive elongated portions from the edges of a web of material so as to leave projecting portions forming flaps, means for folding said flaps upon the web, means for applying adhesive material to portions of the web in line with the folded flaps while omitting said adhesive material from said flaps, and means for afterward cutting off and finally folding successive lengths of the web, substantially as described.

7. In an envelop-machine, the combination of means for forming an envelop-blank from a continuous web of material, means for applying adhesive material to said web along predetermined lines, with feed-rolls for moving said web, one of the same including a series of substantially cylindrical portions adjustable toward and from each other, there being spaces between said cylindrical portions in line with the lines along which adhesive material is applied to the web, with means for cutting off and folding said blanks, substantially as described.

8. In an envelop-machine, the combination of means for forming a succession of envelop-blanks from a web of material, means for cutting off and folding said blanks, said forming means including a vibrating knife at each side of the web and a scoring-blade supported by the knife structures so as to act simultaneously with the knives, substantially as described.

9. In an envelop-machine, means for forming, cutting off and folding envelop-blanks from a web of material, with means for applying adhesive material to said web, said forming means including a vibrating knife on each side of the web, a bar extending between said knives and a scoring-blade on said bar, substantially as described.

10. In an envelop-machine, the combination of means for forming, cutting off and folding envelop-blanks from a web of material, said forming means including a shaft on each side of the web, an arm or arms on each shaft, a knife carried by said arm or arms, with two transversely-placed scoring-blades carried by said knife structures, substantially as described.

11. In an envelop-machine, the combination of means for forming, cutting off and folding envelop-blanks, with two containers having a supporting-shaft and adjustable toward and from each other on said shaft, means for delivering material from the containers to the envelop-blanks, and means for oscillating said shaft, substantially as described.

12. In an envelop-machine, the combination of means for forming, cutting off and folding envelop-blanks from a continuous web of material, an oscillatory shaft, two containers movable toward and from each other on the shaft, means for delivering material from said containers to the web and means for periodically actuating said shaft to move said containers so as to cause adhesive material to be applied to the web during predetermined times, substantially as described.

13. In an envelop-machine, the combination of means for forming, cutting off and folding a succession of envelop-blanks from a continuous web of material, an oscillatory shaft, two containers adjustably mounted thereon, so as to be movable toward and from each other, a wheel for delivering material from each container to the envelop-blanks, and means for periodically oscillating said shaft so as to move said delivery-wheels out of engagement with the blanks, substantially as described.

14. The combination in a machine for forming envelops, of means for cutting off and folding blanks, means for applying adhesive material to the blanks, the same including a reservoir, a delivery-wheel therefor, and means for periodically moving said reservoir to cause the wheel to engage successive blanks, said means including a cam and mechanism for driving the same, substantially as described.

15. In an envelop-making machine, the combination of means for intermittently feeding a continuous web of material, independent vibrating knives having cutting edges extending substantially parallel with and adjacent to the sides of said web, mechanism for operating said knives to cut pieces from the sides of the web, means for scoring the web transversely and means for cutting off and folding successive lengths of said web, substantially as described.

16. The combination in an envelop-machine, of means for forming, cutting off and folding envelop-blanks, an oscillatory reservoir for adhesive material, a delivery-wheel normally in engagement with the web of material, and a cam for causing oscillation of said reservoir, said cam having an adjustable segment and means whereby it is operated, substantially as described.

17. An envelop-machine including means for intermittently feeding a web of material, means for longitudinally scoring the same, independently-operative means for transversely scoring the web, knives acting simultaneously with the transverse scoring means for cutting off portions of the sides of the web, with means for cutting off successive lengths of the web, substantially as described.

18. An envelop-machine including means for intermittently feeding a web of material, means for longitudinally scoring the same, means for transversely scoring the web, knives having means whereby they are caused to operate simultaneously with the transverse scoring means for cutting off portions of the sides of the web along the lines of the longitudinal scoring, means for turning toward each other portions of the sides of the web, and means for cutting off successive lengths of the web, substantially as described.

19. An envelop-machine including means for feeding a web of material, a stationary die-plate, independent oscillatory knives on opposite sides of the same coacting with said die-plate to cut elongated strips from the sides of the web, means for scoring uncut portions of the web in lines substantially coincident with the lines of cut of the said knives, and means for cutting off successive lengths of the web, substantially as described.

20. An envelop-machine including means for intermittently feeding a web of material, means for cutting out, cutting off and folding successive lengths of said web, and a plurality of transverse scoring devices having supporting structures, said devices being adjustable on said structures toward and from each other, substantially as described.

21. An envelop-machine including means for forming, cutting off and folding envelop-blanks, with longitudinally-extending bars each having a plurality of transverse scoring-plates constructed so as to be adjustable toward and from each other on said bars, substantially as described.

22. An envelop-machine including a pair of wheels for longitudinally scoring a web of material, an oscillatory shaft, a blade thereon for transversely scoring said web, means for actuating the shaft, and means for forming, cutting off and folding successive portions of said web, substantially as described.

23. An envelop-machine including means for forming, cutting off and folding a succession of envelop-blanks from a continuous web of material, said forming means including an oscillatory knife at each side of the web structure, a longitudinally-extending bar carried by each of the knife structures, a transverse bar or bars extending between said longitudinal bars and a scoring-blade carried by the transverse bar, substantially as described.

24. An envelop-machine including a stationary die-plate, a shaft on each side of the same carrying a knife, means for causing said knives to act with the said plate to cut pieces out of the sides of a web of material, transverse scoring devices actuated from said knife-operating mechanism, means for feeding the web of material through the machine and means for cutting off successive lengths of the web, substantially as described.

25. An envelop-machine including means for forming, transversely scoring and intermittently feeding a succession of envelop-blanks made from a web of material, means for cutting successive blanks from such web and means for folding said blanks, said last means having a supporting-frame independent of the frame of the machine and adjustable thereon to vary the distance of the folding means from the other mechanism of the machine, substantially as described.

26. An envelop-machine including means for forming, cutting off and folding a succession of envelop-blanks from a continuous web of material, said forming means including an oscillatory knife at each side of the web structure, a longitudinally-extending bar carried by each of the knife structures, a transverse bar or bars extending between said longitudinal bars and a scoring-blade carried by the transverse bar, said transverse bar being adjustable upon the longitudinal bars, substantially as described.

27. An envelop-machine including longitudinal and transverse scoring devices, means for feeding a web of material to said devices, means for cutting off portions of the sides of said web, means for applying adhesive material to the web along the edges from which said portions have been cut, means for folding inwardly portions of the sides of said web other than those having the adhesive material, said folding means being placed to operate after said adhesive material has been applied, with means for cutting off lengths of the web and folding the same, substantially as described.

28. The combination with means for forming and scoring a succession of blanks from a continuous web of material, of means for feeding said web, a transverse knife for cutting off successive lengths of the web, with folding mechanism for said cut-off lengths, the same being actuated from said transverse knife, substantially as described.

29. An envelop-machine including means for applying adhesive material to a succession of lengths of a web of material, an oscillatory knife with means whereby it is periodically actuated to cut off said successive lengths of said web, a pair of folding-rollers, means for turning the same, and a plate actuated from the knife for moving a cut-off length of said web between said rollers, substantially as described.

30. An envelop-machine including means for applying adhesive material to a succession of lengths of a web of material, an oscillatory knife with means whereby it is actuated to cut off said lengths, folding-rollers having driving means, a plate for starting a length of cut-off material between said rollers and means adjustably connected to said knife for operating said plate, substantially as described.

31. An envelop-machine including means for applying adhesive material to a succession of lengths of a web of material, with a knife for cutting off said lengths and a device including means operated by said knife, for folding said cut-off pieces, substantially as described.

32. An envelop-machine having means for applying adhesive material, an oscillatory knife for cutting off lengths of a web of material, a bar carried by the knife structure, a folding plate on said bar, and folding-rollers, with means for operating the knife and causing the plate to start a length of material between the said rollers, substantially as described.

33. An envelop-machine including means for forming a succession of envelop-blanks from a continuous web of material, means for applying adhesive material to portions of said web, an oscillatory knife for cutting off successive lengths of the web, a bar carried by the knife, a plate on the bar having means for varying its distance from the knife, and folding means placed to coact with the plate, substantially as described.

34. An envelop-machine having means for forming a succession of envelop-blanks from a continuous web of material, means for intermittently feeding the web through the machine, means for intermittently applying adhesive material to the web, and means for cutting off and folding successive lengths of said web, said cutting-off and folding means having a supporting-frame independent of the frame of the machine and being adjustable upon said machine-frame to vary the distance of said cutting-off and folding means from the blank-forming means, substantially as described.

35. An envelop-making machine having a main frame, means thereon for forming, cutting off and folding a succession of envelop-blanks, said cutting-off and folding means being removably supported upon said main frame, and being respectively adjustable thereon to vary their distances from each other and from the blank-forming means, substantially as described.

36. The combination of a supporting-frame, means supporting a web of material thereon, means for forming envelop-blanks from said web including side-cutting knives, scoring mechanism and means for applying adhesive material, with a cutting-off knife having a supporting-frame adjustable as to its distance from the blank-forming mechanism, substantially as described.

37. An envelop-machine including means for forming envelop-blanks from a continuous web of material, a main frame supporting said means and provided with driving mechanism, an adjustable frame movable on said frame, feeding mechanism on said adjustable frame, adjustable means for connecting said feeding means with the driving mechanism, a cutting-off knife, and means for folding pieces of material after they have been cut off, substantially as described.

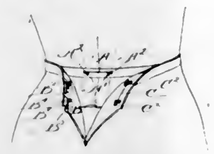
38. The combination of a frame with two side panels, side-cutting knives and a roll-supporting device carried thereby, a roll on said device, means for applying adhesive material to a web of material delivered from said roll, a framework carrying a feed-roll and a cutting-off knife, said framework being adjustable as to its distance from said side-cutting knives, substantially as described.

39. The combination of a frame having two side panels, side-cutting knives and a roll-supporting device carried by said panels, means for applying adhesive material to a web of material delivered from the roll, a framework carrying a feed-roll and a cutting-off knife, said framework being adjustable as to its distance from the side-cutting knives, with folding-rollers, a supporting-framework adjustable as to its distance from the cutting-off knives and supporting said folding-rollers, with means for causing successive lengths of material to pass between said folding-rollers, substantially as described.

40. The combination in an envelop-machine, of means for forming envelop-blanks from a continuous web of material, and means for cutting off and folding said blanks, said cutting-off and folding means being removably carried on the frame of the machine and being adjustable thereon to vary the distance from the forming means, with mechanism for operating said cutting-off and folding means, the same including a connecting-rod of adjustable length for permitting adjustment of the cutting-off and folding means, substantially as described.

41. The combination of means for forming envelop-blanks from a continuous web of material, means for applying adhesive material to the blanks and means for cutting off and folding said blanks, said forming means including a device for intermittently feeding the web to the machine and a device having means for varying its speed of operation independently of the remainder of the machine, for continuously unwinding said web from its roll, substantially as described.

845,538. COMBINATION PLACKET-CLOSER AND SKIRT-SUPPORTER. WILLIAM B. EICHHOLTZ, New Orleans, La. Filed May 28, 1906. Serial No. 319,172.



Claim.—1. A device of the kind described comprising hooks carried by a waistband, a fastening device comprising a wire member secured adjacent one end of a skirt-band and provided with upwardly-extending U-shaped members projecting above the upper edge of the skirt-band to engage the hooks of the waistband, loops carried by the said fastening member, and alining hook members carried by the other end of the skirt-band adapted to simultaneously engage the loops.

2. A device of the kind described comprising a fastening member attached to the inner face of a skirt-band and having U-shaped portions extending above said skirt-band and having longitudinally-arranged members each of which carries a loop, one of said loops projecting beyond the end of the band the other loop resting upon the outer face of said band, the members carrying the said loop passing through the band, the fastening member carried upon the opposite end portion of the said skirt-band and having hook members adapted to engage respectively, the said loops, and hook members carried by a waistband in position to be engaged by the U-shaped portions of the first-mentioned fastening member.

3. In a device of the kind described a fastening member comprising a wire secured longitudinally upon the inner face of a skirt-band, U-shaped portions formed at the ends of said wire, and projecting above the edge of the band, a longitudinally-arranged wire member carried by the outer side members of each of said U-shaped members, one of said last-mentioned members extending through the waistband, a loop carried by the latter member and arranged upon the side of the band opposite the U-shaped members, and the other of the last-mentioned longitudinally-arranged members carrying a loop projecting beyond the end of the band, and means carried respectively by a waistband and the other end portion of the skirt-band for engaging respectively the U-shaped members and the loops.

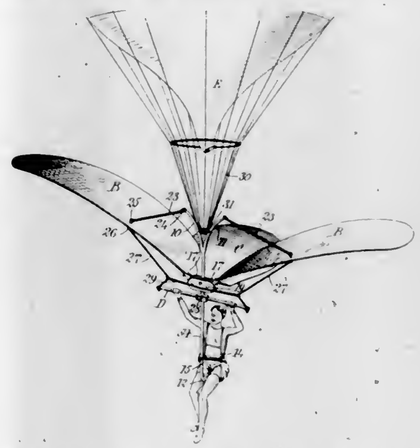
845,539. AIR-SHIP. JAMES A. ELSTON, Jefferson City, Mo. Filed May 22, 1906. Serial No. 318,128.

Claim.—1. In an air-ship, a body structure, tension-controlled wings carried thereby, and a handle-bar slidably mounted upon the body structure and connected with said wings.

2. In an air-ship, a body structure, a saddle carried thereby, tension-controlled wings pivotally connected with the body structure, a handle-bar mounted to slide upon the body structure below the wings, and connections between the ends of the handle-bar and adjacent wings.

3. In an air-ship, a body structure, wings fitted to the body structure at opposite sides, a handle-bar mounted to slide upon the body structure below the said wings, the ends of the handle-bar extending beneath the wings, non-elastic connections between the ends of the handle-bar and said wings, and elastic connections between the upper portions of the wings and the upper portions of the body structure.

4. In an air-ship, a body-bar terminating at its lower end in a saddle, wings pivotally connected with the body-bar adjacent to its upper ends, springs attached to the upper portions of the said wings and to the upper end portions of the body-bar, a horizontal rearwardly-extending tailpiece secured to the body-bar adjacent to its pivotal connections with the wings, and cable connections between the ends of the handle-bar and the wings.



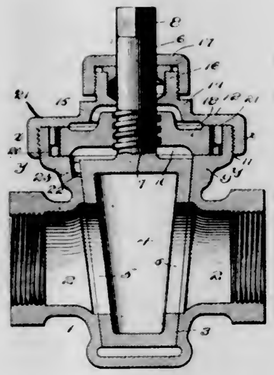
5. In an air-ship, a body structure, a saddle at the lower end portion of the said body structure, having means for attachment to a harness, the upper end of said body structure being bifurcated, wings pivoted to the body structure at opposite sides near the top, springs attached to the upper faces of the wings and to the upper members of the body structure, a handle-bar mounted to slide on the body structure below the wings, and cables connected with the ends of the said handle-bar and the under faces of the wings at points nearly opposite to the attachment of said wings with said springs, the said cables being non-elastic.

6. In an air-ship, the combination with a body-bar having its upper end forked; a rearwardly-extending saddle located at the lower end of the body-bar, having means for attachment to a harness, opposing wings pivotally connected with the body-bar near its upper or forked end, springs attached to the upper members of the body-bar and to the upper surfaces of the wings, a horizontal tailpiece secured to and extending rearwardly from the body-bar below the wings, a handle-bar mounted to slide on the body-bar below the said wings, non-elastic cables secured to the ends of the body-bar and to the under faces of the wings, and an elastic connection between said cables, located above the said handle-bar.

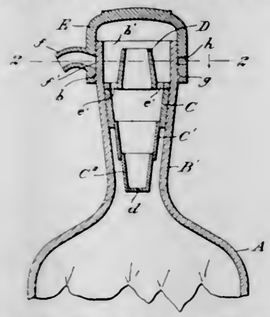
845,540. VALVE. ROBERT T. FERGUSON, Allegheny, and HARRY TURNER and OLIVER J. HALLER, Pittsburg, Pa. Filed Feb. 28, 1906. Serial No. 303,347.

Claim.—A valve including a body having a valve-seat transversely of its passage-way and with converging walls and a lateral enlargement whereby an annular shoulder is formed around the outer end of the valve-seat and with stop-lugs extending over said shoulder, a plate having a central threaded aperture seated upon said shoulder and with spaced peripheral recesses adapted for engagement consecutively with said stop-lugs, a tapering valve engaging said valve-seat and having a threaded stem engaging the threaded aperture of said plate, means for limiting the movement of said valve, and a cap engaging the lateral enlargement of the body and bearing upon said plate and maintaining the same in position.

845,540.



845,541. NON-REFILLABLE BOTTLE. RICCARDO GATTI, New York, N. Y. Filed Oct. 10, 1906. Serial No. 338,305.



Claim.—1. In a device of the class described, a sectional cut-off arranged within the mouth or neck of a container.

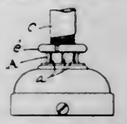
2. In a device of the class described, a container, and a cut-off within said container, said cut-off having a plurality of members, one of which is slidable relative to the other member or members.

3. In a device of the class described, a container, and a cut-off within said container, said cut-off consisting of a plurality of telescopic members, one of which is closed.

4. In a device of the class described, a container, and a cut-off within said container, said cut-off consisting of a plurality of telescopic members arranged to open and close by gravity, and means for limiting the relative movement of a certain member or members in one direction.

5. In a device of the class described, a container, a telescopic cut-off therein, and a hollow stop in the path of a member or members of said cut-off.

845,542. INCANDESCENT-LAMP SOCKET. GILBERT W. GOODRIDGE, Bridgeport, Conn., assignor to The Bryant Electric Company, Bridgeport, Conn., a Corporation of Connecticut. Filed May 17, 1906. Serial No. 317,365.



Claim.—1. A cap for incandescent-lamp sockets and the like, having a slitted neck threaded on its inner face as and for the purpose described.

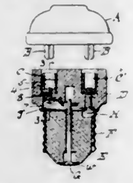
2. A cap for incandescent-lamp sockets and the like, having a slitted neck threaded on its inner face and means to prevent the segments of the neck from spreading.

3. A cap for incandescent-lamp sockets and the like, having a slitted neck threaded on its inner face, and provided on its outer face with a binding-ring.

4. A cap for incandescent-lamp sockets and the like, having a slitted neck threaded on its inner face and provided on its outer face with an annular groove, in combination with a binding-ring fitted therein.

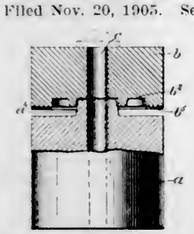
5. A cap for incandescent-lamp sockets and the like, having a slitted neck threaded on its inner face and conically compressed as and for the purpose described.

845,543. ELECTRICAL ATTACHMENT-PLUG. GILBERT W. GOODRIDGE, Bridgeport, Conn., assignor to The Perkins Electric Switch Manufacturing Company, Bridgeport, Conn., a Corporation of Connecticut. Filed Jan. 7, 1907. Serial No. 351,220.



Claim.—The herein-described attachment-plug, comprising a cap carrying connecting-pins with a cup containing chambers on its upper side, contacts for the cap-pins mounted in said chambers and carried by the cup, and a chamber on the under side of the cup containing a plate electrically connected to one of the contacts on the upper side, a separate insulating-core with a ring terminal and a central securing-screw for the core threaded into said plate, substantially as described.

845,544. WIRING-KNOB. WALDO C. GORDON, Windsor, Vt., assignor to The Electric Good Manufacturing Company, Maine. Filed Nov. 20, 1905. Serial No. 288,249.



Claim.—1. A wiring-knob or insulator comprising a base having at one side of its center a groove for a wire and a cap having a circular surface for engaging the wire, the said surface for engaging the wire lying within the circle of the base whereby said surface will operate upon that portion of the length of the wire lying in the groove of said base.

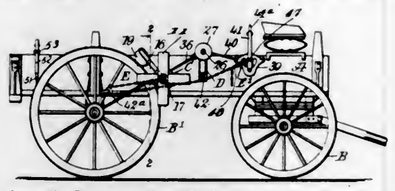
2. A wiring-knob or insulator comprising a base having a straight groove for a wire and a cap having a circular grooved surface for engaging the wire, said surface crossing the straight groove at two points.

3. A wiring-knob or insulator comprising a base having a corrugated groove across its upper surface and a cap having a flat surface crossing the groove at two points, said flat surface being provided with circular corrugations.

4. A wiring-knob or insulator comprising a base having a straight corrugated groove and a cap having a circular surface provided with a series of circular grooves adapted to rest on the upper surface of the base, said cap also being provided with a circular groove having radial corrugations and located within said circular surface.

5. A wiring-knob or insulator comprising a base having a groove for a wire and a cap having a circular surface for engaging the wire, the said surface for engaging the wire lying within the circle of the base whereby said surface will operate upon that portion of the length of the wire lying in the groove of said base being provided with a projection or hump extending toward the adjacent surface of the cap.

845,545. REELING DEVICE. CARL A. HADLAND, Bennington, Minn. Filed July 10, 1906. Serial No. 325,496.



Claim.—1. In a reeling device, a removable frame, a shaft having a crank-arm pivoted on the frame, a reel mounted on the crank-arm, and means for holding the reel in or out of operative position, comprising a lever, and flexible connections between the crank-arm and the lever.

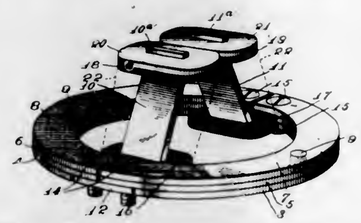
2. In a reeling device, a removable frame, a shaft having a crank-arm pivoted to the frame, a reel mounted on the crank-arm, and means for holding the reel out and in operative position, comprising a lever, flexible connections between the crank-arm and the lever, and a tension device interposed between the flexible connections and the lever.

3. A reeling device comprising a removable frame, a reel mounted upon the frame, means for holding the reel under tension in a position to be rotated by a moving surface, said means comprising a rock-shaft for the reel and mounted on the frame, a lever at one side of said shaft, a flexible connection between the lever and the shaft, and a guide for the said flexible connection located on the frame beyond the opposite side of the said shaft.

4. In a reeling device, the combination with a removable frame, a reel mounted upon the same, means for holding the reel under tension in a position to be rotated by a moving surface, and a cleaning-section carried by the said reel, being in engagement with the said moving surface.

5. A reeling device comprising a removable frame, a supporting-wheel therefor, a shaft mounted upon the frame, a reel mounted on the shaft, means for holding said reel under tension in a position to be rotated by the supporting-wheel of the frame, an extension from the said reel, and means carried by said extension for removing mud from the wheel with which it engages.

845,546. TELEPHONE-MAGNET. AARON E. HARRISON, New York, N. Y., and CROWELL M. HASLETT, Jersey City, N. J. Filed Sept. 9, 1905. Serial No. 277,668.



Claim.—1. In a telephone-magnet, the combination of a pair of magnetic members having the form of semirings and paired together, the positive poles being in juxtaposition, and the negative poles being also in juxtaposition, a pole-piece connected with both of said positive poles, another pole-piece connected with both of said negative poles, said pole-pieces slanting toward each other, and spool ends mounted upon said pole-pieces and disposed obliquely in relation to the general direction thereof.

2. In a telephone-magnet, the combination of a plurality of magnetic semirings each provided with a positive pole and with a negative pole, the negative poles being immediately adjacent to each other, a pole-piece connected with both of said positive poles and extending therefrom, and spool ends mounted upon said pole-piece and disposed obliquely in relation thereto.

3. A telephone-magnet, comprising magnetic members and separate pole-pieces mounted thereupon, said pole-pieces being inclined obliquely in relation to said magnetic members for the purpose of giving them a comparatively long winding-space, and spool ends mounted upon said pole-pieces and inclined relatively to the general direction thereof.

4. A telephone-magnet, comprising magnetic members and pole-pieces mounted thereupon, said pole-pieces converging toward each other so as to concentrate the magnetic lines of force within a comparatively small area, and spool ends mounted upon said pole-pieces and inclined relatively to the general length thereof.

5. A telephone-magnet, comprising a plurality of members permanently magnetized, each member being provided with a positive pole and with a negative pole, the positive poles of the two members being brought together and the negative poles of said members being also brought together, a pair of pole-pieces each provided with a base, one of said bases being connected rigidly with said positive poles and the other of said bases being connected rigidly with said negative poles, said pole-pieces being inclined toward each other, and having their tips extending vertically when the magnetized members are horizontal and flat spool ends mounted upon said pole-pieces and disposed parallel to said members.

6. A telephone-magnet, comprising a number of magnetic semirings arranged substantially in the form of a circle, a plurality of pole-pieces acted upon inductively by said magnetic semirings and magnetized thereby, said pole-pieces being disposed upon opposite sides of said circle and inclined toward each other so as to be comparatively near together at a point adjacent to the center of said circle, the said pole-pieces being bent so that their tips extend vertically when the magnetic members are horizontal, and spool ends mounted upon said pole-pieces and disposed parallel to the general plane of the circle made up of said semirings.

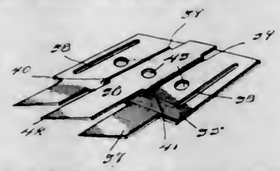
7. A telephone-magnet comprising a pair of permanent magnetic members of arcuate shape having their ends spaced apart, two pairs of semicircular magnetic members surmounting the same, means for securing the said members together, substantially in the form of a circle, detachable pole-pieces having integral bases fitting in the spaces between the ends of the first-mentioned pair of magnetic members, and secured to the semicircular magnetic members, the said pole-pieces being inclined toward each other and bent so that their tips extend vertically when the magnetic members are horizontal, and spool ends mounted upon said pole-pieces and disposed parallel to the general plane of the circle made up of said magnetic members.

8. A telephone-magnet, comprising a plurality of semirings of magnetic material placed together so as to form a composite structure of annular form and provided with apertures, pole-pieces provided with bases fitted into said apertures, said pole-pieces being connected with said semirings and extending toward each other, the pole-pieces being bent so that their tips extend vertically when the said semirings are horizontal, spool ends mounted upon the lower part of the body of the pole-pieces adjacent to their bases, spool ends mounted upon the vertically-extending tips of said pole-pieces, and metallic washers secured to the tips of said pole-pieces over said spool-ends.

9. A telephone-magnet, comprising a plurality of magnetic members, pole-pieces connected therewith, and spool ends mounted upon said pole-pieces and inclined relatively to the general length thereof.

10. A telephone-magnet, comprising a plurality of magnetic members, pole-pieces connected therewith, the said pole-pieces having their main or body portions inclined toward each other and their tips extending parallel with each other, and spool ends mounted upon the pole-pieces and disposed in planes parallel to those of the magnetic members.

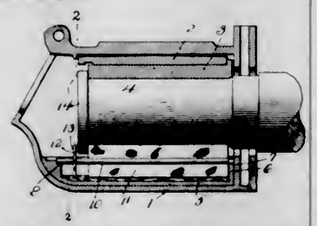
845,547. MOWER. RODMAN W. HATHAWAY, Carbon, Iowa. Filed Mar. 7, 1904. Serial No. 197,027.



Claim.—1. A knife-band for mowers comprising alternating series of links, the links of each series having blades and having their body portions of greater width than the blades to form projecting portions, the extended portions of the links of one series being slotted and the extended portions of the links of the other series being curved downwardly and inwardly toward each other and engaged through the said slots.

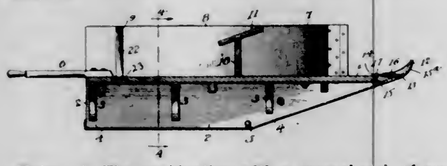
2. A knife-band for mowers comprising alternating series of links, the links of one series being slotted adjacent their longitudinal edges, and the links of the other series being provided with overturned flanges for engagement in the slots in the links of the other series, the links of each series being provided with blades.

845,548. JOURNAL-BOX. GEORGE W. HEIRD and GEORGE W. BROWNAWELL, Pittsburg, Pa. Filed Oct. 22, 1906. Serial No. 339,951.



Claim.—A car-axle-lubricating attachment comprising in combination with a journal-box, a journal supported therein, and a tappet-pin eccentrically mounted in the end of the journal, a lubricant-receptacle mounted in said journal-box and having a bearing in each end, a two-part shaft journaled in said bearings, a wiper secured between the parts of said shaft and projecting on opposite sides of the shaft, a tappet-wheel mounted on the shaft, the parts of said shaft clamping the wiper and held at one end by the bearing and tappet-wheel, substantially as described.

845,549. COMBINED SHOVEL AND PLOW. MILTON J. HENRY, Oak Park, Ill. Filed Apr. 20, 1906. Serial No. 312,892.



Claim.—1. The combination with a snow-shovel, of vertical side wings therefor, metal runners on said wings adapted to slide along the surface being cleaned, said wings tapering abruptly near their front ends toward the front edge of the shovel, and a handle for said shovel; whereby the structure may be easily tipped to accommodate the same to abrupt and considerable irregularities in the surface being cleaned.

2. The combination with a snow-shovel, of a deflecting-plow mounted thereon, said plow being longitudinally adjustable upon said shovel, and riders secured to the front edge of said shovel to accommodate the same to irregularities in the surface being cleaned.

3. The combination with vertical side wings, the lower surfaces of said wings forming obtuse angles, a shovel mounted on said wings, and a deflecting-plow mounted on said shovel.

4. The combination with vertical side wings, the lower surfaces whereof form obtuse angles, a shovel mounted on said wings, a deflecting-plow longitudinally adjustable upon said shovel, and riders mounted upon the shovel to accommodate the same to irregularities in the surface over which said plow moves.

5. The combination with a snow-shovel, of vertical side wings therefor, runners on said wings adapted to slide along the surface being cleaned, said wings tapering abruptly near their front ends toward the front edge of the shovel, a V-shaped deflecting-plow mounted on said shovel, riders mounted upon the front edge of the shovel to accommodate the same to slight irregularities in the surface being cleaned, and a handle for said shovel whereby the structure may be easily tipped over abrupt obstructions.

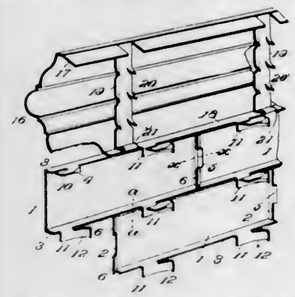
6. A rider for snow-shovels or the like comprising a pair of clamping-jaws secured to a curved upwardly-projecting lug.

7. A snow-shovel having a metallic plate secured along its front edge, and a number of riders each comprising clamping-jaws formed integrally with a curved upwardly-projecting lug, the jaws of each rider being adapted to receive said plate and a portion of the shovel, and bolts passing through said jaws, plate and shovel.

8. The combination with vertical side wings having metal runners on the bottom thereof adapted to slide along a surface, the bottom surfaces of said wings forming obtuse angles, a shovel mounted on said wings, a V-shaped deflecting-plow longitudinally adjustable upon said shovel, curved riders along the front edge of said shovel to accommodate the same to slight irregularities in said surface, and a handle for said plow whereby the same may be tipped to lift the shovel over obstructions.

9. The combination with a snow-shovel, of a deflecting-plow mounted thereon, vertical wings upon which said shovel is mounted, the bottom surfaces of said wings sliding along the surface being cleaned and forming obtuse angles with their apexes on a central line between the ends of said shovel, and a handle for the shovel adapted to tip or turn the same upon said apexes.

845,550. FACING-TILE. JAMES S. HUNTER, Washington, D. C. Filed Mar. 10, 1906. Serial No. 305,340.



Claim.—1. A tile having matching interlocking projections at opposite edges, and having a portion of one or more of said projections deflected to provide an inclined portion to operate by a wedging action on a ground of mortar when sliding the tiles to place.

2. A tile having opposite edges bent at a right angle to provide abutting flanges, and having matching interlocking projections extended from the edges of the flanges and oppositely inclined to operate by a wedging action on a mortar ground when sliding a number of tiles to place.

3. A tile having matching interlocking projections at opposite edges, one of the projections being in a plane about parallel with the tile and spaced therefrom except at the connecting edge, and the other projection extending at a right angle from the tile, corresponding projections of a number of tiles interlocking by a sliding movement and the one crossing the other.

4. A tile having matching projections at opposite edges, each projection having a slot extended therein, the slots of corresponding projections facing in opposite directions to admit of interlocking of matching projections of adjacent tiles by a sliding movement.

5. A tile having matching projections at opposite edges, each projection having a slot extended therein, the slots of corresponding projections facing in opposite directions to admit of interlocking of matching projections of adjacent tiles by a sliding movement, one of the projections having the portion separated by the slot inclined to operate on a mortar ground by a wedging action.

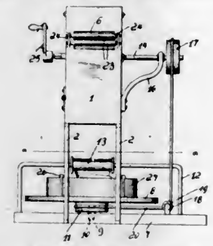
6. A tile having matching projections at opposite edges, each projection having a slot extended therein, the slots of corresponding projections facing in opposite directions to admit of interlocking of matching projections of adjacent tiles by a sliding movement, and coöperating lock members at the extremities of the parts of the projections separated by the slots to prevent separation of the tiles when properly placed together.

7. A tile having matching projections at opposite edges, each projection having a slot extended therein, the slots of corresponding projections facing in opposite directions to admit of interlocking of matching projections of adjacent tiles by a sliding movement, one of the projections having the portion separated by the slot inclined and terminating in a stop to form a lock member, and the matching projection having a corresponding lock member at its end, the construction admitting of a number of tiles interlocking both by a sliding and a snap action.

8. A tiled surface having a finishing-piece provided with strips connecting opposite edge portions and having anchoring-spurs.

9. A sheet-metal tile having abutting edge flanges and interlocking projections extended from the flanges, matching flanges having inclined portions to act upon the mortar or ground by a wedging movement.

845,551. MOVING-PICTURE APPARATUS. HENRY S. ISAACS, Braddock, and LEO ISAACS, Allegheny, Pa. Filed May 22, 1906. Serial No. 318,134.



Claim.—1. Film-feeding mechanism for motion-picture machines, comprising a revoluble support for a coil or roll of films, means for unwinding said coil from its center or inner convolution, and a receiving-reel.

2. Film-feeding mechanism for motion-picture machines, comprising a revoluble support for a coil or roll of films, means for unwinding said coil from its center or inner convolution, a receiving-reel, and means for removing the wound coil from the receiving-reel.

3. Film-feeding mechanism for motion-picture machines comprising a revoluble support for a coil or roll of films, means for unwinding said coil from its center or inner convolution, means for guiding the strip of film in its passage through a stereopticon, a receiving-reel, and means for removing the coil or roll from the receiving-reel.

4. The combination with a motion-picture machine, of film-feeding mechanism comprising a revoluble support for a coil or roll of films, means for unwinding said coil from its center or inner convolution, a receiving-reel, and means for revolving said revoluble support; and said reel at the same speed.

5. Film-feeding mechanism for motion-picture machines, comprising a horizontally-disposed feed-disk, to support a coil or roll of film, means for unwinding said coil from its center, or inner convolution, a receiving-reel, means for removing the coil or roll from said reel, and means for revolving said disk and reel at the same speed.

6. Film-feeding mechanism for motion-picture machines, comprising a horizontally-disposed revoluble feed-disk, means for supporting a coil or roll of film thereon, guide-rollers whereby the coil may be unwound from its center or inner convolution, a receiving-reel, and means for removing the coil or roll therefrom.

7. Film-feeding mechanism for motion-picture machines, comprising a horizontally-disposed revoluble feed-disk, a pulley concentric with said disk, means whereby the coil may be unwound from its center or inner convolution, a receiving-reel mounted upon a shaft, means for removing the coil from said reel, a pulley on said shaft, equal in diameter to that of the disk-pulley, and a belt and guide-pulleys for revolving said disk and reel simultaneously.

8. In a film-feeding apparatus for motion-pictures, the combination with a revoluble feed-disk, and means thereon for supporting a coil or roll of film, of a roller for guiding the film as it unwinds from the center of the coil, a receiving-roll, means for revolving said disk and reel in unison, and means whereby the coil or roll may be removed from the reel and replaced upon the disk.

9. In a motion picture apparatus, the combination with a stereopticon, of a revoluble feed-disk, means thereon for supporting a coil or roll of film, a shaft supported adjacent to said disk, a receiving reel removably secured on said shaft, means for revolving said disk and reel in unison, and a series of guide-rollers whereby the coil is unwound from its center, passed through the stereopticon and then coiled upon the reel.

10. The combination with a stereopticon, of a casing, a revoluble shaft mounted therein, a reel removably mounted on said shaft, a slotted door for said casing serving as one of the bearings for said shaft, a feed-disk revolubly supported adjacent to said reel, to support a coil of film, means for revolving said reel and disk in unison, and guides whereby said coil may be unwound from its center or inner convolution.

11. Means for unwinding a coil or roll of material from its center or inner convolution, comprising a revoluble support for the coil or roll, guides over which the material passes as it leaves the coil, and a receiving-roll upon which the coil is rewound.

845,552. MANUFACTURE OF GLASS ARTICLES. RENIER E. H. JONKERGOUW, Billancourt, France, assignor to La Société Anonyme du Chryso-Cerame, of Paris, France. Filed July 26, 1906. Serial No. 327,948.

Claim.—1. In the manufacture of glass articles, the operation consisting in preparing a glass composition, calcining the same, pulverizing the calcined material, placing the pulverized material while cool into a mold, then heating the pulverized material in the mold and forming the object therein by fusion, and removing the object from the mold after cooling.

2. In the manufacture of glass articles, the operation consisting in melting a mixture containing silicious matter and carbonate, pulverizing the frit thus obtained, placing the pulverized material while cool into a mold, then heating the pulverized material in the mold and forming the object therein by fusion, and removing the object from the mold after cooling.

3. In the manufacture of glass articles, the steps which consist in mixing together sand, minium, carbonate, borax and chalk, fusing said mixture, grinding the frit thus obtained, placing the ground material while cool in a

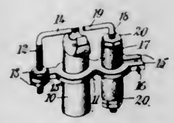
mold, and then heating the ground material within the mold, and forming the article by fusion therein.

4. In the manufacture of glass articles, the steps which consist in preparing a glass composition, calcining the same, pulverizing the calcined material, placing the pulverized material while cool in a mold composed of a hardened mixture of clay, kaolin, quartz and plaster, then heating the ground material aforesaid within said mold and forming the article therein by fusion, and removing the article from the mold after cooling.

5. In the manufacture of glass articles, the steps which consist in preparing a frit, burning the same, grinding the burned material, placing the ground material while cool in a mold, quickly fusing the ground material in said mold, removing the fused material to a second mold and compressing said material while hot.

6. In the manufacture of glass articles, the steps which consist in preparing a frit, burning the same, grinding the burned material, placing the ground material while cool in a mold, fusing the ground material in said mold, and subjecting the said material while hot to pressure.

845,553. GAS-LIGHTER FOR AUTOMOBILES. GEORGE KAPP, Greenwich, Conn., and GUSTAVUS A. ALVISET, Port Chester, N. Y. Filed Feb. 28, 1906. Serial No. 303,454.



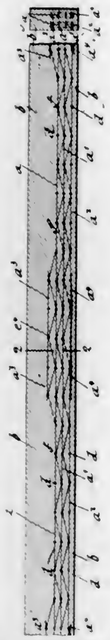
Claim.—The combination with the gas-burner, of a plate having a central opening to receive the burner, and end openings, one of said end openings being slotted, an insulated sleeve in said slotted opening, a screw traversing the sides of the slot whereby to retain the sleeve in place, a threaded contact-bar having an angular terminal above the burner in the sleeve, nuts engaging the bar at each end of the sleeve, a threaded bar having an angular terminal above the burner in the other end opening, and insulated from the plate, nuts engaging the bar above and below the plate for securing said bar in its adjusted position, an electric circuit having its terminals connected with the threaded bars and including one of the circuits of a spark-coil, and a second circuit connected with the other circuit of the spark-coil, said circuit including a battery and a push-button.

845,554. CONCRETE-STEEL CONSTRUCTION. PAUL KÜHNE, New York, N. Y. Filed Oct. 22, 1906. Serial No. 339,995.

Claim.—1. A concrete-steel construction consisting of a set of superimposed main tension-bars provided with loops, a set of obtusely-angled tension-bars placed in the vertical plane of the main tension-bars and provided with loops vertically in line with the loops of the main tension-bars, transverse keys passing through the loops of the main and obtusely-angled tension-bars and securing said bars together, and a concrete body surrounding the trussed tension-bars.

2. In a concrete-steel construction, the combination of two sets of tension-bars—a main set provided with loop portions equidistantly from each other and a set of obtusely-angled tension-bars arranged in the same vertical plane as the main tension-bars and also provided with loops vertically below the loops of the main tension-bars, keys passing through the loops of the main and obtusely-angled tension-bars for locking them together, keys passing through the intermediate loops of the upper and lower main tension-bars, and a concrete body inclosing the connected sets of main and obtusely-angled tension-bars.

3. In a concrete-steel construction, the combination, with a set of main tension-bars provided with loops equidistantly from each other, of a set of obtusely-angled tension-bars also provided with loops underlapping the loop portions of the main tension-bars, locking-keys passing through the loops of the main and obtusely-angled tension-bars, shorter auxiliary reinforcing tension-bars and obtusely-angled bars, keys connecting said auxiliary bars with each other and with the uppermost and lowermost tension-bars, and a body of concrete surrounding said interlocked and trussed sets of main and obtuse-angled tension-bars.

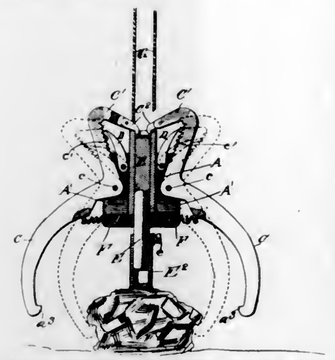


4. In a concrete-steel construction, the combination of superimposed main tension-bars having loops bent up vertically therefrom, a tension-bar arranged in the plane of said main tension-bars and which is also provided with vertically-bent-up loops to coöperate with the loops of said main tension-bars, and wedge-keys passing transversely through the loops of said bars and detachably uniting them into one structure.

5. In a concrete-steel construction, the combination, with a system of straight main tension-bars arranged in a vertical plane one below the other and provided with loop portions formed by parallel incisions at points equidistantly from each other, a set of obtusely-angled tension-bars located in the same plane with the main tension-bars and also provided with loop portions vertically in line with the loops of the main-tension-bar loops, the loop portions of the obtusely-angled tension-bars being made of slightly less width than the adjacent over or under lapping loop portions of the main tension-bars so as to permit respectively the over and under lapping of the same with the over or under lapping loop portions of said main tension-bars, and beveled keys driven through the over and under lapping loop portions of both sets of tension-bars for locking the same together to form a trussed support for the concrete body or filling.

845,555. AUTOMATIC GRAPPLING-HOOK. BERT LANGLEY, Woodward, Okla. Filed Sept. 26, 1906. Serial No. 336,242.

Claim.—1. A grapple consisting of a frame or body portion having a central vertical passage therethrough, bent gripping-arms pivotally secured to said frame, the upper ends of said arms projecting over said vertical passage, a piston slidably held in said passage, a foot-piece adjustably mounted on the lower end of said piston, said piston adapted to engage and trip the upper ends of the arms, pawls pivotally secured to said frame, teeth disposed on the upper portion of the bent arms and adapted to be engaged by said pawls, and springs secured at one end to the bent arms below their pivotal points and at their opposite ends to the frame.



2. A grapple consisting of a frame or body portion having a central vertical passage therethrough, bent gripping-arms pivotally secured to said frame, the upper ends of said arms projecting over said vertical passage, a piston slidably held in said passage, said piston adapted to engage and trip the upper end of the arms, pawls pivotally secured to said frame, teeth disposed on the upper portion of the bent arms and adapted to be engaged by said pawls, and springs secured at one end to the bent arms below their pivotal points, and at their opposite ends to the frame or body portion.

3. A grapple consisting of a frame or body portion having a central vertical passage therethrough, gripping-arms pivotally secured to said frame, the upper ends of said arms projecting inwardly toward the central vertical passage, hooks pivotally secured to the said upper ends of the arms and adapted to drop into the vertical passage, a piston slidably held in said vertical passage, said piston adapted to engage and trip at its upper end the pivoted hooks, springs controlling the lower ends of the gripping-arms, and means for locking the gripping-arms when tripped.

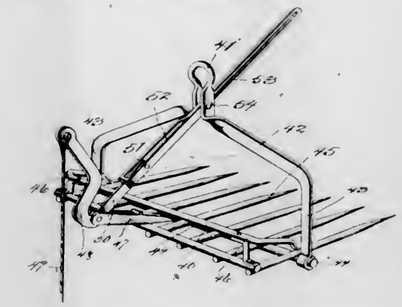
4. A grapple consisting of a frame or body portion having a central vertical passage therethrough, bent gripping-arms pivotally secured to said frame, the upper ends of said arms projecting inwardly and having a portion adapted to engage the body portion at the upper end of the vertical passage, said piston adapted to engage and trip the said projecting portion of the arms, means for automatically forcing the lower ends of the arms inwardly toward each other, and two-part detachable gripping members at the lower ends of the gripper-arms.

5. In a grapple the combination with pivoted grappling-arms having inturned hooked lower ends of detachable gripping members at the lower ends of said arms said detachable members comprising a front shank having a transverse opening to engage the hooked lower ends of the grappling-arms, and a rear shank adapted to fit the grappling-arm, and means for connecting said shanks.

6. A grapple consisting of a frame or body portion having a central vertical passage therethrough, gripping-arms pivotally secured to said frame, hooks pivotally secured to the upper ends of the gripping-arms, and projecting inwardly and adapted to drop into the vertical passage, a piston slidably held in said vertical passage, said piston adapted to engage and trip at its upper end the pivoted hooks, and springs controlling the lower ends of the gripping-arms.

7. A grapple consisting of a frame or body portion having a central vertical passage therethrough, bent gripping-arms pivotally secured to said frame, hooks pivotally secured to the upper ends of the gripping-arms and projecting inwardly and adapted to drop into the central vertical passage, a piston slidably held in said passage, pawls mounted on said frame, teeth disposed on the upper portion of the bent arms and adapted to be engaged by the said pawls, and springs controlling the lower ends of the gripping-arms.

845,556. LOADER. RALPH R. LANGLEY, Lincoln, Nebr. Filed Jan. 17, 1906. Serial No. 296,522.

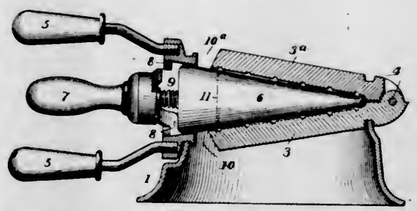


Claim.—1. A loader, having a rearwardly-projecting arm, a bell-crank lever mounted in the end of said arm, an approximately U-shaped handle pivotally connected with said loader, a link having a slotted end pivotally mounted in said handle, the other end being connected with said bell-crank lever, for tripping said loader.

2. A loader having a handle pivoted thereto, an arm having a slotted end, and connected with said loader, a bell-crank lever mounted in said slotted end, a link slidably mounted in said handle, and connected with said bell-crank lever, whereby the loader may be tripped.

3. A loader having a U-shaped handle, pivoted thereto, said handle also forming a loop, a rearwardly-projecting arm mounted on said loader, a bell-crank lever mounted in said arm, a link having a slot in the lower end thereof, for the reception of one end of the bell-crank lever, said link also having a slot in the upper end thereof forming a slidable connection with said handle, and a cable connected with said bell-crank lever for tripping said loader.

845,557. CONFECTION-BAKING APPARATUS. EDWARD H. LANIER and FRANK K. DRIESBACH, Cincinnati, Ohio. Filed July 25, 1906. Serial No. 327,740.



Claim.—1. The herein-described baking apparatus comprising an oven having a conical chamber and provided adjacent the larger end of said chamber with an aperture or passage that extends from the chamber through the outer face of the oven-wall which is adapted to be directly heated, and a core adapted to be inserted in the oven-chamber and extend across said aperture or passage in the wall thereof.

2. The herein-described baking apparatus comprising an oven, having a conical chamber, means for supporting the oven and permitting it to turn about a horizontal axis to expose either of two opposite sides to the direct action of a heating device, the oven being provided adjacent the larger end thereof with apertures or passages extending from its chamber through the outer faces of both said

walls or sides, and a core adapted to be inserted in the oven and extend across said apertures or passages in the walls thereof.

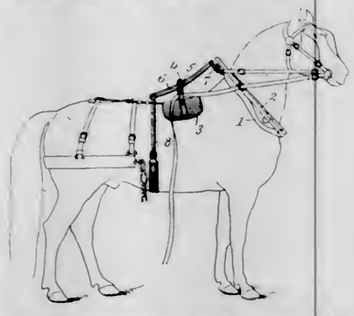
3. The herein-described baking apparatus comprising an oven having a conical chamber and mounted to rotate about a horizontal axis, said oven having apertures or passages formed in and extending radially in opposite directions through the walls or sides thereof adjacent the larger end of its chamber, and a core adapted to be inserted in the oven and to extend across said apertures or passages in the walls thereof and provided with radially-projecting means for engaging the oven.

4. The herein-described baking apparatus comprising an oven having a conical chamber and formed of two sections hinged together, each section having therein an aperture or passage leading from the oven-chamber, adjacent the larger end thereof, through the outer face of said section, a core adapted to be inserted in said oven and extend across the aforesaid apertures or passages, and means for supporting said oven above a suitable heating means and permitting either section of the oven to be brought adjacent said heating means.

5. The herein-described baking apparatus comprising an oven mounted to rotate about a horizontal axis and comprising two sections pivotally connected and arranged to form a conical chamber, each of said sections having formed therein a passage or aperture extending from the oven-chamber, adjacent the larger end thereof through the outer face of said section, and a conical core adapted to be supported in the oven-chamber and extend across said apertures or slots.

6. The herein-described baking apparatus, comprising an oven having an open end and an aperture or passage formed in a side wall adjacent its open end, means for supporting the oven above a heating device, with its apertured side adjacent said heating device, and a core detachably supported in the oven, whereby a section of the core is adapted to be directly heated by the heating device, while the other portions thereof are heated by radiation from the oven walls.

845,558. HARNESS. DUNCAN A. LEE, Hot Springs, Ark. Filed Aug. 10, 1906. Serial No. 330,000.



Claim.—1. The combination in a harness, of a collar, a relief-bar having one end thereof secured to said collar, means supported on the back of the animal intermediate the ends of the relief-bar and pivoted thereto, and means attached to the opposite end of said relief-bar for raising the first-mentioned end of said bar to support the weight of the collar.

2. The combination in a harness, of a collar, a bar, means for resiliently connecting said bar to said collar, means adapted to be supported upon the back of the animal and pivotally secured to said bar intermediate the ends of the latter, and means secured to the opposite end of said bar and adapted to surround the body of the animal, whereby the weight of the collar is relieved from the animal's neck.

3. The combination in a harness, of a padded collar, two pads adapted to rest upon a horse's back, a relief-bar supported by said pads intermediate its ends and having one end attached to said collar, and means attached to the opposite end of said relief-bar for normally relieving the weight of the collar from the horse's neck.

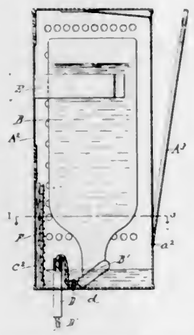
4. A harness, comprising a collar, a surcingle, two pads adapted to be supported on the back of a horse intermediate said collar and said surcingle, and means connecting said collar and said surcingle and pivoted upon said pads.

5. A harness, comprising a padded collar, a surcingle, two pads adapted to be supported on the back of a horse intermediate the collar and surcingle, a rigid bar having one end connected to the surcingle and the intermediate portion thereof supported above the pads, and a coiled spring connecting the opposite end of said bar with the collar.

6. A harness, comprising a padded collar, two pads, a yoke connecting said pads, a surcingle, a rigid bar pivoted in said yoke and having one end thereof connected to the surcingle and the other end thereof connected to the upper side of the collar.

7. A harness, comprising a collar, a coiled spring secured to the upper side thereof, two pads spaced apart and adapted to be supported on the back of a horse, a yoke connecting said pads, a surcingle, and a rigid bar having one end thereof connected to the surcingle and the other end thereof connected to the coiled spring and pivoted to the yoke intermediate said ends.

845,559. DISINFECTING DEVICE. JOHN E. LEE, Conshohocken, Pa., assignor to Johnson and Johnson, New Brunswick, N. J., a Corporation of New Jersey. Filed Nov. 27, 1905. Serial No. 289,323.

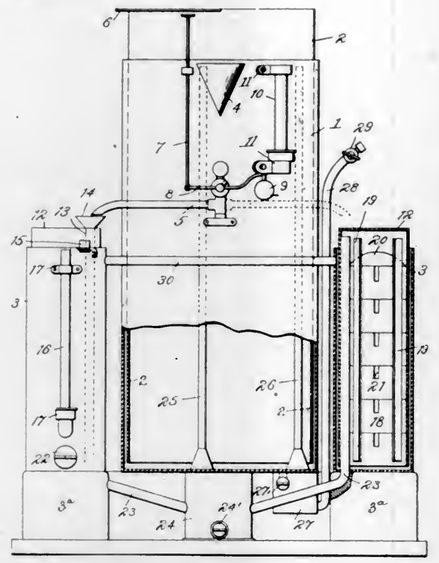


Claim.—A disinfectant device comprising a casing adapted to hold liquid in its lower part, in combination with a bottle having a slanting neck dipping into the liquid and resting on the bottom of said casing.

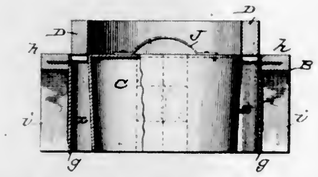
845,560. ACETYLENE-GAS GENERATOR. TOMMASO LENZI, Jersey City, N. J. Filed May 8, 1906. Serial No. 315,802.

Claim.—The combination of a tank providing a water-reservoir, a gas-dome adapted to slide within the tank and provided with a peripheral flange and spaced from the wall of the tank so as to provide a water seal, a trough secured to the tank for supplying water to the reservoir through the water seal, a horizontal valve supported on the tank and connected with the water seal, a transversely-arranged rod secured to the plug of the valve, a vertically-guided rod upon which the peripheral flange is adapted to impinge, pivoted to one end of the transversely-arranged rod, a counterbalance suspended from the other end of the transversely-arranged rod, and a vertically-swiveled faucet connected with the horizontal valve and adapted to swing across the tank.

845,560.



845,561. FLOWER-BAND MOLD. ADAM M. LOCKARD, Herrin, Ill. Filed Apr. 7, 1906. Serial No. 315,670.



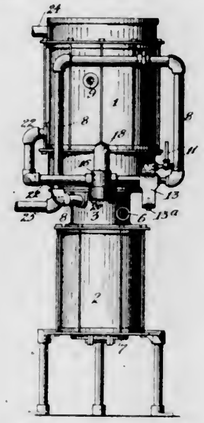
Claim.—1. The improved mold for the purpose specified, comprising the sheet-metal body formed in two parts and having a top ledge *h* projecting laterally, vertical braces *i* supporting said ledge, the parts of the body being hinged together and provided with a fastening, a removable core, and a crown-piece made in circular form and of such thickness that it may be inserted between the body and core, the thickness being uniform throughout, as shown and described.

2. In a molding apparatus for the purpose specified, the body formed of two semicircular portions which are hinged together, a horizontal ledge arranged at the top of the body and projecting laterally, and vertical supports for the same, substantially as described.

845,562. APPARATUS FOR SEPARATING DUST FROM DUST-LADEN AIR-CURRENTS. AUGUSTUS LOTZ, San Francisco, Cal., assignor to Sanitary Devices Manufacturing Company, a Corporation of California. Filed Nov. 14, 1904. Serial No. 232,659.

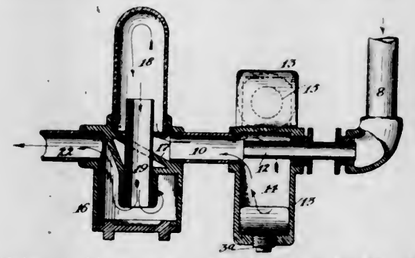
Claim.—1. Means for separating solid matter from the air in which it is suspended, comprising a narrow conduit, adapted to convey a stream of air at great velocity, a receptacle included therein connected with a source of water-supply, an ejector in the same operative by the passing air-current to atomize water in said receptacle, and deflecting devices interposed in the conduit beyond the atomizer.

2. Means for separating dust from a swiftly-moving air-current comprising in combination, a conduit for said current, a well or pocket in said conduit in communication with a source of water-supply, an ejector adjacent said well, a deflecting-plate in said conduit beyond said ejector, and a chamber above said plate.



3. In combination, a narrow conduit adapted to convey a current of dust-laden air at great velocity, a communicating water-inlet, an ejector in the conduit at the junction of the water-inlet operative by the air-current to atomize and entrain the inflowing water, a deflecting-plate in said conduit, and chambers above and beneath said plate.

845,563. PROCESS OF SEPARATING SOLID MATERIAL HELD IN SUSPENSION BY AIR-CURRENTS. AUGUSTUS LOTZ, San Francisco, Cal., assignor to Sanitary Devices Manufacturing Company, a Corporation of California. Filed Nov. 14, 1904. Serial No. 232,660.



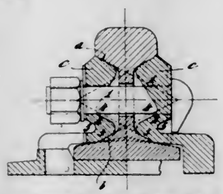
Claim.—1. The process of cleansing dust-laden air which consists in supplying water to a narrow air-conduit, causing a current of dust-laden air to pass through said conduit with such velocity as to entrain and atomize the water supplied, commingling the dust-laden air and atomized water, whereby the dust particles are separated from the air and entrained in the water, carrying away the air in a purified condition and discharging the dust-laden water.

2. The process of cleansing dust-laden air which consists in supplying water to a narrow air-conduit, forcing a current of dust-laden air through said conduit at such high velocity that it will entrain and atomize the inflowing water, and then directing the current against fixed obstacles and deflecting-walls whereby the atomized water and dust-laden air are thoroughly intermingled and the suspended dust particles are moistened and precipitated.

3. The method of separating solid matter held in suspension in a current of air, consisting in forcing such air at high velocity through a narrow tortuous conduit, admitting water to said conduit and causing the air-current to entrain the inflowing water and carry it forward through the tortuous passage so as to violently commingle

it with the air and precipitate and carry off from the air the solid matter in suspension.

845,564. FISH-PLATE FOR THE RAIL-JOINTS OF RAILWAYS AND THE LIKE. GEORGES P. A. L. MENARD, La Louvière, Belgium. Filed Sept. 20, 1906. Serial No. 336,270.

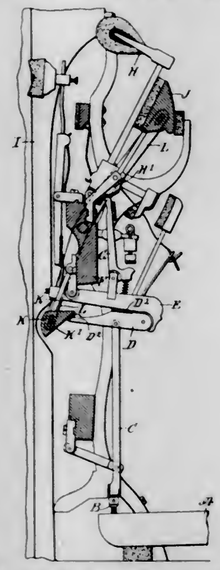


Claim.—1. A deformable fish-plate for rail-joints having a longitudinal fold, an inset longitudinal part and a reduction of section increasing toward the apex of the fold, constructed in such a manner as to have a zigzag shape between the clamping-surfaces (head and flanges) of the rail constituting non-symmetrical clamping branches and forming a spring capable after the resistance resulting from the friction of the surfaces in contact of opening out one from the other by sliding forward and independently one of the other, substantially as described.

2. A fish-plate for rail-joints having a longitudinal fold and a reverse fold forming branches which operate as a spring and are adapted to oscillate about the reverse fold, the radius of oscillation of one branch being longer than that of the other branch.

3. A fish-plate for rail-joints having a longitudinal fold and a reverse fold forming branches, the sections of which are reduced toward the reverse fold, said branches being adapted to operate as a spring and to oscillate about the reverse fold independent of each other.

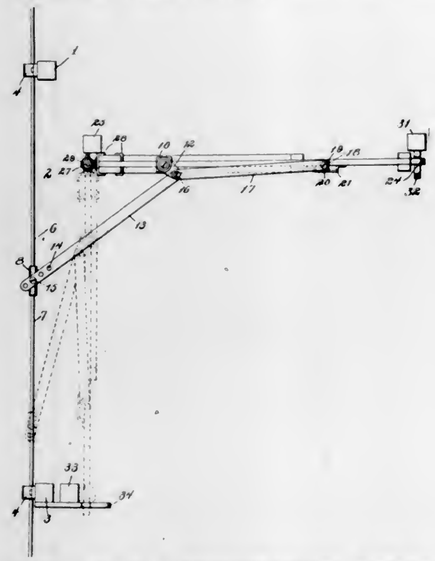
845,565. PIANISSIMO DEVICE. HENRY METZGER, Castleton, N. Y. Filed June 20, 1906. Serial No. 322,557.



Claim.—1. A pianissimo device comprising a hammer, a hammer-rest rail, a center rail, an auxiliary rail, an extension, a wippen, a lever fulcrumed on the extension and having one end engaging the auxiliary rail and the other end pivoted to the wippen, a jack connected with the wippen and engaging the hammer, and a lever fulcrumed on the center rail and having slotted ends pivotally connected with the hammer-rest rail, and the auxiliary rail, respectively, whereby the movement of the hammer-rest rail is imparted to the auxiliary rail whereby to vary the extent of longitudinal movement of the jack.

2. In a pianissimo-action the combination with a hammer-rest rail, a center rail; an auxiliary rail, an extension, a wippen, a lever fulcrumed on the extension and having one end engaging the auxiliary rail and the other end pivoted to the wippen, a jack connected with the wippen and engaging the hammer, and a lever fulcrumed on the center rail and having its ends pivotally connected with the hammer-rest rail and the auxiliary rail, respectively whereby the movement of the hammer-rest rail is imparted to the auxiliary rail to vary the extent of longitudinal movement thereof.

845,566. GATE. PETER MCCOLLUM, Fayette, Mo. Filed Aug. 18, 1906. Serial No. 331,144.

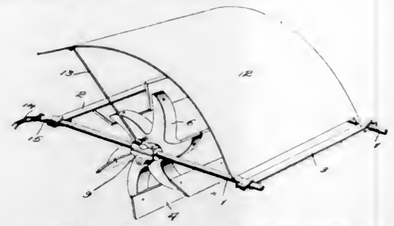


Claim.—1. A gate, a latch pivoted thereto, a post provided with a latch-keeper, an operating-rod, a bar pivotally connected to said rod at one end, an arm pivoted to the gate, said bar being pivotally connected to said arm, a second bar connected to said arm at one end, a latch-operating bar pivotally connected to its opposite end and pivoted to the gate, said latch-operating bar having a pin projecting from its lower end to engage a notch in the lower side of the latch, whereby the initial movement of the operating-rod raises the latch and the continued movement opens the gate.

2. A gate provided with a pivoted latch, an operating-rod, supporting-posts for said rod, pulleys for supporting said rod secured to said posts, a turnbuckle on said rod, a bar pivotally connected at one end to said turnbuckle, and its opposite end connected to a pivoted arm extending from the gate, and means connected to said arm to raise the latch at the initial movement of the operating-rod in either direction when opening or closing the gate.

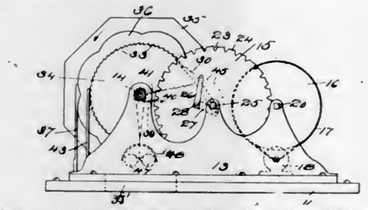
845,567. CULTIVATOR ATTACHMENT. JOHN H. NICKS, Halesboro, Tex. Filed Oct. 31, 1906. Serial No. 341,478.

Claim.—1. A cultivator attachment comprising a rotary cutter, clamps for securing said cutter in place between the parallel beams of a cultivator-frame, the cutter being journaled in the lower members of said clamps, hooks secured to said cultivator attachment and chains connected to said hooks, for the purpose described.



2. A cultivator attachment comprising front and rear cross-bars designed to be connected to the parallel beams of a cultivator-frame, hooks on the front cross-bar, chains connected to said hooks for the purpose described, a rotary cutter comprising end hubs provided with radial arms, cutter-blades secured to said arms, clamps for connecting the cutter to the parallel beams, said hubs being journaled in the lower members of said clamps, substantially as described.

845,568. COLORED-LIGHT-DISPLAY MECHANISM. NIELS C. NIELSEN, Denver, Colo. Filed Feb. 23, 1906. Serial No. 302,569.



Claim.—1. In a device of the class described, a drum having translucent sides, a motor arranged for constant rotary movement, means connecting the motor and drum for imparting an intermittent rotary movement to the drum at the end of a predetermined number of revolutions of the motor, and means for varying the relative movement of the motor and drum.

2. In a device of the class described, a drum mounted for rotary movement, means for holding the drum against rotary movement, a resilient member connected with the said drum, and means to increase the tension upon the said resilient member to overcome the retaining means.

3. In a device of the class described, a drum mounted for rotary movement, a resilient detent arranged to hold the said drum against accidental rotary movement, a resilient member connected with the said drum, and positioned to move the said drum rotatably, and means to increase the tension upon the said resilient member to overcome the retaining force exerted by the detent.

4. In a device of the class described, a drum journaled upon a stationary axle, and provided with a concentric rigid sleeve, a resilient detent arranged to hold the said drum against rotary movement, a resilient member wound about the sleeve and arranged to move the drum rotatably, and means to increase the tension upon the resilient member to overcome the retaining force of the detent.

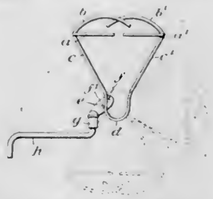
5. In a device of the class described, a drum mounted for rotary movement, a ratchet-wheel associated with and to operate the drum, a pawl in engagement with the said ratchet-wheel and carried eccentrically upon a rotating member, and means to vary the distance of the pawl connection from the center of the rotating member.

6. In a device of the class described, a ratchet-wheel mounted for rotary movement, a rotating member mounted adjacent the ratchet-wheel, a pawl pivoted upon the rotating member, and engaging the ratchet-wheel, and means to vary the pivotal connection of the pawl relative to the center of the rotating member.

7. In a device of the class described, a ratchet-wheel mounted for rotary movement, a rotating member mounted adjacent the ratchet-wheel, an arm pivoted eccentrically upon the rotating member, a pawl pivoted upon the arm, and means to move the arm to vary the pivotal connection of the pawl therewith relative to the center of the rotating member.

8. A device of the class described, comprising a polygonal drum mounted to rotate and having its polygonal sides provided with various colored translucent media, a sleeve carried by said drum and rigid therewith, a ratchet-wheel mounted to rotate and concentric with the said drum, a resilient member carried by the ratchet-wheel and wound about the sleeve, a wheel mounted to rotate adjacent to the ratchet-wheel and provided with spaced peripheral notches, and with the periphery concaved between the said notches, an arm carried by the said notched wheel, a pawl pivoted upon the arm, means to move the arm to vary the pivot of the pawl with relation to the axis of the wheel, a shaft mounted to rotate in the concavities of the notched wheel, a tooth carried by the shaft and arranged to engage successive notches of the wheel, at each revolution, and a motor for rotating the shaft.

845,569. DEVICE FOR EXHIBITING HATS, BONNETS, AND THE LIKE. FREDERICK W. NUNN, Guildford, New South Wales, Australia. Filed Mar. 8, 1906. Serial No. 304,916.



Claim.—1. A device of the class described, comprising a frame for engaging the interior of a hat, a socket-piece having a plate provided with pins projecting upon opposite sides thereof, one of said pins being above and in advance of the other, and loops connected with the frame and adapted to engage between the pins on opposite sides of the plate.

2. A device of the class described, comprising a frame composed of a plurality of sections for engaging the interior of a hat, a socket-piece having a plate provided with pins projecting upon opposite sides thereof, and a loop connected with each section, and adapted to engage between the pins on the adjacent side of the plate.

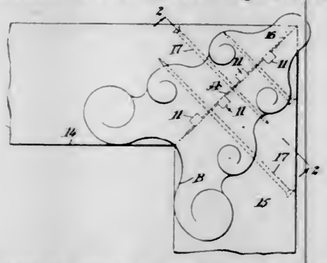
3. A device of the class described, comprising a frame for engaging the interior of a hat, a socket-piece having a plate provided with pins projecting upon opposite sides thereof, and loops connected with the frame and adapted to engage between the pins on opposite sides of the plate.

845,570. FASTENING DEVICE FOR ORNAMENTS. JOHN L. PAUL, Chicago, Ill. Filed Mar. 31, 1906. Serial No. 309,092.

Claim.—1. An ornament for frames, and the like, provided with an attaching-web of stiff material embedded at its upper portion in the ornament, the exposed portion of the web extending beyond the back of the ornament being adapted to enter the seam the ornament is to conceal.

2. The combination with opposing members of a frame or like structure, of an ornament adapted to cover the point of juncture of said members, a web partially embedded at one of its longitudinal edges in the said ornament and extending from the under face of the ornament into the space between said members, and an attaching device passed through the members of the frame and through the said web.

3. A fastening device for ornaments, consisting of a strip of metal having horizontal tongues extending from its upper edge alternately beyond both of its side faces, and an ornament in which the said tongues are embedded.



4. A fastening device for ornaments, consisting of a strip of stout material having recesses produced in its upper edge and the material displaced by the formation of said recesses carried in opposite directions at an angle to the side faces of the strip, forming anchoring-tongues, and an ornament of flexible material in which the said tongues are embedded and from which the body of the said strip extends, for the purposes described.

845,571. MITER-BOX. JOSEF PEACH, Traverse City, Mich. Filed Dec. 13, 1905. Serial No. 291,551.



Claim.—1. A miter-box, comprising a saw-guide, work-guides mounted to swing from a center from which radiates the saw-guide, and manually-controlled means for imparting a swinging movement to the said work-guides to simultaneously set the same alike relative to and on opposite sides of the saw-guide, the saw-guide and the work-guides being provided with radially-adjustable plates, whereby to permit the insertion of different sizes of work.

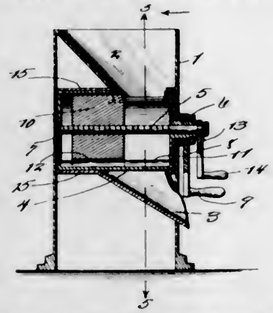
2. A miter-box, comprising a saw-guide, work-guides mounted to swing from a center from which radiates the saw-guide, each work-guide having a radially-adjustable plate, and manually-controlled means for imparting a swinging movement to the said work-guides to simultaneously set the same alike relative to and on opposite sides of the saw-guide.

3. A miter-box, comprising a saw-guide mounted to swing, means for normally holding the saw-guide against swinging movement, work-guides mounted to swing from a center from which radiates the saw-guide, and manually-controlled means for imparting a swinging movement to the said work-guides to simultaneously set the same alike relative to and on opposite sides of the saw-guide.

4. A miter-box, comprising a base, a saw-guide mounted on the said base, work-guides mounted to swing on the said base, a slide mounted to slide on the said base in the direction of the length of the said saw-guide, links connecting the said work-guides with the said slide, and means under the control of the operator for imparting movement to the said slide, said saw-guide and work-guides being provided with radially-adjustable plates whereby to permit the insertion of different sizes of work.

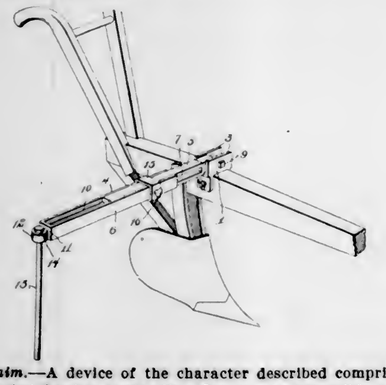
5. A miter-box, comprising a base, a saw-guide mounted to turn on the said base, work-guides mounted to swing on the said base, a slide mounted to slide on the said base in the direction of the length of the said saw-guide, links connecting the said work-guides with the said slide, means under the control of the operator for imparting movement to the said slide, and means on the said base for holding the said saw-guide normally against turning.

845,572. MEASURING DEVICE. SCOTT PECK, Modesto, Cal. Filed May 31, 1906. Serial No. 319,537.



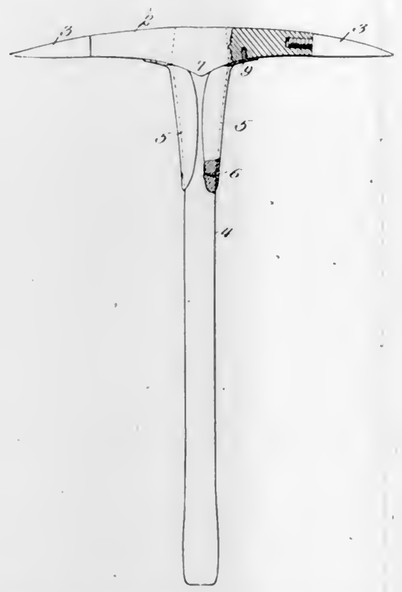
Claim.—In a measuring device, a casing having a hopper and chute therefor, a rotatable cylinder having a bearing and an apertured boss journaled between the hopper and the chute, a worm-screw the ends of which are journaled in the bearing and the apertured boss, a head movable by the worm-screw, an arm and an operating-handle for rotating the screw and an arm having an operating-handle carried by the boss for rotating the cylinder.

845,573. MARKING ATTACHMENT FOR PLOWS. JAMES M. PERDUE, Matthews, Ga. Filed June 13, 1906. Serial No. 321,484.



Claim.—A device of the character described comprising a bracket having upstanding flanges, an extensible gage-beam comprising two telescopic sections, one of said sections embodying a bar provided with longitudinal grooves in the sides thereof and having at its inner end a coupling-head formed with a transverse eye, a bolt passing through said eye and the flanges of the bracket and pivotally connecting said coupling member thereto, the other section of the beam comprising a U-shaped metallic strap having its arms arranged to bear against the grooved sides of the bar and provided on their inner faces with longitudinal tongues engaging said grooves, the said strap being formed at its outer end or return portion with a suspending-eye, a sleeve embracing the beam members and slidable freely for adjustment on the arms of the strap, said sleeve being provided with a securing device to clamp the beam members in adjusted position, and a marking pin supported by the suspending-eye.

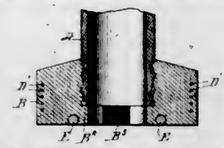
845,574. PICK. ANDREW C. PITMAN, Gary, W. Va. Filed Oct. 11, 1906. Serial No. 338,512.



Claim.—1. In a pick, the combination of a blade having an inward projection on its inner side and an eye, a handle, the outer end of which extends through said eye, guard members of channeled form gripping the handle adjacent the blade and provided with angularly-disposed outwardly-diverging ears, said projection having angular inwardly-converging faces bearing solidly against the outer ends of the guard members and the ears bearing solidly against said angular faces, screws disposed at a slant and extending through said lugs into the body of the blade, and means for solidly and detachably connecting said guard members with said handle.

2. In a pick, the combination of a blade having an inward projection on its inner side provided with angular faces which converge inward and also having an eye, a handle, the outer end of which extends through said eye, guard members of channeled form gripping the handle adjacent the blade and provided with outwardly-diverging ears fitting flatwise against said converging faces, the projection between said ears bearing solidly against the outer ends of said channeled guard members, screws disposed at a slant, extending through the ears and tapped into the body of the blade, said screws converging outward, and screws extending through the outer ends of the guard members and fitted into the handle to detachably hold said guard members in solid relation with said handle.

845,575. BOBBIN. GEORGE POPPLEWELL, Louisville, Ky. Filed Aug. 31, 1905. Serial No. 276,587.



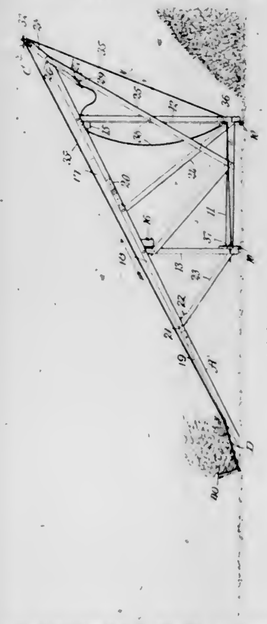
Claim.—1. A bobbin comprising a barrel, and heads thereon, each made of alternating layers of paper and a composition of glue, cement and sand, each of the heads having reinforcing-wires between the layers.

2. A bobbin comprising a barrel, and heads thereon each made of alternating layers of paper and a composition of glue, cement and sand, each of the heads having reinforcing-wires between the layers near the periphery of the head.

3. A bobbin comprising a barrel, and heads thereon, each made of alternating layers of paper and a composition of glue, cement and sand, each of the heads having a diametrically-extending recess at the outer face, and segmental wires embedded in the material at the outer face and terminating with their ends at the said recesses to leave the latter unobstructed and its walls reinforced.

4. A bobbin comprising a barrel and a head, each made of alternating layers of paper and a composition of glue, cement and sand, said head having reinforcing-wires between the layers thereof.

845,576. HAY-STACKER. BENJAMIN F. POWELL, Manzanola, Colo. Filed May 7, 1906. Serial No. 315,563.



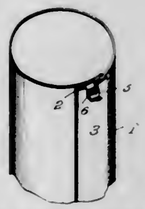
Claim.—1. In hay-stackers, a series of inclined skids, a support for the same, a tipple pivotally mounted at the upper ends of the skids, which tipple consists of side bars connected at one end and having metal reinforcements at their opposite or free ends, pulleys within said bars at their reinforced ends and curved projections from the side portions of said reinforced ends, hoist-ropes passed over said pulleys, and guide-pulleys for said ropes located on the support for the skids.

2. In a hay-stacker, the combination with a supporting-

frame, a series of skids carried by the said frame, having an inclination from their upper ends downward, all of the skids extending beyond the forward end of the frame, the two side skids only extending beyond the rear end of the frame, the said skids being constructed in sections, the lower sections having pivotal connections, of a tipple pivotally mounted between the rear extremities of the side skids, which tipple consists of side bars and a lower cross-bar, reinforcing-plates at the upper free ends of the side bars, a pulley located in each side bar between the reinforcing-plates, and a forwardly and downwardly curved hook extending from the reinforced face of each of the said side bars, a cable attached to the cross-bar of the tipple, being guided downward by the said frame, a hoist-rope passed over the pulleys in the tipple, extending from the upper portion of the skids downward, guide-pulleys carried by the said frame for the said hoist-ropes, and a stop carried by the frame for engagement by the lower end of the tipple when the latter is in its normal position.

3. In a hay-stacker, the combination with a supporting-frame, a series of skids carried by the said frame, having an inclination from their upper ends downward, all of the skids extending beyond the forward end of the frame, the two side skids only extending beyond the rear end of the frame, the said skids being constructed in sections, the lower sections having pivotal connections, of a tipple pivotally mounted between the rear extremities of the side skids, which tipple consists of side bars and a lower cross-bar, reinforcing-plates at the upper free ends of the side bars, a pulley located in each side bar between the reinforcing-plates, and a forwardly and downwardly curved hook extending from the reinforced face of each of the said side bars, a cable attached to the cross-bar of the tipple, being guided downward by the said frame, a hoist-rope passed over the pulleys in the tipple, extending from the upper portion of the skids downward, guide-pulleys carried by the said frame for the said hoist-ropes, a stop carried by the frame for engagement by the lower end of the tipple when the latter is in its normal position, and a sled adapted to travel on the said skids and to be engaged by the said tipple, which sled consists of a flat body having a back structure extending therefrom at one of its longitudinal edges, and hooks located on the said body at its open side edge, the upper stretches of the hoist-ropes having means for attachment to the said hooks.

845,577. WATER-CONDUCTOR PIPE OR THE LIKE. AUSTIN J. ROSS, Cambridge, Ill. Filed May 14, 1906. Serial No. 316,850.



Claim.—1. A pipe-section comprising a metal sheet having a longitudinal flat edge, and the opposite longitudinal edge doubled back on the outer face of the sheet and then doubled forwardly to form a longitudinal socket opening along the edge of the sheet and at the exterior of the pipe-section, said flat edge fitting tightly within said socket, whereby the lapped portions are at the exterior of the pipe-section, said flat edge being held within said socket throughout its length by friction only, except at the large end of the section, said flat edge and socket at the large end of the pipe being anchored by having portions thereof bent together and exposed at the exterior of the pipe-section.

2. A pipe-section comprising a sheet-metal blank having a longitudinal flat edge and a longitudinal edge formed with an exterior double fold snugly receiving the flat edge at the exterior of the section, said sheet being notched at one end of said edge provided with the double fold, whereby the double fold terminates a distance from the end edge of the reduced end of the pipe-section, said flat and double-fold edges having longitudinal superimposed locking portions bent down on the exterior of the double fold at the end of the pipe-section opposite said reduced end.

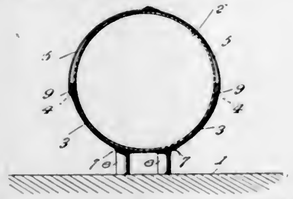
3. A sheet-metal pipe comprising a sheet-metal blank having a longitudinal flat edge and the opposite edge formed with an exterior longitudinal double fold forming the socket snugly receiving said flat edge, said flat edge and the outer ply of said fold, at one end of the section, formed with registering tongues bent together outwardly and down at the exterior of the section to form an anchor.

4. A sheet-metal pipe formed of a blank, the edges of which are united by a longitudinal seam, said edges slitted to form longitudinal superimposed tongues, said tongues bent out and down to form an anchor.

5. A sheet-metal pipe formed of a blank having a longitudinal flat edge, the opposite edge formed with a double fold receiving the flat edge, said flat edge and a ply of said double fold cut to form parallel superimposed tongues, said tongues being together bent out and down to form an anchor.

6. A sheet-metal pipe-section formed of a blank having a longitudinal flat edge, the opposite edge formed with an exterior longitudinal double fold receiving said flat edge at the exterior of the section, said fold terminating a distance from one end of the section to form the reduced end and an exterior stop, the flat and folded edges being anchored together at the large or opposite end of the section by superimposed tongues bent out at the exterior of the pipe-section.

845,578. FASTENING DEVICE FOR RAIN-WATER CONDUCTORS. AUSTIN J. ROSS, Cambridge, Ill. Filed May 18, 1906. Serial No. 317,520.



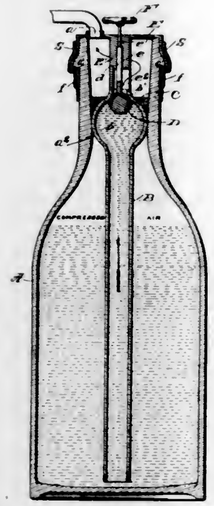
Claim.—1. A pipe-fastener comprising a U-shaped flexible sheet-metal band having tie-wires secured to its outer ends and adapted to be twisted together and thereby draw the band to the pipe and tightly gripping the pipe within the wires and band, and securing and spacing means arranged at the central portion of the band for securing the same to and spacing the same from a support, substantially as described.

2. A pipe-fastener comprising a U-shaped sheet-metal band adapted to partially embrace a pipe and provided with tie-wire means to embrace the remainder of the pipe and clamp the same within said band, a pair of spaced parallel spacing-sleeves interposed between a support and intermediate central portions of the band and adapted to receive securing means passed through the band and said sleeves and into the support.

3. A pipe-fastener comprising a U-shaped flexible band having perforations in its ends, wires arranged at the outer surfaces of said ends and passed in through said perforations and hooked, the free ends of the wires adapted to be twisted together at the front of the pipe, and spacing and securing means for securing the band, at its central portion to and spacing the same from a support.

4. A pipe-fastener comprising a U-shaped sheet-metal band having wires secured at its outer ends and a perforation at its central portion, a spacing-sleeve composed of a piece of coiled sheet metal, and a fastening-nail, said sleeve adapted to be interposed between the band and a support, with said nail passing through said perforation and sleeve and into said support.

845,579. NON-REFILLABLE BOTTLE. HARVEY N. ROTHWEILER, Seattle, Wash. Filed Nov. 26, 1906. Serial No. 345,117.



Claim.—1. A bottle having in its neck a central pendent tube opening into the bottom of the bottle and having at its upper end an enlarged portion terminating in a valve-seat, a valve located in this enlarged portion and having a stem extending above the same and a cap with a hole through it in line with the valve-stem.

2. A bottle having a contracted neck portion and a central tube with an enlarged valve-chamber suspended upon the contracted portion of the bottle-neck and cemented therein, a downwardly-opening valve in the valve-chamber and means for opening the same.

3. A bottle having a central tube suspended in the neck and opening into the bottom of the bottle, said tube being made with an enlarged valve-chamber and having a depressible valve therein and a cap arranged over the mouth of the bottle and having a central projection with an opening through it and also a lateral opening at its lower end.

4. A bottle having in its neck a suspended tube opening into the bottom of the bottle, enlarged at its upper end to form a valve-chamber and having above the valve-chamber an opening smaller than the diameter of the tube and a valve arranged in the valve-chamber and made smaller than the lower portion of the tube and larger than the outlet at the top of the tube.

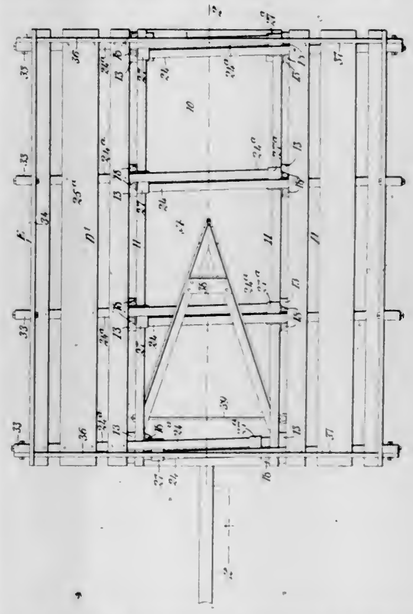
5. A bottle having in its neck a suspended tube opening into the bottom of the bottle and an enlarged valve-chamber at its upper end with a contracted upper end, a valve in the valve-chamber and a cap for the bottle with a central stem extending to the top of the tube and having a central hole for giving access to the valve.

6. A bottle having in its neck a suspended tube opening into the bottom of the bottle and an enlarged valve-chamber in its upper end, a valve in the valve-chamber having an upwardly-projecting stem and a cap having a downward projection formed with a central opening of two diameters, the lower one being of larger diameter and receiving the valve-stem.

845,580. WAGON. JOHN RUPPERT, Glencoe, Minn. Filed Oct. 11, 1906. Serial No. 338,439.

Claim.—1. In wagons, a body-section, socket-fixtures secured to the outer side faces of its side pieces between their ends and at the rear and also at the front inner faces of the said side pieces, side extension-sections fitted to the outer socket-fixtures, a front section fitted to the inner forward socket-fixtures, and a tail-board section, all of said sections being removable.

2. In wagons, a body-section, socket-fixtures secured to the outer faces of the side pieces of said body-section between their ends and at the rear, and at the inner side portions of their forward ends, fastening devices adapted to be passed through the said socket-fixtures, and jaws extending upwardly at each side of the top of each socket-fixture, which top portions of said fixtures are open.



3. In a wagon, a body-section provided with socket-fixtures secured to its side pieces, each socket-fixture being provided with an upwardly-extending jaw at each side of its open top portion, horizontal extensions for the said body-section, adapted to overhang the sides thereof, each extension consisting of beams and said beams being adapted to enter the spaces between the jaws of said fixtures respectively from the right and the left hand sides and to extend beyond the outer faces of the side pieces of the body-section, slats secured to the overhanging portions of the beams, the said beams extending across the top portion of the body-section, eyes at the ends of the beams, means for locking corresponding beams of opposing extensions together, and side sections fitted in the eyes of the said horizontal extensions.

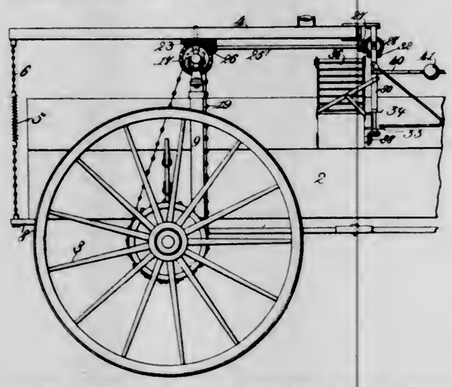
4. In a wagon, a body-section provided with socket-fixtures secured to its side pieces, each socket-fixture being provided with an upwardly-extending jaw at each side of its open top portion, horizontal extensions for the said body-section, adapted to overhang the sides thereof, each extension consisting of beams and the beams being adapted to enter the spaces between the jaws of said fixtures respectively from the right and the left hand sides and to extend beyond the outer faces of the side pieces of the body-section, slats secured to the overhanging portions of the beams, said beams extending across the top portion of the body-section, eyes at the ends of the beams, stirrups secured to the beams of the extensions from the body, the stirrups of one set of beams extending in an opposite direction to the direction of the stirrups of the opposing beams, the stirrups of the right-hand beams being adapted to receive the bottom portions of the left-hand beams, and the stirrups of the left-hand beams being adapted to receive the bottom portions of the right-hand beams, means for locking the said beams to said socket-fixtures, and side sections re-

movably fitted to the outer end portions of the extension-beams.

5. In wagons, the combination with the body thereof, and socket-fixtures secured to the side pieces of said body, each socket-fixture being provided with an upwardly-extending jaw at each side of its open top, of a right and a left hand horizontal extension for the body, each extension consisting of transverse beams, the right-hand beams being adapted to enter the spaces between the right-hand jaws and the left-hand beams the spaces between the left-hand jaws, the beams extending across said body, eyes at the outer ends of the beams, connecting-slats for the right and the left hand beams, side sections removably fitted in the eyes of the said extension-beams, stirrups carried by said extension-beams at their inner ends, the stirrups of one set of beams extending in opposite directions to the stirrups of the opposing set of beams, the stirrups of one set of beams being adapted to receive the lower edge portions of the beams of the opposing set, and means for locking the beams between the said jaws.

6. In wagons, the combination with the body thereof and socket-fixtures secured to the side pieces of said body, each socket-fixture being provided with an upwardly-extending jaw at each side of its open top, of a right and a left hand horizontal extension for the body, each extension consisting of transverse beams, the right-hand beams being adapted to enter the spaces between the right-hand jaws and the left-hand beams the spaces between the left-hand jaws, the beams extending across the said body, eyes at the outer ends of the beams, connecting-slats for the right and the left hand beams, side sections removably fitted in the eyes of said extension-beams, stirrups carried by said extension-beams at their inner ends, the stirrups of one set of beams extending in opposite directions to the stirrups of the opposite set of beams, the stirrups of one set of beams being adapted to receive the lower edge portions of the beams of the opposing set, a locking-plate secured to the bottom edge portion of each beam where said beam enters between said jaws, each locking-plate being provided with a depression that extends into a socket-fixture and each locking-plate being provided at its outer end with a downwardly-extending flange for engagement with the inner edge of a stirrup, and locking-pins carried by said socket-fixtures, which pins are passed through said fixtures and through the depressed portions of the locking-plates.

845,581. HARVESTING APPARATUS. GEORGE D. RUSSELL and PATRICK H. ARMISTEAD, Baird, Tex. Filed June 8, 1906. Serial No. 320,811.



Claim.—1. In a harvesting apparatus, a carrier mounted for vertical and horizontal oscillation, cutting mechanism supported by said carrier, and an elevator associated with the cutting mechanism for receiving therefrom the harvested material and for conducting the same to a suitable receptacle.

2. In a harvesting apparatus, a carrier mounted for vertical and horizontal oscillation, a vehicle to which said carrier is connected, cutting mechanism supported by said carrier, an elevator associated with the cutting mechanism for receiving therefrom harvested material and for delivering the same to said vehicle, and mechanism operated from the vehicle for actuating the cutting mechanism and elevator.

3. In a harvesting apparatus, a carrier mounted for vertical and horizontal oscillation, cutting mechanism supported by said carrier, an elevator associated with the cutting mechanism for receiving therefrom the harvested material and for conducting the same to a suitable receptacle, said cutting mechanism and elevator being at one side of the center of motion of said carrier, and counterbalancing means for the cutting mechanism and elevator, connected with said carrier at the opposite side of said center of motion.

4. In a harvesting apparatus, a carrier mounted for vertical and horizontal oscillation, cutting mechanism and an elevator supported at one side of the center of motion of the carrier, a counterbalancing-spring for the cutting mechanism and elevator connected with said carrier at the opposite side of said center, the elevator being in position to receive the articles harvested by the cutting mechanism.

5. In a harvesting apparatus, an oscillatory carrier, a frame flexibly supported by said carrier, means tending at all times to hold said frame positively in an operative position, cutting mechanism supported by said frame, and an elevator movable with the carrier for receiving from the cutting mechanism harvested material and for conducting the same to a suitable receptacle.

6. In a harvesting apparatus, an oscillatory carrier, a frame flexibly supported by said carrier, and cutting mechanism and an elevator supported by said frame, the elevator being in position to receive articles harvested by the cutting mechanism.

7. In a harvesting apparatus, a carrier mounted for oscillation, a frame flexibly supported by the carrier, cutting mechanism and an elevator supported by the frame, and means tending to hold the frame in a vertical position.

8. In a harvesting apparatus, a carrier mounted for oscillation, a frame flexibly supported by said carrier, an elevator and cutting mechanism supported by said frame, the elevator being located to receive articles harvested by the cutting mechanism, and a counterbalancing-weight connected with the frame and tending to maintain the same in a vertical position.

9. In a harvesting apparatus, a standard, a bearing supported by said standard, a hollow pin sustained by said bearing, a shaft extending through the hollow pin, a second bearing oscillatory on said hollow pin, a carrier, a pivot for said carrier at an angle to said hollow pin and supported by said second bearing, means for operating said shaft, cutting mechanism supported by said carrier, and means operative from said shaft for actuating said cutting mechanism.

10. In a harvesting apparatus, a standard, a bearing supported by said standard, a hollow pin sustained by said bearing, a shaft extending through said hollow pin, a second bearing supported for rocking motion by said hollow pin, a vertically-disposed pin swiveled upon the second bearing, a carrier, said second pin constituting a pivot for said carrier, intermeshing gears, one of which is fastened to the shaft, and the other of which surrounds said second pin, cutting mechanism supported by the carrier, and means receiving its motion from the gear around said second pin, for actuating said cutting mechanism.

11. In a harvesting apparatus, a standard, a bearing supported by said standard, a hollow pin sustained by said bearing, a shaft extending through said hollow pin, a second bearing supported for rocking motion by said hollow pin, a vertically-disposed pin swiveled upon the second bearing, a carrier, said second pin constituting a pivot for said carrier, intermeshing gears, one of which is fastened to the shaft, and the other of which surrounds said second pin, cutting mechanism supported by the carrier, means receiving its motion from the gear around said second pin, for actuating said cutting mechanism, a vehicle with which said standard is connected, and means operated from a wheel of said vehicle for turning said shaft.

12. In a harvesting apparatus, a carrier mounted for vertical and horizontal oscillation, a frame flexibly pendent from said carrier, rotary shafts supported by said frame, overlapping engaging disks fixed to the respective shafts, an elevator and its casing supported by the frame, a vehicle with which the carrier is associated, a trough pivotally connected to the elevator-casing for directing material into the vehicle when the casing is swung from thereover, and means for positively directing articles cut by the disks into said casing.

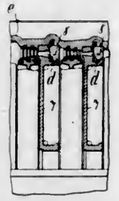
845,582. CORSET. EMILE SAVOYE, Paris, France. Filed Oct. 18, 1905. Serial No. 283,249.



Claim.—1. A corset comprising the several narrow vertical pieces close to each other, the narrow pieces on the front having a bend at the top and laterally so as to extend transversely in the shape of a comparatively narrow strip above the other narrow vertical pieces up to the line of the back.

2. A corset comprising a relatively narrow integral angular portion, said portion having a horizontal part forming the upper part of the corset, and a vertical part forming the front of the corset, and a plurality of narrow strips arranged vertically side by side and connected at their sides and having their upper ends connected with the horizontal part of the angular portion, the vertical part of the angular portion having one side connected with the side of the adjacent narrow strip.

845,583. MEANS FOR REGULATING TURBINES. RICHARD SCHULZ, Berlin, Germany. Filed Mar. 1, 1906. Serial No. 303,685.



Claim.—1. In an axial steam-turbine the combination with a group of steam-passages therein of two arcuate slides arranged in front of said passages and means to move the slides to successively close the passages from both ends of the group, substantially as described.

2. In an axial steam-turbine the combination with a group of steam-passages therein of two arcuate slides vertically arranged in front of said passages, said slides of different length and means to move the slides to successively close the passages from both ends of the group, whereby the longer slide will have the greater travel and control the larger number of ports, substantially as described.

3. In a steam-turbine the combination with a group of steam-passages of an arcuate slide to successively close the passages and an arcuate packing carried by the slide and between it and the entrance to the passages, substantially as described.

4. In a steam-turbine the combination with an arcuate directing member having steam-passages formed therein, of a controlling member comprising two elements, one an arcuate slide, and the other a packing, one of said elements having a rib bearing against the adjacent face of the other element, substantially as described.

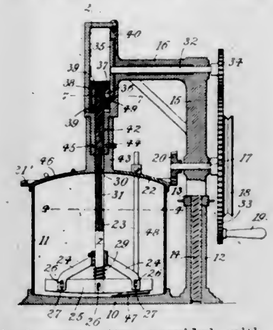
5. In a steam-turbine, the combination with a directing member having steam-passages formed therein, of a controlling member comprising two elements, one an arcuate slide having two flanges directed toward the steam-passages and the other a packing held between said flanges, one of said elements having a medial rib bearing against the adjacent face of the other element, substantially as described.

6. In a steam-turbine the combination with a directing member having steam-passages therein of a controlling member coöperating therewith comprising two elements, one an arcuate slide having flanges and the other a packing held between the flanges and means to prevent the lateral displacement of the elements, one of said elements having a rib that engages the adjacent face of the other element, substantially as described.

7. In a steam-turbine the combination with an arcuate directing member having steam-passages therein and an internal flange said flange having a shoulder, of a controlling member also having a shoulder and seated between the ends of the steam-passages and shoulder on said flange, said controlling member comprising two elements one a slide having flanges projecting toward the steam-passages and the other a packing held between the flanges and springs between the two members, substantially as described.

8. In a steam-turbine the combination with a directing-ring having steam-passages therein and a flange projecting beyond the entrances of said passages, said flange having a shoulder at the outer edge; of a controlling member comprising two elements, one an arcuate slide having a shoulder seated on said flange between the shoulder thereon and the steam-passages and having flanges directed toward the steam-passages, and the other a packing held between the flanges on the slide, substantially as described.

845,584. MEAT-CUTTER. HENRY SCHWENCK, New York, N. Y. Filed Oct. 11, 1906. Serial No. 338,409.



Claim.—1. A meat-cutter provided with a vessel, a perforated cover supported thereon, rotating means in engagement with the cover, a cutter-shaft rotatably engaged by the cover and adapted to reciprocate through the same, a cutter carried by said shaft, a perforated slide loosely engaging the shaft and adapted to reciprocate the same, and reciprocating means in engagement with the slide, substantially as specified.

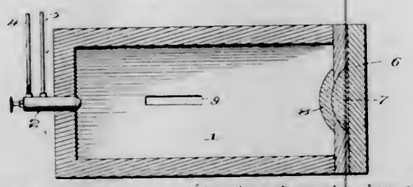
2. A meat-cutter provided with a vessel, a perforated cover supported thereon, rotating means in engagement with the cover, a cutter-shaft rotatably engaged by the cover and adapted to reciprocate through the same, a cutter carried by said shaft, a perforated slide loosely engaging the shaft and adapted to reciprocate the same, and a crank-disk engaging the slide, substantially as specified.

3. A meat-cutter provided with a vessel, a power-shaft, a gear-wheel and crank-disk rotated thereby, a cover hav-

ing a toothed rim engaged by the gear-wheel, a cutter-shaft engaged by the cover, a cutter carried by said shaft, and a slide on the shaft engaged by the crank-disk, substantially as specified.

4. A meat-cutter provided with a vertically-adjustable post, a housing secured thereto, a vessel, a cover rotatable thereon and having a hub rotatably secured to the housing, a cutter-shaft engaged by the cover, a cutter carried by said shaft, and means inclosed by the housing for reciprocating the shaft, substantially as specified.

845,585. CARBON ELECTRODE AND THE METHOD OF PRODUCING THE SAME. TRUMAN P. SHARTS, Readsboro, Vt., assignor of one-fourth to Charles J. Howe, Jamaica, Vt., and one-fourth to William C. Davis and one-fourth to J. H. Cole, Readsboro, Vt. Filed Mar. 6, 1905. Serial No. 248,684.



Claim.—1. A process of forming charcoal-carbon electrodes comprising the igniting and burning of petroleum, limiting the burning petroleum to one place and collecting the carbon products of combustion in steps to form a substantially integral mass.

2. The process of forming hard carbon electrodes, comprising the combustion of atomized petroleum, collecting the products of combustion successively to form an integral mass, and the confining of the burning petroleum for forming the mass in elongated sticks.

3. As a new article of manufacture, a hard carbon stick, comprising layers of carbon formed with integral coherency from the burned products of the hydrocarbon.

4. The process of forming charcoal-carbon, comprising the burning of atomized hydrocarbon oils, collecting the carbonaceous products resulting from such burning in a mass and moving the said mass to different positions for thickening the same.

5. The process of forming carbon for electrical purposes, comprising the burning of hydrocarbon oil and collecting the carbonaceous products in a mass and moving the mass to produce successive homogeneous layers.

845,586. PRINTING-MACHINE. THOMAS C. SHEEHAN, Jersey City, N. J., assignor to Trinity Press Company, New York, N. Y., a Corporation of New York. Filed Apr. 18, 1906. Serial No. 312,308.

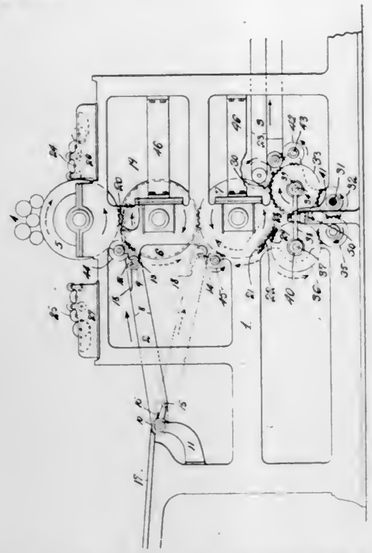
Claim.—1. In a printing-machine the combination with a printing mechanism comprising a form-cylinder, a blanket-cylinder and a transfer-cylinder and means for printing either between the form and blanket cylinder or between the blanket and transfer cylinder at will.

2. In a printing-machine the combination with a form-carrying member, a printing member and an impression member and means for printing either between the form-carrying member and the printing member or between the printing member and the impression member at will.

3. In a printing-machine the combination with a printing mechanism comprising a form-carrying member, a printing member and an impression member and means for feeding the sheet to the said printing member or to the said impression member at will.

4. In a printing-machine a form-carrying member, means for changing the direction of motion of the said member, and means for applying water to the one or the other side of the said member according to the direction of travel of the same.

5. In a printing-machine the combination with a form-cylinder, a blanket-cylinder and a transfer-cylinder, means for feeding the sheet to either the said blanket-cylinder or to the said transfer-cylinder and means carried by the said transfer-cylinder for receiving the sheet either from the said blanket-cylinder or from the said feeding means.



6. In a printing-machine the combination with a printing mechanism comprising a form-carrying member, a printing member and an impression member, means for feeding the sheet to different points of the said printing mechanism at will, and means carried by the said impression member for receiving the sheet either from the said printing member or from the said feeding means.

7. In a printing-machine, the combination with a printing mechanism comprising a form-carrying member, a printing member and an impression member, means for feeding the sheet to either the said printing member or to the said impression member, means for changing the direction of rotation of the said printing mechanism and means carried by the said impression member for receiving the sheet either from the said printing member or from the said feeding means according to the direction of rotation of the said printing mechanism.

8. In a printing-machine, the combination with a printing mechanism comprising a form-carrying member, a printing member and an impression member, means for feeding the sheet to different points of the said printing mechanism, means for changing the direction of rotation of the said mechanism, means for maintaining the direction of travel of the said feeding means, means carried by the said impression member for receiving the sheet either from the said printing member or from the said feeding means and means for applying water to the said form-carrying member on the one or the other side of the same according to the direction of rotation of the said printing mechanism.

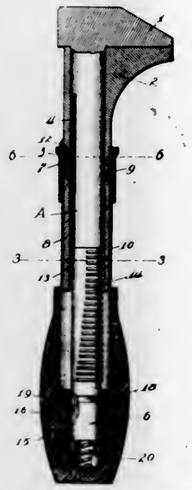
9. In a printing-machine the combination with a printing mechanism comprising a form-carrying member, a printing member and an impression member, means for feeding the sheet to either the said printing member or the said impression member, means for changing the direction of rotation of the said printing mechanism, means for maintaining the direction of travel of the said feeding means, means carried by the said impression member for receiving the sheet either from the said printing member or from the said feeding means according to the direction of rotation of the said printing mechanism and means for applying water to the said form-carrying member on the one or the other side of the same according to the direction of the rotation of the same.

845,587. SURGICAL INSTRUMENT. CHARLES W. SHELDEN, Clearfield, Iowa, assignor of one-half to Lee A. Tope, Clearfield, Iowa. Filed July 19, 1906. Serial No. 326,956.



Claim.—An obstetrical instrument comprising a pair of independent separable rods free to move longitudinally and to swing laterally relatively to each other and having apertures in their inner ends, handles on the outer ends of said rods and a flexible element slidable in said apertures.

845,588. WRENCH. JAMES H. SHEPHERD, Idaho Springs, Colo. Filed July 11, 1905. Serial No. 269,222.



Claim.—1. In a wrench the combination with a main bar having a jaw thereon and provided with a keyway and a set of interrupted circumferential rack-teeth closed at one end to form a stop, of a movable jaw having a key which is guided in the keyway to prevent it from turning, said movable jaw having a screw-thread on one end and a sleeve having a screw-thread which engages the thread on the movable jaw, the sleeve provided with teeth adapted to engage the interrupted teeth, whereby the jaw is moved lengthwise of the bar by the turning of the sleeve.

2. In a wrench the combination with a bar having a jaw on one end and provided with a longitudinal keyway one edge of which is extended to form a guide, the bar having interrupted circumferential rack-teeth closed at one end to form a stop, of a movable jaw having a key adapted to slide in said keyway, and a sleeve having a screw-feed connection with the movable jaw and provided internally with teeth adapted to engage the teeth of the bar.

3. In a wrench the combination with a main bar having a jaw thereon, said bar having interrupted circumferential rack-teeth thereon closed at one end to form a stop, of a movable jaw and a sleeve having a screw-feed connection with said movable jaw and provided internally with teeth adapted to engage the interrupted circumferential teeth of the bar, and means for preventing the movable jaw from turning.

4. In a wrench the combination of a main bar having a jaw thereon, said bar having interrupted circumferential rack-teeth thereon, said teeth open at one end and closed at the opposite end, whereby to form a stop, of a movable jaw and a sleeve having a screw-thread connection with said movable jaw and provided internally with teeth adapted to engage the interrupted circumferential teeth of the bar.

5. In a wrench, the combination with a bar having a jaw on one end and provided with a longitudinal keyway, one edge of which is extended to form a guide, the bar having interrupted circumferential rack-teeth closed at one end to form a stop, of a movable jaw having a key adapted to slide in said keyway, a sleeve having screw-feed connection with the movable jaw and provided internally with teeth adapted to engage the teeth of the bar and a handle, said sleeve and handle having an insulated outer surface.

6. In a wrench, the combination with a bar having a fixed jaw on one end and a movable jaw slidably adjustable on said bar, of a handle of insulating material, counterbored throughout a portion of its length to receive the end of the bar to which said handle is removably secured and a sleeve located in position to enter the bore of the handle, said sleeve having an insulating material on its outer surface, and a threaded connection with the movable jaw and the bar whereby the movable jaw is moved as the sleeve is turned.

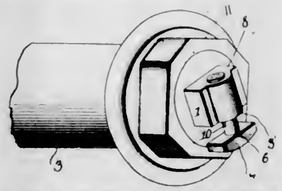
7. In a wrench the combination with a main bar having a jaw thereon, and a movable jaw mounted on said bar, of a handle removably secured to the bar, one of said parts having a stud and the other a connected longitudinal and circumferential groove, with an interposed spring normally pressing them apart, for removably locking the handle to the bar.

8. In a wrench the combination with a main bar having a jaw at one end, a spring and a connected longitudinal and circumferential groove at the other end, the circumferential groove having a notch extended alongside and parallel with the longitudinal groove and the longitudinal groove open at the extreme end of the main bar, of a handle having a stud adapted to enter the longitudinal groove and be turned axially in the circumferential groove and finally seated in the notch whereby the handle is locked to the bar.

9. In a wrench, the combination with a main bar having a jaw and circumferential rack-teeth thereon, certain of these teeth longer toward the handle end, of an adjustable sleeve having internal teeth and screw-threads, and a movable jaw provided with screw-threads which the threads in the sleeve engage to move the jaw toward and away from the fixed jaw, according to the direction in which the sleeve is turned.

10. In a wrench, the combination with a main bar having a jaw and interrupted circumferential rack-teeth thereon, one end of said teeth being diagonally disposed, of a movable jaw, a sleeve having internal teeth, adapted to register with the teeth on the shank and having screw-threaded connection with the shank of the movable jaw whereby the turning of the teeth in the sleeve on the shank simultaneously slides the movable jaw toward or away from the jaw on the main bore.

845,589. NUT-LOCK. CHARLES D. SMITH, Paris, Ill. Filed May 12, 1906. Serial No. 316,570.



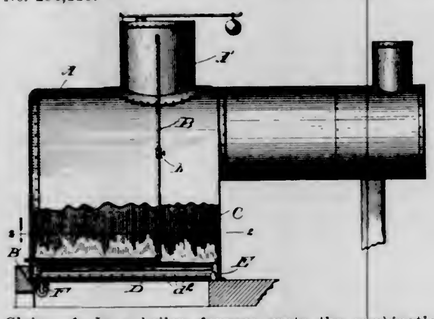
Claim.—1. In combination with a spindle and a nut, a block adapted to be applied to the spindle end, said block having a perforation, a pin slidably mounted in said perforation and having at one an enlarged head and at its other end a cap, said pin having greater axial dimension than the block, said pin carrying a spring adapted to engage the block-perforation.

2. In combination with a spindle and a nut, a nut-lock

consisting of a block adapted to be applied to a spindle and having a perforation provided at one end with oppositely-located grooves, a pin adapted to slide in said perforation and having at one end an enlarged head and at its other end a cap, a spring attached to said pin and having ends adapted to enter the grooves of said block-perforation.

3. In combination with a spindle a nut-lock comprising a perforated block adapted to be attached to the spindle, said block having located in opposite sides of its perforation and at the lower end thereof grooves, a pin adapted to slide within said block-perforation, said pin having at one end an enlarged head and at the other end a cap, a spring passing through said pin and having depending ends, said pin having grooves located under said spring ends and adapted to receive said spring ends.

845,590. GRATE FOR BOILER-FURNACES, &c. PHILIP S. SPILLER, Austin, Tex., assignor of one-half to Nelson O. Brenizer, Austin, Tex. Filed Oct. 23, 1905. Serial No. 284,119.



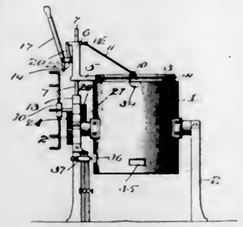
Claim.—1. In a boiler-furnace grate the combination with a series of hollow hexagonal bars, the upper walls of which are relatively thicker than the lower walls, the upper side walls having diagonal perforations directed upwardly therethrough, each hexagonal hollow bar being closed at the forward end, a hollow cross-bar closed at each end and connecting the rear ends of the hexagonal bars with each other, a pipe connected with the steam-space of the boiler extended into the fire-chamber and coiled around within the same, and a pipe connecting said coil with the central members of the hexagonal hollow bars at their forward ends, whereby steam from the boiler will be superheated before passing to the grate-bars to be discharged through the diagonal perforations, and means for controlling the passage of the steam through said pipe from the steam-space to the grate-bars.

2. In a boiler-furnace grate the combination with a series of hollow hexagonal bars having thickened upper side walls, said walls having diagonal perforations extending upwardly through the same, said hollow bars having their forward ends closed, a hollow cross-bar connecting the rear ends of said hexagonal bars with each other, a pipe connected at one end with the steam-space of the boiler passing into the fire-chamber and coiled around within the same above the hollow grate-bars, and connected at its other end with the central members of the hollow hexagonal grate-bars, at or near their forward ends, and means for controlling the passage of the steam through said pipe from the steam-space to the hollow grate-bars.

845,591. FURNACE. DAVID R. STEELE, Curtis Bay, Md., assignor of one-half to Harry D. Harvey, Baltimore, Md. Filed Oct. 12, 1905. Serial No. 282,452.

Claim.—1. A furnace mechanism, comprising a tipping furnace, a cover therefor formed of fire-resisting material having a central opening, reinforced plates applied to the surface of said cover, a protecting-flange around said opening and extending above the edge of the plates and means for lifting the cover when the furnace is to be tilted.

2. A furnace mechanism, comprising a tilting furnace, a removable cover therefor comprising a disk of fire-resisting material, reinforcing metal plates secured on one side of said disk, lifting and gripping bands surrounding the periphery thereof, having band-sections with their ends turned outwardly to form eyes, securing-bolts for drawing the band-sections together, loops threaded upon said bolts, a lifting-bail engaging said loops and means for supporting said bail for holding the cover in proper position.



3. A furnace-covering mechanism, comprising a standard pivotally mounted in a bearing or socket, a sleeve slidably mounted thereon, an arm rigidly secured to the standard, a bell-crank lever pivoted to said arm, a projection positioned on said lever for engaging said arm when the said sleeve is in its elevated position, a link engaging the bell-crank with the sleeve, and means for securing a cover to said sleeve.

4. A furnace-covering mechanism, comprising a vertical revoluble standard, an elongated sleeve loosely mounted thereon and having bearings at its upper and lower ends, an arm rigidly connected with the standard and projecting outwardly through the open side of the sleeve, a bell-crank lever mounted in said arm, a link connecting the same with the sleeve, a projection on said bell-crank lever, a stop on said arm for retaining said bell-crank lever in a position for holding the sleeve positively in an elevated position and a cover connected with said sleeve so as to be lifted thereby.

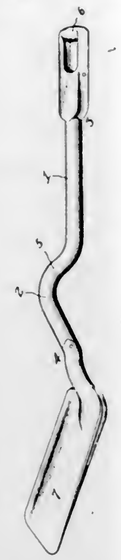
5. A furnace-cover mechanism, comprising a cover proper, a sleeve for holding the same having an abutment projection at its lower end and resting against the periphery of the cover but not secured thereto, a band gripping the periphery of the cover and having eyes formed in the ends thereof, links connecting the eyes with the sleeve, a hook projecting from the sleeve and supporting said links and a lever mechanism for lifting the sleeve and turning it.

6. A furnace-covering mechanism, comprising a cover, a standard, a sleeve carried by the same, a bifurcated arm mounted adjacent to the sleeve with a groove or notch formed therein, a lever pivoted to said arm and having a projection adapted to engage the groove or notch and means connecting the lever with the sleeve for lifting the same, the lever when in its lowered position so engaging the notch or groove as to be capable of firmly turning the standard and the parts mounted thereon.

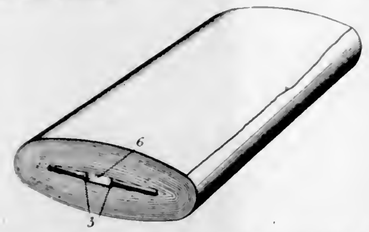
7. A furnace-covering mechanism, comprising a revoluble standard, a bifurcated arm mounted thereon and capable of adjustment to different heights upon said standard, standard-gripping means carried by said arm a lever pivoted between the outer bifurcated ends of the arm and having a turning projection formed upon its inner end, a notch or groove formed in the standard-engaging portion of the arm, a link connecting the lever with a cover-supporting means, comprising a sleeve movably mounted on the standard, and means for connecting the cover therewith.

845,592. SHOVEL-HANDLE. FRANK STEWART, Aspen, Colo. Filed Nov. 3, 1906. Serial No. 341,857.

Claim.—A handle for implements of the class described, comprising a straight body bent intermediate its ends to provide a transversely and vertically projecting, integral, offset handhold, the latter being in the form of a crank and lying wholly outside of the longitudinal axis of the remaining portion of the body, substantially as shown and for the purposes set forth.



845,593. DRY-GOODS MARKER. PERRY H. STEWART and ED A. MILLER, Hopkins, Mo. Filed Nov. 9, 1906. Serial No. 342,659.



Claim.—1. A marker for dry goods comprising a face-plate, side plates extending therefrom having opposed biting-teeth, and a cleat at each end of the face-plate, each having extending nibs bent upon the side plates for the purpose described.

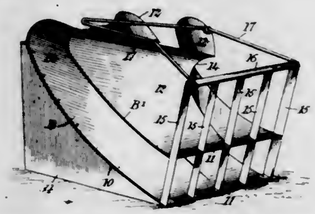
2. A marker for dry goods comprising a face-plate, side plates convergingly extending therefrom having the corners thereof downwardly turned to form opposed biting-teeth, and a cleat at each end of the face-plate having extending nibs bent upon the side plates for the purpose described.

3. A marker for dry goods constructed of a substantially rectangular blank of spring sheet metal having extensions at each side thereof, said blank being bent to form a face-plate with side plates extending therefrom and the extensions folded upon the face-plate to form cleats, each cleat having a nib folded upon the side plates.

845,594. SNOW-PLOW. JOHN S. STOUT, Oxford Junction, Iowa. Filed Nov. 23, 1906. Serial No. 344,736.

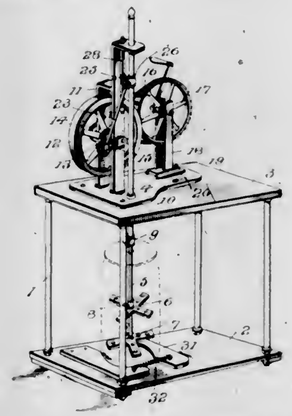
Claim.—1. A snow-plow provided with a bank of shovels, the shovels being arranged one above the other, means for holding said shovels in position, a series of vertical spaced cutting-knives at the front of the shovels and extending the full depth of the bank, and a bar connecting the top of the knives.

2. In a snow-plow, a bank of shovels arranged one above the other, the shovels being graduated in size, the lowermost shovel extending farthest to the rear and the forward edges of the shovels being made to overlie each other from the top downward, a series of vertical spaced cutting-knives at the front of the shovels and extending the full depth of the bank, a bar connecting the tops of the knives and braces connected with the bar.



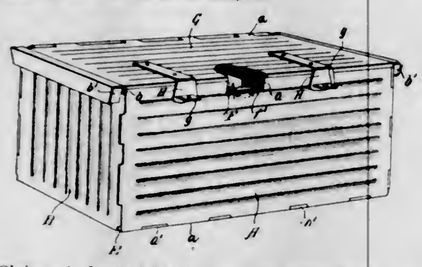
3. A snow-plow consisting of a body, shovels arranged one above the other, said shovels being graduated in length, the lowermost shovel being the longest one and extending farthest to the rear, the forward cutting edges of the shovels overlying one another from the top downward, each shovel comprising a forward inclined plain section, opposing moldboards and a central wedge-shaped division-section extending upwardly and forwardly from the central portion of the plain section, said cutting edges of the shovels being formed by the union of the moldboards at the front of said shovels, means for securing the shovels in position, and a cutting-frame stationarily located at the front of the plow, inclined from the top downward and rearward, which frame consists of a series of vertical knives that pass through the forward cutting edges of the shovels, and a connecting medium for the upper portion of said knives.

845,595. CHURN-OPERATING MECHANISM. ABRAHAM H. STUTLER, West Union, W. Va. Filed Sept. 7, 1906. Serial No. 333,700.



Claim.—In churn-operating mechanism, the combination of a stand, a standard extending upwardly therefrom and having an offstanding arm provided with a bearing, said standard having a vertical guide at one side thereof, a crank-shaft, a dasher-rod mounted for vertical movement in the bearing in the offstanding arm aforesaid and in a second bearing provided in the top of the stand, a sleeve secured to the dasher-rod, a pin extending from said sleeve, a pitman connecting the crank of the crank-shaft with the pin above mentioned, said pin being formed with a guide-head arranged to move longitudinally of the guide on the standard and held in coöperation with the latter by the dasher-rod.

845,596. BOX. JOHN H. THIELER, Lenora, Kans. Filed Aug. 2, 1906. Serial No. 328,958.

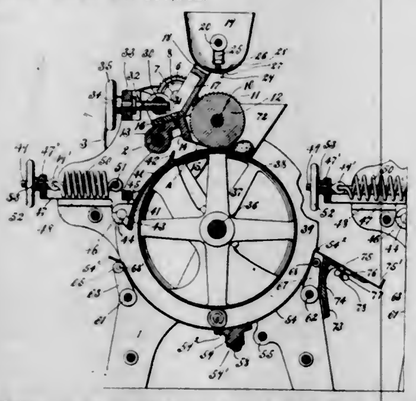


Claim.—1. In a foldable box, the combination of the side and end pieces, and rods extending around the side pieces to stiffen them, and arranged to form the pivots by which the side and end pieces are united, one of the side pieces having slots formed along its lower edge, a bottom hinged to one of the side pieces, and locking-plates arranged to extend behind one of the rods and into the said slots in the side piece for holding the bottom in position.

2. In a foldable box, the combination of side and end pieces, a pair of rods bent around the side pieces and secured thereto, a bottom hinged to one of the rods, a pair of locking-plates secured to the bottom arranged to extend behind the other rod, and catch-pieces also arranged to engage with the last-mentioned rod and lock the bottom in position.

3. In a collapsible box, the combination of side and end pieces, a bottom hinged to the lower edge of one of the side pieces, the opposite side piece being formed with a pair of slots, a rod extending along the lower edge of the last-mentioned side piece, a pair of locking-plates secured to the bottom, the outer ends of the plates being bent at substantially right angles to the bottom, and arranged to lie behind the rod and extend through the said slots, and catch-pieces pivoted to the locking-plates arranged to engage with the rod and lock the bottom in place.

845,597. MACHINE FOR MOLDING PLASTIC MATERIAL. CHARLES A. THOMSON, Belleville, N. J., assignor to C. A. Thomson Machine Company, Belleville, N. J., a Corporation of New Jersey. Filed Mar. 20, 1905. Serial No. 250,942.



Claim.—1. In combination, with a reducing-roll, of a drum coöperating with said reducing-roll; a curling device coöperating with the drum; and means also coöperating with the drum to reduce a coil formed by the curling device and drum.

2. The combination, with a reducing-roll, of a drum coöperating with said reducing-roll to form a mass of plastic material into a sheet; a device also coöperating with the drum to form the sheet into a coil; and means for reducing the coil.

3. The combination, with a driving-shaft, of a gear carried thereby; a swinging frame; an idler carried by the frame, and in engagement with the gear on the driving-shaft; a shaft journaled in the swinging frame; a gear on said shaft in engagement with the idler; a roll carried by said shaft; means for adjusting the swinging frame; and a device coöperating with the roll to reduce plastic material to sheet form.

4. The combination, with a driving-shaft, of a gear carried thereby; a swinging frame; an idler carried by the frame, and in engagement with the gear on the driving-shaft; a shaft journaled in the swinging frame; a gear on said shaft in engagement with the idler; a roll carried by said shaft; means for adjusting the swinging frame; a device coöperating with the roll to reduce plastic material to sheet form; a device for curling the sheet into a coil; and means for reducing the coil.

5. The combination, with a driving-shaft, of a gear carried thereby; a swinging frame; an idler carried by the frame, and in engagement with the gear on the driving-shaft; a shaft journaled in the swinging frame; a gear on said shaft in engagement with the idler; a roll carried by said shaft; means for adjusting the swinging frame; a device coöperating with the roll to reduce plastic material to sheet form; a yielding curling-plate coöperating with said device to form the sheet into a coil; and a concave also coöperating with said device to reduce the coil.

6. The combination, with a driving-shaft, of arms sleeved on said driving-shaft; a gear on the driving-shaft; an idler carried by one of the arms, and in engagement with said gear; a shaft journaled in the arms; a gear on said shaft, and in engagement with the idler; a reducing-roll carried by the shaft; and a drum driven by the shaft and coöperating with the reducing-roll to form a mass into a sheet.

7. The combination, with a driving-shaft, of arms sleeved on said driving-shaft; a gear on the driving-shaft; an idler carried by one of the arms, and in engagement with said gear; a shaft journaled in the arms; a gear on said shaft, and in engagement with the idler; a reducing-roll carried by the shaft; a drum driven by the shaft and coöperating with the reducing-roll to form a mass into a sheet; a curler-plate coöperating with the drum to form the sheet into a coil; and a device also cooperating with the drum to reduce the coil.

8. The combination, with a driving-shaft, of arms sleeved on said driving-shaft; a gear on the driving-shaft; an idler carried by one of the arms, and in engagement with said gear; a shaft journaled in the arms; a gear on said shaft, and in engagement with the idler; a reducing-roll carried by the shaft; a drum driven by the driving-shaft and coöperating with the reducing-roll to form a mass into a sheet; a curler-plate coöperating with the drum to form the sheet into a coil; a device also cooperating with the drum to reduce the coil; and means for adjusting said device to vary the space between it and said drum.

9. The combination, with a driving-shaft, and with a reducing-roll driven by said driving-shaft, of a rotary drum; a curler coöperating with said drum; a slidable carrier upon which the curler is mounted for independent rocking movement when the sheet engages the curler; and means for holding the curler under pressure against the coil being formed from the sheet, and for permitting said curler to yield as the coil increases in diameter.

10. The combination, with a driving-shaft, and with a reducing-roll driven by said driving-shaft, of a rotary drum; a curler coöperating with said drum; a slidable carrier upon which the curler is mounted for independent rocking movement, when the sheet engages the curler; means for holding the curler under pressure against the coil being formed from the sheet, and for permitting said curler to yield as the coil increases in diameter; and a concave coöperating with the drum to reduce the coil.

11. The combination, with a driving-shaft, and with a reducing-roll driven by said driving-shaft, of a rotary drum; a curler coöperating with said drum; a slidable carrier upon which the curler is mounted for independent rocking movement, when the sheet engages the curler; means for holding the curler under pressure against the coil being formed from the sheet, and for permitting said curler to yield as the coil increases in diameter; and means for adjusting the concave to control the size of the passage between it and the drum.

12. The combination, with a swinging frame, and with means for adjusting said frame, of gearing carried by the frame; means for actuating said gearing; a roll driven by an element of said gearing; and a rotary drum coöperating with the roll to reduce a mass of plastic material to sheet form.

13. The combination, with a swinging frame, and with means for adjusting said frame, of gearing carried by the frame; means for actuating said gearing; a roll driven by an element of said gearing; a rotary drum coöperating with the roll to reduce a mass of plastic material to sheet form; a device for forming the sheet into a coil; and means coöperating with the drum to reduce the coil to a roll.

14. The combination, with a shaft, of a frame mounted for swinging movement; a gear on the shaft; a rotary drum driven by the gear on the shaft; a roller driven by gearing actuated by the gear on the shaft; and means for adjusting the swinging frame to locate the roller at the desired distance from the drum.

15. The combination, with a shaft, of a frame mounted for swinging movement; a gear on the shaft; a rotary drum driven by the gear on the shaft; a roller driven by gearing actuated by the gear on the shaft; means for adjusting the swinging frame to locate the roller at the desired distance from the drum; and a device coöperating with the drum and roller to form the sheet into a coil.

16. The combination, with a shaft, of a frame mounted for swinging movement; a gear on the shaft; a rotary drum driven by the gear on the shaft; a roller driven by gearing actuated by the gear on the shaft; means for adjusting the swinging frame to locate the roller at the desired distance from the drum; a device coöperating with the drum and roller to form the sheet into a coil; and a concave coöperating with the roller to reduce the coil.

17. The combination, with a shaft, of a frame mounted for swinging movement; a gear on the shaft; a rotary drum driven by the gear on the shaft; a roller driven by gearing actuated by the gear on the shaft; means for adjusting the swinging frame to locate the roller at the desired distance from the drum; a device coöperating with the drum and roller to form the sheet into a coil; a concave coöperating with the roller to reduce the coil; and means for adjusting said concave to regulate the size of the passage between the concave and drum.

18. The combination, with means for reducing a mass to the form of a sheet, of a yielding curler-plate coöperating with an element of said means to form the sheet into a coil; and means whereby said plate may be forced back by the sheet before it commences its yielding movement to accommodate the increasing diameter of said coil.

19. The combination, with a reducing-roller, of a rotary drum; a yielding slide; and a curler-plate pivoted to the slide, and coöperating with the drum to form the sheet into a coil.

20. The combination, with a reducing-roller, of a rotary drum; a yielding slide, and a curler-plate carried by the slide, and coöperating with the drum to form the sheet into a coil; and means for permitting an independent movement of said curler-plate before the slide commences its retreat.

21. The combination, with means including a rotary drum for reducing a mass to the form of a sheet, of a curved curler-plate coöperating with the drum to coil the sheet; a slide carrying said curler-plate; and means for forcing said slide toward the drum, and for permitting it to yield as the coil increases in diameter.

22. The combination, with means including a rotary drum for reducing a mass to the form of a sheet, of a curved curler-plate coöperating with the drum to coil the sheet; a slide carrying said curler-plate; means for forcing said slide toward the drum, and for permitting it to yield as the coil increases in diameter; and a flexible concave coöperating with the drum to reduce the coil.

23. The combination, with means including a rotary drum for reducing a mass to the form of a sheet, of a curved curler-plate coöperating with the drum to coil the sheet; a slide carrying said curler-plate; means for forcing said slide toward the drum, and for permitting it to yield as the coil increases in diameter; a flexible concave coöperating with the drum to reduce the coil; and means for adjusting said concave to regulate the size of the passage between it and the drum.

24. The combination, with a concave, of a shoe for supporting an intermediate part thereof; rock-shafts having arms bearing against other parts of said concave; a link between the rock-shafts, and having an inclined groove; and a lever having a stud fitted in said inclined groove, said lever being connected to the shoe.

25. The combination, with a concave, of a shoe for supporting an intermediate part thereof; rock-shafts having arms bearing against other parts of said concave; a link between the rock-shafts, and having an inclined groove; a lever having a stud fitted in said inclined groove, said lever being connected to the shoe; a plate having perforations; and a device for locking said lever adapted to be inserted in any of said perforations.

26. The combination, with a rotary drum, and with means coöperating therewith for advancing a sheet, of a curved curler-plate having serrations; a slide to which said curler-plate is pivoted for independent rocking movement; and a spring for forcing the slide toward the drum, and permitting it to yield as the coil increases in diameter.

27. The combination, with a rotary drum, and with means coöperating therewith for advancing a sheet, of a curved curler-plate having serrations; a slide to which said curler-plate is pivoted for independent rocking movement; a spring for forcing the slide toward the drum, and permitting it to yield as the coil increases in diameter; and means for regulating the tension of the spring.

28. The combination, with a rotary drum, and with means coöperating therewith for advancing the sheet, of a curved curler-plate having serrations; a slide to which said curler-plate is pivoted for independent rocking movement; a spring for forcing the slide toward the drum; and a screw for regulating the tension of the spring.

29. The combination, with a hopper for containing plastic material, of a roller; a drum coöperating with said roller to reduce a mass to sheet form; a yielding curler-plate coacting with the drum to form the sheet into a coil; and a concave also coöperating with said drum to reduce the coil to a cylinder.

30. The combination, with a hopper for containing plastic material, of a roller; a drum coöperating with said roller to reduce a mass to sheet form; a yielding curler-plate coacting with the drum to form the sheet into a coil; a concave also coöperating with said drum to reduce the coil to a cylinder; and means for adjusting the concave to regulate the size of the passage between it and said drum.

31. The combination, with a swinging frame, of a sprinkling device carried by the frame; a roller journaled in said frame; gearing carried by the frame for driving the roller; means for adjusting the frame; an agitator in the frame; means for actuating the agitator; a rotary drum coöperating with the roller; and a curling device for causing the sheet formed by the roller and drum to assume a coiled form.

32. A machine for molding plastic material comprising the following elements in combination, a rotary drum; a roller coöperating with the drum to reduce the material to a sheet; a swinging frame carrying said roller; means carried by the frame for rotating said roller; means for adjusting the swinging frame to raise and lower the roller without disarrangement of the means for rotating said roller; a device coöperating with the drum to form the sheet into a coil; and a device also coöperating with said drum to roll and reduce the coil.

33. The combination, with means, including a rotary

drum, for advancing a sheet of plastic material, of a concave curler-plate serrated on the inner side; means for supporting said curler-plate for independent rocking movement; a carrier for said means; and means for permitting a yielding movement of said carrier as the coil increases in diameter.

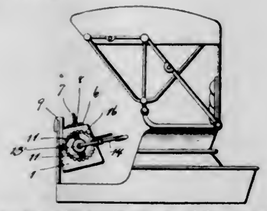
34. The combination, with means, including a rotary drum, for advancing a sheet of plastic material, of a concave curler-plate serrated on its inner side; means for supporting said curler-plate for independent rocking movement; a carrier for said means; means for permitting a yielding movement of said carrier as the coil increases in diameter; and a concave coöperating with the drum to reduce the coil after it leaves the curler-plate.

35. The combination, with means, including a rotary drum, for advancing a sheet of plastic material, of a concave curler-plate serrated on its inner side; means for supporting said curler-plate for independent rocking movement; a carrier for said means; means for permitting a yielding movement of said carrier as the coil increases in diameter; a concave coöperating with the drum to reduce the coil after it leaves the curler-plate; and means for simultaneously adjusting different parts of said concave, to vary the space between the concave and drum.

36. The combination, with a rotary drum, and with means coöperating therewith for advancing a sheet, of a serrated curler-plate; a device to which said curler-plate is connected for independent movement when it is first engaged by the sheet; and means for forcing said device forward, and for permitting its retreat under yielding pressure as the coil formed by the curler-plate and drum increases in diameter.

37. The combination, with a swinging frame, and with means for adjusting said frame, of a roller journaled in the frame; gearing carried by the frame for rotating said roller; a rotary drum; a sprinkling device carried by the frame; an agitator in the hopper of the sprinkling device; and means operated by the shaft of the roller for actuating said agitator.

845,598. PORTABLE MAIL-CARRIER BOX. WILLIAM E. VAN DEVENTER, Star City, Mich. Filed May 9, 1906. Serial No. 315,963.



Claim.—1. A mail-carrier, comprising a casing, a pair of spring-rollers journaled therein, an apron carried thereby and having pockets therein, pinions carried by each end of the spring-rollers, a large pinion to engage one set of said pinions, a lever rigidly connected with the center of said large pinion, a circular rack fixed to said casing and a spring-pressed pawl carried by said lever to engage the said rack.

2. A mail-carrier, comprising a casing, a pair of spring-rollers journaled therein, an apron carried thereby having pockets therein, pinions carried by each end of the spring-rollers and an elliptical-shaped brake-wheel fixed to one end of the casing for engaging one set of said pinions to prevent retrogression of the apron.

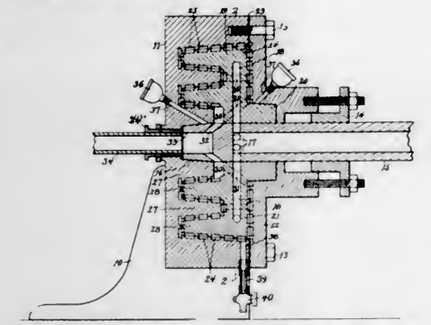
3. A mail-carrier, comprising a casing, a pair of spring-rollers journaled therein, an apron carried thereby and having pockets therein, pinions carried by each end of the spring-rollers, a large pinion to engage one set of said pinions, a lever rigidly connected with the center of said large pinion, a circular rack fixed to said casing, a spring-pressed pawl carred by said lever to engage said rack and an elliptical-shaped brake-wheel fixed to one end of the casing for engaging the other set of pinions to prevent retrogression of the apron.

845,599. HUSKING-MACHINE. EDWARD J. WEIDNER, Lindsay, Nebr. Filed Feb. 18, 1905. Serial No. 246,289.



Claim.—In a corn-husking machine, the combination of two similar snapping-rolls of substantially equal diameters, each formed square in cross-section, and with its periphery presenting four substantially equal plain faces joining at right angles, said rolls being equally geared directly together so as to revolve in opposite directions, with a feed motion, at equal speeds, and being so correlated that each roll directly opposes one of its angles to one of the faces of the other roll, whereby a nipping action with a quick release is exerted upon the material fed between the rolls, substantially as specified.

845,600. PRESSURE EXPANSION ROTARY MOTOR. ARTHUR WHITE, Sheboygan Falls, Wis. Filed Apr. 4, 1906. Serial No. 309,758.



Claim.—1. In an expansion-motor, a rotary member, a casing inclosing the rotary member and having concentric flanges interfitting with concentric flanges of the rotary member, pockets formed in the meeting faces of the rotary member and the casing, and means for discharging steam at the periphery of the rotary member, there being an outlet-opening for the exhaust-steam at the axis of the rotary member.

2. In an expansion-motor, a rotary member, a casing surrounding the rotary member, a tubular shaft on which the rotary member is fixed, there being passage-ways through the rotary member to conduct steam from the tubular shaft to the periphery of the rotary member, interfitting concentric annular flanges on the rotary member and on the casing, pockets formed in the meeting surfaces of the rotary member and the casing in which the steam is adapted to expand to produce rotation of the rotary member, there being a discharge-outlet for the exhaust-steam from the innermost pockets.

3. In an expansion-motor, a rotary member, a casing in which the rotary member is mounted, a face-plate for inclosing the rotary member within the casing, concentric tapering interfitting flanges on the casing and the rotary member, pockets formed on the meeting surfaces between the rotary member and the casing and the face-plate, a tubular shaft on which the rotary member is fixed, there being openings through the rotary member to conduct steam from the tubular shaft to the periphery of the rotary member and an outlet for the exhaust-steam leading from the innermost pockets, and means for detachably connecting the face-plate with the casing whereby wear between the parts may be compensated for.

4. In an expansion-motor, a rotary member, a casing inclosing the rotary member, a tubular shaft on which the rotary member is mounted, there being passage-ways leading from the tubular shaft through the rotary member and terminating in approximately tangential nozzles at the periphery of the rotary member, and pockets formed in the meeting faces of the rotary member and the casing from the periphery to near the axis of the rotary member, there being an outlet for the exhaust-steam leading from the innermost pockets.

5. In an expansion-motor, a rotary member, a casing inclosing the rotary member, a tubular shaft on which the rotary member is mounted, there being passage-ways leading from the tubular shaft to the periphery of the movable member, and series of V-shaped pockets formed in the meeting faces between the rotary member and the casing from the periphery to near the axis of the rotary member being so arranged as to avoid a through-passage between them at any time, there being a discharge for the exhaust pressure fluid leading from the innermost pockets.

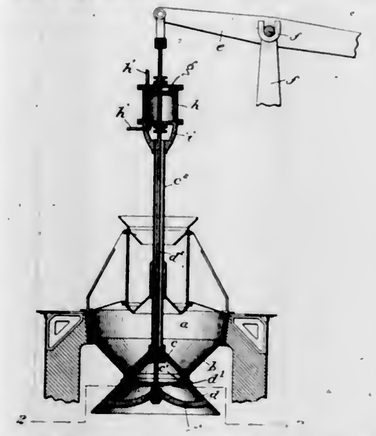
6. In an expansion-motor, a rotary member, a casing containing the rotary member, a face-plate for inclosing the rotary member within the casing, interfitting concentric flanges on the rotary member and the casing, a tubular shaft on which the rotary member is mounted, there being passage-ways leading from the tubular shaft and terminating in nozzles at the periphery of the rotary member with branch nozzles leading to the meeting face between the rotary member and the face-plate, and series of pockets formed in the meeting faces of the rotary member and the casing and the face-plate, there being a discharge-outlet leading from the innermost pockets between the rotary member and the casing and passage-ways leading from the innermost pockets between the rotary member and the face-plate to said discharge-outlet.

7. In an expansion-motor, a rotary member, a casing containing the rotary member, a face-plate inclosing the rotary member within the casing, a hub on the rotary member fitting in the face-plate, a tubular shaft passing through the face-plate and fixed to the rotary member, a packing-gland between the face-plate and the tubular shaft, interfitting concentric tapering flanges on the rotary member and the casing, there being passage-ways leading from the tubular shaft through the rotary member and terminating in nozzles discharging at the periphery of the rotary member with branch nozzles leading therefrom and discharging at the meeting face between the rotary member and the face-plate, series of V-shaped pockets formed on the meeting faces of the rotary member and the casing and the face-plate and being so arranged as to avoid through connection between them in any position of the rotary member, the end of the tubular shaft being closed and fitted in the casing and having discharge-openings formed therein to lead the exhaust pressure fluid from the innermost pockets between the rotary member and the casing, there being passage-ways leading from the innermost pockets between the rotary member and the face-plate and connecting with said discharge-openings, an exhaust-pipe connecting with the casing and adapted to receive the exhaust pressure fluid from the discharge-openings, and oil-cups on the casing and the face-plate having passages leading to the end of the tubular shaft and the hub of the rotary member respectively.

8. In an expansion-motor, a rotary member, a casing in which the rotary member is inclosed, concentric tapering interfitting flanges on the casing and the rotary member, pockets formed on the meeting surfaces between the rotary member and the casing, a tubular shaft for admitting pressure fluid to the pockets at the periphery of the rotary member, an exhaust-pipe for conducting the exhaust pressure fluid at the center of the casing, and a bushing threaded on the exhaust-pipe and in the casing adapted to engage the end of the tubular shaft for adjusting the position of the rotary member.

845,601. CHARGING APPARATUS. THOMAS F. WITHERBEE and JOHN G. WITHERBEE, Port Henry, N. Y. Filed Aug. 15, 1904. Serial No. 220,796.

Claim.—1. A charging device, comprising a hopper, a frusto-conical ring movable relatively thereto, a spreading-bell supported by said frusto-conical ring and depending therebelow, and mechanism connected with said frusto-conical ring for moving the same and said spreading-bell relatively to said hopper.



2. A charging device, comprising a bell, a ring located below the bell and having a seat for it, said bell and ring having a substantially continuous external conical surface, said bell being movable independently of the ring, and a spreader-bell mounted below said ring.

3. In a blast-furnace-charging apparatus, the combination of a lip-ring having a vertical wall at its lower end, a bell adapted to close the lower end of the lip-ring, and a ring located below the bell and adapted to coöperate with the same, said ring being provided with an inwardly-extending flange forming an obtuse angle with the vertical wall of the lip-ring, and constituting a seat for the bell, said flange being located below the bottom of said vertical wall, whereby materials discharged from the lip-ring will be thrown beyond the edge of the flange.

4. In a blast-furnace-charging apparatus, the combination of a bell, a ring, said bell and ring when the former is seated on the latter constituting a continuous distributing-bell, a hollow sleeve for operating the bell, a rod for operating said ring, a cylinder on said sleeve, and a piston on the rod in said cylinder.

5. In a blast-furnace-charging apparatus, the combination of a hopper, a lip-ring therefor having an open lower end, a bell adapted to close said lower end, a sleeve for vertically moving said bell, a conical ring below said lip-ring and registering with the lower edge of said bell, and a rod extending through said sleeve for reciprocating said ring.

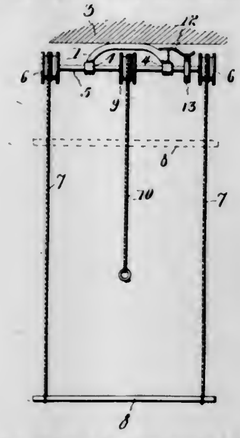
6. In a blast-furnace-charging apparatus, the combination of a hopper, a bell, a conical ring, said bell and ring constituting when secured together a continuous conical distributing-bell, a hollow sleeve for operating said bell, a rod for operating said ring, a cylinder on said sleeve, and a piston on said rod in said cylinder.

7. In a blast-furnace-charging apparatus, the combination of a hopper, a lip-ring having an open lower end, a bell closing said open lower end of the lip-ring, means for raising the bell to discharge the contents of the hopper into the center of the furnace, a conical ring, means for lowering the bell and conical ring simultaneously to direct the contents of the hopper around the furnace near the lining thereof, and a distributing-bell mounted at the center of the ring for further distributing the material discharged from the hopper when the first-mentioned bell is raised.

8. In a blast-furnace-charging apparatus, the combination of a lip-ring having an open end, a bell closing said open end, means for raising the bell to discharge the contents of the lip-ring into the center of the furnace, a ring, means for lowering the bell and ring simultaneously to direct the contents of the lip-ring around the furnace near the lining thereof, and a distributing-bell mounted below

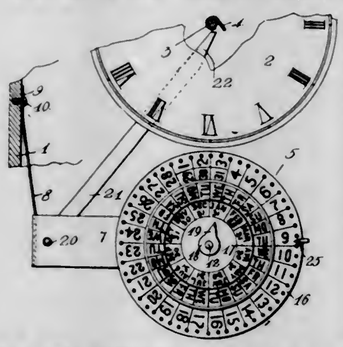
the ring for further distributing the material discharged from the hopper when the first-mentioned bell is raised.

845,602. SWING. SAMUEL W. WOMACK, Laramie, Wyo. Filed Apr. 26, 1906. Serial No. 313,901.



Claim.—In a swing, a bracket having a flat top and two downwardly-extending arms, each of which arms is provided at its end with a bearing and one of them is provided with a shoulder, a shaft in said bearings, three drums on said shaft, one at each end and one at the middle, a flexible member wound upon each drum, the one at the center being wound oppositely to those at the ends, a seat secured to the lower ends of said end members, a collar on the shaft, a spring secured at one end to said shoulder and having its free end resting upon said collar, and fastening means extending upwardly from the center of the flat surface of the bracket.

845,603. CALENDAR-CLOCK. JESSE L. WOODS, Balsora, Tex. Filed Mar. 8, 1906. Serial No. 304,942.



Claim.—1. The combination with a clock-casing and hour-hand shaft, of a supporting-frame mounted within said casing, a disk pivoted to said frame and provided with teeth, a calendar upon said disk, an angular lever pivoted to said frame and actuated by said hour-hand shaft, a pointer associated with said lever to coact with said calendar, a finger carried by said lever and engaging said teeth for rotating the disk, a spring upon said frame and engaged with said lever for returning the latter to its normal position, and a pawl pivoted upon said frame and adapted to engage said teeth to prevent retrograde movement of said disk, substantially as described.

2. The combination with a clock-casing and hour-hand shaft, of a supporting-frame, means for adjustably mounting the same within said casing, a disk pivoted upon said frame and formed in its edge with teeth, a calendar upon said disk, an angular lever pivoted to said frame and actuated by said hour-hand shaft, a pointer formed upon one end of said lever and adapted to coact with said calendar, a finger formed on said end of the lever and engaging said teeth for rotating said disk, a stop upon said frame to limit the movement of said lever, a spring attachment to said frame and having an angularly-bent end to engage said lever, a pawl or spring lever upon said frame and adapted to engage said teeth to prevent retrograde movement of said disk, and a stop upon said frame to hold said pawl or spring lever in position, substantially as described.

3. The combination with a clock-casing and hour-hand shaft, of a supporting-frame, means for adjustably mounting the same within said casing, a disk pivoted upon said frame and formed in its edges with teeth, a calendar upon said disk comprising a lower disk having day-spaces, an upper disk having week and month spaces and an outer disk provided with a pointer, an angular lever pivoted to said frame and actuated by said hour-hand shaft, a pointer formed upon one end of said lever and adapted to coact with said calendar, a finger formed on said end of the lever and engaging said teeth for rotating said disk, a stop upon said frame to limit the movement of said lever, a spring attached to said frame and having an angularly-bent end to engage said lever and hold said finger in engagement with said teeth, and a pawl or spring lever pivoted upon said frame and adapted to engage said teeth to prevent retrograde movement of said disk, and a stop upon said frame to hold said pawl or spring lever in position, substantially as described.

845,604. METHOD OF OBTAINING DISRUPTIVE OR EXPLOSIVE EFFECTS. WILLIAM O. WOOD, South Hetton, near Sunderland, England, and HANS KNUDSEN, Boston, Mass. Filed Nov. 13, 1903. Serial No. 181,089.



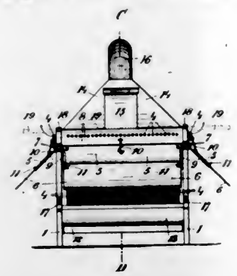
Claim.—1. A method of obtaining disruptive or explosive effects consisting in supplying liquid air or liquid gas to a burstable chamber, hermetically sealing the said chamber and vaporizing its contents solely by the heat abstracted from the surrounding substance in which the chamber is placed, substantially as described.

2. A method of obtaining disruptive or explosive effects consisting in charging a cooled burstable chamber with liquid air or liquid gas, then introducing it into the substance to be rended, then hermetically sealing said chamber and permitting it to abstract heat from the surrounding substance for vaporizing the contents of the chamber until the bursting pressure is reached, substantially as described.

845,605. PORTABLE DRYING-STOVE. SAMUEL ZWALINA, Meiningen, Germany. Filed June 14, 1906. Serial No. 321,775.

Claim.—1. A portable stove including a frame, a hollow tubular grating arranged within the frame for forming a fuel-basket, a cover for the frame having a charging-opening and an exhaust for the products of combustion, adjustable sections hingedly connected to the sides of the frame for forming flap-valves and adapted to entirely close the sides of the frame when brought to a closed position, means for locking the sections in a closed position and flues below the grating for admitting air thereto.

2. A portable stove including a support, a fuel-basket mounted thereon, a grate and ash-pit below the basket each of the same being removable, means for admitting air to the ash-pit, extensible sections hingedly associated with the support for closing the lateral walls of the basket, a crown above the basket and carried by the support, a charging-flue in communication with the crown and means for holding the sections in a closed position.



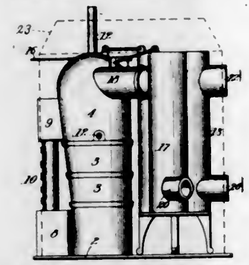
845,606. PROCESS OF HARDENING COPPER. ROSEMOND T. ANDERSON, Parkersburg, W. Va., assignor to Emmett Jefferson Anderson, trustee, Parkersburg, W. Va. Filed Mar. 29, 1906. Serial No. 308,772.

Claim.—1. The process of hardening copper which consists in subjecting it in a heated state to fumes of zinc and out of contact with the zinc from which the fumes arise.

2. The process of hardening copper which consists in disposing the copper between bodies of zinc and then heating the zinc to the point of volatilization and simultaneously heating the copper to a temperature sufficient to cause it to combine with the volatilized zinc.

3. The process of hardening copper which consists in disposing the copper between bodies of zinc in spaced relation thereto and subjecting the entire mass to a temperature sufficient to volatilize the zinc.

845,607. HOT-AIR FURNACE. LEMUEL J. BAIR, Strasburg, Pa. Filed Mar. 30, 1905. Serial No. 252,878.



Claim.—1. In a hot-air furnace, a fire-pot having one side convex and the opposite side concave, a combustion-chamber surmounting said fire-pot and being substantially of the same shape or outline in horizontal cross-section as the fire-pot, and a casing inclosing the fire-pot and combustion-chamber and affording an air-heating chamber, substantially as described.

2. In a hot-air furnace, a fire-pot three of whose sides are elliptical in outline, the fourth side being inwardly curved, a combustion-chamber surmounting said fire-pot and being substantially of the same shape or outline in horizontal cross-section as the fire-pot, and a casing inclosing the fire-pot and combustion-chamber, affording an air-heating chamber, substantially as described.

3. In a hot-air furnace, a fire-pot having one side convex and the opposite side concave, a combustion-chamber surmounting said fire-pot and being substantially of the same shape or outline in horizontal cross-section as the fire-pot, a radiating-drum of elongated form in cross-section situated on the concave side of the combustion-chamber, the longer diameter of said drum extending in a direction substantially at right angles to the longer diameter of the fire-pot and combustion-chamber, pipes connecting the said drum and combustion-chamber, and an outer inclosing casing, affording an air-heating chamber, substantially as described.

4. In a hot-air furnace, a fire-pot having one side convex and the opposite side concave, a combustion-chamber surmounting said fire-pot and being substantially of the same shape or outline in horizontal cross-section as the fire-pot, a radiating-drum situated on the concave side of the combustion-chamber, pipes connecting said radiating-drum and combustion-chamber, and an outer inclosing casing affording an air-heating chamber, substantially as described.

5. In a hot-air furnace, a fire-pot, three of whose sides are elliptical in outline, the fourth side being inwardly curved, a combustion-chamber surmounting said fire-pot and being substantially of the same shape or outline in horizontal cross-section as the fire-pot, an annular radiating-drum of elongated form in cross-section situated on the concave side of the combustion-chamber, the longer diameter of said annular drum extending substantially at right angles to the longer diameter of the fire-pot and combustion-chamber, pipes connecting the said drum and combustion-chamber, and an outer inclosing casing affording an air-heating chamber, substantially as described.

6. In a hot-air furnace, a fire-pot three of whose sides are elliptical in outline, the fourth side being inwardly curved, a combustion-chamber surmounting said fire-pot and being substantially of the same shape or outline in horizontal cross-section as the fire-pot, an annular radiating-drum of elongated form in cross-section extending from the inwardly-curved side of the fire-pot and combustion-chamber with its longer diameter substantially at right angles to the longer diameter of the fire-pot and combustion-chamber, and two auxiliary radiating-drums connected at their upper ends by pipes to the upper end of the combustion-chamber and at their lower ends to opposite sides of the radiating-drum, and a circular outer inclosing casing; substantially as described.

7. In a hot-air furnace, a fire-pot three of whose sides are elliptical in outline, the fourth side being inwardly curved, a combustion-chamber surmounting said fire-pot and being substantially of the same shape or outline in horizontal cross-section as the fire-pot, an annular radiating-drum of elongated form in cross-section extending from the inwardly-curved side of the fire-pot and combustion-chamber with its longer diameter substantially at right angles to the longer diameter of the combustion-chamber and fire-pot and having division plates at its ends extending between the inner and outer walls thereof, and two auxiliary radiating-drums connected by pipes at their upper ends to the upper end of the combustion-chamber and at their lower ends to opposite sides of the radiating-drum, and a circular outer inclosing casing; substantially as described.

845,608. CORK-PULLER. HARRY BITNER, Berwyn, Ill., assignor to Arcade Manufacturing Company, Freeport, Ill., a Corporation of Illinois. Filed Jan. 20, 1905. Serial No. 241,951.

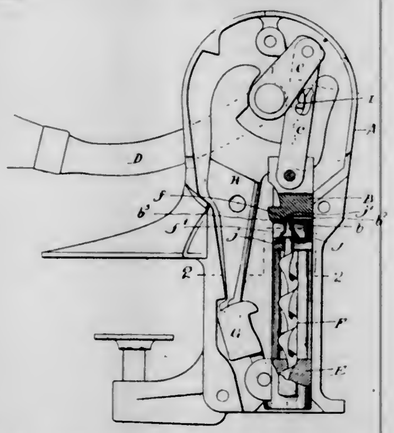
Claim.—1. In a device of the class described, the combination with a longitudinal guide, a corkscrew-carrier, a worm, and a nut threaded to embrace the worm, of a removable bearing for the upper extremity of the worm, adapted to occupy a suitable chamber in the corkscrew-carrier and to be removed from said chamber while secured to the worm.

2. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a bearing for the upper extremity of the worm, secured to said worm and adapted to be placed in and removed from a chamber provided in the corkscrew-carrier, while secured to the worm.

3. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a bearing-clip secured to the head of the worm and adapted to be

inserted in and removed from a suitable chamber in the corkscrew-carrier.

4. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a U-shaped bearing-clip having a perforation in one leg through which the worm can be threaded to bring the head thereof within the clip, said clip being adapted to be inserted in place in a suitable chamber in the corkscrew-carrier.



5. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a U-shaped bearing-clip having a perforation in one leg through which the worm can be threaded to bring the head thereof within the clip, said clip being adapted to be inserted in place in a suitable chamber in the corkscrew-carrier, the worm passing through a notch in the bottom of the chamber.

6. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a U-shaped bearing-clip arranged to embrace the head of the worm, the upper leg thereof having a socket for the head, said clip being adapted to be inserted in a suitable chamber in the corkscrew-carrier.

7. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a U-shaped bearing-clip arranged to embrace the head of the worm, the upper leg thereof having a socket for the head, said clip being adapted to be inserted in a suitable chamber in the corkscrew-carrier, the socket in said clip passing along a groove in the upper face of said chamber.

8. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a U-shaped spring-clip having a socket in its upper leg and a perforation in line with the socket in the lower leg, the worm being adapted to be threaded through the perforation and snapped into place in the socket, the clip being adapted thereupon to be placed in a suitable chamber in the corkscrew-carrier, the worm passing through a notch in the bottom of the carrier and the socket running along a groove.

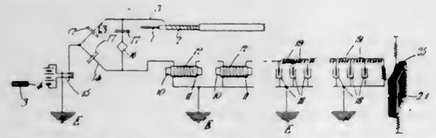
9. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a U-shaped spring-clip having a socket in its upper leg and a perforation in line with the socket in the lower leg, the worm being adapted to be threaded through the perforation and snapped into place in the socket, the clip being adapted thereupon to be placed in a suitable chamber in the corkscrew-carrier, the worm passing through a notch in the bottom of the carrier and the socket running along a groove, and a shoulder arranged to engage the clip to limit its inward movement.

10. In a device of the class described, the combination with a substantially inclosed guideway, a nut and corkscrew-carrier movable in the guideway and a worm threaded in the nut, of a U-shaped bearing-clip embracing the head of the worm and lying within a chamber in the corkscrew-carrier, said clip being held in place by engagement with the walls of the guide.

11. In a device of the class described, the combination with a substantially inclosed guide, a nut and corkscrew-carrier movable in the guide and a worm threaded in the nut, of a U-shaped bearing-clip having a socket in its upper leg and a perforation in its lower leg embracing the head of the worm, the worm being adapted to be threaded through the perforation and snapped into place in the socket, said clip lying in a chamber in the corkscrew-carrier and held in place by engagement with the wall of the guideway, said clip and worm being adapted to be removed sidewise from the corkscrew-carrier.

12. As an article of manufacture a worm provided with an attached bearing in the form of a U-shaped clip, one of the legs of which is perforated for the passage of the worm and the other of which is provided with a socket for the head of the worm.

845,609. ELECTRIC CONDUCTOR. SIDNEY G. BROWN, London, England. Filed June 16, 1902. Serial No. 111,964.



Claim.—1. In an electric cable or line, the combination of a magnetic core, a spirally-wound conductor surrounding said core, material for insulating the turns of said conductor from one another, a covering of insulating substance surrounding said insulated conductor, and an artificial line included in the circuit of said cable or line and comprising a cardboard core, an insulated earth-plate surrounding said core, and a spirally-wound insulated conductor surrounding said earth-plate, substantially as and for the purpose specified.

2. In an electric cable or line, the combination of a magnetic core, a spirally-wound conductor surrounding said core, material for insulating the turns of said conductor from one another, a covering of insulating substance surrounding said insulated conductor, and an artificial line included in the circuit of said cable or line and comprising a cardboard core, an insulated longitudinally-split tin plate connected to earth and surrounding said core, and a spirally-wound insulated tin-foil conductor surrounding said earth-plate, substantially as and for the purpose specified.

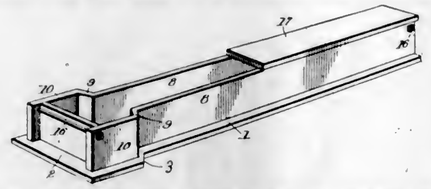
3. The combination of a cable having balanced capacity and self-induction, and an artificial cable comprising a core, an earth-plate, and a self-inductively-wound resistance surrounding but insulated from said earth-plate, substantially as described.

4. The combination of a cable having balanced capacity and self-inductance and an artificial line having an earth-plate and a spirally-wound insulated conductor surrounding the same, substantially as described.

5. The combination of a cable having capacity and self-inductance, and an artificial line having an earth-plate and a spirally-wound conductor surrounding the same.

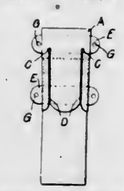
845,610. CEMENT-MOLD. SANFORD T. BUCKLAND, Hebron, Ohio. Filed Mar. 21, 1906. Serial No. 307,247.

Claim.—A fence-post mold comprising a bottom member provided with an enlarged end forming oppositely-disposed shoulders and having eyes along each side, including its enlarged portion, and also at each end, side members each bent at one end to form a shoulder conforming to the shape of the shoulder formed by the enlarged end of the bottom member and each side being provided with projections for detachable engagement in said side eyes, end members each having a projection for engagement of the corresponding end eyes, the engagement of the projections



of the sides in the eyes holding the sides in operative position, a bolt passed through each end of the side members and disposed against the end members to prevent the latter from falling out of operative position, and a top member forming one face of the mold.

845,611. HOLDER FOR CARTRIDGES. JOHN J. BURNETT and CHARLES BUBEAR, Wellington, England. Filed July 12, 1906. Serial No. 325,890.



Claim.—1. The combination of a conical spring-holder formed of spring metal, bent into a circle with bands of metal near the top and bottom riveted thereto on each side of the joint, and having means for attachment to a band, belt or clothing, substantially as described.

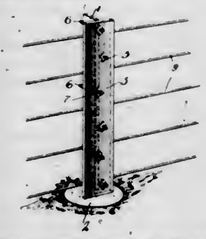
2. As a new article of manufacture, a spring-metal holder for cartridges, comprising an upper substantially cylindrical body portion; and a series of tongues extending downwardly from said body portion and substantially all around the same, the tongues inclining gradually inward from the upper to the lower ends thereof, whereby a cartridge slightly less in diameter than the interior of the body portion will be held by the tongues at the upper portion thereof but may be forcibly withdrawn downwardly between said tongues to remove it from said holder.

3. As a new article of manufacture, a cartridge-holder, comprising an upper cylindrical portion formed of spring metal; a series of springs stamped out of the body of said cylindrical portion and bent inwardly therefrom; and a series of substantially straight tongues extending downwardly from the lower portion of the cylindrical body, said tongues being bent inward from the upper to the lower portions thereof, whereby a cartridge may be held in the holder, being prevented from moving upward from the same by the inwardly-projecting springs, but being free to be moved downward from between the tongues by a pull upon the lower end of the cartridge.

4. As a new article of manufacture, a cartridge-holder comprising a cylindrical body portion provided with means for preventing the upward movement therethrough of a cartridge which has been passed into the same; and spring retaining devices extending downwardly from the lower portion of said cylindrical body for holding the cartridge in place until forcibly withdrawn downwardly from between said spring retaining devices.

845,612. FENCE-POST. ANDREW J. CALDWELL, Exline, Iowa. Filed Dec. 18, 1906. Serial No. 348,430.

Claim.—1. In a fence-post, the combination of a vertical, stationary, flat section, a removable section contiguous to said vertical section, said removable section provided with apertures arranged in a zigzag line longitudinally thereof, bolts extending through the apertured portions of said removable section and positioned upon opposite sides of said stationary section, substantially U-shaped hooks positioned over the outer vertical edges of the stationary section and integral at one of their ends with the bolts and the outer ends left free, and nuts threaded upon one of the ends of said bolts for clamping the removable section and the substantially U-shaped hooks upon the stationary section.



2. A fence-post, comprising a stationary and a removable section, bolts positioned in a zigzag line longitudinally of the removable section and upon opposite sides of the stationary section, each bolt provided at its outer end with an extension engaging the outer, vertical edge of the stationary section, and locking means carried by the inner ends of the bolts for clamping the extensions of said bolts and the removable section upon the stationary section.

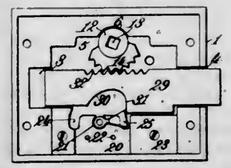
3. A fence-post, comprising a stationary section, a removable section contiguous to the stationary section, said removable section provided only with a line of zigzag apertures, members provided with hooked ends, passed through said apertures, the hooked ends engaging one edge of the stationary section, and said members securing said sections together.

4. A fence-post, comprising a stationary and a removable section, said removable section contiguous to one of the vertical edges of the stationary section, and fastening means positioned only in a zigzag line longitudinally of and extending through said removable section and engaging one of the edges of the stationary section and securing said sections together.

5. A fence-post, comprising a flat, stationary section, a removable section positioned contiguous to one of its vertical edges, and fastening means positioned alternately upon opposite sides of the stationary section and extending only in a zigzag line longitudinally of said removable section and engaging the outer, vertical edge and securing the removable section contiguous to the opposite vertical edge of the stationary section.

6. A fence-post comprising a vertical, stationary section, a vertical removable section positioned across one of the edges of said stationary section, and fastening means arranged alternately upon opposite sides of said stationary section and extending in a zigzag line longitudinally of said removable section and engaging the outer vertical edge of said stationary section for securing said sections together.

845,613. LOCK. YANCEY Q. CALDWELL, Paris, Penn. Filed Mar. 17, 1906. Serial No. 306,623.



Claim.—1. In a lock, the combination of a casing, a springless bolt slidably mounted in the casing and having teeth in the intermediate portion of the upper edge thereof, a slot in the lower edge directly under the teeth, the slot having a front vertical wall, a knob-spindle carrying a

toothed segment held in continual mesh with the teeth of the upper edge of the bolt, and a reversely-movable key-operated bolt-controller to engage the slot in the lower edge of the bolt and operating to draw the bolt into the casing in its releasing movement, the controller engaging a portion of the front vertical wall of the slot to hold the bolt in immovable locking position and also completely clearing the bolt when the latter is released.

2. In a lock, the combination of a casing, a springless bolt slidably mounted in the casing and having a lower slot with a front vertical wall, the front wall of the slot depending below the rear wall of the same, and a key-operative controller disposed to engage the slot of the bolt and operating to lock the latter when projected by movement of the controller in one direction and releasing and indrawing the bolt by a movement of the controller in an opposite direction.

3. In a lock, the combination of a casing, a springless bolt slidably mounted therein and provided with teeth in the intermediate portion of the upper edge thereof, and a slot in the lower portion directly under the teeth, the front wall of the slot being extended downwardly below the rear wall of the same, a knob-spindle carrying a toothed segment to engage the teeth of the bolt, and a tumbler movable in opposite directions and disposed to engage the slot in the lower portion of the bolt to either lock the latter when in projected position or release said bolt, said tumbler being adapted to be engaged by a key having a reduced stem to enter a part of the tumbler, and a bit to coöperate with the remaining part of said tumbler.

4. In a lock, the combination of a casing, a springless bolt slidably mounted in the casing and having teeth in the upper edge thereof, and a slot in the lower portion immediately below the teeth, the said slot having a front wall depending below the rear wall thereof, a knob-spindle carrying a toothed segment continually held in mesh with the teeth in the upper edge of the bolt, and a key-operated segmental tumbler movable in opposite directions and disposed to enter the slot of the bolt and engage the front depending wall of the said slot to hold the bolt in locked position, the tumbler being cleared from the slot when the bolt is withdrawn or released.

5. In a lock, the combination of a casing, a springless bolt slidably mounted in the casing, a partition in the lower part of the casing having a central seat, a bolt-controller having a knuckle rotatably disposed in said seat and a segmental member to engage the bolt, said controller adapted to be operated by a key engaging both the knuckle and the segmental member.

6. In a lock, the combination of a casing, a springless bolt slidably mounted in the casing, a partition in the lower part of the casing having a seat therein and recesses on opposite sides of the seat, a bolt-controller having a tubular knuckle to engage the seat, and a slotted segmental member movable in opposite directions and disposed to contact with the under portion of the bolt, and a key having a reduced stem to fit in the knuckle and a bit with a projection to engage the said segmental member of the controller.

7. In a lock, the combination of a casing, a springless bolt slidably mounted therein and having a slot in the lower edge thereof, a tumbler movably held to engage the slot of the bolt and shiftable in opposite directions in an arcuate path, the free end of the tumbler being adapted to bear against the front wall of the slot of the bolt to lock the latter in projected position, said tumbler being also adapted to have its opposite side edges engaged by a key, and pins located in opposite positions with relation and adjacent to the fulcrum of the tumbler and projecting in the direction of the path of movement of the bit of the key to prevent the insertion of any key other than that particularly prepared for operating the tumbler.

845,614. POT-HEAD. WILLIAM CALLAHAN, South Bend, Ind. Filed May 10, 1905. Serial No. 259,719.

Claim.—1. A pot-head embodying a box having compartments, wires issuing from one of the compartments of the pot-head, a cable issuing from another compartment of the pot-head and joined to said wires with the joint disposed within the last-mentioned compartment.

2. A pot-head embodying a box having partitions extending from each end thereof and terminating short of the opposite ends of the box, and wires extending around the ends of the partitions and issuing from the ends of the box.



3. A pot-head embodying a box having a perforated bottom, a partition extending from the top of the box and terminating short of the perforated bottom, a partition extending from the bottom of the box and terminating short of the top thereof, and wires disposed between the partitions, extending around the ends of the latter and issuing from the end of the box.

4. A pot-head embodying a box having compartments, an underground cable terminating in one of said compartments, connecting-wires joined to the underground cable in said compartment and extending through the other compartments, a suitable composition in the first-mentioned compartment, surrounding the joint of said wires and cable, and a perforated bottom for said other compartment.

5. The combination with a distribution-box for overhead wires, of a pot-head having its upper end extending into the bottom of the distribution-box, a cable entering the bottom of the distribution-box, and wires joined to the cable and disposed in a plurality of folds within the pot-head and finally issuing from the end that enters the box.

6. A pot-head embodying a box having compartments, an underground cable terminating in one of said compartments, and overhead wires joined to the underground cable in said compartment and extending through the other compartments.

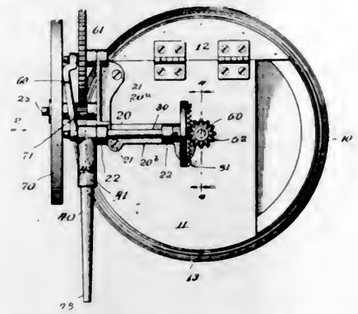
7. A pot-head embodying a box having partitions extending from opposite ends thereof to form compartments, and wires extending through said compartments and issuing from the end of the box.

8. A pot-head embodying a box having compartments, wires issuing from one of said compartments, a cable issuing from another compartment and joined to the said wires at a point within the box.

845,615. GEARING FOR WASHING-MACHINES. ANDREW B. CHRISTENSEN, Chicago, Ill., assignor to The Thistle Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed Dec. 14, 1906. Serial No. 347,744.

Claim.—1. In a device of the class described, the combination with a beater-shaft and a rock-shaft connected thereto, of an operating-lever arranged to rock said rock-shaft, a fly-wheel and connections between the operating-lever and fly-wheel independent of said rock-shaft, adapted to transform the oscillatory movement of the operating member to a continuous rotary movement of the fly-wheel.

2. In a device of the class described, the combination with a beater-shaft and rock-shaft geared thereto, of an operating-lever arranged to rock said rock-shaft, a fly-wheel, and connections between the operating-lever and fly-wheel independent of said rock-shaft for transmitting the oscillatory movement of the operating-lever to a continuous rotary movement of the fly-wheel.



3. In a device of the class described, the combination with a beater-shaft and rock-shaft geared thereto, of an operating-lever secured to the rock-shaft and adapted to rock the same, an arm upon said operating-lever, a fly-wheel, and connections between said arm and fly-wheel independent of said rock-shaft adapted to transform the oscillatory movement of the arm to a continuous rotary movement of the fly-wheel.

4. In a device of the class described, the combination with a beater-shaft and rock-shaft geared thereto, of a bell-crank rocker member arranged to impart a rocking movement to the rock-shaft, a fly-wheel, gearing for rotating said fly-wheel at a high rate of speed as compared with the speed of the rock-shaft, and a pitman connecting said rocker member with said gearing independent of said rock-shaft and arranged to transform the oscillatory movement of the rocker member to a continuous rotary movement of the fly-wheel.

5. In a device of the class described, the combination with a beater-shaft and a rock-shaft geared thereto, of a fly-wheel a rocker member arranged to rock said rock-shaft and means of connection independent of said rock-shaft between said rocker member and the fly-wheel arranged to transform the oscillatory movement of the rocker member to a continuous rotary movement of the fly-wheel.

6. In a device of the class described, the combination with a beater-shaft and a rock-shaft geared thereto, of a rocker member for said rock-shaft, a fly-wheel, a gear-wheel geared thereto and a pitman connecting said gear-wheel with the rocker member and adapted to transform the oscillatory movement of the rocker member to a continuous rotary movement of the fly-wheel.

7. In a device of the class described, the combination with a bracket having laterally-projecting studs, of a beater-shaft and rocker-shaft journaled therein, connections between said shafts, a rocker member arranged to impart a rocking movement to said rock-shaft, a fly-wheel journaled upon one of said studs and carrying a pinion, a gear-wheel journaled upon the other stud and a pitman connecting the rocker with said gear-wheel.

845,616. SOLVENT AND PROCESS OF PREPARING SAME. HARRY O. CHUTE, Cleveland, Ohio. Filed Jan. 14, 1907. Serial No. 352,268.

Claim.—1. As a new composition of matter, a compound solvent comprising methyl acetate and a protective solvent.

2. As a new composition of matter, a compound solvent comprising methyl acetate and a ketone.

3. As a new composition of matter, a compound solvent comprising methyl acetate and an acetone.

4. As a new composition of matter, a compound solvent comprising methyl acetate and methyl acetone.

5. As a new composition of matter, a compound solvent comprising an acetic ester and methyl acetone.

6. The process of preparing a compound solvent which consists in mixing methyl acetate with a protective solvent.

7. The process of preparing a compound solvent which consists in fractionating wood-spirit, reserving the low-boiling portion, converting the residue into methyl acetate and mixing the methyl acetate with the stated low-boiling fraction in desired proportions.

845,617. EXPANDED-METAL MANUFACTURE. NORRIS E. CLARK, Plainville, Conn. Filed June 5, 1906. Serial No. 320,254.



Claim.—1. A method of expanding metal, which includes slitting a strip, forming it into a tube, and expanding it while in tubular form.

2. A method of expanding metal, which includes drawing a tube of slitted metal over an expanding-mandrel having a continuous bearing-surface.

3. A method of forming expanded metal, which includes expanding a slitted tube, opening the tube, and corrugating the product.

4. A method of forming expanded metal, which includes expanding a slitted tube of metal, opening the tube, and flattening the product.

5. A method of expanding metal, which includes expanding a slitted tube, opening the tube, flattening the expanded sheet, and corrugating the flattened sheet.

6. A method of expanding metal, which includes forming a double thickness of slitted metal, expanding both thicknesses of metal simultaneously, and separating the two thicknesses.

7. A method of expanding metal, including forming a tube of slitted metal and drawing the tube over a curved continuous expanding-surface.

8. A method of expanding metal, which comprises subjecting a tube of longitudinally-slitted metal to gradually-increasing internal pressure to separate the strands and form openings.

9. A method of expanding metal, including slitting the metal longitudinally, flattening it, forming it into a tube, and expanding the tube.

10. A method of expanding metal, including slitting the metal longitudinally, flattening it, forming it into a tube, expanding the tube, and flattening the expanded product.

11. A method of expanding metal, including slitting the metal longitudinally, flattening it, forming it into a tube, expanding the tube, and flattening and corrugating the expanded product.

12. A method of expanding metal, which includes fastening together a plurality of slitted strips of metal superimposed upon one another, simultaneously expanding the strips, and then separating the expanded sheets.

13. A method of expanding metal, including temporarily fastening together the edges of a sheet or sheets of slitted material, expanding the sheet or sheets, and then separating the edges.

14. A method of expanding sheet metal, which includes drawing a tubular slitted sheet of metal over a gradually-tapered mandrel.

15. A method of expanding metal, which comprises drawing a sheet of slitted stock over a smooth substantially continuous bearing-surface increasing in area in proportion to the expansion of the metal.

16. A method of expanding metal, which comprises subjecting the entire area of a sheet of slitted stock to the same ultimate pressure and substantially at right angles to its surface.

17. A method of expanding sheet metal which comprises slitting the stock, flattening the slitted stock, forming it into a tube and then expanding the slitted tube.

18. A method of expanding sheet metal, which comprises slitting the stock, flattening the slitted stock, tubing it, expanding the slitted tube and then flattening the expanded sheet.

19. A method of expanding sheet metal, which comprises slitting the stock, flattening the slitted stock, tubing it, expanding the tube and then corrugating the expanded sheet.

20. A method of expanding sheet metal which comprises slitting the stock, flattening the slitted stock, forming it into a tube, expanding the tube, flattening the expanded sheet, and corrugating the flattened sheet.

21. A method of expanding sheet metal, including drawing a tube of slitted metal over a mandrel having a gradually-increasing surface area.

22. A method of expanding metal which includes forming a tube of slitted metal drawing the tube over an expanding-mandrel and opening the expanded tube.

23. A method of forming expanded metal which includes forming a tube of slitted metal, expanding the tube, opening the expanded tube and flattening the product.

24. A method of expanding metal which includes forming a tube of metal with longitudinally-arranged slits, subjecting the tube to internal pressure to separate the strands and form openings and then opening the tube.

25. A method of expanding metal, which includes slitting a strip of metal, forming it into a tube, expanding the tube and flattening the product.

26. A method of expanding sheet metal, which includes slitting a strip of metal, arching the slitted strip, then forming it into a tube, and then expanding the tube.

27. A method of expanding metal, which includes slitting a strip, then arching it, then tubing it, expanding the tube and opening the expanded tube.

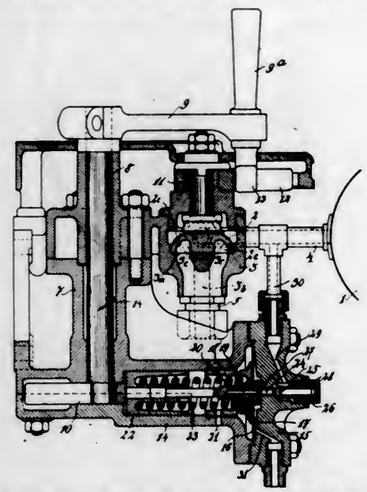
28. A method of expanding metal, which includes slitting a strip, then rolling it, then tubing it, expanding the tube, opening the expanded tube and flattening the product.

29. A method of expanding metal, which includes slitting a strip of metal, forming it into a tube and drawing the tube over an expanding-mandrel.

30. A method of forming expanded metal, which includes slitting a strip of metal, forming it into a tube, expanding the tube, opening the expanded tube and flattening the product.

845,618. AUTOMATICALLY-OPERATED LIQUID-RHEOSTAT. COLOMAN DE KANDO, Budapest, Austria-Hungary, assignor, by mesne assignments, to Westinghouse Machine Company, a Corporation of Pennsylvania. Filed May 6, 1905. Serial No. 259,245.

Claim.—1. A liquid-rheostat having a plurality of liquid-containing chambers, a connection between the air-spaces of said chambers above the maximum liquid-level therein, a valve controlling said connection, and means for actuating said valve to open and close the communication between the air-spaces of said chambers.



2. A rheostat having a plurality of liquid-containing chambers, a connection between said chambers, a valve for said connection, and fluid-pressure means adapted to operate said valve to close the connection between said chambers.

3. A rheostat comprising a plurality of liquid-containing chambers, a connection between said chambers, the liquid of said chambers being normally at the same level, means for cutting off the communication between said chambers, and means for varying the height of the liquid within said chambers.

4. The combination of a liquid-rheostat having a plurality of connected chambers, a reservoir containing a supply of compressed air, a connection between said reservoir and rheostat, a valve for controlling the connection between the chambers, a valve for controlling the admission of air to the rheostat from the reservoir, and a float device operated by the rise and fall of the liquid in the rheostat adapted to actuate said controlling-valve and said air-admitting valve.

5. The combination of a liquid-rheostat having a plurality of chambers, a valve controlling the connection between said chambers, a starting device admitting the compressed air to the rheostat, a throttle-valve controlling the admission of said compressed air, and an electromagnetic device, regulated by said rheostat adapted to close the throttle-valve against the pressure of the admitted compressed air.

6. In combination with a liquid-rheostat, a reservoir of compressed air, means for admitting compressed air to said rheostat when the pressure therein falls below a stated pressure, and for permitting the escape of compressed air therefrom when the pressure rises above a stated pressure.

7. In combination with a liquid-rheostat having a plurality of chambers and a reservoir of compressed air, means for admitting air to said rheostat and closing communication between said chambers when the pressure therein is below a stated pressure, and for permitting the escape of compressed air therefrom when the pressure rises above a stated pressure.

8. In combination with a liquid-rheostat and a reservoir of compressed air, of a float and mechanism operated by the float for admitting compressed air to said rheostat when the pressure therein is below a stated pressure and for permitting the escape of compressed air therefrom when the pressure is above a stated pressure.

9. In combination with a liquid-rheostat and a reservoir of compressed air, a float, a rocker-arm operated by said float, a plurality of valves operated by said rocker-arm to admit compressed air to said rheostat when the pressure therein is below a stated pressure, and to permit the escape of air from said rheostat when the pressure is above a stated pressure.

10. In combination with a liquid-rheostat, a reservoir of compressed air, a slide-valve alternately connecting said rheostat with the air and with said reservoir, a cam mechanism attached thereto, mechanism for variably throttling the admission of compressed air to said rheostat, a controller-handle and mechanism operated by said handle whereby, on the movement thereof, said cam mechanism is operated to control the position of said slide-valve and on further movement thereof said mechanism variably throttling the supply of compressed air, is operated.

11. In combination with a liquid-rheostat, a reservoir of compressed air, a slide-valve alternately connecting said rheostat with the air and with said reservoir, a cam mechanism connected with said valve, a cam for operating mechanism for variably throttling the admission of compressed air to said rheostat, and a controller-handle actuating both of said cam mechanisms.

12. In combination with a liquid-rheostat and a reservoir of compressed air, a controller-handle provided with a projection engaging with mechanism for operating the valve controlling communication between said reservoir and said rheostat, said controller being provided with a cam mechanism controlling the operation of mechanism for variably throttling the admission of compressed air to said rheostat.

13. In combination with a liquid-rheostat containing a plurality of chambers and a reservoir of compressed air, of a valve automatically closing communication between said chambers when compressed air is admitted to the rheostat, a float and mechanism operated by the float to establish communication between said chambers when the float assumes a given position.

14. In combination with a liquid-rheostat having a plurality of chambers, a float, mechanism operated by said float automatically admitting compressed air to the rheostat when the float is in one position, the communication between said chambers being at that time interrupted, and permitting the escape of air from said chamber when the float is in another position.

15. In combination with a liquid-rheostat having a plurality of chambers and a reservoir of compressed air, a float, a rocker-arm connected with said float, which arm in one position opens communication between the reservoir and the rheostat while interrupting communication tween the said chambers, and in another position establishes communication between said chambers.

16. In combination with a liquid-rheostat a reservoir of compressed air, means for admitting air to said rheostat when the level of liquid therein falls below a stated level and for permitting the escape of compressed air therefrom when the level of liquid rises above a stated level.

17. In combination with a liquid-rheostat having a plurality of chambers and a reservoir of compressed air, means for admitting air to said rheostat and closing communication between said chambers when the level of liquid therein is below a stated level, and for permitting the escape of compressed air therefrom when the level of liquid rises above a stated level.

18. The combination with a liquid-rheostat and a reservoir of compressed air, of a float and mechanism operated by the float for admitting compressed air to said rheostat when the level of liquid therein is below a stated level and for permitting the escape of compressed air therefrom when the level of liquid is above a stated level.

19. In combination with a liquid-rheostat and a reservoir of compressed air, a float, a rocker-arm operated by said float, a plurality of valves operated by said rocker-arm to admit compressed air to said rheostat when the level of liquid therein is below a stated level, and to permit the escape of air from said rheostat when the level of liquid is above a stated level.

20. A liquid-rheostat having a plurality of liquid-containing chambers, a connection between said chambers, a main valve and a supplemental valve controlling said connection, and means for actuating both said valves to open and close said communication.

21. A liquid-rheostat having a plurality of liquid-containing chambers, a connection between said chambers, a main valve and a supplemental valve controlling said connection, said main valve being controlled by air-pressure and said supplemental valve being controlled by the level of the liquid within said chamber.

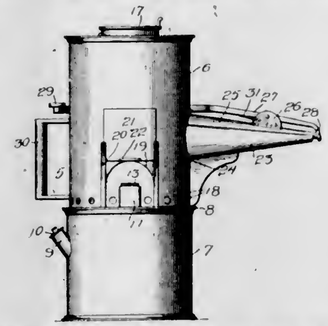
22. A liquid-rheostat, a reservoir containing a supply of compressed air, a connection between said reservoir and said rheostat, a main valve and a supplemental valve controlling said connection, and means for operating both said valves to open and close said connection.

23. A liquid-rheostat, a reservoir containing a supply of compressed air, a connection between said reservoir and said rheostat, a main valve and a supplemental valve, means operated by the level of liquid in the rheostat for controlling both said valves.

24. A liquid-rheostat, a reservoir containing a supply of compressed air, an exit for the compressed air from said rheostat, main valves controlling the entrance and exit of compressed air to and from the rheostat, and supplemental valves controlled by the level of the fluid in the rheostat for automatically maintaining said level substantially constant.

845,619. SEALING DEVICE. MATHEW G. DE WOLFF, Tampico, Mexico. Filed Jan. 24, 1906. Serial No. 297,697.

Claim.—1. A device of the class described comprising



a receptacle, a spout leading from one side of said receptacle, a heater arranged to heat said receptacle, and means for conducting the heat from said heater to said spout.

2. A device of the class described comprising a receptacle, a spout leading from said receptacle, a flue located beneath said spout and partially inclosing the same, and a heater arranged to heat said receptacle and for the passage of the heat through the flue.

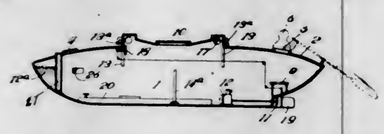
3. A device of the class described comprising a receptacle, a spout having communication with said receptacle, a second spout arranged below said first-named spout and arranged for the passage of air therethrough, and means for heating said receptacle and said last-named spout.

4. A device of the class described comprising a receptacle, a spout leading from one side of said receptacle, a handle located at opposite sides of said receptacle, a lever pivoted to the spout and extending around said receptacle with one of its ends located adjacent said handle, said lever being provided at its operate end with a plate to close said spout.

845,620. LIFE-BOAT. GEORGE O. DITTON, Lanoka, N. J., assignor of one-half to Eugene A. Rumsey, Philadelphia, Pa. Filed May 23, 1906. Serial No. 318,365.

Claim.—1. In a life-boat comprising a hull, an inclosing deck therefor, air-pipes for supplying air to the in-

terior of the boat and leading from a point exterior thereto through the interior of the boat to the exterior, valve means for cutting off communication of the air-pipes with the interior of the boat, and other valve means for permitting water entering the air-pipes to pass therefrom.

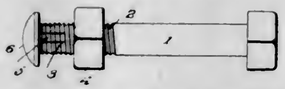


2. In a life-boat comprising a hull, an inclosing deck therefor, air-pipes for supplying air to the interior of the boat and having the opposite ends thereof leading through the hull and deck of said boat, valve means for governing the passage of air from the air-pipes to the interior of the boat and adapted to cut off such supply of air, other valve means for closing the outlet end of each air-pipe when the air is being supplied to the interior of the boat by said pipe, the last-mentioned valve means, however, being operable to open the outlet end of each air-pipe and permit of escape of water which may be received in said air-pipe.

3. In a life-boat comprising a hull, an inclosing deck therefor, the air-pipes 13 for supplying air to the interior of the boat and having the opposite ends extended through the deck and hull of the latter, the upper end of each air-pipe 13 being extended downwardly and provided with an upwardly-seating valve for the purpose specified, the valve 16 arranged intermediate of the ends of each air-pipe and governing the supply of air to the air-pipe and the interior of the boat, and the valve 15 located in the length of the pipe 13 between the lower end of the latter and the valve 16, said valve 15 being closed when air is being admitted by the valve 16 to the interior of the boat, the valve 15 being opened when the valve 16 is closed to permit passage of water from the pipe 13.

4. In a life-boat comprising a hull, an inclosing deck therefor, water-tanks at the bottom of the hull and at opposite sides of a longitudinal line medially thereof and constituting displaceable ballast, valve means for supplying water to the tanks, and valved outlet-pipes for the tanks, the valves for the outlet-pipes being independently operable to effect displacement of the water from either tank to cause righting of the boat after capsizing of the same.

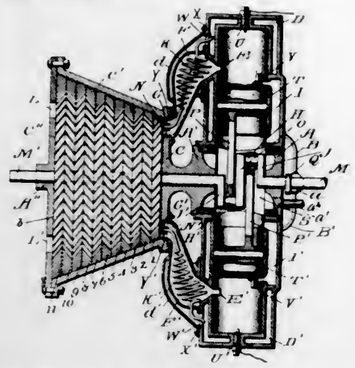
845,621. NUT-LOCK. LOUIS E. DORON, Thayer, Kans. Filed Nov. 10, 1906. Serial No. 342,877.



Claim.—A nut-lock consisting of a bolt having the usual threaded portion, a nut screwed thereon, the threaded portion of the bolt being formed with a longitudinal slot terminating a distance from the inner termination of said threaded portion of the bolt, a key of a width equal to the diameter of and inserted in the slot aforesaid and having thread-sections at its opposite longitudinal edges adapted to be engaged by the nut upon reverse movement of the latter, said key being formed with a head at its outer end adapted to project laterally from the threaded end of the bolt to engage the outer side of the nut to prevent displacement of the latter.

845,622. GAS TURBINE-ENGINE. ANDREW DU SHANE, South Bend, Ind. Filed June 13, 1904. Serial No. 212,416.

Claim.—1. The combination with a gas-engine having a cooling-jacket therefor, of a turbine, a conduit between the exhaust-port of the gas-engine and intake-port of the turbine, and a separate conduit passing through said first conduit and forming a communication between said cooling-jacket and turbine intake-port.



2. The combination with an internal-combustion engine of a turbine mounted on the crank-shaft thereof, a casing connecting the exhaust-port of the combustion-engine with the intake-port of the turbine, a coiled pipe within said casing having an open end at said intake-port, and means for forcing water into said pipe, substantially as described.

3. The combination with an internal-combustion engine and jacket therefor, of a turbine mounted on the crank-shaft thereof, a casing connecting the exhaust-port of the combustion-engine with the intake-port of the turbine, a steam-generator within said casing connecting said jacket with said intake-port, and means for producing a circulation of the cooling liquid through said jacket and generator, substantially as described.

4. The combination with an internal-combustion engine and jacket therefor, of a turbine mounted on the crank-shaft thereof, a casing connecting the exhaust-port of the combustion-engine with the intake-port of the turbine, a steam-generator within said casing connecting said jacket with said intake-port, and means controlled by said crank-shaft for producing a circulation of the cooling liquid through said jacket and generator, substantially as described.

5. The combination with an internal-combustion engine, and jacket therefor of a turbine mounted on the crank-shaft thereof, a casing connecting the combustion-engine exhaust-port with the turbine intake-port, said jacket provided with an inlet and an outlet, a conduit between said jacket-outlet and turbine-intake passing through said casing, and means for forcing said jacket-water into said conduit, substantially as described.

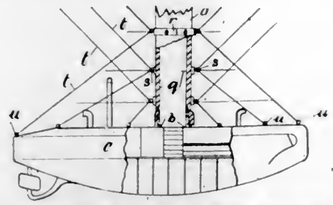
6. The combination with an internal-combustion engine and jacket therefor, of a turbine mounted on the crank-shaft thereof, a casing connecting the combustion-engine exhaust-port with the turbine intake-port, said jacket provided with an inlet and an outlet, an auxiliary casing about said outlet, a coiled pipe within said casing one end entering said outlet and the other the turbine-intake, and means for forcing water through said jacket into said coiled pipe, substantially as described.

845,623. MEANS OF ESCAPE FROM SUNKEN SUBMARINES. ERNEST A. EDNEY, Horndean, England. Filed Sept. 13, 1905. Serial No. 278,303.

Claim.—1. The combination of a marine vessel provided with a manhole, a pipe having a water-tight connection with the manhole and adapted to establish communication between the manhole and the surface of the water, a closure for the manhole controlling communication between the vessel and the pipe, and means whereby the closure can be operated either from within or without the vessel.

2. The combination with a marine vessel provided with a manhole in its upper side, of a cover for the manhole arranged to be opened from both without and within the passage, a pipe proportioned to be let down from a float, and means rigid with the vessel whereby a water-tight union is provided between the pipe and the manhole.

3. The combination of a marine vessel provided with a manhole, a sliding closure for the manhole, means whereby the sliding closure can be operated either from within or without the vessel, and a pipe having a water-tight connection with the manhole and adapted to establish communication between the manhole and the surface of the water.



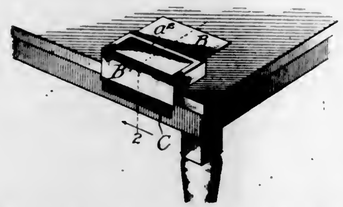
4. The combination of a marine vessel provided with a manhole, a closure for the manhole, means whereby the closure can be operated either from within or without the vessel, a pipe having a water-tight connection with the manhole and adapted to establish communication between the manhole and the surface of the water, and means within the pipe to facilitate the passage of a person therethrough.

5. The combination with a marine vessel provided with a manhole in its upper side, of a closure for the manhole arranged to be opened from both without and within the vessel, a pipe proportioned to be let down from a float, means within the pipe to facilitate the passage of a person therethrough, and means rigid with the vessel whereby a water-tight union is provided between the pipe and the manhole.

6. The combination with a marine vessel provided with a manhole in its upper side, of a closure for the manhole arranged to be opened from both without and within the vessel, a flexible pipe proportioned to be let down from a float, means within the pipe to facilitate the passage of a person therethrough, of means rigid with the vessel whereby a water-tight union is provided between the pipe and the manhole, means carried by the pipe to prevent the collapse thereof, and means connecting the pipe and vessel arranged to maintain the pipe in an upright position.

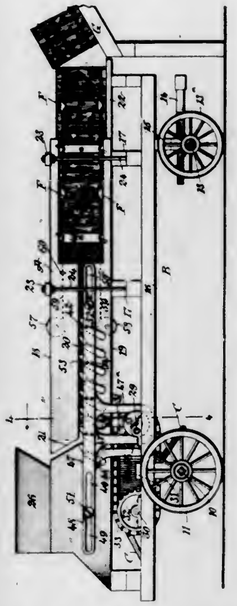
7. The combination of a marine vessel provided with a manhole, a ring surrounding the manhole and provided with an outwardly-extending annular flange, a flexible pipe adapted to establish communication between the vessel and the surface of the water, a band loosely connected to one end of the flexible pipe and having an interlocking connection with the before-mentioned flange around the ring upon the manhole, means for holding the pipe in operative position, and a closure for the manhole which operates to control the communication between the pipe and the vessel.

845,624. FINGER-PRINT-REGISTERING DEVICE. MICHAEL P. EVANS, Chicago, Ill., assignor to Sharp & Smith, Chicago, Ill., a Corporation of Illinois. Filed Dec. 16, 1905. Serial No. 292,096.



Claim.—In a device as described, a block having extended over its top and one side a shield, said shield having in its top an opening sufficiently large to receive fingers of which prints are to be taken, said shield extending down over the front side of said block to protect a sheet of paper held between said shield and said block when an impression is to be taken.

845,625. BALING-PRESS. CLAUDE E. FIELD, Slater, Mo. Filed July 6, 1905. Serial No. 268,326.



Claim.—1. In a baling-press, a body-section provided with a feed-chamber and connecting baling-chamber, the feed-chamber having slots in its bottom, a support for the said body, a flexible covering for the said slots, and a feed mechanism carried by the said support, which feed mechanism consists of parallel shafts, a guide-block between the shafts, sprocket-wheels secured on the said shafts, endless-chain belts passed over the said sprocket-wheels, pins connecting the said belts, angular fingers loosely mounted in series on the said pins at the junction of the members of the fingers, one member of a finger being long and the other short, a roller located between opposing fingers at the junction of their members, and a second roller located between opposing fingers at the outer ends of the shorter members, the said rollers being adapted for engagement with the said guide-block and the longer members of the fingers being adapted to extend into the feed-chamber through the slots therein.

2. In a baling-press, a body provided with a baling-chamber having longitudinal slots in its sides, and extensions from said slots leading to the top of the body, press-bars located one back of the other and mounted to slide on the said body at the longitudinal slots therein, dogs pivoted on the said press-bars, having their working ends inclined rearward, a drive-shaft, and means for alternately reciprocating the press-bars from the said drive-shaft in opposite directions.

3. In a baling-press, a body provided with a baling-chamber having longitudinal slots in its sides, and extensions from said slots leading to the top of the body, press-bars located one back of the other and mounted to slide on the said body at the longitudinal slots therein, dogs pivoted on the said press-bars, having their working ends inclined rearward, a drive-shaft, means for alternately re-

ciprocating the press-bars from the said drive-shaft in opposite directions, spacing-blocks located in the said baling-chamber, and trunnions extending from the sides of the said blocks out through the said longitudinal slots in the body, which trunnions are engaged by the dogs at the rearward movement of the said feed-bars.

4. In a baling-press, the combination with a body provided with a feed-chamber and a baling-chamber, the said body being provided with longitudinal slots in its sides, leading into the baling-chamber, and inclined extension-slots leading from the forward ends of the longitudinal slots out through the top of the body, a support for the body, a drive-shaft mounted on said support, and cams secured to the said shaft, the cams being in pairs, the cams of a pair extending in opposite directions, of press-bars arranged one back of the other at the sides of the body, being mounted to slide on said body, their upper edges being substantially parallel with the lower edges of the said longitudinal slots in the body, angular dogs pivoted on the said bars, extending above and below the bars, the head portions of the dogs being inclined rearwardly, connections between the said bars and the said cams, whereby to simultaneously and alternately operate the said bars in opposite directions, and spacing-blocks located in the baling-chamber, having trunnions which extend out through the said slots in the said chamber, to be engaged by the heads of the said dogs.

5. In a baling-press, the combination with a body provided with a feed-chamber and a baling-chamber, the said body being provided with longitudinal slots in its sides leading into the baling-chamber and inclined extension-slots leading from the forward ends of the longitudinal slots out through the top of the body, a support for the body, a drive-shaft mounted on said support, and cams secured to the said shaft, the cams being in pairs, the cams of a pair operating in opposite directions, of press-bars arranged one back of the other at the sides of the body, being mounted to slide on said body, their upper edges being substantially parallel with the lower edges of the said longitudinal slots in the body, angular dogs pivoted on the said bars, extending above and below the bars, the head portions of the dogs being inclined rearwardly, spacing-blocks mounted to slide in the baling-chamber, trunnions extending from the said spacing-blocks out through the slots in the body, adapted to be engaged by the said dogs at the rearward movement of the press-bars, stop-pins for the said dogs, limiting their downward and rearward movement, and contact-arms extending down from the said bars to an engagement with the said cams, each cam operating between the contact-arms of a pair.

6. In a baling-press, a baling-chamber having longitudinal slots in its sides, spacing-blocks mounted to slide in the chamber and provided with trunnions projecting through the said slots, and means for engaging the trunnions of the blocks to operate the said blocks.

7. In a baling-press, a baling-chamber having longitudinal slots in its sides, spacing-blocks in the chamber and having trunnions projecting through the said slots and reciprocating bars provided with means for engaging the trunnions of the blocks.

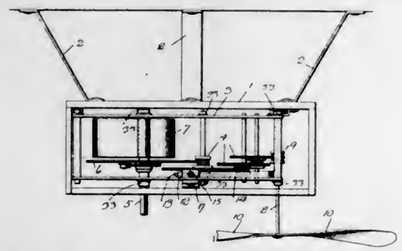
8. In a baling-press, a baling-chamber having longitudinal slots in its sides, spacing-blocks in the chamber and having trunnions projecting through the said slots, reciprocating bars, and pivoted dogs on the reciprocating bars and engaging the trunnions of the blocks.

9. In a baling-press, a feed-chamber having longitudinal slots in its bottom, a sheet of flexible material in the bottom of said chamber, spaced endless belts below the feed-chamber, angular fingers carried by the belts and arranged in pairs, and a guide-block between the belts.

10. In a baling-press, a feed-chamber having longitudinal slots in its bottom, one at each side, a sheet of flexible material secured in the bottom of said chamber at its longitudinal center, endless feed-belts below the feed-chamber, and fingers arranged in pairs and carried by the belts, said fingers projecting through the slots of the feed-chamber into the same.

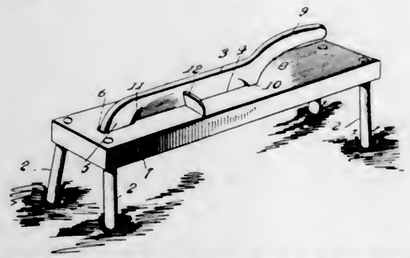
11. In a baling-press, a feed-chamber having a longitudinally-slotted bottom, a sheet of flexible material in the bottom of the feed-chamber, and endless belts below the feed-chamber and provided with fingers projecting through the slots of said feed-chamber into the same.

845,626. FAN. J B FUTRELL and THOMAS C. GASKINS, Garland, Tex. Filed Aug. 24, 1905. Serial No. 275,682.



Claim.—The herein-described fan comprising a supporting-frame, a train of multiplying-gears revolubly mounted in said frame, a spring for driving said gears, a revolubly-mounted fan-shaft, means whereby said shaft is connected to and driven by said gears, a friction-wheel mounted upon the shaft of one of said gears, a spring brake device comprising a resilient metal bar formed with a slit extending longitudinally from one of its ends to a point adjacent to its opposite end to provide a brake-shoe for engagement with the periphery of said friction-wheel and to also provide an integral spring having an outwardly-bent outer end, said bar being pivoted at its closed end upon said supporting-frame, and a set-screw in said frame adapted to bear against the bent outer end of the spring to regulate the tension thereof, substantially as shown and described.

845,627. SEED-POTATO CUTTER. CHANCEY R. GAGE, Sioux Falls, S. D. Filed May 4, 1906. Serial No. 315,244.



Claim.—In a device of the character described, the combination of a base-block having a slot therein, means for supporting the base-block, a lever extending along the base-block and having a lateral arm at one end thereof which is pivotally mounted within the slot, the opposite end of the lever being provided with a handle and the lower edge thereof being sharpened, and a transverse member having an approximately V-shaped cross-section and fitting within a dovetail slot in the lever, the lower edge of the transverse member being sharpened and so placed as to lie flush with the lower edge of the lever.

845,628. SAFETY-RAZOR. LEONARD B. GAYLOR, Stamford, Conn. Filed June 9, 1905. Serial No. 264,386.

Claim.—1. A safety-razor embodying a handle, a centrally-perforated guard-plate, a blade having a single perforation therein and a thumb-nut adapted to pass through the perforations in the blade and guard-plate and thread into the handle, the guard-plate having protecting devices at its corners engaging with the corners of the blade, whereby the edges of the blade are registered with the edges of the guard-plate.



2. A safety-razor embodying a handle, a triangular guard-plate provided at its corners with protecting and registering devices for the corners of the blade, a triangular blade adapted to coact with the guard-plate and registering devices thereon, and means to detachably connect said members together.

3. In a safety-razor, a triangular guard-plate having at each corner protecting and registering devices for the blade which project laterally beyond the plane of the guard-plate and a triangular blade which lies against said guard-plate, its corners being received within and protected by said registering devices.

4. A safety-razor having a triangular flat guard-plate, a triangular flat blade, lying one against the other, the blade having three cutting edges, and the guard-plate three comb-like edges, and also upturned corners registering with the corners of the blade and means to detachably connect the parts together.

5. A safety-razor comprising a handle, a triangular guard-plate, a triangular blade having its edges adjacent to the corresponding edges of the guard-plate, and means for movably securing the guard-plate and blade upon the handle to enable the handle to be adjusted at varying angles with respect to all the edges of the blade and guard-plate.

6. A safety-razor comprising a handle, a triangular guard, a triangular blade located against the guard, means to register the blade upon the guard-plate to maintain the edges of the blade in correlation to the corresponding edges of the guard-plate, and means for movably securing the guard-plate and blade upon the handle to permit the handle to be adjusted to various angles with respect to the edges of the blade while the corresponding edges of the blade and of the guard-plate are maintained in operative relation to each other.

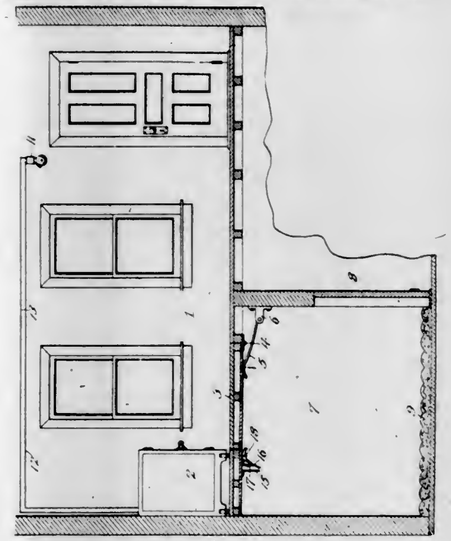
7. A safety-razor comprising a handle, a guard having three edges located at angles to each other, a blade having three edges located at angles to each other and corresponding to the edges of the guard, means to register the blade upon the guard to maintain their edges in operative correlation and means for rotatably connecting the guard and blade with the handle.

8. A guard for a safety-razor having three edges at an angle to each other provided with comb-like teeth and protecting devices at the corners of the guard, in combination with a triangular blade the corners of which coincide with and are protected by said protecting devices on the guard.

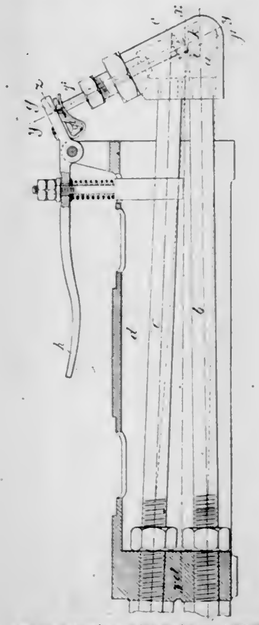
9. In a razor a blade, a triangular guard having comb like edges and having also at its corners protecting devices which engage the blade and hold its edges in operative position relative to the edges of the guard.

845,629. BURGLAR-ALARM. JOSEPH GAYNOR, Barre, Vt. Filed Aug. 25, 1906. Serial No. 332,042.

Claim.—A burglar-alarm including a trap arranged in the floor of a compartment, a normally open alarm-circuit, spaced contact-strips forming the terminals of said circuit and supported adjacent the platform, one of said strips being formed with an annular depression, and a trigger supported by the floor of the compartment and arranged to be operated in the initial movement of the trap, said trigger forcing the contact-strips into engagement and riding into the said depression, whereby to maintain the strips in contact independent of the position of the trap.



845,630. STEAM-TRAP. WILLIAM GEIPEL, Southwark, London, England. Filed July 12, 1906. Serial No. 325,860.



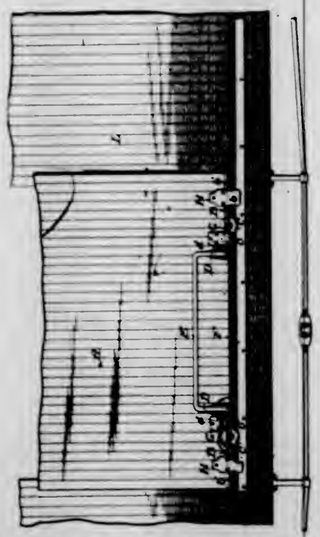
Claim.—1. An expansion steam-trap comprising a stationary frame, inlet and outlet expansion-tubes fixed at one end thereto, a valve-case fixed to the free ends of said tubes and formed with a water-discharge passage for placing said tubes in communication with each other and with a valve-seat around said passage, a water-discharge valve controlling said passage and provided with a spindle ex-

tending through said valve-case to the exterior thereof, and an abutment acting against the outer end of said valve-spindle, the said valve-seat, valve and valve-spindle having a common axis that is inclined to the center line between said tubes and to the longitudinal direction of said frame and is normal to said abutment.

2. An expansion steam-trap comprising a stationary frame, inlet and outlet expansion-tubes fixed at one end thereto, a valve-case fixed to the free ends of said tubes and formed with a water-discharge passage for placing said tubes in communication with each other and with a valve-seat around said passage, a water-discharge valve controlling said passage and provided with a spindle extending through said valve-case to the exterior thereof, and a spring-controlled lever pivoted to said frame and having one arm thereof acting against the outer end of said valve-spindle, the said valve-seat, valve and valve-spindle having a common axis that is inclined to the center line between said tubes and to the longitudinal direction of said frame, and the acting surface of said lever-arm being inclined to said center line and at right angles to said common axis.

3. An expansion steam-trap comprising a stationary frame, inlet and outlet expansion-tubes fixed at one end thereto, a valve-case fixed to the free ends of said tubes and formed with a water-discharge passage for placing said tubes in communication with each other and with a valve-seat around said passage, a water-discharge valve controlling said passage and provided with a spindle extending through said valve-case to the exterior thereof, and a spring-controlled lever pivoted to said frame and having an arm thereof acting against the outer end of said valve-spindle, the said valve-seat, valve and valve-spindle having a common axis that is inclined to the center line between said tubes and to the longitudinal direction of said frame and said valve-spindle bearing at its outer extremity at right angles to and against said arm at a point thereon that remains practically invariable notwithstanding the movement of the valve and valve-spindle relatively to said valve-case consequent on the operation of the trap, substantially as described for the purpose specified.

845,631. ROLLER-SUPPORT FOR EDGEWISE-MOVABLE DOORS. GEORGE GEORGENSON and JOSEPH E. HENNEN, Fond du Lac, Wis. Filed Aug. 7, 1906. Serial No. 329,591.



Claim.—1. The combination with a sliding door and a track, of shoes on the door, which normally rest upon the track, rollers which travel on the track, frames hinged to the door and in which the rollers are journaled, and means to bear down upon the frames to shift the weight of the door from the shoes to the rollers.

2. The combination with a sliding door, of shoes at its lower edge, a track upon which the shoes normally rest and support the door, roller-frames hinged at one end to the lower edge of the door, rollers which rest on the track and on which the frames are fulcrumed, and a handle pivoted on the door and bearing at its ends upon the frames, substantially as described.

3. The combination with a sliding door, of means to normally support the same, a track under the lower edge of the door, frames hinged at one end to the said lower edge, rollers journaled in the frames and resting on the track, and a bent lever-handle extending along beside the lower edge of the door and pivoted to the door, and having cam-lugs at its ends bearing upon the frames and adapted by pressure on the handle to lift the door and support the same on the rollers.

845,632. BALL-BEARING. FREDERICK W. GURNEY, Jamestown, N. Y. Filed Mar. 27, 1905. Renewed Feb. 4, 1907. Serial No. 355,732.



Claim.—1. In a ball-bearing, an outer race-ring having an internal groove, an inner race-ring having an external groove, balls running in said grooves in between said race-rings, one of said rings having a parting or cleft, and a bond of fusible metal cast onto said parted ring concentric with the race thereof.

2. In a ball-bearing, an outer race-ring with an internal groove, an inner race-ring with an external groove, balls running in said grooves in between said race-rings, one of said rings being a spring-ring to admit said balls, and a bond of fusible metal cast onto said spring-ring concentric with the race thereof.

3. In a ball-bearing, an outer race-ring internally grooved, an inner race-ring externally grooved, both of said race-rings having a backing of soft metal concentric with the race thereof.

4. In a ball-bearing, an inner race-ring, a cleft outer race-ring, balls between said rings, said cleft outer ring sprung to a fit against said intervening balls, and a sealing backing of fusible metal cast upon said cleft ring concentric with the race thereof.

5. In a race-ring for ball-bearings, the combination of a hardened-steel ring having a raceway ground therein, said hardened-steel ring having a parting or cleft for adjusting or fitting said raceway, and a backing of fusible metal cast onto said steel ring concentric with said raceway to bind together said parting and secure or make permanent said fit.

6. Ball-bearings consisting of inner and outer race-rings, with balls intervening, said outer race-rings being covered or backed with cast-on soft metal molded to standard or stock sizes, for the purpose specified.

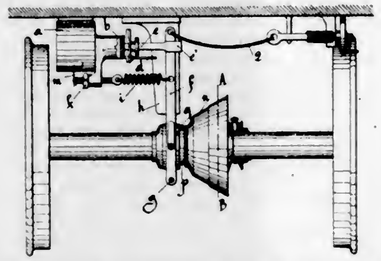
7. A ball-bearing consisting of an inner and an outer race-ring, with balls intervening, said outer race-ring being covered or backed with cast-on soft metal machined to the desired size.

8. In a race-ring for ball-bearings, a steel spring-ring having a raceway therein, the exact diameter of said raceway being obtained by springing said spring-ring, said exact diameter secured and made permanent by a backing of fusible metal cast onto said spring-ring to prevent further or subsequent springing, said cast backing being molded to the size desired for the bearing.

9. A journal race-ring for roller-bearings having a raceway in its outer face and a lining of non-abrasive material concentric therewith.

10. A roller-bearing ring having a raceway in its outer face and a lining of soft and non-abrasive metal concentric with said ring and permanently attached thereto.

845,633. BRAKE FOR VEHICLES. PAUL HALLOT, Vincennes, France. Filed Nov. 27, 1903. Serial No. 182,924.



Claim.—1. The combination with an axle, of a normally non-rotative brake-actuating member, and yielding means for locking and holding the member against rotation.

2. The combination with an axle, of a normally non-rotative brake-actuating member, means for locking and holding the member against rotation up to a predetermined resistance, and means to permit yielding of the locking means when a predetermined resistance has been exceeded.

3. The combination with an axle, of a normally non-rotative brake-actuating member, means for locking and holding the member against rotation, and supplemental locking means normally out of engagement with the actuating member, and means controlled by the speed of rotation of the axle for causing the supplemental locking means to engage the actuating member.

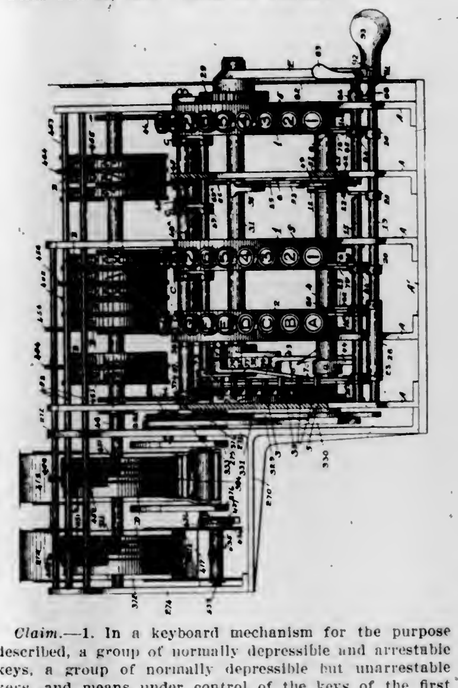
4. The combination with an axle, of a normally non-rotative brake-actuating member, means for locking and holding the member against rotation, and supplemental locking means normally out of engagement with the actuating member, and means controlled by the speed of rotation of the axle for causing the supplemental locking means to engage the actuating member and for releasing the supplemental locking means when the speed of rotation of the axle is reduced to a predetermined point.

5. The combination with an axle, of a normally non-rotative brake-actuating member, means for locking and holding the member against rotation up to a predetermined resistance, a secondary locking means normally out of engagement with the actuating member, and centrifugally-actuated devices controlled by the speed of rotation of the axle to move the secondary locking means into and out of engagement with the actuating member.

6. The combination with an axle, of a pulley loosely mounted thereon and provided with a cone-shaped band, a shoe rigid with the axle, and disposed within the band, means for permitting yielding of the shoe, and means for moving the pulley into and out of engagement with relation to the shoe.

7. The combination with an axle, of a casting rigid therewith, weights loosely carried thereby, a pulley loosely mounted on the casting and carrying a shoe, means for holding the pulley properly spaced with relation to the casting, and from longitudinal movement on the axle, a second shoe carried by the casting, a pulley loose on the axle and having a cone-shaped band housing the two shoes, and means for moving the pulley to and from the shoe.

845,634. CASH-REGISTER. HENRY S. HALLWOOD, Columbus, Ohio, assignor to The International Register Company, Columbus, Ohio, a Corporation of Ohio. Filed Oct. 22, 1906. Serial No. 340,094.



Claim.—1. In a keyboard mechanism for the purpose described, a group of normally depressible and arrestable keys, a group of normally depressible but unarrestable keys, and means under control of the keys of the first group for rendering the keys of the other group arrestable when depressed.

2. In a keyboard mechanism for the purpose described, normally depressible and arrestable value-keys representing different denominations, normally depressible but unarrestable initial-keys, and means under control of the value-keys for rendering the initial-keys arrestable when a value-key is depressed.

3. A keyboard mechanism for the purpose described, comprising normally arrestable value-keys normally depressible but unarrestable initial-keys, normally depressible but unarrestable department-keys, and means under control of the value-keys and of the initial-keys for rendering the department-keys arrestable when a value-key and an initial-key are depressed.

4. A keyboard mechanism for the purpose described comprising normally arrestable groups of value-keys representing different denominations, normally depressible but unarrestable initial-keys, normally depressible but unarrestable department-keys, and means requiring the depression of a value-key and of an initial-key before a department-key can be arrested when depressed.

5. A keyboard mechanism for the purpose described, comprising keys arranged in groups of different classes, the keys of certain of said classes being normally depressible but unarrestable and devices controlled by the operation of the keys in one class for rendering the keys of the adjacent class arrestable when operated.

6. A keyboard mechanism for the purposes described, comprising keys arranged in groups of different classes, the keys of certain of said classes being normally depressible but unarrestable devices controlled by the operation of the keys in one class for rendering the keys of the adjacent class arrestable when operated, and means controlled by the keys in the last-named class for rendering the keys of the next adjacent class arrestable when operated.

7. The combination of a plurality of groups of keys, the keys of certain of said groups being normally depressible but unarrestable a slide for each of said groups, said slide being controlled by any key in its group, and means whereby the slide for one group renders the keys of the next adjacent group arrestable when depressed.

8. The combination of different groups of keys, the keys of certain of said groups being normally depressible but unarrestable a slide for each of said groups, said slide being controlled by any key in its group, a detent for each group, and means whereby the slide for one group controls the detent of another group.

9. The combination of different groups of keys, the keys in certain of said groups being normally unarrestable when depressed, a slide for each group of keys, said slide being controlled by any key in its group, and means whereby the slide for one group renders arrestable the keys in another group.

10. The combination of a plurality of groups of keys, the keys in certain of said groups being normally unarrestable when depressed, a slide for each group of keys, said slide being controlled by any key in its group and means whereby the slide for one group renders arrestable the keys of its adjacent group.

11. In a cash-register, the combination of a plurality of groups of keys, said keys being divided into classes representing values, initials and departments, the keys of the different classes being effectively depressible in a predetermined sequence only, and means controlled by the keys of each class for preventing the operation of the register until one of the keys in each class has been depressed.

12. In a cash-register, the combination of a plurality of groups of keys, said keys being divided into classes representing values, initials and departments, a sliding plate for each group, and means controlled by the said sliding plates for preventing the operation of the register until the sliding plate for each class has been moved.

13. The combination of a group of keys, a slide for said group, said slide having an inclined portion, a detent for said group, said detent resting on the inclined portion of the slide and being held thereby out of locking relation with the keys, and means for moving the slide to bring the detent into locking relation with the keys.

14. In a cash-register, a group of keys, a sliding plate for said group, a detent-plate for said group, and means whereby each of said plates controls the operation of the other plate.

15. In a keyboard mechanism for the purpose described, a plurality of groups of keys, certain of said groups being normally depressible but unarrestable, devices controlled by the keys of one group for rendering the keys of the second group arrestable when depressed, and devices controlled by the keys of said second group for rendering the keys of a third group arrestable when depressed.

16. In a keyboard mechanism for the purpose described, a group of depressible keys, a plurality of groups of unarrestable keys, means controlled by the keys of the depressible group for rendering arrestable the keys of all the remaining groups except one, and means controlled by the keys thus rendered arrestable for rendering arrestable the keys of the remaining group.

17. In a cash-register, the combination with a normally locked main operating member, of a series of value-setting elements, a series of initial-setting elements and a series of department-setting elements, locking means for the department-setting elements, said locking means compelling the depression of a value-setting element and an initial-setting element before the department-setting element can be locked in operated position, and means controlled by the department-setting elements for unlocking the main operating member.

18. In a cash-register, the combination with a normally locked main operating-shaft, of a series of value-keys, a series of initial-keys, and a series of department-keys, locking means controlling the department-keys and requiring the depression of a value-key and an initial-key before the department-key can be operated and means controlled by the department-keys for unlocking the main operating-shaft.

19. In a cash-register, the combination with a normally locked main operating-shaft, of a series of value-keys, a series of initial-keys, and a series of department-keys, locking means controlling the department-keys and requiring the depression of a value-key and an initial-key before the department-key can be operated, means controlled by the department-keys for unlocking the main operating-shaft, and a recording device that is adapted to produce a record showing what keys have been operated.

20. In a cash-register, the combination with a normally locked main operating member, of a series of value-keys, a series of initial-keys and a series of normally depressible but unarrestable department-keys, means controlled by the said department-keys for unlocking the main operating member, said means being normally out of operative relation with the department-keys and means requiring the depression of a value and of an initial key for placing said unlocking means into operative relation with the department-keys.

21. In a cash-register, the combination with a normally locked main operating-shaft, of a series of value-keys, a series of initial-keys and a series of normally depressible but unarrestable department-keys, means controlled by the said department-keys for unlocking the main operating-shaft, said means being normally out of operative relation with the department-keys and means requiring the depression of a value and of an initial key for placing said unlocking means into operative relation with the department-keys.

22. In a cash-register, the combination with a normally locked main operating member, of a series of value-keys, a series of initial-keys and a series of normally depressible but unarrestable department-keys, means controlled by the said department-keys for unlocking the main operating member, said means being normally out of operative relation with the department-keys, means requiring the depression of a value and of an initial key for placing said unlocking means into operative relation with the department-keys, and a recording device that is adapted to produce a record showing what keys have been operated.

23. In a cash-register, the combination with a normally locked main operating member, of series of value-keys, a series of initial-keys and a series of normally depressible but unarrestable department-keys, means under control of the department-keys for locking the main operating member, said means being out of operative relation with the department-keys while they are unarrestable and means controlled by the value and initial keys for rendering the department-keys arrestable whereby they may unlock the main operating member.

24. In a cash-register, the combination with a normally locked main operating-shaft, of series of value-keys, a series of initial-keys and a series of normally depressible but unarrestable department-keys, means under control of the department-keys for locking the main operating-shaft, said means being out of operative relation with the department-keys while they are unarrestable and means controlled by the value and initial keys for rendering the department-keys arrestable whereby they may unlock the main operating-shaft.

25. In a cash-register, the combination with a normally locked main operating member, of series of value-keys, a series of initial-keys and a series of normally depressible but unarrestable department-keys, means under control of the department-keys for locking the main operating member, said means being out of operative relation with the department-keys while they are unarrestable, means controlled by the value and initial keys for rendering the department-keys arrestable whereby they may unlock the main operating member, and a recording device that is adapted to produce a record showing what keys have been operated.

26. In a cash-register, a series of value-setting elements and a series of initial-setting elements, means for arresting the said elements in their operated positions, the arresting means for the initial-setting elements being normally out of arresting position and means under control of the value-setting elements for permitting said arresting means for the initial-setting elements to move to its arresting position.

27. In a cash-register, a series of value-keys and a series of initial-keys, detents for arresting the said keys in their operated positions, means for normally holding the detent for the initial-keys out of arresting position and devices under control of the value-keys for permitting said means to be moved, whereby the detent for the initial-keys may come into arresting position.

28. In a cash-register, a series of value-keys and a series of initial-keys, detents for arresting the said keys in their operated positions, a spring-impelled sliding plate holding the detent for the initial-keys normally out of arresting position, and devices under control of the value-keys for releasing said sliding plate so that it may be moved, whereby the detent for the initial-keys may come into arresting position.

29. In a cash-register, the combination with a series of value-keys, a series of initial-keys and a series of department-keys, arresting means for said department-keys, said means being normally out of operative relation with the department-keys and means requiring the operation of both a value and an initial key for placing said arresting means in operative relation with the said department-keys.

30. In a cash-register, the combination with a normally locked main operating member, a series of value-keys, a series of initial-keys and a series of department-keys, arresting means for said department-keys, said means being normally out of operative relation with the department-keys, means requiring the operation of both a value and an initial key for placing said arresting means in operative relation with the said department-keys, and means under control of the department-keys for unlocking the main operating member.

31. In a cash-register, the combination with a normally locked operating-shaft, a series of value-keys, a series of initial-keys and a series of department-keys, arresting means for said department-keys, said means being normally out of operative relation with the department-keys, means requiring the operation of both a value and an initial key for placing said arresting means in operative relation with the said department-keys, and means under control of the department-keys for unlocking the operating-shaft.

32. In a cash-register, the combination with a series of value-keys, a series of initial-keys and a series of department-keys, arresting means for said initial and said department keys, said means being normally out of operative relation with their respective series of keys and means requiring the operation of a value-key for establishing operative relation between said arresting means and their respective keys.

33. In a cash-register, the combination with a normally locked main operating member, a series of value-keys, a series of initial-keys and a series of department-keys, arresting means for said initial and said department keys, said means being normally out of operative relation with their respective series of keys, means requiring the operation of a value-key for establishing operative relation between said arresting means and their respective keys, and mechanism under control of the department-keys for releasing the main operating member.

34. In a cash-register, the combination with a normally locked operating-shaft, a series of value-keys, a series of initial-keys and a series of department-keys, arresting means for said initial and said department keys, said means being normally out of operative relation with their respective series of keys, means requiring the operation of a value-key for establishing operative relation between said arresting means and their respective keys, and mechanism under control of the department-keys for releasing the operating-shaft.

35. In a cash-register, a series of value-setting elements, a series of initial-setting elements and a series of department-setting elements, arresting means for the initial and department setting elements, said means being normally out of operative relation with their respective series of setting elements, means controlled by the value-setting elements for establishing operative relation between the initial-setting elements and their arresting means, and means under control of the initial-setting elements for establishing operative relation between the department-setting elements and their respective arresting means.

36. In a cash-register, a series of value-keys, a series of initial-keys and a series of department-keys, arresting means for the initial and department keys, said means being normally out of operative relation with their respective series of keys, means controlled by the value-keys for establishing operative relation between the initial-keys and their arresting means, and means under control of the initial-keys for establishing operative relation between the department-keys and their respective arresting means.

37. In a cash-register, the combination with a normally locked main operating-lever, a series of value-keys, a series of initial-keys and a series of department-keys, arresting means for the initial and department keys, said means being normally out of operative relation with their respective series of keys, means controlled by the value-keys for establishing operative relation between the initial-keys and their arresting means, means under control of the initial-keys for establishing operative relation between the department-keys and their respective arresting means and means under control of the department-keys for unlocking the main operating-lever, said locking means being out of operative relation with the department-keys until both a value and an initial key has been depressed.

38. In a cash-register, a series of value-setting elements, a series of initial-setting elements and a change-key, said change-key being normally depressible, but unarrestable and ineffectual when depressed and means requiring the operation of both a value-setting element and an initial-setting element for rendering said change-key arrestable and effectual when depressed.

39. In a cash-register, a series of value-keys, a series of initial-keys and a change-key, said change-key being normally depressible, but unarrestable and ineffectual when depressed, and means requiring the operation of both a value-key and an initial-key for rendering said change-key arrestable and effectual when depressed.

40. In a cash-register, a normally locked main operating member, a series of value-keys, a series of initial-keys and a change-key, said change-key being normally depressible, but unarrestable and ineffectual when depressed, means requiring the operation of both a value-key and an initial-key for rendering said change-key arrestable and effectual when depressed, and means under control of the change-key for releasing the main operating member.

41. In a cash-register, the combination with a normally locked main operating-shaft, of a series of value-keys, a series of initial-keys and a series of department-keys, means requiring the depression of a key in each of said series for unlocking the main operating-shaft means for locking said keys when thus depressed and mechanism under control of the main operating-shaft for unlocking the depressed keys so that they may be restored to their normal positions.

42. In a cash-register, the combination with a normally locked main operating-shaft, of a series of value-keys, a series of initial-keys and a series of department-keys, means requiring the depression of a key in each of said series for unlocking the main operating-shaft, means for locking said keys when thus depressed mechanism under control of the main operating-shaft for unlocking the depressed keys so that they may be restored to their normal positions, and a recording device for producing a record showing which keys have been depressed.

43. In a cash-register, the combination with a normally locked main operating-shaft, of a series of value-setting elements, a series of initial-setting elements and a series of department-setting elements, means requiring the operation of an element in each of said series for unlocking the main operating member devices for locking said elements when thus operated and mechanism under control of the main operating member for releasing the operated elements so that they may be restored to their normal positions.

44. In a cash-register, a main operating member, a series of value and special setting elements, a detent for each series of setting elements, a movable member cooperating with each of said detents, locking means for one of said movable members, said locking means being controlled by all the value-setting elements and locking

mechanism for said main operating member, said locking mechanism being controlled by said last-mentioned movable device.

45. In a cash-register, a main operating member, a series of value and special keys, a detent for each series of keys, a movable member coöperating with each of said detents, locking means for one of said movable members, said locking means being controlled by all the value-keys and locking mechanism for said main operating member, said locking mechanism being controlled by said last-mentioned movable device.

46. In a cash-register, a main operating-shaft, a series of value and special keys, a detent for each series of keys, a movable member coöperating with each of said detents, locking means for one of said movable members, said locking means being controlled by all the value-keys and locking mechanism for said main operating-shaft, said locking mechanism being controlled by said last-mentioned movable device.

47. In a structure as described, value-setting elements and special-setting elements, locking devices for said value and special setting elements, a transverse member having arms thereon engaged by the locking mechanism of the respective series of setting elements, one of said arms being adapted to hold the key-locking mechanism of the special-setting elements in inoperative position, cammed faces on the remaining arms engaged by the locking mechanism of the value-setting elements, whereby the movement of said value-setting-element-locking mechanism will oscillate the said transverse member and release the locking mechanism for the special-setting elements.

48. In a structure as described, value-keys, special keys, locking devices for said value and special keys, a transverse member having arms thereon engaged by the locking mechanism of the respective series of keys, one of said arms being adapted to hold the key-locking mechanism of the special keys in inoperative position, and cammed faces on the remaining arms engaged by the key-locking mechanism of the value-keys, whereby the movement of said value-key-locking mechanism will oscillate the said transverse member and release the locking mechanism for the special keys.

49. In a structure as described, a normally locked main operating member, value-keys, special keys, locking devices for said value and special keys, a transverse member having arms thereon engaged by the locking mechanism of the respective series of keys, one of said arms being adapted to hold the key-locking mechanism of the special keys in inoperative position, cammed faces on the remaining arms engaged by the key-locking mechanism of the value-keys whereby the moverment of said value-key-locking mechanism will oscillate the said transverse member and release the locking mechanism for the special keys, and means requiring the operation of the locking mechanism for the special keys for unlocking the main operating member.

50. In a cash-register, a series of value-setting elements, a special-setting element, a locking device for holding the special-setting element in its operated position, means for normally holding said locking device out of operative relation with respect to the special-setting element, a detent for holding said means in its normal position, a member under control of the value-setting element, said member being adapted to move when a value-setting element is operated and means moved by said member for releasing the locking device for the special-setting element whereby said element may be locked in operated position.

51. In a cash-register, a series of value-keys, a series of special keys, a locking device for holding the special keys in operated position, means for normally holding said locking device out of operative relation with respect to the special keys, a detent for holding said means in its normal position, a member under control of the value-keys, said member being adapted to move when a value-key is operated and means moved by said member for releasing the locking device for the special keys whereby the same may be locked in operated position.

52. In a cash-register, a series of value-keys, a series of special keys, a locking device for holding the special keys in operated position, means for normally holding said locking device out of operative relation with respect to the special keys, a detent for holding said means in its normal position, a member under control of the value-keys, said member being adapted to move when a value-key is operated and a cam moved by said member for releasing the locking device for the special keys whereby the same may be locked in operated position.

53. In a machine as described, value and special setting elements, detents for said elements, intermediate members coöperating with said detents, a locking device for one of said intermediate members, said locking device being controlled entirely by the value-setting elements, a normally locked main operating member and connections between said locked intermediate member and said main operating member whereby the latter cannot be released until after the release of the said intermediate member.

54. In a machine as described, value and special keys, detents for said keys, intermediate members coöperating with said detents, a locking device for one of said intermediate members, said locking device being controlled entirely by the value-keys, a normally locked main operating member and connections between said locked intermediate members and said main operating member whereby the latter cannot be released until after the release of the said intermediate member.

55. In a machine as described, value, initial and department keys, detents for said keys, an intermediate member coöperating with each of said detents, a locking device for the intermediate member for the initial-keys, said locking device being controlled entirely by the value-keys, a locking device for the intermediate member of the department-keys, said locking device being controlled by the initial-keys, a normally locked main operating member and connections between said intermediate member for the department-keys and said main operating member whereby the latter is released upon the release of the said intermediate member for the department-keys.

56. In a cash-register, a bank of keys, a sliding plate controlled by said keys, a rock-shaft, means carried by said rock-shaft and engaging said plate whereby the movement of the plate results in rocking the shaft, a second sliding plate, a detent-arm carried by said rock-shaft and engaging with said second sliding plate, said detent normally holding said plate against movement but releasing the same when the shaft is rocked, a normally locked operating member, a detent for said operating member and connections between said detent and said second sliding plate.

57. In a cash-register, a bank of keys, a sliding plate controlled by said keys, a rock-shaft, means carried by said rock-shaft, and engaging said plate whereby the movement of the plate results in rocking the shaft, a second sliding plate, a detent-arm carried by said rock-shaft and engaging with said second sliding plate, said detent normally holding said plate against movement but releasing the same when the shaft is rocked, a normally locked operating-shaft, a latch for holding said operating-shaft against rotation, and connections between said latch and said second sliding plate.

58. In a cash-register, a series of value-keys, a sliding plate controlled by said keys, a rock-shaft, means carried by said rock-shaft and engaging said plate whereby the movement of the plate results in rocking the shaft, a series of initial-keys, a sliding plate for the initial-keys, a detent-arm carried by said rock-shaft and engaging with said sliding plate for the initial-keys, said detent normally holding said plate against movement but releasing the same when the shaft is rocked upon the depression of a value-key, a normally locked operating member, a detent for said operating member and mediate connections between said detent and said sliding plate for the initial keys, the construction being such that when said plate is released and moved in one direction, the main operating member may be unlocked.

59. In a cash-register, a bank of keys, a detent-plate for said keys, a normally detained sliding plate coöperating with said detent-plate and holding the same out of operative position with respect to said keys, means for releasing and for moving said sliding plate and for permitting the detent-plate to move to operative position, and means on said detent-plate for arresting the movement of the sliding plate, said means being movable out of engagement with the sliding plate when one of said keys is depressed.

60. In a cash-register, a bank of keys, a detent-plate for said keys, a sliding plate coöperating with said detent-plate and normally holding the same out of operative position with respect to said keys, means for moving said sliding plate and for permitting the detent-plate to move to operative position, means on said detent-plate for arresting the movement of the sliding plate, said means being movable out of engagement with the sliding plate when one of said keys is depressed, a normally locked main operating member, and means for releasing said member after the sliding plate is disengaged from the detent-plate.

61. In a cash-register, a bank of keys, a detent-plate for said key, a sliding plate coöperating with said detent-plate and normally holding the same out of operative position with respect to said keys, means for moving said sliding plate and for permitting the detent-plate to move to operative position, means on said detent-plate for arresting the movement of the sliding plate, said means being movable out of engagement with the sliding plate when one of said keys is depressed, a normally locked operating-shaft, and means for releasing said shaft after the sliding plate is disengaged from the detent-plate.

62. In a cash-register, a series of value-keys, a series of normally depressible but unarrestable initial-keys, a series of depressible but unarrestable department-keys, a detent-plate for each of said series of keys, a sliding plate for each of said detent-plates, the sliding plates for the initial and department keys normally holding the detent-plates for said keys out of operative position with respect to their coöperating keys, a rock-shaft, cam-fingers carried by said rock-shaft and engaging with the sliding plates of the value-keys, a hook-detent carried by said shaft and engaging with the sliding plate for the initial-keys, said hook-detent being adapted to be lifted when a sliding plate for the value-key is moved, whereby the sliding plate for the initial-keys will be released and the detent-plate for the initial-keys will be brought into operative position, means on the detent-plate for the initial-keys for holding its corresponding sliding plate in an intermediate position, a cam-finger carried by said shaft and engaging with the sliding plate for the initial-keys, a hook-detent connected with said cam-finger and engaging the sliding plate for the department-keys, means whereby the depression of an initial-key will release the sliding plate for said keys so that said sliding plate can move from its intermediate position, a main operating-shaft, means for normally locking said shaft and connections between said means and the sliding plate for the department-keys, whereby the final movement of said plate will release the shaft.

63. In a cash-register, a series of value-keys, a series of normally depressible but unarrestable initial-keys, a series of depressible but unarrestable department-keys, a detent-plate for each of said series of keys, a sliding plate for each of said detent-plates, the sliding plates for the initial and department keys normally holding the detent-plates for said keys out of operative position with respect to their coöperating keys, a rock-shaft, cam-fingers carried by said rock-shaft and engaging with the sliding plates of the value-keys, a hook-detent carried by said shaft and engaging with the sliding plate for the initial-keys, said hook-detent being adapted to be lifted when a sliding plate for the value-keys is moved, whereby the sliding plate for the initial-keys will be released and the detent-plate for the initial-keys will be brought into operative position, means on the detent-plate for the initial-keys for holding its corresponding sliding plate in an intermediate position, a cam-finger carried by said shaft and engaging with the sliding plate for the initial-keys, a hook-detent connected with said cam-finger and engaging the sliding plate for the department-keys, means whereby the depression of a department-key will release the sliding plate for said keys so that said sliding plate can move from its intermediate position, a main operating-shaft, means for normally locking said shaft and connections between said means and the sliding plate for the department-keys, whereby the final movement of said plate will release the shaft.

64. In a cash-register, a series of value-keys, a series of normally depressible but unarrestable initial-keys, a series of depressible but unarrestable department-keys, a detent-plate for each of said series of keys, a sliding plate for each of said detent-plates, the sliding plates for the initial and department keys normally holding the detent-plates for said keys out of operative position with respect to their coöperating keys, a rock-shaft, cam-fingers carried by said rock-shaft and engaging with the sliding plates of the value-keys, a hook-detent carried by said shaft and engaging with the sliding plate for the initial-keys, said hook-detent being adapted to be lifted when a sliding plate for the value-keys is moved whereby the sliding plate for the initial-keys will be released and the detent-plate for the initial-keys will be brought into operative position, means on the detent-plate for the initial-keys for holding its corresponding sliding plate in an intermediate position, a cam-finger carried by said shaft and engaging with the sliding plate for the initial-keys, a hook-detent connected with said cam-finger and engaging the sliding plate for the department-keys, means whereby the depression of an initial-key will release the sliding plate for said keys so that it can move from its intermediate position which movement will rock the cam-finger and the hook-detent for the sliding plate for the department-keys so that said latter sliding plate can move to an intermediate position, means whereby the depression of a department-key will release the sliding plate for said keys so that said sliding plate can move from its intermediate position, a main operating member, means for normally locking said main operating member, connections between said means and the sliding plate for the department-keys, and a recording device for producing a record showing what keys have been depressed.

65. In a cash-register, a series of value-keys, a series of initial-keys, and a series of department-keys, interlocking mechanism between said series of keys for requiring the operation of both a value and an initial key in advance of the operation of a department-key, a main operating-shaft, a registering device, connections between the value-keys and the registering device whereby when the main shaft is turned the registering-wheels will also be turned to register the values of the depressed value-keys and means operated by certain of the keys of the department series for preventing the operation of the registering device when the main shaft is rotated.

66. In a cash-register, a series of value-keys, a series of initial-keys, and a series of department-keys, interlocking mechanism between said series of keys for requiring the operation of both a value and an initial key in advance of the operation of a department-key, a normally locked main operating-shaft, means for releasing said shaft when a department-key is operated, a crank for turning said shaft, a registering device, connections between the value-keys and the registering device whereby when the main shaft is turned the registering-wheels will also be turned to register the values of the depressed value-keys and means operated by certain of the keys of the department series for preventing the operation of the registering device when the main shaft is rotated.

67. In a cash-register, a series of value-keys, a series of initial-keys, and a series of department-keys, interlocking mechanism between said series of keys for requiring the operation of both a value and an initial key in advance of the operation of a department-key, a main operating-shaft, a crank for turning said shaft, a registering device, connections between the value-keys and the registering device whereby when the main shaft is turned the registering-wheels will also be turned to register the values of the

depressed value-keys, means operated by certain of the keys of the department series for preventing the operation of the registering device when the main shaft is rotated, and a recording device for producing a record showing the transaction that was not added on the registering device.

68. In a machine for registering the amounts of certain classes of transactions, such as cash sales, and for recording the amounts of transactions of other classes, the combination with the operating mechanism, of a register adapted to be operated thereby for registering the amounts of cash transactions, printing means for printing the amounts of all trasactions, value-keys for controlling the operation of the registering and printing mechanisms, initial-keys for causing the printing mechanism to record a character designating the clerk who has operated the machine, a series of department-keys for causing the printing mechanism to record a character showing the kind of a transaction made, interlocking devices between the operating mechanism and the department-keys for requiring the operation of a department-key before the machine can be operated, interlocking mechanism between the value, the initial and the department keys requiring the operation of both a value and an initial key before the department-key can be operated to release the operating mechanism and means connected with certain of the keys of the department series for throwing or maintaining the register out of operation when one of said certain department-keys is depressed.

69. In a machine for registering the amounts of certain classes of transactions, such as cash sales, and for recording the amounts of transactions of all other classes, the combination with a rotatable shaft, of a register adapted to be operated thereby for registering the amounts of cash transactions, printing means for printing the amounts of all transactions, value-keys for controlling the operation of the registering and printing mechanisms, initial-keys for causing the printing mechanism to record a character designating the clerk who has operated the machine, a series of department-keys for causing the printing mechanism to record a character showing the kind of a transaction made, interlocking devices between the rotatable shaft and the department-keys for requiring the operation of a department-key before the shaft can be rotated, interlocking mechanism between the value, the initial and the department keys requiring the operation of both a value and an initial key before the department-keys can be operated to release the rotatable shaft, and means connected with certain of the keys of the department series for throwing or maintaining the register out of operation when one of said certain department-keys is depressed.

70. In a registering-machine, an operating mechanism, a register that is adapted to be operated by said mechanism, an indicating and a printing device, said devices being operated by said mechanism to indicate the value and character of every transaction, a series of value-setting elements, a series of clerk's-setting elements and a series of department-setting elements, said elements controlling the operation of the registering, indicating and printing mechanisms, and interlocking devices between the various series of setting elements requiring the operation of said elements in a certain predetermined sequence.

71. In a registering-machine, an operating mechanism, a register that is adapted to be operated by said mechanism, an indicating and a printing device, said devices being operated by said mechanism to indicate the value and character of every transaction, a series of value-setting elements, a series of clerk's-setting elements and a series of department-setting elements, said elements controlling the operation of the registering, indicating and printing mechanisms, interlocking devices between the various series of setting elements requiring the operation of said elements in a certain predetermined sequence, and means controlled by certain of the department-setting elements for throwing or maintaining the register out of operation.

72. In a registering-machine, a normally locked main operating mechanism, a register that is adapted to be operated by said mechanism, an indicating and a printing device, said devices being operated by said mechanism to indicate the value and character of every transaction, as well as the initial of the person operating the machine, a series of value-keys, a series of clerk's-initial keys, and a series of department-keys, said keys controlling the operation of the registering, indicating and printing mechanisms, interlocking devices between the various series of keys requiring the operation of said keys in the order of value-keys, clerk's-initial keys and department-keys, and means controlled by the department-keys for unlocking the main operating mechanism.

73. In a keyboard mechanism, a series of value-keys, a series of initial-keys, a series of department-keys, and locking means to prevent the effectual operation of a department-key until a value-key and an initial-key have been depressed.

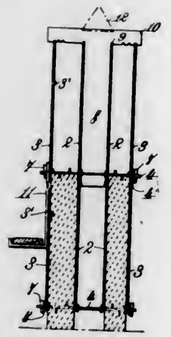
74. In a cash-register, a value-setting element, a clerk's-setting element, a transaction-setting element, and interlocking means between said elements for preventing their effectual operation in other than in a predetermined order.

75. In a cash-register, the combination with a series of amount-setting elements, of a clerk's-setting element, a special-transaction-setting element, locks intermediate the amount-setting elements and clerk's-setting element, compelling a certain sequence of operation thereof and locks intermediate the special-transactions-setting element and the clerk's-setting element, compelling a certain sequence of operation thereof.

76. In a cash-register, the combination of a series of adding-wheels, a main operating member, a series of value-keys, a series of initial-keys, a series of department-keys and locking means controlled by the department-keys to compel the depression of a department-key after the initial and value keys have been depressed before the main operating member can be operated.

77. In a cash-register, the combination with a series of adding-wheels, an oscillatory indicator, and a series of numbered or value keys, of a series of initial and department keys and locking means whereby a department-key cannot be effectually operated until both a value-key and an initial-key have been operated.

845,635. MOLD FOR FORMING WALLS. WILLIAM D. HAM, Knoxville, Tenn. Filed May 29, 1906. Serial No. 319,341.



Claim.—1. A mold comprising at least two inner members and two outer members coöperative respectively therewith, strips extending across the upper and lower edges of said members, and a spacing member disposed between the inner members.

2. A mold comprising at least two inner members and two outer members coöperative respectively therewith, strips extending across the upper and lower edges of said members, and a spacing member disposed between the inner members, said spacing member being provided with means for positively holding the several mold members in parallelism.

3. A mold comprising at least two inner members and two outer members coöperative respectively therewith, and a spacing member between the inner members provided with means for positively holding said members in operative relation.

4. A mold comprising at least two inner members and two outer members coöperative respectively therewith, a spacing member situated between the inner mold members and provided with a head having notches to receive the upper edges of the several mold members.

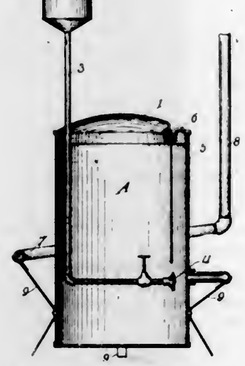
5. A mold comprising at least two inner members and two outer members coöperative respectively therewith, and a spacing member between the inner members having a head, said head having notches to receive the inner members and having two series of notches, each one of which latter is adapted to receive the upper edge of an outer member.

6. A mold comprising at least two inner members and two outer members coöperative respectively therewith, a spacing member situated between the inner members and having a head provided with means to positively hold the several members in assembled relation, and a deflector carried by the head to positively direct cement material into the spaces between the inner and outer members.

7. A mold comprising inner and outer members coöperative respectively with each other, strips extending entirely across and projecting outward beyond the upper and lower edges of the mold to constitute scaffold-supports, said strips having pin-receiving perforations near their outer ends and having projections to prevent outward displacement of the outer mold members, and a spacing device between the inner mold members.

8. A mold comprising inner and outer members combined with a part to extend across said mold members and having notches to receive the said mold members and hold the same in parallelism.

845,636. WATER-TANK HEATER. JOB HARRIS, New Providence, Iowa. Filed Nov. 27, 1906. Serial No. 345,375.

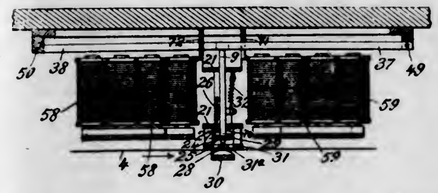


Claim.—1. A heater for water-tanks provided with a heating-drum, a burner therein, a cold-air pipe leading to the drum, and a coiled hot-air pipe connected to the drum and encircling the same.

2. A heater for water-tanks, comprising a drum, a burner therein, an air-pipe leading to the drum, a coiled pipe connected to the drum and encircling the same, and standards secured to the drum for supporting the pipe.

845,637. WATCHMAN'S ELECTRIC TIME-DETECTOR. OTTO E. HAUSBURG, New York, N. Y. Filed Dec. 3, 1904. Serial No. 235,385.

Claim.—1. In a watchman's electric time-detector, the combination of a clock-train, for rotating a record-dial, parallel sliding bars, crank-shaped perforators pivoted respectively to said bars, said perforators being rotary in one direction only from their normal positions, means for sliding said bars for driving said perforators through said dial, and retractile springs and a bar-cam for returning said perforators to their normal positions after being tilted on their pivots by the action of the rotating dial.



2. In a watchman's electric time-detector, the combination of a dial-carrier, a clock-train for rotating said carrier, a series of sliding bars, each having a notch, a crank in each notch, and pivoted therein, one of the arms of the crank being pointed to form a perforator for said dial, and the crank bearing against the bottom of the notch so as to be able to turn in one direction only, said direction being that of the dial-carrier, the other arms of the cranks extending outward from said bars, retractile springs connecting the last-named arms to said bars, and a bar-cam transverse to said bars and normally behind said cranks as measured from said springs, said perforators being rotary only toward said cam.

3. In a watchman's electric time-detector, the combination of a rotating dial-carrier, parallel bars, plates with bearings for said bars, means for sliding said bars, and rotary in one direction only, said carrier constituting the element for rotating said perforators, a single bar-cam lying in the paths of said arms for retracting said perforators to their normal positions after being rotated by said carrier, and stop-pins on said bars and projecting between said cam and one of said plates for limiting the motions of said bars.

4. In a watchman's electric time-detector, the combination of a dial-carrier, a clock-train for rotating said carrier, parallel sliding bars, crank-shaped perforators pivoted respectively to said bars, said perforators being rotary in one direction only, means for sliding said bars for driving said perforators through said dial, retractile springs and a single bar-cam for returning said perforators to their normal positions after being tilted on their pivots by the action of said carrier, said means consisting of armatures acting directly upon said bars independently of any intermediate connection, and of magnets for said armatures, each of the magnets having their two spools for the respective poles of the magnets, one of the two spools of each magnet extending between the two spools of contiguous magnets.

5. In a watchman's electric time-detector, the combination of a recorder for acting upon a rotary dial, means for moving said recorder for making a record upon said dial, said recorder being free to rotate through the action of said dial, independent devices for turning back said recorder to its normal position, a sliding bar for holding said recorder, a magnet-armature bearing upon said bar, and a retractile spring for said bar.

6. In a watchman's electric time-detector, the combination of a dial-carrier, a clock-train for rotating said carrier, a series of sliding bars parallel to one another, and located in the same plane, notches in corresponding ends of said bars transverse to said plane, cranks in the respective notches, pivots carried by the bars and supporting the cranks with one edge of each crank against the bottom of the corresponding notch to prevent the crank from turning in more than one direction from its normal position, one of the arms of each crank being pointed to form a perforator for the dial, and the said arms all pointing in the linear direction of the length of the bars, the other arms of the cranks extending perpendicular to the plane of said bars, retractile springs connected both to said bars respectively and to said last-named arms respectively, a bar-cam on the opposite side of said bars from the last-named arms, magnet-armatures bearing against said bars for driving them lengthwise for driving the perforators through said dial,

a two-pole magnet for each armature, a spool for each pole, said spools for each magnet being parallel to each other, and to the spools of the other magnets, and so arranged that one of the spools of any magnet extends between the two spools of a contiguous magnet, and a common pivot for the armatures, and a like combination of armatures facing the above combination of armatures and so arranged that the armatures of the two combinations alternate with each other, for acting upon said bars.

7. In a watchman's electric time-detector, the combination of a dial-carrier, a clock-train for rotating said carrier, parallel sliding bars, crank-shaped perforators pivoted respectively to said bars, said perforators being rotary in one direction only, means for returning said perforators to their normal positions after being tilted on their pivots by the action of said carrier, armatures acting directly upon said bars, independently of any intermediate connection, for sliding said bars for driving said perforators through said dial, and a magnet for each of said armatures, each of the magnets having two spools, for the respective poles of the magnet, one of the two spools of each magnet extending between the two spools of contiguous magnets.

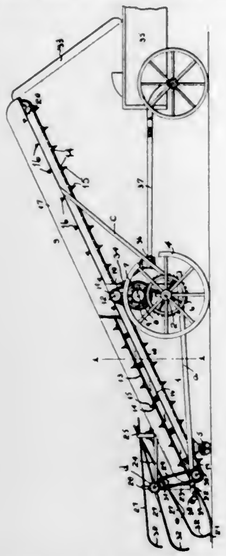
8. In a watchman's electric time-detector, the combination of a dial-carrier, a clock-train for rotating said carrier, a series of sliding bars parallel to one another, and located in the same plane, notches in corresponding ends of the bars transverse to said plane, cranks in the respective notches, pivots carried by the bars and supporting the cranks with one edge of each crank against the bottom of the corresponding notch to prevent the crank from turning in more than one direction from its normal position, one of the arms of each crank being pointed to form a perforator for the dial, and the said arms all pointing in the linear direction of the length of the bars, the other arms of the cranks extending perpendicular to the plane of said bars, retractile springs connected both to said bars respectively, and to said last-named arms respectively, magnet-armatures bearing against said bars for driving them lengthwise to drive the perforators through said dial, a two-pole magnet for each armature, a spool for each pole, said spools for each magnet being parallel to each other, and to the spools of the other magnets, and so arranged that one of the spools of any magnet extends between the two spools of a contiguous magnet, a common pivot for the armatures, and a like combination of armatures facing the above-named combination of armatures and so arranged that the two combinations alternate with one another, for acting upon said bars.

9. In a watchman's time-detector, the combination of perforators for a record-sheet, the perforating ends of said perforators being of rectangular cross-section and having two sides plane and parallel to each other and the remaining two sides plane and sloping toward and meeting each other in a cutting edge, means for operating said perforators to perforate said record-sheet, and stops for limiting the entrance of the perforators into the material of the record-sheet beyond a predetermined extent.

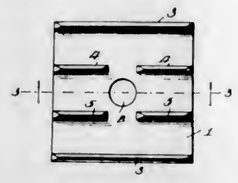
10. In a watchman's time-detector, the combination of perforators for a record-sheet, holders for the perforators, said perforators sufficiently sloping so that the record-sheet, as it moves will cam said perforators free from said sheet.

845,638. SHOCK-LOADER. HENRY HENDRICKSON, Rushford, Minn. Filed June 21, 1906. Serial No. 322,785.

Claim.—In a shock-loader, the combination of a main frame, supporting-wheels for the front end thereof, an axle near the center thereof, driving and supporting wheels on said axle, and gears revoluble therewith, supporting-rollers mounted at different elevations at the front, center and rear of the frame, an endless, inclined conveyer on said rollers, a shaft mounted in the frame above the axle and having pinions engaging the gears and further provided with sprocket-wheels, sprocket-wheels on the center roller, endless sprocket-chains connecting the sprocket-wheels of the shaft and those of the center roller, a rake at the front end of the frame, a shaft mounted above the lower portion of the conveyer, having a plurality of angularly-disposed cranks, and provided at its ends with spur-gears, a guide element in rear of said crank-shaft, rake-bars attached to and operated by the respective cranks and having their rear portions guided and supported by the guide element, a shaft mounted below the crank-shaft and having spur-gears engaging those of the crank-shaft, and further provided with sprocket-wheels, sprocket-wheels on the lower roller, and endless sprocket-chains connecting said roller sprocket-wheels and those of the last-mentioned shaft, substantially as described.



845,639. TIE OR ANCHOR PLATE. FRANK E. HERRIMAN, Montgomery City, Mo. Filed Oct. 20, 1906. Serial No. 339,849.

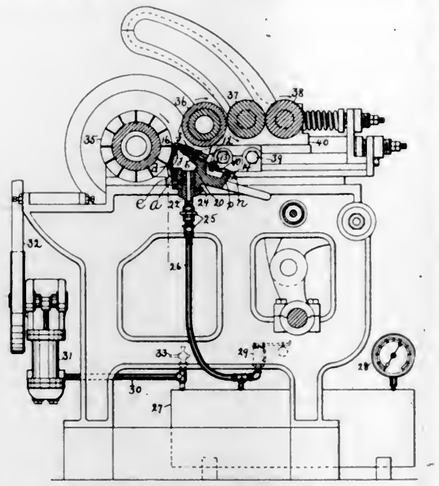


Claim.—A rectangular anchor or tie plate having a central opening therein and provided upon its opposite side with sets of spur-ribs arranged at right angles to each other, each set comprising outer parallel longitudinal ribs extending entirely across the plate, and inner sets of parallel ribs extending from the center to the outer edges of the plate on opposite sides of the plane of the opening parallel with said outer ribs.

845,640. HOLLOW WORK-SUPPORT OR BED. HENRY A. HOLDER, Lynn, Mass. Filed June 5, 1905. Serial No. 263,774.

Claim.—1. In an apparatus of the character described, in combination, a hollow bed or work-support comprising a stationary member provided with an opening, a movable member covering said opening and having its ends secured to said stationary member back of or within the normal working position of said movable member, a removable covering or face for said movable member, means to detachably secure said movable member and its covering to said stationary member, and means to adjust said movable member to said stationary member, substantially as described.

2. In an apparatus of the character described, in combination, a hollow bed or work-support comprising a stationary member provided with an opening, a movable member covering said opening and having its ends secured to said stationary member back of or within the normal working position of said movable member, and a fluid-containing tube within said hollow bed and coöperating with said movable member, a source of fluid-supply, and means to connect said inner tube with said source of fluid-supply, substantially as described.



3. In an apparatus of the character described, in combination, a hollow bed or work-support comprising a stationary member provided with an opening, a movable member covering said opening and having its ends secured to said stationary member back of or within the normal working position of said movable member, means to detachably secure said movable member to said stationary member, and means to adjust said movable member to said stationary member, substantially as described.

4. A hollow bed or work-support comprising a stationary member, and a movable member of substantially non-extensible material, and means to secure the ends of said movable member out of line with the normal working position of said movable member, to enable said member to be moved from its working position, substantially as described.

5. A hollow bed or work-support provided with a movable member of substantially non-extensible material having its ends secured out of line with its intermediate portion to permit bodily movement of said intermediate portion, for the purpose specified.

6. A hollow bed or work-support provided with end walls having reëntrant portions, and a movable member having its ends secured to said reëntrant portions, and means to force the intermediate portion of said movable member outward beyond said reëntrant portions of the end walls, substantially as described.

7. A hollow bed or work-support provided with a movable member having its ends out of line with its intermediate portion to permit bodily movement of said intermediate portion, and a fluid-containing tube within said hollow bed or work-support coöperating with said movable member to force its intermediate portion beyond the plane of the end portions of said movable member, and to permit said intermediate portion to yield under external pressure, substantially as described.

8. A hollow receptacle provided with a movable member having its ends fastened out of line with its intermediate portion, and a fluid medium under pressure within said hollow receptacle normally forcing said intermediate portion beyond and out of line with its ends and permitting bodily movement of said intermediate portion under external pressure, substantially as described.

9. A hollow bed or work-support comprising a stationary member, and a movable member of substantially non-extensible material, and means to adjust the movable member intermediate its ends to said stationary member, substantially as described.

10. A hollow bed or work-support comprising a stationary member, a movable member fastened at its ends to said stationary member, and means coöperating with the movable member intermediate its ends to adjust said movable member to said stationary member, substantially as described.

845,641. PENHOLDER. HENRY VAN COTT HOLLAND, New York, N. Y. Filed Oct. 30, 1906. Serial No. 341,301.



Claim.—1. A penholder comprising a shank, a case secured thereto, pen-socket members slidably mounted within said case, a rocker-bar pivotally mounted in the said shank, connections between the said rocker-bar and the said pen-socket members and means operative exteriorly of the case whereby the socket members may be moved longitudinally in opposite directions to project one pen for use and simultaneously retract the other pen through the intervention of the said rocker-bar and connections.

2. A penholder comprising a shank, a case secured thereto and provided with a longitudinal slot, pen-socket members slidably mounted within said case, a rocker-bar pivotally mounted in the said shank, connections between the said rocker-bar and the said pen-socket members, and a stop-screw passing through the said longitudinal slot in the case and secured in one of the said socket members whereby the same may be moved longitudinally in opposite directions to project and retract one pen and through the intervention of the said rocker-bar and connections, cause a longitudinal movement of the other socket member in opposite directions to retract and protect the other pen.

3. A penholder comprising a shank provided with a slot and longitudinal grooves extending from corresponding edges of the said slot in diametrically opposite positions to one end thereof, a case secured to the slotted end of the said shank member, ribs in diametrically opposite positions on the interior surface of said case, a pair of pen-socket members mounted within said case on opposite sides of the said ribs, a rocker-bar pivotally mounted in said slot in the shank member, connections extending between the opposite ends of the said rocker-bar and the respective pen-socket members, and means whereby one

socket member may be moved longitudinally in opposite directions to project and retract one pen and through the intervention of the said rocker-bar and connections cause a longitudinal movement of the other socket member in opposite directions to retract and project the other pen.

4. A penholder comprising a shank provided with a slot and longitudinal grooves extending from corresponding edges of the said slot in diametrically opposite positions to one end thereof, a case provided with a longitudinal slot and secured to the slotted end of the said shank member, ribs in diametrically opposite positions on the interior surface of said case, a pair of pen-socket members mounted within said case on opposite sides of the said ribs, a rocker-bar pivotally mounted in said slot in the shank member, links extending from the opposite ends of the said rocker-bar within the said grooves in the shank member and pivotally connected respectively with the inner ends of the said pen-socket members, and a stop-screw passing through the said longitudinal slot in the case and secured in one of the pen-socket members.

845,642. BUCKLE. DAVID A. HUFFMAN, Paris, Ill. Filed Mar. 5, 1906. Serial No. 304,319.



Claim.—1. A buckle comprising a pair of oppositely-disposed side pieces one of which is formed with an eye while the opposite one is formed with a hook, a cross-bar connecting the side pieces, a tongue mounted upon the cross-bar, a second cross-bar connecting the side pieces and having an eye formed at each end thereof, one of said eyes loosely engaging with the before-mentioned eye upon one of the side pieces while the opposite eye has a detachable connection with the before-mentioned hook upon the opposite side piece.

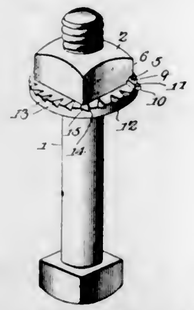
2. A buckle comprising side pieces one of which has an eye at one end while the opposite side piece has a hook, a cross-bar connecting the side pieces, a tongue mounted upon the cross-bar, and an end bar having eyes at its extremities, one of the eyes loosely engaging the before-mentioned eye upon one of the side pieces, while the opposite eye has a detachable connection with the hook upon the opposite side.

3. A buckle comprising side pieces, a cross-bar connecting the side pieces, a second cross-bar provided at its extremities with an eye by means of which it is detachably connected to one of the side pieces and loosely connected to the opposite side piece, and a sleeve mounted upon the second cross-bar and held in position by the eyes at the extremities thereof.

4. A buckle comprising side pieces, one of which is provided with an eye at one end while the opposite side piece is provided with a hook at one end, a cross-bar connecting the side pieces, a tongue mounted upon the cross-bar, and an end bar having its extremities bent to form eyes, by means of which it is loosely connected to the before-mentioned eye upon one of the side pieces and detachably connected to the hook upon the opposite side piece, the eyes at the extremities of the end bar normally engaging with the strap to hold the end bar in such a position as to prevent accidental disengagement from the side pieces.

845,643. NUT-LOCK. CHARLES H. HUGHES, Rossburg, Ohio. Filed Oct. 8, 1906. Serial No. 338,008.

Claim.—1. A nut-lock consisting of a bolt, a nut having a bolt-perforation with an annular recess located at the end thereof, said recess having an inclined wall and a radially-extending recess extending from said annular recess to the edge of the nut, a key having an annular portion adapted to rest within said annular recess, said annular portion having a beveled outer wall, said key having a finger resting in said radially-extending recess of the nut and adapted at its outer end to enter a notch or detent.



2. A nut-lock consisting of a bolt, a nut having a bolt-perforation, an annular recess located at the end of said perforation and a radially-extending recess extending from the said annular recess to the corner of the nut, said radially-extending recess having its top wall curved upwardly toward its outer end, a key having an annular portion resting within said annular recess, and a radially-extending finger resting within said radially-extending recess, the outer end of said finger being bent down and adapted to enter a notch or detent.

845,644. SCISSORS. MARY E. HULTQUIST, Brookhaven, Miss. Filed Sept. 20, 1906. Serial No. 335,661.



Claim.—1. A pair of scissors comprising the usual pivotally-connected main blades, and a pair of blades or cutters carried by the outer end portions of each main blade.

2. A pair of scissors embodying main pivotally-connected blades provided with suitable handles, and pairs of cutters or blades attached to the outer end of the main blades in spaced relation to the latter, said pairs of auxiliary blades or cutters being adapted for coöperation on movement of the main blades.

3. A pair of scissors comprising pivotally-connected main blades and suitable operating-handles therefor, each main blade being formed with a longitudinal tang at its outer end, said tang being provided with a pair of cutters or blades auxiliary to the main blades and operable therewith.

845,645. PHONOGRAPH REPEATING MECHANISM. LYMAN D. KELLEY, Memphis, Tenn. Filed Sept. 24, 1906. Serial No. 335,966.

Claim.—1. In a reproducing apparatus for sound-reproducing machines, a rest or support for the sound-box, movable to disengage the latter from the prime mover, an elastically-mounted stop member at one end of the rest or support and in the path of the sound-box, said stop member being put under stress by the sound-box and normally locked by the rest or support, and another elastically-mounted stop member at the other end of the rest or support normally locking the latter in the depressed position and arranged in the path of the sound-box.

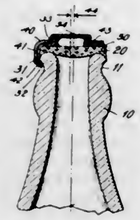
2. A repeating attachment for sound-reproducing machines comprising a rest or support for the sound-box, movable to disengage the same from the prime mover, a movable member in the path of the sound-box locking said rest or support in the depressed position, another movable member also in the path of the sound-box and impelled thereby to a position of stress, means carried by said last-named movable member for elevating the sound-box rest or support, and a lock for holding the rest or support in elevated position, said lock being under the control of said last-named movable member to operate said lock to release the rest or support.

3. In repeating apparatus for sound-reproducing machines, a pivotally-mounted bar adapted to support the sound-box carriage during its return to starting position, a locking-arm for holding said bar depressed, an adjustable member carried by the arm and disposed in the path of movement of the sound-box carriage, a spring-actuated cam for elevating said bar, means for locking said bar in the elevated position, and means operable on the return of the carriage to starting position for releasing the bar and moving the cam to inoperative position.

4. In repeating apparatus for sound-reproducing machines, a pivotally-mounted bar arranged to form a support for the sound-box carriage during its return to starting position, a pair of pivotally-mounted arms, and springs controlling the elevation and depression of the bar, adjustable pins carried by the arms and each having a threaded end, and a nut screwed on each pin and disposed in the path of movement of the sound-box carriage.

5. In repeating apparatus for sound-reproducing machines, a frame, means for adjustably securing the same to the machine, a horizontally-arranged pivotally-mounted bar carried by said frame, a pivotally-mounted arm having a lug arranged to lock said bar in depressed position, said arm being disposed in the path of movement of the sound-box carriage, a spring tending to depress the bar, a second arm also disposed in the path of movement of the sound-box carriage, a locking-spring for holding the bar in elevated position, said spring being disposed in the path of movement of the second arm, a cam carried by said second arm and tending to elevate the bar, a spring for actuating the cam, a second arm, and means for returning the sound-box carriage to initial position.

845,646. BOTTLE-STOPPER. GEORG KIRKEGAARD, New York, N. Y., assignor of one-half to Fridtjof Jebsen, New York, N. Y. Filed May 9, 1906. Renewed Feb. 1, 1907. Serial No. 355,286.



Claim.—1. In a movable bottle-stopper, a pair of disks rotatably connected together, each disk having a depending flange about a portion only of its periphery.

2. In a bottle-stopper, a pair of disks rotatably connected together, each disk having a depending flange about a portion of its periphery, said disks and flanges being arranged to interlock with each other.

3. In a bottle-stopper, a pair of disks rotatably connected together, a packing within said disks, each disk having a depending flange about a portion of its periphery, the flanges and disks being arranged to interlock with each other.

4. In a bottle-stopper, a pair of disks eccentrically pivoted together, each disk having a projecting portion extending downwardly and inwardly from a part of its periphery.

5. In a bottle-stopper, a pair of circular disks eccentrically pivoted together, each disk having a depending flange about a portion of its periphery.

6. In a bottle-stopper, a pair of disks rotatably connected together, each disk having a projecting portion extending downwardly from a portion of its periphery, said flanges being provided with inwardly-projecting rims, the disks, flanges and rims being arranged to interlock with each other.

7. In a bottle-stopper, a pair of circular disks eccentrically pivoted together, each disk having a downwardly-projecting flange about a portion of its periphery, said flanges being provided with inwardly-projecting rims.

8. In a bottle-stopper, a pair of circular disks, a packing within the disks, said disks being eccentrically pivoted together, each disk having a downwardly-projecting flange about a portion of its periphery, said flanges being provided with inwardly-projecting rims, the disks, flanges and rims being arranged to interlock with each other.

9. In a bottle-stopper, a pair of circular disks eccentrically pivoted together, each disk having a depending flange about a portion of its periphery, said two flanges together forming more than a complete circumference of a circle.

10. In a bottle-stopper, an inner member, an outer member, a flange depending from the inner member, and a flexible flange depending from the outer member.

11. In a bottle-stopper, a pair of disks rotatably connected together, each disk having a depending flange about a portion of its periphery, and a stop arranged to limit the relative rotation of the disks.

12. In a bottle-stopper, an inner member and an outer member, a flange depending from the inner member and a slotted flexible flange depending from the outer member.

13. In a bottle-stopper, an inner member and an outer member, each of the members being provided with depending flanges, and a projecting boss upon the outer member.

14. In a bottle-stopper, an inner member and an outer member, a packing within said members, said members being eccentrically pivoted together, and each member having a downwardly-projecting flange about a portion of its periphery, said flanges being provided with inwardly-projecting rims, the disks, flanges and rims being arranged to interlock with each other, a projecting boss upon the outer member and a stop-piece upon the inner member.

15. In a bottle-stopper, an inner member and an outer member, a flange depending from the inner member, a slotted flexible flange depending from the outer member, said flanges being rotatably connected together; the inner member extending through and overlapping a portion of the outer member, projecting bosses upon the outer member, and a stop-piece upon the inner member arranged to limit the relative movement of the two members.

845,647. COUPLING FOR SHACKLE-RODS. ASAPH M. KLECKNER and WILLIAM B. KLECKNER, Caney, Kans. Filed Jan. 24, 1906. Serial No. 297,641.



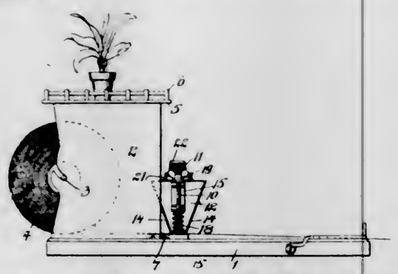
Claim.—1. The combination with a two-part shackle-rod, and an abutment and guide therefor, of a coupling for the parts of the shackle-rods comprising two clamping-plates between which the end of one part of the shackle-rod is clamped, each of said plates having a hook on one end to engage the end of the other part of the shackle-rod and also having a head on its other end, and a buffer-block adapted to be positioned upon the shackle-rod between the abutment and the head of the coupling to limit the stroke of the latter and release it from engagement with a last-mentioned part of the shackle-rod, substantially as specified.

2. The combination with a two-part shackle-rod, and a combined guide and abutment therefor, of a coupling constructed and arranged to clamp one end of one part of the

shackle-rod and having a detachable connection with the end of the other part of the shackle-rod, and means positioned upon the shackle-rod between the abutment and the coupling for limiting the stroke of the latter and automatically releasing it from engagement with the last-mentioned part of the shackle-rod.

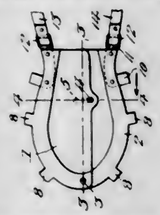
3. The combination with a two-part shackle-rod, and a detachable coupling therefor, of a combined guide and abutment on which the shackle-rods are supported, said abutment being located adjacent to the coupling, and a bifurcated buffer-block adapted to straddle the shackle-rod with one end engaging with the abutment, whereby, when the coupling contacts with the other end of the buffer-block, the movement of the latter will be arrested to permit the parts of the shackle-rod to be disconnected, substantially as specified.

845,648. PAPER-COATING MACHINE. FRANK KLOUSNITZER, Herman, Pa. Filed June 8, 1906. Serial No. 320,794.



Claim.—In a machine for coating fly-paper, the combination of a platform, standards carried by said platform at one end thereof, a roll of paper journaled in said standards, a pair of straps mounted on the platform adjacent the standards, a frame extending transversely of the platform carrying lugs extending at right angles thereto and engaging in straps to secure the frame to the platform, a vertical post carried by said frame adjacent each end, a coating-receiving receptacle mounted between the standards, U-shaped brackets carried by the ends of said receptacle and receiving said vertical posts, springs mounted on the posts between the frame and the lower ends of said brackets, nuts mounted on the upper ends of said posts for varying the tension of said springs, and a yoke carried by the platform near its other ends substantially as described.

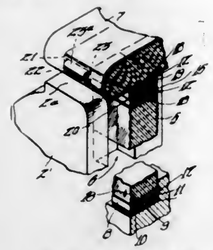
845,649. HOOF-PAD. LOUIS H. KROMM, Baltimore, Md., assignor of one-half to Charles H. Lighthiser, Baltimire, Md. Filed July 18, 1906. Serial No. 326,736.



Claim.—1. A hoof-protecting device comprising pivotally-connected members provided at their outer edges with laterally-extending spurs, one of said members being provided with a stud, and the other member having a slot to engage said stud, said members being provided near their rear ends with laterally-extending shoe-engaging clips, and means at the rear ends for expanding said members.

2. A hoof-protecting device including pivotally-connected members having laterally-extending spurs and shoe-engaging clips projecting outwardly from their outer edges, brackets connected with said clips, and means connected with said brackets to expand the members to engaging position beneath a hoof.

845,650. ALL-GLASS KNOCKDOWN SHOW-CASE. MAXIMILIAN E. LA BERGE, Los Angeles, Cal. Filed Apr. 6, 1906. Serial No. 310,258.



Claim.—1. In a show-case, two adjacent glass plates, each provided with fastening-strips secured thereto by cement, the respective strips being flanged, and a key-strip engaging the flanges of the respective strips to bind the plates together.

2. In a show-case, two glass plates, each having a C-formed metal strip secured thereto by cement, the strips of the respective plates being opposed to form an H-shaped channel, and an H-formed bar extending in said channel to bind the plates together.

3. A glass plate for show-cases having a fabric strip cemented thereon, and a metallic fastening-strip cemented on the fabric strip, said fastening-strip having a flange extending therefrom.

4. A show-case comprising base and back members, glass end plates, the base having a shoulder around its ends and front, and the back member having vertical grooves, end plates extending in the grooves in the back member, means on the base and on the end plates slidably engaging one another to retain the end plates from lateral displacement, a front plate extending in front of the end plates, means on the rear side of the front plate and on the front edges of the end plates connected together to hold the front plate against the end plates, and a top plate extending over the front and end plates and the top of the back frame, and provided with fastening means secured to its under face, the top of the said back frame, the end plates and top plate being provided with fastening means connected to the fastening means of the top plate to hold the top plate down and to hold the front and end plates in relative position.

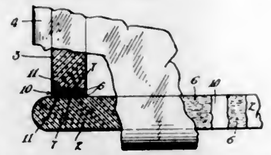
5. In a show-case, the combination with back, end and front members, of a glass top plate having a U-formed strip secured to its under face by cement, a reversely-directed U-formed strip secured to the top of the front plate by cement to engage and interlap with the aforesaid U-formed strip, opposing fastening devices secured to the under face of the top plate and end member to guide the top plate and permit it to be slid rearwardly over the end plates to bring the aforesaid U-formed strips into engagement, and means on the top plate and rear member to hold the top plate in rearward position.

6. In a show-case, a base having longitudinal grooves in its ends and vertical grooves in its front, plates extending across said grooves, end moldings having hooks extending in the grooves and engaging with the plates at the ends of the base, and a front molding having hooks extending in the vertical grooves and engaging with the plates in the front of the base, the said moldings meeting at their ends to mutually hold one another in place.

845,651. SEMI-KNOCKDOWN ALL-GLASS SHOW-CASE. MAXIMILIAN E. LA BERGE, Los Angeles, Cal. Filed Apr. 12, 1906. Serial No. 311,294.

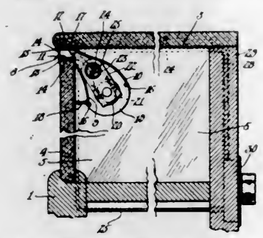
Claim.—1. A show-case comprising a plurality of glass plates, each provided with cushion-strips of non-absorbent

material cemented thereto, the cushion-strips of adjacent glass plates being cemented together, and dividing means extending in the joint between the respective cushion-strips, said dividing means being flexible and of harder material than the cushion-strips.



2. A show-case comprising a plurality of glass plates, each provided with a cushion-strip cemented thereto, the cushion-strips of adjacent plates opposing one another, and an intermediate removable strip between the said cushion-strips of adjacent plates.

845,652. ILLUMINATED SHOW-CASE. MAXIMILIAN E. LA BERGE, Los Angeles, Cal. Filed May 23, 1906. Serial No. 318,428.



Claim.—1. A show-case comprising a glass top plate and glass wall-plates, a box-strip extending between the top plate and the wall-plates and fastened to said plates, said strips having openings for passage of air therethrough, ventilator-strips extending from the box-strip within the case, and lamp-supporting means extending between the reflector-strips and supported by a box-strip.

2. A show-case comprising a top plate and wall-plates, a box-strip extending in the joint between the top plate and one of the wall-plates and having downwardly-extending flanges engaging inside and outside the wall-plates, said box-strips being perforate for the passage of air therethrough, and a reflector consisting of strip extensions from the box-strip.

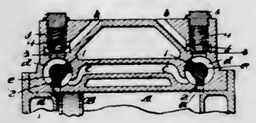
3. A show-case comprising a top plate and wall-plates, a box-strip extending between the top plate and one of the wall-plates, said box-strip consisting of upper and lower strip elements separated to form a ventilating-opening between them and provided with strip extensions projecting into the case to form a reflector.

4. A show-case comprising a top plate and wall-plates, a box-strip extending between the top plate and one of the wall-plates, said box-strip consisting of upper and lower strip elements separated to form a ventilating-opening between them and provided with strip extensions projecting into the case to form a reflector, the lower strip elements having a downwardly-extending flange and engaging inside and outside the wall-plate.

5. A show-case comprising a top plate and wall-plates, a box-strip extending between the top plate and one of the wall-plates, said box-strip consisting of upper and lower strip elements separated to form a ventilating-opening between them and provided with strip extensions projecting into the case to form a reflector, the upper strip elements having a downwardly extending flange and the lower strip element having an upwardly-extending flange portion at its inner edge.

6. A show-case comprising a top plate and wall-plates, a box-strip extending between the top plate and one of the wall-plates, said box-strip consisting of upper and lower strip elements separated to form a ventilating-opening between them and provided with strip extensions projecting into the case to form a reflector, a tube extending longitudinally between the reflector-strips, electric-lamp supports on said tube, and electric-supply wires extending through the said tube and having connections to the electric-lamp supports.

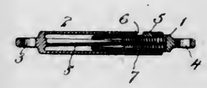
845,653. AIR-COMPRESSOR AND THE LIKE. GEORGE DE LAVAL, Cambridge, and GEORGE P. ADORN, Boston, Mass., assignors to International Steam Pump Company, New York, N. Y., a Corporation of New Jersey. Filed July 15, 1904. Serial No. 216,682.



Claim.—1. In an air or gas compressor or pump, the combination with the cylinder and its inlet and discharge passages, of spring-closed puppet discharge-valves in the discharge-passages, mechanically-actuated valves between the puppet-valves and the cylinder controlling the discharge-passages, and means for actuating said mechanically-actuated valves to open the discharge-passages at a fixed point and to close the discharge-passages at the end of each compression-stroke and before the closing of the puppet-valves, and maintain the closing of the discharge-passages on the reversal of the piston, whereby a slow-closing movement of the puppet-valves is secured and the puppet-valves are cushioned in closing, substantially as described.

2. In an air or gas compressor or pump, the combination with the cylinder and its inlet and discharge passages of spring-closed puppet discharge-valves in the discharge-passages, valve-chambers between the puppet-valves and the cylinder, mechanically-actuated oscillating valves between the puppet-valves and the cylinder controlling the inlet and discharge passages, and means for actuating said mechanically-actuated valves to close the discharge-passages at the end of the compression-stroke and before the closing of the puppet-valves and to open the inlet-passages on the reversal of the piston and maintain the closing of the discharge-passages, whereby a slow-closing movement of the puppet-valves is secured and the puppet-valves are cushioned in closing, substantially as described.

845,654. SEPARABLE COUPLING. CHARLES H. LAYNG, New York, N. Y. Filed Oct. 24, 1906. Serial No. 340,339.



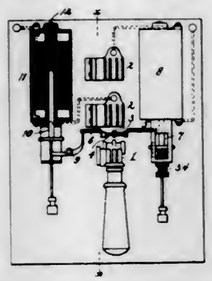
Claim.—1. A separable coupling comprising tubular male and female members having a bayonet-joint connection, one of the members being provided with a spring within its bore and the other member with a plunger within its bore arranged to compress the spring when the members are in their connected position, for yieldingly locking the members together.

2. A separable coupling comprising tubular male and female members having a bayonet-joint connection, the male member being provided with a spring within its bore and the female member with a plunger within its bore arranged to compress the spring when the members are connected and for yieldingly locking the members together.

3. A separable coupling comprising tubular male and female members having a bayonet-joint connection, the male member having a tapered bore and provided with a spring held therein by the taper of the bore, and a female member having a centrally-arranged plunger within its bore arranged to compress the spring when the mem-

bers are connected, for yieldingly locking the members together.

845,655. AUTOMATIC CIRCUIT-BREAKER. HARRY W. LEONARD, New York, N. Y. Filed Mar. 21, 1901. Serial No. 52,128.



Claim.—1. The combination with a circuit, of a controller therefor, said controller comprising a switch, a device arranged to cause the movement of said switch, magnetic means for holding said device against gravity, whereby when the magnetism is reduced to a predetermined minimum due to a certain abnormal electrical condition of said circuit said device falls and performs its function, and also comprising a second switch, a magnet, a magnetic mass movable against gravity under the influence of said magnet when its magnetic influence exceeds a predetermined maximum due to a certain other abnormal electrical condition of said circuit, and means for causing the movement of both of said switches when said magnetic mass is thus moved against the action of gravity.

2. The combination with a circuit, of a controller therefor, said controller comprising a switch-arm, a magnet connected with said circuit and having a coöperating iron part normally up and which falls and causes a movement of the switch-arm when the energy in said circuit falls below a predetermined limit, and also comprising a second switch, and second magnet having a coöperating iron part normally down and which rises and causes movement of both of said switches when the energy in said circuit exceeds a predetermined limit.

3. The combination with an electric motor having its armature and field winding in shunt relation, of a circuit-controller comprising a switch, a magnet in series with the field-winding and having a vertically-moving coöperating part which is normally sustained by magnetic action against gravity and which when no voltage occurs on the circuit falls and causes said switch to affect the armature-circuit, and also comprising a second switch, and a second magnet carrying the armature-current and having a vertically-moving coöperating part which is raised against gravity when the current through the motor-armature exceeds a predetermined amount and thereby causes both of said switches to affect the armature-circuit.

4. The combination with a circuit, of a circuit-controller, said controller comprising two independently-movable switches connected in series in said circuit, two independent electroresponsive devices protectively related to said switches and each having an automatically-movable part whose movement is independent of the movement of the other part, one moving when the electromotive force upon the circuit becomes abnormal and the other moving when the current in the circuit becomes abnormal.

5. The combination with two independently-movable switches, of two independent electroresponsive devices and a device coöperating with each of said electroresponsive devices, one of which falls by gravity when the electromotive force becomes too low and thereby causes the movement of one of said switches to affect the circuit, and the other being raised against gravity when the current exceeds a predetermined amount and thereby causes the movement of one or both of said switches to affect the circuit.

6. The combination with two independently-movable switches, of two magnets, one having a coöperating part normally held by magnetism against gravity and which upon an abnormal electrical condition of the circuit allows the coöperating part to fall under the action of gravity and thereby cause the movement of one of said switches to affect the circuit, and a second magnet having the cooperating part normally down and which under a different abnormal electrical condition of the circuit is raised by magnetism acting against gravity to cause the movement of one or both of said switches to affect the circuit.

7. The combination of two independently-movable switches, an electroresponsive device for automatically and simultaneously effecting the opening of both of said switches when excessive current flows, and a second independent electroresponsive device for effecting independently of said first device the opening of only one of said switches under an abnormal condition of electromotive force upon the circuit.

8. The combination of two independently-movable switches, independent latches for holding said switches closed against means tending to open them, an electroresponsive device for automatically and simultaneously effecting the tripping of both said latches when excessive current flows, and a second independent electroresponsive device for effecting independently of said first device the tripping of one of said latches under an abnormal condition of the electromotive force upon the circuit.

9. The combination of two independently-movable switches, independent latches for holding said switches closed against means tending to open them, an electromagnet having a movable magnetic mass responding to excessive flow of current and arranged to move upward to trip both of said latches, and a second independent magnet having a movable magnetic mass responding to an abnormal condition of the electromotive force upon the circuit and arranged to fall to trip only one of said latches.

10. The combination of a plurality of electric switches adapted to be moved manually and independently into normal position, a controlling device for automatically controlling the movement of all of said switches upon the occurrence of a certain abnormal electrical condition, and a second controlling device for automatically controlling independently of said first device the movement of less than all of said switches upon the occurrence of a different abnormal electrical condition.

11. The combination of a plurality of electric switches adapted to be moved manually and independently into normal position, a controlling device for automatically controlling the movement of said switches upon the occurrence of overload-current and a second controlling device for automatically controlling independently of said first device the movement of less than all of said switches upon the occurrence of a different abnormal electrical condition.

12. The combination of a circuit, two independently-movable switches connected in series in said circuit, a device having a movable mass which under certain electrical conditions of the circuit moves automatically to effect the opening of both of said switches, and a second independently-acting device having a movable mass which under different electrical conditions of the circuit moves automatically to effect the opening of at least one of said switches, the direction of motion of said two masses referred to being different.

13. The combination of a circuit, a switch connected in series in said circuit, a latch located below the switch-contacts for holding the movable part of said switch in closed position, said latch having two extensions, an electromagnetic device located on one side of said contacts and having a movable part extending below its winding, means below said winding and controlled by said movable part for affecting said latch by acting upon one of said extensions, an electromagnetic device located at the opposite side of said contacts and having a movable part extending below its winding, means below said latter winding and controlled by said latter movable part for affecting said latch by acting upon the other of said extensions, one of said devices acting upon the occurrence of one

electrical condition of the circuit and the other of said devices acting upon the occurrence of a different electrical condition of the circuit.

14. The combination of a circuit, two independently-movable switches in series in said circuit, a latch located below the contacts of each of said switches for holding the movable part of each of said switches in closed position, an electromagnetic winding having a movable part, means below said winding and controlled by said movable part for tripping both of said latches upon the occurrence of one electrical condition of the circuit, and additional electromagnetic means having a movable part for causing at least one of said latches to be tripped upon the occurrence of a different electrical condition, said additional means comprising a winding located above the part affected by the movement of its movable tripping part.

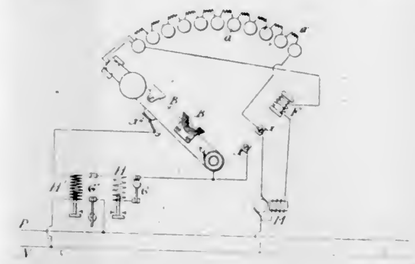
15. The combination of a constant electromotive-force-supply circuit, an electric motor of the shunt-field type, controlling means therefor comprising two independently manually closable switches connected in series with the motor-armature across said circuit, independent mechanical restraining means for each of said switches, independent means for each of said switches tending to open each switch separately, two electromagnetic responsive releasing means, each of said releasing means being independent of the other and each having a movable part which acts automatically and independently of the other part and delivers a blow to affect said restraining means, one of said releasing means being responsive to a predetermined overload-current for protecting said motor from excessive current and acting to cause the opening of both of said switches, and the other of said releasing means being responsive to low voltage.

16. The combination of an electric motor of the shunt-field type, two independently manually closable switches in series with each other and with the motor-armature, electroresponsive means for automatically effecting the opening of both of said switches upon overload or the opening of one of said switches upon overload if the other be held closed by the operator, said means comprising a movable part which when moved automatically delivers a blow to effect the said opening of said switches, and an independent electroresponsive means for automatically effecting the opening of at least one of said switches, said second means also comprising a movable part which when moved automatically delivers a blow independently of the movement of said first-named part to effect the opening of at least one of said switches.

17. The combination of a motor of the shunt-field type adapted for use upon a constant electromotive-force circuit, controlling means therefor comprising two independently-movable switches in series with each other and with the motor-armature and adapted to be closed successively, independent mechanical restraining means for each of said switches, an independent spring for each of said switches each tending to open the switch which it controls, two electromagnetic responsive releasing means, each of said releasing means being independent of the other and each acting independently of the other for automatically and separately affecting said restraining means, one of said releasing means being automatically responsive to predetermined decrease of current in its winding and the other being automatically responsive to predetermined increase of current in its winding, said switches and releasing means which responds to increase of current being protectively related so that one of said switches will always be opened if overload occurs when the last switch is closed for completing the circuit, and the said two responsive means having different resultant effects upon said switches whereby a visual indication is obtained showing which of said releasing means has acted.

845,656. ELECTRIC-CIRCUIT CONTROLLER. HARRY W. LEONARD, Bronxville, N. Y. Original application filed Dec. 20, 1904. Serial No. 237,653. Divided and this application filed Apr. 6, 1906. Serial No. 310,197.

Claim.—1. The combination of a rheostat having a movable element for varying the resistance, a switch in series therewith, mechanical restraining means for holding said switch in closed position, and electroresponsive means for releasing said restraining means to automatically control the opening of said switch by the movement of said element when substantially all of the resistance is in circuit.



2. The combination of a rheostat having a movable element for varying the resistance, a switch in series therewith, mechanical restraining means for holding said switch in closed position, and electroresponsive means for releasing said restraining means to automatically control the opening of said electroresponsive switch, said means being operated by the movement of said element at the initial position of said element.

3. The combination of a rheostat having a movable element for varying the resistance, a switch in series therewith, mechanical restraining means for holding said switch in closed position, electroresponsive means for controlling the release of said restraining means to automatically control the opening of said switch, and means for closing the circuit of said electroresponsive means by the movement of said element and thereby control the opening of said switch.

4. The combination of a rheostat having a movable element for varying the resistance, a switch in series therewith, mechanical restraining means for holding said switch in closed position, electromagnetic means for controlling the release of said restraining means to automatically control the opening of said switch, and means for closing the circuit of said electromagnetic means carried by said element.

5. The combination of a rheostat having a movable element for varying the resistance, a switch in series therewith, mechanical restraining means for holding said switch in closed position, electromagnetic means for controlling the release of said restraining means to automatically control the opening of said switch, and means operated by said element at its initial position for closing the circuit of said electromagnetic means and thereby control the opening of said switch.

6. The combination of a rheostat having a movable element for varying the resistance, a switch in series therewith, mechanical restraining means for holding said switch in closed position, and means comprising an electromagnetic device for controlling the release of said restraining means for effecting the opening of said switch, said second-named means being operated when said element is at the initial position to cause the current-flow to be interrupted at said switch.

7. The combination of a rheostat having a movable element for varying the resistance, a switch in series therewith, mechanical restraining means for holding said switch in closed position, and means comprising an electromagnetic device for controlling the release of said restraining means for effecting the opening of said switch to interrupt the current-flow, said device being actuated by the movement of said element when substantially all of said resistance is in circuit.

8. The combination of a rheostat having a movable element for varying the resistance, said element having means whereby the element may be moved manually, a switch in series therewith, a no-voltage device for retaining said element at its final position after being manually moved to said position, and electromagnetic means for con-

trolling the opening of said switch, said means being controlled by the movement of said element.

9. The combination of a resistance having a movable element for varying the resistance, said element having means whereby the element may be moved manually, a no-voltage device for retaining said element in its final position after being manually moved to said position, a switch in series with said resistance, electromagnetic means for controlling the opening of said switch, and means engaged by the movement of said element to the initial position for closing the circuit of said electromagnetic means.

10. The combination of a resistance having a movable element for varying the resistance, two independently-closable switches in series with each other and with said resistance, means for controlling the opening of both of said switches automatically when excessive current flows, and means operated by the movement of said element for controlling the opening of at least one of said switches.

11. The combination of a resistance having a movable element for varying the resistance, two independently-movable switches in series with each other and with said resistance, means for opening said switches automatically upon the occurrence of overload, and means affected by the movement of said element for controlling the movement of at least one of said switches.

12. The combination of a circuit-breaker comprising two switches in series with each other, an electric motor, a controlling variable resistance, said resistance being in series with the armature of said motor and with said switches, means for opening at least one of said switches upon the occurrence of overload-current, and electroresponsive means for protectively relating at least one of said switches and the movable element of said resistance.

13. The combination of an electric motor, a starting-rheostat, means associated with the movable element of said rheostat for protecting the circuit from abnormally low voltage, two independently-movable switches in series in the circuit of said motor, and means for automatically opening said switches upon the occurrence of abnormally large current.

14. The combination of an electric motor having a field-winding energized by a current independent of its armature-current, a switch in series with the armature and which switch also controls the current in said field-winding, means comprising an electroresponsive winding energized by a current independent of said armature-current and of said field-current for controlling said switch, and a motor-rheostat having a movable element for varying the resistance, the said element being arranged to affect the current in said electroresponsive winding after the resistance of said rheostat has been placed in circuit and thereby control the opening of said switch.

15. The combination of a constant electromotive-force-supply circuit, a branch circuit connected across said supply-circuit, said branch circuit containing in series a motor-armature, a variable armature-controlling resistance having a movable element and an automatic circuit-breaker, said circuit-breaker comprising two independently-movable switch elements in series with each other in said branch circuit, and means for affecting said circuit-breaker by the operation of said element.

16. The combination of a constant electromotive-force-supply circuit, a branch circuit connected across said supply-circuit, said branch circuit containing in series a motor-armature, a variable armature-controlling resistance and an automatic circuit-breaker, said circuit-breaker comprising two independently-movable switch elements in series with each other in said branch circuit, and means for protectively relating said variable resistance and at least one of said switch elements of the circuit-breaker.

17. The combination of a rheostat having a movable element for varying the resistance, a quick-acting switch, means for electrically controlling the opening of said switch by the movement of said element, a no-voltage magnet for holding said element in its restrained position, and automatic means for controlling the opening of said switch upon a predetermined current-flow.

18. The combination with a resistance having a movable element for controlling said resistance, of an automatic circuit-breaker in the motor-circuit, a control-coil for the circuit-breaker, and a contact at or near the initial position of said element for energizing said coil.

19. The combination with a motor-rheostat, of a circuit-breaker, a circuit-closer on the movable element of said rheostat, and means whereby said circuit-closer controls the operation of the circuit-breaker only when said element is in its initial position.

20. The combination with a motor-rheostat having a spring-pressed arm, a coil for controlling the circuit, a contact at or near the initial position of said arm for affecting the current in said coil, and restraining means for said arm at its resistance-all-out position.

21. The combination of a motor-rheostat having a movable element for varying the resistance, two switches in series with each other and with said rheostat, electroresponsive means for effecting the opening of one or both of said switches upon predetermined current-flow, a no-voltage protective device, and a contact controlled by the movement of said element for effecting the opening of one of said switches.

22. The combination of a constant electromotive-force-supply circuit, an electric motor, an armature-rheostat, two mechanically-related switches, said rheostat, switches and armature of said motor being all in series with each other in a branch circuit across said supply-circuit, means for controlling the opening of either of said switches upon overload-current passing through the armature independently of the position of the other of said switches, means for protecting the armature against conditions due to no voltage, and means for affecting at least one of said switches by said rheostat.

23. The combination of a motor having a field-winding energized independently of its armature-current, two independently-movable mechanically-related switches in series with each other and with the motor-armature, means responsive to overload-current for automatically controlling the opening of each of said switches, a starting resistance in series with the motor-armature, means for cutting out the resistance during the starting period, and means for short-circuiting said latter means after said resistance has been cut out.

24. The combination of a motor having a field-winding energized independently of its armature-current, two independently-movable mechanically-related switches in series with each other and with the motor-armature, means responsive to overload-current for automatically controlling the opening of each of said switches, a starting resistance in series with the motor-armature, means for cutting out the resistance during the starting period, means for short-circuiting said latter means after said resistance has been cut out, and means for protecting the motor-armature upon the occurrence of no voltage.

25. The combination of an electric motor having a field-winding energized by current independent of its armature-current, a resistance adapted for only temporary passage of the full-load current for starting the motor, an automatic protective switch in series therewith and which switch also controls the field-circuit of said motor, electrical means dependent upon the amount of said resistance in circuit for controlling the automatic protective movement of said switch, and an electroresponsive winding for automatically protecting the motor-armature against abnormal current.

26. The combination of a resistance-controlling current-carrying movable element, said element being adapted to vary the amount of resistance in circuit but not adapted to open said circuit, electroresponsive means for retaining said element in its normal position against a constantly-acting force, an electric motor having its armature in series with said element, a switch in series with said element and motor-armature adapted to open and close the armature-circuit and which switch also controls the field-circuit, electromagnetic means for opening the circuit of the armature when said switch is closed if excessive current then passes, and electrical means for protectively relating said switch and element.

27. The combination of an electric motor, a controlling resistance having a hand-operated movable element for varying the resistance, a switch in series with the armature of said motor and which switch also controls the field-circuit of the motor, an electroresponsive winding for controlling the opening of said switch, and means for controlling the current in said winding so as to control the opening of said switch only when said element is in such position as to include said resistance in the armature-circuit, said element and said switch being mechanically independent during the closure of said switch.

28. The combination of constant electromotive-force-supply mains, an electric motor having a field-winding energized independently of the working armature-current, a controlling resistance for the motor, connections forming a permanently-closed local loop including the motor-armature, said resistance and field-winding, an automatic protective switch, said local loop and said switch being connected in series with each other across said mains, an electroresponsive winding for controlling the motor-armature circuit under certain conditions, and a branch circuit across said mains in parallel with said loop and passing through said switch, said branch containing said electroresponsive winding.

29. The combination of a resistance having a movable element for varying the resistance, a switch capable of independent movement relatively to said movable element, electrical means for controlling said switch, said means being controlled by said element, and an electromagnetic winding which independently of said means controls the opening of said switch upon the occurrence of overload.

30. The combination of a switch having a movable element, a second switch electrically connected therewith and capable of independent movement relatively to said first switch, electrical means for controlling said second switch and controlled by said movable element only when said element is in a circuit-protective position, and independent electrical means for controlling the protection of the circuit upon overload.

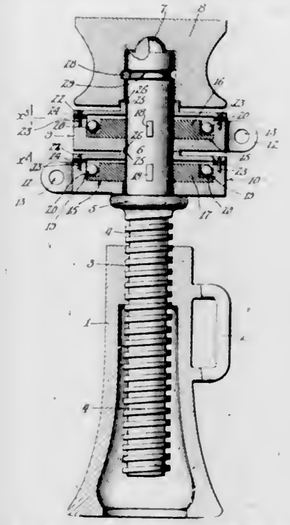
31. The combination of an electric motor, two switches in series with each other and with the armature of said motor, said switches being independently movable, electroresponsive means for automatically controlling the movement of said switches, a device in series with the motor-armature for controlling the electromotive force on the terminals of the motor-armature, and electrical means functionally related to said device for causing the automatic protective movement of at least one of said switches under certain conditions.

32. The combination of a translating device, an electromotive-force absorptive device in series therewith across a normally constant electromotive-force circuit, said device being adapted to vary the electromotive force upon said translating device, two protectively-related switches in series with each other and with said translating device, an electroresponsive device responsive to abnormal variations of electromotive force upon said circuit, means for automatically controlling the movement of at least one of said switches when an excessive current passes through the translating device, and electrical means for protectively controlling at least one of said switches when the electromotive-force absorptive device is in a certain condition.

33. The combination of an electric motor, a resistance-controlling switch in series with the armature of said motor, a functionally-related automatic switch in series with said armature and said first-named switch, and means for automatically controlling the circuit when no voltage occurs, when overload-current occurs and when the operator manually controls one of said switches, said means comprising three electromagnetic windings each of said windings being adapted to perform its function independently of the other two windings.

34. The combination of an electric motor, a resistance-controlling switch in series with the armature of said motor, a functionally-related automatic switch in series with said armature and said first-named switch, and means for automatically controlling the circuit when no voltage occurs, when overload-current occurs and when the operator manually controls one of said switches, said means comprising a mechanical restraining device for one of said switches and two electromagnetic windings functionally related to said device.

845,657. LIFTING-JACK. WILLIAM R. LEROY, Ocean-park, Cal. Filed Dec. 4, 1906. Serial No. 346,340.



Claim.—1. In a lifting-jack comprising a body, a jack member screwed thereinto, an inner clutch member secured to the jack member and having pockets formed therein, said pockets having their inner walls extended obliquely outward and forward in a given rotative direction and having their floors extending obliquely downward in the same rotative direction, an outer clutch member surrounding the inner clutch member and having a cylindrical inner surface, and balls in said pockets to engage or run free of the inner surface of the outer clutch member and the said oblique walls of the inner clutch member, said outer clutch member being provided with operating means.

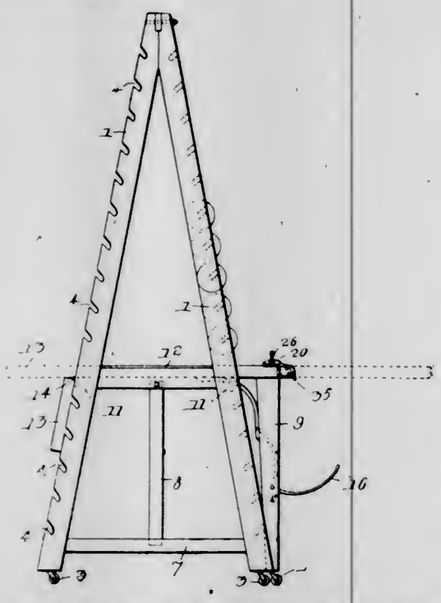
2. A lifting-jack comprising a body, a jack member screwed thereinto, two inner clutch members secured to the jack member and having pockets formed therein, said pockets having their inner walls extended obliquely outward and forward in a given rotative direction and having their floors extending obliquely downward in the same rotative direction, an outer clutch member surrounding each inner clutch member and having a cylindrical inner surface, and balls in said pockets to engage or run free of the inner surface of the outer clutch member and the said oblique walls of the inner clutch member, said outer clutch member being provided with operating means.

3. A lifting-jack comprising a body, a jack member screwed thereinto, two inner clutch members secured to the jack member and having pockets formed therein, said pockets having their inner walls extended obliquely outward and forward in a given rotative direction and having their floors extending obliquely downward in the same rotative direction, an outer clutch member surrounding each inner clutch member and having a cylindrical inner surface, and balls in said pockets to engage or run free of the inner surface of the outer clutch member and the said oblique walls of the inner clutch member, said outer clutch member being provided with operating means and with dust-proof caps detachably secured thereto.

845,658. DISPLAY-RACK. WILLIAM B. LOEWENBERG, Wabash, Ind. Filed Mar. 19, 1906. Serial No. 306,857.

Claim.—1. A display-rack having uprights provided with roll-supporting devices, in combination with a table

slidably mounted between the uprights of the rack, provided at one end with a cutting device, supporting-legs and a rack supported by said legs, and provided at the opposite end with a hinged, downwardly-foldable leaf, said uprights of the rack having devices to support the table and to also support said leaf when the table is drawn out, said devices clearing said leaf when the table is pushed in and permitting said leaf to drop.



2. In a device of the character described, an upright rack for supporting rolls of oil-cloth or similar material, a table, a knife or cutter mounted in the holder, a lever to which said holder is secured, a rod upon which said lever is pivoted to slide transversely of the device, and a spring for holding the lever in its normal operative position, substantially as described.

3. In a device of the character described, a cutter secured to a lever mounted to slide upon a rod, a spring for holding said lever in operative position, a toe upon said lever, a stop therefor, and a cutting-bead projecting upward from the table, substantially as described.

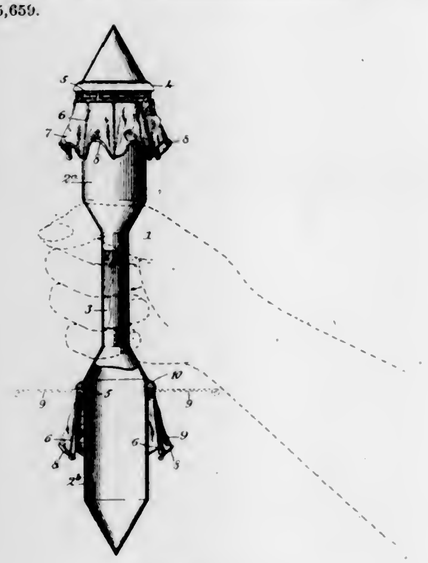
4. In a device of the character described, a hollow crank-shaft provided with cam-shaped openings, a traveler mounted within the shaft and provided with pivoted fingers, a threaded shaft, a yoke and a crank adapted to move the traveler to extend or retract the fingers for holding the roll, substantially as described.

845,659. AUTOMATIC PROPELLING LIFE-PRESERVER. WILLIAM LUCE, Seaside, Oreg. Filed May 16, 1906. Serial No. 317,098.

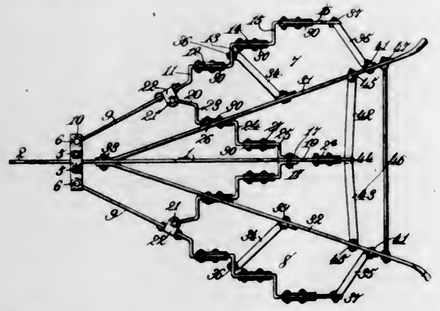
Claim.—1. A device of the class described, comprising a body having a plurality of pivotally-attached radially-disposed ribs adapted to fold against the sides thereof, said body having a projection constituting a stop adapted to be struck by said ribs to limit the outward movement thereof, and a web attached to said ribs.

2. A device of the class described, comprising a body presenting buoyant heads connected by a handle, said heads having laterally-projecting collars near the forward extremities thereof respectively, rings attached to said bodies respectively near said collars, a plurality of ribs attached to said rings and adapted to extend radially therefrom, said collars constituting stops for said ribs, and webs attached to said ribs.

845,659.



845,660. CULTIVATOR. WILBUR C. OGLETREE, Carrollton, Ga. Filed Nov. 10, 1906. Serial No. 342,838.



Claim.—1. A cultivator comprising a main beam and a pair of substantially V-shaped sections provided with ground-working devices, there being a V-shaped section disposed at each side of the beam and each of said V-shaped sections provided at the forward end thereof with a straddling space.

2. A cultivator comprising a main beam and a pair of substantially V-shaped sections provided with ground-working devices there being a V-shaped section disposed at each side of the beam, and with the apex of the section arranged near the front of the cultivator and means for adjusting the width of each of said V-shaped sections.

3. A cultivator comprising a main beam, a pair of outer members one disposed at each side of the main beam and hinged at its forward end to the main beam, a pair of inner members, one disposed at each side of the main beam and hinged to an outer member forwardly thereof, said outer and inner members provided near their point of connection between each other with angularly-disposed portions to form a straddling space, means for adjustably connecting the inner members to the main beam, a pair of handles connected to the main beam, means for adjustably connecting the outer members to the handles, and ground-working devices carried by the inner and outer members.

4. A cultivator comprising a main beam having a ground-working device at its rear end, a pair of outer members, one disposed at each side of the beam and each of said members formed with portions disposed at right angles with respect to the beam and portions extending in parallelism with respect to the beam, means for hinging the forward ends of said members to the beam, an inner member interposed between each outer member and the beam, each of said inner members provided with portions extending at right angles with respect to the beam and portions extending in parallelism with respect to the beam, means for hinging one end of the inner members to the outer members, means for adjustably connecting the other ends of said outer members to the beam, a pair of handles attached to the beam, adjustable connections between the handles and the said outer members, and ground-working devices carried by the portions of the said members which extend in parallelism with respect to the beam.

5. A cultivator comprising a main beam having a ground-working device at its rear end, a pair of outer members, one disposed at each side of the beam and each of said members formed with portions disposed at right angles with respect to the beam and portions extending in parallelism with respect to the beam, means for hinging the forward ends of said members to the beam, an inner member interposed between each outer member and the beam, each of said inner members provided with portions extending at right angles with respect to the beam and portions extending in parallelism with respect to the beam, means for hinging one end of the inner members to the outer members, means for adjustably connecting the other ends of said outer members to the beam, a pair of handles attached to the beam, adjustable connections between the handles and the said outer members, ground-working devices carried by the portions of the said members which extend in parallelism with respect to the beam, and ground-working devices carried by certain of the said angularly-disposed portions of the said members.

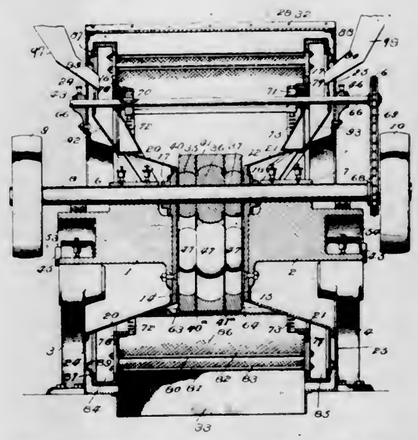
6. A cultivator comprising a main beam having a ground-working device at its rear end, a pair of outer members, one disposed at each side of the beam and each of said members formed with portions disposed at right angles with respect to the beam and portions extending in parallelism with respect to the beam, means for connecting the forward ends of said members to the beam, an inner member interposed between each outer member and the beam, each of said inner members provided with portions extending at right angles with respect to the beam and portions extending in parallelism with respect to the beam, means for connecting one end of the inner members to the outer members, means for connecting the other ends of said outer members to the beam, a pair of handles attached to the beam, connections between the handles and the said outer members, ground-working devices carried by the portions of the said members which extend in parallelism with respect to the beam.

7. A cultivator comprising a main beam having a ground-working device at its rear end, a pair of outer members, one disposed at each side of the beam and each of said members formed with portions disposed at right angles with respect to the beam and portions extending in parallelism with respect to the beam, means for connecting the forward ends of said members to the beam, an inner member interposed between each outer member and the beam, each of said inner members provided with portions extending at right angles with respect to the beam and portions extending in parallelism with respect to the beam, means for connecting one end of the inner members to the outer members, means for connecting the other ends of said outer members to the beam, a pair of handles attached to the beam, connections between the handles and the said outer members, ground-working devices carried by the portions of the said members which extend in parallelism with respect to the beam, and ground-working devices carried by certain of the said angularly-disposed portions of the said members.

8. A cultivator comprising a main beam centrally disposed and a pair of substantially V-shaped sections, there being a V-shaped section disposed at each side of said beam, each of said V-shaped sections consisting of an outer and an inner member, the outer member being hinged to near the forward end of said main beam, means for adjustably connecting the rear end of the inner member to the beam, means for connecting the forward end of the inner member to an outer member at a point removed from the forward end of said outer member thereby forming the apex of the V-shaped section, each of said inner and outer members being provided with means to form a straddling space near the apex of the section whereby the outer member may be positioned upon one side of a row of growing plants and the inner member on the other side of said row.

9. A cultivator comprising a main beam carrying ground-working devices at the rear thereof, a pair of outer members hinged to the forward portion of said means, each of said outer members at a point removed from its forward end provided with portions extending at right angles to the main beam and portions extending in parallelism with respect to the main beam, a pair of inner members interposed between the outer members and the main beam, each of said inner members being hinged at its forward end to an outer member thereby in connection with the outer member forming a V-shaped section, each of said inner members having portions extending at right angles to the main beam and portions extending in parallelism with respect to the main beam, certain of the angularly-disposed portions of the said inner and outer members forming a straddling space near the apex of the sections, means for adjustably connecting the rear ends of said inner members to the main beam to allow the increasing and decreasing of the width of the V-shaped sections, a pair of handles attached at their forward ends to the main beam and adjustably connected at their rear ends to the main beam, means for connecting the handles to the rear ends of the outer members, ground-working devices carried by the right-angularly-extending portions of the inner and outer members, and ground-working devices carried by those portions of the inner and outer members which extend in parallelism with the main beam.

845,661. GRINDING OR PULVERIZING MILL. WILLIAM S. OSBORNE, Marietta, Pa. Filed Sept. 17, 1904. Serial No. 224,870.



Claim.—1. In a pulverizing-mill, a series of independent revolving rings, in combination with a series of rolls located within and imparting rotary movement to said rings, the rolls being of different sizes whereby a gradual reduction is attained, substantially as described.

2. The combination in a pulverizing-mill, of a series of independent revolving rings, a series of rolls located within and imparting rotary movement to said rings, and a series of spring-mounted grinding-rolls also coacting with said rings, the rolls being of different sizes whereby a gradual reduction is attained, substantially as described.

3. The combination in a pulverizing-mill, of a series of independent grinding-rings, a main shaft, a series of rolls of different size on said shaft, said rolls supported within and imparting rotary movement to said rings, supplemental shafts, spring-mounted bearings for said shafts, and grinding-rolls carried by said shafts coacting with the series of grinding-rings, the rolls being of different sizes whereby a gradual reduction is attained, substantially as described.

4. The combination in a pulverizing-mill, of a series of grinding-rings, a main shaft, a series of rolls on said shaft, said rolls supported within and imparting rotary movement to said rings, supplemental shafts, spring-mounted bearings for said shafts, grinding-rolls carried by said shafts coacting with the series of grinding-rings, and means for preventing the crushed material from passing out of the outside rings, substantially as described.

5. The combination in a pulverizing-mill, of a series of grinding-rings, a main shaft, a series of rolls on said shaft, said rolls supported within and imparting rotary movement to said rings, supplemental shafts, spring-mounted bearings for said shafts, grinding-rolls carried by said shafts coacting with the series of grinding-rings, and plates or rings for preventing the crushed material from passing out of the outer sides of the outside rings, substantially as described.

6. The combination in a pulverizing-mill, of a driving-shaft, a grinding-ring, a roll carried by said shaft and imparting rotary movement directly to said ring, supplemental shafts, a grinding-roll supported on each of said shafts coacting with said ring to grind material between said rolls and said ring, and a frame having openings within which the bearings of said shafts are located, and spring-mounted devices also located within the openings in said frame for forcing the last-mentioned rolls against said ring, substantially as described.

7. The combination in a pulverizing-mill, of a driving-shaft, a series of independent grinding-rings, a series of rolls carried by said shaft and imparting rotary movement to said rings, supplemental shafts, a series of rolls supported on each of said shafts coacting with said rings and a frame having openings in which the bearings of said shafts are situated, substantially as described.

8. The combination in a pulverizing-mill, of a driving-shaft, a series of grinding-rings, a series of rolls carried by said shaft and imparting rotary movement to said rings, supplemental shafts, a series of rolls supported on each of said shafts coacting with said rings and a frame having openings in which the bearings of said shafts are situated, and means for preventing the material from passing out of the outer sides of said rings, substantially as described.

9. The combination in a pulverizing-mill, of a driving-shaft, a series of independent grinding-rings, a series of rolls carried by said shaft and imparting rotary movement to said rings, supplemental shafts, a series of rolls supported on each of said shafts coacting with said rings and a frame having openings in which the bearings of said shafts are situated, and spring-actuated devices for said bearings to force the last-mentioned rolls against said rings, substantially as described.

10. The combination in a pulverizing-mill, of a driving-shaft, a series of independent grinding-rings, a series of rolls carried by said shaft and imparting rotary movement to said rings, supplemental shafts, a series of rolls supported on each of said shafts coacting with said rings and a frame having openings in which the bearings of said shafts are situated, and spring-mounted devices also located within the openings in said frames for forcing the last-mentioned series of rolls against said rings, substantially as described.

11. The combination in a pulverizing-mill, of a grinding-ring, a roll within and imparting rotary movement directly to said ring, a main frame having recesses therein formed at an angle to each other, bearings movably held in each recess, shafts supported by said bearings, each shaft having a grinding-roll coacting with said ring, and spring-mounted means located in said recesses and coacting with said bearings for holding them with their rolls in grinding contact with said ring, substantially as described.

12. The combination in a pulverizing-mill, of a series of independent grinding-rings, a series of rolls within and imparting rotary movement to said rings, a main frame having recesses therein formed at an angle to each other, bearings movably held in each recess, shafts supported by said bearings, each shaft having a series of rolls coacting with the said series of rings, and means for holding the last-mentioned series of rolls in grinding contact with said series of rings, substantially as described.

13. The combination in a pulverizing-mill, of a series of independent grinding-rings, a series of rolls within and imparting rotary movement to said rings, a main frame having recesses therein formed at an angle to each other, bearings movably held in each recess, shafts supported by said bearings each shaft having a series of rolls coacting with the said series of rings, and spring-mounted means for holding the last-mentioned series of rolls in grinding contact with the said series of rings, substantially as described.

14. The combination in a pulverizing-mill, of a series of independent grinding-rings, a series of rolls within and imparting rotary movement to said rings, a main frame formed in two parts located on opposite sides of said grinding rolls and rings, said frame having recesses therein, bearings movably mounted within said recesses, shafts in said bearings, and grinding-rolls on each of said shafts within the aforesaid grinding-rings, and means for causing material to escape through the series of openings, substantially as described.

15. The combination in a pulverizing-mill, of a series of independent grinding-rings, a series of rolls within and imparting rotary movement to said rings, a main frame formed in two parts located on opposite sides of said grinding rolls and rings, said frame having recesses therein, spring-mounted bearings movably mounted within said recesses, shafts in said bearings, and grinding-rolls on each of said shafts within the aforesaid grinding-rings, substantially as described.

16. In a pulverizing-mill, the combination of a rotatable grinding-ring, a roll surrounded by said ring and imparting rotary movement thereto, a grinding-roll, and a rotary sieve rotatable around said roll and ring and having means for returning the unsifted material to said roll and ring to be reground, substantially as described.

17. In a pulverizing-mill, the combination of a grinding-ring a roll surrounded by and imparting rotary movement to said ring, a grinding-roll, a hopper feeding material to said ring and roll and a rotary sieve rotatable around said ring and roll and having means for returning the unsifted material to said hopper to be again delivered to said grinding ring and roll, substantially as described.

18. In a pulverizing-mill, the combination of a grinding-ring, a roll within and imparting motion to said grinding-ring, grinding-rolls also supported within said ring and held in grinding contact therewith, and a rotary sieve rotatable around said rolls and ring and having means for returning the unsifted material to said rolls and ring, substantially as described.

19. In a pulverizing-mill, the combination of a series of grinding-rings, a series of rolls within and imparting motion to said grinding-rings, grinding-rolls also supported within said rings and held in grinding contact therewith, and a rotary sieve rotatable around said rolls and rings and having means for returning the unsifted material to said rolls and rings, substantially as described.

20. In a pulverizing-mill, the combination of a grinding-ring, a roll within and imparting motion to said grinding-ring, grinding-rolls also supported within said ring and held in grinding contact therewith, and a rotary sieve rotatable around said rolls and ring and having pockets for returning the unsifted material to said rolls and ring, substantially as described.

21. In a pulverizing-mill, the combination of a grinding-ring, a roll within and imparting motion to said grinding-ring, grinding-rolls also supported within said ring, a rotary sieve rotatable around said rolls and ring and provided with means for returning the unsifted material to said rolls and ring, said sieve having an internal gear, and a gear meshing with said internal gear for rotating the sieve, substantially as described.

22. In a pulverizing-mill, the combination of a grinding-ring, a roll within and imparting motion to said grinding-ring, a shaft for imparting motion to said roll, a rotary sieve rotatable around said roll and ring and having means for returning the unsifted material thereto, and gearing driven by said shaft for rotating said rotary sieve, substantially as described.

23. In a pulverizing-mill, the combination of a grinding-ring, a roll within and imparting movement to said ring, a hopper feeding material between said roll and ring, and a rotary sieve rotatable around said roll and ring and having means for returning the unsifted material to said hopper, substantially as described.

24. In a pulverizing-mill, the combination of a grinding-ring, a roll within said ring, a hopper on each side of said roll and ring to feed material thereto, and a rotary sieve rotatable around said roll and ring and having means across the sieve at the outside margin thereof for returning the unsifted material to said hoppers, substantially as described.

25. In a pulverizing-mill, the combination of a grinding-ring, a roll within said ring, a hopper on each side of said roll and ring to feed material thereto, and a rotary sieve rotatable around said roll and ring and having pockets across the sieve at the outside margin thereof for returning the unsifted material to said hoppers, substantially as described.

26. The combination in a pulverizing-mill, of a series of revolving rings, a series of rolls located within and imparting rotary movement to said rings, a series of spring-mounted grinding-rolls also coacting with said rings, and means for preventing the crushed material from passing out of the outer sides of the outside rings, substantially as described.

27. The combination in a pulverizing-mill, of a series of revolving rings, a series of rolls located within and imparting rotary movement to said rings, a series of spring-mounted grinding-rolls also coacting with said rings, and rings or plates for preventing the crushed material from passing out of the outer sides of the outside rings, substantially as described.

28. A pulverizing-mill, having, in combination, a plurality of independent grinding-rings located side by side and having internal grinding-surfaces, and grinding elements coöperating therewith, one of the rings being located with its grinding-surface lower at its lower portion than the grinding-surface of the adjacent ring so as to receive material from the adjacent ring for regrinding, substantially as described.

29. A pulverizing-mill, having, in combination, a plurality of independent rotating grinding-rings having concentric internal grinding-surfaces, means for rotating the rings, and grinding elements coöperating therewith, the internal diameter of one ring being greater than that of an adjacent ring so that the former ring may receive material from the latter ring for regrinding, substantially as described.

30. A pulverizing-mill, having, in combination, a plurality of independent concentric grinding-rings of different internal diameters located side by side, and a plurality of rolls engaging the interior surfaces of the rings, the rolls being of different diameters and being arranged to rotate concentrically, substantially as described.

31. A pulverizing-mill, having, in combination, a plurality of rotating rings, located side by side with an escape-opening between for pulverized material, and means for rotating the rings with different peripheral velocities so that the lateral surfaces of the rings have a differential motion facilitating the passage of material therebetween, substantially as described.

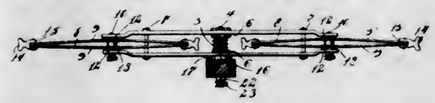
845,662. PADLOCK. DAVID H. OWENS, Los Angeles, Cal. Filed Feb. 21, 1906. Serial No. 302,235.

Claim.—1. As a new article of manufacture, a padlock, having a swinging shackle provided with an intermediate projection the portion of which near the free end of the shackle being gradually inclined, while the portion near the pivoted end is an abrupt shoulder, as set forth.



2. As a new article of manufacture, a padlock, having a curved shackle pivotally connected at one side and adapted for connection with the other side of the padlock, said shackle being provided with an outwardly-extending intermediate projection, whose surface nearest the pivotal end is abrupt and shouldered, for the purpose set forth.

845,663. WHIFFLETREE. NELS P. PETERSON, Jewell, Iowa. Filed Aug. 16, 1906. Serial No. 330,866.



Claim.—1. In an evener, two centrally-perforated plates secured parallel to each other at a distance apart, a singletree pivotally secured at each end of the evener between said plates, said singletree comprising two plates, the central portions of which are at a distance apart and perforated and the ends are tapered and in contact, a hook on each end of each singletree, said hook being provided with oppositely-projecting ends for holding the trace and with attaching-plates which engage with the opposite sides of the singletree and are riveted thereto, and means for securing the evener in position.

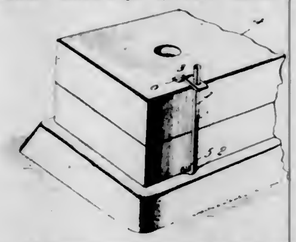
2. In an evener, two centrally-perforated plates secured parallel to each other at a distance apart, a singletree pivotally secured between the plates at each end of the evener, two securing-plates arranged respectively above and below the evener and at right angles thereto, said securing-plates being perforated at their ends to register with each other and at their middles to register with the perforations in the evener-plates, the upper securing-plate being bent upwardly at its middle, a bolt through the central perforations of all of said plates, fasteners through the end perforations of the securing-plates, a spring upon said bolt between the evener-plates, and a washer at each end of said spring.

845,664. COIN-HOLDER. MATTHEW QUINN, Kansas City, Mo. Filed Jan. 19, 1906. Serial No. 296,760.



Claim.—A coin-holder consisting of a cylindrical cup with a closed bottom and a coin-slot in its side wall, a fastening device on said bottom, an annular cap constituting the top of the cup and having a central hole smaller than the coin and a radial opening leading from said hole to the periphery at a point above and coincident with said coin-slot, the edges of said hole and opening being beveled and the edges of the opening converging toward its outer end, marginal shoulders depending from said cap at either side of its opening and forming the upper edge of said slot, a follower-plate within the cup, and a spring pressing it normally upward, all as and for the purpose set forth.

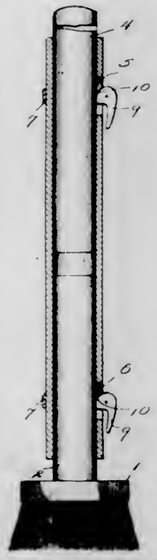
845,665. CLAMP FOR MOLDERS' FLASKS. JOHN T. RAMSDEN, Philadelphia, Pa., assignor to Tabor Manufacturing Company, Philadelphia, Pa., a Corporation of Pennsylvania. Filed Sept. 7, 1906. Serial No. 333,609.



Claim. 1. A clamp consisting of a bar having clamping-jaws whereof one is fixed and immovable and whereof the other is movable and adapted to bind against the bar and one of said jaws having an outwardly-inclined working face which effects a binding action when the clamp is turned about the working face of the other jaw as a center, substantially as described.

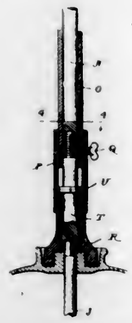
2. A foundry-clamp consisting of a bar having clamping-jaws whereof one is stationary and the other movable, said stationary jaw consisting of the outwardly-bent end of the bar and said movable jaw consisting of a member slidable on said bar and adapted to bind on it when tilted and provided with a foot which operates both as a binding-face and as a center about which the clamp may be turned to effect a clamping action, substantially as described.

845,666. HANDLE. JOHN RUCKSTUHL, Fishkill-on-the-Hudson, N. Y. Filed Sept. 19, 1905. Serial No. 279,111.



Claim.—A device of the character described comprising a sleeve having a pair of unconnected, longitudinal slots formed therein at opposite ends; a cleaning member having its shank slidably fitted in one end of the sleeve, and a handle member mounted in the opposite end thereof, said sleeve forming the sole means of connection between said members; a strap encircling each end of said sleeve and slidable longitudinally thereon, the free ends of each strap being bent to form pairs of spaced ears; and a cam-lever pivotally mounted between each pair of ears, and having its head working in the corresponding slot for engagement with the corresponding member, whereby said members may be separately adjusted longitudinally of the sleeve, and held in adjusted position, said cam-levers further serving as the sole means for holding said straps upon the sleeve.

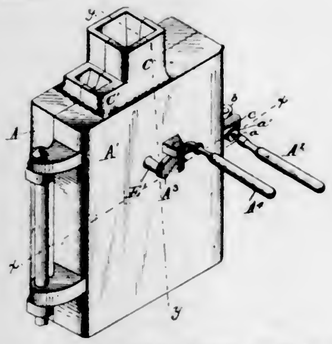
845,667. ICE-CREAM FREEZER. ALBERT F. SCHMAND, Bridgeport, Conn. Filed Feb. 17, 1906. Serial No. 301,552.



Claim.—1. In an ice-cream-freezing apparatus of the class described, the combination of a rotary hollow shaft, a second shaft within said hollow shaft adapted to be rotated in an opposite direction from the outer shaft and adjusted longitudinally, a sleeve adjustably mounted upon the outer shaft with means for securing it in adjusted positions, a coupling attached to said sleeve, a coupling detachably connected to the inner shaft, and a collar upon the said coupling to be engaged by the outer coupling to insure the raising of the inner shaft with the outer coupling.

2. In an apparatus of the class described, the combination with a driving mechanism including a pair of oppositely-driven bevel-gears, a paddle-shaft slidably connected with one gear, a coupling detachably connected to said shaft, a hollow shaft secured to the second gear, a sleeve adjustably mounted upon the hollow shaft, and a coupling secured to the sleeve, and a collar upon the inner shaft to engage the end of the coupling whereby the inner coupling and shaft may be raised with the outer coupling.

845,668. MOLD FOR MAKING METAL CASTINGS. PARKER H. SWEET, Jr., Washington, D. C., assignor of three-fourths to John B. Mendenhall, Kansas City, Mo. Filed Oct. 17, 1904. Renewed Nov. 24, 1906. Serial No. 344,982.



Claim.—1. A metal mold for forming castings, comprising two parts or sections provided with central recesses having gate and vent opening formed integral therewith, and contained partially in one of said sections and partially in the opposite section, and one of a series of interchangeable pattern-blocks and space-blocks adapted to fit within said central recesses, substantially as described.

2. A metal mold for forming castings, comprising two parts or sections, each section being provided with gate and vent openings, and with a central recess provided with one or more thin plates fitting the rear walls thereof, and adapted to receive removable pattern-blocks of varying sizes and an arch or crown to produce the desired size and thickness of casting, substantially as described.

3. In a metal mold for forming castings, comprising two parts or sections forming an inclosing case, each section being provided with gate and vent openings, and with a central recess provided with thin plates fitting the rear walls thereof, the combination therewith of removable face-blocks and a centrally-located removable arch or crown fitting within one recess, and a removable pattern-block fitting the opposite recess substantially as described.

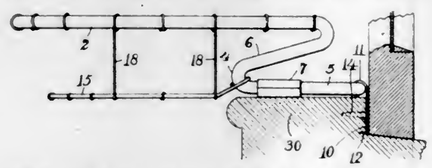
4. A metal mold for forming castings, comprising two parts or sections, each section having gate and vent openings, and a central recess provided with interchangeable pattern-blocks, space-blocks, and auxiliary thin plates to produce the desired width, length, and thickness of the casting, substantially as described.

5. In a mold formed of two sections, each section being provided with gate and vent openings, and a central recess to receive interchangeable pattern-blocks or forms and an arch or crown to produce the desired shape and size of casting, the combination therewith of one or more thin plates B' adapted to fit the rear wall of each recess to increase or diminish the thickness of the castings, substantially as described.

6. In a mold formed of two sections, each section being provided with gate and vent openings and a central recess, the combination therewith of interchangeable face-blocks provided with right-angled space-filling projections, an arch or crown centrally located between said face-blocks, in one of said recesses, and a pattern-block or member located in the opposite recess of said sections, substantially as described.

7. In a mold of the class described, a face-block provided at its one end with a right-angled projection, in combination with the inclosing walls of the mold, substantially as described.

845,669. PLANT-REST. EMILY W. THAYER, Saxtons River, Vt. Filed Sept. 28, 1906. Serial No. 336,538.



Claim.—1. A bracket-shelf disposed to be supported by a window-sill, and having a member adapted to be located in the space between the window-sash and the sill and composing a part of the supporting means of the shelf.

2. A bracket-shelf composed of a single length of metal rod having its ends provided with members adapted for occupying the space between a window-sill and the window-sash and incapable of removal while said sash is closed, and intermeshing wires uniting the intermediate portion of said rod and forming the shelf proper.

3. A bracket-shelf composed of a single length of metal rod bent to form a substantially semicircular intermediate section; horizontal terminal sections resting upon the sill of a window; oblique sections uniting said intermediate and horizontal sections and disposed to both elevate and give a rearward position to said intermediate section; means entering the space between the sill and sash for securing the extremities of said horizontal sections in position; and means filling up said semicircular section and converting it into a shelf.

4. A bracket-shelf composed of a length of metal rod bent upon itself and suitably filled up to constitute a shelf; and flaps pivoted to the ends of said rod and constructed to be secured in the space between the sill and sash of the window for which the shelf is designed.

5. A bracket-shelf composed of a length of metal rod bent upon itself and suitably filled up to constitute a shelf, and flaps secured to the ends of said rod; said flaps being thin for fitting the space between a window-sill and sash and formed with spurs for engagement with the rear surface of said sill.

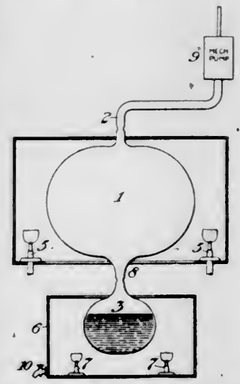
6. A bracket-shelf provided with one or more thin members disposed to be secured within the space between the rear edge of a window-sill and the sash; the shelf itself projecting beyond and supported by the window-sill, while said member or members holds the shelf from tilting downward at its front edge.

7. A bracket-shelf composed of a length of metal rod bent upon itself and provided with means for completing the shelf-surface; the ends of said rod being bent into horizontal alining fingers, in combination with sheet-metal flaps having sockets for clasping said fingers and means for fastening such flaps within the space between a window-sill and sash.

8. The combination with a shelf supporting a potted plant, and apertured to permit the drip of water from the latter, of a supplemental shelf located close beneath the first-named shelf and disposed to receive the saucer of such potted plant and hold it to receive the drip therefrom; such shelf being adapted to hold such saucer in substantial contact with the under side of the first-named shelf.

9. The combination with a length of metal rod bent to form a shelf-frame, of intermeshing wires supported by said rod and composing the main body of the shelf, a wire rod terminally secured to said rod and bent to form a supplemental shelf beneath the first-named shelf, intermeshing wires composing the floor of this last-named shelf, and vertical wires suspending the latter shelf from the former.

845,670. VACUUM APPARATUS. PERCY H. THOMAS, East Orange, N. J., assignor to Cooper Hewitt Electric Company, New York, N. Y., a Corporation of New York. Filed Jan. 23, 1904. Serial No. 190,285.



Claim.—1. The method of removing injurious gases from a chamber, which consists in causing a vapor to pass through the said chamber thereby removing a portion of the original gases or vapors, continuing this process to any desired limit, and sealing off both the inlet and outlet of the said chamber.

2. The method of, removing injurious gases from a chamber, which consists in providing a suitable inlet and outlet therefor, passing a vapor into the chamber through the inlet and out through the outlet, thereby continuously removing a portion of the original gases or vapors, continuing the process to any desired limit, and sealing off the inlet and the outlet.

3. The method of producing a vacuum within a chamber, having below it a receptacle containing a volatil-

izable fluid, which consists in vaporizing a portion of the said fluid, causing a portion of the vapor to pass through the chamber, sealing off the outlet from the chamber while the described operation is in progress, afterward cooling the receptacle and thereby condensing the vapors and permitting the products of condensation to fall by gravity into the receptacle, and sealing off the connection between the receptacle and the chamber.

4. The method of producing a vacuum within a chamber having below it a receptacle containing a volatilizable fluid, which consists in vaporizing a portion of the said fluid by heat, causing a portion of the generated vapors to pass into and out of the chamber, sealing off the outlet from the chamber while the described operation is in progress, removing the source of heat, afterward cooling the receptacle and thereby condensing the vapors and permitting the products of condensation to fall into the receptacle by gravity, and sealing off the connection between the receptacle and the chamber.

5. The method of producing a vacuum within a chamber having below it a receptacle containing a volatilizable fluid, which consists in applying heat to the said receptacle, thereby vaporizing a portion of the fluid, simultaneously applying heat to the chamber, causing a portion of the generated vapors to pass into and out of the chamber, sealing off the outlet from the chamber while the described operation is in progress, removing the source of heat from the receptacle, applying cooling means to the said receptacle, and sealing off the connection between the receptacle and the chamber.

6. The method of exhausting a chamber, which consists in passing a condensable gas into and out of the chamber, sealing off the outlet, condensing the gas outside the chamber and sealing off the inlet.

7. The method of exhausting a chamber, which consists in passing a gas or vapor into and out of the chamber through suitable inlet and outlet passages, sealing off the outlet of the chamber, removing the gas from the chamber, and sealing off the inlet.

845,671. MEANS FOR CREATING A VACUUM. PERCY H. THOMAS, East Orange, N. J., assignor to Cooper Hewitt Electric Company, New York, N. Y., a Corporation of New York. Filed June 14, 1904. Serial No. 212,477.

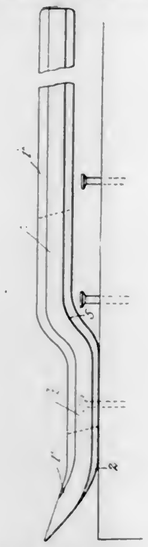


Claim.—1. The method of creating a high vacuum in an inclosed chamber containing mercury, which consists in inclosing in the said chamber a material capable of forming a gas-absorbing amalgam with mercury, separating it from the mercury in the chamber, exhausting the chamber by any approved process, and afterward bringing the said material into contact with the mercury and causing an amalgamation thereof.

2. In an inclosed chamber containing mercury, the method of creating a high vacuum, which consists in inclosing within the chamber a material capable of forming a gas-absorbing amalgam with the mercury, exhausting the chamber by any approved process, sealing off the chamber, and afterward absorbing a portion of the superfluous gases in the chamber by causing the formation of the gas-absorbing amalgam.

3. In an inclosed chamber containing mercury, the method of creating a high vacuum, which consists in inclosing within the chamber a material capable of amalgamation with the mercury, exhausting the chamber by any approved process, sealing off the chamber, and afterward absorbing a portion of the superfluous gases in the chamber by causing the formation of the gas-absorbing amalgam and by passing current through the chamber and the materials contained therein.

845,672. NAIL-EXTRACTOR. JOHN A. THOMPSON, Seattle, Wash. Filed Mar. 14, 1906. Serial No. 306,071.



Claim.—1. A nail-extractor comprising a body bent intermediate its ends forming two arms one of which is offset and parallel to the other, and a cleft in each arm, said clefts being in communication with each other.

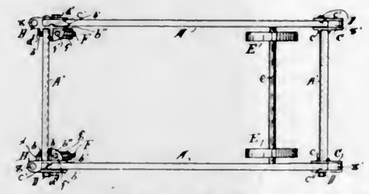
2. A nail-extractor comprising a body bent intermediate its ends forming two arms one of which is offset and parallel to the other, a cleft in each arm the entrance to each cleft for the nail being at the point of bend.

3. A nail-extractor comprising two arms one of which is offset and parallel to the other, an intermediate bent portion integrally connecting said arms, a cleft formed in each arm, the entrance to one cleft for the nail being on the opposite side of the bent portion from the entrance to the other cleft.

4. A nail-extractor comprising a pair of integral arms each formed with a cleft, the cleft of one arm opening into that of the other arm, said arms being bent at the point of juncture of said clefts disposing said arms in different parallel planes whereby one of said arms may be drawn over a partly-extracted nail without engaging the same and the other arm slid so as to engage its cleft with the nail for extracting the same.

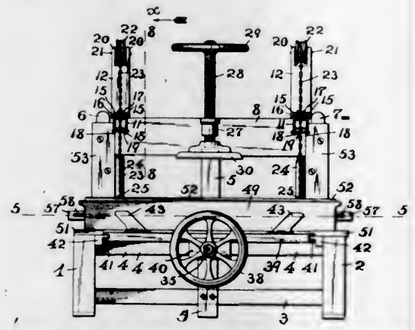
5. A nail-extractor comprising a body bent intermediate its ends forming two arms one of which is offset and parallel to the other, whereby clearance is provided for the fingers of the operator between one of the arms and the article operated on, the lower arm being provided with a cleft having its entrance for the nail at the under side of the bent portion of the body and the upper arm being provided with a cleft having its entrance for the nail at the upper side of the bent portion and both clefts being in communication.

845,673. TRUCK. WILLIAM VANMANEN and STEPHEN VANMANEN, Grand Rapids, Mich. Filed Feb. 6, 1906. Serial No. 299,850.



Claim.—In combination with the side rails, the end rails, and the casters of a factory-truck, corner-pieces having longitudinal wings forming receptacles for the ends of the side rails, lateral wings forming receptacles for the ends of the end rails, beads on the longitudinal wings engaging grooves in the side rails, and bearings integral with one of the longitudinal wings and one of the lateral wings and having receptacles for the caster-pintles, said corner-pieces having apertures for the reception of the ends of the stakes, and bolts passing through the corner-pieces, the ends of the side rails, and the length of the end rails securing the side rails and end rails together, substantially as shown and described.

845,674. MOLDING APPARATUS. CHARLES WINCKLHOFER, Newark, N. J. Filed Apr. 13, 1906. Serial No. 311,469.



Claim.—1. In a molding apparatus, the combination, with the framework of the machine, of a mold adapted to be supported upon said framework, brackets carried by said framework, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller in each end portion, and flexible connections arranged over said rollers, said flexible connections being attached at one end to said mold, and a counterbalance upon the opposite end of each flexible connection, substantially as and for the purposes set forth.

2. In a molding apparatus, the combination, with the framework of the machine, of a mold adapted to be supported upon said framework, brackets carried by said framework, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller in each end portion, flexible connections arranged over said rollers, said flexible connection being detachably connected at one end with said mold, a counterbalance upon the opposite end of each flexible connection, and means on said machine-frame for attachment thereto of the ends of the flexible connection when detached from the mold, substantially as and for the purposes set forth.

3. In a molding apparatus, the combination, with the framework of the machine, of a mold adapted to be supported upon said framework, brackets slidably and adjustably arranged with relation to said framework, means for securing said brackets in their adjusted positions, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller in each end portion, and flexible connections arranged over said rollers, said flexible connections being attached at one end to said mold, and a counterbalance upon the opposite end of each flexible connection, substantially as and for the purposes set forth.

4. In a molding apparatus, the combination, with the framework of the machine, of a mold adapted to be supported upon said framework, brackets slidably and adjustably arranged with relation to said framework, means for securing said brackets in their adjusted positions, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller in each end portion, and flexible connections arranged over said rollers, said flexible connections being detachably connected at one end with said mold, a counterbalance upon the opposite end of each flexible connection, and means on said machine-frame for attachment thereto of the ends of the flexible connections when detached from the mold, substantially as and for the purposes set forth.

5. In a molding apparatus, the combination, with a machine-frame comprising a bed-plate and uprights, of a mold adapted to be supported upon said bed-plate, brackets slidably and adjustably arranged with relation to said framework, means for securing said brackets in their adjusted positions, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller on each end portion, flexible connections arranged over said rollers, said flexible connections being attached at one end to said mold, a counterbalance upon the opposite end of each flexible connection, and mold-guides connected with the uprights of said machine-frame, substantially as and for the purposes set forth.

6. In a molding apparatus, the combination, with a machine-frame comprising a bed-plate and uprights, of a mold adapted to be supported upon said bed-plate, brackets slidably and adjustably arranged with relation to said framework, means for securing said brackets in their adjusted positions, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller in each end portion, flexible connections arranged over said rollers, said flexible connections being detachably connected at one end with said mold, a counterbalance upon the opposite end of each flexible connection, means on said machine-frame for attachment thereto of the ends of the flexible connections when detached, and mold-guides connected with the uprights of said machine-frame, substantially as and for the purposes set forth.

7. In a molding apparatus, the combination, with the framework of the machine, and its bed-plate, of a three-sided mold-section adapted to be supported upon said bed-plate, a removable front plate adapted to be arranged against the open front end of said mold-section, and a clamping means for retaining said front plate against said mold-section, consisting of guides on said machine-frame, a clamping-plate movable upon said guides, and a screw connected with the bed-plate and said clamping-plate for moving said clamping-plate, substantially as and for the purposes set forth.

8. In a molding apparatus, the combination with the framework of the machine and its bed-plate, of a three-sided mold-section adapted to be supported upon said bed-plate, a removable front plate adapted to be arranged against the open front end of said mold-section, and a clamping means for retaining said front plate against said mold-section, consisting of guides on said machine-frame, a clamping-plate movable upon said guides, and a screw connected with the bed-plate and said clamping-plate for moving said clamping-plate, and means carried

by said framework for raising and lowering said mold-section, substantially as and for the purposes set forth.

9. In a molding apparatus, the combination, with the framework of the machine and its bed-plate, of a three-sided mold-section adapted to be supported upon said bed-plate, a removable front plate adapted to be arranged against the open front end of said mold-section, a clamping means for retaining said front plate against said mold-section, brackets carried by said framework, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller in each end portion, and flexible connections arranged over said rollers, said flexible connections being attached at one end to said mold, and a counterbalance upon the opposite end of each flexible connection, substantially as and for the purposes set forth.

10. In a molding apparatus, the combination, with the framework of the machine and its bed-plate, of a three-sided mold-section adapted to be supported upon said bed-plate, a removable front plate adapted to be arranged against the open front end of the said mold-section, and a clamping means for retaining said front plate against said mold-section, consisting of guides on said machine-frame, a clamping-plate movable upon said guides, and a screw connected with the bed-plates and said clamping-plate for moving said clamping-plate, brackets carried by said framework, and means connected with said brackets for raising and lowering said mold, substantially as and for the purposes set forth.

11. In a molding apparatus, the combination, with the framework of the machine and its bed-plate, of a three-sided mold-section adapted to be supported upon said bed-plate, a removable front plate adapted to be arranged against the open front end of said mold-section, and a clamping means for retaining said front plate against said mold-section, consisting of guides on said machine-frame, a clamping-plate movable upon said guides, and a screw connected with the bed-plate and said clamping-plate for moving said clamping-plate, brackets carried by said framework, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller in each end portion, and flexible connections arranged over said rollers, said flexible connections being attached at one end to said mold, and a counterbalance upon the opposite end of each flexible connection, substantially as and for the purposes set forth.

12. In a molding apparatus, the combination, with the framework of the machine and its bed-plate, of a mold adapted to be supported upon said framework, a removable top cover on said mold, a bracket carried by said machine-frame, a screw carried by said bracket, and a presser-block on said screw adapted to be forced down upon said top plate, brackets carried by said framework, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller in each end portion, and flexible connections arranged over said rollers, said flexible connections being attached at one end to said mold, and a counterbalance upon the opposite end of each flexible connection, substantially as and for the purposes set forth.

13. In a molding apparatus, the combination, with the framework of the machine and its bed-plate, of a mold adapted to be supported upon said framework, a removable top cover on said mold, a bracket carried by said machine-frame, a screw carried by said bracket, and a presser-block on said screw adapted to be forced down upon said top plate, brackets carried by said framework, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller in each end portion, and flexible connections arranged over said rollers, said flexible connections being detachably connected at one end with said mold, a counterbalance upon the opposite end of each flexible connection, and means on said machine-frame for attachment thereto of the ends of the flexible connections when detached from the mold, substantially as and for the purposes set forth.

14. In a molding apparatus, the combination, with the framework of the machine and its bed-plate, of a three-sided mold-section adapted to be supported upon said bed-plate, a removable front plate adapted to be arranged against the open front end of said mold-section, a clamping means for retaining said front plate against said mold-section, a removable top cover on said mold, a bracket carried by said machine-frame, a screw carried by said bracket, and a presser-block on said screw adapted to be forced down upon said top plate, brackets carried by said framework, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller in each end portion, and flexible connections arranged over said rollers, said flexible connections being attached at one end to said mold, and a counterbalance upon the opposite end of each flexible connection, substantially as and for the purposes set forth.

15. In a molding apparatus, the combination, with the framework of the machine and its bed-plate, of a three-sided mold-section adapted to be supported upon said bed-plate, a removable front plate adapted to be arranged against the open front end of said mold-section, a clamping means for retaining said front plate against said mold-section, a removable top cover on said mold, a bracket carried by said machine-frame, a screw carried by said bracket, and a presser-plate on said screw adapted to be forced down upon said top plate, brackets carried by said framework, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller in each end portion, and flexible connections arranged over said rollers, said flexible connections being detachably connected at one end with said mold, a counterbalance upon the opposite end of each flexible connection, and means on said machine-frame for attachment thereto of the ends of the flexible connections when detached from the mold, substantially as and for the purposes set forth.

16. In a molding apparatus, the combination, with the framework of the machine and its bed-plate, of a three-sided mold-section adapted to be supported upon said bed-plate, a removable front plate adapted to be arranged against the open front end of said mold-section, a clamping means for retaining said front plate against said mold-section, consisting of guides on said machine-frame, a clamping-plate movable upon said guides, and a screw connected with the bed-plate and said clamping-plate for moving said clamping-plate, substantially as and for the purposes set forth.

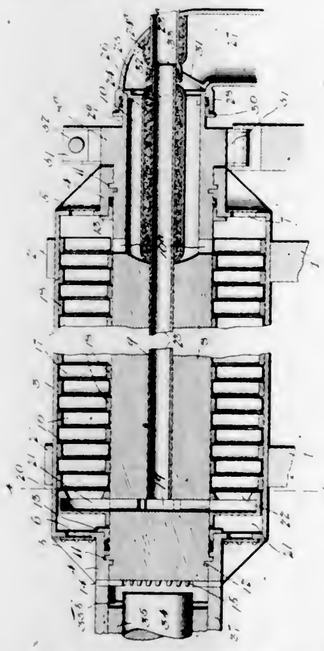
17. In a molding apparatus, the combination, with the framework of the machine and its bed-plate, of a three-sided mold-section adapted to be supported upon said bed-plate, a removable front plate adapted to be arranged against the open front end of said mold-section, a clamping means for retaining said front plate against said mold-section, consisting of guides on said machine-frame, a clamping-plate movable upon said guides, a screw connected with the bed-plate and said clamping-plate for moving said clamping-plate, and means carried by said framework for raising and lowering said mold, substantially as and for the purposes set forth.

18. In a molding apparatus, the combination, with the framework of the machine and its bed-plate, of a three-sided mold-section adapted to be supported upon said bed-plate, a removable front plate adapted to be arranged against the open front end of said mold-section, a clamping means for retaining said front plate against said mold-section, consisting of guides on said machine-frame, a clamping-plate movable upon said guides, a screw connected with the bed-plate and said clamping-plate for moving said clamping-plate, brackets carried by said framework, and means connected with said brackets for raising and lowering said mold, substantially as and for the purposes set forth.

19. In a molding apparatus, the combination, with the framework of the machine and its bed-plate, of a three-sided mold-section adapted to be supported upon said bed-plate, a removable front plate adapted to be arranged against the open front end of said mold-section, a clamping means for retaining said front plate against said mold-section, consisting of guides on said machine-frame, a clamping-plate movable upon said guides, a screw connected with the bed-plate and said clamping-plate for moving said clamping-plate, brackets carried by said framework, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller in each end portion, and flexible connections arranged over said rollers, said flexible connections being attached at one end to said mold, and a counterbalance upon the opposite end of each flexible connection, substantially as and for the purposes set forth.

20. In a molding apparatus, the combination, with the framework of the machine and its bed-plate, of a three-sided mold-section adapted to be supported upon said bed-plate a removable front plate adapted to be arranged against the open front end of said mold-section, a clamping means for retaining said front plate against said mold-section, consisting of guides on said machine-frame, a clamping-plate movable upon said guides, a screw connected with the bed-plate and said clamping-plate for moving said clamping-plate, brackets carried by said framework, said brackets comprising right-angled arms having bifurcated end portions, a guide-roller in each end portion, and flexible connections arranged over said rollers, said flexible connections being detachably connected at one end with said mold, a counterbalance upon the opposite end of each flexible connection, and means on said machine-frame for attachment thereto of the ends of the flexible connections when detached from the mold, substantially as and for the purposes set forth.

845,675. TURBINE. CHARLES ANTROBUS, U. S. Navy. Filed Nov. 7, 1906. Serial No. 342,395.



Claim.—1. In a turbine, the combination with an inner rotary member provided with vanes, of an outer rotary member mounted on said inner member and comprising a casing provided with vanes, a power-shaft, clutch mechanism associated with said rotary members and power-shaft, locking means for said members whereby one member may be locked and the other free to rotate, and means for introducing the operating fluid through said inner rotary member to the vanes and thence through the latter and exhausting adjacent the inlet end of the turbine, substantially as described.

2. In a turbine, the combination with a rotary inner member having a longitudinal bore therethrough and an enlarged recess provided with a plurality of ports communicating with the exhaust end of the turbine and forming the exhaust-passage therefor, of a cylinder rotatably mounted on said inner member, said cylinder and inner rotary member being respectively provided with correlated vanes, an inlet-pipe extending interiorly of said inner member, means forming communicating passages between said inlet-pipe and the interior of the turbine, a power-shaft, clutch mechanism associated with said rotary members and power-shaft, and locking means for said members whereby one member may be locked and the other free to rotate, substantially as described.

3. In a turbine, the combination with a rotatably-mounted casing provided with vanes, of an internal rotary member provided with vanes and having an enlarged chamber and an inlet-pipe extending interiorly thereof, said inlet-pipe terminating at radial passages through said inner member, and said enlarged chamber communicating with the interior of the casing through ports, a hollow head carried by said inner rotary member in communication with said radial passages and provided on its inner face with a plurality of nozzles adjacent said vanes, annular clutch-gears carried by said casing and internal rotary member, a power-shaft, an inner clutch member coöperating with said internal rotary member slidably mounted on said power-shaft but locked against independent rotation thereof, and an outer clutch member similarly mounted on said inner clutch member and coöperating with the clutch-gear of said rotating cylinder, means for simultaneously throwing said respective clutches in and out of clutch, and locking means for said rotating members whereby one member may be locked and the other free to rotate, substantially as described.

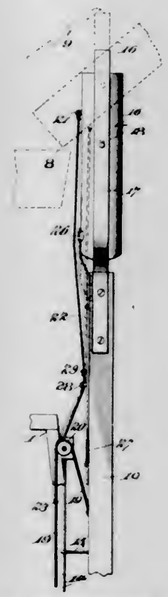
4. In a turbine, the combination with a rotary inner member, of a cylinder rotatably mounted on said inner member, said cylinder and inner rotary member being respectively provided with coöperating vanes, means located centrally within said cylinder adapted to discharge the operating fluid in opposite directions against the vanes therein, an inlet-pipe for introducing the operating fluid to said internal discharging means, means for conducting off the exhaust, a power-shaft, clutch mechanism associated with said rotary members and power-shaft, and locking means for said members, whereby one member may be locked and the other free to rotate, substantially as described.

5. In a turbine, the combination with a rotary inner member having enlarged chambers at opposite ends thereof and a central solid portion provided with radially-extending passages, communicating conduits being formed between said enlarged chambers adjacent said passages and one of said enlarged chambers communicating with the exhaust-pipe of the turbine, of a cylinder rotatably mounted on said inner member, said cylinder and inner rotary member being respectively provided with coöperating vanes, communicating ports being disposed between said cylinder and enlarged chambers at opposite ends of said series of vanes, an inlet-pipe passing through one of said enlarged chambers and communicating with said radial passage-ways, and a hollow head disposed around said radial passages and provided on its opposite faces with discharge-nozzles, a power-shaft, clutch mechanism associated with said rotary members and power-shaft, and locking means for said members, whereby one member may be locked and the other free to rotate, substantially as described.

845,676. APPARATUS FOR OILING WINDMILLS. AUGUST BALDASSINI, Cupertino, Cal. Filed Nov. 9, 1904. Serial No. 232,026.

Claim.—1. In a windmill, the combination with the tower and the mill rotatably mounted thereon, of a carrier mounted to travel on said tower and adapted to project above the same when carried to the top thereof, an oil-feeding-receptacle carried by the mill, an oil-receptacle for the projecting end of said carrier, and means for causing the oil-receptacle of the carrier to empty into said oil-feeding receptacle, substantially as and for the purpose set forth.

2. In a windmill, the combination with the tower and the mill rotatably mounted thereon, of a track or way extending up said tower and terminating at the top thereof, an oil-feeding receptacle carried by the mill, a carrier adapted to travel on said track or way and adapted to project above the tower on reaching the upper terminus of said track or way, an oil-receptacle for the projecting end of said carrier and means for causing the same to empty into the oil-feeding receptacle, substantially as and for the purpose set forth.



3. In a windmill, the combination with the tower and the mill rotatably mounted thereon, of a carrier mounted to travel to the top of said tower and to project above the same on reaching the top thereof, an oil-feeding receptacle carried by the mill, an oil-receptacle tiltably mounted on the projecting end of said carrier, and means for tilting the carrier-receptacle to empty it into the oil-feeding receptacle substantially as and for the purpose set forth.

4. In a windmill, the combination with the tower and the mill rotatably mounted thereon, of a carrier mounted to travel to the top of said tower and adapted to project above the same on reaching the top thereof, an oil-feeding receptacle carried by the mill, an oil-receptacle tiltably mounted on the projecting end of said carrier and adapted when tilted in its projected position to empty into said oil-feeding receptacle, a hoisting-cable for said carrier running to the top of said tower and downward therefrom, and means connected to said hoisting means for tilting the oil-receptacle of the carrier by the hoisting operation, substantially as and for the purpose set forth.

5. In a windmill, an oil-feeding receptacle carried by the rotary top structure, a track or way extending up the stationary structure, a carrier for said track or way, an oil-receptacle tiltable on said carrier and adapted to be projected to said oil-feeding receptacle, a hoisting means connected to the carrier and passing over and downward from a guide at the upper terminus of the track or way, a locking-bolt for said tiltable oil-receptacle, and means connecting said bolt with the hoisting means, and adapted to be drawn downward thereby at a predetermined point in the hoisting operation, substantially as and for the purpose set forth.

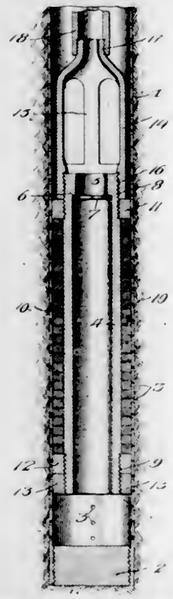
6. In a windmill, an oil-receptacle carried by the rotary top structure, a track or way extending up the stationary structure, a carrier for said track or way, an oil-receptacle tiltable on said carrier and adapted to be projected to said oil-feeding receptacle, a hoisting means connected to the carrier and passing over and downward from a guide at the upper terminus of said track or way, and a normally slack connection between said tiltable receptacle and the hoisting means, adapted to receive a pulling strain to tilt said receptacle, substantially as and for the purpose set forth.

7. In a windmill, an oil-receptacle carried by the rotary top structure, a track or way extending up the stationary structure, a carrier for said track or way, an oil-receptacle tiltable on said carrier, and having a bolt for locking said receptacle against tilting, hoisting means connected to the carrier, and passing over and downward from a guide or pulley at the upper terminus of the track or way, substantially as and for the purpose set forth.

8. In a windmill, an oil-feeding receptacle carried by the rotary top structure, a cover for said receptacle, a carrier movable on the stationary structure, an oil-receptacle adapted to be projected by said carrier to the oil-feeding receptacle and to engage said cover, means for raising said carrier, and means for causing the carrier-receptacle to empty into the oil-feeding receptacle, substantially as and for the purpose set forth.

9. In a windmill, an oil-feeding receptacle carried by the rotary top structure, a cover for said receptacle, a central guide for said cover extending from said receptacle, a carrier, an oil-receptacle, adapted to be projected from the stationary structure to the oil-feeding receptacle, and to engage and raise said cover, means for raising said carrier, and means for causing the carrier-receptacle to empty into the oil-feeding receptacle, substantially as and for the purpose set forth.

845,677. OIL-WELL CLEANER. REUBEN H. BARE, Orcutt, Cal., assignor of one-half to Harry H. Lewis, Los Angeles, Cal. Filed Feb. 13, 1906. Serial No. 300,905.



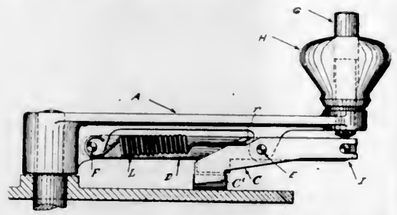
Claim.—An oil-well cleaner comprising a plunger with a tubular body portion, a head arranged above the same, said body portion having at its upper end a portion 5 smaller in diameter than the lower end of the plunger, a surrounding shoulder contiguous with the portion 5 said portion and shoulder serving to form a valve-seat and a hinged valve adapted to close upwardly against said seat as specified.

845,678. WATERPROOF METALLIC EXPLOSIVE. THOMAS A. BAYLISS, King's Norton, near Birmingham, and HENRY W. BROWNSDON, London, England. Filed Aug. 14, 1905. Serial No. 274,185.

Claim.—1. An explosive substance containing an excess of an oxidizing agent and coated with a varnish having suspended therein a powdered combustible metal.

2. An explosive substance containing an excess of an oxidizing agent and coated with a varnish having suspended therein powdered aluminium.

845,679. OPERATING-HANDLE. ERICH BECK, Schenectady, N. Y. Filed Mar. 21, 1906. Serial No. 307,266.



Claim.—1. The combination, with a cap-plate having a series of teeth, of an operating-handle movable over said teeth, two members mounted on said handle and movable in different directions to alternately coact with said teeth to cause a slow starting movement of said handle, and means for operating said members.

2. The combination, with a cap-plate having a series of teeth, of an operating-handle, movable members mounted on said handle and each carrying a pawl, and means for actuating said members to alternately throw said pawls into the line of said cap-plate teeth.

3. The combination, with a cap-plate having a series of teeth, of an operating-handle movable over said teeth, levers pivoted to said handle and carrying pawls, means acting upon said levers to normally hold one pawl in the line of said teeth and the other out of said line, and means acting in opposition to said last-named means for reversing the relation of said pawls with respect to said teeth.

4. The combination, with a cap-plate having a series of teeth, of a handle movable over said teeth, interconnected levers pivoted to said handle and each carrying a pawl to coact with said teeth, and means acting upon said levers to throw one pawl into the line of said teeth and the other out of said line.

5. The combination, with a cap-plate having a series of teeth, of a handle movable over said teeth, pivoted interconnected levers each carrying a pawl to coact with said teeth, means for normally holding said levers in such a position that one of the pawls is in the line of said teeth and the other out of said line, and means to shift said levers in opposition to said last-named means to reverse the relation of the pawls with respect to said teeth.

6. The combination, with a cap-plate having a series of teeth, of a handle movable over said teeth, levers pivoted to said handle, a pawl carried by each lever, means for connecting said levers at their ends, a spring connected to one of said levers and normally holding one of said pawls in the line of said teeth and the other out of said line, and means to shift said levers in opposition to said spring.

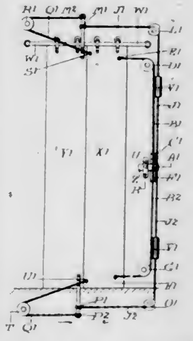
7. The combination, with a cap-plate having a series of teeth, of a handle movable over said teeth, levers pivoted to said handle in parallel planes, a pawl carried by each of said levers, means for connecting said levers, means for normally holding said levers in such a position that one pawl is in the line of said teeth and the other out of said line, and means to shift said levers.

8. The combination, with a cap-plate having a series of teeth, of a handle movable over said teeth, interconnected levers pivoted to said handle at the under portion thereof and arranged in parallel planes, a pawl carried by each lever, said pawls being spaced apart in the line of the cap-plate teeth, means for shifting said levers so that one pawl is thrown into the line of said teeth and the other out of said line, and means acting upon the release of said first-named means to reverse the relation of said pawls with respect to said teeth.

9. In an operating-handle, in combination, a cap-plate having a series of projecting teeth, a handle movable over said cap-plate, a pawl-carrying lever pivoted to one end of said handle and extending beneath the same throughout the length thereof, a second pawl-carrying lever pivoted to said handle intermediately of the length of the latter and connected to said first-named lever, the pawls of said levers being spaced apart in the line of the cap-plate teeth, means to hold one of said pawls downwardly and the other upwardly and means for shifting said pawls in opposition to said means.

10. In combination, with a cap-plate having a series of projecting teeth, a pivoted operating-handle, a lever pivoted to said handle and carrying a pawl designed to extend into the line of said cap-plate teeth, a second lever pivoted to said operating-handle and carrying a pawl spaced from said first-named pawl in the line of the cap-plate teeth, a connection between the ends of said two levers, a spring connected to one of said levers and maintaining its pawl in the line of the cap-plate teeth and the pawl of the other lever out of said line, a knob mounted on said handle, and a pin slidable vertically in said knob and resting upon one of said levers.

845,680. APPARATUS FOR CONTROLLING ELEVATOR-DOORS. SAMUEL BENTLEY, Warrnambool, Victoria, Australia. Filed Aug. 6, 1906. Serial No. 329,477.



Claim.—1. In apparatus for controlling elevator-shaft doors, a frame having a vertical slot near its top and its bottom, a cross-bar near the middle of the said frame in which is a horizontal slot and at each end a hole, and a vertical releasing-bar outside said frame, all as and for the purposes hereinbefore described and as illustrated in the drawings.

2. In apparatus for controlling elevator-shaft doors, a frame having a vertical slot near its top and its bottom, a cross-bar near the middle of the said frame in which is a horizontal slot and at each end a hole, a vertical releasing-bar outside said frame, a hand-wheeled sleeve having flats thereon passing through said parallel slot, a pivot-pin passing through said sleeve, one end of which is attached to the outer lug of a channel-guide and also passing through the inner lug of another channel-guide, and a guide-pin inside the top and bottom of each channel-guide moving in the vertical slot before referred to, all as and for the purposes hereinbefore described and as illustrated in the drawings.

3. In apparatus for controlling elevator-shaft doors, an upper channel-guide and a lower channel-guide the meeting ends of said guides having lugs, said lugs being piv-

oted together, said meeting ends being capable of movement in a horizontal plane and a hand-wheeled sleeve adapted to lock said lugs at certain points, all as and for the purposes hereinbefore described and as illustrated in the drawings.

4. In apparatus for controlling elevator-shaft doors, a lower stationary horizontal slide-bar, inside the lift well or shaft, a slide-bar above the same capable of a partial rotary movement, a tappet at one end of the said upper bar, and at the other a bend and a catch, a spring forcing said catch outwardly, a slide moving horizontally along said bars having a catch-hole inside it, an inside guide-pin protruding from said slide, and an outside guide-pin also protruding from said slide, all as and for the purposes hereinbefore described and as illustrated in the drawings.

5. In apparatus for controlling elevator-shaft doors, a lower stationary horizontal slide-bar, inside the lift well or shaft, a slide-bar above the same capable of a partial rotary movement, a tappet at one end of the said upper bar, and at the other a bend and a catch, a spring forcing said catch outwardly, a slide moving horizontally along said bars having a catch-hole inside it, an inside guide-pin protruding from said slide, an outside guide-pin also protruding from said slide, pulleys, four lines having their inner ends attached to the said outside pin, the two opening ones passed over certain of said pulleys and their outer ends attached to the nearest sliding door, the two closing ones, in each of which is a tension-adjuster, passing over other of said pulleys and made fast on their outer ends to the farthest door, and uniting-lines between said doors, all as and for the purposes hereinbefore described and as illustrated in the drawings.

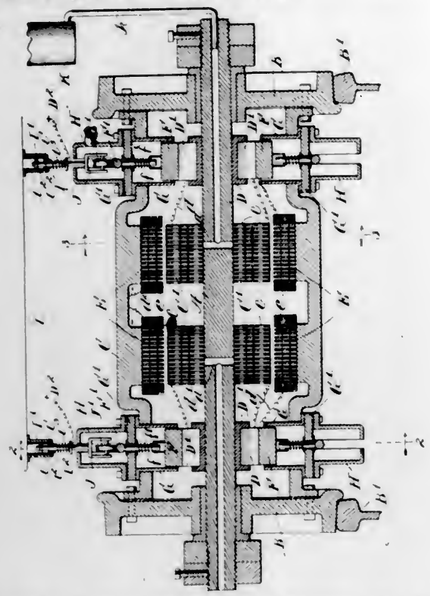
6. In apparatus for controlling elevator-shaft doors, the combination of an elevator-frame having a vertical slot near its top and its bottom, a cross-bar near the middle of the said frame in which is a horizontal slot and at each end a hole, a vertical releasing-bar outside said frame, a hand-wheeled sleeve having flats thereon passing through said horizontal slot, a pivot-pin passing through said sleeve, one end of which is attached to the outer lug of a channel-guide and also passing through the inner lug of another channel-guide, a guide-pin inside the top and bottom of each channel-guide moving in the vertical slot before referred to, an upper channel-guide and a lower channel-guide the meeting ends of said guides having lugs, said lugs being pivoted, said meeting ends being capable of movement in a horizontal plane and adapted to be locked at certain points by the hand-wheeled sleeve, a lower stationary horizontal slide-bar, inside the lift well or shaft, a slide-bar above the same capable of a partial rotary movement, a tappet at one end of the said upper bar, and at the other a bend, a spring forcing said bend outward, a slide moving horizontally along said bar having a catch-hole inside it, an inside guide-pin protruding from said slide, an outside pin also protruding from said slide, pulleys, four lines having their inner ends attached to the said outside pin, the two opening ends of said lines passed over certain of said pulleys and their outer ends attached to the nearest sliding door, the two closing-lines, in each of which is a tension-adjuster, passing over other of said pulleys and made fast on their outer ends to the farthest door, and uniting-lines between said doors all as and for the purposes hereinbefore described and as illustrated in the drawings.

845,681. PROCESS OF MAKING GLUE SUBSTITUTES. ALEXANDER BEANSTEIN, Berlin, Germany. Filed Sept. 10, 1906. Serial No. 334,034.

Claim.—1. The process of making a substitute for glue, which consists in making an alkaline solution of casein, adding thereto a solution of chlorid of magnesium, and finally adding thereto silicate of soda, substantially as described.

2. The process of making a substitute for glue, which consists in dissolving dry casein in a solution containing soda dissolved in water, adding thereto a solution of chlorid of magnesium, and adding to the mixture sodium silicate, substantially as described.

845,682. CAR-MOTOR. BENSON BIDWELL, Chicago, Ill. Filed July 5, 1906. Serial No. 324,777.



Claim.—1. The combination of a stationary car-axle, wheels mounted thereon, a casing secured to said wheels and revolving therewith, an armature and commutator mounted upon the aforesaid axle, and field-magnets and brushes secured to and revolving with the aforesaid casing.

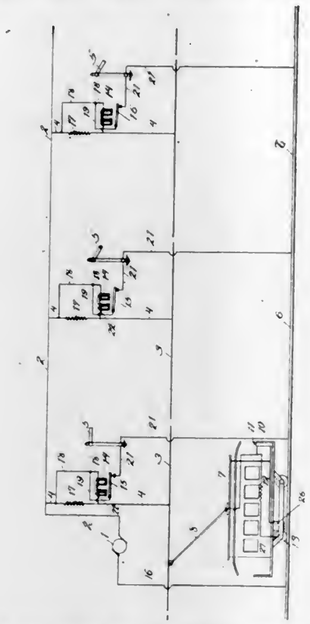
2. The combination of a stationary car-axle and the wheels mounted thereon, said axle having inlet and outlet passage-ways, a cylindrical casing secured at each end thereof to said wheels and revolving therewith, an armature and commutator mounted upon said axle, field-magnets and brushes secured to said casing, and means for supplying a cooling agent to the interior of said casing and throughout the mechanism contained therein.

3. The combination of a stationary car-axle and the wheels mounted thereon, said axle provided with an inlet and an outlet passage-way through a portion of the length thereof, a cylindrical casing extending between the aforesaid wheels and secured thereto, armatures and commutators stationarily mounted upon said axle, field-magnets and brushes secured to the aforesaid casing and revolving therewith, and means for forcing a cooling agent through the aforesaid inlet passage-way and throughout the mechanism, substantially as described.

4. In a car-motor, the combination of a stationary axle and wheels rotatably mounted thereon, armatures and commutators mounted on said axle, a casing surrounding said armatures and commutators, brushes and field-magnets secured to and revolving with the aforesaid casing, contact-rings electrically connected with the commutator-brushes and the magnetic field, and trolley-wheels held in contact with the aforesaid rings, substantially as described.

845,683. SIGNALING SYSTEM FOR ELECTRIC RAILWAYS. CHARLES P. BREESE, Norfolk, Va., and ADONIRAM J. WILSON, Westfield, N. J., assignors to The Hall Signal Company, a Corporation of Maine. Filed May 5, 1902. Serial No. 105,870.

Claim.—1. In a signaling system for electric railways, the combination of a continuous-feed conductor connected with a source of electrical energy, an intermediate supply-conductor for each block for conveying the current from the feed-conductor to any car that may be upon the block, each supply-conductor being electrically disconnected from the supply-conductors of adjoining blocks, a return-conductor, a signal for each block, and electric means including a resistance-coil controlling said signal connected with the continuous-feed conductor, and connected with the intermediate supply-conductor of said block, an electromagnet connected to said feed-conductor, all so arranged that the presence or absence of a car upon a block will change the electrical condition of the said electric means of said block, and thereby change the condition of the signal.



2. In a signaling system for electric railways, the combination of a continuous-feed conductor connected with a source of electrical energy, an intermediate supply-conductor divided into blocks insulated from one another for conveying the current from the feed-conductor to the cars, a return-conductor, a signal for each block, and electric means including a resistance-coil controlling said signal connected with the continuous-feed conductor, and connected with the intermediate supply-conductor of said block, an electromagnet connected to said feed-conductor, all so arranged that the presence or absence of a car upon a block will change the electrical condition of the said electric means of said block, and thereby change the condition of the signal.

3. In a signaling system for electric railways, the combination of a continuous-feed conductor connected with a source of electrical energy, an intermediate supply-conductor for each block for conveying the current from the feed-conductor to any car that may be upon the block, each supply-conductor being electrically disconnected from the supply-conductors of adjoining blocks, a return-conductor, a signal for each block, a resistance-coil connected to said feed-conductor and a magnet controlling said signal connected with the continuous-feed conductor and connected with the intermediate supply-conductor of said block, a circuit-controller in circuit with each signal and controlled by said magnet, all so arranged that the presence of a car upon the block will affect the magnet to move its circuit-controller to cause it to move the signal to danger.

4. In a signaling system for electric railways, the combination of a continuous-feed conductor connected with a source of electric energy, an intermediate supply-conductor for each block for conveying the current from the feed-conductor to any car that may be upon the block, each supply-conductor being electrically disconnected from the

supply-conductors of adjoining blocks, a return-conductor, a signal for each block, a resistance-coil connected to said feed-conductor and a magnet controlling said signal connected with the continuous-feed conductor and connected with the intermediate supply-conductor of said block, a circuit-controller in circuit with each signal and controlled by said magnet, and operated by it to normally close the circuit through the signal and hold it at safety, all so arranged that the presence of a car upon the block will affect the magnet to open its circuit-controller and break the circuit through the signal to cause it to move the signal to danger.

5. In a signaling system for electric railways, the combination of a continuous-feed conductor connected with a source of electrical energy, an intermediate supply-conductor divided into blocks insulated from one another for conveying the current from the feed-conductor to the cars, a return-conductor, a signal for each block, a resistance-coil connected to said feed-conductor and a magnet controlling said signal connected with the continuous-feed conductor and connected with the intermediate supply-conductor of said block, a circuit-controller in circuit with each signal and controlled by said magnet, and operated by it to normally close the circuit through the signal and hold it at safety, all so arranged that the presence of a car upon the block will affect the magnet to open its circuit-controller and break the circuit through the signal to cause it to move the signal to danger.

6. In a signaling system for electric railways, the combination of a continuous-feed conductor connected with a source of electrical energy, an intermediate supply-conductor for each block for conveying the current from the feed-conductor to any car that may be upon the block, each supply-conductor being electrically disconnected from the supply-conductors of adjoining blocks, a return-conductor, a signal for each block, a resistance-coil connected to said feed-conductor and a magnet controlling said signal normally in an open circuit with the continuous-feed conductor and connected with the intermediate supply-conductor of said block, a circuit-controller in circuit with each signal and controlled by said magnet, whereby the presence of a car upon the block will close the circuit through the magnet to operate the signal.

7. In a signaling system for electric railways, the combination of a continuous-feed conductor connected with a source of electrical energy, an intermediate supply-conductor for each block for conveying the current from the feed-conductor to any car that may be upon the block, each supply-conductor being electrically disconnected from the supply-conductors of adjoining blocks, a return-conductor, a signal for each block, a resistance-coil connected to said feed-conductor and a magnet controlling said signal normally deënergized to hold the signal in circuit with the continuous-feed conductor and the intermediate supply-conductor, and controlled thereby and at safety, a circuit-controller in circuit with each signal and controlled by said magnet, all so connected and arranged that, when there is a car on the block, the magnet will be energized to cause the signal to go to danger.

8. In a signaling system for electric railways, the combination of a continuous-feed conductor connected with a source of electrical energy, an intermediate supply-conductor for each block for conveying the current from the feed-conductor to any car that may be upon the block, each supply-conductor being electrically disconnected from the supply-conductors of adjoining blocks, a return-conductor, a signal for each block, a resistance-coil connected to said feed-conductor, a magnet controlling said signal connected with the continuous-feed conductor and connected with the intermediate supply-conductor of said block, all so arranged that the presence or absence of a car upon a block will change the electrical condition of the said controlling-magnet of said block, and thereby change the condition of the signal, electrical connections through the motor of a car, a by-path for the current around the motor of such resistance as to permit a flow of current through the signal-controlling magnet sufficient to affect it so as to move or hold the signal to danger, the switch in the car being so arranged as to throw the current either through the motor

or the by-path, whereby, when a car is on a block and the power is shut off from the motor, the magnet will still control the signal to show danger.

9. In a signaling system for electric railways, the combination of a continuous-feed conductor connected with a source of electrical energy, an intermediate supply-conductor for each block for conveying the current from the feed-conductor to any car that may be upon the block, each supply-conductor being electrically disconnected from the supply-conductors of adjoining blocks, a return-conductor, a signal for each block, a resistance-coil connected to said feed-conductor, a magnet controlling said signal connected with the continuous-feed conductor and connected with the intermediate supply-conductor of said block, all so arranged that the presence or absence of a car upon a block will change the electrical condition of the said controlling-magnet of said block, and thereby change the condition of the signal, electrical connections through the motor of a car, a permanently-closed by-path for the current around the motor to prevent an interruption of the current through the car while the car is on the block, whereby, the effective electrical condition of the controlling-magnet will not be changed by the shutting off of the current from the motor, and the signal will be held at danger as long as the car is on the block, irrespective whether the power is shut off from the motor or not.

10. In a signaling system for electric railways the combination of a continuous-feed conductor connected with a source of electrical energy, an intermediate supply-conductor for each block for conveying the current from the feed-conductor to any car that may be upon the block, each supply-conductor being electrically disconnected from the supply-conductors of adjoining blocks, a return-conductor, a signal for each block, a resistance-coil connected to said feed-conductor, a magnet controlling said signal connected with the continuous-feed conductor and connected with the intermediate supply-conductor of said block and normally deënergized, electrical connections of a car when on the block between the intermediate supply-conductor and the return-conductor, such connections including a permanently-closed by-path for the current around the motor of such resistance as to cause the magnet to maintain the signal at danger, whether the power is on or off the motor of the car.

11. In a signaling system for electric railways, the combination of a continuous-feed conductor connected with a source of electrical energy, an intermediate supply-conductor for each block for conveying the current from the feed-conductor to any car that may be upon the block, each supply-conductor being electrically disconnected from the supply-conductors of adjoining blocks, a return-conductor, a signal for each block, a resistance-coil connected to said feed-conductor, a magnet controlling said signal connected with the continuous-feed conductor and connected with the intermediate supply-conductor of said block, all so arranged that the presence or absence of a car upon a block will change the electrical condition of the said controlling-magnet, thereby changing the condition of the signal, electrical connections through the motor of a car, and a by-path for the current around the motor of such resistance as will cause the magnet not to be operatively affected by the turning off or on of the power from or through the motor, whereby, when a car is on a block and the power is shut off from a motor, the magnet will still control the signal to indicate danger.

12. In a signaling system for electric railways, the combination of a continuous-feed conductor connected with a source of electrical energy, an intermediate supply-conductor for each block for conveying the current from the feed-conductor to any car that may be upon the block, each supply-conductor being electrically disconnected from the supply-conductors of adjoining blocks, a return-conductor, a signal for each block, a resistance-coil of low resistance connected to said feed-conductor, an electromagnet of higher resistance than that of the coil, said magnet controlling said signal and connected with the continuous-feed conductor, all so arranged that the presence or absence of a car upon a block will change the condition of the magnet thereby changing the condition of the signal.

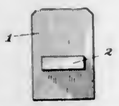
13. In a signaling system for electric railways, the combination of a continuous-feed conductor connected with a source of electrical energy, an intermediate supply-conductor for each block for conveying the current from the feed-conductor to any car that may be upon the block, each supply-conductor being electrically disconnected from the supply-conductors of adjoining blocks, a return-conductor, a signal for each block, a resistance-coil of low resistance connected to said feed-conductor, an electromagnet of higher resistance than that of the coil, said magnet controlling the said signal and connected with the continuous-feed conductor, all so arranged that the presence or absence of a car upon a block will change the electrical condition of the said controlling-magnet, thereby changing the condition of the signal, electrical connections through the motor of the car, and a by-path for the current around the motor of suitable resistance so that when a car is on a block and the power is shut off from the motor, the electromagnet may still control the signal.

845,684. MATRIX-PLATE FOR TYPE-CASTING MACHINES. FRANK H. BROWN and JOHN E. HANRAHAN, Baltimore, and GEORGE A. BOYDEN, Mount Washington, Md., assignors to National Compositype Company, a Corporation of Delaware. Filed May 17, 1905. Serial No. 260,735.



Claim.—A font of matrices for casting type, comprising a series of plates—one for each type character of the font—all of said plates being of a uniform and equal size and shape and the type character, irrespective of its size, being situated on each of the plates at the same predetermined measurement from one vertical edge and the bottom edge.

845,685. MATRIX FOR CASTING SPACES AND QUADS. FRANK H. BROWN and JOHN E. HANRAHAN, Baltimore, and GEORGE A. BOYDEN, Mount Washington, Md., assignors to National Compositype Company, a Corporation of Delaware. Filed May 17, 1905. Serial No. 260,736.

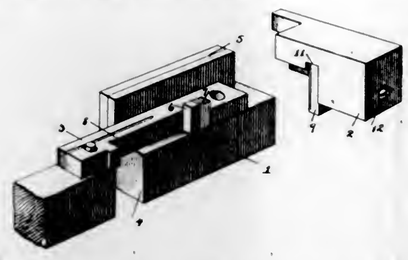


Claim.—1. A matrix for individual-type-casting machines, comprising a plate having at its broadest flat side a projection or boss of smaller dimensions than the said flat side of the plate and all sides of said boss being spaced from the edges of the plate, whereby a space or quad of a size equal to the outermost face of the said boss may be cast in an ordinary type-mold cavity.

2. A matrix for converting an ordinary type-mold cavity into a cavity for casting spaces or quads, comprising a flat plate having at its broadest side a rectangular boss adapted to shorten the length dimension of said mold-cavity.

845,686. TYPE MOLD AND MATRIX. FRANK H. BROWN and JOHN E. HANRAHAN, Baltimore, and GEORGE A. BOYDEN, Mount Washington, Md., assignors to National Compositype Company, a Corporation of Delaware. Filed May 19, 1905. Serial No. 261,163.

Claim.—1. In a machine for casting type, the combination of a type-mold having a movable ejector forming one side of the mold-cavity; a matrix-plate having a casting-surface whose area is of size sufficient to receive any type character from the smallest to the largest dimensions for which the machine has capacity—said character, irrespective of its size, being situated on the said plate at a predetermined measurement from one vertical edge and the bottom edge of said plate; and insertible and removable liners which by limiting the movement of the ejector governs the setwise size of the mold-cavity.



2. In a machine for casting type, the combination of a type-mold comprising a stationary part and an insertible part; a matrix-plate carried by the said insertible part and having a casting-surface whose area is of size sufficient to receive any type character from the smallest to the largest dimensions for which the machine has capacity—said character, irrespective of its size, being situated on the said plate at a predetermined measurement from one vertical edge and the bottom edge of said plate; and means also on the insertible part of the mold to shift the matrix-plate so as to center the matrix character with respect to the mold-cavity.

3. In a machine for casting type, the combination of a mold comprising a stationary and an insertible part; a matrix-plate; a movable holder for the matrix-plate; and means carried by the insertible part of the mold and by which said matrix plate and holder may be shifted to center the matrix character with respect to the mold-cavity.

4. In the art of casting type a mold having a recess; a matrix-holder in said recess and a device for simultaneously locking the matrix-holder to the mold and centering the matrix character with respect to the mold-cavity.

5. In the art of casting type a mold, a holder carried by the mold and provided with means for receiving a matrix-plate so that the character on the latter will take a definite position with respect to the holder irrespective of the size of said character, and means for centering the matrix-holder and matrix with respect to the mold.

6. In the art of casting type a mold, a matrix-holder provided at one side with means for engaging a matrix-plate and at another side having means by which said holder may be positioned in the mold, and a device for engaging the said positioned means on the holder to center the matrix.

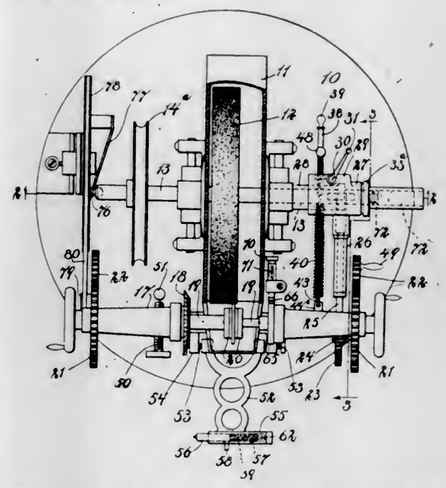
7. In the art of casting type a mold, a matrix-holder provided at one side with means for engaging a matrix and at another side having a centering device, and a device carried by the mold and movable toward the said centering device on the holder to center the matrix in the mold.

8. In the art of casting type a mold, a matrix-holder provided at one side with means for engaging a matrix and at another side having a seat with an inclined wall, and a device carried by the mold and contacting with the said inclined wall of the holder to center the matrix.

9. In the art of casting a mold, a matrix-holder provided with means for holding a matrix-plate with its character in a given position with respect to the holder, and said holder also being provided with a centering-seat which has a given position with respect to the character of any matrix in said holder, and means coacting with said seat to center the matrix character with respect to the mold-cavity.

10. In the art of casting type a mold, a matrix-holder provided at one side with means for holding a matrix and at another side having a centering-recess, and a screw carried by the mold and adapted to have its end enter the centering-recess of the holder to center the matrix in the mold.

845,687. CUTTING AND GRINDING MACHINE. FREDRICK H. BROWN, Lebanon, N. H. Filed Nov. 1, 1905. Serial No. 285,396.



Claim.—1. A grinding-machine comprising a longitudinally-movable shaft, a grinding-wheel carried thereby, a cam for moving the shaft, a holder coöperating with the wheel, means for rotating the holder, and means for operating the cam from the holder-rotating means.

2. A grinding-machine comprising a longitudinally-movable shaft, a grinding-wheel carried by said shaft, a cam-wheel coöperating with the shaft near one extremity, a head contacting with the opposite end of the shaft and being movable independently thereof, a spring exerting its tension upon the head to force it against the shaft, and a holder coöperating with the grinding-wheel.

3. The combination with a driving-shaft, of a member for operating upon the work, a movable work-holder, a bodily-movable intermediate shaft, gearing connecting said intermediate shaft with the driving-shaft and holder, and means for simultaneously moving the work-holder and intermediate shaft, the latter effecting a change in the relation to the gearing.

4. The combination with a driving-shaft, of a member for operating upon the work, a movable work-holder, a bodily-movable intermediate shaft, gearing connecting said intermediate shaft with the driving-shaft and holder, and a spring operating to simultaneously move the work-holder and intermediate shaft.

5. The combination with a driving-shaft, of a member for operating upon the work, a movable work-holder, a bodily-movable intermediate shaft, gearing connecting said intermediate shaft with the driving-shaft and holder, a controlling member coöperating with a work-holder and intermediate shaft, and a spring operating to simultaneously move the work-holder, shaft and the controlling member.

6. The combination with the driving-shaft, of a member for operating upon the work, a movable work-holder, a swinging member, a shaft journaled in said member, gearing connecting said shaft with the driving-shaft and holder, and a spring exerting its tension upon the swinging member and holder.

7. The combination with a driving-shaft, of a member for operating upon the work, a movable work-holder, a swinging member, a shaft journaled in said member, gearing connecting said shaft with the driving-shaft and holder, and a spring exerting its tension upon the swinging member and holder, and means for varying the point of attachment of the spring.

8. The combination with the driving-shaft, of a member for operating upon the work, a movable work-holder, a swinging member, a shaft journaled in said member,

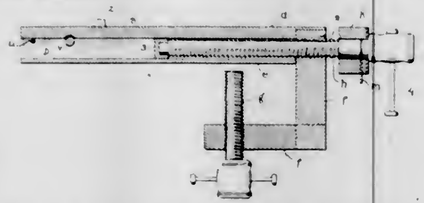
gearing connecting said shaft with the driving-shaft and holder, a controlling member for the holder, and a spring exerting its tension upon the controlling member and holder.

9. The combination with a driving-shaft, of a member for operating upon the work, a movable work-holder, a sleeve which may turn about the driving-shaft, an arm projecting from the sleeve, a shaft journaled in the arm, gearing connecting the arm-shaft with the driving-shaft and holder, and means for fixing the position of the sleeve about the driving-shaft.

10. The combination with a driving-shaft, of a member for operating upon the work, a movable work-holder, a sleeve which may turn about the driving-shaft, an arm projecting from the sleeve, a shaft journaled in the arm, gearing connecting the arm-shaft with the driving-shaft and holder, a spring operating to both turn the sleeve and move the holder, and means for fixing the position of the sleeve about the driving-shaft.

11. The combination with a driving-shaft, of a member for operating upon the work, a movable work-holder, a sleeve which may turn about the driving-shaft, an arm projecting from the sleeve, a shaft journaled in the arm, gearing connecting the arm-shaft with the driving-shaft and holder, a controlling member for the holder, and a spring connecting the controlling member and sleeve.

845,688. CARPENTER'S BENCH. HENRIK A. BRUNSTRÖM, Somerville, Mass. Filed Oct. 16, 1906. Serial No. 339,214.

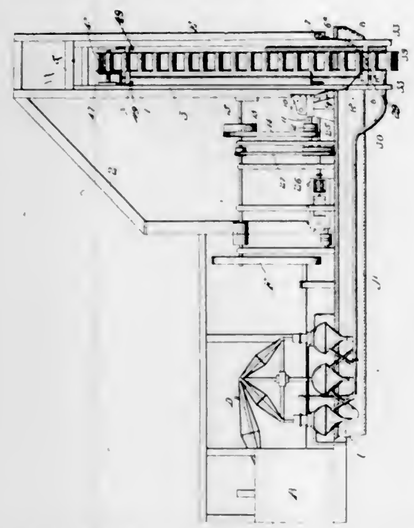


Claim.—A portable carpenter's bench attachment, consisting of a hollow frame having a rear bar, a front bar provided at its inner end with a screw-threaded opening and a lateral guide-opening, top and bottom boards connecting said front and rear bars, and separated by an interval, an outer angle-form arm connecting said front and rear bars and having a screw-threaded opening and lateral guide-openings in line with the interval between said top and bottom boards, an end clamp having a horizontal screw engaging the screw-threaded opening of the outer arm and lateral guide-bars engaging the guide-openings of said bar, a transverse bar connecting said guide-bars and having a central bearing for the inner end of said horizontal screw, which engages the same, a vertical clamp-screw engaging a horizontal arm of said angle-bar, and a transverse clamp having a horizontal screw engaging the screw-threaded opening of said front bar and a guide-rod engaging the guide-opening of such bar, said horizontal screws, guide-rods, and transverse bar being located in the interval between said top and bottom boards, and said transverse bar abutting at its ends against said front and rear bars.

845,689. DREDGING APPARATUS. HENRY B. BUDDENBORG, Seattle, Wash., assignor of one-half to Marcellus Lara, Seattle, Wash. Filed Aug. 10, 1904. Serial No. 220,212.

Claim.—1. In a dredging apparatus, the combination of an operating mechanism, a suction mechanism, a sliding frame carrying the lower end of the suction mechanism, and elevator mechanism passing around the lower end of the suction-pipe mounted in the sliding frame adapted to be operated simultaneously with the suction mechanism.

2. In a dredging apparatus, the combination of a frame, a sliding frame carried by said first-mentioned frame, a suction mechanism mounted in the lower end of said sliding frame, an elevator mechanism mounted upon said sliding frame, and passing around the lower end of the suction mechanism, and means adapted to operate said suction mechanism, elevator mechanism and sliding frame.



3. In a dredging apparatus, a combination of a frame, a suction-pipe, the lower end of which is connected to the frame, a revolving cage surrounding the lower end of the suction-pipe and adapted to prevent large particles from entering the same, an elevator mechanism mounted in the frame and passing around the revolving cage to revolve the same and elevate the larger particles, and mechanism for operating suction mechanism and elevator mechanism simultaneously.

4. In a dredging apparatus, the combination of a stationary frame, a sliding frame, a suction-pipe, the lower end of which is stationarily mounted in the lower end of said sliding frame and connected to the suction-pipe, a revolving cage mounted upon said stationary end of the suction-pipe and surrounding an elevator mechanism adapted to revolve around said cage, and mechanism for operating the suction mechanism and elevator mechanism simultaneously.

5. In a dredging apparatus, the combination of a scow or pontoon, a stationary frame carried thereby, another frame slidably mounted in said stationary frame, a suction mechanism having its lower end mounted in the lower end of the sliding frame, a revolving cage mounted upon the lower end of said suction mechanism and surrounding the intake-mouth thereof, said cage being provided with sprocket-teeth, a drum mounted in the upper end of the sliding frame and having sprocket-teeth in alinement with the sprocket-teeth of the cage, an endless chain adapted to pass around the cage and drum, buckets carried by said endless chain, and an operating mechanism mounted upon the scow and operably connected with the suction mechanism and endless chain mechanism.

6. In a dredging apparatus, the combination of a suction-pipe, a rotatable cage mounted upon said suction-pipe and surrounding the intake-mouth thereof, and a vacuum-chamber in communication with the suction-pipe beyond the intake-mouth thereof.

7. In a dredging apparatus, the combination of a sliding frame, a suction-pipe, the lower end of which is stationarily carried in the lower end of the sliding frame, said lower end being provided with a centrally-arranged intake-mouth, a rotatable screen or cage journaled upon the stationary pipe and surrounding the intake-mouth thereof, and a vacuum-chamber in communication with the suction-pipe beyond the intake-mouth thereof.

8. The combination with a dredging-machine, of a suction-pipe, and a vacuum-chamber beyond the intake-mouth thereof.

9. In combination with a dredging-machine, of a suction-pipe having a relatively stationary end, a screen rotatably mounted to surround the suction end of said pipe and prevent large particles from entering the same, and further provided with sprocket-teeth upon the rims thereof, and elevator mechanism for conveying larger particles for transmitting motion to the screen.

10. In a dredging apparatus, the combination of a stationary frame, another frame slidingly mounted within said stationary frame, a suction-pipe having its lower end mounted in the sliding frame, a rotatable screen surrounding the intake-mouth of the suction-pipe, an endless elevator mechanism surrounding said screen, a drum in the upper end of the sliding frame for transmitting motion to the elevator mechanism, a vertical shaft for operating upon said drum, means for raising the drum to take up the slack of the elevator mechanism, means for raising and lowering the vertical shaft, and mechanism for operating the suction mechanism and elevator mechanism simultaneously.

11. In a dredging mechanism, the combination of a scow, a stationary frame carried thereby, another frame slidingly mounted in said stationary frame, mechanism for raising and lowering said sliding frame, suction mechanism, a suction-pipe connected with the scow, a stationary pipe carried in the lower end of the sliding frame and connected to the suction-pipe, a rotating screen or cage mounted upon the stationary pipe, adjustable bearings mounted in the upper portion of the sliding frame, a drum mounted between said bearings, endless chains passing over said drum and revolving screen, a series of buckets carried by said chains, a vertical shaft adjustably mounted in the sliding frame, means for moving the bearings of the frame to take up the slack of the chains, means for operating the vertical shaft for keeping it in adjustment with the drum, and mechanism for operating said vertical shaft and the suction mechanism simultaneously.

12. In a dredging apparatus, the combination of a scow, a stationary frame, a sliding frame, a suction mechanism and an elevator mechanism carried by the sliding frame said elevator mechanism passing around the lower end of said suction mechanism, and means for operating said suction mechanism and elevator mechanism simultaneously carried by the scow.

13. In a dredging apparatus, the combination of a scow, a stationary frame, a sliding frame, a suction mechanism, an elevator mechanism carried by said sliding frame, said elevator mechanism passing around the lower end of said suction mechanism, mechanism for raising and lowering the sliding frame, and mechanism for operating the suction-pipe, elevator mechanism and raising and lowering mechanism.

14. The combination with a dredging-machine, of a suction-pipe the lower end of which is substantially T-shaped, the intake-mouth being the lower terminal, and a rotatable screen mounted upon the other terminal and surrounding the intake-mouth.

15. The combination with a dredging-machine, of a suction-pipe, the lower end of which is substantially T-shaped, the intake-mouth being the lower terminal, and a vacuum-chamber beyond the intake-mouth.

16. The combination with a dredging-machine, of a suction-pipe, the lower end of which is substantially T-shaped, the intake-mouth being the lower terminal, a rotatable screen mounted upon the other terminals and surrounding the intake-mouth, and a vacuum-chamber beyond the intake-mouth upon the opposite side therefrom.

17. The combination with a dredging-machine, of a suction-pipe, the lower end of which is substantially T-shaped, the intake-mouth being the lower terminal, a rotatable screen mounted upon the other terminals and surrounding the intake-mouth, and a vacuum-chamber beyond the intake-mouth.

18. The combination with a dredging-machine, of a suction-pipe, the lower end of which is substantially T-shaped, the intake-mouth being the lower terminal, and an elevator mechanism for removing larger particles.

19. The combination with a dredging-machine, of a suction-pipe, the lower end of which is substantially T-shaped, the intake-mouth being the lower terminal, a rotatable screen mounted upon the other terminals and surrounding the intake-mouth, and an elevator mechanism for removing larger particles passing over said screen.

20. The combination with a dredging-machine, of a suction-pipe, the lower end of which is substantially T-shaped, the intake-mouth being the lower terminal, a vacuum-chamber beyond the intake-mouth, and an elevator mechanism for removing large particles.

21. The combination with a dredging-machine, of a suction-pipe, the lower end of which is substantially T-shaped, the intake-mouth being the lower terminal, a rotatable screen mounted upon the other terminals and surrounding the intake-mouth, a vacuum-chamber beyond the intake-mouth, and an elevator mechanism for removing larger particles passing over said screen.

22. The combination with a dredging-machine, of a suction-pipe, the lower end of which is substantially T-shaped, the intake-mouth being the lower terminal, a vacuum-chamber beyond the intake-mouth, and an elevator mechanism for removing large particles.

23. The combination with a dredging-machine, of a suction-pipe, the lower end of which is substantially T-shaped, the intake-mouth being the lower terminal, a rotatable screen mounted upon the other terminals and surrounding the intake-mouth, a vacuum-chamber beyond the intake-mouth, and an elevator mechanism for removing larger particles passing over said screen.

24. In a dredging apparatus, the combination of a suction-pipe, the lower end of which is adapted to lie substantially horizontal with the bed of the river, having a centrally-arranged downwardly-projecting intake-mouth, a screen rotatably mounted upon the horizontal portion and surrounding the intake-mouth, a drum mounted above said screen and in alinement therewith, and an elevator mechanism for removing larger particles passing around said drum and screen.

25. In a dredging apparatus, the combination of a suction-pipe, the lower end of which is adapted to lie horizontally with the bed of the river having a centrally-arranged downwardly-projecting intake-mouth, a screen rotatably mounted upon the horizontal portion and surrounding the intake-mouth, a drum mounted above said screen and in alinement therewith, and a pair of endless chains carrying elevating means for removing larger particles passing around said drum and screen, and mechanism for operating the suction-pipe and endless chains.

26. In a dredging apparatus, the combination of a sliding frame, mechanism for removing the fine particles located in the lower end of said sliding frame, mechanism for removing the coarser particles passing around the lower end of said first-mentioned mechanism, and mechanism for operating both of said mechanisms.

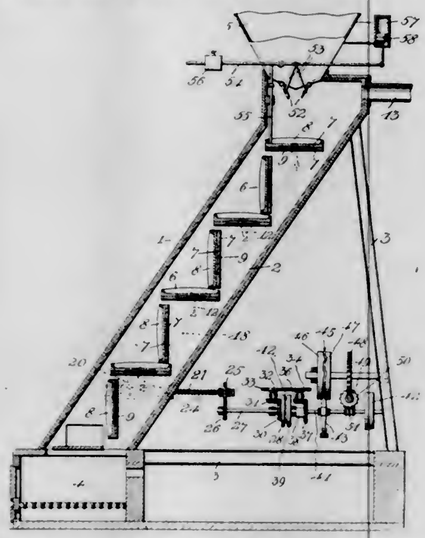
27. In a dredging apparatus, the combination of a sliding frame, mechanism for removing fine particles, a revolving screening means surrounding the lower end of said mechanism, and mechanism for removing coarser particles passing around said screening means and the lower end of the first mechanism.

28. In a dredging-machine, the combination of an operating mechanism, a suction mechanism, screening means mounted upon the lower end of the suction mechanism, and an endless conveying mechanism passing around the screening means and the lower end of the suction mechanism, whereby the suction mechanism will convey fine particles, while the endless conveying mechanism conveys larger particles.

29. In a dredging apparatus, the combination of a sliding frame, a suction mechanism, the lower end of which is mounted in the lower end of the sliding frame, an elevator mechanism mounted around the lower end of the suction mechanism and in the upper portion of the sliding frame, means for transmitting motion to the upper end of the elevator mechanism, mechanism for adjusting the ele-

vator mechanism, and mechanism for adjusting the operating mechanism.

845,690. FURNACE FOR REDUCING CINNABAR ORE. CHARLES F. BURGESS, Yreka, Cal. Filed Sept. 5, 1905. Renewed Feb. 4, 1907. Serial No. 355,725.



Claim.—1. In an apparatus of the character described, the combination with a supporting-frame, of an inclined chute arranged in said frame, said chute being lined with non-heat-conducting material, an intermittently-discharging hopper arranged at the upper end of said chute, a series of pivoted ore-receiving leaves arranged one above the other in said chute, means to tilt said leaves with an intermittent movement, and a heating-furnace arranged at the lower end of said chute, substantially as described.

2. In an apparatus of the character described, the combination with a supporting-frame, of an inclined chute arranged in said frame, said chute being lined with non-heat-conducting material, an intermittently-discharging hopper arranged at the upper end of said chute, a series of pivotally-mounted ore-receiving leaves arranged one above the other in said chute, means to alternately tilt said leaves with an intermittent movement, a heating-furnace arranged at the lower end of said chute, and means whereby the gas and fumes from the heated ore are drawn off and condensed, substantially as described.

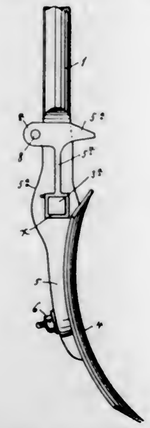
3. In an apparatus of the character described, the combination with a supporting-frame, of an inclined chute arranged in said frame, said chute being lined with non-heat-conducting material, an intermittently-discharging hopper arranged at the upper end of said chute, a series of pivotally-mounted ore-receiving leaves arranged one above the other in said chute, means to alternately tilt said leaves with an intermittent movement, a heating-furnace arranged at the lower end of said chute, a suction-pipe connected with the upper end of the same, and condensers connected with said suction-pipe, substantially as described.

4. In an apparatus of the character described, the combination with a supporting-frame, of an inclined chute arranged in said frame, said chute being lined with non-heat-conducting material, an intermittently-discharging hopper arranged at the upper end of said chute, pivotally-mounted ore-receiving leaves arranged in said chute, means whereby said leaves are connected in series or sets, the leaves of one series alternating with those of the other, means whereby said sets or series of leaves are alternately tilted with an intermittent motion, a heating-furnace arranged in the lower end of said chute, and means whereby the gas and fumes from said heated ore are drawn off and condensed, substantially as described.

5. In an apparatus of the character described, the combination with a supporting-frame, of an inclined chute arranged in said frame, said chute being formed of non-heat-conducting material, an automatically-discharging hopper arranged at the upper end of said chute, ore-receiving leaves arranged in said chute, trunnions formed on said leaves, whereby the same are journaled one above the other in the sides of said inclined chute, crank-arms secured to the trunnions on one side of said levers, bars pivotally secured to said crank-arms to connect said leaves in sets or series, the leaves of one series alternating with those of the other, operating-levers connected with the lowermost leaves of each of said series, a driving mechanism connected with said levers whereby the leaves of one of said series are operated alternately with those of the other series, means whereby said leaves are tilted with an intermittent movement to gradually discharge the ore therefrom, means to restore the same to their original position, and means to heat said ore as it is discharged by said leaves, substantially as described.

6. In an apparatus of the character described, the combination with a supporting-frame, of an inclined chute arranged in said frame, said chute being formed of non-heat-conducting material, an automatically-discharging hopper arranged at the upper end of said chute, revolubly-mounted ore-receiving leaves arranged in said chute, means whereby said leaves are connected in series or sets, the leaves of one series alternating with those of the other, means whereby said sets or series of leaves are alternately tilted with an intermittent motion, trap-doors arranged to close the lower end of said hopper, an operating-lever connected to said doors, means engaged by the top leaf when brought to a horizontal position to actuate said lever and open said trap-doors, a weight to close said doors when said lever is released, a check to retard the closing movement of said doors, and means whereby the ore discharged by said levers is heated, substantially as described.

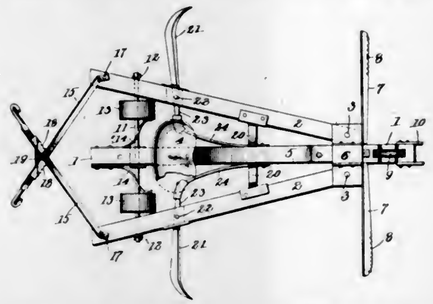
845,691. CULTIVATOR-TOOTH. GEORGE E. CAMP, Utica, N. Y., assignor to Standard Harrow Company, Utica, N. Y. Filed Sept. 8, 1905. Serial No. 277,480.



Claim.—1. The combination in a cultivator-tooth holder of the shank, the blade, the blade-holder on which the blade is secured and having walls between which the shank is received, a bolt passing through the shank and one of the walls and having a head received in an opening in the opposite wall and supported thereby, substantially as set forth.

2. The combination in a cultivator-tooth holder of the shank, the blade, the blade-holder on which the blade is secured, having walls between which the shank is received, a bolt passing through the shank and one of the walls and binding the shank against said wall, and having a head received in an opening in the other wall and supported thereby, and a break-pin passing between the walls and back of the shank at a point removed from said bolt, substantially as set forth.

845,692. STALK-CUTTER. FRANCISCO P. CHAPA, Alice, Tex., assignor of one-half to Trinidad Salazar, Alice, Tex. Filed July 25, 1906. Serial No. 327,654.



Claim.—1. A stalk-cutter provided with a central beam, side beams connected at one end thereof with the central beam and arranged projecting lengthwise from the central beam, projecting pivotally-acting blades on the side beams, means holding the blades under tension, and stalk-ejectors carried in advance of said blades.

2. The combination in a stalk-cutter, of a central beam, adjustable side beams hingedly attached to the central beam, means yieldingly holding the side beams projecting at an angle from the central beam, yielding blades on the side beams, means limiting adjustment of the side beams, and means providing transporting-support.

3. The combination in a stalk-cutter, of a central beam, side beams hingedly attached at their forward ends, to the central beam, means yieldingly holding the side beams projecting at an angle from the central beam, projecting blades on the side beams, springs adapted for yieldingly holding the blades at forward adjustment, attached wheels, providing transporting-support, and means adapted for limiting outward adjustment of the side beams.

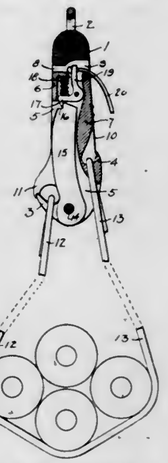
4. The combination of a stalk-cutter, of a central beam, side beams hingedly attached at their forward ends, to the central beam, springs on the central beam, adapted to hold the side beams projecting at an angle from the central beam, projecting blades pivotally secured to the side beams, springs on the central beam, adapted to hold the blades yieldingly adjusted, an axle at the rear ends of the central and side beams, wheels on the axle having lateral adjustment, springs yieldingly holding said wheels to lateral adjustment, a supporting-wheel at the forward end of the central beam, pivotally-connected handle-bars secured to the side beams, and means adapted to limit pivotal adjustment of the handle-bars.

5. The combination in a stalk-cutter, of a central beam, side beams hingedly attached at their forward ends, to the central beam, springs on the central beam adapted to hold the side beams projecting at an angle from the central beam, yieldingly-held projecting blades on the side beams, and ejector-wings located in advance of the projecting blades.

845,693. HOISTING-HOOK. ARTHUR W. COATS and ROBERT M. THOMPSON, Tacoma, Wash. Filed Jan. 4, 1906. Serial No. 294,625.

Claim.—1. In a hoisting-hook, the combination with a frame, of a hook pivoted thereto, an arm extending from said hook, a spring-latch mounted on the frame and engaging said arm, a fixed hook formed in said frame, and a spring closing said fixed hook and forming an eye therewith and adapted to retain connection with the sling-rope.

2. In a hoisting-hook, the combination with a frame, of a hook pivoted thereto, a nose formed on said frame and extending into close proximity to said hook, an arm extending from said hook, a spring-latch mounted on the frame and engaging said arm, and a fixed hook formed in said frame and adapted to retain connection with the sling-rope.

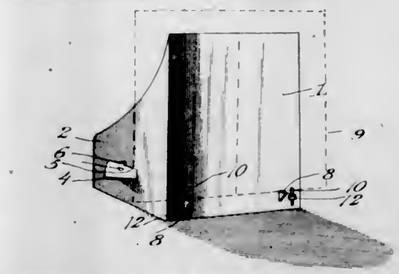


3. In a hoisting-hook, the combination with a frame, of a hook pivoted thereto, a nose formed on said frame and extending into close proximity to said hook, an arm extending from said hook, a spring-latch mounted on the frame and engaging said arm, a fixed hook formed in said frame, and a spring closing said fixed hook and forming an eye therewith and adapted to retain connection with the sling-rope.

4. In a hoisting-hook, the combination with a frame, of a hook pivoted thereto, a spring-latch pivoted on the frame and engaging said arm, a fixed hook formed in said frame, and a guard extending from said frame to the point of said fixed hook.

5. In a hoisting-hook, the combination with a frame, of a hook pivoted thereto, a nose formed on said frame and extending into close proximity to said hook, an arm extending from said hook, a spring-latch mounted on the frame and engaging said arm, and a fixed hook formed in said frame, and a guard extending from said frame to the point of said fixed hook.

845,694. EASEL. ARTHUR H. CONELLY, Pensacola, Fla. Filed Jan. 16, 1906. Serial No. 296,353.



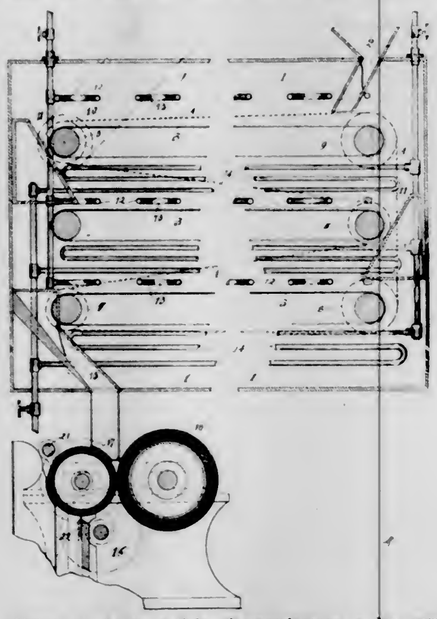
Claim.—1. As a new article of manufacture, an easel comprising a body portion and a foldable wing having a guide-opening, a foldable retaining member attached to the body and slidably arranged in said opening, said member having arcuate edges curved throughout their length concentric with the arc of movement of the wing whereby the latter may be folded or unfolded without being disengaged from the member, and an engaging lip provided on

the member for engagement with and to hold the wing in unfolded condition.

2. As a new article of manufacture, an easel comprising a body portion and a pair of foldable wings provided with guide-openings, a pair of foldable retaining members attached to the body and slidably arranged respectively in said openings, said members having arcuate edges curved throughout their length concentric with the arc of movement of the wings, whereby the latter may be folded or unfolded without being disengaged from the member, and engaging members provided on the retaining members for engagement with and to hold the wings in unfolded condition.

3. As a new article of manufacture, an easel comprising a body portion and foldable side portions formed in a single piece therewith, said side portions being provided with guide-openings, retaining members slidably disposed in said openings and engaged with the body, and a plurality of engaging lips struck from each of said members and adapted to be bent outward for engagement with the adjacent side portions to hold the same in unfolded condition.

845,695. PITTED PRUNE AND METHOD OF PITTING IT. NEWTON B. CONVERSE, Fresno, Cal., assignor to himself and Francis M. Wright, trustees, San Francisco, Cal. Filed Nov. 30, 1906. Serial No. 345,635.



Claim.—1. As an article of manufacture, a dry, semicooked, pitted prune, substantially as described.

2. As an article of manufacture a dry, semicooked, edibly integral, pitted prune, substantially as described.

3. As an article of manufacture, a dry, cooked, pitted prune, the surface of the pit-cavity being substantially smooth or unbroken, substantially as described.

4. As an article of manufacture, a dry, cooked, edibly integral pitted prune, the surface of the pit-cavity being substantially smooth or unbroken, substantially as described.

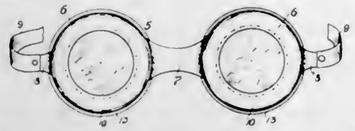
5. The process of treating prunes which consists in semicooking the prune to render the pulp freely separable from the pit, and then, while the pulp immediately around the pit is still hot, passing the prune between impaling and pressure devices to extrude the pit from the prune, substantially as described.

6. The process of treating prunes which consists in semicooking the prune by dry heat and steam alone to render the pulp freely separable from the pit, and then, while the pulp immediately around the pit is still hot, passing the prune between impaling and pressure devices to extrude the pit from the prune, substantially as described.

7. The process of treating prunes which consists in cooking the prune sufficiently to render the pulp freely separable from the pit, and then, while the pulp immediately around the pit is still hot, passing the prune between impaling and pressure devices to extrude the pit therefrom, substantially as described.

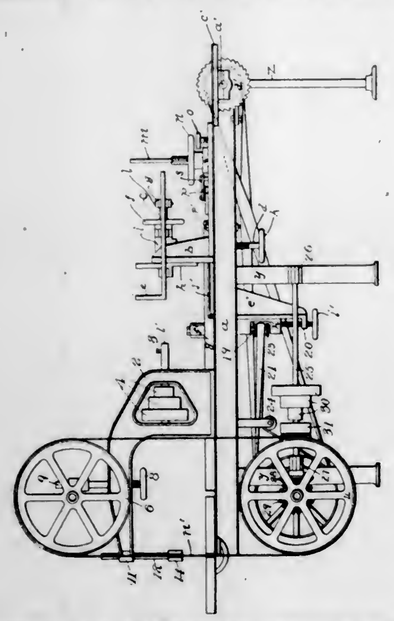
8. The process of treating prunes which consists in cooking the prune by dry heat and steam alone sufficiently to render the pulp freely separable from the pit, and then, while the pulp immediately around the pit is still hot, passing the prune between impaling and pressure devices to extrude the pit therefrom, substantially as described.

845,696. EYE GUARD OR SHIELD. HARVEY S. COVER, South Bend, Ind. Filed Sept. 15, 1904. Serial No. 224,580.



Claim.—An eye-guard embodying lens portions each consisting of a solid ring member having an integral annular flange projecting substantially at right angles to the plane of the lens, and gradually tapering in thickness and terminating in a flat, yielding, outwardly-extending cushion which is disposed in a plane substantially parallel with the lens, and an integral bridge-piece connecting the ring members to provide a recess for the nose between the flanges and cushions, substantially as described.

845,697. CARRIAGE-MACHINE. JOHN W. CRAIN, Winchester, Ky. Filed Mar. 28, 1906. Serial No. 308,598.



Claim.—1. In a carriage-machine, the combination of a bed, a lathe carried thereby provided with a tail-stock, a centering-spindle in said tail-stock, means for adjusting said tail-stock, and clamping members carried by said tail-stock and operated by the movement of said spindle, substantially as described.

2. In a carriage-machine, the combination of a tail-stock, a centering-spindle carried thereby, an operating-wheel for said spindle, clamping members carried by said tail-stock, some of said members being pivotally connected to said spindle, substantially as described.

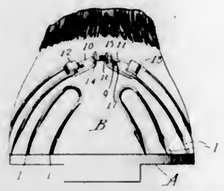
845,698. SAFETY-APPLIANCE RIVET-BOLT. JOHN W. CURRAN, Newport, Ky. Filed Dec. 1, 1906. Serial No. 345,927.



Claim.—1. The combination with a car having openings, of a rivet-bolt shouldered near its inner end to abut the car side and having beyond said shoulder a tenon projecting through the opening in the car side and riveted at its inner end forming a head bearing against the inner face of the car side, an iron fitting on said bolt on the outer side of the car, and means in connection with the bolt beyond said iron for securing the latter in place, substantially as set forth.

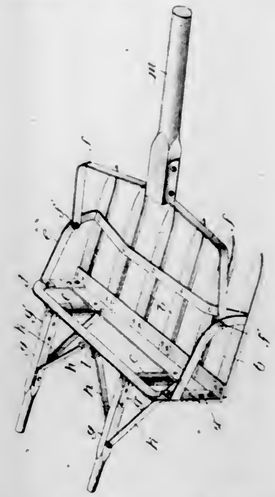
2. A car having a bolt provided near its inner end with a shoulder abutting the outer face of the car and having a tenon beyond said shoulder and projecting through the car and riveted on the inner side of the car, the outer end of the bolt being threaded, an iron fitting on the bolt and against the face of the car, and a nut on the bolt for securing said iron, substantially as set forth.

845,699. HORSESHOE AND MEANS FOR ATTACHING THE SAME. WILLIAM M. DIGHT, Jackson Center, Pa. Filed June 28, 1905. Renewed Jan. 10, 1907. Serial No. 351,692.



Claim.—In combination with a horseshoe of a device for connecting the same to a hoof consisting of two pieces of wire, one to each side of the shoe, each piece being bent to form a short front loop and a long rear loop, the ends of each piece entering the front and rear openings of the shoe from the upper side of the shoe and terminating within the groove of the shoe and the connection between both loops resting within the same groove of the shoe between the two center openings, and means connected to the two rear loops for clamping them upon the exterior of the hoof, for the purpose set forth.

845,700. FORK-SCRAPER. RAYMOND C. MINER and HORACE L. FITCH, Hudson, S. D. Filed Mar. 29, 1906. Serial No. 303,817.



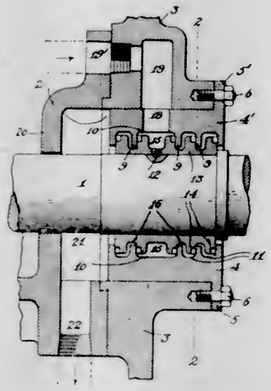
Claim.—1. A device of the class described, having a frame comprising an angle-iron rear bar having a horizontal and a vertical flange, teeth formed from T-iron extending forwardly from the angle-bar and rigidly secured to the horizontal flange thereof, a vertical frame member secured to the vertical flange of the angle-bar, a brace-bar secured at its ends to the vertical frame member and extending forwardly, then downwardly and then transversely of the teeth, and means for securing the transverse portion of the brace-bar to the teeth.

2. In a device of the class described, a frame comprising an angle-iron rear bar having a forwardly-extending horizontal flange and an upwardly-extending vertical flange, teeth formed of T-iron extending forwardly from the angle-bar and riveted to the horizontal flange thereof, and an inverted-U-shaped rear frame member secured to the vertical flange of the angle-bar, substantially as described.

845,701. TURBINE-SHAFT PACKING. JAMES L. MOORE, Wellsville, N. Y., assignor to Kerr Turbine Company, Wellsville, N. Y., a Corporation of New York. Filed Mar. 15, 1906. Serial No. 306,139.

Claim.—1. A turbine-shaft packing comprising a turbine-casing provided with a shaft-opening and a rotary shaft extending through said opening, an annular runner surrounding the shaft and rotating therewith and provided with channels and two distinct sets of ridges, each set of ridges having vanes oppositely arranged with respect to those of the other set, an annular channel interposed between the two sets of ridges, two stationary semicircular gland-sections inserted in the shaft-opening of the turbine-casing and surrounding the runner and having inner annular channels and ridges adapted to register respectively with the ridges and channels of the runner, a passage-way in one of said gland-sections adapted to communicate with the annular channel in the runner separating the two sets of ridges, and means for connecting the said annular channel and channels of the gland-sections with a source of fluid-pressure.

2. A turbine-shaft packing comprising a turbine-casing provided with a shaft-opening and a rotary shaft extending through said opening, an annular runner surrounding the shaft and rotating therewith and provided with channels and two sets of ridges, each set of ridges having vanes oppositely disposed with respect to those of the other set, an annular channel interposed between the two sets of ridges, an annular stationary gland inserted in the shaft-opening of the turbine-casing and surrounding the runner and having inner annular channels and ridges adapted to register respectively with the ridges and channels of the runner, a passage-way in the gland adapted to communicate with the annular channel in the runner separating the two sets of ridges, and means for connecting the said annular channel and channels of the gland-sections with a source of fluid-pressure.

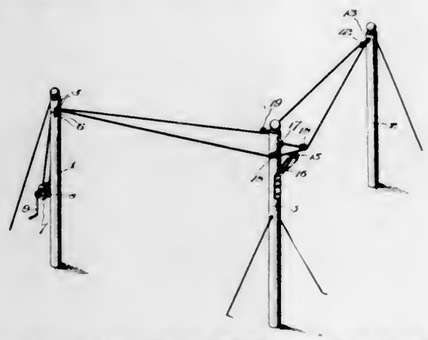


3. A turbine-shaft packing comprising a turbine-casing provided with a shaft-opening and a rotary shaft extending through said opening, an annular runner surrounding the shaft and rotating therewith and provided with channels and two distinct sets of ridges, each set of ridges having vanes oppositely arranged with respect to those of the other set, an annular channel interposed between the two sets of ridges, an annular stationary gland inserted in the shaft-opening of the turbine-casing and surrounding the runner and having inner annular channels and ridges adapted to register respectively with the ridges and channels of the runner, a passage-way in the gland adapted to communicate with the annular channel in the runner separating the two sets of ridges and connect the same with a source of fluid-pressure, and a cap attached to the exterior of the turbine-casing about the shaft-opening and forming a chamber adapted to receive the leakage from the shaft-packing.

4. A turbine-shaft packing comprising a turbine-casing provided with a shaft-opening and a rotary shaft extending through said opening, an annular stationary gland inserted in the shaft-opening of the turbine-casing, having inner annular channels and ridges, an annular runner surrounding the shaft and rotating herewith and provided with channels and two sets of ridges, each set of ridges having vanes oppositely disposed with respect to those of the other set, said vanes being of such length radially as to be completely overlapped by the ridges of the annular stationary gland, an annular channel interposed between the two sets of ridges, and means for connecting the said annular channels of the gland-sections with a source of fluid-pressure.

5. A turbine-shaft packing comprising a turbine-casing provided with a shaft-opening and a rotary shaft extending through said opening, an annular stationary gland inserted in the shaft-opening of the turbine-casing, having inner annular channels and ridges, an annular runner surrounding the shaft and rotating herewith and provided with channels and two sets of ridges having vanes oppositely disposed with respect to those of the other set, means for preventing the escape of the sealing fluid when the runner is not in motion, an annular channel interposed between the two sets of ridges, and means for connecting the said annular channels of the gland-sections with a source of fluid-pressure.

845,702. CLOTHES-LINE SUPPORT. ERNEST H. MUSE, Carbondale, Ill. Filed June 28, 1906. Serial No. 323,799.



Claim.—1. A clothes-line support comprising end posts and an intermediate post arranged at right angles thereto, a windlass mounted on one of said end posts, spaced guide-pulleys arranged in the upper end of the same, an adjustable guide-pulley arranged on the opposite end post, an obliquely-mounted line-supporting pulley arranged on said intermediate post, auxiliary guide-pulleys journaled in a forked bracket secured to said intermediate post and located on opposite sides of the supporting-pulley, and a loosely-mounted guide-pulley secured to the opposite side of said intermediate post to carry the return stretch of the line, substantially as described.

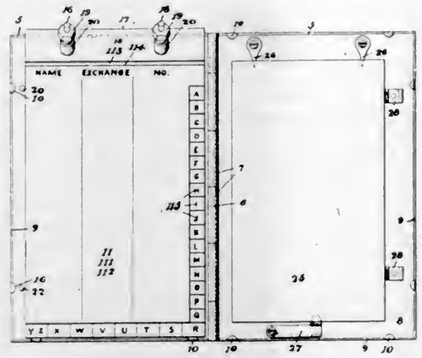
2. A clothes-line support comprising end posts and an intermediate post arranged at right angles thereto, a windlass mounted on one of said end posts, spaced guide-pulleys arranged in the upper end of the same, an adjustable guide-pulley arranged on the opposite end post, an obliquely-disposed bearing-bracket secured to said intermediate post, a line-supporting pulley journaled in said bracket, a forked bearing-bracket secured to said post above said supporting-pulley, guide-pulleys journaled in said forked bracket and disposed on opposite sides of the supporting-pulley, and a loosely-mounted guide-pulley secured to the opposite side of said post to carry the return stretch of the line, substantially as described.

845,703. TELEPHONE DIRECTORY OR BOOK. CHARLES E. NAPP, Trenton, N. J. Filed Jan. 3, 1906. Serial No. 294,433.

Claim.—1. An improved telephone-book, comprising two frames hinged together, a memorandum-pad removably secured to one frame, a set of cards on the other frame, each card having a scored line the same distance from its top, and a holder for the cards constructed to hold them with the scored lines lying in a plane at an obtuse angle to the frame.

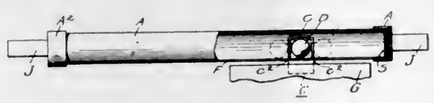
2. An improved telephone-directory, comprising a pair of hinged frames, an upwardly and outwardly inclined plate on one of the frames having its upper edge bent parallel with the frame, and a set of cards having scored lines, held against the plate with the plane of the scored lines at an obtuse angle to the frame, each card when folded over uncovering the scored lines on the next lower card.

3. An improved telephone-directory, comprising a pair of hinged frames, an upwardly and outwardly inclined plate on one frame having its upper edge bent parallel with the frame, a pair of bolts parallel with the inclined portion of the plate, nuts on the bolts to engage the turned-over edge of the plate, and a set of cards abutting



on the plate and having perforations for the bolts, said cards having scored lines, the inclined plate and the bolts holding the cards with the plane of the scored lines at an obtuse angle to the frame.

845,704. ADVERTISING DEVICE. WILLIAM B. OWEN, Detroit, Mich. Filed Nov. 25, 1905. Serial No. 289,086.



Claim.—1. In an advertising device for use in moving vehicles, the combination with a casing, closed at one end and having a detachable closure for the opposite end, a traveling member within the casing, flat extension members carried by the casing ends, and clips adapted to be secured to the car with which the extensions detachably engage.

2. The combination with a car, a pair of spaced bands or straps secured thereto, a clip carried by each strap, a casing, a traveling member within the casing, and end extensions upon said casing detachably engaging the band-clips.

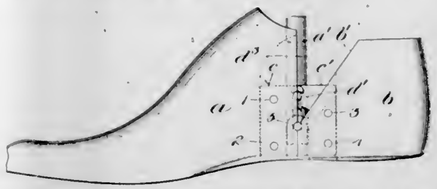
3. In an advertising device for use in moving vehicles, the combination with an inclosing casing and means for securing said casing to the vehicle, of a carrier mounted therein for horizontal reciprocation and an operating member also within the casing having a limited independent movement for causing the delayed reciprocation of the carrier.

4. In an advertising device for use in moving vehicles, the combination with an inclosing casing and means for securing said casing to the vehicle, of a carrier mounted therein for horizontal reciprocation, and means in the form of a rolling member for operating the carrier, said member being in operative relation to but having a limited movement independent of the carrier for delaying the movement thereof.

5. In an advertising device for use in moving vehicles, the combination with an inclosing casing and means for securing said casing to the vehicle, of a carrier-frame mounted therein for horizontal reciprocation, and a rolling member within and having a limited movement independent of said frame for causing a delayed movement of the said frame.

6. In an advertising device for use in moving vehicles, the combination with a slotted inclosing casing and means for securing said casing to the vehicle, of an elongated open-centered carrier-frame mounted therein and projecting through said slot for longitudinal reciprocation, and a rolling member arranged within the frame for limited independent horizontal travel.

845,705. LAST. REUBEN W. PERRY, Stoneham, Mass., assignor to Krentler-Arnold Hinge Last Company, Detroit, Mich., a Corporation of West Virginia. Filed June 26, 1905. Serial No. 266,914.



Claim.—1. A hinged last, having its fore part and heel part connected by a hinge, provided with overlapping parts at one side of the pintle, the hinge being cut away to form a radial opening between said overlapping parts and the pintle and provided with a lateral recess adjacent the pintle, combined with a locking device extending externally of the last for external operation, and having a cross-bar located in said cut-away portion and adapted to enter said recess.

2. A hinged last, having its fore part and heel part connected by a hinge, provided with overlapping parts at one side of the pintle, the hinge being cut away to form a radial opening between said overlapping parts and the pintle and provided with a lateral recess adjacent the pintle, combined with a locking device extending externally of the last for external operation, and having a cross-bar located in said cut-away portion and adapted to enter said recess, and means for automatically maintaining said device in locking position.

3. A hinged last, having its fore part and heel part connected by a hinge, provided with overlapping parts at one side of the pintle, the hinge being cut away to form a radial opening between said overlapping parts and the pintle and provided with a lateral recess adjacent the pintle, combined with a locking device externally operable and movably engaging the pintle and said opening, occupying the outer portion of said opening when in locking position and said lateral recess when in unlocked position.

4. A hinged last, having its fore part and heel part connected by a hinge, provided with overlapping parts at one side of the pintle, the hinge being cut away to form a radial opening between said overlapping parts and the pintle and provided with a lateral recess adjacent the pintle, combined with a locking device having an operating portion extending externally of the last for external operation, and having an inner portion movably engaging the pintle and said opening, occupying the outer portion of said opening when in locking position and said lateral recess when in unlocked position, and a spring for normally maintaining said device in its locking position.

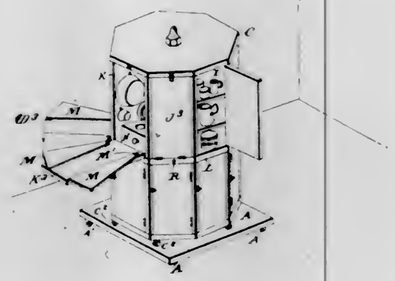
845,706. MILK-BOTTLE SKIMMER. HERMAN W. PICKARD, Oshkosh, Wis. Filed Feb. 12, 1906. Serial No. 300,795.

Claim.—A skimmer comprising a container tapered throughout its length, a plunger disposed within the container, and proportioned to fill and close the small end, a handle having its ends secured to the large end and extending above the container in bowed form wider than the container, a plunger-rod secured to the plunger and extending slidably upward through the handle, and a ring formed upon the upper extremity of the plunger-rod.

845,706.



845,707. CABINET. MARION W. RANDOLPH, Seattle, Wash. Filed Mar. 24, 1906. Serial No. 307,934.

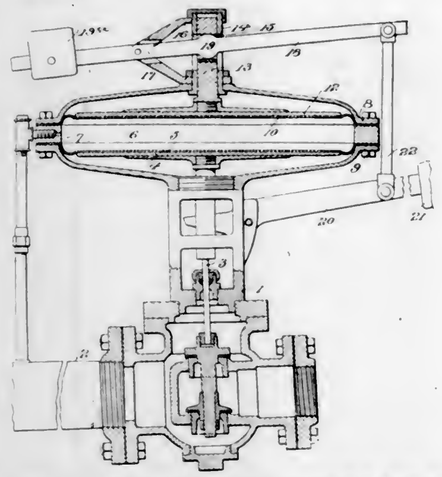


Claim.—1. A cabinet having a series of adjustable compartments, doors for said compartments hinged at their lower edges and adapted to swing outwardly to horizontal position, rods sliding in the cabinet below said doors and adapted to be pulled out to support the doors when lowered, and extension-boards pivoted to their respective doors and adapted for adjustment to cover the gap between the adjacent doors, substantially as set forth.

2. The combination with the cabinet having a series of adjustable compartments, of doors hinged at their lower edges and adapted to be adjusted to close their respective compartments or to horizontal position to coöperate in forming a table, and extension-boards pivoted to their respective doors and adapted for adjustment to close the gap between the adjacent doors when the latter are open, substantially as set forth.

3. A cabinet having a door hinged at its lower end and provided upon the inner face of said door with extension-boards overlapping the door at one edge and pivoted to the door adjacent to the hinged edge thereof and adapted when the door is opened to be moved laterally in planes parallel to the plane of the door whereby to form lateral extensions of the door, substantially as set forth.

845,708. FLUID-PRESSURE REGULATOR. LOUIS B. FULTON, Pittsburg, Pa., assignor to The Chaplin-Fulton Manufacturing Company, Pittsburg, Pa., a Corporation of Pennsylvania. Filed Oct. 18, 1906. Serial No. 339,550.



Claim.—1. A pressure-regulator comprising a valve having a rod or stem, a superposed diaphragm secured directly to such rod or stem, means normally tending to unseat such valve, and a second diaphragm in coöperative relation to the first-mentioned diaphragm, said diaphragms being movable by pressure from the low-pressure side of the valve, the movement of each diaphragm being communicated to the valve independently of the other diaphragm.

2. A pressure-regulator comprising a valve having a rod or stem, a diaphragm secured to such rod or stem, a second diaphragm, said diaphragms being movable in unison in opposite directions under pressure from the low-pressure side of the valve, levers actuated by the movements of said diaphragms, and a connection between said levers.

3. A pressure-regulator comprising a valve, a diaphragm connected thereto, means normally tending to unseat such valve, a second diaphragm, means operated thereby connected to the first-mentioned means, and a branch pipe leading from the low-pressure side of the valve to the space between said diaphragms.

4. A pressure-regulator comprising a valve having a rod or stem, a diaphragm secured to such rod or stem, a second diaphragm also having a rod or stem, said diaphragms being movable in unison in opposite directions, levers engaging said rods or stems and actuated by the movements of said diaphragms, a connection between said levers, and a branch pipe leading from the low-pressure side of the valve to the space between said diaphragms.

5. A pressure-regulator comprising a valve having a rod or stem, a diaphragm secured to such rod or stem, a second diaphragm also having a rod or stem, said diaphragms being movable in unison in opposite directions, levers engaging said rods or stems, one lever having a counterbalancing-weight normally tending to unseat such valve, a connection between said levers, and a branch pipe leading from the low-pressure side of the valve to the space between said diaphragms.

6. A pressure-regulator comprising a valve having a rod or stem, a diaphragm secured to such rod or stem, a second diaphragm also having a rod or stem, said diaphragms being movable in unison in opposite directions, a weighted lever engaging said valve rod or stem for normally tending to unseat such valve, a second lever engaging the rod or stem of said second diaphragm, a connection between said levers, and a branch pipe leading from the low-pressure side of the valve to the space between said diaphragms.

7. A pressure-regulator comprising a valve having a rod or stem, a two-part casing, a diaphragm secured to said rod or stem and fitted between the parts of the casing, a weighted lever normally tending to unseat such valve, a second diaphragm also secured between said parts of the casing, and having a rod or stem, a second lever engaging said latter rod or stem, means connecting said levers, and a branch pipe leading from the low-pressure side of the valve to the space between said diaphragms.

8. A pressure-regulator comprising a valve having a rod or stem, a two-part casing having bolt-flanges, a ring held between said flanges, a diaphragm secured to said rod or stem and fitted between said ring and the lower casing part, a weighted lever tending to normally unseat such valve, a second diaphragm secured between said ring and said upper casing part, a second lever engaging said rod or stem, means connecting said levers, and a branch pipe leading from the low-pressure side of the valve to the space between said diaphragms.

9. A fluid-pressure regulator comprising a valve, having a rod or stem, a diaphragm secured to such rod or stem, a second diaphragm, means for balancing such second diaphragm, said diaphragms being movable in unison in opposite directions under pressure from one side of the valve, and means actuated by the movements of said diaphragms for effecting the seating of said valve when said diaphragms move in opposite directions.

10. A fluid-pressure regulator comprising a valve having a rod or stem, a diaphragm secured to such rod or stem, a second diaphragm also having a rod or stem, said diaphragms being movable in unison in opposite directions, a weighted lever engaging the rod or stem of said second diaphragm, a second weighted lever engaging the valve-rod, a connection between said levers, and a branch pipe leading from one side of said valve to the space between said diaphragms.

845,709. COMBINED LADDER-HOOK, SPANNER, AND HOSE-CARRIER. JESSE G. GLADDING, Riverside, R. I. Filed July 29, 1905. Serial No. 271,829.



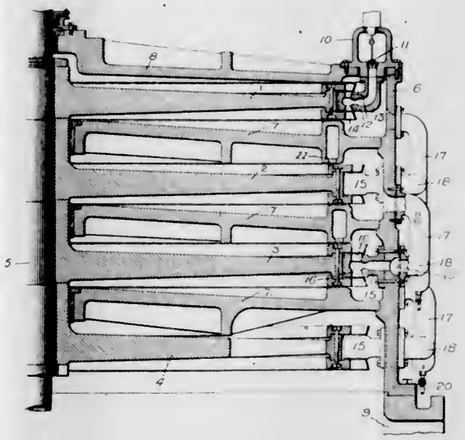
Claim.—An implement of the character described, comprising the handle-bar having a hook at one end and a spanner at the other, which latter forms an enlargement for the support of the hand at the end of the handle-bar opposite the hook, the eye located in the handle-bar between the hook and the spanner, and the rope held in the eye of the handle-bar to form a noose for attaching the implement to the hose.

845,710. ELASTIC-FLUID TURBINE. OSCAR JUNGGREN, Schenectady, N. Y., assignor to General Electric Company, a Corporation of New York. Filed Sept. 24, 1904. Serial No. 225,748.

Claim.—1. In an elastic-fluid turbine having a plurality of stages, the combination with a plurality of bucket-wheels each provided with oppositely-disposed rows of buckets, of nozzles extending between said rows and discharging in opposite directions, and wheel-chambers that are common to the rows of buckets mounted on the same wheel.

2. In an elastic-fluid turbine having a plurality of stages, the combination with a plurality of bucket-wheels each provided with oppositely-disposed rows of buckets, a chamber that is common to the fluid exhausting from each of the oppositely-disposed rows of buckets, of nozzles extending between said rows and discharging in opposite directions, and conduits for conveying elastic fluid from each chamber to the nozzles of the next lower stage.

3. In an elastic-fluid turbine having a plurality of stages, the combination with a plurality of bucket-wheels each provided with oppositely-disposed rows of buckets, of nozzles extending between said rows and discharging in opposite directions, a casing for said turbine, and passage-ways in the walls of said casing connecting each stage with the nozzles of the next lower stage.



4. In an elastic-fluid turbine, the combination of a casing, diaphragms which divide the casing into compartments, a bucket-wheel in each compartment provided with oppositely-disposed rows of buckets, one or more double nozzles for each wheel extending between the said rows of buckets, and cylindrical walls which coöperate with the walls of the casing to form chambers into which the buckets discharge.

5. In an elastic-fluid turbine having a plurality of stages, the combination with a plurality of bucket-wheels each provided with oppositely-disposed rows of buckets, of one or more nozzle-castings for each wheel extending between said rows of buckets and having two sets of nozzles discharging in opposite directions.

6. In an elastic-fluid turbine having a plurality of stages, the combination with a casing, diaphragms for dividing the casing into compartments, a plurality of wheels each provided with oppositely-disposed rows of buckets, of nozzles extending between said rows and discharging in opposite directions, and conduits for conveying elastic fluid around the diaphragms from one stage to the nozzles of the next lower stage, the conduits extending transverse to the plane of revolution of said wheel.

7. In an elastic-fluid turbine, the combination with a casing having a top, of a steam-chest mounted thereon, valved ports in the bottom of said steam-chest, an L-shaped hollow casting located inside the casing and communicating with said ports, oppositely-discharging nozzles in the top and bottom of the horizontal arm of said casting, and a bucket-wheel having two rows of buckets revolving respectively above and below said arm.

8. In an elastic-fluid turbine, the combination of a casing, partitions for dividing the casing into stages, a wheel for each stage having rows of buckets, and nozzles for the stages which occupy positions between the rows of wheel-buckets, and a chamber for each stage that is common to the buckets on each wheel.

9. In an elastic-fluid turbine operating by stage expansion, the combination of bucket-wheels for the stages, a nozzle for each stage which is located between rows of buckets on the wheel and discharges in opposite directions to prevent wheel distortion due to unequal temperatures, and a chamber that is common to the rows of buckets on each wheel.

10. In an elastic-fluid turbine, the combination of a casing, a partition for dividing the casing into stages, the par-

tition being provided with an enlargement having a smooth surface, a bucket-wheel located in one of the stages and running in close proximity to the projection to reduce rotation losses, and a nozzle for discharging motive fluid to the wheel.

11. In an elastic-fluid turbine, the combination of a casing, diaphragms which divide the casings into compartments, a bucket-wheel in each compartment provided with oppositely-disposed rows of buckets, one or more double nozzles for each wheel extending between the said rows of buckets, an annular chamber that is common to the rows of buckets on each of the wheels, and conduits or passages that connect the successive annular chambers with the nozzle of a stage of lower pressure.

12. In an elastic-fluid turbine, the combination of a casing, a bucket-wheel rotating therein, fluid-discharging devices, an annular wall located within the casing and separated from the buckets by a small clearance for preventing cross-currents of motive fluid, and an annular chamber which receives the exhaust from one set of buckets.

13. In an elastic-fluid turbine, the combination of a casing, a bucket-wheel rotating therein, fluid-discharging devices, and a cylindrical wall interposed between the inner wall of the casing and the wheel-axis for preventing cross-currents of motive fluid.

14. In an elastic-fluid turbine, the combination of a casing, a partition for dividing the casing into compartments, wheel-buckets located in the compartments, a shaft for the wheels, fluid-discharging devices, an annular wall interposed between the casing and the shaft and in close proximity to the wheel-buckets to prevent motive fluid from flowing across the surface of the wheel.

15. In an elastic-fluid turbine, the combination of a casing, a partition for dividing the casing into compartments, wheel-buckets located in the compartments, a shaft for the wheels, fluid-discharging devices, and a wall carried by the partition and located between the casing and the shaft and in close proximity to the buckets for preventing currents of motive fluid from flowing across the surface of a wheel from one fluid-discharging device to another.

16. In an elastic-fluid turbine, the combination of a casing, a partition for dividing it into compartments, wheel-buckets located in the compartments, fluid-discharging devices which are angularly displaced around the wheel, and a cylindrical wall carried by the partition and situated between the casing and the shaft to form an annular chamber for the fluid exhausting from the wheel, the said wall also acting to prevent the fluid from flowing across the wheel from one discharging device to another.

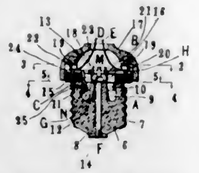
845,711. METHOD OF PUNCHING AND BENDING PULLEY-RIMS. JOSEPH A. KAPLAN, Pittsburg, Pa., assignor to Joshua Rhodes, Allegheny, Pa., and William H. Latshaw, Pittsburg, Pa. Original application filed July 10, 1905, Serial No. 269,071. Divided and this application filed Feb. 15, 1906. Serial No. 301,208.



Claim.—1. The herein-described steps in the manufacture of pulley-rim sections and like articles, consisting in first punching spoke-holes in the plate composing the rim-section, and then turning the plate over, and countersinking the outer face of the spoke-holes by forging pressure by the action of countersinking-punches.

2. The herein-described steps in the manufacture of pulley-rim sections and like articles, consisting in first forming spoke-holes in the plate composing the pulley-rim section, countersinking the outer faces of the spoke-holes by forging pressure through the action of countersinking-punches, and then simultaneously bending the plate into curved form and crowning the pulley-rim.

845,712. ATTACHMENT-PLUG. CHARLES J. KLEIN, New York, N. Y., assignor to Ralph Abraham Schoenberg, New York, N. Y. Filed Apr. 21, 1906. Serial No. 312,964.



Claim.—1. An electrical attachment-plug, comprising two separably and swivelly operatively connected body members jointly provided with means for maintaining electrical circuit conditions, and locking means detachably uniting said body members and comprised within said means for maintaining electrical circuit conditions.

2. An electrical attachment-plug, comprising two body members separably and swivelly operatively connected, one of said body members being provided with circuit members, and the other of said body members being provided with electrical connections respectively adapted for electrical contact with said circuit members, and locking means detachably uniting said body members.

3. An electrical attachment-plug, comprising two body members separably and swivelly operatively connected, one of said body members being provided with circuit members, and the other of said body members being provided with electrical connections respectively adapted for electrical contact with said circuit members, and locking means detachably uniting said members, said locking means being comprised within said electrical connections and circuit members.

4. An electrical attachment-plug, comprising two body members, one of which is provided with two circuit members, said body member being provided with a chambered portion and with a metallic bead in said chambered portion, constituting one of said circuit members; the other of said body members being provided with electrical connections adapted for contact respectively with said circuit members, said latter body member being provided with a plurality of metallic spring-prongs constituting one of said electrical connections, and arranged for electrical contact and locking engagement with said metallic bead carried by the former body member whereby said body members are detachably and swivelly operatively connected.

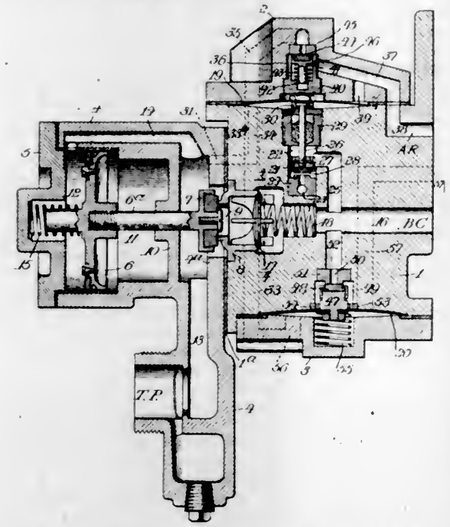
5. An electrical attachment-plug, comprising two body members, one of which is provided with two circuit members, one of said circuit members comprising a plurality of spring-prongs, the other of said body members being provided with electrical connections adapted respectively for electrical contact with said circuit members, the latter body member being provided with an annular metallic plate arranged for electrical contact and locking engagement with said spring-prongs whereby said body members are detachably and swivelly operatively connected.

6. An electrical attachment-plug, comprising two separably and swivelly operatively connected body members, one of said body members being provided with circuit members, and the other of said body members being provided with electrical connections and with binding-screws adapted to hold electrical conductors, said electrical connections being adapted for electrical contact with said circuit members, and locking means whereby said members are detachably united.

845,713. FLUID-PRESSURE BRAKE. WILLIAM P. A. MACFARLANE, Chicago, Ill. Filed Aug. 22, 1904. Serial No. 221,760.

Claim.—1. In a device for actuating railway-brakes of the type in which the brake-release and service-valve mechanisms are independent, the combination, with such mechanisms, of emergency-valve mechanism operated by a preponderance of pressure independent of the train-pipe pressure and auxiliary-reservoir pressure.

2. In a valve device for actuating railway-brakes of the type in which the brake-release and service-valve mechanisms are independent, the combination, with such mechanisms, of emergency-valve mechanism independent thereof and comprising an emergency-valve and a movable abutment operatively connected with said emergency-valve and operating in a chamber supplied with air from the train-pipe but independent of all the operations of the valve device except emergency action.



3. In a valve device for actuating railway-brakes of the type in which the brake-release and service-valve mechanisms are independent, the combination, with such mechanisms, of emergency-valve mechanism independent thereof and comprising an emergency-valve and a movable abutment operatively connected with said emergency-valve and operating in a chamber having communication at opposite sides of the abutment with the train-pipe, the communication on one side of the abutment being restricted as compared with that on the other.

4. In a valve device for actuating railway-brakes of the type in which the brake-release and service-valve mechanisms are independent, the combination, with such mechanisms, of emergency-valve mechanism independent thereof and comprising an emergency-valve arranged in a passage for the feed of air from the train-pipe to the auxiliary reservoir, and a movable abutment operatively connected with the emergency-valve and operated in the opening movement of the emergency-valve by air-pressure independently of train-pipe and auxiliary-reservoir pressure.

5. In a valve device for actuating railway-brakes of the type in which the brake-release and service-valve mechanisms are independent, the combination, with such mechanisms, of emergency-valve mechanism independent thereof and comprising an emergency-valve arranged in a passage for the feed of air from the train-pipe to the auxiliary reservoir and adapted to seat against and normally close a vent leading direct from said passage to the brake-cylinder, and a movable abutment operatively connected with the emergency-valve and actuated only in emergency applications of the brake.

6. In a device for actuating railway-brakes, the combination of an emergency-valve governing a passage from the train-pipe to the brake-cylinder, a piston having a stem operatively connected with the valve, a chamber in which such piston travels and through a wall of which the stem extends, the chamber receiving a supply of air from the train-pipe by a restricted feed through said wall, said supply of air being practically confined and adapted to actuate the piston in emergency action.

7. In a device for actuating railway-brakes, the combination of an emergency-valve governing a passage from the train-pipe to the brake-cylinder, a piston operatively connected with the valve, and exposed on opposite sides to train-pipe pressure, a casing naving a chamber in which the piston travels and which on one side of the piston has free communication with the train-pipe and on the other side a restricted communication, said passage from the train-pipe to the brake-cylinder being independent of said chamber.

8. In a device for actuating railway-brakes, the combination of an emergency-valve governing a passage from the train-pipe to the brake-cylinder, a piston operatively connected with the valve, a casing arranged to communicate with the train-pipe and having a partition forming a chamber in which the piston travels, a piston-stem connecting the piston and valve and passing through said partition, and means for providing a restricted feed of train-pipe air through the partition to one side of the piston and a free feed to the other side thereof.

9. The combination of a valve-body having a transverse passage arranged to communicate between the train-pipe and the brake-cylinder and extending from side to side of the valve-body, brake-release and service-valve mechanisms arranged in said valve-body to respectively control the release and admission of pressure through said passage, and an emergency-valve arranged at one side of the valve-body and at one end of said passage to govern the venting of train-pipe air to the brake-cylinder in emergency action.

10. The combination of a valve-body having a transverse brake-cylinder passage arranged to communicate between the train-pipe and brake-cylinder and extending from side to side of the valve-body, and also having a release-passage leading from such brake-cylinder passage to the atmosphere, and a service-passage leading from the auxiliary reservoir to such brake-cylinder passage, means for governing said release and service passages, and means for governing the venting of train-pipe air to the brake-cylinder.

11. In a device for actuating railway-brakes, brake-release mechanism comprising a diapraghm exposed on its opposite sides to train-pipe and auxiliary-reservoir pressure, a release-valve governing a port from the brake-cylinder to the atmosphere, and operatively connected with the diaphragm, said release-valve consisting of a valve-body, a flexible seat, and a cap or sleeve for holding the seat to the valve-body.

12. In a device for actuating railway-brakes, brake-release mechanism comprising a diaphragm exposed on its opposite sides to train-pipe and auxiliary-reservoir pressure, a release-valve governing a port from the brake-cylinder to the atmosphere, and operatively connected with the diaphragm, said release-valve consisting of a valve-body externally screw-threaded, a flexible seat, and a cap or sleeve screwing onto the valve-body and arranged to hold the seat to such valve-body.

13. The combination of a valve-body or main casing having a direct passage extending therethrough from side to side from the train-pipe to the brake-cylinder, a valve-seat at one end of said passage, and an emergency-valve adapted to seat thereon to control the venting of train-pipe air to the brake-cylinder, and a check-valve arranged in said passage and also seating on said valve-seat.

14. The combination of a valve-body or main casing having a direct passage from the train-pipe to the brake-cylinder and extending from side to side of the valve-body, brake-release mechanism, service mechanism and emergency mechanism communicating with said passage.

15. The combination of a valve-body or main casing having a direct passage from the train-pipe to the brake-cylinder, and extending from side to side of the valve-body, an emergency-valve controlling the venting of train-pipe air to the brake-cylinder through said passage, and brake-release mechanism and service mechanism communicating with said passage.

16. The combination of a valve-body or main casing having a direct passage from the train-pipe to the brake-cylinder, and extending from side to side of the valve-body, an emergency-valve governing one end of said pas-

sage and controlling the venting of train-pipe air to the brake-cylinder therethrough, and brake-release mechanism communicating with said passage intermediate its length.

17. The combination of a main casing or valve-body containing separate brake-release and service mechanisms, separate diaphragms for operating said mechanisms, caps fitting on said valve-body and clamping the diaphragms in place, and a supplemental casing secured to the valve-body and containing the emergency mechanism.

18. Service mechanism comprising, in combination with a casing having ports and passages adapted to connect an auxiliary reservoir with a brake-cylinder, a diaphragm arranged in the casing and exposed on opposite sides to train-pipe and auxiliary-reservoir air, a service-valve attached to the diaphragm and working in a chamber in said casing, and a guide-ring fitting in one end of said chamber and forming a guide for the service-valve, said ring having an annular series of air-ports.

19. In a device for actuating railway-brakes, the combination of release-valve mechanism having communication with the train-pipe through a large passage, and a single and direct feed-passage from the train-pipe to the auxiliary reservoir, said last-named passage being restricted and of less carrying capacity than the other passage to cause a release of the brakes before any substantial replenishing of the auxiliary reservoir.

20. In a device for actuating railway-brakes, the combination of release-valve mechanism operated by a movable abutment which is exposed on one side to pressure through a passage of considerable carrying capacity leading from the train-pipe, and a feed-passage from the train-pipe to the auxiliary reservoir, such feed-passage being independent both physically and functionally of such mechanism and of restricted size and of less carrying capacity than the first-named passage.

21. In a device for actuating railway-brakes, the combination of release-valve mechanism operated by a movable abutment which operates in a chamber and which is exposed on one side to pressure through a passage of large carrying capacity leading from the train-pipe, a feed-passage leading from the train-pipe to the auxiliary reservoir and provided with a port of predetermined and restricted carrying capacity for restricting the feed of air as compared with the flow through the passage leading to said abutment.

22. In a device for actuating railway-brakes, the combination of release-valve mechanism operated by a movable abutment which is exposed on one side to pressure through a passage leading from the train-pipe, a feed-passage from the train-pipe to the auxiliary reservoir, and a bushing arranged in such feed-passage and provided with a port for restricting the feed as compared with the flow of pressure through the passage leading to the abutment.

23. In a device for actuating railway-brakes, the combination of release-valve mechanism having communication with the train-pipe through a passage of comparatively large carrying capacity, and a feed-passage from the train-pipe to the auxiliary reservoir, said feed-passage being independent both physically and functionally of the release-valve mechanism and of a less carrying capacity than the first-named passage whereby a release of the brakes is occasioned before any substantial replenishing of the auxiliary reservoir, and a check-valve in said feed-passage.

24. In a device for actuating railway-brakes, the combination of means operating in chambers for admitting and releasing pressure to and from the brake-cylinder, a feed-passage from the train-pipe to the auxiliary reservoir independent of said chambers, and a check-valve device therein comprising a piston-controlled valve interposed in such passage but adapted to open in the feeding operation, said piston being exposed on opposite sides to train-pipe and auxiliary-reservoir pressure respectively.

25. In a device for actuating railway-brakes, the combination of means operating in chambers for admitting and releasing pressure to and from the brake-cylinder, a single feed-passage from the train-pipe to the auxiliary reservoir for feeding pressure to such reservoir when the brakes are released, and a check-valve device therein comprising a bushing interposed in said passage and having a side port communicating therewith, and a piston-controlled valve operating in said bushing, said feed-passage leading direct from the train-pipe to the auxiliary reservoir and independent of such chambers.

26. In a device for actuating railway-brakes, the combination of means operating in chambers for admitting and releasing pressure to and from the brake-cylinder, a single feed-passage from the train-pipe to the auxiliary reservoir, for feeding pressure to such reservoir when the brakes are released, and a check-valve device therein comprising a bushing interposed in said passage and having a side port of restricted size, a check-valve normally seating in said passage and a piston working in said bushing to operate the check-valve and to govern the port in the bushing, said feed-passage being independent of said chambers.

27. In a device for actuating railway-brakes, the combination of means operating in chambers for admitting and releasing pressure to and from the brake-cylinder, a single feed-passage from the train-pipe to the auxiliary reservoir, for feeding pressure to such reservoir when the brakes are released, and a check-valve device therein comprising a bushing interposed in said passage and having a side port of restricted size, a check-valve arranged to seat in said passage and having a piston working in said bushing, and a spring normally holding the check-valve seated, said feed-passage being independent of said chambers.

28. In a device for actuating railway-brakes, the combination, with a casing having connections with the train-pipe, auxiliary reservoir and brake-cylinder, of release-valve mechanism, service-valve mechanism and emergency-valve mechanism, all of said mechanisms being physically and operatively independent of each other.

29. In a device for actuating railway-brakes, the combination, with a casing having connections with the train-pipe, auxiliary reservoir and brake-cylinder, of release-valve mechanism, service-valve mechanism and emergency-valve mechanism, all of said mechanisms being operatively independent of each other.

30. In a device for actuating railway-brakes, the combination of an emergency-valve governing a passage from the train-pipe to the brake-cylinder, a piston operatively connected with the valve, a casing having a chamber in which the piston travels and which on one side of the piston has free communication with the train-pipe and on the other side a restricted communication, said two communications entering the piston-chamber on opposite sides of the piston.

31. In a device for actuating railway-brakes, the combination of an emergency-valve governing a passage from the train-pipe to the brake-cylinder, a piston operatively connected with the valve, a casing having a chamber in which the piston travels and which on one side of the piston has free communication with the train-pipe and on the other side a restricted communication, said two communications being separate and independent of each other.

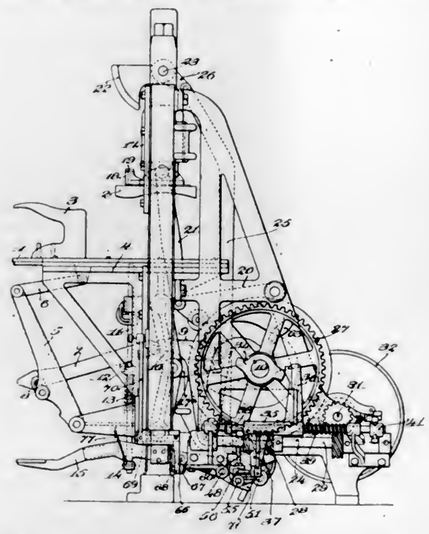
845,714. SOLE-PRESSING MACHINE. BENJAMIN F. MAYO, Salem, Mass., assignor to United Shoe Machinery Company, Paterson, N. J., a Corporation of New Jersey. Filed Mar. 8, 1906. Serial No. 304,843.

Claim.—1. A sole-pressing machine, having, in combination, a plurality of shoe-supporting jacks, a plurality of coöperating sole-pressing forms, mechanism for relatively actuating each jack and its coöperating form to press the sole of a shoe, connecting devices for operatively connecting the jacks and forms to said mechanism, and means controlled by the operator for positively actuating said devices to operatively connect each jack and its coöperating form to said mechanism.

2. A sole-pressing machine, having, in combination, a plurality of shoe-supporting jacks, a plurality of coöperating sole-pressing forms, mechanism for relatively actuating each jack and its coöperating form to press the sole

of a shoe, a connecting device for operatively connecting each jack and its coöperating form to said mechanism, and means controlled by the operator for positively moving any one of said devices into operative position and the other devices into inoperative position.

3. A sole-pressing machine, having, in combination, a plurality of shoe-supporting jacks, a plurality of coöperating sole-pressing forms, mechanism for relatively actuating each jack and its coöperating form to press the sole of a shoe, connecting devices for operatively connecting the jacks and forms to said mechanism, treadles and suitable connections for throwing said mechanism into operation, and means actuated by the treadles for positively actuating said devices to operatively connect each jack and its coöperating form to said mechanism.



4. A sole-pressing machine, having, in combination, a plurality of shoe-supporting jacks, a plurality of coöperating sole-pressing forms, mechanism for relatively actuating each jack and its coöperating form to press the sole of a shoe, a connecting device for operatively connecting each jack and its coöperating form to said mechanism, treadles and suitable connections for throwing said mechanism into operation, and means actuated by the treadles for positively moving any one of said devices into operative position and the other devices into inoperative position.

5. A sole-pressing machine, having, in combination, a plurality of shoe-supporting jacks, a plurality of coöperating sole-pressing forms, mechanism for relatively actuating each jack and its coöperating form to press the sole of a shoe, a latch for operatively connecting each jack and form to said mechanism, treadles and suitable connections for throwing said mechanism into operation and connections between each treadle and a latch for positively moving the latch into operative position.

6. A sole-pressing machine, having, in combination, a plurality of shoe-supporting jacks, a plurality of coöperating sole-pressing forms, mechanism for relatively actuating each jack and its coöperating form to press the sole of a shoe, a latch for operatively connecting each jack and form to said mechanism, and connections between the latches acting when one latch is in operative position to hold the other latches out of operative position.

7. A sole-pressing machine, having, in combination, a plurality of shoe-supporting jacks, a plurality of coöperating sole-pressing forms, mechanism for relatively actuating each jack and its coöperating form to press the sole of a shoe, a latch for operatively connecting each jack and form to said mechanism, treadles and suitable connections for throwing said mechanism into operation, and connections between the treadles and latches for positively moving any latch into operative position and the other latches into inoperative position.

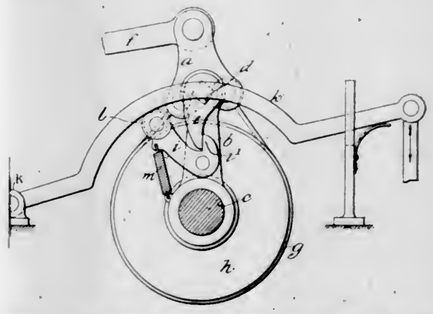
8. A sole-pressing machine, having, in combination, a plurality of shoe-supporting jacks, a plurality of coöperating shoe-pressing forms, mechanism for relatively actuating each jack and form to press the sole of a shoe and to return the jack to its position of presentation, a latch for operatively connecting each jack to said mechanism, and means under the control of the operator for positively moving each latch into operative position.

9. A sole-pressing machine, having, in combination, a plurality of shoe-supporting jacks, a plurality of coöperating sole-pressing forms, mechanism for relatively actuating each jack and form to press the sole of a shoe and to return the jack to its position of presentation, a latch for operatively connecting each jack to said mechanism, treadles and suitable connections for throwing said mechanism into operation and connections between the treadles and latches for positively moving any latch into operative position and the other latches into inoperative position.

10. A sole-pressing machine, having, in combination, a shoe-supporting jack, a coöperating sole-pressing form, mechanism for relatively actuating the jack and form to press the sole of a shoe and to return the jack to its position of presentation, a pivoted latch arranged to engage a shouldered recess on the jack and lock the jack in its position of presentation and a spring-pressed plunger supporting the latch.

11. A sole-pressing machine, having, in combination, a shoe-supporting jack, a coöperating sole-pressing form, mechanism for relatively actuating the jack and form to press the sole of a shoe and to return the jack to its position of presentation, and latches operating independently of each other to connect the jack to said mechanism and to lock the jack in its position of presentation.

845,715. DRIVING AND REVERSING MECHANISM. WILLIAM MEISCHKE-SMITH and GEORGIUS F. MEISCHKE-SMITH, Paris, France. Filed Nov. 12, 1904. Serial No. 232,502.

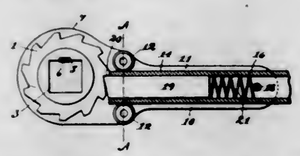


Claim.—In driving and reversing mechanism such as herein described, a disk keyed on the shaft to be driven, a strap encircling the said disk, arms loosely mounted on the said shaft, a rocking block journaled in the said arms, the ends of the said strap being pivotally connected with the said rocking block on opposite sides of its axis, means for oscillating the said rocking block about the shaft-axis, and means for limiting the range of rocking movement of the block about its journal-axis substantially as described.

845,716. RATCHET-WRENCH. CHARLES MILLER, Syracuse, N. Y., assignor to Elizabeth M. Danes. Filed Oct. 13, 1905. Serial No. 282,533.

Claim.—1. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head, each of said members being provided with front and rear in-

wardly-projecting shoulders, portions of the shoulders of one side member engaging portions of the shoulders of the other side member, a handle engaging the inner faces of the front and rear shoulders, and means for securing the side members and the handle together, substantially as and for the purpose specified.



2. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head, each of said members being provided with front and rear inwardly-projecting shoulders having their ends adjacent said bearings formed with extensions projecting toward the opposing side member, a handle engaging the inner faces of the front and rear shoulders, and means for securing the side members and the handle together, substantially as and for the purpose described.

3. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head, each of said members being provided with front and rear inwardly-projecting shoulders having their ends adjacent said bearings formed with extensions projecting toward the opposing side member, a handle engaging the inner faces of the front and rear shoulders, and means for securing the side members and the handle together, said means including fastening members passed longitudinally through the extensions, substantially as and for the purpose set forth.

4. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head, each of said members being provided with front and rear inwardly-projecting shoulders, a handle comprising a tube angular in cross-section engaging the inner faces of the front and rear shoulders, and means for securing the side members and the handle together, substantially as and for the purpose specified.

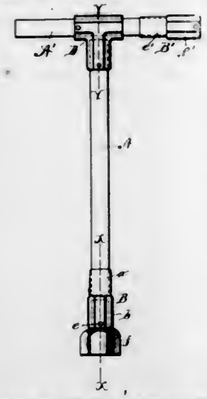
5. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head, a handle between the side members comprising a tube angular in cross-section, means for securing the side members and the handle together, and a pawl within the angular handle slidably fitted thereto, substantially as and for the purpose described.

6. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head, a handle between the side members comprising a tube angular in cross-section, means for securing the side members and the handle together, said means including a fastening member extending within the handle, a pawl inside the tubular handle, and a spring within the tubular handle between said fastening member and the pawl, substantially as and for the purpose specified.

7. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head and with lengthwise channels, said channels being arranged with the line of their axes at one side of the axis of said bearings, and a handle secured within the channels, substantially as and for the purpose set forth.

8. A ratchet-wrench comprising opposite side members formed with bearings for the wrench-head and with cheek-pieces, each cheek-piece being provided with front and rear inwardly-projecting shoulders having their ends adjacent said bearings formed with extensions projecting toward the opposing side member, a handle between the cheek-pieces engaging the inner faces of the front and rear shoulders, said handle comprising a tube rectangular in cross-section, fastening means passed through the cheek-pieces and said extension, a fastening member passed through the cheek-pieces and the handle, a pawl within the tubular handle, and a spring between the pawl and the fastening member, substantially as and for the purpose described.

845,717. SOCKET-WRENCH. CHARLES MILLER, Syracuse, N. Y., assignor to Elizabeth M. Danes. Filed Dec. 7, 1905. Serial No. 290,720.



Claim.—1. A wrench of the class specified comprising a bar provided at one end with a detachable stem formed with a nut-socket, a T-coupling provided with a longitudinally-disposed spring-plate by which the bar is frictionally held in said coupling, and provided with a transversely-disposed spring-plate, and a cross-bar inserted through said coupling and sustained therein by frictional engagement with the latter spring-plate as set forth.

2. A wrench of the class specified comprising a main bar provided at one end with a detachable nut socket member, a detachable T-coupling on the opposite end of the bar, a cross-bar inserted removably in said coupling, and friction-plates retaining the two bars in their connections, said bars being interchangeable in relation to the said coupling as set forth.

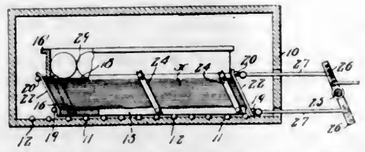
3. An extensible socket-wrench comprising a main bar provided at one end with a socket having a spring-plate therein, a stem inserted in said socket and sustained removably by frictional engagement with the spring-plate and formed with a nut-socket, a T-coupling provided with like friction-plates and detachably applied to the opposite end of the bar, a cross-bar inserted removably through the T-coupling and provided at one end with a socket having a friction-plate, said cross-bar being adapted to be connected to the main bar interchangeably with said coupling, and the latter adapted to be applied to the cross-bar as set forth and shown.

4. An extensible socket-wrench comprising a bar provided at one end with a socket, a stem supported removably in said socket and provided with a nut-socket, a hollow T-shaped member into which the opposite end of the bar is removably inserted, said bar-socket and T-shaped member being of corresponding dimensions in cross-section to permit the bar and stem to be interchangeably applied to said T-shaped member as set forth.

5. An extensible socket-wrench comprising a main bar provided at one end with a longitudinal socket and having its opposite end plain, a T-coupling, a supplemental bar provided at one end with a longitudinal socket corresponding with the socket of the main bar, said bars being formed correspondingly angular in cross-section to render the same interchangeable in their connections with the T-coupling, and a stem formed with a nut-socket and adapted to be interchangeably applied to the sockets of the bars and T-coupling as set forth.

845,718. APPARATUS FOR PLANISHING METAL SHEETS. AMBROSE RIDD, Newport, Ky. Original application filed Aug. 1, 1905, Serial No. 272,208. Divided and this application filed Sept. 29, 1905. Serial No. 280,708.

Claim.—1. In apparatus of the class described, a support for a pack of oxid-coated sheets, a mobile weight adapted to rest on the sheets and arranged to automatically accommodate itself to variations in the thickness of the sheets, and means for causing relative movement of the support and the weight, and thereby effecting sliding movement of the sheets on each other.



2. In apparatus of the class described, a support for a pack of oxid-coated sheets, a weighted receptacle adapted to rest on top of the pack and provided with a flexible bottom, a mobile weight resting on the bottom and exercising constant pressure without regard to variations in the thickness of the sheets, and means for causing relative movement of the support and the weighted receptacle to thereby effect sliding movement of the sheets on each other.

3. In apparatus of the class described, a pair of upper and lower parallel members between which a pack of sheets may be placed, means for moving one of said members parallel with respect to the other, and means for connecting said members and for transmitting the movement to a pack of sheets.

4. In apparatus of the class described, a slidable plate forming a support for a pack of oxid-coated sheets, a weight adapted to rest on the sheets, means connecting the plate and weight and serving to transmit movement to the sheets, and means for moving the plate and weight parallel with respect to each other.

5. In apparatus of the class described, a pack-supporting plate, antifriction members on which said plate rests, a weight-box arranged to rest on top of the pack and provided with a flexible bottom, a plurality of loose weights arranged in the receptacle and resting on said bottom, sheet-engaging bars connecting the plate and weight-receptacle, a shaft having rocker-arms, and means connecting the rocker-arms to the plate and weight-receptacle.

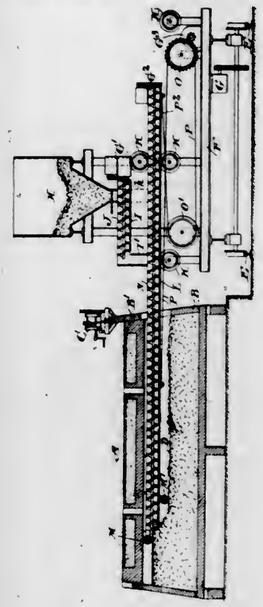
845,719. APPARATUS FOR CHARGING COKE-OVENS. FREDERIC W. C. SCHNIEWIND, Everett, Mass., assignor to The United Coke & Gas Company, Charleston, W. Va., and Philadelphia, Pa., a Corporation of West Virginia. Filed Aug. 1, 1899. Serial No. 725,729.

Claim.—1. As a device for charging coke-ovens, a horizontally-movable conveyer-trough in combination with conveying mechanism secured in the trough for feeding material along the same and means for forcing the trough and conveyer mechanism into and retracting them from the ovens and a leveling device, as M, secured to the end of the conveyer-trough.

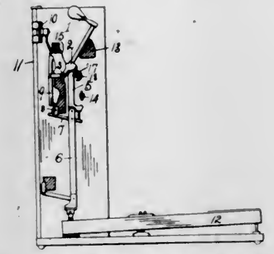
2. As a device for charging coke-ovens, a truck movable in front of the ovens in combination with a conveyer-trough open at top supported and horizontally movable on the truck, a feed-screw rotating in said trough, means for forcing the trough and screw into and retracting them from the ovens, a conveyer arranged to deliver coal into the trough outside of the ovens and a leveling device, as roller M, secured to the end of the trough beyond the end of the screw.

3. As a device for charging coke-ovens a horizontally-movable conveyer-trough in combination with conveying mechanism secured in the trough for feeding material along the same and means for forcing the trough and conveyer mechanism into and retracting them from the ovens, and a supporting and coal-compacting device M′ secured to the under side of the conveyer-trough.

4. As a device for charging coke-ovens a horizontally-movable conveyer-trough in combination with conveying mechanism secured in the trough for feeding material along the same and means for forcing the trough and conveyer mechanism into and retracting them from the ovens, a leveling device M secured to the end of the conveyer-trough, and a supporting and coal-compacting device M′ secured to the under side of the conveyer-trough.



845,720. UPRIGHT-PIANO ACTION. ERNEST J. SIMPKINS, Toledo, Ohio. Filed Aug. 29, 1906. Serial No. 332,431.

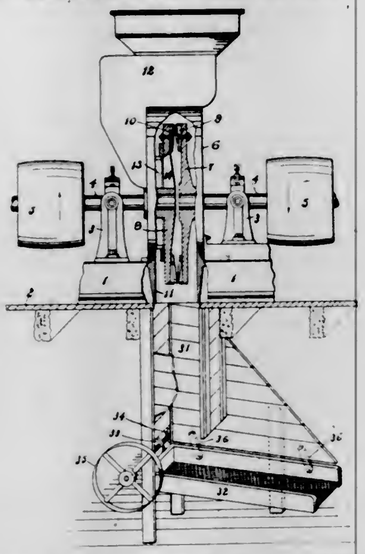


Claim.—1. In an upright-piano action, the combination with the hammer-butt and jack, of a metal back-check substantially U-shaped which comprises a single piece one end of which is secured to and extends outwardly from the side of the butt in opposition to the associated string, thence describes a downwardly-extending rounded return-bend which terminates in a reëntrant lip stopping short of contact with the side of the jack, and a projection on the side of the jack adapted to engage the bowed or rounded downwardly-extending portion of the back-check when the key is depressed whereby during such depression to normally retain the hammer in one position relative to its string, and to coact with the lip portion thereof when the key is released whereby to cause a return of the hammer to its normal at-rest position.

2. In an upright-piano action, the combination with the hammer-butt, and the jack having a padded projection or boss on one side thereof, of a single-piece metal back-check which is secured and extends outwardly in a slightly-declining plane from the side of the hammer-butt opposed to the associated string, thence describes a rounded return-bend which partially encircles said boss and coacts therewith when acting as a back-check for the jack, and terminates in a reëntrant lip with which the boss coacts when

the key is released and assists in returning the hammer to its normal position, said outwardly-extending portion of the check presenting an inclined face to the upper surface of the boss on the jack whereby to have sliding contact therewith and force the jack to normal position when the hammer returns to its normal position after striking a string.

845,721. APPARATUS AND METHOD FOR SHREDDING LEATHER. GEORGE E. SOVEREIGN, Pottersville, N. J. Filed Aug. 21, 1906. Serial No. 331,446.



Claim.—1. In a shredding-mill, the combination of rotary shredding-plates the faces of which are opposed relatively, said plates having in such faces radial ribs and annular ribs intersecting a plurality of said radial ribs, the radial ribs of the two plates forming a space narrowing progressively toward the peripheries of the plates, the annular ribs of the two plates relatively staggered.

2. A shredding-disk provided on its face with a plurality of radial ribs of height increasing progressively toward the periphery of the disk, and with ribs crossing said radial ribs transversely.

3. In a shredding-mill, the combination of rotary shredding-plates the faces of which are opposed relatively, said plates having on their faces approximately radial ribs, the ribs of the two plates progressively approaching each other toward the peripheries of the plates, and having other ribs crossing said radial ribs transversely, such transverse ribs of the two plates relatively staggered.

4. In a shredding-mill, the combination of rotary shredding-plates having faces opposed relatively and approaching each other toward the peripheries of said plates, said plates having in such surfaces or faces radial ribs and annular circular ribs concentric with the axis of rotation of said plates, the anular ribs of the two plates relatively staggered.

5. In a leather-shredding machine, the combination of opposite annular shredding-plates having body portions which provide at their facing sides parallel surfaces, radial ribs upon said parallel faces each increasing in height from the center of the plate outwardly, whereby outwardly-converging reducing-surfaces are provided by the two shredding-plates, and at the same time the radial ribs provide pockets, between the ribs, annular ribs or flanges intersecting said radial ribs, and means for driving the shredding-plates in opposite directions.

6. In a leather-shredding machine, the combination of a closed shredding-chamber, rotary shredding means therein comprising means producing an air-draft therethrough, a passage conveying the product from said chamber, and product-assorting means arranged transversely with respect to said passage and in line therewith and receiving the discharge therefrom.

7. In a leather-shredding machine, the combination of a closed shredding-chamber, rotary shredding means therein comprising rotary disks having means for producing an air-draft therethrough, a passage extending downward from said chamber, and product-assorting means arranged transversely with respect to said passage and in line therewith and receiving the discharge therefrom.

8. In a leather-shredding machine, the combination of a shredding-chamber, opposed rotary shredding-plates therein toothed on their adjacent faces, a separating-screen, means for operating the same, and a passage leading directly from said chamber to said screen.

9. In a leather-shredding machine, the combination of a shredding-chamber, opposed rotary shredding-plates therein toothed on their adjacent faces, a separating-screen, means for vibrating the same, and a passage leading directly and immediately from said chamber to said screen.

10. In a leather-shredding machine, the combination of a shredding-chamber, rotary opposed shredding-plates therein toothed on their adjacent surfaces, a separating-screen beneath said chamber, means for vibrating said screen, and a substantially vertical passage leading directly from said chamber to said screen.

11. The herein-described method of shredding and assorting the product which consists in subjecting the desired material to a shredding action, conducting the material shredded away and before packing or settling of the material can occur subjecting it to a separating and assorting action.

12. The herein-described method of shredding and assorting the product which consists in subjecting a material to be treated to a shredding action, conveying the shredded product away in aerial suspension and while still in such suspension subjecting it to an assorting and separating action.

13. The herein-described method of shredding and assorting the product which consists in subjecting material to be treated to a shredding action and immediately thereafter and before packing or settling can occur screening it.

845,722. PROTECTING DEVICE FOR VAPOR APPARATUS. PERCY H. THOMAS, East Orange, N. J., assignor to Cooper Hewitt Electric Company, New York, N. Y., a Corporation of New York. Substitute of application Serial No. 217,764, filed July 23, 1904. This application filed July 30, 1904. Serial No. 218,832.

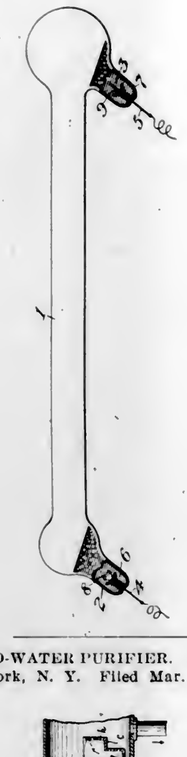
Claim.—1. In a vapor electric apparatus, the combination with a lead-wire, a liquid electrode around the same, an outer pocket for holding the said electrode, and a cup-shaped receptacle immediately surrounding the lead-wire for holding a portion of the liquid in contact therewith at times of sudden jar.

2. In a vapor electric apparatus, a main chamber, an electrode of conducting liquid, an outer receptacle for holding the said electrode, and a lead-wire entering the said receptacle, in combination with a cup-shaped receptacle immediately surrounding the inner end of the lead-wire and adapted to prevent the separation of the electrode material from the lead-wire on the occurrence of a sudden jar.

3. In a vapor electric apparatus, a main chamber, an electrode of conducting liquid, a receptacle for holding the said electrode, and a lead-wire entering the said receptacle, in combination with a pocket surrounding the inner end of the lead-wire, and an insulating-cap supported upon the extremity of the lead-wire.

4. In a vapor electric apparatus, a main chamber, an electrode of conducting liquid, a receptacle for holding the said electrode, a lead-wire entering the said receptacle, and means for causing a portion of the conducting liquid material to remain in contact with the lead-wire when the apparatus is jarred.

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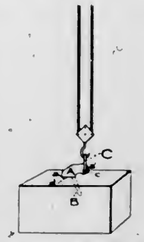


845,723. FEED-WATER PURIFIER. CHARLES TIMMERMAN, New York, N. Y. Filed Mar. 31, 1906. Serial No. 309,169.

Claim.—1. A device for eliminating scale-producing substances and other impurities from feed-water, the device comprising a trough having its bottom recessed at intervals, partitions set up on the raised portions of the bottom and extending therefrom to a point below the upper edge of the trough; deflecting-plates, set approximately in the center lines of the recessed portions of the trough and having their upper edges flush with the upper edge of the trough; means for feeding the water in one end of the trough and an overflow-outlet on its other end, substantially as herein shown and described.

2. A device for eliminating scale-producing substances and other impurities from feed-water, the device comprising a trough having its bottom recessed at intervals, partitions set up on the raised portions of the bottom and extending therefrom to a point below the upper edge of the trough; deflecting-plates, set approximately in the center lines of the recessed portions of the trough and having their upper edges flush with the upper edge of the trough; a cover upon the trough extending from the end thereof to the first partition, means for feeding the water into the closed portion of the trough, in front of the deflecting-plate, and an overflow-outlet on the other end of the trough, substantially as herein shown and described.

845,724. LEWIS. FRANK E. WHIDDEN, Concord, N. H. Filed May 17, 1906. Serial No. 317,394.



Claim.—1. A lewis composed of one solid piece, having two arms.

2. A lewis composed of one piece, having two arms, joined angularly to each other.

3. A lewis made in one piece having two arms, angularly joined, and one arm projecting on both sides of its juncture with the other arm.

4. A lewis made in one piece having two arms joined angularly to each other, one arm being adapted for insertion into a drill-hole of the stone to be lifted, and the other arm having means for fastening lifting-tackle thereto.

5. A lewis made in one piece having two arms joined angularly to each other, one arm being adapted to be inserted into a drill-hole in the stone to be lifted, the other arm provided at one end with means for attaching lifting-tackle, and at the other end with a bearing to press against the surface of the stone to be lifted.

6. A lewis having three arms solidly attached to one another, one arm being adapted to be inserted into a drill-hole in the stone to be lifted, and joined angularly with a second arm, which second arm has means for attaching lifting-tackle and the third arm having a bearing, which, when the first arm is in position in the drill-hole of the stone, bears upon the surface of the stone.

845,725. MEANS OF DRIVING PAPER-MAKING MACHINES ELECTRICALLY. ALBERT AICHELE, Baden, Switzerland. Filed July 12, 1906. Serial No. 325,790.

Claim.—1. The combination, with a paper-making machine, of separte electric motors for driving the individual parts thereof, means for maintaining a constant working speed for the entire machine as desired, and means for varying the working speed of the individual parts of the machine within small limits.

2. The combination, with a paper-making machine, of separate electric motors for driving the individual parts or sections thereof, means on said motors for maintaining them at a constant working speed as desired, and means for varying the working speed of the separate motors within small limits.

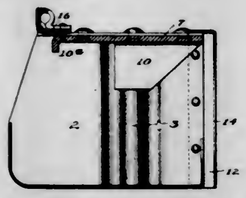
3. The combination, with a paper-making machine, of separate continuous-current shunt-wound motors for driving the individual parts or sections thereof, means on said electric motors for maintaining them at the same speed independently of the load, and means for varying the speed of the separate motors within small limits.

4. The combination, with a paper-making machine, of separate electric motors for driving the individual parts or sections of the machine, means on said electric motors for maintaining them at the same working speed independently of the load, and shunt-windings connected with said motors for varying the speed of the separate motors within small limits.



5. The combination, with a paper-making machine, of separate electric motors for driving the different parts or sections thereof, adjustable compound windings for said motors for permitting the same working speed to be maintained for all the motors independently of the load, and adjustable shunt-windings for said motors for enabling the speed of the individual motors to be varied within small limits by regulating the shunt excitation.

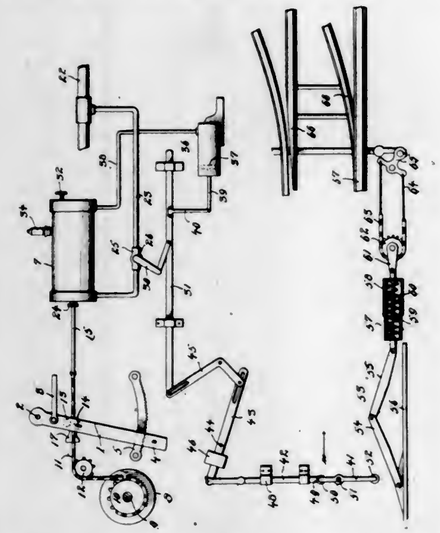
845,726. PRESSED-STEEL JOURNAL-BOX FOR RAILWAY-CARS. CHARLES H. COCHRAN, Avalon, Pa. Filed Oct. 23, 1905. Serial No. 284,013.



Claim.—1. A pressed-steel journal-box having a body portion formed of a single piece of pressed steel, the edges of which meet at the top, forming a beam, and a lug-plate overlapping the seam in the body portion and riveted thereto, said lug-plate being provided with depending front and side flanges; substantially as described.

2. A pressed-steel journal-box comprising a body portion formed of a single piece of pressed steel, the edges of which meet at the top, forming a beam, a lug-plate overlapping the seam in the body portion and provided with front and side flanges to form rests for the stop-wedge and journal-brass, respectively, and a guide-plate, said parts being riveted together; substantially as described.

845,727. SAFETY DEVICE FOR RAILROADS. PHILIP DEWITT and EDWARD J. CLARKE, Scranton, Pa. Filed Mar. 10, 1906. Serial No. 305,314.



Claim.—1. In an automatic train-controlling apparatus, the combination of means for controlling the motive power, means for controlling the brake system, an alarm-whistle, a fluid-pressure cylinder and a piston therein for operating said motive-power-controlling means, and brake-system-controlling means for controlling the operation of said whistle.

2. In an automatic train-controlling apparatus, the combination of means for controlling the motive power, means for controlling the brake system, means for operating the said motive-power and brake-system-controlling means, and fluid-pressure-operating means for automatically resetting the first-mentioned operating means.

3. In an automatic train-controlling apparatus, the combination of means for controlling the motive power, means for controlling the brake system, a fluid-pressure cylinder, a piston in the latter for operating said motive-power and braks-system controlling means, a valve for controlling the operation of said piston, means for actuating said valve, and means for automatically returning said valve and its actuating means to their normal positions.

4. In an automatic train-controlling apparatus, the combination of means for controlling the motive power, means for controlling the brake system, a fluid-pressure cylinder, a piston in the latter for operating said motive-power and brake-system controlling means, a valve for controlling the operation of said piston, a self-actuated operating means for said valve, a latch for holding said valve-operating means against movement, and means for returning said valve and its operating means to their normal positions.

5. In an automatic train-controlling apparatus, the combination of means for controlling the motive power, means for controlling the brake system, a fluid-pressure cylinder, a piston in the latter for operating said motive-power and brake-system controlling means, a valve for controlling the operation of said piston, a self-actuated operating means for said valve, a latch for holding said valve-operating means against movement, a second fluid-pressure cylinder, and a piston in the latter for resetting said valve and its operating means.

6. In an automatic train-controlling apparatus, the combination of means for controlling the motive power, means for controlling the brake system, a fluid-pressure cylinder, a piston in the latter for operating said motive-power and brake-system controlling means, a valve for controlling the inlet and outlet of a fluid under pressure to and from one end of said cylinder, and means for operating said valve.

7. In an automatic train-controlling apparatus, the combination of means for controlling the motive power, means for controlling the brake system, a fluid-pressure cylinder, a piston in the latter for operating said motive-power and brake-system controlling means, a valve for controlling the inlet and outlet of a fluid under pressure to and from one end of said cylinder, means for actuating said valve in one direction, and means for automatically returning said valve to its original position.

8. In an apparatus of the character described, the combination of means for controlling the motive power of the vehicle, means for controlling the brake system of the vehicle, a fluid-pressure cylinder, a piston therein, and a flexible connection between said piston and the motive-power and brake-system controlling means.

9. In an apparatus of the character described, the combination of a throttle-lever, an engineer's brake-valve, means for locking said throttle-lever, an operating element, a flexible connection between said element and said valve, an unlocking means for said lever and carried thereby, and a wedge or cam device upon said connection for successively actuating said lever-unlocking means and said lever.

10. In an apparatus of the character described, the combination of a throttle-lever, an engineer's brake-valve, a rack, a dog upon said lever to engage said rack, means for operating said rod to disengage it from said rack, a fluid-pressure cylinder, a piston therein, a flexible connection between said piston and said valve, and a wedge-block upon said connection for successively actuating said dog-operating means and said lever.

11. In an apparatus of the character described, the combination, with means for controlling the motive power and the brake system of a motor-vehicle, of an actuating element for said means, a weighted lever connected to said element, a sliding bolt actuated by said lever, and a swinging latch for holding said bolt retracted.

12. In an apparatus of the character described, the combination, with means for controlling the motive power and the brake system of a motor-vehicle, of an actuating element for said means, a weighted lever connected to said element, a sliding bolt actuated by said lever, a swinging latch having one end engaged with said bolt, means for tripping said latch, and means for resetting the same.

13. In an apparatus of the character described, the combination of means for controlling the motive power and the brake system of a motor-vehicle, a fluid-pressure cylinder, a piston therein for actuating said means, a second fluid-pressure cylinder, a piston in the latter, a pipe between one end of the first-mentioned cylinder and one end of said second cylinder, a valve for controlling the admission and exhaustion of a fluid under pressure to and from the other end of the first cylinder, an operating element, a connection between said element and said valve, and a connection between said element and the piston in said second cylinder.

14. In an apparatus of the character described, the combination of means for controlling the motive power and the brake system of a motor-vehicle, a fluid-pressure cylinder, a piston therein for actuating said means, a second fluid-pressure cylinder, a piston in the latter, a pipe between one end of the first-mentioned cylinder and one end of said second cylinder; a valve for controlling the admission and exhaustion of a fluid under pressure to and from the other end of the first cylinder, an operating element connected to said valve and the piston of said second cylinder, a self-actuated operating means for said element, and a latch for holding said self-actuated operating means against movement.

15. In an apparatus of the character described, the combination of means for controlling the motive power and the brake system of a motor-vehicle, a fluid-pressure cylinder, a piston therein for actuating said means, a second fluid-pressure cylinder, a piston in the latter, a pipe between one end of the first-mentioned cylinder and one end of said second cylinder, a valve for controlling the admission and exhaustion of a fluid under pressure to and from the other end of the first cylinder, an operating element, slidably-mounted connections between said element and said valve and piston in the second cylinder, a weighted lever connected to said element, a sliding bolt having a seat in its bottom and its upper end connected to said lever, and a swinging latch having anti-friction devices in its ends, said device in its upper end being adapted to engage the seat in said bolt.

16. A trip device of the character described comprising toggle-levers, an operating element, and an elastic connection between said element and one of said levers.

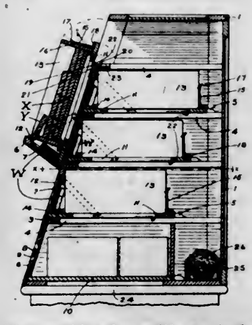
17. A trip device of the character described comprising toggle-levers, a rotary element actuated by a switch or the like, and a connection between said element and one of said toggle-levers comprising telescoping members and a spring between said members.

18. A trip device of the character described comprising a base, a pair of toggle-levers, one of the latter being pivoted upon said base and the other having a sliding connection therewith, a shaft having a crank-arm, and a connection between said crank-arm and said sliding end of the toggle-lever, said connection comprising telescoping members, and a coil-spring between said members.

19. A portable trip device of the character described comprising a cam-body, a spur upon the same to enter a cross-tie, and an arm upon said body to engage a track-rail.

20. A portable trip device of the character described comprising a cam-body, a spur upon the same to enter a cross-tie, and a folding arm pivoted upon said body for engagement with a track-rail.

845,728. CABINET. LESTER W. DICKINSON, Schuyler, Nebr., assignor of one-third to Alonzo M. Wells, Schuyler, Nebr. Filed May 8, 1905. Serial No. 259,449.



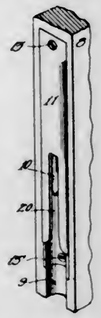
Claim.—1. The combination with an inclosing casing; of a drawer-frame slidably mounted in the casing for the support of a caddy and provided with a stop near its front end to limit the forward movement of the caddy with respect to the front of the drawer-frame to form a display-space between the drawer-front and the caddy, the drawer-front having a transparent portion and the front of the caddy forming the back of the said display-space, and means detachably engaging the rear end of the caddy to prevent accidental rearward movement of the latter.

2. In a cabinet for storing merchandise contained in boxes or caddies, the combination with an inclosing casing and skeleton-drawer frames slidably held therein of means on said drawer-frames for retaining thereon the boxes or caddies to be stored, said retaining means comprising side braces between which the box or caddy rests on the frame, a stop-strip engaging one end of the box or caddy, and retaining-hooks of resilient material having sharpened points thereon adapted to be driven into the other end of the box or caddy.

3. The combination with an inclosing casing having an inclined front; of drawer-frames slidably mounted in the casing for the support of caddies, means fixed upon each drawer provided with means for engagement with the rear

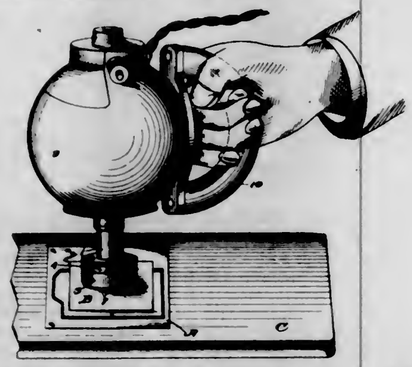
end of the corresponding caddy to prevent accidental rearward movement of the latter, and means constructed and arranged between the casing and each drawer-frame to permit the bottom of the latter to lie flush with the inclined front of the casing upon outward sliding movement of a drawer-frame.

845,729. SLIDING-DOOR CONSTRUCTION FOR SHOW-CASES. MAXIMILIAN E. LA BERGE, Los Angeles, Cal. Filed Apr. 12, 1906. Serial No. 311,295.



Claim.—A frame having vertical grooves forming a guideway, a door mounted to slide vertically in the guideway with its edges engaging in said grooves, said edges being vertically grooved, a case secured in each vertical groove of the door, said case having a vertical slot, a vertically-slit rubber buffer-plug mounted in each case, and a fixed stop secured in each guideway-groove to extend in the adjacent door-groove and buffer-case, and to engage the buffer therein.

845,730. COPYING-MACHINE. DAVID T. MARSHALL, New York, N. Y., assignor to Norman Marshall, Newton, Mass. Filed Oct. 17, 1906. Serial No. 339,288.



Claim.—1. A copying device comprising a rotary head and an antifriction pressure-surface carried thereby and adapted to be passed over the surface of the sheet to or from which the transfer is to be made.

2. A copying device comprising a rotary head, an annular raceway therein and a series of balls in the raceway and projecting beyond the face of the head.

3. A copying device comprising a rotary disk, an annular raceway in the face of the disk and a series of balls in the raceway projecting beyond the face of the disk.

4. A copying device comprising a shaft, driving mechanism therefor, a head secured to the shaft and an antifriction pressure-surface on the head.

5. A copying device comprising a shaft, driving mechanism therefor, a head secured to the shaft, a raceway in the head and a series of balls in the raceway projecting beyond the surface of the head.

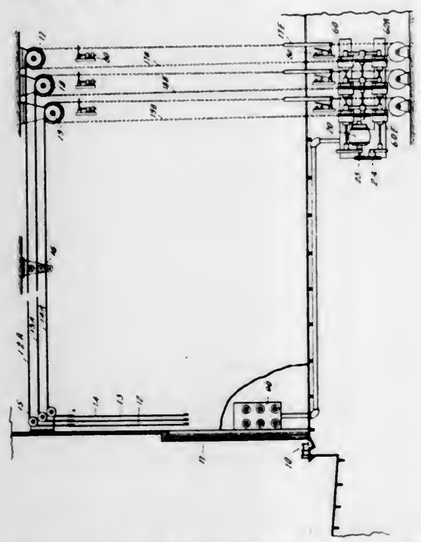
6. A copying device comprising a motor adapted for manual manipulation, a rotary head connected with the motor and provided with an antifriction pressure-surface adapted to be passed over the surface of the sheet to or from which the transfer is to be made.

7. A copying device comprising a motor adapted for manual manipulation, a rotary head connected with the motor, an annular raceway in face of the head, balls in the raceway projecting beyond the face of the head.

8. A copying device comprising an electric motor adapted for manual manipulation, a head on the motor-shaft, an annular raceway in the face of the head, and a series of balls in the raceway.

9. A copying device comprising a motor adapted for manual manipulation, a head on the motor-shaft comprising two parts separated by an elastic disk, and a series of balls mounted in the head and projecting beyond the surface thereof.

845,731. CURTAIN-HOISTING APPARATUS. THEODOR ESKILSSON, New York, N. Y. Filed Apr. 23, 1906. Serial No. 313,137.



Claim.—1. A pair of shafts driven in opposite directions, a magnetic clutch on each of said shafts, a movable member associated with the clutches and arranged to be moved by one shaft when one of the clutches is energized and by the other shaft when the other clutch is energized, and means for holding the movable member when neither of the clutches is energized.

2. A pair of driven shafts, a magnetic clutch for each of said shafts, a portion of each of said clutches being constructed to form a chain-groove, and a driving-chain associated with the clutches and arranged to be moved in one direction when one clutch is energized and in the opposite direction when the other clutch is energized.

3. A pair of shafts driven in opposite directions, a magnetic clutch on each of said shafts, both of said clutches being constructed to form a chain-groove on their outer peripheries, and a driving-chain arranged to take into the chain-grooves on the clutches and to be moved by one shaft when one of the clutches is energized and by the other shaft when the other clutch is energized.

4. A pair of shafts driven in opposite directions, a magnetic clutch on each of said shafts, a movable member associated with the clutches and arranged to be moved by one shaft when one of the clutches is energized and by the other shaft when the other clutch is energized, a brake for holding the movable member, and means for releasing the brake when either of the clutches is energized.

5. A pair of shafts driven in opposite directions, a magnetic clutch on each of said shafts, a movable member associated with the clutches and arranged to be moved by one shaft when one of the clutches is energized and by the other shaft when the other clutch is energized, a brake for holding the movable member, electromagnetic means for releasing the brake when either of the clutches is energized, circuits for the clutches and the brake-releasing means, and a manually-operated switch for controlling the circuits.

6. A pair of shafts driven in opposite directions, a magnetic clutch on each of said shafts, a movable member associated with the clutches and arranged to be moved by one shaft when one of the clutches is energized and by the other shaft when the other clutch is energized, a brake for holding the movable member, electromagnetic means for releasing the brake when either of the clutches is energized, circuits for the clutches and the brake-releasing means, a manually-operated switch for controlling the circuits, and means in said switch for preventing the energization of but one of the clutches at the same time.

7. An electric motor, a pair of shafts connected to be driven thereby, a magnetic clutch for each of said shafts, a movable member associated with the clutches and arranged to be moved in one direction by one shaft when one of the clutches is energized and by the other shaft when the other clutch is energized, a brake for holding the movable member, electromagnetic means for releasing the brake when either of the clutches is energized, circuits for the clutches and the brake-releasing means, a manually-operated switch for controlling the circuits, and means in said switch for preventing the energization of but one of the clutches at the same time.

8. A driven shaft, a magnetic clutch, said clutch comprising a magnet member attached to the shaft and a secondary member loosely mounted upon the shaft; a second driven shaft, a second magnetic clutch comprising a magnet member attached to the second shaft and a secondary member loosely mounted upon the second shaft; and a movable member associated with said secondary members and arranged to be moved in one direction when one of the clutches is energized and in the opposite direction when the other clutch is energized.

9. A driven shaft, a magnetic clutch, said clutch comprising a magnet member attached to the shaft and a secondary member loosely mounted upon the shaft; a second driven shaft, a second magnetic clutch comprising a magnetic member attached to the second shaft, and a secondary member loosely mounted upon the second shaft; a brake for each of the secondary members and means for releasing both of said brakes when either of the clutches is energized.

10. A driven shaft, a magnetic clutch, said clutch comprising a magnet member attached to the shaft and a secondary member loosely mounted upon the shaft, and a winding; a second driven shaft, a second magnetic clutch comprising a magnet member attached to the second shaft and a secondary member loosely mounted upon the second shaft, and a winding; a brake for each of the secondary members, an electromagnet for each brake arranged to release said brakes, and means for energizing both brake-magnets and either of the clutch-windings.

11. A driven shaft, a magnetic clutch, said clutch comprising a magnet member attached to the shaft and a secondary member loosely mounted upon the shaft, and a winding; a second driven shaft, a second magnetic clutch comprising a magnet member attached to the second shaft and a secondary member loosely mounted upon the second shaft, and a winding; a brake for each of the secondary members, an electromagnet for each brake arranged to release said brakes, circuits for the clutch-windings and the brake-magnets, a manually-operated switch in said circuits arranged to control the energization of both brake-magnets and either of the clutch-windings.

12. An electric motor, a pair of shafts connected to be driven thereby, a magnetic clutch on one of said shafts, said clutch comprising a magnet member attached to the shaft, a secondary member loosely mounted upon the shaft, and a winding; a second magnetic clutch on the other of said shafts, said second clutch comprising a magnet member attached to the second shaft, a secondary member loosely mounted upon the second shaft, and a winding; a brake for each of the secondary members, an electromagnet for each brake arranged to release said brakes, circuits for the clutch-windings and the brake-magnets, a manually-operated switch in said circuits arranged to control the energization of both brake-magnets and either of the clutch-windings, and means in said switch for preventing the energization of but one of the clutch-windings at the same time.

13. A pair of shafts driven in opposite directions, a plurality of pairs of magnetic clutches on said shafts, one of each pair of clutches being on one shaft and the other clutch of each pair being on the other shaft, a movable member associated with each pair of clutches and arranged to be moved by one shaft when one of its associated clutches is energized and by the other clutch when the other of its associated clutches is energized.

14. A pair of shafts driven in opposite directions, a plurality of pairs of magnetic clutches on said shafts, one of each pair of clutches being on one shaft and the other clutch of each pair being on the other shaft, a movable member associated with each pair of clutches and arranged to be moved by one shaft when one of its associated clutches is energized and by the other clutch when the other of its associated clutches is energized, a brake for holding each of the movable members and means for releasing the brake for any of the movable members when either of its associated clutches is energized.

15. A pair of shafts driven in opposite directions, a plurality of pairs of magnetic clutches on said shafts, one of each pair of clutches being on one shaft and the other clutch of each pair being on the other shaft, a movable member associated with each pair of clutches and arranged to be moved by one shaft when one of its associated clutches is energized and by the other clutch when the other of its associated clutches is energized, a brake for holding each of the movable members, electromagnetic means for releasing the brake for any of the movable members when either of its associated clutches is energized, circuits for the clutches and the brake-releasing means, and a manually-operated switch for controlling the circuits.

16. A pair of shafts driven in opposite directions, a plurality of pairs of magnetic clutches on said shafts, one of each pair of clutches being on one shaft and the other clutch of each pair being on the other shaft, a movable member associated with each pair of clutches and arranged to be moved by one shaft when one of its associated clutches is energized and by the other shaft when the other of its associated clutches is energized, a brake for holding each of the movable members, electromagnetic means for releasing the brake for any of the movable members when either of its associated clutches is energized, circuits for the clutches and the brake-releasing means, a manually-operated switch for controlling the circuits and means for preventing the energization of but one of each pair of clutches at the same time.

17. An electric motor, a pair of shafts connected to be driven thereby, a plurality of pairs of magnetic clutches on said shafts, one of each pair of clutches being on one shaft and the other clutch of each pair being on the other shaft, a movable member associated with each pair of clutches and arranged to be moved by one shaft when one of its associated clutches is energized, and by the other shaft when the other of its associated clutches is energized, a brake for holding each of the movable members, a releasing-magnet for each brake, circuits for the clutches and the brake-magnets, a manually-operated switch in the circuits arranged to control the energization of the clutches and brake-magnets, and means in said switch for preventing the energization of but one of each pair of clutches at the same time.

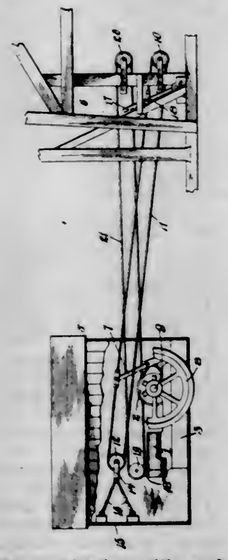
18. A driven shaft, a magnetic clutch, said clutch comprising a magnet member attached to the shaft, and a secondary member loosely mounted upon the shaft; a second driven shaft, a second magnetic clutch comprising a

magnetic member attached to the second shaft, and a secondary member loosely mounted upon the second shaft; a movable member, intermediate mechanism associating the movable member with both of said clutches and arranged to cause the movable member to be moved in one direction when one clutch is energized, and in the opposite direction when the other clutch is energized.

19. A pair of driven shafts, a plurality of pairs of magnetic clutches on said shafts, one of each pair of clutches being on one shaft and the other clutch of each pair being on the other shaft, a plurality of movable bodies, intermediate mechanism associating one of each of said movable bodies with each pair of clutches, and so arranged that the movable bodies are moved by one shaft when one of its associated clutches is energized, and by the other shaft when the other of its associated clutches is energized.

20. An electric motor, a pair of shafts connected to be driven thereby, a plurality of pairs of magnetic clutches on said shafts, one of each pair of clutches being on one shaft and the other clutch of each pair being on the other shaft, each of said clutches comprising a magnet member attached to its respective shaft, a secondary member loosely mounted upon its shaft, and a winding; a plurality of movable bodies, intermediate mechanism associating each of the movable bodies with the secondary members of one pair of clutches, a brake for each of the secondary members, an electromagnet for each brake arranged to release said brakes, circuits for the clutch-windings and the brake-magnets, a manually-operated switch in the circuits arranged to control the energization of the clutch-windings and the brake-magnets, and means in said switch for preventing the energization of but one of the clutch-windings of each pair of clutches at the same time.

845,732. MEANS FOR CONTROLLING GAS-ENGINES. EVAN EVANS, Butler, Pa., assignor to the Evans Manufacturing Company, Butler, Pa., a Corporation of Pennsylvania. Filed Aug. 11, 1905. Serial No. 273,781.

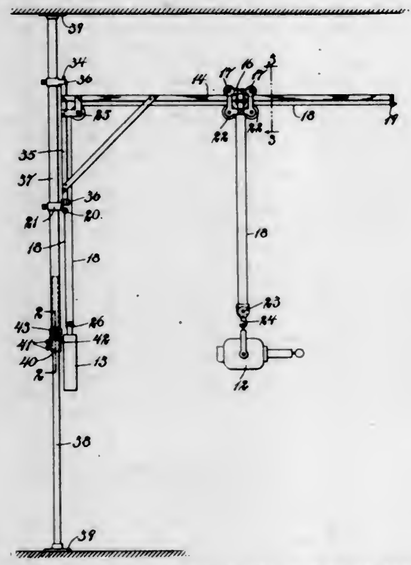


Claim.—1. The combination with a derrick, a gas-engine located at a point removed from the derrick and having a clutch mechanism, of a pulley mounted in the derrick, a second pulley mounted adjacent to the gas-engine, a lever connected to the clutch mechanism of the gas-engine, an endless cable passing over said pulleys and having the outer end of said lever connected to a portion of the cable, and a lever pivoted in the derrick and also connected to a portion of said cable for moving the same on its pulleys to actuate the clutch mechanism of the gas-engine.

2. The herein-described means for controlling clutch mechanism of a gas-engine at a point remote therefrom, comprising a pair of distantly-located pulleys, an endless cable passing over said pulleys, a lever connecting one portion of said cable to said clutch mechanism, and an actuating-lever also connected to the cable adjacent one of said pulleys for actuating said cable.

3. The herein-described means for controlling gas-engine mechanism at a point remote therefrom, comprising a pair of distantly-located pulleys, one located adjacent the gas-engine and the other remote therefrom, an endless cable passing over said pulleys, and means connected to said cable and operating to actuate the controlling mechanism of said gas-engine.

845,733. MASSAGE APPARATUS. GEORGE W. FITZ, Boston, Mass. Filed Mar. 3, 1906. Serial No. 304,115.



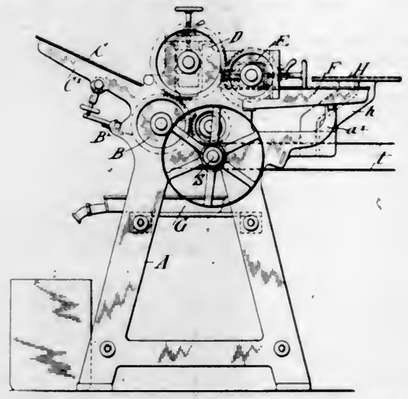
Claim.—1. In combination, a load or working agent, a counterbalance therefor, and adjustable supporting means, comprising a substantially horizontal overhanging arm or track, a carriage movable thereon and a flexible cord which pendently supports the load from the carriage and the counterbalance from the arm, the said supporting means having provisions for permitting horizontal movement of the carriage and load without vertical movements of the load and counterbalance, and vertical movements of the load and counterbalance without horizontal movement of the carriage and load.

2. In combination, a substantially horizontal hinged arm or track, a carriage movable on the arm, a load or working agent, and a flexible cord which pendently supports the load from the carriage and the counterbalance from the inner portion of the arm, the arm carriage and cord comprising supporting means having provisions for permitting horizontal movements of the carriage and load without vertical movements of the load and counterbalance, and for permitting vertical movements of the load and counterbalance without horizontal movement of the carriage and load.

3. An apparatus of the character stated, comprising a telescopic standard having an adjustable support or seat on one of its members, and bearing devices adjustably connected with the other member to coact with said seat in imparting a final elongation to the standard, said bearing devices being movable lengthwise of the standard, an arm hinged to said standard, and a working device adjustably suspended from said arm.

4. An apparatus of the character stated, comprising a substantially horizontal arm, or track, having a guide-pulley at its inner portion, a carriage movable on the arm, and having a pair of guide-pulleys, a flexible cord attached at one end to the outer portion of the arm, and at its other end to a support adjacent to the guide-pulley on the arm, intermediate portions of the cord passing over the said guide-pulleys on the arm and carriage, and depending in bights therefrom, a load or working agent engaged with the bight depending from the carriage, and a counterbalance engaged with the bight depending from the arm.

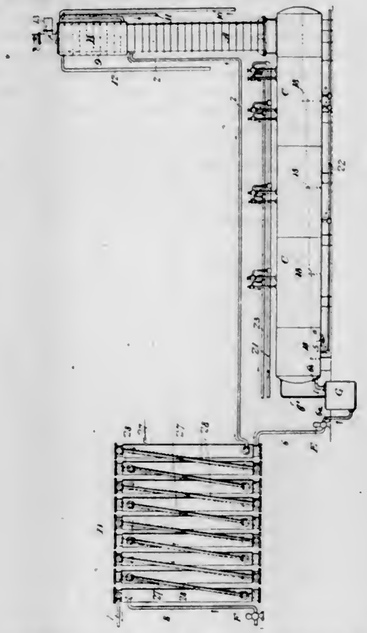
845,734. COATING-MACHINE. ALBERT J. FORD, New York, N. Y., assignor to The Fuchs & Lang Manufacturing Company, New York, N. Y., a Corporation of New York. Filed Feb. 28, 1906. Serial No. 303,475.



Claim.—In a machine for coating sheet metal, the combination, with a supporting-roller, of a coating-roller arranged above the same and movable in contact therewith, a fountain-roller at one side of said coating-roller and movable in contact therewith, the axis of said fountain-roller being slightly below that of said coating-roller, and a fountain below said fountain-roller and extending laterally slightly beyond the line of contact of the latter with said coating-roller into close proximity to the latter, said fountain being located above and to one side of the axis of said supporting-roller.

845,735. STEAM-STILL FOR PETROLEUM. HERMAN FRASCH, New York, N. Y., assignor to Standard Oil Company, Bayonne, N. J., a Corporation of New Jersey. Original application filed Aug. 11, 1900, Serial No. 26,648. Divided and this application filed Aug. 20, 1902. Serial No. 120,290.

Claim.—1. A steam stilling apparatus for separating hydrocarbons with boiling-points too low for burning oil from higher-boiling hydrocarbons, said apparatus consisting of a column which is provided internally with a succession of appliances for bringing the body of vapors rising in said column into repeated contact with descending liquid, an oil-supply pipe which opens into the upper part of said column for delivering thereinto petroleum or hydrocarbon oil containing the low-boiling hydrocarbons first mentioned but composed mainly of high-boiler products, oil-heating means for raising the oil-supply to a temperature lower than the boiling-point of water and not more than about 60° Fahrenheit below the same, which means are connected with said oil-supply pipe, a vapor-outlet which carries off the vapors from said column, vapor-cooling means for reducing the temperature of the vapors to such extent below the boiling-point of water that the hydrocarbons passing off are mainly of the low-boiling kind first mentioned, which means include provisions for allowing the condensate to descend with the oil from said supply-pipe over said appliances for bringing the rising vapors into repeated contact with descending liquid, open steam-pipes for supplying steam in such excess of what passes off with the low-boiling hydrocarbons that the chief part of said steam is condensed and so retained in said apparatus, which pipes deliver steam into the apparatus at such points that the steam passes up through said column, a settling vessel which receives the oil and water from said column, and means whereby the separated oil and water from said settling vessel are delivered in different directions, substantially as described.



2. A steam stilling apparatus for separating hydrocarbons with boiling-points too low for burning oil from higher-boiling hydrocarbons, said apparatus consisting of a column which is provided internally with a succession of appliances for bringing the body of vapors rising in said column into repeated contact with descending liquid, an oil-supply pipe which opens into said apparatus for delivering thereinto petroleum or hydrocarbon oil containing the low-boiling hydrocarbons first mentioned but composed mainly of higher-boiling products, a vapor-outlet which carries off the vapors from said column, vapor-cooling means for reducing the temperature of the vapors to such extent below the boiling-point of water that the hydrocarbons passing off are mainly of the low-boiling kind first mentioned, which means include provisions for allowing the condensate to descend over said appliances for bringing the rising vapors into repeated contact with descending liquid, open steam-pipes for supplying steam in such excess of what passes off with the low-boiling hydrocarbons that the chief part of said steam is condensed and so retained in said apparatus, which pipes deliver steam into the apparatus at such points that the steam passes up through said column, a settling vessel which receives the oil and water from said column, and means whereby the separated oil and water from said settling vessel are delivered in different directions, substantially as described.

3. A steam stilling apparatus for separating hydrocarbons with boiling-points too low for burning oil from higher-boiling hydrocarbons, said apparatus consisting of

a column which is provided internally with a succession of appliances for bringing the body of vapors rising in said column into repeated contact with descending liquid, an oil-supply pipe with opens into the upper part of said column for delivering thereinto petroleum or hydrocarbon oil containing the low-boiling hydrocarbons first mentioned but composed mainly of higher-boiling products, a vapor-outlet which carries off the vapors from said column, vapor-cooling means for reducing the temperature of the vapors to such extent below the boiling-point of water that the hydrocarbons passing off are mainly of the low-boiling kind first mentioned, which means include provisions for allowing the condensate to descend with the oil from said supply-pipe over said appliances for bringing the rising vapors into repeated contact with descending liquid, open steam-pipes for supplying steam in such excess of what passes off with the low-boiling hydrocarbons that the chief part of said steam is condensed and so retained in said apparatus, which pipes deliver steam into the apparatus at such points that the steam passes up through said column and have a liberal area of steam-outlet as compared with the liquid-holding space in said apparatus for effecting the removal of the low-boiling hydrocarbons in a short time, to wit, under two hours, a settling vessel which receives the oil and water from said column, and means whereby the separated oil and water from said settling vessel are delivered in different directions, substantially as described.

4. A steam stilling apparatus for separating hydrocarbons with boiling-points too low for burning oil from higher-boiling hydrocarbons, said apparatus consisting of a column which is provided internally with a succession of appliances for bringing the body of vapors rising in said column into repeated contact with descending liquid, an oil-supply pipe which opens into said apparatus for delivering thereinto petroleum or hydrocarbon oil containing the low-boiling hydrocarbons first mentioned but composed mainly of higher-boiling products, a vapor-outlet which carried off the vapors from said column, vapor-cooling means for reducing the temperature of the vapors to such extent below the boiling-point of water that the hydrocarbons passing off are mainly of the low-boiling kind first mentioned, which means include provisions for allowing the condensate to descend over said appliances for bringing the rising vapors into repeated contact with descending liquid, open steam-pipes for supplying steam in such excess of what passes off with the low-boiling hydrocarbons that the chief part of said steam is condensed and so retained in said apparatus, which pipes deliver steam into the apparatus at such points that the steam passes up through said column and have a liberal area of steam-outlet as compared with the liquid-holding space in said apparatus for effecting the removal of the low-boiling hydrocarbons in a short time, to wit, under two hours, a settling vessel which receives the oil and water from said column, and means whereby the separated oil and water from said settling vessel are delivered in different directions, substantially as described.

5. A steam stilling apparatus for separating hydrocarbons with boiling-points too low for burning oil from higher-boiling hydrocarbons, said apparatus consisting of an elongated horizontal still with oil-inlet at one end and oil-outlet at the other, a vapor-outlet which carries off the vapors from said still, vapor-cooling means for reducing the temperature of the vapors to such extent below the boiling-point of water that the hydrocarbons passing off are mainly of the low-boiling kind first mentioned, which means include provisions for allowing the condensate to return to said still, open steam-pipes for supplying steam in such excess of what passes off with the low-boiling hydrocarbons that the chief part of said steam is condensed and so retained in said apparatus, which pipes deliver steam into said still below the liquid-level therein, and means whereby the oil and water from said still after being permitted to separate can be delivered in different directions, substantially as described.

6. A steam stilling apparatus for separating hydrocarbons with boiling-points too low for burning oil from higher-boiling hydrocarbons, said apparatus consisting of an elongated horizontal still with oil-inlet at one end and oil-outlet at the other, a vapor-outlet which carries off the vapors from said still, vapor-cooling means for reducing the temperature of the vapors to such extent below the boiling-point of water that the hydrocarbons passing off are mainly of the low-boiling kind first mentioned, which means include provisions for allowing the condensate to return to said still, open steam-pipes for supplying steam in such excess of what passes off with the low-boiling hydrocarbons that the chief part of said steam is condensed and so retained in said apparatus, which pipes deliver steam into said still below the liquid-level therein and have a liberal area of steam-outlet as compared with the liquid-holding space in said apparatus for effecting the removal of the low-boiling hydrocarbons in a short time, to wit, under two hours, and means whereby the oil and water from said still after being permitted to separate can be delivered in different directions, substantially as described.

7. A still having an inlet and an outlet for the liquid to be distilled and an intervening horizontally-disposed liquid-holding space and also having open steam-pipes which are arranged in said space and whose area of steam-exit lessens toward the outlet, substantially as described.

8. A still having an inlet and an outlet for the liquid to be distilled and an intervening horizontally-disposed liquid-holding space diminishing in depth toward the outlet and also having open steam-pipes which are arranged in said space and whose area of steam-exit lessens toward said outlet, substantially as described.

9. A still having an inlet and an outlet for the liquid to be distilled and an intervening horizontally-disposed liquid-holding space diminishing in depth toward the outlet and also having open steam-pipes which are arranged in said space and whose area of steam-exit per square foot of exposed upper surface of liquid lessens toward said outlet, substantially as described.

10. A still having an inlet and an outlet for the liquid to be distilled and an intervening horizontally-disposed liquid-holding space and also having open steam-pipes which are arranged in said space and whose area of steam-exit lessens toward the outlet, in combination with vapor-cooling means arranged for condensing a portion of the vapors from said still while allowing another portion to pass over, substantially as described.

11. A still having an inlet and an outlet for the liquid to be distilled and an intervening horizontally-disposed liquid-holding space diminishing in depth toward the outlet and also having open steam-pipes which are arranged in said space and whose area of steam-exit lessens toward said outlet, in combination with vapor-cooling means arranged for condensing a portion of the vapors from said still while allowing another portion to pass over, substantially as described.

12. A still having an inlet and an outlet for the liquid to be distilled and an intervening horizontally-disposed liquid-holding space diminishing in depth toward the outlet and also having open steam-pipes which are arranged in said space and whose area of steam-exit per square foot of exposed upper surface of liquid lessens toward said outlet, in combination with vapor-cooling means arranged for condensing a portion of the vapors from said still while allowing another portion to pass over, substantially as described.

13. A steam stilling apparatus for separating hydrocarbons with boiling-points too low for burning oil from higher-boiling hydrocarbons, said apparatus consisting of a column which is provided internally with a succession of appliances for bringing the body of vapors rising in said column into repeated contact with descending liquid, an oil-supply pipe which opens into the upper part of said column for delivering thereinto petroleum or hydrocarbon oil containing the low-boiling hydrocarbons first mentioned but composed mainly of higher-boiling products, a vapor-outlet which carries off the vapors from said column, vapor-cooling means for reducing the temperature of the vapors to such extent below the boiling-point of water that the hydrocarbons passing off are mainly of the low-boiling kind first mentioned, which means include provisions for allowing the condensate to descend with the oil from said supply-pipe over said appliances for bringing the rising vapors into repeated contact with descending liquid, open steam-pipes for supplying steam in such excess of what passes off with the low-boiling hydrocarbons that the chief part of said steam is condensed and so retained in said apparatus, which pipes deliver steam into the apparatus at such points that the steam passes up through said column, a settling vessel which receives the oil and water from said column, and means whereby the separated oil and water from said settling vessel are delivered in different directions, substantially as described.

14. A steam stilling apparatus for separating hydrocarbons with boiling-points too low for burning oil from higher-boiling hydrocarbons, said apparatus consisting of a column which is provided internally with a succession of appliances for bringing the body of vapors rising in said column into repeated contact with descending liquid, an oil-supply pipe which opens into the upper part of said column for delivering thereinto petroleum or hydrocarbon oil containing the low-boiling hydrocarbons first mentioned but composed mainly of higher-boiling products, a vapor-outlet which carries off the vapors from said column, vapor-cooling means for reducing the temperature of the vapors to such extent below the boiling-point of water that the hydrocarbons passing off are mainly of the low-boiling kind first mentioned, which means include provisions for allowing the condensate to descend with the oil from said supply-pipe over said appliances for bringing the rising vapors into repeated contact with descending liquid, open steam-pipes for supplying steam in such excess of what passes off with the low-boiling hydrocarbons that the chief part of said steam is condensed and so retained in said apparatus, which pipes deliver steam into the apparatus at such points that the steam passes up through said column, a settling vessel which receives the oil and water from said column, and means whereby the separated oil and water from said settling vessel are delivered in different directions, substantially as described.

15. A steam stilling apparatus for separating hydrocarbons with boiling-points too low for burning oil from higher-boiling hydrocarbons, said apparatus consisting of a column which is provided internally with a succession of appliances for bringing the body of vapors rising in said column into repeated contact with descending liquid, an oil-supply pipe which opens into said apparatus for delivering thereinto petroleum or hydrocarbon oil containing the low-boiling hydrocarbons first mentioned but composed mainly of higher-boiling products, a vapor-outlet which carries off the vapors from said column, vapor-cooling means for reducing the temperature of the vapors to such extent below the boiling-point of water that the hydrocarbons passing off are mainly of the low-boiling kind first mentioned, which means include provisions for allowing the condensate to descend over said appliances for bringing the rising vapors into repeated contact with descending liquid, open steam-pipes for supplying steam in such excess of what passes off with the low-boiling hydrocarbons that the chief part of said steam is condensed and so retained in said apparatus, which pipes deliver steam into the apparatus at such points that the steam passes up through said column, a settling vessel which receives the oil and water from said column, and means whereby the separated oil and water from said settling vessel are delivered in different directions, substantially as described.

16. A steam stilling apparatus for separating hydrocarbons with boiling-points too low for burning oil from higher-boiling hydrocarbons, said apparatus consisting of a column which is provided internally with a succession of appliances for bringing the body of vapors rising in said column into repeated contact with descending liquid, an oil-supply pipe which opens into the upper part of said column for delivering thereinto petroleum or hydrocarbon oil containing the low-boiling hydrocarbons first mentioned but composed mainly of higher-boiling products, a heat-exchanger which has not less than about half a square foot of heat-exchanging surface to each cubic foot of the space in said apparatus for holding liquid in process of steaming and which on one side is connected with said oil-supply pipe and on the other with the oil-outlet of said apparatus, a vapor-outlet which carries off the vapors from said column, vapor-cooling means for reducing the temperature of the vapors to such extent below the boiling-point of water that the hydrocarbons passing off are mainly of the low-boiling kind first mentioned, which means include provisions for allowing the condensate to descend with the oil from said supply-pipe over said appliances for bringing the rising vapors into repeated contact with descending liquid, open steam-pipes for supplying steam in such excess of what passes off with the low-boiling hydrocarbons that the chief part of said steam is condensed and so retained in said apparatus, which pipes deliver steam into the apparatus at such points that the steam passes up through said column, a settling vessel which receives the oil and water from said column, and means whereby the separated oil and water from said settling vessel are delivered in different directions, substantially as described.

17. A steam stilling apparatus for separating hydrocarbons with boiling-points too low for burning oil from higher-boiling hydrocarbons, said apparatus consisting of a distilling vessel, an oil-supply pipe which opens into said vessel for delivering thereinto petroleum or hydrocarbon oil containing hydrocarbons of the kind first mentioned but composed mainly of higher-boiling products, a vapor-outlet which carries off the vapors from said vessel, vapor-cooling means whereby the mixed vapors before passing off are cooled below the boiling-point of water, open steam-pipes which supply free steam in excess of what passes off in admixture with hydrocarbon vapors and which deliver the steam into the apparatus at such points that the steam passes through said vessel, and a settling vessel which receives the water condensed in said apparatus from the free steam and the oil accompanying such water and which is provided with overflows from its top and bottom respectively, the former for discharge of oil, the latter for discharge of water, substantially as described.

18. A steam stilling apparatus for separating hydrocarbons with boiling-points too low for burning oil from higher-boiling hydrocarbons, said apparatus consisting of a distilling vessel, an oil-supply pipe which opens into said vessel for delivering thereinto petroleum or hydrocarbon oil containing the low-boiling hydrocarbons first mentioned but composed mainly of higher-boiling products, a vapor-outlet which carries off the vapors from said column, vapor-cooling means for reducing the temperature of the vapors to such extent below the boiling-point of water that the hydrocarbons passing off are mainly of the low-boiling kind first mentioned, which means include provisions for allowing the condensate to return to said distilling vessel, open steam-pipes for supplying steam in such excess of what passes off with the low-boiling hydrocarbons that the chief part of said steam is condensed and so retained in said apparatus, which pipes deliver steam into the apparatus at such points that the steam passes through said distilling vessel, and a settling vessel which receives the water condensed in said apparatus from the free steam and the oil accompanying such water and which is provided with overflows from its top and bottom respectively, the former for discharge of oil, the latter for discharge of water, substantially as described.

19. A horizontal still having open steam-pipes delivering steam into the liquid-space of said still and also having dams which divide said liquid-space into pools while permitting the flow of liquid from pool to pool at both top and bottom of the pools, substantially as described.

20. A still provided with open steam-pipes which deliver free steam thereinto and also with overflows from the top and bottom respectively of its liquid-space, the former for discharge of oil, the latter for discharge of water, substantially as described.

21. A steam stilling apparatus composed of a still which is provided with open steam-pipes for delivering free steam thereinto, and a column which receives the vapors from said still and is provided internally with a succession of appliances for bringing the body of vapors rising in said column into repeated contact with descending liquid, said column having provisions for cooling the vapors below the boiling-point of water and for delivering condensate into said still, and said still having its open steam-pipes for delivering free steam in excess of what

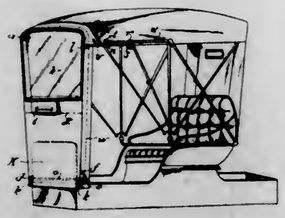
passes off in admixture with hydrocarbon vapors and being provided with overflows from the top and bottom respectively of its liquid-space, the former for discharge of oil, the latter for discharge of water, substantially as described.

22. A steam stilling apparatus composed of a still which is provided with open steam-pipes for delivering free steam thereinto, a column which receives the vapors from said still and is provided internally with a succession of appliances for bringing the body of vapors rising in said column into repeated contact with descending liquid, and a heat-exchanger, said column having provisions for cooling the vapors below the boiling-point of water and for delivering condensate into said still, said still having its open steam-pipes for delivering free steam in excess of what passes off in admixture with hydrocarbon vapors and being provided with overflows from the top and bottom respectively of its liquid-space, the former for discharge of oil, the latter for discharge of water, and said heat-exchanger receiving the liquid from one of said overflows and delivering heated oil therefrom into the distillatory part of said apparatus, substantially as described.

23. A steam stilling apparatus, composed of an elongated horizontal still provided with means for heating it uniformly to about the boiling-point of water and also with open steam-pipes which deliver steam at intervals into the liquid-space of said still, an air-cooled column which delivers its condensate into said still at one end, the outlet for the residual liquid being at the other end, and means which include a cooling-jacket for further cooling the vapors from said air-cooled column, substantially as described.

REISSUES.

12,613. ADJUSTABLE STORM-FRONT FOR VEHICLES. GEORGE W. SCOTT, Troy, Ohio. Filed Dec. 3, 1906. Serial No. 346,193. Original No. 832,751, dated Oct. 9, 1906.



Claim.—1. The combination, in a storm-front, of a frame, the lower portion of which consists of uprights of resilient material, adjustable means for connecting said uprights together whereby they may be made to approach or separate from each other to form an adjustable clamping device, substantially as specified.

2. In a storm-front, a frame, having an upper fixed or rigid portion and a lower resilient or adjustable portion, and a connecting-rod connecting the lower end of the frame to form a clamp, said connecting-rod being adjustable laterally as well as longitudinally to adjust said frame vertically and laterally, as described, and means for securing the top of said frame to the vehicle, substantially as specified.

3. In a storm-front consisting of a frame divided into two parts by a bar or brace, the lower part having means for attaching it to the vehicle-body, and hinged side arms secured to the upper part of said frame, each of said arms having clamping means to engage the vehicle-top prop or brace and to form a lever in connection therewith to secure said front firmly in position, substantially as specified.

4. The combination in an improved storm-front, of a frame, the upper portion of which is provided with a window, and the lower part with a covering of rubber drill or like material; the connecting-rod adapted to engage and adjust said frame vertically and laterally; and a side arm hinged to each of the props at top of said frame and adapted to adjustably engage the top rail of the vehicle-top; all substantially as described.

5. In an improved storm-front, the combination with the bow and uprights—constructed of resilient material; the brace for holding said uprights apart; the connecting-rod adapted to adjustably bind said uprights to the body of the vehicle by means of the eyes or perforations in said uprights; and the side arms hinged to said bow, and adapted to engage the top rail of the vehicle-top; all substantially as and for the purpose described.

6. The combination in a storm-front and wind-shield, for buggies, carriages and automobiles; of the wooden bow formed with resilient ends or uprights; the brace or stay connected to said uprights; the window of celluloid or transparent material; the connecting-rod adapted to bind said uprights to the body of the vehicle so as to support said front in an adjustable position vertically and laterally; the side arms hinged to said bow and adapted to act as levers by bearing up against the props on the vehicle-top, and adjustably engage the top rail of said vehicle-top; all substantially in the manner and for the purposes described.

DESIGNS.

38,465. RING. FRANK C. WIDMANN, Cleveland, Ohio. Filed Aug. 1, 1906. Serial No. 328,804. Term of patent 14 years.



Fig. 1



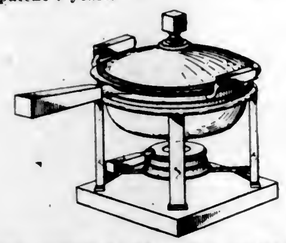
Fig. 2



Fig. 3

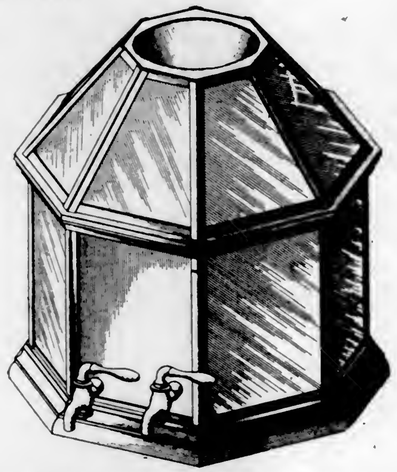
Claim.—The ornamental design for a ring, as shown.

38,466. CHAFING-DISH, STAND, AND LAMP. EDWARD A. GUTERMANN, Meriden, Conn., assignor to Manning, Bowman & Company, Meriden, Conn., a Corporation of Connecticut. Filed Oct. 26, 1906. Serial No. 340,777. Term of patent 7 years.



Claim.—The ornamental design for a chafing-dish, stand, and lamp, as shown.

38,467. WATER-COOLER. JAMES T. COLE, Chicago, Ill. Filed Jan. 21, 1907. Serial No. 353,400. Term of patent 14 years.



Claim.—The ornamental design for a water-cooler, as shown.

38,468. BOX. WILLIAM JONES, Lurgan, Ireland. Filed Dec. 31, 1906. Serial No. 350,308. Term of patent 3½ years.



Claim.—The ornamental design for a box, as shown.

TRADE-MARKS

PUBLISHED FEBRUARY 26, 1907.

The following trade-marks have been adjudged entitled to registration under the act of February 20, 1905, and are published in compliance with section 6 of said act. Said section provides:

"Any person who believes he would be damaged by the registration of a mark may oppose the same by filing notice of opposition, stating the grounds therefor, in the Patent Office within thirty days after the publication of the mark sought to be registered, which said notice of opposition shall be verified by the person filing the same before one of the officers mentioned in section two of this act. If no notice of opposition is filed within said time the Commissioner shall issue a certificate of registration therefor, as hereinafter provided for."

Marks which are stated to have been "Used ten years" are registrable under the last proviso of section 5 of said act, which is as follows:

"And provided further, That nothing herein shall prevent the registration of any mark used by the applicant or his predecessors, or by those from whom title to the mark is derived, in commerce with foreign nations or among the several States, or with Indian tribes, which was in actual and exclusive use as a trade-mark of the applicant or his predecessors from whom he derived title for ten years next preceding the passage of this act."

Section 14 of said act provides for the following fee:

"On filing notice of opposition to the registration of a trade-mark, ten dollars."

Ser. No. 3,125. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) GUET & SENAC, New Orleans, La. Filed Apr. 26, 1905.



Particular description of goods.—Whisky.

Ser. No. 3,825. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) GRAND UNION TEA CO., Brooklyn, N. Y. Filed May 1, 1905.

ACME



Particular description of goods.—Baking-Powder.

Ser. No. 4,034. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) FERDINAND WESTHEIMER & SONS, St. Joseph, Mo. Filed May 2, 1905.

TOP



Particular description of goods.—Whisky.

Ser. No. 5,299. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) STRAUS, GUNST & CO., Richmond, Va. Filed May 12, 1905.

OLD HENRY



Particular description of goods.—Whisky.

Ser. No. 7,961. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) ADVANCE FENCE CO., Peoria, Ill. Filed June 12, 1905.

ADVANCE

Particular description of goods.—Wire Fence.

Ser. No. 8,183. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DR. HESS & CLARK, Ashland, Ohio. Filed June 15, 1905. Used ten years.

HESS

Particular description of goods.—Medicated Stock Foods.

Ser. No. 8,887. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) A. BRESLAUER COMPANY, Milwaukee, Wis. Filed June 24, 1905.

KO-KO



Particular description of goods.—Bitters.

Ser. No. 10,463. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DR. HESS & CLARK, Ashland, Ohio. Filed July 17, 1905.



Particular description of goods.—Medicated Stock Foods.

Ser. No. 10,917. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) MARK CROSS COMPANY, New York, N. Y. Filed July 27, 1905. Used ten years.

CROSS

Particular description of goods.—The Following Articles Composed Wholly or in Part of Leather, to wit: Harness, Saddles, and Horse Equipment Generally, Traveling-Cases, Trunks, Satchels, Pocket-Books, Card-Cases, Cigar-Cases, Purses, Portfolios, Desk Sets, Telephone-Pads, Leggings, and Garments.

Ser. No. 13,287. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) W. T. HANSON CO., Schenectady, N. Y. Filed Oct. 4, 1905. Used ten years.

DR. WILLIAMS' PINK PILLS FOR PALE PEOPLE

Particular description of goods.—Pills for Diseases of the Blood and Nerves.

Ser. No. 13,353. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) W. T. HANSON CO., Schenectady, N. Y. Filed Oct. 4, 1905. Used ten years.

DR. WILLIAMS'

PINK

PILLS

Particular description of goods.—Pills for Diseases of the Blood and Nerves.

Ser. No. 13,355. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) W. T. HANSON CO., Schenectady, N. Y. Filed Oct. 4, 1905. Used ten years.

PINK PILLS
FOR
PALE PEOPLE

Particular description of goods.—Pills for Diseases of the Blood and Nerves.

Ser. No. 14,136. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) AUGUSTUS L. BROWN, Boston, Mass. Filed Oct. 31, 1905.

ANTI-CORN

Particular description of goods.—Stockings.

Ser. No. 14,356. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) JAY C. WEMPLE CO., New York, N. Y. Filed Nov. 6, 1905. Used ten years.

Wemple

Particular description of goods.—Window-Shade Cloths.

Ser. No. 14,514. (CLASS 66. OBJECTS OF ART AND ORNAMENT.) DIXIE PORTRAIT & FRAME CO., Tampa, Fla. Filed Nov. 11, 1905.

Dixie

Particular description of goods.—Portraits in Oil, Water-Colors, Pastel, and Crayon, and Photographs.

Ser. No. 17,292. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FRITZ HARNISCH, Berlin, Germany. Filed Feb. 23, 1906.



Particular description of goods.—Cream for Polishing and Dyeing Finger-Nails, Paste for Cleaning the Finger-Nail Roots, Balm for Stopping Up the Nail-Pores, and Nail-Powder.

Ser. No. 17,411. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) THE UNITED STATES DENTAL CHEMICAL CO., Rocky Mount, Va. Filed Feb. 28, 1906.



Particular description of goods.—An Alkaline Deodorizing and Non-Irritating Germicidal Agent.

Ser. No. 18,176. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) CALLARD STEWART AND WATT LIMITED, London, England. Filed Mar. 23, 1906.

CASOID

Particular description of goods.—A Combination of Wheat Albuminoids and Milk Albuminoids, and Known as Albuminoid Flour.

Ser. No. 18,994. (CLASS 61. JEWELRY, AND SOLID AND PLATED PRECIOUS-METAL WARE.) RAYMOND M. HORTON, Attleboro, Mass. Filed Apr. 21, 1906.



Particular description of goods.—Scarf-Pins, Collar-Pins, Bib-Pins, Brooches, Lockets, Bracelets, Crosses, and Pendants.

Ser. No. 20,279. (CLASS 68. PUBLICATIONS.) REVIEW PUBLISHING COMPANY, New York, N. Y. Filed June 15, 1906.

THE CARPET TRADE REVIEW

Particular description of goods.—A Semimonthly Periodical.

Ser. No. 20,280. (CLASS 68. PUBLICATIONS.) REVIEW PUBLISHING COMPANY, New York, N. Y. Filed June 15, 1906.

The Upholstery Trade Review

Particular description of goods.—A Semimonthly Periodical.

Ser. No. 20,708. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DE JEAN PERFUMERY COMPANY, Chicago, Ill. Filed July 2, 1906.

Cream Charlotte

Particular description of goods.—Facial or Complexion Pastes or Lotions.

Ser. No. 20,742. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) NATIONAL CARBON COMPANY, Cleveland, Ohio. Filed July 5, 1906.

RESERVE

Particular description of goods.—Dry Batteries.

Ser. No. 20,753. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) H. J. HEINZ COMPANY, Allegheny, Pa. Filed July 6, 1906. Used ten years.

HEINZ

Particular description of goods.—Pickles, Chow-Chow, Sauer-Kraut, Pickled Onions, Vinegar, Baked Beans, Soup, Catchup, Chutney, Sauces, Relishes, Mustard, Olives, Olive-Oil, Horse-Radish, Fruit-Preserves, Fruit-Butters, Fruit-Jellies, Euchered Figs, Cranberry-Sauce, and Mince-Meat.

Ser. No. 20,793. (CLASS 71. TOBACCO PRODUCTS.) ROBT. HARRIS & BRO., Reidsville, N. C. Filed July 9, 1906.

BLUE RIBBON



The bow is colored blue.

Particular description of goods.—Smoking-Tobacco and Plug and Twist Chewing-Tobacco.

Ser. No. 21,086. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) PHILIP H. BREITWIESER, Chattanooga, Tenn. Filed July 23, 1906.



Particular description of goods.—A Medicinal Preparation in Liquid Form for the Cure of Coughs, Colds, Sore Throats, and the Like.

Ser. No. 21,413. (CLASS 9. EXPLOSIVES.) E. I. DU PONT COMPANY, Wilmington, Del. Filed Aug. 9, 1906. Used ten years.

PACIFIC MILLS

Particular description of goods.—Explosive Powder.

Ser. No. 21,414. (CLASS 9. EXPLOSIVES.) E. I. DU PONT COMPANY, Wilmington, Del. Filed Aug. 9, 1906. Used ten years.

V.G.P.

Particular description of goods.—Gunpowder.

Ser. No. 21,466. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) ANGELO FAZZIO, New Orleans, La. Filed Aug. 10, 1906.

HORSE SHOE

PICKLE WORKS

Particular description of goods.—Pickles, Mustard, Catsup, Chow-Chow, and Pepper.

Ser. No. 21,893. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) AXEL BAGGE & Co., Gothemburg, Sweden. Filed Sept. 4, 1906.



Particular description of goods.—Arrac Punch.

Ser. No. 21,906. (CLASS 51. MALT LIQUORS.) DICK AND BROTHERS QUINCY BREWERY CO., Quincy, Ill. Filed Sept. 4, 1906.



The scroll is red.
Particular description of goods.—Beer.

Ser. No. 22,162. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) A. BURT & Co., Des Moines, Iowa. Filed Sept. 17, 1906.

BANNER

Particular description of goods.—Prepared Stock Foods.

Ser. No. 22,213. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) INDIAN HEAD MILLS OF ALABAMA, Walker, Ala. Filed Sept. 21, 1906.

MERCURY

Particular description of goods.—Cotton Piece Goods and Cotton Blankets.

Ser. No. 22,355. (CLASS 51. MALT LIQUORS.) MUNCIE BREWING CO., Muncie, Ind. Filed Sept. 27, 1906.



Particular description of goods.—Beer.

Ser. No. 22,545. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) W. S. QUINBY COMPANY, Boston, Mass. Filed Oct. 5, 1906.



Particular description of goods.—Coffee.

Ser. No. 22,711. (CLASS 40. FANCY GOODS, FURNISHINGS, AND NOTIONS.) THE WOLVERINE SUSPENDER CO., Kalamazoo, Mich. Filed Oct. 15, 1906.

Wolverine

Particular description of goods.—Combination Hose-Supporters and Suspenders.

Ser. No. 22,827. (CLASS 51. MALT LIQUORS.) FORTUNE BROS. BREWING COMPANY, Chicago, Ill. Filed Oct. 22, 1906.

Fortune
MALT TONIC

Particular description of goods.—Malt Extract.

Ser. No. 22,984. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE GRAF-MORSBACH COMPANY, Cincinnati, Ohio. Filed Oct. 29, 1906.

GEMCO

Particular description of goods.—Saddles, Harness, Bridles, and Horse-Collars.

Ser. No. 23,129. (CLASS 12. MASONRY MATERIALS.) APFEL & EARNEST, Seattle, Wash. Filed Nov. 6, 1906.

RAECOLITH

Particular description of goods.—A Composition Paving and Roofing Material.

Ser. No. 23,355. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) SOCIETE ANONYME DE LA GRANDE DISTILLERIE E. CUSENIER FILS AINE ET COMPAGNIE, Paris, Ornans, Charenton, and Marseilles, France; Mulhouse, Germany, and Brussels, Belgium. Filed Nov. 10, 1906.





Particular description of goods.—A Cordial.

Ser. No. 23,447. (CLASS 69. SMOKERS' ARTICLES NOT INCLUDED IN CLASS 71.) REISS BROS. & Co., Chicago, Ill. Filed Nov. 19, 1906.



Particular description of goods.—Pipes.

Ser. No. 23,448. (CLASS 69. SMOKERS' ARTICLES NOT INCLUDED IN CLASS 71.) REISS BROS. & Co., Chicago, Ill. Filed Nov. 19, 1906.

Puritan

Particular description of goods.—Pipes.

Ser. No. 23,696. (CLASS 32. FURNITURE AND UPHOLSTERY NOT OTHERWISE CLASSIFIED.) SANITARY STEEL COUCH CO., Elkhart, Ind. Filed Nov. 30, 1906.



Particular description of goods.—Beds and Couches and Bed-Springs.

Ser. No. 23,752. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) ANDRÉ, SCHAUB & PIOSO, Paris, France. Filed Dec. 4, 1906.

CRAYON BRILLEROSE

Particular description of goods.—A Preparation for Polishing Finger-Nails.

Ser. No. 23,831. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) VAROMA MEDICAL COMPANY, Chatham, N. J., and New York, N. Y. Filed Dec. 6, 1906.

Varoma

Particular description of goods.—A Medical Compound Used for the Cure of Lung and Throat Diseases.

Ser. No. 23,902. (CLASS 18. AGRICULTURAL AND DAIRY MACHINERY AND PARTS OF SUCH MACHINERY.) HENRY & ALLEN, Auburn, N. Y. Filed Dec. 10, 1906.



Particular description of goods.—Knife-Sections, Ledger or Guard Plates, Guards, Knife-Heads, and Knives for Mowers and Reapers.

Ser. No. 23,931. (CLASS 15. OILS AND GREASES NOT INCLUDED IN CLASSES 6, 16, AND 50.) THE CITIZENS' WHOLESALE SUPPLY CO., Columbus, Ohio. Filed Dec. 11, 1906.



Particular description of goods.—Lubricating Oils and Greases.

Ser. No. 23,944. (CLASS 12. MASONRY MATERIALS.) ROOFBESTOS MANUFACTURING CO., St. Louis, Mo. Filed Dec. 11, 1906.

ROOFBESTOS

Particular description of goods.—Ready-Prepared Felt Roofing.

Ser. No. 24,062. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) G. BAMBERGER & COMPANY, New York, N. Y. Filed Dec. 15, 1906.



Particular description of goods.—Infants' Slips, Children's Dresses, Children's Skirts, Children's Petticoats, and Children's Sacks, All Made of Woven Textile Fabrics.

Ser. No. 24,120. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) PETERSBURG LEATHER COMPANY, Petersburg, Va. Filed Dec. 18, 1906.



Particular description of goods.—Mat-Kid.

Ser. No. 24,123. (CLASS 47. CONFECTIONERY.) THE STERN & SAALBERG COMPANY, New York, N. Y. Filed Dec. 18, 1906.

Tootsies

Particular description of goods.—Pulling-Candies.

Ser. No. 24,175. (CLASS 6. CHEMICALS NOT OTHERWISE CLASSIFIED.) STAR TRADING COMPANY, Rochester, N. Y. Filed Dec. 20, 1906.

OKANA

Particular description of goods.—Germicide, Disinfectant, and Antiseptic Preparations.

Ser. No. 24,189. (CLASS 12. MASONRY MATERIALS.) COLLINS HARDWARE COMPANY, Lynn, Mass. Filed Dec. 21, 1906.

JAPROID

Particular description of goods.—Felt Roofing.

Ser. No. 24,190. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) R. E. DESMOND, St. Louis, Mo. Filed Dec. 21, 1906.

IREX

Particular description of goods.—Tooth and Talcum Powder.

Ser. No. 24,205. (CLASS 3. VEGETABLE.) MARDEN, ORTH & HASTINGS, Boston, Mass. Filed Dec. 21, 1906. Used ten years.



Particular description of goods.—Sumac, Leaf and Bark; Gambier-Gum, Hemlock-Bark; Quebracho, Wood and Bark; Myrobalan Beans; Chestnut-Oak, Bark and Wood, and Mangrove-Bark.

Ser. No. 24,240. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FRANK RIZZA, Homestead, Pa. Filed Dec. 22, 1906.

SKIDOO

Particular description of goods.—Hair-Tonics and Scalp Applications.

Ser. No. 24,264. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DAVID KANTOR, New York, N. Y. Filed Dec. 24, 1906.



Particular description of goods.—A Regulating-Tea, a Medical Compound Consisting of a Mixture of Herbs and Seeds, and Intended to be Used as a Remedy Against Constipation.

Ser. No. 24,299. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WILLIAM CADWALLADER SCHLEY, Pittsburg, Pa. Filed Dec. 27, 1906.



Particular description of goods.—Face-Cream.

Ser. No. 24,357. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) JOHNSON EDUCATOR FOOD CO., Boston, Mass. Filed Dec. 31, 1906.



Particular description of goods.—Crackers, Cereal Breakfast Foods, Wheat-Bran, Bran-Meal, Yellow Hominy, Rye-Meal, Oat-Flour, Golden Corn-Flour, Gluten-Flour, Buckwheat-Meal, Fine Wheat-Meal, Graham Flour, Barley-Flour, Barley-Meal, Breakfast-Cake Mixture, Brown-Bread Mixture, and Rice.

Ser. No. 24,362. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) PETER J. BERTUCCI, New Orleans, La. Filed Dec. 31, 1906.



Particular description of goods.—Cleaner and Polisher for Metal and Glass.

Ser. No. 24,396. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) BERNARD J. ROTHWELL, Boston, Mass. Filed Jan. 2, 1907.

The Cracker King

Particular description of goods.—Wheat-Flour.

Ser. No. 24,447. (CLASS 47. CONFECTIONERY.) MAZETTA MFG. CO., Chicago, Ill. Filed Jan. 4, 1907.



Particular description of goods.—Ice-Cream.

Ser. No. 24,484. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) THE DAYTON SPICE MILLS CO., Dayton, Ohio. Filed Jan. 7, 1907. Used ten years.

DUTCH JAVA AND SANTOS BLEND

Particular description of goods.—Coffee.

Ser. No. 24,492. (CLASS 18. AGRICULTURAL AND DAIRY MACHINERY AND PARTS OF SUCH MACHINERY.) HARTIG BECKER PLOW CO., Evansville, Ind. Filed Jan. 7, 1907.



Particular description of goods.—Plows, Harrows, and Cultivators.

Ser. No. 24,497. (CLASS 48. DAIRY PRODUCTS.) THE F. JELKE AND SON COMPANY, Cincinnati, Ohio. Filed Jan. 7, 1907. Used ten years.

Quality Unequaled



Quality Unequaled

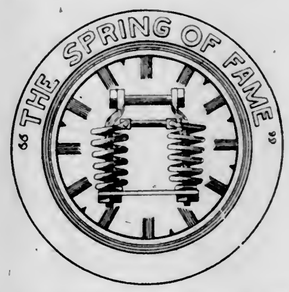
Particular description of goods.—Butter.

Ser. No. 24,534. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE PORCELA COMPANY, Pittsburg, Pa. Filed Jan. 9, 1907.

RADAX

Particular description of goods.—Shampoo Compounds and Hair-Tonics.

Ser. No. 24,542. (CLASS 19. BOATS AND ROAD-VEHICLES.) SUPPLEMENTARY SPIRAL SPRING COMPANY, St. Louis, Mo. Filed Jan. 9, 1907.



Particular description of goods.—Automobile, Carriage, and Wagon Springs.

Ser. No. 24,548. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DR. EBERT MEDICINE CO., Wheeling, W. Va. Filed Jan. 9, 1907.



Particular description of goods.—A Remedy for Stomach, Kidney, and Liver Diseases.

Ser. No. 24,554. (CLASS 4. ABRASIVE AND POLISHING MATERIALS NOT INCLUDED IN CLASSES 8 AND 16.) THE CUDAHY PACKING COMPANY, Chicago, Ill., and South Omaha, Nebr. Filed Jan. 10, 1907.

SEISMOTITE

Particular description of goods.—An Abrasive Cleansing, Polishing, and Scouring Preparation.

Ser. No. 24,555. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) DUFF & SHADE, Poland, Ohio. Filed Jan. 10, 1907.



Particular description of goods.—A Remedy for Asthma.

Ser. No. 24,574. (CLASS 16. PAINTS AND PAINTERS' MATERIALS.) NATIONAL LEAD COMPANY, Jersey City, N. J., and New York, N. Y. Filed Jan. 11, 1907.



Particular description of goods.—White Lead.

Ser. No. 24,577. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) SHIELDS, STONE & CO., New York, N. Y. Filed Jan. 11, 1907.

RADIOSILK

Particular description of goods.—Mercerized Woven Cotton Fabrics.

Ser. No. 24,592. (CLASS 9. EXPLOSIVES.) JÖNKÖPINGS OCH VULCANS TÄNDSTICKSFABRIKSAKTIEBOLAG, Jönköping, Sweden. Filed Jan. 12, 1907.

PLANET MATCHES

Particular description of goods.—Matches.

Ser. No. 24,628. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) FORT SMITH COMMISSION COMPANY, Fort Smith, Ark. Filed Jan. 14, 1907.



Particular description of goods.—Roasted Coffee.

Ser. No. 24,658. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) MOSS ROSE MANUFACTURING COMPANY, Philadelphia, Pa. Filed Jan. 15, 1907.



Particular description of goods.—Tapestry Chenille, Tapestry, and Velour.

Ser. No. 24,666. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) PEROXIDENT MANUFACTURING COMPANY, St. Louis, Mo. Filed Jan. 16, 1907.

Peroxident

Particular description of goods.—Tooth-Powder and Tooth-Paste.

Ser. No. 24,689. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) IMPERIAL BIT & SNAP CO., Racine, Wis. Filed Jan. 16, 1907. Used ten years.

IMPERIAL

Particular description of goods.—Metal Parts and Metal Attachments for Harness, Buckles, Hooks, Snap-Hooks, Harness-Hangers, Metal Spoke-Holders, and Whip-Sockets.

Ser. No. 24,694. (CLASS 50. FOODS NOT OTHERWISE CLASSIFIED.) SARAH BLAKE STONE, New Haven, Conn. Filed Jan. 16, 1907.



Particular description of goods.—Jellies.

Ser. No. 24,716. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) GEO. BORGFELDT & CO., New York, N. Y. Filed Jan. 17, 1907.



Particular description of goods.—Enameled Steelware for Culinary and Household Purposes.

Ser. No. 24,729. (CLASS 37. PAPER AND PAPER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE UNION BAG AND PAPER COMPANY, New York, N. Y. Filed Jan. 17, 1907.

RICHELIEU

Particular description of goods.—Paper Bags, Wrapping-Paper, and Paper-Boards.

Ser. No. 24,745. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) THE BAY VIEW WINE CO., Sandusky, Ohio. Filed Jan. 18, 1907.



Particular description of goods.—Bitters.

Ser. No. 24,748. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) CORNING AND COMPANY, Peoria, Ill. Filed Jan. 18, 1907.

LONDOCK

Particular description of goods.—Gin.

Ser. No. 24,756. (CLASS 52. PACKING-HOUSE PRODUCTS.) WILLIAM UNDERWOOD COMPANY, Boston, Mass. Filed Jan. 18, 1907.



Particular description of goods.—Deviled Ham.

Ser. No. 24,772. (CLASS 58. GAMES AND TOYS, AND SPORTING GOODS NOT OTHERWISE CLASSIFIED.) GEO. BORGFELDT & CO., New York, N. Y. Filed Jan. 19, 1907.

KIDLYNE

Particular description of goods.—Dolls.

Ser. No. 24,778. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) HERMAN TOSER CO., Milwaukee, Wis. Filed Jan. 19, 1907.

PELICAN

Particular description of goods.—Gin and Whisky.

Ser. No. 24,802. (CLASS 5. ADHESIVES.) ALFRED HALE RUBBER COMPANY, Boston, Mass. Filed Jan. 21, 1907. Used ten years.

BAY STATE

Particular description of goods.—Rubber Cement.

Ser. No. 24,823. (CLASS 7. CORDAGE NOT INCLUDED IN CLASS 13.) CLEVELAND MILL AND POWER COMPANY, Lawndale, N. C. Filed Jan. 22, 1907.

Royal

Particular description of goods.—Cotton Clothes-Lines.

Ser. No. 24,824. (CLASS 7. CORDAGE NOT INCLUDED IN CLASS 13.) CLEVELAND MILL AND POWER COMPANY, Lawndale, N. C. Filed Jan. 22, 1907. Used ten years.

WINDSOR

Particular description of goods.—Cotton Clothes-Lines.

Ser. No. 24,833. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) EMMA P. HUME, Washington, D. C., executrix of estate of Frank Hume, deceased. Filed Jan. 22, 1907.



Particular description of goods.—Whisky.

Ser. No. 24,835. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) LOCKE SHOE COMPANY, Wheeling, W. Va. Filed Jan. 22, 1907.



Particular description of goods.—Leather Boots and Shoes.

Ser. No. 24,850. (CLASS 41. KNITTED, NETTED, AND LACE GOODS.) WRIGHT & DITSON, Jersey City, N. J., and Boston, Mass. Filed Jan. 23, 1907.



Particular description of goods.—Base-Ball, Foot-Ball, and Bicycle Stockings, Jerseys, Sweaters, Knit Shirts, Knit Tights, Knit Bathing Suits and Trunks.

Ser. No. 24,859. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) WILLIAM READ & SONS, Boston, Mass. Filed Jan. 23, 1907.



Particular description of goods.—Leather Boots and Shoes.

Ser. No. 24,880. (CLASS 72. MERCHANDISE NOT OTHERWISE CLASSIFIED.) ANDREW P. WATT, Baltimore, Md. Filed Jan. 24, 1907.



Particular description of goods.—Cork-Pullers of That Type Wherein a Braid Cord or Similar Device is Wound Around the Stopper and Forms a Permanent Part Thereof to be Used in Extracting the Latter.

Ser. No. 24,883. (CLASS 42. TEXTILES NOT OTHERWISE CLASSIFIED.) NASHUA MANUFACTURING COMPANY, Nashua, N. H. Filed Jan. 24, 1907.



Particular description of goods.—Cotton Piece Goods and Cotton Blankets.

Ser. No. 24,893. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) PEPSOL CHEMICAL COMPANY, Nashville, Tenn. Filed Jan. 25, 1907. Used ten years.



Particular description of goods.—A Remedy for Coughs, Colds, Bronchitis, Hoarseness, and other Troubles Arising from an Inflamed or Congested Condition of the Throat, Lungs, and Air-Passages.

Ser. No. 24,895. (CLASS 26. MACHINERY AND PARTS OF MACHINERY NOT OTHERWISE CLASSIFIED.) THE BUDA FOUNDRY & MANUFACTURING COMPANY, Chicago, Ill. Filed Jan. 25, 1907. Used ten years.

PAULUS

Particular description of goods.—Drilling-Machines and Boring Apparatus and Drills and Parts Thereof.

Ser. No. 24,903. (CLASS 39. CLOTHING NOT OTHERWISE CLASSIFIED.) THE ROYAL SKIRT CO., New York, N. Y. Filed Jan. 25, 1907.

Royal

Particular description of goods.—Ladies' and Misses' Dress-Skirts and Walking Overskirts.

Ser. No. 24,904. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) THE SACHS SHOE MFG. CO., Cincinnati, Ohio. Filed Jan. 25, 1907.



Particular description of goods.—Women's, Misses', and Children's Leather High and Low Shoes.

Ser. No. 24,905. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) FLORA ELY SCHMAUSER, Chillicothe, Ohio. Filed Jan. 25, 1907.

RED CAPS

Particular description of goods.—A Cold Cure.

Ser. No. 24,931. (CLASS 13. METAL MANUFACTURES NOT OTHERWISE CLASSIFIED.) TAUNTON RIVET COMPANY, Taunton, Mass. Filed Jan. 26, 1907.

MER-RIVETS

Particular description of goods.—Rivets.

Ser. No. 24,932. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) J. L. WARD MEDICINE COMPANY, Big Springs, Tex. Filed Jan. 26, 1907.

HEALTH
STRENGTH

Particular description of goods.—Kidney-Pills, Blood and Liver Pills, Iron-Tonic Pills, Laxative-Quinin and Cold Pills, and Headache-Tablets.

Ser. No. 24,942. (CLASS 47. CONFECTIONERY.) MANUFACTURING CO. OF AMERICA, Philadelphia, Pa. Filed Jan. 28, 1907.

TWILIGHT

Particular description of goods.—Candy and Chewing-Gum.

Ser. No. 24,944. (CLASS 47. CONFECTIONERY.) MANUFACTURING CO. OF AMERICA, Philadelphia, Pa. Filed Jan. 28, 1907.



Particular description of goods.—Candy and Chewing-Gum.

Ser. No. 24,964. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) NEW ORLEANS IMPORT CO. LT'D., New Orleans, La. Filed Jan. 28, 1907.

O·K

Particular description of goods.—Tea.

Ser. No. 24,976. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) DIXON BARTLETT CO., Baltimore, Md. Filed Jan. 29, 1907.



Particular description of goods.—Ladies' and Misses' Leather Shoes and Slippers.

Ser. No. 24,977. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) DIXON BARTLETT CO., Baltimore, Md. Filed Jan. 29, 1907.



Particular description of goods.—Men's, Boys', Youths', and Little Gents', Women's, Misses' and Children's Leather Boots and Shoes with High, Medium, and Low Tops.

Ser. No. 24,986. (CLASS 19. BOATS AND ROAD-VEHICLES.) GREAT WESTERN MANUFACTURING COMPANY, Laporte, Ind. Filed Jan. 29, 1907.



Particular description of goods.—Bicycle Crank-Hangers.

Ser. No. 24,989. (CLASS 49. DISTILLED ALCOHOLIC LIQUORS.) CHARLES KRAEMER, Washington, D. C. Filed Jan. 29, 1907.

FINEZA

Particular description of goods.—Whisky.

Ser. No. 24,992. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) NICHOLAS LOPARD, New York, N. Y. Filed Jan. 29, 1907.

QUEEN LOUISE



Particular description of goods.—Egg-Shampoo, Cold-Cream, and Face-Massage Creams.

Ser. No. 24,993. (CLASS 47. CONFECTIONERY.) J. G. MCDONALD CANDY COMPANY, Salt Lake City, Utah. Filed Jan. 29, 1907.



Particular description of goods.—Chocolates.

Ser. No. 24,996. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WM. B. RIKER & SON COMPANY, New York, N. Y. Filed Jan. 29, 1907.

CHARMONA

Particular description of goods.—Perfumes.

Ser. No. 24,997. (CLASS 52. PACKING-HOUSE PRODUCTS.) THE JOHN C. ROTH PACKING CO., Cincinnati, Ohio. Filed Jan. 29, 1907.

DOVE BRAND



Particular description of goods.—Lard.

Ser. No. 24,999. (CLASS 45. BEVERAGES, NON-ALCOHOLIC.) P. SETZLER & SONS, Kansas City, Mo. Filed Jan. 29, 1907.

SILVER ROCK

Particular description of goods.—Drinking-Water, Distilled Water, Ginger-Ale, Mineral Water, Lithia-Water, and Carbonic Water.

Ser. No. 25,002. (CLASS 67. PHARMACEUTICAL PREPARATIONS, PLASTERS, AND PROPRIETARY AND VETERINARY MEDICINES.) WILLIAM R. WARNER & CO., Philadelphia, Pa. Filed Jan. 29, 1907. Used ten years.

PANCREOPEPSINE

Particular description of goods.—Preparations for the Cure of Indigestion, Dyspepsia, Sick Stomach, and Like or Allied Ailments.

Ser. No. 25,019. (CLASS 52. PACKING-HOUSE PRODUCTS.) MOSBY & CARDOZO, Richmond, Va. Filed Jan. 30, 1907.

PEANUT

Particular description of goods.—Hams and Bacon.

Ser. No. 25,021. (CLASS 21. ELECTRICAL APPARATUS, MACHINES, AND SUPPLIES.) SWEETEN-CROSSAN ELECTRIC COMPANY, Philadelphia, Pa. Filed Jan. 30, 1907.

VICTOR

Particular description of goods.—Incandescent Electric Lamps.

Ser. No. 25,030. (CLASS 46. COFFEE, TEA, AND SUBSTITUTES.) B. FISCHER & CO., New York, N. Y. Filed Jan. 31, 1907.

HOTEL ASTOR

Particular description of goods.—Coffee.

Ser. No. 25,031. (CLASS 44. BAKERY PRODUCTS, CEREAL FOODS, AND YEAST.) HUEGELY MILLING COMPANY, Nashville, Ill. Filed Jan. 31, 1907.

IRIS

Particular description of goods.—Wheat-Flour.

Ser. No. 25,048. (CLASS 36. LEATHER AND LEATHER MANUFACTURES NOT OTHERWISE CLASSIFIED.) CHRISTIAN EUGENE LAPPE, Allegheny, Pa. Filed Feb. 1, 1907.

LAPPE'S LAPEER

Particular description of goods.—Shoe-Leather.

Ser. No. 25,112. (CLASS 9. EXPLOSIVES.) COAST MANUFACTURING & SUPPLY CO., Berkeley, Cal. Filed Feb. 4, 1907. Used ten years.

"WESTERN"

Particular description of goods.—Fuses.

TRADE-MARKS

REGISTERED FEBRUARY 26, 1907.

60,853. DRIED BREWER'S GRAIN. ATLANTIC EXPORT COMPANY, New York, N. Y.
Filed November 24, 1906. Serial No. 23,570. PUBLISHED JANUARY 1, 1907.

60,854. DRIED BREWER'S GRAIN. ATLANTIC EXPORT COMPANY, New York, N. Y.
Filed November 28, 1906. Serial No. 23,640. PUBLISHED JANUARY 1, 1907.

60,855. WHEAT-FLOUR. FRANCIS COBB & Co., Rockland, Me.
Filed June 25, 1906. Serial No. 20,565. PUBLISHED JANUARY 1, 1907.

60,856. FLOUR MADE FROM BANANAS. RAMON CRUSELLAS, Havana, Cuba.
Filed July 17, 1905. Serial No. 10,422. PUBLISHED JANUARY 1, 1907.

60,857. COFFEE. DADABHOY & Co., New York, N. Y.
Filed March 14, 1906. Serial No. 17,805. PUBLISHED JANUARY 1, 1907.

60,858. CANDIES, INCLUDING CRYSTALLIZED GINGER. R. U. DELAPENHA & Co., New York, N. Y.
Filed November 26, 1906. Serial No. 23,589. PUBLISHED JANUARY 1, 1907.

60,859. BUTTER. HERBERT M. DE WITT, Denver, Colo., assignor to Franktown Creamery, Denver, Colo.
Filed November 27, 1905. Serial No. 15,026. PUBLISHED JANUARY 1, 1907.

60,860. PICKLES AND VEGETABLE AND MEAT SAUCES. E. LAZENBY & SON, LIMITED, London, England.
Filed June 5, 1905. Serial No. 7,496. PUBLISHED JANUARY 1, 1907.

60,861. PRESERVED AND CANNED FRUITS AND VEGETABLES. GORDON & DILWORTH, New York, N. Y.
Filed October 12, 1906. Serial No. 22,663. PUBLISHED JANUARY 1, 1907.

60,862. WITHDRAWN.

60,863. FRESH MEATS. NEW YORK BUTCHERS DRESSED MEAT COMPANY, New York, N. Y.
Filed June 21, 1906. Serial No. 20,471. PUBLISHED JANUARY 1, 1907.

60,864. SMOKED MEATS. JOSEPH J. PATER, Hamilton, Ohio.
Filed November 23, 1906. Serial No. 23,560. PUBLISHED JANUARY 1, 1907.

60,865. COTTON-SEED OILS. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La.
Filed July 27, 1905. Serial No. 10,896. PUBLISHED JANUARY 1, 1907.

60,866. COTTON-SEED OILS. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La.
Filed July 27, 1905. Serial No. 10,897. PUBLISHED JANUARY 1, 1907.

60,867. COTTON-SEED OILS. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La.
Filed July 27 1905. Serial No. 10,902. PUBLISHED JANUARY 1, 1907.

60,868. COFFEE. SPRAGUE, WARNER & COMPANY, Chicago, Ill.
Filed November 15, 1906. Serial No. 23,387. PUBLISHED JANUARY 1, 1907.

60,869. TEAS. W. H. MONTANYE & Co., New York, N. Y.
Filed October 18, 1906. Serial No. 22,758. PUBLISHED NOVEMBER 20, 1906.

60,870. BUTTER, MILK, AND CHEESE. W. S. MOORE & Co., Chicago, Ill.
Filed December 6, 1906. Serial No. 23,806. PUBLISHED JANUARY 1, 1907.

60,871. CERTAIN HATS AND CAPS. ROSENTHAL-SLOAN MILLINERY CO., St. Louis, Mo.
Filed November 5, 1906. Serial No. 23,121. PUBLISHED JANUARY 1, 1907.

60,872. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,205. PUBLISHED JANUARY 1, 1907.

60,873. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,206. PUBLISHED JANUARY 1, 1907.

60,874. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,207. PUBLISHED JANUARY 1, 1907.

60,875. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,208. PUBLISHED JANUARY 1, 1907.

60,876. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,209. PUBLISHED JANUARY 1, 1907.

60,877. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,211. PUBLISHED JANUARY 1, 1907.

60,878. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,212. PUBLISHED JANUARY 1, 1907.

60,879. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,214. PUBLISHED JANUARY 1, 1907.

60,880. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,215. PUBLISHED JANUARY 1, 1907.

60,881. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,217. PUBLISHED JANUARY 1, 1907.

60,882. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,220. PUBLISHED JANUARY 1, 1907.

60,883. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,221. PUBLISHED JANUARY 1, 1907.

60,884. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10 1906. Serial No. 23,223. PUBLISHED JANUARY 1, 1907.

60,885. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,224. PUBLISHED JANUARY 1, 1907.

60,886. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,225. PUBLISHED JANUARY 1, 1907.

60,887. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,226. PUBLISHED JANUARY 1, 1907.

60,888. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,227. PUBLISHED JANUARY 1, 1907.

60,889. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,228. PUBLISHED JANUARY 1, 1907.

60,890. LEATHER AND SHOE BLACKINGS, PASTE, POLISH, AND VARNISH. S. M. BIXBY & Co., New York, N. Y.
Filed November 10, 1906. Serial No. 23,231. PUBLISHED JANUARY 1, 1907.

60,891. CARD GAME. SAMUEL ROY BEAL, Adrian, Mich.
Filed November 24, 1906. Serial No. 23,571. PUBLISHED JANUARY 1, 1907.

60,892. HARD POLISHING-SOAP IN CAKE FORM. BORSUM BROS., New York, N. Y.
Filed December 3, 1906. Serial No. 23,717. PUBLISHED JANUARY 1, 1907.

60,893. HARD POLISHING-SOAP IN CAKE FORM. BORSUM BROS., New York, N. Y.
Filed December 3, 1906. Serial No. 23,718. PUBLISHED JANUARY 1, 1907.

60,894. OILS AND GREASES FOR PRESERVING METALS AND FOR LUBRICATING PURPOSES. HENRI CHUDEAU, Malakoff, France.
Filed November 21, 1906. Serial No. 23,511. PUBLISHED JANUARY 1, 1907.

60,895. GINGER-ALE, SODA-WATER, AND AERATED SARSAPARILLA. COCHRAN & Co., Belfast, Ireland.
Filed September 4, 1906. Serial No. 21,894. PUBLISHED JANUARY 1, 1907.

60,896. ROOFING AND BUILDING SLATE. GENUINE BANGOR SLATE CO. INC., Easton, Pa.
Filed December 3, 1906. Serial No. 23,733. PUBLISHED JANUARY 1, 1907.

60,897. SOAP. THE H. B. CLAFLIN COMPANY, New York, N. Y.
Filed November 20, 1906. Serial No. 23,491. PUBLISHED JANUARY 1, 1907.

60,898. CERTAIN WATERPROOF GARMENTS. H. M. SAWYER & SON, Cambridge, Mass.
Filed May 31, 1905. Serial No. 7,098. PUBLISHED JANUARY 1, 1907.

60,899. CERTAIN WATERPROOF GARMENTS. H. M. SAWYER & SON, Cambridge, Mass.
Filed May 31, 1905. Serial No. 7,099. PUBLISHED JANUARY 1, 1907.

60,900. CERTAIN WATERPROOF GARMENTS. H. M. SAWYER & SON, Cambridge, Mass.
Filed May 31, 1905. Serial No. 7,100. PUBLISHED JANUARY 1, 1907.

60,901. SMOKING AND CHEWING TOBACCO. THE J. F. ZAHM TOBACCO COMPANY, Toledo, Ohio.
Filed February 13, 1906. Serial No. 17,055. PUBLISHED JULY 31, 1906.

60,902. CHAMPAGNES. LANSON PÈRE & FILS, Rheims, France.
Filed August 16, 1906. Serial No. 21,597. PUBLISHED JANUARY 1, 1907.

60,903. BOOTS AND SHOES MADE IN WHOLE OR IN PART OF LEATHER. A. E. LITTLE & COMPANY, Lynn, Mass.
Filed November 20, 1906. Serial No. 23,496. PUBLISHED JANUARY 1, 1907.

60,904. FERTILIZERS. NEW ORLEANS ACID AND FERTILIZER COMPANY, Union township, N. J.
Filed November 19, 1906. Serial No. 23,477. PUBLISHED JANUARY 1, 1907.

60,905. FERTILIZERS. NEW ORLEANS ACID AND FERTILIZER COMPANY, Union township, N. J.
Filed November 19, 1906. Serial No. 23,478. PUBLISHED JANUARY 1, 1907.

60,906. FERTILIZERS. NEW ORLEANS ACID AND FERTILIZER COMPANY, Union township, N. J.
Filed November 19, 1906. Serial No. 23,479. PUBLISHED JANUARY 1, 1907.

60,907. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y.
Filed November 30, 1906. Serial No. 23,670. PUBLISHED JANUARY 1, 1907.

60,908. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y.
Filed November 30, 1906. Serial No. 23,671. PUBLISHED JANUARY 1, 1907.

60,909. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y.
Filed November 30, 1906. Serial No. 23,672. PUBLISHED JANUARY 1, 1907.

60,910. PLAYING-CARDS. THE NEW YORK CONSOLIDATED CARD COMPANY, New York, N. Y.
Filed November 30, 1906. Serial No. 23,673. PUBLISHED JANUARY 1, 1907.

60,911. NON-ALCOHOLIC TONIC BEVERAGE. COLUMBUS L. NORTON, Statesville, N. C.
Filed February 17, 1906. Serial No. 17,149. PUBLISHED JANUARY 1, 1907.

60,912. RHINE WINES. P. J. VALCKENBERG, LIMITED, Worms, Germany.
Filed November 20, 1906. Serial No. 23,499. PUBLISHED JANUARY 1, 1907.

60,913. GINGER-ALE. RAINBOW ALE COMPANY, Atlanta, Ga.
Filed November 21, 1906. Serial No. 23,518. PUBLISHED JANUARY 1, 1907.

60,914. WRITING-PAPER, BOND-PAPER, AND LEDGER-PAPER. UNION CARD & PAPER CO., New York, N. Y.
Filed October 24, 1906. Serial No. 22,873. PUBLISHED JANUARY 1, 1907.

60,915. LEATHER BOOTS AND SHOES. WILLIAMS HOYT & CO., Rochester, N. Y.
Filed November 8, 1906. Serial No. 23,173. PUBLISHED JANUARY 1, 1907.

60,916. COAL. BERWIND WHITE COAL MINING COMPANY Philadelphia, Pa.
Filed December 3, 1906. Serial No. 23,714. PUBLISHED JANUARY 1, 1907.

60,917. FRUIT JUICES. THOMAS J. CLEMENT, Atlantic City, N. J.
Filed December 3, 1906. Serial No. 23,730. PUBLISHED JANUARY 1, 1907.

60,918. HIGH EXPLOSIVES. THE EASTERN DYNAMITE COMPANY, Kenvil, N. J.
Filed July 23, 1906. Serial No. 21,080. PUBLISHED JANUARY 1, 1907.

60,919. MALT EXTRACT. THE EBLING BREWING CO., New York, N. Y.
Filed November 30, 1906. Serial No. 23,676. PUBLISHED JANUARY 1, 1907.

60,920. COOKING AND HEATING STOVES. GRAY & DUDLEY HARDWARE CO., Nashville, Tenn.
Filed November 30, 1906. Serial No. 23,684. PUBLISHED JANUARY 1, 1907.

60,921. MODELING-PASTE. WM. HARBUTT, Bath, England.
Filed August 14, 1906. Serial No. 21,538. PUBLISHED JANUARY 1, 1907.

60,922. **WITHDRAWN.**

60,923. CERTAIN LEATHER MANUFACTURES. E. F. HOUGHTON & Co., Philadelphia, Pa.
Filed December 4, 1906. Serial No. 23,755. PUBLISHED JANUARY 1, 1907.

60,924. RUBBER ROOFING. HUTTIG MFG. CO., Muscatine, Iowa.
Filed December 4, 1906. Serial No. 23,756. PUBLISHED JANUARY 1, 1907.

60,925. SHEET-METAL AND MECHANICAL TOYS. ERNST PAUL LEHMANN, Brandenburg-on-the-Havel, Germany.
Filed March 3, 1906. Serial No. 17,492. PUBLISHED JANUARY 1, 1907.

60,926. LADIES' LEATHER BOOTS, SHOES, AND SLIPPERS. THOMAS H. MAXWELL. Boston, Mass.
Filed November 26, 1906. Serial No. 23,610. PUBLISHED JANUARY 1, 1907.

60,927. HEAT-INSULATED RECEPTACLE. MARY L. PALMER, Chicago, Ill.
Filed June 18, 1906. Serial No. 20,400. PUBLISHED JANUARY 1, 1907.

60,928. VARNISHES. THE PALMER-PRICE CO., Newark, N. J.
Filed November 30, 1906. Serial No. 23,693. PUBLISHED JANUARY 1, 1907.

60,929. LEATHER SHOES, BOOTS, AND SLIPPERS. THE SLATER SHOE COMPANY, Montreal, Quebec, Canada.
Filed August 1, 1906. Serial No. 21,293. PUBLISHED JANUARY 1, 1907.

60,930. TALKING-MACHINES, PARTS, AND RECORDS. VICTOR TALKING MACHINE COMPANY, Camden, N. J.
Filed September 14, 1906. Serial No. 22,084. PUBLISHED JANUARY 1, 1907.

60,931. WRITING, PRINTING, AND LEDGER PAPER. WIGGINS TEAPE & CO. LIMITED, London, England.
Filed November 28, 1906. Serial No. 23,649. PUBLISHED JANUARY 1, 1907.

60,932. PERIODICAL. THE DETECTIVE PUBLISHING COMPANY, Chicago, Ill.
Filed October 26, 1906. Serial No. 22,924. PUBLISHED JANUARY 1, 1907.

60,933. OIL-LAMPS AND PARTS THEREOF. EDWARD MILLER & CO., Meriden, Conn.
Filed September 22, 1906. Serial No. 22,249. PUBLISHED JANUARY 1, 1907.

60,934. TROUSERS. LEWIS GOLDEN, Detroit, Mich.
Filed November 19, 1906. Serial No. 23,462. PUBLISHED JANUARY 1, 1907.

60,935. WEEKLY PERIODICAL. HAVEY & DARROW, Chicago, Ill.
Filed November 14, 1906. Serial No. 23,352. PUBLISHED JANUARY 1, 1907.

60,936. DEVICES FOR PROMOTING COMBUSTION. HERRICK COMPLETE COMBUSTION COMPANY, New York, N. Y.
Filed October 30, 1906. Serial No. 23,000. PUBLISHED JANUARY 1, 1907.

60,937. GINGER-ALE. AUGUSTUS WALTER KAYE, Meridian, Miss.
Filed October 11, 1906. Serial No. 22,651. PUBLISHED JANUARY 1, 1907.

60,938. UMBRELLAS. LAWTON & HALL, Chicago, Ill.
Filed November 10, 1906. Serial No. 23,247. PUBLISHED JANUARY 1, 1907.

60,939. CIGARETTES. JOHN F. LAZARAKIS, Lowell, Mass.
Filed November 10, 1906. Serial No. 23,256. PUBLISHED JANUARY 1, 1907.

60,940. BEER. VICTOR NEUSTADTL, New York, N. Y.
Filed October 5, 1906. Serial No. 22,542. PUBLISHED JANUARY 1, 1907.

60,941. RHINE WINES. P. J. VALCKENBERG, LIMITED, Worms, Germany.
Filed November 20, 1906. Serial No. 23,506. PUBLISHED JANUARY 1, 1907.

60,942. LAGER-BEER. THE PETER SCHOENHOFEN BREWING COMPANY, Chicago, Ill.
Filed November 19, 1906. Serial No. 23,453. PUBLISHED JANUARY 1, 1907.

60,943. PIPE-JOINT CEMENT. FRANCIS H. POUGH, New York, N. Y.
Filed November 15, 1906. Serial No. 23,3604. PUBLISHED JANUARY 1, 1907.

60,944. LEATHER BOOTS, SHOES, AND SLIPPERS. RAPP SHOE COMPANY, St. Louis, Mo.
Filed November 15, 1906. Serial No. 23,364. PUBLISHED JANUARY 1, 1907.

60,945. BLOTTING-PAPER. STANDARD PAPER M'N'F'G CO., Manchester, Va.
Filed December 6, 1906. Serial No. 23,830. PUBLISHED JANUARY 1, 1907.

60,946. CAST-STEEL SHELLS FOR EXPLOSIVE PROJECTILES. TAYLOR IRON & STEEL CO., High Bridge, N. J.
Filed November 13, 1906. Serial No. 23,319. PUBLISHED JANUARY 1, 1907.

60,947. MINERAL WATER. VIRGINIA ETNA LITHIA SPRINGS CO., Jersey City, N. J., and New York, N. Y.
Filed October 24, 1906. Serial No. 22,895. PUBLISHED JANUARY 1, 1907.

60,948. CERTAIN LIGHTING APPARATUS AND STOVE-URNS. WILLIAM VOGEL & BROS., Brooklyn, N. Y.
Filed November 19, 1906. Serial No. 23,473. PUBLISHED JANUARY 1, 1907.

60,949. NEWSPAPER. WASHINGTON HERALD COMPANY, Washington, D. C.
Filed October 9, 1906. Serial No. 22,615. PUBLISHED JANUARY 1, 1907.

60,950. LEATHER SHOES. WESTERN SHOE COMPANY, Janesville, Wis.
Filed November 19, 1906. Serial No. 23,472. PUBLISHED JANUARY 1, 1907.

60,951. SHERRY. JULIUS WILE, SONS & Co., New York, N. Y.
Filed December 3, 1906. Serial No. 23,737. PUBLISHED JANUARY 1, 1907.

60,952. DRESS-SHIELDS. AUSTIN-WALKER M'F'G. CO., Boston, Mass.
Filed November 21, 1906. Serial No. 23,510. PUBLISHED JANUARY 1, 1907.

60,953. HIGH EXPLOSIVES. THE EASTERN DYNAMITE COMPANY, Kenvil, N. J.
Filed August 9, 1906. Serial No. 21,396. PUBLISHED JANUARY 1, 1907.

60,954. FUSES AND BLASTING-CAPS. THE EASTERN DYNAMITE COMPANY, Kenvil, N. J.
Filed August 9, 1906. Serial No. 21,398. PUBLISHED JANUARY 1, 1907.

60,955. HIGH EXPLOSIVES. THE EASTERN DYNAMITE COMPANY, Kenvil, N. J.
Filed August 9, 1906. Serial No. 21,401. PUBLISHED JANUARY 1, 1907.

60,956. HIGH EXPLOSIVES AND FUSES. THE EASTERN DYNAMITE COMPANY, Kenvil, N. J.
Filed August 16, 1906. Serial No. 21,615. PUBLISHED JANUARY 1, 1907.

60,957. TIN AND TERNE PLATES. FOLLANSBEE BROTHERS COMPANY, Pittsburg, Pa.
Filed July 3, 1905. Serial No. 9,629. PUBLISHED JANUARY 1, 1907.

60,958. WHISKY. GEO. W. TORREY CO., Boston, Mass.
Filed November 22, 1906. Serial No. 23,540. PUBLISHED JANUARY 1, 1907.

60,959. FILTERS. THOMAS W. GOREAU, New Orleans, La.
Filed November 23, 1906. Serial No. 23,556. PUBLISHED JANUARY 1, 1907.

60,960. WHISKY. C. H. GRAVES & SONS, Boston, Mass.
Filed May 29, 1905. Serial No. 6,880. PUBLISHED JANUARY 1, 1907.

60,961. WHISKY. H. W. HUGULEY COMPANY, Boston, Mass.
Filed May 22, 1905. Serial No. 6,332. PUBLISHED MARCH 6, 1906.

60,962. VALVED NOZZLES FOR HYDRANTS. THE HOLYOKE VALVE AND HYDRANT COMPANY, Holyoke, Mass.
Filed April 24, 1905. Serial No. 2,849. PUBLISHED JANUARY 1, 1907.

60,963. LEATHER BOOTS, SHOES, AND SLIPPERS. PAUL BROTHERS, Philadelphia, Pa.
Filed November 30, 1906. Serial No. 23,658. PUBLISHED JANUARY 1, 1907.

60,964. LEATHER BOOTS, SHOES, AND SLIPPERS. PAUL BROTHERS, Philadelphia, Pa.
Filed November 30, 1906. Serial No. 23,660. PUBLISHED JANUARY 1, 1907.

60,965. LAUNDRY TABLETS FOR WASHING CLOTHES AND FABRICS. THE PHOENIX MANUFACTURING CO., Newark, N. J.
Filed August 31, 1906. Serial No. 21,838. PUBLISHED JANUARY 1, 1907.

60,966. SOAP. THE SOUTHERN COTTON OIL COMPANY, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La.
Filed July 27, 1905. Serial No. 10,903. PUBLISHED JANUARY 1, 1907.

60,967. CALF-LEATHER WITH THE EXCEPTION OF PATENT CALF-LEATHER. GEO. F. WERNER'S SON, New York, N. Y.
Filed August 2, 1905. Serial No. 11,136. PUBLISHED JANUARY 1, 1907.

60,968. EYEGLASS AND SPECTACLE LENSES. A. MARTIN INC., New York, N. Y.
Filed June 27, 1906. Serial No. 20,599. PUBLISHED JANUARY 1, 1907.

60,969. WHISKY. THE ALBERT M. GUGENHEIM CO., Cincinnati, Ohio.
Filed November 1, 1906. Serial No. 23,041. PUBLISHED JANUARY 1, 1907.

60,970. RYE WHISKY. BISI & CAPRINI, Pittsburg, Pa.
Filed July 9, 1906. Serial No. 20,806. PUBLISHED JANUARY 1, 1907.

60,971. COTTON CHEVIOTS FOR SHIRTINGS. JAMES CONNELLY & SONS, Philadelphia, Pa.
Filed May 11, 1906. Serial No. 19,452. PUBLISHED JANUARY 1, 1907.

60,972. CERTAIN EDGE-TOOLS. DUNHAM, CARRIGAN & HAYDEN CO., San Francisco, Cal.
Filed August 7, 1905. Serial No. 11,337. PUBLISHED JANUARY 1, 1907.

60,973. POCKET AND TABLE KNIVES, RAZORS, SCISSORS, AND SHEARS. DUNHAM, CARRIGAN & HAYDEN CO., San Francisco, Cal.
Filed August 7, 1905. Serial No. 11,341. PUBLISHED JANUARY 1, 1907.

60,974. BLASTING-MACHINES AND ELECTRIC BATTERIES. THE EASTERN DYNAMITE COMPANY, Kenvil, N. J.
Filed August 18, 1906. Serial No. 21,656. PUBLISHED JANUARY 1, 1907.

60,975. GIN AND WHISKY. THE KOHN DISTILLING CO., Montgomery, Ala.
Filed November 16, 1906. Serial No. 23,417. PUBLISHED JANUARY 1, 1907.

60,976. STRINGS FOR MUSICAL INSTRUMENTS. LYON & HEALY, Chicago, Ill.
Filed March 8, 1906. Serial No. 17,826. PUBLISHED JUNE 5, 1906.

60,977. LEATHER FLY-NETS. MILWAUKEE NET CO., Milwaukee, Wis.
Filed April 25, 1906. Serial No. 19,065. PUBLISHED JANUARY 1, 1907.

60,978. ELASTIC WEBBING. THE NARROW FABRIC CORPORATION, Orange, Conn.
Filed October 29, 1906. Serial No. 22,970. PUBLISHED JANUARY 1, 1907.

60,979. ELASTIC WEBBING. THE NARROW FABRIC CORPORATION, Orange, Conn.
Filed October 29, 1906. Serial No. 22,971. PUBLISHED JANUARY 1, 1907.

60,980. BRONZE. NATIONAL-FULTON BRASS MANUFACTURING COMPANY, Detroit, Mich.
Filed July 18, 1906. Serial No. 21,004. PUBLISHED JANUARY 1, 1907.

60,981. BELLS, EXCEPT ELECTRIC BELLS. THE NEW DEPARTURE MANUFACTURING COMPANY, Bristol, Conn.
Filed June 4, 1906. Serial No. 20,021. PUBLISHED JANUARY 1, 1907.

60,982. BELLS, EXCEPT ELECTRIC BELLS. THE NEW DEPARTURE MANUFACTURING COMPANY, Bristol, Conn.
Filed June 4, 1906. Serial No. 20,022. PUBLISHED JANUARY 1, 1907.

60,983. METALLIC BOTTLE-STOPPERS. NEW YORK SPECIALTY CO., New York, N. Y.
Filed September 20, 1906. Serial No. 22,389. PUBLISHED JANUARY 1, 1907.

60,984. KNIT UNDERWEAR. ONEITA KNITTING MILLS, Utica, N. Y.
Filed November 2, 1906. Serial No. 23,053. PUBLISHED JANUARY 1, 1907.

60,985. RAW COTTON. REAGAN ROUND BALE CO., San Antonio, Tex.
Filed June 23, 1906. Serial No. 20,529. PUBLISHED JANUARY 1, 1907.

60,986. RAZORS. SHUMATE RAZOR COMPANY, St. Louis, Mo.
Filed November 7, 1906. Serial No. 23,162. PUBLISHED JANUARY 1, 1907.

60,987. FEED-GRINDERS. SPARTAN MANUFACTURING CO., Galesburg, Ill.
Filed November 15, 1906. Serial No. 23,367. PUBLISHED JANUARY 1, 1907.

60,988. LEATHER FOR HARNESS. ALBERT TROSTEL & SONS, Milwaukee, Wis.
Filed November 14, 1906. Serial No. 23,351. PUBLISHED JANUARY 1, 1907.

60,989. SEWING-MACHINES, ATTACHMENTS, STANDS, TABLES, AND COVERS. WHITE SEWING MACHINE CO., Cleveland, Ohio.
Filed August 6, 1906. Serial No. 21,342. PUBLISHED OCTOBER 9, 1906.

60,990. CERTAIN METAL AND WOOD WORKING MACHINE PARTS. THE WHITMAN & BARNES MANUFACTURING COMPANY, Akron, Ohio.
Filed November 14, 1905. Serial No. 14,593. PUBLISHED JANUARY 1, 1907.

60,991. RAZORS, SCISSORS, AND POCKET-KNIVES. CHARLES FOSBERY BUTCHER, Sheffield, England.
Filed December 6, 1905. Serial No. 15,233. PUBLISHED JANUARY 1, 1907.

60,992 ANTIRUST AND ACID-RESISTING PAINT. CARBOLINEUM WOOD PRESERVING CO., Milwaukee, Wis.
Filed April 29, 1905. Serial No. 3,691. PUBLISHED JANUARY 1, 1907.

60,993. PURE WHITE LEAD. THE EAGLE WHITE LEAD COMPANY, Cincinnati, Ohio.
Filed July 13, 1906. Serial No. 20,913. PUBLISHED JANUARY 1, 1907.

60,994. WHEAT-FLOUR. THE HIGGINSVILLE MILLING COMPANY, Higginsville, Mo.
Filed September 2, 1905. Serial No. 12,106. PUBLISHED MARCH 20, 1906.

60,995. RAZORS, POCKET-KNIVES, AND BUTCHER-KNIVES. ADOLPH KASTOR & BROS New York, N. Y.
Filed May 10, 1905. Serial No. 4,913. PUBLISHED OCTOBER 16, 1906

60,996. LEATHER BOOTS AND SHOES. LYNCHBURG SHOE CO., Lynchburg, Va.
Filed December 2, 1905. Serial No. 15,146. PUBLISHED MAY 1, 1906.

60,997. BUILDING BRICKS OR BLOCKS. THE OHIO MINING AND MANUFACTURING CO., Shawnee, Ohio, and New York, N. Y.
Filed November 12, 1906. Serial No. 23,289. PUBLISHED JANUARY 1, 1907.

60,998. CERTAIN NAMED ELECTRICAL APPARATUS AND SUPPLIES. P. M. FLETCHER COMPANY, New York, N. Y.
Filed July 3, 1906. Serial No. 20,717. PUBLISHED DECEMBER 18, 1906.

60,999. LEATHER BOOTS, SHOES, AND SLIPPERS. PAUL BROTHERS, Philadelphia, Pa.
Filed November 30, 1906. Serial No. 23,659. PUBLISHED JANUARY 1, 1907.

61,000. CERTAIN EDGE-TOOLS. THE SMITH BROS. HARDWARE CO., Columbus, Ohio.
Filed June 27, 1906. Serial No. 20,600. PUBLISHED JANUARY 1, 1907.

61,001. MATTRESSES. THE SOUTHERN COTTON OIL COMPANY, New York, N. Y.; Jersey City, N. J.; Savannah, Ga., and Gretna, La.
Filed July 27, 1905. Serial No. 10,901. PUBLISHED JANUARY 1, 1907

61,002. MALT EXTRACT. S. LIEBMANN'S SONS BREWING COMPANY, Brooklyn, N. Y.
Filed November 15, 1906. Serial No. 23,362. PUBLISHED JANUARY 1, 1907.

61,003. OINTMENTS. ACTIEN-GESELLSCHAFT FÜR ANILIN-FABRIKATION, Berlin, Germany.
Filed September 7, 1905. Serial No. 12,341. PUBLISHED JANUARY 1, 1907.

61,004. MEDICINE FOR THE CURE OF GALL-STONES IN MAN. CAROLINE L. AMERMAN, New Boston, Pa
Filed September 20, 1906. Serial No. 22,376. PUBLISHED JANUARY 1, 1907.

61,005. RHEUMATIC AND GOUT MEDICINES. JOSEPH T. BALTAR, New Orleans, La.
Filed November 6, 1906. Serial No. 23,130. PUBLISHED JANUARY 1, 1907.

61,006. MOUTH-WASH. BRAUER CHEMICAL COMPANY, New York, N. Y.
Filed November 22, 1906. Serial No. 23,546. PUBLISHED JANUARY 1, 1907.

61,007. AQUA-AMMONIA. COLUMBIA CHEMICAL WORKS. Brooklyn, N. Y.
Filed October 14, 1905. Serial No. 13,592. PUBLISHED JANUARY 1, 1907.

61,008. DENTIFRICES IN LIQUID, POWDER, AND PASTE FORM. HALL & RUCKEL, New York, N. Y.
Filed November 26, 1906. Serial No. 23,606. PUBLISHED JANUARY 1, 1907.

61,009. CERTAIN MEDICINAL PRODUCT. HILAIRE ET CIE., Paris, France.
Filed August 23, 1906. Serial No. 21,726. PUBLISHED JANUARY 1, 1907.

61,010. PLASTERS AND CERTAIN MEDICINAL PREPARATIONS. ICHTHYOL GESELLSCHAFT, CORDES, HERMANNI & CO., Hamburg, Germany.
Filed October 9, 1905. Serial No. 13,438. PUBLISHED JANUARY 1, 1907.

61,011. PLASTERS AND CERTAIN MEDICINAL PREPARATIONS. ICHTHYOL GESELLSCHAFT, CORDES, HERMANNI & CO., Hamburg, Germany.
Filed October 9, 1905. Serial No. 13,439. PUBLISHED JANUARY 1, 1907.

61,012. CERTAIN MEDICINAL COMPOUNDS. THE KARGON EXTRACTING CO., Cincinnati, Ohio.
Filed November 22, 1906. Serial No. 23,536. PUBLISHED JANUARY 1, 1907.

61,013. TOOTH-POWDER. TOMIJIRO KOBAYASHI, Tokyo, Japan.
Filed October 30, 1905. Serial No. 14,694. PUBLISHED JANUARY 1, 1907.

61,014. OINTMENT. THE MUSTEROLE CO., Cleveland, Ohio.
Filed November 24, 1906. Serial No. 23,578. PUBLISHED JANUARY 1, 1907.

61,015. REMEDY FOR THE TREATMENT OF GRIPPE AND ANALOGOUS DISORDERS. THE PORTER MEDICINE COMPANY, Paris, Tenn.
Filed June 16, 1905. Serial No. 8,365. PUBLISHED JANUARY 1, 1907.

61,016. REMEDY FOR DISEASES OF THE BLOOD. REDDEN WHITAKER ADAMS, Boston, Ga.
Filed October 23, 1906. Serial No. 22,854. PUBLISHED JANUARY 1, 1907.

61,017. FLUID FOR GENERATING ARTIFICIAL GAS. FRANK H. RINGEMANN, Cincinnati, Ohio.
Filed June 2, 1906. Serial No. 20,009. PUBLISHED JANUARY 1, 1907.

61,018. SHAVING-CREAM. ROYAL CREAM COMPANY, Chicago, Ill.
Filed April 23, 1906. Serial No. 19,016. PUBLISHED JANUARY 1, 1907.

61,019. REMEDIES FOR ECZEMA AND ALL SKIN DISEASES. ACNEZEMA COMPANY, Chicago, Ill.
Filed August 17, 1906. Serial No. 21,637. PUBLISHED JANUARY 1, 1907.

61,020. COTTON PIECE GOODS. ARNHOLD, KARBERG & CO., New York, N. Y.
Filed November 4, 1905. Serial No. 14,268. PUBLISHED JANUARY 1, 1907.

61,021. COTTON PIECE GOODS. ARNHOLD, KARBERG & CO., New York, N. Y.
Filed November 4, 1905. Serial No. 14,272. PUBLISHED JANUARY 1, 1907.

61,022. RHEUMATIC OIL. HYMAN BRUNSWICK, Hot Springs, Ark.
Filed October 25, 1906. Serial No. 22,908. PUBLISHED JANUARY 1, 1907.

61,023. CHEMICAL FIRE-EXTINGUISHERS. JOHN H. CLAY, Philadelphia, Pa.
Filed October 26, 1906. Serial No. 22,923. PUBLISHED JANUARY 1, 1907.

61,024. CERTAIN CHEMICALS. CONTINENTAL COLOR AND CHEMICAL CO., New York, N. Y.
Filed November 13, 1906. Serial No. 23,313. PUBLISHED JANUARY 1, 1907.

61,025. COLD-CREAM. DAGGETT & RAMSDELL, New York, N. Y.
Filed October 2, 1906. Serial No. 22,438. PUBLISHED JANUARY 1, 1907.

61,026. SOLDERING-FLUX. GARDEN CITY LABORATORY, Chicago, Ill.
Filed May 3, 1905. Serial No. 4,218. PUBLISHED JANUARY 1, 1907.

61,027. REMEDY FOR ALL AILMENTS ORIGINATING IN THE STOMACH. FREDERICK R. GREENE, Chicago, Ill.
Filed October 29, 1906. Serial No. 22,985. PUBLISHED JANUARY 1, 1907.

61,028. HAIR-DYE. GUGGENHEIM MFG. CO., Rochester, N. Y.
Filed July 21, 1906. Serial No. 21,064. PUBLISHED JANUARY 1, 1907.

61,029. REMEDY FOR CERTAIN DISEASES AND INJURIES. HALL & RUCKEL, New York, N. Y.
Filed November 16, 1906. Serial No. 23,388. PUBLISHED JANUARY 1, 1907.

61,030. EYE SALVE OR OINTMENT. HALL & RUCKEL, New York, N. Y.
Filed November 16, 1906. Serial No. 23,391. PUBLISHED JANUARY 1, 1907.

61,031. EXTERNAL REMEDY FOR CERTAIN DISEASES. JEFFERSON D. HELMS, Greensboro, N. C.
Filed August 28, 1906. Serial No. 21,787. PUBLISHED JANUARY 1, 1907.

61,032. MEDICATED SUPPOSITORIES. K S C MEDICAL CO., Los Angeles, Cal.
Filed November 10, 1906. Serial No. 23,264. PUBLISHED JANUARY 1, 1907.

61,033. CERTAIN TOILET PREPARATIONS. MADAME ISEBELL'S TOILET MFG CO., Chicago, Ill.
Filed October 5, 1906. Serial No. 22,537. PUBLISHED NOVEMBER 27, 1906.

61,034. ANESTHETIC PREPARATIONS FOR HYPODERMIC INJECTIONS. NEW BRUNSWICK CHEMICAL CO., New Brunswick, N. J., assignor to Louis L. Grombacher, New York, N. Y.
Filed October 30, 1906. Serial No. 23,003. PUBLISHED JANUARY 1, 1907.

61,035. LIVER MEDICINES AND LAXATIVES. THE RABEN COMPANY, Houston, Tex.
Filed November 10, 1906. Serial No. 23,259. PUBLISHED JANUARY 1, 1907.

61,036. REMEDIES FOR DISEASES OF THE STOMACH, LIVER, BOWELS, AND BLOOD. ELMER ELLSWORTH WILLIAMS, New York, N. Y.
Filed October 13, 1906. Serial No. 22,698. PUBLISHED JANUARY 1, 1907.

LABELS

REGISTERED FEBRUARY 26, 1907.

13,375. *Title:* "TURF KINGS." (For Cigars.) SCHMIDT & Co., New York, N. Y. Filed January 23, 1907.

13,376.—*Title:* "GINSENG." (For Beverages.) GINSENG PRODUCTS COMPANY, Delavan, Wis. Filed December 31, 1906.

13,377. *Title:* "ALT HEIDELBERG BRÄU." (For Beer.) LEXINGTON BREWING COMPANY, Lexington, Ky. Filed January 31, 1907.

13,378.—*Title:* "LEHIGH VALLEY CLUB WHISKEY." (For Whisky.) OLD TOWN DISTILLING CO., Baltimore, Md. Filed January 24, 1907.

13,379. *Title:* "THE BUTTON WITHOUT A POST." (For Hose-Supporters.) ECONOMY CORSET CO. INC., Syracuse, N. Y. Filed January 31, 1907.

13,380.—*Title:* "AMOSAL." (For a Proprietary Medicine.) THE IMPERIAL PHARMACEUTICAL CO., New York, N. Y. Filed February 4, 1907.

13,381.—*Title:* "STAR HAIR TONIC AND DANDRUFF CURE.' '(For a Hair-Tonic and Dandruff Cure.) THE STAR TOILET CO., New York, N. Y. Filed January 16, 1907.

13,382.—*Title:* "BLEVINS' AMERICAN DRY CLEANER." (For a Cleaning Preparation.) SOLOMON BLEVINS, Cleveland, Ohio. Filed January 10, 1907.

13,383.—*Title:* "RECORDITE." (For a Preparation for Cleaning, Preserving, Polishing, and Lubricating Disk Talking-Machine Records.) JOSEPH A. MANAHAN, New York, N. Y. Filed January 8, 1907.

13,384.—*Title:* "SUN BLEACH." (For Cotton Piece Goods.) BURTON BROS. & CO., New York, N. Y. Filed February 2, 1907.

PRINTS

REGISTERED FEBRUARY 26, 1907.

1,911.—*Title:* "A POT OF GOLD FOR YOU." (For Men's and Boys' Coats, Vests, and Trousers.) ED. V. PRICE & COMPANY, Chicago, Ill. Filed January 31, 1907.

1,912.—*Title:* "SUN BLEACH." (For Cotton Piece Goods.) BURTON BROS. & CO., New York, N. Y. Filed February 2, 1907.

1,913.—*Title:* "COLUMBIA MARK XLVIII TOURING CAR." (For Automobiles.) ELECTRIC VEHICLE COMPANY, Hartford, Conn. Filed January 11, 1907.

DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS IN PATENT CASES.

COMMISSIONER'S DECISIONS.

COREY *v.* EISEMAN AND MISAR.

Decided December 15, 1906.

TESTIMONY—USE IN SECOND INTERFERENCE—RULE 157.

Where C. was denied the privilege of introducing testimony taken in his behalf in a prior interference between the same parties in view of the opposition of E. and M. on the ground that they were not represented at the taking of C.'s testimony, a motion by E. and M. to introduce testimony taken in their behalf in the same interference should not be granted merely because C. was represented at the examination of their witnesses.

APPEAL on motion.

AIR-BRAKE CONTROLLER.

Mr. Albert G. Davis for Corey.

Mr. Charles E. Smith for Eiseman and Misar.

ALLEN, *Commissioner:*

This is an appeal by Eiseman and Misar from the decision of the Examiner of Interferences denying their motion that testimony taken in their behalf in a prior interference between the same parties and the same applications be admitted in this interference under the provisions of Rule 157.

A similar motion brought by Corey was denied by the Examiner of Interferences. The denial of that motion was based on the fact that Eiseman and Misar were not represented at the taking of Corey's testimony. In his motion, however, Corey offered to Eiseman and Misar the privilege of cross-examining the witnesses whose testimony he wished to introduce. Eiseman and Misar's motion now under consideration stands upon practically the same basis as Corey's previous motion, except for the fact that Corey was represented at the examination of Eiseman and Misar's witnesses. Eiseman and Misar offer in their motion to permit Corey to further cross-examine the witnesses, if he desires to do so. Inasmuch as Eiseman and Misar opposed the grant of Corey's motion, it does not seem that they are in a good position to ask that their motion be granted. The mere fact that Corey was represented at the examination of Eiseman and Misar's witnesses in the prior interference is not considered sufficient to justify favorable action upon the present motion in the face of Eiseman and Misar's opposition to such action upon Corey's motion.

The decision of the Examiner of Interferences is affirmed.

EX PARTE RÖCHLING.

Decided December 18, 1906.

ISSUE—WITHDRAWAL FROM.

Applications will not be withdrawn from issue merely for the purpose of granting the applicant more time than is permitted by the statute for the payment of the final fee.

ON PETITION.

MACHINE FOR MAKING MOLDS FOR FOUNDING, WITH DIRECT AIR-PRESSURE.

Mr. Frank V. Briesen for the applicant.

ALLEN, *Commissioner:*

This is a petition that the above-entitled application be withdrawn from issue and reallowed upon the filing of a certified copy of letters testamentary.

It is alleged in the petition that the applicant died recently, that the application was allowed on May 9, 1906, and that as the executrix resides in Germany it will be impossible to file copies of letters testamentary prior to November 9, when the six months allowed by law for the payment of the final fee expire.

The withdrawal of the application from issue is not desired for the purpose of taking any action therein, but merely to secure more time than permitted by the statute for the payment of the final fee. It is not thought that applications should be withdrawn from issue for this purpose, especially in view of the fact that provision has been made in the law for the renewal of applications upon which the final fee has not been paid within the time prescribed for that purpose. Petition denied.

IN RE SETTER.

Decided December 26, 1906.

PUBLIC USE—PROCEEDINGS INSTITUTED WHERE APPLICANT CLAIMS ISSUE OF INTERFERENCE IN WHICH HE IS NOT AT PRESENT INVOLVED.

Where in response to an order to show cause why public-use proceedings should not be instituted against his application an applicant states that an interference is in progress involving the same subject-matter and it appears that his application was not added to the interference by reason of the progress in that interference already made when his application was filed, *Held* that public-use proceedings should be instituted, as a finding of public use applicable to this application would cause all proceedings upon the applications in interference and this application to terminate with the interference now pending.

IN the matter of the protest of certain parties against the issue of a patent to Michael Setter and the request that public-use proceedings be instituted.

Messrs. Bulkley & Durand for Setter.

Mr. Charles A. Brown for Stromberg-Carlson Telephone Mfg. Co., protestant.

Mr. Curtis B. Camp for Kellogg Switchboard & Supply Co., protestant.

MOORE, *Acting Commissioner:*

Upon August 4, 1906, an order was issued in this case calling upon the applicant Setter to show cause why public-use proceedings should not be instituted against his application. In response thereto it has been set up that an interference is in progress in the Office involving the same subject-matter which is alleged to have been in public use, and it is urged that public-use proceedings should not be instituted until Setter shall have had an opportunity to contest with the parties to the interference or with the party who shall prevail therein the question of priority of invention. It is understood that an attempt was made to have the Setter application included in the interference, but that the same failed by reason of the progress which had already been made in that proceeding when this application was filed.

If the public-use proceeding is instituted now, the same may be carried on simultaneously with the interference proceeding, and it may well be that the question of public use will have been finally disposed of by the time that the interference is concluded. Indeed, it is possible that a finding of public use applicable to the Setter application will cause all proceedings upon the applications in the interference and in Setter's application to terminate with the interference now pending. On the other hand, postponement of the investigation of public use will naturally lead to a new interference, after the present interference shall have been disposed of, between the successful party therein and Setter, with the possibility of public-use proceedings after the termination of such second interference. It is true that investigation of public use at the present time resulting in a finding against Setter will preclude a contest in the Patent Office between Setter and the prevailing party to the interference upon priority and may result in the grant of a patent to one who is not the prior inventor. This fact is not believed to be controlling, however, in the present case. The interest of the public and, in general, of parties in an early termination of proceedings in the Patent Office and an early issue of a patent, if one is to be granted, outweigh other considerations under the circumstances of the present case and call for the investigation of the question of public use without further delay. In reaching this conclusion it has not been necessary to consider those matters submitted by the protestants to the consideration of which objection was made by the applicant. It is not deemed expedient or proper to comply with the request of the protestants that certain limitations be imposed in this order upon the scope of the investigation and upon the effect of the evidence which may be adduced, and such request is therefore denied.

It is directed that public-use proceedings be instituted without unnecessary delay.

DUKESMITH *v.* CORRINGTON *v.* TURNER.

Decided January 10, 1907.

INTERFERENCE—MOTION TO DISSOLVE—NO APPEAL FROM HOLDING THAT COUNTS HAVE IDENTICAL MEANING.

From the decision of the Examiner holding that there is interference in fact or that the counts of the issue have the same meaning in the cases of the different parties no appeal is permitted under the provisions of Rule 124.

APPEAL on motion.

FLUID-PRESSURE BRAKE.

Messrs. Kay, Totten & Winter for Dukesmith.

Mr. Murray Corrington pro se.

Mr. Edward A. Wright for Turner.

ALLEN, *Commissioner:*

This is an appeal by Dukesmith from the decision of the Primary Examiner denying his motion to dissolve the above-entitled interference on the ground of "no interference in fact."

From the decision of the Examiner holding that there is interference in fact or that the counts of the issue have the same meaning in the cases of the different parties no appeal is permitted under the provision of Rule 124, (amended June 12, 1906,) which reads:

> No appeal will be permitted from a decision rendered upon motion for dissolution affirming the patentability of a claim or the applicant's right to make the same or the identity of meaning of counts in the cases of different parties.

The appeal is accordingly dismissed.

THE ALBERT DICKINSON COMPANY *v.* CONKLIN.

Decided January 11, 1907.

1. TRADE-MARK OPPOSITION—AMENDMENT BASED ON NEW GROUNDS NOT PERMISSIBLE.

Where the notice of opposition alleged that "the trade-mark consists merely of the word 'King,' without any distinctive features, is merely the name of an individual, and its registration as a trade-mark is prohibited by the clause (*b*) of section 5 of the Trade-Mark Act of February 20, 1905," and the opponent desires to amend by adding that the mark is not registrable because it is a geographical name or term, *Held* that the broad reference to clause *b* of section 5 of the act merely conveys the idea that in this part of the act is to be found the prohibition against the registration of names of individuals, that the proposed amendment is based on new ground, and is not proper subject-matter for an amendment filed after the expiration of the thirty days prescribed in the statute.

2. SAME—GENERAL REFERENCE NOT SUFFICIENT.

It is not a sufficient ground for a notice of opposition to make a general reference to the Trade-Mark Act or to some part thereof.

APPEAL from Examiner of Interferences.

TRADE-MARK FOR GRASS-SEED.

Messrs. Munday, Evarts, Adcock & Clarke and *Mr. H. N. Low* for The Albert Dickinson Company.

Messrs. Munn & Co. for Conklin.

ALLEN, *Commissioner:*

This is an appeal by the opponent, The Albert Dickinson Company, from the decision of the Examiner of Interferences denying a motion for leave to amend the notice of opposition.

The first paragraph of the notice of opposition reads as follows:

> The said trade-mark consists merely of the word "King," without any distinctive features, is merely the name of an individual, and its registration as a trade-mark is prohibited by the clause (*b*) of section 5 of the Trade-Mark Act of February 20, 1905.

The opponent now desires to add the following phrase to his notice of opposition:

> That the registry of the alleged trade-mark sought to be registered would be illegal because the word "King" is merely a geographical name or term, and shall not be registered under the terms of the act of 1905.

It is contended that there is sufficient foundation for this amendment in the first paragraph of the original notice which is quoted above. I am of the opinion,

however, that the Examiner of Interferences was correct in holding that there is nothing in the paragraph referred to to indicate that the opponent desired to raise any ground of opposition other than that the word "King" is non-registrable for the reason that it is the name of an individual.

The broad reference to clause *b* of section 5 of the act of February 20, 1905, merely conveys the idea that in this part of the act is to be found the prohibition against the registration of names of individuals. It is not a sufficient ground for a notice of opposition to make a general reference to the Trade-Mark Act or to some part thereof, even if that reference were not, as in the present case, coupled with other words indicating a ground different from that which is subsequently raised. I am of the opinion that the proposed amendment to the notice of opposition is based upon a new ground and is not therefore proper subject-matter for an amendment filed after the expiration of the thirty days permitted in the statute.

The decision of the Examiner of Interferences is affirmed.

IN RE J. G. B. SIEGERT & HIJOS.

Decided January 11, 1907.

TRADE-MARKS—PUBLICATION IN OFFICIAL GAZETTE.

A trade-mark will not be republished merely for the purpose of extending the period of thirty days provided by statute for the filing of oppositions.

Mr. Charles S. Jones for the petitioner.

ALLEN, *Commissioner:*

This is a petition that the trade-mark of Miguel Bethencourt, published in the OFFICIAL GAZETTE of September 25, 1906, be republished in order that the petitioner may have time in which to execute and forward to this Office a notice of opposition.

It is alleged by the petitioner's attorney that the petitioner, Dr. J. G. B. Siegert & Hijos, resides in the island of Trinidad, and the period of thirty days from the date of publication is not sufficient for the preparation of the opposition papers and their transmission to and from the island of Trinidad. In order to secure additional time for this purpose, the petitioner desires to have the trade-mark republished, which would have the effect of extending for another thirty days the period in which notices of opposition may be filed. In support of this request attention is directed to the provision of section 6 of the act of February 20, 1905, that—

> the Commissioner shall cause the mark to be published at least once in the OFFICIAL GAZETTE of the Patent Office.

It is contended that the use of the words "at least once" indicates that where it becomes necessary under peculiar conditions, such as exist in this case, the mark may be republished. The language quoted indicates, as contended, that in certain cases the mark may be republished. The fact, however, that in the same section of the statute it is provided that notices of opposition shall be filed within thirty days of the date of publication indicates that the authority to republish a mark was not granted for the purpose of enabling the Commissioner of Patents to prolong the period during which notices of opposition might be filed. If the period of thirty days had been considered insufficient for the purpose indicated, Congress would undoubtedly have fixed a longer period or would have expressly empowered the Commissioner to grant an extension thereof. It is to be observed, moreover, that the petitioner is not dependent solely upon opposition proceedings for the adjudication of his rights, but may file an application for registration and secure an interference or may institute cancellation proceedings after the registration of Bethencourt's mark.

The petition is denied.

HANAN AND GATES *v.* MARSHALL.

Decided January 11, 1907.

APPEAL—NON-APPEALABLE QUESTION—APPEAL DISMISSED.

Where a ruling is made that an appeal from the Examiner of Interferences will not be entertained by the Commissioner on a given question, an appeal on that question will not be considered even though filed prior to the rendition of the decision.

APPEAL on motion.

FOLDING-MACHINE.

Mr. Nelson W. Howard and *Mr. A. D. Salinger* for Hanan and Gates. (*Messrs. Dodge & Sons* of counsel.)

Messrs. Southgate & Southgate and *Messrs. Davis & Davis* for Marshall.

ALLEN, *Commissioner:*

This is an appeal by Marshall from the decision of the Examiner of Interferences granting Hanan and Gates's motion that times be set for taking testimony.

It appears from the record that Hanan and Gates made a motion to dissolve on the ground that there is no interference in fact between Marshall and the other parties, that Marshall has no right to make the claims, and that the counts are unpatentable if construed broadly enough to include Marshall. Since the filing of Marshall's appeal it has been decided that appeals will not be entertained from the decisions of the Examiner of Interferences on motions for permission to take testimony relative to questions of the kind raised in this case. (*Lowry and Cowley* v. *Spoon*, 124 O. G., 1840.) The fact that the present appeal was filed prior to the rendering of the decision referred to is not considered a sufficient reason for departing from the rule announced in that decision.

The appeal is dismissed.

EX PARTE BENECKE.

Decided January 11, 1907.

APPLICATION OATH—SECTION 4892, REVISED STATUTES, CONSTRUED.

Where an applicant is not a citizen of any country and so alleges in his oath, *Held* to be a proper compliance with the requirements of section 4892, Revised Statutes, and that this section should not be construed as requiring citizenship of some country as a condition precedent to the grant of a patent.

ON PETITION.

ELECTRICAL MEASURING INSTRUMENT.

Messrs. Fischer & Sanders and *Messrs. Bacon & Milans* for the applicant.

ALLEN, *Commissioner:*

This is a petition from the refusal of the Primary Examiner to accept the oath forming part of the application. It appears from the record that in the oath originally filed with the application papers no allegation

was made with reference to the applicant's citizenship, the omission being due, according to applicant's statement, to the fact that owing to his prolonged absence from his native country, Germany, he has, under the laws of that country, forfeited his status as a German subject and has never become a citizen of the United States, where he has lived since his departure from Germany. Upon petition from the Examiner's objection to the original oath it was held that section 4892 of the Revised Statutes had not been complied with and that the Office had no authority to waive the requirement of that section of the statute that applicants for patents shall state of what country they are citizens. Subsequently to the rendering of this decision the applicant filed a new oath, in which he states that he is not a citizen of any country. From the Examiner's objection to this oath the present petition was taken.

Section 4886 of the Revised Statutes provides that *any* person having made an invention as therein set forth may obtain a patent therefor. Reading this section in connection with section 4892, I am of the opinion that the latter section should not be construed as requiring citizenship of some country as a condition precedent to the grant of a patent. The original oath was defective for the reason that it contained no allegation whatever regarding citizenship. The oath now on file sets forth the true state of facts relative to the question of citizenship and should be accepted as a compliance with the statute.

The petition is granted.

EX PARTE E. C. ATKINS & COMPANY.

Decided January 17, 1907.

1. TRADE-MARKS—ACT OF MAY 4, 1906, CONSTRUED.

Section 1 of the act of May 4, 1906, amending section 1 of the Trade-Mark Act of February 20, 1905, by inserting after the words "a description of the trade-mark itself" the words "only when needed to express colors not shown in the drawing," is construed to mean that the drawing should be relied upon to disclose the mark and that a description of the mark should be permitted "only when needed to express colors not shown in the drawing."

2. SAME—SAME.

The purpose of the amendment contained in section 1 of the act of May 4, 1906, is to make the registration definite by limiting it to the disclosure in the drawing, leaving the question of what is an immaterial variation in the mark to the courts.

3. SAME—ACT OF MAY 4, 1906—APPLIES TO APPLICATIONS PENDING AT DATE IT BECAME EFFECTIVE.

The fact that the application was filed under the former statute does not excuse the applicant from complying with the amended statute, since the latter makes no exception of applications pending at the date it became effective.

ON PETITION.

TRADE-MARK FOR SAWS.

Messrs. Bradford & Hood for the applicants.

ALLEN, *Commissioner:*

This is a petition from the action of the Examiner requiring the cancellation from the application of the description of the mark and from his requirement that the class of merchandise shall conform to the classification established under the act approved May 4, 1906.

The record shows that petitioners' trade-mark was published in the OFFICIAL GAZETTE of May 15, 1906, and that the thirty days allowed for filing oppositions expired on June 14, 1906. If the mark had then been immediately passed for registration, it would have been registered on July 10, 1906. Since the mark could not be registered before July 1, 1906, the date on which the act approved May 4, 1906, took effect, applicants were required to amend their application to conform to the provisions of said act by changing the class of merchandise to read:

Class 20, Cutlery not included in Class 61, and edge-tools—

and by substituting for the description of the mark, which reads—

has adopted for its use a trade-mark, of which the following is a description: The trade-mark consists of a symbol composed of the letters "A A A"—

the statement—

has adopted for its use the trade-mark shown in the accompanying drawings.

Petitioners at the hearing indicated their willingness to comply with the first of the above requirements and filed an amendment substituting the title of the class suggested for that originally given.

The second requirement of the Examiner was based on the act approved May 4, 1906, which amended section 1 of the act of February 20, 1905, by inserting after the words—

a description of the trade-mark itself—

the words—

only when needed to express colors not shown in the drawing.

Petitioners contend—

* * * that it is quite as clear that the language "only when needed to express colors not shown in the drawing" is, in the legislative intent, *permissive* and *not* mandatory. In other words, the law means the same as though it read—

a description of the trade-mark itself, *which shall be required* only when needed to express colors not shown in the drawing.

In this contention petitioners are believed to be in error. It is not thought that it was the intention of Congress in amending the statute to leave it optional with the applicant whether his application should contain a description of the trade-mark. On the contrary, I believe it was the intention that the drawing should be relied upon to disclose the mark and that a description of the mark should be permitted "only when needed to express colors not shown in the drawing." The language of the amended section appears to be clear and definite, while applicants' interpretation requires a strained construction.

It is understood that the purpose of this amendment is to make the registration definite by limiting it to the disclosure in the drawing, leaving the question of what is an immaterial variation in the mark to the courts. It thus appears that the object of the amended statute is to prevent just such an apparently indefinite extension of the scope of the registered mark by a generic description as the petitioners contend for. In view of this interpretation of the statute there is no error in the requirement of the Examiner. The fact that the application was filed under the former statute does not excuse petitioners from complying with the amended statute. On account of the thirty days allowed by section 6 of the act of February 20, 1906, for the filing of notices of opposition after publication in the OFFICIAL GAZETTE it was impossible to register petitioners' mark until after the statute went into effect on July 1, 1906, and the amended statute makes no exception of applications pending at the date it became effective.

The petition is denied.

DECISION OF SECRETARY OF THE INTERIOR.

DUKESMITH *v.* CORRINGTON *v.* TURNER.

INTERFERENCE—DEFECTIVE APPLICATION OATH—APPEAL TO SECRETARY.

The decision of the Commissioner of Patents ruling that defects in the application oath of one of the parties, if there were such, might be corrected after the termination of the interference is judicial or quasi-judicial in character and subject only to review by the courts, and the Secretary of the Interior has no appellate or supervisory control of the matter.

Messrs. Kay, Totten & Winter for Dukesmith.

Mr. Murray Corrington pro se.

Mr. Edmund A. Wright for Turner.

DEPARTMENT OF THE INTERIOR,
OFFICE OF THE ASSISTANT ATTORNEY-GENERAL,
Washington, February 14, 1907.

The Secretary of the Interior:

SIR: By your reference I am asked for opinion upon the petition of Murray Corrington in the nature of a proffered appeal to the Secretary of the Interior from the action of the Commissioner of Patents, denying Corrington's motion that one Turner be required to file a supplemental oath, and denying his further motion to dissolve an interference as to Turner upon their respective applications for Letters Patent for an invention.

The motion to dissolve the interference was made upon the ground of irregularity and insufficiency of Turner's oath in that proceeding, and the Commissioner of Patents, having previously ruled that defects in Turner's oath, if there were such, might be corrected after the termination of the interference proceedings, refused to entertain the motion.

I am of opinion that the questions presented are judicial or quasi-judicial in character, within the jurisdiction of the Commissioner of Patents, subject only to review by the courts; that the Secretary of the Interior has no appellate or supervisory control of this matter, and advise you that the petition should not be entertained. (See *Poole* v. *Avery*, and cases therein cited, 14 Opinions of Assistant Attorney-General, 177.)

Very respectfully,

(Signed) FRANK L. CAMPBELL,
Assistant Attorney-General.

Approved February 14, 1907.

(Signed) E. A. HITCHCOCK,
Secretary.

DECISIONS OF THE U. S. COURTS.

Court of Appeals of the District of Columbia.

IN RE MCNEIL AND STURTEVANT.

Decided December 4, 1906.

1. PATENTABILITY—DOUBLE USE.

A patent will not be granted upon the discovery of a new and analogous function for an old machine. (*Roberts* v. *Ryer*, 91 U. S., 150; *Ansonia Co.* v. *Electrical Supply Co.*, 144 U. S., 11; *Potts* v. *Creager*, 155 U. S., 597.)

2. SAME—REVERSAL OF PARTS.

Claims which comprise merely a reversal of parts disclosed in a prior machine are not patentable.

3. SAME—CONSTRUCTION OF CLAIMS—IMPLYING STRUCTURES NOT IN CLAIMS.

Where an applicant's claims to a trimmer for sewing-machines make no mention of a presser-foot, a difference in structure embodying a particular form of presser-foot which is not clearly pointed out in the record will not be assumed.

Mr. C. L. Sturtevant and *Mr. E. G. Mason* for the appellant.

Mr. Fairfax Bayard for the Commissioner of Patents.

ROBB, *J.:*

This is an appeal from a decision of the Commissioner of Patents rejecting all the claims, eight in number, of an application for patent.

The second, fifth and eighth claims contain the substance of all, and are as follows:

2. In a sewing-machine, the combination with suitable stitch-forming mechanism, a work-support, mechanism for feeding a plurality of thicknesses of fabric to the stitch-forming mechanism, a trimming mechanism, comprising two members, one operating above the work-support and having its upper surface serving as a support for the upper layer of fabric and to separate the layers of fabric, and having its lower edge coöperating with the other trimming member, to sever the lower layer of fabric, said separating member of the trimmer deflecting the severed edge from the body portion of the fabric; substantially as described.

5. In a sewing-machine, the combination with suitable stitch-forming mechanism; a work-support, mechanism for feeding a plurality of thicknesses of fabric to the stitch-forming mechanism, a trimming mechanism located below the work-support, and comprising two members, one of which extends through the work-support and above the same, said member having an upper edge serving as a support for the upper layer of fabric, and having its lower edge coöperating with the other member of the trimming device to sever the lower layer of fabric, the vertical rear portion of said upper member serving to deflect the free severed edge from the stitched portion of the fabrics; substantially as described.

8. In a sewing-machine, the combination with suitable stitch-forming mechanism, a work-support, and mechanism for feeding a plurality of thicknesses of fabric to the stitch-forming mechanism, a trimming mechanism comprising two members, one of which has its upper surface serving as a support for the upper layer of fabric, and to separate the layers of fabric and the other of which coöperates with the first member to sever one of the layers of fabric; substantially as described.

The references forming the basis for the rejection of these claims are: *Borton et al.*, March 28, 1882, No. 255,578; *Willcox*, June 28, 1887, No. 365,716. Other patents are referred to by the Examiner, but it is unnecessary to notice them here.

The subject-matter of appellants' alleged invention consists of a mechanism for stitching together two superposed layers of material and a coacting mechanism for trimming or cutting one of the layers just beyond the seam. This combination, stitching mechanism and trimming mechanism, is not new in the art, but appellants contend that by a readjustment and modification of certain parts they have secured for the upper member of their trimmer, or cutting-blade, a new function, and, therefore, the combination is patentable.

In the Willcox patent there is shown acting in conjunction a stitching mechanism and a trimming mechanism, the difference being that in the Willcox patent the upper member of the cutting or trimming mechanism is stationary, the lower member being pivoted to coöperate therewith, but the upper member although stationary projects forward so that its pointed end penetrates between the superposed layers of fabric, and the member itself is mounted on the work-support, which of necessity brings the cutting edge in the same plane with the work-support as in appellants' machine. In other words, appellants, so far as their claims disclose, have done nothing more than to reverse the parts of the Willcox patent. The similarity between the Borton and Willcox patent and appellants' claims is still more striking. We say appellants' "claims," because their drawings fail to disclose in unbroken lines a complete trimmer. Counsel in the argument at bar, however, contended that the structure of the Borton and Willcox presser-foot was such as to preclude the possibility of the upper cutting member performing the function performed by

appellants' upper cutting member. In the Borton and Willcox patent the presser-foot is divided so that one side comes close to the needle-hole while the other is cut away sufficiently to enable the cutting-blade to trim close to the seam. In appellants' machine, counsel stated, the presser-foot is not divided, and this results, it is contended, in giving the upper trimming-blade free scope and enables it to lift and support the upper layer of fabric while the lower is being trimmed, and thereby perform an important function of which the Borton and Willcox machine is not capable. But, this contention rests upon a premise not sustained by the record. Appellants' claims make no mention of a presser-foot, and we are not at liberty to assume a difference in structure when it is not clearly pointed out in the record. So far as this record discloses, a patent is sought on the discovery of a new and analogous function for an old machine. That such a discovery is not patentable has long since been determined: *Roberts* v. *Ryer*, (91 U. S., 150;) *Ansonia Co.* v. *Electrical Supply Co.*, (144 U. S., 11;) *Potts* v. *Creager*, (155 U. S., 597.)

The Examiner, whose decision was in turn sustained by the Examiners-in-Chief, and the Commissioner, has this to say in construing the Borton and Willcox patent:

> Of these patents the one to Borton and Willcox (No. 255,578) shows a trimming mechanism which is essentially the same as that of McNeil and Sturtevant. The blade projecting above the bed-plate is immediately in the rear of the needle and so arranged relative to the stitching mechanism as to trim, (in the use described) the fabric parallel to the line of stitching. There appears to be no reason whatever why this machine could not be used to stitch a single-turn hem and trim the free or raw edge parallel to the line of stitching precisely the same manner as McNeil and Sturtevant's machine. Even if patentees did not have this use in mind at the time the patent was granted, it is a well-settled principle of law that an inventor of a machine or a mechanism is entitled to all the uses to which it may be applied without changing the machine or mechanism itself. Attention is called in this connection to the case of the *Western Electric Co.* v. *Sperry Electric Co. et al.*, (597 C. D., 1893, p. 573,) and to the decision of the present Commissioner in the case of *Blue* v. *Power* v. *Ownes*, (101 O. G., 2076.) In this latter decision, the Commissioner stated that—
>
> "Where a party obtains a patent on an apparatus, he is entitled to all the analogous uses of which his apparatus is capable. The Office cannot grant a patent on a device to one party for a particular use and then grant a second patent on the same device to a second party who employs it for a different but analogous purpose."

It is contended, however, that—

> it is not a question of whether certain limitations should be put into the claims of appellants, but wholly a question of whether the Borton and Willcox discloses a structure capable of securing the same function as appellants'.

The complete answer to this contention, it seems to us, lies in the fact that appellants' claims are for a mechanism, which, so far as described, does not differ in essential details from the Borton and Willcox patent. The Examiner, in treating of this phase of the case, said:

> If there is anything in applicants' construction which adapts it to perform a class of work not capable of being performed by the Borton machine it must be due to a difference in structure and certainly no real difference in structure over that shown by Borton is found in these claims.

Finding no error, the decision appealed from will be affirmed, and this opinion and the proceedings in this court will be certified to the Commissioner of Patents as required by law, and it is so ordered. Affirmed.

Disclaimer.

600,186.—*Frank Voigtmann*, Chicago, Ill. FIREPROOF WINDOWS. Patent dated March 8, 1898. Disclaimer filed February 18, 1907, by patentee and assignee.

Enter their disclaimer—

"To that part of the specification and claims which are in the following words, to wit:

"Page 1, commencing in line 13:

"Heretofore sheet-metal sash and casing have been used; but they have been put together with solder or other destructible material, which melts and allows the joints to fall apart when subjected to heat; also, it frequently happens that the so-called 'fireproof windows,' being adapted to open up under ordinary circumstances, will be caught by a sudden outbreak of fire with the sash open and therefore present no obstruction to the fire whatever.

"My invention aims at overcoming these objections."

"Page 2, commencing in line 24:

"but in place of this link any other destructible connection which is inflammable or readily destroyed by heat or fire may be used."

"Also claims 1, 2, 3, and 4, reading as follows:

"1. The herein-described fireproof window, consisting of the combination of the sheet-metal casing A, having the clenched joints I at its corners, the metallic sash D having the pliable metallic lugs E for securing the glass, and the fireproof glass C; all substantially as shown and described.

"2. The herein-described fireproof window, consisting of the combination of the sheet-metal casing A, having the clenched joints I at its corners, and the clenched joint K between its front and back; the metallic sash D, having the pliable metallic lugs E, and the fireproof glass C; all substantially as shown and described.

"3. The herein-described fireproof window, consisting of the combination of the sheet-metal casing A, having the clenched joints I at its corners, and the rivets J in said joints, the metallic sash D, having the pliable metallic lugs E, and the fireproof glass C; all substantially as shown and described.

"4. The herein-described fireproof window, consisting of the combination of the sheet-metal casing A, having the clenched joints I at its corners, the metallic sash D having the pliable metallic lugs E, the fireproof glass C, the drip-passage F and the strip G; all substantially as shown and described."

Interference Notices.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., February 15, 1907.

James J. Six Dykstra, his assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of Friedrich Adolf Richter, of New York, N. Y., for registration of a trade-mark and a trade-mark registered to James J. Six Dykstra, of Chicago, Ill. The notices of declaration mailed by the Patent Office in the usual manner to the said James J. Six Dykstra at his known address, 94 South Market street, Chicago, Ill., and to his attorney of record have been returned by the Post-Office Department undelivered.

Notice is therefore hereby given to the said James J. Six Dykstra, his assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

E. B. MOORE, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., February 15, 1907.

Whitman & Welch, their assigns or legal representatives, take notice:

An interference has been declared by this Office between an application of the Exposition Cotton Mills, of Atlanta, Ga., for registration of a trade-mark, an application and a registration of the Massachusetts Cotton Mills, of Lowell, Mass., and a trade-mark registered to Whitman & Welch, of New York, N. Y., and Hartford, Conn. It has been impossible to locate said Whitman & Welch, and registered letters addressed to this firm have been returned by the Post-Office Department unclaimed.

Notice is therefore hereby given to said Whitman & Welch, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

E. B. MOORE, *Acting Commissioner.*

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., January 18, 1907.

F. G. Whitney & Company, their assigns or legal representatives, take notice:

An interference having been declared by this Office between the application of E. M. Weinberg & Company, of 134 Mott street, borough of Manhattan, New York, N. Y., for registration of a trade-mark and a trade-mark registered to F. G. Whitney & Company, of Attleboro, Mass., and the notice of said declaration mailed by the Patent Office in the usual manner to the said F. G. Whitney & Company having been returned undelivered, notice is hereby given to the said F. G. Whitney & Company, their assigns or legal representatives, that if they or any of them desire to contest the said interference they should immediately put themselves in communication with the Commissioner of Patents in order that the notice of declaration heretofore sent by and returned to the Office may be forwarded to them.

This notice will be published in the OFFICIAL GAZETTE for six consecutive weeks. If no appearance shall be entered at the expiration of the period of publication, the interference will be proceeded with as in case of default.

F. I. ALLEN, *Commissioner.*

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COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS

IN THE MATTER OF

PATENTS, TRADE-MARKS, ETC.

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DIGEST OF DECISIONS

OF THE

COMMISSIONER OF PATENTS

AND OF

UNITED STATES COURTS

IN THE MATTER OF

PATENTS, TRADE-MARKS, ETC.

OFFICIAL GAZETTE—JANUARY–FEBRUARY, 1907.

DIGEST OF DECISIONS.

[Decisions of the United States courts are indicated by an asterisk (*) and of the Secretary of the Interior by a dagger (†).]

ABANDONMENT OF APPLICATIONS.

1. DIVISION OF APPLICATIONS.
Where after final requirement of division numerous letters and petitions are filed in regard thereto, but no appeal is taken or compliance had within the ensuing year, *Held* that it is not clear that the actions taken could prevent the operation of the statute as to abandonment.
[*The United States of America, *ex rel.* Tuttle, *v.* Allen, Commissioner of Patents, 760.

2. APPEAL.
The action of the Office holding an application to be abandoned is, in effect, a rejection. If that action is erroneous, the applicant has his remedy by way of appeal. [*Id.

3. SUFFICIENCY OF AMENDMENT.
Where the first amendment made by applicant five days before the expiration of the year from the Examiner's first action rejecting all the claims consisted of a few corrections to the specification, an argument as to the patentability of the claims, and the addition of a new claim, and the Examiner in admitting this amendment and rejecting the claims warned applicant that it was not such an action as the condition of the case required and that the added claim was so broad as to be met in nearly all selective signaling systems, and where, following this, applicant filed an amendment two days before the expiration of a year from the last action of the Examiner in which he amended all of the claims except the broad claim added by the previous amendment, which claim he neither canceled nor amended nor presented any reasons why he considered it allowable, *Held* that the latter amendment was not entirely responsive to the Examiner's rejection and was not sufficient to save the application from abandonment. [*Ex parte* Leich, 1066.

4. REPEATED DELAYS—RIGHTS STRICTLY CONSTRUED.
Where an applicant attempts to excuse the delay in the prosecution of his case on the ground that its subject-matter is dominated by certain claims in a copending application and that he considered it advisable to press the broad application to allowance before letting this application go to issue, *Held* that the conduct of applicant in the prosecution of his case has not been such as to entitle him to leniency in the application of the rule that amendments must be such as the condition of the case requires and that in electing to prosecute his application in this manner he must assume all risk as to the sufficiency of his actions. [Id.

5. EXCUSE FOR DELAY.
Confusion upon the attorney's docket by reason of Office action suggesting claims for interference is not acceptable as a showing of unavoidable delay in responding to the prior Office action. [*Ex parte* Hess, 3041.

ACCESS TO APPLICATIONS.

(See Interference, 9.)

ACT OF FEBRUARY 20, 1905.

(See Trade-Marks, 14, 15.)

ACT OF MAY 4, 1906.

(See Trade-Marks, 18, 19, 20.)

AFFIDAVITS.

(See Motion to Dissolve Interference, 2.)

AGGREGATION.

(See Division of Applications.)

AMENDMENTS.

(See Abandonment of Applications, 3, 4; Interference, 10, 12; Trade-Marks, 15.)

1. ENTRY AFTER REJECTION UNDER RULE 132.
Where following the termination of an interference and the rejection of the defeated party's claims he filed an amendment canceling the rejected claims and adding new claims, which amendment was refused admission by the Examiner on the ground that the prosecution before the Primary Examiner was closed by reason of the fact that the application had been appealed to the Examiners-in-Chief, allowed, and passed to issue prior to the declaration of the interference, *Held* that the rejection of the claims involved in the interference under Rule 132 is a new ground of rejection and that the rules and statute give applicant the right to amend in an endeavor to overcome said ground of rejection. [*Ex parte* Klepetko, 387.

2. PETITION—RULE 78.
A petition for the entry of an amendment presented under Rule 78 after the allowance of the application will be denied where the amendment includes claims which the Examiner in his report upon the petition states are not patentable.
[*Ex parte* Fleming, 2590.

3. RULE 78—DISCRETION OF EXAMINER.
The entry of claims under Rule 78 is not a matter of right, but a privilege allowed applicants where claims are found allowable by the Examiner upon such consideration of the case as he may deem proper. The Examiner will not be directed to consider the question of patentability of claims presented after his report upon petition. [Id.

AMENDMENTS TO PRELIMINARY STATEMENTS.

(See Preliminary Statement.)

APPEAL.

(See Abandonment of Applications, 1, 2; Appeal from the Examiner of Interferences; Appeal from the Examiners-in-Chief; Appeal to the Court of Appeals of the District of Columbia; Division of Applications, 1; Interference, 6, 7, 8, 11, 12, 18, 19, 21, 23, 24; Mandamus, 1; Motion for Rehearing, 1, 2, 3, 6; Priority of Invention, 4; Trade-Marks, 1.)]

APPEAL FROM THE COMMISSIONER OF PATENTS.

(See Appeal to the Court of Appeals of the District of Columbia, 2.)

APPEAL FROM THE EXAMINER OF INTERFERENCES.

NON-APPEALABLE QUESTION—DISMISSED.
Where a ruling is made that an appeal from the Examiner of Interferences will not be entertained by the Commissioner on a given question, an appeal on that question will not be considered even though filed prior to the rendition of the decision.
[Hanan and Gates *v.* Marshall, 3423.

APPEAL FROM THE EXAMINERS-IN-CHIEF.

INTERFERENCE—DISCLAIMER BY APPELLEE—DISMISSED.
Where appeal is taken from a decision of the Examiners-in-Chief on the question of priority and the appellee files a motion to dismiss the appeal, accompanied by a disclaimer of the invention in issue signed by the appellant, *Held* that the disclaimer will be considered a concurrence in the motion of the appellee to dismiss the appeal. [Wert *v.* Borst and Groscop, 2191.

APPEAL FROM FAVORABLE DECISION.

(See Appeal to the Court of Appeals of the District of Columbia; Interference, 17, 18.)]

APPEAL TO THE COMMISSIONER OF PATENTS.

(See Appeal from the Examiner of Interferences; Interference, 21.)

APPEAL TO THE COURT OF APPEALS OF THE DISTRICT OF COLUMBIA.

1. CONSIDERATION OF PATENTABILITY BY COURT.
Where the Primary Examiner has held claims to be patentable and the Examiner of Interferences and the Examiners-in-Chief have omitted or declined to call the attention of the Commissioner to the unpatentability of the issue or where the Commissioner has declined to review the decision of the Primary Examiner after his attention has been called to the alleged unpatentability of the issue, the Court of Appeals of the District of Columbia should hold the question of patentability to be settled, except in an extraordinary case. The statute does not provide for an appeal to the court from a ruling by the Commissioner or of any subordinate tribunals affirming the patentability of a claimed invention. It is only from a decision adverse to the patentability of a claim that an appeal will lie.
[*Sobey v. Holsclaw, 3041.

2. JURISDICTION OVER PROCEDURE BEFORE COMMISSIONER.
On an appeal from the Commissioner of Patents to the Court of Appeals of the District of Columbia on the question of priority of invention the court has no power to hold that the Commissioner has committed an error for which a case should be reversed because of a claim that he refused to permit counsel to be heard in support of a given contention. The court cannot in such a proceeding control his action in a discretionary matter such as the extent of oral argument he will permit at a hearing of an interference. [*Id.

3. JURISDICTION OF COMMISSIONER AFTER APPEAL TO COURT ON PRIORITY.
After a decision of the court of appeals on the question of priority the Commissioner of Patents may refuse a patent to the successful interferant. [*Id.

APPEAL TO THE EXAMINERS-IN-CHIEF.

(See Division of Applications, 1; Interference, 7.)

APPEAL TO THE SECRETARY OF THE INTERIOR.

(See Interference, 24.)

APPLICANT AND PATENTEE.

(See Interference, 16, 17.)

APPLICATIONS.

(See Abandonment of Applications; Amendments; Construction of Claims; Division of Applications; Interference, 9, 10, 22, 24; Oath; Priority of Invention; Public Use and Sale; Reduction to Practice; Reissue; Specifications; Withdrawal of Allowed Cases from Issue.)

ATTORNEYS.

(See Abandonment of Applications, 5.)

CITIZENSHIP.

(See Oath.)

CLAIMS.

(See Amendments; Construction of Claims; Interference, 10, 11, 12, 15, 16, 17, 19, 22; Patentability.)

COMMISSIONER OF PATENTS.

(See Appeal from the Examiner of Interferences; Appeal to the Court of Appeals of the District of Columbia; Interference, 7, 19, 20, 21, 22, 24; Trade-Marks, 11.)

CONCEPTION OF INVENTION.

(See Interference, 2, 3.)

CONSTRUCTION OF CLAIMS.

(See Interference, 16, 17, 22.)

1. CLAIMS—NEW MATTER—"MOUNTED UPON" CONSTRUED.
A claim for a latch mounted upon a mold-blade section of a type-mold *Held* to cover matter not within the original disclosure, the words "mounted upon" not being properly descriptive of a part which merely rides in or over another in a slot for the purpose.
[*In re Duncan, Prichard, and Macauley, 2592.

2. SAME—IMPLYING STRUCTURES NOT IN CLAIMS.
Where an applicant's claims to a trimmer for sewing-machines make no mention of a presser-foot, a difference in structure embodying a particular form of presser-foot which is not clearly pointed out in the record will not be assumed.
[†Dukesmith v. Corrington v. Turner, 3425.

CONSTRUCTION OF RULES.

(See Amendments; Decisions of the Examiner of Interferences 2; Interference, 11, 12, 19, 23; Testimony.)

CONSTRUCTION OF STATUTES.

(See Appeal to the Court of Appeals of the District of Columbia, 1; Decision of the Examiner of Interferences, 2; Interference, 18, 19, 20; Notary Public; Oath; Trade-Marks, 14, 15, 16, 18, 19, 20.)

CONTINUOUS APPLICATION.

(See Reduction to Practice, 2.)

COPIES OF INTERFERENCE RECORDS.

(See Interference, 9.)

COURT OF APPEALS OF THE DISTRICT OF COLUMBIA.

(See Appeal to the Court of Appeals of the District of Columbia; Priority of Invention, 4.)

DATE OF FILING APPLICATIONS.

(See Reduction to Practice.)

DATE OF FILING MOTION.

(See Motion for Rehearing, 4.)

DECEIVING THE PUBLIC.

(See Trade-Marks, 11, 12.)

DECISION OF THE EXAMINER OF INTERFERENCES.

(See Interference, 8, 19.)

1. INTERFERENCE—PRIORITY—BASED ON OPERATIVENESS OF DEVICE.
Where the Examiner of Interferences awarded priority of invention to one party on the ground that the application of his opponent fails to show an operative device, *Held* that the operativeness of an applicant's device affects his right to make the claim and that the action of the Examiner of Interferences was in accord with the rules and decisions.
[Greenawalt v. Mark, 1063.

2. SAME—SAME.
The decision of the Examiner of Interferences is not a rejection of the claims under section 4903, Revised Statutes, although it may form a basis for such rejection by the Primary Examiner under Rule 132. [Id.

DECISIONS OF THE PATENT OFFICE TRIBUNALS.

(See Interference, 21; Priority of Invention, 4.)

DELAY IN APPLYING FOR REISSUE.

(See Reissue.)

DELAY IN PROSECUTING APPLICATION.

(See Abandonment of Applications, 4, 5.)

DEMURRER.

(See Trade-Marks, 2.)

DESCRIPTION.

(See Specifications.)

DILIGENCE.

(See Interference, 2, 3.)

DISCLAIMER.

(See Appeal from the Examiners-in-Chief.)

DISCLOSURE OF INVENTION.

(See Appeal from the Examiners-in-Chief; Construction of Claims, 1; Preliminary Statement; Priority of Invention, 1, 2.)

DIVISIONAL APPLICATIONS.

(See Reduction to Practice.)

DIVISION OF APPLICATIONS.

(See Abandonment of Applications, 1; Mandamus, 3.)

1. SHOULD BE SETTLED BY APPEAL TO EXAMINERS-IN-CHIEF BEFORE ACTION ON PATENTABILITY OF CLAIMS.
Where the Examiner based his requirement for division upon proper grounds, the question of whether the Examiner is right in his requirement is a matter for consideration on appeal by the Examiners-in-Chief before action is made upon the patentability of the claims. [*Ex parte* Crain, 758.

2. PRACTICE.
The fact that as an aid to applicant in electing how he will divide the Examiner cited patents showing the prior art and volunteered the opinion that the claims are for aggregations does not change the practice and does not warrant the assumption that the Examiner's action amounts to a refusal to examine the case on the ground that the claims cover aggregations.
[Id.

DOUBLE USE.

(See Patentability.)

DRAWINGS.

(See Priority of Invention, 2; Trade-Marks, 19.)

EVIDENCE.

(See Interference, 4; Trade-Marks, 12.)

EXAMINATION OF APPLICATIONS.

(See Abandonment of Applications, 3, 4; Division of Applications, 2; Specifications.)

EXAMINER OF INTERFERENCES.

(See Appeal from the Examiner of Interferences; Appeal to the Court of Appeals of the District of Columbia, 1; Decisions of the Examiner of Interferences: Interference, 7, 8, 11; Motion to Dissolve Interference; Trade-Marks, 1.)

EXAMINERS.

(See Mandamus, 1; Priority of Invention, 3.)

FAILURE TO TAKE TESTIMONY.

(See Interference, 1.)

FINAL FEE.

(See Withdrawal of Allowed Cases from Issue.)

FIRST AND ORIGINAL INVENTOR.

(See Interference, 5.)

FORMER DECISION CITED.

(See Interference, 18; Motion for Rehearing, 5; Patentability, 1; Specifications; Trade-Marks, 8, 9.)

FORMER DECISIONS REFERRED TO.

(See Interference, 11, 17.)

FUNCTION.

(See Interference, 15.)

INOPERATIVENESS.

(See Decisions of the Examiner of Interferences; Motion to Dissolve Interference; Priority of Invention, 4.)

INTERFERENCE.

(See Amendments, 1; Appeal from the Examiner of Interferences; Appeal from the Examiners-in-Chief; Construction of Claims; Decision of the Examiner of Interferences; Inter Partes Cases; Mandamus; Motion for Rehearing; Motion to Dissolve Interference; Patentability; Preliminary Statement; Priority of Invention; Public Use and Sale; Reduction to Practice; Testimony; Trade-Marks, 1, 3, 6, 10, 13, 14.)

1. TRADE-MARK—FAILURE TO TAKE DEPOSITION IN ACCORDANCE WITH NOTICE—SUBSEQUENT DEPOSITION—SUPPRESSION.
Where a party to an interference gives notice to the opposing party of his intention to take testimony at a certain time and place, but fails to appear at the time and place stated, and no notice is given of his inability to take testimony in accordance with the notice, testimony taken under a subsequent notice will not be considered if proper objection is made by the opposing party unless it appears that the opposing party was not injured by the failure to act upon the original notice or that there were good reasons for such failure to act then and for the failure to duly notify the opposing party of the postponement.
[Densten v. Burnham, 388.

2. PRIORITY—DILIGENCE.
Where P. conceived the invention in the early part of November, 1903, and filed his application December 11, 1903, and W. conceived the invention on September 16, 1903, but did not reduce it to practice prior to the filing of his application on January 27, 1904, *Held* that W. was lacking in diligence in the absence of a sufficient excuse for the delay.
[Woods v. Poor, 391.

3. SAME—SAME—ENDEAVOR TO IMPROVE DEVICE.
The claim of an inventor, advanced as an excuse for his delay in reducing to practice, that he was endeavoring to improve upon his conception is not supported by testimony showing merely that conversations were held looking to the improvement thereof where it does not appear that any changes were actually made or that any material changes were even suggested. [Id.

4. SAME—SAME—CLAIM OF POVERTY NOT PROVED.
A claim of an inventor that he was financially unable to reduce his invention to practice after paying the necessary expenses of his business is not proved where the evidence does not show what the necessary expenses of the business were and where there is no evidence of the inventor's resources except his own statement that he had only a given amount of cash on hand. [Id.

5. ORIGINALITY.
An allegation of derivation of an invention by one party from another is not proved by a mere showing that opportunity for such derivation existed. [Id.

6. APPEAL AFTER EXPIRATION OF LIMIT OF APPEAL.
A motion to extend the limit of appeal to include an appeal filed about three weeks after the expiration of the limit of appeal, supported by affidavits tending to excuse the delay, granted, where it appeared that the granting of the motion was not opposed and that the appeal might be heard with an appeal filed by the opposing party, to whom no delay would therefore result. [Normand v. Krimmelbein, 757.

7. SAME—MOTION CONSIDERED BY COMMISSIONER IN PERSON.
It is the practice for the Commissioner to consider in person a motion to extend the limit of appeal to include an appeal to the Examiners-in-Chief filed after the expiration of the limit of appeal rather than to restore jurisdiction to the Examiner of Interferences for this purpose. [Id.

8. MOTION TO SUSPEND PROCEEDINGS—APPEAL.
The decision of the Examiner of Interferences refusing to suspend proceedings pending a determination of contempt proceedings brought in a United States circuit court for failure of witnesses to appear and testify in response to subpoena will not be disturbed where it does not appear that great hardship will otherwise ensue.
[Outcault v. The New York Herald Company, 757.

9. ACCESS TO APPLICATION OF FORMER OPPONENT.
Where the joint applicants H., G., and F. filed a concession in favor of the sole applicant H. and judgment was thereupon entered against the joint applicants, *Held* that the application of H., G., and F. is no longer involved in the interference proceeding, and the fact that it was formerly so involved is no reason for permitting D., another party to said interference, to obtain a copy of it at this time.
[Herr *v.* Herr, Groves, and Foreman *v.* Dodds, 758.

10. SHIFTING CLAIMS FROM ONE APPLICATION TO ANOTHER—TRANSMISSION AT REQUEST OF PRIMARY EXAMINER.
Where a party having two applications involved in companion interferences presents amendments canceling the interfering claims from one application and adding them to the other for the purpose of withdrawing one application from interference and concealing its subject-matter, *Held* that the request of the Primary Examiner that the interference be transmitted to him for the purpose of considering these amendments should be granted, as the other party will not be seriously inconvenienced by the slight delay caused by taking the desired action.
[Behrend *v.* Lamme, 1065.

11. CLAIMS PRESENTED UNDER RULE 109—PRACTICE.
The reasons which led to the change in Rule 124, set forth in *Newcomb v. Thomson*, (122 O. G., 3012,) apply with nearly the same force to motions under Rule 109. The purpose of Rule 109 is to avoid a second interference. If a party wishes to appeal from an adverse decision on the merits of his claims presented under Rule 109, he should be permitted to do so to the full extent provided by law in order that the necessity for a subsequent *ex parte* appeal and the possibility of a second interference may be avoided. [Townsend *v.* Copeland *v.* Robinson, 1355.

12. SAME—SAME.
The practice concerning motions to add claims under Rule 109 should follow the procedure set forth in Rule 124 relative to motions for dissolution. The amendment accompanying the motion made under Rule 109 should be entered in the application, and if the Examiner holds that the claims are not allowable to the party bringing the motion he will reject the claims. Following Rule 124, the Examiner will also set a time for reconsideration, and if after reconsideration he adheres to his original decision he will finally reject the claims and fix a limit of appeal. [Id.

13. MOTION TO TAKE TESTIMONY ON OPERATIVENESS—GOOD FAITH.
It must appear from the showing accompanying a motion to take testimony on the question of operativeness that the moving party is acting in good faith and that the matters alleged in support of the motion are such as to justify the setting of times for taking testimony.
[Clement *v.* Browne *v.* Stroud, 2589.

14. SAME—HEARING ON SUFFICIENCY OF SHOWING—COUNTER AFFIDAVITS.
Motions to take testimony on the question of the operativeness of an opposing party's device will generally be disposed of on the showing made by the moving party, and when the moving party files affidavits in support of his motion the Office will hear the opposing party on the sufficiency of the showing; but counter affidavits should not be admitted. [Id.

15. RIGHT TO MAKE CLAIM.
A party cannot be deprived of the right to make a claim by reason of the fact that his structure performs some function in addition to what is called for by the claim.
[Miel *v.* Young, 2591.

16. SAME—LIMITATION OF CLAIM BY CONSTRUCTION CONDEMNED.
A claim made by a patentee involved in interference with an applicant which refers broadly to reinforcing means should not be limited by construction to reinforcing means operating in a specified way where there is nothing in the record to show that such a limitation is necessary to render the claim patentable over the prior art and where it is not clear that the reinforcing means disclosed by the applicant does not operate in the same way as that disclosed by the patentee. [Id.

17. SAME—ONE PARTY A PATENTEE—CONSTRUCTION OF CLAIM.
The fact that one of the parties to an interference has obtained a patent should have no bearing on the interpretation of a claim in issue in determining the right of an applicant to make such claim. If the terms of the claim do not in their ordinary meaning define the invention of the patentee as he wishes to have it defined, he may, as intimated in *Andrews v. Nilson*, (123 O. G., 1667,) apply for a reissue. [Id.

18. DISSOLUTION—APPEAL FROM AFFIRMATIVE DECISION ON PATENTABILITY.
Neither the rules of the Patent Office nor any section of the Revised Statutes provide for nor permit appeals from a decision rendered upon a motion for dissolution affirming the patentability of the issue. (*Allen v. Lowry*, 116 O. G., 2253.)
[*Sobey *v.* Holsclaw, 3041.

19. APPEAL ON PRIORITY—PATENTABILITY OF ISSUE.
Where the patentability of the claims of an interference issue has been favorably passed upon by the Primary Examiner *ex parte* and also *inter parties* upon a motion to dissolve, from whose affirmative decision in the latter case no right of direct appeal is given either by the patent statutes or the rules of the Patent Office, and both the Examiner of Interferences and the Examiners-in-Chief have refused to direct the attention of the Commissioner, under Rule 126, to the fact that the claims were unpatentable, it cannot be successfully maintained that the Commissioner of Patents decided the question of priority without first determining and deciding that the subject-matter was patentable. [*Id.

20. SAME—REVIEW BY COMMISSIONER OF DECISION OF EXAMINER ON PATENTABILITY OR RIGHT TO MAKE CLAIMS.
The Primary Examiners, who are given statutory authority to decide questions of patentability, are under the supervision of the Commissioner, and it would seem to be not only his right but his duty to correct any manifest error committed by any of the Primary Examiners relative to the patentability of a supposed invention or of the right of an applicant to claim it whenever such error was called to his attention. To warrant any action on his part in such a case, the error must be so gross that it would be a wrong to the public to permit a patent to issue. It manifestly should not be based upon a mere difference of opinion. [*Id.

21. SAME—ADOPTION BY COMMISSIONER OF VIEWS OF SUBORDINATE TRIBUNALS.
Where the question of the patentability of the claims of the issue has been repeatedly raised before the subordinate tribunals of the Patent Office and is again raised upon appeal to the Commissioner on priority, the adoption by the Commissioner of the views of the subordinate tribunals is a sufficient determination by him of the question so far as it is necessary to be determined in an interference proceeding. [*Id.

22. ISSUES—CONSTRUED IN LIGHT OF APPLICATION FIRST CONTAINING THEM.
Since the claims of an interference issue are to be construed in the light of the application of the party first making them, it would be manifestly improper for the Commissioner of Patents to read into them for any purpose limitations not disclosed in the application of such party. [*Id.

23. MOTION TO DISSOLVE—NO APPEAL FROM HOLDING THAT COUNTS HAVE IDENTICAL MEANING.
From the decision of the Examiner holding that there is interference in fact or that the counts of the issue have the same meaning in the cases of the different parties no appeal is permitted under the provisions of Rule 124.
[Dukesmith *v.* Corrington *v.* Turner, 3422.

24. DEFECTIVE APPLICATION OATH—APPEAL TO SECRETARY.
The decision of the Commissioner of Patents ruling that defects in the application oath of one of the parties, if there were such, might be corrected after the termination of the interference is judicial or quasi-judicial in character and subject only to review by the courts, and the Secretary of the Interior has no appellate or supervisory control of the matter.
[†Dukesmith *v.* Corrington *v.* Turner, 3425.

INTER PARTES CASES.

SERVICE—PETITIONS AND MOTIONS.
All petitions and motions in *inter partes* cases must be accompanied by proof of service or by copies to be forwarded by the Office. [Browne *v.* Stroud, 3041.

INVENTION.

(See Patentability.)

PATENTABILITY—CARRYING FORWARD AN OLD IDEA.
Where the prior art disclosed a train of gearing positively connecting the hour, minute, and second hands of a time mechanism, whereby the rotation of one would cause the proper relative movement of the others, and it also disclosed a winding and setting mechanism controlling the proper relative rotation of the minute and hour hands, it did not amount to invention to insert an additional gear and pinion in the latter mechanism to secure the proper position of the second-hand with relation to the minute and hour hands upon operation of the setting mechanism. [*In *re* Volkmann and Truax, 2593.

JOINT AND SOLE APPLICANTS.

(See Interference, 9.)

JURISDICTION OF THE COMMISSIONER OF PATENTS.

(See Appeal to the Court of Appeals of the District of Columbia, 2, 3; Interference, 24.)

JURISDICTION OF THE EXAMINER.

(See Motion for Rehearing, 1, 2, 3, 6.)

LACHES.

(See Reissue.)

LIMITATION OF CLAIMS.

(See Interference, 16, 17, 22.)

LIMIT OF APPEAL.

(See Interference, 6, 12; Motion for Rehearing, 1, 2, 4.)

LIMIT OF TIME.

(See Trade-Marks, 16, 17; Withdrawal of allowed Cases from Issue.)

MANDAMUS.

1. PRACTICE.
The writ of mandamus cannot be used in the place of an appeal or writ of error to correct any erroneous decision made by the Primary Examiner in the course of his official duties.
[*The United States of America, *ex rel.* Tuttle *v.* Allen, Commissioner of Patents, 760.

2. SAME.
The writ of mandamus cannot be used to control the exercise of judicial discretion. [*Id.

3. DIVISION.
Where division had been required between the claims of an application for patent and it was sought by mandamus to compel consideration of the claims upon their merits, *Held* that it is of no consequence to the court in rendering the decision upon mandamus whether the Office was right or wrong in requiring division. [*Id.

MOTION FOR LEAVE TO TAKE TESTIMONY.

(See Interference, 13, 14; Motion to Dissolve Interference.)

MOTION FOR REHEARING.

1. INTERFERENCE—JURISDICTION TO DETERMINE AFTER LIMIT OF APPEAL.
The question of the Examiner's retaining jurisdiction to determine, after the expiration of the limit of appeal, a motion for rehearing brought before the expiration of the limit of appeal is a different matter from that of the termination of the limit of appeal. No good reason appears for holding that a tribunal may not properly render a decision on a motion for rehearing brought before the expiration of the limit of appeal, even though the date of the decision is after the limit of appeal has expired.
[Naulty *v.* Cutler, 389.

2. SAME—DOES NOT EXTEND LIMIT OF APPEAL.
The filing of the motion for rehearing does not extend the limit of appeal, and in case the motion is denied the moving party will have lost his right of appeal unless he has taken the precaution to file his appeal within the limit originally set or has obtained an extension of the limit of appeal. [Id.

3. SAME—QUESTION OF APPEAL.
The rule that there is no appeal from a decision denying a rehearing does not cover the case where the holding is want of jurisdiction to entertain the motion. [Id.

4. SAME—DATE OF FILING.
Where a motion was filed by N. on the last day of the limit of appeal and on the same day notice by registered letter was mailed to C.'s attorney and C. makes no contention that said notice was not received in ample time to prepare for the hearing, *Held* that N. is entitled to the date of the receipt of his motion in this Office as its date of filing. [Id.

5. SAME—PRACTICE.
It is not the practice to require service of requests or motions for rehearing upon the opposite party (*Townsend* v. *Copeland* v. *Robinson*, 124 O. G., 1845) or to set such motions for hearing unless examination of the motion and of the record shows that a rehearing ought to be granted. (*Adams* v. *Murphy*, 91 O. G., 2373.) [Id.

6. SAME—JURISDICTION NOT AFFECTED BY APPEAL.
Where a motion is filed for rehearing of the Examiner's decision and also an appeal from said decision, *Held* that the filing of the appeal does not oust the Examiner of jurisdiction to entertain the motion. [Id.

MOTION TO DISSOLVE INTERFERENCE.

(See Interference, 12 18, 23.)

1. INTERFERENCE—INOPERATIVENESS—MOTION TO TAKE TESTIMONY.
In presenting a motion to dissolve based upon alleged inoperativeness there is no necessity for a showing on the part of the moving party that his own structure is not inoperative, since dissolution will be necessary whether one or both of the structures is inoperative; but such showing is necessary to support a motion before the Examiner of Interferences for permission to take testimony on the question of operativeness.
[Clement *v.* Browne *v.* Stroud, 2189.

2. SAME—SAME—AFFIDAVITS IN SUPPORT OF MOTION TO TAKE TESTIMONY.
Where affidavits are presented in support of a motion to take testimony on the question of the operativeness of the opposing party's device, they will not be transmitted to the Primary Examiner to consider the sufficiency thereof, as they are not pertinent to the motion to dissolve, but only to the motion to take testimony, which is a matter for the consideration of the Examiner of Interferences. [Id.

MOTION TO EXTEND LIMIT OF APPEAL.

(See Interference, 6, 7.)

MOTION TO SUSPEND INTERFERENCE.

(See Interference, 8; Trade-Marks, 1.)

NEW MATTER.

(See Construction of Claim; 1; Priority of Invention, 3.)

NOTARY PUBLIC.

OATH—BEFORE NOTARIES PUBLIC—APPLICATION OF ACT OF JUNE 29, 1906.
The act of June 29, 1906, amending section 558 of the code of the District of Columbia relative to the powers of notaries public, is of local application only. [*Ex parte* Hipp, 2189.

OATH.

(See Interference, 24; Notary Public.)

APPLICATIONS—SECTION 4892, REVISED STATUTES, CONSTRUED.
Where an applicant is not a citizen of any country and so alleges in his oath, *Held* to be a proper compliance with the requirements of section 4892, Revised Statutes, and that this section should not be construed as requiring citizenship of some country as a condition precedent to the grant of a patent.
[*Ex parte* Benecke, 3423.

OPPOSITION.

(See Trade-Marks, 2, 15, 16.)

ORAL ARGUMENT.

(See Appeal to the Court of Appeals of the District of Columbia, 2.)

OWNERSHIP.

(See Trade-Marks, 3, 8.)

PATENTABILITY.

(See Amendments, 2, 3; Appeal to the Court of Appeals of the District of Columbia; Interference, 16, 18, 19, 20, 21; Invention.)

1. DOUBLE USE.
A patent will not be granted upon the discovery of a new and analogous function for an old machine. (*Roberts* v. *Ryer*, 10 O. G., 204; 91 U. S., 150; *Ansonia Co.* v. *Electrical Supply Co.*, 58 O. G., 1692; 144 U. S., 11; *Potts* v. *Creager*, 79 O. G., 494; 155 U. S., 597.) [†Dukesmith *v.* Corrington *v.* Turner, 3425.

2. REVERSAL OF PARTS.
Claims which comprise merely a reversal of parts disclosed in a prior machine are not patentable. [†Id.

PENDING APPLICATIONS.

(See Trade-Marks, 20.)

POVERTY.

(See Interference, 4.)

PRELIMINARY STATEMENT.

INTERFERENCE—AMENDMENT—CARRYING BACK OF OPPONENT'S DATE.

A party will not be permitted to amend his preliminary statement to carry back his date of disclosure to cover the date proved by his opponent in a prior interference with a third party where the amended date is earlier than that set up in a preliminary statement filed three years before in an interference between him and said third party and where the affidavit in support of the motion indicates an uncertainty whether the alleged disclosure took place prior to the date originally given.
[Beall, Jr., *v.* Lyon, 388.

PRIORITY OF ADOPTION AND USE.

(See Trade-Marks, 3, 10.)

PRIORITY OF INVENTION.

(See Appeal from the Examiners-in-Chief; Appeal to the Court of Appeals of the District of Columbia, 2, 3; Decision of the Examiner of Interferences, 1; Interferences, 2, 3, 19, 21.)

1. INTERFERENCE—INSUFFICIENCY OF DISCLOSURE IN APPLICATION.

Where M., a patentee, who is junior party in an interference, did not take testimony, but relied upon the insufficiency of the disclosure of B.'s application, which was pending at the time M.'s application was filed, and his patent issued, and it subsequently appears that B.'s original application did, in fact, disclose the invention in issue, *Held* that priority of invention should be awarded to B., the senior party.
[MacMulkin *v.* Bollée, 1356.

2. SAME—SAME.

Where in his original drawing B. showed a valve controlling communication between several chambers and a passage leading to the cylinder of an engine and in his specification referred to the chambers as "carbureters" supplying sprayers with mixtures varying in proportion of hydrocarbon contained in the several chambers, *Held* that the use of the word "carbureter" was a sufficient disclosure of the idea of providing "hydrocarbon-inlets" in which air and hydrocarbon were to be supplied separately to each of the passages controlled by the valve, as called for by the issue. [Id.

3. SAME—DECLARATION—SUGGESTION OF CLAIMS NEGATIVES PRESUMPTION OF NEW MATTER IN SUBSTITUTE SPECIFICATION.

Where the Examiner stated in a letter to B. suggesting the claims in interference that the interference was not declared during the pendency of M.'s application for the reason that B.'s original specification so obscurely presented his invention that it could not be understood at that time, *Held* that the Examiner's action in admitting a substitute specification and drawing was, in effect, a ruling on his part that the substitute specification and drawing did not contain new matter. [Id.

4. SAME—APPEAL TO COURT—OPERATIVENESS.

The Court of Appeals of the District of Columbia will not consider the operativeness of a device disclosed by one of the interfering parties as incident to the main question of priority where that question has been settled in favor of such party by the Patent Office in accordance with the practice of that Office.
[*Duryea and White *v.* Rice, Jr., 1357

PUBLICATION IN THE OFFICIAL GAZETTE.

(See Trade-Marks, 17.)

PUBLIC USE AND SALE.

PROCEEDINGS INSTITUTED WHERE APPLICANT CLAIMS ISSUE OF INTERFERENCE IN WHICH HE IS NOT AT PRESENT INVOLVED.

Where in response to an order to show cause why public-use proceedings should not be instituted against his application an applicant states that an interference is in progress involving the same subject-matter and it appears that his application was not added to the interference by reason of the progress in that interference already made when his application was filed, *Held* that public-use proceedings should be instituted, as a finding of public use applicable to this application would cause all proceedings upon the applications in interference and this application to terminate with the interference now pending.
[*In re* Setter, 3421.

PUBLIC-USE PROCEEDINGS.

(See Public Use and Sale.)

RECONSIDERATION.

(See Interference, 12.)

REDUCTION TO PRACTICE.

(See Interference, 2, 3.)

1. CONSTRUCTIVE—DIVISIONAL APPLICATION ENTITLED TO DATE OF ORIGINAL.

An application was filed on June 8, 1895, covering an igniter and an engine. The claims to the engine were erroneously rejected, were canceled, the application was allowed, and subsequently became forfeited. On July 16, 1898, the application was renewed, and additional claims to the engine were included. Division was required between the claims to the igniter and the engine. On March 28, 1899, applicant canceled the claims to the engine, and on April 25, 1899, the Office acted on the remaining claims to the igniter. Subsequently applicant reinstated the claims to the engine, and the Office again permitted him to elect which of the inventions he would prosecute in the application, but afterward informed him that he was bound by the previous cancelation of the claims to the engine, and applicant thereupon, on October 30, 1900, canceled the engine claims, and after several communications between the Office and applicant the application matured into a patent, dated January 12, 1904. On April 16, 1903, applicant filed a divisional application covering the engine. *Held* that the divisional application is entitled to the date of the original application of June 8, 1895, as a constructive reduction to practice.
[*Duryea and White *v.* Rice, Jr., 1357.

2. CONTINUING APPLICATION—DIVISIONAL APPLICATION COPENDING WITH ORIGINAL.

A divisional application filed while the original application is pending in the Office covering matter carved out of the original is a continuation of the latter and is entitled to its date as a constructive reduction to practice, even though such divisional application was filed more than two years after an action by the Office on claims which applicant elected to retain in response to a requirement of division. [*Id.

REGISTRATION.

(See Trade-Marks, 8, 9.)

REHEARING.

(See Motion for Rehearing.)

REISSUE.

(See Interference, 17.)

LONG DELAY IN FILING APPLICATION EXCUSED.

H. filed an application on September 16, 1896, upon which a patent was granted on April 20, 1897. In 1898 H. instructed his attorneys to prepare a reissue application, but before such application was filed F. obtained a patent dated July 4, 1899, on an application filed May 31, 1898, covering mechanism of the character covered by H.'s patent. In looking over the record of the F. patent H. found an affidavit filed to overcome the rejection of his claims, the oath stating that the invention had been made "many months prior to September 16, 1896," the filing date of H.'s application. In view of this affidavit H. considered it useless to apply for a reissue. In a suit brought in 1904 by the assignee of the F. patent against the assignee of the H. patent it was brought out that the machine to which the affidavit referred as having been made "many months" before H. filed his application had, in fact, been made in 1889 or 1890, and the court held that said machine was either inoperative and impracticable or abandoned by laches. *Held* that under the circumstances a reissue applied for promptly after the decision of the court should not be refused on the ground of delay in applying therefor. *Ex parte* Hiett, 1067.

REJECTION OF CLAIMS.

(See Amendments, 1.)

RESPONSIVE ACTION BY APPLICANT.

(See Abandonment of Applications, 1, 3, 4, 5.)

RIGHT TO MARK.

(See Trade-Marks, 4, 5.)

SPECIFICATIONS.

(See Priority of Invention, 3.)

APPLICATION—DESCRIPTION—LAUDATORY STATEMENTS.

An applicant should under no circumstances be allowed in his specification to make derogatory statements as to the inventions of others; but within reasonable limits he may in pointing out the advantages of his invention indicate also what he regards as the defects or deficiencies common to structures representing the unimproved art, and the fact that in making this distinction he states that his device is superior to preceding forms in certain respects wherein it differs from them is not a matter of importance. (Citing *ex parte Shaw*, C. D., 1890, 31; 50 O. G., 1129; *ex parte Schoshusen*, 116 O. G., 2008.)
[*Ex parte* Heylman, 1066.

SUGGESTED CLAIMS.

(See Abandonment of Applications, 5; Priority of Invention, 3.)

SUPERVISORY AUTHORITY OF THE COMMISSIONER OF PATENTS.

(See Interference, 20.)

SUPERVISORY AUTHORITY OF THE SECRETARY OF THE INTERIOR.

(See Interference, 24.)

SUPPRESSION OF TESTIMONY.

(See Interference, 1.)

TECHNICAL TERMS.

(See Priority of Invention, 2.)

TESTIMONY.

(See Interference, 1, 3; Priority of Invention, 1.)

1. UNDER RULE 130—RIGHT TO MAKE CLAIMS.

The question whether certain elements of the issue are not present in one party's structure, but can only be read into such issue by applying limitations which do not operate in the manner defined in the claims, is one of fact, upon which the opposing party may be permitted to present testimony.
[Weintraub *v.* Hewitt and Rogers, 2589.

2. SAME—IDENTITY OF INVENTION.

There appears to be no warrant for the taking of testimony relative to the identity of the inventions of the parties to an interference. If the inventions are not identical, it must follow either that one of the parties has no right to make the claims in issue or that the claims are indefinite and ambiguous and do not with sufficient exactness define the invention of either party. This is not a question of priority of invention. [Id.

3. USE IN SECOND INTERFERENCE—RULE 157.

Where C. was denied the privilege of introducing testimony taken in his behalf in a prior interference between the same parties in view of the opposition of E. and M. on the ground that they were not represented at the taking of C.'s testimony, a motion by E. and M. to introduce testimony taken in their behalf in the same interference should not be granted merely because C. was represented at the examination of their witnesses. [Corey *v.* Eiseman and Misar, 3421.

TRADE-MARKS.

(See Interference, 1.)

1. INTERFERENCE—MOTION TO SUSPEND PROCEEDINGS—APPEAL.

The decision of the Examiner of Interferences refusing to suspend proceedings pending a determination of contempt proceedings brought in a United States circuit court for failure of witnesses to appear and testify in response to subpœna will not be disturbed where it does not appear that great hardship will otherwise ensue.
[Outcault *v.* The New York Herald Company, 757.

2. OPPOSITION—DISSIMILARITY OF MARKS—DEMURRER.

Held that trade-marks consisting of the words "Zodenta" and "Sozodont" are quite dissimilar and that "Zodenta" is not calculated to mislead or deceive the average purchaser who may seek to buy "Sozodont." The resemblance is not such as to preclude a proper determination of the question upon demurrer.
[*Hall and Ruckel *v.* Ingram, 759.

3. INTERFERENCE—PRIORITY—OWNERSHIP.

Where the claim of Bigbie Brothers & Company to ownership of the mark of the issue through transfer from Joseph Lawson & Son in 1887 is questioned, but neither of the other parties to the interference claims title from the Lawsons, *Held* that said other parties' claims to registration are defeated by the use of the mark in issue by Bigbie Brothers & Company in 1887 and subsequently, irrespective of whether Bigbie Brothers & Company's use was based upon ownership, and that Lawson's right to the mark after the transfer in 1887 is only of consequence, therefore, in determining whether Bigbie Brothers & Company shall be denied registration, notwithstanding their position as the first to adopt and use the mark among those before the Office seeking registration.
[Bigbie Brothers & Company *v.* Bluthenthal & Bickart *v.* The J. & H. Butler Company, 1063.

4. TO ACQUIRE RIGHTS NAME MUST BE PHYSICALLY APPLIED TO GOODS.

The mere adoption of a name for its goods does not vest in the company trade-mark rights. To acquire such rights, the name must be physically applied to the goods in trade, as by brands or labels on the packages sold. [Id.

5. RIGHTS ACQUIRED ONLY BY PRESENCE OF MARK UPON GOODS AFTER PASSING FROM HANDS OF ORIGINATOR.

There is no liability to confusion of the origin of goods which are sold only on the premises of the originator. The utility of a trade-mark does not come into existence until the goods have passed from the hands of the originator, and it is only by the presence of the mark upon the goods after they have so passed that rights to the same as a trade-mark are believed to become established. [Id.

6. INTERFERENCE—MARK USED TO INDICATE GRADE INSTEAD OF ORIGIN OF GOODS NOT A TRADE-MARK.

The price-lists and sample pack of cards indicate that the company adopted the mark to designate a certain grade or style of cards which they offered for sale at a specified price and to distinguish this variety of cards from numerous other styles made and sold by said company. There is no evidence that the mark was used to indicate the origin or manufacture of the cards; but, on the contrary, a fanciful figure labeled "Trade Mark" appears to be for the purpose of indicating the origin of the goods and to constitute properly the trade-mark of the company. *Held* that the mark in controversy was used by said company as a grade, quality, or style mark, and not as a technical trade-mark.
[The United States Playing Card Company *v.* C. M. Clark Publishing Company, 2190.

7. GRADE-MARK NOT A VALID TRADE-MARK.

Where a mark is adopted and used primarily to indicate style, grade, or quality of goods, and not for the purpose of indicating origin or manufacture of the goods, *Held* that it does not constitute a valid trade-mark. [Id.

8. REGISTRATION—SYMBOLS INDICATING MERELY QUALITY NOT REGISTRABLE.

A trade-mark consisting of "flakes of mica impressed or otherwise applied to the external surface of an insulating-tube or tubular coverings for electric wires" was properly refused registration, for the reason that the registration would operate, so far as it could have any effect, to give the applicant a monopoly of conduits or tubular coverings of flake-mica composition. The office of a trade-mark in a legal sense is to point out distinctly the origin or ownership of the article to which it is affixed, or, in other words, to give notice who was the producer. Words, letters, or symbols which indicate merely the quality of the goods to which they are affixed cannot be appropriated as trade-marks. (*Canal Co.* v. *Clark*, 1 O. G., 279; 13 Wall., 311, 322; *Lawrence Mfg. Co.* v. *Tennessee Mfg. Co.*, 55 O. G., 1528; 138 U. S., 537, 547.)
[**In re* American Circular Loom Company, 2191.

9. SAME—COLOR THE ESSENTIAL FEATURE.

If the sole purpose of the use of the flakes of mica is to obtain protection "for the distinctive appearance obtained by placing bright scales on a dark background," registration was properly denied, on the ground that it was an ingenious attempt to obtain a trade-mark of which color, unconnected with some symbol or design, is the essential feature. (*Leschen Rope Co.* v. *Broderick*, 201 U. S., 166, 171.) [*Id.

10. PRIORITY—GOODS OF THE SAME DESCRIPTIVE PROPERTIES.

In determining the question of priority of adoption and use of a trade-mark for bitters made from certain roots and barks and bottled, evidence of the use of such mark on a package containing a mixture of ground roots and bark with directions how to make the bitters by steeping them in Holland gin may be properly considered, the goods being of the same descriptive properties. [*The Schuster Co. *v.* Muller, 2192.

11. DECEPTIVE MARKS.

Where any symbol or label claimed as a trade-mark is so worded as to contain a distinct assertion which is false, no property right can be claimed, nor can the right to the exclusive use of it be maintained by a court of equity. Courts of equity will not interfere by injunction where there is any lack of proof in the applicant's case or any misrepresentation in his trade-mark or label, nor will the courts uphold in any one a privilege of deceiving the public. An exclusive privilege to deceive the public is not one that a court of equity can sanction nor one which the Commissioner of Patents should aid. [*Id.

12. SAME—EVIDENCE OF DECEPTION INSUFFICIENT.

Evidence submitted by a party to a trade-mark interference tending to show that the mark as used by the opposing party was deceptive considered and *Held* insufficient to establish the fact. [*Id.

13. INTERFERENCE—NOT RES ADJUDICATA.
The appellants took no testimony, but contend that the rights of the respective parties are *res adjudicata* by reason of a decision of the appellate court of Kentucky. This decision, however, is not of record in this case. The judgment of the court was neither pleaded nor proved, and no certified copy of the decision has been placed in evidence. A different record from that filed in this proceeding was before the court.
[The Casey-Swasey Company *v.* Rosenfield Brothers & Company, 2590.

14. TWO INTERFERING MARKS NOT ENTITLED TO REGISTRATION.
Where appellants do not claim to be the first to adopt and use the mark, but contend that they have as good a right to the mark as their opponent and that the mark should be registered to both parties or refused to both, *Held* that this contention is inconsistent with the provisions of section 7 of the act of February 20, 1905. [Id.

15. OPPOSITION—AMENDMENT BASED ON NEW GROUNDS NOT PERMISSIBLE.
Where the notice of opposition alleged that "the trade-mark consists merely of the word 'King' without any distinctive features, is merely the name of an individual, and its registration as a trade-mark is prohibited by the clause (*b*) of section 5 of the Trade-Mark Act of February 20, 1905," and the opponent desires to amend by adding that the mark is not registrable because it is a geographical name or term, *Held* that the broad reference to clause (*b*) of section 5 of the act merely conveys the idea that in this part of the act is to be found the prohibition against the registration of names of individuals, that the proposed amendment is based on new ground, and is not proper subject-matter for an amendment filed after the expiration of the thirty days prescribed in the statute.
[The Albert Dickinson Company *v.* Conklin, 3422.

16. SAME—GENERAL REFERENCE NOT SUFFICIENT.
It is not a sufficient ground for a notice of opposition to make a general reference to the Trade-Mark Act or to some part thereof. [Id.

17. PUBLICATION IN OFFICIAL GAZETTE.
A trade-mark will not be republished merely for the purpose of extending the period of thirty days provided by statute for the filing of oppositions.
[*In re* J. G. B. Siegert & Hijos, 3423.

18. ACT OF MAY 4, 1906, CONSTRUED.
Section 1 of the act of May 4, 1906, amending section 1 of the Trade-Mark Act of February 20, 1905, by inserting after the words "a description of the trade-mark itself" the words "only when needed to express colors not shown in the drawing," is construed to mean that the drawing should be relied upon to disclose the mark and that a description of the mark should be permitted "only when needed to express colors not shown in the drawing."
[*Ex parte* E. C. Atkins & Company, 3424.

19. SAME.
The purpose of the amendment contained in section 1 of the act of May 4, 1906, is to make the registration definite by limiting it to the disclosure in the drawing, leaving the question of what is an immaterial variation in the mark to the coirts.
[Id.

20. ACT OF MAY 4, 1906—APPLIES TO APPLICATIONS PENDING AT DATE IT BECAME EFFECTIVE.
The fact that the application was filed under the former statues does not excuse the applicant from complying with the amended statute, since the latter makes no exception of applications pending at the date it became effective. [Id.

WITHDRAWAL OF ALLOWED CASES FROM ISSUE.

FINAL FEE—EXTENSION OF TIME.
Applications will not be withdrawn from issue merely for the purpose of granting the applicant more time than is permitted by the statute for the payment of the final fee.
[*Ex parte* Röchling, 3421.

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED DURING THE MONTH OF JANUARY, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
A. B. Dick Company. (See Spencer, William B., assignor.)						
Aae, Hjalmar, Aarhus, assignor to Aaes Laas Verdens-Patent Limited, Strandvej, Denmark. Lock	842,158	Jan. 29	4769	1019	126	1363
Aaes Laas Verdens-Patent. (See Aae, Hjalmar, assignor.)						
Abbé, Max F., New York, N. Y. Tubular ball-mill	841,841	Jan. 22	4129	889–90	126	1176
Abbé, Max F., New York, N. Y. Pebble-mill	841,913	Jan. 22	4270	919–20	126	1207
Abbott, Augustus, assignor to American Wrapping and Box Machine Company, New York, N. Y. Cigarette-packing machine	840,187	Jan. 1	801	174–6	126	214
Abbott, Frederick W., Philadelphia, Pa. Non-refillable bottle	842,605	Jan. 29	5740	1213	126	1613
Abel, Willy, assignor to H. Wollheim and A. Schunack, Berlin, Germany. Automatic selling-machine	840,281	Jan. 1	992	216–17	126	267
Abernethy, George W., Lowell, N. C. Cotton-cultivator	842,159	Jan. 29	4772	1019	126	1363
Aborn, Frank P. (See Knowlton, Harry C., assignor.)						
Abrahams, Jacob, Boston, Mass. Machine for making pastry horns or cups for containing ice-cream, &c.	841,211	Jan. 15	2859	622–3	126	816
Ackerman, Reint H., Endicott, Wash. Adjustable reel for headers	840,411	Jan. 1	1261	276	126	331
Ackley, Herbert M., Chicago, Ill. Milk-skimming device	840,986	Jan. 8	2391	521	126	651
Ackroyd, John H., New York, N. Y. Burner	840,412	Jan. 1	1262	276–7	126	331
Acme Flexible Clasp Company. (See MacMurray, James E., assignor.)						
Acme Heel Company. (See Hellweg, Henry, assignor.)						
Acme Toy Works. (See Cooke, Adrian C., assignor.)						
Actien Gesellschaft für Anilin Fabrikation. (See Herzberg, Wilhelm, assignor.)						
Actien Gesellschaft für Anilin Fabrikation. (See Kirchhoff, Richard, assignor.)						
Adam, Emile, New York, N. Y. Horseshoe	840,892	Jan. 8	2217	488	126	607
Adam, Heinrich O., Dresden, Germany. Device for taking in coal at sea	840,099	Jan. 1	614	133	126	162
Adamowicz, Benedict, Philadelphia, Pa. Curtain-pole	840,282	Jan. 1	995	217	126	268
Adams, Arthur J., Chicago, Ill., assignor to Fulton Manufacturing Company. Umbrella-support	840,188	Jan. 1	807	177	126	215
Adams, Carl, Easton, Pa. Device for automatically stopping looms	840,034	Jan. 1	479	104	126	129
Adams Drill Company. (See Adams, Thomas E., assignor.)						
Adams, Edwin J., Waco, Tex. Railway signaling mechanism	841,607	Jan. 15	3617	786–7	126	1011
Adams, Joel U., Cincinnati, Ohio. Suspenders	841,654	Jan. 22	3731	810	126	1071
Adams-Randall, Charles, New York, N. Y. Electric calling apparatus for telephones	841,476	Jan. 15	3380	730	126	949
Adams, Robert, London, England. Door-closer	841,608	Jan. 15	3627	787–8	126	1013
Adams, Thomas E., Cleveland, Ohio. Motor-supporting harp for rock-drills	840,817	Jan. 8	2052	454	126	566
Adams, Thomas E., assignor to Adams Drill Company, Cleveland, Ohio. Rock-drill	840,816	Jan. 8	2048	453–4	126	565
Adams, Thomas E., assignor to Adams Drill Company, Cleveland, Ohio. Rock-drill	840,880	Jan. 8	2205	485–6	126	604
Adams, Thomas E., assignor to Adams Drill Company, Cleveland, Ohio. Drill	840,891	Jan. 8	2211	486–7	126	606
Adams, Walter H., Sound Beach, Conn. Drill-chuck	841,758	Jan. 22	3946	853	126	1127
Adams, Walter T., Hays borough, and J. R. Divens, McKeesport, Pa. Pleasure-vehicle	840,283	Jan. 1	996	217	126	268
Adams, William H., and F. Powell, Portland, Oreg., assignors to said Adams, said Powell, and Ladd Metals Company. Manufacturing producer-gas	840,461	Jan. 8	1357	301	126	395
Adams, William H., and F. Powell, Portland, Oreg., assignors to said Adams, said Powell, and Ladd Metals Company. Combined gas-generator and smelter	841,212	Jan. 15	2863	623	126	816
Adamson, George W., Crider, Ky. Sash-fastener	841,655	Jan. 22	3732	810	126	1071
Adder Machine Company. (See McFarland, Charles N., assignor.)						
Addressograph Company. (See Duncan, Joseph S., assignor.)						
Adix, Francis, Boone, Iowa. Harrow	839,799	Jan. 1	2	1	126	3
Adix, Francis, Boone, Iowa. Folding harrow	839,800	Jan. 1	3	1	126	3
Adix, Francis, Boone, Iowa. Rider attachment for harrows	839,801	Jan. 1	4	2	126	3
Adler, Wilhelm, Heidelburg, Pa. Cradle	840,284	Jan. 1	997	218	126	268
Adrianson, John, Chicago, Ill. Revolver attachment for guns	839,979	Jan. 1	382	77–8	126	95
Aeolian Company. (See Schnabel and Lawson, assignors.)						
Aeolian Company. (See Thomson, Elihu, assignor.)						
Aiken, Thomas M., and J. E. Harmon, Allegheny, Pa. Ice-cream dipper	841,097	Jan. 15	2699	592	126	765
Aiken, W. G. (See King, William C., assignor.)						
Aikman, Bert, assignor of one-half to J. S. Hamlin, Chicago, Ill. Pneumatic-valve mechanism	842,109	Jan. 29	4773	1019	126	1363
Aikman, William S., and H. C. Stevenson, Chicago, Ill. Printer's furniture	841,098	Jan. 15	2699	592	126	765
Ainsworth, Robert G., Denver, Colo. Assay-balance	841,477	Jan. 15	3382	730–1	126	949
Aitken, John, New York, N. Y. Building-block	840,891	Jan. 8	2210	488	126	606
Akers, Erastus M., Ione, Oreg. Brake-lever	841,842	Jan. 22	4139	900	126	1176
Akins, Charles J., assignor of one-half to G. W. Sherk and B. W. Graham, Huntington, Oreg. Flush-tank	841,213	Jan. 15	2865	625	126	816
Akins, Charles J., Huntington, assignor of one-half to B. W. Graham and G. W. Sherk, Portland, Oreg. Flushing-tank	841,214	Jan. 15	2867	624	126	817
Aktiebolaget L. M. Ericsson & Co. (See Holmgren and Brahm, assignors.)						
Albee, Honestus M., Nutley, N. J., assignor to J. H. Williams & Co., Brooklyn, N. Y. Engraving or carving machine	842,743	Jan. 29	4993	1078	126	1691
Albright, Freeman, *et al.* (See Patton, Alfred S., assignor.)						
Alden, Charles A., Steelton, assignor to Pennsylvania Steel Company, Philadelphia, Pa. Railway-frog	840,547	Jan. 8	1537	339	126	438
Alexander, Frederick, New York, N. Y., assignor of one-half to L. C. Smith, Westfield, N. J. Bottle-corking machine	840,109	Jan. 1	615	133	126	163

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 1st DAY OF JANUARY, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Specification.	Drawing.	Volume.	Page.
Abbott, Augustus, assignor to American Wrapping and Box Machine Company, New York, N. Y. Cigarette-packing machine	840,187	Jan. 1	801	174-6	126	214
Abel, Willy, assignor to H. Wollheim and A. Schunack, Berlin, Germany. Automatic selling-machine	840,281	Jan. 1	992	216-17	126	267
Ackerman, Reint H., Endicott, Wash. Adjustable reel for headers	840,411	Jan. 1	1261	276	126	331
Ackroyd, John H., New York, N. Y. Burner	840,412	Jan. 1	1262	276-7	126	331
Adam, Heinrich O., Dresden, Germany. Device for taking in coal at sea	840,099	Jan. 1	614	133	126	162
Adamowicz, Benedict, Philadelphia, Pa. Curtain-pole	840,282	Jan. 1	995	217	126	268
Adams, Arthur J., Chicago, Ill., assignor to Fulton Manufacturing Company. Umbrella-support	840,188	Jan. 1	807	177	126	215
Adams, Carl, Easton, Pa. Device for automatically stopping looms	840,034	Jan. 1	479	104	126	129
Adams, Walter T., Hays Borough, and J. R. Divens, McKeesport, Pa. Pleasure-vehicle	840,283	Jan. 1	996	217	126	268
Addressograph Company. (See Duncan, Joseph S., assignor.)						
Adix, Francis, Boone, Iowa. Harrow	839,799	Jan. 1	2	1	126	3
Adix, Francis, Boone, Iowa. Folding harrow	839,800	Jan. 1	3	1	126	3
Adix, Francis, Boone, Iowa. Rider attachment for harrows	839,801	Jan. 1	5	2	126	3
Adler, Wilhelm, Heidelburg, Pa. Cradle	840,284	Jan. 1	997	218	126	268
Adrianson, John, Chicago, Ill. Revolver attachment for guns	839,978	Jan. 1	352	77-8	126	96
Aeolian Company. (See Schnabel and Lawson, assignors.)						
Albright, Freeman, *et al.* (See Patton, Alfred S., assignor.)						
Alexander, Frederick, New York, N. Y., assignor of one-half to L. C. Smith, Westfield, N. J. Bottle-corking machine	840,100	Jan. 1	615	133	126	162
Alexander, Julius M., and H. Fox, Healdsburg, Cal. Ruling-pen	840,413	Jan. 1	1265	277	126	332
Allen, A. B., *et al.* (See Morris, William F., assignor.)						
Allen, A. J., *et al.* (See Morris, William F., assignor.)						
Allen, Eugene L., Springfield, Ill. Churn	840,035	Jan. 1	482	105	126	130
Allis-Chalmers Company. (See Mattice, Asa M., assignor.)						
Allison, William D. (See Leonard, Charles N., assignor.)						
Alphadnet Manufacturing Company. (See Hyde, Courtney, assignor.)						
Alsop, Thomas J., Brooklyn, Wis. Staple-puller	839,802	Jan. 1	6	2	126	4
Alvey, Benjamin H., assignor to Alvey-Ferguson Co., Louisville, Ky. Elevator	840,189	Jan. 1	808	177	126	216
Alvey-Ferguson Co. (See Alvey, Benjamin H., assignor.)						
Ambrose, Harry T. (See Donning, George W., assignor.)						
American Circular Loom Co. (See Jones, Louis A., assignor.)						
American Electric Telephone Company. (See Foster, George D., assignor.)						
American Tobacco Company. (See Malocsay, Frank X., assignor.)						
American Tobacco Company. (See Shedlock, Alfred, assignor.)						
American Wrapping and Box Machine Company. (See Abbott, Augustus, assignor.)						
Ames, Howard. (See Lincoln, Leo B., assignor.)						
Amsler, Alfred, Schaffhausen, Switzerland. Means for indicating relative movement of parts of rotating shafts	839,803	Jan. 1	8	2	126	4
Anchel, Edward, assignor of one-half to J. Hecht, New York, N. Y. Braiding-machine	840,414	Jan. 1	1267	277	126	332
Anderson, Cooper. (See Giessner, Charles E., assignor.)						
Anderson, Lars, assignor to G. W. Stahl, Chicago, Ill., and Triplex Gas Engine Company, New York N. Y. Piston-rod connection	840,190	Jan. 1	809	177-8	126	216
Anderson, Nils H., Bridgeport, Conn., assignor to Builders' Iron Foundry, Providence, R. I. Belt-shifting apparatus	839,915	Jan. 1	231	49	126	64
Anderson, Remembrance H., Claysville, Pa. Wrench	840,415	Jan. 1	1268	277	126	332
Aptekman, Lazaridas, London, England. Tobacco-cutting machine	840,416	Jan. 1	1268	278	126	333
Armspear Manufacturing Company. (See Spear, Furman D., assignor.)						
Arnold, Frederick H., Reading, Pa. Safety-razor	840,101	Jan. 1	617	134	126	163
Arnold, Philip C., assignor to Bevin Brothers Manufacturing Company, East Hampton, Conn. Bell	840,417	Jan. 1	1270	278	126	333
Arnold, William F., Oakland, Cal. Carpenter's plane	840,418	Jan. 1	1272	279	126	334
Austin, Frederick C. (See Judd, William J., assignor.)						
Austin Manufacturing Company. (See Rhodes, Jay B., assignor.)						
Austin Manufacturing Company. (See Spring, William A., assignor.)						
Automatic Fire Protection Company. (See Goldthwait, William A., assignor.)						
Automatic Fire Protection Company. (See Rice, Frank H., assignor.)						
Ayres, Charles, Van Buren, Ark. Stove	839,804	Jan. 1	10	2	126	5
Bacon, Harry P., Milaca, Minn. Sterilizer	839,805	Jan. 1	12	3	126	5
Badische Anilin & Soda Fabrik. (See Bally, Oscar, assignor.)						
Baer, Isidor, New York, N. Y. Truss attachment for corsets	840,285	Jan. 1	998	218	126	269
Baines, Frederick E. V., Greenwich England. Pencil-sharpening machine	839,806	Jan. 1	13	3	126	5
Baker, Wilfred, Aberdeen, S. D. Belt-stretcher	840,191	Jan. 1	811	178	126	217
Baldwin, Edwin A., Schenectady, N. Y., assignor to General Electric Company. Lightning-arrester connection	840,036	Jan. 1	483	105	126	131
Ballard, Clarence D., Elgin, Ohio. Valve	840,286	Jan. 1	999	218	126	269
Bally, Oscar, Mannheim, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Dyeing textile fiber violet blue	840,419	Jan. 1	1274	279	126	334
Bangley, Joseph L., assignor of one-third to M. W. Lloyd, Suffolk, Va. Protector for peanut-shocks	840,420	Jan. 1	1275	279	126	334
Barabasz, Mieczyslaw, Baltimore, Md. Buckle	840,192	Jan. 1	812	178	126	217
Bardsley, George H., Philadelphia, Pa. Nozzle-wagon	840,287	Jan. 1	1000	219	126	269
Barker, William C., New York, N. Y., assignor to Bucher & Gibbs Plow Co., Canton, Ohio. Spindle or hub for agricultural implements	840,288	Jan. 1	1002	219	126	269

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drfg.	Official Gazette. Vol.	Official Gazette. Page.
Barlow, George W., Shrewsbury, N. J. Device for operating brakes and brake-rods	840,193	Jan. 1	813	178	126	217
Barnett, George W., Louise, Tex. Wheel-plow	840,421	Jan. 1	1276	279–80	126	335
Barney, James E., Boston, Mass. Drying apparatus	840,037	Jan. 1	485	105	126	131
Baskins, William L., Alliance, Nebr. Locomotive-tender	840,038	Jan. 1	487	106	126	131
Bassett, Norman C., Lynn, Mass., assignor to General Electric Company. Transfer-wagon	840,422	Jan. 1	1278	280–1	126	335
Bassett, Norman L., Milwaukee, Wis., assignor to General Electric Company. Brake for transfer-wagons	840,423	Jan. 1	1281	281–2	126	336
Batcheller, Birney C., Philadelphia, Pa., assignor to Pearsall Pneumatic Tube and Power Company, New York, N. Y. Pneumatic-tube system	840,194	Jan. 1	815	179	126	218
Bates, Carl D., Chicago, Ill. Means for cleaning or manipulating electric-light globes	840,102	Jan. 1	618	134	126	163
Battensby, William, Gateshead, England. Mitering-machine	839,807	Jan. 1	16	3–4	126	6
Bauer, Perry S., Chicago, Ill. Hose-supporter clasp	840,280	Jan. 1	1003	219	125	269
Bauman, Julius. (See Berecky, Michael, assignor.)						
Beaver, John E., Warwick, Ohio. Rail-joint	840,424	Jan. 1	1284	282	126	336
Bechtel, Ernst. (See Eck and Bechtel.)						
Becker, Jacob, assignor of one-half to S. McCandlish, Seattle, Wash. Mail-box	840,290	Jan. 1	1004	220	126	270
Berecky, Michael, assignor of one-half to J. Bauman, New York, N. Y. Stuffing-box	840,291	Jan. 1	1005	220	126	270
Berger Manufacturing Company. (See Schlafly, Julius H., assignor.)						
Berry, William D. New Brighton, Pa. Bosh-plate	840,195	Jan. 1	817	179	126	218
Bevin Brothers Manufacturing Company. (See Arnold, Philip C., assignor.)						
Bevington, James H., Cleveland, assignor to Crescent Appliance Co., Berea, Ohio. Repeating torpedo-cane	840,425	Jan. 1	1285	283	126	337
Bim, Josef, assignor to Union Bank, Vienna, Austria-Hungary. Warp stop-motion for looms	840,196	Jan. 1	818	180	126	219
Bird, Reginald W., Boston, Mass., assignor to Flintkote Manufacturing Company, Rutherford, N. J. Laying roofing	840,103	Jan. 1	620	134	126	164
Black, Lewis E., Nashville, Tenn. Air-brake	840,197	Jan. 1	820	180	126	219
Blain, Joseph N., and O. H. Smith, Ottawa, Kans. Hydrocarbon-burner	840,292	Jan. 1	1006	220	126	270
Blaisdell, Hiram W., Los Angeles, Cal. Scraping-machine for closed filters	840,104	Jan. 1	621	134–5	126	164
Blocki, John, Chicago, Ill. Perfumery-package	840,105	Jan. 1	626	135	126	165
Boatright, James A. (See Holmes and Boatright.)						
Bocquet, Fernand E., Paris, France. Skeleton for pipes, reservoirs and the like of strengthened cement and concrete	840,293	Jan. 1	1007	220	126	271
Boos, Wilhelm, Erlangen, Germany. Driving-gear for cycles	839,979	Jan. 1	356	78	126	97
Bowditch, John F., Boston, Mass. Brush	840,106	Jan. 1	627	136	126	166
Bramer, Henry, Beaver Dam, Wis. Halter	839,980	Jan. 1	357	78	126	97
Braunersreuther, Alfred. (See Wiegand and Braunersreuther.)						
Briede, Otto, Benrath, Germany. Metal-swaging apparatus	840,426	Jan. 1	1287	283	126	337
Brister, Alison M., Saulsbury, Miss. Sash holder and fastener	840,427	Jan. 1	1288	283	126	337
Bristol, William H., New York, N. Y. Pressure indicator and recorder	839,981	Jan. 1	358	79	126	97
Bristol, William H., New York, N. Y. Pressure-gage	839,982	Jan. 1	360	79	126	98
Bristol, William H., New York, N. Y. Electric furnace	839,983	Jan. 1	362	79	126	99
Bristol, William H., New York, N. Y. Thermo-electric generator	839,984	Jan. 1	363	79	126	99
Bristol, William H., New York, N. Y. Thermo-electric generator	839,985	Jan. 1	365	80	126	100
Brittain, Thomas R., Akron, Ohio. Clay-mill	840,107	Jan. 1	628	136	126	166
Brodton, Edward R., assignor of two-thirds to G. W. Parrott, E. H. Thornton, T. D. Meador, D. B. Carson, T. A. Hammond, E. M. Horine, T. H. Egleston, C. A. Conklin, R. E. Park, D. U. O. Robertson, D. G. Jones, and H. C. Stockdell, Atlanta, Ga. Electrical signaling system	840,428	Jan. 1	1290	284	126	338
Brooks, Thomas J., *et al.* (See Weaver, Flem H., assignor.)						
Brown, Julius N., Chicago, Ill. Piano-tool	840,294	Jan. 1	1008	221	126	271
Bryant, Frank A., Seattle, Wash. Radiator for automobiles	840,295	Jan. 1	1010	221	126	271
Bucher & Gibbs Plow Co. (See Barker, William C., assignor.)						
Bucksen, Walter L., Blooming Prairie, Minn. Address-printing attachment	840,429	Jan. 1	1295	284	126	338
Builders' Iron Foundry. (See Anderson, Nils H., assignor.)						
Bullitt, George T. (See Cisco, James E., assignor.)						
Bullitt, J. J. (See Cisco, James E., assignor.)						
Bullock, Edward E., Lisbon, N. D. Boulevard and speed wagon	839,986	Jan. 1	369	80	126	101
Bump, Lucius. (See Capener, Bump, Gust, and Shields.)						
Burger, Franz, assignor of three-fourths to H. M. Williams, Fort Wayne, Ind. Compound steam-turbine	840,039	Jan. 1	488	106	126	132
Burger, Franz, and H. M. Williams, Fort Wayne, Ind.: said Burger assignor of one-half to said Williams. Superheating-boiler	839,808	Jan. 1	17	4	126	7
Burgoyne, Charles L., Norwood, Ohio. Knockdown sailing attachment for rowboats	840,198	Jan. 1	823	181	126	220
Burns, Robert, Rensselaer, N. Y. Feed-water heater for locomotives	840,108	Jan. 1	630	136	126	166
Butler, Thomas, Fort Worth, Tex. Pump	840,430	Jan. 1	1296	285	126	339
Butters, Samuel L., Clarksburg, W. Va. Mold for blown-glass plates	839,987	Jan. 1	371	80	126	101
Button, Theodore E. (See Hewlett and Button.)						
Cady, Ralph E., Auburn, N. Y. Horse-collar	839,809	Jan. 1	19	4–5	126	7
Caldwell, Wayne, Circleville, Ohio. Machine for hulling green corn	840,296	Jan. 1	1011	221–2	126	272
Callan, John G., Lynn, Mass., assignor to General Electric Company. Turbo-generator	840,040	Jan. 1	491	107–8	126	132
Callan, John G., Lynn, Mass., assignor to General Electric Company. Turbo-generator	840,431	Jan. 1	1297	285–6	126	339
Cameron, Edward F., Helena, Mont. Weed-exterminator	839,810	Jan. 1	21	5	126	8
Campbell, Robert. (See Small and Campbell.)						
Campbell, Robert, Brooklyn, assignor to H. Tollner, New York, N. Y. Sliding-door latch	840,297	Jan. 1	1014	222	126	272
Cane, Hugh, Providence, R. I. Shuttle-box-operating mechanism	839,988	Jan. 1	372	81	126	101
Capener, Frank A., L. Bump, E. Gust, and J. Shields, Baraboo, Wis. Meat-cutting machine	840,041	Jan. 1	495	108–9	126	133
Caplinger, John D., *et al.* (See Seiler, Philipp, assignor.)						
Carlson, Gabriel, Springfield, Mass. Continuous-screw chocolate-press	840,298	Jan. 1	1017	222–3	126	273
Carroll, Fred M., New Haven, Conn. Tachometer	839,916	Jan. 1	233	49–50	126	64
Carson, D. B., *et al.* (See Brodton, Edward R., assignor.)						
Carter, James, Leytonstone, England. Apparatus for automatically giving alarm in case of burglary, &c	840,432	Jan. 1	1300	286–7	126	340
Cast Steel Needle Beam Company. (See Pflager, Harry M., assignor.)						
Castner Electrolytic Alkali Company. (See Mauran, Max, assignor.)						
Ceretti, Giulio, Milan, Italy. Clutch for aerial ropeways	840,109	Jan. 1	631	137	126	167
Chapman, William D., Theresa, assignor to F. J. Sharp and C. J. Smith, Watertown, N. Y. Trolling artificial bait	839,917	Jan. 1	235	50	126	65
Chicago Car Seal & Manufacturing Company. (See Foote, Lewis V., assignor.)						
Christman, Frank J., assignor to J. R. Clancy, Syracuse, N. Y. Hose-nozzle	839,811	Jan. 1	22	5	126	8
Church, William L., Newton, Mass. Dam	840,042	Jan. 1	498	109	126	133
Cisco, James E., Allegheny, assignor of one-fourth to J. J. and G. T. Bullitt, Pittsburg, Pa. Amusement device						
Clancy, John R. (See Christman, Frank J., assignor.)						
Clark, Prentice E., Indianapolis, Ind. Machine-driving means	840,299	Jan. 1	1019	223	126	274
Clark, Walter G. (See Parker and Clark.)						
Coburn, Howard L., Boston, Mass. Dam	840,199	Jan. 1	826	181	126	221
Cochran, James R., Silverstar, Mont. Sad-iron handle	840,110	Jan. 1	633	137	126	168
	840,043	Jan. 1	500	109	126	134

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drfg.	Official Gazette. Vol.	Official Gazette. Page.
Cokel Company. (See Cooke, Ernest W., assignor.)						
Colburn, Irving W., Franklin, Pa. Method and apparatus for drawing sheet-glass	840,433	Jan. 1	1302	287–8	126	340
Collins, Clarence L., 2d, Niagara Falls, N. Y. Electrically heating materials	840,044	Jan. 1	501	110	126	134
Collins, Cornelius, San Francisco, Cal. Fireproof building construction	840,111	Jan. 1	634	137	126	168
Collins, James F., Marcus, Iowa. Dump and elevator	840,300	Jan. 1	1021	224	126	274
Columbus, Charles, assignor of one-half to W. Gagnan, Spokane, Wash. Car-door seal	840,434	Jan. 1	1308	288	126	342
Conder, Charles E., Cambridge, Mass. Back for brushes	840,435	Jan. 1	1309	288	126	342
Conklin, Chas. A., *et al.* (See Brodton, Edward R., assignor.)						
Conner, A. B. (See Williams, Jake C., assignor.)						
Conner, George F., Port Huron, Mich. Guide for root harvesting and cultivating machines	839,918	Jan. 1	237	51	126	65
Cook, Frank B., Chicago, Ill. Cable-clamp	839,919	Jan. 1	241	51	126	67
Cook, George W., Springfield, Mass. Garment-hanger	840,045	Jan. 1	504	110	126	134
Cook, Walter M., Ludlow, Vt., assignor of one-half to C. M. Lauritzen, Chicago, Ill. Separator	840,301	Jan. 1	1025	224–5	126	275
Cooke, Ernest W., New York, N. Y., assignor, by mesne assignments, to Cokel Company. Dehydrating food substances	840,436	Jan. 1	1310	289	126	342
Cooley, Fred W., assignor of two-thirds to G. T. Honstain, Minneapolis, Minn. Concrete-block machine	839,812	Jan. 1	24	5–6	126	8
Cooley, Fred W., assignor of two-thirds to G. T. Honstain, Minneapolis, Minn. Dumping-platform	839,813	Jan. 1	26	6	126	9
Copp, Curtis S., and L. Frank, Jacksonville, Ill. Display-rack	840,112	Jan. 1	636	137	126	168
Cornell, Evan W., Adrian, Mich. Wire-fence construction	840,113	Jan. 1	636	138	126	168
Cornwall, Clement A., Ashcroft, British Columbia, Canada. Gramophone speed-indicator	839,920	Jan. 1	242	52	126	67
Corsbie, John B., Julian, N. C. Combined fertilizer-distributer and plow	840,437	Jan. 1	1311	289	126	343
Costikyan, Nazar. (See Whitmore, Fred A., assignor.)						
Cowart, Stephen A., Midlothian, Tex. Cultivator-hopple	840,438	Jan. 1	1313	289–90	126	343
Cowart, Stephen A., Midlothian, Tex. Cotton-chopper	840,439	Jan. 1	1314	290–1	126	343
Cox, Alvin L., Madison, Mo. Load-binder	839,990	Jan. 1	376	82	126	102
Cox, Alvin L., Madison, Mo. Load-binder	839,991	Jan. 1	376	82	126	103
Craft, Edward B., assignor to Western Electric Company, Chicago, Ill. Switchboard-cord reel	840,200	Jan. 1	829	182	126	221
Craig, William H., *et al.* (See Seiler, Philipp, assignor.)						
Crane, Henry M., New York, N. Y., assignor to Western Electric Company, Chicago, Ill. Electromagnetic signal	840,201	Jan. 1	830	182	126	222
Crescent Appliance Co. (See Bevington, James H., assignor.)						
Crocker, Benjamin S., New York, N. Y. Loading device	839,921	Jan. 1	243	52	126	67
Crofut, Frank V., assignor of one-half to Sterling Co., Derby, Conn. Mechanically-operated piano	840,302	Jan. 1	1027	225–6	126	276
Crofut, Frank V., assignor to Sterling Co., Derby, Conn. Pneumatically-operated musical instrument	840,303	Jan. 1	1030	226	126	276
Cunningham, Bernard, Shannon township, Pottawatomie county, Kans. Grain and ear-corn elevator	839,814	Jan. 1	27	6–7	126	9
Cutler, Clarence B., Stanhope, N. J., assignor to H. H. Richardson, Brooklyn, N. Y. Machine for cleaning printers' rollers	840,440	Jan. 1	1316	291–2	126	344
Cutter, George, South Bend, Ind. Adjustable bracket	840,046	Jan. 1	506	110	126	135
Damonte, Joseph A. R., New Orleans, La. Magnetic tack-hammer	840,441	Jan. 1	1322	292	126	346
Davis, George W., Baltimore, Md. Measure for fabrics	840,047	Jan. 1	508	111	126	135
Davis, Gilbert G., Mukilteo, Wash. Locomotive	840,442	Jan. 1	1323	292–3	126	346
Davis, John P., Chicago, Ill. Variable-speed gear	840,202	Jan. 1	831	182	126	222
Davis, Merrill, New York, N. Y. Boiler	840,114	Jan. 1	637	138	126	168
Dawe, James H., Seacombe, assignor of one-half to Panels Limited, Liverpool, England. Instrument for playing organs or harmoniums	840,048	Jan. 1	509	111	126	135
Dawson, Jefferson D., Beardstown, Ill. Gas-generator	840,115	Jan. 1	639	138	126	164
De Coligny, Frank, Chicago, Ill. Power-transmission device	839,989	Jan. 1	374	81–2	126	102
De Lhorbe, William E., Chicago, Ill. Collapsible core for plastic building-walls	839,818	Jan. 1	34	8	126	10
De Lhorbe, William E., Chicago, Ill. Form for plastic building-blocks	839,819	Jan. 1	35	9	126	11
Decker Electrical Manufacturing Company. (See Decker, Frank A., assignor.)						
Decker, Frank A., Philadelphia, Pa., assignor, by mesne assignments, to Decker Electrical Manufacturing Company, Wilmington, Del. Manufacture of elements for batteries or electrolytic apparatus	839,815	Jan. 1	29	7	126	10
Decker, Frank A., Philadelphia, Pa., assignor, by mesne assignments, to Decker Electrical Manufacturing Company, Wilmington, Del. Electrochemical apparatus	839,816	Jan. 1	31	8	126	10
Decker, Frank A., Philadelphia, Pa., assignor, by mesne assignments, to Decker Electrical Manufacturing Company, Wilmington, Del. Coupling for battery elements	839,817	Jan. 1	33	8	126	10
Degen, Julius. (See Lea and Degen.)						
Degen, Julius, assignor, by mesne assignments, to Lea-Degen Pump Company, Trenton, N. J. Means for balancing centrifugal pumps	840,116	Jan. 1	640	139–40	126	169
Delaney, James G., and A. Lambert, Newark, N. J. Fall-rope carrier	840,443	Jan. 1	1324	293	126	346
Dexter, Thomas F., Providence, R. I. Automatic relief-valve for steam-heating systems	840,304	Jan. 1	1031	226	126	276
Diefendorf, Abram, *et al.* (See Seiler, Philipp, assignor.)						
Diezemann, Gustav, West Hoboken, N. J. Suspension device for vehicles	840,049	Jan. 1	511	111	126	136
Disbrow, Lutheria, *et al.* (See Kaplan, Godfrey J., assignor.)						
Disbrow, Reuben B., *et al.* (See Kaplan, Godfrey J., assignor.)						
Divens, John R. (See Adams and Divens.)						
Doan, J. Irwin. (See Pease, Henry W., assignor.)						
Donning, George W., East Orange, assignor to H. T. Ambrose, Orange, N. J. Record-producing machine	840,117	Jan. 1	642	141–3	126	170
Donning, George W., East Orange, assignor to H. T. Ambrose, Orange, N. J. Paper-retaining device	840,118	Jan. 1	654	143	126	176
Donning, George W., East Orange, assignor to H. T. Ambrose, Orange, N. J. Work-guide for type-writers	840,119	Jan. 1	663	144	126	180
Donning, George W., East Orange, assignor to H. T. Ambrose, Orange, N. J. Electrical type-writer selecting and operating means	840,120	Jan. 1	665	144–5	126	180
Donning, George W., East Orange, assignor to H. T. Ambrose, Orange, N. J. Electrical type-writer	840,121	Jan. 1	675	146	126	183
Donning, George W., East Orange, assignor to H. T. Ambrose, Orange, N. J. Type-writer	840,122	Jan. 1	680	146	126	185
Donning, George W., East Orange, assignor to H. T. Ambrose, Orange, N. J. Feeding mechanism	840,203	Jan. 1	833	183–4	126	222
Doughty, Charles L. (See McGregor, Bradford, assignor.)						
Draper Company. (See Roper, Charles F., assignor.)						
Drissler, John H., *et al.* (See Patton, Alfred S., assignor.)						
Drohan, Thomas E., Madison, Wis., assignor to Northern Electrical Manufacturing Company. Helix-forming machine	840,050	Jan. 1	514	111–12	126	137
	840,051	Jan. 1	516	112	126	138
Du Frane, John L., Oakland, Cal. Tape-punching register	839,820	Jan. 1	37		126	D
Dudley, William L., Nashville, Tenn. Magnesia-cement composition						

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Duecker, William. (See Reed and Duecker.)						
Dumont, Albert, Detroit, Mich. Lock-bolt	839,821	Jan. 1	38	9	126	11
Duncan, Joseph S., assignor to Addressograph Company, Chicago, Ill. Stencil-frame	840,052	Jan. 1	518	113	126	136
Dunham, William G., Chicago, Ill. Car-axle-box lid	839,922	Jan. 1	244	52	126	66
Dunn, Herbert L., Hopedale, Mass. Metallic structural element for buildings	840,053	Jan. 1	519	113	126	139
Dunnington, Nathan S., Leavenworth, Kans. Tent-stake	839,822	Jan. 1	39	9	126	12
Duplex Typeline Company. (See Kletzker and Goesel, assignors.)						
Dye, Daniel C. (See Watkins and Dye.)						
Eaton, George E., Corning, N. Y. Drill	839,824	Jan. 1	42	10	126	12
Ebner, Fredrick, La Crosse, Wis. Street-cleaning machine	839,823	Jan. 1	40	9–10	126	12
Eck, Eduard Gross-Anheim, and E. Bechtel, assignors to Hanauer Kunstseidefabrik, Hanau, Germany. Manufacturing cellulose products	839,825	Jan. 1	43		126	13
Edgar, Samuel N., Greenville, Tex. Boat-propeller	839,826	Jan. 1	44	10	126	13
Edgin, William A., Graford, Tex. Cotton-thinning plow	839,827	Jan. 1	45	11	126	13
Edwards, John, Edgard, La. Type-writer attachment	840,123	Jan. 1	684	146–7	126	187
Egleston, T. H., *et al.* (See Brodton, Edward R., assignor.)						
Ekroos, Sigurd W., Brooklyn, N. Y. Lock for window-sash	839,828	Jan. 1	46	11	126	13
Elliot, William, Montreal, Quebec, Canada. Snow-thawing machine	840,444	Jan. 1	1326	293–4	126	346
Enright, Isaac N., San Francisco, Cal. Combined gas-seal box and washer	840,445	Jan. 1	1328	294	126	347
Ertheiler, Philip H., Philadelphia, Pa. Propelling endless aprons for conveyers and for feeding machinery	840,446	Jan. 1	1329	294	126	347
Eugster, Conrad, Passaic, N. J. Fabric-holding rack for embroidery-machines	839,923	Jan. 1	246	52	126	66
Ewing, Lewis D., Akron, Ohio. Fence-post	840,124	Jan. 1	688	147	126	188
Eyermann, Peter, Beloit, Wis. Gas-producer	840,447	Jan. 1	1330	295	126	348
Fahrney, Ezra, Deep River, Iowa. Road-grader	840,305	Jan. 1	1033	226–7	126	276
Farmer, Frank T., Chicago, Ill., assignor to Whitman & Barnes Manufacturing Co., Akron, Ohio. Adjusting device for cone ball-bearings	840,306	Jan. 1	1038	227	126	278
Farrand, Oliver M., New York, N. Y. Keyless lock	840,054	Jan. 1	524	114	126	139
Fell, Henry L., Battle Creek, Mich. Fence-post base	839,829	Jan. 1	47	11	126	14
Ferguson, Frank A. Belleville, Kans. Change-speed gear	840,055	Jan. 1	527	114–15	126	140
Fesler, Milton A., Visalia, Cal. Crude-oil burner	840,448	Jan. 1	1332	295	126	348
Fetzer, James J., Columbiana assignor to Herbrand Company, Fremont, Ohio. Safety-razor	840,449	Jan. 1	1333	295	126	348
Firm, Joseph L., assignor to Goss Printing Press Company, Chicago, Ill. Casting-box for stereotype apparatus	839,924	Jan. 1	247	53	126	66
Fisher, M. E., *et al.* (See Upton, Edmund F., assignor.)						
Flintkote Manufacturing Company. (See Bird, Reginald W., assignor.)						
Foote, Floyd C. (See Stollar, Ross H., assignor.)						
Foote, Lewis A., assignor to Chicago Car Seal & Manufacturing Company, Chicago, Ill. Seal	840,125	Jan. 1	690	147	126	188
Ford, Patrick, Chicago, Ill. Tunneling through rocks	840,307	Jan. 1	1039	227–8	126	278
Fosston Manufacturing Company. (See Loe, Syver, assignor.)						
Foster, George D., assignor to American Electric Telephone Company, Chicago, Ill. Telephone hook-switch	839,830	Jan. 1	49	11–12	126	14
Fox, Henry. (See Alexander and Fox.)						
Frank, Louis. (See Copp and Frank.)						
Frank, William E., and C. C. Taylor, St. Louis, Mo. Couch-bed	840,450	Jan. 1	1334	296	126	348
Franke, Amanda, Jeffersonville, Ind. Kitchen-cabinet	839,992	Jan. 1	378	82	126	103
Franquist, Gustave E., New York, N. Y. Carbureter	840,204	Jan. 1	852	204	126	231
Fritz, Charles A., Minot, N. D. Pliers	839,993	Jan. 1	379	83	126	103
Fuld, Manes E., Baltimore, Md. Commutator	840,451	Jan. 1	1336	296	126	349
Fulton Manufacturing Company. (See Adams, Arthur J., assignor.)						
Gable, Benjamin F., St. Louis, Mo. Hook and eye	840,205	Jan. 1	854	184	126	231
Gagnan, William. (See Columbus, Charles, assignor.)						
Gardner, Edward, *et al.* (See Swing and Graner, assignors.)						
Garrecht, Charles L., New York, N. Y. Painter's striping and stenciling wheel	840,308	Jan. 1	1042	228	126	279
Garside, John R. (See Small and Campbell, assignors.)						
Gass, Joseph, Portland, Oreg. Animal-trap	840,206	Jan. 1	855	185	126	232
Gaszper, John, Cleveland, Ohio. Car-coupling	840,126	Jan. 1	691	147	126	189
Gates, William H., Norwich, Conn. Magazine-gun	840,309	Jan. 1	1044	228–9	126	279
Gaynor, James, Grand Rapids, Wis. Cleaning and grading apparatus	839,925	Jan. 1	249	53–4	126	69
Gee, Frank P., Dumont, Colo. Broom-holder	840,452	Jan. 1	1338	297	126	349
Gehman, Harry, and N. A. Giannone, assignors of one-third to W. E. Wimpy, Atlanta, Ga. Non-refillable bottle	840,453	Jan. 1	1339	297	126	349
Geiger, Henry H., *et al.* (See Weaver, Flem H., assignor.)						
General Electric Company. (See Baldwin, Edward A., assignor.)						
General Electric Company. (See Bassett, Norman L., assignor.)						
General Electric Company. (See Callan, John G., assignor.)						
General Electric Company. (See Hewlett and Button, assignors.)						
General Electric Company. (See Hundhausen, Rudolf, assignor.)						
General Electric Company. (See Junggren, Oscar, assignor.)						
General Electric Company. (See Larson, Carl W., assignor.)						
General Electric Company. (See Moody, Walter S., assignor.)						
General Electric Company. (See Rice, Richard H., assignor.)						
General Electric Company. (See Troy, Matthew O., assignor.)						
General Electric Company. (See Wirt, Herbert C., assignor.)						
General Electric Company. (See Zimmer, Paul H., assignor.)						
General Specialty Manufacturing Company. (See Smith, Robert R., assignor.)						
George, Edgar J., Chicago, Ill. Guard for eyeglasses	839,831	Jan. 1	51	12	126	15
Gery, Albert A., Reading, Pa. Manufacturing bricks, &c	839,832	Jan. 1	53	12	126	15
Gery, Albert A., Reading, Pa. Manufacturing brick	839,833	Jan. 1	55	13	126	16
Giannone, Nelson A. (See Gehman and Giannone.)						
Gilchrist, George K. (See Reeves and Gilchrist.)						
Gilchrist, Logan R., Emden, Ill. Corn-planter	840,454	Jan. 1	1341	297	126	350
Glassburn, William H., Glenwood, Iowa. Pitman connection	840,455	Jan. 1	1342	298	126	350
Glessner, Charles E., Ouray, assignor of one-half to C. Anderson, Telluride, Colo. Tripping mechanism for machinery	840,127	Jan. 1	693	148–9	126	189
Glickert, John E., and A. L. Swigert, Jr., Indianapolis, Ind. Clencher-tire-releasing tool	840,207	Jan. 1	856	185	126	232
Goesel, John G. (See Kletzker and Goesel.)						
Goldsborough, Richard H., Washington, D. C. Turbine	840,310	Jan. 1	1047	229	126	280
Goldsmith, Byron B., New York, N. Y. Fountain-pen	840,456	Jan. 1	1343	298	126	351
Goldthwait, William A., Melrose Park, Ill., assignor to Automatic Fire Protection Company. Alarm for automatic fire-extinguishers	840,311	Jan. 1	1049	229	126	280
Goodfellow, Thomas F., assignor of one-fourth to T. M. Goodfellow, Altoona, Pa. Automatic shut-off	840,312	Jan. 1	1052	229	126	281
Goodfellow, Thomas M. (See Goodfellow, Thomas F. assignor.)						
Goss Printing Press Company. (See Firm, Joseph L., assignor.)						
Hillmar, assignor of one-half to W. Hartley, Melbourne, Victoria, Australia. Mul- roller-blind and fixings for same	840,313	Jan. 1	1052	230	126	281

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Graner, Karl A. (See Swing and Graner.)						
Gray, Robert K., London, England. Rubber mat	839,834	Jan. 1	57	13	126	17
Gray, Simon J., and J. Horning, Oakland, Cal. Sawing-machine	840,314	Jan. 1	1054	230–1	126	282
Green, Josephus H., Marietta, Ohio. Drill-shaping machine	839,835	Jan. 1	58	13	126	17
Greene, Frank W., Shreveport, La. Woodworking-machine	840,315	Jan. 1	1057	231	126	282
Greenfield Automatic Fastener Company. (See Greenfield, Edwin T., assignor.)						
Greenfield, Edwin T., Monticello, assignor to Greenfield Automatic Fastener Company, New York, N. Y. Staple blank or strip	839,836	Jan. 1	60	14	126	17
Gregerson, Edwin J. J., Woodville, Wis. Interlocking clevis	840,128	Jan. 1	696	149	126	190
Gregory, James W., Marilla, N. Y. Bag-holder	840,316	Jan. 1	1061	232	126	283
Grether, John L., St. Louis, Mo. Sash-fastener	840,317	Jan. 1	1062	232	126	283
Griffith, Frederick. (See Harleman, John, assignor.)						
Griffith, Patrick G., London, England. Effecting the destruction of pathogenic organisms in water or other liquids	839,926	Jan. 1	252	54	126	70
Gros, Abel, Saintes, assignor to G. H. Jackson, O. Rondier, La Rochelle, and J. Gros, Saintes, France. Life-belt	840,318	Jan. 1	1064	232	126	284
Gros, Judith, *et al.* (See Gros, Abel, assignor.)						
Grosse, Friedrich A., Bischofswerda, Germany. Apparatus for manufacturing hollow glassware	840,056	Jan. 1	529	115	126	141
Gust, Emil. (See Capener, Bump, Gust, and Shields.)						
Guttzeit, Charles W., assignor to Taylor Iron & Steel Company, High Bridge, N. J. Drill-bit for wells	839,837	Jan. 1	61	14–15	126	18
Hacker, George, St. Louis, Mo. Lamp	840,319	Jan. 1	1066	232	126	284
Hackett, Charles H., assignor to W. W. Marsh, Waterloo, Iowa. Centrifugal liquid-separator	840,057	Jan. 1	531	116	126	141
Hage, John, Plankinton, S. D. Adjustable footboard for vehicles	839,838	Jan. 1	65	15	126	19
Haight, Arthur M. (See Miller, Haight, and Smith.)						
Hall and Company, D. C. (See Stollberg, Robert, assignor.)						
Hallowell, Howard T., Hallowell, Pa. Apparatus for forming sheet-metal hanger-legs	839,839	Jan. 1	66	16–17	126	19
Hammond, T. A., *et al.* (See Brodton, Edward R., assignor.)						
Hanauer Kunstseidefabrik. (See Eck and Bechtel, assignors.)						
Handy, Arthur E., assignor to Rhode Island Elevator and Machine Company, Providence, R. I. Hoisting-machine	840,129	Jan. 1	697	149	126	190
Hanna, Nelson G., Center township, Howard county, assignor of three-eighths to V. H. Lockwood, Indianapolis, Ind. Side-delivery buncher	840,320	Jan. 1	1067	233	126	284
Hargreaves, Frank L., North Adams, Mass. Ventilator	840,321	Jan. 1	1069	233	126	285
Harkness, Adam, East Newark, N. J. Valve	840,058	Jan. 1	532	116	126	142
Harleman, John, assignor, by mesne assignments, of one-half to F. Griffith, Kansas City, Mo. Crude-oil burner	840,059	Jan. 1	538	116	126	143
Harrison, Frank B., and L. Y. Williams, Toledo, Ohio. Lubricating device for car-axle journals	839,840	Jan. 1	69	17	126	20
Hartford Carpet Corporation. (See Lyford, William E., assignor.)						
Hartley, William. (See Graff, Hilmar, assignor.)						
Hartness, James, Springfield, Vt. Lathe-spindle	840,322	Jan. 1	1070	233	126	286
Hartong, Miles V., Plainfield, Ill. Windmill	840,208	Jan. 1	858	185	126	233
Hase, Frank F., Milwaukee, Wis. Floor-scraper	839,994	Jan. 1	380	83	126	103
Haughawout, John W., Fort Dodge, Iowa, assignor to Hoyt Metal Company, St. Louis, Mo. Target-trap	840,323	Jan. 1	1071	234	126	286
Hawkins, George E., Columbus, Ohio. Record-slip for meters	839,927	Jan. 1	253	54	126	70
Hawley, Charles G., assignor, by mesne assignments, to United States Flexible Joint Company, Chicago, Ill. Flexible fluid-joint	840,324	Jan. 1	1075	234	126	287
Hawley, Charles G., assignor, by mesne assignments, to United States Flexible Joint Company, Chicago, Ill. Flexible fluid-joint	840,325	Jan. 1	1076	234	126	287
Hays, Franklin B., Indianapolis, Ind. Scale-recorder	839,841	Jan. 1	70	17	126	20
Hecht, Jonas. (See Anchel, Edward, assignor.)						
Heckman, John P., Creston, Ohio. Concrete-block mold	839,842	Jan. 1	72	18	126	21
Hendrikszoon, Willem J. J., The Hague, Netherlands. Making a solution of oxyhemoglobin	840,326	Jan. 1	1078		126	288
Herbener, John H., Providence, R. I., assignor to J. H. Herbener Company. Hanger	839,843	Jan. 1	74	18	126	22
Herbrand Company. (See Fetzer, James J., assignor.)						
Hess, Edward B., New York, N. Y., assignor, by mesne assignments, to Royal Typewriter Company, Hoboken, N. J. Writing-machine	839,995	Jan. 1	381	83	126	103
Hesser, Frederick, *et al.* (See Hyle, Jacob A., assignor.)						
Hewlett, Edward M., and T. E. Button, Schenectady, N. Y., assignors to General Electric Company. Electric switch	840,327	Jan. 1	1079	235	126	288
Heyl-Dia, George E., Stretton, near Warrington, England. Tire	840,209	Jan. 1	860	186	126	233
Hickson, John S., Charlottesville, Va. Horse-brush	840,328	Jan. 1	1083	235	126	289
Hielscher, John W., Kniman, Ind. Wrench	840,329	Jan. 1	1084	236	126	290
Hill, Charles V., St. Louis, Mo. Electric heating attachment for hot-water bags	839,928	Jan. 1	254	55	126	70
Hill, Charles V., St. Louis, Mo. Heating attachment for hot-water bags	840,060	Jan. 1	539	117	126	144
Hill, Halbert P., New York, N. Y. Steam-turbine	840,457	Jan. 1	1345	298	126	351
Hilliard Clutch & Machinery Company. (See Hilliard, William J., assignor.)						
Hilliard, William J., Buffalo, assignor to Hilliard Clutch & Machinery Company, Elmira, N. Y. Clutch	839,844	Jan. 1	73	18–19	126	22
Hillmer, Theo, Bucharest, Roumania. Arrangement for measuring quantities of liquid	840,210	Jan. 1	861	186	126	233
Hines, Edwin G., Drums, Pa. Support for vehicle-bodies	839,845	Jan. 1	79	19	126	23
Hoag Krieger & Company. (See Hoag and Krieger, assignors.)						
Hoag, William M., and M. H. Krieger, assignors to Hoag Krieger & Company, Lansing, Mich. Runner for vehicles	839,920	Jan. 1	256	55	126	71
Hoar, Orlanda C., Vanatta, Ohio. Sawing-machine	840,330	Jan. 1	1085	236	126	290
Hodgkinson, Frank E., assignor to Printing Appliance and Engineering Company, Limited, London, England. Device for feeding sheets to printing and like machines	840,211	Jan. 1	862	186	126	234
Hoe, Robert. (See Spalckhaver, William, assignor.)						
Hoff, Charles, Cincinnati, Ohio. Barrel-hoop	840,212	Jan. 1	864	186	126	234
Hofman, John, Rochester, N. Y. Movable supporting means for doors, display-frames, &c.	840,061	Jan. 1	541	117	126	144
Holden, George, Merchantville, N. J., assignor to Merritt and Company. Spiral stairway	839,846	Jan. 1	80	19	126	23
Holden, George, Merchantville, N. J., assignor to Merritt and Company. Hinge	839,847	Jan. 1	82	20	126	24
Holmes, Charles I., and J. A. Boatright, Thomas, Okla. Ter. Grain-car door	839,848	Jan. 1	83	20	126	24
Holmes, Lawrence, Los Angeles, Cal. Apartment-house with disappearing beds	839,906	Jan. 1	384	84	126	104
Holmested, Francis K., Claremont, W. Va. Loading-machine	839,907	Jan. 1	387	84–5	126	105
Holoubek, Frant, Nusle, near Prague, Austria-Hungary. Soap-molding battery	840,213	Jan. 1	865	187	126	234
Hölzermann, Ludwig, Antwerp, Belgium. Ruling appliance	840,331	Jan. 1	1087	237	126	290
Hommel, William H., Sandusky, Ohio. Bottle-tap	839,930	Jan. 1	257	55	126	71
Honstain, George T. (See Cooley, Fred W., assignor.)						
Hoover, Frank T., assignor of one-half to E. D. Smith, Pittsburg, Pa. Amusement device	840,214	Jan. 1	866	187	126	235
Horine, E. M., *et al.* (See Brodton, Edward R., assignor.)						
Horning, John. (See Gray and Horning.)						
Horst, George C., assignor to J. A. Jeffrey, Columbus, Ohio. Sprocket-chain	839,849	Jan. 1	87	21	126	25

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Hosac, Mary J., Chicago, Ill., assignor to Warren Featherbone Company, Three Oaks, Mich. Hoop-skirt	839,931	Jan. 1	258	55	126	72
Houghton, David J., Detroit, Mich. Car-brake	840,215	Jan. 1	867	188	126	235
Howard, Joseph W., and R. M. McKee, Greeneville, Tenn. Index cell-case equipment for delivery of mail	840,332	Jan. 1	1088	237	126	291
Hoyt Metal Company. (See Haughawout, John W., assignor.)						
Hueg, Herman F. W., New York, N. Y. Dough-dividing machine	840,062	Jan. 1	542	117-18	126	145
Hughes, Felix, Vancouver, British Columbia, Canada. Skid-setting gage	839,932	Jan. 1	259	56	126	72
Hummel, Charles L., Flatrock, Ohio. Cutting apparatus for harvesters	839,850	Jan. 1	88	21	126	36
Hundhausen, Rudolf, Wilmersdorf, near Berlin, Germany, assignor, by mesne assignments, to General Electric Company. System of electrical distribution	840,216	Jan. 1	869	188	126	236
Hussey, Thomas, Hollywood, Cal. Miner's gold-pan	840,333	Jan. 1	1091	238	126	292
Hutchison, Montrose E., assignor of one-half to J. G. Pierce, Klamath Falls, Oreg. Buckle	840,063	Jan. 1	545	118	126	146
Huvig, Elias O., Moss, Norway. Machine for bending angle-iron and the like into different shapes of curvature	840,217	Jan. 1	872	188-9	126	237
Hyatt, John W., Newark, N. J. Making shoes for pneumatic tires	840,334	Jan. 1	1092	238	126	292
Hyde, Courtney, New York, N. Y., assignor to Alphadnet Manufacturing Company, Jersey City, N. J. Machine for manufacturing hose or tubes	839,851	Jan. 1	89	51-2	126	36
Hyle, Jacob A., assignor of three-fourths to F. Hesser and D. A. Reagan, Altoona, Pa. Electric water purifying and filtering apparatus	840,335	Jan. 1	1096	238	126	293
Hylton, John C., Chicago, Ill. Collapsible stand for water-coolers	840,130	Jan. 1	701	150	126	191
Ide, Henry H., Cornell, Ill. Collapsible crate	839,852	Jan. 1	92	22	126	37
International Cigar Machinery Company. (See Shedlock, Alfred, assignor.)						
International Harvester Company. (See Sperry, Herbert B., assignor.)						
Ives, Frederic E., Woodcliffe-on-Hudson, N. J. Exhibiting diffraction-photographs	839,853	Jan. 1	94	23	126	37
J. H. Herbener Company. (See Herbener, John H., assignor.)						
Jackson, George H., *et al.* (See Gros, Abel, assignor.)						
Jacob, Fanny F., St. Louis, Mo. Safety bag-fastener	840,218	Jan. 1	873	189	126	237
Jeffrey, Joseph A. (See Horst, George C., assignor.).						
Joerden, Henry C., Marling, Mo. Bifocal lens	839,998	Jan. 1	390	85	126	106
Johnson, Alfred, Quincy, Ill. Insulator	840,338	Jan. 1	1008	239	126	293
Johnson, Hadfield E., Axel, Minn. Harvester attachment	840,338	Jan. 1	1101	239	126	294
Johnson, Henry H., Avoca, Iowa. Air-ship	840,339	Jan. 1	1102	239-40	126	294
Johnson, John E., Ishpeming, Mich. Pipe-hanger	840,337	Jan. 1	1100	239	126	294
Johnson, Robert L., Murfreesboro, Tenn. Governor	840,340	Jan. 1	1104	240	126	295
Johnson, William P., Kerrmoor, Pa. Rail-fastener	840,219	Jan. 1	875	189	126	237
Jones, D. G., *et al.* (See Brodton, Edward R., assignor.)						
Jones, Harry, Washington, D. C. Valve	839,854	Jan. 1	95	23	126	27
Jones, Harry, Washington, D. C. Valve	839,855	Jan. 1	96	23	126	28
Jones, Harry, Washington, D. C. Pump	840,084	Jan. 1	547	118	126	146
Jones, Harry, Washington, D. C. Hydraulic and pneumatic apparatus	840,085	Jan. 1	548	119	126	146
Jones, John E., *et al.* (See Seiler, Philipp, assignor.)						
Jones, Louis A., Cambridge, assignor to American Circular Loom Co., Chelsea, Mass. Conduit	840,066	Jan. 1	550	119	126	147
Jones, William H., Homestead, assignor of one-fourth to A. F. Mitchell, Homeville, Pa. Ink-eraser	840,131	Jan. 1	702	150	126	192
Judd, William J., New York, N. Y., assignor to F. C. Austin, Chicago, Ill. Machine for mixing concrete and the like	840,067	Jan. 1	551	119-21	126	147
Junggren, Oscar, Schenectady, N. Y., assignor to General Electric Company. Diaphragm and nozzle construction	840,132	Jan. 1	703	150	126	192
Kales, William R., Detroit, Mich. Locking mechanism for jails	839,933	Jan. 1	261	56	126	72
Kane, William, Philadelphia, Pa. Water-heater	840,220	Jan. 1	875	189-90	126	237
Kaplan, Godfrey J., assignor to L. and R. B. Disbrow, Owatonna, Minn. Combined churn and butter-worker	840,133	Jan. 1	706	150-1	126	192
Keays, Reginald H., New York, N. Y. Tunnel and constructing the same	839,856	Jan. 1	97	23	126	28
Kellogg, Lewis M., Los Angeles, Cal. Motive-power engine	839,999	Jan. 1	391	85	126	106
Kellogg Switchboard and Supply Company. (See Webster, Harry G., assignor.)						
Kerr, Frank. (See Kerr, Judson and F.)						
Kerr, Judson and F., Philadelphia, Pa. Vegetable-peeler	840,000	Jan. 1	393	85	126	107
Kiesel, William F., Jr., Altoona, Pa. Railway-car frame	839,857	Jan. 1	99	24-6	126	28
King, George W., assignor to Marion Steam Shovel Company, Marion, Ohio. Dredge	839,934	Jan. 1	264	57	126	73
King, Theophilus, *et al.* (See Sharpe, Joseph K., Jr., assignor.)						
King, Theophilus, *et al.* (See Schuman, James B., assignor.)						
Kingsbury, Forrest W., assignor to Peerless Tank and Seat Works, Evansville, Ind. Water-closet tank	840,341	Jan. 1	1105	240	126	295
Kingsbury, Forrest W., assignor to Peerless Tank and Seat Works, Evansville, Ind. Water-closet seat	840,342	Jan. 1	1106	241	126	295
Kinley, John H., Upper Sandusky, Ohio. Flue-stop	840,343	Jan. 1	1107	241	126	296
Kirsch, Charles W., Chicago, Ill. Elevator-gate-closing means	840,344	Jan. 1	1109	241	126	296
Klein, William. (See Linkiewicz and Klein.)						
Klemm, Max, Bielefeld, Germany. Automatic lubricator	840,345	Jan. 1	1112	242	126	297
Klempau, Karl J. H., Hamburg-Hohenfelde, Germany. Advertising apparatus	840,134	Jan. 1	707	151	126	193
Kletzker, Albert J., and J. G. Goesel, St. Louis, Mo., assignors to Duplex Typeline Company. Type-bar machine	840,346	Jan. 1	1113	242-7	126	297
Knapp, Henry, Springfield, Mass. Combined dressing-table and clothes-press	840,347	Jan. 1	1143	247-8	126	303
Knight, Charles S., Aurora, Ill. Boiler-tube cleaner	840,221	Jan. 1	878	190	126	238
Krausch, Walter T., La Grange, Ill. Automatic dumping and righting hoisting-bucket	839,858	Jan. 1	107	26	126	31
Krieger, Michael H. (See Hoag and Krieger.)						
Kufferath, August, assignor to L. C. Marquart, Beuel, near Bonn, Germany. Arc-light carbon	840,222	Jan. 1	881		126	239
Kuheim, Charles, Kansas City, Mo. Follower for barrels	839,859	Jan. 1	108	27	126	31
Laidlaw, John, and J. W. Macfarlane, Glasgow, Scotland. Clutch or brake mechanism	840,223	Jan. 1	881	190	126	239
Lake, Edward N., Chicago, Ill. Panel-board for electrical distribution	840,068	Jan. 1	556	121-2	126	147
Lambert, Asher. (See Delaney and Lambert.)						
Lamme, Benjamin G., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Phase-adjusting means for alternating-current motors	839,935	Jan. 1	265	57-9	126	73
Lamme, Benjamin G., Pittsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Phase-adjusting apparatus	839,936	Jan. 1	271	59	126	76
Lamme, Benjamin G., Pittsburg, and C. Renshaw, Wilkinsburg, Pa., assignors to Westinghouse Electric & Manufacturing Company. Regulating the speed of electric motors	839,937	Jan. 1	275	59	126	76
Lane, W. Britton, Evanston, Ill. Signal apparatus. Regulating alternating-current motors	840,001	Jan. 1	394	86	126	107
Larish, Joseph W., assignor of one-half to Postal Telegraph-Cable Company, New York, N. Y. Duplex telegraph	840,135	Jan. 1	709	152	126	193
Larson, Carl W. Schenectady, N. Y., assignor to General Electric Company. Brake system	840,002	Jan. 1	397	87	126	107
Lawson, Alfred, Buffalo, N. Y. Telephone-transmitter	840,136	Jan. 1	712	152-3	126	194
	840,069	Jan. 1	558	122	126	148

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Lauritzen, Christian M. (See Cook, Walter M., assignor.)						
Lawson, William W. (See Schnabel and Lawson.)						
Le Clair, George E., Elyria, Ohio. Combined grader and scraper	840,139	Jan. 1	716	155	126	196
Lea-Degen Pump Company. (See Degen, Julius, assignor.)						
Lea-Degen Pump Company. (See Lea and Degen, assignors.)						
Lea, Edward S., and J. Degen, assignors, by mesne assignments, to Lea-Degen Pump Company, Trenton, N. J. Multiple-section pump-casing	840,137	Jan. 1	714	153-4	126	195
Lea, Edward S., and J. Degen, assignors, by mesne assignments, to Lea-Degen Pump Company, Trenton, N. J. Pump-base	840,138	Jan. 1	715	154-5	126	195
Lee, Fred M., Newark, N. J., assignor to T. B. Peddle and Co. Trunk	840,140	Jan. 1	718	155	126	196
Leggett, Clinton H., New York, N. Y. Powder-distributer	840,141	Jan. 1	720	156	126	196
Leggett, Clinton H., New York, N. Y. Powder-distributer	840,142	Jan. 1	723	156-7	126	197
Lemyre, Joseph E., Manchester, N. H. Tide-motor	839,860	Jan. 1	109	27	126	31
Lengfelder, Henry W., Belleville, Ill., assignor to Mitchell-Parks Manufacturing Co., St. Louis, Mo. Packing flasks	840,070	Jan. 1	560	122	126	149
Leonard, Charles N., assignor to W. D. Allison, Indianapolis, Ind. Specialist's chair	840,348	Jan. 1	1145	248	126	304
Leonard, George. (See Miller, Alexander, assignor.)						
Leonard, William D., York, Pa. Nut-lock	840,143	Jan. 1	726	157	126	198
Lester, Sidney J., Otter Pond, Ky. Pencil-holder	840,349	Jan. 1	1147	248	126	304
Lewis, Abram T., Rock Rapids, Iowa. Wall brace or tie	840,071	Jan. 1	562	122	126	149
Lilienberg, Nils H. O., Philadelphia, Pa., assignor of one-half to B. Stoughton, New Haven, Conn. Ingot-casting machine	839,861	Jan. 1	111	27-8	126	32
Lincoln, Leo B., assignor to H. Ames, Chicago, Ill. Puzzle	840,144	Jan 1	726	157	126	198
Lindgren, August, Moline, Ill., assignor to Moline Plow Company. Plow	840,350	Jan. 1	1148	249	126	304
Lineweaver, Henry W., South English, Iowa. Feeding-trough	840,003	Jan. 1	399	87	126	108
Linkiewicz, Leopold, and W. Klein, Brooklyn, N. Y. Butter-pat machine	840,145	Jan. 1	728	158	126	198
Linton, Joseph, Manchester, Va. Calender-roll and knife-grinding machine	840,072	Jan. 1	563	123	126	149
Lister, Percy, Nottingham, England. Firearm	839,938	Jan. 1	278	60	126	77
Lloyd, Milby W. (See Bangley, Joseph L., assignor.)						
Locke, Nathaniel C., Salem, Mass. Check-valve	839,862	Jan. 1	112	28	126	32
Lockwood, Virgil H. (See Hanna, Nelson G., assignor.)						
Loe, Syver, Minneapolis, Minn., assignor of one-half to Fosston Manufacturing Company. Alternating rotary gearing	839,863	Jan. 1	115	28-9	126	33
Loew, Charles H., Cleveland, Ohio. Mechanism for rinsing, spraying, and brushing bottles	839,864	Jan. 1	117	29	126	34
Loew Manufacturing Company. (See Miller, Henry G., assignor.)						
Longley, Richard L., Kansas City, Mo. Windmill	840,458	Jan. 1	1348	299	126	351
Lorenz, William A., Hartford, Conn., assignor to Union Paper Bag Machine Company, Philadelphia, Pa. Paper-bag machine	840,073	Jan. 1	565	123-4	126	150
Lormis, Harry J., Magnolia, Ill. Hay-loader	840,351	Jan. 1	1150	249	126	304
Loshbough, Walter A., assignor to G. H. Paine, Detroit, Mich. Cheese-cutter	840,352	Jan. 1	1152	250	126	305
Lowe, Leon P., San Francisco, Cal. Apparatus for making gas and coking	839,939	Jan. 1	280	60	126	77
Lowe, Leon P., San Francisco, Cal. Apparatus for recovering from oil its tarry or asphaltic constituents, with gas as a by-product	839,940	Jan. 1	281	60-1	126	78
Luten, Daniel B., Indianapolis, Ind. Arch and analogous structure	840,224	Jan. 1	883	190	126	239
Lutze, Alfred, Halle-on-the-Saale, Germany. Machine for molding plastic materials	839,941	Jan. 1	282	61-2	126	78
Lyford, William E., assignor to Hartford Carpet Corporation, Thompsonville, Conn. Yarn-printing machine	840,353	Jan. 1	1153	250	126	305
Lyle, Matthew R., Oakland, Cal. Ore-separator	840,354	Jan. 1	1155	251	126	306
Macfarlane, James W. (See Laidlaw and Macfarlane.)						
Maddin, Samuel D., Detroit, Mich. Vehicle	840,146	Jan. 1	730	158-9	126	199
Malloy, John J., Brockton, Mass. Die-plate	840,147	Jan. 1	731	159	126	199
Malocsay, Frank X., assignor to American Tobacco Company, New York, N. Y. Machine for applying mouthpieces to cigarettes	840,004	Jan. 1	400	87-9	126	108
Mann, Jacob, New York, N. Y. Hose-supporter	840,355	Jan. 1	1158	251	126	306
Mansfield, Albert K., Batavia, Ill. Supporting structure for tanks	839,942	Jan. 1	286	63	126	79
Marbach, William A., Cleveland, Ohio. Bolt for rim-latches	840,225	Jan. 1	885	191	126	240
Marion Steam Shovel Company. (See King, George W., assignor.)						
Markey, Charles D., Ellinwood, Kans. Feeder for threshing-machines	839,865	Jan. 1	122	29-30	126	36
Marquart, L. C. (See Kufferath, August, assignor.)						
Marriott, Hugh F., Parktown, Transvaal. Means for surveying bore-holes	840,148	Jan. 1	732	159	126	199
Marsh, Edward A., Newton, Mass. Micrometer-gage	839,943	Jan. 1	289	63	126	80
Marsh, Wilbur W. (See Hackett, Charles H., assignor.)						
Martin, William C., Coldwater, Mich. Chair attachment	839,944	Jan. 1	293	64	126	81
Marwedel, Paul, Dallas, Tex. Signal	840,356	Jan. 1	1159	252	126	307
Mathieu, Joseph Z., Willimantic, Conn. Garment-pad	840,149	Jan. 1	734	159	126	200
Mattern, William J., Lewistown, Pa. Splice-bar	840,074	Jan. 1	573	125	126	153
Matthews, Luther, Paris, Tenn. Road-grader	840,075	Jan. 1	574	125	126	153
Mattice, Asa M., assignor to Allis-Chalmers Company, Milwaukee, Wis. Testing device	840,005	Jan. 1	413	89	126	112
Mauran, Max, Niagara Falls, N. Y., assignor to Castner Electrolytic Alkali Company. Apparatus for hydrating lime	840,076	Jan. 1	576	125	126	153
Mavor, Warwick C. (See Melancon and Mavor.)						
Maxim, Hudson, New York, N. Y. Detonating-fuse	840,226	Jan. 1	886	191	126	240
Maxwell, John, Oneida, N. Y. Burial-casket	840,077	Jan. 1	578	126	126	154
May, Edwin G., Aston Manor, England. Bicycle-support	840,357	Jan. 1	1161	252	126	307
McCandlish, Sarah. (See Becker, Jacob, assignor.)						
McClelland, James, Carson City, Mich. Whiffletree-hook	840,152	Jan. 1	741	161	126	201
McCluskey, Frank, New York, N. Y. Tension-joint for pipes	839,947	Jan. 1	300	66	126	83
McCombie, Elizabeth, assignor of one half to J. M. Watt, Chicago, Ill. Stretcher-frame	840,232	Jan. 1	900	191	126	244
McCord, Alvin C., Chicago, Ill. Dumping-car	839,870	Jan. 1	131	32	126	38
McCord, Alvin C., Chicago, Ill. Car-axle-box lid	839,871	Jan. 1	133	33	126	38
McCormick, Washington, Hillyard, Wash. Bolt-extractor	840,233	Jan. 1	900	195	126	244
McDougall, David, Fall River, Mass. Sandpapering and polishing machine	839,872	Jan. 1	135	33-4	126	39
McFell, Judson, Chicago, Ill. Fire-alarm and watch service system	839,873	Jan. 1	139	34	126	40
McGregor, Bradford, Covington, Ky., assignor of two-fifths to C. L. Doughty, Cincinnati, Ohio. Tobacco stemming and booking machine	840,234	Jan. 1	902	195-7	126	244
McGuire, William F., Rockford, Ill. Heater	840,235	Jan. 1	907	198	126	246
McHenry, Alfred, Bentonville, Ark. Press for pressing lids on boxes	840,236	Jan. 1	908	198	126	246
McInnes, Neil, Allegheny, Pa. Pressed-steel connecting-bar	840,237	Jan. 1	909	198	126	247
McKee, George F., and W. F. Schilling, Aspinwall, Pa. Casting apparatus	840,153	Jan. 1	742	161	126	202
McKee, Robert M. (See Howard and McKee.)						
McKibben, Charles R., Pittsburg, Pa. Pipe-flanging machine	840,154	Jan. 1	743	161-2	126	202
McLaren, William, London, England. Spring-roller-blind apparatus	839,948	Jan. 1	309	66	126	83
McLean, Norman J., and E. Swanson, Bay City, Mich. Railway-tie	839,874	Jan. 1	145	34	126	41
McRae, Alexander, Pendleton, Oreg. Weeder	839,875	Jan. 1	148	34-5	126	42
Meador, T. D., *et al.* (See Brodton, Edward R., assignor.)						
Meden John, St. Louis Mo. Air-ship	840,078	Jan. 1	580	126	126	154
Melancon, Joseph A., and W. C. Mavor, McCall, La. Cane-harvester	839,945	Jan. 1	294	64-5	126	81
Melchior, Ernst, Chicago, Ill. Brush	840,227	Jan. 1	888	191	126	240

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Merideth, Henry M., administrator. (See Merideth, John L.)						
Merideth, John L., deceased; H. M. Merideth, administrator, Gladstone, Ark. Churn	839,866	Jan. 1	125	30	126	36
Merritt and Company. (See Holden, George, assignor.)						
Metcalfe, Gilson W. (See Winks, Walter H., assignor.)						
Michael, William. (See Miller, Joseph R., assignor.)						
Michaeli, John G., Denver, Colo. Horse-controlling device	840,079	Jan. 1	582	126	126	155
Miklós, Edmund von, Budapest, Austria-Hungary. Railway weigh-bridge	839,946	Jan. 1	298	65	126	82
Miles, Perry B. (See Miller, Haight, and Smith assignors.)						
Miller, Alexander, assignor of one-half to G. Leonard, San Antonio, Tex. Wire-stretcher	840,080	Jan. 1	583	126	126	155
Miller, Andrew J., Henderson, Ky. Storm-apron	840,081	Jan. 1	584	127	126	155
Miller, Henry G., assignor to Loew Manufacturing Company, Cleveland, Ohio. Feed-water heater	839,867	Jan. 1	125	30-1	126	36
Miller, John, A. M. Haight, and W. T. Smith, assignors, by mesne assignments, to P. B. Miles, Jackson, Mich. Machine for making concrete building-blocks	840,006	Jan. 1	415	90-1	126	112
Miller, Joseph R., assignor of one-half to W. Michael, Mansfield, Ohio. Lifting mechanism	840,082	Jan. 1	585	127	126	155
Milne, Samuel, Edinburgh, Scotland. Paper-making machine	840,228	Jan. 1	888	192	126	240
Mitchell, Andrew F. (See Jones, William H., assignor.)						
Mitchell-Parks Manufacturing Co. (See Lengfelder, Henry W., assignor.)						
Moline Plow Company. (See Lindgren, August, assignor.)						
Moody, Walter S., Schenectady, N. Y., assignor to General Electric Company. Transformer	840,150	Jan. 1	735	160	126	200
Morey, Frank N., Painesville, Ohio. Machine for drying and straightening veneer	839,868	Jan. 1	128	31-2	126	37
Morgan, Edward W. (See Wood, William T., assignor.)						
Morgan Engineering Company. (See Taylor, Clarence L., assignor.)						
Morgen, Enos D., *et al.* (See Taylor, John S., assignor.)						
Morris, Alfred D., Philadelphia, Pa. Metallic packing for rocking or rotating rods or shafts	840,359	Jan. 1	1162	252	126	307
Morris, William F., assignor of one-half to A. J. and A. B. Allen, Los Angeles, Cal. Frosting or icing pen	840,053	Jan. 1	586	127	126	156
Moss, William B., Lancaster, Ky. Thinner	840,229	Jan. 1	892	192	126	241
Müller, Friederich, Elizabeth, N. J. Reflector	840,084	Jan. 1	587	127-8	126	156
Mullikin, Levin H., Trappe, Md. Combined lock and latch	840,007	Jan. 1	420	91-2	126	114
Mulock, Peter, Leadville, Colo. Firearm	840,085	Jan. 1	590	128	126	156
Murden, George L., Peru, Ind. Secret-ballot and distributer box	840,151	Jan. 1	738	160	126	200
Murray, Chauncey A., Cumberland, Wyo. Suspenders	840,359	Jan. 1	1164	252	126	308
Muschenheim, Frederick, New York, N. Y. Electric lamp	839,869	Jan. 1	131	32	126	38
Myers, Louis, Newark, N. J. Draft-producing fan	840,230	Jan. 1	893	192-3	126	241
Myers, Louis, Newark, N. J. Spring-operated fan-motor	840,231	Jan. 1	896	194	126	242
Naery, John S., La Fayette, Ind. Door-holder fixture	839,876	Jan. 1	149	35	126	42
Nanz, August F. (See Zausmer, Joseph, assignor.)						
National Patent Holding Company. (See Otis, Spencer, assignor.)						
Nelson, Louis J., Chicago, Ill. Chip-breaker	840,238	Jan. 1	910	199	126	247
Nemecek, Mathias, McKeesport, Pa. Rail-joint	840,239	Jan. 1	911	199	126	247
Neumann, Louis. (See Wiegert, Theodore, assignor.)						
Nichols, Benjamin, Seattle, Wash. Knife-sharpener	839,877	Jan. 1	151	35	126	43
Nicholson, Jesmond T., Wilkes-Barre, Pa. Drive-chain	840,240	Jan. 1	912	199	126	248
Niederlander, Nicholas F., St. Louis, Mo., assignor to Westinghouse Automatic Air & Steam Coupler Company, East St. Louis, Ill. Device for operating train-pipe cocks	839,878	Jan. 1	152	35	126	43
Niles-Bement-Pond Company. (See Reiss, George T., assignor.)						
Niles, Walter L. C., Lynn, Mass. Shoe-tree	840,008	Jan. 1	425	92	126	116
Noblett, E. J. (See Pringle, George W., assignor.)						
Nootbaar, Ernst, Berlin, Germany. Holder for expanded umbrellas	840,241	Jan. 1	914	200	126	248
Nordlinger, Louis, New York, N. Y. Fireworks	840,242	Jan. 1	915	200	126	248
Normand, Joseph M., assignor to Ridgely Trimmer Company, Springfield, Ohio. Trestle	840,360	Jan. 1	1165	253	126	308
Northern Electrical Manufacturing Company. (See Drohan, Thomas E., assignor.)						
Nott, Tom H. (See Reeps and Nott.)						
Nufer, Albert, Jersey City, N. J. Embroidering-machine	840,243	Jan. 1	916	200-1	126	249
O'Connell, Timothy F., Chicago, Ill., assignor to Tilden-Thurber Company, Providence, R. I. Garment-hanger	839,879	Jan. 1	153	36	126	43
Odell, Anell G., Milan, Ohio. Acetylene-generator	840,361	Jan. 1	1166	253	126	308
Odell, Daniel W. and E. H., Utica, N. Y. Safety-razor	840,244	Jan. 1	918	201	126	249
Odell, Edward H. (See Odell, Daniel W. and E. H.)						
Oil and Waste Saving Machine Company. (See Patterson, Thomas S., assignor.)						
Olney, Allan E., Pittsfield, Mass. Automatic mechanism for playing musical instruments	839,880	Jan. 1	154	36	126	43
Olson, John P., Tacoma, Wash. Saw gage and jointer	840,155	Jan. 1	745	162	126	202
Olson, Sivert, Petersburg, N. D. Excavating-machine	839,949	Jan. 1	302	66	126	83
Oswald, Karl, Jr., Newark, N. J. Bag	840,086	Jan. 1	591	128	126	157
Otis, Spencer, Chicago, Ill., assignor to National Patent Holding Company, Rapid City, S. D. Railway-car truck	840,156	Jan. 1	746	162	126	202
Otis, Spencer, Chicago, Ill., assignor to National Patent Holding Company, Rapid City, S. D. Worm-gearing	840,157	Jan. 1	747	162-3	126	203
Otis, Spencer, Chicago, Ill., assignor to National Patent Holding Company, Rapid City, S. D. Steam-transformer	840,158	Jan. 1	748	163	126	203
Owens, Michael J., assignor to Toledo Glass Company, Toledo, Ohio. Glass-tank	840,245	Jan. 1	919	201	126	249
Paine, George H. (See Loshbough, Walter A., assignor.)						
Panels Limited. (See Dawe, James H., assignor.)						
Park, R. E., *et al.* (See Brodton, Edward R., assignor.)						
Parker Brothers. (See Phillips, Henry J., assignor.)						
Parker-Clark Electric Company. (See Parker and Clark, assignors.)						
Parker, Herschel C., New York, N. Y., and W. G. Clark, Seattle, Wash., assignors to Parker-Clark Electric Company, Jersey City, N. J. Making refractory metallic wires or filaments	840,246	Jan. 1	921	202	126	250
Parker-Smith, Augustus, New York, N. Y., assignor, by mesne assignments, to Sauvage Safety Brake Company. Automatic air-brake	839,881	Jan. 1	158	36	126	45
Parker-Smith, Augustus, New York, N. Y., assignor, by mesne assignments, to Sauvage Safety Brake Company. Fluid-pressure brake	839,882	Jan. 1	161	37	126	45
Parker-Smith, Augustus, New York, N. Y., assignor, by mesne assignments, to Sauvage Safety Brake Company. Fluid-pressure brake	839,883	Jan. 1	164	37	126	46
Parker-Smith, Augustus, New York, N. Y., assignor, by mesne assignments, to Sauvage Safety Brake Company. Fluid-pressure brake	839,884	Jan. 1	165	37	126	47
Parrish, William H. (See Reams, Joseph A., assignor.)						
Parrott, G. W., *et al.* (See Brodton, Edward R., assignor.)						
Partridge, Robert H., Broadrun, Va. Apparatus for recovering products from vegetable matter	840,362	Jan. 1	1167	253	126	309
Pates, James S., Monongahela, Pa. Automatic car-stop	840,247	Jan. 1	922	202	126	250
Pates, James S., Monongahela, Pa. Coal-tipple	840,248	Jan. 1	924	202	126	251
Paton, Hugh, Montreal, Quebec, Canada. Vessel-cover and liquid-shaker	839,950	Jan. 1	304	67	126	84
Patterson, Ransom D., Fort Smith, Ark. Metal-bending machine	839,951	Jan. 1	305	67	126	84

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Patterson, Thomas S., Philadelphia, Pa., assignor, by mesne assignments, to Oil and Waste Saving Machine Company. Thrust-bearing	839,885	Jan. 1	167	38	126	47
Patton, Alfred S., Frances, Wash., assignor of two-thirds to J. H. Drissler and F. Albright, South Bend, Wash. Crosscut-saw handle	840,363	Jan. 1	1169	253	126	309
Patton, David W., Moberly, Mo. Nut-lock	840,249	Jan. 1	925	202	126	251
Peachey, John D., East Orange, N. J. Electrical signaling apparatus	840,159	Jan. 1	749	163	126	203
Pealow, Henry C., Batavia, Ill. Contact-shoe for electric railways	840,087	Jan. 1	592	129	126	157
Pearsall Pneumatic Tube and Power Company. (See Batcheller, Birney C., assignor.)						
Pearson, Marcus, Springville, Ala. Plow	840,364	Jan. 1	1170	254	126	309
Pease, Henry W., assignor of one-half to J. I. Doan, Philadelphia, Pa. Ladder	840,365	Jan. 1	1171	254	126	310
Pedley, John G., Pleasant Prairie, Wis. Sawing-machine	840,366	Jan. 1	1172	254	126	310
Peerless Tank and Seat Works. (See Kingsbury, Forrest W., assignor.)						
Peirce, Ralph S., Chicago, Ill. Apparatus for erecting aerial cables	840,009	Jan. 1	426	92	126	116
Perkins, Elbert G., assignor of one-half to A. R. Polsky, Vallejo, Cal. Safety rubber heel	839,886	Jan. 1	168	38	126	48
Permutation Lock and Novetly Manufacturing Company. (See Quaintance, Elsworth E., assignor.)						
Peters, Eugene H., Benton Harbor, Mich. Harrow	839,887	Jan. 1	169	38-9	126	48
Pflager, Harry M., assignor to Cast Steel Needle Beam Company, St. Louis, Mo. Needle-beam for railway-cars	839,952	Jan. 1	307	67	126	85
Pflaum, Nicholas, Pittsburg, Pa. Metallic piston-packing	840,250	Jan. 1	926	203	126	251
Phillips, Henry J., assignor to Parker Brothers, Incorporated, Salem, Mass. Card-support	840,459	Jan. 1	1350	290	126	352
Pierce, Joseph G. (See Hutchison, Montrose E., assignor.)						
Pinkus, Georg, Charlottenburg, Germany. Pattern-powder	840,251	Jan. 1	927		126	252
Piper, James K., Wilmerding, Pa. Cotton-picker	840,367	Jan. 1	1175	257	126	310
Polsky, A. R. (See Perkins, Elbert G., assignor.)						
Postal Telegraph-Cable Company. (See Larish, Joseph W., assignor.)						
Price, Joshua H., Cleveland, Iowa. Rail-joint	840,368	Jan. 1	1180	257	126	311
Pringle, George W., assignor to E. J. Noblett, Chicago, Ill. Automatic lathe	840,369	Jan. 1	1181	257-60	126	312
Printing Appliance and Engineering Company. (See Hodgkinson, Frank E., assignor.)						
Proctor, John E., Detroit, Mich. Feed-water heater	840,252	Jan. 1	928	203	126	252
Pryor, Samuel, Utica, N. Y. Stencil-perforating device	839,888	Jan. 1	171	39	126	48
Quaintance, Elsworth E., assignor to Permutation Lock and Novelty Manufacturing Company, Denver, Colo. Permutation-lock	840,088	Jan. 1	593	129	126	157
Race, Nicholas W., Waldron, assignor of one-half to O. S. Westerman, Adrian, Mich. Gate-valve	839,953	Jan. 1	308	68	126	85
Rach, Carl, New York, N. Y. Cooker for brewing purposes	840,370	Jan. 1	1187	260-1	126	312
Ragsdale, William G., Jamestown, N. C. Top roll for spinning-machines	840,010	Jan. 1	428	93	126	116
Rambaldini, Giovanni, Miniera di Boccheggiano, Italy. Roasting of pyritous minerals	840,253	Jan. 1	930	203	126	252
Ramsay, David M. (See Reid and Ramsay.)						
Rappeport, Ludwig, Vienna, Austria-Hungary. Production of meal from wheat and other farinaceous products of poor baking quality	839,889	Jan. 1	173		126	48
Raymond, Alfred A., Chicago, Ill., assignor to Raymond Concrete Pile Company, Jersey City, N. J. Pile and forming the same	839,954	Jan. 1	309	68	126	85
Raymond Concrete Pile Company. (See Raymond, Alfred A., assignor.)						
Reagan, D. A., *et al.* (See Hyle, Jacob A., assignor.)						
Reams, Joseph A., West Norfolk, assignor of one-half to W. H. Parrish, Richmond, Va. Razor	840,371	Jan. 1	1189	261	126	313
Reckendorfer, Louis J., New York, N. Y. Eraser-tip for lead-pencils	840,372	Jan. 1	1191	261	126	313
Redner, John J., New York, N. Y. Piston-packing	839,890	Jan. 1	174	39	126	49
Reed, Clyde C., and W. Duecker, Memphis, Tenn. Belt-fastener	839,955	Jan. 1	312	68	126	86
Reeps, Charles F., and T. H. Nott, Newcastle, Ind. Pianissimo device	840,254	Jan. 1	933	203	126	252
Reeves, Lewis, and G. K. Gilchrist, Vinton, Iowa. Spring-trip for cultivators	839,956	Jan. 1	313	68	126	86
Reid, David M., Mingo Junction, Ohio. Pneumatic tree	840,160	Jan. 1	751	164	126	204
Reid, Hugh, Springburn, and D. M. Ramsay, Uddingston, Scotland. Locomotive	840,255	Jan. 1	934	204	126	253
Reiss, George T., Hamilton, Ohio, assignor to Niles-Bement-Pond Company, Jersey City, N. J. Feed ratchet device	839,957	Jan. 1	314	69	126	86
Reuner, John, Burlington, Iowa. Ball-bearing window-shade adjuster	840,373	Jan. 1	1193	261-2	126	314
Renshaw, Clarence. (See Lamme and Renshaw.)						
Renshaw, Clarence, Wilkinsburg, Pa., assignor to Westinghouse Electric & Manufacturing Company. Regulator for alternating-current motors	839,958	Jan. 1	315	69	126	87
Rhoades, James W., Fostoria, Ohio Oil-well jack	840,374	Jan. 1	1196	262	126	314
Rhode Island Elevator and Machine Company. (See Handy, Arthur E., assignor.)						
Rhodes, Jay B., assignor to Austin Manufacturing Company, Chicago, Ill. Gyratory crusher	839,891	Jan. 1	175	39	126	49
Rice, Frank H., Chicago, Ill., assignor to Automatic Fire Protection Company. Alarm for automatic fire-extinguishers	840,375	Jan. 1	1198	262	126	315
Rice, Richard H., Lynn, Mass., assignor to General Electric Company. Elastic-fluid turbine	840,376	Jan. 1	1202	263	126	316
Richards, Thomas C., Winsted, Conn. Supporting-bracket for curtain-rods	839,959	Jan. 1	319	70	126	88
Richardson, Henry H. (See Cutler, Clarence B., assignor.)						
Ridgely Trimmer Company. (See Normand, Joseph M., assignor.)						
Ripson, John D., Pepperell, Mass. Fireproof structure	840,011	Jan. 1	430	93	126	117
Roark, Lafayette L., Denton, Tex. Thill or tongue support	840,012	Jan. 1	430	93	126	117
Robertson, D. U. O., *et al.* (See Brodton, Edward R., assignor.)						
Rodgers, William S. S., Columbus, Ohio. Wringer-support for washing-machines	840,161	Jan. 1	753	164	126	204
Rondier, Octave, *et al.* (See Gros, Abel assignor.)						
Roper, Charles F., assignor to Draper Company, Hopedale, Mass. Filling-detecting mechanism for looms	840,377	Jan. 1	1205	263	126	317
Ross, Alexander D., Chicago, Ill. Envelop-opener	839,960	Jan. 1	320	70	126	88
Rostel, Karl, Monessen, Pa. Thermostatic apparatus	840,256	Jan. 1	936	204	126	253
Rothacher, Edward E., Wisner, Nebr. Wagon-loader	839,961	Jan. 1	322	71	126	89
Rottmann, Walter, Berlin, Germany. Apparatus for the mechanical clarification of fluids	839,892	Jan. 1	178	40	126	50
Routin, Joseph L., Lyon, France. Controlling electric-power-distributing systems	840,013	Jan. 1	432	93-4	126	117
Routt, Hiram, Dallas Center, Iowa. Brick-mold	839,962	Jan. 1	325	71	126	89
Royal Typewriter Company. (See Hess, Edward B., assignor.)						
Rudnick, George E., Iola, Kans. Pulley for pulverizing-mills	840,162	Jan. 1	754	164	126	204
Russell, Frank J., New York, N. Y. Electrical plug-receptacle	840,014	Jan. 1	435	94-5	126	118
Ryder, Arthur H., New York, N. Y. Sound-regulator for phonographs	840,089	Jan. 1	597	129	126	158
Salow, Wilhelm, Elberfeld, Germany. Stereoscopic attachment for photographic cameras	840,378	Jan. 1	1208	264	126	318
Sapp, James E., Bainbridge, Ga. Hub	840,379	Jan. 1	1209	264	126	318
Sarafian, Hovcep, Yonkers, assignor, by mesne assignments, to United States Persian Carpet Company, New York, N. Y. Pile-fabric loom	840,257	Jan. 1	937	205-6	126	254
Sauvage Safety Brake Company. (See Parker-Smith, Augustus, assignor.)						
Sauvage, William H., New York, N. Y. Fluid-pressure brake	839,893	Jan. 1	181	41	126	51
Savidge, Matthew, Deloit, Nebr. Veterinary forceps	840,380	Jan. 1	1211	264	126	318
Sawdon, Thomas T., San Francisco, Cal. Oil-filter	840,381	Jan. 1	1212	264	126	319

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Sawdy, Orvill H., Iola, Kans. Toy crossbow	840,015	Jan. 1	438	95	126	118
Schenbeck, John, Chicago, Ill. Sound-deadening means for railways	840,256	Jan. 1	944	206	126	256
Schilling, William F. (See McKee and Schilling.)						
Schlafly, Julius H., assignor to Berger Manufacturing Company, Canton, Ohio. Binding-sheet for concrete-work	840,016	Jan. 1	439	95	126	119
Schlafly, Julius H., assignor to Berger Manufacturing Company, Canton, Ohio. Eaves-trough-forming machine	840,382	Jan. 1	1213	265	126	319
Schmidt, George L., Chandler, S. D. Traction-engine tender	840,017	Jan. 1	441	95–6	126	119
Schmidt, Joseph, Jr., Chicago, Ill. Transmission-gear	840,383	Jan. 1	1218	265–6	126	320
Schnabel, Edmund, and W. W. Lawson, New York, N. Y., assignors to Aeolian Company. Mechanical musical instrument	840,259	Jan. 1	945	206	126	256
Schneider, Louis C., Mittweida, Germany. Apparatus for hardening the teeth of card-clothing	840,090	Jan. 1	598	130	126	158
Schneider, Philip, Chicago, Ill. Machine for laying off patterns on and otherwise preparing boards for the manufacture of piano and organ keys	840,260	Jan. 1	946	206–7	126	256
Schoultz, Max von, St. Petersburg, Russia. Apparatus for searching of sunken bodies	840,018	Jan. 1	442	96	126	119
Schroeder, Anton, St. Paul, Minn. Hinged hanger	839,963	Jan. 1	326	71	126	90
Schumacher, Eberhard, and J. H. Tyson, Darlington, England. Means for making hollow metal articles	840,091	Jan. 1	600	130	126	159
Schuman, James B., *et al.* (See Sharpe, Joseph K., Jr., assignor.)						
Schuman, James B., assignor to J. B. Schuman, J. K. Sharpe, Jr., Indianapolis, Ind., and T. King, Quincy, Mass. Shock-handling attachment for crop-treating machines	840,019	Jan. 1	445	97	126	120
Schunack, Arthur, *et al.* (See Abel, Willy, assignor.)						
Schureman, Jacob L., Chicago, Ill. Controlling means for fluid-reservoirs	840,163	Jan. 1	755	165	126	205
Schutt, Duny A., Peru, Ind. Grain-drill	840,020	Jan. 1	448	97–8	126	121
Schwertner, Frank A., Canton, Ohio. Globe-lifting attachment for lanterns	840,261	Jan. 1	955	208	126	259
Scoggin, Roy W., Millington, Ill. Type-writer attachment	840,384	Jan. 1	1220	266	126	321
Scott, Warren, Collison, Ill. Securing device for track-rails	839,894	Jan. 1	183	41	126	51
Seiler, Philipp, assignor to J. D. Caplinger, Chicago, Ill., J. E. Jones, Cincinnati, Ohio, A. Diefendorf, Chicago, Ill., and W. H. Craig. Gas-burner	840,092	Jan. 1	602	130	126	159
Sexton, William E., Kansas City, Mo. Portable savings-bank	840,262	Jan. 1	957	208	126	259
Seyfried, Franz J., Cologne, Germany. Holder for cigars and cigarettes	840,385	Jan. 1	1221	267	126	321
Sharp, Fred J., *et al.* (See Chapman, William D., assignor.)						
Sharpe, Joseph K., Jr., *et al.* (See Schuman, James B., assignor.)						
Sharpe, Joseph K., Jr., assignor to J. B. Schuman, J. K. Sharpe, Jr., Indianapolis, Ind., and T. King, Quincy, Mass. Shock-loader	840,021	Jan. 1	453	98	126	122
Shedlock, Alfred, Jersey City, N. J., assignor, by mesne assignments, to American Tobacco Company, New York, N. Y. Banding-machine	840,022	Jan. 1	453	99	126	123
Shedlock, Alfred, Jersey City, N. J., assignor, by mesne assignments, to International Cigar Machinery Company, New York, N. Y. Feeding mechanism	840,023	Jan. 1	458	100	126	124
Shellabarger, Harvey M., Wapello, Iowa. Manufacturing of fence-posts and railway-ties	840,263	Jan. 1	958	208	126	259
Sherer, Frank Z., Montclair, N. J. Water-tube boiler	840,093	Jan. 1	604	131	126	160
Shields, John. (See Capener, Bump, Gust, and Shields.)						
Shierson, William H., Adrian, Mich. Tie for wire fencing	840,164	Jan. 1	759	165	126	206
Shilling, George. (See Stone, Nathaniel B., assignor.)						
Shipley, Oscar A., Rahway, N. J. Lubricator	840,094	Jan. 1	606	132	126	160
Shoecraft, Judson, Eskridge, Kans. Automatic signal	840,095	Jan. 1	607	132	126	160
Siegwart, Hans, Lucerne, Switzerland. Process and apparatus for manufacturing hollow masts, pipes, hollow piles, &c	839,895	Jan. 1	185	41–2	126	52
Sillman, William, New York, N. Y. Machine for making millboard	840,386	Jan. 1	1222	267	126	321
Sillman, William, New York, N. Y. Machine for making millboard	840,387	Jan. 1	1224	267–8	126	322
Simms, James H., Mobile, Ala. Valve	840,388	Jan. 1	1226	268	126	322
Simon, Charles, Paterson, N. J. Weighting silk	840,264	Jan. 1	958	.....	126	260
Simpson, John R., Troy, Ohio. Bushing and making same	840,165	Jan. 1	760	166	126	206
Sleight, William E., Lansing, Mich. Beet-harvester	840,166	Jan. 1	762	166–7	126	206
Sloan, Francis E., Baltimore, Md. Sheet-metal pulley-casing	840,265	Jan. 1	959	208	126	260
Sloan, Francis E., Baltimore, Md. Sheet-metal sash-pulley	840,389	Jan. 1	1228	268	126	322
Small, William E., and R. Campbell, Brooklyn, assignors of one-third to J. R. Garside, New York, N. Y. Shoe-sole trimming and channeling machine	839,896	Jan. 1	189	42–3	126	53
Smiley, Jacob B., Chicago, Ill. Nut-lock	840,390	Jan. 1	1229	268	126	323
Smith, Charles J., *et al.* (See Chapman, William D., assignor.)						
Smith, Edmund D. (See Hoover, Frank T., assignor.)						
Smith, Frank P., Hanover, Pa., assignor of one-half to Smith Lyraphone Company. Sheet-winding mechanism for piano-players	840,024	Jan. 1	463	100	126	125
Smith, Harvey M., Monroe township, Morgan county, Ind. Drinking-fount for live-stock	839,964	Jan. 1	327	72	126	90
Smith, Leland C. (See Alexander, Frederick, assignor.)						
Smith Lyraphone Company. (See Smith, Frank P., assignor.)						
Smith, Matthew F., Sigel, Pa. Rope-clamp	839,965	Jan. 1	329	72	126	90
Smith, Milo H., *et al.* (See Stevenson, Fred C., assignor.)						
Smith, Orlin H. (See Blain and Smith.)						
Smith, Ozro P., assignor to J. L. Young, South Framingham, Mass. Marine propeller	839,897	Jan. 1	194	43	126	55
Smith Paper Machinery Company. (See Smith, Richard, assignor.)						
Smith, Richard, Bellows Falls, Vt., assignor to Smith Paper Machinery Company, Portland, Me. Feed mechanism for calender-rolls of paper-making machines	839,966	Jan. 1	330	72–3	126	91
Smith, Robert R., assignor to General Specialty Manufacturing Company, Philadelphia, Pa. Dish-washing apparatus	839,898	Jan. 1	196	43	126	55
Smith, Walter T. (See Miller, Haight, and Smith.)						
Snee, John A. (See Snee, William, assignor.)						
Snee, William, assignor to J. A. Snee, West Elizabeth, Pa. Rotary engine	839,967	Jan. 1	333	74	126	92
Snell, Horace B., Jacksonville, Fla. Chemical apparatus	840,391	Jan. 1	1229	269	126	323
Sofge, John, *et al.* (See Swing and Graner, assignors.)						
Sowar, Joseph S. C., Brazil, Ind. Hook and eye	840,266	Jan. 1	961	209	126	260
Spalckhaver, William, assignor to R. Hoe, New York, N. Y. Folding-machine	839,899	Jan. 1	197	44	126	55
Sparrow, Arthur E., Chicago, Ill. Packing-ring	839,900	Jan. 1	200	44	126	56
Spear, Furman D., Brooklyn, assignor to Armspear Manufacturing Company, New York, N. Y. Signal-lamp	840,025	Jan. 1	464	101	126	126
Spear, Furman D., Brooklyn, assignor to Armspear Manufacturing Company, New York, N. Y. Signal-lamp	840,026	Jan. 1	465	101	126	126
Sperry, Herbert B., Springfield, Ohio, assignor to International Harvester Company. Frame construction for side-delivery rakes	839,968	Jan. 1	334	74	126	92
Spring, William A., Harvey, assignor to Austin Manufacturing Company, Chicago, Ill. Gyratory crusher	839,901	Jan. 1	201	44	126	57
Springborn, Erich. (See Springborn, Marie and E.)						
Springborn, Marie and E., London, England. Making a polishing composition	840,167	Jan. 1	764	.....	126	206
Stetson, Walter C., Milroy, Ind. Phonograph and disk-holder	839,902	Jan. 1	204	44–5	126	57
Stevenson, Roland M., Montreal, Quebec, Canada. Piano-action	839,903	Jan. 1	205	45	126	58
Stevenson, George W., *et al.* (See Anderson, Lars, assignor.)						
Stone, Frank S., Cleveland, Ohio. Curtain-stretcher	839,969	Jan. 1	335	74	126	92
Stowell, Fred, San Francisco, Cal. Wave-motor	840,460	Jan. 1	1352	299–300	126	323

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Stebbins, George S., Springfield, Mass. Clothes-drying frame	840,267	Jan. 1	961	209	126	260
Stenhouse, Adam A., Montreal, Quebec, Canada. Watchcase-pendant	840,096	Jan. 1	610	132	126	161
Stephens, Moye W., *et al.* (See Stevenson, Fred C., assignor.)						
Sterling Co. (See Crofut, Frank V., assignor.)						
Stevenson, Fred C., assignor of one-half to M. W. Stephens and M. H. Smith, Los Angeles, Cal. Check for safe keeping of articles	840,168	Jan. 1	764	167	126	207
Stewart, Alexander T., Pittsburg, Pa. Potato-masher	840,392	Jan. 1	1231	269	126	323
Stewart, Frank R., Oblong, Ill. Plow-handle	840,393	Jan. 1	1232	269	126	323
Stockdell, H. C., *et al.* (See Brodton, Edward R., assignor.)						
Stoll, Bruno, Gardena, N. D. Carpenter's tool	840,268	Jan. 1	963	209	126	260
Stollar, Ross H., Los Angeles, assignor of three-fourths to F. C. Foote, Longbeach, Cal. Fluid-pressure engine	840,394	Jan. 1	1233	269–70	126	324
Stollberg, Robert, assignor to D. C. Hall and Company, New York, N. Y. Bathing-hood	840,169	Jan. 1	766	167	126	207
Stone, Nathaniel B., Outlook, Wash., assignor of one-half to G. Shilling, Washington, D. C. Fastening means	840,395	Jan. 1	1236	270	126	324
Story, John T., New York, N. Y. Heel-cushion	840,170	Jan. 1	767	168	126	207
Stoughton, Bradley. (See Lillenberg, Nils H. O., assignor.)						
Stucki, Arnold, Allegheny, Pa. Volute spring	840,027	Jan. 1	466	101	126	126
Sturges, Lee, Chicago, Ill. Ice-cream freezer	840,171	Jan. 1	768	168	126	208
Summers, James W., Augusta, Ga. Hub-cap	840,172	Jan. 1	770	168	126	208
Suter, Robert R., Media, Pa. Spring-hinge attachment for screen-doors	840,396	Jan. 1	1239	270	126	325
Sutherland, Joseph L., Rockford, Ill. Necktie-holder	840,173	Jan. 1	771	168	126	208
Swanson, Ernest. (See McLean and Swanson.)						
Swigert, Alfred L., Jr. (See Glickert and Swigert.)						
Swing, Alfred J., and K. A. Graner, assignors to said Swing, J. Sofge, and E. Gardner, Cincinnati, Ohio. Music-recording device	840,397	Jan. 1	1240	271	126	325
T. B. Peddie and Co. (See Lee, Fred M., assignor.)						
Tanner, Julius R., Pittsburg, Pa. Non-return valve	840,174	Jan. 1	772	169	126	208
Tate, William G. (See Vance, Seymour L., assignor.)						
Taylor, Calvin C. (See Frank and Taylor.)						
Taylor, Charles W., New York, N. Y. Shaving-cup	839,970	Jan. 1	337	74	126	692
Taylor, Clarence L., assignor to Morgan Engineering Company, Alliance, Ohio. Roller-table	840,398	Jan. 1	1241	271–2	126	32
Taylor, Clark M., *et al.* (See Taylor, John S., assignor.)						
Taylor, Dawes, *et al.* (See Taylor, John S., assignor.)						
Taylor Iron & Steel Company. (See Guttzeit, Charles W., assignor.)						
Taylor, John S., assignor of three-fourths to E. D. Morgan, J., C. M., D., and Z. Taylor, Logansport, Ind. Axle-box	840,399	Jan. 1	1244	272	126	326
Taylor, Joseph, *et al.* (See Taylor, John S., assignor.)						
Taylor, Samuel J., Grants Pass, Oreg. Fan attachment for rocking-chairs	839,904	Jan. 1	206	45	126	58
Taylor, Warren H., assignor to Yale & Towne Manufacturing Company, Stamford, Conn. Safe-bolt mechanism and lock	840,269	Jan. 1	964	209–10	126	261
Taylor, Zachary, *et al.* (See Taylor, John S., assignor.)						
Thayer, Harry M., Woodhull, Ill. Metallic feed-box	839,905	Jan. 1	207	45	126	58
Thiel, Rudolph, Lübeck, Germany. Heating device for spinning-lathes	840,270	Jan. 1	965	210	126	261
Thompson, Aldon F., Conyers, Ga. Combination ledger and index	840,175	Jan. 1	774	169–70	126	209
Thornton, E. H., *et al.* (See Brodton, Edward R., assignor.)						
Thuemling, Julius, Chicago, Ill. Cooling and dispensing cabinet	840,176	Jan. 1	777	170	126	209
Thürrid, Frank, St. Louis, Mo. Flow and seeder	840,177	Jan. 1	779	170–1	126	209
Tilden-Thurber Company. (See O'Connell, Timothy F., assignor.)						
Timberlake, John B., Jackson, Mich. Display dish-rack	839,906	Jan. 1	209	46	126	59
Tipton, Ray E., Agra, Kans. Platform-filter for cisterns	840,400	Jan. 1	1245	272	126	327
Toledo Glass Company. (See Owens, Michael J., assignor.)						
Tollner, Hugo. (See Campbell, Robert, assignor.)						
Triplex Gas Engine Company. (See Anderson, Lars, assignor.)						
Troy, Matthew O., Schenectady, N. Y., assignor to General Electric Company. Lightning-arrester	840,028	Jan. 1	468	102	126	127
Turner Tanning Machinery Company. (See Turner, William B., assignor.)						
Turner, William B., Melrose, assignor, by mesne assignments, to Turner Tanning Machinery Company, Boston, Mass. Leather-treating machine	840,029	Jan. 1	469	102	126	127
Tuttle, Daniel M., Canastota, N. Y. Gas-engine	840,178	Jan. 1	782	171	126	210
Tyson, John H. (See Schumacher and Tyson.)						
Ulbrich, Ernst, Munich, Germany. Coupling for railway-vehicles	839,907	Jan. 1	211	46	126	59
Underwood Typewriter Company. (See Wagner, Herman L., assignor.)						
Union Bank. (See Bim, Joseph, assignor.)						
Union Paper Bag Machine Company. (See Lorenz, William A., assignor.)						
United States Flexible Joint Company. (See Hawley, Charles G., assignor.)						
United States Persian Carpet Company. (See Sarnfian, Hoveep, assignor.)						
Upton, Edmund F., assignor of three-fourths to E. and D. O. Van Kirk and M. E. Fisher, Mineral City, Ohio. Hard-rubber-composition ball and making the same	840,401	Jan. 1	1247	273	126	327
Van Kirk, D. O., *et al.* (See Upton, Edmund F., assignor.)						
Van Kirk, E., *et al.* (See Upton, Edmund F., assignor.)						
Vance, Seymour L., assignor of one-half to W. G. Tate, Kinzua, Pa. Log-transfer	839,971	Jan. 1	338	75	126	93
Verschave, Edouard C. F., Paris, France. Manufacture of frames and tubes	840,271	Jan. 1	967	210	126	261
Vierling, Joseph, Pittsburg, Pa. Vending-machine	840,272	Jan. 1	968	211	126	261
Vogelsang, Alfred, Dresden, Germany. Apparatus for purifying sewage	840,179	Jan. 1	785	171	126	211
Wagner, Edward, St. Louis, Mo. Process of and apparatus for cleansing bottles	840,273	Jan. 1	971	211	126	262
Wagner, Herman L., Mount Vernon, assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine	839,908	Jan. 1	212	47	126	59
Wahlin, Walter E., Salt Lake City, Utah. Railway stock-guard	840,030	Jan. 1	472	103	126	127
Waite, Fred, Otley, England. Counting and collating device for sheet-delivery mechanisms	840,402	Jan. 1	1247	273	126	327
Walker, Willis F., York, Pa. Rail-tie and fastener	839,972	Jan. 1	339	75	126	93
Walter, Lyman P., Mount Carroll, Ill. Roller-bearing	839,973	Jan. 1	341	75–6	126	93
Warfield, Reuben D., Gaithersburg, Md. Fire-escape	839,974	Jan. 1	342	76	126	94
Warner, Clarence M., Cambridge, Ill. Voting-machine	839,975	Jan. 1	344	76–7	126	94
Warren Featherbone Company. (See Hosse, Mary J., assignor.)						
Watkins, Harry, and D. C. Dye, Utica, N. Y. Saw-setting machine	839,909	Jan. 1	216	47	126	61
Watt, James M. (See McCombie, Elizabeth, assignor.)						
Waymire, Cyrus W., Norwalk, Cal. Acetylene-gas generator	840,097	Jan. 1	615	133	126	161
Weaver, Flem H., assignor to E. E. Wolcott, H. H. Geiger, and T. J. Brooks, Griffin, Ga. Seed-planter and fertilizer-distributer	840,274	Jan. 1	970	212	126	264
Weber, Emile, Baker City, Oreg. Non-refillable bottle	840,403	Jan. 1	1249	273	126	328
Webster, Harry G., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone system	839,910	Jan. 1	219	47	126	61
Weideman, Peter H., Port Byron, Ill. Combined rest and handle for buckets and other receptacles	840,098	Jan. 1	615	133	126	162
Wesson, Joseph H., Springfield, Mass. Magazine-pistol	839,911	Jan. 1	222	48	126	62

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drgs.	Official Gazette. Vol.	Official Gazette. Page.
Westerman, Orville S. (See Race, Nicholas W., assignor.)						
Western Electric Company. (See Craft, Edward B., assignor.)						
Western Electric Company. (See Crane, Henry M., assignor.)						
Westinghouse Automatic Air & Steam Coupler Company. (See Niederlander, Nicholas F., assignor.)						
Westinghouse Electric & Manufacturing Company. (See Lamme, Benjamin G., assignor.)						
Westinghouse Electric & Manufacturing Company. (See Lamme and Renshaw, assignors.)						
Westinghouse Electric & Manufacturing Company. (See Renshaw, Clarence, assignor.)						
Westlake, Alfred T., Newburgh, N. Y. Cultivator	840,404	Jan. 1	1251	274	126	328
Wheelock, Etta W., Arlington, Mass. Car-fender	840,180	Jan. 1	787	171–2	126	211
Whelan, Eugene B., St. Louis, Mo. Compression and vacuum relief-valve	839,912	Jan. 1	227	48	126	63
Whitman & Barnes Manufacturing Co. (See Farmer, Frank T., assignor.)						
Whitmore, Fred A., Philadelphia, Pa., assignor to N. Costikyan, New York, N. Y. Pile-fabric loom	840,275	Jan. 1	977	212–13	126	264
Wiegand, Wilhelm, and A. Braunersreuther, New York, N. Y. Safety-bottle	840,031	Jan. 1	472	103	126	127
Wiegert, Theodore, Freisburg, assignor of one-half to L. Neumann, Columbus, Tex. Plow attachment	840,465	Jan. 1	1252	274	126	328
Wilcox, Frank E., Mechanicsburg, Pa. Vehicle-gear	839,913	Jan. 1	228	49	126	63
Wiles, George C., Hutchinson, Kans. Automatic pitcher and self-feeder for threshing-machines	840,274	Jan. 1	982	213–14	126	265
Williams, Henry M. (See Burger, Franz, assignor.)						
Williams, Henry M. (See Burger and Williams.)						
Williams, Jake C., assignor of one-half to A. B. Conner, Soperton, Ga. Umbrella-support	840,406	Jan. 1	1253	274	126	329
Williams, Lacey Y. (See Harrison and Williams.)						
Williamson, Joseph H., Chicago, Ill. Box	840,277	Jan. 1	985	214	126	265
Willms, Charles, Baltimore, Md. Water-closet seat	840,032	Jan. 1	474	103–4	126	128
Wilson, Matthew, Dysart, Iowa. Driving mechanism for traction-engines	839,914	Jan. 1	229	49	126	64
Wilson, Reason M., Indiana Harbor, Ind. Dumping-wagon	840,407	Jan. 1	1254	274–5	126	329
Wimpy, William E. (See Gehman and Giannone, assignors.)						
Winchester, Harry M., Worcester, Mass. Receptacle for gathering turpentine	840,181	Jan. 1	788	172	126	212
Windust, James O., Walker, Wash. Fly-trap	840 278	Jan. 1	987	214–15	126	266
Winks, Walter H., assignor of one-half to G. W. Metcalfe, Baltimore, Md. Safety appliance for air-brakes	840,279	Jan. 1	989	215	126	266
Winter, Louis M., St. Louis, Mo. Wiping attachment for power embossing-presses	840,280	Jan. 1	991	215–16	126	267
Wirsching Organ Company. (See Wirsching, Philipp, assignor.)						
Wirsching, Philipp, assignor to Wirsching Organ Company, Salem, Ohio. Self-acting membrane-packing	840,408	Jan. 1	1256	275	126	329
Wirt, Herbert C., Schenectady, N. Y., assignor to General Electric Company. Pendent switch	840,182	Jan. 1	790	172	126	212
Woerner, Robert, Mannheim, Germany. Cigar-pressing box	840,183	Jan. 1	792	172	126	212
Wolcott, Ernest E., *et al.* (See Weaver, Flem H., assignor.)						
Wollheim, Heinrich, *et al.* (See Abel, Willy, assignor.)						
Wood, William T., assignor of one-half to E. W. Morgan, Nashville, Tenn. Toy battleship	840,409	Jan. 1	1257	275	126	330
Woolven, John W., Fulborough, England. Lid of saucepans	840,184	Jan. 1	793	173	126	213
Word, William W., San Francisco, Cal. Hammer-controlling means	840,033	Jan. 1	476	104	126	128
Yale, Rodney H., Beatrice, Nebr. Seat-back for drivers' seats	839,976	Jan. 1	349	77	126	95
Yale & Towne Manufacturing Company. (See Taylor, Warren H., assignor.)						
Young, John L. (See Smith, Ozro P., assignor.)						
Young-Mann-Averill Company. (See Young, Otis W., assignor.)						
Young, Otis W., assignor to Young-Mann-Averill Company, Chicago, Ill. Engine-valve	840,185	Jan. 1	794	173–4	126	213
Zausmer, Joseph, Newark, N. J., assignor to A. F. Nanz, Brooklyn, N. Y. Watchman's time-detector	840,410	Jan. 1	1260	275	126	331
Zimmer, Paul H., Schenectady, N. Y., assignor to General Electric Company. Motor-starting rheostat	840,186	Jan. 1	799	174	126	214
Zimmerman, John W., Chicago, Ill. Bottle-closure	839,977	Jan. 1	350	77	126	96

DESIGNS.

Name, residence, and design.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Brown, Everett H., Philadelphia, Pa. Knit fabric	38,397	Jan. 1	126	354
Codman, William C., assignor to Gorham Manufacturing Company, Providence, R. I. Shield	38,391	Jan. 1	126	353
Develon, Thomas, Jr. (See White, Henry C., assignor.)				
Ellsworth, Herbert E., Cleveland, Ohio. Advertising-stand	38,395	Jan. 1	126	354
Gorham Manufacturing Company. (See Codman, William C., assignor.)				
Isenstein, Max, New York, N. Y. Belt	38,396	Jan. 1	126	354
Mudra, Albert, Lincoln, Nebr. Bail for trace-buckles	38,392	Jan. 1	126	353
Rice, George H., New York, N. Y. Frame	38,393	Jan. 1	126	353
Rice, George H., New York, N. Y. Frame	38,394	Jan. 1	126	354
White, Henry C., assignor to T. Develon, Jr., Philadelphia, Pa. Rug	38,398	Jan. 1	126	354

TRADE-MARKS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
A. Schroer Tobacco Co., Cincinnati, Ohio. Chewing-tobacco	59,239	Jan. 1	126	383
A. B. Clark Company, Peabody, Mass. Sheep and goat leather	59,092	Jan. 1	126	379
A. & E. Leather Goods Co., New York, N. Y. Leather purses	59,217	Jan. 1	126	382

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
A. G. Hyde & Sons, New York, N. Y. Certain textile fabrics	59,112	Jan. 1	126	379
A. G. Hyde & Sons, New York, N. Y. Certain textile fabrics	59,113	Jan. 1	126	379
A. G. Hyde & Sons, New York, N. Y. Certain textile fabrics	59,114	Jan. 1	126	379
Adleman, M. F., New York, N. Y. Certain named remedies	59,288	Jan. 1	126	384
Aërators Limited, London, England. Capsules and containers for compressed or liquefied gas	59,014	Jan. 1	126	377
Alfalfa Products Company, Fremont, Nebr. Stock and poultry foods	59,081	Jan. 1	126	378
Allen & Co., C. H., Attleboro, Mass. Collar and cuff buttons	59,015	Jan. 1	126	377
Allen, Joseph C., Plainfield, N. J. Tooth-powder, foot-powder, and borated talcum powder	59,177	Jan. 1	126	381
Allsopp Bros., Newark, N. J. Finger-rings	59,055	Jan. 1	126	378
American Mutoscope and Biograph Company, New York, N. Y. Films and card-reel apparatus	59,124	Jan. 1	126	380
Amolin Chemical Company, New York, N. Y. Toilet powder	59,178	Jan. 1	126	381
Arnhold, Karberg & Co., New York, N. Y. Cotton piece goods	59,056	Jan. 1	126	378
Arrowsmith Manufacturing Company, Chester, N. J. Instep-supporters	59,057	Jan. 1	126	378
Aschenbach & Miller, Incorporated, Philadelphia, Pa. Remedy for certain named diseases	59,179	Jan. 1	126	381
Ashaway Line & Twine Mfg. Co., Ashaway, R. I. Fish-lines	59,016	Jan. 1	126	377
Atlas Specialty Company, Buffalo, N. Y. Dressings for machine-belts	59,082	Jan. 1	126	378
Augustus Wright Company, Petersburg, Va. Leather shoes	59 240	Jan. 1	126	383
Barella, P. F. W., Berlin, Germany. Stomachic powder	59 180	Jan. 1	126	381
Barrett Manufacturing Company, New York, N. Y. Tarry coating for roads and other surfaces	59,151	Jan. 1	126	380
Bayer és Társa, Dr., Budapest, Austria-Hungary. Cathartics	59,289	Jan. 1	126	384
Beaumont & Fils, S., Roubaix, France. Metal hair-pins	59,017	Jan. 1	126	377
Benedictus, Welll & Company, New York, N. Y. Chiffon	59,153	Jan. 1	126	380
Bennett, Richard B., Belmar, N. J. Hair-tonic	59,241	Jan 1	126	380
Bissell, Williston W., Rochester, N. Y. Spectacle and eyeglass lenses	59,218	Jan. 1	126	382
Black Diamond Co., Chicago, Ill. Magazines	59,154	Jan 1	126	380
Bosnische Elektricitaets-Actiengeesellschaft, Vienna, Austria-Hungary. Briquets of iron and silica	59,181	Jan. 1	126	381
Boston Belting Company, Boston, Mass. Rubber and composition belting, hose, and machinery packing	59,155	Jan. 1	126	380
Boston Belting Company, Boston, Mass. Rubber and composition belting, hose, and machinery packing	59,156	Jan. 1	126	381
Breul, Frederick G., Bridgeport, Conn. Mechanics' squares	59,046	Jan. 1	126	378
Briggs, Francis W., Lewiston, Me. Loose-leaf ledgers	59,093	Jan. 1	126	379
Burton, John S., Sherman, Tex. Certain named medicines	59,242	Jan. 1	126	383
Busch-Freund Brewers' Supply Co., St. Louis, Mo. Brewers' pitch	59,243	Jan. 1	126	383
C. F. Blanke Tea & Coffee Co., St. Louis, Mo. Coffee	59,182	Jan. 1	126	381
Cabot, Samuel, Boston, Mass. Roofing-felt	59,083	Jan. 1	126	379
Cady, Franklin P., assignor of one-half to H. H. Fielding, Leliaton, Ga. Medicine for certain named diseases	59,244	Jan. 1	126	383
Cairo Milling Co., Cairo, Ill. Wheat-flour	59,157	Jan. 1	126	381
Calmetto Company, Monticello, Fla. Remedies for certain named diseases	59,245	Jan. 1	126	383
Campbell Corn Drill Co., Harrison, Ohio. Seeding-machines	59,125	Jan. 1	126	380
Canton Paint & Varnish Company, Canton, Ohio. Vegetable boiler compound	59,285	Jan. 1	126	384
Chaffard & Couderc, Salon, France. Olive-oil	59,058	Jan. 1	126	378
Charles Parker Co., Meriden, Conn. Shotguns and parts therefor	59,018	Jan. 1	126	377
Charles Parker Co., Meriden, Conn. Shotguns and parts therefor	59,019	Jan. 1	126	377
Charles Parker Co., Meriden, Conn. Shotguns and parts therefor	59,020	Jan. 1	126	377
Chas. W. Rudd & Son, Detroit, Mich. Butter	59,126	Jan. 1	126	380
Chemische Fabrik auf Actien (vorm. E. Schering), Berlin, Germany. Certain named chemicals	59,094	Jan. 1	126	379
Chicago Insulated Wire and Manufacturing Company, Chicago, Ill. Insulated wires and insulated cables	59,059	Jan. 1	126	378
Church & Dwight Company, New York, N. Y. Baking-soda, saleratus, and baking-powder	59,095	Jan. 1	126	379
Church & Dwight Company, New York, N. Y. Saleratus and soda	59,096	Jan. 1	126	379
Clark & Co. Ltd., Paisley, Scotland. Sewing-cotton, crochet, embroidery, and knitting cotton	59,158	Jan. 1	126	381
Coakley & Meader, New York, N. Y. Stock food composed of grains and molasses	59,219	Jan. 1	126	382
Coe, Clarke E., Memphis, Tenn. Molasses	59,220	Jan. 1	126	382
Coe, Clarke E., Memphis, Tenn. Molasses	59,221	Jan. 1	126	382
Colgate & Co., New York, N. Y. Soap	59,047	Jan. 1	126	378
Combemale, Frédéric, Paris, France. Certain named medicine	59,246	Jan. 1	126	383
Conover Creamery Co., Dayton, Ohio. Butter	59,222	Jan. 1	126	382
Creed, Arthur L., Hartford, Conn. Pianos	59,159	Jan. 1	126	381
Cromwell, Philip G., Baltimore, Md. Hams, shoulders, sides, and bacon	59,097	Jan. 1	126	379
Crown Cork & Seal Company, Baltimore, Md. Metallic cork-lined bottle-stoppers	59,021	Jan. 1	126	377
Cudahy Packing Company, Chicago, Ill., and South Omaha, Nebr. Cured, smoked, and canned meats	59,098	Jan. 1	126	379
Cudahy Packing Company, Chicago, Ill., and South Omaha, Nebr. Soap powder	59,183	Jan. 1	126	381
Dazzle Manufacturing Company, Westmont, N. J., and Philadelphia, Pa. Polishes for metals	59,127	Jan. 1	126	380
Dengler, Franz P., Davenport, Iowa. Flavoring extracts for tobacco	59,099	Jan. 1	126	379
Detroit Leather Specialty Co., Detroit, Mich. Workingmen's leather gloves	59,247	Jan. 1	126	383
E. G. Harrington & Company, New York, N. Y. Pianos	59,100	Jan. 1	126	379
Eagle Paint & Varnish Co., Allegheny, Pa. Varnish and stains	59,022	Jan. 1	126	377
Easton & Co., Wm. H., Newport, R. I. Sausages	59,101	Jan. 1	126	379
Enterprise Manufacturing Company of Pennsylvania, Philadelphia, Pa. Certain named machines	59,023	Jan. 1	126	377
Equinox Company, Manchester, Vt. Table-waters	59,248	Jan. 1	126	383
Evening News Publishing Co. of Baltimore City, Baltimore, Md. Daily newspapers	59,223	Jan. 1	126	382
Everybody's Gum Co., St. Louis, Mo. Chewing-gum	59,184	Jan. 1	126	381
F. A. Hardy & Co., Chicago, Ill. Lenses for eyeglasses and spectacles	59,128	Jan. 1	126	380
Farbwerke vorm. Meister Lucius & Brüning, Höchst-on-the Main, Germany. Remedy for certain named diseases	59,160	Jan. 1	126	381
Farbwerke vorm. Meister Lucius & Brüning, Höchst-on-the-Main, Germany. Certain named medicine	59,161	Jan. 1	126	381
Farbwerke vorm. Meister Lucius & Brüning, Höchst-on-the-Main, Germany. Antiseptic	59,185	Jan. 1	126	381
Farbwerke vorm. Meister Lucius & Brüning, Höchst-on-the-Main, Germany. Remedy for fever and whooping-cough	59,186	Jan. 1	126	381
Farbwerke vorm. Meister Lucius & Brüning, Höchst-on-the-Main, Germany. Albumen compound containing phosphorus	59,290	Jan. 1	126	384
Fennessy, Frank E., Boston, Mass. Leather-blacking and leather-dressing	59,162	Jan. 1	126	381
Fennessy, Frank E., Boston, Mass. Leather-blacking and leather-dressing	59,249	Jan. 1	126	383
Ferromannin Chemical Co. (Inc.), New York, N. Y. Tonic and reconstructive	59,291	Jan. 1	126	384
Fielding, Henry H. (See Cady, Franklin P., assignor.)				
Flavell Bros., Philadelphia, Pa. Knitted undershirts and drawers	59,060	Jan. 1	126	378
Foy Paint & Glass Co., Cincinnati, Ohio. Certain named paints and painters' materials	59,061	Jan. 1	126	378

TRADE-MARKS—Continued.

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French & Ward, New York, N. Y., and West Stoughton, Mass. Knit goods in the piece	59,062	Jan. 1	126	378
Frorup, L. E., New York, N. Y. Battery-carbons, carbon brushes, and carbons for electric lamps.	59,120	Jan. 1	126	380
G. Cramer Dry Plate Co., St. Louis, Mo. Photographic plates	59,024	Jan. 1	126	377
G. & C. Merriam Co., Springfield, Mass. Dictionaries	59,130	Jan. 1	126	380
G. & C. Merriam Co., Springfield, Mass. Dictionaries and reference-manuals	59,187	Jan. 1	126	381
G. & C. Merriam Co., Springfield, Mass. Dictionaries and reference-manuals	59,188	Jan. 1	126	381
G. & C. Merriam Co., Springfield, Mass. Dictionaries	59,189	Jan. 1	126	381
G. & C. Merriam Co., Springfield, Mass. Dictionaries and reference-manuals	59,190	Jan. 1	126	381
G. & C. Merriam Co., Springfield, Mass. Dictionaries and reference-manuals	59,191	Jan. 1	126	381
G. & C. Merriam Co., Springfield, Mass. Dictionaries and reference-manuals	59,192	Jan. 1	126	381
G. & C. Merriam Co., Springfield, Mass. Dictionaries	59,193	Jan. 1	126	382
Garfield Tea Co., New York, N. Y. Liniment for external use	59,224	Jan. 1	126	382
George Worthington Company, Cleveland, Ohio. Shovels, scoops, and spades	59,225	Jan. 1	126	382
George Worthington Company, Cleveland, Ohio. Shovels and spades	59,025	Jan. 1	126	377
George Worthington Company, Cleveland, Ohio. Axes	59,026	Jan. 1	126	377
Glahn & Son, Henry von, Brooklyn, N. Y. Canned corn	59,027	Jan. 1	126	377
Glahn & Son, Henry von, Brooklyn, N. Y. Canned peas	59,090	Jan. 1	126	379
Glahn & Son, Henry von, Brooklyn, N. Y. Canned beans	59,131	Jan. 1	126	380
Gloversville Silk Mills, Gloversville, N. Y. Silk gloves	59,132	Jan. 1	126	380
Glycosine Phosphate Co., Salisbury, N. C. Remedy for the alleviation and cure of indigestion	59,063	Jan. 1	126	378
Graf & Comp. (See Yermeth-Compagnie Lender & Co., assignor.)	59,286	Jan. 1	126	384
Griffith, James E., Carroll, Iowa. Calf-weaners				
Griffon Company, New York, N. Y. Worsted, woolen, and cotton mixed piece goods	59,048	Jan. 1	126	378
Griggs, Cooper & Company, St. Paul, Minn. Teas	59,226	Jan. 1	126	382
Griggs, Cooper & Company, St. Paul, Minn. Pickles and chow-chow	59,102	Jan. 1	126	379
Griggs, Cooper & Company, St. Paul, Minn. Olive-oil	59,103	Jan. 1	126	379
Griggs, Cooper & Company, St. Paul, Minn. Glazed fruits and crystallized ginger	59,133	Jan. 1	126	380
Griggs, Cooper & Company, St. Paul, Minn. Teas	59,194	Jan. 1	126	382
Gunder, Samuel H., Richmond, Va. Tooth-powder	59,195	Jan. 1	126	382
Gunder, Samuel H., Richmond, Va. Tooth-powder	59,250	Jan. 1	126	383
Hall, Hartwell & Co., Troy, N. Y. Collars and cuffs	59,251	Jan. 1	126	383
Hammacher, Delius & Co., New York, N. Y. Knives, axes, hatchets, chisels, shears, and planes	59,104	Jan. 1	126	379
Hardman, Peck & Company, New York, N. Y. Pianos	59,028	Jan. 1	126	377
Hawkeye Wrench Company, Marshalltown, Iowa. Combined wrenches and thread cutters or trimmers	59,163	Jan. 1	126	381
Hewes & Potter, Boston and Malden, Mass. Garters	59,134	Jan. 1	126	380
Hood Rubber Co., Boston, Mass. Rubber boots andshoes	59,227	Jan. 1	126	382
Horn, Joseph, McKeesport, Pa. Salve	59,196	Jan. 1	126	382
House Medicine Co., J. A., Paris, Tex. Remedies for diseases peculiar to infants and teething children	59,197	Jan. 1	126	382
Hunt & Co., F. W., Boston, Mass. Whisky	59,252	Jan. 1	126	383
Hyde, Charles E., New London, Conn. Propeller-wheels for vessels	59,084	Jan. 1	126	379
Hygeia Distilled Water Company, New York, N. Y. Certain beverages	59,084	Jan. 1	126	378
Hygeia Distilled Water Company, New York, N. Y. Certain beverages	59,253	Jan. 1	126	383
I. X. L. Steam Packing Manufacturing Co., New York, N. Y. Steam and pressure packing in sheet and coil form	59,254	Jan. 1	126	383
International Silver Company, Meriden, Conn. Imitation silverware	59,105	Jan. 1	126	379
Iron City Chemical Co., Pittsburg, Pa. Massage-cream	59,049	Jan. 1	126	378
Ironsides Company, Columbus, Ohio. Greases, lubricating-oils, and lubricating mixtures	59,255	Jan. 1	126	383
Jacobs, Eva K., Everett, Wash. Mattresses	59,050	Jan. 1	126	378
Jones, George D., New York, N. Y., and New Castle, Pa. Cigars	59,106	Jan. 1	126	379
Joseph B. Funke Company, La Crosse, Wis. Chocolate creams and candy	59,065	Jan. 1	126	378
Joseph Dixon Crucible Company, Jersey City, N. J. Graphite	59,256	Jan. 1	126	383
Kabo Corset Company, Chicago, Ill. Corsets	59,029	Jan. 1	126	377
Kearsarge Peg Company, Bartlett, N. H. Wooden pegs	59,164	Jan. 1	126	381
Kelsch, Joseph M., Lockport, N. Y. Poultry remedies	59,257	Jan. 1	126	383
Kirby Chemical Company, Grand Haven, Mich. Ointment for skin diseases	59,258	Jan. 1	126	383
Koch, George H., New York, N. Y. Antiseptic germicidal liquid	59,292	Jan. 1	126	384
Koch, George H., New York, N. Y. Vaginal suppositories	59,198	Jan. 1	126	382
Kokomo Canning Co. (Inc.), Kokomo, Ind. Canned tomatoes, peas, corn, and beans	59,293	Jan. 1	126	384
Larrabee, F. S. & F. D., Stafford, Kans. Flour made from toasted corn	59,066	Jan. 1	126	378
Lazell, Dalley & Co. Incorporated, New York, N. Y. Perfumes and certain named toilet preparations	59,259	Jan. 1	126	383
Les Etablissements Poulenc Frères, Paris, France. Anesthetic preparation	59,260	Jan. 1	126	383
Lever Brothers Company, Portland, Me., and Cambridge, Mass. Soap	59,228	Jan. 1	126	382
Lever Brothers Company, Portland, Me., and Cambridge, Mass. Soap	59,030	Jan. 1	126	377
Lever Brothers Company, Portland, Me., and Cambridge, Mass. Soap and soap powder	59,031	Jan. 1	126	377
Lever Brothers Company, Portland, Me., and Cambridge, Mass. Soap	59,032	Jan. 1	126	377
Lever Brothers Company, Portland, Me., and Cambridge, Mass. Soap	59,033	Jan. 1	126	377
Lindt, A. & W., Berne, Switzerland. Cocoas, chocolate, and preparations thereof	59,034	Jan. 1	126	377
Linn & Son, Geo. W., Chicago, Ill. Butter	59,229	Jan. 1	126	382
Livelar & Co., J., Canton, Miss. Whisky	59,199	Jan. 1	126	382
Lobel, Abraham D., New York, N. Y. Suspenders	59,085	Jan. 1	126	379
Lonke, John, New York, N. Y. Piece goods or cloths	59,067	Jan. 1	126	378
Loomis, George D., Tiffin, Ohio. Well-drilling machines	59,068	Jan. 1	126	378
Lyon & Healy, Chicago, Ill. Steel music-wire	59,069	Jan. 1	126	378
Lyon & Healy, Chicago, Ill. Accordions and concertinas	59,165	Jan. 1	126	381
Magic Curler Company, Philadelphia, Pa. Hair curlers, crimpers, and wavers	59,200	Jan. 1	126	382
Manning, Rollo G., Toledo, Ohio. Drawing-tables and filing-cases	59,070	Jan. 1	126	378
Marshall-Jackson Company, Chicago, Ill. Loose-leaf ledgers	59,036	Jan. 1	126	377
Maughan, John L., San Francisco, Cal. Hair-tonic	59,261	Jan. 1	126	383
McCormack, Michael J., Memphis, Tenn. Boot and shoe polish	59,262	Jan. 1	126	383
McKittrick, Walter, St. Louis, Mo. Rubber boots and shoes	59,071	Jan. 1	126	378
Mendel, Louis, Philadelphia, Pa. Lubricating-oil	59,134	Jan. 1	126	380
Mergenthaler Linotype Co., New York, N. Y. Certain chemical compound	59,201	Jan. 1	126	382
Mettineague Paper Company, West Springfield, Mass. Certain named paper and cardboard	59,264	Jan. 1	126	384
Modern Improvements Mfg. Co., Brooklyn, N. Y. Pipe-couplings, solderless couplings, and plumbers' jacks	59,166	Jan. 1	126	381
Moore, Joseph, Kansas City, Mo. Liniment	59,035	Jan. 1	126	377
Morgan, Edward, Arvilla, N. D. Specific for eczema	59,263	Jan. 1	126	383
Mother Seigel's Syrup Company, New York, N. Y. Dyspepsia remedies	59,265	Jan. 1	126	383
	59,294	Jan. 1	126	384

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Myers, Irving, Brooklyn, N. Y. Washing compound	59,136	Jan. 1	126	380
National Hatchet Company, Webster City, Iowa. Combination-tools	59,037	Jan. 1	126	377
Neuralgyline Company, Wheeling, W. Va. Internal headache remedies in tablet form	59,267	Jan. 1	126	383
New Jersey Handkerchief Company, Passaic, N. J. Handkerchiefs	59,115	Jan. 1	126	379
New Jersey Handkerchief Company, Passaic, N. J. Handkerchiefs	59,167	Jan. 1	126	381
New Orleans Import Company, Limited, New Orleans, La. Ground and whole spices	59,086	Jan. 1	126	379
New York Consolidated Card Company, New York, N. Y. Playing-cards	59,137	Jan. 1	126	380
Niles & Moser, Kansas City, Mo. Cigars	59,268	Jan. 1	126	383
Norfolk Silk Company, Jersey City, N. J., and Norfolk, Va. Dress-silks	59,116	Jan. 1	126	370
Norris, Du Wane, Chicago, Ill. Chewing-gum	59,230	Jan. 1	126	382
North Texas Dry Goods Company, Paris, Tex. Hosiery	59,269	Jan. 1	126	383
Nutricia Milk Company, Milwaukee, Wis. Nursing and dietary milk	59,287	Jan. 1	126	384
Oriental Comp., New York, N. Y. Poisons for exterminating vermin	59,270	Jan. 1	126	384
Owen China Company, Minerva, Ohio. Vases, mugs, tankards, and clock-cases	59,117	Jan. 1	126	379
Parmele Pharmacal Company, New York, N. Y. Medicinal and surgical lubricants	59,168	Jan. 1	126	381
Peerless Rubber Manufacturing Company, New York, N. Y. Rubber belting, hose, and machinery packing	59,107	Jan. 1	126	379
Peerless Rubber Manufacturing Company, New York, N. Y. Rubber belting, hose, and machinery packing	59,108	Jan. 1	126	379
Peirce, Truman B., Providence, R. I. Furniture-polish	59,038	Jan. 1	126	377
Pennsylvania Chocolate Company, Pittsburg, Pa. Chocolate and cocoa	59,271	Jan. 1	126	384
Perkins & Co., W. L., St. Paul, Minn. Whisky	59,039	Jan. 1	126	377
Peterson, John, Buffalo, N. Y. Laxative tablets	59,272	Jan. 1	126	384
Pompeian Mfg. Co., Cleveland, Ohio. Certain toilet preparations	59,202	Jan. 1	126	82
Pond's Extract Company, New York, N. Y. Distilled extract of hamamelis	59,203	Jan. 1	126	382
Postum Cereal Co., Ltd., Battle Creek, Mich. Sugar	59,204	Jan. 1	126	382
Pratt, George C., New York, N. Y. Certain knit goods	59,072	Jan. 1	126	378
Preissler, Richard, New York, N. Y. Tonics and remedies for dyspepsia, stomach, and rheumatic disorders	59,273	Jan. 1	126	384
Pressed Prism Plate Glass Company, Morgantown, W. Va. Slabs or plates of vitreous material	59,109	Jan. 1	126	379
Puritan Drug Company, Boston, Mass. Confectionery-flavoring materials	59,274	Jan. 1	126	384
R. E. Dietz Company, New York, N. Y. Oil-burning lamps and lanterns	59,138	Jan. 1	126	380
R. E. Dietz Company, New York, N. Y. Oil-burning tubular lamps and lanterns	59,139	Jan. 1	126	380
Read Brothers, Limited, London, England. Ginger-ale	59,140	Jan. 1	126	380
Rice, Stix Dry Goods Company, St. Louis, Mo. Knitted and netted underwear	59,231	Jan. 1	126	383
Richardson, Walter S., Buffalo, N. Y. Suppositories	59,295	Jan. 1	126	384
Ritter Dental Mfg. Co., Rochester, N. Y. Dental engines and lathes and brackets or supports therefor	59,087	Jan. 1	126	379
Roelofs, Henry H., Philadelphia, Pa. Stiff and soft hats and caps	59,073	Jan. 1	126	378
Roussy de Sales, Jules F. O. de, Paris, France. Soap	59,049	Jan. 1	126	320
Sacks, Louis, Newark, N. J. Metal heel-plates for boots and shoes	59,041	Jan. 1	126	377
San Antonio Drug Co., San Antonio, Tex. Certain named medicines	59,296	Jan. 1	126	384
Sanchez, Gumecindo G., San Francisco, Cal. Blood-purifier	59,275	Jan. 1	126	384
Schaefer, William H., Toledo, Ohio. Fruit-jar rubbers	59,169	Jan. 1	126	381
Schaltin & Cie., Spa, Belgium. Liqueur	59,051	Jan. 1	126	378
Schlotterbeck & Foss Co., Portland, Me. Flavoring extracts	59,088	Jan. 1	126	379
Schulz, Adelhaid, New York, N. Y. Insecticide	59,276	Jan. 1	126	384
Schwabacher Bros. & Co. Inc., Seattle, Wash. Wheat-flour	59,232	Jan. 1	126	383
Schwarzschild & Sulzberger Company, New York, N. Y. Beef-oil or beef-fat	59,297	Jan. 1	126	384
Scott Paper Co., Philadelphia, Pa. Toilet-paper	59,074	Jan. 1	126	378
Scott Paper Co., Philadelphia, Pa. Toilet-paper	59,233	Jan. 1	126	383
Scott Paper Co., Philadelphia, Pa. Toilet-paper	59,234	Jan. 1	126	383
Server, William H., Carbon Hill, Ill. Ointment	59,298	Jan. 1	126	384
Shapiro, Joseph, Cincinnati, Ohio. Whisky	59,052	Jan. 1	126	378
Shenandoah Poultry Food Co., Staunton, Va. Medicated tonic and invigorator for poultry	59,277	Jan. 1	126	384
Shetter, Jacob H., Philadelphia, Pa. Cereal tea and coffee substitutes	59,278	Jan. 1	126	384
Smith & Company, Jas. P., New York, N. Y. Salad-oil	59,206	Jan. 1	126	382
Smith & Company, Jas. P., New York, N. Y. Salad-oil	59,207	Jan. 1	126	382
Smith, James A., Wilmington, N. C. Effervescent salts	59,205	Jan. 1	126	382
Société Anonyme des Chocolats de Montreux, Séchaud & Fils, Montreux, Switzerland. Chocolate and cocoa	59,110	Jan. 1	126	379
Société l'Oxylithe, Paris, France. Products for the production of oxygen and peroxid of hydrogen	59,208	Jan. 1	126	382
Soltmann, Edward G., New York, N. Y. Drawing instruments, compasses, T-squares, rulers, and dividers	59,042	Jan. 1	126	377
Soltmann, Edward G., New York, N. Y. Tracing-paper	59,170	Jan. 1	126	381
Soltmann, Edward G., New York, N. Y. Drawing-paper and tracing-paper	59,171	Jan. 1	126	381
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Cotton-seed oils	59,118	Jan. 1	126	379
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, Ga. Cotton-seed oils	59,119	Jan. 1	126	379
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Cotton-seed oils	59,120	Jan. 1	126	379
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Cotton-seed oils	59,121	Jan. 1	126	379
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Cotton-seed oils	59,122	Jan. 1	126	380
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Soap	59,141	Jan. 1	126	380
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Soap	59,142	Jan. 1	126	380
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Soap	59,209	Jan. 1	126	382
Southern Manufacturing Co., Richmond, Va. Baking-powder	59,210	Jan. 1	126	382
Southern Manufacturing Co., Richmond, Va. Baking-powder	59,211	Jan. 1	126	382
Sparham Fireproof Roofing Cement Comp'y, Montreal, Quebec, Canada. Roofing material of composition or cement	59,143	Jan. 1	126	380
Spaulding & Co., W. W., Haverhill, Mass. Leather boots and shoes	59,123	Jan. 1	126	380
Speed Changing Pulley Company, Indianapolis, Ind. Carbureters for gas and gasolene engines	59,111	Jan. 1	126	380
Sprague, Warner & Company, Chicago, Ill. Certain cereal foods	59,235	Jan. 1	126	383
Springer, Walter A., Wheeling, W. Va. Tobies or stogies	59,089	Jan. 1	126	379
Stahl-Urban & Co., Terre Haute, Ind. Certain named clothing	59,172	Jan. 1	126	381

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Standard Oil Co. of New York, New York, N. Y. Naphtha, benzin, and gasolene	59,053	Jan. 1	126	378
Standard Soap Co., Berkeley, Cal. Laundry soap	59,043	Jan. 1	126	377
Steibel, Elizabeth M., Washington, D. C. Hair-tonics	59,279	Jan. 1	126	384
Stoepel, Herman R., Detroit, Mich. Pants, coats, vests, and overalls	59,145	Jan. 1	126	380
Suesskind Schatz Co., New York, N. Y. Cigars, cheroots, and all-tobacco cigarettes	59,173	Jan. 1	126	381
Sutton & Sons, Reading, England. Seeds for agricultural and horticultural purposes	59,236	Jan. 1	126	383
Switzer, Fredrick M., St. Louis, Mo. Chewing-gum	59,146	Jan. 1	126	380
Tacoma Biscuit & Candy Company, Tacoma, Wash. Biscuits and cakes	59,280	Jan. 1	126	384
Takamine, Jokichi, New York, N. Y. Koji, moyashi, diastase, ferments, and converting agents	59,212	Jan. 1	126	382
Taylor Co., N. & G., Philadelphia, Pa. Tin and terne plate	59,054	Jan. 1	126	378
Taylor, Herbert, Boston, Mass. Comminuted, desiccated bread	59,281	Jan. 1	126	384
Tedcastle & Co., A. W., Boston, Mass. Leather boots and shoes	59,075	Jan. 1	126	378
Thestrup, Nils, Newcastle-on-Tyne, England. Blue for laundry purposes	59,213	Jan. 1	126	382
Tilden Company, New Lebanon, N. Y., and St. Louis, Mo. Medicinal preparation	59,299	Jan. 1	126	384
Tilly, C. de Koning, Haarlem, Netherlands. Oil for medicinal purposes and applications	59,282	Jan. 1	126	384
Toledo Machine & Tool Co., Toledo, Ohio. Certain named machines	59,147	Jan. 1	126	380
Tompkins Bros. Co., Troy, N. Y. Knitting machinery and parts of such machines	59,076	Jan. 1	126	378
Trevor, William, New York, N. Y. Women's scarfs	59,077	Jan. 1	126	378
Tropic Fruit Company, Limited, Wahiawa, Oahu, Hawaii. Preparation of pineapple and sugar	59,078	Jan. 1	126	378
Tropic Fruit Company, Limited, Wahiawa, Oahu, Hawaii. Sweetened pineapple-juice	59,148	Jan. 1	126	380
United States Playing Card Company, Cincinnati, Ohio. Playing-cards	59,044	Jan. 1	126	378
Van Strum, Frederick T., Minneapolis, Minn. Cereal-wheat breakfast food	59,214	Jan. 1	126	382
Van Strum, Frederick T., Minneapolis, Minn. Cereal-wheat breakfast food	59,215	Jan. 1	126	382
Voorsanger, Michael, Philadelphia, Pa. Steel-pens	59,111	Jan. 1	126	379
W. R. and Auburn Lynn Shoes Co., Auburn, Me. Leather shoes	59,283	Jan. 1	126	384
Wagner, Edward H., New York, N. Y. Hand stick-fireworks	59,149	Jan. 1	126	380
Walsh, Thomas M., Kansas City, Mo. Tonics	59,237	Jan. 1	126	383
Warren Chemical & Manufacturing Company, New York, N. Y. Ready tar and felt roofing	59,045	Jan. 1	126	378
Wells & Richardson Company, Burlington, Vt. Prepared foods, primarily for infants and invalids	59,091	Jan. 1	126	379
Wells & Richardson Company, Burlington, Vt. Remedies for certain named diseases	59,174	Jan. 1	126	381
Wertheimer Bros., Baltimore, Md. Cigars	59,175	Jan. 1	126	381
White & Bagley Co., Worcester, Mass. Cleaning compounds	59,079	Jan. 1	126	378
Whiting Paper Company, Holyoke, Mass. Fine writing-paper	59,150	Jan. 1	126	380
Whittall, M. J., Worcester, Mass. Carpets and rugs	59,176	Jan. 1	126	381
Willis & Co., Grinnell, New York, N. Y. Cotton piece goods	59,284	Jan. 1	126	384
Winchester Repeating Arms Co., New Haven, Conn. Gun-grease	59,300	Jan. 1	126	384
Yermeth-Compagnie Lender & Co., assignor to Graf & Comp., Schoeneberg, near Berlin, Germany. Non-alcoholic beverages containing caffein	59,060	Jan. 1	126	378
Zarnits Brothers Grocery Company, Wheeling, W. Va. Wheat-flour and macaroni	59,238	Jan. 1	126	383
	59,216	Jan. 1	126	382

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
American Bottling Co., Inc, Norfolk, Va. "Golden Top." (For Ginger-Ale)	13,297	Jan. 1	126	385
Barber, George A., Los Angeles, Cal. "Clover Glen." (For Butter)	13,301	Jan. 1	126	385
Coca Cola Co., Atlanta, Ga. "Coca-Cola." (For a Non-Alcoholic Beverage)	13,298	Jan. 1	126	385
Western Reserve Syrup Co., Cleveland, Ohio. "Western Reserve Maple Syrup." (For Maple-Syrup)	13,300	Jan. 1	126	385
Willis W. Russell Card Co., Milltown, N. J., and New York, N. Y. "Russell's Club Mogul." (For Playing-Cards)	13,302	Jan. 1	126	385
Wilson Fruit Juice Co., Lawton, Mich. "Blood of the Grape Champagne." (For Non-Intoxicating Beverages)	13,299	Jan. 1	126	385

PRINTS.

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Long Beach Milling Company, Longbeach, Cal. "Ground Shells or Hens' Teeth." (For Ground Shell)	1,878	Jan. 1	126	385
Lytton, H. C., Chicago, Ill. "Men's and Boys' Apparel." (For Men's and Boys' Apparel)	1,877	Jan. 1	126	385
Meyercord Company, Chicago, Ill. "Temptation." (For Liquors)	1,875	Jan. 1	126	385
United States Playing Card Company, Norwood, Ohio. "Martha Washington Back, Congress Playing Cards." (For Playing-Cards)	1,876	Jan. 1	126	385
Whitten, S. L., Chicago, Ill. "Satisfied." (For Coca-Cola)	1,874	Jan. 1	126	385

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A. Martin Inc., New York, N. Y. Eyeglass and spectacle lenses	20,599	Jan. 1	126	361
Acnezema Company, Chicago, Ill. Remedies for eczema and all skin diseases	21,637	Jan. 1	126	363
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Ointments	12,341	Jan. 1	126	358
Adams, Redden W., Boston, Ga. Medicinal preparation for diseases of the blood	22,854	Jan. 1	126	365
Albert M. Gugenheim Co., Cincinnati, Ohio. Whisky	23,041	Jan. 1	126	366
Amerman, Caroline L., New Boston, Pa. Medicine for the cure of gall-stones	22,376	Jan. 1	126	364
Arnhold, Karberg & Co., New York, N. Y. Cotton piece goods	14,268	Jan. 1	126	359
Arnhold, Karberg & Co., New York, N. Y. Cotton piece goods	14,272	Jan. 1	126	359
Atlantic Export Company, New York, N. Y. Dried brewers' grain	23,570	Jan. 1	126	373
Atlantic Export Company, New York, N. Y. Dried brewers' grain	23,640	Jan. 1	126	374
Austin-Walker M'f'g Co., Boston, Mass. Dress-shields	23,510	Jan. 1	126	373
B. M Jones & Co. Incor., Boston, Mass. Unmanufactured steel rods, billets, and sheets	17,244	Jan. 1	126	359
Baltar, Joseph T., New Orleans, La. Rheumatic and gout medicines	23,130	Jan. 1	126	367
Beal, Samuel R., Adrian, Mich. Card game	23,571	Jan. 1	126	374
Berwind White Coal Mining Company, Philadelphia, Pa. Coal	23,714	Jan. 1	126	375
Bisi & Caprini, Pittsburg, Pa. Rye whisky	20,806	Jan. 1	126	361
Borsum Bros., New York, N. Y. Hard polishing-soap	23,717–18	Jan. 1	126	375
Brauer Chemical Company, New York, N. Y. Mouth-wash	23,546	Jan. 1	126	373
Brennan & White, Brooklyn, N. Y. Leather boots and shoes	23,628	Jan. 1	126	374
Brunswick, Hyman, Hot Springs, Ark. Rheumatic oil	22,908	Jan. 1	126	366
Butcher, Charles F., Sheffield, England. Razors, scissors, and pocket-knives	15,233	Jan. 1	126	359
Cammell Laird & Co. Limited, Sheffield, England. Railway points, switches, carriages, &c	12,593–4	Jan. 1	126	358
Cape Ann Isinglass Company, Boston, Mass. Isinglass	23,816	Jan. 1	126	376
Carbolineum Wood Preserving Co., Milwaukee, Wis. Antirust and acid-resisting paint	3,691	Jan. 1	126	355
Chudeau, Henri, Malakoff, (Seine,) France. Oils and greases for preserving metals and for lubricating purposes	23,511	Jan. 1	126	373
Clay, John H., Philadelphia, Pa. Chemical fire-extinguishers	22,923	Jan. 1	126	366
Clement, Thomas J., Atlantic City, N. J. Fruit-juices	23,730	Jan. 1	126	376
Cobb & Co., Francis, Rockland, Me. Wheat-flour	20,565	Jan. 1	126	361
Cochran & Co., Belfast, Ireland. Ginger-ale, soda-water, and aerated sarsaparilla	21,894	Jan. 1	126	363
Columbia Chemical Works, Brooklyn, N. Y. Aqua-ammonia	13,592	Jan. 1	126	359
Connelly & Sons, James, Philadelphia, Pa. Cotton cheviots for shirtings	19,452	Jan. 1	126	360
Continental Color and Chemical Co., New York, N. Y. Coal-tar dyes, disinfectants, &c	23,313	Jan. 1	126	370
Crusellas, Ramon, Havana, Cuba. Flour made from bananas	10,422	Jan. 1	126	358
Curtis & Curtis Company, Bridgeport, Conn. Pipe threading and cutting machines	23,553	Jan. 1	126	373
Dadabhoy & Co., New York, N. Y. Coffee	17,805	Jan. 1	126	360
Daggett & Ramsdell, New York, N. Y. Cold-cream	22,438	Jan. 1	126	364
De Witt, Herbert M., assignor to Franktown Creamery, Denver, Colo. Butter	15,026	Jan. 1	126	359
Delapenha & Co., R. U., New York, N. Y. Candles	23,589	Jan. 1	126	374
Detective Publishing Company, Chicago, Ill. Periodical	22,924	Jan. 1	126	366
Dick and Brothers Quincy Brewery Co., Quincy, Ill. Beer	21,906	Jan. 1	126	363
Dobler Brewing Co., Albany, N. Y. Beer	22,382	Jan. 1	126	364
Dodge Coal Storage Company, Naugatuck, Conn. Storage and conveying apparatus for coal, ore, &c	23,444	Jan. 1	126	371
Dunham, Carrigan & Hayden Co., San Francisco, Cal. Hatchets, chisels, gouges, drawing-knives, saws, &c	11,337	Jan. 1	126	358
Dunham, Carrigan & Hayden Co., San Francisco, Cal. Pocket and table knives, razors, scissors, and shears	11,341	Jan. 1	126	358
Duparquet, Hout & Moneuse Company, New York, N. Y. Cooking-ranges and hot-air furnaces	7,363	Jan. 1	126	356
E. Lazenby & Son, Limited, London, England. Pickles and vegetable and meat sauces	7,496	Jan. 1	126	356
Eagle White Lead Company, Cincinnati, Ohio. Pure white lead	20,913	Jan. 1	126	362
Eastern Dynamite Company, Kenvil, N. J. High explosives	21,080	Jan. 1	126	362
Eastern Dynamite Company, Kenvil, N. J. High explosives	21,396	Jan. 1	126	362
Eastern Dynamite Company, Kenvil, N. J. Fuses and blasting-caps	21,398	Jan. 1	126	362
Eastern Dynamite Company, Kenvil, N. J. High explosives	21,401	Jan. 1	126	362
Eastern Dynamite Company, Kenvil, N. J. Blasting-machines and electric batteries	21,614	Jan. 1	126	363
Eastern Dynamite Company, Kenvil, N. J. High explosives and fuses	21,615	Jan. 1	126	363
Eastern Dynamite Company, Kenvil, N. J. Blasting-machines and electric batteries	21,656	Jan. 1	126	363
Ebling Brewing Co., New York, N. Y. Malt extract	23,676	Jan. 1	126	375
Edward Miller & Co., Meriden, Conn. Oil-lamps and parts thereof	22,249	Jan. 1	126	364
Follansbee Brothers Company, Pittsburg, Pa. Tin and terne plates	9,629	Jan. 1	126	356
Franktown Creamery. (See De Witt, Herbert M., assignor.)	4,218	Jan. 1	126	355
Garden City Laboratory, Chicago, Ill. Soldering-flux	23,733	Jan. 1	126	376
Genuine Bangor Slate Co., Inc., Easton, Pa. Roofing and building slate	23,540	Jan. 1	126	373
Geo. W. Torrey Co., Boston, Mass. Whisky	23,462	Jan. 1	126	371
Golden, Lewis, Detroit, Mich. Trousers	22,663	Jan. 1	126	365
Gordon & Dilworth, New York, N. Y. Preserved and canned fruits and vegetables	23,556	Jan. 1	126	373
Goreau, Thomas W., New Orleans, La. Filters	6,880	Jan. 1	126	356
Graves & Sons, C. H., Boston, Mass. Whisky	23,684	Jan. 1	126	375
Gray & Dudley Hardware Co., Nashville, Tenn. Cooking and heating stoves	22,985	Jan. 1	126	366
Greene, Frederick R., Chicago, Ill. Remedy for all stomach ailments	21,064	Jan. 1	126	362
Guggenheim Mfg. Co., Rochester, N. Y. Hair-dye	14,676	Jan. 1	126	359
H. A. Metz & Co., New York, N. Y. Dyestuffs	14,678	Jan. 1	126	359
H. A. Metz & Co., New York, N. Y. Dyestuffs	23,491	Jan. 1	126	372
H. B. Claflin Company, New York, N. Y. Soap	7,098–100	Jan. 1	126	356
H. M. Sawyer & Son, Cambridge, Mass. Waterproof coats, slickers, jackets, capes, aprons, &c	23,388	Jan. 1	126	371
Hall & Ruckel, New York, N. Y. Remedy for diseases of the throat and lungs, neuralgia, scalds, &c	23,391	Jan. 1	126	371
Hall & Ruckel, New York, N. Y. Eye salve or ointment	23,606	Jan. 1	126	374
Hall & Ruckel, New York, N. Y. Dentifrices	21,558	Jan. 1	126	363
Harbutt, Wm., Bathampton, England. Modeling-paste for the use of artists, sculptors, &c	23,552	Jan. 1	126	370
Havey & Darrow, Chicago, Ill. Weekly periodical	20,887	Jan. 1	126	362
Hazard Powder Company, Hazardville, Conn. Explosive powder	21,787	Jan. 1	126	363
Helms, Jefferson D., Greensboro, N. C. External remedy for croup, colds, &c	23,000	Jan. 1	126	366
Herrick Complete Combustion Company, New York, N. Y. Devices for promoting combustion in furnaces, stoves, &c	21,726	Jan. 1	126	363
Hilaire et Cie., Paris, France. Product for curing wire-heels, quitterbone, &c., in horses	2,849	Jan. 1	126	355
Holyoke Valve and Hydrant Company, Holyoke, Mass. Valve-nozzles for hydrants	23,775	Jan. 1	126	376
Houghton & Co., E. F., Philadelphia, Pa. Leather pulley-coverings, lug-straps, aprons, &c	23,776	Jan. 1	126	376
Huttig Mfg. Co., Muscatine, Iowa. Rubber roofing				
Ichthyol Gesellschaft, Cordes, Hermanni & Co., Hamburg, Germany. Medicated plasters, salves, ointments, &c	13,438–9	Jan. 1	126	358

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Jones Dairy Farm, Fort Atkinson, Wis. Sausages, hams, bacon, and lard	20,780	Jan. 1	126	361
K S C Medical Co., Los Angeles, Cal. Medicated suppositories	23,304	Jan. 1	126	370
Kargon Extracting Co., Cincinnati, Ohio. Compounds for rheumatism, bladder, &c., diseases	23,336	Jan. 1	126	373
Kaye, Augustus W., Meridian, Miss. Ginger-ale	22,651	Jan. 1	126	365
Kobayashi, Tomijiro, Tokyo, Japan. Tooth-powder	14,094	Jan. 1	126	359
Kohn Distilling Co., Montgomery, Ala. Gin and whisky	23,417	Jan. 1	126	371
Lanson Père & Fils, Rheims, France. Champagnes	21,897	Jan. 1	126	363
Lawton & Hall, Chicago, Ill. Umbrellas	22,247	Jan. 1	126	369
Lazarakis, John F., Lowell, Mass. Cigarettes	23,256	Jan. 1	126	370
Lehmann, Ernst P., Brandenburg-on-the-Havel, Germany. Sheet-metal and mechanical toys	17,402	Jan. 1	126	360
Little & Company, A. E., Lynn, Mass. Boots and shoes made in whole or in part of leather	23,406	Jan. 1	126	372
Maxwell, Thomas H., Boston, Mass. Ladies' leather boots, shoes, and slippers	23,610	Jan. 1	126	374
Milwaukee Net Co., Milwaukee, Wis. Leather fly-nets	19,065	Jan. 1	126	360
Morgan Oyster Company, San Francisco, Cal. Fresh canned frozen oysters	12,863	Jan. 1	126	358
Musterole Co., Cleveland, Ohio. Ointment for coughs, colds, &c	23,578	Jan. 1	126	374
Narrow Fabric Corporation, Orange, Conn. Elastic webbing	22,970-1	Jan. 1	126	366
National Fire Proofing Company, Pittsburg, Pa. Portland cement	21,680	Jan. 1	126	363
National-Fulton Brass Manufacturing Company, Detroit, Mich. Bronze	21,804	Jan. 1	126	362
Neustadtl, Victor, New York, N. Y. Beer	22,542	Jan. 1	126	364
New Brunswick Chemical Co., New Brunswick, N. J., assignor to L. L. Grombacher, New York, N. Y. Anesthetic preparations for hypodermic injections	23,008	Jan. 1	126	366
New Departure Manufacturing Company, Bristol, Conn. Bells, except electric bells	23,031-2	Jan. 1	126	360
New Orleans Acid and Fertilizer Company, Union township, Hudson county, N. J. Fertilizers	23,477-9	Jan. 1	126	372
New York Butchers Dressed Meat Company, New York, N. Y. Fresh meats	23,471	Jan. 1	126	361
New York Consolidated Card Company, New York, N. Y. Playing-cards	23,670-3	Jan. 1	126	375
New York Specialty Co., New York, N. Y. Metallic bottle-stoppers	22,208	Jan. 1	126	364
Nininger & Frantz, Daleville, Va. Canned vegetables	23,418	Jan. 1	126	371
Norton, Columbus L., Statesville, N. C. Non-alcoholic tonic beverage	17,140	Jan. 1	126	359
Ohio Mining and Manufacturing Co., Shawnee, Ohio, and New York, N. Y. Building bricks or blocks	23,209	Jan. 1	126	370
Oneita Knitting Mills, Utica, N. Y. Knit underwear	23,052	Jan. 1	126	366
P. J. Valckenberg, Limited, Worms, Germany. Rhine wines	23,469	Jan. 1	126	372
P. J. Valckenberg, Limited, Worms, Germany. Rhine wines	23,606	Jan. 1	126	372
Palmer, Mary L., Chicago, Ill. Heat-insulated receptacle	20,400	Jan. 1	126	360
Palmer-Price Co., Newark, N. J. Varnishes	23,603	Jan. 1	126	373
Palmer, Wm. M., Gardiner, Me. Liniment	23,544	Jan. 1	126	373
Pater, Joseph J., Hamilton, Ohio. Smoked meats	23,580	Jan. 1	126	373
Paul Brothers, Philadelphia, Pa. Leather boots, shoes, and slippers	23,467-60	Jan. 1	126	374
Peter Schoenhofen Brewing Company, Chicago, Ill. Lager-beer	23,483	Jan. 1	126	371
Phoenix Manufacturing Co., Newark, N. J. Laundry tablets for washing clothes and fabrics	21,888	Jan. 1	126	363
Porter Medicine Company, Paris, Tenn. Remedy for the treatment of grip, &c	9,344	Jan. 1	126	356
Pough, Francis H., New York, N. Y. Pipe-joint cement	23,602	Jan. 1	126	370
Prophylactor Company, Batavia, N. Y. Antiseptic, germicide, and astringent powders	23,489	Jan. 1	126	364
Raben Company, Houston, Tex. Liver medicines and laxatives	23,580	Jan. 1	126	370
Rainbow Ale Company, Atlanta, Ga. Ginger-ale	23,513	Jan. 1	126	373
Rapp Shoe Company, St. Louis, Mo. Leather boots, shoes, and slippers	23,264	Jan 1	126	371
Reagan Round Bale Co., San Antonio, Tex. Raw cotton	20,529	Jan 1	126	361
Revere Rubber Company, Boston, Mass. Horseshoe-pads	13,143	Jan. 1	126	358
Ringemann, Frank H., Cincinnati, Ohio. Fluid for generating an artificial gas	24,009	Jan. 1	126	360
Rosenthal-Sloan Millinery Co., St. Louis, Mo. Ladies', girls', and children's straw, felt, &c., hats and caps	23,121	Jan. 1	126	367
Royal Cream Company, Chicago, Ill. Shaving-cream	19,010	Jan. 1	126	360
S. Liebmann's Sons Brewing Company, Brooklyn, N. Y. Malt extract	23,522	Jan. 1	126	371
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, &c	23,205-6	Jan. 1	126	367-8
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, &c	23,211-12	Jan. 1	126	368
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, &c	23,214-15	Jan. 1	126	368
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, &c	23,217	Jan. 1	126	368
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, &c	23,220-6	Jan. 1	126	368-9
Shirey & Brown, Buena Vista, Va. Cure for chapped hands, lips, &c	23,231	Jan. 1	126	369
Shumate Razor Company, St. Louis, Mo. Razors	23,236	Jan. 1	126	370
Slater Shoe Company, Montreal, Canada. Leather shoes, boots, and slippers	23,162	Jan. 1	126	367
Smith Bros. Hardware Co., Columbus, Ohio. Knives, razors, axes, hatchets, &c	21,239	Jan. 1	126	362
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Cotton-seed oils	20,980	Jan. 1	126	361
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Mattresses	10,980-7	Jan. 1	126	357
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Cotton-seed oils	10,991	Jan. 1	126	357
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Soap	10,992	Jan. 1	126	357
Spartan Manufacturing Co., Galesburg, Ill. Feed-grinders	10,993	Jan. 1	126	357
Sprague, Warner & Company, Chicago, Ill. Coffee	23,357	Jan. 1	126	371
Standard Import Co. Limited, New Orleans, La. Tea	23,357	Jan. 1	126	371
Standard Paper M'n'f'g Co., Manchester, Va. Blotting-paper	22,445	Jan. 1	126	364
Taylor Iron & Steel Co., High Bridge, N. J. Cast-steel shells for explosive projectiles	23,630	Jan. 1	126	376
Thomas' Sons, J. R., Youngstown, Ohio. Cornmeal	23,210	Jan. 1	126	370
Trostel & Sons, Albert, Milwaukee, Wis. Leather for harness	20,978	Jan. 1	126	361
Union Card & Paper Co., New York, N. Y. Writing, bond, and ledger paper	23,351	Jan. 1	126	370
Victor Talking Machine Company, Camden, N. J. Talking-machines, their parts and records	23,573	Jan. 1	126	365
Virginia-Carolina Chemical Company, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Fertilizers	23,024	Jan. 1	126	364
Virginia-Carolina Chemical Company, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Fertilizers	17,541	Jan. 1	126	360
Virginia Etna Lithia Springs Co., Jersey City, N. J., and New York, N. Y. Mineral water	17,831	Jan. 1	126	360
Vogel & Bros., William, New York, N. Y. Stove-urns, gas automobile-lamps, hand-lanterns, and campaign-torches	23,595	Jan. 1	126	365
W. S. Moore & Co., Chicago, Ill. Butter, milk, and cheese	23,471	Jan. 1	126	372
Washington Herald Company, Washington, D. C. Newspaper	23,595	Jan. 1	126	376
	22,615	Jan. 1	126	365

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Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Werner's Son, Geo. F., New York, N. Y. Calf-leather except patent calf-leather	11,136	Jan. 1	126	358
Western Shoe Company, Janesville, Wis. Leather shoes	23,472	Jan. 1	126	372
Whitman & Barnes Manufacturing Company, Akron, Ohio. Countersinks, machine-bits, twist-drills, &c	14,593	Jan. 1	126	359
Wiggins Teape & Co. Limited, London, England. Writing, printing, and ledger paper	23,649	Jan. 1	126	374
Wile, Sons & Co., Julius, New York, N. Y. Sherry	23,737	Jan. 1	126	376
Williams, Elmer E., New York, N. Y. Remedies for diseases of the stomach, liver, bowels, and blood	22,698	Jan. 1	126	365
Williams Hoyt & Co., Rochester, N. Y. Leather boots and shoes	23,173	Jan. 1	126	367

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 1st DAY OF JANUARY, 1907.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Specification.	Drawing.	Volume.	Page.
Acetylene-generator	A. G. Odell	840,361	Jan. 1	1166	253	126	308
Adjustable bracket	G. Cutter	840,046	Jan. 1	506	110	126	135
Advertising apparatus	K. J. H. Klempau	840,134	Jan. 1	707	151	126	193
Aerial cables. Apparatus for erecting	R. S. Peirce	840,009	Jan. 1	426	92	126	116
Aerial ropeways. Clutch for	G. Ceretti	840,109	Jan. 1	631	137	126	167
Agricultural implements. Spindle or hub for	W. C. Barker	840,288	Jan. 1	1002	219	126	269
Air-brake	L. E. Black	840,197	Jan. 1	820	180	126	219
Air-brake. Automatic	A. Parker-Smith	839,881	Jan. 1	158	36	125	45
Air-brake safety appliance	W. H. Winks	840,279	Jan. 1	989	215	126	266
Air-ship	J. Meden	840,078	Jan. 1	580	126	126	154
Air-ship	H. H. Johnson	840,379	Jan. 1	1102	239-40	126	294
Alarm: See Fire-alarm.							
Alarm in case of burglary, &c. Apparatus for automatically giving	J. Carter	840,432	Jan. 1	1300	286-7	126	340
Amusement device	F. T. Hoover	840,214	Jan. 1	866	187	126	235
Amusement device	J. E. Cisco	840,299	Jan. 1	1019	223	126	274
Angle-iron and the like into different shapes of curvature. Machine for bending	E. O. Huvig	840,217	Jan. 1	872	188-9	126	237
Animal-trap	J. Gass	840,206	Jan. 1	855	185	126	232
Apartment-house with disappearing bed	L. Holmes	839,996	Jan. 1	384	84	126	104
Arch and analogous structure	D. B. Luten	840,224	Jan. 1	883	190	126	239
Automatic lubricator	M. Klemm	840,345	Jan. 1	1112	242	126	297
Automatic signal	J. Shoecraft	840,095	Jan. 1	607	132	126	160
Automobiles. Radiator for	F. A. Bryant	840,295	Jan. 1	1010	221	126	271
Axle-box	J. S. Taylor	840,399	Jan. 1	1244	272	126	326
Axle-box lid. Car-	A. C. McCord	839,871	Jan. 1	133	33	126	38
Axle-box lid. Car-	W. G. Dunham	839,922	Jan. 1	244	52	126	68
Bag	K. Oswald, Jr.	840,086	Jan. 1	591	128	126	157
Bag-fastener. Safety	F. F. Jacob	840,218	Jan. 1	873	189	126	237
Bag-holder	J. W. Gregory	840,316	Jan. 1	1061	232	126	283
Bait. Trolling artificial	W. D. Chapman	839,917	Jan. 1	235	50	126	65
Ballot and distributer box. Secret-	G. L. Murden	840,151	Jan. 1	738	160	126	200
Banding-machine	A. Shedlock	840,022	Jan. 1	453	99	126	123
Bank. Portable savings-	W. E. Sexton	840,262	Jan. 1	957	208	126	259
Bar: See Splice-bar. Steel connecting-bar.							
Barrel-follower	C. Kuhelm	839,859	Jan. 1	108	27	126	31
Barrel-hoop	C. Hoff	840,212	Jan. 1	864	186	126	234
Bathing-hood	R. Stollberg	840,169	Jan. 1	766	167	126	207
Batteries or electrolytic apparatus. Manufacture of elements for	F. A. Decker	839,815	Jan. 1	29	7	126	10
Battery: See Soap-molding battery.							
Battery elements. Coupling for	F. A. Decker	839,817	Jan. 1	33	8	126	10
Bearing. Roller-	L. P. Walter	839,973	Jan. 1	341	75-6	126	93
Bearing. Thrust-	T. S. Patterson	839,885	Jan. 1	167	38	126	47
Bearings. Adjusting device for cone ball-	F. T. Farmer	840,306	Jan. 1	1038	227	126	278
Bed. Couch-	W. E. Frank and C. C. Taylor	840,450	Jan. 1	1334	296	126	348
Bell	P. C. Arnold	840,417	Jan. 1	1270	278	126	333
Belt-fastener	C. C. Reed and W. Duecker	839,955	Jan. 1	312	68	126	86
Belt-shifting apparatus	N. H. Anderson	839,915	Jan. 1	231	49	126	64
Belt-stretcher	W. Baker	840,191	Jan. 1	811	178	126	217
Bicycle-support	E. G. May	840,357	Jan. 1	1161	252	126	307
Bit: See Drill-bit.							
Blind and fixings for same. Multiple roller-	H. Graff	840,313	Jan. 1	1052	230	126	281
Blind apparatus. Spring-roller-	W. McLaren	839,948	Jan. 1	300	66	126	83
Board: See Vehicle foot-board.							
Boats. Knockdown sailing attachment for row-	C. L. Burgoyne	840,198	Jan. 1	823	181	126	220
Boiler: See Superheating-boiler. Water-tube boiler.							
Boiler	M. Davis	840,114	Jan. 1	637	138	126	168
Boiler-tube cleaner	C. S. Knight	840,221	Jan. 1	878	190	126	238
Bolt: See Lock-bolt.							
Bolt-extractor	W. McCormick	840,233	Jan. 1	900	195	126	244
Bosh-plate	W. D. Berry	840,195	Jan. 1	817	179	126	218
Bottle-cleansing. Process of and apparatus for	E. Wagner	840,273	Jan. 1	971	211	126	262
Bottle-closure	J. W. Zimmerman	839,977	Jan. 1	350	77	126	96
Bottle-corking machine	F. Alexander	840,100	Jan. 1	615	133	126	162
Bottle. Non-refillable	E. Weber	840,403	Jan. 1	1249	273	126	328

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Bottle. Non-refillable	H. Gehman and N. A. Giannone	840,453	Jan. 1	1339	297	126	349
Bottle rinsing, spraying, and brushing mechanism	C. H. Loew	839,264	Jan. 1	117	29	126	34
Bottle. Safety-	W. Wiegand and A. Braunsreuther.	840,031	Jan. 1	472	103	126	127
Bottle-tap	W. H. Hommel	839,980	Jan. 1	257	55	126	71
Box:							
See Axle-box. Feed-box.							
Ballot and distributer box. Gas-seal box.							
Cigar-pressing box. Mail-box.							
Stuffing-box.							
Box	J. H. Williamson	840,277	Jan. 1	985	214	126	265
Boxes. Press for pressing lids on	A. McHenry	840,336	Jan. 1	908	198	126	246
Brace:							
See Wall-brace.							
Bracket:							
See Adjustable bracket.							
Curtain-rod-supporting bracket.							
Braiding-machine	E. Anchel	840,414	Jan. 1	1267	277	126	332
Brake:							
See Air-brake. Fluid-pressure brake.							
Car-brake Wagon-brake							
Brake and brake-rod operating device	G. W. Barlow	840,188	Jan. 1	813	178	126	217
Brake system	C. W. Larson	840,126	Jan. 1	712	152-3	126	194
Brewing purposes. Cooker for	C. Rach	840,370	Jan. 1	1187	260-1	126	312
Brick. Manufacturing	A. A. Gery	839,833	Jan. 1	55	13	126	16
Brick-mold	H. Routt	839,982	Jan. 1	325	71	126	89
Bricks, &c. Manufacturing	A. A. Gery	839,832	Jan. 1	53	12	126	15
Broom-holder	F. P. Gee	840,452	Jan. 1	1338	297	126	349
Brush	J. F. Bowditch	840,108	Jan. 1	627	136	126	166
Brush-back	E. Melchior	840,227	Jan. 1	888	191	126	240
Brush. Horse-	C. E. Conder	840,435	Jan. 1	1309	288	126	342
Buckets and other receptacles Combined rest and handle for	J. S. Hickson	840,328	Jan. 1	1083	235	126	289
Buckle	P. H. Weideman	840,098	Jan. 1	613	133	126	162
Buckle	M. E. Hutchison	840,063	Jan. 1	545	118	126	146
Buildings. Metallic structural element for	M. Barabasz	840,192	Jan. 1	812	178	126	217
Buncher. Side-delivery	H. L. Dunn	840,053	Jan. 1	519	113	126	139
Burial-casket	N. G. Hanna	840,320	Jan. 1	1067	233	126	284
Burner:	J. Maxwell	840,077	Jan. 1	578	125	126	154
See Gas-burner. Oil-burner.							
Hydrocarbon-burner							
Burner	J. H. Ackroyd	840,412	Jan. 1	1262	276-7	126	331
Bushing and making same	J. R. Simpson	840,165	Jan. 1	760	166	126	206
Butter-pat machine	L. Linkiewicz and W. Klein	840,145	Jan. 1	728	158	126	198
Cabinet. Cooling and dispensing	J. Thuemling	840,178	Jan. 1	777	170	126	209
Cabinet. Kitchen-	A. Franke	839,982	Jan. 1	378	82	126	103
Cable-clamp	F. B. Cook	839,919	Jan. 1	241	51	126	67
Cameras. Stereoscopic attachment for photographic	W. Salow	840,278	Jan. 1	1208	264	126	318
Cane. Repeating torpedo-	J. H. Bevington	840,425	Jan. 1	1285	283	126	337
Car-brake	D. J. Houghton	840,215	Jan. 1	867	188	126	235
Car-coupling	J. Gaszper	840,126	Jan. 1	691	147	126	189
Car door. Grain-	C. I. Holmes and J. A. Boatright	839,848	Jan. 1	83	20	126	24
Car. Dumping-	A. C. McCord	839,870	Jan. 1	131	32	126	38
Car-fender	E. W. Wheelock	840,180	Jan. 1	787	171-2	126	211
Car frame. Railway-	W. F. Kiesel, Jr.	839,857	Jan. 1	99	24-6	126	28
Car-stop. Automatic	J. S. Pates	840,247	Jan. 1	922	202	126	250
Cars. Needle-beam for railway-	H. M. Pflager	839,862	Jan. 1	307	67	126	85
Carbon. Arc-light	A. Kufferath	840,222	Jan. 1	851	.....	126	239
Carburetor	G. E. Franquist	840,204	Jan. 1	852	184	126	231
Card-clothing. Apparatus for hardening the teeth of	L. C. Schneider	840,090	Jan. 1	598	130	126	158
Card-support	H. J. Phillips	840,469	Jan. 1	1360	299	126	352
Carpenter's tool	B. Stoll	840,268	Jan. 1	963	209	126	260
Carrier:							
See Rope-carrier.							
Casting apparatus	G. F. McKee and W. F. Schilling	840,153	Jan. 1	742	161	126	202
Casting machine. Ingot-	N. H. O. Lillienberg	839,861	Jan. 1	111	27-8	126	32
Cellulose products. Manufacturing	E. Eck and E. Bechtel	839,825	Jan. 1	43	.....	126	13
Cement composition. Magnesia-	W. L. Dudley	839,820	Jan. 1	37	.....	126	11
Chain. Drive-	J. T. Nicholson	840,240	Jan. 1	912	199	126	248
Chair.							
See Specialist's chair.							
Chair attachment	W. C. Martin	839,944	Jan. 1	293	64	126	81
Chair fan attachment. Rocking-	S. J. Taylor	839,904	Jan. 1	206	45	126	58
Check for safe keeping of articles	F. C. Stevenson	840,108	Jan. 1	764	167	126	207
Cheese-cutter	W. A. Loshbough	840,232	Jan. 1	1152	250	126	305
Chemical apparatus	H. B. Snell	840,291	Jan. 1	1229	269	126	323
Chip-breaker	L. J. Nelson	840,236	Jan. 1	910	199	126	247
Chocolate-press. Continuous-screw	G. Carlson	840,266	Jan. 1	1017	222-3	126	273
Chopper:							
See Cotton-chopper.							
Churn	J. L. Merideth	839,886	Jan. 1	126	30	126	36
Churn	E. L. Allen	840,035	Jan. 1	482	105	126	130
Churn and butter-worker. Combined	G. J. Kaplan	840,132	Jan. 1	705	180-1	126	192
Cigar and cigarette holder	F. J. Seyfried	840,285	Jan. 1	1221	267	126	321
Cigar-pressing box	R. Woerner	840,163	Jan. 1	792	172	126	212
Cigarette-mouthpieces. Machine for applying	F. X. Malocsay	840,004	Jan. 1	400	87-9	126	108
Cigarette-packing machine	A. Abbott	840,187	Jan. 1	801	174-6	126	214
Clamp:							
See Cable-clamp. Rope-clamp.							
Clasp:							
See Hose-supporter clasp.							
Clay-mill	T. R. Brittain	840,107	Jan. 1	688	136	126	195
Cleaner:							
See Boiler-tube cleaner.							
Cleaning and grading apparatus	J. Gaynor	839,985	Jan. 1	249	53-4	126	69
Clevis. Interlocking	E. J. J. Gregerson	840,126	Jan. 1	690	149	126	199
Clothes-drying frame	G. S. Stebbins	840,287	Jan. 1	991	209	126	293
Clutch	W. J. Hilliard	839,844	Jan. 1	75	18-19	126	23
Clutch or brake mechanism	J. Laidlaw and J. W. Macfarlane	840,228	Jan. 1	881	190	126	279

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Coal at sea. Device for taking in	H. O. Adam	840,099	Jan. 1	614	133	126	162
Coal-tippie	J. S. Pates	840,248	Jan. 1	924	202	126	251
Cocks. Device for operating train-pipe	N. F. Niederlander	839,878	Jan. 1	152	35	126	43
Collar. Horse-	R. E. Cady	839,809	Jan. 1	19	4-5	126	7
Commutator	M. E. Fuld	840,451	Jan. 1	1336	296	126	349
Concrete and the like. Machine for mixing	W. J. Judd	840,067	Jan. 1	551	119-21	126	147
Concrete-block machine	F. W. Cooley	839,812	Jan. 1	24	5-6	126	8
Concrete-block mold	J. P. Heckman	839,842	Jan. 1	72	18	126	21
Concrete-building-block-making machine	J. Miller, A. M. Haight, and W. T. Smith.	840,006	Jan. 1	415	90-1	126	113
Concrete-work. Binding-sheet for	J. H. Schlafly	840,016	Jan. 1	439	95	126	119
Conduit	L. A. Jones	840,066	Jan. 1	550	119	126	147
Conveyers and for feeding machinery. Propelling endless aprons for	P. H. Ertheller	840,446	Jan. 1	1329	294	126	347
Corn-hulling machine. Green-	W. Caldwell	840,296	Jan. 1	1011	221-2	126	272
Corsets. Truss attachment for	I. Baer	840,285	Jan. 1	998	218	126	269
Cotton-chopper	S. A. Cowart	840,439	Jan. 1	1314	290-1	126	343
Cotton-picker	J. K. Piper	840,367	Jan. 1	1175	255-7	126	310
Coupling:							
See Car-coupling.							
Railway-vehicle coupling.							
Cradle	W. Adler	840,284	Jan. 1	997	218	126	268
Crate. Collapsible	H. H. Ide	839,852	Jan. 1	92	22	126	27
Crusher:							
See Gyratory crusher.							
Cultivator	A. T. Westlake	840,404	Jan. 1	1251	274	126	328
Cultivator-hopple	S. A. Cowart	840,438	Jan. 1	1313	289-90	126	343
Cultivators. Spring-trip for	L. Reeves and G. K. Gilchrist	839,956	Jan. 1	313	68	126	86
Cup:							
See Shaving-cup.							
Curtain-pole	B. Adamowicz	840,282	Jan. 1	995	217	126	268
Curtain-rod-supporting bracket	T. C. Richards	839,959	Jan. 1	319	70	126	88
Curtain-stretcher	F. S. Stanneld	839,969	Jan. 1	335	74	126	92
Cushion:							
See Heel-cushion.							
Cutter:							
See Cheese-cutter.							
Cycle driving-gear	W. Boos	839,979	Jan. 1	356	78	126	97
Dam	W. L. Church	840,042	Jan. 1	498	109	126	133
Dam	H. L. Coburn	840,110	Jan. 1	633	137	126	168
Die-plate	J. J. Malloy	840,147	Jan. 1	731	159	126	199
Dish-washing apparatus	R. R. Smith	839,898	Jan. 1	196	43	126	55
Display dish-rack	J. B. Timberlake	839,906	Jan. 1	209	46	126	59
Display-rack	C. S. Copp and L. Frank	840,112	Jan. 1	636	137	126	168
Door-holder fixture	J. S. Naery	839,876	Jan. 1	149	35	126	43
Doors, display-frames, &c. Movable supporting means for	J. Hofman	840,061	Jan. 1	541	117	126	144
Dough-dividing machine	H. F. W. Hueg	840,062	Jan. 1	542	117-18	126	145
Dredge	G. W. King	839,934	Jan. 1	264	57	126	73
Dressing-table and clothes-press. Combined	H. Knapp	840,347	Jan. 1	1143	247-8	126	303
Drill:							
See Grain-drill.							
Drill	G. E. Eaton	839,824	Jan. 1	42	10	126	12
Drill-bit for wells	C. W. Guttzeit	839,837	Jan. 1	61	14-15	126	18
Drill-shaping machine	J. H. Green	839,835	Jan. 1	58	13	126	17
Drinking-fount for live stock	H. M. Smith	839,964	Jan. 1	327	72	126	90
Drying apparatus	J. E. Barney	840,037	Jan. 1	485	105	126	131
Dump and elevator	J. F. Collins	840,300	Jan. 1	1021	224	126	274
Dyeing textile fiber violet-blue	O. Bally	840,419	Jan. 1	1274	279	126	334
Eaves-trough-forming machine	J. H. Schlafly	840,382	Jan. 1	1213	265	126	319
Electric furnace	W. H. Bristol	839,983	Jan. 1	362	79	126	99
Electric-light globes. Means for cleaning or manipulating	C. D. Bates	840,102	Jan. 1	618	134	126	163
Electric-power-distributing systems. Controlling	J. L. Routin	840,013	Jan. 1	432	93-4	126	117
Electric switch	E. M. Hewlett and T. E. Button	840,327	Jan. 1	1079	235	126	288
Electrical distribution. Panel-board for	E. N. Lake	840,068	Jan. 1	556	121-2	126	147
Electrical-distribution system	R. Hundhausen	840,216	Jan. 1	869	188	126	236
Electrical plug-receptacle	F. J. Russell	840,014	Jan. 1	435	94-5	126	118
Electrochemical apparatus	F. A. Decker	839,816	Jan. 1	31	8	126	10
Electromagnetic signal	H. M. Crane	840,201	Jan. 1	880	182	126	222
Elevator:							
See Grain and ear-corn elevator.							
Elevator	B. H. Alvey	840,189	Jan. 1	808	177	126	246
Elevator-gate-closing means	C. W. Kirsch	840,344	Jan. 1	1109	241	126	296
Embossing-presses. Wiping attachment for power-	L. M. Winter	840,280	Jan. 1	991	215-16	126	267
Embroidering-machine	A. Nufer	840,243	Jan. 1	916	200-1	126	249
Embroidery-machines. Fabric-holding rest for	C. Eugster	839,923	Jan. 1	246	52	126	68
Engine:							
See Fluid-pressure engine. Motive-power engine.							
Gas-engine. Rotary engine.							
Engine driving mechanism. Traction-	M. Wilson	839,914	Jan. 1	220	49	126	64
Engine tender. Traction-	G. L. Schmidt	840,017	Jan. 1	441	95-6	126	119
Envelop-opener	A. D. Ross	839,960	Jan. 1	320	70	126	88
Eraser. Ink-	W. H. Jones	840,131	Jan. 1	702	150	126	192
Excavating-machine	S. Olson	839,949	Jan. 1	302	66	126	83
Extractor.							
See Bolt-extractor.							
Eyeglass-guard	E. J. George	839,831	Jan. 1	51	12	126	15
Fan. Draft-producing	L. Myers	840,230	Jan. 1	893	192-3	126	241
Fan-motor. Spring-operated	L. Myers	840,231	Jan. 1	896	194	126	242
Fastening means	N. B. Stone	840,395	Jan. 1	1276	270	126	324
Feed-box. Metallic	H. M. Thayer	839,905	Jan. 1	207	45	126	58
Feed-water heater	H. G. Miller	839,867	Jan. 1	126	29-1	126	36
Feed-water heater	J. E. Proctor	840,252	Jan. 1	928	200	126	252
Feed-water heater for locomotives	R. Burns	840,108	Jan. 1	630	136	126	166
Feeding mechanism	A. Shedlock	840,023	Jan. 1	458	100	126	124
Feeding mechanism	G. W. Donning	840,203	Jan. 1	852	183-4	126	222
Feeding-trough	H. W. Lineweaver	840,003	Jan. 1	399	87	126	108
Fence construction. Wire-	E. W. Cornell	840,113	Jan. 1	649	138	126	168
Fence-post	L. D. Ewing	840,124	Jan. 1	688	147	126	188

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Fence-post base	H. L. Fell	839,826	Jan. 1	47	11	126	14
Fence-posts and railway-ties. Manufacturing of	H. M. Shellabarger	840,283	Jan. 1	958	208	126	239
Fencing tie. Wire-	W. H. Shierson	840,164	Jan. 1	759	165	126	206
Fender:							
See Car-fender.							
Fertilizer-distributer and plow. Combined	J. B. Corsble	840,437	Jan. 1	1311	289	126	343
Filter for cisterns. Platform-	R. E. Tipton	840,400	Jan. 1	1245	272	126	328
Filter. Oil-	T. T. Sawdon	840,381	Jan. 1	1212	264	126	319
Filter scraping-machine. Closed-	H. W. Blaisdell	840,104	Jan. 1	621	134-5	126	164
Fire-alarm and watch-service system	J. McFell	839,873	Jan. 1	139	34	126	40
Fire-escape	R. D. Warfield	839,974	Jan. 1	342	76	126	94
Fire-extinguishers. Alarm for automatic	W. A. Goldthwait	840,311	Jan. 1	1049	229	126	280
Fire-extinguishers. Alarm for automatic	F. H. Rice	840,375	Jan. 1	1198	262	126	315
Firearm	P. Lister	839,938	Jan. 1	278	60	126	77
Firearm	P. Mulock	840,085	Jan. 1	590	128	126	156
Fireproof building construction	C. Collins	840,111	Jan. 1	634	137	126	168
Fireproof structure	J. D. Ripson	840,011	Jan. 1	430	93	126	117
Fireworks	L. Nordlinger	840,242	Jan. 1	915	200	126	248
Flasks. Packing	H. W. Lengfelder	840,070	Jan. 1	560	122	126	149
Floor-scraper	F. F. Hase	839,994	Jan. 1	380	83	126	103
Flue-stop	J. H. Kinley	840,343	Jan. 1	1107	241	126	296
Fluid-joint. Flexible	C. G. Hawley	840,324	Jan. 1	1075	234	126	287
Fluid-joint. Flexible	C. G. Hawley	840,325	Jan. 1	1076	234	126	287
Fluid-pressure brake	A. Parker-Smith	839,882	Jan. 1	161	37	126	45
Fluid-pressure brake	A. Parker-Smith	839,883	Jan. 1	164	37	126	46
Fluid-pressure brake	W. H. Sauvage	839,884	Jan. 1	165	37	126	47
Fluid-pressure engine	R. H. Stollar	839,893	Jan. 1	181	41	126	51
Fluids. Apparatus for the mechanical clarification of	W. Rottmann	840,394	Jan. 1	1233	269-70	126	324
Fly-trap	J. O. Windust	839,892	Jan. 1	178	40	126	50
Folding-machine	W. Spalckhaver	840,278	Jan. 1	987	214-15	126	266
Food substances. Dehydrating	E. W. Cooke	839,899	Jan. 1	197	44	126	55
Frame:		840,436	Jan. 1	1310	289	126	342
See Car-frame. Stencil-frame. Clothes-drying frame. Stretcher-frame.							
Frames and tubes. Manufacture of	E. C. F. Verschave	840,271	Jan. 1	967	210	126	261
Frosting or icing pan	W. F. Morris	840,083	Jan. 1	586	127	126	156
Furnace:							
See Electric furnace.							
Fuse. Detonating-	H. Maxim	840,226	Jan. 1	886	191	126	240
Gage:							
See Pressure-gage. Saw-gage. Micrometer-gage. Skid-setting gage.							
Garment-hanger	T. F. O'Connell	839,879	Jan. 1	153	36	126	43
Garment-hanger	G. W. Cook	840,045	Jan. 1	504	110	126	134
Garment-pad	J. Z. Mathieu	840,149	Jan. 1	734	159	126	200
Gas and coking. Apparatus for making	L. P. Lowe	839,939	Jan. 1	280	60	126	77
Gas-burner	P. Seiler	840,082	Jan. 1	602	130	126	159
Gas-engine	D. M. Tuttle	840,178	Jan. 1	782	171	126	210
Gas-generator	J. D. Dawson	840,115	Jan. 1	630	138	126	169
Gas generator. Acetylene-	C. W. Waymire	840,097	Jan. 1	611	133	126	161
Gas-producer	P. Eyermann	840,447	Jan. 1	1330	295	126	348
Gas-seal box and washer. Combined	I. N. Enright	840,445	Jan. 1	1328	294	126	347
Gear. Change-speed	F. A Ferguson	840,055	Jan. 1	527	114-15	126	140
Gear. Transmission-	J. Schmidt, Jr.	840,363	Jan. 1	1218	265-6	126	320
Gear. Variable-speed	J. P. Davis	840,202	Jan. 1	831	182	126	222
Gearing. Alternating rotary	S. Loe	839,863	Jan. 1	115	28-9	126	33
Gearing. Worm-	S. Otis	840,157	Jan. 1	747	162-3	126	203
Generator:							
See Acetylene-generator. Turbo-generator. Gas-generator. Thermo-electric generator.							
Glass-drawing method and apparatus. Sheet-	I. W. Colburn	840,432	Jan. 1	1302	287-8	126	340
Glass plates. Mold for blown-	S. I. Butters	839,987	Jan. 1	371	80	126	101
Glass-tank	M. J. Owens	840,245	Jan. 1	919	201	126	249
Glassware-manufacturing apparatus. Hollow-	R. L. Johnson	840,088	Jan. 1	529	115	126	141
Governor	G. E. Le Clair	840,340	Jan. 1	1104	240	126	295
Grader and scraper. Combined	L. Matthews	840,139	Jan. 1	716	155	126	196
Grader. Road-	E. Fahrney	840,075	Jan. 1	574	125	126	153
Grader. Road-	B. Cunningham	840,205	Jan. 1	1033	226-7	126	276
Grain and ear-corn elevator	D. A. Schutt	839,814	Jan. 1	27	6-7	126	9
Grain-drill	C. A. Cornwall	840,020	Jan. 1	448	97-8	126	121
Gramophone speed-indicator	J. Linton	839,920	Jan. 1	242	52	126	67
Grinding machine. Calender-roll and knife-	W. H. Gates	840,072	Jan. 1	563	122	126	149
Gun. Magazine-	J. Adrianson	840,209	Jan. 1	1044	228-9	126	279
Guns. Revolver attachment for	J. B. Rhodes	839,978	Jan. 1	362	77-8	126	96
Gyratory crusher	W. A. Spring	839,891	Jan. 1	175	39	126	49
Gyratory crusher	H. Bramer	839,901	Jan. 1	201	44	126	57
Halter	W. W. Word	839,980	Jan. 1	357	78	126	97
Hammer-controlling means	J. A. R. Damonte	840,033	Jan. 1	476	104	126	128
Hammer. Magnetic tack-		840,441	Jan. 1	1322	292	126	346
Handle:							
See Plow-handle. Saw-handle. Sad-iron handle.							
Hanger:							
See Garment-hanger. Pipe-hanger. Hinged hanger.							
Hanger	J. H. Herbener	839,843	Jan. 1	74	18	126	22
Harrow	F. Adix	839,799	Jan. 1	1	1	126	3
Harrow	E. H. Peters	839,857	Jan. 1	169	38-9	126	48
Harrow, Folding	F. Adix	839,800	Jan. 1	3	1	126	3
Harrow rider attachment	H. E. Johnson	839,801	Jan. 1	5	2	126	3
Harvester attachment	W. E. Sleight	840,298	Jan. 1	1101	239	126	294
Harvester. Beet-	J. A. Melancon and W. C. Mayor	840,166	Jan. 1	762	166-7	126	206
Harvester. Cane-	C. L. Hummel	839,945	Jan. 1	294	64-5	126	81
Harvester cutting apparatus	G. F. Conner	839,850	Jan. 1	88	21	126	26
Harvesting and cultivating machines. Guide for root	H. J. Lormis	839,918	Jan. 1	227	51	126	65
Hay-loader		840,361	Jan. 1	1150	249	126	304

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Header-reel. Adjustable	R. H. Ackerman	840,411	Jan. 1	1261	276	126	331
Heater:							
See Feed-water heater. Water-heater.							
Heater	W. F. McGuire	840,235	Jan. 1	907	198	126	246
Heating materials. Electrically	C. L. Collins, 2d	840,044	Jan. 1	501	110	126	134
Heel-cushion	J. T. Story	840,170	Jan 1	767	168	126	207
Helix-forming machine	T. E. Drohan	840,050	Jan. 1	514	111-12	126	137
Hinge	G. Holden	839,847	Jan. 1	82	20	126	24
Hinge attachment for screen-doors. Spring-	R. R. Suter	840,396	Jan. 1	1239	270	126	325
Hinged hanger	A. Schroeder	839,963	Jan. 1	326	71	126	90
Hoisting-bucket. Automatic dumping and righting	W. T. Krausch	839,858	Jan. 1	107	26	126	31
Hoisting-machine	A. E. Handy	840,129	Jan. 1	697	149	126	190
Hook:							
See Whiffletree-hook.							
Hook and eye	B. F. Gable	840,205	Jan. 1	854	184	126	231
Hook and eye	J. S. C. Sowar	840,266	Jan. 1	961	209	126	260
Hoop:							
See Barrel-hoop.							
Horse-controlling device	J. G. Michaell	840,079	Jan. 1	582	126	126	155
Hose-nozzle	F. J. Christman	839,811	Jan. 1	22	5	126	8
Hose or tubes. Machine for manufacturing	C. Hyde	839,851	Jan. 1	89	21-2	126	26
Hose-supporter	J. Mann	840,355	Jan. 1	1158	251	126	306
Hose-supporter clasp	P. S. Bauer	840,289	Jan. 1	1003	219	126	269
Hot-water bags. Electric heating attachment for	C. V. Hill	839,928	Jan. 1	254	55	126	70
Hot-water bags. Heating attachment for	C. V. Hill	840,060	Jan. 1	539	117	126	144
Hub	J. E. Sapp	840,379	Jan. 1	1209	264	126	318
Hub-cap	J. W. Summers	840,172	Jan. 1	770	168	126	208
Hydraulic and pneumatic apparatus	H. Jones	840,065	Jan. 1	548	119	126	146
Hydrocarbon-burner	J. N. Blain and O. H. Smith	840,292	Jan. 1	1006	220	126	270
Ice-cream freezer	L. Sturges	840 171	Jan. 1	768	168	126	208
Indicator:							
See Gramophone speed-indicator. Pressure-indicator.							
Insulator	A. Johnson	840,336	Jan. 1	1098	239	126	293
Jack:							
See Well-jack.							
Joint:							
See Fluid-joint. Rail-joint. Pipe tension-joint.							
Journal-lubricating device. Car-axle-	F. B. Harrison and L. Y. Williams.	839 840	Jan 1	69	17	126	20
Keyless lock	O. M. Farrand	840,054	Jan. 1	524	114	126	139
Ladder	H. W. Pease	840,365	Jan. 1	1171	254	126	310
Lamp	G. Hacker	840,319	Jan. 1	1066	232	126	284
Lamp. Electric	F. Muschenheim	839,869	Jan. 1	131	32	126	38
Lamp. Signal-	F D. Spear	840,025	Jan. 1	464	101	126	126
Lamp Signal-	F. D. Spear	840,026	Jan. 1	465	101	126	126
Lantern globe-lifting attachment	F A. Schwertner	840,261	Jan. 1	955	208	126	259
Latch Sliding-door	R. Campbell	840,297	Jan 1	1014	222	126	272
Latches. Bolt for rim-	W. A. Marbach	840,225	Jan. 1	885	191	126	240
Lathe Automatic	G. W. Pringle	840,369	Jan. 1	1181	257-60	126	312
Lathe heating device. Spinning-	R. Thiel	840,270	Jan. 1	965	210	126	261
Lathe-spindle	J. Hartness	840,322	Jan. 1	1070	233	126	286
Leather-treating machine	W. B. Turner	840,029	Jan. 1	469	102	126	127
Ledger and index. Combination	A. F. Thompson	840,175	Jan. 1	774	169-70	126	209
Lens. Bifocal	H. C. Joerden	839,998	Jan. 1	390	85	126	106
Life-belt	A. Gros	840,318	Jan. 1	1064	232	126	284
Lifting mechanism	J. R. Miller	840,082	Jan. 1	585	127	126	155
Lightning-arrester	M. O. Troy	840,028	Jan. 1	468	102	126	127
Lightning-arrester connection	E. A. Baldwin	840,036	Jan. 1	483	105	126	131
Lime-hydrating apparatus	M. Mauran	840,076	Jan. 1	576	125	126	153
Liquid-separator. Centrifugal	C. H. Hackett	840,057	Jan. 1	531	116	126	141
Load-binder	A. L. Cox	839,990	Jan. 1	376	82	126	102
Load-binder	A. L. Cox	839,991	Jan. 1	376	82	126	103
Loading device	B. S. Crocker	839,921	Jan. 1	243	52	126	67
Loading-machine	F. K. Holmested	839,997	Jan. 1	387	84-5	126	105
Lock:							
See Keyless lock. Permutation-lock. Nut-lock Sash-lock.							
Lock and latch. Combined	L. H. Mullikin	840,007	Jan. 1	420	91-2	126	114
Lock-bolt	A. Dumont	839,821	Jan 1	38	9	126	11
Locking mechanism. Jail	W. R. Kales	839,933	Jan. 1	261	56	126	72
Locomotive	H. Reid and D. M. Ramsay	840,255	Jan. 1	934	204	126	253
Locomotive	G. G. Davis	840,142	Jan 1	1323	292-3	126	346
Locomotive-tender	W. L. Baskins	840,038	Jan. 1	487	106	126	131
Log-transfer	S. L. Vance	839,971	Jan. 1	358	75	126	93
Loom filling-detecting mechanism	C. F. Roper	840,377	Jan. 1	1205	263	126	317
Loom. Pile-fabric	H. Sarafian	840,257	Jan. 1	937	205-6	126	254
Loom. Pile-fabric	F. A. Whitmore	840,275	Jan. 1	977	212-13	126	264
Loom. Warp stop-motion	J. Bim	840,196	Jan. 1	818	180	126	219
Looms. Device for automatically stopping	C. Adams	840,034	Jan. 1	479	104	126	129
Lubricator:							
See Automatic lubricator.							
Lubricator	O. A. Shipley	840,094	Jan. 1	606	132	126	160
Machine-driving means	P. E. Clark	840,199	Jan. 1	826	181	126	221
Machinery-tripping mechanism	C. E. Glessner	840,127	Jan. 1	693	148-9	126	189
Mail-box	J. Becker	840,290	Jan. 1	1004	220	126	270
Mail. Index cell-case equipment for delivery of	J. W. Howard and R. M. McKee	840,332	Jan. 1	1088	237	126	291
Masts, pipes, hollow piles, &c. Process and apparatus for manufacturing hollow	H. Siegwart	839,895	Jan. 1	185	41-2	126	52
Mat:							
See Rubber mat.							
Meal from wheat and other farinaceous products of poor baking quality. Production of	L. Rappeport	839,889	Jan. 1	173	.....	126	48
Measure for fabrics	G. W. Davis	840,047	Jan. 1	508	111	126	135
Measuring quantities of liquid. Arrangement for	T. Hillmer	840,210	Jan. 1	861	186	126	233
Meat-cutting machine	F. A. Capener, L. Bump, E. Gust, and J. Shields.	840,041	Jan. 1	495	108-9	126	133
Metal articles. Means for making hollow	E. Schumacher and J. H. Tyson	840,091	Jan. 1	599	130	126	159
Metal-bending machine	R. D. Patterson	839,952	Jan. 1	305	67	126	84

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Metal-swaging apparatus	O. Briede	840,096	Jan. 1	1287	283	126	337
Meters. Record-slip for	G. E. Hawkins	839,927	Jan. 1	253	54	126	70
Micrometer-gage	E. A. Marsh	839,948	Jan. 1	289	63	126	80
Mill:							
See Clay-mill. Windmill.							
Millboard-making machine	W. Sillman	840,326	Jan. 1	1222	267	126	321
Millboard-making machine	W. Sillman	840,327	Jan. 1	1234	267–8	126	322
Minerals. Roasting of pyritous	G. Rambaldini	840,328	Jan. 1	980	203	126	232
Miner's gold-pan	T. Hussey	840,329	Jan. 1	1091	238	126	232
Mitering-machine	W. Battensby	839,897	Jan. 1	16	3–4	126	6
Mold:							
See Brick-mold. Concrete-block mold.							
Motive-power engine	L. M. Kellogg	839,999	Jan. 1	391	85	126	106
Motor:							
See Fan-motor. Wave-motor.							
Tide-motor.							
Motor regulator. Alternating-current	C. Renshaw	839,966	Jan. 1	315	69	126	87
Motors. Phase-adjusting means for alternating-current	B. G. Lamme	839,985	Jan. 1	265	57–9	126	73
Motors. Regulating alternating-current	B. G. Lamme and C. Renshaw	840,031	Jan. 1	394	86	126	107
Motors. Regulating the speed of electric	B. G. Lamme	839,987	Jan. 1	275	59	126	76
Music-recording device	A. J. Swing and K. A. Graner	840,207	Jan. 1	1240	271	126	323
Musical instrument. Mechanical	E. Schnabel and W. W. Lawson	840,209	Jan. 1	945	206	126	256
Musical instrument. Pneumatically-operated	F. V. Crofut	840,210	Jan. 1	1030	226	126	276
Musical instruments. Automatic mechanism for playing	A. E. Olney	839,889	Jan. 1	154	36	126	43
Necktie-holder	J. L. Sutherland	840,173	Jan. 1	771	168	126	208
Nozzle-wagon	G. H. Bardsley	840,267	Jan. 1	1020	219	126	269
Nut-lock	W. D. Leonard	840,145	Jan. 1	726	157	126	198
Nut-lock	D. W. Patton	840,240	Jan. 1	935	202	126	251
Oil burner. Crude	J. B. Smiley	840,299	Jan. 1	1229	268	126	323
Oil burner. Crude	J. Harleman	840,699	Jan. 1	838	116	126	143
Oil its tarry or asphaltic constituents, with gas as a by-product. Apparatus for recovering from	M. A. Fesler	840,448	Jan. 1	1332	295	126	348
Ore-separator	L. P. Lowe	839,940	Jan. 1	261	60–1	126	78
Organs or harmoniums. Instrument for playing	M. R. Lyle	840,264	Jan. 1	1155	251	126	306
Oxyhemoglobin. Making a solution of	J. H. Dawe	840,048	Jan. 1	509	111	126	135
Packing for rocking or rotating rods or shafts. Metallic	W. J. J. Hendrikszoon	840,220	Jan. 1	1078	.....	126	288
Packing. Metallic piston	A. D. Morris	840,268	Jan. 1	1162	252	126	307
Packing. Piston	N. Pfaum	840,269	Jan. 1	926	203	126	251
Packing-ring	J. J. Redner	839,889	Jan. 1	174	39	126	49
Packing. Self-acting membrane	A. E. Sparrow	839,900	Jan. 1	200	44	126	56
Pad:	P. Wirsching	840,408	Jan. 1	1256	275	126	329
See Garment-pad.							
Painter's striping and stenciling wheel	C. L. Garrecht	840,208	Jan. 1	1042	228	126	279
Pan:							
See Frosting or icing pan. Miner's gold-pan.							
Paper-bag machine	W. A. Lorenz	840,073	Jan. 1	565	123–4	126	150
Paper-making machine	S. Milne	840,228	Jan. 1	898	192	126	240
Paper-making machines. Feed mechanism for calender-rolls of	R. Smith	839,908	Jan. 1	330	72–3	126	91
Paper-retaining device	G. W. Donning	840,118	Jan. 1	654	143	126	176
Peanut-shock protector	J. L. Bangley	840,420	Jan. 1	1275	279	126	334
Peeler. Vegetable	J. and F. Kerr	840,080	Jan. 1	398	85	126	107
Pen. Fountain	B. B. Goldsmith	840,406	Jan. 1	1242	268	126	350
Pen. Ruling	J. M. Alexander and H. Fox	840,413	Jan. 1	1265	277	126	332
Pencil-holder	S. J. Lester	840,240	Jan. 1	1147	248	126	304
Pencil-sharpening machine	F. E. V. Baines	839,896	Jan. 1	13	3	126	5
Pencils. Eraser-tip for lead	L. J. Reckendorfer	840,372	Jan. 1	1291	261	126	313
Pendent switch	H. C. Wirt	840,122	Jan. 1	799	172	126	212
Perfumery-package	J. Blocki	840,105	Jan. 1	695	135	126	165
Permutation-lock	E. E. Quaintance	840,091	Jan. 1	598	129	126	157
Phase-adjusting apparatus	B. G. Lamme	839,986	Jan. 1	271	59	126	75
Phonograph and disk-holder	W. C. Spurgeon	839,922	Jan. 1	204	44–5	126	57
Phonograph sound-regulator	A. H. Ryder	840,089	Jan. 1	597	129	126	158
Photographs. Exhibiting diffraction	F. E. Ives	839,893	Jan. 1	94	23	126	27
Pianissimo device	C. F. Reeps and T. H. Nott	840,264	Jan. 1	953	203	126	252
Piano-action	R. M. Squire	839,903	Jan. 1	205	45	126	58
Piano and organ keys. Machine for laying off patterns on and otherwise preparing boards for the manufacture of	P. Schneider	840,260	Jan. 1	946	206–7	126	256
Piano. Mechanically-operated	F. V. Crofut	840,209	Jan. 1	1027	225–6	126	276
Piano-players. Sheet-winding mechanism for	F. P. Smith	840,024	Jan. 1	453	100	126	125
Piano-tool	J. N. Brown	840,204	Jan. 1	1008	221	126	271
Picker:							
See Cotton-picker.							
Pile and forming the same	A. A. Raymond	839,864	Jan. 1	309	68	126	85
Pipe-flanging machine	C. R. McKibben	840,154	Jan. 1	748	161–2	126	202
Pipe-hanger	J. E. Johnson	840,227	Jan. 1	1140	239	126	294
Pipe tension-joint	F. McCluskey	839,947	Jan. 1	280	66	126	83
Pipes, reservoirs, and the like of strengthened cement and concrete. Skeleton for	F. E. Bocquet	840,203	Jan. 1	1007	220	126	271
Pistol. Magazine	J. H. Wesson	839,911	Jan. 1	223	48	126	62
Piston-rod connection	L. Anderson	840,190	Jan. 1	899	177–8	126	216
Pitman connection	W. H. Glassburn	840,465	Jan. 1	1348	208	126	350
Plane. Carpenter's	W. F. Arnold	840,418	Jan. 1	1273	279	126	334
Planter and fertilizer-distributer. Seed	F. H. Weaver	840,274	Jan. 1	975	212	126	264
Planter. Corn	L. R. Gilchrist	840,454	Jan. 1	1341	267	126	350
Plastic materials. Machine for molding	A. Lutze	839,941	Jan. 1	262	61–2	126	78
Platform. Dumping	F. W. Cooley	839,913	Jan. 1	28	6	126	9
Pliers	C. A. Fritz	839,998	Jan. 1	379	83	126	104
Plow	A. Lindgren	840,236	Jan. 1	1145	240	126	304
Plow	M. Pearson	840,270	Jan. 1	1170	254	126	309
Plow and seeder	F. Thürrid	840,177	Jan. 1	779	170–1	126	209
Plow attachment	T. Wiegert	840,466	Jan. 1	1352	274	126	328
Plow. Cotton-thinning	W. A. Edgin	839,927	Jan. 1	45	11	126	13
Plow-handle	F. R. Stewart	840,209	Jan. 1	1233	269	126	323
Plow. Wheel	G. W. Barnett	840,421	Jan. 1	1276	279–80	126	335

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Pneumatic tire	D. M. Reid	840,160	Jan. 1	751	164	126	204
Pneumatic-tube system	B. C. Batcheller	840,194	Jan. 1	815	179	126	218
Polishing composition. Making a	M. and E. Springborn	840,167	Jan. 1	764	.....	126	207
Post:							
See Fence-post.							
Potato-masher	A. T. Stewart	840,392	Jan. 1	1231	269	126	323
Powder-distributer	C. H. Leggett	840,141	Jan. 1	720	156	126	196
Powder-distributer	C. H. Leggett	840,142	Jan. 1	723	156–7	126	197
Powder. Pattern	G. Pinkus	840,251	Jan. 1	927	.....	126	252
Power-transmission device	F. de Coligny	839,989	Jan. 1	374	81–2	126	102
Press:							
See Chocolate-press.							
Pressure-gage	W. H. Bristol	839,982	Jan. 1	369	79	126	98
Pressure indicator and recorder	W. H. Bristol	839,981	Jan. 1	358	79	126	97
Printers' rollers. Machine for cleaning	C. B. Cutler	840,440	Jan. 1	1316	291–2	126	344
Printing and like machines. Device for feeding sheets to	F. E. Hodgkins	840,211	Jan. 1	862	186	126	234
Printing attachment. Address	W. L. Bucksen	840,429	Jan. 1	1295	284	126	338
Printing-machine. Yarn	W. E. Lyford	840,353	Jan. 1	1153	250	126	305
Propeller. Boat	S. N. Edgar	839,826	Jan. 1	44	10	126	13
Propeller. Marine	O. P. Smith	839,897	Jan. 1	194	43	126	55
Puller:							
See Staple-puller.							
Pulley-casing. Sheet-metal	F. E. Sloan	840,265	Jan. 1	959	208	126	260
Pulley for pulverizing-mills	G. E. Rudnick	840,162	Jan. 1	754	164	126	201
Pulley. Sheet-metal sash	F. E Sloan	840,389	Jan. 1	1228	268	126	323
Pump	H. Jones	840,064	Jan. 1	547	118	126	146
Pump	T. Butler	840,430	Jan. 1	1296	285	126	339
Pump-base	E. S. Lea and J. Degen	840,138	Jan. 1	715	154–5	126	195
Pump-casing. Multiple-section	E. S. Lea and J. Degen	840,137	Jan. 1	714	153–4	126	195
Pumps. Means for balancing centrifugal	J. Degen	840,116	Jan. 1	640	139–40	126	169
Puzzle	L. B. Lincoln	840,144	Jan. 1	726	157	126	198
Rack:							
See Display dish-rack.							
Rail-fastener	W. P. Johnson	840,219	Jan. 1	875	189	126	237
Rail-joint	M. Nemecek	840,239	Jan. 1	911	199	126	247
Rail-joint	J. H. Price	840,368	Jan. 1	1180	257	126	311
Rail-joint	J. E. Beaver	840,424	Jan. 1	1284	282	126	336
Rail-securing device. Track	W. Scott	839,894	Jan. 1	183	41	126	51
Rail-tie and fastener	W. F. Walker	839,972	Jan. 1	339	75	126	93
Railway stock-guard	W. E. Wahlin	840,030	Jan. 1	472	103	126	127
Railway-tie	N. J. McLean and E. Swanson	839,874	Jan. 1	145	34	126	41
Railway-vehicle coupling	E. Ulbrich	839,907	Jan. 1	211	46	126	59
Railway weigh-bridge	E. von Miklós	839,946	Jan. 1	298	65	126	82
Railways. Contact-shoe for electric	H. C. Pealow	840,087	Jan. 1	592	129	126	157
Railways. Sound-deadening means for	J. Schenbeck	840,258	Jan. 1	944	206	126	256
Rakes. Frame construction for side-delivery	H. B. Sperry	839,968	Jan. 1	334	74	126	92
Ratchet device. Feed	G. T. Reiss	839,957	Jan. 1	314	69	126	86
Razor	J. A. Reams	840,371	Jan. 1	1189	261	126	313
Razor. Safety	F. H. Arnold	840,101	Jan. 1	617	134	126	163
Razor. Safety	D. W. and E. H. Odell	840,244	Jan. 1	918	201	126	249
Razor. Safety	J. J. Fetzer	840,449	Jan 1	1333	295	126	348
Record-producing machine	G. W. Donning	840,117	Jan. 1	642	141–3	126	170
Recorder:							
See Scale-recorder.							
Reel:							
See Header-reel. Switchboard-cord reel.							
Reflector	F. Müller	840,084	Jan. 1	587	127–8	126	156
Register:							
See Tape-punching register.							
Regulator:							
See Motor-regulator.							
Phonograph sound-regulator.							
Reservoirs. Controlling means for fluid	J. L. Schureman	840,163	Jan. 1	755	165	126	205
Rheostat. Motor-starting	P. H. Zimmer	840,186	Jan. 1	799	174	126	214
Ring:							
See Packing-ring.							
Roller-table	C. L. Taylor	840,398	Jan. 1	1241	271–2	126	326
Roofing. Laying	R. W. Bird	840,103	Jan. 1	620	134	126	164
Rope carrier. Fall	J. G. Delaney and A. Lambert	840,443	Jan. 1	1324	293	126	346
Rope-clamp	M. F. Smith	839,965	Jan. 1	329	72	126	90
Rotary engine	W. Snee	839,967	Jan. 1	333	74	126	92
Rubber-composition ball and making the same. Hard	E. F. Upton	840,401	Jan. 1	1247	273	126	327
Rubber heel. Safety	E. G. Perkins	839,886	Jan. 1	168	38	126	48
Rubber mat	R. K. Gray	839,834	Jan. 1	57	13	126	17
Ruling appliance	L. Hölzermann	840,331	Jan. 1	1087	237	126	290
Rod-iron handle	J. R. Cochran	840,043	Jan. 1	500	109	126	134
Sash-bolt mechanism and lock	W. H. Taylor	840,269	Jan. 1	964	209–10	126	261
Sandpapering and polishing machine	D. McDougall	839,872	Jan. 1	135	33–4	126	39
Sash-fastener	J. L. Grether	840,317	Jan. 1	1062	232	126	283
Sash holder and fastener	A. M. Brister	840,427	Jan. 1	1288	283	126	337
Sash lock. Window	S. W. Ekroos	839,828	Jan. 1	46	11	126	13
Saucepan-lid	J. W. Woolven	840,184	Jan. 1	793	173	126	213
Saw gage and jointer	J. P. Olson	840,155	Jan. 1	745	162	126	202
Saw handle. Crosscut	A. S. Patton	840,363	Jan. 1	1169	253	126	309
Saw-setting machine	H. Watkins and D. C. Dye	839,909	Jan. 1	216	47	126	61
Sawing-machine	S. J. Gray and J. Horning	840,314	Jan. 1	1054	230–1	126	282
Sawing-machine	O. C. Hoar	840,330	Jan. 1	1085	236	126	290
Sawing-machine	J. G. Pedley	840,366	Jan. 1	1172	254	126	310
Scale-recorder	F. B. Hays	839,841	Jan. 1	70	17	126	20
Seal	L. A. Foote	840,125	Jan. 1	690	147	126	188
Seal. Car-door	C. Columbus	840,434	Jan. 1	1308	288	126	342
Seat:							
See Water-closet seat.							
Seat-back for drivers' seats	R. H. Yale	839,976	Jan. 1	349	77	126	95
Selling-machine. Automatic	W. Abel	840,281	Jan. 1	992	216–17	126	267
Separator:							
See Liquid-separator. Ore-separator.							
Separator	W. M. Cook	840,301	Jan. 1	1025	224–5	126	275

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Sewage-purifying apparatus	A. Vogelsang	840,179	Jan. 1	785	171	126	211
Shade adjuster. Ball-bearing window-	J. Renner	840,373	Jan. 1	1193	261-2	126	314
Shafts. Means for indicating relative movement of parts of rotating	A. Amsler	839,803	Jan. 1	8	2	126	4
Sharpener. Knife-	B. Nichols	839,877	Jan. 1	151	35	126	43
Shaving-cup	C. W. Taylor	839,970	Jan. 1	337	74	126	62
Sheet-delivery mechanisms. Counting and collating device for	F. Waite	840,402	Jan. 1	1247	273	126	327
Sheet-metal hanger-legs. Apparatus for forming	H. T. Hallowell	839,839	Jan. 1	66	16-17	126	19
Shock-handling attachment for crop-treating machines.	J. B. Schuman	840,019	Jan. 1	445	97	126	120
Shock-loader	J. K. Sharpe, Jr	840,021	Jan. 1	453	98	126	122
Shoe-tree	W. L. C. Niles	840,008	Jan. 1	425	92	126	116
Shut-off. Automatic	T. F. Goodfellow	840,312	Jan. 1	1052	229	126	281
Shuttle-box-operating mechanism	H. Cane	839,988	Jan. 1	372	81	126	101
Signal: *See* Automatic signal. Electromagnetic signal.							
Signal	P. Marwedel	840,256	Jan. 1	1189	252	126	307
Signal apparatus	W. B. Lane	840,125	Jan. 1	709	152	126	193
Signaling apparatus. Electrical	J. D. Peachey	840,139	Jan. 1	749	163	126	203
Signaling system. Electrical	E. R. Brodton	840,426	Jan. 1	1290	284	126	338
Silk. Weighting	C. Simon	840,264	Jan. 1	958		126	260
Skid-setting gage	F. Hughes	839,922	Jan. 1	259	56	126	72
Skirt. Hoop-	M. J. Hosac	839,981	Jan. 1	258	55	126	72
Snow-thawing machine	W. Elliot	840,444	Jan. 1	1326	293-4	126	346
Soap-molding battery	F. Holoubek	840,213	Jan. 1	865	187	126	234
Sole trimming and channeling machine. Shoe-	W. E. Small and R. Campbell	839,896	Jan. 1	180	42-3	126	53
Specialist's chair	C. N. Leonard	840,248	Jan. 1	1145	248	126	304
spinning-machine top roll	W. G. Ragsdale	840,010	Jan. 1	428	93	126	116
Splice-bar	W. J. Mattern	840,074	Jan. 1	573	125	126	153
Spring: *See* Volute spring.							
Sprocket-chain	G. C. Horst	839,849	Jan. 1	87	21	126	25
Stairway. Spiral	G. Holden	839,846	Jan. 1	80	19	126	23
Stand: *See* Water-cooler stand.							
Staple blank or strip	E. T. Greenfield	839,836	Jan. 1	60	14	126	17
Staple-puller	T. J. Alsop	839,802	Jan. 1	6	2	126	4
Steel connecting-bar. Pressed-	N. McInnes	840,237	Jan. 1	909	198	126	247
Stencil-frame	J. S. Duncan	840,062	Jan. 1	518	113	126	138
Stencil-perforating device	S. Pryor	839,888	Jan. 1	171	39	126	48
Stereotype apparatus. Casting-box for	J. L. Firm	839,924	Jan. 1	247	53	126	68
Sterilizer	H. P. Bacon	839,805	Jan. 1	12	3	126	5
Storm-apron	A. J. Miller	840,081	Jan. 1	584	127	126	155
Stove	C. Ayres	839,804	Jan. 1	10	2	126	5
Street-cleaning machine	F. Ebner	839,823	Jan. 1	40	9-10	126	12
Stretcher-frame	E. McCombie	840,222	Jan. 1	900	194	126	244
Stuffing-box	M. Berecky	840,291	Jan. 1	1005	220	126	270
Sunken bodies. Apparatus for searching of	M. von Schoultz	840,013	Jan. 1	442	96	126	119
Superheating-boiler	F. Burger and H. M. Williams	839,808	Jan. 1	17	4	126	7
Surveying bore-holes. Means for	H. F. Marriott	840,148	Jan. 1	732	159	126	199
Suspenders	C. A. Murray	840,359	Jan. 1	1164	252	126	308
Switch: *See* Electric switch. Pendent switch. Telephone hook-switch.							
Switchboard-cord reel	E. B. Craft	840,200	Jan. 1	829	182	126	221
Table: *See* Dressing-table. Roller-table.							
Tachometer	F. M. Carroll	839,916	Jan. 1	233	49-50	126	64
Tank: *See* Glass-tank. Water-closet tank.							
Tank-supporting structure	A. K. Mansfield	839,942	Jan. 1	286	63	126	79
Tape-punching register	J. L. Du Frane	840,051	Jan. 1	516	112	126	138
Target-trap	J. W. Hanghawout	840,228	Jan. 1	1071	234	126	286
Telegraph. Duplex	J. W. Larish	840,002	Jan. 1	397	87	126	107
Telephone hook-switch	G. D. Foster	839,830	Jan. 1	49	11-12	126	14
Telephone system	H. G. Webster	839,910	Jan. 1	219	47	126	61
Telephone-transmitter	A. Larsson	840,009	Jan. 1	558	122	126	148
Tent-stake	N. S. Dunnington	839,822	Jan. 1	39	9	126	12
Testing device	A. M. Mattice	840,005	Jan. 1	413	89	126	112
Thermo-electric generator	W. H. Bristol	839,984	Jan. 1	363	79	126	99
Thermo-electric generator	W. H. Bristol	839,985	Jan. 1	365	80	126	100
Thermostatic apparatus	K. Rostel	840,256	Jan. 1	936	204	126	253
Thill or tongue support	L. L. Roark	840,012	Jan. 1	430	93	126	117
Thinner	W. B. Moss	840,220	Jan. 1	892	192	126	241
Threshing-machine feeder	C. D. Markey	839,865	Jan. 1	122	29-30	126	36
Threshing-machines. Automatic pitcher and self-feeder for	G. C. Wiles	840,276	Jan. 1	982	213-14	126	265
Tide-motor	J. E. Lemyre	839,860	Jan. 1	109	27	126	31
Tie: *See* Fencing-tie. Rail-tie. Railway-tie.							
Time-detector. Watchman's	J. Zausmer	840,410	Jan. 1	1260	275	126	331
Tire	G. E. Heyl-Dia	840,209	Jan. 1	860	186	126	233
Tire-releasing tool. Clencher-	J. E. Glickert and A. L. Swigert, Jr.	840,207	Jan. 1	856	185	126	232
Tires. Making shoes for pneumatic	J. W. Hyatt	840,334	Jan. 1	1022	238	126	292
Tobacco-cutting machine	L. Aptekman	840,416	Jan. 1	1266	278	126	333
Tobacco stemming and booking machine	B. McGregor	840,224	Jan. 1	902	195-7	126	244
Toy battle-ship	W. T. Wood	840,402	Jan. 1	1257	275	126	330
Toy crossbow	O. H. Sawdy	840,015	Jan. 1	438	95	126	118
Transformer	W. S. Moody	840,150	Jan. 1	735	160	126	200
Transformer. Steam-	S. Otis	840,156	Jan. 1	748	163	126	203
Trap: *See* Animal-trap. Fly-trap. Target-trap.							
Tree: *See* Pneumatic tree. Shoe-tree.							
Trestle	J. M. Normand	840,260	Jan. 1	1165	253	126	308

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Trough: *See* Feeding-trough.							
Truck. Railway-car	S. Otis	840,156	Jan. 1	746	162	126	202
Trunk	F. M. Lee	840,140	Jan. 1	718	155	126	196
Tunnel and constructing the same	R. H. Keays	839,856	Jan. 1	97	23	126	28
Tunneling through rocks	P. Ford	840,307	Jan. 1	1039	227-8	126	278
Turbine	R. H. Goldsborough	840,310	Jan. 1	1047	229	126	280
Turbine. Compound steam-	F. Burger	840,039	Jan. 1	488	106	126	132
Turbine. Elastic-fluid	R. H. Rice	840,376	Jan. 1	1202	263	126	316
Turbine. Steam-	H. P. Hill	840,457	Jan. 1	1345	298	126	351
Turbines. Diaphragm and nozzle construction for	O. Junggren	840,132	Jan. 1	703	150	126	192
Turbo-generator	J. G. Callan	840,040	Jan. 1	491	107-8	126	132
Turbo-generator	J. G. Callan	840,431	Jan. 1	1297	285-6	126	339
Turpentine-gathering receptacle	H. M. Winchester	840,181	Jan. 1	788	172	126	212
Type-bar machine	A. J. Kletzker and J. G. Goesel	840,346	Jan. 1	1113	242-7	126	297
Type-writer	G. W. Donning	840,122	Jan. 1	680	146	126	185
Type-writer attachment	J. Edwards	840,123	Jan. 1	684	146-7	126	187
Type-writer attachment	R. W. Scoggin	840,384	Jan. 1	1220	266	126	321
Type-writer. Electrical	G. W. Donning	840,121	Jan. 1	675	146	126	183
Type-writer selecting and operating means. Electrical	G. W. Donning	840,120	Jan. 1	665	144-5	126	180
Type-writer work-guide	G. W. Donning	840,119	Jan. 1	663	144	126	180
Type-writing machine	H. L. Wagner	839,908	Jan. 1	212	47	126	59
Umbrella holder. Expanded-	E. Nootbaar	840,241	Jan. 1	914	200	126	248
Umbrella-support	A. J. Adams	840,188	Jan. 1	807	177	126	215
Umbrella-support	J. C. Williams	840,406	Jan. 1	1253	274	126	329
Valve	H. Jones	839,854	Jan. 1	95	23	126	27
Valve	H. Jones	839,855	Jan. 1	96	23	126	28
Valve	A. Harkness	840,058	Jan. 1	532	116	126	141
Valve	C. D. Ballard	840,286	Jan. 1	999	218	126	269
Valve	J. H. Simms	840,388	Jan. 1	1226	268	126	322
Valve	N. C. Locke	839,862	Jan. 1	112	28	126	32
Valve. Check-	E. B. Whelan	839,912	Jan. 1	227	48	126	63
Valve. Compression and vacuum relief-	O. W. Young	840,185	Jan. 1	794	173-4	126	213
Valve. Engine-	T. F. Dexter	840,304	Jan. 1	1031	226	126	276
Valve for steam-heating systems. Automatic relief	N. W. Race	839,953	Jan. 1	308	68	126	85
Valve. Gate-	J. R. Tanner	840,174	Jan. 1	772	169	126	208
Valve. Non-return	R. H. Partridge	840,362	Jan. 1	1167	253	126	309
Vegetable matter. Apparatus for recovering products from	S. D. Maddin	840,146	Jan. 1	730	158-9	126	199
Vehicle	E. G. Hines	839,845	Jan. 1	79	19	126	23
Vehicle-body support	J. Hage	839,838	Jan. 1	65	15	126	19
Vehicle-footboard. Adjustable	F. E. Wilcox	839,913	Jan. 1	228	49	126	63
Vehicle-gear	W. T. Adams and J. R. Divens	840,283	Jan. 1	996	217	126	268
Vehicle. Pleasure-	W. M. Hoag and M. H. Krieger	839,929	Jan. 1	256	55	126	78
Vehicle-runner	G. Diezemann	840,049	Jan. 1	511	111	126	136
Vehicle suspension device	J. Vierling	840,272	Jan. 1	968	211	126	261
Vending-machine	F. N. Morey	839,868	Jan. 1	128	31-2	126	37
Veneer drying and straightening machine	F. L. Hargreaves	840,321	Jan. 1	1069	233	126	285
Ventilator	H. Paton	839,950	Jan. 1	304	67	126	84
Vessel-cover and liquid-shaker	M. Savidge	840,380	Jan. 1	1211	264	126	318
Veterinary forceps	A. Stucki	840,027	Jan. 1	466	101	126	126
Volute spring	C. M. Warner	839,975	Jan. 1	344	76-7	126	94
Voting-machine	E. E. Bullock	839,986	Jan. 1	369	80	126	101
Wagon. Boulevard and speed	N. C. Bassett	840,423	Jan. 1	1281	281-2	126	336
Wagon brake. Transfer-	R. M. Wilson	840,407	Jan. 1	1254	274-5	126	329
Wagon. Dumping-	E. E. Rothacher	839,961	Jan. 1	322	71	126	89
Wagon-loader	N. C. Bassett	840,422	Jan. 1	1278	280-1	126	335
Wagon. Transfer-	A. T. Lewis	840,071	Jan. 1	562	122	126	149
Wall brace or tie	W. E. De Lhorbe	839,818	Jan. 1	34	8	126	10
Walls. Collapsible core for plastic building-	W. E. De Lhorbe	839,819	Jan. 1	35	9	126	11
Walls. Form for plastic building-	W. S. S. Rodgers	840,161	Jan. 1	753	164	126	204
Washing-machine wringer-support	A. A. Stenhouse	840,096	Jan. 1	610	132	126	161
Watchcase-pendant	C. Willms	840,032	Jan. 1	474	103-4	126	128
Water-closet seat	F. W. Kingsbury	840,342	Jan. 1	1106	241	126	295
Water-closet seat	F. W. Kingsbury	840,341	Jan. 1	1105	240	126	295
Water-closet tank	J. C. Hylton	840,130	Jan. 1	701	150	126	191
Water-cooler stand. Collapsible	W. Kane	840,220	Jan. 1	875	189-90	126	237
Water-heater	P. G. Griffith	839,926	Jan. 1	252	54	126	70
Water or other liquids. Effecting the destruction of pathogenic organisms in	J. A. Hyle	840,335	Jan. 1	1096	238	126	293
Water purifying and filtering apparatus. Electric	F. Z. Sherer	840,093	Jan. 1	604	131	126	150
Water-tube boiler	F. Starr	840,460	Jan. 1	1353	299-300	126	352
Wave-motor	E. F. Cameron	839,810	Jan. 1	21	5	126	8
Weed-exterminator	A. McRae	839,875	Jan. 1	148	34-5	126	43
Weeder	J. W. Rhoades	840,374	Jan. 1	1196	262	126	314
Well jack. Oil-							
Wheel: *See* Painter's striping and stenciling wheel.							
Whiffletree-hook	J. McClelland	840,152	Jan. 1	741	161	126	201
Windmill	M. V. Hartong	840,208	Jan. 1	858	185	126	233
Windmill	R. L. Longley	840,458	Jan. 1	1348	299	126	351
Wire-stretcher	A. Miller	840,089	Jan. 1	583	126	126	155
Wires or filaments. Making refractory metallic	H. C. Parker and W. G. Clark	840,246	Jan. 1	921	202	126	250
Woodworking-machine	F. W. Greene	840,315	Jan. 1	1057	231	126	282
Wrench	J. W. Hilelscher	840,329	Jan. 1	1084	236	126	290
Wrench	R. H. Anderson	840,415	Jan. 1	1268	277	126	332
Writing-machine	E. B. Hess	839,995	Jan. 1	381	83	126	103

DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Advertising-stand	H. E. Ellsworth	39,205	Jan. 1	126	354
Belt	M. Isenstein	39,208	Jan. 1	126	354
Buckles. Bale for trace-	A. Mudra	39,209	Jan. 1	126	353
Fabric. Knit	E. H. Brown	39,207	Jan. 1	126	354
Frame	G. H. Rice	39,206	Jan. 1	126	353
Frame	G. H. Rice	39,204	Jan. 1	126	353
Rug	H. C. White	39,203	Jan. 1	126	354
Shield	W. C. Codman	39,201	Jan. 1	126	353

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Accordions and concertinas	Lyon & Healy	59,200	Jan. 1	126	382
Albumen compound containing phosphorus	Farbwerke vorm. Meister Lucius & Brüning.	59,250	Jan. 1	126	384
Ale. Ginger-	Read Brothers	59,140	Jan. 1	126	380
Antiseptic	Farbwerke vorm. Meister Lucius & Brüning.	59,185	Jan. 1	126	381
Antiseptic germicidal liquid	G. H. Koch	59,186	Jan. 1	126	382
Antiseptic preparation	Les Etablissements Poulenc Frères.	59,266	Jan. 1	126	382
Axes	Georges Worthington Company	59,037	Jan. 1	126	377
Baking-powder	Southern Manufacturing Co	59,210	Jan. 1	126	382
Baking-powder	Southern Manufacturing Co	59,211	Jan. 1	126	382
Beef oil or fat	Schwarzschild & Sulzberger Company.	59,207	Jan. 1	126	384
Belt dressings. Machine-	Atlas Specialty Company	59,082	Jan. 1	126	378
Beverages. Certain	Hygeia Distilled Water Company	59,203	Jan. 1	126	383
Beverages. Certain	Hygeia Distilled Water Company	59,204	Jan. 1	126	383
Bevorages containing caffein. Non-alcoholic	Yermeth-Compagnie Leader & Co.	59,205	Jan. 1	126	383
Biscuits and cakes	Tacoma Biscuit and Candy Company.	59,180	Jan. 1	126	384
Blood-purifier	G. G. Sanchez	59,276	Jan. 1	126	384
Blue. Laundry	N. Thestrup	59,213	Jan. 1	126	382
Boiler compound. Vegetable	Canton Paint & Varnish Company.	59,206	Jan. 1	126	384
Boot and shoe heel-plates. Metal	L. Sacks	59,041	Jan. 1	126	377
Boot and shoe polish	M. J. McCormack	59,071	Jan. 1	126	378
Boots and shoes. Leather	A. W. Tedcastle & Co	59,075	Jan. 1	126	378
Boots and shoes. Leather	W. W. Spaulding & Co	59,123	Jan. 1	126	380
Bottle-stoppers. Metallic cork-lined	Crown Cork & Seal Company	59,031	Jan. 1	126	377
Bread. Comminuted, desiccated	H. Taylor	59,201	Jan. 1	126	384
Brewers' pitch	Busch-Freund Brewers' Supply Co.	59,249	Jan. 1	126	383
Butter	Chas. W. Rudd & Son	59,120	Jan. 1	126	380
Butter	G. W. Linn & Son	59,190	Jan. 1	126	382
Butter	Conover Creamery Co	59,222	Jan. 1	126	382
Buttons. Collar and cuff	C. N. Allen & Co	59,045	Jan. 1	126	377
Cacaoe, chocolate, and preparations thereof	A. & W. Lindt	59,220	Jan. 1	126	382
Calf. Chrome-tanned	Beckwith & Niteman Bros	59,135	Jan. 1	126	380
Canned beans	H. von Glahn & Son	59,133	Jan. 1	126	378
Canned corn	H. von Glahn & Son	59,132	Jan. 1	126	380
Canned peas	H. von Glahn & Son	59,131	Jan. 1	126	379
Canned tomatoes, corn, peas, and beans	Kokomo Canning Co	59,065	Jan. 1	126	380
Carbons and carbon brushes. Battery and electric-lamp	L. E. Frorup	59,139	Jan. 1	126	380
Carbureters for gas and gasoleme engines	Speed Changing Pulley Co	59,144	Jan. 1	126	380
Cards. Playing-	United States Playing Card Company.	59,044	Jan. 1	126	378
Cards. Playing-	New York Consolidated Card Company.	59,137	Jan. 1	126	380
Carpets and rugs	M. J. Whittall	59,264	Jan. 1	126	384
Cathartics	Dr. Bayer és Társa	59,270	Jan. 1	126	384
Chemical compound. Certain	Mergenthaler Linotype Co	59,264	Jan. 1	126	383
Chemicals. Certain named	Chemische Fabrik auf Actien (vorm E. Schering).	59,094	Jan. 1	126	379
Chiffon	Benedictus, Weill & Company	59,183	Jan. 1	126	380
Chocolate and cocoa	Société Anonyme des Chocolats de Montreux, Séchand & Fils.	59,110	Jan. 1	126	379
Chocolate and cocoa	Pennsylvania Chocolate Company	59,271	Jan. 1	126	384
Chocolate creams and candy	Joseph B. Funke Company	59,268	Jan. 1	126	383
Cigars	G. D. Jones	59,035	Jan. 1	126	378
Cigars	Wertheimer Bros	59,079	Jan. 1	126	378
Cigars	Niles & Moser	59,262	Jan. 1	126	383
Cigars, cheroots, and all-tobacco cigarettes	Suesskind Schatz Co	59,172	Jan. 1	126	381
Cleaning compounds	White & Bagley Co	59,188	Jan. 1	126	380
Clothing. Certain named	Stahl-Urban & Co	59,173	Jan. 1	126	381
Coffee	C. F. Blanke Tea & Coffee Co	59,182	Jan. 1	126	381
Collars and cuffs	Hall, Hartwell & Co	59,184	Jan. 1	126	379
Confectionery-flavoring materials	Puritan Drug Company	59,274	Jan. 1	126	384

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Corsets	Kabo Corset Company	59,164	Jan. 1	126	381
Cotton piece goods	Arnhold, Karberg & Co	59,056	Jan. 1	126	378
Cotton piece goods	G. Willis & Co	59,300	Jan. 1	126	384
Cream. Massage-	Iron City Chemical Co	59,255	Jan. 1	126	383
Dental engines and lathes and brackets therefor	Ritter Dental Mfg. Co	59,087	Jan. 1	126	379
Dictionaries	G. & C. Merriam Co	59,130	Jan. 1	126	380
Dictionaries	G. & C. Merriam Co	59,189	Jan. 1	126	381
Dictionaries	G. & C. Merriam Co	59,193	Jan. 1	126	382
Dictionaries	G. & C. Merriam Co	59,224	Jan. 1	126	382
Dictionaries	G. & C. Merriam Co	59,187	Jan. 1	126	381
Dictionaries and reference-manuals	G. & C. Merriam Co	59,188	Jan. 1	126	381
Dictionaries and reference-manuals	G. & C. Merriam Co	59,190	Jan. 1	126	381
Dictionaries and reference-manuals	G. & C. Merriam Co	59,191	Jan. 1	126	381
Dictionaries and reference-manuals	G. & C. Merriam Co	59,192	Jan. 1	126	382
Drawing instruments, compasses, T-squares, &c. Metallic	E. G. Soltmann	59,042	Jan. 1	126	377
Drawing-tables and sliding-rests	R. G. Manning	59,036	Jan. 1	126	377
Effervescent salts	J. A. Smith	59,205	Jan. 1	126	382
Eyeglass and spectacle lenses	F. A. Hardy & Co	59,128	Jan. 1	126	380
Fabrics. Certain textile	A. G. Hyde & Sons	59,112	Jan. 1	126	379
Fabrics. Certain textile	A. G. Hyde & Sons	59,113	Jan. 1	126	379
Fabrics. Certain textile	A. G. Hyde & Sons	59,114	Jan. 1	126	379
Felt. Roofing-	S. Cabot	59,083	Jan. 1	126	379
Films and card-reels	American Mutoscope and Biograph Company.	59,124	Jan. 1	126	380
Fireworks. Hand stick-	E. H. Wagner	59,149	Jan. 1	126	380
Fish-lines	Ashaway Line & Twine Mfg. Co	59,016	Jan. 1	126	377
Flavoring extracts	Schlotterbeck & Foss Co	59,088	Jan. 1	126	379
Flour and macaroni. Wheat-	Zarnits Brothers Grocery Company.	59,216	Jan. 1	126	382
Flour made from toasted corn	F. S. & F. D. Larabee	59,259	Jan. 1	126	383
Flour. Wheat-	Cairo Milling Co	59,157	Jan. 1	126	381
Flour. Wheat-	Schwabacher Bros. & Co	59,232	Jan. 1	126	383
Food. Cereal-wheat breakfast	F. T. Van Strum	59,214	Jan. 1	126	382
Food. Cereal-wheat breakfast	F. T. Van Strum	59,215	Jan. 1	125	382
Food composed of grain and molasses. Stock	Coakley & Meader	59,219	Jan. 1	126	382
Foods. Certain cereal	Sprague, Warner & Company	59,235	Jan. 1	126	383
Foods for infants and invalids. Prepared	Wells & Richardson Company	59,091	Jan. 1	126	379
Foods. Stock and poultry	Alfalfa Products Company	59,081	Jan. 1	126	378
Fruits and crystallised ginger. Glazed	Griggs, Cooper & Company	59,194	Jan. 1	126	382
Furniture-polish	T. B. Peirce	59,038	Jan. 1	126	377
Garters	Howes & Potter	59,227	Jan. 1	126	382
Gas. Capsules and containers for compressed or liquefied	AArators Limited	59,014	Jan. 1	126	377
Gloves. Silk	Gloversville Silk Mills	59,063	Jan. 1	126	378
Gloves. Workingmen's leather	Detroit Leather Specialty Co	59,247	Jan. 1	126	383
Graphite	Joseph Dixon Crucible Company	59,029	Jan. 1	126	377
Greases, lubricating-oils, and mixtures	Ironsides Company	59,050	Jan. 1	126	378
Gum. Chewing-	F. M. Switzer	59,146	Jan. 1	126	380
Gum. Chewing-	Everybody's Gum Co	59,184	Jan. 1	126	381
Gum. Chewing-	D. Norris	59,230	Jan. 1	126	382
Gun-grease	Winchester Repeating Arms Co	59,080	Jan. 1	126	378
Guns and parts therefor. Shot-	Charles Parker Co	59,018	Jan. 1	126	377
Guns and parts therefor. Shot-	Charles Parker Co	59,019	Jan. 1	126	377
Guns and parts therefor. Shot-	Charles Parker Co	59,020	Jan. 1	126	377
Hair curlers, crimpers, and waversa	Magic Curler Company	59,070	Jan. 1	126	378
Hair-pins. Metal	S. Beaumont & Fils	59,017	Jan. 1	126	377
Hair-tonic	R. B. Bennett	59,241	Jan. 1	126	383
Hair-tonic	J. L. Maughan	59,262	Jan. 1	126	383
Hair-tonics	E. M. Steibel	59,279	Jan. 1	126	384
Hamamelis. Distilled extract of	Pond's Extract Company	59,203	Jan. 1	126	382
Hams, shoulders, sides, and bacon	P. G. Cromwell	59,097	Jan. 1	126	379
Handkerchiefs	New Jersey Handkerchief Company.	59,115	Jan. 1	126	379
Handkerchiefs	New Jersey Handkerchief Company.	59,167	Jan. 1	126	381
Hats and caps. Stiff and soft	H. H. Roelofs	59,073	Jan. 1	126	378
Hosiery	North Texas Dry Goods Company	59,269	Jan. 1	126	383
Insecticide	A. Schulz	59,276	Jan. 1	126	384
Instep-supporters	Arrowsmith Manufacturing Company.	59,057	Jan. 1	126	378
Insulated wires and cables	Chicago Insulated Wire and Manufacturing Company.	59,039	Jan. 1	126	378
Iron and silica briquets	Bosnische Elektricitaets-Actiengesellschaft.	59,181	Jan. 1	126	381
Jar rubbers. Fruit-	W. H. Schaefer	59,169	Jan. 1	126	381
Knit goods. Certain	G. C. Pratt	59,072	Jan. 1	126	378
Knit goods in the piece	French & Ward	59,062	Jan. 1	126	378
Knitted and netted underwear	Rice, Stix Dry Goods Company	59,231	Jan. 1	126	383
Knitted underskirts and drawers	Flavell Bros	59,090	Jan. 1	126	378
Knitting machinery and parts thereof	Tompkins Bros. Co	59,076	Jan. 1	126	378
Knives, axes, hatchets, adzes, shears, and planes	Hammacher, Dellus & Co	59,028	Jan. 1	126	377
Koji, moyashi, diastase, ferments, and converting agents	J. Takamine	59,212	Jan. 1	126	382
Lamps and lanterns. Oil-burning	R. E. Dietz Company	59,138	Jan. 1	126	380
Lamps and lanterns. Oil-burning tubular	R. E. Dietz Company	59,139	Jan. 1	126	380
Laxative tablets	J. Peterson	59,272	Jan. 1	126	384
Leather blacking and dressing	F. E. Fennessy	59,162	Jan. 1	126	381
Leather blacking and dressing	F. E. Fennessy	59,249	Jan. 1	126	383
Leather. Sheep and goat	A. B. Clark Company	59,092	Jan. 1	126	379
Ledgers. Loose-leaf	F. W. Briggs	59,093	Jan. 1	126	379
Ledgers. Loose-leaf	Marshall-Jackson Company	59,261	Jan. 1	126	383
Liniment	Garfield Tea Co	59,225	Jan. 1	126	382
Liniment	J. Moore	59,256	Jan. 1	126	383

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Liqueur	Schaltin & Cie	59,051	Jan. 1	126	378
Machines. Certain named	Enterprise Manufacturing Company.	59,023	Jan. 1	126	377
Machines. Certain named	Toledo Machine & Tool Co	59,147	Jan. 1	126	380
Magazines	Black Diamond Co	59,164	Jan. 1	126	380
Mattresses	E. K. Jacobs	59,106	Jan. 1	126	379
Meats. Cured, smoked, and canned	Cudahy Packing Company	59,088	Jan. 1	126	379
Medicated tonic and invigorator for poultry	Shenandoah Poultry Food Co	59,277	Jan. 1	126	384
Medicinal and surgical lubricants	Parmele Pharmacal Company	59,103	Jan. 1	126	381
Medicinal oil	C. D. Tilly	59,223	Jan. 1	126	384
Medicinal preparation	Tilden Company	59,299	Jan. 1	126	384
Medicine. Certain named	Farbwerke vorm. Meister Lucius & Brüning.	59,161	Jan. 1	126	381
Medicine. Certain named	F. Combemale	59,245	Jan. 1	126	383
Medicine for certain named diseases	F. P. Cady	59,244	Jan. 1	126	383
Medicines. Certain named	J. S. Burton	59,242	Jan. 1	126	383
Medicines. Certain named	San Antonio Drug Co	59,296	Jan. 1	126	384
Medicines. Tonic, alterative, laxative, and diuretic	Wells & Richardson Company	59,175	Jan. 1	126	381
Metal-polishes	Dazzle Manufacturing Company	59,127	Jan. 1	126	380
Milk. Nursing and dietary	Nutricia Milk Company	59,267	Jan. 1	126	384
Molasses	C. E. Coe	59,220	Jan. 1	126	382
Molasses	C. E. Coe	59,221	Jan. 1	126	382
Music-wire. Steel	Lyon & Healy	59,165	Jan. 1	126	381
Naphtha, benzin, and gasolene	Standard Oil Co. of New York	59,053	Jan. 1	126	378
Newspapers. Daily	Evening News Publishing Co. of Baltimore City.	59,223	Jan. 1	126	382
Oil. Lubricating-	L. Mendel	59,201	Jan. 1	126	382
Oil. Olive-	Chaffard & Coudere	59,058	Jan. 1	126	378
Oil. Olive-	Griggs, Cooper & Company	59,133	Jan. 1	126	380
Oil. Salad-	J. P. Smith & Company	59,206	Jan. 1	126	382
Oil. Salad-	J. P. Smith & Company	59,207	Jan. 1	126	382
Oils. Cotton-seed	Southern Cotton Oil Company	59,118	Jan. 1	126	379
Oils. Cotton-seed	Southern Cotton Oil Company	59,119	Jan. 1	126	379
Oils. Cotton-seed	Southern Cotton Oil Company	59,120	Jan. 1	126	380
Oils. Cotton-seed	Southern Cotton Oil Company	59,121	Jan. 1	126	380
Ointment	W. H. Server	59,122	Jan. 1	126	380
Ointment for skin diseases	Kirby Chemical Company	59,298	Jan. 1	126	384
Oxygen and peroxid of hydrogen. Products for the production of	Société l'Oxylithe	59,202	Jan. 1	126	384
Packing. Steam and pressure	I. X. L. Steam Packing Manufacturing Co.	59,208	Jan. 1	126	382
Paints and painters' materials. Certain named	Foy Paint & Glass Co	59,105	Jan. 1	126	379
Pants, coats, vests, and overalls	H. R. Stoepel	59,061	Jan. 1	126	378
Paper and cardboard. Certain named	Mittineague Paper Company	59,145	Jan. 1	126	380
Paper. Drawing and tracing	E. G. Soltmann	59,166	Jan. 1	126	381
Paper. Fine writing-	Whiting Paper Company	59,171	Jan. 1	126	381
Paper. Toilet-	Scott Paper Co	59,176	Jan. 1	126	381
Paper. Toilet-	Scott Paper Co	59,074	Jan. 1	126	378
Paper Toilet-	Scott Paper Co	59,233	Jan. 1	126	383
Paper. Tracing-	E. G. Soltmann	59,234	Jan. 1	126	383
Pegs. Wooden	Kearsarge Peg Company	59,170	Jan. 1	126	381
Pens. Steel	M. Voorsanger	59,257	Jan. 1	126	383
Perfumes, &c., and certain named toilet preparations	Lazell, Dalley & Co	59,111	Jan. 1	126	379
Photographic plates	G. Cramer Dry Plate Co	59,260	Jan. 1	126	383
Pianos	E. G. Harrington & Company	59,024	Jan. 1	126	377
Pianos	A. L. Creed	59,100	Jan. 1	126	379
Pianos	Hardman, Peck & Company	59,139	Jan. 1	126	381
Pickles and chow-chow	Griggs, Cooper & Company	59,168	Jan. 1	126	381
Piece goods or cloths	J. Lonke	59,103	Jan. 1	126	379
Pineapple and sugar. Combination of	Tropic Fruit Company	59,099	Jan. 1	126	376
Pineapple-juice. Sweetened	Tropic Fruit Company	59,078	Jan. 1	126	378
Pipe and solderless couplings and plumbers' tacks	Modern Improvements Mfg. Co	59,146	Jan. 1	126	380
Poisons for exterminating vermin	Oriental Comp	59,085	Jan. 1	126	377
Powder. Stomachic	P. F. W. Barella	59,270	Jan. 1	126	384
Powder. Toilet	Amolin Chemical Company	59,180	Jan. 1	126	381
Powder. Tooth-	S. H. Gunder	59,178	Jan. 1	126	381
Powder. Tooth-	S. H. Gunder	59,260	Jan. 1	126	383
Powder. Tooth, foot, and borated talcum	J. C. Allen	59,251	Jan. 1	126	383
Propeller-wheels for vessels	C. E. Hyde	59,177	Jan. 1	126	381
Purses. Leather	A. & E. Leather Goods Co	59,064	Jan. 1	126	378
Remedies. Certain named	M. F. Adleman	59,217	Jan. 1	126	382
Remedies. Dyspepsia	Mother Seigel's Syrup Company	59,288	Jan. 1	126	384
Remedies for certain named diseases	Wells & Richardson Company	59,294	Jan. 1	126	384
Remedies for diseases peculiar to infants and teething children	J. A House Medicine Co	59,174	Jan. 1	126	381
Remedies in tablet form. Internal headache	Neuralgyline Company	59,252	Jan. 1	126	383
Remedies. Poultry	J. M. Keisch	59,267	Jan. 1	126	383
Remedy for certain named diseases	Farbwerke vorm. Meister Lucius & Brüning.	59,238	Jan. 1	126	383
Remedy for certain named diseases	Aschenbach & Miller	59,160	Jan. 1	126	381
Remedy for certain named diseases	Calmetto Company	59,179	Jan. 1	126	381
Remedy for fever and whooping-cough	Farbwerke vorm. Meister Lucius & Brüning.	59,245	Jan. 1	126	383
Remedy for indigestion	Glycosine Phosphate Co	59,186	Jan. 1	126	381
Rings. Finger-	Allsopp Bros	59,289	Jan. 1	126	384
Roofing material of composition or cement	Sparham-Fireproof Roofing Cement Comp'y.	59,065	Jan. 1	126	378
Roofing. Ready tar and felt	Warren Chemical & Manufacturing Company.	59,143	Jan. 1	126	380
Rubber and composition belting, hose, and machinery packing	Boston Belting Company	59,045	Jan. 1	126	378
Rubber and composition belting, hose, and machinery packing	Boston Belting Company	59,155	Jan. 1	126	380
		59,156	Jan. 1	126	381

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Rubber belting, hose, and machinery packing	Peerless Rubber Manufacturing Company.	59,107	Jan. 1	126	379
Rubber belting, hose, and machinery packing	Peerless Rubber Manufacturing Company.	59,108	Jan. 1	126	379
Rubber boots and shoes	W. McKittrick	59,135	Jan. 1	126	380
Rubber boots and shoes	Hood Rubber Co	59,196	Jan. 1	126	382
Salve	J. Horn	59,197	Jan. 1	126	382
Sausages	W. H. Easton & Co	59,101	Jan. 1	126	379
Scarfs. Women's	W. Trevor	59,077	Jan. 1	126	378
Seeding-machines	Campbell Corn Drill Co	59,125	Jan. 1	126	380
Seeds for agricultural and horticultural purposes	Sutton & Sons	59,236	Jan. 1	126	383
Sewing, crochet, embroidery, and knitting cotton	Clark & Co	59,158	Jan. 1	126	381
Shoes. Leather	Augustus Wright Company	59,240	Jan. 1	126	383
Shoes. Leather	W. R. and Auburn Lynn Shoes Co.	59,283	Jan. 1	126	384
Shovels and spades	George Worthington Company	59,026	Jan. 1	126	377
Shovels, scoops, and spades	George Worthington Company	59,025	Jan. 1	126	377
Silks. Dress-	Norfolk Silk Company	59,116	Jan. 1	126	379
Silverware. Imitation	International Silver Company	59,049	Jan. 1	126	378
Soap	Lever Brothers Company	59,030	Jan. 1	126	377
Soap	Lever Brothers Company	59,031	Jan. 1	126	377
Soap	Lever Brothers Company	59,032	Jan. 1	126	377
Soap	Lever Brothers Company	59,033	Jan. 1	126	377
Soap	Lever Brothers Company	59,034	Jan. 1	126	377
Soap	J. F. G. de Roussy de Sales	59,040	Jan. 1	126	377
Soap	Colgate & Co	59,047	Jan. 1	126	378
Soap	Southern Cotton Oil Company	59,141	Jan. 1	126	380
Soap	Southern Cotton Oil Company	59,142	Jan. 1	126	380
Soap	Southern Cotton Oil Company	59,209	Jan. 1	126	382
Soap. Laundry	Standard Soap Co	59,043	Jan. 1	126	377
Soap-powder	Cudahy Packing Company	59,183	Jan. 1	126	381
Soda and saleratus	Church & Dwight Company	59,096	Jan. 1	126	379
Soda, saleratus, and baking-powder. Baking-	Church & Dwight	59,095	Jan. 1	126	379
Specific for eczema	E. Moreau	59,265	Jan. 1	126	383
Spectacle and eyeglass lenses	W. W. Bissell	59,218	Jan. 1	126	382
Spices. Ground and whole	New Orleans Import Company	59,086	Jan. 1	126	379
Squares. Mechanics'	F. G. Breul	59,046	Jan. 1	126	378
Sugar	Postum Cereal Co	59,204	Jan. 1	126	382
Suppositories	W. S. Richardson	59,295	Jan. 1	126	384
Suppositories. Vaginal	G. H. Koch	59,293	Jan. 1	126	384
Suspenders	A. D. Lobel	59,067	Jan. 1	126	378
Tarry coating for roads, &c	Barrett Manufacturing Company	59,151	Jan. 1	126	380
Tea and coffee substitutes. Cereal	J. H. Shetter	59,278	Jan. 1	126	384
Teas	Griggs, Cooper & Company	59,102	Jan. 1	126	379
Teas	Griggs, Cooper & Company	59,195	Jan. 1	126	382
Tin and terne plate	N. & G. Taylor Co	59,054	Jan. 1	126	378
Tobacco. Chewing-	A. Schroer Tobacco Co	59,239	Jan. 1	126	383
Tobacco-flavoring extracts	F. P. Dengler	59,099	Jan. 1	126	379
Tobies or stogies	W. A. Springer	59,089	Jan. 1	126	379
Toilet preparations. Certain	Pompeian Mfg. Co	59,202	Jan. 1	126	382
Tonic and reconstructive	Ferromannin Chemical Co	59,291	Jan. 1	126	384
Tonics	T. M. Walsh	59,237	Jan. 1	126	383
Tonics and remedies for dyspepsia, &c	R. Preissler	59,273	Jan. 1	126	384
Tools. Combination-	National Hatchet Company	59,037	Jan. 1	126	377
Varnish and stains	Eagle Paint & Varnish Co	59,022	Jan. 1	126	377
Vases, mugs, tankards, and clock-cases	Owen China Company	59,117	Jan. 1	126	379
Vitreous slabs or plates	Pressed Prism Plate Glass Company.	59,109	Jan. 1	126	379
Washing compound	I. Myers	59,136	Jan. 1	126	380
Waters. Table-	Equinox Company	59,248	Jan. 1	126	383
Weaners. Calf-	J. E. Griffith	59,048	Jan. 1	126	378
Well-drilling machines	G. D. Loomis	59,069	Jan. 1	126	378
Whisky	W. L. Perkins & Co	59,039	Jan. 1	126	377
Whisky	J. Shapiro	59,052	Jan. 1	126	378
Whisky	F. W. Hunt & Co	59,084	Jan. 1	126	379
Whisky	J. Livelar & Co	59,085	Jan. 1	126	379
Worsted, woolen, and cotton-mixed piece goods	Griffon Company	59,226	Jan. 1	126	382
Wrenches and thread cutters or trimmers. Combined	Hawkeye Wrench Company	59,134	Jan. 1	126	380

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Blood of the Grape Champagne." (For Non-Intoxicating Beverages.)	Wilson Fruit Juice Co	13,299	Jan. 1	126	385
"Clover Glen." (For Butter)	G. A. Barber	13,301	Jan. 1	126	385
"Coca-Cola." (For a Non-Alcoholic Beverage)	Coca Cola Co	13,298	Jan. 1	126	385
"Golden Top." (For Ginger-Ale)	American Bottling Co	13,297	Jan. 1	126	385
"Russell's Club Mogul." (For Playing-Cards)	Willis W. Russell Card Co	13,302	Jan. 1	126	385
"Western Reserve Maple Syrup." (For Maple-Syrup)	Western Reserve Syrup Co	13,296	Jan. 1	126	385

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Ground Shells or Hens' Teeth." (For Ground Shell)	Long Beach Milling Company	1,878	Jan. 1	126	385
"Martha Washington Back, Congress Playing Cards." (For Playing-Cards.)	United States Playing Card Company.	1,876	Jan. 1	126	385
"Men's and Boys' Apparel." (For Men's and Boys' Apparel)	H. C. Lytton	1,877	Jan. 1	126	385
"Satisfied." (For Coca-Cola)	S. L. Whitten	1,874	Jan. 1	126	385
"Temptation." (For Liquors)	Meyercord Company	1,875	Jan. 1	126	385

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Ale. Ginger-	A. W. Kaye	22,651	Jan. 1	126	366
Ale. Ginger-	Rainbow Ale Company	22,518	Jan. 1	126	373
Ale, soda-water, and sarsaparilla. Ginger-	Cochran & Co	21,894	Jan. 1	126	363
Ammonia. Aqua-	Columbia Chemical Works	12,882	Jan. 1	126	359
Anesthetic preparations for hypodermic injections	New Brunswick Chemical Co	23,038	Jan. 1	126	366
Antiseptic, germicide, and astringent powders	Prophylactol Company	22,460	Jan. 1	126	364
Beer	Dick and Brothers Quincy Brewery.	21,908	Jan. 1	126	363
Beer	Dobler Brewing Co	21,923	Jan. 1	126	364
Beer. Lager-	V. Neustadtl	22,542	Jan. 1	126	364
Bells, except electric bells	Peter Schoenhofen Brewing Company.	23,453	Jan. 1	126	371
Blasting-machines and electric batteries	New Departure Manufacturing Company.	20,021-23	Jan. 1	126	360
Blasting-machines and electric batteries	Eastern Dynamite Company	21,514	Jan. 1	126	363
Boots and shoes. Leather	Eastern Dynamite Company	21,469	Jan. 1	126	363
Boots and shoes. Leather	Williams Hoyt & Co	23,173	Jan. 1	126	367
Boots and shoes made in whole or in part of leather	Brennan & White	23,023	Jan. 1	126	374
Boots, shoes, and slippers. Ladies' leather	A. E. Little & Company	23,496	Jan. 1	126	372
Boots, shoes, and slippers. Leather	T. H. Maxwell	23,510	Jan. 1	126	374
Boots, shoes, and slippers. Leather	Slater Shoe Company	21,290	Jan. 1	126	362
Boots, shoes, and slippers. Leather	Rapp Shoe Company	23,264	Jan. 1	126	371
Bottle-stoppers. Metallic	Paul Brothers	23,057-60	Jan. 1	126	374
Bricks or blocks. Building	New York Specialty Co	22,380	Jan. 1	126	364
Bronze	Ohio Mining and Manufacturing Co.	23,380	Jan. 1	126	370
Butter	National-Fulton Brass Manufacturing Company.	21,894	Jan. 1	126	362
Butter, milk, and cheese	H. M. De Witt	15,098	Jan. 1	126	359
Candies	W. S. Moore & Co	22,526	Jan. 1	126	376
Canned and preserved fruits and vegetables	R. U. Delapenha & Co	22,520	Jan. 1	126	374
Canned frozen oysters. Fresh	Gordon & Dilworth	22,488	Jan. 1	126	365
Canned vegetables	Morgan Oyster Company	12,883	Jan. 1	126	358
Cards. Playing-	Nininger & Frants	23,418	Jan. 1	126	371
	New York Consolidated Card Company.	23,670-3	Jan. 1	126	375
Cement. Pipe-joint	F. H. Pough	22,2004	Jan. 1	126	370
Cement. Portland	National Fire Proofing Company.	21,890	Jan. 1	126	363
Champagnes	Lanson Père & Fils	21,897	Jan. 1	126	363
Cigarettes	J. F. Lazarakis	23,268	Jan. 1	126	370
Coal	Berwind White Coal Mining Company.	23,714	Jan. 1	126	375
Coal, ore, &c. Storage and conveying apparatus for	Dodge Coal Storage Company	23,444	Jan. 1	126	371
Coats, slickers, jackets, pants, capes, &c. Waterproof	H. M. Sawyer & Son	7,098-109	Jan. 1	126	356
Coffee	Dadabhoy & Co	17,286	Jan. 1	126	360
Coffee	Sprague, Warner & Company	23,227	Jan. 1	126	371
Compounds to be used in connection with rheumatism, uric-acid, kidney, and bladder diseases.	Kargon Extracting Co	23,536	Jan. 1	126	373
Cornmeal	J. R. Thomas' Sons	20,452	Jan. 1	126	361
Cotton cheviots for shirtings	J. Connelly & Sons	19,452	Jan. 1	126	360
Cotton piece goods	Arnhold, Karberg & Co	14,268	Jan. 1	126	359
Cotton piece goods	Arnhold, Karberg & Co	14,272	Jan. 1	126	359
Cotton. Raw	Reagan Round Bale Co	20,520	Jan. 1	126	361
Countersinks, machine-bits, mandrels, twist-drills, &c	Whitman & Barnes Manufacturing Company.	14,098	Jan. 1	126	359
Cream. Cold-	Daggett & Ramadell	23,428	Jan. 1	126	364
Cure for chapped hands and lips or other roughness of the skin.	Shirey & Brown	23,293	Jan. 1	126	370
Dentifrices	Hall & Ruckel	23,488	Jan. 1	126	374
Dress-shields	Austin-Walker M'f'g Co	23,510	Jan. 1	126	373
Dyes, disinfectants, food-preservatives, &c. Coal-tar	Continental Color and Chemical Co.	23,312	Jan. 1	126	370
Dyestuffs	H. A. Metz & Co	14,076	Jan. 1	126	359
Dyestuffs	H. A. Metz & Co	14,078	Jan. 1	126	359
Elastic webbing	Narrow Fabric Corporation	23,070-1	Jan. 1	126	366
Explosives and fuses. High	Eastern Dynamite Company	21,395	Jan. 1	126	363
Explosives. High	Eastern Dynamite Company	21,089	Jan. 1	126	362

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(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Explosives. High	Eastern Dynamite Company	21,396	Jan. 1	126	362
Explosives. High	Eastern Dynamite Company	21,401	Jan. 1	126	362
Eyeglass and spectacle lenses	A. Martin Inc	20,599	Jan. 1	126	361
Feed-grinders	Spartan Manufacturing Co	23,367	Jan. 1	126	371
Fertilizers	Virginia-Carolina Chemical Company.	17,541	Jan. 1	126	360
Fertilizers	Virginia-Carolina Chemical Company.	17,831	Jan. 1	126	360
Fertilizers	New Orleans Acid and Fertilizer Company.	23,477-9	Jan. 1	126	372
Filters	T. W. Goreau	23,556	Jan. 1	126	373
Fire-extinguishers. Chemical	J. H. Clay	22,923	Jan. 1	126	366
Flour made from bananas	R. Crusellas	10,422	Jan. 1	126	356
Flour. Wheat-	F. Cobb & Co	20,565	Jan. 1	126	361
Fruit-juices	T. J. Clement	23,730	Jan. 1	126	376
Furnaces, stoves, heaters, &c. Devices for promoting combustion in	Herrick Complete Combustion Company.	23,000	Jan. 1	126	366
Fuses and blasting-caps	Eastern Dynamite Company	21,398	Jan. 1	126	362
Game. Card	S. R. Beal	23,571	Jan. 1	126	374
Gas-generating fluid	F. H. Ringemann	20,009	Jan. 1	126	360
Gin and whisky	Kohn Distilling Co	23,417	Jan. 1	126	371
Grain. Dried brewers'	Atlantic Export Company	23,570	Jan. 1	126	373
Grain. Dried brewers'	Atlantic Export Company	23,640	Jan. 1	126	374
Hair-dye	Guggenheim Mfg. Co	21,064	Jan. 1	126	362
Hatchets, axes, chisels, gouges, drawing-knives, saws, &c	Dunham, Carrigan & Hayden Co	11,337	Jan. 1	126	358
Hats and caps. Ladies', girls', and children's	Rosenthal-Sloan Millinery Co	23,121	Jan. 1	126	367
Horses. Product for curing wire-heels, quittorbone, &c., in	Hilaire et Cie	21,726	Jan. 1	126	363
Horseshoe-pads	Revere Rubber Company	13,143	Jan. 1	126	358
Insulated receptacle. Heat-	M. L. Palmer	20,400	Jan. 1	126	360
Isinglass	Cape Ann Isinglass Company	23,816	Jan. 1	126	376
Knit underwear	Oneita Knitting Mills	23,053	Jan. 1	126	366
Knives, razors, axes, scythes, files, auger-bits, &c	Smith Bros. Hardware Co	20,600	Jan. 1	126	361
Knives, razors, scissors, and shears. Pocket and table	Dunham, Carrigan & Hayden Co	11,341	Jan. 1	126	358
Lamps and parts thereof. Oil-	E. Miller & Co	22,249	Jan. 1	126	364
Lead. Pure white	Eagle White Lead Company	20,913	Jan. 1	126	362
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	23,205-9	Jan. 1	126	367-8
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	23,211-12	Jan. 1	126	368
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	23,214-15	Jan. 1	126	368
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	23 217	Jan. 1	126	368
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	23,220-8	Jan. 1	126	368-9
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	23,231	Jan. 1	126	369
Leather, except patent calf-leather. Calf-	G. F. Werner's Son	11,136	Jan. 1	126	358
Leather. Harness-	A. Trostel & Sons	23,351	Jan. 1	126	370
Leather pulley-coverings, lug-straps, aprons, &c	E. F. Houghton & Co	23,755	Jan. 1	126	376
Liniment	W. M. Palmer	23,544	Jan. 1	126	373
Malt extract	S. Liebmann's Sons Brewing Company.	23,362	Jan. 1	126	371
Malt extract	Ebling Brewing Co	23,676	Jan. 1	126	375
Mattresses	Southern Cotton Oil Company	10,901	Jan. 1	126	357
Meats. Fresh	New York Butchers Dressed Meat Company.	20,471	Jan. 1	126	361
Meats. Smoked	J. J. Pater	23,560	Jan. 1	126	373
Medicated plasters, salves, ointments, pills, capsules, &c	Ichthyol Gesellschaft, Cordes, Hermanni & Co.	13,438-9	Jan. 1	126	358
Medicated suppositories	K S C Medical Co	23,264	Jan. 1	126	370
Medicinal preparation for diseases of the blood	R. W. Adams	22,854	Jan. 1	126	365
Medicine for the cure of gall-stones	C. L. Amerman	22,376	Jan. 1	126	364
Medicines and laxatives. Liver	Raben Company	23,259	Jan. 1	126	370
Medicines. Rheumatic and gout	J. T. Baltar	23,130	Jan. 1	126	367
Modeling paste for artists, sculptors, and others in school and home work.	W. Harbutt	21,538	Jan. 1	126	363
Mouth-wash	Brauer Chemical Company	23,546	Jan. 1	126	373
Nets. Leather fly-	Milwaukee Net Co	19,065	Jan. 1	126	360
Newspaper	Washington Herald Company	22,615	Jan. 1	126	365
Nozzles for hydrants. Valved	Holyoke Valve and Hydrant Company.	2,849	Jan. 1	126	355
Oil. Rheumatic	H. Brunswick	22,008	Jan. 1	126	360
Oils and greases for preserving metals and for lubricating	H. Chudeau	23,511	Jan. 1	126	373
Oils. Cotton-seed	Southern Cotton Oil Company	10,896-7	Jan. 1	126	357
Oils. Cotton-seed	Southern Cotton Oil Company	10,902	Jan. 1	126	357
Ointment for the treatment of coughs, colds, &c	Musterole Co	23,578	Jan. 1	126	374
Ointments	Actien-Gesellschaft für Anilin-Fabrikation.	12,341	Jan. 1	126	358
Paint. Antirust and acid-resisting	Carbolineum Wood Preserving Co.	3,691	Jan. 1	126	355
Paper. Blotting-	Standard Paper M'n'f'g Co	23,830	Jan. 1	126	376
Paper. Writing, bond, and ledger	Union Card & Paper Co	22,873	Jan. 1	126	365
Paper. Writing, printing, and ledger	Wiggins Teape & Co	23,619	Jan. 1	126	374
Periodical	Detective Publishing Company	22,924	Jan. 1	126	366
Periodical. Weekly	Havey & Darrow	21,352	Jan. 1	126	370
Pickles and vegetable and meat sauces	E. Lazenby & Son	7,496	Jan. 1	126	356
Pipe threading and cutting machines	Curtis & Curtis Company	23,553	Jan. 1	126	373
Powder. Explosive	Hazard Powder Company	20,887	Jan. 1	126	362
Powder. Tooth-	T. Kobayashi	11,090	Jan. 1	126	359
Railway points, switches, carriages, trucks, &c	Cammell Laird & Co	12,503-4	Jan. 1	126	358
Ranges and hot-air furnaces. Cooking-	Duparquet, Huot & Monense Company.	7,363	Jan. 1	126	356
Razors	Shumate Razor Company	23,162	Jan. 1	126	367
Razors, scissors, and pocket-knives	C. F. Butcher	15,733	Jan. 1	126	359
Remedies for diseases of the stomach, liver, bowels, and blood	E. E. Williams	22,698	Jan. 1	126	365
Remedies for eczema, &c	Acnezema Company	21,637	Jan. 1	126	363

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette Vol.	Official Gazette Page.
Remedies for croup, colds, bronchitis, &c.	J. D. Helms	21,787	Jan. 1	126	363
Remedy for diseases of the throat and lungs, neuralgia, scalds, &c.	Hall & Ruckel	23,388	Jan. 1	126	371
Remedy for stomach ailments	F. R. Greene	22,985	Jan. 1	126	366
Remedy for treatment of grip, &c	Porter Medicine Company	8,365	Jan. 1	126	356
Rubber roofing	Huttig Mfg. Co	23,736	Jan. 1	126	376
Salve or ointment. Eye	Hall & Ruckel	23,291	Jan. 1	126	371
Sausages, hams, bacon, and lard	Jones Dairy Farm	20,750	Jan. 1	126	361
Shaving-cream	Royal Cream Company	19,016	Jan. 1	126	360
Shells for explosive projectiles. Cast-steel	Taylor Iron & Steel Co	23,219	Jan. 1	126	370
Sherry	J. Wile, Sons & Co	23,737	Jan. 1	126	376
Shoes. Leather	Western Shoe Company	23,472	Jan. 1	126	372
Slate Roofing and building	Genuine Bangor Slate Co	23,733	Jan. 1	126	376
Soap	Southern Cotton Oil Company	10,903	Jan. 1	126	357
Soap	H. B. Claflin Company	23,491	Jan. 1	126	372
Soap. Hard polishing	Borsum Bros	23,717-8	Jan. 1	126	375
Soldering-flux	Garden City Laboratory	4,218	Jan. 1	126	355
Steel rods, billets and sheets. Unmanufactured	B. M. Jones & Co	17 244	Jan. 1	126	359
Stove-urns, gas automobile-lamps, hand-lanterns, and campaign-torches.	W. Vogel & Bros	23,471	Jan. 1	126	372
Stoves. Cooking and heating	Gray & Dudley Hardware Co	23,684	Jan. 1	126	375
Talking-machines, talking-machine parts and records	Victor Talking Machine Company	22,084	Jan. 1	126	364
Tea	Standard Import Co	22,445	Jan 1	126	364
Tin and terne plates	Follansbee Brothers Company	9,629	Jan. 1	126	356
Tonic beverage. Non-alcoholic	C. L. Norton	17,149	Jan. 1	126	359
Toys. Sheet-metal and mechanical	E. P. Lehmann	17,482	Jan 1	126	360
Trousers	L. Golden	23,462	Jan. 1	126	371
Umbrellas	Lawton & Hall	23,247	Jan. 1	126	369
Varnishes	Palmer-Price Co	23,693	Jan 1	126	375
Washing-tablets	Phoenix Manufacturing Co	21,838	Jan 1	126	363
Water. Mineral	Virginia Etna Lithia Springs Co	22,895	Jan. 1	126	365
Whisky	C. H. Graves & Sons	56,880	Jan. 1	126	356
Whisky	Albert M. Gugenheim Co	23,041	Jan. 1	126	366
Whisky	Geo. W. Torrey Co	23,540	Jan. 1	126	373
Whisky. Rye	Bisi & Caprini	20,808	Jan. 1	126	361
Wines. Rhine	P. J. Valckenberg	23,499	Jan. 1	126	372
Wines. Rhine	P. J. Valckenberg	23,508	Jan. 1	126	372

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 8TH DAY OF JANUARY, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Specification.	Drawing.	Volume.	Page.
Aborn, Frank P. (See Knowlton, Harry C., assignor.)						
Ackley, Herbert M., Chicago, Ill. Milk-skimming device	840,986	Jan. 8	2391	523	126	651
Acme Toy Works. (See Cooke, Adrian C., assignor.)						
Adam, Emile, New York, N. Y. Horseshoe	840,892	Jan. 8	2217	488	126	607
Adams Drill Company. (See Adams, Thomas E., assignor.)						
Adams, Thomas E., Cleveland, Ohio. Motor-supporting harp for rock-drills	840,817	Jan. 8	2052	454	126	566
Adams, Thomas E., assignor to Adams Drill Company, Cleveland, Ohio. Rock-drill	840,816	Jan. 8	2048	453–4	126	565
Adams, Thomas E., assignor to Adams Drill Company, Cleveland, Ohio. Rock-drill	840,890	Jan. 8	2205	485–6	126	604
Adams, Thomas E., assignor to Adams Drill Company, Cleveland, Ohio. Drill	840,891	Jan. 8	2211	486–7	126	606
Adams, William H., and F. Powell, Portland, Oreg., assignors to said Adams, said Powell, and Ladd Metals Company. Manufacturing producer-gas	840,461	Jan. 8	1357	301	126	395
Aitken, John, New York, N. Y. Building-block	840,893	Jan. 8	2218	488	126	608
Alden, Charles A., Steelton, assignor to Pennsylvania Steel Company, Philadelphia, Pa. Railway-frog	840,547	Jan. 8	1537	339	126	438
Allen, Edwin L. (See Wood, John C., assignor.)						
Alliance Machine Company. (See Shem, George W., assignor.)						
Allington, William E., Saginaw, Mich. Branch-pipe valve for dust-collecting systems	840,894	Jan. 8	2219	488	126	608
Allis-Chalmers Company. (See Brown, John W., assignor.)						
Allison, William D. (See Leonard, Charles N., assignor.)						
American Car & Foundry Company. (See Ostrander, Allen E., assignor.)						
American Steel & Wire Company. (See Paff, George A., assignor.)						
American Steel & Wire Company of New Jersey. (See Sturdevant, Charles R., assignor.)						
American Telephone and Telegraph Company. (See Athearn, William E., assignor.)						
Americus Electro-Hermetic Company. (See Dion, Léon, assignor.)						
Andelsselskabet Internationalt Metallotypikompagni. (See Kristensen, Sigvald A. C., assignor.)						
Anderson, August, Birmingham, Ala. Derailment-guard	840,733	Jan. 8	1906	419	126	531
Anderson, Charlie A., Cornplanter, Pa. Rod-coupling	840,734	Jan. 8	1908	420	126	531
Anthony, Edgar W. (See Rollins, Charles H., assignor.)						
Arbetter Felling Machine Company. (See Arbetter, Wolf, assignor.)						
Arbetter, Wolf, Chelsea, assignor to Arbetter Felling Machine Company, Boston, Mass. Attachment for blindstitch sewing-machines	840,600	Jan. 8	1648	362	126	465
Armstrong, Charles C., Marysville, Ohio. Shoulder-brace	840,895	Jan. 8	2221	488–9	126	608
Arnold, Frederick H., Reading, Pa. Safety-razor	840,735	Jan. 8	1909	420	126	531
Arnold, Otto, Jr., Magdeburg-Buckau, Germany. Pressure-gage	840,896	Jan. 8	2222	489	126	609
Arnold, Paul, Grossenhain, Germany. Apparatus for punching, dampening, and affixing stamps	840,736	Jan. 8	1910	420–1	126	531
Arnold, Wilber E., Madisonville, assignor to Victor Safe & Lock Co., Cincinnati, Ohio. Vault	840,680	Jan. 8	1785	394	126	500
Arthur, Edwin F., trustee, *et al.* (See Canfield, Frank, assignor.)						
Athearn, William E., New York, N. Y., assignor to American Telephone and Telegraph Company. Telegraph-relay	840,987	Jan. 8	2392	524	126	651
Atlanta Horse Collar Company. (See Estes, William B., assignor.)						
Atwood, George F., Wakefield, Mass. Boat-propeller	840,548	Jan. 8	1539	339	126	438
Atwood, James T. (See Hanks and Atwood.)						
Augsbach, Otto. (See Justen, Joseph M., assignor.)						
Augustine, Ulysses G., Los Angeles, Cal. Machine for molding cores	840,737	Jan. 8	1914	421–2	126	532
Aull Brothers Paper and Box Company. (See Wolf, Henry L. R., assignor.)						
Aupke, Henry D., Sharpsburg, Pa. Wrench	840,549	Jan. 8	1541	340	126	439
Aurum Mining Company. (See Coombes, Joseph A., assignor.)						
Automatic Electric Company. (See Erickson, John, assignor.)						
Avery, Courtney C., assignor to Eagle Wagon Works, Auburn, N. Y. Dump-wagon	840,601	Jan. 8	1651	363	126	466
Baddett, Godfrey J. A. (See Reurk and Baddett.)						
Bailey, Thomas M., Madison, Ala. Corn-planter	840,897	Jan. 8	2224	489	126	609
Baird, L. W., *et al.* (See Mapes, William T., assignor.)						
Baldwin, Clarence K. (See Rollins and Baldwin.)						
Barker, Richard F., and C. G. McCumber, Adams, N. Y. Chemical fire-extinguisher	840,462	Jan. 8	1339	301	126	395
Barnard, Frank P., assignor to Woodman-Davis Company, Worcester, Mass. Dentifrice	840,738	Jan. 8	1916	.....	126	533
Baron, Charles S. (See Hafley, James F., assignor.)						
Barrett, George E., Duluth, Minn., assignor of one-half to J. Z. Miller, Superior, Wis. Cultivator	840,898	Jan. 8	2225	489–90	126	609
Barta, John, Chicago, Ill. Chair	840,463	Jan. 8	1361	301	126	396
Bartlett, Marcus J., Chicago, Ill. Bolting-cloth cleaner	840,550	Jan. 8	1542	340	126	439
Batcheller, Birney C., Philadelphia, Pa., assignor to Pearsall Pneumatic Tube and Power Company, New York, N. Y. Pneumatic-tube system	840,464	Jan. 8	1362	301–2	126	396
Batcheller, Birney C., Philadelphia, Pa., assignor to Pearsall Pneumatic Tube and Power Company, New York, N. Y. Pneumatic-tube system	840,465	Jan. 8	1365	303	126	396
Batiste, John W., Portland, Oreg. Self-cleaning oil-burner	840,739	Jan. 8	1917	422	126	533
Bauer, Carl E., Hammond, Ind., assignor to Simplex Railway Appliance Company, Chicago, Ill. Reversible fulcrum	840,740	Jan. 8	1919	422	126	533
Baumgarten, Albert, Freeport, Ill. Umbrella-clasp	840,551	Jan. 8	1543	340	126	440
Bayley, William, Springfield, Ohio. Corn-sheller	840,466	Jan. 8	1367	304	126	397
Beach, William N., New York, N. Y. Dry separator	840,818	Jan. 8	2053	455	126	566
Beard, Sidney H., Paignton, England. Tennis-racket	840,467	Jan. 8	1369	304	126	398

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Bechtel, Ernst. (See Eck and Bechtel.)						
Beck, Edward E., Chicago, Ill., assignor to Nye Tool and Machine Works. Screw-cutting tool						
Becker, Ida, Hagen, Germany. Hair-ribbon holder	840,899	Jan. 8	2227	400	126	610
Bedell, William L., Newark, N. J. Game or puzzle	840,681	Jan. 8	1786	304	126	500
Bedford, Joseph. (See Winsard and Bedford.)	840,741	Jan. 8	1921	422	126	534
Bell, Enos T., assignor of two-thirds to O. C. Steele and L. O. Draper, Spiceland, Ind. Window curtain or shade						
Bengtson, Walter, Porter, Minn. Automatic railway-gate	840,682	Jan. 8	1786	304	126	500
Benn, Hans H., London, England. Friction-clutch coupling	840,683	Jan. 8	1789	305	126	501
Bennett, Abijah B., Opelika, Ala. Cutting implement	840,742	Jan. 8	1922	423	126	534
Beres, George, Cleveland, Ohio. Adjustable shade or curtain fixture	840,685	Jan. 8	1370	305	126	308
Berg, Anton, Anderson, Ind. Rotary drier	840,743	Jan. 8	1924	423	126	535
Bergman, Erick P., assignor of one-half to J. Lapo, Concordia, Kans. Combined tie and rail-fastener	840,602	Jan. 8	1653	365	126	467
Berry, Charles W., Portland, Me. Apparatus and process for filling rubber tires with viscous liquids	840,988	Jan. 8	2394	524	126	652
Bethene, Frank. (See Griffin, Seaborne R., assignor.)	840,489	Jan. 8	1372	305	126	308
Billy, Charles, Paris, France. Apparatus for generating acetylene	840,582	Jan. 8	1544	340	126	440
Birsner, John N., Belleville, Ill. Drain attachment for mash-tubs	840,900	Jan. 8	2229	490	126	610
Black, Samuel D., assignor to Manufacturer's Engineering Company, Baltimore, Md. Switch-contact for controllers and the like						
Bode, Alfred, and K. Böttcher, Benrath, Germany. Floating crane and the like	840,819	Jan. 8	2056	455	126	567
Bodvig, Oscar O., Ward county, N. D., assignor to Indiana Manufacturing Company, Indianapolis, Ind. Pneumatic straw-stacker	840,684	Jan. 8	1791	395–6	126	501
Böhm, Otto, Berlin, Germany. Automatic engaging and disengaging device for dynamo and storage batteries	840,603	Jan. 8	1656	363–4	126	468
Boof, Michael, Strassburg, Germany. Reamer	840,685	Jan. 8	1792	396	126	501
Böttcher, Karl. (See Bode and Böttcher.)	840,744	Jan. 8	1925	423	126	535
Bowen, Henry A., Shelburne Falls, Mass. Paper-box-topping machine	840,901	Jan. 8	2230	491	126	610
Bradt, Chauncey D., Troy, N. Y. Machine for cutting paper, cardboard, or other stock	840,553	Jan. 8	1546	341	126	440
Brainerd, Winfield S., Chicago, Ill. Combined skirt-supporter and waist-retainer	840,745	Jan. 8	1926	424	126	535
Brannan, John, Fulton, N. Y. Paper-folding attachment for paper-cutting machines	840,470	Jan. 8	1373	305	126	309
Brauchli, Jacob, Hampton, Va. Shutter construction	840,820	Jan. 8	2058	455–6	126	567
Brenner, Mick. (See Steiner and Brenner.)						
Bretherton, Arthur S., Cleveland, Ohio. Parcel-carrier	840,746	Jan. 8	1927	424	126	535
Briggs, Herbert A., New York, N. Y. Type-writing machine	840,554	Jan. 8	1548	342–4	126	441
Brigham, Oscar E., New York, N. Y. Check-printing machine	840,471	Jan. 8	1375	306–7	126	309
Brinn, Frank L., Milwaukee, Wis. Fountain-brush	840,604	Jan. 8	1658	364	126	469
Brook, Harley M., Saginaw, Mich. Machine for making baking-powders	840,686	Jan. 8	1795	396–7	126	502
Brookes, Robert C., Waelder, Tex. Syringe	840,472	Jan. 8	1387	307	126	401
Brooks, Charles H., assignor to Brooks Motor Company, Detroit, Mich. Transmission-gear						
Brooks Motor Company. (See Brooks, Charles H., assignor.)	840,605	Jan. 8	1659	364–5	126	469
Brouse, Joseph, Rapides des Joachims, Quebec, Canada. Chain-hook	840,473	Jan. 8	1389	307	126	401
Brown, John J., Phœnix, Miss. Securing means for rail-joints	840,902	Jan. 8	2232	491	126	611
Brown, John W., assignor to Allis-Chalmers Company, Milwaukee, Wis. Friction-clutch	840,687	Jan. 8	1799	397	126	503
Brown, Rhinehardt H., Fremont, Ohio. Safety-razor	840,989	Jan. 8	2395	524	126	652
Browne, A. C., *et al.* (See Kilpatrick, Robert L., assignor.)						
Bucherer, Charles, *et al.* (See Graeve, Louis von, assignor.)						
Buckley, Matthew P., Watertown, Ill. Disk attachment for cultivators	840,606	Jan. 8	1663	365	126	470
Bucknall, Joseph A., Detroit, Mich. Weed-digger	840,903	Jan. 8	2233	491	126	611
Buffington, Charles R., Saco, Mont. Sheep-hook	840,555	Jan. 8	1560	344	126	443
Bump, Arthur L., Governor's Island, N. Y. Range-determining device	840,904	Jan. 8	2233	492	126	611
Bunnell, Morton G., Chicago, assignor to Western Wheeled Scraper Co., Aurora, Ill. Automobile ditching and grading machine						
Burke, Walter D., St. Louis, Mo. Water-carousel	841,073	Jan. 8	2571	562–3	126	698
Burns, Alexander, Merrill, Wis. Head-block	840,905	Jan. 8	2235	492	126	612
Burrill, Horace K., Indianapolis, Ind. Concrete-block machine	840,906	Jan. 8	2237	492	126	612
Byrne, Michael P., Chicago, Ill. Temporary retaining-wall for use in the construction of sewers	840,907	Jan. 8	2239	493	126	613
Cabot, Sewall, Brookline, assignor to Stone Telegraph and Telephone Company, Boston, Mass. Space telegraphy	840,747	Jan. 8	1928	424	126	536
Cabot, Sewall, Brookline, assignor to Stone Telegraph and Telephone Company, Boston, Mass. Space telegraphy	840,908	Jan. 8	2241	493–4	126	613
Cadman, Addi B. (See Warner and Cadman.)	840,909	Jan. 8	2250	495	126	616
Cafferty, Ridner P., Jr., Brooklyn, N. Y. Handle for safety-razor blades	840,748	Jan. 8	1930	424	126	536
Calkins, Almon B., Belleville, N. J., assignor to F. C. Dininny, New York, N. Y. Match-making machinery	840,821	Jan. 8	2060	456	126	567
Calkins, Almon B., Belleville, N. J., assignor to F. C. Dininny, New York, N. Y. Match-making machinery	840,822	Jan. 8	2062	457	126	568
Canfield, Frank, assignor to C. J. Morley, Denver, Colo., and E. F. Arthur, trustee. Pen-puller						
Cardwell, James R., Chicago, Ill. Car construction	840,474	Jan. 8	1390	307	126	402
Carlen, John, Havana, N. D. Concrete-brick machine	840,910	Jan. 8	2253	495	126	616
Carlin, John H. (See Utzler, Elmer W., assignor.)	840,911	Jan. 8	2256	496	126	617
Carnahan, Robert H. (See Risser and Reinhardt, assignors.)						
Carpenter, Amos H., Stockton, Cal. Rotary engine	840,698	Jan. 8	1801	398	126	504
Carr, Arthur S., Hattiesburg, Miss. Still	840,607	Jan. 8	1664	365	126	471
Cavanagh, John F., Providence, R. I. Shoe-last	840,556	Jan. 8	1561	344	126	444
Cazeaux, August, *et al.* (See Marcus, André, assignor.)						
Chailly, François, New York, N. Y. Hydraulic press	840,990	Jan. 8	2396	524–5	126	652
Chase, Nial N., Peoria, Ill. Steam-cooker	840,823	Jan. 8	2063	457	126	568
Chesrown, M. M. (See Faifer, Anthony, assignor.)						
Childs, Samuel S., Bernardsville, N. J. Vehicle-wheel	840,824	Jan. 8	2065	457	126	569
Cincinnati Milling Machine Company. (See Thiel, Louis, assignor.)						
Cleveland Ladder-Scaffold Company. (See Lillow, Charles E., assignor.)						
Climax Patents. (See Stocks, Harry B., assignor.)						
Cobb, Henry Z., Chelsea, assignor to Revere Rubber Company, Boston, Mass. Vulcanizing-mold						
Coffill, Frederic M., North Adams, Mass. Envelop-opener	840,749	Jan. 8	1931	425	126	536
Coffman, Edward S., Clifton Forge, Va. Beamless brake for car-trucks	840,912	Jan. 8	2258	496	126	617
Cohn, Adolph H., Larchmont, N. Y. Clasp	840,991	Jan. 8	2400	525–6	126	653
Cohn, Jacob, London, England. Safety venting attachment for receptacles	840,750	Jan. 8	1933	425	126	537
Colby, Edward A., Newark, N. J. Crucible	840,992	Jan. 8	2402	526	126	654
Colby, Edward A., Newark, N. J. Crucible	840,825	Jan. 8	2066	458	126	569
Colein, William H., Baltimore, Md. Smoke-consuming attachment for boiler-furnaces	840,830	Jan. 8	2066	458	126	569
Commercial Firm "Carl Spiegel." (See Möhring, Hermann, assignor.)	841,074	Jan. 8	2575	563–4	126	699
Conkling Company. (See Snow, Frederick, assignor.)						
Connolly, Walter F., New York, N. Y. Score-card	840,827	Jan. 8	2067	458	126	569

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Conrad, Frank. (See Davis and Conrad.)						
Conter, Michael J., Chicago, Ill. Automatic book-mark	840,475	Jan. 8	1391	308	126	402
Contractors Wagon Company. (See MacClernan, Richard H., assignor.)						
Cook, Roy J., and H. H. Harvey, Chicago, Ill. Grain-car door	840,751	Jan. 8	1934	426	126	537
Cooke, Adrian C., assignor to Acme Toy Works, Chicago, Ill. Toy automobile	840,913	Jan. 8	2258	496–7	126	617
Coombes, Joseph A., Atlantic City, N. J., assignor to Aurum Mining Company. Apparatus for extracting and saving gold	840,752	Jan. 8	1937	426	126	538
Cooper, Frederick A., Adams, Mass. Automatic water-relief valve	840,993	Jan. 8	2404	526	126	654
Copilovich, Henry, Hinckley, Minn. Wood-still retort	840,753	Jan. 8	1940	426	126	538
Corbett, William H., Portland, Oreg. Logging-engine	840,914	Jan. 8	2260	497	126	617
Couture, Romain, Somersworth, N. H. Carding-machine cleaner	840,476	Jan. 8	1393	308	126	402
Cove, George H., Roxbury, assignor to F. R. Kimball and H. V. Hayward, Boston, Mass. Battery binding-post	840,915	Jan. 8	2262	497	126	618
Coward, Harry. (See Gamston and Coward.)						
Cramer, Stuart W., Charlotte, N. C. Humidifier or air-moistening apparatus	840,916	Jan. 8	2264	498	126	618
Cramer, Stuart W., Charlotte, N. C. Humidifier	840,917	Jan. 8	2265	498	126	619
Crawford, Herbert G., Elmont, Va. Automatic circuit-controlling mechanism	840,557	Jan. 8	1563	345	126	444
Crawford, Joseph, Jr. (See Tinker and Crawford.)						
Croskey, John H., assignor to Duquesne Glass Co., Pittsburg, Pa. Apparatus for manufacturing glass articles	840,994	Jan. 8	2406	526–7	126	655
Cunningham, Clara H., Washington, D. C. Corset-clasp	840,918	Jan. 8	2267	499	126	619
Curell, James H., New York, N. Y. Briquet-machine	840,608	Jan. 8	1666	365–6	126	471
D'Espinosa, Nicola, Lynn, Mass. Smoker's pipe	840,997	Jan. 8	2414	528	126	657
Dain, Joseph, Ottumwa, Iowa. Hay-stacker	840,477	Jan. 8	1395	308–9	126	403
Davis, Charles C., Contoocook, N. H., assignor to Kingsbury Box & Printing Company, Northampton, Mass. Paper-box machine	841,075	Jan. 8	2576	564–5	126	699
Davis, Harry P., Pittsburg, and F. Conrad, Edgewood Park, Pa., assignors to Westinghouse Electric & Manufacturing Company. Protective apparatus for electrical circuits	840,478	Jan. 8	1398	309	126	404
Davis, Harry P., Pittsburg, and F. Conrad, Edgewood Park, Pa., assignors to Westinghouse Electric & Manufacturing Company. Protective apparatus for parallel transmission-lines	840,479	Jan. 8	1400	310	126	404
Davis, Harry P., Pittsburg, and F. Conrad, Swissvale, Pa., assignors to Westinghouse Electric & Manufacturing Company. Transformer	841,076	Jan. 8	2580	565	126	700
Davis, Mark N., Baltimore, Md. Elevator-door-opening device	840,754	Jan. 8	1941	427	126	539
Day, Albert A., New York, N. Y. Metal-frame window-screen	840,689	Jan. 8	1806	398	126	506
De Marmon, André P. (See Martins, Alfred F., assignor.)						
Dean Electric Company. (See Dean, William W., assignor.)						
Dean, William W., assignor to Dean Electric Company, Elyria, Ohio. Polystation signaling	840,995	Jan. 8	2410	527	126	656
Deis, Philip H., Washington, D. C. Pump	840,919	Jan. 8	2269	499	126	620
Delzeit, Peter J., Jr., Rosedale, N. J. Toy	840,920	Jan. 8	2271	499	126	621
Demers, Frank A., St. Hyacinthe, Quebec, Canada, assignor of one-half to C. E. Wakeman, Pontiac, Mich. Knitting-machine	840,828	Jan. 8	2068	458–9	126	570
Denmead, John W., Akron, Ohio. Egg-carrier	840,558	Jan. 8	1568	346	126	446
Dennis, William R., Denver, Colo. Package-handling device	840,996	Jan. 8	2412	528	126	656
Detrick, Benjamin J., and I. A. Weaver, Springfield, Ill.; said Weaver assignor to said Detrick. Draft-equalizer	840,755	Jan. 8	1942	427	126	539
Dickey, Joseph W., St. Louis, Mo. Dental swage	840,921	Jan. 8	2272	499	126	621
Dickinson, Charles F. (See Earnheart, William P., assignor.)						
Dickinson, Don H., Parker, Oreg. Jointer for stubble-plows	840,922	Jan. 8	2273	500	126	621
Diederich, Frank J. (See Goergen and Diederich.)						
Dieterle, John M., St. Louis, Mo. Purifying air	840,756	Jan. 8	1945	427–8	126	540
Dietrichs, Charles, Little Ferry, N. J. Apparatus for constructing walls of concrete	840,998	Jan. 8	2415	528	126	657
Dininny, Ferral C. (See Calkins, Almon B., assignor.)						
Dion, Léon, assignor to Americus Electro-Hermetic Company, New York, N. Y. Apparatus for recovering metals from ores and other substances	840,480	Jan. 8	1403	310–11	126	405
Dion, Léon, assignor to Americus Electro-Hermetic Company, Wilkes-Barre, Pa. Electric furnace	840,481	Jan. 8	1409	311	126	406
Ditchfield, Frank, Bellevue, assignor to Pressed Steel Car Company, Pittsburg, Pa. Door-operating mechanism	840,757	Jan. 8	1946	428	126	540
Dodds, Ethan I., Pullman, assignor to Pullman Company, Chicago, Ill. End construction for cars	840,829	Jan. 8	2072	459	126	571
Dodds, Ethan I., Pullman, assignor to Pullman Company, Chicago, Ill. Making metallic sills for cars	840,830	Jan. 8	2073	460	126	571
Doorenbos, John, assignor to National Gas Light Co., Kalamazoo, Mich. Gas-burner	840,831	Jan. 8	2075	460	126	572
Dorrance, Charles J., Chicago, Ill. Furnace-grate	840,609	Jan. 8	1668	366–7	126	472
Dotson, William T., assignor of one-fourth to W. and H. Sowards, Manassa, Colo. Gate	841,077	Jan. 8	2581	565	126	700
Downing, George, Los Angeles, Cal. Eye and pin for flasks	840,999	Jan. 8	2417	529	126	657
Draper Company. (See Rainville, Victor, assignor.)						
Draper, Luther O., *et al.* (See Bell, Enos T., assignor.)						
Du Bois, Alexander D., assignor to Western Electric Company, Chicago, Ill. Spring actuating device for drum-controllers	840,690	Jan. 8	1809	399	126	506
Dufresne, Jere C., Claremont, N. H. Wrench	841,000	Jan. 8	2419	529	126	657
Duquesne Glass Co. (See Croskey, John H., assignor.)						
Durflinger, Oliver L., Indianapolis, Ind. Sash-lock	840,758	Jan. 8	1947	429	126	540
Duryea, Otho C., and M. C. White, Los Angeles, Cal., assignors to National Gas Drill Company. Self-contained rock-drill	841,001	Jan. 8	2420	529	126	658
Dusseau, Cornelius, Toledo, Ohio. Beet-harvester	840,482	Jan. 8	1412	311	126	407
Eagle Wagon Works. (See Avery, Courtney C., assignor.)						
Early, John A., Batchtown, Ill. Engineer's transit	840,923	Jan. 8	2275	500	126	621
Earnheart, William P., Wilkinsburg, assignor to C. F. Dickinson, Pittsburg, Pa. Mold	840,924	Jan. 8	2275	500	126	621
Earnshaw, Elmer E., New York, N. Y., assignor to National Cigar Stands Company, Jersey City, N. J. Coupling for converging ends of canopy-standards for show-cases, &c.	840,483	Jan. 8	1414	312	126	407
Easdale, George, Ottawa, Ontario, assignor of two-thirds to Z. C. and H. G. Ketchum, Ottawa, Canada. Target	840,610	Jan. 8	1672	367	126	472
East, John F., Norfolk, Va. Barrel	841,002	Jan. 8	2423	530	126	658
Eck, Eduard, Gross Anheim, and E. Bechtel, assignors to Hanauer Kunstseidefabrik, Hanau, Germany. Solution of cellulose	840,611	Jan. 8	1674		126	473
Eckart, Edmund, New Rochelle, assignor to Gerstendorfer Bros., New York, N. Y. Can	840,484	Jan. 8	1415	312	126	407
Egan, Patrick M., Council Bluffs, Iowa. Lifting-jack	841,078	Jan. 8	2582	566	126	701
Electr. Isolir-und Installationsartikelerzeugung, Ingre. Schott & Schildorfer. (See Schmidt, Paul, assignor.)						
Electric Vehicle Company. (See Riker, Andrew L., assignor.)						
Elliott, Claud B., and J. T. Loggins, Hempstead, Tex. Letter-clasping device	840,759	Jan. 8	1948	429	126	541
Elliott, Ezra T., and A. H. Leonard, Del Norte, Colo. Attachment for hay-rakes	840,612	Jan. 8	1674	367	126	473
Ellis, Carleton, White Plains, N. Y. Firing porcelain	840,559	Jan. 8	1570	346	126	446
Engi, Gadlent, assignor to Firm of Society of Chemical Industry in Basle, Basel, Switzerland. Yellow-red dye and making same	841,003	Jan. 8	2426		126	659
Englert, Joseph J., Chicago, Ill. Tag-feeder for tag-wiring machines	841,079	Jan. 8	2582	566–7	126	702
Engstrom, Jacob B., Manchester, Iowa. Fence-post mold	841,080	Jan. 8	2583	567	126	703

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Erickson, John, assignor to Automatic Electric Company, Chicago, Ill. Interrupter for electromagnets	841,094	Jan. 8	2427	530	126	659
Ernst, Alfred. (See Rothberg and Ernst.)						
Estes, William B., assignor to Atlanta Horse Collar Company, Atlanta, Ga. Fabric horse-collar	841,095	Jan. 8	2429	530–1	126	660
Everett, Henry F., West Roxbury, assignor to F. P. Partridge, Boston, Mass. Handled implement	840,822	Jan. 8	2076	460	126	572
Ewell, Herbert P., Rochester, Mich. Apparatus for the manufacture of reducing-amalgam	841,096	Jan. 8	2431	531	126	660
F. H. Sadler Co. (See Sadler, Louis R., assignor.)						
Faber, Eberhard, New York, N. Y. Eraser	840,491	Jan. 8	1416	312	126	408
Faifer, Anthony, assignor to M. M. Chesrown, Chicago, Ill. Binder	841,091	Jan. 8	2080	568	126	703
Falk, Louis A., assignor of one-half to G. A. Schmidt, Chicago, Ill. Liquid-soap dispenser	840,925	Jan. 8	2279	500	126	622
Farlow Draft Gear Company. (See Garrett, Myers A., assignor.) (Reissue.)						
Farrington, Charles O., and T. Watson, Sealy, Tex. Vaginal irrigator	840,820	Jan. 8	1575	346	126	447
Fehrenbatch, John, Cincinnati, Ohio. Steam-controller	840,823	Jan. 8	2077	461	126	572
Field, Henry P., Jr., Berwick, Pa., assignor to B. A. Hegeman, Jr., North Plainfield, N. J. Car-truck bolster						
Findeisen, Frederick, Chicago, Ill. Flushing-tank	840,824	Jan. 8	2082	461–2	126	573
Fisher, Willis H., Mount Gilead, Ohio. Wall structure	840,613	Jan. 8	1675	368	126	473
Flanagan, Joaquin J. (See Flanagan, John A. and J. J.)	840,709	Jan. 8	1950	429	126	541
Flanagan, John A. and J. J., Corning, Cal. Draft-equalizer	840,826	Jan. 8	2085	462	126	574
Forbis, Harbert K., Columbus, Ohio. Power-press	840,701	Jan. 8	1951	429	126	541
Foulke, John T., Richmond, Ind. Convertible hand-plow	840,826	Jan. 8	2086	462–3	126	575
Freeman, Claude E., assignor to H. P. Deuscher Company, Hamilton, Ohio. Harrow-tooth fastener	841,092	Jan. 8	2563	568	126	704
Freiberg, Stanley B., Cincinnati, Ohio. Electric-circuit breaker	840,614	Jan. 8	1678	468	126	474
French, Luke, *et al.* (See Reilly, Bernard T., assignor.)						
Fretwell, John A., Little Rock, Ark. Bridle-bit	841,097	Jan. 8	2435	532	126	661
Frey, Clarence N., assignor to J. M. Robinson Manufacturing Company, Cincinnati, Ohio. Brake	840,837	Jan. 8	2090	463	126	575
Frickey, Lewis C., Battle Creek, Mich. Head and body rest for beds	841,093	Jan. 8	2436	532	126	661
Frommel, Albert E., Groton, S. D. Horse-releaser	840,891	Jan. 8	1811	399	126	507
Fuchs, Emiel R., New York, N. Y. Door-securer	840,499	Jan. 8	1418	312–13	126	408
Fulton, Joseph H., West Lebanon, Pa. Lamp-burner	840,928	Jan. 8	2281	501	126	623
Funk, Alfred C., and C. E. Mickle, Springfield, Ohio, assignors to International Harvester Company. Clover-huncher						
Funk, Charles E., Enterprise, Oreg. Variable-speed gear	840,615	Jan. 8	1681	368–9	126	474
Furber, Frederick M., Haverhill, Mass. Vending-machine	840,827	Jan. 8	2262	501	126	623
Gaenzle, Paul F., assignor to Gaenzle, Regenfuse & Company, Reading, Pa. Cooking-utensil cover	840,561	Jan. 8	1577	346	126	447
Gaenzle, Regenfuse & Company. (See Geanzle, Paul F., assignor.)	840,702	Jan. 8	1953	430	126	542
Gaertner, Maurice C., *et al.* (See Reilly, Bernard T., assignor.)						
Gale, Francis G., Waterville, Quebec, Canada. Bed						
Galt, Thomas A., Sterling, Ill. Railway-tie	840,616	Jan. 8	1684	369	126	475
Gamston, George, and H. Coward, Philadelphia, Pa. Carpet-cutter	841,009	Jan. 8	2437	532	126	661
Garber, David. (See Ross, George H. D., assignor.)	840,926	Jan. 8	2284	501	126	624
Garnier, Emile. (See Hart, James, assignor.)						
Garrett, Myers A., Chicago, Ill., assignor to Farlow Draft Gear Company, Baltimore, Md. Draft and buffing gear or rigging for cars. (Reissue)	12,557	Jan. 8	2030	575	126	713
Garson, Isaac H., Rochester, N. Y., assignor to Garson Vending Machine Company. Cigar-vending machine	841,098	Jan. 8	2694	568–9	126	704
Garson Vending Machine Company. (See Garson, Isaac H., assignor.)						
Gebhardt, Fredrich, Alliance, Ohio. Metallic truck for railway-cars	840,929	Jan. 8	2286	502	126	624
General Electric Company. (See Hewlett, Edward M., assignor.)						
General Electric Company. (See Yates and Zimmer, assignors.)						
Geo. Becker & Co. (See Peterson, Bernhard, assignor.)						
George, Japhus, Wilcox, Pa., and C. M. Shortie, Bernhards Bay, N. Y., assignors, by mesne assignments, to Newkirk Glass Company, Pierre, S. D. Drawing sheet-glass	840,828	Jan. 8	2082	464	126	576
Germon, Frank, Leadville, Colo. Harrow	840,830	Jan. 8	2085	464	126	576
Gerstendorfer Bros. (See Eckart, Edmund, assignor.)						
Glerding, Charles E., Newark, N. J. Fare-register	841,084	Jan. 8	2286	569	126	705
Gilbert, Henry J., Saginaw, Mich. Pulley	840,703	Jan. 8	1953	430	126	542
Gilbert, Henry J., Saginaw, Mich. Pulley	840,704	Jan. 8	1957	430	126	543
Gilman, John H., assignor to King & Hamilton Company, Ottawa, Ill. Conveying apparatus	841,085	Jan. 8	2605	570	126	708
Gilsa, Adolf L. K. E. von u. zu, Mönchhaf, near Abterode, and A. Karst, Cassel, Germany. Safety appliance for theaters	840,602	Jan. 8	1812	399–400	126	507
Glaze, Edward. (See Morris, John E., assignor.)						
Glover, George T., Chicago, Ill. Motor-vehicle	840,930	Jan. 8	2288	502–4	126	625
Goergen, Frank J., and F. J. Diederich, Granville, Iowa; said Diederich assignor of one-sixth to said Goergen. Ditching-machine	840,617	Jan. 8	1686	369–70	126	476
Goetschius, Howard B., Dumont, N. J. Cyanid process	840,849	Jan. 8	2096	465	126	576
Goettel, John. (See Rood and Goettel.)						
Goldman, Gustav, Baltimore, Md. Making fabric containing haircloth	840,841	Jan. 8	2089		126	577
Goldsmith, Byron B., New York, N. Y. Casein compound	840,931	Jan. 8	2295		126	626
Goldsmith, Byron B., New York, N. Y. Sound-record tablet	840,932	Jan. 8	2297	504	126	627
Goldsmith, Charles P., *et al.* (See Goldsmith, Daniel, assignor.)						
Goldsmith, Daniel, assignor to C. P. Goldsmith and I. Loeb, New York, N. Y. Tag for jewelers' use	840,497	Jan. 8	1419	313	126	408
Golombek, Sigmund, New York, N. Y. Display-holder for windows	840,618	Jan. 8	1688	370	126	476
Gonzenbach, Charles A., Warren, R. I. Embroidering-machine	840,933	Jan. 8	2299	504–5	126	627
Goss Printing Press Company. (See Goss, Samuel G., assignor.)						
Goss, Samuel G., assignor to Goss Printing Press Company, Chicago, Ill. Routing-machine	840,705	Jan. 8	1960	431–2	126	544
Graeve, Louis von, assignor to C. Buchner and H. Schroder, Philadelphia, Pa. Composition of matter for the eradication of stains	841,086	Jan. 8	2607		126	709
Grant, Joseph T., El Paso, Tex. Game	840,934	Jan. 8	2303	506	126	628
Graul, Fredrick, Newark, N. J., assignor to Rubber and Celluloid Harness Trimming Co. Brush	840,698	Jan. 8	1814	400	126	508
Greenfield, Edwin T., Klamesha, N. Y. Tubing	840,706	Jan. 8	1964	432	126	545
Greenwald, Isaac W., Frederick, assignor of one-half to G. L. Hildebrand, Dickerson, Md. Stirrer	841,010	Jan. 8	2439	533	126	662
Greuter, Charles R., Holyoke, Mass., assignor to Matheson Motor Car Company, Wilkes-Barre, Pa. Driving-axle suspension for motors-vehicles	840,842	Jan. 8	2101	465	126	578
Griffin, Seaborne R., Whigham, assignor of one-half to F. Bethene, Bainbridge, Ga. Wrench	840,843	Jan. 8	2103	465	126	578
Gulbrandsen, Knud, assignor of two-thirds to C. M. Hansen and E. Torgerson, Chicago, Ill. Power-transmission means	840,935	Jan. 8	2306	507	126	629
Gury, John B., St. Louis, Mo. Cloth-cutting machine	840,707	Jan. 8	1965	432	126	545

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Guthrie, William S., Terrell, Tex. Time circuit-closer	840,562	Jan. 8	1580	347	126	448
H. Mueller Manufacturing Co. (See Mueller, Henry, assignor.)						
H. Mueller Manufacturing Co. (See Mueller and Schuermann, assignors.)						
H. P. Deuscher Company. (See Freeman, Claude E., assignor.)						
Haffey, James F., assignor to C. S. Baron, Tiffin, Ohio. Receptacle-top fastener	840,844	Jan. 8	2104	465	126	578
Hagberg, Gust, Warren, Pa. Pivoted car-step	840,619	Jan. 8	1688	370	126	476
Hake, John N., Littlestown, Pa. Clamp	840,620	Jan. 8	1689	371	126	477
Halvorson, George O., Brooklyn, Miss. Machine for vending cigars from original boxes	840,563	Jan. 8	1583	347	126	448
Hamaker, John I., College Park, Va. Combined heating and cooking stove	840,488	Jan. 8	1420	313	126	408
Hanauer Kunstseidefabrik. (See Rek and Bechtel, assignors.)						
Hancock, Cooper W. (See Heller and Hancock.)						
Hanks, Marshall W., Madison, Wis. Starting and controlling internal-combustion-engine-driven launches and vehicles	840,694	Jan. 8	1816	400	126	508
Hanks, Marshall W., and J. T. Atwood, Madison, Wis.; said Atwood assignor to said Hanks. Engine-mount	840,695	Jan. 8	1818	401	126	508
Hannah, William, Paterson, N. J. Loom	841,087	Jan. 8	2607	570–1	126	709
Hannahs, John J., New York, and A. A. Hieber, Brooklyn, N. Y., assignors to Universal Typewriter Company. Type-writer	840,768	Jan. 8	1966	433–4	126	545
Hansen, Carl, Johnson, N. Y. Measure-gun	841,088	Jan. 8	2609	571–2	126	709
Hansen, Christian M., *et al.* (See Gulbrandsen, Knud, assignor.)						
Hansen, Jens P., Kamsack, Saskatchewan, Canada. End-gate	840,621	Jan. 8	1691	371	126	477
Harber, Thomas W., Golden City, Mo. Wrench	840,564	Jan. 8	1584	348	126	449
Harmer, James C., Kingston, Ontario, Canada. Device for removing frost, steam, &c., from windows	840,769	Jan. 8	1969	435	126	546
Harris, Earnest B., Mount Olive, Ill. Fence-post	840,622	Jan. 8	1692	371	126	477
Harris, Fremont R., Kenmare, N. D. Incubator-alarm	840,623	Jan. 8	1694	372	126	478
Hart, James, assignor of one-half to E. Garnier, New Orleans, La. Safety-elevator	840,936	Jan. 8	2307	507	126	629
Hart, Thomas F., Muncie, Ind., assignor to Window Glass Machine Company, Pittsburg, Pa. Drawing hollow glass articles	841,011	Jan. 8	2440	533	126	662
Harvey, Hillman H. (See Cook and Harvey.)						
Harvey, J. D., *et al.* (See Kilpatrick, Robert L., assignor.)						
Havard, Albert H., Urbana, Ill. Burial-vault	840,937	Jan. 8	2309	507–8	126	629
Haywood, Hampton V., *et al.* (See Cove, George H., assignor.)						
Healey, Patrick J., Boston, Mass. Automobile crane and tip-car	840,489	Jan. 8	1422	314	126	409
Healy, William P. (See Miller, Julius J., assignor.)						
Heath, George S., Revere, assignor to Huff Electrostatic Separator Company, Boston, Mass. Feeder for comminuted material	840,845	Jan. 8	2107	466	126	579
Heberling, John, Rochester, N. Y. Rack	840,696	Jan. 8	1820	402	126	509
Heberling, John, Rochester, N. Y. Dumping-wagon	840,846	Jan. 8	2108	466	126	579
Hegeman, Benjamin A., Jr. (See Field, Henry P., Jr.)						
Heller, Lewis L., and C. W. Hancock, Binghamton, N. Y.; said Hancock assignor to said Heller. Tool for manipulating pneumatic tires	840,938	Jan. 8	2310	508	126	630
Helm, Charles J., *et al.* (See Helm, Frank, assignor.)						
Helm, Frank, assignor of two-thirds to C. J. Helm and E. Roesser, Traverse City, Mich. Woodworker's bench-clamp	841,012	Jan. 8	2442	533	126	663
Hengelsberg, Julius F. (See Lake, Ferdinand, assignor.)						
Henrici, William A. E., Boston, Mass. Clutch	840,847	Jan. 8	2113	466–7	126	580
Herman, Clifton E., Columbus, Ohio. Dumping-car	840,624	Jan. 8	1695	372	126	478
Hewlett, Edward M., Schenectady, N. Y., assignor to General Electric Company. Circuit-breaker	840,848	Jan. 8	2115	467	126	581
Heyl & Patterson (See Patterson, William J., assignor.)						
Hibbard, Henry D., Plainfield, N. J., assignor to Manganese Steel Safe Company, New York, N. Y. Vault	840,490	Jan. 8	1423	314–15	126	409
Hieber, Anthony A. (See Hannahs and Hieber.)						
Hildebrand, George L. (See Greenwald, Isaac W., assignor.)						
Hinchman, Leonidas C. (See Pegau, Arthur C., assignor.)						
Hippey, Edwin S., York, Pa. Railway-frog	840,697	Jan. 8	1823	402	126	510
Hitt, John F. (See Tomlson, Willis A., assignor.)						
Hobbs, John T. (See Wood, Charles H., assignor.)						
Hogrebe, Arthur E. (See Strobel and Hogrebe.)						
Holden, Jonas H. (See Turpin and Holden.)						
Holland, Curtis, Butte, Mont. Bottle-labeling machine	841,013	Jan. 8	2444	534–6	126	663
Holthoff, Henry C., Milwaukee, Wis. Ore-concentrating machine	840,491	Jan. 8	1427	315	126	410
Hopkins, William C., and J. W. Miller; said Miller assignor to McKee and Bliven Button Company, Muscatine, Iowa. Button-machine	840,939	Jan. 8	2311	508	126	630
Hoppes, George D., Springfield, Ohio. Separator	840,492	Jan. 8	1431	316	126	411
Hotchkiss, Cornelia B., Watertown, Conn. Garment-hanger	840,625	Jan. 8	1697	373	126	479
Howe, Frank C., El Paso, Tex. Scoop	840,940	Jan. 8	2315	509	126	631
Howe, Frank C., El Paso, Tex. Scoop	840,941	Jan. 8	2317	509	126	631
Hickle, Thomas W., Standish, Mich. Draft apparatus	840,942	Jan. 8	2319	509–10	126	632
Huff Electrostatic Separator Company. (See Heath, George S., assignor.)						
Huff Electrostatic Separator Company. (See Pickard, Greenleaf W., assignor.)						
Huff Electrostatic Separator Company. (See Wynne, Philip H., assignor.)						
Huff, Russell, assignor to Packard Motor Car Company, Detroit, Mich. Friction-clutch	840,626	Jan. 8	1698	373	126	479
Hunt, Leigh, Iola, Kans. Reinforcing-bar	841,014	Jan. 8	2462	536	126	671
Hutchins, Arthur W., Providence, R. I. Implement for forming lips on glass blown bottles	840,565	Jan. 8	1585	348	126	449
Hutchins, Arthur W., Providence, R. I. Forming glass blown bottles and molds therefor	840,849	Jan. 8	2117	468	126	582
Indiana Manufacturing Company. (See Bodvig, Oscar O., assignor.)						
Indispensable Counter Company. (See Soda, Samuel, assignor.)						
Ingersoll-Rand Company. (See Prellwitz, William, assignor.)						
Ingold, Perry M., Minneapolis, Minn. Grain-sampler for grain-bins	840,943	Jan. 8	2321	510	126	632
International Electric Motor Company. (See Lea, John M., assignor.)						
International Harvester Company. (See Funk and Mickle, assignors.)						
Ives, Norman C., Camden, N. J. Fruit-car bracer	840,770	Jan. 8	1971	435	126	547
J. Stevens Arms & Tool Company. (See Mossberg, Oscar F., assignor.)						
J. M. Robinson Manufacturing Company. (See Frey, Clarence N., assignor.)						
Jackley, Charles T., Wheeling, W. Va. Display-stand	840,493	Jan. 8	1433	316	126	412
Jackson, Amariah W., Chicago, Ill. Steam turbine-engine	840,771	Jan. 8	1972	435–6	126	547
Jackson, Robert T., Magnolia, Ark. Mud and sand guard for vehicle-wheels	840,494	Jan. 8	1435	316	126	413
Jacobson, Henry, Perth Amboy, N. J. Pedal-operating device	841,015	Jan. 8	2443	536	126	671
James Hunter Machine Company. (See Scribner, Charles E. T., assignor.)						
Jaynes, Alfonso L., Toronto, Ontario, Canada. Time-recorder	840,495	Jan. 8	1436	317	126	413
Jeffrey, Joseph A. (See Willson, Freeman R., Jr., assignor.)						
Jelallan, Karnig, New York, N. Y. Pad-holding clip	840,627	Jan. 8	1700	373	126	480
Jeszczewsky, Adolph W., Chicago, Ill. Automatic safety-valve for gas-supply pipes	840,772	Jan. 8	1975	436	126	548
Jennings, William E. (See Logan and Jennings.)						
Jensen, Peter A., Seattle, Wash. Hoof-trimmer	841,016	Jan. 8	2464	537	126	671
Jerdone, Francis, Jr., Chicago, Ill. Draft appliance	841,017	Jan. 8	2465	537–8	126	672
Jeter, Sherwood F., New Haven, Conn. Water-tube boiler	840,566	Jan. 8	1587	348	126	449

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Johnson, Edward P., Grand Forks, N. D. Combination rule and bevel	840,628	Jan. 8	1701	374	126	480
Johnson, Nels, Chicago, Ill. Hand-power propeller	840,944	Jan. 8	2322	510	126	633
Johnson, Thomas C., assignor to Winchester Repeating Arms Co., New Haven, Conn. Box-magazine firearm	840,850	Jan. 8	2121	468	126	583
Johnston, Joseph E., Ardmore, Pa. Wind-shield for vehicles	840,851	Jan. 8	2122	468	126	583
Jones, Charles A., St. Louis, Mo. Davenport-bed	840,852	Jan. 8	2123	469	126	583
Jones, Frank, executor. (See Kiser, Jacob J.)						
Jordan, Otto B., Wonewoc, Wis. Wrench	841,018	Jan. 8	2469	538	126	672
Judson, Leamon H. (See Puttcamp and Judson.)						
Julyan, Frederick. (See Nind and Julyan.)						
Jungers, John, and F. Kessl, Cedar Grove, Wis. Rotary shears	840,698	Jan. 8	1825	402-3	126	510
Justen, Joseph M., assignor of two-fifths to O. Augsbach, Toledo, Ohio. Wrench	840,496	Jan. 8	1440	317	126	414
Kaehl, Ferdinand, Berlin, Germany. Centrifugal machine	840,497	Jan. 8	1441	318	126	414
Kaisling, William, Chicago, Ill., assignor to Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y. Telephone operator's switching device	840,699	Jan. 8	1829	403	126	511
Kaplan, Joseph A., Pittsburg, assignor to J. Rhodes, Allegheny, and W. H. Latshaw, Pittsburg, Pa. Pulley and bushing	841,090	Jan. 8	2615	572	126	710
Karst, Anton. (See Gilsa and Karst.)						
Keady, W. P. (See Taylor, Harry P., assignor.) (Reissue.)						
Keller, Henry E., Decatur, Ind. Brooder	840,498	Jan. 8	1442	318	126	414
Kellogg, William L. (See Wallace and Kellogg.)						
Kendrick & Davis. (See Willis, Halle E., assignor.)						
Kenna, Patrick A., Sydney, New South Wales, Australia. Tobacco-pipe	840,567	Jan. 8	1589	349	126	450
Kent, Randal, Pittsburg, Pa. Bracket	840,773	Jan. 8	1976	436	126	548
Kenyon, Arthur D., Cripple Creek, Colo. Foot-plate for drill-columns	841,019	Jan. 8	2470	538	126	673
Kessl, Franz. (See Jungers and Kessl.)						
Ketchum, Henry G., *et al.* (See Easdale, George, assignor.)						
Ketchum, Zebulum C., *et al.* (See Easdale, George, assignor.)						
Kiefer, Karl, Cincinnati, Ohio. Filtering element. (Reissue)	12,588	Jan. 8	2635	576	126	715
Kilpatrick, Robert L., assignor of one-third to J. D. Harvey and A. C. Browne, Hempstead, Tex. Shovel-plow	840,700	Jan. 8	1831	403	126	512
Kimball, Frank R., *et al.* (See Cove, George H., assignor.)						
King, Albert F. A., Washington, D. C. Stocking	840,629	Jan. 8	1702	374	126	480
King & Hamilton Company. (See Gilman, John H., assignor.)						
King, Robert E., Beaufort, N. C. Smoking device	840,853	Jan. 8	2125	469	126	584
Kingsbury Box & Printing Company. (See Davis, Charles C., assignor.)						
Kiper, Samuel, Duff, Ky. Fire-screen	841,020	Jan. 8	2472	538	126	673
Kirchner, August and W., Cleveland, Ohio. Door-opener	840,630	Jan. 8	1703	374	126	480
Kirchner, William. (See Kirchner, August and W.)						
Kiser, Jacob J., deceased, F. Jones, executor, assignor to W. E. Kiser, Stansberry, Mo. Adjustable curtain-fixture	841,089	Jan. 8	2615	572	126	710
Kiser, William E. (See Kiser, Jacob J., assignor.)						
Klein, Gus, *et al.* (See Marcus, André, assignor.)						
Kleinvogel, Friedrich, Newport, Ky. Driving mechanism with alternately-acting levers	841,021	Jan. 8	2473	539	126	674
Knowlson, John, Troy, N. Y. Speed-governor	840,499	Jan. 8	1443	318	126	415
Knowlton, Harry C., assignor to F. P. Aborn, Lynn, Mass. Gage or measuring device	840,568	Jan. 8	1590	349	126	450
Krakau, Harry T., assignor to National Malleable Castings Company, Cleveland, Ohio. Uncoupling mechanism for railway-cars	840,774	Jan. 8	1979	436-7	126	549
Krantz, Hubert F., Brooklyn, N. Y. Electrical switch mechanism. (Reissue)	12,589	Jan. 8	2637	576	126	716
Kreis, Gustavus A. (See Nye, George E., assignor.)						
Kremer, Francis, Manchester, Okla. Ter. Roost for chickens	840,631	Jan. 8	1704	375	126	481
Kristensen, Sigvald A. C., Sötorp per Valby, near Copenhagen, assignor to Andelsselskabet Internationalt Metallotypikompagni, Limited, Copenhagen, Denmark. Stereotyping						
Krumling, Heinrich, Chicago, Ill. Stock-nursing appliance	840,775	Jan. 8	1980	.....	126	550
Krupp Aktiengesellschaft, Fried. (See Ziegenfuss, Friedrich, assignor.)	840,632	Jan. 8	1705	375	126	481
Kuklelski, Anton, Jersey City, N. J. Wagon-dumping mechanism	840,854	Jan. 8	2127	469	126	584
Kunick, George, London, England. Homogenizing emulsions	840,500	Jan. 8	1445	.....	126	415
Lackner, Frederick, assignor to Neely Nut & Bolt Company, Pittsburg, Pa. Nut-machine	840,776	Jan. 8	1982	437-8	126	550
Ladd Metals Company *et al.* (See Adams and Powell, assignors.)						
Ladd, John P., Alliance, Ohio. Gate-valve	840,633	Jan. 8	1707	375	126	481
Ladoff, Anna M., *et al.* (See Ladoff, Isador, assignor.)						
Ladoff, Isador, Schenectady, assignor to P. C. Peck, New York, and A. M. Ladoff, Schenectady, N. Y. Electrical conductor for lighting purposes	840,634	Jan. 8	1708	376	126	482
Lahm, Ferdinand, assignor of one-half to J. F. Hengelsberg, St. Louis, Mo. Combined rocking and reclining chair	841,022	Jan. 8	2474	539	126	674
Lamareaux, Corwin, assignor to Richards Manufacturing Company, Aurora, Ill. Fire-door-releasing device	840,701	Jan. 8	1832	403	126	512
Lambert, John C., Tonica, Ill. Wagon-tongue support	840,635	Jan. 8	1710	376	126	482
Lamp Manufacturing Company. (See Welch, William H. I., assignor.)						
Lamson Consoliated Store Service Company. (See Taisey, Fred R., assignor.)						
Lane, Robert S. G., assignor of one-half to R. J. H. and E. L. Titcombe, Detroit, Mich. Pressed-steel axle	840,945	Jan. 8	2324	511	126	633
Lapo, Jessie. (See Bergman, Erick P., assignor.)						
Latshaw, William H., *et al.* (See Kaplan, Joseph A., assignor.)						
Lawson, Charles W., Waterbury, Conn. Frame-clamp	840,777	Jan. 8	1985	439	126	551
Le Sueur, Philip, Calabasas, Cal. Hub-attaching device	841,025	Jan. 8	2478	540	126	675
Le-White Manufacturing Company. (See Whitehouse, John N., assignor.)						
Lea, John M., assignor to International Electric Meter Company, Chicago, Ill. Electrical measuring instrument	840,569	Jan. 8	1591	349	126	450
Leatherbury, George S. (See Summers, Emmett L., assignor.)						
Lemp, William E., Mobile, Ala. Railway-signal	841,023	Jan. 8	2475	539	126	674
Lennox, Talbot, assignor to McGuire-Cummings Manufacturing Company, Chicago, Ill. Railway-crossing	840,501	Jan. 8	1446	318-19	126	415
Leon, Karl O., Stockholm, Sweden. Attachment for range-finders	840,778	Jan. 8	1986	439-40	126	551
Leonard, Addison H. (See Elliott and Leonard.)						
Leonard, Charles N., assignor to W. D. Allison, Indianapolis, Ind. Massage-vibrator	841,024	Jan. 8	2477	540	126	675
Levalley, Christopher W., Milwaukee, Wis. Conveyer	840,502	Jan. 8	1446	319	126	416
Levy, Charles M., New York, N. Y. Ring	840,946	Jan. 8	2324	511	126	634
Levy, Leopold, *et al.* (See Marcus, André, assignor.)						
Lewis, Joseph D., St. Paul, Minn. Eyeglasses	841,026	Jan. 8	2479	540	126	675
Libby, Edward D., Westbrook, Me. Roll-stand for spinning-frames	840,779	Jan. 8	1982	440	126	551
Lienhard, Robert A., La Chaux-de-Fonds, Switzerland. Engraving-machine	840,570	Jan. 8	1592	350	126	451
Ligon, Bedford D., and W. E. Jennings, Robard, Ky. Plow	840,780	Jan. 8	1983	440	126	552
Lillow, Charles E., assignor to Cleveland Ladder-Scaffold Company, Cleveland, Ohio. Scaffold	840,636	Jan. 8	1711	376-7	126	482
Lindsay, Thomas J., Indianapolis, Ind. Body-support for axles	840,781	Jan. 8	1984	440	126	552
Lindsay, Thomas J., Indianapolis, Ind. Steering-spindle	840,782	Jan. 8	1985	441	126	552
Linzee, John W., Jr., Boston, Mass. Concrete-and-metal structure	840,571	Jan. 8	1594	350	126	451

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Liese, John B., Marine City, Mich. Extension-table	840,783	Jan. 8	1966	441	126	553
Lobdell Car Wheel Company. (See Stuart, Joseph, assignor.)						
Locher & Cie. (See Locher, Fritz, assignor.)						
Locher, Fritz, assignor to Locher & Cie., Zürich, Switzerland. Mold for constructing hollow concrete columns	840,637	Jan. 8	1714	377	126	483
Locher, Fritz, assignor to Locher & Cie., Zürich, Switzerland. Apparatus for constructing hollow concrete columns	840,638	Jan. 8	1715	377-8	126	483
Loeb, Isaac, *et al.* (See Goldsmith, Daniel, assignor.)						
Loggie, George W., Bellingham, Wash. Stave-column	840,639	Jan. 8	1717	378	126	484
Loggins, John T. (See Elliott and Loggins.)						
Long, Malcolm W., Harrisburg, assignor to Pennsylvania Steel Company, Philadelphia, Pa. Switch-stand	840,572	Jan. 8	1596	350	126	451
Lorenz, William A., Hartford, Conn. Hermetic closure for receptacles	841,027	Jan. 8	2480	540	126	675
Lowe, William I., Sentinel, Okla. Ter. Machine for opening cotton-bolls	840,784	Jan. 8	1997	441-2	126	553
Lutzhoff, Elmer E., assignor to H. C. Marsh, Rockford, Ill. Miter-box	840,640	Jan. 8	1719	378	126	484
Lydon, Timothy, Baltimore, Md. Apparatus for drawing water from cisterns	840,855	Jan. 8	2129	469	126	585
MacClernan, Richard H., West Philadelphia, assignor to Contractors Wagon Company, Philadelphia, Pa. Dump-wagon	840,785	Jan. 8	1999	442	126	553
Maconochie, Richardson, Birmingham, England. Indicator	841,028	Jan. 8	2483	541	126	676
Maloney, Charles L., Denver, Colo. Displaying and vending device	840,702	Jan. 8	1833	404	126	513
Mandel, Louis, Chicago, Ill. Magazine developing-camera	840,786	Jan. 8	2001	443	126	554
Manganese Steel Safe Company. (See Hibbard, Henry D., assignor.)						
Mansfield, Albert K., Batavia, Ill. Tower for electric transmission-cables	840,947	Jan. 8	2325	511	126	634
Manufacturer's Engineering Company. (See Black, Samuel D., assignor.)						
Mapes, William T. assignor of one-half to W. McKinley and L. W. Baird, Ogden, Ill. Match-box	840,856	Jan. 8	2131	470	126	585
Marcus, André, assignor to A. Cazeaux, G. Klein, and L. Levy, Shreveport, La. Labeling-machine	841,029	Jan. 8	2484	541	126	676
Marhoff Reel Co. (See Marhoff, Walter E., assignor.)						
Marhoff, Walter E., assignor to Marhoff Reel Co., Kalamazoo, Mich. Fish-line reel	840,948	Jan. 8	2328	512	126	634
Marion Incline Filter and Heater Company. (See Stump, Reidenbaugh, and Packard, assignors.)						
Marks, Arthur H., Akron, Ohio. Vehicle-tire	840,503	Jan. 8	1450	319	126	416
Marsh, H. Clarence. (See Lutzhoff, Elmer E., assignor.)						
Marshall, Albert L., New Orleans, La. Apparatus for crystallization	841,030	Jan. 8	2485	541	126	676
Martins, Alfred F., New York, assignor of two-fifths to A. P. De Marmon, Yonkers, N. Y. Pad for horseshoes	841,031	Jan. 8	2487	542	126	677
Matcovitch, Nicholas N. S., San Francisco, assignor to J. E. Moore, Los Angeles, Cal. Electric heater	840,857	Jan. 8	2132	470	126	585
Matheson Motor Car Company. (See Greuter, Charles B., assignor.)						
May, Rudolf A., Akron, Ohio. Fire-pot for stoves or furnaces	840,641	Jan. 8	1719	378	126	485
May, William R., Newton, Mass. Variable-speed gearing	840,504	Jan. 8	1451	320	126	416
McAtlin, William D., Tullvania, assignor of one-half to J. H. McConnell, Adair, Mo. Hay-stacker	841,094	Jan. 8	2623	574	126	712
McConnell, John H. (See McAtlin William D., assignor.)						
McCumber, Carlton G. (See Barker and McCumber.)						
McGee, John J., New York, N. Y. Piston-packing	840,793	Jan. 8	2014	445	126	557
McGuire-Cummings Manufacturing Company. (See Lennox, Talbot, assignor.)						
McKee and Bliven Burton Company. (See Hopkins and Miller, assignors.)						
McKenzie, Thomas W., Kenton, Manitoba, Canada. Telegraphic apparatus	840,508	Jan. 8	1458	321	126	418
McKinley, Melvin, assignor of one-half to E. F. Timmons, Coshocton, Ohio. Slitting-machine	841,037	Jan. 8	2498	544	126	680
McKinley, William, *et al.* (See Mapes, William T., assignor.)						
McLeod, Angus and J. H., Marietta, Kans. Automatic weigher	841,038	Jan. 8	2499	545-6	126	680
McLeod, John H. (See McLeod, Angus and J. H.)						
McMillan, Marion A., Stedman, Cal. Combined nail-puller and band-cutter	840,580	Jan. 8	1611	354	126	456
McVoy, Vincen P., Pensacola, Fla., assignor to J. W. Wade, Mobile, Ala. Sap-extractor	841,039	Jan. 8	2506	546	126	681
Mead, Edward C., Elkhart, Ind. Invalid-bed	840,787	Jan. 8	2003	443	126	554
Meade, Lemuel G., Paint Rock, Ala. Cutting-harrow	840,788	Jan. 8	2006	443	126	555
Meilgren, John A., East Union, Minn. Apparatus for driving posts	841,032	Jan. 8	2488	542	126	677
Mendenhall, Walter S., assignor to Sam'l C. Tatum Company, Cincinnati, Ohio. Temporary binder	840,949	Jan. 8	2332	512	126	636
Merrick, Robert, Jr., and O. E. Miller, Hopedale, Ohio. Heel-plate	840,505	Jan. 8	1454	321	126	417
Merritt, Mortimer G., assignor to Rome Metallic Bedstead Company, Rome, N. Y. Corner-fastener for bedsteads	840,858	Jan. 8	2134	470	126	586
Mersman, Frank J. and J., Ottawa, Ohio. Telephone-exchange system	841,033	Jan. 8	2489	542-3	126	678
Mersman, Joseph. (See Mersman, Frank J. and J.)						
Messiter, Edwin H., New York, N. Y. Furnace-charging apparatus	840,573	Jan. 8	1597	350-1	126	453
Messiter, Edwin H., New York, N. Y. Furnace-charging apparatus	840,574	Jan. 8	1601	351	126	453
Messiter, Edwin H., New York, N. Y. Furnace-charging apparatus	840,575	Jan. 8	1603	351-2	126	453
Metzner, John C. (See Potts, Elijah W., assignor.)						
Mickle, Charles E. (See Funk and Mickle.)						
Millard, Fred D., Burlington, Iowa. Turbine	840,576	Jan. 8	1605	352	126	454
Miller, Andrew, Connellsville, Pa. Holding and releasing mechanism for brake-shafts	841,091	Jan. 8	2617	572-3	126	710
Miller, Charles E., Anderson, Ind. Machine for wrapping tires	840,642	Jan. 8	1721	379	126	485
Miller, John W. (See Hopkins and Miller.)						
Miller, John Z. (See Barrett, George E., assignor.)						
Miller, Julius J., St. Joseph, Mich., assignor to W. P. Healy, Chicago, Ill. Machine for use in making wire-bound boxes	840,703	Jan. 8	1836	404-6	126	513
Miller, Ottis E. (See Merrick and Miller.)						
Milwaukee Casket Company. (See Swarts, Warren E., assignor.)						
Misland, Joseph A., New York, N. Y. Commutator brush and holder for dynamos and the like	840,506	Jan. 8	1455	321	126	417
Mitchell, John E., and D. Parks, assignors to Mitchell-Parks Manufacturing Co., St. Louis, Mo. Gravity molding apparatus	840,789	Jan. 8	2007	444	126	555
Mitchell-Parks Manufacturing Co. (See Mitchell and Parks, assignors.)						
Mitcheson, Ernest J., Toronto, Ontario, Canada. Merry-go-round	840,790	Jan. 8	2011	444	126	556
Möhring, Hermann, assignor to Commercial Firm "Carl Spiegel," St. Petersburg, Russia. Spring-washer	840,791	Jan. 8	2012	444	126	556
Moore, J. Earl. (See Matcovitch, Nicholas N. S., assignor.)						
Moore, Marguerite E. (See Moore, Robert H. and M. E.)						
Moore, Otto N., Indianapolis, Ind. Advertising device	840,577	Jan. 8	1607	352	126	454
Moore, Robert H. and M. E., New York, N. Y. Passenger-car	840,704	Jan. 8	1846	406	126	517
Moran, Léon, Plainfield, N. J. Amusement device	840,705	Jan. 8	1846	406	126	517
Morden, Lucena M., Waterbury, Conn. Temporary binder	840,643	Jan. 8	1723	379	126	485
Morden, Lucena M., Waterbury, Conn. Book-ring with locking-arms	841,034	Jan. 8	2493	543	126	678
Morgan, Doctor F., Chicago, Ill. Damper-regulator	840,644	Jan. 8	1724	379	126	485
Morgan, Robert, St. Paul, Minn. Railway-rail and chair therefor	840,950	Jan. 8	2333	512	126	636
Morley, Clarence J., *et al.* (See Canfield, Frank, assignor.)						
Morris, John E., assignor of one-half to E. Glass, Columbus, Ohio. Electrical switch	841,035	Jan. 8	2494	543	126	679

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Morrison, Mackintosh M., Calumet, Mich. Forging-machine	840,578	Jan. 8	1608	352–3	126	455
Morse, Harvey P., Dundee, Mich. Fence-post	841,086	Jan. 8	2497	543–4	126	679
Morse, Henry G., deceased; M. K. Morse, executrix, Philadelphia, Pa., assignor to New York Shipbuilding Company, Camden, N. J. Punching-machine	840,589	Jan. 8	2125	470–3	126	586
Morse, Mary K., executrix. (See Morse, Henry G.)						
Morse, Walter G., Waterbury, Conn. Pipe-cap	840,702	Jan. 8	2013	445	126	557
Morton, Baxter, New York, N. Y. Tripper or deliverer for belt conveyers	840,579	Jan. 8	1610	353	126	455
Mossberg, Oscar F., assignor to J. Stevens Arms & Tool Company, Chicopee Falls, Mass. Breech-loading firearm	840,507	Jan. 8	1456	321	126	418
Mueller, Henry, assignor to H. Mueller Manufacturing Co., Decatur, Ill. Self-closing cock	841,092	Jan. 8	2019	573	126	711
Mueller, Henry, and A. Schuermann, assignors to H. Mueller Manufacturing Co., Decatur, Ill. Basin-cock	841,093	Jan. 8	2021	573–4	126	711
Müller, Otto, New York, N. Y. Faucet	840,820	Jan. 8	2143	474	126	587
Myers, Nancy S. A. E., Holland, Tex. Bed	840,645	Jan. 8	1726	380	126	486
National Cigar Stands Company. (See Earnshaw, Elmer E., assignor.)						
National Gas Drill Company. (See Duryea and White, assignors.)						
National Gas Light Co. (See Doorenbos, John, assignor.)						
National Machine Company. (See Wood, Alfred, assignor.)						
National Malleable Castings Company. (See Krakau, Harry T., assignor.)						
Neale, Henry C., Philadelphia, Miss. Brake	840,851	Jan. 8	2334	512–13	126	637
Neeland, Marvin A., Youngstown, Ohio. Blowing-engine valve	841,089	Jan. 8	2508	546–7	126	682
Neely Nut & Bolt Company. (See Lackner, Frederick, assignor.)						
Neill, Samuel M., Guelph, Ontario, Canada. Stove and the like	840,861	Jan. 8	2144	474	126	588
Nelms, Robert P., Jacksonville, Fla. Electric time-switch for beacons	840,646	Jan. 8	1727	380	126	486
Nelson, David, Burma, Ark. Mechanical movement	840,581	Jan. 8	1613	354	126	456
Nelson, Erik J., Chicago, Ill. Trench-shovel	840,862	Jan. 8	2145	474	126	588
New York Shipbuilding Company. (See Morse, Henry G., assignor.)						
Newkirk Glass Company. (See George and Shortle, assignors.)						
Newsom, Millard F., Cross Cut, Tex. Rake-head	840,647	Jan. 8	1728	381	126	487
Niles-Bement-Pond Company. (See Strobel and Hogrebe, assignors.)						
Nind, Frederick G., and F. Julyan, assignors to Nind Paper Folder Company, Chicago, Ill. Paper-folding machine	840,509	Jan. 8	1460	322–3	126	419
Nind Paper Folder Company. (See Nind and Julyan, assignors.)						
Noles, Wilson, Montrose, Iowa. Shaft or tongue support for vehicles	841,041	Jan. 8	2510	547	126	682
Norris, Almon E., Cambridge, Mass. Hoisting-engine	841,042	Jan. 8	2511	547–8	126	683
Norris, William M., Princeton, N. J. Treating hides and skins	840,794	Jan. 8	2017	.....	126	557
Norton, James A., assignor of one-half to W. L. Raeder, Wilkes-Barre, Pa. Trolley-wheel	840,648	Jan. 8	1730	381	126	487
Nye, George E., assignor of one-half to G. A. Kreis, Chicago, Ill. Interlocking metal sheet-piling	840,862	Jan. 8	2238	513	126	637
Nye Tool and Machine Works. (See Beck, Edward E., assignor.)						
O'Neill, John F., Newburgh, N. Y. Electric alarm device	840,582	Jan. 8	1614	354	126	457
Oakman, Richard N., New York, N. Y. Apparatus for regulating gas-ports	840,795	Jan. 8	2018	445	126	558
Oakman, Richard N., New York, N. Y. Gas-controlling device	840,796	Jan. 8	2019	446	126	558
Oakville Company. (See Savage, Orrin H., assignor.)						
Ohio Pump and Brass Company. (See Wilkins, Charles L., assignor.)						
Ohlhaver, Hinrich P. D., Saude, near Bergedorf, Germany. Milking-machine	840,510	Jan. 8	1466	323–4	126	420
Olinger, Jacob M., Springfield, Ohio. Trolley-pole connection	840,649	Jan. 8	1731	381–2	126	488
Ortt, Jay B., Chicago, Ill. Combination-lifter	840,650	Jan. 8	1734	382	126	488
Osborne, Eugene F., Chicago, Ill. Safety-valve for high-pressure tanks	841,095	Jan. 8	2027	575	126	712
Ostrander, Allen E., Paterson, N. J., assignor to American Car & Foundry Company, St. Louis, Mo. Gondola car	840,797	Jan. 8	2020	446	126	558
Ostrander, Allen E., Paterson, N. J., assignor to American Car & Foundry Company, St. Louis, Mo. Hopper-bottom gondola car	840,798	Jan. 8	2022	447	126	559
Otto, Horace Y., Williamsport, Pa. Paper-roll holder	840,651	Jan. 8	1735	382	126	488
Owen, Peter M., Hopkinsville, Ky. Mosquito-bar support	840,652	Jan. 8	1736	382	126	489
Paar, Henry, Canton, Ohio. Soft-tread horseshoe	840,708	Jan. 8	1843	406	126	518
Paar, Henry, Canton, Ohio. Machine for inserting and withdrawing tire-wires	840,709	Jan. 8	2024	447	126	559
Packard, Edwin D. (See Stump, Reidenbaugh, and Packard.)						
Packard Motor Car Company. (See Huff, Russell, assignor.)						
Packard, Robert L., Washington, D. C. Extracting metals from sulfid ores	840,511	Jan. 8	1467	324	126	421
Paff, George A., Sharon, Pa., assignor to American Steel & Wire Company, Worcester, Mass. Wire-drawing apparatus	840,707	Jan. 8	1849	407	126	518
Page, Albert A., East Haven, assignor to Sargent & Company, New Haven, Conn. Knob attachment	840,653	Jan. 8	1738	383	126	489
Palmer, Earl M., Plymouth, Ohio. Clothes-rack	840,512	Jan. 8	1469	324	126	421
Palmer, Melvin W., Catskill, N. Y. Liquid-freezer	841,043	Jan. 8	2512	548–9	126	683
Palous, Joseph L., Berlin, Germany. Device for purifying air containing dust	840,654	Jan. 8	1739	383	126	489
Parks, Dennis. (See Mitchell and Parks.)						
Parrish, Arthur L. (See Rice, Charles E., assignor.)						
Parrott, Elijah D., Portland, Oreg. Carbureter	840,708	Jan. 8	1851	407–8	126	518
Partridge, Frank P. (See Everett, Henry F., assignor.)						
Patterson, James W., New York, N. Y. Coin-operated vending-machine	840,513	Jan. 8	1470	325	126	421
Patterson, William J., assignor to Heyl & Patterson, Incorporated, Pittsburg, Pa. Traveling hopper	840,863	Jan. 8	2146	474–5	126	588
Pearsall Pneumatic Tube and Power Company. (See Batcheller, Birney C., assignor.)						
Peck, Philip C., *et al.* (See Ladoff, Isador, assignor.)						
Pedersen, John, Stamford, Conn. Sled-runner	840,953	Jan. 8	2336	513	126	637
Pegan, Arthur C., assignor of one-half to L. C. Hinchman, Indianapolis, Ind. Locked coat-hook	840,800	Jan. 8	2026	448	126	560
Pellew, Richard, Manchester, England. Garment-fastening	840,655	Jan. 8	1740	383	126	490
Pennsylvania Steel Company. (See Alden, Charles A., assignor.)						
Pennsylvania Steel Company. (See Long, Malcolm W., assignor.)						
Perry, Joseph, Providence, R. I. Curtain-pole	841,044	Jan. 8	2514	549	126	684
Peterson, Bernhard, Cranston, assignor to Geo. Becker & Co., Providence, R. I. Bracelet	840,864	Jan. 8	2148	475	126	589
Pfatischer, Mathias, assignor to R. Thayer, Philadelphia, Pa. Electrically-propelled vehicle	840,865	Jan. 8	2149	475	126	589
Pfatischer, Mathias, assignor to R. Thayer, Philadelphia, Pa. Electrically-propelled vehicle	840,866	Jan. 8	2152	476	126	590
Pfautz, Daniel M., Germantown, assignor of one-half to W. H. Tigerman, Philadelphia, Pa. Elevated-railway system	840,801	Jan. 8	2030	448	126	560
Pfoser, Adolf, Achern-Baden, Germany. Flame-furnace	840,709	Jan. 8	1850	408	126	519
Pickard, Greenleaf W., Amesbury, assignor to Huff Electrostatic Separator Company, Boston, Mass. Electrostatic separator						
Pickels, William D., Chicago, Ill. Relief-valve	840,802	Jan. 8	2032	449	126	561
Pinder, Joseph W., San Francisco, Cal. Ore-concentrator. (Reissue)	840,803	Jan. 8	1451	354–5	126	457
Pinkerton, Henry S., Juno, Tex. Valve	12,899	Jan. 8	2048	576–7	126	718
Piper, Roy W., Warnock, Ohio. Game apparatus	840,864	Jan. 8	2330	512–14	126	638
	840,534	Jan. 8	1515	355	126	458

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Pitney, Charles H. (See Shepardson and Pitney.)						
Potts, Elijah W., assignor of one-half to J. C. Metzner, Detroit, Mich. Machine for applying capsules to bottles	840,710	Jan. 8	1854	408–9	126	519
Potts, John W. (See Snyder and Potts.)						
Powell, Frederick. (See Adams and Powell.)						
Prätorius, Hugo E., Leipsic, Germany. Safety-lock	840,514	Jan. 8	1472	325	126	422
Prellwitz, William, Easton, Pa., assignor to Ingersoll-Rand Company, New York, N. Y. Hammer-drill	840,803	Jan. 8	2031	449	126	561
Prentice, George E., assignor to Traut & Hine Manufacturing Company, New Britain, Conn. Clasp for garment-supporters	840,515	Jan. 8	1473	325	126	422
Prescott, Jesse, Webster, Mass. Wall-plug	840,804	Jan. 8	2032	449	126	561
Pressed Steel Car Company. (See Ditchfield, Frank, assignor.)						
Price, John R., Fond du Lac, Wis. Dustless broom	841,045	Jan. 8	2515	549	126	684
Pride, Guy R., Jacksonville, Fla. Apparatus for extracting turpentine from wood	840,955	Jan. 8	2341	514	126	638
Pride, Guy R., Jacksonville, Fla. Steam-joint	840,956	Jan. 8	2343	514	126	639
Pride, Guy R., Jacksonville, Fla. Vessel or carrier	840,957	Jan. 8	2344	514	126	639
Proal, Arthur B., Jr., New York, N. Y. Tripper or deliverer for belt conveyers	840,585	Jan. 8	1620	355–6	126	458
Pullman Company. (See Dodds, Ethan I., assignor.)						
Puls, Louis, Davenport, Iowa. Scoop-board for wagon-boxes	840,656	Jan. 8	1741	383	126	490
Puttcamp, Albert H., and L. H. Judson, Los Angeles, Cal. Key-fastener	840,711	Jan. 8	1857	409	126	519
Raeder, William L. (See Norton, James A., assignor.)						
Railroad Supply Company. (See Vaughan, Henry H., assignor.) (Reissue.)						
Rainville, Victor, Nashua, N. H., assignor to Draper Company, Hopedale, Mass. Harness-controlled stop-motion for looms	840,958	Jan. 8	2346	515	126	639
Ralston, William M., Fostoria, Ohio. Railway-signal	841,046	Jan. 8	2517	550	126	684
Rasmussen, Erik A., Hot Springs, S. D. Railway-tie	840,959	Jan. 8	2348	515	126	640
Rawdon, Charles R., St. Louis, Mo. Wrench	841,047	Jan. 8	2519	550	126	685
Rech, Friedrich, Ehrenfeld, near Cologne, Germany. Street-lamp	840,586	Jan. 8	1622	356	126	458
Reed, Franklin M., assignor to Wayne Stove Company, Fort Wayne, Ind. Oil-burning stove	840,657	Jan. 8	1743	384	126	490
Reger, Conrad, Philadelphia, Pa. Sheet-metal pulley	840,658	Jan. 8	1745	384–5	126	491
Reid, Alban H., Philadelphia, Pa. Regenerative pasteurizing system	840,960	Jan. 8	2349	516	126	640
Reid, Charles W., Milford, Del. Regenerative pasteurizing system	840,961	Jan. 8	2351	516	126	641
Reidenbaugh, John. (See Stump, Reidenbaugh, and Packard.)						
Reilly, Bernard T., assignor of three-fourths to L. French and M. C. Gaertner, Wilkes-Barre, Pa. Signal and alarm attachment for mine-hoists	840,659	Jan. 8	1748	385	126	491
Reinhardt, Otto F. F. T. (See Risser and Reinhardt.)						
Rennert, Otto, London, England. Switching arrangement	840,516	Jan. 8	1474	326	126	422
Reuter, Ludwig H., New York, N. Y. Making terpin hydrate	840,962	Jan. 8	2354	.....	126	642
Revere Rubber Company. (See Cobb, Henry Z., assignor.)						
Rhodes, Joshua, *et al.* (See Kaplan, Joseph A., assignor.)						
Rice, Charles E., Livermore, assignor of one-half to A. L. Parrish, Owensboro, Ky. Headlight for stock	841,048	Jan. 8	2521	550	126	685
Rice, John V., Jr., Edgewater Park, N. J. Hydrocarbon rock-drill	840,867	Jan. 8	2157	476	126	591
Richards Manufacturing Company. (See Lamareaux, Corwin, assignor.)						
Richardson, John F., assignor of one-half to J. C. Wardell, Montreal, Quebec, Canada. Electrical distribution and control in body appliances for medical purposes	840,868	Jan. 8	2160	477	126	592
Rickard, Rebecca, New York, N. Y. Snow and ice melter	840,517	Jan. 8	1475	326	126	422
Riebe, August, Berlin, Germany. Ball-bearing	840,805	Jan. 8	2033	449	126	562
Riker, Andrew L., Short Hills, assignor, by mesne assignments, to Electric Vehicle Company, Jersey City, N. J., and Hartford, Conn. Steering mechanism for vehicles	840,660	Jan. 8	1751	385–6	126	492
Risser, Arthur I., and O. F. F. T. Reinhardt, Chicago, Ill., assignors to R. H. Carnahan, Indianapolis, Ind. Lock for loose-leaf binders	840,963	Jan. 8	2355	517	126	642
Roake, John S., New York, N. Y. Ventilating apparatus	841,049	Jan. 8	2521	551	126	685
Robert, Jean L., Lonsdale, R. I. Implement for dismantling builders' stagings	841,050	Jan. 8	2524	551	126	685
Robins, Thomas, Jr., New York, N. Y., and C. K. Baldwin, Chicago, Ill. Tripper or deliverer for conveying apparatus	840,587	Jan. 8	1624	356–7	126	459
Rodman, James A., assignor of one-half to J. H. Sherard, Sherard, Miss. Cutting apparatus for harvesters	840,518	Jan. 8	1476	326	126	423
Roesser, Edward, *et al.* (See Heim, Frank, assignor.)						
Rollins, Charles H., Watertown, assignor of one-half to E. W. Anthony, Brookline, Mass. Floor connection for water-closets	840,712	Jan. 8	1858	409	126	520
Rome Metallic Bedstead Company. (See Merritt, Mortimer G., assignor.)						
Rood, Clarence E., New York, N. Y., and J. Goettel, Boston, Mass. Oil-saving device for journal-boxes	841,051	Jan. 8	2525	551	126	686
Rood, William B., Ware, Mass. Pocket-book	840,661	Jan. 8	1755	386	126	494
Ross, George H. D., assignor of one-half to D. Garber, La Junta, Colo. Beet-seeder	840,713	Jan. 8	1859	410	126	520
Rothberg, Mathew E., and A. Ernst, Pittsburg, Pa. Coke-oven	841,052	Jan. 8	2527	551–2	126	686
Rourk, Joseph D., and G. J. A. Baddeley, New York, N. Y. Vehicle	840,588	Jan. 8	1626	357	126	459
Rouse, Charles, Pittsburg, Pa. Support for conveyer-belts	841,053	Jan. 8	2530	552	126	687
Rouse, Charles, Pittsburg, Pa. Support for conveyer-belts	841,096	Jan. 8	2629	575	126	713
Routt, Hiram, Dallas Center, Iowa. Post-mold	840,964	Jan. 8	2357	517	126	642
Rubber and Celluloid Harness Trimming Co. (See Graul, Fredrick, assignor.)						
Ruddy, Robert, Mount Vernon, N. Y. Assembling patterns on pattern-plates	840,869	Jan. 8	2162	477	126	592
Ruddy, Robert, Mount Vernon, N. Y. Apparatus for locating patterns on pattern-plates	840,870	Jan. 8	2164	477–8	126	592
Russell, Read, Warren, Ill. Car-truck	840,519	Jan. 8	1478	326–7	126	423
Sadler, Louis E., assignor to F. H. Sadler Co., Attleboro, Mass. Bracelet-locket	840,871	Jan. 8	2166	478	126	593
Sam'l C. Tatum Company. (See Mendenhall, Walter S., assignor.)						
Sargent & Company. (See Page, Albert A., assignor.)						
Sargent & Company. (See Shaw, John H., assignor.)						
Sargent & Company. (See Sparks, William E., assignor.)						
Savage, Orrin H., New York, N. Y., assignor to Oakville Company, Waterbury, Conn. Device for applying sterilizers to mouthpieces	840,662	Jan. 8	1756	386	126	494
Sawyer, Harry, Muskegon, Mich. Resistance-card	841,054	Jan. 8	2531	552–3	126	687
Schaefer, Nickles J., Ardmore, S. D. Fence-post	841,055	Jan. 8	2534	553	126	688
Scharf, Gregory H., Ypsilanti, Mich. Draft-regulator for furnaces	840,520	Jan. 8	1479	327	126	424
Schebler, Alfred, Aaran, Switzerland. Tool for testing the currents in electric wires	840,714	Jan. 8	1862	410	126	521
Schmachtenberg, William, New York, N. Y. Safety-razor	840,965	Jan. 8	2358	517	126	642
Schmidt, George A. (See Falk, Louis A., assignor.)						
Schmidt, Paul, assignor to Elektr. Isolir-und Installationsartikelerzeugung, Ingre.						
Schott & Schildorfer, Vienna, Austria-Hungary. Apparatus for covering cables, rods, tubes, and the like	840,715	Jan. 8	1862	410–11	126	521
Schroder, Heinrich, *et al.* (See Graeve, Louis von, assignor.)						
Schroeder, Frederick W., London, England. Apparatus for shaping the ends of billiard-cues	840,716	Jan. 8	1864	411	126	521
Schuermann, Anton. (See Mueller and Schuermann.)						
Schuessler, Gustavus W., Meeks, Tex. Telephone-signal	840,582	Jan. 8	1628	357	126	460
Schultz, Mack, Buffalo, N. Y. Protective device	840,717	Jan. 8	1864	411	126	522
Schuneman, John H., Cedar Falls, Iowa. Hay-rack	840,663	Jan. 8	1758	387	126	494

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Schuppe, Max, assignor to B. F. Seadler, New York, N. Y. Blacking and paste receptacle and attachment therefor	840,884	Jan. 8	1759	387	126	495
Scott, Wilber H., Ottawa, Ontario, Canada. Cheese-cutting machine	840,906	Jan. 8	2035	450	126	562
Scribner, Charles E. T., assignor to James Hunter Machine Company, North Adams, Mass. Drier for fibrous materials	841,056	Jan. 8	2535	533	126	689
Seadler, Bernard F. (See Schuppe, Max, assignor.)						
Shaw, John H., assignor to Sargent & Company, New Haven, Conn. Combined door check and spring	840,872	Jan. 8	2167	478	126	563
Sheldon, Edward N., Belleville, Kans. Hair-tonic	841,057	Jan. 8	2537		126	689
Shem, George W., assignor to Alliance Machine Company, Alliance, Ohio. Take-up device for crane lifts or hoists	840,807	Jan. 8	2087	450	126	563
Shepardson, Jedediah N., and C. H. Pitney, assignors to Triumph Voting Machine Company, Pittsfield, Mass. Interlock for regular and independent voting mechanism	840,521	Jan. 8	1482	328	126	424
Shepherd, Gilbert C., New York, N. Y. Temporary binder	840,665	Jan. 8	1761	387	126	495
Sherard, John H. (See Rodman, James A., assignor.)						
Sherlock, Dominic, Pittsburg, Pa. Folding clothes-rack	841,058	Jan. 8	2538	554	126	689
Shersmith, Frank, Oconomowoc, Wis. Hinge	840,966	Jan. 8	2360	517	126	643
Shoemaker, Guy W. (See Trout, Miles M., assignor.)						
Shoemaker, Reginald H., Jr. (See Shoemaker, Richard W., assignor.)						
Shoemaker, Richard W., assignor of fifty-five one-hundredths to R. H. Shoemaker, Jr., Pasadena, Cal. Visual recorder for telephone systems	840,718	Jan. 8	1886	411-12	126	522
Shortle, Christopher M. (See George and Shortle.)						
Shutt, John E., Ganado, Tex. Gasket	841,059	Jan. 8	2539	554	126	690
Simplex Railway Appliance Company. (See Bauer, Carl E., assignor.)						
Sliga, John, Cleveland, Ohio. Door-lock	840,666	Jan. 8	1763	388	126	495
Smith, Edward R., Oshkosh, Wis. Future-sales record-book	841,060	Jan. 8	2540	554	126	690
Snow, Frederick, assignor, by mesne assignments, to Conkling Company, Chicago, Ill. Driving and reversing mechanism	841,061	Jan. 8	2541	555-6	126	690
Snyder, Albert R., and J. W. Potts, Haverford, Pa. Curtain-rod	841,062	Jan. 8	2542	556	126	692
Society of Chemical Industry in Basle. (See Engi, Gadient, assignor.)						
Soda, Samuel, assignor to Indispensable Counter Company, New York, N. Y. Foldable counter	840,719	Jan. 8	1869	412	126	522
Souheur, Jean, Antwerp, Belgium. Antinicotin-mouthpiece	840,720	Jan. 8	1870	412	126	523
Sowards, Harmon, *et al.* (See Dotson, William T., assignor.)						
Sowards, Wilbur, *et al.* (See Dotson, William T., assignor.)						
Sparks, William E., assignor to Sargent & Company, New Haven, Conn. Lock	840,873	Jan. 8	2168	478-9	126	593
Sparrow, Simon, assignor to Wagner Electric Manufacturing Company, St. Louis, Mo. Electric-motor controller	840,590	Jan. 8	1630	358	126	460
Specht, Adolph, Posen, Germany. Fastening for chains	840,808	Jan. 8	2038	451	126	563
Speed, James B., Berkeley and P. Thelen, National City; said Speed assignor of one-half J. H. Wallace, San Francisco, Cal. Heat-interchanger	840,667	Jan. 8	1765	388	126	496
Spencer, Ely, Jacksonville, Fla. Hydrocarbon-burner	840,591	Jan. 8	1632	358	126	461
Springer, John F., Girard, Pa. Ball-bearing	841,053	Jan. 8	2540	556-7	126	692
Stacy, James M., Portland, Oreg. Machine for subdividing sheets of stamps	840,592	Jan. 8	1634	358-9	126	461
Stanley, Thomas P., Athens, Ga. Telegraph and trolley pole	841,054	Jan. 8	2552	557-8	126	693
Starkwather, Oakley B., Grand Rapids, Mich. Drawer-guide	840,874	Jan. 8	2170	479	126	594
Starkwather, Oakley B., Grand Rapids, Mich. Attachment for sewing-machine tables	840,875	Jan. 8	2171	479	126	594
Stearns, William F., Batavia, N. Y. Vulcanized joint for vehicle-tires	840,593	Jan. 8	1635	359	126	462
Steedman, George F., St. Louis, Mo. Elevator	841,065	Jan. 8	2554	558	126	693
Steedman, George F., St. Louis, Mo. Regulated hoist	840,876	Jan. 8	2172	479-80	126	594
Steedman, George F., St. Louis, Mo. Fluid-actuated cushioned hoist	840,877	Jan. 8	2178	480-1	126	596
Steele, Oliver C., *et al.* (See Bell, Enos T., assignor.)						
Steiner, Max, and M. Brenner, Newark, N. J. Amplifying-horn	840,987	Jan. 8	2361	518	126	643
Steinhoff, Henry C. (See Stueben, Christian, assignor.)						
Steinthal, Lena, New York, N. Y. Child's cap	840,968	Jan. 8	2362	518	126	644
Stenzy, August F. P., Baltimore, Md. Garment-buckle	840,878	Jan. 8	2183	481	126	598
Stevens, Lemuel B., Logansport, Ind. Milking-machine	840,969	Jan. 8	2364	518	126	644
Stocks, Harry B., assignor to Climax Patents Limited, Manchester, England. Power-hammer and means for operating same	840,668	Jan. 8	1767	388-9	126	496
Stolkrantz, John W., Buffalo, N. Y. Derrick	841,066	Jan. 8	2556	558-9	126	694
Stone Telegraph and Telephone Company. (See Cabot, Sewall, assignor.)						
Stotts, Edward O., assignor, by mesne assignments, to Ventilated Cushion and Spring Company, Chicago, Ill. Spring structure	840,522	Jan. 8	1485	328	126	425
Strobel, Victor O., and A. E. Hogrebe, Philadelphia, Pa., assignors to Niles-Bement-Pond Company, Jersey City, N. J. Variable-speed driving	840,721	Jan. 8	1871	412-13	126	523
Stromberg-Carlson Telephone Manufacturing Company. (See Kaisling, William, assignor.)						
Stromberg-Carlson Telephone Manufacturing Company. (See Walsh, Thomas M., assignor.)						
Strouse, William H., assignor to W. H. Strouse Manufacturing Company, Oskaloosa, Iowa. Mechanical stoker	840,722	Jan. 8	1873	413	126	523
Strouse, William H., assignor to W. H. Strouse Manufacturing Company, Oskaloosa, Iowa. Mechanical stoker	840,723	Jan. 8	1878	414	126	524
Stuart, Joseph, assignor to Lobdell Car Wheel Company, Wilmington, Del. Roll-grinding machine	840,879	Jan. 8	2184	481-2	126	598
Stueben, Christian, assignor of one-half to H. C. Steinhoff, Union, N. J. Clothes-drier	840,809	Jan. 8	2039	451	126	563
Stump, Oman L., J. Reidenbaugh, and E. D. Packard, assignors to Marion Incline Filter and Heater Company, Marion, Ohio. Feed-water heater	840,523	Jan. 8	1486	329	126	426
Stump, Oman L., J. Reidenbaugh, and E. D. Packard, assignors to Marion Incline Filter and Heater Company, Marion, Ohio. Water-purifying process	841,067	Jan. 8	2559	560	126	695
Sturdevant, Charles R., assignor to American Steel & Wire Company of New Jersey, Worcester, Mass. Compressor for rail-bonds	840,524	Jan. 8	1491	330	126	427
Suck, Adolph, Boston, Mass. Grab	840,525	Jan. 8	1493	330-1	126	427
Summers, Emmett L., Lucedale, Miss., assignor of one-half to G. S. Leatherbury, Mobile, Ala. Automatic logging-stanchion	841,068	Jan. 8	2561	560	126	695
Swartz, Warren E., assignor to Milwaukee Casket Company, Milwaukee, Wis. Burial-casket	840,810	Jan. 8	2040	451	126	563
Sweet, Bert E., Lodi, Cal. Pneumatic cleaner and separator	840,724	Jan. 8	1882	414-15	126	525
Swift, George W., Jr., Bordentown, N. J. Cell-case machine. (Reissue)	12,591	Jan. 8	2645	577-80	126	719
Taisey, Fred R., Indianapolis, Ind., assignor to Lamson Consolidated Store Service Company, Boston, Mass. Pneumatic-despatch apparatus	840,980	Jan. 8	2186	482	126	599
Tarter, Daniel T. (See Tarter, William M., W. N., and D. T.)						
Tarter, William M., Rocky Hill Station, W. N. Tarter, Smiths Grove, and D. T. Tarter, Becks Store, Ky. Wheel	840,881	Jan. 8	2189	482	126	599
Tarter, William N. (See Tarter, William M., W. N., and D. T.)						
Taylor, Harry P., Salt Lake City, Utah. Pneumatic drill	841,069	Jan. 8	2561	560	126	695
Taylor, Harry P., assignor of one-fourth to W. P. Keady, Howard, Oreg. Ore-concentrator. (Reissue)	12,592	Jan. 8	2682	580	126	720
Tejada, Juan D., New York, N. Y. Sludge-removing mechanism for acetylene-gas generators	841,070	Jan. 8	2564	560-1	126	696

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Teubner, Frederick, Dallas, Tex. Rail-joint	840,970	Jan. 8	2365	519	126	644
Thayer, Russell. (See Pfatischer, Mathias, assignor.)						
Theel, Albert, Lyndon, Wash. Mower attachment	840,971	Jan. 8	2365	519	126	644
Thelen, Paul. (See Speed and Thelen.)						
Thiel, Louis, assignor to Cincinnati Milling Machine Company, Cincinnati, Ohio. Variable-speed mechanism	840,669	Jan. 8	1770	389	126	497
Thiel, Louis, assignor to Cincinnati Milling Machine Company, Cincinnati, Ohio. Variable-speed mechanism	840,670	Jan. 8	1772	390	126	497
Thiel, Louis, assignor to Cincinnati Milling Machine Company, Cincinnati, Ohio. Variable-speed mechanism	840,671	Jan. 8	1774	390	126	497
Thompson, Ashley B., Chicago, Ill. Modifier for phonographs	840,526	Jan. 8	1496	332	126	428
Thompson, Channing M., Newark, Ohio. Nut-lock	840,527	Jan. 8	1498	332	126	429
Tiernan, William, Rolfe, Iowa. Cultivator attachment	841,071	Jan. 8	2568	561	126	697
Tigerman, William H. (See Pfautz, Daniel M., assignor.)						
Timmons, R. F. (See McKinley, Melvin, assignor.)						
Tinker, Julien E., and J. Crawford, Jr., Bradford, Pa. Apparatus for pumping oil-wells	840,972	Jan. 8	2366	519	126	645
Titcombe, Edward L., *et al.* (See Lane, Robert S. G., assignor.)						
Titcombe, Robert J. H., *et al.* (See Lane, Robert S. G., assignor.)						
Todd, W. S. George, Boulder Creek, Cal. Screen	840,973	Jan. 8	2368	520	126	643
Tomlson, Willis A., assignor of one-half to J. F. Hitt, Winnsboro, Tex. Fan	840,594	Jan. 8	1636	359	126	462
Torgerson, Edward, *et al.* (See Quibrandsen, Knud, assignor.)						
Towsley, John T., Cincinnati, Ohio. Double boring-machine	840,528	Jan. 8	1499	332	126	429
Traut & Hine Manufacturing Company. (See Prentice, George E., assignor.)						
Trautmann, Max, Leipzig-Neustadt, Germany. Device for thawing windows	840,595	Jan. 8	1637	359	126	462
Triumph Voting Machine Company. (See Shepardson and Pitney, assignors.)						
Trout, Miles M., assignor to G. W. Shoemaker, Elmira, N. Y. Bow-spacing clamp for vehicle-tops	841,072	Jan. 8	2569	561	126	697
Turnbull, George A., assignor to R. E. Turnbull, Chicago, Ill. Metallic stud	840,596	Jan. 8	1638	360	126	463
Turnbull, Rosella E. (See Turnbull, George A., assignor.)						
Turner Tanning Machinery Company. (See Turner, William B., assignor.)						
Turner, William B., Melrose, assignor to Turner Tanning Machinery Company, South Boston, Mass. Machine for applying liquid to skins	840,597	Jan. 8	1639	360-1	126	463
Turpin, Walter S., and J. H. Holden, Washington, D. C. Universal joint	840,529	Jan. 8	1500	333	126	429
Tuttle, Jonathan B., Claremont, Cal. Fishing-tackle	840,598	Jan. 8	1644	361	126	464
Ullensaker, Ingebrigt J., Hatton, N. D. Steam-boiler	840,725	Jan. 8	1884	415	126	525
Universal Typewriter Company. (See Hannahs and Hieber, assignors.)						
Upton, Samuel, Somerville, Mass. Friction-clutch	840,882	Jan. 8	2191	483	126	600
Utzler, Elmer W., assignor of one-half to J. H. Carlin, Pittsburg, Pa. Collapsible center	840,672	Jan. 8	1775	391	126	498
Valiquet, Louis P., Newark, N. J. Sound-box	840,974	Jan. 8	2369	520	126	645
Van Kannel Revolving Door Company. (See Van Kannel, Theophilus, assignor.)						
Van Kannel, Theophilus, assignor to Van Kannel Revolving Door Company, New York, N. Y. Rotatable partition-shelf	840,599	Jan. 8	1645	361-2	126	464
Vaughan, Henry H., Montreal, Quebec, Canada, assignor to Railroad Supply Company, Chicago, Ill. Holder for milling-machines. (Reissue)	12,593	Jan. 8	2654	580-1	126	720
Ventilated Cushion and Spring Company. (See Stotts, Edward O., assignor.)						
Vestal, Warner L., San Bernardino, Cal. Irrigation-gate	840,811	Jan. 8	2011	452	126	564
Vial, Emile, Brussels, Belgium. Drying-drum	840,883	Jan. 8	2192	483	126	600
Victor Safe & Lock Co. (See Arnold, Wilbur E., assignor.)						
W. H. Strouse Manufacturing Company. (See Strouse, William H., assignor.)						
Wade, James W. (See McVoy, Vincen P., assignor.)						
Wagner Electric Manufacturing Company. (See Sparrow, Simon, assignor.)						
Wakeman, Charles E. (See Demers, Frank A., assignor.)						
Wallace, Ira F., Minneapolis, Minn., and W. L. Kellogg, Sioux City, Iowa. Air-filter	840,530	Jan. 8	1502	333	126	430
Wallace, John H. (See Speed and Thelen, assignors.)						
Walsh, Thomas M., assignor to Stromberg-Carlson Telephone Manufacturing Company, Rochester, N. Y. Electromagnet	840,531	Jan. 8	1503	333	126	430
Walsh, William E., Morris, Ill. Window-tent	840,975	Jan. 8	2370	520	126	646
Walsh, William E., Morris, Ill. Window-tent	840,976	Jan. 8	2373	520	126	646
Ward, John A., Nowata, Ind. Ter. Animal-trap	840,673	Jan. 8	1777	391	126	498
Wardell, John C. (See Richardson, John F., assignor.)						
Warner, Arthur P., and A. B. Cadman, assignors to Warner Instrument Company, Beloit, Wis. Gear	840,977	Jan. 8	2375	521	126	647
Warner Instrument Company. (See Warner and Cadman, assignors.)						
Watson, Thomas. (See Farrington and Watson.)						
Wayne Stove Company. (See Reed, Franklin M., assignor.)						
Weaver, Ira A. (See Detrick and Weaver.)						
Webb, Edwin C., Providence, R. I. Liquid-receptacle	840,532	Jan. 8	1505	333	126	431
Webb, Edwin C., Providence, R. I. Liquid-receptacle	840,533	Jan. 8	1506	334	126	431
Webb, Samuel J., Minden, La. Baling-press	840,534	Jan. 8	1508	334	126	432
Weber, William F., Washington, D. C. Amber varnish and making same	840,812	Jan. 8	2042		126	564
Webster, Harry G., Chicago, Ill. Telephone-exchange system	840,726	Jan. 8	1885	415	126	526
Weinland, Rutherford E., Indianapolis, Ind. Chain	840,535	Jan. 8	1511	334	126	432
Weir, Welby D., Winnsboro, Tex. Flexible armor for hose and piping	840,536	Jan. 8	1512	334-5	126	433
Weir, Welby D., Winnsboro, Tex. Switchboard	840,537	Jan. 8	1515	335	126	433
Welch, Herman B., West Hoboken, N. J., assignor to R. Wolff & Co., New York, N. Y. Fastening for handles of bags, satchels, purses, &c	840,978	Jan. 8	2377	521	126	647
Welch, William H. I., London, assignor to Lamp Manufacturing Company Limited, City Road, England. Oil-lamp for railway-signals, &c	840,674	Jan. 8	1779	391-2	126	499
Wemlinger, Julius R., Brooklyn, N. Y. Metal piling	840,884	Jan. 8	2196	483	126	602
Wentz, Robert F., Siegfried, Pa. Apparatus for crushing, conveying, and cooling rocks, ores, &c	840,730	Jan. 8	1893	417	126	527
Western Electric Company. (See Du Bois, Alexander D., assignor.)						
Western Wheeled Scraper Co. (See Bunnell, Morton G., assignor.)						
Westervelt, Herbert E., South Bend, Ind. Printing-press	840,885	Jan. 8	2197	484	126	602
Westinghouse Electric & Manufacturing Company. (See Davis and Conrad, assignors.)						
Whetham, Charles, Sheffield, Ontario, Canada. Temporary binder	840,979	Jan. 8	2378	521	126	647
Whitaker, David W., Oak Ridge, N. C. Bottle-stopper	840,813	Jan. 8	2043	452	126	564
White, Charles H., Cambridge, Mass. Colorimeter	840,538	Jan. 8	1516	336	126	434
White, Morris C. (See Duryea and White.)						
Whitehouse, John N., assignor to Le-White Manufacturing Company, New York, N. Y. Toy	840,727	Jan. 8	1889	415	126	526
Whitmore, Clarence E., Bar Harbor, Me. Seal	840,539	Jan. 8	1518	336	126	434
Whitney, Frank, Lakeside, Ill. Photographic-plate holder	840,540	Jan. 8	1519	336	126	434
Widmann, Frederick A., Philadelphia, Pa. Cigar cutter and lighter	840,960	Jan. 8	2379	521-2	126	648
Wiggins, Charles M. Andalusia, Ala. Rural-delivery postal box	840,541	Jan. 8	1525	337	126	436
Wigglesworth, Albert W., Chicago, Ill. Change-speed gear	840,731	Jan. 8	1897	418-19	126	528
Wilder, Charles O., Columbus, Ohio. Axle-skein	840,981	Jan. 8	2381	522	126	648
Wilkins, Charles L., assignor to Ohio Pump and Brass Company, Columbus, Ohio. Fluid-motor	840,886	Jan. 8	2198	484	126	602
Williams, John S., Hudley, S. D. Wheel-washer	840,675	Jan. 8	1780	392	126	499

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Williams, William W., Cortland, N. Y. Sandpaper-holder	840,993	Jan. 8	2384	522	126	648
Willis, Halle E., assignor to Kendrick & Davis, Lebanon, N. H. Electric induction-battery	840,736	Jan. 8	1830	416	126	526
Wills, Walter R., Sheffield, England. Furnace	840,842	Jan. 8	1836	337	126	436
Willson, Freeman R., Jr., Worthington, assignor to J. A. Jeffrey, Columbus, Ohio. Conveyer	840,739	Jan. 8	1832	416-17	126	527
Winchester Repeating Arms Co. (See Johnson, Thomas C., assignor.)						
Window Glass Machine Company. (See Hart, Thomas F., assignor.)						
Winnard, George T., and J. Bedford, Sheffield, England. Pulley-block	840,676	Jan. 8	1781	393	126	499
Wiselogel, Frederick G., Indianapolis, Ind. Sectional drier	840,542	Jan. 8	1829	338	126	436
Wolf, Henry L. R., assignor to Aull Brothers Paper and Box Company, Dayton, Ohio. Paper box	840,814	Jan. 8	2044	452	126	564
Wolff & Co., Rudolph. (See Welch, Herman B., assignor.)						
Wood, Alfred, Waterford, assignor to National Machine Company, Mamaroneck, N. Y. Thread-clip for sewing-machines	840,897	Jan. 8	2380	485	126	603
Wood, Charles H., assignor of one-fourth to J. T. Hobbs, Cleveland, Ohio. Party-line telephone mechanism	840,544	Jan. 8	1831	338	126	437
Wood, John C., assignor of one-half to E. L. Allen, Portsmouth, Ohio. Detonating toy	840,953	Jan. 8	2385	522-3	126	649
Woodman-Davis Company. (See Barnard, Frank P., assignor.)						
Woodward, Irving C., Chicago, Ill. Toy gun	840,888	Jan. 8	2382	485	126	603
Worsfold, Alexander, Sydney, New South Wales, Australia. Making bent-wood corners	840,678	Jan. 8	1783	393	126	499
Wroblewski, Ignacy, Krakow, Austria-Hungary. Shutter-bower	840,677	Jan. 8	1782	393	126	499
Wyeth, Albert E. W., New York, N. Y. Roller-support for edgewise-movable doors and tracks therefor	840,732	Jan. 8	1805	419	126	531
Wynne, Philip H., Boston, Mass., assignor, by mesne assignments, to Huff Electrostatic Separator Company. Electrostatic separator	840,815	Jan. 8	2045	453	126	565
Yarbrough, Gustavus H., Waverly, Tenn. Hand-cultivator	840,679	Jan. 8	1784	394	126	500
Yates, William C., and P. H. Zimmer, Schenectady, N. Y., assignors to General Electric Company. Starting-rheostat	840,889	Jan. 8	2203	485	126	604
Yingling, Noah B., Seven Mile, Ohio. Cultivator	840,545	Jan. 8	1834	339	126	438
Young, James S., Bethel, Vt. Stone-saw	840,546	Jan. 8	1836	339	126	438
Ziegenfuss, Friedrich, assignor to F. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Artillery-projectile	840,984	Jan. 8	2389	523	126	650
Zimmer, Paul H. (See Yates and Zimmer.)						
Zwiebel, George W., Papillion, Nebr. Vehicle-wheel	840,985	Jan. 8	2390	523	126	650

DESIGNS.

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Bower, Frank B., assignor to Phi Kappa Sigma Fraternity, Philadelphia, Pa. Insignia	38,399	Jan. 8	126	721
Codman, William C., assignor to Gorham Manufacturing Company, Providence, R. I. Shield	38,400	Jan. 8	126	721
Codman, William C., assignor to Gorham Manufacturing Company, Providence, R. I. Shield	38,401	Jan. 8	126	721
Gorham Manufacturing Company. (See Codman, William C., assignor.)				
Haas, Frank A., New York, N. Y., assignor to M. J. Whittall, Worcester, Mass. Rug	38,407	Jan. 8	126	723
Lee, Alfred, Akron, Ohio. Floor or wall covering	38,406	Jan. 8	126	723
Liggett, Louis K., Brookline, Mass., assignor to National Cigar Stands Company, Jersey City, N. J. Illuminated sign	38,405	Jan. 8	126	722
Miner, Henry A., Malden, assignor to Miner's Fruit Nectar Company, Boston, Mass. Dish or cup	38,403	Jan. 8	126	722
Miner's Fruit Nectar Company. (See Miner, Henry A., assignor.)				
National Cigar Stands Company. (See Liggett, Louis K., assignor.)				
Patent Holding Company. (See Pritchard, William H., assignor.)				
Phi Kappa Sigma Fraternity. (See Bower, Frank B., assignor.)				
Pritchard, William H., assignor to Patent Holding Company, New York, N. Y. Musical instrument	38,404	Jan. 8	126	722
Weidlich Brothers Manufacturing Company. (See Weidlich, Louis and E. C., assignors.)				
Weidlich, Ernest C. (See Weidlich, Louis and E. C.)				
Weidlich, Louis and E. C., assignors to Weidlich Brothers Manufacturing Company, Bridgeport, Conn. Ink-well and pincushion	38,402	Jan. 8	216	722
Whittall, Matthew J. (See Haas, Frank A., assignor.)				

TRADE-MARKS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
A. Booth & Company, Chicago, Ill. Canned oysters	39,368	Jan. 8	126	748
A. B. Clark Co., New York, N. Y. Sheep, goat, calf, and kid leather	39,439	Jan. 8	126	751
A. G. Kaufman Mfg. Company, New York, N. Y. Apparatus for heating, lighting, and cooking by gas	39,423	Jan. 8	126	750
Abendroth Bros., Port Chester and New York, N. Y. Certain heating apparatus	39,424	Jan. 8	126	750
Acetylene Apparatus Manufacturing Company, Chicago, Ill. Acetylene-generators	39,301	Jan. 8	126	747
Alma Manufacturing Company, Baltimore, Md. Buttons	39,425	Jan. 8	126	750
Amberg File & Index Co., Chicago, Ill.; New York, N. Y., and London, England. Paper indexes	39,369	Jan. 8	126	748
Amberg File & Index Co., Chicago, Ill.; New York, N. Y., and London, England. Paper transfer-cases	39,370	Jan. 8	126	749
American Alcohol Company, New York, N. Y. Denatured alcohol	39,427	Jan. 8	126	753
American Mutoscope and Biograph Company, New York, N. Y. Consecutive-view apparatus	39,428	Jan. 8	126	753
American Soda Fountain Company, Boston, Mass. Beef extracts	39,426	Jan. 8	126	750
American Steel & Copper Plate Co., New York, N. Y. Copper and zinc plates for photo-engravers' use	39,343	Jan. 8	126	748

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
American Thread Company, Jersey City, N. J. Spool-cotton, sewing-cotton, and thread	39,371	Jan. 8	126	749
American Thread Company, Jersey City, N. J. Spool-cotton, sewing-cotton, and thread	39,372	Jan. 8	126	749
American Tracing Cloth Company, New York, N. Y. Tracing-cloths and tracing-linens	39,460	Jan. 8	126	751
Anstalt zur Verfertigung der Dr. Sulzberger'schen Flusstinktur, Salzungen, Germany. Rheumatism-drops	39,529	Jan. 8	126	753
Anstalt zur Verfertigung der Dr. Sulzberger'schen Allgemeinen Flusstinktur, Salzungen, Germany. Rheumatism-drops	39,530	Jan. 8	126	753
Anti-Cori-Zinc Chemical Company, St. Louis, Mo. Medicine for the cure of headache, colds, and dysmenorrhea	39,551	Jan. 8	126	753
Archibald Turner & Co., Limited, Leicester, England. Elastic webs of india-rubber	39,315	Jan. 8	126	747
Aschenbach & Miller Incorporated, Philadelphia, Pa. Bitters	39,531	Jan. 8	126	753
Aschenbach & Miller Incorporated, Philadelphia, Pa. Salve	39,552	Jan. 8	126	753
Atlas Engine Works, Indianapolis, Ind. Steam-engines and gasolene-engines	39,342	Jan. 8	126	748
Bach Bros. & Katzenstein, New York, N. Y. Certain table-covers, scarfs, centerpieces, and doilies	39,427	Jan. 8	126	750
Ball, Webster C., Cleveland, Ohio. Watches	39,461	Jan. 8	126	751
Ball, Webster C., Cleveland, Ohio. Watches	39,462	Jan. 8	126	751
Ballard & Ballard Company, Louisville, Ky. Wheat-flour	39,302	Jan. 8	126	747
Barella, P. F. W., Berlin, Germany. Stomachic powder	39,509	Jan. 8	126	752
Barnes, Junius, Burlington, Vt. Liniment for external use	39,553	Jan. 8	126	753
Barry & Co., T. D., Brockton, Mass. Leather boots and shoes	39,397	Jan. 8	126	749
Bates & Co., J. E., New York, N. Y. Leather boots and shoes	39,532	Jan. 8	126	753
Beech Hill Distilling Co., Cincinnati, Ohio. Whisky	39,533	Jan. 8	126	753
Beers, Elmer W., Baltimore, Md. Game played with cards	39,344	Jan. 8	126	748
Bell Mfg. Co., St. Louis, Mo. Shoe-polish	39,428	Jan. 8	126	750
Berry & Whitmore Co., Washington, D. C. Certain named jewelry and precious stones	39,345	Jan. 8	126	748
Bing Burner Co., Minneapolis, Minn. Lamp-burners and parts thereof	39,429	Jan. 8	126	750
Bisi & Caprini, Pittsburg, Pa. Olive-oil	39,303	Jan. 8	126	747
Bluthenthal & Heilbronner, Memphis, Tenn. Whisky	39,571	Jan. 8	126	754
Board of Trustees of the American Marine Engineer, New York, N. Y. Monthly periodical	39,534	Jan. 8	126	753
Bonnie Bros., Louisville, Ky. Whisky	39,463	Jan. 8	126	751
Bradford, Edw. S., Jr., Chicopee, Mass. Certain named saws	39,464	Jan. 8	126	751
Brandt, L. A. H., Buffalo, N. Y. Remedies for certain named diseases	39,535	Jan. 8	126	753
Bronstrop, George J., Cincinnati, Ohio. Card game	39,398	Jan. 8	126	749
Brown, Wm. W., Worcester, Mass. Jackets and vests	39,399	Jan. 8	126	749
Bryant Electric Company, Bridgeport, Conn. Electrical supplies	39,316	Jan. 8	126	747
Bryant Electric Company, Bridgeport, Conn. Electrical supplies	39,317	Jan. 8	126	747
Bucklin, Charles S., Baltimore, Md. Machines for separating fruit-pulp from skins and seeds	39,346	Jan. 8	126	748
Buffalo Gum Company, Buffalo, N. Y. Chewing-gum	39,304	Jan. 8	126	747
Burdg Brothers, Decatur, Ind. Ointments	39,510	Jan. 8	126	752
C. Kenyon Co., Brooklyn, N. Y. Certain named clothing	39,319	Jan. 8	126	747
C. Kenyon Company, Brooklyn, N. Y. Certain named clothing	39,318	Jan. 8	126	747
C. Kenyon Company, Brooklyn, N. Y. Certain named clothing	39,373	Jan. 8	126	749
C. Kenyon Company, Brooklyn, N. Y. Certain named clothing	39,374	Jan. 8	126	749
Cafe Savarin Company, New York, N. Y. Whisky	39,347	Jan. 8	126	748
Cahn, Belt & Co., Baltimore, Md. Whisky	39,555	Jan. 8	126	753
Calendaline Co., Chicago, Ill. Remedy for certain named diseases	39,572	Jan. 8	126	754
Carter, Howe & Co., Newark, N. J. Jewelry and solid and plated precious-metal ware	39,465	Jan. 8	126	751
Casey-Swasey Company, Fort Worth, Tex. Whisky	39,573	Jan. 8	126	754
Cayey-Caguas Tobacco Company, New York, N. Y., and Caguas, Porto Rico. Cigars, cheroots, and cigarettes made of cigar-tobacco	39,466	Jan. 8	126	751
Cayey-Caguas Tobacco Company, New York, N. Y., and Caguas, Porto Rico. Cigars, cheroots, and cigarettes made of cigar-tobacco	39,467	Jan. 8	126	751
Chaffard & Coudere, Salon, France. Olive-oil	39,320	Jan 8	126	747
Chase & Company, L. C., Boston, Mass. Horse-covers	39,468	Jan. 8	126	751
Chipman's Sons, Chas., Easton, Pa. Hosiery	39,430	Jan. 8	126	750
Chipman's Sons, Chas., Easton, Pa. Hosiery	39,431	Jan. 8	126	750
Chodorov, Harry, New York, N. Y. Mercerized cotton thread	39,305	Jan. 8	126	747
Church & Dwight Company, New York, N. Y. Baking-powder, soda, saleratus, and sal-soda	39,574	Jan. 8	126	754
Citizens' Wholesale Supply Co., Columbus, Ohio. Toilet and laundry soaps	39,375	Jan. 8	126	749
Cleveland Punch and Shear Works Co., Cleveland, Ohio. Certain named machines	39,400	Jan. 8	126	749
Cole, Elias G., Fairchild, Wis. Remedy for stomach and bowel troubles	39,536	Jan. 8	126	753
Colorado Syrup Company, Denver, Colo. Beet-sugar syrup	39,306	Jan. 8	126	747
Consolidated Hoof Pad Company, New York, N. Y. Hoof-pads for horses	39,401	Jan. 8	126	749
Continental Caoutchouc und Guttapercha-Compagnie, Hanover, Germany. India-rubber balls	39,432	Jan. 8	126	750
Conway, Lysander B., Jr., Danville, Va. Hosiery	39,321	Jan. 8	126	747
Cooper, Wells & Co., St. Joseph, Mich. Hosiery	39,322	Jan. 8	126	747
Corby Brothers, Washington, D. C. Bread and rolls	39,433	Jan. 8	126	750
David Hunt & Co., New York, Oswego, and Cherry Creek, N. Y. Canned fruits and vegetables	39,307	Jan. 8	126	747
David Hunt & Co., New York, Oswego, and Cherry Creek, N. Y. Canned fruits and vegetables	39,537	Jan. 8	126	753
Dayton Dental Supply Co., Dayton, Ohio. Dental cements and alloys	39,434	Jan. 8	126	750
Dayton Dental Supply Co., Dayton, Ohio. Dental cements and alloys	39,435	Jan. 8	126	750
Dayton Spice Mills Co., Dayton, Ohio. Roasted coffee	39,575	Jan. 8	126	754
De Laval Separator Company, New York and Poughkeepsie, N. Y. Centrifugal separators	39,348	Jan. 8	126	748
Defiance Tick Mitten Co., Toledo, Ohio. Gloves, mittens, palm-protectors, and wrist-supporters	39,323	Jan. 8	126	747
Desbecker Block Tailoring Co., Buffalo, N. Y. Men's top suits and overcoats	39,324	Jan. 8	126	747
Deutsche Gasglühlicht Aktiengesellschaft (Auergesellschaft), Berlin, Germany. Electrical incandescent lamps	39,325	Jan. 8	126	747
Dickson Mill & Grain Co., Scranton, Pa. Wheat-flour	39,436	Jan. 8	126	750
Dr. Peter Fahrney & Sons Co., Chicago, Ill. Preparation for the treatment of diseases of the blood and skin	39,577	Jan. 8	126	751
Draper, O. M., deceased; E. E. and A. M. Hale, executors, North Attleboro, Mass. Ornamental chains	39,281	Jan. 8	126	749
Duncan P. Macnab Drug Co., Moorhead, Minn. Hair-tonic	39,511	Jan. 8	126	752
Dunlap, John R., New York, N. Y. Monthly magazine	39,460	Jan. 8	126	751
E. C. Atkins & Company, Indianapolis, Ind.; New York, N. Y.; Memphis, Tenn.; Atlanta, Ga.; Minneapolis, Minn.; Portland, Oreg.; Seattle, Wash.; San Francisco, Cal.; Chicago, Ill., and Toronto, Canada. Saws of all kinds	39,349	Jan. 8	126	748
E. C. De Witt & Company, Chicago, Ill. Remedies for regulating the stomach and bowels	39,556	Jan. 8	126	753
Eclipse Paint & Manufacturing Company, Cleveland, Ohio. Waterproof structural and roof paint	39,776	Jan. 8	126	749
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Black cotton prints	39,326	Jan. 8	126	747
Edw. B. Bruce Co., Baltimore, Md. Whisky and brandy	39,470	Jan. 8	126	751
Eichart, Urban J., Chicago, Ill. Remedies for diseases of dogs	39,557	Jan. 8	126	753

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Eisenstadt Manufacturing Co., St. Louis, Mo. Certain named jewelry	59,360	Jan. 8	126	748
Electric Cable Company. (See Magnet Wire Co., assignor.)				
Ell Lilly & Company, Indianapolis, Ind. Antiseptics	59,376	Jan. 8	126	754
Elliot, Harry W., Boston, Mass. Beverages having a chocolate flavor	59,377	Jan. 8	126	749
Empire Cream Separator Co., Bloomfield, N. J. Centrifugal liquid-separating machines	59,351	Jan. 8	126	748
Eppstein, Milton L., Fort Worth, Tex. Non-alcoholic tonic beverages and syrup made therefrom	59,378	Jan. 8	126	749
Eureka Company, Wilkinsburg, Pa. Remedies for the cure of piles	59,512	Jan. 8	126	752
F. W. Devoe & C. T. Raynolds Co., New York, N. Y. Certain named painters' materials	59,437	Jan. 8	126	750
Ferd Roddewig Sons, Davenport, Iowa. Whisky	59,471	Jan. 8	126	751
Ferromannin Chemical Co. (Inc.), New York, N. Y. Disinfectants and antiseptics	59,586	Jan. 8	126	753
Fox, George M., Cleveland, Ohio. Medicine for curing piles	59,588	Jan. 8	126	753
Fra-Nol Toilet Powder Co., Louisville, Ky. Toilet powder	59,513	Jan. 8	126	752
Fred. G. Clark Company, Cleveland, Ohio. Cylinder-lubricants and lubricant-stock	59,436	Jan. 8	126	750
Fred. G. Clark Company, Cleveland, Ohio. Cylinder-lubricants and lubricant-stock	59,439	Jan. 8	126	750
Frederick Stearns & Co., Detroit, Mich. Headache remedy	59,589	Jan. 8	126	753
Frictionless Metal Company, Richmond, Va. Bearing metals	59,402	Jan. 8	126	749
Fry & Friedsam, New York, N. Y. Ribbons	59,379	Jan. 8	126	749
G. & C. Merriam Co., Springfield, Mass. Dictionaries	59,473	Jan. 8	126	751
Gardner, Frederick, Chicago, Ill. Bread, crackers, yeast, and cereal breakfast food	59,440	Jan. 8	126	750
Gentil, Edmond, Neuilly-sur-Seine, near Paris, France. Certain named boats and road-vehicles	59,474	Jan. 8	126	751
George Wiedemann Brewing Co., Newport, Ky. Beer	59,380	Jan. 8	126	749
Gibbes, Alexander M., Columbia, S. C. Certain named woodworking-machines, &c	59,539	Jan. 8	126	753
Glasner & Barzen Distilling & Importing Co., Kansas City, Mo. Whisky	59,579	Jan. 8	126	754
Gordon & Dilworth, New York, N. Y. Preserved and canned meats	59,208	Jan. 8	126	747
Goss, Daniel S., Rutherford, N. J. Certain cereal foods	59,441	Jan. 8	126	750
Grant Manufacturing and Machine Company, Bridgeport, Conn. Spark-plugs for gasolene-engines	59,408	Jan. 8	126	749
Greene, Ernest F., Silver Creek, N. Y. Salves	59,580	Jan. 8	126	754
Greenebaum Brothers, Philadelphia, Pa. Outer shirts	59,404	Jan. 8	126	749
Griggs, Cooper & Company, St. Paul, Minn. Salad-dressing	59,209	Jan. 8	126	747
Grosvenor & Co., J. M., Boston, Mass. Surgical lubricants	59,540	Jan. 8	126	753
H. K. Mulford Company, Philadelphia, Pa. Concentrated food prepared from beef	59,310	Jan. 8	126	747
Hale, Annie M., *et al.*, executors. (See Draper, O. M.)				
Hale, Edwin E., *et al.*, executors. (See Draper, O. M.)				
Hampshire Paper Company, South Hadley Falls, Mass. Certain named paper	59,475	Jan. 8	126	751
Hampshire Paper Company, South Hadley Falls, Mass. Certain named paper	59,476	Jan. 8	126	751
Hampshire Paper Company, South Hadley Falls, Mass. Certain named paper	59,477	Jan. 8	126	751
Hanchett Swage Works, Big Rapids, Mich. Certain named tools	59,382	Jan. 8	126	748
Harbinson, Josiah, Sacramento, Cal. Whisky	59,478	Jan. 8	126	751
Hargadine-McKittrick Dry Goods Company, St. Louis, Mo. Certain knitted goods	59,442	Jan. 8	126	750
Harvard Dental Manufacturing Company, Berlin, Germany. Cement for filling teeth	59,443	Jan. 8	126	750
Hein, Fanny, New York, N. Y. Catamenial sacks and absorbent materials for the same	59,405	Jan. 8	126	749
Henry Milward & Sons, Limited, Redditch, England. Needles for hand-sewing	59,479	Jan. 8	126	751
Herring, George E., Chicago, Ill. Certain imitation silverware	59,383	Jan. 8	126	748
Hively, George T., Springfield, Mo. Medicines for coughs, colds, and la grippe	59,560	Jan. 8	126	754
Hodgman Rubber Company, New York, N. Y. Rubber water-bottles, cushions, and ice-caps	59,490	Jan. 8	126	751
Hoffmann-La Roche & Co., F., Basel, Switzerland. Diuretic	59,581	Jan. 8	126	754
Hoggson & Pettis Manufacturing Company, New Haven, Conn. Lathe-chucks	59,327	Jan. 8	126	747
Hulman & Co., Terre Haute, Ind. Cigars	59,481	Jan. 8	126	751
Hungarian Milling & Elevator Co., Denver, Colo. Wheat-flour	59,582	Jan. 8	126	754
Hydrex Felt & Engineering Co., Portland, Me.; New York, N. Y., and East Walpole, Mass. Water-proofing-felts for structural work	59,282	Jan. 8	126	749
J. E. Fricke Company, Philadelphia, Pa. Sash-cord	59,311	Jan. 8	126	747
J. W. Benson, Limited, London, England. Certain named jewelry	59,482	Jan. 8	126	751
Jennings, Albert G., New York, N. Y. Hair-nets	59,328	Jan. 8	126	747
John Gay's Sons Incorporated, Philadelphia, Pa. Carpets and rugs	59,329	Jan. 8	126	747
John T. Lewis & Bros. Co., Philadelphia, Pa. Certain paints and painters' materials	59,444	Jan. 8	126	750
Johns-Platt Company, Hartford, Conn. Steam and water packings	59,483	Jan. 8	126	751
Jose Lovera Co., New York, N. Y. Cigars	59,354	Jan. 8	126	748
Keiser, James R., New York, N. Y. Automobile-hoods	59,283	Jan. 8	126	749
Kis-Ko Medicine Company, Chattanooga, Tenn. Blood making, cleansing, and purifying medicine	59,514	Jan. 8	126	752
Kohnstamm & Co., H., New York, N. Y. Coal-tar dyes and vegetable dye extracts	59,561	Jan. 8	126	754
Kory & Sons, A., New Orleans, La. Overalls, coats, pants, and vests	59,330	Jan. 8	126	747
Kory & Sons, A., New Orleans, La. Overalls, coats, pants, and vests	59,331	Jan. 8	126	747
Krupp Aktiengesellschaft, Fried., Essen-on-the-Ruhr, Germany. Cannon and certain equipments	59,472	Jan. 8	126	751
Kuhn, Louis, Chicago, Ill. Bread	59,445	Jan. 8	126	751
L. S. Watson Manuf'g Co., Leicester, Mass. Cards for carding cotton	59,484	Jan. 8	126	752
Lambert, Daniel J., Apponaug, R. I., assignor to O. K. Stock Food Company, Chicago, Ill. Insecticides	59,583	Jan. 8	126	754
Larned, Carter & Co., Detroit, Mich. Leather and kid gloves	59,406	Jan. 8	126	749
Larter & Sons, Newark, N. J. Certain named jewelry	59,485	Jan. 8	126	752
Leonhardt, Frederick H., New York, N. Y. Toilet lotion used for deodorizing purposes	59,541	Jan. 8	126	753
Lever Brothers Company, Cambridge, Mass. Soap	59,446	Jan. 8	126	751
Levey, Harry, New York, N. Y. Women's and children's dresses	59,332	Jan. 8	126	747
Locke Shoe Company, Wheeling, W. Va. Leather boots and shoes	59,486	Jan. 8	126	752
Locomobile Company of America, Bridgeport, Conn. Automobiles	59,355	Jan. 8	126	748
Lodor, Napoleon, Chattanooga, Tenn. Bearing metals	59,323	Jan. 8	126	748
Louch, Augustine & Co., Seattle, Wash. Hams, shoulders, bacon, lard, and sausages	59,447	Jan. 8	126	751
Luthy & Co., Peoria, Ill. Portable grain-elevators	59,407	Jan. 8	126	750
Magnet Wire Co., assignor to Electric Cable Company, New York, N. Y. Certain named electrical supplies	59,487	Jan. 8	126	752
Mahoney, J. & E., Portsmouth, Va. Whisky	59,488	Jan. 8	126	752
Maley, Thos., Zumbrota and Goodhue, Minn. Antiseptic healing-powder	59,542	Jan. 8	126	753
Manitou Mineral Springs Company, Manitou, Colo. Mineral water, table-water, and a beverage made from ginger	59,406	Jan. 8	126	750
McGraw Publishing Co., New York, N. Y. Weekly periodical	59,562	Jan. 8	126	754
McKean, Bernard S., New York, N. Y. Liquid soap	59,384	Jan. 8	126	749
Megibben-Beatty Mercantile Co. (See Vanderslice-Lynds Mercantile Co., assignor.)				
Mehringer & Company, Gustave, New York, N. Y. Slippers	59,489	Jan. 8	126	752
Melville Clark Piano Company, Chicago, Ill. Pianos	59,543	Jan. 8	126	753
Mendenhall, John C., Evansville, Ind. Chill and fever cure and corn cure	59,584	Jan. 8	126	754
Mills & Averill Tailoring Company, St. Louis, Mo. Coats, vests, trousers, and overcoats	59,409	Jan. 8	126	750

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Monarch Typewriter Company, Syracuse, N. Y. Type-writer carbon-paper and type-writer ribbons	59,490	Jan. 8	126	752
Morley, I & R, London, England. Leather gloves	59,334	Jan. 8	126	748
Morrissey, Frank T., Lowell, Mass. Whisky	59,410	Jan. 8	126	750
Morton-Hooton Mfg. Co., Wichita, Kans. Salve	59,515	Jan. 8	126	752
Muessel Brewing Co., South Bend, Ind. Beer	59,544	Jan. 8	126	753
Multiplex Safety Razor Company, Boston, Mass. Safety-razors and blades	59,356	Jan. 8	126	748
N. C. Barwise Brokerage Co., Denver, Colo. Canned vegetables	59,385	Jan. 8	126	749
N. K. Fairbank Company, Chicago, Ill. Soap	59,411	Jan. 8	126	750
N. K. Fairbank Company, Chicago, Ill. Washing-powder	59,412	Jan. 8	126	750
N. Z. Graves Co., Inc., Philadelphia, Pa. Pigments for paints	59,448	Jan. 8	126	751
Narragansett Brewing Company, Cranston, R. I. Ale, beer, porter, and malt extract	59,413	Jan. 8	126	750
Natick Underwear Company, Springfield, Mass. Muslin underwear	59,335	Jan. 8	126	748
National Nitro-Culture Co., West Chester, Pa. Germ food for plants	59,449	Jan. 8	126	751
Navassa Guano Company of Wilmington, Wilmington, N. C. Fertilizers	59,386	Jan. 8	126	749
North Bro's. M'f'g. Co., Philadelphia, Pa. Ice-cream freezers	59,491	Jan. 8	126	752
North Bro's. M'f'g. Co., Philadelphia, Pa. Ice-cream freezers	59,492	Jan. 8	126	752
North Bro's. M'f'g. Co., Philadelphia, Pa. Ice-cream freezers	59,493	Jan. 8	126	752
North Bro's. M'f'g. Co., Philadelphia, Pa. Ice-cream freezers	59,494	Jan. 8	126	752
Northwestern Cereal Co. Inc., Ballard, Wash. Cereal breakfast foods	59,495	Jan. 8	126	752
Noyes & Company, Joseph F., Binghamton, N. Y. Combs made from a plastic composition	59,312	Jan. 8	126	747
Numn, Henry S., London, England. Cocoa and chocolate	59,496	Jan. 8	126	752
O. K. Stock Food Company. (See Lambert, Daniel J., assignor.)	59,450	Jan. 8	126	751
Officine Türkheimer per Automobili e Velocipedi, Milan, Italy. Automobiles, motor-cycles, and parts thereof, except rubber tires	59,497	Jan. 8	126	752
Olmsted, Samuel R., New York, N. Y. Liquid metal-polish	59,336	Jan. 8	126	748
Oneida Brewing Co., Utica, N. Y. Ales and porter	59,357	Jan. 8	126	748
Openhym & Sons, Wm., New York, N. Y. Crapes and nun's veilings	59,337	Jan. 8	126	748
Orr Cotton Mills, Anderson, S. C. Sheetings	59,338	Jan. 8	126	748
Orr Cotton Mills, Anderson, S. C. Sheetings	59,339	Jan. 8	126	748
Pace & Co., C. W., Alberene, Va. Salve for the cure of external cancers	59,516	Jan. 8	126	752
Palmer, L. S., Belmont, Ohio. Cigars	59,358	Jan. 8	126	748
Parker Brothers, Salem, Mass. Card game	59,359	Jan. 8	126	748
Patterson, Clara B., Philadelphia, Pa. Hooks and eyes	59,387	Jan. 8	126	749
Patterson & Coane, Philadelphia, Pa. Whisky	59,360	Jan. 8	126	748
Pearson, William, Hamburg, Germany. Disinfectants, deodorants, germ-destroyers, and sheep-dip	59,517	Jan. 8	126	752
Penn Tobacco Co., Wilkes-Barre, Pa. Smoking and chewing tobacco	59,414	Jan. 8	126	750
Pennsylvania Chocolate Company, Pittsburg, Pa. Chocolate and cocoa	59,451	Jan. 8	126	751
Phillips-Lafitte Company, Philadelphia, Pa. Welding or brazing plates	59,452	Jan. 8	126	751
Pinkerton, Frank G., Portland, Oreg. Remedy for sexual diseases or disorders	59,545	Jan. 8	126	753
Pomeroy, Orrin R., Gays Mills, Wis. Tobacco-seed	59,415	Jan. 8	126	750
Pope, Annie M., St. Louis, Mo. Preparations for treatment of the hair	59,546	Jan. 8	126	753
Porter, C. O. & A. D., Grand Rapids, Mich. Planers, carvers, sanders, jointing-machines, and shapers	59,340	Jan. 8	126	748
Potter & Wrightington, Boston, Mass. Certain named wheat and rye preparations and bakery products	59,313	Jan. 8	126	747
Protected Metal Company, Canton, Mass. Metal sheets covered with asbestos	59,453	Jan. 8	126	751
Pure Oil Company, Philadelphia, Pa. Lubricating-oils	59,388	Jan. 8	126	749
Radel, Andrew, Bridgeport and South Norwalk, Conn. Oyster bouillon	59,389	Jan. 8	126	749
Railway Steel-Spring Company, Jersey City, N. J., and New York, N. Y. Certain parts of machinery, rings, &c	59,361	Jan. 8	126	748
Raritan Paint Company, New York, N. Y. Certain named painters' materials, enamels, &c	59,390	Jan. 8	126	749
Reliance Mfg. Co., Newark, N. J. Polishing-oil	59,454	Jan. 8	126	751
Richardson Scale Company, Passaic, N. J., and New York, N. Y. Weighing machinery	59,518	Jan. 8	126	752
Richmond Piano Co., Richmond, Ind. Pianos	59,499	Jan. 8	126	752
Ripley & Sons, Limited, Liverpool, England. Laundry blue	59,547	Jan. 8	126	753
Robt. Ingham Clark & Co., Ltd., London, England. Varnish and japans	59,455	Jan. 8	126	751
Rosen & Bergner Co., Chicago, Ill. Liniments and lotions	59,563	Jan. 8	126	754
Ryff & Co., Berne, Switzerland. Knitted underwear	59,391	Jan. 8	126	749
Sanders Fertilizer Company, Jacksonville, Fla. Fertilizer	59,585	Jan. 8	126	754
Schoelm, Johanna, Harvey, Ill. Remedy for diseases of throat and lungs	59,548	Jan. 8	126	753
Schutz, Joseph M., Minneapolis, Minn. Deodorants	59,564	Jan. 8	126	754
Sea Coast Electric and Manufacturing Company, Lanoka, N. J. Game of cards	59,416	Jan. 8	126	750
Shuptrine, James T., Savannah, Ga. Antidote for ringworm and tetter	59,549	Jan. 8	126	753
Smith & Co., Amor, Cincinnati, Ohio. Soap	59,314	Jan. 8	126	747
Snivi Medicine Company, Cincinnati, Ohio. Medicines for certain named diseases	59,519	Jan. 8	126	752
Société Anonyme L'Electrique, Paris, France. Electric automobiles	59,417	Jan. 8	126	750
Sperry & Walsh Hat Co., Nashville, Tenn. Fur felt hats	59,392	Jan. 8	126	749
Sperry & Walsh Hat Co., Nashville, Tenn. Fur felt hats	59,393	Jan. 8	126	749
St. Jacobs Oil, Limited, London, England, and Baltimore, Md. Hair renewer and restorative and tonic for the hair, scalp, and skin	59,520	Jan. 8	126	752
St. Jacobs Oil, Limited, London, England, and Baltimore, Md. Remedy for certain named diseases	59,521	Jan. 8	126	752
St. Jacobs Oil, Limited, London, England, and Baltimore, Md. Remedy for certain named diseases	59,565	Jan. 8	126	754
St. Jacobs Oil, Limited, London, England, and Baltimore, Md. Remedy for certain named diseases	59,566	Jan. 8	126	754
St. Jacobs Oil, Limited, London, England, and Baltimore, Md. Remedy for certain named diseases	59,567	Jan. 8	126	754
St. Jacobs Oil, Limited, London, England, and Baltimore, Md. Remedy for certain named diseases	59,568	Jan. 8	126	754
St. Jacobs Oil, Limited, London, England, and Baltimore, Md. Remedy for certain named diseases	59,569	Jan. 8	126	754
St. Louis Union Trust Company, St. Louis, Mo. Stoves and ranges	59,394	Jan. 8	126	749
Standard Pressed Steel Co., Philadelphia, Pa. Shaft-hangers	59,362	Jan. 8	126	748
Standard Varnish Works, New York, N. Y. Certain named paints and painters' materials	59,363	Jan. 8	126	748
Steel, Firm of Robert, Philadelphia, Pa. Whisky	59,500	Jan. 8	126	752
Studebaker Bros. Mfg. Co., South Bend, Ind. Buggies and carriages	59,501	Jan. 8	126	752
Suhr, Charles, West Hoboken, N. J. Teeth, face, toilet, and laxative powders and hair-tonics	59,570	Jan. 8	126	754
Tea Tray Company of Newark, N. J., Newark, N. J. Metal shades and hoods and holders therefor	59,364	Jan. 8	126	748
Thomas Bayley & Co., Ld., Nottingham, England. All kinds of leather	59,502	Jan. 8	126	752
Thomas G. Plant Company, Monticello, N. J., and Boston, Mass. Women's and misses' leather boots and shoes	59,586	Jan. 8	126	754
Tiedemann & Son, Theo., New York, N. Y. Tulle	59,456	Jan. 8	126	751
Tilden Company, New Lebanon, N. Y., and St. Louis, Mo. Medicines for certain named diseases	59,523	Jan. 8	126	753
Tilly, C. de Koning, Haarlem, Netherlands. Oil for medicinal purposes	59,522	Jan. 8	126	753
Traver, Frederick C., Chicago, Ill. Wrapping-paper	59,503	Jan. 8	126	752

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Ullman & Co., Cincinnati, Ohio. Whisky	59,395	Jan. 8	126	749
Union Bag & Paper Company, New York, N. Y. Paper bags	59,504	Jan. 8	126	752
Union Horse Nail Company, New Haven, Conn., and Chicago, Ill. Horse-nails	59,420	Jan. 8	126	750
Union Horse Nail Company, New Haven, Conn. Horse-nails	59,567	Jan. 8	126	754
United Breweries Company, Chicago, Ill. Beer	59,586	Jan. 8	126	754
United Injector Co., New York, N. Y. Injectors	59,418	Jan. 8	126	750
United Injector Co., New York, N. Y. Strainers and valves	59,419	Jan. 8	126	750
United Shoe Machinery Company, Paterson, N. J., and Boston, Mass. Boot and shoe sewing machines, parts, and attachments	59,365	Jan. 8	126	748
United Shoe Machinery Company, Paterson, N. J., and Boston, Mass. Boot and shoe sewing machines, parts, and attachments	59,366	Jan. 8	126	748
United States Graphite Company, Saginaw, Mich. Certain named lubricating-oils	59,505	Jan. 8	126	752
Valligny, L. Pierre, New York, N. Y. Hair-dye	59,524	Jan. 8	126	753
Van Rensselaer, Charles A., New York, N. Y. Whisky	59,367	Jan. 8	126	748
Van de Sandt Mfg. & Supply Co., Ltd., New York, N. Y. Boiler-preserving compounds	59,525	Jan. 8	126	752
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Whisky	59,506	Jan. 8	126	752
Vandersilce-Lynds Mercantile Co., assignor to Megibben-Beatty Mercantile Co., Kansas City, Mo. Wheat-flour	59,457	Jan. 8	126	751
Verona Tool Works, Pittsburg, Pa. Certain named tools	59,507	Jan. 8	126	752
Victor Talking Machine Company, Camden, N. J. Sound recording or reproducing machines and parts thereof and records	59,550	Jan. 8	126	753
W. L. McCullough Co., Ypsilanti, Mich. Reduction-machines	59,421	Jan. 8	126	750
Wertheimer, Edward, Cincinnati, Ohio. Gin	59,466	Jan. 8	126	752
William S. Hills Co., Boston, Mass. Wheat-flour	59,456	Jan. 8	126	751
Willis & Co., Grinnell, New York, N. Y. Cotton piece goods	59,341	Jan. 8	126	746
Wm. A. Rogers, Ltd., New York, N. Y. Silver-plated ware comprising flat and hollow ware and cutlery	59,396	Jan. 8	126	749
Wm. A. Rogers, Ltd., New York, N. Y. Silver-plated ware comprising flat and hollow ware and cutlery	59,422	Jan. 8	126	750
Wollschläger, F. A., Winston, N. C. Proprietary medicine used as a blood-purifier	59,559	Jan. 8	126	754
Zeltner Brewing Co., New York, N. Y. Lager-beer	59,508	Jan. 8	126	752
Zephon Chemical Compound Company, Chicago, Ill. Boiler-cleaning compounds	59,526	Jan. 8	126	753

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Ayer & Co., M. S., Boston, Mass. "Defiance Flour." (For Flour)	13,303	Jan. 8	126	755
O'Brien, John H. S., Brooklyn, N. Y. "Cutisol." (For an Ointment)	13,305	Jan. 8	126	755
Smith, Bertha, New York, N. Y. "Electrosine." (For a Liquid Depilatory)	13,306	Jan. 8	126	755
Tiemann, Albert, Milwaukee, Wis. "Rex." (For Beer)	13,304	Jan. 8	126	755

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Lytton, H. C., Chicago, Ill. "Men's and Boys' Apparel." (For Men's and Boys' Apparel)	1,882	Jan. 8	126	755
Tiemann, Albert, Milwaukee, Wis. "Moose, The Beer that Reigns Supreme." (For Beer)	1,879	Jan. 8	126	755
Tiemann, Albert, Milwaukee, Wis. "The Home of the Famous Monarch of All Beers." (For Beer)	1,880	Jan. 8	126	755
Tiemann, Albert, Milwaukee, Wis. "Moose, The Monarch of All Pure Beers." (For Beer)	1,881	Jan. 8	126	755

TRADE-MARKS.

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A. Baldwin & Co. Ltd., New Orleans, La. Saws, scissors, shears, &c	21,926	Jan. 8	126	734
Acker, Merrall & Condit Company, New York, N. Y. Coffee	22,938	Jan. 8	126	745
American Cotton Oil Company, near Guttenburg, N. J. Summer-white cotton-seed oil	22,614	Jan. 8	126	740
American Cotton Oil Company, near Guttenburg, N. J. Cotton-seed oil	23,615-17	Jan. 8	126	740

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Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Argus Motoren Gesellschaft Jeannin & Co. Comm.-Ges., Berlin, Germany. Automobiles and parts thereof, except rubber tires	18,908	Jan. 8	126	730
Atlantic Export Company, New York, N. Y. Brewers' grain	23,809	Jan. 8	126	742
Atlas Specialty Company, Buffalo, N. Y. Cleaning and polishing preparations for woodwork, &c.	20,691	Jan. 8	126	733
Bangor Roofing Slate Manufacturers Association, Bangor, Pa. Roofing-slate	8,750	Jan. 8	126	726
Bernese Alps Milk Co., Stalden, Emmenthal, Switzerland. Sterilized, concentrated, condensed, dried, &c., milk, &c	14,571	Jan. 8	126	729
Bissell Carpet Sweeper Company, Grand Rapids, Mich. Carpet-sweepers	10,880-1	Jan. 8	126	726-7
Blanke-Baer Chemical Company, St. Louis, Mo. Flavoring extracts	23,095	Jan. 8	126	737
Bristol Co., Waterbury, Conn. Metallic belt-fasteners	19,379	Jan. 8	126	731
C. W. Hull Company, Omaha, Nebr. Building cement, lime, &c	23,282	Jan. 8	126	738
Canter, Abram R., Wilkinsburg, Pa. Eye medicine	23,533	Jan. 8	126	739
Chambers, Alice W., Philadelphia, Pa. Periodical publication	23,818	Jan. 8	126	742
Chandler & Taylor Company, Indianapolis, Ind. Steam-engines, air-compressors, &c	8,996	Jan. 8	126	726
Charles Jacquin et Cie., Inc., New York, N. Y. Flavoring extract	23,932-3	Jan. 8	126	744
Chicago Thread Mfg. Co., Chicago, Ill. Sewing-thread and art-needlework yarns	23,473	Jan. 8	126	739
Citizens' Wholesale Supply Co., Columbus, Ohio. Rheumatism cures, ointments, &c	23,600	Jan. 8	126	740
Clarkson & Ford Co., New York, N. Y. Lubricating-oil	19,408	Jan. 8	126	731
Clarkson & Ford Co., New York, N. Y. Cutting-oil	19,409	Jan. 8	126	731
Cohen, Adolph, New York, N. Y. Outer waists, outer skirts, and suits	18,607	Jan. 8	126	730
Columbia Mill & Elevator Company, Columbia, Tenn. Wheat-flour	21,672	Jan. 8	126	734
Columbian Rope Company, Auburn, N. Y. Rope, cable, tarred lath and fodder yarns, &c	21,025-6	Jan. 8	126	733
Couch Bros. & J. J. Eagan Co., Atlanta and East Point, Ga. Collars, collar-pads, and backbands for horses	22,381	Jan. 8	126	735
Defiance Machine Works, Defiance, Ohio. Woodworking-machines	21,209	Jan. 8	126	734
Delapenha & Co., R. U., New York, N. Y. Preserved ginger, olives, figs, &c	23,590	Jan. 8	126	740
Denison Cotton Mill Co., Denison, Tex. Cotton duck	23,799	Jan. 8	126	742
Dührsen, R., New York, N. Y. Decalcomanias and transfer-pictures	23,604	Jan. 8	126	740
E. C. Nalle Drug Company, Alexandria, Va., and Washington, D. C. Liniments, dyspepsia-tablets, &c	23,537	Jan. 8	126	739
Eastern Dynamite Company, Kenvil, N. J. High explosives and blasting supplies	19,466	Jan. 8	126	731
Eberhard Manufacturing Company, Cleveland, Ohio. Buckles, rings, snap-hooks, &c	546	Jan. 8	126	725
Edw. B. Bruce Co., Baltimore, Md. Whisky	21,498	Jan. 8	126	734
F. P. Kirkendall & Co., Omaha, Nebr. Leather boots, shoes, slippers, and sandals	22,486	Jan. 8	126	736
Fabrik von Maggi's Nahrungsmittein, Kemptthal, Switzerland. Bouilion	13,123-4	Jan. 8	126	728-9
Fahey, Edward F., Pittsfield, Mass. Blood-tonic	18,638	Jan. 8	126	730
Fortiner, Byron E., Camden, N. J. Remedy for seasickness	23,015	Jan. 8	126	737
Geo D Witt Shoe Co., Lynchburg, Va. Leather boots and shoes	23,796-7	Jan. 8	126	742
Geo. W. Torrey Co., Boston, Mass. Whisky	23,023	Jan. 8	126	737
Glenn Rock Mineral Spring Company, Waukesha, Wis. Still and carbonated waters	23,461	Jan. 8	126	738
Goetz & Company, Ludwig E., New York, N. Y. Embroideries, embroidery-patterns, &c	22,669	Jan. 8	126	736
Goetze, Otto, New York, N. Y. Dyed cotton fabrics	23,771	Jan. 8	126	741
Gordabell Chemical Company, Baltimore, Md. Salve	22,942	Jan. 8	126	737
Grendel Mills, Greenwood, S. C. Cotton piece goods	23,535	Jan. 8	126	739
Guthmann Carpenter & Telling, Chicago, Ill. Leather boots and shoes	4,643	Jan. 8	126	726
H. J. Heinz Company, Allegheny, Pa. Pickles, chow-chow, sauer-kraut, &c	20,754-6	Jan. 8	126	733
Hall & Ruckel, New York, N. Y. Preparation for removing superfluous hair from the human body	23,390	Jan. 8	126	738
Hinckley & Schmitt, Inc., Chicago, Ill. Mineral water	22,124-5	Jan. 8	126	735
Hohmann & Maurer Mfg. Co., Rochester, N. Y. Thermometers, barometers, mercury-gages, &c	23,904	Jan. 8	126	744
Home Fertilizer & Chemical Company of Baltimore City, Baltimore, Md. Fertilizers	23,576	Jan. 8	126	739
Humphreys Homeopathic Medicine Co., New York, N. Y. Remedies for fevers, congestions, colic, &c	20,523	Jan. 8	126	732
International Cutlery Company, Fremont, Ohio. Razors	9,670	Jan. 8	126	726
Iosaline Company, New York, N. Y. Iodin, oil of wintergreen, and menthol paste	18,880	Jan. 8	126	730
J. A. Pozzoni Pharmacal Co., St. Louis, Mo. Complexion-powder	23,794	Jan. 8	126	742
Jacquin & Co., H., New York, N. Y. Knitted undershirts and drawers	18,432	Jan. 8	126	730
Jay C. Wemple Co., New York, N. Y. Window-shade cloths	14,356	Jan. 8	126	729
John C. Weller Co., Louisville, Ky. Gin	23,832	Jan. 8	126	743
Johnston, William J., New York, N. Y. Monthly periodical	12,139	Jan. 8	126	728
Jones Dairy Farm, Fort Atkinson, Wis. Sausages, hams, bacon, &c	20,751	Jan. 8	126	733
Judson L. Thomson Mfg. Co., Waltham, Mass. Rivets	23,743	Jan. 8	126	741
Julius King Optical Co., New York, N. Y. Eyeglasses	16,703	Jan. 8	126	730
Kinahan & Company Limited, Dublin, Ireland. Gin	19,256	Jan. 8	126	730
Kirschbaum & Co., A. B., Philadelphia, Pa. Suits, overcoats, and rain-coats	19,773	Jan. 8	126	732
Knoll & Co., Ludwigshafen-on-the-Rhine, Germany. Soporific, narcotic, and calming remedies	21,797	Jan. 8	126	734
Kny-Scheerer Company, New York, N. Y. Apparatus for the examination of the blood and for massage, &c	22,861	Jan. 8	126	736
Kurl Chemical Co., Pittsburg, Pa. Remedy for sore and inflamed eyes	22,834	Jan. 8	126	736
Lappe, Th., Neudietendorf, Germany. Stomach-bitters	19,831	Jan. 8	126	732
La Ripolin, (Société Anonyme Française de peintures laquées et d'enduits sous-marins procédés Lefranc & Briegleb réunis,) Paris, France, and Amsterdam, Holland. Enamel paint	15,321	Jan. 8	126	729
Letzelter, Michael, Pittsburg, Pa. Whisky	23,823	Jan. 8	126	743
Levi, Jacob, Paterson, N. J. Shirts, overalls, and pantaloons	22,052	Jan. 8	126	735
Loeser & Co., Frederick, New York, N. Y. Hosiery	22,945	Jan. 8	126	737
Loopen, Charles, Paris, France. Nail-brushes	19,389	Jan. 8	126	731
M. A. Packard Co., Brockton, Mass. Boots and shoes made of leather	13,407	Jan. 8	126	729
Mack & Gilmore, Berwick, La. Internal remedy for diarrhea, dysentery, &c	23,857	Jan. 8	126	743
Magnet Knitting Mills, Clinton, Tenn. Knitted socks and stockings	23,176	Jan. 8	126	738
Magnolia Healing Soap Co., Muscatine, Iowa. Medicated toilet soap	20,496	Jan. 8	126	732
Marshall, A. W., London, England. Prepared food made from fish, &c	15,209	Jan. 8	126	729
Marvel Furniture Company, Jamestown, N. Y. Chiffonniers, dressers, and commodes	20,306	Jan. 8	126	732
Massie, C. W., Fort Worth, Tex. Liniment for bee-stings, inflammation, &c	19,742	Jan. 8	126	731
Mayer & Sons, S., New York, N. Y. Infants' hats and caps	23,883	Jan. 8	126	743
McCart-Mosset Co., Cleveland, Ohio. Bitters	8,908	Jan. 8	126	726
McPherson & Co., T. E., Kennett, Mo. Medicinal remedies for the eyes	11,105	Jan. 8	126	727
Meade & Baker Carbolic Mouth Wash Co., Richmond, Va. Dentifrice	23,803-4	Jan. 8	126	742
Medlin Milling Co., Fort Worth, Tex. Wheat-flour	15,938	Jan. 8	126	729
Miller & Co., G. E., Pawtucket, R. I. Remedy for coughs, colds, asthma, diphtheria, &c	22,541	Jan. 8	126	736
Monheimer, Isa, Chicago, Ill. Whisky	2,541	Jan. 8	126	725
Morgan Oyster Company, San Francisco, Cal. Fresh canned frozen oysters	12,851	Jan. 8	126	728
Murphey, Thomas C., Philadelphia, Pa. Non-poisonous insecticide and antiseptic	16,840	Jan. 8	126	730

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National Coal Tar Company, Wilmington, Del., and Boston, Mass. Fabric for roofing and sheathing	23,709	Jan. 8	126	741
National Disinfectant Company, Cincinnati, Ohio. Insect-powders	23,721	Jan. 8	126	741
National Electrolytic Co., Niagara Falls, N. Y. Chlorates and bichromates	19,104	Jan. 8	126	730
National Refining Company, Cleveland, Ohio. Stove-gasolene	23,824	Jan. 8	126	744
National Refining Company, Cleveland, Ohio. Lubricating-oil	23,825	Jan. 8	126	744
New Orleans Brewing Company, New Orleans, La. Beer	23,688	Jan. 8	126	737
New York Mackintosh Company, New York, N. Y. Women's coats, cloaks, suits, and outer skirts	21,309	Jan. 8	126	734
Obernauer, Herman, Pittsburg, Pa. Gin	21,457	Jan. 8	126	734
Obernauer, Herman, Pittsburg, Pa. Whisky	23,338	Jan. 8	126	743
Obrock, August, New York, N. Y. Antiseptic salve	23,701	Jan. 8	126	741
Ohio Coffee & Spice Company, Columbus, Ohio. Coffee	1,711	Jan. 8	126	725
Oklahoma Wholesale Grocer Co., Oklahoma, Okla. Ter. Canned vegetables	23,680	Jan. 8	126	735
Oneida Community Limited, Oneida and Niagara Falls, N. Y. Animal-traps	23,784	Jan. 8	126	741
Paragon Malt Extract Co., New York, N. Y. Malt extracts	23,488	Jan. 8	126	732
Paul Brothers, Philadelphia, Pa. Leather boots, shoes, and slippers	23,709-61	Jan. 8	126	742
Paul Brothers, Philadelphia, Pa. Ladies' and misses' leather shoes and slippers	23,710	Jan. 8	126	742
Paul Brothers, Philadelphia, Pa. Leather boots, shoes, and slippers	23,677	Jan. 8	126	743
Payson Varnish Co., New York, N. Y. Varnish	23,709	Jan. 8	126	736
Peal Medicine Company, Cleveland, Ohio. Nerve-tonic	23,289	Jan. 8	126	735
Peerless Herb Co., Williamsport, Pa. Remedy for diseases of the blood, liver, &c	19,057	Jan. 8	126	731
Pepper's Sons, Thomas, Ashland, Pa. Whisky	9,722	Jan. 8	126	726
Phelps, Ephraim, Jr., New Orleans, La. Leather boots and shoes	17,115	Jan. 8	126	730
Pittsburgh Brewing Company, Pittsburg, Pa. Beer	19,280	Jan. 8	126	731
Pohlman & Co., John, Indianapolis, Ind. Whisky	13,252	Jan. 8	126	729
Pompeian Mfg. Co., Cleveland, Ohio. Soap	23,685	Jan. 8	126	744
Potsdam Clothing Manufacturing Company, Potsdam, N. Y. Trousers	23,527	Jan. 8	126	743
Queisner, Max, Berlin, Germany. Preparation for cleaning straw and bast hats	22,471	Jan. 8	126	735
Ralston Purina Co., St. Louis, Mo. Cornmeal, wheat-flour, &c	654	Jan. 8	126	725
Ralston Purina Co., St. Louis, Mo. Poultry and stock food	23,613	Jan. 8	126	740
Randolph Milling Company, Baldwin, Ill. Wheat-flour	23,943	Jan. 8	126	745
Reading Hardware Company, Reading, Pa. Knobs, door-pulls, push-plates, &c	21,073-6	Jan. 8	126	734
Red Seal Never Damp Salt Company, Kearny, N. J. Table-salt	23,561	Jan. 8	126	739
Reiss & Brady, New York, N. Y. Macaroni, noodles, wafers, &c	23,660	Jan. 8	126	743
Reiss & Brady, New York, N. Y. Bonbons	23,570	Jan. 8	126	743
Reiss & Brady, New York, N. Y. Cheese	23,571	Jan. 8	126	743
Remsen Manufacturing Company, Hartford, Conn. Maternity outfits	23,302	Jan. 8	126	738
Remsen Manufacturing Company, Hartford, Conn. Catamenial bandages	23,368	Jan. 8	126	738
Reynolds, Lowell M., Brockton, Mass. Canned and bottled fruits and vegetables, &c	23,689	Jan. 8	126	741
Rheinstrom Bettman Johnson & Co., Cincinnati, Ohio. Blackberry brandy and cordials	6,451	Jan. 8	126	726
Rieger & Lindley, Salt Lake City, Utah. Whisky	22,411	Jan. 8	126	735
Robert Bosch, New York, Inc., New York, N. Y. Magnetos	23,655	Jan. 8	126	741
Robert Stevenson & Co., Chicago, Ill. Olive-oil	23,058	Jan. 8	126	735
Rossing Paint & Roofing Co., Minneapolis, Minn. Mineral roof, hot-surface, and roof cement paint	21,944	Jan. 8	126	734
Schuster Co., Cleveland, Ohio. Kümmel	6,628	Jan. 8	126	726
Schwabacher Bros. & Co. Inc., Seattle, Wash. Barley	23,709	Jan. 8	126	738
Schwabacher Bros. & Co. Inc., Seattle, Wash. Dried fruits, sago, bird-seed, &c	23,340	Jan. 8	126	738
Sharp & Dohme, Baltimore, Md. Chemicals used in photographic processes	23,636	Jan. 8	126	736
Siebert, Fred. W., Yonkers, N. Y. Sliced smoked beef	23,208	Jan. 8	126	735
Stelemann Distilling Co., St. Louis, Mo. Whisky	23,520	Jan. 8	126	743
Southern Chemical Company, Dallas, Tex. Remedy for curing la grippe, colds, and similar ailments	23,612	Jan. 8	126	740
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Mixture of vegetable oil and animal fat	19,808	Jan. 8	126	727
Studebaker Bros., Mfg. Co., South Bend, Ind. Buggies and carriages	17,626	Jan. 8	126	730
Thaddeus Davids Company, New York, N. Y. Sealing-wax, mucilage, and paste	20,283	Jan. 8	126	733
Thayer, George C., Indianapolis, Ind. Relief-printing plates	23,260	Jan. 8	126	732
35 ¢ Automobile Supply Co., New York, N. Y. Automobile hats and caps	23,696	Jan. 8	126	746
Thomas' Sons, J. R., Youngstown, Ohio. Wheat, rye, and Graham flours	10,247	Jan. 8	126	726
Tilden Company, New Lebanon, N. Y. Expectorant, sedative, antispasmodic medicine	23,010	Jan. 8	126	744
Toledo Railways & Light Company, Toledo, Ohio. Arc and incandescent electric lamps	23,470	Jan. 8	126	739
Tousey Varnish Co., Chicago, Ill. Varnishes and varnish-like preparations	15,080	Jan. 8	126	730
Turpin, Henry E., Haywards, Cal. Remedy for various diseases of poultry	23,688	Jan. 8	126	736
Union Bag & Paper Company, New York, N. Y. Wrapping-paper, paper-boards, and paper bags	23,698	Jan. 8	126	745
Union Bag & Paper Company, New York, N. Y. Wrapping-paper and paper boards	23,697	Jan. 8	126	745
United States Playing Card Company, Cincinnati, Ohio. Game-counters and chips	23,321	Jan. 8	126	739
United States Playing Card Co., Cincinnati, Ohio. Game-counters and chips	23,775	Jan. 8	126	741
Valk & Bro., S. J., New York, N. Y. Syrup	23,466	Jan. 8	126	735
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Carbolic ointment	11,193	Jan. 8	126	727
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Eye-salve	11,191	Jan. 8	126	727
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Toothache-drops	11,192	Jan. 8	126	727
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Essence of Jamaica ginger	11,195	Jan. 8	126	727
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Preparation for the cure of diseases of the skin	11,194	Jan. 8	126	727
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Itch-ointment	11,189	Jan. 8	126	727
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Remedy for diseases of the bladder, kidneys, &c	11,221	Jan. 8	126	727
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Remedy for dyspepsia, nervousness, &c	11,222	Jan. 8	126	728
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Preparation for the cure of venereal diseases	12,520	Jan. 8	126	728
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Remedy for the cure of chills and fever	12,288	Jan. 8	126	728
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Remedy for colds, coughs, la grippe, and headache	12,294	Jan. 8	126	728
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Kidney medicine	12,293	Jan. 8	126	728
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Candy vermifuge	12,535	Jan. 8	126	728
Verno Company, Milwaukee, Wis. Medicine for the cure of diseases of the stomach, liver, &c	23,007	Jan. 8	126	741
Virginia-Carolina Chemical Company, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Fertilizers	23,963-51	Jan. 8	126	745
Virginia-Carolina Chemical Company, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Fertilizers	23,963	Jan. 8	126	746

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Virginia Etna Lithia Springs Co., Jersey City, N. J., and New York, N. Y. Mineral water	22,893	Jan. 8	126	737
Vogel & Bros., Wm., Brooklyn, N. Y. Oilers and oiler-spouts, filler-faucets, &c	20,408	Jan. 8	126	732
Wagener & Co., F. W., Charleston, S. C. Lard	22,994	Jan. 8	126	737
Wagner, W., Jr., Plettenberg, Germany. Tuning-pins for pianos	19,752-3	Jan. 8	126	732
Walker, Leigh W., Pittsburg, Pa. Whisky	23,038	Jan. 8	126	737
Walsh & Co., James, Cincinnati, Ohio. Whisky	11,503	Jan. 8	126	727
Weil, Alexander J., Cincinnati, Ohio. Whisky	23,341-2	Jan. 8	126	738
Wierhake, William, St. Louis, Mo. Stove-polish	23,945	Jan. 8	126	745
Wilcox & White Company, Meriden, Conn. Automatic music-playing instruments and rolls therefor	23,500	Jan. 8	126	739
Winch Brothers Company, Boston, Mass. Leather boots, shoes, and slippers	23,912	Jan. 8	126	744
Winchester Repeating Arms Co., New Haven, Conn. Shotguns, rifles, bullets, &c	20,979	Jan. 8	126	733
York Silk Manufacturing Co., York, Pa. Silk piece goods	23,865	Jan. 8	126	743

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 8TH DAY OF JANUARY, 1907.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Specification.	Drawing.	Volume.	Page.
Acetylene-generating apparatus	C. Billy	840,552	Jan. 8	1544	340	126	440
Advertising device	O. N. Moore	840,577	Jan. 8	1607	352	126	454
Air containing dust. Device for purifying	J. L. Palous	840,654	Jan. 8	1739	383	126	489
Air-filter	I. F. Wallace and W. L. Kellogg	840,530	Jan. 8	1502	333	126	430
Air. Purifying	J. M. Dieterle	840,756	Jan. 8	1945	427–8	126	540
Alarm: *See* Incubator-alarm.							
Alarm device. Electric	J. F. O'Neill	840,582	Jan. 8	1614	354	126	457
Amalgam. Apparatus for the manufacture of reducing-	H. P. Ewell	841,006	Jan. 8	2431	531	126	660
Amusement device	L. Moran	840,705	Jan. 8	1846	406	126	517
Animal-trap	J. A. Ward	840,673	Jan. 8	1777	391	126	498
Axle. Pressed-steel	R. S. G. Lane	840,945	Jan. 8	2324	511	126	633
Axle-skein	C. O. Wilder	840,981	Jan. 8	2383	522	126	648
Axle suspension for motor-vehicles. Driving-	C. R. Greuter	840,842	Jan. 8	2101	465	126	578
Axles. Body-support for	T. J. Lindsay	840,781	Jan. 8	1994	440	126	552
Bags, satchels, purses, &c. Fastening for handles of	H. B. Welch	840,978	Jan. 8	2377	521	126	647
Baking-powder-making machine	H. M. Brook	840 686	Jan. 8	1795	396–7	126	502
Baling-press	S. J. Webb	840,534	Jan. 8	1508	334	126	432
Bar: *See* Reinforcing-bar.							
Barrel	J. F. East	841,002	Jan. 8	2423	530	126	658
Batteries. Automatic engaging and disengaging device for dynamo and storage	O. Böhm	840,685	Jan. 8	1792	396	126	501
Battery: *See* Electric induction-battery.							
Battery binding-post	G. H. Cove	840,915	Jan. 8	2262	497	126	618
Bearing. Ball-	A. Riebe	840,805	Jan. 8	2033	449	126	562
Bearing. Ball-	J. F. Springer	841,063	Jan. 8	2549	556–7	126	692
Bed	F. G. Gale	840,616	Jan. 8	1684	369	126	475
Bed	N. S. A. E. Myers	840,645	Jan. 8	1726	380	126	486
Bed. Davenport-	C. A. Jones	840,852	Jan. 8	2123	469	126	583
Bed. Invalid-	E. C. Mead	840,787	Jan. 8	2003	443	126	554
Beds. Head and body rest for	L. C. Frickey	841,008	Jan. 8	2436	532	126	661
Bedstead corner-fastener	M. G. Merritt	840,858	Jan. 8	2134	470	126	586
Belt support. Conveyer-	C. Rouse	841,053	Jan. 8	2530	552	126	687
Belt support. Conveyer-	C. Rouse	841,096	Jan. 8	2629	575	126	713
Bent-wood corners. Making	A. Worsfold	840,678	Jan. 8	1783	393	126	499
Billiard-cues. Apparatus for shaping the ends of	F. W. Schroeder	840,716	Jan. 8	1864	411	126	521
Binder	A. Falfer	841,081	Jan. 8	2590	568	126	703
Binder lock. Loose-leaf-	A. I. Risser and O. F. F. T. Reinhardt.	840,963	Jan. 8	2355	517	126	642
Binder. Temporary	L. M. Morden	840,643	Jan. 8	1723	379	126	485
Binder. Temporary	G. C. Shepherd	840,665	Jan. 8	1761	387	126	495
Binder. Temporary	W. S. Mendenhall	840,949	Jan. 8	2332	512	126	636
Binder. Temporary	C. Whetham	840,979	Jan. 8	2378	521	126	647
Bit: *See* Bridle-bit.							
Blacking and paste receptacle and attachment therefor.	M. Schuppe	840,664	Jan. 8	1759	387	126	495
Block: *See* Building-block. Pulley-block.							
Board: *See* Wagon-box scoop-board.							
Boiler: *See* Steam-boiler. Water-tube boiler.							
Bolting-cloth cleaner	M. J. Bartlett	840,550	Jan. 8	1542	340	126	439
Book. Future-sales record	E. R. Smith	841,060	Jan. 8	2540	554	126	690
Book-mark. Automatic	M. J. Conter	840,475	Jan. 8	1301	308	126	402
Book-ring with locking-arms	L. M. Morden	841,034	Jan. 8	2493	543	126	678
Boring-machine. Double	J. T. Towsley	840,528	Jan. 8	1499	332	126	429
Bottle-stopper	D. W. Whitaker	840,813	Jan. 8	2043	452	126	564
Bottles. Machine for applying capsules to	E. W. Potts	840,710	Jan. 8	1854	408–9	126	519
Box: *See* Match-box. Postal box. Miter-box. Sound-box. Paper box.							
Boxes. Machine for use in making wire-bound	J. J. Miller	840,703	Jan. 8	1836	404–6	126	513
Brace: *See* Shoulder-brace.							
Bracelet	B. Peterson	840,804	Jan. 8	2148	475	126	589
Bracelet-locket	L. E. Sadler	840,871	Jan. 8	2406	478	126	593
Bracket	R. Kent	840,773	Jan. 8	1976	436	126	548

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Brake	C. N. Frey	840,837	Jan. 8	2060	463	126	575
Brake	H. C. Neale	840,861	Jan. 8	2334	512–13	126	637
Brake-shafts. Holding and releasing mechanism for	A. Miller	841,021	Jan. 8	2617	572–3	126	710
Bridle-bit	J. A. Fretwell	841,097	Jan. 8	2425	532	126	661
Briquet-machine	J. H. Curell	840,892	Jan. 8	1666	365–6	126	471
Brooder	H. E. Keller	840,888	Jan. 8	1442	318	126	414
Broom. Dustless	J. R. Price	841,045	Jan. 8	2615	549	126	684
Brush	F. Graul	840,696	Jan. 8	1514	400	126	508
Brush. Fountain	F. L. Brinn	840,694	Jan. 8	1668	364	126	469
Buckle. Garment	A. F. P. Stenzy	840,578	Jan. 8	2183	481	126	568
Builders' stagings. Implement for dismantling	J. L. Robert	841,089	Jan. 8	2524	551	126	685
Building-block	J. Aitken	840,685	Jan. 8	2218	488	126	608
Burial-casket	W. E. Swartz	840,816	Jan. 8	2040	451	126	563
Burner:							
See Gas-burner. Lamp-burner. Hydrocarbon-burner. Oil-burner.							
Button-machine	W. C. Hopkins and J. W. Miller	840,699	Jan. 8	2311	508	126	630
Cables, rods, tubes, and the like. Apparatus for covering	P. Schmidt	840,715	Jan. 8	1802	410–11	126	521
Camera. Magazine developing	L. Mandel	840,786	Jan. 8	2001	443	126	554
Can	E. Eckart	840,494	Jan. 8	1415	312	126	407
Cap. Child's	L. Steinthal	840,998	Jan. 8	2282	518	126	644
Car bracer. Fruit	N. C. Ives	840,770	Jan. 8	1971	435	126	547
Car construction	J. R. Cardwell	840,910	Jan. 8	2253	495	126	616
Car door. Grain	R. J. Cook and H. H. Harvey	840,751	Jan. 8	1934	426	126	537
Car draft and buffing gear or rigging	M. A. Garrett. (Reissue)	12,857	Jan. 8	2630	575	126	713
Car. Dumping	C. E. Herman	840,624	Jan. 8	1695	372	126	478
Car end construction	E. I. Dodds	840,838	Jan. 8	2072	459	126	571
Car. Gondola	A. E. Ostrander	840,797	Jan. 8	2020	446	126	558
Car. Hopper-bottom gondola	A. E. Ostrander	840,798	Jan. 8	2022	447	126	559
Car. Passenger	R. H. and M. E. Moore	840,704	Jan. 8	1846	406	126	517
Car-step. Pivoted	G. Hagberg	840,619	Jan. 8	1693	370	126	476
Car uncoupling mechanism. Railway	H. T. Krakau	840,774	Jan. 8	1979	436–7	126	549
Cars. Making metallic sills for	E. I. Dodds	840,839	Jan. 8	2073	460	126	571
Carbureter	E. D. Parrott	840,708	Jan. 8	1851	407–8	126	518
Card. Resistance	H. Sawyer	841,054	Jan. 8	2631	552–3	126	687
Card. Score	W. F. Connolly	840,827	Jan. 8	2067	458	126	569
Carding-machine cleaner	R. Couture	840,476	Jan. 8	1393	308	126	402
Carousel. Water	W. D. Burke	840,936	Jan. 8	2235	492	126	612
Carpet-cutter	G. Gamston and H. Coward	840,926	Jan. 8	2284	501	126	624
Carrier:							
See Egg-carrier. Parcel-carrier.							
Casein compound	B. B. Goldsmith	840,981	Jan. 8	2286	.....	126	636
Cell-case machine	G. W. Swift, Jr. (Reissue)	12,851	Jan. 8	2646	577–80	126	719
Cellulose. Solution of	E. Eck and E. Bechtel	840,611	Jan. 8	1674	.....	126	473
Center. Collapsible	E. W. Utzler	840,672	Jan. 8	1773	391	126	498
Centrifugal machine	F. Kaehl	840,497	Jan. 8	1441	318	126	414
Chain	R. E. Weinland	840,836	Jan. 8	1511	334	126	432
Chain-fastening	A. Specht	840,908	Jan. 8	2088	451	126	563
Chain-hook	J. Brouse	840,473	Jan. 8	1389	307	126	401
Chair:							
See Rocking and reclining chair.							
Chair	J. Barta	840,463	Jan. 8	1361	301	126	396
Cheese-cutting machine	W. H. Scott	840,895	Jan. 8	2086	450	126	562
Cigar cutter and lighter	F. A. Widmann	840,569	Jan. 8	2279	321–2	126	648
Circuit-breaker	E. M. Hewlett	840,948	Jan. 8	2115	467	126	581
Circuit-closer. Time	W. S. Guthrie	840,862	Jan. 8	1580	347	126	448
Circuit-controlling mechanism. Automatic	H. G. Crawford	840,487	Jan. 8	1863	345	126	444
Clamp:							
See Frame-clamp. Woodworker's bench-clamp.							
Clamp	J. N. Hake	840,620	Jan. 8	1689	371	126	477
Clasp:							
See Corset-clasp. Umbrella-clasp. Garment-supporter clasp.							
Clasp	A. H. Cohn	840,730	Jan. 8	1983	425	126	537
Cleaner:							
See Bolting-cloth cleaner. Pneumatic cleaner. Carding-machine cleaner.							
Clip:							
See Pad-holding clip.							
Cloth-cutting machine	J. B. Gury	840,767	Jan. 8	1965	432	126	545
Clothes-drier	C. Stueben	840,809	Jan. 8	2039	451	126	563
Clothes-rack	E. M. Palmer	840,813	Jan. 8	1499	324	126	421
Clothes-rack. Folding	D. Sherlock	841,088	Jan. 8	2638	554	126	689
Clover-buncher	A. C. Funk and C. E. Mickle	840,615	Jan. 8	1691	368–9	126	474
Clutch	W. A. E. Henrici	840,947	Jan. 8	2113	466–7	126	580
Clutch coupling. Friction	H. H. Benn	840,742	Jan. 8	1922	423	126	534
Clutch. Friction	R. Huff	840,628	Jan. 8	1696	373	126	479
Clutch. Friction	J. W. Brown	840,627	Jan. 8	1799	397	126	503
Coat-hook. Locked	S. Upton	840,882	Jan. 8	2191	483	126	600
Cock. Basin	A. C. Pegan	840,800	Jan. 8	2086	448	126	560
Cock. Self-closing	H. Mueller and A. Schuermann	841,093	Jan. 8	2637	573–4	126	711
Coke-oven	H. Mueller	841,092	Jan. 8	2619	573	126	711
Collar. Fabric horse	M. E. Rothberg and A. Ernst	841,062	Jan. 8	2627	551–2	126	686
Colorimeter	W. B. Estes	841,095	Jan. 8	2629	530–1	126	660
Column. Stave	C. H. White	840,528	Jan. 8	1516	336	126	454
Combination-lifter	G. W. Loggie	840,529	Jan. 8	1717	378	126	484
Comminuted material. Feeder for	J. B. Ortt	840,680	Jan. 8	1736	382	126	488
Commutator brush and holder for dynamos and the like	G. S. Heath	840,845	Jan. 8	2107	466	126	579
Concrete-and-metal structure	J. A. Misland	840,896	Jan. 8	1466	321	126	417
Concrete-block machine	J. W. Linzee, Jr	840,871	Jan. 8	1894	350	126	451
Concrete-brick machine	H. K. Burrill	840,907	Jan. 8	2220	493	126	613
Concrete columns. Apparatus for constructing hollow	J. Carlen	840,911	Jan. 8	2285	496	126	617
Concrete columns. Mold for constructing hollow	F. Locher	840,630	Jan. 8	1715	377–8	126	483
Concrete walls. Apparatus for constructing	F. Locher	840,637	Jan. 8	1714	377	126	483
Conveyer	C. Dietrichs	840,998	Jan. 8	2415	528	126	657
	C. W. Levalley	840,802	Jan. 8	1448	319	126	416

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette Vol.	Official Gazette Page.
Conveyer	F. R. Willson, Jr	840,729	Jan. 8	1892	416–17	126	527
Conveyers. Tripper or deliverer for belt	B. Morton	840,579	Jan. 8	1610	353	126	455
Conveyers. Tripper or deliverer for belt	A. B. Proal, Jr	840,585	Jan. 8	1620	355–6	126	458
Conveying apparatus	J. H. Gilman	841,085	Jan. 8	2605	570	126	708
Conveying apparatus. Tripper or deliverer for	T. Robins, Jr., and C. K. Baldwin	840,587	Jan. 8	1624	356–7	126	459
Cooker. Steam	N. N. Chase	840,823	Jan. 8	2063	457	126	568
Cooking-utensil cover	P. F. Gaenzle	840,702	Jan. 8	1953	430	126	542
Core-molding machine	U. G. Augustine	840,737	Jan. 8	1914	421–2	126	532
Corn-sheller	W. Bayley	840,466	Jan. 8	1367	304	126	397
Corset-clasp	C. H. Cunningham	840,918	Jan. 8	2267	499	126	619
Cotton-boll-opening machine	W. I. Lowe	840,784	Jan. 8	1997	441–4	126	533
Counter. Foldable	S. Soda	840,719	Jan. 8	1869	412	126	522
Coupling:							
See Clutch-coupling. Rod-coupling.							
Crane and the like. Floating	A. Bode and K. Böttcher	840,684	Jan. 8	1790	395–6	126	501
Crane and tip-car. Automobile	P. J. Healey	840,480	Jan. 8	1422	314	126	409
Crucible	E. A. Colby	840,825	Jan. 8	2066	458	126	569
Crucible	E. A. Colby	840,826	Jan. 8	2066	458	126	569
Crystallization apparatus	A. L. Marshall	841,030	Jan. 8	2485	541	126	676
Cultivator	N. B. Yingling	840,545	Jan. 8	1534	339	126	438
Cultivator	G. E. Barrett	840,898	Jan. 8	2225	489–90	126	609
Cultivator attachment	W. Tierman	841,071	Jan. 8	2568	561	126	697
Cultivator disk attachment	M. P. Buckley	840,606	Jan. 8	1663	365	126	470
Cultivator. Hand	G. H. Yarbrough	840,679	Jan. 8	1784	394	126	500
Curtain-fixture, Adjustable	J. J. Kiser	841,089	Jan. 8	2615	572	126	710
Curtain or shade. Window	E. T. Bell	840,682	Jan. 8	1786	394	126	500
Curtain-pole	J. Perry	841,044	Jan. 8	2514	549	126	684
Curtain-rod	A. R. Snyder and J. W. Potts	841,062	Jan. 8	2548	556	126	692
Cutter:							
See Carpet-cutter. Cigar-cutter.							
Cutting implement	A. B. Bennett	840,468	Jan. 8	1370	305	126	398
Cyanid process	H. B. Goetschius	840,840	Jan. 8	2096	465	126	576
Damper-regulator	D. F. Morgan	840,644	Jan. 8	1724	379	126	485
Dental swage	J. W. Dickey	840,921	Jan. 8	2272	499	126	621
Dentifrice	F. P. Barnard	840 738	Jan. 8	1916	.....	126	533
Derailment-guard	A. Anderson	840,733	Jan. 8	1906	419	126	531
Derrick	J. W. Stolkrantz	841,066	Jan. 8	2556	558–9	126	694
Digger:							
See Weed-digger.							
Display-holder for windows	S. Golombek	840,618	Jan. 8	1688	370	126	476
Display-stand	C. T. Jackley	840,493	Jan. 8	1433	316	126	412
Displaying and vending device	C. L. Maloney	840,702	Jan. 8	1833	404	126	513
Ditching and grading machine. Automobile	M. G. Bunnell	841,073	Jan. 8	2571	562–3	126	698
Ditching-machine	F. J. Goergen and F. J. Diederich	840,617	Jan. 8	1686	369–70	126	476
Door check and spring. Combined	J. H. Shaw	840,872	Jan. 8	2167	478	126	593
Door-lock	J. Sliga	840,666	Jan. 8	1763	388	126	495
Door-opener	A. and W. Kirchner	840,630	Jan. 8	1703	374	126	480
Door-operating mechanism	F. Ditchfield	840,757	Jan. 8	1946	428	126	540
Door-securer	E. R. Fuchs	840,486	Jan. 8	1418	312–13	126	408
Doors and tracks therefor. Roller-support for edgewise-movable	A. E. W. Wyeth	840,732	Jan. 8	1905	419	126	531
Draft apparatus	T. W. Huckle	840,942	Jan. 8	2319	509–10	126	632
Draft appliance	F. Jerdone, Jr	841,017	Jan. 8	2465	537–8	126	672
Draft-equalizer	B. J. Detrick and I. A. Weaver	840,755	Jan. 8	1942	427	126	539
Draft-equalizer	J. A. and J. J. Flanagan	840,835	Jan. 8	2065	462	126	574
Drawer-guide	O. B. Starkwather	840,874	Jan. 8	2170	479	126	594
Drier:							
See Clothes-drier. Rotary drier. Fibrous-material drier. Sectional drier.							
Drill:							
See Hammer-drill. Rock-drill. Pneumatic drill.							
Drill	T. E. Adams	840,891	Jan. 8	2211	486–7	126	606
Drill-columns. Foot-plate for	A. D. Kenyon	841,019	Jan. 8	2470	538	126	673
Driving and reversing mechanism	F. Snow	841,061	Jan. 8	2541	555–6	126	690
Driving mechanism with alternately-acting levers	F. Kleinvogel	841,021	Jan. 8	2473	539	126	674
Driving. Variable-speed	V. O. Strobel and A. E. Hogrebe	840,721	Jan. 8	1871	412–13	126	523
Drum-controllers. Spring actuating device for	A. D. Du Bois	840,690	Jan. 8	1809	399	126	506
Drum. Drying	E. Vial	840,883	Jan. 8	2192	483	126	600
Dry separator	W. N. Beach	840,818	Jan. 8	2053	455	126	566
Dust-collecting systems. Branch-pipe valve for	W. E. Allington	840,894	Jan. 8	2219	488	126	608
Dye and making same. Yellow-red	G. Engi	841,003	Jan. 8	2426	.....	126	659
Egg-carrier	J. W. Denmead	840,558	Jan. 8	1568	346	126	446
Electric-circuit breaker	S. B. Frelberg	840,614	Jan. 8	1678	368	126	474
Electric furnace	L. Dion	840,481	Jan. 8	1409	311	126	406
Electric heater	N. N. S. Matcovitch	840,857	Jan. 8	2132	470	126	585
Electric induction-battery	H. E. Willis	840,728	Jan. 8	1890	416	126	526
Electric-motor controller	S. Sparrow	840,590	Jan. 8	1630	358	126	460
Electric time-switch for beacons	R. P. Nelms	840,646	Jan. 8	1727	380	126	486
Electric transmission-cables. Tower for	A. K. Mansfield	840,947	Jan. 8	2325	511	126	634
Electric wires. Tool for testing the currents in	A. Schelbler	840,714	Jan. 8	1862	410	126	521
Electrical-circuit protective apparatus	H. P. Davis and F. Conrad	840,478	Jan. 8	1398	309	126	404
Electrical switch	J. E. Morris	841,035	Jan. 8	2494	543	126	679
Electromagnet	T. M. Walsh	840,531	Jan. 8	1503	333	126	430
Electromagnet-interrupter	J. Erickson	841,004	Jan. 8	2427	530	126	659
Electrostatic separator	G. W. Pickard	840,802	Jan. 8	2030	449	126	561
Electrostatic separator	P. H. Wynne	840,815	Jan. 8	2046	453	126	565
Elevator:							
See Safety-elevator.							
Elevator	G. F. Steedman	841,005	Jan. 8	2554	558	126	693
Elevator-door-opening device	M. N. Davis	840,754	Jan. 8	1941	427	126	539
Embroidering-machine	C. A. Gonzenbach	840,933	Jan. 8	2220	504–6	126	627
Emulsions. Homogenizing	G. Kunick	840,569	Jan. 8	1445	.....	126	415
End-gate	J. P. Hansen	840,621	Jan. 8	1691	371	126	477
Engine:							
See Hoisting-engine. Rotary engine. Logging-engine. Turbine-engine.							
Engine-mount	M. W. Hanks and J. T. Atwood	841,035	Jan. 8	2518	401	126	508
Engraving-machine	R. A. Lienhard	840,579	Jan. 8	1592	350	126	461
Envelop-opener	F. M. Coffill	840,912	Jan. 8	2078	496	126	617

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Eraser	E. Faber	840,495	Jan. 8	1416	312	126	408
Extension-table	J. B. Lisee	840,788	Jan. 8	1996	441	126	553
Extractor:							
See Sap-extractor.							
Eyeglasses	J. D. Lewis	841,036	Jan. 8	2479	540	126	675
Fabric containing haircloth. Making	G. Goldman	840,841	Jan. 8	2099		126	577
Fan	W. A. Tomlson	840,894	Jan. 8	1636	359	126	462
Fare-register	C. E. Gierding	841,024	Jan. 8	2508	569	126	705
Faucet	O. Müller	840,880	Jan. 8	2143	474	126	587
Feed-water heater	O. L. Stump, J. Reidenbaugh, and E. D. Packard.	840,833	Jan. 8	1466	329	126	426
Fence-post	E. B. Harris	840,622	Jan. 8	1692	371	126	477
Fence-post	H. P. Morse	841,086	Jan. 8	2497	543–4	126	679
Fence-post	N. J. Schaefer	841,035	Jan. 8	2534	553	126	668
Fence-post mold	J. B. Engstrom	841,080	Jan. 8	2268	567	126	703
Fibrous-material drier	C. E. T. Scribner	841,066	Jan. 8	2535	553	126	669
Filtering element	K. Kiefer. (Reissue)	12,588	Jan. 8	2535	576	126	715
Fire-door-releasing device	C. Lamareaux	840,701	Jan. 8	1532	403	126	512
Fire-extinguisher. Chemical	R. F. Barker and C. G. McCumber.	840,462	Jan. 8	1260	301	126	395
Fire-screen	S. Kiper	841,020	Jan. 8	2472	538	126	673
Firearm. Box-magazine	T. C. Johnson	840,850	Jan. 8	2121	468	126	583
Firearm. Breech-loading	O. F. Mossberg	840,507	Jan. 8	1456	321	126	418
Fish-line reel	W. E. Marhoff	840,946	Jan. 8	2328	512	126	634
Fishing-tackle	J. B. Tuttle	840,998	Jan. 8	1644	361	126	464
Flame-furnace	A. Pfoser	840,709	Jan. 8	1853	408	126	519
Flasks. Eye and pin for	G. Downing	840,999	Jan. 8	2417	529	126	657
Fluid-motor	C. L. Wilkins	840,986	Jan. 8	2198	484	126	602
Flushing-tank	F. Findelsen	840,613	Jan. 8	1675	368	126	473
Forging-machine	M. M. Morrison	840,578	Jan. 8	1608	352–3	126	455
Frame-clamp	C. W. Lawson	840,777	Jan. 8	1985	439	126	551
Fulcrum. Reversible	C. F. Bauer	840,740	Jan. 8	1919	422	126	533
Furnace:							
See Electric furnace. Flame-furnace.							
Furnace	W. R. Wills	840,542	Jan. 8	1526	337	126	436
Furnace-charging apparatus	E. H. Messiter	840,573	Jan. 8	1597	350–1	126	452
Furnace-charging apparatus	E. H. Messiter	840,574	Jan. 8	1601	351	126	453
Furnace-charging apparatus	E. H. Messiter	840,575	Jan. 8	1603	351–2	126	453
Furnace draft-regulator	G. H. Scharf	840,520	Jan. 8	1479	327	126	424
Furnace-grate	C. J. Dorrance	840,609	Jan. 8	1698	366–7	126	472
Furnaces. Smoke-consuming attachment for boiler-	W. H. Colein	841,074	Jan. 8	2575	563–4	126	699
Gage:							
See Pressure-gage.							
Gage or measuring device	H. C. Knowlton	840,568	Jan. 8	1590	349	126	450
Game	J. T. Grant	840,934	Jan. 8	2303	506	126	628
Game apparatus	R. W. Piper	840,584	Jan. 8	1618	355	126	458
Game or puzzle	W. L. Bedell	840,741	Jan. 8	1921	422	126	534
Garment-fastening	R. Pellew	840,655	Jan. 8	1740	383	126	490
Garment-hanger	C. B. Hotchkiss	840,625	Jan. 8	1697	373	126	479
Garment-supporter clasp	G. E. Prentice	840,515	Jan. 8	1473	325	126	422
Gas-burner	J. Doorenbos	840,831	Jan. 8	2075	460	126	572
Gas-controlling device	R. N. Oakman	840,798	Jan. 8	2019	446	126	558
Gas generators. Sludge-removing mechanism for acetylene-	J. D. Tejada	841,070	Jan. 8	2564	560–1	126	696
Gas. Manufacturing producer-	W. H. Adams and F. Powell	840,461	Jan. 8	1357	301	126	395
Gas-ports. Apparatus for regulating	R. N. Oakman	840,795	Jan. 8	2018	445	126	558
Gasket	J. E. Shutt	841,059	Jan. 8	2539	554	126	690
Gate:							
See End-gate. Railway-gate. Irrigator-gate.							
Gate	W. T. Dotson	841,077	Jan. 8	2581	565	126	700
Gear	A. P. Warner and A. B. Cadman	840,977	Jan. 8	2375	521	126	647
Gear. Change-speed	A. W. Wigglesworth	840,731	Jan. 8	1897	418–19	126	528
Gear. Transmission-	C. H. Brooks	840,605	Jan. 8	1659	364–5	126	469
Gear. Variable-speed	C. E. Funk	840,927	Jan. 8	2282	501	126	623
Gearing. Variable-speed	W. R. May	840,504	Jan. 8	1451	320	126	416
Glass articles. Apparatus for manufacturing	J. H. Croskey	840,994	Jan. 8	2406	526–7	126	655
Glass articles. Drawing hollow	T. F. Hart	841,011	Jan. 8	2440	533	126	662
Glass blown bottles and molds therefor. Forming	A. W. Hutchins	840,849	Jan. 8	2117	468	126	582
Glass blown bottles. Implement for forming lips on	A. W. Hutchins	840,565	Jan. 8	1585	348	126	449
Glass. Drawing sheet-	J. George and C. M. Shortle	840,838	Jan. 8	2092	464	126	576
Gold extracting and saving apparatus	J. A. Coombes	840,752	Jan. 8	1937	426	126	538
Governor. Speed-	J. Knowlson	840,499	Jan. 8	1443	318	126	415
Grab	A. Suck	840,525	Jan. 8	1493	330–1	126	427
Grain-sampler for grain-bins	P. M. Ingold	840,943	Jan. 8	2321	510	126	632
Grinding machine. Roll-	J. Stuart	840,879	Jan. 8	2184	481–2	126	598
Gun. Magazine-	C. Hansen	841,088	Jan. 8	2009	571–2	126	709
Hair-tonic	E. N. Sheldon	841,057	Jan. 8	2537		126	689
Hammer and means of operating same. Power-	H. B. Stocks	840,668	Jan. 8	1767	388–9	126	496
Hammer-drill	W. Prellwitz	840,803	Jan. 8	2091	449	126	561
Handle:							
See Razor-blade handle.							
Hanger:							
See Garment-hanger.							
Harrow	F. Germon	840,839	Jan. 8	2095	464	126	576
Harrow. Cutting-	L. G. Meade	840,788	Jan. 8	2008	443	126	555
Harrow-tooth fastener	C. E. Freeman	841,082	Jan. 8	2288	568	126	704
Harvester. Beet-	C. Dusseau	840,482	Jan. 8	1412	311	126	407
Harvester cutting apparatus	J. A. Rodman	840,518	Jan. 8	1476	326	126	423
Hay-rack	J. H. Schuneman	840,663	Jan. 8	1756	387	126	494
Hay-rake attachment	E. T. Elliott and A. H. Leonard	840,612	Jan. 8	1674	367	126	473
Head-block	A. Burns	840,908	Jan. 8	2237	492	126	612
Headlight for stock	C. E. Rice	841,046	Jan. 8	2321	550	126	685
Heat-interchanger	J. B. Speed and P. Thelen	840,667	Jan. 8	1765	388	126	496
Heater:							
See Electric heater. Feed-water heater.							
Heel-plate	R. Merrick, Jr., and O. E. Miller	840,808	Jan. 8	1464	321	126	417
Hermetic closure for receptacles	W. A. Lorenz	841,027	Jan. 8	2490	540	126	675
Hides and skins. Treating	W. M. Norris	840,794	Jan. 8	2017		126	557
Hinge	F. Shersmith	840,986	Jan. 8	2280	517	126	643

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Hoist. Fluid-actuated cushioned	G. F. Steedman	840,877	Jan. 8	2178	480–1	126	596
Hoist. Regulated	G. F. Steedman	840,876	Jan. 8	2172	479–80	126	594
Hoisting-engine	A. E. Norris	841,042	Jan. 8	2511	547–8	126	683
Hoof-trimmer	P. A. Jensen	841,016	Jan. 8	2464	537	126	671
Hook:							
See Chain-hook. Sheep-hook. Coat-hook.							
Hopper. Traveling	W. J. Patterson	840,863	Jan. 8	2146	474–5	126	588
Horn. Amplifying-	M. Steiner and M. Brenner	840,967	Jan. 8	2361	518	126	643
Horse-releaser	A. E. Frommel	840,691	Jan. 8	1811	399	126	507
Horseshoe	E. Adam	840,892	Jan. 8	2217	488	126	607
Horseshoe-pad	A. F. Martins	841,031	Jan. 8	2487	542	126	677
Horseshoe. Soft-tread	H. Paar	840,706	Jan. 8	1848	406	126	518
Hose and piping. Flexible armor for	W. D. Weir	840,536	Jan. 8	1512	334–5	126	433
Hub-attaching device	P. Le Sueur	841,025	Jan. 8	2478	540	126	675
Humidifier	S. W. Cramer	840,917	Jan. 8	2265	498	126	619
Humidifier or air-moistening apparatus	S. W. Cramer	840,916	Jan. 8	2264	498	126	618
Hydraulic press	F. Chailly	840,990	Jan. 8	2396	524–5	126	652
Hydrocarbon-burner	E. Spencer	840,591	Jan. 8	1632	358	126	461
Implement. Handled	H. F. Everett	840,832	Jan. 8	2076	460	126	572
Incubator-alarm	F. R. Harris	840,623	Jan. 8	1694	372	126	478
Indicator	R. Maconochie	841,028	Jan. 8	2483	541	126	676
Irrigation-gate	W. L. Vestal	840,811	Jan. 8	2041	452	126	564
Jack:							
See Lifting-jack.							
Joint:							
See Rail-joint. Universal joint. Steam-joint.							
Journal-boxes. Oil-saving device for	C. E. Rood and J. Goettel	841,051	Jan. 8	2525	551	126	686
Key-fastener	A. H. Puttcamp and L. H. Judson	840,711	Jan. 8	1857	409	126	519
Knitting-machine	F. A. Demers	840,828	Jan. 8	2068	458–9	126	570
Knob attachment	A. A. Page	840,653	Jan. 8	1738	383	126	489
Labeling-machine	A. Marcus	841,029	Jan. 8	2484	541	126	676
Labeling machine. Bottle-	C. Holland	841,013	Jan. 8	2444	534–6	126	663
Lamp-burner	J. H. Fulton	840,926	Jan. 8	2281	501	126	623
Lamp for railway-signals, &c. Oil-	W. H. I. Welch	840,674	Jan. 8	1779	391–2	126	499
Lamp. Street-	F. Rech	840,586	Jan. 8	1622	356	126	458
Last. Shoe-	J. F. Cavanagh	840,556	Jan. 8	1561	344	126	444
Launches and vehicles. Starting and controlling internal-combustion-engine-driven	M. W. Hanks	840,694	Jan. 8	1816	400	126	508
Letter-clasping device	C. B. Elliott and J. T. Loggins	840,759	Jan. 8	1948	429	126	541
Lifter:							
See Combination-lifter.							
Lifting-jack	P. M. Egan	841,078	Jan. 8	2582	566	126	701
Lifts or hoists. Take-up device for crane	G. W. Shem	840,807	Jan. 8	2037	450	126	563
Lighting purposes. Electrical conductor for	I. Ladoff	840,634	Jan. 8	1708	376	126	482
Liquid-freezer	M. W. Palmer	841,043	Jan. 8	2512	548–9	126	683
Liquid-receptacle	E. C. Webb	840,532	Jan. 8	1505	333	126	431
Liquid-receptacle	E. C. Webb	840,533	Jan. 8	1506	334	126	431
Lock:							
See Door-lock. Safety-lock. Nut-lock. Sash-lock.							
Lock	W. E. Sparks	840,873	Jan. 8	2168	478–9	126	593
Logging-engine	W. H. Corbett	840,914	Jan. 8	2260	497	126	617
Loom	W. Hannah	841,087	Jan. 8	2607	570–1	126	709
Looms. Harness-controlled stop-motion for	V. Rainville	840,958	Jan. 8	2346	515	126	639
Mash-tubs. Drain attachment for	J. N. Birsner	840,900	Jan. 8	2229	490	126	610
Match-box	W. T. Mapes	840,856	Jan. 8	2131	470	126	585
Match-making machinery	A. B. Calkins	840,821	Jan. 8	2060	456	126	567
Match-making machinery	A. B. Calkins	840,822	Jan. 8	2062	457	126	568
Measuring instrument. Electrical	J. M. Lea	840,569	Jan. 8	1591	349	126	450
Mechanical movement	D. Nelson	840,581	Jan. 8	1613	354	126	456
Medical purposes. Electrical distribution and control in body appliances for	J. F. Richardson	840,868	Jan. 8	2160	477	126	592
Merry-go-round	E. J. Mitcheson	840,790	Jan. 8	2011	444	126	556
Metals from ores and other substances. Apparatus for recovering	L. Dion	840,480	Jan. 8	1403	310–11	126	405
Milk-skimming device	H. M. Ackley	840,986	Jan. 8	2391	523	126	651
Milking-machine	H. P. D. Ohlhaver	840,510	Jan. 8	1466	323–4	126	420
Milking-machine	L. B. Stevens	840,969	Jan. 8	2364	518	126	644
Milling-machine holder	H. H. Vaughan. (Reissue)	12,593	Jan. 8	2654	580–1	126	720
Mine-hoists. Signal and alarm attachment for	B. T. Reilly	840,659	Jan. 8	1748	385	126	491
Miter-box	E. E. Lutzhoff	840,640	Jan. 8	1719	378	126	484
Mold:							
See Fence-post mold. Vulcanizing-mold. Post-mold.							
Mold	W. P. Earnheart	840,924	Jan. 8	2275	500	126	621
Molding apparatus. Gravity	J. E. Mitchell and D. Parks	840,789	Jan. 8	2007	444	126	555
Mosquito-bar support	P. M. Owen	840,652	Jan. 8	1726	382	126	489
Motor:							
See Fluid-motor.							
Mouthpiece. Antinicotin-	J. Soubeur	840,720	Jan. 8	1870	412	126	523
Mower attachment	A. Theel	840,971	Jan. 8	2365	519	126	644
Nail-puller and band-cutter Combined	M. A. McMillan	840,580	Jan. 8	1611	354	126	456
Nut-lock	C. M. Thompson	840,527	Jan. 8	1498	332	126	429
Nut-machine	F. Lackner	840,776	Jan. 8	1982	437–8	126	550
Oil-burner. Self-cleaning	J. W. Batiste	840,739	Jan. 8	1917	422	126	533
Ore-concentrating machine	H. C. Holthoff	840,491	Jan. 8	1427	315	126	410
Ore-concentrator	J. W. Finder. (Reissue)	12,590	Jan. 8	2642	576–7	126	718
Ore-concentrator	H. P. Taylor. (Reissue)	12,592	Jan. 8	2652	580	126	720
Ores. Extracting metals from sulfid	R. L. Packard	840,511	Jan. 8	1467	324	126	421
Package-handling device	W. R. Dennis	840,996	Jan. 8	2412	528	126	656
Packing. Piston-	J. J. McGee	840,793	Jan. 8	2014	445	126	557
Pad:							
See Horseshoe-pad.							
Pad-holding clip	K. Jelalian	840,627	Jan. 8	1700	373	126	480
Paper box	H. L. R. Wolf	840,814	Jan. 8	2044	452	126	564
Paper-box machine	C. C. Davis	841,075	Jan. 8	2576	564–5	126	699
Paper-box-topping machine	H. A. Bowen	840,901	Jan. 8	2230	491	126	610

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Paper, cardboard, or other stock. Machine for cutting.	C. D. Bradt	840,880	Jan. 8	1548	341	126	440
Paper-cutting machines. Paper-folding attachment for	J. Brannan	840,670	Jan. 8	1573	305	126	399
Paper-folding machine	F G. Nind and F. Julyan	840,880	Jan. 8	1490	322–3	126	419
Paper-roll holder	H. Y. Otto	840,651	Jan. 8	1735	382	126	488
Parcel-carrier	A. S. Bretherton	840,748	Jan. 8	1927	424	126	535
Pasteurizing system. Regenerative	A. H. Reid	840,880	Jan. 8	2240	516	126	640
Pasteurizing system. Regenerative	C. W. Reid	840,881	Jan. 8	2241	516	126	641
Patterns on pattern-plates. Apparatus for locating	R. Ruddy	840,770	Jan. 8	3164	477–8	126	502
Patterns on pattern-plates. Assembling	R. Ruddy	840,880	Jan. 8	2162	477	126	502
Pedal-operating device	H. Jacobson	841,015	Jan. 8	2463	536	126	671
Pen-puller	F. Canfield	840,674	Jan. 8	1280	307	126	402
Phonograph-modifier	A. S. Thompson	840,838	Jan. 8	1486	332	126	428
Photographic-plate holder	F. Whitney	840,840	Jan. 8	1519	336	126	434
Piling. Interlocking metal sheet	G. E. Nye	840,822	Jan. 8	2238	513	126	637
Piling. Metal	J. R. Wemlinger	840,894	Jan. 8	2196	483	126	602
Pipe: *See* Smoker's pipe. Tobacco-pipe.							
Pipe-cap	W. G. Morse	840,782	Jan. 8	2013	445	126	557
Planter. Corn-	T. M. Bailey	840,977	Jan. 8	2284	489	126	609
Plow	B. D. Ligon and W. E. Jennings	840,780	Jan. 8	1993	440	126	552
Plow. Convertible hand-	J. T. Foulke	840,826	Jan. 8	2088	462–3	126	575
Plow jointer. Stubble-	D. H. Dickinson	840,923	Jan. 8	2273	500	126	621
Plow. Shovel-	R. L. Kirlpatrick	840,709	Jan. 8	1831	403	126	512
Plug. Wall-	J. Prescott	840,894	Jan. 8	2062	449	126	561
Pneumatic cleaner and separator	B. E. Sweet	840,724	Jan. 8	1882	414–15	126	525
Pneumatic-despatch apparatus	F. R. Talsey	840,889	Jan. 8	2188	482	126	599
Pneumatic drill	H. P. Taylor	841,089	Jan. 8	2981	660	126	665
Pneumatic-tube system	B. C. Batcheller	840,464	Jan. 8	1283	301–2	126	396
Pneumatic-tube system	B. C. Batcheller	840,463	Jan. 8	1285	303	126	396
Pocket-book	W. B. Rood	840,661	Jan. 8	1735	386	126	494
Porcelain. Firing	C. Ellis	840,580	Jan. 8	1570	346	126	446
Post: *See* Battery binding-post. Fence-post.							
Post-driving apparatus	J. A. Mellgren	841,052	Jan. 8	2498	542	126	677
Post-mold	H. Routt	840,954	Jan. 8	2267	517	126	642
Postal box. Rural-delivery	C. M. Wiggins	840,541	Jan. 8	1526	337	126	436
Power-press	H. K. Forbis	840,761	Jan. 8	1951	429	126	541
Power-transmission means	K. Gulbrandsen	840,936	Jan. 8	2208	507	126	629
Press: *See* Baling-press. Power-press. Hydraulic press. Printing-press.							
Pressure-gage	O. Arnold, Jr.	840,898	Jan. 8	2232	489	126	609
Printing machine. Check-	O. E. Brigham	840,671	Jan. 8	1275	305–7	126	399
Printing-press	H. E. Westervelt	840,886	Jan. 8	2197	484	126	602
Projectile. Artillery-	F. Ziegenfuss	840,884	Jan. 8	2209	523	126	650
Propeller. Boat-	G. F. Atwood	840,543	Jan. 8	1530	339	126	438
Propeller. Hand-power	N. Johnson	840,944	Jan. 8	2258	510	126	633
Protective device	M. Schultz	840,717	Jan. 8	1884	411	126	522
Puller: *See* Nail-puller. Pen-puller.							
Pulley	H. J. Gilbert	840,708	Jan. 8	1828	430	126	542
Pulley	H. J. Gilbert	840,704	Jan. 8	1957	430	126	543
Pulley and bushing	J. A. Kaplan	841,088	Jan. 8	2815	572	126	710
Pulley-block	G. T. Winnard and J. Bedford	840,670	Jan. 8	1781	393	126	499
Pulley. Sheet-metal	C. Reger	840,888	Jan. 8	1746	384–5	126	491
Pump	P. H. Deis	840,969	Jan. 8	2269	499	126	620
Pumping apparatus. Oil-well-	J. E. Tinker and J. Crawford, Jr.	840,972	Jan. 8	2288	519	126	645
Punching-machine	H. G. Morse	840,880	Jan. 8	2126	470–3	126	586
Rack: *See* Clothes-rack. Hay-rack.							
Rack	J. Heberling	840,898	Jan. 8	1939	402	126	509
Rail-bonds. Compressor for	C. R. Sturdevant	840,824	Jan. 8	1491	330	126	427
Rail-joint	F. Teubner	840,970	Jan. 8	2265	519	126	644
Rail-joint-securing means	J. J. Brown	840,880	Jan. 8	2262	491	126	611
Railway-crossing	T. Lennox	840,894	Jan. 8	1443	318–19	126	415
Railway-frog	C. A. Alden	840,547	Jan. 8	1537	380	126	438
Railway-frog	E. S. Hippey	840,827	Jan. 8	1939	402	126	510
Railway-gate. Automatic	W. Bengtson	840,883	Jan. 8	1760	395	126	501
Railway-rail and chair therefor	R. Morgan	840,980	Jan. 8	2016	512	126	636
Railway-signal	W. E. Lemp	841,080	Jan. 8	2475	530	126	674
Railway-signal	W. M. Ralston	841,048	Jan. 8	2317	550	126	664
Railway system. Elevated-	D. M. Pfautz	840,891	Jan. 8	2205	448	126	560
Railway-tie	E. A. Rasmussen	840,880	Jan. 8	2240	515	126	640
Railway-tie	T. A. Galt	841,090	Jan. 8	2467	532	126	661
Rake-head	M. F. Newsom	840,647	Jan. 8	1743	381	126	487
Range-determining device	A. L. Bump	840,904	Jan. 8	2288	492	126	611
Range-finder attachment	K. O. Leon	840,776	Jan. 8	1555	439–40	126	551
Razor-blade handle. Safety-	R. P. Cafferty, Jr.	840,748	Jan. 8	1939	424	126	536
Razor. Safety-	F. H. Arnold	840,725	Jan. 8	1939	420	126	531
Razor. Safety-	W. Schmachtenberg	840,885	Jan. 8	2195	517	126	642
Reamer	R. H. Brown	840,888	Jan. 8	2195	524	126	652
Receptacle-top fastener	M. Boof	840,744	Jan. 8	1939	423	126	535
Recorder: *See* Time-recorder.	J. F. Haffey	840,944	Jan. 8	2254	485	126	578
Reel: *See* Fish-line reel.							
Register: *See* Fare-register.							
Regulator: *See* Damper-regulator. Furnace draft-regulator.							
Reinforcing-bar	L. Hunt	841,014	Jan. 8	2468	538	126	671
Rheostat. Starting-	W. C. Yates and P. H. Zimmer	840,820	Jan. 8	2288	485	126	604
Ribbon holder. Hair-	I. Becker	840,681	Jan. 8	1788	394	126	500
Ring	C. M. Levy	840,948	Jan. 8	2263	511	126	634
Rivet	T. E. Adams	840,816	Jan. 8	2263	489–4	126	565
Rock-drill. Hydrocarbon	T. E. Adams	840,880	Jan. 8	2263	484–6	126	604
	J. V. Rice Jr.	840,837	Jan. 8	2252	476	126	591

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Rock-drill. Self-contained	O. C. Duryea and M. C. White	841,001	Jan. 8	2420	529	126	658
Rock-drills. Motor-supporting harp for	T. E. Adams	840,817	Jan. 8	2052	454	126	566
Rocking and reclining chair. Combined	F. Lahm	841,022	Jan. 8	2474	539	126	674
Rocks, ores, &c. Apparatus for crushing, conveying, and cooling	R. F. Wentz	840,730	Jan. 8	1893	417	126	527
Rod: *See* Curtain-rod.							
Rod-coupling	C. A. Anderson	840,734	Jan. 8	1908	420	126	531
Roost. Chicken-	F. Kremer	840,631	Jan. 8	1704	375	126	481
Rotary drier	A. Berg	840,602	Jan. 8	1653	363	126	467
Rotary engine	A. H. Carpenter	840,688	Jan. 8	1801	398	126	504
Rotary shears	J. Jungers and F. Kessl	840,698	Jan. 8	1825	402–3	126	510
Routing-machine	S. G. Goss	840,765	Jan. 8	1960	431–2	126	544
Rule and bevel. Combination	E. P. Johnson	840,628	Jan. 8	1701	374	126	480
Safety-elevator	J. Hart	840,936	Jan. 8	2307	507	126	629
Safety-lock	H. E. Prätorius	840,514	Jan. 8	1472	325	126	422
Sandpaper-holder	W. W. Williams	840,982	Jan. 8	2384	522	126	648
Sap-extractor	V. P. McVoy	841,039	Jan. 8	2506	546	126	681
Sash-lock	O. L. Durflinger	840,758	Jan. 8	1947	429	126	540
Scaffold	C. E. Lillow	840,636	Jan. 8	1711	376–7	126	482
Scoop	F. C. Howe	840,940	Jan. 8	2315	509	126	631
Scoop	F. C. Howe	840,941	Jan. 8	2317	509	126	631
Screen: *See* Fire-screen. Window-screen.							
Screen	W. S. G. Todd	840,973	Jan. 8	2368	520	126	645
Screw-cutting tool	E. E. Beck	840,899	Jan. 8	2227	490	126	610
Seal	C. E. Whitmore	840,539	Jan. 8	1518	336	126	434
Sectional drier	F. G. Wiselogel	840,543	Jan. 8	1529	338	126	436
Seeder. Beet-	G. H. D. Ross	840,713	Jan. 8	1859	410	126	520
Separator: *See* Dry separator. Electrostatic separator.							
Separator	G. D. Hoppes	840,492	Jan. 8	1431	316	126	411
Sewers. Temporary retaining-wall for use in the construction of	M. P. Byrne	840,747	Jan. 8	1928	424	126	536
Sewing-machine attachment. Blindstitch	W. Arbetter	840,600	Jan. 8	1648	362	126	465
Sewing-machine-table attachment	O. B. Starkwather	840,875	Jan. 8	2171	479	126	594
Sewing-machine thread-clip	A. Wood	840,887	Jan. 8	2200	485	126	603
Shade or curtain fixture. Adjustable	G. Beres	840,743	Jan. 8	1924	423	126	535
Shaft or tongue support for vehicles	W. Noles	841,041	Jan. 8	2510	547	126	682
Shears: *See* Rotary shears.							
Sheep-hook	C. R. Buffington	840,555	Jan. 8	1560	344	126	443
Shelf. Rotatable partition-	T. Van Kannel	840,599	Jan. 8	1645	361–2	126	464
Sheller: *See* Corn-sheller.							
Show-cases, &c. Coupling for converging ends of canopy-standards for	E. E. Earnshaw	840,483	Jan. 8	1414	312	126	407
Shoulder-braces	C. C. Armstrong	840,895	Jan. 8	2221	488–9	126	608
Shovel: *See* Trench-shovel.							
Shutter-bower	I. Wroblewski	840,677	Jan. 8	1782	393	126	499
Shutter construction	J. Brauchli	840,820	Jan. 8	2058	455–6	126	567
Signal: *See* Railway-signal. Telephone-signal.							
Signaling. Polystation	W. W. Dean	840,995	Jan. 8	2410	527	126	656
Skins. Machine for applying liquid to	W. B. Turner	840,597	Jan. 8	1639	360–1	126	463
Skirt-supporter and waist-retainer. Combined	W. S. Brainerd	840,745	Jan. 8	1926	424	126	535
Sled-runner	J. Pedersen	840,953	Jan. 8	2338	513	126	637
Slitting-machine	M. McKinley	841,037	Jan. 8	2498	544	126	680
Smoker's pipe	N. D'Espinosa	840,997	Jan. 8	2414	528	126	657
Smoking device	R. E. King	840,853	Jan. 8	2125	469	126	584
Snow and ice melter	R. Rickard	840,517	Jan. 8	1475	326	126	422
Soap dispenser. Liquid-	L. A. Falk	840,925	Jan. 8	2279	500	126	622
Sound-box	L. P. Valiquet	840,974	Jan. 8	2309	520	126	645
Sound-record tablet	B. B. Goldsmith	840,932	Jan. 8	2297	504	126	627
Speed mechanism. Variable-	L. Thiel	840,669	Jan. 8	1770	389	126	497
Speed mechanism. Variable-	L. Thiel	840,670	Jan. 8	1772	390	126	497
Speed mechanism. Variable-	L. Thiel	840,671	Jan. 8	1774	390	126	497
Spindle. Steering-	T. J. Lindsay	840,782	Jan. 8	1995	441	126	552
Spinning-frame roll-stand	E. D. Libby	840,779	Jan. 8	1992	440	126	551
Spring structure	E. O. Stotts	840,522	Jan. 8	1485	328	126	425
Spring-washer	H. Möhring	840,791	Jan. 8	2012	444	126	556
Stacker. Hay-	J. Dain	840,477	Jan. 8	1395	308–9	126	403
Stacker. Hay-	W. D. McAtlin	841,094	Jan. 8	2623	574	126	712
Stacker. Pneumatic straw-	O. O. Bodvig	840,603	Jan. 8	1656	363–4	126	468
Stains. Composition of matter for the eradication of	L. von Graeve	841,086	Jan. 8	2607	.....	126	709
Stamp punching, dampening, and affixing apparatus	P. Arnold	840,736	Jan. 8	1910	420–1	126	531
Stamps. Machine for subdividing sheets of	J. N. Stacy	840,592	Jan. 8	1634	358–9	126	461
Stanchion. Automatic logging-	E. L. Summers	841,068	Jan. 8	2561	560	126	695
Stand: *See* Display-stand. Switch-stand. Spinning-frame roll-stand.							
Steam-boiler	I. J. Ullensaker	840,725	Jan. 8	1884	415	126	525
Steam-controller	J. Fehrenbatch	840,833	Jan. 8	2077	461	126	572
Steam-joint	G. R. Pride	840,956	Jan. 8	2343	514	126	639
Stereotyping	S. A. C. Kristensen	840,775	Jan. 8	1980	.....	126	550
Sterilizers to mouthpieces. Device for applying	O. H. Savage	840,662	Jan. 8	1756	386	126	494
Still	A. S. Carr	840,607	Jan. 8	1664	365	126	471
Still retort. Wood-	H. Copilovich	840,753	Jan. 8	1940	426	126	538
Stirrer	J. W. Greenwald	841,010	Jan. 8	2439	533	126	662
Stock-nursing appliance	H. Krümling	840,632	Jan. 8	1705	375	126	481
Stocking	A. F. A. King	840,629	Jan. 8	1702	374	126	480
Stoker. Mechanical	W. H. Strouse	840,722	Jan. 8	1878	413	126	523
Stoker. Mechanical	W. H. Strouse	840,723	Jan. 8	1878	414	126	524
Stone-saw	J. S. Young	840,546	Jan. 8	1539	339	126	438
Stopper: *See* Bottle-stopper.							
Stove and the like	S. M. Neill	840,361	Jan. 8	2111	474	126	588
Stove. Combined heating and cooking	J. I. Hamaker	840,485	Jan. 8	1429	313	126	408

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Stove. Oil-burning	F. M. Reed	840,657	Jan. 8	1743	384	126	490
Stove or furnace fire-pot	R. A. May	840,841	Jan. 8	1719	378	126	485
Stud. Metallic	G. A. Turnbull	840,896	Jan. 8	1638	360	126	462
Switch. *See* Electrical switch.							
Switch-contact for controllers and the like	S. D. Black	840,819	Jan. 8	2066	455	126	567
Switch mechanism. Electrical	H. F. Krantz. (Reissue)	12,589	Jan. 8	2637	576	126	716
Switch-stand	M. W. Long	840,572	Jan. 8	1596	350	126	451
Switchboard	W. D. Weir	840,537	Jan. 8	1515	335	126	433
Switching arrangement	O. Rennert	840,516	Jan. 8	1474	326	126	422
Syringe	R. C. Brookes	840,472	Jan. 8	1387	307	126	402
Table: *See* Extension-table.							
Tag for jewelers' use	D. Goldsmith	840,467	Jan. 8	1419	313	126	408
Tag-wiring-machine tag-feeder	J. J. Englert	841,079	Jan. 8	2655	566–7	126	702
Tank: *See* Flushing-tank.							
Target	G. Easdale	840,610	Jan. 8	1672	367	126	472
Telegraph and trolley pole	T. P. Stanley	841,054	Jan. 8	2552	557–8	126	693
Telegraph-relay	W. E. Athearn	840,957	Jan. 8	2292	524	126	651
Telegraphic apparatus	T. W. McKenzie	840,508	Jan. 8	1458	321	126	418
Telegraphy. Space	S. Cabot	840,908	Jan. 8	2241	493–4	126	613
Telegraphy. Space	S. Cabot	840,909	Jan. 8	2250	495	126	616
Telephone-exchange system	H. G. Webster	840,726	Jan. 8	1685	415	126	526
Telephone-exchange system	F. J. and J. Mersman	841,033	Jan. 8	2459	542–3	126	678
Telephone mechanism. Party-line	C. H. Wood	840,544	Jan. 8	1531	338	126	437
Telephone operator's switching device	W. Kalaling	840,899	Jan. 8	1629	403	126	511
Telephone-signal	G. W. Schuessler	840,899	Jan. 8	1628	357	126	460
Telephone systems. Visual recorder for	R. W. Shoemaker	840,718	Jan. 8	1866	411–12	126	522
Tennis-racket	S. H. Beard	840,467	Jan. 8	1389	304	126	398
Terpin hydrate. Making	L. H. Reuter	840,962	Jan. 8	2354	.....	126	642
Thawing device. Window-	M. Trautman	840,595	Jan. 8	1637	359	126	462
Theaters. Safety appliance for	A. L. K. F. von u. zu Gilsa and A. Karst.	840,692	Jan. 8	1812	399–400	126	507
Tie: *See* Railway-tie.							
Tie and rail-fastener. Combined	E. P. Bergman	840,998	Jan. 8	2394	524	126	652
Time-recorder	A. L. Jaynes	840,496	Jan. 8	1436	317	126	413
Tire. Vehicle-	A H. Marks	840,503	Jan. 8	1450	319	126	416
Tire-wires. Machine for inserting and withdrawing	H. Paar	840,709	Jan. 8	2024	447	126	559
Tire-wrapping machine	C. E. Miller	840,642	Jan. 8	1721	379	126	485
Tires. Tool for manipulating pneumatic	L. L. Heller and C. W. Hancock	840,938	Jan. 8	2310	508	126	630
Tires. Vulcanized joint for vehicle-	W. F. Stearns	840,593	Jan. 8	1635	359	126	462
Tires with viscous liquids. Apparatus and process for filling rubber	C. W. Berry	840,499	Jan 8	1372	305	126	398
Tobacco-pipe	P. A. Kenna	840,567	Jan. 8	1589	349	126	450
Tongue support. Wagon-	J. C. Lambert	840,635	Jan. 8	1710	376	126	482
Toy	J. N. Whitehouse	840,727	Jan. 8	1889	415	126	526
Toy	P. J. Delzeit, Jr.	840,920	Jan. 8	2271	499	126	621
Toy automobile	A. C. Cooke	840,913	Jan. 8	2256	496–7	126	617
Toy. Detonating	J. C. Wood	840,983	Jan. 8	2385	522–3	126	649
Toy gun	I. C. Woodward	840,898	Jan. 8	2302	495	126	603
Transformer	H. P. Davis and F. Conrad	841,076	Jan. 8	2580	565	126	700
Transit. Engineer's	J. A. Early	840,923	Jan. 8	2275	500	126	621
Transmission-lines. Protective apparatus for parallel	H. P. Davis and F. Conrad	840,479	Jan. 8	1400	310	126	404
Trap: *See* Animal-trap.							
Trench-shovel	E. J. Nelson	840,862	Jan. 8	2145	474	126	588
Trimmer: *See* Hoof-trimmer.							
Trolley-pole connection	J. M. Olinger	840,649	Jan. 8	1731	381–2	126	488
Trolley-wheel	J. A. Norton	840,648	Jan. 8	1730	381	126	487
Truck bolster. Car-	H. P. Field, Jr.	840,834	Jan. 8	2082	461–2	126	573
Truck. Car-	R. Russell	840,519	Jan. 8	1478	326–7	126	423
Truck for railway-cars. Metallic	F. Gebhardt	840,929	Jan. 8	2286	502	126	624
Trucks. Beamless brake for car-	E. S. Coffman	840,991	Jan. 8	2400	525–6	126	653
Tubing	E. T. Greenfield	840,766	Jan. 8	1984	432	126	545
Turbine	F. D. Millard	840,576	Jan. 8	1605	352	126	454
Turbine-engine. Steam	A. W. Jackson	840,771	Jan. 8	1972	435–6	126	547
Turpentine from wood. Apparatus for extracting	G. R. Pride	840,955	Jan. 8	2341	514	126	638
Type-writer	J. J. Hannahs and A. A. Hieber	840,708	Jan. 8	1906	433–4	126	545
Type-writing machine	H. A. Briggs	840,554	Jan. 8	1548	342–4	126	441
Umbrella-clasp	A. Baumgarten	840,551	Jan. 8	1543	340	126	440
Universal joint	W. S. Turpin and J. H. Holden	840,529	Jan. 8	1500	333	126	429
Vaginal irrigator	C. O. Farrington and T. Watson	840,980	Jan. 8	1575	346	126	447
Valve	H. S. Pinkerton	840,954	Jan. 8	2339	513–14	126	638
Valve. Automatic water-relief	F. A. Cooper	840,993	Jan. 8	2404	526	126	654
Valve. Blowing-engine	M. A. Neeland	841,040	Jan. 8	2505	546–7	126	682
Valve for gas-supply pipes. Automatic safety-	A. W. Jenczewsky	840,772	Jan. 8	1975	436	126	548
Valve for high-pressure tanks. Safety-	E. F. Osborne	841,096	Jan. 8	2627	575	126	712
Valve. Gate-	J. P. Ladd	840,623	Jan. 8	1707	375	126	481
Valve. Relief-	W. D. Pickels	840,563	Jan. 8	1616	354–5	126	457
Varnish and making same. Amber	W. F. Weber	840,812	Jan. 8	2042	.....	126	564
Vault	H. D. Hibbard	840,490	Jan. 8	1423	314–15	126	409
Vault	W. E. Arnold	840,680	Jan. 8	1785	394	126	500
Vault. Burial-	A. H. Havard	840,937	Jan. 8	2209	507–8	126	629
Vehicle	J. D. Rourk and G. J. A. Baddett	840,588	Jan. 8	1626	357	126	459
Vehicle. Electrically-propelled	M. Pfatischer	840,865	Jan. 8	2149	475	126	589
Vehicle. Electrically-propelled	M. Pfatischer	840,866	Jan. 8	2152	476	126	590
Vehicle. Motor-	G. T. Glover	840,930	Jan. 8	2288	502–4	126	625
Vehicle-steering mechanism	A. L. Riker	840,680	Jan. 8	1751	385–6	126	492
Vehicle-tops. Bow-spacing clamp for	M. M. Trout	841,072	Jan. 8	2569	561	126	697
Vehicle-wheel	S. S. Childs	840,824	Jan. 8	2065	457	126	569
Vehicle-wheel	G. W. Zwiebel	840,985	Jan. 8	2280	523	126	650
Vehicle wind-shield	J. E. Johnston	840,851	Jan. 8	2122	468	126	583
Vending cigars from original boxes. Machine for	G. O. Halvorson	840,563	Jan. 8	1583	347	126	448
Vending-machine	F. M. Furber	840,561	Jan. 8	1577	346	126	447
Vending machine. Cigar-	I. H. Garson	841,083	Jan. 8	2694	588–9	126	704
Vending-machine. Coin-operated	J. W. Patterson	840,513	Jan. 8	1470	325	126	421

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Ventilating apparatus	J. S. Roake	841,049	Jan. 8	2521	551	126	685
Venting attachment for receptacles. Safety	J. Cohn	840,992	Jan. 8	2402	526	126	654
Vessel or carrier	G. R. Pride	840,957	Jan. 8	2344	514	126	639
Vibrator. Massage-	C. N. Leonard	841,024	Jan. 8	2477	540	126	675
Voting mechanism. Interlock for regular and independent	J. N. Shepardson and C. H. Pitney.	840,521	Jan. 8	1482	328	126	424
Vulcanizing-mold	H. Z. Cobb	840,749	Jan. 8	1931	425	126	536
Wagon-box scoop-board	L. Puls	840,656	Jan. 8	1741	383	126	490
Wagon. Dump-	C. C. Avery	840,601	Jan. 8	1651	363	126	466
Wagon. Dump-	R. H. MacClernan	840,785	Jan. 8	1999	442	126	553
Wagon. Dumping-	J. Heberling	840,846	Jan. 8	2108	466	126	579
Wagon-dumping mechanism	A. Kukielski	840,854	Jan. 8	2127	469	126	584
Wall structure	W. H. Fisher	840,760	Jan. 8	1950	429	126	541
Washer: *See* Spring washer. Wheel-washer.							
Water-closets. Floor connection for	C. H. Rollins	840,712	Jan. 8	1858	409	126	520
Water from cisterns. Apparatus for drawing	T. Lydon	840,855	Jan. 8	2129	469	126	585
Water-purifying	O. L. Stump, J. Reidenbaugh, and E. D. Packard.	841,067	Jan. 8	2559	560	126	695
Water-tube boiler	S. F. Jeter	840,506	Jan. 8	1587	348	126	449
Weed-digger	J. A. Bucknall	840,903	Jan. 8	2233	491	126	611
Weigher. Automatic	A. and J. H. McLeod	841,038	Jan. 8	2499	545–6	126	680
Wheel: *See* Trolley-wheel. Vehicle-wheel.							
Wheel	W. M., W. N., and D. T. Tarter	840,881	Jan. 8	2189	482	126	599
Wheel mud and sand guard. Vehicle-	R. T. Jackson	840,494	Jan. 8	1435	316	126	413
Wheel-washer	J. S. Williams	840,675	Jan. 8	1780	392	126	499
Window-screen. Metal-frame	A. A. Day	840,689	Jan. 8	1806	398	126	506
Window-tent	W. E. Walsh	840,975	Jan. 8	2370	520	126	646
Window-tent	W. E. Walsh	840,976	Jan. 8	2373	520	126	646
Windows. Device for removing frost, steam, &c., from	J. C. Harmer	840,769	Jan. 8	1969	435	126	546
Wire-drawing apparatus	G. A. Paff	840,707	Jan. 8	1849	407	126	518
Woodworker's bench-clamp	F. Helm	840,012	Jan. 8	2442	533	126	663
Wrench	J. M. Justen	840,496	Jan. 8	1440	317	126	414
Wrench	H. D. Aupke	840,549	Jan. 8	1541	340	126	439
Wrench	T. W. Harber	840,564	Jan. 8	1584	348	126	449
Wrench	S. R. Griffin	840,843	Jan. 8	2103	465	126	578
Wrench	J. C. Dufresne	841,000	Jan. 8	2419	529	126	657
Wrench	O. B. Jordan	841,018	Jan. 8	2469	538	126	672
Wrench	C. R. Rawdon	841,047	Jan. 8	2519	550	126	685

DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Dish or cup	H. A. Miner	38,403	Jan. 8	126	722
Floor or wall covering	A. Lee	38,406	Jan. 8	126	723
Ink-well and pincushion	L. and E. C. Weidlich	38,402	Jan. 8	126	722
Insignia	F. B. Bower	38,399	Jan. 8	126	721
Musical instrument	W. H. Pritchard	38,404	Jan. 8	126	722
Rug	F. A. Haas	38,407	Jan. 8	126	723
Shield	W. C. Codman	38,400	Jan. 8	126	721
Shield	W. C. Codman	38,401	Jan. 8	126	721
Sign. Illuminated	L. K. Liggett	38,405	Jan. 8	126	722

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Acetylene-generators	Acetylene Apparatus Manufacturing Company.	59,301	Jan. 8	126	747
Alcohol. Denatured	American Alcohol Company	59,527	Jan. 8	126	753
Ale, beer, porter, and malt extract	Narragansett Brewing Company.	59,413	Jan. 8	126	750
Ales and porter	Oneida Brewing Co	59,357	Jan. 8	126	748
Antidote for ringworm and tetter	J. T. Shuptrine	59,549	Jan. 8	126	753
Antiseptic healing-powder	T. Maley	59,542	Jan. 8	126	753
Antiseptics	Eli Lilly & Company	59,578	Jan. 8	126	754
Automobile-hoods	J. R. Keiser	59,383	Jan. 8	126	749
Automobiles	Locomobile Company of America	59,355	Jan. 8	126	748
Automobiles. Electric	Société Anonyme L'Electrique	59,417	Jan. 8	126	750
Automobiles, motor-cycles, cycles, and parts thereof, except rubber tires.	Officine Türkheimer per Automobili e Velocipedi.	59,497	Jan. 8	126	752
Beef extracts	American Soda Fountain Company.	59,426	Jan. 8	126	750
Beer	George Wiedemann Brewing Co	59,380	Jan. 8	126	749
Beer	Muessel Brewing Co	59,544	Jan. 8	126	753

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Beer	United Breweries Company	59,468	Jan. 8	126	754
Beer. Lager	Zeltner Brewing Co	59,408	Jan. 8	126	752
Beverages having a chocolate flavor	H. W. Eliot	59,377	Jan. 8	126	749
Bitters	Aschenbach & Miller	59,331	Jan. 8	126	753
Blue. Laundry	Ripley & Sons	59,347	Jan. 8	126	753
Boats and road-vehicles. Certain named	E. Gentil	59,474	Jan. 8	126	751
Boiler-cleaning compounds	Zephon Chemical Compound Company.	59,336	Jan. 8	126	753
Boiler-preserving compound	Van de Sandt Mfg. & Supply Co.	59,326	Jan. 8	126	753
Boots and shoes. Leather	T. D. Barry & Co	59,397	Jan. 8	126	749
Boots and shoes. Leather	Locke Shoe Company	59,496	Jan. 8	126	752
Boots and shoes. Leather	J. E. Bates & Co	59,522	Jan. 8	126	753
Boots and shoes. Women's and misses' leather	Thomas G. Plant Company	59,398	Jan. 8	126	754
Bouillon. Oyster	A. Radel	59,399	Jan. 8	126	749
Bread	L. Kuhn	59,446	Jan. 8	126	751
Bread and rolls	Corby Brothers	59,453	Jan. 8	126	750
Bread, crackers, yeast, and cereal breakfast food	F. Gardner	59,440	Jan. 8	126	750
Buggies and carriages	Studebaker Bros. Mfg. Co	59,391	Jan. 8	126	752
Buttons	Alma Manufacturing Company	59,426	Jan. 8	126	750
Canned fruits and vegetables	David Hunt & Co	59,397	Jan. 8	126	747
Canned fruits and vegetables	David Hunt & Co	59,537	Jan. 8	126	753
Canned oysters	A. Booth & Company	59,398	Jan. 8	126	748
Canned vegetables	N. C. Barwise Brokerage Co	59,395	Jan. 8	126	749
Cannon and cannon equipments	Fried. Krupp Aktiengesellschaft	59,472	Jan. 8	126	751
Carding cards. Cotton	L. S. Watson Manuf'g Co	59,494	Jan. 8	126	752
Carpets and rugs	John Gay's Sons	59,329	Jan. 8	126	747
Catemenial sacks, &c	F. Hein	59,405	Jan. 8	126	749
Chains. Ornamental	O. M. Draper	59,381	Jan. 8	126	749
Chill and fever and corn cure	J. C. Mendenhall	59,384	Jan. 8	126	754
Chocolate and cocoa	Pennsylvania Chocolate Company.	59,451	Jan. 8	126	751
Chucks. Lathe	Hoggson & Pettis Manufacturing Company.	59,327	Jan. 8	126	747
Cigars	Jose Lovera Co	59,354	Jan. 8	126	748
Cigars	L. S. Palmer	59,358	Jan. 8	126	748
Cigars	Hulman & Co	59,461	Jan. 8	126	751
Cigars, cheroots, and cigarettes made of cigar-tobacco	Cayey-Caguas Tobacco Company.	59,466	Jan. 8	126	751
Cigars, cheroots, and cigarettes made of cigar-tobacco	Cayey-Caguas Tobacco Company.	59,467	Jan. 8	126	751
Clothing. Certain named	C. Kenyon Company	59,318	Jan. 8	126	747
Clothing. Certain named	C. Kenyon Company	59,319	Jan. 8	126	747
Clothing. Certain named	C. Kenyon Company	59,373	Jan. 8	126	749
Coats, vests, trousers, and overcoats	Mills & Averill Tailoring Company.	59,374	Jan. 8	126	749
Cocoa and chocolate	H. S. Nunn	59,400	Jan. 8	126	750
Coffee. Roasted	Dayton Spice Mills Co	59,450	Jan. 8	126	751
Combs made from a plastic composition	J. P. Noyes & Company	59,575	Jan. 8	126	754
Consecutive-view apparatus	American Mutoscope and Biograph Company.	59,496	Jan. 8	126	752
Cotton piece goods	G. Willis & Co	59,528	Jan. 8	126	753
Crapes and nun's veilings	W. Openhym & Sons	59,241	Jan. 8	126	748
Dental cements and alloys	Dayton Dental Supply Co	59,257	Jan. 8	126	748
Dental cements and alloys	Dayton Dental Supply Co	59,434	Jan. 8	126	750
Deodorants	J. M. Schutz	59,435	Jan. 8	126	750
Deodorizing purposes. Toilet lotion for	F. H. Leonhardt	59,504	Jan. 8	126	754
Dictionaries	G. & C. Merriam Co	59,541	Jan. 8	126	753
Disinfectants and antiseptics	Ferromannin Chemical Co	59,473	Jan. 8	126	751
Disinfectants, deodorants, germ-destroyers, and sheep-dip	W. Pearson	59,566	Jan. 8	126	753
Diuretic	F. Hoffmann-La Roche & Co	59,517	Jan. 8	126	752
Dresses. Women's and children's	H. Levey	59,481	Jan. 8	126	754
Dyes and vegetable dye extracts. Coal-tar	H. Kohnstamm & Co	59,322	Jan. 8	126	747
Electrical supplies	Bryant Electric Company	59,481	Jan. 8	126	754
Electrical supplies	Bryant Electric Company	59,216	Jan. 8	126	747
Electrical supplies. Certain named	Magnet Wire Co	59,317	Jan. 8	126	747
Engine spark-plug. Gasolene	Grant Manufacturing and Machine Company.	59,467	Jan. 8	126	752
Engines. Steam and gasolene	Atlas Engine Works	59,409	Jan. 8	126	749
Felts for structural work. Waterproofing	Hydrex Felt & Engineering Co	59,242	Jan. 8	126	748
Fertilizer	Sanders Fertilizer Company	59,382	Jan. 8	126	749
Fertilizers	Navassa Guano Company of Wilmington.	59,395	Jan. 8	126	754
Flour. Wheat	Ballard & Ballard Company	59,288	Jan. 8	126	749
Flour. Wheat	Dickson Mill & Grain Co	59,302	Jan. 8	126	747
Flour. Wheat	Vanderslice-Lynds Mercantile Co	59,436	Jan. 8	126	750
Flour. Wheat	W. S. Hills Co	59,457	Jan. 8	126	751
Food prepared from beef. Concentrated	Hungarian Milling & Elevator Co	59,462	Jan. 8	126	751
Foods. Cereal breakfast	H. K. Mulford Company	59,532	Jan. 8	126	754
Foods. Certain cereal	Northwestern Cereal Co	59,310	Jan. 8	126	747
Fruit-pulp from skins and seeds. Machines for separating	D. S. Goss	59,312	Jan. 8	126	747
Game. Card	C. S. Bucklin	59,441	Jan. 8	126	750
Game. Card	E. W. Beers	59,248	Jan. 8	126	748
Game. Card	Parker Brothers	59,344	Jan. 8	126	748
Game. Card	G. J. Bronstrop	59,389	Jan. 8	126	748
Gas heating, lighting, and cooking apparatus	Sea Coast Electric and Manufacturing Company.	59,388	Jan. 8	126	749
Glu	A. G. Kaufman Mfg. Company	59,416	Jan. 8	126	750
Gloves. Leather	E. Werthelmer	59,439	Jan. 8	126	750
Gloves. Leather and kid	I. & R. Morley	59,495	Jan. 8	126	752
Gloves, mittens, palm-protectors, and wrist-supporters	Larned, Carter & Co	59,294	Jan. 8	126	748
Grain-elevators. Portable	Defiance Tick Mitten Co	59,435	Jan. 8	126	749
Gum. Chewing	Luthy & Co	59,328	Jan. 8	126	747
	Buffalo Gum Company	59,457	Jan. 8	126	750
		59,304	Jan. 8	126	747

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Hair-dye	L. P. Valligny	59,524	Jan. 8	126	753
Hair-nets	A. G. Jennings	59,328	Jan. 8	126	747
Hair. Preparations for treatment of the	A. M. Pope	59,546	Jan. 8	126	753
Hair renewer and restorative and tonic for the hair, scalp, and skin	St. Jacobs Oil, Limited	59,520	Jan. 8	126	752
Hair-tonic	Duncan F. Macnab Drug Co	59,511	Jan. 8	126	752
Hams, shoulders, bacon, lard, and sausages	Louch, Augustine & Co	59,447	Jan. 8	126	751
Hats. Fur felt	Sperry & Walsh Hat Co	59,392	Jan. 8	126	749
Hats. Fur felt	Sperry & Walsh Hat Co	59,393	Jan. 8	126	749
Heating apparatus. Certain	Abendroth Bros	59,424	Jan. 8	126	750
Hooks and eyes	C. B. Patterson	59,387	Jan. 8	126	749
Horse-covers	L. C. Chase & Company	59,468	Jan. 8	126	751
Horse hoof-pads	Consolidated Hoof Pad Company.	59,401	Jan. 8	126	749
Hosiery	L. B. Conway, Jr	59,321	Jan. 8	126	747
Hosiery	Cooper, Wells & Co	59,322	Jan. 8	126	747
Hosiery	C. Chipman's Sons	59,430	Jan. 8	126	750
Hosiery	C. Chipman's Sons	59,431	Jan. 8	126	750
Ice-cream freezers	North Bro's. M'f'g. Co	59,491	Jan. 8	126	752
Ice-cream freezers	North Bro's. M'f'g. Co	59,492	Jan. 8	126	752
Ice-cream freezers	North Bro's. M'f'g. Co	59,493	Jan. 8	126	752
Ice-cream freezers	North Bro's. M'f'g. Co	59,494	Jan. 8	126	752
Ice-cream freezers	North Bro's. M'f'g. Co	59,495	Jan. 8	126	752
Indexes. Paper	Amberg File & Index Co	59,369	Jan. 8	126	748
Injectors	United Injector Co	59,418	Jan. 8	126	750
Insecticides	D. J. Lambert	59,583	Jan. 8	126	754
Jackets and vests	W. W. Brown	59,399	Jan. 8	126	749
Jewelry and precious stones. Certain named	Berry & Whitmore Co	59,345	Jan. 8	126	748
Jewelry, and solid and plated precious-metal ware	Carter, Howe & Co	59,465	Jan. 8	126	751
Jewelry. Certain named	Einstadt Manufacturing Co	59,350	Jan. 8	126	748
Jewelry. Certain named	J. W. Benson	59,492	Jan. 8	126	751
Jewelry. Certain named	Larter & Sons	59,485	Jan. 8	126	752
Knitted goods. Certain	Hargadine-McKittrick Dry Goods Company.	59,442	Jan. 8	126	750
Knitted underwear	Ryff & Co	59,391	Jan. 8	126	749
Lamp-burners and parts thereof	Bing Burner Co	59,429	Jan. 8	126	750
Lamps. Electrical incandescent	Deutsche Gasglühlicht Aktiengesellschaft (Auergesellschaft.)	59,325	Jan. 8	126	747
Leather	Thomas Bayley & Co	59,502	Jan. 8	126	752
Leather. Sheep, goat, calf, and kid	A. B. Clark Co	59,459	Jan. 8	126	751
Liniment and lotions	Rosen & Bergner Co	59,563	Jan. 8	126	754
Liniment for external use	J. Barnes	59,553	Jan. 8	126	753
Liquid-separating machines. Centrifugal	Empire Cream Separator Co	59,351	Jan. 8	126	748
Lubricants and lubricant-stock. Cylinder	Fred. G. Clark Company	59,438	Jan. 8	126	750
Lubricants and lubricant-stock. Cylinder	Fred. G. Clark Company	59,439	Jan. 8	126	750
Machinery. Certain parts of	Railway Steel-Spring Company	59,361	Jan. 8	126	748
Machines. Certain named	Cleveland Punch and Shear Works Co.	59,400	Jan. 8	126	749
Magazine. Monthly	J. R. Dunlap	59,469	Jan. 8	126	751
Meats. Preserved and canned	Gordon & Dilworth	59,308	Jan. 8	126	747
Medicine. Blood making, cleansing, and purifying	Kis-Ko Medicine Company	59,514	Jan. 8	126	752
Medicine for curing piles	G. M. Fox	59,538	Jan. 8	126	753
Medicine used as a blood-purifier. Proprietary	F. A. Wollschläger	59,589	Jan. 8	126	754
Medicines for certain named diseases	Snivi Medicine Company	59,519	Jan. 8	126	752
Medicines for certain named diseases	Tilden Company	59,523	Jan. 8	126	753
Medicines for coughs, colds, and la grippe	G. T. Hively	59,560	Jan. 8	126	754
Medicines for the cure of headache and dysmenorrhea, &c	Anti-Cori-Zine Chemical Company.	59,551	Jan. 8	126	753
Metal-polish. Liquid	S. R. Olmsted	59,336	Jan. 8	126	748
Metal shades and hoods and holders therefor	Tea Tray Company of Newark, N. J.	59,364	Jan. 8	126	748
Metal sheets covered with asbestos	Protected Metal Company	59,453	Jan. 8	126	751
Metals. Bearing	M. Lodor	59,333	Jan. 8	126	748
Metals. Bearing	Frictionless Metal Company	59,402	Jan. 8	126	749
Muslin underwear	Natick Underwear Company	59,335	Jan. 8	126	748
Nails. Horse	Union Horse Nail Company	59,420	Jan. 8	126	750
Nails. Horse	Union Horse Nail Company	59,587	Jan. 8	126	754
Needles. Sewing	Henry Milward & Sons	59,479	Jan. 8	126	751
Oil for medicinal purposes	C. D. Tilly	59,522	Jan. 8	126	753
Oil. Olive	Bisi & Caprini	59,303	Jan. 8	126	747
Oil. Polishing	Reliance Mfg. Co	59,454	Jan. 8	126	751
Oils. Certain named lubricating	United States Graphite Company.	59,505	Jan. 8	126	752
Oils. Lubricating	Pure Oil Company	59,388	Jan. 8	126	749
Ointments	Burdg Brothers	59,510	Jan. 8	126	752
Overalls, coats, pants, and vests	A. Kory & Sons	59,330	Jan. 8	126	747
Overalls, coats, pants, and vests	A. Kory & Sons	59,331	Jan. 8	126	747
Packings. Steam and water	Johns-Pratt Company	59,483	Jan. 8	126	751
Paint-pigments	N. Z. Graves Co	59,448	Jan. 8	126	751
Paint. Waterproof structural and roof	Eclipse Paint & Manufacturing Company.	59,376	Jan. 8	126	749
Paints and painters' materials. Certain	John F. Lewis & Bros. Co	59,444	Jan. 8	126	750
Paints and painters' materials. Certain named	Standard Varnish Works	59,363	Jan. 8	126	748
Painters' materials. Certain named	Raritan Paint Company	59,390	Jan. 8	126	749
Painters' materials. Certain named	F. W. Devoe & C. T. Raynolds Co	59,457	Jan. 8	126	750
Paper bags	Union Bag & Paper Company	59,504	Jan. 8	126	752
Paper transfer-cases	Amberg File & Index Co	59,370	Jan. 8	126	749
Paper. Wrapping	F. C. Traver	59,503	Jan. 8	126	752
Papers. Certain named	Hampshire Paper Company	59,475	Jan. 8	126	751
Papers. Certain named	Hampshire Paper Company	59,476	Jan. 8	126	751
Papers. Certain named	Hampshire Paper Company	59,477	Jan. 8	126	751

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Periodical. Monthly	Board of Trustees of The American Marine Engineer.	59,534	Jan. 8	126	753
Periodical. Weekly	McGraw Publishing Co.	59,582	Jan. 8	126	754
Photo-engravers' copper and zinc plates	American Steel & Copper Plate Co.	59,343	Jan. 8	126	748
Pianos	Richmond Piano Co	59,460	Jan. 8	126	752
Pianos	Melville Clark Piano Company	59,543	Jan. 8	126	753
Planers, carvers, sanders, &c	C. O. & A. D. Porter	59,340	Jan. 8	126	748
Plants. Germ food for	National Nitro-Culture Co.	59,449	Jan. 8	126	751
Powder. Stomachic	P. F. W. Barella	59,509	Jan. 8	126	752
Powder. Toilet	Fra-Noi Toilet Powder Co	59,513	Jan. 8	126	752
Powders and hair-tonics. Tooth, face, toilet, and laxative	C. Suhr	59,570	Jan. 8	126	753
Preparation for the treatment of diseases of the blood and skin	Dr. Peter Fahrney & Sons Co.	59,577	Jan. 8	126	754
Prints. Black cotton	Eddystone Manufacturing Company.	59,226	Jan. 8	126	747
Razors and blades. Safety	Multiplex Safety Razor Company.	59,356	Jan. 8	126	748
Reduction-machines	W. L. McCullough Co.	59,421	Jan. 8	126	750
Remedies for certain named diseases	L. A. H. Brandt	59,535	Jan. 8	126	753
Remedies for diseases of dogs	U. J. Ehrhart	59,557	Jan. 8	126	753
Remedies for regulating the stomach and bowels	E. C. De Witt & Company	59,556	Jan. 8	126	753
Remedies for the cure of piles	Eureka Company	59,512	Jan. 8	126	752
Remedy for certain named diseases	St. Jacobs Oil, Limited	59,521	Jan. 8	126	752
Remedy for certain named diseases	St. Jacobs Oil, Limited	59,565	Jan. 8	126	754
Remedy for certain named diseases	St. Jacobs Oil, Limited	59,566	Jan. 8	126	754
Remedy for certain named diseases	St. Jacobs Oil, Limited	59,567	Jan. 8	126	754
Remedy for certain named diseases	St. Jacobs Oil, Limited	59,568	Jan. 8	126	754
Remedy for certain named diseases	St. Jacobs Oil, Limited	59,569	Jan. 8	126	754
Remedy for sexual diseases or disorders	Calenduline Co.	59,572	Jan. 8	126	754
Remedy for stomach and bowel troubles	F. G. Pinkerton	59,546	Jan. 8	126	753
Remedy for throat and lung diseases	E. G. Cole	59,526	Jan. 8	126	753
Remedy. Headache	J. Schoelm	59,548	Jan. 8	126	753
Rheumatism-drops	Frederick Stearns & Co	59,549	Jan. 8	126	753
	Anstalt zur Verfertigung der Dr. Sulzberger'schen Allgemeinen Flusstinktur.	59,529	Jan. 8	126	753
Rheumatism-drops	Anstalt zur Verfertigung der Dr. Sulzberger'schen Allgemeinen Flusstinktur.	59,530	Jan. 8	126	753
Ribbons	Fry & Friedsam	59,379	Jan. 8	126	749
Rubber balls. India	Continental Caoutchouc-und Gutta-percha-Compagnie.	59,432	Jan. 8	126	750
Rubber. Elastic webs of	Archibald Turner & Co	59,315	Jan. 8	126	747
Rubber water-bottles, cushions, and ice-caps	Hodgman Rubber Company	59,480	Jan. 8	126	751
Salad-dressing	Griggs, Cooper & Company	59,300	Jan. 8	126	747
Salve	Morton-Hooton Mfg. Co	59,515	Jan. 8	126	752
Salve	Aschenbach & Miller	59,532	Jan. 8	126	753
Salve for the cure of cancer	C. W. Pace & Co	59,516	Jan. 8	126	752
Salves	E. F. Greene	59,580	Jan. 8	126	754
Sash-cord	J. E. Fricke Company	59,311	Jan. 8	126	747
Saws. Certain named	E. S. Bradford, Jr.	59,464	Jan. 8	126	751
Saws of all kinds	E. C. Atkins & Company	59,349	Jan. 8	126	748
Seed. Tobacco	O. R. Pomeroy	59,415	Jan. 8	126	750
Separators. Centrifugal	De Laval Separator Company	59,348	Jan. 8	126	748
Sewing-machines, parts, and attachments therefor. Boot and shoe	United Shoe Machinery Company.	59,365	Jan. 8	126	748
Sewing-machines, parts, and attachments therefor. Boot and shoe	United Shoe Machinery Company.	59,366	Jan. 8	126	748
Shaft-hangers	Standard Pressed Steel Co	59,362	Jan. 8	126	748
Sheetings	Orr Cotton Mills	59,338	Jan. 8	126	748
Sheetings	Orr Cotton Mills	59,339	Jan. 8	126	748
Shirts. Outer	Greenebaum Brothers	59,404	Jan. 8	126	749
Shoe-polish	Bell Mfg. Co	59,428	Jan. 8	126	750
Silver-plated, flat, and hollow ware and cutlery	Wm. A. Rogers Limited	59,396	Jan. 8	126	749
Silver-plated, flat, and hollow ware and cutlery	Wm. A. Rogers Limited	59,422	Jan. 8	126	750
Silverware. Certain imitation	G. E. Herring	59,353	Jan. 8	126	748
Slippers	G. Mehringer & Company	59,489	Jan. 8	126	752
Soap	A. Smith & Co	59,314	Jan. 8	126	747
Soap	N. K. Fairbank Company	59,411	Jan. 8	126	750
Soap. Liquid	Lever Brothers Company	59,446	Jan. 8	126	751
Soaps. Toilet and laundry	B. S. McKean	59,384	Jan. 8	126	749
Soda, saleratus, and baking-powder	Citizens' Wholesale Supply Co	59,378	Jan. 8	126	749
Sound recording or reproducing machines and parts thereof and records.	Church & Dwight Company	59,574	Jan. 8	126	754
Stoves and ranges	Victor Talking Machine Company.	59,550	Jan. 8	126	753
Strainers and valves	St. Louis Union Trust Company	59,394	Jan. 8	126	749
Sugar syrup. Beet	United Injector Co	59,419	Jan. 8	126	750
Suits and overcoats. Men's top	Colorado Syrup Company	59,306	Jan. 8	126	747
Surgical lubricants	Desbecker Block Tailoring Co	59,224	Jan. 8	126	747
Table-covers, scarfs, centerpieces, and doilies. Lace and linen and lace	J. M. Grosvenor & Co	59,540	Jan. 8	126	753
Teeth. Cement for filling	Bach Bros. & Katzenstein	59,427	Jan. 8	126	750
	Harvard Dental Manufacturing Company.	59,448	Jan. 8	126	750
Thread, and spool and sewing cotton	American Thread Company	59,371	Jan. 8	126	749
Thread, and spool and sewing cotton	American Thread Company	59,372	Jan. 8	126	749
Thread. Mercerized cotton	H. Chodorov	59,305	Jan. 8	126	747
Tobacco. Smoking and chewing	Penn Tobacco Co.	59,414	Jan. 8	126	750
Tonic beverages and syrup made therefrom. Non-alcoholic	M. L. Eppstein	59,378	Jan. 8	126	749
Tools. Certain named	Hanchett Swage Works	59,382	Jan. 8	126	748
Tools. Certain named	Verona Tool Works	59,507	Jan. 8	126	752
Tracing cloths and linens	American Tracing Cloth Company.	59,440	Jan. 8	126	751

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Tulle	T. Tiedemann & Son	59,456	Jan. 8	126	751
Type-writer ribbons and carbon-paper	Monarch Typewriter Company	59,490	Jan. 8	126	752
Varnish and japans	Robt. Ingram Clark & Co	59,455	Jan. 8	126	751
Washing-powder	N. K. Fairbank Company	59,412	Jan. 8	126	751
Watches	W. C. Ball	59,461	Jan. 8	126	750
Watches	W. C. Ball	59,462	Jan. 8	126	751
Water and a beverage made from ginger. Mineral and table	Manitou Mineral Springs Company.	59,408	Jan. 8	126	751
Weighing machinery	Richardson Scale Company	59,518	Jan. 8	126	752
Welding and brazing plates	Phillips-Laffitte Company	59,452	Jan. 8	126	751
Wheat and rye preparations and bakery products. Certain named	Potter & Wrightington	59,313	Jan. 8	126	747
Whisky	Cafe Savarin Company	59,347	Jan. 8	126	748
Whisky	Patterson & Coane	59,360	Jan. 8	126	748
Whisky	C. A. Van Rensselaer	59,367	Jan. 8	126	748
Whisky	Ullman & Co	59,395	Jan. 8	126	749
Whisky	F. T. Morrissey	59,410	Jan. 8	126	750
Whisky	Bonnie Bros	59,463	Jan. 8	126	751
Whisky	Ferd Roddewig Sons	59,471	Jan. 8	126	751
Whisky	J. Harbinson	59,478	Jan. 8	126	751
Whisky	J. & E. Mahoney	59,488	Jan. 8	126	752
Whisky	R. Steel	59,500	Jan. 8	126	752
Whisky	Van Vleet Mansfield Drug Co	59,506	Jan. 8	126	752
Whisky	Beech Hill Distilling Co	59,533	Jan. 8	126	753
Whisky	Cahn, Belt & Co	59,555	Jan. 8	126	753
Whisky	Bluthenthal & Heilbronner	59,571	Jan. 8	126	754
Whisky	Casey-Swasey Company	59,572	Jan. 8	126	754
Whisky	Glasner & Barzen Distilling & Importing Co.	59,579	Jan. 8	126	754
Whisky and brandy	Edw. B. Bruce Co	59,470	Jan. 8	126	751
Woodworking-machines. Certain named	A. M. Gibbes	59,539	Jan. 8	126	753

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Cutisol." (For an Ointment)	J. H. S. O'Brien	13,305	Jan. 8	126	755
"Defiance Flour." (For Flour)	M. S. Ayer & Co	13,303	Jan. 8	126	755
"Electrosine." (For a Liquid Depilatory)	B. Smith	13,306	Jan. 8	126	755
"Rex." (For Beer)	A. Tiemann	13,304	Jan. 8	126	755

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Men's and Boys' Apparel." (For Men's and Boys' Apparel)	H. C. Lytton	1,882	Jan. 8	126	755
"Moose, The Beer that Reigns Supreme." (For Beer)	A. Tiemann	1,879	Jan. 8	126	755
"Moose, The Monarch of All Pure Beers." (For Beer)	A. Tiemann	1,881	Jan. 8	126	755
"The Home of the Famous Monarch of All Beers." (For Beer)	A. Tiemann	1,880	Jan 8	126	755

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Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Antiseptic salve	A. Obrock	23,761	Jan. 8	126	741
Automobiles and parts thereof	Argus Motoren Gesellschaft Jeannin & Co. Comm.-Ges.	18,908	Jan. 8	126	730
Barley	Schwabacher Bros. & Co	23,336	Jan. 8	126	738
Beef. Sliced smoked	F. W. Siebert	22,303	Jan. 8	126	735
Beer	Pittsburgh Brewing Company	19,289	Jan. 8	126	721

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(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Beer	New Orleans Brewing Company	[illegible]	Jan. 8	126	737
Belt-fasteners. Metallic	Bristol Co	20,270	Jan. 8	126	731
Bitters	McCart-Mosert Co	[illegible]	Jan. 8	126	726
Bitters. Stomach	T. Lappe	[illegible]	Jan. 8	126	732
Bonbons	Reiss & Brady	[illegible]	Jan. 8	126	743
Boots and shoes. Leather	Guthmann Carpenter & Telling	[illegible]	Jan. 8	126	736
Boots and shoes. Leather	M. A. Packard Co	[illegible]	Jan. 8	126	729
Boots and shoes. Leather	E. Phelps, Jr	[illegible]	Jan. 8	126	730
Boots and shoes. Leather	Geo D Witt Shoe Co	[illegible]	Jan. 8	126	742
Boots, shoes, and slippers. Leather	Paul Brothers	[illegible]	Jan. 8	126	742
Boots shoes, and slippers. Leather	Paul Brothers	[illegible]	Jan. 8	126	743
Boots, shoes, and slippers. Leather	Winch Brothers Company	[illegible]	Jan. 8	126	744
Boots, shoes, slippers, and sandals. Leather	F. P. Kirkendall & Co	[illegible]	Jan. 8	126	726
Bouillon	Fabrik von Maggi's Nahrungsmitteln	[illegible]	Jan. 8	126	728-9
Brandy and cordials. Blackberry	Rheinstrom Bettman Johnson & Co.	6,681	Jan. 8	126	726
Brushes. Nail	C. Loonen	[illegible]	Jan. 8	126	731
Buckles, rings, snap-hooks, hames, bits, tags, &c	Eberhard Manufacturing Company.	945	Jan. 8	126	725
Buggies and carriages	Studebaker Bros. Mfg. Co	17,625	Jan. 8	126	730
Canned and bottled fruits and vegetables, nuts, flavoring extracts, &c.	L. M. Reynolds	[illegible]	Jan. 8	126	741
Canned frozen oysters. Fresh	Morgan Oyster Company	12,651	Jan. 8	126	728
Canned vegetables	Oklahoma Wholesale Grocer Co	[illegible]	Jan. 8	126	735
Carpet-sweepers	Bissell Carpet Sweeper Company	[illegible]	Jan. 8	126	726-7
Catamenial bandages	Remsen Manufacturing Company	[illegible]	Jan. 8	126	738
Cement, lime, concrete, and fire-brick. Building	C. W. Hull Company	[illegible]	Jan. 8	126	738
Cheese	Reiss & Brady	[illegible]	Jan. 8	126	743
Chiffonniers, dressers, and commodes	Marvel Furniture Company	[illegible]	Jan. 8	126	732
Chlorates and bichromates	National Electrolytic Co	[illegible]	Jan. 8	126	730
Coats, cloaks, suits, and skirts. Women's	New York Mackintosh Company	[illegible]	Jan. 8	126	734
Coats, trousers, vests, overcoats, and rain-coats	A. B. Kirschbaum & Co	[illegible]	Jan. 8	126	732
Coffee	Ohio Coffee & Spice Company	1,711	Jan. 8	126	725
Coffee	Acker, Merrall & Condit Company	[illegible]	Jan. 8	126	745
Collars, collar-pads, and back-bands. Horse	Couch Bros. & J. J. Eagan Co	[illegible]	Jan. 8	126	735
Cornmeal, wheat and pancake flour, and cereal breakfast food.	Ralston Purina Co	654	Jan. 8	126	725
Cotton duck	Denison Cotton Mill Co	[illegible]	Jan. 8	126	742
Cotton fabrics. Dyed	O. Goetze	[illegible]	Jan. 8	126	741
Cotton piece goods	Grendel Mills	[illegible]	Jan. 8	126	739
Decalcomanias and transfer-pictures	R. Dührssen	[illegible]	Jan. 8	126	740
Dentifrice	Meade & Baker Carbollo Mouth Wash Co.	[illegible]	Jan. 8	126	742
Embroideries, embroidery-patterns, &c	L. E. Goetz & Company	[illegible]	Jan. 8	126	736
Engines, sawmill machinery, air-compressors, &c. Steam	Chandler & Taylor Company	[illegible]	Jan. 8	126	726
Explosives and blasting supplies. High	Eastern Dynamite Company	[illegible]	Jan. 8	126	731
Eyeglasses	Julius King Optical Co	[illegible]	Jan. 8	126	730
Fertilizers	Home Fertiliser & Chemical Company of Baltimore City.	[illegible]	Jan. 8	126	739
Fertilizers	Virginia-Carolina Chemical Company.	[illegible]	Jan. 8	126	745
Flavoring extract	Virginia-Carolina Chemical Company.	23,989	Jan. 8	126	746
Flavoring extracts	Charles Jacquin et Cie	[illegible]	Jan. 8	126	744
Flour. Wheat	Blanke-Baer Chemical Company	[illegible]	Jan. 8	126	737
Flour. Wheat	Medlin Milling Co	[illegible]	Jan. 8	126	729
Flour. Wheat	Columbia Mill & Elevator Company.	21,672	Jan. 8	126	734
Flours. Wheat, rye, and Graham	Randolph Milling Company	[illegible]	Jan. 8	126	745
Food made from fish, &c	J. R. Thomas' Sons	[illegible]	Jan. 8	126	726
Food. Poultry and stock	A. W. Marshall	[illegible]	Jan. 8	126	729
Fruits, sago, bird-seed, &c. Dried	Ralston Purina Co	[illegible]	Jan. 8	126	740
Furniture and woodwork cleaning and polishing preparations.	Schwabacher Bros. & Co	[illegible]	Jan. 8	126	738
Game-counters and chips	Atlas Specialty Company	[illegible]	Jan. 8	126	733
Game-counters and chips	United States Playing Card Company.	[illegible]	Jan. 8	126	739
Gasolene. Stove	United States Playing Card Co	[illegible]	Jan. 8	126	741
Gin	National Refining Company	[illegible]	Jan. 8	126	744
Gin	Kinahan & Company	[illegible]	Jan. 8	126	730
Gin	H. Obernauer	[illegible]	Jan. 8	126	734
Ginger, olives, olive-oil, figs, and capers. Preserved	John C. Weller Co	[illegible]	Jan. 8	126	743
Grain. Brewers'	R. U. Delapenha & Co	[illegible]	Jan. 8	126	740
Guns, rifles, gun-wads, bullets, &c. Shot	Atlantic Export Company	[illegible]	Jan. 8	126	742
Hair. Preparation for removing superfluous	Winchester Repeating Arms Co	[illegible]	Jan. 8	126	733
Hats and caps. Automobile	Hall & Ruckel	[illegible]	Jan. 8	126	738
Hats and caps. Infants'	35% Automobile Supply Co	[illegible]	Jan. 8	126	746
Hats. Preparation for cleaning straw and bast	S. Mayer & Sons	[illegible]	Jan. 8	126	743
Hosiery	M. Quelsner	[illegible]	Jan. 8	126	735
Insecticide and antiseptic	F. Loeser & Co	[illegible]	Jan. 8	126	737
Iodin, oil of wintergreen, and menthol paste	T. C. Murphey	[illegible]	Jan. 8	126	730
Jamaica ginger. Essence of	Iosaline Company	[illegible]	Jan. 8	126	730
Knitted socks and stockings	Van Vleet-Mansfield Drug Co	[illegible]	Jan. 8	126	727
Knitted undershirts and drawers	Magnet Knitting Mills	[illegible]	Jan. 8	126	738
Knobs, store-door handles, door-pulls, push-plates, &c	H. Jacquin & Co	[illegible]	Jan. 8	126	730
Kümmel	Reading Hardware Company	[illegible]	Jan. 8	126	734
Lamps. Arc and incandescent electric	Schuster Co	[illegible]	Jan. 8	126	726
[illegible]	Toledo Railways & Light Company.	[illegible]	Jan. 8	126	739
[illegible]	F. W. Wagener & Co	[illegible]	Jan. 8	126	737

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Liniment	C. W. Massie	19,742	Jan. 8	126	731
Liniments	Citizens' Wholesale Supply Co	23,600	Jan. 8	126	740
Macaroni, noodles, wafers, crackers, ginger-cake, &c	Reiss & Brady	23,869	Jan. 8	126	743
Magnetos	Robert Bosch, New York	23,655	Jan. 8	126	741
Malt extracts	Paragon Malt Extract Co	20,458	Jan. 8	126	732
Maternity outfits	Remsen Manufacturing Company	23,202	Jan. 8	126	738
Medical and surgical apparatus, appliances, and instruments	Kny-Scheerer Company	22,861	Jan. 8	126	736
Medicinal remedies for the sprue	T. E. McPherson & Co	11,105	Jan. 8	126	727
Medicine. Expectorant, sedative, antispasmodic	Tilden Company	23,910	Jan. 8	126	744
Medicine. Eye	A. R. Canter	23,533	Jan. 8	126	739
Medicine for the cure of stomach, liver, and kidney diseases	Verno Company	23,697	Jan. 8	126	741
Medicine. Kidney	Van Vleet-Mansfield Drug Co	12,296	Jan. 8	126	728
Medicines. Certain proprietary	E. C. Nalle Drug Company	23,537	Jan 8	126	739
Milk, cream, and butter	Bernese Alps Milk Co	14,571	Jan. 8	126	729
Music-playing instruments and music-rolls therefor. Automatic	Wilcox & White Company	23,500	Jan. 8	126	739
Oil and animal-fat mixture. Vegetable	Southern Cotton Oil Company	10,898	Jan. 8	126	727
Oil. Cotton-seed	American Cotton Oil Company	23,615-17	Jan. 8	126	740
Oil. Cutting	Clarkson & Ford Co	19,409	Jan. 8	126	731
Oil. Lubricating	Clarkson & Ford Co	19,408	Jan 8	126	731
Oil. Lubricating	National Refining Company	23,935	Jan. 8	126	744
Oil. Olive	Robert Stevenson & Co	22,058	Jan. 8	126	735
Oil. Summer-white cotton-seed	American Cotton Oil Company	23,614	Jan. 8	126	740
Oilers, oiler spouts and fillers, can, coffee-flask, mailing-case, &c., screws.	W. Vogel & Bros	20,408	Jan. 8	126	732
Ointment. Carbolic	Van Vleet-Mansfield Drug Co	11,183	Jan. 8	126	727
Ointment. Itch	Van Vleet-Mansfield Drug Co	11,199	Jan. 8	126	727
Paint	Rossing Paint & Roofing Co	21,944	Jan. 8	126	734
Paint. Enamel	Le Ripolin, (Société Anonyme Française de peintures laquées et d'enduits sous-marins procédés Lefranc & Briegleb réunis.)	15,321	Jan. 8	126	729
Paper and paper-boards. Wrapping	Union Bag & Paper Company	23,936-7	Jan. 8	126	745
Periodical. Monthly	W. J. Johnston	12,139	Jan. 8	126	728
Periodical publication	A. W. Chambers	23,818	Jan. 8	126	742
Photographic chemicals	Sharp & Dohme	22,635	Jan. 8	126	736
Piano-tuning pins	W. Wagner, Jr	19,752-3	Jan. 8	126	732
Pickles, sauer-kraut, vinegar, baked beans, &c	H. J. Heinz Company	10,754-6	Jan. 8	126	733
Powder. Complexion	J. A. Pozzoni Pharmacal Co	23,794	Jan. 8	126	742
Powders. Insect	National Disinfectant Company	23,721	Jan. 8	126	741
Preparation for the cure of skin diseases	Van Vleet-Mansfield Drug Co	11,194	Jan. 8	126	727
Preparation for the cure of venereal diseases	Van Vleet-Mansfield Drug Co	12,286	Jan. 8	126	728
Printing plates. Relief	G. C. Thayer	20,206	Jan. 8	126	732
Razors	International Cutlery Company	9,670	Jan. 8	126	726
Remedies for the treatment of fevers, congestions, colic, &c	Humphreys Homeopathic Medicine Co.	20,523	Jan. 8	126	732
Remedies. Soporific, narcotic, and calming	Knoll & Co	21,797	Jan. 8	126	734
Remedy for colds and coughs, la grippe, and headache	Van Vleet-Mansfield Drug Co	12,294	Jan. 8	126	728
Remedy for coughs, colds, asthma, &c	G. E. Miller & Co	22,541	Jan. 8	126	736
Remedy for diarrhœa, flux, and dysentery	Mack & Gilmore	23,857	Jan. 8	126	743
Remedy for diseases of poultry	H. E. Turpin	22,623	Jan. 8	126	736
Remedy for diseases of the bladder and kidneys	Van Vleet-Mansfield Drug Co	11,881	Jan. 8	126	727
Remedy for diseases of the blood, liver, stomach, and kidneys.	Peerless Herb Co	19,657	Jan. 8	126	731
Remedy for dyspepsia, general debility, &c	Van Vleet-Mansfield Drug Co	11,883	Jan. 8	126	728
Remedy for la grippe, colds, &c	Southern Chemical Company	23,612	Jan. 8	126	740
Remedy for seasickness	B. E. Fortiner	23,015	Jan. 8	126	737
Remedy for sore and inflamed eyes	Kurl Chemical Co	22,834	Jan. 8	126	736
Remedy for the cure of chills and fever	Van Vleet-Mansfield Drug Co	12,288	Jan. 8	126	728
Rivets	Judson L. Thomson Mfg. Co	23,743	Jan. 8	126	741
Roofing and sheathing fabric	National Coal Tar Company	23,700	Jan. 8	126	741
Rope, cable, tarred lath and fodder yarns, and twine	Columbian Rope Company	21,025-6	Jan. 8	126	733
Salt. Table	Red Seal Never Damp Salt Company.	23,561	Jan. 8	126	739
Salve	Gordshell Chemical Company	22,942	Jan. 8	126	737
Salve. Eye	Van Vleet-Mansfield Drug Co	11,191	Jan. 8	126	727
Sausages, hams, bacon, salt pork, and lard	Jones Dairy Farm	20,751	Jan. 8	126	733
Saws, scissors, chisels, axes, pliers, &c	A. Baldwin & Co	21,926	Jan. 8	126	734
Shade cloths. Window	J. C. Wemple Co	14,356	Jan. 8	126	729
Shirts, overalls, and pantaloons. Mechanics'	J. Levi	22,052	Jan. 8	126	735
Shoes and slippers. Ladies' and misses' leather	Paul Brothers	23,792	Jan. 8	126	742
Silk piece goods	York Silk Manufacturing Co	23,865	Jan. 8	126	743
Slate. Roofing	Bangor Roofing Slate Manufacturing Association.	8,750	Jan. 8	126	726
Soap	Pompeian Mfg. Co	23,926	Jan. 8	126	744
Soap. Medicated toilet	Magnolia Healing Soap Co	20,496	Jan. 8	126	732
Stove-polish	W. Wierhake	23,945	Jan. 8	126	745
Syrup	S. J. Valk & Bro	22,466	Jan. 8	126	735
Thermometers, barometers, mercury-gages, &c	Hohmann & Maurer Mfg. Co	23,904	Jan. 8	126	744
Thread and yarns	Chicago Thread Mfg. Co	23,473	Jan. 8	126	739
Tonic. Blood	E. F. Fahey	18,638	Jan. 8	126	739
Tonic. Nerve	Peal Medicine Company	22,300	Jan. 8	126	735
Toothache-drops	Van Vleet-Mansfield Drug Co	11,192	Jan. 8	126	727
Traps. Animal	Onelda Community	23,784	Jan. 8	126	741
Trousers	Potsdam Clothing Manufacturing Company	23,827	Jan. 8	126	743
Varnish	Payson Varnish Co	22,760	Jan. 8	126	736
Varnishes	Tousey Varnish Co	18,060	Jan. 8	126	730
Vermifuge. Candy	Van Vleet-Mansfield Drug Co	12,535	Jan. 8	126	728
Waists, skirts, and suits. Ladies' and misses'	A. Cohen	18,607	Jan. 8	126	730

TRADE-MARKS—Continued.

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Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Water. Mineral	Hinckley & Schmitt	22,124-5	Jan. 8	126	735
Water. Mineral	Virginia Etna Lithia Springs Co.	22,[illegible]	Jan. 8	126	737
Waters. Still and carbonated	Glenn Rock Mineral Spring Company.	22,681	Jan. 8	126	738
Wax, mucilage, and paste. Sealing-	Thaddeus Davids Company	20,[illegible]	Jan. 8	126	733
Whisky	I. Monheimer	2,[illegible]1	Jan. 8	126	725
Whisky	T. Pepper's Sons	9,[illegible]	Jan. 8	126	726
Whisky	J. Walsh & Co	11,[illegible]	Jan. 8	126	727
Whisky	J. Pohlman & Co	13,[illegible]	Jan. 8	126	729
Whisky	Edw. B. Bruce Co	21,[illegible]	Jan. 8	126	734
Whisky	Rieger & Lindley	22,[illegible]	Jan. 8	126	735
Whisky	Geo. W. Torrey Co	22,[illegible]	Jan. 8	126	737
Whisky	L. W. Walker	22,[illegible]	Jan. 8	126	737
Whisky	A. J. Weil	22,241-2	Jan. 8	126	738
Whisky	M. Letzelter	22,[illegible]	Jan. 8	126	743
Whisky	H. Obernauer	22,[illegible]	Jan. 8	126	743
Woodworking-machines	Sielemann Distilling Co.	22,[illegible]	Jan. 8	126	743
	Defiance Machine Works	21,[illegible]	Jan. 8	126	734

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 15TH DAY OF JANUARY, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Abrahams, Jacob, Boston, Mass. Machine for making pastry horns or cups for containing ice-cream, &c.	841,211	Jan. 15	2859	622–3	126	816
Adams, Edwin J., Waco, Tex. Railway signaling mechanism.	841,607	Jan. 15	3617	786–7	126	1011
Adams-Randall, Charles, New York, N. Y. Electric calling apparatus for telephones.	841,476	Jan. 15	3380	730	126	949
Adams, Robert, London, England. Door-closer.	841,608	Jan. 15	3627	787–8	126	1013
Adams, William H., and F. Powell, assignors to said Adams, said Powell, and Ladd Metals Company. Combined gas-generator and smelter.	841,212	Jan. 15	2863	623	126	816
Aeolian Company. (See Thompson, Elihu, assignor.)						
Aiken, Thomas M., and J. E. Harmon, Allegheny, Pa. Ice-cream dipper.	841,097	Jan. 15	2659	582	126	765
Aikman, William S., and H. C. Stevenson, Chicago, Ill. Printer's furniture.	841,098	Jan. 15	2660	582	126	765
Ainsworth, Robert G., Denver, Colo. Assay-balance.	841,477	Jan. 15	3382	730–1	126	949
Akins, Charles J., assignor of one-half to G. W. Sherk and B. W. Graham, Huntington, Oreg. Flush-tank.	841,213	Jan. 15	2865	623	126	816
Akins, Charles J., Huntington, assignor of one-half to B. W. Graham and G. W. Sherk, Portland, Oreg. Flushing-tank.	841,214	Jan. 15	2867	624	126	817
Aktiebolaget L. M. Ericsson & Co. (See Holmgren and Brahm, assignors.)						
Alexanderson, Ernst F. W., Schenectady, N. Y., assignor to General Electric Company. Motor-winding.	841,609	Jan. 15	3629	789–90	126	1014
Alexanderson, Ernst F. W., Schenectady, N. Y., assignor to General Electric Company. Alternating-current motor.	841,610	Jan. 15	3639	790–1	126	1016
Alliance Machine Company. (See Israel and Kirk, assignors.)						
Alsop, William T., Owensboro, Ky. Back-stop and receiver for target-shooting.	841,611	Jan. 15	3643	791	126	1016
American Locomotive Company. (See Dalton, William, assignor.)						
American Loktite Company. (See De Meuter, Alfred, assignor.)						
American Paper Bottle Company. (See Kinsey, James C., assignor.)						
Anderson, Isaac, Newcastle, Ind., assignor of one-half to W. Valyar, Saginaw, Mich. Fish scaler and cleaner.	841,099	Jan. 15	2661	582	126	765
Anderson, John L., Seattle, Wash. Pipe-holder.	841,368	Jan. 15	3183	685	126	899
Andrews, William, assignor to L. D. Rowland, Sioux City, Iowa, and O. A. Steffin. Coin-operated machine.	841,302	Jan. 15	3050	661	126	863
Andrews, William S., Schenectady, N. Y., assignor to General Electric Company. Electric regulator.	841,215	Jan. 15	2869	624	126	817
Andriano, Albert K., assignor, by mesne assignments, to Direct-Line General Telephone Company, San Francisco, Cal. Secret-service telephone system.	841,478	Jan. 15	3385	731–2	126	950
Anschütz-Kaempfe, Hermann, Kiel, Germany. Suspension of rotating apparatus and magnetic compasses.	841,612	Jan. 15	3645	791	126	1017
Arit and Fricke. (See Sokwidowski, Paul, assignor.)						
Armbruster, William J., St. Louis, Mo. Pigment and making same.	841,303	Jan. 15	3053	.....	126	863
Armstrong, Thomas, Saranac, N. Y. Whip-socket.	841,479	Jan. 15	3392	732	126	952
Arnold, Frederick H., Reading, Pa. Safety-razor.	841,304	Jan. 15	3056	661	126	864
Atkinson, Cyril J., Milwaukee, Wis., assignor to International Harvester Company. Gas-producer.	841,100	Jan. 15	2663	582	126	766
Atwood, George F., New York, N. Y., assignor to Western Electric Company, Chicago, Ill. Winding-machine.	841,305	Jan. 15	3057	662	126	864
Aug. Goertz & Co. (See Kipp, Benno vom, assignor.)						
Auto Manual Piano Action Company. (See Dunott, Charles B., assignor.)						
Axford, George S., Northville, Mich. Hobby-horse.	841,369	Jan. 15	3185	686	126	899
Badeau, Isaac F. (See Badeau, Louis C. and I. F.)						
Badeau, Louis C. and I. F., Mahopac, N. Y. Music type-writer.	841,101	Jan. 15	2664	583	126	766
Bagguley, William, Widnes, England. Machine for making cigarettes.	841,216	Jan. 15	2871	624–5	126	818
Baker, Charles E., and A. W. Barwell, Cleveland, Ohio. Treating ores.	841,102	Jan. 15	2667	.....	126	767
Baker, Charles E., and A. W. Barwell, Cleveland, Ohio. Treating ores.	841,103	Jan. 15	2667	.....	126	767
Baker, George A., Oakland, assignor to G. Gordon, Fruitvale, Cal. Refrigerating device.	841,104	Jan. 15	2668	584	126	767
Baker, Wilfred, Aberdeen, S. D. Steam-valve.	841,218	Jan. 15	2875	626	126	818
Baker, William J., Newport, Ky. Laundry-tag.	841,217	Jan. 15	2874	625	126	818
Baldwin, Ellory A., West Upton, Mass. Lock mechanism.	841,219	Jan. 15	2876	626	126	819
Baldwin, Rollin A., New Haven, Conn., assignor to Baldwin & Rowland Switch & Signal Company. Recording signal-transmitter.	841,105	Jan. 15	2669	584	126	767
Baldwin & Rowland Switch & Signal Company. (See Baldwin, Rollin A., assignor.)						
Bassford, George S. (See Bassford, Henry A. and G. S.)						
Bassford, Henry A. and G. S., Yountville, Cal. Box-nailing press.	841,613	Jan. 15	3646	792	126	1017
Bates, Henry H., Newburgh, N. Y. Fabric withdrawing or feeding means for sewing-machines.	841,480	Jan. 15	3393	732	126	952
Bates, Madison F., Lansing, Mich. Water-cooler.	841,220	Jan. 15	2878	626	126	819
Beard, W. R., *et al.* (See Matthews, Joshua A., assignor.)						
Becker, Anton, Columbus, Ohio. Steel underframe for cars.	841,221	Jan. 15	2880	627	126	819
Belknap, Ellsworth, Peto, Ill. Reversing-eccentric.	841,481	Jan. 15	3395	733	126	952
Bell, Robert F. (See Hennessy, Charles C., assignor.)						
Bender, Robert, and F. W. Taylor, Philadelphia, Pa.; said Bender assignor to said Taylor. Combined heating, lighting, and greenhouse.	841,306	Jan. 15	3061	663	126	865
Bijur, Joseph, New York, N. Y., assignor to General Storage Battery Company. Electric regulator.	841,106	Jan. 15	2672	584	126	768
Blair, Robert S., New Rochelle, N. Y. Eyeglasses.	841,614	Jan. 15	3648	792	126	1017

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Drfg.	Official Gazette. Vol.	Page.
Blake, Charles C., Brookline, Mass., assignor to Western Electric Company, Chicago, Ill. Electric annunciator	841,207	Jan. 15	3063	663	126	866
Blakeway, John H., San Francisco, Cal. Heating apparatus	841,107	Jan. 15	3075	585	126	769
Bök, Nils S., Stockholm, Sweden. Centrifugal separator	841,270	Jan. 15	3186	686–7	126	899
Boman, Anna E., Fargo, N. D. Rail-joint	841,482	Jan. 15	3397	733	126	953
Böniger, Melchior, assignor to Corporation of Chemical Works formerly Sandoz, Basel, Switzerland. Azo dye and making same	841,371	Jan. 15	3188		126	900
Bowman, Francis H., Pittsfield, Mass., assignor to Stanley-G. I. Electric Manufacturing Company. Curve-drawing instrument	841,222	Jan. 15	2881	627	126	820
Boyce, Daniel, Camden, Pa. Fire apparatus	841,108	Jan. 15	2876	585	126	769
Brahm, August E. (See Holmgren and Brahm.)						
Brainard, Andrew C. (See Moses, Bertram, assignor.)						
Bramley-Moore, Swinfen, Bloomsbury, England. Change-speed gearing	841,309	Jan. 15	3077	585	126	769
Brett, James T., Milwaukee, Wis. Cam for harvester-reels	841,110	Jan. 15	2880	585	126	770
Bridgeport Gun Implement Company. (See North, Samuel A., assignor.)						
Bromley, John H., Philadelphia, Pa. Device for containing and dispensing liquids	841,111	Jan. 15	2881	586	126	770
Bronner, Emil, Eberbach-on-the-Neckar, Germany. Drawing apparatus	841,228	Jan. 15	2882	628	126	820
Brookfield, Henry M., New York, N. Y. Glass-furnace	841,112	Jan. 15	2882	586	126	771
Brown, Fred F., and G. W. Haycock, Lawrence, Mass. Fire-hydrant	841,515	Jan. 15	3051	792	126	1019
Brown, Harold H., Boston, Mass. Signal-reading device	841,516	Jan. 15	3053	792	126	1019
Brown, Horace P., Alameda, Cal. Sales-book	841,517	Jan. 15	3055	793	126	1019
Brown, Theodore P., Worcester, Mass. Key-locking mechanism for automatic musical instruments	841,114	Jan. 15	2886	586	126	771
Brown, Theodore P., assignor to Simplex Piano Player Company, Worcester, Mass. Modulating attachment for musical instruments	841,113	Jan. 15	2884	586	126	771
Brown, William, and A. Weber, San Francisco, Cal. Backing-lumber for half-tones	841,115	Jan. 15	2887	587	126	772
Brownsville Glass Company. (See Speer and Harvey, assignors.)						
Bruyn, Paul de, Düsseldorf, Germany. Apparatus for measuring gas-pressure	841,618	Jan. 15	3056	793	126	1020
Bryant, Richard S., assignor to Bryant Steel Wheel and Rim Company, Columbus, Ohio. Locking device for tire-retaining attachments	841,619	Jan. 15	3057	793	126	1020
Bryant Steel Wheel and Rim Company. (See Bryant, Richard S., assignor.)						
Bryarly, Harry, Rogers, Ohio. Lamp-bracket	841,208	Jan. 15	3064	663	126	866
Buchanan, Eleanora N., Portland, Oreg. Trunk-harness	841,620	Jan. 15	3059	793	126	1021
Buckham, George T. (See Dawson and Buckham.)						
Buergermeister, Emil, and E. E. Flicek, Milwaukee, Wis.; said Flicek assignor to said Buergermeister. Pan-supporting rack	841,116	Jan. 15	2888	587	126	772
Buffalo Valve Company. (See Stock, Robert, assignor.)						
Burke, James F. (See Jones, Ralph H., assignor.)						
Burkholder, John H., Ashland, Ohio. Door-hanger	841,117	Jan. 15	2889	587	126	772
Burwell, Arthur W. (See Baker and Burwell.)						
Buschman, Edward L., Orange, N. J. Machine for cleaning bags and the like	841,209	Jan. 15	3065	664	126	866
Buschmann, Hugo, Mülheim-on-the-Ruhr, Germany. Adjustable support for models, cards, &c	841,372	Jan. 15	3189	687	126	900
Byrne, Charles T., Chicago, Ill. Plumber's trap	841,118	Jan. 15	2892	588	126	773
C. Cowles & Co. (See Costello and Hart, assignors.)						
Cain, Francis M., Wesner, Okla. Ter. Metallic railway-tie	841,119	Jan. 15	2893	588	126	773
Callan, John G., Lynn, Mass., assignor to General Electric Company. Valve mechanism for turbines	841,224	Jan. 15	2884	628	126	821
Callan, John G., Lynn, Mass., assignor to General Electric Company. Turbine	841,453	Jan. 15	3398	733	126	953
Cameron, Everett S. (See Cameron, Forrest F. and E. S.)						
Cameron, Forrest F. and E. S., Brockton, Mass. Transmission-gearing for motor-vehicles	841,373	Jan. 15	3190	687	126	900
Cammett, Ira A. (See Fellows and Cammett.)						
Campbell, Eleanor A., Hollywood, Cal. Collapsible wall-shelf	841,484	Jan. 15	3401	734	126	954
Campbell, John A., Bower Mills, Mo. Bag-holder	841,621	Jan. 15	3060	794	126	1021
Carlson, Carl A., Underwood, N. D. Flour-sifter	841,310	Jan. 15	3067	664	126	867
Carlson, Charles F., La Grande, Oreg. Ironing-table	841,120	Jan. 15	2893	588	126	773
Cassal, Arthur V., Rochester, N. Y. Dust-pan	841,622	Jan. 15	3062	794	126	1021
Castle, Harry F., Utica, N. Y. Wheel-runner for sleds	841,623	Jan. 15	3063	794	126	1022
Caughell, Robert N., Colony Center, Cal. Bicycle-lock	841,624	Jan. 15	3065	795	126	1022
Cavanagh, John F., assignor to United States Rubber Co. of New Jersey, Providence, R. I. Machine for preparing rubber shoes	841,121	Jan. 15	2895	589–90	126	774
Chamberlin, Willis A. (See Pitner, Henry B., assignor.)						
Chapman, Charles H., Winchester, Mass. Spinning-spindle and bearings therefor	841,485	Jan. 15	3403	734	126	955
Chapman, Lee J., Columbus, Ohio. Cuspidor-carrier	841,225	Jan. 15	2887	628	126	822
Chapman, William B., Wilburton, Ind. Ter. Mining-machine	841,625	Jan. 15	3065	795	126	1022
Chappel, James M., Dallas, Tex. Electric time-switch	841,226	Jan. 15	2890	628	126	822
Chartener, Victor (See Norton and Chartener.)						
Chartener, Victor. (See Shaw and Chartener.)						
Chellis, William H., Milwaukee, Wis. Spring-helix	841,227	Jan. 15	2892	629	126	823
Chemische Fabrik Griesheim Electron (See Suchy, Robert, assignor.)						
Christensen, Niels A., Milwaukee, Wis. Lubricating-bearing	841,122	Jan. 15	2703	590	126	776
Christian, Frederick, and E. H. Reed, assignor of one-third to G. C. Christopher, Wichita, Kans. Block-molding machine	841,228	Jan. 15	2893	629	126	824
Christopher, George C. (See Christian and Reed, assignors.)						
Clark, William H., Sumpter, Oreg. Plate-lifter	841,626	Jan. 15	3067	795	126	1023
Cloud, Newton H., Jr., Wilmington, Del. Rule	841,627	Jan. 15	3068	796	126	1023
Coburn Trolley Track Co. (See Sumner, William J., assignor.)						
Collins, Carl H., Sacred Heart, Minn. Railway-tie	841,628	Jan. 15	3071	796	126	1023
Conlin, Thomas, Mount Savage, Md. Engine	841,229	Jan. 15	2896	630	126	825
Conrader, Rudolph, and A. J. Gillespie, Erie, Pa.; said Gillespie assignor to said Conrader. Steam-loop	841,311	Jan. 15	3068	664	126	867
Conradson, Conrad M., assignor to V. E. Prentice, New York, N. Y. Bottle-stopper fastener	841,629	Jan. 15	3071	797	126	1023
Contractors' Plant Manufacturing Company. (See Tredo, George L., assignor.)						
Contractors Wagon Company. (See MacClernan, Richard H., assignor.)						
Cook, William F., Des Moines, Iowa. Self-cleaning ditching-shovel	841,374	Jan. 15	3191	687–8	126	900
Cook, William F., Des Moines, Iowa. Self-cleaning ditching-shovel	841,375	Jan. 15	3194	688–9	126	901
Cope, Joseph H., Windsor, Colo. Hay-stacker	841,376	Jan. 15	3198	689–90	126	902
Corbett, William H., Portland, Oreg. Friction-clutch	841,230	Jan. 15	2901	630	126	825
Corey, Fred B., Schenectady, N. Y., assignor to General Electric Company. Air-brake system	841,231	Jan. 15	2902	631	126	826
Cornell, Alton and W. J. Swartz, Detroit, Mich. Cooling explosive-engines	841,212	Jan. 15	3070	665	126	868
Corporation of Chemical Works formerly Sandoz. (See Böniger, Melchior, assignor.)						
Corum, William F., Alexandria, Minn. Bag-tie	841,630	Jan. 15	3072	797	126	1024
Costello, Charles M. A., and F. H. Hart, assignors to C. Cowles & Co., New Haven, Conn. Electric signal for speaking-tubes	841,377	Jan. 15	3201	690	126	903
Cover, John W., Tacoma, Wash. Pencil-sharpener	841,631	Jan. 15	3073	797	126	1024
Cowen, Henry K., Chicago, Ill., assignor to International Harvester Company. Gas-producer	841,123	Jan. 15	2705	591	126	777

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Cox, Harry W. (See Kennedy-McGregor and Wren, assignors.)						
Cramer, Herbert H., Aspen, Colo. Lubricator	841,632	Jan. 15	3675	797	126	1024
Crocker-Wheeler Company. (See Pitler, Armin H., assignor.)						
Crosby, Alfred D., assignor to P. J. Cummings Company, Attleboro, Mass. Extensible bracelet	841,633	Jan. 15	3677	798	126	1025
Crosby Steam Gage and Valve Company. (See Wolfe, Frank L., assignor.)						
Crouch, Frank J., assignor to J. Hoey, San Francisco, Cal. Mattress-wire-bending machine	841,634	Jan. 15	3679	798	126	1025
Cruver, Curtis L., Chicago, Ill. Inclosed paper-weight	841,124	Jan. 15	2706	591	126	777
Curtis, Arthur R., Golden, Colo. Sliding-door construction	841,378	Jan. 15	3202	690	126	903
Dalley, William M., Chauncey, Ohio. Foot-propelled vehicle	841,635	Jan. 15	3680	798–9	126	1026
Dake, Charles W., Grand Rapids, Mich. Elastic-fluid turbine	841,486	Jan. 15	3407	734–5	126	956
Dalton, William, Schenectady, N. Y., assignor to American Locomotive Company, New York, N. Y. Cushioning appliance for locomotives	841,379	Jan. 15	3205	691	126	904
Dalton, William, Schenectady, N. Y., assignor to American Locomotive Company, New York, N. Y. Locomotive-truck	841,380	Jan. 15	3206	691	126	904
Dana, William F., and H. W. Knott, New York, N. Y. Electric rheostat	841,232	Jan. 15	2904	631	126	826
Dankel, William J., Pittsburg, Kans. Automatic air-brake for cars	841,636	Jan. 15	3682	799	126	1026
Dawson, Arthur T., and G. T. Buckham, London, assignors to Vickers Sons & Maxim Limited, Westminster, England. Breech-loading ordnance	841,637	Jan. 15	3684	799–800	126	1027
Dawson, George and W. A., Kingston-upon-Hull, England. Ratchet-brace	841,638	Jan. 15	3686	800	126	1027
Dawson, George and W. A., Kingston-upon-Hull, England. Drilling-machine	841,639	Jan. 15	3687	800	126	1027
Dawson, James C., St. Louis, Mo., assignor to Sieber & Trussell Mfg. Co. Loose-leaf binder	841,125	Jan. 15	2707	592	126	777
Dawson, William A. (See Dawson, George and W. A.)						
Day, Charles B., East Orange, N. J. Flushing apparatus	841,487	Jan. 15	3414	736	126	960
Day, H. J. (See Stewart, William S., assignor.)						
De Forest, Lee, New York, N. Y. Wireless telegraphy	841,386	Jan. 15	3215	693–4	126	906
De Forest, Lee, New York, N. Y. Device for amplifying feeble electrical currents	841,387	Jan. 15	3220	694	126	908
De Reamer, Frank C., Schenectady, N. Y., assignor to General Electric Company. Rotary switch	841,234	Jan. 15	2909	632	126	827
Dean Electric Company. (See Dean, William W., assignor.)						
Dean, William W., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone system	841,233	Jan. 15	2905	631	126	827
Dean, William W., assignor to Dean Electric Company, Elyria, Ohio. Harmonic selective signaling	841,640	Jan. 15	3689	800–1	126	1028
Deckebach, Henry E., Cincinnati, Ohio. Cooling wort	841,126	Jan. 15	2708	592	126	778
Degen, Julius, Trenton, N. J. Balancing centrifugal pumps	841,642	Jan. 15	3694	803	126	1029
Degen, Julius, Trenton, N. J. Centrifugal pump	841,643	Jan. 15	3695	803–4	126	1029
Degen, Julius, assignor, by mesne assignments, to Lea-Degen Pump Company, Trenton, N. J. Means for balancing centrifugal pumps	841,641	Jan. 15	3692	801–3	126	1028
Dennison, Robert L., Kansas City, Mo. Machine for making fence-posts	841,644	Jan. 15	3697	804–5	126	1030
Devoll, George, Boston, Mass. Stocking-supporting clasp	841,127	Jan. 15	2709	592	126	778
Dewey, Charles A., Rockwell City, Iowa. Seed-corn rack and germinator	841,128	Jan. 15	2710	592	126	778
Direct-Line General Telephone Company. (See Andriano, Albert K., assignor.)						
Dixon, Robert M., East Orange, N. J., assignor to Safety Car Heating & Lighting Company, New York, N. Y. Steam-trap	841,129	Jan. 15	2712	593	126	778
Doidge, William C., Lodi, Cal. Garden implement	841,488	Jan. 15	3419	736	126	961
Dollinger, Charles, assignor of one-half to B. Göllner, Besztercze-Banya, Comitat Zólyom, Austria-Hungary. Spring-wheel	841,130	Jan. 15	2716	593	126	780
Dörken, Georg H., Gevelsberg, Germany. Bracket	841,131	Jan. 15	2718	593	126	780
Downey, Wallace, Brooklyn, N. Y. Steam-boiler	841,235	Jan. 15	2910	632	126	827
Downs, John H., New York, N. Y. Driven metallic ground-post	841,645	Jan. 15	3702	805	126	1031
Drake, Julian F., Tracy, assignor of one-half to J. Kemna, Ghent, Minn. Detachable boiler-flue	841,381	Jan. 15	3208	692	126	905
Drane, Frank N., Corsicana, Tex. Pole-splicing device	841,489	Jan. 15	3420	736	126	962
Drees, William J., Covington, Ky. Draft-rigging for vehicles	841,132	Jan. 15	2718	593	126	780
Du Brul, Napoleon, Cincinnati, Ohio. Tobacco-cutter	841,236	Jan. 15	2911	632–3	126	828
Du Montier, Alfred, Washington, D. C., assignor to American Loktile Company, Alexandria, Va. Ornamental metal plate	841,490	Jan. 15	3421	737	126	962
Duchanois, C. F., *et al.* (See Struthers, Joshua A., assignor.)						
Dudley, John S., Marion, Ohio. Book-holder	841,237	Jan. 15	2914	633–4	126	829
Duffy, Peter, New York, N. Y. Piano	841,238	Jan. 15	2916	634	126	829
Duncan, William M., Alton, Ill. Coal-washer	841,382	Jan. 15	3209	692	126	905
Dunott, Charles B., assignor to Auto Manual Piano Action Company, Philadelphia, Pa. Automatic playing mechanism for musical instruments	841,383	Jan. 15	3211	692–3	126	905
Dwiggins Wire Fence Company. (See Swank, Lafe, assignor.)						
Edwards, Fred, Jefferson, Iowa. Telephone	841,491	Jan. 15	3423	737	126	962
Elgen, Benno vom, Newark, N. J., assignor to Aug. Goertz & Co. Corner-fixture for bag-frames	841,313	Jan. 15	3071	665	126	868
Elser, M. W. (See O'Donnell, Joseph W., assignor.)						
Electric and Ordnance Accessories Company. (See Rivers, Edward G., assignor.)						
Elektrizitäts-Aktiengesellschaft- vormals Schuckert & Co. (See Schmidt, Ludwig, assignor.)						
England, Emmett E., Denver, Colo. Tuning device for stringed instruments	841,384	Jan. 15	3212	693	126	906
Enrico, Giovanni, assignor to F. I. A. T. Fabbrica Italiana Automobili Torino, Turin, Italy. Apparatus for supplying water or other liquids to brakes	841,314	Jan. 15	3074	665	126	869
Entwisle, Ernest J., Barnsley, England. Mechanism for changing shuttles in looms	841,492	Jan. 15	3424	737–8	126	962
Ersen, Johan. (See Nacht, Salomon, and Ersen.)						
Everett, Robert L., Scottsbluff, Nebr. Ditching-machine	841,315	Jan 15	3075	665	126	870
Exler, George W. (See Hellstrom and Exler.)						
F. I. A. T. Fabbrica Italiana Automobili Torino. (See Enrico, Giovanni, assignor.)						
Fairbank, Willie J., Soldier, Kans. Door or gate fastener	841,493	Jan. 15	3426	739	126	963
Fairleigh, George D., Chicago, Ill. Collapsible core-barrel	841,494	Jan. 15	3428	739	126	964
Farbewerke vorm. Meister, Lucius & Brüning. (See Schmidlin, Robert, assignor.)						
Fargo, William G., Jackson, Mich. Penstock	841,495	Jan. 15	3431	740	126	964
Fargo, William G., Jackson, Mich. Penstock	841,496	Jan 15	3435	740	126	966
Farrell, Henry C., Buffalo, N. Y. Valve	841,133	Jan. 15	2720	594	126	781
Fellows, Hugh W., Cahuenga, and I. A. Cammett, Hollywood, Cal. Automatic trolley-base	841,497	Jan. 15	3437	740–1	126	966
Ferguson, Jesse, Hoytsville, Ohio. Milk-bucket	841,134	Jan. 15	2721	594	126	781
Finch, Leslie G., Brantford, Ontario, Canada. Automatic disappearing chair	841,135	Jan. 15	2721	594	126	781
Fisher, George F., North Tonawanda, N. Y. Mold and die for making building-blocks	841,136	Jan. 15	2724	595	126	782
Fisher, George F., North Tonawanda, N. Y. Block lifting and carrying apparatus	841,137	Jan. 15	2726	595	126	782
Fister, Ignatius V., Stoneham, Mass. Curtain-fastening	841,316	Jan. 15	3076	666	126	870
Fitzsimmons, James C., San Francisco, Cal. Protected grate-bar	841,498	Jan. 15	3440	741	126	967
Flanders, Elverton P. (See Stevens and Flanders.)						
Fleischer, Emil, Dresden-Strehlen, assignor to J. E. Goldschmid, Frankfort-on-the-Main, Germany. Manufacturing power-gas	841,499	Jan. 15	3441	741	126	967

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Flicek, Edward E. (See Buergermeister and Flicek.)						
Flowers, Henry F. (See Flowers, John D., and H. F.)						
Flowers, John D., and H. F. Adairville, Ky. Tobacco-plant-bed burner	841,317	Jan. 15	3077	666	126	870
Flynn, John E., Medix Run, Pa. Car-stake	841,500	Jan. 15	3442	741	126	967
Flynn, Thomas H. (See Hellstrom and Exler, assignors.)						
Fordyce, John R., Little Rock, Ark. Ginning cotton	841,285	Jan. 15	3213	693	126	906
Foster, Spottswood C., Fredericksburg, Va. Governor	841,318	Jan. 15	3079	666	126	870
Fouts, Edward R., Greenville, Ohio. Motor-vehicle	841,280	Jan. 15	2918	635	126	830
Fuchs, Edward J., Scranton, Pa. Making fertilizer from leather scrap	841,201	Jan. 15	3443		126	968
Fulwiler, John W., Fair Play, Mo. Folding crate	841,319	Jan. 15	3060	666-7	126	871
Fyrberg, Andrew, Hopkinton, Mass. Shell-expelling mechanism for firearms	841,240	Jan. 15	2920	635	126	830
Gale, William L., assignor of one-half to W. J. Imorde, Louisville, Ky. Cake-tin support	841,502	Jan. 15	3444	742	126	968
Gapp, John, Scranton, Pa. Pipe-expanding tool	841,286	Jan. 15	3222	694-5	126	908
Garman, Raymond H., Chicago, Ill. Booklet or folder	841,241	Jan. 15	2921	635	126	830
Gault, John H., Philadelphia, Pa. Insulating handle connection	841,196	Jan. 15	2728	595	126	792
Gehret Brothers. (See Stricker, Charles J., assignor.)						
Gelpke, Victor, Lucerne, Switzerland, and P. Kugel, Düsseldorf, Germany. Attachment of blades for turbines	841,308	Jan. 15	3446	742	126	968
General Electric Company. (See Alexanderson, Ernst F. W., assignor.)						
General Electric Company. (See Andrews, William S., assignor.)						
General Electric Company. (See Callan, John G., assignor.)						
General Electric Company. (See Corey, Fred B., assignor.)						
General Electric Company. (See De Reamer, Frank C., assignor.)						
General Electric Company. (See Junggren, Oscar, assignor.)						
General Electric Company. (See Keller, Huldreich, assignor.)						
General Electric Company. (See Latour, Marius C. A., assignor.)						
General Electric Company. (See Little, Clarence E., assignor.)						
General Electric Company. (See Potter, William B., assignor.)						
General Storage Battery Company. (See Bijur, Joseph, assignor.)						
Georgenson, George, and J. E. Hennen, Fond du Lac, Wis. Contractible mold	841,504	Jan. 15	3448	742	126	968
Georgi, Friedrich M., Chicago, Ill. Vehicle-tire	841,505	Jan. 15	3449	742	126	968
Gibson, Arthur H., Easton, Pa., assignor to Ingersoll-Sergeant Drill Company, New York, N. Y. Rock-drill	841,139	Jan. 15	2730	596	126	783
Gibson, Arthur H., Easton, Pa., assignor to Ingersoll-Sergeant Drill Company, New York, N. Y. Pressor	841,140	Jan. 15	2731	596	126	784
Gibson, Arthur H., Easton, Pa., assignor to Ingersoll-Sergeant Drill Company, New York, N. Y. Pressor	841,141	Jan. 15	2733	597	126	785
Gibson, Lorenzo P., Little Rock, Ark. Artificial bait	841,306	Jan. 15	3450	743	126	969
Gibson, Napoleon B. (See Redman, Charles W., assignor.)						
Gillespie, Andrew J. (See Conrader and Gillespie.)						
Gillin, Margaret. (See Gramlich, Henry, assignor.)						
Glascock, Alfred E., Washington, D. C., assignor, by mesne assignments, to Industrial Transportation Company. Traction-wheel	841,507	Jan. 15	3450	743	126	969
Glover, Charles A., New York, N. Y. Oil-shell	841,508	Jan. 15	3453	743	126	970
Goff, Frank C., Denver, Colo. Steam-heating system	841,289	Jan. 15	3224	695	126	909
Goldschmid, Jakob E. (See Fleischer, Emil, assignor.)						
Goldsmith, Byron B., New York, N. Y. Composition of matter	841,509	Jan. 15	3454		126	970
Göllner, Béla. (See Dollinger, Charles, assignor.)						
Gordon, George. (See Baker, George A., assignor.)						
Graham B. W., *et al.* (See Akins, Charles J., assignor.)						
Graham, Daniel C., Pulaski, Va. Railway-tie	841,242	Jan. 15	2923	636	126	831
Graham, Frank. (See Morris, Earl H., assignor.)						
Gramlich, Henry, New York, assignor to himself, and M. Gillin, Brooklyn, N. Y. Moistening device for printing-machines	841,142	Jan. 15	2735	597	126	785
Graves, David E., Oberlin, Ohio. Dumping-bed for wagons	841,143	Jan. 15	2737	598	126	786
Greaves, Joseph, Radersburg, Mont. Propelling device for steam vessels	841,243	Jan. 15	2925	636	126	831
Green, Lockridge L. (See Green, Washington S., assignor.)						
Green, Washington S., assignor of one-half to L. L. Green, St. Louis, Mo. Belt-stretcher	841,510	Jan. 15	3456	744	126	971
Griffin, Jennie L., *et al.* (See Scott, William A., assignor.)						
Grigsby, William W., Lawhon, La. Listening apparatus for telephones	841,244	Jan. 15	2926	636-7	126	832
Grosse, Friedrich A., Bischofswerda, Germany. Apparatus for manufacturing hollow glassware						
Gullickson, Andrew, Gatzke, Minn. Plow	841,511	Jan. 15	3457	744	126	971
Gunning, Frank S., The Dalles, Oreg. Combined harrow-tooth and weeder	841,290	Jan. 15	3226	695	126	909
Gurney, Caleb S., Portsmouth, N. H. Umbrella	841,512	Jan. 15	3458	744	126	971
Gustavus, Ernst R., Oshkosh, Wis. Steam-boiler	841,245	Jan. 15	2928	637	126	832
Hall, George B., Rochester, N. Y. Desk companion	841,513	Jan. 15	3459	745	126	971
Hall, William F. (See Stinson and Hall.)						
Halligan, Thomas, Salt Lake City, Utah. Trousers	841,291	Jan. 15	3227	696	126	909
Hamilton, Alle S., Los Angeles, Cal. Cut-out valve for mufflers	841,514	Jan. 15	3461	745	126	972
Hammond, Robert A. (See Kast, Jacob, assignor.)	841,202	Jan. 15	3230	696	126	910
Hancock, John I., Lestershire, N. Y. Block-molding machine						
Hanlon, John H., Somerville, Mass. Track-sanding device	841,515	Jan. 15	3461	745-6	126	972
Hansen, John M., assignor to Pressed Steel Car Company, Pittsburg, Pa. Underframe for box-cars	841,144	Jan. 15	2739	598	126	786
Harmon, James E. (See Aiken and Harmon.)	841,145	Jan. 15	2742	598-9	126	787
Harreld, Benjamin E., Eldon, Iowa. Sawing-machine						
Harris, Albert M., South Bend, Ind. Spark-arrester	841,516	Jan. 15	3465	746-7	126	973
Harris, Gilbert J., Athol, Mass. Chisel	841,292	Jan. 15	3231	696	126	910
Hart, Frank H. (See Costello and Hart.)	841,517	Jan. 15	3467	747	126	973
Hart, James, Washington, Pa. Tire-repairing apparatus						
Hartman, Elisha M., South Bend, Ind. Wing-operating mechanism	841,518	Jan. 15	3468	748	126	974
Hartnett, John L., Fabius, N. Y. Wagon-rack	841,204	Jan. 15	3232	697	126	910
Harvey, George H. (See Speer and Harvey.)	841,206	Jan. 15	2930	637	126	833
Hasbrouck, Sayer, Providence, R. I. Pneumatic massage apparatus						
Hasenpflug, Ezra W., Geneva, Ohio. Door-stop	841,146	Jan. 15	2741	569-600	126	787
Hatschek, Ludwig, Vöcklabruck, Austria-Hungary. Imitation-stone plates, slabs, or tiles. (Reissue)	841,147	Jan. 15	2748	600	126	788
Haycock, George W. (See Brown and Haycock.)	12,894	Jan. 15	3719	808	126	1035
Hebert, Albert H., Holyoke, Mass. Acetylene-gas generator	841,148	Jan. 15	2750	601	126	788
Hellstrom, John A., Pittsburg, and C. W. Exler, Allegheny, assignors of one-third to T. H. Flynn, Pittsburg, Pa. Cutting and tapering machine	841,846	Jan. 15	3705	805-6	126	1032
Hennen, Joseph E. (See G[illegible] and Hennen.)						
Hepner, Rufus B., New York, N. Y. Water-closet seat	841,519	Jan. 15	3470	748	126	974
Herhold, Frederick H. (See [illegible] assignor.)						
Hérisson, Albert, Nimes, France. [illegible] clutch	841,220	Jan. 15	3471	748-9	126	974
Hewitt, Edward R., New York, N. Y. [illegible] and Tip for explosion-engines	841,205	Jan. 15	3233	697	126	911
Heylyn, Edward, Manchester, Eng. [illegible]	841,547	Jan. 15	3708	806	126	1033
Hicks, George C., Jr., Connersville, Ind. Gas-engine starter	841,149	Jan. 15	2754	601	126	789
Higginson, George, London, England. Manufacture of aerated water	841,247	Jan. 15	2931	638	126	833

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Hill, James H., Rochester, N. Y. Lantern	841,648	Jan. 15	3709	806-7	126	1033
Hill, John E., Center Harbor, N. H., assignor to J. E. Hill Company, Boston, Mass. Egg-beater	841,320	Jan. 15	3081	667	126	871
Hill, John P., assignor of one-half to W. A. White, Phelps, N. Y. Pipe-jaw attachment to wrenches	841,248	Jan. 15	2933	638	126	833
Hoak, John A., Sedalia, Mo. Governor	841,521	Jan. 15	3473	749	126	975
Hoberg, Frank H., and D. W. Hudson, Green Bay, Wis. Hydraulic press	841,150	Jan. 15	2757	602	126	790
Hodges, Clarence B., Detroit, Mich. Force-feed lubricator	841,249	Jan. 15	2934	639	126	834
Hodges, Frederick W., Detroit, Mich. Force-feed lubricator	841,250	Jan. 15	2936	639	126	835
Hoefer, Frederick W., assignor to Hoefer Manufacturing Company, Freeport, Ill. Machine for threading pipes	841,396	Jan. 15	3235	607-8	126	911
Hoefer Manufacturing Company. (See Hoefer, Frederick W., assignor.)						
Hoey, John. (See Crouch, Frank J., assignor.)						
Hoffmann, Otto, Berlin, Germany. Trolley-head	841,397	Jan. 15	3237	698	126	911
Hollar, William H., Philadelphia, Pa. Vault	841,398	Jan. 15	3238	698	126	912
Holmgren, Carl G. F., and A. R. Brahm, assignors to Aktiebolaget L. M. Ericsson & Co., Stockholm, Sweden. Compound telephone	841,399	Jan. 15	3240	699	126	912
Holtschneider, Leo, Jefferson City, Mo. Gas-burner and automatic cut-off therefor	841,400	Jan. 15	3241	699	126	912
Hoops, Emmett, South Bend, Wash. Sawmill track-sweeper	841,522	Jan. 15	3474	749	126	975
Hoover, Joseph H. (See Imler, Joseph, assignor.)						
Hope, Phillip J., Everett, Mass. Distilling apparatus	841,401	Jan. 15	3242	699	126	913
Hornsby, Charley C., Krum, assignor of one-half to R. F. Bell, Fort Worth, Tex. Brazing	841,151	Jan. 15	2758		126	791
Houghton, Paul B., Carpenter, S. D. Exhaust-nozzle	841,402	Jan. 15	3243	699	126	913
Houghton, William, Bath, Me. Cot or hammock hook and beam-socket	841,251	Jan. 15	2938	639	126	835
Howard, George E., assignor to Howard Label Company, Washington, D. C. Label	841,321	Jan. 15	3083	667	126	872
Howard Label Company. (See Howard, George E., assignor.)						
Howe, Ralph W., and E. J. Ornold, Wheeling, W. Va. Water-motor	841,649	Jan. 15	3710	807	126	1033
Howell, Jordan M., Jr., assignor of one-half to A. L. Walker, Dallas, Tex. Car-coupling	841,523	Jan. 15	3475	749-50	126	975
Hoxie, Edmund, Everett, Mass. Throttle-valve	841,322	Jan. 15	3084	667	126	872
Hoyt, Charles M., and M. J. McNulty, Atoka, Ind. Ter. Cattle-guard	841,524	Jan. 15	3476	750	126	975
Hudson, David W. (See Hoberg and Hudson.)						
Huffman, David A., Paris, Ill. Order-file	841,525	Jan. 15	3477	750	126	976
Humphrey, Alfred H., New York, N. Y. Gas-lamp	841,323	Jan. 15	3085	668	126	872
Hunt, Bertram, San Francisco, Cal. Filtering apparatus	841,526	Jan. 15	3478	751	126	976
Imler, Joseph, Fort Wayne, assignor to J. H. Hoover, Garrett, Ind. Piston	841,527	Jan. 15	3480	751	126	977
Imorde, William J. (See Gale, William L., assignor.)						
Industrial Transportation Company. (See Glascock, Alfred E., assignor.)						
Industrial Transportation Company. (See Schroeder, George G., assignor.)						
Ingersoll-Sergeant Drill Company. (See Gibson, Arthur H., assignor.)						
International Harvester Company. (See Atkinson, Cyril J., assignor.)						
International Harvester Company. (See Cowen, Henry K., assignor.)						
Israel, Homer W., and R. S. Kirk, assignors to Alliance Machine Company, Alliance, Ohio. Tongs	841,528	Jan. 15	3482	751-2	126	977
Iungerich, Calvin L., assignor of two-thirds to W. S. and S. O. Reel, Harrisburg, Pa. Automatic stop-signal system	841,403	Jan. 15	3244	700	126	913
J. A. Kelly & Bros. (See Kelly, William J., assignor.)						
J. E. Hill Company. (See Hill, John E., assignor.)						
Jackson, Isaac, Glossop, England. Belt-fastener	841,252	Jan. 15	2940	640	126	836
Jackson, John F., Higginsville, Mo. Extension-table	841,529	Jan. 15	3483	752	126	977
Jay, William N., Moscow, Idaho. Derrick for loading wagons	841,404	Jan. 15	3249	700	126	915
Jeffs, William H., *et al.* (See Roberts, Leonard C., assignor.)						
Jelley, George A., Pittsburg, Pa. Noodle-cutter	841,152	Jan. 15	2759	602	126	791
Jewell, Nellie L., Buffalo, N. Y. Cabinet-table	841,405	Jan. 15	3251	701	126	916
Johnson, Eleazer. (See Mower and Johnson.)						
Johnson, Thomas J., Italy, Tex. Plow	841,530	Jan. 15	3484	752	126	978
Jones, Quince R., Yosemite, Ky. Insect-trap	841,531	Jan. 15	3485	752	126	978
Jones, Ralph H., assignor to J. F. Burke, Pittsburg, Pa. Corner-post construction for show-windows	841,324	Jan. 15	3089	668	126	874
Jones, Thomas E., Guinea, Va. Fence-post	841,532	Jan. 15	3487	753	126	978
Jordan, Herbert R. (See Tetlow, Joseph, assignor.)						
Junggren, Oscar, Schenectady, N. Y., assignor to General Electric Company. Means for decreasing leakage in turbines	841,253	Jan. 15	2941	640	126	836
Junggren, Oscar, Schenectady, N. Y., assignor to General Electric Company. Elastic-fluid turbine	841,254	Jan. 15	2944	640-1	126	836
Junggren, Oscar, Schenectady, N. Y., assignor to General Electric Company. Means for decreasing leakage in turbines	841,650	Jan. 15	3712	807	126	1034
Just, John A., Pulaski, N. Y. Apparatus for desiccating milk	841,153	Jan. 15	2760	603	126	791
Kast, Jacob, East Boston, assignor to R. A. Hammond, Sandwich, Mass. Flat wire belt or rope	841,154	Jan. 15	2761	603	126	791
Kaufman, Carl E., Rosedale, Kans. Dump-wagon	841,406	Jan. 15	3252	701	126	916
Kawasaki, Yasuke, Vancouver, British Columbia, Canada. Biscuit forming and baking device	841,533	Jan. 15	3488	753	126	979
Keck, Fred L., *et al.* (See Ryan, James A., assignor.)						
Keeler, George W., South Frankfort, Mich. Root-cutter	841,534	Jan. 15	3490	753	126	979
Keller, Huldreich, Berlin, Germany, assignor to General Electric Company. Wheel for turbines	841,255	Jan. 15	2949	631	126	838
Kelley, John M., Rochester, N. Y. Display device	841,535	Jan. 15	3491	753-4	126	979
Kelley, John M., Rochester, N. Y. Display-receptacle	841,536	Jan. 15	3493	754	126	980
Kellogg Switchboard and Supply Company. (See Dean, William W., assignor.)						
Kellogg Switchboard & Supply Company. (See Post, Howard M., assignor.)						
Kellogg Switchboard & Supply Company. (See Weiss, Alfred H., assignor.)						
Kellogg, William M., Pittsfield, Mass., assignor to Yankee Novelty Company. Scissors-sharpener	841,537	Jan. 15	3494			
Kelly, John H., San Francisco, Cal. Running-gear for cars	841,266	Jan. 15	2950			
Kelly, Orin, Oreton, Ohio. Tire-protector	841,153	Jan. 15	2762			
Kelly, William J., assignor to J. A. Kelly & Bros., Clinton, Iowa. Chair	841,538	Jan. 15	3495			
Kemna, Joseph. (See Drake, Julian F., assignor.)						
Kennedy-McGregor, John A., Birmingham, and H. Wren, Bexhill, assignors to H. W. Cox, Nottingham, England. Electrical switch	841,407	Jan. 15				
Kimsey, James C., assignor to American Paper Bottle Company, Philadelphia, Pa. Blank for paper tubes	841,539	Jan. 15				
King, William H., Newark, N. J., assignor to Simplex Cutting Machine Co. Cloth-cutting machine	841,325	Jan.				
Kirk, Raphael S. (See Israel and Kirk.)	841,[illegible]	Ja				
Klein, Bela, New York, N. Y. Car for protecting the feet of passengers	841,[illegible]					
Klein, Emanuel, New York, N. Y. Printing-ink and making same						
Knothe Brothers. (See Knothe, Frank F., assignor.)						
Knothe, Frank F., Ridgewood, N. J., assignor to Knothe Brothers, New York, N. Y. [illegible] Belt	841,[illegible]					

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Knott, Henderson W. (See Dana and Knott.)						
Knutsen, Carl E., New York, assignor of one-half to O. M. Knutsen, Brooklyn, N. Y. Machine for shaping wrought-iron	841,226	Jan. 15	3096	669	126	876
Knutsen, Carl E. and O. M., New York, N. Y. Iron-shaping machine	841,227	Jan. 15	3096	670	126	877
Knutsen, Ole M. (See Knutsen, Carl E., assignor.)						
Knutsen, Ole M. (See Knutsen, Carl E. and O. M.)						
Koops, Wilhelm, and H. Reimers, Hamburg, Germany. Device for facilitating the teaching of fractions	841,158	Jan. 15	2767	604	126	703
Kraatz, Roderick, Carbondale, Ill. Forge	841,159	Jan. 15	2768	604	126	703
Kramer, Allington H., Monte Vista, Colo. Grinding device	841,541	Jan. 15	3499	755	126	961
Kreitzburg, John W., Allegany, Md. Nut-lock	841,542	Jan. 15	3500	756	126	961
Kruse, Carl and E. J., Seattle, Wash. Bread kneading and molding machine	841,408	Jan. 15	3257	702	126	917
Kruse, Ernst J. (See Kruse, Carl and E. J.)						
Kugel, Paul. (See Gelpke and Kugel.)						
Ladd Metals Company. (See Adams and Powell, assignors.)						
Lake, Simon, Bridgeport, Conn. Optical instrument	841,409	Jan. 15	3259	703	126	918
Lander, Wintworth V., Newton, Mass. Ore chlorination	841,328	Jan. 15	3100	670	126	877
Lander, Wintworth V., Newton, Mass. Chlorinating apparatus	841,329	Jan. 15	3102	671	126	878
Lander, Wintworth V., Newton, Mass. Ore-cyaniding	841,330	Jan. 15	3105	671	126	878
Lander, Wintworth V., Newton, Mass. Cyaniding apparatus	841,331	Jan. 15	3106	671	126	879
Landfair, John M. (See Miller and Landfair.)						
Lane, William T., Fostoria, Ohio. Guard or fender for cars	841,651	Jan. 15	3715	808	126	1034
Latour, Marius C. A., Paris, France, assignor to General Electric Company. Control of alternating-current motors	841,257	Jan. 15	2961	641	126	838
Latour, Marius C. A., Paris, France, assignor to General Electric Company. Dynamo-electric machine	841,543	Jan. 15	3501	756	126	961
Latour, Marius C. A., Paris, France, assignor to General Electric Company. Alternating-current motor	841,544	Jan. 15	3503	756	126	962
Latour, Marius C. A., Paris, France, assignor to General Electric Company. Dynamo-electric machine	841,545	Jan. 15	3505	757	126	963
Laubscher, Alexander, assignor to Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Ruffling mechanism for sewing-machines	841,546	Jan. 15	3508	757–8	126	963
Laurent, John W., Spokane, Wash. Current-motor	841,547	Jan. 15	3512	758–9	126	964
Lea-Degen Pump Company. (See Degen, Julius, assignor.)						
Ledbetter, Rufus C., Aspermont, Tex. Carriage-bow support	841,548	Jan. 15	3514	759	126	965
Lefranc, Louis, Lausanne, Switzerland. Manufacture of artificial stone in imitation of marble or granite and the like	841,160	Jan. 15	2770		126	794
Legg, Roland H., Carthage, Mo. Wrench	841,549	Jan. 15	3515	760	126	965
Lehnert, Carl, Marxloh, Germany. Scraper for metal-working	841,332	Jan. 15	3103	671	126	879
Leonard, John J., Springfield, Mass. Metallic hook	841,550	Jan. 15	3516	760	126	965
Lewis, Wilfred, Philadelphia, Pa. Counterbalance	841,161	Jan. 15	2771	604–5	126	794
Lewis, Wilfred, assignor to Tabor Manufacturing Company, Philadelphia, Pa. Lubricator for pneumatic engines	841,162	Jan. 15	2774	606	126	794
Little, Clarence E., Lynn, Mass., assignor to General Electric Company. Means for securing buckets in turbines	841,258	Jan. 15	2954	462	126	838
Livengood, Robert J., Harvel, Ill. Concrete base for fence-posts	841,163	Jan. 15	2775	606	126	795
Lockwood, Charles A., New York, N. Y. Rotary water-meter	841,410	Jan. 15	2263	704	126	919
Loew, Charles H., Lakewood, Ohio. Filtering element	841,682	Jan. 15	3716	808	126	1035
Loomis, Edgar J., Cambridge, N. Y. Display-cabinet	841,551	Jan. 15	3517	760	126	965
Loomis, George D., Tiffin, Ohio. Well-drilling apparatus	841,209	Jan. 15	2956	642	126	839
Lord, Harold E., Dukinfield, England. Axle-box	841,552	Jan. 15	3519	760–61	126	965
Lundell, Robert, New York, N. Y. Alternating-current motor. (Reissue)	12,595	Jan. 15	2722	809	126	1036
Lyman, Dwight G., Omaha, Nebr. Carrier	841,260	Jan. 15	2959	643	126	840
Lynch, Daniel, assignor of one-half to F. H. Herhold, Chicago, Ill. Number-transparency for vehicles	841,553	Jan. 15	3520	761	126	966
MacClernan, Richard H., West Philadelphia, assignor to Contractors Wagon Company, Philadelphia, Pa. Dump-wagon	841,411	Jan. 15	2265	704	126	919
Madden, Patrick J., Chicago, Ill. Hinge	841,333	Jan. 15	3108	672	126	879
Mahon, Aurelius W., Richmond, Va. Combined turn-designating apparatus and coin-counter	841,554	Jan. 15	3521	761	126	966
Makin, Peter, Sparrows Point, Md. Pencil-sharpener	841,555	Jan. 15	3522	761	126	967
Mallon, James, New Orleans, La. Horse-power	841,412	Jan. 15	2267	704	126	920
Maltby, George B., Cleveland, Ohio, assignor, by mesne assignments, to National Dump Car Company. Dump-car. (Reissue)	12,596	Jan. 15	2725	809	126	1036
Mancha, Raymond, assignor to Mancha Show Case Company, Detroit, Mich. Garment-support	841,261	Jan. 15	3061	643	126	840
Mancha Show Case Company. (See Mancha, Raymond, assignor.)	841,413	Jan. 15	3269	705	126	920
Marckwordt, Karl H. J., Guatemala, Guatemala. Calculator	841,556	Jan. 15	3523	762	126	967
Mart, Frank, Wakonda, S. D. Shock-loader	841,262	Jan. 15	2962	643–4	126	840
Martin, Karl, assignor to Rathenower Optische Industrie-Anstalt vorm. Emil Busch Actiengesellschaft, Rathenow, Germany. Prism-telescope	841,263	Jan. 15	2963	644	126	841
Martin, Oskar, Bergenfield, N. J. Folding mat	841,164	Jan. 15	2776	606	126	795
Mast, Harry G. (See Summers and Mast.)	12,597	Jan. 15	2726	809	126	1037
Mattassi, Luige D., Melbourne, Victoria, Australia. Hook and link	841,335	Jan. 15	3112	672–3	126	880
Maxwell, Bert C., Canton, Ohio. Account-cabinet. (Reissue)	841,169	Jan. 15	2784	606	126	797
McBerty, Frank R., Evanston, assignor to Western Electric Company, Chicago, Ill. Adding-machine attachment	841,423	Jan. 15	3283	708	126	924
McCarroll, Charles T., Ottumwa, Iowa. Coal-stove	841,424	Jan. 15	3285	708	126	924
McCrea, Arthur M., Lamar, Mo. Target-trap						
[illegible]ney, George B., Barry, Ill. Merry-go-round						
[illegible] Michael J. (See Hoyt and McNulty.)						
[illegible]han, Samuel G., *et al.* (See Roberts, Leonard C., assignor.)						
[illegible]lliam G., Remuera, near Auckland, New Zealand, Automatic electric fire-						
Chatham, N. Y. Rope and cable clamp	841,557	Jan. 15	3527	762	126	968
Minneapolis, Minn. Concrete block and wall	841,165	Jan. 15	2777	606	126	795
Louis, Mo. Concrete block	841,414	Jan. 15	3270	705	126	920
w York, N. Y. Tripper or deliverer for belt conveyers	841,415	Jan. 15	3272	705	126	921
r. (See Szekely, Charles S., Sr., assignor.)	841,558	Jan. 15	3528	763	126	968
many. Mine-shaft						
ugnat and Milan.)	841,416	Jan. 15	3273	706	126	921
, William A., assignor.)						
dfair, Black Lick Station, Pa. Mine-car brake-shoe	841,264	Jan. 15	2964	644	126	841
Stair-carpet fastener	841,417	Jan. 15	3273	706	126	921
Adjustable trestle	841,418	Jan. 15	3275	706	126	922
Lamp	841,559	Jan. 15	3531	763	126	969
ose-lace holder	841,419	Jan. 15	3276	707	126	922
Logging device	841,420	Jan. 15	3277	707	126	922
, Canada. Tedder attachment to mowing-ma-						
Ludlow, Ill. Whip-holder	841,166	Jan. 15	2779	606–7	126	796
	841,560	Jan. 15	3532	764	126	969

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Moses, Bertram, assignor of one-half to A. C. Brainard, Jennings, La. Locking device for umbrellas	841,421	Jan. 15	3279	707	126	923
Mower, Eugene B., and E. Johnson, Minneapolis, Minn. Non-collapsible float	841,334	Jan. 15	3111	672	126	880
Mucsi, Stephen, Douglas, Ariz. Ter. Cut-off valve	841,422	Jan. 15	3283	708	126	923
Mudge, Samuel F., Albury, New South Wales, Australia. Adjustable wheel-tire	841,561	Jan. 15	3534	764	126	990
Mumford, Edgar H., Marion, Pa., assignor to Tabor Manufacturing Company. Pattern-guide for mold-making apparatus						
Muschenheim, Frederick, New York, N. Y. Annunciator for hotel letter-boxes	841,167	Jan. 15	2782	607	126	797
Nacht, Valentin, and P. Salomen, Pittsburg, and J. Erzen, Finleyville, Pa. Basket	841,168	Jan. 15	2783	607	126	797
National Dump Car Company. (See Maltby, George B., assignor.) (Reissue)	841,170	Jan. 15	2786	608	126	797
Nelson, Frederick, Driscoll, N. D. Rotary engine	841,425	Jan. 15	3286	709	126	925
Nelson, Lewis B., Clearmont, Mo. Plumb-level	841,562	Jan. 15.	3535	764	126	990
New Haven Clock Co. (See Porter, Wilson E., assignor.)						
Nicholson, Matthew H., Tyler, assignor to E. Rosenbaum, Dallas, Tex. Cultivator	841,171	Jan. 15	2787	608	126	797
Nienstadt, August E., Newark, N. J., assignor of one-half to G. H. Rosenblatt, New York, N. Y. Explosive	841,172	Jan. 15	2788		126	798
Nikonow, John P., Pittsburg, Pa. Bottle-closure	841,426	Jan. 15	3288	709	126	925
Nineteen Hundred Washer Co. (See Winans, Thomas J. assignor.)						
Noonan, Thomas, Chicago, Ill. Fire-escape	841,265	Jan. 15	2966	644–5	126	842
Norris, Jesse L. (See Norris Michael E., and J. L.)						
Norris, Michael E., and J. L., Temple, Tex. Gin-feeder	841,182	Jan. 15	2803	611	126	802
North, Samuel A., assignor to Bridgeport Gun Implement Company, Bridgeport, Conn. Gun-cleaning rod	841,336	Jan. 15	3116	673	126	881
Northey, John, Christchurch, New Zealand. Pulsating valve for hydraulic rams	841,563	Jan. 15	3537	764	126	990
Northup, Howard E., Clarks Green, Pa. Means for displaying paint-colors	841,266	Jan. 15'	2968	645	126	842
Norton, Edwin, New York, N. Y., and V. Chartener, Pittsburg, Pa. Work-reversing mechanism for rolling-mills	841,427	Jan. 15	3289	710	126	925
Nugent, Edward L., Charleston, W. Va. Switch	841,337	Jan. 15	3117	674	126	881
Nugent, Richard C., Cincinnati, Ohio. Friction-clutch	841,564	Jan. 15	3537	765	126	991
O'Donnell, Joseph W., assignor of one-half to M. W. Elser, Kansas City, Mo. Amusement apparatus	841,173	Jan. 15	2789	608–9	126	798
Olds, David E., Newark, N. J. Rail-fastener	841,267	Jan. 15	2970	646	126	843
Ornold, Edwin J. (See Howe and Ornold.)						
Orr, Samuel, Nashville, Tenn. Automatically-folding step and seat	841,565	Jan. 15	3539	765	126	991
Orswell Igniter Company. (See Orswell, Israel C., assignor.)						
Orswell, Israel C., Amesbury, assignor to Orswell Igniter Company, Boston, Mass. Sparking plug for explosion-engines	841,566	Jan. 15	3540	765	126	991
Osel, Kistel, St. Paul, Minn. Slidable hinge-hanger for grain-doors	841,428	Jan. 15	3292	711	126	926
P. J. Cummings Company. (See Crosby, Alfred D., assignor.)						
Pagnies, Auguste, Candry, France. Apparatus for treating liquids with gases	841,268	Jan. 15	2971	646	126	843
Palmer, Frederick C., Springfield, Mass. Bolt-anchor	841,338	Jan. 15	3118	674	126	882
Parker, Harry S., Trenton, N. J. Refrigerating attachment for milk-cans	841,567	Jan. 15	3542	766	126	992
Parker, J. Howard, *et al.* (See Struthers, Joshua A., assignor.)						
Passage, Hiram H., assignor of one-half to G. E. Van De Car, Plymouth, Mich. Artificial bait	841,429	Jan. 15	3293	711	126	926
Pearl, Eugene, Passaic, N. J. Hose-supporter	841,430	Jan. 15	3294	711	126	926
Pearl, Eugene, Passaic, N. J. Weeder	841,431	Jan. 15	3295	712	126	926
Peck, Fred J., Ansonia, Conn. Eyeglasses	841,568	Jan. 15	3544	766	126	992
Pequegnat, Edward L. and F. A., and C. W. Milan, Riverside, Cal. Motor-cycle	841,434	Jan. 15	3299	713	126	927
Pequegnat, Frank A. (See Pequegnat and Milan.)						
Perham, Charles F., Lowell, Mass. Loom	841,432	Jan. 15	3296	712	126	927
Perry, Howard B., Wakefield, R. I. Easel	841,433	Jan. 15	3297	712	126	927
Petrusich, John V., San Francisco, Cal. Adjustable sign	841,174	Jan. 15	2790	609	126	798
Pfautz, Daniel M., Germantown, assignor of one-half to W. H. Tigerman, Philadelphia, Pa. Swivel-truck for electrically-propelled cars	841,435	Jan. 15	3300	713	126	928
Pfautz, Daniel M., Germantown, assignor of one-half to W. H. Tigerman, Philadelphia Pa. Switch for elevated-railway structures with suspended cars	841,436	Jan. 15	3301	713–14	126	928
Pfautz, Daniel M., Germantown, assignor of one-half to W. H. Tigerman, Philadelphia, Pa. Crossing for elevated-railway structures with suspended cars	841,437	Jan. 15	3303	714	126	929
Pfautz, Daniel M., Germantown, assignor of one-half to W. H. Tigerman, Philadelphia, Pa. Adjustable stairway for suspended railway-cars	841,653	Jan. 15	3718	808	126	1035
Phinney, Wakefield, Redlands, Cal. Comb	841,175	Jan. 15	2791	610	126	799
Pickles, James, Bradford, England. Sand-molding machine	841,569	Jan. 15	3548	766–7	126	993
Pirlet, Armin H., Montclair, assignor to Crocker-Wheeler Company, Ampere, N. J. Electromagnetic apparatus	841,438	Jan. 15	3305	714	126	929
Pinckney, Carnot B., Brunswick, Ga. Cushion for ball-and-socket joints	841,570	Jan. 15	3550	767	126	993
Pitner, Henry B., assignor of one-half to W. A. Chamberlin, Olean, N. Y. Door-hanger	841,269	Jan. 15	2973	646	126	843
Planters Seed Company. (See Stinson and Hall, assignors.)						
Pine, William D., Rainier, Oreg. Rotary wood-planing device	841,439	Jan. 15	3306	715	126	929
Porter, Wilson E., assignor to New Haven Clock Co., New Haven, Conn. Regulator for pendulum clocks	841,440	Jan. 15	3307	715	126	930
Post, Howard M., assignor to Kellogg Switchboard & Supply Company, Chicago, Ill. Incoming trunk-line	841,339	Jan. 15	3119	674	126	882
Potter, William B., Schenectady, N. Y., assignor to General Electric Company. Electric motor-drive	841,270	Jan. 15	2974	647	126	844
Powell, Frederick. (See Adams and Powell.)						
Powers, William A., Topeka, Kans. Apparatus for treating and storing water	841,176	Jan. 15	2793	610	126	799
Prentice, Vernette E. (See Conradson, Conrad M., assignor.)						
Pressed Steel Car Company. (See Hansen, John M., assignor.)						
Price, Thomas M., Itasca, Tex. Fence-stay	841,177	Jan. 15	2796	610	126	800
Prince, John D., New York, N. Y., and H. S. Rodgers, Covington, Ky. Mixing metals	841,178	Jan. 15	2797		126	800
Putnam, Joseph, Treloar, Mo. Power-transmitting device	841,179	Jan. 15	2798	610–11	126	800
Rae, Frank B., Detroit, Mich. Machine-brake	841,441	Jan. 15	3308	715–16	126	930
Ramsey, John, New York, N. Y., assignor, by mesne assignments, to Ramsey Manufacturing Company, Boston, Mass. Bottle-filling machine	841,442	Jan. 15	3311	716	126	931
Ramsey Manufacturing Company. (See Ramsey, John, assignor.)						
Raphael Tuck & Sons Co. (See Tuck, Gustave, assignor.)						
Rathenower Optische Industrie-Anstalt vorm. Emil Busch Actiengesellschaft. (See Martin, Karl, assignor.)						
Rau, John, Easton, Pa. Micrometer	841,271	Jan. 15	2975	647	126	844
Rauwald, Joseph, Milwaukee, Wis. Altar-tabernacle	841,180	Jan. 15	2800	611	126	801
Read, Ralston J., Reno, Nev. Tape-measure	841,272	Jan. 15	2978	648	126	845
Rector, John W., Savannah, N. Y. Crate	841,340	Jan. 15	3125	675	126	883
Redman, Charles W., assignor of one-half to N. B. Gibson, Pittsburg, Pa. Match-delivering receptacle	841,181	Jan. 15	2801	611	126	801
Reed, Elmo H. (See Christian and Reed.)						
Reel, Samuel O., *et al.* (See Iungerich, Calvin L., assignor.)						
Reel, William S., *et al.* (See Iungerich, Calvin L., assignor.)						
Reimers, Hans. (See Koops and Reimers.)						
Renshaw, James, Point Marion, Pa. Boiler	841,571	Jan. 15	3551	767	126	994
Rice, Charles T., Chicago, Ill. Folding bed	841,341	Jan. 15	3125	675	126	883

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Richards, Francis H., Hartford, Conn. Carving-machine	841,188	Jan. 15	2804	612	126	802
Richards, Francis H., Hartford, Conn. Mechanical movement	841,342	Jan. 15	3129	675-6	126	884
Richards, Francis H., Hartford, Conn. Mechanical movement	841,443	Jan. 15	3315	717	126	932
Richards, Francis H., Hartford, Conn. Mechanical movement	841,444	Jan. 15	3319	717-18	126	932
Richards, Francis H., Hartford, Conn. Device for converting motion	841,445	Jan. 15	3323	718	126	933
Nicholson, Abraham L., New York, N. Y. Life-preserving steamer-chair	841,249	Jan. 15	3133	676	126	934
Rightman, Marcus B., assignor of one-half to A. B. Seelenfreund, Chicago, Ill. Coin-counting machine	841,446	Jan. 15	3328	719	126	886
Ritzman, Oscar A., Superior, Wis. Kicking-sleigh	841,447	Jan. 15	3330	719	126	936
Rivers, Edward G., Richmond, assignor of one-half to Electric and Ordnance Accessories Company, Limited, Birmingham, England. Preparing carbon for electrical resistances	841,572	Jan. 15	3553	.....	126	994
Roberts, Leonard C., Nunda, assignor of two-thirds to S. G. McTarnaghan and W. H. Jeffs, Fillmore, N. Y. Concrete-mixing machine	841,273	Jan. 15	2979	648-9	126	845
Robinson, John F., Rockaway, N. J. Horseshoe	841,448	Jan. 15	3331	719	126	937
Rodgers, Howard S. (See Prince and Rodgers.)						
Roeske, William E., Davenport, Iowa. Lubricating tubular drill	841,184	Jan. 15	2808	612	126	803
Rolfe, Charles A., Chicago, Ill., assignor, by mesne assignments, to Rolfe Electric Co., Rolfe Electric Co. (See Rolfe, Charles A., assignor.)						
Rochester, N. Y. Fuse-box	841,449	Jan. 15	3332	720	126	937
Rosen, Meyer, Bloomington, Ill. Cushioned handle-bar for velocipedes	841,450	Jan. 15	3334	720	126	937
Rosenbaum, Eugene. (See Nicholson, Matthew H., assignor.)						
Rosenblatt, George H. (See Nienstadt, August E., assignor.)						
Rowland, L. D., *et al.* (See Andrews, William, assignor.)						
Rummel, William L., South Sioux City, Nebr. Railway block system	841,451	Jan. 15	3335	720	126	938
Rutherford, Robert, Montavilla, Oreg. Boat-propelling mechanism	841,452	Jan. 15	3338	721	126	938
Ryan, D. P., *et al.* (See Ryan, James A., assignor.)						
Ryan, George F., New York, N. Y. Roof connection for vent-pipes	841,274	Jan. 15	2983	649	126	846
Ryan, James A., assignor of two-thirds to F. L. Keck and D. P. Ryan, Ruffs Dale, Pa. Anticorrosive composition	841,573	Jan. 15	3555	.....	126	995
Rynehart, Henry M., New York, N. Y. Folding shaving-brush	841,453	Jan. 15	3340	721	126	939
Safety Car Heating & Lighting Company. (See Dixon, Robert M., assignor.)						
Saint Clair, Charles E., Star City, Ind. Weather-strip	841,185	Jan. 15	2810	613	126	804
Salomon, Paul. (See Nacht, Salomon, and Erzen.)						
Samuel J. Shimer and Sons. (See Shimer, Elmer S., assignor.)						
Sandhofer, Paul J., Flora, Ill. Flower-stand	841,574	Jan. 15	3556	767-8	126	995
Sandvoss, Hermann, Nenss, Germany. Alarm-signal for boilers	841,186	Jan. 15	2811	613	126	804
Sargent, Charles E., Chicago, Ill. Pressure-gage	841,454	Jan. 15	3341	721	126	939
Sartain, Louis M., assignor to W. P. Stone, Tracy City, Tenn. Rail-joint	841,575	Jan. 15	3557	768	126	995
Savage, Charles E., Groveton, N. H. Sulfur-burner	841,576	Jan. 15	3558	768	126	995
Scharnweber, William, Seattle, Wash. Ventilator	841,455	Jan. 15	3342	722	126	939
Schlegel, Charles P., Rochester, N. Y. Ornamental trimming	841,187	Jan. 15	2812	613	126	804
Schmid, Adolf, Berne, Switzerland. Device for detecting subterranean waters	841,188	Jan. 15	2814	614	126	804
Schmidlin, Robert, assignor to Farbewerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Making phenylglycin	841,456	Jan. 15	3344	.....	126	940
Schmidt, Ludwig, assignor to Elektrizitäts-Aktiengesellschaft, vormals Schuckert & Co., Nuremberg, Germany. Single-type-casting machine	841,457	Jan. 15	3345	722	126	940
Schneider, Stefan, Charlottenburg, Germany. Apparatus for preparing rings for ball-bearings	841,577	Jan. 15	3562	769	126	997
Schneider, William E., Washington, D. C. Vehicle-wheel	841,578	Jan. 15	3563	769	126	997
Schnicke, Richard, Chemnitz, Germany. Elastic wheel for vehicles	841,189	Jan. 15	2816	614	126	805
Schroeder, George G., Washington, D. C. Aerial transportation system	841,579	Jan. 15	3565	769-70	126	997
Schroeder, George G., Washington, D. C., assignor to Industrial Transportation Company. Brake for aerial navigation	841,580	Jan. 15	3568	770-2	126	998
Schroeder, George G., Washington, D. C., assignor to Industrial Transportation Company. Aerial system for mining purposes	841,581	Jan. 15	3572	773	126	999
Schroeder, George G., Washington, D. C., assignor to Industrial Transportation Company. Marine electric wharfage	841,582	Jan. 15	3574	773-5	126	1000
Schwidewski, Paul, assignor to Arlt and Fricke, Berlin, Germany. Hair-drying apparatus	841,583	Jan. 15	3578	776	126	1001
Sciple, Henry M., San Francisco, Cal. Sectional pole for telephone, telegraph, and trolley wires	841,584	Jan. 15	3579	777	126	1001
Scott, William A., assignor of two-thirds to J. L. Griffin and C. C. Miles, Laramie, Wyo. Sheep-shears	841,344	Jan. 15	3134	676	126	886
Seck, Heinrich, Dresden, Germany. Machine for bolting flour and grading grain	841,458	Jan. 15	3346	722	126	940
Seelenfreund, Alexander B. (See Rightman, Marcus B., assignor.)	841,585	Jan. 15	3581	777-8	126	1001
Sengbusch, Gustav J., Milwaukee, Wis. Ink-well	841,345	Jan. 15	3136	677	126	887
Sharp, William H., Philadelphia, Pa. Manufacture of purified soda-pine pulp	841,190	Jan. 15	2817	.....	126	805
Shaw, Henry C., Glenshaw, and V. Chartener, Pittsburg, Pa. Work-reversing feed-table	841,459	Jan. 15	3346	722-3	126	940
Sherk, George W., *et al.* (See Akins, Charles J., assignor.)						
Sherman, John A., Worcester, Mass. Envelop	841,346	Jan. 15	3138	677	126	887
Shidler, Obadiah, Alliance, Ohio. Weed and grass trimmer, &c	841,586	Jan. 15	3584	779	126	1002
Shimer, Elmer S., assignor to Samuel J. Shimer and Sons, Incorporated, Milton, Pa. Bit for rotary cutter-heads	841,587	Jan. 15	3586	779-80	126	1002
Shipman, Ralph, Sunbury, Pa. Means for preventing slippage of traction-wheels	841,588	Jan. 15	3348	723	126	941
Shires, Joseph A., Denver, Colo. Train-ventilating apparatus	841,460	Jan. 15	3350	723-4	126	941
Shuart, Benjamin F., Oberlin, Ohio. Hand-cultivator	841,461	Jan. 15	3592	780	126	1004
Sieber & Trussell Mnfg. Co. (See Dawson, James C., assignor.)						
Simon, Joseph, Cedar Rapids, Iowa. Line-holder	841,589	Jan. 15	3592	780	126	1004
Simplex Cutting Machine Co. (See King, William H., assignor.)						
Simplex Piano Player Company. (See Brown, Theodore P., assignor.)						
Skinner, Anna M., Greeley, Colo. Bread-toaster	841,191	Jan. 15	2817	614	126	805
Sklar, John, Brooklyn, N. Y. Horse-speculum	841,590	Jan. 15	3592	780	126	1004
Slaughter, Elijah T., Kansas City, Mo. Air-heater	841,591	Jan. 15	3593	781	126	1004
Small, Henry M., Melrose, Mass. Lock-casing	841,592	Jan. 15	3595	781	126	1004
Smith, Frank C., Minneapolis, Minn. Water-tank-supporting means	841,462	Jan. 15	3382	724	126	942
Smith, Frederic L., Hamden Junction, Ohio. Car-wheel	841,275	Jan. 15	2986	649	126	846
Smith, Layton F., Baltimore, Md. Reinforced concrete column	841,463	Jan. 15	3383	724	126	942
Smith, Noah W., East Rand, Transvaal. Apparatus for the purification of waste oil	841,347	Jan. 15	3140	677-8	126	887
Sneddon, James P., Barberton, Ohio, assignor to Stirling Consolidated Boiler Company, New York, N. Y. Boiler	841,593	Jan. 15	3595	781-2	126	1005
Snelus, James M., Niles, Ohio. Plaster composition	841,464	Jan. 15	3354	.....	126	9-2
Sommer, John L., Newark, N. J. Shoe buttoner and horn	841,192	Jan. 15	2818	614	126	806
Speer, James R., Pittsburg, and G. H. Harvey, Glenfield, assignors to Brownsville Glass Company, Pittsburg, Pa. Drawing glass	841,193	Jan. 15	2819	615	126	806
Speer, James R., Pittsburg, and G. H. Harvey, Glenfield, assignors to Brownsville Glass Company, Pittsburg, Pa. Separating sheets of glass from their baths	841,594	Jan. 15	3599	782	126	1006
Spellenger, George E., San Francisco, Cal. Crystallizing apparatus	841,595	Jan. 15	3600	782	126	1006
Spelsberg, G. I. Electric Manufacturing Company. (See Bowman, Francis H., assignor.)						
Stasch, Emil R., Corning, N. Y. Roof-joint	841,276	Jan. 15	2987	650	126	847

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Stasch, Emil R., Corning, N. Y. Corrugating-mandrel	841,277	Jan. 15	2988	650	126	847
Stauffer, Benjamin B., Wichita, Kans. Grain-transferring device	841,465	Jan. 15	3355	725-6	126	942
Stauffer, Frank E., Chicago, Ill. Beer-bung	841,348	Jan. 15	3142	678	126	888
Steffin, O. A., *et al.* (See Andrews, William, assignor.)						
Stevens, Sidney N., North Chesterford, and E. P. Flanders, Lowell, Mass. Hinge	841,596	Jan. 15	3601	782	126	1007
Stevenson, Henry C. (See Aikman and Stevenson.)						
Stewart & Cooley. (See Stewart, Thomas L., assignor.)						
Stewart, Thomas L., Oakland, assignor to Stewart & Cooley, Melrose, Cal. Gas-generating retort	841,466	Jan. 15	3359	726	126	943
Stewart, William S., assignor of one-half to H. J. Day, Bisbee, Ariz. Ter. Oil-burner	841,597	Jan. 15	3603	783	126	1007
Stinson, John T., and W. F. Hall, assignors to Planters Seed Company, Springfield, Mo. Display-cabinet	841,349	Jan. 15	3146	678	126	889
Stirling Consolidated Boiler Company. (See Sneddon, James P., assignor.)						
Stock, Robert, assignor to Buffalo Valve Company, Buffalo, N. Y. Barrel valve and tapping device	841,350	Jan. 15	3148	678	126	889
Stone, William P. (See Sartain, Louis M., assignor.)						
Stricker, Charles J., assignor of one-half to Gebret Brothers, Bridgeport, Pa. Level	841,598	Jan. 15	3604	783	126	1007
Struthers, Joshua A., assignor of fifty-one one-hundredths to W. R. Beard and J. H. Parker and twenty-four and five-tenths one-hundredths to C. F. Duchanois, Youngstown, Ohio. Combined dynamo-magneto ignition device	841,599	Jan. 15	3605	783	126	1008
Stübgen, Gustav, Erfurt, Germany. Stormproof lamp	841,600	Jan. 15	3607	784	126	1008
Suchy, Robert, Bitterfeld, assignor to Chemische Fabrik Griesheim Electron, Frankfort-on-the-Main, Germany. Manufacture of chromic acid	841,278	Jan. 15	2990	.....	126	847
Summers, John C., Millersburg, and H. G. Mast, Benton, Ohio. Pump-stroke regulator	841,601	Jan. 15	3608	784	126	1008
Sumner, William J., assignor to Coburn Trolley Track Co., Holyoke, Mass. Trolley-track	841,351	Jan. 15	3151	679	126	890
Swank, Lafe, Anderson, assignor to Dwiggins Wire Fence Company, Indianapolis, Ind. Wire fabric	841,194	Jan. 15	2820	615	126	806
Swartz, William J. (See Cornell and Swartz.)						
Sweetser, Jewett B., Danvers, Mass. Stung-shot	841,195	Jan. 15	2822	615	126	807
Swenson, Gustaf, Pittsburg, Pa., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine	841,352	Jan. 15	3152	679	126	890
Szekely, Charles S., Sr., New York, N. Y., assignor to Metal Moulds Corporation. Casting metal	841,279	Jan. 15	2990	650-1	126	847
Tabor Manufacturing Company. (See Lewis, Wilfred, assignor.)						
Tabor Manufacturing Company. (See Mumford, Edgar H., assignor.)						
Tadini, Gerome F., New York, N. Y. Reversible variable-speed driving-gear	841,353	Jan. 15	3155	679	126	891
Tandy, John L., Kansas City, Mo. Folding bed	841,280	Jan. 15	2993	651	126	848
Taylor, Arthur G., London, England. Adjustable spanner	841,602	Jan. 15	3610	784	126	1009
Taylor, Frederick W. (See Bender and Taylor.)						
Tetlow, Joseph, assignor of four-fifths to H. R. Jordan, Saco, Me. Trolley	841,467	Jan. 15	3362	727	126	944
Thackray, George E., Westmont, Pa. Apparatus for the manufacture of splice-bars	841,354	Jan. 15	3159	679-80	126	893
Thomas, Wilhelm, Duisburg-Meiderich, Germany. Device for marking the lengths of rails or the like	841,355	Jan. 15	3161	680	126	893
Thomson, Elihu, Swampscott, Mass., assignor to Aeolian Company, New York, N. Y. Music-sheet-guiding device	841,356	Jan. 15	3162	680	126	893
Thorne, William E., Denver, Colo., Revetment	841,281	Jan. 15	2997	652	126	849
Thorp, Thomas, Whitefield, England. Antipulsator for gas-conduits	841,196	Jan. 15	2823	616	126	807
Tigerman, William H. (See Pfautz, Daniel M., assignor.)						
Tillson, William H., Quincy, Ill. Overshoe-holder	841,282	Jan. 15	2998	652	126	849
Tilyou, Peter A., New York, N. Y. Amusement device	841,468	Jan. 15	3363	727	126	944
Tjossem, Portes J., Lagrand, Iowa. Salt-feeder	841,283	Jan. 15	3000	653	126	849
Toch, Maximilian, New York, N. Y. Composition for coating metals	841,603	Jan. 15	3611	.....	126	1009
Tomkinson, Charles C., Plainfield, N. J. Sheet-piling	841,197	Jan. 15	2826	616	126	808
Towe, Albert, Charlotte, Mich. Machine for bending scythe-snaths	841,357	Jan. 15	3164	680-1	126	894
Tower, Daniel W., Grand Rapids, Mich. Device for fastening knobs to bolts	841,284	Jan. 15	3001	653	126	850
Townsend, Thomas, Providence, R. I. Machine for inserting combing-needles in temporary holders or books	841,358	Jan. 15	3167	681	126	894
Transom Draft-Gear Company. (See Westlake, Charles T., assignor.)						
Tredo, George L., assignor to Contractors' Plant Manufacturing Company, Buffalo, N. Y. Hoisting-machine	841,198	Jan. 15	2828	616-17	126	809
Trott, Warren E., New York, N. Y. Folding crib	841,359	Jan. 15	3170	682	126	895
Trumbull, Herman E., Pipestone, Minn. Compound for making pipestone cement	841,285	Jan. 15	3002	.....	126	850
Tuck, Gustave, London, England, assignor to Raphael Tuck & Sons Co., Ltd., New York, N. Y. Combined painting-book and color-box	841,360	Jan. 15	3171	682	126	895
Turner, Walter V., Wilmerding, assignor to Westinghouse Air Brake Company, Pittsburg, Pa. Pressure-controlling valve for air-brake systems	841,469	Jan. 15	3364	727	126	945
Turner, Walter V., Wilmerding, assignor to Westinghouse Air Brake Company, Pittsburg, Pa. Air-brake mechanism	841,470	Jan. 15	3367	728	126	946
Tynes, Lucius M., Gloster, Miss. Sewing-machine attachment	841,604	Jan. 15	3611	783	126	1009
Underdahl, Andrew, Hoffman, Minn. Automatic switch	841,286	Jan. 15	3002	653	126	850
Underwood Typewriter Company. (See Swenson, Gustaf, assignor.)						
United States Rubber Co. of New Jersey. (See Cavanagh, John F., assignor.)						
Vallentine, Edward, Florence, Mass. Feeder	841,471	Jan. 15	3372	729	126	947
Valyar, William. (See Anderson, Isaac, assignor.)						
Van De Car, George E. (See Passage, Hiram H., assignor.)						
Vanderherchen, William H., Philadelphia, Pa. Implement for driving screw hooks and eyes	841,472	Jan. 15	3375	729	126	947
Vessot, Samuel, Joliette, Quebec, Canada. Sharpening device for grain-mills	841,287	Jan. 15	3004	653	126	850
Vickers Sons & Maxim. (See Dawson and Buckham, assignors.)						
Walker, Abraham L. (See Howell, Jordan M., Jr., assignor.)						
Walker, Charles W., Bridgeport, Conn., assignor to Yost Writing Machine Company, Ilion, N. Y. Type-writing machine	841,288	Jan. 15	3005	654	126	851
Wall, John H., Bristol, R. I. Shoe-dipping machine	841,361	Jan. 15	3172	683	126	896
Walter, William T., Angleton, Tex. Cotton-chopper	841,289	Jan. 15	3013	655	126	852
Walton, Frederick, London, England. Wheel for motor and other road vehicles	841,290	Jan. 15	3014	655	126	853
Watson, Robert A., Pittsburg, Pa. Handle	841,199	Jan. 15	2831	617	126	809
Weaver, Horace S., Butler, Pa. Traction device for vehicle-wheels	841,473	Jan. 15	3376	729	126	948
Weber, Albert. (See Brown and Weber.)						
Wedgworth, John K., Lockhart, Miss. Animal-trap	841,200	Jan. 15	2831	617	126	809
Weeks, Frank W., San Antonio, Tex. Elastic bulletin-board	841,291	Jan. 15	3016	655-6	126	853
Weiss, Alfred H., Evanston, assignor to Kellogg Switchboard & Supply Company, Chicago, Ill. Telephone system	841,292	Jan. 15	3019	656	126	854
Welch, Allie R. and F. S., Pontiac, Mich. Lever mechanism	841,362	Jan. 15	3174	683-4	126	896
Welch, Allie R. and F. S., Pontiac, Mich. Universal joint	841,363	Jan. 15	3177	684	126	897
Welch, Fred S. (See Welch, Allie R. and F. S.)						
Wellman, Charles A., Ottumwa, Iowa. Mail-box	841,201	Jan. 15	2832	617-18	126	810
Wendelken, Edward F., Marietta, Ohio. Check-valve	841,474	Jan. 15	3377	729	126	948
West, Ralph H., Sharpsville, Pa. Mold for casting chilled rolls	841,293	Jan. 15	3023	656-7	126	854

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Western Electric Company. (See Atwood, George F., assignor.)						
Western Electric Company. (See Blake, Charles C., assignor.)						
Western Electric Company. (See McBerty, Frank R., assignor.)						
Westinghouse Air Brake Company. (See Turner, Walter V., assignor.)						
Westlake, Charles T., assignor to Transom Draft-Gear Company, St. Louis, Mo. Draft-gear for railway-cars	841,202	Jan. 15	2886	613	126	810
Wheeler & Wilson Manufacturing Company. (See Laubscher, Alexander, assignor.)						
Whitcomb, William W., Brookline, Mass. Composite sheet or layer	841,204	Jan. 15	3087	658	126	860
White, William A. (See Hill, John P., assignor.)						
Wickwar, Alfred, Philadelphia, Pa. Handle or knob for cooking utensils	841,264	Jan. 15	3178	684	126	897
Wiederhold, Oscar, Jersey City, N. J. Incandescent gas-lamp	841,203	Jan. 15	2838	619	126	811
Wiederhold, Oscar, Jersey City, N. J. Means for protecting and applying incandescent mantles	841,204	Jan. 15	2839	619	126	811
Williams, James H., Coeur d'Alene, Idaho. Pencil-holder	841,265	Jan. 15	3180	684	126	898
Wilson, Merit E., Holdenville, Ind. Ter. Grain-drill	841,205	Jan. 15	3089	658	126	860
Winans, Thomas J., assignor to Nineteen Hundred Washer Co., Binghamton, N. Y. Operating mechanism for washing-machines	841,605	Jan. 15	3812	785	126	1010
Winans, Thomas J., assignor to Nineteen Hundred Washer Company, Binghamton, N. Y. Operating mechanism	841,606	Jan. 15	3814	786	126	1010
Winter, Frederick W., New York, N. Y. Pneumatic music-player	841,206	Jan. 15	2841	619	126	812
Winter, Frederick W., New York, N. Y. Pneumatic music-player	841,208	Jan. 15	2843	620	126	812
Wirt, Paul E., Bloomsburg, Pa. Self-filling fountain-pen	841,475	Jan. 15	3379	730	126	949
Wolfe, Frank L., Medford, assignor to Crosby Steam Gage and Valve Company, Boston, Mass. Reducing-wheel	841,207	Jan. 15	2845	620	126	812
Woodruff, Oliver D., Southington, Conn. Bread mixer and kneader	841,266	Jan. 15	3090	658	126	860
Wren, Harry. (See Kennedy-McGregor and Wren.)						
Wyard, Walter P., Cathay, N. D. Vermin-exterminator	841,267	Jan. 15	3042	659	126	861
Wyke, John W., Swissvale, Pa. Rail-fastener	841,268	Jan. 15	3043	659	126	861
Wykoff, William B., Omaha, Nebr. Lock	841,208	Jan. 15	2847	620-1	126	813
Wykoff, William B., Omaha, Nebr. Lock	841,209	Jan. 15	2851	621	126	814
Yankee Novelty Company. (See Kellogg, William M., assignor.)						
Yocum, George C., Scranton, Pa. Vending-machine	841,210	Jan. 15	2855	621-2	126	815
Yorke, Horace M., Kennebunk, Me. Sectional checker-board	841,266	Jan. 15	3161	685	126	898
Yost Writing Machine Company. (See Walker, Charles W., assignor.)						
Young, Freeman N., Arlington, Mass. Bottle-washing machine	841,269	Jan. 15	3044	659	126	861
Young, James S., Northfield, Vt. Stone-sawing machine	841,300	Jan. 15	3047	660	126	862
Zollinger, Luther R., Philadelphia, Pa. Railway road-bed	841,267	Jan. 15	3132	685	126	898
Zweigle, Gotthilf, Esslingen, Germany. Spittoon	841,301	Jan. 15	3049	660	126	863

DESIGNS.

Name, residence, and design.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Allen, Francis K., assignor to Springfield Metallic Casket Company, Springfield, Ohio. Handle-plate for caskets	38,411	Jan. 15	126	1038
Brown, Everett H., Philadelphia, Pa. Knit fabric	38,413	Jan. 15	126	1039
Brown, Everett H., Philadelphia, Pa. Knit fabric	38,414	Jan. 15	126	1039
Crary, William P., New York, N. Y. Lamp-body	38,415	Jan. 15	126	1039
Gowran, Harry C., Two Rivers, Wis. Dental cabinet	38,410	Jan. 15	126	1038
Gowran, Harry C., Two Rivers, Wis. Dental cabinet	38,408	Jan. 15	126	1038
Lichtenstein, Isaac, New York, N. Y. Hat-band	38,409	Jan. 15	126	1038
Shoyer, Daniel W., New York, N. Y. Hammock-valance	38,412	Jan. 15	126	1039
Springfield Metallic Casket Company. (See Allen, Francis K., assignor.)				
Wily, Arthur S., New York, N. Y. Identification-check	38,418	Jan. 15	126	1040
Young, Samuel, Newark, N. J. Textile fabric	38,419	Jan. 15	126	1040
Young, Samuel, Newark, N. J. Textile fabric	38,416	Jan. 15	126	1039
	38,417	Jan. 15	126	1040

TRADE-MARKS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
A. & F. Pears, Limd., London, England. Soaps	59,585	Jan. 15	126	1057
A. R. Mosler & Co., New York, N. Y. Spark-plugs	59,590	Jan. 15	126	1055
A. R. Mosler & Co., New York, N. Y. Spark-plugs	59,626	Jan. 15	126	1056
Acetylene Apparatus Manufacturing Company, Chicago, Ill. Acetylene-generators	59,663	Jan. 15	126	1056
Aktiebolaget Salenius' Werkstäder, Stockholm, Sweden. Centrifugal liquid-separators and parts belonging thereto				
Alden & Co., Geo. A., Boston, Mass. India-rubber and gutta-percha gums	59,591	Jan. 15	126	1055
Alden & Co., Geo. A., Boston, Mass. India-rubber and gutta-percha gums	59,592	Jan. 15	126	1055
American Thread Company, Jersey City, N. J. Spool-cotton and thread	59,593	Jan. 15	126	1055
American Thread Company, Jersey City, N. J. Spool-cotton and thread	59,654	Jan. 15	126	1056
American Thread Company, Jersey City, N. J. Spool-cotton and thread	59,655	Jan. 15	126	1056
American Thread Company, Jersey City, N. J. Spool-cotton, sewing-cotton, and thread	59,656	Jan. 15	126	1057
American Thread Company, Jersey City, N. J. Spool-cotton, sewing-cotton, and thread	59,657	Jan. 15	126	1057
American Thread Company, Jersey City, N. J. Spool-cotton, sewing-cotton, and thread	59,658	Jan. 15	126	1057
American Thread Company, Jersey City, N. J. Spool-cotton, sewing-cotton, and thread	59,659	Jan. 15	126	1057
American Thread Company, Jersey City, N. J. Spool-cotton, sewing-cotton, and thread	59,660	Jan. 15	126	1057
	59,661	Jan. 15	126	1057

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
American Vulcanized Fibre Company, Wilmington, Del. Certain vegetable fiber and articles made therefrom	59,772	Jan. 15	126	1059
Ames Shovel and Tool Company, Boston, Mass. Shovels, spades, and scoops	59,594	Jan. 15	126	1055
Ames Shovel and Tool Company, Boston, Mass. Shovels, spades, and scoops	59,595	Jan. 15	126	1055
Anderson, Harry T., Baltimore, Md. Leather shoes	59,627	Jan. 15	126	1056
Arknot Co., Hartford, Conn. Certain electric apparatus and supplies	59,807	Jan. 15	126	1060
Atlas Engine Works, Indianapolis, Ind. Steam-boilers	59,692	Jan. 15	126	1057
Atlas Manufacturing Company, Hampton, N. H. Folding boxes	59,596	Jan. 15	126	1055
Aurora Brewing Company, Aurora, Ill. Beer	59,733	Jan. 15	126	1058
Baer Bros., New York, N. Y. Bronze-powders	59,693	Jan. 15	126	1057
Baer Bros., New York, N. Y. Aluminium-bronze powder	59,694	Jan. 15	126	1057
Banta & Son, F. J., Lima, Ohio. Chewing-gum	59,656	Jan. 15	126	1056
Barrenpohl, Charles J., New York, N. Y. Cleaning and polishing compound	59,657	Jan. 15	126	1056
Bee, Henry C., Lowell, Mass. Paste used for filling defects in leather articles	59,734	Jan. 15	126	1058
Bliven & Carrington, Incorporated, New York, N. Y. Substitute for turpentine	59,720	Jan. 15	126	1058
Blondeau, Berque & Co., Reims, France. Champagne	59,721	Jan. 15	126	1058
Body Builders Medicine Co., Binghamton, N. Y. Laxative salts	59,773	Jan. 15	126	1060
Brady, Frank, Denver, Colo. Periodical	59,695	Jan. 15	126	1058
Bragdon-Jones Co., Boston, Mass. Wheat-flour	59,735	Jan. 15	126	1059
British-American Co., Cincinnati, Ohio. Brewer's pitch	59,774	Jan. 15	126	1060
Brown, Kate M., New York, N. Y. Ointment	59,775	Jan. 15	126	1060
Burnett, Robert M., Southboro, Mass. Pork scraps, sausages, sausage-meat, and bacon	59 808	Jan. 15	126	1060
Butler-Butler (Incorporated), New York, N. Y. Little cigars	59,597	Jan. 15	126	1055
Butler-Butler (Incorporated), New York, N. Y. Little cigars	59,598	Jan. 15	126	1055
C. A. Taylor Trunk Works, Chicago, Ill. Trunks made in part of wood	59,599	Jan. 15	126	1055
C. A. Taylor Trunk Works, Chicago, Ill. Trunks made in part of wood	59,600	Jan. 15	126	1055
Cabot, Sam', Boston, Mass. Chemical compound for preserving wood	59,736	Jan. 15	126	1059
Cayey-Caguas Tobacco Company, New York, N. Y., and Caguas, Porto Rico. Cigars, cheroots, and cigarettes made of cigar-tobacco	59,628	Jan. 15	126	1056
Celluloid Company, New York, N. Y., and Newark, N. J. Plastics composed in part of pyroxylin or soluble cotton	59,629	Jan. 15	126	1056
Chas. A. Maish Co., Cincinnati, Ohio. Quilts	59,629	Jan. 15	126	1056
Chicago Distilling Co., Chicago, Ill. Whisky	59,658	Jan. 15	126	1057
Church & Dwight Co., New York, N. Y. Soda, saleratus, baking-powder, and sal-soda	59,696	Jan. 15	126	1058
Circleville Sealing Wax Co., Circleville, Ohio. Sealing-wax	59,817	Jan. 15	126	1061
Columbian Hardware Company, Cleveland, Ohio. Heating and ventilating registers and faces and borders therefor	59,601	Jan. 15	126	1055
Comfort Powder Company, Hartford, Conn. Toilet powder	59,659	Jan. 15	126	1057
Conrad, Charles H., Chicago, Ill. Coffee	59,776	Jan. 15	126	1060
Cook, Barron C., Rock Hill, S. C. Cement for leather and wood	59,809	Jan. 15	126	1060
Corazzini, Emilia L., Providence, R. I. Olive-oil	59,630	Jan. 15	126	1056
Coweta Fertilizer Company, Newnan, Ga. Fertilizers	59,810	Jan. 15	126	1060
Coweta Fertilizer Company, Newnan, Ga. Fertilizers	59,722	Jan. 15	126	1058
Curtice Brothers Company, Rochester, N. Y. Certain named foods	59,723	Jan. 15	126	1058
Dayton Dry Goods Co., Minneapolis, Minn. Certain linen goods	59,777	Jan. 15	126	1060
Dayton Specialty Co., Dayton, Ohio. Chewing-gum	59,631	Jan. 15	126	1056
Delaney & Co., J. M., New York, N. Y. Sole-leather and products from the same	59,778	Jan. 15	126	1060
Diamond Rubber Co., Akron, Ohio. Rubber belting, packing, hose, and woven cotton-and-rubber hose	59,660	Jan. 15	126	1057
Diamond Rubber Co., Akron, Ohio. Rubber belting, packing, hose, and woven cotton-and-rubber hose	59,602	Jan. 15	126	1055
Diamond Rubber Co., Akron, Ohio. Rubber belting, packing, hose, and woven cotton-and-rubber hose	59,632	Jan. 15	126	1056
Dowling Bros., Inc., Burgin, Ky. Whisky	59,634	Jan. 15	126	1056
Dunlap Mfg. Co., E. H., Como, Miss. Colic and kidney cure for mules and horses	59,697	Jan. 15	126	1058
E. B. Estes & Sons, New York, N. Y. Wooden boxes	59,737	Jan. 15	126	1059
Eagle Pencil Company, New York, N. Y. Fountain-pens	59,635	Jan. 15	126	1056
Eastern Dynamite Company, Kenvil, N. J. High explosives	59,603	Jan. 15	126	1055
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Lawns	59,661	Jan. 15	126	1057
Edw. B. Bruce Co., Baltimore, Md. Whisky	59,662	Jan. 15	126	1057
Enterprise Manufacturing Co. of Pennsylvania, Philadelphia, Pa. Measuring-faucets and measuring-pumps	59,663	Jan. 15	126	1057
Esberg-Gunst Company, New York, N. Y. Cigars, cheroots, and little cigars	59,604	Jan. 15	126	1055
Esberg-Gunst Company, New York, N. Y. Cigars, cheroots, and little cigars	59,664	Jan. 15	126	1059
F. A. Patrick & Co., Duluth, Minn. Hosiery	59,665	Jan. 15	126	1059
F. A. Poth & Sons, Inc., Philadelphia, Pa. Beer	59,698	Jan. 15	126	1058
Fishel, Nessler & Co., New York, N. Y. Certain jewelry and silver	59,779	Jan. 15	126	1060
Fleischmanns Vienna Model Bakery, New York, N. Y. Bread	59,724	Jan. 15	126	1058
Flinch Card Co., Kalamazoo, Mich. Card games	59,738	Jan. 15	126	1059
Forhan, Henry L., Portland, Me. Canned fruits and vegetables	59,739	Jan. 15	126	1059
Fred Krug Brewing Company, Omaha, Nebr. Beer	59,740	Jan. 15	126	1059
French Battery Co., Madison, Wis. Dry batteries	59,741	Jan. 15	126	1059
Friedenwald & Co., J. H., Baltimore, Md. Whisky, gin, brandy, and rum	59,605	Jan. 15	126	1055
Galena-Signal Oil Company, Franklin, Pa. Lubricating-oil	59,699	Jan. 15	126	1058
Gauvin, J. A. E., Montreal, Canada. Remedy for infantile disorders	59,780	Jan. 15	126	1060
George Worthington Company, Cleveland, Ohio. Hammers	59,742	Jan. 15	126	1059
George Worthington Company, Cleveland, Ohio. Lawn-mowers	59,606	Jan. 15	126	1055
Goldman, Belle, San Francisco, Cal. Electric heating stoves and irons	59,607	Jan. 15	126	1055
Gray & Dudley Hardware Co., Nashville, Tenn. Certain leather manufactures	59,666	Jan. 15	126	1057
Gray & Dudley Hardware Co., Nashville, Tenn. Certain cutlery	59,608	Jan. 15	126	1055
Green River Distilling Company, Owensboro, Ky. Whisky	59,743	Jan. 15	126	1059
Green River Distilling Company, Owensboro, Ky. Whisky	59,667	Jan. 15	126	1057
Green River Distilling Company, Owensboro, Ky. Whisky	59,668	Jan. 15	126	1057
Gy-Zo-Chemical Co., Phoenix, Ariz. Ter., and Los Angeles, Cal. Salve, ointment, or poultice	59,669	Jan. 15	126	1057
Haley-Laybourn Eye Infirmary, St. Louis, Mo. Eye remedies	59,811	Jan. 15	126	1061
Halleman, William, Newark, N. J. Stove-polish	59,744	Jan. 15	126	1059
Hammel, Riglander & Co., New York, N. Y. Watch-hands, balance-staffs, watch-jewels	59,725	Jan. 15	126	1058
Hammond, Ray B., Chicago, Ill. Liquid dressing or polish for black leather shoes	59,670	Jan. 15	126	1057
Hammond, Robert L., Woodsboro, Md. Remedy for certain named diseases	59,781	Jan. 15	126	1060
Hart Manufacturing Company, Cleveland, Ohio. Dies and die-stocks	59,745	Jan. 15	126	1059
Hohner, Firm of M., New York, N. Y. Mouth-harmonicas	59,636	Jan. 15	126	1056
	59,700	Jan. 15	126	1058

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Holley & Co., S. C., Danbury, Conn. Stiff fur hats	29,671	Jan. 15	126	1057
Home Game Company, Chicago, Ill. Playing-cards	29,701	Jan. 15	126	1058
Hoyt, Arthur S., New York, N. Y. Paste	29,669	Jan. 15	126	1055
Hoyt, Rowe & Co., Lynn, Mass. Leather boots and shoes	29,702	Jan. 15	126	1058
Hubbard, Elbert, East Aurora, N. Y. Monthly magazines	29,670	Jan. 15	126	1055
Huegely Milling Company, Nashville, Ill. Wheat-flour	29,747	Jan. 15	126	1059
Huegely Milling Company, Nashville, Ill. Wheat-flour	29,748	Jan. 15	126	1059
Huntington & Son, Hugh, Cleveland, Ohio. Composite sheet-roofing	29,749	Jan. 15	126	1059
Jayne & Son, Dr. D., Philadelphia, Pa. Balsam	29,750	Jan. 15	126	1059
Jayne & Son, Dr. D., Philadelphia, Pa. Liniment or counter-irritant	29,751	Jan. 15	126	1059
Jayne & Son, Dr. D., Philadelphia, Pa. Alterative	29,752	Jan. 15	126	1060
Jireh Diabetic Food Co., New York, N. Y. Certain cereal foods	29,753	Jan. 15	126	1060
Jno. M. Scott & Co., Charlotte, N. C. Certain medicinal preparation	29,812	Jan. 15	126	1061
John Wyeth and Brother, Incorporated, Philadelphia, Pa. Organic salts of silver	29,754	Jan. 15	126	1060
John Wyeth and Brother, Incorporated, Philadelphia, Pa. Granular effervescing headache-salts	29,750	Jan. 15	126	1059
Joseph Allen & Sons Limited, Sheffield, England. Certain named cutlery	29,751	Jan. 15	126	1059
Kahn Wertheimer & Smith Co., New York, N. Y. Coats, vests, and trousers	29,672	Jan. 15	126	1057
Kahn Wertheimer & Smith Co., New York, N. Y. Boys' suits	29,657	Jan. 15	126	1056
Kenton Baking Powder Co., Cincinnati, Ohio. Baking-powder	29,655	Jan. 15	126	1056
Kops Bros., New York, N. Y. Corsets	29,755	Jan. 15	126	1060
L. E. Waterman Company, New York, N. Y. Fountain-pens, feeds, caps, and barrels therefor	29,811	Jan. 15	126	1061
Lacroix, Jeanne M., Paris, France. Corsets	29,756	Jan. 15	126	1060
Ladyware Co., New York, N. Y. Shirt-waists	29,812	Jan. 15	126	1061
Lulell Bros., New York, N. Y. Boys' blouses and waists	29,699	Jan. 15	126	1055
Luyties, Frederick A., St. Louis, Mo. Laxative medicines	29,704	Jan. 15	126	1056
Luyties, Herman C. G., St. Louis, Mo. Soap	29,752	Jan. 15	126	1060
Lynch, Eugene, Boston, Mass. Whisky	29,705	Jan. 15	126	1060
Mahr, Emil M. J., Boston, Mass. Certain named medicinal preparation	29,726	Jan. 15	126	1058
Marshall, Dwight L., Boston, Mass. Wheat-flour	29,757	Jan. 15	126	1060
Martin, G. B., Naples, Tex. Chill-tonic	29,753	Jan. 15	126	1059
Massachusetts Chemical Company, Walpole, Mass. Insulating compounds	29,754	Jan. 15	126	1059
McCormick & Co., Baltimore, Md. Teas	29,613	Jan. 15	126	1055
McCormick & Co., Baltimore, Md. Spices and mustards	29,755	Jan. 15	126	1059
McKesson & Robbins, New York, N. Y. Medicinal preparation for purifying and treating the blood	29,756	Jan. 15	126	1059
McKesson & Robbins, New York, N. Y. Certain antiseptic preparations	29,757	Jan. 15	126	1059
Moroney, James, deceased; J. E. Moroney, Philadelphia, Pa., executor. Whisky	29,758	Jan. 15	126	1060
Moroney, James E., executor. (See Moroney, James.)	29,673	Jan. 15	126	1057
Morse Twist Drill & Machine Company, New Bedford, Mass. Chucks, arbors, and mandrels	29,614	Jan. 15	126	1055
Most Company Incorporated, Pittsburg, Pa. Non-alcoholic tonic beverages	29,759	Jan. 15	126	1060
Muncie Brewing Co., Muncie, Ind. Beer	29,760	Jan. 15	126	1060
N. K. Fairbank Company, Chicago, Ill. Soap	29,761	Jan. 15	126	1060
National Car Protection Company, Chicago, Ill. Car-seals and seals for doors and windows	29,615	Jan. 15	126	1055
Neuss Hesslein & Co., New York, N. Y. Cotton piece goods and blankets	29,616	Jan. 15	126	1055
Neuss Hesslein & Co., New York, N. Y. Cotton piece goods and blankets	29,617	Jan. 15	126	1055
New Holstein Canning Company, New Holstein, Wis. Canned vegetables	29,762	Jan. 15	126	1059
New Holstein Canning Company, New Holstein, Wis. Canned vegetables	29,763	Jan. 15	126	1059
New Orleans Acid and Fertilizer Company, Union township, N. J. Fertilizers for cotton-plants	29,764	Jan. 15	126	1058
Nietert, Henry J., Walker, Iowa. Milk, cream, butter, and cheese	29,813	Jan. 15	126	1061
Northern Maine Packing Company, Corinna, Me. Canned vegetables	29,765	Jan. 15	126	1059
Northern Maine Packing Company, Corinna, Me. Canned vegetables	29,766	Jan. 15	126	1059
Northern Maine Packing Company, Corinna, Me. Canned vegetables	29,767	Jan. 15	126	1059
Ohio Cultivator Co., Bellevue, Ohio. Plows	29,764	Jan. 15	126	1059
Oneida Community Limited, Kenwood, N. Y. Certain jewelry and solid and plated precious-metal ware	29,618	Jan. 15	126	1055
Otto & Son, J. N. W., New Orleans, La. Remedy for rheumatism, neuralgia, and gout	29,707	Jan. 15	126	1058
Paragon Malt Extract Co., New York, N. Y. Medicinal malt extracts	29,765	Jan. 15	126	1059
Paragon Malt Extract Co., New York, N. Y. Malt extracts	29,768	Jan. 15	126	1059
Parker Holmes & Company, Boston, Mass. Leather boots, shoes, and slippers	29,791	Jan. 15	126	1060
Parker Holmes & Company, Boston, Mass. Leather boots, shoes, and slippers	29,708	Jan. 15	126	1058
Parrish, Charles H., Baltimore, Md. Flavoring extracts	29,709	Jan. 15	126	1058
Pauli & Son, Charles F., Cincinnati, Ohio. Harness-leather	29,792	Jan. 15	126	1060
Pennsylvania Steel Co., Philadelphia, Pa. Certain named castings	29,640	Jan. 15	126	1056
Peruform Manufacturing Company, Mountain View, Cal. Surgical gauze for dressing wounds	29,641	Jan. 15	126	1056
Peters, William H., Madison, Ind. Remedy for liver troubles	29,674	Jan. 15	126	1057
Pickel & Hand, Slidell, La. Whisky	29,767	Jan. 15	126	1059
Pinches Dental Manufatng Co., New York, N. Y. Artificial enamel for dental purposes	29,727	Jan. 15	126	1058
Pressing & Orr Co., Circleville, Ohio. Canned fruits and vegetables	29,769	Jan. 15	126	1060
Priddle, Arthur, San Francisco, Cal. Window-prisms, vault, sidewalk, door, and window lights	29,794	Jan. 15	126	1060
Purecoxia Company, Boston, Mass. Certain beverages	29,619	Jan. 15	126	1055
R. E. Dietz Company, New York, N. Y. Globes for lamps and lanterns	29,728	Jan. 15	126	1058
Rea-Patterson Milling Company, Coffeyville, Kans. Wheat-flour	29,642	Jan. 15	126	1056
Reins & Meiss, Cincinnati, Ohio. Knitted shirts, drawers, and vests	29,795	Jan. 15	126	1060
Rennous, Kleinle & Co., of Baltimore city, Baltimore, Md. Paint and varnish brushes	29,643	Jan. 15	126	1056
Rennous, Kleinle & Co., of Baltimore city, Baltimore, Md. Paint and varnish brushes	29,814	Jan. 15	126	1061
Rice & Hochster, New York, N. Y. Horn, rubber, and celluloid hair-pins and hair ornaments	29,815	Jan. 15	126	1061
Rice & Hochster, New York, N. Y. Tortoise-shell hair-pins and hair ornaments	29,710	Jan. 15	126	1058
Rice, Stix Dry Goods Company, St. Louis, Mo. Cotton piece goods	29,711	Jan. 15	126	1058
Richter, Friederich A., Rudolstadt, Germany, and New York, N. Y. Certain games and toys	29,644	Jan. 15	126	1056
Rock Hill Buggy Co., Rockhill, S. C. Buggies and carriages	29,816	Jan. 15	126	1061
Rock Hill Buggy Company, Rockhill, S. C. Buggies and carriages	29,620	Jan. 15	126	1055
Rock Hill Buggy Company, Rockhill, S. C. Buggies and carriages	29,621	Jan. 15	126	1056
Rosenbaum's Sons, Morris, New York, N. Y. Certain cloth and piece goods	29,622	Jan. 15	126	1056
Ross, William A., New York, N. Y. Whisky	29,645	Jan. 15	126	1056
Ross, William A., New York, N. Y. Whisky	29,712	Jan. 15	126	1058
S. Mills Ely Co., Binghamton, N. Y. Coffee	29,720	Jan. 15	126	1058
Schoble & Co., Frank, Philadelphia, Pa. Certain hats and caps	29,796	Jan. 15	126	1060
Schoble & Co., Frank, Philadelphia, Pa. Certain hats and caps	29,647	Jan. 15	126	1056
Scott Fertilizer Co., of Cecil County, Elkton, Md. Fertilizers	29,675	Jan. 15	126	1057
Seattle Pure Food Co., Inc., Seattle, Wash. Certain foods	29,676	Jan. 15	126	1057
	29,797	Jan. 15	126	1060

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Serwazi, Peter J., Philadelphia, Pa. Whisky	59,677	Jan. 15	126	1057
Shaving Powder Company, Savannah, Ga. Depilatories	59,768	Jan. 15	126	1059
Sicilian Asphalt Paving Co., New York, N. Y. Waterproofing fabrics used for building purposes	59,769	Jan. 15	126	1059
Simpson Sons & Co., Wm., Philadelphia, Pa.; New York, N. Y.; Baltimore, Md.; Chicago, Ill., and St. Louis, Mo. Dyed cotton piece goods, excepting silesias	59,648	Jan. 15	126	1056
Slater Shoe Company, Montreal, Quebec, Canada. Leather boots, shoes, and slippers	59,678	Jan. 15	126	1057
Snellenburg & Co., N., Philadelphia, Pa. Hosiery	59,623	Jan. 15	126	1056
Société Anonyme pour la Fabrication des Faiences fines et Produits Céramiques, Maestricht, Netherlands. Fine pottery and ceramic products of all kinds	59,679	Jan. 15	126	1057
Soltmann, Edward G., New York, N. Y. Drawing-paper and tracing-paper	59,713	Jan. 15	126	1058
Soltmann, Edward G., New York, N. Y. Drawing-paper and tracing-paper	59,714	Jan. 15	126	1058
Soltmann, Edward G., New York, N. Y. Drawing-paper	59,715	Jan. 15	126	1058
Soltmann, Edward G., New York, N. Y. Tracing-paper	59,716	Jan. 15	126	1058
Soluro! (Thymic Acid) Company, Limited, London, England. Uric-acid solvent	59,717	Jan. 15	126	1058
Sperry Manufacturing Company, Owatonna, Minn. Grain cleaners and separators	59,798	Jan. 15	126	1060
Sprengstoff A.-G. Carbonit, Hamburg, Germany. Explosives used for loading projectiles and torpedoes	59,718	Jan. 15	126	1058
Stewart, Arthur C., Boston, Mass. Soap	59,680	Jan. 15	126	1057
Summit City Soap Works, Fort Wayne, Ind. Talcum powder	59,719	Jan. 15	126	1058
Sumner, William P., Jacksonville, Fla. Butter	59,770	Jan. 15	126	1059
Sumner, William P., Jacksonville, Fla. Canned fruits and vegetables	59,624	Jan. 15	126	1056
Surpass Leather Company, Philadelphia, Pa. Shoe and glove leather	59,799	Jan. 15	126	1060
Switzer, Fredrick M., St. Louis, Mo. Chewing-gum	59,625	Jan. 15	126	1056
Taussig, Adolf, New York, N. Y. Opera-glasses, field-glasses, and binoculars	59,800	Jan. 15	126	1060
Tea Tray Company of Newark, N. J., Newark, N. J. Amplifying-horns and supports therefor	59,649	Jan. 15	126	1056
Thomas Devlin Manufacturing Co., Burlington, N. J., and Philadelphia, Pa. Certain metal manufactures	59,650	Jan. 15	126	1056
Tilden Company, New Lebanon, N. Y., and St. Louis, Mo. Nutritive, restorative, stimulative, and antiseptic compound	59,730	Jan. 15	126	1058
Tilden Company, New Lebanon, N. Y., and St. Louis, Mo. Germicides and disinfectants	59,801	Jan. 15	126	1060
Tower M'f'g & Nov. Co., New York, N. Y. Certain articles of stationery	59,802	Jan. 15	126	1060
Udolpho Wolfe Co., New York, N. Y. Aromatic Schiedam schnapps	59,651	Jan. 15	126	1056
Union Metallic Cartridge Company, Bridgeport, Conn. Gun and pistol cartridges and parts thereof	59,816	Jan. 15	126	1061
Union Oil Company, Providence, R. I. Certain named cooking-oil	59,803	Jan. 15	126	1060
United Injector Co., New York, N. Y. Valves, strainers, and locks	59,804	Jan. 15	126	1060
United States Radiator Company, Dunkirk, N. Y. Radiators	59,681	Jan. 15	126	1057
Virginia-Carolina Chemical Company, Jersey City, N. J., Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Fertilizers	59,805	Jan. 15	126	1060
Wagner, Edward H., New York, N. Y. Small fireworks for spectacular effects	59,731	Jan. 15	126	1058
Warren & Co., William R., Philadelphia, Pa. Certain medicinal preparations	59,682	Jan. 15	126	1057
Wells & Richardson Company, Burlington, Vt. Tonic, alterative, laxative, and diuretic medicines	59,771	Jan. 15	126	1059
Wile, Sons & Co., Julius, New York, N. Y. Sherry	59,806	Jan. 15	126	1060
Williams, White & Company, Moline, Ill. Bending, shaping, and forging machines	59,683	Jan. 15	126	1057
Willis & Co., Grinnell, New York, N. Y. Cotton piece goods	59,684	Jan. 15	126	1057
Wilson, John M., New York, N. Y. Washing-powders	59,652	Jan. 15	126	1056
	59,782	Jan. 15	126	1058

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Bennett, Grace, New Orleans, La. "Feahney's Chief." (For Whisky)	13,317	Jan. 15	126	1062
Central Lithograph Co., Cleveland, Ohio. "Medrona, Essence of Mildness Cigars." (For Cigars)	13,318	Jan. 15	126	1062
Feldman, Alexander, Houston, Tex. "Crown-O." (For a Beverage)	13,314	Jan. 15	126	1062
Grasso, Paride, New York, N. Y. "Paride's Treasure." (For Medicine)	13,325	Jan. 15	126	1062
H. E. Bucklen & Company, Chicago, Ill. "Electric Brand Bitters." (For Medicine)	13,324	Jan. 15	126	1062
Hansen, Ferdinand, New York, N. Y. "Deep Sea Caviar." (For Caviar)	13,311	Jan. 15	126	1062
Mumm & Co., G. H., Rheims, France. "Cordon Rouge." (For Champagne-Wine)	13,315	Jan. 15	126	1062
Mumm & Co., G. H., Rheims, France. "Cordon Rouge, G. H. Mumm & Co." (For Champagne-Wine)	13,316	Jan. 15	126	1062
Part & Tilford, New York, N. Y. "P. & T. English Breakfast Tea." (For English Breakfast-Tea)	13,307	Jan. 15	126	1062
Part & Tilford, New York, N. Y. "P. & T. Orange Pekoe Ceylon Tea." (For Orange Pekoe Ceylon Tea)	13,308	Jan. 15	126	1062
Part & Tilford, New York, N. Y. "P. & T. Formosa Oolong Tea." (For Formosa Oolong Tea)	13,309	Jan. 15	126	1062
Patton, Joseph S., South Boise, Idaho. "Hy-Alfa." (For Hair Discovery)	13,321	Jan. 15	126	1062
Royal Tea Company, Chicago, Ill. "Royal Tea Company." (For Teas, Spices, Extracts, Baking-Powder, and Coffees)	13,310	Jan. 15	126	1062
Russian Caviar Company, New York, N. Y. "Romanoff Caviar." (For Caviar)	13,312	Jan. 15	126	1062
Russian Caviar Company, New York, N. Y. "Romanoff Caviar." (For Caviar)	13,313	Jan. 15	126	1062
Schnepf, Clara, St. Louis, Mo. "Loreley Hair Tonic." (For Hair-Tonic)	13,322	Jan. 15	126	1062
Taylor, R. L., Emporia, Kans. "Klean-All." (For a Cleaning-Powder)	13,319	Jan. 15	126	1062
Tetlow, Clara, Philadelphia, Pa. "La Princesse Thérèse." (For Talcum and Toilet Powder)	13,320	Jan. 15	126	1062
Wallber, Otto J., Milwaukee, Wis. "Paramount Massage Cream and Skin Food." (For a Massage-Cream and Skin Food)	13,323	Jan. 15	126	1062

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Carbolineum Wood Preserving Company, Milwaukee, Wis. "Certificate of Origin Genuine Avenarius Carbolineum." (For a Wood-Preserving Compound)	1,886	Jan. 15	126	1062
Chicago Photogravure Company, Chicago, Ill. "Secret Service" (For Automatic Telephones)	1,891	Jan. 15	126	1062
Cream of Wheat Company, Minneapolis, Minn. "The Food You Never Tire Of." (For a Cereal Breakfast Food)	1,885	Jan. 15	125	1062
E. P. Dutton & Company, New York, N. Y. "The Elwell Bridge Pad." (For Bridge-Pads)	1,889	Jan. 15	126	1062
Elliott, Samuel K., Los Angeles, Cal. "Elliott's Cream of Maple." (For Maple Table-Syrup)	1,888	Jan. 15	126	1062
L. Adler, Bros. & Co., Rochester, N. Y. "Men's Apparel." (For Men's Apparel)	1,890	Jan. 15	126	1062
Oxzyn Company, New York, N. Y. "Oxzyn Balm." (For a Balm for the Complexion)	1,887	Jan. 15	126	1062
Standard Bottling Co., Denver, Colo. "From Humble Cot to Palace Grand, The Finest Drinks in All the Land." (For Ginger-Ale)	1,884	Jan. 15	126	1062
United States Playing Card Company, Norwood, Ohio. "Cavendish Hoyle and Wheelock Backs, U. S. Whist Faces." (For Playing-Cards)	1,892	Jan. 15	126	1062
United States Playing Card Company, Norwood, Ohio. "Motorette and Autobike Backs, Bicycle Playing Cards." (For Playing-Cards)	1,893	Jan. 15	126	1062
Wilkinson Shear & Cutlery Co., Reading, Pa. "Wilcut Knives." (For Cutlery)	1,883	Jan. 15	126	1062

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Adam, Alfred, Basel, Switzerland. Milky or lacteous meal	4,403	Jan. 15	126	1041
Alma Manufacturing Company of Baltimore City, Baltimore, Md. Snap-fasteners for wearing-apparel	23,913	Jan. 15	126	1051
American Hominy Company, Indianapolis, Ind. Hominy, hominy-grits, &c	16,357	Jan. 15	126	1043
American Horse Shoe Company, Phillipsburg, N. J. Horses' and mules' shoes	12,760	Jan. 15	126	1043
Ammen, Charles, New Orleans, La. Antipyretic, stimulant, analgesic, and anodyne	20,588	Jan. 15	126	1045
Andrews, Edw. F., Chicago, Ill. Plugs for filling the teeth	6,326	Jan. 15	126	1041
Armored Tire Co., H. M. & S., Pittsburg, Pa. Rubber tires for automobiles	15,434	Jan. 15	126	1043
Arnold, Louchheim & Co., Philadelphia, Pa. Trousers, coats, vests, and overcoats	23,769	Jan. 15	126	1051
Athanassiades Sons, J. E., New York, N. Y. Olive-oils	20,222	Jan. 15	126	1044
Austin, Albert W., Pittsburg, Pa. Antiseptic cleanser for artificial teeth	22,939	Jan. 15	126	1047
B. F. Goodrich Company, Akron, Ohio. Belting, hose, machinery packing, &c	22,676	Jan. 15	126	1047
Baker, William H., Winchester, Va. Chocolate	10,373	Jan. 15	126	1042
Barclay & Barclay, New York, N. Y. Medicinal syrup, pills, hair-tonic, &c	22,206	Jan. 15	126	1046
Barclay & Barclay, New York, N. Y. Soap for toilet and medicinal purposes	23,147	Jan. 15	126	1048
Barclay & Barclay, New York, N. Y. Soap	23,810	Jan. 15	126	1051
Beach, Edward F., St. Louis, Mo. Chemical compound for preventing dust while sweeping	23,746	Jan. 15	126	1050
Bensmann, Hermann, Bremen, Germany. Insecticides	10,464	Jan. 15	126	1042
Blanke-Baer Chemical Company, St. Louis, Mo. Massage-cream and eczema cure	23,094	Jan. 15	126	1048
Blumer, Arthur, La Varenne St. Hilaire, France. Corks	22,426	Jan. 15	126	1046
Boott Mills, Lowell, Mass. Cotton piece goods	21,982	Jan. 15	126	1046
C. N. Dietz Lumber Company, Omaha, Nebr. Siding, shingles, &c	22,806	Jan. 15	126	1047
Carlowitz & Co., New York, N. Y. Cigars, cigarettes, smoking and chewing tobacco	22,437	Jan. 15	126	1046
Central Kansas Milling Company, Lyons, Kans. Wheat-flour	24,085	Jan. 15	126	1053
Champion Roller Milling Company, Richmond, Ind. Wheat-flour	23,720	Jan. 15	126	1050
Chester, Frank E., Providence, R. I. Fishing-tackle	22,779	Jan. 15	126	1047
Chester, Frank E., Providence, R. I. Fishing-tackle	22,781	Jan. 15	126	1047
Chester, Frank E., Providence, R. I. Fishing-tackle	22,783	Jan. 15	126	1047
Clinton Canning Co., Rome, N. Y. Canned vegetables	23,764	Jan. 15	126	1050
Clinton Canning Co., Rome, N. Y. Canned fruits and vegetables	23,765	Jan. 15	126	1050
Clinton Canning Co., Rome, N. Y. Canned vegetables	23,766-8	Jan. 15	126	1051
Columbia Phonograph Company, New York, N. Y. Talking-machines, records, and supplies therefor	23,830	Jan. 15	126	1051
Coombs, John T., Boston, Mass. Specific for nervous troubles, colds, &c	23,567	Jan. 15	126	1050
Cudahy Packing Company, Chicago, Ill., and South Omaha, Nebr. Cured, smoked, and sweet-pickled meats	24,020	Jan. 15	126	1053
Currier, Frank J., Lynn, Mass. Leather shoes	22,319	Jan. 15	126	1046
Davis Milling Company, St. Joseph, Mo. Wheat-flour	23,512	Jan. 15	126	1049
Detrick & Harvey Machine Co. of Baltimore City, Baltimore, Md. Open-side planers	23,562	Jan. 15	126	1050
Du Rocher, Chas. L., Annapolis, Md. Hair-tonic	23,980	Jan. 15	126	1052
Eberhard Manufacturing Company, Cleveland, Ohio. Metal parts used in the construction of carriages and wagons	545	Jan. 15	126	1041
Eclipse Cement & Blacking Company, Philadelphia, Pa. Shoe, leather, and harness pollahes, blackings, and dressings	23,631	Jan. 15	126	1050
Edw. K. Tryon Company, Philadelphia, Pa. Fish hooks, rods, reels, &c	23,008	Jan. 15	126	1048
Electrose Manufacturing Co., Brooklyn, N. Y. Composition of matter for insulators, electrical fittings, &c	6,127	Jan. 15	126	1041
Enterprise Manufacturing Co. of Pennsylvania, Philadelphia, Pa. Bung-hole borers	23,732	Jan. 15	126	1050
Evansville Brewing Ass'n., Evansville, Ind. Beer	21,536	Jan. 15	126	1046
Father Schubert Rheumatic Cure Company, Chicago, Ill. Medicine for the cure of rheumatism	20,439	Jan. 15	126	1044
Fields, William L., Norfolk, Va. Laxative	19,735	Jan. 15	126	1044
Flynn, William B., Fall River, Mass., and Providence, R. I. Tooth-paste	21,264	Jan. 15	126	1045
Franklin Electric Mfg. Co., Hartford, Conn. Incandescent electric lamps	7,848	Jan. 15	126	1042
Froelich, Gottlieb W., St. Paul, Minn. Washing-machines, washtubs, &c	22,740	Jan. 15	126	1047
Funk & Wagnalls Company, New York, N. Y. Monthly journal	23,985	Jan. 15	126	1052
George Ziegler Co., Milwaukee, Wis. Chocolates, caramels, and all kinds of candies	24,124	Jan. 15	126	1053
Goltze, Ella, New York, N. Y. Soap for cleansing fine linen and embroidery	23,426	Jan. 15	126	1049
H. F. Webb Company, Portland, Me. Canned corn, succotash, and beans	6,692	Jan. 15	126	1041
Haggerty Co., J. S., Fairmont, W. Va. Stogies	24,005	Jan. 15	126	1052

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Haskins Bros. & Co., Sioux City, Iowa, and Omaha, Nebr. Pumice-soap	24,115	Jan. 15	126	1053
Hesslette Chemical Co., New York, N. Y. Face-lotions	19,947	Jan. 15	126	1044
Hopson & Pettis Manufacturing Company, New Haven, Conn. Copying baths and cloths	23,057	Jan. 15	126	1048
Hollywood Company, New York, N. Y. Whisky	24,073	Jan. 15	126	1053
Jacobson's Sons, L., New York, N. Y. Boys' coats, vests, and trousers and girls' coats	23,175	Jan. 15	126	1048
James S. Kirk & Company, Chicago, Ill. Laundry soap	20,873	Jan. 15	126	1045
Johnson Co., H. Heron, New York, N. Y. Pills for diseases of the stomach, liver, and bowels	24,024	Jan. 15	126	1053
Johnson, William S., Putnam, Conn. Leather shoes	21,073	Jan. 15	126	1045
Knoll & Co., Ludwigshafen, Germany. Antigonorrheic	22,571	Jan. 15	126	1046
Kohs Distilling Co., Montgomery, Ala. Whisky	24,154	Jan. 15	126	1053
Lamphear, Benjamin O., Wheeling, W. Va. Preparation for the treatment of neuralgia, sprains, cuts, &c	20,855	Jan. 15	126	1045
Leidiger Brewing Co., Merrill, Wis. Lager-beer	23,774	Jan. 15	126	1051
Levi Strauss & Co., San Francisco, Cal. Stockings	20,698	Jan. 15	126	1045
Lewis & Company, David W., New York, N. Y. Butter	24,066	Jan. 15	126	1053
Lord & Taylor, New York, N. Y. Hosiery	8,662	Jan. 15	126	1042
M. Schulz Co., Chicago, Ill. Pianos and organs	21,748	Jan. 15	126	1046
Manhattan Medicine Co., New York, N. Y. Remedy for diseased conditions of the blood, liver, and digestive organs	23,965	Jan. 15	126	1052
Maspero Frères, Limited, London, England. Cigarettes	23,098	Jan. 15	126	1048
May Company, Cleveland, Ohio. Leather shoes	23,906	Jan. 15	126	1051
Mexican Amole Soap Co., Peoria, Ill. Soap	10,767	Jan. 15	126	1042
Mexican Amole Soap Co., Peoria, Ill. Soap	10,769	Jan. 15	126	1043
Miller & Co., Clifford L., New York, N. Y. Caen stone cement	14,202	Jan. 15	126	1043
National Coal Tar Company, Wilmington, Del., and Boston, Mass. Insecticides	23,701	Jan. 15	126	1850
National Refining Company, Cleveland, Ohio. Illuminating-oil	23,288	Jan. 15	126	1049
Neuss, Hesslein & Co., New York, N. Y. Sand and emery paper	22,846	Jan. 15	126	1047
New York Mackintosh Company, New York, N. Y. Women's coats, cloaks, suits, and outer skirts	20,835	Jan. 15	126	1045
Newman Clock Co., Chicago, Ill. Time-recorders, clocks, and watches	23,022	Jan. 15	126	1048
Pain, Henry J., New York, N. Y. Fireworks	24,081	Jan. 15	126	1053
Patterson Sargent Co., Cleveland, Ohio. Varnishes	12,773	Jan. 15	126	1043
Phelps Co., Meadville, Pa. Chocolate-covered candy	18,836	Jan. 15	126	1044
Pierce, Louis D., New York, N. Y. Medicinal preparations for the relief of toothache	17,951	Jan. 15	126	1044
Plymouth Gypsum Co., Fort Dodge, Iowa. Wall-plasters	23,782	Jan. 15	126	1051
Red Cross Mfg. Co., Bluffton, Ind. Windmills, windmill-towers, pumps, and pump-cylinders	7,719	Jan. 15	126	1042
Richmond Abattoir Co., Richmond, Ind. Lard	24,002	Jan. 15	126	1052
Rogers & Thompson, assignor to Rogers & Thompson, New York, N. Y. Silk dress goods	10,671	Jan. 15	126	1042
Rosenstein Brothers Inc., New York, N. Y. Canned vegetables	22,798	Jan. 15	126	1047
S. Liebmann's Sons Brewing Company, Brooklyn, N. Y. Ale	24,037	Jan. 15	126	1053
S. M. Bixby & Co., New York, N. Y. Metal dressings and polish	23,237	Jan. 15	126	1048
S. M. Bixby & Co., New York, N. Y. Metal dressings and polish	23,239	Jan. 15	126	1048
Saisty Systems Co., New York, N. Y. Blank books, ledgers, filing-cards, &c	15,000	Jan. 15	126	1043
Safa, John G., St. Louis, Mo. Cigarettes	23,323	Jan. 15	126	1040
Sawyer Crystal Blue Company, Boston, Mass. Washing-blue	10,441	Jan. 15	126	1042
Schoppelman, William, New York, N. Y. Whisky	23,497	Jan. 15	126	1049
Schroer, August, Cincinnati, Ohio. Scrap, chewing, and smoking tobacco	23,967	Jan. 15	126	1025
Schwarzschild and Sulzberger Co., Chicago, Ill., and New York, N. Y. Oleo-oil used in the manufacture of oleomargarin, &c	17,284	Jan. 15	126	1044
Sedlitzky, Wenzel, Salsburg, Austria. Medicated tablets for baths	14,727	Jan. 15	126	1043
Sherman, Reid & Co., New York, N. Y. Quilts	9,040	Jan. 15	126	1042
Starry, Wallace G., Harrisburg, Pa. Woven fabric collars and cuffs	22,636	Jan. 15	126	1046
Strasburger, Byron L., New York, N. Y. Watches, watch-movements, and watchcases	24,003	Jan. 15	126	1052
Swann Abram Hat Co., Louisville, Ky. Hats, not including rubber or knitted hats	23,388	Jan. 15	126	1049
Taylor Iron & Steel Co., High Bridge, N. J. Crushing and sizing machinery, centrifugal pumps, &c	22,773	Jan. 15	126	1047
Tilden Company, New Lebanon, N. Y., and St. Louis, Mo. Alterative, resolvent, aperient medicine	23,968	Jan. 15	126	1052
Toussaint, Philip, New York, N. Y. Finger-cots made of leather	22,993	Jan. 15	126	1048
U. S. Industrial Alcohol Co., New York, N. Y. Denatured alcohol	23,763	Jan. 15	126	1050
Universal Cable Grip Company, Syracuse, N. Y. Metal grips for cables, ropes, &c	23,425	Jan. 15	126	1049
Valdes & Co., Ferna, Havana, Cuba. Leather boots, shoes, and oxfords	23,547	Jan. 15	126	1049
Virginia-Carolina Chemical Company, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Fertilizers	23,952	Jan. 15	126	1052
Virginia-Carolina Chemical Company, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Fertilizers	23,954	Jan. 15	126	1052
Virginia Etna Lithia Springs Co., Jersey City, N. J., and New York, N. Y. Mineral water	22,894	Jan. 15	126	1047
Walter R. Johnston Manuf'g Co., New York, N. Y. Hand-operated fire-extinguishing engines, pumps, &c	23,558	Jan. 15	126	1049
Wardlow, S. & C., New York, N. Y. Steel billets, rods, blanks, &c	18,344	Jan. 15	126	1044
Weisent, Geo. J., East Liverpool, Ohio. Medicine for the lungs	22,205	Jan. 15	126	1046
Whitman Grocery Company, Orange, Mass. Prepared tapioca	8,173	Jan. 15	126	1042
William Prym G. m. b. H., Stolberg, Germany. Press-studs, hooks, eyes, buckles, &c	21,737	Jan. 15	126	1046

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 15TH DAY OF JANUARY, 1907.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Specification.	Drawing.	Volume.	Page.
Account-cabinet	B. C. Maxwell. (Reissue)	12,597	Jan. 15	3726	809	126	1037
Acid. Manufacture of chromic	R. Suchy	841,278	Jan. 15	2990	.....	126	847
Adding-machine attachment	F. R. McBerty	841,335	Jan. 15	3112	672–3	126	880
Aerated water. Manufacture of	G. Higginson	841,247	Jan. 15	2931	638	126	833
Aerial-navigation brake	G. G. Schroeder	841,581	Jan. 15	3572	773	126	999
Aerial system for mining purposes	G. G. Schroeder	841,582	Jan. 15	3574	773–5	126	1000
Aerial transportation system	G. G. Schroeder	841,579	Jan. 15	3565	769–70	126	997
Aerial transportation system for vessels	G. G. Schroeder	841,580	Jan. 15	3568	770–2	126	998
Air-brake for cars. Automatic	W. J. Dankel	841,636	Jan. 15	3682	799	126	1026
Air-brake mechanism	W. V. Turner	841,470	Jan. 15	3367	728	126	946
Air-brake system	F. B. Corey	841,231	Jan. 15	2902	631	126	826
Air-heater	E. T. Slaughter	841,591	Jan. 15	3593	781	126	1004
Alarm:							
See Fire-alarm.							
Altar-tabernacle	J. Rauwald	841,180	Jan. 15	2800	611	126	801
Amusement apparatus	J. W. O'Donnell	841,173	Jan. 15	2789	608–9	126	798
Amusement device	P. A. Tilyou	841,468	Jan. 15	3363	727	126	944
Animal-trap	J. K. Wedgworth	841,200	Jan. 15	2831	617	126	809
Annunciator. Electric	C. C. Blake	841,307	Jan. 15	3063	663	126	866
Annunciator for hotel letter-boxes	F. Muschenheim	841,168	Jan. 15	2783	607	126	797
Anticorrosive composition	J. A. Ryan	841,573	Jan. 15	3555	.....	126	995
Automatic switch	A. Underdahl	841,286	Jan. 15	3002	653	126	850
Axle-box	H. E. Lord	841,552	Jan. 15	3519	760–1	126	986
Bag-frame corner-fixture	B. vom Elgen	841,313	Jan. 15	3071	665	126	868
Bag-holder	J. A. Campbell	841,621	Jan. 15	3660	794	126	1021
Bag-tie	W. F. Corum	841,630	Jan. 15	3672	797	126	1024
Bags and the like. Machine for cleaning	E. L. Buschman	841,309	Jan. 15	3065	664	126	866
Bait. Artificial	H. H. Passage	841,429	Jan. 15	3293	711	126	926
Bait. Artificial	L. P. Gibson	841,506	Jan. 15	3450	743	126	969
Balance. Assay-	R. G. Ainsworth	841,477	Jan. 15	3382	730–1	126	949
Ball-and-socket-joint cushion	C. B. Pinckney	841,570	Jan. 15	3550	767	126	993
Bar:							
See Grate-bar.							
Basket	V. Nacht, P. Salomon, and J. Erzen.	841,170	Jan. 15	2786	608	126	797
Bearing. Lubricating-	N. A. Christensen	841,122	Jan. 15	2703	590	126	776
Bearings. Apparatus for preparing rings for ball-	S. Schneider	841,577	Jan. 15	3562	769	126	997
Bed. Folding	J. L. Tandy	841,280	Jan. 15	2993	651	126	848
Bed. Folding	C. T. Rice	841,341	Jan. 15	3125	675	126	883
Bet	F. F. Knothe	841,157	Jan. 15	2766	603	126	792
Belt-fastener	I. Jackson	841,252	Jan. 15	2940	640	126	836
Belt-stretcher	W. S. Green	841,510	Jan. 15	3456	744	126	971
Bicycle-lock	R. N. Caughell	841,624	Jan. 15	3665	795	126	1022
Binder. Loose-leaf	J. C. Dawson	841,125	Jan. 15	2707	592	126	777
Biscuit forming and baking device	Y. Kawasaki	841,533	Jan. 15	3488	753	126	979
Bit:							
See Cutter-head bit.							
Block:							
See Concrete block.							
Block lifting and carrying apparatus	G. F. Fisher	841,137	Jan. 15	2726	595	126	782
Block-molding machine	F. Christian and E. H. Reed	841,228	Jan. 15	2893	629	126	824
Block-molding machine	J. I. Hancock	841,515	Jan. 15	3461	745–6	126	972
Board:							
See Bulletin-board. Checker-board.							
Boiler:							
See Pipe-boiler. Steam-boiler.							
Boiler	J. Renshaw	841,571	Jan. 15	3551	767	126	994
Boiler	J. P. Sneddon	841,593	Jan. 15	3595	781–2	126	1005
Boiler-flue. Detachable	J. F. Drake	841,381	Jan. 15	3208	692	126	905
Boilers. Alarm-signal for	H. Sandvoss	841,186	Jan. 15	2811	613	126	804
Bolt-anchor	F. C. Palmer	841,338	Jan. 15	3118	674	126	882
Book and color-box. Combined painting-	G. Tuck	841,360	Jan. 15	3171	682	126	895
Book-holder	J. S. Dudley	841,237	Jan. 15	2914	633–4	126	829
Book. Sales-	H. P. Brown	841,617	Jan. 15	3655	793	126	1019
Booklet or folder	R. H. Garman	841,241	Jan. 15	2921	635	126	830
Bottle-closure	J. P. Nikonow	841,426	Jan. 15	3288	709	126	925
Bottle-filling machine	J. Ramsey	841,442	Jan. 15	3311	716	126	931
Bottle-stopper fastener	C. M. Conradson	841,629	Jan. 15	3671	797	126	1023
Bottle-washing machine	F. N. Young	841,299	Jan. 15	3044	659	126	861
Box:							
See Axle-box. Mail-box. Fuse-box.							
Box-nailing press	H. A. and G. S. Bassford	841,613	Jan. 15	3646	792	126	1017

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Brace: *See* Ratchet-brace.							
Bracelet. Extensible	A. D. Crosby	841,633	Jan. 15	3677	798	126	1025
Bracket: *See* Lamp-bracket.							
Bracket	G. H. Dörken	841,131	Jan. 15	2718	593	126	790
Brake: *See* Aerial-navigation brake. Machine-brake.							
Brakes. Apparatus for supplying water or other liquids to	G. Enrico	841,314	Jan. 15	3074	665	126	869
Brazing	C. C. Hornsby	841,151	Jan. 15	2758	.....	126	791
Bread mixer and kneader	O. D. Woodruff	841,296	Jan. 15	3039	658	126	880
Brush. Folding shaving	H. M. Rynehart	841,453	Jan. 15	3340	721	126	939
Bucket. Milk	J. Ferguson	841,134	Jan. 15	2721	594	126	781
Building-blocks. Mold and die for making	G. F. Fisher	841,136	Jan. 15	2724	595	126	782
Bulletin-board. Elastic	F. W. Weeks	841,201	Jan. 15	3016	655–6	126	853
Bung. Beer	F. E. Stauffer	841,348	Jan. 15	3142	678	126	888
Burner: *See* Gas-burner. Oil-burner. Sulfur-burner. Tobacco-plant-bed burner.							
Buttoner and horn. Shoe	J. L. Sommer	841,192	Jan. 15	2818	614	126	806
Cabinet-table	N. L. Jewell	841,405	Jan. 15	3251	701	126	916
Cake-tin support	W. L. Gale	841,502	Jan. 15	3444	742	126	968
Calculator	K. H. J. Marckwordt	841,413	Jan. 15	3269	705	126	920
Car brake-shoe. Mine	D. S. Miller and J. M. Landfair	841,264	Jan. 15	2964	644	126	841
Car coupling	J. M. Howell, Jr	841,523	Jan. 15	3475	749–50	126	975
Car draft-gear. Railway	C. T. Westlake	841,202	Jan. 15	2836	618	126	810
Car. Dump	G. B. Maltby. (Reissue)	12,596	Jan. 15	3725	809	126	1036
Car for protecting the feet of passengers	B. Klein	841,540	Jan. 15	3498	755	126	981
Car guard or fender	W. T. Lane	841,651	Jan. 15	3715	808	126	1034
Car running-gear	J. H. Kelly	841,256	Jan. 15	2960	641	126	838
Car-stake	J. E. Flynn	841,500	Jan. 15	3442	741	126	967
Car underframe. Box	J. M. Hansen	841,145	Jan. 15	2742	598–9	126	787
Car-underframe. Steel	A. Becker	841,221	Jan. 15	2880	627	126	819
Car-wheel	F. L. Smith	841,275	Jan. 15	2985	649	126	846
Cars. Adjustable stairway for suspended railway	D. M. Pfautz	841,653	Jan. 15	3718	808	126	1035
Carbon for electrical resistances. Preparing	E. G. Rivers	841,572	Jan. 15	3553	.....	126	904
Carpet fastener. Stair	J. D. Miller	841,417	Jan. 15	3273	706	126	921
Carriage-bow support	R. C. Ledbetter	841,548	Jan. 15	3514	759	126	985
Carrier: *See* Cuspidor-carrier.							
Carrier	D. G. Lyman	841,260	Jan. 15	2959	643	126	840
Carving-machine	F. H. Richards	841,183	Jan. 15	2804	612	126	802
Casting chilled rolls. Mold for	R. H. West	841,293	Jan. 15	3023	656–7	126	854
Casting metal	C. S. Szekely, Sr	841,279	Jan. 15	2990	650–1	126	847
Cattle-guard	C. M. Hoyt and M. J. McNulty	841,524	Jan. 15	3476	750	126	975
Cement. Compound for making pipestone	H. E. Trumbull	841,285	Jan. 15	3002	.....	126	850
Centrifugal separator	N. S. Bök	841,370	Jan. 15	3186	686–7	126	899
Chair: *See* Disappearing chair. Life-preserving steamer-chair.							
Chair	W. J. Kelly	841,538	Jan. 15	3495	754–5	126	980
Checker-board. Sectional	H. M. Yorke	841,366	Jan. 15	3181	685	126	898
Chisel	G. J. Harris	841,517	Jan. 15	3467	747	126	973
Chlorinating apparatus	W. V. Lander	841,329	Jan. 15	3102	671	126	878
Chopper: *See* Cotton-chopper.							
Cigarette-making machine	W. Bagguley	841,216	Jan. 15	2871	624–5	126	818
Clamp: *See* Rope and cable clamp.							
Clock regulator. Pendulum	W. E. Porter	841,440	Jan. 15	3307	715	126	930
Cloth-cutting machine	W. H. King	841,325	Jan. 15	3092	668–9	126	875
Clutch. Friction	W. H. Corbett	841,230	Jan. 15	2901	630	126	825
Clutch. Friction	A. Hérisson	841,520	Jan. 15	3471	748–9	126	974
Clutch. Friction	R. C. Nugent	841,564	Jan. 15	3537	765	126	991
Coal-washer	W. M. Duncan	841,382	Jan. 15	3209	692	126	905
Coin-counting machine	M. B. Rightman	841,446	Jan. 15	3328	719	126	936
Coin-operated machine	W. Andrews	841,302	Jan. 15	3050	661	126	863
Comb	W. Phinney	841,175	Jan. 15	2791	610	126	799
Composite sheet or layer	W. W. Whitcomb	841,204	Jan. 15	3037	658	126	860
Composition of matter	B. B. Goldsmith	841,509	Jan. 15	3454	.....	126	970
Concrete base for fence-posts	R. J. Livengood	841,163	Jan. 15	2775	606	126	795
Concrete block	S. D. Merton	841,415	Jan. 15	3272	705	126	921
Concrete block and wall	F. D. Merchant	841,414	Jan. 15	3270	705	126	920
Concrete column. Reinforced	L. F. Smith	841,463	Jan. 15	3353	724	126	942
Concrete-mixing machine	L. C. Roberts	841,273	Jan. 15	2979	648–9	126	845
Contractible mold	G. Georgenson and J. E. Hennen	841,504	Jan. 15	3448	742	126	969
Conveyers. Tripper or deliverer for belt	E. H. Messiter	841,558	Jan. 15	3528	763	126	988
Cooking-utensil handle or knob	A. Wickwar	841,364	Jan. 15	3178	684	126	897
Cooler: *See* Water-cooler.							
Core-barrel. Collapsible	G. D. Fairleigh	841,404	Jan. 15	3428	730	126	964
Cork cutting and tapering machine	J. A. Hellstrom and G. W. Exler	841,646	Jan. 15	3705	805–6	126	1032
Corn rack and germinator. Seed	C. A. Dewey	841,126	Jan. 15	2710	592	126	778
Cot or hammock hook and beam-socket	W. Houghton	841,251	Jan. 15	2938	639	126	835
Cotton-chopper	W. T. Walter	841,289	Jan. 15	3013	655	126	852
Cotton. Ginning	J. R. Fordyce	841,385	Jan. 15	3213	693	126	906
Counterbalance	W. Lewis	841,161	Jan. 15	2771	604–5	126	794
Coupling: *See* Car-coupling.							
Crate	J. W. Rector	841,340	Jan. 15	3125	675	126	883
Crate. Folding	J. W. Fulwiler	841,319	Jan. 15	3080	666–7	126	871
Crib. Folding	W. E. Trott	841,359	Jan. 15	3170	682	126	895
Crystallizing apparatus	G. E. Stadtegger	841,595	Jan. 15	3600	782	126	1006
Cultivator	M. H. Nicholson	841,171	Jan. 15	2787	608	126	797
Cultivator. Hand	B. F. Shuart	841,461	Jan. 15	3350	723–4	126	941
Current-motor	J. W. Laurent	841,547	Jan. 15	3512	758–9	126	984
Current motor. Alternating	M. C. A. Latour	841,544	Jan. 15	3508	756	126	982
Current motor. Alternating	E. F. W. Alexanderson	841,610	Jan. 15	3639	790–1	126	1016

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Current motor. Alternating	R. Lundell. (Reissue)	12,595	Jan. 15	3722	809	126	1036
Curtain-fastening	I. V. Fister	841,316	Jan. 15	3076	666	126	870
Cushion: *See* Ball-and-socket-joint cushion.							
Cuspidor-carrier	L. J. Chapman	841,225	Jan. 15	2887	628	126	882
Cutter: *See* Noodle-cutter. Root-cutter. Tobacco-cutter.							
Cutter-head bit. Rotary	E. S. Shimer	841,587	Jan. 15	3584	779	126	1002
Cyaniding apparatus	W. V. Lander	841,331	Jan. 15	3106	671	126	879
Cycle. Motor	E. L. and F. A. Pequegnat and C. W. Milan.	841,434	Jan. 15	3299	713	126	927
Derrick for loading wagons	W. N. Jay	841,404	Jan. 15	3249	700	126	915
Desk companion	G. B. Hall	841,391	Jan. 15	3227	696	126	909
Disappearing chair. Automatic	L. G. Finch	841,135	Jan. 15	2721	594	126	781
Display-cabinet	J. T. Stinson and W. F. Hall	841,349	Jan. 15	3146	678	126	889
Display-cabinet	E. J. Loomis	841,551	Jan. 15	3517	760	126	985
Display device	J. M. Kelley	841,535	Jan. 15	3491	753–4	126	979
Display-receptacle	J. M. Kelley	841,536	Jan. 15	3493	754	126	980
Displaying paint-colors. Means for	H. E. Northup	841,266	Jan. 15	2968	645	126	842
Distilling apparatus	P. J. Hope	841,401	Jan. 15	3242	699	126	913
Ditching-machine	R. L. Everett	841,315	Jan. 15	3075	655	126	870
Ditching-shovel. Self-cleaning	W. F. Cook	841,374	Jan. 15	3191	687–8	126	900
Ditching-shovel. Self-cleaning	W. F. Cook	841,375	Jan. 15	3194	688–9	126	901
Door-closer	R. Adams	841,608	Jan. 15	3627	787–8	126	1013
Door construction. Sliding	A. R. Curtis	841,378	Jan. 15	3202	690	126	903
Door-hanger	J. H. Burkholder	841,117	Jan. 15	2689	587	126	772
Door-hanger	H. B. Pitner	841,269	Jan. 15	2973	646	126	843
Door-hanger	W. J. Fairbank	841,493	Jan. 15	3426	739	126	963
Door or gate fastener	E. W. Hasenpflug	841,147	Jan. 15	2748	600	126	788
Door-stop	K. Osel	841,428	Jan. 15	3292	711	126	926
Doors. Slidable hinge-hanger for grain	E. Bronner	841,223	Jan. 15	2882	628	126	820
Drawing apparatus	F. H. Bowman	841,222	Jan. 15	2881	627	126	820
Drawing instrument. Curve	G. and W. A. Dawson	841,639	Jan. 15	3687	800	126	1027
Drill: *See* Grain-drill. Rock-drill.							
Drilling-machine	A. V. Cassal	841,622	Jan. 15	3662	794	126	1021
Dust-pan	M. Böniger	841,371	Jan. 15	3188	.....	126	900
Dye and making same. Azo	H. B. Perry	841,433	Jan. 15	3297	712	126	927
Easel	E. Belknap	841,481	Jan. 15	3395	733	126	952
Eccentric. Reversing	J. E. Hill	841,320	Jan. 15	3081	667	126	871
Egg-beater	M. C. A. Latour	841,543	Jan. 15	3501	756	126	981
Electric machine. Dynamo	M. C. A. Latour	841,545	Jan. 15	3505	757	126	983
Electric machine. Dynamo	W. B. Potter	841,270	Jan. 15	2974	647	126	844
Electric motor-drive	J. Bijur	841,106	Jan. 15	2672	584	126	768
Electric regulator	W. S. Andrews	841,215	Jan. 15	2869	624	126	817
Electric regulator	J. M. Chappel	841,226	Jan. 15	2890	628	126	822
Electric time-switch	L. De Forest	841,387	Jan. 15	3220	694	126	908
Electrical currents. Device for amplifying feeble	J. A. Kennedy-McGregor and H. Wren.	841,407	Jan. 15	3255	701–2	126	917
Electrical switch	A. H. Pikler	841,438	Jan. 15	3305	714	126	929
Electromagnetic apparatus	T. Conlin	841,229	Jan. 15	2896	630	126	825
Engine: *See* Rotary engine.							
Engine	W. Lewis	841,162	Jan. 15	2774	605	126	794
Engine lubricator. Pneumatic	I. C. Orswell	841,566	Jan. 15	3540	765	126	991
Engine sparking plug. Explosion	G. C. Hicks, Jr	841,149	Jan. 15	2754	601	126	789
Engine starter. Gas	A. Cornell and W. J. Swartz	841,312	Jan. 15	3070	665	126	868
Engines. Cooling explosive	E. R. Hewitt	841,395	Jan. 15	3233	697	126	911
Engines. Cross-head pin for explosion	J. A. Sherman	841,346	Jan. 15	3138	677	126	887
Envelop	A. E. Nienstadt	841,172	Jan. 15	2788	.....	126	798
Explosive	J. F. Jackson	841,529	Jan. 15	3483	752	126	977
Extension-table	F. J. Peck	841,568	Jan. 15	3544	766	126	992
Eyeglasses	R. S. Blair	841,614	Jan. 15	3648	792	126	1017
Eyeglasses	H. C. Shaw and V. Chartener	841,459	Jan. 15	3346	722–3	126	940
Fabric: *See* Wire fabric.							
Feed-table. Work-reversing	E. Vallentine	841,471	Jan. 15	3372	729	126	947
Feeder	P. J. Tjossem	841,283	Jan. 15	3060	653	126	849
Feeder. Salt	T. E. Jones	841,532	Jan. 15	3487	753	126	978
Fence-post	R. L. Dennison	841,644	Jan. 15	3697	804–5	126	1030
Fence-post-making machine	T. M. Price	841,177	Jan. 15	2796	610	126	800
Fence-stay	E. J. Fuchs	841,501	Jan. 15	3443	.....	126	968
Fertilizer from leather scrap. Making	D. A. Huffman	841,525	Jan. 15	3477	750	126	976
File. Order	B. Hunt	841,526	Jan. 15	3478	751	126	976
Filtering apparatus	C. H. Loew	841,652	Jan. 15	3716	808	126	1035
Filtering element	W. G. Meddings	841,557	Jan. 15	3527	762	126	988
Fire-alarm. Automatic electric	D. Boyce	841,108	Jan. 15	2676	585	126	769
Fire apparatus	T. Noonan	841,265	Jan. 15	2966	644–5	126	842
Fire-escape	F. F. Brown and G. W. Haycock	841,615	Jan. 15	3651	792	126	1019
Fire-hydrant	A. Fyrberg	841,240	Jan. 15	2920	635	126	830
Firearms. Shell-expelling mechanism for	I. Anderson	841,099	Jan. 15	2561	582	126	765
Fish scaler and cleaner	E. B. Mower and E. Johnson	841,334	Jan. 15	3111	672	126	880
Float. Non-collapsible	H. Seck	841,585	Jan. 15	3581	777–8	126	1001
Flour and grading grain. Machine for bolting	P. J. Sandbofer	841,574	Jan. 15	3556	767–8	126	995
Flower-stand	C. J. Akins	841,213	Jan. 15	2965	623	126	816
Flush-tank	C. B. Day	841,487	Jan. 15	3414	736	126	960
Flushing apparatus	C. J. Akins	841,214	Jan. 15	2867	624	126	817
Flushing-tank	O. Martin	841,263	Jan. 15	2963	644	126	841
Folding mat	C. B. Hodges	841,249	Jan. 15	2934	639	126	834
Force-feed lubricator	F. W. Hodges	841,250	Jan. 15	2936	639	126	835
Force-feed lubricator	R. Kraatz	841,159	Jan. 15	2768	604	126	793
Forge	C. A. Rolfe	841,449	Jan. 15	3332	720	126	937
Furnace: *See* Glass-furnace.							
Fuse-box	W. C. Doidge	841,488	Jan. 15	3419	736	126	961
Gage: *See* Pressure-gage.	R. Mancha	841,261	Jan. 15	2961	643	126	840
Garden implement	L. Holtschneider	841,400	Jan. 15	3241	699	126	912
Garment-support							
Gas-burner and automatic cut-off therefor							

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Gas-conduits. Antipulsator for	T. Thorp	841,196	Jan. 15	2823	616	126	807
Gas-generating retort	T. L. Stewart	841,466	Jan. 15	3339	726	126	943
Gas generator. Acetylene-	A. H. Hebert	841,148	Jan. 15	2780	601	126	788
Gas-generator and smelter. Combined	W. H. Adams and F. Powell	841,212	Jan. 15	2863	623	126	816
Gas. Manufacturing power-	E. Fleischer	841,499	Jan. 15	3441	741	126	967
Gas-pressures. Apparatus for measuring	P. de Bruyn	841,618	Jan. 15	3656	793	126	1020
Gas-producer	C. J. Atkinson	841,100	Jan. 15	2663	582	126	766
Gas-producer	H. K. Cowen	841,123	Jan. 15	2705	591	126	777
Gear. Reversible variable-speed driving-	G. F. Tadini	841,353	Jan. 15	3155	679	126	891
Gearing. Change-speed	S. Bramley-Moore	841,109	Jan. 15	2677	585	126	769
Generator: *See* Acetylene-generator. Gas-generator.							
Gin-feeder	M. E. and J. L. Norris	841,182	Jan. 15	2803	611	126	802
Glass. Drawing	J. R. Speer and G. H. Harvey	841,193	Jan. 15	2819	615	126	806
Glass from their baths. Separating sheets of	J. R. Speer and G. H. Harvey	841,894	Jan. 15	3599	782	126	1006
Glass-furnace	H. M. Brookfield	841,112	Jan. 15	2682	586	126	771
Glassware-manufacturing apparatus. Hollow-	F. A. Grosse	841,511	Jan. 15	3457	744	126	971
Governor	S. C. Foster	841,318	Jan. 15	3079	666	126	870
Governor	J. A. Hoak	841,521	Jan. 15	3473	749	126	975
Grain-drill	M. E. Wilson	841,295	Jan. 15	3039	658	126	860
Grain-transferring device	B. B. Stauffer	841,465	Jan. 15	3355	725-6	126	942
Grate-bar. Protected	J. C. Fitzsimmons	841,498	Jan. 15	3440	741	126	967
Grinding device	A. H. Kramer	841,541	Jan. 15	3499	755	126	981
Gun-cleaning rod	S. A. North	841,336	Jan. 15	3116	673	126	881
Hair-drying apparatus	P. Schwidewski	841,594	Jan. 15	3579	777	126	1001
Half-tones. Backing-lumber for	W. Brown and A. Weber	841,115	Jan. 15	2687	587	126	772
Handle: *See* Cooking-utensil handle.							
Handle	R. A. Watson	841,199	Jan. 15	2831	617	126	809
Hanger: *See* Door-hanger.							
Harrow-tooth and weeder. Combined	F. S. Gunning	841,512	Jan. 15	3458	744	126	971
Harvester-reels. Cam for	J. T. Brett	841,110	Jan. 15	2680	585	126	770
Heater: *See* Air-heater.							
Heating apparatus	J. H. Blakeway	841,107	Jan. 15	2675	585	126	769
Heating system. Steam-	F. C. Goff	841,389	Jan. 15	3294	695	126	909
Hinge	P. J. Madden	841,333	Jan. 15	3108	672	126	879
Hinge	S. N. Stevens and E. P. Flanders	841,506	Jan. 15	3601	782	126	1007
Hobby-horse	G. S. Axford	841,369	Jan. 15	3185	686	126	899
Hoisting-machine	G. L. Tredo	841,198	Jan. 15	2828	616-17	126	809
Hook: *See* Cot or hammock hook. Metallic hook.							
Hook and link	L. D. Mattassi	841,164	Jan. 15	2776	606	126	795
Hooks and eyes. Implement for driving screw	W. H. Vanderherchen	841,472	Jan. 15	3375	729	126	947
Horse-power	J. Mallon	841,412	Jan. 15	3267	704	126	920
Horseshoe	J. F. Robinson	841,448	Jan. 15	3331	719	126	937
Hose-supporter	E. Pearl	841,430	Jan. 15	3294	711	126	926
Hothouse, grapery, and greenhouse. Combined	R. Bender and F. W. Taylor	841,306	Jan. 15	3061	663	126	865
Hydraulic press	F. H. Hoberg and D. W. Hudson	841,150	Jan. 15	2757	602	126	790
Ice-cream dipper	T. M. Aiken and J. E. Harmon	841,097	Jan. 15	2659	582	126	765
Ignition device. Combined dynamo-magneto	J. A. Struthers	841,599	Jan. 15	3605	783	126	1008
Incandescent mantles. Means for protecting and applying	O. Wiederhold	841,204	Jan. 15	2830	619	126	811
Ink and making same. Printing-	E. Klein	841,156	Jan. 15	2764	.....	126	792
Ink-well	G. J. Sengbusch	841,345	Jan. 15	3136	677	126	887
Insect-trap	Q. R. Jones	841,531	Jan. 15	3485	752	126	978
Insulating handle connection	J. H. Gault	841,138	Jan. 15	2728	595	126	783
Iron-shaping machine	C. E. and O. M. Knutsen	841,327	Jan. 15	3096	670	126	877
Iron-shaping machine. Wrought-	C. E. Knutsen	841,326	Jan. 15	3096	669	126	876
Ironing-table	C. F. Carlson	841,120	Jan. 15	2693	588	126	773
Joint: *See* Rail-joint. Universal joint. Roof-joint.							
Kneading and molding machine. Bread	C. and E. J. Kruse	841,408	Jan. 15	3257	702	126	917
Knobs to bolts. Device for fastening	D. W. Tower	841,284	Jan. 15	3001	653	126	850
Label	G. E. Howard	841,321	Jan. 15	3083	667	126	872
Lace holder. Shoe-	H. F. Molkenbur	841,419	Jan. 15	3276	707	126	922
Lamp	P. N. Milsted	841,559	Jan. 15	3531	763	126	989
Lamp-bracket	H. Bryarly	841,308	Jan. 15	3064	663	126	866
Lamp. Gas-	A. H. Humphrey	841,323	Jan. 15	3085	668	126	872
Lamp. Incandescent gas-	O. Wiederhold	841,203	Jan. 15	2828	619	126	811
Lamp. Stormproof	G. Stübgen	841,600	Jan. 15	3607	784	126	1008
Lantern	J. H. Hill	841,648	Jan. 15	3709	806-7	126	1033
Level	C. J. Stricker	841,598	Jan. 15	3604	783	126	1007
Level. Plumb-	L. B. Nelson	841,562	Jan. 15	3535	764	126	990
Lever mechanism	A. R. and F. S. Welch	841,362	Jan. 15	3174	683-4	126	896
Life-preserving steamer-chair	A. L. Richolson	841,343	Jan. 15	3133	676	126	886
Lifter: *See* Plate-lifter.							
Line-holder	J. Simon	841,589	Jan. 15	3592	780	126	1004
Liquid containing and dispensing device	J. H. Bromley	841,111	Jan. 15	2681	586	126	770
Liquids with gases. Apparatus for treating	A. Pagniez	841,208	Jan. 15	2971	646	126	843
Lock. *See* Bicycle-lock. Nut-lock.							
Lock	W. B. Wykoff	841,208	Jan. 15	2847	620-1	126	813
Lock	W. B. Wykoff	841,209	Jan. 15	2851	621	126	814
Lock-casing	H. M. Small	841,392	Jan. 15	3595	781	126	1004
Lock mechanism	E. A. Baldwin	841,219	Jan. 15	2876	626	126	819
Locomotive-cushioning appliance	W. Dalton	841,379	Jan. 15	3205	691	126	904
Logging device	G. Moore	841,420	Jan. 15	3277	707	126	922
Loom	C. F. Perham	841,432	Jan. 15	3296	712	126	927
Looms. Mechanism for changing shuttles in	E. J. Entwisle	841,492	Jan. 15	3424	737-8	126	962
Lubricator: *See* Engine-lubricator. Force-feed lubricator.							
Lubricator	H. H. Cramer	841,632	Jan. 15	3675	797	126	1024
Machine-brake	F. B. Rae	841,441	Jan. 15	3308	715-16	126	930
Matchbox	C. A. Wellman	841,201	Jan. 15	2832	617-18	126	810
Mandrel. Corrugating-	E. R. Stasch	841,277	Jan. 15	2988	650	126	847
Marine electric wharfage	G. G. Schroeder	841,583	Jan. 15	3578	776	126	1001

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Massage apparatus. Pneumatic	S. Hasbrouck	841,146	Jan. 15	2744	599-600	126	787
Mat: *See* Folding mat.							
Match-delivering receptacle	C. W. Redman	841,181	Jan. 15	2801	611	126	801
Mattress-wire-bending machine	F. J. Crouch	841,634	Jan. 15	3679	798	126	1025
Measure. Tape-	R. J. Read	841,272	Jan. 15	2978	648	126	845
Mechanical movement	F. H. Richards	841,342	Jan. 15	3129	675-6	126	884
Mechanical movement	F. H. Richards	841,443	Jan. 15	3315	717	126	932
Mechanical movement	F. H. Richards	841,444	Jan. 15	3319	717-18	126	933
Merry-go-round	G. B. McKinney	841,424	Jan. 15	3285	708	126	924
Metal-coating composition	M. Toch	841,603	Jan. 15	3611	.....	126	1000
Metal plate. Ornamental	A. Du Montier	841,490	Jan. 15	3421	737	126	956
Metal-working. Scraper for	C. Lehnert	841,332	Jan. 15	3108	671	126	879
Metals. Mixing	J. D. Prince and H. S. Rodgers	841,178	Jan. 15	2797	.....	126	800
Metallic ground-post. Driven	J. H. Downs	841,645	Jan. 15	3702	805	126	1031
Metallic hook	J. J. Leonard	841,550	Jan. 15	3516	760	126	985
Meter: *See* Water-meter.							
Micrometer	J. Rau	841,271	Jan. 15	2975	647	126	844
Milk-desiccating apparatus	J. A. Just	841,153	Jan. 15	2760	603	126	791
Mine-shaft	J. Mika	841,416	Jan. 15	3273	706	126	921
Mining-machine	W. B. Chapman	841,625	Jan. 15	3665	795	126	1022
Mixer: *See* Bread-mixer.							
Models, cards, &c. Adjustable support for	H. Buschmann	841,372	Jan. 15	3189	687	126	900
Mold: *See* Contractible mold.							
Mold-making apparatus. Pattern-guide for	E. H. Mumford	841,167	Jan. 15	2782	607	126	797
Motion-converting device	F. H. Richards	841,445	Jan. 15	3323	718	126	934
Motor: *See* Current-motor. Water-motor.							
Motor control. Alternating-current-	M. C. A. Latour	841,257	Jan. 15	2951	641	126	838
Motor-winding	E. F. W. Alexanderson	841,609	Jan. 15	3629	789-90	126	1014
Mowing-machine tedder attachment	J. Moore	841,166	Jan. 15	2779	606-7	126	796
Music-player. Pneumatic	F. W. Winter	841,205	Jan. 15	2841	619	126	812
Music-player. Pneumatic	F. W. Winter	841,206	Jan. 15	2843	620	126	812
Music-sheet-guiding device	E. Thomson	841,356	Jan. 15	3162	690	126	893
Musical-instrument modulating attachment	T. P. Brown	841,113	Jan. 15	2684	586	126	771
Musical instruments. Automatic playing mechanism for	C. B. Dunott	841,383	Jan. 15	3211	692-3	126	905
Musical instruments. Key-locking mechanism for automatic	T. P. Brown	841,114	Jan. 15	2686	586	126	771
Needles in temporary holders or books. Machine for inserting combing-	T. Townsend	841,358	Jan. 15	3167	681	126	894
Noodle-cutter	G. A. Jelley	841,152	Jan. 15	2759	602	126	791
Nozzle. Exhaust-	P. B. Houghton	841,402	Jan. 15	3243	699	126	913
Nut-lock	J. W. Kreitzburg	841,542	Jan. 15	3500	756	126	981
Oil. Apparatus for the purification of waste	N. W. Smith	841,347	Jan. 15	3140	677-8	126	887
Oil-burner	W. S. Stewart	841,597	Jan. 15	3603	783	126	1007
Oil-shell	C. A. Glover	841,508	Jan. 15	3453	743	126	970
Operating mechanism	T. J. Winans	841,606	Jan. 15	3614	786	126	1010
Optical instrument	S. Lake	841,409	Jan. 15	3259	703	126	918
Ordnance. Breech-loading	A. T. Dawson and G. T. Buckham	841,637	Jan. 15	3684	799-800	126	1027
Ore chlorination	W. V. Lander	841,328	Jan. 15	3100	670	126	877
Ore-cyaniding	W. V. Lander	841,330	Jan. 15	3105	671	126	878
Ores. Treating	C. E. Baker and A. W. Burwell	841,102	Jan. 15	2667	.....	126	767
Ores. Treating	C. E. Baker and A. W. Burwell	841,103	Jan. 15	2667	.....	126	767
Overshoe-holder	W. H. Tillson	841,282	Jan. 15	2998	652	126	849
Pan: *See* Dust-pan.							
Pan-supporting rack	E. F. Buergermeister and E. E. Flicek	841,116	Jan. 15	2688	587	126	772
Paper-tube blank	J. C. Kimsey	841,539	Jan. 15	3496	755	126	981
Paper-weight. Inclosed	C. L. Cruver	841,124	Jan. 15	2706	591	126	777
Pastry horns or cups for containing ice-cream, &c. Machine for making	J. Abrahams	841,211	Jan. 15	2859	622-3	126	816
Pavement	E. Heylyn	841,647	Jan. 15	3708	806	126	1033
Pen. Self-filling fountain-	P. E. Wirt	841,475	Jan. 15	3379	730	126	949
Penstock	W. G. Fargo	841,495	Jan. 15	3431	740	126	964
Penstock	W. G. Fargo	841,496	Jan. 15	3435	740	126	966
Pencil-holder	J. H. Williams	841,365	Jan. 15	3180	684	126	898
Pencil-sharpener	P. Makin	841,555	Jan. 15	3522	761	126	987
Pencil-sharpener	J. W. Cover	841,631	Jan. 15	3673	797	126	1024
Phenylglycin. Making	R. Schmidlin	841,456	Jan. 15	3344	.....	126	940
Piano	P. Duffy	841,238	Jan. 15	2916	634	126	829
Pigment and making same	W. J. Armbruster	841,303	Jan. 15	3053	.....	126	863
Piling. Sheet-	C. C. Tomkinson	841,197	Jan. 15	2826	616	126	808
Pipe-boiler	J. L. Anderson	841,368	Jan. 15	3183	685	126	899
Pipe-expanding tool	J. Gapp	841,388	Jan. 15	3222	694-5	126	908
Pipe-threading machine	F. W. Hoefer	841,396	Jan. 15	3235	697-8	126	911
Piston	J. Imler	841,527	Jan. 15	3480	751	126	977
Planing device. Rotary wood-	W. D. Plue	841,439	Jan. 15	3306	715	126	929
Plaster composition	J. M. Snelus	841,464	Jan. 15	3354	.....	126	942
Plate-lifter	W. H. Clark	841,626	Jan. 15	3667	795	126	1033
Plow	A. Gullickson	841,390	Jan. 15	3226	695	126	909
Plow	T. J. Johnson	841,530	Jan. 15	3484	752	126	978
Plumber's trap	C. T. Byrne	841,118	Jan. 15	2692	588	126	773
Pole-splicing device	F. N. Drane	841,489	Jan. 15	3420	736	126	962
Post: *See* Fence-post.							
Power: *See* Horse-power.							
Power-transmitting device	J. Putnam	841,179	Jan. 15	2798	610-11	126	800
Press: *See* Box-nailing press. Hydraulic press.							
Pressor	A. H. Gibson	841,140	Jan. 15	2731	596	126	784
Pressor	A. H. Gibson	841,141	Jan. 15	2733	597	126	785
Pressure-gage	C. E. Sargent	841,454	Jan. 15	3341	721	126	939
Printer's furniture	W. S. Aikman and H. C. Stevenson.	841,098	Jan. 15	2660	582	126	765

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Printing-machine moistening device	H. Gramlich	841,142	Jan. 15	2735	597	126	785
Propelling device for steam vessels	J. Greaves	841,243	Jan. 15	2925	636	126	831
Propelling mechanism. Boat-	R. Rutherford	841,452	Jan. 15	3338	721	126	938
Pulp. Manufacture of purified soda-pine	W. H. Sharp	841,190	Jan. 15	2817		126	805
Pump. Centrifugal	J. Degen	841,643	Jan. 15	3695	803-4	126	1029
Pump-stroke regulator	J. C. Summers and H. G. Mast	841,601	Jan. 15	3608	784	126	1008
Pumps. Balancing centrifugal	J. Degen	841,642	Jan. 15	3694	803	126	1029
Pumps. Means for balancing centrifugal	J. Degen	841,641	Jan. 15	3692	801-3	126	1028
Rack: *See* Corn-rack. Pan-supporting rack. Wagon-rack.							
Rail-fastener	D. E. Olds	841,267	Jan. 15	2970	646	126	843
Rail-fastener	J. W. Wyke	841,298	Jan. 15	3043	659	126	861
Rail-joint	A. E. Boman	841,482	Jan. 15	3397	733	126	953
Rail-joint	L. M. Sartain	841,575	Jan. 15	3557	768	126	995
Rails or the like. Device for marking the lengths of	W. Thomas	841,355	Jan. 15	3161	680	126	893
Railway block system	W. L. Rummel	841,451	Jan. 15	3335	720	126	938
Railway road-bed	L. R. Zollinger	841,367	Jan. 15	3182	685	126	898
Railway signaling mechanism	E. J. Adams	841,607	Jan. 15	3617	786-7	126	1011
Railway structures with suspended cars. Crossing for elevated-	D. M. Pfautz	841,437	Jan. 15	3303	714	126	929
Railway structures with suspended cars. Switch for elevated-	D M. Pfautz	841,436	Jan. 15	3301	713-14	126	928
Railway-tie	D. C. Graham	841,242	Jan. 15	2923	636	126	831
Railway-tie	C. H. Collins	841,628	Jan. 15	3671	796	126	1023
Railway-tie. Metallic	F. M. Cain	841,119	Jan. 15	2693	588	126	773
Rams. Pulsating valve for hydraulic	J. Northey	841,563	Jan. 15	3537	764	126	990
Ratchet-brace	G. and W. A. Dawson	841,638	Jan. 15	3686	800	126	1027
Razor. Safety-	F. H. Arnold	841,304	Jan. 15	3056	661	126	864
Reducing-wheel	F. L. Wolfe	841,207	Jan. 15	2845	630	126	812
Refrigerating attachment for milk-cans	H. S. Parker	841,567	Jan. 15	3542	766	126	992
Refrigerating device	G. A. Baker	841,104	Jan. 15	2698	584	126	767
Regulator: *See* Clock-regulator. Pump-stroke regulator. Electric-regulator.							
Revetment	W. E. Thorne	841,281	Jan. 15	2907	652	126	849
Rheostat. Electric	W. F. Dana and H. W. Knott	841,232	Jan. 15	2904	631	126	836
Rock-drill	A. H. Gibson	841,139	Jan. 15	2730	596	126	783
Rod: *See* Gun-cleaning rod.							
Rolling-mill work-reversing mechanism	E. Norton and V. Chartener	841,427	Jan. 15	3289	710	126	925
Roof connection for vent-pipes	G. F. Ryan	841,274	Jan. 15	2983	649	126	846
Roof-joint	E. R. Stasch	841,276	Jan. 15	2987	650	126	847
Root-cutter	G W. Keeler	841,534	Jan. 15	3490	753	126	979
Rope and cable clamp	A. H. Meech	841,165	Jan. 15	2777	606	126	795
Rotary engine	F. Nelson	841,425	Jan. 15	3286	709	126	925
Rotary switch	F. C De Reamer	841,234	Jan. 15	2909	632	126	827
Rotating apparatus and magnetic compasses. Suspension of	H. Anschütz-Kaempfe	841,612	Jan. 15	3645	791	126	1017
Rubber shoes. Machine for preparing	J. F. Cavanagh	841,121	Jan. 15	2695	589-90	126	774
Rule	N. H. Cloud, Jr	841,627	Jan. 15	3668	796	126	1023
Sand-molding machine	J. Pickles	841,760	Jan. 15	3548	766-7	126	993
Sawing-machine	B. E. Harreld	841,516	Jan. 15	3465	746-7	126	973
Sawmill track-sweeper	E. Hoops	841,522	Jan. 15	3474	749	126	975
Scythe-snath-bending machine	A. Towe	841,357	Jan. 15	3164	680-1	126	894
Seat: *See* Water-closet seat.							
Separator: *See* Centrifugal separator.							
Sewing-machine attachment	L. M. Tynes	841,604	Jan. 15	3611	785	126	1009
Sewing-machine ruffling mechanism	A. Laubscher	841,548	Jan. 15	3508	757-8	126	983
Sewing-machines. Fabric withdrawing or feeding means for	H. H. Bates	841,480	Jan. 15	3393	732	126	952
Sharpener. Scissors-	W. M. Kellogg	841,537	Jan. 15	3494	754	126	980
Sharpening device for grain-mills	S. Vessot	841,287	Jan. 15	3004	653	126	850
Shears: *See* Sheep-shears.							
Sheep-shears	W. A. Scott	841,458	Jan. 15	3345	722	126	940
Shelf. Collapsible wall-	E. A. Campbell	841,494	Jan. 15	3401	734	126	954
Shock-loader	F. Mart	841,556	Jan. 15	3523	762	126	987
Shoe-dipping machine	J. H. Wall	841,361	Jan. 15	3172	683	126	896
Shovel: *See* Ditching-shovel.							
Show-window corner-post construction	R. H. Jones	841,324	Jan. 15	3089	668	126	874
Sifter. Flour-	C. A. Carlson	841,310	Jan. 15	3067	664	126	867
Sign. Adjustable	J. V. Petrusich	841,174	Jan. 15	2790	609	126	798
Signal-reading device	H. H. Brown	841,616	Jan. 15	3653	792	126	1019
Signal system. Automatic stop-	C. L. Jungerich	841,403	Jan. 15	3244	700	126	913
Signal-transmitter. Recording	R. A. Baldwin	841,105	Jan. 15	2699	584	126	767
Signaling. Harmonic selective	W. W. Dean	841,640	Jan. 15	3690	800-1	126	1028
Sleds. Wheel-runner for	H. F. Castle	841,623	Jan. 15	3663	794	126	1022
Sleigh. Kicking-	O. A. Ritzman	841,447	Jan. 15	3330	719	126	936
Sling-shot	J. B. Sweetser	841,195	Jan. 15	2822	615	126	807
Spanner. Adjustable	A. G. Taylor	841,602	Jan. 15	3610	784	126	1009
Spark-arrester	A. M. Harris	841,393	Jan. 15	3231	696	126	910
Speaking-tubes. Electric signal for	C. M. A. Costello and F. H. Hart	841,377	Jan. 15	3201	690	126	903
Speculum. Horse-	J. Sklar	841,590	Jan. 15	3592	780	126	1004
Spinning-spindle and bearings therefor	C. H. Chapman	841,495	Jan. 15	3403	734	126	955
Spittoon	G. Zweigle	841,301	Jan. 15	3049	660	126	863
Splice-bars. Apparatus for the manufacture of	G. E. Thackray	841,354	Jan. 15	3159	679-80	126	893
Spring-helix	W. H. Chellis	841,227	Jan. 15	2892	629	126	823
Spring-wheel	C. Dollinger	841,130	Jan. 15	2716	593	126	780
Stacker. Hay-	J. H. Cope	841,376	Jan. 15	3198	689-90	126	902
Stand *See* Flower-stand.							
Steam-boiler	W. Downey	841,235	Jan. 15	2910	632	126	827
Steam-boiler	E. R. Gustavus	841,513	Jan. 15	3469	745	126	971
Steam-engine	R. Conrader and A. J. Gillespie	841,311	Jan. 15	3068	664	126	867
Steam-trap	R. M. Dixon	841,129	Jan. 15	2712	593	126	778
Stool. Automatically-folding	S. Orr	841,565	Jan. 15	3539	765	126	991

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Stocking-supporting clasp	G. Devoll	841,127	Jan. 15	2709	592	126	778
Stone in imitation of marble or granite and the like. Manufacture of artificial	L. Lefranc	841,160	Jan. 15	2770		126	794
Stone plates, slabs, or tiles. Manufacture of imitation-	L. Hatschek. (Reissue)	12,594	Jan. 15	3719	808	126	1035
Stone-sawing machine	J. S. Young	841,300	Jan. 15	3047	660	126	862
Stove. Coal-	C. T. McCarroll	841,169	Jan. 15	2784	608	126	797
Sulfur-burner	C. E. Savage	841,576	Jan. 15	3558	768	126	995
Switch: *See* Automatic switch. Electrical switch. Electric time-switch. Rotary switch.							
Switch	E. L. Nugent	841,337	Jan. 15	3117	674	126	881
Table: *See* Cabinet-table. Feed-table. Extension-table. Ironing-table.							
Tag. Laundry-	W. J. Baker	841,217	Jan. 15	2874	625	126	818
Tank: *See* Flush-tank. Flushing-tank.							
Tank-supporting means. Water-	F. C. Smith	841,462	Jan. 15	3352	624	126	942
Target-shooting. Back-stop and receiver for	W. T. Alsop	841,611	Jan. 15	3643	791	126	1016
Target-trap	A. M. McCrea	841,423	Jan. 15	3283	708	126	924
Teaching of fractions. Device for facilitating the	W. Koops and H. Reimers	841,158	Jan. 15	2767	604	126	793
Telegraphy. Wireless	L. De Forest	841,386	Jan. 15	3215	693-4	126	906
Telephone	F. Edwards	841,491	Jan. 15	3423	737	126	962
Telephone calling apparatus. Electric	C. Adams-Randall	841,476	Jan. 15	3380	730	126	949
Telephone. Compound	C. G. F. Holmgren and A. E. Brahm.	841,399	Jan. 15	3240	699	126	912
Telephone system	W. W. Dean	841,233	Jan. 15	2905	631	126	827
Telephone system	A. H. Weiss	841,292	Jan. 15	3019	656	126	854
Telephone system. Secret-service	A. K. Andriano	841,478	Jan. 15	3385	731-2	126	950
Telephone, telegraph, and trolley wires. Sectional pole for	H. M. Sciple	841,344	Jan. 15	3134	676	126	886
Telephones. Listening apparatus for	W. W. Grigsby	841,244	Jan. 15	2926	636-7	126	832
Telescope. Prism-	K. Martin	841,262	Jan. 15	2962	643-4	126	840
Tie: *See* Rag-tie. Railway-tie.							
Tire. Adjustable wheel-	S. F. Mudge	841,561	Jan. 15	3534	764	126	990
Tire-protector	O. Kelly	841,155	Jan. 15	2762	603	126	792
Tire-repairing apparatus	J. Hart	841,518	Jan. 15	3468	748	126	974
Tire-retaining attachments. Locking device for	R. S. Bryant	841,619	Jan. 15	3657	793	126	1020
Tire. Vehicle-	F. M. Georgi	841,505	Jan. 15	3449	742	126	969
Toaster. Bread-	A. M. Skinner	841,191	Jan. 15	2817	614	126	805
Tobacco-cutter	N. Du Brul	841,236	Jan. 15	2911	632-3	126	828
Tobacco-plant-bed burner	J. D. and H. F. Flowers	841,317	Jan. 15	3077	666	126	870
Tongs	H. W. Israel and R. S. Kirk	841,528	Jan. 15	3482	751-2	126	977
Track-sanding device	J. H. Hanlon	841,144	Jan. 15	2739	598	126	786
Traction device for vehicle-wheels	H. S. Weaver	841,473	Jan. 15	3376	729	126	948
Traction-wheel	A. E. Glascock	841,507	Jan. 15	3450	743	126	969
Train-ventilating apparatus	J. A. Shires	841,490	Jan. 15	3348	723	126	941
Trap: *See* Animal-trap. Steam-trap. Insect-trap. Target-trap. Plumber's trap.							
Trestle. Adjustable	W. L. Milner	841,418	Jan. 15	3275	706	126	922
Trimming. Ornamental	C. P. Schlegel	841,187	Jan. 15	2812	613	126	804
Trolley	J. Tetlow	841,467	Jan. 15	3362	727	126	944
Trolley-base. Automatic	H. W. Fellows and I A. Cammett	841,497	Jan. 15	3437	740-1	126	966
Trolley-head	O. Hoffmann	841,397	Jan. 15	3237	698	126	911
Trolley-track	W. J. Sumner	841,351	Jan. 15	3151	679	126	890
Trousers	T. Halligan	841,514	Jan. 15	3461	745	126	972
Truck for electrically-propelled cars. Swivel-	D. M. Pfautz	841,435	Jan. 15	3300	713	126	928
Truck. Locomotive-	W. Dalton	841,380	Jan. 15	3206	691	126	904
Trunk-harness	E. N. Buchanan	841,620	Jan. 15	3659	793	126	1021
Trunk-line. Incoming	H. M. Post	841,339	Jan. 15	3119	674	126	882
Tubular drill. Lubricating	W. E. Roeske	841,184	Jan. 15	2808	612	126	803
Tuning device. Stringed-instrument-	E. E. England	841,384	Jan. 15	3212	693	126	906
Turbine	J. G. Callan	841,483	Jan. 15	3398	733	126	953
Turbine. Elastic-fluid	O. Junggren	841,254	Jan. 15	2944	640-1	126	836
Turbine. Elastic-fluid	C. W. Dake	841,486	Jan. 15	3407	734-5	126	956
Turbine-wheel	H. Keller	841,255	Jan. 15	2949	641	126	838
Turbines. Attachment of blades for	V. Gelpke and P. Kugel	841,503	Jan. 15	3446	742	126	968
Turbines. Means for decreasing leakage in	O. Junggren	841,253	Jan. 15	2941	640	126	836
Turbines. Means for decreasing leakage in	O. Junggren	841,650	Jan. 15	3712	807	126	1034
Turbines. Means for securing buckets in	C. E. Little	841,258	Jan. 15	2954	642	126	838
Turn-designating apparatus and coin-counter. Combined	A. W. Mahon	841,554	Jan. 15	3521	761	126	986
Type-casting machine. Single-	L. Schmidt	841,457	Jan. 15	3345	722	126	940
Type-writer. Music	L. C. and I. F. Badeau	841,101	Jan. 15	2664	583	126	766
Type-writing machine	C. W. Walker	841,288	Jan. 15	3005	654	126	851
Type-writing machine	G. Swenson	841,352	Jan. 15	3152	679	126	890
Umbrella	C. S. Gurney	841,245	Jan. 15	2928	637	126	832
Umbrella-locking device	B. Moses	841,421	Jan. 15	3279	707	126	923
Universal joint	A. R. and F. S. Welch	841,363	Jan. 15	3177	684	126	897
Valve	H. C. Farrell	841,133	Jan. 15	2720	594	126	781
Valve and tapping device. Barrel	R. Stock	841,350	Jan. 15	3148	678	126	889
Valve. Check-	E. F. Wendelken	841,474	Jan. 15	3377	729	126	948
Valve. Cut-off	S. Mucsi	841,422	Jan. 15	3283	708	126	923
Valve for air-brake systems. Pressure-	W. V. Turner	841,469	Jan. 15	3364	727	126	945
Valve for mufflers. Cut-out	A. S. Hamilton	841,392	Jan. 15	3230	696	126	910
Valve mechanism for turbines	J. G. Callan	841,224	Jan. 15	2884	628	126	821
Valve. Steam-	W. Baker	841,218	Jan. 15	2875	626	126	818
Valve. Throttle-	E. Hoxie	841,322	Jan. 15	3084	667	126	872
Vault	W. H. Hollar	841,398	Jan. 15	3238	698	126	912
Vehicle draft-rigging	W. J. Drees	841,132	Jan. 15	2718	593	126	780
Vehicle. Foot-propelled	W. M. Dailey	841,635	Jan. 15	3680	798-9	126	1025
Vehicle. Motor-	E. R. Fouts	841,239	Jan. 15	2918	635	126	830
Vehicle-wheel	W. E. Schneider	841,578	Jan. 15	3563	769	126	997
Vehicle-wheel. Elastic	R. Schnicke	841,189	Jan. 15	2816	614	126	805
Vehicle wheel. Motor and other read	F. Walton	841,290	Jan. 15	3014	655	126	853
Vehicles. Number-transparency for	D. Lynch	841,553	Jan. 15	3520	761	126	986

Invention	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Vehicles. Transmission-gearing for motor-	F. F. and E. S. Cameron	841,378	Jan. 15	3190	687	126	900
Velocipede handle-bar. Cushioned	M. Rosen	841,450	Jan. 15	3334	720	126	937
Vending-machine	G. C. Yocum	841,210	Jan. 15	3255	621–2	126	815
Ventilator	W. Scharnweber	841,455	Jan. 15	3342	722	126	939
Vermin-exterminator	W. P. Wyard	841,207	Jan. 15	3042	659	126	861
Wagon. Dump-	C. E. Kaufman	841,408	Jan. 15	3252	701	126	916
Wagon. Dump-	R. H. MacClernan	841,411	Jan. 15	3265	704	126	919
Wagon dumping-bed	D. E. Graves	841,143	Jan. 15	2737	598	126	786
Wagon-rack	J. L. Hartnett	841,246	Jan. 15	2930	637	126	833
Washer: *See* Coal-washer.							
Washing-machine-operating mechanism	T. J. Winans	841,605	Jan. 15	3612	785	126	1010
Water-closet seat	R. B. Hepner	841,519	Jan. 15	3470	748	126	974
Water-cooler	M. F. Bates	841,220	Jan. 15	2878	626	126	819
Water-meter. Rotary	C. A. Lockwood	841,410	Jan. 15	3263	704	126	919
Water-motor	R. W. Howe and E. J. Ornold	841,649	Jan. 15	3710	807	126	1033
Water treating and storing apparatus	W. A. Powers	841,176	Jan. 15	2793	610	126	799
Waters. Device for detecting subterranean	A. Schmid	841,188	Jan. 15	2814	614	126	804
Weather-strip	C. E. Saint Clair	841,185	Jan. 15	2810	613	126	804
Weed and grass trimmer, &c	O. Shidler	841,588	Jan. 15	3584	779	126	1002
Weeder	E. Pearl	841,431	Jan. 15	3295	712	126	926
Well-drilling apparatus	G. D. Loomis	841,250	Jan. 15	2866	642	126	839
Wheel: *See* Car-wheel. Traction-wheel. Reducing-wheel. Turbine-wheel. Spring-wheel. Vehicle-wheel.							
Wheels. Means for preventing slippage of traction-	R. Shipman	841,586	Jan. 15	3586	779–80	126	1002
Whip-holder	E. H. Morris	841,560	Jan. 15	3532	764	126	989
Whip-socket	T. Armstrong	841,479	Jan. 15	3302	732	126	952
Winding-machine	G. F. Atwood	841,305	Jan. 15	3067	662	126	864
Wing-operating mechanism	E. M. Hartman	841,304	Jan. 15	3232	697	126	910
Wire belt or rope. Flat	J. Kast	841,154	Jan. 15	2761	603	126	791
Wire fabric	L. Swank	841,194	Jan. 15	2820	615	126	806
Wort. Cooling	H. E. Deckebach	841,126	Jan. 15	2708	592	126	778
Wrench	R. H. Legg	841,549	Jan. 15	3515	760	126	985
Wrenches. Pipe-jaw attachment to	J. R. Hill	841,248	Jan. 15	2933	638	126	833

DESIGNS.

Designs.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Casket handle-plate	F. K. Allen	38,411	Jan. 15	126	1038
Check. Identification-	A. S. Willy	38,419	Jan. 15	126	1040
Dental cabinet	H. C. Gowran	38,408	Jan. 15	126	1038
Dental cabinet	H. C. Gowran	38,409	Jan. 15	126	1038
Fabric. Knit	E. H. Brown	38,413	Jan. 15	126	1039
Fabric. Knit	E. H. Brown	38,414	Jan. 15	126	1039
Fabric. Textile	E. H. Brown	38,415	Jan. 15	126	1039
Fabric. Textile	S. Young	38,416	Jan. 15	126	1039
Hammock-valance	S. Young	38,417	Jan. 15	126	1040
Hat-band	D. W. Shoyer	38,418	Jan. 15	126	1040
Lamp-body	I. Lichtenstein	38,412	Jan. 15	126	1039
	W. P. Crary	38,410	Jan. 15	126	1038

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Acetylene-generators	Acetylene Apparatus Manufacturing Company.	59,653	Jan. 15	126	1056
Alterative	Dr. D. Jayne & Son	59,783	Jan. 15	126	1060
Antiseptic preparations. Certain	McKesson & Robbins	59,788	Jan. 15	126	1060
Baking-powder	Kenton Baking Powder Co	59,785	Jan. 15	126	1060
Balsam	Dr. D. Jayne & Son	59,749	Jan. 15	126	1059
Batteries. Dry	French Battery Co	59,605	Jan. 15	126	1055
Beer	Aurora Brewing Company	59,733	Jan. 15	126	1058
Beer	Fred Krug Brewing Company	59,741	Jan. 15	126	1059
Beer	F. A. Poth & Sons	59,779	Jan. 15	126	1060
Bending, shaping, and forging machines	Muncie Brewing Co	59,790	Jan. 15	126	1060
Beverages. Certain	Williams, White, & Company	59,684	Jan. 15	126	1057
Blouses and waists. Boys'	Pureoxia Company	59,728	Jan. 15	126	1038
Boilers. Steam-	Lubell Bros	59,704	Jan. 15	126	1058
Boots and shoes. Leather	Atlas Engine Works	59,692	Jan. 15	126	1057
Boots, shoes, and slippers. Leather	Hoyt, Rowe & Co	59,702	Jan. 15	126	1058
Boots, shoes, and slippers. Leather	Slater Shoe Company	59,678	Jan. 15	126	1057
Boots, shoes, and slippers. Leather	Parker Holmes & Company	59,708	Jan. 15	126	1058
Boxes. Folding	Parker Holmes & Company	59,709	Jan. 15	126	1058
	Atlas Manufacturing Company	59,806	Jan. 15	126	1055

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Boxes. Wooden	E. B. Estes & Sons	59,635	Jan. 15	126	1056
Bread	Fleischmanns Vienna Model Bakery.	59,738	Jan. 15	126	1059
Brewer's pitch	British-American Co	59,774	Jan. 15	126	1060
Bronze powder. Aluminium-	Baer Bros	59,694	Jan. 15	126	1057
Bronze-powders	Baer Bros	59,693	Jan. 15	126	1057
Brushes. Paint and varnish	Rennous Kleinle & Co. of Baltimore City.	59,814	Jan. 15	126	1061
Brushes. Paint and varnish	Rennous Kleinle & Co. of Baltimore City.	59,815	Jan. 15	126	1061
Buggies and carriages	Rock Hill Buggy Co	59,620	Jan. 15	126	1055
Buggies and carriages	Rock Hill Buggy Co	59,621	Jan. 15	126	1056
Buggies and carriages	Rock Hill Buggy Co	59,622	Jan. 15	126	1056
Building fabrics. Waterproofing	Sicilian Asphalt Paving Co	59,769	Jan. 15	126	1059
Butter	W. P. Sumner	59,624	Jan. 15	126	1056
Canned fruits and vegetables	H. L. Forhan	59,740	Jan. 15	126	1059
Canned fruits and vegetables	Pressing & Orr Co	59,794	Jan. 15	126	1060
Canned fruits and vegetables	W. P. Sumner	59,799	Jan. 15	126	1060
Canned vegetables	New Holstein Canning Company	59,759	Jan. 15	126	1059
Canned vegetables	New Holstein Canning Company	59,760	Jan. 15	126	1059
Canned vegetables	Northern Maine Packing Company.	59,761	Jan. 15	126	1059
Canned vegetables	Northern Maine Packing Company.	59,762	Jan. 15	126	1059
Canned vegetables	Northern Maine Packing Company.	59,763	Jan. 15	126	1059
Canned vegetables	Northern Maine Packing Company.	59,764	Jan. 15	126	1059
Cards. Playing	Home Game Company	59,701	Jan. 15	126	1058
Cartridges and parts thereof. Gun and pistol	Union Metallic Cartridge Company.	59,803	Jan. 15	126	1060
Castings. Certain named	Pennsylvania Steel Co	59,641	Jan. 15	126	1056
Cement for leather and wood	B. C. Cook	59,630	Jan. 15	126	1056
Champagne	Blondeau, Berque & Co	59,721	Jan. 15	126	1058
Chucks; arbors, and mandrels	Morse Twist Drill & Machine Company.	59,614	Jan. 15	126	1055
Cigars, cheroots, and cigarettes made of cigar-tobacco	Cayey-Caguas Tobacco Company.	59,628	Jan. 15	126	1056
Cigars, cheroots, and little cigars	Esberg-Gunst Company	59,664	Jan. 15	126	1057
Cigars, cheroots, and little cigars	Esberg-Gunst Company	59,665	Jan. 15	126	1057
Cigars. Little	Butler-Butler	59,597	Jan. 15	126	1055
Cigars. Little	Butler-Butler	59,598	Jan. 15	126	1055
Cleaning and polishing compound	C. J. Barrenpohl	59,657	Jan. 15	126	1056
Cloth and piece goods. Certain	M. Rosenbaum's Sons	59,645	Jan. 15	126	1056
Coats, vests, and trousers	Kahn, Wertheimer & Smith Co	59,637	Jan. 15	126	1056
Coffee	S. Mills Ely Co	59,796	Jan. 15	126	1060
Coffee	C. H. Conrad	59,809	Jan. 15	126	1060
Colic and kidney cure for mules and horses	E. H. Dunlap Mfg. Co	59,737	Jan. 15	126	1059
Corsets	Kops Bros	59,611	Jan. 15	126	1055
Corsets	J. M. Lacroix	59,612	Jan. 15	126	1055
Cotton piece goods	Rice, Stix Dry Goods Company	59,644	Jan. 15	126	1056
Cotton piece goods	G. Willis & Co	59,652	Jan. 15	126	1056
Cotton piece goods and blankets	Neuss Hesslein & Co	59,616	Jan. 15	126	1055
Cotton piece goods and blankets	Neuss Hesslein & Co	59,617	Jan. 15	126	1055
Cotton piece goods, excepting silesias. Dyed	W. Simpson Sons & Co	59,648	Jan. 15	126	1056
Cutlery. Certain	Gray & Dudley Hardware Co	59,743	Jan. 15	126	1059
Cutlery. Certain named	Joseph Allen & Sons	59,672	Jan. 15	126	1057
Dental enamel. Artificial	Pinches Dental Manufatng Co	59,793	Jan. 15	126	1060
Depilatories	Shaving Powder Company	59,768	Jan. 15	126	1059
Dies and die-stocks	Hart Manufacturing Company	59,636	Jan. 15	126	1056
Effervescing headache-salts. Granular	John Wyeth and Brother	59,751	Jan. 15	126	1059
Electric apparatus and supplies. Certain	Arknot Co	59,807	Jan. 15	126	1060
Explosives for projectiles and torpedoes	Sprengstoff A. G. Carbonit	59,680	Jan. 15	126	1057
Explosives. High	Eastern Dynamite Company	59,661	Jan. 15	126	1057
Faucets and pumps. Measuring	Enterprise Manufacturing Co. of Pennsylvania.	59,604	Jan. 15	126	1055
Fertilizers	Scott Fertilizer Co. of Cecil County. Company.	59,676	Jan. 15	126	1057
Fertilizers	Coweta Fertilizer Company	59,722	Jan. 15	126	1058
Fertilizers	Coweta Fertilizer Company	59,723	Jan. 15	126	1058
Fertilizers	Virginia-Carolina Chemical Company.	59,731	Jan. 15	126	1058
Fertilizers for cotton-plants	New Orleans Acid and Fertilizer	59,706	Jan. 15	126	1059
Fiber and articles made therefrom. Vegetable	American Vulcanized Fibre Company.	59,772	Jan. 15	126	1059
Fireworks for spectacular effects. Small	E. H. Wagner	59,682	Jan. 15	126	1057
Flavoring-extracts	C. H. Parrish	59,792	Jan. 15	126	1060
Flour. Wheat-	Bragdon-Jones Co	59,735	Jan. 15	126	1059
Flour. Wheat-	Huegely Milling Company	59,746	Jan. 15	126	1059
Flour. Wheat-	Huegely Milling Company	59,747	Jan. 15	126	1059
Flour. Wheat-	D. L. Marshall	59,753	Jan. 15	126	1059
Flour. Wheat-	Rea-Patterson Milling Company	59,795	Jan. 15	126	1060
Foods. Certain	Seattle Pure Food Co	59,797	Jan. 15	126	1060
Foods. Certain cereal	Jireh Diabetic Food Co	59,812	Jan. 15	126	1061
Foods. Certain named	Curtice Brothers Company	59,777	Jan. 15	126	1060
Games and toys. Certain	F. A. Richter	59,818	Jan. 15	126	1061
Games. Card	Flinch Card Co	59,739	Jan. 15	126	1059
Germicides and disinfectants	Tilden Company	59,802	Jan. 15	126	1060
Grain cleaners and separators	Sperry Manufacturing Company	59,718	Jan. 15	126	1058
Gum. Chewing-	F. J. Banta & Son	59,656	Jan. 15	126	1056
Gum. Chewing-	Dayton Specialty Co	59,778	Jan. 15	126	1060

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Gum. Chewing	F. M. Switzer	59,800	Jan. 15	126	1060
Hair pins and ornaments. Horn, rubber, and celluloid	Rice & Hochster	59,710	Jan. 15	126	1058
Hair pins and ornaments. Tortoise-shell	Rice & Hochster	59,711	Jan. 15	126	1058
Hammers	George Worthington Company	59,606	Jan. 15	126	1055
Harmonicas. Mouth-	Firm of M. Hohner	59,700	Jan. 15	126	1058
Hats and caps. Certain	F. Schoble & Co	59,647	Jan. 15	126	1056
Hats and caps. Certain	F. Schoble & Co	59,675	Jan. 15	126	1057
Hats. Stiff fur	S. C. Holley & Co	59,671	Jan. 15	126	1057
Horns and supports therefor. Amplifying	Tea Tray Company of Newark, N. J.	59,650	Jan. 15	126	1056
Hosiery	N. Snellenburg & Co	59,623	Jan. 15	126	1056
Hosiery	F. A. Patrick & Co	59,698	Jan. 15	126	1058
Insulating compounds	Massachusetts Chemical Company.	59,613	Jan. 15	126	1055
Jewelry and silver-metal ware. Certain	Fishel, Nessler & Co	59,724	Jan. 15	126	1058
Jewelry and solid and plated precious-metal ware. Certain	Oneida Community	59,707	Jan. 15	126	1058
Knitted shirts, drawers, and vests	Reins & Meiss	59,643	Jan. 15	126	1056
Lamp and lantern globes	R. E. Dietz Company	59,642	Jan. 15	126	1056
Lawns	Eddystone Manufacturing Company.	59,662	Jan. 15	126	1057
Laxative salts	Body Builders Medicine Co	59,773	Jan. 15	126	1060
Leather and products from the same. Sole	J. M. Delaney & Co	59,660	Jan. 15	126	1057
Leather. Harness	C. F. Pauli & Son	59,640	Jan. 15	126	1056
Leather manufactures. Certain	Gray & Dudley Hardware Co	59,608	Jan. 15	126	1055
Leather. Paste for filling defects in	H. C. Bee	59,734	Jan. 15	126	1058
Leather. Shoe and glove	Surpass Leather Co	59,625	Jan. 15	126	1056
Linen goods. Certain	Dayton Dry Goods Co	59,631	Jan. 15	126	1056
Liniment or counter-irritant	Dr. D. Jayne & Son	59,782	Jan. 15	126	1060
Liquid-separators and parts therefor. Centrifugal	Aktiebolaget Salenius' Werkstäder.	59,591	Jan. 15	126	1055
Magazines. Monthly	E. Hubbard	59,610	Jan. 15	126	1055
Malt extracts	Paragon Malt Extract Co	59,791	Jan. 15	126	1060
Medicinal malt extracts	Paragon Malt Extract Co	59,766	Jan. 15	126	1059
Medicinal preparation. Certain	Jno. M. Scott & Co	59,784	Jan. 15	126	1060
Medicinal preparation. Certain named	E. M. J. Mahr	59,787	Jan. 15	126	1060
Medicinal preparation for purifying and treating the blood	McKesson & Robbins	59,757	Jan. 15	126	1059
Medicinal preparations. Certain	W. R. Warner & Co	59,771	Jan. 15	126	1059
Medicines. Laxative	F. A. Luyties	59,752	Jan. 15	126	1059
Medicines. Tonic, alterative, laxative, and diuretic	Wells & Richardson Company	59,806	Jan. 15	126	1060
Metal manufactures. Certain	Thomas Devlin Manufacturing Co.	59,730	Jan. 15	126	1058
Milk, cream, butter, and cheese	H. J. Nietert	59,813	Jan. 15	126	1061
Mowers. Lawn-	George Worthington Company	59,607	Jan. 15	126	1055
Nutritive, restorative, stimulative, and antiseptic compound	Tilden Company	59,801	Jan. 15	126	1060
Oil. Certain named cooking-	Union Oil Company	59,804	Jan. 15	126	1060
Oil. Lubricating-	Galena-Signal Oil Company	59,780	Jan. 15	126	1060
Oil. Olive-	E. L. Corazzini	59,810	Jan. 15	126	1060
Ointment	K. M. Brown	59,775	Jan. 15	126	1060
Opera and field glasses and binoculars	A. Taussig	59,649	Jan. 15	126	1056
Paper. Drawing-	E. G. Soltmann	59,715	Jan. 15	126	1058
Paper. Drawing-	E. G. Soltmann	59,716	Jan. 15	126	1058
Paper. Drawing and tracing	E. G. Soltmann	59,713	Jan. 15	126	1058
Paper. Drawing and tracing	E. G. Soltmann	59,714	Jan. 15	126	1058
Paper. Tracing-	E. G. Soltmann	59,717	Jan. 15	126	1058
Paste	A. S. Hoyt	59,609	Jan. 15	126	1055
Pens. Fountain-	Eagle Pencil Company	59,603	Jan. 15	126	1055
Pens, pen feeds, caps, and barrels. Fountain-	L. E. Waterman Company	59,703	Jan. 15	126	1058
Periodical	F. Brady	59,695	Jan. 15	126	1058
Plastics composed in part of pyroxylin or soluble cotton	Celluloid Company	59,629	Jan. 15	126	1056
Plows	Ohio Cultivator Co	59,618	Jan. 15	126	1055
Pork scraps, sausages, and bacon	R. M. Burnett	59,808	Jan. 15	126	1060
Pottery and ceramic products. Fine	Société Anonyme pour la Fabrication des Faiences fines et Produits Céramiques.	59,679	Jan. 15	126	1057
Powder. Talcum	Summit City Soap Works	59,770	Jan. 15	126	1059
Powder. Toilet	Comfort Powder Company	59,776	Jan. 15	126	1060
Quilts	Chas. A. Maish Co	59,658	Jan. 15	126	1057
Radiators	United States Radiator Company.	59,805	Jan. 15	126	1060
Registers and faces and borders therefor. Heating and ventilating	Columbian Hardware Company	59,659	Jan. 15	126	1057
Remedies. Eye	Haley-Layboum Eye Infirmary	59,744	Jan. 15	126	1059
Remedy for certain named diseases	R. L. Hammond	59,745	Jan. 15	126	1059
Remedy for infantile disorders	J. A. E. Gauvin	59,742	Jan. 15	126	1059
Remedy for liver troubles	W. H. Peters	59,767	Jan. 15	126	1059
Remedy for rheumatism, neuralgia, and gout	J. N. W. Otto & Son	59,765	Jan. 15	126	1059
Roofing. Composite sheet	H. Huntington and Son	59,748	Jan. 15	126	1059
Rubber and gutta-percha gums. India-	G. A. Alden & Co	59,592	Jan. 15	126	1055
Rubber and gutta-percha gums. India-	G. A. Alden & Co	59,593	Jan. 15	126	1055
Rubber belting packing hose, and woven cotton-and-rubber hose.	Diamond Rubber Co	59,602	Jan. 15	126	1055
Rubber belting, packing, hose, and woven cotton-and-rubber hose.	Diamond Rubber Co	59,632	Jan. 15	126	1056
Rubber belting, packing, hose, and woven cotton-and-rubber hose	Diamond Rubber Co	59,633	Jan. 15	126	1056
Rubber belting, packing hose, and woven cotton-and-rubber hose	Diamond Rubber Co	59,634	Jan. 15	126	1056
Salve, ointment, or poultice	Gy-Zo Chemical Co	59,811	Jan. 15	126	1061
Schiedam schnapps. Aromatic	Udolpho Wolfe Co	59,816	Jan. 15	126	1061
Seals. Car, door, and window	National Car Protection Company.	59,615	Jan. 15	126	1055
Sherry	J. Wile Sons & Co	59,663	Jan. 15	126	1057
Shirt-waists	Ladyware Co	59,639	Jan. 15	126	1056

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Shoe dressing or polish. Liquid	R. B. Hammond	59,781	Jan. 15	126	1060
Shoes. Leather	H. T. Anderson	59,627	Jan. 15	126	1056
Shovels, spades, and scoops	Ames Shovel and Tool Company	59,594	Jan. 15	126	1055
Shovels, spades, and scoops	Ames Shovel and Tool Company	59,595	Jan. 15	126	1055
Silver. Organic salts of	John Wyeth and Brother	59,750	Jan. 15	126	1059
Soap	H. C. G. Luyties	59,705	Jan. 15	126	1058
Soap	A. C. Stewart	59,719	Jan. 15	126	1058
Soap	N. K. Fairbank Company	59,758	Jan. 15	126	1059
Soaps	A. & F. Pears	59,685	Jan. 15	126	1057
Soda, saleratus, and baking-powder	Church & Dwight Co	59,817	Jan. 15	126	1061
Spark-plugs	A. R. Mosler & Co	59,590	Jan. 15	126	1055
Spark-plugs	A. R. Mosler & Co	59,626	Jan. 15	126	1056
Spices and mustards	McCormick & Co	59,756	Jan. 15	126	1059
Stationery. Certain articles of	Tower M'f'g. & Nov. Co	59,651	Jan. 15	126	1056
Stove-polish	W. Halleman	59,725	Jan. 15	126	1058
Stoves and irons. Electric heating	B. Goldman	59,666	Jan. 15	126	1057
Suits. Boys'	Kahn Wertheimer & Smith Co	59,638	Jan. 15	126	1056
Surgical gauze	Peruform Manufacturing Company.	59,674	Jan. 15	126	1057
Teas	McCormick & Co	59,755	Jan. 15	126	1059
Thread and spool-cotton	American Thread Company	59,654	Jan. 15	126	1056
Thread and spool-cotton	American Thread Company	59,655	Jan. 15	126	1056
Thread and spool-cotton	American Thread Company	59,686	Jan. 15	126	1057
Thread, spool and sewing cotton	American Thread Company	59,687	Jan. 15	126	1057
Thread, spool and sewing cotton	American Thread Company	59,688	Jan. 15	126	1057
Thread, spool and sewing cotton	American Thread Company	59,689	Jan. 15	126	1057
Thread, spool and sewing cotton	American Thread Company	59,690	Jan. 15	126	1057
Thread, spool and sewing cotton	American Thread Company	59,691	Jan. 15	126	1057
Tonic beverages. Non-alcoholic	Most Company	59,789	Jan. 15	126	1060
Tonic. Chill-	G. B. Martin	59,754	Jan. 15	126	1059
Trunks made in part of wood	C. A. Taylor Trunk Works	59,599	Jan. 15	126	1055
Trunks made in part of wood	C. A. Taylor Trunk Works	59,600	Jan. 15	126	1055
Turpentine substitute	Bliven & Carrington	59,720	Jan. 15	126	1058
Uric-acid solvent	Solurol (Thymic Acid) Company	59,798	Jan. 15	126	1060
Valves, strainers, and cocks	United Injector Co	59,681	Jan. 15	126	1057
Washing-powders	J. M. Wilson	59,732	Jan. 15	126	1058
Watch hands, balance-staffs, and jewels	Hammel, Riglander & Co	59,670	Jan. 15	126	1057
Wax. Sealing-	Circleville Sealing Wax Co	59,601	Jan. 15	126	1055
Whisky	Edw. B. Bruce Co	59,663	Jan. 15	126	1057
Whisky	Green River Distilling Company	59,667	Jan. 15	126	1057
Whisky	Green River Distilling Company	59,668	Jan. 15	126	1057
Whisky	Green River Distilling Company	59,669	Jan. 15	126	1057
Whisky	J. Moroney	59,673	Jan. 15	126	1057
Whisky	P. J. Serwazi	59,677	Jan. 15	126	1057
Whisky	Chicago Distilling Co	59,696	Jan. 15	126	1058
Whisky	Dowling Bros	59,697	Jan. 15	126	1058
Whisky	W. A. Ross	59,712	Jan. 15	126	1058
Whisky	E. Lynch	59,726	Jan. 15	126	1058
Whisky	Pickel & Hand	59,727	Jan. 15	126	1058
Whisky	W. A. Ross	59,729	Jan. 15	126	1058
Whisky, gin, brandy, and rum	J. H. Friedenwald & Co	59,699	Jan. 15	126	1058
Window-prisms, vault, sidewalk, door, and window lights	A. Priddle	59,619	Jan. 15	126	1055
Wood-preserving compound	S. Cabot	59,736	Jan. 15	126	1059

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Cordon Rouge." (For Champagne-Wine)	G. H. Mumm & Co	13,315	Jan. 15	126	1062
"Cordon Rouge, G. H. Mumm & Co." (For Champagne-Wine.)	G. H. Mumm & Co	13,316	Jan. 15	126	1062
"Crown-O." (For a Beverage)	A. Feldman	13,314	Jan. 15	126	1062
"Deep Sea Caviar." (For Caviar)	F. Hansen	13,311	Jan. 13	126	1062
"Electric Brand Bitters." (For Medicine)	H. E. Bucklen & Company	13,324	Jan. 15	126	1062
"Feahney's Chief." (For Whisky)	G. Bennett	13,317	Jan. 15	126	1062
"Hy-Alfa." (For Hair Discovery)	J. S. Patton	13,321	Jan. 15	126	1062
"Klean-All." (For a Cleaning-Powder)	R. L. Taylor	13,319	Jan. 15	126	1062
"La Princesse Thérèse." (For Talcum and Toilet Powder)	C. Tetlow	13,320	Jan. 15	126	1062
"Loreley Hair Tonic." (For Hair-Tonic)	C. Schnepf	13,322	Jan. 15	126	1062
"Medrona, Essence of Mildness Cigars." (For Cigars)	Central Lithograph Co	13,318	Jan. 15	126	1062
"P. & T. English Breakfast Tea." (For English Breakfast-Tea.)	Park & Tilford	13,307	Jan. 15	126	1062
"P. & T. Formosa Oolong Tea." (For Formosa Oolong Tea)	Park & Tilford	13,309	Jan. 15	126	1062
"P. & T. Orange Pekoe Ceylon Tea." (For Orange Pekoe Ceylon Tea.)	Park & Tilford	13,308	Jan. 15	126	1062
"Paramount Massage Cream and Skin Food." (For a Massage-Cream and Skin Food.)	O. J. Wallber	13,323	Jan. 15	126	1062
"Paride's Treasure." (For Medicine)	P. Grasso	13,325	Jan. 15	126	1062
"Romanoff Caviar." (For Caviar)	Russian Caviar Company	13,312	Jan. 15	126	1062
"Romanoff Caviar." (For Caviar)	Russian Caviar Company	13,313	Jan. 15	126	1062
"Royal Tea Company." (For Teas, Spices, Extracts, Baking-Powder, and Confess.)	Royal Tea Company	13,310	Jan. 15	126	1062

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Cavendish Hoyle and Wheelock Backs, U. S. Whist Faces." (For Playing-Cards.)	United States Playing Card Company.	1,892	Jan. 15	126	1062
"Certificate of Origin Avenarius Carbolineum." (For a Wood-Preserving Compound.)	Carbolineum Wood Preserving Company.	1,888	Jan. 15	126	1062
"Elliott's Cream of Maple." (For Maple Table-Syrup)	S. K. Elliott	1,886	Jan. 15	126	1062
"From Humble Cot to Palace Grand, The Finest Drinks in All the Land." (For Ginger-Ale.)	Standard Bottling Co	1,884	Jan. 15	126	1062
"Men's Apparel." (For Men's Apparel)	L. Adler, Bros. & Co	1,889	Jan. 15	126	1062
"Motorette and Autobike Backs, Bicycle Playing Cards." (For Playing-Cards.)	United States Playing Card Company.	1,893	Jan. 15	126	1062
"Oxzyn Balm." (For a Balm for the Complexion)	Oxzyn Company	1,887	Jan. 15	126	1062
"Secret Service." (For Automatic Telephones)	Chicago Photogravure Company	1,891	Jan. 15	126	1062
"The Elwell Bridge Pad." (For Bridge-Pads)	E. P. Dutton & Company	1,890	Jan. 15	126	1062
"The Food You Never Tire Of." (For a Cereal Breakfast Food)	Cream of Wheat Company	1,885	Jan. 15	126	1062
"Wilcut Knives." (For Cutlery)	Wilkinson Shear & Cutlery Co	1,883	Jan. 15	126	1062

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Alcohol. Denatured	U. S. Industrial Alcohol Co	23,763	Jan. 15	126	1050
Ale	S. Liebmann's Sons Brewing Company.	24,037	Jan. 15	126	1053
Antipyretic, stimulant, analgesic, and anodyne	C. Ammen	20,586	Jan. 15	126	1045
Antiseptic cleanser for artificial teeth	A. W. Austin	22,939	Jan. 15	126	1047
Beer	Evansville Brewing Ass'n	21,536	Jan. 15	126	1046
Beer. Lager-	Leidiger Brewing Co	23,774	Jan. 15	126	1051
Blue. Washing-	Sawyer Crystal Blue Company	10,441	Jan. 15	126	1042
Books and ledgers. Blank, account, day, &c	Safety Systems Co	15,000	Jan. 15	126	1043
Boots, shoes, and oxfords. Men's, youths', and boys' leather	F. Valdes & Co	23,547	Jan. 15	126	1049
Bung-hole borers	Enterprise Manufacturing Co. of Pennsylvania.	23,732	Jan. 15	126	1050
Butter	D. W. Lewis & Company	24,066	Jan. 15	126	1053
Cables, ropes, chains, and rods. Metal grips for	Universal Cable Grip Company	23,425	Jan. 15	126	1049
Candies	George Ziegler Co	24,124	Jan. 15	126	1053
Candy. Chocolate-covered	Phelps Co	18,836	Jan. 15	126	1044
Canned corn, succotash, and beans	H. F. Webb Company	6,092	Jan. 15	126	1041
Canned fruits and vegetables	Clinton Canning Co	23,785	Jan. 15	126	1050
Canned vegetables	Rosenstein Brothers	22,798	Jan. 15	126	1047
Canned vegetables	Clinton Canning Co	23,764	Jan. 15	126	1050
Canned vegetables	Clinton Canning Co	23,766-8	Jan. 15	126	1051
Carriages and wagons. Metal parts used in the construction of	Eberhard Manufacturing Company.	545	Jan. 15	126	1041
Cement. Caen stone	C. L. Miller & Co	14,202	Jan. 15	126	1043
Chocolate	W. H. Baker	10,373	Jan. 15	126	1042
Cigarettes	Maspero Frères	23,098	Jan. 15	126	1048
Cigarettes	J. G. Saffa	23,223	Jan. 15	126	1049
Cigars, cigarettes, smoking and chewing tobacco	Carlowitz & Co	22,437	Jan. 15	126	1046
Coats, cloaks, suits, and skirts. Women's	New York Mackintosh Company	20,835	Jan. 15	126	1045
Coats, vests, and trousers and girls' coats. Boys'	L. Jacobson's Sons	23,175	Jan. 15	126	1048
Collars and cuffs. Woven fabric	W. G. Starry	22,536	Jan. 15	126	1046
Copying baths and cloths	Hoggson & Pettis Manufacturing pany.	23,057	Jan. 15	126	1048
Corks	A. Blumer	22,436	Jan. 15	126	1046
Cotton piece goods	Boott Mills	21,982	Jan. 15	126	1046
Cream and eczema cure. Massage-	Blanke-Baer Chemical Company	23,094	Jan. 15	126	1048
Crushing and sizing machinery and parts thereof, screens, pumps, &c.	Taylor Iron & Steel Co	22,773	Jan. 15	126	1047
Dust while sweeping. Compound for preventing	E. F. Beach	23,746	Jan. 15	126	1050
Fertilizers	Virginia-Carolina Chemical Company.	23,952	Jan. 15	126	1052
Fertilizers	Virginia-Carolina Chemical Company.	23,954	Jan. 15	126	1052
Finger-cots. Leather	P. Toussaint	22,993	Jan. 15	126	1048
Fire-extinguishing engines or devices. Hand-operated	Walter R. Johnston Manuf'g Co	23,558	Jan. 15	126	1049
Fireworks	H. J. Pain	24,081	Jan. 15	126	1053
Fish hooks, rods, reels, and baits	Edw. K. Tryon Company	23,006	Jan. 15	126	1048
Fishing-tackle	F. E. Chester	22,779	Jan. 15	126	1047
Fishing-tackle	F. E. Chester	22,781	Jan. 15	126	1047
Fishing-tackle	F. E. Chester	22,783	Jan. 15	126	1047
Flour. Wheat-	Davis Milling Company	23,512	Jan. 15	126	1049
Flour. Wheat-	Champion Roller Milling Company.	23,720	Jan. 15	126	1050
Flour. Wheat-	Central Kansas Milling Company.	24,085	Jan. 15	126	1053
Hair-tonic	C. L. Du Rocher	22,960	Jan. 15	126	1052
Hats	Swann Abram Hat Co	23,368	Jan. 15	126	1049
Hominy, hominy grits and flakes, and cornmeal	American Hominy Company	16,357	Jan. 15	126	1043
Hooks, eyes, buckles, pins, &c	William Prym G. m. b. H	21,737	Jan. 15	126	1046
Horses' and mules' shoes	American Horse Shoe Company	12,760	Jan. 15	126	1043
Insecticides	H. Bensmann	10,464	Jan. 15	126	1042

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Hosiery	Lord & Taylor	8,662	Jan. 15	126	1042
Insecticides	National Coal Tar Company	23,701	Jan. 15	126	1050
Insulators, electrical fittings, &c. Composition of matter for	Electrose Manufacturing Co	6,127	Jan. 15	126	1041
Journal. Monthly	Funk & Wagnalls Company	23,995	Jan. 15	126	1052
Lamps. Incandescent electric	Franklin Electric Mfg. Co	7,848	Jan. 15	126	1042
Lard	Richmond Abattoir Co	24,002	Jan. 15	126	1052
Laxative	W. L. Fields	19,735	Jan. 15	126	1044
Lotions. Face-	Healaletta Chemical Co	19,947	Jan. 15	126	1044
Meats. Cured, smoked, and sweet-pickled	Cudahy Packing Company	24,020	Jan. 15	126	1053
Medical preparation	Knoll & Co	22,571	Jan. 15	126	1046
Medicated tablets for baths	W. Sedlitzky	14,727	Jan. 15	126	1043
Medicinal preparations for the relief of toothache	L. D. Pierce	17,951	Jan. 15	126	1044
Medicinal syrup, pills, liniment, &c	Barclay & Barclay	22,206	Jan. 15	126	1046
Medicine. Alterative, resolvent, aperient	Tilden Company	23,968	Jan. 15	126	1052
Medicine for the cure of rheumatism	Father Schubert Rheumatic Cure Company.	20,439	Jan. 15	126	1044
Medicine for the lungs	G. J. Weisent	22,205	Jan. 15	126	1046
Metal dressings and polish	S. M. Bixby & Co	23,237	Jan. 15	126	1048
Metal dressings and polish	S. M. Bixby & Co	23,239	Jan. 15	126	1048
Milky or lacteous meal	A. Adam	4,403	Jan. 15	126	1041
Oil. Illuminating-	National Refining Company	23,288	Jan. 15	126	1049
Oils. Olive-	J. E. Athanassiades Sons	20,222	Jan. 15	126	1044
Oleomargarin, artificial butter, and lard. Oleo-oil for the manufacture of	Schwarzschild and Sulzberger Co	17,284	Jan. 15	126	1044
Pianos and organs	M. Schulz Co	21,748	Jan. 15	126	1046
Pills for diseases of the stomach, liver, and bowels	H. H. Johnson Co	24,024	Jan. 15	126	1053
Planers. Open-side	Detrick & Harvey Machine Co. of Baltimore City.	23,592	Jan. 15	126	1050
Plasters. Wall-	Plymouth Gypsum Co	23,782	Jan. 15	126	1051
Preparation for the treatment of neuralgia, sprains, cuts, &c.	B. O. Lamphear	20,855	Jan. 15	126	1045
Quilts	Sherman, Reid & Co	9,040	Jan. 15	126	1042
Remedy for diseased conditions of the blood, liver, and digestive organs.	Manhattan Medicine Co	23,965	Jan. 15	126	1052
Rubber belting, hose, packing, &c	B. F. Goodrich Company	22,676	Jan. 15	126	1047
Sand and emery paper	Neuss, Hesslein & Co	22,846	Jan. 15	126	1047
Shoe, leather, and harness polishes, blackings, and dressings	Eclipse Cement & Blacking Company.	23,631	Jan. 15	126	1050
Shoes. Leather	W. S. Johnson	21,073	Jan. 15	126	1045
Shoes. Leather	F. J. Currier	22,319	Jan. 15	126	1046
Shoes. Leather	May Company	23,906	Jan. 15	126	1051
Siding, shingles, flooring, fencing, &c	C. N. Dietz Lumber Company	22,805	Jan. 15	126	1047
Silk dress goods	Rogers & Thompson	10,671	Jan. 15	126	1042
Snap-fasteners	Alma Manufacturing Company of Baltimore City.	23,913	Jan. 15	126	1051
Soap	Mexican Amole Soap Co	10,767	Jan. 15	126	1042
Soap	Mexican Amole Soap Co	10,769	Jan. 15	126	1043
Soap	E. Goltze	23,436	Jan. 15	126	1049
Soap	Barclay & Barclay	23,810	Jan. 15	126	1051
Soap. Laundry	James S. Kirk & Company	20,873	Jan. 15	126	1045
Soap. Pumice-	Haskins Bros. & Co	24,115	Jan. 15	126	1053
Soap. Toilet and medicinal	Barclay & Barclay	23,147	Jan. 15	126	1048
Specific for nervous troubles, purifying the blood, colds, &c.	J. T. Coombs	23,565	Jan. 15	126	1050
Steel billets, rods, blanks, sheets, &c	S. & C. Wardlow	18,344	Jan. 15	126	1044
Stockings	Levi Strauss & Co	20,698	Jan. 15	126	1045
Stogies	J. S. Haggerty Co	24,005	Jan. 15	126	1052
Talking-machines, records, and supplies	Columbia Phonograph Company	23,820	Jan. 15	126	1051
Tapioca. Prepared	Whitman Grocery Co	8,173	Jan. 15	126	1042
Teeth. Plugs for filling	E. F. Andrews	6,828	Jan. 15	126	1041
Time-recorders, clocks, and watches	Newman Clock Co	23,022	Jan. 15	126	1048
Tires for automobiles. Rubber	H. M. & S. Armored Tire Co	15,424	Jan. 15	126	1043
Tobacco. Scrap, chewing, and smoking	A. Schroer	23,967	Jan. 15	126	1052
Tooth-paste	W. B. Flynn	21,384	Jan. 15	126	1045
Trousers, coats, vests, and overcoats	Arnold, Louchheim & Co	23,769	Jan. 15	126	1051
Varnishes	Patterson Sargent Co	12,773	Jan. 15	126	1043
Washing-machines, washtubs, wringers, &c	G. W. Froelich	22,740	Jan. 15	126	1047
Watches, watch movements and cases	B. L. Strasburger	24,003	Jan. 15	126	1052
Water. Mineral	Virginia Etna Lithia Springs Co	22,894	Jan. 15	126	1047
Whisky	W. Scheppelman	23,497	Jan. 15	126	1049
Whisky	Hollywood Company	24,073	Jan. 15	126	1053
Whisky	Kohn Distilling Co	24,154	Jan. 15	126	1053
Windmills, windmill-towers, pumps, and pump-cylinders	Red Cross Mfg. Co	7,719	Jan. 15	126	1042

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 22D DAY OF JANUARY, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Abbé, Max F., New York, N. Y. Tubular ball-mill	841,841	Jan. 22	4129	889–90	126	1176
Abbé, Max F., New York, N. Y. Pebble-mill	841,913	Jan. 22	4270	919–20	126	1207
Acme Flexible Clasp Company. (See MacMurray, James E., assignor.)						
Adams, Joel U., Cincinnati, Ohio. Suspenders	841,654	Jan. 22	3731	810	126	1071
Adams, Walter H., Sound Beach, Conn. Drill-chuck	841,758	Jan. 22	3946	853	126	1127
Adamson, George W., Crider, Ky. Sash-fastener	841,655	Jan. 22	3732	810	126	1071
Akers, Erastus M., Ione, Oreg. Brake-lever	841,842	Jan. 22	4130	890	126	1176
Allen, William, Muncie, Ind. Machine for gathering glass	842,051	Jan. 22	4525	973–4	126	1269
American Novel Machine Company. (See Jones, Louis A., assignor.)						
American Optical Company. (See Baker, Nelson M., assignor.)						
American Phosphorous Company. (See Landis, Gilbert C., assignor.)						
American Seeding Machine Company. (See Packham and Oates, assignors.)						
American Tobacco Company. (See Harris, Fred R., assignor.)						
Anaconda Copper Mining Company. (See Garred, Ulysses A., assignor.)						
Anderson, Lars, Chicago, Ill., assignor to Triplex Gas Engine Company, New York, N. Y. Carbureter	842,052	Jan. 22	4530	974–5	126	1269
Anderson, Severin B., assignor of one-half to N. Nelson, Seattle, Wash. Rein check or stop	841,843	Jan. 22	4132	890	126	1177
Andrews, Augustus, Gulfport, Miss., and L. M. Gailliher, New Orleans, La. Cable-holding clip	841,914	Jan. 22	4271	920	126	1207
Andrews, Martin, assignor to Phœnix Fire Extinguisher Co., Chicago, Ill. Valve for automatic fire-extinguishers	841,915	Jan. 22	4271	920	126	1208
Armstrong, Walter, Chicopee, Mass. Engraving-machine	841,656	Jan. 22	3733	810–11	126	1071
Arnold, Frederick H., Reading, Pa. Safety-razor	841,916	Jan. 22	4274	921	126	1208
Arrouquier, Fredrick E., Westbrook, Me., assignor, by mesne assignments, to Goodall Matting Company. Straw matting	842,053	Jan. 22	4533	975	126	1270
Assen, Michael, and F. P. Elkmann, Jr., St. Louis, Mo. Guide-casing for boiler-tube cleaners	841,917	Jan. 22	4275	921	126	1208
Atkinson, Leslie V., Carshalton, England. Treating refractory ores	841,657	Jan. 22	3736	811	126	1072
Aubé, Octave, and L. M. Tremblay, assignors of one-third to J. A. O. Labadie and O. Papineau, Montreal, Quebec, Canada. Smoke-consumer	841,918	Jan. 22	4277	921–2	126	1209
Automobile Parts and Equipment Company. (See Stout, George H., assignor.)						
Bader, Frank L., Milwaukee, Wis. Metallic weather-stripping	841,658	Jan. 22	3737	811	126	1072
Badger, Oliver L., Bellevue, assignor to United States Furnace & Foundry Company, Darlington, Pa. Warm-air furnace	842,126	Jan. 22	4668	1002	126	1303
Baechle, Nicholas W., Cincinnati, Ohio. Friction-clutch	841,659	Jan. 22	3738	812	126	1072
Baker, Harry H., Urbana, Ohio. Wooden building	841,759	Jan. 22	3947	853	126	1127
Baker, Nelson M., Worcester, assignor to American Optical Company, Southbridge, Mass. Eyeglass-mounting	841,919	Jan. 22	4280	922	126	1210
Ball, Albert, assignor to Sullivan Machinery Company, Claremont, N. H. Engine	842,128	Jan. 22	4674	1003	126	1304
Ball, Albert, and T. Officer, assignors to Sullivan Machinery Company, Claremont, N. H. Engine	842,127	Jan. 22	4670	1002–3	126	1303
Ball, Albert, and T. Officer, assignors to Sullivan Machinery Company, Claremont, N. H. Pressure-actuated valve for engines	842,129	Jan. 22	4677	1003	126	1305
Ball, Augustus A., Jr., Lynn, Mass., assignor to General Electric Company. System of regulation for generators and burners	841,760	Jan. 22	3948	853	126	1127
Barker, Joseph, Carson City, Nev. Windmill	842,054	Jan. 22	4535	975	126	1270
Barnard, Arthur W., Newton Center, assignor to Barnard Company, Boston, Mass. Dash-pot	842,055	Jan. 22	4538	976	126	1271
Barnard, Arthur W., Newton Center, assignor to Barnard Company, Boston, Mass. Pendulum	842,130	Jan. 22	4681	1004	126	1306
Barnard, Arthur W., Newton Center, assignor to Barnard Company, Boston, Mass. Weighing-scale	842,131	Jan. 22	4682	1004–5	126	1307
Barnard Company. (See Barnard, Arthur W., assignor.)	841,660	Jan. 22	3741	812	126	1073
Barnes, Jesse M., Sarcoxie, Mo. Adjustable flue or chimney cap	842,056	Jan. 22	4540	976	126	1271
Barr, John C., Tacoma, Wash. Circular floor conveyer						
Barret, John J., *et al.* (See Bedinger, Everett W., Jr., assignor.)						
Barsachs, William M., Chicago, Ill., assignor to W. G. and H. S. Jones. Loose-leaf binder	841,920	Jan. 22	4281	922	126	1210
Bartlett, Leander L., Montague City, Mass. Fishing-rod	841,761	Jan. 22	3954	854	126	1129
Basic Chemical Company. (See Reuter, Ludwig H., assignor.)	842,057	Jan. 22	4542	976	126	1272
Bass, John, McKees Rocks, Pa. Hoisting-derrick	842,058	Jan. 22	4543	977	126	1272
Bassett, Herman S., Edwall, Wash. Amusement device	841,762	Jan. 22	3955	854	126	1129
Bates, Onward, Chicago, Ill. Pile	842,059	Jan. 22	4544	977	126	1272
Bauman, Henry G., Pittsburg, Pa. Phonograph	841,921	Jan. 22	4282	923	126	1210
Beach, Oscar C., and A. L. Bussell, assignors, by mesne assignments, to F. W. Braun, Los Angeles, Cal. Combined pulverizer and sampler	842,060	Jan. 22	4547	977	126	1272
Beaghan, Thomas F., H. B. Reid, and J. H. Best, Shenandoah, Va. Relief-valve for locomotives	842,061	Jan. 22	4549	978	126	1273
Beames, David. (See Mier and Beames.)	841,922	Jan. 22	4283	923	126	1210
Bean, Roscoe, Berea, Ohio. Torpedo-cane						
Beaty, Warren G., Denmark, Tenn. Harrow						

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Drg.	Official Gazette. Vol.	Page.
Beckman, Adolph G., and J. S. Schell, Baltimore, Md. Level	842,062	Jan. 22	4552	978	126	1274
Bedinger, Everett W., Jr., assignor to J. J. Barret and H. O. Hausgen, Anchorage, Ky. Carriage-bow support	842,063	Jan. 22	4553	978	126	1274
Behrman, Marcus B., Baltimore, Md. Tobacco-box	842,064	Jan. 22	4555	978	126	1274
Behrman, Marcus B., Baltimore, Md. Tobacco-box	842,065	Jan. 22	4556	979	126	1274
Bemis, Gilbert C., Lynn, Mass. Shoe	841,763	Jan. 22	3957	854	126	1130
Bernet, John, Chicago, Ill. Key-operated locking-switch	841,844	Jan. 22	4133	890	126	1177
Bertram, John F., St. Louis, Mo. Churn-dasher	841,661	Jan. 22	3742	813	126	1074
Best, Jacob H. (See Beaghan, Reid, and Best.)						
Bettendorf Metal Wheel Company. (See Einfeldt, Emil, assignor.)						
Betts, Charles L., assignor to R. E. Dietz Company, New York, N. Y. Vehicle-lamp	841,845	Jan. 22	4135	891	126	1178
Beyle, Ferdinand, Colorado City, Colo. Bridle-strangler	841,923	Jan. 22	4284	924	126	1211
Beymer, Adelbert S., Kansas City, Mo. Furrow-opener for seed-planters	842,066	Jan. 22	4558	979	126	1275
Bierley, Henry A., Portsmouth, Ohio. Combined shade-roll bracket and curtain-pole support	842,067	Jan. 22	4560	979–80	126	1275
Biggs, George F., St. Louis, Mo. Sample-trunk	841,764	Jan. 22	3958	854	126	1130
Bigney and Company, S. O. (See Wallenthin, Walfrid, assignor.)						
Bigney, Sidney O. (See Hodges, Francis G., assignor.)						
Bishop, Donald G. (See Bishop, Norman D., assignor.)						
Bishop, Norman D., assignor to D. G. Bishop, Los Angeles, Cal. Illuminating apparatus	841,765	Jan. 22	3959	855	126	1130
Blair, Robert S., New York, N. Y. Recording apparatus	842,132	Jan. 22	4689	1006	126	1308
Bleoo, John H., assignor to A. B. Levy, New York, N. Y. Valve	841,924	Jan. 22	4285	924	126	1211
Boilers and Engineering Company. (See Del Mar, Harry, assignor.)						
Boston Automatic Fire Alarm Company. (See Wall and Derby, assignors.)						
Bovee, David W., Waterloo, Iowa. Constructing composite or concrete walls	842,068	Jan. 22	4562	980	126	1276
Branch, Thomas, Otisville, Mich. Fish-ladder	841,662	Jan. 22	3743	813	126	1074
Braun, Frederick W. (See Beach and Buzzell, assignors.)						
Bredel, Frederick, Milwaukee, Wis. Recuperative furnace	841,663	Jan. 22	3744	813	126	1074
Bredel, Frederick, Milwaukee, Wis. Recuperative furnace	841,664	Jan. 22	3746	814	126	1075
Brennan, James C., Powers, Mich. Drive-wheel for automobiles	842,069	Jan. 22	4563	980	126	1276
Brinsmead, R., *et al.* (See Gee, Charles A., assignor.)						
Brocherioux, Emilien J. B., P. J. Tochon, A. Fortier, and L. V. Marotte, Paris, France. Composition for sound-records	842,070	Jan. 22	4565	981	126	1277
Brooks, John C., Paterson, N. J., assignor to Draper Company, Hopedale, Mass. Loom-shuttle	842,133	Jan. 22	4699	1006	126	1313
Broomall, Edgar W., Rochester, N. Y. Centrifugal separator	841,925	Jan. 22	4287	924	126	1211
Brown, John, Chicago, Ill. Bag-holder	841,926	Jan. 22	4288	924	126	1211
Brown, Mark A., assignor of one-half to D. G. Purse, Jr., Savannah, Ga. Car-coupling	841,927	Jan. 22	4288	925	126	1212
Brown, Mark A., assignor of one-half to D. G. Purse, Jr., Savannah, Ga. Car-coupling	842,071	Jan. 22	4565	981	126	1277
Brown, Theodore P., Worcester, Mass. Reversing and rewinding mechanism for automatic musical instruments	842,072	Jan. 22	4567	981	126	1277
Browning, Melvin H., Perry, Ill. Seed-sowing machine	842,073	Jan. 22	4569	982	126	1278
Brush, Alanson P., Detroit, Mich. Jacketing system for engine-cylinders	841,846	Jan. 22	4136	891	126	1178
Bryan, Harry E., Cadiz, Ohio. Scraper for cooking utensils	842,074	Jan. 22	4570	982	126	1278
Buffalo Pitts Company. (See Vraalstad, Edward J., assignor.)						
Burdick, Albert C., Portland, Oreg. Machine for shaping prunes	842,075	Jan. 22	4571	982	126	1278
Burnett, Buell S., assignor of one-fourth to H. C. Harvey, Atlanta, Ga. Combination-lock	842,076	Jan. 22	4573	982–3	126	1279
Burnett, George M., Brooklyn, N. Y. Toy	842,077	Jan. 22	4575	983	126	1279
Burson, James L. (See Campion and Wyant, assignors.)						
Buskett, Evans W., Coffeyville, Kans. Multiple rifle-sampler	841,928	Jan. 22	4289	925	126	1212
Butler, James, St. Catherines, Ontario, Canada. Revolving drag-scraper	841,929	Jan. 22	4291	925	126	1212
Button Sewing Attachment Company. (See Ongley, Charles E., assignor.)						
Buzzell, Arthur L. (See Beach and Buzzell.)						
Cabot, Sewall, Brookline, assignor to Stone Telegraph and Telephone Company, Boston, Mass. Space telegraphy	842,134	Jan. 22	4701	1007	126	1313
Caldwell, John A., Montclair, N. J. Mechanical stoker. (Reissue)	12,598	Jan. 22	4753	1015–16	126	1325
Callais, Albert A., Plaquemine, La. Fence-post brace	842,078	Jan. 22	4576	983	126	1279
Calulus Company. (See Dennis, Adolphus S., assignor.)						
Campbell, Emerson B., Bakersfield, Cal. Covering for roofs and the like	842,079	Jan. 22	4577	983	126	1280
Campbell, Leonard H., Providence, R. I. School-desk	841,766	Jan. 22	3961	855	126	1131
Campbell, William R., Little York, Ill. Draft-equalizer	841,930	Jan. 22	4292	926	126	1213
Campion, Grant, and M. Wyant, Anderson, Ind., assignors to J. L. Burson, Venito, Va. Poke-hole valve for furnaces	842,135	Jan. 22	4704	1007	126	1313
Caps, John C. (See Johnson and Caps.)						
Carpenter, Sidney C., West Hartford, Conn. Pump and valve-controlling mechanism therefor	842,080	Jan. 22	4578	984	126	1280
Chambers, Jonathan F., assignor of one-half to U. C. Hays, Jr., Washington, D. C. Bushing for air-pin plates	841,665	Jan. 22	3748	814	126	1075
Chambers, Robert A., New Glasgow, Nova Scotia, Canada. Testing pneumatic tools	842,136	Jan. 22	4705	1007	126	1314
Chattanooga Implement and Manufacturing Company. (See Starr, Hillyard A., assignor.)						
Chemische Fabrik Griesheim Elecktron. (See Laska and List, assignors.)						
Chesebro, Denison P., New York, N. Y. Trestle	841,931	Jan. 22	4294	926	126	1213
Chesebro, Denison P., New York, N. Y. Scaffold	841,932	Jan. 22	4294	926	126	1213
Chmelewski, Anna M. (See Chmelewski, Paul, assignor.)						
Chmelewski, Paul, assignor to A. M. Chmelewski, Helsingfors, Russia. Kiln	841,847	Jan. 22	4139	891–2	126	1179
Christiansen, Hans L., *et al.* (See Dahl, Ole W., assignor.)						
Clark, Hervey D., Decatur, Ill. Door-opener	842,081	Jan. 22	4581	984	126	1281
Clayton, Ernest S., Newark, N. J. Circuit-closer	842,082	Jan. 22	4581	985	126	1281
Cochran, James K., Chicago, Ill. Self-propelled car-truck	841,933	Jan. 22	4296	926–7	126	1214
Coffman, Samuel M., Braymer, Mo. Single-eccentric reversing-gear for steam-engines	841,934	Jan. 22	4299	927	126	1215
Cokel Company. (See Cooke, Ernest W., assignor.)						
Colditz, Heinrich M., Milwaukee, Wis. Heel for boots and shoes	841,935	Jan. 22	4301	928	126	1215
Cole, John H., Innishannon, Ireland. Game apparatus	841,936	Jan. 22	4303	928	126	1215
Cole, Llewellyn W., assignor to Eagle Square Manufacturing Company, South Shaftsbury, Vt. Carpenter's square	841,666	Jan. 22	3750	815	126	1076
Coleman, William C., Wichita, Kans. Gasolene-lamp	841,667	Jan. 22	3752	815	126	1076
Commercial Engineering Company. (See Van Horn and Townsend, assignors.)						
Condon, Edward J., Dixon, Ill. Signal	841,767	Jan. 22	3964	856–7	126	1131
Conly, Mahlon S., Los Angeles, Cal. Roller-bearing	841,937	Jan. 22	4304	928	126	1216
Conly, Mahlon S., Los Angeles, Cal. Roller-bearing	841,938	Jan. 22	4306	928	126	1216
Conner, George F., Port Huron, Mich. Walk-cleaner	841,848	Jan. 22	4142	892	126	1179
Consolidated Dental Manufacturing Company. (See Hardy, James F., assignor.)						
Contractors Wagon Company. (See MacClernan, Richard H., assignor.)						
Cook, Frank B., Chicago, Ill. Electrothermal protector	841,849	Jan. 22	4143	893	126	1180
Cook, Simon, East Akron, Ohio. Steam-turbine	842,083	Jan. 22	4582	985	126	1281
Cooke, Ernest W., New York, N. Y., assignor, by mesne assignments, to Cokel Company. Desiccating plant	841,939	Jan. 22	4306	929	126	1216

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Cooper, George N., Haverhill, assignor of one-half to G. F. Soule, Plymouth, Mass. Feeding mechanism for tack-cutting machines	842,137	Jan. 22	4706	1008	126	1314
Corbin Motor Vehicle Company. (See Manross, Arthur N., assignor.)						
Cowles, Alfred A., New York, N. Y. Bottle-closure	841,668	Jan. 22	3753	815	126	1076
Crahill, Joseph R., Carthage, Ill. Variable friction-gear	841,850	Jan. 22	4146	893	126	1180
Crandall, Herman E., New Britain, Conn. Hose-supporter	841,940	Jan. 22	4312	929	126	1218
Crane, Henry M., New York, N. Y., assignor to Western Electric Company, Chicago, Ill. Pneumatic ticket-distributing system	841,851	Jan. 22	4148	893–4	126	1181
Crowley, Benajah M., Omaha, Ga. Axle	841,941	Jan. 22	4314	929	126	1218
Curley, James R., New York, N. Y. Safety-razor	841,942	Jan. 22	4314	930	126	1218
Curtain Supply Company. (See Hopkins, Charles L., assignor.)						
D'Agostino, Nicola, Chicago, Ill. Cylinder for macaroni-machines	841,852	Jan. 22	4151	894	126	1182
Dahl, Ole W., Malden, assignor of two-thirds to H. L. Christiansen and H. Tidemand, Boston, Mass. Perpetual calendar	841,669	Jan. 22	3754	815–16	126	1077
Davis, Spencer E., Minneapolis, assignor to Monitor Drill Company, St. Louis Park, Minn. Scraper for disk drills	841,768	Jan. 22	3969	857	126	1132
De Kleist, Eugene, North Tonawanda, N. Y. Automatic piano	841,787	Jan. 22	4010	866–7	126	1144
De Lisle, Just.n, New York, N. Y. Hypodermic syringe	841,701	Jan. 22	3830	833	126	1098
De Vilbiss, Allen, Jr., assignor to Toledo Scale & Cash Register Company, Toledo, Ohio. Scale	841,854	Jan. 22	4153	895	126	1183
Deady, John. (See Scott and Deady.)						
Dean Electric Company. (See Manson, Ray H., assignor.)						
Dean, William W., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone trunking system	841,769	Jan. 22	3969	857	126	1133
Dearborn, John S., Lynn, Mass. Game apparatus	841,770	Jan. 22	3973	858	126	1133
Dehm, Edward, Fruita, Colo. Magazine repeating firearm	841,670	Jan. 22	3757	815	126	1077
Del Mar, Harry, New York, N. Y., assignor to Boilers and Engineering Company, Jersey City, N. J. Water-tube boiler	842,084	Jan. 22	4583	935	126	1281
Delano, Harry N., Chicago, Ill. Commutation railway-ticket	841,853	Jan. 22	4152	894	126	1182
Demarest, George A., assignor of one-half to J. Hanson, Berwick, La. Clothes-line apparatus	842,085	Jan. 22	4585	986	126	1282
Dennis, Adolphus S., Cleveland, Ohio, assignor, by mesne assignments, to Calulus Company. Computing-machine	842,138	Jan. 22	4708	10 8	126	1315
Dennis, Joseph A., Ardmore, Ind. Ter. File-holder for filing-machines	841,671	Jan. 22	3759	816	126	1078
Derby, John H. (See Wall and Derby.)						
Detroit Trust Co., trustee. (See Johnston, Robert T., assignor.)						
Detroit Trust Co., trustee. (See Wood, Henry A. W., assignor.)						
Deutsche Waffen-und Munitionsfabriken. (See Gleinich, Arthur, assignor.)						
Dewson, Edward H. (See Newell and Dewson.)	842,139	Jan. 22	4711	.....	126	1315
Diehl, Charles A., and W. Koehler, Cleveland, Ohio. Treating ores						
Dietz Company, R. E. (See Betts, Charles L., assignor.)	841,672	Jan. 22	3759	817	126	1078
Dittmar, Elmer C., Williamsport, Pa. Wood-ornamenting machine	842,086	Jan. 22	4586	986	126	1282
Dixon, George W., Chicago, Ill. Liquid-separator						
Dockery, James J., St. Louis, Mo. Smoke-burning fire-box for stoves, furnaces, and boilers	841,673	Jan. 22	3762	817	126	1079
Dodge, John, Milwaukee, Wis. Feed-water heater	841,674	Jan. 22	3764	817	126	1079
Dodsworth, John S., Leavenworth, Kans. Receipt-holding case	841,943	Jan. 22	4316	930	126	1218
Dollfus, Lucien A., Paris, France. Furnace	841,944	Jan. 22	4317	930	126	1219
Dormandy, Garry J., assignor to United Shirt and Collar Company, Troy, N. Y. Infolding-machine	841,675	Jan. 22	3770	818–20	126	1081
Doughty, Ralph O., Mount Pleasant, Mich. Display-hanger	841,945	Jan. 22	4318	930	126	1219
Downing, Fred, Decatur, Ill. Tooth-brush	841,946	Jan. 22	4319	931	126	1219
Downing, James, Jeanette, Pa. Furnace	841,947	Jan. 22	4320	931	126	1220
Draper Company. (See Brooks, John C., assignor.)						
Draper Company. (See Roper, Charles F., assignor.)						
Dreer, William F., Coulters, Pa. Electric signal	841,855	Jan. 22	4155	895	126	1183
Duke, William, Sr., and William, Jr., Philadelphia, Pa. Printing-gage	841,948	Jan. 22	4322	931	126	1220
Duncan, Sylena A., Neshanic Station, N. J. Dress-shield fastener	842,087	Jan. 22	4587	986	126	1282
E. C. Atkins & Co. (See Frazee, Cassius F., assignor.)						
Eagle Square Manufacturing Company. (See Cole, Llewellyn W., assignor.)						
Earl, Benjamin F., Boston, assignor of one-half to F. W. Tirrell, Quincy, Mass. Window-stage	841,676	Jan. 22	3775	820	126	1083
Edison, Thomas A., Llewellyn Park, Orange, N. J. Apparatus for grinding and separating fine materials	841,677	Jan. 22	3777	820	126	1083
Elkmann, Frederick P. (See Assen and Elkmann.)						
Einfeldt, Emil, Davenport, Iowa, assignor to Bettendorf Metal Wheel Company. Apparatus for shaping metal bars	841,949	Jan. 22	4324	932	126	1220
Einfeldt, Emil, Davenport, Iowa, assignor to Bettendorf Metal Wheel Company. Die-feeding mechanism	841,950	Jan. 22	4327	932–3	126	1221
Elder, William S., assignor to J. Hirsh, Philadelphia, Pa. Knitting-machine needle	841,678	Jan. 22	3779	820	126	1084
Elfreth, Jacob R., Philadelphia, Pa. Device for supplying a filter or other receiver with chemically-treated fluid	842,088	Jan. 22	4589	986	126	1283
Enterprise Manufacturing Company. (See Llewellyn and Pflueger, assignors.)	841,951	Jan. 22	4330	933	126	1222
Evans, William J., Minneapolis, Minn. Fish-hook						
F. F. Slocomb & Co. (See Slocomb, Frank F., assignor.)						
Farbenfabriken vorm. Friedr. Bayer & Co. (See Witter, Hugo, assignor.)						
Farbwerke, vorm. Meister, Lucius & Brüning. (See Müller and Wollenberg, assignors.)						
Farlow Draft Gear Company. (See Wright and Farlow, assignors.)						
Farlow, John H. (See Wright and Farlow.)						
Farmers Auto Motor Company. (See Johnson and Caps, assignors.)	841,771	Jan. 22	3975	858	126	1134
Farnham, Frank E., Providence, R. I. Pin-joint	841,772	Jan. 22	3977	858	126	1135
Farnham, Frank E., Providence, R. I. Cuff-pin	841,679	Jan. 22	3780	821–3	126	1084
Fehr, William, Philadelphia, Pa. Machine for the manufacture of heddles	842,089	Jan. 22	4590	987	126	1283
Feige, Henry, *et al.* (See Lightner, Henry L., assignor.)	841,680	Jan. 22	3788	823	126	1086
Felker, Melancthon O., Chicora, Pa. Whip	842,090	Jan. 22	4592	987	126	1284
Ferguson, John A., Brookline, Mass. Driving-belt	842,140	Jan. 22	4712	.....	126	1315
Finan, John F., Cumberland, Md. Paper-roll holder and cutter	841,952	Jan. 22	4331	933–5	126	1222
Fischer, Emil, Berlin, Germany. Organic iodin preparation	841,953	Jan. 22	4336	935	126	1224
Fisher, Alexander M., New York, N. Y. Telegraphic code	841,773	Jan. 22	3979	859	126	1135
Fitz Simmons, Jay F., Minneapolis, Minn. Music-stand	842,091	Jan. 22	4594	987	126	1284
Fitzgerald, Albert W., Terre Haute, Ind. Trench-sheeting						
Fleming, Allison H., Fairmont, W. Va. Shade-roller bracket						
Fortier, Alfred. (See Brocherioux, Tochon, Fortier, and Marotte.)						
Frank, Salomon, Frankfort-on-the-Main, Germany. Apparatus for manufacturing tubes and the like	841,954	Jan. 22	4337	935	126	1224
Franklin, Fred W., Kalamazoo, Mich. Stanchion	841,955	Jan. 22	4338	936	126	1224
Franklin, John, Greenville, Ala. Cotton chopper and cultivator	841,956	Jan. 22	4340	936	126	1225
Frazee, Cassius F., Portland, Oreg., assignor to E. C. Atkins & Co., Indianapolis, Ind. Detachable saw-handle	842,141	Jan. 22	4713	1008	126	1315
Freedman, Barnett, Boston, Mass. Garment	841,856	Jan. 22	4157	895–6	126	1183

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French, Mary E., Clyde, Ohio. Kettle	841,861	Jan. 22	3788	824	126	1086
Froger-Delapierre, Edouard L., Courbevoie, France. Making vanillin	841,957	Jan. 22	4341	936–7	126	1225
Frommater, Willy R., New York, N. Y. Clearing device for pneumatic tires	841,958	Jan. 22	4343	937	126	1225
Fuller, Arthur A., assignor to Providence Engineering Works, Providence, R. I. Equalizing-gearing	841,774	Jan. 22	3981	859	126	1136
Funck, Jacob, Rochester, assignor to Judd & Leland Manufacturing Company, Clifton Springs, N. Y. Pneumatic pump	842,142	Jan. 22	4715	1009	126	1316
Galliher, Lawrence M. (See Andrews and Galliher.)						
Garber, John P., Ridley Park, Pa. School-desk	841,775	Jan. 22	3982	860	126	1136
Garlits, William A., and T. Woodard, Caldwell, Kans. Adjustable straw-rack	841,857	Jan. 22	4158	896	126	1184
Garred, Ulysses A., assignor to Anaconda Copper Mining Company, Anaconda, Mont. Cable conveyer	841,858	Jan. 22	4160	896–7	126	1184
Garson, Isaac H., Rochester, N. Y., assignor to Garson Vending Machine Company. Cigar-vending machine	842,143	Jan. 22	4717	1009–10	126	1316
Garson Vending Machine Company. (See Garson, Isaac H., assignor.)						
Gay, Cassius M., Allegheny, Pa. Gas-explosive device and compressor for reversible engines	841,859	Jan. 22	4163	897	126	1185
Gee, Charles A., Casa Blanca, assignor of three-fourths to R. Brinsmead, H. P. B. Vaughan, and F. G. Hall, Riverside, Cal. Drafting instrument	842,144	Jan. 22	4724	1010	126	1318
General Electric Company. (See Ball, Augustus A., Jr., assignor.)						
General Electric Company. (See Lemp, Hermann, assignor.)						
Gentrup, Josef, Brochterbeck, near Münster, Germany. Sifting or screening apparatus	841,860	Jan. 22	4344	937	126	1226
Gilbert, George A., Chicago, Ill. Pulley	841,862	Jan. 22	3789	824	126	1087
Gilmer, John T., assignor of one-half to T. A. Jennings, Pensacola, Fla. Non-refillable bottle	841,860	Jan. 22	4166	897	126	1186
Gilmer, John T., assignor of one-half to T. A. Jennings, Pensacola, Fla. Bottle-closure	842,145	Jan. 22	4725	1010	126	1318
Gledhill, John J., St. Louis, Mo. Vehicle for carrying brick	841,683	Jan. 22	3791	824	126	1087
Gleinich, Arthur, Königs-Wusterhausen, assignor to Deutsche Waffen-und Munitionsfabriken, Berlin, Germany. Projectile for hand-firearms	841,861	Jan. 22	4171	898	126	1187
Glover, Arthur C., Ipswich, and W. E. Hadlock, Wenham, Mass. Compass-light	842,092	Jan. 22	4595	987	126	1284
Goldman, Gustav, Baltimore, Md. Apparatus for making garment-pads	842,093	Jan. 22	4596	988	126	1285
Goldsborough, Richard H., Washington, D. C. Submarine boat	842,146	Jan. 22	4727	1010–11	26	1318
Goodall Matting Company. (See Arrouqnier, Fredrick E., assignor.)						
Graesicke, Charles, Glendale, N. Y. Rotary engine	841,776	Jan. 22	3984	860	126	1136
Gray, Arthur W., Berkeley, Cal. Packing for rotary stems	841,920	Jan. 22	4345	937	126	1226
Gray, John F., Portsmouth, N. H. Marine vessel	841,921	Jan. 22	4347	938	126	1226
Greifenhagen, Walther H., Munich, Germany. Drop-flask	842,094	Jan. 22	4606	988	126	1287
Grundig, Carl, Sorau, Germany. Container for rolls of perforated labels	841,694	Jan. 22	3794	825	126	1088
Gwinnup, William. (See Hamilton and Gwinnup.)	841,862	Jan. 22	4171	898	126	1187
Hadlock, William E. (See Glover and Hadlock.)						
Hall, F. G., *et al.* (See Gee, Charles A., assignor.)						
Hamilton, James W., and W. Gwinnup, Indianapolis, Ind. Fence-post	841,777	Jan. 22	3987	860	126	1138
Hanson, Justice. (See Demarest, George A., assignor.)						
Harber, Thomas W., Springfield, Mo. Frogless railway-switch	841,778	Jan. 22	3987	861	126	1138
Hardy, James F., assignor to Consolidated Dental Manufacturing Company, New York, N. Y. Dental flask-press	841,962	Jan. 22	4349	938	126	1227
Harris, Fred R., assignor to American Tobacco Company, New York, N. Y. Printing and bronzing machine	841,685	Jan. 22	3795	825–6	126	1088
Harris, Warren B., Millbury, Mass. Shuttle-check for looms	841,863	Jan. 22	4173	898	126	1187
Hartford Rubber Works Company. (See Midgley, Thomas, assignor.)						
Harvey, Albert W., Rockwall, Tex. Stock-feeding device	841,864	Jan. 22	4174	899	126	1188
Harvey, Harry C. (See Burnett, Buell S., assignor.)						
Hatfield, John N., Birdell, Fa. Wrench	841,686	Jan. 22	3799	827	126	1088
Hausgen, H. Otto, *et al.* (See Bedinger, Everett W., Jr., assignor.)						
Havenstrite, David J., Newark, N. J. Ice-making apparatus	842,147	Jan. 22	4731	1011–12	126	1319
Haverstock, Robert A., *et al.* (See Sanders and Van Dusen, assignors.)						
Hawkins, John B., *et al.* (See Sanders and Van Dusen, assignors.)						
Hays, Uriel C., Jr. (See Chambers, Jonathan F., assignor.)						
Hebert, Edward J., Zwolle, La. Blacking-dauber	841,963	Jan. 22	4351	939	126	1227
Hebert, Edward J., Zwolle, La. Hook	842,095	Jan. 22	4608	989	126	1287
Hege & Co., C. A. (See Hege, Constantine A., assignor.)						
Hege, Constantine A., assignor to C. A. Hege & Co., Salem, N. C. Coffee-drier	841,964	Jan. 22	4351	939–40	126	1227
Henderson, Nathaniel M., Henderson, N. C. Cotton-picker	841,687	Jan. 22	3801	827–8	126	1089
Henderson, Norman M., Broxburn, Scotland. Apparatus for treating paraffin-wax	841,965	Jan. 22	4356	940	126	1229
Higgins, Albert G., Kansas City, Mo. Card-dealing device	841,966	Jan. 22	4358	940	126	1229
Hill, Ebenezer, South Norwalk, Conn. Air-compressor. (Reissue)	12,500	Jan. 22	4758	1016–17	126	1326
Himler, George W., Latrobe, Pa. Combined lock and latch	841,967	Jan. 22	4360	940	126	1229
Hinman, Charles W., and W. F. Wellman, Cambridge, Mass. Gas apparatus	841,779	Jan. 22	3989	861–2	126	1138
Hirsh, Julius. (See Elder, William S., assignor.)						
Hitchcock, Fred, assignor of one-half to F. H. Stevens, Freeport, N. Y. Vehicle-tire	841,968	Jan. 22	4362	941	126	1230
Hobbs, John O., Chicago, Ill. Mechanism for starting hydrocarbon-engines	841,780	Jan. 22	3994	862	126	1139
Hobbs, John O., Chicago, Ill. Reversing and variable-speed gear. (Reissue)	12,600	Jan. 22	4761	1017–18	126	1327
Hodge, James, Berkeley, Cal. Corn-popper	841,969	Jan. 22	4364	941	126	1230
Hodges, Amos J., El Paso, Tex. Nut-lock	841,688	Jan. 22	3803	828	126	1089
Hodges, Francis G., assignor to S. O. Bigney, Attleboro, Mass. Bracelet	841,865	Jan. 22	4175	899	126	1188
Hoerr, Louis A., St. Louis, Mo. Brake-rod	841,781	Jan. 22	3997	863	126	1140
Hollis, George W., Boston, Mass., assignor to Swift and Company, Chicago, Ill. Drying apparatus for hides, &c.	841,866	Jan. 22	4176	899	126	1188
Holmes, Watson M., assignor, by mesne assignments, to Planters Compress Company. Hoosick Falls, N. Y. Press for cotton, wool, hay, and the like, and feeding device therefor	841,690	Jan. 22	3804	828	126	1090
Holtgrave, Ernst, Brooklyn, N. Y. Scissors	841,690	Jan. 22	3807	830	126	1091
Home Security Vault and Pocket Bank Company. (See Woolums, William H., assignor.)						
Hooker, Renzy. (See McPherson and Hooker.)						
Hoover, William M., Cuba, N. Y. Method of and apparatus for making fills, embankments, &c.	841,970	Jan. 22	4366	941	126	1231
Hopkins, Charles L., Chicago, Ill., assignor to Curtain Supply Company, Newark, N. J. Curtain-fixture	841,971	Jan. 22	4368	942	126	1231
Hotaling, Irving L., Riverton, N. J. Curtain-fixture	842,148	Jan. 22	4734	1012	126	1320
Hotaling, Irving L., Riverton, N. J. Curtain-fixture	842,149	Jan. 22	4735	1012	126	1320
Houpt, Henry J., Leesburg, Va. Mold for constructing hollow concrete walls	841,867	Jan. 22	4178	899–900	126	1189
Hower, Charles L., Vintondale, Pa. Leveling apparatus	841,868	Jan. 22	4180	900	126	1189
Hower, Charles L., Vintondale, Pa. Apparatus for leveling	841,869	Jan. 22	4184	901	126	1189
Hruby, Thomas J. (See Müller, August E., assignor.)						
Huber, Carl, Berlin, Germany. Hydraulic-press multiplicator	841,972	Jan. 22	4369	942	126	1232
Hughes, Hugh T., Frankfort, N. Y. Game	842,096	Jan. 22	4609	989	126	1287
Hulbert, Judd W., Hartford, Ohio. Metallic tie	841,973	Jan. 22	4370	942	126	1232
Hunnewell, George T., Great Falls, Mont. Swimming-machine	841,974	Jan. 22	4372	943	126	1232
Hunt, Charles W., New York, N. Y. Hoisting apparatus	841,870	Jan. 22	4186	901	126	1190

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Hunt, Frederick W., Minneapolis, Minn. Type-writer with tabulating mechanism	841,871	Jan. 22	4189	901–3	126	1191
Hunter, David E., Cambridge, assignor to Library Bureau, Boston, Mass. Interchangeable furniture unit	841,872	Jan. 22	4193	903	126	1191
Hunter, George D., Bloomington, Ind., assignor to Sullivan Machinery Company, Claremont, N. H. Direct-acting engine	842,150	Jan. 22	4738	1013	126	1321
Irving, Ronald P., Quincy, Mass. Electrically-operated hammer	841,975	Jan. 22	4373	943	126	1232
Jackson, Henry O., assignor to Southern Savings Life and Accident Insurance Company, Norfolk, Va. Receiver for coin-controlled vending-machines	841,976	Jan. 22	4375	944	126	1233
John, Ernest A., London, England. Atomiser or pump-sprayer	842,097	Jan. 22	4610	989	126	1288
Jakubowski, Stanley, Pittsburg, Pa. Rack	841,977	Jan. 22	4379	944	126	1234
James, Charles S., Los Angeles, Cal. Apparatus for the treatment of lung and throat diseases	841,782	Jan. 22	3998	863	126	1140
Jennings, T. A. (See Gilmer, John T., assignor.)						
Jessen, James, Minneapolis, Minn. Automatic heat-controller	841,978	Jan. 22	4380	944–6	126	1234
John, Hugo, Erfurt, Germany. Metal-cutting machine	841,979	Jan. 22	4385	946	126	1235
John S. Metcalf Company. (See Spalman, James, assignor.)						
Johnson, Frank B., Hays, Kans., and J. C. Cape, Kansas City, Mo., assignors to Farmers Auto Motor Company. Motor-truck	841,691	Jan. 22	3807	829	126	1091
Johnson, Joseph C., Fort Ransom, N. D. Pumholder	841,873	Jan. 22	4195	904	126	1191
Johnson, Reinhold, Cahuenga, Cal. Dumping mechanism for wagons	842,151	Jan. 22	4740	1013	126	1321
Johnson, Sinclair J., Montclair, N. J. Journal-box and lid	842,152	Jan. 22	4741	1013	126	1322
Johnston, Robert T., Plainfield, N. J., assignor, by mesne assignments, to Detroit Trust Co., trustee, Detroit, Mich. Printing-press	841,980	Jan. 22	4390	947	126	1236
Jones, Edward A., Pittfield, Mass. Beating-engine	841,981	Jan. 22	4392	947	126	1237
Jones, Harry S., *et al.* (See Barnacha, William M., assignor.)						
Jones, Louis A., Cambridge, Mass., assignor to American Novel Machine Company. Amusement apparatus	841,783	Jan. 22	4000	864	126	1141
Jones, William G., *et al.* (See Barnacha, William M., assignor.)	841,982	Jan. 22	4395	948	126	1237
Jordan, Joseph R., and C. B. Pate, Salemburg, N. C. Corn-planter	841,784	Jan. 22	4003	865	126	1141
Jost, William M., Chicago, Ill. Extension-table						
Judd & Leland Manufacturing Company. (See Funck, Jacob, assignor.)						
Just, John A., assignor to Just Mining & Extraction Co., Syracuse, N. Y. Treating gold and gold-silver ores	841,983	Jan. 22	4396	.....	126	1237
Just Mining & Extraction Co. (See Just, John A., assignor.)	841,785	Jan. 22	4004	865	126	1142
Kahl, George A., Plainsberg, Cal. Harvester						
Kamsay, John L., *et al.* (See McCarthy, John F., assignor.)						
Kandó, Coloman de Budapest, Austria-Hungary, assignor to Westinghouse Machine Company. Rotary current-motor connected in cascade system	841,874	Jan. 22	4196	904	126	1191
Kane, George W. (See Pitts, Edward L., assignor.)	841,692	Jan. 22	3808	829	126	1091
Kanning, Frederick H., East St. Louis, Ill. Wrench						
Kellogg Switchboard and Supply Company. (See Dean, William W., assignor.)						
Kellogg Switchboard and Supply Company. (See Webster, Harry G., assignor.)						
Kenney, David T., assignor to Vacuum Cleaner Company, North Plainfield, N. J. Separator for apparatus for removing dust	841,984	Jan. 22	4401	948	126	1238
Keystone Brake Shoe Company. (See Lamb, Van Buren, assignor.)						
Kidder Press Company. (See Mason, Robert, assignor.)	841,786	Jan. 22	4005	865–6	126	1142
Kidder, William E., Kalamazoo, Mich. Sleigh attachment for children's carriages	841,985	Jan. 22	4402	948–9	126	1238
Kinnear, William R., New York, N. Y. Radiator	841,693	Jan. 22	3810	829	126	1091
Knowles, Joseph, Edmonds, Wash. Cattle-guard						
Koehler, William. (See Diehl and Koehler.)	841,875	Jan. 22	4197	904	126	1191
Kolbassieff, Eugene, St. Petersburg, Russia. Manufacture of an impermeable mass	842,098	Jan. 22	4612	990	126	1288
Kraus, John B., Puyallup, Wash. Tool						
Kügelgen, Franz von. (See Seward and Von Kügelgen.)						
La Société Besnard, Maris & Antoine. (See Maris, Georges, assignor.)						
Labadie, Joseph A. O., *et al.* (See Aubé and Tremblay, assignors.)						
Lacene Manufacturing Company. (See Nichols, Elmer P., assignor.)	841,986	Jan. 22	4404	949	126	1239
Lachâse, Emile, Dijon, France. Wrench						
Lamb, Van Buren, New Haven, Conn., assignor to Keystone Brake Shoe Company, New York, N. Y. Brake	841,694	Jan. 22	3812	830	126	1092
Lamb, Van Buren, New Haven, Conn., assignor to Keystone Brake Shoe Company, New York, N. Y. Brake	841,695	Jan. 22	3816	830	126	1094
Lammersen, William, Los Angeles, Cal. Means for making stone-faced brick	841,788	Jan. 22	4012	867	126	1145
Landis, Gilbert C., Carlisle, Pa., assignor to American Phosphorous Company, Camden, N. J. Electric melting or reducing furnace	842,099	Jan. 22	4613	990	126	1288
Lang, Frank A., Borough of Queens, N. Y. Door	841,696	Jan. 22	3819	831	126	1095
Larocque, Charles, Olga, N. D. Railway-switch	841,876	Jan. 22	4198	905	126	1192
Larson, Gustav, assignor to Los Angeles Pressed Brick Company, Los Angeles, Cal. Kiln	841,789	Jan. 22	4013	867–8	126	1145
Laska, August L., and G. List, Offenbach-on-the-Main, assignors to Chemische Fabrik Griesheim Elektron, Frankfort-on-the-Main, Germany. Blue sulfur dye and making same	841,877	Jan. 22	4200	.....	126	1192
Lastenschläger, Wilhelm, Pinerolo, near Turin, Italy. Apparatus for trucks of railway-carriages	841,697	Jan. 22	3824	831	126	1096
Lawrence, John N., Nevada, Mo. Automatic brake	841,698	Jan. 22	3824	832	126	1096
Lawson, Robert R., New York, N. Y. Closure for envelops and package-wraps	841,699	Jan. 22	3827	832	126	1097
Lecalme, Constant, Ambarès, France. Rotary engine	841,987	Jan. 22	4405	950	126	1239
Leers, Abraham, Atlanta, Ga. Artificial ear-drum	841,988	Jan. 22	4407	950	126	1239
Lehmann, Ernst P., Brandenburg-on-the-Havel, Germany. Means for securing wire to other objects	841,989	Jan. 22	4408	950	126	1240
Leidgen, Nicholaus, Milwaukee, Wis. Dust-guard for automobiles	841,790	Jan. 22	4014	868	126	1145
Lemp, Hermann, Lynn, Mass., assignor to General Electric Company. Accumulator for flash-boilers	841,791	Jan. 22	4015	868	126	1146
Lemp, Hermann, Lynn, Mass., assignor, by mesne assignments, to General Electric Company. Flash-boiler	841,792	Jan. 22	4018	869	126	1146
Levy, Abraham B. (See Bloco, John H., assignor.)	841,793	Jan. 22	4024	869	126	1148
Levy, John V., Galveston, Tex. Stirrup						
Library Bureau. (See Hunter, David E., assignor.)						
Lightner, Henry L., assignor of two-thirds to W. Priest and H. Feige, San Francisco, Cal. Amalgamator	841,990	Jan. 22	4410	951	126	1240
Linden, Heinrich, Bensberg, Germany. Child's chair	841,700	Jan. 22	3829	832	126	1097
Lindenstamm, Emile S. E. von, Vienna, Austria-Hungary. Fluid-pressure suction apparatus	842,100	Jan. 22	4616	990	126	1289
Line, Charles H., Vermilion, S. D. Weed-cutting attachment	841,794	Jan. 22	4025	869	126	1149
List, Georg. (See Laska and List.)						
Lister, Charles H. (See Mathews and Lister.)	841,795	Jan. 22	4027	869	126	1149
Litts, Willis J., Jaynesville, Wis. Delivering-horn for talking-machines	841,796	Jan. 22	4028	870	126	1149
Llewellyn, Thomas J., and J. E. Pfauger, assignors to Enterprise Manufacturing Company, Akron, Ohio. Fishing-reel	841,797	Jan. 22	4029	870	126	1149
Lochner, Adam, Jefferson City, Mo. Keyless lock	842,101	Jan. 22	4617	991	126	1289
Long, George W., Lindsay, Ind. Ter. Cotton-gin attachment						

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Los Angeles Pressed Brick Company. (See Larson, Gustav, assignor.)						
Love, John W., Truby, Tex. Steering device for wheeled vehicles	841,991	Jan. 22	4412	951	126	1241
Lundstrom, Johan A., Truro, Nova Scotia, Canada. Transformable trunk	841,992	Jan. 22	4418	952	126	1243
Lusk, Claude, Wapakoneta, Ohio. Washing-machine	841,878	Jan. 22	4201	905	126	1192
MacClernan, Richard H., assignor to Contractors Wagon Company, Philadelphia, Pa. Dump-wagon	841,879	Jan. 22	4202	906	126	1192
MacMurray, James E., assignor to Acme Flexible Clasp Company, Chicago, Ill. Manufacturing double-hook sheet-metal bed-fasteners	841,798	Jan. 22	4031	870	126	1150
Macfarlane, Oliver P., *et al.* (See Schofield, Harry, assignor.)						
Manross, Arthur N., assignor to Corbin Motor Vehicle Company, New Britain, Conn. Locking mechanism for draw-bars	842,153	Jan. 22	4743	1014	126	1322
Manson, Ray H., assignor to Dean Electric Company, Elyria, Ohio. Telephone switch-hook	841,993	Jan. 22	4419	952	126	1243
Maris, George, assignor to La Société Besnard, Maris & Antoine, Paris, France. Lamp, &c	841,799	Jan. 22	4032	870	126	1150
Marotte, Leon V. (See Brocherioux, Tochon, Fortier, and Marotte.)						
Martin, Edward, Battersea, England. Disk-wheel for road-vehicles	842,102	Jan. 22	4618	991	126	1289
Martin, Frank F., Beloit, Wis. Molding-machine	841,880	Jan. 22	4203	906	126	1193
Martin, Horace G., New York, N. Y. Telegraph-transmitter	842,154	Jan. 22	4745	1014	126	1323
Martin, Thomas A., Covington, Ky. Device for handling, lifting, or supporting invalids or the like	841,702	Jan. 22	3832	833	126	1098
Mason, Robert, assignor to Kidder Press Company, Dover, N. H. Web-guide for rewinding-machines, &c	841,994	Jan. 22	4421	952–3	126	1243
Mathews Gravity Carrier Company. (See Mathews and Lister, assignors.)						
Mathews, Rufus P., and C. H. Lister, assignors to Mathews Gravity Carrier Company, St. Paul, Minn. Gravity-carrier	842,155	Jan. 22	4748	1014	126	1324
Mathews, Rufus P. and C. H. Lister, assignors to Mathews Gravity Carrier Company, St. Paul, Minn. Gravity-carrier	842,156	Jan. 22	4750	1015	126	1324
McCall, George W., Price, Utah. Bed-spring tightener	841,804	Jan. 22	4042	872	126	1152
McCann, James T., Greensburg, Pa. Safety-razor	842,000	Jan. 22	4433	954	126	1246
McCarthy, John F., assignor of two-thirds to P. F. Moriarty and J. L. Kamsay, Indianapolis, Ind. Car-coupling	841,805	Jan. 22	4043	872	126	1152
McClure, John, Weatherby, Mo. Weeding-hoe	841,708	Jan. 22	3840	835	126	1100
McCormick, Edward, and H. C. Roggenkamp, Chicago, Ill. Angle-cock	841,806	Jan. 22	4044	872–3	126	1153
McDonald, Charles W., San Francisco, Cal. Telegraph code	841,685	Jan. 22	4219	908–9	126	1153
McDonald, Charles W., San Francisco, Cal. Code or cipher system	842,106	Jan. 22	4628	993	126	1196
McGillivray, John J., Gillespieville, Ohio. Set-lock for firearms	841,807	Jan. 22	4047	873	126	1154
McKay, Peter, assignor of one-half to C. Ribatto and J. A. Osborn, Day Dawn, Western Australia, Australia. Vehicle-spring butler	842,001	Jan. 22	4434	954	126	1247
McKenna, Alexander G. (See Wheeler and McKenna.)						
McPherson, James, and R. Hooker, Carthage, Mo. Bed-spring	841,808	Jan. 22	4048	873	126	1154
Mercer, Henry H. (See Officer and Mercer.)						
Metcalfe, Henry, Cold Spring, N. Y. Road-map exhibitor	841,800	Jan. 22	4033	871	126	1150
Midgley, Thomas, Hartford, Conn., assignor to Hartford Rubber Works Company. Wheel-rim	841,801	Jan. 22	4034	871	126	1150
Midgley, Thomas, Hartford, Conn., assignor to Hartford Rubber Works Company. Wheel-rim	841,802	Jan. 22	4036	871	126	1150
Mier, Horace J., and D. Beames, Rutherford, N. J. Hen's nest and hatching-coop	841,995	Jan. 22	4424	953	126	1244
Mignerey, Ulysses G., Julian, Nebr. Unloading apparatus	841,996	Jan. 22	4425	953	126	1245
Miller, Elmer E., Sacramento, Pa. Cheese-mill	841,997	Jan. 22	4428	954	126	1245
Miller, Samuel W., Philadelphia, Pa. Piston	841,703	Jan. 22	3833	833	126	1098
Mohr, Benjamin F., Mifflinburg, Pa. Windmill	842,103	Jan. 22	4619	991–2	126	1290
Monitor Drill Company. (See Davis, Spencer E., assignor.)						
Montie, John H., Turtle Creek, Pa. Pipe-coupling	841,881	Jan. 22	4205	907	126	1193
Moore Frank M., Westfield, Mass. Acetylene-gas apparatus	841,803	Jan. 22	4037	871–2	126	1151
Moore, Robert C. E., Booneville, Ind. Corn-harvesting machine	841,704	Jan. 22	3834	833–4	126	1099
Morden, Lucena M., Waterbury, Conn. Temporary binder	841,705	Jan. 22	3836	834	126	1099
Morden, Lucena M., Waterbury, Conn. Book-ring with spring-hinged joint	841,706	Jan. 22	3837	834	126	1099
Morgan Engineering Company. (See Taylor, Clarence L., assignor.)						
Morgan, Jack C., Frankfort, Ky. Hasp	842,104	Jan. 22	4626	992	126	1292
Moriarty, Patrick F., *et al.* (See McCarthy, John F., assignor.)						
Mors, Emile L. P., assignor to Société Anonyme d'Electricité et d'Automobiles Mors, Paris, France. Universal joint	842,105	Jan. 22	4627	992	126	1293
Mulford, Logan W., Philadelphia, Pa. Tile flooring	841,998	Jan. 22	4429	954	126	1246
Müller, August E., assignor of one-half to T. J. Hruby, Chicago, Ill. Hay-press	841,882	Jan. 22	4206	907–8	126	1193
Müller, Rudolf, and W. Wollenberg, assignors to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Making formaldehyde sulfoxylates	841,999	Jan. 22	4432	.....	126	1246
Multi Phonograph Company. (See Shigley, Cyrus C., assignor.)						
Münch, Franz, Wilsdruff, Germany. Photomechanical color-printing	841,883	Jan. 22	4216	.....	126	1195
Murray, Guy B., Nankin, Ohio. Pump-coupling	841,707	Jan. 22	3839	834	126	1099
Musick, William H. H., Hartville, Mo. Bridge for presses	841,884	Jan. 22	4217	908	126	1195
Nathan, Frederic L., J. M. Thomson, W. Rintoul, and A. Scott, Waltham Abbey, England. Manufacture of nitroglycerin	841,886	Jan. 22	4221	.....	126	1196
Nelson, Nels. (See Anderson, Severin B., assignor.)						
New Jersey Patent Company. (See Weber, Peter, assignor.)						
Newell, Frank C., Wilkinsburg, assignor to Westinghouse Air Brake Company, Pittsburg, Pa. Electric brake	841,709	Jan. 22	3840	835–6	126	1100
Newell, Frank C., Wilkinsburg, and E. H. Dewson, Edgewood Park, assignors to Westinghouse Air Brake Company, Pittsburg, Pa. Electric brake	841,710	Jan. 22	3846	836	126	1101
Nichols, Elmer P., assignor to Lacene Manufacturing Company, Manchester, N. H. Evening and grading machine	841,809	Jan. 22	4050	874	126	1154
Niell, Magnus, New York, N. Y. Card-case	842,002	Jan. 22	4435	955	126	1247
Niles-Bement-Pond Company. (See Sears, William T., assignor.)						
North Brothers Manufacturing Company. (See North, Selden G., assignor.)						
North, Selden G., assignor to North Brothers Manufacturing Company, Philadelphia, Pa. Removable-blade screw-driver	842,107	Jan. 22	4630	993	126	1293
Northern Engineering Works. (See True, George A., assignor.)						
Northrop, Herbert N., Somerville, Mass. Moisture-pad	842,108	Jan. 22	4631	993	126	1293
O'Brien, Patrick J., Mobile, Newfoundland. Sash-raising and locking device	841,810	Jan. 22	4061	875	126	1153
Oates, George P. (See Packham and Oates.)						
Ochsner, Jakob Zurich, Switzerland. Refuse-cart	841,711	Jan. 22	3849	837	126	1102
Officer, Thomas. (See Ball and officer.)						
Officer, Thomas, and H. H. Mercer, assignors to Sullivan Machinery Company, Claremont, N. H. Pressure-actuated valve for engines	842 003	Jan. 22	4437	955	126	1248
Oharra, Samuel D., West Washington, Pa. Fender	842 004	Jan. 22	4442	955	126	1249
Olson, Paul, Stoughton, Wis. Block-molding machine	842.109	Jan. 22	4632	993–4	126	1294
Ongley, Charles E., New York, N. Y., assignor, by mesne assignments, to Button Sewing Attachment Company. Button-sewing attachment for sewing-machines	842 157	Jan. 22	4752	1015	126	1325
Orr, Craven R., McAdam, New Brunswick, Canada. Ash handling crane	842.005	Jan. 22	4443	956	126	1249
Orrock, John W., Montreal, Quebec, Canada. Traveling conveyer-crane	841,712	Jan. 22	3849	837	126	1102

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Osborn, John A., *et al.* (See McKay, Peter, assignor.)						
Pacific Coast Biscuit Company. (See Potbury, Alfred H., assignor.)						
Packham, Frank R., and G. P. Oates, assignors to American Seeding Machine Company, Springfield, Ohio. Distributing device for grain-drills	841,887	Jan. 22	4222	909–10	126	1196
Packham, Frank R., and G. P. Oates, assignors to American Seeding Machine Company, Springfield, Ohio. Grain-drill tube	841,888	Jan. 22	4224	910	126	1197
Paiste, Henry T., Philadelphia, Pa. Multiple-circuit panel	842,110	Jan. 22	4634	994–5	126	1294
Papineau, Ovide, *et al.* (See Aubé and Tremblay, assignors.)						
Parker, Jeremiah C., Red Bank, N. J. Horizontal boiler	842,006	Jan. 22	4445	956	126	1250
Parker, Ralph, Lakewood, N. J. Pipe-clamp	842,007	Jan. 22	4447	957	126	1250
Pass & Seymour. (See Salisbury, Bert E., assignor.)						
Pate, Claud B. (See Jordan and Pate.)	841,889	Jan. 22	1225	910	126	1197
Patrick, Frank H., Norwich, Conn. Combined foot-rest and towel-rack						
Peasley, James A., *et al.*, administrators. (See Smith, Dwight L.)						
Pedrick, Howard A., and C. A. Smith, Philadelphia, Pa., assignors to said Smith. Pipe-bending machine	842,111	Jan. 22	4637	995	126	1295
Pelton, Fred, Indianapolis, Ind. Water-heater for cooking-stoves	841,811	Jan. 22	4063	875	126	1158
Pement, Philemon, Chicago, Ill. Tent-stake	841,812	Jan. 22	4064	873	126	1159
Pennsylvania Steel Company. (See Smith, Clement G., assignor.)						
Pepper, John, Jr., Utica, N. Y. Fish-reel	841,890	Jan. 22	4226	910–11	126	1197
Pepper, John, Jr., Utica, N. Y. Reel	841,891	Jan. 22	4230	911	126	1198
Perry, George E., Jersey City, N. J. Center for dividers	841,713	Jan. 22	3851	837	126	1102
Perry, Safford G., New York, N. Y. Dental plugger	842,112	Jan. 22	4638	995	126	1295
Peteler, Francis, Minneapolis, Minn. Dumping-car	842,008	Jan. 22	4448	957	126	1250
Peters, Walter D., Minneapolis, Minn. Head-truss	841,714	Jan. 22	3852	837	126	1102
Pfefer, John. (See Ridgely and Pfefer.)						
Pflueger, Joseph E. (See Llewellyn and Pflueger.)						
Philadelphia Textile Machinery Company. (See Schwartz, Charles W., Jr., assignor.)						
Phoenix Fire Extinguisher Co. (See Andrews, Martin, assignor.)						
Pitts, Edward L., assignor of one-half to G. W. Kane, Phœnix, Ariz. Ter. Nut-lock	842,113	Jan. 22	4640	996	126	1296
Planters Compress Company. (See Holmes, Watson M., assignor.)						
Plattner, David, Denver, Colo. Hay-rake	841,892	Jan. 22	4233	911	126	1199
Playman, William L., Stevens Point, Wis. Chair-leg fastener	841,715	Jan. 22	3853	838	126	1103
Plummer, Lloyd W., Bloomington, Ill. Display device	841,813	Jan. 22	4066	876	126	1159
Pneumatic Tobacco Stemmer Company. (See Whitaker, Jesse H. and L. P., assignors.)						
Potbury, Alfred H., assignor to Pacific Coast Biscuit Company, Portland, Oreg. Wrapping-machine	842,114	Jan. 22	4642	996–8	126	1296
Price, William W., Dayton, Ohio. Clamping-ring for pipe-couplings	841,814	Jan. 22	4067	876	126	1159
Priebe, Amandus, St. Louis, Mo. Automatic closure for receptacles	841,893	Jan. 22	4235	912	126	1199
Priest, William, *et al.* (See Lightner, Henry L., assignor.)						
Providence Engineering Works. (See Fuller, Arthur A., assignor.)						
Purse, D. G., Jr. (See Brown, Mark A., assignor.)						
Purse, Daniel G., Jr. (See Brown, Mark A., assignor.)						
Quackenbush, Henry M. (See Quackenbush, Paul H., assignor.)	841,815	Jan. 22	4069	876–7	126	1160
Quackenbush, Paul H., assignor to H. M. Quackenbush, Herkimer, N. Y. Air-gun	841,716	Jan. 22	3854	838	126	1103
Quick, Roscoe H., Piatt, Ill. Bracket	841,864	Jan. 22	4237	912	126	1200
Quirk, Michael W., Jr., Milwaukee, Wis. Ash-sifter	841,816	Jan. 22	4073	877	126	1161
Ralston, Reuben P., Woodsfield, Ohio. Electric sparker for gas-engines	842,009	Jan. 22	4451	957	126	1251
Record, George J., Conneaut, Ohio. Roller-latch						
Recording and Computing Machines Company. (See Whistler, David B., assignor.)						
Reeves, William H., Midlothian, Tex. Cultivator-hopple	841,895	Jan. 22	4239	912–13	126	1201
Reid, Arthur B., Chicago, Ill. Stenographer's copy-holder	842,115	Jan. 22	4647	998	126	1298
Reid, Hubert B. (See Beaghan, Reid, and Best.)						
Reid, William R., Sleepy Eye, Minn. Cleaning grain	842,116	Jan. 22	4650	999	126	1299
Reuter, Ludwig H., New York, N. Y. Making alkyl ethers of morphin	842,011	Jan. 22	4454	.....	126	1252
Reuter, Ludwig H., assignor to Basic Chemical Company, New York, N. Y. Soap	842,010	Jan. 22	4452	.....	126	1252
Ribatto, Candido, *et al.* (See McKay, Peter, assignor.)						
Richardson, Ansel W., Hadley, Mass. Bottle	841,896	Jan. 22	4241	913	126	1201
Richter, Emil, Zabrze, Germany. Apparatus for forcing fluids	842,012	Jan. 22	4456	958	126	1252
Ricketts, William C., Dayton, Ohio. Regulator for automatically controlling the flow and temperature of liquids	841,817	Jan. 22	4074	877	126	1161
Rickman, Mary E., Waverly, assignor of one-half to E. Sponseller, Emporia, Kans. Fruit seeder and strainer	841,717	Jan. 22	3856	838	126	1103
Ridgely, Charles T., assignor to Standard Trimmer Company, Springfield, Ohio. Trimming-tool	842,013	Jan. 22	4458	958	126	1252
Ridgely, Charles T., assignor to Standard Trimmer Company, Springfield, Ohio. Trimmer and roller	842,015	Jan. 22	4464	959	126	1254
Ridgely, Charles T., and J. Pfefer, assignors to Standard Trimmer Company, Springfield, Ohio. Cutting-tool	842,014	Jan. 22	4461	959	126	1253
Ringström, August V., Stockholm, Sweden. Material for deadening sounds	841,897	Jan. 22	4242	913	126	1201
Rintoul, William. (See Nathan, Thomson, Rintoul, and Scott.)						
Roberts, Charles E. and O. W., Chicago, Ill. Machine for cutting butter or the like material	841,818	Jan. 22	4077	877–8	126	1162
Roberts, Owen W. (See Roberts, Charles E. and O. W.)						
Robeson, Jacob S., assignor to Robeson Process Company, Camden, N. J. Briquet and making the same	841,718	Jan. 22	3857	.....	126	1104
Robeson Process Company. (See Robeson, Jacob S., assignor.)						
Robinson, Charles, Dunoon, Scotland. Measuring, delivering, and registering tap for liquids	842,016	Jan. 22	4465	959	126	1254
Rogers, Frank B., Maddux, Mont. Ledger-plate fastener	841,898	Jan 22	4244	913	126	1202
Roggenkamp, Henry C. (See McCormick and Roggenkamp.)						
Roper, Charles F., assignor to Draper Company, Hopedale, Mass. Filling-detecting mechanism for looms	842,117	Jan. 22	4652	999	126	1299
Ross, Alexander, Cambridge, Mass. Collapsible awning for boats	841,719	Jan. 22	3859	838	126	1104
Ross, Sidney J., *et al.* (See Schofield, Harry, assignor.)	842,017	Jan. 22	4466	960	126	1254
Rowell, William G., Bridgeport, Conn. Water-faucet	841,819	Jan. 22	4083	878	126	1164
Rumely, William N. (See Walsh and Rumely.)	842,018	Jan. 22	4468	960	126	1255
Rumely, William N., and C. N. Walsh, Laporte, Ind. Governor						
Russell, Francis C., Chicago, Ill. Lap-desk	842,019	Jan. 22	4468	960	126	1255
Rustige, Frans J. H., Stockholm, Sweden. Automatic check-valve for gas and liquid conduits	841,720	Jan. 22	3860	839	126	1104
Ryan, John H., Portland, Oreg. Electrolytic apparatus	841,721	Jan. 22	3862	.....	126	1105
Ryan, John H., Portland, Oreg. Treating ores						
Salisbury, Bert E., Syracuse, assignor to Pass & Seymour, Incorporated, Solvay, N. Y. Receptacle for incandescent electric lamps	842,020	Jan. 22	4470	960	126	1255
Sandberg, Joseph F., Smithfield, Utah. Beet-harvester	842,021	Jan. 22	4471	961–2	126	1256
Sanders, Arvillo M., and S. Van Dusen, Butler, Ind., assignors of one-half to J. B. Hawkins and R. A. Haverstock. Automatic railway-crossing gate	842,118	Jan. 22	4656	999–1000	126	1300
Schaaf, Charles, Washington Heights, Ill. Oil-can	842,022	Jan. 22	4476	962	126	1257
Schafer, John C., McKeesport, Pa. Metallic tie	841,899	Jan. 22	4244	914	126	1202

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Los Angeles Pressed Brick Company. (See Larson, Gustav, assignor.)						
Love, John W., Truby, Tex. Steering device for wheeled vehicles	841,991	Jan. 22	4412	951	126	1241
Lundstrom, Johan A., Truro, Nova Scotia, Canada. Transformable trunk	841,992	Jan. 22	4418	952	126	1243
Lusk, Claude, Wapakoneta, Ohio. Washing-machine	841,878	Jan. 22	4201	905	126	1192
MacClernan, Richard H., assignor to Contractors Wagon Company, Philadelphia, Pa. Dump-wagon	841,879	Jan. 22	4202	906	126	1192
MacMurray, James E., assignor to Acme Flexible Clasp Company, Chicago, Ill. Manufacturing double-hook sheet-metal bed-fasteners	841,798	Jan. 22	4031	870	126	1150
Macfarlane, Oliver P., *et al.* (See Schofield, Harry, assignor.)						
Manross, Arthur N., assignor to Corbin Motor Vehicle Company, New Britain, Conn. Locking mechanism for draw-bars	842,153	Jan. 22	4743	1014	126	1322
Manson, Ray H., assignor to Dean Electric Company, Elyria, Ohio. Telephone switch-hook	841,993	Jan. 22	4419	952	126	1243
Maris, George, assignor to La Société Besnard, Maris & Antoine, Paris, France. Lamp, &c	841,799	Jan. 22	4032	870	126	1150
Marotte, Leon V. (See Brocherioux, Tochon, Fortier, and Marotte.)						
Martin, Edward, Battersea, England. Disk-wheel for road-vehicles	842,102	Jan. 22	4618	991	126	1299
Martin, Frank F., Beloit, Wis. Molding-machine	841,880	Jan. 22	4203	906	126	1193
Martin, Horace G., New York, N. Y. Telegraph-transmitter	842,154	Jan. 22	4745	1014	126	1323
Martin, Thomas A., Covington, Ky. Device for handling, lifting, or supporting invalids or the like	841,702	Jan. 22	3832	833	126	1098
Mason, Robert, assignor to Kidder Press Company, Dover, N. H. Web-guide for rewinding-machines, &c	841,994	Jan. 22	4421	952–3	126	1243
Mathews Gravity Carrier Company. (See Mathews and Lister, assignors.)						
Mathews, Rufus P., and C. H. Lister, assignors to Mathews Gravity Carrier Company, St. Paul, Minn. Gravity-carrier	842,155	Jan. 22	4748	1014	126	1324
Mathews, Rufus P. and C. H. Lister, assignors to Mathews Gravity Carrier Company, St. Paul, Minn. Gravity-carrier	842,156	Jan. 22	4750	1015	126	1324
McCall, George W., Price, Utah. Bed-spring tightener	841,804	Jan. 22	4042	872	126	1152
McCann, James T., Greensburg, Pa. Safety-razor	842,000	Jan. 22	4433	954	126	1246
McCarthy, John F., assignor of two-thirds to P. F. Moriarty and J. L. Kamsay, Indianapolis, Ind. Car-coupling	841,805	Jan. 22	4043	872	126	1152
McClure, John, Weatherby, Mo. Weeding-hoe	841,708	Jan. 22	3840	835	126	1100
McCormick, Edward, and H. C. Roggenkamp, Chicago, Ill. Angle-cock	841,806	Jan. 22	4044	872–3	126	1153
McDonald, Charles W., San Francisco, Cal. Telegraph code	841,885	Jan. 22	4219	908–9	126	1196
McDonald, Charles W., San Francisco, Cal. Code or cipher system	842,106	Jan. 22	4628	993	126	1293
McGillivray, John J., Gillespieville, Ohio. Set-lock for firearms	841,807	Jan. 22	4047	873	126	1154
McKay, Peter, assignor of one-half to C. Ribatto and J. A. Osborn, Day Dawn, Western Australia, Australia. Vehicle-spring buffer	842,001	Jan. 22	4434	954	126	1247
McKenna, Alexander G. (See Wheeler and McKenna.)						
McPherson, James, and R. Hooker, Carthage, Mo. Bed-spring	841,808	Jan. 22	4048	873	126	1154
Mercer, Henry H. (See Officer and Mercer.)						
Metcalfe, Henry, Cold Spring, N. Y. Road-map exhibitor	841,800	Jan. 22	4033	871	126	1150
Midgley, Thomas, Hartford, Conn., assignor to Hartford Rubber Works Company. Wheel-rim	841,801	Jan. 22	4034	871	126	1150
Midgley, Thomas, Hartford, Conn., assignor to Hartford Rubber Works Company. Wheel-rim	841,802	Jan. 22	4036	871	126	1150
Mier, Horace J., and D. Beames, Rutherford, N. J. Hen's nest and hatching-coop	841,995	Jan. 22	4424	953	126	1244
Mignerey, Ulysses G., Julian, Nebr. Unloading apparatus	841,996	Jan. 22	4425	953	126	1245
Miller, Elmer E., Sacramento, Pa. Cheese-mill	841,997	Jan. 22	4428	954	126	1245
Miller, Samuel W., Philadelphia, Pa. Piston	841,703	Jan. 22	3833	833	126	1098
Mohr, Benjamin F., Mifflinburg, Pa. Windmill	842,103	Jan. 22	4619	991–2	126	1290
Monitor Drill Company. (See Davis, Spencer E., assignor.)						
Montle, John H., Turtle Creek, Pa. Pipe-coupling	841,881	Jan. 22	4205	907	126	1193
Moore, Frank M., Westfield, Mass. Acetylene-gas apparatus	841,803	Jan. 22	4037	871–2	126	1151
Moore, Robert C. E., Booneville, Ind. Corn-harvesting machine	841,704	Jan. 22	3834	833–4	126	1099
Morden, Lucena M., Waterbury, Conn. Temporary binder	841,705	Jan. 22	3836	834	126	1099
Morden, Lucena M., Waterbury, Conn. Book-ring with spring-hinged joint	841,706	Jan. 22	3837	834	126	1099
Morgan Engineering Company. (See Taylor, Clarence L., assignor.)						
Morgan, Jack C., Frankfort, Ky. Hasp	842,104	Jan. 22	4626	992	126	1292
Moriarty, Patrick F., *et al.* (See McCarthy, John F., assignor.)						
Mors, Emile L. P., assignor to Société Anonyme d'Electricité et d'Automobiles Mors, Paris, France. Universal joint	842,105	Jan. 22	4627	992	126	1293
Mulford, Logan W., Philadelphia, Pa. Tile flooring	841,998	Jan. 22	4429	954	126	1246
Müller, August E., assignor of one-half to T. J. Hruby, Chicago, Ill. Hay-press	841,882	Jan. 22	4206	907–8	126	1193
Müller, Rudolf, and W. Wollenberg, assignors to Farbwerke, vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Making formaldehyde sulfoxylates	841,999	Jan. 22	4432	.....	126	1246
Multi Phonograph Company. (See Shigley, Cyrus C., assignor.)						
Münch, Franz, Wilsdruff, Germany. Photomechanical color-printing	841,883	Jan. 22	4216	.....	126	1195
Murray, Guy B., Nankin, Ohio. Pump-coupling	841,707	Jan. 22	3839	834	126	1099
Musick, William H. H., Hartville, Mo. Bridge for presses	841,884	Jan. 22	4217	908	126	1195
Nathan, Frederic L., J. M. Thomson, W. Rintoul, and A. Scott, Waltham Abbey, England. Manufacture of nitroglycerin	841,886	Jan. 22	4221	.....	126	1196
Nelson, Nels. (See Anderson, Severin B., assignor.)						
New Jersey Patent Company. (See Weber, Peter, assignor.)						
Newell, Frank C., Wilkinsburg, assignor to Westinghouse Air Brake Company, Pittsburg, Pa. Electric brake	841,709	Jan. 22	3840	835–6	126	1100
Newell, Frank C., Wilkinsburg, and E. H. Dewson, Edgewood Park, assignors to Westinghouse Air Brake Company, Pittsburg, Pa. Electric brake	841,710	Jan. 22	3846	836	126	1101
Nichols, Elmer P., assignor to Lacene Manufacturing Company, Manchester, N. H. Evening and grading machine	841,809	Jan. 22	4050	874	126	1154
Niéll, Magnus, New York, N. Y. Card-case	842,002	Jan. 22	4435	955	126	1247
Niles-Bement-Pond Company. (See Sears, Willard T., assignor.)						
North Brothers Manufacturing Company. (See North, Selden G., assignor.)						
North, Selden G., assignor to North Brothers Manufacturing Company, Philadelphia, Pa. Removable-blade screw-driver	842,107	Jan. 22	4630	993	126	1293
Northern Engineering Works. (See True, George A., assignor.)						
Northrop, Herbert N., Somerville, Mass. Moistener-pad	842,108	Jan. 22	4631	993	126	1293
O'Brien, Patrick J., Mobile, Newfoundland. Sash raising and locking device	841,810	Jan. 22	4061	875	126	1158
Oates, George P. (See Packham and Oates.)						
Ochsner, Jakob Zurich, Switzerland. Refuse-cart	841,711	Jan. 22	3849	837	126	1102
Officer, Thomas. (See Ball and officer.)						
Officer, Thomas and H. H. Mercer, assignors to Sullivan Machinery Company, Claremont, N. H. Pressure-actuated valve for engines	842,003	Jan. 22	4437	955	126	1248
Oharra, Samuel D., West Washington, Pa. Fender	842,004	Jan. 22	4442	955	126	1249
Olson, Paul, Stoughton, Wis. Block-molding machine	842,109	Jan. 22	4632	993–4	126	1294
Ongley, Charles E., New York, N. Y., assignor, by mesne assignments, to Button Sewing Attachment Company. Button-sewing attachment for sewing-machines	842,157	Jan. 22	4752	1015	126	1325
Ord, Craven R., McAdam, New Brunswick, Canada. Ash-handling crane	842,005	Jan. 22	4443	956	126	1249
Orrock, John W., Montreal, Quebec, Canada. Traveling conveyer-crane	841,712	Jan. 22	3849	837	126	1102

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Osborn, John A., *et al.* (See McKay, Peter, assignor.)						
Pacific Coast Biscuit Company. (See Potbury, Alfred H., assignor.)						
Packham, Frank R., and G. P. Oates, assignors to American Seeding Machine Company, Springfield, Ohio. Distributing device for grain-drills	841,887	Jan. 22	4222	909–10	126	1196
Packham, Frank R., and G. P. Oates, assignors to American Seeding Machine Company, Springfield, Ohio. Grain-drill tube	841,888	Jan. 22	4224	910	126	1197
Paiste, Henry T., Philadelphia, Pa. Multiple-circuit panel	842,110	Jan. 22	4634	994–5	126	1294
Papineau, Ovide, *et al.* (See Aubé and Tremblay, assignors.)						
Parker, Jeremiah C., Red Bank, N. J. Horizontal boiler	842,006	Jan. 22	4445	956	126	1250
Parker, Ralph, Lakewood, N. J. Pipe-clamp	842,007	Jan. 22	4447	957	126	1250
Pass & Seymour. (See Salisbury, Bert E., assignor.)						
Pate, Claud B. (See Jordan and Pate.)						
Patrick, Frank H., Norwich, Conn. Combined foot-rest and towel-rack	841,889	Jan. 22	4225	910	126	1197
Peasley, James A., *et al.*, administrators. (See Smith, Dwight L.)						
Pedrick, Howard A., and C. A. Smith, Philadelphia, Pa., assignors to said Smith. Pipe-bending machine	842,111	Jan. 22	4637	995	126	1295
Pelton, Fred, Indianapolis, Ind. Water-heater for cooking-stoves	841,811	Jan. 22	4063	875	126	1158
Pement, Philemon, Chicago, Ill. Tent-stake	841,812	Jan. 22	4064	873	126	1159
Pennsylvania Steel Company. (See Smith, Clement G., assignor.)						
Pepper, John, Jr., Utica, N. Y. Fish-reel	841,890	Jan. 22	4226	910–11	126	1197
Pepper, John, Jr., Utica, N. Y. Reel	841,891	Jan. 22	4230	911	126	1198
Perry, George E., Jersey City, N. J. Center for dividers	841,713	Jan. 22	3851	837	126	1102
Perry, Safford G., New York, N. Y. Dental plugger	842,112	Jan. 22	4638	995	126	1295
Peteler, Francis, Minneapolis, Minn. Dumping-car	842,008	Jan. 22	4448	957	126	1250
Peters, Walter D., Minneapolis, Minn. Head-truss	841,714	Jan. 22	3852	837	126	1102
Pfeifer, John. (See Ridgely and Pfeifer.)						
Pflueger, Joseph E. (See Llewellyn and Pflueger.)						
Philadelphia Textile Machinery Company. (See Schwartz, Charles W., Jr., assignor.)						
Phoenix Fire Extinguisher Co. (See Andrews, Martin, assignor.)						
Pitts, Edward L., assignor of one-half to G. W. Kane, Phœnix, Ariz. Ter. Nut-lock	842,113	Jan. 22	4640	996	126	1296
Planters Compress Company. (See Holmes, Watson M., assignor.)						
Plattner, David, Denver, Colo. Hay-rake	841,892	Jan. 22	4233	911	126	1199
Playman, William L., Stevens Point, Wis. Chair-leg fastener	841,715	Jan. 22	3853	838	126	1103
Plummer, Lloyd W., Bloomington, Ill. Display device	841,813	Jan. 22	4066	876	126	1159
Pneumatic Tobacco Stemmer Company. (See Whitaker, Jesse H. and L. P., assignors.)						
Potbury, Alfred H., assignor to Pacific Coast Biscuit Company, Portland, Oreg. Wrapping-machine	842,114	Jan. 22	4642	996–8	126	1296
Price, William W., Dayton, Ohio. Clamping-ring for pipe-couplings	841,814	Jan. 22	4067	876	126	1159
Priebe, Amandus, St. Louis, Mo. Automatic closure for receptacles	841,893	Jan. 22	4235	912	126	1199
Priest, William, *et al.* (See Lightner, Henry L., assignor.)						
Providence Engineering Works. (See Fuller, Arthur A., assignor.)						
Purse, D. G., Jr. (See Brown, Mark A., assignor.)						
Purse, Daniel G., Jr. (See Brown, Mark A., assignor.)						
Quackenbush, Henry M. (See Quackenbush, Paul H., assignor.)						
Quackenbush, Paul H., assignor to H. M. Quackenbush, Herkimer, N. Y. Air-gun	841,815	Jan. 22	4069	876–7	126	1160
Quick, Roscoe H., Piatt, Ill. Bracket	841,716	Jan. 22	3854	838	126	1103
Quirk, Michael W., Jr., Milwaukee, Wis. Ash-sifter	841,854	Jan. 22	4237	912	126	1200
Ralston, Reuben P., Woodsfield, Ohio. Electric sparker for gas-engines	841,816	Jan. 22	4073	877	126	1161
Record, George J., Conneaut, Ohio. Roller-latch	842,009	Jan. 22	4451	957	126	1251
Recording and Computing Machines Company. (See Whistler, David B., assignor.)						
Reeves, William H., Midlothian, Tex. Cultivator-hopple	841,895	Jan. 22	4239	912–13	126	1201
Reid, Arthur B., Chicago, Ill. Stenographer's copy-holder	842,115	Jan. 22	4647	998	126	1298
Reid, Hubert B. (See Beaghan, Reid, and Best.)						
Reid, William R., Sleepy Eye, Minn. Cleaning grain	842,116	Jan. 22	4650	999	126	1299
Reuter, Ludwig H., New York, N. Y. Making alkyl ethers of morphin	842,011	Jan. 22	4454	.....	126	1252
Reuter, Ludwig H., assignor to Basic Chemical Company, New York, N. Y. Soap	842,010	Jan. 22	4452	.....	126	1252
Ribatto, Candido, *et al.* (See McKay, Peter, assignor.)						
Richardson, Ansel W., Hadley, Mass. Bottle	841,896	Jan. 22	4241	913	126	1201
Richter, Emil, Zabrze, Germany. Apparatus for forcing fluids	842,012	Jan. 22	4456	958	126	1252
Ricketts, William C., Dayton, Ohio. Regulator for automatically controlling the flow and temperature of liquids	841,817	Jan. 22	4074	877	126	1161
Rickman, Mary E., Waverly, assignor of one-half to E. Sponseller, Emporia, Kans. Fruit seeder and strainer	841,717	Jan. 22	3856	838	126	1103
Ridgely, Charles T., assignor to Standard Trimmer Company, Springfield, Ohio. Cutting-tool	842,013	Jan. 22	4458	958	126	1252
Ridgely, Charles T., assignor to Standard Trimmer Company, Springfield, Ohio. Trimmer and roller	842,015	Jan. 22	4464	959	126	1254
Ridgely, Charles T., and J. Pfeifer, assignors to Standard Trimmer Company, Springfield, Ohio. Cutting-tool	842,014	Jan. 22	4461	959	126	1253
Ringström, August V., Stockholm, Sweden. Material for deadening sounds	841,897	Jan. 22	4242	913	126	1201
Rintoul, William. (See Nathan, Thomson, Rintoul, and Scott.)						
Roberts, Charles E. and O. W., Chicago, Ill. Machine for cutting butter or the like material	841,818	Jan. 22	4077	877–8	126	1162
Roberts, Owen W. (See Roberts, Charles E. and O. W.)						
Robeson, Jacob S., assignor to Robeson Process Company, Camden, N. J. Briquet and making the same	841,718	Jan. 22	3857	.....	126	1104
Robeson Process Company. (See Robeson, Jacob S., assignor.)						
Robinson, Charles, Dunoon, Scotland. Measuring, delivering, and registering tap for liquids	842,016	Jan. 22	4465	959	126	1254
Rogers, Frank B., Maddux, Mont. Ledger-plate fastener	841,898	Jan. 22	4244	913	126	1202
Roggenkamp, Henry C. (See McCormick and Roggenkamp.)						
Roper, Charles F., assignor to Draper Company, Hopedale, Mass. Filling-detecting mechanism for looms	842,117	Jan. 22	4652	999	126	1299
Ross, Alexander, Cambridge, Mass. Collapsible awning for boats	841,719	Jan. 22	3859	838	126	1104
Ross, Sidney J., *et al.* (See Schofield, Harry, assignor.)	842,017	Jan. 22	4466	960	126	1254
Rowell, William G., Bridgeport, Conn. Water-faucet	841,819	Jan. 22	4083	878	126	1164
Rumely, William N. (See Walsh and Rumely.)	842,018	Jan. 22	4468	960	126	1255
Rumely, William N., and C. N. Walsh, Laporte, Ind. Governor	842,019	Jan. 22	4468	960	126	1255
Russell, Francis C., Chicago, Ill. Lap-desk	841,720	Jan. 22	3860	839	126	1104
Rustige, Frans J. H., Stockholm, Sweden. Automatic check-valve for gas and liquid conduits	841,721	Jan. 22	3862	.....	126	1105
Ryan, John H., Portland, Oreg. Electrolytic apparatus	842,020	Jan. 22	4470	960	126	1255
Ryan, John H., Portland, Oreg. Treating ores	842,021	Jan. 22	4471	961–2	126	1256
Salisbury, Bert E., Syracuse, assignor to Pass & Seymour, Incorporated, Solvay, N. Y. Receptacle for incandescent electric lamps	842,118	Jan. 22	4656	999–1000	126	1300
Sandberg, Joseph F., Smithfield, Utah. Beet-harvester	842,022	Jan. 22	4476	962	126	1257
Sanders, Arvillo M., and S. Van Dusen, Butler, Ind., assignors of one-half to J. B. Hawkins and R. A. Haverstock. Automatic railway-crossing gate	841,899	Jan. 22	4244	914	126	1202
Schaaf, Charles, Washington Heights, Ill. Oil-can						
Schafer, John C., McKeesport, Pa. Metallic tie						

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Schell, Jacob S. (See Beckman and Schell.)						
Schlichting, Albert T., Newark, N. J. Pipe-cleansing apparatus	841,722	Jan. 22	3894	839	126	1105
Schneible Company. (See Walquist, Frank W., assignor.)						
Schnoor, Peter J. A., Holstein, Iowa. Mail-bag-delivery device	842,023	Jan. 22	4078	962	126	1257
Schofield, Harry, assignor of two-thirds to S. J. Ross and O. P. Macfarlane, London, England. Steam-boiler	842,024	Jan. 22	4080	963	126	1258
Schreiber, Louis W., Bee, Nebr. Grain-door for cars	841,900	Jan. 22	4245	914	126	1202
Schwartz, Charles W., Jr., assignor to Philadelphia Textile Machinery Company, Philadelphia, Pa. Drier	842,025	Jan. 22	4083	963	126	1258
Scott, Andrew. (See Nathan, Thomson, Rintoul, and Scott.)						
Scott, Braxton L., Washington, D. C. Electric-arc lamp	841,820	Jan. 22	4005	878	126	1165
Scott, George W., and J. Deady, Troy, Ohio; said Deady assignor to said Scott. Whip-actuating device	842,026	Jan. 22	4084	963	126	1258
Scott, Hermon C., assignor of one-half to W. W. Zent, Ritzville, Wash. Weed-cutter	842,119	Jan. 22	4098	1000	126	1301
Sears, Willard T., Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Power-transmission device	841,723	Jan. 22	3865	839	126	1106
Seward, George O., and F. Von Kügelgen, Holcombs Rock, Va. Production of alkali metals	841,724	Jan. 22	3867	.....	126	1106
Seymour, Alfred F., Campello, Mass. Last	841,725	Jan. 22	3868	839	126	1106
Sharrett, John H., Benhams, Va. Toy	842,027	Jan. 22	4085	963	126	1259
Shaw, William M., Greenville, Me. Logging device	841,726	Jan. 22	3869	840	126	1106
Shigley, Cyrus C., Hart, assignor to Multi Phonograph Company, Incorporated, Grand Rapids, Mich. Mandrel for phonographic records	841,727	Jan. 22	3870	840	126	1107
Shirrod, George F., Uniontown, Wash. Squirrel-smoker	841,901	Jan. 22	4247	914	126	1202
Shue, Edward F., Washington, D. C. Sound recording and reproducing mechanism	842,028	Jan. 22	4086	964	126	1259
Shumard, Malnor A., New Orleans, La. Traveling-receptacle	841,902	Jan. 22	4248	914–15	126	1203
Sias, John M., Myra, W. Va. Nut-lock	842,029	Jan. 22	4087	964	126	1259
Skinner, Frank W., New York, N. Y. Piling	842,120	Jan. 22	4260	1001	126	1301
Slocomb, Frank F., Wilmington, Del., assignor to F. F. Slocomb & Co., Incorporated. Leather seasoning and finishing machine	842,031	Jan. 22	4091	964–6	126	1259
Sly, William W., assignor to W. W. Sly Manufacturing Company, Cleveland, Ohio. Cinder-mill	841,728	Jan. 22	3872	840–1	126	1107
Smead, Isaac D., Cincinnati, Ohio. Cable-traction device	841,821	Jan. 22	4007	879	126	1165
Smith, Albert D., *et al.*, administrators. (See Smith, Dwight L.)						
Smith, Charles A. (See Pedrick and Smith.)						
Smith, Charles F., New Britain, Conn. Safety-razor	841,729	Jan. 22	3874	841	126	1108
Smith, Charles F., New York, N. Y. Shovel	842,032	Jan. 22	4088	966	126	1261
Smith, Charles W., Chicago, Ill. Fishing-line reel	841,730	Jan. 22	3876	841	126	1108
Smith, Christian P., South Bend, Ind. Wagon-tongue hound	842,033	Jan. 22	4089	967	126	1262
Smith, Clement G., Lebanon, assignor to Pennsylvania Steel Company, Philadelphia, Pa. Device for feeding comminuted material to furnaces	842,034	Jan. 22	4090	967	126	1262
Smith, Dwight L., deceased, Waterbury, Conn.; A. D. Smith and J. A. Peasley, administrators, assignors to Waterbury Buckle Company, Waterbury, Conn. Buckle	841,731	Jan. 22	3877	841	126	1109
Smith, Joseph J., New York, N. Y. Last	841,732	Jan. 22	3880	842	126	1110
Smith, Robert R., Philadelphia, Pa. Door-check	842,121	Jan. 22	4261	1001	126	1301
Smyrk, William A., New Malden, England. Folding scaffolding-bracket	841,733	Jan. 22	3883	842	126	1110
Snyder, Charles H., Baltimore, Md. Composition for grinding and polishing	841,903	Jan. 22	4249	.....	126	1203
Société Anonyme d'Electricité et d'Automobiles Mors. (See Mors, Emile L. P., assignor.)						
Soule, George F. (See Cooper, George N., assignor.)						
Southern Savings Life and Accident Insurance Company. (See Jackson, Henry O., assignor.)						
Spatz, Ernst, Hackensack, assignor to United Piece Dye Works, Lodi, N. J. Dyeing textile fabrics	842,122	Jan. 22	4263	1001	126	1302
Spaulding, Benjamin S., Arcata, Cal. Log-raft gear	842,035	Jan. 22	4091	967	126	1262
Spelman, James, Chicago, Ill., assignor to John S. Metcalf Company. Means for use in erecting metal-concrete structures	841,904	Jan. 22	4251	915–16	126	1203
Spencer, Frances J., Detroit, Mich. Garment-fastener	841,734	Jan. 22	3884	842	126	1110
Sponseller, Elizabeth. (See Rickman, Mary E., assignor.)						
St. Clair, Charles E., Star City, Ind. Buckle	841,906	Jan. 22	4255	916	126	1204
Standard Trimmer Company. (See Ridgely, Charles T., assignor.)						
Standard Trimmer Company. (See Ridgely and Pfiefer, assignors.)						
Starr, Hillyard A., assignor to Chattanooga Implement and Manufacturing Company, East Chattanooga, Tenn. Baling-press	841,735	Jan. 22	3885	843	126	1111
Steiner, August. (See Steiner, Henry, assignor.)						
Steiner, Henry, assignor to A. Steiner, Homewood, Ill. Corn harvesting and husking mechanism	841,822	Jan. 22	4009	879–80	126	1166
Stevens, Frank H. (See Hitchcock, Fred, assignor.)						
Stone Telegraph and Telephone Company. (See Cabot, Sewall, assignor.)						
Storrs, Fred C., Chicago, Ill. Binder or holder for cards, &c.	841,823	Jan. 22	4008	880	126	1166
Stout, George H., assignor, by mesne assignments, to Automobile Parts and Equipment Company, Chicago, Ill. Containing-cell for batteries	842,123	Jan. 22	4264	1001–2	126	1302
Stuber, Joseph, assignor to Stuber & Kuck, Peoria, Ill. Stovepipe-thimble	841,736	Jan. 22	3891	844	126	1113
Stuber & Kuck. (See Stuber, Joseph, assignor.)						
Sullivan, Jerry, Buffalo, N. Y. Insect-exterminator	841,905	Jan. 22	4254	916	126	1204
Sullivan Machinery Company. (See Ball, Albert, assignor.)						
Sullivan Machinery Company. (See Ball and Officer, assignors.)						
Sullivan Machinery Company. (See Hunter, George D., assignor.)						
Sullivan Machinery Company. (See Officer and Mercer, assignors.)						
Sweet, Clinton W., Yonkers, assignor to Sweet, Orr & Company, Newburgh, N. Y. Overalls	841,824	Jan. 22	4094	880	126	1166
Sweet, Orr & Company. (See Sweet, Clinton W., assignor.)						
Swift and Company. (See Hollis, George W., assignor.)						
Taylor, Clarence L., assignor to Morgan Engineering Company, Alliance, Ohio. Overhead traveling crane	841,737	Jan. 22	3888	844	126	1113
Thomas, Stephen E., Hagan, Ga. Gin-feeder	841,825	Jan. 22	4095	881	126	1167
Thomson, James M. (See Nathan, Thomson, Rintoul, and Scott.)						
Thorn, John P., Chicago, Ill. Clothes-line reel	841,907	Jan. 22	4256	917	126	1204
Thron, Heinrich, assignor to Vereinigte Chininfabriken Zimmer & Co. G. m. b. H., Frankfort-on-the-Main, Germany. Boracic-acid esters	841,738	Jan. 22	3893	.....	126	1113
Tidemand, Harald, *et al.* (See Dahl, Ole W., assignor.)						
Tindel, Adam, Philadelphia, assignor to Tindel Morris Company, Eddystone, Pa. Mechanism for holding crank-shaft pins in turning-lathes	841,826	Jan. 22	4096	881	126	1167
Tindel Morris Company. (See Tindel, Adam, assignor.)						
Tirrell, Frederick W. (See Earl, Benjamin F., assignor.)						
Tochon, Paul J. (See Brocherioux, Tochon, Fortier, and Marotte.)						
Toledo Scale & Cash Register Company. (See De Vilbiss, Allen, Jr., assignor.)						
[illegible] and David. (See Van Horn and Townsend.)						
[illegible] May, Louis M. (See Aubé and Tremblay.)						
[illegible] Mark W., Idabel, Ind. Ter. Railway-rail	842,124	Jan. 22	4096	1002	126	1303
Triplex Gas Engine Company. (See Anderson, Lars, assignor.)						
Tritt, Burleigh E., South Bend, Ind. Power-transmitting and speed-governing device	841,739	Jan. 22	3894	844	126	1113
True, George A., assignor to Northern Engineering Works, Detroit, Mich. Gauntree-crane	841,827	Jan. 22	4098	881–2	126	1167
Tunstall, William B., Worcester, Mass. Registering mechanism for the tracker-boards of musical instruments	841,740	Jan. 22	3897	845	126	1114
Tyra, Joseph, Minneapolis, Minn. Sheet-metal door	841,908	Jan. 22	4257	917	126	1205
United Piece Dye Works. (See Spatz, Ernst, assignor.)						
United Shirt and Collar Company. (See Dormandy, Garry J., assignor.)						
United States Furnace & Foundry Company. (See Badger, Oliver L., assignor.)						
Vacuum Cleaner Company. (See Keaney, David T., assignor.)						
Van Dusen, Stephen. (See Sanders and Van Dusen.)						
Van Horn, Charles B., and D. Townsend, assignors to Commercial Engineering Company, Philadelphia, Pa. Railway-tie	841,742	Jan. 22	3901	845–6	126	1115
Van Vliet, William C., Brooklyn, N. Y. Stamp-affixing machine	841,828	Jan. 22	4100	882–3	126	1168
Vandenburgh, George E., Washington, D. C. Reinforcing-bar	841,741	Jan. 22	3900	845	126	1115
Vaughan, H. P. B., *et al.* (See Gee, Charles A., assignor.)	841,829	Jan. 22	4103	883	126	1169
Vaughan, Vincent S., Chicago, Ill. Constructing concrete walls						
Vereinigte Chininfabriken Zimmer & Co., G. m. b. H. (See Thron, Heinrich, assignor.)						
Vittenet, Henri E. A., Villefranche-sur-Saône, France. Manufacture of artificial silk and other silk goods	842,125	Jan. 22	4067	.....	126	1303
Vraalstad, Edward J., assignor of one-half to Buffalo Pitts Company, Buffalo, N. Y. Sieve-holder	842,036	Jan. 22	4503	967–8	126	1263
W. W. Sly Manufacturing Company. (See Sly, William W., assignor.)						
Wackenhuth, Frederick, Newark, N. J. Internal-combustion engine	841,830	Jan. 22	4104	883	126	1169
Walden, Frederick E., Worcester, Mass. Wrench	841,831	Jan. 22	4107	884	126	1170
Wall, George A., Providence, R. I., and J. H. Derby, Brookline, assignors to Boston Automatic Fire Alarm Company, Boston, Mass. Alarm-gage	841,743	Jan. 22	3905	846–7	126	1116
Wallenthin, Walfrid, assignor to S. O. Bigney and Company, Attleboro, Mass. Catch for bracelets	841,909	Jan. 22	4258	917	126	1205
Wallerstedt, Charles F., St. Louis, Mo. Coin-purse	842,037	Jan. 22	4505	968	126	1264
Wallerstedt, Charles F., St. Louis, Mo. Combined watch-fob and match-receptacle	842,038	Jan. 22	4506	968	126	1264
Walquist, Frank W., New York, N. Y., assignor to Schneible Company, Weehawken, N. J. Lining-tube	841,744	Jan. 22	3906	847–8	126	1116
Walsh, Charles N. (See Rumsey and Walsh.)						
Walsh, Charles N., and W. N. Rumsey, Laporte, Ind. Centrifugal governor	841,832	Jan. 22	4109	884	126	1170
Walt, Warren B., Port Providence, Pa. Hatchet-wrench	842,039	Jan. 22	4506	968–9	126	1264
Ward, John E., Hill City, Texas. Crown top for grates	842,040	Jan. 22	4508	969	126	1264
Warner, Roe P., Decatur, Mich. Root-planting machine	841,833	Jan. 22	4111	884–5	126	1171
Warwick, Jay T., Hamilton, Ohio. Combination hay-rack and wagon-body	841,745	Jan. 22	3908	848	126	1117
Waterbury Buckle Company. (See Smith, Dwight L., assignor.)						
Watson, Arthur F., Cheboygan, Mich. Blotter-holder	842,041	Jan. 22	4509	969	126	1265
Webb, John W., Columbus, Miss. Rail-joint	841,746	Jan. 22	3910	848	126	1117
Webber, Oakman A., Manchester, N. H. Strip-severing machine	841,834	Jan. 22	4414	885–6	126	1173
Weber, Peter, Orange, assignor to New Jersey Patent Company, West Orange, N. J. Speed-regulator	842,042	Jan. 22	4510	970	126	1265
Webster, Harry G., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone trunking-circuits	841,747	Jan. 22	3912	848–9	126	1118
Weckerle, Wilhelm, Stuttgart, Germany. Means for returning condensation-water to the generator	841,748	Jan. 22	3922	849	126	1119
Weideman, Peter H., Port Byron, Ill. Vessel-support	841,835	Jan. 22	4116	886	126	1173
Weiler, Charles K., Atlanta, Ga. Brick-kiln	842,043	Jan. 22	4512	970	126	1265
Wellman, Walter F. (See Hinman and Wellman.)						
Wells, Albert. (See Wells, James R. and A.)						
Wells, Alfred. (See Wells, Mina C. and A.)	841,749	Jan. 22	3923	849	126	1119
Wells, James R. and A., Kenton, Ohio. Making fireproof material						
Wells, Mina C. and A., New York, N. Y.; said A. Wells assignor to said Mina C. Wells. Machine for gaging the thickness of material	842,044	Jan. 22	4513	971	126	1266
West, Lee A., Darvills, Va. Sliding-door fastener	841,910	Jan. 22	4260	917	126	1205
Western Electric Company. (See Crane, Henry M., assignor.)						
Westinghouse Air Brake Company. (See Newell, Frank C., assignor.)						
Westinghouse Air Brake Company. (See Newell and Dewson, assignors.)						
Westinghouse Air Brake Company. (See Westinghouse, Henry H., assignor.)						
Westinghouse, Henry H., New York, N. Y., assignor to Westinghouse Air Brake Company, Pittsburg, Pa. Air-brake	841,750	Jan. 22	3924	850	126	1119
Westinghouse, Henry H., New York, N. Y., assignor to Westinghouse Air Brake Company, Pittsburg, Pa. Air-brake	841,751	Jan. 22	3926	850	126	1120
Westinghouse Machine Company. (See Kandó, Coloman de, assignor.)	841,752	Jan. 22	3928	850–1	126	1120
Wharton, Joseph, Monongahela, Pa. Manufacture of sheet-glass	841,753	Jan. 22	3932	851	126	1122
Wheeler, Charles V., and A. G. McKenna, Pittsburg, Pa. Projectile	842,045	Jan. 22	4516	971	126	1266
Whistler, David B., assignor to Recording and Computing Machines Company, Dayton, Ohio. Operating mechanism for fare registers and recorders	841,754	Jan. 22	3933	851–2	126	1122
Whitaker, Jesse H., and L. P., assignors to Pneumatic Tobacco Stemmer Company, Washington, D. C. Tobacco-stemming machine	841,836	Jan. 22	4117	886	126	1173
Whitaker, Louis P. (See Whitaker, Jesse H. and L. P.)	842,046	Jan. 22	4518	972	126	1267
White, William, Chicago, Ill. Side bearing for railway-cars	841,837	Jan. 22	4118	886	126	1173
Williams, Charles E., Monessen, Pa. Gate-latch	841,838	Jan. 22	4118	887–8	126	1174
Williams, George W., Arkansas City, Kans. Rail-chair	842,047	Jan. 22	4519	972	126	1267
Williams, John R., East Orange, N. J. Metal-plate bending or forming machine	841,755	Jan. 22	3937	852	126	1123
Williams, Thomas F., New Bethlehem, Pa. Drafting apparatus	841,839	Jan. 22	4126	888	126	1176
Willson, Thomas A., Reading, Pa. Spectacle-temple	842,048	Jan. 22	4521	.....	126	1268
Winkley, Erastus E., Lynn, Mass. Sole-leveling machine	842,049	Jan. 22	4522	972	126	1268
Witter, Hugo, Leverkusen, near Cologne, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Red tetrazo dye	841,911	Jan. 22	4261	918–19	126	1205
Wollenberg, Woldemar. (See Müller and Wollenberg.)	842,050	Jan. 22	4524	793	126	1268
Wolski, Waclaw, Lemberg, Austria-Hungary. Hydraulic drill	841,756	Jan. 22	3938	852	126	1124
Wood, Henry A. W., New York, N. Y., assignor, by mesne assignments, to Detroit Trust Co., trustee, Detroit, Mich. Reciprocating-cylinder web-printing machine	841,757	Jan. 22	3942	853	126	1125
Woodard, Joseph W., assignor of one-half to L. Cohen, Washington, D. C. Non-refillable bottle	841,912	Jan. 22	4268	919	126	1207
Woodard, Thomas. (See Garitts and Woodard.)	841,840	Jan. 22	4128	889	126	1176
Woolums, William H., assignor to Home Security Vault and Pocket Bank Company, Chicago, Ill. Coin-receptacle						
Wright, Ira O., and J. H. Farlow, assignors to Farlow Draft Gear Company, Baltimore, Md. Draft and buffing gear for cars						
Würth, Henry W., Leeds, Mo. Vehicle-wheel						
Wyant, Mott. (See Campion and Wyant.)						
Zastrow, Friedrich W., Clarion, Iowa. Cultivator						
Zent, W. W. (See Scott, Hermon C., assignor.)						

DESIGNS.

Name, residence, and design.	No.	Date.	Official Gazette. Vol.	Page.
Albright, William L. (See Couper and Albright.)				
Alfred Peats Company. (See Pronberger, Ludwig, assignor.)				
Buckley, Harry H., assignor to Pitkin & Brooks, Chicago, Ill. Cut-glass vessel	38,422	Jan. 22	126	1329
Couper, James H., Atlanta, Ga., and W. L. Albright, Cincinnati, Ohio. Kitchen-cabinet	38,425	Jan. 22	126	1330
Froby, Harry G., Buffalo, N. Y. Badge or similar article	38,420	Jan. 22	126	1329
Gutermann, Edward A., assignor to Manning, Bowman & Company, Meriden, Conn. Stand for chafing-dishes	38,423	Jan. 22	126	1330
Gutermann, Edward A., assignor to Manning, Bowman & Company, Meriden, Conn. Chafing-dish.	38,424	Jan. 22	126	1330
Manning, Bowman & Company. (See Gutermann, Edward A., assignor.)				
Pitkin & Brooks. (See Buckley, Harry H., assignor.)				
Pronberger, Ludwig, Berlin, Germany, assignor to Alfred Peats Company, New York, N. Y. Wall-covering	38,427	Jan. 22	126	1330
Rathbone, Sard & Company. (See Van Buren, Jafew S., assignor.)				
Van Buren, Jafew S., assignor to Rathbone, Sard & Company, Albany, N. Y. Cooking-stove	38,426	Jan. 22	126	1330
Wilkins, Charles H., Norfolk, Va. Badge	38,421	Jan. 22	126	1329

TRADE-MARKS.

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A. Breslauer Company, Milwaukee, Wis. Maraschino cherries	59,900	Jan. 22	126	1349
A. Breslauer Company, Milwaukee, Wis. Bitters	60,003	Jan. 22	126	1352
A. & F. Pears Limd., London, England. Perfumed soap	59,910	Jan. 22	126	1349
A. & F. Pears Limd., London, England. Perfumed soap	59,911	Jan. 22	126	1349
A. R. Duncan, Jr., Co., Cleveland, Ohio. Butter	59,912	Jan. 22	126	1349
Aktienbrauerei zum Löwenbräu in München, Munich, Germany. Yeast	59,913	Jan. 22	126	1349
Allcock Manufacturing Co., New York, N. Y. Porous plasters	60,004	Jan. 22	126	1352
American Lead Pencil Company, New York, N. Y. Rubber erasers	59,881	Jan. 22	126	1348
American Olive Company, Los Angeles, Cal. Olives and oil made therefrom	59,882	Jan. 22	126	1348
American Thread Company, Jersey City, N. J. Spool-cotton, sewing-cotton, and thread	59,846	Jan. 22	126	1347
American Thread Company, Jersey City, N. J. Spool-cotton and thread	59,847	Jan. 22	126	1347
American Thread Company, Jersey City, N. J. Spool-cotton, sewing-cotton, and thread	59,866	Jan. 22	126	1348
American Thread Company, Jersey City, N. J. Spool-cotton and thread	59,867	Jan. 22	126	1348
American Watch Tool Company, Waltham, Mass. Chucks and head-stocks of lathes	59,936	Jan. 22	126	1350
American Watch Tool Company, Waltham, Mass. Chucks and head-stocks of lathes	59,937	Jan. 22	126	1350
Anderson, Thomas E., Fulton, Ky. Remedies for certain named diseases	60,005	Jan. 22	126	1352
Antrim & Sons, C. W., Richmond, Va. Coffee	59,901	Jan. 22	126	1349
Aseptic Drinking Cup Co., Cambridge, Mass. Paper drinking-cups	59,834	Jan. 22	126	1347
Ashepoo Fertilizer Company, Charleston, S. C. Fertilizers	59,956	Jan. 22	126	1350
Auerbach & Sons, D., New York, N. Y. Candies, chocolates, and bonbons	59,902	Jan. 22	126	1349
Aurora Automatic Machinery Company, Aurora, Ill. Bicycles and parts thereof	60,006	Jan. 22	126	1352
Ausable Horse Nail Company, Keeseville, N. Y. Horse-nails	59,957	Jan. 22	126	1350
Ausable Horse Nail Company, Keeseville, N. Y. Horse-nails	59,960	Jan. 22	126	1351
Baer Bros., New York, N. Y. Paints, enamels, and bronze-powders	59,868	Jan. 22	126	1348
Baume, Frank D., Philadelphia, Pa. Non-alcoholic carbonated beverages and syrups for making the same	59,835	Jan. 22	126	1347
Besten & Langen, Louisville, Ky. Corsets	60,007	Jan. 22	126	1352
Beuttell, Alfred W., London, England. Incandescent electric lamps and appliances and devices for mounting same	59,946	Jan. 22	126	1350
Boehm & Levine, New York, N. Y. Ladies' hoods	60,008	Jan. 22	126	1352
Boogher Force and Goodbar Hat Company, St. Louis, Mo. Men's wool, felt, and straw hats	60,009	Jan. 22	126	1352
Brandram Bros. & Co. Ld., London, England. White lead	59,914	Jan. 22	126	1349
Brown, Summers, New York, N. Y. Inks, type-inking ribbons, and carbon-paper	59,819	Jan. 22	126	1347
Buckeye Electric Company, Cleveland, Ohio. Incandescent lamps	59,970	Jan. 22	126	1351
Butcher Direct Contact Method Company, New York, N. Y. Inhaling compounds and drugs	60,010	Jan. 22	126	1352
C. A. Lammers Bottling Co., Denver, Colo. Malt-liquor tonic	59,836	Jan. 22	126	1347
Carpenter Company, Brattleboro, Vt. Reed-organs	59,869	Jan. 22	126	1348
Carter White Lead Company, Omaha, Nebr. White lead	59,820	Jan. 22	126	1347
Cayey-Caguas Tobacco Company, New York, N. Y., and Caguas, Porto Rico. Cigars, cheroots, and cigarettes	59,837	Jan. 22	126	1347
Chapin & Gore Inc., Chicago, Ill. Cigars	59,870	Jan. 22	126	1348
China & Japan Trading Company, Limited, New York, N. Y. Certain textiles	60,011	Jan. 22	126	1352
Chipman's Sons, Chas., Easton, Pa. Hosiery	60,012	Jan. 22	126	1352
Collins, Bradford M., Providence, R. I. Candy kisses with nuts in them	59,848	Jan. 22	126	1347
Construction News Company, Chicago, Ill. Magazine	59,821	Jan. 22	126	1347
Corset H Company, Worcester, Mass. Corsets	60,013	Jan. 22	126	1352
Corset H Company, Worcester, Mass. Corsets	60,014	Jan. 22	126	1352
Crowell Publishing Company, New York, N. Y. Paper patterns for garments	59,822	Jan. 22	126	1347
Cuesta, Rey & Co., West Tampa, Fla. Cigars	60,015	Jan. 22	126	1352
Cunz, Jakob, Bürglen, Switzerland. Knitted woolen goods	59,978	Jan. 22	126	1351
Cushman & Denison Manufacturing Company, New York, N. Y. Hand-oilers	59,958	Jan. 22	126	1350
Davidson, John Z., Baltimore, Md. Flavoring compound	59,915	Jan. 22	126	1349
Dodge Publishing Company, San Francisco, Cal., and New York, N. Y. Printed books	59,823	Jan. 22	126	1347
Dr. B. J. Kendall Company, Enosburg Falls, Vt. Certain named medicine	60,016	Jan. 22	126	1352
Duluth Brewing & Malting Company, Duluth, Minn. Beer, ale, porter, and extract of malt	59,838	Jan. 22	126	1347
Duluth Brewing & Malting Company, Duluth, Minn. Beer, ale, porter, and extract of malt	59,839	Jan. 22	126	1347
Duluth Brewing & Malting Company, Duluth, Minn. Beer, ale, porter, and extract of malt	59,840	Jan. 22	126	1347
Duluth-Superior Milling Co., Duluth, Minn. Wheat-flour	59,841	Jan. 22	126	1347
Eames, Stewart W., assignor to H. B. Claflin Company, of New York, N. Y. Toilet powder and toilet cream	59,863	Jan 22	126	1348
	59,979	Jan. 22	126	1351

TRADE-MARKS—Continued.

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Earl & Wilson, Troy, N. Y. Woven undershirts and woven drawers	60,017	Jan. 22	126	1352
Eli Lilly & Company, Indianapolis, Ind. Antiseptics	60,018	Jan. 22	126	1352
Ellis, Edward D., Baltimore, Md. Toilet powder	60,019	Jan. 22	126	1352
Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Certain named chemicals	60,020	Jan. 22	126	1352
Forchheimer & Co., M., Mobile, Ala. Wheat-flour	59,916	Jan. 22	126	1349
Fraser-Campbell, Evan J., New York, N. Y. Bleached and unbleached textile fabrics	60,021	Jan. 22	126	1352
Fraser-Campbell, Evan J., New York, N. Y. Bleached and unbleached textile fabrics	60,023	Jan. 22	126	1352
French & Co., Samuel H., Philadelphia, Pa. Dental plaster	59,971	Jan. 22	126	1351
French & Co., Samuel H., Philadelphia, Pa. Mortar-colorings	59,972	Jan. 22	126	1351
French, William A., Red Bank, N. J. Apple-jack, otherwise known as cider-brandy	59,849	Jan. 22	126	1348
Gardner, Henry O., Worcester, Mass. Felt shoes and slippers	59,850	Jan. 22	126	1348
George Miller & Son Company, Philadelphia, Pa. Hard and soft candy	59,884	Jan. 22	126	1348
Graf, John, Milwaukee, Wis. Certain beverages	59,871	Jan. 22	126	1348
Gray & Dudley Hardware Co., Nashville, Tenn. Ice-cream freezers	59,824	Jan. 22	126	1347
Gray & Dudley Hardware Co., Nashville, Tenn. Certain hand-tools	59,980	Jan. 22	126	1351
Gray & Dudley Hardware Co., Nashville, Tenn. Certain cutlery and edge-tools	59,993	Jan. 22	126	1351
Gray & Dudley Hardware Co., Nashville, Tenn. Certain hand-tools	59,994	Jan. 22	126	1351
Gropper & Sons, M., New York, N. Y. Base-balls	60,024	Jan. 22	126	1352
H. B. Claflin Company. (See Eames, Stewart W., assignor.)				
H-O (Hornby's Oatmeal) Company, New York and Buffalo, N. Y. Cooked rolled oats	59,917	Jan. 22	126	1349
Hall & Co., Jamestown, N. Y. Worsted dress goods and suitings	60,025	Jan. 22	126	1352
Hammel, Riglander & Co., New York, N. Y. Watchsprings	59,885	Jan. 22	126	1348
Hammel, Riglander & Co., New York, N. Y. Pivot-drills	60,026	Jan. 22	126	1352
Hammel, Riglander & Co., New York, N. Y. Gravers	60,027	Jan. 22	126	1352
Harris, Abraham W., Providence, R. I. Lubricating-oils and lubricating compounds	59,851	Jan. 22	126	1348
Henry E. Frankenberg Company, New York, N. Y. Certain named textile fabrics	59,995	Jan. 22	126	1351
Henry E. Frankenberg Company, New York, N. Y. Certain named textile fabrics	59,996	Jan. 22	126	1351
Henry E. Frankenberg Company, New York, N. Y. Certain named textile fabrics	59,997	Jan. 22	126	1351
Henry E. Frankenberg Company, New York, N. Y. Certain named textile fabrics	59,998	Jan. 22	126	1352
Henry E. Frankenberg Company, New York, N. Y. Certain named textile fabrics	59,981	Jan. 22	126	1351
Hibben, Hollweg & Co., Indianapolis, Ind. Hosiery	59,982	Jan. 22	126	1351
Hibben, Hollweg & Co., Indianapolis, Ind. Hosiery	59,872	Jan 22	126	1348
Higginsville Milling Company, Higginsville, Mo. Wheat-flour	59,873	Jan. 22	126	1348
Higginsville Milling Company, Higginsville, Mo. Wheat-flour	59,874	Jan. 22	126	1348
Higginsville Milling Company, Higginsville, Mo. Wheat-flour	59,938	Jan. 22	126	1350
Hoopeston Horse Nail Co., Hoopeston, Ill. Horseshoe-nails	59,959	Jan. 22	126	1350
Horton Manufacturing Company, Fort Wayne, Ind. Hand-operated washing-machines	59,852	Jan. 22	126	1348
Hottenstein, H. Kauffman, Philadelphia, Pa. Tablets for washing and cleansing purposes	59,904	Jan. 22	126	1349
Ironsides Company, Columbus, Ohio. Lubricating-oils, lubricating-greases, and lubricating compounds	59,886	Jan. 22	126	1348
J. & R. Tennent Ltd., Glasgow, Scotland. Ale, stout, and porter	59,887	Jan. 22	126	1349
J. & R. Tennent Ltd., Glasgow, Scotland. Ale, stout, and porter	59,947	Jan. 22	126	1350
John A. Roebling's Sons Co., Trenton, N. J. Stranded insulated wire	60,028	Jan. 22	126	1352
John Wyeth and Brother, Incorporated, Philadelphia, Pa. Antiseptic liquor or solution of eucalyptus	60,029	Jan. 22	126	1352
Jones Dry Goods Co., Kansas City, Mo. Certain garments	59,825	Jan. 22	126	1347
Kansas City Oil and Gas Company, Kansas City, Kans. Illuminating and lubricating oils	59,983	Jan. 22	126	1351
Karpenstein, Henry C., New York, N. Y. Toilet creams or lotions	60,030	Jan. 22	126	1352
Kas Mo Remedy Co., Kansas City, Mo. Antiseptic salve	59,905	Jan. 22	126	1349
Kinney, M. J., Portland, Oreg. Canned salmon	60,031	Jan. 22	126	1352
Kirkley, George S., Baltimore, Md. Hair-dressing	59,875	Jan. 22	126	1348
Klein Bros., Cincinnati, Ohio. Whisky	59,984	Jan. 22	126	1351
Krieger Bros., Louisville, Ky. Certain proprietary or pharmaceutical preparation	59,826	Jan. 22	126	1347
L. C. Page & Company (Inc.), Boston, Mass. Narrative and story books	60,032	Jan. 22	126	1352
Larned Carter & Co., Detroit, Mich. Coats, pants, overalls, and blouses	59,853	Jan. 22	126	1348
Levey Brothers & Company, Indianapolis, Ind. Certain paper manufactures	60,034	Jan. 22	126	1352
Lewis Company, E. F., Madrid, N. Y. Insecticides and disinfectants	59,827	Jan. 22	126	1347
Lindenmeyr & Sons, Henry, New York, N. Y. Writing-paper	59,828	Jan. 22	126	1347
Lindenmeyr & Sons, Henry, New York, N. Y. Writing-paper	59,888	Jan. 22	126	1349
Lodor, Napoleon, Chattanooga, Tenn. Carbonated tonic beverages	59,999	Jan. 22	126	1352
Lorenz, Peter C., New York, N. Y. Certain named surgical instruments	59,876	Jan. 22	126	1348
Lovett & Co., W. A., Cape May, N. J. Harness and leather dressings	59,889	Jan. 22	126	1349
Lucas & Co., John, Philadelphia, Pa. Certain paints and painters' materials	59,890	Jan. 22	126	1349
Lucas & Co., John, Philadelphia, Pa. White lead and white paint	60,035	Jan. 22	126	1352
Luyties, Frederick A., St. Louis, Mo. Uterine tonic	59,877	Jan. 22	126	1348
Lyon & Healy, Chicago, Ill. Strings for musical instruments	60,000	Jan. 22	126	1352
MacAndrews & Forbes Company, New York, N. Y. Licorice and licorice paste	59,854	Jan. 22	126	1348
Manchester Mfg. Co., Providence, R. I. Silver-plated tableware	59,918	Jan. 22	126	1349
Martin, Charles C., Denver, Colo. Butter	59,919	Jan. 22	126	1349
Martin, Charles C., Denver, Colo. Eggs	59,920	Jan. 22	126	1349
McGraw Publishing Co., New York, N. Y. Weekly and monthly periodical	60,037	Jan. 22	126	1352
McNally, William J., Charlestown, Mass. Antiseptic powders and ointments	60,038	Jan. 22	126	1352
Mentele, Louise M., Epiphany, S. D. Remedies for certain named diseases	59,986	Jan. 22	126	1351
Miley Company, Portland, Me. Hosiery	60,039	Jan. 22	126	1353
Mistrot Bros. & Co., Galveston, Tex. Cotton piece goods	59,939	Jan. 22	126	1350
Model Heating Company, Philadelphia, Pa. Hot-water heaters and steam-boilers for heating purposes	60,040	Jan. 22	126	1353
Muench, Julius, Louisville, Ky. Disinfectant for destroying roaches, bugs, insects, rats, and mice	59,891	Jan. 22	126	1349
Muessel Brewing Co., South Bend, Ind. Beer	59,842	Jan. 22	126	1347
N. B. Thayer & Co., Inc., Milton, N. H. Leather boots and shoes	59,855	Jan. 22	126	1348
N. K. Fairbank Company, Chicago, Ill. Soap	59,921	Jan. 22	126	1349
N. K. Fairbank Company, Chicago, Ill. Soap	59,922	Jan. 22	126	1349
N. K. Fairbank Company, Chicago, Ill. Soap	59,906	Jan. 22	126	1349
National Candy Company, Jersey City, N. J., and St. Louis, Mo. Candies	59,907	Jan. 22	126	1349
Nestlé & Anglo-Swiss Condensed Milk Co., Cham, Switzerland. Sterlized milk and condensed milk	59,892	Jan. 22	126	1349
New England Cotton Yarn Co., Boston, Mass. Cotton thread	59,893	Jan. 22	126	1349
New England Cotton Yarn Co., Boston, Mass. Cotton thread	59,894	Jan. 22	126	1349
New England Cotton Yarn Co., Boston, Mass. Cotton thread	59,908	Jan. 22	126	1349
New England Cotton Yarn Co., Boston, Mass. Cotton thread	59,909	Jan. 22	126	1349
New England Cotton Yarn Co., Boston, Mass. Cotton thread	59,923	Jan. 22	126	1349
New England Supply Co., Providence, R. I., and Philadelphia, Pa. Potato-chips	59,924	Jan. 22	126	1349
New England Supply Co., Providence, R. I., and Philadelphia, Pa. Potato-chips				

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New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	59,940	Jan. 22	126	1350
New Home Sewing Machine Company, Orange, Mass , assignor to New Home Sewing Machine Company. Sewing-machines and attachments	59,941	Jan. 22	126	1350
New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	59,942	Jan. 22	126	1350
New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	59,943	Jan. 22	126	1350
New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	59,948	Jan. 22	126	1350
New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	59,949	Jan. 22	126	1350
New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	59,950	Jan. 22	126	1350
New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	59,951	Jan. 22	126	1350
New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	59,952	Jan. 22	126	1350
New Orleans Import Co., Limited, New Orleans, La. Seasoning preparation	59,953	Jan. 22	126	1350
New York Dash & Axle Manufacturing Company, New York, N. Y. Self-lubricating axles	59,925	Jan. 22	126	1349
New York Sporting Goods Co., New York, N. Y. Certain sporting goods	60,041	Jan. 22	126	1353
Paragon Malt Extract Co., New York, N. Y. Malt extract	59,980	Jan. 22	126	1351
Pasco, Miles H., Grand Rapids, Mich. Remedy for the cure of catarrh	59,926	Jan. 22	126	1349
Paul, John C., Chicago, Ill. Compound for cleaning and polishing metal and plated ware	60,042	Jan. 22	126	1353
Pettibone, Mulliken & Co., Chicago, Ill. Switch-stands	59,973	Jan. 22	126	1351
Picher Lead Company, Joplin, Mo. Pig-lead	59,927	Jan. 22	126	1351
Potter Drug & Chemical Corporation, Portland, Me., and Boston, Mass. Medicated and perfumed soap	59,961	Jan. 22	126	1351
Potter Drug & Chemical Corporation, Portland, Me., and Boston, Mass. Medicated and perfumed soap	59,978	Jan. 22	126	1348
Pressing & Orr Co., Circleville, Ohio. Canned fruits and vegetables	59,979	Jan. 22	126	1348
Pressing & Orr Co., Circleville, Ohio. Canned fruits and vegetables	59,995	Jan. 22	126	1349
Pressing & Orr Co., Circleville, Ohio. Canned fruits and vegetables	59,996	Jan. 22	126	1349
Preventum Tooth Brush Co., New York, N. Y. Brooms, brushes, and dusters	59,997	Jan. 22	126	1349
Princeville Mfg. Co., Princeville, Ill. Cultivators	59,982	Jan. 22	126	1351
Pulaski Springs Hotel Company, Pittsburg, Pa. Natural mineral water	60,043	Jan. 22	126	1353
Pure Oil Company, Philadelphia, Pa. Refined petroleum and burning oils	59,856	Jan. 22	126	1348
Pure Oil Company, Philadelphia, Pa. Leather and harness dressing and belt-paste and belt-syrup	59,939	Jan. 22	126	1347
R. H. Smith Manufacturing Company, Springfield, Mass. Speed-indicating devices	59,939	Jan. 22	126	1347
Radiumite Company, Chicago, Ill. Razor-strops	59,943	Jan. 22	126	1347
Reed Manufacturing Co., Newark, N. Y. Culinary utensils made of tin-plate	59,963	Jan. 22	126	1351
Reed, Uriah W., Topeka, Ind. Coffee substitute of blended cereals	59,954	Jan. 22	126	1350
Reich, C. Harold. (See Stannard, Charles F., assignor.)	59,927	Jan. 22	126	1350
Reiss & Brady, New York, N. Y. Dried fruits	59,926	Jan. 22	126	1350
Reuter, Bröckelmann & Co., Shanghai, China. Sheetings, drills, jeans, shirtings, and handkerchiefs	59,988	Jan. 22	126	1351
Rex Fire Extinghisher Co., New York, N. Y. Certain fire-fighting apparatus and supplies therefor	59,974	Jan. 22	126	1351
Ritter Dental Mfg. Co., Rochester, N. Y. Dental chairs	59,944	Jan. 22	126	1347
Royal Worcester Corset Company, Worcester, Mass. Corsets	60,044	Jan. 22	126	1353
Runkel Brothers, Incorporated, New York, N. Y. All kinds of candies and bonbons	59,920	Jan. 22	126	1350
Sarasin & Co., Wm., Basel, Switzerland. Ribbons	60,045	Jan. 22	126	1353
Scheu, William C., New York, N. Y. Mantles for incandescent gas-lamps	59,944	Jan. 22	126	1351
Schmidt & Co., E., Baltimore, Md. Remedy for certain named diseases	59,989	Jan. 22	126	1351
Schneider & Klein, Omaha, Nebr. Whisky	59,957	Jan. 22	126	1348
Schrader, August, New York, N. Y. Seasoning-sauce for foods	59,930	Jan. 22	126	1350
Schwarzschild and Sulzberger Company, Kansas City, Kans.; Chicago, Ill., and New York, N. Y. Certain oleaginous food substances	59,931	Jan. 22	126	1350
Seifert, Karl M., Dresden, Germany. Boxes of blocks or bricks	59,944	Jan. 22	126	1350
Shelby Electric Company, Shelby, Ohio. Incandescent lamps	59,975	Jan. 22	126	1351
Simmons Hardware Company, St. Louis, Mo. Carpenters' pincers and blacksmiths' shoe-pincers	60,001	Jan. 22	126	1352
Smith, G. Edwin, Columbus, Ohio. Leather shoes	59,945	Jan. 22	126	1347
Soltmann, Edward G., New York, N. Y. Black print-paper	59,958	Jan. 22	126	1348
Soltmann, Edward G., New York, N. Y. Drawing-paper	59,959	Jan. 22	126	1348
Soltmann, Edward G., New York, N. Y. Pliable rubber erasers	59,960	Jan. 22	126	1348
Soltmann, Edward G., New York, N. Y. Blackboards	59,955	Jan. 22	126	1352
St. Jacobs Oil, Limited, Baltimore, Md Medicinal plaster	60,002	Jan. 22	126	1352
Stannard, Charles F., Philadelphia, Pa., assignor to C. Harold Reich, London S. W., England. Lubricating-oils	59,931	Jan. 22	126	1347
Stoddard Gilbert & Co., New Haven, Conn. Wheat-flour	59,981	Jan. 22	126	1348
Strickler, Samuel K., Mifflinburg, Pa. Medicated stock food	59,990	Jan. 22	126	1351
Summit City Soap Works, Fort Wayne, Ind. Certain chemical preparation	60,046	Jan. 22	126	1353
Taylor Iron & Steel Co., High Bridge, N. J. Safes, vaults, and locks and parts thereof	59,965	Jan. 22	126	1351
Taylor Iron & Steel Co., High Bridge, N. J. Non-explosive projectiles and shields and parts for gun-carriages	60,047	Jan. 22	126	1353
Technical Supply Company, Scranton, Pa. Certain measuring and scientific apparatus, appliances, and instruments	59,932	Jan. 22	126	1347
Thaddeus Davids Company, New York, N. Y. Inks and stamp-pads	59,996	Jan. 22	126	1349
Uhlmann, M., Chicago, Ill. Cheese of the Limburger type	59,932	Jan. 22	126	1350
Uhlmann, M., Chicago, Ill. Pork sausage	59,933	Jan. 22	126	1350
Union Horse Nail Company, New Haven, Conn., and Chicago, Ill. Horse-nails	59,956	Jan. 22	126	1351
United & Globe Rubber Manufacturing Companies, Trenton, N. J. Rubber hose	59,953	Jan. 22	126	1348
United Injector Co., New York, N. Y. Strainers and valves	59,967	Jan. 22	126	1351
United Injector Co., New York, N. Y. Injectors and ejectors	59,976	Jan. 22	126	1351
Valvoline Oil Company, Edgewater, N. J., and New York, N. Y. Lubricating-oils	59,999	Jan. 22	126	1349
Vapo-Cresolene Company, New York, N. Y. Censers, vaporizers, and volatilizers for medical compounds	60,048	Jan. 22	126	1353
Vapo-Cresolene Company, New York, N. Y. Censers, vaporizers, and volatilizers for medical compounds	60,049	Jan. 22	126	1353
Vapo-Cresolene Company, New York, N. Y. Censers, vaporizers, and volatilizers for medical compounds	60,050	Jan. 22	126	1353

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Vapo-Cresolene Company, New York, W. Y. Censers, vaporizers, and volatilizers for medical compounds	60,051	Jan. 22	126	1353
Vapo-Cresolene Company, New York, N. Y. Censers, vaporizers, and volatilizers for medical compounds	60,052	Jan. 22	126	1353
Weir & Company, Ross W., New York, N. Y. Coffee	59,863	Jan. 22	126	1348
Weir & Company, Ross W., New York, N. Y. Tea	59,864	Jan. 22	126	1348
Weir & Company, Ross W., New York, N. Y. Tea	59,865	Jan. 22	126	1348
Weir & Company, Ross W., New York, N. Y. Coffee	59,934	Jan. 22	126	1350
Wells, Ephraim S., Jersey City, N. J. Rat, vermin, and insect destroyers and exterminators	59,991	Jan. 22	126	1351
Whitcher, Frank W., Boston, Mass. Ice-creepers	59,977	Jan. 22	126	1351
White & Bagley Co., Worcester, Mass. Cleaning compounds	59,935	Jan. 22	126	1350
White & Bagley Co., Worcester, Mass. Cleaning and polishing compounds for metals	59,968	Jan. 22	126	1351
Whitman & Barnes Manufacturing Company, Summit, Ohio. Certain parts of mowers and reapers	60,053	Jan. 22	126	1353
Wichman, Lutgen & Co., Inc., San Francisco, Cal. Gin	59,880	Jan. 22	126	1348
Williams, White & Company, Moline, Ill. Bending, shaping, and forging machines	59,945	Jan. 22	126	1350
Wright's Rapid Relief Co., Pueblos, Ohio. Certain named medicines	60,054	Jan. 22	126	1353
Wyoming Shovel Works, Wyoming, Pa. Shovels, spades, and scoops	60,055	Jan. 22	126	1353
York Silk Manufacturing Company, York, Pa. Silk piece goods	59,992	Jan. 22	126	1351
Young, Kate F., Newark, N. J. Illuminating-oils and lubricating oils and greases	59,833	Jan. 22	126	1347

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Abbott & Co., C. W., Baltimore, Md. "Abbott's Bitters." (For Bitters)	13,326	Jan. 22	126	1354
Alexander & Zenn, New York, N. Y. "Ramon Pinto." (For Cigars)	13,329	Jan. 22	126	1354
George Urban Milling Co., Buffalo, N. Y. "Delicatess." (For Flour)	13,330	Jan. 22	126	1354
Henderson, Stutley I., West Allis, Wis. "Pineosone." (For a Medicinal Paste)	13,327	Jan. 22	126	1354
Hughel, Clarence, Indianapolis, Ind. "Dander-Off." (For a Hair-Tonic and Dandruff Cure)	13,328	Jan. 22	126	1354
Ruegg, John J., Clifton, N. J. "Lava—A Remedy for All Tree and Plant Diseases." (For Plant-Fertilizers)	13,331	Jan. 22	126	1354

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Frictionless Metal Co., Chattanooga, Tenn. "You Always Hear Good Reports from Frictionless Metal." (For Frictionless Metal)	1,896	Jan. 22	126	1354
Meyercord Company, Inc., Chicago, Ill. "Have a Taste." (For Liquors)	1,894	Jan. 22	126	1354
United States Playing Card Company, Norwood, Ohio. "George Washington Backs, Congress Playing-Cards." (For Playing Cards)	1,895	Jan. 22	126	1354

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Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Actiengesellschaft Paulanerbräu (zum Salvatorkeller), München, Germany. Beer	9,816	Jan. 22	126	1332
Albert Dickinson Company, Chicago, Ill. Grass, grain, timothy, and clover seed	8,398	Jan. 22	126	1332
Albert Dickinson Company, Chicago, Ill. Grass, grain, timothy, and clover seed	8,402	Jan. 22	126	1333
Allen & Co., S. L., Philadelphia, Pa. Sleds	15,732–3	Jan. 22	126	1332
American Chicle Co., New York, N. Y. Chewing-gum	8,158–9	Jan. 22	126	1331
American Glove Co., Chicago, Ill. Gloves, mittens, and gauntlets	1,735	Jan. 22	126	1334
American Mica Company, Newton, Mass. Mica	16,624	Jan. 22	126	1330
Aughinbaugh, William E., Hackensack, N. J., and New York, N.Y. Hydrogen peroxid	22,220	Jan. 22	126	1334
Birmingham Fertilizer Company, Birmingham, Ala. Fertilizers	17,889	Jan. 22	126	1333
Bissell Carpet Sweeper Company, Grand Rapids, Mich. Carpet-sweepers	12,055	Jan. 22	126	1338
Boott Mills, Lowell, Mass. Cotton piece goods	21,965	Jan. 22	126	1338
Boott Mills, Lowell, Mass. Cotton piece goods	21,971	Jan. 22	126	1338

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Boott Mills, Lowell, Mass. Cotton piece goods	21,973-9	Jan. 22	126	1338-9
Boston Wine & Spirits Co., Boston, Mass. Whisky, brandy, gin, rum, punch, &c	21,062	Jan. 22	126	1337
Browning Press, Collinwood, Ohio. Periodical publications	23,988	Jan. 22	126	1344
Childs, Robert A., Syracuse, N. Y. Accordions, autoharps, banjos, brass musical instruments, &c	23,156	Jan. 22	126	1341
Chipmans Sons, Chas., Easton, Pa. Hosiery	22,821	Jan. 22	126	1340
Colbert, Frederick, Butte, Mont. Lung and throat, stomach, rheumatic, &c., medicines	23,107	Jan. 22	126	1341
Confectioners' Journal Publishing Co., Philadelphia, Pa. Periodical	20,185	Jan. 22	126	1336
Copeland & Co., Charles C., New York, N. Y. Cotton piece goods	19,698	Jan. 22	126	1335
Coughlet Company, Reading, Pa. Sugar-coated tablets for the throat and voice	23,930	Jan. 22	126	1344
Cutler, C. F., Deep River, Iowa. Medicines for blood diseases of horses, mules, and cattle	22,252	Jan. 22	126	1340
Davis, Charles W., Allegheny, Pa. Lotions	21,938	Jan. 22	126	1332
Davis and Day Engineering Company, Muscatine, Iowa. Boiler-cleaning compound	21,457	Jan. 22	126	1337
Dietz, August, Richmond, Va. Advertising-envelops	23,554	Jan. 22	126	1342
Dr. Rainey Medicine Co., Chicago, Ill. Remedy for coughs	23,506	Jan. 22	126	1342
Duff & Sons, P., Pittsburg, Pa. Molasses	20,264-5	Jan. 22	126	1336
Dunham, Carrigan & Hayden Company, San Francisco, Cal. Hatchets, chisels, gouges, bush-hooks, &c	11,338	Jan. 22	126	1333
Dunham, Carrigan & Hayden Company, San Francisco, Cal. Hatchets, chisels, gouges, bush-hooks, &c	11,343-5	Jan. 22	126	1333
E. Z. Shoe Company, Hornell and Buffalo, N. Y. Leather boots and shoes	23,574	Jan. 22	126	1342
Eagle Lamp Company, Danvers, Mass. Incandescent lamps	24,010-11	Jan. 22	126	1344
Eagle Lock Co., Terryville, Conn. Pad, trunk, cabinet, and door locks	24,158	Jan. 22	126	1345
Eddystone Manufacturing Company, Eddystone and Philadelphia, Pa. Textile draperies	22,704	Jan. 22	126	1340
Este, Charles, Philadelphia, Pa. Lumber and timber	18,062	Jan. 22	126	1334
Field, Albert L., Lowell, Mass. Remedies for headache, neuralgia, nervous diseases, &c	18,531	Jan. 22	126	1334
Frank Jones Brewing Company, Limited, London, England, and Portsmouth, N. H. Ale	20,741	Jan. 22	126	1336
Fred Miller Brewing Co., Milwaukee, Wis. Beer	22,148	Jan. 22	126	1339
Gerhard Mennen Chemical Co., Newark, N. J. Tooth-powder	22,292	Jan. 22	126	1339
Hamburger, Felix, New York, N. Y. Electric-arc lamps	22,884	Jan. 22	126	1341
Hanson & Van Winkle Co., Newark, N. J. Metal-polishes	24,114	Jan. 22	126	1345
Hargadine-McKittrick Dry Goods Company, St. Louis, Mo. Fur garments	23,980	Jan. 22	126	1344
Hargadine-McKittrick Dry Goods Company, St. Louis, Mo. Pants, coats, jackets, creepers, muslin underwear, &c	23,982	Jan. 22	126	1344
Harrell, Earle G., Camilla, Ga. Remedy for female diseases, diabetes, bladder troubles, &c	16,590	Jan. 22	126	1334
Hartmann Trunk Company, Racine, Wis. Trunks	23,579	Jan. 22	126	1343
Hawley & Hoops, New York, N. Y. Candy chocolates and bonbons	23,747-8	Jan. 22	126	1343
Hibbard, Spencer, Bartlett & Company, Chicago, Ill. Varnishes, enamels, roughstuffs, paint-oil, &c	24,161-2	Jan. 22	126	1345
Hirschberg, Sidney G., New York, N. Y. Hats and caps	23,695	Jan. 22	126	1343
Hitt, Daniel C., Indianapolis, Ind. Cigars	21,322	Jan. 22	126	1337
Hoff, Johann, New York, N. Y. Malt extracts	23,348	Jan. 22	126	1341
Home Silk Mills, New York, N. Y. Silk piece goods	21,319	Jan. 22	126	1337
Hosterman, Arthur D., Springfield, Ohio. Monthly magazine	23,981	Jan. 22	126	1343
J. H. Rushton, Incorporated, Canton, N. Y. Canoes, row and sail boats, parts thereof, and oars and paddles	21,747	Jan. 22	126	1332
Jacoway, Duncan L., Denver, Colo. Smoking-tobacco	24,193	Jan. 22	126	1346
Jacquin & Company, H., New York, N. Y. Knitted shirts and drawers	20,670	Jan. 22	126	1336
Jones Bros. & Co., Inc., Louisville, Ky. Vinegar, pickles, catsup, pepper-sauce, &c	23,049	Jan. 22	126	1341
Jönköpings och Vulcans Tändsticksfabriksaktiebolag, Jönköping, Sweden. Safety-matches	16,934	Jan. 22	126	1334
Kerfoot, Miller and Company, Oklahoma, Okla. Shirts, overalls, trousers, and underwear	22,744	Jan. 22	126	1340
King, Brinsmade Mercantile Company, St. Louis, Mo. Silk piece goods and ribbon	14,376	Jan. 22	126	1333
Kohlman, Emile, Seattle, Wash. Remedies for diseases of the liver, kidneys, stomach, and intestines	18,429	Jan. 22	126	1334
Kolb, Frances S., Columbus, Ohio. Muslin undergarments	23,741	Jan. 22	126	1343
Lactobacilline Company, New York, N. Y. Milk	23,666-7	Jan. 22	126	1342-3
Louisville Dental Laboratory & Mfg. Co., Louisville, Ky. Dental alloy	24,195	Jan. 22	126	1346
Lyman Gun Sight Corporation, Middlefield, Conn. Gun-sights	23,482	Jan. 22	126	1341
McMahon, Michael, Brooklyn, N. Y. Cleanser for glassware and porcelain	23,694	Jan. 22	126	1342
Memphis Column Company, Benton Harbor, Mich., and Memphis, Tenn. Wooden columns	23,894	Jan. 22	126	1343
Mills, John C., Duke Center, Pa. Liniment	5,912	Jan. 22	126	1331
Mistrot Bros. & Co., Galveston, Tex. Leather shoes	24,118	Jan. 22	126	1345
Monarch, Richard, Louisville, Ky. Whisky	8,282	Jan. 22	126	1332
Montanye, Chas. H., New York N. Y., assignor to W. H. Montanye & Company. Black, white, and red-pepper, cinnamon, cassia, ginger, &c	19,842	Jan. 22	126	1336
Mountan, Howard, San Francisco, Cal. Face powder and cream and hair-tonic	21,710	Jan. 22	126	1332
Munter, Charles, New York, N. Y. Body-braces and conformer-corsets	23,885	Jan. 22	126	1343
Musica, Antonio, New York, N. Y. Macaroni	22,336	Jan. 22	126	1340
N. K. Fairbank Company, Chicago, Ill. Laundry soap	51	Jan. 22	126	1331
National Sportsman, Incorporated, Boston, Mass. Monthly magazine	24,119	Jan. 22	126	1345
National Starch Co., Jersey City, N. J. and Oswego, N. Y. Laundry starch	23,966	Jan. 22	126	1344
Newark Paraffine & Parchment Paper Co., New York, N. Y. Waxed paper and butter-wrappers	24,097	Jan. 22	126	1345
Newson, William B., New York, N. Y. Tea	24,129	Jan. 22	126	1345
Newton Machine Tool Works, Incorporated, Philadelphia, Pa. Milling, planing, drilling and boring, slotting, &c., machines	19,057	Jan. 22	126	1335
Noake-Wheeler-Clough Company, Chicago, Ill. Varnishes	23,908	Jan. 22	126	1344
Omnia Chemical Co., New York, N. Y. Insecticide	22,883	Jan. 22	126	1340
Overman & Schrader Cordage Co., Cincinnati, Ohio. Twines	5,141	Jan. 22	126	1331
Palmer, Mary E., New York, N. Y. Cigars in boxes	23,579	Jan. 22	126	1342
Park & Tilford, New York, N. Y. Cigars and cigarettes	24,198	Jan. 22	126	1346
Paulson Brothers Company, Pittsburg, Pa. Hats, caps, bonnets, fur garments and robes, gloves, &c	22,497	Jan. 22	126	1340
Pfeiz, Gustav E., New York, N. Y. Corsets, bust-forms, and supporters	23,736	Jan. 22	126	1343
Penn-American Plate Glass Co., Pittsburg, Pa. Glass slabs, sheets, plates, &c	12,319	Jan. 22	126	1333
Peter Schoenhofen Brewing Company, Chicago, Ill. Lager-beer	23,454	Jan. 22	126	1341
Prudential Heating Company, Akron, Ohio. Steam and hot-water boilers	22,807	Jan. 22	126	1340
R. M. Rose Co., Atlanta, Ga. Corn whisky	7,006	Jan. 22	126	1332
[illegible]. Anton, Dresden, Germany. Chocolate-molds	18,930	Jan. 22	126	1335
Hyman, Perth Amboy, N. J. Smoking-tobacco	21,674	Jan. 22	126	1337
Iron & Locomotive Works, San Francisco, Cal. Ore-concentrators	23,930	Jan. 22	126	1342
Company, New York, N. Y. Dress and shirt waists	15,234	Jan. 22	126	1334
Brothers Inc., New York, N. Y. Canned vegetables	22,800	Jan. 22	126	1340

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Rothgiesser Bros., St. Louis, Mo. Coats, vests, pants, jackets, and overcoats	23,260	Jan. 22	126	1341
Ruger, Harry E., La Fayette, Ind. Metal-polish	20,596	Jan. 22	126	1336
Russ-Suchard & Cie., Neufchatel, Switzerland, assignors to Suchard Societe Anonyme. Chocolate, cocoa, and chocolate candies	6,765	Jan. 22	126	1332
Russ-Suchard & Cie., Neufchatel, Switzerland, assignors to Suchard Societe Anonyme. Chocolate, cocoa, and chocolate candies	8,678	Jan. 22	126	1332
S. Liebmann's Sons Brewing Company, Brooklyn, N. Y. Lager-beer, ale, stout, and malt extract	23,759	Jan. 22	126	1343
S. Liebmann's Sons Brewing Company, Brooklyn, N. Y. Stout	24,036	Jan. 22	126	1345
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	23,216	Jan. 22	126	1341
Sehel, William E., Minneapolis, Minn. Pancake-flour and cereal foods made of wheat	22,077	Jan. 22	126	1339
Schieren & Co., Chas. A., New York, N. Y. Leather belting	21,599	Jan. 22	126	1337
Schwabacher Bros. & Co. Inc., Seattle, Wash. Tea	24,030	Jan. 22	126	1345
Slater, Rodger & Co. Ltd., Kinning Park, near Glasgow, Scotland. Scotch whisky	13,163	Jan. 22	126	1333
Smith Drug Company, Baldwinsville, N. Y. Remedy for rheumatism	20,252	Jan. 22	126	1336
Suchard Societe Anonyme. (See Russ-Suchard & Cie., assignors.)				
Tannehill, Jabez B., Wilzetta, Okla. Ter. Salve	23,909	Jan. 22	126	1344
Taylor Provision Co., Trenton, N. J. Pork-roll	22,841	Jan. 22	126	1340
Thomas Thorkildsen & Company, Chicago, Ill. Food-preservatives	22,639	Jan. 22	126	1340
Thompson and Trimble, Plattsburg, Mo. Pharmaceutical preparation for treatment of eczema, &c	22,195	Jan. 22	126	1339
Tom Ray Cutlery Company, Kansas City, Mo. Pocket-knives	19,236	Jan. 22	126	1335
Towle Mfg. Company, Newburyport, Mass. Solid and plated silver knives, forks, spoons, &c	20,244	Jan. 22	126	1336
Utz & Dunn, Rochester, N. Y. Leather boots and shoes	24,199	Jan. 22	126	1346
Vakles & Co., Ferna, Havana, Cuba. Women's, misses', and children's leather boots and shoes	23,549	Jan. 22	126	1342
Virginia-Carolina Chemical Company, Jersey City, N. J.; Richmond and Norfolk, Va.; Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Fertilizers	24,167-8	Jan. 22	126	1345
W. A. Ross & Brother Incorporated, New York, N. Y. Sherry	23,762	Jan. 22	126	1343
W. H. Montanye & Company. (See Montanye, Chas. H., assignor.)				
W. S. Moore & Co., Chicago, Ill. Butter, milk, and cheese	23,805	Jan. 22	126	1343
Wandka, Anna M. E., New York, N. Y. Creams for the skin, toilet water, hair-tonic, &c	11,294	Jan. 22	126	1333
Ware Bros. Company, Philadelphia, Pa. Periodical	24,186-7	Jan. 22	126	1346
Weiss Manufacturing Company, New York, N. Y. Leather fobs	23,988	Jan. 22	126	1344
Whorton Sons Drug Co., Gadsden, Ala. Remedy for typhoid fever	23,523	Jan. 22	126	1341
Worlds Dispensary Medical Association, Buffalo, N. Y. Remedies for biliousness, catarrh, cholera, &c	18,868	Jan. 22	126	1335
Wrought Iron Range Company, St. Louis, Mo. Ranges and stoves	18,970	Jan. 22	126	1335

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 22D DAY OF JANUARY, 1907.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Acid esters. Boracic-	H. Thron	841,738	Jan. 22	3893	.....	126	1113
Air-brake	H. H. Westinghouse	841,750	Jan. 22	3924	850	126	1119
Air-brake	H. H. Westinghouse	841,751	Jan. 22	3926	850	126	1120
Air-compressor	E. Hill. (Reissue)	12,509	Jan. 22	4758	1016–17	126	1326
Alarm-gage	G. A. Wall and J. H. Derby	841,743	Jan. 22	3905	846–7	126	1116
Alkyl ethers of morphin. Making	L. H. Reuter	842,011	Jan. 22	4454	.....	126	1252
Amalgamator	H. L. Lightner	841,990	Jan. 22	4410	951	126	1240
Amusement apparatus	L. A. Jones	841,783	Jan. 22	4000	864	126	1141
Amusement device	H. S. Bassett	842,058	Jan. 22	4543	977	126	1272
Atomizer or pump-sprayer	E. A. Jahn	842,097	Jan. 22	4610	989	126	1288
Automatic brake	J. N. Lawrence	841,698	Jan. 22	3824	832	126	1096
Automobile drive-wheel	J. C. Brennan	842,009	Jan. 22	4563	980	126	1276
Automobile dust-guard	N. Leidgen	841,790	Jan. 22	4014	868	126	1145
Awning for boats. Collapsible	A. Ross	841,719	Jan. 22	3859	838	126	1104
Axle	B. M. Crowley	841,941	Jan. 22	4314	929	126	1218
Bag-holder	J. Brown	841,926	Jan. 22	4288	924	126	1211
Baling-press	H. A. Starr	841,735	Jan. 22	3885	843	126	1111
Ball-mill. Tubular	M. F. Abbé	841,841	Jan. 22	4129	889–90	126	1176
Bar:							
See Reinforcing-bar.							
Battery-containing cell	G. H. Stout	842,123	Jan. 22	4664	1001–2	126	1302
Bearing. Roller-	M. S. Conly	841,937	Jan. 22	4304	928	126	1216
Bearing. Roller-	M. S. Conly	841,938	Jan. 22	4306	928	126	1216
Beating-engine	E. A. Jones	841,981	Jan. 22	4392	947	126	1237
Bed-fasteners. Manufacturing double-hook sheet-metal	J. E. MacMurray	841,798	Jan. 22	4031	870	126	1150
Bed-spring	J. McPherson and R. Hooker	841,808	Jan. 22	4048	873	126	1154
Bed-spring tightener	G. W. McCall	841,804	Jan. 22	4042	872	126	1152
Belt. Driving-	J. A. Ferguson	841,680	Jan. 22	3788	823	126	1086
Binder. Loose-leaf	W. M. Barsachs	841,920	Jan. 22	4281	922	126	1210
Binder or holder for cards, &c	F. C. Storrs	841,823	Jan. 22	4093	880	126	1166
Binder. Temporary	L. M. Morden	841,705	Jan. 22	3836	834	126	1099
Blacking-dauber	E. J. Hebert	841,963	Jan. 22	4351	939	126	1227
Block-molding machine	P. Olson	842,109	Jan. 22	4632	993–4	126	1294
Blotter-holder	A. F. Watson	842,041	Jan. 22	4509	969	126	1265
Boat. Submarine	R. H. Goldsborough	842,146	Jan. 22	4727	1010–11	126	1318
Boiler:							
See Flash-boiler. Steam-boiler. Horizontal boiler. Water-tube boiler.	M. Assen and F. P. Elkmann, Jr.	841,917	Jan. 22	4275	921	126	1208
Boiler-tube cleaners. Guide-casing for	H. Lemp	841,791	Jan. 22	4015	868	126	1146
Boilers. Accumulator for flash-	L. M. Morden	841,706	Jan. 22	3837	834	126	1099
Book-ring with spring-hinged joint	A. W. Richardson	841,896	Jan. 22	4241	913	126	1201
Bottle	A. A. Cowles	841,668	Jan. 22	3753	815	126	1076
Bottle-closure	J. T. Gilmer	842,145	Jan. 22	4725	1010	126	1318
Bottle-closure	J. T. Gilmer	841,860	Jan. 22	4168	897	126	1186
Bottle. Non-refillable	J. W. Woodard	842,050	Jan. 22	4524	973	126	1268
Bottle. Non-refillable							
Box:							
See Tobacco-box.							
Brace:							
See Fence-post brace.							
Bracelet	F. G. Hodges	841,865	Jan. 22	4175	899	126	1188
Bracelet-catch	W. Wallenthin	841,909	Jan. 22	4258	917	126	1205
Bracket:							
See Scaffolding-bracket. Shade-roller bracket. Shade-roll bracket.							
Bracket	R. H. Quick	841,716	Jan. 22	3854	838	126	1103
Brake:							
See Air-brake. Electric brake. Automatic brake.	V. B. Lamb	841,694	Jan. 22	3812	830	126	1092
Brake	V. B. Lamb	841,695	Jan. 22	3816	830	126	1094
Brake	E. M. Akers	841,842	Jan. 22	4130	880	126	1176
Brake-lever	L. A. Hoerr	841,781	Jan. 22	3997	863	126	1140
Brake-rod	J. J. Gledhill	841,683	Jan. 22	3791	824	126	1087
Brick-carrying vehicle	C. K. Weller	842,043	Jan. 22	4512	970	126	1265
Brick-kiln	W. Lammersen	841,788	Jan. 22	4012	867	126	1145
Brick. Means for making stone-faced	F. Beyle	841,923	Jan. 22	4284	924	126	1211
Bridle-strangler	J. S. Robeson	841,718	Jan. 22	3857	.....	126	1104
Briquet and making the same	F. Downing	841,946	Jan. 22	4319	931	126	1219
Brush. Tooth-	D. L. Smith	841,731	Jan. 22	3877	841	126	1109
Buckle	C. E. St. Clair	841,906	Jan. 22	4255	916	126	1204
Buckle	H. H. Baker	841,759	Jan. 22	3947	883	126	1127
Building. Wooden							

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Drg.	Official Gazette. Vol.	Page.
Bushing for air-pin plates	J. F. Chambers	841,665	Jan. 22	3748	814	126	1075
Butter or the like material. Machine for cutting	C. E. and O. W. Roberts	841,818	Jan. 22	4077	877–8	126	1162
Cable-holding clip	A. Andrews and L. M. Galliher	841,914	Jan. 22	4271	920	126	1207
Cable-traction device	I. D. Smead	841,821	Jan. 22	4087	879	126	1165
Calendar. Perpetual	O. W. Dahl	841,669	Jan. 22	3754	815–16	126	1077
Can: *See* Oil-can.							
Cane. Torpedo-	R. Bean	842,061	Jan. 22	4549	978	126	1273
Car-coupling	J. F. McCarthy	841,805	Jan. 22	4043	872	126	1152
Car-coupling	M. A. Brown	841,927	Jan. 22	4298	925	126	1212
Car-coupling	M. A. Brown	842,071	Jan. 22	4565	981	126	1277
Car draft and buffing gear	I. O. Wright and J. H. Farlow	841,757	Jan. 22	3942	853	126	1125
Car. Dumping-	F. Peteler	842,008	Jan. 22	4448	957	126	1250
Car grain-door	L. W. Schreiber	841,900	Jan. 22	4245	914	126	1202
Car side bearing. Railway-	W. White	841,836	Jan. 22	4117	886	126	1173
Carbureter	L. Anderson	842,052	Jan. 22	4530	974–5	126	1269
Card-case	M. Niéll	842,002	Jan. 22	4435	955	126	1247
Card-dealing device	A. G. Higgins	841,966	Jan. 22	4358	940	126	1229
Carriage-bow support	E. W. Bedinger, Jr	842,063	Jan. 22	4553	978	126	1274
Carriages. Sleigh attachment for children's	W. E. Kidder	841,786	Jan. 22	4005	865–6	126	1142
Carrier: *See* Gravity-carrier.							
Cart. Refuse-	J. Ochsner	841,711	Jan. 22	3849	837	126	1102
Case: *See* Card-case. Receipt-holding case.							
Cattle-guard	J. Knowles	841,693	Jan. 22	3810	829	126	1091
Centrifugal separator	E. W. Broomall	841,925	Jan. 22	4287	924	126	1211
Chair: *See* Child's chair. Rail-chair.							
Chair-leg fastener	W. L. Playman	841,715	Jan. 22	3853	838	126	1103
Cheese-mill	E. E. Miller	841,997	Jan. 22	4428	954	126	1245
Child's chair	H. Linden	841,700	Jan. 22	3829	832	126	1097
Chopper: *See* Cotton-chopper.							
Chuck. Drill-	W. H. Adams	841,758	Jan. 22	3946	853	126	1127
Churn-dasher	J. F. Bertram	841,661	Jan. 22	3742	813	126	1074
Cinder-mill	W. W. Sly	841,728	Jan. 22	3872	840–1	126	1107
Circuit-closer	E. S. Clayton	842,062	Jan. 22	4581	985	126	1281
Circuit panel. Multiple-	H. T. Paiste	842,110	Jan. 22	4634	994–5	126	1294
Clamp: *See* Pipe-clamp.							
Cleaner: *See* Walk-cleaner.							
Clip: *See* Cable-holding clip.							
Clothes-line apparatus	G. A. Demarest	842,085	Jan. 22	4585	986	126	1282
Clothes-line reel	J. P. Thorn	841,907	Jan. 22	4256	917	126	1204
Clutch. Friction-	N. W. Baechie	841,650	Jan. 22	3738	812	126	1072
Cock. Angle-	E. McCormick and H. C. Roggenkamp.	841,806	Jan. 22	4044	872–3	126	1153
Code or cipher system	C. W. McDonald	842,106	Jan. 22	4628	993	126	1292
Coffee-drier	C. A. Hege	841,964	Jan. 22	4351	939–40	126	1227
Coin-receptacle	W. H. Woolums	841,756	Jan. 22	3938	852	126	1124
Combination-lock	B. S. Burnett	842,076	Jan. 22	4573	982–3	126	1279
Compass-light	A. C. Glover and W. E. Hadlock	842,092	Jan. 22	4595	987	126	1284
Composite or concrete walls. Constructing	D. W. Bovee	842,068	Jan. 22	4562	980	126	1276
Computing-machine	A. S. Dennis	842,128	Jan. 22	4708	1008	126	1315
Concrete structures. Means for use in erecting metal-	J. Spelman	841,904	Jan. 22	4261	915–16	126	1203
Concrete walls. Constructing	V. S. Vaughan	841,829	Jan. 22	4103	883	126	1169
Concrete walls. Mold for constructing hollow	H. J. Houpt	841,867	Jan. 22	4178	900	1 26	1189
Condensation-water to the generator. Means for returning	W. Weckerle	841,748	Jan. 22	3922	849	126	1119
Conveyer. Cable	U. A. Garred	841,858	Jan. 22	4160	896–7	126	1184
Conveyer. Circular floor	J. C. Barr	842,056	Jan. 22	4540	976	126	1271
Cooking-utensil scraper	H. E. Bryan	842,074	Jan. 22	4570	982	126	1278
Copy-holder. Stenographer's	A. B. Reid	842,115	Jan. 22	4647	998	126	1298
Corn-popper	J. Hodge	841,909	Jan. 22	4264	941	126	1230
Cotton chopper and cultivator	J. Franklin	841,956	Jan. 22	4340	936	126	1225
Cotton-gin attachment	G. W. Long	842,101	Jan. 22	4617	991	126	1289
Cotton-picker	N. M. Henderson	841,687	Jan. 22	3801	827–8	126	1089
Coupling: *See* Car-coupling. Pump-coupling. Pipe-coupling.							
Crane. Ash-handling	C. R. Ord	842,005	Jan. 22	4443	956	126	1249
Crane. Gauntree-	G. A. True	841,827	Jan. 22	4098	881–2	126	1167
Crane. Overhead traveling	C. L. Taylor	841,737	Jan. 22	3892	844	126	1113
Crane. Traveling conveyer-	J. W. Orrock	841,712	Jan. 22	3849	837	126	1102
Cuff-pin	F. E. Farnham	841,772	Jan. 22	3977	858	126	1135
Cultivator	F. W. Zastrow	841,840	Jan. 22	4128	889	126	1176
Cultivator-hopple	W. H. Reeves	841,895	Jan. 22	4239	912–13	126	1201
Current-motor connected in cascade system. Rotary	C. de Kandó	841,874	Jan. 22	4196	904	126	1191
Curtain-fixture	C. L. Hopkins	841,971	Jan. 22	4388	942	126	1231
Curtain-fixture	I. L. Hotaling	842,148	Jan. 22	4734	1012	126	1330
Curtain-fixture	I. L. Hotaling	842,149	Jan. 22	4736	1012	126	1330
Cutter: *See* Weed-cutter.							
Cutting-tool	C. T. Ridgely	842,013	Jan. 22	4458	958	126	1252
Cutting-tool	C. T. Ridgely and J. Pfiefer	842,014	Jan. 22	4461	959	126	1253
Dash-pot	A. W. Barnard	842,055	Jan. 22	4535	976	126	1271
Dental flask-press	J. F. Hardy	841,962	Jan. 22	4349	938	126	1227
Dental plugger	S. G. Perry	842,112	Jan. 22	4638	995	126	1295
Derrick. Hoisting-	J. Bass	842,057	Jan. 22	4542	976	126	1272
Desiccating plant	E. W. Cooke	841,939	Jan. 22	4299	929	126	1216
Desk-lap-	F. C. Russell	842,018	Jan. 22	4466	960	126	1255
Desk-school-	L. H. Campbell	841,766	Jan. 22	4093	885	126	1131
Desk-school-	J. P. Garber	841,775	Jan. 22	4262	880	126	1136
Dog mechanism	E. Einfeldt	841,950	Jan. 22	4227	902–3	126	1221
Drilling engine	G. D. Hunter	842,150	Jan. 22	4736	1013	126	1321

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Drg.	Official Gazette. Vol.	Page.
Display device	L. W. Plummer	841,813	Jan. 22	4066	876	126	1159
Display-hanger	R. O. Doughty	841,945	Jan. 22	4318	930	126	1219
Dividers. Center for	G. E. Perry	841,713	Jan. 22	3851	837	126	1102
Door	F. A. Lang	841,696	Jan. 22	3819	831	126	1095
Door-check	R. R. Smith	842,121	Jan. 22	4661	1001	126	1301
Door fastener. Sliding-	L. A. West	841,910	Jan. 22	4260	917	126	1205
Door-opener	H. D. Clark	842,081	Jan. 22	4581	984	126	1281
Door. Sheet-metal	J. Tyra	841,908	Jan. 22	4257	917	126	1205
Draft-equalizer	W. R. Campbell	841,930	Jan. 22	4292	926	126	1213
Drafting apparatus	T. F. Williams	842,047	Jan. 22	4519	972	126	1267
Drafting instrument	C. A. Gee	842,144	Jan. 22	4724	1010	126	1318
Draw-bar-locking mechanism	A. N. Manross	842,153	Jan. 22	4743	1013–14	126	1322
Dress-shield fastener	S. A. Duncan	842,087	Jan. 22	4587	986	126	1282
Drier: *See* Coffee-drier.							
Drier	C. W. Schwartz, Jr	842,025	Jan. 22	4483	963	126	1258
Drill: *See* Hydraulic drill.							
Drill scraper. Disk-	S. E. Davis	841,768	Jan. 22	3969	857	126	1132
Drop-flask	W. H. Greifenhagen	841,684	Jan. 22	3794	825	126	1088
Dust. Separator for apparatus for removing	D. T. Kenney	841,984	Jan. 22	4401	948	126	1238
Dye and making same. Blue sulfur	A. L. Laska and G. List	841,877	Jan. 22	4200	.....	126	1192
Dye. Red tetrazo	H. Witter	842,048	Jan. 22	4521	.....	126	1268
Dyeing textile fabrics	E. Spatz	842,122	Jan. 22	4663	1001	126	1302
Ear-drum. Artificial	A. Loers	841,988	Jan. 22	4407	950	126	1239
Electric brake	F. C. Newell	841,709	Jan. 22	3840	835–6	126	1100
Electric brake	F. C. Newell and E. H. Dewson	841,710	Jan. 22	3846	836	126	1101
Electric signal	W. F. Dreer	841,855	Jan. 22	4155	895	126	1183
Electrolytic apparatus	J. H. Ryan	841,720	Jan. 22	3860	839	126	1104
Electrothermal protector	F. B. Cook	841,849	Jan. 22	4143	893	126	1180
Engine: *See* Beating-engine. Rotary engine. Direct-acting engine. Internal-combustion engine.							
Engine	A. Ball and T. Officer	842,127	Jan. 22	4670	1002–3	126	1303
Engine	A. Ball	842,128	Jan. 22	4674	1003	126	1304
Engine-cylinders. Jacketing system for	A. P. Brush	841,846	Jan. 22	4136	891	126	1178
Engine-starting mechanism. Hydrocarbon-	J. O. Hobbs	841,780	Jan. 22	3994	862	126	1139
Engines. Electric sparker for gas-	R. P. Ralston	841,816	Jan. 22	4073	877	126	1161
Engines. Gas-explosive device and compressor for reversible	C. M. Gay	841,859	Jan. 22	4163	897	126	1185
Engines. Single-eccentric reversing-gear for steam-	S. M. Coffman	841,934	Jan. 22	4299	927	126	1215
Engraving-machine	W. Armstrong	841,656	Jan. 22	3733	810–11	126	1071
Envelop and package-wrap closure	R. R. Lawson	841,669	Jan. 22	3827	832	126	1097
Evening and grading machine	E. P. Nichols	841,809	Jan. 22	4050	874	126	1154
Extension-table	W. M. Jost	841,784	Jan. 22	4003	865	126	1141
Eyeglass-mounting	N. M. Baker	841,919	Jan. 22	4280	922	126	1210
Fare registers and recorders. Operating mechanism for	D. B. Whistler	842,045	Jan. 22	4516	971	126	1266
Faucet. Water-	W. G. Rowell	842,017	Jan. 22	4466	960	126	1254
Feed-water heater	J. Dodge	841,674	Jan. 22	3764	817	126	1079
Feeding device. Stock-	A. W. Harvey	841,864	Jan. 22	4174	899	126	1188
Fence-post	J. W. Hamilton and W. Gwinnup	841,777	Jan. 22	3987	860	126	1138
Fence-post brace	A. A. Callais	842,078	Jan. 22	4576	983	126	1279
Fender	S. D. Oharra	842,004	Jan. 22	4442	955	126	1249
Filing-machine file-holder	J. A. Dennis	841,671	Jan. 22	3759	816	126	1078
Fills, embankments, &c. Method of and apparatus for making	W. M. Hoover	841,970	Jan. 22	4366	941	126	1231
Filter or other receiver with chemically-treated fluid. Device for supplying a	J. R. Elfreth	842,088	Jan. 22	4589	986	126	1283
Fire-extinguishers. Valve for automatic	M. Andrews	841,915	Jan. 22	4271	920	126	1208
Firearm. Magazine repeating	E. Dehm	841,670	Jan. 22	3757	816	126	1077
Firearms. Set-lock for	J. J. McGillivray	841,807	Jan. 22	4047	873	126	1154
Fireproof material. Making	J. R. and A. Wells	841,749	Jan. 22	3923	849	126	1119
Fish-hook	W. J. Evans	841,951	Jan. 22	4330	933	126	1222
Fish-ladder	T. Branch	841,662	Jan. 22	3743	813	126	1074
Fish-reel	J. Pepper, Jr	841,890	Jan. 22	4226	910–11	126	1197
Fishing-line reel	C. W. Smith	841,730	Jan. 22	3876	841	126	1108
Fishing-reel	T. J. Llewellyn and J. E. Pflueger	841,796	Jan. 22	4028	870	126	1149
Fishing-rod	L. L. Bartlett	841,761	Jan. 22	3954	854	126	1129
Flash-boiler	H. Lemp	841,792	Jan. 22	4018	869	126	1146
Flask: *See* Drop-flask.							
Flooring. Tile	L. W. Mulford	841,998	Jan. 22	4429	954	126	1246
Flue or chimney cap. Adjustable	J. M. Barnes	841,660	Jan. 22	3741	812	126	1073
Fluid-forcing apparatus	E. Richter	842,012	Jan. 22	4456	958	126	1252
Fluid-pressure suction apparatus	E. S. E. von Lindenstamm	842,100	Jan. 22	4616	990	126	1289
Foot-rest and towel-rack. Combined	F. H. Patrick	841,889	Jan. 22	4225	910	126	1197
Formaldehyde sulfoxylates. Making	R. Müller and W. Wollenberg	841,999	Jan. 22	4432	.....	126	1246
Furnace: *See* Melting or reducing furnace. Recuperative furnace. Warm-air furnace.							
Furnace	L. A. Dolifus	841,944	Jan. 22	4317	930	126	1219
Furnace	J. Downing	841,947	Jan. 22	4320	931	126	1220
Furnaces. Device for feeding comminuted material to	C. G. Smith	842,034	Jan. 22	4500	967	126	1262
Furniture unit. Interchangeable	D. E. Hunter	841,872	Jan. 22	4193	903	126	1191
Gage: *See* Alarm-gage. Printing-gage.							
Gaging the thickness of material. Machine for	M. C. and A. Wells	842,044	Jan. 22	4513	971	126	1266
Game	H. T. Hughes	842,096	Jan. 22	4609	989	126	1287
Game apparatus	J. S. Dearborn	841,770	Jan. 22	3973	858	126	1133
Game apparatus	J. H. Cole	841,936	Jan. 22	4303	928	126	1215
Garment	B. Freedman	841,856	Jan. 22	4157	895–6	126	1183
Garment-fastener	F. J. Spencer	841,734	Jan. 22	3884	842	126	1110
Garment-pads. Apparatus for making	G. Goldman	842,093	Jan. 22	4596	988	126	1285
Gas apparatus	C. W. Hinman and W. F. Wellman.	841,779	Jan. 22	3989	861–2	126	1138
Gas apparatus. Acetylene-	F. M. Moore	841,803	Jan. 22	4037	871–2	126	1151

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Gate:							
See Railway-crossing gate.							
Gear. Reversing and variable-speed	J. O. Hobbs. (Reissue)	12,600	Jan. 22	4761	1017–18	126	1327
Gear. Variable friction	J. R. Crabill	841,850	Jan. 22	4146	893	126	1180
Gearing. Equalizing	A. A. Fuller	841,774	Jan. 22	3981	859	126	1136
Generators and burners. System of regulation for	A. A. Ball, Jr.	841 760	Jan. 22	3948	853	126	1127
Gin-feeder	S. E. Thomas	841,825	Jan. 22	4095	881	126	1167
Glass-gathering machine	W. Alles	842,051	Jan. 22	4525	973–4	126	1269
Glass. Manufacture of sheet	J. Wharton	841,752	Jan. 22	3928	850–1	126	1120
Gold and gold-silver ores. Treating	J. A. Just	841,983	Jan. 22	4396	.....	126	1237
Governor	W. N. Rumely and C. N. Walsh	841,819	Jan. 22	4063	878	126	1164
Governor. Centrifugal	C. N. Walsh and W. N. Rumeley	841,832	Jan. 22	4100	884	126	1170
Grain. Cleaning	W. R. Reid	842,116	Jan. 22	4660	999	126	1299
Grain-drill distributing device	F. R. Packham and G. P. Oates	841,887	Jan. 22	4222	909–10	126	1196
Grain-drill tube	F. R. Packham and G. P. Oates	841,888	Jan. 22	4224	910	126	1197
Grates. Crown top for	J. E. Ward	842,040	Jan. 22	4508	969	126	1264
Gravity-carrier	R. P. Mathews and C. H. Lister	842,155	Jan. 22	4748	1014	126	1324
Gravity-carrier	R. P. Mathews and C. H. Lister	842,156	Jan. 22	4750	1015	126	1324
Grinding and polishing composition	C. H. Snyder	841,903	Jan. 22	4260	.....	126	1203
Grinding and separating fine materials. Apparatus for	T. A. Edison	841,677	Jan. 22	3777	820	126	1083
Gun. Air-	P. H. Quackenbush	841,815	Jan. 22	4059	876–7	126	1160
Hammer. Electrically-operated	R. P. Irving	841,975	Jan. 22	4378	943	126	1232
Handle:							
See Saw-handle.							
Hanger:							
See Display-hanger.							
Harrow	W. G. Beaty	841,922	Jan. 22	4283	923	126	1210
Harvester	G. A. Kahl	841,785	Jan. 22	4004	865	126	1142
Harvester. Beet-	J. F. Sandberg	842,021	Jan. 22	4471	961–2	126	1256
Harvesting and husking mechanism. Corn	H. Steiner	841,822	Jan. 22	4060	879–80	126	1166
Harvesting machine. Corn-	R. C. E. Moore	841,704	Jan. 27	3834	833–4	126	1099
Hasp	J. C. Morgan	842,104	Jan. 22	4626	992	126	1292
Hay-press	A. E. Müller	841,882	Jan. 22	4206	907–8	126	1193
Hay-rack and wagon-body. Combination	J. T. Warwick	841,745	Jan. 22	3908	848	126	1117
Hay-rake	D. Plattner	841,802	Jan. 22	4233	911	126	1199
Heat-controller. Automatic	J. Jessen	841,978	Jan 22	4380	944–6	126	1234
Heater:							
See Feed-water heater.							
Heddles. Machine for the manufacture of	W. Fehr	841,679	Jan. 22	3780	821–3	126	1084
Heel for boots and shoes	H. M. Colditz	841,935	Jan. 22	4301	928	126	1215
Hides, &c. Drying apparatus for	G. W. Hollis	841,866	Jan. 22	4176	899	126	1188
Hoe. Weeding-	J. McClure	841,708	Jan. 22	3840	835	126	1100
Hoisting apparatus	C. W. Hunt	841,870	Jan. 22	4188	901	126	1190
Hook:							
See Fish-hook. Telephone switch-hook.							
Hook	E. J. Hebert	842,095	Jan. 22	4908	989	126	1287
Horizontal boiler	J. C. Parker	842,008	Jan. 22	4445	966	126	1250
Hose-supporter	H. E. Crandall	841,940	Jan. 22	4312	929	126	1218
Hydraulic drill	W. Wolski	842,049	Jan. 22	4522	972	126	1268
Hydraulic-press multiplicator	C. Huber	841,972	Jan. 22	4369	942	126	1232
Ice-making apparatus	D. J. Havenstrite	842,147	Jan. 22	4731	1011–12	126	1319
Illuminating apparatus	N. D. Bishop	841,765	Jan. 22	3969	855	126	1130
Impermeable mass. Manufacture of an	E. Kolbassieff	841,875	Jan. 22	4197	904	126	1191
Infolding-machine	G. J. Dormandy	841,675	Jan. 22	3770	818–20	126	1082
Insect-exterminator	J. Sullivan	841,905	Jan. 22	4254	916	126	1204
Internal-combustion engine	F. Wackenhuth	841,830	Jan. 22	4104	883	126	1169
Invalids or the like. Device for handling, lifting, or supporting	T. A. Martin	841,702	Jan. 22	3832	833	126	1098
Iodin preparation. Organic	E. Fischer	842,140	Jan. 22	4712	.....	126	1315
Joint:							
See Pin-joint. Universal joint. Rail-joint.							
Journal-box and lid	S. J. Johnson	842,152	Jan. 22	4741	1013	126	1322
Kettle	M. E. French	841,681	Jan. 22	3786	824	126	1066
Keyless lock	A. Lochner	841,797	Jan. 22	4029	870	126	1149
Kiln:							
See Brick-kiln.							
Kiln	G. Larson	841,789	Jan. 22	4013	867–8	126	1145
Kiln	P. Chmelewski	841,847	Jan. 22	4130	891–2	126	1179
Knitting-machine needle	W. S. Elder	841,678	Jan. 22	3779	820	126	1064
Labels. Container for rolls of perforated	C. Grundig	841,862	Jan. 22	4171	898	126	1187
Lamp, &c	G. Maris	841,799	Jan. 22	4032	870	126	1150
Lamp. Electric-arc	B. L. Scott	841,820	Jan. 22	4085	878	126	1165
Lamp. Gasolene-	W. C. Coleman	841,667	Jan. 22	3752	815	126	1076
Lamp. Vehicle-	C. L. Betts	841,845	Jan. 22	4135	891	126	1178
Lamps. Receptacle for incandescent electric	B. E. Salisbury	842,020	Jan. 22	4470	960	126	1255
Last	A. F. Seymour	841,725	Jan 22	3888	839	126	1106
Last	J. J. Smith	841,732	Jan. 22	3890	842	126	1110
Latch. Gate-	C. F. Williams	842,046	Jan. 22	4518	972	126	1267
Latch. Roller-	G. J. Record	842,009	Jan. 22	4451	957	126	1251
Lathes. Apparatus for holding crank-shaft pins in turning-	A. Tindel	841,826	Jan. 22	4098	881	126	1167
Leather seasoning and finishing machine	F. F. Slocomb	842,031	Jan. 22	4491	964–6	126	1259
Ledger-plate fastener	F. B. Rogers	841,898	Jan. 22	4244	913	126	1202
Level	A. G. Beckman and J. S. Schell	842,082	Jan. 22	4882	978	126	1274
Leveling apparatus	C. L. Hower	841,868	Jan. 22	4180	900	126	1189
Leveling apparatus	C. L. Hower	841,869	Jan. 22	4184	901	126	1189
Light:							
See Compass-light.							
Lining-tube	F. W. Walquist	841,744	Jan. 22	3908	847–8	126	1116
Liquid-separator	G. W. Dixon	842,086	Jan. 22	4886	986	126	1282
Liquids. Regulator for automatically controlling the flow and temperature of	W. C. Ricketts	841,817	Jan. 22	4074	877	126	1161
Lock-							
See Combination-lock. Nut-lock. Keyless lock.							
Lock and latch. Combined	G. W. Himler	841,967	Jan. 22	4260	949	126	1229
Locking-switch. Key-operated	J. Bernet	841,844	Jan. 22	4132	890	126	1177
Log-raft gear	B. S. Spaulding	842,035	Jan. 22	4881	987	126	1282

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Logging device	W. M. Shaw	841,726	Jan. 22	3869	840	126	1106
Loom-filling-detecting mechanism	C. F. Roper	842,117	Jan. 22	4652	999	126	1299
Loom-shuttle	J. C. Brooks	842,133	Jan. 22	4699	1006	126	1313
Loom shuttle-check	W. B. Harris	841,863	Jan. 22	4173	898	126	1187
Lung and throat diseases. Apparatus for the treatment of	C. S. James	841,782	Jan. 22	3998	863	126	1140
Macaroni-machines. Cylinder for	N. D'Agostino	841,852	Jan. 22	4151	894	126	1182
Mail-bag-delivery device	P. J. A. Schnoor	842,023	Jan. 22	4478	962	126	1257
Map exhibitor. Road-	H. Metcalfe	841,800	Jan. 22	4033	871	126	1150
Matting. Straw	F. E. Arrouquier	842,053	Jan. 22	4533	975	126	1270
Melting or reducing furnace. Electric	G. C. Landis	842,099	Jan. 22	4613	990	126	1288
Metal-bar-shaping apparatus	E. Einfeldt	841,949	Jan. 22	4324	932	126	1220
Metal-cutting machine	H. John	841,979	Jan. 22	4385	946	126	1235
Metal-plate bending or forming machine	J. R. Williams	841,838	Jan. 22	4118	887–8	126	1174
Metals. Production of alkali	G. O. Seward and F. von Kügelgen.	841,724	Jan. 22	3867	.....	126	1105
Metallic tie	J. C. Schafer	841,899	Jan. 22	4244	914	126	1202
Metallic tie	J. W. Hulbert	841,973	Jan. 22	4370	942	126	1232
Mill:							
See Ball-mill. Pebble-mill. Cheese-mill. Windmill. Cinder-mill.							
Moistener-pad	H. N. Northrop	842,108	Jan. 22	4631	993	126	1293
Molding-machine	F. F. Martin	841,880	Jan. 22	4203	906	126	1193
Motor:							
See Current-motor.							
Music-stand	J. F. Fitz Simmons	841,953	Jan. 22	4336	935	126	1224
Musical instruments. Registering mechanism for the tracker-boards of	W. B. Tunstall	841,740	Jan. 22	3897	845	126	1114
Musical instruments. Reversing and rewinding mechanism for automatic	T. P. Brown	842,072	Jan. 22	4567	981	126	1277
Nest and hatching-coop. Hen's	H. J. Mier and D. Beames	841,995	Jan. 22	4424	953	126	1244
Nitroglycerin. Manufacture of	F. L. Nathan, J. M. Thomson, W. Rintoul, and A. Scott.	841,886	Jan. 22	4221	.....	126	1196
Nut-lock	A. J. Hodges	841,688	Jan. 22	3803	828	126	1089
Nut-lock	J. M. Sias	842,029	Jan. 22	4487	964	126	1259
Nut-lock	E. L. Pitts	842,113	Jan. 22	4640	996	126	1296
Nut-lock	C. Schaaf	842,022	Jan. 22	4476	962	126	1257
Oil-can	J. H. Ryan	841,721	Jan. 22	3802	.....	126	1105
Ores. Treating	C. A. Diehl and W. Koehler	842,139	Jan. 22	4711	.....	126	1315
Ores. Treating	L. V. Atkinson	841,657	Jan. 22	3736	811	126	1072
Ores. Treating refractory	C. W. Sweet	841,824	Jan. 22	4094	880	126	1166
Overalls	A. W. Gray	841,960	Jan. 22	4345	937	126	1226
Packing for rotary stems	J. F. Finan	842,090	Jan. 22	4592	987	126	1284
Pad:							
See Moistener-pad.							
Paper-roll holder and cutter	M. F. Abbé	841,913	Jan. 22	4270	919–20	126	1207
Pebble-mill	A. W. Barnard	842,130	Jan. 22	4681	1004	126	1306
Pendulum	J. C. Johnson	841,873	Jan. 22	4195	904	126	1191
Penholder	H. G. Bauman	842,059	Jan. 22	4544	977	126	1272
Phonograph	C. C. Shigley	841,727	Jan. 22	3870	840	126	1107
Phonographic records. Mandrel for	E. de Kleist	841,787	Jan. 22	4010	806–7	126	1144
Piano. Automatic	O. Bates	841,762	Jan. 22	3955	854	126	1129
Picker:							
See Cotton-picker.							
Pile	F. W. Skinner	842,120	Jan. 22	4000	1001	126	1301
Piling	F. E. Farnham	841 771	Jan. 22	3975	858	126	1134
Pin:							
See Cuff-pin.							
Pin-joint	H. A. Pedrick and C. A. Smith	842,111	Jan. 22	4637	995	126	1295
Pipe-bending machine	R. Parker	842,007	Jan. 22	4447	957	126	1250
Pipe-clamp	A. T. Schlichting	841,722	Jan. 22	3864	839	126	1105
Pipe-cleansing apparatus	J. H. Montle	841 881	Jan. 22	4205	907	126	1193
Pipe-coupling	W. W. Price	841,814	Jan. 22	4067	876	126	1159
Pipe-couplings. Clamping-ring for	S. W. Miller	841 703	Jan. 22	3833	833	126	1098
Piston	J. R. Jordan and C. B. Pate	841 982	Jan. 22	4395	948	126	1237
Planter. Corn-	A. S. Beymer	842,066	Jan. 22	4558	979	126	1275
Planters. Furrow-opener for seed-	R. P. Warner	841,833	Jan. 22	4111	884–5	126	1171
Planting machine. Root-	W. T. Sears	841,723	Jan. 22	3865	839	126	1106
Post:							
See Fence-post.							
Pot:							
See Dash-pot.							
Power-transmission device	B. E. Tritt	841,739	Jan. 22	3894	844	126	1113
Power-transmitting and speed-governing device							
Press:							
See Baling-press. Hay-press. Dental flask-press. Printing-press.							
Press and feeding device therefor. Cotton, wool, hay, &c.,	W. M. Holmes	841,689	Jan. 22	3804	828	126	1089
Press-bridge	W. H. H. Musick	841,884	Jan. 22	4217	908	126	1195
Printing and bronzing machine	F. R. Harris	841,685	Jan. 22	3795	825–6	126	1088
Printing-gage	W. Duke, Sr. and Jr	841,948	Jan. 22	4322	931	126	1220
Printing machine. Reciprocating-cylinder web-	H. A. W. Wood	841,911	Jan. 22	4261	918–19	126	1205
Printing. Photomechanical color-	F. Münch	841,883	Jan. 22	4216	.....	126	1195
Printing-press	R. T. Johnston	841,980	Jan. 22	4390	947	126	1236
Projectile	C. V. Wheeler and A. G. McKenna	841,753	Jan. 22	3932	851	126	1122
Projectile for hand-firearms	A. Gleinich	841,861	Jan. 22	4171	898	126	1187
Prune-shaping machine	A. C Burdick	842,075	Jan. 22	4571	982	126	1278
Pulley	G. A. Gilbert	841,682	Jan. 22	3789	824	126	1087
Pulverizer and sampler. Combined	O. C. Beach and A. L. Buzzell	841,921	Jan. 22	4282	923	126	1210
Pump and valve-controlling mechanism therefor	S. C. Carpenter	842,080	Jan. 22	4578	984	126	1280
Pump-coupling	G. B. Murray	841,707	Jan. 22	3839	834	126	1099
Pump. Pneumatic	J. Funck	842,142	Jan. 22	4715	1009	126	1316
Purse. Coin-	C. F. Wallerstedt	842,037	Jan. 22	4205	908	126	1264
Rack:							
See Hay-rack. Straw-rack.							
Rack	S. Jakubowski	841,977	Jan. 22	4379	944	126	1234
Radiator	W. R. Kinnear	841,985	Jan. 22	4402	948–9	126	1236
Rail-chair	G. W. Williams	841,937	Jan. 22	4118	888	126	1173
Rail-joint	J. W. Webb	841,746	Jan. 22	3910	848	126	1117

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Railway-crossing gate. Automatic	A. M. Sanders and S. Van Dusen	842,118	Jan. 22	4656	999–1000	126	1300
Railway-rail	M. W. Trimble	842,124	Jan. 22	4666	1002	126	1303
Railway-switch	C. Larocque	841,876	Jan. 22	4198	905	126	1192
Railway-switch. Frogless	T. W. Harber	841,778	Jan. 22	3987	861	126	1138
Railway-tie	C. B. Van Horn and D. Townsend	841,742	Jan. 22	3901	845–6	126	1115
Rake:							
See Hay-rake.							
Ratchet-wrench	W. B. Walt	842,039	Jan. 22	4506	968–9	126	
Razor. Safety-	C. F. Smith	841,729	Jan. 22	3974	841	126	1264
Razor. Safety-	F. H. Arnold	841,916	Jan. 22	4274	921	126	1106
Razor. Safety-	J. R. Curley	841,942	Jan. 22	4314	930	126	1208
Razor. Safety-	J. T. McCann	842,000	Jan. 22	4423	954	126	1218
Receipt-holding case	J. S. Dodsworth	841,943	Jan. 22	4316	930	126	1246
Receptacle-closure. Automatic	A. Priebe	841,803	Jan. 22	4235	912	126	1218
Receptacle. Traveling-	M. A. Shumard	841,902	Jan. 22	4246	914–15	126	1190
Recording apparatus	R. S. Blair	842,132	Jan. 22	4689	1006	126	1203
Recuperative furnace	F. Bredel	841,663	Jan. 22	3744	813	126	1308
Recuperative furnace	F. Bredel	841,664	Jan. 22	3746	814	126	1074
Reel:							1075
See Clothes-line reel. Fishing-reel. Fish-reel. Fishing-line reel.							
Reel	J. Pepper, Jr.	841,891	Jan. 22	4230	911	126	1198
Regulator:							
See Speed-regulator.							
Rein check or stop	S. B. Anderson	841,843	Jan. 22	4132	890	126	1177
Reinforcing-bar	G. E. Vandenburgh	841,741	Jan. 22	3900	845	126	1115
Rewinding-machines, &c. Web-guide for	R. Mason	841,994	Jan. 22	4421	952–3	126	1243
Rifle-sampler. Multiple	E. W. Buskett	841,928	Jan. 22	4289	925	126	1212
Ring:							
See Book-ring.							
Rod:							
See Brake-rod. Fishing-rod.							
Roofs and the like. Covering for	E. B. Campbell	842,079	Jan. 22	4577	983	126	1280
Rotary engine	C. Graesicke	841,776	Jan. 22	3984	860	126	1136
Rotary engine	C. Lecalme	841,987	Jan. 22	4405	950	126	1239
Sash-fastener	G. W. Adamson	841,665	Jan. 22	3732	810	126	1071
Sash raising and locking device	P. J. O'Brien	841,810	Jan. 22	4061	875	126	1158
Saw-handle. Detachable	C. F. Frazee	842,141	Jan. 22	4713	1008	126	1315
Scaffold	D. P. Chesebro	841,932	Jan. 22	4294	926	126	1213
Scaffolding-bracket. Folding	W. A. Smyrk	841,733	Jan. 22	3893	842	126	1110
Scale	A. De Vilbiss, Jr.	841,854	Jan. 22	4153	895	126	1183
Scale. Weighing-	A. W. Barnard	842,131	Jan. 22	4682	1004–5	126	1307
Scissors	E. Holtgrave	841,690	Jan. 22	3807	829	126	1091
Scraper. Revolving drag-	J. Butler	841,929	Jan. 22	4291	925	126	1212
Screw-driver. Removable-blade	S. G. North	842,107	Jan. 22	4630	993	126	1293
Seeder and strainer. Fruit	M. E. Rickman	841,717	Jan. 22	3886	838	126	1103
Separator:							
See Centrifugal separator. Liquid-separator.							
Sewing-machine button-sewing attachment	C. E. Ongley	842,157	Jan. 22	4752	1015	126	1325
Shade-roll bracket and curtain-pole support. Combined	H. A. Bierley	842,067	Jan. 22	4560	979–80	126	1275
Shade-roller bracket	A. H. Fleming	842,091	Jan. 22	4594	987	126	1284
Shoe	G. C. Bemis	841,763	Jan. 22	3957	854	126	1130
Shovel	C. F. Smith	842,032	Jan. 22	4498	966	126	1261
Sleeve-holder	E. J. Vraalstad	842,036	Jan. 22	4503	967–8	126	1263
Sifter. Ash-	M. W. Quirk, Jr.	841,894	Jan. 22	4237	912	126	1200
Sifting or screening apparatus	J. Gentrup	841,959	Jan. 22	4344	937	126	1226
Signal:							
See Electric signal.							
Signal	E. J. Condon	841,767	Jan. 22	3964	856–7	126	1131
Silk and other silk goods. Manufacture of artificial	H. E. A. Vittenet	842,125	Jan. 22	4067	.....	126	1303
Smoke-burning fire-box for stoves, furnaces, and boilers.	J. J. Dockery	841,673	Jan. 22	3762	817	126	1079
Smoke-consumer	O. Aubé and L. M. Tremblay	841,918	Jan. 22	4277	921–2	126	1209
Soap	L. H. Reuter	842,010	Jan. 22	4482	.....	126	1252
Sole-leveling machine	E. E. Winkley	841,839	Jan. 22	4126	888	126	1176
Sound-deadening material	A. V. Ringström	841,897	Jan. 22	4242	913	126	1201
Sound recording and reproducing mechanism	E. F. Shue	842,028	Jan. 22	4695	984	126	1259
Sound-records. Composition for	E. J. B. Brocherioux, P. J. Tochon, A. Fortier, and L. V. Marotte.	842,070	Jan. 22	4565	981	126	1277
Sowing machine. Seed-	M. H. Browning	842,073	Jan. 22	4569	982	126	1278
Spectacle-temple	T. A. Willson	841,755	Jan. 22	3937	852	126	1123
Speed-regulator	P. Weber	842,042	Jan. 22	4510	970	126	1265
Spring:							
See Bed-spring.							
Square. Carpenter's	L. W. Cole	841,666	Jan. 22	3759	815	126	1076
Squirrel-smoker	G. F. Shirrod	841,901	Jan. 22	4247	914	126	1202
Stage. Window-	B. F. Earl	841,676	Jan. 22	3775	820	126	1083
Stamp-affixing machine	W. J. Van Vliet	841,828	Jan. 22	4100	882–3	126	1168
Stanchion	F. W. Franklin	841,955	Jan. 22	4338	936	126	1224
Stand:							
See Music-stand.							
Steam-boiler	H. Schofield	842,024	Jan. 22	4490	963	126	1258
Stirrup	J. V. Levy	841,793	Jan. 22	4024	889	126	1148
Stoker. Mechanical	J. A. Caldwell. (Reissue)	12,508	Jan. 22	4753	1015–16	126	1325
Stovepipe-thimble	J. Stuber	841,736	Jan. 22	3891	844	126	1113
Stoves. Water-heater for cooking-	F. Pelton	841,811	Jan. 22	4063	875	126	1158
Straw-rack. Adjustable	W. A. Garlits and T. Woodard	841,857	Jan. 22	4156	896	126	1184
Strip-severing machine	O. A. Webber	841,834	Jan. 22	4114	885–6	126	1173
Suspenders	J. U. Adams	841,654	Jan. 22	3731	810	126	1071
Swimming-machine	G. T. Hunnewell	841,974	Jan. 22	4372	943	126	1232
Switch:							
See Locking-switch. Railway-switch.							
Syringe. Hypodermic	J. de Lisle	841,701	Jan. 22	3820	833	126	1098
Table. Extension-table.							
Tacking machines. Feeding mechanism for	G. N. Cooper	842,137	Jan. 22	4708	1008	126	1314
Tacking machines. Delivering-horn for	W. J. Litts	841,795	Jan. 22	4027	889	126	1149

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Tap for liquids. Measuring, delivering, and registering	C. Robinson	842,016	Jan. 22	4465	959	126	1254
Telegraph code	C. W. McDonald	841,885	Jan. 22	4219	908–9	126	1196
Telegraph-transmitter	H. G. Martin	842,154	Jan. 22	4745	1014	126	1323
Telegraphic code	A. M. Fisher	841,952	Jan. 22	4331	933–5	126	1222
Telegraphy. Space	S. Cabot	842,134	Jan. 22	4701	1007	126	1313
Telephone switch-hook	R. H. Manson	841,993	Jan. 22	4419	952	126	1243
Telephone trunking-circuits	H. G. Webster	841,747	Jan. 22	3912	848–9	126	1118
Telephone trunking system	W. W. Dean	841,769	Jan. 22	3969	857	126	1133
Tent-stake	P. Pement	841,812	Jan. 22	4064	875	126	1159
Ticket. Commutation railway-	H. N. Delano	841,853	Jan. 22	4152	894	126	1182
Ticket-distributing system. Pneumatic	H. M. Crane	841,851	Jan. 22	4148	983–4	126	1181
Tie:							
See Metallic tie. Railway-tie.							
Tire-clearing device. Pneumatic-	W. R. Frommater	841,958	Jan. 22	4343	937	126	1225
Tire. Vehicle-	F. Hitchcock	841,968	Jan. 22	4362	941	126	1230
Tobacco-box	M. B. Behrman	842,064	Jan. 22	4555	978	126	1274
Tobacco-box	M. B. Behrman	842,065	Jan. 22	4556	979	126	1274
Tobacco-stemming machine	J. H. and L. P. Whitaker	841,754	Jan. 22	3933	851–2	126	1122
Tongue hound. Wagon-	C. P. Smith	842,033	Jan. 22	4499	967	126	1262
Tool	J. B. Kraus	842,098	Jan. 22	4612	990	126	1288
Tools. Testing pneumatic	R. A. Chambers	842,136	Jan. 22	4705	1007	126	1314
Toy	J. H. Sharrett	842,027	Jan. 22	4485	963	126	1259
Toy	G. M. Burnett	842,077	Jan. 22	4575	983	126	1279
Trench-sheeting	A. W. Fitzgerald	841,773	Jan. 22	3979	859	126	1135
Trestle	D. P. Chesebro	841,931	Jan. 22	4294	926	126	1213
Trimmer and roller	C. T. Ridgely	842,015	Jan. 22	4464	959	126	1254
Truck apparatus. Railway-carriage	W. Lautenschläger	841,607	Jan. 22	3824	831	126	1096
Truck. Motor-	F. B. Johnson and J. C. Caps	841,691	Jan. 22	3807	829	126	1091
Truck. Self-propelled car-	J. K. Cochran	841,933	Jan. 22	4296	926–7	126	1214
Trunk. Sample-	G. F. Biggs	841,764	Jan. 22	3958	854	126	1130
Trunk. Transformable	J. A. Lundstrom	841,992	Jan. 22	4418	952	126	1243
Truss. Head-	W. D. Peters	841,714	Jan. 22	3852	837	126	1102
Tube:							
See Grain-drill tube.							
Tubes and the like. Apparatus for manufacturing	S. Frank	841,954	Jan. 22	4337	935	126	1224
Turbine. Steam-	S. Cook	842,083	Jan. 22	4582	985	126	1281
Type-writer with tabulating mechanism	F. W. Hunt	841,871	Jan. 22	4189	901–3	126	1191
Umbrella	P. Green	842,094	Jan. 22	4606	988	126	1287
Universal joint	E. L. P. Mors	842,105	Jan. 22	4627	992	126	1293
Unloading apparatus	U. G. Mignerey	841,996	Jan. 22	4245	953	126	1245
Valve	J. H. Bleoo	841,924	Jan. 22	4285	924	126	1211
Valve for engines. Pressure-actuated	T. Officer and H. H. Mercer	842,003	Jan. 22	4437	935	126	1248
Valve for engines. Pressure-actuated	A. Ball and T. Officer	842,129	Jan. 22	4677	1003	126	1305
Valve for furnaces. Poke-hole	G. Campion and M. Wyant	842,135	Jan. 22	4704	1007	126	1303
Valve for gas and liquid conduits. Automatic check-	F. J. H. Rustige	842,019	Jan. 22	4468	960	126	1255
Valve for locomotives. Relief-	T. E. Beaghan, H. B. Reid, and J. H. Best.	842,060	Jan. 22	4547	977	126	1272
Vanillin. Making	E. L. Froger-Delapierre	841,957	Jan. 22	4341	936–7	126	1225
Vehicle-spring buffer	P. McKay	842,001	Jan. 22	4434	954	126	1247
Vehicle-steering device. Wheeled-	J. W. Love	841,991	Jan. 22	4412	951	126	1241
Vehicle-wheel	H. W. Würth	841,912	Jan. 22	4268	919	126	1207
Vehicles. Disk-wheel for road-	E. Martin	842,102	Jan. 22	4618	991	126	1289
Vending machine. Cigar-	I. H. Garson	842,143	Jan. 22	4717	1009–10	126	1316
Vending-machines. Receiver for coin-controlled	H. O. Jackson	841,976	Jan. 22	4375	944	126	1233
Vessel. Marine	J. F. Gray	841,961	Jan. 22	4347	938	126	1226
Vessel-support	P. H. Weideman	841,835	Jan. 22	4116	886	126	1173
Wagon. Dump-	R. H. MacClernan	841,879	Jan. 22	4202	906	126	1192
Wagon-dumping mechanism	R. Johnson	842,151	Jan. 22	4740	1013	126	1321
Walk-cleaner	G. F. Conner	841,848	Jan. 22	4142	892	126	1179
Warm-air furnace	O. L. Badger	842,126	Jan. 22	4668	1002	126	1303
Washing-machine	C. Lusk	841,878	Jan. 22	4201	905	126	1192
Watch-fob and match-receptacle. Combined	C. F. Wallerstedt	842,038	Jan. 22	4506	968	126	1264
Water-tube boiler	H. Del Mar	842,084	Jan. 22	4583	985	126	1281
Wax-treating apparatus. Paraffin-	N. M. Henderson	841,965	Jan. 22	4356	940	126	1229
Weather-stripping. Metallic	F. L. Bader	841,658	Jan. 22	3737	811	126	1072
Weed-cutter	H. C. Scott	842,119	Jan. 22	4658	1000	126	1301
Weed-cutting attachment	C. H. Line	841,794	Jan. 22	4025	889	126	1149
Wheel:							
See Automobile drive-wheel. Vehicle-wheel.							
Wheel-rim	T. Midgley	841,801	Jan. 22	4034	871	126	1150
Wheel-rim	T. Midgley	841,802	Jan. 22	4036	871	126	1150
Whip	M. O. Felker	842,089	Jan. 22	4590	987	126	1283
Whip-actuating device	G. W. Scott and J. Deady	842,026	Jan. 22	4484	963	126	1258
Windmill	B. F. Mohr	842,054	Jan. 22	4535	975	126	1270
Windmill	E. P. Lehmann	842,103	Jan. 22	4619	991–2	126	1290
Wire to other objects. Means for securing	E. C. Dittmar	841,989	Jan. 22	4408	950	126	1240
Wood-ornamenting machine	A. H. Potbury	841,672	Jan. 22	3759	817	126	1078
Wrapping-machine		842,114	Jan. 22	4642	996–8	126	1296
Wrench:							
See Ratchet-wrench.							
Wrench	J. N. Hatfield	841,686	Jan. 22	3799	827	126	1088
Wrench	F. H. Kanning	841,692	Jan. 22	3808	829	126	1091
Wrench	F. E. Walden	841,831	Jan. 22	4107	884	126	1170
Wrench	E. Lachèze	841,986	Jan. 22	4404	949	126	1239
Wrench							

DESIGNS.

Designs.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Badge	C. H. Wilkins	38,421	Jan. 22	126	1329
Badge or similar article	H. G. Froby	38,420	Jan. 22	126	1329
Cabinet. Kitchen-	J. H. Couper and W. L. Albright	38,425	Jan. 22	126	1330
Chafing-dish	E. A. Gutermann	38,424	Jan. 22	126	1330
Chafing-dish stand	E. A. Gutermann	38,423	Jan. 22	126	1330
Glass vessel. Cut-	H. H. Buckley	38,422	Jan. 22	126	1329
Stove. Cooking-	J. S Van Buren	38,426	Jan. 22	126	1330
Wall-covering	L. Pronberger	38,427	Jan. 22	126	1330

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Ale, stout, and porter	J. & R. Tennent	59,886	Jan. 22	126	1348
Ale, stout, and porter	J. & R. Tennent	59,887	Jan. 22	126	1349
Antiseptic liquor or solution	John Wyeth and Brother	60,028	Jan. 22	126	1352
Antiseptic salve	Kas Mo Remedy Co	60,030	Jan. 22	126	1352
Antiseptic powders and ointments	W. J. McNally	60,037	Jan. 22	126	1352
Antiseptics	Eli Lilly & Company	60,018	Jan. 22	126	1352
Apple-jack, otherwise known as cider-brandy	W. A. French	59,849	Jan. 22	126	1348
Axles. Self-lubricating	New York Dash & Axle Manufacturing Company.	60,041	Jan. 22	126	1353
Balls. Base-	M. Gropper & Sons	60,024	Jan. 22	126	1352
Beer	Muessel Brewing Co	59,891	Jan. 22	126	1349
Beer, ale, and porter	Duluth Brewing & Malting Company.	59,841	Jan. 22	126	1347
Beer, ale, porter, and extract of malt	Duluth Brewing & Malting Company.	59,838	Jan. 22	126	1347
Beer, ale, porter, and extract of malt	Duluth Brewing & Malting Company.	59,839	Jan. 22	126	1347
Beer, ale, porter, and extract of malt	Duluth Brewing & Malting Company.	59,840	Jan. 22	126	1347
Bending, shaping, and forging machines	Williams, White & Company	59,945	Jan. 22	126	1350
Beverages and syrups for making the same. Non-alcoholic carbonated	F. D. Baume	59,835	Jan. 22	126	1347
Beverages. Certain	J. Graf	59,871	Jan. 22	126	1348
Bicycles and parts thereof	Aurora Automatic Machinery Company.	60,006	Jan. 22	126	1352
Bitters	A. Breslauer Company	60,003	Jan. 22	126	1352
Blackboards	E. G. Soltmann	59,955	Jan. 22	126	1350
Blocks or bricks. Boxes of	K. M. Seifert	59,944	Jan. 22	126	1350
Books. Narrative and story	L. C. Page & Company	59,828	Jan. 22	126	1347
Books. Printed	Dodge Publishing Company	59,823	Jan. 22	126	1347
Boots and shoes. Leather	N. B. Thayer & Co	59,842	Jan. 22	126	1347
Brooms, brushes, and dusters	Preventum Tooth Brush Co	59,962	Jan. 22	126	1351
Butter	A. R. Duncan, Jr., Co	59,912	Jan. 22	126	1349
Butter	C. C. Martin	59,918	Jan. 22	126	1349
Candies	National Candy Company	59,908	Jan. 22	126	1349
Candies and bonbons	Runkel Brothers	59,929	Jan. 22	126	1350
Candies, chocolates, and bonbons	D. Auerbach & Sons	59,902	Jan. 22	126	1349
Candy. Hard and soft	George Miller & Son Company	59,884	Jan. 22	126	1348
Candy kisses with nuts in them	B. M. Collins	59,848	Jan. 22	126	1347
Canned fruits and vegetables	Pressing & Orr Co	59,895	Jan. 22	126	1349
Canned fruits and vegetables	Pressing & Orr Co	59,896	Jan. 22	126	1349
Canned fruits and vegetables	Pressing & Orr Co	59,897	Jan. 22	126	1349
Canned salmon	M. J. Kinney	59,905	Jan. 22	126	1349
Censers, vaporizers, and volatilizers for medical compounds	Vapo-Cresolene Company	60,048	Jan. 22	126	1353
Censers, vaporizers, and volatilizers for medical compounds	Vapo-Cresolene Company	60,049	Jan. 22	126	1353
Censers, vaporizers, and volatilizers for medical compounds	Vapo-Cresolene Company	60,050	Jan. 22	126	1353
Censers, vaporizers, and volatilizers for medical compounds	Vapo-Cresolene Company	60,051	Jan. 22	126	1353
Cheese. Limburger	Vapo-Cresolene Company	60,052	Jan. 22	126	1353
Chemical preparation. Certain	M. Uhlmann	59,932	Jan. 22	126	1350
Chemicals. Certain named	Summit City Soap Works	60,046	Jan. 22	126	1353
Chucks and head-stocks. Lathe	Farbenfabriken vorm. Friedr. Bayer & Co.	60,020	Jan. 22	126	1352
Chucks and head-stocks. Lathe	American Watch Tool Company	59,936	Jan. 22	126	1350
Cigars	American Watch Tool Company	59,937	Jan. 22	126	1350
Cigars	Chapin & Gore	59,870	Jan. 22	126	1348
Cigars, cheroots, and cigarettes	Cuesta, Rey & Co	60,015	Jan. 22	126	1352
Cleaning compounds	Cayey-Caguas Tobacco Company	59,837	Jan. 22	126	1347
Coats, pants, overalls, and blouses	White & Bagley Co	59,935	Jan. 22	126	1350
Coffee	Larned, Carter & Co	60,032	Jan. 22	126	1352
Coffee	R. W. Weir & Company	59,883	Jan. 22	126	1348
Coffee	C. W. Antrim & Sons	59,901	Jan. 22	126	1349
Coffee substitute	R. W. Weir & Company	59,934	Jan. 22	126	1350
Colorings. Mortar-	U. W. Reed	59,927	Jan. 22	126	1350
Corsets	S. H. French & Co	59,972	Jan. 22	126	1357
Corsets	Besten & Langen	60,007	Jan. 22	126	1352
Corsets	Corset H Company	60,013	Jan. 22	126	1352
Cotton piece goods	Corset H Company	60,014	Jan. 22	126	1352
Creams or lotions. Toilet	Royal Worcester Corset Company.	60,044	Jan. 22	126	1353
	Mistrot Bros. & Co	60,039	Jan. 22	126	1353
	H. C. Karpenstein	59,963	Jan. 22	126	1351

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Culinary utensils. Tin	Reed Manufacturing Co	59,954	Jan. 22	126	1350
Cultivators	Princeville Mfg. Co	60,043	Jan. 22	126	1353
Cutlery and edge-tools. Certain	Gray & Dudley Hardware Co	59,993	Jan. 22	126	1351
Dental chairs	Ritter Dental Mfg. Co	59,844	Jan. 22	126	1347
Dental plaster	S. H. French & Co	59,971	Jan. 22	126	1351
Disinfectant for destroying roaches, bugs, insects, rats, and mice.	J. Muench	60,040	Jan. 22	126	1353
Drills. Pivot-	Hammel, Riglander & Co	60,026	Jan. 22	126	1352
Eggs	C. C. Martin	59,919	Jan. 22	126	1349
Ejectors and injectors	United Injector Co	59,976	Jan. 22	126	1351
Fabrics. Bleached and unbleached textile	E. J. Fraser-Campbell	60,021	Jan. 22	126	1352
Fabrics. Bleached and unbleached textile	E. J. Fraser-Campbell	60,022	Jan. 22	126	1352
Fabrics. Bleached and unbleached textile	E. J. Fraser-Campbell	60,023	Jan 22	126	1352
Fabrics. Certain named textile	Henry E Frankenberg Company	59,995	Jan. 22	126	1351
Fabrics. Certain named textile	Henry E. Frankenberg Company	59,996	Jan. 22	126	1351
Fabrics. Certain named textile	Henry E. Frankenberg Company	59,997	Jan. 22	126	1351
Fabrics. Certain named textile	Henry E. Frankenberg Company	59,998	Jan. 22	126	1352
Fertilizers	Ashepoo Fertilizer Company	59,956	Jan. 22	126	1350
Fire-fighting apparatus and supplies therefor. Certain	Rex Fire Extinguisher Co	59,974	Jan. 22	126	1351
Flavoring compound	J. Z. Davidson	59,915	Jan. 22	126	1349
Flour. Wheat-	Stoddard Gilbert & Co	59,861	Jan. 22	126	1348
Flour. Wheat-	Higginsville Milling Company	59,872	Jan. 22	126	1348
Flour. Wheat-	Higginsville Milling Company	59,873	Jan. 22	126	1348
Flour. Wheat-	Higginsville Milling Company	59,874	Jan. 22	126	1348
Flour. Wheat-	Duluth-Superior Milling Co	59,883	Jan. 22	126	1348
Flour. Wheat-	M. Forchheimer & Co	59,916	Jan. 22	126	1349
Food substances. Certain oleaginous	Schwarzschild and Sulzberger Company.	59,931	Jan. 22	126	1350
Foods. Seasoning-sauce for	A. Schrader	59,930	Jan. 22	126	1350
Fruits. Dried	Reiss & Brady	59,928	Jan. 22	126	1350
Garments. Certain	Jones Dry Goods Co	60,029	Jan. 22	126	1352
Gin	Wichman, Lutgen & Co	59,880	Jan. 22	126	1348
Gravers	Hammel, Riglander & Co	60,027	Jan. 22	126	1352
Hair-dressing	G. S. Kirkley	60,031	Jan. 22	126	1352
Harness and leather dressings	W. A. Lovett & Co	59,876	Jan. 22	126	1348
Hats. Men's wool, felt, and straw	Boogher Force and Goodbar Hat Company.	60,009	Jan. 22	126	1352
Heaters and steam-boilers for heating purposes. Hot-water	Model Heating Company	59,939	Jan. 22	126	1350
Hoods. Ladies'	Boehm & Levine	60,008	Jan. 22	126	1352
Hosiery	Hibben, Hollweg & Co	59,981	Jan. 22	126	1351
Hosiery	Hibben, Hollweg & Co	59,982	Jan. 22	126	1351
Hosiery	Miley Company	59,986	Jan. 22	126	1357
Hosiery	C. Chipman's Sons	60,012	Jan. 22	126	1352
Ice-cream freezers	Gray & Dudley Hardware Co	59,824	Jan. 22	126	1347
Ice-creepers	F. W. Whitcher	59,977	Jan. 22	126	1351
Inhaling compounds and drugs	Butcher Direct Contact Method Company.	60,010	Jan. 22	126	1352
Inks and stamp-pads	Thaddeus Davids Company	59,898	Jan. 22	126	1349
Inks, type-inking ribbons, and carbon-paper	S. Brown	59,819	Jan. 22	126	1347
Insecticides and disinfectants	E. F. Lewis Company	60,034	Jan. 22	126	1352
Insulated wire. Stranded	John A. Roebling's Sons Co	59,947	Jan. 22	126	1350
Knitted woolen goods	J. Cunz	59,978	Jan. 22	126	1351
Lamp mantles. Incandescent-gas-	W. C. Scheu	59,964	Jan. 22	126	1351
Lamps and appliances and devices for mounting same. Incandescent electric	A. W. Beuttell	59,946	Jan. 22	126	1350
Lamps. Incandescent	Buckeye Electric Company	59,970	Jan. 22	126	1351
Lamps. Incandescent	Shelby Electric Company	59,975	Jan. 22	126	1351
Lead and paint. White	J. Lucas & Co	59,890	Jan. 22	126	1349
Lead. Pig-	Picher Lead Company	59,961	Jan. 22	126	1351
Lead. White	Carter White Lead Company	59,820	Jan. 22	126	1347
Lead. White	Brandram Bros. & Co	59,914	Jan. 22	126	1349
Leather and harness dressing and belt paste and syrup	Pure Oil Company	59,830	Jan. 22	126	1347
Licorice and licorice paste	MacAndrews & Forbes Company	60,000	Jan. 22	126	1352
Magazine	Construction News Company	59,821	Jan. 22	126	1347
Malt extract	Paragon Malt Extract Co	59,926	Jan. 22	126	1349
Maraschino cherries	A. Breslauer Company	59,900	Jan. 22	126	1349
Measuring and scientific apparatus, appliances, and instruments. Certain	Technical Supply Company	59,832	Jan. 22	126	1347
Medicated stock food	S. K. Strickler	59,990	Jan. 22	126	1351
Medicinal plaster	St. Jacobs Oil, Limited	60,002	Jan. 22	126	1352
Medicine. Certain named	Dr. B. J. Kendall Company	60,017	Jan. 22	126	1352
Medicines. Certain named	Wright's Rapid Relief Co	60,054	Jan. 22	126	1353
Metal cleaning and polishing compound	J. C. Paul	59,973	Jan. 22	126	1351
Metal cleaning and polishing compounds	White & Bagley Co	59,968	Jan. 22	126	1351
Milk. Sterilized and condensed	Nestlé & Anglo-Swiss Condensed Milk Co.	59,907	Jan. 22	126	1349
Mowers and reapers. Certain parts of	Whitman & Barnes Manufacturing Company.	60,053	Jan. 22	126	1353
Musical-instrument strings	Lyon & Healy	59,877	Jan. 22	126	1348
Nails. Horse-	Ausable Horse Nail Company	59,957	Jan. 22	126	1350
Nails. Horse-	Union Horse Nail Company	59,966	Jan. 22	126	1351
Nails. Horse-	Ausable Horse Nail Company	59,969	Jan. 22	126	1351
Nails. Horseshoe-	Hoopeston Horse Nail Co	59,938	Jan. 22	126	1350
Oats. Cooked rolled	H-O (Hornby's Oatmeal) Company.	59,917	Jan. 22	126	1349
Oilers. Hand-	Cushman & Denison Manufacturing Company.	59,958	Jan. 22	126	1350
Oils and compounds. Lubricating	A. W. Harris	59,851	Jan. 22	126	1348
Oils and greases. Illuminating and lubricating	K. F. Young	59,833	Jan. 22	126	1347
Oils, greases, and compounds. Lubricating	Ironsides Company	59,904	Jan. 22	126	1349
Oils. Illuminating and lubricating	Kansas City Oil and Gas Company.	59,825	Jan. 22	126	1347

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Oils. Lubricating-	C. F. Stannard	59,831	Jan. 22	126	1347
Oils. Lubricating-	Valvoline Oil Company	59,890	Jan. 22	126	1349
Olives and olive-oil	American Olive Company	59,882	Jan. 22	126	1349
Organs. Reed-	Carpenter Company	59,889	Jan. 22	126	1348
Paints and painters' materials. Certain	J. Lucas & Co	59,889	Jan. 22	126	1348
Paints, enamels, and bronze-powders	Baer Bros	59,893	Jan. 22	126	1349
Paper. Black print-	E. G. Soltmann	59,888	Jan. 22	126	1348
Paper. Drawing-	E. G. Soltmann	59,888	Jan. 22	126	1348
Paper drinking-cups	Aseptic Drinking Cup Co	59,889	Jan. 22	126	1348
Paper manufactures. Certain	Levey Brothers & Company	59,834	Jan. 22	126	1347
Paper. Writing-	H. Lindenmeyr & Sons	59,838	Jan. 22	126	1348
Paper. Writing-	H. Lindenmeyr & Sons	59,837	Jan. 22	126	1347
Patterns for garments. Paper	Crowell Publishing Company	59,838	Jan. 22	126	1347
Periodical. Weekly and monthly	McGraw Publishing Co	59,822	Jan. 22	126	1347
Petroleum and burning oils. Refined	Pure Oil Company	59,920	Jan. 22	126	1349
Pincers. Carpenters' and blacksmiths'	Simmons Hardware Company	59,829	Jan. 22	126	1347
Plasters. Porous	Allcock Manufacturing Co	60,001	Jan. 22	126	1352
Potato-chips	New England Supply Co	60,004	Jan. 22	126	1352
Potato-chips	New England Supply Co	59,923	Jan. 22	126	1349
Powder and cream. Toilet	S. W. Eames	59,924	Jan. 22	126	1349
Powder. Toilet	E. D. Ellis	59,979	Jan. 22	126	1351
Preparation. Certain proprietary or pharmaceutical	Krieger Bros	60,019	Jan. 22	126	1352
Projectiles and shields and parts for gun-carriages. Non-explosive	Taylor Iron & Steel Co	59,964	Jan. 22	126	1351
Rat, vermin, and insect destroyers and exterminators	E. S. Wells	60,047	Jan. 22	126	1353
Razor-strops	Radiumite Company	59,991	Jan. 22	126	1351
Remedies for certain named diseases	T. E. Anderson	59,983	Jan. 22	126	1351
Remedies for certain named diseases	L. M. Mentele	60,008	Jan. 22	126	1352
Remedy for catarrh	M. H. Pasco	60,038	Jan. 22	126	1352
Remedy for certain named diseases	E. Schmidt & Co	60,042	Jan. 22	126	1353
Ribbons	W. Sarasin & Co	59,999	Jan. 22	126	1351
Rubber erasers	American Lead Pencil Company	60,045	Jan. 22	126	1353
Rubber erasers. Pliable	E. G. Soltmann	59,881	Jan. 22	126	1348
Rubber hose	United & Globe Rubber Manufacturing Company.	59,880	Jan. 22	126	1348
Safes, vaults, and locks and parts thereof	Taylor Iron & Steel Co	59,882	Jan. 22	126	1348
Sausage. Pork	M. Uhlmann	59,985	Jan. 22	126	1351
Seasoning preparation	New Orleans Import Company	59,933	Jan. 22	126	1350
Sewing-machines and attachments	New Home Sewing Machine Company.	59,925	Jan. 22	126	1349
Sewing-machines and attachments	New Home Sewing Machine Company.	59,940	Jan. 22	126	1350
Sewing-machines and attachments	New Home Sewing Machine Company.	59,941	Jan. 22	126	1350
Sewing-machines and attachments	New Home Sewing Machine Company.	59,942	Jan. 22	126	1350
Sewing-machines and attachments	New Home Sewing Machine Company.	59,943	Jan. 22	126	1350
Sewing-machines and attachments	New Home Sewing Machine Company.	59,948	Jan. 22	126	1350
Sewing-machines and attachments	New Home Sewing Machine Company.	59,949	Jan. 22	126	1350
Sewing-machines and attachments	New Home Sewing Machine Company.	59,950	Jan. 22	126	1350
Sewing-machines and attachments	New Home Sewing Machine Company.	59,951	Jan. 22	126	1350
Sewing-machines and attachments	New Home Sewing Machine Company.	59,952	Jan. 22	126	1350
Sewing-machines and attachments	New Home Sewing Machine Company.	59,953	Jan. 22	126	1350
Sheetings, drills, jeans, shirtings, and handkerchiefs	Reuter, Bröckelmann & Co	59,988	Jan. 22	126	1351
Shoes and slippers. Felt	H. O. Gardner	59,830	Jan. 22	126	1348
Shoes. Leather	G. E. Smith	59,845	Jan. 22	126	1347
Shovels, spades, and scoops	Wyoming Shovel Works	60,005	Jan. 22	126	1353
Silk piece goods	York Silk Manufacturing Company.	59,902	Jan. 22	126	1351
Silver-plated tableware	Manchester Mfg. Co	59,854	Jan. 22	126	1348
Soap	N. K. Fairbank Company	59,855	Jan. 22	126	1348
Soap	N. K. Fairbank Company	59,921	Jan. 22	126	1349
Soap. Medicated and perfumed	N. K. Fairbank Company	59,922	Jan. 22	126	1349
Soap. Medicated and perfumed	Potter Drug & Chemical Corporation.	59,878	Jan. 22	126	1348
Soap. Perfumed	Potter Drug & Chemical Corporation.	59,879	Jan. 22	126	1348
Soap. Perfumed	A. & F. Pears	59,910	Jan. 22	126	1349
Speed-indicating devices	A. & F. Pears	59,911	Jan. 22	126	1349
Sporting goods. Certain	R. Hoe & Smith Manufacturing Company.	59,848	Jan. 22	126	1347
Strainers and valves	New York Sporting Goods Co	59,980	Jan. 22	126	1351
Surgical instruments. Certain named	United Injector Co	59,987	Jan. 22	126	1351
Switch-stands	P. C. Lorenz	59,999	Jan. 22	126	1352
Tea	Pettibone, Mulliken & Co	59,987	Jan. 22	126	1351
Tea	R. W. Weir & Company	59,884	Jan. 22	126	1348
Textiles. Certain	R. W. Weir & Company	59,885	Jan. 22	126	1349
Thread and spool-cotton	China and Japan Trading Company.	60,011	Jan. 22	126	1352
Thread and spool-cotton	American Thread Company	59,847	Jan. 22	126	1347
Thread. Cotton	American Thread Company	59,887	Jan. 22	126	1348
Thread. Cotton	New England Cotton Yarn Co	59,892	Jan. 22	126	1349
Thread. Cotton	New England Cotton Yarn Co	59,893	Jan. 22	126	1349
Thread. Cotton	New England Cotton Yarn Co	59,894	Jan. 22	126	1349
Thread. Cotton	New England Cotton Yarn Co	59,895	Jan. 22	126	1349
Thread. Cotton	New England Cotton Yarn Co	59,896	Jan. 22	126	1349
Thread. Wool and sewing cotton	American Thread Company	59,846	Jan. 22	126	1347

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Thread, spool and sewing cotton	American Thread Company	59,866	Jan. 22	126	1348
Tonic beverages. Carbonated	N. Lodor	59,888	Jan. 22	126	1349
Tonic. Malt-liquor	C. A. Lammers Bottling Co	59,836	Jan. 22	126	1347
Tonic. Uterine	F. A. Luyties	60,035	Jan. 22	126	1352
Tools. Certain hand-	Gray & Dudley Hardware Co	59,980	Jan. 22	126	1357
Tools. Certain hand-	Gray & Dudley Hardware Co	59,994	Jan. 22	126	1351
Undershirts and drawers. Woven	Earl & Wilson	60,017	Jan. 22	126	1352
Washing and cleansing tablets	H. K. Hattenstein	59,852	Jan. 22	126	1348
Washing-machines. Hand-operated	Horton Manufacturing Company	59,959	Jan. 22	126	1350
Watchsprings	Hammel, Riglander & Co	59,885	Jan. 22	126	1348
Water. Natural mineral	Pulaski Springs Hotel Company	59,856	Jan. 22	126	1348
Whisky	Schneider & Klein	59,857	Jan. 22	126	1348
Whisky	Klein Bros	59,875	Jan. 22	126	1348
Worsted dress goods and suitings	Hall & Co	60,025	Jan. 22	126	1352
Yeast	Aktienbrauerei zum Löwenbräu in München.	59,913	Jan. 22	126	1349

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Abbott's Bitters." (For Bitters)	C. W. Abbott & Co	13,326	Jan. 22	126	1354
"Dander-Off." (For a Hair-Tonic and Dandruff Cure)	C. Hughel	13,328	Jan. 22	126	1354
"Delicatessa." (For Flour)	George Urban Milling Co	13,330	Jan. 22	126	1354
"Lava—A Remedy for All Tree and Plant Diseases." (For Plant-Fertilizers.)	J. J. Ruegg	13,331	Jan. 22	126	1354
"Pinozone." (For a Medicinal Paste)	S. I. Henderson	13,327	Jan. 22	126	1354
"Ramon Pinto." (For Cigars)	Alexander & Zenn	13,329	Jan. 22	126	1354

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"George Washington Backs, Congress Playing Cards." (For Playing-Cards.)	United States Playing Card Company.	1,895	Jan. 22	126	1354
"Have a Taste." (For Liquors)	Meyercord Company	1,894	Jan. 22	126	1354
"You Always Hear Good Reports from Frictionless Metal." (For Frictionless Metal.)	Frictionless Metal Co	1,896	Jan. 22	126	1354

TRADE-MARKS.

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Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Accordions, autoharps, brass musical instruments, &c	R. A. Childs	23,156	Jan. 22	126	1341
Advertising-envelops	A. Dietz	23,554	Jan. 22	126	1342
Ale	Frank Jones Brewing Company	20,741	Jan. 22	126	1336
Beer	Actiengesellschaft Paulanerbräu (zum Salvatorkeller).	9,816	Jan. 22	126	1332
Beer	Fred Miller Brewing Co	22,148	Jan. 22	126	1339
Beer ale, stout, and malt extract. Lager-	S. Liebmann's Sons Brewing Company.	23,750	Jan. 22	126	1343
Beer. Lager-	Peter Schoenhofen Brewing Company.	23,454	Jan. 22	126	1341
Belting. Leather	C. A. Schieren & Co	21,599	Jan. 22	126	1337
Boiler-cleaning compound	Davis and Day Engineering Company.	21,487	Jan. 22	126	1337
Boilers. Steam and hot-water	Prudential Heating Company	22,807	Jan. 22	126	1340
Boots and shoes. Leather	E. Z. Shoe Company	23,574	Jan. 22	126	1342
Boots and shoes. Leather	Utz & Dunn	24,199	Jan. 22	126	1346
Boots and shoes. Women's, misses', and children's leather	F. Valdes & Co	23,549	Jan. 22	126	1342
Butter, milk, and cheese	W. S. Moore & Co	23,805	Jan. 22	126	1343

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Candy, chocolates, and bonbons	Hawley & Hoops	23,747-8	Jan. 22	126	1343
Canned vegetables	Rosenstein Brothers	22,809	Jan. 22	126	1342
Canoes, row and sail boats, parts thereof, and oars and paddles.	J. H. Rushton Incorporated	21,747	Jan. 22	126	1337
Carpet-sweepers	Bissell Carpet Sweeper Company	12,065	Jan. 22	126	1333
Chocolate, cocoa, and chocolate candies	Russ-Suchard & Cie	6,765	Jan. 22	126	1332
Chocolate, cocoa, and chocolate candies	Russ-Suchard & Cie	8,678	Jan. 22	126	1332
Chocolate-moids	A. Reiche	18,930	Jan. 22	126	1335
Cigars	D. C. Hitt	21,332	Jan. 22	126	1337
Cigars and cigarettes	Park & Tilford	24,198	Jan. 22	122	1346
Cigars in boxes	M. E. Palmer	23,579	Jan. 22	126	1342
Coats vests, pants, jackets, and overcoats	Rothgiesser Bros.	23,269	Jan. 22	126	1341
Columns. Wooden	Memphis Column Company	23,884	Jan. 22	126	1343
Corsets and body-braces. Conformer-	C. Munter	23,888	Jan. 22	126	1343
Corsets, bust-forms, and supporters	G. E. Peetz	23,735	Jan. 22	126	1343
Cotton piece goods	C. C. Copeland & Co	19,698	Jan. 22	126	1335
Cotton piece goods	Boott Mills	21,965	Jan. 22	126	1338
Cotton piece goods	Boott Mills	21,971	Jan. 22	126	1338
Creams for the skin, toilet water, hair-tonic, &c	Boott Mills	21,973-9	Jan. 22	126	1338-9
Dental alloy	A. M. E. Wandka	11,294	Jan. 22	126	1333
Draperies. Textile	Louisville Dental Laboratory & Mfg. Co.	24,196	Jan. 22	126	1346
Dress and shirt waists	Eddystone Manufacturing Company.	22,704	Jan. 22	126	1340
Fertilizers	Romm & Company	15,824	Jan. 22	126	1334
Fertilizers	Birmingham Fertilizer Company	17,899	Jan. 22	126	1334
Flour and cereal foods made of wheat. Pancake-	Virginia-Carolina Chemical Company.	24,167-8	Jan. 22	126	1346
Food-preservatives	W. E. Schei	22,077	Jan. 22	126	1339
Fur garments	Thomas Thorkildsen & Company	22,639	Jan. 22	126	1340
Glass slabs, sheets, plates, &c	Hargadine-McKittrick Dry Goods Company.	23,980	Jan. 22	126	1344
Glassware and porcelain cleanser	Penn-American Plate Glass Co	12,319	Jan. 22	126	1333
Gloves, mittens, and gauntlets	M. McMahon	22,634	Jan. 22	126	1342
Gum. Chewing-	American Glove Co	1,725	Jan. 22	126	1331
Gun-sights	American Chicle Co	8,136-9	Jan. 22	126	1332
Hatchets, chisels, gouges, bush-hooks, &c	Lyman Gun Sight Corporation	23,488	Jan. 22	126	1341
Hatchets, chisels, gouges, bush-hooks, &c	Dunham, Carrigan & Hayden Company.	11,338	Jan. 22	126	1333
Hats and caps	Dunham, Carrigan & Hayden Company.	11,343-5	Jan. 22	126	1333
Hats, caps, bonnets, fur garments and robes, gloves, &c	S. G. Hirschberg	23,685	Jan. 22	126	1343
Hosiery	Paulson Brothers Company	22,407	Jan. 22	126	1340
Hydrogen peroxid	C. Chipmans Sons	22,521	Jan. 22	126	1340
Insecticide	W. E. Aughinbaugh	22,220	Jan. 22	126	1339
Knitted shirts and drawers	Omnia Chemical Co	22,563	Jan. 22	126	1340
Knives. Pocket-	H. Jacquin & Company	20,670	Jan. 22	126	1336
Lamps. Electric-arc	Tom Ray Cutlery Company	19,226	Jan. 22	126	1335
Lamps. Incandescent	F. Hamburger	22,894	Jan. 22	126	1341
Leather and shoe blackings, paste, polish, and varnish	Eagle Lamp Company	24,010-11	Jan. 22	126	1344
Leather fobs	S. M. Bixby & Co	23,216	Jan. 22	126	1341
Liniment	Weiss Manufacturing Company	23,986	Jan. 22	126	1344
Locks. Pad, trunk, cabinet, and door	J. C. Mills	5,912	Jan. 22	126	1331
Lotions	Eagle Lock Co	24,156	Jan. 22	126	1345
Lumber and timber	C. W. Davis	21,920	Jan. 22	126	1337
Macaroni	C. Este	18,032	Jan. 22	126	1334
Magazine. Monthly	A. Musica	22,366	Jan. 22	126	1340
Magazine. Monthly	A. D. Hosterman	23,881	Jan. 22	126	1343
Malt extracts	National Sportsman	24,119	Jan. 22	126	1345
Matches. Safety-	J. Hoff	22,348	Jan. 22	126	1341
Medicines for blood diseases of horses, mules, and cattle	Jönköpings och Vulcans Tändsticksfabriksaktiebolag.	16,934	Jan. 22	126	1334
Medicines. Lung and throat, stomach, rheumatic, &c	C. F. Cutler	22,352	Jan. 22	126	1340
Metal-polish	F. Colbert	23,107	Jan. 22	126	1341
Metal-polishes	H. E. Ruger	20,898	Jan. 22	126	1336
Mica	Hanson & Van Winkle Co	24,114	Jan. 22	126	1345
Milk	American Mica Company	16,624	Jan. 22	126	1334
Milling, planing, drilling and boring, slotting, &c., machines	Lactobacilline Company	23,666-7	Jan. 22	126	1342
Molasses	Newton Machine Tool Works	19,667	Jan. 22	126	1335
Muslin undergarments. Women's	P. Duff & Sons	20,254-5	Jan. 22	126	1336
Ore-concentrators	F. S. Kolb	22,741	Jan. 22	126	1343
Pants, coats, creepers, skirts, shirt-waists, muslin underwear, &c.	Risdon Iron & Locomotive Works.	22,580	Jan. 22	126	1342
Paper and butter-wrappers. Waxed	Hargadine-McKittrick Dry Goods Company.	23,982	Jan. 22	126	1344
Pepper, cinnamon, cassia, ginger, &c. Black, white, and red	Newark Paraffine & Parchment Paper Co.	24,097	Jan. 22	126	1345
Periodical	C. H. Montanye	19,842	Jan. 22	126	1336
Periodical publications	Confectioners' Journal Publishing Co.	20,135	Jan. 22	126	1336
Pharmaceutical preparation for the treatment of eczema, &c	Ware Bros. Company	24,186-7	Jan. 22	126	1346
Pork-roll	Browning Press	23,988	Jan. 22	126	1344
Powder and cream and hair-tonic. Face	Thompson and Trimble	22,196	Jan. 22	126	1339
Powder. Tooth-	Taylor Provision Co	22,841	Jan. 22	126	1340
Ranges and stoves	H. Mountain	21,710	Jan. 22	126	1337
Remedies for biliousness, catarrh, cholera, sprains, &c	Gerhard Mennen Chemical Co	22,202	Jan. 22	126	1339
Remedies for diseases of the liver, kidneys, stomach, and intestines.	Worlds Dispensary Medical Association.	18,970	Jan. 22	126	1335
	E. Kohlman	18,908	Jan. 22	126	1335
		18,620	Jan. 22	126	1334

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Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Remedies for headache, neuralgia, nervous diseases, &c	A. L. Field	18,531	Jan. 22	126	1334
Remedy. Cough	Dr. Rainey Medicine Co	23,566	Jan. 22	126	1342
Remedy for female diseases, diabetes, bladder troubles, &c	E. G. Harrell	16,590	Jan. 22	126	1334
Remedy for typhoid fever	Whorton Sons Drug Co	23,523	Jan. 22	126	1342
Remedy. Rheumatism	Smith Drug Company	20,252	Jan. 22	126	1336
Salve	J. B. Tannehill	23,909	Jan. 22	126	1344
Seed. Grass, grain, timothy, and clover	Albert Dickinson Company	8,398	Jan. 22	126	1332
Seed. Grass, grain, timothy, and clover	Albert Dickinson Company	8,402	Jan. 22	126	1332
Sherry	W. A. Ross & Brother	23,762	Jan. 22	126	1343
Shirts, overalls, trousers, and underwear	Kerfoot, Miller and Company	22,744	Jan. 22	126	1340
Shoes. Leather	Mistrot Bros. & Co	24,118	Jan. 22	126	1345
Silk piece goods	Home Silk Mills	21,319	Jan. 22	126	1337
Silk piece goods and ribbon	King, Brinsmade Mercantile Company.	14,376	Jan. 22	126	1333
Silver knives, forks, spoons, &c. Solid and plated	Towle Mfg. Company	20,244	Jan. 22	126	1336
Sleds	S. L. Allen & Co	15,732-3	Jan. 22	126	1333
Soap. Laundry	N. K. Fairbank Company	51	Jan. 22	126	1331
Starch. Laundry	National Starch Co	23,966	Jan. 22	126	1344
Stout	S. Liebmann's Sons Brewing Company.	24,036	Jan. 22	126	1345
Tablets for the throat and voice. Sugar-coated	Coughlet Company	23,939	Jan. 22	126	1344
Tea	Schwabacher Bros. & Co	24,030	Jan. 22	126	1345
Tea	W. B. Newson	24,129	Jan. 22	126	1345
Tobacco. Smoking-	H. Rippen	21,474	Jan. 22	126	1337
Tobacco. Smoking-	D. L. Jacoway	24,193	Jan. 22	126	1346
Trunks	Hartmann Trunk Company	23,879	Jan. 22	126	1343
Twines	Overman & Schrader Cordage Co	3,141	Jan. 22	126	1331
Varnishes	Noake - Wheeler - Clough Company.	23,908	Jan. 22	126	1344
Varnishes, enamels, paint-oil, roughstuffs, &c	Hibbard, Spencer, Bartlett & Company.	24,161-2	Jan. 22	126	1345
Vinegar, pickles, catsup, pepper-sauce, &c	Jones Bros. & Co	23,049	Jan. 22	126	1341
Whisky	R. Monarch	8,282	Jan. 22	126	1332
Whisky, brandy, gin, rum, &c	Boston Wine & Spirits Co	21,062	Jan. 22	126	1337
Whisky. Corn-	R. M. Rose Co	7,006	Jan. 22	126	1332
Whisky. Scotch	Slater, Rodger & Co	13,163	Jan. 22	126	1333

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 29TH DAY OF JANUARY, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Specification.	Drawing.	Volume.	Page.
A. B. Dick Company. (See Spencer, William B., assignor.)						
Aae, Hjalmar, Aarhus, assignor to Aaes Laas Verdenspatent Limited, Strandvej, Denmark. Lock	842,158	Jan. 29	4769	1019	126	1363
Aaes Laas Verdenspatent. (See Aae, Hjalmar, assignor.)						
Abbott, Frederick W., Philadelphia, Pa. Non-refillable bottle	842,605	Jan. 29	5740	1213	126	1613
Abernethy, George W., Lowell, N. C. Cotton-cultivator	842,159	Jan. 29	4772	1019	126	1363
Acme Heel Company. (See Hellweg, Henry, assignor.)						
Actien Gesellschaft für Anilin Fabrikation. (See Herzberg, Wilhelm, assignor.)						
Actien Gesellschaft für Anilin Fabrikation. (See Kirchhoff, Richard, assignor.)						
Adder Machine Company. (See McFarland, Charles N., assignor.)						
Aiken, W. G. (See King, William C., assignor.)						
Aikman, Bert, assignor of one-half to J. S. Hamlin, Chicago, Ill. Pneumatic-valve mechanism	842,160	Jan. 29	4773	1019	126	1363
Albee, Honestus M., Nutley, N. J., assignor to J. H. Williams & Co., Brooklyn, N. Y. Engraving or carving machine	842,745	Jan. 29	6063	1278	126	1691
Allen, Edward B., Elizabeth, N. J., assignor to Singer Manufacturing Company. Stop-motion device for sewing-machines	842,291	Jan. 29	5048	1076–7	126	1431
Allen, Everett P., assignor to R. M. Wilbur, trustee, Chicago, Ill. Air-vent valve	842,606	Jan. 29	5741	1213	126	1613
Allen, John E., Yoncalla, Oreg. Shears	842,292	Jan. 29	5050	1077	126	1432
Almy, Henry N., Honolulu, Hawaii. Trap-nest	842,371	Jan. 29	5228	1109	126	1482
American Carpet Beater Company. (See Cobb, Leander B., assignor.)						
American Inventions Company. (See Carver and Stout, assignors.)						
American Pneumatic Service Company. (See Stoddard, Charles F., assignor.)						
American Type Founders Company. (See Webster, Cyrus C., assignor.)						
American Typographic Corporation. (See Richards, Francis H., assignor.)						
Ames, John F., Portland, Oreg. Bag-machine	842,372	Jan. 29	5230	1109–10	126	1483
Ammerman, William M., assignor to Edwin J. Toof Company, New Haven, Conn. Take-up for sewing-machines	842,161	Jan. 29	4776	1020	126	1365
Amos, John B., Prairie City, Ill. Excavator	842,746	Jan. 29	6068	1279	126	1692
Amtmann, Josef, assignor of one-half to Z. von Puteani, Melk, Austria-Hungary. Preserved-food tin	842,293	Jan. 29	5050	1077	126	1432
Anderson, Charles A., E. A. Erickson, and J. Wiekstrom, Chicago, Ill. Incandescent igniter for gas-engines	842,607	Jan. 29	5742	1213–14	126	1613
Anderson, Charles W. (See Harper, John D., assignor.)	842,373	Jan. 29	5240	1111	126	1486
Anderson, Christian O., Brigham, Utah. Buckle	842,441	Jan. 29	5306	1142–3	126	1530
Anderson, Harry, Springfield, Ohio. Compound steam-engine						
Animal Trap Company. (See Armstrong, William D., assignor.)						
Anthony & Scovill Company. (See Bornmann, Carl, assignor.)						
Apgar, John T., New York, N. Y. Artificial leg	842,608	Jan. 29	5746	1214	126	1614
Apgar, John T., New York, N. Y. Artificial leg	842,609	Jan. 29	5747	1214	126	1614
Appleby, John F., Chicago, Ill. Cotton-harvesting machine	842,162	Jan. 29	4778	1020	126	1365
Armstrong, John A., Westcombe Park, England. Mechanical apparatus for playing keyboard musical instruments	842,374	Jan. 29	5240	1111	126	1486
Armstrong, William D., assignor to Animal Trap Company, Abingdon, Ill. Animal-trap.	842,610	Jan. 29	5749	1215	126	1615
Armstrong, William D., assignor to W. Coyne, Wilmington, Del. Cooling coke.	842,747	Jan. 29	6069	1279	126	1693
Arnold, Charles E., assignor of one-fourth to W. Coyne, Wilmington, Del. Cooling coke.						
Arnold, Engelbert, Karlsruhe, Germany, and J. L. La Cour, Edinburgh, Scotland. Commutation of currents in armatures of dynamos	842,163	Jan. 29	4780	1020	126	1366
Arnold, Frederick H., Reading, Pa. Safety-razor	842,510	Jan. 29	5544	1173	126	1565
Artz, John D., Dayton, Ohio. Vehicle-body	842,511	Jan. 29	5545	1173	126	1565
Ashinhurst, William K., Bibb, Tex. Vehicle-brake	842,512	Jan. 29	5548	1174	126	1566
Ashworth, Lewis J., Huntington, W. Va. Drain-valve	842,375	Jan. 29	5242	1112	126	1487
Asimont, Herman H., Snohomish, Wash. Broom-shield	842,376	Jan. 29	5243	1112	126	1487
Aspenleiter, John. (See Wrigley and Aspenleiter.)						
Atherton, Herbert W. (See Atherton, Katie B. and H. W.)	842,748	Jan. 29	6071	1279	126	1693
Atherton, Katie B. and H. W., Holyoke, Mass. Milliner's table	842,377	Jan. 29	5244	1112–13	126	1487
Atwood, George F., East Orange, N. J., assignor to Western Electric Company, Chicago, Ill. Signaling apparatus	842,513	Jan. 29	5549	1174	126	1566
Autodraft Manufacturing Company. (See Cawthorne and Lummis, assignors.)						
Avery Manufacturing Co. (See Springer, William N., assignor.)						
Axtell, Fred W., Fort Worth, Tex. Float-valve	842,514	Jan. 29	5550	1174–5	126	1566
Baehr, George, McKeesport, assignor to National Tube Company, Pittsburg, Pa. Furnace-charging apparatus	842,515	Jan. 29	5554	1175	126	1567
Baehr, George, McKeesport, assignor to National Tube Company, Pittsburg, Pa. Electric-motor system	842,749	Jan. 29	6073	1280	126	1694
Baguley, George T., Toronto, Ontario, Canada. Broiler	842,378	Jan. 29	5247	1113	126	1488
Baker, James M., Glendora, Cal. Fruit and vegetable brusher, polisher, washer, and self-feeder	842,294	Jan. 29	5051	1077–8	126	1432
Baldwin, Herbert Y., Seymour, Conn. Safety stop for elevators	842,379	Jan. 29	5249	1114	126	1488
Barceloux, Louis, St. Guillaume Station, Quebec, Canada. Track gage and level	842,164	Jan. 29	4782	1021	126	1366
Barnes, Joshua B., Springfield, Ill. Scummer and blow-off for steam-boilers	842,380	Jan. 29	5250	1114	126	1489
Barnes, Junius, Burlington, Vt. Switch-operating mechanism for cars						
Barnhart, Harry J. (See King, Barnhart, and King.)	842,824	Jan. 29	6200	1309–10	126	1724
Batten, William, Auburn, Me. Roving and spinning frame						

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Bavier, Adolphus, assignor to Waterbury Clock Co., Waterbury, Conn. Watchcase-center	842,516	Jan. 29	5559	1175	126	1568
Beach, Jacob C., Shirley, Mass. Hose-supporter	842,750	Jan. 29	6074	1280	126	1694
Bebout, Anna. (See Trotter and Bebout.)						
Becker, Louis. (See Schilling and Flach, assignors.)						
Beham, Howard A., Renfrow, Okla. Ter. Plow	842,165	Jan. 29	4783	1021	126	1366
Beltman, Mattie, Cincinnati, Ohio. Skirt-hanger	842,166	Jan. 29	4786	1022	126	1367
Bell, John H., Haddonfield, N. J. Conveyer	842,611	Jan. 29	5751	1215	126	1615
Benicke, Georg, Offenbach-on-the-Main, Germany. Grinding apparatus	842,381	Jan. 29	5253	1114–15	126	1489
Berg, John, Anderson, Ind. Measuring-machine	842,167	Jan. 29	4788	1022	126	1368
Bergell, Peter, and F. Meyer, Berlin, Germany. Obtaining solutions of bacterial poisons	842,612	Jan. 29	5752	.....	126	1616
Berry, Charles A., assignor to Yale & Towne Manufacturing Company, Stamford, Conn. Mortise night-latch	842,442	Jan. 29	5390	1144	126	1530
Bexell, John A., Logan, Utah. Temporary binder	842,751	Jan. 29	6075	1280–1	126	1694
Bicking, Frederick V., Phoenixville, Pa. Railway-tie	842,752	Jan. 29	6077	1281	126	1695
Bierd, Richard E., Seattle, Wash. Caster	842,753	Jan. 29	6079	1281	126	1695
Bierle, Frederick A., Philadelphia, Pa. Truck for conveying merchandise	842,754	Jan. 29	6079	1281	126	1695
Bigelow, Samuel L., Ann Arbor, Mich. Combined cigar and cigarette holder and ash-receiver	842,613	Jan. 29	5753	1215	126	1616
Blair, Henry F., Hermitage, Mo. Corn-planter	842,755	Jan. 29	6080	1282	126	1695
Blake, Charles W., Wesley, Iowa. Tank-heater	842,168	Jan. 29	4790	1023	126	1368
Blass, Talmadge, Lebanon, Pa. Apparatus for separating materials	842,614	Jan. 29	5754	1216	126	1616
Blish, Henry H., and G. C. Silzer, assignors to Harger & Blish, Dubuque, Iowa. Device for selling goods	842,295	Jan. 29	5053	1078	126	1433
Blood, Charles W. H., assignor to S. A. Woods Machine Company, Boston, Mass. Belt-adjusting mechanism	842,756	Jan. 29	6082	1282–3	126	1696
Blood, Charles W. H., assignor to S. A. Woods Machine Company, Boston, Mass. Belt-guiding and tightening mechanism	842,757	Jan. 29	6085	1283	126	1697
Blood, Ira A., Methuen, Mass., assignor to U. S. Bobbin and Shuttle Co., Providence, R. I. Spool gluing and assembling machine	842,169	Jan. 29	4792	1023	126	1369
Blue, Jesse J., Montpelier, Ohio. Carrier-handle for baskets and crates	842,296	Jan. 29	5054	1078	126	1433
Boërcke, Paul, London, England. Insulating lacquer and material	842,615	Jan. 29	5758	.....	126	1617
Boilers and Engineering Company. (See Del Mar, Harry, assignor.)						
Bonfils, Charles A., and H. G. Bradt, Denver, Colo. Producing a combined line and half-tone printing plate	842,297	Jan. 29	5055	1078–9	126	1433
Bornmann, Carl, New Haven, Conn., assignor to Anthony & Scovill Company, Binghamton, N. Y. Winding-key for film-cameras and roll-holders	842,825	Jan. 29	6203	1310	126	1725
Bourne, John E., Somerville, Ohio. Oil-dispensing tank	842,517	Jan. 29	5561	1176	126	1568
Bowey, John, Jr., London, Ontario, Canada. Chemical-solution elevator for use in water-purifiers	842,518	Jan. 29	5562	1176	126	1569
Bradbury, Joseph Y., Somerville, Mass. Battery jar or cell	842,616	Jan. 29	5759	1216	126	1618
Bradt, Horace G. (See Bonfils and Bradt.)						
Brasier, Henri C., Paris, France. Electrical ignition mechanism for explosion-engines	842,617	Jan. 29	5761	1216	126	1618
Brian, Thomas C. (See Martin, James V., assignor.)						
Bright, Richard A., and A. W. Davis, Cranston, R. I. Cigar-bunching machine	842,618	Jan. 29	5763	1216–18	126	1618
Bring, Einar J., Wilkinsburg, Pa. System of pneumatic control	842,619	Jan. 29	5767	1218–19	126	1619
Brothers, William H., assignor to Columbian Hardware Company, Cleveland, Ohio. Spring-hinge	842,519	Jan. 29	5564	1176	126	1569
Brothers, William H., assignor to Columbian Hardware Company, Cleveland, Ohio. Hinge	842,520	Jan. 29	5565	1177	126	1569
Brothers, William H., assignor to Columbian Hardware Company, Cleveland, Ohio. Door-check	842,521	Jan. 29	5566	1177	126	1569
Brown, Julius, Peekskill, N. Y. Rope-fastener	842,620	Jan. 29	5771	1219	126	1630
Brown, Robert, Donaghmore, Ireland. Metal box or other metal article or surface	842,758	Jan. 29	6087	1283	126	1698
Brown, Samuel J., Ekron, Ky., assignor of one-half to W. A. Morgan, Eastman, Ga. Toilet companion	842,443	Jan. 29	5402	1144	126	1531
Brown & Sharpe Manufacturing Company. (See Spaulding, Frank, assignor.)						
Brubaker, Alpheus O., Sugden, Ind. Ter. Buckle	842,759	Jan. 29	6088	1284	126	1698
Brundrett, Arnold, Denison, Tex. Can-closure	842,444	Jan. 29	5403	1145	126	1531
Brunner, Burel A., Rockwall, Tex. Clothes-line	842,760	Jan. 29	6089	1284	126	1698
Bryan-Marsh Company. (See Flather, Robert B., assignor.)						
Bryant, Charles H., Twickenham, and A. Watling, London, England. Carbureter	842,170	Jan. 29	4796	1024	126	1370
Buckwalter, Tracy V., Altoona, Pa. Fishing-reel	842,761	Jan. 29	6091	1285	126	1698
Budd, Edward G., and C. A. Condé, assignors to Hale-Kilburn Metal Company, Philadelphia, Pa. Car-seat	842,298	Jan. 29	5056	1079	126	1434
Budesheim, Harry, Washington, D. C. Match-safe	842,621	Jan. 29	5773	1219	126	1621
Buhles, William C. (See Landsberger and Buhles.)						
Bullock, John L., Hester, N. C. Tobacco-curing apparatus	842,171	Jan. 29	4800	1024	126	1371
Burch, Smith W., Voluntown, Conn. Eyeglasses	842,762	Jan. 29	6092	1285	126	1699
Burchall, William B., Stockport, England. Internal-combustion engine	842,844	Jan. 29	6250	1320	126	1736
Burckhardt, Rudolf. (See De la Harpe and Burckhardt.)						
Burg, Hubert, Mollkirch, near Rosheim, Germany. Cryptographic machine	842,763	Jan. 29	6094	1285–6	126	1699
Burnham, Arthur M., Gardiner, Me., assignor of one-half to W. G. Crawford, Washington, D. C. Mop-holder	842,622	Jan. 29	5774	1220	126	1621
Burt, Edwin, El Ore, Mexico. Filter	842,764	Jan. 29	6099	1287	126	1699
Byers, Henry A., Pe Ell, Wash. Photographic shutter	842,522	Jan. 29	5568	1177	126	1570
Byrd, Wade A., Swifton, Ark. Cotton-picker's sack-carrier	842,765	Jan. 29	6101	1287	126	1700
C. E. Tayntor Granite Company. (See Tayntor, Charles E., assignor.)						
Cameron, John A., *et al.* (See Gmeiner, William, assignor.)						
Camp, George E., assignor to Standard Harrow Company, Utica, N. Y. Manure-spreader	842,172	Jan. 29	4801	1025	126	1371
Carleton, Stephen J., Arcadia, Fla. Letter-box	842,445	Jan. 29	5404	1145	126	1531
Carlton & McVey. (See McVey, Theodore J., assignor.)						
Carman, William, Napanock, N. Y. Tool-holder	842,173	Jan. 29	4805	1026	126	1372
Carrell, Fitzhu L., Granger, Tex. Cultivator	842,623	Jan. 29	5775	1220	126	1621
Carrow, Henry, Bonneterre, Mo. Support for vehicle-tops	842,523	Jan. 29	5570	1178	126	1570
Carter, Rice & Company. (See White, Henry B., assignor.)						
Cartwright, Forest S., Chicago, Ill. Hair-comb	842,524	Jan. 29	5570	1178	126	1571
Carver, Allen F., and J. N. Stout, assignors to American Inventions Company, New York, N. Y. Commutator	842,624	Jan. 29	5778	1221	126	1622
Cassity, Oscar, Sturgeon, Mo. Latch	842,299	Jan. 29	5060	1079	126	1435
Castiglioni, Rinaldo C., assignor to T. F. Greenwood Company, Providence, R. I. Bracelet	842,625	Jan. 29	5781	1221	126	1623
Cawthorne, Walter F., and H. M. Lummis, Elizabeth, N. J., assignors to Autodraft Manufacturing Company. Time-controlled damper	842,525	Jan. 29	5572	1178	126	1571
Chase, Frederick A., Plymouth, Pa. Nut-lock	842,766	Jan. 29	6102	1287	126	1700
Chaffin, Aaron J., Ripon, Wis. Belt guide and holder	842,174	Jan. 29	4808	1026	126	1372
Chicago Hardware Foundry Co. (See Cook, Fred W., assignor.)						
Chritton, Isaiah D., Graves, Kans. Engine	842,446	Jan. 29	5408	1145	126	1532

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Cincinnati Butcher's Supply Co. (See Schmidt, Charles G., assignor.)						
Clagett, John S., assignor to H. H. Netter, Philadelphia, Pa. Carpet-sweeper	842,826	Jan. 29	6204	1310	126	1725
Clark, Charles J., New York, N. Y. Mason's platform for buildings	842,382	Jan. 29	5255	1115	126	1490
Clark, David F., Peebles, Ohio. Mail-box signal	842,767	Jan. 29	6103	1288	126	1700
Clark Dredging Company. (See Clark, Horace J., assignor.)						
Clark, Horace J., Boise, Idaho, assignor to Clark Dredging Company, Chicago, Ill. Gold-dredge	842,383	Jan. 29	5256	1115	126	1490
Clark, Horace J., assignor to Clark Dredging Company, Chicago, Ill. Tailings-trimmer	842,384	Jan. 29	5259	1116	126	1492
Clarke, Cecil M., Chicago, Ill. Insulating material	842,526	Jan. 29	5574	1179	126	1572
Cleary, Frank. (See Herrick and Cleary.)						
Clement, John F., Philadelphia, Pa. Pneumatic hammer	842,626	Jan. 29	5783	1221	126	1623
Cleveland, Edgar W., Springfield, Mass. Multiple-spindle drilling-machine	842,175	Jan. 29	4808	1026–7	126	1372
Clifford, James T., Houghton, Mich. Bottle	842,768	Jan. 29	6105	1288	126	1700
Cline, Alexander H., Jr., Kansas City, Mo., and J. H. Danver, Beaver, Pa. Construction of lavatories and like fixtures for domestic use	842,527	Jan. 29	5575	1179	126	1572
Cobb, Leander B., Stoneham, assignor to American Carpet Beater Company, Boston, Mass. Carpet-cleaning machine	842,385	Jan. 29	5261	1116	126	1492
Colby George G., Medford, Mass. Tug-strap for looms	842,176	Jan. 29	4810	1027	126	1373
Coleman, Abner, Kerby, Oreg. Drying apparatus	842,769	Jan. 29	6105	1288	126	1701
Coleman, Clarence W., Westfield, N. J., assignor to Hall Signal Company. Railway-signal	842,828	Jan. 29	6211	1311	126	1727
Coleman, Clyde J., New York, N. Y. Means for operating motor-vehicles	842,827	Jan. 29	6205	1310–11	126	1725
Coleman, Clyde J., New York, N. Y., assignor to Hall Signal Company. Railway-signal	842,300	Jan. 29	5061	1079	126	1435
Coleman, Clyde J., Rockaway, N. J., assignor to C. Hubert, New York, N. Y. Starting means for internal combustion engines	842,627	Jan. 29	5787	1222	126	1624
Columbia Hardware Company. (See Valentine, Harry J., assignor.)						
Columbian Hardware Company. (See Brothers, William H., assignor.)						
Condé, Charles A. (See Budd and Condé.)	842,770	Jan. 29	6107	1289	126	1701
Connelly, Patrick F., Sioux Falls, S. D. Adjustable trowel						
Contractors Wagon Company. (See MacClernan, Richard H., assignor.)						
Cook, Frank B. (See White, Charles E., assignor.)	842,301	Jan. 29	5065	1080	126	1436
Cook, Frank B., Chicago, Ill. Insulating ring and bracket	842,628	Jan. 29	5790	1222	126	1625
Cook, Frank B., Chicago, Ill. Substation-protector	842,386	Jan. 29	5263	1116	126	1493
Cook, Fred W., assignor to Chicago Hardware Foundry Co., North Chicago, Ill. Churn-dasher						
Cooley Epicycloidal Engine Development Company. (See Cooley, John F., assignor.)						
Cooley, John F., assignor of one-half to Cooley Epicycloidal Engine Development Company, Jersey City, N. J., and Boston, Mass. Cycloidograph	842,447	Jan. 29	5407	1146–7	126	1532
Cooper William, Denver, Colo. Automatic clutch	842,629	Jan. 29	5792	1225	126	1626
Cooper, William, Denver, Colo. Automatic clutch	842,630	Jan. 29	5795	1223–4	126	1626
Cove, George H., Roxbury, assignor of one-half to F. R. Kimball, Boston, Mass. Battery binding-post attachment	842,771	Jan. 29	6110	1289	126	1702
Cox, Millard F., Richmond, Va. Throttle-valve	842,448	Jan. 29	5409	1148	126	1532
Coyne, William. (See Arnold, Charles E., assignor.)						
Crawford, John G., La Grange, Ill., assignor to Western Electric Company, Chicago, Ill. Bandage-winding machine	842,302	Jan. 29	5066	1080	126	1436
Crawford, Wm. Gordon. (See Burnham, Arthur M., assignor.)	842,387	Jan. 29	5264	1117	126	1493
Crocker, Katherine E., Buffalo, N. Y. Bolster-holder						
Crompton, George, *et al.* (See Tillman, Thomas W., assignor.)						
Crompton, Randolph, *et al.* (See Tillman, Thomas W., assignor.)						
Curley, George. (See Smith, Enoch, assignor.)						
Cushman, Albert H., Chicago, Ill., assignor to Morley Manufacturing Company, Boston, Mass. Button-holder	842,177	Jan. 29	4810	1027	126	1373
Cutsforth, Fred D., Chetek, Wis. Corn-planting machine	842,388	Jan. 29	5266	1117	126	1493
Danver, James H. (See Cline and Danver.)						
Danver, James H., Beaver, Pa. Means for securing fixtures to supporting-surfaces	842,528	Jan. 29	5576	1179	126	1572
Davis, Arthur W. (See Bright and Davis.)						
Davis, James A. (See Downey and Davis.)						
De la Harpe, Charles, and R. Burckhardt, assignors to Dye-Works formerly L. Durand, Huguenin & Co., Basel, Switzerland. Leuco product from gallic compounds and alkyl-diamido-arylthiosulfonic acids, &c	842,303	Jan. 29	5069	.....	126	1437
De Medici, Bindo P., Florence, Italy. Closing device for receptacles with capsule and wire	842,179	Jan. 29	4815	1028	126	1374
De Vilbiss, Allen, assignor to De Vilbiss Manufacturing Company, Toledo, Ohio. Spray-producing point for atomizers	842,390	Jan. 29	5269	1118	126	1494
De Vilbiss Manufacturing Company. (See De Vilbiss, Allen, assignor.)	842,181	Jan. 29	4818	1028	126	1375
De Zeng, Henry L., Philadelphia, Pa. Nose-piece for eyeglasses						
Dean Electric Company. (See Dean, William W., assignor.)						
Dean, William W., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone trunking system	842,178	Jan. 29	4812	1027	126	1373
Dean, William W., assignor to Dean Electric Company, Elyria, Ohio. Party-line telephone system	842,772	Jan. 29	6111	1289–90	126	1702
Decker Electrical Manufacturing Company. (See Decker, Frank A., assignor.)						
Decker, Frank A., Philadelphia, Pa., assignor, by mesne assignments, to Decker Electrical Manufacturing Company, Wilmington, Del. Battery	842,389	Jan. 29	5267	1117–18	126	1494
Degen, William, and A. Manuel, Fresno, Cal. Transmission-gear	842,773	Jan. 29	6114	1290	126	1702
Delaunay-Belleville, Louis M. G., Neuilly sur Seine, assignor to Société Anonyme des Etablissements Delaunay-Belleville, Seine, France. Locking device	842,632	Jan. 29	5799	1224	126	1627
Del Mar, Harry, New York, N. Y., assignor to Boilers and Engineering Company, Jersey City, N. J. Water-tube boiler	842,633	Jan. 29	5800	1225	126	1628
Deming, Charles G., Kingston, N. Y. Door-check	842,304	Jan. 29	5070	1080	126	1437
Denayrouze, Louis, Paris, France. Low-pressure vapor-burning incandescent lamp	842,634	Jan. 29	5802	1225	126	1628
Deperdussin, Hippolyte, Paris, France, assignor to Pasteur Vaccine Company Limited, London, England. Apparatus for injecting solid vaccine matter	842,631	Jan. 29	5797	1224	126	1627
Dexter, Thomas F., Providence, R. I. Steam-heating system	842,180	Jan. 29	4816	1028	126	1375
Didrich, John H., assignor of eleven twenty-fourths to J. Schmitt and G. Orr, Celina, Ohio. Hitching-post	842,449	Jan. 29	5411	1149	126	1533
Diecks, Henry, Eastport, Me. Thermopile	842,391	Jan. 29	5270	1118–19	126	1494
Dieter, William, New York, N. Y. Internal-combustion engine	842,182	Jan. 29	4818	1028–9	126	1375
Dight, William M., Pittsburg, Pa. Washing-machine	842,305	Jan. 29	5070	1081	126	1437
Dittmar, Gustav, Offenbach-on-the-Main, Germany. Dust-separator for cleaning apparatus	842,529	Jan. 29	5577	1179	126	1572
Dodson, Roy, St. Louis, Mo. Amusement appparatus	842,635	Jan. 29	5804	1225–6	126	1628
Doherty, James G., Waterbury, Conn. Cigar-perforator	842,530	Jan. 29	5577	1180	126	1572
Doolittle, Irvin P., Toronto, Ontario, Canada. Cut-off valve	842,183	Jan. 29	4823	1029	126	1376
Dorris, George P., St. Louis, Mo. Means for cooling explosive-engine cylinders	842,531	Jan. 29	5578	1180	126	1573
Doss, Andrew J., Switchback, W. Va. Loading-machine	842,532	Jan. 29	5579	1180–2	126	1573
Douglas, William D. Air-feeding device	842,845	Jan. 29	6251	1320–1	126	1737
Dowdall, James T., New York, N. Y. Seam for sewed articles	842,184	Jan. 29	4824	1029	126	1376

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Downey, Edward J., and J. A. Davis, Cleveland, Ohio. Clutch	842,532	Jan. 29	5598	1182	126	1574
Draper Company. (See Hollins, Denis M., assignor.)						
Dressler, Leiser genannt Lorenz, Dresden, assignor to E. Vollbehr, Dresden-Röcknitz, Germany. Dust-binding composition and making same	842,636	Jan. 29	5807	.....	126	1629
Du Brul, Napoleon, Cincinnati, Ohio. Drier for cigarette-machines	842,534	Jan. 29	5587	1182–3	126	1575
Dudgeon, William M., executor. (See Mathers, William H., assignor.)						
Dudly, Albert, Sr., Menominee, Mich. Thill-support	842,126	Jan. 29	4829	1031	126	1378
Dudly, Albert, Sr., assignor to Dudly Tool Company, Menominee, Mich. Spike-puller	842,125	Jan. 29	4826	1030	126	1376
Dudly Tool Company. (See Dudly, Albert D., Sr., assignor.)						
Dunbar, Francis W., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone system	842,206	Jan. 29	5071	1081	126	1438
Duncan Electric Manufacturing Company. (See Duncan, Thomas, assignor.)						
Duncan, Thomas, assignor to Duncan Electric Manufacturing Company, La Fayette, Ind. Making commutators	842,629	Jan. 29	6214	1312	126	1728
Dunham, Clayton A., Marshalltown, Iowa. Automatic valve	842,637	Jan. 29	5806	1227	126	1629
Dunn, Lemuel E. (See Tatum, Cicero J., assignor.)						
Dunn, William C., Brooklyn, N. Y. Device for advertising effervescent liquids	842,630	Jan. 29	6216	1312	126	1728
Durant, William H., Concord, N. H. Sliding-door fastener	842,516	Jan. 29	5569	1183	126	1575
Durbin, Charles R., *et al.* (See McLane, Joseph A., assignor.)						
Dye-Works, formerly L. Durand, Huguenin & Co. (See De la Harpe and Burckhardt, assignors.)						
E. C. Fuller Company. (See Sturtevant, Charles A., assignor.)						
Eachus, Holton, assignor to Fairbank Canning Company, Chicago, Ill. Machine for applying solder to can-tops	842,187	Jan. 29	4831	1031–2	126	1378
Eagelman, Charles F., Geigers Mills, Pa. Burial-casket	842,831	Jan. 29	6217	1313	126	1729
Eberhard, William. (See Kasch and Eberhard.)						
Eckhard, John, assignor of one-half to J. P. Fell, Buffalo, N. Y. Explosive-engine	842,392	Jan. 29	5271	1119	126	1494
Edgarton, George M., Boston, Mass. Shirt-sleeve	842,536	Jan. 29	5590	1183	126	1756
Edwards, Robert L., Perry, Okla. Ter. Car-stake	842,638	Jan. 29	5809	1227	126	1630
Edwin J. Toof Company. (See Ammerman, William M., assignor.)						
Egly, Georg. (See Viertel and Egly.)						
Eichelberger, William H., Royalton, assignor of one-half to M. F. Meinsler, Middletown, Pa. Air-brake system	842,774	Jan. 29	6116	1290–1	126	1703
Elliott, Arthur H., New York, N. Y. Attachment for oil-lamps	842,537	Jan. 29	5591	1183	126	1576
Ellis, James J., *et al.* (See Ross, Thomas S., assignor.)						
Ellithorp, Orren S., Chicago, Ill., assignor to International Harvester Company. Combined portable elevator and corn-husking mechanism	842,775	Jan. 29	6119	1291–2	126	1704
Ellsworth, John M. (See Fay and Ellsworth.)						
Ellsworth, William B., Hudson, Ohio. Tuning-hammer	842,307	Jan. 29	5075	1081	126	1439
Elward, John H., Hutchinson, Kans. Storehouse for grain and other material	842,538	Jan. 29	5592	1184	126	1576
Emden, Paul, St. Gall, Switzerland. Stuffing-joint for rotary shafts	842,639	Jan. 29	5811	1227	126	1630
Emerson, R. W. (See Maynard, John, assignor.)						
Enggren, Charles A., Brooklyn, N. Y. Clothes-line support	842,188	Jan. 29	4837	1032	126	1380
Ennis, Michael, Newark, N. J. Bolt	842,450	Jan. 29	5412	1149	126	1533
Erby, Charles E., Chicago, Ill. Ventilator	842,308	Jan. 29	5076	1081–2	126	1439
Erickson, Erick A. (See Anderson, Erickson, and Wickstrom.)						
Estes, William B., Danville, Ill. Smoke-consuming furnace	842,189	Jan. 29	4838	1032	126	1380
Eureka Electric Company. (See Mehren, Martin V., assignor.)						
Exmoor Storage Battery Company. (See Morrison, William, assignor.)						
Fairbank Canning Company. (See Eachus, Holton, assignor.)						
Fay, Thomas J., New York, N. Y., and J. M. Ellsworth, Bernardsville, N. J. Clutch	842,640	Jan. 29	5812	1227–8	126	1631
Federation Hardware and Tool Company. (See Hurdle, Julian A., assignor.)						
Felbel, Jacob, New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine	842,451	Jan. 29	5413	1149	126	1533
Fell, Joseph P. (See Eckhard, John, assignor.)						
Fernan, Walter S., Jamaica, N. Y. Universally-adjustable foot for the legs of billiard-tables and similar articles	842,641	Jan. 29	5815	1228	126	1631
Ferranti, Sebastian Z. de, London, England. Fluid-controlling device	842,393	Jan. 29	5774	1119–20	126	1495
Ferris, Frederick C., and G. S. Tebbetts, assignors to L. B. Tebbetts & Sons Carriage Company, St. Louis, Mo. Knockdown vehicle-shaft	842,309	Jan. 29	5078	1082	126	1439
Féry, Charles. (See Heeley and Féry.)						
Fisher, George P., Jr., Chicago, Ill. Planter	842,642	Jan. 29	5816	1228	126	1631
Fisk, Henry M., Pella, Iowa. Traveling capstan	842,394	Jan. 29	5277	1121	126	1496
Fitz Simmons, William B., Chicago, Ill. Keyboard for musical instruments	842,539	Jan. 29	5597	1184–5	126	1577
Fitzgerald, Jesse R., Toronto, Ontario, Canada. Composition for wood-filling	842,190	Jan. 29	4839	.....	126	1380
Flach, John H. (See Schilling and Flach.)						
Flather, Robert B., Oakland, Cal., assignor to Bryan-Marsh Company, New York, N. Y. Rotating heating device for tabulating glass bulbs	842,191	Jan. 29	4839	1033	126	1380
Fleming, Charles R., Los Angeles, Cal. Combined fishing-float and line-holder	842,540	Jan. 29	5593	1185	126	1578
Floto, Matthew W., Chicago, Ill. Wire-cloth fabric	842,310	Jan. 29	5080	1082	126	1440
Flügge, Adolf, Hanover, Germany. Making ferrous carbonate	842,452	Jan. 29	5419	.....	126	1535
Fontneau, Frank, Attleboro, Mass. Comb	842,643	Jan. 29	5818	1228	126	1632
Foos Manufacturing Company. (See Mayer, George H., assignor.)						
Forbes, Charles T., Fresno, Cal. Gun-elevator	842,776	Jan. 29	6123	1292	126	1705
Forbes, James L., Pine Apple, Ala. Cuff-holder	842,192	Jan. 29	4841	1033	126	1380
Ford, William S. (See Mitchell and Ford.)						
Fornwalt, Franklin E., Harrisburg, Pa. Fountain-brush	842,644	Jan. 29	5819	1229	126	1632
Foster, Edwin W., Central Park, Long Island, N. Y.	842,453	Jan. 29	5420	1149–50	126	1536
Fournia, John, assignor of one-half to F. R. Greene, Ilion, N. Y. Means for heating feed-water	842,777	Jan. 29	6124	1292	126	1705
Fowler, James B., San Diego, Cal. Non-refillable bottle	842,305	Jan. 29	5279	1121	126	1496
Fownes Brothers & Co. (See Marsden, William N., assignor.)						
Fox, Benjamin O., assignor of one-half to M. S. Sheridan, Milwaukee, Wis. Telephone-exchange system	842,778	Jan. 29	6125	1292	126	1706
Frankel, Charles, New York, N. Y. Clothes-hanger support	842,193	Jan. 29	4844	1033	126	1381
Fraser, George H. (See Weikly, James N., assignor.)						
Fraser, William, Stockholm, Sweden, assignor to Wyckoff, Seamans & Benedict, Ilion, N. Y. Type-writing machine	842,306	Jan. 29	5281	1121	126	1497
Freeman, David W., Fishhawk, Oreg. Logging-dog or swamping-hook	842,779	Jan. 29	6127	1293	126	1706
Freeman, William A., Sycamore, Ga. Fertilizer-distributer	842,194	Jan. 29	4845	1034	126	1381
Fried. Krupp Aktiengesellschaft. (See Hermsdorf, Max, assignor.)						
Fried. Krupp Aktiengesellschaft. (See Krone, Johannes, assignor.)						
Fried. Krupp Aktiengesellschaft. (See Kurig, Josef, assignor.)						
Fried. Krupp Aktiengesellschaft. (See Mayer, Wilhelm, assignor.)						
Friedman, Andrew J., Canton, Ohio. Axle	842,307	Jan. 29	5283	1122	126	1497
Fucey, Joseph, *et al.* (See McLane, Joseph A., assignor.)						
Fuchs, Paul, Baltimore, Md. Marine torch	842,195	Jan. 29	4847	1034	126	1382
Gale, Horace B. (See Mundy and Gale.)						
Gallagher, Thomas, Butler, Pa. Picture and mirror frame	842,645	Jan. 29	5821	1229	126	1633

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Gardiner, Edwin L., Logan, Utah. Desk	842,780	Jan. 29	6129	1293	126	1707
Gaston, Mary L., New York, N. Y. Garment-supporter	842,541	Jan. 29	5600	1185	126	1578
Gaunt, Robert F., St. Louis, Mo. Self-locking switch-operating mechanism	842,646	Jan. 29	5822	1229	126	1633
Gebhardt, William, San Antonio, Tex. Nut-cracking machine	842,398	Jan. 29	5284	1122–3	126	1497
Gebrüder Siemens & Compagnie. (See Viertel and Egly, assignors.)						
General Fire Extinguisher Company. (See Taylor, John, assignor.)						
George, Japhus, Wilcox, Pa., and C. M. Shortle, Bernhards Bay, N. Y., assignors, by mesne assignments, to Newkirk Glass Company, Pierre, S. D. Sheet-glass-drawing furnace	842,399	Jan. 29	5297	1123	126	1503
	842,454	Jan. 29	5421	1150	126	1536
Gibler, Benjamin F., Winslow, Ill. Cement fence-post	12,602	Jan. 29	6266	1324	126	1740
Gibson, Arthur H., Easton, Pa., assignor to Ingersoll-Sergeant Drill Company, New York, N. Y. Electropneumatic channeler. (Reissue)	842,781	Jan. 29	6130	1293	126	1707
Gilmore, Edward E., Philadelphia, Pa. Insulated-crossover for electric railways	842,846	Jan. 29	6255	1321–2	126	1738
Glasscoe, Thomas H., Wanstead, England. Carbureted-air apparatus	842,455	Jan. 29	5422	1150–2	126	1536
Gleason, James E., assignor to Gleason Works, Rochester, N. Y. Gear-cutting machine	842,400	Jan. 29	5299	1123	126	1504
Gleason Works. (See Gleason, James E., assignor.)						
Gleim, Dietrich, Hastings, Minn. Hame attachment	842,647	Jan. 29	5824	1230	126	1633
Gmeiner, Alphonsen J., *et al.* (See Gmeiner, William, assignor.)	842,782	Jan. 29	6132	1294	126	1707
Gmeiner, William, assignor of one-half to J. A. Cameron and A. J. Gmeiner, Pittsburg, Kans. Nut-lock	842,196	Jan. 29	4850	1035	126	1382
Goerdes, Frederick W., Newark, N. J. Button	842,542	Jan. 29	5602	1185	126	1578
Gohmann, Charles L., assignor of two-thirds to E. G. Gohmann and J. Kahler, New Albany, Ind. Stove	842,401	Jan. 29	5299	1123	126	1504
Gohmann, Edmund G., *et al.* (See Gohmann, Charles L., assignor.)	842,456	Jan. 29	5440	1152	126	1542
Goldsmith, Benjamin, Connellsville, Pa. Garment-hook	842,648	Jan. 29	5825	1230	126	1633
Goodell, I. Welton, Norwalk, Ohio. Venetian blind	842,311	Jan. 29	5081	1083	126	1440
Gordon, Douglas, Worcester, Mass., assignor to Marcus Mason & Company, New York, N. Y. Coffee-drier	842,832	Jan. 29	6218	1313	126	1729
Gordon, Edsil R., and D. R. Throop, assignors to Gordon-Throop-Wolfe Company, Harrington, Wash. Platform-leveling device for harvesters	842,402	Jan. 29	5300	1124	126	1502
Gordon-Throop-Wolfe Company. (See Gordon and Throop, assignors.)						
Gottwald, Christian, Cleveland, Ohio. Boiler-tube cleaner	842,649	Jan. 29	5827	1231	126	1634
Graham, John W. (See Sebring and Graham.)						
Grant, Robert E., assignor to J. Oppenneer, Grand Rapids, Mich. Sewing-machine motor	842,650	Jan. 29	5829	1231	126	1634
Graves, Eugene E., Lincoln, Nebr., assignor of one-half to F. E. Sanders, Danville, Ill. Tire-tightener	842,312	Jan. 29	5083	1083	126	1441
Green, Gordon, *et al.* (See Moore, John J., assignor.)	842,651	Jan. 29	5829	1232	126	1634
Green, Richard P., Chicago, Ill. Sheet-music turner	842,403	Jan. 29	5302	.....	126	1505
Greene, Frederick R. (See Fournia, John, assignor.)	842,543	Jan. 29	5603	1186	126	1579
Greenfield, Jesse C., Macon, Mo. Shears	842,652	Jan. 29	5831	1232	126	1635
Greyer, Julius, assignor to W. T. Wagner's Sons, Cincinnati, Ohio. Water-cooler	842,544	Jan. 29	5605	1186	126	1579
Grossman, George, New York, N. Y. Display-rack	842,653	Jan. 29	5833	1232	126	1635
Hadfield, Robert A., Sheffield, England. Magnetic alloy	842,457	Jan. 29	5441	1152–3	126	1542
Haeske, Charles M., South Bend, Ind. Sprinkling-wagon	842,654	Jan. 29	5834	1233	126	1635
Hale-Kilburn Metal Company. (See Budd and Condé, assignors.)	842,655	Jan. 29	5835	1233	126	1636
Hall Signal Company. (See Coleman, Clarence W., assignor.)	842,656	Jan. 29	5839	1233	126	1636
Hall Signal Company. (See Coleman, Clyde J., assignor.)	842,197	Jan. 29	4851	1035	126	1383
Hall Signal Company. (See Hewett, Robert J., assignor.)	842,657	Jan. 29	5841	1234	126	1637
Hall Signal Company. (See Wilson, Adoniram J., assignor.)	842,198	Jan. 29	4852	1035	126	1383
Hall Signal Company. (See Coleman, Clarence W., assignor.)	842,783	Jan. 29	6133	1294	126	1708
Hall Signal Company. (See Coleman, Clyde J., assignor.)	842,313	Jan. 29	5084	1083–4	126	1441
Hall Signal Company. (See Hewett, Robert J., assignor.)	842,458	Jan. 29	5446	1153	126	1544
Hall Signal Company. (See Wilson, Adoniram J., assignor.)	842,660	Jan. 29	5846	1235	126	1638
Hamilton, Erastus, Chicago, Ill. Bottle	842,658	Jan. 29	5843	1234	126	1637
Hamlin, John S. (See Aikman, Bert, assignor.)	842,659	Jan. 29	5845	1234	126	1637
Handian, Alexander H., Jr., St. Louis, Mo. Railway-track drill	842,694	Jan. 29	5949	1253–4	126	1664
Hanson, Freeman, Hollis Center, Me. Rotary harrow	842,545	Jan. 29	5606	1187	126	1579
Harding, Samuel B., Waukesha, Wis. Aerial ferry	842,546	Jan. 29	5607	.....	126	1580
Hardsocg, Martin, Ottumwa, Iowa. Mounting for rock-drills	842,833	Jan. 29	6219	1313	126	1729
Hardsocg, Martin, Ottumwa, Iowa. Pneumatic hammer	842,314	Jan. 29	5085	1084	126	1441
Hardsocg, Martin, Ottumwa, Iowa. Support for pneumatic tools	842,661	Jan. 29	5848	1235	126	1638
Harger & Blish. (See Blish and Silzer, assignors.)	842,459	Jan. 29	5446	1154	126	1544
Harper, Hind T., Footville, Wis. Fence	842,547	Jan. 29	5609	1187	126	1580
Harper, John D., New York, assignor to C. W. Anderson, Brooklyn, N. Y. Hod-elevator	842,199	Jan. 29	4853	1036	126	1383
Harrison, Albert W., Baltimore, Md. Mounting-block for printing-plates	842,548	Jan. 29	5611	.....	126	1581
Harrison, Arthur E., Dandridge, Tenn. Vending apparatus	842,200	Jan. 29	4854	1036	126	1384
Harrison, Henry W., Clinton, Iowa. Mirror-support	842,315	Jan. 29	5087	1084	126	1442
Hart, Fred L. (See Hart, Henry D. and F. L.)	842,662	Jan. 29	5849	1235–6	126	1638
Hart, Henry D. and F. L., West Mineral, Kans. Stovepipe	842,460	Jan. 29	5449	1154	126	1544
Hart, John B., *et al.* (See McLane, Joseph A., assignor.)	842,461	Jan. 29	5451	1154–5	126	1545
Harvey, Frederick, assignor of one-half to A. H. Woods, New York, N. Y. Disappearing theater-chair	842,784	Jan. 29	6138	1294	126	1708
Haskell, Charles L., Boston, Mass. Solar heater						
Haverman, William, assignor of one-half to A. F. Marsh, Cleveland, Ohio. Toy						
Hayes, Henri P., Locle, Switzerland. Dividing-machine						
Hayward, Eugene, Clayton, Mich., assignor of two-thirds to J. T. Lueder and J. B. Morris, Chicago, Ill.						
Electrical connection for railway-rails						
Heany, John A., York, Pa. Manufacture of luminant for electric lamps						
Hedstrom, Carl O., Springfield, Mass. Convertible bicycle and tricycle frame						
Heeley, George, and C. Féry; said Heeley assignor to La Compagnie pour la Fabrication des Compteurs et Material d'Usines à Gaz, Paris, France. Pyrometer						
Heider Manufacturing Co. (See Luse, David N., assignor.)						
Hein, Adolf, Berlin, Germany. Dust-suction apparatus						
Hellweg, Henry, Milwaukee, Wis., assignor to Acme Heel Company, Rochester, N. Y. Cord-fastener						
Herd, Adolph. (See Schofield and Herd.)						
Hermetic Closure Co. (See Landsberger and Buhles, assignors.)						
Hermsdorf, Max, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Barrel-recoil gun with wedge breech-block						
Herrick, Bert H., and F. Cleary, Rugby, N. D. Grass-cutter						
Hersberg, Wilhelm, assignor to Actien Gesellschaft für Anilin Fabrikation, Berlin, Germany. Azo dye and making same						
Hess, Herman, Indianapolis, Ind. Magneto						
Hewett, Robert J., Westfield, N. J., assignor to Hall Signal Company. Single-track signaling system						
Hewitt, Stratford R. (See Rayburn, Guy H., assignor.)						
Heydrick, Jesse A., Butler, Pa. Drafting instrument						
Heyl & Patterson. (See Knapp and Mulholland, assignors.)						
Hibner, Philip D., Seattle, Wash. Railway-switch						
Hill, Nels, Sykeston, N. D. Railway snow-plow						
Hill, William B., Terre Haute, Ind. Toy						

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Hintz, Otto E., Bellevue, Iowa. Mechanical movement	842,785	Jan. 29	6137	1295	126	1708
Hixon, Hiram W., Victoria Mines, Ontario, Canada. Blast-furnace	842,683	Jan. 29	5995	1237	126	1645
Hobart, Adam J., St. Johnsville, assignor to Roth and Engelhardt, New York, N. Y. Coin-controlled actuating mechanism for autopneumatic pianos	842,462	Jan. 29	5452	1155	126	1546
Hoepner, George, Chicago, Ill., assignor to Union Scale & Mfg. Co., San Francisco, Cal. Power-driven weighing-machine	842,664	Jan. 29	5997	1237–8	126	1646
Hoepner, George, Chicago, Ill., assignor to Union Scale & Mfg. Co., San Francisco, Cal. Weighing-machine	842,665	Jan. 29	5978	1238–9	126	1646
Hogan, Martin J., Canton, Ohio. Traction-engine	842,786	Jan. 29	6138	1295–6	126	1709
Hollins, Denis M., Blackburn, England, assignor to Draper Company, Hopedale, Mass. Thread-parter for weft-replenishing looms	842,666	Jan. 29	5979	1239	126	1649
Holt, William H., Providence, R. I. Releasing screw-arbor for milling-machines and the like	842,787	Jan. 29	6143	1296	126	1710
Hoon, Lloyd G., Belle Center, Ohio. Rail-fastening apparatus	842,549	Jan. 29	5612	1187	126	1581
Hoppesch, John P., Chicago, Ill. Horseshoe	842,316	Jan. 29	5100	1085	126	1446
Horning, Maurice O., Broughton, Pa. Automatic mine-car switch	842,667	Jan. 29	5981	1239–40	126	1649
Houts, William H., San Bernardino, Cal. Pool-table pocket	842,550	Jan. 29	5613	1187–8	126	1581
Howe, Solon G., Detroit, Mich. Composite roadway and constructing the same	842,201	Jan. 29	4955	1037	126	1384
Howe, Solon G., Detroit, Mich. Railway-track construction	842,202	Jan. 29	4956	1037	126	1384
Howerton, John B., Burke, Ky. Vehicle-brake	842,203	Jan. 29	4960	1037	126	1385
Hubert, Conrad. (See Coleman, Clyde J., assignor.)						
Huey, James E., assignor of one-half to W. C. Lovejoy, Charlotte, N. C. Door-pivoting device	842,668	Jan. 29	5983	1240	126	1650
Hughes, Henry A., St. Louis, Mo. Physician's cabinet	842,669	Jan. 29	5985	1240–1	126	1650
Hunter, Robert L., Cleveland, Ohio. Fishing-reel	842,551	Jan. 29	5615	1188	126	1581
Huntoon, Fred M., Riverside, Cal. Solar heater	842,788	Jan. 29	6144	1296	126	1710
Hurdle, Julian A., New York, N. Y., assignor of one-half to Federation Hardware and Tool Company. Knob-lock	842,834	Jan. 29	6222	1314	126	1730
Hutcheson, Caswell L., Chattanooga, Tenn. Brick-holder for use in the care of live stock	842,835	Jan. 29	6224	1314	126	1730
Ingersoll-Sergeant Drill Company. (See Gibson, Arthur H., assignor.) (Reissue.)						
International Harvester Company. (See Ellithorp, Orren S., assignor.)						
J. H. Williams & Co. (See Albee, Honestus M., assignor.)						
J. J. Ryan and Company. (See McCormick, Joseph A., assignor.)						
Jackson, George W., Chicago, Ill. Constructing retaining-walls	842,552	Jan. 29	5620	1188–9	126	1582
Jacques, John S., Boston, Mass. Pneumatic-despatch-tube system	842,836	Jan. 29	6225	1314–15	126	1730
Jayne, Maurice D., Phillipsburg, N. J. Lubricator	842,553	Jan. 29	5623	1189	126	1583
John, Harley C., Riverside, Cal. Corner-brace	842,789	Jan. 29	6146	1297	126	1711
Johnson, Albert, New York, N. Y. Electric water-alarm	842,554	Jan. 29	5625	1189	126	1584
Johnson, Aron E., Seattle, Wash. Miter-clamp	842,555	Jan. 29	5627	1189	126	1584
Johnson, Benjamin F., Pontiac, Ill. Skirt-supporter	842,317	Jan. 29	5102	1085	126	1446
Jones, Thomas E., Cincinnati, Ohio. Device for cutting piston-packing or the like	842,556	Jan. 29	5628	1190	126	1584
Kahler, Joseph, *et al.* (See Gohmann, Charles L., assignor.)						
Kalserreiner, Johann, Haag, Austria-Hungary. Candle-extinguisher	842,463	Jan. 29	5453	1155	126	1546
Kasch, Frederick C., and W. Eberhard, assignors to Kasch Roofing Company, Akron, Ohio. Self-closing hinge for shutters	842,404	Jan. 29	5302	1124	126	1506
Kasch Roofing Company. (See Kasch and Eberhard, assignors.)						
Keep, William J., and H. C. Maul, assignors to Michigan Stove Company, Detroit, Mich. Stove	842,557	Jan. 29	5630	1190	126	1585
Kehr, Cyrus, Knoxville, assignor to E. Koella, Rockford, Tenn. Machine for making mops and brushes	842,204	Jan. 29	4961	1038	126	1385
Keller, Charles A., Rosedale, Ind. Mine-car	842,670	Jan. 29	5987	1241	126	1650
Kellogg Switchboard and Supply Company. (See Dean, William W., assignor.)						
Kellogg Switchboard and Supply Company. (See Dunbar, Francis W., assignor.)						
Kelly, John F., and H. S. Maddock, assignors to Thomas Maddock's Sons Company, Trenton, N. J. Lavatory	842,558	Jan. 29	5631	1190–1	126	1585
Kelly, Patrick, assignor of one-half to J. J. Power, Worcester, Mass. Bevel-protractor	842,205	Jan. 29	4906	1038	126	1387
Kenisell, John E., and C. C. Lowry, Detroit, Mich. Concrete-mixer	842,206	Jan. 29	4907	1038–9	126	1387
Ketzscher, Alwin, Rixdorf-Berlin, Germany. Newspaper-holder	842,464	Jan. 29	5454	1155	126	1546
Keyes, James A., assignor to J. Mulholland, New York, N. Y. Fluid-vending machine	842,207	Jan. 29	4909	1039	126	1387
Kimball, Frank R. (See Cove, George H., assignor.)						
King, Charles B. (See King, Barnhart, and King.)						
King, George W., H. J. Barnhart, and C. B. King, assignors to Marion Steam Shovel Company, Marion, Ohio. Steam-engine	842,465	Jan. 29	5454	1156–7	126	1546
King, William C., assignor of one-half to W. G. Aiken, Campbell, Cal. Disk harrow	842,671	Jan. 29	5989	1241	126	1651
Kinnear, Clifford W., Beardstown, Ill. Mortising-tool	842,318	Jan. 29	5103	1085	126	1446
Kinnebrew, James E., Sharpsburg, Pa. Car-fender	842,559	Jan. 29	5633	1191	126	1585
Kirby, Gulesberry M., Aurora, Mo. Tent	842,672	Jan. 29	5991	1242	126	1651
Kirchhoff, Richard, assignor to Actien Gesellschaft für Anilin Fabrikation, Berlin, Germany. Orange lake and making same	842,560	Jan. 29	5636	.....	126	1586
Kirkman, Fred L., Glenwood, Mo. Side-delivery hay-rake	842,208	Jan. 29	4972	1039–40	126	1388
Knapp, Charles R., and V. Mulholland, assignors to Heyl & Patterson, Incorporated, Pittsburg, Pa. Device for introducing glass to leers	842,209	Jan. 29	4973	1040–1	126	1388
Knapp, Charles R., Pittsburg, and V. Mulholland, Allegheny, assignors to Heyl & Patterson, Incorporated, Pittsburg, Pa. Device for conveying glassware to leers	842,210	Jan. 29	4980	1041–2	126	1389
Knight, Richard. (See Price, George T., assignor.)						
Knight, William B. (See Woodson, Knight, and Nilson.)						
Koeb, Emil. (See Thompson and Koeb.)						
Koelkebeck, Carl W. A., East Cleveland, Ohio. Roof structure	842,561	Jan. 29	5637	1191–2	126	1586
Koella, Ernest. (See Kehr, Cyrus, assignor.)						
Kohl, John W., Marshfield, Wis., assignor of one-half to G. H. Reynolds. Ink-fountain for printing-presses	842,466	Jan. 29	5456	1157–8	126	1547
Kolb, Otto, Karlsruhe, Germany. Elastic-fluid turbine	842,211	Jan. 29	4983	1042–3	126	1389
Kottmair, Lorenz, and R. Zwack, Munich, Germany. Electrical apparatus for setting the points and signals on railways	842,673	Jan. 29	5992	1242–3	126	1652
Krause, Walter W., Greenleaf, Wis. Door-latch	842,562	Jan. 29	5638	1192	126	1587
Krentler-Arnold Hinge Last Company. (See Krentler, George A., assignor.)						
Krentler, George A., assignor to Krentler-Arnold Hinge Last Company, Detroit, Mich. Last	842,319	Jan. 29	5104	1086	126	1446
Krone, Johannes, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Training-lever for guns	842,563	Jan. 29	5641	1193	126	1587
Kronke, Richard P., Meriden, Conn. Tug-loop	842,467	Jan. 29	5462	1158	126	1549
Kügelgen, Franz von. (See Seward and von Kügelgen.)						
Kunkel, Ferdinand, Concordia, Kans. Animal-trap	842,837	Jan. 29	6282	1315	126	1732
Kunst, George H. A., *et al.* (See McLane, Joseph A., assignor.)						
Kurig, Josef, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Sighting device for portable guns	842,564	Jan. 29	5642	1193–4	126	1588
Kusel, Harry J., Chicago, Ill., assignor to Williams-Abbott Electric Company, Cleveland, Ohio. Annunciator	842,565	Jan. 29	5643	1194	126	1588
Kutnow Bros. (See Powers, Timothy B., assignor.)						
Kyle, John A., Chicago, Ill. Material for protecting sheets, &c., in tinning	842,212	Jan. 29	4989	.....	126	1389

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
L. B. Tebbetts & Sons Carriage Company. (See Ferris and Tebbetts, assignors.)						
L. B. Tebbetts & Sons Carriage Company. (See Tebbetts, George S., assignor.)						
La Compagnie pour la Fabrication des Compteurs et Materiel d'Usines à Gaz. (See Heeley and Fery, assignors.)						
La Cour, Jens L. (See Arnold and La Cour.)						
La Société de Moya et Cie. (See Moya, José de, assignor.)						
Lagergren, Jonas T., New York, N. Y. Explosion-engine	842,468	Jan. 29	5463	1158	126	1548
Lagrange, Paul P., New Orleans, La. Combined lounge and folding bed with a canopy	842,674	Jan. 29	5993	1243–4	126	1654
Lake Shore Stone Company. (See Ross, Charles D., assignor.)						
Lamb, Frank H. (See Morgan, Lewis, assignor.)						
Landers, Burrell T., Cherryvale, Kans. Handle	842,790	Jan. 29	6146	1297	126	1711
Landsberger, Julius A., Alameda, and W. C. Buhles, San Francisco, Cal., assignors to Hermetic Closure Co., Chicago, Ill. Vacuum sealing apparatus	842,320	Jan. 29	5105	1086	126	1447
Lanquist, Andrew, Chicago, Ill. Apparatus for laying concrete floors	842,566	Jan. 29	5648	1194	126	1589
Latta, Joshua W., Melvern, Kans. Railway signal apparatus	842,675	Jan. 29	5995	1244	126	1654
Lavallée, Ollvier, Boston, Mass. Lens-grinding machine	842,676	Jan. 29	5910	1244–5	126	1655
Leland, Herbert J. (See Leland, John A., assignor.)						
Leland, John A., assignor of one-half to H. J. Leland, Millers Falls, Mass. Chuck	842,469	Jan. 29	5465	1158	126	1548
Leonard, Seth A., Cleveland, Ohio. Switch for storage batteries	842,405	Jan. 29	5306	1125	126	1506
Leser, Edward L. (See White, James L., assignor.)						
Lewis, Lewis C., assignor to Monarch Manufacturing Company, Columbus, Ohio. Water-motor	842,406	Jan. 29	5308	1125	126	1506
Liebknecht, Otto, Frankfort-on-the-Main, Germany, assignor to Roessler & Hasslacher Chemical Company, New York, N. Y. Manufacturing sodium perborate	842,470	Jan. 29	5466	.....	126	1548
Liebknecht, Otto, Frankfort-on-the-Main, Germany, assignor to Roessler & Hasslacher Chemical Company, New York, N. Y. Making alkali perborates	842,471	Jan. 29	5467	.....	126	1549
Liebknecht, Otto, Frankfort-on-the-Main, Germany, assignor to Roessler & Hasslacher Chemical Company, New York, N. Y. Making alkali perborates	842,472	Jan. 29	5468	.....	126	1549
Liebknecht, Otto, Frankfort-on-the-Main, Germany, assignor to Roessler & Hasslacher Chemical Company, New York, N. Y. Making alkali perborates	842,473	Jan. 29	5469	.....	126	1549
Lightbody, James A., Waterville, Me. Brake-rigging	842,474	Jan. 29	5470	1150	126	1549
Lightford, William L., assignor to J. O. Sloan, Indianapolis, Ind. Fare-register	842,475	Jan. 29	5471	1159	126	1550
Lightford, William L., assignor to J. O. Sloan, Indianapolis, Ind. Fare-register	842,476	Jan. 29	5474	1159	126	1550
Lindburg, Joseph. (See Scherer and Lindburg.)						
Lindsly, Harry C., Kansas City, Mo. Automatic discharging apparatus	842,567	Jan. 29	5650	1194–5	126	1589
Lines, Jacob D. (See Spink, Casslus M., assignor.)						
Linkmeyer, Rudolf, Herford, Germany. Manufacturing glossy cellulose threads	842,568	Jan. 29	5652	1195	126	1590
Linsenmeyer, Charles F., Port Washington, Ohio. Column	842,213	Jan. 29	4990	1043	126	1393
Livingston, Max. (See Okell, George E., assignor.)						
Lodor, Napoleon, Chattanooga, Tenn. Bearing-metal package	842,477	Jan. 29	5477	1160	126	1551
Loewer, Henry F., Rochester, N. Y. Manufacturing lasts	842,478	Jan. 29	5479	1160	126	1551
Long, Abraham L., New Bloomfield, Pa. Pile-lifter	842,321	Jan. 29	5110	1086	126	1448
Lovejoy, Welcome C. (See Huey, James E., assignor.)						
Lowry, Clarence C. (See Kenisell and Lowry.)						
Luckau, Wilhelm H., Magdeburg, Germany. Hot-bed frame	842,214	Jan. 29	4991	1043	126	1393
Ludolph, Carl, Berlin, Ontario, Canada. Suspenders	842,677	Jan. 29	5913	1245	126	1656
Lueder, John T., *et al.* (See Hayward, Eugene, assignor.)						
Lummis, Henry M. (See Cawthorne and Lummis.)						
Luse, David N., assignor to Helder Manufacturing Co., Carroll, Iowa. Neck-yoke attachment	842,791	Jan. 29	6148	1297	126	1711
Lutz, George A., New York, N. Y., and C. C. Sibley, Perth Amboy, N. J. Means for supporting receptacles and the like	842,479	Jan. 29	5480	1160	126	1551
MacClernan, Richard H., assignor to Contractors Wagon Company, Philadelphia, Pa. Dump-wagon	842,480	Jan. 29	5481	1160	126	1552
Macbeth-Evans Glass Company. (See Schnelbach, Henry A., assignor.)						
Machlet, George, Jr., Elizabeth, N. J. Gas-burner	842,792	Jan. 29	6149	1297	126	1711
Macphail, James, Davenport, Iowa. Flask for sand-molds	842,322	Jan. 29	5111	1087	126	1448
Maddock, Harry S. (See Kelly and Maddock.)						
Malloy, William J., Chicago, Ill. Hammer	842,323	Jan. 29	5112	1087	126	1449
Mamy, Gustave, Paris, France. Extra-highly-vibrating contact-breaker	842,407	Jan. 29	5311	1126	126	1507
Manewallange Biscuit Company. (See Rohrseen, George G., assignor.)						
Månsson, Magnus, Helsingborg, Sweden. Sail-hank	842,215	Jan. 29	4892	1044	126	1394
Manuel, Augustus. (See Degen and Manuel.)						
Marconi's Wireless Telegraph Company. (See Russo, Charles, assignor.)						
Marcus Mason & Company. (See Gordon, Douglas, assignor.)						
Marion Steam Shovel Company. (See King, Barnhart, and King, assignors.)						
Mark, Ottis, Ainsworth, Nebr. Attachment for wagon-bodies	842,216	Jan. 29	4893	1044	126	1394
Markham Air Rifle Company. (See Markham, William F., assignor.)						
Markham, William F., assignor to Markham Air Rifle Company, Plymouth, Mich. Air-gun	842,324	Jan. 29	5113	1087	126	1449
Marks, Arthur H., Akron, Ohio. Forming inner tubes for tires	842,217	Jan. 29	4894	1044	126	1394
Marsden, William N., Amsterdam, assignor to Fownes Brothers & Co., New York, N. Y. Glove-blank	842,408	Jan. 29	5312	1126	126	1507
Marsh, Arthur F. (See Haverman, William, assignor.)						
Marsh, Caroline F., New York, N. Y. Vitreous article and treating same	842,218	Jan. 29	4895	1044	126	1394
Marsh, Caroline F., New York, N. Y. Bottle or like article	842,219	Jan. 29	4897	1045	126	1395
Martin, Clifford E., Greenfield, Mass. Reamer	842,481	Jan. 29	5482	1161	126	1552
Martin, Daniel W., Broaddus, Tex. Grip-hook for log-loaders	842,220	Jan. 29	4898	1045	126	1395
Martin, Fenton N., Virden, Ill. Snow-shovel attachment for pitchforks	842,221	Jan. 29	4899	1045	126	1395
Martin, James V., assignor of one-third to T. C. Brian, Baltimore, Md. Furnace	842,678	Jan. 29	5915	1245–6	126	1656
Martin, William, Wilkinsburg, Pa. Car-brake	842,679	Jan. 29	5917	1246	126	1656
Mason Regulator Company. (See Mason, William B., assignor.)						
Mason, William B., Boston, Mass., assignor to Mason Regulator Company, Saco, Me. Wrist-pin bearing for engines	842,847	Jan. 29	6260	1323	126	1739
Matcham, Charles A., Allentown, Pa. Burning cement	842,848	Jan. 29	6262	1323	126	1739
Mathers, William H., New York, N. Y., assignor to W. M. Dudgeon, Cold Spring Harbor, N. J., executor of Richard Dudgeon, deceased. Tube-expander	842,569	Jan. 29	5653	1195	126	1590
Matson, Gustave, Crookston, Minn. Hay-sling lock	842,482	Jan. 29	5484	1161	126	1552
Maul, Henry C. (See Keep and Maul.)						
Mayer, Wilhelm, Essen-Ruttenscheid, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Mount for portable guns	842,570	Jan. 29	5655	1196	126	1590
Maynard, John, assignor of two-thirds to R. W. Emerson and W. B. Treat, Cleveland, Ohio. Paper-feeding mechanism for type-writers	842,680	Jan. 29	5918	1246	126	1657
Mayne, George H., assignor to Foos Manufacturing Company, Springfield, Ohio. Cob breaker or crusher	842,681	Jan. 29	5919	1247–8	126	1657
Mays, James F., Birmingham, Ala. Registering mechanism for calculating-machines	842,682	Jan. 29	5924	1248–9	126	1658
McCahon, Alexander, St. Joseph, Mo. Electric danger-signal	842,574	Jan. 29	5661	1197	126	1592
McCarthy, Felix, Pottstown, Pa. Packing	842,230	Jan. 29	4917	1049	126	1399
McCausland, William, Brooklyn, N. Y. Combination-tool	842,806	Jan. 29	6169	1302–3	126	1716

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McClean, Horatio T., Durant, Iowa. Wire-grip	842,399	Jan. 29	5130	1090	126	1454
McCormick, Joseph A., assignor to J. J. Ryan and Company, Chicago, Ill. Adjustable standard	842,230	Jan. 29	5131	1090	126	1455
McDowell, Valentine H., Lynn, Mass. Pneumatic tire	842,231	Jan. 29	4919	1049–50	126	1460
McFarland, Charles N., Dorranceton Borough, assignor to Adder Machine Company, Kingston borough, Pa. Adding-machine	842,232	Jan. 29	4921	1050–1	126	1460
McGilvray, Thomas F., *et al.* (See Wilson and Rigdon, assignors.)						
McLane, Joseph A., Grafton, assignor to J. B. Hart, Harrison county, J Fucey, Lewis county, C. R. Durbin and G. H. A. Kunst, Taylor county, W. Va. Making glass articles	842,233	Jan. 29	4927	1051	126	1461
McMahon, Michael, Toledo, Ohio. Printing attachment for paper-roll holders and cutters	842,486	Jan. 29	5492	1163	126	1555
McMahon, Michael, Toledo, Ohio. Paper-roll holder and cutter	842,487	Jan. 29	5494	1163	126	1555
McMahon, Michael F., Worcester, Mass. Self-retaining adjusting means for clutch-actuating draft-bolts	842,575	Jan. 29	5982	1197	126	1698
McNerney, Peter, Lake Elmo, Minn. Apparatus for unloading platform-cars	842,297	Jan. 29	4171	1303–4	126	1717
McVey, Theodore J., assignor to Carlton & McVey, Syracuse, N. Y. Belt-shifter	842,298	Jan. 29	4173	1304	126	1717
Mead, George A., Mansfield, Ohio. Catenary suspension for trolley-wires	842,222	Jan. 29	4909	1045–6	126	1396
Meats, John T., Taunton, Mass. Top-roll clearer for spinning-frames	842,488	Jan. 29	5495	1161	126	1552
Mehren, Martin V., Genoa, assignor to Eureka Electric Company, Chicago, Ill. Combined annunciator and jack for telephone-switchboards	842,409	Jan. 29	5814	1126	126	1807
Mehren, Martin V., Genoa, assignor to Eureka Electric Company, Chicago, Ill. Telephone-switchboard	842,410	Jan. 29	5816	1126–7	126	1808
Meinsler, Millard F. (See Eichelberger, William H., assignor.)						
Meirowsky, Max, Cologne-Ehrenfeld, Germany. Insulation for commutators	842,571	Jan. 29	5966	1196	126	1591
Mereen, Arno, Minneapolis, Minn. Resawing-machine	842,572	Jan. 29	5965	1196–7	126	1591
Merrill, Charles W., Lead, S. D. Pressure-filter	842,484	Jan. 29	5487	1162	126	1553
Merwin, George, M. D., St. Louis, Mo. Starting-crank	842,793	Jan. 29	6151	1298	126	1712
Messinger, Oliver, Sheridan, Wyo. Straight-edge	842,411	Jan. 29	5817	1127	126	1808
Metcalf, Leonard B., Spartanburg, S. C. Reversible harrow	842,223	Jan. 29	4908	1046	126	1396
Meyer, Fritz. (See Bergell and Meyer.)						
Michigan Stove Company. (See Keep and Maul, assignors.)						
Middleton, Arthur R. (See White and Middleton.)						
Miller, John, Minneapolis, Minn., assignor to Winner Block Machine Company. Brick-machine	842,412	Jan. 29	5818	1127	126	1808
Miller, Joseph S., Palmdale, Cal. Wheel	842,485	Jan. 29	5492	1163	126	1555
Miller, Lester, Yonkers, N. Y. Weft-replenishing mechanism for looms	842,662	Jan. 29	5989	1249–50	126	1659
Miller, Reinhold A., Indianapolis, Ind. Electromagnetic power-generator	842,413	Jan. 29	5331	1128	126	1509
Miller, William J. D., Hillsboro, Mo. Reversing gear	842,694	Jan. 29	6003	1250	126	1660
Mills, William S., assignor to W. S. Mills Company, Bridgeport, Conn. Undershirt	842,224	Jan. 29	4906	1046	126	1397
Mitchell, James O., Basic City, Va. Gate-catch	842,695	Jan. 29	6004	1250	126	1660
Mitchell, La Fayette, and W. S. Ford, Nebo, Ill. Rail-tie	842,573	Jan. 29	5990	1197	126	1592
Mohns, Carl J., Chemnitz, assignor to Firm of Wanderer Fahrradwerke, vorm. Winklhofer & Jaenicke, A. G., Schönau, Saxony, Germany. Spacing mechanism for type-writers	842,794	Jan. 29	6153	1298	126	1713
Mohns, Carl J., Chemnitz, assignor to Wanderer Fahrradwerke, vorm. Winklhofer & Jaenicke, A. G., Schönau, Saxony, Germany. Paper-guide	842,796	Jan. 29	6153	1298	126	1713
Mohns, Carl J., Chemnitz, assignor to Wanderer Fahrradwerke, vorm. Winklhofer & Jaenicke, A. G., Schönau, Saxony, Germany. Device for locking the key-levers in type-writing machines	842,796	Jan. 29	6154	1299	126	1713
Mohns, Carl J., Chemnitz, assignor to Wanderer Fahrradwerke, vorm. Winklhofer & Jaenicke, A. G., Schönau, Saxony, Germany. Tabulating device for type-writing machines	842,797	Jan. 29	6155	1299	126	1713
Mondor, Hector J., Holyoke, Mass. Tire	842,798	Jan. 29	6157	1300	126	1714
Monkhouse, Joseph L., Guelph, Ontario, Canada. Axle-machine	842,226	Jan. 29	4908	1047	126	1397
Monroe, Isaac E., Combs, W. Va. Derrick	842,799	Jan. 29	6158	1300	126	1714
Moore, Arabella E. (See Moore, James C. and A. E.)						
Moore, James C. and A. E., Philadelphia, Pa.; said A. E. Moore assignor to said James C. Moore. Portable sick-room tent	842,800	Jan. 29	6160	1300	126	1715
Monarch Manufacturing Company. (See Lewis, Lewis C., assignor.)						
Moore, John J., assignor of two-thirds to T. J. Rafferty and G. Green, Troy, N. Y. Metallic railway-tie	842,414	Jan. 29	5324	1129	126	1510
Morgan Engineering Company. (See Taylor, Clarence L., assignor.)						
Morgan, Lewis, assignor to F. H. Lamb, Hoquiam, Wash. Wire-connecting device	842,325	Jan. 29	5115	1087	126	1450
Morgan, Lewis, assignor to F. H. Lamb, Hoquiam, Wash. Wire-tucker	842,326	Jan. 29	5117	1088	126	1450
Morgan, William A. (See Brown, Samuel J., assignor.)						
Morley Manufacturing Company. (See Cushman, Albert H., assignor.)						
Morris, John B., *et al.* (See Hayward, Eugene, assignor.)						
Morrison, Andrew, Pittsburg, Pa. Metallic railway-tie and fastening	842,226	Jan. 29	4909	1047	126	1397
Morrison, John R., Dallas, Tex., assignor of one-third to L. S. Morrison, Rome, Ga. Gripper-creaser for printing-presses	842,666	Jan. 29	5993	1251	126	1660
Morrison, L. S. (See Morrison, John R., assignor.)						
Morrison, William, assignor, by mesne assignments, to Exmoor Storage Battery Company, Chicago, Ill. Storage-battery plate	842,801	Jan. 29	6161	.....	126	1715
Morse, Henry G., deceased; M. K. Morse, executrix, Philadelphia, Pa., assignor to New York Shipbuilding Company, Camden, N. J. Riveting-machine	842,227	Jan. 29	4910	1047–8	126	1397
Morse, Mary K., executrix. (See Morse, Henry G.)						
Morton, H. X., Jr. (See Wysor, George W., assignor.)						
Mouser, Robert H., Jr., Crown, Tex. Seeder	842,228	Jan. 29	4914	1048	126	1398
Moya, José de, assignor to La Société de Moya et Cie. Paris, France, Manufacture of steel	842,802	Jan. 29	6162	.....	126	1715
Mueller, August J., Chicago, Ill. Metallic railway-tie	842,415	Jan. 29	5325	1129	126	1510
Mulholland, John. (See Keyes, James A., assignor.)						
Mulholland, Vergil. (See Knapp and Mulholland.)						
Mumford, Edgar H., Newtown township, Delaware county, Pa. Mobbing machine	842,229	Jan. 29	4916	1049	126	1399
Mundy, Arthur J., Newton, and H. B. Gale, Boston, Mass., assignors to Submarine Signal Company, Waterville, Me. Apparatus for producing submarine sound-signals	842,327	Jan. 29	5118	1088–90	126	1450
Murch, George, Cape Town, Cape Colony. Machine for dealing playing-cards	842,803	Jan. 29	6163	1301	126	1715
Murray, Daniel D., *et al.* (See Wilson and Rigdon, assignors.)						
Murrell, George E., Fontella, Va. Vehicle	842,804	Jan. 29	6165	1301	126	1715
Mydland, Leonor A. (See Opsal and Mydland.)						
Myers, Chaddens J., Rossville, Kans. Harvester-reel	842,328	Jan. 29	5329	1090	126	1454
Myers, William H., Harrisonburg, Va. Railway-gate	842,805	Jan. 29	6166	1302	126	1716
National Tube Company. (See Baehr, George, assignor.)						
Neer, Jacob H., Unionville, Mo. Hay-rake	842,284	Jan. 29	4989	1051	126	1403
Neer, Jacob H., Unionville, Mo. Hay-stacker	842,285	Jan. 29	4991	1051–2	126	1403
Nelson, David D., Mindenmines, Mo. Neck-yoke attachment	842,800	Jan. 29	6170	1304	126	1716
Nelson, John E., Chicago, Ill. Mechanical movement	842,416	Jan. 29	5326	1129–30	126	1510
Nesmann, Ole E., Herman, Minn. Shock-loader	842,417	Jan. 29	5330	1130	126	1511
Nesmann, Peter A., El Paso, Tex. Water-still	842,667	Jan. 29	5999	1251	126	1661

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Netter, Henry H. (See Clagett, John S., assignor.)						
Neukirchen, Jean, Cologne, Germany, assignor to P. Neukirchen, Chicago, Ill. Vegetable-cutter	842,236	Jan. 29	4933	1052	126	1403
Neukirchen, Peter. (See Neukirchen, Jean, assignor.)						
New Departure Manufacturing Company. (See Rockwell, Albert F., assignor.)						
New York Shipbuilding Company. (See Morse, Henry G., assignor.)						
Newkirk Glass Company. (See George and Shortle, assignors.)						
Niles-Bement-Pond Company. (See Wood, Augustus, assignor.)						
Nilson, John. (See Woodson, Knight, and Nilson.)						
Nilson, Nils, Wayzata, Minn. Automatic weighing-scale	842,576	Jan. 29	5664	1198	126	1593
Nilson, Nils, Wayzata, Minn. Automatic weighing-scale	842,688	Jan. 29	5937	1251–2	126	1661
Noon, Michael H. *et al.* (See Ross, Thomas S., assignor.)						
Norman, John R., Powell Station, assignor of one-half to W. Roark, Byington, Tenn. Water-sprayer and fire-extinguisher	842,689	Jan. 29	5941	1252	126	1662
O'Daniel, John H., Columbus, Ohio. Vehicle-wheel	842,488	Jan. 29	5496	1163	126	1556
Okell, George E., assignor to M. Livingston, Los Angeles, Cal. Core-drill	842,577	Jan. 29	5667	1198	126	1594
Oppenneer, James. (See Grant, Robert E., assignor.)						
Opsal, Sören, and L. A. Mydland, Stavanger, Norway. Opening device for preserve-boxes	842,237	Jan. 29	4935	1052–3	126	1403
Orcutt, Darius M., Kansas City, Kans. Pitless weighing-scale	842,418	Jan. 29	5335	1131	126	1513
Orr, George, *et al.* (See Didrich, John H., assignor.)						
Oswalt, Eugene B., Tuskegee, Ala. Printing-type	842,690	Jan. 29	5942	1252	126	1662
Overholt, Edward H., Streator, Ill. Saw-guide	842,489	Jan. 29	5498	1164	126	1556
Page, Samuel D. (See Shupe and Page.)						
Palmer, Henry R., Seattle, Wash. Door-securer	842,691	Jan. 29	5944	1252	126	1662
Palmer, John S., Chicago, Ill. Carrier for pneumatic-despatch-tube apparatus	842,419	Jan. 29	5338	1131	126	1513
Palmer, John V., Pittsburg, Pa. Scaffold	842,331	Jan. 29	5133	1091	126	1455
Park, Edwin H., Millbury, Mass., assignor to Standard Harrow Company, Utica, N. Y. Manure-spreader	842,238	Jan. 29	4936	1053	126	1404
Parker and Woolson, Machine Company. (See Sutton, Andrew H., assignor.)						
Parkhurst, Milton I., Fancy Prairie, Ill. Baling-press	842,578	Jan. 29	5668	1198–9	126	1594
Parrett, Earl A., North Manchester, Ind. Controlling means for harrows	842,239	Jan. 29	4939	1026	126	1404
Pasteur Vaccine Company. (See Deperdussin, Hippolyte, assignor.)						
Patterson, David, Denver, Colo. Car-coupling	842,692	Jan. 29	5945	1253	126	1663
Patterson, John J., Bellingham, Wash. Advertising-sign	842,693	Jan. 29	5948	1253	126	1664
Patterson, William S., Salt Lake City, Utah. Lubricator	842,332	Jan. 29	5134	1091	126	1456
Paul, Almarin B., San Francisco, Cal. Mineral-concentrator	842,333	Jan. 29	5135	1091	126	1455
Pauly, Henry J. (See Wagniere, August, assignor.)						
Peck, Ferdinand S., assignor of one-half to W. Z. Searle, Petoskey, Mich. Package-tie	842,240	Jan. 29	4940	1054	126	1404
Peters, Charles R., Monetery, Cal. Camp-broiler	842,695	Jan. 29	5952	1254	126	1665
Peters, Frederick J., Milwaukee, Wis. Sandpaper-holder	842,579	Jan. 29	5670	1199	126	1595
Peterson, Peter E., Milford, N. H. Gas-burner	842,334	Jan. 29	5136	1092	126	1456
Petty, Otis O., Olney, Ill. Weed-cutter	842,420	Jan. 29	5341	1132	126	1514
Pfeiffer, George, Jr., Brown Mills, N. J. Water supply and purification system	842,696	Jan. 29	5954	1254–5	126	1665
Phillips, Henry, Scranton, Pa. Machine for engraving and die-sinking	842,697	Jan. 29	5957	1255–7	126	1666
Phillips, Thomas E. R., London, England. Mechanical ear for trolley-wires	842,241	Jan. 29	4941	1054	126	1404
Phillips, Thomas E. R., London, England. Screw	842,242	Jan. 29	4943	1054	126	1405
Phillips, Thomas E. R., London, England. Adjustable window-screen	842,243	Jan. 29	4944	1054	126	1405
Phillips, Winfield B., Fenton, Mich. Insect-trap	842,244	Jan. 29	4945	1055	126	1405
Pickrell, Clarence S. (See Young, Joseph H. and G. B., assignors.)						
Pike, Will C., Muncie, Ind. Hydrocarbon rock-drill	842,698	Jan. 29	5963	1257	126	1667
Pillman, Emmanuel F., Boston, Mass. Hammock	842,421	Jan. 29	5342	1132	126	1515
Pine, George T., Huntington, W. Va. Easy account-keeper	842,838	Jan. 29	6235	1315–16	126	1732
Pitz, Adolph G., Bridgeport, Conn. Multiple-window-operating mechanism	842,580	Jan. 29	5671	1199	126	1595
Plank, John W. (See Snyder, John C., assignor.) (Reissue.)	842,490	Jan. 29	5500	1164	126	1557
Plecker, William J., Peoria, Ill. Pipe-elbow	842,810	Jan. 29	6177	1305	126	1718
Poggi, Alice F., Elizabeth, N. J. Clothes-drier	842,699	Jan. 29	5964	1257	126	1668
Pollock, Arthur R., Columbus, Ohio. Garment-supporter	842,581	Jan. 29	5672	1200	126	1595
Pool, Alva, Starfield, assignor of one-half to J. P. Tyer, Clinton county, Mo. Wagon-box extension and end-gate	842,582	Jan. 29	5673	1200	126	1596
Poor, Fred A., assignor to Railway Specialty & Supply Company, Chicago, Ill. Rail-anchor	842,245	Jan. 29	4947	1055	126	1406
Power, John J. (See Kelly, Patrick, assignor.)	842,335	Jan. 29	5138	1092	126	1457
Powers, Timothy B., assignor to Kutnow Bros., New York, N. Y. Moving display-sign	842,336	Jan. 29	5140	1092	126	1457
Pratt, Charles T., Frankfort, N. Y. Running-gear for automobiles	842,700	Jan. 29	5965	1258	126	1668
Price, George T., assignor of one-half to R. Knight, Conroe, Tex. Axle	842,583	Jan. 29	5675	1200–1	126	1596
Puteani, Zdenko von. (See Amtmann, Josef, assignor.)						
Quaedvlieg, Victor, Stadlau, near Vienna, Austria-Hungary. Tool-cylinder for machines for unhairing hides	842,491	Jan. 29	5502	1164–5	126	1557
Rafferty, Thomas J., *et al.* (See Moore, John J., assignor.)						
Rail Joint Company. (See Wolhaupter, Benjamin, assignor.)						
Railway Specialty & Supply Company. (See Poor, Fred A., assignor.)						
Rayburn, Guy H., assignor of one-half to S. R. Hewitt, Columbus, Ohio. Molder's flask	842,492	Jan. 29	5506	1165	126	1558
Reed, Charles J., Philadelphia, Pa. Magnetic separator	842,701	Jan. 29	5967	1258	126	1668
Reed, George L., assignor to Reed Manufacturing Company, Springfield, Ohio. Cement-block machine	842,702	Jan. 29	5969	1259	126	1669
Reed Manufacturing Company. (See Reed, George L., assignor.)						
Reeves, Edwin A., assignor to Reeves Manufacturing Company, New Haven, Conn. Fastening device	842,811	Jan. 29	6177	1305	126	1718
Reeves Manufacturing Company. (See Reeves, Edwin A., assignor.)	842,812	Jan. 29	6178	1305–6	126	1719
Reiland, Joseph N., Mazeppa, Minn. Sash-balance	842,246	Jan. 29	4949	1055–6	126	1406
Reim, Konrad, New York, N. Y. Safety-stirrup	842,422	Jan. 29	5344	1132–3	126	1515
Remington Arms Company. (See Witherell, George E., assignor.)						
Reynolds, George H. (See Kohl, John W., assignor.)						
Reynolds, James A., administrator. (See Reynolds, William N.)						
Reynolds, William N., deceased, Pierre, S. D.; J. A. Reynolds, administrator. Fence-post	842,247	Jan. 29	4951	1056–7	126	1406
Riblet, Oliver S., Erie, Pa. Collapsible form for concrete-work	842,813	Jan. 29	6180	1306	126	1719
Rice, John V., Jr., Bordentown, N. J. Hydrocarbon rock-drill	842,584	Jan. 29	5678	1201	126	1597
Richards, Francis H., Hartford, Conn. Carving-machine	842,423	Jan. 29	5350	1133	126	1517
Richards, Francis H., Hartford, Conn., assignor, by mesne assignments, of one-half to American Typographic Corporation. Pantographic milling-machine	842,703	Jan. 29	5970	1259	126	1669
Ridgway, John J., Rosebank, N. Y. Idler for belt conveyers	842,337	Jan. 29	5140	1093	126	1457
Ridley, James M., Camden, N. J. Angle-finder	842,704	Jan. 29	5971	1259	126	1669
Rigdon, Charles. (See Wilson and Rigdon.)						
Rischmuller, George, San Francisco, Cal. Turbine	842,493	Jan. 29	5507	1165	126	1558
Roark, William. (See Norman, John R., assignor.)						
Roberts, Mary E., Dawson, N. D. Dish-drainer						
Robertshaw, Milfred W., New York, N. Y. Automatic hat-fastener						
Robins, Oliver W., Cedar Rapids, Iowa. Snow-scraper						
Robinson, Edward T., assignor to St. Louis Car Company, St. Louis, Mo. Car-window sash						

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Rockwell, Albert F., assignor to New Departure Manufacturing Company, Bristol, Conn. Brake mechanism	842,248	Jan. 29	4956	1057-8	126	1408
Rockwood, George I., assignor to Rockwood Sprinkler Company, Worcester, Mass. Automatic sprinkler. (Reissue.)	12,601	Jan. 29	6284	1323	126	1740
Rockwood Sprinkler Company. (See Rockwood, George I., assignor.) (Reissue.)						
Roessler & Hasslacher Chemical Company. (See Liebnecht, Otto, assignor.)						
Rohrssen, George G., assignor to Manewallange Biscuit Company, St. Louis, Mo. Collapsible crate	842,494	Jan. 29	5508	1166	126	1558
Roland, Lucien, Paris, France. Elastic substance similar to india-rubber and its manufacture	842,530	Jan. 29	6236		126	1733
Rollins, John O., Tuolumne, Cal. Tree-felling machine	842,249	Jan. 29	4959	1058-9	126	1408
Roney, George A., Grand Forks, N. D. Combined shaving mug and brush	842,705	Jan. 29	5973	1260	126	1670
Rooks, Edward L. and P. A., Jackson, Tenn. Awning	842,706	Jan. 29	5974	1260	126	1670
Rooks, Percy A. (See Rooks, Edward L. and P. A.)						
Rose, Overend G., Camp Meeker, Cal. Attachment to horns for sound-reproducing instruments	842,707	Jan. 29	5976	1261	126	1670
Rose, William B., Chicago, Ill. Attendance-indicator	842,496	Jan. 29	5509	1166	126	1559
Ross, Charles D., assignor of one-half to Lake Shore Stone Company, Milwaukee, Wis. Apparatus for unloading marine vessels	842,338	Jan. 29	5143	1093-4	126	1458
Ross, Thomas S., assignor of two-thirds to M. H. Noon and J. J. Ellis, Baltimore, Md. Drafting attachment	842,585	Jan. 29	5680	1200	126	1597
Roth and Engelhardt. (See Hobart, Adam J., assignor.)						
Roussel, Willis J., New Orleans, La. Loose-leaf binder	842,708	Jan. 29	5979	1261	126	1671
Royle, John, Jr., Paterson, N. J. Piano-machine head for punching jacquard-cards	842,496	Jan. 29	5510	1166-8	126	1559
Russell, George A., deceased, Worcester, Mass.; M. C. Russell, administratrix. Machine for grinding horseshoe-calks	842,497	Jan. 29	5514	1168	126	1560
Russell, Mary C., administratrix. (See Russell, George A.)						
Russo, Charles, assignor to Marconi's Wireless Telegraph Company, Limited, London, England. Apparatus for electrically indicating weight	842,339	Jan. 29	5145	1094	126	1458
Rutherford, John C., New York, N. Y. Vehicle-wheel	842,709	Jan. 29	5981	1261-2	126	1671
S. A. Woods Machine Company. (See Blood, Charles W. H., assignor.)						
Salisbury, Henry, Brooklyn, N. Y. Sash-fastener	842,340	Jan. 29	5148	1094	126	1459
Sanders, Frank E. (See Graves, Eugene E., assignor.)						
Sanders, Ozro, Winchester, Ind. Lubricator for steam-engines	842,710	Jan. 29	5985	1262	126	1672
Sandvoss, Hermann, Neuss, Germany. Steam-trap	842,250	Jan. 29	4961	1059	126	1409
Sargent, Charles E., Greenville, Ill. Combined swing-gate lock and support	842,711	Jan. 29	5986	1262	126	1672
Sargent, James T., Cleveland, Ohio. Washboard	842,341	Jan. 29	5149	1095	126	1459
Sasse, Carl, Dresden, Germany. Roller-blind shutter for photographic cameras	842,251	Jan. 29	4961	1059	126	1409
Sault, John, Queensbury, N. Y. Truss	842,252	Jan. 29	4963	1059	126	1410
Sauvage Safety Brake Company. (See Sauvage, William H., assignor.)						
Sauvage, William H., New York, N. Y., assignor to Sauvage Safety Brake Company. Fluid-pressure brake	842,424	Jan. 29	5352	1133	126	1518
Sauvage, William H., New York, N. Y., assignor to Sauvage Safety Brake Company. Fluid-pressure brake	842,425	Jan. 29	5355	1133-4	126	1519
Savage, Harley G., Fort Worth, Tex. Hanger for draw-heads	842,253	Jan. 29	4963	1060	126	1410
Sawyer, Harry, Muskegon, Mich. Electric controller	842,342	Jan. 29	5150	1095-7	126	1460
Schaaff, John T., Washington, D. C., assignor to Underwood Typewriter Company, New York, N. Y. Key-action for type-writing and other key-operated machines	842,586	Jan. 29	5681	1202	126	1598
Scherer, Gilbert, and J. Lindburg, Denver, Colo., assignors to Underwood Typewriter Company. Ribbon-vibrating movement for type-writers	842,814	Jan. 29	6181	1306	126	1720
Schilling, Gustave A. W., and J. H. Flach, assignors of one-third to L. Becker, Denver, Colo. Air-inlet and beer-outlet bung for barrels	842,348	Jan. 29	5161	1097	126	1462
Schimmel, Abraham A., Boston, Mass. Machine for compressing filling for mattresses	842,344	Jan. 29	5163	1097	126	1463
Schmidt, Carl H., Chicago, Ill. Garment-fastener	842,498	Jan. 29	5515	1168	126	1560
Schmidt, Charles G., assignor to Cincinnati Butcher's Supply Co., Cincinnati, Ohio. Meat-cutter	842,499	Jan. 29	5516	1169	126	1561
Schmitt, Joseph, *et al.* (See Didrich, John H., assignor.)						
Schneider, Stefan, Charlottenburg, Germany. Preparing rings for ball-bearings	842,500	Jan. 29	5518	1169	126	1561
Schnelbach, Henry A., assignor to Macbeth-Evans Glass Company, Pittsburg, Pa. Glassware heating and finishing machine	842,426	Jan. 29	5357	1134	126	1519
Schnelbach, Henry A., assignor to Macbeth-Evans Glass Company, Pittsburg, Pa. Gas-furnace	842,427	Jan. 29	5360	1134	126	1521
Schnelbach, Henry A., assignor to Macbeth-Evans Glass Company, Pittsburg, Pa. Glassware heating and finishing machine	842,428	Jan. 29	5357	1134	126	1519
Schoenecke, August J., Chicago, Ill. Window plant-box	842,501	Jan. 29	5520	1170	126	1561
Schoenhut, Albert, Philadelphia, Pa. Knocktown toy structure	842,712	Jan. 29	5988	1262-3	126	1673
Schofield, Frank H., and A. Herd, Youngstown, Ohio; said Schofield assignor to said Herd. Skirt-marker	842,713	Jan. 29	5989	1263	126	1674
Schreiber, Philip J., Toledo, Ohio. Egg-tester	842,428	Jan. 29	5361	1135	126	1521
Schroeder, Ernst H., and H. V., Minier, Ill. Wagon-jack for portable grain dumps and elevators	842,714	Jan. 29	5992	1263-4	126	1674
Schroeder, Henry V. (See Schroeder, Ernst H., and H. V.)						
Schuyler, Albert B., Rochester, N. Y. Carbureter for explosion-engines	842,429	Jan. 29	5363	1135	126	1521
Schwartz, Edward H., Chicago, Ill. Rail-joint	842,815	Jan. 29	6184	1306	126	1721
Schwarz, Alfred, New York, N. Y. Electrolytic refining of metals	842,254	Jan. 29	4964	1060	126	1410
Schwarz, Alfred, New York, N. Y., assignor to Schwarz Ore Treating Company, Phœnix, Ariz. Ter. Concentrating ores	842,255	Jan. 29	4965	1060	126	1410
Schwarz Ore Treating Company. (See Schwarz, Alfred, assignor.)						
Scofield, William B., *et al.* (See Tillman, Thomas W., assignor.)						
Scott, Barton W., San Jose, Cal. Acetylene-gas generator	842,345	Jan. 29	5165	1098	126	1463
Scott, Charles H., New York, N. Y. Arm-seye bust-form	842,715	Jan. 29	5995	1264	126	1675
Scott, John M., Racine, Wis. Railway-bumper	842,346	Jan. 29	5167	1098	126	1464
Searle, Will Z. (See Peck, Ferdinand S., assignor.)						
Sebring, Bert A., and J. W. Graham, Pueblo, Colo. Waist-holder and skirt-supporter	842,347	Jan. 29	5169	1098	126	1464
Sester, Charles P., Peoria, Ill. Seeding-machine	842,716	Jan. 29	5997	1264-5	126	1675
Seward, George O., and F. von Kügelgen, Holcombs Rock, Va. Electrolytic cell	842,256	Jan. 29	4967	1060	126	1411
Sharples, David T., West Chester, Pa. Centrifugal separator	842,257	Jan. 29	4969	1061	126	1411
Sharples, David T., West Chester, Pa. Centrifugal machine	842,258	Jan. 29	4971	1061	126	1412
Shaw, Nathaniel H., Boston, Mass. Automatic gas lighting and extinguishing apparatus	842,259	Jan. 29	4972	1061	126	1412
Shaw, William U. G., Battle Ground, Ind. Weather-strip	842,502	Jan. 29	5521	1170	126	1561
Sheer, Eugene, Lincoln, Ill. Motor-vehicle	842,260	Jan. 29	4975	1062	126	1412
Sheridan, Michael S. (See Fox, Benjamin O., assignor.)						
Shiley, George P., Missouri Valley, Iowa. Label-packet	842,348	Jan. 29	5170	1099	126	1464
Shortle, Christopher M. (See George and Shortle.)						
Shupe, Frederick A., and S. D. Page, Des Moines, Iowa. Cabinet for book-account balances-slips	842,816	Jan. 29	6185	1307	126	1721
Sibley, Clarence C. (See Lutz and Sibley.)						
Silzer, George C. (See Bilish and Silzer.)						
Simpson, Herbert S. (See Simpson, Peter L., assignor.)						
Simpson, Peter L., assignor to H. S. Simpson, Chicago, Ill. Pulverizer	842,430	Jan. 29	5364	1135-6	126	1522

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Singer Manufacturing Company. (See Allen, Edward B., assignor.)						
Skene, Norman L., Somerville, Mass. Sectional boat	842,349	Jan. 29	5172	1099	126	1465
Skogstad, Clarence. (See Skogstad, Martin and C.)						
Skogstad, Martin and C., Grand Meadow, Minn. Pulley-clutch	842,587	Jan. 29	5683	1203	126	1598
Slater, John W., Slatersville, R. I. Valve control and reverse mechanism	842,817	Jan. 29	6186	1307	126	1721
Sloan, John O. (See Lightford, William L., assignor.)						
Sloan, Samuel, assignor to Waterbury Clock Co., Waterbury, Conn. Regulator for timepieces	842,431	Jan. 29	5370	1136	126	1524
Smelser, Horatio, Ashton, Nebr. Electric signal for railways	842,432	Jan. 29	5371	1136-7	126	1524
Smith, Alanson F., Bonami, La. Razor-blade cleaner	842,717	Jan. 29	6007	1265	126	1679
Smith, Enoch, assignor of one-third to G. Curley, Salt Lake City, Utah. Wagon-brake	842,718	Jan. 29	6008	1265	126	1680
Smith, Frederick H., Datchet, England. Means for controlling the supply of vapor to internal-combustion engines	842,261	Jan. 29	4977	1062-3	126	1413
Smith, George W., Dallas, Tex. Grapple	842,719	Jan. 29	6010	1266	126	1680
Smith, John, Chicago, Ill. Folding square	842,433	Jan. 29	5375	1137	126	1525
Smith, Robert R., Philadelphia, Pa. Door-check	842,350	Jan. 29	5174	1099	126	1465
Snell, Ransom Z., South Bend, Ind. Mixing-machine	842,262	Jan. 29	4980	1064	126	1414
Snyder, John G., Altoona, assignor of two-fifths to J. W. Plank, Carlisle, Pa. Rail tie and fastening. (Reissue)	12,603	Jan. 29	6269	1325	126	1741
Société Anonyme des Etablissements Delaunay-Belleville. (See Delaunay-Belleville, Louis M. G., assignor.)						
Somers, Daniel M., New York, N. Y. Steam-engine system	842,588	Jan. 29	5684	1203-4	126	1598
Spalding, Frank, assignor to Brown & Sharpe Manufacturing Company, Providence, R. I. Micrometer-calipers	842,263	Jan. 29	4982	1064	126	1414
Spencer, William B., assignor to A. B. Dick Company, Chicago, Ill. Envelop-sealing machine	842,264	Jan. 29	4983	1064	126	1415
Spink, Cassius M., Warren, Ind. Automobile-headlight	842,818	Jan. 29	6188	1307	126	1721
Spink, Cassius M., assignor of one-half to J. D. Lines, Warren, Ind. Car-headlight support	842,819	Jan. 29	6189	1307	126	1722
Springer, William N., assignor to Avery Manufacturing Co., Peoria, Ill. Traction-engine	842,589	Jan. 29	5693	1204-5	126	1600
Springer, William N., assignor to Avery Manufacturing Company, Peoria, Ill. Traction-engine	842,840	Jan. 29	6237	1316-17	126	1733
St. Louis Car Company. (See Robinson, Edward T., assignor.)						
Standard Harrow Company. (See Camp, George F., assignor.)						
Standard Harrow Company. (See Park, Edwin H., assignor.)						
Stanley Rule & Level Company. (See Traut, Justus A., assignor.)						
Starr, Fred, San Francisco, Cal. Clutch	842,841	Jan. 29	6241	1317	126	1734
Stephens, Alexander R., Jamestown, Mo. Kitchen-cabinet	842,720	Jan. 29	6010	1266	126	1680
Stickney, Burnham C., Elizabeth, assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine	842,434	Jan. 29	5376	1137-8	126	1525
Stock, Walter, Solingen, Germany. Christmas-music apparatus	842,351	Jan. 29	5175	1099-1100	126	1466
Stoddard, Charles F., Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del. Carrier for pneumatic-despatch apparatus	842,352	Jan. 29	5176	1100	126	1466
Stoddard, Charles F., Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del. Pneumatic-despatch apparatus	842,353	Jan. 29	5178	1100-1	126	1467
Stoddard, Charles F., Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del. Carrier for pneumatic-despatch-tube apparatus	842,354	Jan. 29	5182	1101	126	1468
Stoddard, Charles F., Boston, Mass., assignor to American Pneumatic Service Company, Dover, Del. Carrier for pneumatic-despatch-tube apparatus	842,355	Jan. 29	5184	1101-2	126	1468
Stone, Junius H., New York, N. Y. Method of and mechanism for making cork sheets	842,356	Jan. 29	5186	1102	126	1469
Stout, James N. (See Carver and Stout.)	842,357	Jan. 29	5188	1102	126	1470
Strong, Hamilton F., Cleveland, Ohio. Filling teeth	842,721	Jan. 29	6013	1267	126	1681
Sturtevant, Charles A., Plainfield, N. J., assignor to E. C. Fuller Company, New York, N. Y. Perforating and registering mechanism for sheet-folding machines						
Submarine Signal Company. (See Mundy and Gale, assignors.)						
Superior Tool and Supply Company. (See Ward, Paul S., assignor.)						
Sutton, Andrew H., New York, N. Y., assignor by mesne assignments, to Parker and Woolson Machine Company, Springfield, Vt. Machinery for measuring and marking fabrics	842,435	Jan. 29	5379	1138-9	126	1526
Swift, George W., Jr., Bordentown, N. J. Printing mechanism	842,265	Jan. 29	4988	1065	126	1416
Swinnerton, James F., New York, N. Y. Mold for concrete construction	842,722	Jan. 29	6019	1268	126	1681
Switzer, Arthur P., New York, N. Y. Table	842,723	Jan. 29	6020	1268	126	1682
T. F. Greenwood Company. (See Castiglioni, Rinaldo C., assignor.)						
Tatum, Cicero J., assignor of one-half to L. E. Dunn, Port Arthur, Tex. Saw-filing machine	842,724	Jan. 29	6023	1268-9	126	1682
Taylor, Clarence L., assignor to Morgan Engineering Company, Alliance, Ohio. Ingot-stripper	842,266	Jan. 29	4991	1066	126	1417
Taylor, Edward. (See Taylor, Robert C. and E.)						
Taylor, John, Manchester, England, assignor to General Fire Extinguisher Company, New York, N. Y. Automatic sprinkler	842,725	Jan. 29	6026	1269	126	1683
Taylor, Robert C. and E., Brooklyn, N. Y., assignors to Westinghouse Air-Brake Company, Pittsburg, Pa. Wireless balance for electric generators	842,358	Jan. 29	5189	1102-3	126	1470
Taylor, Samuel L., Springfield, Mass. Lure for hats	842,267	Jan. 29	4993	1066	126	1418
Taylor, Warren H., assignor to Yale & Towne Manufacturing Company, Stamford, Conn. Dogging mechanism for time and other locks	842,268	Jan. 29	4995	1066-7	126	1418
Taylor, Warren H., assignor to Yale & Towne Manufacturing Company, Stamford, Conn. Dogging mechanism for time-locks	842,269	Jan. 29	4998	1067	126	1418
Taylor, Warren H., assignor to Yale & Towne Manufacturing Company, Stamford, Conn. Mortise-lock	842,270	Jan. 29	5000	1067	126	1419
Tayntor, Charles E., Brooklyn, N. Y., assignor to C. E. Tayntor Granite Company, Hallowell, Me. Roof for mausoleums, tombs, vaults, &c	842,590	Jan. 29	5700	1206	126	1602
Tebbetts, George S. (See Ferris and Tebbetts.)						
Tebbetts, George S., assignor to L. B. Tebbetts & Sons Carriage Company, St. Louis, Mo. Vehicle-brake	842,271	Jan. 29	5002	1068	126	1420
Thayer, Edward D., *et al.* (See Tillman, Thomas W., assignor.)	842,272	Jan. 29	5003	1068	126	1420
Thomas, James A., Callaway, Va. Picture-mat						
Thomas Maddock's Sons Company. (See Kelly and Maddock, assignors.)	842,436	Jan. 29	5384	1139	126	1527
Thomas, Reginald C., Chesuncook, Me. Firearm	842,591	Jan. 29	5703	1206	126	1603
Thompson, Ralph P., and E. Koeb, Springfield, Ohio. Automobile						
Throop, Damon R. (See Gordon and Throop.)						
Tice, Allen K. (See Tice, George W., assignor.)						
Tice, George W., Riley Center, Mich., assignor of one-half to A. K. Tice, Larimore, N. D. Thresher and cleaner	842,437	Jan. 29	5386	1140-1	126	1528
Tillman, Thomas W., Columbus, Ga., assignor to R. and G. Crompton, E. D. Thayer, and W. B. Scofield, Worcester, Mass. Smash-preventer for looms	842,820	Jan. 29	6190	1308	126	1722
Tone, Frank J., Niagara Falls, N. Y. Reducing compounds	842,273	Jan. 29	5004	1068	126	1420
Toyoda, Sasuke, Nagoya, Japan. Weaving-machine	842,274	Jan. 29	5005	1068-9	126	1421
Traut, Justus A., assignor to Stanley Rule & Level Company, New Britain, Conn. Scraper	842,275	Jan. 29	5007	1069	126	1421

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Traver Circle Swing Company. (See Traver, Harry G., assignor.)						
Traver, Harry G., assignor to Traver Circle Swing Company, New York, N. Y. Amusement apparatus	842,276	Jan. 29	5008	1069	126	1421
Treat, William B. (See Maynard, John, assignor.)						
Trimble, Minna V., Bellevue, Pa. Dish-washer	842,726	Jan. 29	6028	1269	126	1683
Trotter, George F., and A. Bebout, St. Louis, Mo., said Trotter assignor to said Bebout. Massage apparatus	842,503	Jan. 29	5522	1170	126	1562
Tryon, Thomas, New York, N. Y. Attachment intended to save closet-space	842,821	Jan. 29	6192	1308	126	1722
Tucker, Samuel H., Gatesville, Tex. Cotton-chopping machine	842,727	Jan. 29	6030	1269–70	126	1684
Tucker, Samuel H., Gatesville, Tex. Plow	842,728	Jan. 29	6032	1270	126	1684
Turner, Herschel R., Hoxie, Kans. Telephone system	842,822	Jan. 29	6194	1308–9	126	1722
Turner, James W., Shelbyville, Mo. Sulky attachment for plows	842,436	Jan. 29	5301	1141	126	1528
Turner, Thomas, Ottumwa, Iowa. Pneumatic motor	842,359	Jan. 29	5194	1103	126	1472
Tuttle, Franklin, New York, N. Y. Painting implement	842,504	Jan. 29	5523	1170	126	1562
Tyden, Emil, Hastings, Mich. Machine for cutting blanks staggering	842,582	Jan. 29	5708	1207–8	126	1604
Tyer, James P. (See Pool, Alva, assignor.)						
U. S. Bobbin and Shuttle Co. (See Blood, Ira A., assignor.)						
Underwood Typewriter Company. (See Schaaff, John T., assignor.)						
Underwood Typewriter Company. (See Scherer and Lindburg, assignors.)						
Union Scale & Mfg. Co. (See Hoepner, George, assignor.)						
Union Typewriter Company. (See Felbel, Jacob, assignor.)						
Union Typewriter Company. (See Stickney, Burnham C., assignor.)						
United States Construction and Utilization Company. (See Wiselogel, Frederick G., assignor.)						
United States Envelope Company. (See West, James, assignor.)						
Unsinger, Philip H., Toledo, Ohio. Car of navigable balloons	842,505	Jan. 29	5524	1171	126	1562
Vail, George L., Denver, Colo. Ice-making system	842,360	Jan. 29	5197	1103–4	126	1473
Valentine, Harry J., Boston, Mass., assignor to Columbia Hardware Company, Cleveland, Ohio. Spring-hinge	842,593	Jan. 29	5718	1208	126	1607
Van Vleck, George H., and L. C., Toledo, Ohio. Fish-hook	842,594	Jan. 29	5720	1208	126	1607
Van Vleck, Louis C. (See Van Vleck, George H. and L. C.)						
Vasconcelles, Harvey J., Jacksonville, Ill. Cooling apparatus	842,595	Jan. 29	5720	1209	126	1607
Vernet, Arthur, Dijon, France. Punching-machine	842,729	Jan. 29	6033	1270–1	126	1685
Viertel, Hermann, Charlottenburg, and G. Egly, Lichtenberg, assignors to Gebrüder Siemens & Compagnie, Charlottenburg, near Berlin, Germany. Making electrically-conducting bodies for use as contacts	842,730	Jan. 29	6035	.....	126	1685
Villarino, Ramon M., Campechuela, Cuba. Filter for defecation	842,731	Jan. 29	6036	1271–2	126	1685
Villmow, John A. H., Milwaukee, Wis. Suit-case	842,277	Jan. 29	5010	1070	126	1422
Vollbehr, Eduard. (See Dressler, Leiser genannt Lorenz, assignor.)						
Vulcan Iron Works Company. (See Webber, John B., Jr., assignor.)						
W. S. Mills Company. (See Mills, William S., assignor.)						
Wade, George E., London, England. Oscillating-blade or fish-tail propeller	842,278	Jan. 29	5012	1070	126	1422
Wagner, Peter F., Greensburg, Ind. Shade-bracket	842,506	Jan. 29	5526	1171	126	1563
Wagner's Sons, W. T. (See Greyer, Julius, assignor.)						
Wagniere, August, assignor of one-half to H. J. Pauly, Los Angeles, Cal. Permanent binder for loose-leaf records	842,261	Jan. 29	5201	1105	126	1473
Waite, Fred, Otley, England. Platen printing-machine	842,262	Jan. 29	5202	1105	126	1474
Walker, Thomas H., Kansas City, Mo. Automatically-closing valve	842,279	Jan. 29	5013	1070–1	126	1422
Walling, Allan C., Newark, N. J. Device for retarding the rebounding action of springs	842,732	Jan. 29	6039	1272	126	1686
Wanderer Fahrradwerke, vorm. Winklhofer & Jaenicke. (See Mohns, Carl J., assignor.)						
Ward, Paul S., Covington, Ky., assignor to Superior Tool and Supply Company, Cincinnati, Ohio. Dough-dividing machine	842,596	Jan. 29	5721	1209	126	1608
Wark, William J.) See Williamson, John B., assignor.)						
Warren, Robert M., Bearden, Tenn. Plow	842,280	Jan. 29	5018	1071	126	1425
Warren, William F., Ardmore, Ind. Ter. Cattle food	842,281	Jan. 29	5020	.....	126	1425
Warwick, George T., Springfield, Mass. Screw-machine	842,282	Jan. 29	5021	1071–3	126	1425
Waterbury Clock Co. (See Bavier, Adolphus, assignor.)						
Waterbury Clock Co. (See Sloan, Samuel, assignor.)						
Watling, Arthur. (See Bryant and Watling.)						
Watrous, Earl G., Chicago, Ill. Floor connection for water-closets	842,363	Jan. 29	5205	1106	126	1474
Watson, William J., Shawnee, Okla. Lady's comb	842,733	Jan. 29	6041	1272	126	1686
Webber, John B., Jr., assignor to Vulcan Iron Works Company, Toledo, Ohio. Excavator control power means	842,734	Jan. 29	6042	1273	126	1686
Weber, John A., Perryville, Mo., Latch	842,735	Jan. 29	6043	1273	126	1687
Webster, Cyrus C., Minneapolis, Minn., assignor to American Type Founders Company. Machine for finishing printers' leads	842,842	Jan. 29	6243	1317–20	126	1734
Wedge, Utley, Ardmore, Pa. Ore heating and drying device for furnaces	842,736	Jan. 29	6044	1273–4	126	1687
Welkly, James N., Jersey City, N. J., assignor of one-half to G. H. Fraser, Brooklyn, N. Y. Lubricator	842,507	Jan. 29	5527	1171–2	126	1563
Weisbrod, Jacob H., assignor to H. W. Wolff, St. Louis, Mo. Carline	842,597	Jan. 29	5725	1210	126	1608
West, James, Brooklyn, N. Y., assignor, by mesne assignments, to United States Envelope Company, Springfield, Mass. Apparatus for applying adhesives	842,283	Jan. 29	5027	1073–4	126	1426
Western Electric Company. (See Atwood, George F., assignor.)						
Western Electric Company. (See Crawford, John G., assignor.)						
Westinghouse Air-Brake Company. (See Taylor, Robert C. and E., assignors.)						
Weston, Eustace M., Johannesburg, Transvaal. Device for use with rock-drilling machines	842,598	Jan. 29	5726	1210	126	1609
White, Charles, and A. R. Middleton, Baltimore, Md. Explosive-engine	842,737	Jan. 29	6045	1274	126	1687
White, Charles E., assignor to F. B. Cook, Chicago, Ill. Fuse-mount	842,738	Jan. 29	6049	1274	126	1688
White, Henry B., Malden, Mass., assignor to Carter, Rice & Company, Incorporated. Stay-strip	842,823	Jan. 29	6199	1309	126	1724
White, James L., assignor of one-half to E. L. Leser, Milwaukee, Wis. Dredge	842,264	Jan. 29	5208	1106	126	1475
White, Robert S., Jr., Osceola, Okla. Ter. Tender for traction-engines	842,730	Jan. 29	6050	1275	126	1688
Wickstrom, John. (See Anderson, Erickson, and Wickstrom.)						
Wilbur, Romeo M. (See Allen, Everett P., assignor.)						
Williams-Abbott Electric Company. (See Kusel, Harry J., assignor.)						
Williamson, Arthur H., Lachine, Quebec, Canada. Safety electric switch	842,843	Jan. 29	6249	1320	126	1736
Williamson, John B., assignor of one-half to W. J. Wark, Marietta, Ohio. Clay-screen	842,599	Jan. 29	5728	1210–11	126	1609
Wills, Henry M., East Williston, N. Y. Safety device or pin	842,600	Jan. 29	5729	1211	126	1610
Wills, Walter R., Sheffield, England. Steam-generator	842,284	Jan. 29	5029	1074	126	1427
Wilson, Adoniram J., Westfield, N. J., assignor to Hall Signal Company. Block-signaling system for railways	842,285	Jan. 29	5061	1075	126	1427
Wilson, Adoniram J., Westfield, N. J., assignor to Hall Signal Company. Electric block-signaling system	842,366	Jan. 29	5212	1107	126	1477
Wilson, Adoniram J., Westfield, N. J., assignor to Hall Signal Company. Electric block and block-section signaling system	842,367	Jan. 29	5216	1107	126	1478
Wilson, Eric A., and C. Rigdon, assignors of one-half to D. D. Murray and T. F. McGillivray, Duluth, Minn. Sewage elevating and discharging apparatus	842,286	Jan. 29	5067	1075	126	1429
Wilson, William R., Toronto, Ontario, Canada. Coal-mine tipple and screen plant	842,439	Jan. 29	5309	1141	126	1529

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Winner Block Machine Company. (See Miller, John, assignor.)						
Wires, Pearl J., Osborn, Ohio. Trolley	842,740	Jan. 29	6052	1275–6	126	1689
Wiselogel, Frederick G., Indianapolis, Ind., assignor to United States Construction and Utilization Company, Rochester, N. Y. Sanitary dump-wagon	842,365	Jan. 29	5211	1106–7	126	1476
Witherell, George E., Hartford, Conn., assignor to Remington Arms Company, Ilion, N. Y. Firearm	842,287	Jan. 29	5040	1075	126	1430
Wolff, Herbert W. (See Weisbrod, Jacob H., assignor.)						
Wolhaupter, Benjamin, New York, N. Y., assignor to Rail Joint Company. Rail-joint	842,508	Jan. 29	5538	1172	126	1564
Wood, Augustus, Hamilton, Ohio, assignor to Niles-Bement-Pond Company, Jersey City, N. J. Boring-mill	842,288	Jan. 29	5042	1076	126	1430
Woodruff, Oliver D., Southington, Conn. Dough mixer and kneader	842,509	Jan. 29	5542	1172–3	126	1565
Woods, Albert H. (See Harvey, Frederick, assignor.)						
Woodson, Robert E., W. B. Knight, St. Louis, Mo., and J. Nilson, San Francisco, Cal.; said Nilson and Knight assignors to said Woodson. Feeding-machine	842,601	Jan. 29	5731	1211	126	1610
Woolverton, Chester D. Minot, N. D. Device for treating grain	842,289	Jan. 29	5043	1076	126	1430
Wrigley, Henry M., and J. Aspenleiter, Cincinnati, Ohio. Gripping attachment for box-machines, &c.	842,290	Jan. 29	5045	1076	126	1431
Wurdack, Hugo, St. Louis, Mo. Automatic liquid-strainer	842,602	Jan. 29	5734	1211–12	126	1611
Wyckoff, Seamans & Benedict. (See Fraser, William, assignor.)						
Wysor, George W., Huntington, assignor of one-half to H. X. Morton, Jr., Bramwell, W. Va. Kitchen-cabinet	842,440	Jan. 29	5394	1142–3	126	1529
Yale & Towne Manufacturing Company. (See Berry, Charles A., assignor.)						
Yale & Towne Manufacturing Company. (See Taylor, Warren H., assignor.)						
Yeoman, Frank, Oroville, Cal. Power plant	842,368	Jan. 29	5223	1107–8	126	1481
Young, Charlie F., Ginghamsburg, Ohio. Machine for treating oil-cakes	842,741	Jan. 29	6054	1276–7	126	1689
Young, George B. (See Young, Joseph H. and G. B.)						
Young, Joseph H. and G. B., assignors of one-third to C. S. Pickrell, El Paso, Tex., Scraper and regulator	842,742	Jan. 29	6060	1277	126	1691
Young, Lionel W., Massillon, Ohio. Trousers-creaser	842,743	Jan. 29	6061	1277	126	1691
Zahner, Henry F., Kansas City, Mo. Automatically-closing window	842,369	Jan. 29	5224	1108	126	1481
Zidovec, August, San Francisco, Cal. Stamping-press	842,603	Jan. 29	5736	1212	126	1612
Zimmermann, Charles E., Syracuse, N. Y. Column-base	842,604	Jan. 29	5738	1212–13	126	1612
Zucke, Nicholas, Sparks, Cal. Oil-burner	842,370	Jan. 29	5226	1109	126	1482
Zwack, Rüdolf. (See Kottmair and Zwack.)						
Zwickl, Max, New Durham, N. J. Muffler and whistle device	842,744	Jan. 29	6062	1278	126	1691

DESIGNS.

Name, residence, and design.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Eberle, Frank, Norfolk, Va. Badge	38,428	Jan. 29	126	1742
Flynn, John C., Atlanta, Ga. Bedroom-cabinet	38,437	Jan. 29	126	1744
Grinnell, Oliver C., Jr., Brooklyn, N. Y. Cloth fabric	38,438	Jan. 29	126	1744
Helfft, Oskar, Berlin, Germany. Lamp	38,432	Jan. 29	126	1743
Helfft, Oskar, Berlin, Germany. Incandescent lamp	38,433	Jan. 29	126	1743
Helfft, Oskar, Berlin, Germany. Incandescent lamp	38,434	Jan. 29	126	1743
Nichols, Wendell L., Boston, Mass. Body for motor-vehicles	38,436	Jan. 29	126	1743
Pressing, William C., Norwalk, Ohio. Bottle	38,430	Jan. 29	126	1742
Russ, Walter C., Norfolk, Va. Watch-fob	38,429	Jan. 29	126	1742
Stiles, Albert M. and S. B., Parkersburg, W. Va. Shoe scraper and cleaner	38,435	Jan. 29	126	1743
Stiles, Samuel B. (See Stiles, Albert M. and S. B.)	38,431	Jan. 29	126	1742
Zierlein, Richard W., St. Louis, Mo. Gas-lamp				

TRADE-MARKS.

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A. & F. Pears Limd., London, England. Perfumed soap	60,057	Jan. 29	126	1767
A. O. Norton Incorporated, Boston, Mass. Ratchet, screw, and track jacks	60,056	Jan. 29	126	1767
Actiengesellschaft Paulanerbräu (zum Salvatorkeller), Munich, Germany. Beer	60,221	Jan. 29	126	1771
Actiengesellschaft Paulanerbräu (zum Salvatorkeller), Munich, Germany. Beer	60,222	Jan. 29	126	1771
Allcock Manufacturing Co., New York, N. Y. Porous plasters	60,183	Jan. 29	126	1770
American Soda Fountain Company, Boston, Mass. Solid and plated precious metal ware	60,244	Jan. 29	126	1772
Amsterdamsche Likeurstokerij "'t Lootsje" der Erven Lucas Bols, Amsterdam, Netherlands, and New York, N. Y. Creme de menthe	60,245	Jan. 29	126	1772
Anderson, James W., St. Louis, Mo. Stock food and poultry food	60,058	Jan. 29	126	1767
Balch, Frank O., Chicago, Ill. Magazine or periodical	60,184	Jan. 29	126	1770
Beekman Sanitary Specialty Co., New York, N. Y. Mercury gas-testing gages	60,155	Jan. 29	126	1770
Bell, Leeonzo V., Jacksonville, Fla. Tonic compound of roots, herbs, and barks	60,185	Jan. 29	126	1767
Bendix, Henry, Richmond, Va. Yeast	60,059	Jan. 29	126	1769
Beyea, David H., Brooklyn, N. Y. Salt cakes	60,158	Jan. 29	126	1771
Bigourdan, Joseph, Bordeaux, France. Apricot brandy	60,223	Jan. 29	126	1771
Bison Mfg. Co., Little Valley, N. Y. Razors, butcher-knives, kitchen-knives, and shoe-knives	60,122	Jan. 29	126	1768
Black, Marcus G., Mount Pleasant, Tex. Certain vegetable products	60,186	Jan. 29	126	1770
Bloch, Dr. E., Basel, Switzerland. Local anesthetic	60,157	Jan. 29	126	1769
Block, Rudolph, New York, N. Y. Newspaper	60,158	Jan. 29	126	1769
Blumenthal, August, Hamburg, Germany. Portland cement	60,060	Jan. 29	126	1767
Boston Varnish Company, Everett, Mass. Varnish, japan, driers, and liquid fillers	60,123	Jan. 29	126	1769
Breneman, Charles W., Cincinnati, Ohio. Shade-cloth	60,124	Jan. 29	126	1769

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Brignole, Domenico C., Memphis, Tenn. Grape-juice wine	60,224	Jan. 29	126	1771
Butler-Butler Incorporated, New York, N. Y. Cigarettes	60,126	Jan. 29	126	1769
Camden Pottery Company, Camden, N. J. Closet-bowls, urinals, basins, and sinks, said articles being made of earthenware	60,127	Jan. 29	126	1770
Castaing, Amédée, New York, N. Y. Bleaching compounds	60,225	Jan. 29	126	1771
Castañeda (Havana) Cigar Factories Limited, Havana, Cuba. Cigars	60,128	Jan. 29	126	1769
Castañeda (Havana) Cigar Factories Limited, Havana, Cuba. Cigars	60,127	Jan. 29	126	1769
Castle Brothers, Incorporated, San Francisco, Cal. Dried fruit	60,098	Jan. 29	126	1768
Chamberlain Medicine Co., Des Moines, Iowa. Certain medicines	60,188	Jan. 29	126	1770
Charles A. Stevens & Bros., Chicago, Ill. Face-powder	60,150	Jan. 29	126	1769
Charles Dennehy & Company, Chicago, Ill. Whisky	60,211	Jan. 29	126	1771
Chloride of Silver Dry Cell Battery Company, Baltimore, Md. Certain electrical apparatus	60,128	Jan. 29	126	1769
Cie. de l'Industrie Electrique & Mécanique, Geneva and Sécheron, near Geneva, Switzerland. Automobiles	60,129	Jan. 29	126	1769
Collodin Manufacturing Co., New York, N. Y. Adhesive paste	60,097	Jan. 29	126	1768
Conway Bros. Brewing & Malting Co., Troy, N. Y. Ale	60,246	Jan. 29	126	1772
Crowley, John A., New York, N. Y. Tool-steel	60,130	Jan. 29	126	1769
Cuesta, Rey & Co., West Tampa, Fla. Cigars	60,148	Jan. 29	126	1769
Cyclists' Touring Club, London, England. Lockets, brooches, and badges	60,226	Jan. 29	126	1771
Dameron-Pierson Co. Ltd., New Orleans, La. Certain paper manufactures	60,189	Jan. 29	126	1770
Defiance Tick Mitten Co., Toledo, Ohio. Certain husking devices	60,081	Jan. 29	126	1767
Demourgues, Edouard, Paris, France. Purgative pills	60,160	Jan. 29	126	1769
Dempsey & Co., P., Boston, Mass. Cordials and liquor essences	60,247	Jan. 29	126	1772
Dodge, Walter L., Chicago, Ill. Preparation for the feet	60,161	Jan. 29	126	1770
Durkee & Co., E. R., New York, N. Y. Baking-powder, bicarbonate of soda, cream of tartar, and yeast-powder	60,190	Jan. 29	126	1770
Eagle White Lead Co., Cincinnati, Ohio. Pure white lead	60,062	Jan. 29	126	1767
Edmonds, Newton, Washington, D. C. Medical compound used as a scalp-cleaner, dandruff cure, and hair vigor	60,227	Jan. 29	126	1771
Eye Rex Co., Boston, Mass. Eye-wash or eye-tonic	60,162	Jan. 29	126	1770
Farr Alpaca Co., Holyoke, Mass. Cotton and worsted piece goods	60,063	Jan. 29	126	1767
Fawcett, Hughes, New York, N. Y. Linen, cotton, and silk threads and yarns	60,098	Jan. 29	126	1768
Fischer Mnfg. Co., Milwaukee, Wis. Bunion-protectors	60,131	Jan. 29	126	1769
Fisher Mfg. Co., Sunbury, Pa. Corn-starch	60,064	Jan. 29	126	1767
Fones Bros. Hardware Co., Little Rock, Ark. Heating and cooking stoves	60,065	Jan. 29	126	1767
"Force" Food Company, New York and Buffalo, N. Y. Cooked flaked wheat	60,099	Jan. 29	126	1768
Fred Krug Brewing Company, Omaha, Nebr. Extract of malt	60,212	Jan. 29	126	1771
French, Elizabeth, Florence, Italy. Toilet powder	60,228	Jan. 29	126	1771
Friedenwald & Co., J. H., Baltimore, Md. Whisky	60,229	Jan. 29	126	1771
Froesé, Minna, New York, N. Y. Ash-sifter	60,066	Jan. 29	126	1767
Fuller, Charles W., St. Augustine, Fla., and Newport, R. I. Jewel-stone	60,230	Jan. 29	126	1771
Garrett-Williams Co., Baltimore, Md. Whisky	60,213	Jan. 29	126	1771
General Incandescent Lamp Company, Cleveland, Ohio. Incandescent lamps	60,163	Jan. 29	126	1770
Geo. Bieler Sons Co., Cincinnati, Ohio. Whisky	60,214	Jan. 29	126	1771
Geo. Bieler Sons Co., Cincinnati, Ohio. Whisky	60,215	Jan. 29	126	1771
Gilka, J. A., Berlin, Germany. Kümmel or cordial	60,231	Jan. 29	126	1771
Gillinder & Sons, Inc., Philadelphia, Pa. Certain glassware	60,191	Jan. 29	126	1770
Golden State Shoe Co., Los Angeles, Cal. Men's leather shoes	60,232	Jan. 29	126	1771
Goldenberg, Benjamin, New York, N. Y. Toy bears	60,149	Jan. 29	126	1769
Gottschalk Company of Baltimore City, Baltimore, Md. Whisky	60,233	Jan. 29	126	1771
H-O (Hornby's Oatmeal) Company, New York and Buffalo, N. Y. Certain cereal foods	60,067	Jan. 29	126	1767
Harding, Geo. L., Binghamton, N. Y. Food for young chickens, pigeons, and caged birds	60,068	Jan. 29	126	1767
Hassinger, Egon, Paris, France. Carbon-paper and certain chemical paper	60,192	Jan. 29	126	1770
Hassler, Owen C., Chicago, Ill. Cleaning and polishing preparation for wood and metal	60,150	Jan. 29	126	1769
Heppe & Son, C. J., Philadelphia, Pa. Pianos, mandolins, guitars, banjos, and violins	60,234	Jan. 29	126	1771
Heppe & Son, C. J., Philadelphia, Pa. Pianos, mandolins, guitars, banjos, and violins	60,235	Jan. 29	126	1772
Hercer, Anton, Spring Valley, Ill. Remedy for heaves	60,193	Jan. 29	126	1770
Hessenbruch, Hermann, Philadelphia, Pa. Pruning-shears, pruning-knives, hedge-shears, grass-hooks, and scythes	60,100	Jan. 29	126	1768
Hodge, William B., Glenside, Pa. Cleansing compound	60,069	Jan. 29	126	1767
Hood Rubber Co., Boston, Mass. Rubber boots and shoes	60,194	Jan. 29	126	1770
Hoyt, Joseph M., Danvers, Mass. School, artists', and lumber crayons	60,195	Jan. 29	126	1770
Hubbard, Elbert, East Aurora, N. Y. Certain furniture and upholstery	60,196	Jan. 29	126	1770
Hygienic Food Co., Battle Creek, Mich. Prepared cereal breakfast foods	60,101	Jan. 29	126	1768
J. T. Robertson Company, Manchester, Conn. Shaving-soap	60,153	Jan. 29	126	1769
James E. Blake Company, Attleboro, Mass. Certain brushes	60,151	Jan. 29	126	1769
James Swan Company, Seymour, Conn. Certain edge-tools	60,102	Jan. 29	126	1768
John Wyeth and Brother, Incorporated, Philadelphia, Pa. Vasomotor, cardiac, respiratory, and metabolic stimulant	60,197	Jan. 29	126	1770
Josiah Wedgwood & Sons, Ltd., Etruria, Stoke-upon-Trent, England. Porcelain, stoneware, and earthenware, including jasper	60,198	Jan. 29	126	1771
Kolesaver Mfg. Co., New York, N. Y. Compound for the treatment of coal	60,199	Jan. 29	126	1771
O'Brien Worthen Co., Keokuk, Iowa. Tooth-paste, tooth-powder, and tooth-wash	60,171	Jan. 29	126	1770
Oshkosh Clothing Manufacturing Company, Oshkosh, Wis. Overalls, blouses, coats, vests, and trousers	60,062	Jan. 29	126	1767
Levering Coffee Co., Baltimore, Md. Coffee	60,108	Jan. 29	126	1768
Levering Coffee Co., Baltimore, Md. Coffee	60,104	Jan. 29	126	1768
Levering Coffee Co., Baltimore, Md. Tea	60,105	Jan. 29	126	1768
Levy, Ernest & Herman, New York, N. Y. Ribbons	60,070	Jan. 29	126	1767
Lewin, Adolph L., Pittsburg, and Greene county, Pa. Whisky	60,216	Jan. 29	126	1771
Lewis, Israel, Newark, N. J. Cigars and stogies	60,122	Jan. 29	126	1769
Lewis, Israel, Newark, N. J. Cigars	60,152	Jan. 29	126	1769
Lindenmyer & Sons, Henry, New York, N. Y. Writing-paper	60,164	Jan. 29	126	1770
Lonke, John, New York, N. Y. Bolted cotton dress goods and linings	60,133	Jan. 29	126	1769
Lucas & Co., John, Philadelphia, Pa. Varnish-stains	60,071	Jan. 29	126	1767
Maguire, Thomas F., Lowell, Mass. Salves	60,200	Jan. 29	126	1771
Margolish, Matthew L., New York, N. Y. Hose-supporters	60,124	Jan. 29	126	1769
Maryland Distilling Company of Baltimore City, Baltimore, Md. Whisky	60,217	Jan. 29	126	1771
Maryland Oiled Clothing Co., Baltimore, Md. Oiled waterproof garments	60,072	Jan. 29	126	1767
McGlinn, John, Philadelphia, Pa. Whisky	60,236	Jan. 29	126	1772
Mermod, Jaccard & King Jewelry Company, St. Louis, Mo. Paper boxes for jewelry	60,210	Jan. 29	126	1771

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Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Meyer, Martin & Co., New York, N. Y. Certain fancy goods, furnishings, and notions	60,135	Jan. 29	126	1769
Miley Company, Portland, Me. Leather gloves	60,073	Jan. 29	126	1767
Milliken, John T., St. Louis, Mo. Medicinal preparation	60,165	Jan. 29	126	1770
Milliken, John T., St. Louis, Mo. Liquid sedative compound	60,166	Jan. 29	126	1770
Milliken, John T., St. Louis, Mo. Liquid digestive compound	60,167	Jan. 29	126	1770
Monarch Typewriter Company, Syracuse, N. Y. Type-writer carbon-paper and type-writer ribbons	60,168	Jan. 29	126	1770
Morgan-Lyons Vinegar Company, Louisville, Ky. Syrup for beverages	60,237	Jan. 29	126	1772
Morton, Nickum & Co., Los Angeles, Cal. Certain confectionery	60,107	Jan. 29	126	1768
Moseley & Motley Milling Co., Rochester, N. Y. Wheat-flour	60,108	Jan. 29	126	1768
Myers & Brother, F. E., Ashland, Ohio. Water-pumps	60,109	Jan. 29	126	1768
N. K. Fairbank Company, Chicago, Ill. Washing or soap powder	60,074	Jan. 29	126	1767
N. K. Fairbank Company, Chicago, Ill. Washing-powders	60,075	Jan. 29	126	1767
National Cutlery Company, Detroit, Mich. Razors, knives, and steels	60,076	Jan. 29	126	1767
National Tribune Company, Washington, D. C. Weekly newspaper	60,169	Jan. 29	126	1770
Neubert, Reinhold F., Mankato, Minn. Incubators and brooders	60,110	Jan. 29	126	1768
New Holstein Canning Company, New Holstein, Wis. Canned vegetables	60,077	Jan. 29	126	1767
New Home Sewing Machine Company. (See New Home Sewing Machine Company, assignor.)				
New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	60,078	Jan. 29	126	1767
New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	60,079	Jan. 29	126	1767
New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	60,080	Jan. 29	126	1767
New Home Sewing Machine Company. Sewing-machines and attachments	60,111	Jan. 29	126	1768
New Orleans Import Co., Limited, New Orleans, La. Blended teas	60,170	Jan. 29	126	1770
Nienstadt, August E., New York, N. Y. Compounds for the extermination of mosquitos	60,201	Jan. 29	126	1771
North, Abner B., Morristown, N. J. Apparatus for cooking by retained heat	60,081	Jan. 29	126	1767
Novelty Manufacturing Company, Jackson, Mich. Heating-stoves and portable ovens	60,218	Jan. 29	126	1771
Paducah Distilleries Co., Paducah, Ky. Gin	60,136	Jan. 29	126	1769
Palmer, Isaac E., Middletown, Conn. Open-mesh fabric for protection against insects	60,137	Jan. 29	126	1769
Palmer-Price Company, Newark, N. J. Shellacs and varnishes	60,138	Jan. 29	126	1769
Palmer-Price Company, Newark, N. J. Shellacs and varnishes	60,139	Jan. 29	126	1769
Pittsburgh Gas & Coke Company, New York, N. Y. Coke	60,140	Jan. 29	126	1769
Plume & Atwood Mfg. Co., Waterbury and Thomaston, Conn. Brass rods	60,112	Jan. 29	126	1768
Prather, Robert M., Vernon, Tex. Powder which causes artificial dentures to hold fast to the mouth	60,172	Jan. 29	126	1770
R. E. Dietz Company, New York, N. Y. Globes for lamps and lanterns	60,173	Jan. 29	126	1770
R. E. Dietz Company, New York, N. Y. Globes for lamps and lanterns				
Railway Steel-Spring Company, Jersey City, N. J., and New York, N. Y. Certain railway equipment	60,141	Jan. 29	126	1769
Raymond, Francis, Chicago, Ill. Certain electrical apparatus and devices	60,083	Jan. 29	126	1767
Regina Flour Mill Co., St. Louis, Mo. Wheat-flour	60,113	Jan. 29	126	1768
Regina Flour Mill Co., St. Louis, Mo. Wheat-flour	60,114	Jan. 29	126	1768
Remington Arms Company, New York and Ilion, N. Y. Shotguns, pistols, revolvers, and rifles	60,248	Jan. 29	126	1772
Rexora Manufacturing Company, Detroit, Mich. Calcimine	60,142	Jan. 29	126	1769
Reynolds, William M., New York, N. Y. Specific medicines as a preventive of appendicitis	60,240	Jan. 29	126	1772
Ritter Bros., New York, N. Y. Pocket-books	60,174	Jan. 29	126	1770
Robert, Charles, Chaux de Fonds, Switzerland. Watch-springs	60,238	Jan. 29	126	1772
Rothwell, Bernard J., Boston, Mass. Wheat-flour	60,084	Jan. 29	126	1767
Santos, Charles O., Norfolk, Va. Tooth and mouth washes	60,202	Jan. 29	126	1771
"Sarotti" Chokoladen- & Cacao-Industrie, Aktiengesellschaft, Berlin, Germany. Chocolate and cocoa	60,085	Jan. 29	126	1768
Schlatter, Karl, Philadelphia, Pa. Hosiery	60,086	Jan. 29	126	1768
Schnull & Co., Indianapolis, Ind. Certain food products	60,087	Jan. 29	126	1768
Schnull and Company, Indianapolis, Ind. Certain sea foods	60,088	Jan. 29	126	1768
Shellabarger Mill & Elevator Company, Salina, Kans. Wheat-flour	60,115	Jan. 29	126	1768
Shellabarger Mill & Elevator Company, Salina, Kans. Wheat-flour	60,116	Jan. 29	126	1768
Societe Anonyme de la Distillerie de la Liqueur Benedictine de l'Abbaye de Fecamp, Fecamp, France. Cordial	60,241	Jan. 29	126	1772
Société Lorraine Des Anciens Etablissements De Dietrich & Cie. De Lunéville, Paris, France. Automobiles and parts thereof, except rubber tires	60,089	Jan. 29	126	1768
Southern Pharmacal & Chemical Co., Louisville, Ky., assignor to W. E. Turner, Hagerstown, Md. Alterative and reconstructive tonics	60,203	Jan. 29	126	1771
Sprague, Warner & Company, Chicago, Ill. Wheat-flour	60,239	Jan. 29	126	1772
Standard Brewery Company of Baltimore City, Baltimore, Md. Porter	60,219	Jan. 29	126	1771
Starr Piano Company, Richmond, Ind. Pianos	60,204	Jan. 29	126	1771
Stern, Isidore, New York, N. Y. Tooth-backing	60,143	Jan. 29	126	1769
Syco Tina Company, New Bethlehem, Pa. Remedy for barber's itch, eczema, sores, burns, and scalds	60,175	Jan. 29	126	1770
T. L. Brundage Company, Cleveland, Ohio. Butter	60,117	Jan. 29	126	1768
T. L. Brundage Company, Cleveland, Ohio. Eggs	60,118	Jan. 29	126	1768
Taylor Co., N. & G., Philadelphia, Pa. Tin and terne plate	60,090	Jan. 29	126	1768
Taylor Iron & Steel Co., High Bridge, N. J. Steel	60,144	Jan. 29	126	1769
Tea Tray Company of Newark, New Jersey, Newark, N. J. Amplifying-horns	60,220	Jan. 29	126	1771
Technical Supply Company, Scranton, Pa. Drawing and tracing paper	60,176	Jan. 29	126	1770
Telephony Publishing Company, Chicago, Ill. Illustrated monthly journal	60,205	Jan. 29	126	1771
Tengwall Company, Chicago, Ill. Certain paper manufactures	60,177	Jan. 29	126	1770
Tilly, C. de Koning, Haarlem, Netherlands. Oil for medicinal purposes	60,178	Jan. 29	126	1770
Turner, William E. (See Southern Pharmacal & Chemical Co., assignor.)	60,145	Jan. 29	126	1769
Turpentine Junior Company, Cincinnati, Ohio. Substitute for turpentine used as a liquid drier	60,179	Jan. 29	126	1770
Turpin, Henry E., Haywards, Cal. Remedy for various diseases of poultry	60,091	Jan. 29	126	1768
Valentine & Bentley Silk Co., Newton, N. J., and New York, N. Y. Silk piece goods	60,092	Jan. 29	126	1768
Valentino, Julia F., Nashville, Tenn. Chewing-gum	60,181	Jan. 29	126	1770
Valiquet, Louis P., Newark, N. J. Coin-operated talking and picture-displaying machines	60,182	Jan. 29	126	1770
Van Hecke, Prudence, New York, N. Y. Vegetable stomach-bitters, appetizers, and blood-purifiers	60,242	Jan. 29	126	1772
Vogel, Frederick A., Milwaukee, Wis. Certain pharmaceutical preparation	60,206	Jan. 29	126	1771
Wagner, Constantin, New York, N. Y. Graduated testing-bottles, flasks, and laboratory glassware	60,207	Jan. 29	126	1771
Walker, Francis S., Fayette, Iowa. Medicine for certain named diseases	60,208	Jan. 29	126	1771
Weil, Gustav, New York, N. Y. Tonic	60,093	Jan. 29	126	1768
Weir & Company, Ross W., New York, N. Y. Coffee	60,119	Jan. 29	126	1768
Weir & Company, Ross W., New York, N. Y. Tea				

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Weissmann, Frederick W., Cincinnati, Ohio. Powder for use in making castings	60,094	Jan. 29	126	1768
Welsbach Co., Gloucester, N. J. Incandescent mantles and burners	60,095	Jan. 29	126	1768
White, John T., Salt Lake City, Utah. Smallpox preventive	60,209	Jan. 29	126	1771
William Powell Co., Cincinnati, Ohio. Valves	60,146	Jan. 29	126	1769
Wm. Bergenthal Co., Milwaukee, Wis. Whisky	60,243	Jan. 29	126	1772
Wm. C. Robinson & Son Co., Baltimore, Md. Certain oils and lubricants	60,120	Jan. 29	126	1768
Wm. H. Richardson Co., Boston, Mass. Overcoats and suits	60,121	Jan. 29	126	1768
Wood, Henry A., East Orange, N. J. Puzzles	60,154	Jan. 29	126	1769
United States Bung Manufacturing Company, Cincinnati, Ohio. Bungs	60,180	Jan. 29	126	1770
Yankee Fuel Company, Raton, N. Mex. Ter. Coal	60,147	Jan. 29	126	1769

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Alabama-Georgia Syrup Company, Montgomery, Ala. "Alaga." (For Syrup)	13,332	Jan. 29	126	1773
Eppstein, Rudolf, and A. Wander, New York, N. Y. "Judge Gaynor Cigars." (For Cigars)	13,334	Jan. 29	126	1773
Gerstendorfer Bros., New York, N. Y. "'Sapolin' Decorators' Bronzing, Liquid." (For a Bronzing Liquid)	13,337	Jan. 29	126	1773
Gerstendorfer Bros., New York, N. Y. "'Star' Banana Bronzing Liquid." (For a Bronzing Liquid)	13,338	Jan. 29	126	1773
Gerstendorfer Bros., New York, N. Y. "'Our Favorite' Enamel Bronzing Liquid." (For a Bronzing Liquid)	13,339	Jan. 29	126	1773
Gerstendorfer Bros., New York, N. Y. "Radiator Bronzing Liquid." (For a Bronzing Liquid)	13,340	Jan. 29	126	1773
Seltzer, Theodore, West Hoboken, N. J. "Baume Analgésique Bengué." (For Proprietary Medicines)	13,335	Jan. 29	126	1773
Smerlies, Peter, Grand Rapids, Mich. "P. S. Alegretas Soft Creams." (For Candy)	13,333	Jan. 29	126	1773
Stearns Electric Paste Co., Buffalo, N. Y. "Stearns' Electric Rat and Roach Paste." (For a Rat and Roach Paste)	13,336	Jan. 29	126	1773
Wander, Alfred. (See Eppstein and Wander.)				

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Ed. V. Price & Company, Chicago, Ill. "Tailor Exhibiting Cloth." (For Suitings)	1,897	Jan. 29	126	1773
Lytton, H. C., Chicago, Ill. "Men's and Boys' Apparel." (For Men's and Boys' Apparel)	1,898	Jan. 29	126	1773
Meek Company, Coshocton, Ohio. "Be a Chuloo." (For Chewing-Gum)	1,899	Jan. 29	126	1773
Samuel Baron Co., Brooklyn, N. Y. "Baron's Welsh Rabbit." (For Welsh Rabbit)	1,900	Jan. 29	126	1773

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Agricultural Publishing Company, Raleigh, N. C. Weekly journal	23,991	Jan. 29	126	1759
Alabastine Company, Grand Rapids, Mich. Calcimine	20,216	Jan. 29	126	1751
American Antiformin Co., New York, N. Y. Cleansing and disinfecting preparation	22,452	Jan. 29	126	1753
American Bar Lock Co., Philadelphia, Pa. Vault, sidewalk, door, and window lights	24,136	Jan. 29	126	1760
American Druggist Syndicate, New York, N. Y. Remedies for pleurisy, chills and fever, dysentery, &c	23,568	Jan. 29	126	1756
American-La France Fire Engine Co., Elmira, N. Y. Fire-extinguishers, chemical-engines, &c	24,008	Jan. 29	126	1759
American Lace Leather Co., Inc., Richmond, Va. Lace-leather	24,330	Jan. 29	126	1763
American Law Book Company, Jersey City, N. J., and New York, N. Y. Law-books	23,569	Jan. 29	126	1756
American Printing Company, Fall River, Mass. Cotton piece goods	24,292	Jan. 29	126	1762
Anheuser-Busch Brewing Association, St. Louis, Mo. Beer	9,773	Jan. 29	126	1747
Ashepoo Fertilizer Company, Charleston, S. C. Fertilizers	23,456	Jan. 29	126	1755
Atkinson, Mentzer & Grover, Chicago, Ill. Matting	9,937	Jan. 29	126	1747
Ball Bros. Glass Mfg. Co., Muncie, Ind. Fruit or preserving jars	24,293	Jan. 29	126	1762

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Barnhart Brothers & Spindler, Chicago, Ill. Type	14,223	Jan. 29	126	1749
Bergeron, Louis R., Fall River, Mass. Bread	20,049	Jan. 29	126	1750
Bodine, David M., Trenton, N. J. Pork-relish	23,694	Jan. 29	126	1757
Böhler Gebr. & Co. Aktiengesellschaft, Berlin, Germany. Cast-steel	15,398	Jan. 29	126	1749
Breitenbach, Max J., New York, N. Y. Remedial agents for cure of intestinal indigestion	22,852	Jan. 29	126	1754
Bridgeport Specialty Company, Bridgeport, Conn. Magnetos	23,550–1	Jan. 29	126	1756
Burbank, Susie P., Boston, Mass. Hair-tonic, talcum and tooth powder, and skin food	13,511	Jan. 29	126	1748
Burk, William C., Philadelphia, Pa. Medicines for the treatment and regulation of the stomach, bowels, liver, and kidneys	24,222	Jan. 29	126	1761
Burton & Davis Co., New York, N. Y. Teas	20,797	Jan. 29	126	1751
Castell & Co., J. S., New York, N. Y. Broad silk	23,434	Jan. 29	126	1755
Charles Roesch and Sons Company, Philadelphia, Pa. Fresh, smoked, and cured meats	20,597	Jan. 29	126	1751
Chillington Tool Company, Limited, Wolverhampton, England. Horseshoes	23,573	Jan. 29	126	1756
Citizens' Wholesale Supply Co., Columbus, Ohio. Olive, cotton-seed, salad, &c., oils	23,875	Jan. 29	126	1758
Citizens' Wholesale Supply Co., Columbus, Ohio. Leather blackings and dressings	23,929	Jan. 29	126	1758
Citizens' Wholesale Supply Co., Columbus, Ohio. Wheat and oat flakes, oatmeal, hominy, &c	23,930	Jan. 29	126	1758
Citizens' Wholesale Supply Company, Columbus, Ohio. Carpet, cloth, and glove cleaners	23,874	Jan. 29	126	1758
Clarke Bros., Scranton, Pa. Men's leather boots and shoes	24,242	Jan. 29	126	1761
Clarke Bros., Scranton, Pa. Men's leather shoes	24,243	Jan. 29	126	1761
Clarke Bros., Scranton, Pa. Men's, boys', and youths' leather shoes	24,244	Jan 29	126	1761
Clarke Bros., Scranton, Pa. Ladies' leather shoes	24,245–6	Jan. 29	126	1761
Clarke Bros., Scranton, Pa. Ladies', misses', and children's leather shoes	24,248	Jan. 29	126	1761
Commercial Milling Company, Detroit, Mich. Wheat-flour	21,668	Jan. 29	126	1752
Cooper & McKee, Brooklyn, N. Y. Cigar-cabinets	22,657	Jan. 29	126	1753
Copeland & Co., Charles C., New York, N. Y. Cotton, cotton and silk, and cotton and wool piece goods	22,964	Jan. 29	126	1754
Craven Chemical Company, Newbern, N. C. Fertilizers	24,463–4	Jan. 29	126	1764-5
Cutaway Harrow Company, Higganum, Conn. Harrows, plows, seeders, rollers, &c	23,681	Jan. 29	126	1757
Davis, Mack H., Shelby, Ohio. Wheat-flour	24,252	Jan. 29	126	1761
De Erven De Wed. J. Van Nelle, assignors to De Erven de Wed. J. Van Nelle, Rotterdam, Holland. Smoking-tobacco, cigars, cigarettes, and snuff	14,896	Jan. 29	126	1749
Diamond Fabric Company of America, Hoboken, N. J. Bed and upholstery springs	21,166	Jan. 29	126	1751
Dietz, Andrew T., Toledo, Ohio. Wafers, waffles, ice-cream cones and pyramids, and baskets, all made of pastry	21,683	Jan. 29	126	1752
Doctor Wemm's Eucalyptus Cure Company, Denver, Colo. Chewing-gum	23,710	Jan. 29	126	1757
Dr. Miles Medical Company, Elkhart, Ind. Remedies for diseases of the abdominal organs	24,320	Jan. 29	126	1763
Eagle Pencil Company, New York, N. Y. Lead-pencils of all kinds	24,140	Jan. 29	126	1760
Ebling Brewing Co., New York, N. Y. Malt extract	23,677	Jan. 29	126	1757
Edgar Manufacturing Company, Boston, Mass. Water-motors	23,895	Jan. 29	126	1758
El Dorado Brewing Co., Stockton, Cal. Beer	24,225	Jan. 29	126	1761
Exner, Emil J. R., Berlin, Germany. Bitters	22,321	Jan. 29	126	1753
Fehren, Johannes von, Kiel, Germany. Bitters	13,207	Jan. 29	126	1748
Ferment Company, New York, N. Y. Lactobacilline ferment	23,662–3	Jan. 29	126	1757
Flexo Building Paper Co., Oakland, Cal. Roofing, fireproof, and saturated building papers	23,706	Jan. 29	126	1757
Franklin Electric Mfg. Co., Hartford, Conn. Incandescent electric lamps	7,849	Jan. 29	126	1746
Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Sheet-metal, boiler, and armor plates, angle, tool, and rod steel	22,641	Jan. 29	126	1753
Fritz Bros. Co., Cincinnati, Ohio. Cigars	19,724	Jan. 29	126	1750
G. W. Cole Company, Rahway, N. J., and New York, N. Y. Oil used as a lubricator, preserver or cleaner for metal, wood, or leather	24,202–3	Jan. 29	126	1760
General Incandescent Lamp Company, Cleveland, Ohio. Incandescent lamps	23,513	Jan. 29	126	1756
Geo. H. Baker, New Haven, Conn. Varnish-like preservative for linoleum, oil-cloth, &c	24,221	Jan. 29	126	1761
Glen, Mary A., Elizabeth, N. J. Paper toys	23,586	Jan. 29	126	1756
Goodness Bros., Webster and Worcester, Mass. Remedies for catarrh, asthma, headache, hay-fever, &c	23,962	Jan. 29	126	1758
Gordon, Wolf and Co., New York, N. Y. Honey compounds	24,410	Jan. 29	126	1764
Grossman's Sons, J., New Orleans, La. Whisky	24,368	Jan. 29	126	1764
Hammond Standish & Co., Detroit, Mich. Lard	7,880	Jan. 29	126	1746
Heffernan, Edward, Lynn, Mass. Remedy for colds and throat and lung trouble	21,434	Jan. 29	126	1752
Heidelberg, Wolff & Co., New York, N. Y. Overcoats, ulsters, coats, vests, smoking-jackets, &c	20,936	Jan. 29	126	1751
Henry Disston & Sons, Incorporated, Philadelphia, Pa. Files and rasps	24,352	Jan. 29	126	1763
Hibbard, Spencer, Bartlett & Company, Chicago, Ill. Oilers, oil-cans, tin pails, washboilers, flour-sifters, and bins, &c., made of tin and sheet-steel	24,163	Jan. 29	126	1760
Hollingshead, Richard M., Camden, N. J. Soap	22,201	Jan. 29	126	1753
House, Edward L., Buffalo, N. Y. Non-alcoholic carbonated sarsaparilla, lemon-soda, lemon-sour, root-beer, and ginger-ale	24,126	Jan. 29	126	1760
Ichthyol Gesellschaft Cordes, Hermanni & Co, Hamburg, Germany. Medicated soap	24,039	Jan. 29	126	1759
Illinois Seed Company, Chicago, Ill. Poultry food	24,355	Jan. 29	126	1763
Illinois Seed Company, Chicago, Ill. Grass, clover, and field seeds	24,356	Jan. 29	126	1764
Ivimy, Limited, London, England. Custard-powder	24,338	Jan. 29	126	1763
J. A. Wright & Co., Keene, N. H. Stove-polish	20,459	Jan. 29	126	1751
J. & G. Cox, Limited, Gorgie, Edinburgh, Scotland. Gelatin for use as food	21,314	Jan. 29	126	1752
Jacob & Sons, H., New York, N. Y. Leggings	24,059	Jan. 29	126	1759
Jayne & Son, Dr. D., Philadelphia, Pa. Remedy for liver complaints	1,035	Jan. 29	126	1745
Jayne & Son, Dr. D., Philadelphia, Pa. Remedy for diseases of the respiratory organs, pills for liver complaints, &c	10,447	Jan. 29	126	1747
Jewett, Bigelow & Brooks, Detroit, Mich. Coal	24,339	Jan. 29	126	1763
John Wyeth and Brother, Incorporated, Philadelphia, Pa. Medicinal pastes and ointments	21,547	Jan. 29	126	175
Kahabka, Baptist, Buffalo, N. Y. Eye-salves	24,226	Jan. 29	126	1761
Kamp Distilling Co., St. Louis, Mo. Whisky	9,030	Jan. 29	126	1747
Keuffel & Esser Company, Hoboken, N. J. Drawing-paper	24,452–3	Jan. 29	126	1764
Kirschbraun & Sons, Omaha, Nebr. Creamery-butter	23,577	Jan. 29	126	1756
Lawson, George H., Hartford, Conn. Remedies for the cure of blood, liver, and kidney diseases	16,381	Jan. 29	126	1749
Lawton & Hall, Chicago, Ill. Rubber coats, pants, boots, &c	23,246	Jan. 29	126	1754
Le Compte, Benjamin W., Galveston, Tex. Whisky	8,221	Jan. 29	126	1747
Lehigh Valley Silk Mills, South Bethlehem, Pa. Silk dress goods	18,838	Jan. 29	129	1750
Lucas & Co., John, Philadelphia, Pa. Composition for removing paint and varnish	12,708	Jan. 29	126	1748
Lucas & Co., John, Philadelphia, Pa. Varnishes and japans	12,709	Jan. 29	126	1748
Lucas & Co., John, Philadelphia, Pa. Paint for finishing purposes	24,445	Jan. 29	126	1764
"Lucerna" Anglo-Swiss Milk Chocolate Co., Hochdorf-Lucern, Switzerland. Chocolate, cocoa, and bonbons	18,504	Jan. 29	126	1750

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Lyon & Healy, Chicago, Ill. Furniture-polish	22,757	Jan. 29	126	1754
Madame Irène, New York, N. Y. Corsets	24,290	Jan. 29	126	1762
Mallow Cream Co., Chicago, Ill. Confectioners' paste for making candles	23,613	Jan. 29	126	1756
Manganese Bronze & Brass Co. Ld., London, England. Manganese-bronze	16,947	Jan. 29	126	1750
Manly, Thomas, Kentish Town, England. Photographic carbon tissue and transfer paper	23,488	Jan. 29	126	1755
Mayer, M. & C., New York, N. Y. Knit hosiery and underwear	13,285	Jan. 29	126	1748
Minot, Hooper & Co., New York, N. Y. Shirtings	5,098	Jan. 29	126	1745
Morgan, Grover C., Westfield, Mass. Horse-whips	23,489	Jan. 29	126	1755
Mountain Iron Mineral Co., Spartanburg, S. C. Medicinal compound for all chronic diseases	21,692	Jan. 29	126	1752
Myers, Henry R., Covington, Ky. Gin	7,701	Jan. 29	126	1746
National Biscuit Company, Jersey City, N. J., and Chicago, Ill. Fruit-biscuit	9,980	Jan. 29	126	1747
National Biscuit Company, Jersey City, N. J., and New York, N. Y. Candy	24,341	Jan. 29	126	1763
National Clothing Company, Mayfield, Ky. Coats, vests, trousers, and rain-coats	21,497	Jan. 29	126	1752
National Sewing Machine Company, Belvidere, Ill. Sewing-machines	24,008	Jan. 29	126	1759
National Starch Co., Jersey City, N. J., and Oswego, N. Y. Corn-starch	24,004	Jan. 29	126	1759
Neuss, Hesslein & Co., New York, N. Y. Wooden handles for tools and implements	22,848	Jan. 29	126	1754
Nineteen Hundred Washer Co., Binghamton, N. Y. Washing-machines and wringers	24,279	Jan. 29	126	1762
Oemler, Augustus, Savannah, Ga. Canned hash-meat	23,848	Jan. 29	126	1758
Oino Liniment Co., Boston, Mass. Liniments	24,197	Jan. 29	126	1760
Omo Manufacturing Company, Middletown, Conn. Dress-shields	21,472	Jan. 29	126	1752
Ortt and Towle Shoe Co., Hammond, Ind. Leather shoes	22,767	Jan. 29	126	1754
Otis Company, Ware, Mass. Knitted underwear	23,430	Jan. 29	126	1755
Owen China Company, Minerva, Ohio. Vases, mugs, &c., of porcelain or semiporcelain material	24,472	Jan. 29	126	1765
P. Trent Co., Cincinnati, Ohio. Wheat-flour	24,127	Jan. 29	126	1760
Park & Tilford, New York, N. Y. Cigars	23,293	Jan. 29	126	1755
Park & Tilford, New York, N. Y. Cigars	23,305–6	Jan. 29	126	1755
Parsons Paper Co., Holyoke, Mass. High-grade paper for use in writing, printing, and engraving	24,209–12	Jan. 29	126	1760–1
Paul Brothers, Philadelphia, Pa. Leather boots, shoes, and slippers	23,876	Jan. 29	126	1758
Pfister & Vogel Leather Company, Milwaukee, Wis. Leather	24,008–100	Jan. 29	126	1759
Pitman-Myers Company, Indianapolis, Ind. Ointments	22,889	Jan. 29	126	1754
Pompeian Mfg. Co., Cleveland, Ohio. Soap	23,927–8	Jan. 29	126	1758
Pressing & Orr Company, Norwalk, Ohio. Salad-dressing, catsup, and mince-meat	24,298	Jan. 29	126	1762
Purdy, Herbert L., Boston, Mass. Leather boots and shoes	23,290	Jan. 29	126	1755
Rand, Israel, Philadelphia, Pa. Ladies' and children's shirt-waists and shirt-waist suits	24,371	Jan. 29	126	1764
Raymond, F. J., Stockton, Cal. Leather gloves	9,951	Jan. 29	126	1747
Regal Shoe Company, Inc., Boston, Mass. Leather boots and shoes	20,027	Jan. 29	126	1750
Rheinstrom Bettman Johnson & Co., Cincinnati, Ohio. Tonic	8,485	Jan. 29	126	1747
Robischon & Peckham Company, New York, N. Y. Knitted undershirts and drawers	24,259	Jan. 29	126	1762
Roessler & Hasslacher Chemical Co., New York, N. Y. Apparatus for generating oxygen	23,611	Jan. 29	126	1756
Rouech-Bowden Company, Detroit, Mich. Dolls and toy animals	24,388	Jan. 29	126	1764
Royal Manufacturing Co., Lancaster, Pa. Grindstones	23,788	Jan. 29	126	1757
Rugby Milling Company, Rugby, N. D. Wheat-grits	21,760	Jan. 29	126	1752
Salmon, Max, New York, N. Y. Whisky	20,205	Jan. 29	126	1751
Sample & Co., New York, N. Y. Whisky	4,512	Jan. 29	126	1745
Sanderson & Son, Wm., Leith, Scotland. Whisky	23,248	Jan. 29	126	1754
Sands, Augustus H., New York, N. Y. Dress-silks	22,686	Jan. 29	126	1753
Schieren & Co., Chas. A., New York, N. Y. Leather	21,753	Jan. 29	126	1752
Schmitz & Co., C., New York, N. Y. Canned salmon	24,029	Jan. 29	126	1759
Schneider, Adam, Berlin, Germany. Odometers or fare-indicators, kilometer-counters, and tachymeters	23,261	Jan. 29	126	1754
Smith-Worthington Company, New York, N. Y. Saddle housings and pads	3,303	Jan. 29	126	1745
Snitjer Company, Pittsburg, Pa. Gas and vapor heaters and furnaces	24,071	Jan. 29	126	1759
Société Anonyme des Anciens Établissements Panhard & Levassor, Paris, France. Dynamos, motors, and parts thereof, magnetos, &c	6,476	Jan. 29	126	1746
Société Anonyme des Anciens Établissements Panhard & Levassor, Paris, France. Automobiles and parts thereof	6,477	Jan. 29	126	1746
Soda Mint Gum Company, Trenton, N. J., and Allegheny, Pa. Chewing-gum	24,373	Jan. 29	126	1764
Sommer, Adolph, Cambridge, Mass. Oils, &c., for lubricating, &c., the texture of leather and fibrous goods	21,817	Jan. 29	126	1753
St. Louis Dust Settling Co., St. Louis, Mo. Preparation for absorbing dust when sweeping	22,867	Jan. 29	126	1754
Standard Milling Co., Houston, Tex. Wheat-flour	19,998	Jan. 29	126	1750
Sterling Electrical Manufacturing Company, Warren, Ohio. Decorative electric-lighting outfits	24,014–15	Jan. 29	126	1759
Stern Brothers & Co., New York, N. Y. Rings and ring-mountings	7,545	Jan. 29	126	1746
Stern Brothers & Company, New York, N. Y. Bead neck-chains, bracelets, and crosses	15,083	Jan. 29	126	1749
Stern Brothers & Company, New York, N. Y. Hat, scarf, and baby pins	15,084	Jan. 29	126	1749
Stern Brothers & Company, New York, N. Y. Lockets, fobs, pendants, and ear-rings	15,085	Jan. 29	126	1749
Stern Brothers & Company, New York, N. Y. Link-buttons, tie-clasps, studs, &c	15,086	Jan. 29	126	1749
Strader, Robert S., Lexington, Ky. Whisky	15,087	Jan. 29	126	1749
Straus, Gunst & Co., Richmond, Va. Whisky	23,274–5	Jan. 29	126	1754
Strong Machinery & Supply Co., New York, N. Y. Metallic packing	5,206	Jan. 29	126	1746
Successful Farming Publishing Company, Des Moines, Iowa. Monthly newspaper	24,343	Jan. 29	126	1763
Taylor Iron & Steel Co., High Bridge, N. J. Steel car-wheels	23,585	Jan. 29	126	1756
Tilly, C. De Koning, Haarlem, Holland. Medicinal oil	24,290	Jan. 29	126	1762
Traka Metal Company, Medford, Mass. Bearing metals	20,682	Jan. 29	126	1751
Union Match Company, Duluth, Minn. Friction-matches	23,541	Jan. 29	126	1756
Victor Sporting Goods Co., Springfield, Mass. Implements, apparatus, and goods for athletic games and sports	24,261	Jan. 29	126	1762
Vincent, Hilaire, Manchester, N. H. Remedy for purifying the blood and preventing cholera	6,784	Jan. 29	126	1746
W. K. Roach & Co., Hart, Mich. Canned fruits and vegetables	13,214	Jan. 29	126	1748
W. S. Quinby Company, Boston, Mass. Coffee and tea	7,348	Jan. 29	126	1746
W. W. Lawrence & Company, Pittsburg, Pa. Combination of white lead and zinc	24,350	Jan. 29	126	1764
Walter Medicine Company, Peru, Ind. Blood-purifier, &c	23,787	Jan. 29	126	1757
Walther Manufacturing Co., New York, N. Y. Medical preparations for animals	22,599	Jan. 29	126	1753
Wanamaker, John, Philadelphia, Pa. Broad, dress, and piece silks	23,709	Jan. 29	126	1757
Weiss M'f'g Co., New York, N. Y. Leather fobs, match-cases, and pocket-books	18,600	Jan. 29	126	1750
Wells-Jones Plow Co., Jackson, Tenn. Soil-scrapers	23,987	Jan. 29	126	1759
William Edge & Sons, Limited, Bolton, England. Tinting-color for bleachers' use	19,781	Jan. 29	126	1750
William Edge & Sons, Limited, Bolton, England. Dyes	8,023	Jan. 29	126	1747
Wm. Elliot & Co., New York, N. Y. Razors	22,163	Jan. 29	126	1753
Worlds Dispensary Medical Association, Buffalo, N. Y. Medicated and antiseptic soap	24,304–10	Jan. 29	126	1762–3
	18,860	Jan. 29	126	1750

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 29TH DAY OF JANUARY, 1907.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Drawing.	Official Gazette. Volume.	Page.
Account balance-slips. Cabinet for book-	F. A. Shupe and S. D. Page	842,816	Jan. 29	6185	1307	126	1721
Account-keeper. Easy	G. T. Pine	842,421	Jan. 29	5342	1132	126	1515
Adding-machine	C. N. McFarland	842,232	Jan. 29	4921	1050–1	126	1400
Adhesive-applying apparatus	J. West	842,283	Jan. 29	5027	1073–4	126	1426
Advertising effervescent liquids. Device for	W. C. Dunn	842,830	Jan. 29	6216	1312	126	1728
Air-brake system	W. H. Elchelberger	842,774	Jan. 29	6116	1290–1	126	1703
Air-feeding device	W. D. Douglas	842,845	Jan. 29	6251	1320–1	126	1737
Alarm: *See* Water-alarm.							
Alkali perborates. Making	O. Liebknecht	842,471	Jan. 29	5467	.....	126	1549
Alkali perborates. Making	O. Liebknecht	842,472	Jan. 29	5468	.....	126	1549
Alkali perborates. Making	O. Liebknecht	842,473	Jan. 29	5469	.....	126	1549
Alloy. Magnetic	R. A. Hadfield	842,403	Jan. 29	5302	.....	126	1505
Amusement apparatus	H. G. Traver	842,276	Jan. 29	5008	1069	126	1421
Amusement apparatus	R. Dodson	842,635	Jan. 29	5804	1225–6	126	1628
Angle-finder	J. M. Ridley	842,584	Jan. 29	5678	1201	126	1597
Animal-trap	W. D. Armstrong	842,610	Jan. 29	5749	1215	126	1615
Animal-trap	F. Kunkel	842,837	Jan. 29	6232	1315	126	1732
Animal-trap	H. J. Kusel	842,565	Jan. 29	5646	1194	126	1588
Annunciator	E. Arnold and J. L. La Cour	842,163	Jan. 29	4780	1020	126	1366
Armatures of dynamos. Commutation of currents in	A. De Vilbiss	842,390	Jan. 29	5269	1118	126	1494
Atomizers. Spray-producing point for	W. B. Rose	842,495	Jan. 29	5509	1166	126	1559
Attendance-indicator	J. Taylor	842,725	Jan. 29	6026	1269	126	1683
Automatic sprinkler	G. I. Rockwood. (Reissue)	12,601	Jan. 29	6264	1323	126	1740
Automatic sprinkler	R. P. Thompson and E. Koeb	842,591	Jan. 29	5703	1206	126	1603
Automobile	C. T. Pratt	842,245	Jan. 29	4947	1055	126	1406
Automobile running-gear	E. L. and P. A. Rooks	842,706	Jan. 29	5974	1260	126	1670
Awning	G. T. Price	842,335	Jan. 29	5138	1092	126	1457
Axle	A. J. Friedman	842,397	Jan. 29	5283	1122	126	1497
Axle	J. L. Monkhouse	842,225	Jan. 29	4908	1047	126	1397
Axle-machine	J. F. Ames	842,372	Jan. 29	5230	1109–10	126	1483
Bag-machine	M. I. Parkhurst	842,578	Jan. 29	5668	1198–9	126	1594
Baling-press	P. H. Unsinger	842,505	Jan. 29	5524	1171	126	1562
Balloons. Car of navigable	J. G. Crawford	842,302	Jan. 29	5066	1080	126	1436
Bandage-winding machine							
Bar: *See* Metal bar.	J. J. Blue	842,296	Jan. 29	5054	1078	126	1433
Baskets and crates. Carrier-handle for	F. A. Decker	842,389	Jan. 29	5267	1117–18	126	1494
Battery	G. H. Cove	842,771	Jan. 29	6110	1289	126	1702
Battery binding-post attachment	J. Y. Bradbury	842,616	Jan. 29	5759	1216	126	1618
Battery jar or cell	W. Morrison	842,801	Jan. 29	6161	.....	126	1715
Battery plate. Storage-	S. A. Leonard	842,405	Jan. 29	5306	1125	126	1506
Battery switch. Storage-	N. Lodor	842,477	Jan. 29	5477	1160	126	1551
Bearing-metal package	S. Schneider	842,500	Jan. 29	5518	1169	126	1561
Bearings. Preparing rings for ball-	C. W. H. Blood	842,756	Jan. 29	6062	1282–3	126	1696
Belt-adjusting mechanism	A. J. Chaffin	842,174	Jan. 29	4806	1026	126	1372
Belt guide and holder	C. W. H. Blood	842,757	Jan. 29	6065	1283	126	1697
Belt guiding and tightening mechanism	T. J. McVey	842,808	Jan. 29	6173	1304	126	1717
Belt-shifter	C. O. Hedstrom	842,833	Jan. 29	6219	1313	126	1729
Bicycle and tricycle frame. Convertible	W. S. Fernau	842,641	Jan. 29	5815	1228	126	1631
Billiard-tables and similar articles. Universally-adjustable foot for the legs of	A. Wagniere	842,361	Jan. 29	5201	1105	126	1475
Binder for loose-leaf records. Permanent	W. J. Roussel	842,708	Jan. 29	5979	1261	126	1671
Binder. Loose-leaf	J. A. Bexell	842,751	Jan. 29	6075	1280–1	126	1694
Binder. Temporary	E. Tyden	842,592	Jan. 29	5708	1207–8	126	1604
Blanks staggering. Machine for cutting	H. W. Hixon	842,663	Jan. 29	5865	1237	126	1645
Blast-furnace	I W. Goodell	842,401	Jan. 29	5299	1123	126	1504
Blind. Venetian							
Board: *See* Washboard.	N. L. Skene	842,349	Jan. 29	5172	1099	126	1465
Boat. Sectional							
Boiler: *See* Water-tube boiler.	C. Gottwald	842,311	Jan. 29	5081	1083	126	1440
Boiler-tube cleaner	J. B. Barnes	842,164	Jan. 29	4782	1021	126	1366
Boilers. Scummer and blow-off for steam-	K. E. Crocker	842,387	Jan. 29	5264	1117	126	1493
Bolster-holder	M. Ennis	842,450	Jan. 29	5412	1149	126	1533
Bolt	M. F. McMahon	842,575	Jan. 29	5662	1197	126	1593
Bolts. Self-retaining adjusting means for clutch-actuating draft-	A. Wood	842,288	Jan. 29	5042	1076	126	1439
Boring-mill	E. Hamilton	842,652	Jan. 29	5831	1252	126	1635
Bottle	J. T. Clifford	842,768	Jan. 29	6105	1288	126	1700
Bottle	J. B. Fowler	842,395	Jan. 29	5279	1121	126	1496
Bottle. Non-refillable							

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Bottle. Non-refillable	F. W. Abbott	842,605	Jan. 29	5740	1213	126	1613
Bottle or like article	C. F. Marsh	842,219	Jan. 29	4897	1045	126	1395
Box:							
See Letter-box. Plant-box.							
Box-machines, &c. Gripping attachment for	H. M. Wrigley and J. Aspenleiter	842,290	Jan. 29	5045	1076	126	1431
Brace:							
See Corner-brace.							
Bracelet	R. C. Castiglioni	842,625	Jan. 29	5781	1221	126	1623
Bracket:							
See Shade-bracket.							
Brake:							
See Car-brake. Vehicle-brake. Fluid-pressure brake. Wagon-brake.							
Brake mechanism	A. F. Rockwell	842,248	Jan. 29	4956	1057–8	126	1408
Brake-rigging	J. A. Lightbody	842,474	Jan. 29	5470	1159	126	1549
Brick-machine	J. Miller	842,412	Jan. 29	5318	1127	126	1502
Broiler	G. T. Baguley	842,749	Jan. 29	6073	1280	126	1694
Broiler. Camp	C. R. Peters	842,695	Jan. 29	5962	1254	126	1685
Broom-shield	H. H. Asimont	842,376	Jan. 29	5243	1112	126	1467
Brush. Fountain	F. E. Fornwalt	842,644	Jan. 29	5819	1229	126	1632
Brusher, polisher, washer, and self-feeder. Fruit and vegetable	J. M. Baker	842,378	Jan. 29	5247	1113	126	1468
Buckle	C. O. Anderson	842,373	Jan. 29	5240	1111	126	1468
Buckle	A. O. Brubaker	842,750	Jan. 29	6088	1284	126	1696
Buildings. Mason's platform for	C. J. Clark	842,382	Jan. 29	5255	1115	126	1469
Bung for barrels. Air-inlet and beer-outlet	G. A. W. Schilling and J. H. Flach.	842,343	Jan. 29	5161	1097	126	1462
Burial-casket	C. F. Eagelman	842,831	Jan. 29	6217	1313	126	1729
Burner:							
See Gas-burner. Oil-burner.							
Button	F. W. Goerdes	842,782	Jan. 29	6132	1294	126	1707
Button-holder	A. H. Cushman	842,177	Jan. 29	4810	1027	126	1373
Cabinet. Kitchen	G. W. Wysor	842,440	Jan. 29	5394	1142–3	126	1529
Cabinet. Kitchen	A. R. Stephens	842,720	Jan. 29	6010	1266	126	1680
Cabinet. Physician's	H. A. Hughes	842,669	Jan. 29	5985	1240–1	126	1680
Calculating-machine registering mechanism	J. F. Mays	842,682	Jan. 29	5924	1248–9	126	1658
Calipers. Micrometer	F. Spalding	842,263	Jan. 29	4982	1064	126	1414
Camera roller-blind shutter. Photographic	C. Sasse	842,251	Jan. 29	4961	1059	126	1409
Cameras and roll-holders. Winding-key for film	C. Bornmann	842,825	Jan. 29	6203	1310	126	1725
Can-closure	A. Brundrett	842,444	Jan. 29	5403	1145	126	1531
Candle-extinguisher	J. Kaiserreiner	842,463	Jan. 29	5453	1155	126	1545
Capstan. Traveling	H. M. Fisk	842,304	Jan. 29	5277	1121	126	1466
Car-brake	W. Martin	842,679	Jan. 29	5917	1246	126	1656
Car-coupling	D. Patterson	842,692	Jan. 29	5945	1253	126	1663
Car-fender	J. R. Kinnebrew	842,559	Jan. 29	5833	1191	126	1585
Car. Mine	C. A. Keller	842,670	Jan. 29	5887	1241	126	1650
Car-seat	E. G. Budd and C. A. Condé	842,206	Jan. 29	5055	1079	126	1434
Car-stake	R. L. Edwards	842,538	Jan. 29	5809	1227	126	1630
Car switch. Automatic mine	M. O. Horning	842,667	Jan. 29	5881	1239–40	126	1649
Car switch-operating mechanism	J. Barnes	842,380	Jan. 29	5260	1114	126	1469
Car-unloading apparatus. Platform	P. McNerney	842,807	Jan. 29	6171	1303–4	126	1717
Car-window sash	E. T. Robinson	842,493	Jan. 29	5507	1165	126	1558
Carbureted-air apparatus	T. H. Glasscoe	842,846	Jan. 29	6255	1321–2	126	1738
Carbureter	C. H. Bryant and A. Watling	842,170	Jan. 29	4796	1024	126	1370
Carbureter. Explosion-engine	A. B. Schuyler	842,429	Jan. 29	5363	1135	126	1521
Card-dealing machine. Playing	G. Murch	842,803	Jan. 29	6163	1301	126	1715
Carline	J. H. Weisbrod	842,597	Jan. 29	5725	1210	126	1608
Carpet-cleaning machine	L. B. Cobb	842,385	Jan. 29	5261	1116	126	1462
Carpet-sweeper	J. S. Clagett	842,826	Jan. 29	6204	1310	126	1725
Carrier:							
See Pneumatic-despatch-tube carrier.							
Carving-machine	F. H. Richards	842,422	Jan. 29	5344	1132–3	126	1515
Case:							
See Suit-case.							
Caster	R. E. Bierd	842,753	Jan. 29	6079	1281	126	1695
Cellulose threads. Manufacturing glossy	R. Linkmeyer	842,568	Jan. 29	5652	1195	126	1590
Cement-block machine	G. L. Reed	842,491	Jan. 29	5502	1164–5	126	1557
Cement. Burning	C. A. Matcham	842,848	Jan. 29	6262	1323	126	1739
Centrifugal machine	D. T. Sharples	842,258	Jan. 29	4971	1061	126	1412
Centrifugal separator	D. T. Sharples	842,257	Jan. 29	4969	1061	126	1411
Chair:							
See Theater-chair.							
Chuck	J. A. Leland	842,469	Jan. 29	5465	1158	126	1548
Churn-dasher	F. W. Cook	842,386	Jan. 29	5263	1116	126	1493
Cigar and cigarette holder and ash-receiver. Combined	S. L. Bigelow	842,613	Jan. 29	5753	1215	126	1616
Cigar-bunching machine	R. A. Bright and A. W. Davis	842,618	Jan. 29	5763	1216–18	126	1618
Cigar-perforator	J. G. Doherty	842,530	Jan. 29	5577	1180	126	1572
Cigarette-machine drier	N. Du Brul	842,534	Jan. 29	5587	1182–3	126	1575
Clamp:							
See Miter-clamp.							
Clay-screen	J. B. Williamson	842,599	Jan. 29	5728	1210–11	126	1609
Cleaner:							
See Boiler-tube cleaner. Razor-blade cleaner. Gun-cleaner.							
Closet-space. Attachment intended to save	T. Tryon	842,821	Jan. 29	6192	1308	126	1722
Clothes-drier	A. F. Poggi	842,490	Jan. 29	5500	1164	126	1557
Clothes-hanger support	C. Frankel	842,193	Jan. 29	4844	1033	126	1381
Clothes-line	B. A. Brunner	842,760	Jan. 29	6089	1284	126	1698
Clothes-line support	C. A. Enggren	842,188	Jan. 29	4837	1032	126	1380
Clutch	E. J. Downey and J. A. Davis	842,533	Jan. 29	5586	1182	126	1574
Clutch	T. J. Fay and J. M. Ellsworth	842,640	Jan. 29	5812	1227–8	126	1631
Clutch. Automatic	F. Starr	842,841	Jan. 29	6241	1317	126	1734
Clutch. Automatic	W. Cooper	842,629	Jan. 29	5792	1223	126	1626
Clutch. Pulley	W. Cooper	842,630	Jan. 29	5795	1223–4	126	1626
Cob breaker or crusher	M. and C. Skogstad	842,587	Jan. 29	5683	1203	126	1598
Coffee-drier	G. H. Mayne	842,681	Jan. 29	5919	1247–8	126	1657
Coke. Cooling	D. Gordon	842,456	Jan. 29	5440	1152	126	1542
	C. E. Arnold	842,747	Jan. 29	6069	1279	126	1693

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Column	C. F. Linsenmeyer	842,213	Jan. 29	4890	1043	126	1393
Column-base	C. E. Zimmermann	842,604	Jan. 29	5738	1212–13	126	1612
Comb:							
See Hair-comb. Lady's comb.							
Comb	F. Fontneau	842,643	Jan. 29	5818	1228	126	1632
Commutator	A. F. Carver and J. N. Stout	842,624	Jan. 29	5778	1221	126	1622
Commutators. Making	T. Duncan	842,829	Jan. 29	6214	1312	126	1728
Compounds. Reducing	F. J. Tone	842,273	Jan. 29	5004	1068	126	1420
Concrete-construction mold	J. F. Swinnerton	842,722	Jan. 29	6019	1268	126	1681
Concrete-floor-laying apparatus	A. Lanquist	842,566	Jan. 29	5648	1194	126	1589
Concrete-mixer	J. E. Kenisell and C. C. Lowry	842,206	Jan. 29	4867	1038–9	126	1387
Concrete-work. Collapsible form for	O. S. Riblet	842,812	Jan. 29	6178	1305–6	126	1719
Contact-breaker. Extra-highly-vibrating	G. Mamy	842,407	Jan. 29	5311	1126	126	1507
Conveyer	J. H. Bell	842,611	Jan. 29	5751	1215	126	1615
Conveyers. Idler for belt	J. J. Ridgway	842,813	Jan. 29	6180	1306	126	1719
Cooler:							
See Water-cooler.							
Cooling apparatus	H. J. Vasconcelles	842,595	Jan. 29	5720	1209	126	1607
Cord-fastener	H. Hellweg	842,459	Jan. 29	5446	1154	126	1544
Core-drill	G. E. Okell	842,577	Jan. 29	5667	1198	126	1594
Cork sheets. Method of and mechanism for making	J. H. Stone	842,356	Jan. 29	5186	1102	126	1469
Corner-brace	H. C. John	842,789	Jan. 29	6146	1297	126	1711
Cotton-chopping machine	S. H. Tucker	842,727	Jan. 29	6030	1269–70	126	1684
Cotton-picker's sack-carrier	W. A. Byrd	842,765	Jan. 29	6101	1287	126	1700
Coupling:							
See Car-coupling.							
Crank. Starting	G. M. D. Merwin	842,793	Jan. 29	6151	1298	126	1712
Crate. Collapsible	G. G. Rohrssen	842,494	Jan. 29	5508	1166	126	1558
Cryptographic machine	H. Burg	842,763	Jan. 29	6094	1285–6	126	1699
Cuff-holder	J. L. Forbes	842,192	Jan. 29	4841	1033	126	1380
Cultivator	F. L. Carrell	842,623	Jan. 29	5775	1220	126	1621
Cultivator. Cotton	G. W. Abernethy	842,159	Jan. 29	4772	1019	126	1363
Cutter:							
See Grass-cutter. Vegetable-cutter. Meat-cutter. Weed-cutter.							
Cycloidograph	J. F. Cooley	842,447	Jan. 29	5407	1146–8	126	1532
Damper. Time-controlled	W. F. Cawthorne and H. M. Lummis.	842,525	Jan. 29	5572	1178	126	1571
Danger-signal. Electric	A. McCahon	842,574	Jan. 29	5661	1197	126	1592
Derrick	I. E. Monroe	842,799	Jan. 29	6158	1300	126	1714
Desk	E. L. Gardner	842,780	Jan. 29	6129	1293	126	1707
Discharging apparatus. Automatic	H. C. Lindsly	842,567	Jan. 29	5650	1194–5	126	1589
Dish-washer	M. V. Trimble	842,726	Jan. 29	6028	1269	126	1683
Display-rack	G. Grossman	842,651	Jan. 29	5829	1232	126	1634
Dividing-machine	H. P. Hayes	842,694	Jan. 29	5949	1253–4	126	1664
Door-check	C. G. Deming	842,304	Jan. 29	5070	1080	126	1437
Door-check	R. R. Smith	842,350	Jan. 29	5174	1099	126	1465
Door-check	W. H. Brothers	842,521	Jan. 29	5566	1177	126	1569
Door-check	W. H. Durant	842,535	Jan. 29	5589	1183	126	1575
Door fastener. Sliding	J. E. Huey	842,668	Jan. 29	5883	1240	126	1650
Door-pivoting device	H. R. Palmer	842,691	Jan. 29	5944	1252	126	1662
Door-securer	P. S. Ward	842,596	Jan. 29	5721	1209	126	1608
Dough-dividing machine	O. D. Woodruff	842,509	Jan. 29	5542	1172–3	126	1565
Dough mixer and kneader	T. S. Ross	842,585	Jan. 29	5680	1202	126	1597
Drafting attachment	J. A. Heydrick	842,662	Jan. 29	5849	1235–6	126	1638
Drafting instrument	M. E. Roberts	842,703	Jan. 29	5970	1259	126	1669
Drainer. Dish	H. G. Savage	842,253	Jan. 29	4963	1060	126	1410
Draw-head hanger	J. L. White	842,364	Jan. 29	5208	1106	126	1475
Dredge	A. Coleman	842,769	Jan. 29	6105	1288	126	1701
Drier:							
See Cigarette-machine drier. Coffee-drier. Clothes-drier.							
Drying apparatus	H. G. Morse	842,227	Jan. 29	4910	1047–8	126	1397
Drill:							
See Core-drill. Rock-drill. Railway-track drill.	E. W. Cleveland	842,175	Jan. 29	4808	1026–7	126	1372
Drilling-machine	L. Dressler	842,636	Jan. 29	5807	.....	126	1629
Drilling-machine. Multiple-spindle	G. Dittmar	842,529	Jan. 29	5577	1179	126	1572
Dust-binding composition and making same	A. Hein	842,661	Jan. 29	5848	1235	126	1638
Dust-separator for cleaning apparatus	W. Herzberg	842,548	Jan. 29	5611	.....	126	1581
Dust-suction apparatus	P. J. Schreiber	842,428	Jan. 29	5361	1135	126	1521
Dye and making same. Azo	L. Roland	842,839	Jan. 29	6236	.....	126	1733
Egg-tester	H. Sawyer	842,342	Jan. 29	5150	1095–7	126	1460
Elastic substance similar to india-rubber and its manufacture	R. C. and E. Taylor	842,358	Jan. 29	5189	1102–3	126	1470
Electric controller	G. Bachr	842,515	Jan. 29	5554	1175	126	1567
Electric generators. Wireless balance for	A. H. Williamson	842,843	Jan. 29	6249	1320	126	1736
Electric-motor system	H. Viertel and G. Egly	842,730	Jan. 29	6035	.....	126	1685
Electric switch. Safety	G. O. Seward and F. von Kügelgen.	842,256	Jan. 29	4967	1060	126	1411
Electrically conducting-bodies for use as contacts. Making	A. H. Gibson. (Reissue)	12,602	Jan. 29	6266	1324	126	1740
Electrolytic cell	H. Y. Baldwin	842,294	Jan. 29	5051	1077–8	126	1432
Electropneumatic channeler	I. D. Chritton	842,446	Jan. 29	5406	1145	126	1532
Elevator:	G. P. Dorris	842,531	Jan. 29	5578	1180	126	1573
See Hod-elevator. Portable elevator.	O. Sanders	842,710	Jan. 29	5985	1262	126	1672
Elevator safety-stop	C. J. Coleman	842,627	Jan. 29	5787	1222	126	1624
Engine:	D. M. Somers	842,588	Jan. 29	5684	1203–4	126	1598
See Explosion-engine. Steam-engine. Explosive-engine. Traction-engine. International combustion-engine.	R. S. White, Jr.	842,739	Jan. 29	6050	1275	126	1688
Engine	H. C. Brasier	842,617	Jan. 29	5761	1216	126	1618
Engine cylinders. Means for cooling explosive	C. A. Anderson, E. A. Erickson, and J. Wickstrom.	842,607	Jan. 29	5742	1213–14	126	1613
Engine lubricator. Steam							
Engine starting means. International-combustion							
Engine system. Steam							
Engine tender. Traction							
Engines. Electrical ignition mechanism for explosion							
Engines. Incandescent igniter for gas							

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Engines. Means for controlling the supply of vapor to internal-combustion	F. H. Smith	842,261	Jan. 29	4977	1062–3	126	1413
Engines. Wrist-pin bearing for	W. B. Mason	842,847	Jan. 29	6260	1323	126	1739
Engraving and die-sinking machine	H. Phillips	842,697	Jan. 29	5957	1255–7	126	1666
Engraving or carving machine	H. M. Albee	842,745	Jan. 29	6053	1278	126	1691
Excavator	J. B. Amos	842,746	Jan. 29	6058	1279	126	1692
Excavator control power means	J. B. Webber, Jr.	842,734	Jan. 29	6042	1273	126	1686
Explosion-engine	J. T. Lagergren	842,468	Jan. 29	5463	1158	126	1548
Explosive-engine	J. Eckhard	842,392	Jan. 29	5271	1119	126	1494
Explosive-engine	C. White and A. R. Middleton	842,737	Jan. 29	6046	1274	126	1687
Eyeglass nose-piece	H. L. De Zeng	842,181	Jan. 29	4818	1028	126	1375
Eyeglasses	S. W. Burch	842,762	Jan. 29	6092	1285	126	1609
Fabric: *See* Wire-cloth fabric.							
Fare-register	W. L. Lightford	842,475	Jan. 29	5471	1159	126	1550
Fare-register	W. L. Lightford	842,476	Jan. 29	5474	1159	126	1550
Fastening device	E. A. Reeves	842,492	Jan. 29	5506	1165	126	1558
Feed-water-heating means	J. Fournia	842,777	Jan. 29	6124	1292	126	1705
Feeding-machine	R. E. Woodson, W. B. Knight, and J. Nilson.	842,601	Jan. 29	5731	1211	126	1610
Fence	H. T. Harper	842,197	Jan. 29	4851	1035	126	1383
Fence-post	W. N. Reynolds	842,811	Jan. 29	6177	1305	126	1718
Fence-post. Cement	B. F. Gibler	842,454	Jan. 29	5421	1150	126	1536
Fender: *See* Car-fender.							
Ferrous carbonate. Making	A. Flügge	842,452	Jan. 29	5419	.....	126	1535
Ferry. Aerial	S. B. Harding	842,457	Jan. 29	5441	1152–3	126	1542
Fertilizer-distributer	W. A. Freeman	842,194	Jan. 29	4845	1034	126	1381
Filter	E. Hurt	842,764	Jan. 29	6099	1287	126	1609
Filter for defecation	R. M. Villarino	842,731	Jan. 29	6036	1271–2	126	1685
Filter. Pressure-	C. W. Merrill	842,484	Jan. 29	5467	1162	126	1553
Firearm	G. E. Witherell	842,287	Jan. 29	5040	1075	126	1430
Firearm	R. C. Thomas	842,436	Jan. 29	5384	1139	126	1527
Fish-hook	G. H. and L. C. Van Vleck	842,504	Jan. 29	5720	1208	126	1607
Fishing-float and line-holder. Combined	C. R. Fleming	842,540	Jan. 29	5509	1185	126	1578
Fishing-reel	R. L. Hunter	842,551	Jan. 29	5515	1188	126	1581
Fishing-reel	T. V. Buckwalter	842,761	Jan. 29	6091	1285	126	1608
Flask: *See* Molder's flask. Sand-mold flask.							
Fluid-controlling device	S. Z. de Ferranti	842 303	Jan. 29	5274	1119–20	126	1495
Fluid-pressure brake	W. H. Sauvage	842,424	Jan. 29	5352	1133	126	1518
Fluid-pressure brake	W. H. Sauvage	842,425	Jan. 29	5355	1133–4	126	1519
Food. Cattle	W. F. Warren	842,281	Jan. 29	5020	.....	126	1425
Form. Arm-scye bust-	C. H. Scott	842,715	Jan. 29	5995	1264	126	1675
Fountain: *See* Printing-press ink-fountain.							
Frame: *See* Bicycle and tricycle frame. Hot-bed frame. Roving and spinning frame.							
Furnace: *See* Blast-furnace. Smoke-consuming furnace. Glass-furnace. Glass-drawing furnace.							
Furnace	J. V. Martin	842,678	Jan. 29	5015	1245–6	126	1656
Furnace-charging apparatus	G. Baehr	842,514	Jan. 29	5550	1174–5	126	1566
Furnaces. Ore heating and drying device for	U. Wedge	842,736	Jan. 29	6044	1273–4	126	1687
Fuse-mount	C. E. White	842,738	Jan. 29	6040	1274	126	1688
Gage: *See* Track-gage.							
Garment-fastener	C. H. Schmidt	842,498	Jan. 29	5515	1168	126	1560
Garment-hook	B. Goldsmith	842,542	Jan. 29	5602	1185	126	1578
Garment-supporter	M. L. Gaston	842,541	Jan. 29	5600	1185	126	1578
Garment-supporter	A. R. Pollock	842,810	Jan. 29	6177	1305	126	1718
Gas-burner	P. E. Peterson	842,334	Jan. 29	5136	1092	126	1456
Gas-burner	G. Machlet, Jr.	842,792	Jan. 29	6149	1297	126	1711
Gas-furnace	H. A. Schnelbach	842,427	Jan. 29	5360	1134	126	1521
Gas generator. Acetylene-	B. W. Scott	842,345	Jan. 29	5165	1098	126	1463
Gas lighting and extinguishing apparatus. Automatic	N. H. Shaw	842,259	Jan. 29	4972	1061	126	1412
Gate: *See* Railway-gate.							
Gate-catch	J. O. Mitchell	842,685	Jan. 29	5934	1250	126	1660
Gate lock and support. Combined swing-	C. E. Sargent	842,711	Jan. 29	5986	1262	126	1672
Gear-cutting machine	J. E. Gleason	842,455	Jan. 29	5422	1150–2	126	1536
Gear. Reversing-	W. J. D. Miller	842,664	Jan. 29	5933	1250	126	1660
Gear. Transmission-	W. Degen and A. Manuel	842,773	Jan. 29	6114	1290	126	1702
Generator: *See* Gas-generator. Steam-generator. Power-generator.							
Glass articles. Making	J. A. McLane	842,233	Jan. 29	4927	1051	126	1401
Glass bulbs. Rotating heating device for tubulating	R. B. Flather	842,191	Jan. 29	4839	1033	126	1380
Glass-drawing furnace. Sheet-	J. George and C. M. Shortle	842,399	Jan. 29	5297	1123	126	1503
Glass to leers. Device for introducing	C. R. Knapp and V. Mulholland	842,209	Jan. 29	4873	1040–1	126	1388
Glassware heating and finishing machine	H. A. Schnelbach	842,426	Jan. 29	5357	1134	126	1519
Glassware to leers. Device for conveying	C. R. Knapp and V. Mulholland	842,210	Jan. 29	4880	1041–2	126	1389
Glove-blank	W. N. Marsden	842,408	Jan. 29	5312	1126	126	1507
Gold-dredge	H. J. Clark	842,383	Jan. 29	5256	1115	126	1490
Grain-treating device	C. D. Woolverton	842,289	Jan. 29	5043	1076	126	1430
Grapple	G. W. Smith	842,719	Jan. 29	6010	1266	126	1680
Grass-cutter	B. H. Herrick and F. Cleary	842,199	Jan. 29	4853	1036	126	1383
Grinding apparatus	G. Benicke	842,381	Jan. 29	5253	1114–15	126	1489
Gun. Air-	W. F. Markham	842,324	Jan. 29	5113	1087	126	1449
Gun-cleaner	C. T. Forbes	842,776	Jan. 29	6123	1292	126	1705
Gun mount. Portable-	W. Mayer	842,570	Jan. 29	5655	1196	126	1590
Gun sighting device. Portable-	J. Kurig	842,564	Jan. 29	5642	1193–4	126	1588
Gun with wedge breech-block. Barrel-recoil	M. Hermsdorf	842,547	Jan. 29	5609	1187	126	1580
Guns. Training-lever for	J. Krone	842,563	Jan. 29	5641	1193	126	1587
Hair-comb	F. S. Cartwright	842,524	Jan. 29	5570	1178	126	1571
Hame attachment	D. Gleim	842,400	Jan. 29	5299	1123	126	1504

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Hammer	W. J. Malloy	842,323	Jan. 29	5112	1087	126	1449
Hammer. Pneumatic	J. F. Clement	842,626	Jan. 29	5783	1221	126	1623
Hammer. Pneumatic	M. Hardsocg	842,655	Jan. 29	5835	1233	126	1636
Hammock	E. F. Pillman	842,698	Jan. 29	5963	1257	126	1667
Handle	B. T. Landers	842,790	Jan. 29	6146	1297	126	1711
Hanger: *See* Draw-head hanger. Skirt-hanger.							
Harrow-controlling means	E. A. Parrett	842,239	Jan. 29	4939	1053	126	1404
Harrow. Disk	W. C. King	842,671	Jan. 29	5889	1241	126	1651
Harrow. Reversible	L. B. Metcalf	842,223	Jan. 29	4903	1046	126	1396
Harrow. Rotary	F. Hanson	842,653	Jan. 29	5833	1232	126	1635
Harvester platform-leveling device	E. R. Gordon and D. R. Throop	842,648	Jan. 29	5825	1230	126	1633
Harvester-reel	T. J. Myers	842,328	Jan. 29	5129	1090	126	1454
Harvesting machine. Cotton-	J. F. Appleby	842,162	Jan. 29	4778	1020	126	1365
Hat-fastener. Automatic	M. W. Robertshaw	842,337	Jan. 29	5140	1093	126	1457
Hat-lure	S. L. Taylor	842,267	Jan. 29	4993	1066	126	1418
Hay-rake	J. H. Neeb	842,234	Jan. 29	4929	1051	126	1402
Hay-rake. Side-delivery	F. L. Kirkman	842,208	Jan. 29	4872	1039–40	126	1388
Hay-sling lock	G. Matson	842,482	Jan. 29	5484	1161	126	1552
Headlight. Automobile-	C. M. Spink	842,818	Jan. 29	6188	1307	126	1721
Headlight support. Car-	C. M. Spink	842,819	Jan. 29	6189	1307	126	1722
Heater: *See* Solar heater. Tank-heater.							
Heating system. Steam-	T. F. Dexter	842,180	Jan. 29	4816	1028	126	1375
Hides. Tool-cylinder for machines for unhairing	V. Quaedvlieg	842,336	Jan. 29	5140	1092	126	1457
Hinge	W. H. Brothers	842,520	Jan. 29	5565	1177	126	1569
Hinge for shutters. Self-closing	F. C. Kasch and W. Eberhard	842,404	Jan. 29	5302	1124	126	1505
Hinge. Spring-	W. H. Brothers	842,519	Jan. 29	5564	1176	126	1569
Hinge. Spring-	H. J. Valentine	842,593	Jan. 29	5718	1208	126	1607
Hitching-post	J. H. Didrich	842,449	Jan. 29	5411	1149	126	1533
Hod-elevator	J. D. Harper	842,657	Jan. 29	5841	1234	126	1637
Hook: *See* Fish-hook. Garment-hook.							
Horseshoe	J. P. Hoppesch	842,316	Jan. 29	5100	1085	126	1446
Horseshoe-calk-grinding machine	G. A. Russell	842,497	Jan. 29	5514	1168	126	1560
Hose-supporter	J. C. Beach	842,750	Jan. 29	6074	1280	126	1694
Hot-bed frame	W. H. Luckau	842,214	Jan. 29	4891	1043	126	1393
Ice-making system	G. L. Vall	842,360	Jan. 29	5197	1103–4	126	1475
Indicator: *See* Attendance-indicator.							
Ingot-stripper	C. L. Taylor	842,266	Jan. 29	4991	1066	126	1417
Insect-trap	W. C. Pike	842,244	Jan. 29	4945	1055	126	1405
Insulated crossover for electric railways	E. E. Gilmore	842,781	Jan. 29	6130	1293	126	1707
Insulating lacquer and material	P. Boërche	842,615	Jan. 29	5758	.....	126	1617
Insulating material	C. M. Clarke	842,526	Jan. 29	5574	1179	126	1572
Insulating-ring and bracket	F. B. Cook	842,301	Jan. 29	5065	1080	126	1436
Insulation for commutators	M. Meirowsky	842,571	Jan. 29	5656	1196	126	1591
Internal-combustion engine	W. Dieter	842,182	Jan. 29	4818	1028–9	126	1375
Internal-combustion engine	W. B. Burchall	842,844	Jan. 29	6250	1320	126	1736
Jack: *See* Wagon-jack.							
Jacquard-cards. Piano-machine head for punching	J. Royle, Jr	842,496	Jan. 29	5510	1166–8	126	1559
Jar: *See* Battery-jar.							
Joint: *See* Rail-joint.							
Knob-lock	J. A. Hurdle	842,834	Jan. 29	6222	1314	126	1730
Label-packet	G. P. Shiley	842,348	Jan. 29	5170	1099	126	1464
Lady's comb	W. J. Watson	842,733	Jan. 29	6041	1272	126	1686
Lamp attachment. Oil-	A. H. Elliott	842,537	Jan. 29	5591	1183	126	1576
Lamp. Low-pressure vapor-burning incandescent	L. Denayrouze	842,634	Jan. 29	5802	1225	126	1628
Lamps. Manufacture of luminant for electric	J. A. Heany	842,546	Jan. 29	5607	.....	126	1580
Last	G. A. Krentler	842,319	Jan. 29	5104	1086	126	1446
Lasts. Manufacturing	H. F. Loewer	842,478	Jan. 29	5479	1160	126	1551
Latch	O. Cassity	842,299	Jan. 29	5060	1079	126	1435
Latch	J. A. Weber	842,735	Jan. 29	6043	1273	126	1687
Latch. Door-	W. W. Krause	842,562	Jan. 29	5638	1192	126	1587
Latch. Mortise night-	C. A. Berry	842,442	Jan. 29	5399	1144	126	1530
Lavatories and like fixtures for domestic use. Construction of	A. H. Cline, Jr., and J. H. Danver	842,527	Jan. 29	5575	1179	126	1572
Lavatory	J. F. Kelly and H. S. Maddock	842,558	Jan. 29	5631	1190–1	126	1585
Leg. Artificial	J. T. Apgar	842,606	Jan. 29	5746	1214	126	1614
Leg. Artificial	J. T. Apgar	842,609	Jan. 29	5747	1214	126	1614
Lens-grinding machine	O. Lavallée	842,676	Jan. 29	5910	1244–5	126	1655
Letter-box	S. J. Carleton	842,445	Jan. 29	5404	1145	126	1531
Leuco product from gallic compounds and alkyl-diamido-arylthiosulfonic acids, &c.	C. De la Harpe and R. Burckhardt.	842,303	Jan. 29	5069	.....	126	1437
Lifter: *See* Pie-lifter.							
Loading-machine	A. J. Doss	842,532	Jan. 29	5579	1180–2	126	1573
Lock: *See* Gate-lock. Mortise-lock. Hay-sling lock. Nut-lock. Knob-lock.							
Lock	H. Ase	842,158	Jan. 29	4769	1019	126	1363
Lock dogging mechanism. Time-	W. H. Taylor	842,269	Jan. 29	4998	1067	126	1418
Lock dogging mechanism. Time and other	W. H. Taylor	842,268	Jan. 29	4995	1066–7	126	1418
Locking device	L. M. G. Delaunay-Belleville	842,632	Jan. 29	5799	1224	126	1627
Log-loaders. Grip-hook for	D.W. Martin	842,220	Jan. 29	4908	1045	126	1395
Logging-dog or swamping-hook	D. W. Freeman	842,779	Jan. 29	6127	1293	126	1706
Loom lug-strap	G. G. Colby	842,176	Jan. 29	4810	1027	126	1373
Loom weft-replenishing mechanism	L. Miller	842,683	Jan. 29	5929	1249–50	126	1659
Looms. Smash-preventer for	T. W. Tillman	842,820	Jan. 29	6190	1308	126	1722
Looms. Thread-parter for weft-replenishing	D. M. Hollins	842,666	Jan. 29	5879	1239	126	1649
Lounge and folding bed with a canopy. Combined	P. P. Lagrange	842,674	Jan. 29	5903	1243–4	126	1654
Lubricator: *See* Engine-lubricator.							
Lubricator	W. S. Patterson	842,332	Jan. 29	5134	1091	126	1455
Lubricator	J. N. Welkly	842,507	Jan. 29	5527	1171–2	126	1563

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Lubricator	M. D. Jayne	842,553	Jan. 29	5623	1189	126	1583
Magnetic separator	C. J. Reed	842,583	Jan. 29	5675	1200–1	126	1596
Magneto	H. Hess	842,200	Jan. 29	4954	1036	126	1384
Mail-box signal	D. F. Clark	842,767	Jan. 29	6103	1288	126	1700
Manure-spreader	G. B. Camp	842,172	Jan. 29	4801	1025	126	1371
Manure-spreader	E. H. Park	842,238	Jan. 29	4936	1053	126	1404
Massage apparatus	G. F. Trotter and A. Bebout	842,503	Jan. 29	5522	1170	126	1562
Mat:							
See Picture-mat.							
Match-safe	H. Budesheim	842,621	Jan. 29	5773	1219	126	1621
Mattress-filling. Machine for compressing	A. A. Schimmel	842,344	Jan. 29	5163	1097	126	1463
Measuring and marking machinery. Fabric	A. H. Sutton	842,435	Jan. 29	5379	1138–9	126	1526
Measuring-machine	J. Berg	842,167	Jan. 29	4788	1022	126	1368
Meat-cutter	C. G. Schmidt	842,499	Jan. 29	5516	1169	126	1561
Mechanical movement	J. E. Nelson	842,416	Jan. 29	5326	1129–30	126	1510
Mechanical movement	O. E. Hintz	842,785	Jan. 22	6137	1295	126	1708
Metal box or other metal article or surface	R. Brown	842,758	Jan. 29	6087	1283	126	1698
Metals. Electrolytic refining of	A. Schwarz	842,254	Jan. 29	4964	1060	126	1410
Mill:							
See Boring-mill.							
Milliner's table	K. B. and H. W. Atherton	842,748	Jan. 29	6071	1279	126	1693
Milling-machine. Pantographic	F. H. Richards	842,247	Jan. 29	4951	1056–7	126	1406
Milling-machines and the like. Releasing-screw arbor for	W. H. Holt	842,787	Jan. 29	6143	1296	126	1710
Mine tipple and screen plant. Coal-	W. R. Wilson	842,439	Jan. 29	5392	1141	126	1529
Mineral-concentrator	A. B. Paul	842,333	Jan. 29	5135	1091	126	1456
Mirror-support	H. W. Harrison	842,313	Jan. 29	5084	1083–4	126	1441
Miter-clamp	A. E. Johnson	842,555	Jan. 29	5627	1189	126	1584
Mixer:							
See Concrete-mixer. Dough-mixer.							
Mixing-machine	R. Z. Snell	842,262	Jan. 29	4980	1064	126	1414
Mold:							
See Concrete-construction mold.							
Molder's flask	G. H. Rayburn	842,700	Jan. 29	5965	1258	126	1668
Molding-machine	E. H. Mumford	842,229	Jan. 29	4916	1049	126	1399
Mop and brush making machine	C. Kehr	842,204	Jan. 29	4861	1038	126	1385
Mop-holder	A. M. Burnham	842,622	Jan. 29	5774	1220	126	1621
Mortise-lock	W. H. Taylor	842,270	Jan. 29	5000	1067	126	1419
Mortising-tool	C. W. Kinnear	842,318	Jan. 29	5103	1085	126	1446
Motor:							
See Pneumatic motor. Water-motor. Sewing-machine motor.							
Muffler and whistle device	M. Zwickl	842,744	Jan. 29	6062	1278	126	1691
Music apparatus. Christmas-	W. Stock	842,351	Jan. 29	5175	1099–1100	126	1466
Music turner. Sheet-	R. P. Green	842,649	Jan. 29	5827	1231	126	1634
Musical-instrument keyboard	W. B. Fitz Simmons	842,539	Jan. 29	5597	1184–5	126	1577
Musical instruments. Mechanical apparatus for playing keyboard	J. A. Armstrong	842,374	Jan. 29	5240	1111	126	1486
Nest. Trap-	H. N. Almy	842,371	Jan. 29	5238	1109	126	1482
Newspaper-holder	A. Ketzscher	842,464	Jan. 29	5454	1155	126	1546
Nut-cracking machine	W. Gebhardt	842,398	Jan. 29	5284	1122–3	126	1497
Nut-lock	W. Gmeiner	842,647	Jan. 29	5824	1230	126	1633
Nut-lock	F. A. Cease	842,766	Jan. 29	6102	1287	126	1700
Oil-burner	N. Zucke	842,370	Jan. 29	5226	1109	126	1482
Oil-cake-treating machine	C. F. Young	842,741	Jan. 29	6054	1276–7	126	1689
Oil-dispensing tank	J. E. Bourne	842,517	Jan. 29	5561	1176	126	1568
Orange lake and making same	R. Kirchhoff	842,560	Jan. 29	5636	.....	126	1586
Ores. Concentrating	A. Schwarz	842,255	Jan. 29	4965	1060	126	1410
Package-tie	F. S. Peck	842,240	Jan. 29	4940	1054	126	1404
Packing	F. McCarthy	842,230	Jan. 29	4917	1049	126	1399
Packing or the like. Device for cutting piston-	T. E. Jones	842,556	Jan. 29	5628	1190	126	1584
Painting implement	F. Tuttle	842,504	Jan. 29	5523	1170	126	1562
Paper-guide	C. J. Mohns	842,795	Jan. 29	6153	1298	126	1713
Paper-roll holder and cutter	M. McMahon	842,487	Jan. 29	5494	1163	126	1555
Photographic shutter	H. A. Byers	842,522	Jan. 29	5568	1177	126	1570
Pianos. Coin-controlled actuating mechanism for autopneumatic	A. J. Hobart	842,462	Jan. 29	5452	1155	126	1546
Picture and mirror fastener	T. Gallagher	842,645	Jan. 29	5821	1229	126	1632
Picture-mat	J. A. Thomas	842,272	Jan. 29	5003	1068	126	1420
Pie-lifter	A. L. Long	842,321	Jan. 29	5110	1086	126	1448
Pipe:							
See Stovepipe.							
Pipe-elbow	W. J. Plecker	842,580	Jan. 29	5671	1199	126	1595
Pitchforks. Snow-shovel attachment for	F. N. Martin	842,221	Jan. 29	4899	1045	126	1395
Plane	E. W. Foster	842,453	Jan. 29	5420	1149–50	126	1536
Plant-box. Window	A. J. Schoenecke	842,501	Jan. 29	5520	1170	126	1561
Planter. Corn-	G. P. Fisher, Jr	842,642	Jan. 29	5816	1228	126	1631
Planting machine. Corn-	H. F. Blair	842,755	Jan. 29	6080	1282	126	1696
Plow	F. D. Cutsforth	842,388	Jan. 29	5266	1117	126	1493
Plow	H. A. Beham	842,165	Jan. 29	4783	1021	126	1366
Plow	R. M. Warren	842,280	Jan. 29	5018	1071	126	1425
Plow sulky attachment	S. H. Tucker	842,728	Jan. 29	6032	1270	126	1684
Pneumatic-control system	J. W. Turner	842,438	Jan. 29	5391	1141	126	1528
Pneumatic-despatch apparatus	E. J. Bring	842,619	Jan. 29	5767	1218–19	126	1619
Pneumatic-despatch-apparatus carrier	C. F. Stoddard	842,353	Jan. 29	5178	1100–1	126	1467
Pneumatic-despatch-tube-apparatus carrier	C. F. Stoddard	842,352	Jan. 29	5176	1100	126	1466
Pneumatic-despatch-tube-apparatus carrier	C. F. Stoddard	842,354	Jan. 29	5182	1101	126	1468
Pneumatic-despatch-tube-apparatus carrier	C. F. Stoddard	842,355	Jan. 29	5184	1101–2	126	1468
Pneumatic-despatch-tube system	J. S. Palmer	842,419	Jan. 29	5338	1131	126	1513
Pneumatic motor	J. S. Jacques	842,836	Jan. 29	6226	1314–15	126	1730
Poisons. Obtaining solutions of bacterial	T. Turner	842,359	Jan. 29	5194	1108	126	1472
Pool-table pocket	P. Bergell and F. Meyer	842,612	Jan. 29	5782	.....	126	1616
Portable elevator and corn-husking mechanism. Combined	W. H. Houts	842,550	Jan. 29	5613	1187–8	126	1581
Post:	O. S. Ellithorp	842,775	Jan. 29	6119	1291–2	126	1704
See Fence-post. Hitching-post.							
Power-generator. Electromagnetic	R. A. Miller	842,413	Jan. 29	5321	1128	126	1509

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Power plant	F. Yeoman	842,368	Jan. 29	5223	1107–8	126	1481
Preserve-box-opening device	S. Opsal and L. A. Mydland	842,237	Jan. 29	4935	1052–3	126	1403
Preserved-food tin	J. Amtmann	842,293	Jan. 29	5050	1077	126	1432
Press:							
See Baling-press. Stamping-press.							
Printers' leads. Machine for finishing	C. C. Webster	842,842	Jan. 29	6243	1317–20	126	1734
Printing attachment for paper-roll holders and cutters	M. McMahon	842,486	Jan. 29	5492	1163	126	1555
Printing-machine. Platen	F. Waite	842,362	Jan. 29	5202	1105	126	1474
Printing mechanism	G. W. Swift, Jr	842,265	Jan. 29	4988	1065	126	1416
Printing plate. Producing a combined line and half-tone	C. A. Bonfils and H. G. Bradt	842,297	Jan. 29	5055	1078–9	126	1433
Printing-plates. Mounting-block for	A. W. Harrison	842,198	Jan. 29	4852	1035	126	1383
Printing-press, gripper-creaser	J. R. Morrison	842,686	Jan. 29	5935	1251	126	1660
Printing-press ink-fountain	J. W. Kohl	842,466	Jan. 29	5458	1157–8	126	1547
Printing-type	E. B. Oswalt	842,690	Jan. 29	5942	1252	126	1662
Propeller. Oscillating-blade or fish-tail	G. E. Wade	842,278	Jan. 29	5012	1070	126	1422
Protractor. Bevel-	P. Kelly	842,205	Jan. 29	4866	1038	126	1387
Puller:							
See Spike-puller.							
Pulverizer	P. L. Simpson	842,430	Jan. 29	5364	1135–6	126	1522
Punching-machine	A. Vernet	842,729	Jan. 29	6033	1270–1	126	1685
Pyrometer	G. Heeley and C. Féry	842,314	Jan. 29	5085	1084	126	1441
Rack:							
See Display-rack.							
Rail-anchor	F. A. Poor	842,581	Jan. 29	5672	1200	126	1595
Rail-fastening apparatus	L. G. Hoon	842,549	Jan. 29	5612	1187	126	1581
Rail-joint	B. Wolhaupter	842,508	Jan. 29	5538	1172	126	1564
Rail-joint	E. H. Schwartz	842,815	Jan. 29	6184	1306	126	1721
Rail-joint	L. Mitchell and W. S. Ford	842,573	Jan. 29	5660	1197	126	1592
Rail-tie	J. G. Snyder. (Reissue)	12,603	Jan. 29	6269	1325	126	1741
Rail-tie and fastening	A. J. Wilson	842,285	Jan. 29	5031	1075	126	1427
Railway block-signaling system	J. M. Scott	842,346	Jan. 29	5167	1098	126	1464
Railway-bumper	W. H. Myers	842,805	Jan. 29	6166	1302	126	1716
Railway-gate	E. Hayward	842,545	Jan. 29	5606	1187	126	1579
Railway-rails. Electrical connection for	C. J. Coleman	842,300	Jan. 29	5061	1079	126	1435
Railway-signal	C. W. Coleman	842,828	Jan. 29	6211	1311	126	1727
Railway-signal	J. W. Latta	842,675	Jan. 29	5905	1244	126	1654
Railway signal apparatus	H. Smelser	842,432	Jan. 29	5371	1136–7	126	1524
Railway-signal. Electric	P. D. Hibner	842,460	Jan. 29	5449	1154	126	1544
Railway-switch	F. V. Bicking	842,752	Jan. 29	6077	1281	126	1695
Railway-tie	A. Morrison	842,226	Jan. 29	4909	1047	126	1397
Railway-tie and fastening. Metallic	J. J. Moore	842,414	Jan. 29	5324	1129	126	1510
Railway-tie. Metallic	A. J. Mueller	842,415	Jan. 29	5325	1129	126	1510
Railway-tie. Metallic	S. G. Howe	842,202	Jan. 29	4858	1037	126	1384
Railway-track construction	A. H. Handlan, Jr	842,544	Jan. 29	5605	1186	126	1579
Railway-track drill	L. Kottmair and R. Zwack	842,673	Jan. 29	5892	1242–3	126	1652
Railways. Electrical apparatus for setting the points and signals on							
Rake:							
See Hay-rake.							
Razor-blade cleaner	A. F. Smith	842,717	Jan. 29	6007	1265	126	1679
Razor. Safety-	F. H. Arnold	842,510	Jan. 29	5544	1173	126	1565
Reamer	C. E. Martin	842,481	Jan. 29	5482	1161	126	1552
Receptacles and the like. Means for supporting	G. A. Lutz and C. C. Sibley	842,479	Jan. 29	5480	1160	126	1551
Receptacles with capsule and wire. Closing device for	B. P. De Medici	842,179	Jan. 29	4815	1028	126	1374
Reel:							
See Fishing-reel. Harvester-reel.							
Register:							
See Fare-register.							
Regulator:							
See Timepiece-regulator.							
Resawing-machine	A. Mereen	842,572	Jan. 29	5656	1196–7	126	1591
Ring:							
See Insulating-ring.							
Roadway and constructing the same. Composite	S. G. Howe	842,201	Jan. 29	4855	1037	126	1384
Rock-drill. Hydrocarbon	J. V. Rice, Jr	842,246	Jan. 29	4949	1055–6	126	1406
Rock-drill mounting	M. Hardsocg	842,654	Jan. 29	5834	1233	126	1635
Rock-drilling machines. Device for use with	E. M. Weston	842,598	Jan. 29	5726	1210	126	1609
Roof for mausoleums, tombs, vaults, &c	C. E. Tayntor	842,590	Jan. 29	5700	1206	126	1602
Roof structure	C. W. A. Koelkebeck	842,561	Jan. 29	5637	1191–2	126	1586
Rope-fastener	J. Brown	842,620	Jan. 29	5771	1219	126	1620
Roving and spinning frame	W. Batten	842,824	Jan. 29	6200	1309–10	126	1724
Safety device or pin	H. M. Willis	842,600	Jan. 29	5729	1211	126	1610
Sail-hank	M. Månsson	842,215	Jan. 29	4892	1044	126	1394
Sand-mold flask	J. Macphail	842,322	Jan. 29	5111	1087	126	1448
Sandpaper-holder	F. J. Peters	842,579	Jan. 29	5670	1199	126	1595
Sash-balance	J. N. Relland	842,701	Jan. 29	5967	1258	126	1668
Sash-fastener	H. Salisbury	842,340	Jan. 29	5148	1094	126	1459
Saw-filing machine	C. J. Tatum	842,724	Jan. 29	6023	1268–9	126	1682
Saw-guide	F. H. Overholt	842,489	Jan. 29	5498	1164	126	1556
Scaffold	J. V. Palmer	842,331	Jan. 29	5133	1091	126	1455
Scale. Automatic weighing-	N. Nilson	842,576	Jan. 29	5664	1198	126	1593
Scale. Automatic weighing-	N. Nilson	842,688	Jan. 29	5937	1251–2	126	1661
Scale. Pitless weighing-	D. M. Orcutt	842,418	Jan. 29	5335	1131	126	1513
Scraper	J. A. Traut	842,275	Jan. 29	5007	1069	126	1421
Scraper and regulator	J. H. and G. B. Young	842,742	Jan. 29	6060	1277	126	1691
Screen:							
See Clay-screen. Window-screen.							
Screw	T. E. R. Phillips	842,242	Jan. 29	4943	1054	126	1405
Screw-machine	G. T. Warwick	842,282	Jan. 29	5021	1071–3	126	1425
Sealing apparatus. Vacuum	J. A. Landsberger and W. C. Buhles	842,320	Jan. 29	5105	1086	126	1447
Sealing machine. Envelop-	W. B. Spencer	842,264	Jan. 29	4963	1064	126	1415
Seam for sewed articles	J. T. Dowdall	842,184	Jan. 29	4824	1029	126	1376
Seat:							
See Car-seat.							
Seeder	R. H. Mouser, Jr	842,228	Jan. 29	4914	1048	126	1398
Seeding-machine	C. P. Sester	842,716	Jan 29	5997	1264–5	126	1675

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Selling device. Goods-	H. H. Blish and G. C. Silzer	842,295	Jan. 29	5053	1078	126	1433
Separating materials. Apparatus for	T. Blass	842,614	Jan. 29	5754	1216	126	1616
Separator:							
See Centrifugal separator. Magnetic separator. Dust-separator.							
Sewage elevating and discharging apparatus	E. A. Wilson and C. Rigdon	842,286	Jan. 29	5037	1075	126	1429
Sewing-machine motor	R. E. Grant	842,832	Jan. 29	6218	1313	126	1729
Sewing-machine stop-motion device	E. B. Allen	842,291	Jan. 29	5048	1076–7	126	1431
Sewing-machine take-up	W. M. Ammerman	842,161	Jan. 29	4776	1020	126	1365
Shade-bracket	P. F. Wagner	842,506	Jan. 29	5528	1171	126	1563
Shaft. Knockdown vehicle-	F. C. Ferris and G. S. Tebbetts	842,309	Jan. 29	5078	1082	126	1439
Shafts. Stuffing-joint for rotary	P. Emden	842,639	Jan. 29	5811	1227	126	1630
Shaving mug and brush. Combined	G. A. Roney	842,705	Jan. 29	5973	1260	126	1670
Shears	J. E. Allen	842,292	Jan. 29	5050	1077	126	1432
Shears	J. C. Greenfield	842,650	Jan. 29	5829	1231	126	1634
Sheet-folding machines. Perforating and registering mechanism for	C. A. Sturtevant	842,721	Jan. 29	6013	1267	126	1661
Shirt-sleeve	G. M. Edgarton	842,536	Jan. 29	5590	1183	126	1576
Shock-loader	O. E. Nelson	842,417	Jan. 29	5329	1130	126	1511
Sign. Advertising-	J. J. Patterson	842,693	Jan. 29	5948	1253	126	1664
Sign. Moving display-	T. B. Powers	842,582	Jan. 29	5673	1200	126	1596
Signal:							
See Danger-signal. Railway-signal. Mail-box signal.							
Signals. Apparatus for producing submarine sound-	A. J. Mundy and H. B. Gale	842,327	Jan. 29	5118	1088–90	126	1450
Signaling apparatus	G. F. Atwood	842,377	Jan. 29	5244	1112–13	126	1487
Signaling system. Electric block-	A. J. Wilson	842,366	Jan. 29	5212	1107	126	1477
Signaling system. Electric block and block-section	A. J. Wilson	842,367	Jan. 29	5216	1107	126	1478
Signaling system. Single-track	R. J. Hewett	842,315	Jan. 29	5087	1084	126	1442
Skirt-hanger	M. Beitman	842,166	Jan. 29	4786	1022	126	1367
Skirt-marker	F. H. Schofield and A. Herd	842,713	Jan. 29	5989	1263	126	1674
Skirt-supporter	B. F. Johnson	842,317	Jan. 29	5102	1085	126	1446
Smoke-consuming furnace	W. B. Estes	842,189	Jan. 29	4838	1032	126	1380
Snow-plow. Railway	N. Hill	842,461	Jan. 29	5451	1154–5	126	1545
Snow-scraper	O. W. Robins	842,704	Jan. 29	5971	1259	126	1669
Sodium perborate. Manufacturing	O. Liebknecht	842,470	Jan. 29	5486	.....	126	1548
Solar heater	C. L. Haskell	842,658	Jan. 29	5843	1234	126	1637
Solar heater	F. M. Huntoon	842,788	Jan. 29	6144	1296	126	1710
Solder to can-tops. Machine for applying	H. Eachus	842,187	Jan. 29	4831	1031–2	126	1378
Sound-reproducing instruments. Attachment to horns for	O. G. Rose	842,707	Jan. 29	5976	1261	126	1670
Spike-puller	A. Dudly, Sr	842,185	Jan. 29	4826	1030	126	1376
Spinning-frame top-roll clearer	J. T. Meats	842,483	Jan. 29	5485	1161	126	1552
Spool gluing and assembling machine	I. A. Blood	842,160	Jan. 29	4792	1023	126	1369
Sprayer and fire-extinguisher. Water-	J. R. Norman	842,680	Jan. 29	5841	1252	126	1662
Springs. Device for retarding the rebounding action of	A. C. Walling	842,732	Jan. 29	6089	1272	126	1666
Sprinkler:							
See Automatic sprinkler.							
Square. Folding	J. Smith	842,433	Jan. 29	5375	1137	126	1525
Stacker. Hay-	J. H. Neeb	842,235	Jan. 29	4931	1061–2	126	1402
Stamping-press	A. Zidovec	842,603	Jan. 29	5736	1212	126	1612
Standard. Adjustable	J. A. McCormick	842,330	Jan. 29	5131	1090	126	1455
Stay-strip	H. B. White	842,823	Jan. 29	6199	1300	126	1724
Steam-engine	G. W. King, H. J. Barnhart and C. B. King.	842,465	Jan. 29	5454	1156–7	126	1546
Steam-engine. Compound	H. Anderson	842,441	Jan. 29	5396	1143–4	126	1530
Steam-generator	W. R. Wills	842,284	Jan. 29	5029	1074	126	1427
Steam-trap	H. Sandvoss	842,250	Jan. 29	4981	1059	126	1409
Steel. Manufacture of	J. de Moya	842,802	Jan. 29	6162	.....	126	1715
Still. Water-	O. A. Nenninger	842,667	Jan. 29	5686	1261	126	1661
Stirrup. Safety-	K. Reim	842,702	Jan. 29	5969	1259	126	1669
Stock. Brick-holder for use in the care of live	C. L. Hutcheson	842,835	Jan. 29	6224	1314	126	1730
Storehouse for grain and other material	J. H. Elward	842,538	Jan. 29	5592	1184	126	1576
Stove	C. L. Gohmann	842,196	Jan. 29	4860	1035	126	1382
Stove	W. J. Keep and H. C. Maul	842,557	Jan. 29	5630	1190	126	1585
Stovepipe	H. D. and F. L. Hart	842,458	Jan. 29	5446	1153	126	1544
Straight-edge	O. Messinger	842,411	Jan. 29	5317	1127	126	1508
Strainer. Automatic liquid-	H. Wurdack	842,602	Jan. 29	5734	1211–12	126	1611
Substation-protector	F. B. Cook	842,628	Jan. 29	5790	1222	126	1625
Suit-case	J. A. H. Villmow	842,277	Jan. 29	5010	1070	126	1422
Supporting-surfaces. Means for securing fixtures to	J. H. Danver	842,528	Jan. 29	5576	1179	126	1572
Suspenders	C. Ludolph	842,677	Jan. 29	5913	1245	126	1656
Switch:							
See Battery-switch. Car-switch. Electric switch. Railway-switch.							
Switch-operating mechanism. Self-locking	R. F. Gaunt	842,646	Jan 29	5822	1229	126	1633
Table:							
See Milliner's table.							
Table	A. P. Switzer	842,723	Jan. 29	6020	1268	126	1682
Tailings-trimmer	H. J. Clark	842,384	Jan. 29	5259	1116	126	1492
Tank:							
See Oil-dispensing tank.							
Tank-heater	C. W. Blake	842,168	Jan. 29	4790	1023	126	1368
Teeth. Filling	H. F. Strong	842,357	Jan. 29	5188	1102	126	1470
Telephone-exchange system	B. O. Fox	842,778	Jan. 29	6125	1292	126	1706
Telephone-switchboard	M. V. Mehren	842,410	Jan. 29	5316	1126–7	126	1508
Telephone-switchboards. Combined annunciator and jack for	M. V. Mehren	842,409	Jan. 29	5314	1126	126	1507
Telephone system	F. W. Dunbar	842,306	Jan. 29	5071	1081	126	1438
Telephone system	H. R. Turner	842,822	Jan. 29	6194	1208–9	126	1723
Telephone system. Party-line	W. W. Dean	842,772	Jan. 29	6111	1289–90	126	1702
Telephone trunking system	W. W. Dean	842,178	Jan. 29	4812	1027	126	1373
Tent	G. M. Kirby	842,672	Jan. 29	5891	1242	126	1651
Tent. Portable sick-room	J. C. and A. E. Moore	842,800	Jan. 29	6160	1300	126	1715
Theater-chair. Disappearing	F. Harvey	842,660	Jan. 29	5846	1235	126	1638
Thermopile	H. Diecks	842,391	Jan. 29	5270	1118–19	126	1494
Thill-support	A. Dudly, Sr	842,186	Jan. 29	4829	1031	126	1378
Thresher and cleaner	G. W. Tice	842,437	Jan. 29	5386	1140–1	126	1528

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Tie:							
See Package-tie. Railway-tie. Rail-tie.							
Timepiece-regulator	S. Sloan	842,431	Jan. 29	5370	1136	126	1524
Tinning. Material for protecting sheets, &c., in	J. A. Kyle	842,212	Jan. 29	4889	.....	126	1393
Tire	H. J. Mondor	842,798	Jan. 29	6157	1200	126	1714
Tire. Pneumatic	V. H. McDowell	842,231	Jan. 29	4919	1049–50	126	1400
Tire-tightener	E. E. Graves	842,402	Jan. 29	5300	1124	126	1424
Tires. Forming inner tubes for	A. H. Marks	842,217	Jan. 29	4894	1044	126	1394
Tobacco-curing apparatus	J. L. Bullock	842,171	Jan. 29	4900	1024	126	1371
Toilet companion	S. J. Brown	842,443	Jan. 29	5402	1144	126	1531
Tool. Combination	W. McCausland	842,806	Jan. 29	6169	1302–3	126	1716
Tool-holder	W. Carman	842,173	Jan. 29	4805	1026	126	1372
Tool-support. Pneumatic	M. Hardsocg	842,656	Jan. 29	5839	1233	126	1635
Torch. Marine	P. Fuchs	842,195	Jan. 29	4847	1034	126	1382
Toy	W. Haverman	842,659	Jan. 29	5845	1234	126	1637
Toy	W. B. Hill	842,784	Jan. 29	6136	1294	126	1708
Toy structure. Knockdown	A. Schoenhut	842,712	Jan. 29	5988	1262–3	126	1673
Track gage and level	L. Barceloux	842,379	Jan. 29	5249	1114	126	1488
Traction-engine	W. N. Springer	842,589	Jan. 29	5693	1204–5	126	1600
Traction-engine	M. J. Hogan	842,786	Jan. 29	6138	1295–6	126	1709
Traction-engine	W. N. Springer	842,840	Jan. 29	6237	1316–17	126	1733
Trap:							
See Animal-trap. Insect-trap. Nest-trap. Steam-trap.							
Tree-felling machine	J. O. Rollins	842,249	Jan. 29	4959	1058–9	126	1408
Trimmer:							
See Tailings-trimmer.							
Trolley	P. J. Wires	842,740	Jan. 29	6052	1275–6	126	1689
Trolley-wires. Catenary suspension for	G. A. Mead	842,222	Jan. 29	4900	1045–6	126	1396
Trolley-wires. Mechanical ear for	T. E. R. Phillips	842,241	Jan. 29	4941	1054	126	1404
Trousers-creaser	L. W. Young	842,743	Jan. 29	6061	1277	126	1691
Trowel. Adjustable	P. F. Connelly	842,770	Jan. 29	6107	1289	126	1701
Truck. Merchandise-conveying	F. A. Bierie	842,754	Jan. 29	6079	1281	126	1695
Truss	J. Sault	842,252	Jan. 29	4963	1059	126	1410
Tube-expander	W. H. Mathers	842,569	Jan. 29	5653	1195	126	1590
Tug-loop	R. P. Kronke	842,467	Jan. 29	5462	1158	126	1548
Tuning-hammer	W. B. Ellsworth	842,307	Jan. 29	5075	1081	126	1439
Turbine	G. Rischmuller	842,423	Jan. 29	5350	1133	126	1517
Turbine. Elastic-fluid	O. Kolb	842,211	Jan. 29	4883	1042–3	126	1392
Type-writer ribbon-vibrating movement	G. Scherer and J. Lindburg	842,814	Jan. 29	6181	1306	126	1720
Type-writer spacing mechanism	C. J. Mohns	842,794	Jan. 29	6153	1298	126	1713
Type-writers. Paper-feeding mechanism for	J. Maynard	842,680	Jan. 29	5918	1246	126	1657
Type-writing and other key-operated machines. Key-action for	J. T. Schaaff	842,586	Jan. 29	5681	1202	126	1598
Type-writing machine	W. Fraser	842,396	Jan. 29	5281	1121	126	1497
Type-writing machine	B. C. Stickney	842,434	Jan. 29	5376	1137–8	126	1525
Type-writing machine	J. Felbel	842,451	Jan. 29	5413	1149	126	1533
Type-writing machine	C. J. Mohns	842,797	Jan. 29	6155	1299	126	1713
Type-writing-machine tabulating device	C. J. Mohns	842,796	Jan. 29	6154	1299	126	1163
Type-writing machines. Device for locking the key-levers in	W. S. Mills	842,224	Jan. 29	4906	1046	126	1397
Undershirt	H. Deperdussin	842,631	Jan. 29	5797	1224	126	1627
Vaccine matter. Apparatus for injecting solid	E. P. Allen	842,606	Jan. 29	5741	1213	126	1613
Valve. Air-vent	C. A. Dunham	842,637	Jan. 29	5808	1227	126	1629
Valve. Automatic	T. H. Walker	842,279	Jan. 29	5013	1070–1	126	1422
Valve. Automatically-closing	J. W. Slater	842,817	Jan. 29	6186	1307	126	1721
Valve control and reverse mechanism	I. P. Doolittle	842,183	Jan. 29	4823	1029	126	1376
Valve. Cut-off	L. J. Ashworth	842,375	Jan. 29	5242	1112	126	1487
Valve. Drain-	F. W. Axtell	842,513	Jan. 29	5549	1174	126	1586
Valve. Float-	B. Aikman	842,160	Jan. 29	4773	1019	126	1363
Valve mechanism. Pneumatic-	M. F. Cox	842,448	Jan. 29	5409	1148	126	1532
Valve. Throttle-	J. Neukirchen	842,236	Jan. 29	4933	1052	126	1403
Vegetable-cutter	G. E. Murrell	842,804	Jan. 29	6165	1301	126	1715
Vehicle	J. D. Artz	842,511	Jan. 29	5545	1173	126	1565
Vehicle-body	J. B. Howerton	842,203	Jan. 29	4860	1037	126	1385
Vehicle-brake	G. S. Tebbetts	842,271	Jan. 29	5002	1068	126	1420
Vehicle-brake	W. K. Ashinhurst	842,512	Jan. 29	5548	1174	126	1586
Vehicle-brake	E. Sheer	842,260	Jan. 29	4975	1082	126	1412
Vehicle. Motor-	H. Carrow	842,523	Jan. 29	5570	1178	126	1570
Vehicle-top support	J. H. O'Daniel	842,488	Jan. 29	5496	1163	126	1556
Vehicle-wheel	J. C. Rutherford	842,709	Jan. 29	5981	1261–2	126	1671
Vehicle-wheel	C. J. Coleman	842,827	Jan. 29	6205	1310–11	126	1725
Vehicles. Means for operating motor-	A. E. Harrison	842,783	Jan. 29	6133	1294	126	1708
Vending apparatus	J. A. Keyes	842,207	Jan. 29	4960	1039	126	1387
Vending machine. Fluid-	C. E. Erby	842,308	Jan. 29	5076	1081–2	126	1439
Ventilator	C. D. Ross	842,338	Jan. 29	5143	1093–4	126	1458
Vessel-unloading apparatus. Marine-	C. F. Marsh	842,218	Jan. 29	4895	1044	126	1394
Vitreous article and treating same	O. Mark	842,216	Jan. 29	4893	1044	126	1394
Wagon-body attachment	A. Pool	842,699	Jan. 29	5964	1257	126	1665
Wagon-box extension and end-gate	E. Smith	842,718	Jan. 29	6008	1265	126	1669
Wagon-brake	R. H. MacClernan	842,480	Jan. 29	5481	1160	126	1552
Wagon. Dump-	E. H. and H. V. Schroeder	842,714	Jan. 29	5992	1263–4	126	1674
Wagon-jack for portable grain dumps and elevators	F. G. Wieslogel	842,365	Jan. 29	5211	1106–7	126	1476
Wagon. Sanitary dump	C. M. Haeske	842,543	Jan. 29	5603	1186	126	1579
Wagon. Sprinkling-	B. A. Sebring and J. W. Graham	842,347	Jan. 29	5169	1098	126	1464
Waist-holder and skirt-supporter	G. W. Jackson	842,552	Jan. 29	5620	1188–9	126	1582
Walls. Constructing retaining-	J. T. Sargent	842,341	Jan. 29	5149	1095	126	1459
Washboard							
Washer:							
See Dish-washer.							
Washing-machine	W. M. Dight	842,305	Jan. 29	5070	1081	126	1437
Watchcase-center	A. Bavier	842,516	Jan. 29	5559	1175	126	1568
Water-alarm. Electric	A. Johnson	842,554	Jan. 29	5625	1189	126	1584
Water-closet floor connection	E. G. Watrous	842,363	Jan. 29	5205	1106	126	1474
Water-cooler	J. Greyer	842,312	Jan. 29	5083	1063	126	1441
Water-motor	L. C. Lewis	842,406	Jan. 29	5308	1125	126	1508
Water-purifiers. Chemical-solution elevator for use in	J. Bowey, Jr	842,518	Jan. 29	5562	1176	126	1569
Water supply and purification system	G. Pfeiffer, Jr	842,606	Jan. 29	5954	1254–5	126	1685
Water-tube boiler	H. Del Mar	842,633	Jan. 29	5800	1225	126	1638

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Dr'g.	Official Gazette. Vol.	Official Gazette. Page.
Weather-strip	W. U. G. Shaw	842,802	Jan. 29	5821	1170	126	1561
Weaving-machine	S. Toyoda	842,274	Jan. 29	5005	1068-9	126	1421
Weed-cutter	O. O. Petty	842,420	Jan. 29	5341	1132	126	1514
Weighing-machine	G. Hoepner	842,665	Jan. 29	5676	1236-9	126	1648
Weighing-machine. Power-driven	G. Hoepner	842,664	Jan. 29	5667	1237-8	126	1646
Weight. Apparatus for electrically indicating	C. Russo	842,339	Jan. 29	5145	1094	126	1458
Wheel: *See* Vehicle-wheel.							
Wheel	J. S. Miller	842,495	Jan. 29	5492	1163	126	1555
Window. Automatically-closing	H. F. Zahner	842,369	Jan. 29	5224	1108	126	1461
Window-operating mechanism. Multiple-	A. G. Pitz	842,838	Jan. 29	6235	1215-16	126	1732
Window-screen. Adjustable	W. B. Phillips	842,243	Jan. 29	4944	1054	126	1405
Wire-cloth fabric	M. W. Floto	842,310	Jan. 29	5080	1082	126	1440
Wire-connecting device	L. Morgan	842,325	Jan. 29	5115	1087	126	1450
Wire-grip	H. T. McClean	842,329	Jan. 29	5120	1090	126	1454
Wire-tucker	L. Morgan	842,326	Jan. 29	5117	1088	126	1450
Wood-filling composition	J. R. Fitzgerald	842,190	Jan. 29	4939	.....	126	1380
Yoke attachment. Neck-	D. N. Luse	842,791	Jan. 29	6148	1297	126	1711
Yoke attachment. Neck-	D. D. Nelson	842,809	Jan. 29	6176	1304	126	1718

DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Badge	F. Eberle	38,428	Jan. 29	126	1742
Bottle	W. C. Pressing	38,430	Jan. 29	126	1742
Cabinet. Bedroom-	J. C. Flynn	38,437	Jan. 29	126	1744
Fabric. Cloth	O. C. Grinnell, Jr.	38,426	Jan. 29	126	1744
Lamp	O. Helfft	38,432	Jan. 29	126	1743
Lamp. Gas-	R. W. Zierlein	38,431	Jan. 29	126	1742
Lamp. Incandescent	O. Helfft	38,433	Jan. 29	126	1740
Lamp. Incandescent	O. Helfft	38,434	Jan. 29	126	1740
Shoe scraper and cleaner	A. M. and S. B. Stiles	38,435	Jan. 29	126	1743
Vehicle body. Motor-	W. L. Nichols	38,436	Jan. 29	126	1743
Watch-fob	W. C. Russ	38,429	Jan. 29	126	1742

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Ale	Conway Bros. Brewing & Malting Co.	60,246	Jan. 29	126	1172
Anesthetic. Local	Dr. E. Bloch	60,157	Jan. 29	126	1769
Automobiles	Cie de l'Industrie Electrique & Mécanique.	60,129	Jan. 29	126	1769
Automobiles and parts thereof, except rubber tires	Société Lorraine des Anciens Etablissements de Dietrich & Cie. de Lunéville.	60,089	Jan. 29	126	1768
Baking-powder, bicarbonate of soda, &c	E. R. Durkee & Co	60,190	Jan. 29	126	1770
Beer	Actiengesellschaft Paulanerbräu (zum Salvatorkeller).	60,221	Jan. 29	126	1771
Beer	Actiengesellschaft Paulanerbräu (zum Salvatorkeller)	60,222	Jan. 29	126	1771
Bitters, appetizers, and blood-purifiers	P. Van Hecke	60,182	Jan. 29	126	1770
Bleaching compounds	A. Castaing	60,225	Jan. 29	126	1771
Bottles, flasks, and laboratory glassware. Graduated testing-	C. Wagner	60,206	Jan. 29	126	1771
Brandy. Apricot	J. Bigonrdan	60,223	Jan. 29	126	1771
Brass rods	Plume & Atwood Mfg. Co	60,140	Jan. 29	126	1769
Brushes. Certain	James E. Blake Company	60,151	Jan. 29	126	1769
Bungs	United States Bung Manufacturing Company.	60,160	Jan. 29	126	1770
Bunion-protectors	Fischer Manfg. Co	60,131	Jan. 29	126	1769
Butter	T. L. Brundage Company	60,117	Jan. 29	126	1768
Calcimine	Rexora Manufacturing Company.	60,142	Jan. 29	126	1769
Canned vegetables	New Holstein Canning Company.	60,077	Jan. 29	126	1767
Castings. Powder for use in making	F. W. Weissmann	60,094	Jan. 29	126	1768
Cement. Portland	A. Blumenthal	60,060	Jan. 29	126	1767
Chocolate and cocoa	"Sarotti" Chokoladen- & Cacao-Industrie, Aktiengesellschaft.	60,085	Jan. 29	126	1768
Cigarettes	Butler-Butler	60,125	Jan. 29	126	1769
Cigars	Castañeda (Havana) Cigar Factories.	60,126	Jan. 29	126	1769
Cigars	Castañeda (Havana) Cigar Factories.	60,127	Jan. 29	126	1769
Cigars	Cuesta, Rey & Co	60,148	Jan. 29	126	1769
Cigars and stogies	I. Lewis	60,152	Jan. 29	126	1769
Cleansing compound	I. Lewis	60,132	Jan. 29	126	1769
	W. B Hodge	60,069	Jan. 29	126	1767

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Coal	Yankee Fuel Company	60,147	Jan. 29	126	1769
Coal. Compound for the treatment of	Kolesaver Mfg. Co	60,199	Jan. 29	126	1771
Coffee	R. W. Weir & Company	60,093	Jan. 29	126	1768
Coffee	Levering Coffee Co	60,103	Jan. 29	126	1768
Coffee	Levering Coffee Co	60,104	Jan. 29	126	1768
Coke	Pittsburgh Gas & Coke Company.	60,139	Jan. 29	126	1769
Compounds for the extermination of mosquitos	A. E. Nienstadt	60,170	Jan. 29	126	1770
Confectionery. Certain	Morton, Nickum & Co	60,107	Jan. 29	126	1768
Cooking by retained heat. Apparatus for	A. B. North	60,201	Jan. 29	126	1771
Cordial	Societe Anonyme de la Distillerie de la Liqueur Benedictine de l'Abbaye de Fecamp.	60,241	Jan. 29	126	1772
Cordials and liquor essences	P. Dempsey & Co	60,247	Jan. 29	126	1772
Corn-starch	Fisher Mfg. Co	60,064	Jan. 29	126	1767
Cotton and worsted piece goods	Farr Alpaca Co	60,063	Jan. 29	126	1767
Cotton dress goods and linings. Bolted	J. Lonke	60,133	Jan. 29	126	1769
Crayons. School, artists', and lumber	J. M. Hoyt	60,195	Jan. 29	126	1770
Creme de menthe	Amsterdamsche Likeurstokerij "'T Lootsje" der Erven Lucas Bols.	60,245	Jan. 29	126	1772
Dentures to hold fast to the mouth. Powder which causes artificial	R. M. Prather	60,112	Jan. 29	126	1768
Digestive compound. Liquid	J. T. Milliken	60,167	Jan. 29	126	1770
Earthenware closet-bowls, urinals, basins, and sinks	Camden Pottery Company	60,187	Jan. 29	126	1770
Edge-tools. Certain	James Swan Company	60,102	Jan. 29	126	1768
Eggs	T. L. Brundage Company	60,118	Jan. 29	126	1768
Electrical apparatus and devices. Certain	F. Raymond	60,083	Jan. 29	126	1767
Electrical apparatus. Certain	Chloride of Silver Dry Cell Battery Company.	60,128	Jan. 29	126	1769
Eye wash or toule	Eye Rex Co	60,162	Jan. 29	126	1770
Fabric for protection against insects. Open-mesh	I. E. Palmer	60,136	Jan. 29	126	1769
Fancy goods, furnishings, and notions. Certain	Meyer, Martin & Co	60,135	Jan. 29	126	1769
Flour. Wheat-	B. J. Rothwell	60,084	Jan. 29	126	1767
Flour. Wheat-	Moseley & Motley Milling Co	60,108	Jan. 29	126	1768
Flour. Wheat-	Regina Flour Mill Co	60,113	Jan. 29	126	1768
Flour. Wheat-	Regina Flour Mill Co	60,114	Jan. 29	126	1768
Flour. Wheat-	Shellabarger Mill & Elevator Company.	60,115	Jan. 29	126	1768
Flour. Wheat-	Shellabarger Mill & Elevator Company.	60,116	Jan. 29	126	1768
Flour. Wheat-	Sprague, Warner & Company	60,239	Jan. 29	126	1772
Food for young chickens, pigeons, and caged birds	G. L. Harding	60,068	Jan. 29	126	1767
Food products. Certain	Schnull & Co	60,087	Jan. 29	126	1768
Food. Stock and poultry	J. W. Anderson	60,058	Jan. 29	126	1767
Foods. Certain cereal	H-O (Hornby's Oatmeal) Company.	60,067	Jan. 29	126	1767
Foods. Certain sea	Schnull and Company	60,088	Jan. 29	126	1768
Foods. Prepared cereal breakfast	Hygienic Food Co	60,101	Jan. 29	126	1768
Fruit. Dried	Castle Brothers	60,096	Jan. 29	126	1768
Furniture and upholstery. Certain	E. Hubbard	60,196	Jan. 29	126	1770
Gas-testing gages. Mercury	Beekman Sanitary Specialty Co	60,155	Jan. 29	126	1769
Gin	Paducah Distilleries Co	60,218	Jan. 29	126	1771
Glassware. Certain	Gillilnder & Sons	60,191	Jan. 29	126	1770
Gloves. Leather	Miley Company	60,073	Jan. 29	126	1767
Gum. Chewing-	J. F. Valentino	60,092	Jan. 29	126	1768
Guns, pistols, revolvers; and rifles. Shot-	Remington Arms Company	60,248	Jan. 29	126	1772
Horns. Amplifying-	Tea Tray Company of Newark, New Jersey.	60,220	Jan. 29	126	1771
Hose-supporters	M. L. Margolish	60,134	Jan. 29	126	1769
Hosiery	K. Schlatter	60,086	Jan. 29	126	1768
Husking devices. Certain	Defiance Tick Mitten Co	60,061	Jan. 29	126	1767
Incandescent mantles and burners	Welsbach Co	60,095	Jan. 29	126	1768
Incubators and brooders	R. F. Neubert	60,110	Jan. 29	126	1768
Jacks. Ratchet, screw, and track	A. O. Norton	60,056	Jan. 29	126	1767
Jewel-stone	C. W. Fuller	60,230	Jan. 29	126	1771
Journal. Illustrated monthly	Telephony Publishing Company	60,205	Jan. 29	126	1771
Kümmel or cordial	J. A. Gilka	60,231	Jan. 29	126	1771
Lamp and lantern globes	R. E. Dietz Company	60,172	Jan. 29	126	1770
Lamp and lantern globes	R. E. Dietz Company	60,173	Jan. 29	126	1770
Lamps. Incandescent	General Incandescent Lamp Company.	60,163	Jan. 29	126	1770
Lead. Pure white	Eagle White Lead Co	60,062	Jan. 29	126	1767
Lockets, brooches, and badges	Cyclists' Touring Club	60,226	Jan. 29	126	1771
Malt extract	Fred Krug Brewing Company	60,212	Jan. 29	126	1771
Magazine or periodical	F. O. Balch	60,184	Jan. 29	126	1770
Medical compound for a scalp-cleaner, dandruff cure, and hair vigor.	N. Edmonds	60,227	Jan. 29	126	1771
Medicinal preparation	J. T. Milliken	60,165	Jan. 29	126	1770
Medicine for certain named diseases	F. S. Walker	60,207	Jan. 29	126	1771
Medicines as a preventive of appendicitis	W. M. Reynolds	60,240	Jan. 29	126	1772
Medicines. Certain	Chamberlain Medicine Co.	60,188	Jan. 29	126	1770
Newspaper	R. Block	60,158	Jan. 29	126	1769
Newspaper. Weekly	National Tribune Company	60,168	Jan. 29	126	1770
Oil. Medicinal	C. D. Tilly	60,178	Jan. 29	126	1770
Oils and lubricants. Certain	Wm. C. Robinson & Son Co	60,120	Jan. 29	126	1768
Oiled waterproof garments	Maryland Oiled Clothing Co	60,072	Jan. 29	126	1767
Overalls, blouses, coats, vests, and trousers	Oshkosh Clothing Manufacturing Company.	60,082	Jan. 29	126	1767
Overcoats and suits	Wm. H. Richardson Co	60,121	Jan. 29	126	1768
Paper boxes for jewelry	Mermod, Jaccard & King Jewelry Company.	60,210	Jan. 29	126	1771

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Paper. Carbon and chemical	E. Hassinger	60,192	Jan. 29	126	1770
Paper. Drawing and tracing	Technical Supply Company	60,176	Jan. 29	126	1770
Paper manufactures. Certain	Tengwall Company	60,177	Jan. 29	126	1770
Paper manufactures. Certain	Dameron-Pierson Co	60,189	Jan. 29	126	1770
Paper. Writing-	H. Lindenmeyr & Sons	60,164	Jan. 29	126	1770
Paste. Adhesive	Collodin Manufacturing Co	60,097	Jan. 29	126	1768
Pharmaceutical preparation. Certain	F. A. Vogel	60,242	Jan. 29	126	1772
Pianos	Starr Piano Company	60,204	Jan. 29	126	1771
Pianos, mandolins, guitars, banjos, and violins	C. J. Heppe & Son	60,234	Jan. 29	126	1771
Pianos, mandolins, guitars, banjos, and violins	C. J. Heppe & Son	60,235	Jan. 29	126	1772
Pills. Purgative	E. Demourgues	60,160	Jan. 29	126	1769
Plasters. Porous	Allcock Manufacturing Co	60,183	Jan. 29	126	1770
Pocket-books	Ritter Bros	60,174	Jan. 29	126	1770
Porcelain, stoneware, and earthenware, including jasper	Josiah Wedgwood & Sons	60,198	Jan. 29	126	1771
Porter	Standard Brewery Company of Baltimore City.	60,219	Jan. 29	126	1771
Powder. Face-	Charles A. Stevens & Bros	60,159	Jan. 29	126	1769
Powder. Toilet	E. French	60,228	Jan. 29	126	1771
Precious-metal ware. Solid and plated	American Soda Fountain Company.	60,244	Jan. 29	126	1772
Preparation for the feet	W. L. Dodge	60,161	Jan. 29	126	1770
Pruning shears and knives, hedge-shears, grass-hooks, and scythes.	H. Hessenbruch	60,100	Jan. 29	126	1768
Pumps. Water-	F. E. Myers & Brother	60,109	Jan. 29	126	1768
Puzzles	H. A. Wood	60,154	Jan. 29	126	1769
Railway equipment. Certain	Railway Steel-Spring Company	60,141	Jan. 29	126	1769
Razors, butcher, kitchen, and shoe knives	Bison Mfg. Co	60,122	Jan. 29	126	1769
Razors, knives, and steels	National Cutlery Company	60,076	Jan. 29	126	1767
Remedy for barber's itch, eczema, sores, &c	Syco Tina Company	60,175	Jan. 29	126	1770
Remedy for heaves	A. Hercer	60,193	Jan. 29	126	1770
Remedy for various diseases of poultry	H. E. Turpin	60,179	Jan. 29	126	1770
Ribbons	E. & H. Levy	60,070	Jan. 29	126	1767
Rubber boots and shoes	Hood Rubber Co	60,194	Jan. 29	126	1770
Salt cakes	D. H. Beyea	60,156	Jan. 29	126	1769
Salves	T. F. Maguire	60,200	Jan. 29	126	1771
Sedative compound. Liquid	J. T. Milliken	60,166	Jan. 29	126	1770
Sewing-machines and attachments	New Home Sewing Machine Company.	60,078	Jan. 29	126	1767
Sewing-machines and attachments	New Home Sewing Machine Company.	60,079	Jan. 29	126	1767
Sewing-machines and attachments	New Home Sewing Machine Company.	60,080	Jan. 29	126	1767
Shade-cloth	C. W. Breneman	60,124	Jan. 29	126	1769
Shellacs and varnishes	Palmer-Price Company	60,137	Jan. 29	126	1769
Shellacs and varnishes	Palmer-Price Company	60,138	Jan. 29	126	1769
Shoes. Men's leather	Golden State Shoe Co	60,232	Jan. 29	126	1771
Sifter. Ash-	M. Froesé	60,066	Jan. 29	126	1767
Silk piece goods	Valentine & Bentley Silk Co	60,091	Jan. 29	126	1768
Smallpox preventive	J. T. White	60,209	Jan. 29	126	1771
Soap. Perfumed	A. & F. Pears	60,067	Jan. 29	126	1767
Soap. Shaving-	J. T. Robertson Company	60,153	Jan. 29	126	1769
Steel	Taylor Iron and Steel Co	60,144	Jan. 29	126	1769
Steel. Tool-	J. A. Crowley	60,130	Jan. 29	126	1769
Stoves and portable ovens. Heating-	Novelty Manufacturing Company	60,081	Jan. 29	126	1767
Stoves. Heating and cooking	Fones Bros. Hardware Co	60,085	Jan. 29	126	1767
Syrup for beverages	Morgan-Lyons Vinegar Company	60,237	Jan. 29	126	1772
Talking and picture-displaying machines. Coin-operated	L. P. Valiquet	60,181	Jan. 29	126	1770
Tea	Levering Coffee Co	60,105	Jan. 29	126	1768
Tea	R. W. Weir & Company	60,119	Jan. 29	126	1768
Teas. Blended	New Orleans Import Co	60,111	Jan. 29	126	1768
Threads and yarn. Linen, cotton, and silk	H. Fawcett	60,086	Jan. 29	126	1768
Tin and terne plate	N. & G. Taylor Co	60,090	Jan. 29	126	1768
Tonic	G. Weil	60,208	Jan. 29	126	1771
Tonic compound of roots, herbs, and barks	L. V. Bell	60,185	Jan. 29	126	1770
Tonics. Alterative and reconstructive	Southern Pharmacal & Chemical Co.	60,203	Jan. 29	126	1771
Tooth and mouth wash	C. O. Santos	60,202	Jan. 29	126	1771
Tooth-backing	I. Stern	60,143	Jan. 29	126	1769
Tooth paste, powder, and wash	O'Brien Worthen Co	60,171	Jan. 29	126	1770
Toy bears	B. Goldenberg	60,149	Jan. 29	126	1769
Turpentine substitute	Turpentine Junior Company	60,145	Jan. 29	126	1769
Type-writer ribbons and carbon-paper	Monarch Typewriter Company	60,168	Jan. 29	126	1770
Valves	William Powell Co	60,146	Jan. 29	126	1769
Varnish, japan, driers, and fillers	Boston Varnish Company	60,123	Jan. 29	126	1769
Varnish-stains	J. Lucas & Co	60,071	Jan. 29	126	1767
Vasomotor, cardiac, respiratory, and metabolic stimulant	John Wyeth and Brother	60,197	Jan. 29	126	1770
Vegetable products. Certain	M. G. Black	60,186	Jan. 29	126	1770
Washing or soap powder	N. K. Fairbank Company	60,074	Jan. 29	126	1767
Washing-powders	N. K. Fairbank Company	60,075	Jan. 29	126	1767
Watch-springs	C. Robert	60,238	Jan. 29	126	1772
Wheat. Cooked flaked	"Force" Food Company	60,099	Jan. 29	126	1768
Whisky	Charles Dennehy & Company	60,211	Jan. 29	126	1771
Whisky	Garrett-Williams Co	60,213	Jan. 29	126	1771
Whisky	Geo. Bieler Sons Co	60,214	Jan. 29	126	1771
Whisky	Geo. Bieler Sons Co	60,215	Jan. 29	126	1771
Whisky	A. L. Lewin	60,216	Jan. 29	126	1771
Whisky	Maryland Distilling Company of Baltimore City.	60,217	Jan. 29	126	1771
Whisky	J. H. Friedenwald & Co	60,229	Jan. 29	126	1771
Whisky	Gottschalk Company of Baltimore City.	60,233	Jan. 29	126	1771
Whisky	J. McGlinn	60,236	Jan. 29	126	1772

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Whisky	Wm. Bergenthal Co	60,243	Jan. 29	126	1772
Wine. Grape-juice	D. C. Brignole	60,224	Jan. 29	126	1771
Wood and metal cleaning and polishing preparation	O. C. Hassler	60,150	Jan. 29	126	1769
Yeast	H. Bendix	60,059	Jan. 29	126	1767

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Alaga." (For Syrup)	Alabama-Georgia Syrup Company.	13,332	Jan. 29	126	1773
"Baume Analgésique Bengué." (For Proprietary Medicines)	T. Seltzer	13,335	Jan. 29	126	1773
"Judge Gaynor Cigars." (For Cigars)	R. Eppstein and A. Wander	13,334	Jan. 29	126	1773
"'Our Favorite' Enamel Bronzing Liquid." (For a Bronzing Liquid.)	Gerstendorfer Bros	13,339	Jan. 29	126	1773
"P. S. Alegretas Soft Creams." (For Candy)	P. Smerilles	13,333	Jan. 29	126	1773
"Radiator Bronzing Liquid." (For a Bronzing Liquid)	Gerstendorfer Bros	13,340	Jan. 29	126	1773
"'Sapolin' Decorators' Bronzing Liquid." (For a Bronzing Liquid.)	Gerstendorfer Bros	13,337	Jan. 29	126	1773
"'Star' Banana Bronzing Liquid." (For a Bronzing Liquid)	Gerstendorfer Bros	13,338	Jan. 29	126	1773
"Stearns' Electric Rat and Roach Paste." (For a Rat and Roach Paste.)	Stearns Electric Paste Co	13,336	Jan. 29	126	1773

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Baron's Welsh Rabbit." (For Welsh Rabbit)	Samuel Baron Co	1,900	Jan. 29	126	1773
"Be a Chuloo." (For Chewing-Gum)	Meek Company	1,899	Jan. 29	126	1773
"Men's and Boys' Apparel." (For Men's and Boys' Apparel)	H. C. Lytton	1,898	Jan. 29	126	1773
"Tailor Exhibiting Cloth." (For Suitings)	Ed. V. Price & Company	1,897	Jan. 29	126	1773

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Automobiles and parts thereof	Société Anonyme des Anciens Établissements Panhard & Levassor.	6,477	Jan. 29	126	1746
Bed and upholstery springs	Diamond Fabric Company of America.	21,166	Jan. 29	126	1751
Beer	Anheuser-Busch Brewing Association.	9,773	Jan. 29	126	1747
Beer	El Dorado Brewing Co	24,225	Jan. 29	126	1761
Biscuit. Fruit-	National Biscuit Company	9,980	Jan. 29	126	1747
Bitters	J. von Fehren	13,207	Jan. 29	126	1748
Bitters	E. J. R. Exner	22,321	Jan. 29	126	1753
Blood-purifier and remedies for dropsy, heart and kidney diseases, &c.	Walter Medicine Company	22,599	Jan. 29	126	1753
Books. Law-	American Law Book Company	23,569	Jan. 29	126	1756
Boots and shoes. Leather	Regal Shoe Company	20,027	Jan. 29	126	1750
Boots and shoes. Leather	H. L. Purdy	23,290	Jan. 29	126	1755
Boots, shoes, and slippers. Leather	Paul Brothers	23,876	Jan. 29	126	1758
Bread	L. R. Bergeron	20,049	Jan. 29	126	1750
Bronze. Manganese-	Manganese Bronze & Brass Co	16,947	Jan. 29	126	1750
Butter. Creamery-	Kirschbraun & Sons	23,577	Jan. 29	126	1756
Buttons, tie-clasps, studs, &c. Link-	Stern Brothers & Company	15,086	Jan. 29	126	1749
Calcimine	Alabastine Company	20,216	Jan. 29	126	1751
Candy	National Biscuit Company	24,341	Jan. 29	126	1763
Canned fruits and vegetables	W. R. Roach & Co	7,348	Jan. 29	126	1746
Canned hash-meat	A. Oemler	23,848	Jan. 29	126	1758

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Canned salmon	C. Schmitz & Co	24,029	Jan. 29	126	1759
Car-wheels. Steel	Taylor Iron & Steel Co	24,260	Jan. 29	126	1762
Chains, bracelets, and crosses. Bead neck-	Stern Brothers & Company	15,083	Jan. 29	126	1749
Chocolate, cocoa, and bonbons	"Lucerna" Anglo-Swiss Milk Chocolate Co.	18,804	Jan. 29	126	1750
Cigar-cabinets	Cooper & McKee	22,657	Jan. 29	126	1753
Cigars	Fritz Bros. Co	19,724	Jan. 29	126	1750
Cigars	Park & Tilford	23,393	Jan. 29	126	1755
Cigars	Park & Tilford	23,395–6	Jan. 29	126	1755
Cleaners. Carpet, cloth, and glove	Citizens' Wholesale Supply Company.	23,874	Jan. 29	126	1758
Cleansing and disinfecting preparation	American Antiformin Co	22,452	Jan. 29	126	1753
Coal	Jewett, Bigelow & Brooks	24,330	Jan. 29	126	1763
Coats, vests, trousers, and rain-coats	National Clothing Company	21,497	Jan. 29	126	1752
Coffee and tea	W. S. Quinby Company	24,359	Jan. 29	126	1764
Color for bleachers' use	William Edge & Sons	8,023	Jan. 29	126	1747
Confectioners' paste for making candies	Mallow Cream Co	23,818	Jan. 29	126	1756
Corn-starch	National Starch Co	24,094	Jan. 29	126	1759
Corsets	Madame Irène	24,296	Jan. 29	126	1762
Cotton, cotton and silk, and cotton and wool piece goods	C. C. Copeland & Co	22,944	Jan. 29	126	1754
Cotton piece goods	American Printing Company	24,292	Jan. 29	126	1762
Custard-powder	Ivimy, Limited	24,338	Jan. 29	126	1763
Dolls and toy animals	Rouech-Bowden Company	24,388	Jan. 29	126	1764
Dress-shields	Omo Manufacturing Company	21,472	Jan. 29	126	1752
Dust while sweeping. Preparation to absorb	St. Louis Dust Settling Co	22,867	Jan. 29	126	1754
Dyes	William Edge & Sons	22,163	Jan. 29	126	1753
Dynamos, motors, and parts thereof, magnetos, &c	Société Anonyme des Anciens Etablissements Panhard & Levassor.	6,476	Jan. 29	126	1746
Electric-lighting outfits. Decorative	Sterling Electrical Manufacturing Company.	24,014–15	Jan. 29	126	1759
Fertilizers	Ashepoo Fertilizer Company	23,456	Jan. 29	126	1755
Fertilizers	Craven Chemical Company	24,463–4	Jan. 29	126	1764–5
Files and rasps	Henry Disston & Sons	24,352	Jan. 29	126	1763
Fire-extinguishers, chemical-engines, &c	American-La France Fire Engine Co.	24,008	Jan. 29	126	1759
Flour. Wheat-	Standard Milling Co	19,998	Jan. 29	126	1750
Flour. Wheat-	Commercial Milling Company	21,008	Jan. 29	126	1752
Flour. Wheat-	P. Trent Co	24,127	Jan. 29	126	1760
Flour. Wheat-	M. H. Davis	24,252	Jan. 29	126	1761
Food. Poultry	Illinois Seed Company	24,355	Jan. 29	126	1763
Furniture-polish	Lyon & Healy	22,757	Jan. 29	126	1754
Games and sports. Implements, apparatus, and goods used in	Victor Sporting Goods Co	6,784	Jan. 29	126	1746
Gelatin for use as food	J. & G. Cox	21,314	Jan. 29	126	1752
Gin	H. R. Myers	7,701	Jan. 29	126	1746
Gloves. Leather	F. J. Raymond	9,951	Jan. 29	126	1747
Grindstones	Royal Manufacturing Co	23,788	Jan. 29	126	1757
Gum. Chewing-	Doctor Wemm's Eucalyptus Cure Company.	23,710	Jan. 29	126	1757
Gum. Chewing-	Soda Mint Gum Company	24,373	Jan. 29	126	1764
Hair-tonic, talcum and tooth powder, and skin food	S. P. Burbank	13,511	Jan. 29	126	1748
Harrows, plows, seeders, rollers, &c	Cutaway Harrow Company	23,681	Jan. 29	126	1757
Heaters and furnaces. Gas and vapor	Snitjer Company	24,071	Jan. 29	126	1759
Honey compounds	Gordon, Wolf and Co	24,410	Jan. 29	126	1764
Horseshoes	Chillington Tool Company	23,573	Jan. 29	126	1756
Jars. Fruit or preserving	Ball Bros. Glass Mfg. Co	24,293	Jan. 29	126	1762
Journal. Weekly	Agricultural Publishing Company.	23,991	Jan. 29	126	1759
Knit hosiery and underwear	M. & C. Mayer	13,285	Jan. 29	126	1748
Knitted undershirts and drawers	Robischon & Peckham Company	24,259	Jan. 29	126	1762
Knitted underwear	Otis Company	23,430	Jan. 29	126	1755
Lactobacilline ferment	Ferment Company	23,662–3	Jan. 29	126	1757
Lamps. Incandescent	General Incandescent Lamp Company.	23,513	Jan. 29	126	1756
Lamps. Incandescent electric	Franklin Electric Mfg. Co	7,849	Jan. 29	126	1746
Lard	Hammond, Standish & Co	7,890	Jan. 29	126	1746
Lead and zinc. Combination of white	W. W. Lawrence & Company	23,787	Jan. 29	126	1757
Leather	C. A. Schieren & Co	21,753	Jan. 29	126	1752
Leather	Pfister & Vogel Leather Company.	24,098–100	Jan. 29	126	1759
Leather blackings and dressings	Citizens' Wholesale Supply Co	23,929	Jan. 29	126	1758
Leather fobs, match-cases, and pocket-books	Weiss M'f'g. Co	23,987	Jan. 29	126	1759
Leather. Lace-	American Lace Leather Co	24,330	Jan. 29	126	1763
Leggings	H. Jacob & Sons	24,059	Jan. 29	126	1759
Liniments	Olno Liniment Co	24,197	Jan. 29	126	1760
Linoleum, oil-cloth, &c. Varnish-like preservative for	G. H. Baker	24,221	Jan. 29	126	1761
Lockets fobs, pendants, and ear-rings	Stern Brothers & Company	15,085	Jan. 29	126	1749
Magnetos	Bridgeport Specialty Company	23,550–1	Jan. 29	126	1756
Malt extract	Ebling Brewing Co	23,677	Jan. 29	126	1757
Matches. Friction-	Union Match Company	24,261	Jan. 29	126	1762
Matting	Atkinson, Mentzer & Grover	9,937	Jan. 29	126	1747
Meats. Fresh, smoked, and cured	Charles Roesch and Sons Company.	20,597	Jan. 29	126	1751
Medical preparations for animals	Walther Manufacturing Co	23,709	Jan. 29	126	1757
Medicinal compound for chronic diseases	Mountain Iron Mineral Co	21,692	Jan. 29	126	1752
Medicinal oil	C. D. Tilly	20,682	Jan. 29	126	1751
Medicinal pastes and ointments	John Wyeth and Brother	21,547	Jan. 29	126	1752
Medicines for the treatment and regulation of the stomach, bowels, liver, and kidneys.	W. C. Burk	24,222	Jan. 29	126	1761
Metals. Bearing	Traka Metal Company	23,541	Jan. 29	126	1756

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Newspaper. Monthly	Successful Farming Publishing Company.	23,585	Jan. 29	126	1756
Odometers, kilometer-counters, and tachymeters	A. Schneider	23,261	Jan. 29	126	1754
Oil used as a lubricator, preserver, or cleaner for metal, wood, or leather.	G. W. Cole Company	24,202–3	Jan. 29	126	1760
Oils and oily products for lubricating, waterproofing, &c	A. Sommer	21,817	Jan. 29	126	1753
Oils. Olive, cotton-seed, salad, &c	Citizens' Wholesale Supply Co	23,875	Jan. 29	126	1758
Oilers, oil-cans, tin pails, washboilers, &c., made of tin and sheet-steel.	Hibbard, Spencer, Bartlett & Company.	24,163	Jan. 29	126	1760
Ointments	Pitman-Myers Company	22,869	Jan. 29	126	1754
Overcoats, ulsters, coats, vests, smoking-jackets, &c	Heidelberg, Wolff & Co	20,936	Jan. 29	126	1751
Oxygen-generating apparatus	Roessler & Hasslacher Chemical Co.	23,611	Jan. 29	126	1756
Packing. Metallic	Strong Machinery & Supply Co	24,343	Jan. 29	126	1763
Paint	J. Lucas & Co	24,445	Jan. 29	126	1764
Paint and varnish. Composition for removing	J. Lucas & Co	12,708	Jan. 29	126	1748
Paper. Drawing-	Keuffel & Esser Company	24,452–3	Jan. 29	126	1764
Paper. Photographic carbon tissue and transfer	T. Manley	23,468	Jan. 29	126	1755
Paper. Roofing, fireproof, and saturated building	Flexo Building Paper Co	23,706	Jan. 29	126	1757
Paper. Writing, printing, and engraving	Parsons Paper Co	24,209–12	Jan. 29	126	1760–1
Pencils. Lead-	Eagle Pencil Company	24,140	Jan. 29	126	1760
Pins. Hat, scarf, and baby	Stern Brothers & Company	15,084	Jan. 29	126	1749
Porcelain or semiporcelain vases, mugs, &c	Owen China Company	24,472	Jan. 29	126	1765
Pork-relish	D. M. Bodine	23,694	Jan. 29	126	1757
Razors	Wm. Elliot & Co	24,304–10	Jan. 29	126	1762–3
Remedial agents for the amelioration and cure of indigestion	M. J. Breitenbach	22,852	Jan. 29	126	1754
Remedies for blood, liver, and kidney diseases	G. H. Lawson	16,381	Jan. 29	126	1749
Remedies for catarrh, asthma, headache, hay-fever, &c	Goodness Bros	23,962	Jan. 29	126	1758
Remedies for pleurisy, coughs, fever, rheumatism, &c	American Druggists Syndicate	23,568	Jan. 29	126	1756
Remedies for torpid liver, biliousness, constipation, &c	Dr. Miles Medical Company	24,320	Jan. 29	126	1763
Remedy for colds and throat and lung trouble	E. Heffernan	21,434	Jan. 29	126	1752
Remedy for diseases of the respiratory organs, pills for liver complaints, &c.	Dr. D. Jayne & Son	10,447	Jan. 29	126	1747
Remedy for liver complaints	Dr. D. Jayne & Son	1,035	Jan. 29	126	1745
Remedy for purifying the blood and preventing cholera	H. Vincent	13,214	Jan. 29	126	1748
Rings and ring-mountings	Stern Brothers & Co	7,545	Jan. 29	126	1746
Rubber coats, pants, hats, blankets, &c	Lawton & Hall	23,246	Jan. 29	126	1754
Saddle housings and pads	Smith-Worthington Company	3,303	Jan. 29	126	1745
Salad-dressing, catsup, and mince-meat	Pressing & Orr Company	24,298	Jan. 29	126	1762
Salves. Eye-	B. Kahabka	24,226	Jan. 29	126	1761
Sarsaparilla, lemon-soda, root-beer, &c	E. L. House	24,126	Jan. 29	126	1760
Scrapers. Soil-	Wells-Jones Plow Co	19,781	Jan. 29	126	1750
Seeds. Grass, clover, and field	Illinois Seed Company	24,356	Jan. 29	126	1764
Sewing-machines	National Sewing Machine Company.	24,068	Jan. 29	126	1759
Sheet-metal plates, angle-steel, boiler-plates, &c	Fried. Krupp Aktiengesellschaft.	22,641	Jan. 29	126	1753
Shirt-waists and shirt-waist suits	I. Rand	24,371	Jan. 29	126	1764
Shirtings	Minot, Hooper & Co	5,068	Jan. 29	126	1745
Shoes and boots. Men's leather	Clarke Bros	24,242	Jan. 29	126	1761
Shoes. Ladies' leather	Clarke Bros	24,245–6	Jan. 29	126	1761
Shoes. Ladies', misses', and children's leather	Clarke Bros	24,248	Jan. 29	126	1754
Shoes. Leather	Ortt and Towle Shoe Co	22,767	Jan. 29	126	1761
Shoes. Men's, boys', and youths' leather	Clarke Bros	24,244	Jan. 29	126	1761
Shoes. Men's leather	J. S. Castell & Co	24,243	Jan. 29	126	1755
Silk. Broad	Lehigh Valley Silk Mills	23,434	Jan. 29	126	1750
Silk dress goods	J. Wanamaker	18,838	Jan. 29	126	1750
Silks. Broad, dress, and piece	A. H. Sands	18,600	Jan. 29	126	1753
Silks. Dress-	R. M. Hollingshead	22,686	Jan. 29	126	1753
Soap	Pompeian Mfg. Co	22,201	Jan. 29	126	1758
Soap	Ichthyol Gesellschaft Cordes, Hermanni & Co.	23,927–8	Jan. 29	126	1759
Soap. Medicated	Worlds Dispensary Medical Association.	24,039	Jan. 29	126	1750
Soap. Medicated and antiseptic	Böbler Gebr. & Co. Aktiengesellschaft.	18,809	Jan. 29	126	1749
Steel in blocks, ingots, bars, &c. Cast-	J. A. Wright & Co	15,398	Jan. 29	126	1751
Stove-polish	Burton & Davis Co	20,459	Jan. 29	126	1751
Teas	Stern Brothers & Company	20,797	Jan. 29	126	1749
Thimbles	De Erven De Wed. J. Van Nelle	15,087	Jan. 29	126	1749
Tobacco, cigars, cigarettes, and snuff. Smoking-	Rheinstrom Bettman Johnson & Co.	14,896	Jan. 29	126	1747
Tonic	Neuss, Hesslein & Co	8,485	Jan. 29	126	1754
Tool and instrument handles	M. A. Glen	22,848	Jan. 29	126	1756
Toys. Paper	Barnhart Brothers & Spindler	23,586	Jan. 29	126	1749
Type	J. Lucas & Co	14,223	Jan. 29	126	1748
Varnishes and japans	American Bar Lock Co	12,709	Jan. 29	126	1760
Vault, sidewalk, door, and window lights	A. T. Dietz	24,136	Jan. 29	126	1752
Wafers, waffles, ice-cream cones, &c	Nineteen Hundred Washer Co	21,683	Jan. 29	126	1762
Washing-machines and wringers	Edgar Manufacturing Company	24,279	Jan. 29	126	1758
Water-motors	Citizens' Wholesale Supply Co	23,895	Jan. 29	126	1758
Wheat and oat flakes, oatmeal, hominy, &c	Rugby Milling Company	23,930	Jan. 29	126	1752
Wheat-grits	G. C. Morgan	21,760	Jan. 29	126	1755
Whips. Horse-	Sample & Co	23,469	Jan. 29	126	1745
Whisky	Straus, Gunst & Co	4,512	Jan. 29	126	1746
Whisky	B. W. Le Compte	5,296	Jan. 29	126	1747
Whisky	Kamp Distilling Co	8,221	Jan. 29	126	1747
Whisky	M. Salmon	9,030	Jan. 29	126	1751
Whisky	W. Sanderson & Son	20,205	Jan. 29	126	1754
Whisky	R. S. Strader	23,248	Jan. 29	126	1754
Whisky	J. Grossman's Sons	23,274–5	Jan. 29	126	1764
		24,368	Jan. 29	126	

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 5TH DAY OF FEBRUARY, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Abendroth, Herrmann A., Berlin, Germany. Distilling apparatus	843,318	Feb. 5	986	202	126	2059
Aberle, Harry C., Philadelphia, Pa. Knitting-machine	842,931	Feb. 5	182	41-2	126	1836
Acheson, Edward G., Stamford township, Welland county, Ontario, Canada. Disintegrating amorphous bodies	843,426	Feb. 5	1160	.....	126	2082
Acme Automatic Street Indicating Company. (See Small, Thomas W., assignor.)						
Adams, Silas R. (See Downs, Wayne, assignor.)						
Adrian Wire Fence Company. (See Sturtevant, Orange S., assignor.)						
Aiken, James H., Ingram, and T. M. Aiken, Allegheny, Pa. Ratchet-drill	843,513	Feb. 5	1352	284	126	2130
Aiken, Thomas M. (See Aiken, James H. and T. M.)						
Aktiebolaget Nordiska Artillerwerkstaderna. (See Thronsen, Harald T. J., assignor.)						
Albrecht, Lewis, Baltimore, Md. Coke-discharging apparatus	843,251	Feb. 5	856	174	126	2012
Allen, Charles C., West Seneca, N. Y. Display-box	843,191	Feb. 5	732	150-1	126	1980
Allfree, James B., Ironton, Ohio. Locomotive exhaust-nozzle	843,252	Feb. 5	857	175	126	2012
Alma Manufacturing Company of Baltimore City. (See Blum, Isaac, assignor.)						
American Brake Shoe & Foundry Company. (See Davis, James C., assignor.)						
American Cheese Cutter Company. (See Swank, Lafe, assignor.)						
American Graphophone Company. (See Macdonald, Thomas H., assignor.)						
American Seeding Machine Company. (See Jones and Towle, assignors.)						
American Shoe Finding Company. (See Waterman, Bradford B., assignor.)						
American Steel Foundries. (See Shea, Thomas A., assignor.)						
Anable, Frederick S. (See Roberts, Henry P., assignor.)						
Ancel, Jacques, Asnières, assignor to C. Brodbeck, Paris, France. Crushing and pulverizing machine	843,428	Feb. 5	1163	244	126	2082
Anderson, Arthur N., Niagara Falls, N. Y. Electric heater	842,849	Feb. 5	1	1	126	1787
Anderson Coupling and Supply Company. (See Hale and Fox, assignors.)						
Anderson, Gustaf A., Kansas City, Kans., and H. O. Harpster, Kansas City, Mo. Fire-alarm	843,058	Feb. 5	429	93	126	1902
Anderson, Harold B. (See Winton and Anderson.)						
Andress, George W., Chicago, Ill. Drawer	842,991	Feb. 5	304	66	126	1806
Applegate, Hugh M., Unionville, Mo. Overcheck-runner and gag-holder	842,992	Feb. 5	305	66	126	1806
Archer, Samuel B., Saratoga Springs, N. Y. Attaching an abrading-surface to metal	842,993	Feb. 5	306	67	126	1866
Arnold, Frederick H., Reading, Pa. Safety-razor	843,059	Feb. 5	433	94	126	1903
Arnonhalt, James C., Kansas City, Mo. Rocking-chair	843,060	Feb. 5	434	94	126	1903
Atkinson, Richard E., Iamonia, Fla., and T. A. Teate, assignors of one-third to R. H. Neel, Thomasville, Ga. Potato-slicer	843,427	Feb. 5	1162	244	126	2082
Attleboro Manufacturing Company. (See Wilde, Eben F., assignor.)						
Aurness, Peter A., Minneapolis, Minn. Stethoscope	843,319	Feb. 5	989	203	126	2040
Austin Manufacturing Company. (See Morenus and Jones, assignors.)						
B. F. Avery & Sons. (See Hicisclaw, Wilford H., assignor.)						
Babin, Telesphore, and J. Colomb, Houma, La. Acetylene-gas generator	843,429	Feb. 5	1165	245	126	2083
Badische Anilin & Soda Fabrik. (See Wimmer, Robert, assignor.)						
Bail, Vincent, Holyoke, Mass. Counterboring-tool	843,430	Feb. 5	1167	245	126	2083
Baker, Andrew J., assignor to J. W. Page, Adrian Mich. Adjustable roller window-screen	843,061	Feb. 5	435	94	126	1904
Baker, Charles W., Celeste, Tex. Tire-setting machine	843,062	Feb. 5	436	94-5	126	1904
Baker, Francis R. (See Myers and Baker.)						
Baldwin, Charles F., Fond du Lac township, Tazewell county, Ill. Ridge-roll machine	842,994	Feb. 5	307	67	126	1866
Ball, Robert R., Westfield, assignor to K. K. Stearns, Elizabeth, N. J. Vending-machine	843,127	Feb. 5	592	125	126	1946
Banghart, Charles S. (See Fuller and Banghart.)						
Barker, Mathew W., Clarksville, Tenn. Stove	842,995	Feb. 5	310	67	126	1867
Barker, Wendell A., Chicago, Ill. Friction-lock	843,253	Feb. 5	859	175	126	2013
Barnard and Leas Manufacturing Company. (See Cornwall, John B., assignor.)						
Barnes, Arthur S., Batavia, N. Y. Engine	843,384	Feb. 5	1094	226	126	2067
Barnum, Carl G., and J. N. Shepardson, assignors to Triumph Voting Machine Company, Pittsfield, Mass. Entrance and exit actuating mechanism for voting-machines	843,431	Feb. 5	1168	246	126	2084
Barth, Eli and F., Nevada, Ohio. Straw-stacker	843,063	Feb. 5	438	95	126	1904
Barth, Franklin. (See Barth, Eli and F.)						
Bates & Bacon. (See Crain, Frank E., assignor.)						
Bates, Joseph E., Philadelphia, Pa. Toy	843,320	Feb. 5	990	203	126	2040
Baucum, Samuel C., Krebs, Ind. Ter. Fan-motor	843,432	Feb. 5	1173	246	126	2085
Baumgartel, Henry, assignor of one-half to J. G. Wait, Sturgis, Mich. Fish-line reel	843,514	Feb. 5	1353	285	126	2131
Bausch & Lomb Optical Company. (See Pellow, Arthur, assignor.)						
Bayles, Lewis C. (See Hellman and Bayles.)						
Becker, William D. (See Whitlock and Becker.)						
Beers, James O., Jr. (See Cantwell, Thomas, assignor.)						
Behr, Burkard, Hamburg, Germany. Device for projecting life-lines	843,385	Feb. 5	1095	227	126	2067
Bell, Clarence W., Alexandria, Ind. Mail-bag catcher and deliverer	843,433	Feb. 5	1174	247	126	2086
Bement, Frank, assignor to Wire Goods Company, Worcester, Mass. Garment-hanger	842,932	Feb. 5	187	42	126	1837
Bement, William O., assignor to Wire Goods Company, Worcester, Mass. Hook	842,933	Feb. 5	188	43	126	1837
Bengtson, John A. (See Krans, Levin C., assignor.)						
Bennett, Harry, assignor to M. S. Kamm and E. E. Hardy, Newark, N. J. Repeating cap-pistol	843,064	Feb. 5	439	95-6	126	1905
Benson, William M., Newport, Pa. Grooving and ditching plow	843,386	Feb. 5	1096	227	126	2067

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Best, Ezra, *et al.* (See Best, William N., assignor.)						
Best, John H., *et al.* (See Best, William N., assignor.)						
Best, William N., Los Angeles, Cal., assignor to J. H. and E. Best, Quincy, Ill. Furnace	843,254	Feb. 5	861	175	126	2013
Bier, Emil, London, England. Electrically welding the longitudinal joints in tubular objects	843,515	Feb. 5	1355	280	126	2131
Bigney and Company, S. O. (See Wallenthin, Walfrid, assignor.)						
Black, Thomas W., assignor of one-half to W. S. Philips, Burnham, Pa. Goggles	843,065	Feb. 5	441	96	126	1905
Blackman, William A., New York, N. Y. Rack for tissue-paper and the like	843,387	Feb. 5	1098	227–8	126	2068
Blaine, George E., Indianapolis, Ind. Adjusting-lever and ratchet connection for harrows	842,996	Feb. 5	311	67	126	1868
Blaisdell, Hiram W., Los Angeles, Cal. Distributing-machine for closed filters	842,850	Feb. 5	3	1–2	126	1787
Blakeman, John P., Chaplin, Ky. Automatic brake	843,255	Feb. 5	863	175	126	2013
Bloomberg, Caspar. (See Režníček, Anton, assignor.)						
Blum, Isaac, assignor to Alma Manufacturing Company of Baltimore City, Baltimore, Md. Buckle	843,434	Feb. 5	1177	247	126	2086
Boden, Charles G., St. Louis, Mo. Binder	842,851	Feb. 5	9	2	126	1789
Boden, George, Watertown, assignor to Oakville Company, Waterbury, Conn. Paper-fastener	843,128	Feb. 5	594	126	126	1946
Boden, George, assignor of one-half to J. H. Bronson, Waterbury, Conn. Automatic sprinkler-closer	843,556	Feb. 5	1452	306–7	126	2154
Bogard, David B., Carterville, Ill. Rail-joint	843,557	Feb. 5	1454	307	126	2155
Boissier, Herman R., Great Neck, N. Y. Electroplating apparatus	843,321	Feb. 5	991	203	126	2040
Bolton, James, and J. Weiss, Chicago, Ill. Sewing-machine	842,934	Feb. 5	189	43	126	1837
Bontenakels, Peter, Düsseldorf, Germany. Groove-cutting machine	843,322	Feb. 5	993	204	126	2041
Bonvillain, Philibert, Paris, France. Apparatus for making pattern-plates	843,066	Feb. 5	443	96	126	1905
Bosserman, Arch A. (See Garrison and Bosserman.)						
Bott, Andrew W. (See Christensen, Bott, and Wilbur.)						
Boudreaux, John D., Patterson, La. Twine-holder	843,435	Feb. 5	1178	248	126	2086
Bowers, Andrew, Stroud, Okla. Ter. Fence-post	843,436	Feb. 5	1179	248	126	2087
Bowersox, George F., Portland, Ind. Fish decoy or lure	843,256	Feb. 5	865	176	126	2014
Bowman, Newton K., North Lawrence, Ohio. Mail-deliverer	843,129	Feb. 5	594	126	126	1947
Bowsman, Harry O., Decatur, assignor of one-half to F. E. Lehman, Indianapolis, Ind. Driving mechanism for bolting-machines	843,067	Feb. 5	445	97	126	1905
Boyd, James C., New York, N. Y. Electrical contact apparatus	842,852	Feb. 5	11	2–3	126	1790
Bracy, Edward L., Scotland Neck, assignor to R. H. Wright, Durham, N. C. Packing-machine	843,323	Feb. 5	994	204–5	126	2041
Bradshaw, George B., Brooklyn, N. Y. Extracting rubber	843,567	Feb. 5	1475	.....	126	2160
Brady, Francis W., Englewood, N. J. Jacketed engine-cylinder	843,008	Feb. 5	446	97	126	1906
Bragg, Arthur, Brooklyn, N. Y. Puzzle	843,388	Feb. 5	1099	228	126	2068
Brazee, Albert L., Portland, Oreg. Washing-boiler	843,437	Feb. 5	1180	248	126	2087
Brodbeck, Charles. (See Ancel, Jacques, assignor.						
Broderick, David F., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Rotary brush	842,997	Feb. 5	312	68	126	1868
Bromley, Joseph H. (See Burgess and Rehfuss, assignors.)						
Bronson, Julius H. (See Boden, George, assignor.)						
Brooks, Edward J., East Orange, N. J. Reinforced cement block	843,324	Feb. 5	999	205	126	2042
Brown, Edwin, St. Louis, Mo. Training-machine	843,389	Feb. 5	1100	228	126	2068
Brown, George, Chicago, Ill. Artist's plaque	842,998	Feb. 5	313	68	126	1868
Brown and Sharpe Manufacturing Company. (See Wingo, Richard T., assignor.)						
Browning, Earl H. (See Browning, Victor R., and E. H.)						
Browning, Victor R., and E. H., Nottingham, Ohio. Hoisting apparatus	843,558	Feb. 5	1454	307	126	2155
Brussow, Herman F., Whittier, Cal. Plow	843,257	Feb. 5	867	176	126	2014
Bryant Electric Company. (See Thomas and Goodridge, assignors.)						
Bucke, Julius A., Lincoln, Ill. Powder-box	843,438	Feb. 5	1183	248	126	2087
Buell, Charles E., North Plainfield, N. J., assignor to General Fire Extinguisher Company, New York, N. Y. Automatic sprinkler	843,130	Feb. 5	596	126	126	1947
Buffalo Gas Generator and Manufacturing Company. (See Schrader, John R., assignor.)						
Bujewski, Emil, St. Louis, Mo. Window-sash holder	843,439	Feb. 5	1184	249	126	2088
Bulova, Joseph, New York, N. Y. Bracelet	842,935	Feb. 5	191	43	126	1837
Burbank, Charles G. (See Dunn, George B., assignor.)						
Burdick, Gordon G., assignor of one-half to C. Ford, Chicago, Ill. Sewer-trap	843,009	Feb. 5	447	97	126	1906
Burdick, Leo J., Los Angeles, Cal. Coin-register	842,853	Feb. 5	15	3–4	126	1790
Burgess, Arthur, and J. G. and M. O. Rehfuss, assignors to J. H. Bromley, Philadelphia, Pa. Embroidering-machine	842,854	Feb. 5	25	4–5	126	1790
Burney, Charles E., Newport News, Va. Ship for carrying liquid cargoes in bulk	843,390	Feb. 5	1101	228	126	2069
Burnham Williams & Company. (See Wille, Henry V., assignor.)						
Burrage, Enoch H., Winston Salem, N. C. Gathering attachment for sewing-machines	843,440	Feb. 5	1186	249	126	2088
Burton, Charles W., Centerville, Utah. Track-laying device	842,855	Feb. 5	29	5–6	126	1797
Burton, Robert R., Pecster, Tex. Whiffletree	843,131	Feb. 5	597	126	126	1947
Button, Theodore E., Schenectady, N. Y., assignor to General Electric Company. Switch-operating mechanism	853,070	Feb. 5	449	97–8	126	1907
Calder, Charles B., assignor to Toledo Ship Building Company, Toledo, Ohio. Water-ballast-controlling apparatus for vessels	842,856	Feb. 5	30	6	126	1797
Calhoon, Albert O., Victor, Mo. Roller and polygon bevel	842,999	Feb. 5	314	68	126	1868
Cameron, David G., assignor of one-fourth to H. C. Walker, London, England. Automatic boiler-gage	843,192	Feb. 5	734	151	126	1981
Can Dee, Henry O., Syracuse, N. Y. Electric insole	843,441	Feb. 5	1187	249	126	2088
Canfield, Arthur L., Montclair, N. J. Packing isinglass	843,325	Feb. 5	1000	206	126	2042
Cantwell, Thomas, Providence, R. I., assignor of one-half to J. O. Beers, Jr., Brooklyn, N. Y. Floor and laying same	843,193	Feb. 5	737	151	126	1982
Caprini, Alexander L., Pittsburg, Pa. Can-closure	843,516	Feb. 5	1356	285	126	2132
Carpenter, Daniel A., New York, N. Y., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine	843,071	Feb. 5	454	99	126	1908
Carroll, John B., Chicago, Ill. Advertising-card	842,857	Feb. 5	32	6	126	1798
Cartter, David K. (See Fuller and Cartter.)						
Case, Charles B., Indianapolis, Ind. Window-shade roller	842,936	Feb. 5	191	43	126	1847
Castle, William H., Geneva, Ohio. Railway-tie	843,517	Feb. 5	1357	285	126	2132
Cavileer, William N., Spokane, Wash. Paint-line and awl holder	842,858	Feb. 5	33	7	126	1798
Central Ohio Roofing Tile & Brick Company. (See Grant, Milton N., assignor.)						
Chaddock, David C., Wooster, Ohio. Nut-lock	842,937	Feb. 5	193	44	126	1838
Chapin, James C., Englewood, N. J. Tennis-net	843,326	Feb. 5	1002	206	126	2043
Charbonneau, Leandre, Woonsocket, R. I. Automatic circuit-closer	843,327	Feb. 5	1003	206	126	2043
Chemische Fabrik Griesheim Elektron. (See Laska, August L., assignor.)						
Chevalier, J. H. (See Laporte, George, assignor.)						
Christensen, Frederick V., A. W. Bott, and F. H. Wilbur, assignors to Thomas Laughlin Company, Portland, Me. Thimble-forming machine	843,000	Feb. 5	317	69	126	1869
Christianson, Andrew, Butler, assignor to Standard Steel Car Company, Pittsburg, Pa. Safety device for hopper car-doors	843,132	Feb. 5	598	127	126	1948
Christianson, Andrew, Butler, assignor to Standard Steel Car Company, Pittsburg, Pa. Safety device for hopper car-doors	843,559	Feb. 5	1459	307–8	126	2156

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Chubbuck, Burt A., Medina, N. Y. Furniture-spring	842,938	Feb. 5	194	44	126	1838
Cimiotti, Gustav, New York, N. Y. Machine for removing water-hairs from pelts	842,939	Feb. 5	194	44	126	1838
Clark Electric and Manufacturing Company. (See Clark, Walter G., assignor.)						
Clark, Everett C. (See Reber and Clark.)						
Clark, Maurice C., Providence, R. I. Mold for manufacturing rubber footwear	842,859	Feb. 5	34	7	126	1798
Clark, Paul L., New York, N. Y. Luminous sign	842,860	Feb. 5	36	8	126	1798
Clark, Victor E., assignor of one-half to J. R. McCargar, Grand Rapids, Mich. Wardrobe-hanger	842,940	Feb. 5	196	45	126	1839
Clark, Walter G., New York, N. Y. Insulator	842,941	Feb. 5	197	45	126	1839
Clark, Walter G., New York, N. Y. Wire-insulator	842,942	Feb. 5	199	45	126	1839
Clark, Walter G., Seattle, Wash., assignor to Clark Electric and Manufacturing Company. Insulator-clamp	843,258	Feb. 5	869	176	126	2015
Clark, Walter G., Seattle, Wash., assignor to Clark Electric and Manufacturing Company. Insulator	843,259	Feb. 5	871	177	126	2015
Clark, William H., assignor to W. J. Clark Company, Salem, Ohio. Wheel	843,001	Feb. 5	322	70	126	1871
Clarke, Ralph, assignor of one-half to New Castle Stamping Company, New Castle, Pa. Apparatus for spinning sheet metal	843,518	Feb. 5	1359	286	126	2132
Cloud, William H., Philadelphia, Pa. Bathing apparatus	843,260	Feb. 5	873	178	126	2015
Cockerill, Lewis, Richmond, Ind. Storm-front for vehicles	843,133	Feb. 5	600	127–8	126	1948
Cole, Frederick W., Newton, Mass., assignor to Gamewell Fire-Alarm Telegraph Company, New York, N. Y. Auxiliary fire-alarm box	842,861	Feb. 5	38	8	126	1799
Collier, David C., San Diego, Cal. Dust-guard for automobiles	843,072	Feb. 5	464	99	126	1911
Colomb, James. (See Babin and Colomb.)						
Combs, James R., U. S. Navy. Hay-carrier	843,328	Feb. 5	1005	206	126	2043
Comstock, Chester, Brooklyn, N. Y. Impact and reaction motor	843,073	Feb. 5	465	100–1	126	1912
Conaty, George J., Smethwick, England. Electric tram-car	843,261	Feb. 5	875	178	126	2016
Conaty, George J., Kings Heath, Worcester county, England. Brake mechanism for tram-cars	843,262	Feb. 5	876	178–9	126	2016
Conger, Noble H., assignor, by mesne assignments, to Ostermann Manufacturing Co., Chicago, Ill. Grain-door for railway-cars	842,943	Feb. 5	200	46	126	1840
Conger, Noble H., assignor, by mesne assignments, to Ostermann Manufacturing Co., Chicago, Ill. Grain-door for railway-cars	843,074	Feb. 5	477	101	126	1916
Connell, Henry P., *et al.* (See Parkhurst and Noyes, assignors.)						
Consolidated Press and Tool Company. (See Walsh, Harry C. H., assignor.)						
Coolbaugh, Moses W., Springfield, Mo. Bin	843,194	Feb. 5	738	151	126	1982
Cooper Hewitt Electric Company. (See Hewitt, Peter C., assignor.)						
Corey, James A., Twickenham, England. Printing-plate holder	843,002	Feb. 5	323	70	126	1871
Cornwall, John B., assignor to Barnard and Leas Manufacturing Company, Moline, Ill. Shaking-screen, &c.	843,442	Feb. 5	1188	249–50	126	2088
Cossairt, Charles G., Paradise, Kans. Automatic brake	843,134	Feb. 5	603	128	126	1948
Cousins, Joseph J., New York, N. Y. Rail-joint	843,135	Feb. 5	604	128	126	1949
Cox, William, London, England. Dripless spout for teapots, &c	843,443	Feb. 5	1190	250	126	2089
Craig, James H., *et al.* (See Fuller and Cartter, assignors.)						
Crain, Frank E., Providence, R. I., assignor to Bates & Bacon, Attleboro, Mass. Bracelet	843,195	Feb. 5	739	152	26	1982
Crane, Charles L., Willimantic, Conn. Core for paper and fabric rolls	842,862	Feb. 5	43	9	126	1800
Crane Company. (See Doolittle, William W., assignor.)						
Crane Company. (See Hayden, George W., assignor.)						
Crane, Daniel, Saginaw, Mich. Traction-roll mechanism	843,519	Feb. 5	1361	286	126	2133
Cranford, James M., *et al.* (See Fuller and Cartter, assignors.)						
Crompton, Randolph, assignor to Crompton-Thayer Loom Company, Worcester, Mass. Protector and smash-preventing mechanism for looms	842,944	Feb. 5	202	46	126	1840
Crompton-Thayer Loom Company. (See Crompton, Randolph, assignor.)						
Cullen, Thomas. (See Hall, Samuel M., assignor.)						
Cummings, Montravill D., Columbus, Ohio. Mail-bag catching and delivering device	843,560	Feb. 5	1461	308	126	2156
Cummings, Montravill D., Columbus, Ohio. Mail-sack catching and delivering apparatus	843,561	Feb. 5	1464	309	126	2157
Cunane, John, assignor to G. R. Randall, Philadelphia, Pa. Device for cutting float-threads of fabrics	843,444	Feb. 5	1191	250–1	126	2089
Cunniff, John V., Fall River, assignor to Draper Company, Hopedale, Mass. Filling-detecting mechanism for looms	843,196	Feb. 5	741	152	126	1983
Currier, Charles W., and J. Leitschuh, assignors to Federal Manufacturing Company, Columbus, Ohio. Collar-shaping machine	842,863	Feb. 5	44	9–10	126	1801
Currier, Charles W., and J. Leitschuh, assignors to Federal Manufacturing Company, Columbus, Ohio. Collar-shaping attachment	842,864	Feb. 5	47	10–11	126	1801
Curtis, Samuel, Kirkwood, Mo., assignor to Modern Machine Company, St. Louis, Mo. Embossing-press	842,865	Feb. 5	48	11–12	126	1801
Curtis, Zenas A., Channing, Tex. Wire-stretcher	842,866	Feb. 5	51	12	126	1802
Dale, Harvey L. (See Dale, Jonathan and H. L.)						
Dale, Jonathan, Kinston, N. C., and H. L. Dale, Newport News, Va. Trolley-controlling device	843,445	Feb. 5	1194	251	126	2090
Daniels, Monroe H., Waverly, Iowa. Cow-milking device	843,446	Feb. 5	1196	251	126	2090
Dannelly, Frank M. (See Makley, Manett, and Dannelly.)						
Darby, Averno A., Vidalia, Ga. Rotary motor	843,075	Feb. 5	479	101	126	1916
Davis, James C., Chicago, Ill., assignor, by mesne assignments, to American Brake Shoe & Foundry Company, New York, N. Y. Twin-cupola process of making semisteel castings	843,197	Feb. 5	744	.....	126	1983
Davis, William R., Albany, N. Y. Automatically-movable dam-crest	843,003	Feb. 5	324	70–1	126	1871
Davy, Orrin J., Washington, D. C., assignor to Industrial Motor Company. Electric tram system	843,520	Feb. 5	1364	287–8	126	2133
Dean Julia T., Milwaukee, Wis. Veil-pin	843,263	Feb. 5	877	179	126	2017
Dean, William W., assignor to Kellogg Switchboard & Supply Company, Chicago Ill. Intercommunicating telephone system	843,329	Feb. 5	1006	207	126	2044
Decker Electrical Manufacturing Company. (See Decker, Frank A., assignor.)						
Decker, Frank A., Philadelphia, Pa., assignor to Decker Electrical Manufacturing Company, Wilmington, Del. Battery	842,867	Feb. 5	52	12	126	1802
Decker, Frank A., Philadelphia, Pa., assignor, by mesne assignments, to Decker Electrical Manufacturing Company, Wilmington, Del. Battery element	842,945	Feb. 5	205	46	126	1840
Deitrick, Louisa, New Brighton, Pa. Stair-rod fastener	843,521	Feb. 5	1372	289	126	2137
Denney, James A., and J. Lawson, Orange, Mass. Folding dust-pan	842,946	Feb. 5	206	47	126	1841
Delzell, Charles M., *et al.* (See McCutchan, Albert H., assignor.)						
Deport, Joseph A., Paris, France. Compressed-air brake for guns that recoil on their carriages	843,522	Feb. 5	1373	289	126	2137
Desper, Henry A., Worcester, Mass. Leak-detector and metering mechanism	842,947	Feb. 5	207	47	126	1841
Detrick, Jacob S., Baltimore, Md. Clutch-operating mechanism	843,076	Feb. 5	481	102	126	1917
Dettelbach, Edward, Denver, Colo. Brake-shoe	843,523	Feb. 5	1377	290	126	2137
Dews, William, Albion, N. Y. Mixer	843,136	Feb. 5	605	129	126	1949
Dock Gas Engine Company. (See Dock, Herman, assignor.)						
Dock, Herman, Wyncote, Pa., assignor to Dock Gas Engine Company. Connecting-rod for trunk-pistons	843,004	Feb. 5	327	71	126	1872
Dodds, Ethan I., Avalon, Pa., assignor to Pullman Company, Chicago, Ill. Steel side frame for cars	842,868	Feb. 5	53	12	126	1803

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Dodds, Ethan I., Avalon, Pa., assignor to Pullman Company, Chicago, Ill. Car construction	842,869	Feb. 5	55	13	126	1803
Dodds, Ethan I., Pullman, assignor to Pullman Company, Chicago, Ill. Metallic gondola car	842,870	Feb. 5	56	13	126	1804
Dodds, Ethan I., Pullman, assignor to Pullman Company, Chicago, Ill. Gondola car	842,871	Feb. 5	57	13–14	126	1804
Dodds, Ethan I., Pullman, assignor to Pullman Company, Chicago, Ill. Sill and bolster construction for railway-cars	842,872	Feb. 5	59	14	126	1805
Dodds, Ethan I., Pullman, assignor to Pullman Company, Chicago, Ill. Metallic underframe for cars	842,873	Feb. 5	61	15	126	1806
Dodge Coal Storage Company. (See Fry, Charles A., assignor.)						
Doherty, Henry L., Madison, Wis. Revivifying gas-purifying materials	843,524	Feb. 5	1378	290	126	2137
Donohoo, W. R. (See Lytle, William H., assignor.)						
Doolittle, William W., assignor to Crane Company, Chicago, Ill. Machine for attaching flanges	843,198	Feb. 5	745	152–3	126	1984
Dorland, Leslie C., Poughkeepsie, N. Y. Automatic electric time-switch	843,005	Feb. 5	328	71	126	1872
Dover, George W., Cranston, R. I., assignor to George W. Dover Company. Stone gallery	843,006	Feb. 5	329	72	126	1873
Downs, Wayne, assignor of two-fifths to S. R. Adams, Dallas, Tex. Plumb rule and level	842,874	Feb. 5	62	15	126	1806
Doyle, Lydia A., Moundridge, Kans. Shoe-protector	843,199	Feb. 5	748	153	126	1984
Dragoo, Alva W., Murdock, Ill. Furnace-door	843,007	Feb. 5	330	72	126	1873
Draper Company. (See Cunniff, John V., assignor.)						
Draper Company. (See Northrop and Roper, assignors.)						
Draper Company. (See Roper, Charles F., assignor.)						
Draper Company. (See Roper, Walter F., assignor.)						
Draper Company. (See Wood and Northrop, assignors.)						
Dressel, Oscar, and A. Ossenbeck, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Azo dye	843,137	Feb. 5	607	.....	126	1950
Dressel, Oscar, and M. Kahn, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Azo dye	843,077	Feb. 5	484	.....	126	1918
Drought, James G., Chicago, Ill. Anchor for cakes of soap	843,330	Feb. 5	1008	207	126	2045
Drouvé, Gerhard F. (See Lovell, Albert K., assignor.)						
Duke, Waring, Crisp & Co. (See Giussani, Giovanni, assignor.)						
Dunn, George B., Brockton, assignor to C. G. Burbank, Somerville, Mass. Shoe-polishing device	843,562	Feb. 5	1467	309	126	2158
Dunning, Carroll H., New York, N. Y. Machine for shaping paper	843,138	Feb. 5	608	129	126	1950
Eaton, Richard M., assignor to Keystone Telephone Company, Philadelphia, Pa. Telephone system	843,078	Feb. 5	486	102	126	1918
Ecker, Jacob, Chicago, Ill. Cloth-pressing-machine buck	843,331	Feb. 5	1009	207	126	2045
Ecker, Jacob, Chicago, Ill. Cloth-pressing buck	843,332	Feb. 5	1010	208	126	2045
Edward Miller & Company. (See Homan, William C., assignor.)						
Edward Miller & Company. (See Williams, Frank T., assignor.)						
Ehrhardt, Mylius, Berlin, Germany. X-ray tube	842,875	Feb. 5	64	16	126	1806
Elektrizitats-Aktiengesellschaft vormals Schuckert & Co. (See Schmidt, Ludwig, assignor.)						
Elliott-Fisher Company. (See Halle, Hiram J., assignor.)						
Elliott-Fisher Company. (See Laganke, Charles F., assignor.)						
Elliott-Fisher Company. (See Ziegler, Joram, assignor.)						
Elliott, Sterling, Newton, assignor to National Binding Machine Company, Boston, Mass. Strip-serving device	842,948	Feb. 5	211	47	126	1842
Ellis, Carleton, White Plains, N. Y. Enriching blast-furnace gas	843,079	Feb. 5	488	102–3	126	1919
Enterprise Manufacturing Company. (See Grove, Frank H., assignor.)						
Ermentrout, William H., Reading, Pa. Disinfector for water-closets	843,080	Feb. 5	491	103	126	1919
Estes, William B., assignor to Gate City Horse Collar Company, Atlanta, Ga. Horse-collar	843,447	Feb. 5	1198	252	126	2090
Fahr, Johann G., Gottmadingen, Baden, Germany. Spinning-machine	843,448	Feb. 5	1199	252	126	2091
Farbenfabriken vorm. Friedr. Bayer & Co. (See Dressel and Kahn, assignors.)						
Farbenfabriken vorm. Friedr. Bayer & Co. (See Dressel and Ossenbeck, assignors.)						
Farbenfabriken vorm. Friedr. Bayer & Co. (See Kahn and Kothe, assignors.)						
Federal Construction Company. (See Strickler, William H., assignor.)						
Federal Manufacturing Company. (See Currier and Leitschuh, assignors.)						
Feldman, Jacob, Chelsea, Mass. Folding couch	842,876	Feb. 5	67	16	126	1807
Feldman, Samuel, Brooklyn, N. Y. Ventilating window-sash	843,139	Feb. 5	612	129	126	1951
Ferris, Edward J., Saltville, Va. Cylinder-cock for locomotives	843,391	Feb. 5	1102	229	126	2069
Fessler, Walter W., New York, N. Y. Door-lock	843,200	Feb. 5	749	154	126	1984
Fickett, Walter, Portland, Me. Baker's peel	843,333	Feb. 5	1012	208	126	2045
Field, Samuel F., Findlay, Ohio. Leer	843,264	Feb. 5	879	179	126	2017
Fischer, Friedrich B., Dresden, Germany. Screw-gage and the like	843,265	Feb. 5	880	180	126	2017
Fishel, Frederick E., *et al.* (See Luckenbach, Harry, assignor.)						
Fitzgerald, William H., near Watertown, N. Y. Hinge	843,081	Feb. 5	492	103	126	1920
Flamm, William A. (See Schultz, Harry C., assignor.)						
Folkel, Robert. (See Kenner and Folkel.)						
Folmer & Schwing Company. (See Folmer, William F., assignor.)						
Folmer, William F., New York, N. Y., assignor, by mesne assignments, to Folmer & Schwing Company. Camera	843,140	Feb. 5	613	130	126	1951
Ford, Charles. (See Burdick, Gordon G., assignor.)						
Fox, Alvin M. (See Hale and Fox.)						
Fox Optical Manufacturing Company. (See Thomson, William and A. G., assignors.)						
Francis, William H., Hugo, Ind. Ter. Tire-shrinker	843,392	Feb. 5	1103	229	126	2069
Frank, Henry M., El Paso, Tex. Shaft-coupling	843,201	Feb. 5	751	154	126	1985
Frank, Henry M., El Paso, Tex. Split pulley	843,202	Feb. 5	752	154	126	1985
Frankel, Charles, New York, N. Y. Garment-form	842,877	Feb. 5	71	16–17	126	1809
Freedman, William H., Burlington, Vt. Synchronizer	843,266	Feb. 5	882	180	126	2018
Freedman, William H., Burlington, Vt. Frequency-meter	843,267	Feb. 5	887	181–2	126	2018
Frey, Clarence N., assignor to J. M. Robinson Manufacturing Company, Cincinnati, Ohio. Toggle-press	843,203	Feb. 5	753	154–5	126	1985
Frey, John A., Washington, D. C. Automatic steam and hot-water safety-cock	843,525	Feb. 5	1380	290	126	2138
Frey, John A., Washington, D. C. Water-heater	843,526	Feb. 5	1382	290–1	126	2138
Frith, William F. L., London, England. Toughening or annealing steel, iron, and other metals	843,563	Feb. 5	1468	310	126	2158
Fry, Charles A., New York, N. Y., assignor, by mesne assignments, to Dodge Coal Storage Company, Saugatuck, Conn. Screen for car-dumping apparatus	843,334	Feb. 5	1013	208–9	126	2046
Fuchs, Emiel R., New York, N. Y. Door-securer	843,527	Feb. 5	1384	291	126	2139
Fuller, Allen A., and D. K. Cartter, said Fuller assignor to J. H. Craig and J. M. Cranford, Jasper, Ala. Stop mechanism for steam-engines	843,528	Feb. 5	1385	292	126	2139
Fuller, Frank L., and C. S. Banghart, New York, N. Y. Changeable sign or indicator	843,268	Feb. 5	895	182	126	2019
Fulton Furnace Company. (See Fulton, John S. S., assignor.)						
Fulton, John S. S., assignor to Fulton Furnace Company, New York, N. Y. Automatic stoker	842,878	Feb. 5	72	17	126	1809
Gage, Mortimer C., Binghamton, N. Y. Rotating door	843,141	Feb. 5	619	131	126	1953

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Gaines, Wister F., Cross Cut, Tex. Quilting-frame	843,269	Feb. 5	897	183	126	2019
Gale, Francis G., Waterville, Quebec, Canada. Bedstead	842,879	Feb. 5	78	18	126	1810
Gale, James M., New York, N. Y. File-sharpening apparatus	843,082	Feb. 5	495	103	126	1920
Gallant, Luke, Amery, Wis. Automatic railway-gate	843,335	Feb. 5	1014	209–10	126	2046
Gamewell Fire-Alarm Telegraph Company. (See Cole, Frederick W., assignor.)						
Gardner, Allyn A., Baltimore, Md. Cutting apparatus	843,142	Feb. 5	621	131	126	1953
Garfield, Julius D., Springfield, Mass. Shading-hood for cameras	843,449	Feb. 5	1200	253	126	2091
Garland Co., M. (See Garland, Harrison W., assignor.)						
Garland, Harrison W., assignor to M. Garland Co., Bay City, Mich. Saw-guide	843,336	Feb. 5	1018	210	126	2047
Garland, Awullus J., and A. A. Bosserman, Greenville, Va. Nut-lock	842,880	Feb. 5	79	18	126	1811
Garrison, Awullus J., and A. A. Bosserman, Greenville, Va. Nut-lock	843,083	Feb. 5	497	104	126	1920
Garst, Stephen H., Detroit, Mich. Heating apparatus	843,084	Feb. 5	498	104	126	1921
Gate City Horse Collar Company. (See Estes, William B., assignor.)						
Gebhardt, Max F., Baltimore, Md. Show-case	843,143	Feb. 5	622	132	126	1953
General Electric Company. (See Button, Theodore E., assignor.)						
General Electric Company. (See Latour, Marius C. A., assignor.)						
General Electric Company. (See Sargent, Howard R., assignor.)						
General Electric Company. (See Whitney, Willis R., assignor.)						
General Fire Extinguisher Company. (See Buell, Charles E., assignor.)						
George W. Dover Company. (See Dover, George W., assignor.)						
Gerbeiser, George, St. Louis, Mo. Curtain-pole	843,008	Feb. 5	331	72	126	1873
George, William T., assignor of one-half to J. A. Moores, Fayetteville, Tenn. Plow or cultivator	843,393	Feb. 5	1105	229–30	126	2069
Gerdau, Berthold, Düsseldorf, Germany. Hydraulic press	842,949	Feb. 5	212	48	126	1843
Germer, William F. H. (See Turner and Germer.)						
Gernsback, Hugo, New York, N. Y., assignor to Royal Battery Company. Battery-cell	842,950	Feb. 5	214	48	126	1843
Gibbs, George, New York, N. Y. Ventilation of electric motors	842,951	Feb. 5	215	49	126	1843
Giussani, Giovanni, Ealing, London, assignor to Duke, Waring, Crisp & Co., London county, England. Loom for making wire fabric	843,529	Feb. 5	1387	292–3	126	2140
Glaze, Frederick E., Victor, Colo. Lock for feed-screws for rock-drilling engines	843,144	Feb. 5	624	132	126	1951
Glazier, Frank T., *et al.* (See Richter, Otto F., assignor.)						
Glazier, John T., *et al.* (See Richter, Otto F., assignor.)						
Goddard, James R., New Bedford, Mass. Extension-ladder	843,204	Feb. 5	755	155	126	1986
Good, Jacob L., assignor to W. F. Stimpson Co., Detroit, Mich. Scale-bearing	843,009	Feb. 5	333	72	126	1874
Goodridge, Gilbert W. (See Thomas and Goodridge.)						
Goodwin, William B. (See Wilson and Goodwin.)						
Grabler, Peter, Cleveland, Ohio. Hasp-lock	843,564	Feb. 5	1469	310	126	2158
Graham, Elmer E., Erie, Pa. Heating-furnace	842,881	Feb. 5	80	18	126	1811
Gram, Axel E. B., Copenhagen, Denmark. Improving coffee	843,530	Feb. 5	1390	.....	126	2141
Gramelspacher, John, Jasper, Ind. Sandpapering-machine	843,010	Feb. 5	333	73	126	1874
Grant, Milton N., assignor to Central Ohio Roofing Tile & Brick Company, Columbus, Ohio. Device for making ornamental bricks	842,882	Feb. 5	81	18	126	1811
Grasselli Chemical Company. (See Krickbaum, William M., assignor.)						
Graves, Albert H., Chicago, Ill. Circuit-catching device and electrical system for use in conjunction with the same	843,270	Feb. 5	898	183	126	2020
Gray, Bertram, Johannesburg, Transvaal. Toggle-arm	843,450	Feb. 5	1202	253	126	2091
Greenleaf, George E., Plainfield, assignor to Niles-Bement-Pond Company, Jersey City, N. J. Lathe	842,883	Feb. 5	82	19	126	1812
Grieser, Richard, and F. C. Yates, New York, N. Y. Oiling device	843,084	Feb. 5	498	104	126	1921
Grove, Frank H., assignor to Enterprise Manufacturing Company, Columbiana, Ohio. Sawmill set-works	843,451	Feb. 5	1203	253–4	126	2092
Guggenheim, Bernhard, New York, N. Y. Fan	842,884	Feb. 5	84	19	126	1812
Guise Construction Company. (See Guise, David P., assignor.)						
Guise, David P., Williamsport, assignor to Guise Construction Company, Altoona, Pa. Brick-kiln	843,452	Feb. 5	1204	254	126	2092
Gunn, Herman, Grand Forks, British Columbia, Canada. Gun-sight	843,145	Feb. 5	625	132	126	1954
H. Mueller Manufacturing Company. (See Schuermann, Anton C., assignor.)						
Hage, Alois, Hildesheim, Germany. Sectional boiler	843,337	Feb. 5	1019	210	126	2047
Hale, Elbert D., Rogers, Ark. Money-changing machine	842,885	Feb. 5	85	19–20	126	1812
Hale, Lorin E., and A. M. Fox, assignors to Anderson Coupling and Supply Company, Kansas City, Mo. Folding door for fire departments and opener therefor	843,011	Feb. 5	336	73	126	1874
Hall, Samuel M., assignor of one-half to T. Cullen, Chicago, Ill. Tool for preparing valve-seats	842,952	Feb. 5	218	49–50	126	1844
Halle, Hiram J., assignor to Elliott-Fisher Company, New York, N. Y. Manifolding means for flat-platen type-writers	843,012	Feb. 5	337	74–5	126	1875
Hamann, Charles W., Cleveland, Ohio. Clutch-operating mechanism	843,453	Feb. 5	1205	254	126	2092
Hamilton, Robert, Singapore, Straits Settlements, India. Power-transmitting mechanism	843,013	Feb. 5	345	76–7	126	1877
Hanlon, John S., Chicopee, Mass. Expansion-nut	843,271	Feb. 5	901	183	126	2020
Hardman, Peter, Willimantic, Conn. Spool	843,454	Feb. 5	1207	255	126	2093
Hardy, Emery E., *et al.* (See Bennett, Harry, assignor.)						
Harper, John D., New York, N. Y., assignor to Harper Optical Company. Eyeglasses and spectacles	843,531	Feb. 5	1391	293	126	2141
Harper, Lewis G., West Chester, Pa. Milking device	843,532	Feb. 5	1393	294	126	2141
Harper Optical Company. (See Harper, John D., assignor.)						
Harpster, Harvard O. (See Anderson and Harpster.)						
Harris, Albert M., South Bend, Ind. Belt-support	843,014	Feb. 5	355	77	126	1881
Hart, Albert V., Rochester, N. Y. Variable-speed transmission mechanism	843,205	Feb. 5	756	155–7	126	1985
Harvey, George L., Chicago, Ill. Stake for vehicles	843,206	Feb. 5	763	157	126	1988
Hattersley, Will C., Norwood, assignor to Victor Safe & Lock Co., Cincinnati, Ohio. Safe	843,272	Feb. 5	903	183	126	2021
Hawkes, Alonzo J., Cambridge, Mass. Wagon-remover	843,146	Feb. 5	627	133	126	1954
Hayden, George W., assignor to Crane Company, Chicago, Ill. Steam-trap	843,207	Feb. 5	765	157	126	1989
Hayes, Stanley W., Geneva, N. Y. Derailer	843,455	Feb. 5	1208	255	126	2093
Haynes, William B., Akron, Ohio. Gasket	843,394	Feb. 5	1108	230	126	2070
Hayward, Clyde A., Boston, Mass. Non-leakable fountain-pen	843,338	Feb. 5	1021	211	126	2048
Hellman, Henry, and L. C. Bayles, Johannesburg, Transvaal. Rock-drill	842,953	Feb. 5	220	50	126	1844
Henningsen and Jensen. (See Jensen, Thorvald G., assignor.)						
Hesser, Frederick. (See Hyle, Jacob A., assignor.)						
Hewitt, Allin W., Bogota, N. J., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine	843,085	Feb. 5	502	105	126	1922
Hewitt, Peter C., New York, N. Y., assignor, by mesne assignments, to Cooper Hewitt Electric Company. Induction vapor or gas electric lamp	843,533	Feb. 5	1394	294	126	2141
Hewitt, Peter C., New York, N. Y., assignor, by mesne assignments, to Cooper Hewitt Electric Company. Producing electric light	843,534	Feb. 5	1398	294–5	126	2142
Heiser, Charles W., Canton, Ohio. Chair	843,208	Feb. 5	767	158	126	1990
Hiebee, Clement W., and W. Schenck, Atlantic City, N. J. Bedstead-joint	843,456	Feb. 5	1211	256	126	2094
Higgins, Emerson C., Bayonne, N. J. Scissors	843,209	Feb. 5	769	158	126	1990
Hoag, Chester R., assignor to Whitehead & Hoag Company, Newark, N. J. Easel	843,210	Feb. 5	770	158	126	1990

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Hoag, James W., Oakland, assignor to Hoag Rapid Press Co., San Francisco, Cal. Printing-press	843,535	Feb. 5	1402	295	126	2143
Hoag Rapid Press Co. (See Hoag, James W., assignor.)						
Hoak, Adam J., Kewanee, Ill. Mechanism for handling metal in rolling-mills	843,395	Feb. 5	1108	230–1	126	2070
Hodge, Alfred L., Dallas, Tex. Nose-bag for feeding horses and other animals	843,211	Feb. 5	771	159	126	1990
Hoe, Robert. (See Read, George F., assignor.)						
Hoffmann, Robert, Cassel, Germany. Cigarette-former	842,886	Feb. 5	87	20	126	1813
Holby, Olaf, Christiania, Norway. Hull for ships	843,016	Feb. 5	357	77–8	126	1881
Holsclaw, Wilford H., assignor to B. F. Avery & Sons, Louisville, Ky. Planter	843,457	Feb. 5	1212	256	126	2094
Holstein, Charles E., *et al.* (See Mason, John E., assignor.)						
Holt, James H., Fairfield Center, Me. Angle-piece for roofs or sidings	843,212	Feb. 5	772	159	126	1990
Holzapfel, Conard. (See Struth and Holzapfel.)						
Homan, William C., assignor to Edward Miller & Company, Meriden, Conn. Gas-burner regulator	842,887	Feb. 5	89	20	126	1813
Homann, Willy, Düsseldorf, Germany. Dental bur and excavator	843,273	Feb. 5	904	184	126	2021
Hoos, Martin M., Long Island City, N. Y. Anchor for ferry-boats	843,458	Feb. 5	1223	256	126	2098
Hopkins, Eduard J., assignor of one-half to W. P. Kavanaugh, Bay City, Mich. Fish-net stake	843,330	Feb. 5	1022	211	126	2048
Horn, Henry C., Little York, Ill. Draft-equalizer	842,888	Feb. 5	90	20	126	1813
Howe, George, New York, N. Y., assignor to Metropolitan Engineering Company. Electric sign	842,954	Feb. 5	223	50	126	1845
Hoxie Ammunition Company. (See Hoxie, Gilbert H., assignor.)						
Hoxie, Gilbert H., Chicago, Ill., assignor to Hoxie Ammunition Company. Projectile	843,017	Feb. 5	358	78	126	1882
Hughes, Harrison W., South Orange, N. J. Wrench	843,274	Feb. 5	905	184	126	2021
Hullberg, Frederick. (See Robinson, William H., assignor.)						
Humes, Harry S., assignor of one-half to Young Building and Investment Company, Denver, Colo. Combined rule and square	843,459	Feb. 5	1224	257	126	2099
Hunter, Lucian B., Greeley, Colo. Ore-separator	843,086	Feb. 5	506	105–6	126	1924
Huntley, Stephen A., Casper, Wyo. Water-elevating machine	843,275	Feb. 5	906	184–5	126	2021
Hurd, Charles K., Iowa City, Iowa. Extensible display-rack	843,306	Feb. 5	1111	231	126	2070
Hurst, Henry R., Cairo, Ga. Cotton-chopper	843,460	Feb. 5	1226	257	126	2099
Husser, Jules, Pittsburg, Pa. Beater	843,461	Feb. 5	1228	257	126	2100
Hussey, William P., assignor to Standard Dry Kiln Company, Indianapolis, Ind. Truck	843,340	Feb. 5	1025	211	126	2049
Hutchinson, William S., Boston, Mass. Fire-resisting shutter	843,462	Feb. 5	1229	257–8	126	2100
Hutton, George P. (See Warner, Thomas A., assignor.)						
Hyle, Jacob A., assignor of three-fifths to F. Hesser, Altoona, Pa. Nut and bolt lock	843,147	Feb. 5	628	133	126	1955
Industrial Motor Company. (See Davy, Orrin J., assignor.)						
Ingham, George W., Sault Ste. Marie, Mich. Lubricator	843,536	Feb. 5	1404	295	126	2141
Irish, William F., East Orange, N. J. Automatic electric switch	843,276	Feb. 5	908	185	126	2022
Isaacs, Mone R., Philadelphia, Pa. Treating lime	843,277	Feb. 5	910	.....	126	2022
J. I. Case Plow Works. (See Sobey, William, assignor.)						
J. M. Robinson Manufacturing Company. (See Frey, Clarence N., assignor.)						
Jackson, Amos H., Fremont, Ohio. Safety-razor	843,148	Feb. 5	630	133	126	1955
Jackson, Elmer E., Fremont, Ohio. Concrete-mixer	843,278	Feb. 5	910	185–6	126	2023
Jacobs, Winfred, Dodge City, Kans. Header	843,279	Feb. 5	913	186	126	2023
Jamieson, James A., Montreal, Quebec, Canada. Conveyer	843,018	Feb. 5	361	78–9	126	1883
Jenkins, Frederick C. (See Jost, Carl, assignor.)						
Jensen, Thorvald G., assignor to Henningsen and Jensen, Kimballton, Iowa. Brick-molding machine	843,087	Feb. 5	509	106–7	126	1924
Joh. Kleinewefers Söhne. (See Kleinewefers, Johannes, assignor.)						
Johnson, John W., Leavenworth, Kans. Air moistener or evaporator	842,955	Feb. 5	224	50	126	1845
Johnston, Robert C., Newport, Ky. Steam-trap	843,019	Feb. 5	364	79	126	1884
Jones, Frank R. (See Morenus and Jones.)						
Jones, Isaac W. (See Robertson and Jones.)						
Jones, James M. (See Miley, William, assignor.)						
Jones, Sylvester H., and E. E. Towel, Richmond, Ind., assignors to American Seeding Machine Company, Springfield, Ohio. Corn-planter	843,020	Feb. 5	366	79–80	126	1884
Jones, William W., Granada, Colo. Collapsible dam	843,397	Feb. 5	1112	232	126	2071
Jost, Carl, Bombay, India, assignor of two-thirds to F. C. Jenkins, Hamburg, Germany. Machine-driven ventilator	843,398	Feb. 5	1114	232	126	2071
Juve, Ole H., Decorah, Iowa. Wire-reel	843,213	Feb. 5	773	159	126	1991
Juve, Ole H., Decorah, Iowa. Guide for wire-reels	843,214	Feb. 5	775	159	126	1991
Kahn, Myrtil. (See Dressel and Kahn.)						
Kahn, Myrtil, Elberfeld, and R. Kothe, Vohwinkel, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Azo coloring-matter	843,149	Feb. 5	631	.....	126	1955
Kamm, M. Samuel, *et al.* (See Bennett, Harry, assignor.)						
Kampfe, Frederick, New York, N. Y. Safety-razor	842,956	Feb. 5	225	51	126	1845
Kampfe, Frederick, New York, N. Y. Swivel device for razor-strop members	843,341	Feb. 5	1026	211	126	2049
Kandó, Coloman de, Budapest, Austria-Hungary, assignor to Westinghouse Machine Company. Electric car and locomotive	843,280	Feb. 5	915	186	126	2023
Kasse, Abram, and H. Stoll, New York, N. Y. Spool holder and protector	842,957	Feb. 5	227	51	126	1846
Kaufman, Frank, Chicago, Ill., assignor to West Manufacturing Company, Columbus, Ohio. Roll-paper holder and cutter	842,958	Feb. 5	228	51	126	1846
Kavanaugh, William P. (See Hopkins, Eduard J., assignor.)	842,959	Feb. 5	229	51	126	1846
Kearns, Aaron F., Moscow, Okla. Ter. Horse hay-rake	843,150	Feb. 5	632	133–4	126	1955
Keier, Charles M. and E. W., Toledo, Ohio. Lamp-socket for incandescent lamps	843,281	Feb. 5	917	187	126	2024
Keier, Edwin W. (See Keier, Charles M. and E. W.)						
Keller, George, Gilman, Ill. Whip holder or hanger	842,960	Feb. 5	231	52	126	1847
Kellogg Switchboard & Supply Company. (See Dean, William W., assignor.)						
Kellogg Switchboard and Supply Company. (See Webster, Harry G., assignor.)						
Kelly, William H., *et al.* (See Luckenbach, Harry, assignor.)						
Kenner, George A., and R. Folkel, Herrin, Ill. Car-loader	843,151	Feb. 5	633	134	126	1956
Kerekes, Daniel, assignor of two-thirds to S. Lasko and J. Palovics, Bridgeport, Conn. Railway-train safety device	843,463	Feb. 5	1230	258	126	2100
Kessler, Henry, San Francisco, Cal. Steam-turbine	843,537	Feb. 5	1406	296	126	2144
Kewley, Thomas F., Toledo, Ohio. Valve-operating mechanism for shower-bath apparatus	842,961	Feb. 5	233	52	126	1847
Keystone Telephone Company. (See Eaton, Richard M., assignor.)						
Klesel, William F., Jr., Altoona, Pa. Railway-car frame	842,889	Feb. 5	90	21–2	126	1813
Kimball, William W. (See Palmer and Kimball.)						
Kimberly & Clark Company. (See Thom, Peter R., assignor.)						
King, Thomas J., New York, N. Y. Weeding and cultivating device	843,399	Feb. 5	1115	232	126	2071
Kinnear Manufacturing Company. (See McCloud, Edward H., assignor.)						
Kitton, John C., Detroit, Mich. System of piping for circulating systems	843,282	Feb. 5	919	187	126	2024
Kleinewefers, Johannes, assignor to Joh. Kleinewefers Söhne, Crefeld, Germany. Calender-rollers for producing embossed or raised patterns	842,890	Feb. 5	95	22–3	126	1815
Kleinewefers, Johannes, assignor to Joh. Kleinewefers Söhne, Crefeld, Germany. Embossing-machine	842,891	Feb. 5	97	23	126	1815
Klinge, William, Washington, D. C. Skirt-supporter	843,464	Feb. 5	1231	258	126	2101

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Knapp, Joseph, Buffalo, N. Y. Cuspidor	843,215	Feb. 5	776	160	126	1991
Kneedler, John D., Sioux City, Iowa. Road-bed equipment	843,216	Feb. 5	777	160–1	126	1992
Knox, Herbert, Warehouse Point, Conn. Treating leaf-tobacco	843,538	Feb. 5	1409	.....	126	2145
Koehler, Robert, Prenzlau, Germany. Filter	843,465	Feb. 5	1232	258	126	2101
Koiberger Anstalten für Exterikultur Wilhelm Anhalt Gesellschaft mit Beschränkter Haftung. (See Müller, Georg, assignor.)						
Kothe, Richard. (See Kahn and Kothe.)						
Krans, Levin C., assignor of one-half to J. A. Bengtson, East Greenwich, R. I. Ironing-board	843,400	Feb. 5	1115	233	126	2071
Krepper, Emil, St. Louis, Mo. Continuous still	843,217	Feb. 5	780	161	126	1992
Krickbaum, William M., assignor to Graselli Chemical Company, Cleveland, Ohio. Rotary cleaning-cylinder	843,466	Feb. 5	1233	259	126	2101
Kroeschell, Charles, Chicago, Ill. Boiler construction	843,152	Feb. 5	634	134	126	1956
Kronstein, Abraham, Karlsruhe, Germany. Manufacture of varnishes, balsams, and resins	843,401	Feb. 5	116	.....	126	2072
Krum, Charles L., Chicago, Ill. Electric signal	843,283	Feb. 5	922	187	126	2025
Kuhsiek, Albert J. H., Jersey City, N. J., assignor to R. Neumann Hardware Co. Combined corner-shield and caster	843,153	Feb. 5	635	134	126	1956
Lackie, James, and F. M. Poston, Bremerton, Wash. Oar-lock and socket therefor	843,021	Feb. 5	368	80	126	1884
Laganke, Charles F., Cleveland, Ohio, assignor to Elliott-Fisher Company, New York, N. Y. Combination book and billing platen for type-writing machines	843,022	Feb. 5	368	80–2	126	1885
Lage, August, Everly, Iowa. Hay and grain loader, unloader, and stacker	843,539	Feb. 5	1410	296	126	2145
Lally, John, Waltham, Mass. Column	843,218	Feb. 5	782	161	126	1993
Lambert, Asher, Newark, N. J. Hoister-drum with hollow shafts	843,154	Feb. 5	637	135	126	1957
Lambert, William, Latham, Kans. Railway-gate	842,892	Feb. 5	98	24	126	1815
Landers, Frary & Clark. (See Warner, Alonzo A., assignor.)						
Lange, Henry J., Lorain, Ohio. Heater	843,088	Feb. 5	511	107	126	1924
Langer, Heinrich, Vienna, Austria-Hungary. Superheater	843,342	Feb. 5	1028	212	126	2050
Langreder, Henry F., Chicago, Ill. Dumping-wagon	843,284	Feb. 5	923	187	126	2026
Langridge, John, Ramsgate, England. Steam-trap	843,402	Feb. 5	1119	233	126	2072
Lanphier, Robert C., assignor to Sangamo Electric Company, Springfield Ill. Motor-meter for alternating currents and operating the same	843,155	Feb. 5	640	135	126	1958
Laporte, George, St. Felix de Valois, Quebec, Canada, assignor of one-half to J. H. Chevalier, Campbell, Nebr. Acetylene-gas generator	842,962	Feb. 5	234	52–3	126	1848
Laska, August L., Offenbach-on-the-Main, assignor to Chemische Fabrik Griesheim-Elektron, Frankfort-on-the-Main, Germany. Green sulfur dye	843,156	Feb. 5	644	.....	126	1958
Laska, Mathias, New Orleans, La. Mail-crane	843,467	Feb. 5	1235	259	126	2102
Lasko, Stephen, *et al.* (See Kerekes, Daniel, assignor.)						
Latour, Marius C. A., Paris, France, assignor to General Electric Company. Dynamo-electric machine	842,963	Feb. 5	240	53	126	1849
Lauriek, Carl, Berlin, Germany. Mixing and kneading machine	843,468	Feb. 5	1240	259–60	126	2103
Lawson, John. (See Delaney and Lawson.)						
Lawson, Walter H., assignor to Watt & Keelor, Richmond, Ind. Drop-front burial-casket	843,157	Feb. 5	645	136	126	1959
Lazar, Solomon, San Francisco, Cal. Paper-folding machine	843,219	Feb. 5	785	162	126	1994
Le Pontois, Leon J., New Rochelle, N. Y., assignor to Polyphase Ignition System Company. Inductor magneto-alternator	843,541	Feb. 5	1414	297	126	2146
Leeds and Northrup Company. (See Northrup, Edwin F., assignor.)						
Leger, Zoel M., Moncton, New Brunswick, Canada. Detachable button	843,158	Feb. 5	647	136	126	1959
Lehman, Francis E. (See Bowsman, Harry O., assignor.)						
Leitschuh, Joseph. (See Currier and Leitschuh.)						
Leonard, Patrick J., St. Louis, Mo. Non-refillable bottle	843,540	Feb. 5	1412	297	126	2145
Leuthesser, Fred W., Chicago, Ill. Register name-board	843,285	Feb. 5	925	188	126	2026
Levitas, Sarah, New York, N. Y. Suspensory device for garters, &c.	842,893	Feb. 5	99	24	126	1816
Lewis, Ransome T., Elmira, N. Y. Metal structural work	842,894	Feb. 5	100	24	126	1816
Leyner, John G., Denver, Colo. Multiple-hammer-piston rock-drilling engine	843,159	Feb. 5	648	136–7	126	1959
Lichtig, William B., New York, N. Y. Washboard	843,469	Feb. 5	1242	260	126	2104
Life-Saving Folding Canvas Boat Company. (See Perring, Ira O., assignor.)						
Lindberg, Charles, Duluth, Minn. Tobacco-pipe	843,343	Feb. 5	1029	212	126	2050
Lindeman, Charles A., Chicago, Ill. Harp-action	843,470	Feb. 5	1243	260	126	2104
Linder, Leopold S., Mankato, Minn. Registering means for fowls	843,023	Feb. 5	374	82	126	1886
Linderman, Frank M., Chicago, Ill. Belt-splicing implement	843,344	Feb. 5	1030	212	126	2050
Little, Robert H., assignor to Talbot & Holst, Chicago, Ill. Power-transmission mechanism	843,286	Feb. 5	927	188	126	2027
Livingston, Thomas J., Fitzgerald, Ga. Figure toy	843,024	Feb. 5	375	82	126	1887
Lloyd, Walter J., Birmingham, England. Gearing	843,471	Feb. 5	1244	261	126	2104
Lockett, Wyatt W., Cason, Tex. Bed-brace	843,403	Feb. 5	1121	233	126	2073
Logan, Charles E., Mill Grove, Mo. Wire-stretcher	843,404	Feb. 5	1122	234	126	2073
Long & Allstatter Company. (See Macbeth, Charles E., assignor.)						
Losee, Asa B., Lake City, Iowa. Display-rack	843,220	Feb. 5	787	162	126	1994
Lotter, Frank, Elkton, Mich. Fork	843,472	Feb. 5	1246	261	126	2105
Lovell Albert K., New York, N. Y., assignor to G. F. Drouvé, Bridgeport, Conn. Shutter-operating device	842,895	Feb. 5	101	25	126	1816
Lovell Albert K., New York, N. Y., assignor to G. F. Drouvé, Bridgeport, Conn. Shutter-operating device	842,896	Feb. 5	103	25–6	126	1816
Lovering, Charles H., Sidney, Mont. Match-safe	843,405	Feb. 5	1122	234	126	2073
Luce, George M., St. Louis, Mo. Leg-form	843,221	Feb. 5	788	162	126	1995
Luckenbach, Harry, assignor to W. H. Kelly, San Francisco, Cal., G. L. Robinson, F. E. Fishel, J. J. Robinson, New York, N. Y., and F. F. Nolte. Treatment of iron and steel	843,569	Feb. 5	1480	312	126	2161
Luther, William M., Buffalo, N. Y. Wood-dressing machine	843,222	Feb. 5	789	162	126	1995
Lytle, William H., Bedford, assignor of one-half to W. R. Donohoo, Pearl, Ill. Corn-planter	843,345	Feb. 5	1031	212–13	126	2051
MaCallejas y Becerra, José, Havana, Cuba. Sugar-cane-straw-cutting machine	843,479	Feb. 5	1268	266–7	126	2110
MacCoy, Andrew T., Dover, Mass. Electric motor	843,287	Feb. 5	930	188	126	2028
Macbeth, Charles E., assignor to Long & Allstatter Company, Hamilton, Ohio. Tongueless cultivator	843,160	Feb. 5	654	137	126	1960
Macdonald, Thomas H., assignor to American Graphophone Company, Bridgeport, Conn. Combined recorder and reproducer	842,897	Feb. 5	107	26	126	1817
Macneil, Alfred B., and J., Glascow, Scotland. Manufacture of golf-balls	843,346	Feb. 5	1036	213	126	2051
Macneil, Jennie. (See Macneil, Alfred B. and J.)						
Madill, William T., Highfield, Ontario, Canada. Band-cutter and feeder	842,898	Feb. 5	109	26	126	1817
Madison, Alfred L., assignor to Wilcox & Gibbs Sewing Machine Company, New York, N. Y. Hemmer	843,347	Feb. 5	1037	214	126	2052
Maierhofer, John W. (See Ulrich and Maierhofer.)						
Maine Valve Company. (See Tozier, Charles C., assignor.)						
Makley, John N., E. F. Manett, and F. M. Dannelly, assignors to Standard Electric Company, Dallas, Tex. Switching device	843,473	Feb. 5	1248	262–4	126	2105
Manett, Edward F. (See Makley, Manett, and Dannelly.)						
Mangels, William F., New York, N. Y. Gear for merry-go-rounds	843,406	Feb. 5	1123	234	126	2073

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Manning, Harry W., Portland, Oreg. Gas-light	843,474	Feb. 5	1262	265	126	2108
Manville Company. (See Robinson, William A., assignor.)						
Martan, William G., Otter Creek, Fla. Metallic rail-tie	843,475	Feb. 5	1264	265	126	2109
Martin, Frederic, Columbus, Ohio. Washboard	842,964	Feb. 5	243	53	126	1850
Maskrey, Arthur J., Chester, W. Va. Roll-wiper for tinning-pots	843,223	Feb. 5	791	163	126	1995
Mason, John E., assignor of five-eighths to J. H. Smith and C. E. Holstein, Columbus, Ohio. Firearm	843,542	Feb. 5	1417	298-9	126	2147
Mason, William S., La Salle, Ill. Nut-lock	843,407	Feb. 5	1126	235	126	2074
Massachusetts Saw Works. (See Napier, Charles, assignor.)						
Mast, Peter, Adrian, Mich. Fence-gate	843,161	Feb. 5	655	138	126	1960
Master, Albert, Chicago, Ill. Friction-clutch	843,288	Feb. 5	933	189	126	2028
Masters, Egbert E., assignor of one-half to J. Williams, Columbus, Ohio. Brush or mop holder	842,965	Feb. 5	244	54	126	1850
Mathias Brothers Company. (See Rogers, Charles W., assignor.)						
Matsumoto, Ikko, Indianapolis, Ind. Hitching-weight	843,543	Feb. 5	1422	299	126	2148
McAdoo, Samuel, Toronto, Ohio. Boiler-flue cleaner	842,901	Feb. 5	115	27	126	1819
McArthur, George E., Eaton Rapids, Mich. Concrete-mixer	842,902	Feb. 5	116	28	126	1819
McCall, William H., New Windsor, Colo. Beet-harvester	843,412	Feb. 5	1134	236-7	126	2076
McCargar, Joseph R., (See Clark, Victor E., assignor.)						
McCarthy, Felix, Pottstown, Pa. Metallic packing	843,230	Feb. 5	809	166	126	1999
McCarthy, Louis, Boston, Mass. Making insulators	843,352	Feb. 5	1044	215	126	2053
McCarthy, Thomas F., Waltham, Mass. Column-support	843,163	Feb. 5	659	138	126	1961
McCloud, Edward H., assignor to Kinnear Manufacturing Company, Columbus, Ohio. Hood for rolling fire-resisting curtains	842,968	Feb. 5	250	55	126	1852
McClure, Joseph A., Philadelphia, Pa. Washing-machine	843,480	Feb. 5	1270	267	126	2111
McCook, William, Walton, N. Y. Automatic air-brake mechanism	843,481	Feb. 5	1272	267-8	126	2111
McCormick, Peter J., Baltimore, Md. Attachment for planing-machines	843,091	Feb. 5	514	108	126	1925
McCoy, Ralph Z., Loveland, Colo. Automatic dumping apparatus	843,482	Feb. 5	1280	268-9	126	2113
McCutchan, Albert H., assignor of one-half to C. M. Delzell and J. H. Santee, Goltry, Okla. Ter. Grain-lifting attachment for harvesters	843,164	Feb. 5	660	139	126	1961
McElroy, John C., Providence, R. I. Pipe-joint	843,165	Feb. 5	662	139	126	1962
McGovern, Lawrence, Boston, Mass. Printing-block	843,483	Feb. 5	1284	269	126	2114
McGuire, Michael G., Chicago, Ill. Umbrella	843,092	Feb. 5	517	108-9	126	1926
McIntosh, Angus A., Alexandria, Ontario, Canada. Lever-jack	843,292	Feb. 5	940	190	126	2029
McKeen, William R., Jr., Omaha, Nebr. Ventilator-hood	843,413	Feb. 5	1136	237	126	2076
McKenna, Harvy E., Donora, Pa. Wire-stripping machine	843,353	Feb. 5	1045	215	126	2053
McKensey, James L., Millville, N. J. Combination furniture	843,547	Feb. 5	1430	301	126	2150
McLain, Charles J. (See Williams, Walter G., assignor.)						
McNutt, William H., New York, N. Y. Indicator for tanks	843,166	Feb. 5	663	139	126	1962
Meaker, John W., assignor to Meaker Sales Company, Detroit, Mich. Coin holding and delivering machine	843,224	Feb. 5	792	163-4	126	1996
Meaker, John W., assignor to Meaker Sales Company, Detroit, Mich. Coin holding and delivering machine	843,225	Feb. 5	800	165	126	1997
Meaker Sales Company. (See Meaker, John W., assignor.)						
Mergenthaler Linotype Company. (See Van Wie, Byron, assignor.)						
Merrill, George D., East Orange, N. J. Pincushion	843,408	Feb. 5	1127	235	126	2074
Mershon, Ralph D., New York, N. Y. Operating electric motors, generators, and other apparatus	842,966	Feb. 5	245	54	126	1850
Mertins, John L., Wolfe City, Tex. Rail-joint	843,409	Feb. 5	1129	235	126	2074
Metropolitan Engineering Company. (See Howe, George, assignor.)						
Michigan Woven Wire Fence Co. (See Raymond, George A., assignor.)						
Mikolasek, Wenceslaus F., Vodnany, S. D. Incubator	842,899	Feb. 5	111	26-7	126	1818
Miley, William, assignor of one-third to J. M. Jones, Indianapolis, Ind. Railway-track	842,967	Feb. 5	249	55	126	1852
Miller, Charley A., Mendon, Ohio. Gate-hanger	843,410	Feb. 5	1130	235-6	126	2075
Miller, Frederick, Union county, Ind. Soil pulverizer and smoother	843,025	Feb. 5	376	83	126	1887
Miller, John Z., Indianapolis, Ind. Shifter-fastener for vehicle-tops	843,348	Feb. 5	1038	214	126	2052
Millin, Frank D., Spokane, Wash. Hoisting apparatus	843,411	Feb. 5	1131	236	126	2075
Misner, Edgar D., St. Louis, assignor to W. C. Renfrow, Joplin, Mo. Briquet-making machine	843,565	Feb. 5	1472	310-11	126	2159
Modern Machine Company. (See Curtis, Samuel, assignor.)						
Moews, Paul, Detroit, Mich. Fitting for eyeglasses	843,026	Feb. 5	377	83	126	1887
Monarch Typewriter Company. (See Mosher, Charles P., assignor.)						
Moore, Aaron R., Emporia, Kans. Saddle-bags	843,349	Feb. 5	1039	214	126	2052
Moore, Alexander T., New Orleans, La. Glass-fastener	843,027	Feb. 5	378	83	126	1887
Moore, Alexander T., New Orleans, La. Sleeve-holder	843,226	Feb. 5	804	165	126	1998
Moore, James C., Philadelphia, Pa. Eyeglasses	843,089	Feb. 5	513	107	126	1925
Moores, James A. (See George, William T., assignor.)						
Morenus, William H., Lake View, Iowa, and F. R. Jones, Harvey, assignors to Austin Manufacturing Company, Chicago, Ill. Conveyer	842,900	Feb. 5	113	27	126	1818
Morgan Engineering Company. (See Taylor, Clarence L., assignor.)						
Morgan, William, Fort Plain, N. Y. Flying-machine	843,476	Feb. 5	1265	265-6	126	2109
Morrison, John, Troy, N. Y. Making brushes	843,544	Feb. 5	1423	300	126	2148
Morrow, William L., Stockton, Cal. Double-crank joint	843,090	Feb. 5	513	107	126	1925
Morse, Clyde S., Shabbona, Ill. Hasp-fastener	843,350	Feb. 5	1041	214	126	2052
Morse, Frederick H., Milwaukee, Wis. Ground-marker and trip-actuator	843,162	Feb. 5	657	138	126	1961
Mosher, Charles P., assignor to Monarch Typewriter Company, Syracuse, N. Y. Type-writing machine	843,545	Feb. 5	1424	300	126	2148
Moulton, Walter E., assignor to Moulton Wireless Umbrella Company, Plain City, Ohio. Umbrella	843,477	Feb. 5	1266	266	126	2109
Moulton Wireless Umbrella Company. (See Moulton, Walter E., assignor.)						
Moureu, Charles, Paris, France. Acetylene carbonic-acid derivative	843,289	Feb. 5	936	.....	126	2029
Moureu, Charles, Paris, France. Acetylene carbonic-acid derivative	843,290	Feb. 5	938	.....	126	2029
Mueller, Eugen L., Paris, France. Carbureter	843,028	Feb. 5	379	83	126	1888
Müller, Georg, Berlin, assignor to Firm Kolberger Anstalten für Exterikultur Wilhelm Anhalt Gesellschaft mit Beschränkter Haftung, Kolberg, Prussia, Germany. Physical exerciser	843,478	Feb. 5	1267	266	126	2110
Mullins, Alfred P., Glasgow, Scotland. Physical-development appliance	843,291	Feb. 5	939	189	126	2029
Mulvey, Hubert W., Glassport, Pa. Metallic tie and rail-fastener	843,351	Feb. 5	1043	215	126	2053
Munson, Homer W., Williamsburg, Mass. Jointed gun-stock	843,227	Feb. 5	805	166	126	1999
Murphy, Daniel, St. Paul, Minn. Cotton-harvester	843,546	Feb. 5	1428	301	126	2149
Murray, Michael, Harrisburg, Pa. Spring-wheel	843,228	Feb. 5	807	166	126	1999
Myers, Adolph and L., and F. R. Baker, Birmingham, England. Loose-leaf book, file, temporary binder, &c.	843,229	Feb. 5	808	166	126	1999
Myers, Leopold. (See Myers and Baker.)						
Napier, Charles, Springfield, assignor of one-half to Massachusetts Saw Works, Chicopee, Mass. Rotary cutter for making saws	842,903	Feb. 5	118	28	126	1819
Nash, Nathan E., Toronto, Ontario, Canada. Heat-regulating apparatus	843,093	Feb. 5	520	109	126	1927
National Binding Machine Company. (See Elliott, Sterling, assignor.)						
Nealey, Everett T., Bangor, Me. Electrode for therapeutic use, &c.	843,354	Feb. 5	1046	215	126	2054

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Neel, Ralph H. (See Atkinson and Teate, assignors.)						
Nelson, James, Silver Creek, Miss. Cotton chopping and scraping machine	843,484	Feb. 5	1285	269	126	2115
Nelson, Nels H., Willmar, Minn. Loading-derrick	842,904	Feb. 5	120	29	126	1820
New Castle Stamping Company. (See Clarke, Ralph, assignor.)						
New Haven Clock Company. (See Porter, Henry W., assignor.)						
Newman, Abraham A., Chicago, Ill. Box for patrol-stations	843,293	Feb. 5	941	190	126	2030
Nikonow, John P., Pittsburg, Pa. Bridge structure	843,167	Feb. 5	664	139-40	126	1962
Niles-Bement-Pond Company. (See Greenleaf, George E., assignor.)						
Niles-Bement-Pond Company. (See Reiss, George T., assignor.)						
Nims, Franklin A., Greeley, Colo. Truss	843,168	Feb. 5	667	140	126	1963
Nolte, Frederick F., *et al.* (See Luckenbach, Harry, assignor.)						
Northrup, Edwin F., assignor to Leeds and Northrup Company, Philadelphia, Pa. Optical reading device for electrical measuring instruments	843,414	Feb. 5	1138	237	126	2077
Northrup, Edwin F., assignor to Leeds and Northrup Company, Philadelphia, Pa. Electrical synchronism	843,415	Feb. 5	1141	238	126	2078
Northrop, Jonas. (See Wood and Northrop.)						
Northrop, Jonas, and W. F. Roper, assignors to Draper Company, Hopedale, Mass. Filling-replenishing mechanism for automatic looms	843,169	Feb. 5	668	140-1	126	1963
Noyes, Arthur O. (See Parkhurst and Noyes.)						
Noyes, John C., *et al.* (See Parkhurst and Noyes, assignors.)						
Nungesser Electric Battery Co. (See Nungesser, Philip P., assignor.)						
Nungesser, Philip P., assignor to Nungesser Electric Battery Co., Cleveland, Ohio. Combined blowpipe and soldering attachment	842,905	Feb. 5	122	29	126	1820
O'Shaughnessy, James F., New York, N. Y. Apparatus for gathering cotton	843,294	Feb. 5	943	190-1	126	2030
Oakville Company. (See Boden, George, assignor.)						
Ohashi, Hydesaburo, New York, N. Y. Postal-card protector	843,416	Feb. 5	1143	238	126	2078
Olsen, John P., Minneapolis, Minn. Shoe-lace holder	843,485	Feb. 5	1288	270	126	2115
Olson, Paul, Stoughton, Wis. Building-blocks	843,417	Feb. 5	1144	238	126	2078
Olsson, Emil, Bofors, Sweden. Automatic extractor for detonating cartridges in breech-loading guns	843,231	Feb. 5	811	167	126	2000
Ossenbeck, Anton. (See Dressel and Ossenbeck.)						
Osterberg, Theodor, Chicago, Ill. Vise	843,295	Feb. 5	946	191	126	2031
Ostermann, Henry C., assignor to Ostermann Manufacturing Co., Chicago, Ill. Grain-door valve	842,969	Feb. 5	253	55	126	1853
Ostermann Manufacturing Co. (See Conger, Noble H., assignor.)						
Ostermann Manufacturing Co. (See Ostermann, Henry C., assignor.)						
Otto, Arthur, New York, N. Y. Mask	843,486	Feb. 5	1289	270	126	2115
Outerbridge, Alexander E., Jr., Philadelphia, Pa. Manufacture of articles from cast-iron	842,906	Feb. 5	123	.....	126	1820
Overton, Willis E., Solomons, Md. Dock	843,355	Feb. 5	1048	216	126	2054
Page, John W. (See Baker, Andrew J., assignor.)						
Paine, Tracy L., Milwaukee, Wis. Anticreeping attachment for rails	843,232	Feb. 5	812	167	126	2000
Palma Manufacturing Co. (See Sander, Charles, assignor.)						
Palmer, Anson N., and W. W. Kimball, assignors to Syracuse Time Recorder Company, Syracuse, N. Y. Time-recorder	843,170	Feb. 5	672	141-2	126	1964
Palovics, John, *et al.* (See Kerekes, Daniel, assignor.)						
Parcelle, Albert L., Boston, Mass. Telephone relay or repeater	843,296	Feb. 5	947	191	126	2031
Pare, Frederick W., Nottingham, and J. C. Richmond, Chilwell, England. Machine for threading and unthreading lace-machine carriages	843,487	Feb. 5	1289	270-1	126	2115
Parker Composite Condiment Holder Co. (See Parker, Lyman B., assignor.)						
Parker, Lyman B., Sulphur, assignor to Parker Composite Condiment Holder Co., Chickasha, Ind. Ter. Compound condiment-holder	843,356	Feb. 5	1049	217	126	2054
Parkhurst, Winfield H., Swampscott, and A. O. Noyes, assignors of one-half to J. C. Noyes, Wakefield, and H. P. Connell, Lynn, Mass. Eyelet-stay-joining machine	843,488	Feb. 5	1294	272	126	2116
Parsons, Charles A., and G. G. Stoney, Newcastle-upon-Tyne, England; said Stoney assignor to said Parsons. Parallel running of dynamo-machines	843,489	Feb. 5	1300	272-3	126	2118
Parsons, Ozro G., Edina, Mo. Gate or door hook	842,970	Feb. 5	254	56	126	1853
Partee, William A., and J. C. Wharton, Nashville, Tenn. Hull-cleaning and friction-reducing apparatus	843,357	Feb. 5	1051	217	126	2055
Paruszewski, Edward, Kottbus, Germany. Loom for weaving tufted fabrics	843,358	Feb. 5	1053	217-18	126	2055
Pasley, Gilbert K. (See Paterson and Pasley.)						
Paterson, James, and G. K. Pasley, Gisborne, New Zealand. Combined seat and luggage-carrier for bicycles	843,094	Feb. 5	522	109	126	1928
Pearson, James, assignor to Warner & Swasey Company, Cleveland, Ohio. Chuck	843,095	Feb. 5	524	109-10	126	1928
Peck, Cassius C., Rochester, N. Y. Hot-water-circulating system	842,907	Feb. 5	125	30	126	1820
Pellow, Arthur, assignor to Bausch & Lomb Optical Company, Rochester, N. Y. Instrument for centering lenses	843,548	Feb. 5	1431	302	126	2150
Perring, Ira O., assignor to Life-Saving Folding Canvas Boat Company, Kalamazoo, Mich. Foldable or collapsible boat	842,908	Feb. 5	128	30	126	1821
Perry, Edward L., Sr., and Edward L., Jr., Paterson, N. J. Bellows-fold coupling for vestibule-cars	843,233	Feb. 5	813	167	126	2000
Petrie, Charles, St. Johns, Newfoundland. Cable-cutting device	843,359	Feb. 5	1059	219	126	2057
Petterson, Hugo, Mount Vernon, Ohio. Pole	843,171	Feb. 5	678	142	126	1965
Pew, Frederick W., Buffalo, N. Y. Lifter or folder	842,909	Feb. 5	135	30	126	1825
Philips, William S. (See Black, Thomas W., assignor.)						
Pickard, Greenleaf W., Amesbury, Mass. Wireless communication	842,910	Feb. 5	138	31	126	1825
Pigg, Thomas P. Farmington, Mo. Grave-record	843,029	Feb. 5	380	84	126	1888
Plank, William C., Las Flores, Mexico. Type-writer attachment	843,360	Feb. 5	1061	219	126	2058
Plank, William C., Las Flores, Mexico. Speed-indicator	843,361	Feb. 5	1064	219	126	2059
Plank, William C., Las Flores, Mexico. Attachment for mouthpieces of telephone-transmitters	843,362	Feb. 5	1065	220	126	2059
Poindexter, Robert E., Indianapolis, Ind. Saw	843,030	Feb. 5	382	84	126	1888
Polyphase Ignition System Company. (See Le Pontois, Leon J., assignor.)						
Pope, Henry O., Claude, Tex. Cultivator attachment	843,031	Feb. 5	383	84	126	1888
Pörscke, Heinrich P. R. L., and G. A. Wedekind, Hamburg, Germany; said Pörscke assignor to said Wedekind. Receptacle for elements	843,549	Feb. 5	1435	302	126	2151
Porter, Henry W., Forestville, assignor to New Haven Clock Company, New Haven, Conn. Winding mechanism for self-winding electric clocks	842,971	Feb. 5	255	56	126	1853
Post, William F., Hattiesburg Miss. Lock-nut for vehicle-hubs	843,096	Feb. 5	527	110	126	1928
Poston, Frank M. (See Lackie and Poston.)						
Powell, John D., Cleveland, Tenn. Type-writing machine	843,032	Feb. 5	383	85	126	1889
Power, George S., Passaic, N. J. Rock-drill saddle	842,972	Feb. 5	257	56	126	1854
Prentice, Frank W., Chicago, Ill. Electric signaling system	843,550	Feb. 5	1437	303	126	2152
Preston, Edith B., Mexico, Mo. Spring and mattress for invalid-beds	842,973	Feb. 5	258	56	126	1854
Price, James W., Covington, Ind. Farm-derrick	843,297	Feb. 5	949	191-2	126	2031
Priddy, Gertrude S., Chicago, Ill. Holder for papers or bags	843,363	Feb. 5	1066	220	126	2060
Pullman Company. (See Dodds, Ethan I. assignor.)						
Pusey, Joseph M., Wilmington, Del. Puzzle	843,490	Feb. 5	1302	273	126	2119
Pyle, George C., Indianapolis, Ind. Lamp apparatus for vehicles	843,298	Feb. 5	950	192	126	2031

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Quivey, William, East Orange, N. J. Vehicle-wheel	843,172	Feb. 5	679	142	126	1965
R. Neumann Hardware Co. (See Kuhslek, Albert J. H., assignor.)						
Rahn, Charles C., Thompsonville, Conn. Display-box	843,364	Feb. 5	1067	220	126	2060
Randall, George R. (See Cunane, John, assignor.)						
Rathke, Herman J., Rochester, N. Y. Band-saw guide	843,097	Feb. 5	529	110	126	1929
Rawlinson, Charles, St. Louis, Mo. Truck	843,234	Feb. 5	814	167	126	2000
Ray, David B., Huntington, N. Y. Type-channel for type-distributing machines	843,173	Feb. 5	681	142	126	1966
Raymond, George A., Adrian, assignor to Michigan Woven Wire Fence Co., Detroit, Mich. Wire-fabric-weaving machine	843,299	Feb. 5	951	192-5	126	2032
Raymond, John W., Beverly, Mass. Combination-lock	843,365	Feb. 5	1068	220	126	2060
Read, George F., assignor to R. Hoe, New York, N. Y. Front-stop-operating mechanism for printing-machines	842,974	Feb. 5	259	57	126	1834
Reber, Edward, and E. C. Clark, San Bernardino, Cal. Lubricator	843,366	Feb. 5	1070	221	126	2060
Reeve, Henry E., Brooklyn, N. Y. Electric bell	842,911	Feb. 5	139	31	126	1826
Rehfuss, John G. (See Burgess and Rehfuss.)						
Rehfuss, Martin O. (See Burgess and Rehfuss.)						
Reichardt, Friedrich E., Chicago, Ill. Mantle-support	842,975	Feb. 5	262	57	126	1835
Reiss, George T., Hamilton, Ohio, assignor to Niles-Bement-Pond Company, Jersey City, N. J. Wheel-press	843,098	Feb. 5	531	110	126	1929
Remmers, Harry C., Philadelphia, Pa. Chocolate-coating machine	843,300	Feb. 5	958	195	126	2033
Renfrow, William C. (See Misner, Edgar D., assignor.)						
Reynolds, John R., assignor to Smyth Manufacturing Company, Hartford, Conn. Sewing-machine	843,099	Feb. 5	532	111	126	1929
Reynolds, Miron G., Anderson, Ind. Pressure-controlling system	843,174	Feb. 5	683	143	126	1966
Reynolds, William C., Alpena, Mich. Train-order signal	843,175	Feb. 5	685	143	126	1967
Reznicek, Anton, Jersey City, N. J., assignor to C. Bloomberg, New York, N. Y. Belt	843,491	Feb. 5	1302	273	126	2119
Rich, Lester M., Cincinnati, Ohio. Adjustable stool back-rest	842,976	Feb. 5	263	57	126	1835
Richards, Francis H., Hartford, Conn. Candy-working machine	843,100	Feb. 5	539	112	126	1931
Richards, Walter J., Milwaukee, Wis. Fluid-pressure regulator	843,033	Feb. 5	385	85	126	1889
Richardson, Columbus J., Caldwell, Tex. Stalk-puller	843,493	Feb. 5	1305	274	126	2120
Richardson, Ernest, Beaver Falls, Pa. Enameled sign	843,235	Feb. 5	815	168	126	2001
Richmond, John C. (See Pare and Richmond.)						
Richter, Otto F., assignor of one-half to J. T. and F. T. Glazier, Indianapolis, Ind. Automatic car-coupling	843,551	Feb. 5	1441	304	126	2152
Rickard, Simeon H., Allegheny, Pa. Machine for molding building-blocks	843,176	Feb. 5	686	143-4	126	1967
Ridderhof, Corneil, Grand Rapids, Mich. Drilling-machine	842,977	Feb. 5	265	58	126	1836
Ridgway, Arthur O., Denver, Colo. Metal railway-tie	843,492	Feb. 5	1303	274	126	2119
Ridgway, James E. and W. R., Atchison, Kans. Hand-truck for carrying baggage, &c	843,034	Feb. 5	391	85	126	1891
Ridgway, William R. (See Ridgway, James E. and W. R.)						
Roberts, Henry P., assignor, by mesne assignments, to F. S. Anable, Boston, Mass. Device for moistening and delivering gummed binding-tape	843,101	Feb. 5	542	112	126	1932
Robertson, Newton K., and I. W. Jones, Sidney, Tex. Combined cotton chopper and cultivator	843,102	Feb. 5	544	113	126	1933
Robinson, George L., *et al.* (See Luckenbach, Harry, assignor.)						
Robinson, Joseph J., *et al.* (See Luckenbach, Harry, assignor.)						
Robinson, William A., Woonsocket, assignor to Manville Company, Providence, R. I. Lappet-loom	843,177	Feb. 5	689	144	126	1968
Robinson, William A., Woonsocket, assignor to Manville Company, Providence, R. I. Lappet-loom	843,178	Feb. 5	692	145-6	126	1968
Robinson, William H., assignor of one-half to F. Hulberg, New York, N. Y. Feed-bag	843,552	Feb. 5	1443	304	126	2133
Rodney, George B., New Castle, Del. Intrenching-tool	843,179	Feb. 5	702	146	126	1970
Roell, Cornelis F. A., assignor to Roell Manufacturing Company, Independence, Mo. Heating-stove	843,103	Feb. 5	546	113-14	126	1934
Roell, Cornelis F. A., assignor to Roell Manufacturing Company, Independence, Mo. Hot-air furnace	843,104	Feb. 5	548	114	126	1934
Roell, Cornelis F. A., Independence, Mo., assignor to Roell Manufacturing Co. Smoke-consuming heater	843,105	Feb. 5	550	114-15	126	1935
Roell, Cornelis F. A., assignor to Roell Manufacturing Company, Independence, Mo. Magazine-stove	843,106	Feb. 5	553	115	126	1936
Roell Manufacturing Company. (See Roell, Cornelis F. A., assignor.)						
Roempler, Fred G. (See Sagehorn, Herman C., assignor.)						
Rogers, Charles W., Chicago, Ill., assignor to Mathias Brothers Company. Air-washer	843,180	Feb. 5	703	146	126	1971
Rohmer, William B., assignor of one-half to R. J. Turner, Bay St. Louis, Miss. Scrubber or cleaner	843,236	Feb. 5	815	168	126	2001
Rolfe, Charles A., assignor to Rolfe Electric Company, Rochester, N. Y. Fuse-box	843,553	Feb. 5	1445	304	126	2133
Rollins, George E., Brockton, Mass. Apparatus for finishing innersoles	843,035	Feb. 5	393	86	126	1892
Romanoff, Hippolyte, St. Petersburg, Russia. Single-rail electric overhead railway with suspended vehicle	843,418	Feb. 5	1145	239-40	126	2079
Root, Charles E., Blaney, Mich. Spud	843,036	Feb. 5	396	86	126	1892
Roper, Charles F., assignor to Draper Company, Hopedale, Mass. Let-off mechanism for looms	843,181	Feb. 5	704	147	126	1971
Roper, Walter F. (See Northrop and Roper.)						
Roper, Walter F., assignor to Draper Company, Hopedale, Mass. Weft-replenishing loom	843,107	Feb. 5	555	115-17	126	1936
Rosenberg, Hugo, Berlin, Germany. Container for surgical ligatures	843,494	Feb. 5	1307	275	126	2120
Rowley, Joseph, Ossett, England. Mechanical piano-player	843,108	Feb. 5	563	117	126	1938
Royal Battery Company. (See Gernsback, Hugo, assignor.)						
Rundell, Calvin J., Wayne, Nebr. Scoop and shovel grip	842,912	Feb. 5	141	31	126	1827
Russell & Erwin Manufacturing Company. (See Broderick, David F., assignor.)						
Russell & Erwin Manufacturing Company. (See Voight, Henry G., assignor.)						
Sabin, Belle C., Chicago, Ill. Pie-pan	843,109	Feb. 5	563	118	126	1938
Sachse, Ernst W. F., Hamburg, Germany. Fastener for doors, windows, and the like	843,111	Feb. 5	566	118-19	126	1939
Sack, Abel, Ashton, Nebr. Mechanical movement	843,110	Feb. 5	564	118	126	1938
Sagehorn, Herman C., assignor of one-half to F. G. Roempler, Chicago, Ill. Elevator	843,301	Feb. 5	961	195-6	126	2034
Sagehorn, Herman C., assignor of one-half to F. G. Roempler, Chicago, Ill. Elevator	843,302	Feb. 5	963	196-7	126	2034
Samuel J. Shimer and Sons. (See Shimer, Elmer S., assignor.)						
Sanborn, Ellet. (See Sanborn, Horace and E.)						
Sanborn, Horace and E., Portland, Me. Bag-handler	842,913	Feb. 5	142	32	126	1827
Sander, Charles, Philadelphia, Pa., assignor to Palma Manufacturing Company. Frame for fancy work	843,495	Feb. 5	1307	275	126	2120
Sanford, Lazarus B., Fall River, Mass. Game-board	843,037	Feb. 5	397	86	126	1893
Sangamo Electric Company. (See Lanphier, Robert C., assignor.)						
Santee, J. H., *et al.* (See McCutchan, Albert H., assignor.)						
Sargent, Howard R., Schenectady, N. Y., assignor to General Electric Company. Multipolar service-switch	842,978	Feb. 5	266	58	126	1856
Schafer, Christian E., Cleveland, Ohio. Hot-air deflector and dust-collector for radiators	842,914	Feb. 5	142	32	126	1827
Schenck, William. (See Higbee and Schenck.)						
Schlapp, Joseph, Allegheny, Pa. Ink-well	843,377	Feb. 5	1071	221	126	2061
Schlecht, Frank, Fremont, Ohio. Necktie-holder	843,303	Feb. 5	965	197	126	2035

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Schmidt, Ludwig, assignor to Elektrizitats-Aktiengesellschaft vormals Schuckert & Co., Nuremberg, Germany. Single-type-casting machine	843,304	Feb. 5	965	198	126	2035
Schmitt, Christopher, New York, N. Y. Apparatus for smoking meat	843,368	Feb. 5	1072	221	126	2061
Schneider, Adam A., Camden, N. J. Trolley-wheel	843,305	Feb. 5	968	198	126	2035
Schrader, John R., Buffalo, N. Y., assignor to Buffalo Gas Generator and Manufacturing Company. Carbureter	843,554	Feb. 5	1446	305	126	2153
Schreiber, Robert C., Fairmont, Minn. Road-smoother	843,369	Feb. 5	1075	222	126	2062
Schuermann, Anton C., assignor to H. Mueller Manufacturing Company, Decatur, Ill. Compression stop and waste	843,496	Feb. 5	1309	275	126	2121
Schultz, Christoffer J., Flensburg, Germany. Device for cleaning frozen window-glasses and for preventing them from freezing	842,979	Feb. 5	268	59	126	1857
Schultz, Harry C., Rutledge, Pa., assignor of one-half to W. A. Flamm, Baltimore, Md. Display-package	843,419	Feb. 5	1147	240	126	2079
Schunder, John F. (See Tombragel and Schunder.)						
Schütte, Johann, Bremerhaven, Germany. Steam-generator	843,497	Feb. 5	1311	276	126	2121
Schutz, Rudolph G., Cranston, assignor to United Wire and Supply Company, Providence, R. I. Hinge pin and joint	843,038	Feb. 5	398	86	126	1893
Scribner, Charles E., Jericho, Vt., assignor to Western Electric Company, Chicago, Ill. Train-despatching system	843,039	Feb. 5	399	87	126	1893
Seabrant, Avey, Moundridge, Kans. Mouth-opener for animals	843,040	Feb. 5	401	87	126	1894
Sebree, Wyatt T., Carrollton, Ky. Shaft-holder for harness	843,041	Feb. 5	402	87	126	1894
Severance, Verne C., Chicago, Ill. Carbureter	843,112	Feb. 5	568	119	126	1939
Shannon, Franklin, Sloan, Iowa. Elevator	843,370	Feb. 5	1076	222	126	2062
Shaw, Archibald W., Drew, Miss. Rail-joint	842,915	Feb. 5	145	32	126	1828
Shea, Thomas A., Hammond, Ind., assignor to American Steel Foundries, New York, N. Y. Bearing end for half-elliptic springs	843,306	Feb. 5	969	198	126	2036
Shepardson, Jedediah N. (See Barnum and Shepardson.)						
Shepherd, Frank D., Salt Lake City, Utah. Steam-turbine	843,237	Feb. 5	817	168	126	2001
Sheppy, Frederick, Chicago, Ill. Sound-box for talking-machines	843,042	Feb. 5	403	87	126	1894
Shimer, Elmer S., assignor to Samuel J. Shimer and Sons, Incorporated, Milton, Pa. Cutter-head	843,498	Feb. 5	1314	276-7	126	2122
Shimer, Frank E., Elkhart, Ind. Flue-cutter	843,499	Feb. 5	1316	277	126	2122
Sievert, Paul T., Dresden, Germany. Process and apparatus for fire-polishing plate-glass	843,238	Feb. 5	821	169-70	126	2002
Sigrist, Jacob, Poughkeepsie, N. Y. Surface-indicator	843,043	Feb. 5	404	88	126	1895
Simpson, Queen M., Lawrence, Pa. Self-leveling table	843,371	Feb. 5	1078	223	126	2063
Skinner, Frank W., New York, N. Y. Sheet-pile	843,307	Feb. 5	970	199	126	2036
Small, Thomas W., assignor, by mesne assignments, to Acme Automatic Street Indicating Company, Cleveland, Ohio. Circuit-closing mechanism for indicators on cars	843,182	Feb. 5	707	147	126	1972
Smith, Charles E., Marshfield, Wis. Sawdust-drier	842,916	Feb. 5	146	33	126	1828
Smith, Charles F., New York, N. Y. Dipper	843,372	Feb. 5	1079	223	126	2063
Smith, Frederick L., Chicopee Falls, Mass. Mounting for rifle-telescopes	843,183	Feb. 5	708	148	126	1972
Smith, Irving J., Richmond, Va. Conveyer for excavating	843,239	Feb. 5	825	170-1	126	2004
Smith, John H., *et al.* (See Mason, John E., assignor.)						
Smithson, Alexander J., Portland, Oreg. Hydrocarbon-oil and steam vapor burner and steam-generator combined	842,917	Feb. 5	149	33-4	126	1829
Smyth Manufacturing Company. (See Reynolds, John R., assignor.)						
Snevely, James E., San Francisco, Cal. Feather duster	843,113	Feb. 5	570	119	126	1940
Snevely, James E., San Francisco, Cal. Feather duster	843,114	Feb. 5	571	120	126	1940
Sobey, William, assignor to J. I. Case Plow Works, Racine, Wis. Planter	843,500	Feb. 5	1317	277-9	126	2123
Sparks, William A., Parkersburg, W. Va. Hoe	843,501	Feb. 5	1325	279	126	2125
Staab, Herman G., Milwaukee, Wis. Railway-tie	843,308	Feb. 5	972	199	126	2036
Standard Dry Kiln Company. (See Hussey, William P., assignor.)						
Standard Electric Company. (See Makley, Manett, and Dannelly, assignors.)						
Standard Steel Car Company. (See Christianson, Andrew, assignor.)						
Staudacher, Joseph, Butler, Pa. Refrigerator	843,044	Feb. 5	406	88	126	1895
Stearns, Kent K. (See Ball, Robert R., assignor.)						
Steljes, Edwin J., London, England. Type-printing telegraph	842,918	Feb. 5	151	34-5	126	1829
Stelle, John P., New York, N. Y. Paper-fastener	843,184	Feb. 5	710	148	126	1973
Stoll, Harry (See Kasse and Stoll.)						
Stoltzfus, John H., Laurel, Miss. Hose-supporter	843,115	Feb. 5	572	120	126	1941
Stoney, George G. (See Parsons and Stoney.)						
Stott, Abraham H. (See Todd and Stott.)						
Stott, Jesse A. (See Todd and Stott.)						
Strambini, Giovanni, Truckee, Cal. Aerial cable	843,116	Feb. 5	574	120-1	126	1941
Streich, Charles G., Oshkosh, Wis. Front gear for vehicles	843,117	Feb. 5	576	121	126	1942
Strickler, William H., Chicago, Ill., assignor to Federal Construction Company. Running-gear for vehicles	843,420	Feb. 5	1148	241	126	2079
Struble, Thomas V., Echo Lake, N. J. Adjustable folding horse	843,118	Feb. 5	579	121	126	1942
Struth, John, and C. Holzapfel, Primrose, Pa. Trolley	843,373	Feb. 5	1080	223	126	2063
Stunkard, McClellan F., Fayette county, Pa. Coke-drawing machine	843,568	Feb. 5	1477	311	126	2160
Sturgeon, George B., Wailuku, Hawaii. Rolling parallel ruler and sliding scale	843,374	Feb. 5	1082	223	126	2063
Sturma, William, Philadelphia, Pa. Beater, mixer, and washer for eggs, cream, vegetables, &c	843,309	Feb. 5	974	200	126	2036
Sturtevant, Orange S., assignor to Adrian Wire Fence Company, Adrian, Mich. Magazine for wire-fence machines	842,980	Feb. 5	269	59	126	1857
Swank, Lafe, assignor to American Cheese Cutter Company, Anderson, Ind. Cheese-cutter	842,919	Feb. 5	153	35	126	1830
Swank, Reuben B., Dayton, Ohio. Railway-joint	843,119	Feb. 5	579	122	126	1942
Swank, Reuben B., Dayton, Ohio. Railway-joint	843,120	Feb. 5	580	122-3	126	1943
Swartzbaugh, Charles E., Toledo, Ohio. Steam-cooker	843,240	Feb. 5	827	171	126	2004
Syracuse Time Recorder Company. (See Palmer and Kimball, assignors.)						
Tagliabue, Charles J., New York, N. Y. Attachment for sterilizing or pasteurizing apparatus	842,981	Feb. 5	272	59	126	1858
Talbot & Holst. (See Little, Robert H., assignor.)						
Taylor, Clarence L., assignor to Morgan Engineering Company, Alliance, Ohio. Overhead traveling crane	843,121	Feb. 5	581	123	126	1943
Teate, Thomas A. (See Atkinson and Teate.)						
Tebeau, Lewis B., Concord, N. H. Hand-shield	843,045	Feb. 5	407	89	126	1895
Thedorf, William, St. Vincent, Minn. Pick	842,920	Feb. 5	155	35	126	1830
Thom, Peter R., Appleton, assignor of two-thirds to Kimberly & Clark Company, Neenah, Wis. Cleansing the screens of pulp-screening machines	843,185	Feb. 5	711	148	126	1973
Thomas, Charles, Newton Abbot, England. Talking-machine	842,982	Feb. 5	273	60	126	1858
Thomas, Charles, Newton Abbot, England. Talking-machine	842,983	Feb. 5	274	60	126	1858
Thomas, George B., and G. W. Goodridge, assignors to Bryant Electric Company, Bridgeport, Conn. Incandescent-lamp socket	843,310	Feb. 5	975	200	126	2037
Thomas Laughlin Company. (See Christensen, Bott, and Wilbur, assignors.)						
Thompson, Everett E., Kaufman, Tex. Stove-flue	843,375	Feb. 5	1083	224	126	2064
Thompson, Jovita B., Denton, Tex Skinning fruit	843,311	Feb. 5	976		126	2037

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Thomson, Archibald G. (See Thomson, William and A. G.)						
Thomson, William and A. G., assignors to Fox Optical Manufacturing Company, Philadelphia, Pa. Eyepiece for optical instruments	843,502	Feb. 5	1326	279	126	2125
Thomson, William and A. G., assignors to Fox Optical Manufacturing Company, Philadelphia, Pa. Optometer	843,503	Feb. 5	1327	279	126	2126
Thornor, Robert, Boston, Mass. Shade-holder	843,122	Feb. 5	582	123	126	1943
Thronsen, Harald T. J., assignor to Aktiebolaget Nordiska Artillerwerkstaderna, Finspong, Sweden. Breech-loading mechanism	843,504	Feb. 5	1330	280	126	2126
Timmons, Samuel E., Lawton, Okla. Rubber stamp	843,046	Feb. 5	408	89	126	1896
Tobias, Ernest E., Adrian, Mich. Tie for wire fencing	843-123	Feb. 5	583	123	126	1943
Todd, Richard, Heaton Chapel, and J. A. and A. H. Stott, Manchester, England. Means for facilitating the spinning of textile fibers	842,921	Feb. 5	155	36-7	126	1830
Toledo Ship Building Company. (See Calder, Charles B., assignor.)						
Tombelaine, Alexandre L., Chapteiat, France. Safety closing device for miners' lamps	843,505	Feb. 5	1334	281	126	2127
Tombragel, Joseph H., and J. F. Schunder, Covington, Ky. Eccentrical cutting-bit	843,376	Feb. 5	1084	224	126	2064
Towle, Elmer E. (See Jones and Towle.)						
Townsend, Copeland, New York, N. Y. Changeable index	843,124	Feb. 5	584	124	126	1944
Tozier, Charles C., assignor to Maine Valve Company, Skowhegan, Me. Ball-cock valve	842,922	Feb. 5	160	37	126	1831
Trinks, Franz, Brunswick, Germany. Adjusting-lever arrangement for calculating-machines	843,506	Feb. 5	1335	281	126	2127
Triumph Voting Machine Company. (See Barnum and Shepardson, assignors.)						
Turner, Robert J. (See Rohmer, William B., assignor.)						
Turner, Walter V., Wilkinsburg, and E. A. Wright, Edgewood Park, assignors to Westinghouse Air Brake Company, Pittsburg, Pa. Combined automatic and straight-air brake	842,923	Feb. 5	162	38	126	1831
Turner, Kelley M., New York, N. Y., and W. F. H. Germer, Hoboken, N. J.; said Germer assignor to said Turner. Telephone dictating machine or apparatus	843,186	Feb. 5	713	149	126	1973
Uhde, Caroline E., Mount Vernon, Ind. Guard-rail for bedsteads	843,421	Feb. 5	1150	241	126	2080
Ullrich, John W., Jr., and J. W. Malerhofer, Allegheny, Pa. Speed-regulator	843,377	Feb. 5	1086	224	126	2064
Underwood Typewriter Company. (See Hewitt, Allin W., assignor.)						
Underwood Typewriter Company. (See Wherry, John A., assignor.)						
Union Typewriter Company. (See Carpenter, Daniel A., assignor.)						
United Wire and Supply Company. (See Schutz, Rudolph G., assignor.)						
Van Wie, Byron, New York, N. Y., assignor to Mergenthaler Linotype Company. Linotype-mold	843,241	Feb. 5	828	171	126	2004
Vance, Walter N., Chicago, Ill. Magnetic work-holder	843,312	Feb. 5	977	200	126	2037
Vaughn, George T., Huntsville, Ala. Fertilizer-distributer	842,924	Feb. 5	166	38	126	1832
Victor Safe & Lock Co. (See Hattersley, Will C., assignor.)						
Villalaz, Nicanor, Panama, Panama. Broom	843,507	Feb. 5	1337	282	126	2128
Voight, Henry G., New Britain, Conn., assignor to Russell & Erwin Manufacturing Company. Knob-operable latch mechanism	843,047	Feb. 5	410	89	126	1896
Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Lock and latch	843,048	Feb. 5	411	89	126	1897
W. F. Stimpson Co. (See Good, Jacob L., assignor.)						
W. J. Clark Company. (See Clark, William H., assignor.)						
Wadsworth, Joseph T., assignor to W. B. Wadsworth, Plainfield, N. J. Valve mechanism	843,313	Feb. 5	979	201	126	2037
Wadsworth, William B. (See Wadsworth, Joseph T., assignor.)						
Wagner, Edward H., New York, N. Y. Pyrotechnic device	843,125	Feb. 5	589	124	126	1945
Wait, Jay G. (See Bannmgartel, Henry, assignor.)						
Walker, Henry C. (See Cameron, David G., assignor.)						
Walker, Walter J., Chicago, Ill. Watch	843,242	Feb. 5	830	171	126	2005
Wallenthin, Walfrid, assignor to S. O. Bigney and Company, Attleboro, Mass. Bracelet	843,243	Feb. 5	831	172	126	2005
Wallerstedt, Charles, St. Louis, Mo. Watch-fob	843,049	Feb. 5	412	90	126	1897
Wallerstedt, Charles, St. Louis, Mo. Watch-fob	843,050	Feb. 5	413	90	126	1897
Wallin, James E., Edgerton, Wis. Loader	842,925	Feb. 5	167	39	126	1832
Walsh, Harry C. H., Chicago, Ill., assignor to Consolidated Press and Tool Company. Can-soldering machine	842,926	Feb. 5	169	39	126	1833
Warner, Alonzo A., assignor to Landers, Frary & Clark, New Britian, Conn. Safety-razor	842,927	Feb. 5	173	40	126	1834
Warner, Alonzo A., assignor to Landers, Frary & Clark, New Britain, Conn. Safety-razor	842,928	Feb. 5	174	40	126	1834
Warner & Swasey Company. (See Pearson, James, assignor.)						
Warner, Thomas A., Cambridge, assignor of one-third to G. P. Hutton, Gloucester, Mass. Planing-machine	843,244	Feb. 5	832	172	126	2005
Waterman, Albert, New York, N. Y. Marker for bust-forms	843,378	Feb. 5	1087	225	126	2065
Waterman, Bradford B., East Bridgewater, Mass., assignor to American Shoe Finding Company. Machine for tacking shoe-shanks	842,984	Feb. 5	275	60-1	126	1859
Waters, Willie K., Buffalo, N. Y. Burial-vault	843,314	Feb. 5	980	201	126	2038
Watson, Francis B., Caldwell, Kans. Rocker stove-grate	843,051	Feb. 5	414	90	126	1898
Watt & Keelor. (See Lawson, Walter H., assignor.)						
Weber, John W., Pittsburg, Pa. Manipulator	843,422	Feb. 5	1151	241-2	126	2080
Weber, Martin, Denver, Colo. Knob attachment	843,052	Feb. 5	415	90	126	1898
Webster, Harry G., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone trunking system	843,245	Feb. 5	835	172-3	126	2006
Webster, William A., Monmouth, Ill. Compound engine	842,985	Feb. 5	283	62	126	1892
Wedekind, Gustav A. (See Pörscke and Wedekind.)						
Weiss, John. (See Bolton and Weiss.)						
Weman, Klas, Buffalo, N. Y. Telephone-switch	843,053	Feb. 5	416	91	126	1898
Wendland, Carl, Krum, Tex. Horse-evener	843,246	Feb. 5	841	173	126	2007
West Manufacturing Company. (See Kaufman, Frank, assignor.)						
Western Electric Company. (See Scribner, Charles E., assignor.)						
Westinghouse Air Brake Company. (See Turner and Wright, assignors.)						
Westinghouse Machine Company. (See Kandó, Coloman de, assignor.)						
Weston, Edward B., Dayton, Ohio. Display-rack	842,929	Feb. 5	175	40	126	1834
Weymar, Emil, Mülhausen, Germany. Apparatus for cleaning bottles and similar vessels	843,423	Feb. 5	1153	242-3	126	2081
Weymar, Emil, Mülhausen, Germany. Cleaning bottles and the like	843,555	Feb. 5	1449	305-6	126	2154
Wharton, John C. (See Partee and Wharton.)						
Wheeler, Seth, Castleton, N. Y. Paper cutting and perforating machine	842,986	Feb. 5	288	62	126	1863
Wherry, John A., New Orleans, La., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine	843,247	Feb. 5	841	173	126	2007
Wherry, John A., New Orleans La., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine	843,248	Feb. 5	844	173	126	2008
Whitcomb, James, assignor to Woodard Paste Packing Company, Owosso, Mich. Paste-packing	843,187	Feb. 5	717		126	1974
White, James D., London, England. Printing-telegraph	843,508	Feb. 5	1337	282	126	2128
Whitehead & Hoag Company. (See Hoag, Chester R., assignor.)						
Whitlock, Thaddeus B., and W. D. Becker, New York, N. Y. Lifter	843,509	Feb. 5	1344	282	126	2129

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drfg.	Official Gazette. Vol.	Official Gazette. Page.
Whitney, Willis R., Schenectady, N. Y., assignor to General Electric Company. Incandescent electric lamp	843,054	Feb. 5	418	91	126	1898
Wilbur, Edwin H. (See Christensen, Bott, and Wilbur.)						
Wilde, Eben F., assignor to Attleboro Manufacturing Company, Attleboro, Mass. Bracelet	843,188	Feb. 5	718	149	126	1974
Wilcox & Gibbs Sewing Machine Company. (See Madison, Alfred L., assignor.)						
Wille, Henry V., assignor to Burnham, Williams & Company, Philadelphia, Pa. Superheater for locomotives	843,315	Feb. 5	982	201-2	126	2038
Williams, Frank T., assignor to Edward Miller and Company, Meriden, Conn. Incandescent gas-burner	843,379	Feb. 5	1088	225	126	2065
Williams, Jennie. (See Masters, Egbert E., assignor.)						
Williams, John H., New Orleans, La. Register	843,055	Feb. 5	419	91	126	1899
Williams, Walter G., Thompsonville, Conn., assignor of eleven-twentieths to C. J. McLain, New York, N. Y. Steaming apparatus	843,510	Feb. 5	1345	283	126	2129
Williamson, Sydney B., Baltimore, Md. Reinforcing-bar for concrete and like material	843,424	Feb. 5	1157	243	126	2081
Williamson, William H., Toronto, Ontario, Canada. Clasp	842,987	Feb. 5	290	63	126	1863
Willis, George M., Chicago, Ill. Measuring instrument	843,189	Feb. 5	719	149-50	126	1975
Willour, Le Roy, Ashland, Ohio. Clothes-line holder	842,988	Feb. 5	291	63	126	1863
Wilson, Earl G., and W. B. Goodwin, Columbus, Ohio. Attaching means for electric lamps	843,316	Feb. 5	984	202	126	2039
Wilson, Sara B., Buffalo, N. Y. Thread-guard	843,190	Feb. 5	731	150	126	1980
Wilson, Thomas K., Chillicothe, Ohio. Railway-switch	842,930	Feb. 5	176	40-1	126	1834
Wimmer, Robert, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Reducing indigo coloring-matters	843,566	Feb. 5	1475		126	2160
Wingo, Richard T., assignor to Brown and Sharpe Manufacturing Company, Providence, R. I. Spiral-cutting machine	842,989	Feb. 5	292	63-5	126	1863
Winton, Alexander, and H. B. Anderson, assignors to Winton Motor Carriage Company, Cleveland, Ohio. Fan for automobile cooling systems	843,380	Feb. 5	1089	225	126	2065
Winton Motor Carriage Company. (See Winton and Anderson, assignors.)						
Wire Goods Company. (See Bement, Frank, assignor.)						
Wire Goods Company. (See Bement, William O., assignor.)						
Witt, George E., San Francisco, Cal. Oil-burner	843,381	Feb. 5	1090	226	126	2066
Witt, George E., San Francisco, Cal. Pump-governor	843,382	Feb. 5	1092	226	126	2066
Wix, Monroe C., Milburn, Ky. Fence-post	843,511	Feb. 5	1349	283	126	2129
Wood, Everett S., and J. Northrop, assignors to Draper Company, Hopedale, Mass. Filling-exhaustion-indicating mechanism for looms	843,249	Feb. 5	846	174	126	2009
Woodard Paste Packing Company. (See Whitcomb, James, assignor.)						
Woodbury, Stephen W., Newton Highlands, Mass. Fibrous-stock feeder	843,126	Feb. 5	590	124-5	126	1946
Wooster, Albert M., Bridgeport, Conn. Nail-clipper	843,383	Feb. 5	1093	226	126	2066
Wright, Edward A. (See Turner and Wright.)						
Wright, Richard H. (See Bracy, Edward L., assignor.)						
Wunderlich, Fredrick, Swissvale, Pa. Incandescent-lamp socket	843,425	Feb. 5	1159	244	126	2082
Wurzbacher, Frank H., Washington, D. C. Electromechanical apparatus for shaving or slicing beef	843,317	Feb. 5	985	202	126	2039
Wynn, John G., Madison, Wis. Time-recorder	842,990	Feb. 5	301	65-6	126	1865
Yates, Frederick C. (See Grieser and Yates.)						
Young Building and Investment Company. (See Humes, Harry S., assignor.)						
Young, Freeman N., Arlington, Mass. Bottle-washing machine	843,056	Feb. 5	421	92	126	1899
Young, Henry T., Florence, S. C. Fertilizer-distributer	843,512	Feb. 5	1350	283-4	126	2130
Ziegler, Joram, Cleveland, Ohio., assignor, by mesne assignments, to Elliott-Fisher Company. Platen for type-writing machines	843,057	Feb. 5	424	92-3	126	1900
Zigler, Stephen S., Oxford Junction, Iowa. Combined trousers stretcher and presser	843,250	Feb. 5	855	174	126	2011

DESIGNS.

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Jacobs, Benjamin W., Lancaster, Ohio. Glass dish	38,440	Feb 5	126	2161
Johnson, Robert L., Stoke-upon-Trent, England. Cover-dish	38,439	Feb. 5	126	2161

TRADE-MARKS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
A. B. Seelye Med. Co., Abilene, Kans. Ointment and skin food	60,438	Feb. 5	126	2186
A. O. Norton Incorporated, Boston, Mass. Ratchet, screw, and tack jacks	60,420	Feb. 5	126	2185
A. O. Norton Incorporated, Boston, Mass. Ratchet, screw, and track jacks	60,421	Feb. 5	126	2185
Adams & Elting Co., Chicago, Ill. Paints and certain painters' materials	60,287	Feb. 5	126	2182
Agoos, Lassor, Dorchester, Mass. Upper-leather for boots and shoes and leather for saddlery and bookbinding	60,350	Feb. 5	126	2183
Albert Dickinson Company, Chicago, Ill. Poultry feed	60,249	Feb. 5	126	2181
Albert Dickinson Company, Chicago, Ill. Timothy-seed	60,321	Feb. 5	126	2183
Albert Dickinson Company, Chicago, Ill. Timothy-seed	60,340	Feb. 5	126	2183
Albert Dickinson Company, Chicago, Ill. Timothy-seed	60,351	Feb. 5	126	2183
Albert Dickinson Company, Chicago, Ill. Timothy-seed	60,400	Feb. 5	126	2185
Allen, John C., Cincinnati, Ohio. Remedy for diseases of the eye, nose, face, and ear	60,288	Feb. 5	126	2182
Alton M'f'g. Co., New York, N. Y. Illuminating gas-burners	60,352	Feb. 5	126	2183
American Hosiery Company, New Britain, Conn. Certain knitted goods	60,372	Feb. 5	126	2184
American Hosiery Company, New Britain, Conn. Certain knitted goods	60,401	Feb. 5	126	2185

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
American Thread Company, Jersey City, N. J. Spool-cotton, sewing-cotton, and thread	60,301	Feb. 5	126	2182
Anderson, Henry C., Atlanta, Ga. Certain beverages and preparations for making same	60,402	Feb. 5	126	2185
Anita Spring Water Co., near La Grange, Ky. Spring-water	60,373	Feb. 5	126	2184
Ansley, B. C., Los Angeles, Cal. Liquid preparations for affections of the respiratory system	60,439	Feb. 5	126	2186
Ashton, Hoare & Coy, Limited, Manchester, England, Unbleached cotton piece goods	60,403	Feb. 5	126	2185
Atlantic Export Company, New York, N. Y. Cattle food	60,269	Feb. 5	126	2181
Atlas Portland Cement Company, Northampton, Pa. Hydraulic and other building cement	60,302	Feb. 5	126	2182
Badische Anilin- & Soda-Fabrik, Ludwigshafen-on-the-Rhine, Germany. Certain chemicals	60,440	Feb. 5	126	2186
Baker, Geo. H., New Haven, Conn. Varnish-like preservative for linoleum, oil-cloth, and the like material	60,250	Feb. 5	126	2181
Ball, Webster C., Cleveland, Ohio. Watches	60,374	Feb. 5	126	2184
Bank Safe Protection Co., Jerseyville, Ill. Certain named chemicals	60,385	Feb. 5	126	2184
Baumert & Company, F. X., New York, N. Y. Cheese	60,251	Feb. 5	126	2181
Baumert & Company, F. X., New York, N. Y. Cheese	60,289	Feb. 5	126	2182
Blood, W. H., Jr., Boston, Mass. Solder-paste	60,404	Feb. 5	126	2185
Bonsall, Seymour W., New York, N. Y. Candy made of popcorn and molasses	60,290	Feb. 5	126	2182
Borcherdt Malt Extract Company, Chicago, Ill. Certain malt preparations	60,422	Feb. 5	126	2185
Boston Varnish Company, Everett, Mass. Varnish, japan, driers, and liquid fillers	60,252	Feb. 5	126	2181
Bradley, Bernard F., New York, N. Y. Carbureters for automobiles	60,322	Feb. 5	126	2183
Brown, M. Frances, Kalamazoo, Mich. Remedies for colds	60,405	Feb. 5	126	2185
Buegeleisen & Jacobson, New York, N. Y. Strings for violins	60,406	Feb. 5	126	2185
Butler Brothers, New York, N. Y. Certain named cutlery	60,341	Feb. 5	126	2183
Butler Brothers, Chicago, Ill. Files	60,353	Feb. 5	126	2183
C. Kern Brewing Co., Port Huron, Mich. Beer	60,386	Feb. 5	126	2184
Carter-Crume Co. Limited, Niagara Falls, N. Y. Autographic registers	60,354	Feb. 5	126	2183
Century Co., New York, N. Y. Monthly magazine	60,423	Feb. 5	126	2185
Charles Wolff Packing Company, Topeka, Kans. Ham and breakfast-bacon	60,253	Feb. 5	126	2181
Church & Dwight Co., New York, N. Y. Soda, saleratus, baking-powder, and sal-soda	60,407	Feb. 5	126	2185
Collins Company, Collinsville, Conn. Certain edge-tools	60,424	Feb. 5	126	2185
Comfort Powder Company, Hartford, Conn. Soap	60,254	Feb. 5	126	2181
Copal Varnish Co. Ltd., London, England. Paints, varnishes, and anticorrosive paints	60,270	Feb. 5	126	2181
Copeland & Co., Charles C., New York, N. Y. Cotton piece goods	60,408	Feb. 5	126	2185
Crete Mills, Crete, Nebr. Wheat-flour	60,271	Feb. 5	126	2181
Currey, Herschel E., Baker City, Oreg. Compound in suppository form for the cure and alleviation of female disorders	60,387	Feb. 5	126	2184
Dallas Oil & Refining Co., Dallas, Tex. Cotton-seed meal and cotton-seed oil	60,272	Feb. 5	126	2181
Dayton Dry Goods Co., Minneapolis, Minn. Corsets	60,323	Feb. 5	126	2183
Dayton Dry Goods Co., Minneapolis, Minn. Kid gloves	60,425	Feb. 5	126	2185
Dempsey & Co., P., Boston, Mass. Cocktails	60,426	Feb. 5	126	2185
Denison-Dodd-Bowers Co., New Philadelphia, Ohio. Certain named clothing	60,324	Feb. 5	126	2183
Dr. Miles Medical Co., Elkhart, Ind. Tonics, blood, heart, and nerve medicines	60,409	Feb. 5	126	2185
Dr. N. C. Davis Company, Indianapolis, Ind. Anodyne powders	60,410	Feb. 5	126	2185
Dreher, Oscar, Cleveland, Ohio. Pianos	60,325	Feb. 5	126	2183
Dunlap & Co., New York, N. Y. Certain named headwear	60,355	Feb. 5	126	2184
Dunlap & Co., New York, N. Y. Certain named headwear	60,356	Feb. 5	126	2184
Dupont & Co., J., Cognac, France. Brandy	60,411	Feb. 5	126	2185
Dwight, Edith W., Hartford, Conn. Certain toilet preparations	60,427	Feb. 5	126	2185
E. Brooksbank and Company Limited, Keighley, England. Lighting and lubricating oils and grease	60,303	Feb. 5	126	2182
Eagle Trading Stamp Co., St. Louis, Mo. Trading-stamps	60,255	Feb. 5	126	2181
Earl & Wilson, Troy, N. Y. Scarfs, cravats, and ties	60,342	Feb. 5	126	2183
Edison Manufacturing Company, West Orange, N. J. Primary batteries, parts thereof, and fan-motors	60,343	Feb. 5	126	2183
Eisenstadt Manufacturing Co., St. Louis, Mo. Watch-movements and watchcases	60,375	Feb. 5	126	2184
Estes, Webster C., New York, N. Y. Smalt	60,273	Feb. 5	126	2181
F. A. Poth & Sons, Inc., Philadelphia, Pa. Beer	60,376	Feb. 5	126	2184
Feiber, S. L., New York, N. Y. Silk piece goods	60,428	Feb. 5	126	2185
Fernciff Distillery Co., Louisville, Ky. Whisky	60,412	Feb. 5	126	2185
Fleischmann Co., Cincinnati, Ohio, and New York, N. Y. Compressed yeast	60,274	Feb. 5	126	2181
Forhan, Henry L., Portland, Me. Canned corn	60,275	Feb. 5	126	2181
Forth, John F., New York, N. Y. Pipe-cleaners	60,429	Feb. 5	126	2185
Fortune Bros. Brew. Co., Chicago, Ill. Lager-beer	60,377	Feb. 5	126	2184
Franklin Baker Company, Philadelphia, Pa. Shredded cocoanut	60,276	Feb. 5	126	2181
Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Cranks, crank-axles, pitmen, piston-rods, and shafts	60,430	Feb. 5	126	2185
Fritz, Harry J., Philadelphia, Pa. Remedy used as a tonic for the digestive tract	60,441	Feb. 5	126	2186
Great Western Manufacturing Company, La Porte, Ind. Bicycle crank-shafts, crank-hangers, sprockets, and bearings	60,326	Feb. 5	126	2183
H. Mueller Manufacturing Company, Decatur, Ill. Valves, bath and basin cocks, and parts of same	60,378	Feb. 5	126	2184
H. W. Johns-Manville Company, New York, N. Y. Asbestos roofing	60,304	Feb. 5	126	2182
Haislip & Haislip, Greenville, Tex. Eye-water	60,388	Feb. 5	126	2184
Hammond, Benjamin, Fishkill Landing, N. Y. Insecticide for bugs and blight	60,413	Feb. 5	126	2185
Harris & Bro., Robt., Reidsville, N. C. Smoking-tobacco and plug and twist chewing-tobacco	60,305	Feb. 5	126	2182
Hawkeye Manufacturing Co., Des Moines, Iowa. Headache-tablets and cough remedies	60,442	Feb. 5	126	2186
Henry Disston & Sons, Incorporated, Philadelphia, Pa. Saws	60,357	Feb. 5	126	2184
Henry Disston & Sons, Incorporated, Philadelphia, Pa. Saws	60,358	Feb. 5	126	2184
Hersom, Thos., New Bedford, Mass. Granulated soap	60,256	Feb. 5	126	2181
Hibbard, Spencer, Bartlett & Company, Chicago, Ill. Augers, auger-bits, and gimlet-bits	60,344	Feb. 5	126	2183
Hooper, Frank B., Baltimore, Md. Petroleum-oils	60,306	Feb. 5	126	2182
Hoover, J. H., Ossian, Ind. Healing-oil	60,443	Feb. 5	126	2186
Horton, Garland D., Singer, La. Remedy for certain named diseases	60,389	Feb. 5	126	2184
Hutchison Medicine Co., Queen City, Tex. Preparation for the cure of chills and fever	60,390	Feb. 5	126	2184
J. L. Hammett Co., Boston, Mass. Educational globes	60,359	Feb. 5	126	2184
J. & P. Coats, Limited, Paisley, Scotland. Sewing-cotton on spools or reels	60,307	Feb. 5	126	2182
J. & P. Coats, Limited, Paisley, Scotland. Sewing-cotton wound on spools or reels	60,308	Feb. 5	126	2182
Jameson, Walter D., New York, N. Y. Dried and evaporated fruits	60,291	Feb. 5	126	2182
John A. Roebling's Sons Co., Trenton, N. J. Wrenches	60,327	Feb. 5	126	2183
Johnson & Co., H. A., Boston Mass. Fruit fillings for biscuits and crackers	60,257	Feb. 5	126	2181
Johnson & Johnson, New Brunswick, N. J. Suspensory bandages	60,328	Feb. 5	126	2183
Jordan Marsh Company, Boston, Mass. Dress-shields	60,364	Feb. 5	126	2184
Jos. Rosenheim Shoe Co., Savannah, Ga. Leather boots and shoes	60,360	Feb. 5	126	2184
Jos. Rosenheim Shoe Co., Savannah, Ga. Leather boots and shoes	60,361	Feb. 5	126	2184

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Jos. Rosenheim Shoe Co., Savannah, Ga. Leather boots and shoes	60,362	Feb. 5	126	2184
Jos. Rosenheim Shoe Co., Savannah, Ga. Leather boots and shoes	60,363	Feb. 5	126	2184
Joseph Baker & Sons American Oven Company, Chicago, Ill. Dough-mixing machines	60,329	Feb. 5	126	2183
Kingman Milling Company, Kingman, Kans. Wheat-flour	60,258	Feb. 5	126	2181
Klauber Wangenheim Co., San Diego, Cal. Canned fish and canned oysters	60,259	Feb. 5	126	2181
Landers, Frary & Clark, New Britain, Conn. Knives, forks, spoons, table-steels, nut-picks, and cheese-scoops	60,330	Feb. 5	126	2183
Laughton, Joseph B., Westfield, Mass. Inking-pads	60,431	Feb. 5	126	2186
Lee, Frank, Newport News, Va. Paste soaps	60,391	Feb. 5	126	2184
Lever Brothers Company, Portland, Me., and Cambridge, Mass. Soap	60,260	Feb. 5	126	2181
Lever Brothers Company, Portland, Me., and Cambridge, Mass. Cleaning, polishing, or scouring preparation in powdered form	60,261	Feb. 5	126	2181
Lichtenstein, Max, Jerome, Ariz. Ter. Remedies for certain named diseases	60,444	Feb. 5	126	2186
Lindeman, Harry F., Baltimore, Md. Specific for the cure of external and internal pains	60,414	Feb. 5	126	2185
Loewenstein, Hermann, New York, N. Y. Upper-leather for shoes	60,345	Feb. 5	126	2183
Lowrie, Alfred W., Hartford, Conn. Liniment and salve	60,415	Feb. 5	126	2185
Lucas & Co., John, Philadelphia, Pa. White zinc	60,277	Feb. 5	126	2181
Lucas & Co., John, Philadelphia, Pa. White zinc	60,278	Feb. 5	126	2181
Luddy & Currier, Boston, Mass. Leather boots and shoes	60,365	Feb. 5	126	2184
Ludorff, Albert, New York, N. Y. Certain beverages	60,432	Feb. 5	126	2186
Lund, George, London, England. Yarn produced from wood-pulp, cellulose, or viscose	60,309	Feb. 5	126	2182
Lustgarten, Charles, Chicago, Ill. Preparation for killing insects	60,379	Feb. 5	126	2184
Mackey, Dudley E., Springfield, Ohio. Silver-polishing compound	60,279	Feb. 5	126	2181
Maggi Co., Kempthal, Switzerland. Bouillon	60,280	Feb. 5	126	2181
Mairs & Trippeer, Browning, Mo. Cough medicine	60,445	Feb. 5	126	2186
Mallard Distilling Co., Jersey City, N. J., and New York, N. Y. Gin	60,380	Feb. 5	126	2184
Mason, Herbert W., Detroit, Mich. Decoys	60,310	Feb. 5	126	2182
Mason, Herbert W., Detroit, Mich. Decoys	60,311	Feb. 5	126	2182
McCargar, Lorren B., Savannah, Mo. Feed-grinders	60,366	Feb. 5	126	2184
McKittrick, Walter, St. Louis, Mo. Certain named tools	60,331	Feb. 5	126	2183
Merkle-Wiley Broom Co., Paris, Ill. Brooms	60,312	Feb. 5	126	2182
Mermod Jaccard & King Jewelry Co., St. Louis, Mo. Watches	60,433	Feb. 5	126	2186
Michigan Motor Company, assignor to Michigan Wheel Company, Grand Rapids, Mich. Propeller-wheels	60,367	Feb. 5	126	2184
Michigan Wheel Company. (See Michigan Motor Company, assignor.)	60,262	Feb. 5	126	2181
Moki, Saheiji, Nota, Chiba-Ken, Japan. Seasoning-sauce	60,434	Feb. 5	126	2186
Narrow Fabric Corporation, Orange, Conn. Elastic webbing	60,263	Feb 5	126	2181
National Candy Company, Jersey City, N. J.; St. Louis, Mo., and Chicago, Ill. Candies composed of or containing chocolate	60,292	Feb. 5	126	2182
National Candy Company, St. Louis, Mo.; Jersey City, N. J., and Chicago, Ill. Candies	60,332	Feb. 5	126	2183
National Tube Company, Pittsburg, Pa. Rolled steel	60,313	Feb. 5	126	2182
New York Consolidated Card Company, New York, N. Y. Playing-cards	60,314	Feb. 5	126	2182
New York Consolidated Card Company, New York, N. Y. Playing-cards	60,392	Feb. 5	126	2184
Newman Clock Company, Chicago, Ill. Portable watchmen's clocks and dials therefor	60,333	Feb. 5	126	2183
North Bro's. M'f'g. Co., Philadelphia, Pa. Ratchet-hand-tool handles	60,281	Feb. 5	126	2182
Northern Maine Packing Company, Corinna, Me. Canned vegetables	60,381	Feb. 5	126	2184
O'Brien, Patrick T., Philadelphia, Pa. Whisky	60,293	Feb. 5	126	2182
Oakdale Baking Company, Philadelphia, Pa. Pretzels	60,393	Feb. 5	126	2185
Oregon Nursery Company, Ltd., Salem, Oreg. Fruit-trees, buds, and scions thereof	60,294	Feb. 5	126	2182
Pennsylvania Chocolate Company, Pittsburg, Pa. Chocolate and cocoa	60,295	Feb. 5	126	2182
Pennsylvania Chocolate Company, Pittsburg, Pa. Chocolate and cocoa	60,346	Feb. 5	126	2183
Perkins, John L., Holyoke, Mass. Inhaling devices	60,296	Feb. 5	126	2182
Picher Lead Company, Joplin, Mo. Lead pigments	60,297	Feb. 5	126	2182
Picher Lead Company, Joplin, Mo. Lead pigments	60,334	Feb. 5	126	2183
Powell, Chas. A., Whitesboro, N. Y. Corset covers and waists	60,435	Feb. 5	126	2186
Preston B. Keith Shoe Company, Brockton, Mass. Leather boots, shoes, and slippers	60,282	Feb. 5	126	2182
R. E. Dietz Company, New York, N. Y. Oil-burning lamps and lanterns and burners therefor	60,347	Feb. 5	126	2183
Railway Steel-Spring Company, Jersey City, N. J., and New York, N. Y. Certain railway equipment	60,368	Feb. 5	126	2184
Railway Steel-Spring Company, Jersey City, N. J., and New York, N. Y. Certain named parts of machinery	60,436	Feb. 5	126	2186
Railway Steel-Spring Company, Jersey City, N. J., and New York, N. Y. Metal pipe-flanges and miscellaneous metal bands and rings	60,315	Feb. 5	126	2182
Read & Sons, William, Boston, Mass. Certain sporting goods	60,316	Feb. 5	126	2182
Richter Friedrich A., Rudolstadt, Germany, and New York, N. Y. Stone building-blocks	60,416	Feb. 5	126	2185
Richter, Friedrich A., Rudolstadt, Germany, and New York, N. Y. Bitters	60,335	Feb. 5	126	2183
Robertson Manufacturing Company, Buffalo, N. Y. Explosive-engines	60,394	Feb. 5	126	2185
Rumford Chemical Works, Providence, R. I. Yeast-powder and baking-powder	60,446	Feb. 5	126	2186
Ryan, William E., French Lick, Ind. Remedies for dyspepsia	60,369	Feb. 5	126	2184
Safety Insulated Wire & Cable Co., Bayonne, N. J., and New York, N. Y. Insulated electric wire and cable	60,370	Feb. 5	126	2184
Safety Insulated Wire & Cable Co., Bayonne, N. J., and New York, N. Y. Insulated electric wire and cable	60,348	Feb. 5	126	2183
Samuel Gans Company, Chicago, Ill. Leather boots and shoes	60,283	Feb. 5	126	2182
Schwarzschild & Sulzberger Company, Kansas City, Kans.; Chicago, Ill., and New York, N. Y. Canned meats and lard	60,284	Feb. 5	126	2182
Schwarzschild & Sulzberger Company, Kansas City, Kans.; Chicago, Ill., and New York, N. Y. Lard	60,417	Feb. 5	126	2185
Sherer-Gillett Company, Chicago, Ill. Baking-powder	60,317	Feb. 5	126	2182
Silver Lake Company, Boston, Mass. Cords, twines, and ropes	60,371	Feb. 5	126	2184
Simmons Hardware Company, St. Louis, Mo. Try, steel, and framing squares	60,264	Feb. 5	126	2181
Smith Thorndike & Brown Co., Milwaukee, Wis. Japan tea	60,336	Feb. 5	126	2183
Société Générale des Huiles et Fournitures Industrielles l'Oléo, Paris, France. Electric sparking apparatus and electric igniting apparatus	60,318	Feb. 5	126	2182
Soltmann, Edward G., New York, N. Y. Certain adhesives	60,285	Feb. 5	126	2182
Stadler, August W., Cleveland, Ohio. Soap	60,395	Feb. 5	126	2185
Stearns Electric Paste Co., Buffalo, N. Y. Rat and roach exterminator	60,396	Feb. 5	126	2185
Stearns Electric Paste Co., Buffalo, N. Y. Rat and roach exterminator				
Suffern, Robert A., New York, N. Y. Cotton piece goods consisting of sheetings, shirtings, and drills	60,397	Feb. 5	126	2185
Taylor Iron & Steel Co., High Bridge, N. J. Certain agricultural machinery and parts thereof	60,382	Feb. 5	126	2184

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Taylor Iron & Steel Co., High Bridge, N. J. Certain railway equipment	60,437	Feb. 5	126	2186
Thomas' Sons, J. R., Youngstown, Ohio. Butter	60,286	Feb. 5	126	2182
Tilly, C. de Koning, Haarlem, Netherlands. Oil for medicinal purposes and applications	60,398	Feb. 5	126	2185
To-Kalon Vineyard Co., Chicago, Ill. Wines	60,383	Feb. 5	126	2184
Uneeda Brewing Co., Wheeling, W. Va. Beer	60,384	Feb. 5	126	2184
Union Oil Company, West New York, N. J. Cotton-seed oil	60,265	Feb. 5	126	2181
Union Oil Company, West New York, N. J. Cotton-seed oil	60,266	Feb. 5	126	2181
Union Oil Company, Providence, R. I. Cotton-seed oils	60,298	Feb. 5	126	2182
United Injector Co., New York, N. Y. Ejectors, inspirators, and tank-wells	60,399	Feb. 5	126	2185
United States Graphite Company, Saginaw, Mich. Certain minerals	60,319	Feb. 5	126	2183
Valentine & Bentley Silk Co., Newton, N. J., and New York N. Y. Silk dress goods in the piece	60,337	Feb. 5	126	2183
Valier & Spies Milling Company, Marine and St. Jacob, Ill., and St. Louis, Mo. Wheat-flour	60,267	Feb. 5	126	2181
Valier & Spies Milling Company, Marine and St. Jacob, Ill., and St. Louis, Mo. Wheat-flour	60,268	Feb. 5	126	2181
W. D. Allen Mfg. Co., Chicago, Ill. Hose-clamps	60,349	Feb. 5	126	2183
Warren Featherbone Co., Three Oaks, Mich. Stiffening cords, blades, tapes, and fabrics	60,338	Feb. 5	126	2183
Waterproof and Enamel Company, Jersey City, N. J., and New York, N. Y. Waterproof liquid cement	60,320	Feb. 5	126	2183
Weir & Company, Ross W., New York, N. Y. Tea	60,299	Feb. 5	126	2182
Welcome, Henry S., London, England. Preparations of ergot	60,447	Feb. 5	126	2186
Wells Flour Milling Company, Wells, Minn. Bran	60,300	Feb. 5	126	2182
Wesson, J. E. & W. G., Worcester, Mass. Shoes, boots, and slippers made of leather	60,418	Feb. 5	126	2185
White Sewing Machine Co., Cleveland, Ohio. Sewing-machines, attachments, stands, tables, and covers	60,339	Feb. 5	126	2183
Wm. Bergenthal Co., Milwaukee, Wis. Whisky	60,419	Feb. 5	126	2185

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Buffalo Pharmacal Co., Buffalo, N. Y. "Mint-Seltzer." (For Granular Effervescent Salts)	13,345	Feb. 5	126	2187
Holmes Knitting Co., Malden, Mass. "Yale." (For Underwear)	13,347	Feb. 5	126	2187
Sawyer Crystal Blue Company, Boston, Mass. "Sawyer's Crystal Sheet Bluing for the Laundry." (For Washing-Blue)				
Vanilla Substitute Co., Philadelphia, Pa. "Vanilla Substitute." (For Vanilla Substitute)	13,346	Feb. 5	126	2187
White & Wyckoff Mfg. Co., Holyoke, Mass. "Arbiter Hand Plated Vellum." (For Writing-Papers)	13,344	Feb. 5	126	2187
White & Wyckoff Mfg. Co., Holyoke, Mass. "Arbiter Hand Plated Extra Superfine." (For Writing-Papers)	13,341	Feb. 5	126	2187
White & Wyckoff Mfg. Co., Holyoke, Mass. "Arbiter Hand Plated Linen Fabric." (For Writing-Papers)	13,342	Feb. 5	126	2187
Wolff Chemical Company, Philadelphia, Pa. "The Bute Oil Shoe Dressing." (For Leather-Dressing)	13,343	Feb. 5	126	2187
	13,348	Feb. 5	126	2187

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Cream of Wheat Company, Minneapolis, Minn. "Cream of Wheat is Good for You." (For a Breakfast Food)	1,903	Feb. 5	126	2187
Dawson Pharmacal Co., Dawson Springs, Ky. "Creosotonic (Scott)." (For a Tonic)	1,902	Feb. 5	126	2187
Pattison, Willis E., Boston, Mass. "Educator Shoe." (For Boots and Shoes)	1,905	Feb. 5	126	2187
Sweet-Orr & Co., New York, N. Y. "The Friends of Labor." (For Overalls)	1,904	Feb. 5	126	2187
Woolson Spice Company, Toledo, Ohio. "Dog'on Fine Coffee." (For Coffee)	1,901	Feb. 5	126	2187

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Films, plates, and photographic papers	18,689	Feb. 5	126	2166
Albert Dickinson Company, Chicago, Ill. Grass, grain, timothy, and clover seed	8,590	Feb. 5	126	2164
Ambrosia Chocolate Company, Milwaukee, Wis. Cocoa chocolate, and chocolate candy	15,660	Feb. 5	126	2165

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
Babcock, Mary L., New York, N. Y. Perfumeries, toilet and talcum powders	23,992	Feb. 5	126	2172
Baker & Sons Co., J. R., Kendallville, Ind. Eaves-trough hangers	24,018	Feb. 5	126	2172
Barrett Manufacturing Company, New York, N. Y. Roofing and sheathing felt	23,526	Feb. 5	126	2171
Bauer & Black, Chicago, Ill. Corn and bunion plasters	24,456	Feb. 5	126	2176
Baxter & Bro., H. C., Brunswick, Me. Canned lobster	8,338-9	Feb. 5	126	2164
Beiersdorf & Co., P., Hamburg, Germany. Tooth paste and powder	10,579	Feb. 5	126	2164
Black Cat Garter Company, Incorporated, Chicago, Ill. Hose-supporters	20,506	Feb. 5	126	2167
Black Hawk Coffee & Spice Company, Waterloo, Iowa. Baking-powder	20,688	Feb. 5	126	2167
Black Hawk Coffee & Spice Company, Waterloo, Iowa. Spices	20,690	Feb. 5	126	2167
Bourne, Philip, New York, N. Y. Remedies for burns, cuts, bruises, pimples, &c	24,316	Feb. 5	126	2175
Boyd, Edna, Anadarko, Okla. Remedy for the cure of malaria, chills, fever, and ague	22,713	Feb. 5	126	2169
Bradley, Allen M., Marion, Ind. Flavoring-syrups	19,925	Feb. 5	126	2166
Braun & Fitts, Inc., Chicago, Ill. Fats for baking and cooking	16,862	Feb. 5	126	2165
Bridgeport Crucible Co., Bridgeport, Conn. Stove-clay	24,517	Feb. 5	126	2178
British Pluviusin Company, Limited, Manchester, England. Imitation leather	18,877	Feb. 5	126	2166
Buegeleisen & Jacobson, New York, N. Y. Violin, mandolin, guitar, and banjo strings	24,372	Feb. 5	126	2174
Campbell Printing Press & Manufacturing Co., New York, N. Y. Apparatus for making stereotype printing-plates	24,303	Feb. 5	126	2175
Casey Bros., Scranton, Pa. Whisky	8,919	Feb. 5	126	2164
Castaing, Amédée, New York, N. Y. Javelle water	22,397	Feb. 5	126	2169
Cellular Clothing Company, Limited, London, England. Undershirts, drawers, night-shirts, night-dresses, &c	8,986	Feb. 5	126	2164
Chambers, David, Portland, Oreg. Eyeglasses, spectacles, eyeglass-guards, and artificial eyes	24,333	Feb. 5	126	2175
Chemische Fabrik Griesheim-Elektron, Frankfort-on-the-Main, Germany. Detergent cleaning preparation	24,334	Feb. 5	126	2175
Citizens' Wholesale Supply Company, Columbus, Ohio. Metal, stove, silver, and glass polishes	24,479	Feb. 5	126	2177
Citizens' Wholesale Supply Company, Columbus, Ohio. Wood and furniture polishes	24,480	Feb. 5	126	2177
Coast Manufacturing & Supply Co., Berkeley, Cal. Fuses	24,459	Feb. 5	126	2177
Coast Manufacturing & Supply Co., Berkeley, Cal. Fuses	24,481-2	Feb. 5	126	2177
Coates, Mary D., 2nd, Chester, Pa. Toy-holding belts, hoops, or girdles	22,469	Feb. 5	126	2169
Collver Tours Company, Boston, Mass. Books and pamphlets	22,361	Feb. 5	126	2169
Copeland & Co., Charles C., New York, N. Y. Cotton piece goods	20,253	Feb. 5	126	2166
Corona Supply Co., Rochester, N. Y. Carbon-paper and type-writer ribbons	23,740	Feb. 5	126	2171
Cravenette Company, Limited, Bradford, England. Cotton, woolen, worsted, silk, and hair piece goods	12,437	Feb. 5	126	2165
Cutler M'f'g Co., Rochester, N. Y. Mail-chutes	21,197	Feb. 5	126	2168
Downing-Taylor Co., Springfield, Mass. Canned vegetables, fruits, and berries	24,403	Feb. 5	126	2176
Dr. Rainey Medicine Co., Chicago, Ill. Remedies for nervous debility, brain-fag, anemia, &c	23,567	Feb. 5	126	2171
Dreyer, Otto F., New York, N. Y. Maids', waitresses', and nurses' caps	19,783	Feb. 5	126	2166
Du Perow, Mortimer, Washington, D. C. Cleaning and polishing compound for electrical machinery	24,381	Feb. 5	126	2175
Dunton and Company, M. W., Providence, R. I. Soldering-flux	24,556	Feb. 5	126	2178
Elmira Shirt Manufacturing Company, Elmira, N. Y. Men's outer shirts	24,488	Feb. 5	126	2177
Evans, John S., Brookfield, Mo. Remedy for throat and lung affections	24,420	Feb. 5	126	2176
Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Substitutes for iodids	23,889	Feb. 5	126	2172
Fiedler, George J. C., Chicago, Ill. Metal-polish	22,815	Feb. 5	126	2169
Flynn, Frank A., Fall River, Mass. Whisky	24,437	Feb. 5	126	2176
Fones, Charles A., New York, N. Y. Dental alloys and dental instruments made therefrom	23,822	Feb. 5	126	2172
Fox, Chas. K., Haverhill, Mass. Leather boots and shoes	24,266-7	Feb. 5	126	2174
Freed & Pelkes, New York, N. Y. Chains and bracelets	24,254	Feb. 5	126	2173
Fuller, Frank, New York, N. Y. Bread	22,041	Feb. 5	126	2168
Fuller, Frank, New York, N. Y. Bread	23,916	Feb. 5	126	2172
Gary & Co., Theo. H., New York, N. Y. Hair-nets	24,113	Feb. 5	126	2173
Geo. Benz & Sons, St. Paul, Minn. Whisky	23,407	Feb. 5	126	2170
George F. Hewett Co., Worcester, Mass. Tonic	6,964	Feb. 5	126	2163
George Frost Company, Boston, Mass. Hose-supporters	24,408-9	Feb. 5	126	2176
Graham, Gervaise, Chicago, Ill. Toilet cream and powder, a depilatory, &c	22,002	Feb. 5	126	2168
Guy, Curran & Co., Washington, D. C. Knitted hosiery, undershirts and drawers	22,960	Feb. 5	126	2170
Guyon, Sidney C., New York, N. Y. Silk ribbon, piece goods, and linings	24,072	Feb. 5	126	2172
H. C. Miller Company, Milwaukee, Wis. Loose-leaf binders	24,265	Feb. 5	126	2174
Hall & Ruckel, New York, N. Y. Antiseptic toilet soap	23,389	Feb. 5	126	2170
Henry Disston & Sons Incorporated, Philadelphia, Pa. Files and rasps	24,351	Feb. 5	126	2175
Hetherington, Thomas, Philadelphia, Pa. Insecticide	24,295	Feb. 5	126	2174
Holzapfel's Composition Company Limited, Newcastle-upon-Tyne, England. Paint, mixed paint, and enamels	16,534	Feb. 5	126	2165
Horowitz, Arthur, Berlin, Germany. Antiseptics	22,386	Feb. 5	126	2169
Hughel, Clarence, Indianapolis, Ind. Hair-tonics and dandruff cures	24,318	Feb. 5	126	2175
Indianapolis Brewing Company, Indianapolis, Ind. Beer	21,620	Feb. 5	126	2168
Isaacs & Co., S., New York, N. Y. Glue	24,425	Feb. 5	126	2176
Ivins, Dietz & Metzger Co., Philadelphia, Pa. Wilton carpets and rugs	3,668	Feb. 5	126	2163
Jacob & Sons, H., New York, N. Y. Leggings	24,060	Feb. 5	126	2172
Jaeger Miniature Lamp Manufacturing Company, New York, N. Y. Decorative electric-lighting outfits	24,023	Feb. 5	126	2172
James W. Foster Co., Bath, N. H. Ointment for piles, cuts, burns, &c	22,832	Feb. 5	126	2169
Joy Castoria Company, Mineola and New York, N. Y. Medicinal preparation for the ailments of infants and children	21,003	Feb. 5	126	2167
Kaline Company, Nashville, Tenn. Quinin substitute	24,144	Feb. 5	126	2173
Kayser, Albert J., Joplin, Mo. Grease-eradicator for cleaning wool goods, kid gloves, &c	23,757	Feb. 5	126	2171
Kohn Distilling Co., Montgomery, Ala. Whisky	24,520	Feb. 5	126	2178
Krusen, George C., Philadelphia, Pa. Remedies for coughs, rheumatism, anemia, &c	24,370	Feb. 5	126	2175
Lanza Silk Company, Hazleton, Pa. Silk fabrics	24,559	Feb. 5	126	2178
Larwill, Theodore W., Henderson, Tenn. Medicinal preparation for coughs, colds, and croup	23,687	Feb. 5	126	2171
Lawson, Esther, Moline, Ill. Salve for the cure of eczema, &c	24,278	Feb. 5	126	2174
Leadite Company of America, Philadelphia, Pa. Cement compounds for making pipe-joints	24,091	Feb. 5	126	2172
Lever Brothers Company, Cambridge, Mass. Soaps	16,767	Feb. 5	126	2165
Liebermann, Joseph M., New York, N. Y. Restorative and nutritive tonic	21,712	Feb. 5	126	2168
Lipman, Albert, Cincinnati, Ohio. Whisky	7,666	Feb. 5	126	2164
M. Hyman Confectionery & Catering Co., Denver, Colo. Taffy or toffee	24,495	Feb. 5	126	2177
Macbeth-Evans Glass Company, Pittsburg, Pa. Lamp glasses and globes	20,513	Feb. 5	126	2167
Manganese Bronze & Brass Co. Ld., London, England. Metal alloy for bearings, &c	16,948	Feb. 5	126	2165
Maple William H., Newark, N. J. Liniment	23,633	Feb. 5	126	2171

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial. No.	Date.	Official Gazette. Vol.	Page.
Marden, Orth & Hastings, Boston, Mass. Sumac, oak, hemlock, chestnut, &c., extracts	24,204	Feb. 5	126	2173
McRae and Keeler, Attleboro, Mass. Brooches, pins, buckles, fobs, &c	24,012	Feb. 5	126	2172
Meridional Cheese and Oil Co., New York, N. Y. Olive-oil	13,457	Feb. 5	126	2165
Mexican Amole Soap Co., Peoria, Ill. Soap	10,768	Feb. 5	126	2164
Millers Products Company, Chicago, Ill. Wheat-flour	24,500	Feb. 5	126	2177
Mist Rheumatic Company, (Not Incorporated,) Chicago, Ill. Cure for rheumatism, pleurisy, sprains, and bruises	24,560	Feb. 5	126	2178
Mohawk Condensed Milk Co., Rochester, N. Y. Evaporated and condensed milk and cream	24,165	Feb. 5	126	2173
Monopol Tobacco Works, New York, N. Y. Cigarettes	20,173	Feb. 5	126	2166
Morris, Leonard D., Chicago, Ill. Pipe-organs	21,522	Feb. 5	126	2168
Müller, Albert, New York, N. Y. Accumulators	24,522	Feb. 5	126	2178
N. Erlanger, Blumgart & Co., New York, N. Y. Velveteens	24,531-2	Feb. 5	126	2178
National Coal Tar Company, Wilmington, Del., and Boston, Mass. Paints and varnishes	23,699	Feb. 5	126	2171
Neuss, Hesslein & Co., New York, N. Y. Damask table-cloths, napkins, and towels	24,262	Feb. 5	126	2174
No. Lubec Mfg. & Canning Co., North Lubec, Me. Canned sardines	16,026	Feb. 5	126	2165
Ohio Injector Company, Wadsworth, Ohio. Injectors for steam-boilers	24,095	Feb. 5	126	2172
Owens, T. Lloyd, Savannah, Ga. Coffee	21,851	Feb. 5	126	2168
Patrick, Caroline W., Norwalk, Ohio. Salves or ointments	4,660	Feb. 5	126	2163
Penn Petroleum Co., Philadelphia, Pa. Lubricating-oils	24,448	Feb. 5	126	2176
Pepsin Syrup Co., Monticello, Ill. Remedy for diseases of the stomach and bowels	24,258	Feb. 5	126	2174
Pittsburgh Filter Mfg. Co., Pittsburg, Pa. Water-purifying apparatus	22,410	Feb. 5	126	2169
Plate & Clark Co., New York, N. Y. Sweaters, cardigan jackets, knitted bathing-suits, and stockings	20,267	Feb. 5	126	2167
Plume & Atwood Mfg. Co., Waterbury, Conn., and New York, N. Y. Incandescent gas-burners	17,756	Feb. 5	126	2166
Pluvius-Feuerlöscher-Gesellschaft mit beschränkter Haftung, Hamburg, Germany. Fire-extinguishing compounds	24,233	Feb. 5	126	2173
Pneumelectric Machine Company, Syracuse, N. Y. Coal-cutting machines	22,120	Feb. 5	126	2168
Porcela Co., Pittsburg, Pa. Preparations for purifying and softening water	21,642	Feb. 5	126	2168
Pratt, Dani. S., Boston, Mass. Fine and crossbred grades of wool	24,576	Feb. 5	126	2179
Putnam-Hooker Company, Cincinnati, Ohio. Cotton carpet warp and twine	23,258	Feb. 5	126	2170
Radway & Company, New York, N. Y. Remedy for rheumatism, neuralgia, &c	23,305	Feb. 5	126	2170
Radway & Company, New York, N. Y. Pills	23,307	Feb. 5	126	2170
Reiss & Brady, New York, N. Y. Sardines, sardine paste, sprats, mackerel, &c	23,873	Feb. 5	126	2172
Renziehausen, Frederick C., Pittsburg, Pa. Whisky	21,093	Feb. 5	126	2168
Richmond Cedar Works, Richmond, Va. Washing-machines	24,148	Feb. 5	126	2173
Rosenbaum's Sons, Morris, New York, N. Y. Broadcloths	19,931	Feb. 5	126	2166
Rosenstein Brothers Inc., New York, N. Y. Preserved fish	22,931	Feb. 5	126	2169
Rothwell, Bernard J., Boston, Mass. Wheat-flour	24,395	Feb. 5	126	2176
Royal Typewriter Co., Newark, N. J. Type-writing machines	19,155	Feb. 5	126	2166
Rychen, Elisha F., Buffalo, N. Y. Printing and lithographing inks	24,503	Feb. 5	126	2178
Sackman, Charles, Jamaica, N. Y. Toy figures	24,234	Feb. 5	126	2173
Sans, Jean B., Brussels, Belgium. Solution for repairing tires	11,558	Feb. 5	126	2164
Schweikert, Edward F., Springfield, Ohio. Cigars and scrap-tobacco	8,045	Feb. 5	126	2164
Seabury & Johnson, East Orange, N. J., and New York, N. Y. Surgical ligatures	24,504	Feb. 5	126	2178
Shoyer & Co., D. W., New York, N. Y. Hammocks	24,283	Feb. 5	126	2174
Simpson, Sons & Co., Wm., Philadelphia, Pa.; New York, N. Y.; Baltimore, Md.; Chicago, Ill., and St. Louis, Mo. Cotton piece goods	20,491	Feb. 5	126	2167
Society of Chemical Industry in Basle, Basel, Switzerland. Remedies for rheumatism	22,688	Feb. 5	126	2169
Spinol Company, Pottsville, Pa. Remedy for whooping-cough	24,096	Feb. 5	126	2173
Star Brewing Company, Greensburg, Pa. Beer	24,474	Feb. 5	126	2177
Star Food & Chemical Co., Chicago, Ill. Stock food	22,991	Feb. 5	126	2170
Stearns Electric Paste Co., Buffalo, N. Y. Rat and roach exterminator	24,566	Feb. 5	126	2179
Sterling Electric Co., La Fayette, Ind. Magazines	24,578	Feb. 5	126	2179
Stuyvesant Company, New York, N. Y. Illustrated weekly journal	21,082	Feb. 5	126	2168
Sunset Distilling Co., Chicago, Ill. Whisky	6,453	Feb. 5	126	2163
Technical Supply Company, Scranton, Pa. Blue-print paper	24,564	Feb. 5	126	2179
Thos. Moore Distilling Co., McKeesport, Pa. Rye whisky	24,179	Feb. 5	126	2173
Udell Works, Indianapolis, Ind. Ladders	22,418	Feb. 5	126	2169
W. and F. Walker Limited, Liverpool, England. Disinfectants, air-purifiers, and deodorizers	17,790	Feb. 5	126	2166
W. W. Lawrence & Company, Pittsburg, Pa. White lead	23,786	Feb. 5	126	2171
Wallace & Co., New York, N. Y. Candy	15,109	Feb. 5	126	2165
Ward, Elmo D., Paragould, Ark. Soap	24,426	Feb. 5	126	2176
Watchman & Reynolds, Baltimore, Md. Antiseptic powder	24,176	Feb. 5	126	2173
White Sewing Machine Co., Cleveland, Ohio. Sewing-machines, sewing-machine attachments, covers, tables, and stands	24,344	Feb. 5	126	2175
William L. Barrell Co., New York, N. Y. Cotton piece goods	23,077	Feb. 5	126	2170
William L. Barrell Co., New York, N. Y. Cotton piece goods	23,112	Feb. 5	126	2170
Wilt, Chas. T., Chicago, Ill. Leather	23,009	Feb. 5	126	2170
Winter, Basilius, Rock Island, Ill. Bitters	5,543	Feb. 5	126	2163
Wisconsin Condensed Milk Co., Burlington, Wis., and New York, N. Y. Condensed milk	12,035-6	Feb. 5	126	2164-5
Wisconsin Condensed Milk Co., Burlington, Wis., and New York, N. Y. Evaporated cream	19,401	Feb. 5	126	2166
X-Ray Varnish Company, Chicago, Ill. Varnishes and stains	20,484	Feb. 5	126	2167
Zalill, Walter J., Syracuse, N. Y. Washing-machines	23,776	Feb. 5	126	2171

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 5TH DAY OF FEBRUARY, 1907.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Abrading surface to metal. Attaching an	S. B. Archer	842,993	Feb. 5	306	67	126	1866
Acid derivative. Acetylene carbonic-	C. Moureu	843,289	Feb. 5	936		126	2029
Acid derivative. Acetylene carbonic-	C. Moureu	842,290	Feb. 5	938		126	2029
Advertising-card	J. B. Carroll	842,857	Feb. 5	32	6	126	1798
Air-brake. Combined automatic and straight	W. V. Turner and E. A. Wright	842,923	Feb. 5	162	38	126	1831
Air-brake mechanism. Automatic	W. McCook	843,481	Feb. 5	1272	267-8	126	2111
Air moistener or evaporator	J. W. Johnson	842,955	Feb. 5	224	50	126	1845
Air-washer	C. W. Rogers	843,180	Feb. 5	703	146	126	1971
Alarm: *See* Fire-alarm.							
Alternator. Inductor magneto-	L. J. Le Pontois	843,541	Feb. 5	1414	297	126	2146
Anchor for ferry-boats	M. M. Hoos	843,458	Feb. 5	1223	256	126	2098
Animal mouth-opener	A. Seabrant	843,040	Feb. 5	401	87	126	1804
Artist's plaque	G. Brown	842,998	Feb. 5	313	68	126	1868
Automatic brake	C. G. Cossairt	843,134	Feb. 5	603	128	126	1948
Automatic brake	J. P. Blakeman	843,255	Feb. 5	863	175	126	2013
Automatic sprinkler	C. E. Buell	843,130	Feb. 5	596	126	126	1947
Automobile cooling systems. Fan for	A. Winton and H. B. Anderson	843,380	Feb. 5	1089	225	126	2065
Automobile dust-guard	D. C. Collier	843,072	Feb. 5	464	99	126	1911
Back-rest. Adjustable stool	L. M. Rich	842,976	Feb. 5	263	57	126	1855
Bag: *See* Feed-bag. Nose-bag.							
Bag-handler	H. and E. Sanborn	842,913	Feb. 5	142	32	126	1827
Baker's peel	W. Fickett	843,333	Feb. 5	1012	208	126	2045
Balls. Manufacture of golf-	A. B. and J. Macneil	843,346	Feb. 5	1036	213	126	2051
Band-cutter and feeder	W. T. Madill	842,898	Feb. 5	109	26	126	1817
Bath apparatus. Valve-operating mechanism for shower-	T. F. Kewley	842,961	Feb. 5	233	52	126	1847
Bathing apparatus	W. H. Cloud	843,260	Feb. 5	873	178	126	2015
Battery	F. A. Decker	842,867	Feb. 5	52	12	126	1802
Battery-cell	H. Gernsback	842,950	Feb. 5	214	48	126	1843
Battery element	F. A. Decker	842,945	Feb. 5	205	46	126	1840
Beater	J. Husser	843,461	Feb. 5	1228	257	126	2100
Bed-brace	W. W. Lockett	843,403	Feb. 5	1121	233	126	2073
Bed spring and mattress. Invalid-	E. B. Preston	842,973	Feb. 5	258	56	126	1854
Bedstead	F. G. Gale	842,879	Feb. 5	78	18	126	1810
Bedstead guard-rail	C. E. Uhde	843,421	Feb. 5	1150	241	126	2080
Bedstead-joint	C. W. Higbee and W. Schenek	843,456	Feb. 5	1211	256	126	2094
Beef shaving or slicing apparatus. Electromechanical	F. H. Wurzbacher	843,317	Feb. 5	985	202	126	2039
Bell. Electric	H. E. Reeve	842,911	Feb. 5	139	31	126	1826
Belt	A. Reznicek	843,491	Feb. 5	1302	273	126	2119
Belt-splicing implement	F. M. Linderman	843,344	Feb. 5	1030	212	126	2050
Belt-support	A. M. Harris	843,014	Feb. 5	355	77	126	1881
Bevel. Rafter and polygon	A. O. Calhoon	842,999	Feb. 5	314	68	126	1868
Bicycle-seat and luggage-carrier. Combined	J. Paterson and G. K. Pasley	843,094	Feb. 5	522	109	126	1928
Bin	M. W. Coolbaugh	843,194	Feb. 5	738	151	126	1982
Binder	C. G. Boden	842,851	Feb. 5	9	2	126	1789
Bit: *See* Cutting-bit.							
Block: *See* Building-block. Printing-block. Cement block.	P. P. Nungesser	842,905	Feb. 5	122	29	126	1820
Blowpipe and soldering attachment. Combined	I. O. Perring	842,908	Feb. 5	128	30	126	1821
Board: *See* Game-board. Register name-board. Ironing-board. Washboard.							
Boat. Foldable or collapsible	C. Kroeschell	843,152	Feb. 5	634	134	126	1856
Boiler: *See* Sectional boiler. Washing-boiler.	S. McAdoo	842,901	Feb. 5	115	27	126	1819
Boiler construction	D. G. Cameron	843,192	Feb. 5	734	151	126	1981
Boiler-flue cleaner	H. O. Bowsman	843,067	Feb. 5	445	97	126	1905
Boiler-gage. Automatic	A. and L. Myers and F. R. Baker	843,229	Feb. 5	808	166	126	1969
Bolting-machine driving mechanism	P. J. Leonard	843,040	Feb. 5	1412	297	126	2145
Book, file, temporary binder, &c. Loose-leaf	F. N. Young	843,056	Feb. 5	421	92	126	1899
Bottle. Non-refillable	E. Weymar	843,423	Feb. 5	1153	242-3	126	2081
Bottle-washing machine	E. Weymar	843,555	Feb. 5	1449	305-6	126	2154
Bottles and similar articles. Apparatus for cleaning							
Bottles and the like. Cleaning							

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Box:							
See Display-box. Fire-alarm box. Fuse-box. Patrol-station box. Powder-box. Talking-machine sound-box.							
Brace:							
See Bed-brace.							
Bracelet	J. Bulova	842 935	Feb. 5	191	43	126	1837
Bracelet	E. F. Wilde	843,188	Feb. 5	718	149	126	1974
Bracelet	F. E. Crain	843,195	Feb. 5	739	152	126	1982
Bracelet	W. Wallenthin	843,243	Feb. 5	831	172	126	2005
Brake:							
See Air-brake. Automatic brake.							
Brake-shoe	E Dettelbach	843,523	Feb. 5	1377	290	126	2137
Breech-loading mechanism	H. T. J. Thronsen	843,504	Feb. 5	1330	280	126	2126
Brick-kiln	D. P. Guise	843,452	Feb. 5	1204	254	126	2092
Brick-making device. Ornamental	M. N. Grant	842,882	Feb. 5	81	18	126	1811
Brick-molding machine	T. G. Jensen	843,087	Feb. 5	509	106–7	126	1924
Bridge structure	J. P. Nikonow	843,167	Feb. 5	664	139–40	126	1962
Briquet-making machine	E. D. Misner	843 565	Feb. 5	1472	310–11	126	2159
Broom	N. Villalaz	843,507	Feb. 5	1337	282	126	2128
Brush or mop holder	E. E. Masters	842,965	Feb. 5	244	54	126	1850
Brush. Rotary	D. F. Broderick	842,997	Feb. 5	312	68	126	1868
Brushes. Making	J. Morrison	843,544	Feb. 5	1423	300	126	2148
Buckle	I. Blum	843,434	Feb. 5	1177	247	126	2086
Building-block-molding machine	S. H. Rickard	843,176	Feb. 5	686	143–4	126	1967
Building-blocks	P. Olson	843,417	Feb. 5	1144	238	126	2078
Burial-casket. Drop-front	W. H. Lawson	843,157	Feb. 5	645	136	126	1959
Burner:							
See Gas-burner. Oil-burner. Oil and steam vapor burner.							
Button. Detachable	Z. M. Leger	843,158	Feb. 5	647	136	126	1959
Cable. Aerial	G. Strambini	843,116	Feb. 5	574	120–1	126	1941
Cable-cutting device	C. Petrie	843,359	Feb. 5	1059	219	126	2057
Calculating-machines. Adjusting-lever arrangement for	F. Trinks	843,506	Feb. 5	1335	281	126	2127
Calender-rollers for producing embossed or raised patterns.	J. Kleinewefers	842,890	Feb. 5	95	22–3	126	1815
Camera	W. F. Folmer	843,140	Feb. 5	613	130	126	1951
Camera shading-hood	J. D. Garfield	843,449	Feb. 5	1200	253	126	2091
Can-closure	A. L. Caprini	843,516	Feb. 5	1356	285	126	2132
Candy-working machine	F. H. Richards	843,100	Feb. 5	539	112	126	1931
Cane-straw-cutting machine. Sugar	J. MaCallejas y Becerra	843,479	Feb. 5	1268	266–7	126	2110
Car and locomotive. Electric	C. de Kandó	842,957	Feb. 5	227	51	126	1846
Car brake mechanism. Tram	G. J. Conaty	843,262	Feb. 5	876	178–9	126	2016
Car construction	E. I. Dodds	842,889	Feb. 5	55	13	126	1803
Car-coupling. Automatic	O. F. Richter	843,551	Feb. 5	1441	304	126	2152
Car-door safety device. Hopper	A. Christianson	843,132	Feb. 5	598	127	126	1948
Car-door safety device. Hopper	A. Christianson	843,550	Feb. 5	1459	307–8	126	2156
Car-dumping-apparatus screen	C. A. Fry	843,334	Feb. 5	1013	208–9	126	2046
Car. Electric tram	G. J. Conaty	843,261	Feb. 5	875	178	126	2016
Car frame. Railway	W. F. Kiesel, Jr.	842,880	Feb. 5	90	21–2	126	1813
Car. Gondola	E. I. Dodds	842,871	Feb. 5	57	13–14	126	1804
Car grain-door. Railway	N. H. Conger	842,943	Feb. 5	200	46	126	1840
Car grain-door. Railway	N. H. Conger	843,074	Feb. 5	477	101	126	1916
Car-loader	G. A. Kenner and R. Folkel	843,151	Feb. 5	633	134	126	1956
Car. Metallic gondola	E. I. Dodds	842,870	Feb. 5	56	13	126	1804
Car sill and bolster construction. Railway	E. I. Dodds	842,872	Feb. 5	59	14	126	1805
Car-underframe. Metallic	E. I. Dodds	842,873	Feb. 5	61	15	126	1806
Cars. Bellows-fold coupling for vestibule	E. L. Perry, Sr. and Jr.	843,233	Feb. 5	813	167	126	2000
Cars. Circuit-closing mechanism for indicators on	T. W. Small	843,182	Feb. 5	707	147	126	1972
Cars. Steel side stake for	E. I. Dodds	842,868	Feb. 5	53	12	126	1803
Carbureter	E. L. Mueller	843,028	Feb. 5	379	83	126	1888
Carbureter	V. C. Severance	843,112	Feb. 5	568	119	126	1939
Carbureter	J. R. Schrader	843,554	Feb. 5	1446	305	126	2153
Carrier:							
See Hay-carrier.							
Case:							
See Show-case.							
Castings. Twin-cupola process of making semisteel	J. C. Davis	843,197	Feb. 5	744	.....	126	1963
Cement block. Reinforced	E. J. Brooks	843,324	Feb. 5	999	205	126	2042
Chair:							
See Rocking-chair.							
Chair	C. W. Hieber	843,208	Feb. 5	767	158	126	1990
Cheese-cutter	L. Swank	842,919	Feb. 5	153	35	126	1830
Chocolate-coating machine	H. C. Remmers	843,300	Feb. 5	958	195	126	2033
Chopper:							
See Cotton-chopper.							
Chuck	J. Pearson	843,095	Feb. 5	524	109–10	126	1928
Cigarette-former	R. Hoffmann	842,886	Feb. 5	87	20	126	1813
Circuit-catching device and electrical system for use in conjunction with the same.	A. H. Graves	843,270	Feb. 5	898	183	126	2020
Circuit-closer. Automatic	L. Charbonneau	843,327	Feb. 5	1003	206	126	2043
Clamp:							
See Insulator-clamp.							
Clasp	W. H. Williamson	842,987	Feb. 5	290	63	126	1863
Cleaner:							
See Boiler-flue cleaner.							
Cleaning-cylinder. Rotary	W. M. Krickbaum	843,466	Feb. 5	1233	259	126	2101
Clock winding mechanism. Self-winding electric	H. W. Porter	842,971	Feb. 5	255	56	126	1853
Cloth-pressing buck	J. Ecker	843,332	Feb. 5	1010	208	126	2045
Cloth-pressing-machine buck	J. Ecker	843,331	Feb. 5	1009	207	126	2045
Clothes-line holder	L. Willour	842,998	Feb. 5	291	63	126	1863
Clutch. Friction	A. Master	843,288	Feb. 5	933	189	126	2028
Clutch-operating mechanism	J. S. Detrick	843,076	Feb. 5	481	102	126	1917
Clutch-operating mechanism	C. W. Hamann	843,453	Feb. 5	1205	254	126	2092
Cock. Automatic steam and hot-water safety	J. A. Frey	843,525	Feb. 5	1380	290	126	2138
Cock for locomotives. Cylinder	E. J. Ferris	843,391	Feb. 5	1102	229	126	2089
Coffee. Method of improving	A. E. B. Gram	843,530	Feb. 5	1390	.....	126	2141
Coin holding and delivering machine	J. W Meaker	843,224	Feb. 5	792	163–4	126	1996

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Coin holding and delivering machine	J. W. Meaker	843,225	Feb. 5	800	165	126	1997
Coin-register	L. J. Burdick	842,853	Feb. 5	15	3–4	126	1790
Coke-discharging apparatus	L. Albrecht	843,251	Feb. 5	856	174	126	2012
Coke-drawing machine	M. F. Stunkard	843,568	Feb. 5	1477	311	126	2160
Collar. Horse	W. B. Estes	843,447	Feb. 5	1198	252	126	2090
Collar-shaping attachment	C. W. Currier and J. Leitschuh	842,864	Feb. 5	47	10–11	126	1801
Collar-shaping machine	C. W. Currier and J. Leitschuh	842,863	Feb. 5	44	9–10	126	1801
Coloring-matter. Azo	M. Kahn and R. Kothe	843,149	Feb. 5	631	.....	126	1955
Column	J. Lally	843,218	Feb. 5	782	161	126	1993
Column-support	T. F. McCarthy	843,163	Feb. 5	659	138	126	1961
Combination-lock	J. W. Raymond	843,365	Feb. 5	1068	220	126	2060
Compound engine	W. A. Webster	842,985	Feb. 5	283	62	126	1862
Compression stop and waste	A. C. Schuermann	843,496	Feb. 5	1309	275	126	2121
Concrete and like material. Reinforcing-bar for	S. B. Williamson	843,424	Feb. 5	1157	243	126	2081
Concrete-mixer	G. E. McArthur	842,902	Feb. 5	116	28	126	1819
Concrete-mixer	E. E. Jackson	843,278	Feb. 5	910	185–6	126	2023
Condiment-holder. Compound	L. B. Parker	843,356	Feb. 5	1049	217	126	2054
Conveyer	W. H. Morenus and F. R. Jones	842,900	Feb. 5	113	27	126	1818
Conveyer	J. A. Jamieson	843,018	Feb. 5	361	78–9	126	1883
Conveyer for excavating	I. J. Smith	843,239	Feb. 5	825	170–1	126	2004
Cooker. Steam	C. E. Swartzbaugh	843,240	Feb. 5	827	171	126	2004
Corner-shield and caster. Combined	A. J. H. Kubsiek	843,153	Feb. 5	635	134	126	1956
Cotton-chopper	H. R. Hurst	843,460	Feb. 5	1226	257	126	2099
Cotton chopper and cultivator. Combined	N. K. Robertson and I. W. Jones	843,102	Feb. 5	544	113	126	1933
Cotton chopping and scraping machine	J. Nelson	843,484	Feb. 5	1285	269	126	2115
Cotton-gathering apparatus	J. F. O'Shaughnessy	843,294	Feb. 5	943	190–1	126	2030
Couch. Folding	J. Feldman	842,876	Feb. 5	67	16	126	1807
Counterboring-tool	V. Bail	843,430	Feb. 5	1167	245	126	2083
Coupling:							
See Car-coupling. Shaft-coupling.							
Crane. Overhead traveling	C. L. Taylor	843,121	Feb. 5	581	123	126	1943
Crank joint. Double	W. L. Morrow	843,090	Feb. 5	513	107	126	1925
Crushing and pulverizing machine	J. Ancel	843,428	Feb. 5	1163	244	126	2082
Cultivator attachment	H. O. Pope	843,031	Feb. 5	383	84	126	1888
Cultivator. Tongueless	C. E. Macbeth	843,160	Feb. 5	654	137	126	1960
Curtain-pole	G. Gerheiser	843 008	Feb. 5	331	72	126	1873
Cuspidor	J. Knapp	843,215	Feb. 5	776	160	126	1991
Cutter:							
See Band-cutter. Flue-cutter. Cheese-cutter.							
Cutter-head	E. S. Shimer	843,498	Feb. 5	1314	276–7	126	2122
Cutting apparatus	A. A. Gardner	843,142	Feb. 5	621	131	126	1953
Cutting-bit. Eccentrical	J. H. Tombragel and J. F. Schunder.	843,376	Feb. 5	1084	224	126	2064
Dam. Collapsible	W. W. Jones	843,397	Feb. 5	1112	232	126	2071
Dam-crest. Automatically-movable	W. R. Davis	843,003	Feb. 5	324	70–1	126	1871
Dental bur and excavator	W. Homann	843,273	Feb. 5	904	184	126	2021
Derailer	S. W. Hayes	843,455	Feb. 5	1208	255	126	2093
Derrick. Farm	J. W. Price	843,297	Feb. 5	949	191–2	126	2031
Derrick. Loading	N. H. Nelson	842,904	Feb. 5	120	29	126	1820
Dipper	C. F. Smith	843,372	Feb. 5	1079	223	126	2063
Disinfector for water-closets	W. H. Ermentrout	843,080	Feb. 5	491	103	126	1919
Disintegrating amorphous bodies	E. G. Acheson	843,426	Feb. 5	1160	.....	126	2082
Display-box	C. C. Allen	843,191	Feb. 5	732	150–1	126	1980
Display-box	C. C. Rahn	843,364	Feb. 5	1067	220	126	2060
Display-package	H. C. Schultz	843,419	Feb. 5	1147	240	126	2079
Display-rack	E. B. Weston	842,929	Feb. 5	175	40	126	1834
Display-rack	A. B. Losee	843,220	Feb. 5	787	162	126	1994
Display-rack. Extensible	C. K. Hurd	843,396	Feb. 5	1111	231	126	2070
Distilling apparatus	H. A Abendroth	843,318	Feb. 5	986	202	126	2039
Dock	W. E. Overton	843,355	Feb. 5	1048	216	126	2054
Door for fire departments and opener therefor. Folding	L. E. Hale and A. M. Fox	843,011	Feb. 5	336	73	126	1874
Door-lock	W. W. Fessler	843,200	Feb. 5	749	154	126	1964
Door Rotating	M. C. Gage	843,141	Feb. 5	619	131	126	1953
Door-securer	E. R. Fuchs	843,527	Feb. 5	1384	291	126	2139
Doors, windows, and the like. Fastener for	E. W. F. Sachse	843,111	Feb. 5	566	118–19	126	1939
Draft-equalizer	H C. Horn	842,888	Feb. 5	90	20	126	1813
Drawer	G. W. Andress	842,991	Feb. 5	304	66	126	1866
Drier.							
See Sawdust-drier.							
Drill:							
See Ratchet-drill. Rock-drill.							
Drilling-machine	C. Ridderhof	842,977	Feb. 5	265	58	126	1856
Dumping apparatus Automatic	R. Z. McCoy	843,482	Feb. 5	1280	268–9	126	2113
Dust-pan Folding	J. A. Delaney and J. Lawson	842,946	Feb. 5	206	47	126	1841
Duster. Feather	J. E Snevely	843,113	Feb. 5	570	119	126	1940
Duster Feather	J. E. Snevely	843,114	Feb. 5	571	120	126	1940
Dye Azo	O. Dressel and M. Kahn	843,077	Feb. 5	484	.....	126	1918
Dye Azo	O. Dressel and A. Ossenbeck	843,137	Feb. 5	607	.....	126	1950
Dye. Green sulfur	A. L. Laska	843,156	Feb. 5	644	.....	126	1958
Dynamo-machines. Parallel running of	C. A. Parsons and G. G. Stoney	843,489	Feb. 5	1300	272–3	126	2118
Easel	C R. Hoag	843,210	Feb. 5	770	158	126	1990
Eggs, cream, vegetables, &c. Beater, mixer, and masher for	W. Sturma	843,309	Feb. 5	974	200	126	2036
Electric heater	A. N. Anderson	842,849	Feb. 5	1	1	126	1787
Electric lights. Producing	P. C. Hewitt	843,534	Feb. 5	1398	294–5	126	2142
Electric machine. Dynamo	M. C. A. Latour	842,963	Feb. 5	240	53	126	1849
Electric motor	A. T. MacCoy	843,287	Feb. 5	930	188	126	2028
Electric motors, generators, and other apparatus. Operating	R. D. Mershon	842,966	Feb. 5	245	54	126	1850
Electric motors. Ventilation of	G. Gibbs	842,951	Feb. 5	215	49	126	1843
Electric signal	C. L. Krum	843,283	Feb. 5	922	187	126	2025
Electric switch. Automatic	W. F. Irish	843,276	Feb. 5	908	185	126	2022
Electric time-switch. Automatic	L. C. Dorland	843,005	Feb. 5	328	71	126	1872
Electric tram system	O. J. Davy	843,520	Feb. 5	1364	287–8	126	2133
Electrical contact apparatus	J. C. Boyd	842,852	Feb. 5	11	2–3	126	1790
Electrical synchronism	E. F. Northrup	843,415	Feb. 5	1141	238	126	2078
Electrode for therapeutic use, &c	E. T. Nealey	843,354	Feb. 5	1046	215	126	2064
Electroplating apparatus	H. R. Boissier	843,321	Feb. 5	991	203	126	2040
Elevator	H. C. Sagehorn	843,301	Feb. 5	961	195–6	126	2034

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Elevator	H. C. Sagehorn	843,302	Feb. 5	963	196-7	126	2084
Elevator	F Shannon	843,370	Feb. 5	1076	222	126	2062
Embossing-machine	J. Kleinewefers	842,291	Feb. 5	97	23	126	1815
Embossing-press	S. Curtis	842,865	Feb. 5	48	11-12	126	1801
Embroidering-machine	A. Burgess, J. G. and M. O. Rehfuss.	842,854	Feb. 5	25	4-5	126	1796
Engine:							
See Compound engine. Rock-drilling engine.							
Engine	A. S. Barnes	843,384	Feb. 5	1094	226	126	2067
Engine-cylinder. Jacketed	F W. Brady	843,068	Feb. 5	446	97	126	1906
Engine stop mechanism. Steam-	A. A. Fuller and D. K. Cartter	843,528	Feb. 5	1385	292	126	2139
Evener. Horse-	C. Wendland	843,246	Feb. 5	841	173	126	2007
Exerciser. Physical	G. Müller	843,478	Feb. 5	1267	266	126	2110
Eyeglass-fitting	P. Moews	843,026	Feb. 5	377	83	126	1887
Eyeglasses	J. C. Moore	843,089	Feb. 5	513	107	126	1925
Eyeglasses and spectacles	J. D. Harper	843,531	Feb. 5	1391	293	126	2141
Eyelet-stay-joining machine	W. H. Parkhurst and A. O. Noyes.	843,498	Feb. 5	1294	272	126	2116
Fabrics. Device for cutting float-threads of	J. Cunane	843,444	Feb. 5	1191	250-1	126	2089
Fan	B. Guggenheim	842,884	Feb. 5	84	19	126	1812
Fan-motor	S. C. Baucum	843,432	Feb. 5	1173	246	126	2065
Fancy-work frame	C. Sander	843,495	Feb. 5	1307	275	126	2120
Feed-bag	W. H. Robinson	843,552	Feb. 5	1443	304	126	2153
Fence-gate	P. Mast	843,161	Feb. 5	655	138	126	1980
Fence machines. Magazine for wire-	O. S. Sturtevant	842,980	Feb. 5	269	59	126	1857
Fence-post	A. Bowers	843,436	Feb. 5	1179	248	126	2067
Fence-post	M. C. Wix	843,511	Feb. 5	1349	283	126	2129
Fencing tie Wire-	E. E. Tobias	843,123	Feb. 5	583	123	126	1943
Fertilizer-distributer	G. T. Vaughn	842,924	Feb. 5	166	38	126	1832
Fertilizer-distributer	H. T. Young	843,512	Feb. 5	1350	283-4	126	2130
Fibrous-stock feeder	S. W. Woodbury	843,126	Feb. 5	590	124-5	126	1946
Filter	R. Koehler	843,465	Feb. 5	1232	258	126	2101
Filters. Distributing-machine for closed	H. W. Blalsdell	842,850	Feb. 5	3	1-2	126	1787
Fire-alarm	G. A. Anderson and H. O. Harpster.	843,058	Feb. 5	429	93	126	1902
Fire-alarm box Auxiliary	F. W. Cole	842,861	Feb. 5	38	8	126	1789
Fire-resisting curtains. Hood for rolling	E. H. McCloud	842,968	Feb. 5	250	55	126	1852
Fire-resisting shutter	W. S. Hutchinson	843,462	Feb. 5	1229	257-8	126	2100
Firearm	J. E. Mason	843,542	Feb. 5	1417	298-9	126	2147
Fish decoy or lure	G. F. Bowersox	843,266	Feb. 5	865	176	126	2014
Fish-line reel	H. Baumgartel	843,514	Feb. 5	1353	285	126	2131
Fish-net stake	E. J. Hopkins	843,330	Feb. 5	1022	211	126	2048
Flanges. Machine for attaching	W. W. Doolittle	843,198	Feb. 5	745	152-3	126	1984
Floor and laying same	T. Cantwell	843,193	Feb. 5	737	151	126	1982
Flue-cutter	F. E. Shimer	843,499	Feb. 5	1316	277	126	2122
Fluid-pressure regulator	W. J. Richards	843,033	Feb. 5	385	85	126	1889
Flying-machine	W. Morgan	843,476	Feb. 5	1265	265-6	126	2109
Fork	F. Lotter	843,472	Feb. 5	1246	261	126	2105
Form. Garment-	C. Frankel	842,877	Feb. 5	71	16-17	126	1809
Form marker. Bust-	A. Waterman	843,378	Feb. 5	1087	225	126	2065
Fowls. Registering means for	L. S. Linder	843,023	Feb. 5	374	82	126	1886
Frame:							
See Car-frame. Quilting-frame. Fancy-work frame.							
Frequency-meter	W. H. Freedman	843,267	Feb. 5	887	181-2	126	2018
Friction-lock	W A. Barker	843,253	Feb. 5	859	175	126	2013
Fruit. Skinning	J. B. Thompson	843,311	Feb. 5	976	.....	126	2037
Furnace:							
See Heating-furnace. Hot-air furnace.							
Furnace	W. N. Best	843,254	Feb. 5	861	175	126	2013
Furnace-door	A. W. Dragoo	843,007	Feb. 5	330	72	126	1873
Furniture. Combination	J. L. McKensey	843,547	Feb. 5	1430	301	126	2150
Furniture-spring	B. A. Chubbuck	842,938	Feb. 5	194	44	126	1838
Fuse-box	C A Rolfe	843,553	Feb. 5	1445	304	126	2153
Gage:							
See Boiler-gage. Screw-gage.							
Game-board	L. B. Sanford	843,037	Feb. 5	397	86	126	1893
Garment-hanger	F. Bement	842,932	Feb. 5	187	42	126	1837
Garters, &c. Suspensory device for	S. Levitas	842,893	Feb. 5	99	24	126	1816
Gas-burner. Incandescent	F. T. Williams	843,379	Feb. 5	1088	225	126	2065
Gas-burner regulator	W. C. Homan	842,867	Feb. 5	80	20	126	1843
Gas. Enriching blast-furnace	C. Ellis	843,079	Feb. 5	488	102-3	126	1919
Gas generator. Acetylene-	G. Laporte	842,962	Feb. 5	234	52-3	126	1848
Gas generator. Acetylene-	T. Babin and J. Colomb	843,429	Feb. 5	1165	245	126	2083
Gas-light	H. W. Manning	843,474	Feb. 5	1262	265	126	2108
Gas-purifying materials. Revivifying	H. L. Doherty	843,524	Feb. 5	1378	290	126	2137
Gasket	W. B. Haynes	843,394	Feb. 5	1106	230	126	2070
Gate:							
See Fence-gate. Railway-gate.							
Gate-hanger	C. A. Miller	843,410	Feb. 5	1130	235-6	126	2075
Gate or door hook	O. G. Parsons	842,970	Feb. 5	254	56	126	1853
Gearing	W. J. Lloyd	843,471	Feb. 5	1244	261	126	2104
Generator:							
See Gas-generator. Steam-generator.							
Glass-fastener	A. T. Moore	843,027	Feb. 5	378	83	126	1887
Glass. Process and apparatus for fire-polishing plate	P. T. Sievert	843,238	Feb. 5	821	169-70	126	2002
Goggles	T. W. Black	843,065	Feb. 5	441	96	126	1906
Grave-record	T. P. Pigg	843,029	Feb. 5	380	84	126	1888
Groove-cutting machine	P. Bontenakels	843,322	Feb. 5	903	204	126	2041
Gun-sight	H. Gunn	843,145	Feb. 5	625	132	126	1954
Gun-stock. Jointed	H. W. Munson	843,227	Feb. 5	805	166	126	1999
Guns. Automatic extractor for detonating cartridges in breech-loading	E. Olsson	843,231	Feb. 5	811	167	126	2000
Guns that recoil on their carriages. Compressed-air brake for	J. A. Deport	843,522	Feb. 5	1373	289	126	2137
Hand-shield	L. B. Tebeau	843,045	Feb. 5	407	89	126	1895
Handle:							
See Bag-handle.							
Hanger:							
See Garment-hanger. Wardrobe-hanger. Gate-hanger.							
Harp-action	C. A. Lindeman	843,470	Feb. 5	1243	260	126	2104

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drgs.	Official Gazette. Vol.	Official Gazette. Page.
Harrows. Adjusting-lever and ratchet connection for	G. E. Blaine	842,996	Feb. 5	311	67	126	1868
Harvester. Beet-	W. H. McCall	843,412	Feb. 5	1134	236-7	126	2076
Harvester. Cotton-	D. Murphy	843,546	Feb. 5	1428	301	126	2149
Harvester grain-lifting attachment	A. H. McCutchan	843,164	Feb. 5	660	139	126	1961
Hasp-fastener	C. S. Morse	843,350	Feb. 5	1041	214	126	2052
Hasp-lock	P. Grabler	843,564	Feb. 5	1469	310	126	2158
Hay and grain loader, unloader, and stacker	A. Lage	843,539	Feb. 5	1410	296	126	2145
Hay-carrier	J. R. Combs	843,328	Feb. 5	1005	206	126	2043
Hay-rake. Horse	A. F. Kearns	843,150	Feb. 5	632	133-4	126	1955
Header	W. Jacobs	843,279	Feb. 5	913	186	126	2023
Heat-regulating apparatus	N. E. Nash	843,093	Feb. 5	520	109	126	1927
Heater:							
See Electric heater. Water-heater. Smoke-consuming heater.							
Heater	H. J. Lange	843,088	Feb. 5	511	107	126	1924
Heating apparatus	S. H. Garst	843,083	Feb. 5	497	104	126	1920
Heating-furnace	E. E. Graham	842,881	Feb. 5	80	18	126	1811
Hemmer	A. L. Madison	843,347	Feb. 5	1037	214	126	2052
Hinge	W. H. Fitzgerald	843,081	Feb. 5	492	103	126	1920
Hinge pin and joint	R. G. Schutz	843,038	Feb. 5	398	86	126	1893
Hitching-weight	I. Matsumoto	843,543	Feb. 5	1422	299	126	2148
Hoe	W. A. Sparks	843,501	Feb. 5	1325	279	126	2125
Hoister-drum with hollow shafts	A. Lambert	843,154	Feb. 5	637	135	126	1957
Hoisting apparatus	F. D. Millin	843,411	Feb. 5	1131	236	126	2075
Hoisting apparatus	V. R. and E. H. Browning	843,558	Feb. 5	1454	307	126	2155
Hook:							
See Gate or door hook.							
Hook	W. O. Bement	842,933	Feb. 5	188	43	126	1837
Horse. Adjustable folding	T. V. Struble	843,118	Feb. 5	579	121	126	1942
Hose-supporter	J. H. Stoltzfus	843,115	Feb. 5	572	120	126	1941
Hot-air furnace	C. F. A. Röell	843,104	Feb. 5	548	114	126	1934
Hot-water-circulating system	C. C. Peck	842,907	Feb. 5	125	30	126	1820
Hull-cleaning and friction-reducing apparatus	W. A. Partee and J. C. Wharton	843,357	Feb. 5	1051	217	126	2055
Hydraulic press	B. Gerdau	842,949	Feb. 5	212	48	126	1843
Impact and reaction motor	C. Comstock	843,073	Feb. 5	465	100-1	126	1912
Incubator	W. F. Mikolasek	842,899	Feb. 5	111	26-7	126	1818
Index. Changeable	C. Townsend	843,124	Feb. 5	584	124	126	1944
Indicator:							
See Speed-indicator. Tank-indicator. Surface-indicator.							
Indigo coloring-matters. Reducing	R. Wimmer	843,566	Feb. 5	1475	.....	126	2160
Ink-well	J. Schlapp	843,367	Feb. 5	1071	221	126	2061
Innersole-finishing apparatus	G. E. Rollins	843,035	Feb. 5	393	86	126	1892
Insole. Electric	H. O. Can Dee	843,441	Feb. 5	1187	249	126	2088
Insulator	W. G. Clark	842,941	Feb. 5	197	45	126	1839
Insulator	W. G. Clark	843,259	Feb. 5	871	177	126	2015
Insulator-clamp	W. G. Clark	843,258	Feb. 5	869	176	126	2015
Insulator. Wire-	W. G. Clark	842,942	Feb. 5	199	45	126	1839
Insulators. Making	L. McCarthy	843,352	Feb. 5	1044	215	126	2053
Intrenching-tool	G. B. Rodney	843,179	Feb. 5	702	146	126	1970
Iron and steel. Treatment of	H. Luckenbach	843,569	Feb. 5	1480	312	126	2161
Iron. Manufacture of articles from cast-	A. E. Outerbridge, Jr	842,906	Feb. 5	123	.....	126	1820
Ironing-board	L. C. Krans	843,400	Feb. 5	1115	233	126	2071
Isinglass. Packing	A. L. Canfield	843,325	Feb. 5	1000	206	126	2042
Jack:							
See Lever-jack.							
Joint:							
See Bedstead-joint. Rail-joint. Crank-joint. Railway-joint. Pipe-joint.							
Kiln:							
See Brick-kiln.							
Knitting-machine	H. C. Aberle	842,931	Feb. 5	182	41-2	126	1836
Knob attachment	M. Weber	843,052	Feb. 5	415	90	126	1898
Lace holder. Shoe-	J. P. Olsen	843,485	Feb. 5	1288	270	126	2115
Lace-machine carriages. Machine for threading and unthreading	F. W. Pare and J. C. Richmond	843,487	Feb. 5	1289	270-1	126	2115
Ladder. Extension-	J. R. Goddard	843,204	Feb. 5	755	155	126	1986
Lamp apparatus for vehicles	G. C. Pyle	843,298	Feb. 5	950	192	126	2031
Lamp attaching means. Electric-	E. G. Wilson and W. B. Goodwin	843,316	Feb. 5	984	202	126	2039
Lamp. Incandescent electric	W. R. Whitney	843,054	Feb. 5	418	91	126	1898
Lamp. Induction vapor or gas electric	P. C. Hewitt	843,533	Feb. 5	1394	294	126	2141
Lamp safety closing device. Miner's-	A. L. Tombelaine	843,505	Feb. 5	1334	281	126	2127
Lamp socket. Incandescent-	C. M. and E. W. Keier	843,281	Feb. 5	917	187	126	2024
Lamp socket. Incandescent-	G. B. Thomas and G. W. Goodridge.	843,310	Feb. 5	975	200	126	2037
Lamp socket. Incandescent-	F. Wunderlich	843,425	Feb. 5	1159	244	126	2082
Latch mechanism. Knob-operable	H. G. Voight	843,047	Feb. 5	410	89	126	1896
Lathe	G. E. Greenleaf	842,883	Feb. 5	82	19	126	1812
Leak-detector and metering mechanism	H. A. Desper	842,947	Feb. 5	207	47	126	1841
Leer	S. F. Field	843,264	Feb. 5	879	179	126	2017
Leg-form	G. M. Luce	843,221	Feb. 5	788	162	126	1995
Lens-centering instrument	A. Pellow	843,548	Feb. 5	1431	302	126	2150
Lever-jack	A. A. McIntosh	843,292	Feb. 5	940	190	126	2029
Life-line-projecting device	B. Behr	843,385	Feb. 5	1095	227	126	2067
Lifter	T. B Whitlock and W. D. Becker	843,509	Feb. 5	1344	282	126	2129
Lifter or holder	F. W. Pew	842,909	Feb. 5	135	30	126	1825
Light:							
See Gas-light.							
Lime. Treating	M. R. Isaacs	843,277	Feb. 5	910	.....	126	2022
Linotype-mold	B. Van Wie	843,241	Feb. 5	828	171	126	2004
Loader	J. E. Wallin	842,925	Feb. 5	167	39	126	1832
Lock:							
See Combination-lock. Nut-lock. Door-lock. Nut and bolt lock. Friction-lock. Oar-lock. Hasp-lock.							
Lock and latch	H. G. Voight	843,048	Feb. 5	411	89	126	1897
Locomotive exhaust-nozzle	J. B. Allfree	843,252	Feb. 5	857	175	126	2012

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Locomotive superheater	H. V. Wille	843,315	Feb. 5	982	201–2	126	2038
Loom filling-detecting mechanism	J. V. Cunniff	843,198	Feb. 5	741	152	126	1983
Loom filling-exhaustion-indicating mechanism	E. S. Wood and J. Northrop	843,249	Feb. 5	846	174	126	2009
Loom filling-replenishing mechanism. Automatic-	J. Northrop and W. F. Roper	843,189	Feb. 5	668	140–1	126	1983
Loom for weaving tufted fabrics	E. Paruszewski	843,268	Feb. 5	1053	217–18	126	2055
Loom. Lappet-	W. A. Robinson	843,177	Feb. 5	689	144	126	1988
Loom. Lappet-	W. A. Robinson	843,178	Feb. 5	692	145–6	126	1988
Loom let-off mechanism	C. F. Roper	843,181	Feb. 5	704	147	126	1971
Loom protector and smash-preventing mechanism	R. Crompton	842,944	Feb. 5	202	46	126	1840
Loom. Weft-replenishing	W. F. Roper	843,107	Feb. 5	555	115–17	126	1935
Lubricator	E. Reber and E. C. Clark	843,208	Feb. 5	1070	221	126	2060
Lubricator	G. W. Ingham	843,536	Feb. 5	1404	295	126	2144
Mail-bag catcher and deliverer	C. Jost	843,206	Feb. 5	1114	232	126	2071
Mail-bag catching and delivering device	C. W. Bell	843,423	Feb. 5	1174	247	126	2096
Mail-crane	M. Cummings	843,260	Feb. 5	1461	308	126	2156
Mail-deliverer	M. Laska	843,457	Feb. 5	1235	259	126	2102
Mail-sack catching and delivering apparatus	N. K. Bowman	843,120	Feb. 5	594	126	126	1947
Manipulator	M. D. Cummings	843,561	Feb. 5	1464	309	126	2157
Mantle-support	J. W. Weber	843,422	Feb. 5	1151	241–2	126	2080
Marker and trip-actuator. Ground-	F. E. Reichardt	842,975	Feb. 5	262	57	126	1855
Mask	F. H. Morse	843,162	Feb. 5	657	138	126	1961
Match-safe	A. Otto	843,488	Feb. 5	1289	270	126	2115
Measuring instrument	C. H. Lovering	843,405	Feb. 5	1122	234	126	2073
Measuring instruments. Optical reading device for electrical	G. M. Willis	843,189	Feb. 5	719	149–50	126	1975
Meat-smoking apparatus	E. F. Northrup	843,414	Feb. 5	1138	237	126	2077
Mechanical movement	C. Schmitt	843,368	Feb. 5	1072	221	126	2061
Merry-go-rounds. Gear for	A. Sack	843,110	Feb. 5	564	118	126	1938
Metal structural work	W. F. Mangels	843,408	Feb. 5	1123	234	126	2073
Metallic tie and rail-fastener	R. T. Lewis	842,994	Feb. 5	100	24	126	1816
Meter:	H. W. Mulvey	843,351	Feb. 5	1043	215	126	2063
See Frequency-meter. Motor-meter.							
Milking device	L. G. Harper	843,532	Feb. 5	1393	294	126	2141
Milking device. Cow-	M. H. Daniels	843,446	Feb. 5	1196	251	126	2090
Mixer:							
See Concrete-mixer.							
Mixer	W. Dicks	843,136	Feb. 5	605	129	126	1949
Mixing and kneading machine	C. Laurick	843,468	Feb. 5	1240	259–60	126	2103
Moistening and delivering gummed binding-tape. Device for	H. P. Roberts	843,101	Feb. 5	542	112	126	1932
Mold:							
See Linotype-mold.							
Money-changing machine	E. D. Hale	842,885	Feb. 5	85	19–20	126	1812
Motor:							
See Electric motor. Rotary motor. Fan-motor. Impact and reaction motor.							
Motor-meter for alternating currents and operating the same	R. C. Lanphier	843,155	Feb. 5	640	135	126	1958
Multipolar service-switch	H. R. Sargent	842,978	Feb. 5	266	58	126	1856
Nail-clipper	A. M. Wooster	843,383	Feb. 5	1093	226	126	2066
Necktie-holder	F. Schlecht	843,303	Feb. 5	965	197	126	2035
Nose-bag for feeding horses and other animals	A. L. Hodge	843,211	Feb. 5	771	159	126	1990
Nut and bolt lock	J. A. Hyle	843,147	Feb. 5	628	133	126	1955
Nut. Expansion-	J. S. Hanlon	843,271	Feb. 5	901	183	126	2020
Nut for vehicle-hubs. Lock-	W. F. Post	843,096	Feb. 5	527	110	126	1928
Nut-lock	A. J. Garrison and A. A. Bosserman.	842,880	Feb. 5	79	18	126	1811
Nut-lock	D. C. Chaddock	842,937	Feb. 5	193	44	126	1838
Nut-lock	W. S. Mason	843,407	Feb. 5	1126	235	126	2074
Oar-lock and socket therefor	J. Lackie and F. M. Poston	843,021	Feb. 5	368	80	126	1884
Oil and steam vapor burner and steam-generator combined. Hydrocarbon-	A. J. Smithson	842,917	Feb. 5	149	33–4	126	1829
Oil-burner	G. E. Witt	843,381	Feb. 5	1090	226	126	2066
Oiling device	R. Grieser and F. C. Yates	843,084	Feb. 5	498	104	126	1921
Optical-instrument eyepiece	W. and A. G. Thomson	843,502	Feb. 5	1326	279	126	2125
Optometer	W. and A. G. Thomson	843,503	Feb. 5	1327	279	126	2126
Ore-separator	L. B. Hunter	843,086	Feb. 5	505	105–6	126	1924
Overcheck-runner and gag-holder	H. M. Applegate	842 902	Feb. 5	305	66	126	1886
Packing-machine	E. L. Bracy	843,323	Feb. 5	994	204–5	126	2041
Packing. Metallic	F. McCarthy	843,230	Feb. 5	809	166	126	1999
Packing. Paste-	J. Whitcomb	843,187	Feb. 5	717	.....	126	1974
Paint-line and awl holder	W. N. Cavileer	842,856	Feb. 5	33	7	126	1798
Pan:							
See Dust-pan. Pie-pan.							
Paper and fabric rolls. Core for	C. L. Crane	842,862	Feb. 5	43	9	126	1800
Paper and the like rack. Tissue-	W. A. Blackman	843,287	Feb. 5	1088	227–8	126	2088
Paper cutting and perforating machine	S. Wheeler	842,998	Feb. 5	288	62	126	1863
Paper-fastener	G. Boden	843,128	Feb. 5	594	126	126	1946
Paper-fastener	J. P. Stelle	843,184	Feb. 5	710	148	126	1973
Paper-folding machine	S. Lazar	843,219	Feb. 5	785	162	126	1994
Paper holder and cutter. Roll-	F. Kaufman	842,959	Feb. 5	229	51	126	1846
Paper or bag holder	G. S. Priddy	843,263	Feb. 5	1086	220	126	2060
Paper-shaping machine	C. H. Dunning	843,138	Feb. 5	606	129	126	1950
Patrol-station box	A. A. Newman	843,293	Feb. 5	941	190	126	2030
Pattern-plates. Apparatus for making	P. Bonvillain	843,086	Feb. 5	443	96	126	1905
Pelts. Machine for removing water-hairs from	G. Cimiotti	842,999	Feb. 5	194	44	126	1838
Pen. Non-leakable fountain-	C. A. Hayward	843,238	Feb. 5	1021	211	126	2048
Physical-development appliance	A. P. Mullins	843,291	Feb. 5	939	189	126	2029
Piano-player. Mechanical	J. Rowley	843,106	Feb. 5	563	117	126	1938
Pick	W. Thedorf	842,920	Feb. 5	155	35	126	1830
Pie-pan	B. C. Sabin	843,109	Feb. 5	563	118	126	1938
Pile. Sheet-	F. W. Skinner	843,207	Feb. 5	970	199	126	2036
Pin:							
See Hinge-pin. Veil-pin.							
Pincushion	G. D. Merrill	843,408	Feb. 5	1127	235	126	2074
Pipe.							
See Tobacco-pipe.							
Pipe-joint	J. C. McElroy	843,165	Feb. 5	662	139	126	1962

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Piping for circulating systems. System of	J. C. Kitton	843,282	Feb. 5	919	187	126	2024
Pistol. Repeating air-	H. Bennett	843,064	Feb. 5	439	95–6	126	1905
Pistons. Connecting-rod for trunk-	H. Dock	843,004	Feb. 5	327	71	126	1872
Planing-machine	T. A. Warner	843,244	Feb. 5	832	172	126	2005
Planing-machine attachment	P. J. McCormick	843,091	Feb. 5	514	108	126	1925
Planter	W. H. Holsclaw	843,457	Feb. 5	1212	256	126	2094
Planter	W. Sobey	843,500	Feb. 5	1317	277–9	126	2123
Planter. Corn-	S. H. Jones and E. E. Towle	843,020	Feb. 5	366	79–80	126	1884
Planter. Corn-	W. H. Lytle	843,345	Feb. 5	1031	212–13	126	2051
Plow	H. F. Brussow	843,257	Feb. 5	867	176	126	2014
Plow. Grooving and ditching	W. M. Benson	843,396	Feb. 5	1096	227	126	2067
Plow or cultivator	W. T. George	843,393	Feb. 5	1105	229–30	126	2069
Pole	H. Petterson	843,171	Feb. 5	678	142	126	1965
Post:							
See Fence-post.							
Postal-card protector	H. Ohashi	843,416	Feb. 5	1143	238	126	2078
Powder-box	J. A. Bucke	843,438	Feb. 5	1183	248	126	2087
Power-transmission mechanism	R. H. Little	843,296	Feb. 5	927	188	126	2027
Power-transmitting mechanism	R. Hamilton	843,013	Feb. 5	345	76–7	126	1877
Press:							
See Embossing-press. Toggle-press. Hydraulic press. Wheel-press. Printing-press.							
Pressure-controlling system	M. G. Reynolds	843,174	Feb. 5	683	143	126	1966
Printing-block	L. McGovern	843,483	Feb. 5	1284	269	126	2114
Printing-machines. Front-stop-operating mechanism for	G. F. Read	842,974	Feb. 5	259	57	126	1854
Printing-plate holder	J. A. Corey	843,002	Feb. 5	323	70	126	1871
Printing-press	J. W. Hoag	843,535	Feb. 5	1402	295	126	2143
Projectile	G. H. Hoxie	843,017	Feb. 5	358	78	126	1882
Puller:							
See Stalk-puller.							
Pulley. Split	H. M. Frank	843,202	Feb. 5	752	154	126	1985
Pulp-screening machines. Cleansing the screens of	P. R. Thom	843,185	Feb. 5	711	148	126	1973
Pulverizer and smoother. Soil	F. Miller	843,025	Feb. 5	376	83	126	1887
Pump-governor	G. E. Witt	843,382	Feb. 5	1092	226	126	2066
Puzzle	A. Bragg	843,388	Feb. 5	1099	228	126	2068
Puzzle	J. M. Pusey	843,490	Feb. 5	1302	273	126	2119
Pyrotechnic device	E. H. Wagner	843,125	Feb. 5	589	124	126	1945
Quilting-frame	W. F. Gaines	843,209	Feb. 5	897	183	126	2019
Rack:							
See Display-rack. Paper and the like rack.							
Radiators. Hot-air deflector and dust-collector for	C. E. Schafer	842,914	Feb. 5	142	32	126	1827
Rail-joint	A. W. Shaw	842,915	Feb. 5	145	32	126	1828
Rail-joint	J. J. Cousins	843,135	Feb. 5	604	128	126	1949
Rail-joint	J. L. Mertins	843,409	Feb. 5	1129	235	126	2074
Rail-joint	D. B. Bogard	843,557	Feb. 5	1454	307	126	2155
Rail-tie. Metallic	W. G. Martan	843,475	Feb. 5	1264	265	126	2109
Rails. Anticreeping attachment for	T. L. Paine	843,232	Feb. 5	812	167	126	2000
Railway-gate	W. Lambert	842,892	Feb. 5	98	24	126	1815
Railway-gate. Automatic	L. Gallant	843,335	Feb. 5	1014	209–10	126	2046
Railway-joint	R. B. Swank	843,119	Feb. 5	579	122	126	1942
Railway-joint	R. B. Swank	843,120	Feb. 5	580	122–3	126	1943
Railway-switch	T. K. Wilson	842,930	Feb. 5	176	40–1	126	1834
Railway-tie	H. G. Staab	843,308	Feb. 5	972	199	126	2036
Railway-tie	W. H. Castle	843,517	Feb. 5	1357	285	126	2132
Railway-tie. Metal	A. O. Ridgway	843,492	Feb. 5	1303	274	126	2119
Railway-track	W. Miley	842,967	Feb. 5	249	55	126	1852
Railway-train safety device	D. Kerekes	843,463	Feb. 5	1230	258	126	2100
Railway with suspended vehicle. Single-rail electric overhead	H. Romanoff	843,418	Feb. 5	1145	239–40	126	2079
Rake:							
See Hay-rake.							
Ratchet-drill	J. H. and T. M. Aiken	843,513	Feb. 5	1352	284	126	2130
Razor. Safety-	A. A. Warner	842,927	Feb. 5	173	40	126	1834
Razor. Safety-	A. A. Warner	842,928	Feb. 5	174	40	126	1834
Razor. Safety-	F. Kampfe	842,956	Feb. 5	225	51	126	1845
Razor. Safety-	F. H. Arnold	843,059	Feb. 5	433	94	126	1903
Razor. Safety-	A. H. Jackson	843,148	Feb. 5	630	133	126	1955
Razor-strop members. Swivel device for	F. Kampfe	843,341	Feb. 5	1026	211	126	2049
Receptacle for elements	H. P. R. L. Pörscke and G. A. Wedekind.	843,549	Feb. 5	1435	302	126	2151
Recorder:							
See Time-recorder.							
Recorder and reproducer. Combined	T. H. Macdonald	842,897	Feb. 5	107	26	126	1817
Reel:							
See Clothes-line reel. Wire-reel.							
Refrigerator	J. Staudacher	843,044	Feb. 5	406	88	126	1895
Register:							
See Coin-register.							
Register	J. H. Williams	843,055	Feb. 5	419	91	126	1899
Register name-board	F. W. Leuthesser	843,285	Feb. 5	925	188	126	2026
Regulator:							
See Fluid-pressure regulator. Gas-burner regulator. Speed-regulator.							
Ridge-roll machine	C. F. Baldwin	842,994	Feb. 5	307	67	126	1866
Road-bed equipment	J. D. Kneedler	843,216	Feb. 5	777	160–1	126	1992
Road-smoother	R. C. Schreiber	843,389	Feb. 5	1075	222	126	2062
Rock-drill	H. Hellman and L. C. Bayles	842,953	Feb. 5	220	50	126	1844
Rock-drill saddle	G. S. Power	842,972	Feb. 5	257	56	126	1854
Rock-drilling engine. Multiple-hammer-piston	J. G. Leyner	843,159	Feb. 5	648	136–7	126	1960
Rock-drilling engines. Lock for feed-screws for	F. E. Glaze	843,144	Feb. 5	624	132	126	1954
Rocking-chair	J. C. Aronhalt	843,060	Feb. 5	434	94	126	1903
Roller:							
See Calender-roller. Shade-roller.							
Rolling-mills. Mechanism for handling metal in	A. J. Hoak	843,395	Feb. 5	1108	230–1	126	2070
Roofs or sidings. Angle-piece for	J. H. Holt	843,212	Feb. 5	772	159	126	1990
Rotary meter	A. A. Darby	843,075	Feb. 5	479	101	126	1916

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Rubber. Extracting	G. B. Bradshaw	843,567	Feb. 5	1475	.....	126	2160
Rubber footwear. Mold for manufacturing	M. C. Clark	842,859	Feb. 5	34	7	126	1798
Rubber stamp	S. E. Timmons	843,046	Feb. 5	408	89	126	1896
Rule and level. Plumb	W. Downs	842,874	Feb. 5	62	15	126	1806
Rule and square. Combined	H. S. Humes	843,459	Feb. 5	1224	257	126	2099
Ruler and sliding scale. Rolling parallel	G. B. Sturgeon	843,374	Feb. 5	1062	223	126	2063
Saddle-bags	A. R. Moore	843,249	Feb. 5	1039	214	126	2062
Safe	W. C. Hattersley	843,272	Feb. 5	903	183	126	2021
Salt-shaker	O. Kampfe	843,280	Feb. 5	915	186	126	2023
Sandpapering-machine	J. Gramelspacher	843,010	Feb. 5	333	73	126	1874
Sash holder. Window-	E. Bujewski	843,430	Feb. 5	1184	249	126	2088
Sash. Ventilating window-	S. Feldman	843,130	Feb. 5	612	129	126	1951
Saw	R. E. Poindexter	843,030	Feb. 5	382	84	126	1888
Saw-guide	H. W. Garland	843,336	Feb. 5	1018	210	126	2047
Saw guide. Band-	H. J. Rathke	843,097	Feb. 5	529	110	126	1929
Saws. Rotary cutter for making	C. Napier	842,903	Feb. 5	118	28	126	1819
Sawdust-drier	C. E. Smith	842,916	Feb. 5	146	33	126	1828
Sawmill set-works	F. H. Grove	843,451	Feb. 5	1203	253–4	126	2092
Scale-bearing	J. L. Good	843,000	Feb. 5	333	72	126	1874
Scissors	E. C. Higgins	843,209	Feb. 5	769	158	126	1990
Scoop and shovel grip	C. J. Rundell	842,912	Feb. 5	141	31	126	1827
Screen: *See* Shaking-screen. Window-screen.							
Screw-gage and the like	F. B. Fischer	843,265	Feb. 5	880	180	126	2017
Scrubber or cleaner	W. B. Rohmer	843,236	Feb. 5	815	168	126	2001
Seat: *See* Bicycle-seat.							
Sectional boiler	A. Hage	843,337	Feb. 5	1019	210	126	2047
Self-leveling table	Q. M. Simpson	843,371	Feb. 5	1078	223	126	2063
Separator: *See* Ore-separator.							
Sewer-trap	G. G. Burdick	843,089	Feb. 5	447	97	126	1906
Sewing-machine	J. Bolton and J. Weiss	842,934	Feb. 5	189	43	126	1837
Sewing-machine	J. R. Reynolds	843,099	Feb. 5	532	111	126	1929
Sewing-machine gathering attachment	E. H. Burrage	843,440	Feb. 5	1186	249	126	2088
Shade-holder	R. Thorner	843,122	Feb. 5	582	123	126	1943
Shade roller. Window-	C. B. Case	842,936	Feb. 5	191	43	126	1837
Shaft-coupling	H. M. Frank	843,201	Feb. 5	751	154	126	1984
Shaft-holder for harness	W. T. Sebree	843,041	Feb. 5	402	87	126	1894
Shaking-screen, &c	J. B. Cornwall	843,442	Feb. 5	1188	249–50	126	2088
Sharpening apparatus. File-	J. M. Gale	843,082	Feb. 5	495	103	126	1920
Sheet-metal-spinning apparatus	R. Clarke	843,518	Feb. 5	1359	286	126	2132
Ship for carrying liquid cargoes in bulk	C. E. Burney	843,300	Feb. 5	1101	228	126	2069
Ship's hull	O. Holby	843,016	Feb. 5	357	77–8	126	1881
Shoe-polishing device	G. B. Dunn	843,562	Feb. 5	1467	309	126	2138
Shoe-protector	L. A. Doyle	843,190	Feb. 5	748	153	126	1984
Shoe-shank-tacking machine	B. B. Waterman	842,984	Feb. 5	275	60–1	126	1859
Show-case	M. F. Gebhardt	843,143	Feb. 5	622	132	126	1953
Shutter-operating device	A. K. Lovell	842,895	Feb. 5	101	25	126	1816
Shutter-operating device	A. K. Lovell	842,896	Feb. 5	103	25–6	126	1816
Sign. Electric	G. Howe	842,954	Feb. 5	223	50	126	1845
Sign. Enameled	E. Richardson	843,235	Feb. 5	815	168	126	2001
Sign. Luminous	P. L. Clark	842,860	Feb. 5	36	8	126	1798
Sign or indicator. Changeable	F. L. Fuller and C. S. Banghart	843,268	Feb. 5	895	182	126	2019
Signal: *See* Electric signal. Train-order signal.							
Signaling system. Electric	F. W. Prentice	843,550	Feb. 5	1437	303	126	2152
Skirt-supporter	W. Klinge	843,464	Feb. 5	1231	258	126	2101
Sleeve-holder	A. T. Moore	843,226	Feb. 5	804	165	126	1998
Slicer. Potato-	R. E. Atkinson and T. A. Teate	843,427	Feb. 5	1162	244	126	2082
Smoke-consuming heater	C. F. A. Röell	843,105	Feb. 5	550	114–15	126	1935
Soap. Anchor for cakes of	J. G. Drought	843,330	Feb. 5	1008	207	126	2045
Soldering machine. Can-	H. C. H. Walsh	842,926	Feb. 5	169	39	126	1833
Speed-indicator	W. C. Plank	843,361	Feb. 5	1064	219	126	2059
Speed-regulator	J. W. Ullrich, Jr., and J. W. Maierhofer.	843,377	Feb. 5	1086	224	126	2064
Speed transmission mechanism. Variable-	A. V. Hart	843,205	Feb. 5	756	155–7	126	1986
Spinning-machine	J. G. Fahr	843,448	Feb. 5	1199	252	126	2091
Spinning of textile fibers. Means for facilitating the	R. Todd, J. A. and A. H. Stott	842,921	Feb. 5	155	36–7	126	1830
Spiral-cutting machine	R. T. Wingo	842,989	Feb. 5	292	63–5	126	1863
Spool	P. Hardman	843,454	Feb. 5	1207	255	126	2093
Spool holder and protector	A. Kasse and H. Stoll	842,958	Feb. 5	228	51	126	1846
Spring: *See* Bed-spring. Furniture-spring.							
Spring-wheel	M. Murray	843,228	Feb. 5	807	166	126	1999
Springs. Bearing end for half-elliptic	T. A. Shea	843,306	Feb. 5	969	198	126	2036
Sprinkler: *See* Automatic sprinkler.							
Sprinkler-closer. Automatic	G. Boden	843,556	Feb. 5	1452	306–7	126	2154
Spud	C. E. Root	843,036	Feb. 5	396	86	126	1892
Stacker. Straw-	E. and F. Barth	843,063	Feb. 5	438	95	126	1904
Stair-rod fastener	L. Deitrick	843,521	Feb. 5	1372	289	126	2137
Stalk-puller	C. J. Richardson	843,493	Feb. 5	1305	274	126	2120
Steam-generator	J. Schütte	843,497	Feb. 5	1311	276	126	2121
Steam-trap	R. C. Johnston	843,019	Feb. 5	364	79	126	1884
Steam-trap	G. W. Hayden	843,207	Feb. 5	765	157	126	1989
Steam-trap	J. Langridge	843,402	Feb. 5	1119	233	126	2072
Steaming apparatus	W. G. Williams	843,510	Feb. 5	1345	283	126	2129
Steel, iron, and other metals. Toughening or annealing	W. F. L. Frith	843,563	Feb. 5	1468	310	126	2158
Sterilizing or pasteurizing apparatus. Attachment for	C. J. Tagliabue	842,981	Feb. 5	272	59	126	1858
Stethoscope	P. A. Aurness	843,319	Feb. 5	989	203	126	2040
Still. Continuous	E. Krepper	843,217	Feb. 5	780	161	126	1992
Stoker. Automatic	J. S. S. Fulton	842,878	Feb. 5	72	17	126	1809
Stone gallery	G. W. Dover	843,008	Feb. 5	329	72	126	1873
Stove	M. W. Barker	842,995	Feb. 5	310	67	126	1867
Stove-flue	E. E. Thompson	843,375	Feb. 5	1083	224	126	2064
Stove-grate. Rocker	F. B. Watson	843,061	Feb. 5	414	90	126	1898

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Stove. Heating-	C. F. A. Röell	843,103	Feb. 5	546	113–14	126	1934
Stove. Magazine-	C. F. A. Röell	843,106	Feb. 5	553	115	126	1936
Strip-serving device	S. Elliott	842,948	Feb. 5	211	47	126	1842
Superheater	H. Langer	843,342	Feb. 5	1028	212	126	2050
Surface-indicator	J. Sigrist	843,043	Feb. 5	404	88	126	1895
Surgical ligatures. Container for	H. Rosenberg	843,494	Feb. 5	1307	275	126	2120
Switch: *See* Electric time-switch. Telephone-switch. Railway-switch.							
Switch-operating mechanism	T. E. Button	843,070	Feb. 5	449	97–8	126	1907
Switching device	J. N. Makley, E. F. Manett, and F. M. Dannelly.	843,473	Feb. 5	1248	262–4	126	2105
Synchronizer	W. H. Freedman	843,266	Feb. 5	882	180	126	2018
Table: *See* Self-leveling table.							
Talking-machine	C. Thomas	842,982	Feb. 5	273	60	126	1858
Talking-machine	C. Thomas	842,983	Feb. 5	274	60	126	1858
Talking-machine sound-box	F. Sheppy	843,042	Feb. 5	403	87	126	1894
Tank-indicator	W. H. McNutt	843,166	Feb. 5	663	139	126	1962
Teapots, &c. Dripless spout for	W. Cox	843,443	Feb. 5	1190	250	126	2089
Telegraph. Printing-	J. D. White	843,508	Feb. 5	1337	282	126	2128
Telegraph. Type-printing	E. J. Steljes	842,918	Feb. 5	151	34–5	126	1829
Telephone dictating machine or apparatus	K. M. Turner and W. F. H. Germer.	843,186	Feb. 5	713	149	126	1973
Telephone relay or repeater	A. L. Parcelle	843,296	Feb. 5	947	191	126	2031
Telephone-switch	K. Weman	843,053	Feb. 5	416	91	126	1898
Telephone system	R. M. Eaton	843,078	Feb. 5	486	102	126	1918
Telephone system. Intercommunicating	W. W. Dean	843,329	Feb. 5	1006	207	126	2044
Telephone-transmitters. Attachment for mouth-pieces of	W. C. Plank	843,362	Feb. 5	1065	220	126	2059
Telephone trunking system	H. G. Webster	843,245	Feb. 5	835	172–3	126	2006
Telescope mounting. Rifle-	F. L. Smith	843,183	Feb. 5	708	148	126	1972
Tennis-net	J. C. Chapin	843,326	Feb. 5	1002	206	126	2043
Thimble-forming machine	F. A. Christensen, A. W. Bott, and E. H. Wilbur.	843,000	Feb. 5	317	69	126	1869
Thread-guard	S. B. Wilson	843,190	Feb. 5	731	150	126	1980
Tie: *See* Fencing-tie. Railway-tie. Metallic tie.							
Time-recorder	J. G. Wynn	842,990	Feb. 5	301	65–6	126	1865
Time-recorder	A. N. Palmer and W. W. Kimball.	843,170	Feb. 5	672	141–2	126	1964
Tinning-pots. Roll-wiper for	A. J. Maskrey	843,223	Feb. 5	791	163	126	1995
Tire-setting machine	C. W. Baker	843,062	Feb. 5	436	94–5	126	1904
Tire-shrinker	W. H. Francis	843,392	Feb. 5	1103	229	126	2069
Tobacco-pipe	C. Lindberg	843,343	Feb. 5	1029	212	126	2050
Tobacco. Treating leaf-	H. Knox	843,538	Feb. 5	1409	.....	126	2145
Toggle-arm	B. Gray	843,450	Feb. 5	1202	253	126	2091
Toggle-press	C. N. Frey	843,203	Feb. 5	753	154–5	126	1985
Toy	J. E. Bates	843,320	Feb. 5	990	203	126	2040
Toy. Figure	T. J. Livingston	843,024	Feb. 5	375	82	126	1887
Track-laying device	C. W. Burton	842,855	Feb. 5	29	5–6	126	1797
Traction-roll mechanism	D. Crane	843,519	Feb. 5	1361	286	126	2133
Train-despatching system	C. E. Scribner	843,039	Feb. 5	399	87	126	1893
Train-order signal	W. C. Reynolds	843,175	Feb. 5	685	143	126	1967
Training-machine	E. Brown	843,389	Feb. 5	1100	228	126	2068
Trap: *See* Sewer-trap. Steam-trap.							
Trolley	J. Struth and C. Holzapfel	843,373	Feb. 5	1080	223	126	2063
Trolley-controlling device	J. and H. L. Dale	843,445	Feb. 5	1194	251	126	2090
Trolley-wheel	A. A. Schneider	843,305	Feb. 5	968	198	126	2035
Trousers stretcher and presser. Combined	S. S. Zigler	843,250	Feb. 5	855	174	126	2011
Truck	C. Rawlinson	843,234	Feb. 5	814	167	126	2000
Truck	W. P. Hussey	843,340	Feb. 5	1025	211	126	2049
Truck for carrying baggage, &c. Hand-	J. E. and W. R. Ridgway	843,034	Feb. 5	391	85	126	1891
Truss	F. A. Nims	843,168	Feb. 5	667	140	126	1963
Tube: *See* X-ray tube.							
Turbine. Steam-	F. D. Shepherd	843,237	Feb. 5	817	168	126	2001
Turbine. Steam-	H. Keessler	843,537	Feb. 5	1406	296	126	2144
Twine-holder	J. D. Boudreaux	843,435	Feb. 5	1178	248	126	2086
Type-casting machine. Single-	L. Schmidt	843,304	Feb. 5	965	198	126	2035
Type-distributing machines. Type-channel for	D. B. Ray	843,173	Feb. 5	681	142	126	1966
Type-writer attachment	W. C. Plank	843,360	Feb. 5	1061	219	126	2058
Type-writers. Manifolding means for flat-platen	H. J. Halle	843,012	Feb. 5	337	74–5	126	1875
Type-writing machine	J. D. Powell	843,032	Feb. 5	383	85	126	1889
Type-writing machine	D. A. Carpenter	843,071	Feb. 5	454	99	126	1908
Type-writing machine	A. W. Hewitt	843,085	Feb. 5	502	105	126	1922
Type-writing machine	J. A. Wherry	843,247	Feb. 5	841	173	126	2007
Type-writing machine	J. A. Wherry	843,248	Feb. 5	844	173	126	2008
Type-writing machine	C. P. Mosher	843,545	Feb. 5	1424	300	126	2148
Type-writing machine	J. Ziegler	843,057	Feb. 5	424	92–3	126	1900
Type-writing-machine platen	C. F. Laganke	843,022	Feb. 5	368	80–2	126	1885
Type-writing machines. Combination book and billing platen for	M. G. McGuire	843,092	Feb. 5	517	108–9	126	1926
Umbrella	W. E. Moulton	843,477	Feb. 5	1266	266	126	2109
Umbrella	C. C. Tozier	842,922	Feb. 5	160	37	126	1831
Valve. Ball-cock	H. C. Ostermann	842,969	Feb. 5	253	55	126	1853
Valve. Grain-door	J. T. Wadsworth	843,313	Feb. 5	979	201	126	2037
Valve mechanism	S. M. Hall	842,952	Feb. 5	218	49–50	126	1844
Valve-seats. Tool for preparing	A. Kronstein	843,401	Feb. 5	1116	.....	126	2072
Varnishes, balsams, and resins. Manufacture of	W. K. Waters	843,314	Feb. 5	980	201	126	2038
Vault. Burial-	C. G. Stretch	843,117	Feb. 5	576	121	126	1942
Vehicle front gear	W. H. Strickler	843,420	Feb. 5	1148	241	126	2079
Vehicle running-gear	G. L. Harvey	843,206	Feb. 5	763	157	126	1988
Vehicle-stake	L. Cockerill	843,133	Feb. 5	600	127–8	126	1948
Vehicle storm-front	J. Z. Miller	843,348	Feb. 5	1038	214	126	2052
Vehicle-top shifter-fastener	W. Quivey	843,172	Feb. 5	679	142	126	1965
Vehicle-wheel	J. T. Dean	843,263	Feb. 5	877	179	126	2017
Veil-pin	R. R. Ball	843,127	Feb. 5	592	125	126	1946
Vending-machine							

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Ventilator: *See* Machine-driven ventilator.							
Ventilator-hood	W. R. McKeen, Jr.	843,413	Feb. 5	1136	237	126	2076
Vessels. Water-ballast-controlling apparatus for	C. B. Calder	842,856	Feb. 5	30	6	126	1797
Vise	T. Osterberg	843,295	Feb. 5	946	191	126	2031
Voting-machines. Entrance and exit actuating mechanism for	C. G. Barnum and J. N. Shepardson.	843,431	Feb. 5	1168	246	126	2064
Wagon. Dumping-	H. F. Langreder	843,284	Feb. 5	923	187	126	2026
Wagon-remover	A. J. Hawkes	843,146	Feb. 5	627	133	126	1954
Wardrobe-hanger	V. E. Clark	842,940	Feb. 5	196	45	126	1839
Washboard	F. Martin	842,964	Feb. 5	1243	53	126	1839
Washboard	W. B. Lichtig	843,469	Feb. 5	1242	260	126	2104
Washer: *See* Air-washer.							
Washing-boiler	A. L. Brazee	843,437	Feb. 5	1180	248	126	2087
Washing-machine	J. A. McClure	843,490	Feb. 5	1270	267	126	2111
Watch	W. J. Walker	843,242	Feb. 5	830	171	126	2005
Watch-fob	C. Wallerstedt	843,049	Feb. 5	412	90	126	1807
Watch-fob	C. Wallerstedt	843,050	Feb. 5	413	90	126	1807
Water-elevating machine	S. A. Huntley	843,275	Feb. 5	906	184-5	126	2021
Water-heater	J. A. Frey	843,526	Feb. 5	1382	290-1	126	2128
Weeding and cultivating device	T. J. King	843,300	Feb. 5	1115	232	126	2071
Welding the longitudinal joints in tubular objects. Electrically	E. Bier	843,515	Feb. 5	1355	285	126	2131
Wheel: *See* Spring-wheel. Vehicle-wheel. Trolley-wheel.							
Wheel	W. H. Clark	843,001	Feb. 5	322	70	126	1871
Wheel-press	G. T. Reiss	843,098	Feb. 5	531	110	126	1929
Whiffletree	R. R. Burton	843,131	Feb. 5	597	126	126	1947
Whip holder or hanger	G. Keller	842,900	Feb. 5	231	52	126	1847
Window-glasses and for preventing them from freezing. Device for cleaning frozen	C. J. Schultz	842,979	Feb. 5	268	59	126	1857
Window-screen. Adjustable roller	A. J. Baker	843,061	Feb. 5	435	94	126	1904
Wire fabric. Loom for making	G. Giussani	843,520	Feb. 5	1387	292-3	126	2140
Wire-fabric-weaving machine	G. A. Raymond	843,299	Feb. 5	951	192-5	126	2032
Wire-reel	O. H. Juve	843,213	Feb. 5	773	159	126	1991
Wire-reel guide	O. H. Juve	843,214	Feb. 5	775	159	126	1991
Wire-stretcher	Z. A. Curtis	842,866	Feb. 5	51	12	126	1802
Wire-stretcher	C. E. Logan	843,404	Feb. 5	1122	234	126	2073
Wire-stripping machine	H. E. McKenna	843,363	Feb. 5	1045	215	126	2053
Wireless communication	G. W. Pickard	842,910	Feb. 5	138	31	126	1825
Wood-dressing machine	W. M. Luther	843,222	Feb. 5	789	162	126	1996
Work-holder. Magnetic	W. N. Vance	843,312	Feb. 5	977	200	126	2037
Wrench	H. W. Hughes	843,274	Feb. 5	905	184	126	2021
X-ray tube	M. Ehrhardt	842,875	Feb. 5	64	16	126	1806

DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Dish. Cover-	R. L. Johnson	38,439	Feb. 5	126	2161
Glass dish	B. W. Jacobs	38,440	Feb. 5	126	2161

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Adhesives. Certain	E. G. Soltmann	60,318	Feb. 5	126	2182
Agricultural machinery and parts thereof. Certain	Taylor Iron & Steel Co	60,382	Feb. 5	126	2184
Anodyne powders	Dr. N. C. Davis Company	60,410	Feb. 5	126	2185
Augers, auger and gimlet bits	Hibbard, Spencer, Bartlett & Company.	60,344	Feb. 5	126	2183
Baking-powder	Sherer-Gillett Company	60,417	Feb. 5	126	2185
Batteries, parts thereof, and fan-motors. Primary	Edison Manufacturing Company.	60,343	Feb. 5	126	2183
Beer	F. A. Poth & Sons	60,376	Feb. 5	126	2184
Beer	Uneeda Brewing Co	60,384	Feb. 5	126	2184
Beer. Lager	C. Kern Brewing Co	60,385	Feb. 5	126	2184
Beverages and preparations for making same. Certain	Fortune Bros. Brew. Co	60,377	Feb. 5	126	2184
Beverages. Certain	H. C. Anderson	60,402	Feb. 5	126	2185
Bicycle crank-shafts, crank-hangers, sprockets and bearings	A. Ludorff	60,432	Feb. 5	126	2186
Biscuit and cracker fruit fillings	Great Western Manufacturing Company.	60,336	Feb. 5	126	2183
Bitters	H. A. Johnson & Co	60,357	Feb. 5	126	2181
Boots and shoes. Leather	F. A. Richter	60,416	Feb. 5	126	2185
Boots and shoes. Leather	Samuel Gans Company	60,348	Feb. 5	126	2183
Boots and shoes. Leather	Jos. Rosenheim Shoe Co	60,360	Feb. 5	126	2184
	Jos. Rosenheim Shoe Co	60,361	Feb. 5	126	2184

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Boots and shoes. Leather	Jos. Rosenheim Shoe Co	60,362	Feb. 5	126	2184
Boots and shoes. Leather	Jos. Rosenheim Shoe Co	60,363	Feb. 5	126	2184
Boots and shoes. Leather	Luddy & Currier	60,365	Feb. 5	126	2184
Boots, shoes, and slippers. Leather	J. E. & W. G. Wesson	60,418	Feb. 5	126	2185
Boots, shoes, and slippers. Leather	Preston B. Keith Shoe Company	60,435	Feb. 5	126	2186
Bouillon	Maggi Co	60,280	Feb. 5	126	2181
Bran	Wells Flour Milling Company	60,300	Feb. 5	126	2182
Brandy	J. Dupont & Co	60,411	Feb. 5	126	2185
Brooms	Merkle-Wiley Broom Co	60,312	Feb. 5	126	2182
Butter	J. R. Thomas' Sons	60,286	Feb. 5	126	2182
Candies	National Candy Company	60,292	Feb. 5	126	2182
Candies. Chocolate	National Candy Company	60,293	Feb. 5	126	2181
Candy made of popcorn and molasses	S. W. Bonsall	60,290	Feb. 5	126	2182
Canned corn	H. L. Forban	60,275	Feb. 5	126	2181
Canned fish and oysters	Klauber Wangenheim Co	60,259	Feb. 5	126	2181
Canned meats and lard	Schwarzschild & Sulzberger Company.	60,283	Feb. 5	126	2182
Canned vegetables	Northern Maine Packing Company.	60,281	Feb. 5	126	2182
Carbureters for automobiles	B. F. Bradley	60,322	Feb. 5	126	2183
Cards. Playing-	New York Consolidated Card Company.	60,313	Feb. 5	126	2182
Cards. Playing-	New York Consolidated Card Company.	60,314	Feb. 5	126	2182
Cement. Hydraulic and other building-	Atlas Portland Cement Company.	60,302	Feb. 5	126	2182
Cement. Waterproof liquid	Waterproof and Enamel Company.	60,320	Feb. 5	126	2183
Cheese	F. X. Baumert & Company	60,251	Feb. 5	126	2181
Cheese	F. X. Baumert & Company	60,289	Feb. 5	126	2182
Chemical. Certain named	Bank Safe Protection Co	60,385	Feb. 5	126	2184
Chemicals. Certain	Badische Anilin- & Soda-Fabrik	60,440	Feb. 5	126	2186
Chocolate and cocoa	Pennsylvania Chocolate Company.	60,294	Feb. 5	126	2182
Chocolate and cocoa	Pennsylvania Chocolate Company.	60,295	Feb. 5	126	2182
Cleaning, polishing, or scouring preparation in powdered form	Lever Brothers Company	60,261	Feb. 5	126	2181
Clocks and dials therefor. Watchmen's	Newman Clock Company	60,392	Feb. 5	126	2184
Clothing. Certain named	Denison Dodd Bowers Co	60,324	Feb. 5	126	2183
Cocktails	P. Dempsey & Co	60,426	Feb. 5	126	2185
Cocoanut. Shredded	Franklin Baker Company	60 276	Feb. 5	126	2181
Cords, twines, and ropes	Silver Lake Company	60,317	Feb. 5	126	2182
Corset covers and waists	C. A. Powell	60,334	Feb. 5	126	2183
Corsets	Dayton Dry Goods Co	60,323	Feb. 5	126	2183
Cotton piece goods	R. A. Suffern	60,397	Feb. 5	126	2185
Cotton piece goods	C. C. Copeland & Co	60,408	Feb. 5	126	2185
Cotton piece goods. Unbleached	Ashton, Hoare & Coy	60,403	Feb. 5	126	2185
Cranks, crank-axles, pitmen, piston-rods, and shafts	Fried. Krupp Aktiengesellschaft	60,430	Feb. 5	126	2185
Cutlery. Certain named	Butler Brothers	60,341	Feb. 5	126	2183
Decoys	H. W. Mason	60,310	Feb. 5	126	2182
Decoys	H. W. Mason	60,311	Feb. 5	126	2182
Dough-mixing machines	Joseph Baker & Sons American Oven Company.	60,329	Feb. 5	126	2183
Dress-shields	Jordan Marsh Company	60,364	Feb. 5	126	2184
Edge-tools. Certain	Collins Company	60,424	Feb. 5	126	2185
Ejectors, inspirators, and tank-wells	United Injector Co	60,399	Feb. 5	126	2185
Elastic webbing	Narrow Fabric Corporation	60,434	Feb. 5	126	2186
Electric sparking and igniting apparatus	Société Générale des Huiles et Fournitures Industrielles l'Oléo.	60,336	Feb. 5	126	2183
Engines. Explosive-	Robertson Manufacturing Company.	60,335	Feb. 5	126	2183
Ergot preparation	H. S. Wellcome	60,447	Feb. 5	126	2186
Eye-water	Halslip & Halslip	60,388	Feb. 5	126	2184
Feed-grinders	L. B. McCargar	60,366	Feb. 5	126	2184
Feed. Poultry	Albert Dickinson Company	60,249	Feb. 5	126	2181
Files	Butler Brothers	60,353	Feb. 5	126	2183
Flour. Wheat-	Kingman Milling Company	60,258	Feb. 5	126	2181
Flour. Wheat-	Valier & Spies Milling Company	60,267	Feb. 5	126	2181
Flour. Wheat-	Valier & Spies Milling Company	60,268	Feb. 5	126	2181
Flour. Wheat-	Crete Mills	60,271	Feb. 5	126	2181
Food. Cattle	Atlantic Export Company	60,269	Feb. 5	126	2181
Fruits. Dried and evaporated	W. D. Jameson	60,291	Feb. 5	126	2182
Gas burners. Illuminating-	Alton M'f'g Co	60,288	Feb. 5	126	2182
Gin	Mallard Distilling Co	60,380	Feb. 5	126	2184
Globes. Educational	J. L. Hammett Co	60,359	Feb. 5	126	2184
Gloves. Kid	Dayton Dry Goods Co	60,425	Feb. 5	126	2185
Ham and breakfast-bacon	Charles Wolff Packing Company	60,253	Feb. 5	126	2181
Headwear. Certain named	Dunlap & Co	60,355	Feb. 5	126	2184
Headwear. Certain named	Dunlap & Co	60,356	Feb. 5	126	2184
Hose-clamps	W. D. Allen Mfg. Co	60,349	Feb. 5	126	2183
Inhaling devices	J. L. Perkins	60,346	Feb. 5	126	2183
Inking-pads	J. B. Laughton	60,431	Feb. 5	126	2186
Insecticide for bugs and blight	B. Hammond	60,413	Feb. 5	126	2185
Insects. Preparation for killing	C. Lustgarten	60,379	Feb. 5	126	2184
Insulated electric wire and cable	Safety Insulated Wire & Cable Co.	60,369	Feb. 5	126	2184
Insulated electric wire and cable	Safety Insulated Wire & Cable Co.	60,370	Feb 5	126	2184
Jacks. Ratchet, screw, and track	A. O. Norton Incorporated	60,420	Feb. 5	126	2185
Jacks. Ratchet, screw, and track	A. O. Norton Incorporated	60,421	Feb. 5	126	2185
Knitted goods. Certain	American Hosiery Company	60,352	Feb. 5	126	2183
Knitted goods. Certain	American Hosiery Company	60,372	Feb. 5	126	2184
Knitted goods. Certain	American Hosiery Company	60,401	Feb. 5	126	2185

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Knives, forks, spoons, table-steels, nut-picks, &c.	Landers, Frary & Clark	60,330	Feb. 5	126	2183
Lamps and lanterns and burners therefor. Oil-burning	R. E. Dietz Company	60,262	Feb. 5	126	2182
Lard	Schwarzschild & Sulsberger Company.	60,264	Feb. 5	126	2182
Lead pigments	Picher Lead Company	60,296	Feb. 5	126	2182
Lead pigments	Picher Lead Company	60,297	Feb. 5	126	2183
Leather for boots and shoes, saddlery, and bookbinding	L. Agoos	60,350	Feb. 5	126	2183
Leather for shoes. Upper	H. Loewenstein	60,345	Feb. 5	126	2182
Liniment and salve	A. W. Lowrie	60,415	Feb. 5	126	2185
Linoleum, oil-cloth, &c. Varnish-like preservative for	G. H. Baker	60,250	Feb. 5	126	2181
Machinery. Certain named parts of	Railway Steel-Spring Company	60,268	Feb. 5	126	2184
Magazine. Monthly	Century Co	60,423	Feb. 5	126	2185
Malt preparations. Certain	Borcherdt Malt Extract Company	60,422	Feb. 5	126	2185
Medicine. Cough	Mairs & Trippeer	60,445	Feb. 5	126	2186
Minerals. Certain	United States Graphite Company	60,319	Feb. 5	126	2183
Oil and meal. Cotton-seed	Dallas Oil & Refining Co	60,272	Feb. 5	126	2181
Oil. Cotton-seed	Union Oil Company	60,265	Feb. 5	126	2181
Oil. Cotton-seed	Union Oil Company	60,266	Feb. 5	126	2181
Oil for medicinal purposes and applications	C. D. Tilly	60,308	Feb. 5	126	2184
Oil. Healing	J. H. Hoover	60,442	Feb. 5	126	2185
Oils and grease. Lighting and lubricating	E. Brooksbank and Company	60,303	Feb. 5	126	2186
Oils. Cotton-seed	Union Oil Company	60,298	Feb. 5	126	2182
Oils. Petroleum	F. B. Hooper	60,306	Feb. 5	126	2182
Ointment and skin food	A. B. Seelye Med. Co	60,438	Feb. 5	126	2182
Paints and certain painters' materials	Adams & Elting Co	60,287	Feb. 5	126	2186
Paints and varnishes	Copal Varnish Co	60,270	Feb. 5	126	2182
Pianos	O. Dreher	60,325	Feb. 5	126	2181
Pipe-cleaners	J. F. Forth	60,429	Feb. 5	126	2183
Pipe-flanges, bands, and rings. Metal	Railway Steel-Spring Company	60,436	Feb. 5	126	2185
Preparation for the cure of chills and fever	Hutchison Medicine Co	60,390	Feb. 5	126	2186
Preparations for affections of the respiratory system	B. C. Ansley	60,439	Feb. 5	126	2184
Pretzels	Oakdale Baking Company	60,293	Feb. 5	126	2186
Propeller-wheels	Michigan Motor Company	60,369	Feb. 5	126	2182
Railway equipment. Certain	Railway Steel-Spring Company	60,347	Feb. 5	126	2184
Railway equipment. Certain	Taylor Iron & Steel Co	60,437	Feb. 5	126	2183
Rat and roach exterminator	Stearns Electric Paste Co	60,395	Feb. 5	126	2186
Rat and roach exterminator	Stearns Electric Paste Co	60,396	Feb. 5	126	2185
Registers. Autographic	Carter-Crume Co	60,354	Feb. 5	126	2185
Remedy for certain named diseases	G. D. Horton	60,389	Feb. 5	126	2183
Remedies for certain named diseases	M. Lichtenstein	60,444	Feb. 5	126	2184
Remedies for colds	M. F. Brown	60,405	Feb. 5	126	2186
Remedies for dyspepsia	W. E. Ryan	60,446	Feb. 5	126	2185
Remedy for diseases of the eye, nose, face, and ear	J. C. Allen	60,400	Feb. 5	126	2186
Roofing. Asbestos	H. W. Johns-Manville Company	60,304	Feb. 5	126	2185
Sauce. Seasoning	S. Moki	60,262	Feb. 5	126	2182
Saws	Henry Disston & Sons	60,357	Feb. 5	126	2181
Saws	Henry Disston & Sons	60,358	Feb. 5	126	2184
Scarfs, cravats, and ties	Earl & Wilson	60,342	Feb. 5	126	2184
Seed. Timothy	Albert Dickinson Company	60,321	Feb. 5	126	2183
Seed. Timothy	Albert Dickinson Company	60,340	Feb. 5	126	2183
Seed. Timothy	Albert Dickinson Company	60,351	Feb. 5	126	2183
Sewing-cotton on spools or reels	J. & P. Coats	60,307	Feb. 5	126	2182
Sewing-cotton on spools or reels	J. & P. Coats	60,308	Feb. 5	126	2182
Sewing-machines, attachments, stands, tables, and covers	White Sewing Machine Co	60,339	Feb. 5	126	2183
Silk dress goods in the piece	Valentine & Bentley Silk Co	60,357	Feb. 5	126	2183
Silk piece goods	S. L. Feiber	60,428	Feb. 5	126	2185
Silver-polishing compound	D. E. Mackey	60,279	Feb. 5	126	2181
Smalt	W. C. Estes	60,273	Feb. 5	126	2181
Soap	Comfort Powder Company	60,254	Feb. 5	126	2181
Soap	Lever Brothers Company	60,260	Feb. 5	126	2181
Soap. Granulated	A. W. Stadler	60,285	Feb. 5	126	2182
Soaps. Paste	T. Herson	60,256	Feb. 5	126	2181
Soda, saleratus, and baking-powder	F. Lee	60,391	Feb. 5	126	2184
Solder-paste	Church & Dwight Co	60,407	Feb. 5	126	2185
Specific for the cure of pains	W. H. Blood, Jr	60,404	Feb. 5	126	2185
Sporting goods. Certain	H. F. Lindeman	60,414	Feb. 5	126	2185
Squares. Try, steel, and framing	W. Read & Sons	60,315	Feb. 5	126	2182
Stamps. Trading	Simmons Hardware Company	60,371	Feb. 5	126	2184
Steel. Rolled	Eagle Trading Stamp Co	60,255	Feb. 5	126	2181
Stiffening cords, blades, tapes, and fabrics	National Tube Company	60,332	Feb. 5	126	2183
Stone building-blocks	Warren Featherbone Co	60,338	Feb. 5	126	2183
Suppositories	F. A. Richter	60,316	Feb. 5	126	2182
Suspensory bandages	H. E. Currey	60,357	Feb. 5	126	2184
Tablets and cough remedies. Headache	Johnson & Johnson	60,328	Feb. 5	126	2183
Tea	Hawkeye Manufacturing Co	60,442	Feb. 5	126	2186
Tea. Japan	R. W. Weir & Company	60,269	Feb. 5	126	2182
Thread, spool and sewing cotton	Smith Thorndike & Brown Co	60,264	Feb. 5	126	2181
Tobacco. Smoking and chewing	American Thread Company	60,301	Feb. 5	126	2182
Toilet preparations. Certain	R. Harris & Bro	60,305	Feb. 5	126	2182
Tonic for the digestive tract	E. W. Dwight	60,427	Feb. 5	126	2185
Tonics, blood, heart, and nerve medicines	H. J. Fritz	60,441	Feb. 5	126	2186
Tool handles. Ratchet-hand	Dr. Miles Medical Co	60,409	Feb. 5	126	2185
Tools. Certain named	North Bro's M'f'g Co	60,333	Feb. 5	126	2183
Trees, buds, and scions thereof. Fruit	W. McKittrick	60,331	Feb. 5	126	2183
Valves, bath and basin cocks, and parts of same	Oregon Nursery Company	60,393	Feb. 5	126	2185
Varnish, japan, driers, and liquid fillers	H. Mueller Manufacturing Company.	60,278	Feb. 5	126	2184
Violin-strings	Boston Varnish Company	60,269	Feb. 5	126	2181
Watch movements and cases	Buegeleisen & Jacobson	60,406	Feb. 5	126	2185
Watches	Eisenstadt Manufacturing Co	60,375	Feb. 5	126	2184
	W. C. Ball	60,374	Feb. 5	126	2184

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Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Watches	Mermod, Jaccard & King Jewelry Co.	60,433	Feb. 5	126	2186
Water. Spring	Anita Spring Water Co	60,373	Feb. 5	126	2184
Whisky	P. T. O'Brien	60,381	Feb. 5	126	2184
Whisky	Ferncliff Distillery Co	60,412	Feb. 5	126	2185
Whisky	Wm. Bergenthal Co	60,419	Feb. 5	126	2185
Wines	To-Kalon Vineyard Co	60,383	Feb. 5	126	2184
Wrenches	John A. Roebling's Sons Co	60,327	Feb. 5	126	2183
Yarn produced from wood pulp, cellulose, or viscose	G. Lund	60,309	Feb. 5	126	2182
Yeast. Compressed	Fleischmann Co	60,274	Feb. 5	126	2181
Yeast-powder and baking-powder	Rumford Chemical Works	60,394	Feb. 5	126	2185
Zinc. White	J. Lucas & Co	60,277	Feb. 5	126	2181
Zinc. White	J. Lucas & Co	60,278	Feb. 5	126	2181

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Arbiter Hand Plated Extra Superfine." (For Writing-Papers.)	White & Wyckoff Mfg. Co	13,342	Feb. 5	126	2187
"Arbiter Hand Plated Linen Fabric." (For Writing-Papers)	White & Wyckoff Mfg. Co	13,343	Feb. 5	126	2187
"Arbiter Hand Plated Vellum." (For Writing-Papers)	White & Wyckoff Mfg. Co	13,341	Feb. 5	126	2187
"Mint-Seltzer." (For Granular Effervescent Salts)	Buffalo Pharmacal Co	13,345	Feb. 5	126	2187
"Sawyer's Crystal Sheet Bluing for the Laundry." (For Washing-Blue.)	Sawyer Crystal Blue Company	13,346	Feb. 5	126	2187
"The Bute Oil Shoe Dressing." (For Leather-Dressing)	Wolff Chemical Company	13 348	Feb. 5	126	2187
"Vanilla Substitute." (For Vanilla Substitute)	Vanilla Substitute Co	13,344	Feb. 5	126	2187
"Yale." (For Underwear)	Holmes Knitting Co	13,347	Feb. 5	126	2187

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Cream of Wheat is Good for You." (For a Breakfast Food)	Cream of Wheat Company	1,903	Feb. 5	126	2187
"Creosotonic (Scott)." (For a Tonic)	Dawson Pharmacal Co	1,902	Feb. 5	126	2187
"Dog'on Fine Coffee." (For Coffee)	Woolson Spice Company	1,901	Feb. 5	126	2187
"Educator Shoe." (For Boots and Shoes)	Willis E. Pattison	1,905	Feb. 5	126	2187
"The Friends of Labor." (For Overalls)	Sweet-Orr & Co	1,904	Feb. 5	126	2187

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(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Accumulators	A. Müller	24,522	Feb. 5	126	2178
Antiseptic powder	Watchman & Reynolds	24,176	Feb. 5	126	2173
Antiseptics	A. Horowitz	22,386	Feb. 5	126	2169
Baking-powder	Black Hawk Coffee & Spice Company.	20,688	Feb. 5	126	2167
Beer	Indianapolis Brewing Company	21,620	Feb. 5	126	2168
Beer	Star Brewing Company	24,474	Feb. 5	126	2177
Binders. Loose-leaf	H. C. Miller Company	24,265	Feb. 5	126	2174
Bitters	B. Winter	5,543	Feb. 5	126	2163
Boiler injectors. Steam	Ohio Injector Company	24,095	Feb. 5	126	2172
Books and pamphlets	Collver Tours Company	22,361	Feb. 5	126	2169
Boots and shoes. Leather	C. K. Fox	24,266-7	Feb. 5	126	2174
Bread	F. Fuller	22,041	Feb. 5	126	2168
Bread	F. Fuller	23,916	Feb. 5	126	2172
Broadcloths	M. Rosenbaum's Sons	19,931	Feb. 5	126	2066

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Brooches, pins, buckles, fobs, &c.	McRae and Keeler	24,012	Feb. 5	126	2172
Candy	Wallace & Co	15,109	Feb. 5	126	2165
Canned lobster	H. C. Baxter & Bro	8,338-9	Feb. 5	126	2164
Canned sardines	No. Lubec Mfg. & Canning Co	16,026	Feb. 5	126	2165
Canned vegetables, fruits, and berries	Downing-Taylor Co	24,403	Feb. 5	126	2176
Caps. Maids', waitresses', and nurses'	O. F. Dreyer	19,783	Feb. 5	126	2166
Carpet-warp and twine. Cotton	Putnam-Hooker Company	23,258	Feb. 5	126	2170
Carpets and rugs. Wilton	Ivins, Dietz & Metzger Co	3,668	Feb. 5	126	2163
Cement compounds for making pipe-joints	Leadite Company of America	24,091	Feb. 5	126	2172
Chains and bracelets	Freed & Pelkes	24,254	Feb. 5	126	2173
Cigarettes	Monopol Tobacco Works	20,173	Feb. 5	126	2166
Cigars and scrap-tobacco	E. F. Schweikert	8,045	Feb. 5	126	2164
Clay. Stove	Bridgeport Crucible Co	24,517	Feb. 5	126	2178
Cleaning preparation	Chemische Fabrik Griesheim-Elektron.	24,334	Feb. 5	126	2175
Coal-cutting machines	Pneumelectric Machine Company	22,120	Feb. 5	126	2168
Cocoa, chocolate, and chocolate candy	Ambrosia Chocolate Company	15,000	Feb. 5	126	2165
Coffee	T. L. Owens	21,851	Feb. 5	126	2168
Cotton piece goods	C. C. Copeland & Co	20,253	Feb. 5	126	2166
Cotton piece goods	W. Simpson, Sons & Co	20,401	Feb. 5	126	2167
Cotton piece goods	William L. Barrell Co	23,077	Feb. 5	126	2170
Cotton, woolen, worsted, silk, and hair piece goods	William L. Barrell Co	23,112	Feb. 5	126	2170
Cream and powder, depilatory, &c. Toilet	Cravenette Company	12,437	Feb. 5	126	2165
Cream. Evaporated	G. Graham	22,002	Feb. 5	126	2168
Damask table-cloths, napkins, and towels	Wisconsin Condensed Milk Co	19,401	Feb. 5	126	2166
Dental alloys and instruments made therefrom	Neuss, Hesslein & Co	24,262	Feb. 5	126	2174
Disinfectants, air-purifiers, and deodorizers	C. A. Fones	23,822	Feb. 5	126	2172
Eaves-trough hangers	W. and F. Walker Limited	17,790	Feb. 5	126	2166
Electric-lighting outfits. Decorative	J. R. Baker & Sons Co	24,018	Feb. 5	126	2172
Electrical machinery .Cleaning and polishing compound for.	Jaeger Miniature Lamp Manufacturing Company.	24,023	Feb. 5	126	2172
Eyeglasses, spectacles, eyeglass-guards, and artificial eyes	M. Du Perow	24,281	Feb. 5	126	2175
Fats for baking and cooking	D. Chambers	24,333	Feb. 5	126	2175
Felt. Roofing and sheathing	Braun & Fitts	16,882	Feb. 5	126	2165
Files and rasps	Barrett Manufacturing Company	23,526	Feb. 5	126	2171
Films, plates, and photographic papers	Henry Disston & Sons	24,351	Feb. 5	126	2175
Fire-extinguishing compounds	Actien-Gesellschaft für Anilin-Fabrikation.	18,689	Feb. 5	126	2166
	Pluvius - Feuerlöscher - Gesellschaft mit beschränkter Haftung.	24,233	Feb. 5	126	2173
Fish. Preserved	Rosenstein Brothers	22,931	Feb. 5	126	2169
Flavoring-syrup	A. M. Bradley	19,925	Feb. 5	126	2066
Flour. Wheat	B. J. Rothwell	24,306	Feb. 5	126	2176
Flour. Wheat	Millers Products Company	24,500	Feb. 5	126	2177
Food. Stock	Star Food & Chemical Co	22,991	Feb. 5	126	2170
Fuses	Coast Manufacturing & Supply Co.	24,459	Feb. 5	126	2177
Fuses	Coast Manufacturing & Supply Co.	24,481-2	Feb. 5	126	2177
Gas-burners. Incandescent	Plume & Atwood Mfg. Co	17,756	Feb. 5	126	2166
Glue	S. Isaacs & Co	24,425	Feb. 5	126	2176
Grease-eradicator for cleaning wool goods, silks, &c	A. J. Kayser	23,757	Feb. 5	126	2171
Hair-tonics and dandruff cures	C. Hughel	24,318	Feb. 5	126	2175
Hammocks	D. W. Shoyer & Co	24,283	Feb. 5	126	2174
Hose-supporters	Black Cat Garter Company	20,506	Feb. 5	126	2167
Hose-supporters	George Frost Company	24,408-9	Feb. 5	126	2176
Inks. Printing and lithographing	E. F. Rychen	24,503	Feb. 5	126	2178
Insecticide	T. Hetherington	24,285	Feb. 5	126	2174
Iodid substitutes	Farbenfabriken vorm. Friedr. Bayer & Co.	23,889	Feb. 5	126	2172
Journal. Illustrated weekly	Stuyvesant Company	21,082	Feb. 5	126	2168
Knitted hosiery, undershirts, and drawers	Guy, Curran & Co	22,990	Feb. 5	126	2170
Ladders	Udell Works	22,418	Feb. 5	126	2169
Lamp glasses and globes	Macbeth-Evans Glass Company	20 513	Feb. 5	126	2167
Lead. White	W. W. Lawrence & Company	23,786	Feb. 5	126	2171
Leather	C. T. Wilt	23,009	Feb. 5	126	2170
Leather. Imitation	British Pluviusin Company	18,877	Feb. 5	126	2166
Leggings	H. Jacob & Sons	24,080	Feb. 5	126	2172
Liniment	W. H. Maple	23,633	Feb. 5	126	2171
Magazines	Sterling Electric Co	24,578	Feb. 5	126	2179
Mail-chutes	Cutter M'f'g Co	21,197	Feb. 5	126	2168
Medicinal preparation for coughs, colds, and croup	T. W. Larwill	23,657	Feb. 5	126	2171
Medicinal preparation for the ailments of infants and children	Joy Castoria Company	21,003	Feb. 5	126	2167
Metal alloy for bearings, &c	Manganese Bronze & Brass Co	18,948	Feb. 5	126	2165
Metal-polish	G. J. C. Fiedler	22,815	Feb. 5	126	2169
Metal, stove, silver, and glass polishes	Citizens' Wholesale Supply Company.	24,479	Feb. 5	126	2177
Milk and cream. Evaporated and condensed	Mohawk Condensed Milk Co	24,165	Feb. 5	126	2173
Milk. Condensed	Wisconsin Condensed Milk Co	12,035-6	Feb. 5	126	2164-5
Nets. Hair	T. H. Gary & Co	24,113	Feb. 5	126	2173
Oil. Olive	Meridional Cheese and Oil Co	13,457	Feb. 5	126	2165
Oils. Lubricating	Penn Petroleum Co	24,448	Feb. 5	126	2176
Ointment for piles, cuts, burns, &c	James W. Foster Co	22,332	Feb. 5	126	2169
Organs. Pipe	L. D. Morris	21,322	Feb. 5	126	2168
Paint, mixed paint, and enamels	Holzapfel's Compositions Company.	16,534	Feb. 5	126	2165
Paints and varnishes	National Coal Tar Company	23,889	Feb. 5	126	2171
Paper and type-writer ribbons. Carbon-	Corona Supply Co	23,749	Feb. 5	126	2171
Paper. Blue-print	Technical Supply Company	24,564	Feb. 5	126	2179
Perfumeries, toilet and talcum powders	M. L. Babcock	23,992	Feb. 5	126	2172

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Pills	Radway & Company	23,307	Feb. 5	126	2170
Plasters. Corn and bunion	Bauer & Black	24,456	Feb. 5	126	2176
Printing-plates. Apparatus for making stereotype	Campbell Printing Press Manufacturing Co.	24,303	Feb. 5	126	2175
Quinin substitute, &c	Kaline Company	24,144	Feb. 5	126	2173
Rat and roach exterminator	Stearns Electric Paste Co	24,566	Feb. 5	126	2179
Remedies for burns, cuts, bruises, sprains, &c	P. Bourne	24,316	Feb. 5	126	2175
Remedies for coughs, anemia, dyspepsia, headache, &c	G. C. Krusen	24,370	Feb. 5	126	2175
Remedies for nervous debility, brain-fag, &c	Dr. Rainey Medicine Co	23,567	Feb. 5	126	2171
Remedies for rheumatism	Society of Chemical Industry in Basle.	22,688	Feb. 5	126	2169
Remedy for diseases of the stomach and bowels	Pepsin Syrup Co	24,258	Feb. 5	126	2174
Remedy for rheumatism, nervous complaints, &c	Radway & Company	23,305	Feb. 5	126	2170
Remedy for the cure of malaria, chills, &c	E. Boyd	22,713	Feb. 5	126	2169
Remedy for throat and lung affections	J. S. Evans	24,420	Feb. 5	126	2176
Remedy for whooping-cough	Spinol Company	24,096	Feb. 5	126	2173
Rheumatism, pleurisy, &c., cure	Mist Rheumatic Company	24,560	Feb. 5	126	2178
Salve for the cure of eczema, &c	E. Lawson	24,278	Feb. 5	126	2174
Salves or ointments	C. W. Patrick	4,660	Feb. 5	126	2163
Sardines, sardine paste, sprats, mackerel, &c	Reiss & Brady	23,873	Feb. 5	126	2172
Seeds. Grass, grain, timothy, and clover	Albert Dickinson Company	8,590	Feb. 5	126	2164
Sewing-machines, sewing-machine attachments, covers, tables, and stands.	White Sewing Machine Co	24,344	Feb. 5	126	2175
Shirts. Men's cotton and woolen	Elmira Shirt Manufacturing Company.	24,488	Feb. 5	126	2177
Silk fabrics	Lanza Silk Company	24,559	Feb. 5	126	2178
Silk ribbon, piece goods, and linings	S. C. Guyon	24,072	Feb. 5	126	2172
Soap	Mexican Amole Soap Co	10,768	Feb. 5	126	2164
Soap	E. D. Ward	24,426	Feb. 5	126	2176
Soap. Antiseptic toilet	Hall & Ruckel	23,389	Feb. 5	126	2170
Soaps	Lever Brothers Company	16,767	Feb. 5	126	2165
Soldering-flux	M. W. Dunton and Company	24,556	Feb. 5	126	2178
Spices	Black Hawk Coffee & Spice Company.	20,690	Feb. 5	126	2167
Sumac, gambier, oak, hemlock, &c., extracts	Marden, Orth & Hastings	24,204	Feb. 5	126	2173
Surgical ligatures	Seabury & Johnson	24,504	Feb. 5	126	2178
Sweaters, cardigan jackets, knitted bathing-suits, and stockings.	Plate & Clark Co	20,267	Feb. 5	126	2167
Taffy or toffee	M. Hyman Confectionery & Catering Co.	24,495	Feb. 5	126	2177
Tires. Solution for repairing	J. B. Sans	11,558	Feb. 5	126	2164
Tonic	George F. Hewett Co	6,964	Feb. 5	126	2163
Tonic. Restorative and nutritive	J. M. Liebermann	21,712	Feb. 5	126	2168
Tooth paste and powder	P. Beiersdorf & Co	10,579	Feb. 5	126	2164
Toy figures	C. Sackman	24,234	Feb. 5	126	2173
Toy-holding belts, hoops, or girdles	M. D. Coates 2nd	22,469	Feb. 5	126	2169
Type-writing machines	Royal Typewriter Co	19,155	Feb. 5	126	2166
Undershirts, drawers, night-shirts, night-dresses, &c	Cellular Clothing Company	8,986	Feb. 5	126	2164
Varnishes and stains	X-Ray Varnish Company	20,494	Feb. 5	126	2167
Velveteens	N. Erlanger, Blumgart & Co	24,531-2	Feb. 5	126	2178
Violin, mandolin, guitar, and banjo strings	Buegeleisen & Jacobson	24,272	Feb. 5	126	2174
Washing-machines	W. J. Zuill	23,776	Feb. 5	126	2171
Washing-machines	Richmond Cedar Works	24,148	Feb. 5	126	2173
Water. Javelle	A. Castaing	22,397	Feb. 5	126	2169
Water-purifying and softening preparation	Porcela Co	21,642	Feb. 5	126	2168
Water-purifying apparatus	Pittsburgh Filter Mfg. Co	22,410	Feb. 5	126	2169
Whisky	Sunset Distilling Co	6,453	Feb. 5	126	2163
Whisky	A. Lipman	7,666	Feb. 5	126	2164
Whisky	Casey Bros	8,919	Feb. 5	126	2164
Whisky	F. C. Renziehausen	21,093	Feb. 5	126	2168
Whisky	Geo. Benz & Sons	23,407	Feb. 5	126	2170
Whisky	F. A. Flynn	24,437	Feb. 5	126	2176
Whisky	Kohn Distilling Co	24,520	Feb. 5	126	2178
Whisky	Thos. Moore Distilling Co	24,179	Feb. 5	126	2173
Whisky. Rye	Citizens' Wholesale Supply Company.	24,480	Feb. 5	126	2177
Wood and furniture polishes	D. S. Pratt	24,576	Feb. 5	126	2179
Wool. Fine and crossbred grades of					

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 12TH DAY OF FEBRUARY, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume.		Official Gazette.	
			Specification.	Drawing.	Volume.	Page.
Acme Tobacco Company. (See Bright and Davis, assignors.)						
Actiengesellschaft "Magneta." (See Fischer, Martin, assignor.)						
Adam Appell Co. (See Newbegin, Edward, assignor.)						
Adams, Walter S., assignor to J. A. Brill, Philadelphia, Pa. Car-truck	844,076	Feb. 12	2411	517	126	2428
Adell, John A., and L. S. Starrett, assignors to L. S. Starrett Co., Athol, Mass. Automatic prick-punch	843,655	Feb. 12	1642	348	126	2240
Aktiebolaget Separator. (See Ljungström, Birger and F., assignors.)						
Alexander, Paul, Charlottenburg, Germany. Production of aqueous caoutchouc solutions and the regeneration of rubber waste	844,077	Feb. 12	2412	.....	126	2429
Alger, Arthur M. (See Jennings, Daniel C., assignor.)						
Allen, Charles R., San Francisco, Cal. Screen	843,785	Feb. 12	1868	399	126	2296
Allis-Chalmers Company. (See Harmer, Frederick H., assignor.)						
American Can Company. (See Dister, Joseph, assignor.)						
American Can Company. (See Leitch, Meredith, assignor.)						
American Filtration Company. (See Murphy, John M., assignor.)						
American Laundry Machinery Company. (See Slack and Riley, assignors.)						
American Tobacco Company. (See Prescott, Sydney I., assignor.)						
Andersen, Nis, Clinton, Iowa. Device for fastening legs to furniture	843,656	Feb. 12	1643	348	126	2240
Anderson, David W., La Fayette, Ind. Screen-door check	844,078	Feb. 12	2414	517	126	2429
Andrew, James T., Montgomery, Ala. Safety appliance for railway-cars	844,228	Feb. 12	2719	580–1	126	2508
Andrews, Dayton L., Southington, Conn. Window-blind and the like	843,922	Feb. 12	2141	457	126	2364
Angel, Nathan A., Coldwater, Mich. Cow-tail holder	843,657	Feb. 12	1644	348	126	2240
Armstrong, Ellsworth, Collingdale, Pa. Dental matrix	844,079	Feb. 12	2415	517	126	2429
Armstrong, James T., and A. Orling, London, England. Electrocapillary apparatus	844,080	Feb. 12	2416	518	126	2430
Armstrong, William H., Lima, Ohio. Truck	843,570	Feb. 12	1483	313	126	2197
Arnold, Engelbert, Karlsruhe, Germany, and J. L. La Cour, Edinburgh, Scotland. Arrangement for regulation of speed of compensated single-phase motors	843,731	Feb. 12	1775	378–9	126	2273
Arnold, Frederick H., Reading, Pa. Safety-razor	843,923	Feb. 12	2142	457	126	2364
Arnst, Emil, assignor to firm of Benrather Maschinenfabrik Actiengesellschaft, Benrath, near Düsseldorf, Germany. Automatically-operated shovel	843,786	Feb. 12	1869	399	126	2296
Ash, Charley F., assignor of one-half to A. Klopf, Louisville, Ky. Door-holder	844,081	Feb. 12	2418	518	126	2430
Ashworth, Edmund S. (See Purdy, Edward R., assignor.)						
Assorati, Antenor, New York, N. Y. Window	844,229	Feb. 12	2722	581	126	2509
Atkinson, Cyril J., Milwaukee, Wis., assignor to International Harvester Company. Gas-producer	843,787	Feb. 12	1870	399	126	2296
Atkinson, William, and J. Smith, Bradford, England. Enameling or glazing metallic or other surfaces	843,985	Feb. 12	2246	.....	126	2390
Auker, Samuel R., Altoona, Pa. Combined shade and curtain fixture	843,658	Feb. 12	1645	349	126	2240
B. F. Avery & Sons. (See Clark, Cyril B., assignor.)						
Bach, Charles H., Brooks, Minn. Floor-covering	844,230	Feb. 12	2724	.....	126	2509
Bagnall, Edward, Pittsburg, assignor to Zoffer Plate Glass Manufacturing Company, Charleroi, Pa. Apparatus for grinding, smoothing, and polishing plate-glass. (Reissue)	12,604	Feb. 12	2908	618–19	126	2554
Bailey, Percy T., Middletown, R. I. Anchoring device for posts	844,231	Feb. 12	2725	589	126	2509
Bakehaus, William H. (See Kerber and Bakehaus.)						
Baker, Frank, Syracuse, assignor to Baker Gear Company, Homer, N. Y. Steering mechanism	844,232	Feb. 12	2726	582	126	2510
Baker Gear Company. (See Baker, Frank, assignor.)						
Baker, Harry, and A. T. Smith, Weston Point, England. Treatment of sulfid ores	843,986	Feb. 12	2247	481	126	2390
Baldwin, Arthur J., East Orange, N. J. Apparatus for making sheet-glass with or without an embedded strengthening structure	843,850	Feb. 12	2012	432	126	2330
Baldwin, Norman. (See Eckenrode and Baldwin.)						
Balliett, Byron J., Mansfield, Ohio. Suspender-link	843,987	Feb. 12	2255	481	126	2391
Barabasz, Mieczyslaw, Baltimore, Md. Attachable stitchless buckle	844,082	Feb. 12	2419	518	126	2430
Barker, Carey D., Westfield, Ind. Hay-carrier	843,580	Feb. 12	1501	318	126	2201
Barrella, Louis, Syracuse, N. Y. Arm-support for telephones	844,083	Feb. 12	2421	518	126	2431
Barrows, Emerson B., Sandwich, Ill. Plow attachment	844,084	Feb. 12	2423	519	126	2431
Bartelstone, Louis, New York, N. Y. Corner-clamp for glass plates	843,851	Feb. 12	2014	433	126	2331
Barthelmess, Emil, Neuss, Germany. Ring and roller and like mill	844,085	Feb. 12	2424	519	126	2431
Barton, Thomas, Tamaqua, Pa. Valve	843,988	Feb. 12	2256	482	126	2391
Batchelder, Asa F., Schenectady, N. Y., assignor to General Electric Company. Electric locomotive	843,788	Feb. 12	1871	399–400	126	2297
Bauer, John T. (See De Coster, Jules M., assignor.)						
Bauer, Martin, Cleveland, Ohio. Combined ladder and scaffold	843,989	Feb. 12	2256	482	126	2391
Baum, Jacob, Cincinnati, Ohio. Letter-folding device	843,571	Feb. 12	1484	313	126	2197
Baumann, Frederick W., Montcott borough, assignor to Oliver Iron and Steel Company, Pittsburg, Pa. Forming brake-beam fulcrums	843,659	Feb. 12	1646	349	126	2240
Beach, Orton E. (See Keesling and Beach.)						
Beal, John. (See Bopp, Clinton L., assignor.)						
Beck, Jacob, Schenectady, N. Y., assignor to General Electric Company. Machine for making shells for electric-lamp sockets	843,789	Feb. 12	1873	400–2	126	2298
Beck, Joseph S., Medina, Ohio. Railway-splice	843,732	Feb. 12	1777	379	126	2274
Beker, Rudolph G., Pittsburg, Pa., assignor to C. Schmidt, Cleveland, Ohio. Upsetting-machine	843,790	Feb. 12	1878	402–4	126	2299
	844,086	Feb. 12	2430	519–20	126	2432
Belin, Edouard, and M., Paris, France. Telegraphic picture-transmitting mechanism						
Belin, Marcel. (See Belin, Edouard, and M.)						
Bellamy, Elmer E., Cleveland, Ohio. Illuminated sign	844,087	Feb. 12	2425	520	126	2423

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Bellows, Arthur B., Pittsburg, Pa. Water-softening plant	843,572	Feb. 12	1486	314	126	2197
Bennett, Frederick F., assignor to Daisy Manufacturing Company, Plymouth, Mich. Air-gun	843,990	Feb. 12	2259	482	126	2392
Benrather Maschenfabrik Actiengeiselschaft. (See Arnst, Emil, assignor.)						
Bensch, Herman, Davenport, Iowa. Journal-box	844,088	Feb. 12	2431	520	126	2432
Bentley, Charles S., Corry, Pa. Crib	844,233	Feb. 12	2730	582	126	2510
Bergman, August, Bellevue, Ohio. Furnace	843,924	Feb. 12	2142	458	126	2364
Bernard, Philip, Jefferson, S. D. Hog-waterer	843,925	Feb. 12	2145	458	126	2365
Besser, Herman, Alpena, Mich. Molding-machine	844,234	Feb. 12	2731	583	126	2510
Besser, Herman, Alpena, Mich. Mold	844,235	Feb. 12	2733	583	126	2511
Besser, Herman, Alpena, Mich. Molding-machine	844,236	Feb. 12	2736	584	126	2511
Besson, André, Paris, France, assignor to Treuherz & Fuss, Berlin, Germany. Hook and eye	844,237	Feb. 12	2738	584	126	2512
Bijur, Joseph, New York, N. Y., assignor to General Storage Battery Company. Automatic end-cell switch	844,089	Feb. 12	2433	521	126	2433
Billings, Frederick G., Milwaukee, Wis. Piano-flange-attaching bar	844,090	Feb. 12	2434	521	126	2433
Bishop, John S., *et al.* (See Seligsohn, Morris, assignor.)	844,238	Feb. 12	2740	585	126	2513
Blackburn, Richard H., New York, N. Y. Chart for drafting garments	843,862	Feb. 12	2015	433	126	2331
Bleibtrey, John E. (See McAndrews, Thomas F., assignor.)						
Blomén, Axel L., Sundbyberg, and P. S. Ewerlöf, Stockholm, Sweden. Air-gun	843,573	Feb. 12	1489	315	126	2198
Bodge, William, Brooklyn, N. Y. Filter	843,991	Feb. 12	2260	483	126	2392
Bodsworth, George, Sheffield, England. Heating and annealing furnace	843,574	Feb. 12	1491	315–16	126	2199
Boeckmann, Paul von. (See Posthoff, Fritz, assignor.)						
Bogel, Josef, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Lifter	844,230	Feb. 12	2741	585	126	2513
Bohn, Joseph. (See Moore, Charles H., assignor.)						
Boland, John V., St. Louis, Mo. Chimney	844,297	Feb. 12	2875	611–12	126	2546
Boland, John V., St. Louis, Mo. Mold	844,298	Feb. 12	2877	612	126	2547
Bopp, Clinton L., Hawkeye, Iowa, assignor of one-fourth to J. Beal, Whittier, Cal. Induction-coil	844,240	Feb. 12	2743	585	126	2513
Borchert, William, assignor of one-half to R. Kirman, Reno, Nev. Drill-chuck	844,091	Feb. 12	2437	521	126	2434
Bossert, William F., Utica, N. Y. Railway-buffer	844,092	Feb. 12	2439	521–2	126	2434
Boswell, Arthur, Philadelphia, Pa. Game-board	843,992	Feb. 12	2262	483	126	2393
Bourne, Philip, New York, N. Y. Automatic alarm	844,241	Feb. 12	2745	585	126	2514
Bower, Jacob O. (See Durning, Joseph S., assignor.)						
Bowman, Charles H., and C. B. McIntosh, Lodi, Wis. Ball for cooking utensils	843,863	Feb. 12	2017	433	126	2332
Bowman, Mark K., Montclair, assignor to James Reilly Repair and Supply Company, Jersey City, N. J. Feed-water heater	843,791	Feb. 12	1883	404	126	2300
Boyd, Samuel N., Russell, Iowa. Stock-feeding trough	843,792	Feb. 12	1885	404	126	2300
Boyden, George A. (See Brown, Hanrahan, and Boyden.)						
Boyles, James R. (See McKinley, William E., assignor.)						
Bradley, Albert N., Washington, Ind. Automatic switch	843,575	Feb. 12	1491	316	126	2199
Bradley, Royal H., assignor to Kelsey Heating Company, Syracuse, N. Y. Hot-water heater	843,793	Feb. 12	1886	405	126	2301
Brann, John V., Knoxville, Iowa. Tablet-machine	844,093	Feb. 12	2441	522	126	2435
Brasher, Philip, New York, N. Y. Protecting objects from wave action	843,926	Feb. 12	2146	458	126	2366
Bree, Johannes, Charlottenburg, Germany. Bust-supporter	844,242	Feb. 12	2748	586	126	2515
Breen, Micheal J., Rockford, Ill. Plow	843,993	Feb. 12	2263	483–4	126	2393
Breen, Micheal J., Rockford, Ill. Plow	843,994	Feb. 12	2264	484	126	2393
Breenahan, Maurice V. (See Heys, John J., assignor.)						
Bretscher, August, Muskegon, Mich. Rotary engine	844,094	Feb. 12	2444	522–3	126	2436
Breul, Richard A., Bridgeport, Conn. Try-square	844,243	Feb. 12	2749	586	126	2515
Brewster, Charles O., St. Paul, Minn. Hoisting-jack	843,660	Feb. 12	1648	350	126	2241
Brice, James F., Lexington, Ky. Door-hinge	843,661	Feb. 12	1650	350	126	2241
Bright, Richard A., and A. W. Davis, Cranston, R. I., assignors to Acme Tobacco Company. Cigar-filler-cutting machine	843,927	Feb. 12	2148	459	126	2366
Brink, John A. (See Adams, Walter S., assignor.)						
Brinkman, Louis H., assignor to Whitlock Coil Pipe Company, West Hartford, Conn. Cooler	843,864	Feb. 12	2018	433	126	2332
Briscoe, George C. (See O'Brien, John P., assignor.)						
Brooks, Edward J., East Orange, N. J. Cording and wiring seal-presses	844,095	Feb. 12	2446	523	126	2436
Broomall, Edgar W., Rochester, N. Y. Centrifugal cream-separator	844,244	Feb. 12	2752	586	126	2516
Broomall, Albert P., assignor to Vapor Heating Company, York, Pa. Receiver for vapor heating systems	843,995	Feb. 12	2266	485	126	2394
Broomall, Albert P., assignor to Vapor Heating Company, York, Pa. Valve for heating systems	843,996	Feb. 12	2268	485	126	2395
Brophy, Luke V., assignor to Indiana Road Machine Company, Fort Wayne, Ind. Elevating-grader	843,662	Feb. 12	1651	350–1	126	2241
Brougham, Charles B., Chicago, Ill. Lamp	843,928	Feb. 12	2151	459	126	2367
Brown, Clark T., New York, N. Y. Type-writer	843,997	Feb. 12	2270	485	126	2395
Brown, Frank H., J. E. Hanrahan, Baltimore, and G. A. Boyden, Mount Washington, assignors to National Compositype Company, Baltimore, Md. Machine for making type	843,576	Feb. 12	1494	317	126	2200
Brown, Frank H., J. E. Hanrahan, Baltimore, and G. A. Boyden, Mount Washington, assignors to National Compositype Company, Baltimore, Md. Matrix-making plate and block attached	843,577	Feb. 12	1496	317	126	2200
Brown, Frank H., J. E. Hanrahan, Baltimore, and G. A. Boyden, Mount Washington, assignors to National Compositype Company, Baltimore, Md. Matrix-making, means to position plates and blocks	843,578	Feb. 12	1497	317	126	2200
Brown, Joseph F., Bristol, Tenn. Flue-expander	843,865	Feb. 12	2020	434	126	2332
Brown and Sharpe Manufacturing Company. (See Davenport, William S., assignor.)						
Brown & Sharpe Manufacturing Company. (See Macleod and Rich, assignors.)						
Budd, Edward G., assignor to Hale-Kilburn Metal Company, Philadelphia, Pa. Frame-joint	844,245	Feb. 12	2753	586–7	126	2516
Bullock, George, Poplar Bluff, Mo. Eye-exerciser	843,693	Feb. 12	1654	351	126	2242
Burk, Louis, Philadelphia, Pa. Preparing ham for market	844,096	Feb. 12	2449	524	126	2438
Burr, Guy W., and G. H. Davis, Worcester, Mass. Means for holding and detaching ribbon-strip labels	843,579	Feb. 12	1498	318	126	2200
Burrows, William R. (See Howell and Burrows.)						
Bursell, Horace H., assignor of forty-nine one-hundredths to R. E. Van Amber, Truman, Minn. Corn-husking machine	843,866	Feb. 12	2021	434–5	126	2333
Butler, Thomas W. (See Moffat and Butler.)						
Bybee, Addison. (See Shiek, Daniel W., assignor.)						
Byeraft, William J., Ashtabula, Ohio. Puzzle	844,246	Feb. 12	2756	587	126	2517
Cable Company. (See Klugh, Paul B., assignor.)						
Cadden, Charles C., Cleveland, Ohio. Telephone hook-switch	843,998	Feb. 12	2271	485	126	2396
Caldwell, Yancey O., Paris, Tenn. Inhaler	844,097	Feb. 12	2450	524	126	2438
Casey, Charles J., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Hinge	843,581	Feb. 12	1502	318	126	2201

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Campbell, George B. (See Hornbeck, Campbell, and Hite.)						
Campbell, Harry H., Steelton, Pa. Converter plant	843,582	Feb. 12	1503	318–19	126	2201
Capron, Marshall F., Elyria, Ohio. Mechanism for the manufacture of seamless tubes	843,867	Feb. 12	2024	435	126	2333
Capron, Marshall F., Elyria, Ohio. Mechanism for the manufacture of seamless tubes	843,868	Feb. 12	2028	436	126	2334
Carey, Augustus C., Boston, Mass. Electric regulator	843,733	Feb. 12	1778	379	126	2274
Carnahan, Charles T., and J. Murphy, Denver, Colo.: said Murphy assignor to said Carnahan. Automatic feeder for tools	844,247	Feb. 12	2758	587–8	126	2517
Carter, John R., Augusta, Ky., assignor to E. H. Huenefeld, Cincinnati, Ohio. Washing-machine	843,734	Feb. 12	1780	380	126	2274
Carter, Lincoln J., Chicago, Ill. Theatrical scenery	843,583	Feb. 12	1505	319	126	2202
Cary, William E., Springfield, Vt. Pencil-sharpener	843,999	Feb. 12	2273	486	126	2396
Case, Charles V., and W. Mayo, assignors to Case Manufacturing Company, Rochester, N. Y. Controlled vending apparatus	844,248	Feb. 12	2762	588	126	2519
Case Manufacturing Company. (See Case and Mayo, assignors.)						
Cazier, Marion H., Chicago, Ill. Skirt-hanger	843,794	Feb. 12	1889	405	126	2301
Challen, James R., Collegeville, Pa. Attachment for telephone-receivers	844,299	Feb. 12	2879	612	126	2547
Chapman Electric Neutralizer Company. (See Chapman, William H., assignor.)						
Chapman, Lewis S., Schenectady, N. Y., assignor to General Electric Company. Starting-rheostat	843,735	Feb. 12	1781	380	126	2274
Chapman, William H., assignor to Chapman Electric Neutralizer Company, Portland, Me. Neutralizing static electricity	844,300	Feb. 12	2880	613	126	2548
Charland, Adelard, Lake Megantic, Quebec, Canada. Alarm for gages, clocks, &c	843,929	Feb. 12	2152	459	126	2367
Charley, John J., Harefield, New South Wales, Australia. Stripper-harvester	844,000	Feb. 12	2275	486	126	2396
Charroin, Eugene L., Seattle, Wash. Sash construction	844,301	Feb. 12	2881	613	126	2548
Chase Rolling Mill Co. (See Moshier, James W., assignor.)						
Cherry, Frank W., Des Moines, Iowa, assignor of one-half to D. W. Heath, Chicago, Ill. Postage-stamp affixer	844,302	Feb. 12	2883	613	126	2548
Clark, Cyril B., Louisville, Ky., assignor to B. F. Avery & Sons. Attachment for cultivators	844,249	Feb. 12	2766	588–9	126	2520
Clark, James, assignor to S. R. Dresser Manufacturing Company, Bradford, Pa. Clamping-ring for pipe-couplings	844,250	Feb. 12	2768	589–90	126	2520
Clark, James P., Chicago, Ill. Adjustable piano seat or bench	843,584	Feb. 12	1506	320	126	2203
Clay, William F., Camden, N. J. Lock	843,869	Feb. 12	2029	436	126	2335
Clearwater, Harley M., Troy, and J. Temple, Watervliet, N. Y. Machine for folding collars, cuffs, &c	844,001	Feb. 12	2276	487–8	126	2397
Clerico, Dominick, Yonkers, N. Y. Hat-brim-curling machine	844,098	Feb. 12	2452	524–6	126	2438
Cohn, Mark. (See Wilkinson, John A., assignor.)						
Colclough, William H., East Liverpool, Ohio. Scraper attachment for shovels	844,002	Feb. 12	2280	488	126	2397
Cole, Frank H., Groveton, N. H. Washing apparatus	843,585	Feb. 12	1509	320	126	2203
Collet, Albert, Paris, France. Boring-machine	844,099	Feb. 12	2459	526	126	2440
Collet, Albert, Paris, France. Machine for cutting rail-seats in railway-sleepers	844,100	Feb. 12	2462	527–8	126	2441
Combustion Utilities Company. (See Eldred, Byron E., assignor.)						
Combustion Utilities Company. (See Ellis, Carleton, assignor.)						
Combustion Utilities Company. (See Tait, Godfrey M. S., assignor.)						
Commercial Adding Machine Co. (See Goldfarb, Nathan J., assignor.)						
Connell, John F., Los Angeles, Cal. Device for opening, closing, and locking sliding doors	844,251	Feb. 12	2770	590	126	2520
Connersville Motor Vehicle Company. (See Morrison, Joshua H., assignor.)						
Conrad, Albert A. and G. F., Amanda, Ohio. Poultry feeding and watering device	843,664	Feb. 12	1655	351	126	2242
Conrad, George F. (See Conrad, Albert A. and G. F.)						
Conrad, John F., Elizabeth, N. J. Back-pressure valve for drain-traps	844,003	Feb. 12	2281	488	126	2398
Conroy, James J. (See Mitchell, Malcolm E., assignor.)						
Constable, Arthur H. (See Smith, Maxwell M., assignor.)						
Continental Jar and Bottle Stopper Company. (See Reed, George T., assignor.)						
Continental Jar and Bottle Stopper Company. (See Waterman, Frank W., assignor.)						
Convertible Couch and Chair Company. (See Wheatley, Arthur, assignor.)						
Cook, Frank B., Chicago, Ill. Non-arcing muffled fuse	843,930	Feb. 12	2153	460	126	2367
Cordero, Ramón F., Rubio, Venezuela. Drier	844,252	Feb. 12	2773	590–2	126	2521
Cordero, Ramón F., Rubio, Venezuela. Coffee-separator	844,253	Feb. 12	2777	592–3	126	2522
Costa, Enos S., Quincy, Mass. Self-tightening tool-holder and tool	843,931	Feb. 12	2154	460	126	2368
Costello, Thomas J., Youngstown, Ohio. Continuous annealing and bluing furnace	844,101	Feb. 12	2465	528	126	2441
Cotton, Frank, Hornsby, New South Wales, Australia. Apparatus for burning liquid fuel in conjunction with steam	844,004	Feb. 12	2282	489	126	2398
Courtine, Benjamin F. A., Maisons-Alfort, France. Machine for manufacturing and bundling vermicelli and the like	843,932	Feb. 12	2156	460–1	126	2368
Courtney, Robert H., Jr., Louisville, Ky. Megaphone attachment for steam-whistles	844,254	Feb. 12	2778	593	126	2523
Cowdrey, Charles F. and H. E., Fitchburg, Mass. Projectile and fuse-plug therefor	843,665	Feb. 12	1657	351	126	2243
Cowdrey, Henry E. (See Cowdrey, Charles F. and H. E.)						
Cox, Walter, Provo, Utah. Antirattler thill-coupling	843,736	Feb. 12	1783	380	126	2275
Cramer, Herbert H., Aspen, Colo. Valve	844,255	Feb. 12	2779	593	126	2523
Crawford, Jim, Paden, Ind. Ter. Gate-latch	843,870	Feb. 12	2031	436	126	2335
Cripps, Alfred G., assignor to Prudential Heating Company, Akron, Ohio. Fire-pot	843,795	Feb. 12	1891	406	126	2302
Crisman, Hiram. (See Vorhes and Crisman.)						
Crockett, William P. (See Frallick, Syles R., assignor.)						
Crump, Frank H., Los Angeles, Cal. Excess-baggage coupon-check	844,102	Feb. 12	2466	528–9	126	2442
Culver, Darwin D., Aurora, Ill. Automobile-gearing	843,796	Feb. 12	1892	406	126	2302
Cunningham, William R. (See Wibel, Cunningham, and Wheeler.)						
Curcio, Rocco, Richfield Springs, N. Y. Fountain-brush	844,256	Feb. 12	2781	594	126	2524
Dain, Joseph, Jr., Ottumwa, Iowa. Mill	844,303	Feb. 12	2885	613–14	126	2549
Daisy Manufacturing Company. (See Bennett, Frederick F., assignor.)						
Dale, John H. (See Lewis, Herman J. S., assignor.)						
Daly, John A., Washington, D. C. Coating lace with metal	844,304	Feb. 12	2888		126	2549
Dauben, Joseph, and F. M. Ryan, Columbus, Ohio. Fireproof chimney	843,797	Feb. 12	1893	406	126	2302
Davenport, William S., New Bedford, Mass., assignor to Brown and Sharpe Manufacturing Company, Providence, R. I. Chuck	843,666	Feb. 12	1659	352	126	2243
Davidson, Frank B., Marseilles, Ill., assignor to Howe and Davidson Company, East Orange, N. J. Paper tray	843,933	Feb. 12	2160	461–2	126	2369
Davidson, John W. (See Shaver, Hustead B., assignor.)						
Davies, Frederick D., Brooklyn, N. Y. Shears or the like	843,667	Feb. 12	1660	352	126	2244
Davis, Arthur W. (See Bright and Davis.)						
Davis, George H. (See Burr and Davis.)						
Davis, Gilman V., Atkinson, Nebr. Feed Mechanism for baling-presses	844,103	Feb. 12	2467	529	126	2442
De Coster, Jules M., La Grange, Mo., assignor of one-half to J. T. Baner, Quincy, Ill. Baling-press	844,258	Feb. 12	2785	594–5	126	2525
De Few, Henry H., Chicago, Ill. Surgical instrument	843,587	Feb. 12	1511	321	126	2203
De Veaux, Harry G., Robertsville, Ohio. Funnel	843,873	Feb. 12	2043	437	126	2339
Dean Electric Company. (See Dean, William W., assignor.)						
Dean, George J., Campbell, Tex. Cattle-yoke	843,586	Feb. 12	1510	320	126	2203
Dean, William W., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone trunking system	843,871	Feb. 12	2032	437	126	2335
Dean, William W., assignor to Dean Electric Company, Elyria, Ohio. Harmonic signaling for polystation telephone-lines	844,257	Feb. 12	2782	594	126	2524

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Denis, Luc L. B., Paris, France. Speed-indicator	844,259	Feb. 12	2786	595–6	126	2525
Desgraz, Adolphe and P. Schmidt, Hanover, Germany. Furnace for obtaining zinc from zinc ores	843,872	Feb. 12	2041	437	126	2338
Désy, Louis A., assignor to J. W. Harris, Montreal, Quebec, Canada. Excavating apparatus	844,104	Feb. 12	2469	529–30	126	2442
Detroit Stove Works. (See Van Wie, Edwin G., assignor.)	844,260	Feb. 12	2791	596	126	2526
Dexter, Thomas F., Providence, R. I. Combined steam and water trap for steam-heating systems	844,105	Feb. 12	2471	530	126	2443
Dieter, Louis F., Buffalo, N. Y. Elastic gearing	844,261	Feb. 12	2793	597–8	126	2526
Dieterich, Albert E., Washington, D. C., assignor to W. B. Shaffer, Nazareth, Pa. Water-purifying apparatus	844,262	Feb. 12	2804	598	126	2528
Dietrich, John G., Tremont, Ill. Wire-stretcher	844,263	Feb. 12	2806	598	126	2529
Dister, Joseph, Hamilton, Ohio, assignor to American Can Company, New York, N. Y. Sheet-metal slip-cover can for lard and other materials	843,798	Feb. 12	1895	407	126	2303
Dister, Joseph, Hamilton, Ohio, assignor to American Can Company, New York, N. Y. Sheet-metal slip-cover can for lard and other articles	843,799	Feb. 12	1897	407	126	2303
Ditto, Charles H., Keithsburg, Ill. Decoy	843,588	Feb. 12	1512	321	126	2203
Dodge, Isaac A., Fayetteville, N. Y. Sulky potato-digger	844,106	Feb. 12	2472	530	126	2443
Donaldson, Sidney H., Hampstead, England. Type-writing machine	844,264	Feb. 12	2809	599	126	2529
Dorris, George P., assignor to Dorris Motor Car Company, St. Louis, Mo. Cylinder-grinding attachment for lathes	844,265	Feb. 12	2811	599	126	2530
Dorris Motor Car Company. (See Dorris, George P., assignor.)						
Dörwald, Gottfried L. M., East Putney, assignor of one-half to J. C. H. Grant, London, England. Hydraulic power-transmission apparatus	843,874	Feb. 12	2044	438	126	2339
Dotton, John F., Troy, N. Y. Kitchen implement	844,266	Feb. 12	2813	599	126	2530
Draver, Emil R., Richmond, Ind. Means for imparting gyratory motion to sieve-boxes and other bodies	844,005	Feb. 12	2285	489–90	126	2399
Driver, Aber & Company. (See Driver, John, assignor.)						
Driver, John, assignor to Driver, Aber & Company, San Leandro, Cal. Carpet-stretcher	844,107	Feb. 12	2475	531	126	2444
Dukelow, Charles, M. J. Kier, and H. A. Jaeger, Oconomowoc, Wis. Refrigerator	843,589	Feb. 12	1513	321	126	2204
Dunbar, George H., New Orleans, La. Can-closure	843,668	Feb. 12	1662	352	126	2244
Dunham, George, Unionville, Conn. Die and punch for making hexagonal nuts	844,108	Feb. 12	2475	531	126	2444
Dunn, Harold E., *et al.* (See Dunn and Taylor, assignors.)	843,875	Feb. 12	2046	438	126	2340
Dunn, William B., Jr., and J. Taylor, Jr., assignors of five-sevenths to J. Hammond, J. W. Jones, H. E. Dunn, L. A. Williams, and J. F. Sellers, Washington, D. C. Household cleaning appliance	843,590	Feb. 12	1514	321	126	2204
Durning, Joseph S., assignor to J. O. Bower, Avalon, Pa. Post-hole digger	843,800	Feb. 12	1899	407	126	2304
Dye Works formerly L. Durand Huguenin & Co. (See Lorétan, Herman, assignor.)						
Dyer, Richard N. (See Taylor, Jenks, and Dyer.)						
E. N. Rowell Company. (See Rowell and Little, assignors.)						
Earnshaw, Louis P. (See Mendenhall, Charles E., assignor.)						
Eastman, H. A. (See Fate, John L., assignor.						
Eckel, George, and W. H. Tegeder, Indianapolis, Ind. Overalls	843,876	Feb. 12	2048	438	126	2340
Eckenrode, Charles G., and N. Baldwin, Pierre, S. D. Ash-pan for locomotives	844,267	Feb. 12	2814	600	126	2531
Ecseghy, Stefan K. v., assignor to Firm of Handelsgesellschaft Kleinberg & Co., Vienna, Austria-Hungary. Making unwelded chains	844,006	Feb. 12	2288	490	126	2400
Edwards, Richard J., Galena, Ill. Spring-bearing	843,591	Feb. 12	1515	322	126	2204
Eggeman, Godfrey S., Denver, Colo. Trunk	843,877	Feb. 12	2049	439	126	2340
Ehrlich, Abraham, Springfield, Mass. Comb	844,007	Feb. 12	2289	490	126	2400
Elser, Michael W., Kansas City, Mo. Hat-frame	844,268	Feb. 12	2815	600	126	2531
Eldred, Byron E., assignor to Combustion Utilities Company, New York, N. Y. Manufacturing steel	843,592	Feb. 12	1516	322	126	2205
Elliott, George B., Barney, N. D. Draft-equalizer	843,737	Feb. 12	1784	380	126	2275
Elliott, Harry S., Jefferson, Iowa. Vehicle-shaft support	844,269	Feb. 12	2816	600	126	2531
Ellis, Carleton. White Plains, N. Y. Calcining lime and cement forming material	843,878	Feb. 12	2050	439	126	2340
Ellis, Carleton, assignor to Combustion Utilities Company, New York, N. Y. Apparatus for producing gas	843,669	Feb. 12	1664	353	126	2244
Emerick, William F. (See Giddings and Emerick.)						
Emery, George, Argenta, Ark. Air-brake attachment	844,270	Feb. 12	2818	601	126	2532
Ennis, Charles H. (See Farquharson, James B., assignor.)						
Entwisle, Edward B., Johnstown, Pa., assignor to Lorain Steel Company. Tongue-switch	843,879	Feb. 12	2053	439	126	2341
Epler, John C., Philadelphia, Pa. Garment-hanger and lock	844,305	Feb. 12	2890	614–15	126	2550
Erickson, Edward S., and W. A. Heilman assignors to Romadka Brothers Company, Milwaukee, Wis. Bag-fastener	843,934	Feb. 12	2162	462	126	2370
Ertel, George, Fort Wayne, Ind. Cistern-cover	843,801	Feb. 12	1900	407	126	2304
Ervin, George M., Johnstown, Pa., assignor to Lorain Steel Company. Adjustable guard-rail chock	843,880	Feb. 12	2054	439–40	126	2341
Evans, John A. (See Evans, Newton R., assignor.)						
Evans, Newton R., assignor to J. A. Evans, Richmond, Ind. Window-lifter	843,881	Feb. 12	2055	440	126	2341
Ewerlöf, Per S. (See Blomén and Ewerlöf.)						
Fairbank Canning Company. (See McTaggart, Alexander I., assignor.)						
Falk, George, La Crosse, Wis. Machine for making fence-posts	844,306	Feb. 12	2894	615	126	2550
Famous, James P., Norristown, Pa. Wire-pointing machine	844,109	Feb. 12	2476	531	126	2444
Farbenfabriken vorm. Friedr. Bayer & Co. (See Hagemann and Stange, assignors.)						
Farbenfabriken vorm. Friedr. Bayer & Co. (See Kothe and Ossenbeck, assignors.)						
Fargo, Edwin, Washington, Pa. Hot-blast valve	843,935	Feb. 12	2164	462–3	126	2370
Farquharson, James B., Rochester, N. Y., assignor of one-half to C. H. Ennis, Lakewood, N. J. Photographic-print drier	844,271	Feb. 12	2819	601	126	2532
Fate, John L., assignor of one-half to H. A. Eastman, Chicago, Ill. Receptacle for retaining or excluding heat	844,272	Feb 12	2820	601	126	2532
Fay, Alpheus, Louisville, Ky. Vehicle-wheel	843,738	Feb. 12	1786	381	126	2276
Fehr, William, Philadelphia, Pa. Warp-stop-motion detector	843,882	Feb. 12	2056	440	126	2342
Feigert, Frederick A., Shelbyville, Ind. Electric insulator	843,739	Feb. 12	1787	381	126	2276
Fenn, Charles A., Bloomington, Ill. Back-pedaling brake	843,593	Feb. 12	1519	322	126	2205
Fenn, William B., Columbus, Ohio. Closing device for vessels	843,670	Feb. 12	1666	353	126	2245
Fenn, William B., Columbus, Ohio. Ring for sealing jars and the like	843,740	Feb. 12	1789	381	126	2276
Fenn, William B., Columbus, Ohio. Closing device for vessels	843,802	Feb. 12	1901	408	126	2304
Ferguson, Guy T., Minooka, Ill. Oil-pump	844,008	Feb. 12	2290	490	126	2400
Fetters, Arthur H., Omaha, Nebr. Clutch-throwing mechanism	844,273	Feb. 12	2822	601–2	126	2533
Fetzer, William, Middletown, Ohio. Disk-harrow attachment	843,671	Feb. 12	1667	353	126	2245
Fetzer, William, Middletown, Ohio. Disk harrow with tongue-truck	843,672	Feb. 12	1669	353–4	126	2245
Fieldes, Edward V., Adelphia, N. J. Agricultural implement	843,741	Feb. 12	1790	381	126	2277
Fifield, Warren. (See Trace and Fifield.)						
Finquist, Gustaf E., assignor to Golbert Last Company, Worcester, Mass. Boot and shoe tree leg	843,673	Feb. 12	1671	354	126	2246
Fircks, Paul von, Dresden, Germany. Single-track railway system	844,111	Feb. 12	2479	532	126	2445
Fischer & Co., Martin. (See Fischer, Martin, assignor.)						
Fischer, Julius, assignor of one-half to G. Shiema, Philadelphia, Pa. Neckband-stretcher	844,110	Feb. 12	2477	532	126	2445

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Fischer, Martin, Zurich, Switzerland. Clock controlled by reversals of electric current	844,010	Feb. 12	2294	491	126	2401
Fischer, Martin, assignor to Actiengesellschaft "Magneta," Zurich, Switzerland. Electric sympathetic or secondary clock for induction-currents	844,009	Feb. 12	2292	491	126	2400
Fischer, Martin, assignor to Firm of M. Fischer & Co., Zurich, Switzerland. Motor-vehicle	844,011	Feb. 12	2295	491	126	2401
Fischer, Robert, New York, N. Y. Pin-retaining device	844,274	Feb. 12	2826	602	126	1534
Fisher, Lucius G. (See Murchie, Sylvanus T., assignor.)						
Fleming, Charles F., San Jose, Cal. Dried-fruit-packing device	844 275	Feb. 12	2827	602	126	2534
Fletcher, Lawrence A., Cumberland, Md., assignor to National Glass Company, Pittsburg, Pa. Manufacturing glassware	843,594	Feb. 12	1521	322–3	126	2206
Flinn, Edward L., Forestville, assignor of one-half to A. O. Herzog, Madisonville, Ohio. Tie-plate	843,595	Feb. 12	1522	323	126	2206
Flint, Nelson O., Walton, N. Y. Plow	844,112	Feb. 12	2480	532	126	2446
Fogarty, Charles A., Brooklyn, N. Y. Sink-brush	843,596	Feb. 12	1523	323	126	2206
Ford, Albert J., assignor to Fuchs & Lang Manufacturing Co., New York, N. Y. Feed device for sheet-metal-printing machines	844,113	Feb. 12	2481	532–3	126	2446
Foster, Albert, Philadelphia, Pa. Scholar's companion	844,114	Feb. 12	2482	533	126	2446
Fourcault, Emile, Lodelinsart, Belgium. Rollers for drawing sheets of glass	844,115	Feb. 12	2484	533	126	2447
Fownes, William C., Jr., and R. J. Gardner, assignors to Jarvis Adams Company, Pittsburg, Pa. Pit-car wheel	843,883	Feb. 12	2058	440–1	126	2342
Fox, Frank L., Seymour, Ind. Furnace-door for boilers	843,742	Feb. 12	1791	382	126	2277
Fralick, Syles R., assignor of one-half to W. P. Crockett, Chicago, Ill. Cluster-fixture for electric lamps	844,276	Feb. 12	2828	602–3	126	2534
Francovich, Auguste, Paris, France. Amusement device	844,116	Feb. 12	2485	533–4	126	2447
Fraser, Simon A., and J. M. Nichols, assignor of one-third to J. J. Kelley, Lorain, Ohio. Marine-engine governor	843,803	Feb. 12	1902	408	126	2305
Frees, Benjamin M. (See Radell, Anthony H., assignor.)						
Frey, Ernest H., Glenville, Ohio. Hatch-fastener	843,804	Feb. 12	1904	408	126	2305
Frič, Josef J., Prague, Austria-Hungary. Optical instrument	844,012	Feb. 12	2296	492	126	2402
Fried. Krupp Aktiengesellschaft. (See Bogel, Josef, assignor.)						
Fried. Krupp Aktiengesellschaft. (See Wieser, Karl, assignor.)						
Frisbie, Henry R., Belleville, N. J. Apparatus for locating patterns on pattern-plates	844,117	Feb. 12	2486	534	126	2448
Frost, William G., Indianapolis, Ind. Renewable-front washboard	844,013	Feb. 12	2297	492	126	2402
Fuchs & Lang Manufacturing Co. (See Ford, Albert J., assignor.)						
Fuller, Carl D., Bourdon, Ind. Railway-switch	844,014	Feb. 12	2299	492	126	2402
Funk, Edgar M., Wytheville, Va. Massaging apparatus	843,674	Feb. 12	1674	355	126	2247
Galperin, Aaron, Chicago, Ill. Combination-tool	843,936	Feb. 12	2167	463–4	126	2370
Gardner, Robert J. (See Fownes and Gardner.)						
Garisio, Theodore, West Hoboken, N. J. Selvage-forming attachment for looms	843,884	Feb. 12	2060	441	126	2383
Garside, Irad L., assignor to Garside Manufacturing Company, Paterson, N. J. Blind-adjuster	844,118	Feb. 12	2488	535	126	2448
Garside Manufacturing Company. (See Garside, Irad L., assignor.)						
Gaston, Mary L., New York, N. Y., and H. E. Moore, Plainfield, N. J. Collar-supporter	843,885	Feb. 12	2061	441	126	2343
Gaston, Mary L., New York, N. Y., and H. E. Moore, Plainfield, N. J. Collar-supporter	843,886	Feb. 12	2062	442	126	2343
Gebr. Gegauf. (See Gegauf, Friedrich, assignor.)						
Gegauf, Friedrich, assignor to Firm of Gebr. Gegauf, Steckborn, Switzerland. Embroidering-machine	844,015	Feb. 12	2300	492–3	126	2403
Gendron Wheel Company. (See Vogel, Joshua F., assignor.)						
General Electric Company. (See Batchelder, Asa F., assignor.)						
General Electric Company. (See Beck, Jacob, assignor.)						
General Electric Company. (See Chapman, Lewis S., assignor.)						
General Electric Company. (See Hall, John L., assignor.)						
General Electric Company. (See Hall, Walter A., assignor.)						
General Electric Company. (See Hawkins, Laurence, A., assignor.)						
General Electric Company. (See Hewlett, Edward M., assignor.)						
General Electric Company. (See Howell and Burrows, assignors.)						
General Electric Company. (See Macloskie, George, assignor.)						
General Electric Company. (See McLaughlin, James, assignor.)						
General Electric Company. (See Steinmetz, Charles P., assignor.)						
General Fireproofing Company. (See White, Alexander P., assignor.)						
General Fireproofing Company. (See White, Herbert E., assignor.)						
General Storage Battery Company. (See Bijur, Joseph, assignor.)						
George Frost Company. (See Phelps, George H., assignor.)						
Gerken, Ernst A., Molenbeek, near Brussels, Belgium. Match-box	844,119	Feb. 12	2490	535	126	2449
Gerson, Adolph, New York, N. Y. Stop-watch	843,887	Feb. 12	2064	442	126	2344
Gertzen, George, Alton, and J. Rogbair, Orange City, Iowa. Stock-watering trough	844,277	Feb. 12	2831	603	126	2535
Gerwe, Louis M., Davenport, Iowa. Seat for puppet or foot valves of pumps	843,597	Feb. 12	1525	323	126	2207
Ghegan, John J., Newark, N. J. Telegraph-key	844,278	Feb. 12	2832	604	126	2535
Gibson, William M., Poplar Creek, Miss. Cotton-chopper	843,675	Feb. 12	1675	355	126	2247
Giddings, Roy W., and W. F. Emerick, Colorado Springs, Colo. Linoleum and carpet stretcher	843,743	Feb. 12	1792	382	126	2277
Giguere, Thomas D., North Attleboro, Mass. Bracelet	843,888	Feb. 12	2066	442	126	2344
Gillihan, Rufus M. (See Miller, Robert, assignor.)						
Gilman, Willard H., Medford, and C. B. Kendall, Malden, Mass., assignors, by mesne assignments, to C. B. Kendall. Apparatus for advertising, &c	843,889	Feb. 12	2068	443	126	2344
Given, John L., Thompkins Cove, N. Y. Making concrete walls	843,937	Feb. 12	2169	464	126	2371
Glas, Adolf, Berlin, Germany. Manufacture of milk-powder	843,938	Feb. 12	2170		126	2371
Glazer, George F., Philadelphia, Pa., assignor to Quong King Long Company, New York, N. Y. Ironing-machine	844,016	Feb. 12	2303	493	126	2403
Glenton, Frederico, Jr., Johnstown, Pa., assignor to Lorain Steel Company. Adjustable guard-rail fastener	843,939	Feb. 12	2172	464	126	2371
Golbert Last Company. (See Finquist, Gustaf E., assignor.)						
Goldfarb, Nathan J., assignor to Commercial Adding Machine Co. Calculating-machine	844,120	Feb. 12	2491	535	126	2449
Goodwin, Richard N., assignor, by mesne assignments, of one-half to C. W. Snyder, Wichita, Kans. Horseshoe-calk	844,121	Feb. 12	2495	536	126	2449
Graffis, William F., Manito, Ill. Axle-box	844,122	Feb. 12	2496	536	126	2450
Graham Flange Frog Company. (See Graham, John E., assignor.) (Reissue.)						
Graham, John E., assignor to Graham Flange Frog Company, Inc., Salem, Va. Railway-frog. (Reissue)	12,605	Feb. 12	2912	619	126	2555
Grainger, Archibald, and E. Klepach, Saginaw, Mich. Block	844,123	Feb. 12	2497	536	126	2450
Granger, William H., assignor of one-half to H. F. Stone, Oklahoma, Okla. Ter. Residence mail-box	843,805	Feb. 12	1905	408	126	2306
Grant, Josceeline C. H. (See Dörwald, Gottfried L. M., assignor.)						
Gray, Clinton C. (See Hensley, William N., assignor.)						
Greene, Harry, and H. A. Krepsky, Colby, Wis. Fence	843,744	Feb. 12	1793	382	126	2277
Greeson, Burnett & Co. (See Greeson, David H., assignor.)						
Greeson, David H., assignor to Greeson, Burnett & Co., Bowie, Tex. Steam and air valve operator	843,598	Feb. 12	1526	324	126	2207
Gregg, Albert H., assignor to Havana Tobacco Company, New York, N. Y. Tobacco packing and shipping can	843,745	Feb. 12	1794	382	126	2277

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Grimm, Gerhardt E., Camden, N. J. Antiseptic guard for telephone-transmitters	843,940	Feb. 12	2172	464	126	2372
Grimshaw, Charles B. (See Nilson, Nils, assignor.)						
Gross, William A. (See Weil and Gross.)						
Groupe, Andrew V., Philadelphia, Pa. Display-holder for cards or similar articles	844,279	Feb. 12	2835	604	126	2536
Grove, Arthur J., assignor to J. Grove & Sons, Halesowen, England. Snap-fastener	844,280	Feb. 12	2837	604	126	2537
Grove & Sons, James. (See Grove, Arthur J., assignor.)						
Groves, Clarence L., assignor to G. R. Myers and P. J. D. Larmoyeux, Hartford City, Ind. Pneumatic conveyer	843,806	Feb. 12	1907	409	126	2306
Grubbs, Barton, Allegheny, Pa. Seating-strip for rail-joints	843,807	Feb. 12	1908	409	126	2306
Gustavsen, Charles O., assignor to J. A. Jeffrey, Columbus, Ohio. Conveyer	843,676	Feb. 12	1677	355	126	2248
Gutelius, Frederick P., Montreal, Quebec, Canada. Smoke-jack for engine-houses	843,941	Feb. 12	2175	465	126	2372
Haff, Howell W., Babylon, assignor to K. M. Turner, New York, N. Y. Connection for acousticons	843,890	Feb. 12	2070	443	126	2345
Haff, Howell W., assignor to K. M. Turner, New York, N. Y. Telephone-receiver	843,891	Feb. 12	2072	443	126	2346
Hagemann, Karl, and O. Stange, Leverkusen, near Cologne, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Black azo dye and making same	843,808	Feb. 12	1910	.....	126	2307
Haines, Jones & Cadbury Company. (See Sharp, Joseph W., Jr., assignor.)						
Hale-Kilburn Metal Company. (See Budd, Edward G., assignor.)						
Hale-Kilburn Metal Company. (See Wollé, Joseph A., assignor.)						
Hall, John L., Schenectady, N. Y., assignor to General Electric Company. Selective transmitting system	843,746	Feb. 12	1796	383	126	2278
Hall, Thomas P., Vancouver, British Columbia, Canada. Picture-hanger	843,942	Feb. 12	2177	466	126	2373
Hall, Walter A., Lynn, Mass., assignor to General Electric Company. Producing lamine for transformer-cores	843,747	Feb. 12	1800	384	126	2279
Haller, James C., and R. H. Machell, assignors to E. T. and J. L. Ingham, Dewsbury, England. Pipe-joint	843,892	Feb. 12	2073	444	126	2346
Halliday, George, Superior, Wis. Feed-regulator	844,124	Feb. 12	2498	536	126	2450
Hammatt, Clarence S., Jacksonville, Fla. Distilling wood	843,599	Feb. 12	1527	324	126	2207
Hammond, John, *et al.* (See Dunn and Taylor, assignors.)						
Handelsgesellschaft Kleinberg & Co. (See Ecseghy, Stefan K. v., assignor.)						
Hankins, William B., assignor of one-half to W. E. Sefton, Mount Vernon, Ohio. Flue-welding machine	843,809	Feb. 12	1911	409–10	126	2307
Hanrahan, John E. (See Brown, Hanrahan, and Boyden.)						
Hansen, Carl Johnson, N. Y. Magazine-gun	844,017	Feb. 12	2304	493–4	126	2404
Hardy, Edward K. (See Weida and Hardy.)						
Harmer, Frederick H., assignor to Allis-Chalmers Company, Milwaukee, Wis. Valve	844,307	Feb. 12	2897	615–16	126	2551
Harris, James R., Oxford, Ohio. Mail-delivery apparatus	844,125	Feb. 12	2499	537	126	2450
Harris, Joseph B., Branson, Mo. Fishing-tackle	843,748	Feb. 12	1802	384	126	2279
Harris, Joseph W. (See Désy, Louis A., assignor.)						
Hartenstein, Herman L., Constantine, Mich. Utilizing marl, making carbid	844,018	Feb. 12	2309	.....	126	2404
Hatfield, Llewellyn T., Sacramento, Cal. Socket-seal for electric lamps, &c	844,126	Feb. 12	2505	538	126	2452
Haubert, Henry, St. Paul, and M. Olsen, Minneapolis, Minn. Burnishing-machine	844,019	Feb. 12	2312	494	126	2405
Havana Tobacco Company. (See Gregg, Albert H., assignor.)						
Hawkins, Laurence A., Schenectady, N. Y., assignor to General Electric Company. Brake-control system	843,749	Feb. 12	1804	384	126	2280
Hawkins, Millard J., Hoopeston, Ill. Apparatus employed in canning operations	843,893	Feb. 12	2073	444	126	2346
Hayden, Joel, Jr., assignor to Hayden Machinery Company, Boston, Mass. Ring spinning and twisting apparatus	843,810	Feb. 12	1912	410	126	2307
Hayden Machinery Company. (See Hayden, Joel, Jr., assignor.)						
Hayner, Roy F., Coin, Iowa. Rein-holding attachment for harness	843,600	Feb. 12	1533	324	126	2208
Heath, D. W. (See Cherry, Frank W., assignor.)						
Heckert, Gustav A., Munich, Germany. Gas-retort	843,811	Feb. 12	1913	410	126	2308
Hedlors, Arvid O., Upsala, Sweden. Box-bearing	843,601	Feb. 12	1534	324	126	2208
Hedinger, Theodore, Jr. (See Morrison, Charles M., assignor.)						
Hegland, Harny L., Canton, Minn. Attachable flange for wheels	843,943	Feb. 12	2178	466	126	2373
Heilman, William A. (See Erickson and Heilman.)						
Heimerdinger, William C., Louisville, Ky. Corn-knife	843,602	Feb. 12	1535	325	126	2208
Heilig, Henry, Munich, Germany. Theater	844,127	Feb. 12	2507	538	126	2452
Hemenway, Charles S., and F. M. Thomson, Covelo, Cal. Wire-stretcher	843,603	Feb. 12	1536	325	126	2209
Hendricks, Thomas B., Twin Falls, Idaho. Brush-cutting machine	843,604	Feb. 12	1538	325	126	2209
Henry, James A., New York, N. Y. Composition of matter for coating gilded surfaces	843,812	Feb. 12	1915	.....	126	2308
Hensel Colladay Company. (See Kirberg, Jacob E., assignor.)						
Hensley, William N., assignor of one-half to C. C. Gray, Columbus, Nebr. Car-coupling	843,605	Feb. 12	1540	326	126	2210
Herrin, Jeremiah, Warsaw, Ind. Base for chimney-stacks	843,813	Feb. 12	1915	410	126	2308
Herzog, Arthur O. (See Flinn, Edward L., assignor.)						
Hewlett, Edward M., Schenectady, N. Y., assignor to General Electric Company. Means for controlling valves or other movable devices from a distant station	843,814	Feb. 12	1917	411	126	2308
Heys, John J., assignor of one-half to M. V. Bresnahan, Lynn, Mass. Leather-splitting machine	844,128	Feb. 12	2509	539	126	2452
Hibbard, Robert L., Bellevue, Pa. Calculating device	843,944	Feb. 12	2179	466	126	2374
Hickerson, Perry D., Grantsburg, Wis. Buggy-top rest	843,677	Feb. 12	1678	355	126	2248
Hill, Arthur, and S. Purcell, Pontefract, England. Governor	844,129	Feb. 12	2512	539	126	2454
Hitch, John E., assignor of one-half to D. H. Snyder, Snyderville, Ohio. Knockdown shipping box or crate	843,815	Feb. 12	1919	411	126	2309
Hitch, John E., assignor of one-half to D. H. Snyder, Snyderville, Ohio. Shipping box or crate	843,816	Feb. 12	1920	411	126	2309
Hite, Basil F. (See Hornbeck, Campbell, and Hite.)						
Hoffman, Louis A., Elizabeth, and T. H. Hoover, Newark, N. J.; said Hoffman assignor to said Hoover. Clean-out for drainage systems	844,020	Feb. 12	2313	494	126	2405
Hogan, Inez B., London, England. Skirt-support and blouse-stay	844,021	Feb. 12	2314	495	126	2405
Holman, Adolph. (See Wares and Holman.)						
Holmgreen, Julius H., San Antonio, Tex. Refrigerating apparatus	843,894	Feb. 12	2076	444–5	126	2347
Holt, William, and J. A. Smith, Los Angeles, Cal. Flooring	843,817	Feb. 12	1922	412	126	2310
Hoogh ouse, Cornelius, Odell, Ill. Planer	843,818	Feb. 12	1923	412	126	2310
Hoover, Isaac W., Avery, Ohio. Nozzle	843,945	Feb. 12	2181	466	126	2374
Hoover, Thomas H. (See Hoffman and Hoover.)						
Hornbeck, Robert, G. B. Campbell, and B. F. Hite, Sacramento, Cal.; said Campbell assignor to said Hornbeck. Device for prospecting and mining for gold	843,606	Feb. 12	1542	326	126	2210
Howald, Ferdinand J., Santa Cruz, Cal. Fish-parachute	843,946	Feb. 12	2182	467	126	2374
Howard, Jasper N., Lagrange, Ind. Tool-handle	844,130	Feb. 12	2514	540	126	2454
Howard, Thomas P., *et al.* (See Page, Herbert J., assignor.)						
Howe and Davidson Company. (See Davidson, Frank B., assignor.)						
Howell, John W., and W. R. Burrows, Newark, N. J., assignors to General Electric Company. Machine for making stems of incandescent lamps	843,750	Feb. 12	1808	385	126	2281
Huenefeld, Ernst H. (See Carter, John R., assignor.)						
Huenefeld, Ernst H. (See Pross, George F., assignor.)						
Humphrey Company. (See Humphrey, Herbert S., assignor.)						
Humphrey, Herbert S., assignor to Humphrey Company, Kalamazoo, Mich. Water-heater	844,131	Feb. 12	2515	540	126	2454
Hungerford, Henry H. (See Peters and Hungerford.)						
Huntley, Henry F., Seattle, Wash. Finger-shield	843,819	Feb. 12	1924	412	126	2310

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Hurd, Norman B., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Lock	843,607	Feb. 12	1543	326	126	2211
Hutchings, Judd W. (See Wasson and Hutchings.)						
Hutchinson, William F., assignor to Sweetwood Tooth Pick Company, Nyack, N. Y. Drier	843,608	Feb 12	1545	326	126	2211
Imhoff, Louis P., Georgetown, Tex. Clamp	843,820	Feb. 12	1925	412	126	2310
Indiana Road Machine Company. (See Brophy, Luke V., assignor.)						
Ingham, Edward T., *et al.* (See Haller and Machell, assignors.)						
Ingham, Joshua L., *et al.* (See Haller and Machell, assignors.)						
Ingram, Dana R., Chicago, Ill. Machine for surfacing butchers' blocks	844,022	Feb. 12	2315	495	126	2406
Ingram, John H., Quitman, Tex. Brace for heel-sweeps	844,023	Feb. 12	2317	495	126	2406
Insulating Staple Company. (See Taylor, Jenks, and Dyer, assignors.)						
International Harvester Company. (See Atkinson, Cyril J., assignor.)						
International Harvester Company. (See Johnston, Edward A., assignor.)						
International Harvester Company. (See Phelps, George L., assignor.)						
International Harvester Company. (See Pridmore, John W., assignor.)						
International Harvester Company. (See Ryther, Frank A., assignor.)						
Ippers, John W., assignor to A. H. Walker, New York, N. Y. Photomechanical printing	843,947	Feb. 12	2183	467	126	2374
Irwin, Donald J., Buffalo, Mo., and H. J. Strawn, Albion, Ill. Rail-joint	844,132	Feb. 12	2518	540	126	2455
Jacobs, Walter A., Adamant, Vt. Passenger-car	844,133	Feb. 12	2519	541–2	126	2455
Jaeger, Herman A. (See Dukelow, Kier, and Jaeger.)						
James Reilly Repair and Supply Company. (See Bowman, Mark K., assignor.)						
Jarvis Adams Company. (See Fownes and Gardner, assignors.)						
Jasper, John P., Cave City, Ky. Lawn-mower	843,821	Feb. 12	1926	413	126	2311
Jeffrey, Joseph A. (See Gustavsen, Charles O., assignor.)						
Jeffrey, Joseph A. (See Miller, Charles W., assignor.)						
Jeffrey, Joseph A. (See Steckel Archibald W. F., assignor.)						
Jenkins, William J., Rockfall, Conn. Nippers	844,134	Feb 12	2526	542	126	2456
Jenks, William J. (See Taylor, Jenks, and Dyer.)						
Jennings, Daniel C., North Falmouth, assignor of one-half to A. M. Alger, Taunton, Mass. Reefing-gear	843,822	Feb. 12	1927	413	126	2311
Jersemann, Max, assignor to Schultz, Jersemann Manufacturing Company, New York, N. Y. Jewelry-holder	843,678	Feb. 12	1679	356	126	2248
Johns, Charles, Pittsburg, Pa. Mold for manufacturing rolls	843,679	Feb. 12	1680	356	126	2248
Johnson, Charles W., Litchfield, Ill. Coin-counting machine	844,308	Feb. 12	2898	616	126	2551
Johnson, John, Duluth, Minn. Grain-car door	844,024	Feb. 12	2318	496	126	2406
Johnson, John D. A., Omaha, Nebr. Mechanical movement	843,823	Feb. 12	1929	413–14	126	2311
Johnston, Edward A., Sterling, Ill., assignor to International Harvester Company. Changeable-speed gearing	843,609	Feb. 12	1546	327–8	126	2212
Johnston, Edward A., Sterling, Ill., assignor to International Harvester Company. Hay-loader	843,610	Feb. 12	1549	328	126	2212
Johnston, Edward A., Sterling, Ill., assignor to International Harvester Company. Hay-loader	843,824	Feb. 12	1932	414	126	2312
Jones, Herbert J. (See Wallace and Jones.)						
Jones, James W., *et al.* (See Dunn and Taylor, assignors.)						
Jungkind, John F., Little Rock, Ark. Photographic-printing machine	844,135	Feb. 12	2527	542	126	2457
Kaczander, Leopold, assignor to Nathan Manufacturing Company, New York, N. Y. Lubricator	844,281	Feb. 12	2839	605	126	2537
Kamerzel, Henry, and C. W. Schofield, Naugatuck, Conn. Brace-block	843,948	Feb. 12	2187	467	126	2375
Kampfe, Otto, New York, N. Y. Candle-holder	844,136	Feb. 12	2528	543	126	2457
Kane, Peter W., Mason City, Iowa. Starting mechanism for explosive-engines	843,611	Feb. 12	1552	329	126	2214
Kaseler, Peter, Brooklyn, N. Y. Truss	844,137	Feb. 12	2530	543	126	2458
Katzenberger, Oscar, San Antonio, Tex. Lock	844,138	Feb. 12	2531	543	126	2458
Keesling, Harbin O., and O. E. Beach, Lawrence, Mass.; said Beach assignor to said Keesling. Device for teaching touch type-writing	844,025	Feb. 12	2319	496	126	2406
Kefauver, Daniel E. (See Kefauver, Joseph H. and D. E.)						
Kefauver, Joseph H. and D. E., Middletown, Md. Lime-spreader	843,680	Feb. 12	1681	356–7	126	2249
Kelley, John J. (See Fraser and Nichols, assignors.)						
Kellogg Switchboard and Supply Company. (See Dean, William W., assignor.)						
Kelly, George, Hinsdale, Ill. Insulating material and manufacturing same	844,139	Feb. 12	2535	544	126	2459
Kelly, George, Hinsdale, Ill. Insulating material and manufacturing the same	844,140	Feb. 12	2537	.....	126	2459
Kelly, John, Chicago, Ill. Water-closet flush-valve	843,949	Feb. 12	2188	467–8	126	2375
Kelsey Heating Company. (See Bradley, Royal H., assignor.)						
Kendall, Charles B. (See Gilman and Kendall.)						
Kennedy, Samuel A., Chicago, Ill. Blast-furnace	843,950	Feb. 12	2190	468	126	2376
Kepler, Andrew, Springfield, Nebr. Veterinary instrument	844,141	Feb. 12	2538	544	126	2459
Kerber, Leopold, and W. H. Bakehaus, Sigourney, Iowa. Sliding gate	843,681	Feb. 12	1684	357–8	126	2249
Kersh, William I., Chapman, Miss. Churn-operating mechanism	843,751	Feb. 12	1812	386	126	2282
Kessler, Ernest L. (See Kessler, Frederick C. and E. L.)						
Kessler, Frederick C. and E. L., St. Louis, Mo. Attachment for stoves and ranges	844,142	Feb. 12	2538	544	126	2460
Kettner, Stephen C., Woodsboro, Wis. Cattle-guard	843,752	Feb. 12	1813	386	126	2282
Kieley, Timothy J., and F. T. Mueller, New York, N. Y. Feed-water heater	844,026	Feb. 12	2320	496	126	2407
Kier, Martin J. (See Dukelow, Kier, and Jaeger.)						
King, Arthur C., Madison, Wis., assignor to Northern Electrical Manufacturing Company. Starting device for electric motors	843,753	Feb. 12	1815	386	126	2283
Kingsley, James R., New York, N. Y. Paper-hanger's trestle	844,143	Feb. 12	2540	545	126	2460
Kirberg, Jacob E., Philadelphia, Pa., assignor to Hensel Colladay Company. Machine for making braids and trimmings	844,027	Feb. 12	2322	497–8	126	2407
Kirkegaard, Georg, New York, N. Y. Bottle-capping machine	844,028	Feb. 12	2324	498	126	2408
Kirkegaard, Georg, New York, N. Y. Machine for capping bottles	844,144	Feb. 12	2541	545	126	2460
Kirman, Richard. (See Borchert, William, assignor.)						
Kirstein, John S., Canton, S. D. Poising and truing tool for balance-wheels	843,754	Feb. 12	1816	387	126	2283
Kitchen, Joseph M. W., East Orange, N. J. Sectional boiler or furnace	843,612	Feb. 12	1555	329	126	2214
Klepetko, Frank, New York, N. Y. Roasting-furnace	843,825	Feb. 12	1934	414	126	2312
Klepsch, Ernst. (See Grainger and Klepsch.)						
Klock, Joseph S., Urban, Pa. Gape-worm extractor	843,951	Feb. 12	2192	469	126	2376
Kloeppinger, Mathilda C., Washington, D. C. Holding and draining rack	843,826	Feb. 12	1937	415	126	2314
Klopf, Albert. (See Ash, Charley F., assignor.)						
Klugh, Paul B., assignor to Cable Company, Chicago, Ill. Automatic musical instrument or player	843,755	Feb. 12	1818	387	126	2283
Knight, Ellsworth L., Coaldale, assignor of one-half to H. W. Rawson, Coopers, W. Va. Anticreeper and brace for railway-rails	844,145	Feb. 12	2544	545	126	2461
Knopp, Peter M., Kansas City, Mo. Steam-making apparatus	843,613	Feb. 12	1563	330	126	2218
Knudsen, Jacob B., Dalton Station, Ill. Coil-spring	843,827	Feb. 12	1938	415	126	2314
Koch, August H., New York, N. Y. Coal-bin	843,895	Feb. 12	2079	445	126	2347
Konomax Rock Drill Syndicate. (See Mauss, Wilhelm, assignor.)						
Korns, Clarence C., Johnstown, Pa., assignor to Lorain Steel Company. Slot-switch	843,896	Feb. 12	2080	445–6	126	2347
Korns, Clarence C., Johnstown, Pa., assignor to Lorain Steel Company. Adjustable guard-rail fastener	843,897	Feb. 12	2082	446	126	2348

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Kothe, Richard, Vohwinkel, and A. Ossenbeck, assignors to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Azo coloring-matter	843,756	Feb. 12	1821	.....	126	2284
Krepsky, Hugo A. (See Greene and Krepsky.)						
Krupp, Fried. (See Wratzke, Alfred, assignor.)						
Kuen, Charles W., Chicago, Ill. Burglar-alarm	843,614	Feb. 12	1566	330–1	126	2218
Kunath, Edward F., Jersey City, N. J., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine	843,828	Feb. 12	1939	415	126	2314
L. S. Starrett Co. (See Adell and Starrett, assignors.)						
La Cour, Jens L. (See Arnold and La Cour.)						
Laas, Edward. (See Sponenburg, Hiram H., assignor.)						
Lace, Edward, Chicago, Ill. Meat-chopping machine	843,898	Feb. 12	2082	447	126	2348
Lace, Raymond F., and J. Ulrich, Columbus, Ohio. Machine for refacing valve-seats	843,615	Feb. 12	1568	331	126	2219
Lambert, Edouard, Paris, France. System of machinery for printing in several colors	843,829	Feb. 12	1943	416–17	126	2315
Langill, Charles H., Boston, Mass. Shaking-grate	843,952	Feb. 12	2193	469	126	2376
Laramy, George, Enfield, N. H. Table utensil	843,953	Feb. 12	2194	469	126	2377
Larkin, Orrel T., Plattsburg, N. Y. Ice-crusher	844,146	Feb. 12	2546	546	126	2462
Larmoyeux, P. J. D., *et al.* (See Groves, Clarence L., assignor.)						
Latta, Emmit G., Friendship, assignor of one-half to H. A. Moyer, Syracuse, N. Y. Ribbon mechanism for type-writing machines	843,830	Feb. 12	1947	417–18	126	2316
Latta, Emmit G., Friendship, assignor of one-half to H. A. Moyer, Syracuse, N. Y. Type-writing machine	843,831	Feb. 12	1955	418–19	126	2318
Lautenschlager, William F., Cincinnati, Ohio. Punching-machine	843,899	Feb. 12	2084	447–8	126	2349
Lease, Jesse A., Toledo, Ohio. Axletree	844,029	Feb. 12	2327	499	126	2408
Leavitt, Charles, St. Johnsville, N. Y. Wagon-body	844,147	Feb. 12	2547	546	126	2462
Leger, Dominick S., assignor of one-half to M. F. Richard, Lynn, Mass. Adjustable window-chair	844,148	Feb. 12	2549	546	126	2463
Leidy, Harvey, Carrington, N. D. Wagon-oiler	844,149	Feb. 12	2550	547	126	2463
Leitch, Meredith, Elizabeth, assignor to American Can Company, Jersey City, N. J. Detinning apparatus	843,616	Feb. 12	1571	331–2	126	2220
Lerberg, Frank E., Newark, N. J. Electric-light bulp	843,900	Feb. 12	2091	448	126	2350
Lewis, Herman J. S., assignor to J. H. Dale, New York, N. Y. Electric switch	843,901	Feb. 12	2091	449	126	2350
Lewis, Herman J. S., assignor to J. H. Dale, New York, N. Y. Multiple electric switch	843 902	Feb. 12	2096	449	126	2351
Lindenthal, Gustav, New York, N. Y. Car-truck	844,150	Feb. 12	2551	547–8	126	2463
Lindenthal, Gustav, New York, N. Y. Car-truck equipment	844,151	Feb. 12	2556	548	126	2465
Lingol, Matt, Telluride, Colo. Combination-auger	843,832	Feb. 12	1962	419	126	2320
Little, James. (See Rowell and Little.)						
Little, William J., Newton, Mass. Camera	844,152	Feb. 12	2558	549	126	2465
Ljungström, Birger, and F., assignors to Aktiebolaget Separator, Stockholm, Sweden. Apparatus for operating milking-machines	843,757	Feb. 12	1822	388	126	2284
Ljungström, Fredrik. (See Ljungström, Birger and F.)						
Loescher, Henry, assignor of one-half to H. Rennpath, Chicago, Ill.; J. Rennpath administratrix of said H. Rennpath, deceased. Pigs'-feet drier and singeing-oven	844,153	Feb. 12	2559	549	126	2465
Long, Burton R., Pueblo, Colo. Hitching-post	843,954	Feb. 12	2195	469	126	2377
Long, Samuel W., assignor of one-half to H. F. Remington, Rochester, N. Y. Cleaning apparatus for blackboard-erasers	844,154	Feb. 12	2561	549	126	2466
Lorain Steel Company. (See Entwistle, Edward B., assignor.)						
Lorain Steel Company (See Ervin, George M., assignor.)						
Lorain Steel Company. (See Glenton, Frederico, Jr., assignor.)						
Lorain Steel Company. (See Korns, Clarence C., assignor.)						
Lorétan, Herman, assignor to Firm of Dye Works formerly L. Durand, Huguenin & Co., Basel, Switzerland. Leuco derivatives of gallocyanins and aromatic amins and making same	844,155	Feb. 12	2562	.....	126	2466
Lorétan, Herman, assignor to Firm of Dye Works formerly L. Durand, Huguenin & Co., Basel, Switzerland. Greenish-blue dye and making same	844,156	Feb. 12	2563	.....	126	2466
Loughborough, Leroy R., Rochester, N. Y. Drafting instrument	844,157	Feb. 12	2564	550	126	2466
Lucke, Carl, Ellenburg, near Leipzig, Germany. Steam-generator	844,158	Feb. 12	2566	550	126	2467
Ludford, Enoch, Hickory, Va. Sheave-block	844,159	Feb. 12	2567	550	126	2467
Lungren, Charles M., Bayonne, N. J., assignor to Safety Car Heating & Lighting Company. Incandescent-gas-lamp bulb	843,903	Feb. 12	2099	450	126	2352
Machell, Robert H. (See Haller and Machell.)						
Macleod, Frank N., East Providence, and C. A. Rich, assignors to Brown & Sharpe Manufacturing Company, Providence, R. I. Chuck	843,682	Feb. 12	1686	358	126	2250
Macloskie, George, Schenectady, N. Y., assignor to General Electric Company. Air-brake system	843,758	Feb. 12	1824	388	126	2285
Magoris, Anthony E., Binghamton, N. Y. Garment-stay	844,160	Feb. 12	2569	550	126	2467
Mahla, Charles, West Hoboken, N. J. Alarm	843,904	Feb. 12	2104	450	126	2354
Mai, Bernhardt, Erfurt, Germany, assignor to L. May, Newport, R. I. Cherry-stoner	843,955	Feb. 12	2197	470	126	2377
Mannhardt, Hans, Chicago, Ill. Metal and concrete structure	843,683	Feb. 12	1688	358	126	2250
Marcellus, William G. T. (See Tees, Frederick G., assignor.)						
Marmon, Daniel W., assignor to Nordyke & Marmon Company, Indianapolis, Ind. Sieve-cleaner	844,030	Feb. 12	2329	499	126	2409
Marshall, William C., Chicago, Ill., assignor to National Biscuit Company, Jersey City, N. J. Collapsible box or can	843,684	Feb. 12	1689	358–9	126	2251
Martens, Charles C., Long Island City, assignor to Nathan Manufacturing Company, New York, N. Y. Grease-cup	843,833	Feb. 12	1963	419	126	2320
Martin, Ell, Detroit, Mich. Making composite walls	843,956	Feb. 12	2198	470	126	2377
Martin, Henri P., Paris, France. Cylinder for internal-combustion engines	843,759	Feb. 12	1826	389	126	2285
Martineau, Louis J., Franklin, Mass. Headlight-operating mechanism	843,834	Feb. 12	1964	419	126	2320
Mauss, Wilhelm, Brakpan, assignor to Konomax Rock Drill Syndicate, Limited, Johannesburg, Transvaal. Reciprocating engine	844,161	Feb. 12	2570	551	126	2468
May, Leonard. (See Mai, Bernhardt, assignor.)						
Mayo, William. (See Case and Mayo.)						
McAdams, William A., New York, N. Y. Casting-machine	844,160	Feb. 12	2586	554–5	126	2472
McAndrews, Thomas F., Cohoes, assignor of one-half to J. E. Bleibtrey, Waterford, N. Y. Cotter	844,170	Feb. 12	2593	555	126	2473
McAnulty, John A., Baltimore, Md., assignor to Sanitary Stopper Company of Baltimore City. Counter-block and die for stamping-machines	844,171	Feb. 12	2594	555	126	2473
McBerty, Frank R., Evanston, assignor to Western Electric Company Chicago, Ill. Coin-collector for telephone-lines	844,034	Feb. 12	2335	500	126	2410
McBride, William J., Las Animas, Colo. Automatic adjustable water rating and controlling machine	843,959	Feb. 12	2205	472	126	2380
McCallum, Alexander, Northampton, Mass. Tag-clip	843,960	Feb. 12	2206	472	126	2380
McCarthy, Alexander, New York, N. Y. Aeronautical machine	844,172	Feb. 12	2595	556	126	2474
McCarthy, Alexander, New York, N. Y. Air-compressor	844,173	Feb. 12	2597	556	126	2474
McCarty, William W., Diamond, Ind. Lawn-mower	843,961	Feb. 12	2207	472	126	2380
McClintock, Charles, Elwood, Ind. Compound twitch-halter	843,689	Feb. 12	1697	361	126	2253
McDowell, Robert H., Salem, Ohio. Fountain-brush	843 690	Feb. 12	1699	361	126	2253
McDuffee, Henry L., Gilroy, Cal. Wave-motor	844.174	Feb. 12	2598	557	126	2474
McGinnis, Frank G., Lynchburg, Va. Truck-skid	843,835	Feb. 12	1966	420	126	2321
McIntire, Hervey H., South Bend, Ind. Electric timing device	843,621	Feb. 12	1579	334	126	2222

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McIntosh, Charles B. (See Bowman and McIntosh.)						
McIntosh, William, Iron River, Wis. Running-gear for wagons	843,691	Feb. 12	1700	361–2	126	2253
McIntyre, Archibald W., Alexander, N. D. Pail-support	844,175	Feb. 12	2600	557	126	2475
McKinley, William E., assignor of one-half to J. R. Boyles, Columbus, Ohio. Air-hose coupling for train-lines	844,035	Feb. 12	2337	501	126	2411
McLaughlin, James, New York, N. Y., assignor to General Electric Company. Connector or terminal for electrical conductors	843,763	Feb. 12	1835	391	126	2288
McManiman, Joseph W., Washington, N. J. Attachment for motor-armatures	843,836	Feb. 12	1967	420	126	2321
McMaster, Wells, Sound Beach, Conn. Map-case	843,837	Feb. 12	1969	421	126	2321
McMurtrie, Adnah, assignor to Thomas & Betts Company, New York, N. Y. Plaster-holder for outlet-boxes	843,962	Feb. 12	2209	472	126	2381
McMurtrie, Adnah, assignor to Thomas & Betts Company, New York, N. Y. Pipe-hanger	844,036	Feb. 12	2339	501	126	2412
McOsker, Daniel J., Providence, R. I. Wrench	844,176	Feb. 12	2601	557	126	2475
McTaggart, Alexander I., assignor to Fairbank Canning Company, Chicago, Ill. Machine for testing eggs	843,622	Feb. 12	1581	334–5	126	2222
McTammany, F. A. (See McTammany, John, assignor.)						
McTammany, John, Providence, R. I., assignor to F. A. McTammany, New York, N. Y. Mechanical musical instrument	844,310	Feb. 12	2903	617–18	126	2553
McWhorter, Thomas M., Big Spring, Tex. Earth-auger	843,764	Feb. 12	1836	391	126	2288
Meaker, John W., assignor to Meaker Scales Company, Detroit, Mich. Coin holding and delivering device	844,282	Feb. 12	2840	605	126	2537
Meaker, John W., assignor to Meaker Scales Company, Detroit, Mich. Coin-tray	844,283	Feb. 12	2843	606	126	2538
Meaker Scales Company. (See Meaker, John W., assignor.)						
Mendenhall, Charles E., assignor of one-half to L. P. Earnshaw, Dayton, Ohio. Electric railway-gate for grade-crossings	844,284	Feb. 12	2845	606	126	2538
Merrick, Frank W., Boston, Mass. Loop-lock-stitch sewing-machine	843,760	Feb. 12	1827	389	126	2286
Merritt, Thomas J., St. Louis, Mo. Cotton-picker's vehicle	844,031	Feb. 12	2330	499–500	126	2409
Mertens, Eduard, Berlin, Germany. Apparatus for producing printing-surfaces	844,162	Feb. 12	2572	551	126	2468
Meyer, Albert H., St. Paul, Minn. Cooking utensil	843,905	Feb. 12	2105	451	126	2354
Michaelsen, Claus P., Dusty, Wash. Cultivator	844,163	Feb. 12	2574	551	126	2468
Miller, Austin E., Cheney, Wash. Gate mechanism	843,617	Feb. 12	1573	332	126	2220
Miller, Charles W., assignor to J. A. Jeffrey, Columbus, Ohio. Car-haul	844,164	Feb. 12	2575	552	126	2469
Miller, Francis M., Arcadia, Ind. Trolley-retriever	843,761	Feb. 12	1829	389–90	126	2286
Miller, John H., Hamburg, Pa. Releasing device for dumb-waiters	843,618	Feb. 12	1575	332	126	2221
Miller, Robert, Covington, assignor of one-half to R. M. Gillihan, Randolph, Tenn. Clamp	844,309	Feb. 12	2903	616	126	2553
Miner, William H., Tomah, assignor of one-half to F. C. Warren, Valley Junction, Wis. Beer measure and register	843,957	Feb. 12	2199	470–1	126	2378
Mitchell, Malcolm E., assignor of one-half to J. J. Conroy, Taylor, Tex. Match-safe	843,685	Feb. 12	1690	359	126	2251
Moffat, William Y., and T. W. Butler, Dunmore, Pa. Steam-trap	843,686	Feb. 12	1691	359–60	126	2251
Moore, Charles H., assignor of one-half to J. Bohn, Mobile, Ala. Engine	843,619	Feb. 12	1575	333	126	2221
Moore, Edward Y., Cleveland, Ohio. Grapple	844,032	Feb. 12	2332	500	126	2410
Moore, Horace E. (See Gaston and Moore.)						
Moore, Thomas F., assignor to Whitehead & Hoag Company, Newark, N. J. Key-ring tag	843,958	Feb. 12	2204	471	126	2379
Morrison, Charles M., assignor to T. Hedinger, Jr., Philadelphia, Pa. Automatic sheet-gage for printing-presses	843,688	Feb. 12	1695	360–1	126	2252
Morrison, Joshua H., assignor to Connersville Motor Vehicle Company, Connersville, Ind. Power-transmission gear	843,687	Feb. 12	1693	360	126	2251
Moshier, James W., Bristol, assignor to Chase Rolling Mill Co., Waterbury, Conn. Cylinder for treating heated metal	844,285	Feb. 12	2847	607	126	2539
Moskowitz, Morris, assignor to United States Light & Heating Company, New York, N. Y. Power transmission	844,165	Feb. 12	2579	552	126	2470
Moyer, Harvey A. (See Latta, Emmit G., assignor.)						
Mueller, Frederick T. (See Kleley and Mueller.)						
Müller, Carl O., Blankenese, near Hamburg, Germany. Shoe for wooden poles	843,762	Feb. 12	1833	390	126	2288
Munn, Rodger, Anaconda, Mont. Elevator-boot	844,033	Feb. 12	2324	500	126	2410
Murchie, Sylvanus T., Kaukauna, Wis., assignor of one-half to L. G. Fisher, Chicago, Ill. Clamp-collar for shifting	843,906	Feb. 12	2106	451	126	2354
Murdock, Horace B., Detroit, Mich. Hand brick-press	844,166	Feb. 12	2581	553	126	2470
Murphy, Jeremiah. (See Carnahan and Murphy.)						
Murphy, John M., Danbury, Conn., assignor, by mesne assignments, to American Filtration Company, Phillipsburg, N. J. Water-purifying apparatus	844,167	Feb. 12	2582	553	126	2471
Murray, Eric R., Orange, Mass. Dust-pan	844,168	Feb. 12	2584	554	126	2471
Myers, George R., *et al.* (See Groves, Clarence L., assignor.)						
Myers, William S., assignor to Norton Iron Works, Ashland, Ky. Furnace for heating nail-plates	843,620	Feb. 12	1577	333–4	126	2221
Nathan Manufacturing Company. (See Kaczander, Leopold, assignor.)						
Nathan Manufacturing Company. (See Martens, Charles C., assignor.)						
National Biscuit Company. (See Marshall, William C., assignor.)						
National Compositype Company. (See Brown, Hanrahan, and Boyden, assignors.)						
National Folding & Sewing Machine Co. (See Nederman, Herman, assignor.)						
National Glass Company. (See Fletcher, Lawrence A., assignor.)						
Nederman, Herman, assignor, by mesne assignments, to National Folding & Sewing Machine Co., Troy, N. Y. Folding attachment for sewing-machines	843,838	Feb. 12	1970	421–2	126	2321
Neumeyer, Frank E. (See Neumeyer, Horace F. and F. E.)						
Neumeyer, Horace F. and F. E., Macungie, Pa. Soap and brush holder for buckets	844,177	Feb. 12	2602	558	126	2475
New York Stamping Company. (See Wojidkow, Louis, assignor.)						
Newbegin, Edward, assignor to Adam Appell Co., Portland, Oreg. Liquid-receptacle	844,037	Feb. 12	2340	501	126	2412
Nichols, John M. (See Fraser and Nichols.)						
Nicholson, Robert H., Wilkes-Barre, Pa. Brake-operating mechanism	844,038	Feb. 12	2342	501–2	126	2412
Nicholson, Robert J., Chicago, Ill. Bookbinder. (Reissue)	12,606	Feb. 12	2915	619	126	2555
Nicholson, Wayland B., Holly, Mich. Post-hole digger	843,765	Feb. 12	1837	391	126	2288
Nickless, William A., New York, N. Y. Garment-fastener	844,178	Feb. 12	2604	558	126	2476
Nielsen, Hubert, Marinette, Wis. Metal building	844,179	Feb. 12	2605	558	126	2476
Nilson, Ilila, assignor of one-half to C. B. Grimshaw, New York, N. Y. Self-closing valve	844,180	Feb. 12	2606	553	126	2476
Nordyke & Marmon Company. (See Marmon, Daniel W., assignor.)						
Nordyke & Marmon Company. (See Warrington and Marmon, assignors.) (Reissue.)						
Northern Electrical Manufacturing Company. (See King, Arthur C., assignor.)						
Northern, Jonathan, Rushden, England. Boot and shoe machinery	843,839	Feb. 12	1973	422–3	126	2322
Norton Iron Works. (See Myers, William S., assignor.)						
Norton, Michael G., Gibsonburg, Ohio. Device for generating gas from crude oil	843,692	Feb. 12	1702	362	126	2254
Nowotny, John S., Madisonville, Ohio. Box for card-indexes or the like	844,039	Feb. 12	2344	502	126	2413
Nunnelee, John H. (See Stancil and Nunnelee.)						
O'Brien, John F., Buffalo, N. Y. Garter	844,286	Feb. 12	2848	607	126	2539
O'Brien, John P., assignor of one-fourth to G. C. Briscoe, Castle Rock, Colo. Means for fastening horseshoes	843,907	Feb. 12	2107	451	126	2355
O'Brien, William S. (See Ward, Lloyd W., assignor.)						
O'Hara, Charles T., Deepcreek, Wash. Cylinder-wrench	843,693	Feb. 12	1704	363	126	2254
Oechelhaeuser, Wilhelm von, Dessau, Germany. Vertical gas-engine	843,040	Feb. 12	2346	502–3	126	2413

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Ogden, Albert E., Birmingham, Ala. Nut-lock	843,840	Feb. 12	1977	424	126	2322
Oliver Iron and Steel Company. (See Baumann, Frederick W., assignor.)						
Olsen, Mathias. (See Haubert and Olsen.)						
Olson, Olof R., Carrollton, Mo. Carousel	843,908	Feb. 12	2109	452	126	2355
Orling, Axel. (See Armstrong and Orling.)						
Ossenbeck, Anton. (See Kothe and Ossenbeck.)						
Overbaugh, Charles M., Clarion, Iowa. Dental floss-holder	844,181	Feb. 12	2609	559	126	2477
Owens, Fletcher W., Palmetto, Fla. Knee-protector	844,041	Feb. 12	2348	503	126	2413
P. R. Warren Company. (See Warren, Peter R., assignor.)						
Page, Emma, Whittier, Cal. Hemmer	843,841	Feb. 12	1978	424	126	2323
Page, Herbert J., assignor of two-thirds to E. S. Randall and T. P. Howard, Montreal, Quebec, Canada. Device whereby fire-hose is coupled to hydrants	843,963	Feb. 12	2210	473	126	2381
Pallitzsch, Bruno, Berlin, Germany, assignor to United States Envelope Company. Forming weli and plunger for envelop-machines	843,623	Feb. 12	1584	335	126	2223
Palmer, Charles O., Cleveland, Ohio. Reel for mine-locomotives	843,694	Feb. 12	1705	363	126	2255
Palmer, Warren D., Brooklyn, N. Y. Printer's border	843,766	Feb. 12	1838	391	126	2289
Pearce, Robert M. (See Young, Frederick W., assignor.)						
Pederson, Rasmus, Parkersburg, Iowa. Wagon-loading device	843,695	Feb. 12	1707	363–4	126	2255
Peerless Machinery Company. (See Raiche, Andrew, assignor.)						
Peirce, John R., New York, N. Y. Marble-polishing machine	843,624	Feb. 12	1589	336	126	2224
Perkin, William H., Jr., assignor of one-half to Whipp Brothers & Tod Limited, Manchester, England. Fireproofing textile material	844,042	Feb. 12	2349	.....	126	2413
Perkins Electric Switch Manufacturing Company. (See Peterson, Johann G., assignor.)						
Perkins, Orlandow S., Newbern, N. C. Compound tool and tool-holder	844,043	Feb. 12	2349	503	126	2413
Peters, Frank M., and H. H. Hungerford, Chicago, Ill.; said Hungerford assignor to said Peters. Atmosphere-regulating system	843,909	Feb. 12	2111	452	126	2355
Peterson, Emil A., Appleton, Wis. Grinding-machine	843,964	Feb. 12	2213	473	126	2381
Peterson, Emil A. assignor of two-thirds to Valley Iron Works Company, Appleton, Wis.. Flushing device for rag-engine vats	843,965	Feb. 12	2214	474	126	2382
Peterson, Johann G., assignor to Perkins Electric Switch Manufacturing Company, Bridgeport, Conn. Attachment-plug	844,044	Feb. 12	2350	503	126	2414
Pettis, William S., Jr., Pass Christian, Miss. Fishing-float	844,182	Feb. 12	2611	559	126	2478
Pfingst Electric Manufacturing Company. (See Pfingst, Louis, assignor.)						
Pfingst, Louis, Boston, Mass., assignor, by mesne assignments, to Pfingst Electric Manufacturing Company, Kittery, Me. Power-brake	843,625	Feb. 12	1590	336	126	2225
Phelps, George H., assignor to George Frost Company, Boston, Mass. Garter	843,627	Feb. 12	1595	337	126	2226
Phelps, George L., Chicago, Ill., assignor to International Harvester Company. Grain-binder	843,626	Feb. 12	1593	336–7	126	2225
Pierce, Edgar B., U. S. Navy, assignor to W. P. Sugg, Oakland, Cal. Type-writer	844,183	Feb. 12	2612	559–60	126	2478
Pijan, Herman H., Wausau, Wis. Cross-line buckle	844,184	Feb. 12	2616	560	126	2480
Pinkerton, James C., Philadelphia, Pa. Electric switch	844,045	Feb. 12	2351	504	126	2414
Piach, Josef, Komotau, Austria-Hungary. Penholder	843,767	Feb. 12	1841	392	126	2289
Porter, Ernest L. (See White, Charles D., assignor.)						
Poskocil, Joseph and K., Cleveland, Ohio. Meat-cutter	843,696	Feb. 12	1710	364	126	2255
Poskocil, Katherine. (See Poskocil, Joseph and K.)						
Posthoff, Fritz, assignor to P. von Boeckmann, New York, N. Y Garbage-can	844,185	Feb. 12	2618	560	126	2480
Prendergast, Alois P., Baltimore, Md. Gage-cock	843,842	Feb. 12	1979	424	126	2323
Prescott, Sydney I., assignor to American Tobacco Company, New York, N. Y. Cigarette-shell	843,628	Feb. 12	1596	337	126	2226
Pridmore, John W., Chicago, Ill., assignor to International Harvester Company. Harvester-guard	843,629	Feb. 12	1598	338	126	2227
Pross, George F., assignor to E. H. Huenefeld, Cincinnati, Ohio. Bending-machine	843,910	Feb. 12	2114	452–3	126	2356
Provandie, Herbert F., Melrose, Mass. Dish for holding oranges, &c	844,287	Feb. 12	2849	607	126	2539
Prudential Heating Company. (See Cripps, Alfred G., assignor.)						
Purcell, Samuel. (See Hill and Purcell.)						
Purdy, Edward R., New York, N. Y., assignor to E. S. Ashworth, Hasbrouck Heights, N. J. Elevator-chain	844,288	Feb. 12	2850	608	126	2540
Pütz, Peter P., Cassel, Germany. Telescope with prism	844,186	Feb. 12	2619	560–1	126	2480
Quong King Long Company. (See Glazer, George F., assignor.)						
Radell, Anthony H., assignor to B. M. Frees, Chicago, Ill. Abrading	844,046	Feb. 12	2353	504	126	2414
Raiche, Andrew, Quincy, Mass., assignor, by mesne assignments, to Peerless Machinery Company. Hook-setting machine	843,697	Feb. 12	1711	365	126	2256
Randall, Eugene S., *et al.* (See Page, Herbert J., assignor.)						
Rapier, Mildred J., Beaumont, Tex. Hand device for operating sewing-machines	844,187	Feb. 12	2622	561	126	2481
Rawlings, James C. (See Wright, James C., assignor.)						
Rawson, Henry W. (See Knight, Ellsworth L., assignor.)						
Reavis, Albert S., Washington, D. C. Concrete building construction	843,768	Feb. 12	1841	392	126	2289
Reavis, Albert S., Washington, D. C. Concrete building construction	843,843	Feb. 12	1983	424	126	2324
Redmayne, Robert N., Newcastle-upon-Tyne, England. Third-rail insulator	843,844	Feb. 12	1983	425	126	2324
Redwood, Archibald G., Houston, Tex. Kettle	843,698	Feb. 12	1715	365	126	2257
Reed, George T., assignor to Continental Jar and Bottle Stopper Company, Baltimore, Md. Sealing-closure for vessels	843,845	Feb. 12	1985	425	126	2324
Reed, George T., assignor to Continental Jar and Bottle Stopper Company, Baltimore, Md. Vacuum-creating device for jars, &c	843,846	Feb. 12	1985	425	126	2325
Reid, Alfred J. H., Henderson, Tenn. Corn and cotton planter	843,699	Feb. 12	1716	365–6	126	2257
Remington, Harvey F. (See Long, Samuel W., assignor.)						
Rennpath, Henry, deceased. (See Loescher, Henry, assignor.)						
Rennpath, Jeannette, administratrix. (See Loescher, Henry.)						
Restein, Clement, Philadelphia, Pa. Packing	843,630	Feb. 12	1599	338	126	2227
Rhoult, Joseph A., assignor of one-half to H. W. Spaulding, Haverhill, Mass. Sewing shoe-soles to uppers. (Reissue)	12,607	Feb. 12	2916	620	126	2556
Rich, Charles A. (See Macleod and Rich.)						
Richard, Marc F. (See Leger, Dominick S., assignor.)						
Richardson, Henry, New York, N. Y. Automatic weighing-machine	844,188	Feb. 12	2623	561–2	126	2482
Riffo, Marion B., Philadelphia, Pa. Pneumatic carrier	843,709	Feb. 12	1842	392	126	2290
Riggs, James E., *et al.* (See Seligsohn, Morris, assignor.)						
Riley, Watkin W. (See Slack and Wiley.)						
Ringl, Felix, Arnold, Pa. Puzzle	844,189	Feb. 12	2625	562	126	2482
Roghair, John. (See Gertzen and Roghair.)						
Romadka Brothers Company. (See Erickson and Hellman, assignors.)						
Rosenbluth, Edwin M., Philadelphia, Pa. Acetylene-gas generator	844,047	Feb. 12	2355	505	126	2415
Rowell, Edward N., and J. Little, assignors to E. N. Rowell Company, Batavia, N. Y. Paper-box machine	844,190	Feb. 12	2626	562–5	126	2482
Ru Ton, Hiram W., Goshen, Ind. Carpet-sweeper	843,770	Feb. 12	1845	393	126	2290
Rusden, Ethelbert A., Warren, R. I. Roll for finishing paper and textile goods	843,700	Feb. 12	1718	366	126	2257
Russell & Erwin Manufacturing Company. (See Caley, Charles J., assignor.)						
Russell & Erwin Manufacturing Company. (See Hurd, Norman B., assignor.)						
Rutherford, Frank H., Chicago, Ill. Automatic air-brake coupling for railway-cars	843,701	Feb. 12	1718	366–7	126	2257
Rutherford, Frank H., Chicago, Ill. Automatic air-brake coupling for railway-cars	843,702	Feb. 12	1724	367	126	2259
Rutherford, Frank H., Chicago, Ill. Automatic train-pipe coupling	843,911	Feb. 12	2119	453–4	126	2357

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Ruthven, Alfred L., Topeka, Kans. Railway signal system	843,703	Feb. 12	1725	367	126	2260
Ryan, Frank M. (See Dauben and Ryan.)						
Ryther, Frank A., Chicago, Ill., assignor to International Harvester Company. Power attachment for hay-balers	843,631	Feb. 12	1600	338	126	2227
S. R. Dresser Manufacturing Company. (See Clark, James, assignor.)						
Safety Car Heating & Lighting Company. (See Lungren, Charles M., assignor.)						
Samuel J. Shimer and Sons. (See Shimer, Samuel J., assignor.)						
Sandvoss, Hermann, Neuss, Germany. Release for fire-extinguishing apparatus	843,847	Feb. 12	1987	426	126	2325
Sanitary Stopper Company. (See McAnulty, John A., assignor.)						
Sass, Peter, Vancouver, British Columbia, Canada. Floor-polishing machine	843,966	Feb. 12	2215	474	126	2382
Schafer, August F., Kennard, Nebr. Adjustable and elastic pipe-hanger	843,632	Feb. 12	1602	338–9	126	2228
Schaffner, Clarence E., Cincinnati, Ohio. Clasp for garters or the like	844,048	Feb. 12	2359	505	126	2415
Schappa, Albert M., Westfield, Mass. Feed-bag	843,967	Feb. 12	2217	474	126	2383
Scheer, Charles, Silverton, Colo. Door-securer	844,191	Feb. 12	2638	565	126	2485
Schindler, Robert A., Pittsburg, Pa. Nut-locking washer	843,704	Feb. 12	1728	367	126	2261
Schleyder, Karl, Rakonitz, Austria-Hungary. Smoke-consumer for locomotive and like boilers	843,848	Feb. 12	1988	426	126	2325
Schmidt, Carl. (See Beker, Rudolph G., assignor.)						
Schmidt, Paul. (See Desgraz and Schmidt.)						
Schneider, Reinhold, Sharon, Pa. Valve	844,192	Feb. 12	2639	565	126	2485
Schofield, Clarence W. (See Kamerzel and Schofield.)						
Schoonmaker, Mary L., Rondout, N. Y. Clothes-hanger	843,633	Feb. 12	1603	339	126	2228
Schrader, Ernest C., Knoxville, Pa. Glass-press	843,849	Feb. 12	1990	426–7	126	2326
Schreiber, Emile, Atchison, Kans. Grain-door for cars	844,193	Feb. 12	2640	566	126	2485
Schüler, Franz, Berlin, Germany. Variable-feed mechanism for type-writers	844,289	Feb. 12	2852	608	126	2540
Schults, Jersemann Manufacturing Company. (See Jersemann, Max, assignor.)						
Schumacher, Henry, Dayton, Ohio. Machine for sizing tobacco-leaves	844,049	Feb. 12	2360	505–7	126	2416
Schwien, Otto C. A., Davenport, Iowa. Wire-stretcher	844,194	Feb. 12	2642	566	126	2486
Scott, Arthur H., Philadelphia, Pa. Package of toilet-paper	843,771	Feb. 12	1846	393	126	2290
Scoville, Eugene M., Waipohu, Hawaii. Planimeter	844,195	Feb. 12	2644	567	126	2486
Sefton, William E. (See Hankins, William B. assignor.)						
Seitz, William J., Grape, Mich. Friction-gear	843,634	Feb. 12	1604	339–40	126	2228
Seligsohn, Morris, assignor to J. S. Bishop and J. E. Riggs, Lincoln, Nebr. Vaporizer	843,705	Feb. 12	1728	368	126	2261
Sellers, James F., *et al.* (See Dunn and Taylor, assignors.)						
Senter, John F., assignor to Senter Manufacturing Company, Chattanooga, Tenn. Boiler-feeder	843,706	Feb. 12	1730	368	126	2261
Senter Manufacturing Company. (See Senter, John F., assignor.)						
Shaffer, William B. (See Dieterich, Albert E., assignor.)						
Sharp, Joseph W., Jr., assignor to Haines, Jones & Cadbury Company, Philadelphia, Pa. Bath-tub waste-fitting	843,968	Feb. 12	2218	474	126	2383
Shaver, Hustead B., assignor of one-half to J. W. Davidson, Flemington, W. Va. Nut and pipe wrench	843,969	Feb. 12	2220	475	126	2384
Shaw, Charles J., Owasso, Mich. Hay-loader	844,196	Feb. 12	2645	567	126	2487
Sherman, John A., Worcester, Mass. Envelop-machine	843,707	Feb. 12	1732	369	126	2262
Sherrill, Nicholas J., Charlotte, N. C. Crate-tilting device	843,708	Feb. 12	1736	369	126	2262
Shiek, Daniel W., Chicago, Ill., assignor to A. Bybee, Milford, Utah. Key-releasing mechanism for computing-machines, &c	843,635	Feb. 12	1607	340	126	2229
Shiems, Gustav. (See Fischer, Julius, assignor.)						
Shimer, Elmer S., assignor to Samuel J. Shimer and Sons Incorporated, Milton, Pa. Rotary cutter-head	844,197	Feb. 12	2647	567–8	126	2487
Shtuchka, Jacob J., Rochester, N. Y. Catamenial sack	844,198	Feb. 12	2649	568	126	2488
Shupe, Isaac, Newmarket, Ontario, Canada. Wagon-jack	843,[illegible]	Feb. 12	1848	393	126	2291
Shupert, Frank W. (See Todd and Shupert.)						
Simmons, Elmer, Turners, Mo. Post-maul	843,636	Feb. 12	1610	341	126	2231
Simpson, John L., Marion Center, Pa. Comb-fastener	844,199	Feb. 12	2651	568	126	2488
Skinner, Benjamin H., Canton, Ohio. Cable-hanger	844,200	Feb. 12	2652	569	126	2488
Slack, John H., Cincinnati, and W. W. Riley, assignors to American Laundry Machinery Company, Norwood, Ohio. Feeding attachment for mangles	843,709	Feb. 12	1736	370	126	2263
Slager, Henry L., Springfield, assignor of one-half to C. Swigart, Cincinnati, Ohio. Tire	844,201	Feb. 12	2653	569	126	2489
Smalstig, Frederick C., Allegheny, Pa. Can-opener	844,202	Feb. 12	2655	569	126	2489
Smidesang, Peder E., Wylie, Minn. Nest	843,850	Feb. 12	1993	428	126	2326
Smith, Andrew T. (See Baker and Smith.)						
Smith, John A. (See Holt and Smith.)						
Smith, Joseph. (See Atkinson and Smith.)						
Smith, Maxwell M., London, assignor of one-half to A. H. Constable, Penshurst, England. Variable-speed gear	844,203	Feb. 12	2656	570	126	2490
Smith, William C., Minneapolis, Minn. Lock for crossing-gates	843,637	Feb. 12	1611	341	126	2231
Snell, Jesse H., Ilion, N. Y. Rail-chair	844,050	Feb. 12	2368	507	126	2418
Snyder, Charles W. (See Goodwin, Richard N., assignor.)						
Snyder, Daniel H. (See Hitch, John E., assignor.)						
Sohn, Ralph L. Arrowsmith, Ill. Tool for cement-work	844,204	Feb. 12	2666	571	126	2494
Sollers, Albert E., Mount Union, Pa. Folding square	844,205	Feb. 12	2667	571	126	2494
Sommer, Joseph W. Peoria, Ill. Coiling-spindle	844,206	Feb. 12	2668	571	126	2495
Son, Eleanor D., Utica, N. Y. Tailpiece for stringed musical instruments	843,851	Feb. 12	1995	428	126	2327
Spaulding, Harris W. (See Rhoult, Joseph A., assignor.) (Reissue.)						
Spearman, David R. (See Van Arsdale and Spearman.)						
Sponenburg, Hiram H., Wadsworth, assignor of one-half to E. Laas, Chicago, Ill. Railway-rail stay	843,710	Feb. 12	1737	370	126	2263
Staley, Richard F., Rochester, N. Y. Theatrical apparatus	844,207	Feb. 12	2672	572–3	126	2496
Stancil, William D., and J. H. Nunnelee, Doniphan, Mo. Handle-fastening means	843,970	Feb. 12	2222	475	126	2385
Stanford, William R. K., Sheffield, Ala. Cook-stove	843,773	Feb. 12	1849	393	126	2291
Stange, Otto. (See Hagemann and Stange.)						
Starrett, Aaron E., Kellogg, Iowa. Marker for corn-planters	844,290	Feb. 12	2855	608	126	2541
Starrett, Laroy S. (See Adell and Starrett.)						
Steckel, Archibald W. F., assignor to J. A. Jeffrey, Columbus, Ohio. Car-haul	844,291	Feb. 12	2857	609	126	2542
Steinberger, Louis, New York, N. Y. Insulator for leading-in cables, &c	844,208	Feb. 12	2677	573	126	2496
Steinmetz, Charles P., Schenectady, N. Y., assignor to General Electric Company. Alternating-current dynamo-electric machine	843,774	Feb. 12	1849	394	126	2291
Stelier, Charles A., Jr., Jersey City, N. J. Fuse or electric cut-out	843,852	Feb. 12	1996	428	126	2327
Stenius, Charles A., Columbus, Ohio. Preserving-jar	844,051	Feb. 12	2369	507	126	2418
Stetson, Frank H., Lawrence, Mass., assignor to U. S. Bobbin & Shuttle Co., Providence, R. I. Loom-shuttle	843,912	Feb. 12	2123	454	126	2359
Stevens, Charles W., Elizabeth, N. J. Machine for forming hats	843,628	Feb. 12	1613	342	126	2231
Stevens, Charles W., East Orange, N. J. Machine for forming hats	843,639	Feb. 12	1616	342–3	126	2232
Stevens, Charles W., East Orange, N. J. Apparatus for shaping hat-crowns	843,640	Feb. 12	1621	343	126	2234
Stevens, Clifton D., Muskegon, Mich. Refuse-burner	843,971	Feb. 12	2224	475–6	126	2385
Stevenson, John S., Detroit, Mich. Vehicle-wheel	843,913	Feb. 12	2125	454	126	2360
Stewart, George E., East St. Louis, Ill. Railway-switch	844,209	Feb. 12	2680	574	126	2497
Stewart, Otis H., Middleport, Ohio. Cabinet for sheet-music	843,711	Feb. 12	1740	370	126	2264

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Stickney, Burnham C., Elizabeth, assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine	843,914	Feb. 12	2127	454–5	126	2360
Stone, Frank, London, England. Apparatus for automatically playing keyed instruments	844,052	Feb. 12	2370	507–8	126	2418
Stone H. F. (See Granger, William H., assignor.)						
Stone, Nathaniel B., Outlook, Wash. Turpentine-hack	843,915	Feb. 12	2128	455	126	2361
Stone, Samuel N., Attleboro, Mass. Eyeglass connection	843,972	Feb. 12	2226	476	126	2395
Stopple, John J., Dallas, Tex. Baling-press	844,053	Feb. 12	2372	589	126	2418
Straub, Engelbert A., Rodney, Mich. Imitation tree	843,712	Feb. 12	1741	371	126	2264
Strawn, Halbert J. (See Irwin and Strawn.)						
Strickland, Frank, Muskogee, Ind. Ter. Transmission mechanism	844,210	Feb. 12	2681	574	126	2498
Stueki, Arnold, Allegheny, Pa. Bushing for railway screw-spikes	843,713	Feb. 12	1743	371	126	2264
Suckert, Edward C., Detroit, Mich. Loose-leaf memorandum-book	843,714	Feb. 12	1744	371	126	2265
Sugg, Wiley P. (See Pierce, Edgar B., assignor.)						
Sweetwood Tooth Pick Company. (See Hutchinson, William F., assignor.)						
Swigart, Charles. (See Slager, Henry L., assignor.)						
Swope, Alfred R., Philadelphia, Pa. Indicator for medicine-bottles	844,054	Feb. 12	2376	509	126	2420
Tait, Godfrey M. S., Montclair, N. J., assignor to Combustion Utilities Company, New York, N. Y. Gas-generating apparatus	843,715	Feb. 12	1745	372	126	2265
Taliaferro, Samuel W., San Francisco, Cal. Electric heater	843,775	Feb. 12	1852	394	126	2292
Taussig, Joseph, Chicago, Ill. Adjustable leg for show-cases and the like	843,973	Feb. 12	2227	476	126	2396
Taylor, Edward R., Penn Yan, N. Y. Electric furnace	843,776	Feb. 12	1853	394–5	126	2293
Taylor, Edward R., Penn Yan, N. Y. Metallurgical process	843,777	Feb. 12	1856	395	126	2293
Taylor, Elmer Z., London, England. Label-printing machine	844,055	Feb. 12	2378	509	126	2420
Taylor, John, Jr. (See Dunn and Taylor.)						
Taylor, Samuel, Birmingham, England. Metallic covering for roofs, walls, and buildings	844,056	Feb. 12	2381	510	126	2421
Taylor, Walter T. H., Brockton, Mass., W. J. Jenks, New York, N. Y., and R. N. Dyer, East Orange, N. J., assignors to Insu ating Staple Company, New York, N. Y. Insulating saddle-staple	843,916	Feb. 12	2131	455	126	2261
Tees, Frederick G., assignor of one-half to W. G. T. Marcellus, Philadelphia, Pa. Lubricator	844,211	Feb. 12	2683	574	126	2498
Tegeder, William H. (See Eckel and Tegeder.)						
Temple, John. (See Clearwater and Temple.)						
Terry, George H., Leslie, assignor of one-half to N. M. Terry, Jackson, Mich. Mold	843,716	Feb. 12	1746	372	126	2265
Terry, Norton M. (See Terry, George H., assignor.)						
Thaden, Herman, Atlanta, Ga. Roof structure	844,212	Feb. 12	2685	574	126	2498
Thiedig, Frank, Chicago, Ill. Lamp-shade	843,974	Feb. 12	2228	477	126	2396
Thoma, Andrew, Cambridge, Mass. Machine for making innersoles	843,975	Feb. 12	2229	477	126	2396
Thomas & Betts Company. (See McMurtrie, Adnah, assignor.)						
Thomas, Frank J., Greencastle, Ind. Tooth for excavating-shovels. (Reissue)	12,608	Feb. 12	2918	620	126	2556
Thomas, Frederick R. H., Troy, N. Y. Carbonator	843,778	Feb. 12	1858	396	126	2293
Thompson, James P., Hagan, Ga. Boiler-flue cleaner	843,976	Feb. 12	2231	477	126	2397
Thomson, Francis M. (See Hemenway and Thomson.)						
Thowless, Orlando M., Newark, N. J. Illuminant for incandescent electric lamps	844,213	Feb. 12	2687	575	126	2499
Thurston, Llwellyn H., Belt, Mont. Heating-stove	844,292	Feb. 12	2861	609	126	2543
Tillinghast, Albert W., Philadelphia, Pa. Shoe-sole attachment	844,067	Feb. 12	2382	510	126	2421
Tilly, Jabez, Kilkerran, South Australia, Australia. Draft-gear for agricultural machines	844,214	Feb. 12	2690	575	126	2499
Todd, Alexander B., and F. W. Shupert, San Bernardino, Cal. Tool and holder for rolling, expanding, and beading boiler-tubes in one operation	844,215	Feb. 12	2691	575	126	2500
Tower, Daniel W. (See Waddell and Tower.)						
Tower, Daniel W., Grand Rapids, Mich. Furniture-fastening device	843,717	Feb. 12	1747	372	126	2266
Trace, Orlando F., and W. Fifield, Sauk Rapids, Minn. Grain-screen	844,216	Feb. 12	2693	575	126	2500
Traum, John, Walhonding, Ohio. Chain-casting mold	843,977	Feb. 12	2232	477	126	2397
Traxler, Cisco R., Winston Salem, N. C. Automatic switch-operating mechanism	843,641	Feb. 12	1622	343–4	126	2235
Treuberz & Fuss. (See Besson, André, assignor.)						
Troeger, Jesse J., Chicago, Ill. Transmission mechanism	844,217	Feb. 12	2694	576	126	2500
Trotter, Frank C., Rochester, N. Y. Refrigerator	843,978	Feb. 12	2233	478	126	2397
Troyer, Max, Prague, Austria-Hungary. Crane-operating gearing	844,058	Feb. 12	2383	510	126	2422
Turner, Kelley M. (See Haff, Howell W., assignor.)						
Turner, Thomas, Ottumwa, Iowa. Rock-drill-feeding mechanism	843,718	Feb. 12	1748	372–3	126	2266
Turtelot, Mary D., Syracuse, N. Y. Newspaper-receptacle	844,059	Feb. 12	2384	510	126	2422
U. S. Bobbin & Shuttle Co. (See Stetson, Frank H., assignor.)						
Ulrich, John. (See Lace and Ulrich.)						
Umberger, Bascom L., Concord, N. C. Desk	843,719	Feb. 12	1752	373	126	2267
Underwood Typewriter Company. (See Kunath, Edward F., assignor.)						
Union Typewriter Company. (See Stickney, Burnham C., assignor.)						
United States Construction and Utilization Company. (See Wiselogel, Frederick G., assignor.)						
United States Envelop Company. (See Pahlitzsch, Bruno, assignor.)						
United States Light & Heating Company. (See Moskowitz, Morris, assignor.)						
Valley Iron Works Company. (See Peterson, Emil A., assignor.)						
Van Amber, Ray E. (See Bursell, Horace H., assignor.)						
Van Arsdale, William D., and D. R. Spearman, Pendleton, Ind. Machine for reviving gas-wells	844,060	Feb. 12	2385	511	126	2422
Van Haider, Peter F., Sharon, Pa. Toy	843,642	Feb. 12	1625	344	126	2235
Van Valkenburg, Levi D., Holyoke, Mass. Fountain-pen retainer	844,061	Feb. 12	2388	511	126	2423
Van Wie, Edwin G., assignor to Detroit Stove Works, Detroit, Mich. Stove	843,643	Feb. 12	1626	344–5	126	2236
Van Wie, Edwin G., assignor to Detroit Stove Works, Detroit, Mich. Gas-stove	843,644	Feb. 12	1628	345	126	2236
Vance, Jesse A. J., Mohawk, Tenn. Rail-joint	843,853	Feb. 12	1906	429	126	2328
Vapor Heating Company. (See Broomell, Albert P., assignor.)						
Varney, Samuel A., Washington, Kans. Can-soldering implement	844,062	Feb. 12	2389	512	126	2423
Victor Electric Company. (See Wantz, Julius B., assignor.)						
Vleth, Edward L., Chicago, Ill. Soldering-iron	843,645	Feb. 12	1629	345	126	2236
Vogel, Joshua F., assignor to Gendron Wheel Company, Toledo, Ohio. Child's hand-car	843,646	Feb. 12	1631	345	126	2237
Vorhes, Joseph J., and H. Crisman, Seneca, Kans. Car-door	843,647	Feb. 12	1632	346	126	2237
Voss, William H., Davenport, Iowa. Mechanical movement	843,917	Feb. 12	2133	456	126	2262
Waddell, John, and D. W. Tower, Grand Rapids, Mich. Knob	843,720	Feb. 12	1754	374	126	2268
Wagg, Solomon R., Appleton, Wis. Refining-engine	844,063	Feb. 12	2390	512	126	2423
Walin, Aral G., Seattle, Wash. Sign	843,779	Feb. 12	1860	396	126	2294
Walker, Albert H. (See Ippers, John W., assignor.)						
Wallace, Andrew B., and H. J. Jones, Masterton, New Zealand. Touch-regulator for pianos	843,721	Feb. 12	1756	374	126	2268
Wallace, Archie P., Keithsburg, Ill. Cutting button-blanks from shells	844,064	Feb. 12	2392	512	126	2424
Wallace, James C., Denver, Colo. Railway-rail joint	843,918	Feb. 12	2135	456	126	2263
Wallace, James E., Briceville, Tenn. Automatic feed-water regulator for boilers	843,722	Feb. 12	1757	374	126	2268
Wantz, Julius B., assignor to Victor Electric Company, Chicago, Ill. Surgical eye-magnet appliance	843,979	Feb. 12	2235	478	126	2388
Ward, Lloyd W., assignor of one-half to W. S. O'Brien, Buckhannon, W. Va. Thill-coupling	843,723	Feb. 12	1760	374	126	2269

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Ward, Lloyd W., assignor of one-half to W. S. O'Brien, Buckhannon, W. Va. Thill-coupling	843,724	Feb. 12	1761	375	126	2269
Wares, James, and A. Holman, Chicago, Ill. Faucet	844,065	Feb. 12	2394	513	126	2424
Warren, Fred C. (See Miner, William H., assignor.)						
Warren, Peter R., Brookline, assignor to P. R. Warren Company, Boston, Mass. Knock-down display-stand	844,066	Feb. 12	2397	513	126	2425
Warrington, Jesse, and H. C. Marmon, assignors to Nordyke & Marmon Company, Indianapolis, Ind. Running-gear for motor-vehicles. (Reissue)	12,609	Feb. 12	2920	621	126	2557
Washburn, John E., Egmont, Fla. Electromagnet	843,919	Feb. 12	2137	456	126	2263
Wasson, Charles W., Friendship, and J. W. Hutchings, assignors to Wasson Stanchion Company, Cuba, N. Y. Stanchion-assembling apparatus	844,218	Feb. 12	2699	576	126	2502
Wasson Stanchion Company. (See Wasson and Hutchings, assignors.)						
Waterman, Frank W., assignor to Continental Jar and Bottle Stopper Company, Baltimore, Md. Machine for press-forming fiber dishes	843,854	Feb. 12	2000	429	126	2328
Webb, Ike B., Zwolle, La. Rack	844,067	Feb. 12	2399	514	126	2425
Wehrenberg, Charles E., Mound City, Ill. Baling-press	844,068	Feb. 12	2400	514–15	126	2426
Weida, Harry, and E. K. Hardy, Akron, Ohio. Chemical-receptacle	844,070	Feb. 12	2403	515	126	2426
Weil, Franklin, and W. A. Gross, Northampton, Pa. Hinge	844,069	Feb. 12	2402	515	126	2426
Weiss, Charles A., New York, N. Y. Serving-tray	844,219	Feb. 12	2701	576	126	2503
Weller, William, Mineral City, Ohio. Flue-stop	843,855	Feb. 12	2004	430	126	2329
Wensel, Theodor, St. Paul, Minn. Printer's hook	843,648	Feb. 12	1634	346	126	2238
Wentworth Company. (See Wentworth, Samuel J., assignor.)						
Wentworth, Samuel J., Newport, Ky., assignor to Wentworth Company, Cincinnati, Ohio. Shoe-upper-pounding machine	844,293	Feb. 12	2862	610	126	2543
Wertz, Peter, McKees Rocks, Pa. Sight-feed lubricator	843,856	Feb. 12	2005	430	126	2329
Westbrook, John J., Danville, Va. Controlling apparatus for elevators	843,980	Feb. 12	2237	478–9	126	2398
Westbrooke, Edward L., Jonesboro, Ark. Vehicle-cover	844,220	Feb. 12	2703	577	126	2503
Western Electric Company. (See McBerty, Frank R., assignor.)						
Weston, Edward B., Dayton, Ohio. Display-rack	844,071	Feb. 12	2404	515	126	2427
Wheatley, Arthur, assignor to Convertible Couch and Chair Company, Philadelphia, Pa. Convertible couch	843,780	Feb. 12	1861	396–7	126	2294
Wheatman, John T., Seattle, Wash. Grinding-machine	843,725	Feb. 12	1763	375	126	2270
Wheeler, Seth, Albany, N. Y. Apparatus for cutting, folding, and interfolding sheets or units	843,781	Feb. 12	1862	397	126	2294
Wheeler, William G. (See Wibel, Cunningham, and Wheeler.)						
Whipp Brothers & Tod. (See Perkin, William H., Jr., assignor.)						
White, Alexander P., Caldwell, N. J., assignor to General Fireproofing Company, Youngstown, Ohio. Expanded metal structure	843,726	Feb. 12	1764	375–6	126	2270
White, Arthur E., Chicago, Ill. Coffee-maker	843,727	Feb. 12	1767	376	126	2271
White, Charles D., Quincy, assignor to E. L. Porter, Boston, Mass. Stenciling appliance	843,920	Feb. 12	2139	457	126	2263
White, Herbert E., assignor to General Fireproofing Company, Youngtsown, Ohio. Machine for expanding metal	843,728	Feb. 12	1769	376–8	126	2271
White, Vassel W., Utica, N. Y. Wire-grip	843,921	Feb. 12	2140	457	126	2264
White, William R., Nogal, N. Mex. Ter. Skirt-supporter	843,782	Feb. 12	1864	398	126	2295
White, William S., Denver, Colo. Flushing-valve	844,221	Feb. 12	2706	578	126	2504
Whitehead & Hoag Company. (See Moore, Thomas F., assignor.)						
Whitlock Coil Pipe Company. (See Brinkman, Louis H., assignor.)						
Wibel, Solomon W., W. R. Cunningham, and W. G. Wheeler, Denver, Colo. Car-coupling	843,858	Feb. 12	2007	431	126	2330
Widmann, Frank C., Cleveland, Ohio. Ring-mold	844,072	Feb. 12	2405	516	126	2427
Wieser, Karl, Essen- Rüttenscheid, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the-Ruhr, Germany. Time-fuse	844,222	Feb. 12	2709	578	126	2505
Wieser, Karl, Essen-Rüttenscheid, assignor to Fried. Krupp Aktiengesellschaft, Essen-on-the Ruhr, Germany. Fuse-housing	844,223	Feb. 12	2710	578	126	2505
Wilkinson, John A., New York, assignor to M. Cohn, Albany, N. Y. School-desk furniture	843,649	Feb. 12	1635	346	126	2238
Wilkinson, John A., New York, assignor to M. Cohn, Albany, N. Y. Jointing or uniting wooden parts	843,650	Feb. 12	1636	347	126	2238
Williams, La Mont A., *et al.* (See Dunn and Taylor, assignors.)						
Williams, Milton F. assignor to Williams Patent Crusher & Pulverizer Company, St. Louis, Mo. Dumping-cage for crushers and pulverizers	843,729	Feb. 12	1773	378	126	2273
Williams Patent Crusher & Pulverizer Company. (See Williams, Milton F., assignor.)						
Willing, Claude R., assignor of one-half to R. H. Young, Nanticoke, Md. Fishing-tackle	843,651	Feb. 12	1637	347	126	2238
Willis, Edward J., Richmond, Va. Induction-motor	843,981	Feb. 12	2239	479–80	126	2389
Wilson, Samuel T., Charleston, W. Va. Flour purifier, aspirator, and bleacher	843,783	Feb. 12	1865	398	126	2295
Winslow, Edward J., Chicago, Ill. Building construction	844,294	Feb. 12	2863	610	126	2544
Winslow, Edward J., Chicago, Ill. Building construction	844,295	Feb. 12	2866	610	126	2544
Winslow, Edward J., Chicago, Ill. Building construction	844,296	Feb. 12	2870	611	126	2545
Wiselogel, Frederick G., Indianapolis, Ind., assignor to United States Construction and Utilization Company, Rochester, N. Y. Slop-drier	843,652	Feb. 12	1638	347	126	2239
Wistoft, Sören, Copenhagen, Denmark. Coin-freed apparatus for picture post-cards and the like	843,859	Feb. 12	2009	431–2	126	2330
Wittmann, Josef, Munich, Germany. Locking device for doors and windows	843,730	Feb. 12	1774	378	126	2273
Woelfly, Erastus K., Lebanon, Pa. Pulley-block	843,982	Feb. 12	2241	480	126	2389
Wojidkow, Louis, assignor to New York Stamping Company, Brooklyn, N. Y. Handle attachment	844,073	Feb. 12	2407	516	126	2428
Wollé, Joseph A., assignor to Hale-Kilburn Metal Company, Philadelphia, Pa. Car-seat	844,224	Feb. 12	2710	579	126	2505
Woodward, Robert S., Jr., New York, N. Y. Extracting oil from oleaginous seeds	843,983	Feb. 12	2242	480	126	2389
Woodward, Robert S., Jr., New York, N. Y. Apparatus for extracting cotton-oil	843,984	Feb. 12	2245	480	126	2390
Woodward, Robert S., Jr., Washington, D. C. Chronometric culinary system	844,074	Feb. 12	2408	516	126	2428
Wratzke, Alfred, Rüttenscheid, near Essen-on-the-Ruhr, assignor to F. Krupp, Essen-on-the-Ruhr, Germany. Exploding shell	844,225	Feb. 12	2713	579	126	2506
Wright, James C., assignor of one-half to J. C. Rawlings, Colorado Springs, Colo. Faucet	844,226	Feb. 12	2715	579	126	2507
Wright, John T., Columbia, Tenn. Combined cultivator, planter, and fertilizer-distributer	844,227	Feb. 12	2716	580	126	2507
Wuffli, Robert, Cleveland, Ohio. Gas-burner for sad-irons	843,653	Feb. 12	1639	347	126	2239
Young, Frederick W., assignor of one-half to R. M. Pearce, Rock Island, Ill. Skid and truck	843,654	Feb. 12	1640	348	126	2239
Young, Robert H. (See Willing, Claude R., assignor.)						
Zimmerman, Harry, Fremont, Ohio. Cutting-board	844,075	Feb. 12	2410	516	126	2428
Zindorf, Matthias P., Everett, Wash. Machine for leveling and scraping	843,784	Feb. 12	1866	398	126	2295
Zoffer Plate Glass Manufacturing Company. (See Bagnall, Edward, assignor.) (Reissue.)						

DESIGNS.

Name, residence, and design.	No.	Date.	Official Gazette. Vol.	Page.
Gottschling, Andreas, London, England. Font of type	38,443	Feb. 12	126	2560
Liggett, Louis K., Brookline, Mass., assignor to National Cigar Stands Company, Jersey City, N. J. Illuminated chandelier-sign	38,444	Feb. 12	126	2560
National Cigar Stands Company. (See Liggett, Louis K., assignor.)				
Schnepf, Emil, Syracuse, N. Y. Plate or dish	38,442	Feb. 12	126	2559
Walter, Elmer E., Syracuse, N. Y. Plate or dish	38,441	Feb. 12	126	2559

TRADE-MARKS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Photographic plates and films	60,467	Feb. 12	126	2581
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Wool-dyes	60,585	Feb. 12	126	2584
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Coal-tar dyestuffs	60,586	Feb. 12	126	2584
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Dyes and chemical preparations for dyeing purposes	60,587	Feb. 12	126	2584
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Photographic developers	60,588	Feb. 12	126	2584
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Photographic developers	60,589	Feb. 12	126	2584
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Photographic developers	60,590	Feb. 12	126	2584
Actien Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Certain chemical substances	60,591	Feb. 12	126	2584
American Contractor Publishing Company, Chicago, Ill. Magazine	60,592	Feb. 12	126	2585
American Lead Pencil Company, New York, N. Y. Lead-pencils and point-protectors	60,468	Feb. 12	126	2581
American Silver Company, Bristol, Conn. Certain solid and plated metal ware	60,469	Feb. 12	126	2581
Arnhold, Karberg & Co., New York, N. Y. Cotton piece goods	60,593	Feb. 12	126	2585
Barlow, William H., Barnesville, Ohio. Cigars	60,502	Feb. 12	126	2582
Billings, King & Co., New York, N. Y., and Boston, Mass. Paints and varnishes	60,503	Feb. 12	126	2582
Bissell Carpet Sweeper Co., Grand Rapids, Mich. Carpet-sweepers	60,504	Feb. 12	126	2582
Bissell Carpet Sweeper Co., Grand Rapids, Mich. Carpet-sweepers	60,505	Feb. 12	126	2582
Bissell Carpet Sweeper Co., Grand Rapids, Mich. Carpet-sweepers	60,506	Feb. 12	126	2582
Bissell Carpet Sweeper Co., Grand Rapids, Mich. Carpet-sweepers	60,507	Feb. 12	126	2582
Blount Carriage & Buggy Co., East Point, Ga. Open and top buggies and surreys	60,508	Feb. 12	126	2582
Blumenkrohn Crochet Button Works, New York, N. Y. Neckwear-supporters	60,509	Feb. 12	126	2582
Breitenbach, Max J., New York, N. Y. Certain medicinal remedy	60,541	Feb. 12	126	2583
Bubier Laboratory Company, Lynn, Mass. Compound laxative salts	60,594	Feb. 12	126	2585
C. R. Maltby Co., Corning, N. Y. Coffee and tea	60,623	Feb. 12	126	2585
Calixto Lopez & Co., Jersey City, N. J. Cigarettes and smoking-tobacco	60,448	Feb. 12	126	2581
Capper, Arthur, Topeka, Kans. Magazine	60,510	Feb. 12	126	2582
Celluloid Company, New York, N. Y., and Newark, N. J. Fibrous materials covered with a plastic compound	60,470	Feb. 12	126	2587
Charles Dennehy & Company, Chicago, Ill. Whisky	60,449	Feb. 12	126	2581
Chase, Frank H., New York, N. Y. Monthly magazine	60,511	Feb. 12	126	2582
Chicago Dryer Company, Chicago, Ill. Clothes-drying machines	60,450	Feb. 12	126	2581
Child Acme Cutter & Press Co., Boston, Mass. Machines for cutting paper and knives therefor	60,512	Feb. 12	126	2582
Cifuentes, Fernandez y Ca., Havana, Cuba. Cigars	60,513	Feb. 12	126	2582
Cifuentes, Fernandez y Ca., Havana, Cuba. Cigars	60,514	Feb. 12	126	2582
Cifuentes, Fernandez y Ca., Havana, Cuba. Cigars	60,515	Feb. 12	126	2582
Colgate & Co., New York, N. Y. Certain medicinal and toilet preparations	60,516	Feb. 12	126	2582
Crescent Manufacturing Co., Seattle, Wash. Tea	60,595	Feb. 12	126	2585
De Freest, Charles W., Chicago, Ill. Remedies for the cure of the liquor habit	60,451	Feb. 12	126	2581
De Wees, Joseph, Zanesville, Ohio. Spices, pepper, and flavoring extracts	60,624	Feb. 12	126	2585
Darbyshire, L., Rochester, N. Y. Monthly magazine	60,471	Feb. 12	126	2581
Dayton Clothing Mfg. Co., Dayton, Ohio. Certain clothing	60,452	Feb. 12	126	2581
Dolphin White Lead & Color Works, Toledo, Ohio. Mixed paints, enamels, stains, and varnishes	60,542	Feb. 12	126	2583
Dow & Company, F. H., Boston, Mass. Chocolates and bonbons	60,453	Feb. 12	126	2581
Durkee & Co., E. R., New York, N. Y. Wheat-farina, pearl-barley, and corn-starch	60,454	Feb. 12	126	2581
Eastern Brewing Company, New York, N. Y. Lager-beer	60,455	Feb. 12	126	2581
Electric Device Company, New York, N. Y., and Masury, Ohio. Electric fuses	60,543	Feb. 12	126	2583
Elgin National Watch Company, Elgin and Chicago, Ill. Watches and parts thereof	60,544	Feb. 12	126	2583
Enterprise Manufacturing Co. of Pennsylvania, Philadelphia, Pa. Sad-irons	60,545	Feb. 12	126	2583
Erste Wiener Export-Malzfabrik Hauser & Sobotka, Stadlau, Vienna, Austria-Hungary. Malt preparation for use in making bread	60,517	Feb. 12	126	2582
Erste Wiener Export-Malzfabrik Hauser & Sobotka, Stadlau, Vienna, Austria-Hungary. Size for cotton and other threads and yarns	60,472	Feb. 12	126	2581
Etienne-Boulle, Henri, Marseille, France. Olive-oil	60,596	Feb. 12	126	2585
Faber, Eberhard, New York, N. Y. Pens and penholders and lead-pencils	60,456	Feb. 12	126	2581
Fairbanks, Morse & Company, Chicago, Ill. Automobiles	60,457	Feb. 12	126	2581
Fairchild Bros. & Foster, New York, N. Y. Extract or preparation of the pancreas gland	60,518	Feb. 12	126	2583
Fehrlin, Heinrich C., assignor to Fabrik Chemischer und Dietätischer Produkte Schaffhausen, Schaffhausen, Switzerland. Remedy for consumption	60,625	Feb. 12	126	2585
Fernandez, José, Huatusco, Vera Cruz, Mexico. Coffee in grain	60,626	Feb. 12	126	2585
Ferrenzyme Capsule Company, New York, N. Y. Tonic	60,520	Feb. 12	126	2583
Flash Chemical Company, Boston, Mass. Cleaning-paste	60,597	Feb. 12	126	2585
Forhan, Henry L., Portland, Me. Canned lobsters	60,521	Feb. 12	126	2583
Forhan, Henry L., Portland, Me. Canned lobsters	60,473	Feb. 12	126	2581
Forhan, Henry L., Portland, Me. Canned corn and succotash	60,474	Feb. 12	126	2581
Forhan, Henry L., Portland, Me. Canned fruits and vegetables	60,475	Feb. 12	126	2581
Frank & Sons, H., Wheeling, W. Va. Hosiery	60,476	Feb. 12	126	2581
Frederick Stearns & Co., Detroit, Mich. Certain medicines	60,546	Feb. 12	126	2583
French & Co., Samuel H., Philadelphia, Pa. Paint and varnish brushes	60,598	Feb. 12	126	2585
General Electric Company, Schenectady, N. Y. Rosettes	60,522	Feb. 12	126	2583
	60,523	Feb. 12	126	2583

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Geo. F. Dittmann Boot & Shoe Company, St. Louis, Mo. Leather boots and shoes	60,547	Feb. 12	126	2583
Geo. N. La Bonte Shoe Co., Boston, Mass. Leather boots and shoes	60,477	Feb. 12	126	2581
George Cutter Co., South Bend, Ind. Wire rope	60,519	Feb. 12	126	2583
George Cutter Co., South Bend, Ind. Fine-braided cotton rope with a weatherproof finish	60,548	Feb. 12	126	2583
Germo Manufacturing Co., Sedalia, Mo. Liquid insecticide	60,599	Feb. 12	126	2585
Gibbs Manufacturing Co., Canton, Ohio. Embroidery-hoops	60,549	Feb. 12	126	2583
Gibbs Manufacturing Co., Canton, Ohio. Embroidery-hoops	60,550	Feb. 12	126	2583
Gibbs Manufacturing Co., Canton, Ohio. Embroidery-hoops	60,551	Feb. 12	126	2583
Gibbs Manufacturing Co., Canton, Ohio. Embroidery-hoops	60,552	Feb. 12	126	2583
Greenspon, Saul, Bluefield, W. Va. Tonic beverage	60,553	Feb. 12	126	2583
Greever-Lotspeich Manufacturing Company, Knoxville, Tenn. Flavoring extracts	60,478	Feb. 12	126	2581
Gunder, Samuel H., Richmond, Va. Tooth-powder	60,600	Feb. 12	126	2585
H-O (Hornby's Oatmeal) Company, New York and Buffalo, N. Y. Oats	60,479	Feb. 12	126	2582
H-O (Hornby's Oatmeal) Company, New York and Buffalo, N. Y. Oats	60,480	Feb. 12	126	2582
Hall, Eliza N., New York, N. Y. Caustic potash or lye	60,601	Feb. 12	126	2585
Hall, Eliza N., New York, N. Y. Caustic potash or lye	60,602	Feb. 12	126	2585
Hall & Ruckel, New York, N. Y. Perfumery and cologne	60,603	Feb. 12	126	2585
Hall & Ruckel, New York, N. Y. Glue	60,604	Feb. 12	126	2585
Hammel, Riglander & Co., New York, N. Y. Pliers having cutting edges	60,524	Feb. 12	126	2583
Hardtmuth, L. & C., Vienna and Budweis, Austria-Hungary, and London, England. Artists' brushes	60,532	Feb. 12	126	2583
Hassall, Isabelle H., Boston, Mass. Lace curtains	60,554	Feb. 12	126	2583
Henkelman, Frederick, Baltimore, Md. Ointment	60,627	Feb. 12	126	2585
Heynemann & Co., San Francisco, Cal. Negligée shirts and workingmen's overshirts	60,555	Feb. 12	126	2583
Hood Rubber Co., Boston, Mass. Rubber boots and shoes	60,481	Feb. 12	126	2582
Hutchison, J. C., Queen City, Tex. Medicine for certain named diseases	60,605	Feb. 12	126	2585
Isabellenhütte, G. m. b. H., Dillenburg, Germany. Metal alloy consisting of nickel manganese, and copper	60,525	Feb. 12	126	2583
Isabellenhütte, G. m. b. H., Dillenburg, Germany. Alloy of nickel, manganese, and copper	60,526	Feb. 12	126	2583
J. Ellwood Lee Company, Conshohocken, Pa. Certain surgical dressings and appliances	60,527	Feb. 12	126	2583
J. Ellwood Lee Company, Conshohocken, Pa. Certain surgical dressings and appliances	60,528	Feb. 12	126	2583
J. Ellwood Lee Company, Conshohocken, Pa. Certain surgical dressings and appliances	60,529	Feb. 12	126	2583
J. Ellwood Lee Company, Conshohocken, Pa. Certain surgical dressings and appliances	60,550	Feb. 12	125	2583
John E. Cassidy & Son, Boston, Mass. Whisky	60,531	Feb. 12	126	2583
John E. Cassidy & Son, Boston, Mass. Whisky	60,556	Feb. 12	126	2584
John E. Cassidy & Son, Boston, Mass. Rum	60,557	Feb. 12	126	2584
John Wyeth and Brother, Incorporated, Philadelphia, Pa. Preparations of peptonized beef and bread	60,606	Feb. 12	126	2585
John Wyeth and Brother, Incorporated, Philadelphia, Pa. Antiseptic solution	60,628	Feb. 12	126	2585
John Wyeth and Brother, Incorporated, Philadelphia, Pa. Emulsion of mixed fats	60,629	Feb. 12	126	2586
John Wyeth and Brother, Incorporated, Philadelphia, Pa. Elixir of the digestive ferments	60,630	Feb. 12	126	2586
Johs Conradsen A/S, Stavanger, Norway. Canned, pickled, and preserved fish	60,631	Feb. 12	126	2586
Johs Conradsen A/S, Stavenger, Norway. Canned, pickled, and preserved fish	60,632	Feb. 12	126	2586
Jones Dairy Farm, Fort Atkinson, Wis. Sausages, hams, bacon, salt pork, and lard	60,458	Feb. 12	126	2581
Jones Dairy Farm, Fort Atkinson, Wis. Sausages, hams, bacon, salt pork, and lard	60,482	Feb. 12	126	2582
Knöfler and Company, Dr. O., Plotzensee, near Berlin, Germany. Certain chemicals	60,607	Feb. 12	126	2585
L. J. Mueller Furnace Company, Milwaukee, Wis. Radiator air-valves and damper-clips	60,533	Feb. 12	126	2583
La Grange Saddlery Company, Lagrange, Tex. Saddles and harness	60,534	Feb. 12	126	2583
Langsdorf, Charles C., New York, N. Y. Medicine for constipation	60,608	Feb. 12	126	2585
Latrobe Steel and Coupler Company, Philadelphia, Pa. Certain railway equipment	60,535	Feb. 12	126	2583
Latrobe Steel and Coupler Company, Philadelphia, Pa. Certain machinery parts	60,536	Feb. 12	126	2583
Layat, Joseph M., St. Louis, Mo. Certain toilet preparations	60,633	Feb. 12	126	2586
Leumann, Boesch & Weingart, New York, N. Y. Corset-covers and petticoats	60,558	Feb. 12	126	2584
Lewis, Abraham, deceased, Chicago, Ill.; L. Lewis, administrator. Smoothing compounds for irons	60,634	Feb. 12	126	2586
Lewis, Lazarus, administrator. (See Lewis, Abraham.)				
Lockwood, Henry B., Philadelphia, Pa. Cigars	60,537	Feb. 12	126	2583
M. E. Smith & Co. Inc., Omaha, Nebr. Duck coats, vests, pants, and overalls	60,559	Feb. 12	126	2584
M. & J. B. Kellam Co., Binghamton, N. Y. Tea	60,483	Feb. 12	126	2582
M. & J. B. Kellam Co., Binghamton, N. Y. Tea	60,484	Feb. 12	126	2582
Maas & Waldstein Company, Newark, N. J., and New York, N. Y. Fumigants	60,609	Feb. 12	126	2585
McCormick & Co., Baltimore, Md. Spices, mustards, and flavoring extracts	60,560	Feb. 12	126	2584
Menzies Shoe Co., Detroit, Mich. Leather boots and shoes	60,538	Feb. 12	126	2583
Mercer Rubber Company, Trenton, N. J. Rubber belting, hose, and packing	60,485	Feb. 12	126	2582
Meyer & Co., Milton J., New York, N. Y. Leather boots, shoes, and slippers	60,459	Feb. 12	126	2581
Mineralized Rubber Co., New York, N. Y. Rubber hose, belting, packing, and printing-blankets	60,487	Feb. 12	126	2582
Mineralized Rubber Co., New York, N. Y. Syringes and atomizers	60,539	Feb. 12	126	2583
Nestlé & Anglo-Swiss Condensed Milk Co., Cham, Switzerland. Condensed milk, butter, and cheese	60,486	Feb. 12	126	2582
Novelty Manufacturing Company, Jackson, Mich. Heating stoves, (fluid-fuel burning,) and particularly oil-stoves	60,540	Feb. 12	126	2583
O'Connell & Gruss, Chicago, Ill. Cigars	60,561	Feb. 12	126	2584
Oakdale Baking Company, Philadelphia, Pa. Pretzels, cakes, crackers, biscuits, and bread	60,460	Feb. 12	126	2581
Penn Hardware Co., Reading, Pa. Certain fastening devices	60,610	Feb. 12	126	2585
Pittsburgh Plate Glass Company, Pittsburg, Pa. Plaster formed of wood fiber	60,562	Feb. 12	126	2584
Porter, Taylor & Co., Chicago, Ill. Magazine	60,488	Feb. 12	126	2582
Potter Drug & Chemical Corporation, Portland, Me., and Boston, Mass. Certain medicines	60,611	Feb. 12	126	2585
Potter Drug & Chemical Corporation, Portland, Me., and Boston, Mass. Pills	60,612	Feb. 12	126	2585
Potter & Wrightington, Boston, Mass. Wheat-coffee	60,489	Feb. 12	126	2582
Puritan Pure Food Company, New York, N. Y. Chocolate, cocoa, and candy	60,461	Feb. 12	126	2581
Regal Shoe Company Inc., Boston, Mass. Sole-leather and leather soles for boots and shoes	60,563	Feb. 12	126	2584
Regal Shoe Company Inc., Boston, Mass Cleaning compound and dressing for leather, skin, and canvas articles	60,564	Feb. 12	126	2584
Regal Shoe Company Inc., Boston, Mass. Cleaning compound and dressing for leather and skin articles	60,565	Feb. 12	126	2584
Reily, Taylor & Co. Ltd., New Orleans, La. Coffee	60,490	Feb. 12	126	2582
Rosenstein Brothers Inc., New York, N. Y. Clam preparation	60,491	Feb. 12	126	2582
Russell & Erwin Manufacturing Company, New Britain, Conn. Cylinder-locks, night-latches, and padlocks	60,566	Feb. 12	126	2584
S. G. Parker Company, Boston, Mass. Root-beer	60,613	Feb. 12	126	2585
S. M. Bixby & Co., New York, N. Y. Metal dressings and polish	60,462	Feb. 12	126	2581
Saffa, John G., St. Louis, Mo. Cigarettes	60,567	Feb. 12	126	2584

TRADE-MARKS—Continued.

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Schorsch & Co., New York, N. Y. Paper bags	60,492	Feb. 12	126	2582
Schorsch & Co., New York, N. Y. Paper bags	60,493	Feb. 12	126	2582
Schorsch & Co., New York, N. Y. Paper bags	60,494	Feb. 12	126	2582
Schuetz, Renziehausen & Co., Pittsburg, Pa. Whisky	60,568	Feb. 12	126	2582
Scott Fertilizer Co. of Cecil County, Elkton, Md. Fertilizers	60,495	Feb. 12	126	2584
Shackleton, Aspden & Co., Buffalo, N. Y. Coffee	60,463	Feb. 12	126	2582
Shelby Electric Company, Shelby, Ohio. Incandescent lamps	60,569	Feb. 12	126	2581
Shryer, Edmund W., Collins, Mo. Lotion for scalds and burns	60,614	Feb. 12	126	2584
Simmons Hardware Co., St. Louis, Mo. Certain cutting and edge tools	60,570	Feb. 12	126	2585
Smith Kline & French Co., Philadelphia, Pa. Perfumes, sachet-powders, face-powders, talcum powder, and toilet washes	60,615	Feb. 12	126	2584
Smith Kline & French Co., Philadelphia, Pa. Perfumery and toilet and bath washes	60,616	Feb. 12	126	2585
Société Générale des Huiles Fournitures Industrielles l'Oléo, Paris, France. Electric sparking and electric igniting apparatus	60,571	Feb. 12	126	2585
Sommer, Adolph, Cambridge, Mass. Certain erasers or erasing compositions	60,496	Feb. 12	126	2584
Southern Stove Works, Branch Continental Stove Co., Incorporated, Richmond, Va. Stoves and ranges	60,572	Feb. 12	126	2582
St. Louis Lightning Rod Co., St. Louis, Mo. Lightning-rods covered or plated with a layer of copper	60,575	Feb. 12	126	2584
Stein Bloch Co., Rochester, N. Y. Coats, overcoats, vests, and trousers	60,573	Feb. 12	126	2584
Stein Brothers, Chicago, Ill. Whisky	60,574	Feb. 12	126	2584
Stewart Bread Co., Philadelphia, Pa. Bread, cakes, biscuits, and crackers	60,464	Feb. 12	126	2584
Stork Company, Boston, Mass. Certain clothing	60,617	Feb. 12	126	2581
Stritzinger & Co., F. G., Norristown, Pa. Wheat-flour	60,465	Feb. 12	126	2585
Taylor Iron & Steel Co., High Bridge, N. J. Certain metal manufactures	60,576	Feb. 12	126	2581
Truesdell, George, Washington, D. C., and Deer Park, Md. Table-water	60,577	Feb. 12	126	2584
Tucker & Son, Luther, Albany, N. Y. Agricultural journal	60,497	Feb. 12	126	2584
Union Fibre Co., Winona, Minn. Certain insulation material	60,578	Feb. 12	126	2582
Union Oil Company, Providence, R. I. Cotton-seed-oil soap	60,579	Feb. 12	126	2584
United States Playing Card Co., Cincinnati, Ohio. Playing-cards	60,618	Feb. 12	126	2584
Virden, John C., Mantgomery, Ala. Catalogues and pamphlets	60,466	Feb. 12	126	2585
Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Sewing-machines, parts, and attachments	60,580	Feb. 12	126	2581
Wheeler & Wilson Manufacturing Company, Bridgeport, Conn. Sewing-machines, parts, and attachments	60,581	Feb. 12	126	2584
Whitely Exerciser Company, New York, N. Y. Elastic-cord exercising devices	60,582	Feb. 12	126	2584
Whitman & Barnes Manufacturing Company, Akron, Ohio. Certain parts of metal and wood working machines	60,583	Feb. 12	126	2584
Will & Baumer Company, Syracuse, N. Y. Candles	60,498	Feb. 12	126	2582
Will & Baumer Company, Syracuse, N. Y. Candles	60,499	Feb. 12	126	2582
Will & Baumer Company, Syracuse, N. Y. Candles	60,500	Feb. 12	126	2582
Wilson, Hollie B., Vicksburg, Miss. Remedy for rheumatism	60,619	Feb. 12	126	2585
Winchester Repeating Arms Co., New Haven, Conn. Certain equipments and gun implements	60,620	Feb. 12	126	2585
Wolcott Company, Rochester, N. Y. Whisky	60,621	Feb. 12	126	2585
Wolcott Company, Rochester, N. Y. Whisky	60,622	Feb. 12	126	2585
Wood, William H., Cleveland, Ohio. Instep or arch support	60,584	Feb. 12	126	2584
Woolrich & Co. Palmer, Mass. Prepared foods for infants and invalids	60,501	Feb. 12	126	2582

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
A. Booth & Company, Chicago, Ill. "Oysters." (For Canned Oysters)	13,357	Feb. 12	126	2587
Both, W. C., Chicago, Ill. "Men's Apparel." (For Men's Apparel)	13,364	Feb. 12	126	2587
Denton, Lewis G., Schenectady, N. Y. "Do-No Syrup." (For a Medicine)	13,361	Feb. 12	126	2587
Henderson, John W., Red Mountain, Colo. "The Matchless Match." (For Matches)	13,365	Feb. 12	126	2587
Hosler, John W., Chicago, Ill. "Curzon Complexion Cream." (For Complexion Cream or Paste)	13,358	Feb. 12	126	2587
Jordan, Linwood F., Portland, Me. "Little Sweet Heart Pepsin Gum." (For Chewing-Gum)	13,351	Feb. 12	126	2587
Jordan, Linwood F., Portland, Me. "Little Sweet Heart Pepsin Gum." (For Chewing-Gum)	13,352	Feb. 12	126	2587
Klausmann Brewery Branch of the St. Louis Brewing Association, St. Louis, Mo. "Hop Bud." (For Beer)	13,350	Feb. 12	126	2587
Lakewood Pine Co., Jersey City, N. J. "Pinozone." (For a Medicinal Preparation)	13,363	Feb. 12	126	2587
Payette & Agnew, Plattsburg, N. Y. "Dr. J. O Lambert's Anti-Consumptive Syrup." (For a Medicinal Compound)	13,362	Feb. 12	126	2587
Roberts & Co., Thomas, Philadelphia, Pa. "Pure Food Brand Tomatoes." (For Canned Tomatoes)	13,354	Feb. 12	126	2587
Roberts & Co., Thomas, Philadelphia, Pa. "Pure Food Brand Garden Grown Sifted Pease." (For Canned Peas)	13,355	Feb. 12	126	2587
Roberts & Co., Thomas, Philadelphia, Pa. "Pure Food Brand Extra Fancy Cream Sugar Corn." (For Canned Corn)	13,356	Feb. 12	126	2587
Scherman & Co., J., Chicago, Ill. "Scherman's Egg Shampoo." (For a Shampoo)	13,359	Feb. 12	126	2587
Scherman & Co., J., Chicago, Ill. "Scherman's Liquid Shampoo." (For a Liquid Shampoo)	13,360	Feb. 12	126	2587
Schmidt & Co., New York, N. Y. "Lincks." (For Cigars)	13,349	Feb. 12	126	2587
Zeigler Bros. Canning Co., What Cheer, Iowa. "Gold King." (For Canned Tomatoes)	13,353	Feb. 12	126	2587

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Ed. V. Price & Company, Chicago, Ill. "Fashionable Coat Sleeves." (For Coat-Sleeves)	1,906	Feb. 12	126	2587
Ed. V. Price & Company, Chicago, Ill. "The House of a Thousand Tailors." (For Men's and Boys' Coats, Vests, and Trousers)	1,907	Feb. 12	126	2587
Erlanger Bros., New York, N. Y. "The B. V. D. Way." (For Undershirts and Drawers)	1,908	Feb. 12	126	2587
Essential Chemical Co., Philadelphia, Pa. "Lapin's Magic Straw Hat Cleaner." (For a Straw-Hat Cleaner)	1,909	Feb. 12	126	2587

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
A-Z. Co., New York, N. Y. Radiators for automobiles	17,815	Feb. 12	126	2565
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Photographic developers	12,339	Feb. 12	126	2563
Advance Novelty Company, New York, N. Y. Candies	18,061	Feb. 12	126	2565
American Glue Company, Boston, Mass. Sand, garnet, and emery papers and emery-cloths	23,742	Feb. 12	126	2569
American Hominy Company, Indianapolis, Ind. Toasted corn-flakes	23,983-4	Feb. 12	126	2571
American Olive Company, Los Angeles, Cal. Olives	21,631	Feb. 12	126	2566
American Printing Co., Fall River, Mass. Indoor game	24,314	Feb. 12	126	2573
American Wire Brush Company, New York, N. Y. Wire brushes	24,653	Feb. 12	126	2577
Batman, William H., Topeka, Kans. Chocolate-cream candy	12,905	Feb. 12	126	2563
Bauer & Black, Chicago, Ill. Corn and bunion plasters	24,457	Feb. 12	126	2574
Beach and Clarridge Company, Boston, Mass. Syrups	22,750	Feb. 12	126	2567
Beach and Clarridge Company, Boston, Mass. Jams	22,751	Feb. 12	126	2567
Black Cat Garter Company Incorporated, Chicago, Ill. Hose-supporters	20,505	Feb. 12	126	2566
Blue Ribbon Mining, Milling, and Investment Co., Idaho Springs and Denver, Colo. Mineral waters, ginger-ale, root-beer, &c	23,985	Feb. 12	126	2571
Bluthenthal & Bickart, Atlanta, Ga. Whisky	24,746	Feb. 12	126	2579
Booth's Hyomei Company, Buffalo, N. Y. Preparation for the cure of dyspepsia	24,286	Feb. 12	126	2573
Brackett & Co., R. E., Lansing, Mich. Hones	12,805	Feb. 12	126	2563
Briggs, Frank H., Painesville, Ohio. High explosives	24,553	Feb. 12	126	2575
Carl Entenmann Jewelry Company, Los Angeles, Cal. Rings, brooches, and badges	22,891	Feb. 12	126	2568
Carleton Dry Goods Company, St. Louis, Mo. Hosiery and knit gloves	9,025	Feb. 12	126	2562
Castaing, Amédée, New York, N. Y. Disinfectants, deodorizers, and germicides	23,680	Feb. 12	126	2569
Clark Thread Co., Newark, N. J. Sewing-cotton or cotton-thread	13,676	Feb. 12	126	2564
Colgate & Co., New York, N. Y. Soap	24,735	Feb. 12	126	2578
Collins & Company, New York, N. Y. Cotton shrunks	24,509	Feb. 12	126	2575
Collins & Company, New York, N. Y. Cotton shrunks	24,511	Feb. 12	126	2575
Colton, George S., Easthampton, Mass. Elastic webbing	24,379	Feb. 12	126	2574
Coronet Corset Company, Jackson, Mich. Corsets, bustles, and bust-forms	16,321	Feb. 12	126	2564
Craven Chemical Company, Newbern, N. C. Fertilizers	24,462	Feb. 12	126	2574
Crown Cork and Seal Co. of Baltimore City, Baltimore, Md. Metallic bottle-stopper	294	Feb. 12	126	2561
Cupples & Leon, New York, N. Y. Printed books	23,899	Feb. 12	126	2570
Denison Cotton Mill Co., Denison, Tex. Cotton duck	23,800	Feb. 12	126	2569
Duluth-Superior Milling Co., Duluth, Minn. Wheat-flour	20,020	Feb. 12	126	2566
Dusenbury, Louis, New York, N. Y. Lap-robes	23,683	Feb. 12	126	2569
Eagle Roller Mill Company, New Ulm, Minn. Wheat-flour	24,634-6	Feb. 12	126	2576-7
Eli Lilly & Company, Indianapolis, Ind. Medicinal extracts, tinctures, concentrations, &c	24,117	Feb. 12	126	2572
Enterprise Novelty M. F. G. Co., Knoxville, Ill. Mouse and rat traps	24,285	Feb. 12	126	2573
Este, Charles, Philadelphia, Pa. Lumber and timber	18,356	Feb. 12	126	2565
F. C. Bushnell Co., New Haven, Conn. Olives, olive-oil, and dried and evaporated fruits	23,977	Feb. 12	126	2571
F. C. Bushnell Co., New Haven, Conn. Canned salmon	23,979	Feb. 12	126	2571
Fairchild, John F., Mount Vernon, N. Y. Medicine for coughs, colds, &c	24,064	Feb. 12	126	2572
Fichtenau, Ernst, Friedek, Austria. Insecticides	24,617	Feb. 12	126	2576
Franklin Electric Mfg. Co., Hartford, Conn., and New York, N. Y. Incandescent electric lamps	16,648	Feb. 12	126	2565
Fred. J. Meyers Manufacturing Company, Hamilton, Ohio. Machine-sifters	24,499	Feb. 12	126	2575
Friedman, Keller & Co., Paducah, Ky. Whisky	24,750	Feb. 12	126	2579
Gehlert, Gustav B., Benton Harbor, Mich. Cider	9,074	Feb. 12	126	2562
Geo. Bray & Co., Ltd., Leeds, England. Metal gas-burners	13,022-7	Feb. 12	126	2563-4
George Urban Milling Company, Buffalo, N. Y. Wheat-flour	24,668-71	Feb. 12	126	2577
Georgia Manufacturing Company, Columbus, Ga. Cotton overalls	24,177	Feb. 12	126	2573
Gill Brothers Company, Steubenville, Ohio. Glass chimneys, lantern-globes, and reflectors	24,723	Feb. 12	126	2578
Glidden Varnish Company, Cleveland, Ohio. Varnish	14,990	Feb. 12	126	2564
Goldschmidt Thermit Co., New York, N. Y. Compounds for welding metals	18,635	Feb. 12	126	2565
Goll Chemical Works, Bruno H., Chicago, Ill. Toilet cream	23,961	Feb. 12	126	2570
Griffin & Skelley Co., San Francisco, Cal. Raisins	22,968-9	Feb. 12	126	2568
Hall, Eliza N., New York, N. Y. Caustic potash or lye	2,771	Feb. 12	126	2561
Hannam & Co., Port Elizabeth, Cape of Good Hope, South Africa. Canned salmon	21,929	Feb. 12	126	2567
Havemeyer Oil Company, New York, N. Y. Oils and greases for gas-engines, &c	23,890	Feb. 12	126	2570
Henry M. Rubel Company, Cincinnati, Ohio. Whisky	23,724-6	Feb. 12	126	2569
Herbeln, George W., Seattle, Wash. Artificial fuel	23,036	Feb. 12	126	2568
Hetsel, Eva M., Scranton, Pa. Remedy for chapped and sore lips and used as a rouge	24,493	Feb. 12	126	2575
Huet & E. Ligier, L., Paris, France. Key rings and chains	13,723-4	Feb. 12	126	2564
Huet and E. Ligier, L., Paris, France. Buttons for dresses, ready-made clothing, &c	24,677-8	Feb. 12	126	2578
I. L. Lamm Co., Superior, Wis. Gin, whisky, and brandy	24,732-3	Feb. 12	126	2578
Indianapolis Brewing Company, Indianapolis, Ind. Beer	21,619	Feb. 12	126	2566
Jno. T. Barber & Co., Louisville, Ky. Whisky	24,200	Feb. 12	126	2573
John Wyeth and Brother, Incorporated, Philadelphia, Pa. Vehicle or carrier for the application and administration of medicaments	21,551	Feb. 12	126	2566
Johnson Educator Food Co., Boston, Mass. Crackers	24,358	Feb. 12	126	2574
Jones, Geo. P., St. Louis, Mo. Lubricating, engine, cylinder, and miners' oils	23,734	Feb. 12	126	2569
Kathairo Chemical Co., New York, N. Y. Antiseptics, disinfectants, deodorizers, &c	18,490	Feb. 12	126	2565
Kimball & Co., Austin, New York, N. Y. Apples	24,536	Feb. 12	126	2575
King, Brinsmade Mercantile Company, St. Louis, Mo. Ladies' and children's hats	1,547	Feb. 12	126	2561

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Data	Official Gazette. Vol.	Page.
Knickerbocker Paint Company, New York, N. Y. Mixed paints	24,000	Feb. 12	126	2571
Koháry, Alexander A., Pittsburg, Pa. Cigarette-paper	24,558	Feb. 12	126	2575
Leek, John H., New York, N. Y. Razor-paste	24,752	Feb. 12	126	2579
Letzelter, Michael, Pittsburg, Pa. Whisky	24,737	Feb. 12	126	2578
M. M. Fenner Company, Fredonia, N. Y. Remedies for coughs, colds, asthma, &c	19,145	Feb. 12	126	2566
M. W. Diffley, Inc., Chicago, Ill. Cigars	6,406	Feb. 12	126	2562
Martin-Senour Co., Chicago, Ill. Varnish stains, priming, and fillers	24,229	Feb. 12	126	2573
Mason, Albert G., Cleveland, Ohio. Sewing-machines, sewing-machine attachments, stands, tables, and covers	24,325-6	Feb. 12	126	2573
Meidel, Weinstock & Company, Louisville, Ky. Hats and caps	24,468	Feb. 12	126	2575
Merrimack Manufacturing Company, Lowell, Mass. Printed and dyed calicoes, cotton cloth, &c	23,824	Feb. 12	126	2569
Mexican Amole Soap Co., Peoria, Ill. Soaps	10,766	Feb. 12	126	2562
Miami Cycle and Mfg. Co., Middletown, Ohio. Bicycles, motor-cycles, and velocipedes	18,761-2	Feb. 12	126	2565
Milligan & Donovan, Kirkwood, Mo. Hair tonics and restorers	24,170	Feb. 12	126	2572
Moody & Co., Charles E., Boston, Mass. Canned fish	24,739	Feb. 12	126	2578
Monte Vista Milling & Elevator Company, Monte Vista, Colo. Wheat-flour	24,255	Feb. 12	126	2573
Muller, Wm. H., New York, N. Y. Bitters	13,322	Feb. 12	126	2564
Mutual Auto Accessories Co. of America, New York, N. Y. Lubricating oils and greases	24,774	Feb. 12	126	2580
Neuss, Hesslein & Co., New York, N. Y. Saws, die-stocks, screw-plates, and pipe-cutters	22,847	Feb. 12	126	2567
New Prague Flouring Mill Company, New Prague, Minn. Wheat-flour	24,741-2	Feb. 12	126	2579
Noake-Wheeler-Clough Company, Chicago, Ill. Varnishes, stains, japans, &c	12,001	Feb. 12	126	2563
Nordin, John M., Atlantic City, N. J. Remedy for seasickness	17,788	Feb. 12	126	2565
Nye, William F., New Bedford, Mass. Oil for lubricating, cleaning, &c	24,661	Feb. 12	126	2577
Offley, Forrester & Co., London, England. Port-wine	15,557	Feb. 12	126	2564
Ohio Tool Company, Auburn, N. Y., and Columbus, Ohio. Chisels, auger-bits, drawing-knives, &c	24,383	Feb. 12	126	2574
Parker & Thomes Co., Portland, Me. Shirt-waists, shirt-waist suits, and wrappers	21,523	Feb. 12	126	2566
Paul F. Beich Co., Bloomington, Ill. Caramels	22,396	Feb. 12	126	2567
Perkins Electric Switch Mfg. Co., Bridgeport, Conn. Electrical switches	24,239	Feb. 12	126	2573
Phoenix Woolen Co., Stafford, Conn. Woolen fabrics	24,575	Feb. 12	126	2576
Pillsbury-Washburn Flour Mills Co., Ltd., Minneapolis, Minn. Wheat breakfast food	23,301-2	Feb. 12	126	2568
Pompeian Mfg. Co., Cleveland, Ohio. Salve, ointment, toilet cream, extracts, &c	23,925	Feb. 12	126	2570
Puritan Corset Co., Kalamazoo, Mich. Corsets and corset-waists	24,171	Feb. 12	126	2572
Radway & Company, New York, N. Y. Remedy for rheumatism, neuralgia, &c	23,306	Feb. 12	126	2568
Read & Sons, William, Boston, Mass. Elastic bandages, shoulder, knee, and elbow caps, wristlets, &c	23,750	Feb. 12	126	2569
Read & Sons, William, Boston, Mass. Clothing used in games and sports	24,724	Feb. 12	126	2578
Revere Rubber Company, Boston, Mass. Hose and machinery packings	23,808	Feb. 12	126	2569
Revere Rubber Company, Boston, Mass. Hose and machinery packings	24,501	Feb. 12	126	2575
Reynolds, James E., East Orange, N. J. Cotton twine	15,310	Feb. 12	126	2564
Rice, Stix Dry Goods Company, St. Louis, Mo. Cotton piece goods	23,502	Feb. 12	126	2569
Richmond Cedar Works, Richmond, Va. Ice-cream freezers	21,094	Feb. 12	126	2566
Rosenbaum Co., Pittsburg, Pa. Coats, pants, and vests	24,626	Feb. 12	126	2576
S. S. White Dental Mfg. Co., Philadelphia, Pa.; Chicago, Ill.; New York, Brooklyn, and Rochester, N. Y.; Boston, Mass.; Atlanta, Ga.; New Orleans, La.; Toronto, Canada; Buenos Ayres, Argentine Republic, Berlin, Germany, and St. Petersburg, Russia. Dental wax	10,845	Feb. 12	126	2563
S. S. White Dental Mfg. Co., Philadelphia, Pa.; Chicago, Ill.; New York, Brooklyn, and Rochester, N. Y.; Boston, Mass.; Atlanta, Ga.; New Orleans, La.; Toronto, Canada; Buenos Ayres, Argentine Republic; Berlin, Germany, and St. Petersburg, Russia. Dental alloys	12,861	Feb. 12	126	2563
Sanquoit Silk Manufacturing Company, Philadelphia, Pa. Silk piece goods	21,070	Feb. 12	126	2566
Schneider & Co., Jacob, Chicago, Ill. Medicines for blood diseases	24,394	Feb. 12	126	2574
Schumacher Cereal Co., Riverside, Iowa. Rolled oats	19,515	Feb. 12	126	2566
Schwager & Co., Leo, Brooklyn, N. Y. Cigars, cheroots, and little cigars	24,755	Feb. 12	126	2579
Shute, William T., Gloucester, Mass. Salt fish	24,389	Feb. 12	126	2574
Siegemund, Charles A., Boston, Mass. Tablets or lozenges for dyspepsia	18,829	Feb. 12	126	2565
Southern Cotton Oil Company, Jersey City, N. J. Cotton-seed oils	10,889	Feb. 12	126	2563
Southern Cotton Oil Company, Jersey City, N. J. Cotton-seed oils	10,891	Feb. 12	126	2563
Sprague, Warner & Company, Chicago, Ill. Rice	24,605	Feb. 12	126	2576
St. Louis Syrup & Preserving Company, St. Louis, Mo. Table-syrups, molasses, sorghum, &c	24,594	Feb. 12	126	2576
St. Louis Syrup & Preserving Company, St. Louis, Mo. Preserves, jams, jellies, &c	24,595	Feb. 12	126	2576
Standard Cordage Company, New York, N. Y. Rope and binder-twine	22,800	Feb. 12	126	2567
Steinway & Sons, New York, N. Y. Circulars, pamphlets, and libretti	24,031	Feb. 12	126	2572
Stohr, Franz, Vienna, Austria-Hungary. Remedy for rheumatism, &c	21,789	Feb. 12	126	2567
Sutton, Edwin D., Millville, N. J. Roup and gape remedy, liniment, &c	23,863	Feb. 12	126	2570
Taylor, Geo. W., Basic City, Va. Remedy for disorders of the nervous and digestive systems	24,235	Feb. 12	126	2573
Tedcastle & Co., A. W., Boston, Mass. Leather boots and shoes	24,725	Feb. 12	126	2578
35% Automobile Supply Co., New York, N. Y. Acetylene-gas generators and lamps	24,726	Feb. 12	126	2578
Thos. Moore Distilling Co., McKeesport, Pa. Whisky	23,940	Feb. 12	126	2570
Towle Syrup Company, St. Paul, Minn. Maple syrup and molasses	9,380	Feb. 12	126	2562
Towle Syrup Company, St. Paul, Minn. Syrup	9,381-2	Feb. 12	126	2562
Towle Syrup Company, St. Paul, Minn. Pancake-flour	9,383	Feb. 12	126	2562
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Tonic	11,202	Feb. 12	126	2563
Van Vleet-Mansfield Drug Co., Memphis, Tenn. Hair-restorer	13,948	Feb. 12	126	2564
United Box Board & Paper Company, New York, N. Y. Card and box boards	23,888	Feb. 12	126	2570
United States Graphite Company, Saginaw, Mich. Graphite machinery-lubricant, cable, axle, journal, grease, &c	24,765	Feb. 12	126	2580
United States Horse-Radish Company, Saginaw, Mich. Horse-radish, mustard, &c	23,864	Feb. 12	126	2570
W. S. Quinby Company, Boston, Mass. Coffee and tea	24,360	Feb. 12	126	2574
Washington Shirt Co., Chicago, Ill. Men's overshirts	4,564	Feb. 12	126	2561
Weil Brothers, New York, N. Y. Veilings	24,712-13	Feb. 12	126	2578
Weingarten Bros. Inc., New York, N. Y. Corset-stiffeners	24,155	Feb. 12	126	2572
Weiss, Jefferson P., Emporia, Va. Monthly newspaper	24,629	Feb. 12	126	2576
Weiss, Martin, Beaumont, Tex. Boots and shoes	24,604	Feb. 12	126	2576
Wellcome, Henry S., London, England. Medicinal digestive preparations	21,404	Feb. 12	126	2566
Wells Flour Milling Company, Wells, Minn. Wheat-flour	24,743-4	Feb. 12	126	2579
West Overton Distilling Co., Pittsburg, Pa. Whisky	24,757	Feb. 12	126	2579
Whitcher, Frank W., Boston, Mass. Shoe pincers and jacks	22,843	Feb. 12	126	2567
Whitman & Barnes Manufacturing Company, Akron, Ohio. Twist-drills and reamers	24,016-17	Feb. 12	126	2572
Wiebusch & Hilger Limited, New York, N. Y. Pliers, nippers, and pincers	24,565	Feb. 12	126	2576
Wilson Fruit Juice Co., Lawton, Mich. Unfermented grape-juice	23,989	Feb. 12	126	2571
Wilson, George C., Tyrone, Pa. Medicated toilet soap	24,217	Feb. 12	126	2573
Winchester Repeating Arms Co., New Haven, Conn. Loaded paper shot-shells	24,374	Feb. 12	126	2574
Wright Smith M'f'g. Co., St. Louis, Mo. Relish	21,890	Feb. 12	126	2567

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 12TH DAY OF FEBRUARY, 1907.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Drawing.	Official Gazette. Volume.	Page.
Abrading	A. H. Radell	844,046	Feb. 12	2353	504	126	2414
Acousticons. Connection for	H. W. Hall	843,890	Feb. 12	2070	443	126	2345
Advertising, &c. Apparatus for	W. H. Gilman and C. B. Kendall	843,889	Feb. 12	2068	443	126	2344
Aeronautical machine	A. McCarthy	844,172	Feb. 12	2595	556	126	2474
Agricultural implement	E. V. Fielder	843,741	Feb. 12	1790	381	126	2277
Air-brake attachment	G. Emery	844,270	Feb. 12	2818	601	126	2532
Air-brake system	G. Macloskie	843,758	Feb. 12	1824	388	126	2285
Air-compressor	A. McCarthy	844,173	Feb. 12	2597	556	126	2474
Alarm: *See* Automatic alarm. Burglar-alarm.							
Alarm	C. Mabla	843,904	Feb. 12	2104	450	126	2354
Alarm for gages, clocks, &c	A. Charland	843,929	Feb. 12	2152	459	126	2367
Amusement device	A. Francovich	844,116	Feb. 12	2485	533-4	126	2447
Annealing and bluing furnace. Continuous	T. J. Costello	844,101	Feb. 12	2465	528	126	2441
Armatures. Attachment for motor-	J. W. McManiman	843,836	Feb. 12	1967	420	126	2321
Atmosphere-regulating system	F. M. Peters and H. H. Hungerford.	843,909	Feb. 12	2111	452	126	2355
Auger. Combination-	M. Lingol	843,832	Feb. 12	1962	419	126	2320
Auger. Earth-	T. M. McWhorter	843,764	Feb. 12	1836	391	126	2288
Automatic alarm	P. Bourne	844,241	Feb. 12	2745	585	126	2514
Automatic switch	A. N. Bradley	843,575	Feb. 12	1491	316	126	2199
Automatically-operated shovel	F Arnst	843,786	Feb. 12	1869	399	126	2296
Automobile-gearing	D. D. Culver	843,796	Feb. 12	1892	406	126	2302
Automobiles. Reversing and change-speed gear for	C. W. Duer	843,589	Feb. 12	1513	321	126	2204
Axle-box	W. F. Graffis	844,122	Feb. 12	2496	536	126	2450
Axletree	J. A. Lease	844,029	Feb. 12	2327	499	126	2408
Back-pedaling brake	C. A. Fenn	843,593	Feb. 12	1519	322	126	2205
Bag: *See* Feed-bag.							
Bag-fastener	E. S. Erickson and W. A. Heilman.	843,934	Feb. 12	2162	462	126	2370
Baggage coupon-check. Excess-	F. H. Crump	844,102	Feb. 12	2466	528-9	126	2442
Ball for cooking utensils	C. H. Bowman and C. B. McIntosh.	843,863	Feb. 12	2017	433	126	2332
Balance-wheels. Poising and truing tool for	J. S. Kirstein	843,754	Feb. 12	1816	387	126	2283
Balers. Power attachment for hay-	F. A. Ryther	843,631	Feb. 12	1600	338	126	2227
Baling-press	J. J. Stopple	844,053	Feb. 12	2372	508-9	126	2418
Baling-press	C. E. Wehrenberg	844,068	Feb. 12	2400	514-15	126	2426
Baling-press	J. M. De Coster	844,258	Feb. 12	2785	594-5	126	2525
Baling-press feed mechanism	G. V. Davis	844,103	Feb. 12	2467	529	126	2442
Bath-tub waste-fitting	J. W. Sharp, Jr.	843,968	Feb. 12	2218	474	126	2383
Bearing. Box-	A. O. Hedfors	843,601	Feb. 12	1534	324	126	2208
Bearing. Spring-	R. J. Edwards	843,591	Feb. 12	1515	322	126	2204
Bending-machine	G. F. Pross	843,910	Feb. 12	2114	452-3	126	2356
Bin: *See* Coal-bin.							
Blast-furnace	S. A. Kennedy	843,950	Feb. 12	2190	468	126	2376
Blind-adjuster	I. L. Garside	844,118	Feb. 12	2488	535	126	2448
Blind and the like. Window-	D. I. Andrews	843,922	Feb. 12	2141	457	126	2364
Block: *See* Brace-block. Sheave-block. Pulley-block.							
Block	A. Grainger and E. Klepsch	844,123	Feb. 12	2497	536	126	2450
Board: *See* Cutting-board. Game-board.							
Boiler: *See* Sectional boiler.							
Boiler-flue cleaner	J. P. Thompson	843,976	Feb. 12	2231	477	126	2387
Boilers. Furnace-door for	F. L. Fox	843,742	Feb. 12	1791	382	126	2277
Book. Loose-leaf memorandum-	E. C. Suckert	843,714	Feb. 12	1744	371	126	2265
Bookbinder	R. J. Nicholson. (Reissue)	12,606	Feb. 12	2915	619	126	2555
Boot and shoe machinery	J. Northern	843,839	Feb. 12	1973	422-3	126	2322
Boot and shoe tree leg	G. E. Finquist	843,673	Feb. 12	1671	354	126	2246
Boring-machine	A. Collet	844,099	Feb. 12	2459	526	126	2440
Bottle-capping machine	G. Kirkegaard	844,028	Feb. 12	2324	498	126	2408
Bottle-capping machine	G. Kirkegaard	844,144	Feb. 12	2541	545	126	2460
Bottle indicator. Medicine-	A. R. Swope	844,054	Feb. 12	2376	509	126	2420
Box: *See* Axle-box. Match-box. Collapsible box. Shipping-box. Mail-box.							
Brace: *See* Heel-sweep brace.							
Brace-block	H. Kamerzel and C. W. Schofield	843,948	Feb. 12	2187	467	126	2375
Bracelet	T. D. Giguere	843,888	Feb. 12	2066	442	126	2344
Braids and trimmings. Machine for making	J. E. Kirberg	844,027	Feb. 12	2322	497-8	126	2407

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Brake:							
See Back-pedaling brake. Power-brake.							
Brake-beam fulcrums. Forming	F. W. Baumann	843,659	Feb. 12	1646	349	126	2240
Brake-control system	L. A. Hawkins	843,740	Feb. 12	1804	384	126	2280
Brake-operating mechanism	R. H. Nicholson	844,038	Feb. 12	2342	501–2	126	2412
Brick-press. Hand	H. B. Murdock	844,186	Feb. 12	2581	553	126	2470
Brush-cutting machine	T. B. Hendricks	843,604	Feb. 12	1538	325	126	2209
Brush. Fountain-	R. H. McDowell	843,690	Feb. 12	1699	361	126	2253
Brush. Fountain-	R. Curcio	844,256	Feb. 12	2781	594	126	2524
Brush. Sink-	C. A. Fogarty	843,596	Feb. 12	1523	323	126	2206
Buckets. Soap and brush holder for	H. F. and F. E. Neumeyer	844,177	Feb. 12	2602	558	126	2475
Buckle. Attachable stitchless	M. Barabasz	844,082	Feb. 12	2419	518	126	2430
Buckle. Cross-line	H. H. Pijan	844,184	Feb. 12	2616	560	126	2480
Buggy-top rest	P. D. Hickerson	843,677	Feb. 12	1678	355	126	2248
Building construction	E. J. Winslow	844,294	Feb. 12	2863	610	126	2544
Building construction	E. J. Winslow	844,295	Feb. 12	2866	610	126	2544
Building. Metal	H. Niesen	844,296	Feb. 12	2870	611	126	2545
Burglar-alarm	C. W. Kuen	844,179	Feb. 12	2605	558	126	2476
Burner:		843,614	Feb. 12	1566	330–1	126	2218
See Gas-burner. Refuse-burner.							
Burning liquid fuel in conjunction with steam. Apparatus for	F. Cotton	844,004	Feb. 12	2282	489	126	2398
Burnishing-machine	H. Haubert and M. Olsen	844,019	Feb. 12	2312	494	126	2405
Bust-supporter	J. Bree	844,242	Feb. 12	2748	586	126	2515
Butchers' blocks. Machine for surfacing	D. R. Ingram	844,022	Feb. 12	2315	495	126	2406
Button-blanks from shells. Cutting	A. P. Wallace	844,064	Feb. 12	2392	512	126	2424
Cable-hanger	B. H. Skinner	844,200	Feb. 12	2652	569	126	2488
Calculating device	R. L. Hibbard	843,944	Feb. 12	2179	466	126	2374
Calculating-machine	N. J. Goldfarb	844,120	Feb. 12	2491	535	126	2449
Camera	W. J. Little	844,152	Feb. 12	2558	549	126	2465
Can:							
See Garbage-can. Sheet-metal slip-cover can.							
Can-closure	G. H. Dunbar	844,108	Feb. 12	2475	531	126	2444
Can-opener	F. C. Smalstig	844,202	Feb. 12	2655	569	126	2489
Candle-holder	O. Kampfe	844,136	Feb. 12	2528	543	126	2457
Canning operations. Apparatus employed in	M. J. Hawkins	843,893	Feb. 12	2073	444	126	2346
Caoutchouc solutions and the regeneration of rubber waste. Production of aqueous	P. Alexander	844,077	Feb. 12	2412		126	2429
Car. Child's hand-	J. F. Vogel	843,646	Feb. 12	1631	345	126	2237
Car-coupling	W. N. Hensley	843,605	Feb. 12	1540	326	126	2210
Car-coupling	S. W. Wibel, W. R. Cunningham, and W. G. Wheeler.	843,858	Feb. 12	2007	431	126	2330
Car-door	J. J. Vorhes and H. Crisman	843,647	Feb. 12	1632	346	126	2237
Car door. Grain-	J. Johnson	844,024	Feb. 12	2318	496	126	2406
Car grain-door	E. Schreiber	844,193	Feb. 12	2640	566	126	2465
Car-haul	C. W. Miller	844,164	Feb. 12	2575	552	126	2469
Car-haul	A. W. F. Steckel	844,291	Feb. 12	2857	609	126	2542
Car. Passenger-	W. A. Jacobs	844,133	Feb. 12	2519	541–2	126	2455
Car safety appliance. Railway-	J. T. Andrew	844,228	Feb. 12	2719	580–1	126	2508
Car-seat	J. A. Wollé	844,224	Feb. 12	2710	579	126	2505
Car wheel. Pit-	W. C. Fownes, Jr., and R. J. Gardner.	843,883	Feb. 12	2058	440–1	126	2342
Cars. Automatic air-brake coupling for railway-	F. H. Rutherford	843,701	Feb. 12	1718	366–7	126	2257
Cars. Automatic air-brake coupling for railway-	F. H. Rutherford	843,702	Feb. 12	1724	367	126	2259
Carbonator	F. R. H. Thomas	843,778	Feb. 12	1858	396	126	2293
Carousel	O. R. Olson	843,908	Feb. 12	2109	452	126	2355
Carpet-stretcher	J. Driver	844,107	Feb. 12	2475	531	126	2444
Carpet-sweeper	H. W. Ru Ton	843,770	Feb. 12	1845	393	126	2290
Carrier:							
See Hay-carrier. Pneumatic carrier.							
Case:							
See Map-case.							
Casting-machine	W. A. McAdams	844,160	Feb. 12	2586	554–5	126	2472
Catamenial sack	J. J. Shtuchka	844,198	Feb. 12	2649	568	126	2488
Cattle-guard	S. C. Kettner	843,752	Feb. 12	1813	386	126	2282
Cement-work. Tool for	R. L. Sohn	844,204	Feb. 12	2666	571	126	2494
Chain-casting mold	J. Traum	843,977	Feb. 12	2232	477	126	2387
Chain. Elevator-	E. R. Purdy	844,288	Feb. 12	2850	608	126	2540
Chains. Making unwelded	S. K. von Ecseghy	844,006	Feb. 12	2288	490	126	2400
Chair:							
See Rail-chair. Window-chair.							
Chart for drafting garments	R. H. Blackburn	843,862	Feb. 12	2015	433	126	2331
Chemical-receptacle	H. Weida and E. K. Hardy	844,070	Feb. 12	2403	515	126	2426
Cherry-stoner	B. Mai	843,955	Feb. 12	2197	470	126	2377
Chimney	J. V. Boland	844,297	Feb. 12	2875	611–12	126	2546
Chimney-stack base	J. Herrin	843,813	Feb. 12	1915	410	126	2308
Chopper:							
See Cotton-chopper.							
Chuck	W. S. Davenport	843,666	Feb. 12	1659	352	126	2243
Chuck	F. N. Macleod and C. A. Rich	843,682	Feb. 12	1686	358	126	2250
Chuck. Drill-	W. Borchert	844,091	Feb. 12	2437	521	126	2434
Churn-operating mechanism	W. I. Kersh	843,751	Feb. 12	1812	386	126	2282
Cigar-filler-cutting machine	R. A. Bright and A. W. Davis	843,927	Feb. 12	2148	459	126	2366
Cigarette-shell	S. I. Prescott	843,628	Feb. 12	1596	337	126	2226
Cistern-cover	G. Ertel	843,801	Feb. 12	1900	407	126	2304
Clamp	L. P. Imhoff	843,820	Feb. 12	1925	412	126	2310
Clamp	R. Miller	844,309	Feb. 12	2903	616	126	2553
Clasp:							
See Garter or the like clasp							
Cleaner:							
See Boiler-flue cleaner. Sieve-cleaner.							
Cleaning appliance. Household	W. B. Dunn, Jr., and J. Taylor, Jr.	843 590	Feb. 12	1514	321	126	2204
Clip:							
See Tag-clip.							
Clock controlled by reversals of electric current	M. Fischer	844,010	Feb. 12	2294	491	126	2401
Clock for induction-currents. Electric sympathetic or secondary	M. Fischer	844,009	Feb. 12	2292	491	126	2400

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Clothes-hanger	M. L. Schoonmaker	843,633	Feb. 12	1603	339	126	2228
Clutch-throwing mechanism	A. H. Fetters	844,273	Feb. 12	2822	601–2	126	2533
Coal-bin	A. H. Koch	843,895	Feb. 12	2079	445	126	2347
Coating gilded surfaces. Composition of matter for	J. A. Henry	843,812	Feb. 12	1915		126	2308
Cock. Gage-	A. P. Prendergast	843,842	Feb. 12	1979	424	126	2323
Coffee-maker	A. E. White	843,727	Feb. 12	1767	376	126	2271
Coffee-separator	R. F. Cordero	844,253	Feb. 12	2777	592–3	126	2522
Coil-spring	J. B. Knudsen	843,827	Feb. 12	1938	415	126	2314
Coiling-spindle	J. W. Sommer	844,206	Feb. 12	2668	571	126	2495
Coin-counting machine	C. W. Johnson	844,308	Feb. 12	2898	616	126	2551
Coin holding and delivering device	J. W. Meaker	844,282	Feb. 12	2840	605	126	2537
Coin-tray	J. W. Meaker	844,283	Feb. 12	2843	606	126	2538
Collapsible box or can	W. C. Marshall	843,684	Feb. 12	1689	358–9	126	2251
Collar and cuff, &c., folding machine	H. M. Clearwater and J. Temple	844,001	Feb. 12	2276	487–8	126	2397
Collar-supporter	M. L. Gaston and H. E. Moore	843,885	Feb. 12	2061	441	126	2343
Collar-supporter	M. L. Gaston and H. E. Moore	843,886	Feb. 12	2062	442	126	2343
Coloring-matter. Azo	R. Kothe and A. Ossenbeck	843,756	Feb. 12	1821		126	2284
Comb	A. Ehrlich	844,007	Feb. 12	2289	490	126	2400
Comb-fastener	J. L. Simpson	844,199	Feb. 12	2651	568	126	2488
Computing-machines, &c. Key-releasing mechanism for	D. W. Shiek	843,635	Feb. 12	1607	340	126	2229
Concrete building construction	A. S. Reavis	843,768	Feb. 12	1841	392	126	2289
Concrete building construction	A. S. Reavis	843,843	Feb. 12	1983	424	126	2324
Concrete walls. Making	J. L. Given	843,937	Feb. 12	2169	464	126	2371
Converter plant	H. H. Campbell	843 582	Feb. 12	1503	318–19	126	2201
Conveyer	C. O. Gustavsen	843,676	Feb. 12	1677	355	126	2248
Conveyer. Pneumatic	C. L. Groves	843,806	Feb. 12	1907	409	126	2306
Cooking utensil	A. H. Meyer	843,905	Feb. 12	2105	451	126	2354
Cooler	L. H. Brinkman	843,864	Feb. 12	2018	433	126	2332
Cores. Producing laminæ for transformer-	W. A. Hall	843,747	Feb. 12	1800	384	126	2279
Corn-husking machine	H. H. Bursell	843,866	Feb. 12	2021	434–5	126	2333
Corn-knife	W. C. Helmerdinger	843,602	Feb. 12	1535	325	126	2208
Cotter	T. F. McAndrews	844,170	Feb. 12	2593	555	126	2473
Cotton-chopper	W. M. Gibson	843,675	Feb. 12	1675	355	126	2247
Cotton-picker's vehicle	T. J. Merritt	844,031	Feb. 12	2330	499–500	126	2409
Couch. Convertible	A. Wheatley	843,780	Feb. 12	1861	396–7	126	2294
Coupling:							
See Car-coupling. Pipe-coupling. Hose-coupling. Thill-coupling.							
Cow-tail holder	N. A. Angel	843,657	Feb. 12	1644	378	126	2240
Crane-operating gearing	M. Troyer	844,058	Feb. 12	2383	510	126	2422
Crate-tilting device	N. J. Sherrill	843,708	Feb. 12	1736	369	126	2262
Cream-separator. Centrifugal	E. W. Broomall	844,244	Feb. 12	2732	586	126	2516
Crib	C. S. Bentley	844,233	Feb. 12	2730	582	126	2510
Crusher:							
See Ice-crusher.							
Crushers and pulverizers. Dumping-cage for	M. F. Williams	843,729	Feb. 12	1773	378	126	2273
Culinary system. Chronometric	R. S. Woodward, Jr.	844,074	Feb. 12	2408	516	126	2428
Cultivator	C. P. Michaelsen	844,163	Feb. 12	2574	551	126	2468
Cultivator attachment	C. B. Clark	844,249	Feb. 12	2766	588–9	126	2520
Cultivator, planter, and fertilizer-distributer. Combined	J. T. Wright	844,227	Feb. 12	2716	580	126	2507
Can:							
See Grease-cup.							
Cutter:							
See Meat-cutter.							
Cutter-head. Rotary	E. S. Shimer	844,197	Feb. 12	2647	567–8	126	2487
Cutting-board	H. Zimmerman	844,075	Feb. 12	2410	516	126	2428
Cylinder-wrench	C. T. O'Hara	843,693	Feb. 12	1704	363	126	2254
Decoy	C. H. Ditto	843,588	Feb. 12	1512	321	126	2203
Dental floss-holder	C. M. Overbaugh	844,181	Feb. 12	2609	559	126	2477
Dental matrix	E. Armstrong	844,079	Feb. 12	2415	517	126	2429
Desk	B. L. Umberger	843,719	Feb. 12	1752	373	126	2267
Desk furniture. School-	J. A. Wilkinson	843,649	Feb. 12	1635	346	126	2238
Detinning apparatus	M. Leitch	843,616	Feb. 12	1571	331–2	126	2220
Digger:							
See Post-hole digger. Potato-digger.							
Dish for holding oranges, &c	H. F. Provandie	844,287	Feb. 12	2849	607	126	2539
Display-holder for cards or similar articles	A. V. Groupe	844,279	Feb. 12	2835	664	128	2536
Display-rack	E. B. Weston	844,071	Feb. 12	2404	515	126	2427
Display-stand. Knockdown	P. R. Warren	844,066	Feb. 12	2397	513	126	2425
Distilling wood	C. S. Hammatt	843,599	Feb. 12	1527	324	126	2207
Door and window locking device	J. Wittmann	843,730	Feb. 12	1774	378	126	2273
Door check. Screen-	D. W. Anderson	844,078	Feb. 12	2414	517	126	2429
Door-holder	C. F. Ash	844,081	Feb. 12	2418	518	126	2430
Door opening, closing, and locking device. Sliding-	J. F. Connell	844,251	Feb. 12	2770	590	126	2520
Door-securer	C. Scheer	844,191	Feb. 12	2638	565	126	2485
Draft-equalizer	G. B. Elliott	843,737	Feb. 12	1784	380	126	2275
Draft-gear for agricultural machines	J. Tilly	844,214	Feb. 12	2690	575	126	2499
Drafting instrument	L. R. Loughborough	844,157	Feb. 12	2564	550	126	2466
Drainage system clean-out	L. A. Hoffman and T. H. Hoover	844,020	Feb. 12	2313	494	126	2405
Drier:							
See Photographic-print drier. Pigs'-feet drier. Slop-drier.							
Drier	W. F. Hutchinson	843,606	Feb. 12	1545	326	126	2211
Drier	R. F. Cordero	844,252	Feb. 12	2773	590–2	126	2521
Dumb-waiter-releasing device	J. H. Miller	843,618	Feb. 12	1575	332	126	2221
Dust-pan	E. R. Murray	844,168	Feb. 12	2584	554	126	2471
Dye and making same. Black azo	K. Hagemann and O. Stange	843,808	Feb. 12	1910		126	2307
Dye and making same. Greenish-blue	H. Lorétan	844,156	Feb. 12	2563		126	2466
Egg-testing machine	A. I. McTaggart	843,622	Feb. 12	1581	334–5	126	2222
Electric furnace	E. R. Taylor	843,776	Feb. 12	1853	394–5	126	2293
Electric heater	S. W. Taliaferro	843,775	Feb. 12	1852	394	126	2292
Electric-light bulb	F. E. Lerberg	843,900	Feb. 12	2091	448	126	2350
Electric machine. Alternating-current dynamo-	C. P. Steinmetz	843,774	Feb. 12	1849	394	126	2291
Electric-motor-starting device	A. C. King	843,753	Feb. 12	1815	386	126	2283
Electric regulator	A. C. Carey	843,733	Feb. 12	1778	379	126	2274
Electric switch	H. J. S. Lewis	843,901	Feb. 12	2091	449	126	2350
Electric switch	J. C. Pinkerton	844,045	Feb. 12	2351	504	126	2414
Electric switch. Multiple	H. J. S. Lewis	843,902	Feb. 12	2096	449	126	2351

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Electric timing device	H. H. McIntire	843,621	Feb. 12	1579	334	126	2222
Electrical conductors. Connector or terminal for	J. McLaughlin	843,763	Feb. 12	1835	391	126	2288
Electricity. Neutralizing static	W. H. Chapman	844,300	Feb. 12	2880	613	126	2548
Electrocapillary apparatus	J. T. Armstrong and A. Orling	844,080	Feb. 12	2416	518	126	2430
Electromagnet	J. E. Washburn	843,919	Feb. 12	2137	456	126	2363
Elevator-boot	R. Munn	844,033	Feb. 12	2334	500	126	2410
Elevator-controlling apparatus	J. J. Westbrook	843,980	Feb. 12	2237	478–9	126	2388
Embroidering-machine	F. Gegauf	844,015	Feb. 12	2300	492–3	126	2403
Enameling or glazing metallic and other surfaces	W. Atkinson and J. Smith	843,985	Feb. 12	2246		126	2390
End-cell switch. Automatic	J. Bijur	844,090	Feb. 12	2434	521	126	2433
Engine: *See* Gas-engine. Refining-engine. Reciprocating engine. Rotary engine.							
Engine	C. H. Moore	843,619	Feb. 12	1575	333	126	2221
Engine cylinder. Internal-combustion	H. P. Martin	843,750	Feb. 12	1826	389	126	2285
Engine-house smoke-jack	F. P. Gutelius	843,941	Feb. 12	2175	465	126	2372
Engine-starting mechanism. Explosive	P. W. Kane	843,611	Feb. 12	1552	329	126	2214
Envelop-machine	J. A. Sherman	843,707	Feb. 12	1732	369	126	2262
Envelop-machines. Forming well and plunger for	B. Pahlitzsch	843,623	Feb. 12	1584	335	126	2223
Eraser-cleaning apparatus. Blackboard	S. W. Long	844,154	Feb. 12	2561	549	126	2466
Excavating apparatus	L. A. Désy	844,104	Feb. 12	2469	529–30	126	2442
Extractor: *See* Gape-worm extractor.							
Eye-exerciser	G. Bullock	843,663	Feb. 12	1654	351	126	2242
Eyeglass connection	S. N. Stone	843,972	Feb. 12	2226	476	126	2285
Faucet	J. Wares and A. Holman	844,066	Feb. 12	2394	513	126	2424
Faucet	J. C. Wright	844,226	Feb. 12	2715	579	126	2507
Feed-bag	A. M. Schappa	843,967	Feb. 12	2217	474	126	2383
Feed-regulator	G. Halliday	844,124	Feb. 12	2498	536	126	2450
Feed-water heater	M. K. Bowman	843,791	Feb. 12	1883	404	126	2300
Feed-water heater	T. J. Kieley and F. T. Mueller	844,026	Feb. 12	2320	496	126	2407
Feed-water regulator for boilers. Automatic	J. E. Wallace	843,722	Feb. 12	1757	374	126	2288
Feeder. Boiler	J. F. Senter	843,706	Feb. 12	1730	368	126	2361
Feeding and watering device. Poultry	A. A. and G. F. Conrad	843,664	Feb. 12	1655	351	126	2242
Feeding trough. Stock	S. N. Boyd	843,792	Feb. 12	1885	404	126	2300
Fence	H. Greene and H. A. Krepsky	843,744	Feb. 12	1793	382	126	2277
Fence-post-making machine	G. Falk	844,306	Feb. 12	2894	615	126	2550
Filter dishes. Machine for press-forming	F. W. Waterman	843,854	Feb. 12	2000	429	126	2328
Filter	W. Bodge	843,991	Feb. 12	2260	483	126	2392
Finger-shield	H. F. Huntley	843,819	Feb. 12	1924	412	126	2310
Fire-extinguishing-apparatus release	H. Sandvoss	843,847	Feb. 12	1987	426	126	2325
Fire-hose is coupled to hydrants. Device whereby	H. J. Page	843,963	Feb. 12	2210	473	126	2381
Fire-pot	A. G. Cripps	843,795	Feb. 12	1891	406	126	2302
Fireproof chimney	J. Dauben and F. M. Ryan	843,797	Feb. 12	1893	406	126	2302
Fireproofing textile materials	W. H. Perkin, Jr	844,042	Feb. 12	2349		126	2413
Fish-parachute	F. J. Howald	843,946	Feb. 12	2182	467	126	2374
Fishing-float	W. S. Pettis, Jr	844,182	Feb. 12	2611	559	126	2478
Fishing-tackle	C. R. Willing	843,651	Feb. 12	1637	347	126	2238
Fishing-tackle	J. B. Harris	843,748	Feb. 12	1802	384	126	2279
Floor-covering	C. H. Bach	844,230	Feb. 12	2724		126	2509
Floor-polishing machine	P. Sass	843,906	Feb. 12	2215	474	126	2382
Flooring	W. Holt and J. A. Smith	843,817	Feb. 12	1922	412	126	2310
Flour purifier, aspirator, and bleacher	S. T. Wilson	843,783	Feb. 12	1865	398	126	2295
Flue-expander	J. F. Brown	843,865	Feb. 12	2020	434	126	2332
Flue-stop	W. Weller	843,855	Feb. 12	2004	430	126	2929
Flushing device for rag-engine vats	E. A. Peterson	843,965	Feb. 12	2214	474	126	2382
Frame: *See* Hat-frame.							
Frame-joint	E. G. Budd	844,245	Feb. 12	2753	586–7	126	2516
Fruit-packing device. Dried	C. F. Fleming	844,275	Feb. 12	2827	602	126	2534
Funnel	H. G. De Veaux	843,873	Feb. 12	2043	437	126	2338
Furnace: *See* Annealing and bluing furnace. Nail-plate-heating furnace. Blast-furnace. Roasting-furnace. Electric furnace. Heating and annealing furnace.							
Furnace	A. Bergman	843,924	Feb. 12	2142	458	126	2364
Furnace for obtaining zinc from zinc ores	A. Desgraz and P. Schmidt	843,872	Feb. 12	2041	437	126	2338
Furniture-fastening device	D. W. Tower	843,717	Feb. 12	1747	372	126	2266
Furniture-leg-fastening device	N. Andersen	843,656	Feb. 12	1643	348	126	2240
Fuse-housing	K. Wieser	844,223	Feb. 12	2710	578	126	2505
Fuse. Non-arcing muffle	F. B. Cook	843,930	Feb. 12	2153	460	126	2367
Fuse or electric cut-out	C. A. Steller, Jr	843,852	Feb. 12	1996	428	126	2327
Fuse. Time	K. Wieser	844,222	Feb. 12	2709	578	126	2505
Game-board	A. Boswell	843,992	Feb. 12	2262	483	126	2393
Gape-worm extractor	J. S. Klock	843,951	Feb. 12	2192	469	126	2376
Garbage-can	F. Posthoff	844,185	Feb. 12	2618	560	126	2480
Garment-fastener	W. A. Nickless	844,178	Feb. 12	2604	558	126	2476
Garment hanger and lock	J. C. Epler	844,305	Feb. 12	2890	614–15	126	2550
Garter	G. H. Phelps	843,627	Feb. 12	1595	337	126	2226
Garter	J. F. O'Brien	844,286	Feb. 12	2848	607	126	2539
Garter or the like clasp	C. E. Schaffner	844,048	Feb. 12	2359	505	126	2415
Gas-burner for sad-irons	R. Wuffli	843,653	Feb. 12	1639	347	126	2239
Gas-engine. Vertical	W. von Oechelhaeuser	844,040	Feb. 12	2346	502–3	126	2413
Gas from crude oil. Device for generating	M. G. Norton	843,692	Feb. 12	1702	362	126	2254
Gas-generating apparatus	G. M. S. Tait	843,715	Feb. 12	1745	372	126	2265
Gas generator. Acetylene	E. M. Rosenbluth	844,047	Feb. 12	2355	505	126	2415
Gas-producer	C. J. Atkinson	843,787	Feb. 12	1870	399	126	2296
Gas-producing apparatus	C. Ellis	843,699	Feb. 12	1664	353	126	2244
Gas-retort	G. A. Heckert	843,811	Feb. 12	1913	410	126	2308
Gate: *See* Railway-gate. Sliding gate.							
Gate-lock. Crossing	W. C. Smith	843,637	Feb. 12	1611	341	126	2231
Gate mechanism	A. E. Miller	843,617	Feb. 12	1573	332	126	2220
Gear. Friction	W. J. Seitz	843,634	Feb. 12	1604	339–40	126	2228
Gear. Reeling	D. C. Jennings	843,822	Feb. 12	1927	413	126	2311
Gear. Variable-speed	M. M. Smith	844,203	Feb. 12	2656	570	126	2400
Gearing. Changeable-speed	E. A. Johnston	843,609	Feb. 12	1546	327–8	126	2212

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Gearing. Elastic	L. F. Dieter	844,261	Feb. 12	2793	597–8	126	2526
Generator: *See* Gas-generator. Steam-generator.							
Glass grinding, smoothing, and polishing apparatus. Plate	E. Bagnall. (Reissue)	12,604	Feb. 12	2908	618–19	126	2554
Glass plates. Corner-clamp for	L. Bartelstone	843,861	Feb. 12	2014	433	126	2331
Glass-press	E. C. Schrader	843,849	Feb. 12	1990	426–7	126	2326
Glass. Roller for drawing sheets of	E. Fourcault	844,115	Feb. 12	2484	533	126	2447
Glass with or without an embedded strengthening structure. Apparatus for making sheet	A. J. Baldwin	843,860	Feb. 12	2012	432	126	2330
Glassware. Manufacturing	L. A. Fletcher	843,594	Feb. 12	1521	322–3	126	2206
Gold prospecting and mining device	R. Hornbeck, G. B. Campbell, and B. F. Hite	843,606	Feb. 12	1542	326	126	2210
Governor	A. Hill and S. Purcell	844,129	Feb. 12	2512	539	126	2454
Governor. Marine-engine	S. A. Fraser and J. M. Nichols	843,803	Feb. 12	1902	408	126	2305
Grader. Elevating	L. V. Brophy	843,662	Feb. 12	1651	350–1	126	2241
Grain-binder	G. L. Phelps	843,626	Feb. 12	1593	336–7	126	2225
Grain-screen	O. F. Trace and W. Fifield	844,216	Feb. 12	2693	575	126	2500
Grapple	E. Y. Moore	844,032	Feb. 12	2332	500	126	2410
Grate. Shaking	C. H. Langill	843,952	Feb. 12	2193	469	126	2376
Grease-cup	C. C. Martens	843,833	Feb. 12	1963	419	126	2320
Grinding-machine	J. T. Wheatman	843,725	Feb. 12	1763	375	126	2270
Grinding-machine	E. A. Peterson	843,964	Feb. 12	2213	473	126	2381
Gun. Air	A. L. Blomén and P. S. Ewerlöf	843,573	Feb. 12	1489	315	126	2196
Gun. Air	F. F. Bennett	843,990	Feb. 12	2259	482	126	2392
Gun. Magazine	C. Hansen	844,017	Feb. 12	2304	493–4	126	2404
Halter. Compound twitch	C. McClintock	843,689	Feb. 12	1697	361	126	2253
Ham for market. Preparing	L. Burk	844,096	Feb. 12	2449	524	126	2438
Handle: *See* Tool-handle.							
Handle attachment	L. Wojidkow	844,073	Feb. 12	2407	516	126	2428
Handle-fastening means	W. D. Stancil and J. H. Nunnelee	843,970	Feb. 12	2222	475	126	2385
Hanger: *See* Cable-hanger. Picture-hanger. Clothes-hanger. Pipe-hanger. Garment-hanger. Skirt-hanger.							
Harrow attachment. Disk	W. Fetzer	843,671	Feb. 12	1667	353	126	2245
Harrow with tongue-truck. Disk	W. Fetzer	843,672	Feb. 12	1669	353–4	126	2245
Harvester-guard	J. W. Pridmore	843,629	Feb. 12	1598	338	126	2227
Harvester. Stripper	J. J. Charley	844,000	Feb. 12	2275	486	126	2396
Hat-brim-curling machine	D. Clerico	844,098	Feb. 12	2452	524–6	126	2438
Hat-crown-shaping apparatus	C. W. Stevens	843,640	Feb. 12	1621	343	126	2234
Hat-forming machine	C. W. Stevens	843,638	Feb. 12	1613	342	126	2231
Hat-forming machine	C. W. Stevens	843,639	Feb. 12	1616	342–3	126	2232
Hat-frame	M. W. Eiser	844,268	Feb. 12	2815	600	126	2531
Hatch-fastener	E. H. Frey	843,804	Feb. 12	1904	408	126	2305
Hay-carrier	C. D. Barker	843,580	Feb. 12	1501	318	126	2201
Hay-loader	E. A. Johnston	843,610	Feb. 12	1549	328	126	2212
Hay-loader	E. A. Johnston	843,824	Feb. 12	1932	414	126	2312
Hay-loader	C. J. Shaw	844,196	Feb. 12	2645	567	126	2487
Headlight-operating mechanism	L. J. Martineau	843,834	Feb. 12	1964	419	126	2320
Heat retaining or excluding receptacle	J. L. Fate	844,272	Feb. 12	2820	601	126	2532
Heater: *See* Electric heater. Hot-water heater. Feed-water heater. Water-heater.							
Heating and annealing furnace	G. Bodsworth	843,574	Feb. 12	1491	315–16	126	2199
Heating systems. Combined steam and water trap for steam	T. F. Dexter	844,105	Feb. 12	2471	530	126	2443
Heating systems. Receiver for vapor	A. P. Broomell	843,995	Feb. 12	2266	485	126	2394
Heel-sweep brace	J. H. Ingram	844,023	Feb. 12	2317	495	126	2406
Hemmer	E. Page	843,841	Feb. 12	1978	424	126	2323
Hinge	C. J. Caley	843,581	Feb. 12	1502	318	126	2201
Hinge	F. Weil and W. A. Gross	844,069	Feb. 12	2402	515	126	2426
Hinge. Door	J. F. Brice	843,661	Feb. 12	1650	350	126	2241
Hitching-post	B. R. Long	843,954	Feb. 12	2195	469	126	2377
Hoisting-jack	C. O. Brewster	843,660	Feb. 12	1648	350	126	2241
Holding and draining rack	M. C. Kloeppinger	843,826	Feb. 12	1937	415	126	2314
Hook: *See* Printer's hook.							
Hook and eye	A. Besson	844,089	Feb. 12	2433	521	126	2433
Hook-setting machine	A. Raiche	843,697	Feb. 12	1711	365	126	2256
Horseshoe-calk	R. N. Goodwin	844,121	Feb. 12	2495	536	126	2449
Horseshoes. Means for fastening	J. P. O'Brien	843,907	Feb. 12	2107	451	126	2355
Hose coupling for train-lines. Air	W. E. McKinley	844,035	Feb. 12	2337	501	126	2411
Hot-water heater	R. H. Bradley	843,793	Feb. 12	1886	405	126	2301
Ice-crusher	O. T. Larkin	844,146	Feb. 12	2546	546	126	2462
Imitation tree	E. A. Straub	843,712	Feb. 12	1741	371	126	2264
Indexes or the like. Box for card	J. S. Nowotny	844,039	Feb. 12	2344	502	126	2413
Indicator: *See* Bottle-indicator. Speed-indicator.							
Induction-coil	C. L. Bopp	844,240	Feb. 12	2743	585	126	2513
Induction-motor	E. J. Willis	843,981	Feb. 12	2239	479–80	126	2389
Inhaler	Y. Q. Caldwell	844,097	Feb. 12	2450	524	126	2438
Innersole-making machine	A. Thoma	843,975	Feb. 12	2229	477	126	2386
Insulating material and manufacturing same	G. Kelly	844,139	Feb. 12	2535	544	126	2459
Insulating material and manufacturing the same	G. Kelly	844,140	Feb. 12	2537		126	2459
Insulating saddle-staple	W. T. H. Taylor, W. J. Jenks, and R. N. Dyer	843,916	Feb. 12	2131	455	126	2361
Insulator. Electric	F. A. Feigert	843,739	Feb. 12	1787	381	126	2276
Insulator for leading-in cables, &c	L. Steinberger	844,208	Feb. 12	2677	573	126	2496
Insulator. Third-rail	R. N. Redmayne	843,844	Feb. 12	1983	425	126	2324
Iron: *See* Soldering-iron.							
Ironing-machine	G. F. Glazer	844,016	Feb. 12	2303	493	126	2403
Jack: *See* Engine-house smoke-jack. Hoisting-jack. Wagon-jack.							
Jar: *See* Preserving-jar.							
Jewelry-holder	M. Jersemann	843,678	Feb. 12	1679	356	126	2248

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Joint: *See* Frame-joint. Rail-joint. Pipe-joint. Railway-rail joint.							
Jointing or uniting wooden parts	J. A. Wilkinson	843,650	Feb. 12	1636	347	126	2238
Journal-box	H. Bensch	844,088	Feb. 12	2431	520	126	2432
Kettle	A. G. Redwood	843,696	Feb. 12	1715	365	126	2257
Key: *See* Telegraph-key.							
Keyed instruments. Apparatus for automatically playing	F. Stone	844,052	Feb. 12	2370	507–8	126	2418
Kitchen implement	J. F. Dotson	844,266	Feb. 12	2813	599	126	2530
Knee-protector	F. W. Owens	844,041	Feb. 12	2348	503	126	2413
Knife: *See* Corn-knife.							
Knob	J. Waddell and D. W. Tower	843,720	Feb. 12	1754	374	126	2268
Labels. Means for holding and detaching ribbon-strip	G. W. Burr and G. H. Davis	843,579	Feb. 12	1498	318	126	2200
Lace with metal. Coating	J. A. Daly	844,304	Feb. 12	2888	.....	126	2549
Ladder and scaffold. Combined	M. Bauer	843,989	Feb. 12	2256	482	126	2391
Lamp	C. B. Broughton	843,928	Feb. 12	2151	459	126	2367
Lamp bulb. Incandescent-gas-	C. M. Lungren	843,903	Feb. 12	2099	450	126	2352
Lamp cluster-fixture. Electric-	S. R. Fralick	844,276	Feb. 12	2828	602–3	126	2534
Lamp-shade	F. Thiedig	843,974	Feb. 12	2228	477	126	2386
Lamp sockets. Machine for making shells for electric-	J. Beck	843,789	Feb. 12	1873	400–2	126	2288
Lamps. Illuminant for incandescent electric	O. M. Thowless	844,213	Feb. 12	2687	575	126	2499
Lamps. Machine for making stems of incandescent	J. W. Howell and W. R. Burrows	843,750	Feb. 12	1808	385	126	2281
Lamps, &c. Socket-seal for electric	L. T. Hatfield	844,126	Feb. 12	2505	538	126	2452
Latch. Gate-	J. Crawford	843,870	Feb. 12	3031	436	126	2335
Lathes. Cylinder-grinding attachment for	G. P. Dorris	844,265	Feb. 12	2811	599	126	2530
Leather-splitting machine	J. J. Heys	844,128	Feb. 12	2509	539	126	2453
Letter-folding device	J. Baum	843,571	Feb. 12	1484	313	126	2197
Leuco derivatives of gallocyanins and aromatic amins and making same.	H. Lorétan	844,155	Feb. 12	2562	.....	126	2466
Leveling and scraping machine	M. P. Zindorf	843,784	Feb. 12	1866	398	126	2295
Lifter: *See* Window-lifter.							
Lifter	J. Bogel	844,239	Feb. 12	2741	585	126	2513
Lime and cement forming material. Calcining	C. Ellis	843,878	Feb. 12	2050	439	126	2340
Lime-spreader	J. H. and D. E. Kefauver	843,680	Feb. 12	1681	356–7	126	2249
Linoleum and carpet stretcher	R. W. Giddings and W. F. Emerick	843,743	Feb. 12	1792	382	126	2277
Liquid-receptacle	E. Newbegin	844,037	Feb. 12	2340	501	126	2412
Lock: *See* Gate-lock. Nut-lock.							
Lock	N. B. Hurd	843,607	Feb. 12	1543	326	126	2211
Lock	W. F. Clay	843,869	Feb. 12	2029	436	126	2335
Lock	O. Katzenberger	844,138	Feb. 12	2531	543	126	2458
Locomotive ash-pan	C. G. Eckenrode and N. Baldwin	844,267	Feb. 12	2814	600	126	2531
Locomotive. Electric	A. F. Batchelder	843,788	Feb. 12	1871	399–400	126	2297
Locomotive reel. Mine-	C. O. Palmer	843,694	Feb. 12	1705	363	126	2255
Loom-shuttle	F. H. Stetson	843,912	Feb. 12	2123	454	126	2359
Looms. Selvage-forming attachment for	T. Garislo	843,884	Feb. 12	2060	441	126	2343
Lubricator: *See* Sight-feed lubricator.							
Lubricator	F. G. Tees	844,211	Feb. 12	2683	574	126	2408
Lubricator	L. Kaczander	844,281	Feb. 12	2839	605	126	2537
Mail-box. Residence	W. H. Granger	843,805	Feb. 12	1905	408	126	2306
Mail-delivery apparatus	J. R. Harris	844,125	Feb. 12	2499	537	126	2450
Mangles. Feeding attachment fo-	J. H. Slack and W. W. Riley	843,709	Feb. 12	1736	370	126	2263
Map-case	W. McMaster	843,837	Feb. 12	1969	421	126	2321
Marble-polishing machine	J. R. Peirce	843,624	Feb. 12	1589	336	126	2224
Marl, making carbid. Utilizing	H. L. Hartenstein	844,018	Feb. 12	2309	.....	126	2404
Massaging apparatus	E. M. Funk	843,674	Feb. 12	1674	355	126	2247
Match-box	E. A. Gerken	844,119	Feb. 12	2490	535	126	2449
Match-safe	M. E. Mitchell	843,685	Feb. 12	1690	359	126	2251
Matrix-making, means to position plates and blocks	F. H. Brown, J. E. Hanrahan, and G. A. Boyden.	843,578	Feb. 12	1497	317	126	2200
Matrix-making plate and block attached	F. H. Brown, J. E. Hanrahan, and G. A. Boyden.	843,577	Feb. 12	1496	317	126	2200
Maul. Post-	E. Simmons	843,636	Feb. 12	1610	341	126	2231
Measure and register. Beer	W. H. Miner	843,957	Feb. 12	2199	470–1	126	2378
Meat-chopping machine	E. Lace	843,898	Feb. 12	2082	447	126	2348
Meat-cutter	J. and K. Poskocil	843,696	Feb. 12	1710	364	126	2255
Mechanical movement	J. D. A. Johnson	843,823	Feb. 12	1929	413–14	126	2311
Mechanical movement	W. H. Voss	843,917	Feb. 12	2133	456	126	2362
Metal and concrete structure	H. Mannhardt	843,683	Feb. 12	1688	358	126	2250
Metal. Cylinder for treating heated	J. W. Moshier	844,285	Feb. 12	2847	607	126	2539
Metal-expanding machine	H. E. White	843,728	Feb. 12	1769	376–8	126	2271
Metal structure. Expanded	A. P. White	843,726	Feb. 12	1764	375–6	126	2270
Metallurgical process	E. R. Taylor	843,777	Feb. 12	1856	395	126	2293
Milk-powder. Manufacture of	A. Glas	843,938	Feb. 12	2170	.....	126	2371
Milking-machines. Apparatus for operating	B. and F. Ljungström	843,757	Feb. 12	1822	388	126	2284
Mill	J. Dain, Jr	844,303	Feb. 12	2885	613–14	126	2549
Mold: *See* Chain-casting mold. Ring-mold. Roll-manufacturing mold.							
Mold	G. H. Terry	843,716	Feb. 12	1746	372	126	2265
Mold	H. Besser	844,234	Feb. 12	2731	583	126	2510
Mold	H. Besser	844,236	Feb. 12	2736	584	126	2511
Molding-machine	J. V. Boland	844,298	Feb. 12	2877	612	126	2547
Molding-machine	H. Besser	844,235	Feb. 12	2733	583	126	2511
Motion to sieve-boxes and other bodies. Means for imparting gyratory	H. Besser	844,237	Feb. 12	2738	584	126	2512
Motor: *See* Induction-motor. Wave-motor.	E. R. Draver	844,005	Feb. 12	2285	489–90	126	2399
Motors. Arrangement for regulation of speed of compensated single-phase	E. Arnold and J. L. La Cour	843,731	Feb. 12	1775	378–9	126	2273
Mower. Lawn-	J. P. Jasper	843,821	Feb. 12	1926	413	126	2311
Mower. Lawn-	W. W. McCarty	843,961	Feb. 12	2207	472	126	2389

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Music cabinet. Sheet-	O. H. Stewart	843,711	Feb. 12	1740	370	126	2264
Musical instrument. Mechanical	J. McTammany	844,310	Feb. 12	2903	617–18	126	2553
Musical instrument or player. Automatic	P. B. Klugh	843,755	Feb. 12	1818	387	126	2283
Musical instruments. Tailpiece for stringed	E. D. Son	843,851	Feb. 12	1995	428	126	2327
Nail-plate-heating furnace	W. S. Myers	843,620	Feb. 12	1577	333–4	126	2221
Neckband-stretcher	J. Fischer	844,110	Feb. 12	2477	532	126	2445
Nest	P. E. Smidesang	843,850	Feb. 12	1993	428	126	2326
Newspaper-receptacle	M. D. Turtelot	844,059	Feb. 12	2384	510	126	2422
Nippers	W. J. Jenkins	844,134	Feb. 12	2526	542	126	2456
Nozzle	I. W. Hoover	843,945	Feb. 12	2181	466	126	2374
Nut and pipe wrench	H. B. Shaver	843,969	Feb. 12	2220	475	126	2384
Nut-lock	A. E. Ogden	843,840	Feb. 12	1977	424	126	2322
Nut-locking washer	R. A. Schindler	843,704	Feb. 12	1728	367	126	2261
Nuts. Dies and punches for making hexagonal	G. Dunham	843,875	Feb. 12	2046	438	126	2340
Oil-extracting apparatus. Cotton-	R. S. Woodward, Jr.	843,984	Feb. 12	2245	480	126	2390
Oil from oleaginous seeds. Extracting	R. S. Woodward, Jr.	843,983	Feb. 12	2242	480	126	2389
Oiler. Wagon-	H. Leidy	844,149	Feb. 12	2550	547	126	2463
Optical instrument	J. J. Frie	844,012	Feb. 12	2296	492	126	2402
Ores. Treatment of sulfid	H. Baker and A. T. Smith	843,986	Feb. 12	2247	481	126	2390
Outlet-boxes. Plaster-holder for	A. McMurtrie	843,962	Feb. 12	2209	472	126	2381
Overalls	G. Eckel and W. H. Tegeder	843,876	Feb. 12	2048	438	126	2340
Packing	C. Restein	843,630	Feb. 12	1599	338	126	2227
Pail-support	A. W. McIntyre	844,175	Feb. 12	2600	557	126	2475
Pan: *See* Dust-pan. Locomotive ash-pan.							
Paper and textile goods. Roll for finishing	E. A. Rusden	843,700	Feb. 12	1718	366	126	2257
Paper-box machine	E. N. Rowell and J. Little	844,190	Feb. 12	2626	562–5	126	2482
Paper-hanger's trestle	J. R. Kingsley	844,143	Feb. 12	2540	545	126	2460
Paper package. Toilet-	A. H. Scott	843,771	Feb. 12	1846	393	126	2290
Paper-tray	F. B. Davidson	843,933	Feb. 12	2160	461–2	126	2369
Patterns on pattern-plates. Apparatus for locating	H. R. Frisbie	844,117	Feb. 12	2486	534	126	2448
Pen retainer. Fountain-	L. D. Van Valkenburg	844,061	Feb. 12	2388	511	126	2423
Penholder	J. Plach	843,767	Feb. 12	1841	392	126	2289
Pencil-sharpener	W. E. Cary	843,999	Feb. 12	2273	486	126	2396
Photographic-print drier	J. B. Farquharson	844,271	Feb. 12	2819	601	126	2532
Photographic-printing machine	J. F. Jungkind	844,135	Feb. 12	2527	542	126	2457
Piano-flange-attaching bar	F. G. Billings	844,258	Feb. 12	2740	585	126	2513
Piano seat or bench. Adjustable	J. P. Clark	843,584	Feb. 12	1508	320	126	2203
Piano touch-regulator	A. B. Wallace and H. J. Jones	843,721	Feb. 12	1756	374	126	2268
Picture-hanger	T. P. Hall	843,942	Feb. 12	2177	466	126	2373
Picture-transmitting mechanism. Telegraphic	E. and M. Belin	844,086	Feb. 12	2425	519–20	126	2432
Pigs'-feet drier and singeing-oven	H. Loescher	844,153	Feb. 12	2559	549	126	2465
Pin-retaining device	R. Fischer	844,274	Feb. 12	2826	602	126	2534
Pipe coupling. Automatic train-	F. H. Rutherford	843,911	Feb. 12	2119	453–4	126	2357
Pipe-couplings. Clamping-ring for	J. Clark	844,250	Feb. 12	2768	589–90	126	2520
Pipe-hanger	A. McMurtrie	844,036	Feb. 12	2339	501	126	2412
Pipe-hanger. Adjustable and elastic	A. F. Schafer	843,632	Feb. 12	1602	338–9	126	2228
Pipe-joint	J. C. Haller and R. H. Machell	843,892	Feb. 12	2073	444	126	2346
Planer	C. Hooghouse	843,818	Feb. 12	1923	412	126	2310
Planimeter	E. M. Scoville	844,195	Feb. 12	2644	567	126	2486
Planter. Corn and cotton	A. J. H. Reid	843,699	Feb. 12	1716	365–6	126	2257
Planter marker. Corn-	A. E. Starrett	844,290	Feb. 12	2855	608	126	2541
Plow	M. J. Breen	843,993	Feb. 12	2263	483–4	126	2393
Plow	M. J. Breen	843,994	Feb. 12	2264	484	126	2393
Plow	N. O. Flint	844,112	Feb. 12	2480	532	126	2446
Plow attachment	E. B. Barrows	844,084	Feb. 12	2423	519	126	2431
Plug. Attachment-	J. G. Peterson	844,044	Feb. 12	2350	503	126	2414
Pneumatic carrier	M. B. Riffo	843,709	Feb. 12	1842	392	126	2290
Poles. Shoe for wooden	C. O. Müller	843,762	Feb. 12	1833	390	126	2288
Post: *See* Hitching-post.							
Post-anchoring device	P. T. Bailey	844,231	Feb. 12	2725	582	126	2509
Post-cards and the like. Coin-freed apparatus for picture	S. Wistoft	843,859	Feb. 12	2009	431–2	126	2330
Post-hole digger	W. B. Nicholson	843,765	Feb. 12	1837	391	126	2288
Post-hole digger	J. S. Durning	843,800	Feb. 12	1899	407	126	2304
Pot: *See* Fire-pot.							
Potato-digger. Sulky	I. A. Dodge	844,106	Feb. 12	2472	530	126	2443
Power-brake	L. Pfingst	843,625	Feb. 12	1590	336	126	2225
Power transmission	M. Moskowitz	844,165	Feb. 12	2579	552	126	2470
Power-transmission apparatus. Hydraulic	G. L. M. Dörwald	843,874	Feb. 12	2044	438	126	2339
Power-transmission gear	J. H. Morrison	843,687	Feb. 12	1693	360	126	2251
Preserving-jar	C. A. Stenius	844,051	Feb. 12	2369	507	126	2418
Press: *See* Baling-press. Glass-press. Brick-press. Seal-press.							
Printer's border	W. D. Palmer	843,766	Feb. 12	1838	391	126	2289
Printer's hook	T. Wensel	843,648	Feb. 12	1634	346	126	2238
Printing in several colors. System of machinery for	E. Lambert	843,829	Feb. 12	1943	416–17	126	2315
Printing machine. Label-	E. Z. Taylor	844,055	Feb. 12	2378	509	126	2420
Printing machines. Feed device for sheet-metal-	A. J. Ford	844,113	Feb. 12	2481	532–3	126	2446
Printing. Photomechanical	J. W. Ippers	843,947	Feb. 12	2183	467	126	2374
Printing-presses. Automatic sheet-gage for	C. M. Morrison	843,688	Feb. 12	1695	360–1	126	2252
Printing-surfaces. Apparatus for producing	E. Mertens	844,162	Feb. 12	2572	551	126	2468
Projectile and fuse-plug therefor	C. F. and H. E. Cowdrey	843,665	Feb. 12	1657	351	126	2243
Pulley-block	E. K. Woolfly	843,982	Feb. 12	2241	480	126	2389
Pump. Oil-	G. T. Ferguson	844,008	Feb. 12	2290	490	126	2400
Pumps. Seat for puppet or foot valves of	L. M. Gerwe	843,597	Feb. 12	1525	323	126	2207
Punch. Automatic prick-	J. A. Adell and L. S. Starrett	843,655	Feb. 12	1642	348	126	2240
Punching-machine	W. F. Lautenschlager	845,899	Feb. 12	2084	447–8	126	2349
Puzzle	F. Ringl	844,189	Feb. 12	2625	562	126	2482
Puzzle	W. J. Bycraft	844,246	Feb. 12	2756	587	126	2517
Rack: *See* Display-rack.							
Rack	I. B. Webb	824,067	Feb. 12	2399	514	126	2425
Rail-chair	J. H. Snell	844,050	Feb. 12	2368	507	126	2418
Rail chock. Adjustable guard-	G. M. Ervin	843,880	Feb. 12	2054	439–40	126	2341
Rail fastener Adjustable guard-	C. C. Korns	843,897	Feb. 12	2082	446	126	2348
Rail fastener. Adjustable guard-	F. Glenton, Jr	843,939	Feb. 12	2172	464	126	2371

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Rail-joint	J. A. J. Vance	843,853	Feb. 12	1998	429	126	2329
Rail-joint	D. J. Irwin and H. J. Strawn	844,132	Feb. 12	2518	540	126	2455
Rail-joints. Seating-strip for	B. Grubbs	843,807	Feb. 12	1908	409	126	2306
Railway-buffer	W. F. Bossert	844,092	Feb. 12	2439	521-2	126	2434
Railway-frog	J. E. Graham. (Reissue)	12,605	Feb. 12	2912	619	126	2555
Railway-gate for grade-crossings. Electric	C. E. Mendenhall	844,284	Feb. 12	2845	606	126	2538
Railway-rail joint	J. C. Wallace	843,918	Feb. 12	2135	456	126	2363
Railway rail-stay	H. H. Sponenburg	843,710	Feb. 12	1737	370	126	2263
Railway-rails. Anticreeper and brace for	E. L. Knight	844,145	Feb. 12	2544	545	126	2461
Railway screw-spikes. Bushing for	A. Stucki	843,713	Feb. 12	1743	371	126	2264
Railway signal system	A. L. Ruthven	843,703	Feb. 12	1725	367	126	2260
Railway-sleepers. Machine for cutting rail-seats in	A. Collet	844,100	Feb. 12	2462	527-8	126	2441
Railway-splice	J. S. Beck	842,732	Feb. 12	1777	379	126	2274
Railway-switch	C. D. Fuller	844,014	Feb. 12	2299	492	129	2402
Railway-switch	G. E. Stewart	844,209	Feb. 12	2680	574	126	2497
Railway system. Single-track	P. von Flreks	844,111	Feb. 12	2479	532	126	2445
Razor. Safety	F. H. Arnold	843,923	Feb. 12	2142	457	126	2364
Reciprocating engine	W. Mauss	844,161	Feb. 12	2570	551	126	2468
Reel:							
See Locomotive-reel.							
Reeling and unreeling attachment	A. J. Determann	844,200	Feb. 12	2791	596	126	2526
Refining-engine	S. R. Wagg	844,063	Feb. 12	2360	512	126	2423
Refrigerating apparatus	J. H. Holmgreen	843,894	Feb. 12	2076	444-5	126	2347
Refrigerator	C. Dukelow, M. J. Kier, and H. A. Jaeger.	843,668	Feb. 12	1662	352	126	2244
Refrigerator	F. C. Trotter	843,978	Feb. 12	2233	478	126	2367
Refuse-burner	C. D. Stevens	843,971	Feb. 12	2224	475-6	126	2365
Regulator:							
See Electric regulator. Feed-regulator. Feed-water regulator.							
Rein-holding attachment for harness	R. F. Hayner	843,600	Feb. 12	1533	324	126	2208
Rheostat. Starting	L. S. Chapman	843,735	Feb. 12	1781	380	126	2274
Ring and roller and like mill	E. Barthelmess	844,085	Feb. 12	2424	519	126	2431
Ring-mold	F. C. Widmann	844,072	Feb. 12	2405	516	126	2427
Roasting-furnace	F. Klepetko	843,825	Feb. 12	1934	414	126	2312
Rock-drill-feeding mechanism	T. Turner	843,718	Feb. 12	1748	372-3	126	2266
Roll-manufacturing mold	C. Johns	843,679	Feb. 12	1680	356	126	2248
Rolling, expanding, and beading boiler-tubes in one operation. Tool and holder for	A. B. Todd and F. W. Shupert	844,215	Feb. 12	2691	575	126	2300
Roof structure	H. Thaden	844,212	Feb. 12	2685	574	126	2498
Roofs, walls, and buildings. Metallic covering for	S. Taylor	844,056	Feb. 12	2381	510	126	2421
Rotary engine	A. Bretscher	844,094	Feb. 12	2444	522-3	126	2436
Sash construction	E. L. Charroin	844,301	Feb. 12	2881	613	126	2548
Scenery. Theatrical	L. J Carter	843,583	Feb. 12	1505	319	126	2202
Scholar's companion	A. Foster	844,114	Feb. 12	2482	533	126	2446
Screen:							
See Grain-screen.							
Screen	C. R. Allen	843,785	Feb. 12	1868	399	126	2296
Seal-press. Cording and wiring	E. J. Brooks	844,085	Feb. 12	2446	523	126	2436
Sealing-closure for vessels	G. T. Reed	843,845	Feb. 12	1985	425	126	2324
Sealing jars and the like. Ring for	W. B. Fenn	843,740	Feb. 12	1789	381	126	2276
Seat:							
See Car-seat. Piano-seat.							
Sectional boiler or furnace	J. M. W. Kitchen	843,612	Feb. 12	1555	329	126	2214
Separator:							
See Coffee-separator. Cream-separator.							
Sewing-machine folding attachment	H. Nederman	843,838	Feb. 12	1970	421-2	126	2321
Sewing-machine. Loop-lock-stitch	F. W. Merrick	843,760	Feb. 12	1827	389	126	2286
Sewing-machine-operating device. Hand	M. J. Rapier	844,187	Feb. 12	2622	561	126	2481
Sewing shoe-soles to uppers	J. A. Rhoult. (Reissue)	12,607	Feb. 12	2916	620	126	2556
Shade and curtain fixture. Combined	S. R. Auker	843,658	Feb. 12	1645	349	126	2240
Shaft support. Vehicle-	H. S. Elliott	844,269	Feb. 12	2616	600	126	2531
Shafting. Clamp-collar for	S. T. Murchie	843,906	Feb. 12	2106	451	126	2354
Shears or the like	F. D. Davies	843,667	Feb. 12	1660	352	126	2244
Sheave-block	E. Ludford	844,159	Feb. 12	2567	550	126	2467
Sheet-metal slip-cover can for lard and other articles	J. Dister	843,799	Feb. 12	1897	407	126	2303
Sheet-metal slip-cover can for lard and other materials.	J. Dister	843,798	Feb. 12	1895	407	126	2303
Sheets or units. Apparatus for cutting, folding, and interfolding	S. Wheeler	843,781	Feb. 12	1862	397	126	2294
Shell. Exploding	A. Wratzke	844,225	Feb. 12	2713	579	126	2506
Shipping box or crate	J. E. Hitch	843,816	Feb. 12	1920	411	126	2309
Shipping box or crate. Knockdown	S. J. Wentworth	843,815	Feb. 12	1919	411	126	2309
Shoe-upper-pounding machine	W. H. Colclough	844,293	Feb. 12	2862	610	126	2543
Shovels. Scraper attachment for	F. J. Thomas. (Reissue)	844,002	Feb. 12	2280	488	126	2397
Shovels. Tooth for excavating	J. Taussig	12,608	Feb. 12	2918	620	126	2556
Show-cases and the like. Adjustable leg for	D. W. Marmon	843,973	Feb. 12	2227	476	126	2386
Sieve-cleaner	P. Wertz	844,030	Feb. 12	2329	499	126	2409
Sight-feed lubricator	A. G. Wallin	843,856	Feb. 12	2005	430	126	2329
Sign	E. E. Bellamy	843,779	Feb. 12	1860	396	126	2294
Sign. Illuminated		844,087	Feb. 12	2430	520	126	2432
Signal:							
See Railway-signal.							
Skid and truck	F. W. Young	843,654	Feb. 12	1640	348	126	2239
Skirt-hanger	M. H. Cazier	843,794	Feb. 12	1889	405	126	2301
Skirt-support and blouse-stay	J. B. Hogan	844,021	Feb. 12	2314	495	126	2405
Skirt-supporter	W. R. White	843,782	Feb. 12	1864	398	126	2295
Sliding gate	L. Kerber and W. H. Bakehaus	843,681	Feb. 12	1684	357-8	126	2249
Slop-drier	F. G. Wiselogel	843,652	Feb. 12	1638	347	126	2239
Slot-switch	C. C. Korns	843,806	Feb. 12	2080	445-6	126	2347
Smoke-consumer for locomotive and like boilers	K. Schleyder	843,848	Feb. 12	1988	426	126	2325
Snap-fastener	A. J. Grove	844,280	Feb. 12	2837	604	126	2537
Soldering implement. Can-	S. A. Varney	844,062	Feb. 12	2389	512	126	2423
Soldering-iron	E. L. Vieth	843,645	Feb. 12	1629	345	126	2236
Sole attachment. Shoe-	A. W. Tillinghast	844,057	Feb. 12	2382	510	126	2421
Speed-indicator	L. L. B. Denis	844,259	Feb. 12	2786	595-6	126	2525
Spindle:							
See Coiling-spindle.							
Spinning and twisting apparatus. Ring	J. Hayden, Jr.	843,810	Feb. 12	1912	410	126	2307

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Spring:							
See Coil-spring.							
Square. Folding	A. E. Sollers	844,205	Feb. 12	2667	571	126	2494
Square. Try	R. A. Breul	844,243	Feb. 12	2749	586	126	2515
Stamp affixer. Postage	F. W. Cherry	844,302	Feb. 12	2883	613	126	2548
Stamping-machines. Counter-block and die for	J. A. McAnulty	844,171	Feb. 12	2594	555	126	2473
Stanchion-assembling apparatus	C. W. Wasson and J. W. Hutchings.	844,218	Feb. 12	2699	576	126	2502
Stand:							
See Display-stand.							
Stay. Garment	A. E. Magoris	844,160	Feb. 12	2569	550	126	2467
Steam-generator	C. Lucke	844,158	Feb. 12	2566	550	126	2467
Steam-making apparatus	P. M. Knopp	843,613	Feb. 12	1563	330	126	2218
Steam-trap	W. Y. Moffat and T. W. Butler	843,686	Feb. 12	1691	359-60	126	2251
Steel manufacturing	B. E. Eldred	843,592	Feb. 12	1516	322	126	2205
Steering mechanism	F. Baker	844,232	Feb. 12	2726	582	126	2510
Stenciling appliance	C. D. White	843,920	Feb. 12	2139	457	126	2363
Stove	E. G. Van Wie	843,643	Feb. 12	1626	344-5	126	2236
Stove and range attachment	F. C. and E. L. Kessler	844,142	Feb. 12	2538	544	126	2460
Stove. Cook	W. R. K. Stanford	843,773	Feb. 12	1849	393	126	2291
Stove. Gas	E. G. Van Wie	843,644	Feb. 12	1628	345	126	2236
Stove. Heating	L. H. Thurston	844,292	Feb. 12	2861	609	126	2543
Surgical eye-magnet appliance	J. B. Wantz	843,979	Feb. 12	2235	478	126	2388
Surgical instrument	H. H. De Pew	843,587	Feb. 12	1511	321	126	2203
Suspender-link	B. J. Balliett	843,987	Feb. 12	2255	481	126	2391
Switch:							
See Automatic switch. Electric switch. End-cell switch. Railway-switch. Slot-switch. Telephone hook-switch. Tongue-switch.							
Switch-operating mechanism. Automatic	C. R. Traxler	843,641	Feb. 12	1622	343-4	126	2235
Table utensil	G. Laramy	843,953	Feb. 12	2194	469	126	2377
Tablet-machine	J. V. Brann	844,093	Feb. 12	2441	522	126	2435
Tag-clip	A. McCallum	843,960	Feb. 12	2206	472	126	2380
Tag. Key-ring	T. F. Moore	843,958	Feb. 12	2204	471	126	2379
Teaching touch type-writing. Device for	H. O. Keesling and O. E. Beach	844,025	Feb. 12	2319	496	126	2406
Telegraph-key	J. J. Ghegan	844,278	Feb. 12	2832	604	126	2535
Telephone hook-switch	C. C. Cadden	843,998	Feb. 12	2271	485	126	2396
Telephone-lines. Coin-collector for	F. R. McBerty	844,034	Feb. 12	2335	500	126	2410
Telephone-lines. Harmonic signaling for polystation	W. W. Dean	844,257	Feb. 12	2782	594	126	2524
Telephone-receiver	H. W. Haff	843,891	Feb. 12	2072	443	126	2346
Telephone-receiver attachment	J. R. Challen	844,299	Feb. 12	2879	612	126	2548
Telephone-transmitters. Antiseptic guard for	G. E. Grimm	843,940	Feb. 12	2172	464	126	2372
Telephone trunking system	W. W. Dean	843,871	Feb. 12	2032	437	126	2335
Telephones. Arm-support for	L. Barrella	844,083	Feb. 12	2021	518	126	2431
Telescope with prisms	P. F. Pütz	844,186	Feb. 12	2619	560-1	126	2480
Theater	H. Helbig	844,127	Feb. 12	2507	538	126	2452
Theatrical apparatus	R. F. Staley	844,207	Feb. 12	2672	572-3	126	2496
Thill-coupling	L. W. Ward	843,723	Feb. 12	1760	374	126	2269
Thill-coupling	L. W. Ward	843,724	Feb. 12	1761	375	126	2269
Thill-coupling. Antirattler	W. Cox	843,736	Feb. 12	1783	380	126	2275
Tie-plate	E. L. Flinn	843,595	Feb. 12	1522	323	126	2206
Tire	H. L. Slager	844,201	Feb. 12	2653	569	126	2489
Tobacco-leaf sizing machine	H. Schumacher	844,049	Feb. 12	2360	505-7	126	2416
Tobacco packing and shipping can	A. H. Gregg	843,745	Feb. 12	1794	382	126	2277
Tongue-switch	E. B. Entwisle	843,879	Feb. 12	2053	439	126	2341
Tool and tool-holder. Compound	O. S. Perkins	844,043	Feb. 12	2349	503	126	2413
Tool. Combination-	A. Galperin	843,936	Feb. 12	2167	463-4	126	2370
Tool-handle	J. N. Howard	844,130	Feb. 12	2514	540	126	2454
Tool-holder and tool. Self-tightening	E. S. Costa	843,931	Feb. 12	2154	460	126	2368
Tools. Automatic feeder for	C. T. Carnahan and J. Murphy	844,247	Feb. 12	2758	587-8	126	2517
Toy	P. F. Van Halder	843,642	Feb. 12	1625	344	126	2235
Transmission mechanism	F. Strickland	844,210	Feb. 12	2681	574	126	2498
Transmission mechanism	J. J. Troeger	844,217	Feb. 12	2694	576	126	2500
Transmitting system. Selective	J. L. Hall	843,746	Feb. 12	1796	383	126	2278
Trap:							
See Steam-trap.							
Tray. Serving-	C. A. Weiss	844,219	Feb. 12	2701	576	126	2503
Tree:							
See Imitation tree.							
Trolley-retriever	F. M. Miller	843,761	Feb. 12	1829	389-90	126	2286
Trough:							
See Feeding-trough. Watering-trough.							
Truck	W. H. Armstrong	843,570	Feb. 12	1483	313	126	2197
Truck. Car-	W. S. Adams	844,076	Feb. 12	2411	517	126	2428
Truck. Car-	G. Lindenthal	844,150	Feb. 12	2551	547-8	126	2463
Truck equipment. Car-	G. Lindenthal	844,151	Feb. 12	2556	548	126	2465
Truck-skid	F. G. McGinnis	843,835	Feb. 12	1966	420	126	2321
Trunk	G. S. Eggeman	843,877	Feb. 12	2049	439	126	2340
Truss	P. Kaseler	844,137	Feb. 12	2530	543	126	2458
Tubes. Mechanism for the manufacture of seamless	M. F. Capron	843,867	Feb. 12	2024	435	126	2333
Tubes. Mechanism for the manufacture of seamless	M. F. Capron	843,868	Feb. 12	2028	436	126	2334
Turpentine-hack	N. B. Stone	843,915	Feb. 12	2128	455	126	2361
Type-making machine	F. H. Brown, J. E. Hanrahan, and G. A. Boyden.	843,576	Feb. 12	1494	317	126	2200
Type-writer	C. T. Brown	843,997	Feb. 12	2270	485	126	2395
Type-writer	E. B. Pierce	844,183	Feb. 12	2612	559-60	126	2478
Type-writers. Variable-feed mechanism for	F. Schüler	844,289	Feb. 12	2852	608	126	2540
Type-writing machine	E. F. Kunath	843,828	Feb. 12	1939	415	126	2314
Type-writing machine	E. G. Latta	843,831	Feb. 12	1955	418-19	126	2318
Type-writing machine	B. C. Stickney	843,914	Feb. 12	2127	454-5	126	2360
Type-writing machine	S. H. Donaldson	844,264	Feb. 12	2809	599	126	2529
Type-writing machine	E. G. Latta	843,830	Feb. 12	1947	417-18	126	2316
Type-writing-machine ribbon mechanism	R. G. Beker	843,790	Feb. 12	1878	402-4	126	2299
Upsetting-machine	G. T. Reed	843,846	Feb. 12	1985	425	126	2325
Vacuum-creating device for jars, &c	T. Barton	843,988	Feb. 12	2256	482	126	2391
Valve	R. Schneider	844,192	Feb. 12	2659	565	126	2485
Valve	H. H. Cramer	844,255	Feb. 12	2779	593	126	2523
Valve	F. H. Harmer	844,307	Feb. 12	2897	615-16	126	2551
Valve. Flushing	W. S. White	844,221	Feb. 12	2706	578	126	2504

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Valve for drain-traps. Back-pressure	J. F. Conrad	844,003	Feb. 12	2281	488	126	2398
Valve for heating systems	A. P. Broomell	843,996	Feb. 12	2268	485	126	2395
Valve. Hot-blast	E. Fargo	843,935	Feb. 12	2164	462–3	126	2370
Valve operator. Steam and air	D. H. Greeson	843,508	Feb. 12	1526	324	126	2207
Valve-seats. Machine for refacing	R. F. Lace and J. Ulrich	843,615	Feb. 12	1568	331	126	2219
Valve. Self-closing	N. Nilson	844,180	Feb. 12	2606	558	126	2476
Valves or other movable devices from a distant station. Means for controlling	E. M. Hewlett	843,814	Feb. 12	1917	411	126	2308
Vaporizer	M. Seligsohn	843,705	Feb. 12	1728	368	126	2261
Vehicle-cover	E. L. Westbrooke	844,220	Feb. 12	2703	577	126	2503
Vehicle. Motor-	M. Fischer	844,011	Feb. 12	2295	491	126	2401
Vehicle running-gear. Motor-	J. Warrington and H. C. Marmon. (Reissue.)	12,609	Feb. 12	2920	621	126	2557
Vehicle-wheel	A. Fay	843,738	Feb. 12	1786	381	126	2276
Vehicle-wheel	J. S. Stevenson	843,913	Feb. 12	2125	454	126	2360
Vending apparatus. Controlled	C. V. Case and W. Mayo	844,248	Feb. 12	2762	588	126	2519
Vermicelli and the like. Machine for manufacturing and bundling	B. F. A. Courtine	843,932	Feb. 12	2156	460–1	126	2368
Vessel-closing device	W. B. Fenn	843,670	Feb. 12	1666	353	126	2245
Vessel-closing device	W. B. Fenn	843,802	Feb. 12	1901	408	126	2304
Veterinary instrument	A. Kepler	844,141	Feb. 12	2538	544	126	2459
Wagon-body	C. Leavitt	844,147	Feb. 12	2547	546	126	2462
Wagon-jack	I. Shupe	843,772	Feb. 12	1848	393	126	2291
Wagon-loading device	R. Pederson	843,695	Feb. 12	1707	363–4	126	2255
Wagon running-gear	W. McIntosh	843,691	Feb. 12	1700	361–2	126	2253
Walls. Making composite	E. Martin	843,956	Feb. 12	2198	470	126	2277
Warp-stop-motion detector	W. Fehr	843,882	Feb. 12	2056	440	126	2342
Washboard. Renewable-front	W. G. Frost	844,013	Feb. 12	2297	492	126	2402
Washer: *See* Nut-locking washer.							
Washing apparatus	F. H. Cole	843,585	Feb. 12	1509	320	126	2203
Washing-machine	J. R. Carter	843,734	Feb. 12	1780	380	126	2274
Watch. Stop-	A. Gerson	843,887	Feb. 12	2064	442	126	2344
Water-closet flush-valve	J. Kelly	843,949	Feb. 12	2188	467–8	126	2375
Water-heater	H. S. Humphrey	844,131	Feb. 12	2515	540	126	2454
Water-purifying apparatus	J. M. Murphy	844,167	Feb. 12	2582	553	126	2471
Water-purifying apparatus	A. E. Dieterich	844,262	Feb. 12	2804	598	126	2528
Water rating and controlling machine. Automatic adjustable	W. J. McBride	843,959	Feb. 12	2205	472	126	2380
Water-softening plant	A. B. Bellows	843,572	Feb. 12	1486	314	126	2197
Waterer. Hog-	P. Bernard	843,925	Feb. 12	2145	458	126	2365
Watering trough. Stock-	G. Gertzen and J. Roghair	844,277	Feb. 12	2831	603	126	2535
Wave action. Protecting objects from	P. Brasher	843,926	Feb. 12	2146	458	126	2366
Wave-motor	H. L. McDuffee	844,174	Feb. 12	2598	557	126	2474
Weighing-machine. Automatic	H. Richardson	844,188	Feb. 12	2623	561–2	126	2482
Welding machine. Flue-	W. B. Hankins	843,809	Feb. 12	1911	409–10	126	2307
Wells. Machine for reviving gas-	W. D. Van Arsdale and D. R. Spearman.	844,060	Feb. 12	2385	511	126	2422
Wheel: *See* Car-wheel. Vehicle-wheel.							
Wheel-flange. Attachable	H. L. Hegland	843,943	Feb. 12	2178	466	126	2373
Whistles. Megaphone attachment for steam-	R. H. Courtney, Jr.	844,254	Feb. 12	2778	593	126	2523
Window	A. Assorati	844,229	Feb. 12	2722	581	126	2509
Window-chair. Adjustable	D. S. Leger	844,148	Feb. 12	2549	546	126	2463
Window-lifter	N. R. Evans	843,881	Feb. 12	2055	440	126	2341
Wire-grip	V. W. White	843,921	Feb. 12	2140	457	126	2364
Wire-pointing machine	J. P. Famous	844,109	Feb. 12	2476	531	126	2444
Wire-stretcher	C. S. Hemenway and F. M. Thomson.	843,603	Feb. 12	1536	325	126	2269
Wire-stretcher	O. C. A. Schwien	844,194	Feb. 12	2642	566	126	2486
Wire-stretcher	J. G. Dietrich	844,263	Feb. 12	2806	598	126	2529
Wrench: *See* Cylinder-wrench. Nut and pipe wrench.							
Wrench	D. J. McOsker	844,176	Feb. 12	2601	557	126	2475
Yoke. Cattle-	G. J. Dean	843,586	Feb. 12	1510	320	126	2203

DESIGNS.

Designs.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Plate or dish	E. E. Walter	38,441	Feb. 12	126	2559
Plate or dish	E. Schnepf	38,442	Feb. 12	126	2559
Sign. Illuminated chandelier-	L. K. Liggett	38,444	Feb. 12	126	2560
Type. Font of	A. Gottschling	38,443	Feb. 12	126	2560

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Alloy of nickel, manganese, and copper	Isabellenhütte G. m. b. H.	60,525	Feb. 12	126	2583
Alloy of nickel, manganese, and copper	Isabellenhütte G. m. b. H.	60,526	Feb. 12	126	2583
Antiseptic solution	John Wyeth and Brother	60,628	Feb. 12	126	2585

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Automobiles	Fairbanks, Morse & Company	60 518	Feb. 12	126	2583
Beer. Lager-	Eastern Brewing Company	60,543	Feb. 12	126	2583
Beer. Root-	S. G. Parker Company	60,613	Feb. 12	126	2585
Boots and shoes. Leather	Geo. N. La Bonte Shoe Co	60,477	Feb. 12	126	2581
Boots and shoes. Leather	Menzies Shoe Co	60,538	Feb. 12	126	2583
Boots and shoes. Leather and cloth	Geo. F. Dittmann Boot & Shoe Company.	60,547	Feb. 12	126	2583
Boots, shoes, and slippers. Leather	M. J. Meyer & Co	60,459	Feb. 12	126	2581
Bread, cakes, biscuits, and crackers	Stewart Bread Co	60,464	Feb. 12	126	2581
Brushes. Artists'	L. & C. Hardtmuth	60,532	Feb. 12	126	2583
Brushes. Paint and varnish	S. H. French & Co	60,522	Feb. 12	126	2583
Buggies and surreys. Open and top	Blount Carriage & Buggy Co	60,509	Feb. 12	126	2582
Candles	Will & Baumer Company	60,498	Feb. 12	126	2582
Candles	Will & Baumer Company	60,499	Feb. 12	126	2582
Candles	Will & Baumer Company	60,500	Feb. 12	126	2582
Canned corn and succotash	H. L. Forhan	60,475	Feb. 12	126	2581
Canned fruits and vegetables	H. L. Forhan	60,476	Feb. 12	126	2581
Canned lobsters	H. L. Forhan	60,473	Feb. 12	126	2581
Canned lobsters	H. L. Forhan	60,474	Feb. 12	126	2581
Canned, pickled, and preserved fish	Johs Conradsen A/S	60,631	Feb. 12	126	2586
Canned, pickled, and preserved fish	Johs Conradsen A/S	60,632	Feb. 12	126	2586
Cards. Playing-	United States Playing Card Co	60,618	Feb. 12	126	2585
Carpet-sweepers	Bissell Carpet Sweeper Co	60,505	Feb. 12	126	2582
Carpet-sweepers	Bissell Carpet Sweeper Co	60,506	Feb. 12	126	2582
Carpet-sweepers	Bissell Carpet Sweeper Co	60,507	Feb. 12	126	2582
Carpet-sweepers	Bissell Carpet Sweeper Co	60,508	Feb. 12	126	2582
Carpet-sweepers	J. C. Virden	60,466	Feb. 12	126	2581
Catalogues and pamphlets	Actien-Gesellschaft für Anilin-Fabrikation.	60,591	Feb. 12	126	2584
Chemical substances. Certain	Actien-Gesellschaft für Anilin-Fabrikation.	60,592	Feb. 12	126	2585
Chemicals. Certain	Dr. O. Knöfler and Company	60,607	Feb. 12	126	2585
Chocolate, cocoa, and candy	Puritan Pure Food Company	60,461	Feb. 12	126	2581
Chocolates and bonbons	F. H. Dow & Company	60,454	Feb. 12	126	2581
Cigarettes	J. G. Saffa	60,567	Feb. 12	126	2584
Cigarettes and smoking-tobacco	Calixto Topez & Co	60,510	Feb. 12	126	2582
Cigars	W. H. Barlow	60,503	Feb. 12	126	2582
Cigars	Cifuentes, Fernandez y Ca	60,514	Feb. 12	126	2582
Cigars	Cifuentes, Fernandez y Ca	60,515	Feb. 12	126	2582
Cigars	Cifuentes, Fernandez y Ca	60,516	Feb. 12	126	2582
Cigars	H. B. Lockwood	60,537	Feb. 12	126	2583
Cigars	O'Connell & Gruss	60,561	Feb. 12	126	2584
Cigars	Rosenstein Brothers	60,491	Feb. 12	126	2582
Clam preparation	Flash Chemical Company	60,521	Feb. 12	126	2583
Cleaning-paste	Chicago Dryer Company	60,512	Feb. 12	126	2582
Clothes-drying machines	Dayton Clothing Mfg. Co	60,542	Feb. 12	126	2583
Clothing. Certain	Stork Company	60,617	Feb. 12	126	2585
Clothing. Certain	Stein Bloch Co	60,573	Feb. 12	126	2584
Coats, overcoats, vests, and trousers	M. E. Smith & Co	60,559	Feb. 12	126	2584
Coats, vests, pants, and overalls. Duck	Shackleton, Aspden & Co	60,463	Feb. 12	126	2581
Coffee	Relly, Taylor & Co	60,490	Feb. 12	126	2582
Coffee	C. R. Maltby Co	60,448	Feb. 12	126	2581
Coffee and tea	J. Fernandez	60,520	Feb. 12	126	2583
Coffee in grain	Potter & Wrightington	60,489	Feb. 12	126	2582
Coffee. Wheat-	Leumann, Boesch & Weingart	60,558	Feb. 12	126	2584
Corset-covers and petticoats	Arnhold, Karberg & Co	60,502	Feb. 12	126	2582
Cotton piece goods	Simmons Hardware Co	60,570	Feb. 12	126	2584
Cutting and edge tools. Certain	Actien-Gesellschaft für Anilin-Fabrikation.	60,587	Feb. 12	126	2584
Dyes and chemical preparations for dyeing purposes	Actien-Gesellschaft für Anilin-Fabrikation.	60,585	Feb. 12	126	2584
Dyes. Wool-	Actien-Gesellschaft für Anilin-Fabrikation.	60,586	Feb. 12	126	2584
Dyestuffs. Coal-tar	Electric Device Company	60,544	Feb. 12	126	2583
Electric fuses	Société Générale des Huiles et Fournitures Industrielles l'Oléo.	60,571	Feb. 12	126	2584
Electric sparking and igniting apparatus	John Wyeth and Brother	60,630	Feb. 12	126	2586
Elixir of the digestive ferments	Gibbs Manufacturing Co	60,549	Feb. 12	126	2583
Embroidery-hoops	Gibbs Manufacturing Co	60,550	Feb. 12	126	2583
Embroidery-hoops	Gibbs Manufacturing Co	60,551	Feb. 12	126	2583
Embroidery-hoops	Gibbs Manufacturing Co	60,552	Feb. 12	126	2583
Embroidery-hoops	Gibbs Manufacturing Co	60,629	Feb. 12	126	2586
Emulsion of mixed fats	John Wyeth and Brother	60,496	Feb. 12	126	2582
Erasers or erasing compositions. Certain	A. Sommer	60,582	Feb. 12	126	2584
Exercising devices. Elastic-cord	Whitely Exerciser Company	60,625	Feb. 12	126	2585
Extract of the pancreas gland	Fairchild Bros. & Foster	60,610	Feb. 12	126	2585
Fastening devices. Certain	Penn Hardware Co	60,495	Feb. 12	126	2582
Fertilizers	Scott Fertilizer Co. of Cecil County.	60,449	Feb. 12	126	2581
Fibrous materials covered, &c., with a plastic compound	Celluloid Company	60,478	Feb. 12	126	2581
Flavoring extracts	Greever-Lotspeich Manufacturing Company.	60,465	Feb. 12	126	2581
Flour. Wheat-	F. G. Stritzinger & Co	60,501	Feb. 12	126	2582
Foods for infants and invalids. Prepared	Woolrich & Co	60,609	Feb. 12	126	2585
Fumigants	Maas & Waldstein Company	60,604	Feb. 12	126	2585
Glue	Hall & Ruckel	60,620	Feb. 12	126	2585
Gun implements and certain equipments	Winchester Repeating Arms Co	60,546	Feb. 12	126	2583
Hosiery	H. Frank & Sons	60,599	Feb. 12	126	2585
Insecticide. Liquid	Germo Manufacturing Co	60,584	Feb. 12	126	2584
Instep or arch support	W. H. Wood	60,578	Feb. 12	126	2584
Insulation material. Certain	Union Fibre Co				

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Iron-smoothing compound	A. Lewis	60,634	Feb. 12	126	2586
Journal. Agricultural	L. Tucker & Son	60,497	Feb. 12	126	2582
Lace curtains	I. H. Hassall	60,554	Feb. 12	126	2583
Lamps. Incandescent	Shelby Electric Company	60,569	Feb. 12	126	2584
Laxative salts. Compound	Bubier Laboratory Company	60,623	Feb. 12	126	2585
Leather and leather soles. Sole-	Regal Shoe Company	60,563	Feb. 12	126	2584
Leather-dressing	Regal Shoe Company	60,564	Feb. 12	126	2584
Leather-dressing	Regal Shoe Company	60,565	Feb. 12	126	2584
Lightning-rods	St. Louis Lightning Rod Co	60,575	Feb. 12	126	2584
Locks, night-latches, and padlocks. Cylinder-	Russell & Erwin Manufacturing Company.	60,566	Feb. 12	126	2584
Lotion for scalds and burns	E. W. Shryer	60,614	Feb. 12	126	2585
Machinery parts. Certain	Latrobe Steel and Coupler Company.	60,536	Feb. 12	126	2583
Magazine	American Contractor Publishing Company.	60,468	Feb. 12	126	2581
Magazine	A. Capper	60,470	Feb. 12	126	2581
Magazine. Monthly	Porter, Taylor & Co	60,488	Feb. 12	126	2582
Magazine. Monthly	F. H. Chase	60,450	Feb. 12	126	2581
Malt preparation	L. Darbyshire	60,452	Feb. 12	126	2581
Medicinal and toilet preparations. Certain	Erste Wiener Export-Malzfabrik Hauser & Sobotka.	60,472	Feb. 12	126	2581
Medicinal remedy	Colgate & Co	60,595	Feb. 12	126	2585
Medicine for certain named diseases	M. J. Breitenbach	60,594	Feb. 12	126	2585
Medicine for constipation	J. C. Hutchison	60,605	Feb. 12	126	2585
Medicines. Certain	C. C. Langsdorf	60,608	Feb. 12	126	2585
Medicines. Certain	Frederick Stearns & Co	60,598	Feb. 12	126	2585
Metal and wood working machines. Certain parts of	Potter Drug & Chemical Corporation.	60,611	Feb. 12	126	2585
Metal dressings and polish	Whitman & Barnes Manufacturing Company.	60,583	Feb. 12	126	2584
Metal manufactures. Certain	S. M. Bixby & Co	60,462	Feb. 12	126	2581
Metal ware. Certain solid and plated	Taylor Iron & Steel Co	60,576	Feb. 12	126	2584
Milk, butter, and cheese. Condensed	American Silver Company	60,593	Feb. 12	126	2585
Neckwear-supporters	Nestlé & Anglo-Swiss Condensed Milk Co	60,486	Feb. 12	126	2582
Oats	Blumenkrohn Crochet Button Works.	60,541	Feb. 12	126	2583
Oats	H-O (Hornby's Oatmeal) Company.	60,479	Feb. 12	126	2582
Oats	H-O (Hornby's Oatmeal) Company.	60,480	Feb. 12	126	2582
Oil. Olive-	H. Etienne Boulle	60,456	Feb. 12	126	2581
Ointment	F Henkelman	60,627	Feb. 12	126	2585
Paints and varnishes	Billings, King & Co	60,504	Feb. 12	126	2582
Paints, enamels, stains, and varnishes	Dolphin White Lead & Color Works.	60,453	Feb. 12	126	2581
Paper bags	Schorsch & Co	60,492	Feb. 12	126	2582
Paper bags	Schorsch & Co	60,494	Feb. 12	126	2582
Paper-cutting machines and knives therefor	Child Acme Cutter & Press Co	60,513	Feb. 12	126	2582
Pencils and point-protectors. Lead-	American Lead Pencil Company	60,469	Feb. 12	126	2581
Pens, penholders, and lead-pencils	E. Faber	60,457	Feb. 12	126	2581
Peptonized beef and bread	John Wyeth and Brother	60,606	Feb. 12	126	2585
Perfumery and cologne	Hall & Ruckel	60,603	Feb. 12	126	2585
Perfumery and toilet and bath washes	Smith Kline & French Co	60,616	Feb. 12	126	2585
Perfumes, sachet, face, and talcum powders and toilet washes	Smith Kline & French Co	60,615	Feb. 12	126	2585
Photographic developers	Actien-Gesellschaft für Anilin-Fabrikation.	60,588	Feb. 12	126	2584
Photographic developers	Actien-Gesellschaft für Anilin-Fabrikation.	60,589	Feb. 12	126	2584
Photographic plates and films	Actien-Gesellschaft für Anilin-Fabrikation.	60,590	Feb. 12	126	2584
Pills	Actien-Gesellschaft für Anilin-Fabrikation.	60,467	Feb. 12	126	2581
Plaster formed of wood fiber	Potter Drug & Chemical Corporation.	60,612	Feb. 12	126	2585
Pliers	Pittsburgh Plate Glass Company	60,562	Feb. 12	126	2584
Potash or lye. Caustic	Hammel, Riglander & Co	60,594	Feb. 12	126	2583
Potash or lye. Caustic	E. N. Hall	60,601	Feb. 12	126	2585
Powder. Tooth-	E. N. Hall	60,602	Feb. 12	126	2585
Pretzels, cakes, crackers, biscuits, and bread	S. H. Gunder	60,600	Feb. 12	126	2585
Radiator air-valves and damper-clips	Oakdale Baking Company	60,460	Feb. 12	126	2581
Railway equipment. Certain	L. J. Mueller Furnace Company	60,533	Feb. 12	126	2583
Remedies for the cure of the liquor habit	Latrobe Steel and Coupler Company.	60,535	Feb. 12	126	2583
Remedy for consumption	C. W. De Freest	60,624	Feb. 12	126	2585
Remedy for rheumatism	H. C. Fehrlin	60,626	Feb. 12	126	2585
Rope with a weatherproof finish	H. B. Wilson	60,619	Feb. 12	126	2585
Rosettes	George Cutter Co	60,548	Feb. 12	126	2583
Rubber belting, hose, and packing	General Electric Company	60,522	Feb. 12	126	2583
Rubber boots and shoes	Mercer Rubber Company	60,485	Feb. 12	126	2582
Rubber hose, belting, packing, and printing-blankets	Hood Rubber Co	60,481	Feb. 12	126	2582
Rum	Mineralized Rubber Co	60,487	Feb. 12	126	2582
Sad-irons	John E. Cassidy & Son	60,557	Feb. 12	126	2584
Saddles and harness	Enterprise Manufacturing Co. of Pennsylvania.	60,517	Feb. 12	126	2582
Sausages, hams, bacon, salt pork, and lard	La Grange Saddlery Company	60,534	Feb. 12	126	2583
Sausages, hams, bacon, salt pork, and lard	Jones Dairy Farm	60,458	Feb. 12	126	2581
Sewing-machines, parts, and attachments	Jones Dairy Farm	60,482	Feb. 12	126	2582
	Wheeler & Wilson Manufacturing Company.	60,580	Feb. 12	126	2584

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Sewing-machines, parts, and attachments	Wheeler & Wilson Manufacturing Company.	60,581	Feb. 12	126	2584
Shirts. Negligée and workingmen's	Heynemann & Co	60,555	Feb. 12	126	2583
Size for threads and yarns	Erste Wiener Export-Malzfabrik Hauser & Sobotka.	60,596	Feb. 12	126	2585
Soap. Cotton-seed-oil	Union Oil Company	60,579	Feb. 12	126	2584
Spices, mustards, and flavoring extracts	McCormick & Co	60,560	Feb. 12	126	2584
Spices, pepper, and flavoring extracts	J. De Wees	60,471	Feb. 12	126	2581
Stoves and ranges	Southern Stove Works, Branch Continental Stove Co.	60,572	Feb. 12	126	2584
Stoves. Heating-	Novelty Manufacturing Company	60,540	Feb. 12	126	2583
Surgical dressings and appliances. Certain	J. Ellwood Lee Company	60,527	Feb. 12	126	2583
Surgical dressings and appliances. Certain	J. Ellwood Lee Company	60,528	Feb. 12	126	2583
Surgical dressings and appliances. Certain	J. Ellwood Lee Company	60,529	Feb. 12	126	2583
Surgical dressings and appliances. Certain	J. Ellwood Lee Company	60,530	Feb. 12	126	2583
Syringes and atomizers	Mineralized Rubber Co	60,539	Feb. 12	126	2583
Tea	Crescent Manufacturing Co	60,451	Feb. 12	126	2581
Tea	M. & J. B. Kellam Co	60,483	Feb. 12	126	2582
Tea	M. & J. B. Kellam Co	60,484	Feb. 12	126	2582
Toilet preparations. Certain	J. M. Layat	60,633	Feb. 12	126	2586
Tonic	Ferrenzyme Capsule Company	60,597	Feb. 12	126	2585
Tonic beverage	S. Greenspon	60,553	Feb. 12	126	2583
Watches and parts thereof	Elgin National Watch Company	60,545	Feb. 12	126	2583
Water. Table-	G. Truesdell	60,577	Feb. 12	126	2584
Wheat-farina, pearl-barley, and corn-starch	E. R. Durkee & Co	60,455	Feb. 12	126	2581
Whisky	Charles Dennehy & Company	60,511	Feb. 12	126	2582
Whisky	John E. Cassidy & Son	60,531	Feb. 12	126	2583
Whisky	John E. Cassidy & Son	60,556	Feb. 12	126	2584
Whisky	Schuetz, Renziehausen & Co	60,568	Feb. 12	126	2584
Whisky	Stein Brothers	60,574	Feb. 12	126	2584
Whisky	Wolcott Company	60,621	Feb. 12	126	2585
Whisky	Wolcott Company	60,622	Feb. 12	126	2585
Wire rope	George Cutter Co	60,519	Feb. 12	126	2583

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Curzon Complexion Cream." (For Complexion Cream or Paste.)	J. W. Hosler	13,368	Feb. 12	126	2587
"Do-No Syrup." (For a Medicine)	L. G. Denton	13,361	Feb. 12	126	2587
"Dr. J. O. Lambert's Anti-Consumptive Syrup." (For a Medicinal Compound.)	Payette & Agnew	13,362	Feb. 12	126	2587
"Gold King." (For Canned Tomatoes)	Zeigler Bros. Canning Co	13,353	Feb. 12	126	2587
"Hop Bud." (For Beer)	Klausmann Brewery Branch of the St. Louis Brewing Association.	13,350	Feb. 12	126	2587
"Lincks." (For Cigars)	Schmidt & Co	13,349	Feb. 12	126	2587
"Little Sweet Heart Pepsin Gum." (For Chewing-Gum)	L. F. Jordan	13,351	Feb. 12	126	2587
"Little Sweet Heart Pepsin Gum." (For Chewing-Gum)	L. F. Jordan	13,352	Feb. 12	126	2587
"Men's Apparel." (For Men's Apparel)	W. C. Both	13,364	Feb. 12	126	2587
"Oysters." (For Canned Oysters)	A. Booth & Company	13,357	Feb. 12	126	2587
"Pinozone." (For a Medicinal Preparation)	Lakewood Pine Co	13,363	Feb. 12	126	2587
"Pure Food Brand Extra Fancy Cream Sugar Corn." (For Canned Corn.)	T. Roberts & Co	13,356	Feb. 12	126	2587
"Pure Food Brand Garden Grown Sifted Pease." (For Canned Peas.)	T. Roberts & Co	13,355	Feb. 12	126	2587
"Pure Food Brand Tomatoes." (For Canned Tomatoes)	T. Roberts & Co	13,354	Feb. 12	126	2587
"Scherman's Egg Shampoo." (For a Shampoo)	J. Scherman & Co	13,359	Feb. 12	126	2587
"Scherman's Liquid Shampoo." (For a Liquid Shampoo)	J. Scherman & Co	13,360	Feb. 12	126	2587
"The Matchless Match." (For Matches)	J. W. Henderson	13,365	Feb. 12	126	2587

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Fashionable Coat Sleeves." (For Coat-Sleeves)	Ed. V. Price & Company	1,906	Feb. 12	126	2587
"Lapin's Magic Straw Hat Cleaner." (For a Straw-Hat Cleaner.)	Essential Chemical Co	1,909	Feb. 12	126	2587
"The B. V. D. Way." (For Undershirts and Drawers)	Erlanger Bros	1,908	Feb. 12	126	2587
"The House of a Thousand Tailors." (For Men's and Boys' Coats, Vests, and Trousers.)	Ed. V. Price & Company	1,907	Feb. 12	126	2587

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Antiseptics, disinfectants, deodorizers, &c.	Kathairo Chemical Co.	18,490	Feb. 12	126	2565
Apples.	A. Kimball & Co.	24,536	Feb. 12	126	2575
Bandages, shoulder, knee, and elbow caps, wristlets, &c. Elastic	W. Read & Sons.	23,750	Feb. 12	126	2569
Beer.	Indianapolis Brewing Company.	21,619	Feb. 12	126	2566
Bicycles, velocipedes, and motor-cycles.	Miami Cycle and Mfg. Co.	18,761-2	Feb. 12	126	2565
Bitters.	W. H. Muller.	13,322	Feb. 12	126	2564
Books. Printed.	Cupples & Leon.	23,899	Feb. 12	126	2570
Boots and shoes.	M. Weiss.	24,604	Feb. 12	126	2576
Boots and shoes. Leather.	A. W. Tedcastle & Co.	24,725	Feb. 12	126	2578
Bottle-stopper. Metallic.	Crown Cork and Seal Co. of Baltimore City.	294	Feb. 12	126	2561
Brushes. Wire.	American Wire Brush Company.	24,653	Feb. 12	126	2577
Buttons for dresses, ready-made clothing, &c.	L. Huet and E. Ligier.	24,677-8	Feb. 12	126	2578
Calicoes, cotton cloth, &c.	Merrimack Manufacturing Company.	23,824	Feb. 12	126	2569
Candies.	Advance Novelty Company.	18,061	Feb. 12	126	2565
Candy. Chocolate-cream.	W. H. Batman.	12,905	Feb. 12	126	2563
Canned fish.	C. E. Moody & Co.	24,739	Feb. 12	126	2578
Canned salmon.	Hannam & Co.	21,929	Feb. 12	126	2567
Canned salmon.	F. C. Bushnell Co.	23,979	Feb. 12	126	2571
Caramels.	Paul F. Beich Co.	22,396	Feb. 12	126	2567
Card and box boards.	United Box Board & Paper Company.	23,888	Feb. 12	126	2570
Chisels, auger-bits, drawing-knives, &c.	Ohio Tool Company.	24,383	Feb. 12	126	2574
Cider.	G. B. Gehlert.	9,074	Feb. 12	126	2562
Cigarette-paper.	A. A. Kohary.	24,558	Feb. 12	126	2575
Cigars.	M. W. Diffley, Inc.	6,406	Feb. 12	126	2562
Cigars, cheroots, and little cigars.	L. Schwager & Co.	24,755	Feb. 12	126	2579
Circulars, pamphlets, and libretti.	Steinway & Sons.	24,031	Feb. 12	126	2572
Coats, pants, and vests.	Rosenbaum Co.	24,626	Feb. 12	126	2576
Coffee and tea.	W. S. Quinby Company.	24,360	Feb. 12	126	2574
Corn-flakes. Toasted.	American Hominy Company.	23,963-4	Feb. 12	126	2571
Corset-stiffeners.	Weingarten Bros.	24,155	Feb. 12	126	2572
Corsets and corset-waists.	Puritan Corset Co.	24,171	Feb. 12	126	2572
Corsets, bustles, and bust-forms.	Coronet Corset Company.	16,321	Feb. 12	126	2564
Cotton duck.	Denison Cotton Mill Co.	23,800	Feb. 12	126	2569
Cotton piece goods.	Rice, Stix Dry Goods Company.	23,502	Feb. 12	126	2569
Cotton shrunks.	Collins & Company.	24,509	Feb. 12	126	2575
Cotton shrunks.	Collins & Company.	24,511	Feb. 12	126	2575
Crackers.	Johnson Educator Food Co.	24,358	Feb. 12	126	2574
Cream. Toilet.	B. H. Goll Chemical Works.	23,961	Feb. 12	126	2570
Dental alloys.	S. S. White Dental Mfg. Co.	12,861	Feb. 12	126	2563
Dental wax.	S. S. White Dental Mfg. Co.	10,845	Feb. 12	126	2563
Disinfectants, deodorizers, and germicides.	A. Castaing.	23,680	Feb. 12	126	2569
Elastic webbing.	G. S. Colton.	24,379	Feb. 12	126	2574
Electrical switches.	Perkins Electric Switch Mfg. Co.	24,239	Feb. 12	126	2573
Explosives. High.	F. H. Briggs.	24,553	Feb. 12	126	2575
Fertilizers.	Craven Chemical Company.	24,462	Feb. 12	126	2574
Fish. Salt.	W. T. Shute.	24,389	Feb. 12	126	2574
Flour. Pancake.	Towle Syrup Company.	9,383	Feb. 12	126	2562
Flour. Wheat.	Duluth-Superior Milling Co.	20,020	Feb. 12	126	2566
Flour. Wheat.	Monte Vista Milling & Elevator Company.	24,255	Feb. 12	126	2573
Flour. Wheat.	Eagle Roller Mill Company.	24,634-6	Feb. 12	126	2576-7
Flour. Wheat.	George Urban Milling Company.	24,668-71	Feb. 12	126	2577
Flour. Wheat.	New Prague Flouring Mill Company.	24,741-2	Feb. 12	126	2579
Food. Wheat breakfast.	Wells Flour Milling Company.	24,743-4	Feb. 12	126	2579
Fuel. Artificial.	Pillsbury-Washburn Flour Mills Co.	23,301-2	Feb. 12	126	2568
Game. Indoor.	G. W. Herbeln.	23,036	Feb. 12	126	2568
Games and sports. Clothing used in.	American Printing Co.	24,314	Feb. 12	126	2573
Gas-burners. Metal.	W. Read & Sons.	24,724	Feb. 12	126	2578
Gas generators and lamps. Acetylene.	Geo. Bray & Co.	13,022-7	Feb. 12	126	2563-4
Gin, whisky, and brandy.	35x Automobile Supply Co.	24,726	Feb. 12	126	2578
Glass chimneys, lantern-globes, and reflectors.	I. L. Lamm Co.	24,732-3	Feb. 12	126	2578
Grape-juice. Unfermented.	Gill Brothers Company.	24,723	Feb. 12	126	2578
Hair-restorer.	Wilson Fruit Juice Co.	23,989	Feb. 12	126	2571
Hair tonics and restorers.	Van Vleet-Mansfield Drug Co.	13,948	Feb. 12	126	2564
Hats and caps.	Milligan & Donovan.	24,170	Feb. 12	126	2572
Hats. Ladies' and children's.	Mendel, Weinstock & Company.	24,468	Feb. 12	126	2575
Hones.	King, Brinsmade Mercantile Company.	1,547	Feb. 12	126	2561
Horse-radish, mustard, &c.	R. E. Brackett & Co.	12,805	Feb. 12	126	2563
Hose and machinery packings.	United States Horse-Radish Company.	23,864	Feb. 12	126	2570
Hose and machinery packings.	Revere Rubber Company.	23,908	Feb. 12	126	2569
Hose-supporters.	Revere Rubber Company.	24,501	Feb. 12	126	2575
Hosiery and knit gloves.	Black Cat Garter Company.	20,505	Feb. 12	126	2566
Ice-cream freezers.	Carleton Dry Goods Company.	9,025	Feb. 12	126	2562
Insecticides.	Richmond Cedar Works.	21,094	Feb. 12	126	2566
Jams.	E. Fichtenau.	24,617	Feb. 12	126	2576
Key rings and chains.	Beach and Clarridge Company.	22,751	Feb. 12	126	2567
Lamps. Incandescent electric.	L. Huet & E. Ligier.	13,723-4	Feb. 12	126	2564
Lap-robes.	Franklin Electric Mfg. Co.	16,648	Feb. 12	126	2565
Lubricating-graphite, graphite cable, axle, journal, and gear grease, &c.	L. Dusenbury.	23,683	Feb. 12	126	2569
Lumber and timber.	United States Graphite Company.	24,765	Feb. 12	126	2580
Medicaments. Vehicle for applying or administering.	C. Este.	18,356	Feb. 12	126	2565
	John Wyeth and Brother.	21,551	Feb. 12	126	2566

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Medicinal digestive preparations.	H. S. Wellcome.	21,494	Feb. 12	126	2566
Medicinal extracts, tinctures, concentrations, &c.	Eli Lilly & Company.	24,117	Feb. 12	126	2572
Medicine for coughs, colds, &c.	J. F. Fairchild.	24,064	Feb. 12	126	2572
Medicines for blood diseases.	J. Schneider & Co.	24,394	Feb. 12	126	2574
Metal-welding compounds.	Goldschmidt Thermit Co.	18,635	Feb. 12	126	2565
Newspaper. Monthly.	J. P. Weiss.	24,629	Feb. 12	126	2576
Oats. Rolled.	Schumacher Cereal Co.	19,515	Feb. 12	126	2566
Oil for lubricating, cleaning, &c.	W. F. Nye.	24,661	Feb. 12	126	2577
Oils and greases for gas-engines and automobiles.	Havemeyer Oil Company.	23,890	Feb. 12	126	2570
Oils and greases. Lubricating.	Mutual Auto Accessories Co. of America.	24,774	Feb. 12	126	2580
Oils. Cotton-seed.	Southern Cotton Oil Company.	10,889	Feb. 12	126	2563
Oils. Cotton-seed.	Southern Cotton Oil Company.	10,890	Feb. 12	126	2563
Oils. Cotton-seed.	Southern Cotton Oil Company.	10,891	Feb. 12	126	2563
Oils. Lubricating, engine, cylinder, and miners'.	G. P. Jones.	23,734	Feb. 12	126	2569
Olives.	American Olive Company.	21,631	Feb. 12	126	2566
Olives, olive-oil, and dried and evaporated fruits.	F. C. Bushnell Co.	23,977	Feb. 12	126	2571
Overalls. Cotton.	Georgia Manufacturing Company.	24,177	Feb. 12	126	2573
Overshirts. Men's.	Washington Shirt Co.	4,564	Feb. 12	126	2561
Paints. Mixed.	Knickerbocker Paint Company.	24,000	Feb. 12	126	2571
Photographic developers.	Actien-Gesellschaft für Anilin-Fabrikation.	12,339	Feb. 12	126	2563
Plasters. Corn and bunion.	Bauer & Black.	24,457	Feb. 12	126	2574
Pliers, nippers, and pincers.	Wiebusch & Hilger.	24,565	Feb. 12	126	2576
Potash or lye. Caustic.	E. N. Hall.	2,771	Feb. 12	126	2561
Preparation for the cure of dyspepsia.	Booth's Hyomei Company.	24,286	Feb. 12	126	2573
Preserves, jams, jellies, pickles, &c.	St. Louis Syrup & Preserving Company.	24,595	Feb. 12	126	2576
Radiators for automobiles.	A-Z. Co.	17,815	Feb. 12	126	2565
Raisins.	Griffin & Skelley Co.	22,968-9	Feb. 12	126	2568
Razor-paste.	J. H. Leek.	24,752	Feb. 12	126	2579
Reamers and twist-drills.	Whitman & Barnes Manufacturing Company.	24,016-17	Feb. 12	126	2572
Relish.	Wright Smith M'f'g. Co.	21,890	Feb. 12	126	2567
Remedies for coughs, colds, asthma, &c.	M. M. Fenner Company.	19,145	Feb. 12	126	2566
Remedy for chapped and sore lips, also used as a rouge.	E. M. Hetsel.	24,493	Feb. 12	126	2575
Remedy for disorders of the nervous and digestive systems.	G. W. Tayloe.	24,235	Feb. 12	126	2573
Remedy for rheumatism, &c.	F. Stohr.	21,789	Feb. 12	126	2567
Remedy for rheumatism, nervous complaints, &c.	Radway & Company.	23,306	Feb. 12	126	2568
Remedy for seasickness.	J. A. Nordin.	17,788	Feb. 12	126	2565
Remedy, liniment, &c. Roup and gape.	E. D. Sutton.	23,863	Feb. 12	126	2570
Rice.	Sprague, Warner & Company.	24,605	Feb. 12	126	2576
Rings, brooches, and badges.	Carl Entenmann Jewelry Company.	22,891	Feb. 12	126	2568
Rope and binder-twine.	Standard Cordage Company.	22,890	Feb. 12	126	2567
Salve, ointment, toilet cream, extracts, &c.	Pompeian Mfg. Co.	23,925	Feb. 12	126	2570
Sand, garnet, and emery papers and emery-cloths.	American Glue Company.	23,742	Feb. 12	126	2569
Saws, die-stocks, screw-plates, and pipe-cutters.	Neuss, Hesslein & Co.	22,847	Feb. 12	126	2567
Sewing-machines, sewing-machine attachments, stands, tables, and covers.	A. G. Mason.	24,325-6	Feb. 12	126	2573
Shells. Loaded paper shot.	Winchester Repeating Arms Co.	24,374	Feb. 12	126	2574
Shirt-waists, shirt-waist suits, and wrappers.	Parker & Thomes Co.	21,523	Feb. 12	126	2566
Shoe pincers and jacks.	F. W. Whitcher.	22,843	Feb. 12	126	2567
Sifters. Machine.	Fred. J. Meyers Manufacturing Company.	24,499	Feb. 12	126	2575
Silk piece goods.	Sauquoit Silk Manufacturing Company.	21,070	Feb. 12	126	2566
Soap.	Colgate & Co.	24,735	Feb. 12	126	2578
Soap. Medicated toilet.	G. C. Wilson.	24,217	Feb. 12	126	2573
Soaps.	Mexican Amole Soap Co.	10,766	Feb. 12	126	2562
Syrup.	Towle Syrup Company.	9,381-2	Feb. 12	126	2562
Syrup and molasses. Maple.	Towle Syrup Company.	9,380	Feb. 12	126	2562
Syrup, molasses, and sorghum. Table and maple.	St. Louis Syrup & Preserving Company.	24,594	Feb. 12	126	2576
Syrups.	Beach and Clarridge Company.	22,750	Feb. 12	126	2567
Tablets or lozenges for dyspepsia.	C. A. Siegemund.	18,829	Feb. 12	126	2565
Thread or sewing-cotton. Cotton.	Clark Thread Co.	13,676	Feb. 12	126	2564
Tonic.	Van Vleet-Mansfield Drug Co.	11,202	Feb. 12	126	2563
Traps. Mouse and rat.	Enterprise Novelty M. F. G. Co.	24,285	Feb. 12	126	2573
Twine. Cotton.	J. E. Reynolds.	15,310	Feb. 12	126	2564
Varnish.	Glidden Varnish Company.	14,990	Feb. 12	126	2564
Varnish stains, priming, and fillers.	Martin-Senour Co.	24,229	Feb. 12	126	2573
Varnishes, stains, japans, &c.	Noake-Wheeler-Clough Company.	12,001	Feb. 12	126	2563
Veilings.	Weil Brothers.	24,712-13	Feb. 12	126	2578
Waters, ginger-ale, cider, soda, pop, &c. Mineral.	Blue Ribbon Mining, Milling, and Investment Co.	23,985	Feb. 12	126	2571
Whisky.	Henry M. Rubel Company.	23,724-6	Feb. 12	126	2569
Whisky.	Thos. Moore Distilling Co.	23,940	Feb. 12	126	2570
Whisky.	Jno. T. Barber & Co.	24,200	Feb. 12	126	2573
Whisky.	M. Letzelter.	24,737	Feb. 12	126	2578
Whisky.	Bluthenthal & Bickart.	24,746	Feb. 12	126	2579
Whisky.	Friedman, Keller & Co.	24,750	Feb. 12	126	2579
Whisky.	West Overton Distilling Co.	24,757	Feb. 12	126	2579
Wine. Port.	Offley, Forrester & Co.	15,557	Feb. 12	126	2564
Woolen fabrics in the piece.	Phoenix Woolen Co.	24,575	Feb. 12	126	2576

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 19TH DAY OF FEBRUARY, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Abel, Walter T. (See Platt and Abel.)						
Acheson, Edward G., Stamford township, Welland county, Ontario, Canada. Deflocculated graphite and deflocculation thereof	844,989	Feb. 19	4491	989	126	2982
Ackermann, Edward G. (See Sague, George, assignor.)						
Adams, Robert L., New Orleans, La. Cover for glasses	844,906	Feb. 19	4352	929	126	2945
Adams, Thomas, Jr. (See Anderson, Ernest D., assignor.)						
Aetna Powder Company. (See Allen, George A., assignor.)						
Aikin, John B., Bloomington, Ohio. Sure catch-latch for doors, &c	844,907	Feb. 19	4353	929	126	2946
Albin, John L., Kiowa, Colo. Potato-digger	844,908	Feb. 19	4356	930	126	2946
Allan, William L., San Francisco, Cal., and W. T. Price, Ithaca, N. Y. Derrick	844,990	Feb. 19	4492	958	126	2982
Allen, George A., Western Springs, assignor to Aetna Powder Company, Chicago, Ill. Portable dynamo	844,991	Feb. 19	4494	959	126	2982
Allen, John H., and T. Vickers, New York, N. Y. Fluid-pressure engine	844,437	Feb. 19	3158	679	126	2655
Allen, William W., Dobbs Ferry, N. Y. Washing-machine	844,766	Feb. 19	4092	872-3	126	2881
Alliance Machine Company. (See Kendall, David, assignor.)						
Allis-Chalmers Company. (See Martin, Ludolph P., assignor.)						
Allis-Chalmers Company. (See Shipley, Grant B., assignor.)						
Allis-Chalmers Company. (See Voy, Edward L., assignor.)						
American Can Company. (See Carnes, Edward W., assignor.)						
American Seeding Machine Company. (See Bozard, Harrison B., assignor.)						
American Sheet & Tin Plate Company. (See Bray, Charles W., assignor.)						
Ames, James L. (See Gilchrist, Luther M., assignor.)						
Anderson, Adelbert H., Canastota, assignor to F. W. Savage, Granville, N. Y. Felt boot	844,992	Feb. 19	4497	959	126	2983
Anderson, Ellis B., Demopolis, Ala. Combined feeding, cleaning, and elevating apparatus	844,842	Feb. 19	4237	904	126	2918
Anderson, Ernest D., assignor to T. Adams, Jr., New York, N. Y. Mantle-impregnating machine	844,644	Feb. 19	3816	807-11	126	2809
Anderson, Leonard W., Rockymount, Va. Lamp	844,311	Feb. 19	2927	622	126	2597
Anthony, Marcus O., assignor to United Machine & Supply Company, New York, N. Y. Vending-machine	844,843	Feb. 19	4241	904-5	126	2919
Anthony, Marcus O., assignor to United Machine & Supply Company, New York, N. Y. Coin-controlled mechanism	844,909	Feb. 19	4358	930	126	2947
Arbogast, John I., Pittsburg, assignor of one-half to L. S. Brock, Beaver, seven and one-half one-hundredths to F. C. Park, and seven and one-half one-hundredths to H. L. Collins, Pittsburg, Pa. Amalgamating and annealing oven for wire-glass	844,705	Feb. 19	3955	839	126	2844
Arbogast, John I., Pittsburg, assignor of one-half to L. S. Brock, Beaver, and fifteen one-hundredths to F. C. Park and H. L. Collins, Pittsburg, Pa. Producing wire-glass	844,767	Feb. 19	4094	873	126	2881
Armac Motor Company. (See Keller, Edwin W., assignor.)						
Aronsohn, Harry. (See Bloom, Edward, assignor.)						
Arthur, James B., Pittsburg, Pa. Cracker-box	844,706	Feb. 19	3956	839	126	2844
Austin, William L., assignor to Burnham, Williams & Company, Philadelphia, Pa. Locomotive	844,768	Feb. 19	4096	873-4	126	2881
Auto-Manual Piano Action Company. (See Wuest, Philip, Jr., assignor.)						
Ayres, Milan V., Newton Highlands, Mass. Window	844,645	Feb. 19	3827	811	126	2812
B. F. Avery & Sons. (See Holsclaw, Wilford H., assignor.)						
Bachman, Frank E., Port Henry, N. Y. Gas-washer	844,312	Feb. 19	2928	622-3	126	2597
Bachman, Frank E., Port Henry, N. Y. Gas-washer	844,313	Feb. 19	2930	623-4	126	2598
Badische Anilin & Soda Fabrik. (See Bohn, René, assignor.)						
Baekeland, Leo H., Yonkers, assignor to Development and Funding Company, New York, N. Y. Apparatus for regenerating electrolytes	844,314	Feb. 19	2932	624	126	2598
Bähr, Henrika W., Helsingfors, Russia. Fountain-pen	844,646	Feb. 19	3828	811	126	2812
Bailey, Charles A., Cromwell, Conn., assignor to National Novelty Corporation, Westfield, N. Y. Toy bank	844,910	Feb. 19	4360	931	126	2947
Bailey, Howard C. (See Whitehorne, William R., assignor.)						
Baker, Linnaeus E., Cleveland, Ohio. Knife for lawn-mowers	844,769	Feb. 19	4097	874	126	2882
Baker, Linnaeus E., Cleveland, Ohio. Ratchet mechanism for lawn-mowers	844,844	Feb. 19	4244	905	126	2920
Baldwin, John H., Beaumont, Tex. Nut-lock	844,993	Feb. 19	4499	959	126	2983
Ballard, Harrie A., Ashland, assignor, by mesne assignments, to Boylston Manufacturing Company, Boston, Mass. Machine for tacking shoes	844,647	Feb. 19	3830	812	126	2813
Banning, Joseph O., Zanesville, Ohio. Air-compressor	844,648	Feb. 19	3833	812	126	2814
Barker, James T., Westplains, Mo. Trace-buckle	844,707	Feb. 19	3958	839	126	2845
Barnes, John S., Rockford, Ill. Fountain-pen	844,575	Feb. 19	3711	780	126	2784
Barnes, John S., Rockford, Ill. Fountain-pen	844,576	Feb. 19	3713	780	126	2784
Barnes, Walter H., assignor to Larkin Co., Buffalo, N. Y. Knockdown crate	844,649	Feb. 19	3834	812-13	126	2814
Barnum, Thomas E., Milwaukee, Wis. Drum-controller for electric motors	844,651	Feb. 19	3839	814	126	2815
Barnum, Thomas E., assignor to Cutler-Hammer Mfg. Co., Milwaukee, Wis. Alternating-current-retaining device for electric-motor controllers	844,650	Feb. 19	3836	813	126	2814
Barnum, Thomas E., assignor to Cutler-Hammer Mfg. Co., Milwaukee, Wis. Three-wire reversible-drum controller	844,652	Feb. 19	3843	814-15	126	2816
Baroody, Assad M., Danville, Va. Starch-mold	844,911	Feb. 19	4362	931	126	2948
Batcheller, George C. (See Meyer, Svend M., assignor.)						
Bates, Henry, Homestead, Pa. Attachment for valves	844,315	Feb. 19	2933	624	126	2599
Battiste, S. I. I., *et al.* (See Hatchett, Andrew, assignor.)						
Bauer, Charles G., Brooklyn, N. Y. Envelop-opener	844,770	Feb. 19	4098	874	126	2882

Name, residence, and invention.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Bayley, Guy L., Pittsburg, Pa., assignor to Cummings Fliter Co. Filtering apparatus	844,438	Feb. 19	3161	679–80	126	2656
Bazeley, Arthur J., assignor to National Malleable Castings Company, Cleveland, Ohio. Car-coupling	844,491	Feb. 19	3279	707–8	126	2685
Becke, Max, assignor to Farbwerke vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Yellow and orange pigment colors	844,845	Feb. 19	4246	.....	126	2921
Beidler, George A., Oklahoma, Okla. Ter. Campaign device	844,492	Feb. 19	3283	708	126	2686
Belloni, Ernesto L., Milan, Italy. Integral or through coloration of marble	844,846	Feb. 19	4247	.....	126	2921
Bellows, Horace M., Huntington Valley, Pa. Aerial navigation	844,771	Feb. 19	4100	875	126	2882
Bennett, George D., Reidsville, N. C. Cultivator and fertilizer-distributer	844,912	Feb. 19	4363	932	126	2948
Bennett, James C., Detroit, Mich. Steam tube-blower	844,493	Feb. 19	3284	708	126	2686
Bennett, John H., and A. I. Miner, San Francisco, Cal. Arc-lamp	844,630	Feb. 19	3163	680	126	2656
Bergman, Amos C., New York, N. Y. Pedal attachment for pianos	844,913	Feb. 19	4364	932	126	2948
Bernegau, Carl M., assignor to Keuffel & Esser Company, Hoboken, N. J. Compasses and similar instrument	844,772	Feb. 19	4103	875	126	2883
Berry, Chester, assignor to L. Robbins, Worcester, Mass. Belt-shipping mechanism	844,653	Feb. 19	3846	815	126	2817
Bess, Albert, Hamilton, Ohio. Mangle	844,773	Feb. 19	4104	875	126	2884
Best, Thomas C., Chicago, Ill. Bracket	844,494	Feb. 19	3286	708	126	2687
Beynon, George W., Mortimer, and G. H. Mackillop, Maidenhead; said Beynon assignor to G. R. Bonnard, London, England. Double-acting stamp	844,847	Feb. 19	4250	905–6	126	2921
Bickmore Gall Cure Company. (See Richardson, George H., assignor.)						
Bingaman, Josephus, Garnett, Kans. Pruning implement	845,027	Feb. 19	4580	975	126	3003
Binney, Harold, New York, N. Y. Change-making machine	844,654	Feb. 19	3848	815–17	126	2818
Birch, William, Lower Broughton, England. Apparatus for opening and stretching fabrics	844,316	Feb. 19	2934	625	126	2599
Birmingham Iron Foundry. (See Schofield, Richard, assignor.)						
Björklund, Gustave, New York, N. Y. Piano-pedal action	844,655	Feb. 19	3852	817	126	2819
Blair, Charles H., *et al.* (See Cornell, Oliver H. P., assignor.)						
Blake, Sherman J., Conneaut, Ohio. Trimming device for loading apparatus	844,317	Feb. 19	2935	625	126	2599
Blekum, Herald. (See Clough, Edwin S., assignor.)						
Bloom, Edward, assignor of one-half to H. Aronsohn, Paterson, N. J. Cloth-finishing device for looms	844,848	Feb. 19	4251	906	126	2922
Bluemel, Gustave, Denver, Colo. Time computer and recorder	844,708	Feb. 19	3959	840–1	126	2845
Boarman, John M. (See Shaw, William C., assignor.)						
Bock, William O., *et al.* (See Goble, James F. S., assignor.)						
Boehler, Frank J., Republic, Ohio. Weather-strip	844,656	Feb. 19	3854	817	126	2819
Bohn, René, Mannheim, assignor to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Making an anthracene dye	844,914	Feb. 19	4366	.....	126	2948
Bolsonneault, Gedeon, and T. Boucher, Manchester, N. H. Holder for filling-carriers	844,318	Feb. 19	2936	625	126	2600
Bollinger, Alexander M., Leechburg, Pa. Boy's wagon	844,319	Feb. 19	2937	626	126	2600
Bonnard, Gustave R. (See Beynon and Mackillop, assignors.)						
Bontano, Maximilian F., Goshen, Va. Metallic cross-tie	844,774	Feb. 19	4106	876	126	2884
Boole, Frank A., and L. D. Stephenson, Blaine, Wash. Car	844,915	Feb. 19	4366	933	126	2948
Booth, Thomas B. (See Haubroe, Lars C., assignor.)						
Borchardt, Martha, New York, N. Y. Toy	844,577	Feb. 19	3714	780	126	2784
Border, Rebecca, Everett, Pa. Vehicle-axle	844,916	Feb. 19	4368	933	126	2949
Borton, Stockton, Providence, R. I., assignor to Willcox & Gibbs Sewing Machine Company, New York, N. Y. Seam	844,320	Feb. 19	2939	626	126	2600
Bostwick, Arthur J., Eau Claire, Wis. Stake-holder	844,775	Feb. 19	4108	876	126	2885
Boucher, Theophile. (See Bolsonneault and Boucher.)						
Boullier, Joseph A. E. H., Paris, France. Producing mantles for incandescent gas-lighting	844,849	Feb. 19	4252	.....	126	2922
Bousek, Edmund, executor. (See Esser, Christian.)						
Bowman, Wilbur N., Pierre, S. D. Attachment for linotype-machines	844,917	Feb. 19	4369	933	126	2949
Boyer, Jerome F., Pittsburg, Pa. Lock for incandescent lamps	844,321	Feb. 19	2941	626	126	2601
Boyle, John. (See Thompson, Henry B., assignor.)						
Boylston Manufacturing Company. (See Ballard, Harrie A., assignor.)						
Bozard, Harrison B., Allegany, N. Y., assignor to American Seedling Machine Company, Springfield, Ohio. Grain-distributer	844,322	Feb. 19	2942	626–7	126	2601
Braun, William. (See Braun, William F. and W.)						
Braun, William F., Muskegon, Mich., and W. Braun, Brooklyn, N. Y. Automatic weighing-machine	844,440	Feb. 19	3164	680–3	126	2657
Bray, Charles W., assignor to American Sheet & Tin Plate Company, Pittsburg, Pa. Finishing metal packs	844,323	Feb. 19	2943	627	126	2601
Brock, Lem S., *et al.* (See Arbogast, John I., assignor.)						
Brown, George W., *et al.* (See Wilkins, George H., assignor.)						
Brown, Herbert H., Philadelphia, Pa. Egg-tester	844,441	Feb. 19	3170	684	126	2658
Brown, Mannon, Elk City, Okla. Ter. Weight-motor	844,658	Feb. 19	3857	817–18	126	2819
Brown, William M., Johnstown, Pa., assignor to Lorain Steel Company. Car-magnet support	844,918	Feb. 19	4371	934	126	2950
Brundin, Johan E., New York, N. Y. Bedbug-trap	844,919	Feb. 19	4372	934	126	2950
Bryant Electric Company. (See Peterson, Johann G., assignor.)						
Buckham, John F., *et al.* (See Gilchrist, Luther M., assignor.)						
Buckley, John, and J. Sherry, assignors, by mesne assignments, to Sterling Lubricator Company, Rochester, N. Y. Lubricator	844,324	Feb. 19	2944	627–8	126	2602
Bullock, Arthur R., assignor to Excelsior Spark Plug Co., Cleveland, Ohio. Spark-plug for explosive-engines	844,495	Feb. 19	3286	709	126	2687
Bullock Electric Manufacturing Company. (See Garrett, Frank W., assignor.)						
Bunnell, Morton G., Chicago, assignor to Western Wheeled Scraper Co., Aurora, Ill. Jaw-crusher	845,028	Feb. 19	4581	975	126	3003
Burness, Frank B., Sioux City, Iowa. Cement-truck	844,325	Feb. 19	2948	628	126	2603
Burnham, Williams & Company. (See Austin, William L., assignor.)						
Burnham, Williams & Company. (See Vauclain, Samuel M., assignor.)						
Burrell, William C., Bradley, Ill. Block-forming machine	844,709	Feb. 19	3964	841–2	126	2846
Burton, Joseph A. (See Roy and Burton.)						
Butler, Charles W. and H. C., Louisville, Ky. Door-operating device	844,659	Feb. 19	3860	818	126	2820
Butler, Hiram C. (See Butler, Charles W. and H. C.)						
C. B. Cottrell & Sons Company. (See Greenway, Richard J., Jr., assignor.)						
Cadillac Motor Car Company. (See McCausland, David, assignor.)						
Campbell, George P., Yonkers, N. Y. Toy rapid-fire gun	844,994	Feb. 19	4499	959–60	126	2953
Capen, Edwy O., Buffalo, N. Y. Condensation-preventer	845,029	Feb. 19	4586	975	126	3003
Carlisle, J. P., *et al.* (See Harris, William A. and B. S. H., assignors.)						
Carlson, Carl A., Holyoke, Mass. Throttle-valve and air-strainer for pneumatic drills	844,776	Feb. 19	4109	876	126	2886
Carnes, Edward W., assignor to American Can Company, Chicago, Ill. Rectangular can for dried beef and other articles	844,326	Feb. 19	2949	628	126	2603
Carroll, Patrick P., Seattle, Wash. Car-ventilator	844,496	Feb. 19	3287	709	126	2687
Case, Frank E., Schenectady, N. Y., assignor to General Electric Company. Control system for connecting motors as braking-generators	844,777	Feb. 19	4111	877	126	2886
Casein Company of America. (See Dunham, Andrew A., assignor.)						
Cavallaro, Francesco. (See Dearborn, Cavallaro, and MacKenzie.)						
Cavanagh, John F., Providence, R. I. Spark-coil	844,578	Feb. 19	3715	781	126	2784

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Cazin, Francis M. F., Hoboken, N. J. Luminant in electric incandescent lamps	844,778	Feb. 19	4113	877	126	2887
Chambers Brothers Company. (See King, Howard K., assignor.)						
Cheesbro, Emery H., Dansville, N. Y. Water pan or hood for grindstones	844,497	Feb. 19	3288	709	126	2687
Cheney, Thomas J., Lodi, Ohio. Churn	844,327	Feb. 19	2951	628	126	2604
Chrysler, William L., and J. W. Kays, Eugene, Oreg.; said Chrysler assignor of one-half to said Kays. Wrench	845,030	Feb. 19	4587	976	126	3005
Churchill, Charles L. (See Simmons, Jesse C., assignor.)						
Clark, Walter L. (See Reiss and Clark.)						
Clark, William E., St. Louis, Mo. Storm-front or duster-hood fastener	844,920	Feb. 19	4374	934–5	126	2951
Clarke, Edward, Dunkirk, N. Y. Eyeglass or spectacle mounting	844,328	Feb. 19	2953	629	126	2604
Claussen, Edward E., Hartford, Conn., assignor to Union Paper Bag Machine Company, Philadelphia, Pa. Paper-bag machine	844,329	Feb. 19	2954	629–30	126	2604
Cleary, Frank, and J. Garrity, Rugby, N. D. Guard-rail fastener	844,660	Feb. 19	3862	818	126	2820
Clements, Harold L., Dawson City, Yukon Territory, Canada. Bottle	844,579	Feb. 19	3716	781	126	2785
Cliff, Edward, deceased, New York, N. Y.; J. Cliff, administratrix. Automobile	845,031	Feb. 19	4589	976–7	126	3006
Cliff, Jane, administratrix. (See Cliff, Edward.)						
Cline, May, Harmony, N. J. Life-preserver	844,580	Feb. 19	3717	781	126	2785
Clough, Edwin S., assignor of one-half to H. Blekum, Seattle, Wash. Releasable connection	844,710	Feb. 19	3967	842	126	2846
Cobb, Elbert R., Bermuda, La. Saw-dressing tool	844,850	Feb. 19	4253	907	126	2922
Colbath, Monroe D., Hampden, Me. Carbureter	844,995	Feb. 19	4501	960	126	2984
Colbath, Monroe D., Hampden, Me. Carbureter	844,996	Feb. 19	4504	960–1	126	2984
Cole, Ernest C., assignor to Cole Manufacturing Company, Chicago, Ill. Creosote-trap	844,921	Feb. 19	4375	935	126	2951
Cole, Henry W. N., New York, N. Y. Molding-machine	844,330	Feb. 19	2958	631	126	2605
Cole Manufacturing Company. (See Cole, Ernest C., assignor.)						
Collar, Charles T., Adrian, Mich., assignor to H. L. Swan, Fort Worth, Tex. Tie for wire fencing	845,032	Feb. 19	4592	977	126	3007
Collins, Henry L., *et al.* (See Arbogast, John I., assignor.)						
Combustion Utilities Company. (See Doherty, Henry L., assignor.)						
Combustion Utilities Company. (See Ellis, Carleton, assignor.)						
Constable, William, Schenectady, N. Y., assignor to General Electric Company. Protective device for frangible vessels	844,779	Feb. 19	4117	877	126	2887
Conti, James T. F., Paris, France. Speed-indicator	844,922	Feb. 19	4376	935	126	2951
Coombs, Arthur H., assignor of one-half to O. S. Coombs, Chicago, Ill. Machine for making cement building-blocks	844,711	Feb. 19	3968	843–5	126	2847
Coombs, Olga S. (See Coombs, Arthur H., assignor.)						
Cooper, Hugh L., Stamford, Conn. Dam and apparatus for and method of constructing the same	844,498	Feb. 19	3289	709–10	126	2687
Cornell, Oliver H. P., Atlanta, Ga., assignor of one-half to C. H. Blair and H. G. Ogden, Jr., New York, N. Y. Cotton-picker	844,331	Feb. 19	2960	631–2	126	2606
Cox, J. S., *et al.* (See Morgan, Robert, assignor.)						
Cram, Alonzo W., Haverhill, Mass. Beater or mixer	844,499	Feb. 19	3293	710	126	2689
Cram, Alonzo W., Haverhill, Mass. Tea-kettle	844,780	Feb. 19	4119	877	126	2888
Cridge, Edmund L., Passaic, N. J. Automatic shut-off for fluids	844,923	Feb. 19	4378	935	126	2952
Crompton & Knowles Loom Works. (See McGuiness, Benjamin F., assignor.)						
Crozier, John, Ste. Agathe, Quebec, Canada. Railway-rail chair	844,500	Feb. 19	3295	710	126	2689
Cummings Filter Co. (See Bayley, Guy L., assignor.)						
Cutler-Hammer Mfg. Co. (See Barnum, Thomas E., assignor.)						
Cutler-Hammer Manufacturing Company. (See Cutler, Henry H., assignor.)						
Cutler, Henry H., assignor to Cutler-Hammer Manufacturing Company, Milwaukee, Wis. Clutch-controlled elevator	844,661	Feb. 19	3863	819–20	126	2821
Cutler, Henry H., assignor to Cutler-Hammer Manufacturing Company, Milwaukee, Wis. Electrically-controlled skip-hoist	844,662	Feb. 19	3868	820	126	2822
Cutler, Henry H., assignor to Cutler-Hammer Manufacturing Company, Milwaukee, Wis. Self-starter for electric motors	844,663	Feb. 19	3873	820	126	2823
Cutler, Henry H., assignor to Cutler-Hammer Mfg. Co., Milwaukee, Wis. Phase-splitter and clutch	844,997	Feb. 19	4507	961	126	2985
Dalitz, Harry, Cleveland, Ohio. Trousers-press	844,712	Feb. 19	3979	845	126	2849
Dann, Joseph A., Miami, Fla. Vehicle reach-coupling	844,501	Feb. 19	3296	711	126	2690
Daubenspeck, John W. (See Porter and Daubenspeck.)						
David, Louis, Montgomery, Ala. Cotton-gin	844,442	Feb. 19	3172	684	126	2658
Davis, Henry P., Washington, D. C. Dental gold-pellet holder	844,781	Feb. 19	4121	878	126	2889
Davis, John H., assignor to Sanitary Manufacturing Company, Hamilton, Ohio. Tank-valve	844,581	Feb. 19	3717	781	126	2785
Davis Locomotive Wheel Company. (See Westlake and Thomas, assignors.)						
Dawson, James C., St. Louis, Mo. Clutch	844,443	Feb. 19	3173	684	126	2658
Dawson, John, assignor to Rand, McNally & Co., Chicago, Ill. Recording device	844,664	Feb. 19	3878	821	126	2825
De Groot, Edward, *et al.* (See Fletcher, Elmer, assignor.)						
De Kleist, Eugene, North Tonawanda, N. Y. Valve for pneumatic musical instruments	844,879	Feb. 19	4307	918	126	2935
De Tamble, John E., assignor of two-thirds to R. De Tamble, Chicago, Ill. Means for attaching belt-shifter rods or poles	844,333	Feb. 19	2964	633	126	2607
De Tamble, Rose. (See De Tamble, John E., assignor.)						
Dean, Alexander, Denver, Colo. Belt-checking device	844,851	Feb. 19	4255	907	126	2922
Dearborn, Franklin J., F. Cavallaro, and A. S. MacKenzie, San Jose, Cal. Pipe-wrench	844,852	Feb. 19	4256	907	126	2922
Deitz, Henry, Denver, Colo. Rock-drill	844,582	Feb. 19	3718	782	126	2785
Del Mar, Harry, New York, N. Y. Water-tube steam-boiler	844,713	Feb. 19	3979	846	126	2849
Delphos Manufacturing Company. (See Foster, Bertram G., assignor.)						
Demacakos, George, New York, N. Y. Valved closure	844,332	Feb. 19	2962	632	126	2607
Dempster Mill Manufacturing Company. (See Molony, Harry S., assignor.)						
Des Jardins, Benjamin M., Hartford Conn., assignor, by mesne assignments, to Unitype Company. Calculating device	844,554	Feb. 19	3416	736–7	126	2717
Des Jardins, Benjamin M., Hartford, Conn., assignor, by mesne assignments, to Unitype Company. Type-justifier	844,555	Feb. 19	3426	737–9	126	2719
Des Jardins, Benjamin M., Hartford, Conn., assignor, by mesne assignments, to Unitype Company. Type-justifying machine	844,556	Feb. 19	3440	739–41	126	2724
Des Jardins, Benjamin M., Hartford, Conn., assignor, by mesne assignments, to Unitype Company. Type-justifying machine	844,557	Feb. 19	3448	741–2	126	2726
Des Jardins, Benjamin M., Hartford, Conn., assignor, by mesne assignments, to Unitype Company. Type-justifier	844,558	Feb. 19	3455	742–3	126	2727
Des Jardins, Benjamin M., Hartford, Conn., assignor, by mesne assignments, to Unitype Company. Type-justifier	844,559	Feb. 19	3463	743–4	126	2729
Des Jardins, Benjamin M., Hartford, Conn., assignor, by mesne assignments, to Unitype Company. Type-justifier	844,560	Feb. 19	3472	745–6	126	2732
Des Jardins, Benjamin M., Hartford, Conn., assignor, by mesne assignments, to Unitype Company. Type-justifier	844,561	Feb. 19	3482	746–7	126	2734
Des Jardins, Benjamin M., Hartford, Conn., assignor, by mesne assignments, to Unitype Company. Type-justifying machine	844,562	Feb. 19	3491	748–51	126	2736
Des Jardins, Benjamin M., Hartford, Conn., assignor, by mesne assignments, to Unitype Company. Type-justifying machine	844,563	Feb. 19	3532	752–5	126	2749

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Des Jardins, Benjamin M., West Hartford, Conn., assignor, by mesne assignments, to Unitype Company. Type-justifying machine	844,564	Feb. 19	3556	755-9	126	2752
Desforges, Leonce, Jr., New Orleans, La. Refrigerator	844,924	Feb. 19	4379	936	126	2962
Development and Funding Com any. (See Backeland, Leo H., assignor.)						
Dickinson, John O., Nashville, Tenn. Cotton-harvester	844,502	Feb. 19	3297	711	126	2690
Didier, Jules L., St. Cloud, France. Oil-retaining device for explosion-motors	844,853	Feb. 19	4257	907	126	2923
Diescher, Samuel E., assignor, by mesne assignments, to Pittsburg Patents Company, Pittsburg, Pa. Swaging billets	844,334	Feb. 19	2965	633	126	2607
Dietz, Gustav, Yonkers, N. Y. Photographic shutter	844,854	Feb. 19	4257	908	126	2923
Dills, Stokley D., Decatur, Ill. Catapult	844,665	Feb. 19	3879	821	126	2925
Dittmann, Gustav, Garwood, N. J. Insect-trap	844,803	Feb. 19	3298	711	126	2690
Dittrich, Joseph, *et al.* (See Themke, Louis E. L., assignor.)						
Dixon, Benjamin L., assignor of one-half to G. H. Watts, Georgetown, Ky. Apparatus for curing tobacco	844,583	Feb. 19	3721	782	126	2786
Dodge, Philip T., Brooklyn, N. Y. Type-writing machine	844,666	Feb. 19	3880	821	126	2926
Dodge, Robert W., Kansas City, Mo. Formaldehyde-generator	844,855	Feb. 19	4259	908	126	2923
Dodson, Joseph H., Chicago, Ill. Syringe	844,335	Feb. 19	2968	634	126	2608
Doerr, Lawrence, Mancelona, Mich. Stovepipe-collar	844,782	Feb. 19	4122	878	126	2889
Doherty, Henry L., Madison, Wis., assignor to Improved Equipment Company, Denver, Colo. Apparatus for cooling liquids	844,336	Feb. 19	2969	634	126	2608
Doherty, Henry L., Madison, Wis., assignor, by mesne assignments, to Combustion Utilities Company, New York, N. Y. Apparatus for regulating combustion in furnaces	844,504	Feb. 19	3299	712-13	126	2691
Draper Company. (See Roper, Charles F., assignor.)						
Drysdale, Stephen H., Versailles, Mo. Adding-machine	844,505	Feb. 19	3302	713	126	2691
Du Brul, Napoleon, Cincinnati, Ohio. Paper-cigarette machine	844,783	Feb. 19	4123	878-80	126	2889
Duckenfield, Willard E., Newark, N. J. Sash-lock	844,667	Feb. 19	3882	821	126	2926
Duffett, George J., assignor to Simmons Hardware Company, St. Louis, Mo. Coal-hod	844,714	Feb. 19	3981	846	126	2850
Duffett, George J., assignor to Simmons Hardware Company, St. Louis, Mo. Coal-hod	844,856	Feb. 19	4260	908	126	2924
Dunbar, Francis W., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone trunking system	844,506	Feb. 19	3307	713-14	126	2692
Dunham, Andrew A., Adams, N. Y., assignor to Casein Company of America. Evaporator	844,715	Feb. 19	3982	846	126	2850
Dunn, Lemuel J., Spencer, Ind. Lifting-jack	844,784	Feb. 19	4130	880-1	126	2891
Ebert, Adolf G. P., Pittsburg, Pa. Puzzle	844,716	Feb. 19	3983	847	126	2850
Edwards, Pauline, New York, N. Y. Combination comb and hat-fastener	844,785	Feb. 19	4133	881	126	2892
Egloff, Frank S., Chicago, Ill. Imitation pocket-book	844,337	Feb. 19	2972	635	126	2609
Eller, Edward. (See Kimple and Eller.)						
Electric Appliance Company. (See Wingren, Richard, assignor.)						
Elenterius, Nealy, Biloxi, Miss. Fishing-seine	844,925	Feb. 19	4380	936	126	2962
Elkus, Laurence, Indianapolis, Ind. Composition of bricks	844,668	Feb. 19	3883		126	2827
Ellett, Walter M., and R. M. Vick, Alliance, Ohio. Credit-cabinet	844,338	Feb 19	2973	635	126	2609
Ellett, Walter M., and R. M. Vick, Alliance, Ohio. File-clip	844,339	Feb. 19	2974	635	126	2609
Ellis, Carleton, White Plains, assignor to Combustion Utilities Company, New York, N. Y. Burning cement and apparatus therefor	844,857	Feb. 19	4261	908-9	126	2924
Emerson Electric Manufacturing Company. (See Meston and Finch, assignors.)						
Emerson Manufacturing Company. (See Waterman, Lewis E., assignor.)						
Empire Last Works. (See Schelter, George G. and J. C., assignors.)						
Empire Last Works. (See Schelter, John C., assignor.)						
Englert, Joseph J., Chicago, Ill. Tag-wiring machine	844,998	Feb. 19	4510	961-3	126	2985
Ennisson, Walter J., Hartford, Conn., assignor to Thorne Type Setting Machine Company. Type-justifying machine	844,565	Feb. 19	3583	759-64	126	2758
Ennisson, Walter J., Hartford, Conn., assignor to Thorne Type Setting Machine Company. Type-justifying machine	844,566	Feb. 19	3617	764-5	126	2764
Ennisson, Walter J., New York, N. Y., assignor to Unitype Company. Type-justifying machine	844,567	Feb. 19	3622	765-6	126	2766
Ennisson, Walter J., New York, N. Y., assignor to Unitype Company. Type-justifying machine	844,568	Feb. 19	3628	766-74	126	2767
Esser, Christian, deceased, E. Bousek, executor, Wiener-Neustadt, Austria-Hungary, assignor to Pilgrim Paper Company, New York, N. Y. Paper and paper-board	844,569	Feb. 19	3676	774-6	126	2777
Eustis, John P., Newtonville, Mass. Soap-dish	844,657	Feb. 19	3856		126	2819
Evans, Charles W., London, England. Tree or stretcher for boots and shoes	844,858	Feb. 19	4270	910	126	2926
Eveleth, Charles E. (See Hewlett and Eveleth.)	844,786	Feb. 19	4134	881	126	2892
Eveleth, Charles E., Schenectady, N. Y., assignor to General Electric Company. Electric switch	844,787	Feb. 19	4136	882	126	2893
Ewers, Albert O. (See McAdams, Lewis C., assignor.)						
Excelsior Spark Plug Co. (See Bullock, Arthur R., assignor.)						
Fairchild, James E., Mamaroneck, N. Y. Muffler	844,669	Feb. 19	3883	822	126	2827
Falvey, Thomas J., assignor to J. F. Joaquin, South Boston, Mass. Game apparatus	844,507	Feb. 19	3316	714	126	2694
Farbenfabriken vorm. Friedr. Bayer & Co. (See Thun, Karl, assignor.)						
Farbwerke vorm. Meister, Lucius & Brüning. (See Becke, Max, assignor.)						
Farbwerke, vorm. Meister, Lucius & Brüning. (See Homolka, Benno, assignor.)						
Farmer, Leslie B., South Orange, N. J. Gearing mechanism for motor-vehicles	844,444	Feb. 19	3174	685	126	2659
Farrel Foundry & Machine Company. (See Hale, Bernard O., assignor.)						
Fell, Charles, Elyria, Ohio, assignor to National Tube Company, Pittsburg, Pa. Trough system for pipe-welding apparatus	844,340	Feb. 19	2975	635-6	126	2609
Fellows, Edwin R., assignor to Fellows Gear Shaper Company, Springfield, Vt. Turret gear-cutter	844,717	Feb. 19	3985	847-9	126	2851
Fellows Gear Shaper Company. (See Fellows, Edwin R., assignor.)						
Fendrich, John H. (See McElhinny, James F., assignor.)						
Fentzke, William, Brooklyn, N. Y. Oar	844,926	Feb. 19	4381	936	126	2953
Ferris, Henry L., assignor to Hunt, Helm, Ferris & Company, Harvard, Ill. Wire-stretcher	844,718	Feb. 19	3992	849	126	2853
Ferris, Henry L., assignor to Hunt, Helm, Ferris & Company, Harvard, Ill. Hay-carrier	844,719	Feb. 19	3993	849-50	126	2853
Few, Frederick C., Albany, assignor of one-half to P. J. Marsh, Troy, N. Y. Sewer-trap for catch-basins	844,341	Feb. 19	2976	636	126	2610
Fiebeger, Frank, Akron, Ohio. Stove and furnace	844,342	Feb. 19	2978	636	126	2610
Finch, Herbert I. (See Meston and Finch.)						
Finkbeiner, Frederick C., Grassrange, Mont. Animal-trap	844,927	Feb. 19	4382	937	126	2963
Fischer, John A. (See Fischer, John C. and J. A.)						
Fischer, John C. and J. A., Lexington, Okla. Ter. Gate	844,859	Feb. 19	4271	910	126	2926
Fitzgerald, J. C., *et al.* (See Harris, William A. and B. S. H., assignors.)						
Flamm, Oswald, Charlottenburg, and F. Romberg, Nicolasse, near Wannsee, Germany. Water-tube boiler	844,343	Feb. 19	2980	637	126	2611
Fleming, August L. N., Allegheny, Pa. Amusement apparatus	844,720	Feb. 19	3995	851	126	2854
Fletcher, Elmer, assignor of two-thirds to E. De Groot and E. C. Phillips, Indianapolis, Ind. Advertising-cabinet	844,344	Feb. 19	2982	637-8	126	2611
Flory, Samuel. (See McCormick and Flory.)						
Flowers, Malon I., Lincoln, Ark. Electric time-switch	844,345	Feb. 19	2983	638-9	126	2612

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Foerster, Leona S., Chicago, Ill. Combination garment	844,508	Feb. 19	3318	714	126	2694
Follansbee Brothers Company. (See Gill, Thomas, assignor.)						
Forgues, Laurence Z., Woonsocket, R. I., assignor of one-half to A. Mignault, Salem, Mass. Folding umbrella	844,584	Feb. 19	3721	783	126	2786
Forsgren, Ernst L., New York, N. Y. Seat-corner	844,586	Feb. 19	3724	783	126	2787
Forsgren, Ernst L., New York, assignor to J. P. Sjoberg, Elmhurst, N. Y. Car-vestibule	844,585	Feb. 19	3723	783	126	2786
Foster, Bertram G., Washington, D. C., assignor to Delphos Manufacturing Company. Non-overflow pump	844,445	Feb. 19	3176	685-6	126	2659
Frankel, Harry, New York, N. Y. Display-fixture	844,670	Feb. 19	3885	822	126	2827
Frantz, Charles T., Chicago, Ill., assignor to National Vending Machine Company. Vending-machine	844,509	Feb. 19	3319	715	126	2694
Franzen, Nicklas, Walton, assignor to Pittsburgh Plate Glass Company, Pittsburg, Pa. Method of and machine for making wire-glass	844,587	Feb. 19	3725	783	126	2787
Fraser, George D., Sutter Creek, Cal. Water-motor	844,510	Feb. 19	3322	715	126	2695
French, George C., Chicago, Ill. Flue-cleaner	844,928	Feb. 19	4384	937	126	2963
Fuller, James W., Jr. (See Shiner, William C., assignor.)						
Gabrielson, Carl, Springfield, Mass., assignor to Union Typewriter Company, Jersey City, N. J. Type-writing machine	844,446	Feb. 19	3181	686-7	126	2660
Gale, Francis G., Waterville, Quebec, Canada. Mattress-frame	844,788	Feb. 19	4137	882	126	2893
Gallot, Louis, assignor to Grand Rapids Show Case Company, Grand Rapids, Mich. Clamp for holding glass plates	844,346	Feb. 19	2987	639	126	2613
Gardner, Lambert H., Cambridge, Mass. Bending-machine	844,789	Feb. 19	4139	882	126	2893
Garner, John L., Washington, D. C. Revolver	844,671	Feb. 19	3886	822	126	2827
Garrels, William L., St. Louis, and C. Kimball, Kirkwood, Mo. Vapor-burner for motor-vehicles	844,511	Feb. 19	3323	715-16	126	2696
Garrett, Frank W., Norwood, Ohio, assignor to Bullock Electric Manufacturing Company. Support for railway motor-cables	844,790	Feb. 19	4142	882-3	126	2894
Garrity, John. (See Cleary and Garrity.)						
Garroway, James R., Glasgow, Scotland. Purifying pyroligneous acid	844,860	Feb. 19	4271		126	2926
Gautier, Gustave, assignor to Grand Rapids Show Case Company, Grand Rapids, Mich. Article-support for wardrobes	844,447	Feb. 19	3182	687	126	2661
Gaylor, Leonard B., Boston, Mass. Permutation-lock	844,448	Feb. 19	3184	687	126	2661
Geisenhöner, Henry, Schenectady, N. Y., assignor to General Electric Company. Combined fuse and switch	844,791	Feb. 19	4144	883	126	2895
General Acoustic Company. (See Turner and Johnston, assignors.)						
General Electric Company. (See Case, Frank E., assignor.)						
General Electric Company. (See Constable, William, assignor.)						
General Electric Company. (See Eveleth, Charles E., assignor.)						
General Electric Company. (See Geisenhöner, Henry, assignor.)						
General Electric Company. (See Hawkins, Laurence A., assignor.)						
General Electric Company. (See Hewlett and Eveleth, assignors.)						
General Electric Company. (See Riddell, John, assignor.)						
General Electric Company. (See Samuelson, Frederick, assignor.)						
General Electric Company. (See White, Harold E., assignor.)						
General Electric Company. (See White and Pease, assignors.)						
Genese Cereal Manufacturing Co. (See Genese, David, assignor.)						
Genese, David, assignor to Genese Cereal Manufacturing Co., Baltimore, Md. Apparatus for treating food products	844,512	Feb. 19	3327	716	126	2696
Gielow, Frederick, Sr., Chicago, Ill. Stuffing-box	845,033	Feb. 19	4593	977	126	3007
Gifford, Albert J. (See Morgan and Gifford.)						
Gilbert, William M., Conshohocken, assignor to said Gilbert and T. Schreiber, Jeffersonville, Pa. Sediment-catching pocket for receptacles	844,929	Feb. 19	4385	937	126	2953
Gilchrist, Luther M., assignor of one-half to J. L. Ames, Caseyville, Ky. Nut-lock	844,588	Feb. 19	3727	784	126	2787
Gilchrist, Luther M., assignor of one-half to J. L. Ames, J. F. Buckham, J. A. Redick, and J. P. Winston, Caseyville, Ky. Nut-lock	844,589	Feb. 19	3728	784	126	2788
Gill, Anna H., San Francisco, Cal. Portable house	844,861	Feb. 19	4272	910-11	126	2927
Gill, Thomas, Follansbee, W. Va., assignor to Follansbee Brothers Company, Pittsburg, Pa. Grease-pot	844,513	Feb. 19	3329	717	126	2696
Gilmore, Lillian E., Huron, Ohio. Window-curtain bracket	844,514	Feb. 19	3331	717	126	2697
Gilmore, Edward E., Philadelphia, Pa. Mechanical ear for trolley-wires	844,792	Feb. 19	4145	883	126	2895
Gimson, Arthur J. (See Gimson, Josiah M., J., A. J., and S. A.)						
Gimson, Josiah. (See Gimson, Josiah M., J., A. J., and S. A.)						
Gimson, Josiah M., J., A. J., and S. A., Leicester, England. Automatic clamping pressure mechanism	844,515	Feb. 19	3332	717	126	2697
Gimson, Sydney A. (See Gimson, Josiah M., J., A. J., and S. A.)	845,034	Feb. 19	4594	977-8	126	3007
Giraud, Emile, Paris, France. Safety device for overhead electric conductors						
Glessner, Arthur W. (See Scherer and McKee, assignors.)						
Goble, James F. S., assignor of one-half to W. O. Bock and O. C. Tartt, New Albion, Iowa. Gate	844,930	Feb. 19	4386	937-8	126	2954
Gold, Myer, San Francisco, Cal., assignor to McIntire, Magee & Brown, Philadelphia, Pa. Eyeglass-spring	844,999	Feb. 19	4518	964	126	2987
Gottlieb, Rudolf, Brünn, Austria-Hungary. Decorating enamel ware, china, porcelain, majolica, glass, &c	844,516	Feb. 19	3333	718	126	2697
Gourdin, John K., Pineville, assignor of one-half to R. L. Montague and R. P. Tucker, Charleston, S. C. Nut-lock	844,862	Feb. 19	4275	911	126	2927
Gover, William T., Catlett, Va. Lantern-holder	844,672	Feb. 19	3888	822	126	2828
Grand Rapids Show Case Company. (See Gallot, Louis, assignor.)						
Grand Rapids Show Case Company. (See Gautier, Gustave, assignor.)						
Grand Rapids Show Case Company. (See Rémond, Louis, assignor.)						
Greber, Joseph A. (See Yoakum, Robert, assignor.)						
Green, Maurice, assignor to Schieffelin & Co., New York, N. Y. Inhaler	844,449	Feb. 19	3186	688	126	2662
Greene, Tweed and Company. (See Weber, William L., assignor.)						
Greene, William F. (See Logan and Greene.)	844,931	Feb. 19	4387	938	126	2954
Greenhagen, John H., Columbus City, Oreg. Flame-spreader for oil-burners	844,673	Feb. 19	3890	823	126	2828
Greenway, Richard J., Jr., Westerly, R. I., assignor to C. B. Cottrell & Sons Company, New York, N. Y. Attachment for ink-fountains of printing-presses	844,347	Feb. 19	2988	640	126	2613
Gregory, Walter, trustee. (See Richardson, John S., assignor.)	844,793	Feb. 19	4146	883	126	2895
Grell, William F., New York, N. Y. Wheel	844,348	Feb. 19	2989	640	126	2614
Griffin, James, Borrisokane, Ireland. Toy						
Grimm, Conrad A., New York, N. Y. Non-refillable bottle	844,863	Feb. 19	4276	911-12	126	2928
Groene, William F. (See Le Blond and Groene.)	844,932	Feb. 19	4388	938	126	2954
Groesbeck, William G., and G. S. Radford, Boston, Mass. Means for controlling automobiles	844,933	Feb. 19	4391	938	126	2955
Grooters, John H., Allendorf, Iowa. Seed-dropper	844,674	Feb. 19	3891	823	126	2828
Gurley, Edward, High Point, N. C. Card-holder for railway-cars	844,517	Feb. 19	3334	718	126	2698
Gymer, William, Boulder Creek, Cal. Folding chair	844,675	Feb. 19	3894		126	2829
Haas, Lannville, Columbia City, Ind. Animal-trap	844,676	Feb. 19	3896	823-4	126	2830
Hadfield, Robert A., Sheffield, England. Manufacture of armor-piercing projectiles						
Hagen, Claude L., New York, N. Y. Amusement device						

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Haldeman, Charles F., assignor to Silver Manufacturing Company, Salem, Ohio. Saw-table	844,590	Feb. 19	3729	784	126	2788
Hale, Bernard O., Derby, assignor to Farrel Foundry & Machine Company, New Haven, Conn. Mill-roll controlling and positioning device	844,349	Feb. 19	2991	640	126	2614
Hale, Bernard O., Derby, assignor to Farrel Foundry & Machine Company, New Haven, Conn. Controlling and positioning device	844,350	Feb. 19	2995	641	126	2615
Halkyard, William, Providence, R. I. Gage attachment for machines for setting lacing-hooks	844,591	Feb. 19	3731	784	126	2788
Hall, George L., assignor to National Railway Materials Company, New York, N. Y. Step-up rail-joint	844,794	Feb. 19	4147	884	126	2895
Hall, John B. (See Martin, James F., assignor.)						
Hallen, Peter, Brookings, S. D. Combined coat and hat rack	844,864	Feb. 19	4279	912	126	2928
Halvorsen, Nels, Stoughton, Wis. Draft mechanism for wagons	844,351	Feb. 19	2999	641	126	2616
Hames, William J. M., Atlanta, Ga. Polisher and cleaner	844,865	Feb. 19	4280	912	126	2929
Hamme, Ellen E., administratrix. (See Strasbaugh, Levi W.)						
Harden, Harry, London, assignor of one-half to E. C. Heiman, Waverly, Ohio. Cutting implement	844,518	Feb. 19	3336	718–19	126	2698
Harden, Sbedrick M., Chicago, Ill. Trap for preventing the burglarizing of iron safes	844,934	Feb. 19	4392	939	126	2955
Hardesty, George N., Berryville, Va. Bottle	844,866	Feb. 19	4281	913	126	2929
Harman, William A., White Horse, Alaska. Cutting-board	844,592	Feb. 19	3732	785	126	2789
Harrington, John M., Edgerton Junction, Mo. Railway-gate	844,721	Feb. 19	3996	851	126	2854
Harris, Alfred F., Warren, assignor to Harris Automatic Press Company, Niles, Ohio. Feeding mechanism for printing-presses	844,935	Feb. 19	4393	939	126	2955
Harris Automatic Press Company. (See Harris, Alfred F., assignor.)						
Harris, Benjamin S. H. (See Harris, William A. and B. S. H.)						
Harris, Charles R., Los Angeles, Cal. Rectal dilator	844,450	Feb. 19	3187	688	126	2662
Harris, William A. and B. S. H., assignors of one-half to J. C. Fitzgerald and J. P. Carlisle, Greenville, S. C. Pneumatic water lift	844,936	Feb. 19	4394	939	126	2956
Hart, Harry U., Le Havre, France, assignor to Westinghouse Electric & Manufacturing Company. Controller for electric motors	844,352	Feb. 19	3000	641–2	126	2616
Hart, William H., Jr., Philadelphia, Pa. Article of neckwear	844,795	Feb. 19	4148	884	126	2896
Harter, Clarence J., Ilion, assignor of one-half to E. I. Harter, Herkimer, and M. E. Platts, Ilion, N. Y. Station-indicator	844,593	Feb. 19	3734	785–7	126	2789
Harter, Ernst I., *et al.* (See Harter, Clarence J., assignor.)						
Hartman, Frank O., Mansfield, Ohio. Circuit-breaker	844,353	Feb. 19	3003	642–3	126	2617
Hartnett, William P., Dover, N. H. Folding umbrella	844,937	Feb. 19	4396	939	126	2956
Haskell, Frank H., assignor of one-half to T. J. Smith, Boston, Mass. Fishing-net	844,594	Feb. 19	3739	787	126	2790
Hatchett, Andrew, assignor of two-thirds to S. I. I. Battiste and E. S. Porter, Louisville, Ky. Insulating wire-holder	844,796	Feb. 19	4149	884	126	2896
Haubroe, Lars C., New York, N. Y., assignor of two-thirds to T. B. Booth, Newark, N. J. Stem-winding and stem-set mechanism	845,000	Feb. 19	4519	964	126	2987
Hauser, Henry J., Rochester, N. Y. Window-screen	844,867	Feb. 19	4282	913	126	2929
Hawkins, Laurence A., Schenectady, N. Y., assignor to General Electric Company. Block-signal system	844,797	Feb. 19	4150	885	126	2897
Hawkinson, Andrew, St. Paul, Minn. Pulling-box for conduits	844,354	Feb. 19	3009	643	126	2619
Hawley, Louis B., Rochester, N. Y. Surgical appliance	844,798	Feb. 19	4155	885	126	2898
Heberlein, Ferdinand, London, England. Treatment of ores preparatory to smelting same	844,355	Feb. 19	3010		126	2619
Heffernan, William H., and H. F. Marshall, North Adams, Mass. Washing-machine	844,595	Feb. 19	3740	787	126	2790
Hegerhorst, John, Chicago, Ill. Ratchet	844,356	Feb. 19	3011	643	126	2620
Heinersdorf, Gustav, New York, N. Y. Sales-check	844,596	Feb. 19	3741	788	126	2791
Heisch, John, Jr., Allegheny, Pa. Receiver-support	844,722	Feb. 19	3999	852	126	2855
Heiser, Charles J., East Pittsburg, Pa. Tap-socket	844,799	Feb. 19	4156	885	126	2898
Helber, Edward, Farmington, Mo. Cesspool	844,451	Feb. 19	3188	688	126	2662
Helman, Edward C. (See Harden, Harry, assignor.)						
Henderson, Edwin L., Norwood, assignor to Kemper-Thomas Company, Cincinnati, Ohio. Garment-hanger	844,597	Feb. 19	3744	788	126	2791
Henderson, Robert, Ben Franklin, Tex. Hog-carrier	844,357	Feb. 19	3013	643	126	2620
Henry, Alexander S., New York, N. Y. Railway-wheel	845,001	Feb. 19	4522	964	126	2988
Henry, Joseph, Island Falls, Me. Saw-handle	844,723	Feb. 19	4001	852	126	2855
Herivel, Nicholas R. (See Mills, Monell, and Herivel.)						
Herrmann, Henry H., Chicago, Ill. Air-compressor	844,724	Feb. 19	4002	852	126	2855
Heskett, Thomas J., Brunswick, Victoria, Australia. Obtaining metals from sulfids	844,452	Feb. 19	3189	684	126	2662
Hewlett, Edward M., and C. E. Eveleth, Schenectady, N. Y., assignors to General Electric Company. System for controlling electric switches	844,800	Feb. 19	4158	886	126	2899
Hill, Ebenezer, Norwalk, Conn. Air-compressor governor	844,801	Feb. 19	4161	886–7	126	2899
Hill, Ebenezer, Norwalk, Conn. Valve for controlling fluid-pressure	844,802	Feb. 19	4163	887	126	2900
Hill, Herbert W., Chicago, Ill. Gas-controlling valve	844,358	Feb. 19	3014	644	126	2620
Hillet, Nicolai H., Carbondale, Pa. Condenser	844,803	Feb. 19	4165	887–8	126	2900
Hillisch, Alexander, Innsbruck, Austria-Hungary. Steam-heating system for railway-cars	845,002	Feb. 19	4523	965	126	2988
Hoffman, Arthur F., Olean, Mo. Cord or string cutter	844,868	Feb. 19	4285	914	126	2930
Hoffman, William H., Little Falls, N. Y. Paper-making machine	844,938	Feb. 19	4397	940	126	2956
Hoffman, Zachariah S., Newark, N. J. Candy-machine	844,939	Feb. 19	4399	940	126	2957
Hollnagel, Theodore, Thiensville, Wis. Speed-regulator for gas-engines	844,359	Feb. 19	3015	644	126	2620
Holsclaw, Wilford H., assignor to B. F. Avery & Sons, Louisville, Ky. Planter	845,003	Feb. 19	4527	966	126	2988
Homolka, Benno, Frankfort-on-the-Main, assignor to Farbwerke vorm. Meister, Lucius & Brüning, Höchst-on-the-Main, Germany. Blue quinolin dye and making the same	844,804	Feb. 19	4166		126	2901
Hopkins, William W., assignor to Moon-Hopkins Manufacturing Company, St. Louis, Mo. Multiplying and type-writing machine	844,519	Feb. 19	3330	719–23	126	2699
Horning, Jacob C. (See Miller and Horning.)						
Hotchner, Joseph, Bronx, N. Y. Illuminated sign	844,940	Feb. 19	4400	940	126	2957
Hotz, Jacob. (See Keuser, Emanuel, assignor.)						
House, Henry A., Bridgeport, Conn. Solid-link knife-jointed chain	844,869	Feb. 19	4285	914	126	2930
Howard, Alvah L., Vinton, La. Grate-bar	844,941	Feb. 19	4401	941	126	2957
Howe, Glenn G., Indianapolis, Ind. Drive-chain	844,805	Feb. 19	4168	888	126	2901
Howell, William S., Stanton, Mich. Wheel attachment for sleds	844, 25	Feb. 19	4004	853	126	2856
Hoyt, Morgan H. (See Monks, Daniel H., assignor.)						
Huber, Sigmund V., Pittsburg, Pa. Rolling-mill	844,520	Feb. 19	3353	723–4	126	2703
Huff, Russell, Detroit, Mich. Pump	844,360	Feb. 19	3017	644–5	126	2620
Hugus, Jacob E., Franklin, Pa. Horse-hitching device	844,598	Feb. 19	3745	788	126	2791
Hull, J. Frank, *et al.* (See Wilkins, George H., assignor.)						
Hunt, Helm, Ferris & Company. (See Ferris, Henry L., assignor.)						
Hunter, Work, Buffalo, Pa. Fence-post-setting tool	844,726	Feb. 19	4006	853	126	2856
Husser, Jules, Pittsburg, Pa. Non-refillable bottle	844,727	Feb. 19	4006	853	126	2857
Hutton, Edward S., assignor of one-half to A. Woodward, Lapel, Ind. Machine for making glassware	844,942	Feb. 19	4402	941–2	126	2958
Improved Equipment Company. (See Doherty, Henry L., assignor.)						
International Harvester Company. (See Johnston, Edward A., assignor.)						
International Harvester Company. (See Linden, John O., assignor.)						
Ireland, Robert H., Newark, N. J. Sleeper and connection for railways	844,943	Feb. 19	4408	942	126	2960

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Ireland, Whorton C. L. (See Yeakel and Ireland.)						
Iversen, Jacob, Tegel, near Berlin, Germany. Valve-gear	844,521	Feb. 19	3355	724	126	2703
J. Ellwood Lee Company. (See Lee, John E., assignor.)						
Jacobs, Jacob, Akron, Ohio. Fireproof construction for buildings	844,944	Feb. 19	4409	942	126	2960
Janecek, Franz, Karlin, near Prague, Austria-Hungary. Electric-arc lamp	844,361	Feb 19	3020	645	126	2621
Jeffery, Thomas B. (See Symmonds, Robert, assignor.)						
Joaquin, Joseph F. (See Falvey, Thomas J., assignor.)						
Johanson, Fritz. (See Wikander and Johanson.)						
Johnson, Albert L., St. Louis, Mo. Concrete and metal construction	844,599	Feb. 19	3746	788	126	2791
Johnson, Arthur G., Pittsburg, assignor of one-half to E. C. Klein, Allegheny, Pa. Combination ladder and bench	845,036	Feb. 19	4597	978–9	126	3008
Johnson, Richard, Sr., Freeport, Ill. Coupling for traction-engines	844,522	Feb. 19	3356	724	126	2703
Johnson, Samuel. (See Seierup, Theodor M. E., assignor.)						
Johnston, Edward A., Sterling, Ill., assignor to International Harvester Company. Cooler for explosive-engines	844,677	Feb. 19	3899	824	126	2830
Johnston, Edward E., assignor to Mound City Roofing Tile Company, St. Louis, Mo. Roofing-tile	844,453	Feb. 19	3191	689	126	2663
Johnston, John P., Evanston, Ill. Rubber-tired wheel	844,728	Feb. 19	4007	853	126	2857
Johnston, Norton W. (See Turner and Johnston.)						
Jones, Ira C., assignor to Minneapolis Brick & Tile Co., Minneapolis, Minn. Brick-drier	844,806	Feb. 19	4169	888–9	126	2901
Jordan, Watson A., assignor to Standard Manufacturing Company, Bridgeport, Conn. Gear-cutting machine	844,729	Feb. 19	4008	854	126	2857
Joy, Charles L., New Haven, Conn. Cutlery-grinding machine	844,870	Feb. 19	4286	914–15	126	2930
Joy, Charles L., New Haven, Conn. Cutlery-grinding machine	844,871	Feb. 19	4288	915	126	2930
Kagarice, Samuel C., Sioux Falls, S. D. Invalid-bed	844,362	Feb. 19	3021	645	126	2622
Kaplan, Godfrey J., Owatonna, Minn., assignor to Perfection Churn Company. Combined churn and butter-worker	844,678	Feb. 19	3900	825	126	2830
Karle, John D., Bridgeport, Conn. Garment-clasp	844,679	Feb. 19	3902	825	126	2831
Katulka, John, Nanticoke, Pa. Coal-drill	844,872	Feb. 19	4291	916	126	2931
Kaufmann-Chaplin Manufacturing Company. (See Pfluger, Florian M., assignor.)						
Kaut, John, St. Louis, Mo. Photographic-printing apparatus	844,680	Feb. 19	3904	825–6	126	2831
Kays, Joseph W. (See Chrysler and Kays.)						
Keefe, Patrick H., Sharpsburg, Pa. Score-card	844,807	Feb. 19	4171	809	126	2931
Keenan, Thomas, assignor of one-half to F. W. Sparks, Brooklyn, N. Y. Feed-water regulator	844,873	Feb. 19	4292	916	126	2931
Keene, George M. (See Sewall and Keene.)						
Keller, Charles. (See Yeakel and Ireland, assignors.)						
Keller, Edwin W., assignor to Armac Motor Company, Chicago, Ill. Pulley-rim	844,363	Feb. 19	3023	646	126	2622
Kellogg Switchboard and Supply Company. (See Dunbar, Francis W., assignor.)						
Kemper-Thomas Company. (See Henderson, Edwin L., assignor.)						
Kendall, David, assignor to Alliance Machine Company, Alliance, Ohio. Automatic ratchet	844,808	Feb. 19	4173	889–90	126	2902
Keuffel & Esser Company. (See Bernegau, Carl M., assignor.)						
Keuser, Emanuel, assignor of one-half to J. Hotz, Philadelphia, Pa. Automatic tension device for looms	844,523	Feb. 19	3358	725	126	2704
Killpartrick, John W., Lowell, Mass. Shuttle-release motion	844,874	Feb. 19	4293	916	126	2932
Kimball, Clinton. (See Garreis and Kimball.)						
Kimmell, Edward G., Keyser, W. Va. Rotary measuring device	844,364	Feb. 19	3024	646	126	2622
Kimple, Harry G., and E. Eller, Dicksonburg, Pa. Mail-bag holder and deliverer	844,365	Feb. 19	3026	646	126	2623
Kincaid, Joseph J., *et al.* (See Sitton, Benjamin J., assignor.)						
King, Howard K., Philadelphia, Pa., assignor to Chambers Brothers Company. Sheet-registering device for folding-machines	844,809	Feb. 19	4174	890–1	126	2902
Kingsbury, Harry T., Keene, N. H. Toy ladder-truck	844,875	Feb. 19	4295	916–17	126	2932
Kingsbury, Harry T., Keene, N. H. Toy ladder-truck	844,876	Feb. 19	4297	917	126	2933
Kingsbury, Harry T., Keene, N. H. Toy ladder-truck	844,877	Feb. 19	4300	917–18	126	2934
Kintner, Adrian C., assignor of one-half to W. C. Messman, Cumberland, Md. Eyeglasses	845,037	Feb. 19	4599	979	126	3008
Kirkham, Orlando, Marshalltown, Iowa. Duplex wind-motor	844,454	Feb. 19	3192	689	126	2663
Kitsee, Isidor, Philadelphia, Pa. Increasing the efficiency of alternating currents	844,810	Feb. 19	4179	891	126	2903
Kitsee, Isidor, Philadelphia, Pa. Telephony	844,811	Feb. 19	4184	891	126	2904
Kitsee, Isidor, Philadelphia, Pa. Means to increase the efficiency of alternating currents	844,878	Feb. 19	4302	918	126	2934
Kitson, Clarence, and W. J. Reinholtz, Mishawaka, Ind. Abrading-machine	844,366	Feb. 19	3027	646	126	2623
Klein, Charles J., assignor to R. A. Schoenberg, New York, N. Y. Means for converting motion and housing therefor	844,455	Feb. 19	3193	689	126	2663
Klein, Emil C. (See Johnson, Arthur G., assignor.)						
Knape, John, Grand Rapids, Mich. Bracket and support therefor	844,367	Feb. 19	3029	647	126	2624
Knapp Bros. Manufacturing Company. (See Knapp, George S., assignor.)						
Knapp, George S., Chicago, Ill., assignor to Knapp Bros. Manufacturing Company. Metal corner-bead for the protection of plastered corners	844,812	Feb. 19	4185	892	126	2904
Kniffen, Le Grand, Chicago, Ill. Manure fork or carrier	844,524	Feb. 19	3360	725	126	2704
Knight, George W., Hopedale, Mass., assignor to Sawyer Spindle Company, Portland, Me. Bobbin-clutching means for rotatable spindles	844,368	Feb. 19	3030	647	126	2624
Knut, Sargeant P., Natchez, Miss. Bridle for horses	845,004	Feb. 19	4531	966	126	2989
Koehler, Henry B., Rochester, Pa. Glass-press	844,600	Feb. 19	3747	789	126	2792
Koerper, Philip, Pikeville, Ky. Fruit-picker	844,601	Feb. 19	3749	789	126	2793
Kolb, August, Basel, Switzerland. Inset clamp for vises	844,813	Feb. 19	4187	892	126	2905
Kosztovits, Ognesiaw, Klein-Ribatzkoi, near St. Petersburg, Russia. Insulating the interior sides of hollow bodies	844,369	Feb. 19	3032	647	126	2624
Krause, Daniel E., Chase, Wis. Clutching device	844,730	Feb. 19	4012	855	126	2858
Krauth, Albert, Hamilton, Ohio. Autographic register	844,370	Feb. 19	3033	647	126	2625
Kroeber, Thilo, assignor to Firm of Society of Chemical Industry in Basle, Basel, Switzerland. Monoazo dye and making same	844,814	Feb. 19	4188		126	2905
Lake, Simon, Bridgeport, Conn. Storage battery	844,815	Feb. 19	4189	892	126	2905
Landers, Frary and Clark. (See Warner, Alonzo A., assignor.)						
Landrigan, John M., *et al.* (See Neubauer, Carl E., assignor.)						
Larkin Co. (See Barnes, Walter H., assignor.)	845,038	Feb. 19	4600	979	126	3009
Larsen, Edward A., San Francisco, Cal. Game apparatus	844,371	Feb. 19	3034	648	126	2625
Latting, Richard G., Jr., assignor of one-half to R. K. Wootten, Chickasha, Ind. Ter. Machine for treating cotton-seed hulls	844,681	Feb. 19	3907	826	126	2832
Laughlin, Howard E., Cleveland, Ohio. Wire fabric	844,682	Feb. 19	3908	826	126	2832
Laughlin, Howard E., Cleveland, Ohio. Bed-bottom fabric	844,880	Feb. 19	4308	919	126	2935
Lawrence, Phineas, London, England. Cardboard-gluing machine	844,945	Feb. 19	4411	943	126	2960
Lelleau, Victor, New Orleans, La. Bait trap and holder	845,005	Feb. 19	4534	966–7	126	2989
Le Blond, Richard K., and W. F. Groene, Cincinnati, Ohio, assignors to R. K. Le Blond Machine Tool Company. Variable speed mechanism	845,039	Feb. 19	4601	979	126	3009
Leavitt, Byron C., Denver, Colo. Adjustable back for cots	844,525	Feb. 19	3364	726	126	2705
Lee, Henry W., St. Louis, Mo. Piston-rod packing	844,816	Feb. 19	4193	893	126	2906
Lee, John E., assignor to J. Ellwood Lee Company, Conshohocken, Pa. Machine for brushing bandage-rolls, &c	844,372	Feb. 19	3037	648	126	2625
Lehnert, Carl, Marxloh, Germany. Life-boat						

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Leicester and Continental Mills Company. (See Zeidis and Weber, assignors.)						
Leitch, Meredith, Brooklyn, N. Y., assignor to Sheet Metal Recovery Company. Apparatus for treating tin cans and the like	844,373	Feb. 19	3037	648–9	126	2635
Lejeune, Armand, Mons en Baroeul, France. Fleece-dividing apparatus	844,683	Feb. 19	3910	827	126	2823
Lerch, Frank T., Baltimore, Md. Hame-tug fastener	844,817	Feb. 19	4194	893	126	2903
Lester, James S., Atlanta, Ga. Chair	844,881	Feb. 19	4309	919	126	2906
Libey, Charles N., Lima, Ind. Mail-carrying apparatus	844,526	Feb. 19	3366	726	126	2706
Liening, Joseph, Leer, Germany. Machine for making cement roofing-tiles	844,602	Feb. 19	3751	789–90	126	2793
Linden, John O., Prophetstown, Ill., assignor to International Harvester Company. Fertilizer-spreader	844,374	Feb. 19	3041	649–51	126	2626
Lindsay, Hamilton, assignor to Lindsay Wire Weaving Company, Cleveland, Ohio. Stopping mechanism for wire-looms	844,818	Feb. 19	4195	893–4	126	2906
Lindsay, Hamilton, assignor to Lindsay Wire Weaving Company, Cleveland, Ohio. Shuttle	844,819	Feb. 19	4197	894	126	2907
Lindsay Wire Weaving Company. (See Lindsay, Hamilton, assignor.)						
Link, Lewis W., *et al.* (See Ryan, William F., assignor.)						
Lloyd, William D., assignor of one-half to J. B. Vinson, Austin, Tex. Motor-vehicle	844,375	Feb. 19	3045	651–2	126	2627
Lober, John F., Pittsburg, Pa. Heel for boots and shoes	844,882	Feb. 19	4312	920	126	2926
Logan, Alton L., and W. F. Greene, Washington, Ind. Mail-bag catcher and deliverer	844,527	Feb. 19	3370	726–7	126	2707
Lombardi, Giovanni, Derby, Conn. Speedometer	844,684	Feb. 19	3911	827	126	2823
Long, Joseph B., Chicago, Ill. Radiator for automobiles	844,685	Feb. 19	3913	827	126	2824
Lorain Steel Company. (See Brown, William M., assignor.)						
Lowe, Thaddeus, Pasadena, Cal. Fluid-regulator	844,946	Feb. 19	4412	943	126	2961
Lowry, William, Cowley, Alberta, Canada. Safety device for elevators	844,947	Feb. 19	4414	943–4	126	2961
Lummus, John N. (See Wells, Elisha F., assignor.)						
Lynch, Edward P., Salt Lake City, Utah. Stationery-holder	844,948	Feb. 19	4418	944	126	2962
Lysinger, William W., Philadelphia, Pa. Machine for forming confections	844,883	Feb. 19	4313	920	126	2937
MacKenzie, Andrew S. (See Dearborn, Cavallaro, and MacKenzie.)						
Macfarren, Walter W., Pittsburg, Pa. Safety device for car-hauls	844,376	Feb. 19	3047	652	126	2628
Macgill, Robert R., Baltimore, Md. Sanitary mouthpiece-guard	844,949	Feb. 19	4420	944	126	2963
Mackillop, Gardiner H.. (See Beynon and Mackillop.)						
Malpass, George, Philadelphia, Pa. Pen-grinding machine	845,006	Feb. 19	4536	967	126	2990
Manewallange Biscuit Company. (See Rohrssen, George G., assignor.)						
Manhattan High Powered Motor Company. (See Treen, Jefferson, assignor.)						
Mann, Adolph, Barmen, Germany. Braiding-machine	844,377	Feb. 19	3049	652–3	126	2628
Mannis, James E. (See Osborn and Mannis.)						
Mans, Albert, Dieghem-Brussels, Belgium. Spring-recoil neutralizer	844,884	Feb. 19	4315	920–1	126	2937
Marchthal, Eduard M. v., Charlottenburg, assignor to Siemens & Halske Aktiengesellschaft, Berlin, Germany. Device for the justification of the lengths of lines of type-writing or similar machines	844,378	Feb. 19	3051	653	126	2629
Marks, Arthur H., Akron, Ohio. Forming pneumatic tires or tire-casings	844,820	Feb. 19	4199	894	126	2908
Marks, Arthur H., Akron, Ohio. Solid rubber tire	844,821	Feb. 19	4200	895	126	2908
Marks, Arthur H., Akron, Ohio. Forming solid rubber tires	844,822	Feb. 19	4201	895	126	2908
Marshall, Adolf J., Little Falls, N. Y. Automatic burette	844,686	Feb. 19	3915	828	126	2824
Marsh, Pelatiah J. (See Few, Frederick C., assignor.)						
Marshall, Edwin, Warrensburg, Mo Electric controller	844,379	Feb. 19	3056	654	126	2630
Marshall, Homer F. (See Heffernan and Marshall.)						
Marshall, Levi W., assignor to W. V. Taylor, Wakefield, Mass. Notch-cutting machine. (Reissue)	12,612	Feb. 19	4608	981	126	3011
Martin, James F., assignor to J. B. Hall, Philadelphia, Pa. Hair-crimper	844,823	Feb. 19	4202	895	126	2908
Martin, John B., Cincinnati, Ohio. Rotary engine	844,824	Feb. 19	4202	895	126	2909
Martin, Ludolph P., assignor to Allis-Chalmers Company, Milwaukee, Wis. Dredge pin and joint	845,040	Feb. 19	4603	986	126	3009
Marwick, David B., assignor to Stanley Works, New Britain, Conn. Applying designs to surfaces	844,380	Feb. 19	3058	654	126	2630
Massey, Claud, Boston, Mass. Combination camping outfit	844,603	Feb. 19	3752	790	126	2793
Maurer, Asher, Newark, N. J. Phonograph-horn	845,007	Feb. 19	4540	967–8	126	2991
Mayes, Harry C., Clearfield, Pa. Straw-holder	844,381	Feb. 19	3058	654	126	2630
McAdams, Lewis C., assignor of one-fourth to A. O. Ewers, Sacramento, Cal. Seat-removing apparatus	845,008	Feb. 19	4542	968	126	2992
McCabe, John. (See Robinson and McCabe.)						
McCalla, Lee A., Chicago, Ill. Ventilator	844,735	Feb. 19	4021	856	126	2861
McCausland, David, assignor to Cadillac Motor Car Company, Detroit, Mich. Fender-support	844,459	Feb. 19	3203	691	126	2666
McClintock, William, New York, N. Y. Hose-rack	844,531	Feb. 19	3376	727	126	2708
McCollough, William A., Lamoille, Iowa. Stubble-cutter	844,888	Feb. 19	4321	922	126	2939
McCollough, William A., Lamoille, Iowa. Stubble-cutter	844,956	Feb. 19	4430	946	126	2965
McCollum, Fenelon, Mansfield Depot, Conn. Organ-pipe foot	844,613	Feb. 19	3770	795	126	2797
McCormick, Lewis C., Morgantown, W. Va., and S. Flory, Bangor, Pa. Suspension-cableway	844,386	Feb. 19	3066	657	126	2633
McElhinny, James F., assignor of one-half to J. H. Fendrich, Evansville, Ind. Type-writing machine	844,532	Feb. 19	3377	728	126	2709
McGavock, James, assignor to New England Electric Company, Denver, Colo. Electric-light switch	844,533	Feb. 19	3379	728	126	2709
McGlone, Bernard T., Chicago, Ill., and G. Ross, Hammond, Ind. Casting-machine	844,460	Feb. 19	3205	691	126	2666
McGuiness, Benjamin F., Worcester, Mass., assignor to Crompton & Knowles Loom Works. Pattern mechanism for looms	844,736	Feb. 19	4023	857	126	2861
McIntire, Magee & Brown. (See Gold, Myer, assignor.)						
McKallip, Iman C., *et al.* (See Morgan, Robert, assignor.)						
McKee, Charles W. (See Scherer and McKee.)						
McKee, George F., and M. F. Schilling, Aspinwall, Pa. Molding apparatus	844,737	Feb. 19	4025	858	126	2861
McKenzie, John H., Augusta, Ga. Brick drying and conveying apparatus	844,738	Feb. 19	4027	858	126	2862
McKnight, Thomas R., assignor to Western Wheeled Scraper Company, Aurora, Ill. Belt-tightening appliance for elevating-graders	844,387	Feb. 19	3068	657–8	126	2633
McLeod, Archibald C., assignor to Quitman Manufacturing Company, Quitman, Ga. Turpentine-box	844,889	Feb. 19	4323	922	126	2939
Mehlhorn, Henry, and J. Shepard, Pine, Oreg. Finger-bar for mowing-machines	844,950	Feb. 19	4421	944	126	2963
Mendel, Isidor, Cincinnati, Ohio. Locking means for trunk-flaps	844,456	Feb. 19	3195	689	126	2664
Mendelson, Abraham M., New York, N. Y. Adjustable pan and vessel lifter	844,528	Feb. 19	3373	727	126	2707
Mendenhall, Walter S., assignor to Sam'l C. Tatum Company, Cincinnati, Ohio. Temporary binder	844,604	Feb. 19	3753	790	126	2794
Mercer, David C., Chicago, Ill. Lock-nut	844,382	Feb. 19	3060	655	126	2631
Messick, John F., *et al.* (See Russell, John A., assignor.)						
Messman, Wyant C. (See Kintner, Adrian C., assignor.)						
Meston, Charles R., and H. I. Finch, assignors to Emerson Electric Manufacturing Company, St. Louis, Mo. Electric motor	844,383	Feb. 19	3061	655	126	2631
Meston, Charles R., and H. I. Finch, assignors to Emerson Electric Manufacturing Company, St. Louis, Mo. Electric motor	844,384	Feb. 19	3063	656	126	2632
Meyer, Svend M., assignor to G. C. Batcheller, New York, N. Y. Electric lighting device for lamps and oil-stoves	844,605	Feb. 19	3754	791	126	2791

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Meyer, Svend M., assignor to G. C. Batcheller, New York, N. Y. Acetylene-gas generator	844,606	Feb. 19	3757	791	126	2794
Meyer, Svend M., assignor to G. C. Batcheller, New York, N. Y. Acetylene lamp	844,607	Feb. 19	3759	792	126	2795
Meyer, Svend M., assignor to G. C. Batcheller, New York, N. Y. Lamp for automobiles and other vehicles	844,608	Feb. 19	3760	792	126	2795
Meyer, Svend M., assignor to G. C. Batcheller, New York, N. Y. Acetylene-gas generator	844,609	Feb. 19	3762	793	126	2795
Meyer, Svend M., assignor to G. C. Batcheller, New York, N. Y. Electric cigar-lighting apparatus	844,610	Feb. 19	3764	793–4	126	2796
Meyer, Svend M., assignor to G. C. Batcheller, New York, N. Y. Electric lighting apparatus for incandescent and other gas-lamps	844,611	Feb. 19	3766	794	126	2796
Meyer, Svend M., assignor to G. C. Batcheller, New York, N. Y. Self-lighting attachment for lamps	844,731	Feb. 19	4013	855	126	2859
Meyers, John, Philadelphia, Pa. Liver-cutting board	844,529	Feb. 19	3374	727	126	2708
Mignault, Armand. (See Forgues, Laurence Z., assignor.)						
Miller, Albert L., Benson, Nebr. Ironing-table	844,732	Feb. 19	4015	855	126	2859
Miller, John H., Risingsun, Ohio. Cement-block machine	844,457	Feb. 19	3197	690	126	2664
Miller, John W., and J. C. Horning, Chicago, Ill. Drying-frame	844,687	Feb. 19	3915	828	126	2834
Mills, Norman W., I. F. Monell, and N. R. Herivel, Boulder, Colo. Insect-trap	844,951	Feb. 19	4422	945	126	2963
Miner, Adrian I. (See Bennett and Miner.)						
Minneapolis Brick & Tile Co. (See Jones, Ira C., assignor.)						
Mirovitch, Elie, Paris, France. Eye-protector	844,952	Feb. 19	4423	945	126	2964
Mollenbruck, Franz M. E. Von Linz, Austria-Hungary. Manufacture of cement	844,530	Feb. 19	3375		126	2708
Molony, Harry S., assignor to Dempster Mill Manufacturing Company, Beatrice, Nebr. Regulating device for gas-engines	844,825	Feb. 19	4203	896	126	2909
Mommertz, Peter, Marxloh, Germany. Pit-prop	844,385	Feb. 19	3065	656	126	2633
Monell, Ira F. (See Mills, Monell, and Herivel.)						
Monks, Daniel H., assignor of one-third to M. H. Hoyt, Fishkill-on-the-Hudson, N. Y. Valve mechanism for bottles	844,733	Feb. 19	4016	855	126	2859
Monroe, Clarence, Loveland, Colo. Filter for coffee-pots	844,953	Feb. 19	4425	945	126	2964
Montague, Robert L., *et al.* (See Gourdin, John K., assignor.)						
Moon-Hopkins Manufacturing Company. (See, Hopkins, William W., assignor.)						
Moore, Otis E., *et al.* (See Neubauer, Carl E., assignor.)	844,954	Feb. 19	4426	945	126	2964
Morange, Albert S., Stratford, Conn. Wrench	844,885	Feb. 19	4318	921	126	2938
Morden, Lucena M., Waterbury, Conn. Ring-bending tool	844,458	Feb. 19	3200	690–1	126	2665
Morgan, Charles H., and A. J. Gifford, Worcester, Mass.; said Gifford assignor to said Morgan. Valve-gear for explosive-engines	844,955	Feb. 19	4428	946	126	2965
Morgan Engineering Company. (See Taylor, Clarence L., assignor.)	844,886	Feb. 19	4319	921	126	2938
Morgan, Robert, Ellsworth, Kans., assignor of one-half to J. S. Cox and I. C. McKallip, Pueblo, Colo. Crate	844,612	Feb. 19	3769	794	126	2797
Morris, Franklin P., Murray, Okla. Ter. Wrench	844,826	Feb. 19	4204	896	126	2909
Morris, Pinkney L., Wewahitchka, Fla. Shingling-gage	844,734	Feb. 19	4018	856	126	2860
Mouls, Joseph A., Lafitte, France. Basket, hamper, &c	844,887	Feb. 19	4320	921	126	2938
Mound City Roofing Tile Company. (See Johnston, Edward E., assignor.)	844,739	Feb. 19	4029	859	126	2862
Mullan, Joseph J., Philadelphia, Pa. Vacuum-pump						
Murphy, Slaydon, Westonia, Miss. Journal-box						
Nance, Turner H., Talladega, Ala. Cloth-measuring machine						
National Biscuit Company. (See Richardson, John D., assignor.)						
National Malleable Castings Company. (See Bazeley, Arthur J., assignor.)						
National Novelty Corporation. (See Bailey, Charles A., assignor.)						
National Railway Materials Company. (See Hall, George L., assignor.)						
National Tube Company. (See Fell, Charles, assignor.)						
National Vending Machine Company. (See Frantz, Charles T., assignor.)						
Nebraska Incubator Company. (See Sumner, William A., assignor.)	844,388	Feb. 19	3071	658–9	126	2634
Neeland, Marvin A., Montclair, N. J. Compound engine	844,534	Feb. 19	3382	728–9	126	2709
Nell, Joseph B., Filbert, S. C. Water-elevator	844,890	Feb. 19	4324	922	126	2939
Neubauer, Carl E., assignor of seven-sixteenths to O. E. Moore, Chisholm, Minn., and J. M. Landrigan, Superior, Wis. Tie-plate for railway-rails	844,389	Feb. 19	3073	659–62	126	2634
Neureuther, Andrew H., Peru, assignor to Western Clock Manufacturing Company, La Salle, Ill. Machine for manufacturing and mounting pinions and wheels	844,461	Feb. 19	3206	662	126	2667
New England Electric Company. (See McGavock, James, assignor.)	844,390	Feb. 19	3082	662	126	2635
Newbold, Fleming, Washington, D. C. Rotary printing-press	844,827	Feb. 19	4205	897	126	2909
Newton, Albert E., Worcester, Mass. Gearing for milling-machines, &c	844,391	Feb. 19	3083	662	126	2635
Nichols, John, Fayette City, Pa. Railway-tie and rail-fastener	844,535	Feb. 19	3385	729	126	2710
Nichols, Edward, Cohasset, Mass. Corner-strip						
Nichols, Emory I., San Francisco, Cal. Sanitary dust-removing device						
Niederlander, Donald R. (See Scott, William H., assignor.)						
Niles-Bement-Pond Company. (See Reiss and Clark, assignor.)						
Niles-Bement-Pond Company. (See Sears, Willard T., assignor.)						
Nims, Franklin W., assignor to himself, A. Thomas, and W. Richardson, Worcester, Mass. Roller-bearing	844,392	Feb. 19	3086	663	126	2636
Nolty, Jacob J., Canal Dover, Ohio. Milk-pail	844,614	Feb. 19	3771	795	126	2797
Nottingham, Edwin I., Washington, D. C. Dumping-vehicle	844,891	Feb. 19	4326	922–3	126	2939
Novak, Peter, Elizabethport, N. J. Combination-tool	845,009	Feb. 19	4544	968–9	126	2992
Oehlke, Frederick H., Lorain, Ohio. Gas-controlling means	844,828	Feb. 19	4206	897	126	2910
Offenberg, Morris, Pittsburg, Pa. Incandescent-mantle support	844,957	Feb. 19	4431	947	126	2966
Ogden, Herbert G., Jr., *et al.* (See Cornell, Oliver H. P., assignor.)	845,041	Feb. 19	4604	980	126	3010
Opsal, Andrew, Portland, Oreg. Pulley-block	844,462	Feb. 19	3209	692	126	2667
Osborn, Lafayette M., and J. E. Mannis, Topeka, Kans. Compensating mechanism	844,615	Feb. 19	3773	795–6	126	2798
Overman, Edwin R., *et al.* (See Sitton, Benjamin J., assignor.)						
Palmer, Isaac E., Middleton, Conn. Wheeled vehicle	844,463	Feb. 19	3213	693	126	2668
Park, Frank C., *et al.* (See Arbogast, John I., assignor.)	844,740	Feb. 19	4032	859	126	2863
Parker, George D., Riverside, Cal. Nail-feeding apparatus	844,393	Feb. 19	3087	663	126	2636
Patterson, Gilbert, Duluth, Minn. Flue-cleaner for steam-boilers	844,464	Feb. 19	3215	693	126	2669
Paxton, Cyrus H., Oshkosh, Wis. Trunk						
Pearson, Samuel M., Denmark, S. C. Butter-churn	844,394	Feb. 19	3090	663	126	2637
Pease, Harold C. (See White and Pease.)	844,616	Feb. 19	3774	796	126	2798
Peck, Peter, Southbridge, Mass. Eyeglasses	844,395	Feb. 19	3091	664	126	2637
Peek, George W., San Francisco, Cal. Extension-table						
Penkala, Eduard, Zágráb, Austria-Hungary. Tooth-brush						
Perfection Churn Company. (See Kaplan, Godfrey J., assignor.)	844,829	Feb. 19	4209	897–8	126	2911
Peterson, Johann G., assignor to Bryant Electric Company, Bridgeport, Conn. Incandescent-lamp socket	844,741	Feb. 19	4034	859–60	126	2864
Petterson, Olof G., Worcester, and J. J. Rae, assignors to C. Smith, Cherry Valley, Mass. Feeder for intermediate cards	844,396	Feb. 19	3091	664	126	2637
Pfab, John, Pittsburg, Pa. Bung and cork extractor	844,892	Feb. 19	4329	923	126	2940
Pfänder, Otto, Brussels, Belgium. Tension device	844,688	Feb. 19	3919	829–30	126	2836
Pfleghar, Frank P., New Haven, Conn. Die and pattern making machine	844,397	Feb. 19	3093	664	126	2637
Pfluger, Florian M., Portland, Oreg., assignor, by mesne assignments, to Kaufmann-Chaplin Manufacturing Company, St. Louis, Mo. Beer-tap	844,742	Feb. 19	4037	860–1	126	2864
Pfund, Adolph, Belvidere, Ill. Shock-loader						

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Phillips, Ernest C., *et al.* (See Fletcher, Elmer, assignor.)						
Pilgrim Paper Company. (See Esser, Christian, assignor.)						
Pitcock, William E., Waynesburg, Pa.. Ink well or stand	844,830	Feb. 19	4210	898	126	2911
Pittsburg Patents Company. (See Diescher, Samuel E., assignor.)						
Pittsburgh Plate Glass Company. (See Franzen, Nicklas, assignor.)						
Platt Brothers & Company. (See Platt and Abel, assignors.)						
Platt, Lewis A., and W. T. Abel, assignors to Platt Brothers & Company, Waterbury, Conn. Staple-fastener	844,308	Feb. 19	3094	664	126	2638
Platts, Montraville E., *et al.* (See Harter, Clarence J., assignor.)						
Porter, E. S., *et al.* (See Hatchett, Andrew, assignor.)						
Porter, Ephraim M., and J. W. Daubenspeck, Kellettville, Pa. Rail-joint	844,399	Feb. 19	3095	665	126	2638
Posson, Edward, Chicago, Ill. Brake-staff for railway-cars	844,465	Feb. 19	3216	694	126	2669
Pressed Prism Plate Glass Company. (See Wadsworth, Frank L. O., assignor.)						
Pressler, Susie E., Toledo, Ohio. Guard for street-railway cars	844,743	Feb. 19	4039	861	126	2865
Price, William T. (See Allen and Price.)						
Prindle, Henry U., San Francisco, Cal. Extensible rule and callipers	844,536	Feb. 19	3387	730	126	2711
Prött, Carl H., Rheydt, Germany. Apparatus for moistening the air and distributing water and other fluids	844,466	Feb. 19	3217	694	126	2669
Prouty, Theodore C., assignor to Wilcox Manufacturing Company, Aurora, Ill. Door-hanger	844,467	Feb. 19	3219	695	126	2669
Prouty, Theodore C., assignor to Wilcox Manufacturing Company, Aurora, Ill. Door-hanger	844,468	Feb. 19	3222	695	126	2670
Prouty, Theodore C., assignor to Wilcox Manufacturing Company, Aurora, Ill. Mechanical movement	844,469	Feb. 19	3223	695	126	2671
Quitman Manufacturing Company. (See McLeod, Archibald C., assignor.)						
R. K. Le Blond Machine Tool Company. (See Le Blond and Groene, assignors.)						
Radbruck, Christian, Lübeck, Germany. Bottle-stopper	844,400	Feb. 19	3096	665	126	2639
Radford, George S. (See Groesbeck and Radford.)						
Rae, James J. (See Petterson and Rae.)						
Raines, Stephen H., and A. O. Schuessler, Mason, Tex. Vehicle-axle	844,893	Feb. 19	4330	924	126	2941
Ramsperger, Joseph, Stuttgart, Germany. Key-changing device for keyed instruments	844,401	Feb. 19	3098	665	126	2639
Rand, McNally & Co. (See Dawson, John, assignor.)						
Redick, Joseph A., *et al.* (See Gilchrist, Luther M., assignor.)						
Rees-Gibbs, Edward G. A., Roodepoort, Transvaal. Spray for rock-drills	844,745	Feb. 19	4044	862	126	2866
Reibold, Levi H., Glenville, Pa. Kettle-crane	844,470	Feb. 19	3225	696	126	2671
Reinholtz, William J. (See Kitson and Reinholtz.)						
Reiss, George T., Hamilton, Ohio, and W. L. Clark, New York, N. Y., assignors to Niles-Bement-Pond Company, Jersey City, N. J. Tool-holder for lathes	844,689	Feb. 19	3923	830	126	2836
Rémond, Louis, assignor to Grand Rapids Show Case Company, Grand Rapids, Mich. Roller-support for doors	844,471	Feb. 19	3226	696	126	2671
Renault, Louis, Billancourt, France. Carbureter	844,894	Feb. 19	4331	924-5	126	2941
Rice, Charles E., Livermore, Ky. Device for filling graves	844,895	Feb. 19	4334	925	126	2941
Rice, Edwin I., Springfield, Mass. Printer's lead-cutter	844,746	Feb. 19	4046	862	126	2867
Richardson, George H., Old Town, Me., assignor to Bickmore Gall Cure Company. Display-stand	844,402	Feb. 19	3100	665	126	2639
Richardson, Jesse J., Tulare, Cal. Hydrocarbon-burner	844,537	Feb. 19	3390	730	126	2711
Richardson, John D., St. Joseph, Mo., assignor to National Biscuit Company, Jersey City, N. J., and Chicago, Ill. Storage and display receptacle	844,617	Feb. 19	3776	796	126	2798
Richardson, John S., Nowesta, N. D., assignor to W. Gregory, trustee, Minneapolis, Minn. Bundle-loader	844,747	Feb. 19	4047	862-3	126	2867
Richardson, Solon O., Jr., Toledo, Ohio. Apparatus for fire-polishing glass articles	844,472	Feb. 19	3227	696-7	126	2672
Richardson, William, *et al.* (See Nims, Francis W., assignor.)						
Richardson, William C., Philadelphia, Pa. Apparatus for making coffee	844,538	Feb. 19	3391	731	126	2711
Riddell, John, Schenectady, N. Y., assignor to General Electric Company. Speed-changing device	844,748	Feb. 19	4049	863	126	2868
Rigly, Briscoe, New York, N. Y. Stocking-protector	844,749	Feb. 19	4051	864	126	2869
Rieschick, Herman F., Falls City, Nebr. Lock-nut	844,750	Feb. 19	4052	864	126	2869
Riggs, Alfred L., Ebensburg, Pa. Steam-trap	844,958	Feb. 19	4432	947	126	2966
Robbins, Lafayette. (See Berry, Chester, assignor.)						
Robinson, Duncan, Brookline, Mass. Wheel	844,403	Feb. 19	3100	666	126	2640
Robinson, Edward T., St. Louis, Mo. Semiconvertible car	844,896	Feb. 19	4335	925	126	2941
Robinson, Frank S., Natchez, Miss. Baling-press	844,751	Feb. 19	4053	864	126	2869
Robinson, Frederick L., and J. McCabe, Cheyenne, Wyo. Track-sanding apparatus	844,618	Feb. 19	3778	797	126	2799
Rochford, Mark D., Los Angeles, Cal. Excavator	844,950	Feb. 19	4434	947-8	126	2966
Rohrssen, George G., assignor to Manewallange Biscuit Company, St. Louis, Mo. Device for holding packages of merchandise	844,690	Feb. 19	3925	830	126	2837
Rolfe, Charles A., assignor to Rolfe Electric Company, Rochester, N. Y. Electrical protective apparatus	845,010	Feb. 19	4549	960	126	2994
Rolfe Electric Company. (See Rolfe, Charles A., assignor.)						
Romberg, Friedrich. (See Flamm and Romberg.)						
Roper, Charles F., assignor to Draper Company, Hopedale, Mass. Selvage-motion for looms	844,404	Feb. 19	3102	666	126	2640
Rosenquist, Edwin M., St. Paul, Minn. Wearing-apparel	844,539	Feb. 19	3392	731	126	2712
Ross, George. (See McGlone and Ross.)						
Ross, Hardin E., *et al.* (See Williams, Henry E., assignor.)						
Rouillard, Charles C., Montreal, Quebec, Canada. Trimming-weight for steamboats and the like	844,405	Feb. 19	3104	666	126	2641
Roy, Edward H., and J. A. Burton, Nashville, Tenn. Buckle	844,540	Feb. 19	3393	731	126	2712
Rush, Felix J., New York, N. Y. Electric trimming apparatus	844,406	Feb. 19	3106	667	126	2641
Russell & Erwin Manufacturing Company. (See Voight, Henry G., assignor.)						
Russell, Henry F., Syracuse, N. Y. Skylight-operator	844,691	Feb. 19	3926	830-1	126	2837
Russell, Isaac O., *et al.* (See Russell, John A., assignor.)						
Russell, John A., assignor of two-thirds to I. O. Russell and J. F. Messick, Indianapolis, Ind. Clutch	844,407	Feb. 19	3111	667	126	2642
Russell, Thomas W., and R. Sayler, Union Bridge, Md. Mail-carrier	844,960	Feb. 19	4438	948	126	2967
Ryan, William F., assignor of two-thirds to N. A. Sullivan and L. W. Link, Cincinnati, Ohio. Soldering-iron	844,473	Feb. 19	3229	697	126	2673
Sackman, Charles, Jamaica, N. Y. Toy animal	844,619	Feb. 19	3780	797	126	2800
Sayle, George, Poughkeepsie, assignor of one-half to E. G. Ackermann, Brooklyn, N. Y. Machine for cleaning or treating printers' rollers	844,474	Feb. 19	3232	697-8	126	2673
Sayle, George, Poughkeepsie, assignor of one-half to E. G. Ackermann, Brooklyn, N. Y. Machine for cleaning or treating printers' rollers	844,475	Feb. 19	3239	699	126	2675
Salomon, Joseph, Chicago, Ill. Chair	844,752	Feb. 19	4054	864-5	126	2869
Samil C. Tatum Company. (See Mendenhall, Walter S., assignor.)						
Samuelson, Frederick, Rugby, England, assignor to General Electric Company. Governing mechanism for elastic-fluid turbines	844,753	Feb. 19	4056	865	126	2870
Sanitary Manufacturing Company. (See Davis, John H., assignor.)						
Sardou, George P., and G. Stadtlander, New York, N. Y. Display-stand	844,754	Feb. 19	4059	865	126	2870
Saunders, Richard E., London, England. Separation of metals from their ores	844,620	Feb. 19	3781	797-8	126	2800

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Savage, Frederic W. (See Anderson, Adelbert H., assignor.)						
Sawyer Spindle Company. (See Knight, George W., assignor.)						
Saylor, Reuben. (See Russell and Saylor.)						
Schachner, Edward E., Denver, Colo. Fireproof stair structure	844,408	Feb. 19	3111	667	126	2642
Schachner, Edward E., Denver, Colo. Construction of steps for staircases	844,409	Feb. 19	3114	667-8	126	2643
Schalow, Frank J., New York, N. Y. Vent-valve for batteries	844,755	Feb. 19	4061	865	126	2871
Schauer, Paul, Berlin, Germany. Pneumatic cleaner	844,410	Feb. 19	3116	668	126	2643
Scheffer, Gordon L., Louisburg, N. C. Cuff-holder	844,621	Feb. 19	3783	798	126	2800
Scheibal, Franz, *et al.* (See Themke, Louis E. L., assignor.)						
Schellenbach, William L., Cincinnati, Ohio. Change-gear mechanism	844,541	Feb. 19	3394	731-2	126	2712
Schelter, George G. and J. C., assignors to Empire Last Works, Rochester, N. Y. Hinged-last	844,011	Feb. 19	4552	969	126	2995
Schelter, John C. (See Schelter, George G., and J. C.)						
Schelter, John C., assignor to Empire Last Works, Rochester, N. Y. Shoe-last	844,012	Feb. 19	4554	970	126	2995
Schenck, Ludwig B., New York, N. Y. Incased receptacle	844,542	Feb. 19	3397	732	126	2713
Schenck, Ludwig B., New York, N. Y. Incased receptacle	844,543	Feb. 19	3399	732	126	2713
Scherer, Albert G., and C. W. McKee, Chicago, assignors to A. W. Glessner, Galena, Ill. Machine for manufacturing sheet-metal elbows	844,411	Feb. 19	3117	668-9	126	2644
Schieffelin & Co. (See Green, Maurice, assignor.)						
Schilling, William F. (See McKee and Schilling.)						
Schimmel, Gustav R., Detroit, Mich. Hypodermic syringe	844,544	Feb. 19	3401	732	126	2714
Schmitt, Jean, Belfort, France. Apparatus for recovering sulfur dyestuffs from waste dye liquids and washing liquids	844,013	Feb. 19	4556	970	126	2996
Schmolinski, Adolph O., assignor to Security Register & Manufacturing Company, St. Louis, Mo. Fare-register-actuating mechanism	844,692	Feb. 19	3928	831	126	2838
Schneeloch, August, assignor to E. C. Stearns & Co., Syracuse, N. Y. Type-writing machine	844,756	Feb. 19	4062	866-7	126	2871
Schoenberg, Ralph A. (See Klein, Charles J., assignor.)						
Schofield, Richard, Toronto, Ontario, Canada, assignor to Birmingham Iron Foundry, Derby, Conn. Shearing-machine	844,744	Feb. 19	4040	861-2	126	2865
Schreiber, Theodore. (See Gilbert, William M., assignor.)						
Schroeder, Frederick W., London, England. Padlock	844,412	Feb. 19	3121	669	126	2645
Schuessler, Amile O. (See Raines and Schuessler.)						
Schulz, Justus J., Chicago, Ill. Comb	844,413	Feb. 19	3122	670	126	2645
Scott, Victor, and C. Wolf, Brooksburg, Ind.. Washer for vehicle-spindles	844,545	Feb. 19	3402	733	126	2714
Scott, William H., Maplewood, Mo., assignor, by mesne assignments, to D. R. Niederlander. Separable draft-rigging and body-bolster	844,897	Feb. 19	4337	925-6	126	2942
Seabloom, Pehr F., Ormond, Fla. Hedge-trimmer	844,414	Feb. 19	3123	670	126	2646
Sears, Willard T., Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Power-transmission device	844,415	Feb. 19	3125	670	126	2646
Sears, Willard T., Philadelphia, Pa., assignor to Niles-Bement-Pond Company, Jersey City, N. J. Power-transmission device	844,546	Feb. 19	3403	733	126	2714
Security Register & Manufacturing Company. (See Schmolinski, Adolph O., assignor.)						
Seidel, Otto, Jr., Milwaukee, Wis. Portable leach-clearing apparatus	844,693	Feb. 19	3930	831-2	126	2838
Selerup, Theodor M. E., assignor of one-half to S. Johnson, Reese, Mich. Harvester	844,476	Feb. 19	3244	700	126	2676
Sells, Abraham P., Searcy, Ark. Rail chair and tie	844,622	Feb. 19	3784	798	126	2800
Sewall, Thomas, and G. M. Keene, Boston, Mass. Building-block	844,416	Feb. 19	3126	671	126	2646
Sharp, Wilbur C., Los Angeles, Cal. Switching mechanism for railway-cars	844,757	Feb. 19	4068	867	126	2874
Shaw, William C., White Plains, assignor to J. M. Boarman, Faulkner, Md. Circuit-breaker for electrical conductors	844,961	Feb. 19	4440	949	126	2967
Sheet Metal Recovery Company. (See Leitch, Meredith, assignor.)						
Shepard, Joseph. (See Mehlhorn and Shepard.)						
Sheridan, Andrew J., assignor to J. O. Wilson, Kansas City, Kans. Filter	844,417	Feb. 19	3128	671	126	2647
Sherlock, Dominic, Pittsburg, Pa. Folding clothes-drier	844,962	Feb. 19	4442	949	126	2968
Sherry, John. (See Buckley and Sherry.)						
Sherry, John, assignor to Sterling Lubricator Company, Rochester, N. Y. Sight-feed for lubricators	844,418	Feb. 19	3129	671	126	2647
Sherwood, Joseph, Lake, Idaho. Auto snow-car	844,963	Feb. 19	4443	949	126	2968
Shiner, William C., assignor to J. W. Fuller, Jr., Catasauqua, Pa. Rotary kiln	844,623	Feb. 19	3785	799	126	2801
Shipley, Grant B., assignor to Allis-Chalmers Company, Milwaukee, Wis. Dredge pin and joint	845,014	Feb. 19	4558	970	126	2990
Siemens & Halske Aktiengesellschaft. (See Marchthal, Eduard M. v., assignor.)						
Sieurin, Paul W., Gothenburg, Sweden. Hoisting apparatus	844,477	Feb. 19	3251	701	126	2677
Silver Manufacturing Company. (See Haldeman, Charles F., assignor.)						
Simmers, Lemuel J., Fitzgerald, Ga. Running-gear for vehicles	844,898	Feb. 19	4338	926	126	2942
Simmons Hardware Company. (See Duffett, George J., assignor.)						
Simmons, Jesse C., assignor of one-half to C. L. Churchill, Shelby, Mich. Rotary engine	844,758	Feb. 19	4070	867-8	126	2874
Singer, Carl J., Washington, D. C. Gate	844,964	Feb. 19	4445	949-50	126	2969
Sitton, Benjamin J., assignor of one-half to E. R. Overman and J. J. Kincaid, Salisbury, N. C. Veneer-cutting machine	844,899	Feb. 19	4339	926-7	126	2943
Sjoberg, John P. (See Forsgren, Ernst L., assignor.)						
Skinner, Anna W., Oswego, N. Y. Washing compound and making same	844,547	Feb. 19	3404	.....	126	2715
Slackowski, Thomas, Bay City, Mich. Pocket-closer	844,965	Feb. 19	4446	950	126	2969
Slick, Edwin E., Pittsburg, Pa. Feeding device for rolling-mills	844,419	Feb. 19	3132	671-2	126	2648
Smith, Channing. (See Petterson and Rae, assignors.)						
Smith, Charles F., New York, N. Y. Plate-lifter	844,966	Feb. 19	4447	950	126	2969
Smith, Clement, Topeka, Kans. Carbureter	844,900	Feb. 19	4343	927	126	2944
Smith, Edward L., Breckenridge, Colo. Tunnel-crane	844,624	Feb. 19	3786	799-800	126	2801
Smith, Elmer H., Chippewa Falls, Wis. Photograph-holder	844,901	Feb. 19	4345	928	126	2944
Smith, George G., Florence, Italy. Drying gas	844,694	Feb. 19	3933	832	126	2839
Smith, Herbert A., Onaway, Mich. Horse-detacher	844,548	Feb. 19	3405	733	126	2715
Smith, James C., Chicago, Ill. Screw-cutting lathe	844,831	Feb. 19	4211	898-9	126	2911
Smith, John L., Eureka Springs, Ark. Window-shade and curtain-support	844,967	Feb. 19	4448	950	126	2970
Smith, Levi F., El Paso, Ill. Half-tone-printing plate	844,968	Feb. 19	4450	951	126	2970
Smith, Robert M., Chicago Ill. Folding steel square	844,420	Feb. 19	3134	672	126	2649
Smith, Sidney, Cambridge, Mass. Boiler	844,695	Feb. 19	3934	832-3	126	2839
Smith, Thomas J. (See Haskell, Frank H., assignor.)						
Smorowski, Valentine, Monclova, Ohio. Mechanical movement	844,696	Feb. 19	3937	833	126	2840
Snyder, Daniel K., Portsmouth, Va. Drawer-pull	844,902	Feb. 19	4346	928	126	2944
Society of Chemical Industry in Basle. (See Kroeber, Thilo, assignor.)						
Solomiac, Emile, Paris, France. Steam-generator	844,697	Feb. 19	3941	834-5	126	2841
Spalding, James F., Kansas City, Mo. Catheter-user's mechanical assistant	844,478	Feb. 19	3253	702	126	2678
Spangler, Harvey E., Canton, Ohio. Spring-pressing machine	844,549	Feb. 19	3407	733-4	126	2715
Sparks, Frederick W. (See Keenan, Thomas, assignor.)						
Spencer, William L., Wynne, Ark. Foot-power cane-knife	844,625	Feb. 19	3789	800	126	2802
Sprague, James H., Norwalk, Ohio. Bow-rest for vehicles	844,969	Feb. 19	4451	951	126	2970
Spratley, Alfred E., Monett, Mo. Rail-joint	844,970	Feb. 19	4452	951	126	2971
Springer, Lee V., Chicago, Ill. Excavator	844,479	Feb. 19	3257	702-3	126	2679
Stadtlander, George. (See Sardou and Stadtlander.)						
Stafford, Benjamin E. D., Pittsburg, Pa. Flexible stay-bolt	844,421	Feb. 19	3135	673	126	2649

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Stahl, Daniel, Philadelphia, Pa. Coal-dumping wagon	844,460	Feb. 19	3259	703	126	2080
Standard Manufacturing Company. (See Jordan, Watson A., assignor.)						
Stanley Works. (See Marwick, David B., assignor.)						
Stearns & Co., E. C. (See Schneeloch, August, assignor.)						
Stegmaier, Philip M., Plymouth, Mass. Appliance for cord and rope machines	844,971	Feb. 19	4453	951	126	2971
Stephenson, Leonard D. (See Boole and Stephenson.)						
Sterling Lubricator Company. (See Buckley and Sherry, assignors.)						
Sterling Lubricator Company. (See Sherry, John, assignor.)						
Stewart, Robert F., Omaha, Nebr. Receptacle for signal flags, fuses, and torpedoes	844,481	Feb. 19	3262	704	126	2681
Stickney, Charles A., St. Paul, Minn. Speed-regulator for engines	844,709	Feb. 19	4074	868–9	126	2876
Stotz, Christian, Bellevue, Ohio. Refrigerator-door	844,698	Feb. 19	3943	835	126	2841
Strashaugh, Levi W., deceased; E. E. Hamme, administratrix, York, Pa. Sash-cord clamp	845,035	Feb. 19	4595	978	126	3007
Strout, Arthur L., Bar Harbor, Me. Nut-lock	844,422	Feb. 19	3136	673	126	2650
Sturtevant Mill Company. (See Sturtevant, Thomas L. and T. J., assignors.) (Reissue.)						
Sturtevant, Thomas J. (See Sturtevant, Thomas L. and T. J.) (Reissue.)						
Sturtevant, Thomas L., Quincy, and T. J. Sturtevant, Wellesley, Mass., assignors to Sturtevant Mill Company, Portland, Me., and Boston, Mass. Double carbureter for explosive-engines. (Reissue)	12,611	Feb. 19	4605	980	126	3010
Sullivan, Neil A., *et al.* (See Ryan, William F., assignor.)						
Summers, Robert, Philadelphia, Pa. Device to assist in threading needles	844,482	Feb. 19	3263	704	126	2681
Sumner, William A., assignor to Nebraska Incubator Company, Fairfield, Nebr. Incubator-lamp chimney	844,626	Feb. 19	3790	800	126	2802
Sutherland, William H., and R. N. Van Horne, Sioux City, Iowa. Automatic air-coupling device	844,483	Feb. 19	3264	704	126	2681
Swan, Harry L. (See Collar, Charles T., assignor.)						
Sweigard, Emanuel W., Chicago, Ill. Attachment for type-writers	844,699	Feb. 19	3944	836	126	2841
Sylvester, Richard, Lindsay, Ontario, Canada. Threshing-machine	844,627	Feb. 19	3791	800–1	126	2802
Sylvester, Richard, Lindsay, Ontario, Canada. Sheaf carrier and elevator for threshing-machines	844,628	Feb. 19	3793	801–2	126	2803
Symmonds, Robert, assignor to T. B. Jeffery, Kenosha, Wis. Transmission-gearing	844,760	Feb. 19	4079	869–70	126	2877
Sznutchko, Samuel, Oakdale, Pa. Metallic tie and rail-fastener	844,533	Feb. 19	4216	899	126	2912
Tartt, Oscar C., *et al.* (See Goble, James F. S., assignor.)						
Tatum, James W., Durham, N. C. Hinge	844,629	Feb. 19	3794	802	126	2803
Taylor, Clarence L., assignor to Morgan Engineering Company, Alliance, Ohio. Overhead traveling crane	844,423	Feb. 19	3136	673	126	2650
Taylor, Clarence L., assignor to Morgan Engineering Company, Alliance, Ohio. Overhead traveling crane	844,424	Feb. 19	3137	673	126	2650
Taylor, Clarence L., assignor to Morgan Engineering Company, Alliance, Ohio. Beam-straightening press	844,425	Feb. 19	3139	674	126	2650
Taylor, Warner V. (See Marshall and Taylor.) (Reissue.)						
Temple, Robert, Denver, Colo. Speed-controller for electric motors	844,630	Feb. 19	3796	802–3	126	2804
Temple, Robert, Denver, Colo. Drill-chuck	844,631	Feb. 19	3798	803	126	2804
Tessier, Philip, Horace, N. D. Belt-fastener	844,976	Feb. 19	4466	953	126	2976
Themke, Louis E. L., Strathcona, Alberta, assignor of one-half to F. Scheibal, Edmonton, and J. Dittrich, Strathcona, Canada. Non-refillable bottle	845,015	Feb. 19	4589	970	126	2997
Thomas, Albert R. (See Westlake and Thomas.)						
Thomas, Alfred, *et al.* (See Nims, Francis W., assignor.)						
Thomas, James R., assignor to Thomas Nut-Lock Company, Huntington, W. Va. Nut-lock	844,972	Feb. 19	4455	952	126	2971
Thomas Nut-Lock Company. (See Thomas, James R., assignor.)						
Thomasson, Hugh W., St. Louis, Mo. Corn-planter	844,580	Feb. 19	3408	734	126	2715
Thompson, Henry B., Philadelphia, Pa., assignor to J. Boyle, Brooklyn, N. Y. Hospital-tent	844,632	Feb. 19	3800	803–4	126	2805
Thompson, Herbert C., Hopedale, Ind. Safety-bridle	844,833	Feb. 19	4217	899	126	2913
Thorn, George F., New York, N. Y. Column	844,973	Feb. 19	4456	952	126	2972
Thorn, George F., New York, N. Y. Column	844,974	Feb. 19	4460	952	126	2973
Thornberg, Emil, McKeesport, Pa. Rail-fastener	844,834	Feb. 19	4218	900	126	2913
Thorne Type Setting Machine Company. (See Ennisson, Walter J., assignor.)						
Thornton, William F., Jr., Germantown, Pa. Automatic air and steam pipe coupling	844,975	Feb. 19	4464	952–3	126	2974
Thun, Karl, assignor to Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. Anthracene derivative	844,835	Feb. 19	4219	.....	126	2913
Tiffany, James E. (See Vaughn and Tiffany.)						
Treen, Jefferson, assignor to Manhattan High Powered Motor Company, New York, N. Y. Internal-combustion motor	844,836	Feb. 19	4220	900–1	126	2913
Trettau, Carl, Gimmel, Germany. Apparatus for aerating and cleaning flour, grits, and the like	844,016	Feb. 19	4560	971	126	2997
Trettau, Carl, Gimmel, Germany. Apparatus for improving grain	845,017	Feb. 19	4561	971	126	2997
Tromanhauser, Jesse H., Minneapolis, Minn. Storage-bin	844,633	Feb. 19	3801	804	126	2805
Trumbull, Rollin M., and J. Volz, Hildreth, Nebr. Post-hole auger	844,634	Feb. 19	3803	804	126	2806
Trussell, Wilbert C., assignor to Trussell Hay Harvesting Machinery Company, Boston, Mass. Hay rake and cocker	845,018	Feb. 19	4562	971–2	126	2997
Tucker, Robert P., *et al.* (See Gourdin, John K., assignor.)						
Turner, Frank E., Harvard, Nebr. Device for straightening axles	844,551	Feb. 19	3411	735	126	2716
Turner, Kelley M., New York, and N. W. Johnston, Chappaqua, N. Y., assignors, by mesne assignments, to General Acoustic Company. Carbon-ball transmitter	844,635	Feb. 19	3804	805	126	2806
Twitchell, Ernst, Wyoming, Ohio. Effecting a combination between selected members of the alcohols and fatty acid	844,426	Feb. 19	3141	.....	126	2651
Tyson, Frank B., Randolph, Kans. Gearing	844,761	Feb. 19	4083	870	126	2878
Union Paper Bag Machine Company. (See Claussen, Edward E., assignor.)						
Union Typewriter Company. (See Gabrielson, Carl, assignor.)						
United Machine & Supply Company. (See Anthony, Marcus O., assignor.)						
Unitype Company. (See Des Jardins, Benjamin M., assignor.)						
Unitype Company. (See Ennisson, Walter J., assignor.)						
Unitype Company. (See Wentscher, Ernst, assignor.)						
Urban, Theodore, Cleveland, Ohio. Window-cleaner	844,700	Feb. 19	3946	836	126	2842
Van Brunt, Willis D., Southampton, N. Y. Pipe-hanger	844,977	Feb. 19	4467	953	126	2975
Van Horne, Robert N. (See Southerland and Van Horne.)						
Vanderbilt, Isaac S., Jr., South Orange, N. J. Clothes-pin bag	844,636	Feb. 19	3806	805	126	2806
Vanzini, Filippo, Bologna, Italy. Nautical apparatus	844,837	Feb. 19	4223	902	126	2914
Vauchan, Samuel M., assignor to Burnham, Williams & Company, Philadelphia, Pa. Locomotive	844,978	Feb. 19	4468	953–4	126	2976
Vaughn, William H., and J. E. Tiffany, Johnstown, Pa. Switch-throwing device	844,762	Feb. 19	4085	870–1	126	2879
Vick, Rollo M. (See Ellett and Vick.)						
Vickers, Thomas. (See Allen and Vickers.)						
Victor Electric Company. (See Wantz, Julius B., assignor.)						
Vinson, John B. (See Lloyd, William D., assignor.)						
Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Lock and latch	844,763	Feb. 19	4086	871	126	2879

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Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Keyhole-shutter for locks	845,019	Feb. 19	4566	972	126	2999
Voight, Henry G., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Corridor-door lock	845,020	Feb. 19	4567	973	126	2999
Volz, Jonathan. (See Trumbull and Volz.)						
Voy, Edward L., assignor to Allis-Chalmers Company, Milwaukee, Wis. Dredge pin and joint	845,021	Feb. 19	4569	973	126	3000
Vye, John A., St. Paul, Minn. Grass-catcher for lawn-mowers	844,427	Feb. 19	3142	675	126	2651
Wadsworth, Frank L. O., assignor to Pressed Prism Plate Glass Company, Morgantown, W. Va. Manufacture of wire-glass	844,484	Feb. 19	3265	705	126	2682
Wadsworth, Frank L. O., assignor to Pressed Prism Plate Glass Company, Morgantown, W. Va. Manufacture of wire-glass	844,485	Feb. 19	3267	705	126	2682
Wadsworth, Frank L. O., Morgantown, W. Va., assignor to Pressed Prism Plate Glass Company, New York, N. Y. Making glass sheets	844,552	Feb. 19	3412	735	126	2716
Wagner, Albert, Elkhorn, Pa. Hook for garments	844,428	Feb. 19	3143	675	126	2651
Walker, Archibald U., *et al.* (See Williams, Henry E., assignor.)						
Walker, Georg F., Dexter, Mich. Cup and cup-handle	845,022	Feb. 19	4570	973	126	3000
Walsh, William F., Pocatello, Idaho. Folding metallic signal-flag	844,637	Feb. 19	3807	805	126	2807
Wantz, Julius B., assignor to Victor Electric Company, Chicago, Ill. Electric motor	844,701	Feb. 19	3948	837	126	2842
Ware, Joseph L., St. Paul, Minn. Harrow	844,764	Feb. 19	4089	871–2	126	2880
Warner, Alonzo A., assignor to Landers, Frary and Clark, New Britain, Conn. Sad-iron	844,638	Feb. 19	3809	806	126	2807
Waterman, Edwin R., San Francisco, Cal. Electric heater	844,979	Feb. 19	4470	954	126	2976
Waterman, Joseph E., Ottawa, Ill. Garment-fastener	844,486	Feb. 19	3269	706	126	2682
Waterman, Lewis E., assignor to Emerson Manufacturing Company, Rockford, Ill. Seeding-machine	844,429	Feb. 19	3144	675–6	126	2652
Waterman, Lewis E., assignor to Emerson Manufacturing Company, Rockford, Ill. Seeding-machine	844,639	Feb. 19	3810	806	126	2808
Watt, Robert, Philadelphia, Pa. Combined steam generator and radiator	844,487	Feb. 19	3270	706	126	2683
Watts, G. H. (See Dixon, Benjamin L., assignor.)						
Webb, John W., Columbus, Miss. Railway-tie construction	844,489	Feb. 19	3274	706	126	2683
Webb, Samuel J., Minden, La. Compressing bales	844,553	Feb. 19	3414	735–6	126	2717
Weber, Jacob M. (See Zeldis and Weber.)						
Weber, John, Elba, N. Y. Land-roller	844,430	Feb. 19	3146	676	126	2653
Weber, William L., Boston, Mass., assignor to Greene, Tweed and Company, New York, N. Y. Hydraulic elevator	844,488	Feb. 19	3271	706	126	2683
Wehagen, Didrich H., Lorain, Ohio. Delivery-cabinet	844,431	Feb. 19	3147	676–7	126	2653
Welcome, Jacob C., Sr., Burns, Oreg. Snap-hook	844,980	Feb. 19	4471	954	126	2977
Wells, Elisha F., assignor of one-half to J. N. Lummus, Miami, Fla. Registering-lock	844,702	Feb. 19	3949	837	126	2843
Wentscher, Ernst, Berlin, Germany, assignor, by mesne assignments, to Unitype Company. Justifying apparatus	844,570	Feb. 19	3693	776–7	126	2780
Wentworth, Ephraim, Berlin Mills, N. H. Hacksaw	844,981	Feb. 19	4473	954	126	2977
West, William, Camden, N. J. Receptacle for powdered materials	844,640	Feb. 19	3811	806	126	2808
Westbrook, Charles B., Newton, Iowa. Lace-curtain-display cabinet	844,432	Feb. 19	3149	677	126	2653
Western Clock Manufacturing Company. (See Neureuther, Andrew H., assignor.)						
Western Wheeled Scraper Co. (See Bunnell, Morton G., assignor.)						
Western Wheeled Scraper Company. (See McKnight, Thomas R., assignor.)						
Westinghouse Electric & Manufacturing Company. (See Hart, Harry U., assignor.)						
Westlake, Charles T., and A. R. Thomas, assignors to Davis Locomotive Wheel Company, St. Louis, Mo. Locomotive-engine frame	844,765	Feb. 19	4091	872	126	2881
Weymouth, Thomas R., Oil City, Pa. Thief for testing liquids	844,433	Feb. 19	3149	677	126	2653
Wheeler & Co., S. D. (See Wheeler, Samuel D., assignor.)						
Wheeler, Lewis R., Tacoma, Wash. Device for registering vibrations of musical sounds	844,838	Feb. 19	4229	902	126	2916
Wheeler, Samuel D., assignor to S. D. Wheeler & Co., Brinson, Ga. Meat-cutter	844,434	Feb. 19	3151	678	126	2654
White, Harold E., Schenectady, N. Y., assignor to General Electric Company. Controller	845,024	Feb. 19	4575	974	126	3001
White, Harold E., and H. C. Pease, Schenectady, N. Y., assignors to General Electric Company. System of control	845,023	Feb. 19	4571	974	126	3000
Whitehorne, William R., Bethlehem, assignor to H. C. Bailey, Philadelphia, Pa. Telephone attachment	844,839	Feb. 19	4231	903	126	2916
Widmeier, Otto J., Sigel, Ill. Vehicle	844,982	Feb. 19	4474	955	126	2977
Wieda, Ernst F. W., assignor to Wieda Mixing Machinery Co., Paterson, N. J. Kneading and mixing machine	844,840	Feb. 19	4234	903	126	2917
Wieda Mixing Machinery Co. (See Wieda, Ernst F. W., assignor.)						
Wikander, Anders J., Brooklyn, N. Y., and F. Johanson, Philadelphia, Pa. Adjustable wire screen	844,571	Feb. 19	3709	777–8	126	2781
Wilcox Manufacturing Company. (See Prouty, Theodore C., assignor.)						
Wilkins, George H., Portland, Me., assignor to J. F. Hull, Poughkeepsie, N. Y., and G. W. Brown, Cape Elizabeth, Me. Machine for attaching tags to clothing	844,703	Feb. 19	3943	838	126	2843
Wilkins, Willis A., El Paso, Tex. Shears and tension-screw	844,903	Feb. 19	4347	928	126	2944
Willcox & Gibbs Sewing Machine Company. (See Borton, Stockton, assignor.)						
Willey, Edgar E., Quincy, Mass. Garment-fastener	844,841	Feb. 19	4236	903	126	2918
Williams, George H., Kansas City, Mo. Angle or splice bar	845,025	Feb. 19	4577	974	126	3002
Williams, Henry E., Savannah, Tenn., assignor of one-half to H. E., Ross and A. U. Walker. Farm-gate	845,026	Feb. 19	4579	975	126	3002
Williams, Richard C., London, Ontario, Canada. Adjustable sleeved axle-nut	844,490	Feb. 19	3276	707	126	2684
Williamson, Ernest S., Kesang, Victoria, Australia. Spade and analogous implement	844,904	Feb. 19	4349	928	126	2945
Willson, James O. (See Shackleton, Andrew J., assignor.)						
Willson, John R., Norman, Okla. Ter. Curtain-pole	844,704	Feb. 19	3954	838	126	2844
Wingren, Richard, assignor to Electric Appliance Company, Burlington, Kans. Electric belt	844,572	Feb. 19	3702	778	126	2781
Winn, David J., Sumter, S. C. Sheet-metal roofing	844,983	Feb. 19	4476	955	126	2978
Winston, John P., *et al.* (See Gilchrist, Luther M., assignor.)						
Wolf, Casper. (See Scott and Wolf.)						
Wolf, Edgar A., Nerstrand, Minn. Signal	844,435	Feb. 19	3153	678	126	2654
Wood, James J., Fort Wayne, Ind. Metering and controlling system for electric circuits	844,436	Feb. 19	3154	678	126	2655
Woodward, Arthur. (See Hutton, Edward S., assignor.)						
Woodward, Erastus, Somerville, Mass. Heel-attaching machine	844,573	Feb. 19	3703	778–9	126	2782
Wootten, Richard K. (See Latting, Richard G., Jr., assignor.)						
Wuest, Philip, Jr., assignor to Auto-Manual Piano Action Company, Philadelphia, Pa. Mechanical musical instrument	844,984	Feb. 19	4477	955–6	126	2978
Wuest, Philip, Jr., assignor to Auto-Manual Piano Action Company, Philadelphia, Pa. Automatic playing mechanism in pianos	844,985	Feb. 19	4481	956	126	2979
Wuest, Philip, Jr., assignor to Auto-Manual Piano Action Company, Philadelphia, Pa. Pneumatic tracker-bar	844,986	Feb. 19	4484	956	126	2980
Wuest, Philip, Jr., assignor to Auto-Manual Piano Action Company, Philadelphia, Pa. Automatic playing mechanism for musical instruments	844,987	Feb. 19	4486	957	126	2980
Yeakel, George P., and W. C. L. Ireland, assignors of one-third to C. Keller, Norristown, Pa. Lineman's chair	844,641	Feb. 19	3812	806–7	126	2808

Name, residence, and invention.	No.	Date	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Yoakum, Robert, assignor of one-half to J. A. Greber, Houston, Tex. Building structure	844,968	Feb. 19	4489	958	126	3981
Young, Frederick W., East Orange, N. J. Core	844,642	Feb. 19	3813	807	126	2809
Young, Joseph R., Micaville, N. C. Wrench	844,905	Feb. 19	4351	929	126	2945
Zeldis, Joseph, and J. M. Weber, Philadelphia, assignors to Leicester and Continental Mills Company, Germantown, Philadelphia, Pa. Trimming attachment for sewing-machines	844,574	Feb. 19	3706	779–80	126	2782
Zollers, Frank W., Coulters, Pa. Nut-lock	844,643	Feb. 19	3815	807	126	2809

DESIGNS.

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Britton, Louis H., Cleveland, Ohio. Fire-indicator	38,446	Feb. 19	126	3012
Brotherhood of Locomotive Firemen and Enginemen. (See Carter, William S., assignor.)				
Carter, William S., assignor to Brotherhood of Locomotive Firemen and Enginemen, Peoria, Ill. Badge	38,445	Feb. 19	126	3012
Duffner & Kimberly Company. (See Howell, Hamilton T., assignor.)				
Geller, Morris, Newark, N. J. Phonograph-horn	38,447	Feb. 19	126	3012
Howell, Hamilton T., Woodside, assignor to Duffner & Kimberly Company, New York, N. Y. Portable standard for lighting-fixtures	38,449	Feb. 19	126	3013
Howell, Hamilton T., Woodside assignor to Duffner & Kimberly Company, New York, N. Y. Portable standard for lighting-fixtures	38,450	Feb. 19	126	3013
Howell, Hamilton T., Woodside, assignor to Duffner & Kimberly Company, New York, N. Y. Portable standard for lighting-fixtures	38,451	Feb. 19	126	3013
Howell, Hamilton T., Woodside, assignor to Duffner & Kimberly Company, New York, N. Y. Portable standard for lighting-fixtures	38,452	Feb. 19	126	3014
Howell, Hamilton T., Woodside, assignor to Duffner & Kimberly Company, New York, N. Y. Portable standard for lighting-fixtures	38,453	Feb. 19	126	3014
Howell, Hamilton T., Woodside, assignor to Duffner & Kimberly Company, New York, N. Y. Portable standard for lighting-fixtures	38,454	Feb. 19	126	3014
Howell, Hamilton T., Woodside, assignor to Duffner & Kimberly Company, New York, N. Y. Portable standard for lighting-fixtures	38,455	Feb. 19	126	3014
Howell, Hamilton T., Woodside, assignor to Duffner & Kimberly Company, New York, N. Y. Portable standard for lighting-fixtures	38,456	Feb. 19	126	3015
Howell, Hamilton T., Woodside, assignor to Duffner & Kimberly Company, New York, N. Y. Portable standard for lighting-fixtures	38,457	Feb. 19	126	3015
Howell, Hamilton T., Woodside, assignor to Duffner & Kimberly Company, New York, N. Y. Portable standard for lighting-fixtures	38,458	Feb. 19	126	3015
Howell, Hamilton T., Woodside, assignor to Duffner & Kimberly Company, New York, N. Y. Portable standard for lighting-fixtures	38,459	Feb. 19	126	3015
Howell, Hamilton T., Woodside, assignor to Duffner & Kimberly Company, New York, N. Y. Portable standard for lighting-fixtures	38,460	Feb. 19	126	3016
Nichols, George, New York, N. Y. Bracket for supporting trolley-wires	38,461	Feb. 19	126	3016
Noe, William R. (See Noe, William R., Jr., assignor.)	38,462	Feb. 19	126	3016
Noe, William R., Jr., assignor to W. R. Noe, East Orange, N. J. Lamp-shade	38,448	Feb. 19	126	3013
Rosenstein, Albert, Lancaster, Pa. Umbrella, parasol, or cane handle	38,463	Feb. 19	126	3016
Rosenstein, Albert, Lancaster, Pa. Umbrella, parasol, or cane handle	38,464	Feb. 19	126	3016

TRADE-MARKS.

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A. S. Lee & Sons Company, Incorporated, Richmond, Va. Prepared agricultural lime	60,635	Feb. 19	126	3033
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Photographic developers	60,714	Feb. 19	126	3035
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Internal remedy for dietetic purposes	60,783	Feb. 19	126	3037
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Intestinal astringents	60,784	Feb. 19	126	3037
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Sedatives	60,785	Feb. 19	126	3037
Adler, Leon N., New York, N. Y. Insecticide	60,713	Feb. 19	126	3035
African Cigarette Company, Limited, London, England. Cigarettes, cigars, smoking-tobacco, and chewing-tobacco	60,762	Feb. 19	126	3036
Alberger Condenser Company, New York, N. Y. Steam-condensers	60,745	Feb. 19	126	3036
Allen & Co., Benj., Chicago, Ill. Watches	60,821	Feb. 19	126	3038
Alwin Manufacturing Company, Chicago, Ill. Go-carts	60,822	Feb. 19	126	3038
American Bar-Lock Company, Philadelphia, Pa. Illuminating-prisms for building construction	60,746	Feb. 19	126	3036
American Chicle Co., New York, N. Y. Chewing-gum	60,747	Feb. 19	126	3036
American Fertilizing Company, Norfolk, Va. Fertilizers	60,636	Feb. 19	126	3033
American Radiator Company, East Orange, N. J.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France, and Berlin, Germany. Radiators	60,637	Feb. 19	126	3033
American Radiator Company, East Orange, N. J.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France and Berlin, Germany. Radiators	60,638	Feb. 19	126	3033
American Radiator Company, East Orange, N. J.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France, and Berlin, Germany. Radiators	60,639	Feb. 19	126	3033
American Radiator Company, East Orange, N. J.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France, and Berlin, Germany. Radiators	60,640	Feb. 19	126	3033
American Radiator Company, East Orange, N. J.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France, and Berlin, Germany. Radiators	60,641	Feb. 19	126	3033

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Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
American Radiator Company, East Orange, N. J.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France, and Berlin, Germany. Radiators	60,642	Feb. 19	126	3033
American Radiator Company, East Orange, N. J.; Chicago, Ill.; New York, N. Y.; Philadelphia, Pa.; Boston, Mass.; London, England; Paris, France, and Berlin, Germany. Radiators	60,673	Feb. 19	126	3034
Andrew Pharmaceutical Company, Mason, Ohio. Internal remedy for alleviating pain	60,823	Feb. 19	126	3038
Anglo-American Inc. Light Co., Pittsburg, Pa. Incandescent mantles	60,674	Feb. 19	126	3034
Armour & Company, Chicago, Ill. Liquid preparation of lecithin	60,824	Feb. 19	126	3038
Arnhold, Karberg & Co., New York, N. Y. Cotton piece goods	60,803	Feb. 19	126	3037
Arnhold, Karberg & Co., New York, N. Y. Cotton piece goods	60,804	Feb. 19	126	3037
Arnhold, Karberg & Co., New York, N. Y. Cotton piece goods	60,805	Feb. 19	126	3037
Arnhold, Karberg & Co., New York, N. Y. Cotton piece goods	60,806	Feb. 19	126	3037
Ausable Horse Nail Company, Keeseville, N. Y. Horse-nails	60,807	Feb. 19	126	3037
Ausable Horse Nail Company, Keeseville, N. Y. Horse-nails	60,808	Feb. 19	126	3037
Auto Strop Safety Razor Co., New York, N. Y. Razors and razor-blades	60,748	Feb. 19	126	3036
Badische Anilin- & Soda-Fabrik, Ludwigshafen-on-the-Rhine, Germany. Dyestuff	60,763	Feb. 19	126	3036
Barclay & Barclay, New York, N. Y. Medicated preparation for the hair, scalp, and skin	60,825	Feb. 19	126	3038
Barrett Manufacturing Company, New York, N. Y. Ready tar and felt roofing	60,693	Feb. 19	126	3034
Beckley-Ralston Company, Chicago, Ill. Bicycles	60,826	Feb. 19	126	3038
Beckwith Leather Co., Chadwicks, N. Y. Chrome and bark tanned calf, colt, and kid skins	60,749	Feb. 19	126	3036
Beebe, Frances J., Spokane, Wash. Cereal-food coffee	60,643	Feb. 19	126	3033
Beyer & Williams Company, Buffalo, N. Y. Maternity-skirts	60,750	Feb. 19	126	3036
Bostwick, Mark C., Alpena, Mich. Remedy for all diseases of the kidneys, stomach, liver, and blood	60,827	Feb. 19	126	3038
Brazilian Turpentine Company, Limited, Pittsburg, Pa. Turpentine	60,644	Feb. 19	126	3033
Brooks, George W., Brooklyn, N. Y. Rheumatic and gout medicines	60,828	Feb. 19	126	3038
Buermann, August, Newark, N. J. Bits, spurs, stirrups, buckles, and metal harness-trimmings	60,809	Feb. 19	126	3037
Burdick Medicine Co., W. J., Appleton, Wis. Vegetable compounds for blood and nerve medicines	60,786	Feb. 19	126	3037
Bushnell & Co., D. I., St. Louis, Mo. Corn	60,645	Feb. 19	126	3033
Cabot, Saml., Boston, Mass. Chemical preparation	60,810	Feb. 19	126	3037
Casey Bros., Scranton, Pa. Whisky	60,811	Feb. 19	126	3037
Catherwood, H. & H. W., Philadelphia, Pa. Whisky	60,829	Feb. 19	126	3038
Challenge Starch Co., New York, N. Y. Laundry starch	60,764	Feb. 19	126	3036
Chatfield, George R., New York, N. Y. Vanilla-oil	60,646	Feb. 19	126	3033
Chemische Fabrik vormals Sandoz, Basel, Switzerland. Medicinal compound for external use	60,788	Feb. 19	126	3037
Chipman's Sons, Chas., Easton, Pa. Hosiery	60,787	Feb. 19	126	3037
Cincinnati Perfume Co., Cincinnati, Ohio. Flavoring extracts	60,708	Feb. 19	126	3035
Colgate & Co., New York, N. Y. Soaps and soap powders	60,647	Feb. 19	126	3033
Colgate & Co., New York, N. Y. Perfumery, talc powder, and toilet water	60,830	Feb. 19	126	3038
Columbia Chemical Works, Brooklyn, N. Y. Aqua-ammonia	60,715	Feb. 19	126	3035
Commercial Manufacturing Company, Philadelphia, Pa. Automatic fuel-economizers for gas-stoves	60,675	Feb. 19	126	3034
Cramer, Joseph C., Portland, Oreg. Internal remedies used in treatment of constipation and intestinal disorders	60,831	Feb. 19	126	3038
Crawford, Allan, Bolivar, Tenn. Cure for hog-cholera and diseases of cattle	60,832	Feb. 19	126	3038
Criswell Chemical Company, Washington, D. C. Certain medicinal preparation	60,833	Feb. 19	126	3038
Criswell Chemical Company, Washington, D. C. Cure for corns, warts, bunions, and calluses	60,834	Feb. 19	126	3038
Cross, Arthur H., New York, N. Y. Preparation for cleansing and polishing	60,648	Feb. 19	126	3033
Crusellas, Ramon, Havana, Cuba. Flour made from bananas	60,649	Feb. 19	126	3033
David Hunt & Co., New York, Oswego, and Cherry Creek, N. Y. Canned fruits and vegetables	60,650	Feb. 19	126	3033
Deere & Company, Moline, Ill. Plows and plow parts	60,812	Feb. 19	126	3037
Deere & Mansur Co., Moline, Ill. Certain agricultural machines	60,751	Feb. 19	126	3036
Deere & Mansur Co., Moline, Ill. Certain agricultural machines	60,789	Feb. 19	126	3037
Deere & Mansur Co., Moline, Ill. Certain agricultural machines	60,790	Feb. 19	126	3037
Dolan Mercantile Co., Atchison, Kans. Canned fruits and vegetables	60,651	Feb. 19	126	3033
Dr. J. F. True & Co., Auburn, Me. Certain medicinal preparations	60,791	Feb. 19	126	3037
Draper & Maynard Company, Plymouth, N. H. Certain sporting goods	60,676	Feb. 19	126	3034
E. B. Millar & Company, Chicago, Ill. Teas	60,677	Feb. 19	126	3034
E. T. Smith Company, Worcester, Mass. Canned fruits and vegetables, dried fruits, spices, and gelatin	60,706	Feb. 19	126	3035
Eagle Pencil Company, New York, N. Y. Lead-pencils	60,765	Feb. 19	126	3036
Emil Seelig, A. G., Heilbronn, Germany, and Jersey City, N. J. Coffee substitute	60,652	Feb. 19	126	3033
Fiebert Bros., New York, N. Y. Hair-tonic	60,835	Feb. 19	126	3038
Forhan, Henry L., Portland, Me. Canned corn	60,694	Feb. 19	126	3034
Frederick Stearns & Co., Detroit, Mich. Digestive ferments	60,799	Feb. 19	126	3037
Friedlaender, Oscar O., New York, N. Y. Lamp-chimneys	60,766	Feb. 19	126	3036
G. R. Lynch Mfg. Company, Chattanooga, Tenn. Certain heating and lighting apparatus	60,653	Feb. 19	126	3033
Gehring, George F., Louisville, Ky. Blood-purifier	60,836	Feb. 19	126	3038
General Need Company, Buffalo, N. Y. Soaps and scouring and cleaning compounds in paste form	60,695	Feb. 19	126	3034
Gordon Coffee & Spice Company, Kansas City, Mo. Roasted coffee	60,654	Feb. 19	126	3033
Gorton-Pew Fisheries Co., Gloucester, Mass. Salted, cured, dried, and canned fish	60,678	Feb. 19	126	3034
Grand Rapids Furniture Company, New York, N. Y. Certain furniture	60,837	Feb. 19	126	3038
Guest, Keen & Nettlefolds, Limited, Birmingham, England. Certain metal manufactures	60,716	Feb. 19	126	3035
Hallauer & Sons, J. W., Webster, N. Y. Evaporated apples	60,655	Feb. 19	126	3033
Halloran, James R., New Britain, Conn. Sedative and laxative powders	60,792	Feb. 19	126	3037
Hassman, Anthon V., Elkhart, Ind. Artificial fuel	60,679	Feb. 19	126	3034
Heller & Merz Co., Newark, N. J. Ball-blue	60,752	Feb. 19	126	3036
Helmer, William F., Burlington, Iowa. Soap	60,656	Feb. 19	126	3033
Henry Lang Company, Newark, N. J. Patent calf-leather	60,753	Feb. 19	126	3036
Holland Medicine Company, Washington, D. C., and Philadelphia, Pa. Remedies for certain named diseases	60,838	Feb. 19	126	3038
Houghton & Co., E. F., Philadelphia, Pa. Leather belting, leather packing, and leather washers	60,767	Feb. 19	126	3036
Howe & French, Boston, Mass. Certain paints and painters' materials	60,680	Feb. 19	126	3034
Ingram, Frederick F., Detroit, Mich. Dentifrice	60,851	Feb. 19	126	3038
Iselin & Co., William, New York, N. Y. Knitted underwear	60,813	Feb. 19	126	3037
Ismert-Hincke Milling Company, Kansas City, Kans. Wheat-flour	60,681	Feb. 19	126	3034
Ismert-Hincke Milling Company, Kansas City, Kans. Wheat-flour	60,682	Feb. 19	126	3034
J. G. McDonald Candy Company, Salt Lake City, Utah. Chocolates	60,657	Feb. 19	126	3033
J. G. Schemm Brewing Co., Saginaw, Mich. Beer	60,768	Feb. 19	126	3036
Jadwin, Orlando H., New York, N. Y. Destroyer of roaches, water-bugs, rats, and mice	60,754	Feb. 19	126	3036
Jadwin, Orlando H., New York, N. Y. Medicated plasters	60,839	Feb. 19	126	3038
John Callahan & Co. Inc., Seattle, Wash. Boiler-cleaning compounds	60,793	Feb. 19	126	3037
John Graham & Company, Limited, Glasgow, Scotland. Port-wine	60,717	Feb. 19	126	3035

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Johnson & Co., H. A., Boston, Mass. Vanilla extract, lemon extract, evaporated apples, and fruit-jellies	60,658	Feb. 19	126	3033
Jones Dry Goods Co., Kansas City, Mo. Leather boots and shoes	60,794	Feb. 19	126	3037
Jos. Rosenheim Shoe Co., Savannah, Ga. Leather boots and shoes	60,755	Feb. 19	126	3036
Joseph, James, New York, N. Y. Whisky	60,760	Feb. 19	126	3036
Kamp Distilling Co., St. Louis, Mo. Whisky	60,814	Feb. 19	126	3038
Kane, Thomas B., Philadelphia, Pa. Whisky	60,756	Feb. 19	126	3036
Kilroda Chemical Co., New York, N. Y. Disinfectants, deodorizers, and germicides	60,840	Feb. 19	126	3038
Kops Bros., New York, N. Y. Corsets	60,757	Feb. 19	126	3036
L. Hartman Co., Chicago, Ill. Whisky	60,770	Feb. 19	126	3036
Lataille, Joseph, Southbridge, Mass. Remedy for piles	60,852	Feb. 19	126	3038
Lazarus & Nassauer, Cairo, Ill. Whisky	60,771	Feb. 19	126	3036
Leonard & Co., George H., Boston, Mass. Certain vegetable materials	60,659	Feb. 19	126	3033
Letzelter, Michael, Pittsburg, Pa. Whisky	60,718	Feb. 19	126	3035
Letzelter, Michael, Pittsburg Pa. Whisky	60,719	Feb. 19	126	3035
Letzelter, Michael, Pittsburg, Pa. Whisky	60,720	Feb. 19	126	3035
Levinkind, Hyman, Chicago, Ill. Whisky	60,841	Feb. 19	126	3038
Lockhart & Co., W. F., Boston, Mass. Chairs, tables, commodes, dressers, bureaus, and wardrobes	60,795	Feb. 19	126	3037
Maffi Barber Supply Co., San Antonio, Tex. Remedy for dandruff	60,796	Feb. 19	126	3037
McCaffrey & Sons, James A., Philadelphia, Pa. Certain food preparations	60,696	Feb. 19	126	3034
Mercer Rubber Company, Trenton, N. J. Sheet-rubber, rubber valves, and rubber jar-rings	60,772	Feb. 19	126	3036
Missouri Valley Milling Company, Mandan, N. D. Wheat-flour	60,721	Feb. 19	126	3035
Mohawk Condensed Milk Co., Rochester, N. Y. Condensed milk, condensed cream, evaporated milk, and evaporated cream	60,660	Feb. 19	126	3033
Morley Twine and Mchy. Co., Sioux City, Iowa. Twine	60,683	Feb. 19	126	3034
Morrill, Sarah C., New York, N. Y. Certain hand-tools	60,722	Feb. 19	126	3035
Morse, Felicia V. Canton, Mass. Certain polish	60,697	Feb. 19	126	3034
Morse, Felicia V., Canton, Mass. Certain polish	60,698	Feb. 19	126	3034
Morse, Felicia V., Canton, Mass. Certain polish	60,699	Feb. 19	126	3034
Morse, Felicia V., Canton, Mass. Certain polish	60,700	Feb. 19	126	3034
Morse, Felicia V., Canton, Mass. Certain polish	60,701	Feb. 19	126	3035
Morse, Felicia V., Canton, Mass. Certain polish	60,702	Feb. 19	126	3035
Morse, Felicia V., Canton, Mass. Certain polish	60,703	Feb. 19	126	3035
National Biscuit Company, Jersey City, N. J., and New York, N. Y. Crackers and biscuits	60,704	Feb. 19	126	3035
New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	60,684	Feb. 19	126	3034
New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	60,723	Feb. 19	126	3035
New Home Sewing Machine Company, Orange, Mass., assignor to New Home Sewing Machine Company. Sewing-machines and attachments	60,724	Feb. 19	126	3035
New York Butchers Dressed Meat Company, New York, N. Y. Fresh meats	60,725	Feb. 19	126	3035
New York Leather Belting Co., New York, N. Y. Leather belting	60,685	Feb. 19	126	3034
Nowak Manufacturing Company, Chicago, Ill. Substance for use in the manufacture of leather	60,758	Feb. 19	126	3036
Ohio Coffee & Spice Company, Columbus, Ohio. Coffee	60,726	Feb. 19	126	3035
Osborne, Owen, Philadelphia, Pa. Hosiery	60,661	Feb. 19	126	3033
Oswego Boiler & Engine Co., New York, N. Y. Hot-water and steam boilers	60,773	Feb. 19	126	3036
Paramount Knitting Company, Chicago, Ill. Hosiery	60,686	Feb. 19	126	3034
Paramount Knitting Company, Chicago, Ill. Hosiery	60,842	Feb. 19	126	3038
Paramount Knitting Company, Chicago, Ill. Hosiery	60,843	Feb. 19	126	3038
Paramount Knitting Company, Chicago, Ill. Hosiery	60,844	Feb. 19	126	3038
Pauli & Son, Charles F., Cincinnati, Ohio. Harness-leather	60,845	Feb. 19	126	3038
Peace, Norman K., Sheffield, England. Tool-steel	60,815	Feb. 19	126	3038
Peres, Daniel, Solingen, Germany. Penknives, razors, and scissors	60,797	Feb. 19	126	3037
Perfection Glass Company, Washington, Pa. Jars	60,727	Feb. 19	126	3035
Peters Cartridge Company, Cincinnati, Ohio. Cartridges, powder, and percussion-caps	60,759	Feb. 19	126	3036
Peters Shoe Co., St. Louis, Mo. Leather shoes	60,728	Feb. 19	126	3035
Pfeiffer, John, San Antonio, Tex. Certain toilet and medicinal preparations	60,846	Feb. 19	126	3038
Pickerill & Hill, Claflin, Kans. Wheat-flour	60 847	Feb. 19	126	3038
Pickerill & Hill, Claflin, Kans. Wheat-flour	60,662	Feb. 19	126	3033
Pratt-Low Preserving Co., Santa Clara, Cal. Canned fruits and vegetables	60,663	Feb. 19	126	3033
Pratt-Low Preserving Co., Santa Clara, Cal. Canned fruits and vegetables	60,664	Feb. 19	126	3034
Pratt-Low Preserving Co., Santa Clara, Cal. Canned fruits and vegetables	60,665	Feb. 19	126	3034
Prescott Chemical Co., Cleveland, Ohio. Dip for live stock	60,666	Feb. 19	126	3034
Pure Oil Company, Philadelphia, Pa. Lubricating oils and greases, plumbago used as a lubricant, and lubricating-graphite	60,774	Feb. 19	126	3036
Puritan Confection Company, New York, N. Y. Chewing-gum	60,667	Feb. 19	126	3034
R. Herschel Manufacturing Co., Peoria, Ill. Mower and reaper knife sections	60,687	Feb. 19	126	3034
R. M. Rose Co., Atlanta, Ga. Whisky	60,798	Feb. 19	126	3037
Raynor & Perkins Envelope Company, New York, N. Y. Paper and envelops	60,775	Feb. 19	126	3037
Raynor & Perkins Envelope Company, New York, N. Y. Paper and envelops	60,729	Feb. 19	126	3035
Raynor & Perkins Envelope Company, New York, N. Y. Paper and envelops	60,730	Feb. 19	126	3035
Raynor & Perkins Envelope Company, New York, N. Y. Paper and envelops	60,731	Feb. 19	126	3035
Raynor & Perkins Envelope Company, New York, N. Y. Paper and envelops	60,732	Feb. 19	126	3035
Raynor & Perkins Envelope Company, New York, N. Y. Paper and envelops	60,733	Feb. 19	126	3035
Raynor & Perkins Envelope Company, New York, N. Y. Paper and envelops	60,734	Feb. 19	126	3035
Read Brothers, Limited, London, England. Bottled beer	60,816	Feb. 19	126	3038
Reading Hardware Co., Reading, Pa. Certain fastening devices	60,735	Feb. 19	126	3035
Rice, Stix Dry Goods Company, St. Louis, Mo. Hosiery	60,688	Feb. 19	126	3034
Ridgway Company, New York, N. Y. Periodicals and magazines	60,848	Feb. 19	126	3038
Roddewig-Schmidt Candy Co., Davenport, Iowa. Certain confectionery	60,737	Feb. 19	126	3036
Roderick Lean Manufacturing Company, Mansfield, Ohio. Harrows, drills, and cultivators	60,705	Feb. 19	126	3035
Rosenberg, Edmund, Indianapolis, Ind. Awnings and tarpaulins	60,738	Feb. 19	126	3036
Ruger Harry E., La Fayette, Ind. Cleaning and polishing compound	60,709	Feb. 19	126	3035
Ruger, Harry E., La Fayette, Ind. Cleaning and polishing compound	60,688	Feb. 19	126	3034
Ryley, Agnes S., New York, N. Y. Coats, trousers, waistcoats, and overcoats	60,689	Feb. 19	126	3034
S. H. Frank & Co., San Francisco, Cal. Tanned heavy leathers	60,739	Feb. 19	126	3036
Schneider, Ernst, Buffalo, N. Y. Whisky	60,760	Feb. 19	126	3036
Schoble & Co., Frank, Philadelphia, Pa. Certain hats and caps	60,776	Feb. 19	126	3037
Schotten, Julius J., St. Louis, Mo. Coffee	60,740	Feb. 19	126	3036
Sherer-Gillett Company, Chicago, Ill. Certain food preparations	60,690	Feb. 19	126	3034
	60,691	Feb. 19	126	3034

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Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Sherer-Gillett Company, Chicago, Ill. Certain food preparations	60,710	Feb. 19	126	3035
Sherer-Gillett Company, Chicago, Ill. Certain toilet and medicinal preparations	60,849	Feb. 19	126	3038
Southern Optical Manufacturing Company, Atlanta, Ga. Glazed spectacles and eyeglasses	60,817	Feb. 19	126	3038
Springstein Mills, Chester, S. C. Ginghams	60,777	Feb. 19	126	3037
Springstein Mills, Chester, S. C. Ginghams	60,778	Feb. 19	126	3037
Springstein Mills, Chester, S. C. Ginghams	60,779	Feb. 19	126	3037
Springstein Mills, Chester, S. C. Ginghams	60,780	Feb. 19	126	3037
Streit & Co., Samuel, New York, N. Y. Port-wine	60,850	Feb. 19	126	3038
T. M. Sinclair & Co. Ltd., Cedar Rapids, Iowa. Lard compound	60,711	Feb. 19	126	3035
Taylor Co., N. & G., Philadelphia, Pa. Tin and terne plate	60,736	Feb. 19	126	3035
Tecumseh Rack & Manufacturing Company, Adrian, Mich. Wagon-boxes, hay-racks, and stock-racks for use on vehicles	60,781	Feb. 19	126	3037
Trostel & Sons, Albert, Milwaukee, Wis. Leather for shoes, harness, and gloves	60,818	Feb. 19	126	3038
Troy Chemical Company, Binghamton, N. Y. Spavin cure	60,800	Feb. 19	126	3037
Trumbull Electric Manufacturing Company, Plainville, Conn. Certain electrical appliances	60,741	Feb. 19	126	3036
Trummer & O. Vogler, P. H., Hamburg, Germany. Portland cement	60,692	Feb. 19	126	3034
Valdes & Co., Fernz, Havana, Cuba. Leather boots and shoes	60,801	Feb. 19	126	3037
Valvoline Oil Company, Edgewater, N. J., and New York, N. Y. Lubricating-oils	60,669	Feb. 19	126	3034
Virginia-Carolina Chemical Company, Jersey City, N. J.; Richmond and Norfolk, Va., Charleston, S. C.; Savannah and Atlanta, Ga.; Montgomery, Ala.; Durham, N. C., and Memphis, Tenn. Fertilizers	60,670	Feb. 19	126	3034
Waldo & McKelvey, New York, N. Y. Cotton, linen, silk, and cotton and silk piece goods	60,742	Feb. 19	126	3036
Waltermann, Henry B., Cincinnati, Ohio. Certain medicinal preparation	60,819	Feb. 19	126	3038
Warner Instrument Company, Beloit, Wis. Speed-meters and tachometers	60,802	Feb. 19	126	3037
Warner Instrument Company, Beloit, Wis. Speed-meters and tachometers	60,820	Feb. 19	126	3038
Waukesha Canning Co., Waukesha, Wis. Canned vegetables	60,707	Feb. 19	126	3035
Weideman Company, Cleveland, Ohio. Apricot-brandy	60,782	Feb. 19	126	3037
William H. Burns Company, Worcester, Mass. Certain clothing	60,743	Feb. 19	126	3036
William H. Lee & Co., St. Louis, Mo. Whisky	60,744	Feb. 19	126	3036
Wing, George H. G., New York, N. Y. Smoking-tobacco, cigars, and cigarettes	60,761	Feb. 19	126	3036
Wolferman, Fred, Kansas City, Mo. Smoked meats	60,712	Feb. 19	126	3035
Zeeland Cheese Co., Zeeland, Mich. Cheese	60,671	Feb. 19	126	3034
Zeeland Cheese Co., Zeeland, Mich. Cheese	60,672	Feb. 19	126	3034

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Borun, David J., Milwaukee, Wis. "Enterprise." (For Cigars)	13,366	Feb. 19	126	3039
Gotham Lithographic Co., New York, N. Y. "Admiral." (For Beer)	13,371	Feb. 19	126	3039
Keyer, Louis W., Dayton, Ohio. "Alvaro." (For Cigars)	13,367	Feb. 19	126	3039
Lipton, Thomas J., New York, N. Y. "Lipton's Gossip Blend Kaffee-Klatsch Coffee." (For Coffee)	13,370	Feb. 19	126	3039
Mandeville & King Co., Rochester, N. Y. "Superior Flower Seeds." (For Flower-Seeds)	13,374	Feb. 19	126	3039
Pritchard, Edgar D., Pittsfield, Mass. "The Berkshire Shoe." (For Shoes for Men, Women, Boys, and Girls)	13,373	Feb. 19	126	3039
Schlinger Sons & Co., Chas., Louisville, Ky. "Sagamore Spring." (For Whisky)	13,369	Feb. 19	126	3039
Tryon Chemical Co., Gloversville, N. Y. "Slick Stuff." (For Lotions)	13,372	Feb. 19	126	3039
Wiggenhorn, Percy C., La Crosse, Wis. "Judge Quality." (For Cigars)	13,368	Feb. 19	126	3039

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Washburn Crosby Company, Minneapolis, Minn. "Hello! Hello!" (For Flour)	1,910	Feb. 19	126	3039

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
A. De Pinna Company, New York, N. Y. Leather boots, shoes, and slippers	24,740	Feb. 19	126	3030
A. G. Spalding & Bros., New York, N. Y. Golf-balls	13,562	Feb. 19	126	3019

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Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Coal-tar dyestuffs	12,322	Feb. 19	126	3018
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Medicinal preparations for the skin	12,343	Feb. 19	126	3018
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Photographic developers	12,345	Feb. 19	126	3018
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Remedy against itching and against hair diseases	17,993	Feb. 19	126	3020
Albert Dickinson Company, Chicago, Ill. Poultry food	15,716	Feb. 19	126	3019
Anderson, Harold N., Dayton, Ohio. Bows, arrows, and targets	22,133	Feb. 19	126	3023
Atlantic Starch Works, Westport, Conn. Wheat-starch	24,483	Feb. 19	126	3027
Atwell, Eli, Mountain Dale, N. Y. Talcum powder and massage-cream	21,267	Feb. 19	126	3022
Baxter & Bro., H. C., Brunswick, Me. Canned lobster	8,341	Feb. 19	126	3017
Beaver Manufacturing Company, Buffalo, N. Y. Wall-board and building paper	24,250	Feb. 19	126	3026
Benner, Eliza A., New Paris, Ohio. Solidified cementitious burial-vaults	17,667	Feb. 19	126	3020
Berry Brothers, Limited, Detroit, Mich. Varnish	24,615	Feb. 19	126	3028
Bick, Harry, New York, N. Y. Laundry soap	24,771	Feb. 19	126	3030
Bickley, McClure & Co., Knoxville, Tenn. Coats, vests, and trousers	19,885	Feb. 19	126	3021
Bird & Co., J. A. & W., Boston, Mass. Chemical compound used in the manufacture of leather and paper	24,537	Feb. 19	126	3028
Bischoff, Ernst, New York, N. Y. Remedies for rheumatism, &c	24,675	Feb. 19	126	3029
Bischoff, Ernst, New York, N. Y. Antiseptics, disinfectants, and germicides	24,676	Feb. 19	126	3029
Boehme, Paul, Brooklyn, N. Y. Headache-powders	21,698	Feb. 19	126	3022
Böhm, F. A., Untersachsenberg, Germany. Mouth-harmonicas	4,770	Feb. 19	126	3017
Bonkocine Chemical Co., Kenton, Ohio. Preparation for treating venereal diseases	24,418	Feb. 19	126	3027
Booth's Hyomei Company, Buffalo, N. Y. Remedy for catarrh, asthma, &c	24,287	Feb. 19	126	3026
Borden's Condensed Milk Company, Jersey City, N. J., and New York, N. Y. Condensed milk and evaporated milk and cream	24,538	Feb. 19	126	3028
Buck & Toole Milling Co., Bloomfield, Mo. Wheat-flour	24,639	Feb. 19	126	3029
Butcher, Charles F., Sheffield, England. Razors	15,419	Feb. 19	126	3019
Butler & Field, Washington, D. C. Remedy for rheumatism and gout	24,852	Feb. 19	126	3032
Cammell Laird & Co., Limited, Sheffield, England. Steel and iron in bars, sheets, rails, &c	12,593–4	Feb. 19	126	3019
Chester, Frank E., Providence, R. I. Fishing-tackle packages	22,782	Feb. 19	126	3023
Clark Thread Co., Newark, N. J. Cotton thread	13,673	Feb. 19	126	3019
Clark Thread Co., Newark, N. J. Crochet-cotton or cotton thread	14,318	Feb. 19	126	3019
Cleveland Gas & Electric Fixture Company, Cleveland, Ohio. Chandeliers, wall-brackets, &c	22,339	Feb. 19	126	3023
Colgate & Co., New York, N. Y. Perfumery, talc powder, and toilet water	24,736	Feb. 19	126	3030
Columbia Carriage Co., Hamilton, Ohio. Runabouts, buggies, stanhopes, &c	8,567	Feb. 19	126	3017
Columbian Rope Company, Auburn, N. Y. Rope, cable, tarred lath and fodder yarns, &c	21,025	Feb. 19	126	3021
Covert Mfg. Co., Watervliet, N. Y. Snap-hooks	24,380	Feb. 19	126	3026
Dawson Salts & Water Co., Dawson Springs, Ky. Iron and lithia water	20,311	Feb. 19	126	3021
Downing Taylor Co., Springfield, Mass. Canned salmon, shrimp, lobsters, &c	24,401	Feb. 19	126	3027
Drinkard, Kenton, Beaumont, Tex. Remedies for skin diseases	24,589	Feb. 19	126	3028
Eastern Dynamite Company, Kenvil, N. J. High explosives	21,395	Feb. 19	126	3022
Eberhard Manufacturing Company, Cleveland, Ohio. Saddlery-hardware	544	Feb. 19	126	3017
Edholm, Albert, Omaha, Nebr. Gold and silver jewelry, flat, hollow, and table ware, &c	24,487	Feb. 19	126	3027
Elgin National Watch Company, Elgin and Chicago, Ill. Watchcases	24,518	Feb. 19	126	3028
Esche, Moritz S., Chemnitz, Germany. Knitted hosiery, gloves, and underwear	9,873–5	Feb. 19	126	3018
Estes, Dana, Boston, Mass. Toilet soap	23,915	Feb. 19	126	3025
Fairchild Bros. & Foster, New York, N. Y. Preparation for the modification of milk	24,829	Feb. 19	126	3031
Gavitt Chemical Co., W. W., Topeka, Kans. Perfume	24,773	Feb. 19	126	3030
George Cutter Co., South Bend, Ind. Porcelain insulators	21,877	Feb. 19	126	3022
Gile & Co., H. S., Salem, Oreg. Dried and evaporated prunes	24,421	Feb. 19	126	3027
Girard & Co., Tonnay-Charente, France. Brandy	16,144	Feb. 19	126	3020
Gohlberg, Solomon H., Waukegan, Ill. Hair-pins	24,021	Feb. 19	126	3025
Gray, Eduard E., Hinsdale, Ill. Medicine for horses or cattle	17,767	Feb. 19	126	3020
Greene, David R., Chicago, Ill. Welsh-rarebit-seasoning compound	18,648	Feb. 19	126	3020
H. Mueller Manufacturing Company, Decatur, Ill. Valves and cocks and parts thereof	20,962	Feb. 19	126	3021
H. C. Cook Company, Ansonia, Conn. Finger-nail clippers	24,443	Feb. 19	126	3027
Hampton, Jabez M., Charlotte, N. C. Fresh peaches	24,263	Feb. 19	126	3026
Hardie Seed Co., David, Dallas, Tex. Garden-seeds	23,772	Feb. 19	126	3024
Hargreaves Bros. & Co. Limited, Kingston-upon-Hull, England. Laundry blue	24,276	Feb. 19	126	3026
Heppe & Son, C. J., Philadelphia, Pa. Pianos, mandolins, guitars, &c	22,769	Feb. 19	126	3023
Hill, Nathaniel P., Pittsburg, Pa. Felt hats	24,494	Feb. 19	126	3028
Hine, James W., Jamestown, N. Y. Cell and tissue building salts	23,999	Feb. 19	126	3025
Hobby, Arthur M., Brooklyn, N. Y. Cold-cream	18,706	Feb. 19	126	3020
Hollywood Soap Company, Cincinnati, Ohio. Washing-powder	24,803	Feb. 19	126	3030
Holmes Silk Company. (See Leerburger & Hesslein, assignors.)				
Hoshaw, Ulysses G., Chanute, Kans. Medicine for the relief of constipation, headache, &c	24,832	Feb. 19	126	3031
Huckins, Temple & Wood, Milford, Mass. Men's leather boots and shoes	21,991	Feb. 19	126	3022
Hurley Machine Company, Chicago, Ill. Floor-scraping machines	23,855	Feb. 19	126	3024
I. L. Lamm Co., Superior, Wis. Wines	24,734	Feb. 19	126	3030
Imperial Distilling & Cordial Co., Chicago, Ill. Whisky	24,818	Feb. 19	126	3031
Imperial Distilling & Cordial Co., Chicago, Ill. Bitters	24,819	Feb. 19	126	3031
It Publishing Company, New York, N. Y. Newspaper	24,423	Feb. 19	126	3027
J. W. James Co., Wheeling, W. Va. Sarsaparilla, cough and soothing syrup, liniment, pills, &c	24,690	Feb. 19	126	3029
Johnson, John H., Boston, Mass. Cigars	23,515	Feb. 19	126	3024
Judson Dynamite & Powder Company, San Francisco, Cal. High explosives	21,801	Feb. 19	126	3022
Kathairo Chemical Co., New York, N. Y. Lubricating oils and greases	18,492	Feb. 19	126	3020
Keller, Levi F., Delaware, Ohio. Linen dry goods	23,905	Feb. 19	126	3024
Kelley, Horatio S., West Dennis, Mass. Soap for toilet purposes and skin diseases	20,359	Feb. 19	126	3021
Keystone Fence Company, Peoria, Ill. Wire fence	7,919	Feb. 19	126	3017
Kilmer & Co., Dr., South Bend, Ind. Headache remedy	24,145	Feb. 19	126	3025
Laflin & Rand Powder Company, New York, N. Y. Powder used for shotguns, rifles, and small-arms	21,404–5	Feb. 19	126	3022
Laflin & Rand Powder Company, New York, N. Y. Powder used for shotguns, rifles, and small-arms	21,612	Feb. 19	126	3022
Laflin & Rand Powder Company, New York, N. Y. Powder used for shotguns, rifles, and small-arms	21,649–51	Feb. 19	126	3022
Larkin Co., Buffalo, N. Y. Soap powder	21,653	Feb. 19	126	3022
Laskaris & Co., James P., Wilmington, Del. Candies	20,425	Feb. 19	126	3021
	24,679–80	Feb. 19	126	3029

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Laundry Novelty Company, Detroit, Mich. Pads for flat-irons	24,600	Feb. 19	126	3028
Lee Broom & Duster Company, Lincoln, Nebr. Brooms and whisk-brooms	24,901	Feb. 19	126	3022
Leerburger & Hesslein, New York, N. Y., assignors to Holmes Silk Company, Paterson, N. J. Silk piece goods	21,160	Feb. 19	126	3021
Lewis & Company, David W., New York, N. Y. Butter	23,400	Feb. 19	126	3024
Liebenthal Bros. & Co., Cleveland, Ohio. Brandy, cordial, whisky, and gin	20,562	Feb. 19	126	3021
Mackenzie Bros., Ross-Shire, Scotland. Whisky	22,801	Feb. 19	126	3023
Mackintosh's Toffee Company, Bradley Beach, N. J. Toffee	24,601	Feb. 19	126	3028
Malt-Diastase Company, Brooklyn, N. Y. Malt extract	19,653	Feb. 19	126	3020
Marsh, Sophia M., Locust Valley and Glen Cove, N. Y. Remedy for cuts, burns, blood poison, &c	24,836	Feb. 19	126	3031
Martin, Charles C., Denver, Colo. Cheese	17,781	Feb. 19	126	3020
McClellan Paper Company, Minneapolis, Minn. Wrapping and printing paper	23,858	Feb. 19	126	3024
Meadows Manufacturing Company. (See Molck, Emil F., assignor.)				
Medical Food Company, New York, N. Y. Medicinal preparation for diseases of the respiratory organs	24,196	Feb. 19	126	3026
Miner, Read & Garrette, New Haven, Conn. Substitute for lard	24,622	Feb. 19	126	3029
Mohawk Condensed Milk Co., Rochester, N. Y. Evaporated and condensed milk and cream	24,164	Feb. 19	126	3025
Mohawk Condensed Milk Co., Rochester, N. Y. Evaporated and condensed milk and cream	24,166	Feb. 19	126	3026
Molck, Emil F., Sibley, assignor to Meadows Manufacturing Company, Meadows, Ill. Seed distributing machines	19,835	Feb. 19	126	3021
Mooney, Frank H., Chicago, Ill. Fountain-pens	15,964	Feb. 19	126	3019
Moses, David, Baltimore, Md. Dress and negligée shirts	24,231	Feb. 19	126	3026
Murphy, John H., Cohoes, N. Y. Wash-cloths	24,816	Feb. 19	126	3031
National Engineering Corporation, Washington, D. C. Telephonic appliances, apparatus, and parts thereof	24,025	Feb. 19	126	3025
New England Cotton Yarn Co., Boston, Mass. Cotton thread	22,405	Feb. 19	126	3023
Offley, Forrester & Co., London, England. Port-wine	15,556	Feb. 19	126	3019
Ohio Match Company, Wadsworth, Ohio. Matches	24,767–9	Feb. 19	126	3030
Patterson-Cabell Co., New York, N. Y. Fluid beef	24,672	Feb. 19	126	3029
Paxton & Gallagher Co., Omaha, Nebr. Pocket-knives, razors, shears, &c	23,860	Feb. 19	126	3024
Pennsylvania Chocolate Company, Pittsburg, Pa. Chocolate and cocoa	24,806	Feb. 19	126	3031
Peoples Shoe Co., Mobile, Ala. Leather and canvas boots and shoes	24,856	Feb. 19	126	3032
Pfister & Vogel Leather Company, Milwaukee, Wis. Leather	24,701	Feb. 19	126	3030
Pigott, John J., Childress, Tex. Saddles, harness, horse-collars, &c	24,070	Feb. 19	126	3025
Pillsbury-Washburn Flour Mills Company, Ltd., Minneapolis, Minn. Wheat breakfast food	22,104	Feb. 19	126	3023
Pillsbury-Washburn Flour Mills Co. Ltd., Minneapolis, Minn. Wheat breakfast food	23,303–4	Feb. 19	126	3023
Pittsburg Pharmacal Company, Pittsburg, Pa. Dyspepsia remedy	15,444	Feb. 19	126	3019
Porcela Company, Pittsburg, Pa. Soap, washing-powder, &c	24,533	Feb. 19	126	3028
Quinn, Frank M., Tekoa, Wash. Hair-restoratives	24,001	Feb. 19	126	3025
Read & Sons, William, Boston, Mass. Clothing used in games and sports	23,749	Feb. 19	126	3024
Robbins, Gamwell & Co., Pittsfield, Mass. Wrenches	24,386	Feb. 19	126	3026
Rub-Not Mfg. Co., Chicago, Ill. Washing compound	9,082	Feb. 19	126	3018
Rutherford, Frank E., Bonham, Tex. Hoof tonic, liniment, &c	14,967	Feb. 19	126	3019
Saffa, John G., St. Louis, Mo. Smoking-tobacco	23,321	Feb. 19	126	3024
Schimmel & Co., Miltitz, near Leipsic, Germany. Antitoxic serums	24,342	Feb. 19	126	3026
Schloss, Brod & Co., New York, N. Y. Rings, lockets, scarf-pins, cuff-buttons, &c	24,561	Feb. 19	126	3028
Schwabacher Bros. & Co., Inc., Seattle, Wash. Salt	24,808	Feb. 19	126	3031
Server, William H., Carbon Hill, Ill. Remedies for blood disorders	24,505	Feb. 19	126	3028
Smith & Co., Louis G., New York, N. Y. Cigars	24,627	Feb. 19	126	3029
Societe Anonyme de Fondations par Compression Mecanique du Sol, Paris, France. Drop-weights, pile-drivers, winches, &c	8,794	Feb. 19	126	3018
Stallman & Fulton Company, New York, N. Y. Medicinal oil	24,416–17	Feb. 19	126	3027
Stone, Sarah B., New Haven, Conn. Jellies	24,391	Feb. 19	126	3026
Sunbeam Incandescent Lamp Company, New York, N. Y. Incandescent electric lamps	20,732	Feb. 19	126	3021
Thompson, Harry G., Covington, Ky. Medical preparation for colds and la grippe	20,522	Feb. 19	126	3021
Vacuum Oil Company, Rochester, N. Y. Oils, greases, and waxes for leather	24,810	Feb. 19	126	3031
Vacuum Oil Company, Rochester, N. Y. Salad-oil	24,813	Feb. 19	126	3031
W. B. Cosgrave Shoe Co., Zanesville, Ohio. Felt boots	24,103	Feb. 19	126	3025
Watts & Company, William H., Philadelphia, Pa. Floor-tiles	24,695	Feb. 19	126	3029
White, Omar P., Rusk, Tex. Headache remedies	9,940	Feb. 19	126	3018
Wiebusch & Hilger, Limited, New York, N. Y. Grass-hooks	24,838	Feb. 19	126	3031
Wilson Company, Chicago, Ill. Weekly periodical	24,860	Feb. 19	126	3032
Wisconsin Condensed Milk Co., Burlington, Wis., and New York, N. Y. Condensed milk	12,033–4	Feb. 19	126	3018
Woolson Spice Company, Toledo, Ohio. Coffee	24,697	Feb. 19	126	3029
Yale & Towne Mfg. Co., Stamford, Conn. Locks and parts thereof and keys	24,788	Feb. 19	126	3030
Yale & Towne Mfg. Co., Stamford, Conn. Chain-blocks	24,789–90	Feb. 19	126	3030
Yale & Towne Mfg. Co., Stamford, Conn. Locks and parts thereof and keys	24,792–3	Feb. 19	126	3030
Yerxa Bros. & Co., Minneapolis, Minn. Coffee	24,237	Feb. 19	126	3026

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 19TH DAY OF FEBRUARY, 1907.

Invention.	Name.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Abrading-machine	C. Kitson and W. J. Reinholtz	844,366	Feb. 19	3027	646	126	2623
Acid. Purifying pyroligneous	J. R. Garroway	845,860	Feb. 19	4271	.....	126	2926
Adding-machine	S. H. Drysdale	844,505	Feb. 19	3302	713	126	2691
Advertising-cabinet	E. Fletcher	844,344	Feb. 19	2982	637–8	126	2611
Aerial navigation	H. M. Bellows	844,771	Feb. 19	4100	875	126	2882
Air and distributing water and other fluids. Apparatus for moistening the	C. H. Prött	844,466	Feb. 19	3217	694	126	2669
Air-compressor	J. O. Banning	844,648	Feb. 19	3833	812	126	2814
Air-compressor	H. H. Herrmann	844,724	Feb. 19	4002	852	126	2855
Air-compressor governor	E. Hill	844,801	Feb. 19	4161	886–7	126	2899
Air-coupling device. Automatic	W. H. Sutherland and R. N. Van Horne.	844,483	Feb. 19	3264	704	126	2681
Alcohols and fatty acid. Effecting a combination between selected members of the	E. Twitchell	844,426	Feb. 19	3141	.....	126	2651
Amusement apparatus	A. L. N. Fleming	844,720	Feb. 19	3995	851	126	2854
Amusement device	C. L. Hagen	844,676	Feb. 19	3896	823–4	126	2830
Angle or splice bar	G. H. Williams	845,025	Feb. 19	4577	974	126	3002
Animal-trap	L. Haas	844,517	Feb. 19	3334	718	126	2668
Animal-trap	F. C. Finkbeiner	844,927	Feb. 19	4382	937	126	2953
Anthracene derivative	K. Thun	844,835	Feb. 19	4219	.....	126	2913
Apparel. Wearing-	E. M. Rosenquist	844,539	Feb. 19	3392	731	126	2712
Auger. Post-hole	R. M. Trumbull and J. Volz	844,634	Feb. 19	3803	804	126	2806
Autographic register	A. Krauth	844,370	Feb. 19	3033	647	12	2625
Automobile	E. Cliff	845,031	Feb. 19	4589	976–7	126	3006
Automobile-controlling means	W. G. Groesbeck and G. S. Radford.	844,863	Feb. 19	4276	911–12	126	2928
Automobile-radiator	J. B. Long	844,685	Feb. 19	3913	827	126	2834
Axle-straightening device	F. E. Turner	844,551	Feb. 19	3411	735	126	2716
Axle. Vehicle-	S. H. Raines and A. O. Schuessler	844,893	Feb. 19	4330	924	126	2941
Axle. Vehicle-	R. Border	844,916	Feb. 19	4368	933	126	2949
Bag: *See* Clothes-pin bag.	V. Le Beau	844,945	Feb. 19	4411	943	126	2960
Bait trap and holder	S. J. Webb	844,553	Feb. 19	3414	735–6	126	2717
Bales. Compressing	F. S. Robinson	844,751	Feb. 19	4053	864	126	2869
Baling-press	K. M. Turner and N. W. Johnston	844,635	Feb. 19	3804	805	126	2806
Ball transmitter. Carbon-	J. E. Lee	844,816	Feb. 19	4193	893	126	2906
Bandage-rolls, &c. Machine for brushing	J. A. Mouls	844,826	Feb. 19	4204	896	126	2909
Bar: *See* Angle or splice bar. Tracker-bar Grate-bar. Mowing-machine finger-bar.							
Basket, hamper, &c	F. J. Schalow	844,755	Feb. 19	4061	863	126	2871
Battery: *See* Storage battery.	C. L. Taylor	844,425	Feb. 19	3139	674	126	2630
Battery vent-valve	F. W. Nims	844,392	Feb. 19	3086	663	126	2626
Beam-straightening press	A. W. Cram	844,499	Feb. 19	3203	710	126	2689
Bearing. Roller-	H. E. Laughlin	844,682	Feb. 19	3908	826	126	2832
Beater or mixer	S. C. Kagarice	844,362	Feb. 19	3021	645	126	2622
Bed-bottom fabric	J. E. Brundin	844,919	Feb. 19	4372	934	126	2950
Bed. Invalid-	A. Dean	844,851	Feb. 19	4255	907	126	2922
Bedbug-trap	R. Wingren	844,572	Feb. 19	3702	778	126	2781
Belt-checking device	P. Tessier	844,976	Feb. 19	4466	953	126	2975
Belt. Electric	J. E. De Tamble	844,333	Feb. 19	2964	633	126	2607
Belt-fastener	C. Berry	844,653	Feb. 19	3846	815	126	2817
Belt-shifter rods or poles. Means for attaching	L. H. Gardner	844,789	Feb. 19	4139	882	126	2893
Belt-shipping mechanism	S. E. Diescher	844,334	Feb. 19	2965	633	126	2607
Bending-machine	W. S. Mendenhall	844,604	Feb. 19	3753	790	126	2794
Billets. Swaging	W. C. Burrell	844,709	Feb. 19	3964	841–2	126	2846
Bin: *See* Storage-bin.	L. A. Hawkins	844,797	Feb. 19	4150	885	126	2897
Binder. Temporary	J. C. Bennett	844,493	Feb. 19	3284	708	126	2686
Block: *See* Building-block. Pulley-block.	C. Lehnert	844,372	Feb. 19	3037	648	126	2625
Block-forming machine							
Block-signal system							
Blower. Steam tube-							
Board: *See* Cutting-board. Liver-cutting board.							
Boat. Life-							

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Boiler:							
See Steam-boiler. Water-tube boiler.							
Boiler	S. Smith	844,695	Feb. 19	3934	832–3	126	2839
Boiler flue-cleaner. Steam-	G. Patterson	844,740	Feb. 19	4032	859	126	2863
Bolt:							
See Stay-bolt.							
Boot and shoe tree or stretcher	C. W. Evans	844,786	Feb. 19	4134	881	126	2892
Boot. Felt	A. H. Anderson	844,992	Feb. 19	4497	959	126	2983
Bottle	H. L. Clements	844,579	Feb. 19	3716	784	126	2785
Bottle. Non-refillable	G. N. Hardesty	844,866	Feb. 19	4281	913	126	2929
Bottle. Non-refillable	C. A. Grimm	844,348	Feb. 19	2989	640	126	2614
Bottle. Non-refillable	J. Husser	844,727	Feb. 19	4006	853	126	2857
Bottle-stopper	L. E. L. Themke	845,015	Feb. 19	4559	970	126	2997
Bottles. Valve mechanism for	C. Radbruch	844,400	Feb. 19	3096	665	126	2639
Box:	D. H. Monks	844,733	Feb. 19	4016	855	126	2859
See Cracker-box. Turpentine-box. Stuffing-box.							
Bracket:							
See Curtain-bracket.							
Bracket	T. C. Best	844,494	Feb. 19	3286	708	126	2687
Bracket and support therefor	J. Knape	844,367	Feb. 19	3029	647	126	2624
Braiding-machine	A. Mann	844,377	Feb. 19	3049	652–3	126	2628
Brick composition	L. Elkus	844,668	Feb. 19	3883		126	2827
Brick-drier	I. C. Jones	844,806	Feb. 19	4169	888–9	126	2901
Brick drying and conveying apparatus	J. H. McKenzie	844,738	Feb. 19	4027	858	126	2862
Bridle for horses	S. P. Knut	845,004	Feb. 19	4531	966	126	2999
Bridle. Safety-	H. C. Thompson	844,833	Feb. 19	42.7	899	126	2914
Brush. Tooth-	E. Penkala	844,395	Feb. 19	3091	664	126	2637
Buckle	E. H. Roy and J. A. Burton	844,540	Feb. 19	3393	731	126	2712
Buckle. Trace-	J. T. Barker	844,707	Feb. 19	3958	839	126	2845
Building-block	T. Sewall and G. M. Keene	844,416	Feb. 19	3126	671	126	2646
Building structure	R. Yoakum	844,988	Feb. 19	4489	958	126	2981
Bundle-loader	J. S. Richardson	844,747	Feb. 19	4047	862–3	126	2867
Bung and cork extractor	J. Pfab	844,396	Feb. 19	3091	664	126	2637
Burette. Automatic	A. J. Marschall	844,686	Feb. 19	3915	828	126	2834
Burner:							
See Hydrocarbon-burner.							
Cabinet. Credit-	W. M. Ellett and R. M. Vick	844,338	Feb. 19	2973	635	126	2609
Cabinet. Delivery-	D. H. Wehagen	844,431	Feb. 19	3147	676–7	126	2653
Cableway. Suspension-	L. C. McCormick and S. Flory	844,386	Feb. 19	3066	657	126	2633
Calculating device	B. M. Des Jardins	844,554	Feb. 19	3416	736–7	126	2717
Campaign device	G. A. Beidler	844,492	Feb. 19	3283	708	126	2686
Camping outfit. Combination	C. Massey	844,603	Feb. 19	3752	790	126	2793
Can:							
See Rectangular can.							
Cans and the like. Apparatus for treating tin	M. Leitch	844,373	Feb. 19	3037	648–9	126	2626
Candy-machine	Z. S. Hoffman	844,939	Feb. 19	4399	940	126	2957
Cane-knife. Foot-power	W. L. Spencer	844,625	Feb. 19	3789	800	126	2802
Car	F. A. Boole and L. D. Stephenson	844 915	Feb. 19	4366	933	126	2948
Car. Auto snow-	J. Sherwood	844,963	Feb. 19	4443	949	126	2968
Car brake-staff. Railway-	E. Posson	844,465	Feb. 19	3216	694	126	2669
Car-coupling	A. J. Bazeley	844,491	Feb. 19	3279	707–8	126	2685
Car guard. Street-railway-	S. E. Pressler	844,743	Feb. 19	4039	861	126	2865
Car-haul safety device	W. W. Macfarren	844,376	Feb. 19	3047	652	126	2628
Car-magnet support	W. M. Brown	844,918	Feb. 19	4371	934	126	2950
Car. Semiconvertible	E. T. Robinson	844,896	Feb. 19	4335	925	126	2941
Car switching mechanism. Railway-	W. C. Sharp	844,757	Feb. 19	4068	867	126	2874
Car-ventilator	P. P. Carroll	844,496	Feb. 19	3287	709	126	2667
Car-vestibule	E. L. Forsgren	844,585	Feb. 19	3723	783	126	2786
Cars. Card-holder for railway-	E. Gurley	844,933	Feb. 19	4391	938	126	2955
Cars. Steam-heating system for railway-	A. Hillisch	845,002	Feb. 19	4523	965	126	2988
Carbureter	L. Renault	844,894	Feb. 19	4331	924–5	126	2941
Carbureter	C. Smith	844,900	Feb. 19	4343	927	126	2944
Carbureter	M. D. Colbath	844,995	Feb. 19	4501	960	126	2984
Carbureter	M. D. Colbath	844,996	Feb. 19	4504	960–1	126	2984
Carbureter for explosive-engines. Double	T. L. and T. J. Sturtevant. (Reissue.)	12,611	Feb. 19	4005	980	126	3010
Card. Score-	P. H. Keefe	844,807	Feb. 19	4171	889	126	2901
Cards. Feeder for intermediate	O. G. Petterson and J. J. Rae	844,741	Feb. 19	4034	859–60	126	2864
Carrier:							
See Hay-carrier. Mail-carrier. Hog-carrier.							
Carrier holder. Filling-	G. Boisonneault and T. Boucher	844,318	Feb. 19	2936	625	126	2600
Casting-machine	B. T. McGlone and G. Ross	844,400	Feb. 19	3205		126	2666
Catapult	S. D. Dills	844,665	Feb. 19	3879	821	126	2825
Catheter-user's mechanical assistant	J. F. Spalding	844,478	Feb. 19	3253	702	126	2678
Cement and apparatus therefor. Process of burning	C. Ellis	844,857	Feb. 19	4261	908–9	126	2924
Cement-block machine	J. H. Miller	844,457	Feb. 19	3197	690	126	2664
Cement-building-block-making machine	A. H. Coombs	844,711	Feb. 19	3968	843–5	126	2847
Cement. Manufacture of	F. M. E. von Mollenbruck	844,530	Feb. 19	3375		126	2708
Cement roofing-tiles. Machine for making	J. Llening	844,602	Feb. 19	3751	789–90	126	2793
Cesspool	E. Helber	844,451	Feb. 19	3188	688	126	2662
Chain. Drive-	G. G. Howe	844,805	Feb. 19	4168	888	126	2901
Chain. Solid-link knife-jointed	H. A. House	844,869	Feb. 19	4285	914	126	2930
Chair:							
See Folding chair. Rail-chair. Lineman's chair. Railway-rail chair.							
Chair	J. Salomon	844,752	Feb. 19	4054	864–5	126	2869
Chair	J. S. Lester	844,881	Feb. 19	4309	919	126	2936
Change-making machine	H. Binney	844,654	Feb. 19	3848	815–17	126	2818
Check. Sales-	G. Helnersdorf	844,596	Feb. 19	3741	788	126	2791
Chuck. Drill-	R. Temple	844,631	Feb. 19	3798	803	126	2804
Churn	T. J. Cheney	844,327	Feb. 19	2951	628	126	2604
Churn and butter-worker. Combined	G. J. Kaplan	844,678	Feb. 19	3900	825	126	2830
Churn. Butter-	S. M. Pearson	844,464	Feb. 19	3215	693	126	2669
Cigar-lighting apparatus. Electric	S. M. Meyer	844,610	Feb. 19	3764	793–4	126	2796
Circuit-breaker	F. O. Hartman	844,353	Feb. 19	3003	612–3	126	2617
Circuit-breaker for electrical conductors	W. C. Shaw	844,961	Feb. 19	4440	949	126	2967
Clamp:							
See Glass-plate-holding clamp. Sash-cord clamp.							
Clasp:							
See Garment-clasp.							
Cleaner:							
See Boiler-flue cleaner. Pneumatic cleaner. Flue-cleaner. Window-cleaner.							
Clip:							
See File-clip.							
Closure. Valved	G. Demacakos	844,332	Feb. 19	2962	632	126	2607
Clothes-drier. Folding	D. Sherlock	844,962	Feb. 19	4442	949	126	2968
Clothes-pin bag	I. S. Vanderbilt, Jr.	844,636	Feb. 19	3806	805	126	2806
Clutch	J. A. Russell	844,407	Feb. 19	3111	667	126	2642
Clutch	J. C. Dawson	844,443	Feb. 19	3173	684	126	2658
Clutch-controlled elevator	H. H. Cutler	844,661	Feb. 19	3863	819–20	126	2821
Clutching device	D. E. Krause	844,730	Feb. 19	4012	855	126	2858
Coal-drill	J. Katulka	844,872	Feb. 19	4291	916	126	2931
Coal-hod	G. J. Duffett	844,714	Feb. 19	3981	846	126	2850
Coal-hod	G. J. Duffett	844,856	Feb. 19	4260	908	126	2924
Coat and hat rack. Combined	P. Hallen	844,864	Feb. 19	4279	912	126	2928
Coffee-making apparatus	W. C. Richardson	844,538	Feb. 19	3391	731	126	2711
Coffee-pot filter	C. Monroe	844,953	Feb. 19	4425	945	126	2964
Coin-controlled mechanism	M. O. Anthony	844,909	Feb. 19	4358	930	126	2947
Colors. Yellow and orange pigment	M. Becke	844,845	Feb. 19	4246		126	2921
Column	G. F. Thorn	844,973	Feb. 19	4456	952	126	2972
Column	G. F. Thorn	844,974	Feb. 19	4460	952	126	2973
Comb	J. J. Schulz	844,413	Feb. 19	3122	670	126	2645
Comb and hat-fastener. Combination	P. Edwards	844,785	Feb. 19	4133	881	126	2892
Compasses and similar instrument	C. M. Bernegau	844,772	Feb. 19	4103	875	126	2883
Compensating mechanism	L. M. Osborn and J. E. Mannis	844,462	Feb. 19	3260	692	126	2667
Compound engine	M. A. Neeland	844,588	Feb. 19	3071	658–9	126	2634
Concrete and metal construction	A. L. Johnson	844,599	Feb. 19	3746	788	126	2791
Condensation-preventer	E. O. Capen	845,029	Feb. 19	4586	975	126	3005
Condenser	N. H. Hiller	844,803	Feb. 19	4165	887–8	126	2900
Conduits. Pulling-box for	A. Hawkinson	844,354	Feb. 19	3009	643	126	2619
Confection-forming machine	W. W. Lysinger	844,883	Feb. 19	4313	920	126	2937
Control system	H. E. White and H. C. Pease	845,023	Feb. 19	4571	974	126	3000
Controller	H. E. White	845,024	Feb. 19	4575	974	126	3001
Controller. Three-wire reversible-drum	T. E. Barnum	844,652	Feb. 19	3843	814–15	126	2816
Controlling and positioning device	B. O. Hale	844,350	Feb. 19	2995	641	126	2615
Cooler:							
See Engine-cooler.							
Cord and rope machine appliance	P. M. Stegmaier	844,971	Feb. 19	4453	951	126	2971
Cord or string cutter	A. F. Hoffman	844,968	Feb. 19	4285	914	126	2930
Core	F. W. Young	844,642	Feb. 19	3813	807	126	2809
Corner-bead for the protection of plastered corners. Metal	G. S. Knapp	844,812	Feb. 19	4185	892	126	2904
Corner-strip	E. Nichols	844,391	Feb. 19	3083	662	126	2635
Cot-back. Adjustable	B. C. Leavitt	845,039	Feb. 19	4601	979	126	3009
Cotton-gin	L. David	844,442	Feb. 19	3172	684	126	2658
Cotton-picker	O. H. P. Cornell	844,331	Feb. 19	2960	631–2	126	2606
Coupling:							
See Car-coupling. Pipe-coupling. Engine-coupling. Vehicle-reach coupling.							
Cracker-box	J. B. Arthur	844,706	Feb. 19	3956	839	126	2844
Crane. Kettle-	L. H. Reibold	844,470	Feb. 19	3225	696	126	2671
Crane. Overhead traveling	C. L. Taylor	844,423	Feb. 19	3136	673	126	2650
Crane. Overhead traveling	C. L. Taylor	844,424	Feb. 19	3137	673	126	2650
Crane. Tunnel-	E. L. Smith	844,624	Feb. 19	3786	799–800	126	2801
Crate	R. Morgan	844,955	Feb. 19	4428	946	126	2965
Crate. Knockdown	W. H. Barnes	844,649	Feb. 19	3834	812–13	126	2814
Creosote-trap	E. C. Cole	844,921	Feb. 19	4375	935	126	2951
Cross-tie. Metallic	M. F. Bonzano	844,774	Feb. 19	4106	876	126	2884
Crusher:							
See Jaw-crusher.							
Cuff-holder	G. L. Scheffer	844,621	Feb. 19	3783	798	126	2800
Cultivator and fertilizer-distributer	G. D. Bennett	844,912	Feb. 19	4363	932	126	2948
Cup and cup-handle	G. F. Walker	845,022	Feb. 19	4570	973	126	3000
Currents. Increasing the efficiency of alternating	I. Kitsee	844,810	Feb. 19	4179	891	126	2903
Currents. Means to increase the efficiency of alternating	I. Kitsee	844,878	Feb. 19	4302	918	126	2934
Curtain bracket. Window-	L. E. Gillmore	844,514	Feb. 19	3331	717	126	2697
Curtain-pole	J. E. Willson	844,704	Feb. 19	3954	838	126	2844
Cutter:							
See Cord or string cutter. Printer's lead-cutter. Gear-cutter. Stubble-cutter. Meat-cutter.							
Cutting-board	W. A. Harman	844,592	Feb. 19	3732	785	126	2789
Cutting implement	H. Harden	844,518	Feb. 19	3336	718–19	126	2698
Dam and apparatus for and method of constructing the same.	H. L. Cooper	844,498	Feb. 19	3289	709–10	126	2687
Dental gold-pellet holder	H. P. Davis	844,781	Feb. 19	4121	878	126	2889
Derrick	W. L. Allan and W. T. Price	844,990	Feb. 19	4492	958	126	2982
Designs to surfaces. Applying	D. B. Marwick	844,380	Feb. 19	3058	654	126	2630
Die and pattern making machine	F. P. Pfleghar	844,688	Feb. 19	3919	829–30	126	2836
Digger:							
See Potato-digger.							
Display cabinet. Lace-curtain-	C. B. Westbrook	844,432	Feb. 19	3149	677	126	2653
Display-fixture	H. Frankel	844,670	Feb. 19	3885	822	126	2827
Display-stand	G. H. Richardson	844,402	Feb. 19	3100	695	126	2639
Display-stand	G. P. Sardou and G. Stadtlander	844,754	Feb. 19	4059	865	126	2870
Door-hanger	T. C. Prouty	844,467	Feb. 19	3219	695	126	2670
Door-hanger	T. C. Prouty	844,468	Feb. 19	3222	695	126	2670
Door lock. Corridor-	H. G. Voight	845,020	Feb. 19	4567	973	126	2999
Door-operating device	C. W. and H. C. Butler	844,659	Feb. 19	3860	818	126	2820
Doors. Roller-support for	L. Rémond	844,471	Feb. 19	3226	696	126	2671
Draft mechanism for wagons	N. Halvorsen	844,351	Feb. 19	2999	641	126	2616
Draft-rigging and body-bolster. Separable	W. H. Scott	844,897	Feb. 19	4337	925–6	126	2942
Drawer-pull	D. K. Snyder	844,902	Feb. 19	4346	928	126	2944

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Dredge pin and joint	G. B. Shipley	845,014	Feb. 19	4558	970	126	2996
Dredge pin and joint	E. L. Voy	845,021	Feb. 19	4569	973	126	3000
Dredge pin and joint	L. P. Martin	845,040	Feb. 19	4603	980	126	3009
Drier:							
See Brick-drier. Clothes-drier.							
Drying-frame	J. W. Miller and J. C. Horning	844,687	Feb. 19	3915	828	126	2834
Drill:							
See Coal-drill. Rock-drill.							
Dropper:							
See Seed-dropper.							
Dust-removing device. Sanitary	E. I. Nichols	844,535	Feb. 19	3385	729	126	2710
Dye and making same. Monoazo	T. Kroeber	844,814	Feb. 19	4188	.....	126	2905
Dye and making the same. Blue quinolin	B. Homolka	844,804	Feb. 19	4166	.....	126	2901
Dye. Making an anthracene	R. Bohn	844,914	Feb. 19	4366	.....	126	2948
Dyestuffs from waste dye liquids and washing liquids. Apparatus for recovering sulfur	J. Schmitt	845,013	Feb. 19	4556	970	126	2996
Dynamo: Portable	G. A. Allen	844,991	Feb. 19	4494	939	126	2982
Egg-tester	H. H. Brown	844,441	Feb. 19	3170	684	126	2658
Electric-circuit metering and controlling system	J. J. Wood	844,436	Feb. 19	3154	678	126	2655
Electric conductors. Safety device for overhead	E. Giraud	845,034	Feb. 19	4594	977–8	126	3007
Electric controller	E. Marshall	844,379	Feb. 19	3056	654	126	2630
Electric heater	E. R. Waterman	844,979	Feb. 19	4470	954	126	2976
Electric-light switch	J. McGavock	844,533	Feb. 19	3379	728	126	2709
Electric motor	C. R. Meston and H. I. Finch	844,383	Feb. 19	3061	655	126	2631
Electric motor	C. R. Meston and H. I. Finch	844,384	Feb. 19	3063	656	126	2632
Electric-motor controller	J. B. Wantz	844,701	Feb. 19	3948	837	126	2842
Electric-motor controllers. Alternating-current-retaining device for	H. U. Hart	844,352	Feb. 19	3000	641–2	126	2616
Electric-motor drum-controller	T. E. Barnum	844,660	Feb. 19	3836	813	126	2814
Electric-motor self-starter	T. E. Barnum	844,651	Feb. 19	3839	814	126	2815
Electric-motor speed-controller	H. H. Cutler	844,663	Feb. 19	3873	820	126	2823
Electric switch	R. Temple	844,630	Feb. 19	3796	802 3	126	2804
Electric-switch-controlling system	C. E. Eveleth	844,787	Feb. 19	4136	882	126	2893
Electric time-switch	E. M. Hewlett and C. E. Eveleth	844,800	Feb. 19	4158	886	126	2899
Electric trimming apparatus	M. I. Flowers	844,345	Feb. 19	2983	638–9	126	2612
Electrical protective apparatus	F. J. Rush	844,406	Feb. 19	3106	667	126	2641
Electrolytes. Apparatus for regenerating	C. A. Rolfe	845,010	Feb. 19	4549	969	126	2994
Elevating-graders. Belt-tightening appliance for	L. H. Backeland	844,314	Feb. 19	2932	624	126	2598
Elevator:	T. R. McKnight	844,387	Feb. 19	3068	657–8	126	2633
See Clutch-controlled elevator. Hydraulic elevator. Water-elevator.							
Elevator safety device	W. Lowry	844,947	Feb. 19	4414	943–4	126	2961
Enamel ware, china, porcelain, majolica, glass, &c. Decorating	R. Gottlieb	844,516	Feb. 19	3333	718	126	2697
Engine:							
See Compound engine. Rotary engine. Fluid-pressure engine.							
Engine cooler. Explosive	E. A. Johnston	844,677	Feb. 19	3899	824	126	2830
Engine coupling. Traction	R. Johnson, Sr	844,522	Feb. 19	3356	724	126	2703
Engine frame. Locomotive	C. T. Westlake and A. R. Thomas	844,765	Feb. 19	4091	872	126	2881
Engine regulating device. Gas	H. S. Molony	844,825	Feb. 19	4203	896	126	2909
Engine spark-plug. Explosive	A. R. Bullock	844,495	Feb. 19	3286	709	126	2687
Engine speed-regulator	C. A. Stickney	844,759	Feb. 19	4074	868–9	126	2876
Engine speed-regulator. Gas	T. Holinagel	844,359	Feb. 19	3015	644	126	2620
Envelop-opener	C. G. Bauer	844,770	Feb. 19	4098	874	126	2882
Evaporator	A. A. Dunham	844,715	Feb. 19	3982	846	126	2860
Excavator	L. V. Springer	844,479	Feb. 19	3257	702–3	126	2679
Excavator	M. D. Rochford	844,959	Feb. 19	4434	947–8	126	2966
Extension-table	G. W. Peek	844,616	Feb. 19	3774	796	126	2798
Extractor:							
See Bung and cork extractor.							
Eye-protector	E. Mirovitch	844,952	Feb. 19	4423	945	126	2964
Eyeglass or spectacle mounting	E. Clarke	844,328	Feb. 19	2953	629	126	2704
Eyeglass-spring	M. Gold	844,999	Feb. 19	4518	964	126	2987
Eyeglasses	P. Peck	844,394	Feb. 19	3090	663	126	2637
Eyeglasses	A. C. Kintner	845,037	Feb. 19	4599	979	126	3008
Fabric:							
See Bed-bottom fabric. Wire fabric.							
Fabric opening and stretching apparatus	W. Birch	844,316	Feb. 19	2934	625	126	2599
Fare-register-actuating mechanism	A. O. Schmolinski	844,692	Feb. 19	3928	831	126	2838
Farm-gate	H. E. Williams	845,026	Feb. 19	4579	975	126	3002
Feed-water regulator	T. Keenan	844,873	Feb. 19	4292	916	126	2931
Feeding, cleaning, and elevating apparatus. Combined	E. B. Anderson	844,842	Feb. 19	4237	904	126	2918
Fence-post-setting tool	W. Hunter	844,726	Feb. 19	4005	853	126	2856
Fencing tie. Wire	C. T. Collar	845,032	Feb. 19	4592	977	126	3007
Fender-support	D. McCausland	844,459	Feb. 19	3203	691	126	2666
Fertilizer-spreader	J. O. Linden	844,374	Feb. 19	3041	649–51	126	2626
Fire-clip	W. M. Ellett and R. M. Vick	844,339	Feb. 19	2974	635	126	2609
Filter	A. J. Sheridan	844,417	Feb. 19	3128	671	126	2647
Filtering apparatus	G. L. Bayley	844,438	Feb. 19	3161	679–80	126	2656
Fireproof construction for buildings	J. Jacobs	844,944	Feb. 19	4409	942	126	2960
Fireproof stair structure	E. E. Schachner	844,408	Feb. 19	3111	667	126	2642
Fishing-net	F. H. Haskell	844,594	Feb. 19	3739	787	126	2790
Fishing-seine	N. Elenterius	844,925	Feb. 19	4380	936	126	2952
Fleece-dividing apparatus	A. Lejeune	844,683	Feb. 19	3910	827	126	2833
Flour, grits, and the like. Apparatus for aerating and cleaning	C. Trettau	845,016	Feb. 19	4560	971	126	2997
Flue-cleaner	G. C. French	844,928	Feb. 19	4384	937	126	2953
Fluid-pressure engine	J. H. Allen and T. Vickers	844,437	Feb. 19	3158	679	126	2655
Fluid-regulator	T. Lowe	844,946	Feb. 19	4412	943	126	2961
Fluid shut-off. Automatic	E. L. Cridge	844,923	Feb. 19	4378	935	126	2959
Folding chair	W. Gymer	844,674	Feb. 19	3891	823	126	2828
Folding-machine sheet-registering device	H. K. King	844,809	Feb. 19	4174	890–1	126	2902
Food products. Apparatus for treating	D. Genese	844,512	Feb. 19	3327	716	126	2696
Fork:							
See Manure-fork.							
Formaldehyde-generator	R. W. Dodge	844,855	Feb. 19	4259	908	126	2923
Frame:							
See Drying-frame. Mattress-frame. Engine-frame.							
Fruit-picker	P. Koerper	844,601	Feb. 19	3749	789	126	2793
Furnaces. Apparatus for regulating combustion in	H. L. Doherty	844,504	Feb. 19	3299	712–13	126	2691
Fuse and switch. Combined	H. Geisenhöner	844,791	Feb. 19	4144	883	126	2895
Gage:							
See Shingling-gage.							
Game apparatus	T. J. Falvey	844,507	Feb. 19	3316	714	126	2694
Game apparatus	E. A. Larsen	845,038	Feb. 19	4600	979	126	3009
Garment-clasp	J. D. Karle	844,679	Feb. 19	3902	825	126	2831
Garment. Combination	L. S. Foerster	844,508	Feb. 19	3318	714	126	2694
Garment-fastener	J. E. Waterman	844,486	Feb. 19	3269	706	126	2682
Garment-fastener	E. E. Willey	844,841	Feb. 19	4236	903	126	2918
Garment-fastener	E. L. Henderson	844,507	Feb. 19	3744	788	126	2791
Garment-hanger	A. Wagner	844,428	Feb. 19	3143	675	126	2651
Garment-hook	F. H. Oehlke	844,828	Feb. 19	4206	897	126	2910
Gas-controlling means	G. G. Smith	844,694	Feb. 19	3933	832	126	2839
Gas. Drying	S. M. Meyer	844,606	Feb. 19	3757	791	126	2794
Gas generator. Acetylene	S. M. Meyer	844,609	Feb. 19	3762	793	126	2795
Gas generator. Acetylene	J. A. E. H. Boullier	844,849	Feb. 19	4252	.....	126	2922
Gas-lighting. Producing mantles for incandescent	F. E. Bachman	844,312	Feb. 19	2928	622–3	126	2597
Gas-washer	F. E. Bachman	844,313	Feb. 19	2930	623–4	126	2598
Gas-washer							
Gate:							
See Farm-gate. Railway-gate.							
Gate	J. C. and J. A. Fischer	844,859	Feb. 19	4271	910	126	2926
Gate	J. F. S. Goble	844,930	Feb. 19	4386	937–8	126	2954
Gate	C. J. Singer	844,964	Feb. 19	4445	949–50	126	2969
Gear-cutter. Turret	E. R. Fellows	844,717	Feb. 19	3985	847–9	126	2851
Gear-cutting machine	W. A. Jordan	844,729	Feb. 19	4008	854	126	2857
Gear mechanism. Change	W. L. Schellenbach	844,541	Feb. 19	3394	731–2	126	2712
Gearing	F. B. Tyson	844,761	Feb. 19	4083	870	126	2878
Gearing for drilling-machines, &c	A. E. Newton	844,390	Feb. 19	3082	662	126	2635
Gearing. Transmission	R. Symmonds	844,760	Feb. 19	4079	869–70	126	2877
Generator:							
See Formaldehyde-generator. Gas-generator. Steam-generator.							
Glass amalgamating and annealing oven. Wire	J. I. Arbogast	844,705	Feb. 19	3955	839	126	2844
Glass articles. Apparatus for fire-polishing	S. O. Richardson, Jr	844,472	Feb. 19	3227	696–7	126	2672
Glass. Manufacture of wire	F. L. O. Wadsworth	844,484	Feb. 19	3265	705	126	2682
Glass. Manufacture of wire	F. L. O. Wadsworth	844,485	Feb. 19	3267	705	126	2682
Glass. Method of and machine for making wire	N. Franzen	844,587	Feb. 19	3725	783	126	2787
Glass-plate-holding clamp	L. Gallot	844,346	Feb. 19	2987	639	129	2613
Glass-press	H. B. Koehler	844,600	Feb. 19	3747	789	126	2792
Glass. Producing wire	J. I. Arbogast	844,767	Feb. 19	4094	873	126	2881
Glass sheets. Making	F. L. O. Wadsworth	844,552	Feb. 19	3412	735	126	2716
Glasses. Cover for	R. L. Adams	844,906	Feb. 19	4352	929	126	2946
Glassware-making machine	E. S. Hutton	844,942	Feb. 19	4402	941–2	126	2958
Gluing machine. Cardboard	P. Lawrence	844,880	Feb. 19	4308	919	126	2935
Grain-distributer	H. B. Bozard	844,322	Feb. 19	2942	626–7	126	2601
Grain-improving apparatus	C. Trettau	845,017	Feb. 19	4561	971	126	2997
Graphite and deflocculation thereof. Deflocculated	E. G. Acheson	844,989	Feb. 19	4491	.....	126	2982
Grate-bar	A. L. Howard	844,941	Feb. 19	4401	941	126	2957
Grave-filling device	C. E. Rice	844,895	Feb. 19	4334	925	126	2941
Grease-pot	T. Gill	844,513	Feb. 19	3329	717	126	2696
Grinding machine. Cutlery	C. L. Joy	844,870	Feb. 19	4286	914–15	126	2930
Grinding machine. Cutlery	C. L. Joy	844,871	Feb. 19	4288	915	126	2930
Grindstones. Water pan or hood for	E. H. Cheesbro	844,497	Feb. 19	3288	709	126	2687
Hacksaw	E. Wentworth	844,981	Feb. 19	4473	954	126	2977
Hair-crimper	J. F. Martin	844,823	Feb. 19	4202	895	126	2908
Handle:							
See Saw-handle.							
Hanger:							
See Door-hanger. Pipe-hanger. Garment-hanger.							
Harrow	J. L. Ware	844,764	Feb. 19	4089	871–2	126	2880
Harvester	T. M. E. Seierup	844,476	Feb. 19	3244	700	126	2676
Harvester. Cotton	J. O. Dickinson	844,502	Feb. 19	3297	711	126	2690
Hay-carrier	H. L. Ferris	844,719	Feb. 19	3993	849–50	126	2853
Hay rake and cocker	W. C. Trussell	845,018	Feb. 19	4562	971–2	126	2997
Heater:							
See Electric heater.							
Hedge-trimmer	P. F. Seabloom	844,414	Feb. 19	3123	670	126	2646
Heel-attaching machine	E. Woodward	844,573	Feb. 19	3703	778–9	126	2782
Heel. Boot and shoe	J. F. Lober	844,882	Feb. 19	4312	920	126	2936
Hinge	J. W. Tatum	844,629	Feb. 19	3794	802	126	2803
Hitching device. Horse	J. E. Hugus	844,598	Feb. 19	3745	788	126	2791
Hog-carrier	R. Henderson	844,357	Feb. 19	3013	643	126	2620
Hoist. Electrically-controlled skip	H. H. Cutler	844,662	Feb. 19	3868	820	126	2822
Hoisting apparatus	P. W. Sieurin	844,477	Feb. 19	3251	701	126	2677
Hook:							
See Garment-hook. Snap-hook.							
Horse-detacher	H. A. Smith	844,548	Feb. 19	3405	733	126	2715
Hose-rack	W. McClintock	844,531	Feb. 19	3376	727	126	2708
House:							
See Portable house.							
Hydraulic elevator	W. L. Weber	844,488	Feb. 19	3271	706	126	2683
Hydrocarbon-burner	J. J. Richardson	844,537	Feb. 19	3390	730	126	2711
Incandescent-mantle support	M. Offenberg	844,957	Feb. 19	4431	947	126	2966
Indicator:							
See Speed-indicator. Station-indicator.							
Inhaler	M. Green	844,449	Feb. 19	3186	688	126	2662
Ink well or stand	W. E. Pitcock	844,830	Feb. 19	4210	878	126	2911
Insect-trap	G. Dittmann	844,503	Feb. 19	3298	711	126	2690
Insect-trap	N. W. Mills, I. F. Monell, and N. R. Herivel	844,951	Feb. 19	4422	945	126	2963
Insulating the interior sides of hollow bodies	O. Koaztovits	844,369	Feb. 19	3032	647	126	2624
Insulating wire-holder	A. Hatchett	844,796	Feb. 19	4149	884	126	2896
Internal-combustion motor	J. Treen	844,836	Feb. 19	4220	900–2	126	2913

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Iron:							
See Sad-iron. Soldering-iron.							
Ironing-table	A. L. Millere	844,732	Feb. 19	4015	855	126	2859
Jack:							
See Lifting-jack.							
Jaw-crusher	M. G. Bunnell	845,028	Feb. 19	4581	975	126	3003
Joint:							
See Rail-joint.							
Journal-box	S. Murphy	844,887	Feb. 19	4320	921	126	2938
Justifying apparatus	E. Wentscher	844,570	Feb. 19	3693	776–7	126	2780
Key-changing device for keyed instruments	J. Ramsperger	844,401	Feb. 19	3098	665	126	2739
Kiln:							
See Rotary kiln.							
Kneading and mixing machine	E. F. Wieda	844,840	Feb. 19	4234	903	126	2917
Knife:							
See Cane-knife. Mower-knife.							
Lacing-hooks. Gage attachment for machines for setting	W. Halkyard	844,591	Feb. 19	3731	784	126	2788
Ladder and bench. Combination	A. G. Johnson	845,036	Feb. 19	4597	978–9	126	3008
Lamp	L. W. Anderson	843,311	Feb. 19	2927	622	126	2597
Lamp. Acetylene	S. M. Meyer	844,607	Feb. 19	3759	792	126	2795
Lamp. Arc	J. H. Bennett and A. I. Miner	844,439	Feb. 19	3163	680	126	2656
Lamp chimney. Incubator	W. A. Sumner	844,626	Feb. 19	3790	800	126	2802
Lamp. Electric-arc	F. Janecek	844,361	Feb. 19	3020	645	126	2621
Lamp for automobiles and other vehicles	S. M. Meyer	844,608	Feb. 19	3760	792	126	2795
Lamp lock. Incandescent	J. F. Boyer	844,321	Feb. 19	2941	626	126	2601
Lamp self-lighting attachment	S. M. Meyer	844,731	Feb. 19	4013	855	126	2859
Lamp socket. Incandescent	J. G. Peterson	844,829	Feb. 19	4209	897–8	126	2911
Lamps and oil-stoves. Electric lighting device for	S. M. Meyer	844,605	Feb. 19	3754	791	126	2794
Lamps. Electric-lighting apparatus for incandescent and other gas-	S. M. Meyer	844,611	Feb. 19	3766	794	126	2796
Lamps. Luminant in electric incandescent	F. M. F. Cazin	844,778	Feb. 19	4113	877	126	2887
Land-roller	J. Weber	843,430	Feb. 19	3146	676	126	2603
Lantern-holder	W. T. Gover	844,672	Feb. 19	3888	822	126	2808
Last. Hinged	G. G. and J. C. Schelter	845,011	Feb. 19	4552	969	126	2995
Last. Shoe	J. C. Schelter	845,012	Feb. 19	4554	970	126	2995
Latch for doors, &c. Sure-catch	J. B. Aikin	844,907	Feb. 19	4353	929	126	2946
Lathe. Screw-cutting	J. C. Smith	844,831	Feb. 19	4211	898–9	126	2911
Lathe tool-holder	G. T. Reiss and W. L. Clark	844,680	Feb. 19	3923	830	126	2836
Leach-clearing apparatus. Portable	O. Seidel, Jr	844,693	Feb. 19	3930	831–2	126	2838
Life-preserver	M. Cline	844,580	Feb. 19	3717	781	126	2785
Lifter:							
See Pan and vessel lifter. Plate-lifter.							
Lifting-jack	L. J. Dunn	844,784	Feb. 19	4130	880–1	126	2891
Lineman's chair	G. P. Yeakel and W. C. L. Ireland	844,641	Feb. 19	3812	806–7	126	2808
Linotype-machine attachment	W. N. Bowman	844,917	Feb. 19	4309	933	126	2949
Liquid-cooling apparatus	H. L. Doherty	844,336	Feb. 19	2969	634	126	2608
Liquids. Thief for testing	T. R. Weymouth	844,433	Feb. 19	3140	677	126	2653
Liver-cutting board	J. Meyers	844,529	Feb. 19	3374	727	126	2708
Loading apparatus. Trimming device for	S. J. Blake	844,317	Feb. 19	2935	625	126	2599
Lock:							
See Door-lock. Permutation-lock. Lamp-lock. Registering-lock. Nut-lock. Sash-lock. Padlock.							
Lock and latch	H. G. Voight	844,763	Feb. 19	4086	871	126	2879
Locks. Keyhole-shutter for	H. G. Voight	845,019	Feb. 19	4566	972	126	2999
Locomotive	W. L. Austin	844,768	Feb. 19	4096	873–4	126	2881
Locomotive	S. M. Vauclain	844,978	Feb. 19	4468	953–4	126	2976
Loom pattern mechanism	B. F. McGuiness	844,736	Feb. 19	4023	857	126	2861
Loom selvage-motion	C. F. Roper	844,404	Feb. 19	3102	666	126	2640
Loom-stopping mechanism. Wire-	H. Lindsay	844,818	Feb. 19	4195	893–4	126	2906
Looms. Automatic tension device for	E. Keuser	844,523	Feb. 19	3358	725	126	2704
Looms. Cloth-finishing device for	E. Bloom	844,848	Feb. 19	4251	906	126	2922
Lubricator	J. Buckley and J. Sherry	844,324	Feb. 19	2944	627–8	126	2602
Lubricators. Sight-feed for	J. Sherry	844,418	Feb. 19	3129	671	126	2647
Mail-bag catcher and deliverer	A. L. Logan and W. F. Greene	844,527	Feb. 19	3370	726–7	126	2707
Mail-bag holder and deliverer	H. G. Kimple and E. Eller	844,365	Feb. 19	3026	646	126	2623
Mail-carrier	T. W. Russell and R. Sayler	844,960	Feb. 19	4438	948	126	2967
Mail-carrying apparatus	C. N. Libey	844,526	Feb. 19	3366	726	126	2705
Mangle	A. Bess	844,773	Feb. 19	4104	875	126	2884
Mantle-impregnating machine	E. D. Anderson	844,644	Feb. 19	3816	807–11	126	2809
Manure fork or carrier	L. Kniffen	844,524	Feb. 19	3360	725	126	2704
Marble. Integral or through coloration of	E. L. Belloni	844,846	Feb. 19	4247	.....	126	2921
Mattress-frame	F. G. Gale	844,788	Feb. 19	4137	882	126	2893
Measuring device. Rotary	E. G. Kimmell	844,364	Feb. 19	3024	646	126	2622
Measuring machine. Cloth-	T. H. Nance	844,739	Feb. 19	4029	859	126	2862
Meat-cutter	S. D. Wheeler	844,434	Feb. 19	3151	678	126	2654
Mechanical movement	T. C. Prouty	844,469	Feb. 19	3223	695	126	2671
Mechanical movement	V. Smorowski	844,696	Feb. 19	3937	833	126	2840
Metal packs. Finishing	C. W. Bray	844,323	Feb. 19	2943	627	126	2601
Metals from sulfids. Obtaining	T. J. Heskett	844,452	Feb. 19	3189	688	126	2662
Metals from their ores. Separation of	R. E. Saunders	844,620	Feb. 19	3781	797–8	126	2800
Metallic tie and rail-fastener	S. Sznutchko	844,832	Feb. 19	4216	899	126	2912
Mill:							
See Rolling-mill.							
Mill roll controlling and positioning device	B. O. Hale	844,349	Feb. 19	2991	640	126	2614
Mold:							
See Starch-mold.							
Molding apparatus	G. F. McKee and W. F. Schilling	844,737	Feb. 19	4025	858	126	2861
Molding-machine	H. W. N. Cole	844,330	Feb. 19	2958	629–30	126	2605
Motion and housing therefor. Means for converting	C. J. Klein	844,455	Feb. 19	3193	689	126	2663
Motor:							
See Electric motor. Water-motor. Internal-combustion motor. Weight-motor. Wind-motor.							
Motors as braking-generators. Control system for connecting	F. E. Case	844,777	Feb. 19	4111	877	126	2886
Motors. Oil-retaining device for explosion-	J. L. Didier	844,853	Feb. 19	4257	907	126	2923

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Mouthpiece-guard. Sanitary	R. R Macgill	844,949	Feb. 19	4420	944	126	2963
Mower knife. Lawn-	L E. Baker	844,769	Feb. 19	4097	874	126	2882
Mowers. Grass-catcher for lawn-	J. A Vye	844,427	Feb. 19	3142	675	126	2651
Mowers. Ratchet mechanism for lawn-	L. E. Baker	844,844	Feb. 19	4244	905	126	2920
Mowing-machine finger-bar	H. Mehlhorn and J. Shepard	844,950	Feb. 19	4421	944	126	2963
Muffler	J E. Fairchild	844,669	Feb. 19	3883	822	126	2827
Multiplying and type-writing machine	W. W. Hopkins	844,519	Feb. 19	3339	719–23	126	2699
Musical instrument. Mechanical	P. Wuest, Jr	844,984	Feb. 19	4477	955–6	126	2978
Musical-instrument playing mechanism. Automatic	P. Wuest, Jr	844,987	Feb. 19	4486	957	126	2980
Musical instruments. Valve for pneumatic	E. de Kleist	844,879	Feb. 19	4307	918	126	2935
Musical sounds. Device for registering vibrations of	L. R. Wheeler	844,838	Feb. 19	4229	902	126	2916
Nail-feeding apparatus	G. D. Parker	844,463	Feb. 19	3213	693	126	2668
Nautical apparatus	F. Vanzini	844,837	Feb. 19	4223	902	126	2914
Neckwear. Article of	W. H. Hart, Jr	844,795	Feb. 19	4148	884	126	2896
Needle-threading device	R. Summers	844,482	Feb. 19	3263	704	126	2681
Notch-cutting machine	L. W. Marshall. (Reissue)	12,612	Feb. 19	4608	981	126	3011
Nut. Adjustable sleeved axle-	R. C. Williams	844,490	Feb. 19	3276	707	126	2684
Nut. Lock-	D. C. Mercer	844,382	Feb. 19	3060	655	126	2631
Nut. Lock-	H. F. Rieschick	844,750	Feb. 19	4052	864	126	2869
Nut-lock	A. L. Strout	844,422	Feb. 19	3136	673	126	2650
Nut-lock	L. M. Gilchrist	844,588	Feb. 19	3727	784	126	2787
Nut-lock	L. M. Gilchrist	844,589	Feb. 19	3728	784	126	2788
Nut-lock	F. W. Zollers	844,643	Feb. 19	3815	817	126	2809
Nut-lock	J. K. Gourdin	844,862	Feb. 19	4275	911	126	2927
Nut-lock	J. R. Thomas	844,972	Feb. 19	4455	952	126	2971
Nut-lock	J. H. Baldwin	844,993	Feb. 19	4499	959	126	2983
Nut-lock	W. Fentzke	844,926	Feb. 19	4381	936	126	2953
Oar	J. H. Greenhagen	844,931	Feb. 19	4387	938	126	2954
Oil-burner flame-spreader	F. Heberlein	844,355	Feb. 19	3010	.....	126	2619
Ores preparatory to smelting same. Treatment of	F. McCollum	844,613	Feb. 19	3770	795	126	2797
Organ-pipe foot	G. G. Rohrssen	844,690	Feb. 19	3925	830	126	2837
Packages of merchandise. Device for holding	H. W. Lee	844,525	Feb. 19	3364	726	126	2705
Packing. Piston-rod							
Pad:							
See Manifolding-pad.							
Padlock	F. W. Schroeder	844,412	Feb. 19	3121	669	126	2645
Pail. Milk-	J. J. Nolty	844,614	Feb. 19	3771	795	126	2797
Pan and vessel lifter. Adjustable	A. M. Mendelson	844,528	Feb. 19	3373	727	126	2707
Paper and paper-board	C. Esser	844,657	Feb. 19	3856	.....	126	2819
Paper-bag machine	E. E. Claussen	844,329	Feb. 19	2954	629	126	2604
Paper-cigarette machine	N. Du Brul	844,783	Feb. 19	4123	878–80	126	2889
Paper-making machine	W. H. Hoffman	844,938	Feb. 19	4397	940	126	2956
Pen. Fountain-	J. S. Barnes	844,575	Feb. 19	3711	780	126	2784
Pen. Fountain-	J. S. Barnes	844,576	Feb. 19	3713	780	126	2784
Pen. Fountain-	H. W. Bähr	844,646	Feb. 19	3828	811	126	2812
Pen-grinding machine	G. Malpass	845,006	Feb. 19	4536	967	126	2990
Permutation-lock	L. B. Gaylor	844,448	Feb. 19	3184	687	126	2661
Phase-splitter and clutch	H. H. Cutler	844,997	Feb. 19	4507	961	126	2985
Phonograph-horn	A. Maurer	845,007	Feb. 19	4540	967–8	126	2991
Photograph-holder	E. H. Smith	844,901	Feb. 19	4345	928	126	2944
Photographic-printing apparatus	J. Kaut	844,680	Feb. 19	3904	825–6	126	2831
Photographic shutter	G. Dietz	844,854	Feb. 19	4257	908	126	2923
Piano-pedal action	G. Bjorklund	844,655	Feb. 19	3852	817	126	2819
Piano pedal attachment	A. C. Bergman	844,913	Feb. 19	4364	932	126	2948
Piano-playing mechanism. Automatic	P. Wuest, Jr	844,985	Feb. 19	4481	956	126	2979
Picker:							
See Cotton-picker. Fruit-picker.							
Pin:							
See Dredge-pin.							
Pinions and wheels. Machine for manufacturing and mounting	A. H. Neureuther	844,389	Feb. 19	3073	659–62	126	2634
Pipe coupling. Automatic air and steam	W. F. Thornton, Jr	844,975	Feb. 19	4464	952–3	126	2974
Pipe-hanger	W. D. Van Brunt	844,977	Feb. 19	4467	953	126	2975
Pipe-wrench	F. J. Dearborn, F. Cavallaro, and A. S. MacKenzie.	844,852	Feb. 19	4256	907	126	2922
Pit-prop	P. Mommertz	844,385	Feb. 19	3065	656	126	2633
Planter	W. H. Holsclaw	845,003	Feb. 19	4527	966	126	2988
Planter. Corn-	H. W. Thomasson	844,550	Feb. 19	3408	734	126	2715
Plate-lifter	C. F. Smith	844,966	Feb. 19	4447	950	126	2969
Pneumatic cleaner	P. Schauer	844,410	Feb. 19	3116	668	126	2643
Pocket-book. Imitation	F. S. Egloff	844,337	Feb. 19	2972	635	126	2609
Pocket-closer	T. Slackowski	844,965	Feb. 19	4446	950	126	2969
Polisher and cleaner	W. J. M. Hames	844,865	Feb. 19	4280	912	126	2929
Portable house	A. H. Gill	844,861	Feb. 19	4272	910–11	126	2927
Pot:							
See Grease-pot.							
Potato-digger	J. L. Albin	844,908	Feb. 19	4356	930	126	2946
Powdered materials. Receptacle for	W. West	844,640	Feb. 19	3811	806	126	2808
Power-transmission device	W. T. Sears	844,415	Feb. 19	3125	670	126	2646
Power-transmission device	W. T. Sears	844,546	Feb. 19	3403	733	126	2714
Press:							
See Baling-press. Glass-press. Beam-straightening press. Printing-press. Trousers-press.							
Pressure mechanism. Automatic clamping	J. M., J., A. J., and S. A. Gimson.	844,515	Feb. 19	3332	717	126	2697
Printer's lead-cutter	E. I. Rice	844,746	Feb. 19	4046	862	126	2867
Printers' rollers. Machine for cleaning or treating	G. Sague	844,474	Feb. 19	3232	697–8	126	2675
Printers' rollers. Machine for cleaning or treating	G. Sague	844,475	Feb. 19	3239	699	126	2675
Printing plate. Half-tone-	L F. Smith	844,968	Feb. 19	4450	951	126	2970
Printing-press feeding mechanism	A. F. Harris	844,935	Feb. 19	4393	939	126	2955
Printing-press ink-fountain attachment	R. J. Greenway, Jr	844,673	Feb. 19	3890	823	126	2828
Printing-press Rotary	F. Newbold	844,461	Feb. 19	3206	692	126	2667
Projectiles. Manufacture of armor-piercing	R. A. Hadfield	844,675	Feb. 19	3894	.....	126	2829
Pruning implement	J. Bingaman	845,027	Feb. 19	4580	975	126	3003
Pulley-block	A. Opsal	845,041	Feb. 19	4604	980	126	3010
Pulley-rim	E. W Keller	844,363	Feb. 19	3023	646	126	2622
Pump	R. Huff	844,360	Feb. 19	3017	644–5	126	2620
Pump. Non-overflow	B. G. Foster	844 445	Feb. 19	3176	685–6	126	2639
Pump. Vacuum-	J. J. Mullan	844 734	Feb. 19	4018	856	126	2860
Puzzle	A. G. P. Ebert	844,716	Feb. 19	3983	847	126	2850

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Rack:							
See Coat and hat rack. Hose-rack.							
Rail chair and tie	A. P. Sells	844,622	Feb. 19	3784	798	126	2800
Rail-fastener	E. Thornberg	844,834	Feb. 19	4218	900	126	2913
Rail fastener. Guard-	F. Cleary and J. Garrity	844,660	Feb. 19	3862	818	126	2820
Rail-joint	E. M. Porter and J. W. Daubenspeck.	844,399	Feb. 19	3095	665	126	2638
Rail-joint	A. E. Spratley	844,970	Feb. 19	4452	951	126	2971
Rail-joint. Step-up	G. L. Hall	844,794	Feb. 19	4147	884	126	2905
Railway-gate	J. M. Harrington	844,721	Feb. 19	3996	851	126	2854
Railway-motor-cable support	F. W. Garrett	844,790	Feb. 19	4142	882-3	126	2904
Railway-rail chair	J. Crozier	844,500	Feb. 19	3295	710	126	2689
Railway-rail tie-plate	C. E. Neubauer	844,890	Feb. 19	4324	922	126	2939
Railway-sleeper and connection	R. H. Ireland	844,943	Feb. 19	4408	942	126	2960
Railway-tie and rail-fastener	J. Nicholls	844,827	Feb. 19	4205	897	126	2909
Railway-tie construction	J. W. Webb	844,480	Feb. 19	3274	706	126	2683
Railway-wheel	A. S. Henry	845,001	Feb. 19	4522	964	126	2988
Rake:							
See Hay-rake.							
Ratchet	J. Hegerhorst	844,356	Feb. 19	3011	643	126	2620
Ratchet. Automatic	D. Kendall	844,808	Feb. 19	4173	889-90	126	2902
Receiver-support	J. Heisch, Jr.	844,722	Feb. 19	3999	852	126	2855
Receptacle. Incased	L. B. Schenck	844,542	Feb. 19	3397	732	126	2713
Receptacle. Incased	L. B. Schenck	844,543	Feb. 19	3399	732	126	2713
Recording device	J. Dawson	844,664	Feb. 19	3878	821	126	2825
Rectal dilator	C. R. Harris	844,450	Feb. 19	3187	688	126	2662
Rectangular can for dried beef and other articles	E. W. Carnes	844,326	Feb. 19	2949	628	126	2603
Refrigerator	L. Desforges, Jr.	844,924	Feb. 19	4379	936	126	2952
Refrigerator-door	C. Stotz	844,698	Feb. 19	3943	835	126	2841
Register:							
See Autographic register.							
Registering-lock	E. F. Wells	844,702	Feb. 19	3949	837	126	2843
Regulator:							
See Engine speed-regulator. Fluid-regulator. Feed-water regulator.							
Releasable connection	E. S. Clough	844,710	Feb. 19	3967	842	126	2846
Revolver	J. L. Garner	844,671	Feb. 19	3886	822	126	2827
Ring-bending tool	L. M. Morden	844,885	Feb. 19	4318	921	126	2938
Rock-drill	H. Deitz	844,582	Feb. 19	3718	782	126	2785
Rock-drill spray	E. G. A. Rees-Gibbs	844,745	Feb. 19	4044	862	126	2866
Roller:							
See Land-roller.							
Rolling-mill	S. V. Huber	844,520	Feb. 19	3353	723-4	126	2703
Rolling-mill feeding device	E. E. Slick	844,419	Feb. 19	3132	671-2	126	2648
Roofing. Sheet-metal	D. J. Winn	844,983	Feb. 19	4476	955	126	2978
Rotary engine	J. C. Simmons	844,758	Feb. 19	4070	867-8	126	2874
Rotary engine	J. B. Martin	844,824	Feb. 19	4202	895	126	2909
Rotary kiln	W. C. Shiner	844,623	Feb. 19	3785	799	126	2801
Rubber-tired wheel	J. P. Johnston	844,728	Feb. 19	4007	853	126	2857
Rule and calipers. Extensible	H. U. Prindle	844,536	Feb. 19	3397	730	126	2711
Sad-iron	A. A. Warner	844,638	Feb. 19	3809	806	126	2807
Safes. Trap for preventing the burglarizing of iron	S. M. Harden	844,934	Feb. 19	4392	939	126	2955
Sash-cord clamp	L. W. Strasbaugh	845,035	Feb. 19	4595	978	126	3007
Sash-lock	W. E. Duckenfield	844,667	Feb. 19	3882	821	126	2826
Saw-handle	E. R. Cobb	844,850	Feb. 19	4253	907	126	2922
Saw-table	J. Henry	844,723	Feb. 19	4001	852	126	2855
Screen:							
See Window-screen. Wire screen.							
Seam	S. Borton	844,320	Feb. 19	2939	626	126	2600
Seat-corner	E. L. Forsgren	844,586	Feb. 19	3724	783	126	2787
Seat-removing apparatus	L. C. McAdams	845,008	Feb. 19	4542	968	126	2992
Sediment-catching pocket for receptacles	W. M. Gilbert	844,929	Feb. 19	4385	937	126	2953
Seed-dropper	J. H. Grooters	844,932	Feb. 19	4388	938	126	2954
Seed hulls. Machine for treating cotton-	R. G. Latting, Jr.	844,371	Feb. 19	3034	648	126	2625
Seeding-machine	L. E. Waterman	844,429	Feb. 19	3144	675-6	126	2652
Seeding-machine	L. E. Waterman	844,639	Feb. 19	3810	806	126	2808
Sewer-trap for catch-basins	F. C. Few	844,341	Feb. 19	2976	636	126	2610
Sewing-machine trimming attachment	J. Zeldis and J. M. Weber	844,574	Feb. 19	3706	779-80	126	2782
Shade and curtain-support. Window-	J. L. Smith	844,967	Feb. 19	4448	950	126	2970
Shearing-machine	R. Schofield	844,744	Feb. 19	4040	861-2	126	2865
Shears and tension-screw	W. A. Wilkins	844,903	Feb. 19	4347	928	126	2944
Sheet-metal elbows. Machine for manufacturing	A. G. Scherer and C. W. McKee	844,411	Feb. 19	3117	668-9	126	2644
Shingling-gage	P. L. Morris	844,612	Feb. 19	3769	794	126	2797
Shock-loader	A. Pfund	844,742	Feb. 19	4037	860-1	126	2864
Shoe-tacking machine	H. A. Ballard	844,647	Feb. 19	3830	812	126	2813
Shuttle	H. Lindsay	844,819	Feb. 19	4197	894	126	2907
Shuttle-release motion	J. W. Killpartrick	844,874	Feb. 19	4293	916	126	2932
Sign. Illuminated	J. Hotchner	844,940	Feb. 19	4400	940	126	2957
Signal	E. A. Wolf	844,435	Feb. 19	3153	678	126	2654
Signal-flag. Folding metallic	W. F. Walsh	844,637	Feb. 19	3807	805	126	2807
Signal flags, fuses, and torpedoes. Receptacle for	R. F. Stewart	844,481	Feb. 19	3262	704	126	2681
Skylight-operator	H. F. Russell	844,691	Feb. 19	3926	830-1	126	2837
Snap-hook	J. C. Welcome, Sr.	844,980	Feb. 19	4471	954	126	2977
Soap-dish	J. P. Eustis	844,859	Feb. 19	4270	910	126	2926
Soldering-iron	W. F. Ryan	844,473	Feb. 19	3229	697	126	2675
Spade and analogous implement	E. S. Williamson	844,904	Feb. 19	4349	928	126	2945
Spark-coil	J. F. Cavanagh	844,578	Feb. 19	3715	781	126	2784
Speed-changing device	J. Riddell	844,748	Feb. 19	4049	863	126	2868
Speed-indicator	J. T. F. Conti	844,922	Feb. 19	4376	935	126	2951
Speed mechanism. Variable-	R. K. Le Blond and W. F. Groene	845,005	Feb. 19	4534	966-7	126	2989
Speedometer	G. Lombardi	844,684	Feb. 19	3911	827	126	2833
Spindles. Bobbin-clutching means for rotatable	G. W. Knight	844,368	Feb. 19	3030	647	126	2624
Spring:							
See Eyeglass-spring.							
Spring-pressing machine	H. E. Spangler	844,549	Feb. 19	3407	733-4	126	2715
Spring-recoil neutralizer	A. Mans	844,884	Feb. 19	4315	920-1	126	2937
Square. Folding steel	R. M. Smith	844,420	Feb. 19	3134	672	126	2649
Staircases. Construction of steps for	E. E. Schachner	844,409	Feb. 19	3114	667-8	126	2643
Stake-holder	A. J. Bostwick	844,775	Feb. 19	4108	876	126	2885

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Stamp. Double-acting	G. W. Beynon and G. H. Mackillop.	844,847	Feb. 19	4250	905-6	126	2921
Stand:							
See Display-stand.							
Staple-fastener	L. A. Platt and W. T. Abel	844,398	Feb. 19	3094	664	126	2638
Starch-mold	A. M. Baroody	844,911	Feb. 19	4362	931	126	2948
Station-indicator	C. J. Harter	844,593	Feb. 19	3734	785-7	126	2789
Stationery-holder	E. P. Lynch	844,948	Feb. 19	4418	944	126	2962
Stay-bolt. Flexible	B. E. D. Stafford	844,421	Feb. 19	3135	673	126	2649
Steam-boiler. Water-tube	H. Del Mar	844,713	Feb. 19	3979	846	126	2849
Steam-generator	E. Solomiac	844,697	Feb. 19	3941	834-5	126	2841
Steam generator and radiator. Combined	R. Watt	844,487	Feb. 19	3270	706	126	2683
Steam-trap	A. L. Riggs	844,958	Feb. 19	4432	947	126	2966
Steamboats and the like. Trimming-weight for	C. C. Rouillard	844,405	Feb. 19	3104	666	126	2641
Stem-winding and stem-setting mechanism	L. C. Haubroe	845,000	Feb. 19	4519	964	126	2987
Stocking-protector	B. Riely	844,740	Feb. 19	4051	864	126	2869
Stopper:							
See Bottle-stopper.							
Storage and display receptacle	J. D. Richardson	844,617	Feb. 19	3776	796	126	2798
Storage battery	S. Lake	844,815	Feb. 19	4189	892	126	2905
Storage-bin	J. H. Tromanhauser	844,633	Feb. 19	3801	808	126	2805
Storm-front or duster-hood fastener	W. E. Clark	844,920	Feb. 19	4374	934-5	126	2951
Stove and furnace	F. Fiebeger	844,342	Feb. 19	2978	636	126	2610
Stovepipe-collar	L. Doerr	844,782	Feb. 19	4122	878	126	2889
Straw-holder	H. C. Mayes	844,381	Feb. 19	3058	654	126	2630
Stubble-cutter	W. A. McCollough	844,888	Feb. 19	4321	922	126	2939
Stubble-cutter	W. A. McCollough	844,956	Feb. 19	4430	946	126	2965
Stuffing-box	F. Gielow, Sr.	845,033	Feb. 19	4593	977	126	3007
Surgical appliance	L. B. Hawley	844,798	Feb. 19	4155	885	126	2898
Switch:							
See Electric switch. Electric time-switch. Electric-light switch.							
Switch-throwing device	W. H. Vaughn and J. E. Tiffany	844,762	Feb. 19	4085	870-1	126	2879
Syringe	J. H. Dodson	844,335	Feb. 19	2968	634	126	2608
Syringe. Hypodermic	G. R. Schimmel	844,544	Feb. 19	3401	732	126	2714
Table:							
See Extension-table. Saw-table. Ironing-table.							
Tag-wiring machine	J. J. Englert	844,908	Feb. 19	4510	961-5	126	2985
Tags to clothing. Machine for attaching	G. H. Wilkins	844,703	Feb. 19	3952	838	126	2843
Tap. Beer-	F. M. Pfluger	844,397	Feb. 19	3093	664	126	2637
Tap-socket	C. J. Heiser	844,799	Feb. 19	4156	885	126	2898
Tea-kettle	A. W. Cram	844,780	Feb. 19	4119	877	126	2888
Telephone attachment	W. R. Whitehorne	844,839	Feb. 19	4231	903	126	2916
Telephone trunking system	F. W. Dunbar	844,506	Feb. 19	3307	713-14	126	2692
Telephony	I. Kitsee	844,811	Feb. 19	4184	891	126	2904
Tension device	O. Pfänder	844,892	Feb. 19	4329	923	126	2946
Tent. Hospital-	H. B. Thompson	844,632	Feb. 19	3800	803-4	126	2805
Threshing-machine	R. Sylvester	844,627	Feb. 19	3791	800-1	126	2802
Threshing-machine sheaf carrier and elevator	R. Sylvester	844,628	Feb. 19	3793	801-2	126	2803
Tie:							
See Crose-tie. Metallic tie. Fencing-tie. Railway-tie.							
Tile. Roofing-	E. E. Johnston	844,453	Feb. 19	3191	689	126	2663
Time computer and recorder	G. Bluemel	844,708	Feb. 19	3959	840-1	126	2845
Tire. Solid rubber	A. H. Marks	844,821	Feb. 19	4200	895	126	2908
Tires. Forming solid rubber	A. H. Marks	844,822	Feb. 19	4201	895	126	2908
Tires or tire-casings. Forming pneumatic	A. H. Marks	844,820	Feb. 19	4199	894	126	2908
Tobacco-curing apparatus	B. L. Dixon	844,583	Feb. 19	3721	782	126	2786
Tool. Combination-	P. Novak	845,009	Feb. 19	4544	968-9	126	2992
Toy	M. Borchardt	844,577	Feb. 19	3714	780	126	2784
Toy	J. Griffin	844,793	Feb. 19	4146	883	126	2895
Toy animal	C. Sackman	844,619	Feb. 19	3780	797	126	2800
Toy bank	C. A. Bailey	844,910	Feb. 19	4360	931	126	2947
Toy ladder-truck	H. T. Kingsbury	844,875	Feb. 19	4295	916-17	126	2932
Toy ladder-truck	H. T. Kingsbury	844,876	Feb. 19	4297	917	126	2933
Toy ladder-truck	H. T. Kingsbury	844,877	Feb. 19	4300	917-18	126	2934
Toy rapid-fire gun	G. P. Campbell	844,994	Feb. 19	4499	959-60	126	2983
Track-sanding apparatus	F. L. Robinson and J. McCabe	844,618	Feb. 19	3778	797	126	2799
Tracker-bar. Pneumatic	P. Wuest, Jr.	844,986	Feb. 19	4484	976	126	2980
Trap:							
See Animal-trap. Insect-trap. Bait-trap. Sewer-trap. Bedbug-trap. Steam-trap. Creosote-trap.							
Tree:							
See Boot and shoe tree							
Trimmer:							
See Hedge-trimmer.							
Trolley-wires. Mechanical ear for	E. E. Gilmore	844,792	Feb. 19	4145	883	126	2895
Trousers-press	H. Dalitz	844,712	Feb. 19	3979	845	126	2849
Truck. Cement-	F. B. Burness	844,325	Feb. 19	2948	628	126	2603
Trunk	C. H. Paxton	844,393	Feb. 19	3087	663	126	2636
Trunk-flap-locking means	I. Mendel	844,456	Feb. 19	3195	689	126	2664
Tug fastener. Hame-	F. T. Lerch	844,817	Feb. 19	4194	893	126	2906
Turbine governing mechanism. Elastic-fluid-	F. Samuelson	844,753	Feb. 19	4056	865	126	2870
Turpentine-box	A. C. McLeod	844,889	Feb. 19	4323	922	126	2939
Type-justifier	B. M. Des Jardins	844,555	Feb. 19	3426	737-9	126	2719
Type-justifier	B. M. Des Jardins	844,558	Feb. 19	3455	742-3	126	2727
Type-justifier	B. M. Des Jardins	844,559	Feb. 19	3463	743-4	126	2729
Type-justifier	B. M. Des Jardins	844,560	Feb. 19	3472	745-6	126	2732
Type-justifier	B. M. Des Jardins	844,561	Feb. 19	3482	746-7	126	2734
Type-justifier	B. M. Des Jardins	844,556	Feb. 19	3440	739-41	126	2724
Type-justifying machine	B. M. Des Jardins	844,557	Feb. 19	3448	741-2	126	2726
Type-justifying machine	B. M. Des Jardins	844,562	Feb. 19	3491	748-51	126	2736
Type-justifying machine	B. M. Des Jardins	844,563	Feb. 19	3532	752-5	126	2749
Type-justifying machine	B. M. Des Jardins	844,564	Feb. 19	3556	755-9	126	2752
Type-justifying machine	W. J. Ennisson	844,565	Feb. 19	3583	759-64	126	2758
Type-justifying machine	W. J. Ennisson	844,566	Feb. 19	3617	764-5	126	2764
Type-justifying machine	W. J. Ennisson	844,567	Feb. 19	3622	765-6	126	2766

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Type-justifying machine	W. J. Ennisson	844,568	Feb. 19	3628	766-74	126	2767
Type-justifying machine	W. J. Ennisson	844,569	Feb. 19	3676	774-6	126	2777
Type-writer attachment	E. W. Swelgard	844,699	Feb. 19	3944	836	126	2841
Type-writing machine	C. Gabrielson	844,446	Feb. 19	3181	686-7	126	2660
Type-writing machine	J. F. McElhinny	844,532	Feb. 19	3377	728	126	2709
Type-writing machine	P. T. Dodge	844,606	Feb. 19	3880	821	126	2826
Type-writing machine	A. Schneeloch	844,756	Feb. 19	4062	866-7	126	2871
Type-writing or similar machines. Device for the justification of the lengths of lines of	E. M. v. Marchthal	844,378	Feb. 19	3051	653	126	2629
Umbrella. Folding	L. Z. Forgues	844,584	Feb. 19	3721	783	126	2786
Umbrella. Folding	W. P. Hartnett	844,937	Feb. 19	4396	939	126	2956
Valve and air-strainer for pneumatic drills. Throttle-	C. A. Carlson	844,776	Feb. 19	4109	876	126	2886
Valve attachment	H. Bates	844,315	Feb. 19	2933	624	126	2599
Valve for controlling fluid-pressure	E. Hill	844,802	Feb. 19	4163	887	126	2900
Valve. Gas-controlling	H. W. Hill	844,358	Feb. 19	3014	644	126	2620
Valve-gear	J. Iversen	844,521	Feb. 19	3355	724	126	2703
Valve-gear for explosive-engines	C. H. Morgan and A. J. Gifford	844,458	Feb. 19	3200	690-1	126	2665
Valve. Tank-	J. H. Davis	844,581	Feb. 19	3717	781	126	2785
Vehicle	O. J. Widmeier	844,982	Feb. 19	4474	955	126	2977
Vehicle bow-rest	J. H. Sprague	844,909	Feb. 19	4451	951	126	2970
Vehicle, Dumping-	E. I. Nottingham	844,801	Feb. 19	4326	922-3	126	2939
Vehicle. Motor-	W. D. Lloyd	844,375	Feb. 19	3045	651-2	126	2627
Vehicle reach-coupling	J. A. Dann	844,501	Feb. 19	3296	711	126	2690
Vehicle running-gear	L. J. Simmers	844,898	Feb. 19	4338	926	126	2942
Vehicle-spindle washer	V. Scott and C. Wolf	844,545	Feb. 19	3402	733	126	2714
Vehicle. Wheeled	I. E. Palmer	844,615	Feb. 19	3773	795-6	126	2798
Vehicles. Gearing mechanism for motor-	L. B. Farmer	844,444	Feb. 19	3174	685	126	2659
Vehicles. Vapor-burner for motor-	W. L. Garrels and C. Kimball	844,511	Feb. 19	3323	715-16	126	2696
Vending-machine	C. T. Frantz	844,509	Feb. 19	3319	715	126	2694
Vending-machine	M. O. Anthony	844,843	Feb. 19	4241	904-5	126	2919
Veneer-cutting machine	B. J. Sitton	844,899	Feb. 19	4339	926-7	126	2943
Ventilator: *See* Car-ventilator.							
Ventilator	L. A. McCalla	844,735	Feb. 19	4021	856	126	2861
Vessels. Protective device for frangible	W. Constable	844,779	Feb. 19	4117	877	126	2887
Vises. Inset clamp for	A. Kolb	844,813	Feb. 19	4187	892	126	2905
Wagon. Boy's	A. M. Bollinger	844,319	Feb. 19	2937	626	126	2600
Wagon. Coal-dumping	D. Stahl	844,480	Feb. 19	3259	703	126	2680
Wardrobes. Article-support for	G. Gautier	844,447	Feb. 19	3182	687	126	2661
Washer: *See* Gas-washer. Vehicle-spindle washer.							
Washing compound and making the same	A. W. Skinner	844,547	Feb. 19	3404		126	2715
Washing-machine	W. H. Heffernan and H. F. Marshall.	844,595	Feb. 19	3740	787	126	2790
Washing-machine	W. W. Allen	844,766	Feb. 19	4092	872-3	126	2881
Water-elevator	J. B. Neil	844,534	Feb. 19	3382	728-9	126	2709
Water-lift. Pneumatic	W. A. and B. S. H. Harris	844,936	Feb. 19	4394	939	126	2956
Water-motor	G. D. Fraser	844,510	Feb. 19	3322	715	126	2695
Water-tube boiler	O. Flamm and F. Romberg	844,343	Feb. 19	2980	637	126	2611
Weather-strip	F. J. Boehler	844,656	Feb. 19	3854	817	126	2819
Weighing-machine. Automatic	W. F. and W. Braun	844,440	Feb. 19	3164	680-3	126	2657
Weight-motor	M. Brown	844,658	Feb. 19	3857	817-18	126	2819
Welding apparatus. Trough system for pipe-	C. Fell	844,340	Feb. 19	2975	635-6	126	2609
Wheel: *See* Railway-wheel. Rubber-tired wheel.							
Wheel	W. F. Grell	844,347	Feb. 19	2988	640	126	2613
Wheel	D. Robinson	844,403	Feb. 19	3100	666	126	2640
Wheel attachment for sleds	W. S. Howell	844,725	Feb. 19	4004	853	126	2855
Wind-motor. Duplex	O. Kirkham	844,454	Feb. 19	3192	689	126	2663
Window	M. V. Ayres	844,645	Feb. 19	3827	811	126	2812
Window-cleaner	T. Urban	844,700	Feb. 19	3946	836	126	2842
Window-screen	H. J. Hauser	844,867	Feb. 19	4282	913	126	2929
Wire fabric	H. E. Laughlin	844,681	Feb. 19	3907	826	126	2832
Wire screen. Adjustable	A. J. Wikander and F. Johanson	844,571	Feb. 19	3700	777-8	126	2781
Wire-stretcher	H. L. Ferris	844,718	Feb. 19	3992	849	126	2853
Wrench: *See* Pipe-wrench.							
Wrench	F. P. Morris	844,886	Feb. 19	4319	921	126	2938
Wrench	J. R. Young	844,905	Feb. 19	4351	929	126	2945
Wrench	A. S. Morange	844,954	Feb. 19	4426	945	126	2964
Wrench	W. L. Chrysler and J. W. Kays	845,030	Feb. 19	4587	976	126	3005

DESIGNS.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Badge	W. S. Carter	38,445	Feb. 19	126	3012
Fire-indicator	L. H. Britton	38,446	Feb. 19	126	3012
Lamp-shade	W. R. Noe, Jr.	38,448	Feb. 19	126	3013
Lighting-fixtures. Portable standard for	H. T. Howell	38,449	Feb. 19	126	3013
Lighting-fixtures. Portable standard for	H. T. Howell	38,450	Feb. 19	126	3013
Lighting-fixtures. Portable standard for	H. T. Howell	38,451	Feb. 19	126	3013
Lighting-fixtures. Portable standard for	H. T. Howell	38,452	Feb. 19	126	3014
Lighting-fixtures. Portable standard for	H. T. Howell	38,453	Feb. 19	126	3014
Lighting-fixtures. Portable standard for	H. T. Howell	38,454	Feb. 19	126	3014
Lighting-fixtures. Portable standard for	H. T. Howell	38,455	Feb. 19	126	3014
Lighting-fixtures. Portable standard for	H. T. Howell	38,456	Feb. 19	126	3015
Lighting-fixtures. Portable standard for	H. T. Howell	38,457	Feb. 19	126	3015
Lighting-fixtures. Portable standard for	H. T. Howell	38,458	Feb. 19	126	3015

DESIGNS—Continued.

Design.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Lighting-fixtures. Portable standard for	H. T. Howell	38,459	Feb. 19	126	3015
Lighting-fixtures. Portable standard for	H. T. Howell	38,460	Feb. 19	126	3016
Lighting-fixtures. Portable standard for	H. T. Howell	38,461	Feb. 19	126	3016
Phonograph-horn	M. Geller	38,447	Feb. 19	126	3012
Trolley-wire-supporting bracket	G. Nichols	38,462	Feb. 19	126	3016
Umbrella, parasol, or cane handle	A. Rosenstein	38,463	Feb. 19	126	3016
Umbrella, parasol, or cane handle	A. Rosenstein	38,464	Feb. 19	126	3016

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Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Agricultural machines. Certain	Deere & Mansur Co	60,751	Feb. 19	126	3036
Agricultural machines. Certain	Deere & Mansur Co	60,789	Feb. 19	126	3037
Agricultural machines. Certain	Deere & Mansur Co	60,790	Feb. 19	126	3037
Ammonia. Aqua-	Columbia Chemical Works	60,715	Feb. 19	126	3035
Apples. Evaporated	J. W. Hallauer & Sons	60,655	Feb. 19	126	3033
Awnings and tarpaulins	E. Rosenberg	60,709	Feb. 19	126	3035
Beer	J. G. Schemm Brewing Co	60,768	Feb. 19	126	3036
Beer. Bottled	Read Brothers	60,735	Feb. 19	126	3035
Belting. Leather	New York Leather Belting Co	60,758	Feb. 19	126	3036
Belting, packing, and washers. Leather	E. F. Houghton & Co	60,767	Feb. 19	126	3036
Bicycles	Beckley-Ralston Company	60,826	Feb. 19	126	3038
Bits, spurs, stirrups, buckles, and metal harness-trimmings	A. Buermann	60,809	Feb. 19	126	3037
Blood-purifier	G. F. Gehring	60,836	Feb. 19	126	3038
Blue. Ball-	Heller & Merz Co	60,752	Feb. 19	126	3036
Boiler-cleaning compounds	John Callahan & Co	60,793	Feb. 19	126	3037
Boilers. Hot-water and steam	Oswego Boiler & Engine Co	60,686	Feb. 19	126	3034
Boots and shoes. Leather	Jos. Rosenheim Shoe Co	60,755	Feb. 19	126	3036
Boots and shoes. Leather	Jones Dry Goods Co	60,794	Feb. 19	126	3037
Boots and shoes. Leather	F. Valdes & Co	60,801	Feb. 19	126	3037
Brandy. Apricot-	Weideman Company	60,782	Feb. 19	126	3037
Canned corn	H. L. Forhan	60,694	Feb. 19	126	3034
Canned fruits and vegetables	David Hunt & Co	60,650	Feb. 19	126	3033
Canned fruits and vegetables	Dolan Mercantile Co	60,651	Feb. 19	126	3033
Canned fruits and vegetables	Pratt-Low Preserving Co	60,664	Feb. 19	126	3034
Canned fruits and vegetables	Pratt-Low Preserving Co	60,665	Feb. 19	126	3034
Canned fruits and vegetables	Pratt-Low Preserving Co	60,666	Feb. 19	126	3034
Canned fruits and vegetables	E. T. Smith Company	60,706	Feb. 19	126	3035
Canned fruits and vegetables, dried fruits, spices, and gelatin	Waukesha Canning Co	60,707	Feb. 19	126	3035
Canned vegetables	Peters Cartridge Company	60,728	Feb. 19	126	3035
Cartridges, powder, and percussion-caps	P. H. Trummer & O. Vogler	60,692	Feb. 19	126	3034
Cement. Portland	W. F. Lockhart & Co	60,795	Feb. 19	126	3037
Chairs, tables, commodes, dressers, bureaus, and wardrobes	Zeeland Cheese Co	60,671	Feb. 19	126	3034
Cheese	Zeeland Cheese Co	60,672	Feb. 19	126	3034
Cheese	S. Cabot	60,810	Feb. 19	126	3037
Chemical preparation	J. G. McDonald Candy Company	60,657	Feb. 19	126	3033
Chocolates	African Cigarette Company	60,762	Feb. 19	126	3036
Cigarettes, cigars, smoking and chewing tobacco	H. E. Ruger	60,688	Feb. 19	126	3034
Cleaning and polishing compounds	H. E. Ruger	60,689	Feb. 19	126	3034
Cleaning and polishing compounds	A. H. Cross	60,648	Feb. 19	126	3033
Cleaning and polishing preparation	William H. Burns Company	60,743	Feb. 19	126	3036
Clothing. Certain	A. S. Rylcy	60,739	Feb. 19	126	3036
Coats, trousers, waistcoats, and overcoats	Ohio Coffee & Spice Company	60,661	Feb. 19	126	3033
Coffee	Gordon Coffee & Spice Company	60,654	Feb. 19	126	3033
Coffee. Roasted	F. J. Beebe	60,643	Feb. 19	126	3033
Coffee Cereal-food	J. J. Schotten	60,690	Feb. 19	126	3034
Coffee	Emil Seelig/A. G.	60,652	Feb. 19	126	3033
Coffee substitutes	Alberger Condenser Company	60,745	Feb. 19	126	3036
Condensers. Steam-	Roddewig-Schmidt Candy Co	60,705	Feb. 19	126	3035
Confectionery. Certain	D. I. Bushnell & Co	60,645	Feb. 19	126	3033
Corn	Criswell Chemical Company	60,834	Feb. 19	126	3038
Corns, warts, bunions, and calluses. Cure for	Kops Bros	60,757	Feb. 19	126	3036
Corsets	Waldo & McKelvey	60,742	Feb. 19	126	3036
Cotton, linen, silk, and cotton and silk piece goods	Arnhold, Karberg & Co	60,803	Feb. 19	126	3037
Cotton piece goods	Arnhold, Karberg & Co	60,804	Feb. 19	126	3037
Cotton piece goods	Arnhold, Karberg & Co	60,805	Feb. 19	126	3037
Cotton piece goods	Arnhold, Karberg & Co	60,806	Feb. 19	126	3037
Cotton piece goods	National Biscuit Company	60,684	Feb. 19	126	3034
Crackers and biscuits	F. F. Ingram	60,851	Feb. 19	126	3038
Dentifrice	Frederick Stearns & Co	60,799	Feb. 19	126	3037
Digestive ferments	Prescott Chemical Co	60,774	Feb. 19	126	3036
Dip for live stock	Kiloda Chemical Co	60,840	Feb. 19	126	3038
Disinfectants, deodorizers, and germicides	Badische Anilin- & Soda- Fabrik	60,763	Feb. 19	126	3036
Dyestuff	Trumbull Electric Manufacturing Company.	60,741	Feb. 19	126	3036
Electrical appliances. Certain	Reading Hardware Co	60,668	Feb. 19	126	3034
Fastening devices Certain	American Fertilizing Company	60,636	Feb. 19	126	3033
Fertilizers	Virginia-Carolina Chemical Company.	60,670	Feb. 19	126	3034
Fertilizers	Gorton-Pew Fisheries Company	60,678	Feb. 19	126	3034
Fish. Salted, Cured, dried, and canned					

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Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Flavoring extracts	Cincinnati Perfume Co	60,708	Feb. 19	126	3035
Flour. Banana-	R. Crusellas	60,649	Feb. 19	126	3033
Flour. Wheat-	Pickerill & Hill	60,662	Feb. 19	126	3033
Flour. Wheat-	Pickerill & Hill	60,663	Feb. 19	126	3033
Flour. Wheat-	Ismert-Hincke Milling Company	60,681	Feb. 19	126	3034
Flour. Wheat-	Ismert-Hincke Milling Company	60,682	Feb. 19	126	3034
Flour. Wheat-	Missouri Valley Milling Company	60,721	Feb. 19	126	3035
Food preparations. Certain	Sherer-Gillett Company	60,691	Feb. 19	126	3034
Food preparations. Certain	J. A. McCaffrey & Sons	60,696	Feb. 19	126	3034
Food preparations. Certain	Sherer-Gillett Company	60,710	Feb. 19	126	3035
Fuel. Artificial	A. V. Hassman	60,679	Feb. 19	126	3034
Furniture. Certain	Grand Rapids Furntiure Company.	60,837	Feb. 19	126	3038
Ginghams	Springstein Mills	60,777	Feb. 19	126	3037
Ginghams	Springstein Mills	60,778	Feb. 19	126	3037
Ginghams	Springstein Mills	60,779	Feb. 19	126	3037
Ginghams	Springstein Mills	60,780	Feb. 19	126	3037
Go-carts	Alwin Manufacturing Company	60,822	Feb. 19	126	3038
Gum. Chewing-	Puritan Confection Company	60,687	Feb. 19	126	3034
Gum. Chewing-	American Chicle Co	60,747	Feb. 19	126	3036
Hair-tonic	Fiebert Bros	60,835	Feb. 19	126	3038
Harrows, drills, and cultivators	Roderick Lean Manufacturing Company.	60,738	Feb. 19	126	3036
Hats and caps. Certain	F. Schoble & Co	60,740	Feb. 19	126	3036
Heating and lighting apparatus. Certain	G. R. Lynch Mfg. Company	60,653	Feb. 19	126	3033
Hog-cholera and diseases of cattle. Cure for	A. Crawford	60,832	Feb. 19	126	3038
Hosiery	O. Osborne	60,773	Feb. 19	126	3036
Hosiery	C. Chipman's Sons	60,787	Feb. 19	126	3037
Hosiery	Paramount Knitting Company	60,842	Feb. 19	126	3038
Hosiery	Paramount Knitting Company	60,843	Feb. 19	126	3038
Hosiery	Paramount Knitting Company	60,844	Feb. 19	126	3038
Hosiery	Paramount Knitting Company	60,845	Feb. 19	126	3038
Illuminating-prisms for building construction	Rice, Stix Dry Goods Company	60,848	Feb. 19	126	3038
Incandescent mantles	American Bar-Lock Company	60,746	Feb. 19	126	3036
Insecticide	Anglo-American Inc. Light Co	60,674	Feb. 19	126	3034
Intestinal astringents	L. N. Adler	60,713	Feb. 19	126	3035
	Actien-Gesellschaft für Anilin-Fabrikation.	60,784	Feb. 19	126	3037
Jars	Perfection Glass Company	60,759	Feb. 19	126	3036
Knitted underwear	W. Iselin & Co	60,813	Feb. 19	126	3037
Knives, razors, and scissors. Pen-	D. Peres	60,727	Feb. 19	126	3035
Lamp-chimneys	O. O. Friedlaender	60,766	Feb. 19	126	3036
Lard compound	T. M. Sinclair & Co	60,711	Feb. 19	126	3035
Leather. Harness-	C. F. Pauli & Son	60,815	Feb. 19	126	3038
Leather. Patent calf-	Henry Lang Company	60,753	Feb. 19	126	3036
Leather. Shoe, harness, and glove	A. Trostel & Sons	60,818	Feb. 19	126	3038
Leather. Substance for use in the manufacture of	Nowak Manufacturing Company	60,726	Feb. 19	126	3035
Leathers. Tanned heavy	S. H. Frank & Co	60,760	Feb. 19	126	3036
Lecithin preparation	Armour & Company	60,824	Feb. 19	126	3038
Lime. Prepared agricultural	A. S. Lee & Sons Company	60,635	Feb. 19	126	3033
Meats. Fresh	New York Butchers Dressed Meat Company.	60,685	Feb. 19	126	3034
Meats. Smoked	F. Wolferman	60,712	Feb. 19	126	3035
Medicated plasters	O. H. Jadwin	60,839	Feb. 19	126	3038
Medicated preparation for the hair, scalp, and skin	Barclay & Barclay	60,825	Feb. 19	126	3038
Medicinal compound for external use	Chemische Fabrik vormals Sandoz.	60,788	Feb. 19	126	3037
Medicinal preparation. Certain	H. B. Waltermann	60,819	Feb. 19	126	3038
Medicinal preparation. Certain	Criswell Chemical Company	60,833	Feb. 19	126	3038
Medicinal preparations. Certain	Dr. J. F. True & Co	60,791	Feb. 19	126	3037
Medicines. Blood and nerve	W. J. Burdick Medicine Co	60,786	Feb. 19	126	3037
Medicines. Rheumatic and gout	G. W. Brooks	60,828	Feb. 19	126	3038
Metal manufactures. Certain	Guest, Keen & Nettlefolds	60,716	Feb. 19	126	3035
Milk and cream. Condensed and evaporated	Mohawk Condensed Milk Co	60,680	Feb. 19	126	3033
Mower and reaper knife sections	R. Herschel Manufacturing Co	60,798	Feb. 19	126	3037
Nails. Horse-	Ausable Horse Nail Company	60,807	Feb. 19	126	3037
Nails. Horse-	Ausable Horse Nail Company	60,808	Feb. 19	126	3037
Oil. Vanilla-	G. R. Chatfield	60,646	Feb. 19	126	3033
Oils and greases, plumbago, &c. Lubricating	Pure Oil Company	60,667	Feb. 19	126	3034
Oils. Lubricating-	Valvoline Oil Company	60,669	Feb. 19	126	3034
Paints and painters' materials. Certain	Howe & French	60,680	Feb. 19	126	3034
Paper and envelops	Raynor & Perkins Envelope Company.	60,729	Feb. 19	126	3035
Paper and envelops	Raynor & Perkins Envelope Company.	60,730	Feb. 19	126	3035
Paper and envelops	Raynor & Perkins Envelope Company.	60,731	Feb. 19	126	3035
Paper and envelops	Raynor & Perkins Envelope Company.	60,732	Feb. 19	126	3035
Paper and envelops	Raynor & Perkins Envelope Company.	60,733	Feb. 19	126	3035
Paper and envelops	Raynor & Perkins Envelope Company.	60,734	Feb. 19	126	3035
Pencils. Lead-	Raynor & Perkins Envelope Company.	60,816	Feb. 19	126	3038
Perfumery, talc powder, and toilet water	Eagle Pencil Company	60,765	Feb. 19	126	3036
Periodicals and magazines	Colgate & Co	60,830	Feb. 19	126	3038
Photographic developers	Ridgway Company	60,737	Feb. 19	126	3036
Plows and plow parts	Actien-Gesellschaft für Anilin-Fabrikation.	60,714	Feb. 19	126	3035
Polish. Certain	Deere & Company	60,812	Feb. 19	126	3037
	F. V. Morse	60,697	Feb. 19	126	3034

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Polish. Certain	F. V. Morse	60,698	Feb. 19	126	3034
Polish. Certain	F. V. Morse	60,699	Feb. 19	126	3034
Polish. Certain	F. V. Morse	60,700	Feb. 19	126	3034
Polish. Certain	F. V. Morse	60,701	Feb. 19	126	3035
Polish. Certain	F. V. Morse	60,702	Feb. 19	126	3035
Polish. Certain	F. V. Morse	60,703	Feb. 19	126	3035
Polish. Certain	F. V. Morse	60,704	Feb. 19	126	3035
Polish. Certain	American Radiator Company	60,637	Feb. 19	126	3033
Radiators	American Radiator Company	60,638	Feb. 19	126	3033
Radiators	American Radiator Company	60,639	Feb. 19	126	3033
Radiators	American Radiator Company	60,640	Feb. 19	126	3033
Radiators	American Radiator Company	60,641	Feb. 19	126	3033
Radiators	American Radiator Company	60,642	Feb. 19	126	3033
Radiators	American Radiator Company	60,673	Feb. 19	126	3034
Radiators	Auto Strop Safety Razor Co	60,748	Feb. 19	126	3036
Razors and razor-blades	Holland Medicine Company	60,838	Feb. 19	126	3038
Remedies for certain named diseases	J. C. Cramer	60,831	Feb. 19	126	3038
Remedies for treatment of constipation and intestinal disorders.	Andrew Pharmaceutical Company.	60,823	Feb. 19	126	3038
Remedy for alleviating pain. Internal	Maffi Barber Supply Co	60,796	Feb. 19	126	3037
Remedy for dandruff	Actien-Gesellschaft für Anilin-Fabrikation.	60,783	Feb. 19	126	3037
Remedy for dietetic purposes. Internal	M. C. Bostwick	60,827	Feb. 19	126	3038
Remedy for diseases of the kidneys, stomach, liver, and blood	J. Latallie	60,852	Feb. 19	126	3038
Remedy for piles	O. H. Jadwin	60,754	Feb. 19	126	3036
Roach, water-bug, rat, and mice destroyer	Barrett Manufacturing Company	60,693	Feb. 19	126	3034
Roofing. Ready tar and felt	Mercer Rubber Company	60,772	Feb. 19	126	3036
Rubber, rubber valves, and jar-rings. Sheet-	J. R. Halloran	60,792	Feb. 19	126	3037
Sedative and laxative powders	Actien-Gesellschaft für Anilin-Fabrikation.	60,785	Feb. 19	126	3037
Sedatives	New Home Sewing Machine Company.	60,723	Feb. 19	126	3035
Sewing-machines and attachments	New Home Sewing Machine Company.	60,724	Feb. 19	126	3035
Sewing-machines and attachments	New Home Sewing Machine Company.	60,725	Feb. 19	126	3035
Sewing-machines and attachments	Peters Shoe Co	60,846	Feb. 19	126	3038
Shoes. Leather	Beckwith Leather Co	60,749	Feb. 19	126	3036
Skins. Chrome and bark tanned calf, colt, and kid	Beyer & Williams Company	60,750	Feb. 19	126	3036
Skirts. Maternity-	W. F. Helmer	60,656	Feb. 19	126	3033
Soap	General Need Company	60,695	Feb. 19	126	3034
Soaps and scouring and cleaning compounds	Colgate & Co	60,647	Feb. 19	126	3033
Soaps and soap powders	Troy Chemical Company	60,900	Feb. 19	126	3037
Spavin cure	Southern Optical Manufacturing Company.	60,817	Feb. 19	126	3038
Spectacles and eyeglasses. Glazed	Warner Instrument Company	60,802	Feb. 19	126	3037
Speed-meters and tachometers	Warner Instrument Company	60,820	Feb. 19	126	3038
Speed-meters and tachometers	Draper and Maynard Company	60,676	Feb. 19	126	3034
Sporting goods. Certain	Challenge Starch Co	60,764	Feb. 19	126	3036
Starch. Laundry	N. K. Peace	60,797	Feb. 19	126	3037
Steel. Tool-	Commercial Manufacturing Company.	60,675	Feb. 19	126	3034
Stove fuel-economizers. Gas-	E. B. Millar & Company	60,677	Feb. 19	126	3034
Teas	N. & G. Taylor Co	60,736	Feb. 19	126	3035
Tin and terne plate	G. H. G. Wing	60,761	Feb. 19	126	3036
Tobacco, cigars, and cigarettes. Smoking-	J. Pfeiffer	60,847	Feb. 19	126	3038
Toilet and medicinal preparations. Certain	Sherer-Gillett Company	60,849	Feb. 19	126	3038
Toilet and medicinal preparations. Certain	S. C. Morrill	60,722	Feb. 19	126	3035
Tools. Certain hand-	Brazilian Turpentine Company	60,644	Feb. 19	126	3033
Turpentine	Morley Twine and Mchy. Co	60,683	Feb. 19	126	3034
Twine	H. A. Johnson & Co	60,658	Feb. 19	126	3033
Vanilla and lemon extracts, evaporated apples, and jellies	G. H. Leonard & Co	60,659	Feb. 19	126	3033
Vegetable materials. Certain	Tecumseh Rack & Manufacturing Company.	60,781	Feb. 19	126	3037
Wagon-boxes, hay and stock racks	B. Allen & Co	60,821	Feb. 19	126	3038
Watches	M. Letzelter	60,718	Feb. 19	126	3035
Whisky	M. Letzelter	60,719	Feb. 19	126	3035
Whisky	M. Letzelter	60,720	Feb. 19	126	3035
Whisky	William H. Lee & Co	60,744	Feb. 19	126	3036
Whisky	T. B. Kane	60,756	Feb. 19	126	3036
Whisky	J. Joseph	60,769	Feb. 19	126	3036
Whisky	L. Hartman Co	60,770	Feb. 19	126	3036
Whisky	Lazarus & Nassauer	60,771	Feb. 19	126	3036
Whisky	R. M. Rose Co	60,775	Feb. 19	126	3037
Whisky	E. Schneider	60,776	Feb. 19	126	3037
Whisky	Casey Bros	60,811	Feb. 19	126	3037
Whisky	Kamp Distilling Co	60,814	Feb. 19	126	3038
Whisky	H. & H. W. Catherwood	60,829	Feb. 19	126	3038
Whisky	H. Levinkind	60,841	Feb. 19	126	3038
Whisky	John Graham & Company	60,717	Feb. 19	126	3035
Wine. Port-	S. Streit & Co	60,850	Feb. 19	126	3038
Wine. Port-					

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Admiral." (For Beer)	Gotham Lithographic Co	13,371	Feb. 19	126	3039
"Alvaro." (For Cigars)	L. W. Keyer	13,367	Feb. 19	126	3039
"Enterprise." (For Cigars)	D. J. Borun	13,366	Feb. 19	126	3039
"Judge Quality." (For Cigars)	P. C. Wiggenhorn	13,368	Feb. 19	126	3039
"Lipton's Gossip Blend Kaffee-Klatsch Coffee." (For Coffee)	T. J. Lipton	13,370	Feb. 19	126	3039
"Sagamore Spring." (For Whisky)	C. Sehlinger Sons & Co	13,369	Feb. 19	126	3039
"Slick Stuff." (For Lotions)	Tryon Chemical Co	13,372	Feb. 19	126	3039
"Superior Flower Seeds." (For Flower-Seeds)	Mandeville & King Co	13,374	Feb. 19	126	3039
"The Berkshire Shoe." (For Shoes for Men, Women, Boys, and Girls.)	E. D. Pritchard	13,373	Feb. 19	126	3039

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Hello! Hello!" (For Flour)	Washburn Crosby Company	1,910	Feb. 19	126	3039

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Antiseptics, disinfectants, and germicides	E. Bischoff	24,676	Feb. 19	126	3029
Balls. Golf	A. G. Spalding & Bros	13,562	Feb. 19	126	3019
Beef. Fluid	Patterson-Cabell Co	24,672	Feb. 19	126	3029
Bitters	Imperial Distilling & Cordial Co	24,819	Feb. 19	126	3031
Blue. Laundry	Hargreaves Bros. & Co	24,276	Feb. 19	126	3026
Boots and shoes. Leather and canvas	Peoples Shoe Co	24,856	Feb. 19	126	3032
Boots and shoes. Men's leather	Huckins, Temple & Wood	21,991	Feb. 19	126	3022
Boots. Felt	W. B. Cosgrave Shoe Co	24,103	Feb. 19	126	3025
Boots, shoes, and slippers. Leather	A. De Pinna Company	24,749	Feb. 19	126	3030
Bows, arrows, and targets	H. N. Anderson	22,133	Feb. 19	126	3023
Brandy	Girard & Co	16,144	Feb. 19	126	3020
Brandy, cordial, whisky, and gin	Liebenthal Bros. & Co	20,562	Feb. 19	126	3021
Brooms and whisk-brooms	Lee Broom & Duster Company	24,901	Feb. 19	126	3032
Buggies, carriages, buckboards, phaetons, &c	Columbia Carriage Co	8,567	Feb. 19	126	3017
Butter	D. W. Lewis & Company	23,400	Feb. 19	126	3024
Candies	J. P. Laskaris & Co	24,679–80	Feb. 19	126	3029
Canned lobster	H. C. Baxter & Bro	8,341	Feb. 19	126	3017
Canned salmon, shrimp, lobsters, &c	Downing Taylor Co	24,401	Feb. 19	126	3027
Chain-blocks	Yale & Towne Mfg. Co	24,789–90	Feb. 19	126	3030
Chandeliers, wall-brackets, &c	Cleveland Gas & Electric Fixture Company.	22,339	Feb. 19	126	3023
Cheese	C. C. Martin	17,781	Feb. 19	126	3020
Chocolate and cocoa	Pennsylvania Chocolate Company.	24,806	Feb. 19	126	3031
Cigars	J. H. Johnson	23,515	Feb. 19	126	3024
Cigars	L. G. Smith & Co	24,627	Feb. 19	126	3029
Coats, vests, and trousers	Bickley, McClure & Co	19,885	Feb. 19	126	3021
Coffee	Yerxa Bros. & Co	24,237	Feb. 19	126	3026
Coffee	Woolson Spice Company	24,607	Feb. 19	126	3029
Cream. Cold	A. M. Hobby	18,706	Feb. 19	126	3020
Drop-weights, pile-drivers, winches, &c	Societe Anonyme de Fondations par Compression Mecanique du Sol.	8,794	Feb. 19	126	3018
Dyestuffs	Actien-Gesellschaft für Anilin-Fabrikation.	12,322	Feb. 19	126	3018
Explosives. High	Eastern Dynamite Company	21,395	Feb. 19	126	3022
Explosives. High	Judson Dynamite & Powder Company.	21,801	Feb. 19	126	3022
Fence. Wire	Keystone Fence Company	7,919	Feb. 19	126	3017
Finger-nail clippers	H. C. Cook Company	24,443	Feb. 19	126	3027
Fishing-tackle packages	F. E. Chester	22,782	Feb. 19	126	3023
Flat-iron pads	Laundry Novelty Company	24,600	Feb. 19	126	3028
Floor-scraping machines	Hurley Machine Company	23,855	Feb. 19	126	3024
Flour. Wheat	Buck & Toole Milling Co	24,639	Feb. 19	126	3029
Food. Poultry	Albert Dickinson Company	15,716	Feb. 19	126	3019

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Food. Wheat breakfast	Pillsbury-Washburn Flour Mills Company.	22,104	Feb. 19	126	3023
Food. Wheat breakfast	Pillsbury-Washburn Flour Mills Co	23,303–4	Feb. 19	126	3023
Games and sports. Clothing used in	W. Read & Sons	23,749	Feb. 19	126	3024
Gold and silver jewelry, flat, hollow, and table ware, &c	A. Edholm	24,487	Feb. 19	126	3027
Grass-hooks	Wiebusch & Hilger	24,838	Feb. 19	126	3031
Hair-pins	S. H. Goldberg	24,021	Feb. 19	126	3025
Hair-restoratives	F. M. Quinn	24,001	Feb. 19	126	3025
Hardware. Saddlery	Eberhard Manufacturing Company.	544	Feb. 19	126	3017
Harmonicas. Mouth	F. A. Böhm	4,770	Feb. 19	126	3017
Hats. Stiff felt	N. P. Hill	24,494	Feb. 19	126	3028
Hoof-tonic, liniment, &c	F. E. Rutherford	14,967	Feb. 19	126	3019
Hooks. Snap	Covert Mfg. Co	24,380	Feb. 19	126	3026
Insulators. Porcelain	George Cutter Co	21,877	Feb. 19	126	3022
Iron and lithia water	Dawson Salts & Water Co	20,311	Feb. 19	126	3021
Jellies	S. B. Stone	24,391	Feb. 19	126	3026
Knitted hosiery, gloves, and underwear	M. S. Esche	9,873–5	Feb. 19	126	3018
Knives, razors, shears, &c	Paxton & Gallagher Co	23,800	Feb. 19	126	3024
Lamps. Incandescent electric	Sunbeam Incandescent Lamp Company.	20,732	Feb. 19	126	3021
Lard substitute	Miner, Read & Garrette	24,622	Feb. 19	126	3029
Leather	Pfister & Vogel Leather Company	24,701	Feb. 19	126	3030
Leather and paper. Chemical compound used in the manufacture of	J. A. & W. Bird & Co	24,537	Feb. 19	126	3028
Leather. Oils, greases, and waxes for	Vacuum Oil Company	24,810	Feb. 19	126	3031
Linen dry goods	L. F. Keller	23,905	Feb. 19	126	3024
Locks and parts thereof and keys	Yale & Towne Mfg. Co	24,788	Feb. 19	126	3030
Locks and parts thereof and keys	Yale & Towne Mfg. Co	24,792–3	Feb. 19	126	3030
Malt extract	Malt-Diastase Company	19,653	Feb. 19	126	3020
Matches	Ohio Match Company	24,767–9	Feb. 19	126	3030
Medical preparation for colds and la grippe	H. G. Thompson	20,522	Feb. 19	126	3021
Medicinal oil	Stallman & Fulton Company	24,416–17	Feb. 19	126	3027
Medicinal preparation for disease of the respiratory organs	Medical Food Company	24,196	Feb. 19	126	3026
Medicinal preparations for the skin	Actien-Gesellschaft für Anilin-Fabrikation.	12,343	Feb. 19	126	3018
Medicine for horses or cattle	E. E. Gray	17,767	Feb. 19	126	3020
Medicine for the relief of constipation, headache, &c	U. G. Hoshaw	24,832	Feb. 19	126	3031
Milk and cream. Evaporated and condensed	Mohawk Condensed Milk Co	24,164	Feb. 19	126	3025
Milk and cream. Evaporated and condensed	Mohawk Condensed Milk Co	24,166	Feb. 19	126	3026
Milk and evaporated cream. Condensed and evaporated	Borden's Condensed Milk Company.	24,538	Feb. 19	126	3028
Milk. Condensed	Wisconsin Condensed Milk Co	12,033–4	Feb. 19	126	3018
Milk. Preparation for the modification of	Fairchild Bros. & Foster	24,829	Feb. 19	126	3031
Newspaper	It Publishing Company	24,423	Feb. 19	126	3027
Oil. Salad	Vacuum Oil Company	24,813	Feb. 19	126	3031
Oils and greases. Lubricating	Kathairo Chemical Co	18,492	Feb. 19	126	3020
Paper. Wrapping and printing	McClellan Paper Company	23,858	Feb. 19	126	3024
Peaches. Fresh	J. M. Hampton	24,263	Feb. 19	126	3026
Pens. Fountain	F. H. Mooney	15,964	Feb. 19	126	3019
Perfume	W. W. Gavitt Chemical Co	24,773	Feb. 19	126	3030
Perfumery, talc powder, and toilet water	Colgate & Co	24,736	Feb. 19	126	3030
Periodical. Weekly	Wilson Company	24,860	Feb. 19	126	3032
Photographic developers	Actien-Gesellschaft für Anilin-Fabrikation.	12,345	Feb. 19	126	3018
Pianos, mandolins, guitars, &c	C. J. Heppe & Son	22,769	Feb. 19	126	3023
Powder and massage-cream. Talcum	E. Atwell	21,267	Feb. 19	126	3022
Powder used in shotguns, rifles, and small-arms	Laflin & Rand Powder Company	21,404–5	Feb. 19	126	3022
Powder used in shotguns, rifles, and small-arms	Laflin & Rand Powder Company	21,612	Feb. 19	126	3022
Powder used in shotguns, rifles, and small-arms	Laflin & Rand Powder Company	21,649–51	Feb. 19	126	3022
Powder used in shotguns, rifles, and small-arms	Laflin & Rand Powder Company	21,653	Feb. 19	126	3022
Powders. Headache	P. Boehme	21,698	Feb. 19	126	3027
Preparation for treating venereal diseases	Bonkocine Chemical Co	24,418	Feb. 19	126	3027
Prunes. Dried and evaporated	H. S. Gile & Company	24,421	Feb. 19	126	3027
Razors	C. F. Butcher	15,419	Feb. 19	126	3019
Remedies for disorders of the blood	W. H. Server	24,505	Feb. 19	126	3028
Remedies for rheumatism, &c	E. Bischoff	24,675	Feb. 19	126	3029
Remedies for skin diseases	K. Drinkard	24,509	Feb. 19	126	3028
Remedies. Headache	O. P. White	9,940	Feb. 19	126	3018
Remedy against itching and against hair diseases	Actien-Gesellschaft für Anilin-Fabrikation.	17,993	Feb. 19	126	3020
Remedy. Dyspepsia	Pittsburg Pharmacal Company	15,444	Feb. 19	126	3019
Remedy for catarrh, asthma, &c	Booth's Hyomei Company	24,287	Feb. 19	126	3026
Remedy for cuts, burns, blood-poison, &c	S. M. Marsh	24,836	Feb. 19	126	3031
Remedy for rheumatism and gout	Butler & Field	24,852	Feb. 19	126	3032
Remedy. Headache	Dr. Kilmer & Co	24,145	Feb. 19	126	3025
Rings, lockets, scarf-pins, cuff-buttons, &c	Schloss, Brod & Co	24,561	Feb. 19	126	3028
Rope, cable, tarred lath and fodder yarns, &c	Columbian Rope Company	21,025	Feb. 19	126	3021
Saddles, harness, horse-collars, &c	J. J. Pigott	24,070	Feb. 19	126	3025
Salt	Schwabacher Bros. & Co	24,808	Feb. 19	126	3031
Salts. Cell and tissue building	J. W. Hine	23,999	Feb. 19	126	3025
Sarsaparilla, cough and soothing syrup, liniment, &c	J. W. James Co	24,690	Feb. 19	126	3029
Seed-distributing machines	E. F. Molck	19,835	Feb. 19	126	3021
Seeds. Garden	D. Hardie Seed Co	23,772	Feb. 19	126	3024
Serums. Antitoxic	Schimmel & Co	24,342	Feb. 19	126	3026
Shirts. Dress and negligée	D. Moses	24,231	Feb. 19	126	3026
Silk piece goods	Leerburger & Hesslein	21,160	Feb. 19	126	3021
Soap. Laundry	H. Bick	24,771	Feb. 19	126	3030
Soap. Perfumed and medicated	H. S. Kelley	20,359	Feb. 19	126	3021
Soap powder	Larkin Co	20,425	Feb. 19	126	3021

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Soap. Toilet	D. Estes	23,915	Feb. 19	126	3025
Soap, washing-powder, &c	Porcela Company	24,533	Feb. 19	126	3026
Starch. Laundry	Atlantic Starch Works	24,483	Feb. 19	126	3027
Steel and iron in bars, sheets, rails, &c	Cammell Laird & Co	12,593–4	Feb. 19	126	3019
Telephonic appliances, apparatus, and parts thereof	National Engineering Corporation.	24,025	Feb. 19	126	3025
Thread. Cotton	Clark Thread Co	13,673	Feb. 19	126	3019
Thread. Cotton	New England Cotton Yarn Co	22,405	Feb. 19	126	3023
Thread or crochet-cotton. Cotton	Clark Thread Co	14,318	Feb. 19	126	3019
Tiles. Floor-	W. H. Watts & Company	24,695	Feb. 19	126	3029
Tobacco. Smoking-	J. G. Saffa	23,321	Feb. 19	126	3024
Toffee	Mackintosh's Toffee Company	24,601	Feb. 19	126	3028
Valves and cocks and parts thereof	H. Mueller Manufacturing Company.	20,962	Feb. 19	126	3021
Varnish	Berry Brothers	24,615	Feb. 19	126	3028
Vaults. Burial-	E. A. Benner	17,667	Feb. 19	126	3028
Wall-board and building paper	Beaver Manufacturing Company	24,250	Feb. 19	126	3020
Wash-cloths	J. H. Murphy	24,816	Feb. 19	126	3030
Washing compound	Rub-Not Mfg. Co	9,082	Feb. 19	126	3036
Washing-powder	Hollywood Soap Company	24,803	Feb. 19	126	3017
Watchcases	Elgin National Watch Company	24,518	Feb. 19	126	3030
Welsh-rarebit-seasoning compound	D. R. Greene	18,648	Feb. 19	126	3028
Whisky	Imperial Distilling & Cordial Co	24,818	Feb. 19	126	3020
Whisky. Scotch	Mackenzie Bros	22,801	Feb. 19	126	3031
Wine. Port-	Offley, Forrester & Co	15,556	Feb. 19	126	3023
Wines	I. L. Lamm Co	24,734	Feb. 19	126	3019
Wrenches	Robbins, Gamwell & Co	24,386	Feb. 19	126	3030
					3026

ALPHABETICAL LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 26TH DAY OF FEBRUARY, 1907.

Name, residence, and invention.	No.	Date.	Monthly volume. Specification.	Monthly volume. Drawing.	Official Gazette. Volume.	Official Gazette. Page.
Aborn, George P. (See De Laval and Aborn.)						
Adams, Charles F., Riga township, Monroe county, assignor of one-half to W. L. Ormrod, Churchville, N. Y. Knotter for grain-binders	845,158	Feb. 26	4841	1027	126	3111
Adler, Wilhelm, Heidelburg, Pa. Hair-pin	845,502	Feb. 26	5538	1174	126	3284
Adt, Leo F., Albany, N. Y. Nose-guard for eyeglasses	845,042	Feb. 26	4611	982	126	3049
Aichele, Albert, Baden, Switzerland. Means of driving paper-making machines electrically	845,725	Feb. 26	5966	1260	126	3389
Aktiebolaget Separator. (See Ljungstrom, Birger, assignor.)						
Allardice, Jessie D., Providence, R. I. Garment-hanger	845,443	Feb. 26	5409	1148	126	3250
Allsup, Daniel B., Livingston, Mont. Gate	845,444	Feb. 26	5410	1148	126	3251
Almida, Steven A., *et al.* (See Stambois, Charles, assignor.)						
Alpin, Ralph, Tarrytown, N. Y. Clothes-line pulley	845,388	Feb. 26	5317	1128	126	3229
Alviset, Gustavus A. (See Kapp and Alviset.)						
Alvord, Elisha H., Seattle, Wash. Hay-fork	845,445	Feb. 26	5412	1149	126	3251
American Adhesion Traction Company. (See Gerard, Léon, assignor.)						
American Match Manufacturing Company. (See Calkins, Almon B., assignor.)						
American Match Manufacturing Company. (See Spellman, Herbert W., assignor.)						
American Sheet & Tin Plate Company. (See Cronemeyer, Ernest L., assignor.)						
American Telephone and Telegraph Company. (See Yorke, George M., assignor.)						
Anderson, Abraham, Moline, Ill. Protractor	845,043	Feb. 26	4612	982	126	3049
Anderson, Emmett J., trustee. (See Anderson, Rosemond T., assignor.)						
Anderson, Gust, Rockford, Ill. Fastening and pivot for piano front boards	845,503	Feb. 26	5538	1174	126	3284
Anderson, Rosemond T., assignor to E. J. Anderson, trustee, Parkersburg, W. Va. Hardening copper	845,606	Feb. 26	5714	.....	126	3327
Andrew, William K., Milwaukee, Wis., assignor to International Harvester Company. Gas-engine	845,159	Feb. 26	4843	1027	126	3111
Anger, Walter A. (See Miller, Cyrus R., assignor.)						
Antrobus, Charles, U. S. Navy. Turbine	845,675	Feb. 26	5869	1239–40	126	3365
Arcade Manufacturing Company. (See Bitner, Harry, assignor.)						
Armistead, Patrick H. (See Russell and Armistead.)						
Arnold, Frederick H., and E. D. Becker, Reading, Pa.; said Becker assignor to said Arnold. Safety-razor	845,389	Feb. 26	5318	1128	126	3229
Ashworth, James S., East St. Louis, Ill. Brake-shoe adjuster	845,504	Feb. 26	5539	1174	126	3284
Babendreier, Arthur O., assignor of one-half to W. B. Mann, Baltimore, Md. Fire-hydrant	845,505	Feb. 26	5541	1174	126	3284
Badische Anilin & Soda Fabrik. (See Scholl and Kunz, assignors.)						
Bailey, George F., assignor to Taplin Manufacturing Company, New Britain, Conn. Holding-bracket for egg-beaters	845,326	Feb. 26	5190	1101	126	3197
Bair, Lemuel J., Strasburg, Pa. Hot-air furnace	845,607	Feb. 26	5714	1210–11	126	3327
Baldassini, August, Cupertino, Cal. Apparatus for oiling windmills	845,676	Feb. 26	5872	1240	126	3365
Baldwin, William J., New York, N. Y. Dust-separating blower	845,044	Feb. 26	4618	982	126	3051
Barcalo Manufacturing Company. (See Vallone, Charles, assignor.)						
Bardwell, Arthur F., assignor to Yale & Towne Manufacturing Company, Stamford, Conn. Hoisting apparatus	845,506	Feb. 26	5543	1175	126	3285
Bare, Reuben H., Orcutt, assignor of one-half to H. H. Lewis, Los Angeles, Cal. Oil-well cleaner	845,677	Feb. 26	5874	1240	126	3366
Barker, William F., Somerville, Mass. Swivel-tip for electric conductors	845,288	Feb. 26	5120	1885	126	3181
Barnes, Edwin G., Oakes, N. D. Vending-machine	845,045	Feb. 26	4620	983	126	3025
Baron, Bernhard, London, England. Apparatus for cutting cake or leaf tobacco	845,212	Feb. 26	4951	1051–2	126	3139
Barr, James R. (See Caldwell and Barr.)						
Batterton, Morris M., Kingfisher, Okla. Ter. Railway-tie	845,507	Feb. 26	5545	1175	126	3285
Baughman, Charles C., and E. C. Mead, Richmond, Va. Loose-leaf binder	845,390	Feb. 26	5319	1129	126	3220
Bayliss, Thomas A., King's Norton, near Birmingham, and H. W. Brownsdon, London, England. Waterproof metallic explosive	845,678	Feb. 26	5876	.....	126	3367
Bazin, Eugène, L., Nantes, France. Automatic stop-valve	845,213	Feb. 26	4952	1052	126	3139
Bazin, Eugène L., Nantes, France. Apparatus for utilizing the yis viva of sea-waves	845,214	Feb. 26	4954	1052–3	126	3140
Bechtold, Jacob, Munich, Germany. Earthquake-proof building	845,046	Feb. 26	4622	983–4	126	3053
Beck, Erich, Schenectady, N. Y. Operating-handle	845,679	Feb. 26	5877	1240–1	126	3367
Becker, Ellsworth D. (See Arnold and Becker.)						
Beckman, William B., *et al.* (See Dempsey, James M., assignor.)						
Beernink, John, Milwaukee, Wis. Air-blast drier	845,047	Feb. 26	4623	984	126	3053
Bell, George W., Liverpool, England. Pneumatic cushioning-wheel support	845,327	Feb. 26	5191	1101	126	3197
Benners, Edwin H., Elizabeth, N. J. Pavement and metal reinforce therefor	845,289	Feb. 26	5121	1085	126	3181
Bentley, John W., *et al.* (See Harrington, Frank S., assignor.)						
Bentley, Samuel, Warrnambool, Victoria, Australia. Apparatus for controlling elevator-doors	845,680	Feb. 26	5879	1241	126	3367
Bernstein, Alexander, Berlin, Germany. Making glue substitutes	845,681	Feb. 26	5882	.....	126	[illegible]
Bidwell, Benson, Chicago, Ill. Car-motor	845,682	Feb. 26	5883	1241–2	126	[illegible]
Bijur, Joseph, New York, N. Y., assignor to General Storage Battery Company. Storage-battery plate	845,048	Feb. 26	4625	984	126	[illegible]
Bijur, Joseph, New York, N. Y., assignor to General Storage Battery Company. Negative-pole plate	845,391	Feb. 26	5322	1129	126	[illegible]
Binns, Edward H., Upper Merion township, Montgomery county, Pa. Roofing material.	845,290	Feb. 26	5123	1085	126	[illegible]

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Bisset, Peter, Washington, D. C. Photographic developing apparatus	845,049	Feb. 26	4826	984	126	3054
Bitner, Harry, Berwyn, assignor to Arcade Manufacturing Company, Freeport, Ill. Cork-puller	845,608	Feb. 26	5716	1217	126	3327
Blackmer, Lucian R., Webster Groves, assignor to Blackmer & Post Pipe Company, St. Louis, Mo. Centering device for drain or similar pipes	845,302	Feb. 26	5324	1129	126	3230
Blackmer & Post Pipe Company. (See Blackmer, Lucian R., assignor.)						
Blackwell, Grant. (See Thomas and Blackwell.)						
Blair, John, *et al.* (See Robey, Austin C., assignor.)						
Blaisdell Paper Pencil Company. (See Smith, Charles A., assignor.)						
Bob, Godfrey. (See Curry, James, assignor.)						
Bognar, Gabriel, and A. Toth, Perth Amboy, N. J. Composition of matter for use as paving material	845,508	Feb. 26	5546	.....	126	3286
Boone, Mark P., assignor to Peru Common Battery Lock-Out Telephone Company, Peru, Ind. Party-line lock-out	845,328	Feb. 26	5192	1102	126	3198
Boppel, Jacob. (See Jacob and Boppel.)						
Borgel, Charles F. (See French, Harry C., assignor.)						
Bottomlee, John T. (See Gentry and Bottomlee.)						
Bottomley, John W., Leeds, England. Plastic brick or like molding-machine	845,329	Feb. 26	5195	1102	126	3199
Boutgeois, John A. (See Bourgeois, Joseph A. and J. A.)						
Bourgeois, Joseph A. and J. A., assignors of one-third to W. H. Whittenburg, Algiers, La. Car-door	845,509	Feb. 26	5547	1175-6	126	3286
Bowman, Homer C., Los Angeles, assignor to F. Stebler and A. A. Gamble, Riverside, Cal. Fruit-bin	845,330	Feb. 26	5198	1103	126	3200
Boyd, Thomas A., Glasgow, Scotland. Ring and traveler for spinning and analogous machines	845,510	Feb. 26	5548	1176	126	3286
Boyden, George A. (See Brown, Hanrahan, and Boyden.)						
Brambach, Richard, Nordhausen, Germany. Driving device for household-machines	845,050	Feb. 26	4629	985	126	3054
Breckenridge, John G., assignor to Ridgely Trimmer Company, Springfield, Ohio. Straight-edge	845,291	Feb. 26	5125	1086	126	3182
Breese, Charles P., Norfolk, Va., and A. J. Wilson, Westfield, N. J., assignors to Hall Signal Company. Signaling system for electric railways	845,663	Feb. 26	5885	1242	126	3368
Brenizer, Nelson O. (See Spiller, Philip S., assignor.)						
Bresee, Robert J. (See Henlein, Martin L., assignor.)						
Briede, Otto, Benrath, Germany. Machine for making rivets, &c	845,331	Feb. 26	5199	1103	126	3200
Brockhoff, Rolf von, Bregenz, Austria-Hungary. Electric-resistance apparatus	845,051	Feb. 26	4630	985	126	3055
Bronston, Charles J. (See Saxton, Thomas G., assignor.)						
Brooks, Everett W. (See Hilderbrandt, Charles T., assignor.)						
Brown, Arthur E., and J. B. Shoe, Philadelphia, Pa. Grinding-wheel	845,511	Feb. 26	5550	1176	126	3286
Brown, Frank H., J. E. Hanrahan, Baltimore, and G. A. Boyden, Mount Washington, Md., assignors to National Compositype Company. Matrix for casting type characters	845,512	Feb. 26	5552	1176	126	3287
Brown, Frank H., J. E. Hanrahan, Baltimore, and G. A. Boyden, Mount Washington, Md., assignors to National Compositype Company. Matrix-plate for type-casting machines	845,684	Feb. 26	5889	1243	126	3370
Brown, Frank H., J. E. Hanrahan, Baltimore, and G. A. Boyden, Mount Washington, Md., assignors to National Compositype Company. Matrix for casting spaces and quads	845,685	Feb. 26	5890	1243	126	3370
Brown, Frank H., J. E. Hanrahan, Baltimore, and G. A. Boyden, Mount Washington, Md., assignors to National Compositype Company. Type mold and matrix	845,686	Feb. 26	5891	1243	126	3370
Brown, Fredrick H., Lebanon, N. H. Cutting and grinding machine	845,687	Feb. 26	5893	1244	126	3371
Brown, Sidney G., London, England. Electric conductor	845,609	Feb. 26	5718	1211	126	3328
Brown, William T., Atlanta, Ga. Track-fastening	845,215	Feb. 26	4956	1053	126	3140
Brownawell, George W. (See Heird and Brownawell.)						
Brownsdon, Henry W. (See Bayliss and Brownsdon.)						
Brunström, Henrik A., Somerville, Mass. Carpenter's bench	845,688	Feb. 26	5896	1244	126	3372
Bryant Electric Company. (See Goodridge, Gilbert W., assignor.)						
Bryant Electric Company. (See Neilson, James P., assignor.)						
Bryson, Henry K., Fayetteville, Tenn. Axle	845,516	Feb. 26	5558	1178	126	3288
Bubear, Charles. (See Burnett and Bubear.)						
Buckland, Sanford T., Hebron, Ohio. Cement-mold	845,610	Feb. 26	5720	1211	126	3328
Buddenborg, Henry B., assignor of one-half to M. Lara, Seattle, Wash. Dredging apparatus	845,689	Feb. 26	5897	1245	126	3372
Bullard, James H., Springfield, Mass. Adjustable shaft-support	845,513	Feb. 26	5553	1177	126	3287
Bullock Electric Company. (See Cooper and Johnson, assignors.)						
Bulman, William V., Philadelphia, Pa. Die-stock holding and operating device	845,514	Feb. 26	5554	1177	126	3287
Bundy, Willard L., Binghamton, N. Y., assignor, by mesne assignments, to International Time Recording Company. Time-recorder	845,216	Feb. 26	4957	1053-4	126	3141
Burg, Hubert, Mollkirch, Germany. Cryptograph	845,515	Feb. 26	5556	1177	126	3288
Burgess, Charles F., Yreka, Cal. Furnace for reducing cinnabar ore	845,690	Feb. 26	5901	1246	126	3374
Burnett, Cuthbert, Durham, England. Means for loading and unloading coal and other minerals	845,217	Feb. 26	4961	1055-6	126	3141
Burnett, John J., and C. Bubear, Wellington, England. Holder for cartridges	845,611	Feb. 26	5721	1212	126	3329
Burns, Jeremiah D., Washington, D. C., assignor of one-third to L. S. Hall, Parkersburg, W. Va. Suspenders and suspender attachment	845,303	Feb. 26	5525	1129	126	3230
Burns, Ollie, *et al.* (See Robey, Austin C., assignor.)						
Busey, Herbert S., Chambersburg, Pa. Gas-burner	845,332	Feb. 26	5201	1103	126	3200
C. A. Thomson Machine Company. (See Thomson, Charles A., assignor.)						
Caille, Adolph A., Detroit, Mich. Controller for spring-motors	845,517	Feb. 26	5559	1178-9	126	3288
Caille, Auguste A., Detroit, Mich. Picture-exhibitor	845,052	Feb. 26	4632	985-6	126	3055
Cale, Frank, Cleveland, Ohio. Controlling mechanism for gas-ranges	845,518	Feb. 26	5562	1179	126	3289
Caldwell, Andrew J., Exline, Iowa. Fence-post	845,612	Feb. 26	5722	1212	126	3329
Caldwell, Harry J., and J. R. Barr, Earl Park, Ind. Grain-bleacher	845,446	Feb. 26	5413	1149	126	3251
Caldwell, Yancey Q., Paris, Tenn. Lock	845,613	Feb. 26	5724	1212	126	3329
Caley, Charles J., assignor to Russell & Erwin Manufacturing Company, New Britain, Conn. Hinge	845,519	Feb. 26	5564	1179	126	3289
California Powder Works. (See Stevens and Hanson, assignors.)						
Calkins, Almon B., Belleville, N. J., assignor to American Match Manufacturing Company, New York, N. Y. Splint-carrier	845,447	Feb. 26	5416	1149	126	3252
Callahan, William, South Bend, Ind. Pot-head	845,614	Feb. 26	5726	1212	126	3330
Callan, John G., Lynn, Mass., assignor to General Electric Company. Governing mechanism for turbines	845,292	Feb. 26	5126	1086-8	126	3182
Callan, John G., Lynn, Mass., assignor to General Electric Company. Elastic-fluid turbine	845,448	Feb. 26	5417	1150-1	126	3252
Calow, John M., Salt Lake City, Utah. Settling-tank	845,520	Feb. 26	5565	1179	126	3289
Camagni, Francesco, Asti, Italy. Automatic dam	845,304	Feb. 26	5527	1130	126	3230
Cameron, George E., assignor to Standard Harrow Company, Utica, N. Y. Cultivator-attachment	845,691	Feb. 26	5905	1247	126	3374
Campbell, David F., Vancouver, British Columbia, Canada. Incandescent-lamp bulb	845,053	Feb. 26	4636	986	126	3056
Canada Bay Coal Company. (See Czepull, Julius J., assignor.)						
Canham, George A., Portland, Oreg. Straw-carrier	845,333	Feb. 26	5302	1104	126	3200

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Carlson, Lars H., Lorain, Ohio. Clam and oyster opening machine	845,521	Feb. 26	5566	1180	126	3290
Carmody, John C., and W. K. Pulsifer, Fitchburg, Mass. Automatic signal attachment for telegraph-registers	845,522	Feb. 26	5568	1180	126	3291
Carpenter, Ellis C. (See Jarrett, Morris F., assignor.)						
Cass, Carlton B., Ravenna, Nebr. Bed attachment	845,523	Feb. 26	5569	1180	126	3292
Cawley, E. Eugene. (See Teese, William J., assignor.)						
Chapa, Francisco P., assignor of one-half to T. Salazar, Alice, Tex. Stalk-cutter	845,692	Feb. 26	5906	1247	126	3375
Chaplin-Fulton Manufacturing Company. (See Fulton, Louis B., assignor.)						
Childs, Samuel S., Bernardsville, N. J. Vehicle-wheel	845,054	Feb. 26	4637	986	126	3057
Christensen, Andrew B., assignor to Thistle Manufacturing Company, Chicago, Ill. Gearing for washing-machines	845,615	Feb. 26	5727	1213	126	3330
Christmann, Michael, Leadville, Colo. Ore classifier and feeder	845,395	Feb. 26	5328	1130	126	3231
Christmann, Michael, Leadville, Colo. Ore-concentrator	845,396	Feb. 26	5330	1130-1	126	3231
Christmann, Michael, Leadville, Colo. Ore-concentrator	845,449	Feb. 26	5427	1151-2	126	3255
Chute, Harry O., Cleveland, Ohio. Solvent and preparing same	845,616	Feb. 26	5729	.....	126	3331
Cipollina, Luigi, Rivarolo Ligure, Italy. Machine for mercerizing cotton	845,160	Feb. 26	4845	1027-8	126	3112
Citron, William J., assignor to Scenic Novelty Company, San Francisco, Cal. Pleasure-railway	845,524	Feb. 26	5571	1180-1	126	3292
Clark, Norris E., Plainville, Conn. Expanded-metal manufacture	845,617	Feb. 26	5731	1213	126	3331
Clarke, Edward J. (See Dewitt and Clarke.)						
Cleveland Metallic Packing Company. (See Risley, Dalton, assignor.)						
Coats, Arthur W., and R. M. Thompson, Tacoma, Wash. Hoisting-hook	845,693	Feb. 26	5907	1247	126	3375
Cochran, Charles H., Avalon, Penn. Pressed-steel journal-box for railway-cars	845,726	Feb. 26	5968	1261	126	3390
Coldwell, William H., *et al.* (See Harrington, Frank S., assignor.)						
Cole, Emory W., Alto, Tex. Churn-motor	845,525	Feb. 26	5573	1181	126	3292
Cole, J. H., *et al.* (See Sharts, Truman P., assignor.)						
Coleman, Clarence W., Westfield, N. J., assignor to Hall Signal Company. Car-controlling apparatus	845,161	Feb. 26	4847	1028	126	3112
Collins, Thomas E., Columbus, Ohio. Flexible metallic shutter	845,526	Feb. 26	5575	1181	126	3293
Conelly, Arthur H., Pensacola, Fla. Easel	845,694	Feb. 26	5908	1247-8	126	3375
Conner, George F., Port Huron, Mich. Cleaning-wheel for root-harvesting machines	845,218	Feb. 26	4966	1056-7	126	3142
Converse, Newton B., Fresno, assignor to himself and F. M. Wright, trustees, San Francisco, Cal. Pitted prune and pitting it	845,695	Feb. 26	5910	1248	126	3376
Cook, Clayton L., Big Plain, Ohio. Churn	845,527	Feb. 26	5576	1182	126	3293
Cook, David S., and C. J. Dietrich, La Grange, Ill. Mail-bag catcher	845,055	Feb. 26	4639	987	126	3057
Cook, Frank B., Chicago, Ill. Electrothermal cut-out	845,219	Feb. 26	4969	1057	126	3143
Cooper, Alfred J., Liverpool, England. Turbine	845,334	Feb. 26	5203	1104-5	126	3200
Cooper Hewitt Electric Company. (See Thomas, Percy H., assignor.)						
Cooper, William, Cincinnati, and C. W. Johnson, Norwood, Ohio, assignors, by mesne assignments, to Bullock Electric Company. Controller	845,528	Feb. 26	5578	1182	126	3293
Corey, Fred B., Schenectady, N. Y., assignor to General Electric Company. Block-signal system	845,220	Feb. 26	4971	1057	126	3144
Corey, Fred B., Schenectady, N. Y., assignor to General Electric Company. Motorman's valve	845,335	Feb. 26	5205	1105	126	3201
Cornelison, John H., St. Louis, Mo. Adjustable knockdown screen	845,162	Feb. 26	4851	1028-9	126	3114
Corwin, Elmer R., Chicago, Ill. Telephone system	845,056	Feb. 26	4640	987	126	3057
Cover, Harvey S., South Bend, Ind. Eye guard or shield	845,696	Feb. 26	5911	1248	126	3376
Cowen, Henry K., Chicago, Ill., assignor to International Harvester Company. Gas-producer	845,163	Feb. 26	4852	1029	126	3114
Crain, John W., Winchester, Ky. Carriage-machine	845,697	Feb. 26	5912	1248-9	126	3376
Cramer, Joseph W., Kansas City, Kans. Safe	845,057	Feb. 26	4642	987-8	126	3058
Crane, Henry M. (See McQuarrie and Crane.)						
Crawford, Orie A. (See Pheasant, William H., assignor.)						
Creamery Package Mfg. Company. (See Macnish and Penn, assignors.)						
Cronemeyer, Ernest L., Monessen, assignor to American Sheet & Tin Plate Company, Pittsburg, Pa. Plate-feeding device	845,293	Feb. 26	5133	1088-9	126	3184
Cullen, James K., and G. T. Reiss, Hamilton, Ohio, assignors to Niles-Bement-Pond Company, Jersey City, N. J. Car-wheel press	845,397	Feb. 26	5333	1131	126	3232
Cunningham, Charles V., Springfield, Mo. Kaleidoscope top	845,529	Feb. 26	5582	1183	126	3295
Curran, John W., Newport, Ky. Safety-appliance rivet-bolt	845,698	Feb. 26	5914	1249	126	3377
Curry, James, Hudson Heights, assignor of one-half to G. Bob, Woodcliffe, N. J. Clothes-drier	845,398	Feb. 26	5334	1131-2	126	3232
Cushman, Andrew J. (See Moon and Cushman.)						
Czepull, Julius J., Lancaster, Pa., assignor to Carbon-Ray Coal Company. Artificial fuel	845,336	Feb. 26	5207	.....	126	3202
Czepull, Julius J., Lancaster, Pa., assignor to Carbon-Ray Coal Company. Artificial fuel	845,337	Feb. 26	5208	.....	126	3202
Dake, Charles W., Grand Rapids, Mich. Governing means for turbines	845,058	Feb. 26	4645	988	126	3059
Dake, Charles W., Grand Rapids, Mich. Elastic-fluid turbine	845,059	Feb. 26	4648	988	126	3060
Dake, Charles W., Grand Rapids, Mich. Governing means for turbines	845,060	Feb. 26	4650	989	126	3061
Dally, Otto C., Dogtooth, N. D. Buckle	845,164	Feb. 26	4854	1029	126	3115
Danes, Elizabeth M. (See Miller, Charles, assignor.)						
Darling, Frank, assignor of one-half to A. Tappen, Morris, Ill. Drag	845,221	Feb. 26	4974	1058	126	3145
David, Mary L., Brockton, Mass. Chair attachment	845,222	Feb. 26	4976	1058	126	3145
Davis, Benjamin F., Miami, Fla. Pointing-tool	845,530	Feb. 26	5585	1183	126	3295
Davis, John W., assignor to Davis Piano Player Company, Pulaski, Tenn. Automatic organ-action	845,165	Feb. 26	4856	1030	126	3115
Davis Locomotive Wheel Company. (See Howard and Dunn, assignors.)						
Davis Piano Player Company. (See Davis, John W., assignor.)						
Davis, William C., *et al.* (See Sharts, Truman P., assignor.)						
Davison, William M., Port Pirie, South Australia, Australia. Liquid measuring and registering faucet	845,531	Feb. 26	5586	1183	126	3296
Davison, William M., Port Pirie, South Australia, Australia. Measuring and registering pump	845,532	Feb. 26	5588	1184	126	3296
De Kando, Coloman, Budapest, Austria-Hungary, assignor, by mesne assignments, to Westinghouse Machine Company. Automatically-operated liquid-rheostat	845,618	Feb. 26	5734	1214	126	3332
De Laval, George, Cambridge, and G. P. Aborn, Boston, Mass., assignors to International Steam Pump Company, New York, N. Y. Air-compressor and the like	845,653	Feb. 26	5817	1229	126	3351
De Wolff, Mathew G., Tampico, Mexico. Sealing device	845,619	Feb. 26	5739	1214-15	126	3333
Dean, William W., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone system	845,533	Feb. 26	5590	1184	126	3296
Decker, Edwin S., Malden, Mass. Water-heater	845,061	Feb. 26	4652	989	126	3062
Deetz & Co. (See Gobell, Adélard J., assignor.)						
Delanoy, Frederick W., Oakland, Cal. Water-closet	845,534	Feb. 26	5593	1184	126	3297
Dempsey, James M., Chicago, Ill., assignor of seven-tenths to W. B. Beckman, Fayetteville, Ark., H. T. Rogers and M. Dempsey, Chicago, Ill. Telephone-transmitter	845,062	Feb. 26	4655	989	126	3062
Dempsey, Madeline, *et al.* (See Dempsey, James M., assignor.)	845,063	Feb. 26	4657	990	126	3063
Denker, Henry A., Worcester, Mass. Hydraulic valve						
Detroit Lubricator Company. (See Hodges, Clarence B., assignor.)	845,535	Feb. 26	5594	1185	126	3297
Devlin, Norman G., Perth, Ontario, Canada. Boot for horses						

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Dewitt, Philip, and E. J. Clarke, Scranton, Pa. Safety device for railways	845,727	Feb. 26	5069	1261–2	126	3390
Diall, Gideon H., Terre Haute, Ind. Gas-distribution system	845,338	Feb. 26	5208	1105	126	3202
Dick, Joseph C. F., Kenwood, Cal. Cigar-cutter	845,536	Feb. 26	5595	1185	126	3298
Dickinson, Edgar D., Schenectady, N. Y., assignor to General Electric Company. Governing mechanism for turbines	845,339	Feb. 26	5210	1105–6	126	3202
Dickinson, Lester W., assignor of one-third to A. M. Wells, Schuyler, Nebr. Cabinet	845,728	Feb. 26	5974	1262	126	3391
Dietrich, C. Joseph. (See Cook and Dietrich.)						
Dietz, George W., Philadelphia, Pa. Envelop-making machine	845,537	Feb. 26	5597	1185–6	126	3298
Dight, William M., Jackson Center, Pa. Horseshoe and means for attaching the same	845,699	Feb. 26	5915	1249	126	3377
Ditton, George O., Lanoka, N. J., assignor of one-half to E. A. Rumsey, Philadelphia, Pa. Life-boat	845,620	Feb. 26	5740	1215	126	3333
Dixon, Robert M., East Orange, N. J., assignor to Safety Car Heating & Lighting Company. Incandescent gas-lamp	845,166	Feb. 26	4858	1030	126	3115
Dobler, Philipp, Munich, Germany, assignor to F. R. Tiller, Hamburg, and H. Duelfer, Cassel, Germany. Manufacture of pulverized mica	845,450	Feb. 26	5429	1152	126	3255
Donaldson, James H., Chicago, Ill. Car-vestibule diaphragm	845,451	Feb. 26	5430	1152	126	3255
Doron, Louis E., Thayer, Kans. Nut-lock	845,621	Feb. 26	5742	1215	126	3334
Dow, Willard E. (See Mueller, Theodor M., assignor.)						
Draper, Charles A., *et al.* (See Myers, Francis M., assignor.)						
Drew, Charles E., Farmington, N. H. Knife-shank	845,340	Feb. 26	5217	1107	126	3204
Driesbach, Frank K. (See Lanier and Driesbach.)						
Drowne, Frederick P., Warren, R. I. Tooth-brush	845,064	Feb. 26	4661	990	126	3064
Du Shane, Andrew, South Bend, Ind. Gas turbine-engine	845,622	Feb. 26	5743	1216	126	3334
Duelfer, Heinrich, *et al.* (See Dobler, Philipp, assignor.)						
Dunbar, Francis W., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone trunking system	845,452	Feb. 26	5432	1153	126	3255
Dunfee, Justice C., Columbus City, Ind. Whip-holder for carriages	845,167	Feb. 26	4861	1030	126	3116
Dunlap, John S., Chicago, Ill. Combined egg and cake beater	845,341	Feb. 26	5218	1107	126	3204
Dunn, James F. (See Howard and Dunn.)						
Dunn, Michael, Columbus, Ohio. Pressure-gage	845,065	Feb. 26	4663	990–1	126	3064
Dyett, Frank J., Ilion, N. Y. Type-writing machine	845,066	Feb. 26	4664	991	126	3064
E. R. Squibb & Sons. (See Ferguson, Robert H., assignor.)						
Edney, Ernest A., Horndean, England. Means of escape from sunken submarines	845,623	Feb. 26	5745	1216	126	3334
Edwards, Eliphalet E., Flint, Mich. Fence-post	845,399	Feb. 26	5336	1132	126	3232
Edwards, William L., Lima, Ohio. Extension-bed	845,223	Feb. 26	4977	1058–9	126	3145
Elbel Process Company. (See Elbel, William, assignor.)						
Elbel, William, Rhinelander, Wis., assignor to Elbel Process Company, Portland, Me. Fourdrinier machine	845,224	Feb. 26	4978	1059	126	3146
Elchholtz, William B., New Orleans, La. Combination placket-closer and skirt-supporter	845,538	Feb. 26	5604	1187	126	3301
Electric Good Manufacturing Company. (See Gordon, Waldo C., assignor.)						
Electric Vehicle Company. (See Maxim, Hiram P., assignor.)						
Elliott, Charles C., Troy, N. Y., assignor of one-half to United Shirt & Collar Company. Locating-gage for sewing-machines	845,453	Feb. 26	5445	1153	126	3261
Elston, James A., Jefferson City, Mo. Air-ship	845,530	Feb. 26	5605	1187	126	3301
Emerson Manufacturing Company. (See Hendon, Walter P., assignor.)						
Emmet, William L. R., Schenectady, N. Y., assignor to General Electric Company. Surface condenser for turbines	845,294	Feb. 26	5135	1089–90	126	3185
Emmet, William L. R., Schenectady, N. Y., assignor to General Electric Company. Steam-turbine	845,295	Feb. 26	5138	1090–1	126	3186
Engelbach, Augustus L., Denver, Colo. Ore crushing and grinding mill	845,057	Feb. 26	4667	991–2	126	3065
Eskilsson, Theodor, New York, N. Y. Curtain-hoisting apparatus	845,731	Feb. 26	5978	1263–4	126	3392
Estell, Samuel F., Los Angeles, Cal. Sash-lock	845,454	Feb. 26	5447	1153–4	126	3261
Evans, Evan, assignor to Evans Manufacturing Company, Butler, Pa. Means for controlling gas-engines	845,732	Feb. 26	5984	1264	126	3394
Evans Manufacturing Company. (See Evans, Evan, assignor.)						
Evans, Michael P., assignor to Sharp & Smith, Chicago, Ill. Finger-print-registering device	845,624	Feb. 26	5747	1216	126	3335
Fahnestock Electric Company. (See Schade, John, Jr., assignor.)						
Fairbanks, Morse & Company. (See Gore, Warren W., assignor.)						
Fehr, William, Philadelphia, Pa. Metal-bending machine	845,069	Feb. 26	4670	992	126	3065
Fellheimer, Jakob, Furtwangen, Germany. Clock	845,070	Feb. 26	4673	992–3	126	3066
Fellows, Irving D., Syracuse, N. Y. Trousers-support	845,068	Feb. 26	4669	992	126	3065
Ferguson, Robert H., East Orange, N. J., assignor to E. R. Squibb & Sons. Dropping-bottle	845,400	Feb. 26	5337	1132	126	3233
Ferguson, Robert T., Allegheny, H. Turner and O. J. Haller, Pittsburg, Pa. Valve	845,540	Feb. 26	5607	1187	126	3301
Fettback, Franz, Hanover, Germany. Machine for manufacturing boxes from pasteboard or the like	845,071	Feb. 26	4674	993	126	3066
Field, Claude E., Slater, Mo. Baling-press	845,625	Feb. 26	5748	1216–17	126	3335
Field, Robert, Huddersfield, England. Cash-check till	845,342	Feb. 26	5220	1107–8	126	3205
Field, Sjonne S., Chicago, Ill. Automatic chalker and reel for chalk-lines	845,401	Feb. 26	5338	1132–3	126	3233
Fisher, Jacob, Sac City, Iowa. Wire fence	845,072	Feb. 26	4676	993	126	3066
Fisher, Oliver W., Jersey Shore, Pa. Grain-drill	845,168	Feb. 26	4861	1031	126	3116
Fisher, Oliver W., Jersey Shore, Pa. Plow attachment	845,169	Feb. 26	4865	1031–2	126	3117
Fisher, William F., New Britain, Conn. Sad-iron	845,296	Feb. 26	5141	1091	126	3187
Fitch, Horace L. (See Miner and Fitch.)						
Fitz, George W., Boston, Mass. Massage apparatus	845,733	Feb. 26	5985	1264–5	126	3394
Fittgerald, Richard. (See Hibbard, Maury W., assignor.)						
Fittgerald, Richard. (See Macfarlane, William P. A., assignor.)						
Fleming, Richard, Lynn, Mass., assignor to General Electric Company. Resistance unit	845,225	Feb. 26	4980	1059	126	3146
Foley, Patrick J., Jersey City, N. J. Heating attachment for gas-burners	845,297	Feb. 26	5142	1091	126	3187
Ford, Albert J., assignor to Fuchs & Lang Manufacturing Company, New York, N. Y. Coating-machine	845,734	Feb. 26	5987	1265	126	3395
Ford, Edwin H., Hartford City, Ind. Meter-box	845,226	Feb. 26	4982	1059–60	126	3147
Foster, Robert J., and H. Lauzon, Montreal, Quebec, Canada, assignors to Mergenthaler Linotype Company. Linotype-machine	845,227	Feb. 26	4984	1060	126	3147
Fowler, Manley G., Rochester, N. Y. Apparatus for removing hairs	845,455	Feb. 26	5449	1154	126	3262
Francfort, Alfred H., Jersey City, N. J., assignor to Niagara Hydraulic Engine Company. Hydraulic ram	845,402	Feb. 26	5341	1133	126	3234
Franke, Emil, Astoria, N. Y. Grindstone	845,073	Feb. 26	4677	994	126	3067
Frasch, Herman, New York, N. Y., assignor to Standard Oil Company, Bayonne, N. J. Separating low-boiling products from the burning-oil distillate of petroleum to raise the fire test thereof	845,456	Feb. 26	5450	1154	126	3262
Frasch, Herman, New York, N. Y., assignor to Standard Oil Company, Bayonne, N. J. Steam-still for petroleum	845,735	Feb. 26	5988	1265–6	126	3395
Fredrick, John E., Kokomo, Ind. Machine for making wire fences	845,170	Feb. 26	4866	1032–4	126	3118
Fremay, Henri, Lüttich, Belgium. Lubricating apparatus	845,074	Feb. 26	4678	994	126	3067
Fremay, Henri, Lüttich, and H. Graeve, Herstal, near Lüttich, Belgium. Repeating rifle	845,075	Feb. 26	4678	994	126	3067
French, Harry C., assignor of one-half to C. F. Borgel, York, Pa. Riveting	845,228	Feb. 26	4988	1061	126	3148

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Frey, Clarence N., assignor to J. M. Robinson Manufacturing Company, Cincinnati, Ohio. Press	845,457	Feb. 26	5458	1155–6	126	3264
Fuchs & Lang Manufacturing Company. (See Ford, Albert J., assignor.)						
Fulton, Louis B., assignor to Chaplin-Fulton Manufacturing Company, Pittsburg, Pa. Fluid-pressure regulator	845,708	Feb. 26	5927	1252–3	126	3380
Futrell, J. B, and T. C. Gaskins, Garland, Tex. Fan	845,626	Feb. 26	5753	1217	126	3336
Gaara, Halvor, Bö, Norway. Rail-joint	845,343	Feb. 26	5224	1106–9	126	3206
Gage, Chancey R., Sioux Falls, S. D. Seed-potato cutter	845,627	Feb. 26	5754	1218	126	3336
Galland, George, assignor to M. S. Galland, Wilkes-Barre, Pa. Display-form	845,403	Feb. 26	5344	1133	126	3234
Galland, Minnie S. (See Galland, George, assignor.)						
Gallinger, John R., Superior, Wis. Door check and holder	845,344	Feb. 26	5226	1109	126	3206
Gamble, Austin A., *et al.* (See Bowman, Homer C., assignor.)						
Gardner, William H., Basic City, Va., assignor to Williams Patent Crusher & Pulverizer Company, St. Louis, Mo. Crusher and pulverizer	845,171	Feb. 26	4881	1035	126	3721
Gaskins, Thomas C. (See Futrell and Gaskins.)						
Gatchell, George S., Elizabeth, N. J., assignor to Singer Manufacturing Company. Sewing-machine hemmer	845,404	Feb. 26	5346	1134	126	3235
Gates, William T., Aubrey, Tex. Safety-signal-board attachment	845,076	Feb. 26	4680	994	126	3068
Gatti, Riccardo, New York, N. Y. Non-refillable bottle	845,541	Feb. 26	5609	1188	126	3302
Gaylor, Leonard B., Stamford, Conn. Safety-razor	845,628	Feb. 26	5755	1218	126	3336
Gaynor, Joseph, Barre, Vt. Burglar-alarm	845,629	Feb. 26	5757	1218	126	3337
Geipel, William, Southwark, London, England. Steam-trap	845,630	Feb. 26	5758	1218–19	126	3337
Gendron, Joseph A., Nashua, N. H. Shuttle motion for looms	845,345	Feb. 26	5227	1109–10	126	3206
General Acoustic Company. (See Turner and Johnston, assignors.)						
General Electric Company. (See Callan, John G., assignor.)						
General Electric Company. (See Corey, Fred B., assignor.)						
General Electric Company. (See Dickinson, Edgar D., assignor.)						
General Electric Company. (See Emmet, William L. R., assignor.)						
General Electric Company. (See Fleming, Richard, assignor.)						
General Electric Company. (See Hewlett and Hill, assignors.)						
General Electric Company. (See Junggren, Oscar, assignor.)						
General Electric Company. (See Tirrill, Leonard A., assignor.)						
General Storage Battery Company. (See Bijur, Joseph, assignor.)						
Gentry, James C., and J. T. Bottomlee, Dayton, Tenn. Churn	845,346	Feb. 26	5231	1110	126	3207
Georgenson, George, and J. E. Hennen, Fond du Lac, Wis. Roller-support for edgewise-movable doors	845,631	Feb. 26	5759	1219	126	3338
Gerard, Léon, Brussels, Belgium, assignor, by mesne assignments, to American Adhesion Traction Company. Tractor for electrical towage systems	845,405	Feb. 26	5347	1134–5	126	3235
Gesell, William J., Weehawken, N. J. Bottle attachment	845,347	Feb. 26	5232	1111	126	3207
Gibson, Arthur H., Easton, Pa., assignor to Ingersoll-Sergeant Drill Company, New York, N. Y. Electrically-driven fluid-pressor	845,406	Feb. 26	5351	1135	126	3236
Gibson, Edward T., Matawan, N. J. Intrenching-shovel carrier	845,348	Feb. 26	5233	1111	126	3208
Gilbert, Israel B., assignor of one-half to R. A. Martin, Castle Shannon, Pa. Automatic regrinding-valve	845,458	Feb. 26	5464	1156	126	3265
Giles, Herbert C., Rutherford, N. J., and W. W. White, New York, N. Y. Hose-supporter	845,349	Feb. 26	5239	1111	126	3209
Gill, Samuel E. (See Stewart, Francis L., assignor.)						
Gillespie, Thomas H., South Orange, N. J. Metal column	845,350	Feb. 26	5242	1111	126	3210
Gilmore, W. R. (See Lane, Enoch J., assignor.)						
Gilstrap, James M., Oakland, Cal. Elevated electric railway	845,459	Feb. 26	5465	1156–7	126	3265
Girod, Franz, Mannheim, Germany. Force-pump	845,407	Feb. 26	5353	1135	126	3237
Gladding, Jesse G., Riverside, R. I. Combined ladder-hook, spanner, and hose-carrier	845,709	Feb. 26	5929	1253	126	3381
Gobell, Adélard J., assignor of one-half to Deetz & Co., Duluth, Minn. Window frame and sash	845,298	Feb. 26	5143	1091–2	126	3187
Gohl, John F., Philadelphia, Pa. Brush	845,408	Feb. 26	5355	1136	126	3237
Gold, Egbert H. (See Reniff, James R., assignor.)						
Goldrick, Harry C., Indianapolis, Ind., assignor to Kellogg Switchboard and Supply Company, Chicago, Ill. Telephone trunking system	845,077	Feb. 26	4681	995	126	3068
Goldsmith, Alpha O., *et al.* (See Spitzer, Emanuel, assignor.)						
Goodridge, Gilbert W. (See Thomas, George B., assignor.)						
Goodridge, Gilbert W., assignor to Bryant Electric Company, Bridgeport, Conn. Incandescent-lamp socket	845,542	Feb. 26	5611	1188	126	3302
Goodridge, Gilbert W., assignor to Perkins Electric Switch Manufacturing Company, Bridgeport, Conn. Electrical attachment-plug	845,543	Feb. 26	5612	1188	126	3302
Gordon, Waldo C., Windsor, Vt., assignor to Electric Good Manufacturing Company. Wiring-knob	845,544	Feb. 26	5612	1188	126	3302
Gore, Warren W., Beloit, Wis., assignor to Fairbanks, Morse & Company, Chicago, Ill. Centrifugal tar-extractor	845,460	Feb. 26	5468	1158	126	3266
Gould, Edwin J., assignor of one-fourth to J. A. Walker, Boulder, Colo. Compensating gear	845,409	Feb. 26	5355	1136	126	3237
Graeve, Hans. (See Frenay and Graeve.)						
Graham, Albert. (See Jackson, Andrew R., assignor.)						
Graham, Daniel O., Proctor, Tex. Cotton and corn chopper	845,172	Feb. 26	4882	1035	126	3121
Graham, Levi P., Decatur, Ill. Corn-sorter	845,230	Feb. 26	4990	1061	126	3149
Graham, Levi P., Decatur, Ill. Corn-sorter	845,231	Feb. 26	4992	1061	126	3149
Graham, Levi P., Decatur, Ill. Corn-sorter	845,229	Feb. 26	4989	1061	126	3148
Graham, Neill R., New York, N. Y. Type-writer	845,410	Feb. 26	5357	1136–7	126	3238
Grieshaber, Johannes, Schaffhausen, Switzerland. Machine for cutting and dressing grindstones	845,078	Feb. 26	4690	995–6	126	3070
Gritton, Alpheus J., Heron Lake, Minn. Straw-stacker	845,411	Feb. 26	5358	1137	126	3238
Grundy, Cornelia, Paducah, Ky. Combined match-safe and mailing-card	845,079	Feb. 26	4694	996	126	3071
Gruse, Rudolf, Schneidemühl, Germany. Coupling for connecting a driving-motor with a driven machine	845,632	Feb. 26	5760	1219–20	126	3338
Gurney, Frederick W., Jamestown, N. Y. Ball-bearing	845,412	Feb. 26	5360	1137	126	3239
Gurnsey, James W., Liberty, Pa. Automatic brake	845,413	Feb. 26	5362	1138	126	3239
Haagn, Ernst, assignor to Firm of W. C. Heraeus, Hanau, Germany. Electric-resistance thermometer	845,545	Feb. 26	5613	1189	126	3303
Hadland, Carl A., Bennington, Minn. Reeling device	845,173	Feb. 26	4883	1035	126	3122
Hall, Alpheus P., Grayaville, Ill. Handsaw-jointer						
Hall, Lucius S. (See Burns, Jeremiah D., assignor.)						
Hall, Robert C. (See Solomon, William T., assignor.)						
Hall Signal Company. (See Breese and Wilson, assignors.)						
Hall Signal Company. (See Coleman, Clarence W., assignor.)						
Haller, Oliver J. (See Ferguson, Turner, and Haller.)	845,633	Feb. 26	5763	1220–1	126	3339
Hallot, Paul, Vincennes, France. Brake for vehicles	845,634	Feb. 26	5767	1221–3	126	3339
Hallwood, Henry S., assignor to International Register Company, Columbus, Ohio. Cash-register	845,635	Feb. 26	5785	1223	126	3244
Ham, William D., Knoxville, Tenn. Mold for forming walls	845,461	Feb. 26	5460	1158	126	3266
Hammond, John W., Taunton, Mass., assignor to Staples Coal Company. Lighter	845,299	Feb. 26	5145	1092	126	3188
Hangi, Karl P., New York, N. Y. Feeder for briquet-machines						

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Hanrahan, John E. (See Brown, Hanrahan, and Boyden.)						
Hansen, Christian M., Vejle, Denmark. Weft-replenishing mechanism for looms	845,232	Feb. 26	4993	1062	126	3140
Hanson, Joseph, Inwood, Iowa. Signal for force-feed lubricators	845,351	Feb. 26	5243	1112	126	3210
Hanson, William. (See Stevens and Hanson.)						
Hardegen, Emil C., and H. H. Kennedy, Indianapolis, Ind., assignors to Pope Manufacturing Company, Jersey City, N. J. Motor-vehicle	845,080	Feb. 26	4695	996	126	3071
Harrington, Frank S., assignor to W. H. Coldwell and J. W. Bentley, Newburgh, N. Y. Pick	845,233	Feb. 26	4996	1062	126	3150
Harris, George J. (See Sullivan and Harris.)						
Harris, Job, New Providence, Iowa. Water-tank heater	845,636	Feb. 26	5788	1223	126	3345
Harrison Aaron E., New York, N. Y., and C. M. Haslett, Jersey City, N. J. Telephone-magnet	845,546	Feb. 26	5616	1189	126	3303
Harvey, Harry D. (See Steele, David R., assignor.)						
Haslett, Crowell M. (See Harrison and Haslett.)						
Hathaway, Rodman W., Carbon, Iowa. Mower	845,547	Feb. 26	5618	1190	126	3304
Hausburg, Otto E., New York, N. Y. Watchman's electric time-detector	845,637	Feb. 26	5789	1224	126	3345
Hays, Joseph W., assignor of one-half to G. L. Simonds, Chicago, Ill. Type-writing machine	845,234	Feb. 26	4997	1062-3	126	3150
Hector, Andre, East Newark, N. J. Propeller	845,081	Feb. 26	4696	996-7	126	3071
Heird, George W., and G. W. Brownawell, Pittsburg, Pa. Journal-box	845,548	Feb. 26	5620	1190	126	3304
Henderson, James C., Los Angeles, Cal. Bottle-neck-forming machine	845,235	Feb. 26	5000	1063	126	3151
Hendon, Walter P., Dallas, Tex., assignor to Emerson Manufacturing Company, Rockford, Ill. Wheeled plow	845,082	Feb. 26	4698	997	126	3072
Hendrickson, Henry, Rushford, Minn. Shock-loader	845,638	Feb. 26	5792	1224	126	3346
Henlein, Martin L., Two Rivers, assignor of one-half to R. J. Bresee, Milwaukee, Wis. Ironing-board	845,352	Feb. 26	5245	1112	126	3210
Hennen, Joseph E. (See Georgenson and Hennen.)						
Henry, Milton J., Oak Park, Ill. Combined shovel and plow	845,549	Feb. 26	5620	1190-1	126	3304
Herald, William J., Hamilton, Ontario, Canada. Wire-drawing machine	845,462	Feb. 26	5470	1158	126	3267
Herbert, Samuel, assignor to Hutchins Car Roofing Company, Detroit, Mich. Car-roof	845,414	Feb. 26	5363	1138	126	3240
Herman, Raphael, Detroit, Mich. Boiler-tube cleaner	845,083	Feb. 26	4702	997	126	3074
Herriman, Frank E., Montgomery City, Mo. Tie or anchor plate	845,639	Feb. 26	5794	1225	126	3346
Hewlett, Edward M., and C. H. Hill, Schenectady, N. Y., assignors to General Electric Company. Cut-out	845,236	Feb. 26	5003	1064	126	3152
Heylman, Edward M., Janesville, Wis., assignor to Janesville Machine Company. Cultivator	845,084	Feb. 26	4704	997-9	126	3075
Hibbard, Maury W., assignor to R. Fitzgerald, Chicago, Ill. Fluid-pressure brake system	845,353	Feb. 26	5246	1112-13	126	3211
Hicks, James M. (See Hicks, John A. assignor.)						
Hicks, John A., assignor to J. M. Hicks, Summit, N. J. Cap-feeding machine	845,415	Feb. 26	5364	1138	126	3240
Hicks, John T., Medford, Mass. Press-auditing method	845,237	Feb. 26	5005	1064	126	3152
Hicks, William W., St. Louis, Mo. Ball-bearing gland for packing-nuts	845,085	Feb. 26	4712	999	126	3077
Hildebrandt, Charles T., assignor of one-half to E. W. Brooks, Chicago, Ill. Sparking ignition device	845,354	Feb. 26	5254	1114	126	3213
Hill, Charles H. (See Hewlett and Hill.)						
Hillyard, Newton S., St. Joseph, Mo. Drip-can	845,174	Feb. 26	4884	1036	126	3122
Hincks, Harold T., Chester, England. Slide-rule	845,463	Feb. 26	5471	1158-9	126	3267
Hirsh, Fred, New York, N. Y. Garment-supporter	845,300	Feb. 26	5147	1092	126	3188
Hodges, Clarence B., assignor to Detroit Lubricator Company, Detroit, Mich. Device for visually feeding measured quantities of liquid	845,416	Feb. 26	5366	1139	126	3240
Hoerbold, Theodore, Levington, Tex. Adjustable handle for sweep-stocks and the like	845,086	Feb. 26	4714	999	126	3077
Hoffmann, George E. von, assignor of one-half to J. J. Mullen, Chicago, Ill. Apparatus for cleaning ships' hulls	845,301	Feb. 26	5148	1093	126	3188
Holcomb, Adrian S., assignor to S. C. Holcomb, Marilla, N. Y. Potato-planter	845,087	Feb. 26	4715	999-1000	126	3078
Holcomb, Sarah C. (See Holcomb, Adrian S., assignor.)						
Holder, Henry A., Lynn, Mass. Hollow work support or bed	845,640	Feb. 26	5795	1225	126	3346
Holland, Henry V., New York, N. Y. Penholder	845,641	Feb. 26	5797	1225	126	3347
Hotaling, Omar J., Johnstown, N. Y. Lifting-jack and cradle for bath-tubs and the like	845,464	Feb. 26	5473	1154	126	3267
Hotchkin, Paul M., Chicago, Ill. Vibration-check for vehicles	845,088	Feb. 26	4717	1000	126	3078
Howard, Clarence H., St. Louis, Mo., and J. F. Dunn, Salt Lake City, Utah, assignors to Davis Locomotive Wheel Company, St. Louis, Mo. Car-underframe	845,089	Feb. 26	4718	1000-1	126	3078
Howe, Charles J., *et al.* (See Sharts, Truman P., assignor.)						
Huber Account Register Company. (See Huber, John F., assignor.)						
Huber, John F., assignor to Huber Account Register Company, Buffalo, N. Y. File or holder for sales-slips, &c	845,417	Feb. 26	5368	1139	126	3241
Huber, Louis, *et al.* (See Stambois, Charles, assignor.)						
Hubert, William, assignor of one-half to J. Weimer, Chicago, Ill. Curtain-support	845,355	Feb. 26	5255	1114	126	3214
Huffman, David A., Paris, Ill. Buckle	845,642	Feb. 26	5799	1226	126	3348
Huggins, John J., Fulton, Ky. Baling-machine	845,356	Feb. 26	5256	1114	126	3214
Hughes, Charles H., Rossburg, Ohio. Nut-lock	845,643	Feb. 26	5800	1226	126	3348
Hughes, William H., Birmingham, Ala. Steam-grate shaker	845,090	Feb. 26	4720	1001	126	3079
Hultquist, Mary E., Brookhaven, Miss. Scissors	845,644	Feb. 26	5801	1226	126	3348
Hunter, James S., Washington, D. C. Facing-tile	845,550	Feb. 26	5622	1191	126	3304
Huntington, William D. (See Whitney, Dennis A., assignor.)						
Hutchins, Arthur W., assignor to Measuring Appliance Company, Providence, R. I. Bottle	845,175	Feb. 26	4884	1036	126	3122
Hutchins Car Roofing Company. (See Herbert, Samuel, assignor.)						
Huyck, Francis P., Swanton, Ohio. Variable-speed transmission	845,091	Feb. 26	4722	1002	126	3079
Ingersoll-Rand Company. (See Thomas and Blackwell, assignors.)						
Ingersoll-Sergeant Drill Company. (See Gibson, Arthur H., assignor.)						
International Harvester Company. (See Andrew, William K., assignor.)						
International Harvester Company. (See Cowen, Henry K., assignor.)						
International Harvester Company. (See Livesay, Robert C., assignor.)						
International Harvester Company. (See Sperry, Herbert B., assignor.)						
International Register Company. (See Hallwood, Henry S., assignor.)						
International Steam Pump Company. (See De Laval and Aborn, assignors.)						
International Time Recording Company. (See Bundy, Willard L., assignor.)						
Isaacs, Henry S., Braddock, and L., Allegheny, Pa. Moving-picture apparatus	845,551	Feb. 26	5624	1191	126	3305
Isaacs, Leo. (See Isaacs, Henry S., and L.)						
J. M. Robinson Manufacturing Company. (See Frey, Clarence N., assignor.)						
Jackson, Andrew R., Avalon, assignor of one-half to A. Graham, Crafton, Pa. Apparatus for making nut-blanks	845,357	Feb. 26	5258	1115	126	3214
Jacob, Frederick, and J. Boppel; said Frederick Jacob assignor to R. L. Jacob, Newark, N. J. Sewing apparatus	845,092	Feb. 26	4726	1002	126	3081
Jacob, Rudolph L. (See Jacob and Boppel, assignors.)						
Jacobson, Svan J., Brewster, Kans. Padlock	845,358	Feb. 26	5259	1115	126	3215
Janesville Machine Company. (See Heylman, Edward M., assignor.)						
Jarrett, Morris F., assignor of one-half to E. C. Carpenter, Anderson, Ind. Annealing-box	845,093	Feb. 26	4729	1002	126	3081

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Jebsen, Fridtjof. (See Kirkegaard, Georg, assignor.)						
Jeffs, William H., *et al.* (See Roberts, Leonard C., assignor.)						
Jezler, Hubert, Zurich, Switzerland. Clutch	845,094	Feb. 26	4730	1103	126	3082
Johnson, Axel F., New York, N. Y. Reversible folding-sash window	845,418	Feb. 26	5370	1139	126	3241
Johnson, Charles W. (See Cooper and Johnson.)						
Johnson and Johnson. (See Lee, John E., assignor.)						
Johnson, Joseph S., Lodi, Ohio. Gate	845,419	Feb. 26	5371	1140	126	3242
Johnson, Lewis, assignor of one-half to E. Kidd, Ruston, La. Combination plow-blade	845,176	Feb. 26	4886	1036	126	3122
Johnson, William G., Kingfisher, Okla. Ter. Railway tie and chair	845,238	Feb. 26	5007	1064	126	3153
Johnston, Norton W. (See Turner and Johnston.)						
Jones, Albert P., Salem, Mass. Stone-cutting machine	845,095	Feb. 26	4731	1003-4	126	3082
Jones, Edward A., Pittsfield, Mass. Driving mechanism for paper-refining engines	845,302	Feb. 26	5150	1093	126	3189
Jones, Monrowe W., Ardmore, Ind. Ter. Saw-filing machine	845,359	Feb. 26	5260	1115-16	126	3215
Jones, Willard, Auburn, Me. Curtain-bracket	845,420	Feb. 26	5373	1140	126	3242
Jonkergouw, Renier E. H., Billancourt, assignor to La Société Anonyme du Chryso-Cerame, Paris, France. Manufacture of glass articles	845,552	Feb. 26	5627		126	3305
Junggren, Oscar, Schenectady, N. Y., assignor to General Electric Company. Elastic-fluid turbine	845,710	Feb. 26	5930	1253-4	126	3381
Jungling, Michael, Kingwood, Ga. Recess-boring tool	845,360	Feb. 26	5262	1116	126	3215
Kaplan, Joseph A., Pittsburg, assignor to J. Rhodes, Allegheny, and W. H. Latshaw, Pittsburg, Pa. Punching and bending pulley-rims	845,711	Feb. 26	5933	1254	126	3382
Kapp, George, and G. A. Alviset, Port Chester, N. Y. Gas-lighter for automobiles	845,553	Feb. 26	5628	1192	126	3306
Keasbey & Mattison Company. (See Luttgen, Eberhard, assignor.)						
Keller, Nathan, Hastings, Fla. Potato-digger	845,239	Feb. 26	5008	1065	126	3153
Kelley, Lyman D., Memphis, Tenn. Phonograph repeating mechanism	845,645	Feb. 26	5802	1226-7	126	3348
Kellogg Switchboard and Supply Company. (See Dean, William W., assignor.)						
Kellogg Switchboard and Supply Company. (See Dunbar, Francis W., assignor.)						
Kellogg Switchboard and Supply Company. (See Goldrick, Harry C., assignor.						
Kemble, Charles P., and W. B. Snyder, Trenton, N. J. Plate for steam and water pipes	845,096	Feb. 26	4738	1004	126	3084
Kendrick, John W., Chicago, Ill. Folding stake for railway-cars	845,097	Feb. 26	4739	1025	126	3084
Kennedy, Harold H. (See Hardegen and Kennedy.)						
Kernan, Thomas J, Akron, Ohio. Syringe	845,303	Feb. 26	5153	1093	126	3189
Kerr Turbine Company. (See Moore, James L., assignor.)						
Kidd, Elijah. (See Johnson, Lewis, assignor.)						
Kiefer, Adolf, Heidelberg, Germany. Inner roofing	845,361	Feb. 26	5264	1116	126	3216
Killian, George, Scranton, Pa. Detaching-cone for mine and other elevators	845,177	Feb. 26	4887	1036	126	3123
Kilpatrick, Philip H., *et al.* (See Myers, Francis M., assignor.)						
King, Joseph J., Barlow, Oreg. Nut-lock	845,362	Feb. 26	5265	1116	126	3216
Kinnear, William R., New York, N. Y. Making sheet-metal radiators	845,304	Feb. 26	5155	1093-4	126	3190
Kinter, Henry L., Curran, Ill. Penholder	845,178	Feb. 26	4888	1037	126	3123
Kirkegaard, Georg, assignor of one-half to F. Jebsen, New York, N. Y. Bottle-stopper	845,646	Feb. 26	5804	1227	126	3349
Kite, Willis, Las Animas, Colo. Beet-harvester	845,098	Feb. 26	4740	1005	126	3084
Kleckner, Asaph M. and W. B. Caney, Kans. Coupling for shackle-rods	845,647	Feb. 26	5806	1227	126	3349
Kleckner, William B. (See Kleckner, Asaph M. and W. B.)						
Klein, Charles J., assignor to R. A. Schoenberg, New York, N. Y. Attachment-plug	845,712	Feb. 26	5934	1254	126	3382
Klein, Emanuel N., Cincinnati, Ohio. Ophthalmoscope	845,099	Feb. 26	4742	1006	126	3075
Kline, Nick W., Longbeach, Cal. Ice-cream dipper	845,421	Feb. 26	5374	1140	126	3242
Klousnitzer, Frank, Herman, Pa. Paper-coating machine	845,648	Feb. 26	5808	1227	126	3350
Knerr, George F. (See Mathers, William S., assignor.)						
Knudsen, Hans. (See Wood and Knudsen.)						
Koetitz, Frederick A., San Francisco, Cal. Concrete-floor construction	845,465	Feb. 26	5474	1159	126	3265
Kohout, Emanuel G., New York, N. Y. Apparatus for removing snow from streets	845,100	Feb. 26	4743	1006	126	3085
Koren, August, Jr., Christiania, Norway. Watering system for gardens, fields, and the like	845,179	Feb. 26	4888	1037	126	3123
Krafft, Charles S., Evansville, Ind. Combination poker and clinker-hook	845,180	Feb. 26	4890	1037	126	3123
Krentler-Arnold Hinge Last Company. (See Perry, Reuben W., assignor.)						
Kromm, Louis H., assignor of one-half to C. H. Lighthiser, Baltimore, Md. Hoof-pad	845,649	Feb. 26	5809	1228	126	3350
Kühne, Paul, New York, N. Y. Concrete-steel construction	845,554	Feb. 26	5629	1192	126	3306
Kunath, Edward F., Jersey City, N. J., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine	845,240	Feb. 26	5010	1065	126	3153
Kunz, Max A. (See Scholl and Kunz.)						
La Berge, Maximilian E., Los Angeles, Cal. All-glass knockdown show-case	845,650	Feb. 26	5810	1228	126	3350
La Berge, Maximilian E., Los Angeles, Cal. Semi-knockdown all-glass show-case	845,651	Feb. 26	5813	1228	126	3350
La Berge, Maximilian E., Los Angeles, Cal. Illuminated show-case	845,652	Feb. 26	5815	1229	126	3351
La Berge, Maximilian E., Los Angeles, Cal. Sliding-door construction for show-cases	845,729	Feb. 26	5975	1262	126	3392
La Société Anonyme du Chryso-Cerame. (See Jonkergouw, Renier E. H., assignor.)						
Lacey, Dennis E. (See Nichol and Lacey.)						
Landt, William G., Chicago, Ill. Watch-checking device	845,423	Feb. 26	5376	1141	126	3242
Lane, Enoch J., assignor of one-half to W. R. Gilmore, Williams, Cal. Device for transmitting power	845,466	Feb. 26	5475	1160	126	3267
Lange, Richard, Glashütte, Germany. Mechanism for regulating watches	845,422	Feb. 26	5375	1140	126	3242
Langley, Bert, Woodward, Okla. Ter. Automatic grappling-hook	845,555	Feb. 26	5631	1192-3	126	3306
Langley, Ralph R., Lincoln, Nebr. Loader	845,556	Feb. 26	5633	1193	126	3307
Lanier, Edward H., and F. K. Driesbach, Cincinnati, Ohio. Confection-baking apparatus	845,557	Feb. 26	5634	1193	126	3307
Lara, Marcelina. (See Buddenborg, Henry B., assignor.)						
Latshaw, William H., *et al.* (See Kaplan, Joseph A., assignor.)						
Lauzon, Honore. (See Foster and Lauzon.)						
Lavelle, John, Uniontown, W. Va. Pressure-regulating system	845,424	Feb. 26	5377	1141	126	3243
Layng, Charles H., New York, N. Y. Separable coupling	845,654	Feb. 26	5819	1229	126	3351
Le Bourgeois, William B., Convent, La. Latch for gates and the like	845,363	Feb. 26	5266	1117	126	3216
Leahy, Louis K., Los Angeles, Cal. Hydrocarbon-burning apparatus	845,241	Feb. 26	5011	1065	126	3154
Lee, Duncan A., Hot Springs, Ark. Harness	845,558	Feb. 26	5635	1193	126	3308
Lee, John E., Conshohocken, Pa., assignor to Johnson and Johnson, New Brunswick, N. J. Disinfecting device	845,559	Feb. 26	5636	1194	126	3308
Legere, Patrick M., Berlin, N. H. Fire-escape	845,181	Feb. 26	4891	1037	126	3123
Leidl, Ludwig, Vienna, Austria-Hungary. Mast for wireless telegraphy and other purposes	845,242	Feb. 26	5014	1066	126	3155
Lenzi, Tommaso, Jersey City, N. J. Acetylene-gas generator	845,560	Feb. 26	5637	1194	126	3308
Leo, Paul, Elizabeth, N. J. Polarity-indicator	845,101	Feb. 26	4744	1006	126	3086
Leonard, Harry W., New York, N. Y. Automatic circuit-breaker	845,655	Feb. 26	5820	1230	126	3332
Leonard, Harry W., Bronxville, N. Y. Electric-circuit controller	845,656	Feb. 26	5826	1230-2	126	3353
Leroy, William R., Oceanpark, Cal. Lifting-jack	845,657	Feb. 26	5834	1232	126	3355
Letts, Benjamin T., Elizabeth, N. J. Lock for manhole-covers	845,182	Feb. 26	4892	1038	126	3124
Leutheesser, Fred W., Chicago, Ill. Register name-board	845,183	Feb. 26	4893	1038	126	3124
Leumann, Boesch & Weingart. (See Weingart, Isaac, assignor.)						
Levy, Henry B., New York, N. Y. Pocket-clip for fountain-pens	845,467	Feb. 26	5476	1160	126	3268
Lewis, Harry H. (See Bare, Reuben H., assignor.)						
Lewis, Oliver F., Benson, Nebr. Wire-stretcher	845,102	Feb. 26	4745	1007	126	3086
Liebert, Henry, Milnrow, England. Control and copying device for machine-tools	845,305	Feb. 26	5156	1094	126	3190

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Lighthiser, Charles H. (See Kromm, Louis H., assignor.)						
Lilley, John R., Coatesville, Pa. Coupling	845,243	Feb. 26	5016	1066	126	3156
Livesay, Robert C., Berwyn, Ill., assignor to International Harvester Company. Grain-drill	845,625	Feb. 26	5378	1141	126	3243
Ljungstrom, Birger, assignor to Aktiebolaget Separator, Stockholm, Sweden. Gearing	845,103	Feb. 26	4748	1007	126	3086
Lloyd, Ernest F., Detroit, Mich. Closure for gas-tanks	845,426	Feb. 26	5380	1142	126	3244
Lockard, Adam M., Herrin, Ill. Flower-band mold	845,561	Feb. 26	5639	1194	126	3309
Loewenberg, William B., Wabash, Ind. Display-rack	845,658	Feb. 26	5835	1232-3	126	3355
Lonergan, William J., assignor of three-fourths to C. J. Schnaus, St. Louis, Mo. Gas-mixing apparatus	845,104	Feb. 26	4750	1007	126	3087
Lorenz, Max, Honolulu, Hawaii. Valve	845,244	Feb. 26	5017	1066-7	126	3156
Loss, Henrik V., Philadelphia, Pa. Riveting-machine	845,105	Feb. 26	4752	1008	126	3088
Lotz, Augustus, San Francisco, Cal., assignor to Sanitary Devices Manufacturing Company. Apparatus for cleaning dust-laden air	845,364	Feb. 26	5267	1117	126	3216
Lotz, Augustus, San Francisco, Cal., assignor to Sanitary Devices Manufacturing Company. Apparatus for separating dust from dust-laden air-currents	845,562	Feb. 26	5640	1195	126	3309
Lotz, Augustus, San Francisco, Cal., assignor to Sanitary Devices Manufacturing Company. Separating solid material held in suspension by air-currents	845,563	Feb. 26	5642	1195	126	3309
Luce, William, Seaside, Oreg. Automatic propelling life-preserver	845,659	Feb. 26	5837	1233	126	3356
Lungren, Charles M., Bayonne, N. J., assignor to Safety Car Heating & Lighting Company, New York, N. Y. Forming an incandescent gas-mantle	845,184	Feb. 26	4895	1038-9	126	3125
Lungren, Charles M., Bayonne, N. J., assignor to Safety Car Heating & Lighting Company. Mounting a mantle	845,185	Feb. 26	4899	1039	126	3126
Lungren, Charles M., Bayonne, N. J., assignor to Safety Car Heating & Lighting Company. Gas-lamp	845,186	Feb. 26	4900	1039	126	3126
Luttgen, Eberhard, assignor to Keasbey & Mattison Company, Ambler, Pa. Manufacture of heat-insulating material	845,365	Feb. 26	5269	1117	126	3217
Lutz, Thomas A., Winburne, Pa. Pick	845,427	Feb. 26	5381	1142	126	3244
MacLean, James, Boston, Mass. Wrench	845,187	Feb. 26	4902	1039	126	3127
Macfarlane, William P. A., Chicago, Ill. Fluid-pressure brake	845,713	Feb. 26	5937	1254-5	126	3382
Macfarlane, William P. A., assignor to R. Fitzgerald, Chicago, Ill. Fluid-pressure brake	845,366	Feb. 26	5270	1118	126	3217
Macnish, Frederick J., Oak Park, Ill., assignor to Creamery Package Mfg. Company. Starter-can	845,469	Feb. 26	5481	1161	126	3269
Macnish, Frederick J., Oak Park, Ill., assignor to Creamery Package Mfg. Company. Cheese-vat	845,470	Feb. 26	5486	1161-2	126	3270
Macnish, Frederick J., Oak Park, Ill., and W. E. Penn, Lakemills, Wis., assignors to Creamery Package Mfg. Company, Chicago, Ill. Butter-cutter	845,468	Feb. 26	5477	1160	126	3268
Mann, William B. (See Babendreier, Arthur O., assignor.)						
Marick, John, Chicago, Ill. Automatic trap-door for railway-coaches	845,306	Feb. 26	5157	1095	126	3190
Marlatt, George E., Allegheny, Pa. Mechanism for throwing lines of matrices into linotype-machines	845,307	Feb. 26	5159	1095	126	3191
Marshall, David T., New York, N. Y., assignor to N. Marshall, Newton, Mass. Copying-machine	845,730	Feb. 26	5077	1263	126	3392
Marshall, Norman. (See Marshall, David T., assignor.)						
Martin, Robert A. (See Gilbert, Israel B., assignor.)						
Mason, Garrett C., Petaluma, Cal. Automatic gate	845,308	Feb. 26	5160	1095	126	3191
Mathers, William S., assignor of one-half to G. F. Knerr, Allerton, Iowa. Clothes-rack	845,245	Feb. 26	5018	1067	126	3151
Mathews, Amos A., Louisiana, Mo. Tie-frame	845,246	Feb. 26	5020	1068	126	3156
Matlock, Charles H., Emden, Ill. Draft-equalizer	845,309	Feb. 26	5163	1096	126	3191
Matthews, Jesse H., Des Moines, Iowa. Curtain-fastener	845,310	Feb. 26	5164	1096	126	3192
Maxim, Hiram P., Hartford, Conn., assignor, by mesne assignments, to Electric Vehicle Company, New York, N. Y., and Jersey City, N. J. Motor road-vehicle	845,106	Feb. 26	4753	1008-9	126	3088
Mayo, Benjamin F., Salem, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Sole-pressing machine	845,714	Feb. 26	5943	1255-6	126	3384
McAlpin, James W., Savannah, Ga. Saw-sharpener	845,475	Feb. 26	5495	1163	126	3273
McBerty, Frank R., Evanston, and J. L. McQuarrie, assignors to Western Electric Company, Chicago, Ill. Coin-collector	845,370	Feb. 26	5278	1119-20	126	3220
McCain, Cyrus A., Chicago, Ill. Cushioning mechanism for reciprocating beds	845,429	Feb. 26	5383	1143	126	3244
McCarthy, Thomas A. (See Therre, George M., assignor.)						
McCollum, Peter, Fayette, Mo. Gate	845,566	Feb. 26	5645	1196	126	3310
McConnell, Harry R., Washington, D. C. Power-transmission gearing	845,314	Feb. 26	5168	1097	126	3193
McKenzie, E. H. (See Risinger, Willie E., assignor.)						
McLaughlin, William T., Jamaica Plain, Mass. Car-fender	845,110	Feb. 26	4761	1010	126	3091
McQuarrie, James L. (See McBerty and McQuarrie.)						
McQuarrie, James L., assignor to Western Electric Company, Chicago, Ill. Circuit for coin-collectors	845,111	Feb. 26	4765	1010	126	3092
McQuarrie, James L., Chicago, Ill., and H. M. Crane, New York, N. Y., assignors to Western Electric Company, Chicago, Ill. Circuit for coin-collectors	845,112	Feb. 26	4766	1010	126	3092
McTarnaghan, Samuel G., *et al.* (See Roberts, Leonard C., assignor.)						
Mead, Ernest C. (See Baughman and Mead.)						
Measuring Appliance Company. (See Hutchins, Arthur W., assignor.)						
Meischke-Smith, Georgius F. (See Meischke-Smith, William and G. F.)						
Meischke-Smith, William and G. F., Paris, France. Driving and reversing mechanism	845,715	Feb. 26	5948	1256	126	3385
Menard, Georges P. A. L., La Louvière, Belgium. Fish-plate for the rail-joints of railways and the like	845,564	Feb. 26	5643	1195	126	3310
Mendenhall, John B. (See Sweet, Parker H., Jr., assignor.)						
Mergenthaler Linotype Company. (See Foster and Lauzon, assignors.)						
Mergenthaler Linotype Company. (See Rogers, John R., assignor.)						
Mergenthaler Linotype Company. (See Wright, Charles S., assignor.)						
Metzger, Henry, Castleton, N. Y. Pianissimo device	845,565	Feb. 26	5644	1195	126	3310
Miller, Charles, Syracuse, N. Y., assignor to E. M. Danes. Ratchet-wrench	845,716	Feb. 26	5950	1257	126	3385
Miller, Charles, Syracuse, N. Y., assignor to E. M. Danes. Socket-wrench	845,717	Feb. 26	5951	1257	126	3386
Miller, Cyrus R., assignor to W. A. Anger, Milwaukee, Wis. Dough-divider	845,367	Feb. 26	5274	1418	126	3218
Miller, Ed. A. (See Stewart and Miller.)						
Miner, Raymond C., and H. L. Fitch, Hudson, S. D. Fork-scraper	845,700	Feb. 26	5916	1250	126	3377
Missildine, Thomas J., Enterprise, Ala. Mold for embedding tablets in concrete	845,311	Feb. 26	5165	1096	126	3192
Mitchell, Charles, Poughkeepsie, assignor to Willcox & Gibbs Sewing Machine Company, New York, N. Y. Sewing-machine table	845,471	Feb. 26	5488	1162	126	3271
Moon, Frank A., and A. J. Cushman, Kalamazoo, Mich. Cigar-box	845,428	Feb. 26	5382	1142	126	3244
Moore, James L., assignor to Kerr Turbine Company, Wellsville, N. Y. Turbine-shaft packing	845,701	Feb. 26	5917	1250	126	3377
Moore, Moses M., Chicago, Ill. Stand-pipe	845,312	Feb. 26	5166	1096	126	3193
Morehouse, Fredrick E., Reynolds, Ind. Corn-planter marker	845,247	Feb. 26	5020	1068	126	3157
Morel-Lautier, Alphonse, Grasse, France. Food product	845,472	Feb. 26	5489	.....	126	3271
Morgan Engineering Company. (See Taylor, Clarence L., assignor.)						
Morgan-Gardner Electric Company. (See Noble, Ralph E., assignor.)						
Morgan, William S., Minneapolis, Minn. Clothes-drier	845,248	Feb. 26	5021	1068	126	3157
Morrill, William C., New York, N. Y. Wood block for flooring	845,107	Feb. 26	4758	1009	126	3090
Morris County Machine & Iron Company. (See Shepherd, Joseph H., assignor.)						
Morris, Norval T., Marietta, Ohio. Syringe-nozzle	845,249	Feb. 26	5023	1069	126	3157

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Morton, Baxter, New York, N. Y. Necktie	845,108	Feb. 26	4759	1009	126	3090
Morton, Ephraim S., Brockton, Mass. Last-thimble	845,109	Feb. 26	4760	1009	126	3090
Moskowitz, Louis. (See Stern, Maurice, assignor.)						
Mueller, Theodor M., assignor to W. E. Dow, Braintree, Mass. Interrupter for magnetos	845,308	Feb. 26	5276	1118	126	3219
Mullen, James J. (See Hoffmann, George E. von, assignor.)						
Murphy, John. (See Thompson and Murphy.)						
Murphy, William B., New York, N. Y. Separable fastener	845,473	Feb. 26	5490	1162	126	3271
Murray, John, Edinburgh, Scotland. Signature-gathering-machine attachment for bookbinders	845,369	Feb. 26	5277	1118-19	126	3219
Muse, Ernest H., Carbondale, Ill. Clothes-line support	845,702	Feb. 26	5919	1250	126	3378
Myers and Brother, F. E. (See Myers, Philip A., assignor.)						
Myers and Brother, F. E. (See Randall, Henry J., assignor.)						
Myers, Francis M., assignor of two-thirds to C. A. Draper, Windsor, Mo., and P. H. Kilpatrick, Corinth, Miss., Railway signal system	845,188	Feb. 26	4903	1040	126	3127
Myers, Philip A., assignor to F. E. Myers and Brother, Ashland, Ohio. Door-hanger	845,474	Feb. 26	5490	1163	126	3271
Myrin, Nils, Thief River Falls, Minn. Rail-joint	845,313	Feb. 26	5167	1097	126	3193
Napp, Charles E., Trenton, N. J. Telephone directory or book	845,703	Feb. 26	5920	1250-1	126	3378
Nathan, Louis M., Denver, Colo. Trousers	845,430	Feb. 26	5385	1143	126	3245
National Compositype Company. (See Brown, Hanrahan, and Boyden, assignors.)						
Neilson, James P., assignor to Bryant Electric Company, Bridgeport, Conn. Switch mechanism for electric-lamp sockets and the like	845,476	Feb. 26	5497	1163	126	3273
Newman, Evalyn M., Evanston, assignor to H. L. Ward, Oak Park, Ill. Nut-lock	845,250	Feb. 26	5024	1069	126	3157
Newmann, George F., Chicago, Ill., assignor to Underwood Typewriter Company, New York, N. Y. Type-writing machine	845,251	Feb. 26	5027	1069-71	126	3158
Niagara Hydraulic Engine Company. (See Francfort, Alfred H., assignor.)						
Nichol, William F., and D. E. Lacey, St. Louis, Mo. Combination adjustable gas or gasolene saver and heat-controller	845,315	Feb. 26	5170	1097	126	3194
Nicholls, John S. C., Boston, Mass. Heating system	845,371	Feb. 26	5284	1121	126	3221
Nicks, John H., Halesboro, Tex. Cultivator attachment	845,567	Feb. 26	5647	1196	126	3310
Nielsen, Niels C., Denver, Colo. Colored-light-display mechanism	845,568	Feb. 26	5648	1196-7	126	3311
Niles-Bement-Pond Company. (See Cullen and Reiss, assignors.)						
Noble, Ralph E., assignor to Morgan-Gardner Electric Company, Chicago, Ill. Ring for connecting wires	845,252	Feb. 26	5030	1070	126	3158
Noren, Charles A., Chicago, Ill. Automatic safety device	845,113	Feb. 26	4769	1011	126	3093
Nubson, Ole A., Kensett, Iowa. Man-lift	845,253	Feb. 26	5031	1070	126	3159
Nunn, Frederick W., Guildford, New South Wales, Australia. Device for exhibiting hats, bonnets, and the like	845,569	Feb. 26	5650	1197	126	3311
Nunnally, Bruce, Jacksonville, Tex. Plow	845,254	Feb. 26	5033	1070	126	3159
Nuzum, Benjamin M., Grafton, W. Va. Reamer	845,431	Feb. 26	5387	1144	126	3245
Ogletree, Wilbur C., Carrollton, Ga. Cultivator	845,660	Feb. 26	5838	1233	126	3356
Oliver, Harry G., New York, N. Y. Boat-releasing device	845,477	Feb. 26	5497	1164	126	3274
Omberg, Niles E., Palestine, Tex. Cultivator	845,255	Feb. 26	5034	1071	126	3159
Ormrod, William L. (See Adams, Charles F., assignor.)						
Osborne, William S., Marietta, Pa. Apparatus for hydrating lime	845,189	Feb. 26	4908	1040-1	126	3129
Osborne, William S., Marietta, Pa. Hydrating lime	845,190	Feb. 26	4910	1041	126	3129
Osborne, William S., Marietta, Pa. Grinding or pulverizing mill	845,661	Feb. 26	5842	1234	126	3357
Owen, William B., Detroit, Mich. Advertising device	845,704	Feb. 26	5922	1251	126	3379
Owens, David H., Los Angeles, Cal. Padlock	845,662	Feb. 26	5847	1234	126	3359
Palmer, Cassius C., New York, N. Y. Rotary compressor	845,114	Feb. 26	4772	1011	126	3094
Parker, John, Honor Oak Park, London, England. Railway signaling apparatus for use in foggy or other weather	845,115	Feb. 26	4773	1012	126	3094
Parker, John, Honor Oak Park, London, England. Detonator for railway signaling purposes	845,116	Feb. 26	4775	1012	126	3094
Partington, Charles, assignor to Weir Frog Company, Cincinnati, Ohio. Drill	845,372	Feb. 26	5286	1121-2	126	3222
Paschen, Frederick, assignor of one-half to G. Schneider, East St. Louis, Ill. Shoe-fastener	845,432	Feb. 26	5388	1144	126	3245
Paul, John L., Chicago, Ill. Fastening device for ornaments	845,570	Feb. 26	5651	1197	126	3311
Payne, Thomas F., Pittsburg, Pa. Water-closet and flushing-valve therefor	845 373	Feb. 26	5292	1122-3	126	3223
Peach, Josef, Traverse City, Mich. Miter-box	845,571	Feb. 26	5652	1198	126	3312
Pearl, Azariah Y., New York, N. Y. Boring-machine	845,191	Feb. 26	4913	1041	126	3130
Peck, Scott, Modesto, Cal. Measuring device	845,572	Feb. 26	5654	1198	126	3312
Péducasse, Bernard, Lyon, France. Combined braking and locking device	845,192	Feb. 26	4915	1042	126	3131
Peltier, Arthur, Detroit, Mich., assignor of seven-sixteenths to F. R. Wheat, Wheeling, W. Va. Extension step-ladder	845,433	Feb. 26	5389	1144	126	3245
Pelton, Charles H., assignor to Thomas Manufacturing Company, Springfield, Ohio. Hay-loader	845,193	Feb. 26	4917	1042-3	126	3131
Pendleton, Leonard S. (See Zorn, John B., assignor.)						
Penn, William E. (See Macnish and Penn.)						
Perdue, James M., Matthews, Ga. Marking attachment for plows	845,573	Feb. 26	5655	1199	126	3312
Perkins Electric Switch Manufacturing Company. (See Goodridge, Gilbert W., assignor.)						
Perry, Reuben W., Stoneham, Mass., assignor to Krentler-Arnold Hinge Last Company, Detroit, Mich. Last	845,705	Feb. 26	5924	1251	126	3379
Peru Common Battery Lock-Out Telephone Company. (See Boone, Mark P., assignor.)						
Peters, Edward, Hamilton, Ontario, Canada. Combination bed and table	845,117	Feb. 26	4775	1013	126	3095
Peters, Rudolf, Heidelberg, Germany. Utilizing waste ends of carbons for arc-lamps	845,256	Feb. 26	5026	.....	126	3160
Peterson, Nels P., Jewell, Iowa. Whiffletree	845,663	Feb. 26	5848	1235	126	3359
Pheasant, William H., assignor of one-half to O. A. Crawford, McClure, Pa. Jar opener and closer	845,118	Feb. 26	4776	1013	126	3095
Pick, Thomas P., Chicago, Ill. Strainer	845,257	Feb. 26	5036	1071	126	3160
Pickard, Greenleaf W., Amesbury, Mass. Means for receiving intelligence communicated by electric waves	845,316	Feb. 26	5172	1098	126	3194
Pickard, Herman W., Oshkosh, Wis. Milk-bottle skimmer	845,706	Feb. 26	5925	1252	126	3379
Pitman, Andrew C., Gary W. Va. Pick	845,574	Feb. 26	5656	1199	126	3313
Pitman, Taylor A., Tacoma, Wash. Steam throttle-valve	845,119	Feb. 26	4777	1013	126	3095
Pocock, Henry, London, Ontario, Canada. Machine for making cement brick	845,194	Feb. 26	4921	1044	126	3132
Pope Manufacturing Company. (See Hardegen and Kennedy, assignors.)						
Popplewell, George, Louisville, Ky. Bobbin	845,575	Feb. 26	5657	1199	126	3313
Porteus, George. (See Whitehead and Porteus.)						
Powell, Benjamin F., Manzanola, Colo. Hay-stacker	845,576	Feb. 26	5659	1199-1200	126	3313
Price, Anderson B., Vicar Switch, Va. Gage	845,258	Feb. 26	5037	1071	126	3160
Pulsifer, Walter K. (See Carmody and Pulsifer.)						
Quackenboss, Leonard G., Chicago, Ill. Bay-window	845,259	Feb. 26	5039	1072-3	126	3161
Quinn, Matthew, Kansas City, Mo. Coin-holder	845,664	Feb. 26	5849	1235	126	3359
Rainaud, Georges E., Vincennes, France. Box for illuminated signs and transparencies	845,478	Feb. 26	5900	1164	126	3274
Ramsden, John T., assignor to Tabor Manufacturing Company, Philadelphia, Pa. Clamp for holding molders' flasks	845,665	Feb. 26	5851	1235	126	3360
Randall, Henry J., East Cohoctah, Mich., assignor to F. E. Myers and Brother, Ashland, Ohio. Door-hanger	845,479	Feb. 26	5501	1164	126	3274
Randolph, Marion W., Seattle, Wash. Cabinet	845,707	Feb. 26	5925	1252	126	3380
Raphiel, Isadore, Campti, La. Faucet	845,260	Feb. 26	5042	1073	126	3161

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Ray, David B., New York, N. Y. Type-distributing machine	845,261	Feb. 26	5044	1074–5	126	3162
Raymond, Alfred A., Chicago, Ill., assignor to Raymond Concrete Pile Company, Trenton, N. J. Pile-core	845,120	Feb. 26	4778	1013	126	3095
Raymond Concrete Company. (See Raymond, Alfred A., assignor.)						
Reams, Herman S., assignor to Richmond Cedar Works, Richmond, Va. Washing-machine bench	845,262	Feb. 26	5063	1075	126	3164
Reatz, Mary S., Kansas City, Mo. Fruit-evaporator	845,317	Feb. 26	5173	1098	126	3194
Redmond, Joseph, New York, N. Y. Vegetable-peeling machine	845,318	Feb. 26	5177	1099	126	3195
Reed, Francis C., South McAlester, Ind. Ter. Time-igniter	845,374	Feb. 26	5296	1123	126	3223
Reiss, George T. (See Cullen and Reiss.)						
Reller, Joseph E., Indianapolis, Ind. Meat-clamp for butchers' blocks	845,263	Feb. 26	5055	1075	126	3165
Reniff, James R., assignor of one-half to E. H. Gold, Chicago, Ill. Connecting-pin	845,121	Feb. 26	4782	1014	126	3097
Rhodes, Joshua, *et al.* (See Kaplan, Joseph A., assignor.)						
Ricciardi, Bartolomeo, New York, N. Y. Tailor's square	845,319	Feb. 26	5178	1099	126	3195
Richardson, Caleb E., *et al.* (See Shryock, William H., assignor.)						
Richmond Cedar Works. (See Reams, Herman S., assignor.)						
Ridd, Ambrose, Newport, Ky. Making mottled rolls	845,434	Feb. 26	5391	1145	126	3246
Ridd, Ambrose, Newport, Ky. Apparatus for planishing metal sheets	845,718	Feb. 26	5953	1257	126	3386
Ridgely Trimmer Company. (See Breckenridge, John G., assignor.)						
Risinger, Willie E, Rochelle, Ill., assignor of one-half to E. H. McKenzie, Minneapolis, Minn. Type-writer	845,264	Feb. 26	5056	1076	126	3165
Risley, Dalton, Omaha, Nebr., assignor, by mesne assignments, to Cleveland Metallic Packing Company, Cleveland, Ohio. Piston-rod gland	845,122	Feb. 26	4784	1014	126	3098
Robbins, George H., Racine, Wis. Cabbage-harvester	845,195	Feb. 26	4924	1044	126	3132
Roberts, Leonard C., Nunda, assignor of two-thirds to S. G. McTarnaghan and W. H. Jeffs, Fillmore, N. Y. Mixing-machine	845,435	Feb. 26	5392	1145	126	3246
Robey, Austin C., assignor to J. Blair and O. Burns, Marshall, Mo. Corn-cutter	845,123	Feb. 26	4786	1014	126	3098
Rock Island Plow Company. (See Smith, Ernest C., assignor.)						
Rogers, Harry T., *et al.* (See Dempsey, James M., assignor.)						
Rogers, John C., Ord, Nebr. Manure and dirt dump	845,124	Feb. 26	4787	1015	126	3098
Rogers, John R., Brooklyn, N. Y., assignor to Mergenthaler Linotype Company. Linotype-machine	845,196	Feb. 26	4925	1044	126	3133
Rojas, Floricel A., New York, N. Y. Finger-ring and pencil	845,197	Feb. 26	4926	1045	126	3133
Roney, William T., Bethany, Ill. Scoop-board	845,490	Feb. 26	5503	1165	126	3275
Ross, Austin J., Cambridge, Ill. Water-conductor pipe or the like	845,577	Feb. 26	5661	1200	126	3314
Ross, Austin J., Cambridge, Ill. Fastening device for rain-water conductors	845,578	Feb. 26	5663	1200	126	3314
Rothweiler, Harvey N., Seattle, Wash. Non-refillable bottle	845,579	Feb. 26	5664	1200	126	3315
Rowe, George F., Bangor, Me. Pulp-wood chipper	845,198	Feb. 26	4927	1045	126	3133
Ruckstuhl, John, Fishkill-on-the-Hudson, N. Y. Handle	845,666	Feb. 26	5652	1235	126	3300
Rule, John A., Cincinnati, Ohio. Newspaper-vending machine	845,199	Feb. 26	4928	1045	126	3133
Rumsey, Eugene A. (See Ditton, George O., assignor.)						
Ruppert, John, Glencoe, Minn. Wagon	845,580	Feb. 26	5666	1201	126	3315
Russell & Erwin Manufacturing Company. (See Caley, Charles J., assignor.)						
Russell, George D., and P. H. Armistead, Baird, Tex. Harvesting apparatus	845,581	Feb. 26	5669	1202	126	3316
Ruth, Samuel D., Beatrice, Nebr. Ink-pad	845,436	Feb. 26	5395	1146	126	3247
Rutherford, Frank H., Chicago, Ill. Automatic air-brake coupling for railway-cars	845,125	Feb. 26	4789	1015	126	3099
Safety Car Heating & Lighting Company. (See Dixon, Robert M., assignor.)	845,265	Feb. 26	5057	1076	126	3165
Safety Car Heating & Lighting Company. (See Lungren, Charles M., assignor.)						
Salazar, Trinidad. (See Chapa, Francisco P., assignor.)						
Samms, William P., Enterprise, Oreg. Swimming appliance	845,266	Feb. 26	5065	1077	126	3169
Sanitary Devices Manufacturing Company. (See Lotz, Augustus, assignor.)						
Sanner, Edouard, St. Etienne, France. Gun	845,481	Feb. 26	5504	1165–6	126	3275
Saville, Alfred W., assignor to Western Electric Company, Chicago, Ill. Magnetic clutch	845,126	Feb. 26	4790	1015	126	3099
Savoye, Emile, Paris, France. Corset	845,582	Feb. 26	5673	1202	126	3317
Saxton, Thomas G., assignor of fifty-one one-hundredths to C. J. Bronston, Lexington, Ky. Preparing fibers	845,267	Feb. 26	5066	1077	126	3169
Sayre, Lewis W., Byesville, Ohio. Rail-joint	845,482	Feb. 26	5507	1166	126	3275
Scenic Novelty Company. (See Citron, William J., assignor.)						
Schade, John, Jr., Brooklyn, N. Y., assignor to Fahnestock Electric Company. Spring terminal-clip	845,268	Feb. 26	5068	1077	126	3169
Schaffner, Emil, Wimbledon, N. D. Conveyer-apron	845,269	Feb. 26	5072	1078	126	3170
Schauer, George K., Osborn, Ohio. Corn-planter	845,200	Feb. 26	4930	1046–7	126	3134
Schiele, Frederick J., Syracuse, N. Y. Steering-gear	845,127	Feb. 26	4791	1016	126	3099
Schmand, Albert F., Bridgeport, Conn. Ice-cream freezer	845,667	Feb. 26	5852	1236	126	3360
Schmeltzer, Samuel M., Milwaukee, Wis. Conductor-pipe machine	845,437	Feb. 26	5398	1146	126	3248
Schmidt, Eugen, St. Petersburg, Russia. Apparatus for producing a mixture of steam and combustion-gases	845,128	Feb. 26	4793	1016	126	3100
Schmidt, Rudolph F., Cincinnati, Ohio. Rotary engine	845,270	Feb. 26	5073	1078	126	3170
Schnaus, Charles J. (See Lonergan, William J., assignor.)						
Schneider, George. (See Paschen, Frederick, assignor.)						
Schniewind, Frederic W. C., Everett, Mass., assignor to United Coke & Gas Company, Charleston, W. Va., and Philadelphia, Pa. Apparatus for charging coke-ovens	845,719	Feb. 26	5955	1257	126	3387
Schoenberg, Abraham R. (See Klein, Charles J., assignor.)						
Scholl, Roland H., Karlsruhe, and M. A. Kunz, Mannheim, assignors to Badische Anilin & Soda Fabrik, Ludwigshafen-on-the-Rhine, Germany. Preparing anthraquinone compounds	845,129	Feb. 26	4796		126	3100
Schrade, George, Walden, N. Y. Pocket-knife	845,130	Feb. 26	4797	1016	126	3100
Schreiber, Oscar, Zwickau, Germany. Double-lift jacquard mechanism for looms	845,271	Feb. 26	5075	1078	126	3170
Schwenck, Henry, New York, N. Y. Meat-cutter	845,583	Feb. 26	5674	1203	126	3317
Scott, George W., Troy, Ohio. Adjustable storm-front for vehicles. (Reissue)	845,584	Feb. 26	5677	1203	126	3317
Seeger, Frederick U., Somerville, Mass. Folding post-card	12,613	Feb. 26	5996	1266	126	3398
Selleck, William J., Riverside, Conn. Trolley	845,375	Feb. 26	5296	1123	126	3223
Shaler, Clarence A., Waupun, Wis. Vulcanizer	845,493	Feb. 26	5508	1167	126	3276
Sharp & Smith. (See Evans, Michael P., assignor.)						
Sharts, Truman P., Readsboro, assignor of three-fourths to C. J. Howe, Jamaica, W. C. Davis and J. H. Cole, Readsboro, Vt. Carbon electrode and producing the same	845,272	Feb. 26	5076	1079	126	3171
Sheehan, Thomas C., Jersey City, N. J., assignor to Trinity Press Company, New York, N. Y. Printing-machine	845,585	Feb. 26	5678	1203	126	3318
Shelden, Charles W., assignor of one-half to L. A. Tope, Clearfield, Iowa. Surgical instrument	845,586	Feb. 26	5679	1204	126	3318
Shepherd, James H., Idaho Springs, Colo. Wrench	845,587	Feb. 26	5682	1204	126	3319
Shepherd, Joseph H., assignor to Morris County Machine & Iron Company, Dover, N. J. Mixing-machine	845,588	Feb. 26	5683	1204	126	3319
Sherburne, Charles H., Boston, Mass. Rail bending and straightening machine	845,438	Feb. 26	5401	1147	126	3248
Shoe, John B. (See Brown and Shoe.)	845,131	Feb. 26	4799	1017	126	3101
Shryock, Charlie, *et al.* (See Shryock, William H., assignor.)						
Shryock, William H., assignor of two-thirds to C. E. Richardson and C. Shryock, Pierce City, Mo. Steel railway-tie	845,376	Feb. 26	5298	1123	126	3224

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Simonds, George L. (See Hays, Joseph W., assignor.)						
Simonds, John W., Greenville, Tex. Trace-fastener	845,273	Feb. 26	5078	1079	126	3171
Simpkins, Ernest J., Toledo, Ohio. Upright-piano action	845,720	Feb. 26	5957	1258	126	3387
Simpson, Robert, London, Ontario, Canada. Fruit-picking apparatus	845,484	Feb. 26	5512	1167	126	3277
Singer Manufacturing Company. (See Gatchell, George S., assignor.)						
Single, Leonard, Hamilton, Ohio. Safety device for speed-governors	845,132	Feb. 26	4801	1017	126	3101
Slade, Thomas J., Pawtucket, assignor to Smith Brothers, Providence, R. I. Plating apparatus	845,133	Feb. 26	4803	1017	126	3102
Smith, Adam M., Whitewater, Wis. Horse-power and hoist	845,201	Feb. 26	4935	1047	126	3135
Smith Brothers. (See Slade, Thomas J., assignor.)						
Smith, Charles A., assignor to Blaisdell Paper Pencil Company, Philadelphia, Pa. Pencil	845,320	Feb. 26	5179	1099	126	3195
Smith, Charles D., Paris, Ill. Nut-lock	845,589	Feb. 26	5685	1205	126	3319
Smith, Ernest C., Hinckley, assignor to Rock Island Plow Company, Rock Island, Ill. Planting-machine	845,485	Feb. 26	5513	1167–8	126	3277
Smith, Lee J., Waunee, Fla. Roller-support for movable doors	845,134	Feb. 26	4805	1018	126	3102
Smith, William S. H., Croydon, England. Pneumatic hub for wheels	845,135	Feb. 26	4806	1018	126	3102
Snow, William D., assignor to Thomas Potter Sons & Company, Incorporated, Philadelphia, Pa. Manufacture of linoleum	845,202	Feb. 26	4938	1047–8	126	3135
Snyder, Emmanuell H., Canton, Ohio. Corn-planter	845,203	Feb. 26	4940	1048	126	3136
Snyder, William B. (See Kemble and Snyder.)						
Solomon, William T., Louisville, Ky., assignor to R. C. Hall, Pittsburg, Pa. Valve for non-refillable bottles	845,136	Feb. 26	4806	1018	126	3103
Solomon, William T., assignor to R. C. Hall, Pittsburg, Pa. Nut-lock	845 137	Feb. 26	4807	1018	126	3103
Sovereign, George E., Pottersville, N. J. Apparatus and method for shredding leather	845,721	Feb. 26	5958	1258–9	126	3388
Spellman, Herbert W., Newark, N. J., assignor to American Match Manufacturing Company, New York, N. Y. Splint-carrier	845,439	Feb. 26	5403	1147	126	3249
Sperry, Herbert B., Springfield, Ohio, assignor to International Harvester Company. Combined side-delivery hay rake and tedder	845,204	Feb. 26	4941	1048	126	3136
Spiller, Philip S., assignor of one-half to N. O. Brenizer, Austin, Tex. Grate for boiler-furnaces, &c	845,590	Feb. 26	5686	1205	126	3320
Spitzer, Emanuel, Munich, assignor of three-fourths to A. O. Goldsmith, Berlin, and S. Spitzer, Munich, Germany. Producing printing-plates	845,138	Feb. 26	4809		126	3103
Spitzer, Sophie, *et al.* (See Spitzer, Emanuel, assignor.)						
Stambois, Charles, Newcastle-upon-Tyne, assignor of one-twentieth to S. A. Almida, Chicago, Ill., and one-tenth to L. Huber, Frauenfeld, Switzerland. Treadle-motor	845,377	Feb. 26	5299	1124	126	3224
Standard Harrow Company. (See Camp, George E., assignor.)						
Standard Oil Company. (See Frasch, Herman, assignor.)						
Staples Coal Company. (See Hammond, John W., assignor.)						
Stebler, Fred, *et al.* (See Bowman, Homer C., assignor.)						
Steele, David R., Curtis Bay, assignor of one-half to H. D. Harvey, Baltimore, Md. Furnace	845,591	Feb. 26	5687	1205	126	3320
Stern, Maurice, assignor of one-half to L. Moskowitz, Philadelphia, Pa. Revolver	845,274	Feb. 26	5079	1079	126	3171
Stevens, Brainard W., and W. Hanson, Pinole, assignors to California Powder Works, San Francisco, Cal. Wad-stamping device	845,486	Feb. 26	5515	1168	126	3277
Stewart, Francis L., Murrysville, assignor of one-half to S. E. Gill, Pittsburg, Pa. Obtaining cellulose	845,378	Feb. 26	5301		126	3225
Stewart, Frank, Aspen, Colo. Shovel-handle	845,592	Feb. 26	5690	1206	126	3320
Stewart, Perry H., and E. A. Miller, Hopkins, Mo. Dry-goods marker	845,593	Feb. 26	5691	1206	126	3321
Stidham, Harlan M., New York, N. Y. Garment-supporter or garter	845,321	Feb. 26	5180	1100	126	3196
Stockhausen, Julius, Crefeld, Germany. Carbon-tetrachlorid preparation and production	845,322	Feb. 26	5182		126	3196
Stokes, John S., Moorestown, N. J. Box-covering blank	845,205	Feb. 26	4943	1049	126	3137
Stoneburner, Otto F., Zanesville, Ohio. Door-hanger and track therefor	845,206	Feb. 26	4944	1049	126	3137
Stout, John S., Oxford Junction, Iowa. Snow-plow	845,594	Feb. 26	5691	1206	126	3321
Stouthamer, John H. (See Sullivan and Harris, assignors.)						
Strehl, John M., Grand Rapids, Mich. Scissors-sharpener	845,487	Feb. 26	5517	1169	126	3278
Strootman, John, Buffalo, N. Y. Machine for forming concavities in the top surface of the sole of a made-up shoe or the like	845,440	Feb. 26	5404	1147	126	3249
Struck, Nicolai, St. Petersburg, Russia. Machine for automatically grinding spiral or twist drills	845,139	Feb. 26	4810	1019–20	126	3103
Stuart, Herbert A., Perth, Western Australia, Australia. Internal-combustion engine	845,140	Feb. 26	4812	1021	126	3104
Stucy, Henry S., Louisville, Ky. Pipe-coupling	845,141	Feb. 26	4814	1021	126	3104
Stutler, Abraham H., West Union, W. Va. Churn-operating mechanism	845,595	Feb. 26	5693	1206–7	126	3321
Sullivan, John J., Holyoke, Mass. Ceiling or floor plate	845,142	Feb. 26	4816	1022	126	3105
Sullivan, Thomas J., and G. J. Harris; said Harris assignor to J. H. Stouthamer, Milwaukee, Wis. Pneumatic renovator	845,275	Feb. 26	5082	1080	126	3172
Swart, Joseph, Fort Scott, Kans. Adding-machine	845,276	Feb. 26	5085	1080	126	3173
Sweet, Parker H., Jr., Washington, D. C., assignor of three-fourths to J. B. Mendenhall, Kansas City, Mo. Mold for making metal castings	845,668	Feb. 26	5854	1236	126	3360
Tabor Manufacturing Company. (See Ramsden, John T., assignor.)						
Taplin Manufacturing Company. (See Bailey, George F., assignor.)						
Tappen, Andrew. (See Darling, Frank, assignor.)						
Taylor, Clarence L., assignor to Morgan Engineering Company, Alliance, Ohio. Traveling crane	845,380	Feb. 26	5304	1125	126	3226
Taylor, Isaac F., East Dulwich, London, England. Apparatus for raising and lowering goods	845,143	Feb. 26	4817	1022	126	3105
Taylor, James A., Birmingham, Ala. Lifting-jack	845,144	Feb. 26	4819	1022	126	3106
Teese, William J., assignor to himself and E. E. Cawley, New York, N. Y. Bag, trunk, or similar article	845,145	Feb. 26	4820	1023	126	3106
Thayer, Emily W., Saxtons River, Vt. Plant-rest	845,669	Feb. 26	5856	1237	126	3361
Thayer, Joseph E., West Bridgewater, Mass., assignor to United Shoe Machinery Company, Paterson, N. J. Sole rounding and channeling machine	845,277	Feb. 26	5088	1081	126	3174
Theil, Fred, Chicago, Ill. Relish set	845,278	Feb. 26	5090	1081	126	3174
Therre, George M., Syracuse, assignor of one-half to T. A. McCarthy, Binghamton, N. Y. Pants	845,488	Feb. 26	5518	1169	126	3278
Thieler, John H., Lenora, Kans. Box	845,596	Feb. 26	5694	1207	126	3322
Thistle Manufacturing Company. (See Christensen, Andrew B., assignor.)						
Thomann, Patti, Halle-on-the-Saale, Germany. Brick-press	845,146	Feb. 26	4822	1023	126	3106
Thomas, George B., assignor of one-half to G. W. Goodridge, Bridgeport, Conn. Cutter for metal-working tools	845,489	Feb. 26	5519	1169	126	3278
Thomas Manufacturing Company. (See Pelton, Charles H., assignor.)						
Thomas, Omer, Bedford, and G. Blackwell, Guthrie, Ind., assignors to Ingersoll-Rand Company, New York, N. Y. Screw-fed machine	845,379	Feb. 26	5302	1124	126	3225
Thomas, Percy H., East Orange, N. J., assignor to Cooper Hewitt Electric Company, New York, N. Y. Vacuum apparatus	845,670	Feb. 26	5858	1237	126	3361
Thomas, Percy H., East Orange, N. J., assignor to Cooper Hewitt Electric Company, New York, N. Y. Means for creating a vacuum	845,671	Feb. 26	5860	1237	126	3362
Thomas, Percy H., East Orange, N. J., assignor to Cooper Hewitt Electric Company, New York, N. Y. Protecting device for vapor apparatus	845,722	Feb. 26	5962	1279	126	3388

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Thomas Potter Sons & Company. (See Snow, William D., assignor.)						
Thompson, John A., Seattle, Wash. Nail-extractor	845,672	Feb. 26	5861	1238	126	3362
Thompson, Joseph H., and J. Murphy, Passaic, N. J. Sewing-machine table	845,490	Feb. 26	5520	1169-70	126	3278
Thompson, Robert M. (See Coats and Thompson.)						
Thompson, Thomas, Central Village, Conn. Stop-motion for looms	845,279	Feb. 26	5092	1081	126	3175
Thomson, Charles A., assignor to C. A. Thomson Machine Company, Belleville, N. J. Machine for molding plastic material	845,597	Feb. 26	5695	1207-8	126	3322
Thrasher, Charles M., Rocky, Okla. Ter. Nut-lock	845,280	Feb. 26	5093	1082	126	3175
Thunen, Charles G., Oroville, Cal. Sight for firearms	845,491	Feb. 26	5521	1170	126	3279
Tiller, Friedrich R., *et al.* (See Dobler, Philipp, assignor.)						
Timmerman, Charles, New York, N. Y. Feed-water purifier	845,723	Feb. 26	5963	1260	126	3389
Tirrill, Leonard A., Lynn, Mass., assignor to General Electric Company. Electrically-operated valve	845,281	Feb. 26	5094	1082-3	126	3175
Tobias, Burton E., Adrian, Mich. Tie for wire fencing	845,381	Feb. 26	5305	1126	126	3226
Tope, Lee A. (See Shelden, Charles W., assignor.)						
Tornier, Alphons, New York, N. Y. Window	845,382	Feb. 26	5307	1126	126	3226
Toth, Alexander. (See Bognar and Toth.)						
Towers, James, Albuquerque, N. Mex. Ter. Forming oil-cups	845,492	Feb. 26	5522	1170	126	3279
Tredegar Company. (See Yost, William R., assignor.)						
Trinity Press Company. (See Sheehan, Thomas C., assignor.)						
Tripp, Chester L., New Bedford, Mass. Transportation device	845,207	Feb. 26	4945	1049	126	3137
Turner, Harry, *et al.* (See Ferguson, Turner, and Haller.)						
Turner, Kelley M., New York, and N. W. Johnston, Chappaqua, N. Y., assignors, by mesne assignments, to General Acoustic Company. Ear-massage apparatus	845,383	Feb. 26	5307	1126	126	3227
Underwood Typewriter Company. (See Kunath, Edward F., assignor.)						
Underwood Typewriter Company. (See Newmann, George F., assignor.)						
United Coke & Gas Company. (See Schniewind, Frederic W. C., assignor.)						
United Shirt & Collar Company. (See Elliott, Charles C., assignor.)						
United Shoe Machinery Company. (See Mayo, Benjamin F., assignor.)						
United Shoe Machinery Company. (See Thayer, J. E., assignor.)						
United States Slot Machine Company. (See Williams, John A., assignor.)						
Vallone, Charles, assignor to Barcalo Manufacturing Company, Buffalo, N. Y. Sliding-side folding crib or bed	845,384	Feb. 26	5309	1126-7	126	3227
Van Deventer, William E., Star City, Mich. Portable mail-carrier box	845,598	Feb. 26	5701	1208	126	3324
Van Drake, Alfred J., San Francisco, Cal. Scrubbing and cleaning device	845,493	Feb. 26	5523	1170	126	3279
Van Eyck, Georg, Oefilngen, Germany. Sterilizer	845,208	Feb. 26	4946	1049-50	126	3137
Vandegrift, James N., Bryn Mawr, Pa. Rail for railways	845,147	Feb. 26	4822	1023	126	3106
Vanlaningham, Daniel T., Youngstown, Mo. Magazine-hammer	845,148	Feb. 26	4824	1024	126	3107
Vanmanen, Stephen. (See Vanmanen, William and S.)						
Vanmanen, William and S., Grand Rapids, Mich. Truck	845,673	Feb. 26	5862	1238	126	3363
W. C. Heraeus, Firm of. (See Haagn, Ernst, assignor.)	845,441	Feb. 26	5406	1147	126	3250
Walker, James A. (See Gould, Edwin J., assignor.)						
Walsh, William H., Montreal, Quebec, Canada. Automatic car-fender	845,442	Feb. 26	5407	1148	126	3250
Waltemeyer, T. S., *et al.* (See Wiest, John H., assignor.)						
Wands, John C., St. Louis, Mo. Shock-absorbing device	845,149	Feb. 26	4826	1024	126	3107
Wands, John C., St. Louis, Mo. Shock-absorbing device	845,150	Feb. 26	4827	1024	126	3108
Ward, Helen L. (See Newman, Evalyn M., assignor.)						
Warren, James I., Ottumwa, Iowa. Lubricator	845,209	Feb. 26	4946	1050	126	3138
Warth, Nathaniel G., Columbus, Ohio. Telephonic-current reinforcer or repeater system	845,282	Feb. 26	5102	1083	126	3177
Weber, Bernard F., Chicago, Ill. Larding-needle	845,151	Feb. 26	4829	1024	126	3108
Weidner, Edward J., Lindsay, Nebr. Husking-machine	845,599	Feb. 26	5702	1208	126	3324
Weimer, John. (See Hubert, William, assignor.)						
Weingart, Isaac, assignor to Leuumann, Boesch & Weingart, New York, N. Y. Garment	845,494	Feb. 26	5524	1171	126	3279
Weir Frog Company. (See Partington, Charles, assignor.)						
Weir, Robert, Chicago, Ill. Log-roller	845,152	Feb. 26	4830	1025	126	3109
Wells, Alonzo M. (See Dickinson, Lester W., assignor.)						
Wensinger, Charles F., Fremont, Ohio. Trolley-pole	845,323	Feb. 26	5183	1100	126	3196
Western Electric Company. (See McBerty and McQuarrie, assignors.)						
Western Electric Company. (See McQuarrie, James L., assignor.)						
Western Electric Company. (See McQuarrie and Crane, assignors.)						
Western Electric Company. (See Saville, Alfred W., assignor.)						
Westinghouse Machine Company. (See De Kando, Coloman, assignor.)						
Wheat, Frank R. (See Peltier, Arthur, assignor.)						
Wheeler, Barzilla R., Los Angeles, Cal. Scraper	845,283	Feb. 26	5106	1083	126	3178
Whidden, Frank E., Concord, N. H. Lewis	845,724	Feb. 26	5965	1260	126	3389
White, Arthur, Sheboygan Falls, Wis. Pressure expansion rotary motor	845,600	Feb. 26	5703	1209	126	3325
White, William W. (See Giles and White.)						
Whitehead, Arthur, and G. Porteus, Leeds, England. Manufacture of stereotype-matrices	845,495	Feb. 26	5525	1171	126	3280
Whiteman, George W., Philadelphia, Pa. Insulated rail-joint	845,496	Feb. 26	5527	1171	126	3280
Whiteman, George W., Philadelphia, Pa. Insulated rail-joint	845,497	Feb. 26	5529	1172	126	3281
Whitney, Dennis A., assignor of one-half to W. D. Huntington, Holland, N. Y. Telegraph-sounder	845,153	Feb. 26	4831	1025	126	3109
Whittenburg, William H. (See Bourgeois, Joseph A. and J. A., assignors.)						
Whittle, James C., Jackson, Mich. Spring	845,210	Feb. 26	4947	1051	126	3138
Wickham, Monta M., Chicago, Ill. Fence post and stay	845,498	Feb. 26	5531	1172	126	3282
Wiest, John H., assignor of one-half to C. A. Wolcott and T. S. Waltemeyer, Boulder, Colo. Fluid-feed side-inlet drill-bit	845,385	Feb. 26	5312	1127	126	3227
Wildman, James, Chicago, Ill. Water-tube boiler	845,386	Feb. 26	5313	1127-8	126	3228
Willcox & Gibbs Sewing Machine Company. (See Mitchell, Charles, assignor.)						
Williams, George W., Sr., Rose Hill, Ill. Shield for railway-switches	845,499	Feb. 26	5532	1172	126	3282
Williams, John A., Brooklyn, assignor to United States Slot Machine Company, New York, N. Y. Vending-machine	845,284	Feb. 26	5107	1084	126	3179
Williams, John A., Brooklyn, assignor to United States Slot Machine Company, New York, N. Y. Vending apparatus	845,324	Feb. 26	5184	1100-1	126	3196
Williams, John H., New London, Iowa. Valve-motion	845,154	Feb. 26	4833	1025-6	126	3109
Williams, John H., New London, Iowa. Cut-off valve	845,155	Feb. 26	4836	1026	126	3110
Williams Patent Crusher & Pulverizer Company. (See Gardner, William H., assignor.)						
Wilson, Adoniram J. (See Breese and Wilson.)						
Wilson, Robert J., Pittsburg, Pa. Air-brake apparatus	845,500	Feb. 26	5534	1173	126	3283
Winchester, Fred F., St. Paul, Minn. Staple or fastener	845,156	Feb. 26	4838	1026	126	3110
Winckhofer, Charles, Newark, N. J. Molding apparatus	845,674	Feb. 26	5863	1238-9	126	3363
Witherbee, John D. (See Witherbee, Thomas F. and J. G.)						
Witherbee, Thomas F. and J. G., Port Henry, N. Y. Charging apparatus	845,601	Feb. 26	5706	1209	126	3325
Wittemann Brothers. (See Wittemann, Jacob F., assignor.)						
Wittemann, Jacob F., Brooklyn, assignor to Wittemann Brothers, New York, N. Y. Apparatus for distilling	845,285	Feb. 26	5111	1084	126	3179

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Wittemann, Jacob F., Brooklyn, assignor to Wittemann Brothers, New York, N. Y. Distilling	845,286	Feb. 26	5115	1084	126	3180
Wolcott, Charles A., *et al.* (See Wiest, John H., assignor.)						
Wolf, Frank W., Orange, N. J. Vehicle-canopy	845,501	Feb. 26	5535	1173	126	3283
Wolfgram, Frank D., Milwaukee, Wis. Dustless brush	845,387	Feb. 26	5315	1128	126	3228
Womack, Samuel W., Laramie, Wyo. Swing	845,602	Feb. 26	5708	1209	126	3326
Wood, William O., South Hetton, near Sunderland, England, and H. Knudsen, Boston, Mass. Obtaining disruptive or explosive effects	845,604	Feb. 26	5711	1210	126	3326
Woods, Jesse L., Balsora, Tex. Calendar-clock	845,603	Feb. 26	5709	1210	126	3326
Wright, Charles S., New Haven, Conn., assignor to Mergenthaler Linotype Company. Type-setting machine	845,287	Feb. 26	5118	1085	126	3181
Wright, Francis M., trustee. (See Converse, Newton B., assignor.)						
Yale & Towne Manufacturing Company. (See Bardwell, Arthur F., assignor.)						
Yorke, George M., New York, N. Y., assignor to American Telephone and Telegraph Company. Composite telephonic and telegraphic circuit	845,157	Feb. 26	4838	1027	126	3110
Yost, William R., Barton Heights, assignor to Tredegar Company, Richmond, Va. Manufacture of horseshoes	845,211	Feb. 26	4949	1051	126	3139
Zorn, John B., assignor of one-half to L. S. Pendleton, Wisdom, Mont. Combined cigar-stand, cigar-cutter, match-box, and lighter	845,325	Feb. 26	5189	1101	126	3197
Zwalina, Samuel, Meiningen, Germany. Portable drying-stove	845,605	Feb. 26	5713	1210	126	3326

DESIGNS.

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Cole, James T., Chicago, Ill. Water-cooler	38,467	Feb. 26	126	3399
Gutermann, Edward A., assignor to Manning, Bowman & Company, Meriden, Conn. Chafing-dish stand and lamp	38,466	Feb. 26	126	3399
Jones, William, Lurgan, Ireland. Box	38,468	Feb. 26	126	3399
Manning, Bowman & Company. (See Gutermann, Edward A., assignor.)				
Widmann, Frank C., Cleveland, Ohio. Ring	38,465	Feb. 26	126	3398

TRADE-MARKS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
A. Martin Inc., New York, N. Y. Eyeglass and spectacle lenses	60,968	Feb. 26	126	3418
Acnezema Company, Chicago, Ill. Remedies for eczema and all skin diseases	61,019	Feb. 26	126	3419
Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany. Ointments	61,003	Feb. 26	126	3419
Adams, Redden W., Boston, Ga. Remedy for diseases of the blood	61,016	Feb. 26	126	3419
Albert M. Gugenheim Co., Cincinnati, Ohio. Whisky	60,969	Feb. 26	126	3418
Amerman, Caroline L., New Boston, Pa. Medicine for the cure of gall-stones in man	61,004	Feb. 26	126	3419
Arnhold, Karberg & Co., New York, N. Y. Cotton piece goods	60,020	Feb. 26	126	3419
Arnhold, Karberg & Co., New York, N. Y. Cotton piece goods	60,021	Feb. 26	126	3419
Atlantic Export Company, New York, N. Y. Dried brewer's grain	60,853	Feb. 26	126	3415
Atlantic Export Company, New York, N. Y. Dried brewer's grain	60,854	Feb. 26	126	3415
Austin-Walker M'f'g. Co., Boston, Mass. Dress-shields	60,952	Feb. 26	126	3417
Baltar, Joseph T., New Orleans, La. Rheumatic and gout medicines	61,005	Feb. 26	126	3419
Beal, Samuel R., Adrian, Mich. Card game	60,891	Feb. 26	126	3416
Berwind White Coal Mining Company, Philadelphia, Pa. Coal	60,916	Feb. 26	126	3416
Bisi & Caprini, Pittsburg, Pa. Rye whisky	60,970	Feb. 26	126	3418
Borsum Bros., New York, N. Y. Hard polishing-soap in cake form	60,892	Feb. 26	126	3416
Borsum Bros., New York, N. Y. Hard polishing-soap in cake form	60,893	Feb. 26	126	3416
Brauer Chemical Company, New York, N. Y. Mouth-wash	61,006	Feb. 26	126	3419
Brunswick, Hyman, Hot Springs, Ark. Rheumatic oil	61,022	Feb. 26	126	3419
Butcher, Charles F., Sheffield, England. Razors, scissors, and pocket-knives	60,991	Feb. 26	126	3418
Carbolineum Wood Preserving Co., Milwaukee, Wis. Antirust and acid-resisting paint	60,992	Feb. 26	126	3418
Chudeau, Henri, Malakoff, France. Oils and greases for preserving metals and for lubricating purposes	60,894	Feb. 26	126	3416
Clay, John H., Philadelphia, Pa. Chemical fire-extinguishers	61,023	Feb. 26	126	3419
Clement, Thomas J., Atlantic City, N. J. Fruit-Juices	60,917	Feb. 26	126	3416
Cobb & Co., Francis, Rockland, Me. Wheat-flour	60,855	Feb. 26	126	3415
Cochran & Co., Belfast, Ireland. Ginger-ale, soda-water, and aerated sarsaparilla	60,895	Feb. 26	126	3416
Columbia Chemical Works, Brooklyn, N. Y. Aqua-ammonia	61,007	Feb. 26	126	3419
Connelly & Sons, James, Philadelphia, Pa. Cotton cheviots for shirtings	60,971	Feb. 26	126	3418
Continental Color and Chemical Co., New York, N. Y. Certain chemicals	61,024	Feb. 26	126	3419
Crusellas, Ramon, Havana, Cuba. Flour made from bananas	60,856	Feb. 26	126	3415
Dadabhoy & Co., New York, N. Y. Coffee	60,857	Feb. 26	126	3415
Daggett & Ramsdell, New York, N. Y. Cold-cream	61,025	Feb. 26	126	3419
De Witt, Herbert M., assignor to Franktown Creamery, Denver, Colo. Butter	60,859	Feb. 26	126	3415
Delapenha & Co., R. U., New York, N. Y. Candies, including crystallized ginger	60,858	Feb. 26	126	3415
Detective Publishing Company, Chicago, Ill. Periodical	60,932	Feb. 26	126	3417
Dunham, Carrigan & Hayden Co., San Francisco, Cal. Certain edge-tools	60,972	Feb. 26	126	3418
Dunham, Carrigan & Hayden Co., San Francisco, Cal. Pocket and table knives, razors, scissors, and shears	60,973	Feb. 26	126	3418
E. Lazenby & Son, Limited, London, England. Pickles and vegetable and meat sauces	60,860	Feb. 26	126	3415
Eagle White Lead Company, Cincinnati, Ohio. Pure white lead	60,993	Feb. 26	126	3418
Eastern Dynamite Company, Kenvil, N. J. High explosives	60,918	Feb. 26	126	3416
Eastern Dynamite Company, Kenvil, N. J. High explosives	60,953	Feb. 26	126	3417
Eastern Dynamite Company, Kenvil, N. J. Fuses and blasting-caps	60,954	Feb. 26	126	3417

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Eastern Dynamite Company, Kenvil, N. J. High explosives	60,955	Feb. 26	126	3417
Eastern Dynamite Company, Kenvil, N. J. High explosives and fuses	60,956	Feb. 26	126	3417
Eastern Dynamite Company, Kenvil, N. J. Blasting-machines and electric batteries	60,974	Feb. 26	126	3418
Ebling Brewing Co., New York, N. Y. Malt extract	60,919	Feb. 26	126	3416
Edward Miller & Co., Meriden, Conn. Oil-lamps and parts thereof	60,933	Feb. 26	126	3416
Follansbee Brothers Company, Pittsburg, Pa. Tin and terne plates	60,957	Feb. 26	126	3417
Franktown Creamery. (See DeWitt, Herbert M., assignor.)				
Garden City Laboratory, Chicago, Ill. Soldering-flux	61,026	Feb. 26	126	3419
Genuine Bangor Slate Co. Inc., Easton, Pa. Roofing and building slate	60,896	Feb. 26	126	3416
Geo. W. Torrey Co., Boston, Mass. Whisky	60,958	Feb. 26	126	3417
Golden, Lewis, Detroit, Mich. Trousers	60,934	Feb. 26	126	3417
Gordon & Dilworth, New York, N. Y. Preserved and canned fruits and vegetables	60,861	Feb. 26	126	3415
Goreau, Thomas W., New Orleans, La. Filters	60,959	Feb. 26	126	3417
Graves & Sons, C. H., Boston, Mass. Whisky	60,960	Feb. 26	126	3417
Gray & Dudley Hardware Co., Nashville, Tenn. Cooking and heating stoves	60,920	Feb. 26	126	3416
Greene, Frederick R., Chicago, Ill. Remedy for all ailments originating in the stomach	61,027	Feb. 26	126	3419
Grombacher, Louis L. (See New Brunswick Chemical Co., assignor.)				
Guggenheim Mfg. Co., Rochester, N. Y. Hair-dye	61,028	Feb. 26	126	3419
H. B. Claflin Company, New York, N. Y. Soap	60,897	Feb. 26	126	3416
H. M. Sawyer & Son, Cambridge, Mass. Certain waterproof garments	60,898	Feb. 26	126	3416
H. M. Sawyer & Son, Cambridge, Mass. Certain waterproof garments	60,899	Feb. 26	126	3415
H. W. Huguley, Boston, Mass. Whisky	60,900	Feb. 26	126	3416
Hall & Ruckel, New York, N. Y. Dentifrices in liquid, powder, and paste form	60,961	Feb. 26	126	3417
Hall & Ruckel, New York, N. Y. Remedy for certain diseases and injuries	61,008	Feb. 26	126	3419
Hall & Ruckel, New York, N. Y. Eye salve or ointment	61,029	Feb. 26	126	3419
Harbutt, Wm., Bath, England. Modeling-paste	61,030	Feb. 26	126	3419
Havey & Darrow, Chicago, Ill. Weekly periodical	60,921	Feb. 26	126	3416
Helms, Jefferson D., Greensboro, N. C. External remedy for certain diseases	60,935	Feb. 26	126	3417
Herrick Complete Combustion Company, New York, N. Y. Devices for promoting combustion	61,031	Feb. 26	126	3419
Higginsville Milling Company, Higginsville, Mo. Wheat-flour	60,936	Feb. 26	126	3417
Hilaire et Cie., Paris, France. Certain medicinal products	60,994	Feb. 26	126	3418
Holyoke Valve and Hydrant Company, Holyoke, Mass. Valve-nozzles for hydrants	60,009	Feb. 26	126	3419
Houghton & Co., E. F., Philadelphia, Pa. Certain leather manufactures	60,962	Feb. 26	126	3417
Huttig Mfg. Co., Muscatine, Iowa. Rubber roofing	60,923	Feb. 26	126	3416
Ichthyol Gesellschaft, Cordes, Hermanni & Co., Hamburg, Germany. Plasters and certain medicinal preparations	60,924	Feb. 26	126	3417
Ichthyol Gesellschaft, Cordes, Hermanni & Co., Hamburg, Germany. Plasters and certain medicinal preparations	61,010	Feb. 26	126	3419
J. F. Zahm Tobacco Co., Toledo, Ohio. Smoking and chewing tobacco	61,011	Feb. 26	126	3419
K S C Medical Co., Los Angeles, Cal. Medicated suppositories	60,901	Feb. 26	126	3416
Kargon Extracting Co., Cincinnati, Ohio. Certain medicinal compounds	61,032	Feb. 26	126	3419
Kastor & Bros., Adolph, New York, N. Y. Razors, pocket-knives, and butcher-knives	61,012	Feb. 26	126	3419
Kaye, Augustus W., Meridian, Miss. Ginger-ale	60,995	Feb. 26	126	3418
Kobayashi, Tomijiro, Tokyo, Japan. Tooth-powder	60,937	Feb. 26	126	3417
Kohn Distilling Co., Montgomery, Ala. Gin and whisky	61,013	Feb. 26	126	3419
Lanson Père & Fils, Rheims, France. Champagnes	60,975	Feb. 26	126	3418
Lawton & Hall, Chicago, Ill. Umbrellas	60,902	Feb. 26	126	3416
Lazarakis, John F., Lowell, Mass. Cigarettes	60,938	Feb. 26	126	3417
Lehmann, Ernst P., Brandenburg-on-the-Havel, Germany. Sheet-metal and mechanical toys	60,939	Feb. 26	126	3417
Little & Company, A. E., Lynn, Mass. Boots and shoes made in whole or in part of leather	60,925	Feb. 26	126	3417
Lynchburg Shoe Co., Lynchburg, Va. Leather boots and shoes	60,903	Feb. 26	126	3416
Lyon & Healy, Chicago, Ill. Strings for musical instruments	60,996	Feb. 26	126	3418
Madame Isebell's Toilet Mf'g Co., Chicago, Ill. Certain toilet preparations	60,976	Feb. 26	126	3418
Maxwell, Thomas H., Boston, Mass. Ladies' leather boots, shoes, and slippers	61,033	Feb. 26	126	3419
Milwaukee Net Co., Milwaukee, Wis. Leather fly-nets	60,926	Feb. 26	126	3417
Musterole Co., Cleveland, Ohio. Ointment	60,977	Feb. 26	126	3418
Narrow Fabric Corporation, Orange, Conn. Elastic webbing	61,014	Feb. 26	126	3419
Narrow Fabric Corporation, Orange, Conn. Elastic webbing	60,978	Feb. 26	126	3418
National Fulton Brass Manufacturing Company, Dertoit, Mich. Bronze	60,979	Feb. 26	126	3418
Neustadtl, Victor, New York, N. Y. Beer	60,980	Feb. 26	126	3418
New Brunswick Chemical Co., New Brunswick, N. J., assignor to L. L. Grombacher, New York, N. Y. Anesthetic preparations for hypodermic injections	60,940	Feb. 26	126	3417
New Departure Manufacturing Company, Bristol, Conn. Bells, except electric bells	61,034	Feb. 26	126	3419
New Departure Manufacturing Company, Bristol, Conn. Bells, except electric bells	60,981	Feb. 26	126	3418
New Orleans Acid and Fertilizer Company, Union township, N. J. Fertilizers	60,982	Feb. 26	126	3418
New Orleans Acid and Fertilizer Company, Union township, N. J. Fertilizers	60,904	Feb. 26	126	3416
New Orleans Acid and Fertilizer Company, Union township, N. J. Fertilizers	60,905	Feb. 26	126	3416
New York Butchers Dressed Meat Company, New York, N. Y. Fresh meats	60,906	Feb. 26	126	3416
New York Consolidated Card Company, New York, N. Y. Playing-cards	60,863	Feb. 26	126	3415
New York Consolidated Card Company, New York, N. Y. Playing-cards	60,907	Feb. 26	126	3416
New York Consolidated Card Company, New York, N. Y. Playing-cards	60,908	Feb. 26	126	3416
New York Specialty Co., New York, N. Y. Metallic bottle-stoppers	60,909	Feb. 26	126	3416
Norton, Columbus L., Statesville, N. C. Non-alcoholic tonic beverage	60,910	Feb. 26	126	3416
Ohio Mining and Manufacturing Co., Shawnee, Ohio, and New York, N. Y. Building bricks or blocks	60,983	Feb. 26	126	3418
Oneita Knitting Mills, Utica, N. Y. Knit underwear	60,911	Feb. 26	126	3416
P. J. Valckenberg, Limited, Worms, Germany. Rhine wines	60,997	Feb. 26	126	3418
P. J. Valckenberg, Limited, Worms, Germany. Rhine wines	60,984	Feb. 26	126	3418
P. M. Fletcher Company, New York, N. Y. Certain named electrical apparatus and supplies	60,912	Feb. 26	126	3416
Palmer, Mary L., Chicago, Ill. Heat-insulated receptacle	60,941	Feb. 26	126	3417
Palmer-Price Co., Newark, N. J. Varnishes	60,998	Feb. 26	126	3418
Pater, Joseph J., Hamilton, Ohio. Smoked meats	60,927	Feb. 26	126	3417
Paul Brothers, Philadelphia, Pa. Leather boots, shoes, and slippers	60,928	Feb. 26	126	3417
Paul Brothers, Philadelphia, Pa. Leather boots, shoes, and slippers	60,864	Feb. 26	126	3415
Paul Brothers, Philadelphia, Pa. Leather boots, shoes, and slippers	60,963	Feb. 26	126	3417
Peter Schoenhofen Brewing Company, Chicago, Ill. Lager-beer	60,964	Feb. 26	126	3418
Phœnix Manufacturing Co., Newark, N. J. Laundry tablets for washing clothes and fabrics	60,999	Feb. 26	126	3418
Porter Medicine Company, Paris, Tenn. Remedy for the treatment of grippe and analogous disorders	60,942	Feb. 26	126	3417
Pough, Francis H., New York, N. Y. Pipe-joint cement	60,965	Feb. 26	126	3418
	61,015	Feb. 26	126	3419
	60,943	Feb. 26	126	3417

TRADE-MARKS—Continued.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Raben Company, Houston, Tex. Liver medicines and laxatives	61,035	Feb. 26	126	3419
Rainbow Ale Company, Atlanta, Ga. Ginger-ale	60,913	Feb. 26	126	3416
Rapp Shoe Company, St. Louis, Mo. Leather boots, shoes, and slippers	60,944	Feb. 26	126	3417
Reagan Round Bale Co., San Antonio, Tex. Raw cotton	60,985	Feb. 26	126	3418
Ringemann, Frank H., Cincinnati, Ohio. Fluid for generating artificial gas	60,017	Feb. 26	126	3419
Rosenthal-Sloan Millinery Co., St. Louis, Mo. Certain hats and caps	60,871	Feb. 26	126	3415
Royal Cream Company, Chicago, Ill. Shaving-cream	61,018	Feb. 26	126	3419
S. Liebmann's Sons Brewing Company, Brooklyn, N. Y. Malt extract	61,002	Feb. 26	126	3419
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,872	Feb. 26	126	3415
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,873	Feb. 26	126	3415
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,874	Feb. 26	126	3415
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,875	Feb. 26	126	3415
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,876	Feb. 26	126	3415
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,877	Feb. 26	126	3415
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,878	Feb. 26	126	3415
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,879	Feb. 26	126	3415
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,880	Feb. 26	126	3415
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,881	Feb. 26	126	3415
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,882	Feb. 26	126	3415
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,883	Feb. 26	126	3415
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,884	Feb. 26	126	3415
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,885	Feb. 26	126	3416
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,886	Feb. 26	126	3416
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,887	Feb. 26	126	3416
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,888	Feb. 26	126	3416
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,889	Feb. 26	126	3416
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,890	Feb. 26	126	3416
S. M. Bixby & Co., New York, N. Y. Leather and shoe blackings, paste, polish, and varnish	60,986	Feb. 26	126	3418
Shumate Razor Company, St. Louis, Mo. Razors	60,929	Feb. 26	126	3417
Slater Shoe Company, Montreal, Canada. Leather shoes, boots, and slippers	61,000	Feb. 26	126	3419
Smith Bros. Hardware Co., Columbus, Ohio. Certain edge-tools				
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Cotton-seed oils	60,865	Feb. 26	126	3415
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Cotton-seed oils	60,866	Feb. 26	126	3415
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Cotton-seed oils	60,867	Feb. 26	126	3415
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Soap	60,966	Feb. 26	126	3418
Southern Cotton Oil Company, Jersey City, N. J.; New York, N. Y.; Savannah, Ga., and Gretna, La. Mattresses	61,001	Feb. 26	126	3419
Spartan Manufacturing Co., Galesburg, Ill. Feed-grinders	60,987	Feb. 26	126	3418
Sprague, Warner & Company, Chicago, Ill. Coffee	60,868	Feb. 26	126	3415
Standard Paper M'n'f'g. Co., Manchester, Va. Blotting-paper	60,945	Feb. 26	126	3417
Taylor Iron & Steel Co., High Bridge, N. J. Cast-steel shells for explosiye projectiles	60,946	Feb. 26	126	3417
Trostel & Sons, Albert, Milwaukee, Wis. Leather for harness	60,988	Feb. 26	126	3418
Union Card & Paper Co., New York, N. Y. Writing-paper, bond-paper, and ledger-paper	60,914	Feb. 26	126	3416
Victor Talking Machine Company, Camden, N. J. Talking-machines, parts, and records	60,930	Feb. 26	126	3417
Virginia Etna Lithia Springs Co., Jersey City, N. J., and New York, N. Y. Mineral water	60,947	Feb. 26	126	3417
Vogel & Bros., William, New York, N. Y. Certain lighting apparatus and stove-urns	60,948	Feb. 26	126	3417
W. H. Montanye & Co., New York, N. Y. Teas	60,869	Feb. 26	126	3415
W. S. Moore & Co., Chicago, Ill. Butter, milk, and cheese	60,870	Feb. 26	126	3415
Washington Herald Company, Washington, D. C. Newspaper	60,949	Feb. 26	126	3417
Werner's Son, Geo. F., New York, N. Y. Calf-leather with the exception of patent calf-leather	60,967	Feb. 26	126	3418
Western Shoe Company, Janesville, Wis. Leather shoes	60,950	Feb. 26	126	3417
White Sewing Machine Co., Cleveland, Ohio. Sewing-machines, sewing-machine attachments, stands, tables, and covers	60,989	Feb. 26	126	3418
Whitman & Barnes Manufacturing Company, Akron, Ohio. Certain metal and wood working machine parts	60,990	Feb. 26	126	3418
Wiggins Teape & Co. Limited, London, England. Writing, printing, and ledger paper	60,931	Feb. 26	126	3417
Wile, Sons & Co., Julius, New York, N. Y. Sherry	60,951	Feb. 26	126	3417
Williams, Elmer E., New York, N. Y. Remedies for diseases of the stomach, liver, bowels, and blood	61,036	Feb. 26	126	3419
Williams Hoyt & Co., Rochester, N. Y. Leather boots and shoes	60,915	Feb. 26	126	3416

LABELS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Blevins, Solomon, Cleveland, Ohio. "Blevins' American Dry Cleaner." (For a Cleaning Preparation)	13,382	Feb. 26	126	3420
Burton Bros. & Co., New York, N. Y. "Sun Bleach." (For Cotton Piece Goods)	13,384	Feb. 26	126	3420
Economy Corset Co., Inc., Syracuse, N. Y. "The Button Without a Post." (For Hose-Supporters)	13,379	Feb. 26	126	3420
Ginseng Products Company, Delavan, Wis. "Ginseng." (For Beverages)	13,376	Feb. 26	126	3420
Imperial Pharmaceutical Co., New York, N. Y. "Amosal." (For a Proprietary Medicine)	13,380	Feb. 26	126	3420
Lexington Brewing Company, Lexington, Ky. "Alt Heidelberg Bräu." (For Beer)	13,377	Feb. 26	126	3420
Manahan, Joseph A., New York, N. Y. "Recordite." (For a Preparation for Cleaning, Preserving, Polishing, and Lubricating Disk Talking-Machine Records)	13,383	Feb. 26	126	3420
Old Town Distilling Co., Baltimore, Md. "Lehigh Valley Club Whiskey." (For Whisky)	13,378	Feb. 26	126	3420
Schmidt & Co., New York, N. Y. "Turf Kings." (For Cigars)	13,375	Feb. 26	126	3420
Star Toilet Co., New York, N. Y. "Star Hair Tonic and Dandruff Cure." (For a Hair-Tonic and Dandruff Cure)	13,381	Feb. 26	126	3420

PRINTS.

Name, residence, and title.	No.	Date.	Official Gazette. Vol.	Page.
Burton Bros. & Co., New York, N. Y. "Sun Bleach." (For Cotton Piece Goods)	1,912	Feb. 26	126	3420
Ed. V. Price & Company, Chicago, Ill. "A Pot of Gold for You." (For Men's and Boys' Coats, Vests, and Trousers)	1,911	Feb. 26	126	3420
Electric Vehicle Company, Hartford, Conn. "Columbia Mark XLVIII Touring Car." (For Automobiles)	1,913	Feb. 26	126	3420

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page.
A. Breslauer Company, Milwaukee, Wis. Bitters	8,887	Feb. 26	126	3402
Advance Fence Co., Peoria, Ill. Wire fence	7,961	Feb. 26	126	3401
Alfred Hale Rubber Company, Boston, Mass. Rubber cement	24,802	Feb. 26	126	3409
André, Schaub & Ploso, Paris, France. Preparation for polishing finger-nails	23,752	Feb. 26	126	3405
Apfel & Earnest, Seattle, Wash. Paving and roofing material	23,129	Feb. 26	126	3405
Axel Bagge & Co., Gothenburg, Sweden. Arrac punch	21,893	Feb. 26	126	3404
Bamberger & Company, G., New York, N. Y. Infants' slips, children's dresses, skirts, &c	24,062	Feb. 26	126	3406
Bay View Wine Co., Sandusky, Ohio. Bitters	24,745	Feb. 26	126	3409
Bertucci, Peter J., New Orleans, La. Cleaner and polisher for metal and glass	24,362	Feb. 26	126	3407
Breitwieser, Philip H., Chattanooga, Tenn. Medicinal preparation for coughs, colds, &c	21,086	Feb. 26	126	3403
Buda Foundry & Manufacturing Company, Chicago, Ill. Drilling-machines and boring apparatus and parts thereof	14,136	Feb. 26	126	3402
Burt & Co., A., Des Moines, Iowa. Prepared stock foods	24,895	Feb. 26	126	3410
Callard Stewart and Watt, Limited, London, England. Albuminoid flour	22,162	Feb. 26	126	3404
Citizens' Wholesale Supply Co., Columbus, Ohio. Lubricating oils and greases	18,176	Feb. 26	126	3403
Cleveland Mill and Power Company, Lawndale, N. C. Cotton clothes-lines	23,931	Feb. 26	126	3405
Coast Manufacturing & Supply Co., Berkeley, Cal. Fuses	24,823-4	Feb. 26	126	3409
Collins Hardware Company, Lynn, Mass. Felt roofing	25,112	Feb. 26	126	3413
Corning and Company, Peoria, Ill. Gin	24,189	Feb. 26	126	3406
Cudahy Packing Company, Chicago, Ill., and South Omaha, Nebr. Abrasive cleansing, polishing, and scouring preparation	24,748	Feb. 26	126	3409
Dayton Spice Mills Co., Dayton, Ohio. Coffee	24,554	Feb. 26	126	3408
De Jean Perfumery Company, Chicago, Ill. Facial or complexion pastes or lotions	24,484	Feb. 26	126	3407
Desmond, R. E., St. Louis, Mo. Tooth and talcum powder	20,708	Feb. 26	126	3403
Dick and Brothers Quincy Brewery Co., Quincy, Ill. Beer	24,190	Feb. 26	126	3406
Dixie Portrait & Frame Co., Tampa, Fla. Portraits and photographs	21,906	Feb. 26	126	3404
Dixon Bartlett Co., Baltimore, Md. Leather shoes and slippers	14,514	Feb. 26	126	3402
Dixon Bartlett Co., Baltimore, Md. Leather boots and shoes	24,976	Feb. 26	126	3411
Duff & Shade, Poland, Ohio. Remedy for asthma	24,977	Feb. 26	126	3411
E. I. du Pont Company, Wilmington, Del. Explosive powder	24,555	Feb. 26	126	3408
E. I. du Pont Company, Wilmington, Del. Gunpowder	21,413	Feb. 26	126	3404
Ebert Medicine Co., Dr., Wheeling, W. Va. Remedy for stomach, kidney, and liver diseases	21,414	Feb. 26	126	3404
F. Jelke and Son Company, Cincinnati, Ohio. Butter	24,548	Feb. 26	126	3407
Fazzio, Angelo, New Orleans, La. Pickles, mustard, catsup, &c	24,497	Feb. 26	126	3407
Fischer & Co., B., New York, N. Y. Coffee	21,466	Feb. 26	126	3404
Fort Smith Commission Company, Fort Smith, Ark. Roasted coffee	25,030	Feb. 26	126	3412
Fortune Bros. Brewing Company, Chicago, Ill. Malt extract	24,628	Feb. 26	126	3408
Geo. Borgfeldt & Co., New York, N. Y. Enameled steelware for culinary and household purposes	22,827	Feb. 26	126	3404
Geo. Borgfeldt & Co., New York, N. Y. Dolls	24,716	Feb. 26	126	3409
Graf-Morsbach Company, Cincinnati, Ohio. Saddles, harness, bridles, and horse-collars	24,772	Feb. 26	126	3409
Grand Union Tea Co., Brooklyn, N. Y. Baking-powder	22,984	Feb. 26	126	3405
Great Western Manufacturing Company, Laporte, Ind. Bicycle crank-hangers	3,825	Feb. 26	126	3401
Guet & Senac, New Orleans, La. Whisky	24,986	Feb. 26	126	3411
H. J. Heinz Company, Allegheny, Pa. Pickles, chow-chow, vinegar, sauer-kraut, &c	3,125	Feb. 26	126	3401
Harnisch, Fritz, Berlin, Germany. Cream, paste, &c., for finger-nails	20,753	Feb. 26	126	3403
Harris & Bro., Robt., Reidsville, N. C. Smoking and chewing tobacco	17,292	Feb. 26	126	3402
Hartig Becker Plow Co., Evansville, Ind. Plows, harrows, and cultivators	20,793	Feb. 26	126	3403
Henry & Allen, Auburn, N. Y. Mower and reaper knife-sections, ledger or guard plates, &c	24,492	Feb. 26	126	3407
Herman Toser Co., Milwaukee, Wis. Gin and whisky	23,902	Feb. 26	126	3405
Hess & Clark, Dr., Ashland, Ohio. Medicated stock foods	24,778	Feb. 26	126	3409
Hess & Clark, Dr., Ashland, Ohio. Medicated stock foods	8,183	Feb. 26	126	3402
Horton, Raymond M., Attleboro, Mass. Scarf, collar, and bib pins, brooches, lockets, &c	10,463	Feb. 26	126	3402
Huggely Milling Company, Nashville, Ill. Wheat-flour	18,994	Feb. 26	126	3403
Hume, Emma P., executrix. (See Hume, Frank.)	25,031	Feb. 26	126	3412
Hume, Frank, deceased; E. P. Hume, Washington, D. C., executrix. Whisky				
Imperial Bit & Snap Co., Racine, Wis. Metal parts and attachments for harness, hooks, snap-hooks, &c	24,833	Feb. 26	126	3410
Indian Head Mills of Alabama, Walker, Ala. Cotton piece goods and blankets	24,689	Feb. 26	126	3408
J. G. McDonald Candy Company, Salt Lake City, Utah. Chocolates	22,213	Feb. 26	126	3404
Jay C. Wemple Co., New York, N. Y. Window-shade cloths	24,993	Feb. 26	126	3412
John C. Roth Packing Co., Cincinnati, Ohio. Lard	14,356	Feb. 26	126	3402
Johnson Educator Food Co., Boston, Mass. Crackers, breakfast foods, hominy, &c	24,907	Feb. 26	126	3412
Jönköpings och Vulcans Tändsticksfabriksaktiebolag, Jönköping, Sweden. Matches	24,357	Feb. 26	126	3406
Kantor, David, New York, N. Y. Medical compound	24,592	Feb. 26	126	3408
Kraemer, Charles, Washington, D. C. Whisky	24,264	Feb. 26	126	3406
Lappe, Christian E., Allegheny, Pa. Shoe-leather	24,989	Feb. 26	126	3412
Locke Shoe Company, Wheeling, W. Va. Leather boots and shoes	25,048	Feb. 26	126	3413
	24,835	Feb. 26	126	3410

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Name, residence, and title.	Serial No.	Date.	Official Gazette. Vol.	Page
Lopard, Nicholas, New York, N. Y. Egg-shampoo and cold and massage creams	24,992	Feb. 26	126	3412
Manufacturing Co. of America, Philadelphia, Pa. Candy and chewing-gum	24,942	Feb. 26	126	3411
Manufacturing Co. of America, Philadelphia, Pa. Candy and chewing-gum	24,944	Feb. 26	126	3411
Marden, Orth & Hastings, Boston, Mass. Sumac, leaf and bark, gambier-gum, hemlock-bark, &c	24,205	Feb. 26	126	3406
Mark Cross Company, New York, N. Y. Harness, saddles, trunks, pocket-books, &c	10,917	Feb. 26	126	3402
Mazetta Mfg. Co., Chicago, Ill. Ice-cream	24,447	Feb. 26	126	3407
Mosby & Cardozo, Richmond, Va. Hams and bacon	25,019	Feb. 26	126	3412
Moss Rose Manufacturing Company, Philadelphia, Pa. Tapestry chenille, tapestry, and velour	24,658	Feb. 26	126	3408
Muncie Brewing Co., Muncie, Ind. Beer	22,355	Feb. 26	126	3404
Nashua Manufacturing Company, Nashua, N. H. Cotton piece goods and blankets	24,883	Feb. 26	126	3410
National Carbon Company, Cleveland, Ohio. Dry batteries	20,742	Feb. 26	126	3403
National Lead Company, Jersey City, N. J., and New York, N. Y. White lead	24,574	Feb. 26	126	3408
New Orleans Import Co., Lt'd., New Orleans, La. Tea	24,964	Feb. 26	126	3411
Pepsol Chemical Company, Nashville, Tenn. Remedy for coughs, colds, bronchitis, &c	24,903	Feb. 26	126	3410
Peroxident Manufacturing Company, St. Louis, Mo. Tooth powder and paste	24,666	Feb. 26	126	3408
Petersburg Leather Company, Petersburg, Va. Mat-kid	24,120	Feb. 26	126	3406
Porcela Company, Pittsburg, Pa. Shampoo compounds and hair-tonics	24,534	Feb. 26	126	3407
Read & Sons, William, Boston, Mass. Leather boots and shoes	24,859	Feb. 26	126	3410
Reiss Bros. & Co., Chicago, Ill. Pipes	23,447-8	Feb. 26	126	3405
Review Publishing Company, New York, N. Y. Semimonthly periodical	20,279-80	Feb. 26	126	3403
Rizza, Frank, Homestead, Pa. Hair-tonics and scalp applications	24,240	Feb. 26	126	3406
Roofbestos Manufacturing Co., St. Louis, Mo. Ready-prepared felt roofing	23,944	Feb. 26	126	3405
Rothwell, Bernard J., Boston, Mass. Wheat-flour	24,306	Feb. 26	126	3407
Royal Skirt Co., New York, N. Y. Dress and walking skirts	24,903	Feb. 26	126	3411
Sachs Shoe Mfg. Co., Cincinnati, Ohio. Leather shoes	24,904	Feb. 26	126	3411
Sanitary Steel Couch Co., Elkhart, Ind. Beds, couches, and bed-springs	23,696	Feb. 26	126	3405
Schley, William C., Pittsburg, Pa. Face-cream	24,299	Feb. 26	126	3406
Schmauser, Flora E., Chillicothe, Ohio. Cold cure	24,905	Feb. 26	126	3411
Setzler & Sons, P., Kansas City, Mo. Drinking, distilled, mineral, &c., water and ginger-ale	24,999	Feb. 26	126	3412
Shields, Stone & Co., New York, N. Y. Cotton fabrics	24,577	Feb. 26	126	3408
Societe Anonyme de la Grande Distillerie E. Cusenier Fils Aine et Compagnie, Paris, Ornans, Charenton, and Marseilles, France; Mulhouse, Germany, and Brussels, Belgium. Cordial	23,355	Feb. 26	126	3405
Star Trading Company, Rochester, N. Y. Germicide, disinfectant, and antiseptic preparations	24,175	Feb. 26	126	3406
Stern & Saalberg Company, New York, N. Y. Pulling candies	24,123	Feb. 26	126	3406
Stone, Sarah B., New Haven, Conn. Jellies	24,694	Feb. 26	126	3409
Straus, Gunst & Co., Richmond, Va. Whisky	5,299	Feb. 26	126	3401
Supplementary Spiral Spring Company, St. Louis, Mo. Automobile, carriage, and wagon springs	24,542	Feb. 26	126	3407
Sweeten-Crossan Electric Company, Philadelphia, Pa. Incandescent electric lamps	25,021	Feb. 26	126	3412
Taunton Rivet Company, Taunton, Mass. Rivets	24,931	Feb. 26	126	3411
Union Bag and Paper Company, New York, N. Y. Paper bags, wrapping-paper, and paper-boards	24,729	Feb. 26	126	3409
United States Dental Chemical Co., Rocky Mount, Va. Alkaline deodorizing and non-irritating germicidal agent	17,411	Feb. 26	126	3403
Varoma Medical Company, Chatham, N. J., and New York, N. Y. Medical compound for the cure of lung and throat diseases	23,831	Feb. 26	126	3405
W. S. Quinby Company, Boston, Mass. Coffee	22,545	Feb. 26	126	3404
W. T. Hanson Co., Schenectady, N. Y. Pills for diseases of the blood and nerves	13,287	Feb. 26	126	3402
W. T. Hanson Co., Schenectady, N. Y. Pills for diseases of the blood and nerves	13,353	Feb. 26	126	3402
W. T. Hanson Co., Schenectady, N. Y. Pills for diseases of the blood and nerves	13,355	Feb. 26	126	3402
Ward Medicine Company, J. L., Big Springs, Tex. Pills and tablets	24,932	Feb. 26	126	3411
Warner & Co., William R., Philadelphia, Pa. Preparations for the cure of indigestion, dyspepsia, &c	25,002	Feb. 26	126	3412
Watt, Andrew P., Baltimore, Md. Cork-pullers	24,880	Feb. 26	126	3410
Westheimer & Sons, Ferdinand, St. Joseph, Mo. Whisky	4,034	Feb. 26	126	3401
William Underwood Company, Boston, Mass. Deviled ham	24,756	Feb. 26	126	3409
Wm. B. Riker & Son Company, New York, N. Y. Perfumes	24,996	Feb. 26	126	3412
Wolverine Suspender Co., Kalamazoo, Mich. Hose-supporters and suspenders	22,711	Feb. 26	126	3404
Wright & Ditson, Jersey City, N. J., and Boston, Mass. Stockings, jerseys, knit shirts, tights, &c	24,850	Feb. 26	126	3410

ALPHABETICAL LIST OF INVENTIONS

FOR WHICH

PATENTS WERE ISSUED ON THE 26TH DAY OF FEBRUARY, 1907.

Invention.	Name.	No.	Date.	Monthly volume.		Official Gazette.	
				Specification.	Drawing.	Volume.	Page.
Adding-machine	J. Swart	845,276	Feb. 26	5065	1080	126	3173
Advertising device	W. B. Owen	845,704	Feb. 26	5922	1251	126	3379
Air-blast drier	J. Beernink	845,047	Feb. 26	4623	984	126	3053
Air-brake apparatus	R. J. Wilson	845,500	Feb. 26	5534	1173	126	3282
Air-cleaning apparatus. Dust-laden-	A. Lotz	845,364	Feb. 26	5267	1117	126	3216
Air-compressor and the like	G. De Laval and G. P. Aborn	845,653	Feb. 26	5817	1229	126	3351
Air-currents. Apparatus for separating dust from dust-laden	A. Lotz	845,562	Feb. 26	5640	1195	126	3309
Air-currents. Separating solid material held in suspension by	A. Lotz	845,563	Feb. 26	5642	1195	126	3309
Air-ship	J. A. Elston	845,539	Feb. 26	5605	1187	126	3301
Alarm: *See* Burglar-alarm.							
Annealing-box	M. F. Jarrett	845,093	Feb. 26	4729	1002	126	3081
Anthraquinone compounds. Preparing	R. H. Scholl and M. A. Kunz	845,129	Feb. 26	4796	.....	126	3100
Automatic brake	J. W. Gurnsey	845,412	Feb. 26	5360	1137	126	3239
Automatic gate	G. C. Mason	845,308	Feb. 26	5180	1095	126	3191
Automobiles. Gas-lighter for	G. Kapp and G. A. Alviset	845,553	Feb. 26	5628	1192	126	3306
Axle	H. K. Bryson	845,516	Feb. 26	5558	1178	126	3288
Bag, trunk, or similar article	W. J. Teese	845,145	Feb. 26	4820	1023	126	3106
Baling-machine	J. J. Huggins	845,356	Feb. 26	5256	1114	126	3214
Baling-press	C. E. Field	845,625	Feb. 26	5748	1216–17	126	3335
Battery plate. Storage-	J. Bijur	845,048	Feb. 26	4625	984	126	3053
Bearing. Ball-	F. W. Gurney	845,632	Feb. 26	5760	1219–20	126	3338
Bed and table. Combination	E. Peters	845,117	Feb. 26	4775	1013	126	3095
Bed attachment	C. B. Cass	845,523	Feb. 26	5569	1180	126	3292
Bed. Extension-	W. L. Edwards	845,223	Feb. 26	4977	1058–9	126	3145
Bench: *See* Carpenter's bench. Washing-machine bench.							
Bin: *See* Fruit-bin.							
Binder. Loose-leaf	C. C. Baughman and E. C. Mead	845,390	Feb. 26	5319	1129	126	3229
Bit: *See* Drill-bit.							
Block-signal system	F. B. Corey	845,220	Feb. 26	4971	1057	126	3144
Board: *See* Ironing-board. Scoop-board. Register name-board.							
Boat. Life-	G. O. Ditton	845,620	Feb. 26	5740	1215	126	3333
Boat-releasing device	H. G. Oliver	845,477	Feb. 26	5497	1164	126	3274
Bobbin	G. Popplewell	845,575	Feb. 26	5657	1199	126	3313
Boiler: *See* Water-tube boiler.							
Boiler-tube cleaner	R. Herman	845,083	Feb. 26	4702	997	126	3074
Bolt: *See* Rivet-bolt.							
Bookbinders. Signature-gathering-machine attachment for	J. Murray	845,369	Feb. 26	5277	1118–19	126	3219
Boring-machine	A. Y. Pearl	845,191	Feb. 26	4913	1041	126	3130
Boring tool. Recess-	M. Jungling	845,360	Feb. 26	5262	1116	126	3215
Bottle	A. W. Hutchins	845,175	Feb. 26	4884	1036	126	3122
Bottle attachment	W. J. Gesell	845,347	Feb. 26	5232	1111	126	3207
Bottle. Dropping-	R. H. Ferguson	845,400	Feb. 26	5337	1132	126	3233
Bottle-neck-forming machine	J. C. Henderson	845,235	Feb. 26	5000	1063	126	3151
Bottle. Non-refillable	R. Gatti	845,541	Feb. 26	5609	1188	126	3302
Bottle. Non-refillable	H. N. Rothweiler	845,579	Feb. 26	5664	1200	126	3315
Bottle-stopper	G. Kirkegaard	845,646	Feb. 26	5804	1227	126	3349
Bottles. Valve for non-refillable	W. T. Solomon	845,136	Feb. 26	4806	1018	126	3103
Box: *See* Annealing-box. Meter-box. Cigar-box. Miter-box. Mail-carrier box.							
Box	J. H. Thieler	845,596	Feb. 26	5694	1207	126	3322
Box-covering blank	J. S. Stokes	845,205	Feb. 26	4943	1049	126	3137
Boxes from pasteboard or the like. Machine for manufacturing	F. Fettback	845,071	Feb. 26	4674	993	126	3066
Bracket: *See* Curtain-bracket.							
Brake: *See* Automatic brake. Vehicle-brake. Fluid-pressure brake.							
Brake-shoe adjuster	J. S. Ashworth	845,504	Feb. 26	5539	1174	126	3284

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Brake system. Fluid-pressure	M. W. Hibbard	845,353	Feb. 26	5246	1112–13	126	3211
Braking and locking device. Combined	B. Péducasse	845,192	Feb. 26	4915	1042	126	3131
Brick or like molding machine. Plastic	J. W. Bottomley	845,329	Feb. 26	5195	1102	126	3199
Brick-press	P. Thomann	845,146	Feb. 26	4822	1023	126	3106
Briquet-machine feeder	K. P. Hangl	845,299	Feb. 26	5145	1092	126	3188
Brush	J. F. Gohl	845,408	Feb. 26	5355	1136	126	3227
Brush. Dustless	F. D. Wolfgram	845,387	Feb. 26	5315	1128	126	3228
Brush. Tooth-	F. P. Drowne	845,064	Feb. 26	4661	990	126	3064
Buckle	O. C. Daily	845,164	Feb. 26	4854	1029	126	3115
Buckle	D. A. Huffman	845,642	Feb. 26	5799	1226	126	3348
Building. Earthquake-proof	J. Bechtold	845,046	Feb. 26	4622	983–4	126	3053
Burglar-alarm	J. Gaynor	845,639	Feb. 26	5757	1218	126	3337
Burner: *See* Gas-burner.							
Butchers'-block meat-clamp	J. E. Reller	845,263	Feb. 26	5055	1075	126	3165
Butter-cutter	F. J. Macnish and W. E. Penn	845,468	Feb. 26	5477	1160	126	3268
Cabinet	M. W. Randolph	845,707	Feb. 26	5925	1252	126	3330
Cabinet	L. W. Dickinson	845,728	Feb. 26	5974	1262	126	3301
Can: *See* Drip-can. Starter-can.							
Cap-feeding machine	J. A. Hicks	845,415	Feb. 26	5364	1138	126	3240
Car-controlling apparatus	C. W. Coleman	845,161	Feb. 26	4847	1028	126	3112
Car-door	J. A. and J. A. Bourgeois	845,509	Feb. 26	5547	1175–6	126	3286
Car-fender	W. T. McLaughlin	845,110	Feb. 26	4761	1010	126	3091
Car-fender. Automatic	W. H. Walsh	845,442	Feb. 26	5407	1148	126	3250
Car-motor	B. Bidwell	845,682	Feb. 26	5883	1241–2	126	3368
Car-roof	S. Herbert	845,414	Feb. 26	5363	1138	126	3240
Car-underframe	C. H. Howard and J. F. Dunn	845,089	Feb. 26	4718	1000–1	126	3078
Car-vestibule diaphragm	J. H. Donaldson	845,451	Feb. 26	5430		126	3255
Car-wheel press	J. K. Cullen and G. T. Reiss	845,307	Feb. 26	5333	1131	126	3232
Cars. Automatic air-brake coupling for railway-	F. H. Rutherford	845,265	Feb. 26	5057	1076	126	3165
Cars. Folding stake for railway-	J. W. Kendrick	845,097	Feb. 26	4739	1005	126	3084
Carbon-tetrachlorid preparation and its production	J. Stockhausen	845,322	Feb. 26	5182		126	3196
Carbons for arc-lamps. Utilizing waste ends of	R. Peters	845,256	Feb. 26	5036		126	3160
Carpenter's bench	H. A. Brunström	845,668	Feb. 26	5896	1244	126	3372
Carriage-machine	J. W. Crain	845,697	Feb. 26	5912	1248–9	126	3376
Carrier: *See* Shovel-carrier. Straw-carrier. Splint-carrier.							
Cartridge-holder	J. J. Burnett and C. Bubear	845,611	Feb. 26	5721	1212	126	3329
Case: *See* Show-case.							
Cash-check till	R. Field	845,342	Feb. 26	5220	1107–8	126	3205
Cash-register	H. S. Hallwood	845,634	Feb. 26	5767	1221–3	126	3339
Casting spaces and quads. Matrix for	F. H. Brown, J. E. Hanrahan, and G. A. Boyden.	845,685	Feb. 26	5890	1243	126	3370
Castings. Mold for making metal	P. H. Sweet, Jr.	845,668	Feb. 26	5834	1236	126	3360
Ceiling or floor plate	J. J. Sullivan	845,142	Feb. 26	4816	1022	126	3105
Cellulose. Obtaining	F. L. Stewart	845,378	Feb. 26	5301		126	3225
Cement-brick-making machine	H. Pocock	845,194	Feb. 26	4921	1044	126	3132
Cement-mold	S. T. Buckland	845,610	Feb. 26	5720	1211	126	3328
Chair attachment	M. L. David	845,222	Feb. 26	4976	1058	126	3145
Chalk-lines. Automatic chalker and reel for	S. S. Field	845,401	Feb. 26	5338	1132–3	126	3233
Charging apparatus	T. F. and J. G. Witherbee	845,601	Feb. 26	5706	1209	126	3325
Cheese-vat	F. J. Macnish	845,470	Feb. 26	5486	1161–2	126	3270
Chopper: *See* Cotton and corn chopper.							
Churn	J. C. Gentry and J. T. Bottomlee	845,346	Feb. 26	5231	1110	126	3207
Churn	C. L. Cook	845,527	Feb. 26	5576	1182	126	3293
Churn-motor	E. W. Cole	845,525	Feb. 26	5573	1181	126	3292
Churn-operating mechanism	A. H. Stutler	845,595	Feb. 26	5693	1206–7	126	3321
Cigar-box	F. A. Moon and A. J. Cushman	845,428	Feb. 26	5382	1142	126	3244
Cigar-cutter	J. C. F. Dick	845,536	Feb. 26	5595	1185	126	3298
Cigar-stand, cigar-cutter, match-box, and lighter. Combined	J. B. Zorn	845,325	Feb. 26	5189	1101	126	3197
Circuit-breaker. Automatic	H. W. Leonard	845,655	Feb. 26	5820	1230	126	3352
Clam and oyster opening machine	L. H. Carlson	845,521	Feb. 26	5566	1180	126	3290
Clamp: *See* Butcher's-block meat-clamp. Molder's-flask clamp.							
Cleaner: *See* Boiler-tube cleaner. Well-cleaner.							
Clip: *See* Spring-terminal clip.							
Clock	J. Fellheimer	845,070	Feb. 26	4673	992–3	126	3066
Clock. Calendar-	J. L. Woods	845,603	Feb. 26	5709	1210	126	3326
Closet: *See* Water-closet.							
Clothes-drier	W. S. Morgan	845,248	Feb. 26	5021	1068	126	3157
Clothes-drier	J. Curry	845,308	Feb. 26	5334	1131–2	126	3232
Clothes-line pulley	R. Alpin	845,283	Feb. 26	5317	1128	126	3229
Clothes-line support	E. H. Muse	845,702	Feb. 26	5919	1250	126	3378
Clothes-rack	W. S. Mathers	845,245	Feb. 26	5018	1067	126	3156
Clutch	H. Jezler	845,094	Feb. 26	4730	1003	126	3082
Clutch. Magnetic	A. W. Saville	845,126	Feb. 26	4790	1015	126	3099
Coal and other minerals. Means for loading and unloading	C. Burnett	845,217	Feb. 26	4961	1055–6	126	3141
Coating-machine	A. J. Ford	845,734	Feb. 26	5987	1265	126	3395
Coin-collector	F. R. McBerty and J. L. McQuarrie.	845,370	Feb. 26	5278	1119–20	126	3220
Coin-collectors. Circuit for	J. L. McQuarrie	845,111	Feb. 26	4765	1010	126	3092
Coin-collectors. Circuit for	J. L. McQuarrie and H. M. Crane	845,112	Feb. 26	4766	1010	126	3092
Coin-holder	M. Quinn	845,664	Feb. 26	5849	1235	126	3359
Coke-oven-charging apparatus	F. W. C. Schniewind	845,719	Feb. 26	5935	1257	126	3367
Column. Metal	T. H. Gillespie	845,350	Feb. 26	5242	1111	126	3210
Compressor. Rotary	C. C. Palmer	845,114	Feb. 26	4772	1011	126	3094
Concrete-floor construction	F. A. Koetitz	845,495	Feb. 26	5474	1159	126	3267
Concrete. Mold for embedding tablets in	T. J. Missildine	845,311	Feb. 26	5145	1096	126	3192
Concrete-steel construction	P. Kühne	845,554	Feb. 26	5629	1192	126	3306

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Conductor-pipe machine	S. M. Schmeltzer	845,437	Feb. 26	5398	1146	126	3248
Confection-baking apparatus	F. H. Lanier and F. K. Driesbach	845,557	Feb. 26	5634	1193	126	3307
Connecting-pin	J. R. Reniff	845,121	Feb. 26	4782	1014	126	3097
Controller	W. Cooper and C. W. Johnson	845,528	Feb. 26	5578	1182	126	3298
Conveyer-apron	E. Schaffner	845,269	Feb. 26	5072	1078	126	3170
Copper. Hardening	R. T. Anderson	845,606	Feb. 26	5714		126	3327
Copying-machine	D. T. Marshall	845,730	Feb. 26	5977	1263	126	3392
Cork-puller	H. Bitner	845,608	Feb. 26	5716	1211	126	3327
Corn-cutter	A. C. Robey	845,123	Feb. 26	4786	1014	126	3098
Corn-sorter	L. P. Graham	845,230	Feb. 26	4990	1061	126	3149
Corn-sorter	L. P. Graham	845,231	Feb. 26	4992	1061	126	3149
Corset	E. Savoye	845,582	Feb. 26	5673	1202	126	3317
Cotton and corn chopper	D. O. Graham	845,172	Feb. 26	4882	1035	126	3121
Cotton-mercerizing machine	L. Cipollina	845,160	Feb. 26	4845	1027–8	126	3112
Coupling: *See* Pipe-coupling. Shackle-rod coupling. Separable coupling.							
Coupling	J. R. Lilley	845,243	Feb. 26	5016	1066	126	3156
Crane. Traveling	C. L. Taylor	845,380	Feb. 26	5304	1125	126	3226
Crib or bed. Sliding-side folding	C. Vallone	845,384	Feb. 26	5309	1126–7	126	3227
Crusher and pulverizer	W. H. Gardner	845,171	Feb. 26	4881	1035	126	3121
Cryptograph	H. Burg	845,515	Feb. 26	5556	1177	126	3288
Cultivator	E. M. Heylman	845,084	Feb. 26	4704	997–9	126	3075
Cultivator	N. E. Omberg	845,255	Feb. 26	5034	1071	126	3159
Cultivator	W. C. Ogletree	845,660	Feb. 26	5838	1233	126	3356
Cultivator attachment	J. H. Nicks	845,567	Feb. 26	5647	1196	126	3310
Cultivator-tooth	G. E. Camp	845,691	Feb. 26	5905	1247	126	3374
Curtain-bracket	W. Jones	845,420	Feb. 26	5373	1140	126	3242
Curtain-fastener	J. H. Matthews	845,310	Feb. 26	5164	1096	126	3192
Curtain-hoisting apparatus	T. Eskilsson	845,731	Feb. 26	5978	1263–4	126	3392
Curtain-support	W. Hubert	845,355	Feb. 26	5255	1114	126	3214
Cut-out	E. M. Hewlett and C. H. Hill	845,236	Feb. 26	5003	1064	126	3152
Cut-out. Electrothermal	F. B. Cook	845,219	Feb. 26	4969	1057	126	3145
Cutter: *See* Butter-cutter. Meat-cutter. Cigar-cutter. Potato-cutter. Corn-cutter. Stalk-cutter.							
Cutting and grinding machine	F. H. Brown	845,687	Feb. 26	5893	1244	126	3371
Dam. Automatic	F. Camagni	845,394	Feb. 26	5327	1130	126	3230
Die-stock holding and operating device	W. V. Bulman	845,514	Feb. 26	5554	1177	126	3287
Digger: *See* Potato-digger.							
Directory or book. Telephone	C. E. Napp	845,703	Feb. 26	5920	1250–1	126	3378
Disinfecting device	J. E. Lee	845,559	Feb. 26	5636	1194	126	3308
Display-form	G. Galland	845,403	Feb. 26	5344	1133	126	3234
Display mechanism. Colored-light-	N. C. Nielsen	845,568	Feb. 26	5648	1186–7	126	3311
Display-rack	W. B. Loewenberg	845,658	Feb. 26	5835	1232–3	126	3355
Disruptive or explosive effects. Obtaining	W. O. Wood and H. Knudsen	845,604	Feb. 26	5711	1210	126	3326
Distilling	J. F. Wittemann	845,286	Feb. 26	5115	1084	126	3180
Distilling apparatus	J. F. Wittemann	845,285	Feb. 26	5111	1084	126	3179
Door check and holder	J. R. Gallinger	845,344	Feb. 26	5226	1109	126	3208
Door-hanger	P. A. Myers	845,474	Feb. 26	5490	1163	126	3271
Door-hanger	H. J. Randall	845,479	Feb. 26	5501	1164	126	3274
Door-hanger and track therefor	O. F. Stoneburner	845,206	Feb. 26	4944	1049	126	3137
Doors. Roller-support for edgewise-movable	G. Georgenson and J. E. Hennen	845,631	Feb. 26	5759	1219	126	3338
Doors. Roller-support for movable	L. J. Smith	845,134	Feb. 26	4805	1018	126	3102
Dough-divider	C. R. Miller	845,367	Feb. 26	5274	1118	126	3218
Draft-equalizer	C. H. Matlock	845,309	Feb. 26	5163	1096	126	3191
Drag	F. Darling	845,221	Feb. 26	4974	1058	126	3145
Dredging apparatus	H. B. Buddenborg	845,689	Feb. 26	5897	1245	126	3372
Drier: *See* Air-blast drier. Clothes-drier.							
Drill: *See* Grain-drill.							
Drill	C. Partington	845,372	Feb. 26	5286	1121	126	3222
Drill-bit. Fluid-feed side-inlet	J. H. Wiest	845,385	Feb. 26	5312	1127	126	3227
Drip-can	N. S. Hillyard	845,174	Feb. 26	4884	1036	126	3122
Driving and reversing mechanism	W. and G. F. Meischke-Smith	845,715	Feb. 26	5948	1256	126	3285
Dust-separating blower	W. J. Baldwin	845,044	Feb. 26	4618	982	126	3051
Easel	A. H. Conelly	845,694	Feb. 26	5908	1247–8	126	3375
Egg and cake beater. Combined	J. S. Dunlap	845,341	Feb. 26	5218	1107	126	3204
Egg-beaters. Holding-bracket for	G. F. Bailey	845,326	Feb. 26	5190	1101	126	3197
Electric-circuit controller	H. W. Leonard	845,656	Feb. 26	5826	1230–32	126	3353
Electric conductor	S. G. Brown	845,609	Feb. 26	5718	1211	126	3328
Electric conductors. Swivel-tip for	W. F. Barker	845,288	Feb. 26	5120	1085	126	3181
Electric-resistance apparatus	R. von Brockdorff	845,051	Feb. 26	4630	985	126	3055
Electric waves. Means for receiving intelligence communicated by	G. W. Pickard	845,316	Feb. 26	5172	1098	126	3194
Electrode and producing same. Carbon	T. P. Sharts	845,585	Feb. 26	5678	1203	126	3318
Elevator-door-controlling apparatus	S. Bentley	845,680	Feb. 26	5879	1241	126	3367
Elevators. Detaching-cone for mine and other	G. Killian	845,177	Feb. 26	4887	1039	126	3123
Engine: *See* Gas-engine. Rotary engine. Internal-combustion engine. Turbine-engine.							
Engine-controlling means. Gas-	E. Evans	845,732	Feb. 26	5984	1264	126	3394
Engine driving mechanism. Paper-refining-	E. A. Jones	845,302	Feb. 26	5150	1093	126	3189
Envelop-making machine	G. W. Dietz	845,537	Feb. 26	5597	1185–6	126	3296
Exhibiting hats, bonnets, and the like. Device for	F. W. Nunn	845,569	Feb. 26	5650	1197	126	3311
Explosive. Waterproof metallic	T. A. Bayliss and H. W. Brownsdon.	845,678	Feb. 26	5876		126	3367
Extractor: *See* Nail-extractor. Tar-extractor.							
Eye guard or shield	H. S. Cover	845,696	Feb. 26	5911	1248	126	3376
Eyeglass nose-guard	L. F. Adt	845,042	Feb. 26	4611	982	126	3049
Fan	J. B. Futrell and T. C. Gaskins	845,626	Feb. 26	5753	1217	126	3336
Fastener. Separable	W. B. Murphy	845,473	Feb. 26	5490	1162	126	3271
Faucet	I. Raphiel	845,260	Feb. 26	5042	1073	126	3161
Faucet. Liquid measuring and registering	W. M. Davison	845,531	Feb. 26	5586	1183	126	3296

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Feed-water purifier	C. Timmerman	845,723	Feb. 26	5063	1260	126	3289
Fence-making machine. Wire-	J. E. Fredrick	845,170	Feb. 26	4868	1032-4	126	3118
Fence-post	E. E. Edwards	845,209	Feb. 26	5336	1132	126	3222
Fence-post	A. J. Caldwell	845,612	Feb. 26	5722	1212	126	3329
Fence post and stay	M. M. Wickham	845,498	Feb. 26	5531	1172	126	3282
Fencing tie. Wire-	J. Fisher	845,072	Feb. 26	4676	993	126	3086
Fender:	B. E. Tobias	845,381	Feb. 26	5305	1126	126	3226
See Car-fender.							
Fibers. Preparing	T. G. Saxton	845,267	Feb. 26	5066	1077	126	3169
File or holder for sales-slips, &c	J. F. Huber	845,417	Feb. 26	5368	1139	126	3241
Finger-print-registering device	M. P. Evans	845,624	Feb. 26	5747	1216	126	3335
Finger-ring and pencil	F. A. Rojas	845,197	Feb. 26	4926	1045	126	3133
Fire-escape	P. M. Legere	845,181	Feb. 26	4891	1037	126	3123
Fire-hydrant	A. G. Babendreier	845,505	Feb. 26	5541	1174	126	3284
Firearm-sight	C. G. Thunen	845,491	Feb. 26	5521	1170	126	3279
Flooring. Wood block for	W. C. Morrill	845,107	Feb. 26	4758	1009	126	3090
Flower-band mold	A. M. Lockard	845,561	Feb. 26	5639	1194	126	3309
Fluid-pressor. Electrically-driven	A. H. Gibson	845,406	Feb. 26	5351	1135	126	3226
Fluid-pressure brake	W. P. A. Macfarlane	845,366	Feb. 26	5270	1118	126	3217
Fluid-pressure brake	W. P. A. Macfarlane	845,713	Feb. 26	5037	1254-5	126	3283
Fluid-pressure regulator	L. B. Fulton	845,708	Feb. 26	5927	1252-3	126	3280
Food product	A. Morel-Lautier	845,472	Feb. 26	5489	.....	126	3271
Fork:							
See Hay-fork.							
Fourdrinier machine	W. Elpel	845,224	Feb. 26	4978	1059	126	3146
Frame:							
See Tie-frame. Window-frame.							
Fruit-bin	H. C. Rowman	845,330	Feb. 26	5198	1103	126	3200
Fruit-evaporator	M. S. Reatz	845,317	Feb. 26	5173	1098	126	3194
Fruit-picking apparatus	R. Simpson	845,484	Feb. 26	5512	1167	126	3277
Fuel. Artificial	J. J. Czepull	845,336	Feb. 26	5207	.....	126	3202
Fuel. Artificial	J. J. Czepull	845,337	Feb. 26	5208	.....	126	3202
Furnace:							
See Hot-air furnace. Ore-reducing furnace.							
Furnace	D. R. Steele	845,591	Feb. 26	5687	1205	126	3320
Furnaces, &c. Grate for boiler-	P. S. Spiller	845,590	Feb. 26	5686	1205	126	3320
Gage:							
See Pressure-gage.							
Gage	A. B. Price	845,258	Feb. 26	5037	1071	126	3160
Garment	I. Weingart	845,494	Feb. 26	5524	1171	126	3279
Garment-hanger	J. D. Allardice	845,443	Feb. 26	5409	1148	126	3250
Garment-supporter	F. Hirsh	845,300	Feb. 26	5147	1092	126	3188
Garment-supporter or garter	H. M. Stidham	845,321	Feb. 26	5180	1100	126	3196
Gas-burner	P. J. Foley	845,332	Feb. 26	5201	1103	126	3200
Gas-burners. Heating attachment for	O. H. Dial	845,297	Feb. 26	5142	1091	126	3187
Gas-distribution system	W. K. Andrew	845,338	Feb. 26	5208	1105	126	3202
Gas-engine	T. Lenzi	845,189	Feb. 26	4843	1027	126	3111
Gas generator. Acetylene-	C. M. Lungren	845,560	Feb. 26	5637	1194	126	3308
Gas-mantle. Forming an incandescent	W. J. Lonergan	845,184	Feb. 26	4895	1038-9	126	3125
Gas-mixing apparatus	W. F. Nichol and D. E. Lacey	845,104	Feb. 26	4750	1007	126	3087
Gas or gasolene saver and heat-controller. Combination adjustable		845,315	Feb. 26	5170	1097	126	3194
Gas-producer	H. K. Cowen	845,163	Feb. 26	4852	1029	126	3114
Gas-tank closure	E. F. Lloyd	845,426	Feb. 26	5380	1142	126	3244
Gate:							
See Automatic gate.							
Gate	J. S. Johnson	845,419	Feb. 26	5371	1140	126	3242
Gate	D. B. Allsup	845,444	Feb. 26	5410	1148	126	3251
Gate	P. McCollum	845,566	Feb. 26	5645	1196	126	3310
Gear. Compensating	E. J. Gould	845,409	Feb. 26	5355	1136	126	3237
Gearing	B. Ljungstrom	845,103	Feb. 26	4748	1007	126	3086
Generator:							
See Gas-generator.							
Glass articles. Manufacture of	R. E. H. Jonkergouw	845,552	Feb. 26	5627	.....	126	3305
Glue substitutes. Making	A. Bernstein	845,681	Feb. 26	5882	.....	126	3368
Goods raising and lowering apparatus	I. F. Taylor	845,143	Feb. 26	4817	1022	126	3106
Governors. Safety device for speed-	L. Single	845,132	Feb. 26	4801	1017	126	3101
Grain-binder knotter	C. F. Adams	845,158	Feb. 26	4841	1027	126	3111
Grain-bleacher	H. J. Caldwell and J. R. Barr	845,446	Feb. 26	5413	1149	126	3251
Grain-drill	O. W. Fisher	845,168	Feb. 26	4861	1031	126	3116
Grain-drill	R. C. Livesay	845,425	Feb. 26	5378	1141	126	3243
Grappling-hook. Automatic	B. Langley	845,555	Feb. 26	5631	1192-3	126	3306
Grate-shaker. Steam	W. H. Hughes	845,090	Feb. 26	4720	1001	126	3079
Grinding or pulverizing mill	W. S. Osborne	845,661	Feb. 26	5842	1234	126	3257
Grinding spiral or twist drills. Machine for automatically	N. Struck	845,130	Feb. 26	4810	1019-20	126	3103
Grinding-wheel	A. E. Brown and J. B. Shoe	845,511	Feb. 26	5550	1176	126	3286
Grindstone	E. Franke	845,073	Feb. 26	4677	994	126	3067
Grindstone cutting and dressing machine	J. Grieshaber	845,410	Feb. 26	5357	1136-7	126	3238
Gun	E. Sanner	845,481	Feb. 26	5504	1165-6	126	3275
Hair-pin	W. Adler	845,502	Feb. 26	5538	1174	126	3284
Hair-removing apparatus	M. G. Fowler	845,455	Feb. 26	5449	1154	126	3262
Hammer. Magazine-	D. T. Vanlaningham	845,148	Feb. 26	4824	1024	126	3107
Handle:							
See Operating-handle. Shovel-handle.							
Handle	J. Ruckstuhl	845,666	Feb. 26	5852	1235	126	3360
Hanger:							
See Door-hanger. Garment-hanger.							
Harness	D. A. Lee						
Harvester. Beet-	W. Kite	845,558	Feb. 26	5635	1193	126	3308
Harvester. Cabbage-	G. H. Robbins	845,008	Feb. 26	4740	1005	126	3084
Harvesting apparatus	G. D. Russell and P. H. Armistead.	845,195	Feb. 26	4924	1044	126	3132
Harvesting machines. Cleaning-wheel for root-	G. F. Conner	845,551	Feb. 26	5609	1202	126	3316
Hay-fork	E. H. Alvord	845,218	Feb. 26	4866	1056-7	126	3142
Hay-loader	C. H. Pelton	845,445	Feb. 26	5412	1149	126	3251
Hay rake and tedder. Combined side-delivery	H. B. Sperry	845,193	Feb. 26	4917	1042-3	126	3131
		845,204	Feb. 26	4941	1048	126	3136
Heater:							
See Tank-heater. Water-heater.							
Heating system	J. S. C. Nicholls	845,371	Feb. 26	5284	1121	126	3221
Hinge	C. J. Caley	845,519	Feb. 26	5564	1179	126	3289
Hoisting apparatus	A. F. Bardwell	845,506	Feb. 26	5543	1175	126	3285
Hoisting-hook	A. W. Coats and R. M. Thompson	845,693	Feb. 26	5907	1247	126	3375
Hoof-pad	L. H. Kromm	845,649	Feb. 26	5809	1228	126	3350
Hook:							
See Grappling-hook. Ladder-hook. Hoisting-hook.							
Horse-boot	N. G. Devlin	845,535	Feb. 26	5594	1185	126	3297
Horse-power and hoist	A. M. Smith	845,201	Feb. 26	4935	1047	126	3135
Horseshoe and means for attaching the same	W. M. Dight	845,699	Feb. 26	5915	1249	126	3377
Horseshoes. Manufacture of	W. R. Yost	845,211	Feb. 26	4949	1051	126	3139
Hose-supporter	H. C. Giles and W. W. White	845,349	Feb. 26	5239	1111	126	3200
Hot-air furnace	L. J. Bair	845,607	Feb. 26	5714	1210-11	126	3327
Household-machines. Driving device for	R. Brambach	845,050	Feb. 26	4629	985	126	3054
Hub for wheels. Pneumatic	W. S. H. Smith	845,135	Feb. 26	4806	1018	126	3102
Husking-machine	E. J. Weidner	845,599	Feb. 26	5702	1208	126	3324
Hydrocarbon-burning apparatus	L. K. Leahy	845,241	Feb. 26	5011	1065	126	3154
Ice-cream dipper	N. W. Kline	845,421	Feb. 26	5374	1140	126	3242
Ice-cream freezer	A. F. Schmand	845,667	Feb. 26	5852	1236	126	3360
Igniter. Time-	F. C. Reed	845,374	Feb. 26	5296	1123	126	3223
Ignition device. Sparking	C. T. Hildebrandt	845,354	Feb. 26	5254	1113	126	3213
Indicator:							
See Polarity-indicator.							
Ink-pad	S. D. Ruth	845,125	Feb. 26	4789	1015	126	3099
Insulated rail-joint	G. W. Whiteman	845,496	Feb. 26	5527	1171	126	3280
Insulated rail-joint	G. W. Whiteman	845,497	Feb. 26	5529	1172	126	3281
Insulating materials. Manufacture of heat-	E. Luttgen	845,365	Feb. 26	5269	1117	126	3217
Internal-combustion engine	H. A. Stuart	845,140	Feb. 26	4812	1021	126	3104
Iron:							
See Sad-iron.							
Ironing-board	M. L. Henlein	845,352	Feb. 26	5245	1112	126	3211
Jack:							
See Lifting-jack.							
Jar opener and closer	W. H. Pheasant	845,118	Feb. 26	4776	1013	126	3095
Joint:							
See Insulated rail-joint. Rail-joint.							
Journal-box	G. W. Heird and G. W. Brownawell.	845,548	Feb. 26	5620	1190	126	3304
Journal-box for railway-cars. Pressed-steel	C. H. Cochran	845,726	Feb. 26	5908	1261	126	3390
Knife:							
See Pocket-knife.							
Knife-shank	C. E. Drew	845,340	Feb. 26	5217	1107	126	3204
Knob. Wiring-	W. C. Gordon	845,544	Feb. 26	5612	1188	126	3302
Knockdown screen. Adjustable	J. H. Cornelison	845,162	Feb. 26	4851	1028-9	126	3114
Ladder. Extension step-	A. Peltier	845,433	Feb. 26	5389	1144	126	3248
Ladder-hook, spanner, and hose-carrier. Combined	J. G. Gladding	845,709	Feb. 26	5629	1253	126	3381
Lamp bulb. Incandescent-	D. F. Campbell	845,053	Feb. 26	4636	986	126	3056
Lamp. Gas-	C. M. Lungren	845,186	Feb. 26	4900	1039	126	3126
Lamp. Incandescent gas-	R. M. Dixon	845,166	Feb. 26	4858	1030	126	3115
Lamp socket. Incandescent-	G. W. Goodridge	845,542	Feb. 26	5611	1188	126	3302
Lamp sockets and the like. Switch mechanism for electric-	J. P. Neilson	845,476	Feb. 26	5497	1163	126	3273
Larding-needle	B. F. Weber	845,151	Feb. 26	4829	1024	126	3108
Last	R. W. Perry	845,705	Feb. 26	5924	1251	126	3379
Last-thimble	E. S. Morton	845,109	Feb. 26	4760	1009	126	3090
Latch for gates and the like	W. B. Le Bourgeois	845,363	Feb. 26	5266	1117	126	3216
Leather-shredding apparatus and method	G. E. Sovereign	845,721	Feb. 26	5958	1256-9	126	3388
Lewis	F. E. Whidden	845,724	Feb. 26	5965	1260	126	3389
Life-preserver. Automatic propelling	W. Luce	845,659	Feb. 26	5837	1233	126	3356
Lifting-jack	J. A. Taylor	845,144	Feb. 26	4819	1022	126	3108
Lifting-jack	W. R. Leroy	845,657	Feb. 26	5834	1232	126	3355
Lifting-jack and cradle for bath-tubs and the like	O. J. Hotaling	845,464	Feb. 26	5473	1159	126	3267
Lighter	J. W. Hammond	845,461	Feb. 26	5469	1158	126	3266
Lime. Hydrating	W. S. Osborne	845,190	Feb. 26	4910	1041	126	3129
Lime-hydrating apparatus	W. S. Osborne	845,189	Fep. 26	4908	1040-1	126	3129
Linoleum. Manufacture of	W. D. Snow	845,202	Feb. 26	4938	1047-8	126	3135
Linotype-machine	J. R. Rogers	845,196	Feb. 26	4925	1044	126	3133
Linotype-machine	R. J. Foster and H. Lauzon	845,227	Feb. 26	4964	1060	126	3147
Linotype-machines. Mechanism for throwing lines of matrices into	G. E. Marlatt	845,307	Feb. 26	5159	1095	126	3191
Liquid. Device for visually feeding measured quantities of	C. B. Hodges	845,416	Feb. 26	5366	1139	126	3240
Loader	R. R. Langley	845,556	Feb. 26	5633	1193	126	3307
Lock:							
See Manhole-cover lock. Sash-lock. Nut-lock.							
Lock	Y. Q. Caldwell	845,613	Feb. 26	5724	1212	126	3329
Log-roller	R. Weir	845,152	Feb. 26	4830	1025	126	3109
Loom shuttle-motion	J. A. Gendron	845,345	Feb. 26	5227	1109-10	126	3205
Loom stop-motion	T. Thompson	845,279	Feb. 26	5092	1061	126	3175
Loom weft-replenishing mechanism	C. M. Hansen	845,232	Feb. 26	4993	1062	126	3149
Looms. Double-lift jacquard mechanism for	O. Schreiber	845,271	Feb. 26	5075	1078	126	3170
Lubricating apparatus	H. Frenay	845,074	Feb. 26	4678	994	126	3067
Lubricator	J. I. Warren	845,209	Feb. 26	4946	1050	126	3138
Lubricator signal. Force-feed-	J. Hanson	845,351	Feb. 26	5243	1112	126	3210
Magneto-interrupter	T. M. Mueller	845,368	Feb. 26	5276	1118	126	3219
Mail-bag catcher	D. S. Cook and C. J. Dietrich	845,055	Feb. 26	4639	987	126	3057
Mail-carrier box. Portable	W. E. Van Deventer	845,598	Feb. 26	5701	1208	126	3324
Man-lift	O. A. Nubson	845,253	Feb. 26	5031	1070	126	3150
Manhole-cover lock	B. T. Letts	845,182	Feb. 26	4892	1038	126	3124
Mantle. Mounting a	C. M. Lungren	845,185	Feb. 26	4899	1039	126	3126
Manure and dirt dump	J. C. Rogers	845,124	Feb. 26	4787	1015	126	3099
Marker. Dry-goods	P. H. Stewart and E. A. Miller	845,593	Feb. 26	5691	1206	126	3321
Massage apparatus	G. W. Fitz	845,733	Feb. 26	5985	1264-5	126	3384
Massage apparatus. Far-	K. M. Turner and N. W. Johnston	845,383	Feb. 26	5307	1126	126	3227
Match-safe and mailing-card. Combined	C. Grundy	845,411	Feb. 26	5358	1137	126	3238

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Measuring device	S. Peck	845,572	Feb. 26	5654	1198	126	3312
Meat-cutter	H. Schwenck	845,884	Feb. 26	5677	1203	126	3317
Metal-bending machine	W. Fehr	845,089	Feb. 26	4670	992	126	3065
Metal manufacture. Expanded-	N. E. Clark	845,617	Feb. 26	5731	1213	126	3321
Metal sheets. Apparatus for planishing	A. Ridd	845,718	Feb. 26	5853	1257	126	3386
Metal-working tools. Cutter for	G. B. Thomas	845,489	Feb. 26	5519	1169	126	3278
Meter-box	E. H. Ford	845,226	Feb. 26	4962	1059-60	126	3147
Mica. Manufacture of pulverized	P. Dobler	845,480	Feb. 26	5429	1152	126	3255
Mill:							
See Grinding or pulverizing mill.							
Ore crushing and grinding mill.							
Miter-box	J. Peach	845,571	Feb. 26	5652	1198	126	3312
Mixing-machine	L. C. Roberts	845,435	Feb. 26	5392	1145	126	3248
Mixing-machine	J. H. Shepherd	845,436	Feb. 26	5401	1147	126	3249
Mold:							
See Cement-mold. Type-mold.							
Flower-band mold. Wall-forming mold.							
Molder's-flask clamp	J. T. Ramsden	845,665	Feb. 26	5851	1235	126	3369
Molding apparatus	C. Winckhofer	845,674	Feb. 26	5863	1238-9	126	3363
Motor:							
See Car-motor. Treadle-motor.							
Churn-motor. Vehicle-motor.							
Rotary motor.							
Motor controller. Spring-	A. A. Callie	845,517	Feb. 26	5559	1178-9	126	3288
Motor with a driven machine. Coupling for connecting a driving-	R. Gruse	845,079	Feb. 26	4694	996	126	3071
Mower	R. W. Hathaway	845,547	Feb. 26	5618	1190	126	3304
Nail-extractor	J. A. Thompson	845,672	Feb. 26	5861	1238	126	3362
Necktie	B. Morton	845,108	Feb. 26	4759	1009	126	3090
Negative-pole plate	J. Bijur	845,201	Feb. 26	5322	1129	126	3229
Nut-blank-making apparatus	A. R. Jackson	845,257	Feb. 26	5258	1115	126	3214
Nut-lock	W. T. Solomon	845,137	Feb. 26	4807	1018	126	3103
Nut-lock	E. M. Newman	845,280	Feb. 26	5024	1069	126	3157
Nut-lock	C. M. Thrasher	845,280	Feb. 26	5093	1082	126	3175
Nut-lock	J. J. King	845,362	Feb. 26	5265	1116	126	3216
Nut-lock	C. D. Smith	845,389	Feb. 26	5685	1205	126	3319
Nut-lock	L. E. Doron	845,621	Feb. 26	5742	1215	126	3334
Nuts. Ball-bearing gland for packing-	C. H. Hughes	845,643	Feb. 26	5800	1226	126	3348
Oil-cups. Forming	W. W. Hicks	845,085	Feb. 26	4712	999	126	3077
Oil distillate of petroleum to raise the fire test thereof. Separating low-boiling products from the burning-	J. Towers	845,492	Feb. 26	5522	1170	126	3279
Oiling apparatus. Windmill-	H. Frasch	845,456	Feb. 26	5450	1154	126	3262
Operating-handle	A. Baldassini	845,676	Feb. 26	5872	1240	126	3365
Ophthalmoscope	E. Beck	845,679	Feb. 26	5877	1240-1	126	3367
Ore classifier and feeder	E. N. Klein	845,099	Feb. 26	4742	1006	126	3085
Ore-concentrator	M. Christmann	845,395	Feb. 26	5328	1130	126	3231
Ore-concentrator	M. Christmann	845,398	Feb. 26	5330	1130-1	126	3231
Ore crushing and grinding mill	M. Christmann	845,449	Feb. 26	5427	1151-2	126	3255
Ore-reducing furnace. Cinnabar-	A. L. Engelbach	845,067	Feb. 26	4667	991-2	126	3065
Organ-action. Automatic	C. F. Burgess	845,690	Feb. 26	5901	1246	126	3374
Ornament-fastening device	J. W. Davis	845,165	Feb. 26	4856	1030	126	3115
Packing. Turbine-shaft	J. L. Paul	845,570	Feb. 26	5651	1197	126	3311
Pad:	J. L. Moore	845,701	Feb. 26	5917	1250	126	3377
See Hoof-pad. Ink-pad.							
Padlock	S. J. Jacobson	845,358	Feb. 26	5259	1115	126	3215
Padlock	D. H. Owens	845,662	Feb. 26	5847	1234	126	3359
Pants	G. M. Therre	845,486	Feb. 26	5518	1169	126	3278
Paper-coating machine	F. Klousnitzer	845,646	Feb. 26	5808	1227	126	3350
Paper-making machines electrically. Means for driving	A. Aichele	845,725	Feb. 26	5966	1260	126	3389
Party-line lock-out	M. P. Boone	845,328	Feb. 26	5192	1102	126	3198
Pavement and metal reinforce therefor	E. H. Benners	845,289	Feb. 26	5121	1085	126	3181
Paving material. Composition of matter for use as	G. Bognar and A. Toth	845,508	Feb. 26	5546	.....	126	3296
Peeling machine. Vegetable-	J. Redmond	845,318	Feb. 26	5177	1099	126	3195
Pencil	C. A. Smith	845,320	Feb. 26	5179	1099	126	3195
Penholder	H. L. Kinter	845,178	Feb. 26	4888	1037	126	3123
Penholder	H. V. Holland	845,441	Feb. 26	5797	1225	126	3347
Pens. Pocket-clip for fountain-	H. B. Levy	845,467	Feb. 26	5476	1160	126	3268
Phonograph repeating mechanism	L. D. Kelley	845,645	Feb. 26	5802	1226-7	126	3348
Photographic developing apparatus	P. Bisset	845,049	Feb. 26	4626	984	126	3054
Pianissimo device	H. Metzger	845,565	Feb. 26	5644	1195	126	3310
Piano action. Upright-	E. J. Simpkins	845,720	Feb. 26	5957	1258	126	3387
Piano front boards. Fastening and pivot for	G. Anderson	845,503	Feb. 26	5538	1174	126	3284
Pick	F. S. Harrington	845,233	Feb. 26	4998	1062	126	3150
Pick	T. A. Lutz	845,427	Feb. 26	5381	1142	126	3244
Picture apparatus. Moving-	A. C. Pitman	845,574	Feb. 26	5856	1199	126	3313
Picture-exhibitor	H. S. and L. Isaacs	845,551	Feb. 26	5624	1191	126	3305
Pile-core	A. A. Callie	845,052	Feb. 26	4632	985-6	126	3055
Pin:	A. A. Raymond	845,120	Feb. 26	4778	1013	126	3095
See Connecting-pin. Hair-pin.							
Pipe:							
See Stand-pipe. Water-conductor pipe.							
Pipe-coupling	H. S. Stucy	845,141	Feb. 26	4814	1021	126	3104
Pipes. Centering device for drain or similar	L. R. Blackmer	845,392	Feb. 26	5324	1129	126	3230
Pipes. Plate for steam and water	C. P. Kemble and W. B. Snyder	845,096	Feb. 26	4738	1004	126	3084
Piston-rod gland	D. Risley	845,122	Feb. 26	4784	1014	126	3098
Placket-closer and skirt-supporter. Combination	W. B. Elchholtz	845,538	Feb. 26	5604	1187	126	3301
Plant-rest	E. W. Thayer	845,669	Feb. 26	5856	1237	126	3361
Planter. Corn-	G. K. Schauer	845,200	Feb. 26	4930	1046-7	126	3134
Planter. Corn-	E. H. Snyder	845,203	Feb. 26	4940	1048	126	3136
Planter marker. Corn-	F. E. Morehouse	845,247	Feb. 26	5020	1068	126	3157
Planter. Potato-	A. S. Holcomb	845,087	Feb. 26	4715	999-1000	126	3078
Planting-machine	E. C. Smith	845,485	Feb. 26	5513	1167-8	126	3277
Plastic material. Machine for molding	C. A. Thomson	845,507	Feb. 26	5695	1207-8	126	3322
Plate-feeding device	E. L. Cronemeyer	845,293	Feb. 26	5133	1068-9	126	3184
Plating apparatus	T. J. Slade	845,133	Feb. 26	4803	1017	126	3102
Plow	B. Nunnally	845,254	Feb. 26	5033	1070	126	3159
Plow attachment	O. W. Fisher	845,169	Feb. 26	4866	1031-2	126	3117

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Plow-blade. Combination	L. Johnson	845,176	Feb. 26	4886	1036	126	3132
Plow marking attachment	J. M. Perdue	845,573	Feb. 26	5655	1199	126	3312
Plow. Wheeled	W. P. Hendon	845,062	Feb. 26	4698	997	126	3072
Plug. Attachment-	C. J. Klein	845,712	Feb. 26	5934	1254	126	3382
Plug. Electrical attachment-	G. W. Goodridge	845,543	Feb. 26	5612	1188	126	3302
Pneumatic renovator	T. J. Sullivan and G. J. Harris	845,275	Feb. 26	5082	1080	126	3172
Pocket-knife	G. Schrade	845,130	Feb. 26	4797	1016	126	3100
Pointing-tool	B. F. Davis	845,530	Feb. 26	5585	1183	126	3295
Poker and clinker-hook. Combination	C. S. Krafft	845,180	Feb. 26	4890	1037	126	3123
Polarity-indicator	P. Leo	845,101	Feb. 26	4744	1006	126	3086
Post:							
See Fence-post.							
Post-card. Folding	F. U. Seeger	845,375	Feb. 26	5296	1123	126	3223
Pot-head	W. Callahan	845,614	Feb. 26	5726	1212	126	3330
Potato cutter. Seed-	C. R. Gage	845,627	Feb. 26	5754	1218	126	3336
Potato-digger	N. Keller	845,239	Feb. 26	5008	1065	126	3153
Power:							
See Horse-power.							
Power-transmission gearing	H. R. McConnell	845,314	Feb. 26	5168	1097	126	3193
Power-transmitting device	E. J. Lane	845,466	Feb. 26	5475	1160	126	3267
Press:							
See Baling-press. Car-wheel press.							
Brick-press.							
Press	C. N. Frey	845,457	Feb. 26	5458	1155-6	126	3264
Press auditing method	J. T. Hicks	845,237	Feb. 26	5005	1064	126	3152
Pressure-gage	M. Dunn	845,065	Feb. 26	4663	990-1	126	3064
Pressure-regulating system	J. Lavelle	845,424	Feb. 26	5377	1141	126	3243
Printing-machine	T. C. Sheehan	845,586	Feb. 26	5679	1204	126	3318
Printing-plates. Producing	E. Spitzer	845,138	Feb. 26	4809	.....	126	3103
Propeller	A. Hector	845,081	Feb. 26	4696	996-7	126	3071
Protractor	A. Anderson	845,043	Feb. 26	4612	982	126	3049
Prune and pitting it. Pitted	N. B. Converse	845,695	Feb. 26	5910	1248	126	3376
Puller:							
See Cork-puller.							
Pulley-rims. Punching and bending	J. A. Kaplan	845,711	Feb. 26	5933	1254	126	3382
Pulp-wood chipper	G. F. Rowe	845,198	Feb. 26	4927	1045	126	3133
Pump. Force-	F. Girod	845,407	Feb. 26	5353	1135	126	3237
Pump. Measuring and registering	W. M. Davison	845,532	Feb. 26	5588	1184	126	3296
Rack:							
See Clothes-rack. Display-rack.							
Radiators. Making sheet-metal	W. R. Kinnear	845,304	Feb. 26	5155	1093-4	126	3190
Rail bending and straightening machine	C. H. Sherburne	845,131	Feb. 26	4799	1017	126	3101
Rail-joint	N. Myrin	845,313	Feb. 26	5167	1097	126	3193
Rail-joint	H. Gaara	845,343	Feb. 26	5224	1108-9	126	3206
Rail-joint	L. W. Sayre	845,482	Feb. 26	5507	1166	126	3275
Railway-coaches. Automatic trap-door for	J. Marick	845,306	Feb. 26	5157	1095	126	3190
Railway. Elevated electric	J. M. Gilstrap	845,459	Feb. 26	5465	1156-7	126	3265
Railway. Elevated electric	W. J. Citron	845,524	Feb. 26	5571	1180-1	126	3292
Railway. Pleasure-	J. N. Vandegrift	845,147	Feb. 26	4822	1023	126	3106
Railway-rail	P. Dewitt and E. J. Clarke	845,727	Feb. 26	5909	1261-2	126	3390
Railway safety device	F. M. Myers	845,188	Feb. 26	4903	1040	126	3127
Railway signal system	J. Parker	845,115	Feb. 26	4773	1012	126	3094
Railway signaling apparatus for use in foggy or other weather	J. Parker	845,116	Feb. 26	4775	1012	126	3094
Railway signaling purposes. Detonator for	C. P. Breese and A. J. Wilson	845,683	Feb. 26	5885	1242	126	3368
Railway signaling system. Electric-	G. W. Williams, Sr	845,499	Feb. 26	5532	1172	126	3282
Railway-switch shield	M. M. Batterton	845,507	Feb. 26	5545	1175	126	3285
Railway-tie	W. G. Johnson	845,238	Feb. 26	5007	1064	126	3153
Railway tie and chair	W. H. Shryock	845,376	Feb. 26	5298	1123	126	3224
Railway-tie. Steel	G. P. A. L. Menard	845,564	Feb. 26	5643	1195	126	3310
Railways and the like. Fish-plate for the rail-joints of	A. J. Rose	845,578	Feb. 26	5663	1200	126	3314
Rain-water-conductor-fastening device	A. H. Francfort	845,402	Feb. 26	5341	1133	126	3234
Rake:	F. Cais	845,518	Feb. 26	5562	1179	126	3289
See Hay-rake.	C. Miller	845,716	Feb. 26	5950	1257	126	3335
Ram. Hydraulic	F. H. Arnold and E. D. Becker	845,380	Feb. 26	5318	1128	126	3229
Range-controlling mechanism. Gas-	L. B. Gaylor	845,628	Feb. 26	5755	1218	126	3336
Ratchet-wrench	B. M. Nuzum	845,431	Feb. 26	5387	1144	126	3245
Razor. Safety-	C. A. McCain	845,429	Feb. 26	5383	1143	126	3244
Razor. Safety-	C. A. Hadland	845,545	Feb. 26	5613	1189	126	3303
Reamer	F. W. Leuthesser	845,183	Feb. 26	4993	1038	126	3124
Reciprocating beds. Cushioning mechanism for	F. Theil	845,278	Feb. 26	5090	1081	126	3174
Recorder:	R. Fleming	845,225	Feb. 26	4980	1059	126	3146
See Time-recorder.	M. Stern	845,274	Feb. 26	5079	1079	126	3171
Reeling device	C. De Kando	845,618	Feb. 26	5734	1214	126	3332
Register:	H. Frenay and H. Graeve	845,075	Feb. 26	4678	994	126	3067
See Cash-register.							
Register name-board	J. W. Curran	845,698	Feb. 26	5914	1249	126	3377
Regulator:	O. Briede	845,331	Feb. 26	5199	1103	126	3200
See Fluid-pressure regulator.	H. C. French	845,228	Feb. 26	4988	1061	126	3148
Relish set	H. V. Loss	845,105	Feb. 26	4752	1008	126	3088
Resistance unit							
Revolver							
Rheostat. Automatically-operated liquid-							
Rifle. Repeating							
Ring:							
See Finger-ring.							
Rivet-bolt. Safety-appliance							
Rivets, &c. Machine for making							
Riveting							
Riveting-machine							
Roller:							
See Log-roller.	A. Ridd	845,434	Feb 26	5391	1145	126	3246
Rolls. Making mottled	A. Kiefer	845,361	Feb. 26	5264	1116	126	3216
Roofing. Inner	E. H. Binns	845,290	Feb. 26	5123	1085	126	3182
Roofing material	R. F. Schmidt	845,270	Feb. 26	5073	1078	126	3170
Rotary engine	A. White	845,600	Feb. 26	5703	1209	126	3325
Rotary motor Pressure expansion	H. T. Hincks	845,463	Feb. 26	5471	1168-9	126	3307
Rule Slide-	W. F. Fisher	845 296	Feb. 26	5141	1091	126	3167
Sad-iron							

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Safe	J. W. Cramer	845,057	Feb. 26	4642	987–8	126	3068
Safety device. Automatic	C. A. Noren	845,113	Feb. 26	4709	1011	126	3080
Sash-lock	S. F. Estell	845,454	Feb. 26	5447	1153–4	126	3261
Saw-filing machine	M. W. Jones	845,359	Feb. 26	5260	1115–16	126	3215
Saw jointer. Hand-	A. P. Hall	845,173	Feb. 26	4883	1035	126	3122
Scissors	M. E. Hultquist	845,644	Feb. 26	5801	1226	126	3348
Scoop-board	W. T. Roney	845,480	Feb. 26	5503	1165	126	3275
Scraper	B. R. Wheeler	845,283	Feb. 26	5106	1063	126	3178
Scraper. Fork-	R. C. Miner and H. L. Fitch	845,700	Feb. 26	5916	1250	126	3377
Screen: *See* Knockdown screen.							
Screw-fed machine	O. Thomas and G. Blackwell	845,379	Feb. 26	5302	1124	126	3225
Scrubbing and cleaning device	A. J. Van Drake	845,493	Feb. 26	5523	1170	126	3279
Sealing device	M. G. De Wolff	845,619	Feb. 26	5739	1214–15	126	3333
Separable coupling	C. H. Layng	845,654	Feb. 26	5819	1229	126	3351
Settling-tank	J. M. Callow	845,520	Feb. 26	5565	1119	126	3289
Sewing apparatus	F. Jacob and J. Boppel	845,092	Feb. 26	4726	1002	126	3081
Sewing-machine hemmer	G. S. Gatchell	845,404	Feb. 26	5346	1134	126	3235
Sewing-machine locating-gage	C. C. Elliott	845,453	Feb. 26	5445	1153	126	3261
Sewing-machine table	C. Mitchell	845,471	Feb. 26	5488	1162	126	3271
Sewing-machine table	J. H. Thompson and J. Murphy	845,490	Feb. 26	5520	1169–70	126	3278
Shackle-rod coupling	A. M. and W. B. Kleckner	845,647	Feb. 26	5806	1227	126	3349
Shaft-support. Adjustable	J. H. Bullard	845,513	Feb. 26	5553	1177	126	3287
Sharpener. Saw-	J. W. McAlpin	845,475	Feb. 26	5495	1163	126	3273
Sharpener. Scissors-	J. M. Strehl	845,487	Feb. 26	5517	1169	126	3278
Ships' hulls. Apparatus for cleaning	G. E. von Hoffmann	845,301	Feb. 26	5148	1093	126	3188
Shock-absorbing device	J. C. Wands	845,149	Feb. 26	4826	1024	126	3107
Shock-absorbing device	J. C. Wands	845,150	Feb. 26	4827	1024	126	3108
Shock-loader	H. Hendrickson	845,638	Feb. 26	5792	1224	126	3346
Shoe-fastener	F. Paschen	845,432	Feb. 26	5388	1144	126	3245
Shovel and plow. Combined	M. J. Henry	845,549	Feb. 26	5620	1190–1	126	3304
Shovel carrier. Intrenching-	E. T. Gibson	845,348	Feb. 26	5233	1111	126	3208
Shovel-handle	F. Stewart	845,592	Feb. 26	5690	1206	126	3320
Show-case. All-glass knockdown	M. E. La Berge	845,650	Feb. 26	5810	1228	126	3350
Show-case. Illuminated	M. E. La Berge	845,652	Feb. 26	5815	1229	126	3351
Show-case. Semi-knockdown all-glass	M. E. La Berge	845,651	Feb. 26	5813	1228	126	3350
Show-cases. Sliding-door construction for	M. E. La Berge	845,720	Feb. 26	5975	1262	126	3392
Shutter. Flexible metallic	T. E. Collins	845,526	Feb. 26	5575	1181	126	3293
Signs and transparencies. Box for illuminated	G. E. Rainaud	845,478	Feb. 26	5500	1164	126	3274
Signal: *See* Lubricator-signal.							
Signal-board attachment. Safety-	W. T. Gates	845,076	Feb. 26	4680	994	126	3068
Skimmer. Milk-bottle	H. W. Pickard	845,706	Feb. 26	5925	1252	126	3379
Snow from streets. Apparatus for removing	E. G. Kohout	845,100	Feb. 26	4743	1006	126	3085
Snow-plow	J. S. Stout	845,594	Feb. 26	5691	1206	126	3321
Socket-wrench	C. Miller	845,717	Feb. 26	5951	1257	126	3386
Sole of a made-up shoe or the like. Machine for forming concavities in the top surface of the	J. Strootman	845,440	Feb. 26	5404	1147	126	3249
Sole-pressing machine	B. F. Mayo	845,714	Feb. 26	5943	1255–6	126	3384
Sole rounding and channeling machine	J. E. Thayer	845,277	Feb. 26	5088	1081	126	3174
Solvent and preparing same	H. O. Chute	845,616	Feb. 26	5729	.....	126	3331
Speed transmission. Variable-	F. P. Huyck	845,091	Feb. 26	4722	1002	126	3079
Spinning and analogous machines. Ring and traveler for	T. A. Boyd	845,510	Feb. 26	5548	1176	126	3296
Splint-carrier	H. W. Spellman	845,439	Feb. 26	5403	1147	126	3249
Splint-carrier	A. B. Calkins	845,447	Feb. 26	5416	1149	126	3252
Spring	J. C. Whittle	845,210	Feb. 26	4947	1051	126	3138
Spring terminal-clip	J. Schade, Jr	845,268	Feb. 26	5068	1077	126	3169
Square. Tailor's	B. Ricciardi	845,319	Feb. 26	5178	1099	126	3195
Stacker. Hay-	B. F. Powell	845,576	Feb. 26	5659	1199–1200	126	3313
Stacker. Straw-	A. J. Gritton	845,078	Feb. 26	4690	995–6	126	3070
Stalk-cutter	F. P. Chapa	845,692	Feb. 26	5906	1247	126	3375
Stand-pipe	M. M. Moore	845,312	Feb. 26	5166	1096	126	3193
Staple or fastener	F. F. Winchester	845,156	Feb. 26	4838	1026	126	3110
Starter-can	F. J. Macnish	845,469	Feb. 26	5481	1161	126	3269
Steam and combustion-gases. Apparatus for producing a mixture of	E. Schmidt	845,128	Feb. 26	4793	1016	126	3100
Steam-trap	W. Geipel	845,630	Feb. 26	5758	1218–19	126	3337
Steering-gear	F. J. Schiele	845,127	Feb. 26	4791	1016	126	3099
Stereotype-matrices. Manufacture of	A. Whitehead and G. Porteus	845,495	Feb. 26	5525	1171	126	3280
Sterilizer	G. Van Eyck	845,208	Feb. 26	4946	1049–50	126	3137
Still for petroleum. Steam-	H. Frasch	845,735	Feb. 26	5988	1265–6	126	3395
Stone-cutting machine	A. F. Jones	845,095	Feb. 26	4731	1003–4	126	3082
Stopper: *See* Bottle-stopper.							
Stove. Portable drying-	S. Zwallina	845,605	Feb. 26	5713	1210	126	3326
Straight-edge	J. G. Breckenridge	845,291	Feb. 26	5125	1086	126	3182
Strainer	T. P. Pick	845,257	Feb. 26	5036	1071	126	3160
Straw-carrier	G. A. Carlson	845,333	Feb. 26	5202	1104	126	3200
Submarines. Means of escape from sunken	E. A. Edney	845,623	Feb. 26	5745	1216	126	3334
Surgical instrument	C. W. Shelden	845,587	Feb. 26	5682	1204	126	3319
Suspenders and suspender attachment	J. D. Burns	845,293	Feb. 26	5325	1129	126	3230
Sweep-stocks and the like. Adjustable handle for	T. Hoerhold	845,086	Feb. 26	4714	999	126	3077
Swimming appliance	W. P. Samms	845,266	Feb. 26	5065	1077	126	3169
Swimming-tank	R. W. Vaughan	845,441	Feb. 26	5406	1147	126	3250
Swing	S. W. Womack	845,602	Feb. 26	5708	1209	126	3326
Syringe	T. J. Kernan	845,303	Feb. 26	5153	1093	126	3189
Syringe-nozzle	N. T. Morris	845,249	Feb. 26	5023	1069	126	3157
Table: *See* Sewing-machine table.							
Tank: *See* Settling-tank. Swimming-tank.							
Tank heater. Water-	J. Harris	845,636	Feb. 26	5788	1223	126	3345
Tar-extractor. Centrifugal	W. W. Gore	845,460	Feb. 26	5468	1158	126	3266
Telegraph-registers. Automatic signal attachment for	J. C. Carmody and W. K. Pulsifer	845,522	Feb. 26	5568	1180	126	3291
Telegraph-sounder	D. A. Whitney	845,153	Feb. 26	4831	1025	126	3109
Telegraphy and other purposes. Mast for wireless	L. Leidl	845,242	Feb. 26	5014	1066	126	3155
Telephone-magnet	A. E. Harrison and C. M. Haslett	845,548	Feb. 26	5616	1189	126	3303
Telephone system	E. R. Corwin	845,066	Feb. 26	4940	987	126	3057

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Telephone system	W. W. Dean	845,533	Feb. 26	5590	1184	126	3296
Telephone-transmitter	J. M. Dempsey	845,062	Feb. 26	4655	989	126	3062
Telephone trunking system	H. C. Goldrick	845,077	Feb. 26	4681	995	126	3068
Telephone trunking system	F. W. Dunbar	845,452	Feb. 26	5432	1153	126	3255
Telephonic and telegraphic circuit. Composite	G. M. Yorke	845,157	Feb. 26	4838	1027	126	3110
Telephonic-current reinforcer or repeater system	N. G. Warth	845,282	Feb. 26	5102	1083	126	3177
Thermometer. Electric-resistance	E. Haagn	845,413	Feb. 26	5362	1138	126	3239
Tie: *See* Fencing-tie. Railway-tie.							
Tie-frame	A. A. Mathews	845,246	Feb. 26	5020	1067	126	3156
Tie or anchor plate	F. E. Herriman	845,639	Feb. 26	5794	1225	126	3346
Tile. Facing	J. S. Hunter	845,550	Feb. 26	5622	1191	126	3304
Time-detector. Watchman's electric	O. E. Hausburg	845,637	Feb. 26	5789	1224	126	3345
Time-recorder	W. L. Bundy	845,216	Feb. 26	4957	1053–4	126	3141
Tobacco-cutting apparatus. Cake or leaf	B. Baron	845,212	Feb. 26	4951	1051–2	126	3139
Tools. Control and copying device for machine-	H. Liebert	845,305	Feb. 26	5156	1094	126	3190
Top. Kaleidoscope	C. V. Cunningham	845,529	Feb. 26	5582	1183	126	3295
Towage systems. Tractor for electrical	L. Gerard	845,405	Feb. 26	5347	1134–5	126	3235
Trace-fastener	J. W. Simonds	845,273	Feb. 26	5078	1079	126	3171
Track-fastening	W. T. Brown	845,215	Feb. 26	4956	1053	126	3140
Transportation device	C. L. Tripp	845,207	Feb. 26	4945	1049	126	3137
Trap: *See* Steam-trap.							
Treadle-motor	C. Stambois	845,377	Feb. 26	5299	1124	126	3224
Trolley	W. J. Selleck	845,483	Feb. 26	5508	1167	126	3276
Trolley-pole	C. F. Wensinger	845,323	Feb. 26	5183	1100	126	3196
Trousers	L. M. Nathan	845,430	Feb. 26	5385	1143	126	3245
Trousers-support	I. D. Fellows	845,068	Feb. 26	4660	992	126	3065
Truck	W. and S. Vanmanen	845,673	Feb. 26	5862	1238	126	3363
Turbine	A. J. Cooper	845,334	Feb. 26	5203	1104–5	126	3200
Turbine	C. Antrobus	845,675	Feb. 26	5869	1239–40	126	3360
Turbine. Elastic-fluid	C. W. Dake	845,059	Feb. 26	4648	988	126	3065
Turbine. Elastic-fluid	J. G. Callan	845,448	Feb. 26	5417	1150–1	126	3252
Turbine. Elastic-fluid	O. Junggren	845,710	Feb. 26	5930	1253–4	126	3381
Turbine-engine. Gas	A. Du Shane	845,622	Feb. 26	5743	1216	126	3334
Turbine-governing means	C. W. Dake	845,058	Feb. 26	4645	988	126	3059
Turbine-governing means	C. W. Dake	845,060	Feb. 26	4650	989	126	3061
Turbine-governing mechanism	J. G. Callan	845,292	Feb. 26	5126	1086–8	126	3182
Turbine-governing mechanism	E. D. Dickinson	845,339	Feb. 26	5210	1105–6	126	3202
Turbine-regulating means	R. Schulz	845,583	Feb. 26	5674	1203	126	3317
Turbine. Steam-	W. L. R. Emmet	845,295	Feb. 26	5138	1090–1	126	3186
Turbines. Surface condenser for	W. L. R. Emmet	845,294	Feb. 26	5135	1089–90	126	3185
Type-casting machines. Matrix-plate for	F. H. Brown, J. E. Hanrahan, and G. A. Boyden.	845,684	Feb. 26	5889	1243	126	3370
Type characters. Matrix for casting	F. H. Brown, J. E. Hanrahan, and G. A. Boyden.	845,512	Feb. 26	5552	1176	126	3287
Type-distributing machine	D. B. Ray	845,261	Feb. 26	5044	1074–5	126	3162
Type mold and matrix	F. H. Brown, J. E. Hanrahan, and G. A. Boyden.	845,686	Feb. 26	5891	1243	126	3370
Type-setting machine	C. S. Wright	845,287	Feb. 26	5118	1085	126	3181
Type-writer	N. R. Graham	845,229	Feb. 26	4989	1061	126	3148
Type-writer	W. E. Risinger	845,264	Feb. 26	5056	1076	126	3165
Type-writing machine	F. J. Dyett	845,066	Feb. 26	4664	991	126	3064
Type-writing machine	J. W. Hays	845,234	Feb. 26	4997	1062–3	126	3150
Type-writing machine	E. F. Kunath	845,240	Feb. 26	5010	1065	126	3153
Type-writing machine	G. R. Newmann	845,251	Feb. 26	5027	1069–70	126	3158
Vacuum apparatus	P. H. Thomas	845,670	Feb. 26	5858	1237	126	3361
Vacuum-creating means	P. H. Thomas	845,671	Feb. 26	5860	1237	126	3362
Valve	M. Lorenz	845,244	Feb. 26	5017	1066–7	126	3156
Valve	R. T. Ferguson, H. Turner, and O. J. Haller.	845,540	Feb. 26	5607	1187	126	3301
Valve. Automatic regrinding-	I. B. Gilbert	845,458	Feb. 26	5464	1156	126	3265
Valve. Automatic stop-	E. L. Bazin	845,213	Feb. 26	4952	1052	126	3140
Valve. Cut-off	J. H. Williams	845,155	Feb. 26	4836	1026	126	3110
Valve. Electrically-operated	L. A. Tirrill	845,281	Feb. 26	5094	1082–3	126	3175
Valve. Hydraulic	H. A. Desper	845,063	Feb. 26	4657	990	126	3063
Valve-motion	J. H. Williams	845,154	Feb. 26	4833	1025–6	126	3109
Valve. Motorman's	F. B. Corey	845,335	Feb. 26	5205	1105	126	3201
Valve. Steam throttle-	T. A. Pitman	845,119	Feb. 26	4777	1013	126	3095
Vapor-apparatus-protecting device	P. H. Thomas	845,722	Feb. 26	5962	1259	126	3388
Vat: *See* Cheese-vat.							
Vehicle-brake	P. Hallot	845,633	Feb. 26	5763	1220–1	126	3339
Vehicle-canopy	F. W. Wolf	845,501	Feb. 26	5535	1173	126	3283
Vehicle. Motor-	E. C. Hardegen and H. H. Kennedy.	845,080	Feb. 26	4695	996	126	3071
Vehicle. Motor road-	H. P. Maxim	845,106	Feb. 26	4753	1008–9	126	3086
Vehicle storm-front. Adjustable	G. W. Scott. (Reissue)	12,613	Feb. 26	5996	1266	126	3398
Vehicle storm-shield	J. J. Russell, Jr	845,436	Feb. 26	5395	1146	126	3247
Vehicle-wheel	S. S. Childs	845,054	Feb. 26	4637	986	126	3057
Vehicles. Vibration-check for	P. M. Hotchkin	845,068	Feb. 26	4717	1000	126	3078
Vending apparatus	J. A. Williams	845,324	Feb. 26	5184	1100–1	126	3196
Vending-machine	E. G. Barnes	845,045	Feb. 26	4620	983	126	3052
Vending-machine	J. A. Williams	845,284	Feb. 26	5107	1084	126	3179
Vending-machine	J. A. Rule	845,199	Feb. 26	4928	1045	126	3133
Vending machine. Newspaper-	C. A. Shaler	845,272	Feb. 26	5076	1079	126	3171
Vulcanizer	B. W. Stevens and W. Hanson	845,486	Feb. 26	5515	1168	126	3277
Wad-stamping device	J. Ruppert	845,580	Feb. 26	5666	1201	126	3315
Wagon	W. D. Ham	845,635	Feb. 26	5785	1222	126	3344
Wall-forming mold	H. S. Reams	845,262	Feb. 26	5053	1075	126	3164
Washing-machine bench	A. B. Christensen	845,615	Feb. 26	5727	1213	126	3330
Washing-machine gearing	W. G. Landt	845,423	Feb. 26	5376	1141	126	3242
Watch-checking device	R. Lange	845,422	Feb. 26	5375	1140	126	3242
Watch-regulating mechanism	F. W. Delanoy	845,534	Feb. 26	5568	1184	126	3297
Water-closet	T. F. Payne	845,373	Feb. 26	5292	1122–3	126	3223
Water-closet and flushing-valve therefor	A. J. Ross	845,577	Feb. 26	5661	1200	126	3314
Water-conductor pipe or the like	E. S. Decker	845,061	Feb. 26	4652	989	126	3062
Water-heater	J. Wildman	845,386	Feb. 26	5313	1127–8	126	3228
Water-tube boiler	A. Koren, jr	845,179	Feb. 26	4888	1037	126	3123
Watering system for gardens, fields, and the like	E. L. Bazin	845,214	Feb. 26	4954	1052–3	126	3140
Waves. Apparatus for utilizing the vis viva of sea-							

Invention.	Name.	No.	Date.	Monthly volume. Spec.	Monthly volume. Drg.	Official Gazette. Vol.	Official Gazette. Page.
Well cleaner. Oil-	R. H. Bare	845,677	Feb. 26	5674	1240	126	3366
Wheel: *See* Grinding-wheel. Vehicle-wheel.							
Wheel-support. Pneumatic cushioning	G. W. Bell	845,327	Feb. 26	5191	1101	126	3197
Whiffletree	N. P. Peterson	845,663	Feb. 26	5848	1235	126	3359
Whip-holder for carriages	J. C. Dunfee	845,167	Feb. 26	4861	1030	126	3116
Window	A. Tornier	845,382	Feb. 26	5307	1126	126	3226
Window. Bay-	L. G. Quackenboss	845,259	Feb. 26	5039	1072-3	126	3161
Window frame and sash	A. J. Gobeil	845,298	Feb. 26	5143	1091-2	126	3187
Window. Reversible folding-sash	A. F. Johnson	845,418	Feb. 26	5370	1139	126	3241
Wire-drawing machine	W. J. Herald	845,462	Feb. 26	5470	1158	126	3267
Wire-stretcher	O. E. Lewis	845,102	Feb. 26	4745	1007	126	3086
Wires. Ring for connecting	R. E. Noble	845,252	Feb. 26	5030	1070	126	3158
Work-support or bed. Hollow	H. A. Holder	845,640	Feb. 26	5795	1225	126	3346
Wrench: *See* Ratchet-wrench. Socket-wrench.							
Wrench	J. MacLean	845,187	Feb. 26	4902	1039	126	3127
Wrench	J. H. Shepherd	845,588	Feb. 26	5683	1204	126	3319

DESIGNS.

Designs.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Box	W. Jones	38,468	Feb. 26	126	3399
Chafing-dish stand and lamp	E. A. Gutermann	38,466	Feb. 26	126	3399
Ring	F. C. Widmann	38,465	Feb. 26	126	3398
Water-cooler	J. T. Cole	38,467	Feb. 26	126	3399

TRADE-MARKS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Ale. Ginger-	Rainbow Ale Company	60,913	Feb. 26	126	3416
Ale. Ginger-	A. W. Kaye	60,937	Feb. 26	126	3417
Ale, soda-water, and sarsaparilla. Ginger-	Cochran & Co	60,895	Feb. 26	126	3416
Ammonia. Aqua-	Columbia Chemical Works	61,007	Feb. 26	126	3419
Anesthetic preparations for hypodermic injections	New Brunswick Chemical Co	61,034	Feb. 26	126	3419
Beer	V. Neustadtl	60,940	Feb. 26	126	3417
Beer. Lager-	Peter Schoenhofen Brewing Company.	60,942	Feb. 26	126	3417
Bells, except electric bells	New Departure Manufacturing Company.	60,981	Feb. 26	126	3418
Bells, except electric bells	New Departure Manufacturing Company.	60,982	Feb. 26	126	3418
Blasting-machines and electric batteries	Eastern Dynamite Company	60,974	Feb. 26	126	3418
Boots and shoes. Leather	Williams Hoyt & Co	60,916	Feb. 26	126	3416
Boots and shoes made in whole or in part of leather	Lynchburg Shoe Co	60,996	Feb. 26	126	3418
Boots, shoes, and slippers. Ladies' leather	A. E. Little & Company	60,903	Feb. 26	126	3416
Boots, shoes, and slippers. Leather	T. H. Maxwell	60,926	Feb. 26	126	3417
Boots, shoes, and slippers. Leather	Slater Shoe Company	60,929	Feb. 26	126	3417
Boots, shoes, and slippers. Leather	Rapp Shoe Company	60,944	Feb. 26	126	3417
Boots, shoes, and slippers. Leather	Paul Brothers	60,963	Feb. 26	126	3417
Bottle-stoppers. Metallic	Paul Brothers	60,964	Feb. 26	126	3418
Bricks or blocks. Building	New York Specialty Co	60,990	Feb. 26	126	3418
Bronze	Ohio Mining and Manufacturing Co.	60,963	Feb. 26	126	3418
		60,997	Feb. 26	126	3418
Butter	National-Fulton Brass Manufacturing Company.	60,960	Feb. 26	126	3418
Butter, milk, and cheese	H. M. De Witt	60,869	Feb. 26	126	3415
Candles	W. S. Moore & Co	60,870	Feb. 26	126	3415
Canned and preserved fruits and vegetables	R. U. Delapenha & Co	60,868	Feb. 26	126	3415
Cards. Playing-	Gordon & Dilworth	60,861	Feb. 26	126	3415
	New York Consolidated Card Company.	60,907	Feb. 26	126	3416
Cards. Playing-	New York Consolidated Card Company.	60,908	Feb. 26	126	3416
Cards. Playing-	New York Consolidated Card Company.	60,909	Feb. 26	126	3416
	New York Consolidated Card Company.	60,910	Feb. 26	126	3416
Cement. Pipe-joint	F. H. Pough	60,943	Feb. 26	126	3417
Champagne	Lanson Père & Fils	60,902	Feb. 26	126	3416
Chemicals. Certain	Continental Color and Chemical Co.	61,024	Feb. 26	126	3419
Cigarettes	J. F. Lazarakis	60,939	Feb. 26	126	3417
Coal	Berwind White Coal Mining Company.	60,916	Feb. 26	126	3416
Coffee	Dadabhoy & Co	60,857	Feb. 26	126	3415

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Official Gazette. Page.
Coffee	Sprague, Warner & Company	60,868	Feb. 26	126	3415
Combustion. Devices for promoting	Herrick Complete Combustion Company.	60,936	Feb. 26	126	3417
Cotton cheviots for shirtings	J. Connelly & Sons	60,971	Feb. 26	126	3418
Cotton piece goods	Arnhold, Karberg & Co	61,020	Feb. 26	126	3419
Cotton piece goods	Arnhold, Karberg & Co	61,021	Feb. 26	126	3419
Cotton. Raw	Reagan Round Bale Co	60,985	Feb. 26	126	3418
Cream. Cold-	Daggett & Ramsdell	61,025	Feb. 26	126	3419
Dentrifrices	Hall & Ruckel	61,008	Feb. 26	126	3419
Dress-shields	Austin-Walker M'f'g. Co	60,952	Feb. 26	126	3417
Edge-tools. Certain	Dunham, Carrigan & Hayden Co.	60,972	Feb. 26	126	3418
Edge-tools. Certain	Smith Bros. Hardware Co	61,000	Feb. 26	126	3419
Elastic webbing	Narrow Fabric Corporation	60,978	Feb. 26	126	3418
Elastic webbing	Narrow Fabric Corporation	60,979	Feb. 26	126	3418
Electrical apparatus and supplies. Certain named	P. M. Fletcher Company	60,998	Feb. 26	126	3418
Explosives and fuses. High	Eastern Dynamite Company	60,956	Feb. 26	126	3417
Explosives. High	Eastern Dynamite Company	60,918	Feb. 26	126	3416
Explosives. High	Eastern Dynamite Company	60,953	Feb. 26	126	3417
Explosives. High	Eastern Dynamite Company	60,955	Feb. 26	126	3417
Eyeglass and spectacle lenses	A. Martin Inc	60,968	Feb. 26	126	3418
Feed-grinders	Spartan Manufacturing Co	60,987	Feb. 26	126	3418
Fertilizers	New Orleans Acid and Fertilizer Company.	60,904	Feb. 26	126	3416
Fertilizers	New Orleans Acid and Fertilizer Company.	60,905	Feb. 26	126	3416
Fertilizers	New Orleans Acid and Fertilizer Company.	60,906	Feb. 26	126	3416
Filters	T. W. Goreau	60,959	Feb. 26	126	3417
Fire-extinguishers. Chemical	J. H. Clay	61,023	Feb. 26	126	3419
Flour made from bananas	R. Cruselias	60,856	Feb. 26	126	3415
Flour. Wheat-	F. Cobb & Co	60,855	Feb. 26	126	3415
Flour. Wheat-	Higginsville Milling Company	60,994	Feb. 26	126	3418
Fruit-juices	T. J. Clement	60,917	Feb. 26	126	3416
Fuses and blasting-caps	Eastern Dynamite Company	60,954	Feb. 26	126	3417
Game. Card	S. R. Beal	60,891	Feb. 26	126	3416
Gas-generating fluid	F. H. Ringemann	61,017	Feb. 26	126	3419
Gin and whisky	Kohn Distilling Co	60,975	Feb. 26	126	3418
Grain. Dried brewers'	Atlantic Export Company	60,853	Feb. 26	126	3415
Grain. Dried brewers'	Atlantic Export Company	60,854	Feb. 26	126	3415
Hair-dye	Guggenheim Mfg. Co	61,028	Feb. 26	126	3419
Hats and caps. Certain	Rosenthal-Sloan Millinery Co	60,871	Feb. 26	126	3415
Insulated receptacle. Heat-	M. L. Palmer	60,927	Feb. 26	126	3417
Knit underwear	Oneita Knitting Mills	60,984	Feb. 26	126	3418
Knives, razors, scissors, and shears. Pocket and table	Dunham, Carrigan & Hayden Co.	60,973	Feb. 26	126	3418
Lamps and parts thereof. Oil-	Edward Miller & Co	60,933	Feb. 26	126	3417
Lead: Pure white	Eagle White Lead Company	60,993	Feb. 26	126	3418
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,872	Feb. 26	126	3415
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,873	Feb. 26	126	3415
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,874	Feb. 26	126	3415
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,875	Feb. 26	126	3415
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,876	Feb. 26	126	3415
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,877	Feb. 26	126	3415
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,878	Feb. 26	126	3415
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,879	Feb. 26	126	3415
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,880	Feb. 26	126	3415
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,881	Feb. 26	126	3415
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,882	Feb. 26	126	3415
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,883	Feb. 26	126	3415
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,884	Feb. 26	126	3415
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,885	Feb. 26	126	3416
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,886	Feb. 26	126	3416
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,887	Feb. 26	126	3416
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,888	Feb. 26	126	3416
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,889	Feb. 26	126	3416
Leather and shoe blackings, paste, polish, and varnish	S. M. Bixby & Co	60,890	Feb. 26	126	3416
Leather, except patent calf-leather. Calf-	G. F. Werner's Sons	60,967	Feb. 26	126	3418
Leather. Harness-	A. Trostel & Sons	60,988	Feb. 26	126	3418
Leather manufactures. Certain	E. F. Houghton & Co	60,923	Feb. 26	126	3416
Malt extract	Ebling Brewing Co	60,919	Feb. 26	126	3416
Malt extract	S. Liebmann's Sons Brewing Company.	61,002	Feb. 26	126	3419
Mattresses	Southern Cotton Oil Company	61,001	Feb. 26	126	3419
Meats. Fresh	New York Butchers Dressed Meat Company.	60,863	Feb. 26	126	3415
Meats. Smoked	J. J. Pater	60,864	Feb. 26	126	3415
Medicated suppositories	K S C Medical Co	61,032	Feb. 26	126	3419
Medicinal compounds. Certain	Kargon Extracting Co	61,012	Feb. 26	126	3419
Medicinal product. Certain	Hilaire et Cie	61,009	Feb. 26	126	3419
Medicine for the cure of gall-stones	C. L. Amerman	61,004	Feb. 26	126	3419
Medicines and laxatives. Liver	Raben Company	61,035	Feb. 26	126	3419
Medicines. Rheumatic and gout	J. T. Baltar	61,005	Feb. 26	126	3419
Metal and wood working machine parts. Certain	Whitman & Barnes Manufacturing Company.	60,960	Feb. 26	126	3415
Modeling-paste	W. Harbutt	60,921	Feb. 26	126	3416
Mouth-wash	Brauer Chemical Company	61,006	Feb. 26	126	3419
Musical-instrument strings	Lyon & Healy	60,976	Feb. 26	126	3418
Nets. Leather fly-	Milwaukee Net Co	60,977	Feb. 26	126	3416
Newspaper	Washington Herald Company	60,949	Feb. 26	126	3417
Nozzles for hydrants. Valved	Holyoke Valve and Hydrant Company.	60,962	Feb. 26	126	3417
Oil. Rheumatic	H. Brunswick	61,022	Feb. 26	126	3419

TRADE-MARKS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
Oils and greases for preserving metals and for lubricating	H. Chudeau	60,804	Feb. 26	126	3416
Oils. Cotton-seed	Southern Cotton Oil Company	60,895	Feb. 26	126	3415
Oils. Cotton-seed	Southern Cotton Oil Company	60,896	Feb. 26	126	3415
Oils. Cotton-seed	Southern Cotton Oil Company	60,897	Feb. 26	126	3415
Ointment	Musterole Co	61,014	Feb. 26	126	3419
Ointments	Actien-Gesellschaft für Anilin-Fabrikation.	61,003	Feb. 26	126	3419
Paint. Antirust and acid-resisting	Carbolineum Wood Preserving Co.	60,992	Feb. 26	126	3418
Paper. Blotting	Standard Paper M'n'f'g. Co	60,945	Feb. 26	126	3417
Paper. Writing, bond, and ledger	Union Card & Paper Co	60,914	Feb. 26	126	3416
Paper. Writing, printing, and ledger	Wiggins Teape & Co	60,931	Feb. 26	126	3417
Periodical	Detective Publishing Company	60,932	Feb. 26	126	3417
Periodical. Weekly	Havey & Darrow	60,935	Feb. 26	126	3417
Pickles and vegetable and meat sauces	E. Lazenby & Son	60,860	Feb. 26	126	3415
Plasters and certain medicinal preparations	Ichthyol Gesellschaft, Cordes, Hermanni & Co.	61,010	Feb. 26	126	3419
Plasters and certain medicinal preparations	Ichthyol Gesellschaft, Cordes, Hermanni & Co.	61,011	Feb. 26	126	3419
Powder. Tooth	T. Kobayashi	61,013	Feb. 26	126	3419
Razors	Shumate Razor Company	60,986	Feb. 26	126	3418
Razors, pocket-knives, and butcher-knives	A. Kastro & Bros	60,995	Feb. 26	126	3418
Razors, scissors, and pocket-knives	C. F. Butcher	60,991	Feb. 26	126	3418
Remedies for diseases of the stomach, liver, bowels, and blood	E. E. Williams	61,036	Feb. 26	126	3419
Remedies for eczema, &c	Acnezema Company	61,019	Feb. 26	126	3419
Remedy for certain diseases	J. D. Helms	61,031	Feb. 26	126	3419
Remedy for certain diseases and injuries	Hall & Ruckel	61,029	Feb. 26	126	3419
Remedy for diseases of the blood	R. W. Adams	61,016	Feb. 26	126	3419
Remedy for stomach ailments	F. R. Greene	61,027	Feb. 26	126	3419
Remedy for treatment of grip, &c	Porter Medicine Company	61,015	Feb. 26	126	3419
Rubber roofing	Huttig Mfg. Co	60,924	Feb. 26	126	3417
Salve or ointment. Eye	Hall & Ruckel	61,030	Feb. 26	126	3419
Sewing-machines, attachments, stands, tables, and covers	White Sewing Machine Co	60,989	Feb. 26	126	3418
Shaving-creams	Royal Cream Company	61,018	Feb. 26	126	3419
Shells for explosive projectiles. Cast-steel	Taylor Iron & Steel Co	60,946	Feb. 26	126	3417
Sherry	J. Wile, Sons & Co	60,951	Feb. 26	126	3417
Shoes. Leather	Western Shoe Company	60,950	Feb. 26	126	3417
Slate. Roofing and building	Genuine Bangor Slate Co	60,896	Feb. 26	126	3416
Soap	H. B. Claflin Company	60,897	Feb. 26	126	3416
Soap	Southern Cotton Oil Company	60,966	Feb. 26	126	3418
Soap. Hard polishing	Borsum Bros	60,892	Feb. 26	126	3416
Soap. Hard polishing	Borsum Bros	60,893	Feb. 26	126	3416
Soldering-flux	Garden City Laboratory	61,026	Feb. 26	126	3419
Stove-urns and certain lighting apparatus	W. Vogel & Bros	60,948	Feb. 26	126	3417
Stoves. Cooking and heating	Gray & Dudley Hardware Co	60,920	Feb. 26	126	3416
Talking-machines, parts, and records	Victor Talking Machine Company.	60,930	Feb. 26	126	3417
Teas	W. H. Montanye & Co	60,869	Feb. 26	126	3415
Tin and terne plates	Follansbee Brothers Company	60,957	Feb. 26	126	3417
Tobacco. Smoking and chewing	J. F. Zahm Tobacco Company	60,901	Feb. 26	126	3416
Toilet preparations. Certain	Madame Isebell's Toilet Mf'g. Co.	61,033	Feb. 26	126	3419
Tonic beverage. Non-alcoholic	C. L. Norton	60,911	Feb. 26	126	3416
Toys. Sheet-metal and mechanical	E. P. Lehmann	60,925	Feb. 26	126	3417
Trousers	L. Golden	60,934	Feb. 26	126	3417
Umbrellas	Lawton & Hall	60,938	Feb. 26	126	3417
Varnishes	Palmer-Price Co	60,928	Feb. 26	126	3417
Washing-tablets	Phoenix Manufacturing Co	60,965	Feb. 26	126	3418
Water. Mineral	Virginia Etna Lithia Springs Co	60,947	Feb. 26	126	3417
Waterproof garments. Certain	H. M. Sawyer & Son	60,898	Feb. 26	126	3416
Waterproof garments. Certain	H. M. Sawyer & Son	60,899	Feb. 26	126	3416
Waterproof garments. Certain	H. M. Sawyer & Son	60,900	Feb. 26	126	3416
Whisky	Geo. W. Torrey Co	60,958	Feb. 26	126	3417
Whisky	C. H. Graves & Sons	60,960	Feb. 26	126	3417
Whisky	H. W. Huguley Company	60,961	Feb. 26	126	3417
Whisky. Rye	Albert M. Gugenheim Co	60,969	Feb. 26	126	3418
Wines. Rhine	Bisi & Caprini	60,970	Feb. 26	126	3418
Wines. Rhine	P. J. Valckenberg	60,912	Feb. 26	126	3416
	P. J. Valckenberg	60,941	Feb. 26	126	3417

LABELS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Alt Heidelberg Bräu." (For Beer)	Lexington Brewing Company	13,377	Feb. 26	126	3420
"Amosal." (For a Proprietary Medicine)	Imperial Pharmaceutical Co	13,380	Feb. 26	126	3420
"Blevins' American Dry Cleaner." (For a Cleaning Preparation.)	S. Blevins	13,382	Feb. 26	126	3420
"Ginseng." (For Beverages)	Ginseng Products Company	13,376	Feb. 26	126	3420
"Lehigh Valley Club Whiskey." (For Whisky)	Old Town Distilling Co	13,378	Feb. 26	126	3420

LABELS—Continued.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"Recordite." (For a Preparation for Cleaning, Preserving, Polishing and Lubricating Disk Talking-Machine Records.)	J. A. Manahan	13,383	Feb. 26	126	3420
"Star Hair Tonic and Dandruff Cure." (For a Hair-Tonic and Dandruff Cure.)	Star Toilet Co	13,381	Feb. 26	126	3420
"Sun Bleach." (For Cotton Piece Goods)	Burton Bros. & Co	13,384	Feb. 26	126	3420
"The Button Without a Peer." (For Hose-Supporters)	Economy Corset Co	13,379	Feb. 26	126	3420
"Turf Kings." (For Cigars)	Schmidt & Co	13,375	Feb. 26	126	3420

PRINTS.

Title.	Name.	No.	Date.	Official Gazette. Vol.	Page.
"A Pot of Gold for You." (For Men's and Boys' Coats, Vests, and Trousers.)	Ed. V. Price & Company	1,911	Feb. 26	126	3420
"Columbia Mark XLVIII Touring Car." (For Automobiles)	Electric Vehicle Company	1,913	Feb. 26	126	3420
"Sun Bleach." (For Cotton Piece Goods)	Burton Bros. & Co	1,912	Feb. 26	126	3420

TRADE-MARKS.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Abrasive cleansing, polishing, and scouring preparation	Cudahy Packing Company	24,554	Feb. 26	126	3420
Albuminoid flour	Callard Stewart and Watt	18,176	Feb. 26	126	3420
Automobile, carriage, and wagon springs	Supplementary Spiral Spring Company.	24,542	Feb. 26	126	3407
Baking-powder	Grand Union Tea Co	3,825	Feb. 26	126	3401
Batteries. Dry	National Carbon Company	20,742	Feb. 26	126	3402
Beds, couches, and bed-springs	Sanitary Steel Couch Co	23,606	Feb. 26	126	3405
Beer	Dick and Brothers Quincy Brewery Co.	21,906	Feb. 26	126	3404
Beer	Muncie Brewing Co	22,355	Feb. 26	126	3404
Bicycle crank-hangers	Great Western Manufacturing Company.	24,986	Feb. 26	126	3411
Bitters	A. Breslauer Company	8,887	Feb. 26	126	3403
Bitters	Bay View Wine Co	24,745	Feb. 26	126	3407
Boots and shoes. Leather	Locke Shoe Company	24,835	Feb. 26	126	3410
Boots and shoes. Leather	W. Read & Sons	24,859	Feb. 26	126	3410
Boots and shoes. Leather	Dixon Bartlett Co	24,977	Feb. 26	126	3411
Butter	F. Jelke and Son Company	24,407	Feb. 26	126	3407
Candies. Pulling	Stern & Saalberg Company	24,123	Feb. 26	126	3403
Candy and chewing-gum	Manufacturing Co. of America	24,942	Feb. 26	126	3411
Candy and chewing-gum	Manufacturing Co. of America	24,944	Feb. 26	126	3411
Cement. Rubber	Alfred Hale Rubber Company	24,802	Feb. 26	126	3409
Chocolates	J. G. McDonald Candy Company	24,903	Feb. 26	126	3412
Clothes-lines. Cotton	Cleveland Mill and Power Company.	24,822-4	Feb. 26	126	3409
Coffee	W. S. Quinby Company	22,545	Feb. 26	126	3404
Coffee	Dayton Spce Mills Co	24,484	Feb. 26	126	3407
Coffee	B. Fischer & Co	25,030	Feb. 26	126	3412
Coffee. Roasted	Fort Smith Commission Company	24,628	Feb. 26	126	3408
Cold cure	F. E. Schmauser	24,905	Feb. 26	126	3411
Cordial	Societe Anonyme de la Grande Distillerie E. Cusenier Fils Aine et Compagnie.	23,355	Feb. 26	126	3405
Cork-pullers	A. P. Watt	24,880	Feb. 26	126	3410
Cotton fabrics	Shields, Stone & Co	24,577	Feb. 26	126	3408
Cotton piece goods and blankets	Indian Head Mills of Alabama	22,213	Feb. 26	126	3404
Cotton piece goods and blankets	Nashua Manufacturing Company.	24,883	Feb. 26	126	3410
Crackers, breakfast foods, bran, hominy, &c	Johnson Educator Food Co	24,357	Feb. 26	126	3408
Cream. Face	W. C. Schley	24,299	Feb. 26	126	3408
Cream, paste, &c., for finger-nails	F. Harnisch	17,292	Feb. 26	126	3402
Culinary and household purposes. Enameled steelware for	Geo. Borgfeldt & Co	24,716	Feb. 26	126	3409
Dolls	Geo. Borgfeldt & Co	24,772	Feb. 26	126	3409
Dresses, skirts, petticoats, &c. Children's	G. Bamberger & Company	24,062	Feb. 26	126	3406
Drilling-machines and boring apparatus and parts thereof	Buda Foundry & Manufacturing Company.	24,895	Feb. 26	126	3410
Felt roofing	Collins Hardware Company	24,189	Feb. 26	126	3403
Felt roofing. Ready-prepared	Roofbestos Manufacturing Co	23,944	Feb. 26	126	3403

TRADE-MARKS—Continued.

(REGISTRATION APPLIED FOR.)

Title.	Name.	Serial No.	Date.	Official Gazette. Vol.	Page.
Fence. Wire	Advance Fence Co	7,981	Feb. 26	126	3401
Finger-nail-polishing preparation	André, Schaub & Pioso	23,732	Feb. 26	126	3402
Flour. Wheat	B. J. Rothwell	24,296	Feb. 26	126	3402
Flour. Wheat	Huegely Milling Company	25,031	Feb. 26	126	3402
Foods. Prepared stock	A. Burt & Co	22,162	Feb. 26	126	3402
Fuses	Coast Manufacturing & Supply Co.	24,112	Feb. 26	126	3404
Germicidal agent. Alkaline deodorizing and non-irritating	United States Dental Chemical Co.	17,411	Feb. 26	126	3405
Germicide, disinfectant, and antiseptic preparations	Star Trading Company	24,175	Feb. 26	126	3405
Gin	Corning and Company	24,748	Feb. 26	126	3405
Gin and whisky	Herman Toser Co	24,778	Feb. 26	126	3405
Hair-tonics and scalp applications	F. Rizza	24,240	Feb. 26	126	3406
Ham. Deviled	William Underwood Company	24,756	Feb. 26	126	3406
Hams and bacon	Mosby & Cardoso	25,019	Feb. 26	126	3406
Harness, buckles, hooks, &c. Metal parts and attachments for	Imperial Bit & Snap Co	24,089	Feb. 26	126	3406
Harness, saddles, trunks, pocket-books, &c	Mark Cross Company	10,917	Feb. 26	126	3406
Hose-supporters and suspenders	Wolverine Suspender Co	22,711	Feb. 26	126	3406
Ice-cream	Mazetta Mfg. Co	24,447	Feb. 26	126	3406
Inks	S. B. Stone	24,694	Feb. 26	126	3406
Kid. Mat	Petersburg Leather Company	24,120	Feb. 26	126	3406
Lard	John C. Roth Packing Co	24,997	Feb. 26	126	3406
Lamps. Incandescent electric	Sweeten-Crossan Electric Company.	25,021	Feb. 26	126	3407
Lead. White	National Lead Company	24,574	Feb. 26	126	3408
Leather. Shoe	C. E. Lappe	25,048	Feb. 26	126	3408
Malt extract	Fortune Bros. Brewing Company	22,827	Feb. 26	126	3408
Matches	Jönköpings och Vulcans Tändsticksfabriksaktiebolag.	24,592	Feb. 26	126	3408
Medical compound consisting of herbs and seeds	D. Kantor	24,264	Feb. 26	126	3408
Medical compound for cure of lung and throat diseases	Varoma Medical Company	22,831	Feb. 26	126	3408
Medicated stock foods	Dr. Hess & Clark	8,183	Feb. 26	126	3408
Medicated stock foods	Dr. Hess & Clark	10,463	Feb. 26	126	3408
Medicinal preparation for coughs, colds, &c	P. H. Breitwieser	21,086	Feb. 26	126	3408
Metal and glass cleaner and polisher	P. J. Bertucci	24,362	Feb. 26	126	3408
Mower and reaper knife-sections, ledger or guard plates, &c	Henry & Allen	23,902	Feb. 26	126	3408
Oils and greases. Lubricating	Citizens' Wholesale Supply Co	23,951	Feb. 26	126	3408
Paper bags, wrapping-paper, and paper-boards	Union Bag and Paper Company	24,720	Feb. 26	126	3408
Pastes or lotions. Facial or complexion	De Jean Perfumery Company	20,708	Feb. 26	126	3408
Paving and roofing material	Apfel & Earnest	23,120	Feb. 26	126	3408
Perfumes	Wm. B. Riker & Son Company	24,998	Feb. 26	126	3409
Periodical. Semimonthly	Review Publishing Company	20,279–80	Feb. 26	126	3409
Pickles, chow-chow, sauer-kraut, vinegar, &c	H. J. Heinz Company	20,753	Feb. 26	126	3409
Pickles, mustard, catsup, &c	A. Fazzio	21,486	Feb. 26	126	3409
Pills and tablets	J. L. Ward Medicine Company	24,932	Feb. 26	126	3411
Pills for diseases of the blood and nerves	W. T. Hanson Co	13,267	Feb. 26	126	3412
Pills for diseases of the blood and nerves	W. T. Hanson Co	13,353	Feb. 26	126	3412
Pills for diseases of the blood and stomach	W. T. Hanson Co	13,355	Feb. 24	126	3412
Pins, brooches, buckles, &c. Metal, collar, and bib	R. M. Horton	18,994	Feb. 26	126	3412
Pipes	Reiss Bros. & Co	23,447–8	Feb. 26	126	3412
Plows, harrows, and cultivators	Hartig Becker Plow Co	24,492	Feb. 26	126	3412
Portrait and picture frames	Dixie Portrait & Frame Co	14,514	Feb. 26	126	3412
Powder and paste. Tooth	Peroxident Manufacturing Company.	24,086	Feb. 26	126	3413
Powder. Baking	E. I. du Pont Company	21,413	Feb. 26	126	3404
Powder. Face	E. I. du Pont Company	21,414	Feb. 26	126	3404
Powder. Tooth and talcum	R. E. Desmond	24,190	Feb. 26	126	3405
Preparations for the cure of indigestion, dyspepsia, &c	W. R. Warner & Co	23,002	Feb. 26	126	3405
Punch. Arrac	Axel Bagge & Co	21,980	Feb. 26	126	3406
Remedy for asthma	Duff & Shade	24,555	Feb. 26	126	3406
Remedy for coughs, colds, bronchitis, &c	Pepsol Chemical Company	24,893	Feb. 26	126	3410
Remedy for stomach, kidney, and liver diseases	Dr. Ebert Medicine Co	24,548	Feb. 26	126	3407
Rivets	Taunton Rivet Company	24,931	Feb. 26	126	3411
Saddles, harness, bridles, and horse-collars	Graf-Morsbach Company	22,984	Feb. 26	126	3408
Shade cloths. Window	Jay C. Wemple Co	14,256	Feb. 26	126	3408
Shampoo, cold and massage cream. Egg	N. Lopard	24,902	Feb. 26	126	3413
Shampoo compounds and hair-tonics	Porcela Company	24,534	Feb. 26	126	3407
Shoes and slippers. Leather	Dixon Bartlett Co	24,976	Feb. 26	126	3411
Shoes. Leather	Sacha Shoe Mfg. Co	24,904	Feb. 26	126	3411
Skirts. Dress and walking	Royal Skirt Co	24,903	Feb. 26	126	3411
Stockings	A. L. Brown	14,126	Feb. 26	126	3408
Stockings, jerseys, knit shirts, tights, &c	Wright & Ditson	24,880	Feb. 26	126	3409
Sumac, leaf and bark, gambier-gum, hemlock-bark, &c	Marden, Orth & Hastings	24,205	Feb. 26	126	3409
Tapestry chenille, tapestry, and velour	Moss Rose Manufacturing Company.	24,658	Feb. 26	126	3408
Tea	New Orleans Import Co	24,984	Feb. 26	126	3411
Tobacco. Smoking and chewing	R. Harris & Bro	20,783	Feb. 26	126	3408
Water and ginger-ale. Drinking, distilled, mineral, &c	P. Setzler & Sons	24,989	Feb. 26	126	3412
Whisky	Guet & Senac	3,126	Feb. 26	126	3401
Whisky	F. Westheimer & Sons	4,084	Feb. 26	126	3401
Whisky	Straus, Gunst & Co	5,289	Feb. 26	126	3401
Whisky	F. Hume	24,533	Feb. 26	126	3410
	C. Kraemer	24,989	Feb. 26	126	3412

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